CITY/ECOLOGY DEVELOPMENT REVIEW CHECKLIST

All documents submitted to the City associated with proposed development at the Landfill Site must be reviewed for compliance with environmental requirements of the Cleanup Action Plan. The following checklist summarizes environmental requirements for each type of development component and provides a means of highlighting pertinent documentation and tracking City and Ecology reviews. Attach additional pages, as necessary.

Name of Document(s) Under Review: Everett Riverfront Site Building D Permit Plan Set

Received From: Shelter Holdings, MG2 Corporation, Perteet Inc., Weisman Design Group, CT Engineering, Robison Engineering, Herrera Environmental Consultants, BEE Engineers

Name of City Reviewer: Jeff Gabster, PE

Date Received for City Review: 03/25/2026 **Date City Review Completed**: 04/22/2026

City Review Summary and Requested Action: The City's review finds this submittal in compliance with Consent Decree requirements, and the City requests Washington State Department of Ecology (Ecology) concurrence of this finding.

This plan set is for Everett Riverfront Building D, the fourth of the four mixed-use residential/commercial buildings planned as part of Phase 1 and Phase 2 development. Phase 1 and 2 development is proceeding west of Riverfront Boulevard. Phase 1, including mixed-use Buildings A and B; a dog park; plaza; and associated parking areas, landscaping, and utilities, is complete. Phase 2 is planned to include two more mixed-used buildings; an entertainment venue; and additional associated parking areas, landscaping, and utilities.

Building D is a six-story, mixed-use building of wood framing over structural concrete construction. The first floor includes several commercial/retail spaces, storage, community rooms, central lobby, and equipment rooms. Floors 2 through 6 are primarily residential in nature. The design also includes an amenity rooftop deck.

The attached Building D plan set includes drawings and notes regarding all architectural, structural, mechanical, electrical, plumbing, and landfill gas (LFG) management design components for the 153-unit mixed-use apartment building. The plan set also includes landscaping plans for the immediate area around the building and details depicting building utility connections to service lines installed as part of Phase 1 and 2 Site Work, which addresses utilities and developed area cover outside the Building D footprint. The Phase 1 and 2 Site Work plans were previously reviewed for Consent Decree compliance and approved by Ecology; Phase 1 Site Work is complete, and Phase 2 Site Work is ongoing and will be completed concurrently with Building D construction.

Address of Property: 3610 Riverfront Blvd., Everett, WA 98203.

Development Components	Environmental Requirements	City Review Comments and Submittal Reference (i.e., page, sheet #)
General Layout		
Phased development areas.	The Site may be developed in several separate projects or phases, depending on Site ownership and project plans. In that event, the phases shall be adjacent to Site boundaries and to prior phases, allowing CAP requirements to be fully operational and effective for each phase and in total. Special consideration shall be given to landfill gas system boundary conditions. Access will be controlled during development to maintain separation between developed and undeveloped areas of the landfill, and to prevent damage to environmental systems from subsequent construction.	The Riverfront Development Project consists of developing the now-complete Riverfront Boulevard through the site and several mixed-use buildings with a central entertainment venue and other site amenities on top of an existing landfill. The overall site is approximately 44 acres and is planned to eventually include eight mixed-use buildings. The project will occur in multiple phases, beginning with construction of Riverfront Boulevard and associated utilities. Phase 1 is located west of Riverfront Boulevard, north of 41st Street and is now complete, including two mixed-use buildings (Buildings A and B) and associated site preparation, utilities, parking area, and landscaping. Phase 2 is being constructed west of Riverfront Boulevard from the Phase 1 area north to 36th Street. This checklist has been prepared for Everett Riverfront Building D, the second of two mixed-use buildings planned as part of Phase 2 development. Existing site access control described under prior plan set submittals for Riverfront Boulevard, Advanced Site Work, and Phase 1 and 2 Site Work will restrict public access to any undeveloped portions of the landfill, as noted on Building D plan set Sheet G003.

Development Components	Environmental Requirements	City Review Comments and Submittal Reference (i.e., page, sheet #)
Construction Disruption		
Site re-grading including cut and fill magnitudes typical for an urban redevelopment site. Assume regrading could encounter refuse, and perched groundwater. Subsurface excavation for utilities and structures. Import and export of soils, potential localized refuse removal, and stockpiling.	Dust and odor controls during construction – During Site construction activities, dust and odor controls would be required to prevent migration of materials outside the construction zone at levels of concern. These measures will include daily cover of any exposed waste, and could include localized wetting, application of suppressant foams, or use of temporary cover materials. Stormwater management – Erosion controls using best management practices, as necessary, in accordance with the City of Everett's Stormwater Management Manual and provisions of a NPDES permit for construction sites greater than five acres, as applicable. Run-on controls to prevent run-on of surface water onto exposed landfilled materials. Direct contact controls – Health and safety requirements for construction crews, to be triggered if construction occurs below the elevation of the clean soil cap. Construction dewatering procedures – Excavation construction for future potential development will likely encounter perched groundwater in portions of the waste. This water must be assumed contaminated and handled accordingly. Pumped dewatering water could be discharged into the leachate collection system provided it is approved by City Industrial Pretreatment Program. Or, the water could be stored in mobile tanks, tested for contaminants and disposed of accordingly. Construction performance monitoring and inspection – During Site construction activities, inspections for adequate perimeter dust controls, erosion controls, and dewatering and odor controls are required. On-site construction oversight by a health and safety professional or inspector is required of all applicable development activities as described in the CMCP. Controlled on-site relocation and re-capping of excavated refuse during construction activities is allowed. Location and quantities will be approved prior to excavation. As necessary, excavated refuse could also be disposed off-site in an active municipal landfill. Following construction, all developed areas of the landfill must be covered with pavement, buildings, or clean soil underlain by hydraulic barrier.	Rough site grading for Building D is described under the Phase 1 and 2 Site Work Submittals. Grading for construction of Building D is not expected to encounter refuse or perched water. Environmental requirements related to Building D construction disruption will be met through the measures described below: • Dust and Odor Control: Fugitive dust monitoring and proposed measures for odor control are described on Sheet G003. • Construction Stormwater Management: Erosion and Sediment Controls related to Phase 1 and 2 buildings and parking lots are described under the Phase 1 and 2 Site Work plan set and associated Stormwater Pollution Prevention Plan (SWPPP; Shelter 2019). • Direct Contact Controls: Health and safety requirements for direct contact are described in detail in the previously submitted project Health and Safety Plan (HASP; Rose Environmental 2019). • Construction Dewatering Procedures: Perched water is not anticipated to be encountered during this phase of work. If encountered, groundwater will be handled as leachate, as described in Section 3.3 of the previously provided Landfill Gas Collection System Engineering Design Report (Herrera 2019) and on Phase 1 and 2 Site Work plan set Sheet NT2. • Construction Performance Monitoring and Inspection: On-site performance monitoring will be conducted by designated health and safety and stormwater professionals, per the site HASP and SWPPP (Rose Environmental 2019; Shelter 2019). • Controlled On-Site Relocation and Re-Capping of Excavated Refuse: Not applicable to Building D plan set. If refuse is encountered, the construction team will follow refuse relocation plan shown on Drawing RP1 of the Phase 1 and 2 Site Work plan set. • Final Developed Cover: Entire area of development to be covered by building and cantilevered sidewalk. Areas outside of building and sidewalk footprint are included in the Phase 1 and 2 Site Work plan set.

Development Components	Environmental Requirements	City Review Comments and Submittal Reference (i.e., page, sheet #)
Temporary Facilities, Operations and Hydraulic Control		
	Describe and acknowledge temporary leachate collection system, gas collection system and stormwater. Maintain hydraulic control of shallow aquifer.	Hydraulic control of the shallow aquifer is maintained by the perimeter leachate collection system. No modifications to the perimeter leachate collection system are included in this phase of work. Temporary gas controls are not required for this phase of work. Construction stormwater management facilities will not allow for infiltration.
Site Infrastructure		
Water lines.	Utility trenches or corridors below developed area cover elevation will be lined with a geotextile and backfilled with clean soil, to allow maintenance without additional health and safety requirements for contaminated materials. Construction methods and materials to accommodate expected settlements are required. Seal entry into buildings or enclosed structures including utility manholes/vaults to prevent landfill gas leaks. Backfill trench with low permeability soil where utility line leaves property.	Building domestic water and fire water supply plans and details are provided on Sheets P0.00 through P7.03. Water lines up to the building apron are grade-supported and shown in the Phase 1 and 2 Site Work plan set. Water enters the building through a 6-inch-diameter domestic water supply (Sheet P2.00N). The water supply lines throughout the building are constructed of soldered copper piping, converting to cross-linked polyethylene (PEX) within apartment units (Sheet P0.01). Pipe penetrations through building slab and LFG liner will be booted and sealed per Sheet LFG1D2, detail 3. Water lines will be hung under the building slab with hangers at 4-foot spacing (Sheet P7.03, detail 1). Per Section 4.6.2 of the Geotechnical Engineering Report for Phase 2, flexible utility connections designed to tolerate rotation and elongation of up to 30 inches will be used at the connection to the building, where the utility transitions from grade-supported to pile-supported (HWA 2021). A flexible ball joint connection will be used at this transition (Drawing A750, detail 5).

Development Components	Environmental Requirements	City Review Comments and Submittal Reference (i.e., page, sheet #)
Site Infrastructure (cont.)		
Sanitary sewer lines.	For sanitary sewer and storm drainage systems, watertight manholes using gasketed riser sections and rubber boot connections are recommended. HDPE piping is recommended. Additional measures to mitigate settlement include flexible telescoping sleeves and flexible connections at vaults and interfaces with buildings, and pipe hangers beneath pile supported structures. Seal entry into buildings or manholes to prevent landfill gas leaks. Backfill trench with low permeability soil where utility line leaves property.	Building sanitary sewer plans and details are provided on Sheets P0.00 through P7.03. Building D sanitary sewer will discharge to a grade-supported high-density polyethylene (HDPE) sanitary sewer line that will be constructed along the west side of the building as part of the previously approved Phase 2 Site Work (refer to Phase 1 and 2 Site Work plan set, Sheets SS1-SS2). The Building D sewer system is schedule 80 (below ground) and schedule 40 (above ground) solid-core polyvinyl chloride (PVC) (Drawing P0.01). Pipe penetrations through building slab and LFG liner will be booted and sealed per Sheet LFG1D2, detail 3. The sewer lines will be hung under the building slab with hangers at a minimum of 4-foot spacing (Drawing P7.03, detail 1). Per Section 4.6.2 of the Geotechnical Engineering Report for Phase 2, flexible utility connections designed to tolerate rotation and elongation of up to 30 inches will be used at the connection to the building, where the utility transitions from grade-supported to pile-supported (HWA 2021). A flexible ball joint connection will be used at this transition (Drawing A750, detail 5).

Development Components	Environmental Requirements	City Review Comments and Submittal Reference (i.e., page, sheet #)
Site Infrastructure (cont.)		
Storm sewer lines.	Stormwater will not be allowed to infiltrate into the landfill. Measures described above for sanitary sewer and storm drainage systems will be taken. All stormwater will be collected for off-site discharge. Seal entry into catch basins and manholes to prevent landfill gas leaks. Backfill trench with low permeability soil where utility line leaves property.	Building stormwater plans and details are provided on Sheets P0.00 through P7.03. Storm drain facilities outside of the building footprint are included in the Phase 1 and 2 Site Work plan set. Roof drains collect stormwater (Sheets P2.07N and P2.07S), which is conveyed through a tight line pipe system to storm drain facilities via booted penetrations through the floor slabs (Sheets P2.00N through P2.06S). Per Section 4.6.2 of the Geotechnical Engineering Report for Phase 2, flexible utility connections designed to tolerate rotation and elongation of up to 30 inches will be used at the connection to the building, where the utility transitions from grade-supported to pile-supported (HWA 2021). A flexible ball joint connection will be used at this transition (Drawing A750, detail 5). Exterior sidewalk surfaces are sloped to convey surface water runoff away from the building and toward drainage facilities (Sheet A750, detail 5).
Manholes and maintenance access.	Vaults will be designed with water and gas tight joints and will be clearly labeled for necessary confined space entry procedures per gas pathway requirements.	Neither manholes nor vaults are applicable to the plan set. Elevator pits and sumps will be lined with a composite membrane (Sheet LFG1D5, details 1–3; membrane specifications provided on Sheet LFG1D3). Composite boots will be utilized for all penetrations through the building membrane (Sheet LFG1D2, details 2–4). The exterior edges of the composite membrane installed atop the building foundation structural slab will be constructed with reinforcement (Sheet LFG1D2, detail 1). Exterior membranes installed below the building concrete slab (at the elevator pit) will overlap 12 inches with adjacent membrane components or be attached to the structure with a terminal batten strip (Sheet LFG1D5, details 1–3).

Development Components	Environmental Requirements	City Review Comments and Submittal Reference (i.e., page, sheet #)
Site Infrastructure (cont.)		
Electrical, telephone and gas lines.	For electric, telephone, and natural gas systems, settlement can be accommodated by the use of additional wire lengths or flexible piping. Light fixtures and similar features shall either be finished above the underlying gas barrier or, if penetrating the gas barrier, be internally sealed and booted to the barrier layer to preclude intrusion of landfill gas. Seal conduit at building entry to prevent landfill gas leaks. Ensure interior of conduit is sealed as well.	Power and electrical lines are described in Section 3.4.7 of the Landfill Gas Collection System Engineering Design Report (Herrera 2019). Power supply into the building cabinets will be sealed, yet will allow for the vertical portion of conduits to settle with soils/refuse below slabs. Settlement pull boxes with excess cable and raceway lengths will be used. Electrical and communication settlement pull boxes are shown on Sheets EFD9 through EFD12. Vertical sleeves for slab penetrations are detailed on Sheet LFG1D2, detail 4. Natural gas lines within the building are shown on Sheets P2.01N and P2.01S and diagrammed on Sheet P5.02. Natural gas connection to the building will be provided under Phase 1 and 2 Site Work. Primary electrical within the building is shown on Sheets EFD11, EFD12, and E2.01N through E5.00B. Lighting is shown on Sheets E0.10 through E1.50.
Pavements (concrete and/or asphalt) for roadways, parking lots and sidewalks.	Subgrade reinforcement (such as a geotextile or geogrid material) may be used to minimize areas of localized, uneven settlement. Pavements should be designed to accommodate settlement at boundary conditions to pile-supported buildings. Penetrations below landfill cover sections in paved areas will not be allowed without appropriate procedures to address health and safety and repair. A construction quality assurance plan shall detail pavement permeability testing procedures. Install phased active landfill gas controls including perforated pipes in gravel filled trenches connected to header pipes and a vacuum source. The perforated pipes and gravel bed would be located beneath the pavement. The phased active landfill gas controls will be installed continuously throughout developed areas, below pavement, open space and buildings. Quarterly monitoring with a hand held sensor would trigger repair of pavement cracks if methane concentrations above 500ppm were detected. Routine inspection of paved areas is required to identify and repair areas of pavement cracking or locations where required landfill cover may be compromised.	Large differential settlement is expected to occur between pile-supported structures and adjacent grade-supported improvements. To minimize the impact of these differential settlements on the operation of the proposed buildings, building perimeter sidewalks and frontage walkways will be structurally supported by the pile-supported buildings. A cantilevered concrete slab apron will extend around the outside of Building D. The concrete apron will be composed of low-permeability concrete and serve as the LFG barrier (Sheet A750, detail 5; and Sheet S1.0D, part 03000). Concrete topping slabs will be placed over the apron to connect with non-pile-supported improvements surrounding the building (refer to Phase 1 and 2 Site Work checklist). Pavements for all other walkway, landscape, and parking areas around Building D are addressed in the Phase 1 and 2 Site Work plan set. LFG barrier abutting the building will be low permeability soil barrier and will overlap the low permeability concrete apron sidewalk by 3 feet horizontally (Sheet A750, detail 5; Sheet LFG1D2, detail 5).

Development Components	Environmental Requirements	City Review Comments and Submittal Reference (i.e., page, sheet #)
Buildings		
Potential light structures with shallow foundations.	If design of structures can address seismic stability concerns, light structures with shallow foundations would be allowed.	Not applicable.
Heavy structures with pile supported foundations	Pile supported structures are anticipated at the Site. Either driven or drilled pile types may be installed, following implementation of the groundwater compliance monitoring program and completion of evaluation re: potential zones of pile-type restrictions. Piles to support structures would be installed through refuse, through the underlying clay and peat layers into bearing sands. Piling or foundations that penetrate the gas barrier layer shall be booted or sealed to the barrier layer. All areas of the Site are restricted to augercast type pile construction or equivalent. This determination will be made following additional shallow aquifer sampling and evaluation.	Pile foundation design is discussed in the Proposed Pile Foundation Types memorandum (HWA 2018). Building foundations will be supported on 16-inch-diameter grout-driven piles with steel sleeves through refuse. The pile plan is shown on Sheets S2.01D and S2.02D. Typical pile details are shown on Sheet S6.02.

Development Components	Environmental Requirements	City Review Comments and Submittal Reference (i.e., page, sheet #)
Buildings (cont.)		
Potential basement or below grade parking areas. Gas controls beneath buildings	Excavation requirements are listed under "Construction Disruption" requirements above. Particular care should be given to design of utility and pavement connections at the interface of pile supported buildings and surrounding Site areas, where significant differential settlement is expected. Buildings will be protected by a geomembrane beneath the foundation slab that is booted and sealed around piles and utility penetrations. Phased active gas controls will be installed continuously below developed areas, including perforated extraction piping in gravel trenches, spaced a maximum of 100' on center. Below buildings, extraction piping would be installed in development fill or slab subgrade – above refuse. The extraction piping will be connected to header pipes, a vacuum source and a discharge location. A full-time continuous ground floor methane monitoring system will be installed in all buildings. Methane concentrations exceeding 1,000 ppm will automatically activate the building's HVAC system and notify operations personnel. Methane concentrations exceeding 10,000 ppm will activate audible alarms and trigger building evacuation. Monitoring with a hand held sensor would be used to identify any locations with methane exceeding 100ppm for repair. Temporary enclosures erected over pavement or open space areas will contain continuous methane monitors that would activate an alarm if triggered.	Temporary enclosures, basements, and below-grade parking areas are not applicable to plan set. Gas controls beneath the building are shown on Sheet LFG1D1. LFG collection piping installed beneath the building will be connected to LFG header and associated vacuum at four locations (Sheet LFG1D1). Gas controls meet the 100-foot spacing requirements for the site and include a perforated HDPE pipe within a 3-foot-deep by 2-foot-wide trench filled with drain gravel and topped with a geotextile (Sheet LFG1D2, detail A). In addition, to prevent LFG from accumulating underneath the building, a 4-inch-thick gravel blanket will be placed under the building's concrete slab and connected to the LFG system via 3-inch-diameter PVC pipe sleeves through the interior-grade beams. The building's LFG barrier will consist of a composite HDPE and polymer modified asphalt membrane placed (1) above the structural slab and below the topping slab (Sheets LFG1D3 and LFG1D4) and (2) on the exterior of the building elevator pit structures (Sheet LFG1D5). The building apron around the exterior of the building is a 9-inch-thick pile-supported low permeability concrete slab and will act as the permanent cover and LFG barrier (Sheet A750, detail 4; Sheet LFG1D2, details A, 5, and 6; and Sheets S2.11D and S2.12D). All penetrations through the foundation slab composite membrane will be booted to the membrane (Sheet LFG1D2, details 1–4). The continuous methane gas detection system will be installed with detectors in each space on the ground floor, including stairwells and elevator shafts (Sheets EFD1, EFD7B, and EFD7C). Methane detectors are connected to a central control panel that manages building HVAC and alarm responses to detections of elevated methane concentrations (Sheets EFD2 through EFD7A). These systems are supported by a backup generator to ensure methane monitoring, HVAC, and alarms will continue to function in case of power outage (Sheets EFD2, EFD7A, and EFD8).

Development Components	Environmental Requirements	City Review Comments and Submittal Reference (i.e., page, sheet #)
Buildings (cont.)		
Potential ground floor or street level residential units.	Ground floor uses of residential units shall be restricted solely to garage, storage, and laundry. Alternatively, if street level residential units are proposed, they shall be separated from the slab-on-grade by unoccupied and isolated monitoring and ventilation spaces, with landfill gas detectors in the first floor and loft of each street level residential unit and in each monitoring/ventilation space beneath a street level residential unit.	Not applicable to the plan set. Building D will not have street level live/work units.
Open Space / Landscaping		
Landscaped areas around buildings and parking areas. Recreational use/park areas and trails.	Landscaped or open space areas will be constructed with a low permeable hydraulic barrier underlying clean soil established with vegetation to prevent erosion. Hydraulic barriers should obtain permeability similar to that of asphalt pavement. Institutional controls and property management procedures are required to prevent unauthorized digging and potential disturbance of hydraulic barrier. Subdrainage is required above the hydraulic barrier, to collect drainage above the barrier for off-site discharge. In landscaped areas where it is impracticable to connect with the storm water system for discharge, a drain may be placed in the hydraulic barrier to allow infiltration into the landfill, as long as it does not compromise gas collection system effectiveness. Phased active gas controls will be installed continuously below developed areas, including perforated extraction piping in gravel trenches, spaced a maximum of 100' on center. Below landscaped areas, extraction piping would be installed in development fill below the hydraulic barrier – above refuse. The extraction piping will be connected to header pipes, a vacuum source and a discharge location. Quarterly surface monitoring with a hand held sensor would be used to identify any locations with methane exceeding 500 ppm for repair. Fence posts shall either be finished above the underlying gas barrier or, if penetrating the gas barrier, be internally sealed and booted to the barrier layer to preclude intrusion of landfill gas. A Stormwater Pollution Prevention Plan and routine inspection of open space areas will be required to ensure cap integrity is not compromised by erosion.	Landscaping and parking areas immediately adjacent to the building are shown on Sheet LD100.1. Hydraulic and LFG barrier for these areas adjacent to the building apron (barrier) slab are shown on Sheet LFG1D2, details 5 and 6. However, complete landscape and parking area plans, details of the site gas control and barrier systems, and stormwater controls are provided in the Phase 1 and 2 Site Work plan set.

Development Components	Environmental Requirements	City Review Comments and Submittal Reference (i.e., page, sheet #)
Public Access		
Unlimited public access in developed areas.	Public will be allowed access to all developed areas of the Site, except controlled entry to confined spaces and maintenance corridors. Warning signage may be placed as appropriate. Landfill gas controls must be installed and operational in developed areas for public access.	LFG controls will be installed and operational prior to allowing public access to the building and surrounding area. This requirement will be met through the City's inspection process.
Access restrictions to undeveloped areas.	Perimeter fencing with secured entries will restrict access to undeveloped portions of the Site.	Existing perimeter fencing restricts public access to the areas of the landfill that are undeveloped or under construction. Supplemental fencing will be installed to restrict public access to any undeveloped portions of the landfill as developed areas are opened to the public, which will be verified through the City's inspection process.

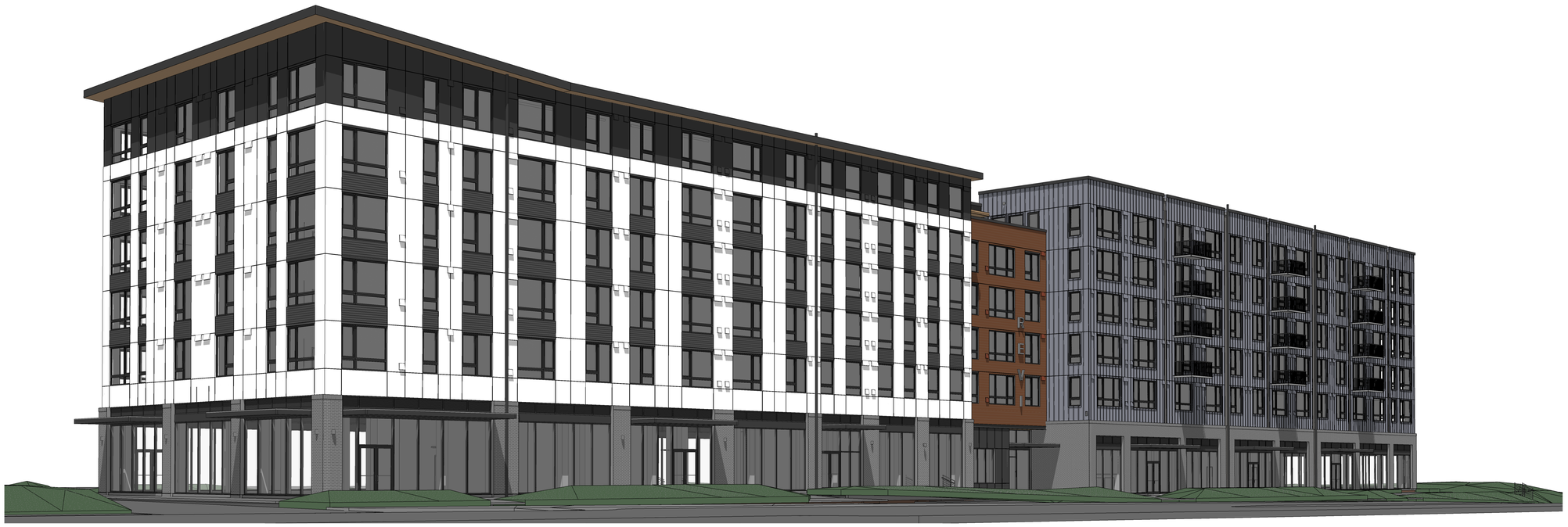
Additional Comments:

Documents included with this submittal reviewed for compliance include the following:

1. Design Drawings: Riverfront Commercial Investment, LLC; Everett Riverfront Development; Everett Riverfront Site Phase 2, Building D
2. HWA Geosciences, Inc. (HWA). 2021. *Geotechnical Engineering Report, Everett Riverfront Development, Phase II, Everett, Washington.* December 8.

In addition, this plan set is supported by the following documents that were previously provided to and reviewed by Ecology as attachments to the checklists for the Riverfront Boulevard, Advanced Site Work, and Phase 1 and 2 Site Work plan sets.

- Herrera Environmental Consultants, Inc. (Herrera). 2019. Everett Riverfront Site Development Support, Environmental Control Requirements and Landfill Gas Collection System Engineering Design Report. Everett, Washington. August 16.
- HWA Geosciences, Inc. (HWA). 2018. Proposed Pile Foundation Types. May 9.
- Rose Environmental. 2019. "Riverfront Commercial Investment LLC Site Specific Health and Safety Plan." October 31.
- Shelter Holdings, LLC (Shelter). 2019. Stormwater Pollution Prevention Plan (SWPPP) for Everett Riverfront Development – Mixed-Use Site and Boulevard Phased Development; Phase – Phase 1 and 2 Buildings and Parking Lots. March 15.



EVERETT RIVERFRONT BUILDING D

3610 RIVERFRONT BLVD, EVERETT, WA 98203

PERMIT SET 3/25/2026

Number	Name	Permit - Issue Date	CD - Issue Date
GENERAL			
G000	COVER SHEET	•	
G001	INDEX	•	
G002	GENERAL PROJECT INFORMATION	•	
G003	GENERAL PROJECT NOTES	•	
G100	ZONING CODE SUMMARY	•	
G101	ZONING CODE DIAGRAMS & ANALYSIS	•	
G200	BUILDING CODE SUMMARY & DIAGRAMS	•	
G201	BUILDING CODE SUMMARY	•	
G203	EGRESS PLANS	•	
G204	EGRESS PLANS	•	
G300	ENERGY CODE NOTES	•	4
G301	BUILDING ENVELOPE ENERGY FORMS	•	
G302	BUILDING ENVELOPE ENERGY FORMS	•	
G303	BUILDING ENVELOPE ENERGY FORMS	•	
G401	ACCESSIBILITY - PUBLIC AND COMMON USE	•	
G402	ACCESSIBILITY - PUBLIC AND COMMON USE	•	
G403	ACCESSIBILITY - GENERAL RESIDENTIAL AND TYPE "A" UNITS	•	
G404	ACCESSIBILITY - TYPE "B" UNITS	•	
LANDSCAPE			
LD100.1	LANDSCAPE PLAN	•	
LD101.1	PLANTING PLAN - ROOF ENLARGEMENT	•	
ARCHITECTURAL			
A001	SITE PLAN	•	
A002	SITE PLAN - BUILDING D	•	
A101	FLOOR PLAN - LEVEL 1	•	
A101.1N	LEVEL 1 PLAN - NORTH	•	
A101.1S	LEVEL 1 PLAN - SOUTH	•	
A102	FLOOR PLAN - LEVEL 2	•	
A102.N	LEVEL 2 PLAN - NORTH	•	
A102.S	LEVEL 2 PLAN - SOUTH	•	
A103	FLOOR PLAN - LEVEL 3	•	
A103.N	LEVEL 3 PLAN - NORTH	•	
A103.S	LEVEL 3 PLAN - SOUTH	•	
A104	FLOOR PLAN - LEVEL 4	•	
A104.N	LEVEL 4 PLAN - NORTH	•	
A104.S	LEVEL 4 PLAN - SOUTH	•	
A105	FLOOR PLAN - LEVEL 5	•	
A105.N	LEVEL 5 PLAN - NORTH	•	
A105.S	LEVEL 5 PLAN - SOUTH	•	
A106	FLOOR PLAN - LEVEL 6	•	
A106.N	LEVEL 6 PLAN - NORTH	•	
A106.S	LEVEL 6 PLAN - SOUTH	•	
A107	ROOF PLAN	•	
A107.N	ROOF PLAN - NORTH	•	
A107.S	ROOF PLAN - SOUTH	•	
A141	SLAB EDGE PLAN - LEVEL 1 NORTH		
A142	SLAB EDGE PLAN - LEVEL 1 SOUTH		
A144	SLAB EDGE PLAN - LEVEL 2 NORTH		
A145	SLAB EDGE PLAN - LEVEL 2 SOUTH		
A171.N	REFLECTED CEILING PLANS - LEVEL 1 NORTH	•	
A171.S	REFLECTED CEILING PLANS - LEVEL 1 SOUTH	•	
A172.N	REFLECTED CEILING PLANS - LEVELS 2-5 NORTH	•	
A172.S	REFLECTED CEILING PLANS - LEVELS 2-5 SOUTH	•	
A176.N	REFLECTED CEILING PLANS - LEVEL 6 NORTH	•	
A176.S	REFLECTED CEILING PLANS - LEVEL 6 SOUTH	•	
A200	OVERALL EXTERIOR ELEVATIONS 3D		
A201	OVERALL EXTERIOR ELEVATIONS	•	
A202	EXTERIOR ELEVATIONS	•	
A203	EXTERIOR ELEVATIONS	•	
A204	EXTERIOR ELEVATIONS	•	
A205	EXTERIOR ELEVATIONS	•	
A300	BUILDING SECTIONS	•	
A301	BUILDING SECTIONS	•	
A350	WALL SECTIONS	•	
A351	WALL SECTIONS	•	
A352	WALL SECTIONS	•	
A353	WALL SECTIONS	•	
A354	WALL SECTIONS	•	
A401	ENLARGED PLANS - LOBBY	•	
A402	ENLARGED PLANS - TRASH & STORAGE	•	
A403	ENLARGED PLANS - LEVEL 6 AMENITY	•	
A424	ENLARGED UNIT PLANS - B01	•	
A425	ENLARGED UNIT PLANS - B03 TYPE A	•	
A426	ENLARGED UNIT PLANS - C01	•	
A427	ENLARGED UNIT PLANS - C02	•	
A428	ENLARGED UNIT PLANS - C04 TYPE A	•	
A429	ENLARGED UNIT PLANS - D01	•	
A430	ENLARGED UNIT PLANS - D03	•	
A431	ENLARGED UNIT PLANS - D04 TYPE A	•	
A432	ENLARGED UNIT PLANS - D05	•	
A451	ENLARGED UNIT BATH PLANS & ELEV	•	
A452	ENLARGED UNIT BATH PLANS & ELEV	•	
A453	ENLARGED UNIT BATH PLANS & ELEV	•	
A454	ENLARGED UNIT KITCHENS PLANS & ELEVATIONS	•	
A455	ENLARGED UNIT KITCHENS PLANS & ELEVATIONS	•	
A456	ENLARGED UNIT KITCHENS PLANS & ELEVATIONS	•	
A457	ENLARGED COMMON BATHROOMS	•	
A480	INTERIOR ELEVATIONS	•	
A501	ELEVATOR PLAN AND SECTION	•	
A502	NORTH STAIR PLAN AND SECTION	•	
A503	SOUTH STAIR PLAN AND SECTION	•	
A520	STAIR DETAILS	•	
A521	STAIR DETAILS	•	
A522	ELEVATOR DETAILS	•	
A523	ELEVATOR DETAILS	•	
A601	HORIZONTAL ASSEMBLIES	•	
A602	HORIZONTAL ASSEMBLIES	•	
A610	WALL TYPES	•	
A611	WALL TYPES	•	
A612	WALL TYPES	•	
A701	RATED ASSEMBLY DETAILS	•	
A702	RATED ASSEMBLY DETAILS	•	
A703	INTERIOR SHAFT AND PENETRATION DETAILS	•	
A750	FOUNDATION & SLAB EDGE DETAILS	•	
A752	STOREFRONT DETAILS	•	
A753	TRANSITION DETAILS	•	
A754	DOOR DETAILS	•	
A755	WINDOW DETAILS	•	
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PERMIT SET

3/25/2026

RUSSELL H. HAZZARD, ARCHITECT

8079 REGISTERED ARCHITECT RUSSELL H. HAZZARD STATE OF WASHINGTON

03/25/2026

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△	DATE	DESCRIPTION
1	11/04/22	PERMIT CORRECTIONS 01
2	07/12/24	PERMIT CORRECTIONS 02
4	3/25/26	PERMIT CORRECTIONS 04

PM: ELI HARDI
DRAWN BY: JG, PD, MB
04/29/22

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G001

3/25/2026 10:08:49 AM Autodesk Docs://MG2-CE-Shelter Holdings-Everett Riverfront Development PH2-21-5905-01A/A_21-5905-01A_Everett Riverfront BLD-D_R25.rvt

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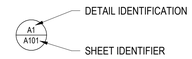

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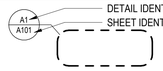

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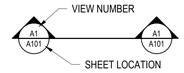

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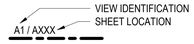

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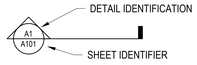

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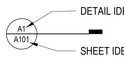

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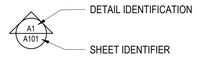

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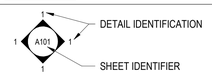

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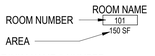


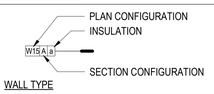
ROOM NAME & NUMBER

DOOR NUMBERS

WINDOW NUMBER

EQUIPMENT TAG

KEY NOTES



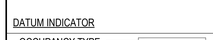
WALL TYPE

DATUM ELEVATION

REVISION DELTA & CLOUD

DATUM INDICATOR

SPOT ELEVATION



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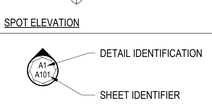

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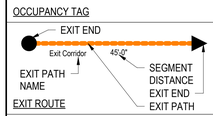

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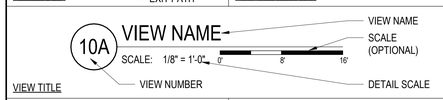

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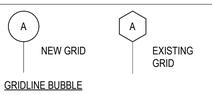

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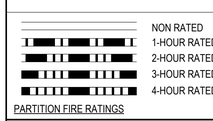

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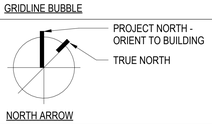

NORTH ARROW

MATERIALS

- ACOUSTICAL TILE
- ALUMINUM
- BATT INSULATION
- CMU OR BRICK
- CONCRETE
- EARTH
- FINISHED WOOD
- GRAVEL
- GYPSUM BOARD
- PLYWOOD
- RIGID INSULATION
- SOUND INSULATION
- STEEL
- WOOD BLOCKING
- WOOD MEMBER

ABBREVIATIONS

ACOUST	ACOUSTICAL
ACSF	ACCESS FLOORING
ACT	ACOUSTICAL CEILING TILE OR PANEL
ADJ	ADJACENT
AFF	ABOVE FINISHED FLOOR
AL	ALUMINUM
ALT	ALTERNATE
ANOD	ANODIZED
APPROX	APPROXIMATE
ARCH	ARCHITECTURAL
ASPH	ASPHALT
BD	BOARD
BIT	BITUMINOUS
BLDG	BUILDING
BLK'G	BLOCKING
BM	BEAM
BO	BOTTOM OF
BOT	BOTTOM
BTWN	BETWEEN
CAB	CABINET
CB	CATCH BASIN
CEM	CEMENT
CG	CORNER GUARD
CI	CAST IRON
CIP	CAST IN PLACE
CJ	CONSTRUCTION JOINT, CONTROL JOINT
CL	CENTERLINE
CLG	CEILING
CLR	CLEAR
CMU	CONCRETE MASONRY UNIT
COL	COLUMN
CONC	CONCRETE
CONN	CONNECTION
CONST	CONSTRUCTION
CONT	CONTINUOUS
CORR	CORRIDOR
CPT	CARPET
CR	CARD READER
CT	CERAMIC TILE
CU FT	CUBIC FEET
DEPT	DEPARTMENT
DF	DRINKING FOUNTAIN
DIA	DIAMETER
DIM	DIMENSION
DISP	DISPENSER
DN	DOWN
DS	DOWNSPOUT
DTL	DETAIL
DWG	DRAWING
EA	EACH
EFS	EXTERIOR FINISH SYSTEM
EIFS	EXTERIOR INSULATION & FINISH SYSTEM
EJ	EXPANSION JOINT
EL	ELEVATION
ELEC	ELECTRICAL
ELEV	ELEVATOR
EPT	EPOXY PAINT
EPX	EPOXY-QUARTZ FLOORING
EQ	EQUAL
EQUIP	EQUIPMENT
EW	EACH WAY
EWC	ELECTRIC WATER COOLER
EWH	ELECTRIC WATER HEATER
EXH	EXHAUST
EXIST	EXISTING
EXP	EXPOSED STRUCTURE
EXT	EXTERIOR
FAC FIN	FACTORY FINISH
FD	FLOOR DRAIN
FDN	FOUNDATION
FE	FIRE EXTINGUISHER
FEC	FIRE EXTINGUISHER CABINET
FF	FINISHED FLOOR
FF&E	FURNITURE, FIXTURES & EQUIPMENT
FIN	FINISH
FLR	FLOOR
FO	FACE OF
FOC	FACE OF CONCRETE
FOF	FACE OF FINISH
FOIC	FURNISHED BY OWNER INSTALLED BY CONTRACTOR
FOIO	FURNISHED BY OWNER INSTALLED BY OWNER
FOS	FACE OF STUD
FRP	FIBER REINFORCED PLASTIC
FRT	FIRE RETARDANT TREATED
FS	FLOOR SINK
FT	FOOT/FEET
FTG	FOOTING
FURN	FURNISHED
FURR	FURRING
FWP	FABRIC WRAP WALL PANEL
GA	GAUGE
GALV	GALVANIZED
GB	GRAB BAR
GC	GENERAL CONTRACTOR
GI	GALVANIZED IRON
GL	GLASS
GWB	GYPSUM WALLBOARD
GYP	GYPSUM
HB	HOSE BIBB
HC	HOLLOW CORE
HDWR	HARDWARE
HG	HARDWARE GROUP
HM	HOLLOW METAL
HORIZ	HORIZONTAL
HP	HIGH POINT
HT	HEIGHT
HTR	HEATER
HVAC	HEATING, VENTILATION & AIR CONDITIONING
IBC	INTERNATIONAL BUILDING CODE
ID	INSIDE DIAMETER
IE	INVERT ELEVATION
IN	INCH
INSUL	INSULATION
INT	INTERIOR
JAN	JANITOR
JT	JOINT
L	LENGTH, LONG
LAM	LAMINATE
LB	POUND
LF	LINEAR FEET
LIQ	LIQUID
LMC	LINEAR METAL CEILING
LP	LOW POINT
LT	LIGHT
LT WT	LIGHT WEIGHT
MAS	MASONRY
MAX	MAXIMUM
MECH	MECHANICAL
MEZZ	MEZZANINE
MFCR	MANUFACTURER
MH	MANHOLE
MHO	MAGNETIC HOLD OPEN
MIN	MINIMUM, MINUTES
MISC	MISCELLANEOUS
MO	MASONRY OPENING
MR	MOISTURE RESISTANT
MTD	MOUNTED
MTG	MOUNTING
MTL	METAL
MULL	MULLION
NA	NOT APPLICABLE
NIC	NOT IN CONTRACT
NO	NUMBER
NOM	NOMINAL
NTS	NOT TO SCALE
OA	OVERALL
OC	ON CENTER
OD	OUTSIDE DIAMETER
OH	OVERHEAD
OPNG	OPENING
OPP	OPPOSITE
PERP	PERPENDICULAR
PL	PROPERTY LINE, PLATE
PLAM	PLASTIC LAMINATE
PLAS	PLASTER
PLBG	PLUMBING
PLT	PLATE
PLYWD	PLYWOOD
PNL	PANEL
PR	PAIR
PREFIN	PREFINISHED
PRESS T	PRESSURE TREATED
PROJ	PROJECT
PT	POST-TENSIONED, POINT, PAINT
QT	QUARRY TILE
QTR	QUARTER
R	RADIUS, RISER
RB	RESILIENT BASE, RUBBER BASE
RCP	REFLECTED CEILING PLAN
RD	ROOF DRAIN
REC'D	RECEIVED
REF	REFERENCE
REFR	REFRIGERATOR
REINF	REINFORCING
REQ'D	REQUIRED
RF	RUBBER FLOORING
RM	ROOM
RO	ROUGH OPENING
ROW	RIGHT OF WAY
SAM	SELF ADHERED MEMBRANE
SAN	SANITARY
SC	SOLID CORE
SCHED	SCHEDULE
SECT	SECTION
SF	SQUARE FEET
SHT	SHEET
SHT MTL	SHEET METAL
SIM	SIMILAR
SJ	SCORE JOINT
SPEC	SPECIFIED, SPECIFICATION
SQ	SQUARE
SS	SANITARY SEWER
SST	STAINLESS STEEL
ST	STONE MASONRY OR TILE
STD	STANDARD
STL	STEEL
STOR	STORAGE
STRUCT	STRUCTURAL
SUSP	SUSPENDED
SYM	SYMMETRICAL
SYS	SYSTEM
T	TOP, TREAD
T&B	TOP AND BOTTOM
T&G	TONGUE & GROOVE
TBD	TO BE DETERMINED
TEL	TELEPHONE
TEMP	TEMPORARY
TER	TERRAZZO
TOC	TOP OF CONCRETE
TOJ	TOP OF JOIST
TOM	TOP OF MASONRY
TOP	TOP OF PARAPET
TOS	TOP OF STEEL / STUD
TOW	TOP OF WALL
TYP	TYPICAL
UL	UNDERWRITER'S LABORATORIES
UNO	UNLESS NOTED OTHERWISE
UTL	UTILITY
VAR	VARNISH
VB	VINYL BASE
VCT	VINYL COMPOSITION TILE
VERT	VERTICAL
VEST	VESTIBULE
VIF	VERIFY IN FIELD
VP	VENEER PLASTER
VT	VINYL TILE
VTF	VINYL TILE FLOORING
W/	WITH
W/O	WITHOUT
WB	WOOD BASE
WC	WATER CLOSET, WALL COVERING
WD	WOOD
WDC	WOOD CEILING
WDP	WOOD PANELING
WF	WOOD FLOORING
WIN	WINDOW
WOM	WALK OF MAT OR CARPET
WP	WATERPROOF, OR WORK POINT
WR	WATER RESISTANT
WRB	WEATHER RESISTANT BARRIER
WS	WEATHERSTRIP
WSCT	WAINSCOT
WT	WEIGHT
WWF	WELDED WIRE FABRIC
YD	YARD

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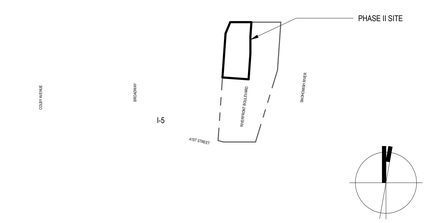
FIRE SPRINKLER ENGINEER
Company
Contact
t:
f:
Address
Suite
City, ST 98000

PROJECT DATA

LOCATION:	3610 RIVERFRONT BOULEVARD, EVERETT, WA 98203
PARCEL NUMBER:	29052900401900 29052900401800
LEGAL DESCRIPTION:	SECTION 29 TOWNSHIP 29 RANGE 05 QUARTER SE NEW LOT 26 OF COE BLA # 08-004 REC AFN 200804080781 & ROS REC AFN 200804085006 BEING A PTN OF GOVT LOT 5 SD SEC TGW A PTN OF BLK 18 SINES J S ACRE TRACTS SECTION 29 TOWNSHIP 29 RANGE 05 QUARTER SE NEW LOT 29 OF COE BLA # 08-004 REC AFN 200804080781 & ROS REC AFN 200804085006 BEING A PTN OF GOVT LOT 5 SD SEC TGW A PTN OF BLK 13 SINES J S ACRE TRACTS
PROJECT SCOPE:	THE PROPOSED PROJECT CONSISTS OF 153 RESIDENTIAL UNITS ON 5 LEVELS ABOVE THE PODIUM. RESIDENTIAL LOBBIES, AMENITIES, UTILITIES, AND COMMERCIAL SPACES ARE LOCATED WITHIN THE PODIUM ON THE GROUND FLOOR. THE PROJECT GROSS AREA IS 164,532 SF. 220 PARKING STALLS ARE PROVIDED AT GRADE FOR BOTH THE RESIDENTIAL AND COMMERCIAL USES. THERE IS A ROOF TERRACE AT LEVEL 6 FOR AMENITY USE.
APPLICABLE CODES:	EVERETT MUNICIPAL CODES TITLE 16 BUILDING AND CONSTRUCTION EVERETT MUNICIPAL CODES TITLE 19 ZONING ATTACHMENT F: EVERETT RIVERFRONT DISTRICT ZONING AND LAND DIVISION STANDARDS ATTACHMENT G: EVERETT RIVERFRONT DISTRICT MASTER PLAN 2018 INTERNATIONAL BUILDING CODE (IBC) 2018 WASHINGTON STATE AMENDMENTS 2018 CODE, WASHINGTON ADMINISTRATIVE CODE 51-50 (WAC) 2018 INTERNATIONAL MECHANICAL CODE 2020 NATIONAL ELECTRICAL CODE (NEC) 2018 INTERNATIONAL FIRE CODE 2018 UNIFORM PLUMBING CODE 2018 WASHINGTON STATE ENERGY CODE WAC 51-11C 2018 WASHINGTON STATE ENERGY CODE WAC 51-11R ICC/ANSI A117.1-2009 ACCESSIBLE AND USABLE BUILDINGS AND FACILITIES WASHINGTON STATE DEPARTMENT OF ECOLOGY STORMWATER MANAGEMENT MANUAL FOR WESTERN WASHINGTON (SWMMWW)
SITE AREA:	435,046 SF (10.01 ACRES)
BUILDING FOOTPRINT:	27,661SF
ZONE:	B-3 / D5 / D6 PER ATTACHMENT F
CONSTRUCTION TYPE:	TYPE V-A OVER I-A

VICINITY MAP



DEFERRED SUBMITTALS

1- FIRE SPRINKLER SYSTEMS

NON-STRUCTURAL SPECIAL INSPECTIONS

3

NON-STRUCTURAL SPECIAL INSPECTIONS SHALL BE REQUIRED FOR THE FOLLOWING:
1. FABRICATED ITEMS IN ACCORDANCE WITH IBC 1705.10
2. THROUGH-PENETRATIONS, MEMEBRANE PENETRATION FIRESTOPS, FIRE-RESISTANT JOIN SYSTEMS, AND PERIMETER FIRE BARRIER SYSTEMS IN ACCORDANCE WITH IBC 1705.17

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PERMIT SET

10/18/2024

RUSSELL H. HAZZARD, ARCHITECT

8079 REGISTERED ARCHITECT RUSSELL H. HAZZARD STATE OF WASHINGTON

10/17/2024

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△	DATE	DESCRIPTION
3	9/20/24	PERMIT CORRECTIONS 03

21-5971-01A
PM: ELI HARDI
DRAWN BY: JG, PD, MB
04/29/22

GENERAL PROJECT INFORMATION

G002

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GENERAL NOTES - SITE CONSTRUCTION & SAFETY

GENERAL NOTES:

THE WORK TO BE PERFORMED IS IN AN AREA LOCATED OVER THE CLOSED EVERETT LANDFILL. REFUSE, LEACHATE, AND LANDFILL GAS MAY BE PRESENT AND POSE A SAFETY AND HEALTH HAZARD. IN ADDITION, PETROLEUM AND/OR METALS-CONTAMINATED SOILS AND GROUNDWATER MAY BE ENCOUNTERED. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE CONTRACTOR'S HEALTH AND SAFETY PLAN.

SPECIAL LANDFILL REQUIREMENTS:

A PORTION OF THE SITE IS LOCATED ON THE EVERETT LANDFILL SITE. THE EVERETT LANDFILL SITE IS SUBJECT TO A CONSENT DECREE BETWEEN THE CITY, RIVERFRONT COMMERCIAL INVESTMENT LLC, AND THE STATE DEPARTMENT OF ECOLOGY THAT INCLUDES SPECIAL REQUIREMENTS FOR WORK ON THE LANDFILL SITE AS DESCRIBED BELOW.

TO RESTRICT PUBLIC ACCESS TO THE LANDFILL SITE DURING CONSTRUCTION, FENCING AND LOCKING GATES SHALL BE MAINTAINED DURING CONSTRUCTION AND SECURED DAILY.

CONTRACTOR MUST DEVELOP, SUBMIT FOR OWNER APPROVAL, AND MAINTAIN, A SITE SAFETY AND HEALTH PLAN AT ALL TIMES.

THE SITE HEALTH AND SAFETY PLAN SHALL MEET THE REQUIREMENTS OF CODE OF FEDERAL REGULATIONS (CFR) 1910.120 AND THE CONSENT DECREE, AND BE SUBMITTED TO THE CITY OF EVERETT AND THE STATE DEPARTMENT OF ECOLOGY FOR REVIEW.

DUST AND ODOR CONTROL:

THE SITE SHALL BE MONITORED FOR FUGITIVE DUST. IF FUGITIVE DUST DEVELOPS, THE CONTRACTOR IS TO WATER DOWN THE WORK AREA UNTIL DUST IS CONTROLLED FROM MIGRATING OUTSIDE OF THE CONSTRUCTION ZONE. DUST CONTROL MEASURES SHOULD NOT RESULT IN SURFACE WATER RUNOFF.

ODOR EMISSIONS SHALL BE CONTROLLED TO ENSURE COMPLIANCE WITH STATE OF WASHINGTON AND PUGET SOUND AIR AGENCY REGULATIONS. METHODS OF CONTROL SHALL INCLUDE BUT IS NOT LIMITED TO AIR MONITORING AT DOWNLOAD PERIMETER WORK AREA LOCATIONS, POLYETHYLENE OR OTHER SHEETING, TARPING, OR TEXTILE TO COVER EXPOSED SOIL AREAS AND WASTE CONTAINERS, AND USE OF WATER SPRAYS.

SPECIAL SAFETY PROVISIONS:

CONSTRUCTION OF THIS PROJECT IS BEING PERFORMED ON, AND ADJACENT TO BURIED WASTES AND REFUSE. AS THESE BURIED MATERIALS DECOMPOSE ANAEROBICALLY, THEY GENERATE LANDFILL GAS (LFG), WHICH NORMALLY CONSISTS OF CARBON DIOXIDE (CO2), METHANE (CH4), OCCASIONALLY HYDROGEN SULFIDE (H2S) AND OTHER GASES, DEPENDENT ON THE COMPOSITION OF THE BURIED MATERIALS. HAZARDOUS CONDITIONS DUE TO LANDFILL GASES INCLUDE BUT ARE NOT LIMITED TO FIRES, EXPLOSIONS, OXYGEN DEFICIENCY, AND TOXIC ENVIRONMENTS. LEACHATE (I.E., CONTAMINATED LIQUID THAT HAS COME IN CONTACT WITH REFUSE AND CONTAINS WASTE DEGRADATION PRODUCTS) MAY BE PRESENT IN EXCAVATIONS.

LANDFILL GASES HAVE THE POTENTIAL TO CREATE HAZARDOUS CONDITIONS IF NOT CONTROLLED OR RECOGNIZED. SOME OF THE HAZARDS INCLUDE:

1. FIRES THAT MAY START SPONTANEOUSLY FROM EXPOSED AND/OR DECOMPOSING REFUSE.
2. FIRES AND EXPLOSIONS THAT MAY OCCUR FROM THE PRESENCE OF METHANE GAS.
3. LANDFILL GASES AND OTHER TRACE GASES THAT MAY HAVE TOXIC EFFECTS OR CREATE AN OXYGEN DEFICIENCY IN TRENCHES, VAULTS, CONDUITS, AND STRUCTURES.
4. HYDROGEN SULFIDE, A HIGHLY TOXIC AND FLAMMABLE GAS, WHICH MAY BE PRESENT.
5. EXPOSURE TO LEACHATE IS POTENTIALLY HAZARDOUS TO HUMAN HEALTH BECAUSE OF TOXIC AND/OR CARCINOGENIC COMPOUNDS THAT MAY BE PRESENT IN THE LEACHATE.

ALL IMPORTED SOILS WILL BE VISUALLY FIELD SCREENED FOR EVIDENCE OF CONTAMINANTS. ANY SUSPECT SOILS WILL BE SAMPLED FOR CHEMICAL ANALYSIS. ALL OTHER SOIL WILL BE SAMPLED FOR CHEMICAL ANALYSIS AT THE RATE OF ONE COMPOSITE SAMPLE (COMPRISED OF FOUR DISCRETE GRAB SAMPLES) FOR EVERY 5,000 CUBIC YARDS IMPORTED. ANALYSIS WILL INCLUDE PETROLEUM HYDROCARBONS BY METHOD NWTPH-HCID (WITH FOLLOW UP AS NEEDED) AND RCRA METALS BY METHOD EPA 6010D/6020B/200.7/200.8. ALL SOIL REMAINING ON SITE WILL MEET THE CRITERIA FOR LIMITED ACCESS PROPERTIES IN THE CURRENT DRAFT REVISIONS TO WAC 173-350 SOLID WASTE HANDLING STANDARDS.

POTENTIAL IMPACTS OF SOIL STOCKPILING ON LANDFILL GAS MIGRATION WILL BE ADDRESSED BY THE CITY'S ONGOING LANDFILL GAS MONITORING PROGRAM, WHICH INCLUDES QUARTERLY SOIL GAS MONITORING AT AROUND 40 LANDFILL GAS PROBE LOCATIONS. WITH THE RECENT COMPLETION OF THE SOUTHERNMOST LEG OF GAS EXTRATCTION TRENCH, THE LANDFILL AT THI SPOINT IS ALMOST ENTIRELY SURROUNDED BY AN ACTIVE LANDFILL GAS EXTRACTION SYSTEM, WITH THE SOIL FILL AREA SURROUNDED ON ALL SIDES. MULTIPLE PRIOR ROUNDS OF SITE PRELOADING RESULTED IN A FEW TEMPORARY CHANGES IN THE GAS MONITORING RESULTS, BUT DID NOT CAUSE ANY LON TERM OFF-SITE GAS REGULATORY EXCEEDANCES. THE MONITORIN AND PRESENCE OF A LANDFILL GAS EXTRACTION SYSTEM COMPLETELY SURROUNDING THE FILL AREA SHOULD ADEQUATELY ADDRESS ANY CONCERNS FOR EFFORTS OF THE PRELOAD ON LANDFILL GAS.

THE CONTRACTOR SHALL COMPLY WITH HEALTH AND SAFETY RULES, REGULATIONS, ORDINANCES PROMULGATED BY THE LOCAL, STATE, AND FEDERAL GOVERNMENT, THE VARIOUS CONSTRUCTION PERMITS, AND OTHER SECTIONS OF THE CONTRACT DOCUMENTS. IN ADDITION TO COMPLYING WITH HEALTH AND SAFETY RULES, REGULATIONS, AND ORDINANCES PROMULGATED BY THE LOCAL, STATE, AND FEDERAL GOVERNMENT, THE VARIOUS CONSTRUCTION PERMITS, AND OTHER SECTIONS OF THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL IN FORM ITS EMPLOYEES AND SUBCONTRACTORS AND THEIR EMPLOYEES OF THE POTENTIAL DANGER IN WORKING ON AND NEAR SOLID WASTE LANDFILLS.

THE CONTRACTOR SHALL BE FAMILIAR WITH THE HEALTH AND SAFETY SECTION OF THE LANDFILL GAS FIELD PRACTICES AND PROCEDURES AS PREPARED BY THE SOLID WASTE ASSOCIATION OF NORTH AMERICA (SWANA) NATIONAL LANDFILL GAS COMMITTEE. THE MOST CURRENT VERSION OF THIS DOCUMENT IS DATED 2011. COPIES MAY BE OBTAINED BY WRITING SWANA, 1100 WAYNE AVE, SUITE 600, SILVER SPRINGS, MARYLAND 20910, TELEPHONE 1-800-467-9262. CONTRACTOR SHALL PERFORM WHATEVER WORK IS NECESSARY FOR SAFETY AND BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDTIIONS OF THE JOB SITE, INCLUDING SAFETY OF ALL PERSONS (INCLUDING EMPLOYEES OF THE CITY, ENGINEER, ANY SITE VISITORS, AND CONTRACTOR) AND PROPERTY DURING THE CONTRACT PERIOD. THIS REQUIREMENT APPLIES CONTINUOUSLY AND IS NOT LIMITED TO NORMAL WORKING HOURS.

THE ENGINEER'S REVIEW OF THE CONRACTOR'S PERFORMANCE IS NOT INTENDED TO INCLUDE A REVIEW OR APPROVAL OF THE ADEQUACY OF THE CONTRACTOR'S SAFETY SUPERVISOR, THE SAFETY PROGRAM OR ANY SAFETY MEASURES TAKEN IN, ON, OR NEAR THE CONSTRUCTION SITE. THE CONTRACTOR SHALL PROVIDE FOR THE PROTECTION OF EMPLOYEES AND ALL OTHERS FROM FIRE, EXPLOSION, OR ASPHYXIATION CAUSED BY ANY GASES ENCOUNTERED DURING CONSTRUCTION AND LANDFILL LEACHATE EMITTED FROM, AND PRESENT WITHIN, THE EXISTING SOLID WASTE LANDFILL. THE CONTRACTOR SHALL PROVIDE AT ALL TIMES PROPER FACILITIES FOR SAFE ACCESS TO THE WORK BY AUTHORIZED GOVERNMENT OFFICIALS.

FIELD TRAILERS SHALL HAVE OPEN OR NO SKIRTING TO PREVENT LFG FROM INFILTRATING INTO THE STRUCTURE AND FLOOR ELEVATION SHALL BE 18" ABOVE GRADE TO BE IN AN "UNCLASSIFIED ZONE". IN ADDITION, THE CLEANUP ACTION PLAN STATES, "TEMPORARY ENCLOSURES ERECTED OVER PAVEMENT OR OPEN SPACE AREAS WILL CONTAIN CONTINUOUS MONITORS THAT WOUDL ACTIVATE AN ALARM IF TRIGGERED." A PORTABLE MONITOR SHALL BE PLACED IN EACH CONSTRUCTION TRIALER WITH AN ALARM ACTIVATION AT 1000 PPM OF ANY FLAMMABLE GAS CONCENTRATION.

TO PREVENT THE MIGRATION OF LANDFILL GAS OFF SITE THROUGH UTILITY CORRIDORS, ALL UTILITY TRENCHES SHALL BE BACKFILLED WITH IMPERMEABLE BACKFILL MATERIAL AS SHOWN IN THE DETAIL ON SHEET LFG16.

SITE SAFETY AND HEALTH PLAN:

DEVELOP, IMPLEMENT AND MAINTAIN FOR THE DURATION OF HIS CONTRACT, A SITE SAFETY AND HEALTH PLAN PREPARED UNDER THE SUPERVISION OF AND SIGNED BY A CERTIFIED INDUSTRIAL HYGENIST THAT WILL EFECTIVELY INCORPORATE AND IMPLEMENT ALL REQUIRED CITY, COUNTY, STATE, AND FEDERAL SAFETY PROVISIONS. THE SITE SAFETY AND HEALTH PLAN SHALL BE CONSISTENT WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL HEALTH STANDARDS AND GUIDELIENS, INCLUDING, BUT NOT LIMITED TO, THE OCCUPATIONAL SAFETY AND HEALTH ACT (OSHA), THE WASHINGTON INDUSTRIAL SAFETY AND HEALTH ACT (WISHA), THE NATIONAL INSTITUTE OF OCCUPATIONAL SAFETY AND HEALTH (NIOSH), THE AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIAL HYGENISTS (ACGIH), AND THE U.S. ENVIRONMENTAL PROTECTION AGENCY (EPA). WHERE THESE ARE IN CONFLICT, THE MORE STRINGENT REQUIREMENTS SHALL BE FOLLOWED. THE PLAN SHALL BE SUFFICIENT TO PROTECT ONSITE AND OFFSITE PERONNEL FROM THE POTENTIAL PHYSICAL, CHEMICAL, AND/OR BIOLOGICAL HAZARDS PARTICULAR TO THE SITE. THE CONTRACTOR SHALL ASSIGN AN INDIVIDUAL TO SERVE AS A SITE SAFETY AND HEALTH OFFICER AT THE JOB SITE AT ALL TIMES DURING WORK, WHO WILL BE QUALIFIED, RESPONSIBLE, AND AUTHORIZED TO SUPERVISE AND ENFORCE COMPLIANCE WITH THE SITE SAFETY AND HEALTH PLAN.

THE CONTRACTOR'S WRITTEN SITE SAFEY AND HEALTH PLAN SHOULD INCLUDE, BUT NOT BE LIMITED TO:

1. A LIST OF NAMES OF KEY PERSONNEL AND ALTERNATES RESPONSIBLE FOR SITE SAFEY AND HEALTH, INCLUDING THE SITE SAFEY AND HEALTH OFFICER.
2. A LIST OF CHEMICAL AND PHYSICAL HAZARDS (SUCH AS METHANE EXPOSURE), ALLOWABLE OSHA EXPOSURE LEVELS, THRESHOLD LIMIT VALUES, OTHER REGULATORY EXPOSURE LEVELS, AND THE EMERGENCY RESPONSE SHOULD AN EXPOSURE OR INJURY OCCUR.
3. FREQUENCY AND TYPES OF AIR MONITORING, PERSONNEL MONITORING, AND ENVIRONMENTAL SAMPLING TECHNIQUES AND INSTRUMENTATION TO BE USED, INCLUDING METHODS OF MAINTENANCE AND CALIBRATION OF MONITORING AND SAMPLING EQUIPMENT TO BE USED.
4. PERSONAL PROTECTIVE EQUIPMENT TO BE USED BY EMPLOYEES FOR EACH OF THE SITE TASKS AND OPERATING CRITERIA FOR UPGRADING LEVEL OF WORKER PROTECTION FROM LEVEL D TO LEVELS C AND B.
5. A LIST OF SAFETY AND MONITORING EQUIPMENT AT THE JOB SITE AND LOCATIONS WHERE EQUIPMENT IS STORED OR MAINTAINED.
6. AN EMERGENCY EVACUATION PLAN FOR IMMEDIATE REMOVAL TO A HOSPITAL OR A DOCTOR'S CARE ANY PERSON WHO MAY BE INJURED ON THE JOB SITE INCLUDING ROUTES TO MEDICAL TREATMENT, AND EMERGENCY TELEPHONE NUMBERS INCLUDING HOSPITAL, AMBULANCE, FIRE, SHERIFF/POLICE, POISON CONTROL, THE ENGINEER, AND OTHERS DEEMED AS NECESSARY.
7. EMPLOYEE TRAINING ASSIGNMENTS.
8. MEDICAL SURVEILLANCE REQUIREMENTS.
9. DECONTAMINATION PROCEDURES.
10. CONFINED SPACE PROCEDURES.
11. A SPILL CONTAINMENT PROGRAM FOR HANDLING CONTAMINATED LIQUIDS.
12. COPIES OF INDIVIDUAL 40-HOUR HAZARDOUS WASTE OPERATIONS AND EMERGENCY RESPONSE TRAINING (HAZWOPER) AND 8-HOUR ANNUAL HAZWOPER REFRESHER CERTIFICATES FOR EVERY EMPLOYEE THAT IS TO WORK IN CONTACT WITH LANDFILL MATERIAL.
13. DOCUMENTATION OF PARTICIPATION IN THE ONGOING RESPIRATORY PROTECTION PROGRAM, AS PER PART E OF WAC296-G2, INCLUDING RESULTS OF FIT-TESTING CONDUCTED WITHIN THE PAST 6 MONTHS.

THE CONTRACTOR SHALL INFORM ALL WORKERS AND THE PUBLIC VISITING OF THE POTENTIAL FOR THE PRESENCE OF METHANE AND OTEHR LANDFILL GASES EMANATING FROM THE NATURAL DECOMPOSITION OF REFUSE BURIED AT OR NEAR THE JOB SITE AND THE IMPORTANCE OF SAFETY PRECAUTIONS TO ENSURE THE SAFETY OF WORKERS AND THE PUBLIC. THE CONTRACTOR SHALL INSTRUCT ALL WORKERS AND MAINTAIN THE STRICT CONTROL OF CONSTRUCTION ACTIVITY TO PROTECT AND MAINTAIN THE INTEGRITY OF THE CLOSED PORTION OF THE LANDFILL.

FAILURE ON THE PART OF THE CONTRACTOR TO FOLLOW THE SITE SAFETY AND HEALTH PLAN OR TO CONTINUE ANY WORK IN AN UNSAFE MANNER MAY RESULT IN SUSPENSION OF THE WORK BY THE OWNER OR THE CITY OF EVERETT.

SITE SAFETY AND HEALTH OFFICER:

THE CONTRACTOR SHALL PROVIDE A PERSON DESIGNATED AS THE SITE SAFETY AND HEALTH OFFICER, WHO IS THOROUGHLY TRAINED IN RESCUE PROCEDURES, THE USE OF SAFETY EQUIPMENT AND GAS DETECTORS, AND THE POTENTIAL HAZARDS THAT MAY BE PRESENT AT MUNICIPAL SOLID WASTE LANDFILLS. THE PERSON MUST BE PRESENT AT ALL TIMES WHILE WORK IS BEING PERFORMED AND IMPLEMENT THE WRITTEN SITE SAFETY AND HEALTH PLAN AND CONDUCT TESTING.

THE CONTRACTOR'S SITE SAFETY AND HEALTH OFFICER SHALL BE DELEGATED THE AUTHORITY TO ORDER ANY PERSON OR WORKER ON THE LANDFILL SITE TO FOLLOW THE SAFETY RULES. FAILURE TO OBSERVE THESE RULES IS SUFFICIENT CAUSE FOR REMOVAL OF THE PERSON OR WORKER(S) FROM THE PROJECT.

THE SITE SAFETY AND HEALTH OFFICER SHALL HAVE TAKEN A COURSE SATISFYING THE TRAINING REQUIREMENTS OF 29 CFR 1910.120 FOR HAZARDOUS WASTE SITE OPERATIONS. A COPY OF THE SITE SAFETY AND HEALTH OFFICER'S 40 HOUR OSHA HAZMAT CERTIFICATION SHALL BE KEPT AVAILABLE ON SITE.

THE SITE SAFETY AND HEALTH OFFICER IS RESPONSIBLE FOR DETERMINING THE EXTENT TO WHICH ANY SAFETY EQUIPMENT MUST BE UTILIZED, DEPENDING ON CONDITIONS ENCOUTERED AT THE SITE.

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10/18/2024

RUSSELL H. HAZZARD, ARCHITECT

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10/17/2024

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△	DATE	DESCRIPTION

21-5971-01A
PM: ELI HARDI
DRAWN BY: Author
06/17/22

GENERAL PROJECT NOTES

G003

ZONING ANALYSIS

PROPOSED USES
RESIDENTIAL
COMMERCIAL

MAXIMUM BUILDING HEIGHT
ATTACHMENT F.B.1.a
MAXIMUM HEIGHT, AS APPROVED BY THE CITY AS PART OF THE PLANNED DEVELOPMENT ORDINANCE FOR THE EVERETT RIVERFRONT PROJECT.
MAXIMUM HEIGHT: 75'-0" COMPLIES

MAXIMUM HEIGHT OF ROOFTOP APPURTENANCES
ATTACHMENT F.B.1.b
THE MAXIMUM HEIGHT LIMIT OF ROOFTOP APPURTENANCES SHALL BE 15' ABOVE THE MAXIMUM BUILDING HEIGHT. ROOFTOP APPURTENANCES SHALL BE EITHER SCREENED OR DESIGNED/PAINTED TO BLEND INTO THE BUILDING, AS APPROPRIATE TO THE APPURTENANCE.

COMPLIES

MINIMUM LOT AREA
ATTACHMENT F.1.B.c
THE MINIMUM LOT AREA IS 3,000 SQUARE FEET. THERE SHALL BE NO MINIMUM LOT WIDTH OR DEPTH REQUIREMENTS.

COMPLIES

SETBACKS
ATTACHMENT F.1.B.d
THERE SHALL BE NO MINIMUM REQUIRED SETBACKS.

COMPLIES

OFF-STREET PARKING
ATTACHMENT F.2.a
FOR ALL COMMERCIAL USES OTHER THAN HOTEL, PARKING MUST BE PROVIDED AT A MINIMUM AVERAGE RATIO FOR ALL USES OF THREE PARKING SPACES PER 1,000 SQUARE FEET OF DEVELOPMENT. PLANNING DIRECTOR APPROVAL WOULD BE REQUIRED FOR ANY CHANGE IN PARKING THAT REDUCES THE PARKING QUANTITY TO LESS THAN A MINIMUM AVERAGE RATIO OF THREE SPACES PER 1,000 SQUARE FEET OF DEVELOPMENT

TOTAL COMMERCIAL SQUARE FOOTAGE:	17,210 SF
TOTAL COMMERCIAL PARKING SPACES REQUIRED:	17,210 SF / 1,000 SF X3 = 51.63
TOTAL PARKING PROVIDED:	*52 SPACES PROVIDED* *COMPLIES*

ATTACHMENT F.C.3
MULTI-FAMILY AND ATTACHED SINGLE-FAMILY: 1 PARKING SPACE PER UNIT WITH ONE OR FEWER BEDROOMS, AND 1.5 PARKING SPACES PER UNIT WITH TWO OR MORE BEDROOMS.

TOTAL UNITS WITH ONE OR FEWER BEDROOMS:	124
TOTAL UNITS WITH TWO OR MORE BEDROOMS:	29
TOTAL SPACES REQUIRED:	124(1) + 29(1.5) = 167.5
TOTAL SPACES PROVIDED:	*168 SPACES PROVIDED* *COMPLIES*

OFF-STREET LOADING
ATTACHMENT F.3
THE OFF-STREET LOADING REQUIREMENTS OF SUBSECTION B, RATHER THAN SUBSECTION A, OF EMC 19.34.090 SHALL APPLY TO DEVELOPMENT OF THE LANDFILL PAD.
(SUBSECTION A REQUIRES USES WITH 5,000-20,000 SF TO HAVE ONE LOADING BERTH, 20,000-50,000 TWO BERTHS, 50,000-100,000 THREE BERTHS; SUBSECTION B REQUIRES USES WITH 20,000-50,000 SF TO HAVE ONE LOADING BERTH AND 50,000-100,000 TWO BERTHS.)

COMPLIES. REFER TO SITE PLAN SHEET A002.

GROUND FLOOR USES FACING MAIN STREET
ATTACHMENT F.4
PEDESTRIAN-ORIENTED GROUND FLOOR RETAIL OR RESTAURANT, PEDESTRIAN-ORIENTED USE OR BUSINESS, RESIDENTIAL ENTRANCES, HOTEL OR A COMPATIBLE BUILDING WITH A USE DRAWING PEOPLE SUCH AS A THEATER OR COMMUNITY CENTER IS REQUIRED ON BUILDING FRONTS FACING THE MAIN STREET.

REFER TO SITE PLAN SHEET A002 DOCUMENTING COMPLIANCE

PRIMARY ENTRANCES TO FACE MAIN STREET OR PLAZA; ALTERNATIVE FACADE TREATMENT
ATTACHMENT F.5.a-e
WHEN POSSIBLE ALL PRIMARY BUILDING ENTRANCES AND STOREFRONTS SHOULD FACE ONTO THE MAIN STREET AND/OR PLAZA AND NOT PARKING LOTS. WHEN THIS IS NOT POSSIBLE THOSE FACADES WILL INCORPORATE (c) OR (d) BELOW AND AT LEAST ONE OF THE OTHER ELEMENTS.

a. TRANSPARENT WINDOWS OR DOORS
b. DISPLAY WINDOWS
c. LANDSCAPE PLANTING BEDS AT LEAST FIVE FEET WIDE OR A RAISED PLANTER BED AT LEAST TWO FEET HIGH AND THREE FEET WIDE IN FRONT OF THE WALL. SUCH PLANTING AREAS SHALL INCLUDE PLANTING MATERIALS THAT ARE SUFFICIENT TO OBSCURE OR SCREEN AT LEAST SIXTY PERCENT OF THE WALL SURFACE WITHIN THREE YEARS.
d. INSTALLING A VERTICAL TRELLIS IN A RAISED PLANTER BED AT LEAST TWO FEET HIGH AND THREE FEET WIDE IN FRONT OF THE WALL WITH CLIMBING VINES OR PLANT MATERIALS SUFFICIENT TO OBSCURE OR SCREEN AT LEAST SIXTY PERCENT OF THE WALL SURFACE WITHIN THREE YEARS. FOR LARGE AREAS, TRELLISES SHOULD BE USED IN CONJUNCTION WITH OTHER BLANK WALL TREATMENTS .
e. OTHER METHODS SUCH AS MURALS OR SPECIAL BUILDING MATERIAL TREATMENTS THAT PROVIDE VISUAL INTEREST TO THE PEDESTRIAN AS APPROVED BY THE CITY.

REFER TO SITE PLAN SHEET A002 DOCUMENTING COMPLIANCE

GROUND FLOOR TRANSPARENCY
EMC 19.22.020.D5.a
FOR ALL BUILDING FACADES FACING MAIN STREET, AT LEAST FORTY PERCENT OF THE AREA BETWEEN TWO AND TEN FEET ABOVE GRADE SHALL BE TRANSPARENT. "TRANSPARENT" MEANS THAT AN INDIVIDUAL CAN SEE INTO THE BUILDING FROM THE OUTSIDE. TRANSPARENT GLASS MAY BE TINTED, LOW-E, OR INCLUDE OTHER SIMILAR TREATMENT. FOR RESIDENTIAL USES, THIS MINIMUM TRANSPARENCY REQUIREMENT IS REDUCED TO TWENTY PERCENT OF THE AREA BETWEEN TWO AND TEN FEET ABOVE GRADE TO ALLOW FOR INCREASED PRIVACY. TRANSPARENT FEATURES MAY INCLUDE WINDOWS AND TRANSPARENT DOORS. DISPLAY CASES ATTACHED TO THE EXTERIOR WALL DO NOT QUALIFY. OTHER TREATMENTS THAT ENHANCE THE PEDESTRIAN ENVIRONMENT MAY BE APPROVED BY THE CITY.

REFER TO SHEET G101 FOR COMPLIANCE

WINDOW TREATMENTS
EMC 19.22.020.D5.b
BUILDING FACADES FACING MAIN STREET SHALL EMPLOY DISTINCTIVE WINDOW OR FACADE TREATMENT ABOVE THE GROUND FLOOR THAT ADDS VISUAL INTEREST TO THE BUILDING.

REFER TO ELEVATION SHEETS A201 - A205 FOR COMPLIANCE

EXTERIOR MATERIALS FACING MAIN STREET
EMC 19.22.020.D5.c
(1) METAL SIDING. IF METAL SIDING IS USED ON FACADES FACING MAIN STREET, IT SHALL INCORPORATE APPROPRIATE ARCHITECTURAL DETAILING TO ADD VISUAL INTEREST AND INCORPORATE MASONRY OR OTHER SIMILAR DURABLE/PERMANENT MATERIAL NEAR THE GROUND LEVEL.
(2) CONCRETE BLOCK. WHEN USED FOR A FACADE FACING MAIN STREET, CONCRETE BLOCKS SHALL BE SPLIT, PRECISION, ROCK- OR GROUND-FACED, OR SIMILAR MATERIAL. STANDARD CMU SHALL NOT BE USED. IF PRECISION BLOCK IS USED, IT SHALL BE DETAILED WITH MASONRY, METAL OR OTHER APPROPRIATE MATERIALS ON THE SAME WALL SURFACE. TO ADD VISUAL INTEREST, THE USE OF SPECIALIZED TEXTURES AND/OR COLORS USED EFFECTIVELY WITH OTHER BUILDING MATERIALS AND DETAILS IS ENCOURAGED .
(3) EXTERIOR INSULATION AND FINISH SYSTEM (EIFS) FACING MAIN STREET AND SIMILAR TROWELED FINISHES (STUCCO).
(A) EIFS SHALL BE TRIMMED IN WOOD, MASONRY, OR OTHER APPROVED MATERIALS AND SHALL BE SHELTERED FROM EXTREME WEATHER BY ROOF OVERHANGS OR OTHER METHODS.
(B) EIFS MAY ONLY BE USED IN CONJUNCTION WITH OTHER APPROVED BUILDING MATERIALS. GENERALLY, THE USE OF EIFS FOR MORE THAN FIFTY PERCENT OF THE BUILDING FACADE IS DISCOURAGED.
(C) EIFS IS PROHIBITED WITHIN TWO VERTICAL FEET OF THE SIDEWALK OR GROUND LEVEL.
MASONRY OR OTHER SIMILAR DURABLE/PERMANENT MATERIALS SHALL BE USED.
(D) HIGH QUALITY FIBER CEMENT PANEL SYSTEMS MAY BE USED, SUCH AS HARDIE BOARD, IN PANELS/SHEETS SMALLER THAN 4 'X4' AND WITH APPROPRIATE ARCHITECTURAL DETAILING.
(4) PROHIBITED EXTERIOR MATERIALS.
(A) MIRRORED GLASS IS PROHIBITED AT THE GROUND LEVEL ALONG MAIN STREET. MIRRORED GLASS COVERING MORE THAN TEN PERCENT OF THE EXTERIOR OF ANY BUILDING IS PROHIBITED. (B) TEXTURED OR SCORED PLYWOOD (INCLUDING T-111 OR SIMILAR PLYWOOD).
(C) STUCCO BOARD.

REFER TO ELEVATION SHEETS A201 - A205 FOR COMPLIANCE

BUILDING ENTRANCES
EMC 19.22.020.D5.d
THE MAIN PUBLIC ENTRANCES OF ALL BUILDINGS MUST PROVIDE WEATHER PROTECTION.

WEATHER PROTECTION PROVIDED AT ALL BUILDING ENTRANCES. REFER TO ELEVATION SHEETS A201 - A205

BLANK WALL TREATMENT
EMC 19.22.020.D5.f
BLANK WALLS SHALL BE PROHIBITED. DESIGN TREATMENTS TO ELIMINATE BLANK WALLS ARE SUBJECT TO CITY APPROVAL BASED ON THEIR ABILITY TO ENHANCE THE PEDESTRIAN AND VISUAL ENVIRONMENT AND INCLUDE:
(A) TRANSPARENT WINDOWS OR DOORS.
(B) DISPLAY WINDOWS.
(C) LANDSCAPE PLANTING BED AT LEAST FIVE FEET WIDE OR A RAISED PLANTER BED AT LEAST TWO FEET HIGH AND THREE FEET WIDE IN FRONT OF THE WALL. SUCH PLANTING AREAS SHALL INCLUDE PLANTING MATERIALS THAT ARE SUFFICIENT TO OBSCURE OR SCREEN AT LEAST SIXTY PERCENT OF THE WALL SURFACE WITHIN THREE YEARS.
(D) INSTALLING A VERTICAL TRELLIS IN A RAISED PLANTER BED AT LEAST TWO FEET HIGH AND THREE FEET WIDE IN FRONT OF THE WALL WITH CLIMBING VINES OR PLANT MATERIALS SUFFICIENT TO OBSCURE OR SCREEN AT LEAST SIXTY PERCENT OF THE WALL SURFACE WITHIN THREE YEARS. FOR LARGE AREAS, TRELLISES SHOULD BE USED IN CONJUNCTION WITH OTHER BLANK WALL TREATMENTS.
(E) OTHER METHODS SUCH AS MURALS OR SPECIAL BUILDING MATERIAL TREATMENTS THAT PROVIDE VISUAL INTEREST TO THE PEDESTRIAN AS APPROVED BY THE CITY.

REFER TO SITE PLAN SHEET A002 AND LANDSCAPE PLANS DOCUMENTING COMPLIANCE

STOREFRONT DETAILS
EMC 19.22.020.D6.a
GROUND FLOOR FACADES MUST INCLUDE DISTINCTIVE ELEMENTS THAT ADD VISUAL INTEREST TO THE STOREFRONT. STANDARD CORPORATE LOGOS WILL NOT QUALIFY.

REFER TO SITE PLAN SHEET A002, ELEVATION SHEETS A201 - A205, AND LANDSCAPE PLANS DOCUMENTING COMPLIANCE

OPEN SPACE
EMC 19.20.030.D7
MINIMUM OF 50 SQUARE FEET PER UNIT.

153 TOTAL UNITS * 50 SQUARE FEET = 7,650 SF REQUIRED

ATTACHMENT F.C.4
OPEN SPACE IN THE PUBLIC GATHERING SPACE / PUBLIC PLAZA AND ANY PARK OR PUBLIC RECREATIONAL FACILITY MAY BE COUNTED TOWARDS ONE-HALF THE ON-SITE OPEN SPACE REQUIREMENTS THAT FOR RESIDENTIAL USE, IF SUCH AREAS ARE LOCATED WITHIN 1,000 FEET OF THE RESIDENTIAL USE.

REFER TO LANDSCAPE PLANS FOR COMPLIANCE

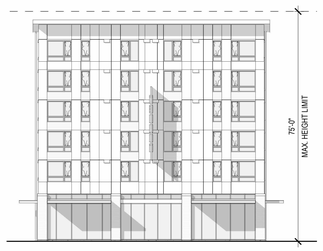
MODULATION
EMC 19.22.030.D7.c (FROM ORIGINAL DESIGN REVIEW)
SHALL INCLUDE AT LEAST 3 OF MODULATION/ARTICULATION FEATURES AT INTERVALS OF NO MORE THAN 40' WHEN FACING A STREET.
- REPEATING DISTINCTIVE WINDOW PATTERNS AT LESS THAN 40";
- VERTICAL BUILDING MODULATION - 2' DEEP X 4' WIDE MIN WITH DIFFERENT MATERIAL OR BUILDING COLOR;
- VERTICAL BUILDING MODULATION - 10' DEEP X 15' WIDE;
- HORIZONTAL MODULATION - 5' MIN.;
- ARTICULATION TOP, MIDDLE, AND BOTTOM;
- CHANGE OF ROOF LINE;
- FLAT ROOFS - ROOFLINE MODULATION 2' OR 0.1 X WALL HEIGHT (WHICHEVER IS GREATER);
- SLOPE ROOF - MIN 3:12;
- CHANGE IN BUILDING MATERIAL OR SIDING STYLE COORDINATED WITH HORIZONTAL BUILDING MODULATION AND CHANGE IN COLOR;
- ALTERNATIVE METHODS APPROVED BY THE CITY.

REFER TO BUILDING ELEVATIONS A201 - A205 FOR COMPLIANCE

MAXIMUM BUILDING HEIGHT

MAXIMUM BUILDING HEIGHT
ATTACHMENT F.B.1.a
MAXIMUM HEIGHT, AS APPROVED BY THE CITY AS PART OF THE PLANNED DEVELOPMENT ORDINANCE FOR THE EVERETT RIVERFRONT PROJECT.
MAXIMUM HEIGHT: 75'-0" COMPLIES

EAST ELEVATION



SOUTH ELEVATION

1 MAXIMUM BUILDING HEIGHT
SCALE: 1" = 20'-0"

EVERETT RIVERFRONT BUILDING D

3610 RIVERFRONT BLVD, EVERETT, WA 98203

1101 Second Ave, Ste 100
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MG2.com

PERMIT SET

10/18/2024

RUSSELL H. HAZZARD, ARCHITECT
8079 REGISTERED ARCHITECT
RUSSELL H. HAZZARD
STATE OF WASHINGTON
10/17/2024

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△	DATE	DESCRIPTION
1	11/04/22	PERMIT CORRECTIONS 01
2	07/12/24	PERMIT CORRECTIONS 02

21-5971-01A
PM: ELI HARDI
DRAWN BY: JG, PD, MB
04/29/22

ZONING CODE SUMMARY

G100

10/17/2024 12:06:36 PM Autodesk Docs://MG2-CE-Shelter Holdings-Everett Riverfront Development PH2-21-5905-01A/A_21-5905-01A_Everett Riverfront BLD-D_R22.rvt

EMC 19.12.130 BUILDING TRANSPARENCY

TRANSPARENT WINDOWS OR DOORS, ON THE GROUND FLOOR AND FACING THE STREET, ARE REQUIRED AS SET FORTH IN TABLE 12-4 BELOW; PROVIDED, HOWEVER, THAT THESE STANDARDS DO NOT APPLY TO STRUCTURED PARKING. TRANSPARENCY MEASUREMENTS ARE DONE ON THE GROUND FLOOR OF THE STREET FACADE, BETWEEN TWO AND TEN FEET ABOVE GRADE. SEE FIGURE 12-6 FOR HOW THIS IS MEASURED.

TRANSPARENCY	TOD	PEDESTRIAN	CONNECTOR	RESIDENTIAL MIXED USE	UNDESIGNATED
PERCENT COMPROMISED OF WINDOWS AND/OR DOORS WITH CLEAR GLASS (2'-10')	90%	60%	45%	45%	SEE BLANK WALLS

EMC 19.12.140 FACADE DESIGN (ARTICULATION, BLANK AND EXPOSED FIRE WALLS, EXTERIOR BUILDING AND FENCING MATERIALS

"BLANK WALL" MEANS EXTERIOR GROUND FLOOR WALLS OF BUILDINGS VISIBLE FROM A STREET OR PUBLICLY ACCESSIBLE OPEN SPACE THAT ARE OVER FOUR FEET IN HEIGHT WITH A HORIZONTAL LENGTH GREATER THAN FIFTEEN FEET, AND DO NOT INCLUDE A WINDOW, DOOR, BUILDING MODULATION OR OTHER ARCHITECTURAL DETAILING. BUILDING WALLS ADJACENT TO AN ALLEY AND EXTERIOR FIRE WALLS BUILT ALONG INTERIOR PROPERTY LINES ARE NOT CONSIDERED BLANK WALLS.

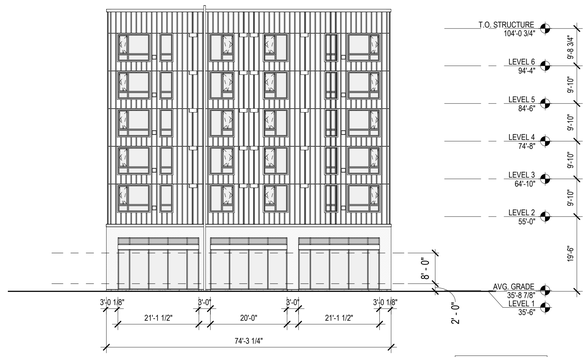
ATTACHMENT F:
GROUND FLOOR TRANSPARENCY. FOR ALL BUILDING FACADES FACING RIVERFRONT BOULEVARD, AT LEAST FORTY PERCENT OF THE AREA BETWEEN TWO AND TEN FEET ABOVE GRADE SHALL BE TRANSPARENT. "TRANSPARENT" MEANS THAT AN INDIVIDUAL CAN SEE INTO THE BUILDING FROM THE OUTSIDE.
TRANSPARENT GLASS MAY BE TINTED, LOW-E, OR INCLUDE OTHER SIMILAR TREATMENT. FOR RESIDENTIAL USES, THIS MINIMUM TRANSPARENCY REQUIREMENT IS REDUCED TO TWENTY PERCENT OF THE AREA BETWEEN TWO AND TEN FEET ABOVE GRADE TO ALLOW FOR INCREASED PRIVACY. TRANSPARENT FEATURES MAY INCLUDE WINDOWS AND TRANSPARENT DOORS. DISPLAY CASES ATTACHED TO THE EXTERIOR WALL DO NOT QUALIFY. OTHER TREATMENTS THAT ENHANCE THE PEDESTRIAN ENVIRONMENT MAY BE APPROVED BY THE CITY.

BLANK FACADE: 294' 7/8"

TRANSPARENT FACADE: 614'-10 1/8"

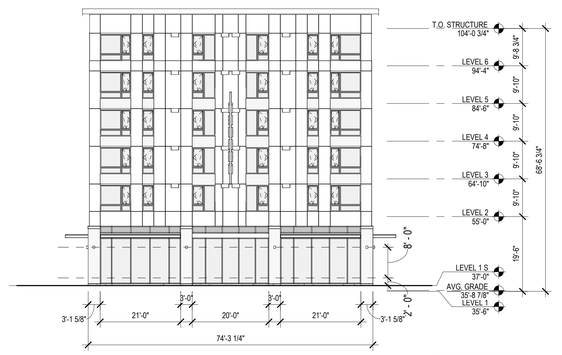
TOTAL FACADE: 908'-11"

614' 10" / 908'-11" = 67.6% COMPLIES



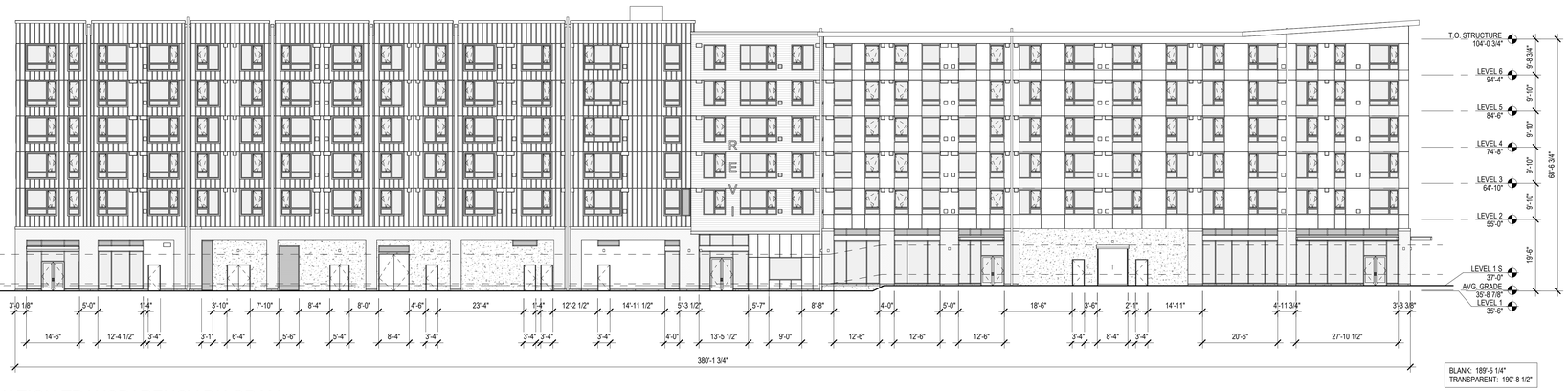
2 NORTH ELEVATION TRANSPARENCY DIAGRAM

SCALE: 1/16" = 1'-0"



3 SOUTH ELEVATION TRANSPARENCY DIAGRAM

SCALE: 1/16" = 1'-0"



4 WEST ELEVATION TRANSPARENCY DIAGRAM

SCALE: 1/16" = 1'-0"

1 EAST ELEVATION TRANSPARENCY DIAGRAM

SCALE: 1/16" = 1'-0"

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EVERETT RIVERFRONT BUILDING D

3610 RIVERFRONT BLVD, EVERETT, WA 98203

1101 Second Ave, Ste 100
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206 962 6500
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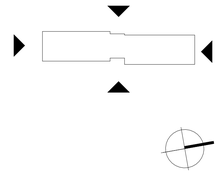
PERMIT SET

10/18/2024

KEY PLAN



RUSSELL H. HAZZARD, ARCHITECT

10/17/2024

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△	DATE	DESCRIPTION

21-5971-01A
PM: ELI HARDI
DRAWN BY: JG, PD, MB
04/29/22

ZONING CODE DIAGRAMS & ANALYSIS

G101

HORIZONTAL FIRE SEPARATION

HORIZONTAL BUILDING SEPARATION ALLOWANCE
IBC 510.2

A BUILDING SHALL BE CONSIDERED AS SEPARATE AND DISTINCT BUILDINGS FOR THE PURPOSE OF DETERMINING AREA LIMITATIONS, CONTINUITY OF FIRE WALLS, LIMITATION OF NUMBER OF STORIES AND TYPE OF CONSTRUCTION WHERE ALL OF THE FOLLOWING CONDITIONS ARE MET:

1. THE BUILDINGS ARE SEPARATED WITH A HORIZONTAL ASSEMBLY HAVING A FIRE-RESISTANCE RATING OF NOT LESS THAN 3 HOURS WHERE VERTICAL OFFSETS ARE PROVIDED AS PART OF A HORIZONTAL ASSEMBLY, THE VERTICAL OFFSET AND THE STRUCTURE SUPPORTING THE VERTICAL OFFSET SHALL HAVE A FIRE-RESISTANCE RATING OF NOT LESS THAN 3 HOURS.

2. THE BUILDING BELOW THE HORIZONTAL ASSEMBLY IS OF TYPE IA CONSTRUCTION.

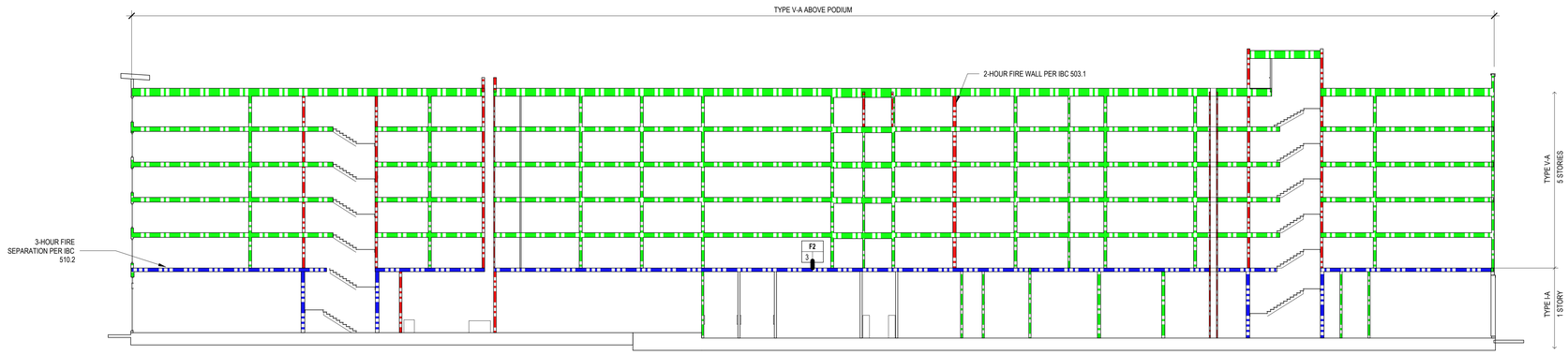
3. SHAFT, STAIRWAY, RAMP AND ESCALATOR ENCLOSURES THROUGH THE HORIZONTAL ASSEMBLY SHALL HAVE NOT LESS THAN A 2-HOUR FIRE-RESISTANCE RATING WITH OPENING PROTECTIVES IN ACCORDANCE WITH SECTION 716.

4. THE BUILDING OR BUILDINGS ABOVE THE HORIZONTAL ASSEMBLY SHALL BE PERMITTED TO HAVE MULTIPLE GROUP A OCCUPANCY USES, EACH WITH AN OCCUPANT LOAD OF LESS THAN 300, OR GROUP B, GROUP I-1, CONDITION 2 LICENSED CARE FACILITIES, M, R, OR S OCCUPANCIES.

5. THE BUILDING BELOW THE HORIZONTAL ASSEMBLY SHALL BE PROTECTED THROUGHOUT BY AN APPROVED AUTOMATIC SPRINKLER SYSTEM IN ACCORDANCE WITH SECTION 903.3.1.1, AND SHALL BE PERMITTED TO BE ANY OCCUPANCY ALLOWED BY THIS CODE EXCEPT GROUP H.

6. THE MAXIMUM BUILDING HEIGHT IN FEET (MM) SHALL NOT EXCEED THE LIMITS SET FORTH IN SECTION 504.3 FOR THE BUILDING HAVING THE SMALLER ALLOWABLE HEIGHT AS MEASURED FROM THE GRADE PLANE. GROUP I-1, CONDITION 2 LICENSED CARE FACILITIES SHALL BE PERMITTED TO USE THE VALUES FOR MAXIMUM HEIGHT IN FEET FOR GROUP R-2 OCCUPANCIES.

1-HOUR RATED
2-HOUR RATED
3-HOUR RATED



1 FIRE SEPARATION DIAGRAM
SCALE: 1/16" = 1'-0"

HEIGHT AND AREA

CONSTRUCTION TYPE IBC CHAPTER 6	V-A OVER I-A		
OCCUPANCY CLASSIFICATIONS IBC CHAPTER 3	RESIDENTIAL UNITS COMMERCIAL ROOF TERRACE	R-2 M ASSEMBLY	RESIDENTIAL MERCANTILE OUTDOOR AREA
CONSTRUTION TYPE I-A IBC TABLE 504.3/504.4/506.2	R-2 OCCUPANCY	STORIES: UNLIMITED AREA: UNLIMITED HEIGHT: UNLIMITED	
	S-2 OCCUPANCY	STORIES: UNLIMITED AREA: UNLIMITED HEIGHT: UNLIMITED	
	M OCCUPANCY	STORIES: UNLIMITED AREA: UNLIMITED HEIGHT: UNLIMITED	
	A-3 OCCUPANCY	STORIES: UNLIMITED AREA: UNLIMITED HEIGHT: UNLIMITED	
CONSTRUTION TYPE V-A IBC TABLE 504.3/504.4/506.2	R-2 OCCUPANCY	STORIES: 5 AREA: 36,000 SF HEIGHT: 70 FEET	
	S-2 OCCUPANCY	STORIES: 5 AREA: 63,000 SF HEIGHT: 70 FEET	
	A-3 OCCUPANCY	STORIES: 3 AREA: 34,500 SF HEIGHT: 70 FEET	

STAIR ENCLOSURE PRESSURIZATION INCREASE
IBC 504.4.1

FOR GROUP R-1, R-2, AND I-1 CONDITION 2 ASSISTED LIVING FACILITIES LICENSED UNDER CHAPTER 388-78A WAC AND RESIDENTIAL TREATMENT FACILITIES AS LICENSED BY WASHINGTON STATE UNDER CHAPTER 246-337 WAC LOCATED IN BUILDINGS OF TYPE VA CONSTRUCTION EQUIPPED THROUGHOUT WITH AN APPROVED AUTOMATIC SPRINKLER SYSTEM IN ACCORDANCE WITH SECTION 903.3.1.1, THE MAXIMUM NUMBER OF STORIES PERMITTED IN SECTION 504.4 MAY BE INCREASED BY ONE PROVIDED THE INTERIOR EXIT STAIRWAYS AND RAMPS ARE PRESSURIZED IN ACCORDANCE WITH SECTIONS 909.6.3 AND 909.20. LEGALLY REQUIRED STANDBY POWER SHALL BE PROVIDED IN ACCORDANCE WITH SECTIONS 909.11 AND 2702.2.16 FOR BUILDINGS CONSTRUCTED IN COMPLIANCE WITH THIS SECTION AND BE CONNECTED TO STAIRWAY SHAFT PRESSURIZATION EQUIPMENT, ELEVATORS AND LIFTS USED FOR ACCESSIBLE MEANS OF EGRESS (IF PROVIDED), ELEVATOR HOISTWAY PRESSURIZATION EQUIPMENT (IF PROVIDED) AND OTHER LIFE SAFETY EQUIPMENT AS DETERMINED BY THE AUTHORITY HAVING JURISDICTION. FOR THE PURPOSES OF THIS SECTION, LEGALLY REQUIRED STANDBY POWER SHALL COMPLY WITH 2020 NEC SECTION 701.12, OPTIONS (C), (D), (E), (F), (H) OR (J) OR SUBSEQUENT REVISED SECTION NUMBER(S).

INTERIOR EXIT STAIRWAYS AND RAMPS
IBC 1023.1

INTERIOR EXIT STAIRWAYS AND RAMPS SERVING AS AN EXIT COMPONENT IN A MEANS OF EGRESS SYSTEM SHALL COMPLY WITH THE REQUIREMENTS OF THIS SECTION. INTERIOR EXIT STAIRWAYS AND RAMPS SHALL BE ENCLOSED AND LEAD DIRECTLY TO THE EXTERIOR OF THE BUILDING OR SHALL BE EXTENDED TO THE EXTERIOR OF THE BUILDING WITH AN EXIT PASSAGEWAY CONFORMING TO THE REQUIREMENTS OF SECTION 1024, EXCEPT AS PERMITTED IN SECTION 1028.1. AN INTERIOR EXIT STAIRWAY OR RAMP SHALL NOT BE USED FOR ANY PURPOSE OTHER THAN AS A MEANS OF EGRESS AND A CIRCULATION PATH.

INTERIOR EXIT STAIRS ARE PRESSURIZED, ALLOWABLE STORIES INCREASED BY (1).
EXIT PASSAGEWAYS 129 AND 133 TO BE PRESSURIZED

2018 IBC ALLOWABLE AREA CALCULATION
IBC 506.2.4

R2 IN TYPE V-A CONSTRUCTION

AREA FACTOR INCREASE = (FRONTAGE/PERIMETER- 25)WIDTH OF PUBLIC WAY/30
AREA FACTOR INCREASE = (100/100- 25)30/30
AREA FACTOR INCREASE = .75

TYPE V-A ALLOWABLE BUILDING AREA = (TABULAR AREA + (NSXAREA FACTOR INCREASE)) X NUMBER OF STORIES NOT MORE THAN 4
TYPE V-A ALLOWABLE BUILDING AREA = (36,000+(12,000X.75)) X 3
TYPE V-A ALLOWABLE BUILDING AREA = **135,000**

TYPE V-A NORTH OF FIRE WALL AREA= 54,050 **(COMPLIES)**
TYPE V-A SOUTH OF FIRE WALL AREA= 83,882 **(COMPLIES)**
TYPE V-A TOTAL COMBINED BUILDING AREA = 137,932

A FIREWALL, PER IBC 503.1 AND 706, IS PROVIDED AT GRID 13 THAT SEPARATES THE TYPE V-A OCCUPANCY INTO (2) SEPARATE BUILDINGS ABOVE THE 3-HOUR PODIUM, BOTH WITH AN AREA OF LESS THAN 135,000 SF.

RATINGS

CORRIDORS IBC 1020.1	CORRIDORS SHALL BE FIRE-RESISTANCE RATED TO 1 HOUR.
IBC 1020.6	FIRE RATED CORRIDORS SHALL BE CONTINUOUS FROM THE POINT OF ENTRY TO AN EXIT AND SHALL NOT BE INTERRUPTED BY INTERVENING ROOMS.
EXIT STAIRWAYS AND RAMPS IBC 1023.3	EXIT STAIR SHALL BE CONSTRUCTED AS 2 HOUR FIRE BARRIERS WHERE CONNECTING MORE THAN 4 STORIES.
EXIT PASSAGEWAYS IBC 1024.2	EXIT PASSAGEWAY ENCLOSURES SHALL HAVE WALLS, FLOORS, AND CEILINGS OF NOT LESS THAN 2-HOUR FIRE RESISTANCE RATING.
VERTICAL EXIT ENCLOSURES (FIRE BARRIERS)	2 HOURS WHEN CONNECTING MORE THAN 4 STORIES. 1 HOUR WHEN CONNECTING 4 STORIES AND FEWER.
FIRE PARTITION CORRIDORS IBC 708.3	FIRE PARTITIONS SHALL HAVE A FIRE RESISTANCE RATING OF NOT LESS THAN 1 HOUR.
SHAFT ENCLOSURES IBC 713.4	SHAFT ENCLOSURES SHALL HAVE A FIRE RESISTANCE RATING OF NOT LESS THAN 2 HOURS WHEN CONNECTING MORE THAN 4 STORIES AND NOT LESS THAN 1 HOUR WHERE CONNECTING FOUR AND FEWER STORIES. SHAFT ENCLOSURES SHALL HAVE A FIRE RESISTANCE RATING NOT LESS THAN THE FLOOR ASSEMBLY PENETRATED, BUT NEED NOT EXCEED 2 HOURS.

BUILDING ELEMENTS (TABLE 601)	TYPE I-A CONSTRUCTION	TYPE V-A CONSTRUCTION
STRUCTURAL FRAME (COLUMNS, GIRDERS & TRUSSES)	3 HOURS	1 HOUR
EXTERIOR BEARING WALLS	3 HOURS	1 HOUR
INTERIOR BEARING WALLS	3 HOURS	1 HOUR
INTERIOR NON-BEARING WALLS & PARTITIONS	0 HOURS	0 HOURS
FLOOR CONSTRUCTION (INCLUDING BEAMS & JOISTS)	2 HOURS	1 HOUR
ROOF CONSTRUCTION (INCLUDING BEAMS & JOISTS)	1-1/2 HOURS	1 HOUR

EXITING

NUMBER OF EXITS IBC 1006.2.1	R OCCUPANCY > 10 OCCUPANTS A OCCUPANCY > 49 OCCUPANTS M OCCUPANCY > 49 OCCUPANTS S OCCUPANCY > 29 OCCUPANTS	2 EXITS 2 EXITS 2 EXITS 2 EXITS
EGRESS WIDTH	STAIRWAYS WIDTH/OCCUPANT MINIMUM WIDTH MIN. WIDTH W/ <50 OCCUPANTS	0.2" (IBC 1005.3.1 EX. 1) 44" (IBC 1011.2) 36" (IBC 1011.2 EX. 1)
	OTHER COMPONENTS WIDTH/OCCUPANT MIN. CORRIDOR WIDTH MIN. CORRIDOR WIDTH W/ <50 OCCUPANTS MIN. CLEAR WIDTH OF DOORS	0.2" (IBC 1005.3.2) 44" (IBC TABLE 1020.2) 36 " (IBC TABLE 1020.2) 32" (IBC 1010.1.1.)

EXITING FROM MULTIPLE LEVELS
IBC 1005.3.1

WHERE EXITS SERVE MORE THAN ONE FLOOR, THE OCCUPANT LOAD FACTOR FOR EACH FLOOR SHALL BE CONSIDERED INDIVIDUALLY WHEN COMPUTING THE EXITS AT THAT FLOOR, PROVIDED THAT THE EXIT CAPACITY SHALL NOT DECREASE IN THE DIRECTION OF EGRESS TRAVEL.

STAIRWAYS
IBC 1005.3.1

FOR OTHER THAN GROUP H AND I-2 OCCUPANCIES, THE CAPACITY, IN INCHES, OF MEANS OF EGRESS STAIRWAYS SHALL BE CALCULATED BY MULTIPLYING THE OCCUPANT LOAD SERVED BY SUCH STAIRWAYS BY A MEANS OF EGRESS CAPACITY FACTOR OF 0.2 INCH (5.1mm) PER OCCUPANT IN BUILDINGS EQUIPPED THROUGHOUT WITH AN AUTOMATIC SPRINKLER SYSTEM INSTALLED IN ACCORDANCE WITH SECTION 903.3.1.1 OR 903.3.1.2 AND AN EMERGENCY VOICE/ALARM COMMUNICATION SYSTEM IN ACCORDANCE WITH SECTION 907.5.2.2.

AUTOMATIC SPRINKLER SYSTEM AND EMERGENCY VOICE/ALARM PROVIDED.

EGRESS CAPACITY
IBC 1005.5

MULTIPLE MEANS OF EGRESS SHALL BE SIZED SUCH THAT THE LOSS OF ANY ONE MEANS OF EGRESS SHALL NOT REDUCE THE AVAILABLE CAPACITY TO LESS THAN 50 PERCENT OF THE REQUIRED CAPACITY.

DOORS
1005.7.1

DOORS, WHEN FULLY OPENED, SHALL NOT REDUCE THE REQUIRED WIDTH BY MORE THAN 7". DOORS IN ANY POSITION SHALL NOT REDUCE THE REQUIRED WIDTH BY MORE THAN ONE-HALF. RESTRICTIONS ON DOOR SWINGS SHALL NOT APPLY TO GROUP R-2 DWELLING AND SLEEPING UNITS.

ACCESSIBLE MEANS OF EGRESS
IBC 1009.1

ACCESSIBLE SPACES SHALL BE PROVIDED WITH NOT LESS THAN ONE ACCESSIBLE MEANS OF EGRESS. WHERE MORE THAN ONE MEANS OF EGRESS IS REQUIRED FROM AN ACCESSIBLE SPACE, EACH ACCESSIBLE PORTION OF THE SPACE SHALL BE SERVED BY NOT LESS THAN TWO ACCESSIBLE MEANS OF EGRESS.

ELEVATORS
IBC 1009.4, IBC 1009.4 EX. 2

AN EMERGENCY OR LEGALLY REQUIRED STANDBY POWER SYSTEM SHALL BE PROVIDED IN ACCORDANCE WITH CHAPTER 27 AND THE SEATTLE ELECTRICAL CODE FOR THE OPERATION OF THE ELEVATOR. THE SHUNT TRIP AND LIGHTING FOR ELEVATOR CARS, CONTROL ROOMS, MACHINE ROOMS, AND MACHINERY SPACES.
AREAS OF REFUGE ARE NOT REQUIRED IN BUILDINGS AND FACILITIES EQUIPPED THROUGHOUT WITH AN AUTOMATIC SPRINKLER SYSTEM IN ACCORANCE WITH SECTINO 903.3.1.1 OR 903.3.1.2.

ELEVATORS SHALL BE USED AS AN ACCESSIBLE MEANS OF EGRESS.

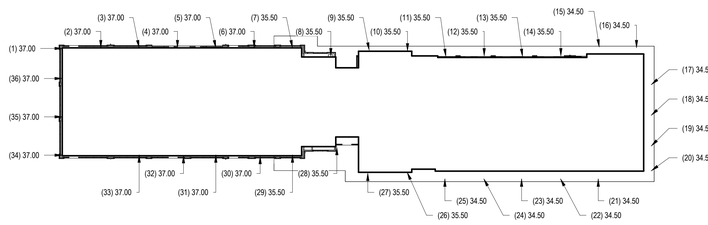
ELEVATOR OPERATION ON EMERGENCY POWER SHALL COMPLY WITH SEATTLE BUILDING CODE CHAPTER 30 SECTION 3016.6.

DOOR SWING DIRECTION
IBC 1010.1.2.1

DOORS SERVING AN OCCUPANT LOAD OF > 50 SHALL SWING IN THE DIRECTION OF EGRESS TRAVEL.

COMMON PATH OF EGRESS TRAVEL IBC 1006.2.1	R-2 OCCUPANCY A OCCUPANCY M OCCUPANCY S OCCUPANCY	125 FEET 75 FEET 75 FEET 100 FEET
EGRESS BASED ON OCCUPANT LOAD IBC 1006.3.1	EACH STORY WITH AN OCCUPANT LOAD OF 1-500 SHALL HAVE A MINIMUM OF 2 EXITS OR ACCESS TO EXITS.	
EXIT SEPARATION IBC 1007.1.1 EX. 2	DISTANCE SEPARATING EXITS SHALL BE NOT LESS THAN 1/3 OF THE MAXIMUM OVERALL DIAGONAL DIMENSION OF THE AREA SERVED (IN BUILDINGS EQUIPPED WITH AN AUTOMATIC SPRINKLER IN ACCORDANCE WITH SBC 903.3.1.1 OR 903.3.1.2).	
EXIT ACCESS TRAVEL DISTANCE IBC TABLE 1017.2	R OCCUPANCY A OCCUPANCY M OCCUPANCY S-2 OCCUPANCY	250 FEET 250 FEET 250 FEET 400 FEET
IBC 1017.3	EXIT ACCESS TRAVEL DISTANCE SHALL BE MEASURED FROM THE MOST REMOTE POINT WITHIN A STORY ALONG THE NATRUAL AND UNOBSTRUCTED PATH OF HORIZONTAL AND VERTICAL EGRESS TRAVEL TO THE ENTRANCE TO AN EXIT.	
EXIT SIGNS IBC 1013.1	EXITS AND EXIT ACCESS DOORS SHALL BE MARKED BY AN APPROVED EXIT SIGN READILY VISIBLE FROM ANY DIRECTION OF EGRESS TRAVEL. EXIT SIGN PLACEMENT SHALL BE SUCH THAT NO POINT IN AN EXIT ACCESS CORRIDOR OR EXIT PASSAGEWAY IS MORE THAN 100 FEET OR THE LISTED VIEWING DISTANCE FOR THE SIGN, WHICHEVER IS LESS, FROM THE NEAREST VISIBLE EXIT SIGN. SEE EGRESS & OCCUPANCY PLANS FOR EXIT SIGNAGE LOCATIONS. PROVIDE INTERNALLY ILLUMINATED EXIT SIGNAGE. EXIT SIGNS SHALL BE ILLUMINATED AT ALL TIMES PER IBC 1013.5.	
DEAD ENDS IBC 1020.4 EX. 2	WHERE THE BUILDING IS EQUIPPED THROUGHOUT WITH AN AUTOMATIC SPRINKLER SYSTEM IN ACCORDANCE WITH SECTION 903.3.1.1, THE LENGTH OF THE DEAD-END CORRIDOR SHALL NOT EXCEED 50 FEET.	
EXIT PASSAGEWAYS IBC 1024.2	REQUIRED MINIMUM WIDTH OF EXIT PASSAGEWAYS SHALL NOT BE LESS THAN 44 INCHES, EXCEPT THAT EXIT PASSAGEWAYS SERVING AN OCCUPANT LOAD OF LESS THAN 50 SHALL BE NOT LESS THAN 36 INCHES IN WIDTH.	
EXIT DISCHARGE WIDTH OR CAPACITY IBC 1028.2	MINIMUM WIDTH OR REQUIRED CAPACITY OF THE EXIT DISCHARGE SHALL NOT BE LESS THAN THE MINIMUM WIDTH OR REQUIRED CAPACITY OF THE EXITS BEING SERVED.	
ACCESS TO A PUBLIC WAY IBC 1028.5	THE EXIT DISCHARGE SHALL PROVIDE A DIRECT AND UNOBSTRUCTED ACCESS TO A PUBLIC WAY.	

AVERAGE GRADE



POINT	ELEVATION (FT)
1	37.00
2	37.00
3	37.00
4	37.00
5	37.00
6	37.00
7	35.50
8	35.50
9	35.50
10	35.50
11	35.50
12	35.50
13	35.50
14	35.50
15	34.50
16	34.50
17	34.50
18	34.50

POINT	ELEVATION (FT)
19	34.50
20	34.50
21	34.50
22	34.50
23	34.50
24	34.50
25	34.50
26	35.50
27	35.50
28	35.50
29	35.50
30	37.00
31	37.00
32	37.00
33	37.00
34	37.00
35	37.00
36	37.00

AVERAGE = 35.74

EVERETT RIVERFRONT BUILDING D

3610 RIVERFRONT BLVD, EVERETT, WA 98203

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Seattle, WA 98101

206 962 6500
MG2.com

PERMIT SET

10/18/2024

RUSSELL H. HAZZARD, ARCHITECT
8079 REGISTERED ARCHITECT
RUSSELL H. HAZZARD
STATE OF WASHINGTON

10/17/2024

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△	DATE	DESCRIPTION
1	11/04/22	PERMIT CORRECTIONS 01
2	07/12/24	PERMIT CORRECTIONS 02

21-5971-01A
PM: ELI HARDI
DRAWN BY: JG, PD, MB
04/29/22

BUILDING CODE SUMMARY & DIAGRAMS

G200

10/17/2024 12:06:41 PM Autodesk Docs://MG2-CE-Shelter Holdings-Everett Riverfront Development PH2-21-5905-01A_Everett Riverfront BLD-D_R22.rvt

FIRE & PROTECTION

GENERAL IBC 901.6	FIRE PROTECTION SYSTEMS SHALL BE MONITORED BY AN APPROVED SUPERVISING STATION IN ACCORDANCE WITH NFPA 72.
PUMP AND RISER ROOM SIZE IBC 901.8	FIRE PUMP ROOMS AND AUTOMATIC SPRINKLER SYSTEM RISER ROOMS SHALL BE DESIGNED WITH ADEQUATE SPACE FOR ALL EQUIPMENT NECESSARY FOR THE INSTALLATION, WITH SUFFICIENT WORKING ROOM AROUND THE STATIONARY EQUIPMENT. ROOMS SHALL BE PROVIDED WITH A DOOR(S) AND UNOBSTRUCTED PASSAGEWAY LARGE ENOUGH TO ALLOW REMOVAL OF THE LARGEST PIECE OF EQUIPMENT.
AUTOMATIC SPRINKLER SYSTEMS IBC 903.2	AUTOMATIC SPRINKLER SYSTEMS IN NEW BUILDINGS SHALL BE PROVIDED THROUGHOUT BUILDINGS AND PORTIONS THEREOF USED AS GROUP A-2, A-3, R-2, M, AND S-2 OCCUPANCIES. AS WELL IT IS REQUIRED TO BE INSTALLED AT THE TOP OF RUBBISH CHUTES AND IN THEIR TERMINAL ROOMS. CHUTES SHALL HAVE ADDITIONAL SPRINKLER HEADS INSTALLED AT ALTERNATE FLOORS AND AT THE LOWEST INTAKE. *AN AUTOMATIC SPRINKLER SYSTEM WILL BE PROVIDED THROUGHOUT THE ENTIRE BUILDING. THE AUTOMATIC SPRINKLER SYSTEM IS A DESIGN-BUILD SYSTEM THAT REQUIRES A DEFERRED SUBMITTAL TO COMPLY WITH NFPA 13 AND SECTION 903.3.1.1 OF THE IBC.*
STANDPIPE SYSTEMS IBC 905.1	STANDPIPE SYSTEMS SHALL BE PROVIDED IN NEW BUILDINGS AND STRUCTURES. STANDPIPE SYSTEMS ARE ALLOWED TO BE COMBINED WITH AUTOMATIC SPRINKLER SYSTEMS. CLASS I STANDPIPE HOSE CONNECTIONS SHALL BE PROVIDED IN ALL OF THE FOLLOWING LOCATIONS: 1. IN EVERY REQUIRED INTERIOR EXIT STAIRWAY, A HOSE CONNECTION SHALL BE PROVIDED FOR EACH STORY ABOVE AND BELOW GRADE. HOSE CONNECTIONS SHALL BE LOCATED AT AN INTERMEDIATE LANDING BETWEEN STORIES, OR THE MAIN LANDING AT EACH STORY, BUT MUST BE CONSISTENT THROUGHOUT THE BUILDING. 2. ON EACH SIDE OF THE WALL ADJACENT TO THE EXIT OPENING OF A HORIZONTAL EXIT. 3. IN EVERY EXIT PASSAGEWAY, AT THE ENTRANCE FROM THE EXIT PASSAGEWAY TO OTHER AREAS OF A BUILDING. *A STANDPIPE SYSTEM WILL BE PROVIDED IN THE BUILDING. THE STANDPIPE SYSTEM IS A DESIGN-BUILD SYSTEM THAT REQUIRES A DEFERRED SUBMITTAL TO COMPLY WITH NFPA 14 AND SECTION 905 OF THE IBC*
PORTABLE FIRE EXTINGUISHERS IBC 906.1	PORTABLE FIRE EXTINGUISHERS SHALL BE INSTALLED IN GROUPS A, R-2, M, AND S OCCUPANCY LOCATIONS AND IN ACCORDANCE WITH NFPA 10. THE MAXIMUM DISTANCE OF TRAVEL SHALL NOT EXCEED 75 FEET. *SEE EGRESS PLANS FOR FIRE EXTINGUISHER LOCATIONS. FIRE EXTINGUISHERS REQUIRED A DEFERRED SUBMITTAL THAT WILL COMPLY WITH NFPA 10 AND SECTION 906 OF THE IBC.*
FIRE ALARM AND DETECTION SYSTEMS IBC 907.2	AN APPROVED FIRE ALARM SYSTEM INSTALLED IN ACCORDANCE WITH IBC 907 AND NFPA 72 SHALL BE PROVIDED IN NEW BUILDINGS AND STRUCURES. NOT FEWER THAN ONE MANUAL FIRE ALARM BOX SHALL BE PROVIDED IN AN APPROVED LOCATION TO INITIATE A FIRE ALARM SIGNAL FOR FIRE ALARM SYSTEMS EMPLOYING AUTOMATIC FIRE DETECTORS OR WATERFLOW DETECTION DEVICES. *A FIRE ALARM SYSTEM WILL BE PROVIDED IN THE BUILDING. THE FIRE ALARM SYSTEM IS A DESIGN-BUILD SYSTEM THAT REQUIRES A DEFERRED SUBMITTAL TO COMPLY WITH NFPA 72 AND SECTION 907 OF THE IBC.*
GROUP R-2 IBC 907.2.9	FIRE ALARM SYSTEMS AND SMOKE ALARMS SHALL BE INSTALLED IN GROUP R-2 OCCUPANCIES. A MANUAL FIRE ALARM SYSTEM THAT ACTIVATES THE OCCUPANT NOTIFICATION SYSTEM SHALL BE INSTALLED IN GROUP R-2 OCCUPANCIES WHERE THE BUILDING CONTAINS 16 DWELLING UNITS OR SLEEPING UNITS.
IBC 907.2.10.2	SINGLE OR MULTIPLE-STATION SMOKE ALARMS SHALL BE INSTALLED AND MAINTAINED IN GROUP R-2 REGARDLESS OF OCCUPANT LOAD AT ALL OF THE FOLLOWING LOCATIONS: 1. ON THE CEILING OR WALL OUTSIDE EACH SEPARATE SLEEPING AREA IN THE IMMEDIATE VICINITY OF BEDROOMS. 2. IN EACH ROOM USED FOR SLEEPING PURPOSES. 3. IN EACH STORY WITHIN A DWELLING UNIT.
IBC 907.2.10.5	WHERE MORE THAN ONE SMOKE ALARM IS REQUIRED TO BE INSTALLED WITHIN AN INDIVIDUAL DWELLING UNIT OR SLEEPING UNIT IN GROUP R OCCUPANCIES, THE SMOKE ALARMS SHALL BE INTERCONNECTED IN SUCH A MANNER THAT THE ACTIVATION OF ONE ALARM WILL ACTIVATE ALL OF THE ALARMS IN THE INDIVIDUAL UNIT.
IBC 907.2.10.7	SMOKE DETECTORS LISTED IN ACCORDANCE WITH UL 268 AND PROVIDED AS PART OF THE BUILDING FIRE ALARM SYSTEM SHALL BE AN ACCEPTABLE ALTERNATIVE TO SINGLE- AND MULTIPLE-STATION SMOKE ALARMS AND SHALL COMPLY WITH THEHE FOLLOWING: 1. THE FIRE ALARM SYSTEM SHALL COMPLY WITH ALL APPLICABLE REQUIREMENTS IN SECTION 907. 2. ACTIVATION OF A SMOKE DETECTOR IN A DWELLING UNIT OR SLEEPING UNIT SHALL INITIATE ALARM NOTIFICATION IN THE DWELLING UNIT OR SLEEPING UNIT IN ACCORDANCE WITH SECTION 907.5.2. 3. ACTIVATION OF A SMOKE DETECTOR IN A DWELLING UNIT OR SLEEPING UNIT SHALL NOT ACTIVATE ALARM NOTIFICATION APPLIANCES OUTSIDE OF THE DWELLING UNIT OR SLEEPING UNIT, PROVIDED THAT A SUPERVISORY SIGNAL IS GENERATED AND MONITORED IN ACCORDANCE WITH IBC 907.6.6. *REFER TO ENLARGED UNIT REFLECTED CEILING PLANS FOR SMOKE DETECTOR LOCATIONS.*
SMOKE CONTROL SYSTEMS IBC 909.11	SMOKE CONTROL SYSTEMS SHALL BE PROVIDED WITH EMERGENCY POWER IN ACCORDANCE WITH SECTION 2702. *STAIRWAY AND HOISTWAY PRESSURIZATION SYSTEMS WILL BE PROVIDED WITH STANDBY POWER. SEE MECHANICAL AND ELECTRICAL FOR PRESSURIZATION EQUIPMENT.*
IBC 909.21	WHERE ELEVATOR HOISTWAY PRESSURIZATION IS PROVIDED IN LIEU OF REQUIRED ENCLOSED ELEVATOR LOBBIES, THE PRESSURIZATION SYSTEM SHALL COMPLY WITH SECTIONS 909.21.1 THROUGH 909.21.8. *ELEVATOR HOISTWAY IS PRESSURIZED. SEE MECHANICAL.*
FIRE DEPARTMENT CONNECTIONS IBC 912.1 - 912.6	FIRE DEPARTMENT CONNECTIONS SHALL BE INSTALLED IN ACCORDANCE WITH THE NFPA STANDARD APPLICABLE TO THE DESIGN SYSTEM AND SHALL COMPLY WITH SECTIONS 912.2 THROUGH 912.6. FIRE DEPARTMENT CONNECTIONS SHALL BE SO LOCATED THAT FIRE APPARATUS AND HOSE CONNECTED TO SUPPLY THE SYSTEM WILL NOT OBSTRUCT ACCESS INTO THE BUILDING FOR OTHER FIRE APPARATUS. THE LOCATION OF THE FIRE DEPARTMENT CONNECTIONS SHALL BE APPROVED BY THE FIRE CHIEF. FIRE DEPARTMENT CONNECTIONS SHALL BE LOCATED ON THE STREET SIDE OF BUILDINGS, FULLY VISIBLE AND RECOGNIZABLE FROM THE STREET OR NEAREST POINT OF FIRE DEPARTMENT VEHICLE ACCESS OR AS OTHERWISE APPROVED BY THE FIRE CHIEF. IMMEDIATE ACCESS TO FIRE DEPARTMENT CONNECTIONS SHALL BE MAINTAINED AT ALL TIMES AND WITHOUT OBSTRUCTION BY FENCES, BUSHES, TREES, WALLS OR ANY OTHER FIXED OR MOVEABLE OBJECT. A WORKING SPACE OF NOT LESS THAN 36 INCHES IN WIDTH, 36 INCHES IN DEPTH AND 78 INCHES IN HEIGHT SHALL BE PROVIDED AND MAINTAINED IN FRONT OF AND TO THE SIDES OF WALL-MOUNTED FIRE DEPARTMENT CONNECTIONS AND AROUNDTHE CIRCUMFERENCE OF FREE-STANDING FIRE DEPARTMENT CONNECTIONS. A METAL SIGN WITH RAISED LETTERS NOT LESS THAN 1 INCH IN SIZE SHALL BE MOUNTED ON ALL FIRE DEPARTMENT CONNECTIONS SERVING AUTOMATIC SPRINKLERS, STANDPIPES OR FIRE PUMP CONNECTIONS. SUCH SIGNS SHALL READ: AUTOMATIC SPRINKLERS OR STANDPIPES OR TEST CONNECTION OR A COMBINATION THEREOF AS APPLICABLE. THE POTABLE WATER SUPPLY TO AUTOMATIC SPRINKLER AND STANDPIPE SYSTEMS SHALL BE PROTECTED AGAINST BACKFLOW AS REQUIRED BY THE UNIFORM PLUMBING CODE.
FIRE PUMPS IBC 913.2.1	FIRE PUMPS SHALL BE LOCATED IN ROOMS THAT ARE SEPARATED FROM ALL OTHER AREAS OF THE BUILDING BY 2-HOUR FIRE BARRIERS CONSTRUCTED IN ACCORDANCE WITH SECTION 707 OR 2-HOUR HORIZONTAL ASSEMBLIES CONSTRUCTED IN ACCORDANCE WITH SECTION 711, OR BOTH.
EMERGENCY RESPONDER SAFETY FEATURES IBC 914.1.1	OUTSIDE OPENINGS ACCESSIBLE TO THE FIRE DEPARTMENT AND THAT OPEN DIRECTLY ON A HOISTWAY OR SHAFTWAY COMMUNICATING BETWEEN TWO OR MORE FLOORS IN A BUILDING SHALL BE PLAINLY MARKED WITH THE WORD 'SHAFTWAY' IN RED LETTERS NOT LESS THAN 6 INCHES HIGH ON A WHITE BACKGROUND. SUCH WARNING SIGNS SHALL BE PLACED AS TO BE READILY DISCERNIBLE FROM THE OUTSIDE OF THE BUILDING.
IBC 914.1.2	DOOR OR WINDOW OPENINGS TO A HOISTWAY OR SHAFTWAY FROM THE INTERIOR OF THE BUILDING SHALL BE PLAINLY MARKED WITH THE WORD "SHAFTWAY" IN RED LETTERS NOT LESS THAN 6 INCHES HIGH ON A WHITE BACKGROUND. SUCH WARNING SIGNS SHALL BE PLACED SO AS TO BE READILY DISCERNIBLE.
IBC 914.2	FIRE PROTECTION EQUIPMENT SHALL BE IDENTIFIED IN AN APPROVED MANNER. ROOMS CONTAINING CONTROLS FOR AIR-CONDITIONING SYSTEMS, SPRINKLER RISERS AND VALVES OR OTHER FIRE DETECTION, SUPPRESSION OR CONTROL ELEMENTS SHALL BE IDENTIFIED FOR THE USE OF THE FIRE DEPARTMENT. APPROVED SIGNS REQUIRED TO IDENTIFY FIRE PROTECTION EQUIPMENT AND EQUIPMENT LOCATION SHALL BE CONSTRUCTED OF DURABLE MATERIALS, PERMANENTLY INSTALLED AND READILY VISIBLE.
CARBON MONOXIDE DETECTION IBC 915.1	CARBON MONOXIDE DETECTORS SHALL BE INSTALLED IN GROUP R-2 OCCUPANCIES. CARBON MONOXIDE DETECTION SHALL BE INSTALLED IN DWELLING UNITS AND OUTSIDE OF EACH SEPARATE SLEEPING AREA IN THE IMMEDIATE VICINITY OF THE BEDROOMS AND ON EACH LEVEL OF THE DWELLING. *REFER TO ENLARED UNIT REFLECTED CEILING PLANS FOR CARBON MONOXIDE DETECTOR LOCATIONS.*

PLUMBING FIXTURE REQUIREMENTS

SINGLE USER TOILET FACILITES IBC 2902.1.2 IBC 2902.2	SINGLE-USER TOILET FACILITIES AND BATHING ROOMS, AND FAMILY OR ASSISTED-USE TOILET ROOMS AND BATHING ROOMS SHALL BE IDENTIFIED FOR USE BY EITHER SEX. SEPARATE FACILITIES SHALL NOT BE REQUIRED WHEN GENDER-NEUTRAL FACILITIES ARE PROVIDED IN ACCORDANCE WITH SECTION 2902.2.2
PLUMBING FACILITIES IBC 2902	

TABLE 2902.1 MINIMUM NUMBER OF REQUIRED PLUMBING FIXTURES

CLASSIFICATION	WATER CLOSETS	
	MALE	FEMALE
ASSEMBLY- WITHOUT PERMANENT SEATING	1 PER 125	1 PER 65
MERCANTILE	1 PER 500	
STORAGE	1 PER 100	

LOBBY + STORAGE SPACES (GENDER NEUTRAL, SINGLE USER)
ASSEMBLY - 155 OCCUPANTS
155/2 = 77.5 FOR EACH SEX
STORAGE - 15 OCCUPANTS
15/2 = 7.5 OCCUPANTS FOR EACH SEX

MALE
77.5 OCCUPANTS * (1 WATERCLOSET PER 125 OCCUPANTS) = .62
7.5 OCCUPANTS * (1 WATERCLOSET PER 100 OCCUPANTS) = .075
.695

FEMALE
77.5 OCCUPANTS * (1 WATERCLOSET PER 65 OCCUPANTS) = 1.19
7.5 OCCUPANTS * (1 WATERCLOSET PER 100 OCCUPANTS) = .075
1.265

.695 + 1.265 = 1.96 = 2 WATERCLOSETS

MERCANTILE 1 (GENDER NEUTRAL, SINGLE USER)*
574 OCCUPANTS (COMBINED TOTAL)
75/42 = 287 OCCUPANTS FOR EACH SEX
WATER CLOSETS REQ. (MALE) - 1 WATERCLOSET
WATER CLOSETS REQ. (FEMALE) - 1 WATERCLOSET
*CONSTRUCTION OF TENANT SPACES AND ASSOCIATED TOILET FACILITIES UNDER SEPARATE PERMIT

ACCESSIBILITY

ACCESSIBLE ROUTES IBC 1101.2.1	CLEAR WIDTH FOR ACCESSIBLE ROUTES TO COMPLY WITH ICC A117.1 TABLE 403.5. THE MINIMUM CLEAR WIDTH FOR EXTERIOR ROUTES OF TRAVEL IS 44 INCHES.
IBC 1104.2	AT LEAST ONE ACCESSIBLE ROUTE SHALL CONNECT ACCESSIBLE BUILDINGS, ACCESSIBLE FACILITIES, ACCESSIBLE ELEMENTS, AND ACCESSIBLE SPACES ON THE SAME SITE.
ACCESSIBLE ENTRANCES IBC 1105.1	AT LEAST 60 PERCENT OF ALL PUBLIC ENTRANCES SHALL BE ACCESSIBLE.
TENANT/DWELLING UNITS IBC 1105.1.6	AT LEAST ONE ACCESSIBLE ENTRANCE SHALL BE PROVIDED TO EACH TENANT SPACE, DWELLING UNIT AND SLEEPING UNIT IN A FACILITY.
ACCESSIBLE PARKING IBC 1106.1	WHERE PARKING IS PROVIDED, ACCESSIBLE PARKING SPACES SHALL BE PROVIDED IN COMPLIANCE WITH TABLE 1106.1. *RESIDENTIAL PARKING IS PROVIDED IN COMPLIANCE WITH IBC SECTION 1106.2.3.* COMMERCIAL PARKING PROVIDED: 52 SPACES ACCESSIBLE PARKING SPACES REQUIRED: 3 SPACEs FOR 51-75 TOTAL PARKING SPACES *1 ACCESSIBLE COMMERCIAL PARKING SPACE PROVIDED: COMPLIES*
GROUP R-2 IBC 1106.2.3	WHERE AT LEAST ONE PARKING SPACE IS PROVIDED FOR EACH DWELLING UNIT OR SLEEPING UNIT, AT LEAST ONE ACCESSIBLE PARKING SPACE SHALL BE PROVIDED FOR EACH ACCESSIBLE AND TYPE A UNIT. *AT LEAST ONE PARKING SPACE IS PROVIDED FOR EVERY UNIT - 163 UNITS ON SITE / 336 RESIDENTIAL PARKING SPACES PROVIDED.* 8 TYPE A' UNITS PROVIDED WITHIN BUILDING. *8 ACCESSIBLE RESIDENTIAL PARKING SPACES PROVIDED: COMPLIES* *REFER TO SITE PLAN SHEET A001 & A002 DOCUMENTING LOCATIONS AND COMPLIANCE*
VAN SPACES IBC 1106.5	FOR EVERY SIX OR FRACTION OF SIX ACCESSIBLE PARKING SPACES, AT LEAST ONE SHALL BE A VAN-ACCESSIBLE PARKING SPACE. 8 ACCESSIBLE RESIDENTIAL PARKING SPACES / 6 = 1.33 VAN ACCESSIBLE SPACES REQUIRED *2 RESIDENTIAL VAN ACCESSIBLE SPACES PROVIDED: COMPLIES* 3 ACCESSIBLE COMMERCIAL STALL / 6 = .5 VAN ACCESSIBLE SPACES REQUIRED *1 COMMERCIAL VAN ACCESSIBLE SPACES PROVIDED: COMPLIES* *REFER TO SITE PLAN SHEET A001 & A002 DOCUMENTING LOCATIONS AND COMPLIANCE*
TYPE 'A' UNITS IBC 1107.6.2.1.1	IN GROUP R-2 OCCUPANCIES CONTAINING MORE THAN 10 DWELLING UNITS, AT LEAST 5% OF THE UNITS SHALL BE TYPE 'A' UNITS. UNITS SHALL BE DISPERSED AMONG THE VARIOUS CLASSES OF UNITS. 153 UNITS X .05 = 7.7 8 TYPE 'A' UNITS PROVIDED
DWELLING UNITS	UNIT TYPE A B TOTAL OPEN ONE-BEDROOM 3 51 54 ONE BEDROOM 3 69 72 TWO BEDROOM 2 25 27
ACCESSIBLE SPACES IBC 1107.3	ROOMS AND SPACES AVAILABLE FOR USE BY RESIDENTS AND SERVING TYPE 'A' & TYPE 'B' UNITS SHALL BE ACCESSIBLE, INCLUDING EXTERIOR SPACES (PATIOS, TERRACES, AND BALCONIES).
PUBLIC ACCESSIBLE BATHROOMS	LOBBY BATHROOMS CAN BE USED BY LIVE/WORK PATRONS TO MEET ACCESSIBILITY REQUIREMENTS.

TYPE 'A' UNIT REQUIREMENTS

WASHER/DRYER OPERABLE PARTS AND CONTROLS TO BE WITHIN REACH RANGE PER ICC A117.1-2009 SECTION 308.2.1.

AT TYPE A UNITS
- 30" X 48" CLEAR FLOOR SPACE REQUIRED AT BOTH WASHER AND DRYER
- OPERABILITY MUST BE WITH ONE HAND AND MUST NOT REQUIRE TIGHT GRASPING, PINCHING, OR TWISTING OF WRIST. MAX FORCE NEEDED IS 5 LBS.
- OPERABLE PARTS MUST BE LOCATED PER DIAGRAMS ON G403.

OPERABLE PARTS REQUIREMENTS:
LIGHTING CONTROLS, ELECTRICAL SWITCHES, RECEPTACLE OUTLETS & USER CONTROLS.

TYPE 'B' UNIT REQUIREMENTS

WASHER/DRYER OPERABLE PARTS AND CONTROLS TO BE WITHIN REACH RANGE PER ICC A117.1-2009 SECTION 308.2.1.

AT TYPE B UNITS
- 30" X 48" CLEAR FLOOR SPACE REQUIRED AT STACKING WASHER AND DRYER
- OPERABILITY MUST BE WITH ONE HAND AND MUST NOT REQUIRE TIGHT GRASPING, PINCHING, OR TWISTING OF WRIST. MAX FORCE NEEDED IS 5 LBS.
- OPERABLE PARTS MUST BE LOCATED PER DIAGRAMS G404..

OPERABLE PARTS REQUIREMENTS:
LIGHTING CONTROLS, ELECTRICAL SWITCHES, RECEPTACLE OUTLETS & USER CONTROLS.

PARKING REQUIREMENTS - ELECTRIC VEHICLE

REQUIRED ELECTRICAL VEHICLE CHARGING INFRASTRUCTURE IBC 429.2	WHERE PARKING IS PROVIDED, TEN PERCENT OF PARKING SPACES SHALL BE PROVIDED WITH ELECTRIC VEHICLE CHARGING INFRASTRUCTURE IN COMPLIANCE WITH SECTIONS 429.3, 429.4 AND 429.5. WHEN THE CALCULATION OF PERCENT SERVED RESULTS IN A FRACTIONAL PARKING SPACE, THE APPLICANT SHALL ROUND UP TO THE NEXT WHOLE NUMBER. 168 RESIDENTIAL SPACES PROVIDED ON SITE AT BUILDING D 168 X .1 = 16.8 SPACES REQUIRED *17 SPACES PROVIDED COMPLIES* 52 COMMERICAL SPACES PROVIDED ON SITE AT BUILDING D 52 X .1 = 5.2 SPACES REQUIRED *6 SPACES PROVIDED COMPLIES* *REFER TO SITE PLAN SHEET A001 DOCUMENTING LOCATIONS AND COMPLIANCE*
ELECTRICAL ROOMS IBC 429.3	ELECTRICAL ROOM(S) SERVING BUILDINGS WITH ON-SITE PARKING SPACES MUST BE SIZED TO ACCOMMODATE THE POTENTIAL FOR ELECTRICAL EQUIPMENT AND DISTRIBUTION REQUIRED TO SERVE A MINIMUM OF 20 PERCENT OF THE TOTAL PARKING SPACES WITH 208/240 V 40-AMP, CIRCUIT OR EQUIVALENT ELECTRIC VEHICLE CHARGING INFRASTRUCTURE.
ELECTRIC VEHICLE CHARGING INFRASTRUCTURE FOR ACCESSIBLE PARKING SPACES IBC 429.5	WHEN ELECTRIC VEHICLE CHARGING INFRASTRUCTURE IS REQUIRED, TEN PERCENT OF ACCESSIBLE PARKING SPACE, ROUNDED TO THE NEXT WHOLE NUMBER, SHALL BE PROVIDED WITH ELECTRIC VEHICLE CHARGING INFRASTRUCTURE. THE ELECTRIC VEHICLE CHARGING INFRASTRUCTURE MAY ALSO SERVE ADJACENT PARKING SPACES NOT DESIGNATED AS ACCESSIBLE PARKING. A MAXIMUM OF TEN PERCENT ROUNDED TO THE NEXT WHOLE NUMBER, OF THE ACCESSIBLE PARKING SPACES ARE ALLOWED TO BE INCLUDED IN THE TOTAL NUMBER OF ELECTRIC VEHICLE PARKING SPACES REQUIRED UNDER SECTION 429.2. 8 RESIDENTIAL ACCESSIBLE SPACES PROVIDED ON SITE AT BUILDING D 1 COMMERCIAL ACCESSIBLE SACE PROVIDED ON SITE AT BUILDING D 8 X .1 = 1 RESIDENTIAL SPACE REQUIRED 1 X .1 = 1 COMMERCIAL SPACE REQUIRED *2 ACCESSIBLE RESIDENTIAL SPACES PROVIDED AS ELECTRIC VEHICLE CHARGING COMPLIES* *1 ACCESSIBLE COMMERCIAL SPACE PROVIDED AS ELECTRIC VEHICLE CHARGING COMPLIES* *REFER TO SITE PLAN SHEET A001 DOCUMENTING LOCATIONS AND COMPLIANCE*

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RUSSELL H. HAZZARD, ARCHITECT

8079 REGISTERED ARCHITECT RUSSELL H. HAZZARD STATE OF WASHINGTON

10/17/2024

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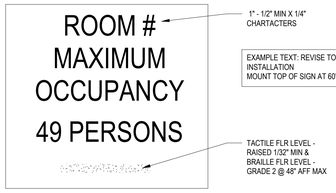
△	DATE	DESCRIPTION
1	11/04/22	PERMIT CORRECTIONS 01
2	07/12/24	PERMIT CORRECTIONS 02

21-5971-01A
PM: ELI HARDI
DRAWN BY: JG, PD, MB
04/29/22

BUILDING CODE SUMMARY

G201

10/17/2024 12:06:42 PM Autodesk Docs://MG2-CE-Shelter Holdings-Everett Riverfront Development PH2-21-5905-01A_21-5905-01A_Everett Riverfront BLD-D_R22.rvt

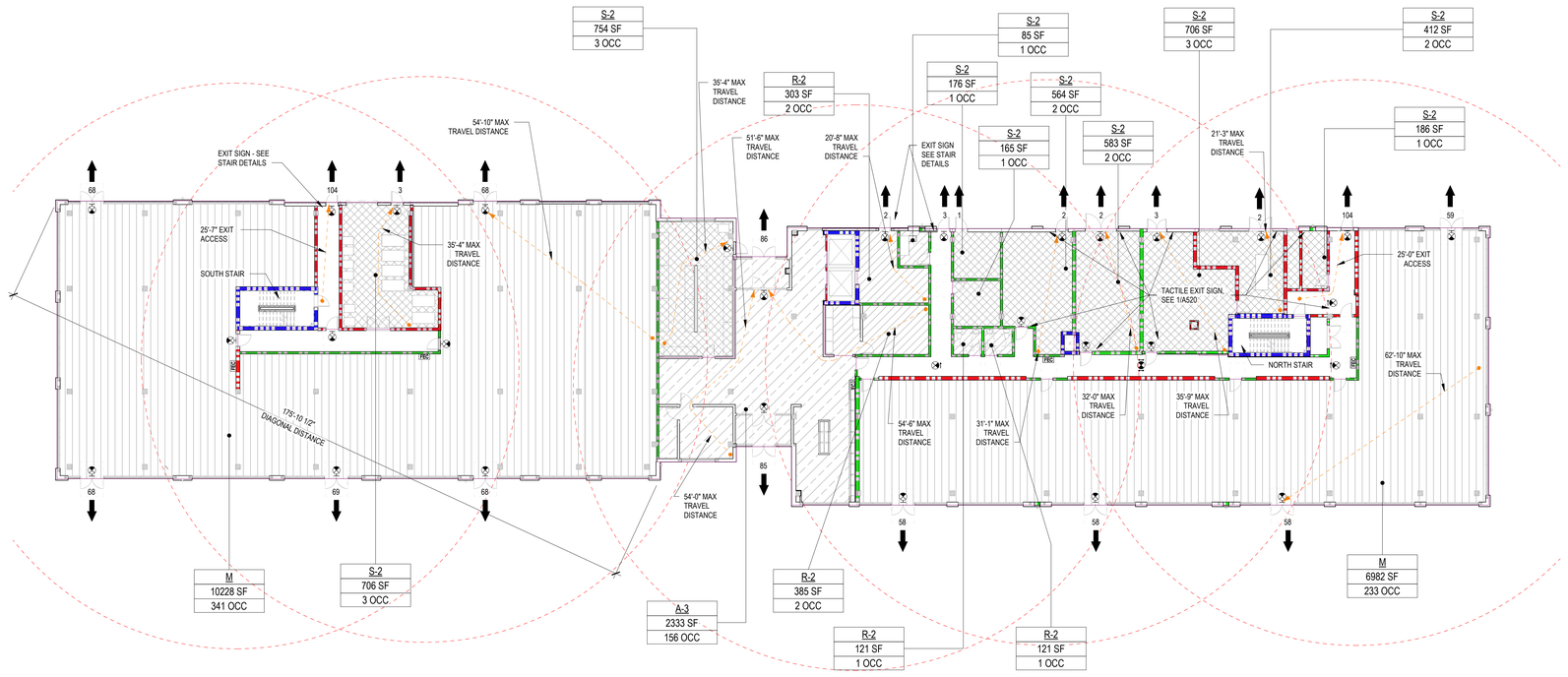


OCCUPANCY SIGNS SHOULD BE PLACED IN ANY ROOM THAT HAS AN ASSEMBLY OCCUPATION OR HAS AN OCCUPANCY OF MORE THAT 50 IN A HIGHLY VISABLE LOCATION

MAX OCCUPANCY SIGNAGE

SCALE: 3" = 1'-0"

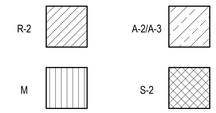
AREA SCHEDULE (OCCUPANCY) LEVEL 1				
OCCUPANCY CLASSIFICATION	FUNCTION	AREA	LOAD FACTOR	OCCUPANT LOAD
LEVEL 1				
A-3	ASSEMBLY - UNCONCENTRATED TABLES & CHAIRS (Net)	2333 SF	15	156
M	MERCANTILE - GROUP M ART GALLERY (Gross)	10228 SF	30	341
M	MERCANTILE - GROUP M ART GALLERY (Gross)	6982 SF	30	233
R-2	RESIDENTIAL (Gross)	385 SF	200	2
R-2	RESIDENTIAL (Gross)	303 SF	200	2
R-2	RESIDENTIAL (Gross)	121 SF	200	1
S-2	ACCESSORY STORAGE (Gross)	706 SF	300	3
S-2	ACCESSORY STORAGE (Gross)	754 SF	300	3
S-2	ACCESSORY STORAGE (Gross)	583 SF	300	2
S-2	ACCESSORY STORAGE (Gross)	564 SF	300	2
S-2	ACCESSORY STORAGE (Gross)	706 SF	300	3
S-2	ACCESSORY STORAGE (Gross)	412 SF	300	2
S-2	ACCESSORY STORAGE (Gross)	186 SF	300	1
S-2	RESIDENTIAL (Gross)	85 SF	200	1
S-2	ACCESSORY STORAGE (Gross)	176 SF	300	1
S-2	ACCESSORY STORAGE (Gross)	165 SF	300	1



1 LEVEL 1 OCCUPANCY

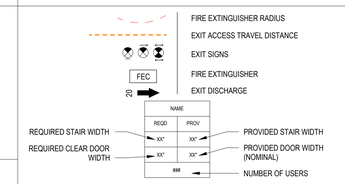
SCALE: 1/16" = 1'-0"

OCCUPANCY LEGEND



RATINGS LEGEND

EGRESS LEGEND



IBC 1005.3.1 EX. 1 — FOR OTHER THAN GROUP H AND I-2 OCCUPANCIES, THE CAPACITY, IN INCHES, OF MEANS OF EGRESS STAIRWAYS SHALL BE CALCULATED BY MULTIPLYING THE OCCUPANT LOAD SERVED BY SUCH STAIRWAYS BY A MEANS OF EGRESS CAPACITY FACTOR OF 0.2 INCH (5.1 MM) PER OCCUPANT IN BUILDINGS EQUIPPED THROUGHOUT WITH AN AUTOMATIC SPRINKLER SYSTEM INSTALLED IN ACCORDANCE WITH SECTION 903.3.1.1 OR 903.3.1.2 AND AN EMERGENCY VOICE/ALARM COMMUNICATION SYSTEM IN ACCORDANCE WITH SECTION 907.5.2.2.

IBC 1005.3.2 EX 1 — FOR OTHER THAN GROUP H AND I-2 OCCUPANCIES, THE CAPACITY, IN INCHES, OF MEANS OF EGRESS COMPONENTS OTHER THAN STAIRWAYS SHALL BE CALCULATED BY MULTIPLYING THE OCCUPANT LOAD SERVED BY SUCH COMPONENT BY A MEANS OF EGRESS CAPACITY FACTOR OF 0.15 INCH (3.8 MM) PER OCCUPANT IN BUILDINGS EQUIPPED THROUGHOUT WITH AN AUTOMATIC SPRINKLER SYSTEM INSTALLED IN ACCORDANCE WITH SECTION 903.3.1.1 OR 903.3.1.2 AND AN EMERGENCY VOICE/ALARM COMMUNICATION SYSTEM IN ACCORDANCE WITH SECTION 907.5.2.2.

EXITING

NUMBER OF EXITS IBC 1006.2.1	R OCCUPANCY > 10 OCCUPANTS A OCCUPANCY > 49 OCCUPANTS S OCCUPANCY > 29 OCCUPANTS	2 EXITS 2 EXITS 2 EXITS
EGRESS WIDTH	STAIRWAYS WIDTH/OCCUPANT MINIMUM WIDTH MIN. WIDTH W/ <50 OCCUPANTS	.2" (IBC 1005.3.1 EX.1) 44" (IBC 1011.2) 36" (IBC 1011.2 EX.1)
	OTHER COMPONENTS WIDTH/OCCUPANT MIN. CORRIDOR WIDTH MIN. CORRIDOR WIDTH 2/ < 50 OCCUPANTS MIN. CLEAR WIDTH OF DOORS	0.15" (IBC 1005.3.2 EX.1) 44" (IBC TABLE 1020.2) 36" (IBC TABLE 1020.2) 32" (IBC 1010.1.1)
EXITING FROM MULTIPLE LEVELS IBC 1005.3.1	WHERE EXITS SERVE MORE THAN ONE FLOOR, THE OCCUPANT LOAD FACTOR FOR EACH FLOOR SHALL BE CONSIDERED INDIVIDUALLY WHEN COMPUTING THE EXITS AT THAT FLOOR, PROVIDED THAT THE EXIT CAPACITY SHALL NOT DECREASE IN THE DIRECTION OF EGRESS TRAVEL.	
STAIRWAYS 1005.3.1	FOR OTHER THAN GROUP H AND I-2 OCCUPANCIES, THE CAPACITY, IN INCHES, OF MEANS OF EGRESS STAIRWAYS SHALL BE CALCULATED BY MULTIPLYING THE OCCUPANT LOAD SERVED BY SUCH STAIRWAYS BY A MEANS OF EGRESS CAPACITY FACTOR OF 0.2 INCH (5.1mm) PER OCCUPANT IN BUILDINGS EQUIPPED THROUGHOUT WITH AN AUTOMATIC SPRINKLER SYSTEM INSTALLED IN ACCORDANCE WITH SECTION 903.3.1.1 OR 903.3.1.2 AND AN EMERGENCY VOICE/ALARM COMMUNICATION SYSTEM IN ACCORDANCE WITH SECTION 907.5.2.2. AUTOMATIC SPRINKLER SYSTEM AND EMERGENCY VOICE/ALARM PROVIDED	
EGRESS CAPACITY IBC 1005.5	MULTIPLE MEANS OF EGRESS SHALL BE SIZED SUCH THAT THE LOSS OF ANY ONE MEANS OF EGRESS SHALL NOT REDUCE THE AVAILABLE CAPACITY TO LESS THAN 50 PERCENT OF THE REQUIRED CAPACITY.	
DOORS IBC 1005.7.1	DOORS, WHEN FULLY OPENED, SHALL NOT REDUCE THE REQUIRED WIDTH BY MORE THAN 7". DOORS IN ANY POSITION SHALL NOT REDUCE THE REQUIRED WIDTH BY MORE THAN ONE-HALF. RESTRICTIONS ON DOOR SWINGS SHALL NOT APPLY TO GROUP R-2 DWELLING AND SLEEPING UNITS.	
ACCESSIBLE MEANS OF EGRESS IBC 1009.1	ACCESSIBLE SPACES SHALL BE PROVIDED WITH NOT LESS THAN ONE ACCESSIBLE MEANS OF EGRESS. WHERE MORE THAN ONE MEANS OF EGRESS IS REQUIRED FROM AN ACCESSIBLE SPACE, EACH ACCESSIBLE PORTION OF THE SPACE SHALL BE SERVED BY NOT LESS THAN TWO ACCESSIBLE MEANS OF EGRESS.	
ELEVATORS IBC 1009.4 IBC 1009.4 EX.2	ELEVATORS WILL BE USED AS AN ACCESSIBLE MEANS OF EGRESS. AN EMERGENCY OR LEGALLY REQUIRED STANDBY POWER SYSTEM SHALL BE PROVIDED IN ACCORDANCE WITH CHAPTER 27 AND THE SEATTLE ELECTRICAL CODE FOR THE OPERATION OF THE ELEVATOR. THE SHUNT TRIP AND LIGHTING FOR ELEVATOR CARS, CONTROL ROOMS, MACHINE ROOMS, AND MACHINERY SPACES. AREAS OF REFUGE ARE NOT REQUIRED IN BUILDINGS AND FACILITIES EQUIPPED THROUGHOUT WITH AN AUTOMATIC SPRINKLER SYSTEM IN ACCORANCE WITH SECTION 903.3.1.1 OR 903.3.1.2. ELEVATOR OPERATION ON EMERGENCY POWER SHALL COMPLY WITH ALL LOCAL CODES.	
DOOR SWING DIRECTION IBC 1010.1.2.1	DOORS SERVING AN OCCUPANT LOAD OF > 50 SHALL SWING IN THE DIRECTION OF EGRESS TRAVEL.	
COMMON PATH OF EGRESS TRAVEL IBC 1006.2.1	R-2 OCCUPANCY S OCCUPANCY A OCCUPANCY M OCCUPANCY	125 FEET 100 FEET 75 FEET 75 FEET
EGRESS BASED ON OCCUPANT LOAD IBC 1006.3.2	EACH STORY WITH AN OCCUPANT LOAD OF 1-500 SHALL HAVE A MINIMUM OF 2 EXITS OR ACCESS TO EXITS. TWO EXITS MINIMUM PROVIDED.	
EXIT SEPARATION IBC 1007.1.1 EX.2	DISTANCE SEPARATING EXITS SHALL BE NOT LESS THAN 1/3 OF THE MAXIMUM OVERALL DIAGONAL DIMENSION OF THE AREA SERVED (IN BUILDINGS EQUIPPED WITH AN AUTOMATIC SPRINKLER IN ACCORDANCE WITH IBC 903.3.1.1 OR 903.3.1.2).	
EXIT ACCESS TRAVEL DISTANCE IBC TABLE 1017.2	R OCCUPANCY S-2 OCCUPANCY A OCCUPANCY M OCCUPANCY	250 FEET 400 FEET 250 FEET 250 FEET
IBC 1017.3	EXIT ACCESS TRAVEL DISTANCE SHALL BE MEASURED FROM THE MOST REMOTE POINT WITHIN A STORY ALONG THE NATRUAL AND UNOBSTRUCTED PATH OF HORIZONTAL AND VERTICAL EGRESS TRAVEL TO THE ENTRANCE TO AN EXIT.	
IBC 1017.3.1	TRAVEL DISTANCE ON EXIT ACCESS STAIRWAYS OR RAMPS SHALL BE INCLUDED IN THE EXIT ACCESS TRAVEL DISTANCE MEASUREMENT.	
EXIT SIGNS IBC 1013.1	EXITS AND EXIT ACCESS DOORS SHALL BE MARKED BY AN APPROVED EXIT SIGN READILY VISIBLE FROM ANY DIRECTION OF EGRESS TRAVEL. EXIT SIGN PLACEMENT SHALL BE SUCH THAT NO POINT IN AN EXIT ACCESS CORRIDOR OR EXIT PASSAGEWAY IS MORE THAN 100 FEET OR THE LISTED VIEWING DISTANCE FOR THE SIGN, WHICHEVER IS LESS, FROM THE NEAREST VISIBLE EXIT SIGN. REFER TO EGRESS DIAGRAMS FOR LOCATIONS OF EXIT SIGNAGE. PROVIDE INTERNALLY LIT SIGNAGE. EXIT SIGNS SHALL BE ILLUMINATED AT ALL TIMES PER IBC 1013.5.	
DEAD ENDS IBC 1020.4 EX.2	WHERE THE BUILDING IS EQUIPPED THROUGHOUT WITH AN AUTOMATIC SPRINKLER SYSTEM IN ACCORDANCE WITH SECTION 903.3.1.1, THE LENGTH OF THE DEAD-END CORRIDOR SHALL NOT EXCEED 50 FEET. SEE EGRESS DIAGRAMS FOR DEAD END DISTANCE MEASUREMENTS DOCUMENTING COMPLIANCE.	
EXIT PASSAGEWAYS IBC 1024.2	REQUIRED MINIMUM WIDTH OF EXIT PASSAGEWAYS SHALL NOT BE LESS THAN 44 INCHES, EXCEPT THAT EXIT PASSAGEWAYS SERVING AN OCCUPANT LOAD OF LESS THAN 50 SHALL BE NOT LESS THAN 36 INCHES IN WIDTH.	
EXIT DISCHARGE WIDTH OR CAPACITY IBC 1028.2	MINIMUM WIDTH OR REQUIRED CAPACITY OF THE EXIT DISCHARGE SHALL NOT BE LESS THAN THE MINIMUM WIDTH OR REQUIRED CAPACITY OF THE EXITS BEING SERVED.	
ACCESS TO A PUBLIC WAY IBC 1028.5	THE EXIT DISCHARGE SHALL PROVIDE A DIRECT AND UNOBSTRUCTED ACCESS TO A PUBLIC WAY.	

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RUSSELL H. HAZZARD, ARCHITECT

8079 REGISTERED ARCHITECT
RUSSELL H. HAZZARD
STATE OF WASHINGTON

10/17/2024

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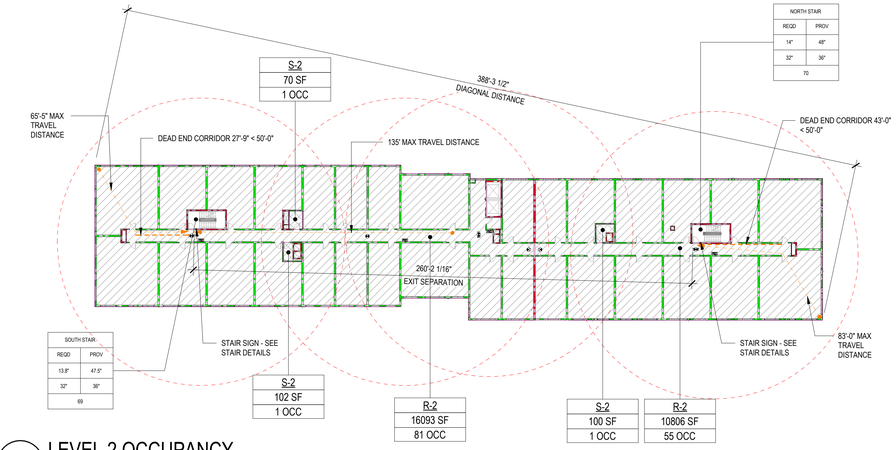
1	11/04/22	PERMIT CORRECTIONS 01
2	07/12/24	PERMIT CORRECTIONS 02

21-5971-01A
PM: ELI HARDI
DRAWN BY: JG, PD, MB
04/29/22

EGRESS PLANS

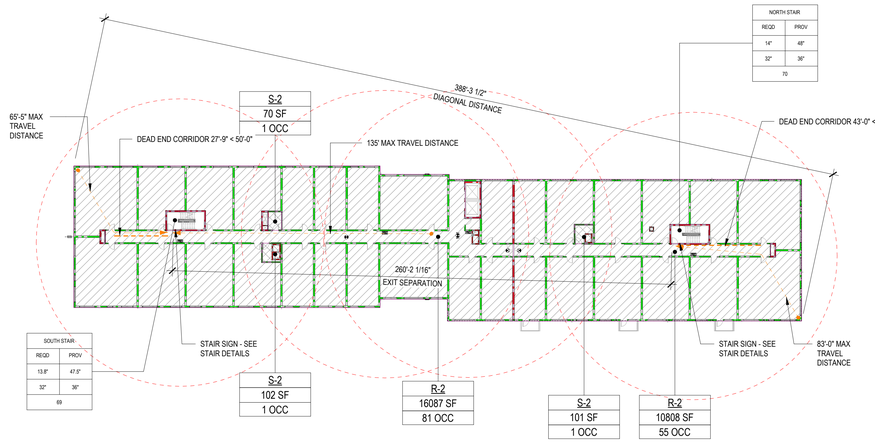
G203

10/17/2024 12:06:44 PM Autodesk Docs://MG2-CE-Shelter Holdings-Everett Riverfront Development PH2-21-5905-01A/A_21-5905-01A_Everett Riverfront BLD-D_R22.rvt



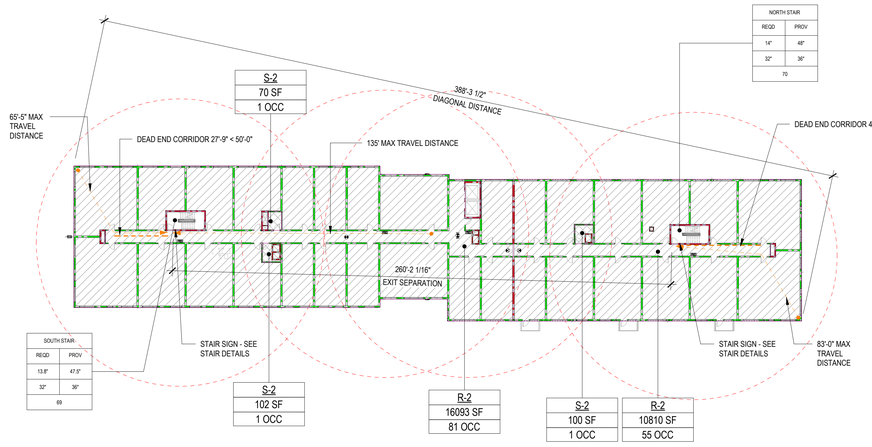
1 LEVEL 2 OCCUPANCY

SCALE: 1/32" = 1'-0"



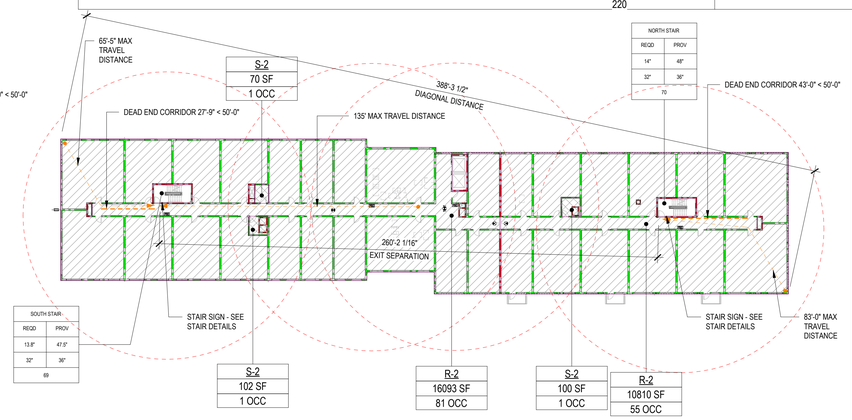
2 LEVEL 3 OCCUPANCY

SCALE: 1/32" = 1'-0"



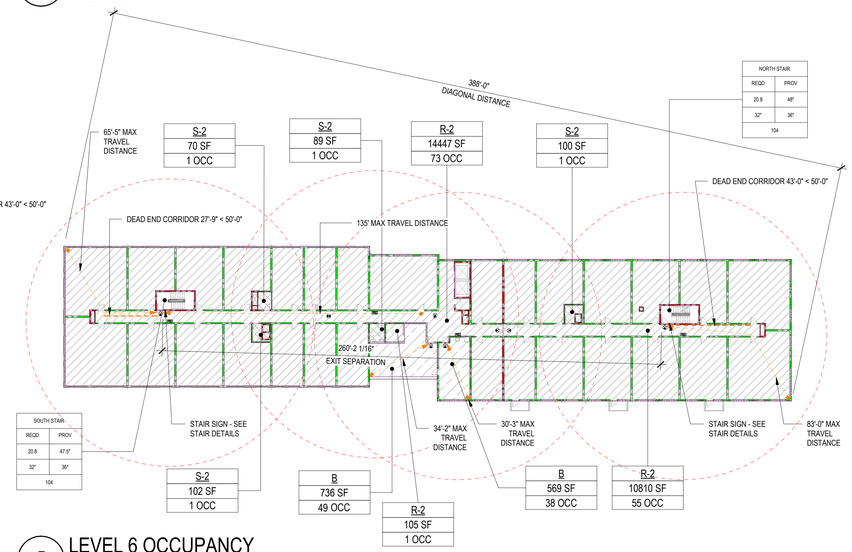
3 LEVEL 4 OCCUPANCY

SCALE: 1/32" = 1'-0"



4 LEVEL 5 OCCUPANCY

SCALE: 1/32" = 1'-0"



5 LEVEL 6 OCCUPANCY

SCALE: 1/32" = 1'-0"

OCCUPANT LOADS

AREA SCHEDULE (OCCUPANCY) LEVEL 2-4

OCCUPANCY CLASSIFICATION	FUNCTION	AREA	LOAD FACTOR	OCCUPANT LOAD
LEVEL 2				
R-2	RESIDENTIAL (Gross)	10806 SF	200	55
S-2	ACCESSORY STORAGE (Gross)	100 SF	300	1
S-2	ACCESSORY STORAGE (Gross)	70 SF	300	1
S-2	ACCESSORY STORAGE (Gross)	102 SF	300	1
R-2	RESIDENTIAL (Gross)	16093 SF	200	81
				139
LEVEL 3				
R-2	RESIDENTIAL (Gross)	16087 SF	200	81
S-2	ACCESSORY STORAGE (Gross)	101 SF	300	1
S-2	ACCESSORY STORAGE (Gross)	70 SF	300	1
S-2	ACCESSORY STORAGE (Gross)	102 SF	300	1
R-2	RESIDENTIAL (Gross)	10808 SF	200	55
				139
LEVEL 4				
R-2	RESIDENTIAL (Gross)	16093 SF	200	81
S-2	ACCESSORY STORAGE (Gross)	102 SF	300	1
S-2	ACCESSORY STORAGE (Gross)	70 SF	300	1
S-2	ACCESSORY STORAGE (Gross)	100 SF	300	1
R-2	RESIDENTIAL (Gross)	10810 SF	200	55
				139
LEVEL 5				
R-2	RESIDENTIAL (Gross)	16093 SF	200	81
S-2	ACCESSORY STORAGE (Gross)	70 SF	300	1
S-2	ACCESSORY STORAGE (Gross)	102 SF	300	1
S-2	ACCESSORY STORAGE (Gross)	100 SF	300	1
R-2	RESIDENTIAL (Gross)	10810 SF	200	55
				139
LEVEL 6				
R-2	RESIDENTIAL (Gross)	14447 SF	200	73
S-2	ACCESSORY STORAGE (Gross)	70 SF	300	1
S-2	ACCESSORY STORAGE (Gross)	102 SF	300	1
S-2	ACCESSORY STORAGE (Gross)	100 SF	300	1
S-2	ACCESSORY STORAGE (Gross)	89 SF	300	1
B	ASSEMBLY - UNCONCENTRATED TABLES & CHAIRS (Net)	736 SF	15	49
B	ASSEMBLY - UNCONCENTRATED TABLES & CHAIRS (Net)	569 SF	15	38
R-2	RESIDENTIAL (Gross)	105 SF	200	1
R-2	RESIDENTIAL (Gross)	10810 SF	200	55
				221

220

OCCUPANCY LEGEND

R-2 | A-2/A-3

M | S-2

RATINGS LEGEND

1-HOUR RATED

2-HOUR RATED

3-HOUR RATED

EGRESS LEGEND

FIRE EXTINGUISHER RADIUS

EXIT ACCESS TRAVEL DISTANCE

EXIT SIGNS

FEC — FIRE EXTINGUISHER

20 — EXIT DISCHARGE

NAME	
REQD	PROV
XX"	XX"
XX"	XX"
###	

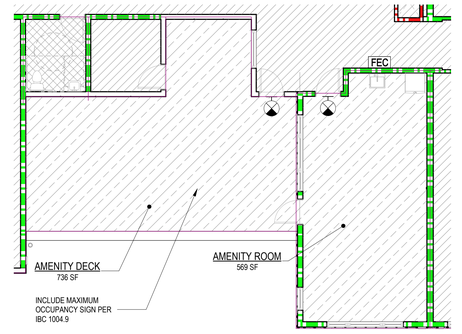
REQUIRED STAIR WIDTH — PROVIDED STAIR WIDTH

REQUIRED CLEAR DOOR WIDTH — PROVIDED DOOR WIDTH (NOMINAL)

NUMBER OF USERS

IBC 1005.3.1 EX. 1 FOR OTHER THAN GROUP H AND I-2 OCCUPANCIES, THE CAPACITY, IN INCHES, OF MEANS OF EGRESS STAIRWAYS SHALL BE CALCULATED BY MULTIPLYING THE OCCUPANT LOAD SERVED BY SUCH STAIRWAYS BY A MEANS OF EGRESS CAPACITY FACTOR OF 0.2 INCH (5.1 MM) PER OCCUPANT IN BUILDINGS EQUIPPED THROUGHOUT WITH AN AUTOMATIC SPRINKLER SYSTEM INSTALLED IN ACCORDANCE WITH SECTION 903.3.1.1 OR 903.3.1.2 AND AN EMERGENCY VOICE/ALARM COMMUNICATION SYSTEM IN ACCORDANCE WITH SECTION 907.5.2.2.

IBC 1005.3.2 EX. 1 FOR OTHER THAN GROUP H AND I-2 OCCUPANCIES, THE CAPACITY, IN INCHES, OF MEANS OF EGRESS COMPONENTS OTHER THAN STAIRWAYS SHALL BE CALCULATED BY MULTIPLYING THE OCCUPANT LOAD SERVED BY SUCH COMPONENT BY A MEANS OF EGRESS CAPACITY FACTOR OF 0.15 INCH (3.8 MM) PER OCCUPANT IN BUILDINGS EQUIPPED THROUGHOUT WITH AN AUTOMATIC SPRINKLER SYSTEM INSTALLED IN ACCORDANCE WITH SECTION 903.3.1.1 OR 903.3.1.2 AND AN EMERGENCY VOICE/ALARM COMMUNICATION SYSTEM IN ACCORDANCE WITH SECTION 907.5.2.2.



6 LEVEL 6 AMENITY DECK & ROOM

SCALE: 1/8" = 1'-0"

ASSEMBLY OCCUPANCIES
IBC 303.1.2.1

A ROOM OR SPACE USED FOR ASSEMBLY PURPOSES WIHT AN OCCUPANT LOAD OF LESS THAN 50 PERSONS AND ACCESSORY TO ANOTHER OCCUPANCY SHALL BE CLASSIFIED A GROUP B OCCUPANCY OR AS PART OF THAT OCCUPANCY.

IBC 303.1.2.2

A ROOM OR SPACE USED FOR ASSEMBLY PURPOSES THAT IS LESS THAN 750 SQUARE FEET IN AREA AND ACCESSORY TO ANOTHER OCCUPANCY SHALL BE CLASSIFIED AS A GROUP B OCCUPANCY OR AS PART OF THAT OCCUPANCY.

ALLOWABLE BUILDING AREA
IBC 508.2.3

AGGREGATE ACCESSORY OCCUPANCIES SHALL NOT OCCUPY MORE THAN 10 PERCENT OF THE FLOOR AREA OF THE STORY IN WHICH THEY ARE LOCATED.

AREA COMPLIES - 4.6% OF FLOOR AREA ON STORY IN WHICH IT IS LOCATED.

IBC 1004.9

EVERY ROOM OR SPACE THAT IS AN ASSEMBLY OCCUPANCY SHALL HAVE THE OCCUPANT LOAD OF THE ROOM OR SPACE POSTED IN A CONSPICUOUS PLACE, NEAR THE MAIN EXIT OR EXIT ACCESS DOORWAY FROM THE ROOM OR SPACE. POSTED SIGNS SHALL BE OF AN APPROVED LEGIBLE AND PERMANENT DESIGN AND SHALL BE MAINTAINED BY THE OWNER OR AUTHORIZED AGENT.

SIGNAGE DENOTING MAXIMUM OCCUPANCY OF 49 SHALL BE PROVIDED AT OR NEAR THE MAIN EXIT.

AMENITY DECK AND AMENITY ROOM COMPLY WITH IBC 303.1.2 AS PORTION OF ADJACENT R-2 OCCUPANCY AND THUS ALLOWED AT LEVEL 6.

TOTAL AMENITY AREA: 595 SF + 562 SF = 1,157 SF
TOTAL LEVEL 6 FLOOR AREA: 25,273 SF
TOTAL AGGREGATE ACCESSORY OCCUPANCY: 1,157 SF / 25,273 SF = 4.6% COMPLIES

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KEY PLAN

RUSSELL H. HAZZARD, ARCHITECT

8079 REGISTERED ARCHITECT
RUSSELL H. HAZZARD
STATE OF WASHINGTON

10/17/2024

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DRAWN BY: JG, PD, MB
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EGRESS PLANS

G204

10/17/2024 12:06:49 PM Autodesk Docs://MG2-CE-Shelter Holdings-Everett Riverfront Development PH2-21-5905-01A/A_21-5905-01A_Everett Riverfront BLD-D_R22.rvt

2018 Washington State Energy Code, Commercial Provision.

1. **C401.2 Compliance path.**
The building will comply with the Total Building Performance path and requirements of Section C407. Energy forms are located on BE901-BE902 drawings and provided to show that the proposed Total UA of the proposed building is no more than 20 percent higher than the Allowed Total UA as defined in Section C402.1.5 and according to Section C403.7.1 Limits on non-mandatory measures.

   The proposed design is 5.2% higher than the Allowed UA which is within allowed limits.

2. **C301** Climate zone for energy compliance has been defined per Table C301.1.

3. **C303.1.1 Building thermal envelope insulation**.
R-value indentification mark shall be applied by the manufacturer to each piece of building thermal envelope insulation 12 inches or greater in width. Alternately, the insulation installers shall provide a certification listing the type, manufacturer and R-value of insulation installed in each element of the building thermal envelope. For blown or sprayed polyurethane foam (SPF) insulation, the installed thickness of the areas covered and R-value of installed thickness shall be listed on the certification. For insulated siding, the R-value shall be labeled on the product's package and shall be listed on the certification the insulation installer shall sign, date and post the certification in a conspicuous location on the job site.
   Exception: for roof insulation installed above the deck, the R-value shall be labeled as required by the material standards specified in table 1508.2 of the International Building Code.

4. **C303.1.2 Insulation mark installation.**
Insulating materials shall be installed such that the Manufacturer's R-value mark is readily observable upon inspection.

5. **C303.1.3** Fenestration product rating.
U-factors of fenestration shall be determined as Follows:
   1) For windows, doors and skylights, U-factor ratings shall be determined in accordance with NFRC 100.
   2) Where required for garage doors and rolling doors, U-factor ratings shall be determined in Accordance with either NFRC 100 or ANSI/DASMA 105.

   U-factors shall be determined by an accredited, independent laboratory, and labeled and certified by The manufacturer.

   Products lacking such a labeled U-factor shall be assigned a default U-factor from table C303.1.3(1), C303.1.3(2) or C303.1.3(4). The solar heat gain coefficient (SHGC) and visible transmittance (VT) of glazed Fenestration products (windows, glazed doors and skylights) shall be determined in accordance with NFRC 200 by an accredited, independent laboratory, and labeled and certified by the manufacturer. Products lacking such a labeled SHGC or VT shall be assigned a default SHGC or VT from table C303.1.3(3).

6. **C403.4 HVAC system controls.**
HVAC systems shall be provided with controls in accordance with sections C403.4.1 through C403.4.11 and shall be capable of and configured to implement all required control functions in this code.

7. **C404.9 Domestic hot water meters.**
Each individual dwelling unit in a group R-2 occupancy with central service water heating systems shall be provided with a domestic hot water billing based on actual domestic hot water usage.

8. **C405.7 Dwelling unit electrical energy consumption.**
Each dwelling unit located in a Group R-2 building shall have a separate electrical meter. A utility tenant meter meets this requirement. See Section C409 for additional requirements for energy metering and energy consumption management.

9. **C407.3 Performance-based compliance.**
Compliance with this section demonstrated in details in the Total Building Performance report which is a separate standalone document.

The following mandatory provisions indicated in the Table below should be met:

MANDATORY COMPLIANCE MEASURES FOR TOTAL BUILDING PERFORMANCE METHOD		
Section	Title	Comment
Envelope		
C402.5	Air Leakage	
Mechanical		
C403.1.2	Calculation of heating and cooling loads	
C403.1.3	Data centers	N/A
C403.1.4	Use of electric resistance and fossil fuel-fired heating equipment	
C403.2	System design	
C403.3.1	Equipment and system sizing	
C403.3.2	HVAC equipment performance requirements	
C403.3.6	Ventilation for Group R occupancy	
C403.3.7	Hydronic system flow rate	
C403.4	HVAC system controls	
C403.4.1	Thermostatic controls	Except for C403.4.1.4
C403.4.2	Off-hour controls	Except for Group R
C403.4.7	Combustion heating equipment controls	
C403.4.9	Group R-2 and R-3 dwelling units	
C403.4.11	Direct digital control systems	
C403.5.5	Economizer fault detection and diagnostics (FDD)	
C403.7	Ventilation and exhaust systems	Except for C403.7.6
C403.8	Fan and fan controls	
C403.9.1.1	Variable flow controls	
C403.10	Construction of HVAC elements	
C403.11	Mechanical systems located outside of the building thermal envelope	
Service Water Heating		
C404	Service Water Heating	
Lighting and Electrical		
C405.1	General	
C405.2	Lighting controls	
C405.3	Exit signs	
C405.4	Interior lighting power	
C405.5	Exterior building lighting power	
C405.6	Electrical transformers	
C405.7	Dwelling unit energy consumption	
C405.8	Electric motor efficiency	
C405.9	Vertical and horizontal transportation	
C405.10	Controlled receptacles	
C405.11	Voltage drop in feeders	
Other Requirements		
C407	Total Building Performance	
C408	System commissioning	
C409	Energy metering	
C410	Refrigeration requirements	
C411	Solar readiness	

10. **C408 System commissioning (By Others).**
A building commissioning process led by a certified commissioning professional and functional testing requirements shall be completed for mechanical systems in section C403, service water heating systems in section C404, controlled receptacles and lighting systems in section C405, equipment, appliance and systems installed to comply with section C406 or C407; energy metering in section C409 and refrigeration in section C410.

11. **C409.2 Energy source metering.**
Buildings shall have a meter at each energy source. For each energy supply source listed in Section C409.2.1 through C409.2.4, meters shall collect data for the whole building or for each separately metered portion of the building where not exempted by the exception to Section C409.1.

12. **C411 Solar readiness.**
A solar zone shall be provided on non-residential buildings that are 20 stories or less in height above grade plane. The solar zone shall be located on the roof of the building or on another structure elsewhere on the site. The solar zone shall be in accordance with Sections C411.2 through C411.8 and the International Fire Code.

EVERETT RIVERFRONT BUILDING D

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Everett, WA 98203

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EDMONDS, WA 98020
PH: 425 672-3900
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PERMIT SET

10/17/2024

KEY PLAN

JAMES C. FREELING, ENGINEER

THE UNDERSIGNED HAS PROVIDED BUILDING ENCLOSURE DOCUMENTS THAT IN MY PROFESSIONAL JUDGMENT ARE APPROPRIATE TO SATISFY THE REQUIREMENTS OF RCW 64.55.005 THROUGH 64.55.095.*

△	DATE	DESCRIPTION
1	11/04/22	PERMIT CORRECTIONS 01
2	06/14/24	PERMIT CORRECTIONS 02
3	10/17/24	PERMIT CORRECTIONS 03

1903-1005
PM: DENIN DAZEY
DD: ERIC JONES
10/17/24

ENERGY CODE NOTES

G300

ENVELOPE COMPLIANCE SUMMARY

2018 WSEC Compliance Forms for Commercial Buildings including Group R2, R3 & R4 over 3 stories and all R1 — Administered by: ©2024 NEEA, All rights reserved

Project & Applicant Information			For Building Department Use:	Date: Oct 09, 2024
	Project Title	EVERETT RIVERFRONT BUILDING 1-D - 2018 WSEC		
	Project Address	3710 RIVERFRONT BOULEVARD Everett, WA 98203		
	Applicant Name	Pavlo Serdechnyi		
	Applicant Phone	425-678-1736		
	Applicant Email	pavlo@bee-engineers.com		

For questions about this report, contact WSEC Commercial Technical Support at 360-539-5300 or via email at com.techsupport@waenergycodes.com

General Occupancy	Mixed Use - Commercial + Group R building over 3 stories	General Building Use Type(s)	Multifamily/Residential, Mixed Use	Building Cond. Floor Area	162,351
				Project Cond. Floor Area	162,351
Project Scope	New Building	Space Conditioning Categories	Fully Conditioned	Floors Above Grade	6
				Compliance Method	
Envelope Project Description	Construction of a mixed-use apartment building in 5 floors of wood construction over 1 floor of non-combustible and concrete construction at the address: 3710 Riverfront Blvd, Everett WA 98203				

Envelope Compliance Scope and Method	Scope	Space Conditioning Category	Compliance Method	WWR/SRR per Category	UA Calculation Adjustment	Fenestration Alternates	Compliance Verification
	New Building	Fully Conditioned	Component performance	35.64% / 0%	None selected	No alternates selected	DOES NOT COMPLY

Air Barrier Testing	Air barrier testing included in project scope	Air Barrier Comments	

Project Title	EVERETT RIVERFRONT BUILDING 1-D - 2018 WSEC	Date	Oct 09, 2024

Scope & Space Conditioning	NEW BUILDING - FULLY CONDITIONED			Compliance Verification	DOES NOT COMPLY
Window-to-wall Ratio	35.64%	Skylight-to-roof ratio	0%	Vertical Fenestration Alternate	No alternates selected

Opaque Envelope Assemblies

Roof/Ceiling	Location in Documents	Assembly ID	Assembly Location	Cavity	Insulation R-Values: Continuous (% penetration)	2nd Layer (MB Roof)	U-Factor	Net Area (SF)
Insulation entirely above deck	A753	9, 3 - A753 / Level 1	Exterior		R-20 (< 0.04%)		U-0.045	403
	U-Factor Source: WSEC Appendix A			U-Factor Source Description: Table A102.1				
	Is this assembly exterior or interior?: Exterior							
Attic and other	A601	F8 / Level 5	Exterior	R-30	R-10 (< 0.04%)		U-0.025	773
	U-Factor Source: WSEC Appendix A			U-Factor Source Description: Table A101.5				
	Roof Framing Type (Standard, Advanced): Standard			Roof Framing Material: Wood-framed				
	Ceiling/Attic Venting: Unvented			Is this assembly exterior or interior?: Exterior				
Attic and other	A601	F6, F10 / Level 6	Exterior	R-30	R-20 (< 0.04%)		U-0.02	1,127
	U-Factor Source: WSEC Appendix A			U-Factor Source Description: Table A101.5, Table A102.2.6(2)				
	Roof Framing Type (Standard, Advanced): Standard			Roof Framing Material: Wood-framed				
	Ceiling/Attic Venting: Unvented			Is this assembly exterior or interior?: Exterior				
Attic and other	A601	F6, F10 / Level 6	Exterior	R-30	R-50 (< 0.04%)		U-0.013	6,747
	U-Factor Source: WSEC Appendix A			U-Factor Source Description: Table A101.5, Table A102.2.6(2)				
	Roof Framing Type (Standard, Advanced): Standard			Roof Framing Material: Wood-framed				
	Ceiling/Attic Venting: Unvented			Is this assembly exterior or interior?: Exterior				
Attic and other	A601	F6, F10 / Level 6	Exterior	R-30	R-44 (< 0.04%)		U-0.013	5,809
	U-Factor Source: WSEC Appendix A			U-Factor Source Description: Table A101.5, Table A102.2.6(2)				
	Roof Framing Type (Standard, Advanced): Standard			Roof Framing Material: Wood-framed				
	Ceiling/Attic Venting: Unvented			Is this assembly exterior or interior?: Exterior				
Attic and other	A601	F6, F10 / Level 6	Exterior	R-30	R-41 (< 0.04%)		U-0.014	3,512
	U-Factor Source: WSEC Appendix A			U-Factor Source Description: Table A101.5, Table A102.2.6(2)				
	Roof Framing Type (Standard, Advanced): Standard			Roof Framing Material: Wood-framed				
	Ceiling/Attic Venting: Unvented			Is this assembly exterior or interior?: Exterior				
Attic and other	A601	F6, F10 / Level 6	Exterior	R-30	R-39 (< 0.04%)		U-0.014	1,849
	U-Factor Source: WSEC Appendix A			U-Factor Source Description: Table A101.5, Table A102.2.6(2)				
	Roof Framing Type (Standard, Advanced): Standard			Roof Framing Material: Wood-framed				
	Ceiling/Attic Venting: Unvented			Is this assembly exterior or interior?: Exterior				
Attic and other	A601	F6, F10 / Level 6	Exterior	R-30	R-36 (< 0.04%)		U-0.015	2,587
	U-Factor Source: WSEC Appendix A			U-Factor Source Description: Table A101.5, Table A102.2.6(2)				
	Roof Framing Type (Standard, Advanced): Standard			Roof Framing Material: Wood-framed				
	Ceiling/Attic Venting: Unvented			Is this assembly exterior or interior?: Exterior				
Attic and other	A601	F6, F10 / Level 6	Exterior	R-30	R-33 (< 0.04%)		U-0.016	4,452
	U-Factor Source: WSEC Appendix A			U-Factor Source Description: Table A101.5, Table A102.2.6(2)				
	Roof Framing Type (Standard, Advanced): Standard			Roof Framing Material: Wood-framed				
	Ceiling/Attic Venting: Unvented			Is this assembly exterior or interior?: Exterior				
Attic and other	A601	F6, F10 / Level 6	Exterior	R-30	R-26 (< 0.04%)		U-0.018	312
	U-Factor Source: WSEC Appendix A			U-Factor Source Description: Table A101.5, Table A102.2.6(2)				
	Roof Framing Type (Standard, Advanced): Standard			Roof Framing Material: Wood-framed				
	Ceiling/Attic Venting: Unvented			Is this assembly exterior or interior?: Exterior				
Attic and other	A601	F6, F10 / Level 6	Exterior	R-30	R-30 (< 0.04%)		U-0.016	505
	U-Factor Source: WSEC Appendix A			U-Factor Source Description: Table A101.5, Table A102.2.6(1)				
	Roof Framing Type (Standard, Advanced): Standard			Roof Framing Material: Wood-framed				
	Ceiling/Attic Venting: Unvented			Is this assembly exterior or interior?: Exterior				

Walls	Location in Documents	Assembly ID	Assembly Location	Cavity	Continuous (% penetration)	Insulated Wall Furring	U-Factor	Net Area (SF)
Wood-framed and other - Group R	A611	W02-W05 / Levels 2-6	Exterior	R-21	R-0 (< 0.04%)		U-0.054	31,488
	Which insulation code target does wall comply with?: Wall Assembly U-factor			U-Factor Source: WSEC Appendix A				
	U-Factor Source Description: Table A103.3.1(5)			Framing Depth: 2x6				
	Framing Spacing: 16 o.c.			Is this assembly exterior or interior?: Exterior				
Steel-framed - Commercial	A610, A611	M11, M20, M23 / Level 1	Interior partition	R-21	R-0 (< 0.04%)		U-0.106	984
	U-Factor Source: WSEC Appendix A			U-Factor Source Description: Table A103.3.6.1(1)				
	Framing Depth: 2x6			Framing Spacing: 16 o.c.				
	Is this assembly exterior or interior?: Interior partition							
Steel-framed - Group R	A610, A611	M11, M17, M20, M23 / Level 1	Interior partition	R-21	R-0 (< 0.04%)		U-0.106	2,828
	U-Factor Source: WSEC Appendix A			U-Factor Source Description: Table A103.3.6.1(1)				
	Framing Depth: 2x6			Framing Spacing: 16 o.c.				
	Is this assembly exterior or interior?: Interior partition							
Mass (precast concrete) - Commercial	A610	C02+12.5ci / Level 1	Yes		R-12.5 (< 0.04%)	No	U-0.073	367
	Does assembly include wall furring?: No			Framing Spacing:				
	U-Factor Source: WSEC Appendix A			U-Factor Source Description: Table A103.3.7.1(2)				
Mass (precast concrete) - Commercial	A750	Curb - 7 / A750 / Level 1	Yes		R-5 (< 0.04%)	No	U-0.157	457
	Does assembly include wall furring?: No			Framing Spacing:				
	U-Factor Source: WSEC Appendix A			U-Factor Source Description: Table A103.3.7.1(2)				
Mass (precast concrete) - Commercial	A610	C02+12.5ci / Level 1	Wall is an interior partition		R-12.5 (< 0.04%)	No	U-0.073	414
	Does assembly include wall furring?: No			Framing Spacing:				
	U-Factor Source: WSEC Appendix A			U-Factor Source Description: Table A103.3.7.1(2)				
Mass (precast concrete) - Group R	A610	C02+12.5ci, C05+12.5ci / Level 1	Wall is an interior partition		R-12.5 (< 0.04%)	No	U-0.073	1,665
	Does assembly include wall furring?: No			Framing Spacing:				
	U-Factor Source: WSEC Appendix A			U-Factor Source Description: Table A103.3.7.1(2)				
Mass (precast concrete) - Group R	A503	Elevator pit	Wall is below grade		R-10 (< 0.04%)	No	U-0.08	247
	Does assembly include wall furring?: No			Framing Spacing:				
	U-Factor Source: WSEC Appendix A			U-Factor Source Description: Table A101.5				
Mass (precast concrete) - Group R	A610	C02+12.5ci / Level 1	Yes		R-12.5 (< 0.04%)	No	U-0.073	299
	Does assembly include wall furring?: No			Framing Spacing:				
	U-Factor Source: WSEC Appendix A			U-Factor Source Description: Table A103.3.7.1(2)				
Mass (precast concrete) - Group R	A750	Curb - 7 / A750 / Level 1	Yes		R-5 (< 0.04%)	No	U-0.157	151
	Does assembly include wall furring?: No			Framing Spacing:				
	U-Factor Source: WSEC Appendix A			U-Factor Source Description: Table A103.3.7.1(2)				
Mass (precast concrete) - Group R	A610	C02+12.5ci / Level 1	Wall is an interior partition		R-12.5 (< 0.04%)	No	U-0.073	1,726
	Does assembly include wall furring?: No			Framing Spacing:				
	U-Factor Source: WSEC Appendix A			U-Factor Source Description: Table A103.3.7.1(2)				

Floors and Edges	Location in Documents	Assembly ID	Assembly Location	Cavity	Continuous (% penetration)		U-Factor	Net Area (SF)
Mass	A601, A602	F2+C4, F2+C5 / Level 2	Exterior		R-30 (< 0.04%)		U-0.031	2,688
	U-Factor Source: WSEC Appendix A			U-Factor Source Description: Table A105.5(3)				
	Is this assembly exterior or interior?: Exterior							
Mass	A-601	F2 / Transformer / level 2	Exterior		R-0 (< 0.04%)		U-0.326	567
	U-Factor Source: WSEC Appendix A			U-Factor Source Description: Table A101.5				
	Is this assembly exterior or interior?: Exterior							
Intermediate mass floor edge - Group R	A753	3, 4, 5, 7, 8, 9 - A753 / Slab Edge / Level 2	Exterior		R-7.5 (< 0.04%)		U-0.114	930
	Wall Thickness Above/Below Floor: 8-inch			U-Factor Source: WSEC Appendix A				
	U-Factor Source Description: Table A103.3.7.2			Is this assembly exterior or interior?: Exterior				

Slab-on-grade Floors	Location in Documents	Assembly ID	Assembly Location	Slab Edge	Under Slab		F-Factor	Perimeter Length (SF)
Unheated slab	A-601	F3 / Level 1	At grade level	R-5	R-10		F-0.54	1,161
	Slab Insulation Method: 2 ft horizontal (no slab edge insulation)			F-Factor Source: WSEC Appendix A				
	F-Factor Source Description: Table A106.3							

Fenestration & Opaque Door Assemblies

Opaque Doors	Location in Documents	Assembly ID	Assembly Location	Insulation R-Values: Door Insulation			U-Factor	Rough Opening (SF)
Swinging	A810 - A812	Opaque Doors: SN R, 63ft, 133, 128B, 107	Exterior				U-0.37	126
	What percentage of this opaque door is glazing?: 50% or less			U-Factor Source: WSEC Appendix A				
	U-Factor Source Description: Table A107.1(1)			Is this assembly exterior or interior?: Exterior				
	Is this a public entrance door?: No							
Swinging	A810 - A812	Opaque Doors: 131B, 122, 121B, 120B, 119C, 103B	Interior partition				U-0.37	147
	What percentage of this opaque door is glazing?: 50% or less			U-Factor Source: WSEC Appendix A				
	U-Factor Source Description: Table A107.1(1)			Is this assembly exterior or interior?: Interior partition				

Vertical Fenestration	Location in Documents	Assembly ID	Assembly Location	Shading (PF)	Fenestration SHGC	Fenestration U-Factor	Rough Opening (SF)	
Fixed - Class AW or site built	A802, A803	Storefront: SF01-SF08, SF17-SF19	Exterior		PF < 0.2	SHGC-0.38	U-0.38	5,139
	U-Factor & SHGC Source: NFRC Rating			U-Factor Source Description: NFRC Certified				
	Is this assembly exterior or interior?: Exterior							
Fixed - Class AW or site built	A-810 - A-813	Storefront: SF02	Exterior		PF < 0.2	SHGC-0.38	U-0.38	732
	U-Factor & SHGC Source: NFRC Rating			U-Factor Source Description: NFRC Certified				
	Is this assembly exterior or interior?: Exterior							
All other fenestration types	A801	Non-Metal, Operable: A2, A3, B1L, B1R, CL, CR, E1L, E1R, G1, G3-G8	Exterior		PF < 0.2	SHGC-0.35	U-0.26	13,737
	U-Factor & SHGC Source: NFRC Rating			U-Factor Source Description: See A801				
	Is this assembly exterior or interior?: Exterior							
All other fenestration types	A801	Non-Metal, Operable: B1L, B1R, CL, CR	Exterior		PF < 0.2	SHGC-0.35	U-0.26	960
	U-Factor & SHGC Source: NFRC Rating			U-Factor Source Description: See A801				
	Is this assembly exterior or interior?: Exterior							
All other fenestration types	A810 - A813	Non-Metal, Doors: 625, 622B, 620B, 618B, 522B, 520B, 518B, 422B, 420B, 418B, 322B, 320B, 318B	Exterior		PF < 0.2	SHGC-0.35	U-0.26	312
	U-Factor & SHGC Source: NFRC Rating			U-Factor Source Description: See A810 - A813				
	Is this assembly exterior or interior?: Exterior							
All other fenestration types	A801	Non-Metal, Fixed: F1, F2	Exterior		PF < 0.2	SHGC-0.35	U-0.26	1,165
	U-Factor & SHGC Source: NFRC Rating			U-Factor Source Description: See A801				
	Is this assembly exterior or interior?: Exterior							
All other fenestration types	A801	Non-Metal, Fixed: F3	Exterior		PF < 0.2	SHGC-0.35	U-0.26	205
	U-Factor & SHGC Source: NFRC Rating			U-Factor Source Description: See A801				
	Is this assembly exterior or interior?: Exterior							

Glazed Doors	Location in Documents	Assembly ID	Assembly Location	Shading (PF)	Fenestration SHGC	Fenestration U-Factor	Rough Opening (SF)	
Swinging entrance door	A810	Metal entrance doors	Exterior		PF < 0.2	SHGC-0.35	U-0.6	336
	U-Factor & SHGC Source: NFRC Rating			U-Factor Source Description: NFRC Certified				
	Is this assembly exterior or interior?: Exterior			Is this a public entrance door?: Yes				
	Door enclosed within a vestibule?: No vestibule							
Swinging entrance door	A810	Metal entrance doors	Exterior		PF < 0.2	SHGC-0.35	U-0.6	84
	U-Factor & SHGC Source: NFRC Rating			U-Factor Source Description: NFRC Certified				
	Is this assembly exterior or interior?: Exterior			Is this a public entrance door?: Yes				
	Door enclosed within a vestibule?: Yes							

Project Title	EVERETT RIVERFRONT BUILDING 1-D - 2018 WSEC	Date	Oct 09, 2024

U x A Calculation	NEW BUILDING - FULLY CONDITIONED				DOES NOT COMPLY		
Opaque Envelope Assemblies		PROPOSED			TARGET		
Roof/Ceiling	Assembly ID	Roof/Ceiling Assembly U-Factor	Net Area (SF)	U x A	Roof/Ceiling Assembly U-Factor	Net Area (SF)	U x A
Insulation entirely above deck	9, 3 - A753 / Level 1	0.045	403.0	18.1	0.027	403.0 (1)	10.9
Attic and other	F8 / Level 5	0.025	773.0	19.3	0.021	773.0 (1)	16.2
Attic and other	F6, F10 / Level 6	0.02	1,127.0	22.5	0.021	1,127.0 (1)	23.7
Attic and other	F6, F10 / Level 6	0.013	6,747.0	87.7	0.021	6,747.0 (1)	141.7
Attic and other	F6, F10 / Level 6	0.013	5,809.0	75.5	0.021	5,809.0 (1)	122.0
Attic and other	F6, F10 / Level 6	0.014	3,512.0	49.2	0.021	3,512.0 (1)	73.8
Attic and other	F6, F10 / Level 6	0.014	1,849.0	25.9	0.021	1,849.0 (1)	38.8
Attic and other	F6, F10 / Level 6	0.015	2,587.0	38.8	0.021	2,587.0 (1)	54.3
Attic and other	F6, F10 / Level 6	0.016	4,452.0	71.2	0.021	4,452.0 (1)	93.5
Attic and other	F6, F10 / Level 6	0.018	312.0	5.6	0.021	312.0 (1)	6.6
Attic and other	F6, F10 / Level 6	0.016	505.0	8.1	0.021	505.0 (1)	10.6

Walls	Assembly ID	Wall Assembly U-factor	Net Area (SF)	U x A	Wall Assembly U-factor	Net Area (SF)	U x A
Wood-framed and other - Group R	W02-W05 / Levels 2-6	0.054	31,488.0	1,700.4	0.051	34,206.3 (1.0876)	1,746.6
Steel-framed - Commercial	M11, M20, M23 / Level 1	0.106	984.0	104.3	0.055	1,070.2 (1.0876)	58.9
Steel-framed - Commercial	M02, M03 / Level 1	0.051	5,131.0	261.7	0.055	5,580.5 (1.0876)	306.9
Steel-framed - Group R	M02, M03 / Level 1	0.051	1,991.0	101.5	0.055	2,165.4 (1.0876)	119.1
Steel-framed - Group R	M11, M17, M20, M23 / Level 1	0.106	2,828.0	299.8	0.055	3,075.7 (1.0876)	169.2
Mass (precast concrete) - Commercial	C02+12.5ci / Level 1	0.073	367.0	26.8	0.104	399.1 (1.0876)	41.5
Mass (precast concrete) - Commercial	Curb - 7 / A750 / Level 1	0.157	457.0	71.7	0.104	497.0 (1.0876)	51.7
Mass (precast concrete) - Commercial	C02+12.5ci / Level 1	0.073	414.0	30.2	0.104	450.3 (1.0876)	46.8
Mass (precast concrete) - Group R	C02+12.5ci, C05+12.5ci / Level 1	0.073	1,665.0	121.5	0.078	1,810.9 (1.0876)	141.3
Mass (precast concrete) - Group R	Elevator pit	0.08	247.0	19.8	0.078	268.6 (1.0876)	21.0
Mass (precast concrete) - Group R	C02+12.5ci / Level 1	0.073	299.0	21.8	0.078	325.2 (1.0876)	25.4
Mass (precast concrete) - Group R	Curb - 7 / A750 / Level 1	0.157	151.0	23.7	0.078	164.2 (1.0876)	12.8
Mass (precast concrete) - Group R	C02+12.5ci / Level 1	0.073	1,726.0	126.0	0.078	1,877.2 (1.0876)	146.4

Floors and Edges	Assembly ID	Floor Assembly U-Factor	Net Area (SF)	U x A	Floor Assembly U-Factor	Net Area (SF)	U x A
Mass	F2+C4, F2+C5 / Level 2	0.031	2,688.4	83.3	0.031	2,688.4 (1)	83.3
Mass	F2 / Transformer / level 2	0.326	567.2	184.9	0.031	567.2 (1)	17.6
Intermediate mass floor edge - Group R	3, 4, 5, 7, 8, 9 - A753 / Slab Edge / Level 2	0.114	930.0	106.0	0.078	1,011.5 (1.0876)	78.9
	Slab on Grade Floors	**PROPOSED**			**TARGET**		

Slab-on-grade Floors	Assembly ID	F-Factor	Perimeter Length (LF)	U x A	F-Factor	Perimeter Length (LF)	U x A
Unheated slab	F3 / Level 1	0.54	1,161.0	626.9	0.54	1,161.0 (1)	626.9
	Fenestration and Opaque Door Assemblies	**PROPOSED**			**TARGET**		

Opaque Doors	Assembly ID	Door Assembly U-Factor	Rough Opening (SF)	U x A	Door Assembly U-Factor	Rough Opening (SF)	U x A
Swinging	Opaque Doors: SN R, 63ft, 133, 128B, 107	0.37	126.0	46.6	0.37	137.0 (1.0876)	50.7
Swinging	Opaque Doors: 131B, 122, 121B, 120B, 119C, 103B	0.37	147.0	54.4	0.37	159.9 (1.0876)	59.2

Vertical Fenestration	Assembly ID	Fenestration Assembly U-Factor	Rough Opening (SF)	U x A	Fenestration Assembly U-Factor	Rough Opening (SF)	U x A
Fixed - Class AW or site built	Storefront: SF01-SF08, SF17-SF19	0.38	5,139.0	1,952.8	0.38	4,326.0 (0.8418)	1,643.9
Fixed - Class AW or site built	Storefront: SF02	0.38	732.0	278.2	0.38	616.2 (0.8418)	234.1
All other fenestration types	Non-Metal, Operable: A2, A3, B1L, B1R, CL, CR, E1L, E1R, G1, G3-G8	0.26	13,737.0	3,571.6	0.30	11,563.8 (0.8418)	3,469.1
All other fenestration types	Non-Metal, Operable: B1L, B1R, CL, CR	0.26	960.0	249.6	0.30	808.1 (0.8418)	242.4
All other fenestration types	Non-Metal, Doors: 625, 622B, 620B, 618B, 522B, 520B, 518B, 422B, 420B, 418B, 322B, 320B, 318B	0.26	312.0	81.1	0.30	262.6 (0.8418)	78.8
All other fenestration types	Non-Metal, Fixed: F1, F2	0.26	1,165.0	302.9	0.30	980.7 (0.8418)	294.2
All other fenestration types	Non-Metal, Fixed: F3	0.26	205.0	53.3	0.30	172.6 (0.8418)	51.7

Glazed Doors	Assembly ID	Door Assembly U-Factor	Rough Opening (SF)	U x A	Door Assembly U-Factor	Rough Opening (SF)	U x A
Swinging entrance door	Metal entrance doors	0.6	336.0	201.6	0.60	282.8 (0.8418)	169.7
Swinging entrance door	Metal entrance doors	0.6	84.0	50.4	0.60	70.7 (0.8418)	42.4

	Proposed Area	Proposed UxA	Target Area	Target UxA
Project Totals	104,114	11,175	104,815	10,623
				TARGET AREA ADJUSTING

The building complies with the **Total Building Performance path** and requirements of **Section C407**. Energy forms located on BE901 drawing are provided to show that the proposed Total UA of the proposed building is no more than 20 percent higher than the Allowed Total UA as defined in Section C402.1.5 and according to **Section C403.7.1 Limits on non-mandatory measures**.

The **proposed design** is **5.2%** higher than the Allowed UA which is **within allowed limits**.

Project Title	EVERETT RIVERFRONT BUILDING 1-D - 2018 WSEC	Date	Oct 09, 2024

SHGC x A Calculation	NEW BUILDING - FULLY CONDITIONED				DOES NOT COMPLY		
Fenestration and Opaque Door Assemblies			PROPOSED		TARGET		
Glazed Doors	Assembly ID	PF	Glazed Door SHGC	Rough Opening (SF)	SHGC x A	Glazed Door SHGC	Rough Opening (SF)	SHGC x A
Swinging entrance door	Metal entrance doors	PF < 0.2	0.35	336.0	117.6	0.38	282.8 (0.8418)	107.5
Swinging entrance door	Metal entrance doors	PF < 0.2	0.35	84.0	29.4	0.38	70.7 (0.8418)	26.9

Vertical Fenestration	Assembly ID	PF	Fenestration SHGC	Rough Opening (SF)	SHGC x A	Fenestration SHGC	Rough Opening (SF)	SHGC x A
Fixed - Class AW or site built	Storefront: SF01-SF08, SF17-SF19	PF < 0.2	0.38	5,139.0	1,952.8	0.38	4,326.0 (0.8418)	1,643.9
All other fenestration types	Non-Metal, Operable: A2, A3, B1L, B1R, CL, CR, E1L, E1R, G1, G3-G8	PF < 0.2	0.35	13,737.0	4,808.0	0.38	11,563.8 (0.8418)	3,394.2
All other fenestration types	Non-Metal, Doors: 625, 622B, 620B, 618B, 522B, 520B, 518B, 422B, 420B, 418B, 322B, 320B, 318B	PF < 0.2	0.35	312.0	109.2	0.38	262.6 (0.8418)	99.8
All other fenestration types	Non-Metal, Fixed: F1, F2	PF < 0.2	0.35	1,165.0	407.8	0.38	980.7 (0.8418)	372.7

Building Envelope Requirements List, pg 1 of 9

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Project:
EVERETT RIVERFRONT BUILDING 1-D - 2018 WSEC
3710 RIVERFRONT BOULEVARD
Everett, WA 98203

Date: 2024-10-09

Applies	Code Section	Component	Compliance Information Required In Permit Documentation	Location in Documents	Building Department Notes
SCOPE					
NA	C103.1	Construction documents - General	For a tenant space (first build-out) project, indicate if there is no envelope scope included in the project.		
NA	C103.1	Construction documents - General	For an alteration project, indicate if there is no envelope scope included in the project.		
NA	C402.1.1.1	Low energy spaces	Identify low energy spaces on plans; include calculations if applicable that demonstrate eligibility for envelope provisions exemption		
NA	C402.1.1.2	Semi-heated spaces	Identify semi-heated spaces on plans, include mechanical heating system type and calculations that demonstrate eligibility for wall insulation exemption		
NA	C402.1.1.3	Greenhouse spaces	Identify greenhouse spaces on plans; include non-opaque assembly information and mechanical heating system type if applicable, that demonstrates eligibility for envelope provisions exemption		
NA	C402.1.2	Equipment buildings	Provide building sf area, average wall and roof U-factor, installed electrical and mechanical equipment information and heating setpoint restriction, that demonstrates eligibility for envelope provisions exemption		
NA	C402.1.2.1	Standalone elevator hoistways	Provide building area, average wall and roof U-factor, installed mechanical equipment information and heating setpoint restriction, that demonstrates eligibility for envelope provisions exemption		
NA	C410.2	Walk-in cooler and freezer spaces	Identify walk-in cooler and freezer spaces on plans; including site assembled, site constructed and prefabricated units		
NA			Identify warehouse cooler and freezer spaces on plans		
NA	C101.4.1	Mixed residential & commercial building	Identify spaces with different occupancy requirements on plans		
NA	C503.2	Change of space conditioning alteration	Identify on plans existing unconditioned spaces changing to semi-heated or conditioned space, and existing semi-heated spaces changing to conditioned space; provide calculations for existing and final level of space conditioning		
NA	C505.1	Change of occupancy alteration	Identify on plans existing F, S and U-occupancy spaces undergoing a change in occupancy and final occupancy type		

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NA			Group R spaces permitted before July 1, 2002 that are undergoing a change to a commercial occupancy shall be identified on plans		
NA			Commercial (non-Group R) occupancy spaces undergoing a change to Group R shall be identified on plans		
ENVELOPE PROVISIONS					
YES	C103.2 C103.6.3 C402.1.3 C402.1.4 C402.1.5	Compliance documentation	Indicate envelope thermal performance compliance path (prescriptive or component performance) and provide WSEC envelope compliance reports	BE900's	
YES			If complying via component performance, demonstrate that the Proposed Total UA is equal to or less than the Allowable Total UA	BE900's	
YES			If complying via total building performance, provide a list of all proposed envelope component types, areas and U-values	BE900's	
YES	C303.1.1 C303.1.2	Insulation identification	Indicate identification mark shall be applied to all insulation materials and insulation installed such that the mark is readily observable during inspection	A601, A602, A610 - A613, BE900's	
YES	C303.1.3 C402.4.3	Fenestration product rating	Indicate fenestration products shall be labeled with NFRC U-factor, SHGC, VT and leakage rating, or if products do not have an NFRC rating, indicate applicable Chapter 3 default values	A801 - A803, BE900's	
YES	C303.1.1 C402.2.1	General insulation installation	Indicate installation methods, thicknesses, densities and clearances to achieve the intended R-value of all insulation materials	A601, A602, A610 - A613, BE900's	
NA			Where two or more layers of rigid insulation will be used, indicate that edge joints between layers are staggered, or exception taken		
YES	C103.2 C402.2.1	Roof assembly insulation	Indicate R-value(s) of cavity/continuous insulation on roof sections	A601, BE900's	
YES			Indicate framing materials on roof sections	A601, BE900's	
YES			Indicate method of framing for ceilings below vented attics and vaulted ceilings per A102.2 (std, adv)	A601, BE900's	
YES			Provide area weighted average U-factor calculation for insulation whose thickness varies by 1 inch or less	A601, BE900's	
YES			Indicate effective U-factors of tapered insulation entirely above deck per A102.2.6; include roof configuration and slope, maximum R-value at peak and minimum R-value at low point for all roof surfaces	A601, BE900's	
NA			Indicate R-values for thermal spacers and each insulation layer, and liner system (LS) method for metal building roofs		

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EVERETT RIVERFRONT BUILDING D

3610 Riverfront Blvd
Everett, WA 98203

BEE ENGINEERS
17709 DAYTON ST, SUITE 206
EDMONDS, WA 98020
PH: 425 672-3900
FAX: 425 712-8608

PERMIT SET

10/17/2024

KEY PLAN

JAMES C. FREELING, ENGINEER

THE UNDERSIGNED HAS PROVIDED BUILDING ENCLOSURE DOCUMENTS THAT IN MY PROFESSIONAL JUDGMENT ARE APPROPRIATE TO COMPLY WITH THE REQUIREMENTS OF RCW 64.55.005 THROUGH 64.55.090.

△	DATE	DESCRIPTION
1	11/04/22	PERMIT CORRECTIONS 01
2	06/14/24	PERMIT CORRECTIONS 02
3	10/17/24	PERMIT CORRECTIONS 03

1903-1005
PM: DENIN DAZEY
DD: ERIC JONES
10/17/24

BUILDING ENVELOPE ENERGY FORMS

G301

Building Envelope Requirements List, pg 3 of 9

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NA	C402.2.1.1	Skylight curb insulation	Indicate skylight curb insulation R-value on roof section, if not included in skylight NFRC rating		
NA	C402.2.1.2	Rooftop HVAC equipment curbs	Indicate rooftop HVAC equipment curb insulation R-value on roof section		
YES	C103.2 C402.2.3 C402.2.4 C303.2.1	Above/below grade wall insulation	Indicate R-value(s) of cavity/continuous insulation on wall sections	A610 - A613, BE900's	
YES			Indicate framing materials on wall sections	A610 - A613, BE900's	
YES			Indicate method of framing for wood construction per A103.2 (std, int, adv)	A610 - A613, BE900's	
YES			Indicate material density category, wall weight and heat capacity for qualifying mass walls	A610 - A613, BE900's	
YES			For qualifying ASTM C90 masonry walls, indicate loose-fill core insulation material and percentage of cores filled including grouted cores, bond beams, vertical fills, headers and any other grouted cores	A610 - A613, BE900's	
YES			Indicate method of protection of exposed exterior basement/crawlspace wall insulation	A610 - A613, BE900's	
YES	C103.2 C402.4.4	Opaque doors	Indicate rated U-factor or R-value (non-swinging) on wall sections or in door schedules - applies to doors with less than 50% glazed area	A810 - A812, BE900's	
NA	C402.4.4	Garage doors	Indicate rated U-factor for sectional and tilt-up garage doors on wall sections or in door schedules - applies to garage doors with less than 14% glazed area; all other garage doors shall comply as opaque doors		
YES	C402.2.5	Floor over outdoor or unconditioned space insulation	Indicate R-value(s) of cavity/continuous insulation on floor sections	A601, A602, BE900's	
YES			Indicate framing material on floor sections	A601, A602, BE900's	
YES			Indicate material density category and weight of qualifying mass floors	A601, A602, BE900's	
YES	C402.2.6 C303.2.1	Slab-on-grade floor insulation	Indicate R-value of continuous insulation on wall section or foundation detail	A601, A602, BE900's	
YES			Indicate insulation extends down vertically and/or horizontally the required distance from top of slab	A601, A602, BE900's	
YES			Indicate method of protection of exposed exterior slab edge insulation	A601, A602, BE900's	
NA			Indicate R-value of continuous insulation on wall section or foundation detail		
NA			Indicate insulation extends down vertically from top of slab and then horizontally under the entire slab		

Building Envelope Requirements List, pg 4 of 9

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NA			Indicate method of protection of exposed exterior slab edge insulation		
NA	C402.2.8	Radiant heating system insulation	Indicate insulation R-value behind radiant panels, U-bend/headers and bottom surface of radiantly heated floors (other than heated slab-on-grade)		
YES	C402.4.1 C502.2.1	Vertical fenestration maximum area	Provide total gross sf area of all above grade wall elements and rough opening sf area of all vertical fenestration elements in the building, for the prescriptive max allowed window-to-wall ratio (WWR) calculation in the WSEC envelope compliance reports; demonstrate compliance for each space conditioning category separately	BE900's	
NA	C402.4.1.1 C405.2.4.1 C502.2.1	Increased prescriptive maximum vertical fenestration area with daylight zones and controls	Provide calculations showing that not less that 50% of the total conditioned floor area is within a daylight zone; demonstrate compliance for each space conditioning category separately		
NA			Indicate in envelope plans that all lighting fixtures located within daylight zones shall be provided with daylight responsive controls per Section C405.2.4.1		
NA			Indicate that the VT of vertical fenestration is at least 1.1 times the rated SHGC or no less than VT:0.55, whichever is greater		
YES	C402.4.1.3 C502.2.1	Increased prescriptive maximum vertical fenestration area with high-performance glazing	Indicate high performance U-factors and SHGC values in fenestration schedules	BE900's	
YES			Indicate if an area-weighted U-factor is used for multiple fenestration elements within the same fenestration category per Table C402.4; provide area-weighted U-factor calculation	BE900's	
NA	C402.1.5	Wall/vertical fenestration target area adjustment	Indicate if component performance with target area adjustment will be used to account for vertical fenestration area in excess of the prescriptive maximum allowed; include target area adjustment in WSEC envelope compliance reports		
NA	C402.4.1 C502.2.2	Skylight maximum area	Provide total gross sf area of roof, and rough opening sf area of all skylight elements in the building, for the prescriptive max allowed skylight-to-roof ratio (SRR) calculation in the WSEC envelope compliance reports; demonstrate compliance for each space conditioning category separately		
NA	C402.1.5.2	Roof/skylight target area adjustment	Indicate if component performance with target area adjustment will be used to account for skylight area in excess of the prescriptive maximum allowed; include target area adjustment in WSEC envelope compliance reports		

Building Envelope Requirements List, pg 5 of 9

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YES	C402.4 C402.4.3.4 C303.1.3	U-factors, SHGC and VT for all fenestration assemblies	Indicate U-factors, SHGC and VT values in fenestration schedules	A801., A802, BE900's	
YES			Indicate if an area-weighted U-factor is used for multiple fenestration elements within the same fenestration category per Table C402.4; provide area-weighted U-factor calculation	A801., A802,., BE900's	
YES			Indicate if values are NFRC or default; if default then specify frame type, glazing layers, gap width, low-e coatings, gas-fill	A801., A802,., BE900's	
NA	C402.4.3	Permanent shading devices	For each group of windows with similar orientation and overhang or permanent projection geometry, provide projection factor calculations (Equation C4-6) for north and non-north orientations		
NA	C402.4.2	Single story spaces requiring skylights	Provide list of enclosed, single story spaces that exceed 2,500 sf; for each space identify the space use, floor area, floor to ceiling height, whether skylights are installed, and any exception taken		
NA			Provide calculations for percentage of conditioned floor area located within a toplit daylight zone; if exception is taken for spaces where the total floor area minus the sidelit zone area is less than 2,500 sf, include percentage of conditioned floor area located within a sidelit daylight zone in calculations		
NA			Provide calculations for percentage of skylight area in each space over 2,500 SF, OR		
NA			Provide calculations for skylight effective aperture (Equation C4-5) for each space over 2,500 SF		
NA			Indicate haze factor of skylight glazing material or diffuser		
NA	C410.2	Walk-in and warehouse cooler and freezer envelope	Indicate insulation R-value in cooler and freezer wall and ceiling assemblies		
NA			Indicate cooler and freezer door insulation R-value; indicate method of minimizing infiltration (strip doors, curtains, spring-hinged doors, etc); provide automatic door closure (or note exception taken)		
NA			For transparent reach-in doors and fixed windows, indicate number of glass panes (double or triple pane); identify whether the interstitial spaces between panes is filled with inert gas or if panes are heat-reflective treated glass		
ADDITIONAL EFFICIENCY CREDITS - ENHANCED ENVELOPE PERFORMANCE					

Building Envelope Requirements List, pg 6 of 9

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NA	C406.10	Enhanced envelope performance	To comply with additional efficiency credit, demonstrate envelope thermal performance compliance via component performance; provide WSEC envelope compliance reports that demonstrate Proposed Total UA is 15% lower than the Allowable Total UA		
AIR LEAKAGE					
YES	C402.5.1.1	Air barrier construction and sealing	Identify location and provide diagram of continuous air barrier in plans and sections	BE800's	
YES			Provide details for all joints, transitions in materials, penetrations in air barrier and note method of sealing (caulked, gasketed, or other approved method)	BE800's	
NA	C402.5.3 C402.1.3 C402.1.4	Rooms containing fuel burning space conditioning appliances	For room(s) located within the conditioned space that contain non-direct vent fuel-burning appliances that require outdoor air for combustion, indicate method of isolation from the conditioned space; include sealing of walls, floor and ceiling of room, doorway gasketting and sealing around ductwork and piping penetrations		
NA			Indicate walls, floor and ceiling of the room envelope are insulated to the semt level required for exterior envelope, and combustion air ductwork that passes thru conditioned space is insulated to at least R-8		
YES	C402.5.4	Doors and access openings to shafts, chutes, stairways and elevator lobbies	Indicate locations of all doors and access openings to shafts, chutes, stairways and elevator lobbies	A101 - A107	
YES			Indicate method of sealing of these openings (gasketing, weatherstripping, other sealing method); or exception taken	A101 - A107	
NA	C402.5.5 C403.7.8	Outdoor air intakes, exhausts and relief openings	Indicate locations of all stairway enclosure, elevator shaft and building pressurization relief openings, outside air intakes and exhaust openings		
NA			Note in envelope plans that all relief, outside air intake and exhaust openings shall be provided with dampers in accordance with Mechanical Section C403.7.8		
YES	C402.5.8	Recessed lighting in building envelope	Indicate method of sealing between light fixture housing and wall or ceiling	BE800's	
YES			Note in envelope plans that all recessed lighting fixtures shall be IC rated and have an air leakage rating not greater than 2 cfm per ASTM E283 test; include these requirements in lighting fixture schedules	BE800's	
NA	C402.5.6	Loading dock seals	Indicate weather seal at cargo and loading dock doors		

Building Envelope Requirements List, pg 7 of 9

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YES	C402.5.7	Vestibules	Indicate locations and dimensions of vestibules for building entrances; also indicate vestibule information for exit-only doors in buildings where separate doors for entering and exiting are provided	A-101	
NA			Indicate locations of all building entrances and exit-only doors provided with an air curtain in lieu of a vestibule		
YES			Indicate exception and criteria utilized for all building entrances and exit-only doors that do not have a vestibule or air curtain	BE800's	
YES			Indicate required performance for air curtains installed per Exception 7	BE800's	
NA			For unconditioned vestibules, indicate which envelope assembly (interior or exterior) complies with the requirements for a conditioned space		
YES	C103.2 C402.5.1.2C 402.5.1.2.1 R402.4.1.2	Building enclosure air leakage test	Indicate in project documents that building enclosure air leakage testing is required for WSEC compliance	BE800's	
YES			Provide area calculations that account for all six sides of the air barrier boundaries	BE800's	
NA			For commercial buildings, indicate that building enclosure air leakage testing shall be performed per ASTM C779 (or equivalent method approved by the code official) and the target leakage rate is 0.25 cfm/ft2 (1.5 L/s*m2) at 0.3 in. wg (75 Pa)		
YES			If the building is mixed residential / commercial and three stories or less above grade plane, indicate which building enclosure air leakage test procedure will be used for the Group R-2 / R-3 areas (Section R402.4.1.2 or C402.5.1.2); if per R402.4.1.2, indicate that the target leakage rate is 5 air changes per hour at 0.2 in. wg (50 Pa)	BE800's	
NA			Include the following requirements in project documents: (1) Submit building enclosure air leakage test reports to jurisdiction and owner; (2) If initial test result exceeds 0.25 cfm/ft2 (1.5 L/s*m2), indicate that inspection and all practical corrective actions be completed and documented in the air leakage test report; (3) If initial test result exceeds 0.40 cfm/ft2 (2.0 L/s*m2), indicate that corrective actions shall also include re-testing; (4) Indicate that corrective measures and retesting must be repeated until the test result is 0.40 cfm/ft2 (2.0 L/s*m2) or less; (4) Include air barrier test report in project close out documentation provided to building owner.		
ADDITIONAL EFFICIENCY CREDITS - REDUCED AIR INFILTRATION					

Building Envelope Requirements List, pg 8 of 9

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NA	C406.9	Reduced air infiltration	To comply with additional efficiency credit, indicate in project documents that the building enclosure air leakage test results shall not exceed 0.17 cfm/ft2 at 0.3 in. wg (75 Pa); all documentation requirements per C103.2 and C402.5.1.2 apply		
ALTERATIONS					
NA	C503.1 C503.3.1	Roof alteration - insulation	For a roof alteration where existing ceiling cavities are exposed, indicate cavities are insulated to full depth at minimum nominal value of R-3.0 per inch		
NA			For a roof covering replacement where insulation is installed entirely above the roof deck, indicate insulation complies with requirements for new construction per Tables C402.1.3 or C402.1.4		
NA	C503.1	Wall and f'loor alteration - insulation	For a wall or floor alteration (floor over outdoor or unconditioned space) where existing envelope cavities are exposed, indicate cavities are insulated to full depth at minimum nominal value of R-3.0 per inch		
NA	C503.3.2	Addition of vertical fenestration	Where the addition of new vertical fenestration results in a window-to-wall ratio (WWR) exceeding the prescriptive maximum allowed per C402.4.1, demonstrate method of compliance (prescriptive vertical fenestration alternate, component performance with target area adjustment for the alteration area and existing-to-remain areas combined, or total building performance per C407); demonstrate for each space conditioning category separately		
NA	C503.3.3	Addition of skylights	Where the addition of new skylights results in a skylight-to-roof ratio (SRR) exceeding the prescriptive maximum allowed per C402.4.1, demonstrate method of compliance (component performance compliance with target area adjustment for the alteration area and existing-to-remain areas combined, or total building performance per C407), demonstrate for each space conditioning category separately		
NA	C103.2 C103.6.3 C503.2 C505.1	Change in space conditioning or occupancy compliance documentation	Indicate envelope alteration thermal performance compliance path (prescriptive or component performance with 110% allowance); provide WSEC envelope compliance reports		
NA	C103.2 C103.6.3 C503.2C 505.1	Change in space conditioning or occupancy compliance documentation	If complying via total building performance with 110% allowance, provide a list of all proposed envelope component types, areas and U-values		
PROJECT CLOSE OUT DOCUMENTATION					

Building Envelope Requirements List, pg 9 of 9

2018 WSEC Requirements for Commercial Buildings including Group R2, R3 & R4 over 3 stories & all R1 -- Administered by ©2024 NEEA, All rights reserved
The following information is necessary to check a building permit application for compliance with the building envelope requirements in the Washington State Energy Code, Commercial Provisions.
For questions about this report, contact WSEC Commercial Technical Support at 360-539-5300 or via email at com.techsupport@waenergycodes.com

YES	C103.6.3	Project close out documentation requirements	Indicate in plans that project close out documentation is required including applicable calculations, WSEC envelope compliance reports, and fenestration NFRC rating certificates	BE900's	
If "no" is selected for any question, provide explanation.					

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PERMIT SET

10/17/2024

KEY PLAN

JAMES C. FREELING, ENGINEER

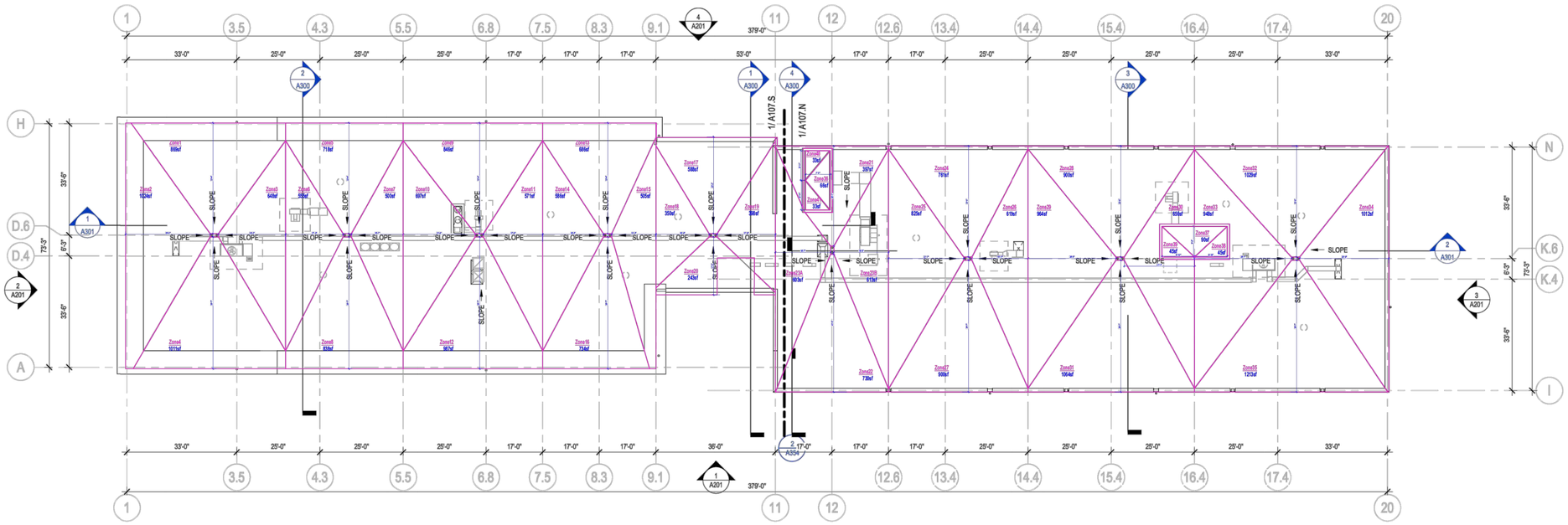
THE UNDERSIGNED HAS PROVIDED BUILDING ENCLOSURE DOCUMENTS THAT IN MY PROFESSIONAL JUDGMENT ARE APPROPRIATE TO SATISFY THE REQUIREMENTS OF RCW 64.55.005 THROUGH 64.55.090."

△	DATE	DESCRIPTION
1	11/04/22	PERMIT CORRECTIONS 01
2	06/14/24	PERMIT CORRECTIONS 02
3	10/17/24	PERMIT CORRECTIONS 03

1903-1005
PM: DENIN DAZEY
DD: ERIC JONES
10/17/24

BUILDING ENVELOPE ENERGY FORMS

G302



1 ROOF PLAN

SCALE: 1/16" = 1'-0"

Zone	Length of slope	Min. Slope per 1'	L*slope	R-value per 1 in	hmin, in	Rmin	hmax= hmin+(L*slope)	Rmax= (R per 1 in)*hmax	Reff	Deck U-value= 1/Reff	Type of Slope	R, cavity insulation	R-cavity + R-deck	U-value,	A, sq.ft
1	33.33	0.25	8.33	5	4	20	12	60	44	0.02	2	30	75	0.013	869
2	25.42	0.25	6.35	5	4	20	10	50	39	0.03	2	30	70	0.014	1024
3	20.17	0.25	5.04	5	4	20	9	45	36	0.03	2	30	67	0.015	648
4	39.58	0.25	9.90	5	4	20	14	70	50	0.02	2	30	80	0.013	1011
5	33.33	0.25	8.33	5	4	20	12	60	44	0.02	2	30	75	0.013	718
6	17.25	0.25	4.31	5	4	20	8	40	33	0.03	2	30	63	0.016	555
7	15.58	0.25	3.90	5	4	20	8	40	33	0.03	2	30	63	0.016	500
8	39.58	0.25	9.90	5	4	20	14	70	50	0.02	2	30	80	0.013	838
9	33.33	0.25	8.33	5	4	20	12	60	44	0.02	2	30	75	0.013	846
10	21.67	0.25	5.42	5	4	20	9	45	36	0.03	2	30	67	0.015	697
11	17.75	0.25	4.44	5	4	20	8	40	33	0.03	2	30	63	0.016	571
12	39.58	0.25	9.90	5	4	20	14	70	50	0.02	2	30	80	0.013	987
13	33.33	0.25	8.33	5	4	20	12	60	44	0.02	2	30	75	0.013	686
14	18.25	0.25	4.56	5	4	20	9	45	36	0.03	2	30	67	0.015	586
15	13.25	0.25	3.31	5	4	20	7	35	30	0.03	2	30	61	0.016	505
16	39.58	0.25	9.90	5	4	20	14	70	50	0.02	2	30	80	0.013	734
17	29.17	0.25	7.29	5	4	20	11	55	41	0.02	2	30	72	0.014	588
18	16.00	0.25	4.00	5	4	20	8	40	33	0.03	2	30	63	0.016	350
19	17.50	0.25	4.38	5	4	20	8	40	33	0.03	2	30	63	0.016	398
20	17.42	0.25	4.35	5	4	20	8	40	33	0.03	2	30	63	0.016	243
21	0.00	0.5	0.00	5	4	20	4	20	20	0.05	2	30	51	0.02	397
22	0.00	0.5	0.00	5	4	20	4	20	20	0.05	2	30	51	0.02	730
23	16.58	0.25	4.15	5	4	20	8	40	33	0.03	2	30	63	0.016	1216
24	33.42	0.25	8.35	5	4	20	12	60	44	0.02	2	30	75	0.013	761
25	22.58	0.25	5.65	5	4	20	10	50	39	0.03	2	30	70	0.014	825
26	16.92	0.25	4.23	5	4	20	8	40	33	0.03	2	30	63	0.016	619
27	39.58	0.25	9.90	5	4	20	14	70	50	0.02	2	30	80	0.013	900
28	33.42	0.25	8.35	5	4	20	12	60	44	0.02	2	30	75	0.013	900
29	26.42	0.25	6.60	5	4	20	11	55	41	0.02	2	30	72	0.014	964
30	21.08	0.25	5.27	5	4	20	9	45	36	0.03	2	30	67	0.015	656
31	39.58	0.25	9.90	5	4	20	14	70	50	0.02	2	30	80	0.013	1064
32	33.42	0.25	8.35	5	4	20	12	60	44	0.02	2	30	75	0.013	1029
33	29.08	0.25	7.27	5	4	20	11	55	41	0.02	2	30	72	0.014	948
34	26.75	0.25	6.69	5	4	20	11	55	41	0.02	2	30	72	0.014	1012
35	39.58	0.25	9.90	5	4	20	14	70	50	0.02	2	30	80	0.013	1213
36	7.42	0.25	1.85	5	4	20	6	30	26	0.04	2	30	57	0.018	66
37	9.58	0.25	2.40	5	4	20	6	30	26	0.04	2	30	57	0.018	90
38	9.83	0.25	2.46	5	4	20	6	30	26	0.037	2	30	57	0.018	45
39	9.83	0.25	2.46	5	4	20	6	30	26	0.037	2	30	57	0.018	45
40	8.92	0.25	2.23	5	4	20	6	30	26	0.037	2	30	57	0.018	33
41	8.92	0.25	2.23	5	4	20	6	30	26	0.037	2	30	57	0.018	33

PLAN VIEWS WERE TAKEN FROM ARCHITECTURAL SET DATED 05.20.2024 . THEY ARE DIAGRAMMATIC AND SHOULD NOT BE USED FOR MATERIAL TAKE-OFFS. FINAL BUILDING PLANS SHOULD BE VERIFIED.

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10/17/2024

KEY PLAN

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1903-1005
PM: DENIN DAZEY
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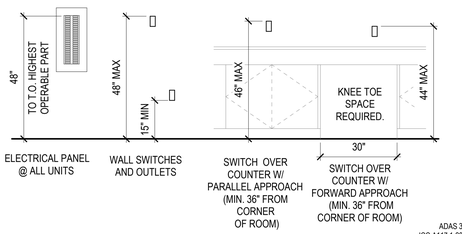
10/17/24

BUILDING ENVELOPE ENERGY FORMS

G303

ACCESSIBILITY - GENERAL NOTES:

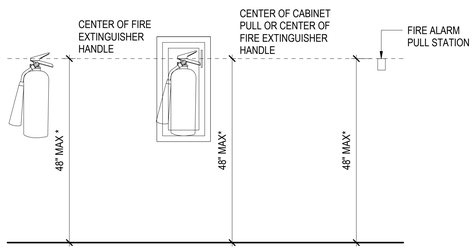
1. ROUTES SHALL BE A MINIMUM OF 36 " ON INTERIOR ROUTES AND 44 " ON EXTERIOR ROUTES AND BE FREE OF ALL OBJECTS THAT PROTRUDE MORE THAN 4" INTO THE ROUTE BETWEEN 27" AFF AND 80" AFF, INCLUDING FIRE EXTINGUISHER CABINETS, MAILBOXES, WALL-MOUNTED TELEVISIONS, DRINKING FOUNTAINS, ETC.
2. ALL ACCESSIBLE RAMPS SHALL HAVE MAXIMUM SLOPES OF 1:12 ALONG THE SLOPED SURFACE.
3. ALL PUBLIC EXTERIOR DOOR FORCES SHALL MEET 10 POUNDS OF FORCE OR LESS; INTERIOR DOOR FORCES SHALL MEET 5 POUNDS OR LESS; OR COMPLY WITH WAC 1106.10.5. INTERIOR DOOR HARDWARE IN ALL CONDITIONS (EXCLUDING NON-PUBLIC AREAS) SHALL BE EASILY USABLE WITH ONE HAND AND NOT REQUIRE TIGHT GRIPPING OR TWISTING.
4. DOORS ON AN ACCESSIBLE ROUTE, UNIT ENTRY/EXTERIOR DOORS AND TYPE A INTERIOR DOORS MUST HAVE A 32" CLEAR OPENING WHEN OPEN AT 90 DEGREES TO THE FRAME. TYPE B UNIT INTERIOR DOORS MAY HAVE A 31 3/4" CLEAR OPENING. CAUTION SHOULD BE TAKEN IN THE SELECTION OF SLIDING DOORS ON ACCESSIBLE ROUTES TO CONFIRM THE CLEAR OPENINGS COMPLY. HARDWARE TO BE ACCESSIBLE.
5. DOORS ON AN ACCESSIBLE ROUTE, UNIT ENTRY/EXTERIOR DOORS (TYPE A & TYPE B) AND TYPE A INTERIOR DOORS MUST HAVE ACCESSIBLE MANEUVERING CLEARANCE ON EACH SIDE OF THE DOOR PER 2009 ICC/ANSI A117.1 SECTION 404. TYPE B UNIT INTERIOR DOORS ARE NOT REQUIRED TO HAVE MANEUVERING CLEARANCE AT DOORS.
6. EXTERIOR DOOR THRESHOLDS IN TYPE A UNITS, AND COMMON AREAS SHALL BE ACCESSIBLE UP TO A MAXIMUM OF 1/2", BEVELED 1:2, FOR SWING DOORS AND UP TO 3/4 " FOR SLIDING DOORS. EXTERIOR DOOR THRESHOLDS IN TYPE B UNITS SHALL BE ACCESSIBLE UP TO A MAXIMUM OF 1/2 ", BEVELED 1:2, FOR SWING DOORS AND UP TO 3/4 " FOR SLIDING DOORS. TYPE B UNIT DECKS AND BALCONIES WITH IMPERVIOUS SURFACES MAY HAVE A TRANSITION OF UP TO 4" DROP FROM THE INTERIOR UNIT LEVEL TO THE DECK AND BE DESIGNED TO ALLOW A RAISED PLATFORM TO BE INSTALLED IN THE FUTURE. ASSOCIATED GUARD HEIGHT TO BE EXTENDED TO 42" AFF AS APPLICABLE.
7. PROVIDE 'LEVEL' LANDINGS (MAX SLOPE 1:48 OR 2%) AT ALL EXTERIOR ENTRANCE DOORS TO THE BUILDING, INCLUDING RETAIL SPACES, FROM THE SIDEWALK OF AT LEAST 60" X 60" THAT PROVIDE ACCESSIBLE MANEUVERING CLEARANCE ORIENTED TO THE ENTRANCE DOOR.
8. FLOOR TEXTURES IN PUBLIC AREAS AND TYPE A DWELLING UNITS MUST BE FIRM, STABLE AND SLIP-RESISTANT.
9. JOINTS BETWEEN EXTERIOR MATERIALS AND OPENINGS IN FLOOR SURFACES SHALL COMPLY WITH 2009 ICC/ANSI A117.1 SECTION 302.
10. SIGNS THAT IDENTIFY PERMANENT ROOMS AND SPACES SHALL HAVE TACTILE, RAISED AND BRAILLE CHARACTERS AND PICTOGRAMS. THESE SIGNS SHALL BE MOUNTED 60 " AFF TO THE BOTTOM OF THE TOP MOST LETTERS AND NOT LESS THAN 48" AFF TO THE BOTTOM OF THE LOWEST BRAILLE CELLS. SIGN SHALL BE LOCATED ON THE LATCH SIDE OF THE DOOR. SIGNS CONTAINING RAISED CHARACTERS AND BRAILLE SHALL BE LOCATED SO THAT A CLEAR FLOOR AREA 18" MIN BY 18" MIN CENTERED ON THE RAISED CHARACTERS IS PROVIDED BEYOND THE ARC OF ANY DOOR SWING BETWEEN THE CLOSED POSITION AND 45° OPEN POSITION. SEE 2009 ICC/ANSI A117.1 SECTION 703.3 FOR MORE DETAIL.
11. TRANSITIONS BETWEEN FLOOR MATERIALS SHALL BE LEVEL, VERTICAL UP TO 1/4 " OR BEVELED 1:2 UP TO 1/2".
12. TRASH DISPOSAL UNITS MUST BE ON AN ACCESSIBLE ROUTE, HAVE CONTROLS WITHIN THE REACH RANGE, HAVE A CLEAR FLOOR SPACE OF 30 " X 48" FOR EITHER A FORWARD OR SIDE APPROACH TO ALLOW USE OF THE DISPOSAL UNIT, CENTERED ON THE CONTROLS AND BE OPERABLE WITH ONE HAND AND SHALL NOT REQUIRE TIGHT PINCHING, GRASPING OR TWISTING. THE FORCE TO OPERATE THE UNIT CONTROLS SHALL BE 5 POUNDS MAXIMUM.
13. ALL PUBLIC OR COMMON USE TOILET ROOMS MUST HAVE GRAB BARS INSTALLED.
14. TWO-WAY COMMUNICATION SYSTEMS MUST HAVE BOTH AUDIBLE AND VISUAL INDICATORS AT ALL STATIONS.
15. 5% OF ALL STORAGE UNITS SHALL BE ACCESSIBLE, HAVING AN ACCESSIBLE DOOR (MANEUVERING CLEARANCE, USER PASSAGE WIDTH AND HARDWARE) ON AN ACCESSIBLE ROUTE. ACCESSIBLE STORAGE MUST BE WITHIN ACCESSIBLE REACH RANGE.
16. CENTER OF SURFACE MOUNT FIRE EXTINGUISHER HANDLE, CENTER OF FIRE EXTINGUISHER CABINET PULL, AND CENTER OF CABINET PULL FOR CABINET MOUNTED FIRE EXTINGUISHER, TO BE MOUNTED AT 48" A.F.F., MAXIMUM.
17. ACTIVATING HANDLE OR LEVER OF MANUAL FIRE ALARM PULL STATIONS TO BE MOUNTED AT 48" A.F.F., MAXIMUM.
18. COMMON AREA DOORS ALONG AN ACCESSIBLE ROUTE SHALL HAVE A MAX. THRESHOLD HEIGHT OF 1/2" WITH 1:2 BEVELS.
19. ALL REQUIRED HORIZONTAL GRAB BARS IN THE SAME SHOWER COMPARTMENT MUST BE INSTALLED AT THE SAME HEIGHT ABOVE THE FLOOR.
20. THE CITY OF SEATTLE INTERPRETS THE 2008 NEC (THE CURRENT ELECTRICAL CODE FOR DISCONNECTS) SUCH THAT TYPE "A" UNIT CIRCUIT BREAKER PANELS NEED TO BE WITHIN THE 48" REACH RANGE. THIS IS COUNTER TO WHAT ICC/ANSI A117.1 SECTION 1003.9 SAYS, INCLUDING THE ICC/ANSI CODE COMMENTARY. INSTALLATION TO ADHERE TO THE CITY OF SEATTLE INTERPRETATION. TYPE "B" UNIT CIRCUIT BREAKER PANELS SHALL BE 48" AFF MAX.



ADAS 309
ICC A117.1-2009

5 MOUNTING HEIGHTS - ELECTRICAL AND CONTROLS

SCALE: 1/2" = 1'-0"



* PROVIDE A CLEAR FLOOR SPACE IS PROVIDED COMPLYING WITH SECTION 305

FOR CABINET MOUNTED FIRE EXTINGUISHERS, THE HIGHEST OPERABLE ELEMENT SHALL ESTABLISH THE HEIGHT OF THE CABINET INSTALLATION.

MAXIMUM OPERABLE ELEMENT = CENTER OF CABINET PULL OR CENTER OF FIRE EXTINGUISHER HANDLE - SHALL BE 48" AFF, MAXIMUM.

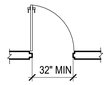
ICC A117.1-2009
SECTION 308 & 309

9 FIRE EXTINGUISHER AND ALARM

SCALE: 3/4" = 1'-0"

NOTES - PUBLIC AND COMMON USE SPACES:
1. FOR DOORS IN ALCOVES SEE ICC A117.1-2009
2. SINGLE LEAF MUST PROVIDE 32" CLEAR OPENING

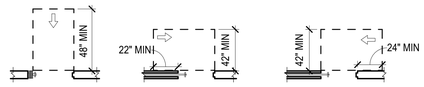
NOTES - TYPE "A" AND TYPE "B" UNITS :
1. FOR DOORS IN ALCOVES SEE ICC A117.1-2009
2. SINGLE LEAF MUST PROVIDE 32" CLEAR OPENING
3. ANY SPACE DEEPER THAN 24" MUST HAVE A USER PASSAGE DOOR. USER PASSAGE DOORS REQUIRE 32" CLEAR OPENING.
4. MANEUVERING CLEARANCE NOT REQUIRED AT THE INTERIOR SIDE OF NON-ACCESSIBLE BATHS OR AT THE OUTSIDE OF NON-PRIMARY EXTERIOR BALCONY DOORS.



CLEAR OPENING REQUIREMENTS

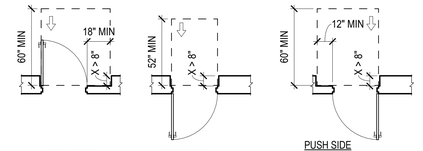
32" MIN SINGLE LEAF @ DOUBLE LEAF DOORS

MANEUVERING CLEARANCES AT SLIDING AND FOLDING DOORS



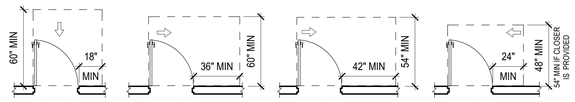
FRONT APPROACH | POCKET OR HINGE APPROACH | STOP OR LATCH APPROACH

MANEUVERING CLEARANCES AT RECESSED DOORS

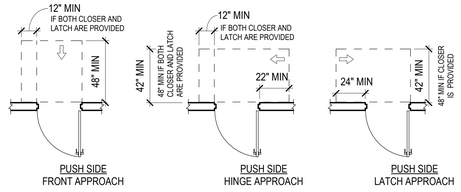


PULL SIDE | PUSH SIDE | PUSH SIDE WITH CLOSER AND LATCH

MANEUVERING CLEARANCES AT MANUAL SWINGING DOORS



PULL SIDE FRONT APPROACH | PULL SIDE HINGE APPROACH A | PULL SIDE HINGE APPROACH B | PULL SIDE LATCH APPROACH



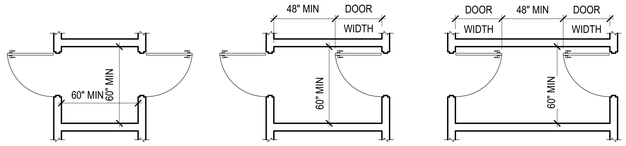
PUSH SIDE FRONT APPROACH | PUSH SIDE HINGE APPROACH | PUSH SIDE LATCH APPROACH

- ALL DOORS IN COMMON USE AND PUBLIC AREAS
- TYPE "A" UNITS - ALL DOORS INTENDED FOR USER PASSAGE
- TYPE "B" UNITS - MAIN ENTRY DOORS ONLY

ICC A117.1-2009
SECTION 404.2.3

1 DOOR MANEUVERING CLEARANCES

SCALE: 1/4" = 1'-0"

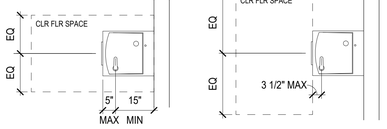


ICC A117.1-2009
SECTION 404.2.5

6 MANEUVERING CLEARANCES FOR TWO DOORS IN A SERIES

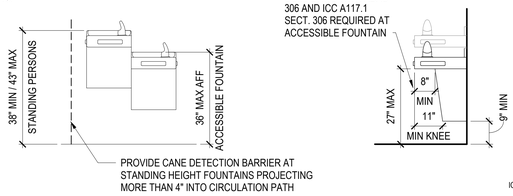
SCALE: 1/4" = 1'-0"

NOTES:
1. ACCESSIBLE DRINKING FOUNTAINS SHALL COMPLY WITH CLEAR FLOOR SPACE, KNEE & TOE CLEARANCES, REACH AND PROTRUDING OBJECTS REQUIREMENTS. SEE GENERAL ADA NOTES.
2. DRINKING FOUNTAINS FOR STANDING PERSONS NEED NOT COMPLY
3. FOUNTAINS PRIMARILY FOR CHILDREN'S USE WHERE THE SPOUT IS 30" MAX AFF & PARALLEL APPROACH IS PERMITTED.
4. PROVIDE WATER FLOW OF 4" MIN HIGH. ANGLE OF THE WATER STREAM FROM SPOUTS LESS THAN 3-1/2" TO FRONT SHALL BE AT 30° MAX, BETWEEN 3-1/2" TO 5" SHALL BE 15° MAX MEASURED HORIZONTALLY FROM FRONT FACE.
5. PROVIDE A MINIMUM OF 27" CLEAR FOR KNEE CLEARANCE AND CANE DETECTION UNDER BOTH FOUNTAINS.



FORWARD APPROACH

PARALLEL APPROACH
PERMITTED IN EXISTING BUILDINGS OR FOR REPLACEMENTS FOR EXISTING FOUNTAINS ONLY



ICC A117.1-2009
SECTION 602
ADAS SECTION 306

10 DRINKING FOUNTAINS - ACCESSIBLE

SCALE: 1/2" = 1'-0"

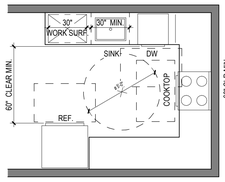


FIG. 804.2.2 - U-SHAPE KITCHEN CLEARANCE FOR ACCESSIBLE UNITS
FIG. 1003.12.1.2 - U-SHAPE KITCHEN CLEARANCE FOR TYPE B UNITS

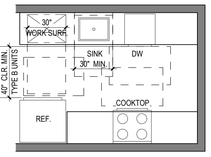
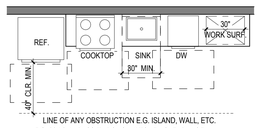
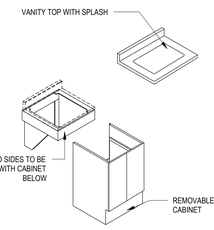


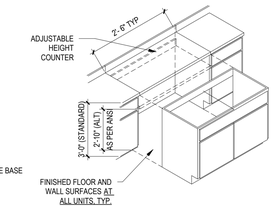
FIG. 804.2.2 - U-SHAPED KITCHEN CLEARANCE FOR ACCESSIBLE UNITS
FIG. 1003.12.1.1 - MIN. KITCHEN CLEARANCES FOR TYPE B UNITS

RESIDENTIAL UNIT KITCHENS



LINE OF ANY OBSTRUCTION E.G. ISLAND, WALL, ETC.
FIG. 804.2.1 - PASS-THROUGH KITCHEN CLEARANCE FOR ACCESSIBLE UNITS
FIG. 1003.12.1.1 - MIN. KITHCNEN CLEARANCE FOR TYPE B UNITS



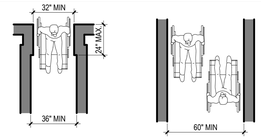


OWNER TO PROVIDE ADA COMPLIANT REFRIDGERATOR TO MAINTAIN 40" CLEARANCE IN KITCHEN WALKING AISLE IN UNITS LEASED TO TENANTS IN WHEELCHAIRS

THE MAXIMUM ADJUSTABLE HEIGHT SHALL BE 48" FOR AT LEAST 1 SHELF OF ALL CABINETS AND STORAGE SHELVES MOUNTED ABOVE THE WORK COUNTER.

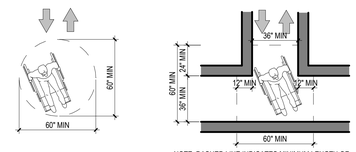
2 ACCESSIBLE KITCHEN AND BATHROOM VANITY

SCALE: 1/4" = 1'-0"



3. MINIMUM CLEAR WIDTH FOR SINGLE WHEELCHAIR

4. MINIMUM CLEAR WIDTH FOR TWO WHEELCHAIRS



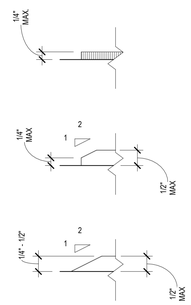
5.(A) WHEELCHAIR TURNING RADIUS

5.(B) T-SHAPED TURNING RADIUS

NOTE: DASHED LINE INDICATES MINIMUM LENGTH OF CLEAR SPACE ERQUIRED ON EACH ARM OF THE T-SHAPED SPACE IN ORDER TO COMPLETE THE TURN

4 ACCESSIBILITY DIAGRAMS

SCALE: 1/4" = 1'-0"



7 ALLOWABLE CHANGES IN FLOOR LEVELS

SCALE: 6" = 1'-0"

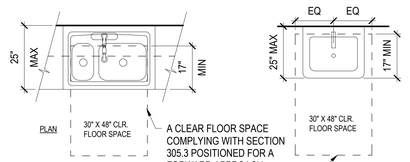
FHA REQ. 2
ICC A117.1-2009 308 & 309
MODEL: 4CADD-10
MANUFACTURER: FLORANCE

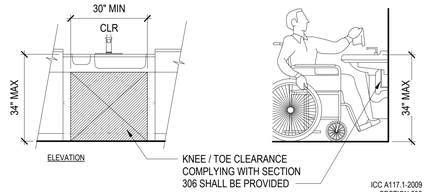
11 MAIL BOXES - ACCESSIBLE & COMMON USE

SCALE: 1/2" = 1'-0"

3 ACCESSIBLE WORK SURFACES

SCALE: 1/2" = 1'-0"



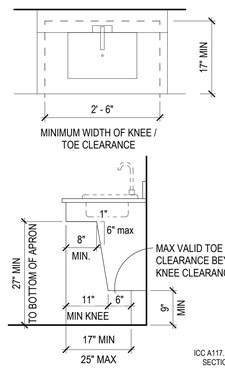


ICC A117.1-2009
SECTION 606

NOTES:
1. THE FRONT OF THE SINK SHALL BE 34" MAX ABOVE THE FLOOR, MEASURED TO THE HIGHER OF THE RIM OF SINK OR COUNTER TOP SURFACE
2. WATER SUPPLY AND DRAIN PIPES SHALL BE INSULATED OR OTHERWISE CONFIGURED TO PROTECT AGAINST CONTACT.
3. THERE SHALL BE NO SHARP OF ABRASIVE SURFACE UNDER LAV OR SINK.
4. THE REQUIREMENT FOR KNEE AND TOE CLEARANCE SHALL NOT APPLY TO MORE THAN ONE BOWL OF A MULTI BOWL SINK.
5. A PARALLEL APPROACH SHALL BE PERMITTED AT WET BARS.
6. A PARALLEL APPROACH SHALL BE PERMITTED TO A KITCHEN SINK IN A SPACE WHERE A COOK TOP OR CONVENTIONAL RANGE IS NOT PROVIDED.

8 ACCESSIBLE LAVATORIES AND SINKS

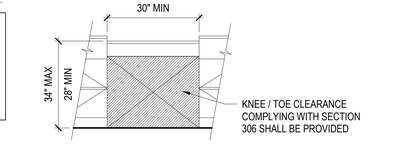
SCALE: 1/2" = 1'-0"



ICC A117.1-2009
SECTION 306

12 KNEE & TOE CLEARANCE COMPLYING WITH ICC A117.1-2009 SECTION 306

SCALE: 3/4" = 1'-0"



PLAN

ELEVATION

ICC A117.1-2009
SECTION 804.3

NOTES:
1. KITCHENS THAT DO NOT PROVIDE A COOKTOP OR CONVENTIONAL RANGE SHALL NOT BE REQUIRED TO PROVIDE AN ACCESSIBLE WORK SURFACE.

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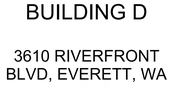
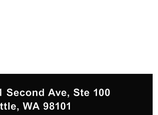


RUSSELL H. HAZZARD, ARCHITECT



10/17/2024

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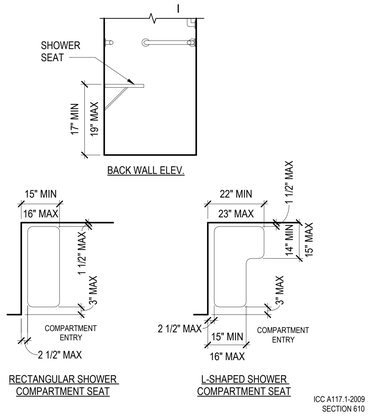


RECTANGULAR SHOWER COMPARTMENT SEAT

L-SHAPED SHOWER COMPARTMENT SEAT

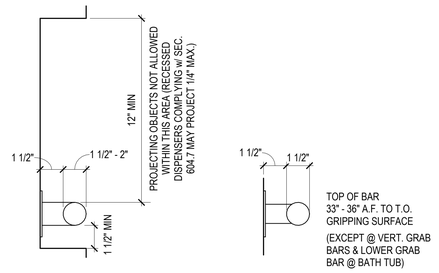
ICC A117.1-2009 SECTION 610

COMPLIANT WITH ICC A117.1-2009 SECTION 610

F1 SHOWER COMPARTMENT SEATS

SCALE: 1/2" = 1'-0"

NOTES:
1. THE SPACE BETWEEN GRAB BARS & SHOWER CONTROLS, SHOWER FITTINGS & OTHER GRAB BARS ABOVE SHALL BE PERMITTED TO BE 1-1/2" MIN.
2. SWING-UP GRAB BARS ARE NOT REQUIRED TO COMPLY WITH REQUIREMENTS FOR PROJECTING OBJECTS
3. ALLOWABLE STRESSES SHALL NOT BE EXCEEDED FOR MATERIALS USED WHERE A VERT. OR HORIZ. FORCE OF 250 LBS IS APPLIED AT ANY POINT ON THE GRAB BAR, FASTENER MOUNTING DEVICE OR SUPPORTING STRUCTURE

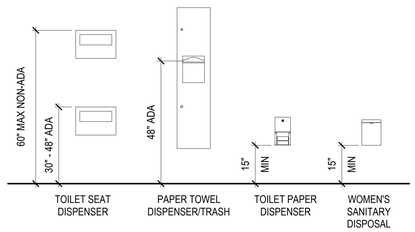


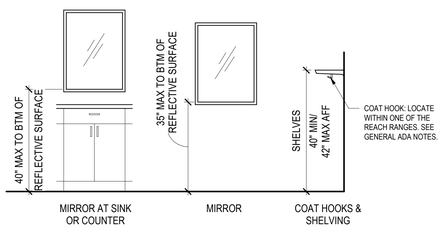
ACCESSIBLE TOILET OR BATHING FACILITY

ICC A117.1-2009 SECTION 609

D1 GRAB BARS

SCALE: 3" = 1'-0"





OPERABLE PARTS ON TOWEL DISPENSERS AND HAND DRYERS SHALL COMPLY WITH THE TABLE BELOW

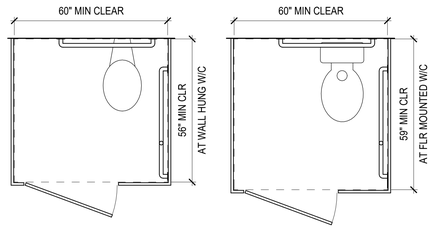
MAXIMUM REACH DEPTH	0.5 INCH	2 INCHES	5 INCHES	6 INCHES	9 INCHES	11 INCHES
MAXIMUM REACH HEIGHT	48 INCHES	46 INCHES	42 INCHES	40 INCHES	36 INCHES	34 INCHES

ICC A117.1-2009

A1 MISC. BATHROOM FIXTURES - ACCESSIBLE

SCALE: 1/2" = 1'-0"

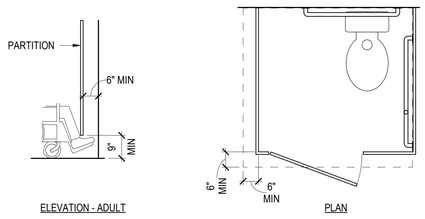
TYPICAL NOTES & CLEAR FLOOR SPACE REQ'S



NOTE:
1. TOILET COMPARTMENT DOORS & HARDWARE SHALL COMPLY WITH ACCESSIBLE DOOR & DOORWAY REQUIREMENTS EXCEPT IF THE APPROACH IS TO THE LATCH SIDE OF THE COMPARTMENT DOOR.
2. THE DOOR SHALL BE SELF-CLOSING
3. A DOOR PULL COMPLYING WITH ACCESSIBLE HARDWARE REQUIREMENTS SHALL BE PLACED ON BOTH SIDES OF THE DOOR NEAR THE LATCH
4. DOORS SHALL NOT SWING INTO THE REQUIRED MIN AREA OF THE COMPARTMENT

ICC A117.1-2009 SECT. 604.9.2 / ADAS 604.8.1

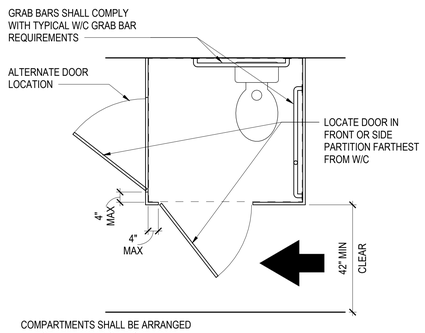
TOE CLEARANCE



NOTE:
1. TOE CLR @ FRONT PARTITION IS NOT REQUIRED IN COMPARTMENT GREATER THAN 62" FOR WALL-HUNG W/C OR GREATER THAN 65" IN DEPTH WITH A FLOOR-MOUNTED W/C.
2. TOE CLEAR @ SIDE PARTITION NOT REQUIRED IN COMPARTMENTS GREATER THAN 66" IN WIDTH

ICC A117.1-2009 SECT. 604.9.5 / ADAS 604.8.1.4

DOOR & APPROACH REQ'S



COMPARTMENTS SHALL BE ARRANGED FOR LEFT-HAND OR RIGHT-HAND APPROACH TO THE W/C

ICC A117.1-2009 SECT. 604.9.3 / ADAS 604.8.1.2

A3 ACCESSIBLE TOILET COMPARTMENTS

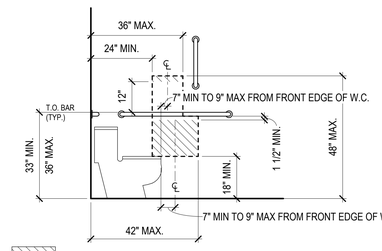
SCALE: 1/2" = 1'-0"

WALL HUNG TYPE

ICC A117.1-2009 SECTION 605

E5 ACCESSIBLE URINALS

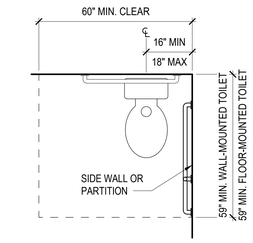
SCALE: 1/2" = 1'-0"



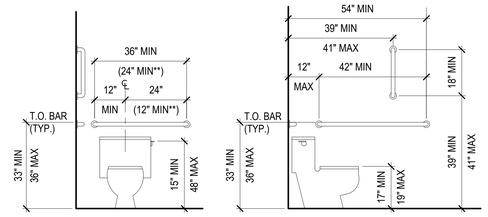
ICC A117.1-2009 SECTIONS 604.2 & 604.5

C5 ACCESSIBLE TOILET PAPER DISPENSER LOCATIONS

SCALE: 1/2" = 1'-0"



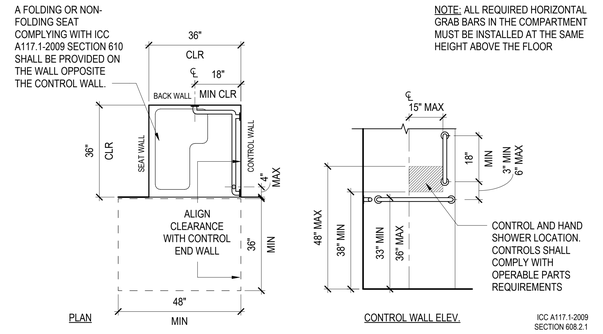
NOTE:
**REAR GRAB BAR IS PERMITTED TO BE 24" CENTERED ON THE W.C. WHERE WALL SPACE DOES NOT PERMIT 36" MIN LENGTH DUE TO THE LOCATION OF A RECESSED FIXTURE ADJACENT TO THE W.C.



ICC A117.1-2009 SECTIONS 604.2 & 604.5

A5 ACCESSIBLE WATER CLOSETS AND GRAB BARS

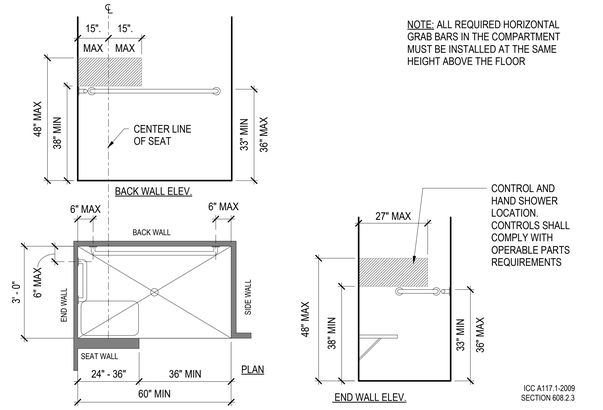
SCALE: 1/2" = 1'-0"



ICC A117.1-2009 SECTION 608.2.1

F7 ACCESSIBLE TRANSFER TYPE SHOWER COMPARTMENTS

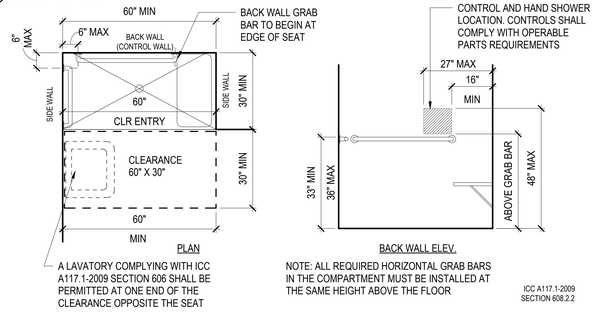
SCALE: 1/2" = 1'-0"



ICC A117.1-2009 SECTION 608.2.3

D7 ACCESSIBLE ALTERNATE ROLL-IN SHOWER

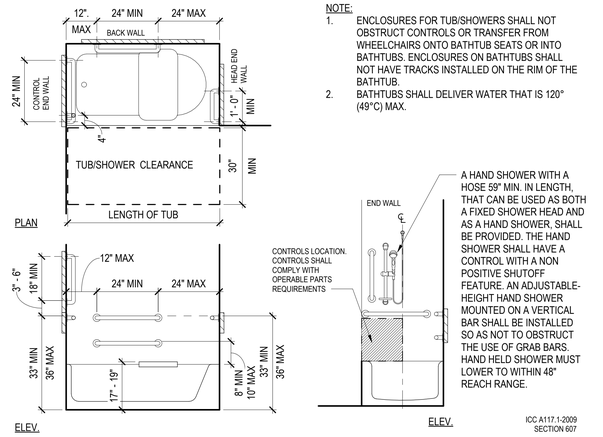
SCALE: 1/2" = 1'-0"



ICC A117.1-2009 SECTION 608.2.2

C7 ACCESSIBLE - STANDARD ROLL-IN TYPE SHOWERS

SCALE: 1/2" = 1'-0"



NOTE:
1. ENCLOSURES FOR TUB/SHOWERS SHALL NOT OBSTRUCT CONTROLS OR TRANSFER FROM WHEELCHAIRS ONTO BATHTUB SEATS OR INTO BATHTUBS. ENCLOSURES ON BATHTUBS SHALL NOT HAVE TRACKS INSTALLED ON THE RIM OF THE BATHTUB.
2. BATHTUBS SHALL DELIVER WATER THAT IS 120° (49°C) MAX.

ICC A117.1-2009 SECTION 607

A7 ACCESSIBLE TUB/SHOWERS WITHOUT FIXED SEATS

SCALE: 1/2" = 1'-0"

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KEY PLAN

RUSSELL H. HAZZARD, ARCHITECT

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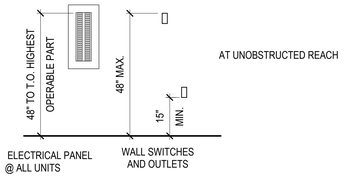
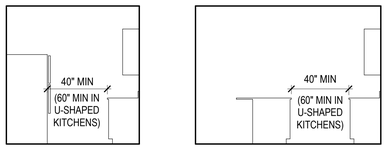
GENERAL NOTES- RESIDENTIAL UNITS

1. ALL RESIDENTIAL DWELLING UNITS ARE CONSIDERED COVERED UNITS UNDER THE FAIR HOUSING ACT DESIGN MANUAL (FHADM). ALL RESIDENTIAL DWELLING UNITS ARE EITHER TYPE "A" UNITS OR TYPE "B" UNITS COVERED UNDER ICC A117.1-2009. TYPE "A" RESIDENTIAL DWELLING UNITS SHALL COMPRISE 5% OF TOTAL NUMBER OF RESIDENTIAL DWELLING UNITS PROVIDED.
2. IN TYPE "A" AND TYPE "B" UNITS, GRAB BARS ARE NOT REQUIRED TO BE INSTALLED WHERE REINFORCEMENT IS INSTALLED FOR FUTURE INSTALLATION OF GRAB BARS. GRAB BAR REINFORCEMENT TO BE INSTALLED PER FHADM CH. 6 AND ICC A117.1-2009.
3. IN TYPE "A" AND TYPE "B" UNITS, REINFORCEMENT FOR THE WATER CLOSET SIDE WALL VERTICAL GRAB BAR IS NOT REQUIRED.
4. AT LEAST 50 PERCENT OF SHELF SPACE IN CABINETS SHALL COMPLY WITH SECTION 905.
5. 'REMOVABLE' CABINETRY SHALL BE ABLE TO BE REMOVED WITHOUT REMOVING THE COUNTER TOP / WORK SURFACE. SIDES OF ADJACENT CABINETS TO BE FINISHED PER CABINET FACE, AND FINISH FLOORING AND FINISH PAINTING/WALL SURFACING SHALL EXTEND BENEATH / BEHIND REMOVABLE CABINETRY.
6. ELECTRICAL OUTLETS IN TYPE "A" AND TYPE "B" KITCHENS AND BATHS SHALL HAVE CLEAR FLOOR SPACE FOR EITHER A FORWARD OR PARALLEL APPROACH. GENERAL RULE OF THUMB IS TO PLACE OUTLETS NO CLOSER THAN 36 " FROM INTERIOR CORNERS OF KITCHEN OR 12" FROM OBSTRUCTIONS (COUNTER OR APPLIANCES). OUTLETS OVER COUNTERS SHALL BE 44" MAXIMUM AFF. ONLY 1 INACCESSIBLE OUTLET IN EACH KITCHEN CAN BE PROVIDED ABOVE COUNTER TOP BETWEEN APPLIANCES AND FIXTURES.



F1 ELECTRICAL AND CONTROLS - TYPE "A" AND "B"

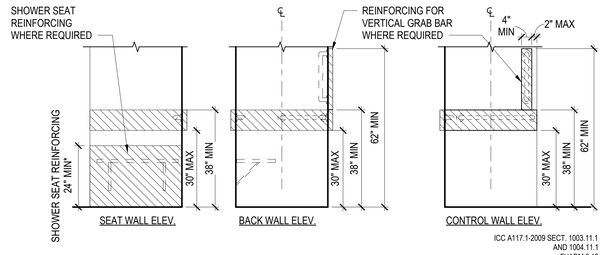
SCALE: 1/2" = 1'-0"



ICC A117.1-2009 SECT. 1003.12 & 1004.12 FHADM CH. 7-7.7

E1 RESIDENTIAL UNIT KITCHEN CLEARANCE

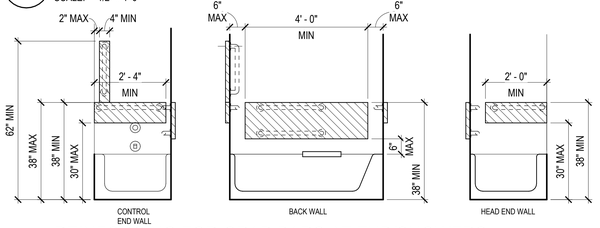
SCALE: 1/4" = 1'-0"



ICC A117.1-2009 SECT. 1003.11.1 AND 1004.11.1 FHADM 6.12

C1 REINFORCING FOR GRAB BARS AND SEAT AT SHOWER COMPARTMENTS - TYPE "A" AND "B" UNITS

SCALE: 1/2" = 1'-0"



B1 REINFORCING FOR GRAB BARS AT TUB/SHOWERS - TYPE "A" AND TYPE "B" UNITS

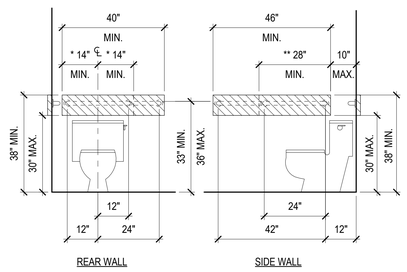
ICC A117.1-2009 SECT. 1003.11.1 AND 1004.11.1 FHADM 6.9

SCALE: 1/2" = 1'-0"

NOTE:
PROVIDE BLOCKING FOR FUTURE GRAB BAR INSTALLATION.

*AT TYPE "A" UNITS WHEN LAVATORY OVERLAPS WATER CLOSET PER EXCEPTION 1003.11.2.4.4 AND TYPE "B" UNITS - WHERE SPACE WILL NOT ALLOW A 36" REAR WALL GRAB BAR, REINFORCEMENT FOR A 24" REAR WALL GRAB BAR SHALL BE PROVIDED AT *MINIMUM LENGTH SHOWN.

**AT TYPE "B" UNITS ONLY - WHERE A SIDE WALL IS NOT AVAILABLE FOR A 42 INCH GRAB BAR, REINFORCEMENT FOR A 24 INCH GRAB BAR SHALL BE PROVIDED AT *MINIMUM LENGTH SHOWN



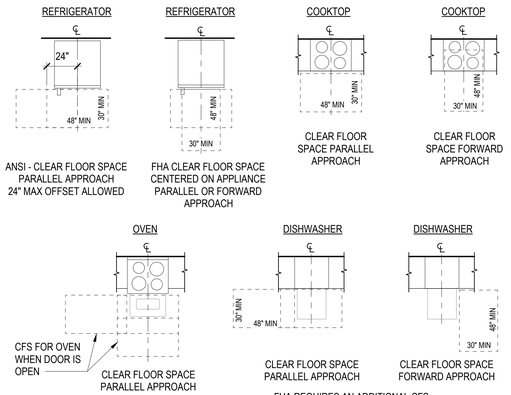
ICC A117.1-2009 SECT. 1003.11.1 AND 1004.11.1 FHADM 6.5

A1 REINFORCING FOR GRAB BARS AT WATER CLOSETS - TYPE "A" AND TYPE "B" UNITS

SCALE: 1/2" = 1'-0"

GENERAL NOTES - TYPE "A" UNITS

1. TYPE "A" UNITS REQUIRE A KITCHEN SINK, HEIGHT 34" MAX AFF, WITH A FORWARD APPROACH AND KNEE TOE CLEARANCE COMPLYING WITH ICC A117.1-2009 SECTION 606. THE KITCHEN SINK IS ALLOWED TO HAVE BASE CABINETRY BELOW IF THE CABINETRY IS 'REMOVABLE'.
2. TYPE "A" UNITS ARE REQUIRED TO HAVE AT LEAST ONE SECTION OF COUNTER THAT PROVIDES A 'WORK SURFACE' COMPLYING WITH ICC A117.1-2009 SECTION 902. THE 'WORK SURFACE' IS ALLOWED TO HAVE BASE CABINETRY BELOW IF THE CABINETRY IS 'REMOVABLE'. EXCEPTIONS:
   a. SPACES THAT DO NOT PROVIDE A COOKTOP OR CONVENTIONAL RANGE SHALL NOT BE REQUIRED TO PROVIDE A 'WORK SURFACE' COMPLYING WITH ICC A117.1-2009 SECTION 902.
3. IN TYPE "A" UNITS COMBINATION REFRIGERATORS AND FREEZERS SHALL HAVE AT LEAST 50 PERCENT OF THE FREEZER COMPARTMENT SHELVES, INCLUDING THE BOTTOM OF THE FREEZER, 54 INCHES MAXIMUM ABOVE THE FLOOR WHEN THE SHELVES ARE INSTALLED AT THE MAXIMUM HEIGHTS POSSIBLE IN THE COMPARTMENT. A CLEAR FLOOR SPACE, POSITIONED FOR A PARALLEL APPROACH SHALL BE PROVIDED. THE CENTERLINE OF THE CLEAR FLOOR SPACE SHALL BE OFFSET 24 INCHES MAXIMUM FROM THE CENTERLINE OF THE DEDICATED SPACE.
4. IN TYPE "A" UNITS WITH A RANGE OR COOKTOP HAVING FLOOR SPACE POSITIONED FOR A FORWARD APPROACH, THE UNDERSIDE OF THE RANGE OR COOKTOP SHALL BE INSULATED OR OTHERWISE CONFIGURED TO PREVENT BURNS, ABRASIONS, OR ELECTRICAL SHOCK. THE LOCATION OF CONTROLS SHALL NOT REQUIRE REACHING ACROSS BURNERS.
5. IN TYPE "A" UNITS, ALL OPERABLE PARTS SHALL COMPLY WITH ICC A117.1-2009 SECTION 1003.9. SEE SECTION FOR EXCEPTIONS.
6. LIVING ROOMS, DINING ROOMS, AND SLEEPING ROOMS WITH OPERABLE WINDOWS IN TYPE A UNITS MUST HAVE AT LEAST ONE OPERABLE WINDOW WITH CONTROLS WITHIN THE REACH RANGE, WITH CLEAR FLOOR SPACE TO APPROACH THE CONTROLS, AND EASILY OPERABLE WITH ONE HAND AND WITH 5 POUNDS OF FORCE OR LESS.
7. IN TYPE "A" UNITS, ALL APPLIANCE CONTROLS SHALL COMPLY WITH ICC A117.1-2009 SECTION 1003.9 - OPERABLE PARTS. EXCEPTIONS:
   a. APPLIANCE DOORS AND DOOR LATCHING DEVICES SHALL NOT BE REQUIRED TO COMPLY WITH SECTION 309.4
   b. BOTTOM HINGED APPLIANCE DOORS, WHEN IN THE OPEN POSITION, SHALL NOT BE REQUIRED TO COMPLY WITH SECTION 309.3
8. IN TYPE "A" UNITS SIDE HINGED OVEN DOORS SHALL HAVE A COUNTER TOP POSITIONED ADJACENT TO THE LATCH SIDE OF THE OVEN DOOR.
9. IN TYPE "A" UNITS BOTTOM HINGED OVEN DOORS SHALL HAVE A COUNTER TOP POSITIONED ADJACENT TO ONE SIDE OF THE DOOR.
10. IN TYPE "A" UNITS OVENS SHALL HAVE FRONT PANEL CONTROLS.

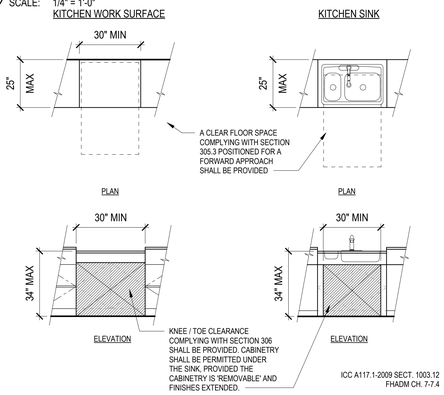


ICC A117.1-2009 SECT. 1003.12 FHADM CH. 7-7.4

TYPE "A" UNIT KITCHEN APPLIANCE NOTES:
1. ALL APPLIANCES MUST MEET AT LEAST ONE OF THE CLEAR FLOOR SPACES SHOWN FOR THAT APPLIANCE TYPE. CLEAR FLOOR SPACES ARE ALLOWED TO OVERLAP EACH OTHER.
2. THE OVEN DOOR IN THE OPEN POSITION SHALL NOT OBSTRUCT THE CLEAR FLOOR SPACE FOR THE OVEN. A SECOND CLEAR FLOOR SPACE FOR OPEN OVEN DOOR MUST BE PROVIDED.
3. SIDE HINGED OVEN DOORS SHALL HAVE A COUNTERTOP POSITIONED ADJACENT TO THE LATCH SIDE OF THE OVEN DOOR. BOTTOM HINGED DOOR OVENS SHALL HAVE A COUNTERTOP POSITIONED ADJACENT TO EITHER SIDE OF THE DOOR
4. THE DISHWASHER DOOR IN THE OPEN POSITION SHALL NOT OBSTRUCT THE CLEAR FLOOR SPACE FOR THE DISHWASHER OR AN ADJACENT SINK.
5. WHEN A FORWARD APPROACH IS USED FOR THE COOKTOP, KNEE/TOE CLEARANCE COMPLYING WITH A117.1-2009 SECTION 306 SHALL BE PROVIDED AND THE UNDERSIDE OF THE COOKTOP MUST BE INSULATED TO PREVENT BURNS. CABINET FACING, FLOOR AND WALL FINISHES UNDER COOKTOP MUST BE EXTENDED.

C3 CLEAR FLOOR SPACE AT TYPE "A" KITCHEN APPLIANCES

SCALE: 1/4" = 1'-0"



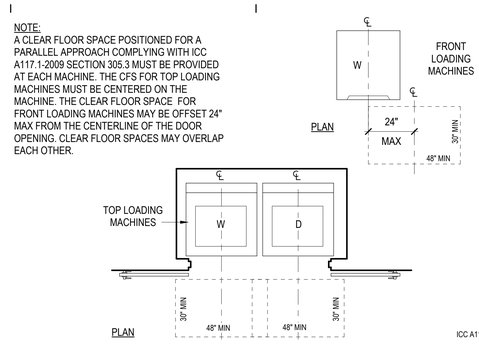
ICC A117.1-2009 SECT. 1003.12 FHADM CH. 7-7.4

NOTES:
1. THE FRONT OF THE SINK SHALL BE 34" MAX ABOVE THE FLOOR, MEASURED TO THE HIGHER OF THE RIM OF SINK OR COUNTER TOP SURFACE
2. WATER SUPPLY AND DRAIN PIPES SHALL BE INSULATED OR OTHERWISE CONFIGURED TO PROTECT AGAINST CONTACT.
3. THERE SHALL BE NO SHARP OF ABRASIVE SURFACE UNDER LAV OR SINK.
4. KITCHENS THAT DO NOT PROVIDE A COOKTOP OR CONVENTIONAL RANGE SHALL NOT BE REQUIRED TO PROVIDE AN ACCESSIBLE WORK SURFACE.
5. A PARALLEL APPROACH SHALL BE PERMITTED AT WET BARS.

A3 KITCHEN CABINETS AT TYPE "A" UNITS

SCALE: 3/8" = 1'-0"

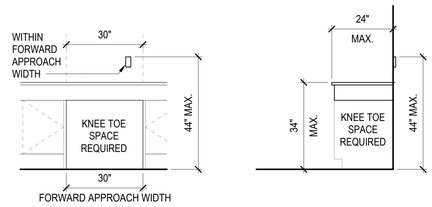
NOTE:
A CLEAR FLOOR SPACE POSITIONED FOR A PARALLEL APPROACH COMPLYING WITH ICC A117.1-2009 SECTION 305.3 MUST BE PROVIDED AT EACH MACHINE. THE CFS FOR TOP LOADING MACHINES MUST BE CENTERED ON THE MACHINE. THE CLEAR FLOOR SPACE FOR FRONT LOADING MACHINES MAY BE OFFSET 24" MAX FROM THE CENTERLINE OF THE DOOR OPENING. CLEAR FLOOR SPACES MAY OVERLAP EACH OTHER.



ICC A117.1-2009 SECT. 611 FHADM CH. 2

F6 WASHER DRYER CLOSETS TYPE "A" UNITS

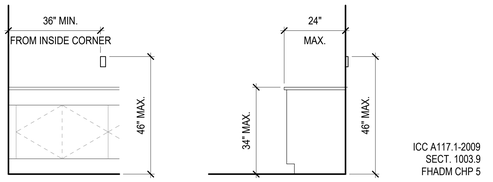
SCALE: 3/8" = 1'-0"



ICC A117.1-2009 SECT. 1003.9 FHADM CHP 5

E6 ELECTRICAL AND CONTROLS AT COUNTER TOPS - TYPE "A" UNIT FORWARD APPROACH

SCALE: 1/2" = 1'-0"



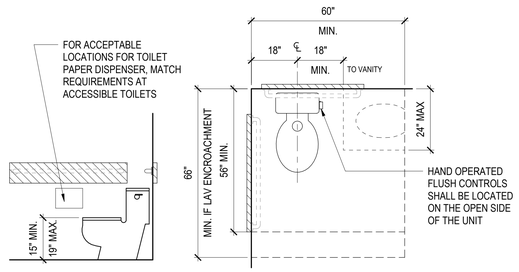
ICC A117.1-2009 SECT. 1003.9 FHADM CHP 5

D6 ELECTRICAL AND CONTROLS AT COUNTER TOPS - TYPE "A" UNIT PARALLEL APPROACH

SCALE: 1/2" = 1'-0"

GENERAL NOTES: TYPE "A" UNIT BATHROOMS

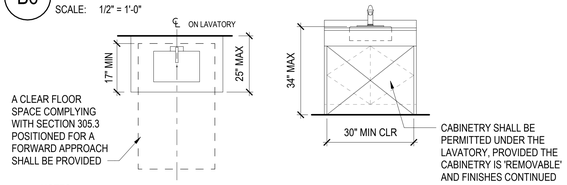
1. IN EACH TYPE "A" UNIT, AT LEAST ONE BATHROOM MUST MEET TYPE "A" UNIT BATHROOM REQUIREMENTS AND HAVE A CLEAR FLOOR SPACE CLEAR OF DOOR SWING. OTHER BATHROOMS IN THE UNIT ARE EXEMPT FROM CLEAR FLOOR SPACE REQUIREMENTS.
2. ALL BATHROOMS MUST MEET MINIMUM GRAB BAR REINFORCING REQUIREMENTS.



ICC A117.1-2009 SECT. 1003.11.2.4 FDADM CH. 7-7.43

B6 TYPICAL WATER CLOSETS AT TYPE A UNITS

SCALE: 1/2" = 1'-0"



NOTES:
1. THE FRONT OF THE SINK SHALL BE 34" MAX ABOVE THE FLOOR, MEASURED TO THE HIGHER OF THE RIM OF SINK OR COUNTER TOP SURFACE
2. WATER SUPPLY AND DRAIN PIPES SHALL BE INSULATED OR OTHERWISE CONFIGURED TO PROTECT AGAINST CONTACT.
3. THERE SHALL BE NO SHARP OF ABRASIVE SURFACE UNDER LAV OR SINK.
4. THE REQUIREMENT FOR KNEE AND TOE CLEARANCE SHALL NOT APPLY TO MORE THAN ONE BOWL OF A MULTI BOWL SINK.

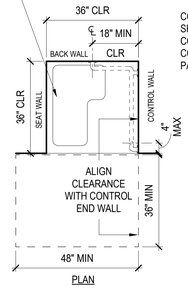
A6 LAVATORIES AT TYPE "A" UNITS

ICC A117.1-2009 SECT. 1003.11.2.2 FHADM CH. 7-7.47

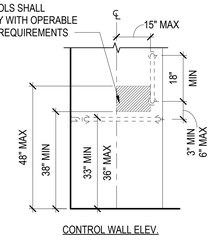
SCALE: 1/2" = 1'-0"

NOTE: INSTALL REINFORCING FOR ALL GRAB BARS. ALL REQUIRED HORIZONTAL GRAB BARS IN THE COMPARTMENT MUST BE INSTALLED AT THE SAME HEIGHT ABOVE THE FLOOR.

A FOLDING OR NON-FOLDING SEAT COMPLYING WITH ICC A117.1-2009 SECTION 610 SHALL BE PROVIDED ON THE WALL OPPOSITE THE CONTROL WALL.



CONTROLS AND HAND SHOWER LOCATION. CONTROLS SHALL COMPLY WITH OPERABLE PARTS REQUIREMENTS

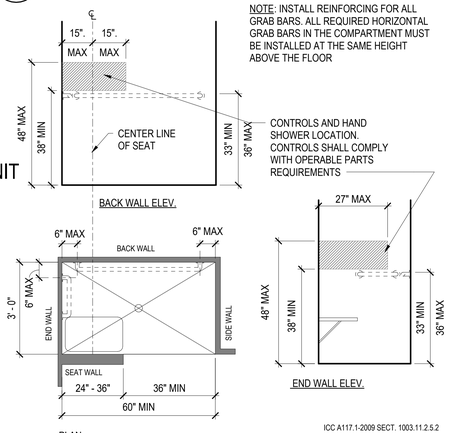


ICC A117.1-2009 SECT. 1003.11.2.5.2 FHADM CH. 7-7.56

F8 TRANSFER TYPE SHOWER COMPARTMENTS TYPE "A" UNITS

SCALE: 1/2" = 1'-0"

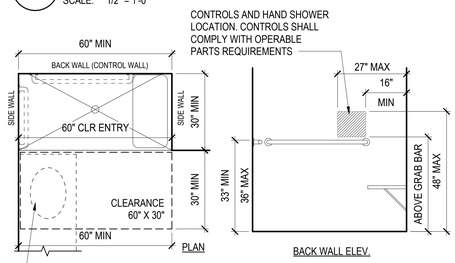
NOTE: INSTALL REINFORCING FOR ALL GRAB BARS. ALL REQUIRED HORIZONTAL GRAB BARS IN THE COMPARTMENT MUST BE INSTALLED AT THE SAME HEIGHT ABOVE THE FLOOR



ICC A117.1-2009 SECT. 1003.11.2.5.2 FHADM CH.7-7.56

D8 ALT. ROLL-IN SHOWERS TYPE "A" UNITS

SCALE: 1/2" = 1'-0"



LAVATORIES, COUNTER TOPS AND CABINETRY PERMITTED AT ONE END OF CLEARANCE IF REMOVABLE AND FINISHES PROVIDED

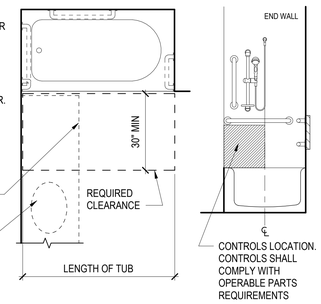
NOTE: INSTALL REINFORCING FOR ALL GRAB BARS. ALL REQUIRED HORIZONTAL GRAB BARS IN THE COMPARTMENT MUST BE INSTALLED AT THE SAME HEIGHT ABOVE THE FLOOR.

ICC A117.1-2009 SECT. 1003.11.2.5.2 FHADM CH. 7-7.56

B8 STD. ROLL-IN SHOWERS TYPE A UNITS

SCALE: 1/2" = 1'-0"

NOTE:
INSTALL REINFORCING FOR ALL GRAB BARS. ALL REQUIRED HORIZONTAL GRAB BARS IN THE COMPARTMENT MUST BE INSTALLED AT THE SAME HEIGHT ABOVE THE FLOOR.



ICC A117.1-2009 SECT. 1003.11.2.5.1 FHADM CH.7- 7.53

A8 TUB/SHOWERS AT TYPE "A" UNITS

SCALE: 1/2" = 1'-0"

EVERETT RIVERFRONT BUILDING D

3610 RIVERFRONT BLVD, EVERETT, WA 98203

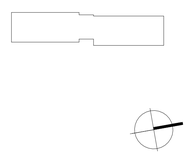
1101 Second Ave, Ste 100
Seattle, WA 98101

206 962 6500
MG2.com

PERMIT SET

10/18/2024

KEY PLAN



RUSSELL H. HAZZARD, ARCHITECT

10/17/2024

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△	DATE	DESCRIPTION

21-5971-01A
PM: ELI HARDI
DRAWN BY: MG2
04/29/22

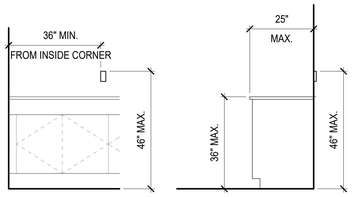
ACCESSIBILITY - GENERAL RESIDENTIAL AND TYPE "A" UNITS

G403

10/17/2024 12:06:54 PM Autodesk Docs://MG2-CE-Shelter Holdings-Everett Riverfront Development PH2-21-5905-01A/A_21-5905-01A_Everett Riverfront BLD-D_R22.rvt

GENERAL NOTES - ACCESSIBILITY - TYPE "B" UNITS

1. IN TYPE "B" UNITS ALL LIGHTING CONTROLS, ELECTRICAL SWITCHES AND RECEPTACLE OUTLETS, ENVIRONMENTAL CONTROLS, ELECTRICAL PANEL BOARDS, AND USER CONTROLS FOR SECURITY OR INTERCOM SYSTEMS SHALL COMPLY WITH ICC A117.1-2009 SECTIONS 309.2 AND 309.3. SEE SECTION 1004.9 FOR EXCEPTIONS.

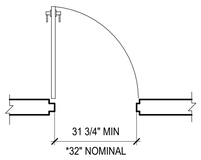


ICC A117.1-2009
SECT. 1004.9
FHADM CHP 5

ELECTRICAL AND CONTROLS AT COUNTER TOPS

F1 TYPE "B" UNITS PARALLEL APPROACH

SCALE: 1/2" = 1'-0"



NOTE:
TYPE "B" UNITS - CLEAR OPENING REQUIREMENT AT ALL USER PASSAGE DOORS (DOES NOT INCLUDE MAIN ENTRY DOOR)

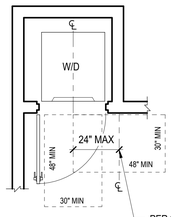
ICC A117.1-2009 CH. 1004.5.2
*FHADM CH. 3-3.5

E1 TYPE "B" UNITS - USER PASSAGE DOORS

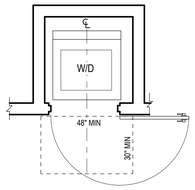
SCALE: 1/2" = 1'-0"

NOTE:
A CLEAR FLOOR SPACE COMPLYING WITH ICC A117.1-2009 SECTION 305.3 MUST BE PROVIDED AT EACH MACHINE. THE CLEAR FLOOR SPACE FOR TOP LOADING MACHINES MUST BE POSITIONED FOR A PARALLEL APPROACH AND CENTERED ON THE MACHINE. THE CLEAR FLOOR SPACE FOR FRONT LOADING MACHINES MAY BE POSITIONED FOR EITHER A FORWARD OR PARALLEL APPROACH. CLEAR FLOOR SPACES MAY OVERLAP EACH OTHER.

FRONT LOADING MACHINE



TOP LOADING MACHINE



PER 611.2, AT FRONT LOADING MACHINES A PARALLEL APPROACH MAY BE OFFSET 24" MAX

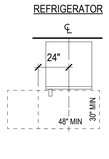
ICC A117.1-2009 SECT. 611
FHADM CH. 2
ICC A117.1-2003 SAFE HARBOR

F4 WASHER DRYER CLOSETS TYPE "B" UNITS

SCALE: 3/8" = 1'-0"

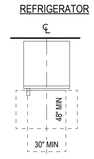
TYPE "B" UNIT APPLIANCE NOTES:
1. ALL APPLIANCES MUST MEET AT LEAST ONE OF THE CLEAR FLOOR SPACES SHOWN FOR THAT APPLIANCE TYPE. CLEAR FLOOR SPACES ARE ALLOWED TO OVERLAP EACH OTHER.
2. THE OVEN DOOR IN THE OPEN POSITION SHALL NOT OBSTRUCT THE CLEAR FLOOR SPACE FOR THE OVEN. A SECOND CLEAR FLOOR SPACE FOR OPEN OVEN DOOR MUST BE PROVIDED.
3. THE DISHWASHER DOOR IN THE OPEN POSITION SHALL NOT OBSTRUCT THE CLEAR FLOOR SPACE FOR THE DISHWASHER.
4. WHEN A FORWARD APPROACH IS USED FOR THE COOKTOP, KNEE/TOE CLEARANCE COMPLYING WITH ICC A117.1-2009 SECTION 306 SHALL BE PROVIDED AND THE UNDERSIDE OF THE COOKTOP MUST BE INSULATED TO PREVENT BURNS. CABINET FACING, FLOOR, AND WALL FINISHES UNDER COOKTOP MUST BE EXTENDED.

REFRIGERATOR



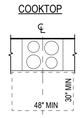
CLEAR FLOOR SPACE PARALLEL APPROACH

REFRIGERATOR



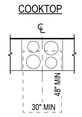
CLEAR FLOOR SPACE FORWARD APPROACH

COOKTOP



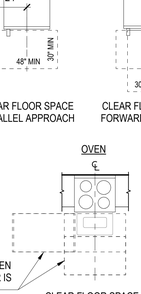
CLEAR FLOOR SPACE PARALLEL APPROACH

COOKTOP



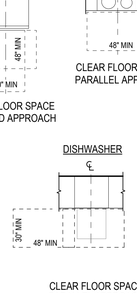
CLEAR FLOOR SPACE FORWARD APPROACH

OVEN



CLEAR FLOOR SPACE PARALLEL APPROACH

DISHWASHER



CLEAR FLOOR SPACE PARALLEL APPROACH

DISHWASHER

CLEAR FLOOR SPACE FORWARD APPROACH

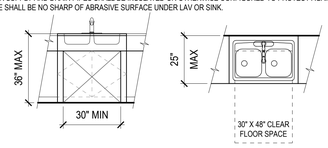
FHA REQUIRES AN ADDITIONAL CFS, EITHER PARALLEL OR FORWARD, CENTERED ON THE DW

ICC A117.1-2009
SECT. 1004.12
FHADM CH: 7-7.4

C4 CLEAR FLOOR SPACE TYPE "B" KITCHEN APPLIANCES

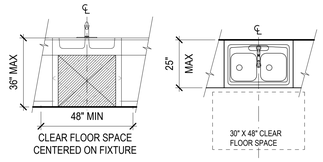
SCALE: 1/4" = 1'-0"

NOTES WHEN A FORWARD APPROACH IS PROVIDED:
1. KNEE/TOE CLEARANCE COMPLYING WITH ICC A117.1-2009 SECTION 306 SHALL BE PROVIDED. CABINETRY SHALL BE PERMITTED UNDER THE SINK, PROVIDED THE CABINETRY IS 'REMOVABLE' AND FLOOR AND WALL FINISHES EXTENDED.
1. WATER SUPPLY AND DRAIN PIPES SHALL BE INSULATED OR OTHERWISE CONFIGURED TO PROTECT AGAINST CONTACT.
2. THERE SHALL BE NO SHARP OF ABRASIVE SURFACE UNDER LAV OR SINK.



ELEVATION PLAN

CLEAR FLOOR SPACE AT SINK
FORWARD APPROACH



CLEAR FLOOR SPACE CENTERED ON FIXTURE

ELEVATION PLAN

ICC A117.1-2009 SECT. 1004.12.2.1
FHADM CH. 7-7.4

CLEAR FLOOR SPACE AT SINK
PARALLEL APPROACH

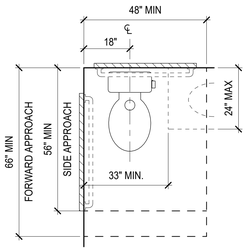
A4 KITCHEN CABINETS IN TYPE "B" UNITS

SCALE: 3/8" = 1'-0"

GENERAL NOTES: TYPE "B" UNITS - OPTION A AND B BATHROOMS

1. IN EACH TYPE "B" UNIT THERE ARE TWO PATHS FOR COMPLIANT BATHROOMS:
   OPTION A: ALL BATHROOMS IN THE UNIT MUST MEET OPTION A REQUIREMENTS AND EVERY TOILET/BATHING FIXTURE IN THE UNIT MUST COMPLY WITH OPTION A REQUIREMENTS.
   - OR -
   OPTION B: ONE BATHROOM IN THE UNIT MUST MEET OPTION B REQUIREMENTS. THE 'OTHER' BATHROOMS IN A UNIT COMPLYING WITH OPTION B ARE EXEMPT FROM "CLEAR FLOOR SPACE" REQUIREMENTS.
2. THE EXEMPT BATHROOMS MUST HAVE USER PASSAGE, ACCESS TO OPERABLE PARTS (SWITCHES, OUTLETS, ETC) AND HAVE REINFORCING INSTALLED FOR TOILET AND BATHING FIXTURES GRAB BARS.
3. ALL OPTION A AND OPTION B BATHROOMS MUST HAVE A 30" X 48" CLEAR FLOOR SPACE CLEAR OF DOOR SWING, EXCLUDING KNEE/TOE SPACE UNDER ELEMENTS. THIS REQUIREMENT DOES NOT APPLY TO THE 'EXEMPT' BATHROOMS IN A UNIT WITH AN OPTION B BATHROOM.
4. ALL BATHROOMS MUST MEET MINIMUM GRAB BAR REINFORCING REQUIREMENTS.

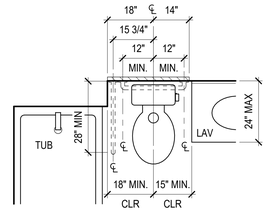
TYPE "B" UNITS - DETAILS THAT MEET BOTH OPTION A AND OPTION B BATH REQUIREMENTS



ICC A117.1-2009 SECT. 1004
FHADM CHP 7-7.43

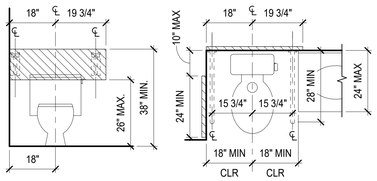
3 TYPICAL WATER CLOSETS IN TYPE B UNITS

SCALE: 1/2" = 1'-0"



ICC A117.1-2009 SECT. 1004
FHADM CHAP. 6-6.7

REINFORCEMENT FOR A SINGLE SWING -UP GRAB BAR IN LIEU OF SIDE WALL GRAB BAR

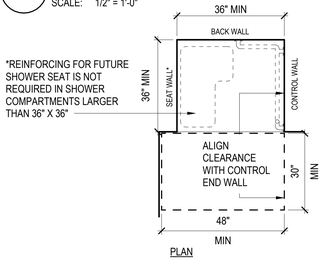


ICC A117.1-2009 SECT. 1004
FHADM CHAP. 6-6.7

REINFORCEMENT FOR TWO SWING -UP GRAB BARS IN LIEU OF REAR WALL AND SIDE WALL GRAB BARS

B6 REINFORCING FOR SWING UP GRAB BARS IN TYPE "B" UNITS

SCALE: 1/2" = 1'-0"



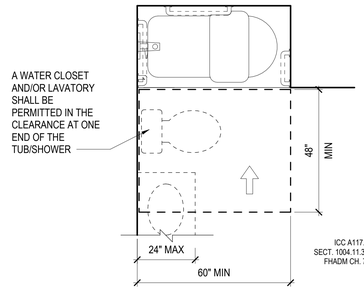
PLAN

ICC A117.1-2009
SECT. 1004.11.3.1.3
FHADM CH. 7-7.56

A6 SHOWER COMPARTMENTS IN TYPE "B" UNITS - BOTH OPTION A AND OPTION B

SCALE: 1/2" = 1'-0"

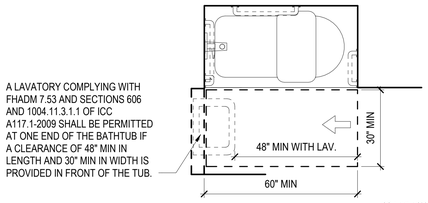
TYPE "B" UNITS - OPTION A BATH



ICC A117.-2009
SECT. 1004.11.3.1.3.2
FHADM CH. 7-7.53

F8 TUB/SHOWER FORWARD APPROACH TYPE "B" UNIT OPTION A BATH

SCALE: 1/2" = 1'-0"



ICC A117.1-2009
SECT. 1004.11.3.1.3.1
FHADM CH. 7-7.53

E8 TUB/SHOWER PARALLEL APPROACH TYPE "B" UNIT OPTION A BATH

SCALE: 1/2" = 1'-0"

PLAN

NOTE:
IN OPTION A BATHROOMS ALL LAVS SHALL MEET PARALLEL APPROACH REQUIREMENTS SHOWN

ELEVATION

ICC A117.1-2009
SECT. 1004.11.3.1.1
FHADM CH. 7-7.4

C8 LAVATORY IN TYPE "B" UNIT OPTION A BATH

SCALE: 3/8" = 1'-0"

TYPE "B" UNITS - OPTION B BATH

PLAN

NOTE:
IN OPTION B BATHROOMS AT LEAST ONE LAV SHALL MEET PARALLEL APPROACH REQUIREMENTS SHOWN

ELEVATION

ICC A117.1-2009
SECT. 1004.11.3.2.1
FHADM CH. 7-7.47

B8 LAVATORY IN TYPE "B" UNIT OPTION B BATH

SCALE: 3/8" = 1'-0"

ICC A117.1-2009
SECT. 104.13.2.3
FHADM CH. 7-7.53

A8 TUB/SHOWER CLEARANCE - TYPE "B" UNIT OPTION B BATH

SCALE: 1/2" = 1'-0"

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10/18/2024

KEY PLAN

RUSSELL H. HAZZARD, ARCHITECT

10/17/2024

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PM: ELI HARDI
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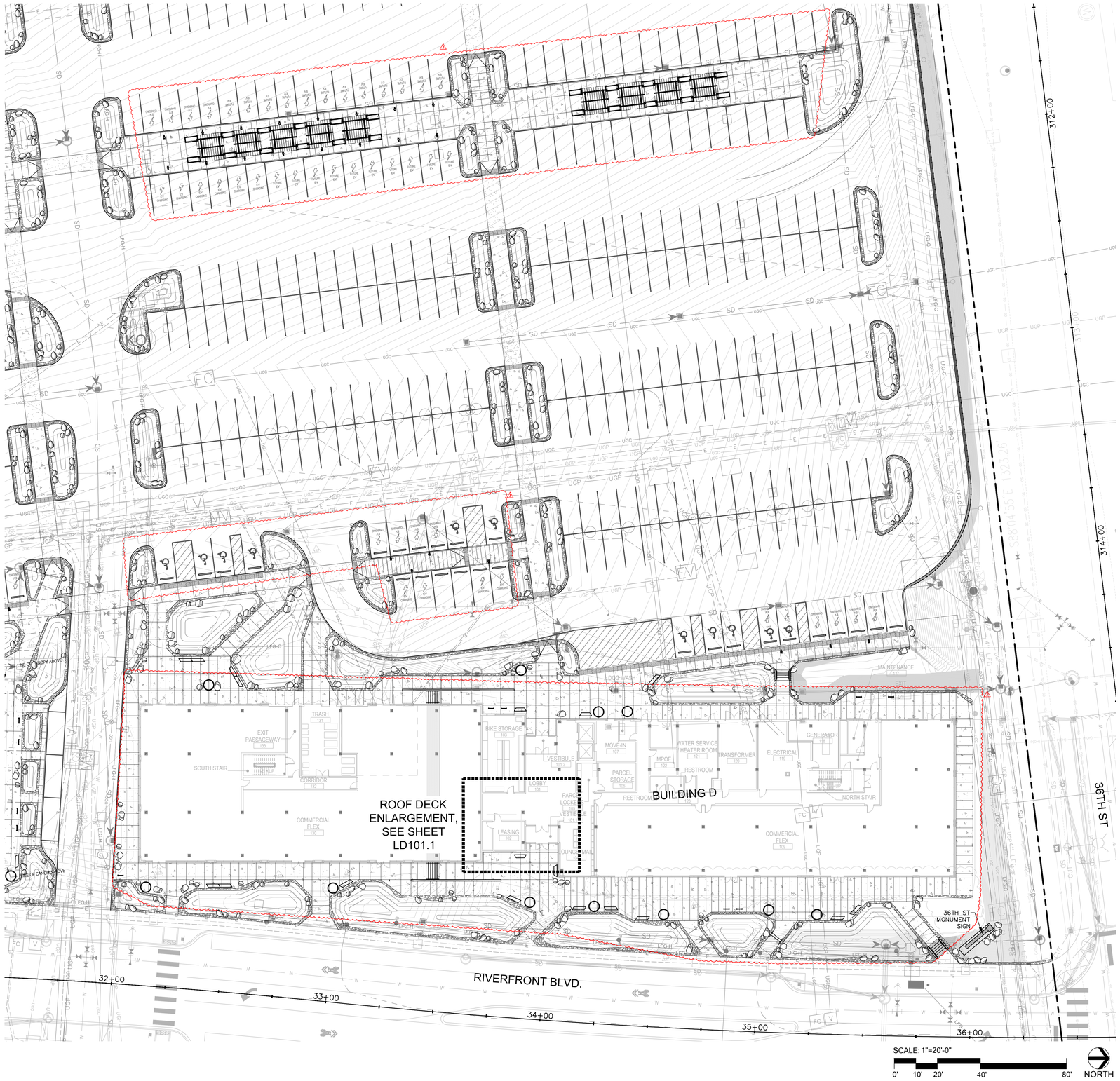
04/29/22

ACCESSIBILITY - TYPE "B" UNITS

G404

10/17/2024 12:06:55 PM Autodesk Docs://MG2-CE-Shelter Holdings-Everett Riverfront Development PH2-21-5905-01A/A_21-5905-01A_Everett Riverfront BLD-D_R22.rvt



SITE IMPROVEMENTS LEGEND

SYMBOL	ITEM
	TYPE 1 BENCH
	TYPE 2 BENCH
	BOULDERS SEE DETAIL 'A' ON SHEET L4.03 FOR BOULDERS IN PAVING AND DETAIL 'B' ON L4.03 FOR BOULDERS IN PLANTING BED
	TYPE 1 PLANTER
	TYPE 2 PLANTER
	BIKE RACK
	SURFACE MOUNTED CAFE TABLES AND CHAIRS
	6" CONTOURS. MOUND PLANTING BEDS ABOVE ADJACENT HARD SURFACE AS SHOWN
	DRAIN ROCK
	SITE LIGHTING– SEE ELECTRICAL
FUTURE EV	FUTURE ELECTRIC VEHICLE CHARGING STATION
	STAMPED ASPHALT WALKWAY
	CONCRETE PAVING WITH JOINT AND SCORING PATTERN, SEE CIVIL

NOTES:

1. SEE EVERETT RIVERFRONT SITE PHASE 1 AND 2 PERMIT DRAWINGS FOR SITE PLANTING AND ADDITIONAL SITE WORK REQUIREMENTS.

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Fora Landscape Architects

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Seattle, WA 98101

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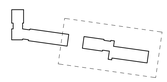
PERMIT CORRECTIONS 2

7/12/2024

2-D

KEY PLAN



NICHOLAS P HAGAN, LANDSCAPE ARCHITECT

STATE OF WASHINGTON NICHOLAS P HAGAN No. 783 EXP. 4/17/2025 LANDSCAPE ARCHITECT

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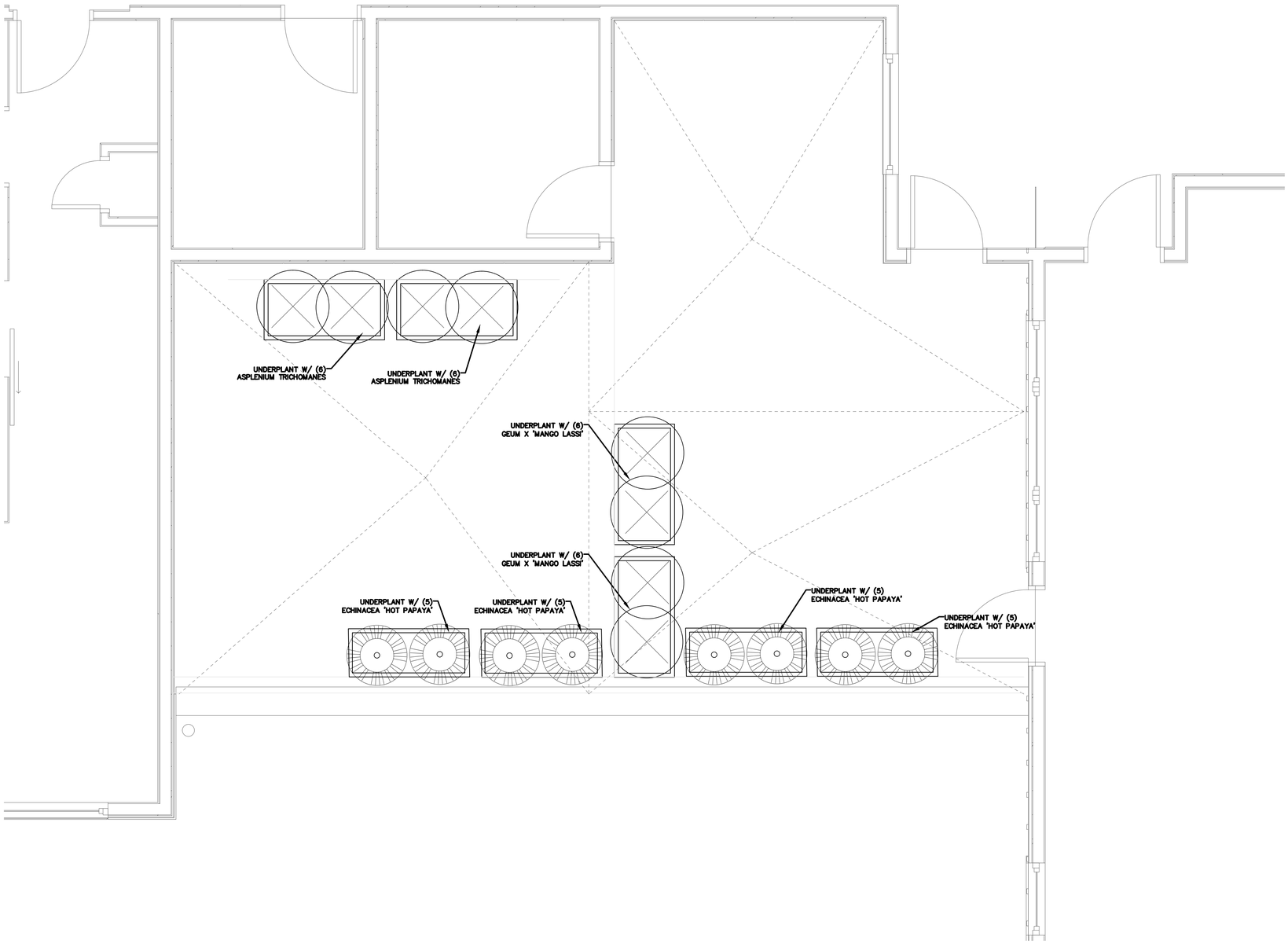
3	07/12/24	PERMIT CORRECTIONS 2

21-5971-01A
PM: ABBY JONES
DRAWN BY: AJ/EB
2/17/23

PLANTING PLAN - ROOF ENLARGEMENT

LD100.1

4/12/2022 1:07:10 PM Autodesk Docs://MG2-Shelter Holdings-Everett Riverfront Development PH2-21-5905-01A/A_21-5905-01A_Everett Riverfront BLD-C_R22.rvt



SITE IMPROVEMENTS LEGEND

SYMBOL	ITEM
	WILSHIRE RECTANGULAR PLANTER, 12 GA. WEATHERING STEEL, BY TOURNESOL SITEWORKS, 30"W X 60"L X 30"H WITH 2" TOEKICK REVEAL, WITH CWM MODULAR CONTAINER IRRIGATION WATERING RESERVOIRS OR APPROVED EQUAL.
	WILSHIRE RECTANGULAR PLANTER, 12 GA. WEATHERING STEEL, BY TOURNESOL SITEWORKS, 24"W X 60"L X 30"H WITH 2" TOEKICK REVEAL, WITH CWM MODULAR CONTAINER IRRIGATION WATERING RESERVOIRS OR APPROVED EQUAL.

PLANT SCHEDULE

	BOTANICAL / COMMON NAME	SIZE	CONDITION/REMARKS
SHRUBS	VACCINIUM OVATUM EVERGREEN HUCKLEBERRY	MIN. 18"–24" HT./SPD.	FULL & BUSHY, SPACING AS SHOWN ON PLAN
GRASSES	MISCANTHUS SINENSIS 'ADAGIO' ADAGIO EULALIA GRASS	MIN. 2 GAL. CONTAINER	FULL & BUSHY, SPACING AS SHOWN ON PLAN

PERENNIALS	BOTANICAL / COMMON NAME	SIZE	CONDITION/REMARKS
NO SYMBOL	ECHINACEA X 'HOT CORAL' HOT PAPAYA ECHINACEA	MIN. 15"–18" HT./SPD.	FULL & BUSHY, QTY AS SHOWN ON PLAN
NO SYMBOL	GEUM X 'MANGO LASSI' MANGO LASSI AVENS	MIN. 12"–15" HT./SPD.	FULL & BUSHY, QTY AS SHOWN ON PLAN
NO SYMBOL	ASPLENIUM TRICHOMANES MAIDENHAIR SPLEENWORT	1 GAL.	FULL & BUSHY, 8 FRONDS MIN.

SCALE: 1/2"=1'-0"

0' 1' 2' 4' 8' NORTH

4/12/2022 1:07:10 PM Autodesk Docs://MG2-Shelter Holdings-Everett Riverfront Development PH2-21-5905-01A/A_21-5905-01A_Everett Riverfront BLD-C_R22.rvt

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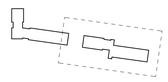
PERMIT CORRECTIONS 2

7/12/2024

2-D

KEY PLAN



BUILDING C BUILDING D

NICHOLAS P HAGAN, LANDSCAPE ARCHITECT

STATE OF WASHINGTON · NICHOLAS P HAGAN · 21763 EXP 4/17/2025 · LANDSCAPE ARCHITECT

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△	DATE	DESCRIPTION

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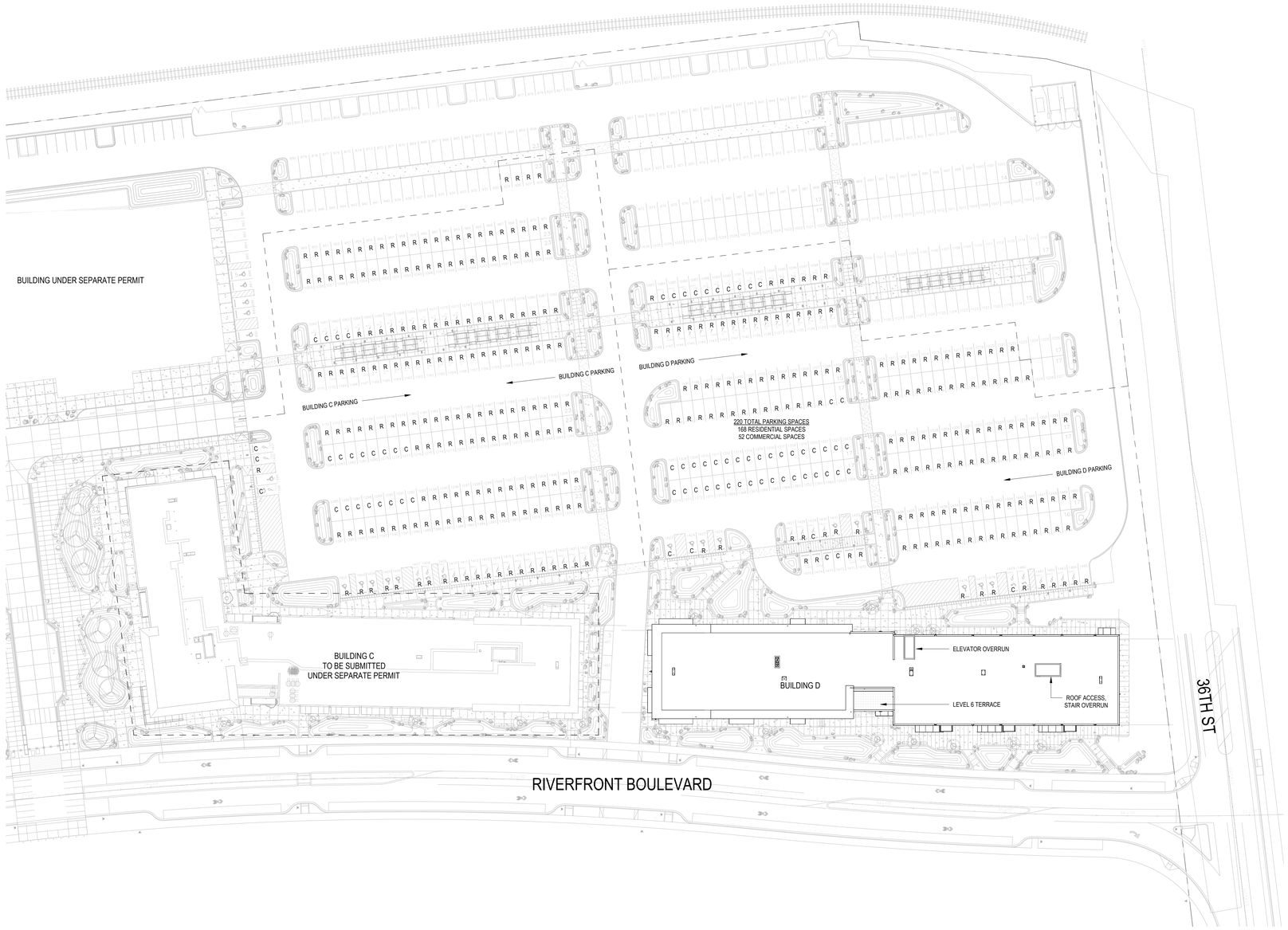
PM: ABBY JONES
DRAWN BY: AJ/EB
2/17/23

PLANTING PLAN - ROOF ENLARGEMENT

LD101.1



1 SITE PLAN - OVERALL

SCALE: 1" = 40'-0"

PROJECT INFORMATION

PROJECT ADDRESS:	3610 RIVERFRONT BOULEVARD, EVERETT, WA 98203
OWNER:	RIVERFRONT PHASE 2, LLC 11624 SE 5TH STREET SUITE 210 BELLEUE, WA 98005
PARCEL NUMBER:	2905290040190 0 2905290040180 0
LEGAL DESCRIPTION:	SECTION 29 TOWNSHIP 29 RANGE 05 QUARTER SE NEW LOT 26 OF COE BLA #08-004 REC AFN 200804080781 & ROS REC AFN 200804085006 BEING A PTN OF GOVT LOT 5 SD SEC TGW A PTN OF BLK 18 SINES J S ACRE TRACTS SECTION 29 TOWNSHIP 29 RANGE 05 QUARTER SE NEW LOT 29 OF COE BLA #08-004 REC AFN 200804080781 & ROS REC AFN 200804085006 BEING A PTN OF GOVT LOT 5 SD SEC TGW A PTN OF BLK 13 SINES J S ACRE TRACTS

GENERAL NOTES

1. ALL WORK DONE IN THE RIGHT-OF-WAY WILL REQUIRE SDOT APPROVAL.
2. ALL EXISTING STRUCTURES, SLABS, FENCES, AND RETAINING WALLS ON SITE TO BE REMOVED. REFERENCE SURVEY FOR SIZE AND LOCATIONS OF EXISTING SITE FEATURES.
3. REFERENCE GENERAL SHEETS G100-G101 FOR DOCUMENTATION DEMONSTRATING COMPLIANCE WITH LAND USE CODE DEVELOPMENT STANDARDS.
4. REFERENCE SURVEY FOR TOPOGRAPHY, SITE UTILITIES, AND EXISTING CONDITIONS.
5. REFERENCE LANDSCAPING PLAN FOR LANDSCAPING, INCLUDING PLANTING STRIP WITDH AND STREET TREES.
6. REFERENCE STORM DRAINAGE PLAN AND GRADING AND TESC PLAN FOR DRAINAGE CONTROL, TEMPORARY EROSION, AND SEDIMENTATION CONTROL.
7. REFERENCE CIVIL FOR FRONTAGE IMPROVEMENT PLANS FOR STREET AND SIDEWALK IMPROVEMENTS.
8. EXCAVATION OF CONTAMINATED SOILS TO BE PERFORMED UNDER THE CARE OF A QUALIFIED PROFESSIONAL.

PARKING LEGEND

R	RESIDENTIAL STALL
C	COMMERCIAL STALL
	ACCESSIBLE STALL
	EV CHARGING STALL

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KEY PLAN

RUSSELL H. HAZZARD, ARCHITECT

8079 REGISTERED ARCHITECT RUSSELL H. HAZZARD STATE OF WASHINGTON

10/17/2024

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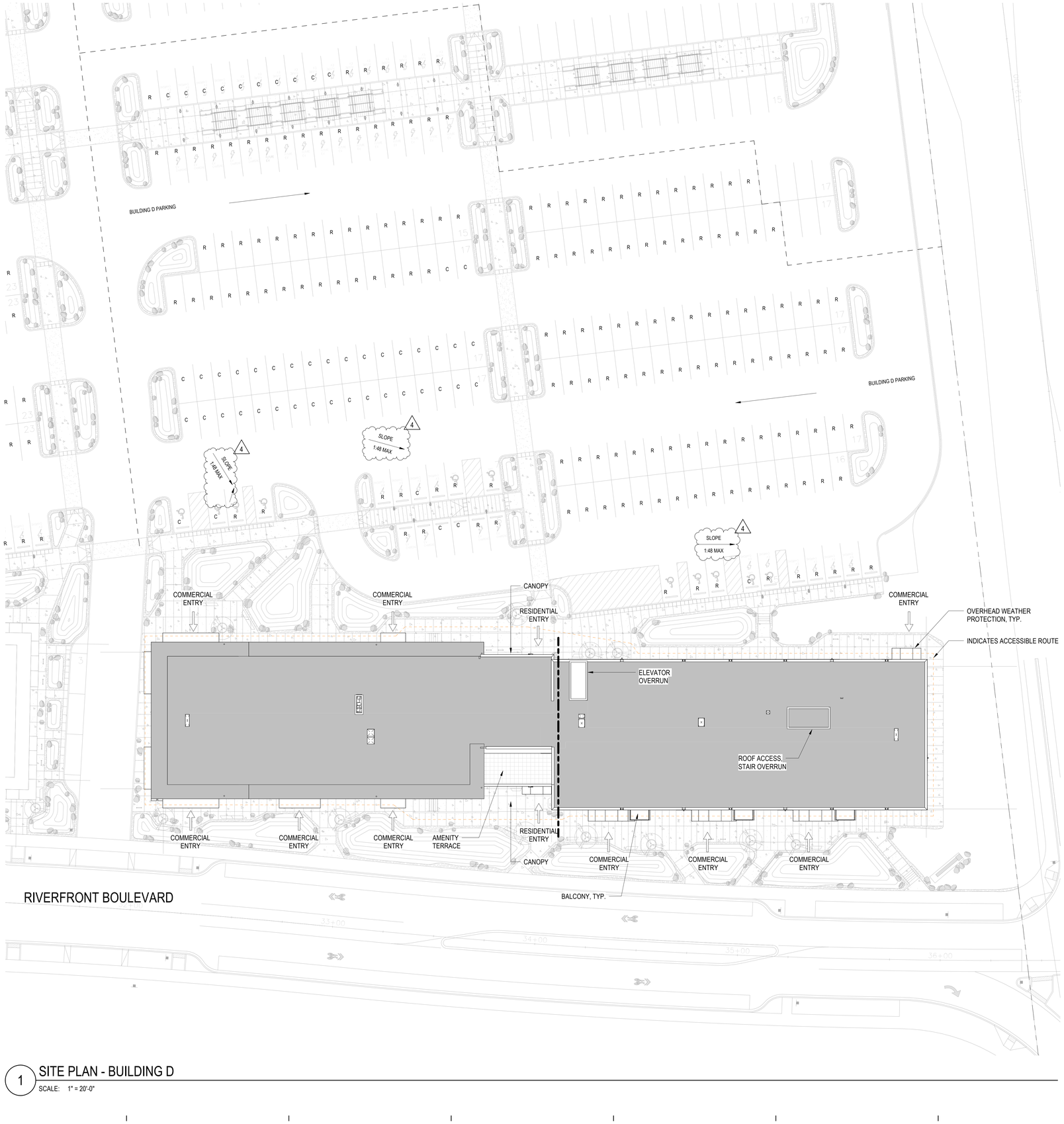
1	11/04/22	PERMIT CORRECTIONS 01
2	07/12/24	PERMIT CORRECTIONS 02

21-5971-01A
PM: ELI HARDI
DRAWN BY: JG, PD, MB
04/29/22

SITE PLAN

A001

10/17/2024 12:02:31 PM Autodesk Docs://MG2-CE-Shelter Holdings-Everett Riverfront Development PH2-21-5905-01A/A_21-5905-01A_Everett Riverfront BLD-D_R22.rvt



1 SITE PLAN - BUILDING D

SCALE: 1" = 20'-0"

PROJECT INFORMATION

PROJECT ADDRESS:	3610 RIVERFRONT BOULEVARD, EVERETT, WA 98203
OWNER:	RIVERFRONT PHASE 2, LLC 11624 SE 5TH STREET SUITE 210 BELLEUE, WA 98005
PARCEL NUMBER:	2905290040190 0 2905290040180 0
LEGAL DESCRIPTION:	SECTION 29 TOWNSHIP 29 RANGE 05 QUARTER SE NEW LOT 26 OF COE BLA #08-004 REC AFN 200804080781 & ROS REC AFN 200804085006 BEING A PTN OF GOVT LOT 5 SD SEC TGW A PTN OF BLK 18 SINES J S ACRE TRACTS SECTION 29 TOWNSHIP 29 RANGE 05 QUARTER SE NEW LOT 29 OF COE BLA #08-004 REC AFN 200804080781 & ROS REC AFN 200804085006 BEING A PTN OF GOVT LOT 5 SD SEC TGW A PTN OF BLK 13 SINES J S ACRE TRACTS

GENERAL NOTES

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2. ALL EXISTING STRUCTURES, SLABS, FENCES, AND RETAINING WALLS ON SITE TO BE REMOVED. REFERENCE SURVEY FOR SIZE AND LOCATIONS OF EXISTING SITE FEATURES.
3. REFERENCE GENERAL SHEETS G100-G101 FOR DOCUMENTATION DEMONSTRATING COMPLIANCE WITH LAND USE CODE DEVELOPMENT STANDARDS.
4. SEE SURVEY FOR TOPOGRAPHY, SITE UTILITIES, AND EXISTING CONDITIONS.
5. SEE LANDSCAPING PLAN FOR LANDSCAPING, INCLUDING PLANTING STRIP WITDH AND STREET TREES.
6. SEE STORM DRAINAGE PLAN AND GRADING AND TESC PLAN FOR DRAINAGE CONTROL, TEMPORARY EROSION, AND SEDIMENTATION CONTROL.
7. SEE CIVIL FOR FRONTAGE IMPROVEMENT PLANS FOR STREET AND SIDEWALK IMPROVEMENTS.
8. EXCAVATION OF CONTAMINATED SOILS TO BE PERFORMED UNDER THE CARE OF A QUALIFIED PROFESSIONAL.
9. EV INFRASTRUCTURE TO BE PROVIDED FOR ACCESSIBLE SPACES PER IBC SECTION 429.5. SEE CIVIL.
10. PARKING LOT SCOPE OF WORK SUBMITTED UNDER SEPARATE PERMIT.
11. SEE SITE PERMIT, SUBMITTED SEPARATELY, FOR ALL SITE SPECIFIC ELEMENTS INCLUDING, BUT NOT LIMITED TO, CURBS, RAMPS, AND SIDEWALKS.
12. SITE ACCESSIBLE ROUTE COORDINATES WITH SITE PERMIT AND IS IN COMPLIANCE WITH ACCESSIBILITY REQUIREMENTS. SLOPE NOT TO EXCEED 1:48 AT ACCESSIBLE PARKING AND AISLES. SLOPE NOT TO EXCEED 1:20 AT WALKING SURFACES IN THE DIRECTION OF TRAVEL OR 1:48 CROSS-SLOPE. (4)
13. SEE SLAB EDGE PLANS FOR SLOPE DIRECTION AND T.O.S. ELEVATIONS AT APRON.

PARKING LEGEND

R	RESIDENTIAL STALL
C	COMMERCIAL STALL
	ACCESSIBLE STALL
	EV CHARGING STALL

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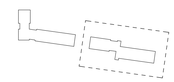
KEY PLAN



RUSSELL H. HAZZARD, ARCHITECT

8079 REGISTERED ARCHITECT
RUSSELL H. HAZZARD
STATE OF WASHINGTON
03/25/2026

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△	DATE	DESCRIPTION
1	11/04/22	PERMIT CORRECTIONS 01
2	07/12/24	PERMIT CORRECTIONS 02
3	9/20/24	PERMIT CORRECTIONS 03
4	3/25/26	PERMIT CORRECTIONS 04

PM: ELI HARDI
DRAWN BY: JG, PD, MB
04/29/22

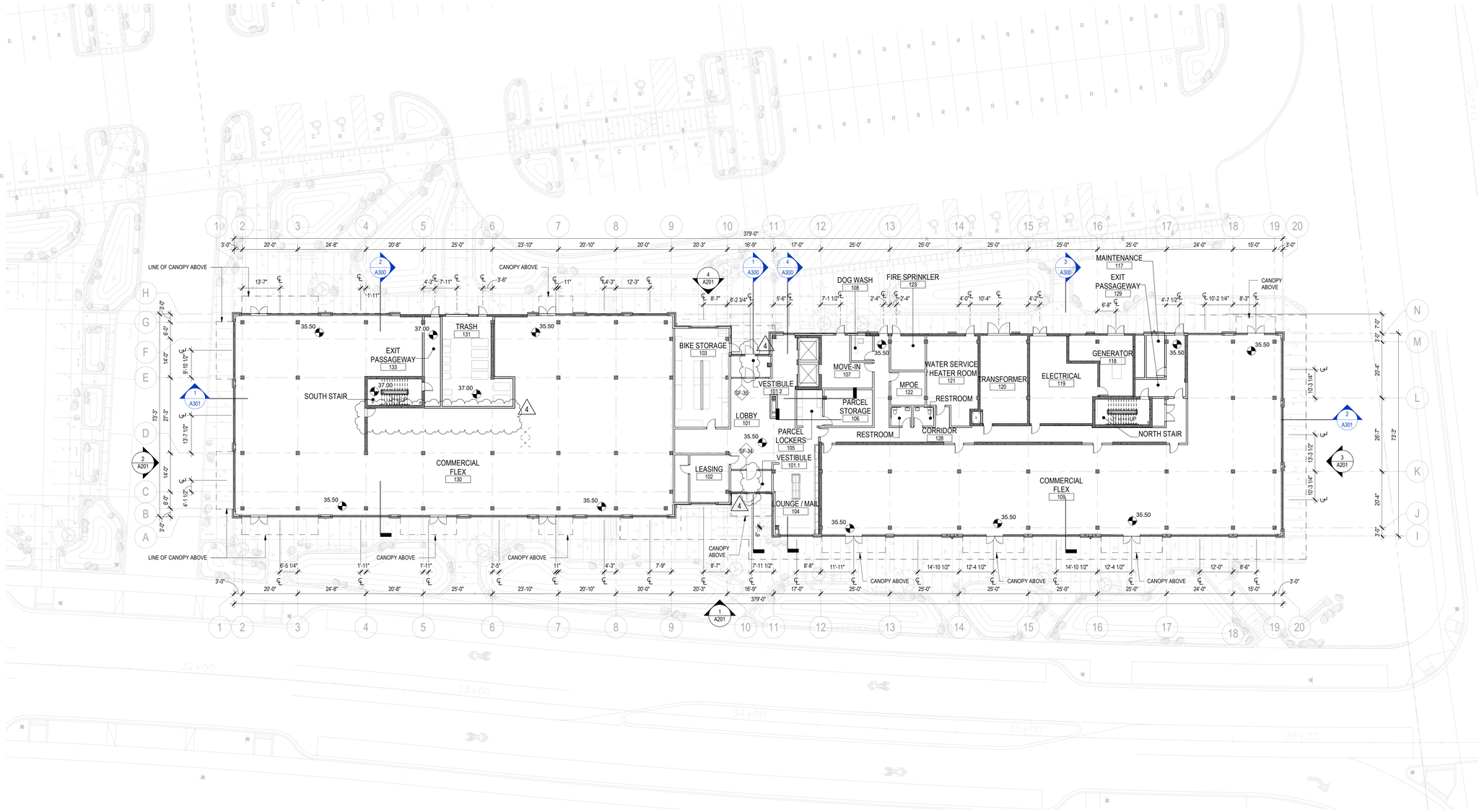
SITE PLAN - BUILDING D

A002

3/25/2026 10:08:56 AM Autodesk Docs://MG2-CE-Shelter Holdings-Everett Riverfront Development PH2-21-5905-01A/A_21-5905-01A_Everett Riverfront BLD-D_R25.rvt

FLOOR PLAN GENERAL NOTES

1. ALL FRAMING DIMENSIONS ARE TO FACE OF STRUCTURE U.N.O.
2. SEE A140 SHEETS FOR SLAB PLANS.
3. SEE A420 SHEETS FOR ENLARGED UNIT PLANS.
4. SEE A610 SHEETS FOR WALL ASSEMBLIES.
5. SEE A600 SHEETS FOR HORIZONTAL ASSEMBLIES.
6. SEE A810 SHEETS FOR DOOR SCHEDULE.
7. SEE A800 SHEETS FOR WINDOW SCHEDULE.
8. SEE G200 SHEETS FOR EGRESS PLANS.
9. SEE ELECTRICAL DRAWINGS FOR LIGHTING, SWITCHING AND OUTLET LOCATIONS.
10. SEE ENLARGED PLANS AS NOTED FOR ADDITIONAL INFORMATION.
11. COMMERCIAL FLEX SPACE ENTRY VESTIBULES TO BE PROVIDED AS REQUIRED BY TENANT UNDER SEPARATE PERMIT. SEE CIVIL AND LANDSCAPE DRAWINGS FOR ADDITIONAL INFORMATION.
12. DOORS AND CASED OPENINGS INDICATED NEARBY WALL INTERSECTIONS SHALL BE LOCATED SO THAT THE EDGE OF THE FINISH OPENING IS FOUR INCHES FROM THE FACE OF THE NEARBY WALL UNO. ALL OTHER DOORS AND CASED OPENINGS SHALL BE CENTERED BETWEEN ADJACENT WALL INTERSECTIONS.
13. SHAFT WALLS SHALL BE CONTINUOUS PER IBC 713.5. PENETRATIONS SHALL NOT BE PERMITTED WITHIN SHAFTS OTHER THAN THOSE NECESSARY FOR THE PURPOSE OF THE SHAFT PER IBC 713.8.1.
14. STOREFRONT SYSTEMS ARE DIMENSIONED TO THE CENTER OF THE OPENING UNLESS OTHERWISE NOTED.



1 LEVEL 1

SCALE: 1/16" = 1'-0"

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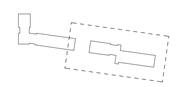
3/25/2026

KEY PLAN



RUSSELL H. HAZZARD, ARCHITECT

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03/25/2026

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△	DATE	DESCRIPTION
4	3/25/26	PERMIT CORRECTIONS 04

PM: ELI HARDI
DRAWN BY: JG, PD, MB
04/29/22

FLOOR PLAN - LEVEL 1

A101

3/25/2026 10:09:03 AM Autodesk Docs://MG2-CE-Shelter Holdings-Everett Riverfront Development PH2-21-5905-01A/A_21-5905-01A_Everett Riverfront BLD-D_R25.rvt

FLOOR PLAN GENERAL NOTES

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5. SEE A600 SHEETS FOR HORIZONTAL ASSEMBLIES.
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7. SEE A800 SHEETS FOR WINDOW SCHEDULE.
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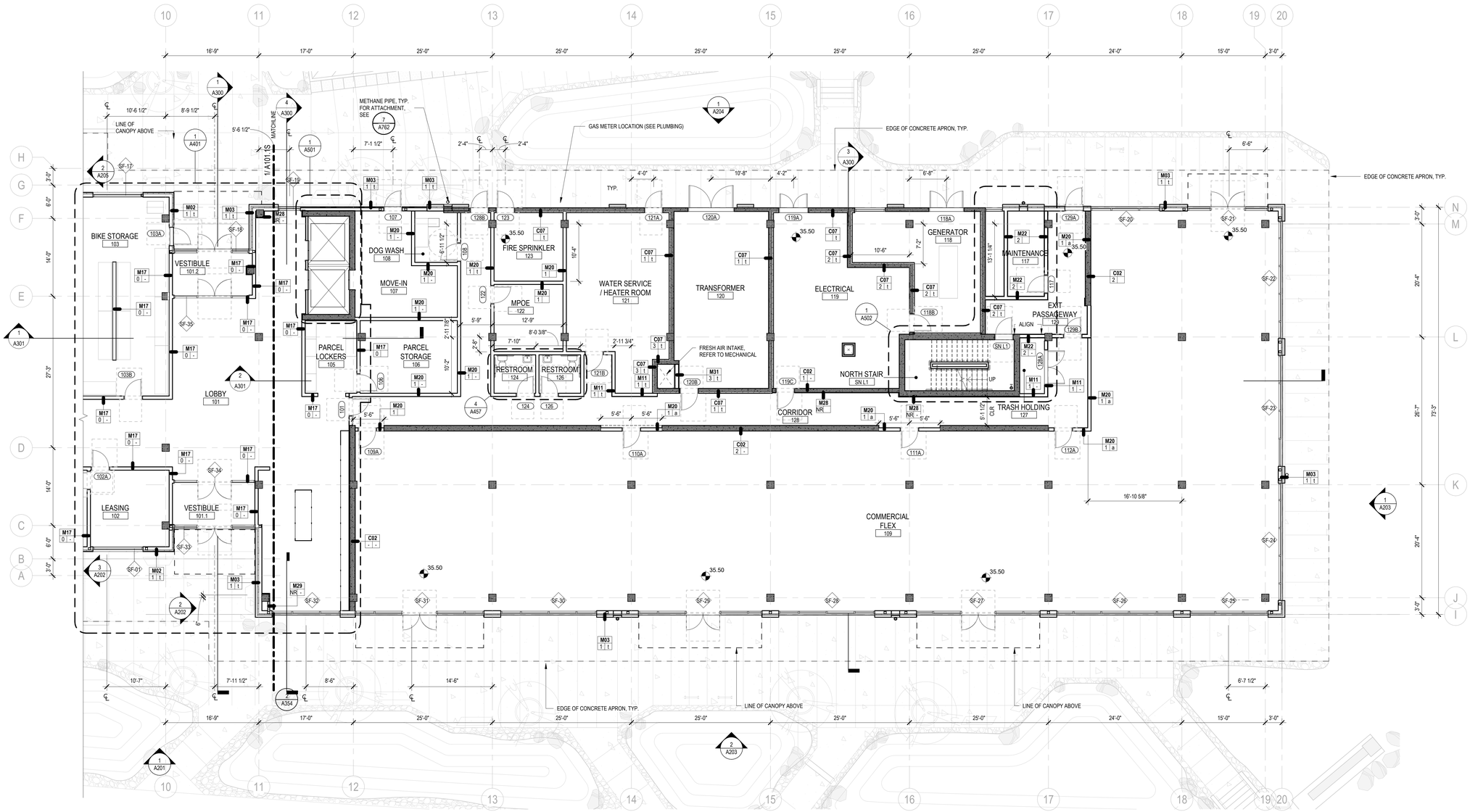

1 LEVEL 1 - NORTH

SCALE: 1/8" = 1'-0"

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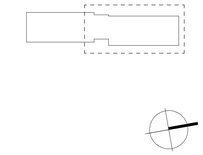
KEY PLAN



RUSSELL H. HAZZARD, ARCHITECT

807B REGISTERED ARCHITECT RUSSELL H. HAZZARD STATE OF WASHINGTON

10/17/2024

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1	11/04/22	PERMIT CORRECTIONS 01

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LEVEL 1 PLAN - NORTH

A101.1N

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FLOOR PLAN GENERAL NOTES

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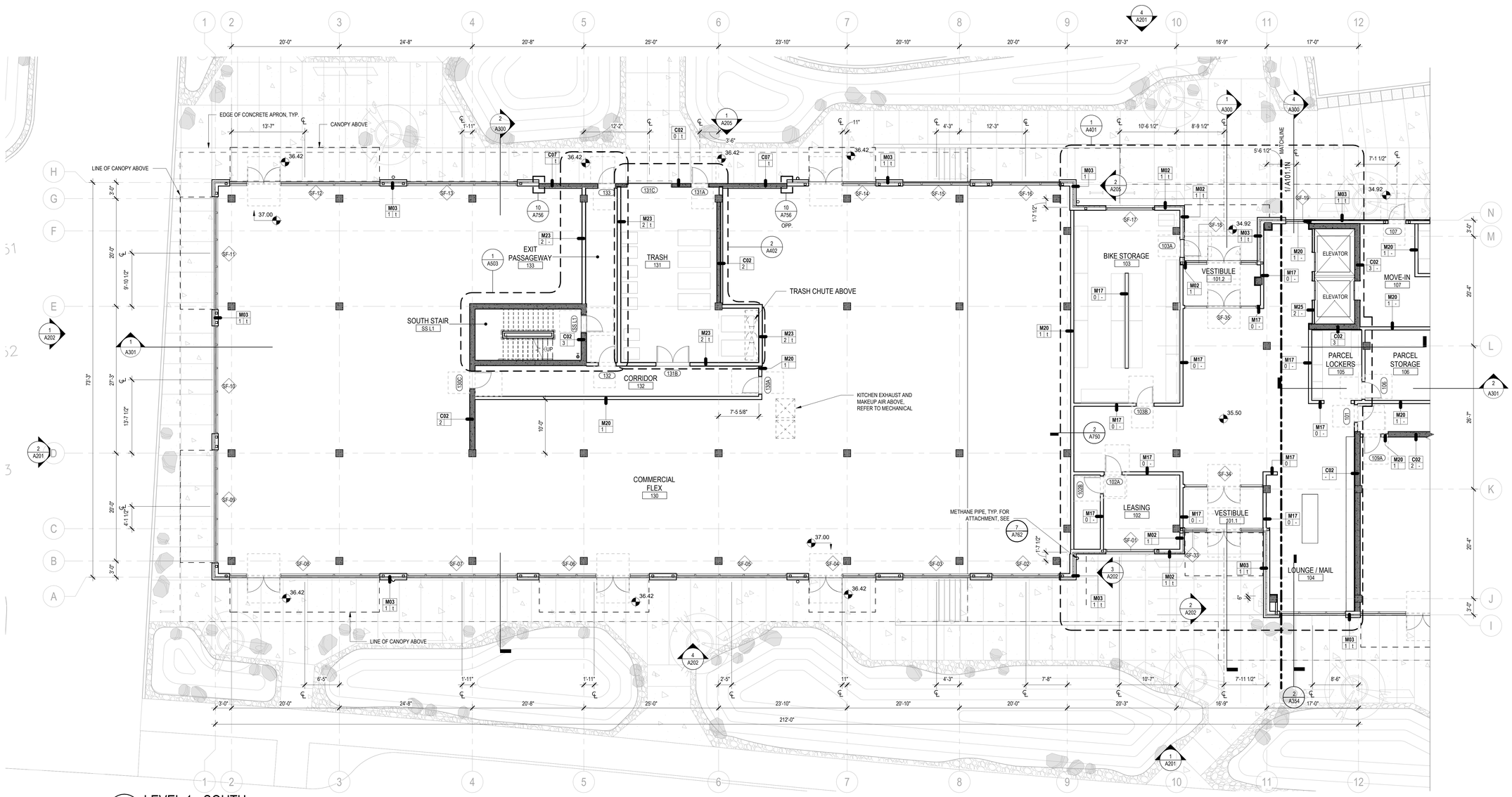

1 LEVEL 1 - SOUTH

SCALE: 1/8" = 1'-0"

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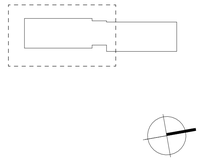

RUSSELL H. HAZZARD, ARCHITECT

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LEVEL 1 PLAN - SOUTH

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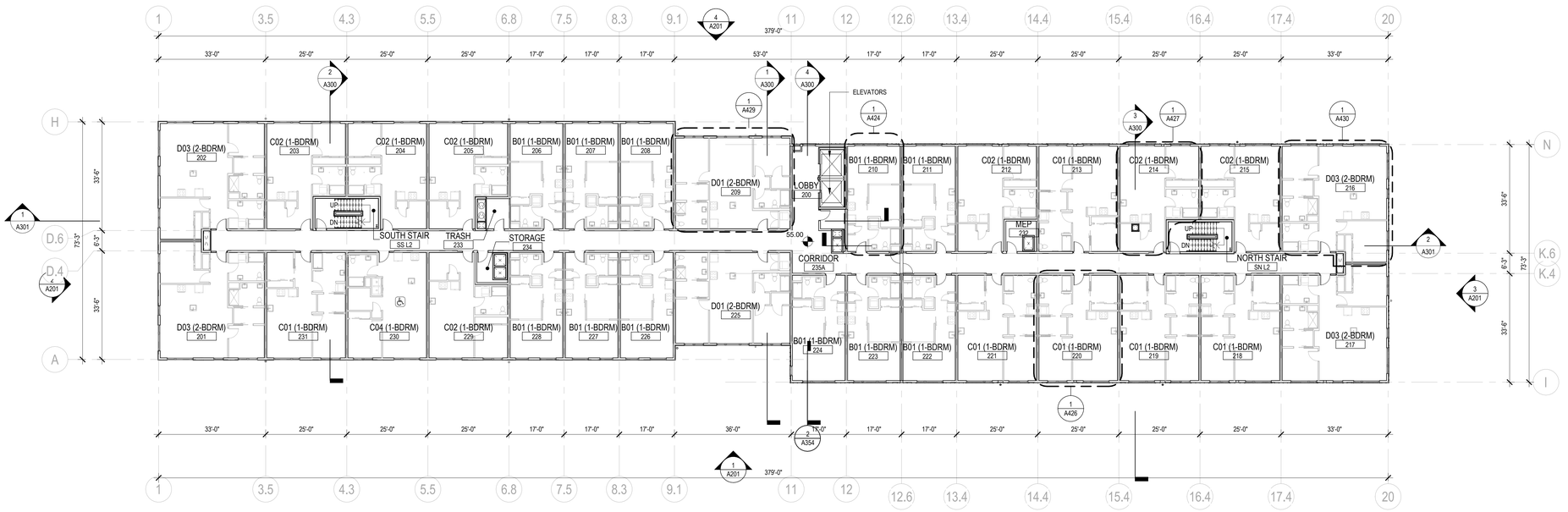

1 LEVEL 2 FLOOR PLAN

SCALE: 1/16" = 1'-0"

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FLOOR PLAN - LEVEL 2

A102

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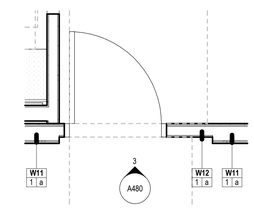
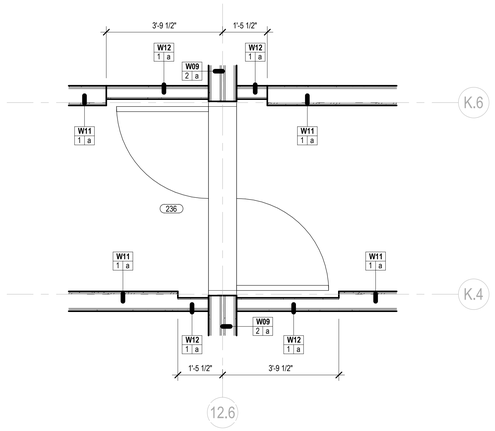


3 TYPICAL UNIT ENTRY

SCALE: 1/2" = 1'-0"



2 CORRIDOR DOUBLE DOORS

SCALE: 1/2" = 1'-0"

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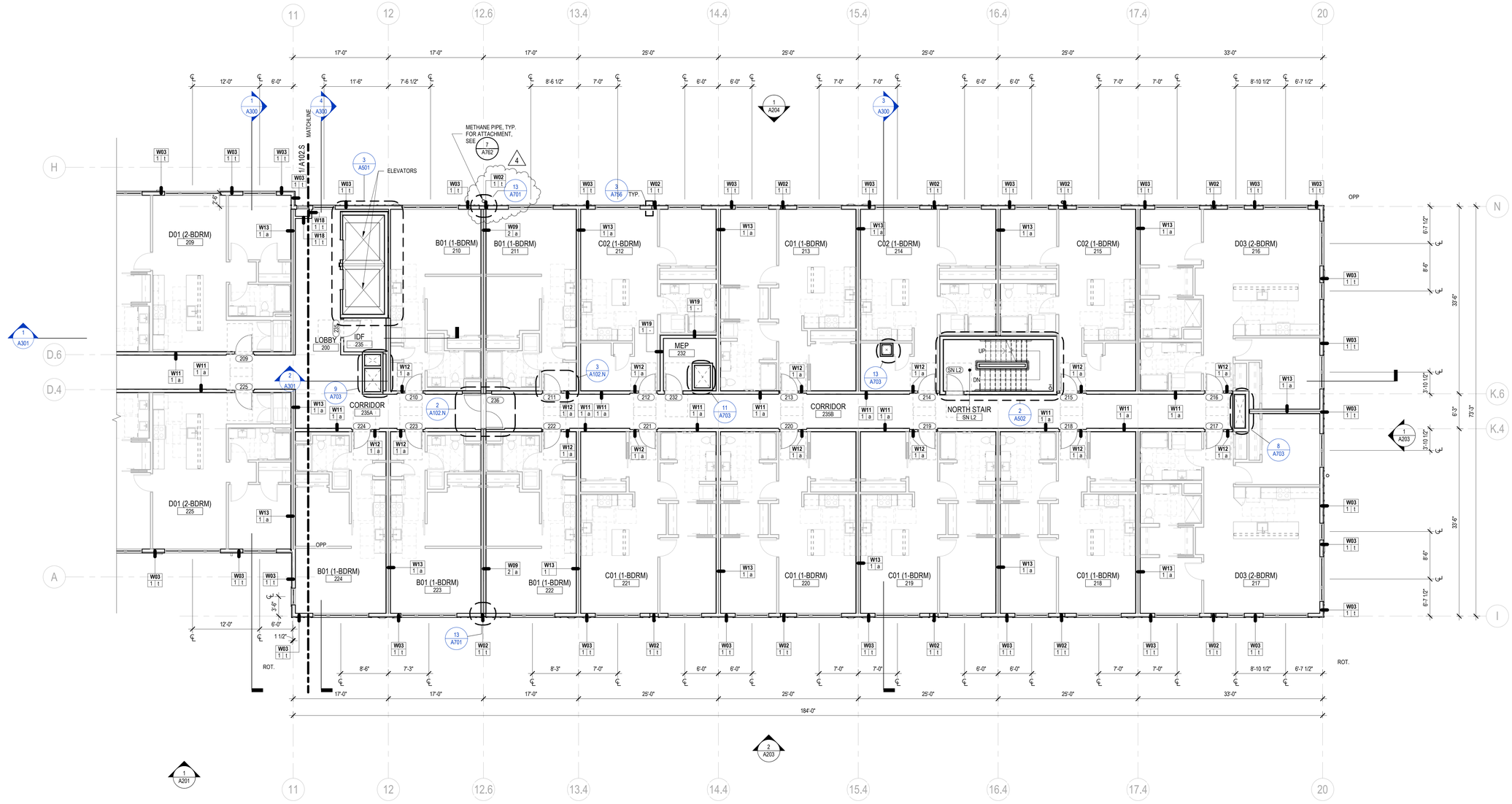

1 LEVEL 2 - NORTH

SCALE: 1/8" = 1'-0"

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RUSSELL H. HAZZARD, ARCHITECT

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04/29/22

LEVEL 2 PLAN - NORTH

A102.N

3/25/2026 10:09:09 AM Autodesk Docs://MG2-CE-Shelter Holdings-Everett Riverfront Development PH2-21-5905-01A/A_21-5905-01A_Everett Riverfront BLD-D_R25.rvt

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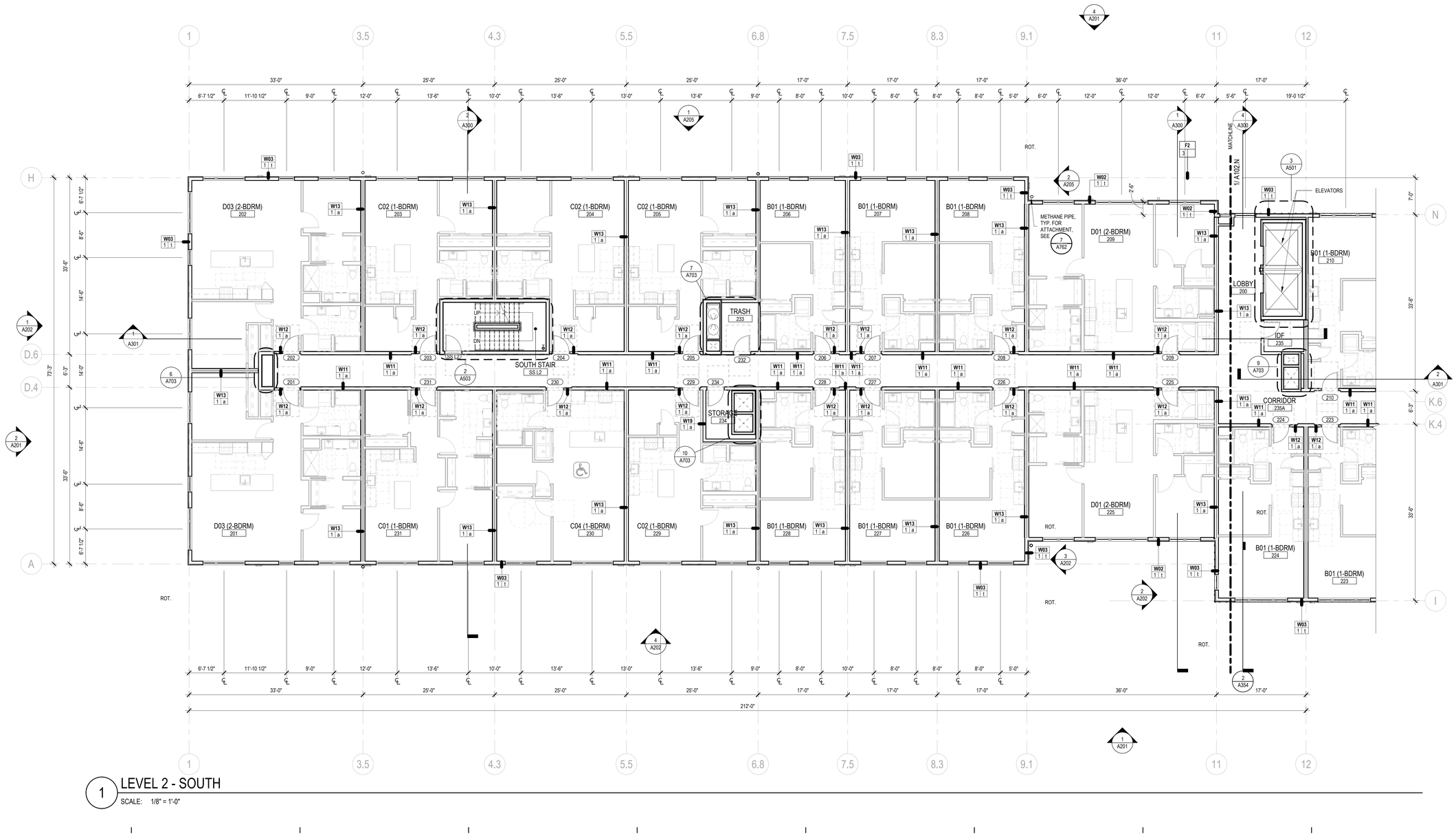

1 LEVEL 2 - SOUTH

SCALE: 1/8" = 1'-0"

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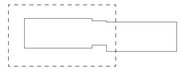

RUSSELL H. HAZZARD, ARCHITECT

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04/29/22

LEVEL 2 PLAN - SOUTH

A102.S

10/17/2024 12:02:48 PM Autodesk Docs://MG2-CE-Shelter Holdings-Everett Riverfront Development PH2-21-5905-01A/A_21-5905-01A_Everett Riverfront BLD-D_R22.rvt

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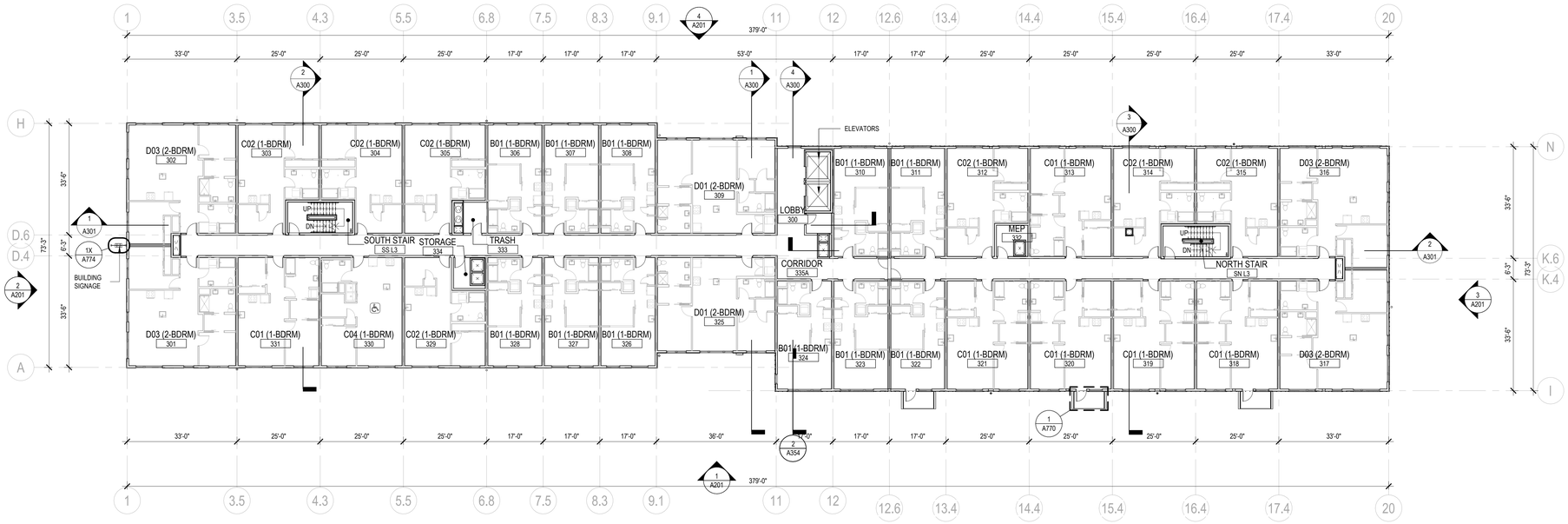

1 LEVEL 3

SCALE: 1/16" = 1'-0"

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FLOOR PLAN - LEVEL 3

A103

10/17/2024 12:02:51 PM Autodesk Docs://MG2-CE-Shelter Holdings-Everett Riverfront Development PH2-21-5905-01A/A_21-5905-01A_Everett Riverfront BLD-D_R22.rvt

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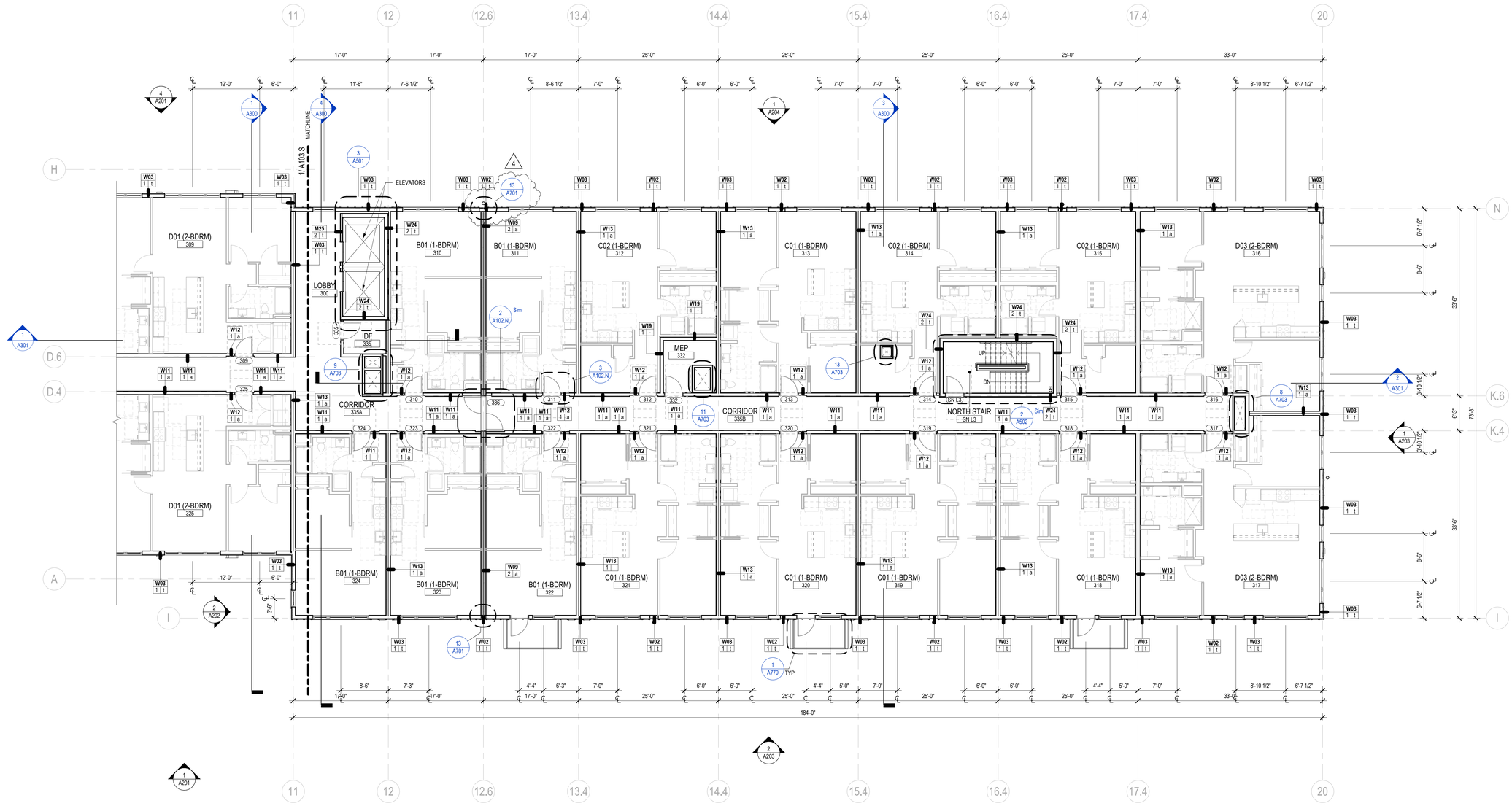

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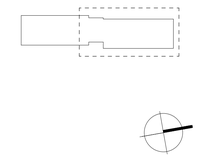

RUSSELL H. HAZZARD, ARCHITECT

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RUSSELL H. HAZZARD
STATE OF WASHINGTON
03/25/2026

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LEVEL 3 PLAN - NORTH

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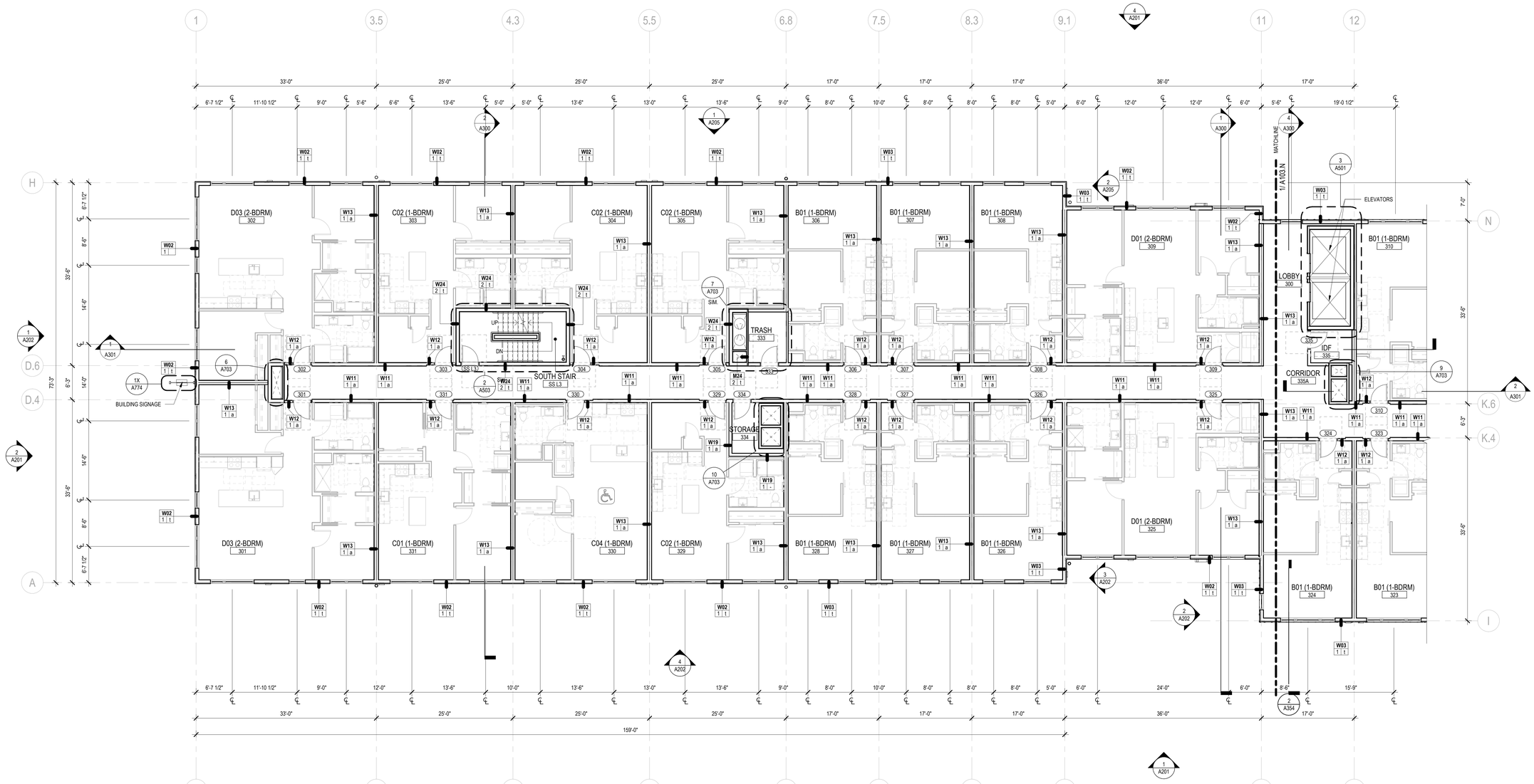

1 LEVEL 3 - SOUTH

SCALE: 1/8" = 1'-0"

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LEVEL 3 PLAN - SOUTH

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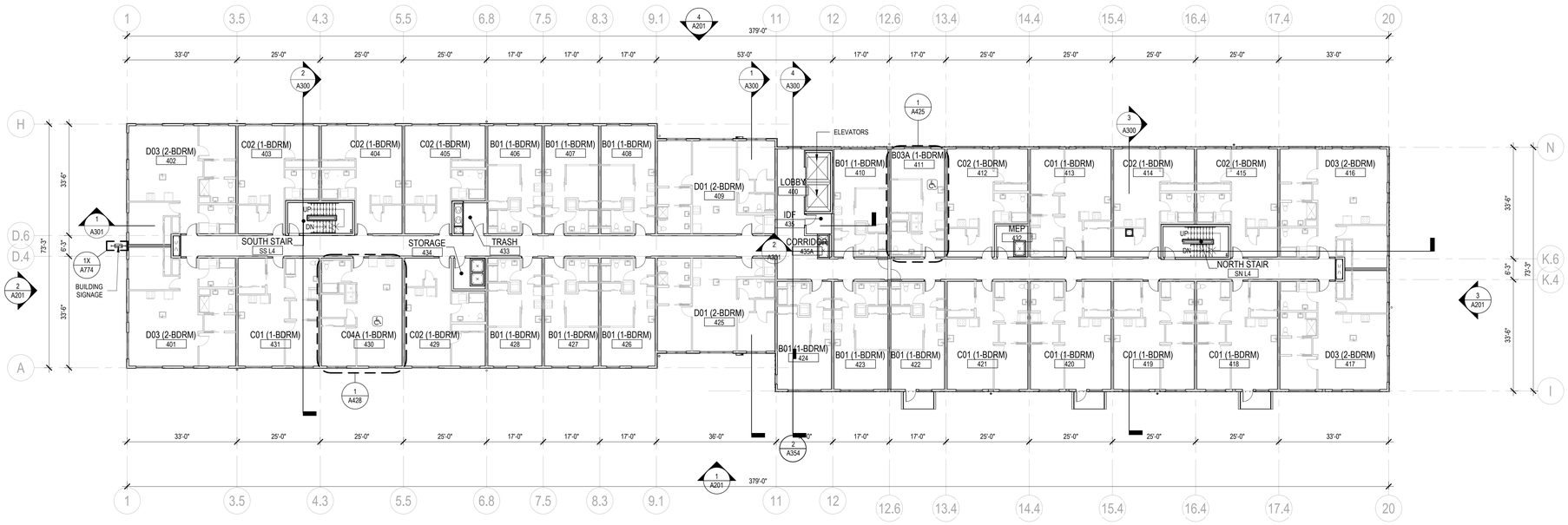

1 LEVEL 4

SCALE: 1/16" = 1'-0"

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KEY PLAN

RUSSELL H. HAZZARD, ARCHITECT

8079 REGISTERED ARCHITECT RUSSELL H. HAZZARD STATE OF WASHINGTON

10/17/2024

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FLOOR PLAN - LEVEL 4

A104

10/17/2024 12:02:58 PM Autodesk Docs://MG2-CE-Shelter Holdings-Everett Riverfront Development PH2-21-5905-01A/A_21-5905-01A_Everett Riverfront BLD-D_R22.rvt

FLOOR PLAN GENERAL NOTES

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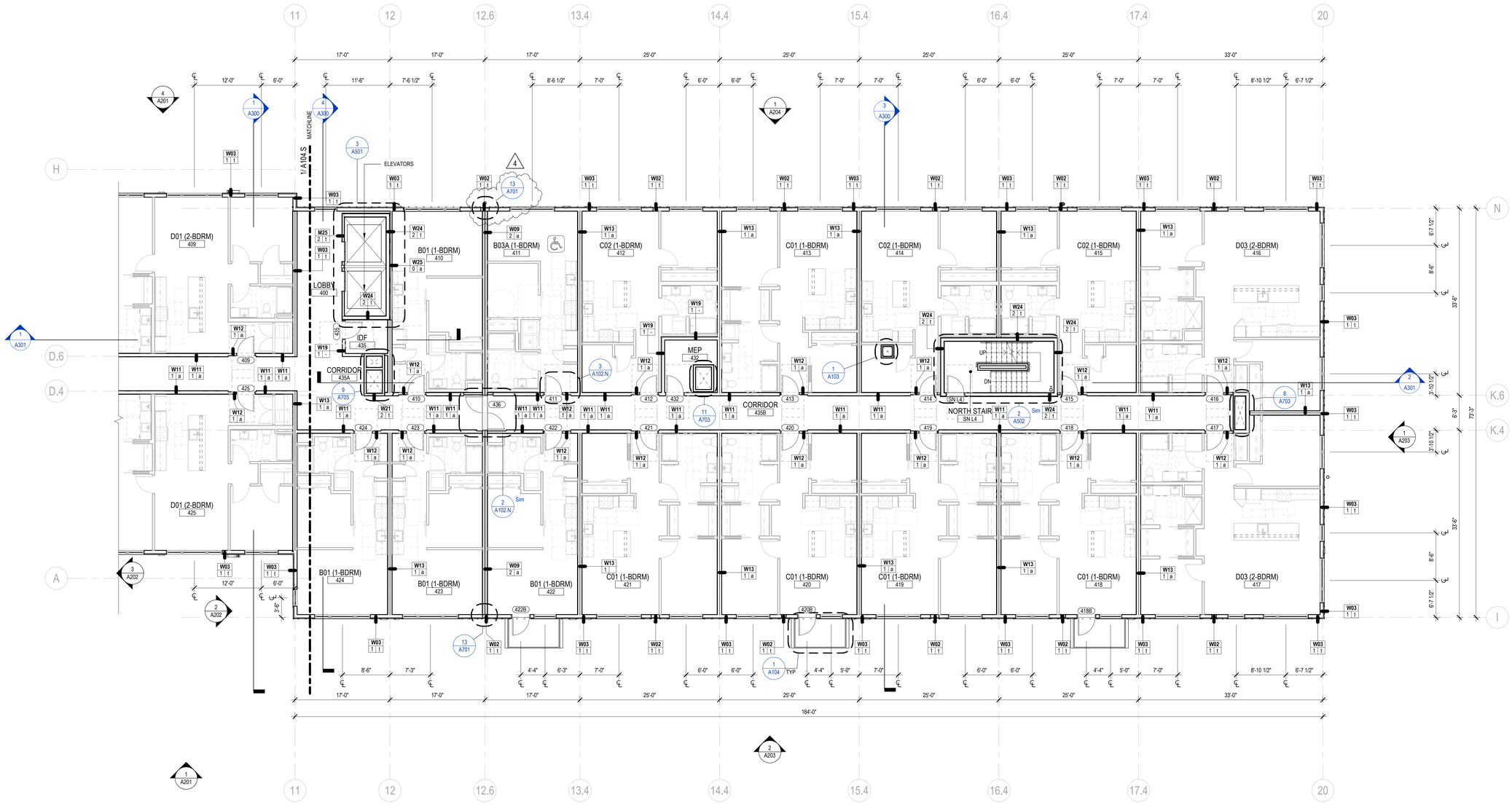

1 LEVEL 4 - NORTH
SCALE: 1/8" = 1'-0"

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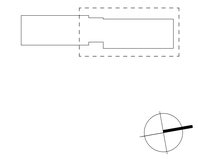
KEY PLAN



RUSSELL H. HAZZARD, ARCHITECT

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4	3/25/26	PERMIT CORRECTIONS 04

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04/29/22

LEVEL 4 PLAN - NORTH

A104.N

3/25/2026 10:09:19 AM Autodesk Docs://MG2-CE-Shelter Holdings-Everett Riverfront Development PH2-21-5905-01A/A_21-5905-01A_Everett Riverfront BLD-D_R25.rvt

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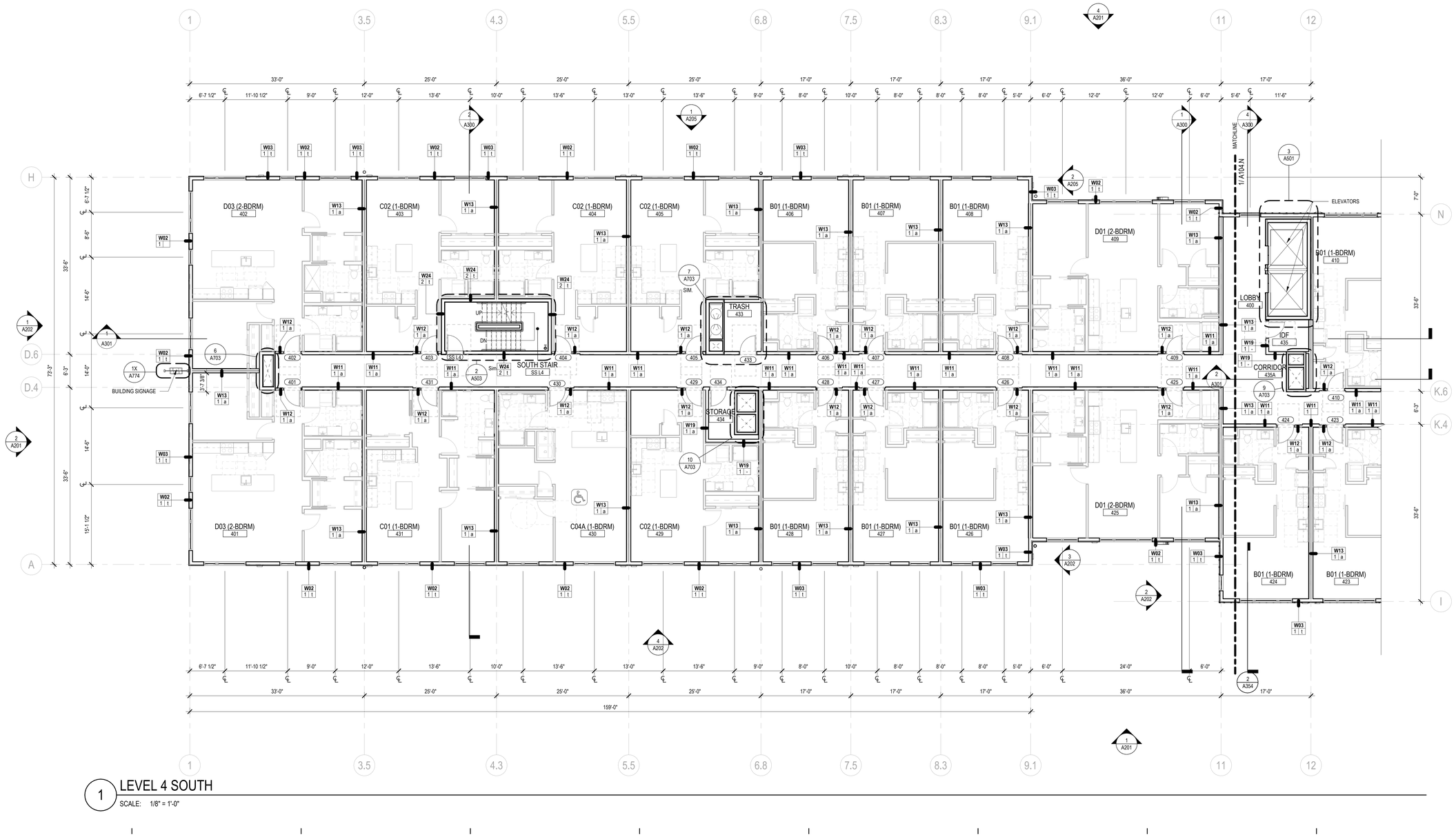

1 LEVEL 4 SOUTH
SCALE: 1/8" = 1'-0"

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STATE OF WASHINGTON

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LEVEL 4 PLAN - SOUTH

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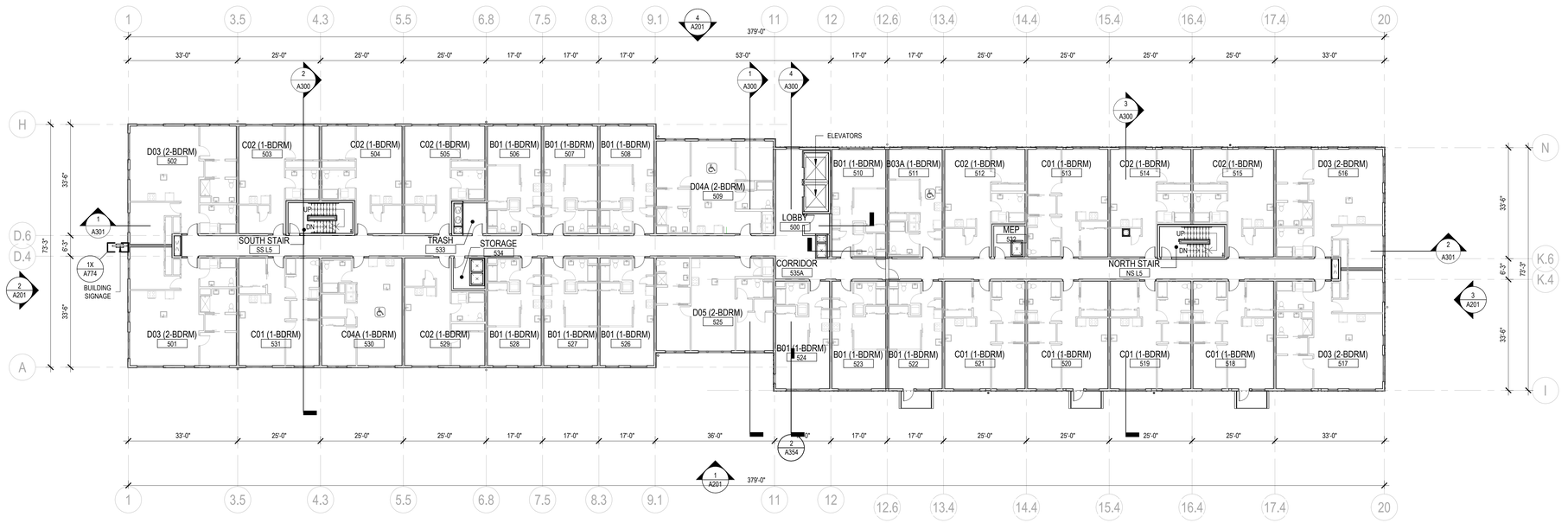

1 LEVEL 5 FLOOR PLAN

SCALE: 1/16" = 1'-0"

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RUSSELL H. HAZZARD, ARCHITECT

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FLOOR PLAN - LEVEL 5

A105

10/17/2024 12:03:04 PM Autodesk Docs://MG2-CE-Shelter Holdings-Everett Riverfront Development PH2-21-5905-01A/A_21-5905-01A_Everett Riverfront BLD-D_R22.rvt

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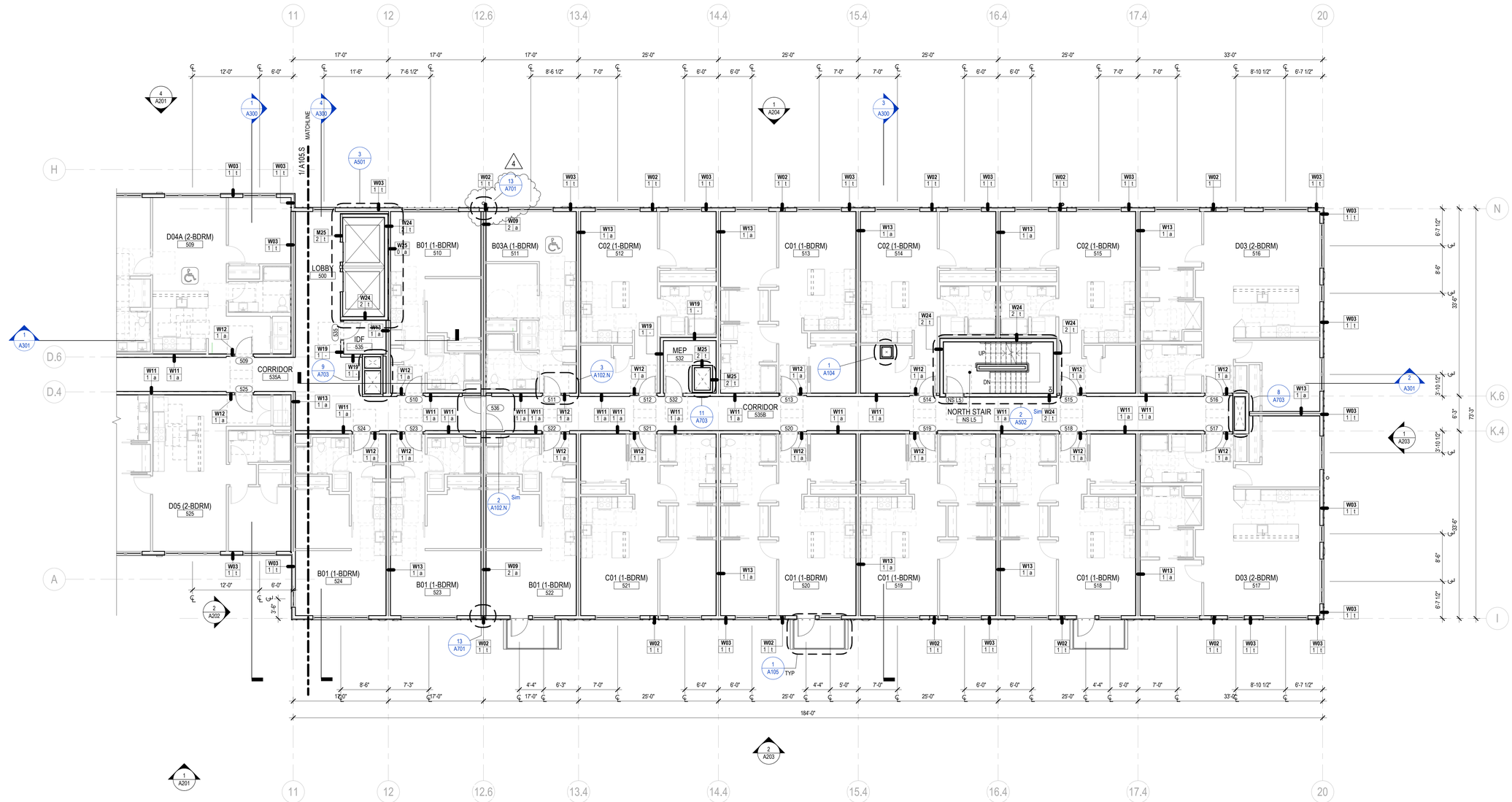

1 LEVEL 5 - NORTH
SCALE: 1/8" = 1'-0"

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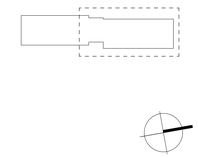
KEY PLAN



RUSSELL H. HAZZARD, ARCHITECT

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STATE OF WASHINGTON
03/25/2026

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1	11/04/22	PERMIT CORRECTIONS 01
4	3/25/26	PERMIT CORRECTIONS 04

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04/29/22

LEVEL 5 PLAN - NORTH

A105.N

3/25/2026 10:09:28 AM Autodesk Docs://MG2-CE-Shelter Holdings-Everett Riverfront Development PH2-21-5905-01A/A_21-5905-01A_Everett Riverfront BLD-D_R25.rvt

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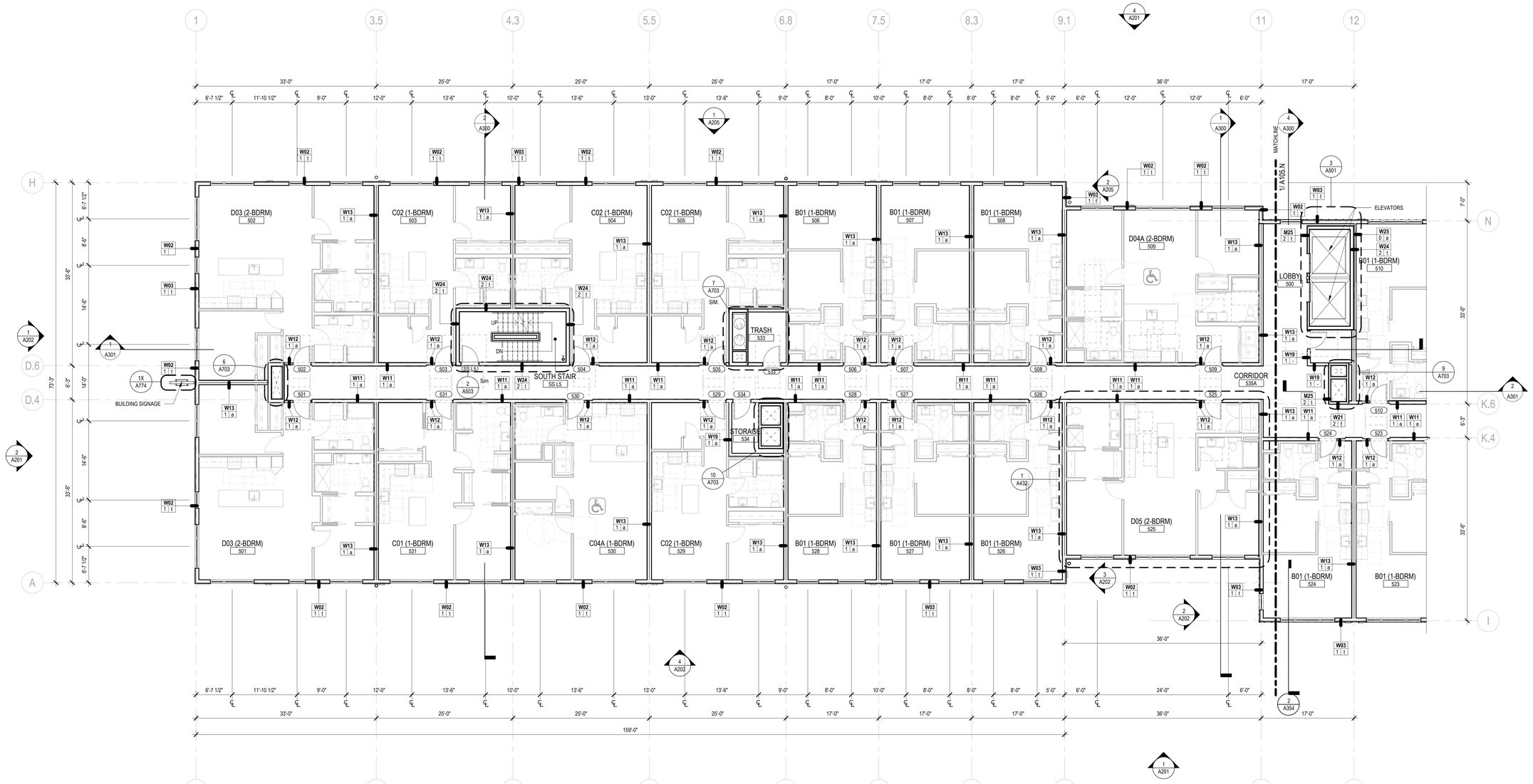

1 LEVEL 5 - SOUTH

SCALE: 1/8" = 1'-0"

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04/29/22

LEVEL 5 PLAN - SOUTH

A105.S

10/17/2024 12:03:09 PM Autodesk Docs://MG2-CE-Shelter Holdings-Everett Riverfront Development PH2-21-5905-01A/A_21-5905-01A_Everett Riverfront BLD-D_R22.rvt

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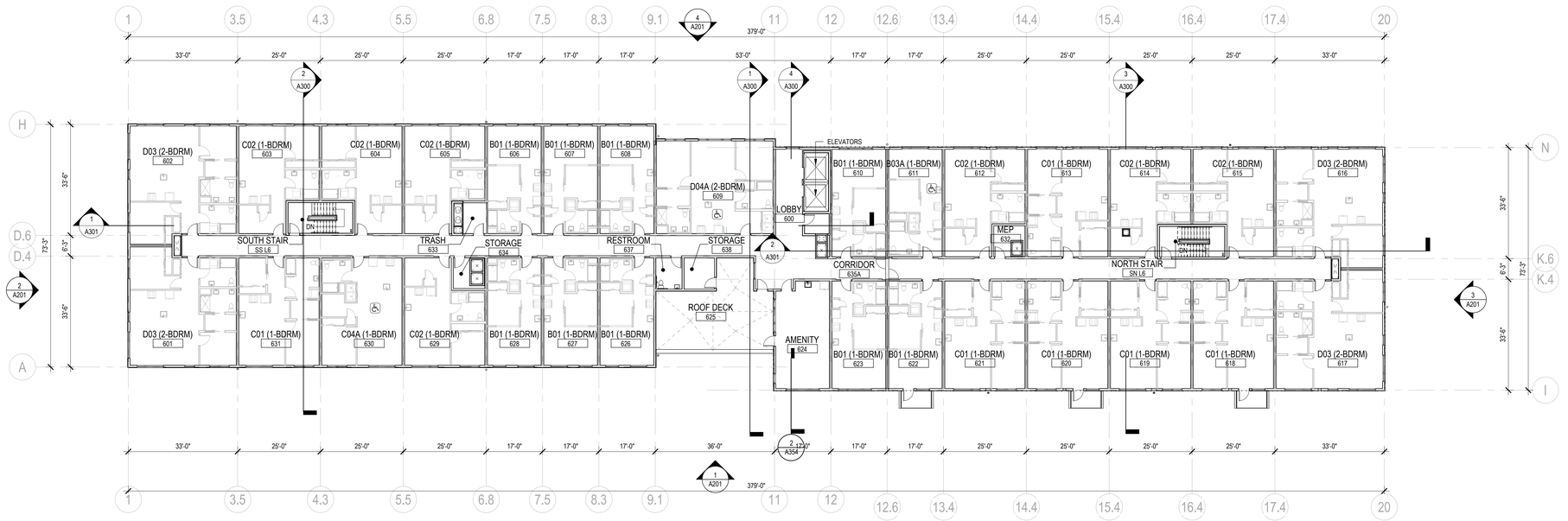

1 LEVEL 6

SCALE: 1/16" = 1'-0"

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STATE OF WASHINGTON

10/17/2024

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FLOOR PLAN - LEVEL 6

A106

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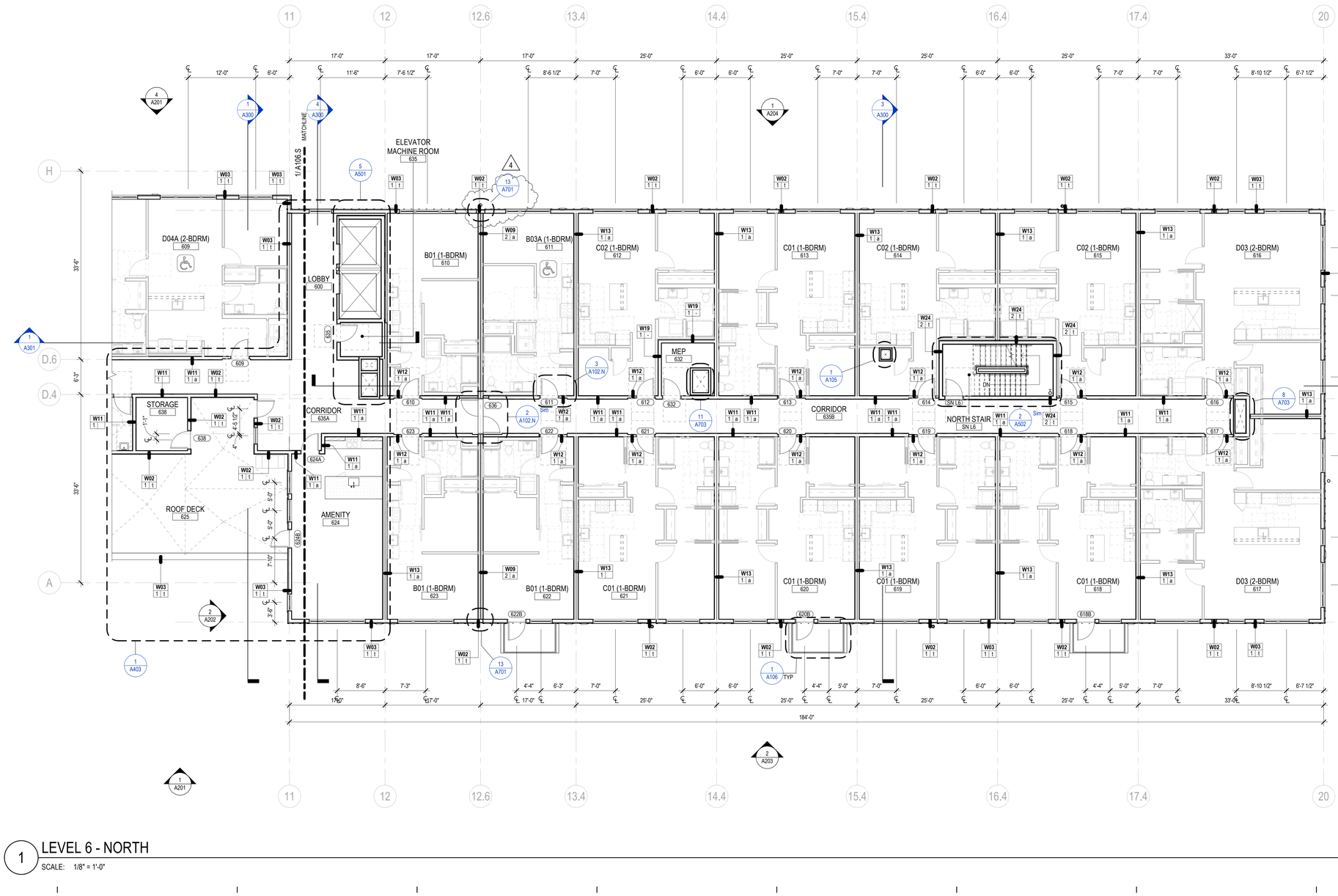

1 LEVEL 6 - NORTH
SCALE: 1/8" = 1'-0"

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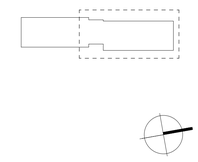

RUSSELL H. HAZZARD, ARCHITECT

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3	9/20/24	PERMIT CORRECTIONS 03
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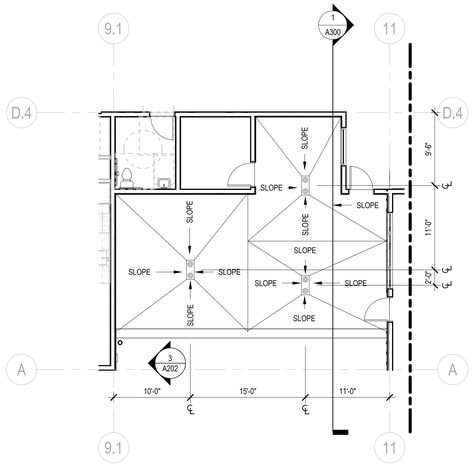
PM: ELI HARDI
DRAWN BY: JG, PD, MB
04/29/22

LEVEL 6 PLAN - NORTH

A106.N

3/25/2026 10:09:31 AM Autodesk Docs://MG2-CE-Shelter Holdings-Everett Riverfront Development PH2-21-5905-01A/A_21-5905-01A_Everett Riverfront BLD-D_R25.rvt



2 AMENITY DECK ROOF

SCALE: 1/8" = 1'-0"

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14. STOREFRONT SYSTEMS ARE DIMENSIONED TO THE CENTER OF THE OPENING UNLESS OTHERWISE NOTED.

1 LEVEL 6 - SOUTH

SCALE: 1/8" = 1'-0"

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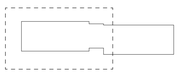
KEY PLAN



RUSSELL H. HAZZARD, ARCHITECT

8079 REGISTERED ARCHITECT RUSSELL H. HAZZARD STATE OF WASHINGTON

10/17/2024

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LEVEL 6 PLAN - SOUTH

A106.S

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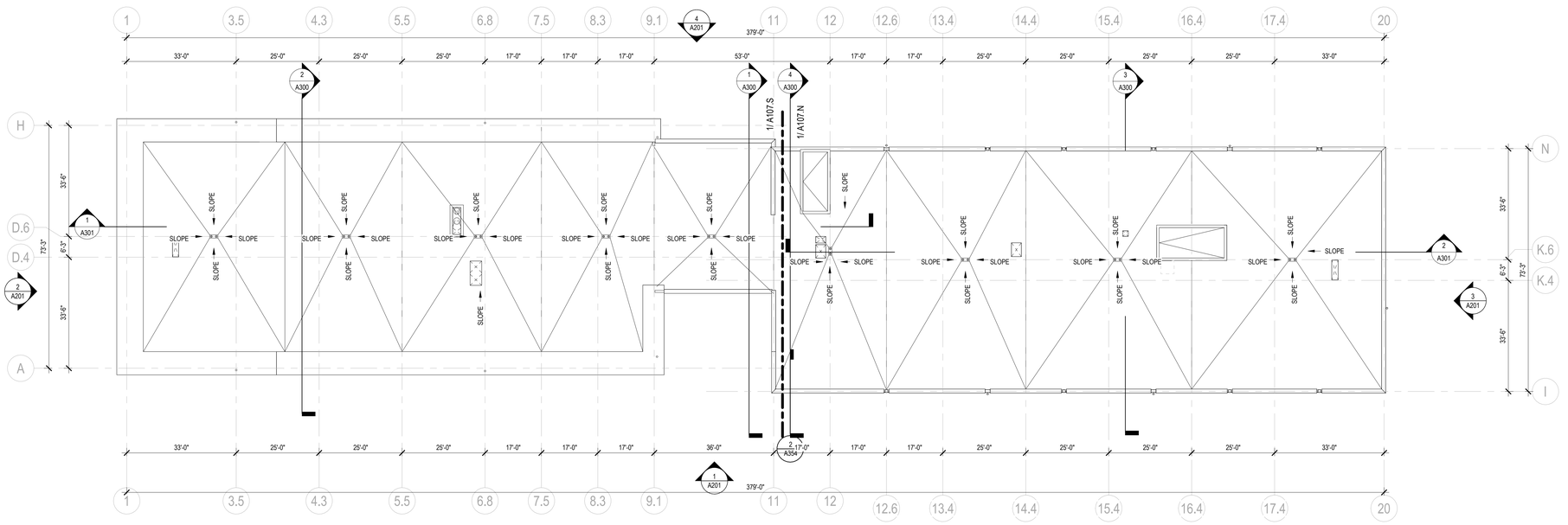
GENERAL NOTES

1. MIN. 1/4":1'-0" SLOPE FOR ROOF DRAINAGE, UNO.
2. CRICKET AS REQ'D AROUND ALL ROOF ELEMENTS TO MAINTAIN POSITIVE DRAINAGE.
3. MINIMUM 4" THICKNESS RIGID INSULATION AT ALL ROOF LOCATIONS.
5. REFER TO MECHANICAL FOR LOCATIONS OF ALL ROOFTOP UNITS.



1 ROOF PLAN

SCALE: 1/16" = 1'-0"

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ROOF PLAN

A107

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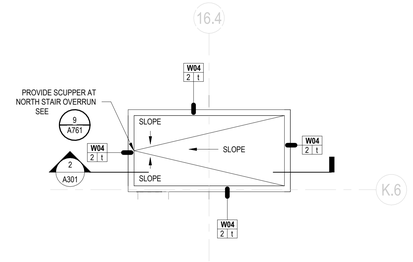
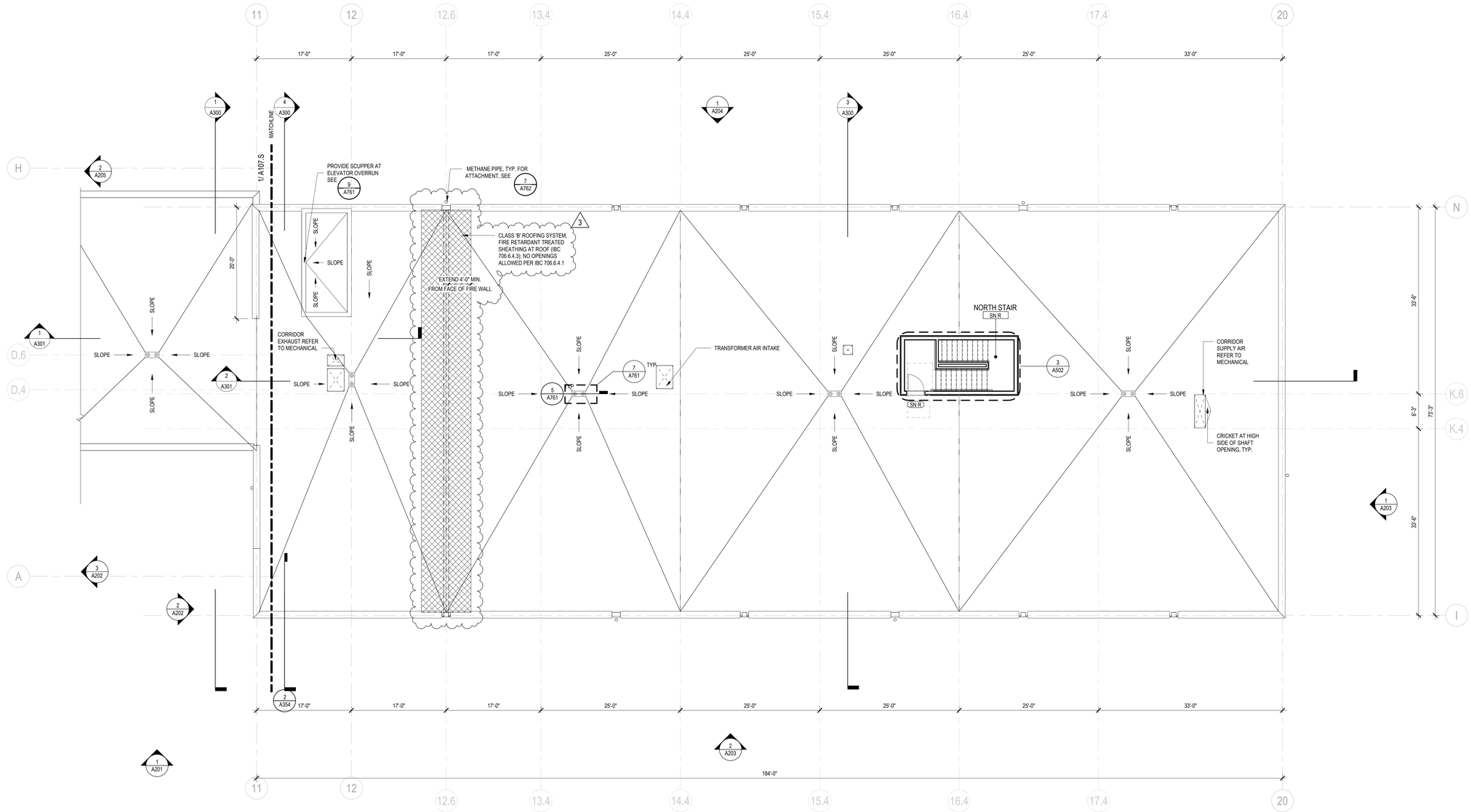


2 ROOF PLAN - NORTH STAIR OVERRUN
SCALE: 1/8" = 1'-0"



1 ROOF PLAN - NORTH
SCALE: 1/8" = 1'-0"

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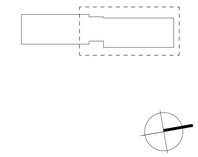

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ROOF PLAN - NORTH

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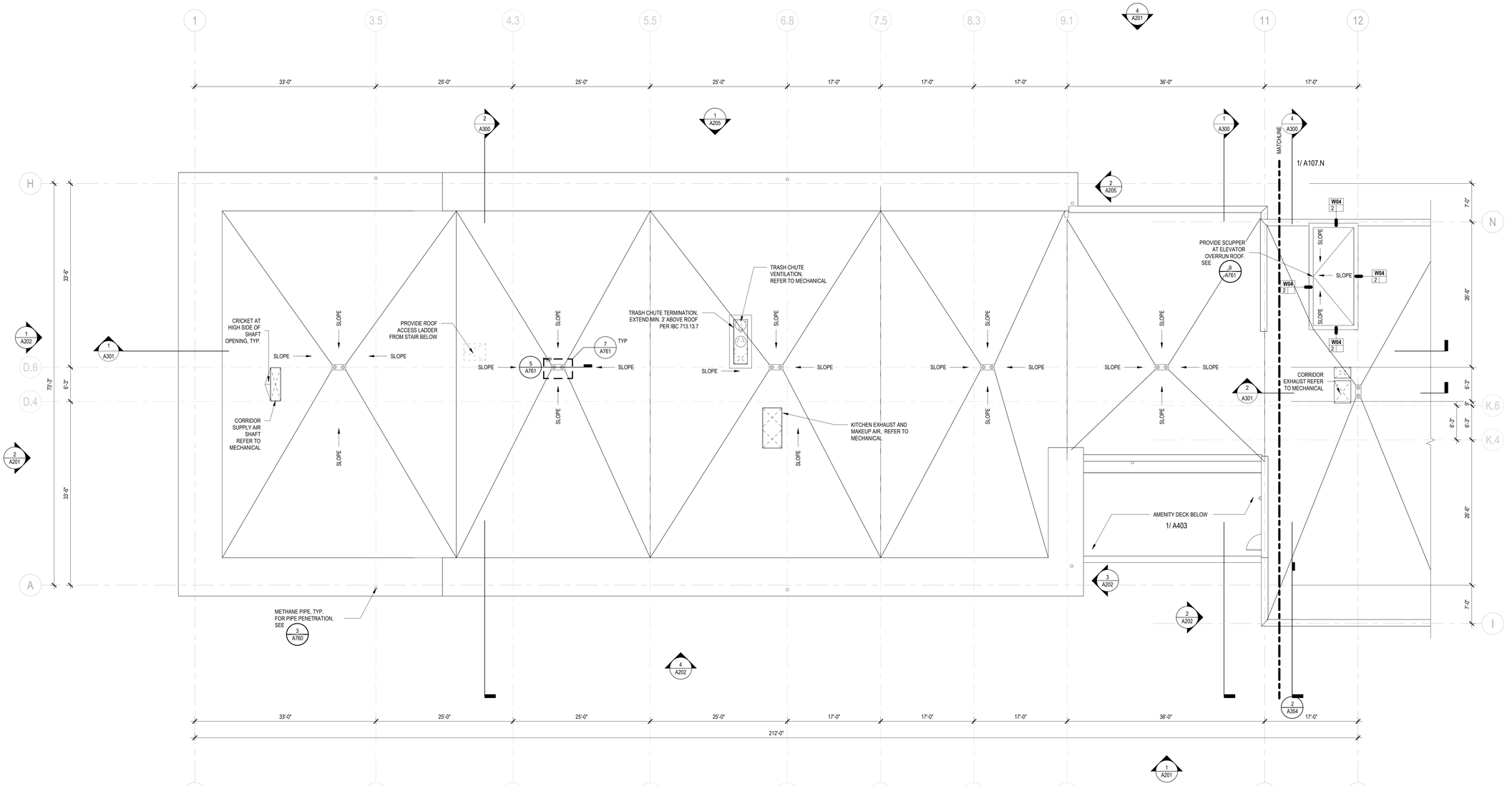

1 ROOF PLAN - SOUTH

SCALE: 1/8" = 1'-0"

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ROOF PLAN - SOUTH

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EOS PLAN NOTES: (4)

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2. **REFER TO LFG102 FOR ALL SLEEVE PENETRATIONS.**
3. STAIR LANDINGS TO HAVE CONCRETE TOPPING SLAB. REFER TO DRAWINGS FOR RELEVANT THICKNESSES
4. REFER TO STAIR DETAILS FOR ACCURATE DIMENSIONS AND CONSTRUCTION OF STAIRS.
5. FIRST STEP OF STAIRS TO BE FORMED ON SLAB AS SHOWN.
6. BALCONY, TERRACES AND ROOFS ARE ALL TO INCORPORATE MINIMUM CODE REQUIREMENTS OF 1/4" PER 12" SLOPE.
7. WALLS ARE CENTERED ON GRIDLINES WHEN NOT DIMENSIONED
8. ALIGN FACE OF CMU WALL AND CURBS WITH FACE OF APRON STEP, U.N.O.
9. ALL SLAB PENETRATIONS ARE PLUMBING U.N.O. SEE PLUMBING AND ELECTRICAL FOR PIPE SIZE.
10. ALL CURBS ARE 9" WIDE, U.N.O.
11. SLOPED SLABS TO BE SLOPED IN DIRECTION SHOWN AT MIN 1/4" PER FOOT, U.N.O.

EOS LEGEND

- EDGE OF CONCRETE SLAB (ARCHITECTURE MODEL)
- EDGE OF CONCRETE SLAB (STRUCTURE MODEL)
- EDGE OF CONCRETE SLAB BELOW
- VOID IN CONCRETE SLAB
- CONCRETE CURB WALLS (PROVIDED TO BASE OF THE STOREFRONT)
- FLOOR DRAIN
- SLAB PENETRATION
- INDICATES RAMP DIRECTION/ARROW ALWAYS TO HIGH POINT) — X".0"/X".UP
- INDICATES RAMP ABOVE
- INDICATES VOID IN SLAB
- INDICATES SLOPED CONCRETE ON ROOF (TO DRAIN). MINIMUM PITCH 1/8" PER 12"
- LEVEL STEP IN SLAB
- SLOPED STEP IN SLAB
- BOTTOM OF RAMP
- TOP OF RAMP
- TOP OF CURB - VALUE — TOC - X.X'
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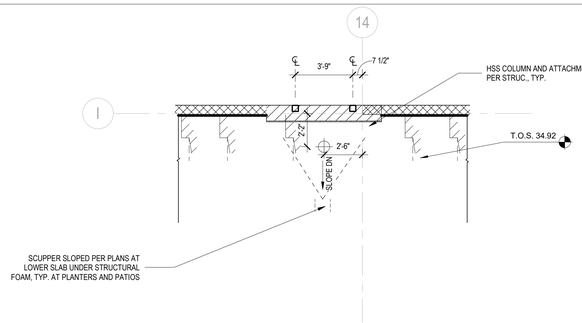
- INDICATES 10" WIDE CURB AT PLANTERS
- INDICATES 13" WIDE CURB WITH BRICK FINISH ABOVE
- INDICATES CONCRETE WALL

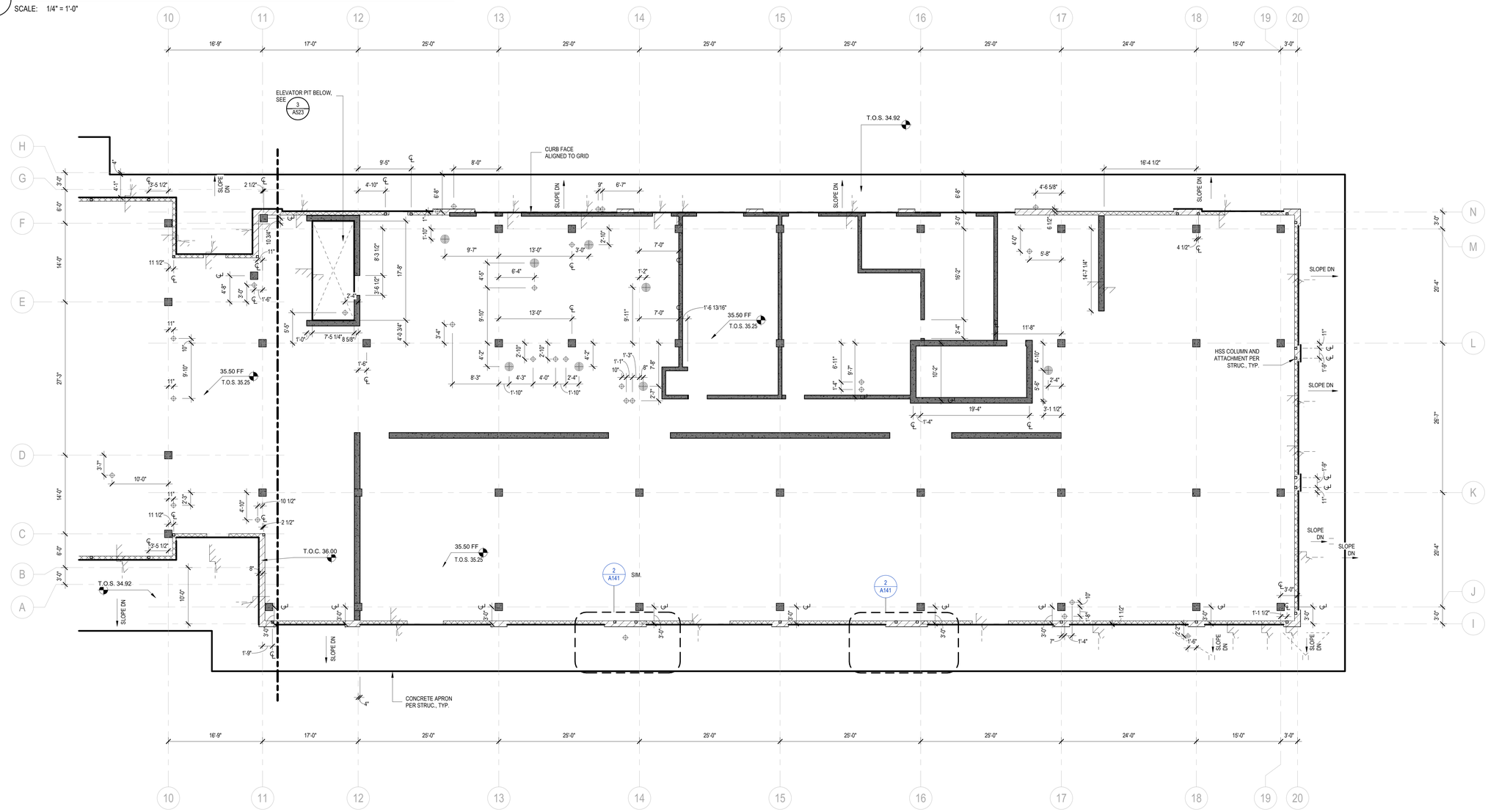


2 LEVEL 1 PLANTER SLAB EDGE ENLARGED PLAN

SCALE: 1/4" = 1'-0"

1 LEVEL 1 SLAB EDGE - NORTH

SCALE: 1/8" = 1'-0"



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KEY PLAN

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SLAB EDGE PLAN - LEVEL 1 NORTH

A141

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EOS PLAN NOTES: 4

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2. **REFER TO LFG102 FOR ALL SLEEVE PENETRATIONS.**
3. STAIR LANDINGS TO HAVE CONCRETE TOPPING SLAB. REFER TO DRAWINGS FOR RELEVANT THICKNESSES.
4. REFER TO STAIR DETAILS FOR ACCURATE DIMENSIONS AND CONSTRUCTION OF STAIRS.
5. FIRST STEP OF STAIRS TO BE FORMED ON SLAB AS SHOWN.
6. BALCONY, TERRACES AND ROOFS ARE ALL TO INCORPORATE MINIMUM CODE REQUIREMENTS OF 1/4" PER 12" SLOPE.
7. WALLS ARE CENTERED ON GRIDLINES WHEN NOT DIMENSIONED
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- INDICATES RAMP ABOVE
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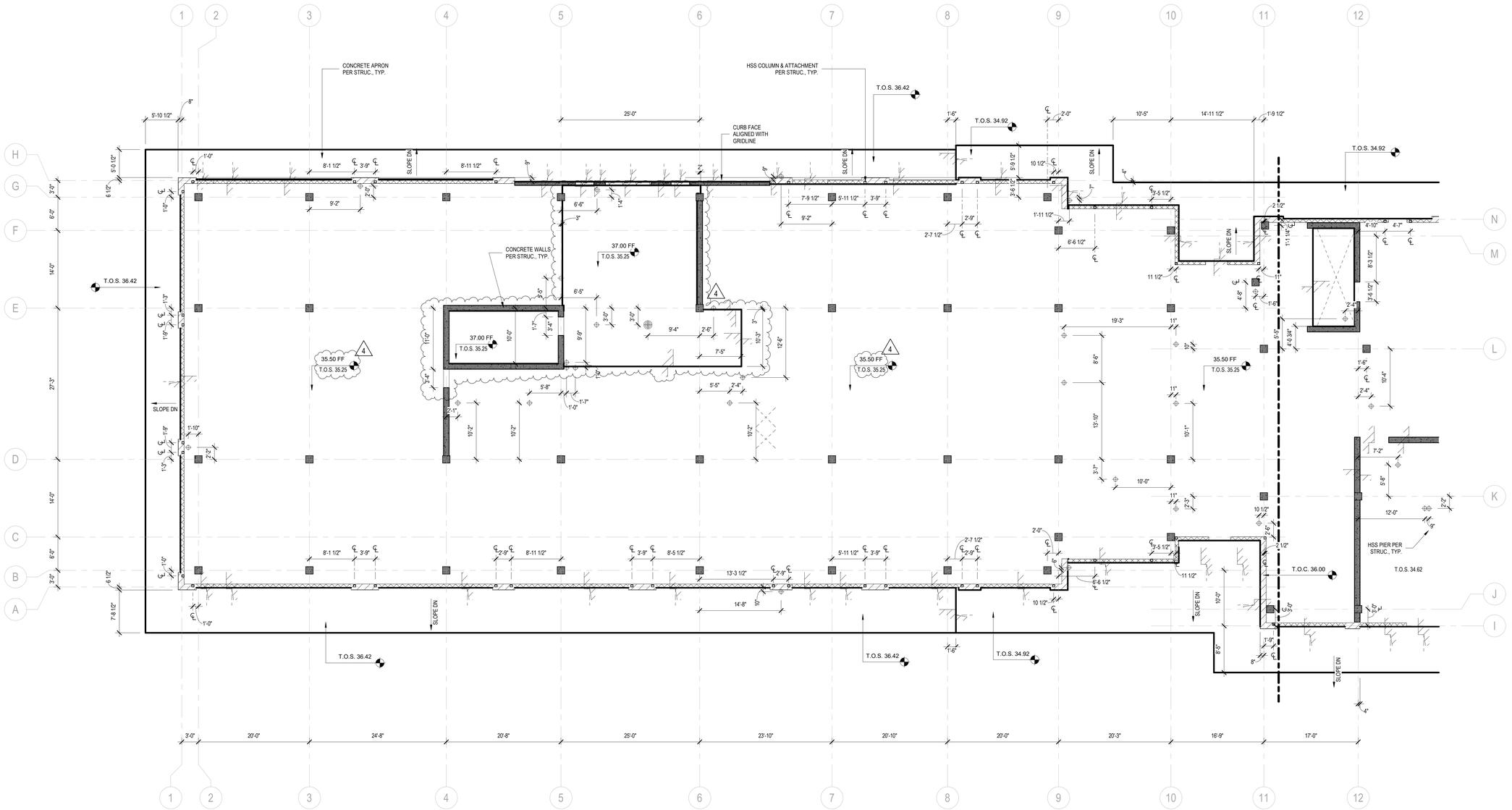

1 LEVEL 1 SLAB EDGE - SOUTH

SCALE: 1/8" = 1'-0"

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SLAB EDGE PLAN - LEVEL 1 SOUTH

A142

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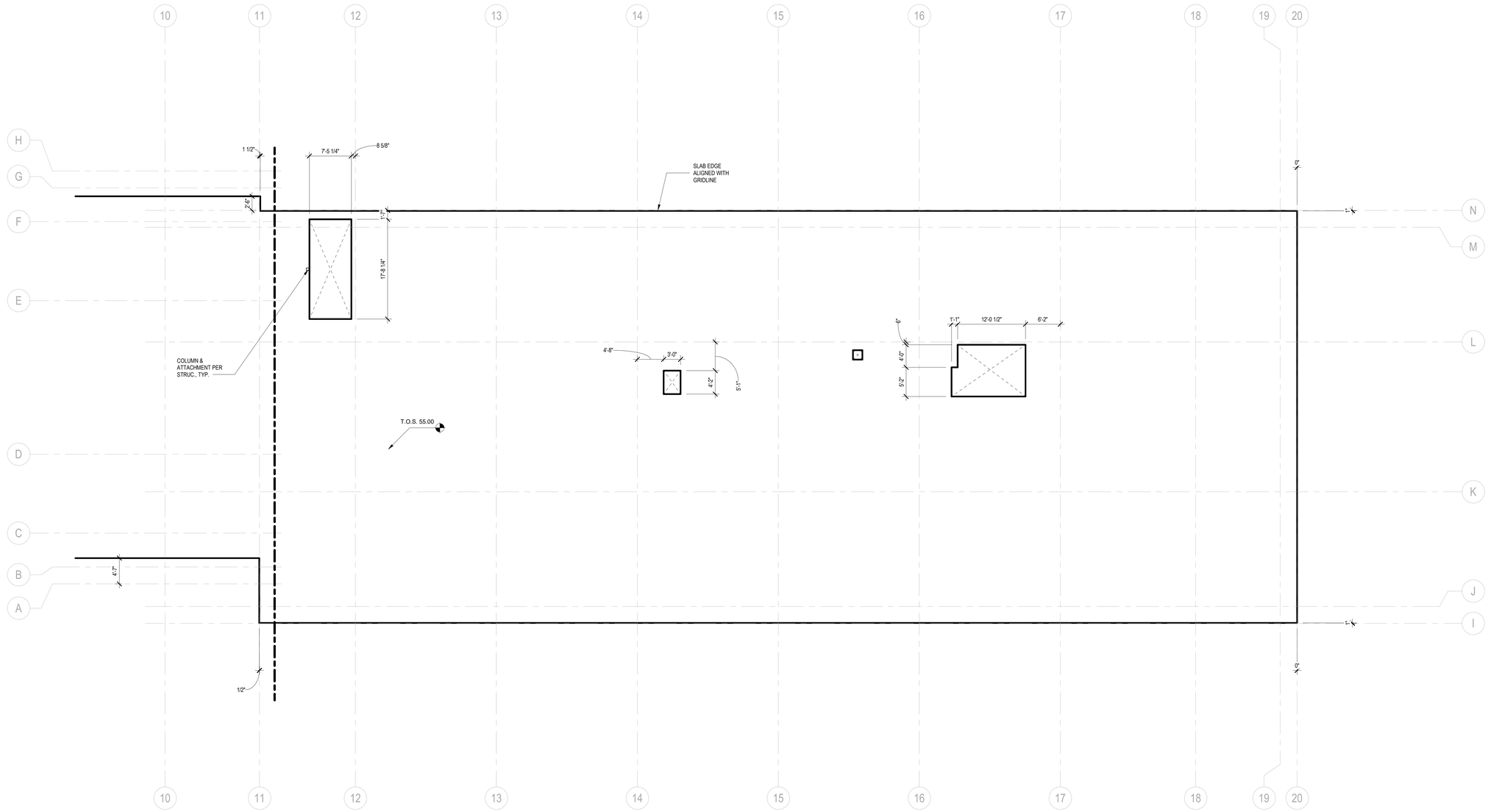

1 LEVEL 2 SLAB EDGE - NORTH

SCALE: 1/8" = 1'-0"

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SLAB EDGE PLAN - LEVEL 2 NORTH

A144

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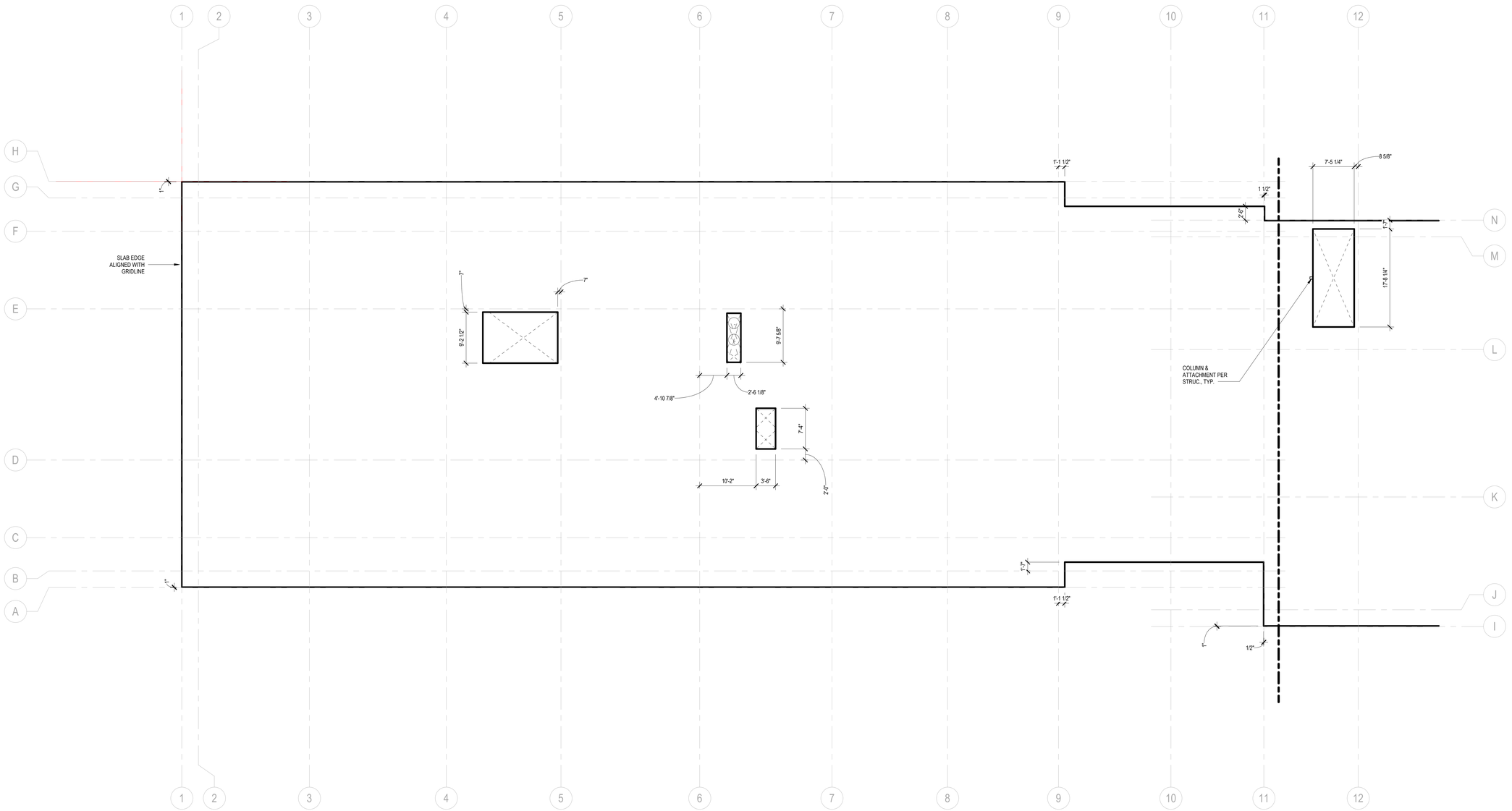

1 LEVEL 2 SLAB EDGE - SOUTH

SCALE: 1/8" = 1'-0"

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PM: ELI HARDI
DRAWN BY: Author
12/06/22

SLAB EDGE PLAN - LEVEL 2 SOUTH

A145

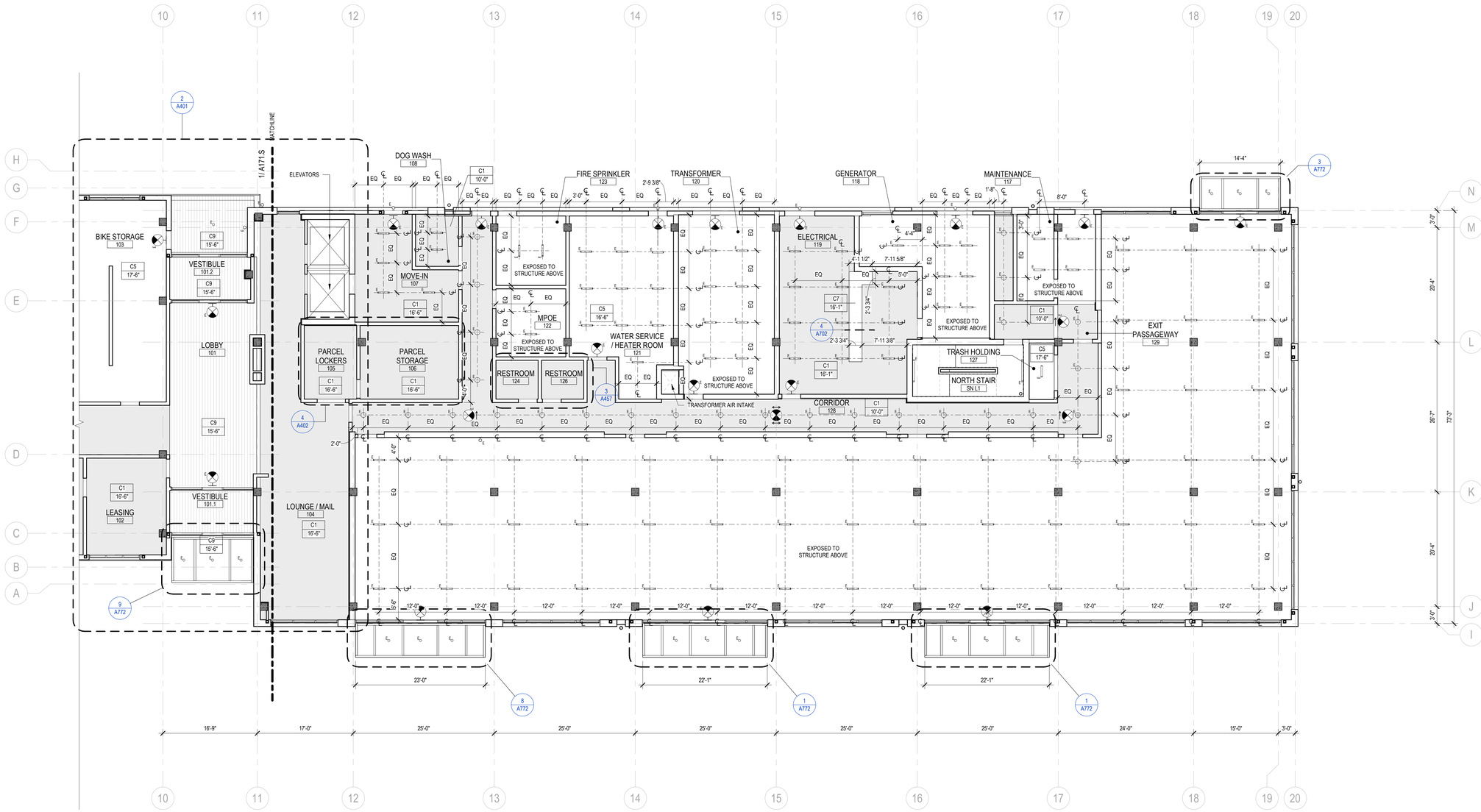
RCP GENERAL NOTES

1. IN THE EVENT OF POWER LOSS, EMERGENCY LIGHTING SHALL FUNCTION VIA GENERATOR. SEE ELECTRICAL DRAWINGS FOR MORE INFORMATION.

RCP LEGEND

E — INDICATES EMERGENCY LIGHT FIXTURE

LIGHT FIXTURE PER ELEC



1 LEVEL 1 - RCP NORTH

SCALE: 1/8" = 1'-0"

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△	DATE	DESCRIPTION
4	3/25/26	PERMIT CORRECTIONS 04

PM: ELI HARDI
DRAWN BY: JG, PD, MB, RM
04/29/22

4 REFLECTED CEILING PLANS - LEVEL 1 NORTH

A171.N

3/25/2026 10:09:35 AM Autodesk Docs://MG2-CE-Shelter Holdings-Everett Riverfront Development PH2-21-5905-01A/A_21-5905-01A_Everett Riverfront BLD-D_R25.rvt

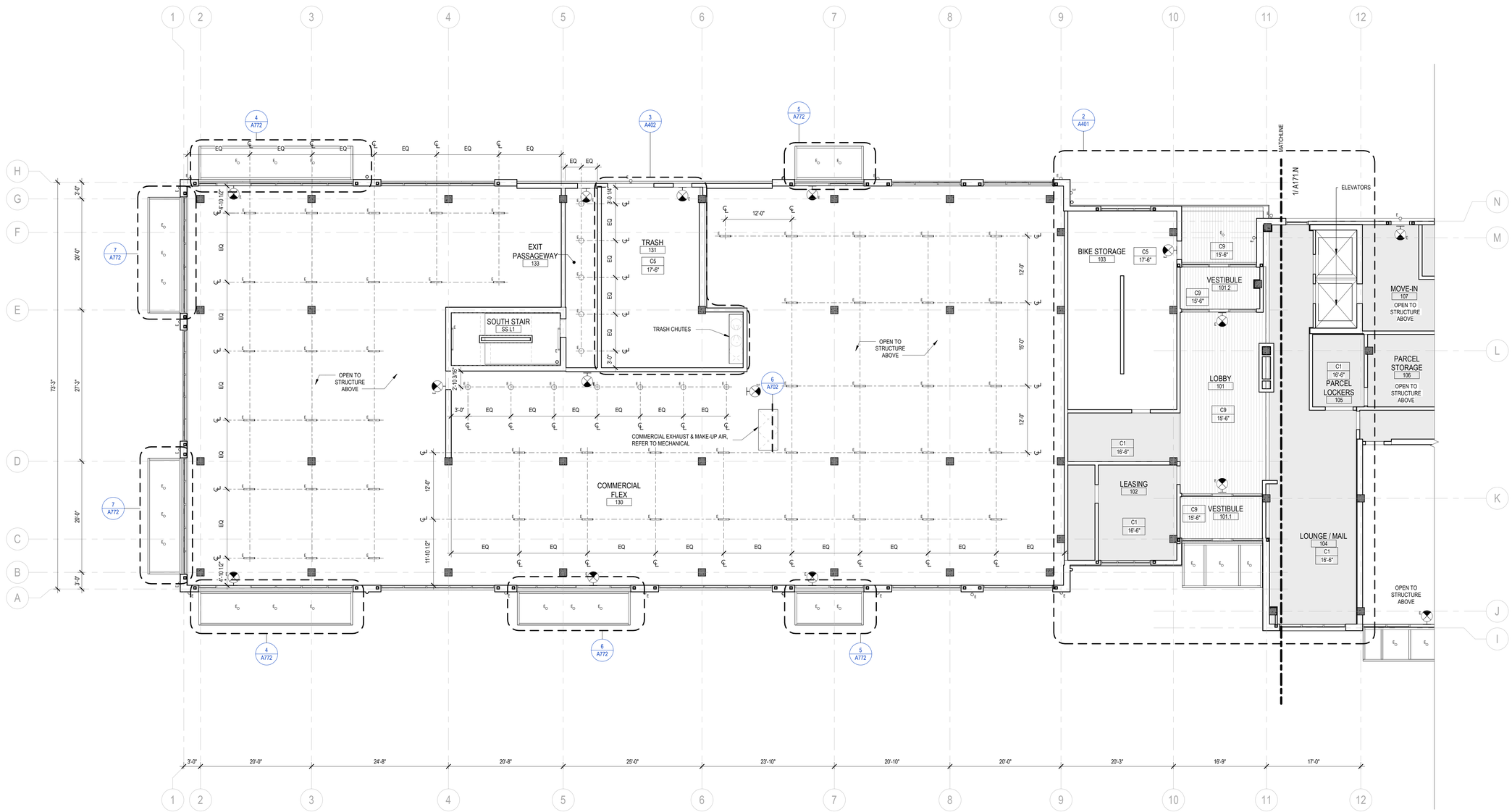
RCP GENERAL NOTES

1. IN THE EVENT OF POWER LOSS, EMERGENCY LIGHTING SHALL FUNCTION VIA GENERATOR. SEE ELECTRICAL DRAWINGS FOR MORE INFORMATION.

RCP LEGEND

E — INDICATES EMERGENCY LIGHT FIXTURE

LIGHT FIXTURE PER ELEC



1 LEVEL 1 - RCP SOUTH

SCALE: 1/8" = 1'-0"

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KEY PLAN

RUSSELL H. HAZZARD, ARCHITECT

8079 REGISTERED ARCHITECT
RUSSELL H. HAZZARD
STATE OF WASHINGTON
03/25/2026

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PM: ELI HARDI
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04/29/22

4 REFLECTED CEILING PLANS - LEVEL 1 SOUTH

A171.S

Autodesk Docs://MG2-CE-Shelter Holdings-Everett Riverfront Development PH2/21-5905-01A/A_21-5905-01A_Everett Riverfront BLD-D_R25.rvt

3/25/2026 10:09:37 AM

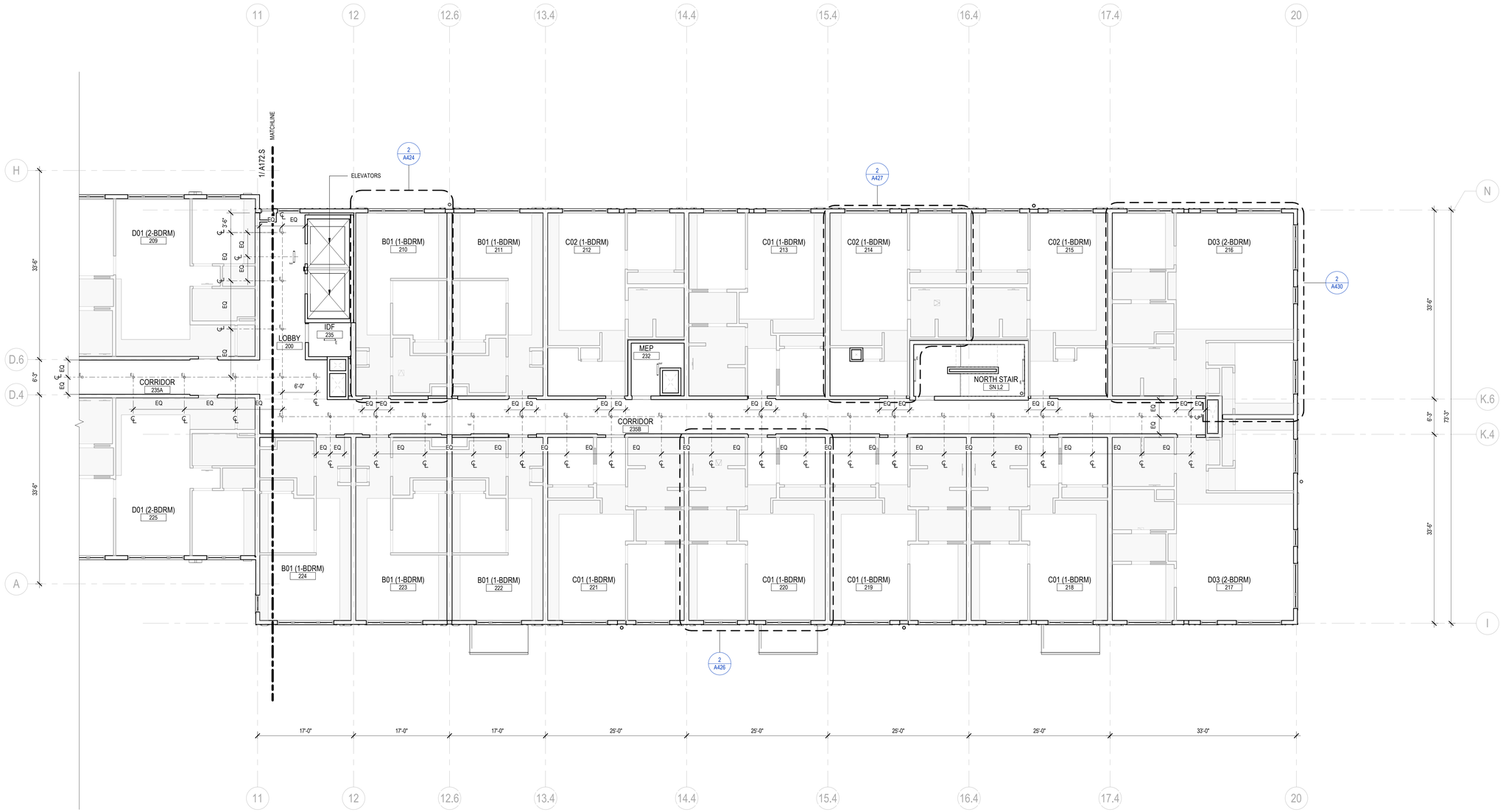
RCP GENERAL NOTES

1. IN THE EVENT OF POWER LOSS, EMERGENCY LIGHTING SHALL FUNCTION VIA GENERATOR. SEE ELECTRICAL DRAWINGS FOR MORE INFORMATION.

RCP LEGEND

E — INDICATES EMERGENCY LIGHT FIXTURE

LIGHT FIXTURE PER ELEC



1 LEVELS 2-5 - RCP NORTH

SCALE: 1/8" = 1'-0"

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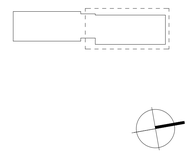
KEY PLAN



RUSSELL H. HAZZARD, ARCHITECT

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RUSSELL H. HAZZARD
STATE OF WASHINGTON
03/25/2026

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04/29/22

4 REFLECTED CEILING PLANS- LEVELS 2-5 NORTH

A172.N

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RCP GENERAL NOTES

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RCP LEGEND

E — INDICATES EMERGENCY LIGHT FIXTURE

LIGHT FIXTURE PER ELEC

1 LEVELS 2-5 - RCP SOUTH

SCALE: 1/8" = 1'-0"

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KEY PLAN

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4 REFLECTED CEILING PLANS - LEVELS 2-5 SOUTH

A172.S

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4

RCP GENERAL NOTES

1. IN THE EVENT OF POWER LOSS, EMERGENCY LIGHTING SHALL FUNCTION VIA GENERATOR. SEE ELECTRICAL DRAWINGS FOR MORE INFORMATION.

RCP LEGEND

E — INDICATES EMERGENCY LIGHT FIXTURE

LIGHT FIXTURE PER ELEC

1 LEVEL 6 - RCP NORTH

SCALE: 1/8" = 1'-0"

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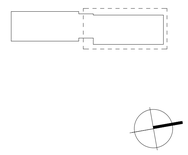
KEY PLAN



RUSSELL H. HAZZARD, ARCHITECT

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4	3/25/26	PERMIT CORRECTIONS 04

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04/29/22

4 REFLECTED CEILING PLANS - LEVEL 6 NORTH

A176.N

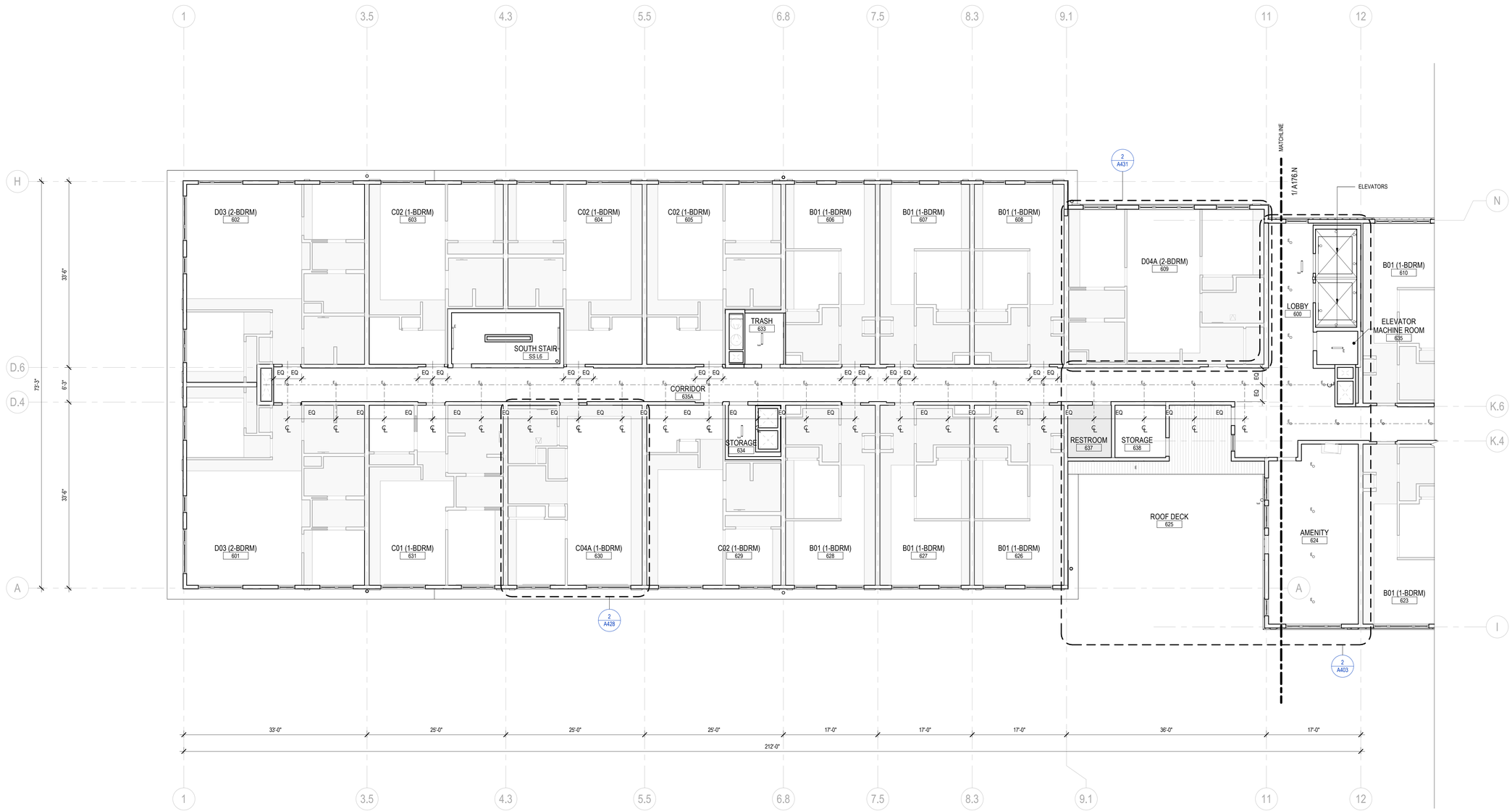
RCP GENERAL NOTES

1. IN THE EVENT OF POWER LOSS, EMERGENCY LIGHTING SHALL FUNCTION VIA GENERATOR. SEE ELECTRICAL DRAWINGS FOR MORE INFORMATION.

RCP LEGEND

E — INDICATES EMERGENCY LIGHT FIXTURE

LIGHT FIXTURE PER ELEC



1 LEVEL 6 - RCP SOUTH

SCALE: 1/8" = 1'-0"

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4 REFLECTED CEILING PLANS - LEVEL 6 SOUTH

A176.S

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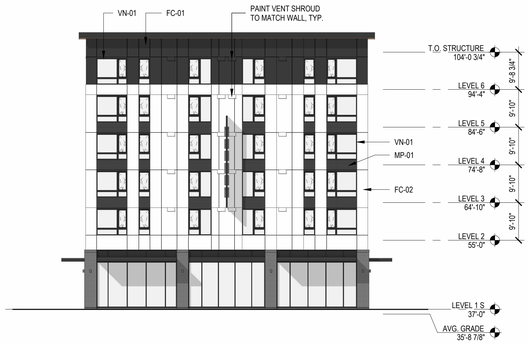
1 EAST ELEVATION

SCALE: 1/16" = 1'-0"



2 SOUTH ELEVATION

SCALE: 1/16" = 1'-0"

3 NORTH ELEVATION

SCALE: 1/16" = 1'-0"

4 WEST ELEVATION

SCALE: 1/16" = 1'-0"

MATERIAL KEYNOTES

BR-01	BRICK FULL FACE VENEER (GRAY BLEND)
CN-01	FINISH CONCRETE
FC-01	FIBER CEMENT BOARD (BLACK)
FC-02	FIBER CEMENT BOARD (WHITE)
FC-03	FIBER CEMENT BOARD (RED)
FC-04	FIBER CEMENT BOARD (GRAY)
FC-05	FIBER CEMENT BOARD (DARK REVEAL)
GL-01	VISION GLASS WINDOWS DOORS
MP-01	HORIZONTAL DARK
MT-01	ALUMINUM STOREFRONT (DARK BRONZE)
MT-04	METAL DARK
VN-01	VINYL WINDOWS (DARK BRONZE)

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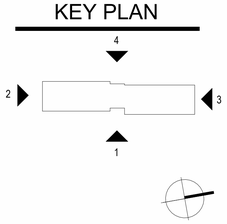
KEY PLAN



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OVERALL EXTERIOR ELEVATIONS

A201

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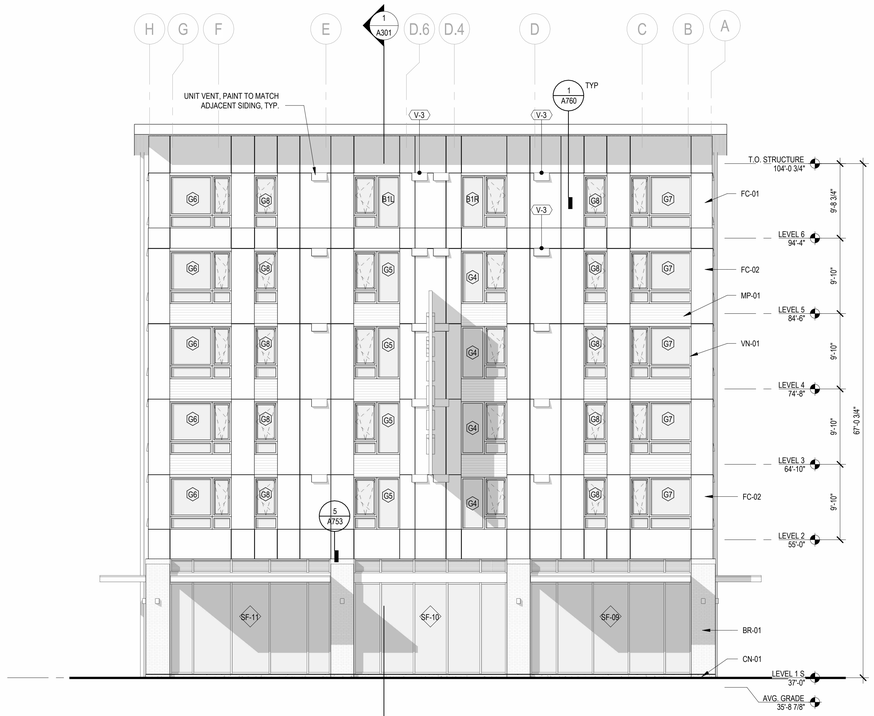
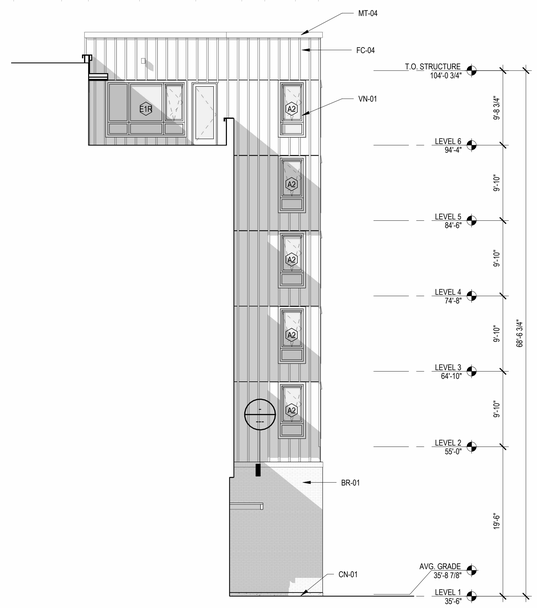


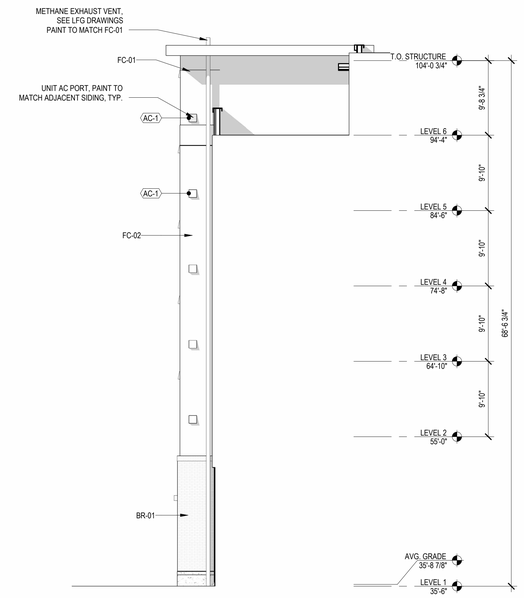
1 SOUTH WING - SOUTH ELEVATION

SCALE: 1/8" = 1'-0"



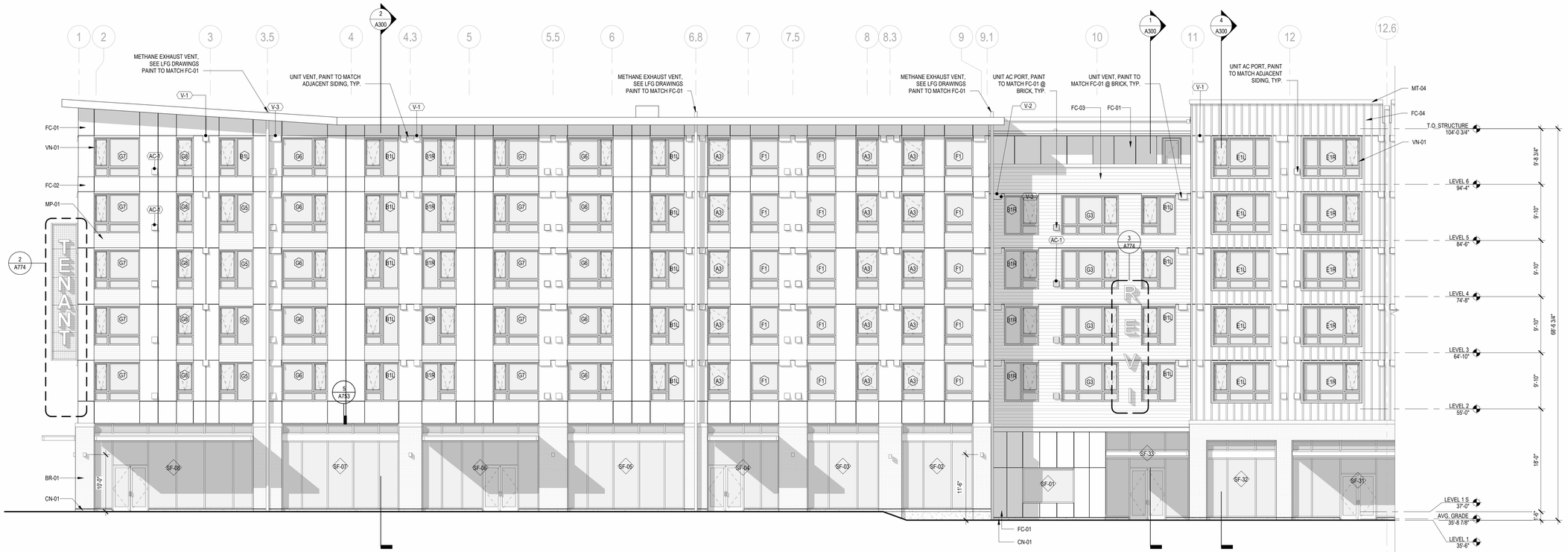
2 NORTH WING - SOUTH ELEVATION AMENITY

SCALE: 1/8" = 1'-0"



3 SOUTH WING - NORTH ELEVATION EAST

SCALE: 1/8" = 1'-0"



4 SOUTH WING - EAST ELEVATION

SCALE: 1/8" = 1'-0"

MATERIAL KEYNOTES

BR-01	BRICK FULL FACE VENEER (GRAY BLEND)
CN-01	FINISH CONCRETE
FC-01	FIBER CEMENT BOARD (BLACK)
FC-02	FIBER CEMENT BOARD (WHITE)
FC-03	FIBER CEMENT BOARD (RED)
FC-04	FIBER CEMENT BOARD (GRAY)
FC-05	FIBER CEMENT BOARD (DARK REVEAL)
GL-01	VISION GLASS WINDOWS DOORS
MP-01	HORIZONTAL DARK
MT-01	ALUMINUM STOREFRONT (DARK BRONZE)
MT-04	METAL DARK
VN-01	VINYL WINDOWS (DARK BRONZE)

GENERAL NOTES
1. SEE A804 FOR A SCHEDULE OF VENTS, AC PORTS, AND LOUVERS.

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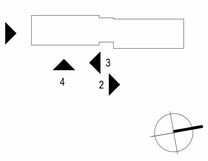
KEY PLAN



RUSSELL H. HAZZARD, ARCHITECT

8079 REGISTERED ARCHITECT RUSSELL H. HAZZARD STATE OF WASHINGTON

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△	DATE	DESCRIPTION

21-5971-01A
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04/29/22

EXTERIOR ELEVATIONS

A202

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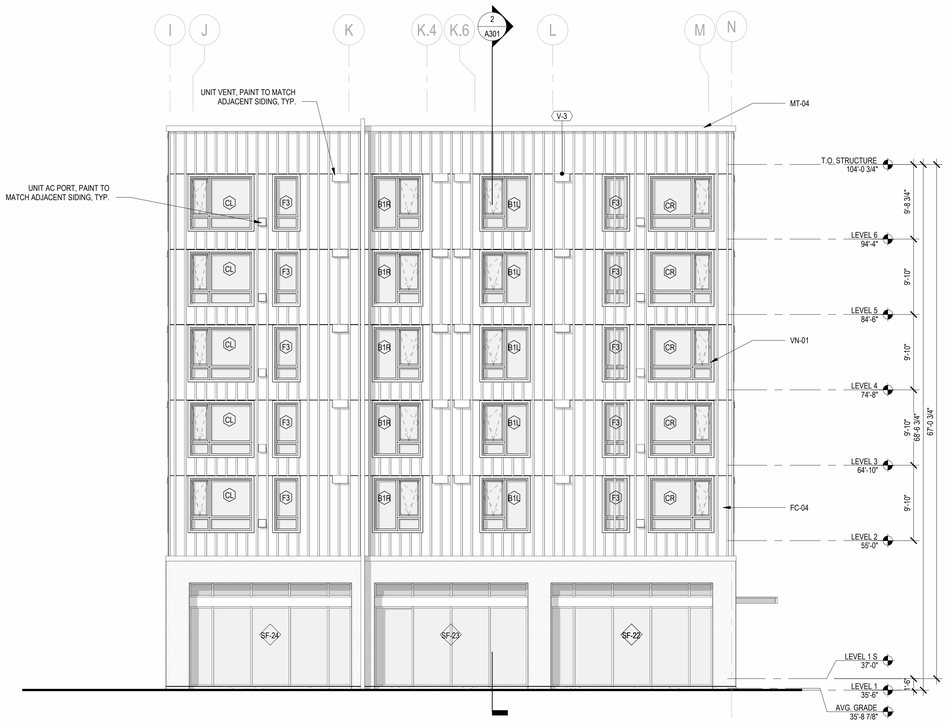
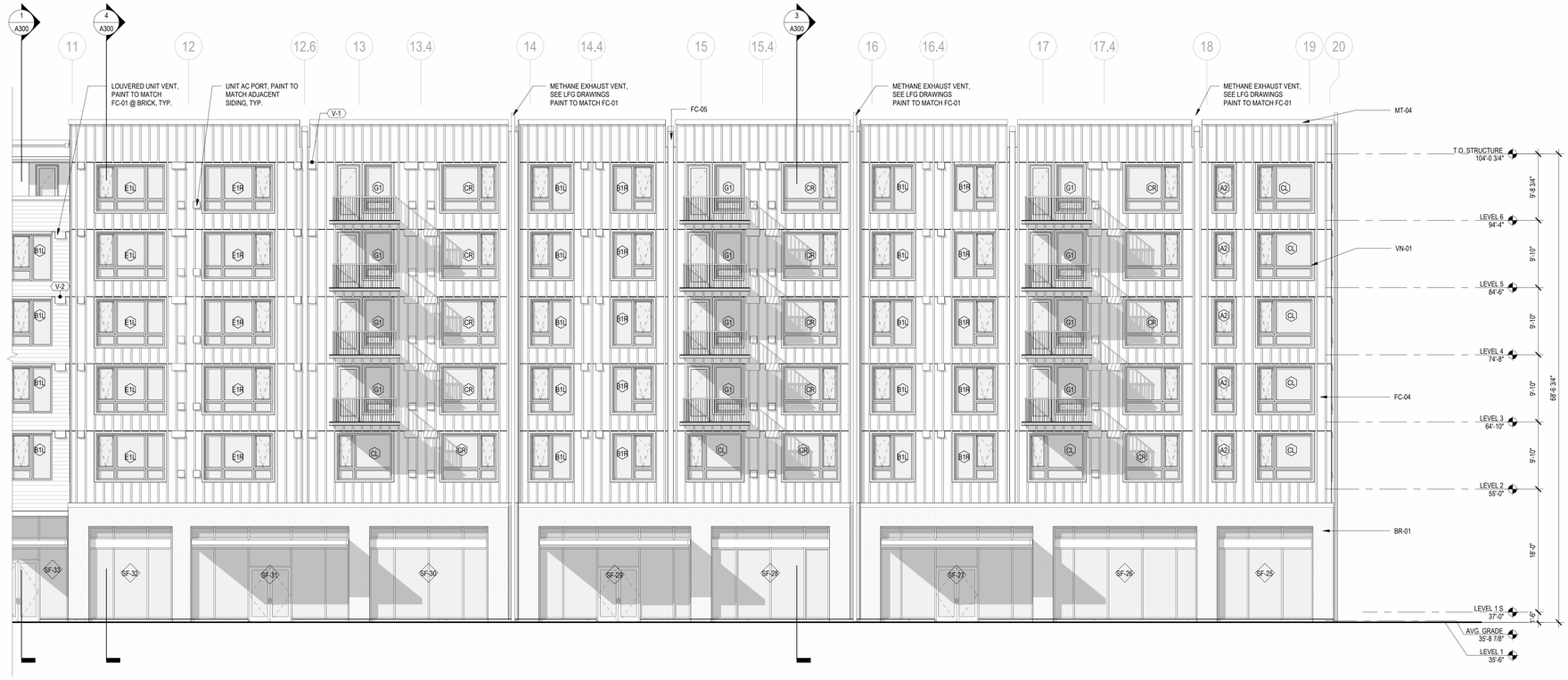


1 NORTH WING - NORTH ELEVATION

SCALE: 1/8" = 1'-0"



2 NORTH WING - EAST ELEVATION

SCALE: 1/8" = 1'-0"

MATERIAL KEYNOTES

BR-01	BRICK FULL FACE VENEER (GRAY BLEND)
CN-01	FINISH CONCRETE
FC-01	FIBER CEMENT BOARD (BLACK)
FC-02	FIBER CEMENT BOARD (WHITE)
FC-03	FIBER CEMENT BOARD (RED)
FC-04	FIBER CEMENT BOARD (GRAY)
FC-05	FIBER CEMENT BOARD (DARK REVEAL)
GL-01	VISION GLASS WINDOWS DOORS
MP-01	HORIZONTAL DARK
MT-01	ALUMINUM STOREFRONT (DARK BRONZE)
MT-04	METAL DARK
VN-01	VINYL WINDOWS (DARK BRONZE)

GENERAL NOTES
1. SEE A804 FOR A SCHEDULE OF VENTS, AC PORTS, AND LOUVERS.

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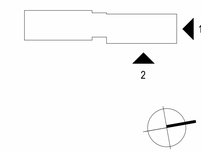
KEY PLAN



RUSSELL H. HAZZARD, ARCHITECT

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10/17/2024

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△	DATE	DESCRIPTION

21-5971-01A
PM: ELI HARDI
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EXTERIOR ELEVATIONS

A203

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MATERIAL KEYNOTES	
BR-01	BRICK FULL FACE VENEER (GRAY BLEND)
CN-01	FINISH CONCRETE
FC-01	FIBER CEMENT BOARD (BLACK)
FC-02	FIBER CEMENT BOARD (WHITE)
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FC-04	FIBER CEMENT BOARD (GRAY)
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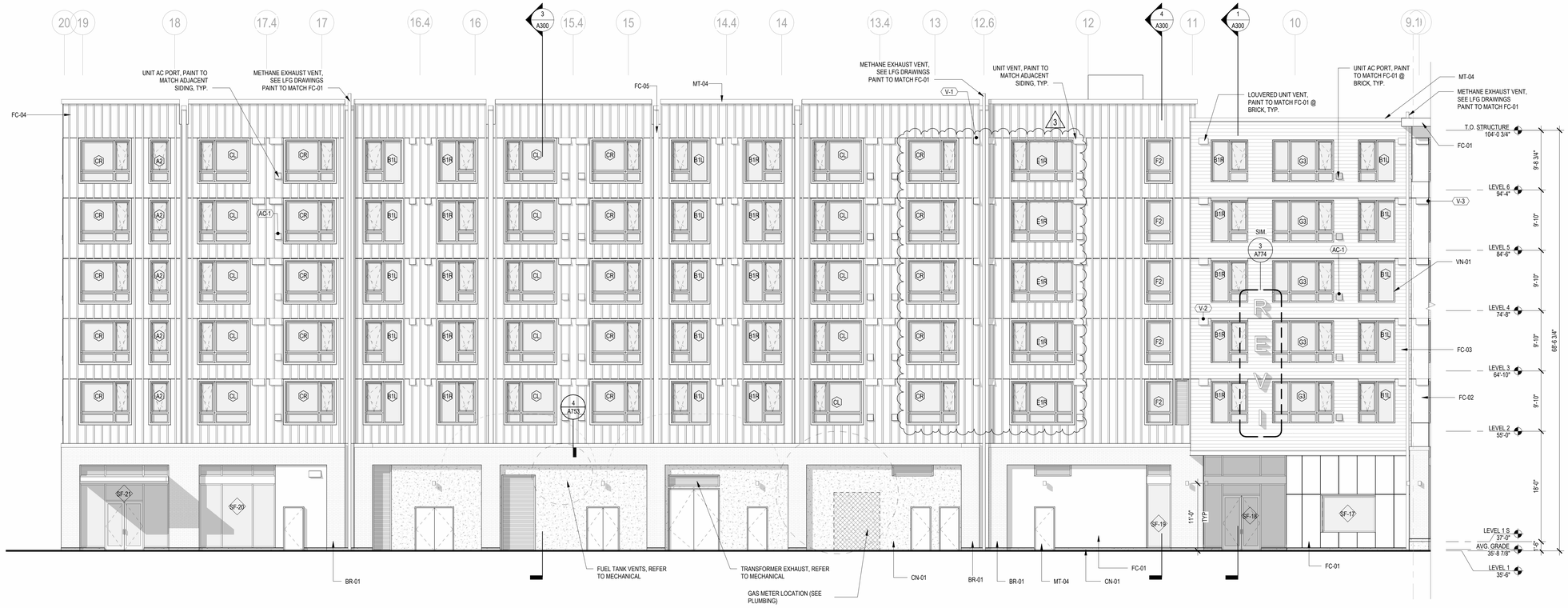
MT-01	ALUMINUM STOREFRONT (DARK BRONZE)
MT-04	METAL DARK
VN-01	VINYL WINDOWS (DARK BRONZE)

GENERAL NOTES
1. SEE A804 FOR A SCHEDULE OF VENTS, AC PORTS, AND LOUVERS.



1 NORTH WING - WEST ELEVATION

SCALE: 1/8" = 1'-0"

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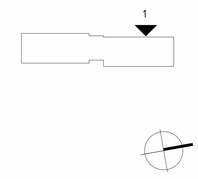
KEY PLAN



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△	DATE	DESCRIPTION
1	11/04/22	PERMIT CORRECTIONS 01
3	9/20/24	PERMIT CORRECTIONS 03

21-5971-01A
PM: ELI HARDI
DRAWN BY: JG, PD, MB
04/29/22

EXTERIOR ELEVATIONS

A204

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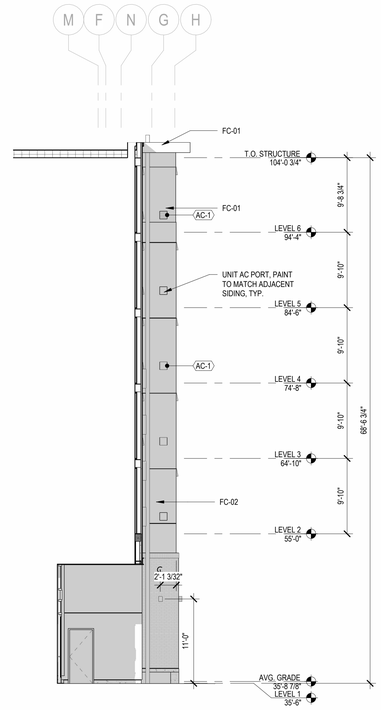
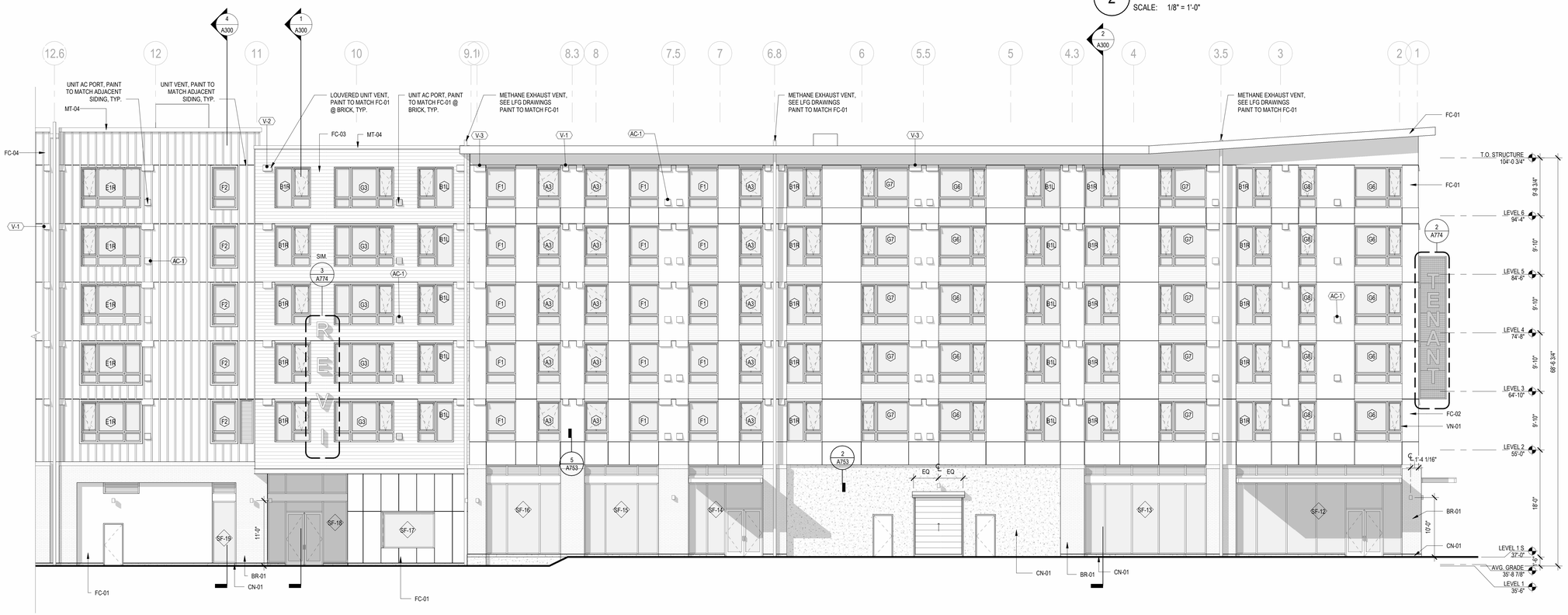


2 SOUTH WING - NORTH ELEVATION BIKE STORAGE

SCALE: 1/8" = 1'-0"

MATERIAL KEYNOTES	
BR-01	BRICK FULL FACE VENEER (GRAY BLEND)
CN-01	FINISH CONCRETE
FC-01	FIBER CEMENT BOARD (BLACK)
FC-02	FIBER CEMENT BOARD (WHITE)
FC-03	FIBER CEMENT BOARD (RED)
FC-04	FIBER CEMENT BOARD (GRAY)
FC-05	FIBER CEMENT BOARD (DARK REVEAL)
GL-01	VISION GLASS WINDOWS DOORS
MP-01	HORIZONTAL DARK
MT-01	ALUMINUM STOREFRONT (DARK BRONZE)
MT-04	METAL DARK
VN-01	VINYL WINDOWS (DARK BRONZE)

GENERAL NOTES
1. SEE A804 FOR A SCHEDULE OF VENTS, AC PORTS, AND LOUVERS.



1 SOUTH WING - WEST ELEVATION

SCALE: 1/8" = 1'-0"

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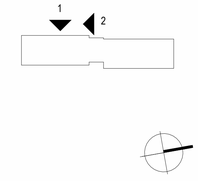
KEY PLAN



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△	DATE	DESCRIPTION

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EXTERIOR ELEVATIONS

A205

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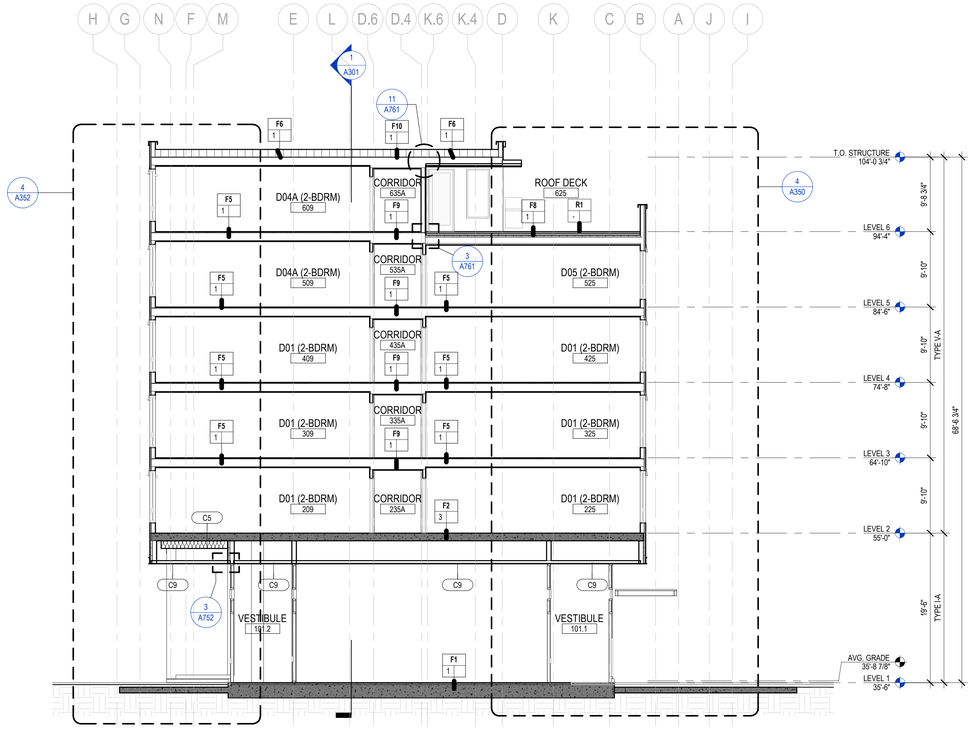
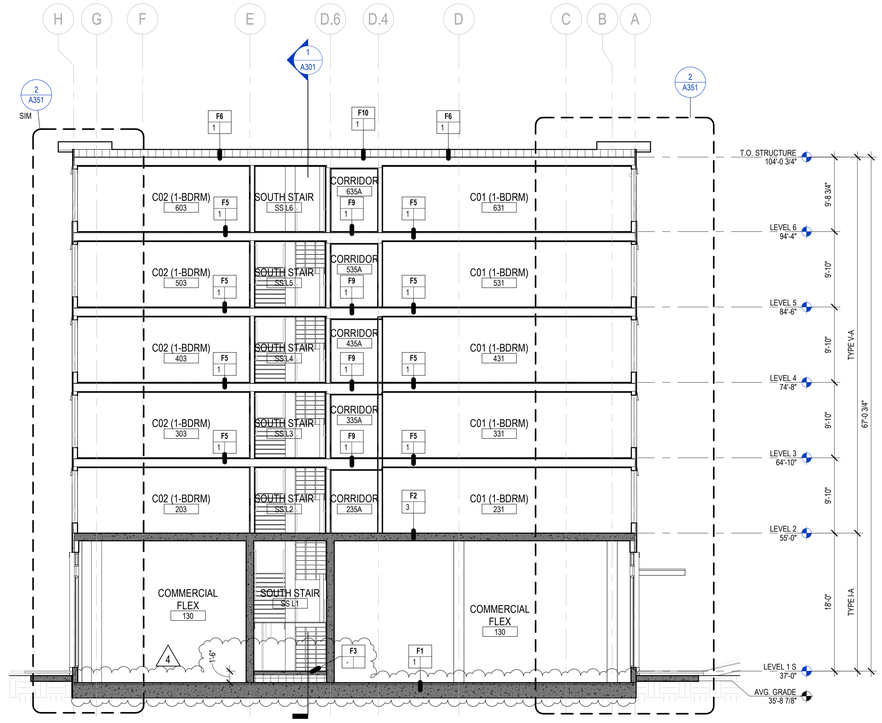


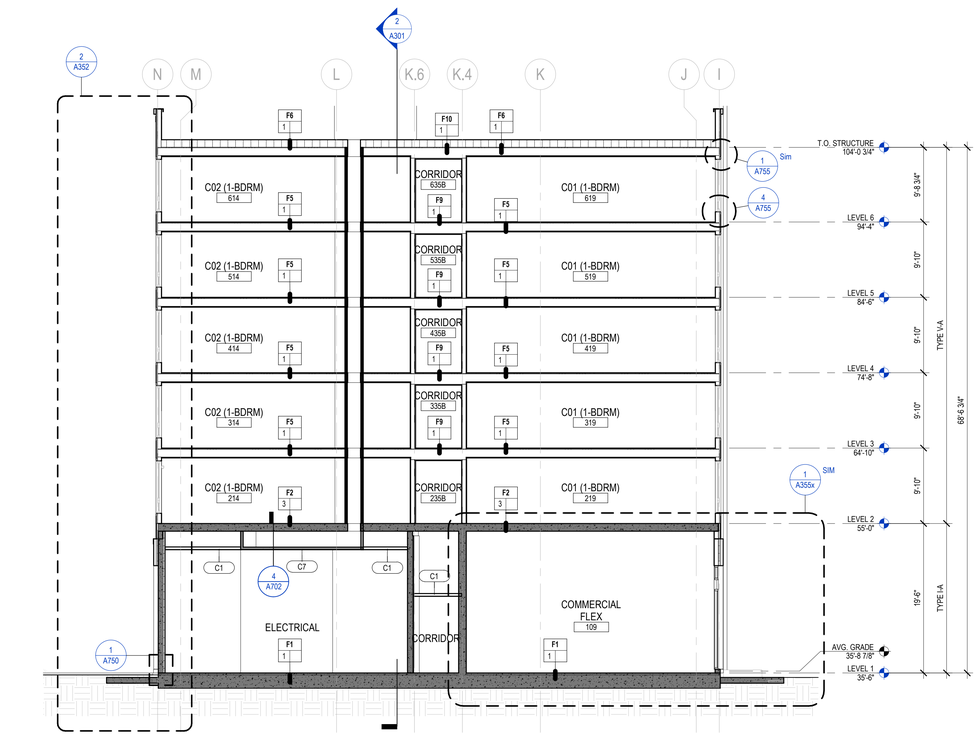
1 BUILDING SECTION 1

SCALE: 1/8" = 1'-0"



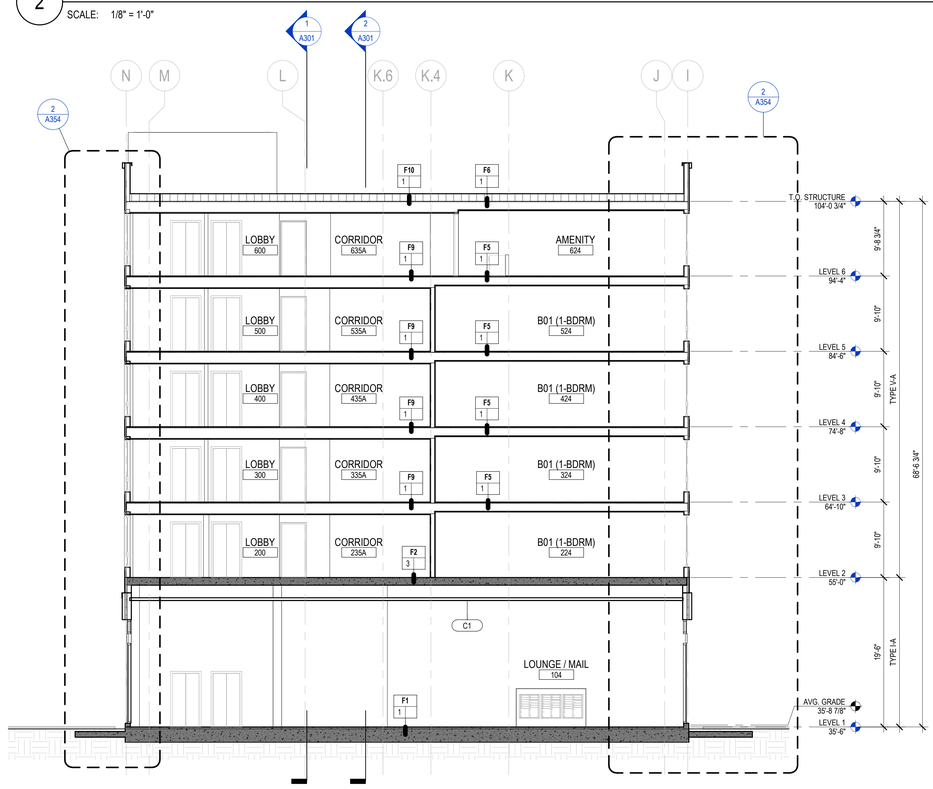
2 BUILDING SECTION 2

SCALE: 1/8" = 1'-0"



3 BUILDING SECTION 3

SCALE: 1/8" = 1'-0"



4 BUILDING SECTION 4

SCALE: 1/8" = 1'-0"

3/25/2026 10:09:44 AM Autodesk Docs://MG2-CE-Shelter Holdings-Everett Riverfront Development PH2-21-5905-01A/A_21-5905-01A_Everett Riverfront BLD-D_R25.rvt

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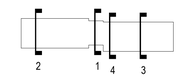

RUSSELL H. HAZZARD, ARCHITECT

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STATE OF WASHINGTON
03/25/2026

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4	3/25/26	PERMIT CORRECTIONS 04

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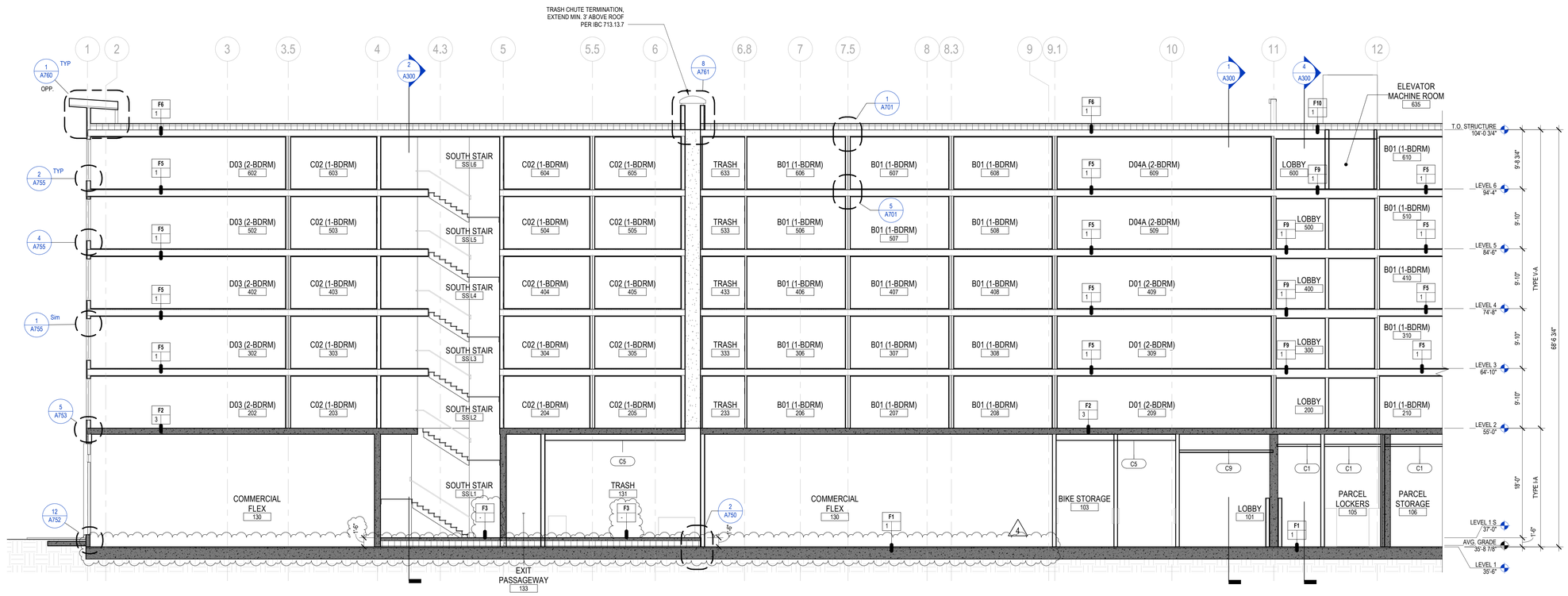
04/29/22

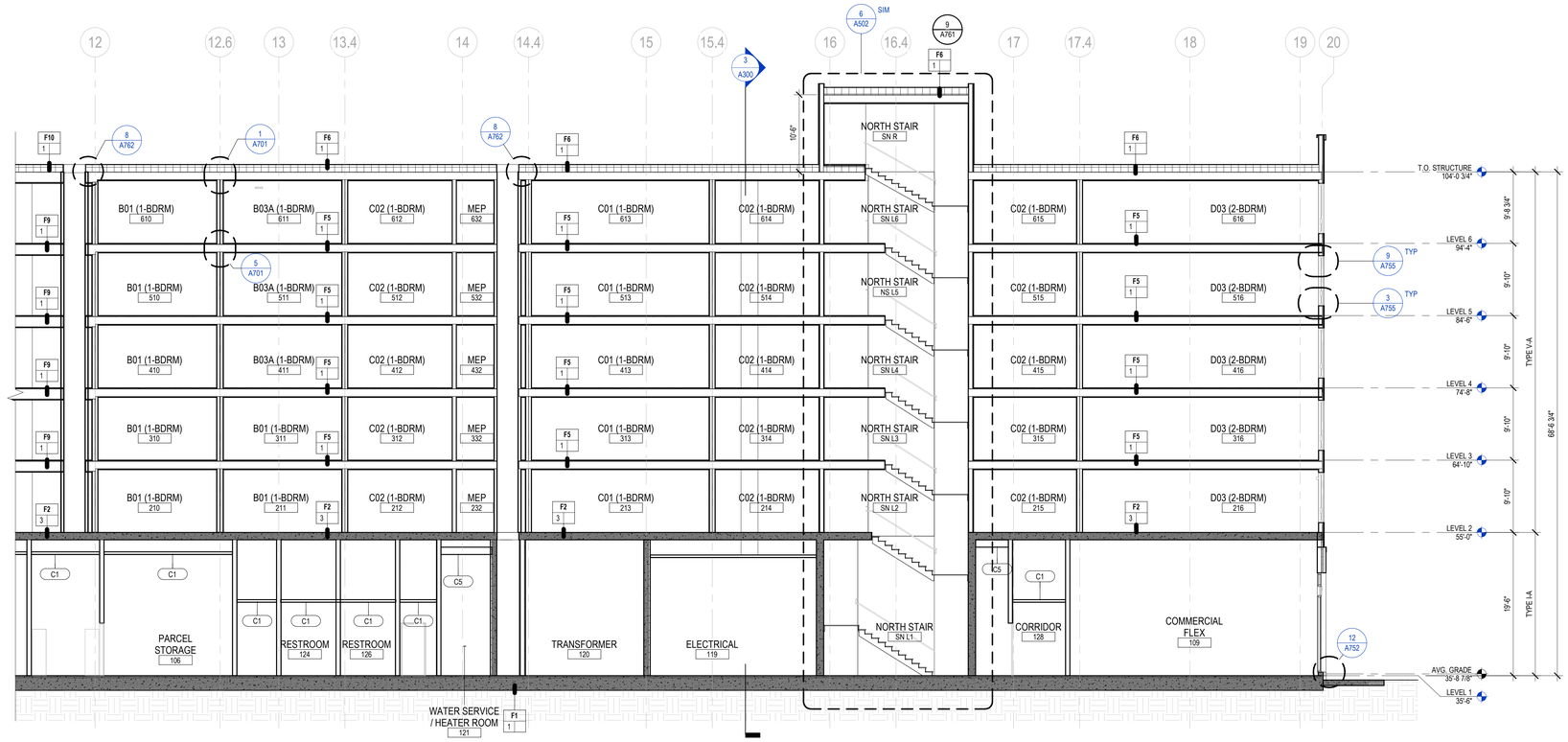
BUILDING SECTIONS

A300



1 BUILDING SECTION 5

SCALE: 1/8" = 1'-0"



2 BUILDING SECTION 6

SCALE: 1/8" = 1'-0"

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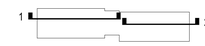

RUSSELL H. HAZZARD, ARCHITECT

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1	11/04/22	PERMIT CORRECTIONS 01
4	3/25/26	PERMIT CORRECTIONS 04

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BUILDING SECTIONS

A301

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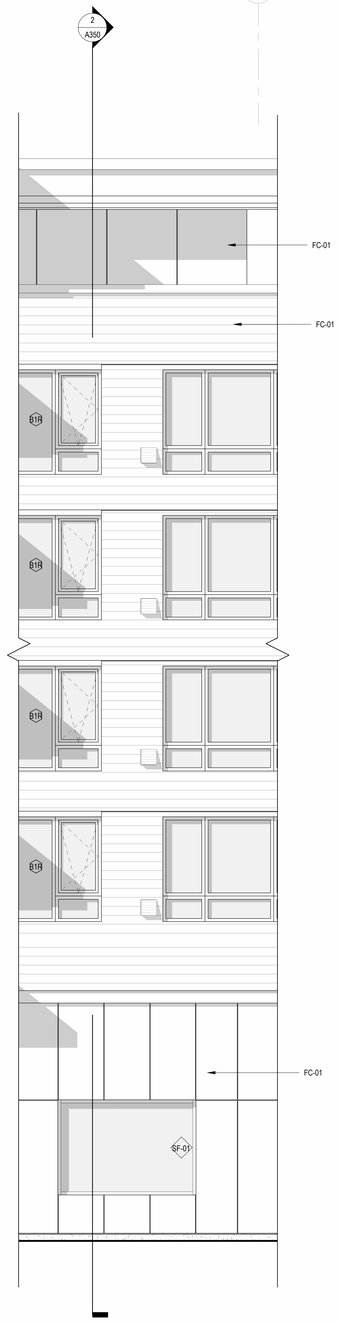

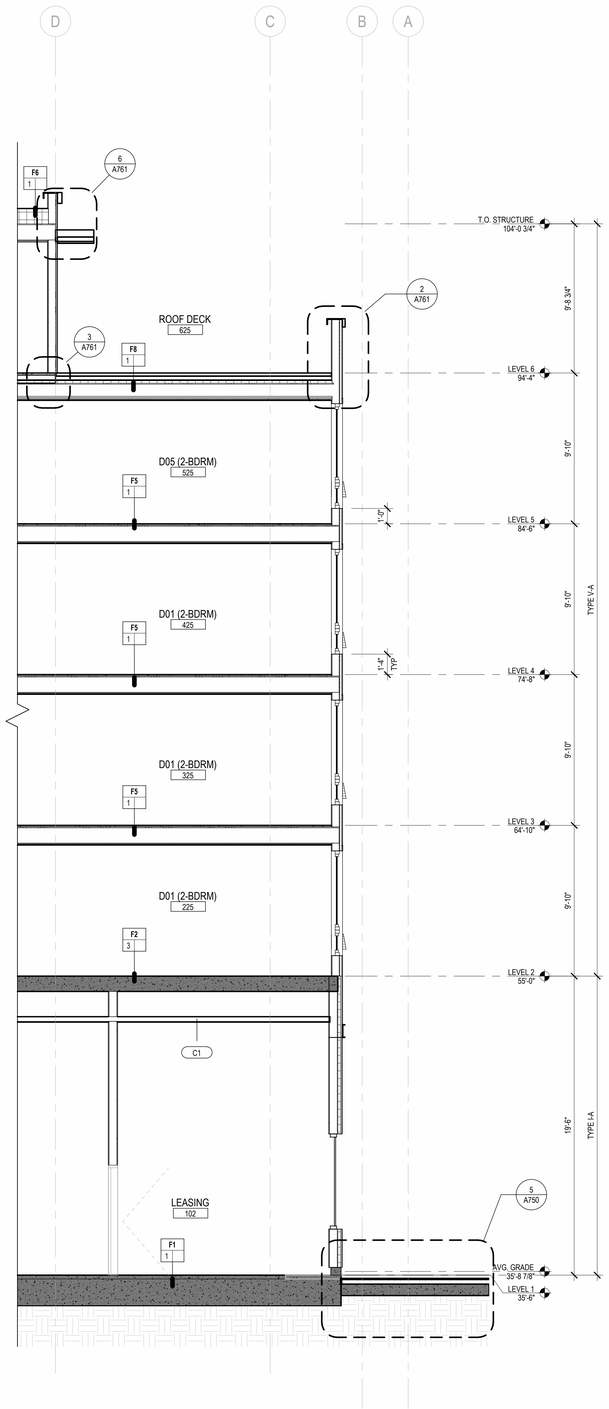

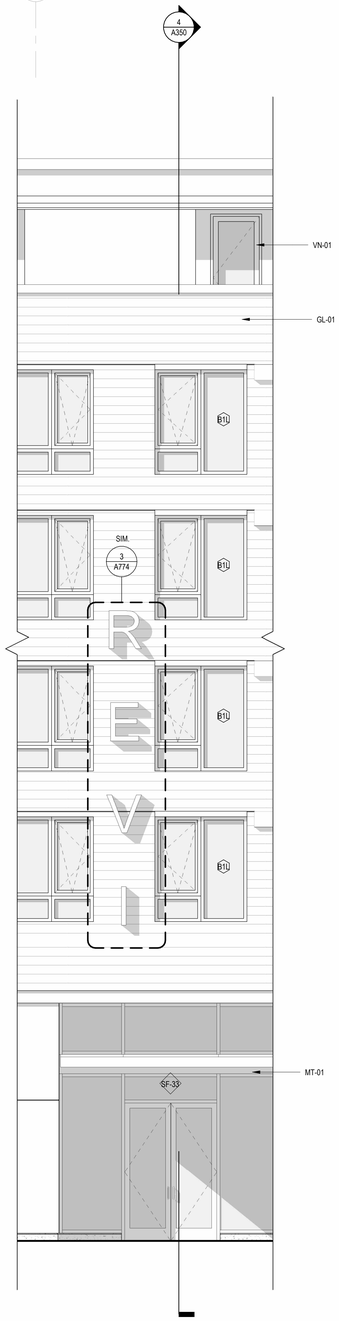

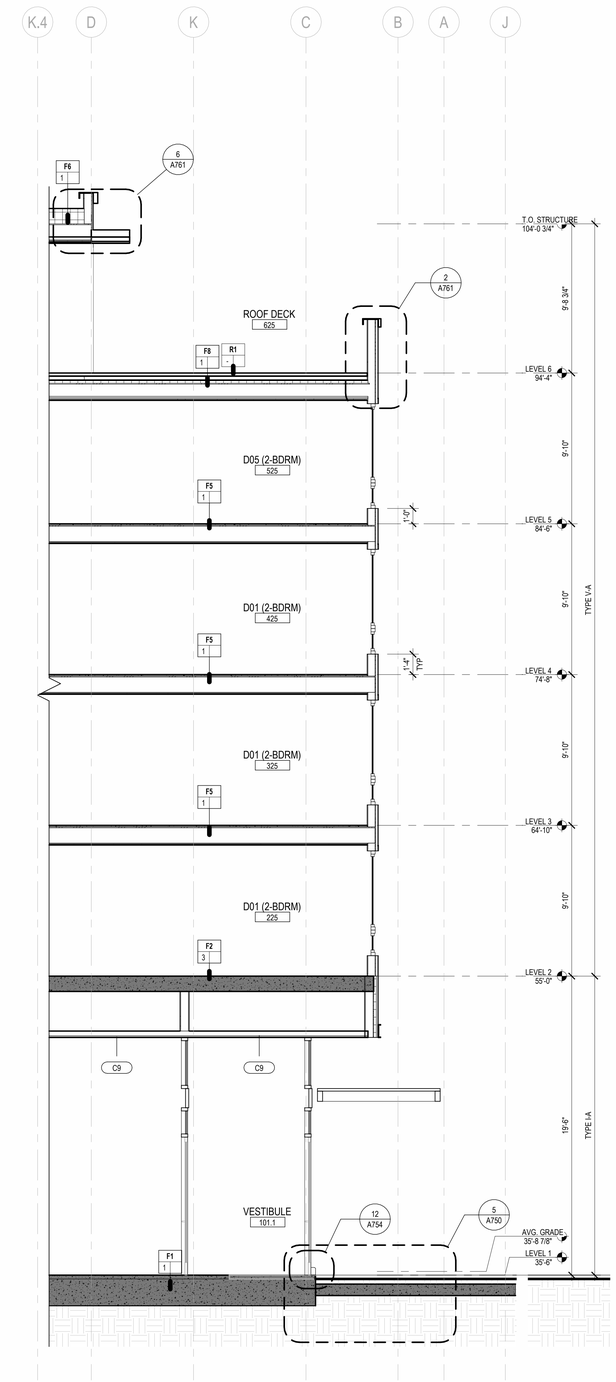

1 ENLARGED ELEVATION 2
SCALE: 1/4" = 1'-0"

2 WALL SECTION 2
SCALE: 1/4" = 1'-0"

3 ENLARGED ELEVATION 1
SCALE: 1/4" = 1'-0"

4 WALL SECTION 1
SCALE: 1/4" = 1'-0"

MATERIAL KEYNOTES

BR-01	BRICK FULL FACE VENEER (GRAY BLEND)
CN-01	FINISH CONCRETE
FC-01	FIBER CEMENT BOARD (BLACK)
FC-02	FIBER CEMENT BOARD (WHITE)
FC-03	FIBER CEMENT BOARD (RED)
FC-04	FIBER CEMENT BOARD (GRAY)
FC-05	FIBER CEMENT BOARD (DARK REVEAL)
GL-01	VISION GLASS WINDOWS DOORS
MP-01	HORIZONTAL DARK
MT-01	ALUMINUM STOREFRONT (DARK BRONZE)
MT-04	METAL DARK
VN-01	VINYL WINDOWS (DARK BRONZE)

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A350

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MATERIAL KEYNOTES

BR-01	BRICK FULL FACE VENEER (GRAY BLEND)
CN-01	FINISH CONCRETE
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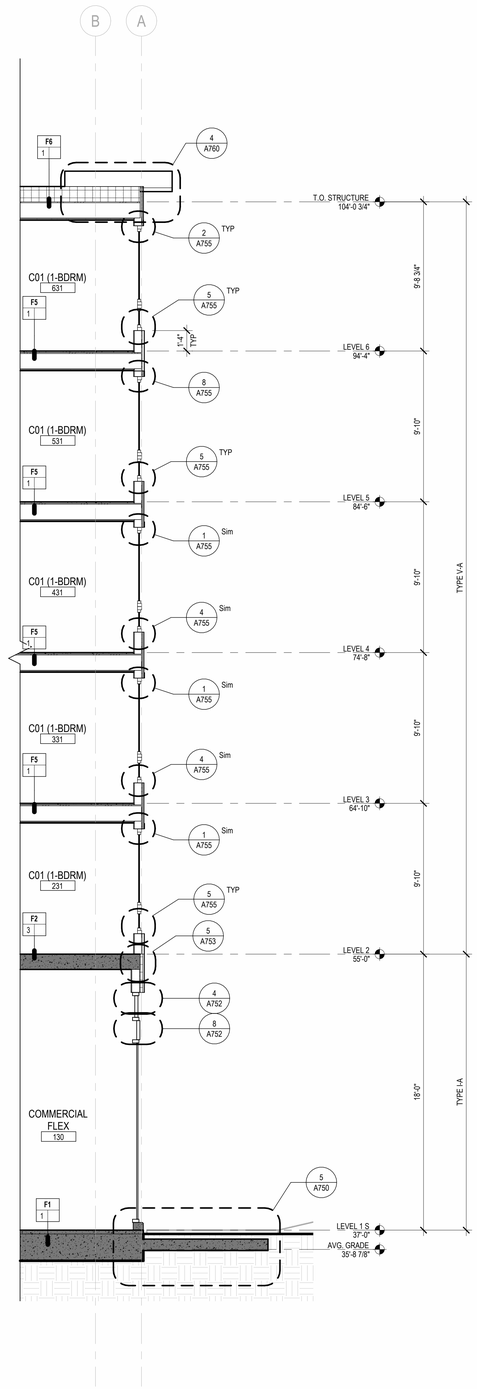
MP-01	HORIZONTAL DARK
MT-01	ALUMINUM STOREFRONT (DARK BRONZE)
MT-04	METAL DARK
VN-01	VINYL WINDOWS (DARK BRONZE)

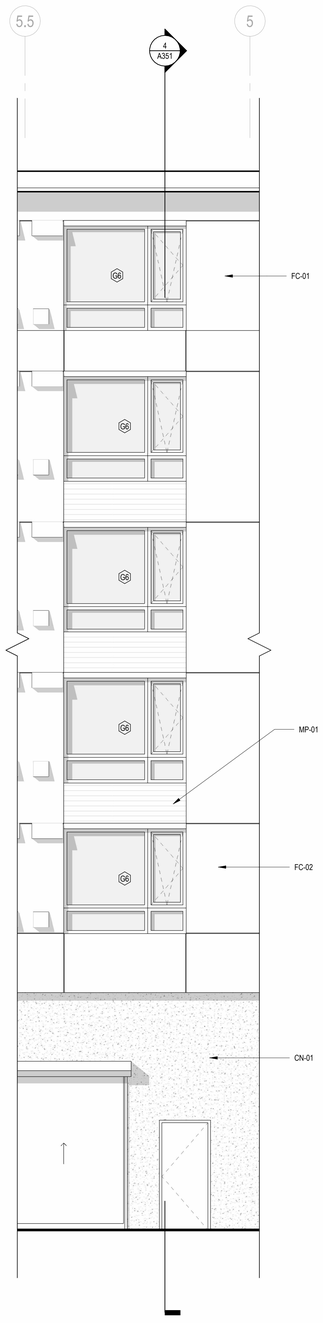


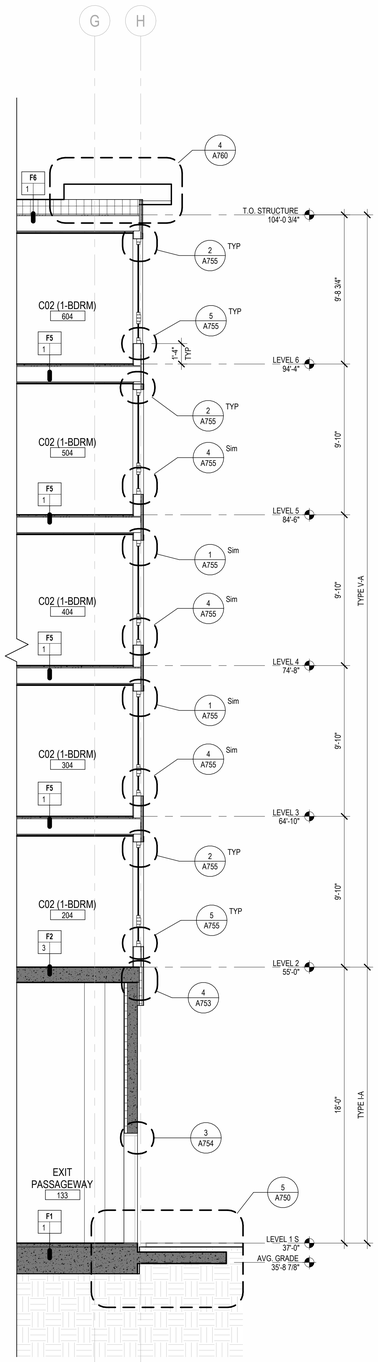
1 ENLARGED ELEVATION 3

SCALE: 1/4" = 1'-0"

2 WALL SECTION 3

SCALE: 1/4" = 1'-0"





3 ENLARGED ELEVATION 4

SCALE: 1/4" = 1'-0"

4 WALL SECTION 4

SCALE: 1/4" = 1'-0"

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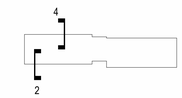

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A351

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MATERIAL KEYNOTES

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MT-01	ALUMINUM STOREFRONT (DARK BRONZE)
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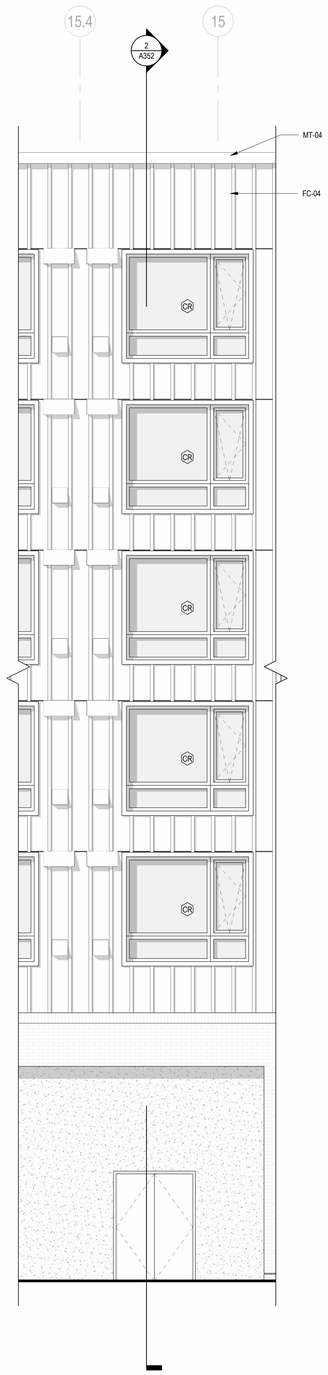
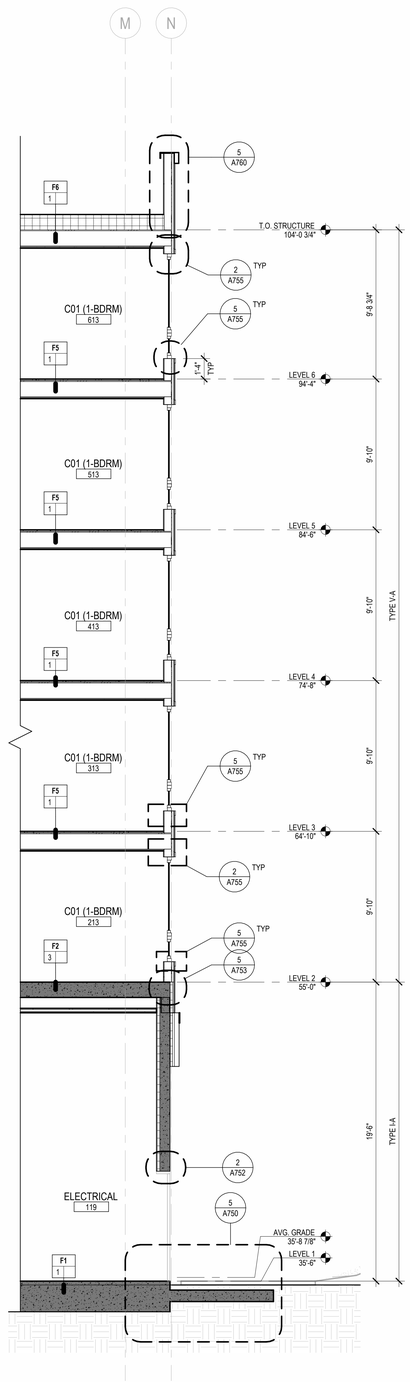
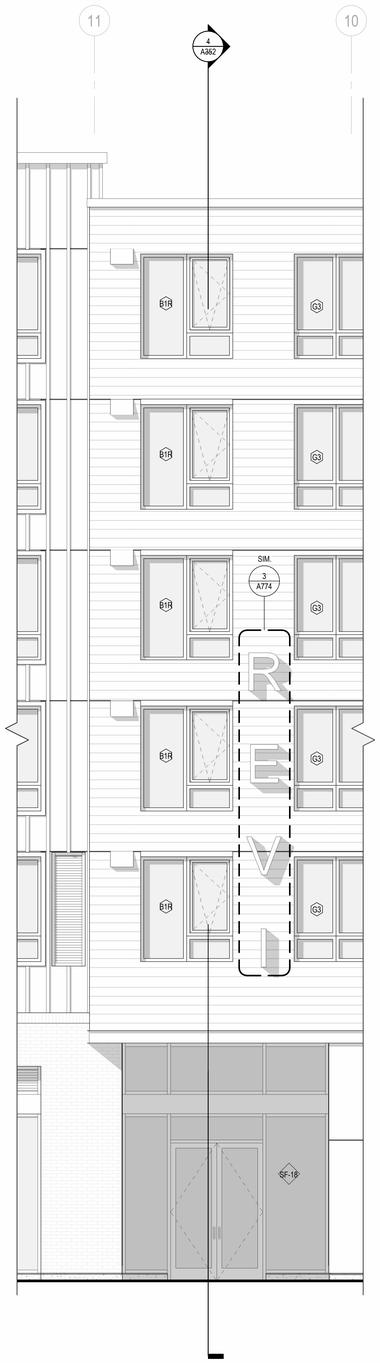
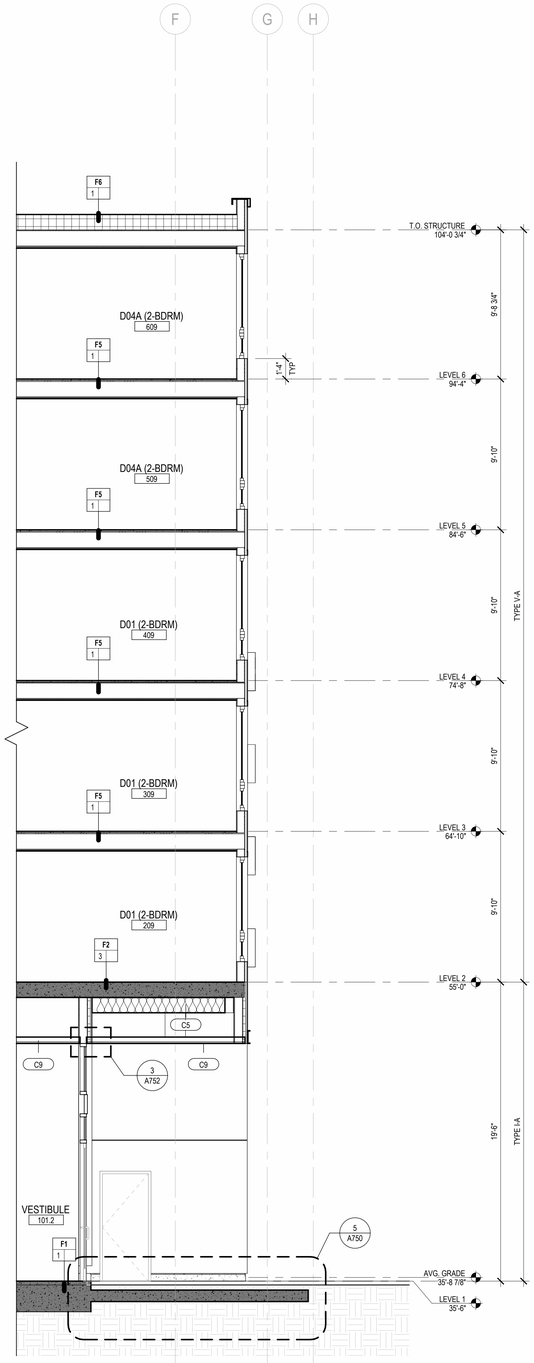
VN-01	VINYL WINDOWS (DARK BRONZE)









1 ENLARGED ELEVATION 6
SCALE: 1/4" = 1'-0"

2 WALL SECTION 6
SCALE: 1/4" = 1'-0"

3 ENLARGED ELEVATION 5
SCALE: 1/4" = 1'-0"

4 WALL SECTION 5
SCALE: 1/4" = 1'-0"

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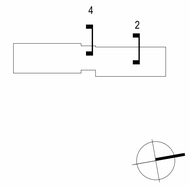

RUSSELL H. HAZZARD, ARCHITECT

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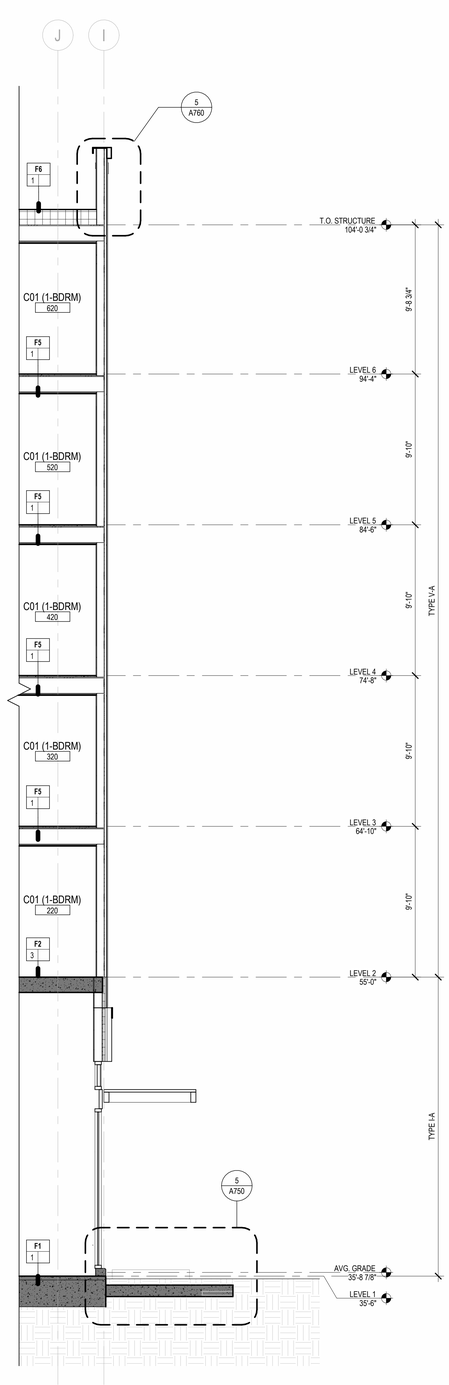
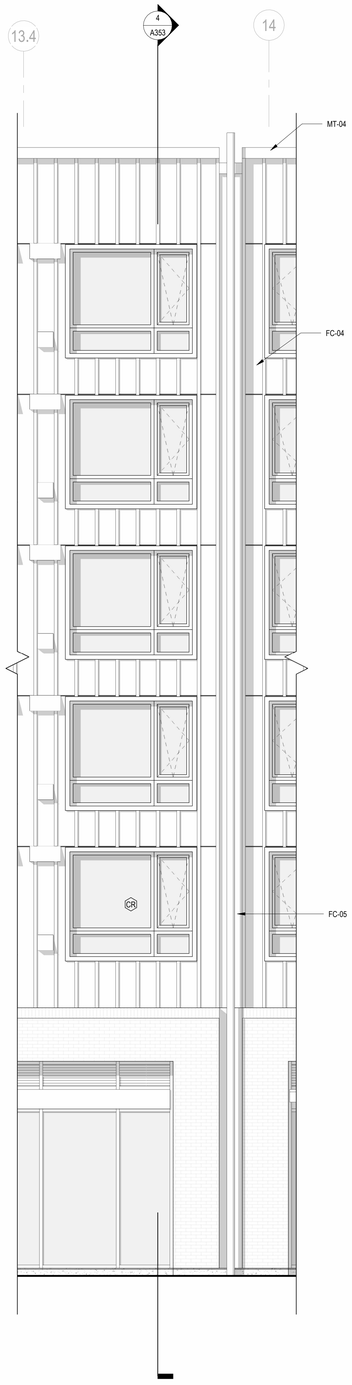
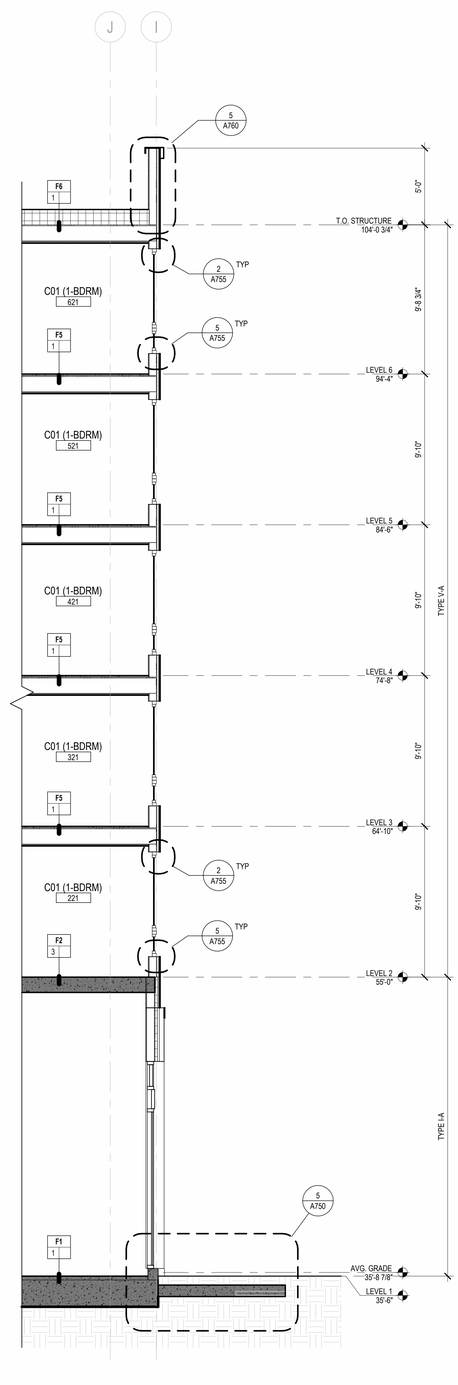
WALL SECTIONS

A352

MATERIAL KEYNOTES	
BR-01	BRICK FULL FACE VENEER (GRAY BLEND)
CN-01	FINISH CONCRETE
FC-01	FIBER CEMENT BOARD (BLACK)
FC-02	FIBER CEMENT BOARD (WHITE)
FC-03	FIBER CEMENT BOARD (RED)
FC-04	FIBER CEMENT BOARD (GRAY)
FC-05	FIBER CEMENT BOARD (DARK REVEAL)
GL-01	VISION GLASS WINDOWS DOORS
MP-01	HORIZONTAL DARK
MT-01	ALUMINUM STOREFRONT (DARK BRONZE)
MT-04	METAL DARK
VN-01	VINYL WINDOWS (DARK BRONZE)







1 ENLARGED ELEVATION 7
SCALE: 1/4" = 1'-0"

2 WALL SECTION 7
SCALE: 1/4" = 1'-0"

3 ENLARGED ELEVATION 8
SCALE: 1/4" = 1'-0"

4 WALL SECTION 8
SCALE: 1/4" = 1'-0"

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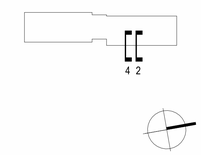

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WALL SECTIONS

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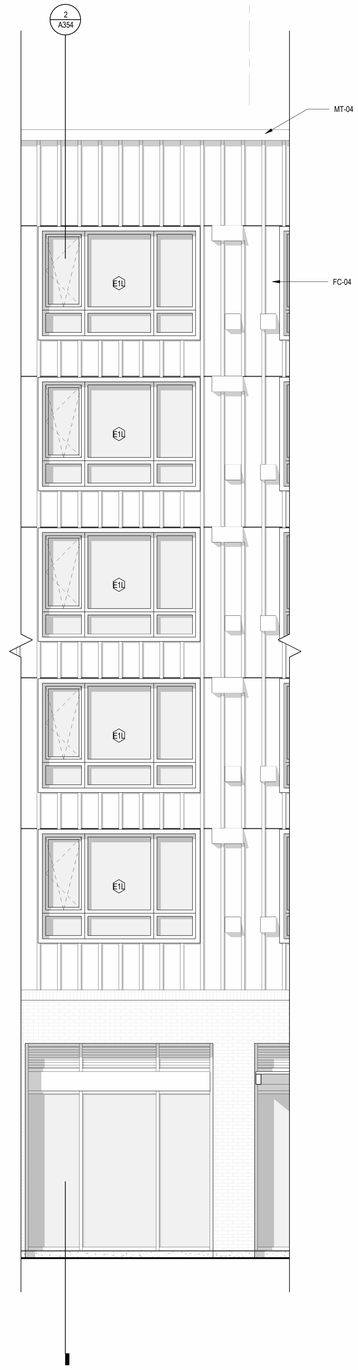

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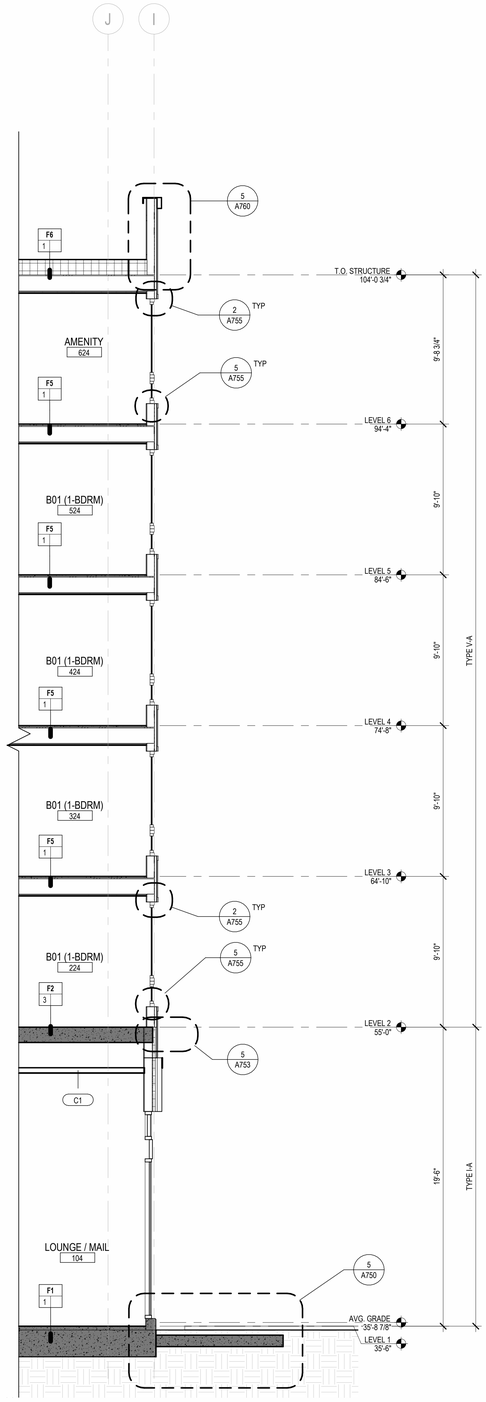
SCALE: 1/4" = 1'-0"



2 WALL SECTION 9
SCALE: 1/4" = 1'-0"

MATERIAL KEYNOTES	
BR-01	BRICK FULL FACE VENEER (GRAY BLEND)
CN-01	FINISH CONCRETE
FC-01	FIBER CEMENT BOARD (BLACK)
FC-02	FIBER CEMENT BOARD (WHITE)
FC-03	FIBER CEMENT BOARD (RED)
FC-04	FIBER CEMENT BOARD (GRAY)
FC-05	FIBER CEMENT BOARD (DARK REVEAL)
GL-01	VISION GLASS WINDOWS DOORS
MP-01	HORIZONTAL DARK
MT-01	ALUMINUM STOREFRONT (DARK BRONZE)
MT-04	METAL DARK
VN-01	VINYL WINDOWS (DARK BRONZE)

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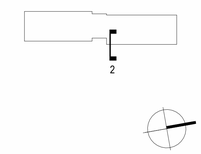

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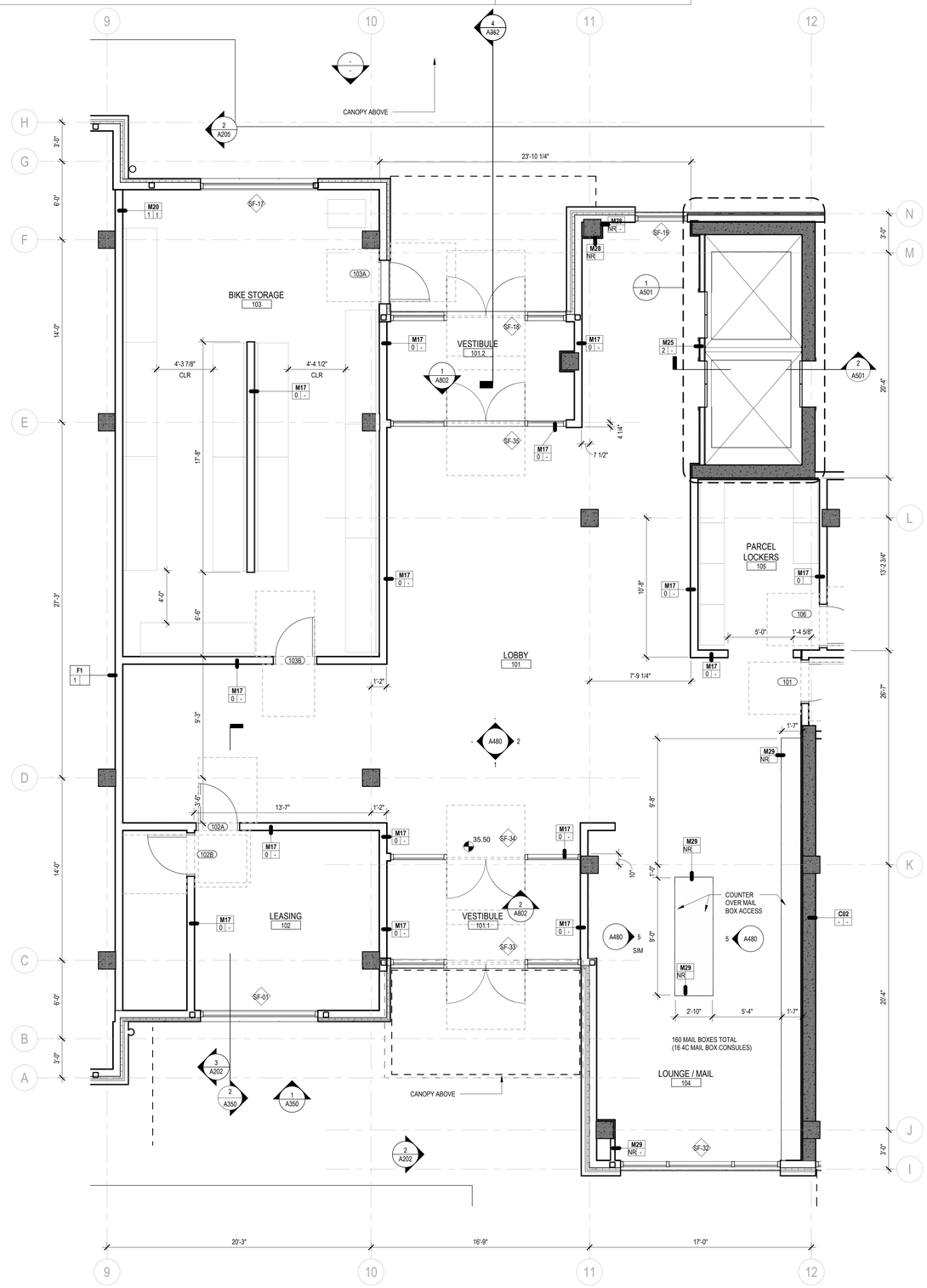
ENLARGED PLAN GENERAL NOTES

1. ALL DIMS ARE TO FACE OF STRUCTURE, U.N.O.

ENLARGED PLAN LEGEND

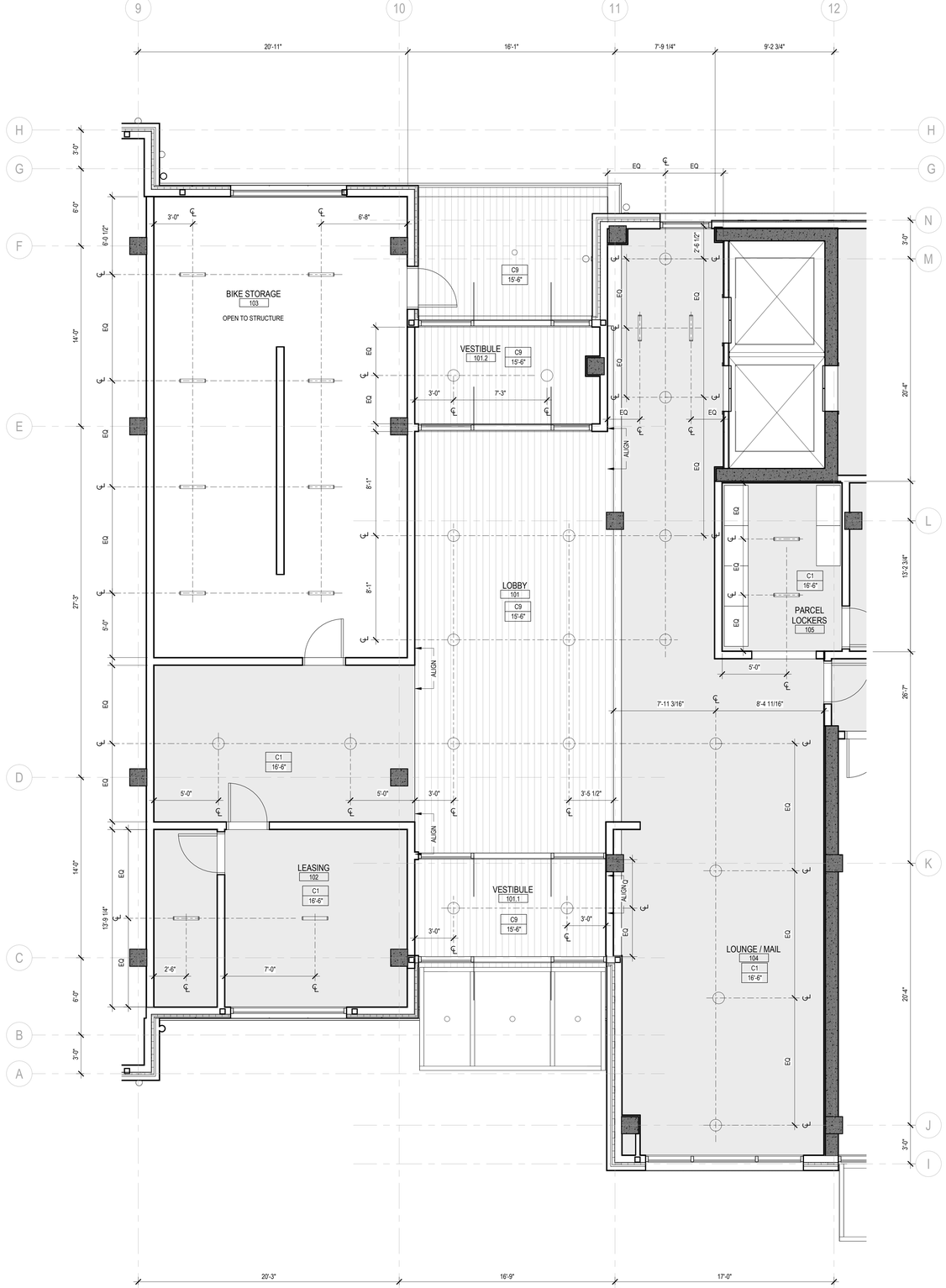
DOOR SYMBOL 101

PARTITION SYMBOL A / 1 / a — PLAN CONFIGURATION; ACOUSTIC INFORMATION; FIRE RATING



1 LOBBY FLOOR PLAN

SCALE: 1/4" = 1'-0"



2 LOBBY RCP

SCALE: 1/4" = 1'-0"

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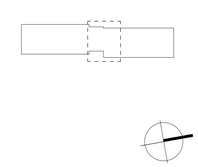
KEY PLAN



RUSSELL H. HAZZARD, ARCHITECT

8079 REGISTERED ARCHITECT
RUSSELL H. HAZZARD
STATE OF WASHINGTON

10/17/2024

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△	DATE	DESCRIPTION

21-5971-01A
PM: ELI HARDI
DRAWN BY: JG, PD, MB
04/29/22

ENLARGED PLANS - LOBBY

A401

10/17/2024 12:05:01 PM Autodesk Docs://MG2-CE-Shelter Holdings-Everett Riverfront Development PH2/21-5905-01A/A_21-5905-01A_Everett Riverfront BLD-D_R22.rvt

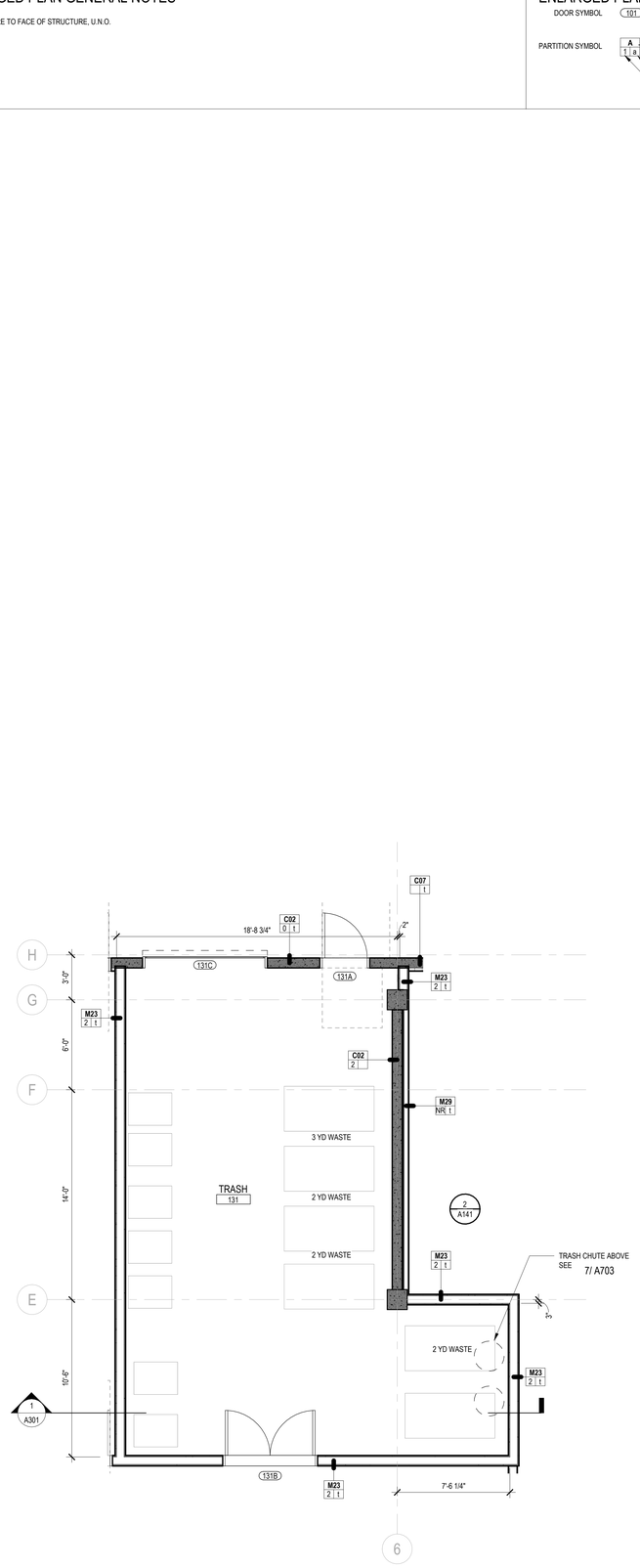
ENLARGED PLAN GENERAL NOTES

1. ALL DIMS ARE TO FACE OF STRUCTURE, U.N.O.

ENLARGED PLAN LEGEND

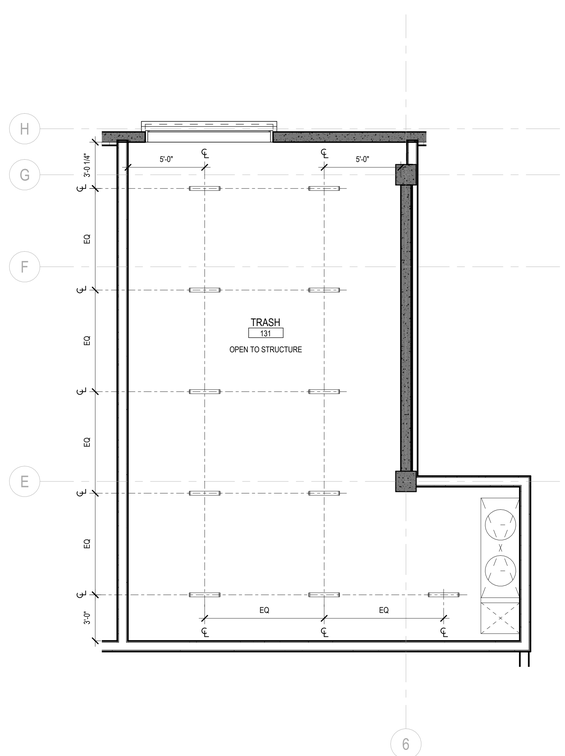
DOOR SYMBOL 101

PARTITION SYMBOL A / 1 / B
- PLAN CONFIGURATION
- ACOUSTIC INFORMATION
- FIRE RATING



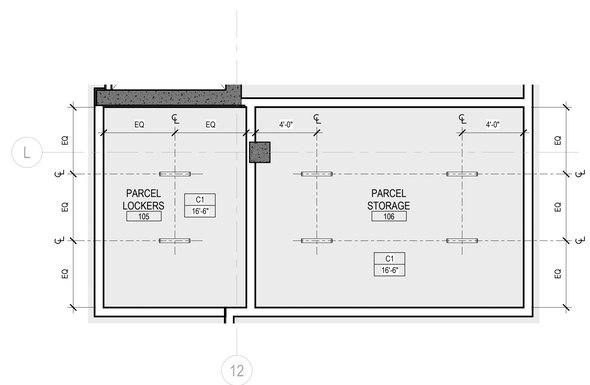
2 ENLARGED TRASH ROOM - LEVEL 1

SCALE: 1/4" = 1'-0"



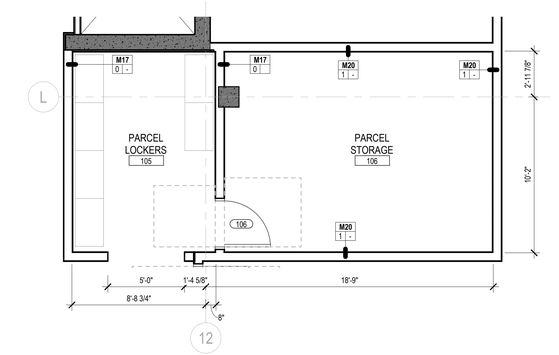
3 ENLARGED TRASH ROOM RCP

SCALE: 1/4" = 1'-0"



4 ENLARGED PARCEL LOCKERS AND STORAGE RCP

SCALE: 1/4" = 1'-0"



5 ENLARGED PARCEL LOCKERS AND STORAGE PLAN

SCALE: 1/4" = 1'-0"

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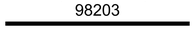
KEY PLAN



RUSSELL H. HAZZARD, ARCHITECT

10/17/2024

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04/29/22

ENLARGED PLANS - TRASH & STORAGE

A402

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ENLARGED PLAN GENERAL NOTES

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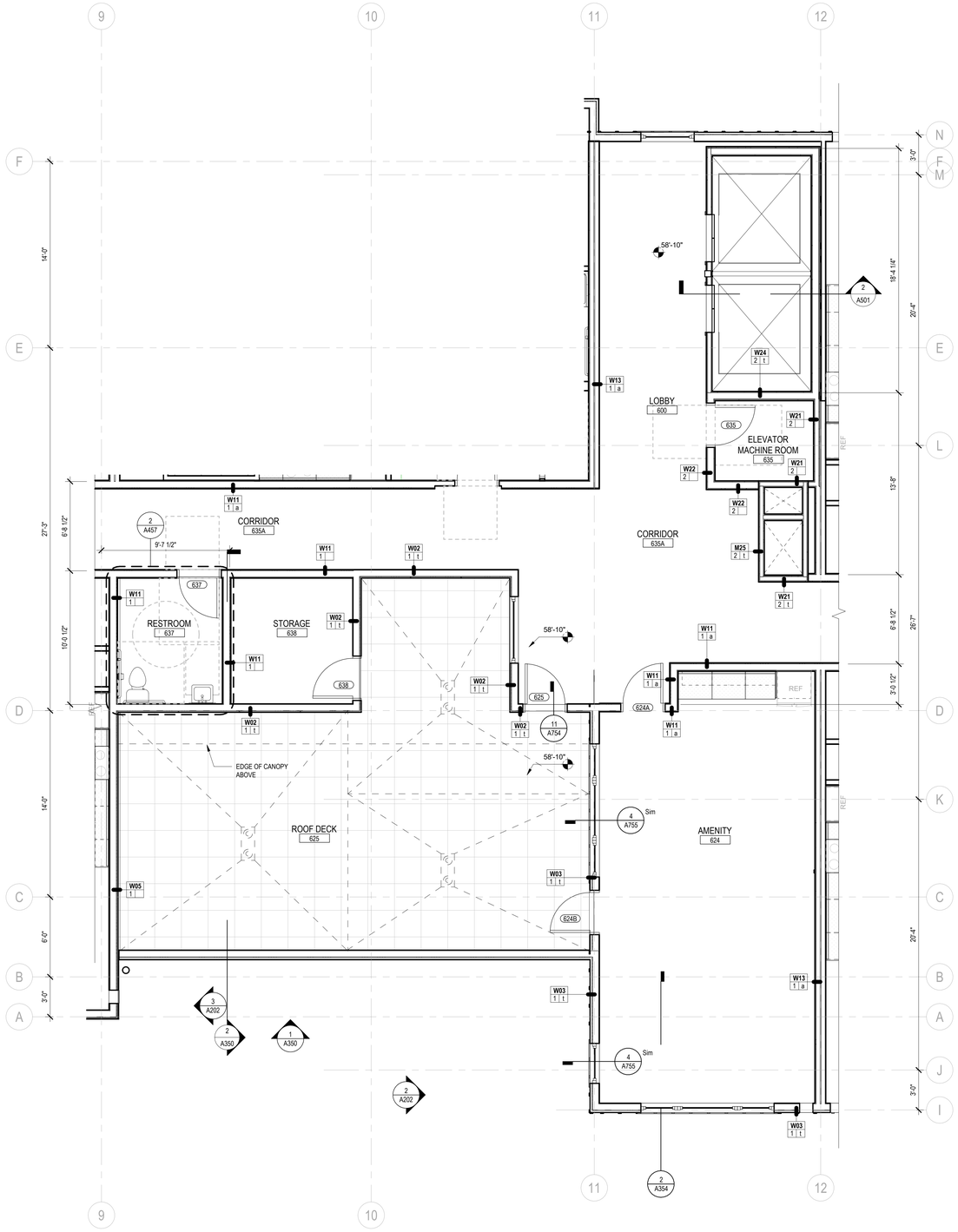
ENLARGED PLAN LEGEND

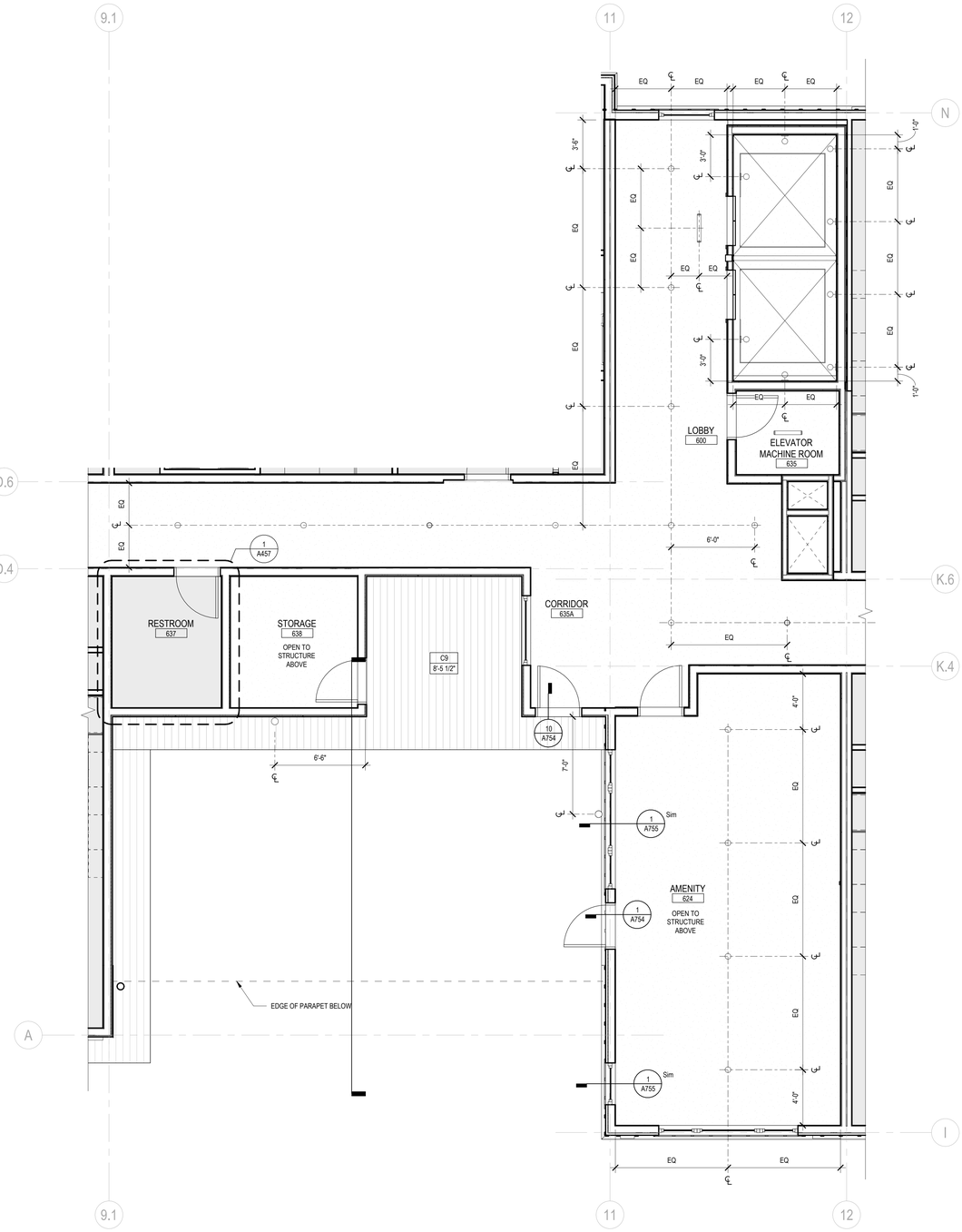
DOOR SYMBOL 101

PARTITION SYMBOL A / 1 | a — PLAN CONFIGURATION; ACOUSTIC INFORMATION; FIRE RATING



1 LEVEL 6 AMENITY FLOOR PLAN

SCALE: 1/4" = 1'-0"



2 LEVEL 6 AMENITY RCP

SCALE: 1/4" = 1'-0"

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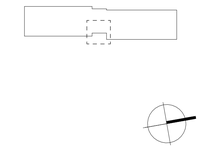
KEY PLAN



RUSSELL H. HAZZARD, ARCHITECT

8079 REGISTERED ARCHITECT
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STATE OF WASHINGTON

10/17/2024

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1	11/04/22	PERMIT CORRECTIONS 01

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04/29/22

ENLARGED PLANS - LEVEL 6 AMENITY

A403

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REFLECTED CEILING PLAN NOTES

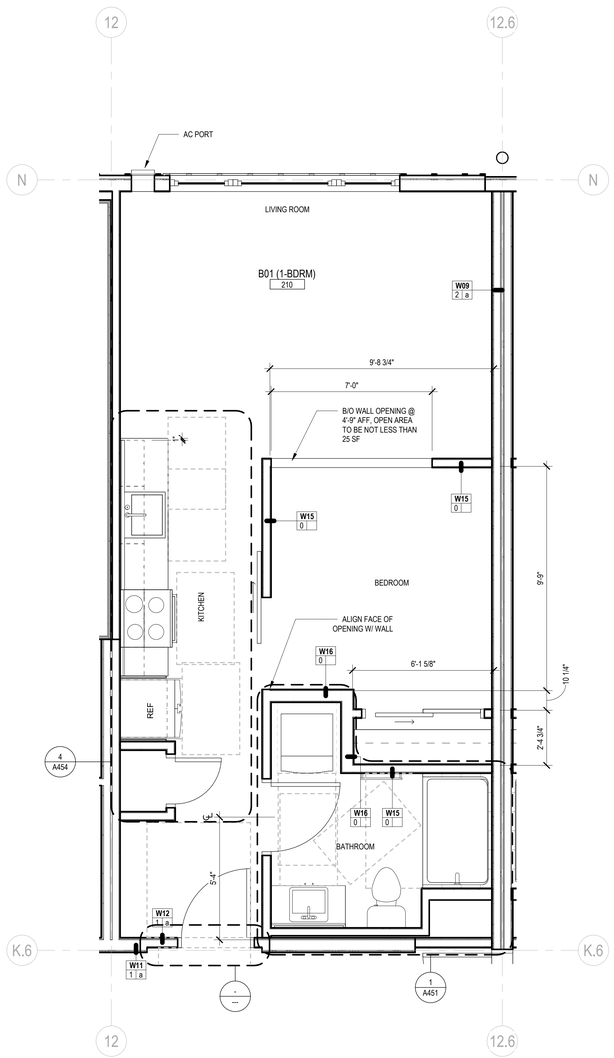
1. SEE ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION.
2. REFER TO UNIT PLANS FOR LIGHTING LOCATION AND DESIGN INTENT. REFER TO ELECTRICAL FOR LIGHTING SPECIFICATIONS AND CODE REQUIREMENTS.
3. CENTER ACOUSTICAL PANEL CEILING SYSTEM IN ROOM AS SHOWN U.N.O.
4. REF. REFLECTED CEILING PLANS FOR CEILING HEIGHTS.
5. CENTER RECESSED DOWNLIGHTS IN ACOUSTICAL PANEL U.N.O.
6. CENTER DOWN LIGHTS IN GYP. BD. IN BOTH DIRECTIONS AND ALIGN WITH ADJACENT DOWN LIGHTS U.N.O.
7. FIXTURES, DEVICES AND EQUIPMENT SHOWN ON REFLECTED CEILING PLANS ARE FOR COORDINATION PURPOSES. SEE MEP/FP/CODE COMPLIANCE DRAWINGS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
8. CENTER SPRINKLER HEADS IN ACOUSTICAL PANEL CEILINGS UNO.
9. RECESSED FIXTURE IN BATHROOM MUST MEET REQUIREMENTS FOR WET CONDITIONS.
10. ACCESS PANEL LOCATIONS TO BE COORDINATED WITH MEP DRAWINGS

ENLARGED UNIT PLAN GENERAL NOTES:

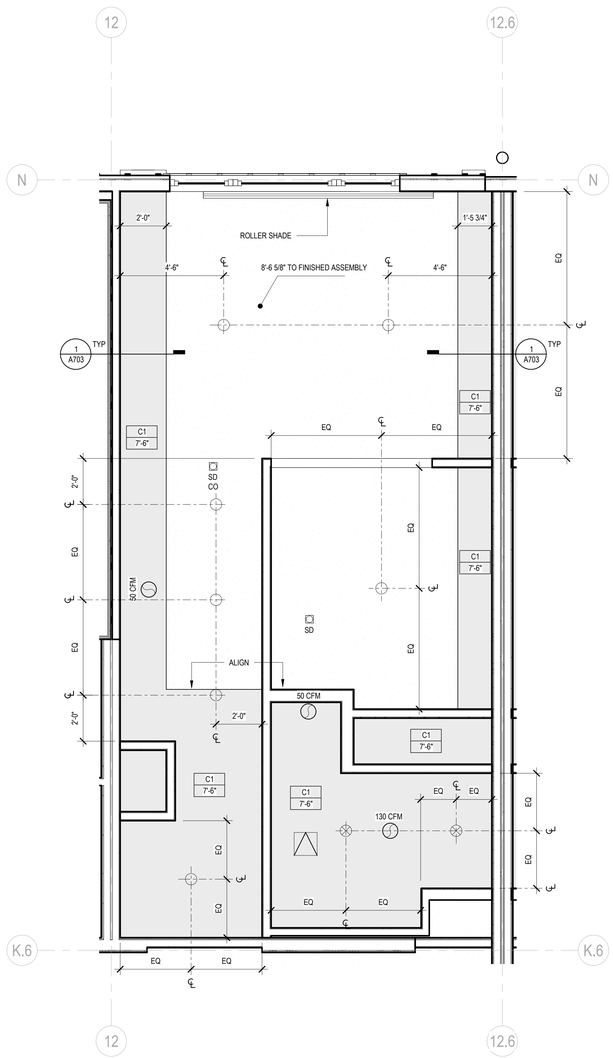
1. INTERIOR PARTITION WALLS TO BE TYPE W15, UNO
2. CLOSET DOORS AND SLIDING DOORS TO BE CENTERED ON WALL, UNO.
3. EACH INDIVIDUAL DWELLING UNIT IN A GROUP R-2 MULTIFAMILY RESIDENTIAL OCCUPANCY WITH CENTRAL SERVICE SHALL BE PROVIDED WITH A DOMESTIC HOT WATER METER PER WSEC C404.9.
4. BUILDING SHALL HAVE EQUIPPED TO MEASURE, MONITOR, RECORD, AND DISPLAY ENERGY CONSUMPTION DATA FOR EACH ENERGY SOURCE AND END USE CATEGORY PER THE PROVISIONS OF SECTION C409, TO ENABLE EFFECTIVE ENERGY MANAGEMENT.
5. SEE A450 SERIES FOR ENLARGED BATH AND KITCHEN PLANS.
6. SEE PLAN SHEETS FOR WINDOW AND STOREFRONT LOCATIONS.
7. SEE ELECTRICAL DRAWINGS FOR POWER AND SWITCHING.
8. SEE MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION.
9. SEE PLUMBING DRAWINGS FOR ADDITIONAL INFORMATION.
10. SEE A610 SERIES FOR WALL ASSEMBLIES.

RCP LEGEND

CEILING TAG / CEILING HEIGHT — C1 / 18' - 6"
ACT CEILING
GWB CEILING
WOOD SOFFIT
RECESSED LIGHT
PENDANT MOUNTED LIGHT
COVE LIGHT
WALL MOUNTED LIGHT
FLOURESCENT LIGHT
RECESSED CAN FIXTURE
LINEAR DIFFUSER
SPRINKLER HEAD (CS = CEILING, WS = WALL MOUNTED)
CFM / FAN — 50 CFM
SMOKE/CO2 DETECTOR — SD / CO
FIRE ALARM — FA
SUPPLY AIR DEVICE
RETURN/ EXHAUST AIR DEVICE
EXIT LIGHT
MECHOSHADE
ACCESS PANEL
GRID STARTING POINT
ROLLER SHADE



1 UNIT PLAN - B01
SCALE: 3/8" = 1'-0"



2 UNIT RCP - B01
SCALE: 3/8" = 1'-0"

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RUSSELL H. HAZZARD, ARCHITECT
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RUSSELL H. HAZZARD
STATE OF WASHINGTON
10/17/2024

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ENLARGED UNIT PLANS - B01

A424

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REFLECTED CEILING PLAN NOTES

1. SEE ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION.
2. REFER TO UNIT PLANS FOR LIGHTING LOCATION AND DESIGN INTENT. REFER TO ELECTRICAL FOR LIGHTING SPECIFICATIONS AND CODE REQUIREMENTS.
3. CENTER ACOUSTICAL PANEL CEILING SYSTEM IN ROOM AS SHOWN U.N.O.
4. REF. REFLECTED CEILING PLANS FOR CEILING HEIGHTS.
5. CENTER RECESSED DOWNLIGHTS IN ACOUSTICAL PANEL U.N.O.
6. CENTER DOWN LIGHTS IN GYP. BD. IN BOTH DIRECTIONS AND ALIGN WITH ADJACENT DOWN LIGHTS U.N.O.
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8. CENTER SPRINKLER HEADS IN ACOUSTICAL PANEL CEILINGS UNO.
9. RECESSED FIXTURE IN BATHROOM MUST MEET REQUIREMENTS FOR WET CONDITIONS.
10. ACCESS PANEL LOCATIONS TO BE COORDINATED WITH MEP DRAWINGS

ENLARGED UNIT PLAN GENERAL NOTES:

1. INTERIOR PARTITION WALLS TO BE TYPE W15, UNO
2. CLOSET DOORS AND SLIDING DOORS TO BE CENTERED ON WALL, UNO.
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5. SEE A450 SERIES FOR ENLARGED BATH AND KITCHEN PLANS.
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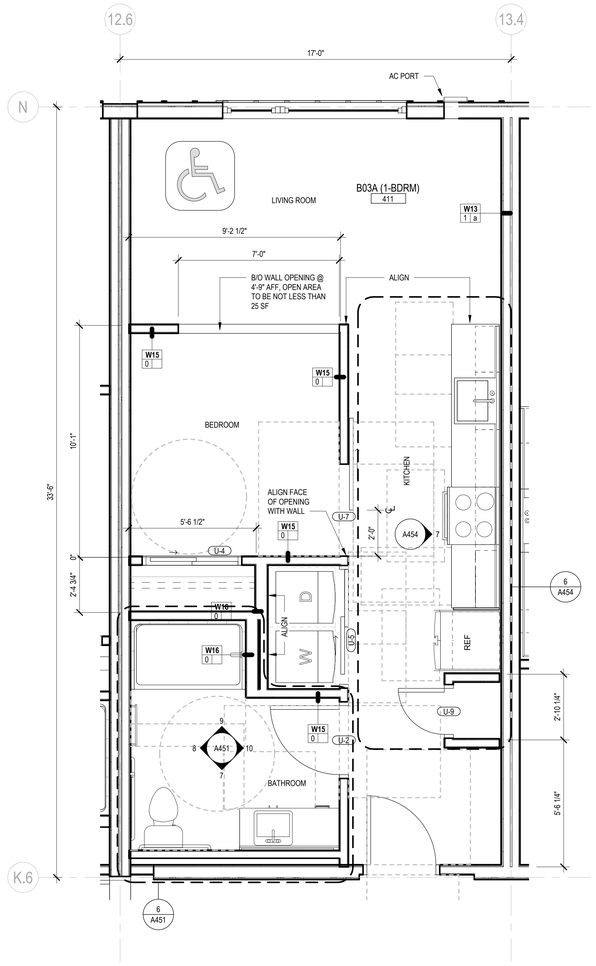
7. SEE ELECTRICAL DRAWINGS FOR POWER AND SWITCHING.
8. SEE MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION.
9. SEE PLUMBING DRAWINGS FOR ADDITIONAL INFORMATION.
10. SEE A610 SERIES FOR WALL ASSEMBLIES.

RCP LEGEND

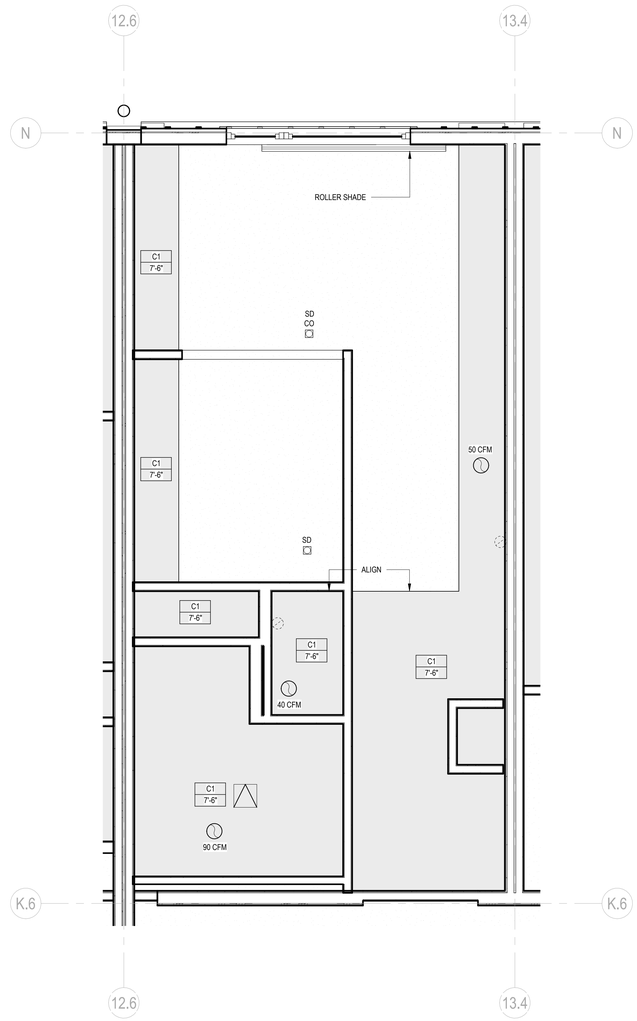
CEILING TAG / CEILING HEIGHT: C1 / 18' - 6"

ACT CEILING
GWB CEILING
WOOD SOFFIT
RECESSED LIGHT
PENDANT MOUNTED LIGHT
COVE LIGHT
WALL MOUNTED LIGHT
FLOURESCENT LIGHT
RECESSED CAN FIXTURE
LINEAR DIFFUSER
SPRINKLER HEAD CS = CEILING WS = WALL MOUNTED
CFM / FAN / 50 CFM
SMOKE/CO2 DETECTOR
FIRE ALARM
SUPPLY AIR DEVICE
RETURN/ EXHAUST AIR DEVICE
EXIT LIGHT
MECHOSHADE
ACCESS PANEL
GRID STARTING POINT
ROLLER SHADE



1 UNIT PLAN - B03 TYPE A

SCALE: 3/8" = 1'-0"



2 UNIT RCP - B03 TYPE A

SCALE: 3/8" = 1'-0"

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RUSSELL H. HAZZARD, ARCHITECT

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21-5971-01A
PM: ELI HARDI
DRAWN BY: JG, PD, MB
04/29/22

ENLARGED UNIT PLANS - B03 TYPE A

A425

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REFLECTED CEILING PLAN NOTES

1. SEE ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION.
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ENLARGED UNIT PLAN GENERAL NOTES:

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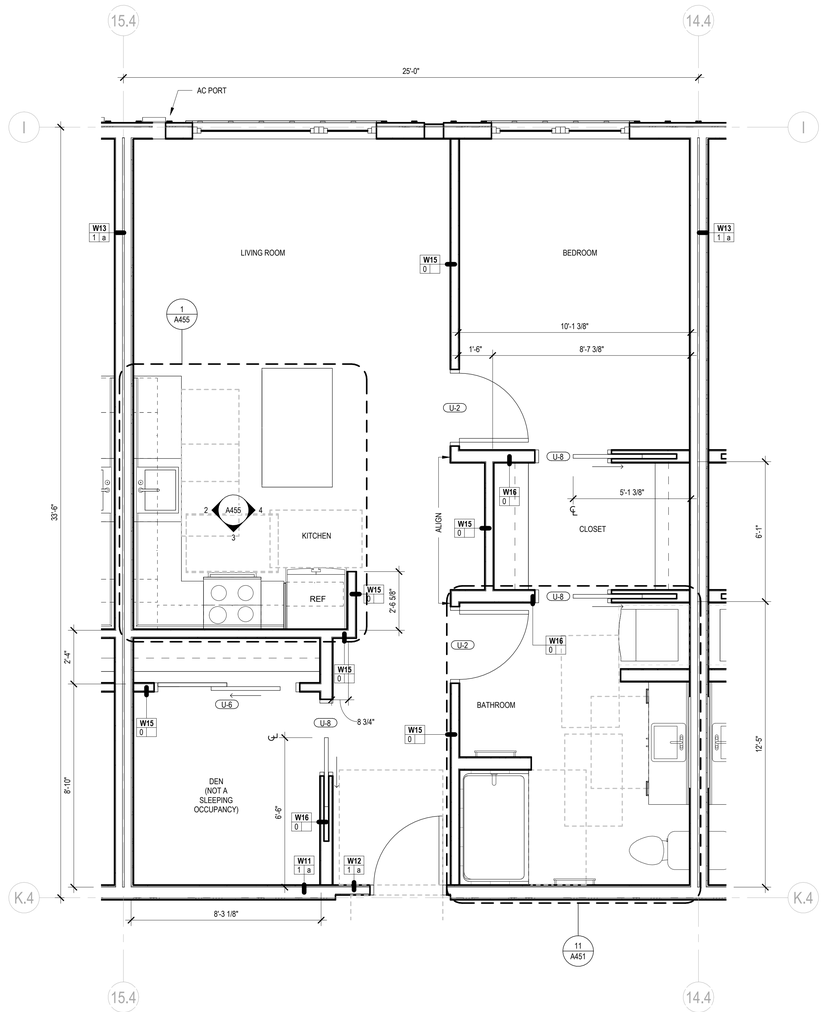
9. SEE PLUMBING DRAWINGS FOR ADDITIONAL INFORMATION.
10. SEE A610 SERIES FOR WALL ASSEMBLIES.

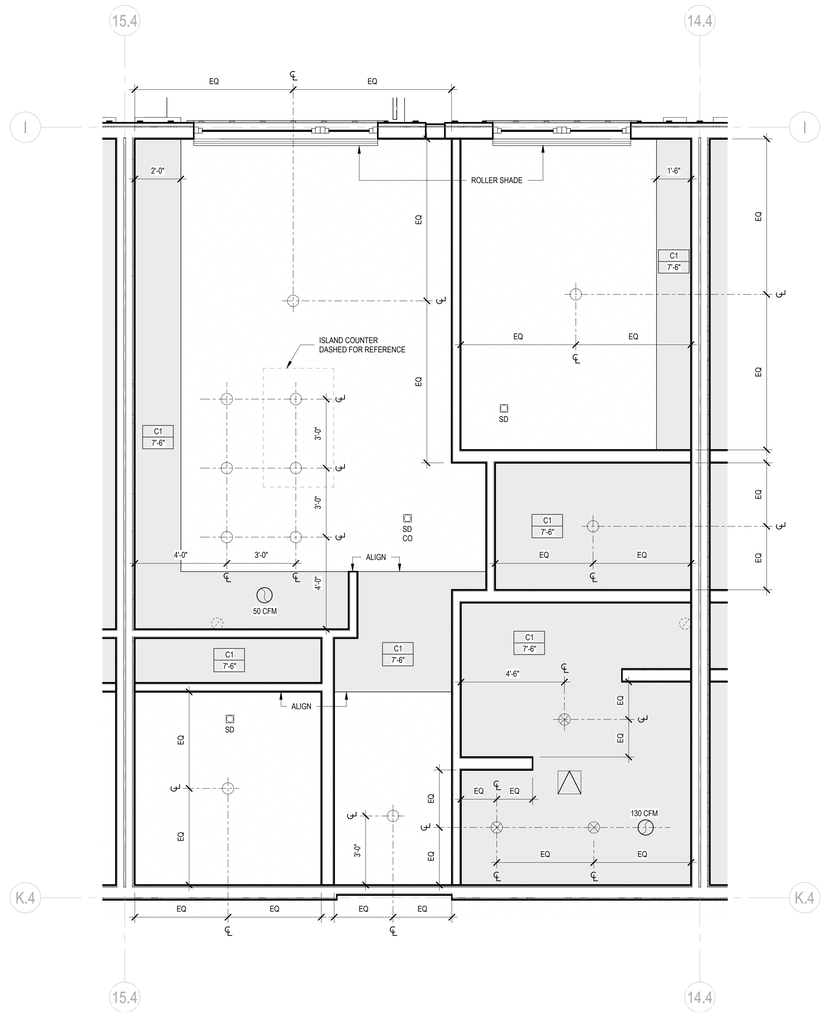
RCP LEGEND

CEILING TAG / CEILING HEIGHT — C1 / 18' - 6"
ACT CEILING
GWB CEILING
WOOD SOFFIT
RECESSED LIGHT
PENDANT MOUNTED LIGHT
COVE LIGHT
WALL MOUNTED LIGHT
FLOURESCENT LIGHT
RECESSED CAN FIXTURE
LINEAR DIFFUSER
SPRINKLER HEAD (CS = CEILING, WS = WALL MOUNTED)
CFM / FAN — 50 CFM
SMOKE/CO2 DETECTOR — SD / CO
FIRE ALARM — FA
SUPPLY AIR DEVICE
RETURN/ EXHAUST AIR DEVICE
EXIT LIGHT
MECHOSHADE
ACCESS PANEL
GRID STARTING POINT
ROLLER SHADE



1 UNIT PLAN - C01

SCALE: 3/8" = 1'-0"



2 UNIT RCP - C01

SCALE: 3/8" = 1'-0"

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04/29/22

ENLARGED UNIT PLANS - C01

A426

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ENLARGED UNIT PLAN GENERAL NOTES:

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7. SEE ELECTRICAL DRAWINGS FOR POWER AND SWITCHING.
8. SEE MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION.
9. SEE PLUMBING DRAWINGS FOR ADDITIONAL INFORMATION.
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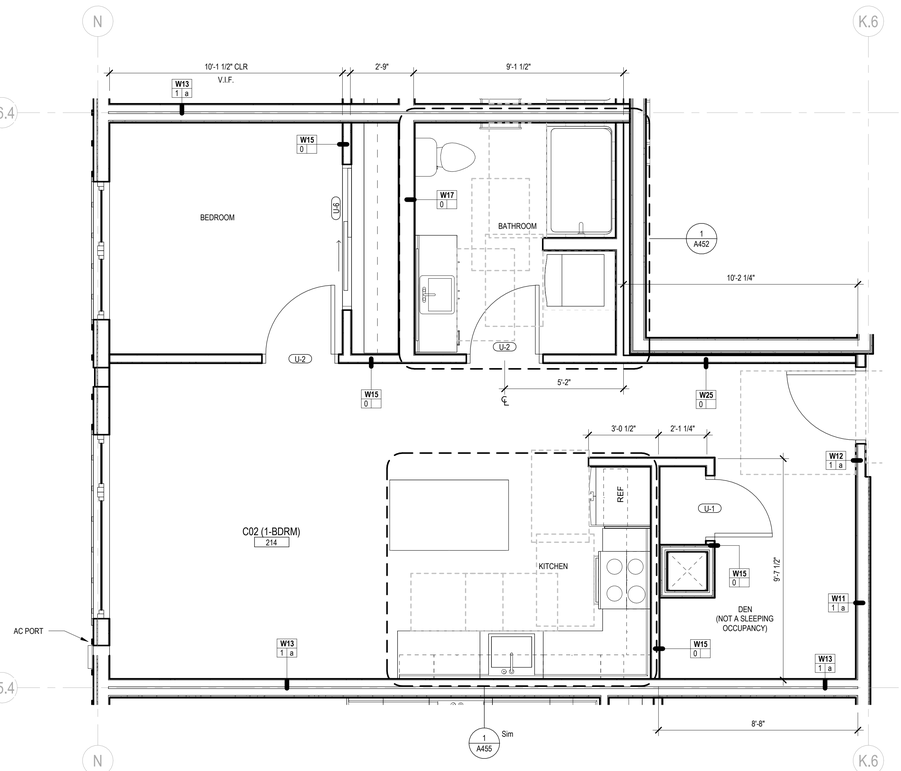
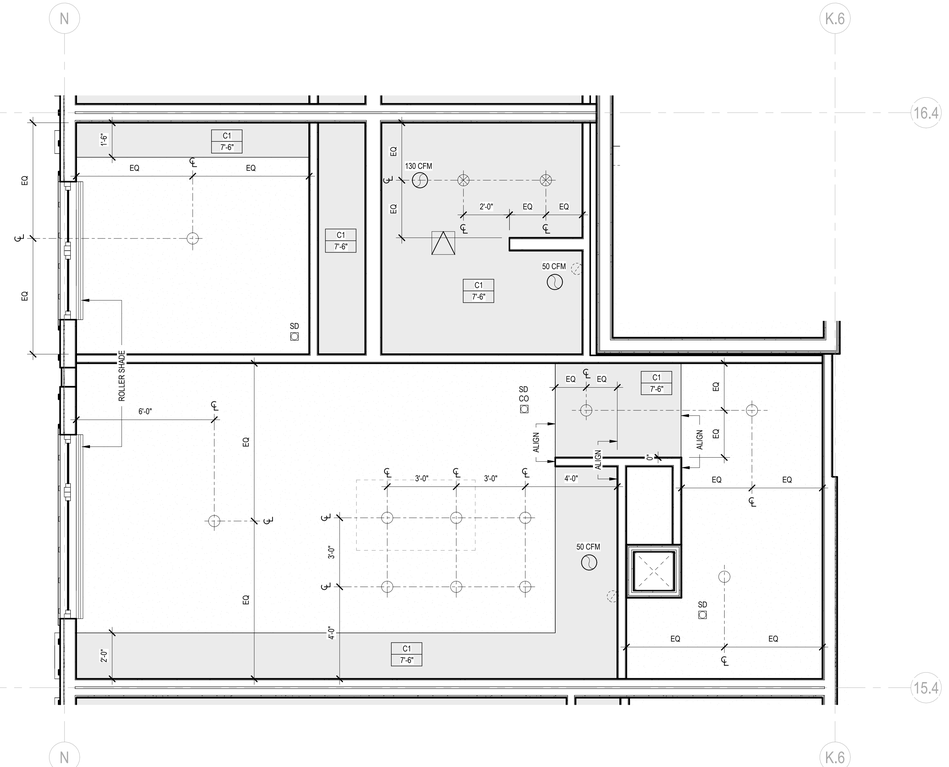
RCP LEGEND

CEILING TAG / CEILING HEIGHT — C1 / 18' - 6"
ACT CEILING
GWB CEILING
WOOD SOFFIT
RECESSED LIGHT
PENDANT MOUNTED LIGHT
COVE LIGHT
WALL MOUNTED LIGHT
FLOURESCENT LIGHT
RECESSED CAN FIXTURE
LINEAR DIFFUSER
SPRINKLER HEAD (CS = CEILING, WS = WALL MOUNTED)
CFM / FAN — 50 CFM
SMOKE/CO2 DETECTOR — SD / CO
FIRE ALARM — FA
SUPPLY AIR DEVICE
RETURN/ EXHAUST AIR DEVICE
EXIT LIGHT
MECHOSHADE
ACCESS PANEL
GRID STARTING POINT
ROLLER SHADE



1 UNIT PLAN - C02

SCALE: 3/8" = 1'-0"



2 UNIT RCP - C02

SCALE: 3/8" = 1'-0"

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RUSSELL H. HAZZARD, ARCHITECT

8079 REGISTERED ARCHITECT

RUSSELL H. HAZZARD
STATE OF WASHINGTON

10/17/2024

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△	DATE	DESCRIPTION

21-5971-01A
PM: ELI HARDI
DRAWN BY: JG, PD, MB
04/29/22

ENLARGED UNIT PLANS - C02

A427

10/17/2024 12:05:09 PM Autodesk Docs://MG2-CE-Shelter Holdings-Everett Riverfront Development PH2-21-5905-01A/A_21-5905-01A_Everett Riverfront BLD-D_R22.rvt

REFLECTED CEILING PLAN NOTES

1. SEE ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION.
2. REFER TO UNIT PLANS FOR LIGHTING LOCATION AND DESIGN INTENT. REFER TO ELECTRICAL FOR LIGHTING SPECIFICATIONS AND CODE REQUIREMENTS.
3. CENTER ACOUSTICAL PANEL CEILING SYSTEM IN ROOM AS SHOWN U.N.O.
4. REF. REFLECTED CEILING PLANS FOR CEILING HEIGHTS.
5. CENTER RECESSED DOWNLIGHTS IN ACOUSTICAL PANEL U.N.O.
6. CENTER DOWN LIGHTS IN GYP. BD. IN BOTH DIRECTIONS AND ALIGN WITH ADJACENT DOWN LIGHTS U.N.O.
7. FIXTURES, DEVICES AND EQUIPMENT SHOWN ON REFLECTED CEILING PLANS ARE FOR COORDINATION PURPOSES. SEE MEP/FP/CODE COMPLIANCE DRAWINGS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
8. CENTER SPRINKLER HEADS IN ACOUSTICAL PANEL CEILINGS UNO.
9. RECESSED FIXTURE IN BATHROOM MUST MEET REQUIREMENTS FOR WET CONDITIONS.
10. ACCESS PANEL LOCATIONS TO BE COORDINATED WITH MEP DRAWINGS

ENLARGED UNIT PLAN GENERAL NOTES:

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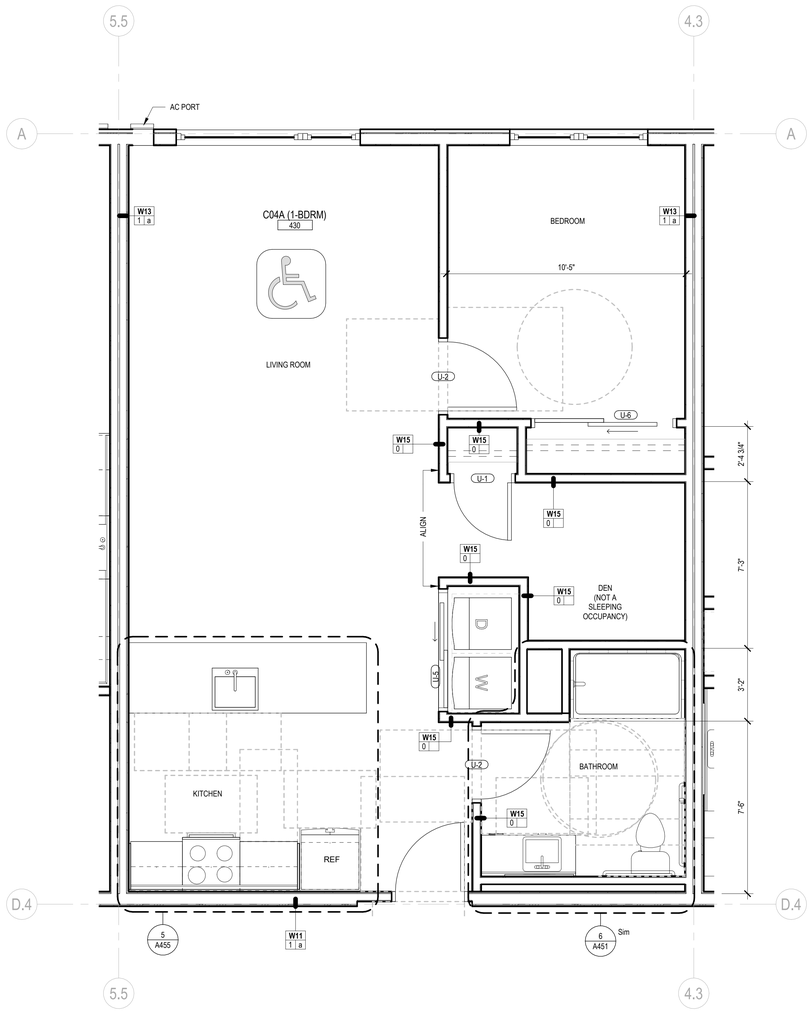
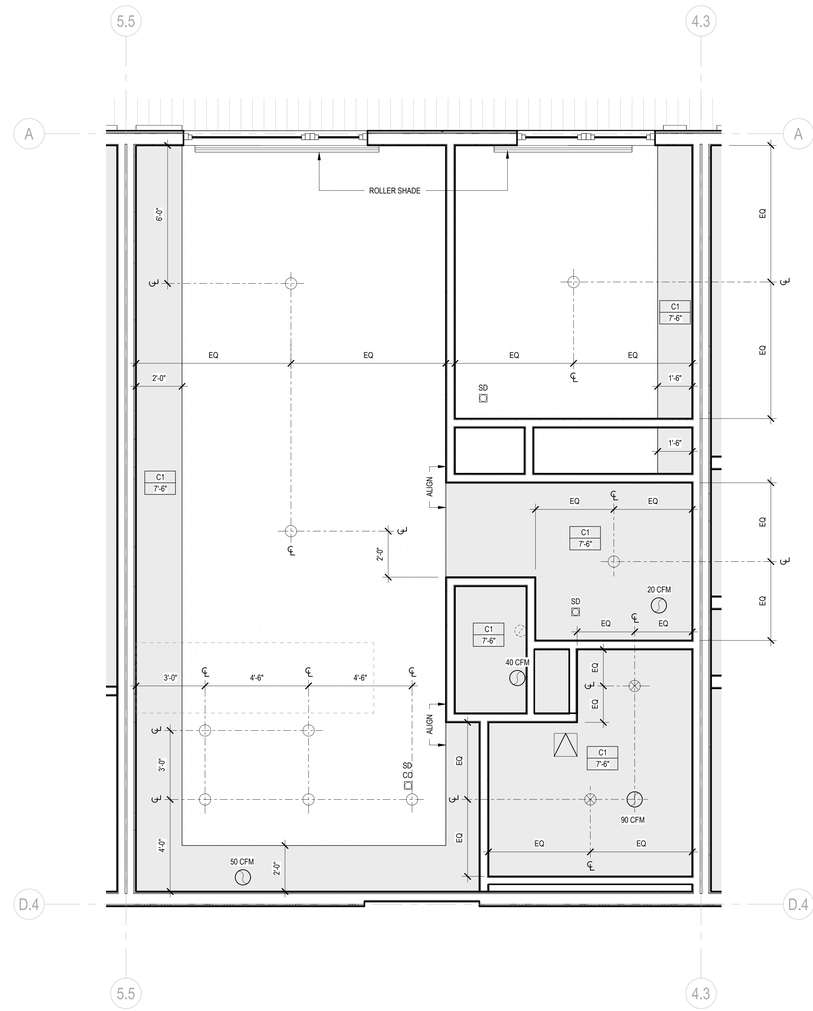
3. EACH INDIVIDUAL DWELLING UNIT IN A GROUP R-2 MULTIFAMILY RESIDENTIAL OCCUPANCY WITH CENTRAL SERVICE SHALL BE PROVIDED WITH A DOMESTIC HOT WATER METER PER WSEC C404.9.
4. BUILDING SHALL HAVE EQUIPPED TO MEASURE, MONITOR, RECORD, AND DISPLAY ENERGY CONSUMPTION DATA FOR EACH ENERGY SOURCE AND END USE CATEGORY PER THE PROVISIONS OF SECTION C409, TO ENABLE EFFECTIVE ENERGY MANAGEMENT.
5. SEE A450 SERIES FOR ENLARGED BATH AND KITCHEN PLANS.
6. SEE PLAN SHEETS FOR WINDOW AND STOREFRONT LOCATIONS.
7. SEE ELECTRICAL DRAWINGS FOR POWER AND SWITCHING.
8. SEE MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION.
9. SEE PLUMBING DRAWINGS FOR ADDITIONAL INFORMATION.
10. SEE A610 SERIES FOR WALL ASSEMBLIES.

RCP LEGEND

CEILING TAG / CEILING HEIGHT — C1, 18' - 6"
ACT CEILING
GWB CEILING
WOOD SOFFIT
RECESSED LIGHT
PENDANT MOUNTED LIGHT
COVE LIGHT
WALL MOUNTED LIGHT
FLOURESCENT LIGHT
RECESSED CAN FIXTURE
LINEAR DIFFUSER
SPRINKLER HEAD (CS = CEILING, WS = WALL MOUNTED)
CFM / FAN — 50 CFM
SMOKE/CO2 DETECTOR — SD / CO
FIRE ALARM — FA
SUPPLY AIR DEVICE
RETURN/ EXHAUST AIR DEVICE
EXIT LIGHT
MECHOSHADE
ACCESS PANEL
GRID STARTING POINT
ROLLER SHADE



1 UNIT PLAN - C04 TYPE A
SCALE: 3/8" = 1'-0"



2 UNIT RCP - C04 TYPE A
SCALE: 3/8" = 1'-0"

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PM: ELI HARDI
DRAWN BY: JG, PD, MB
04/29/22

ENLARGED UNIT PLANS - C04 TYPE A

A428

REFLECTED CEILING PLAN NOTES

1. SEE ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION.
2. REFER TO UNIT PLANS FOR LIGHTING LOCATION AND DESIGN INTENT. REFER TO ELECTRICAL FOR LIGHTING SPECIFICATIONS AND CODE REQUIREMENTS.
3. CENTER ACOUSTICAL PANEL CEILING SYSTEM IN ROOM AS SHOWN U.N.O.
4. REF. REFLECTED CEILING PLANS FOR CEILING HEIGHTS.
5. CENTER RECESSED DOWNLIGHTS IN ACOUSTICAL PANEL U.N.O.
6. CENTER DOWN LIGHTS IN GYP. BD. IN BOTH DIRECTIONS AND ALIGN WITH ADJACENT DOWN LIGHTS U.N.O.
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8. CENTER SPRINKLER HEADS IN ACOUSTICAL PANEL CEILINGS UNO.
9. RECESSED FIXTURE IN BATHROOM MUST MEET REQUIREMENTS FOR WET CONDITIONS.
10. ACCESS PANEL LOCATIONS TO BE COORDINATED WITH MEP DRAWINGS

ENLARGED UNIT PLAN GENERAL NOTES:

1. INTERIOR PARTITION WALLS TO BE TYPE W15, UNO
2. CLOSET DOORS AND SLIDING DOORS TO BE CENTERED ON WALL, UNO.
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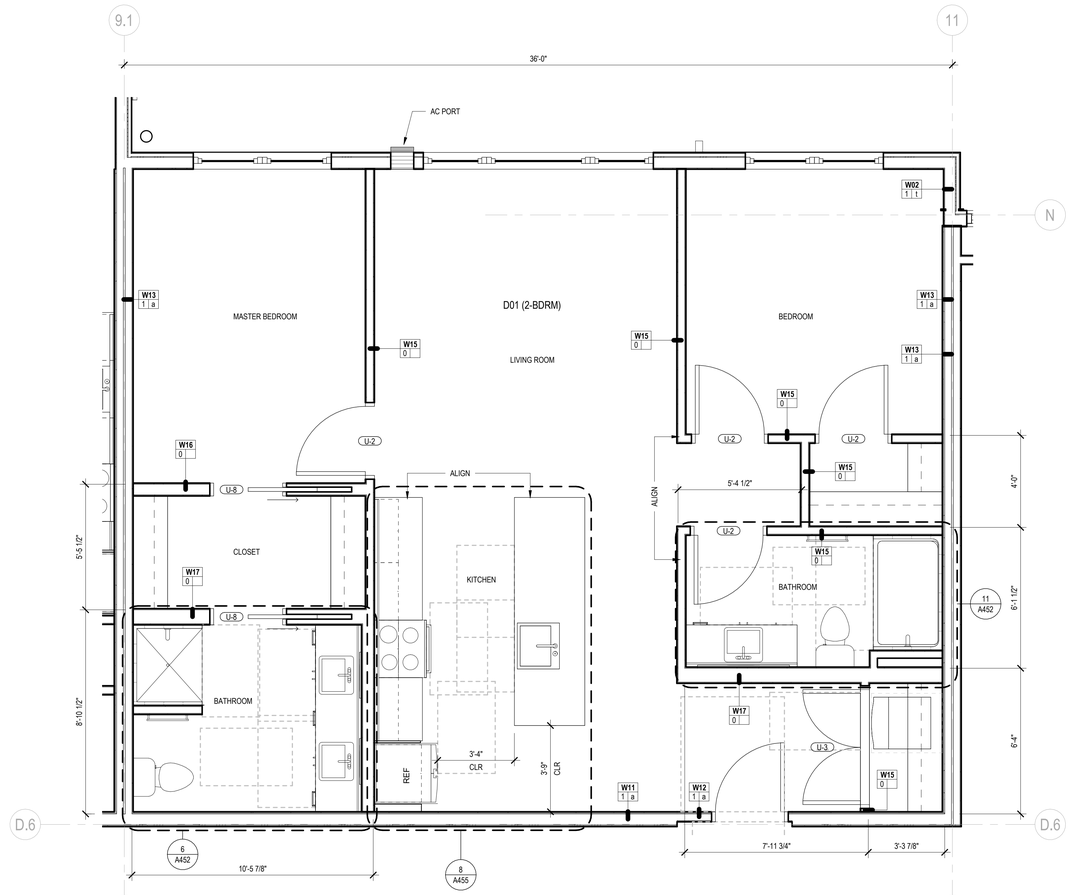
4. BUILDING SHALL HAVE EQUIPPED TO MEASURE, MONITOR, RECORD, AND DISPLAY ENERGY CONSUMPTION DATA FOR EACH ENERGY SOURCE AND END USE CATEGORY PER THE PROVISIONS OF SECTION C409, TO ENABLE EFFECTIVE ENERGY MANAGEMENT.
5. SEE A450 SERIES FOR ENLARGED BATH AND KITCHEN PLANS.
6. SEE PLAN SHEETS FOR WINDOW AND STOREFRONT LOCATIONS.
7. SEE ELECTRICAL DRAWINGS FOR POWER AND SWITCHING.
8. SEE MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION.
9. SEE PLUMBING DRAWINGS FOR ADDITIONAL INFORMATION.
10. SEE A610 SERIES FOR WALL ASSEMBLIES.

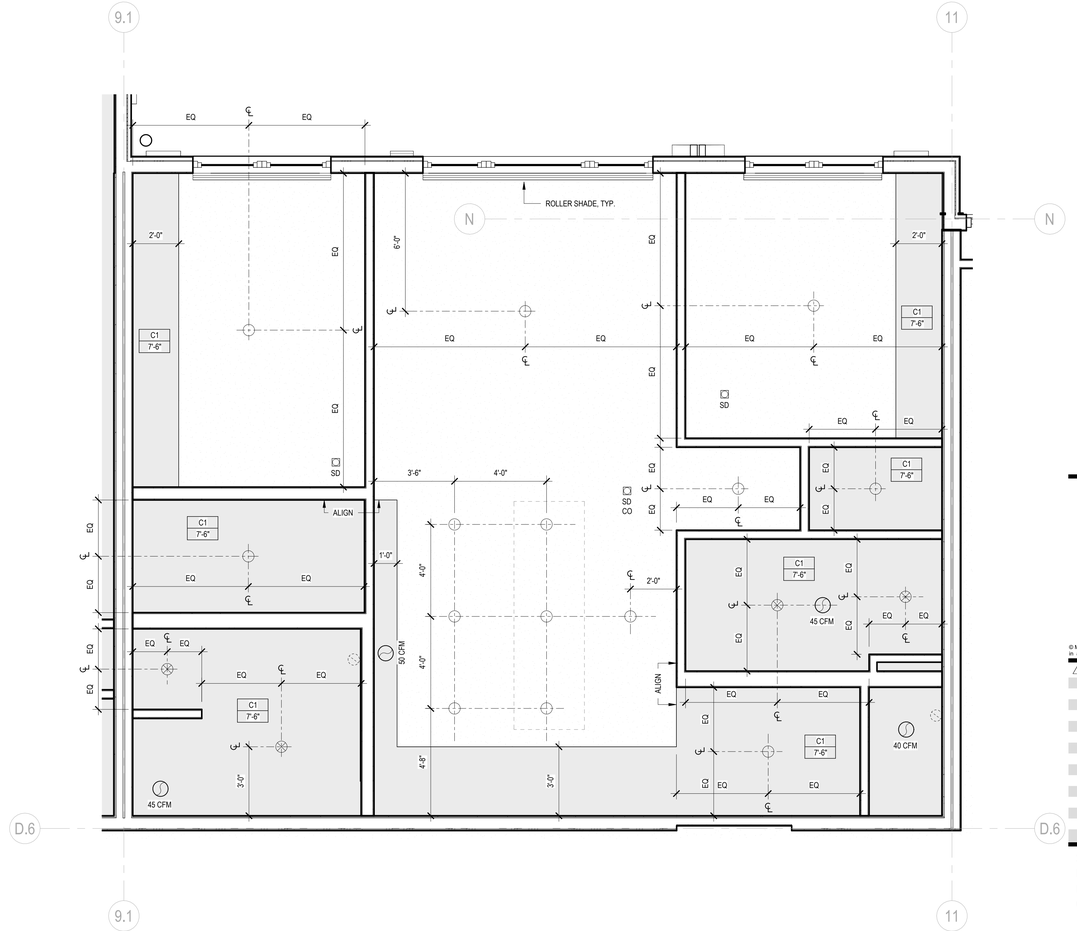
RCP LEGEND

CEILING TAG / CEILING HEIGHT — C1 / 18' - 6"
ACT CEILING
GWB CEILING
WOOD SOFFIT
RECESSED LIGHT
PENDANT MOUNTED LIGHT
COVE LIGHT
WALL MOUNTED LIGHT
FLOURESCENT LIGHT
RECESSED CAN FIXTURE
LINEAR DIFFUSER
SPRINKLER HEAD (CS = CEILING, WS = WALL MOUNTED)
CFM / FAN — 50 CFM
SMOKE/CO2 DETECTOR — SD / CO
FIRE ALARM — FA
SUPPLY AIR DEVICE
RETURN/ EXHAUST AIR DEVICE
EXIT LIGHT
MECHOSHADE
ACCESS PANEL
GRID STARTING POINT
ROLLER SHADE



1 UNIT PLAN - D01

SCALE: 3/8" = 1'-0"



2 UNIT RCP - D01

SCALE: 3/8" = 1'-0"

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10/18/2024

RUSSELL H. HAZZARD, ARCHITECT

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ENLARGED UNIT PLANS - D01

A429

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REFLECTED CEILING PLAN NOTES

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RCP LEGEND

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GWB CEILING
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PENDANT MOUNTED LIGHT
COVE LIGHT
WALL MOUNTED LIGHT
FLOURESCENT LIGHT
RECESSED CAN FIXTURE
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SPRINKLER HEAD (CS = CEILING, WS = WALL MOUNTED)
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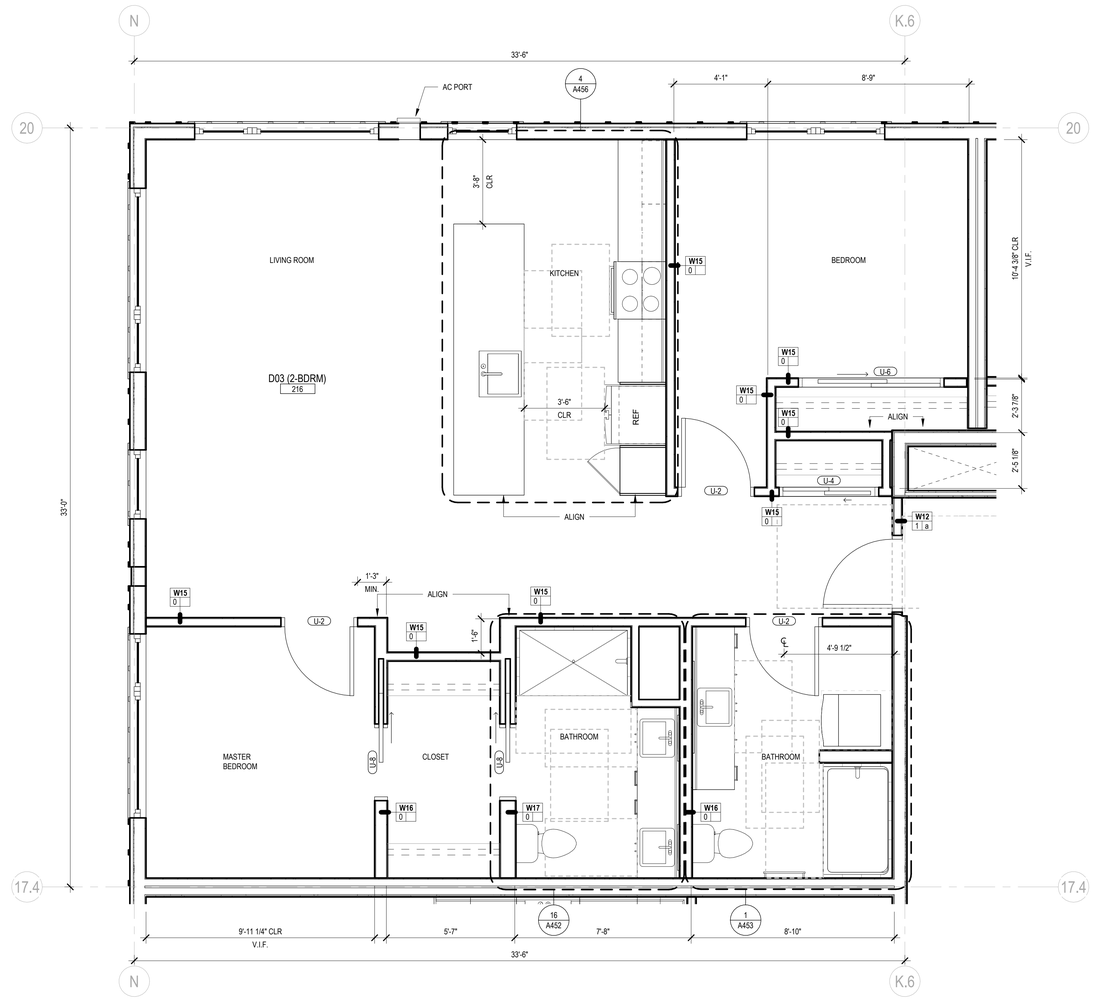
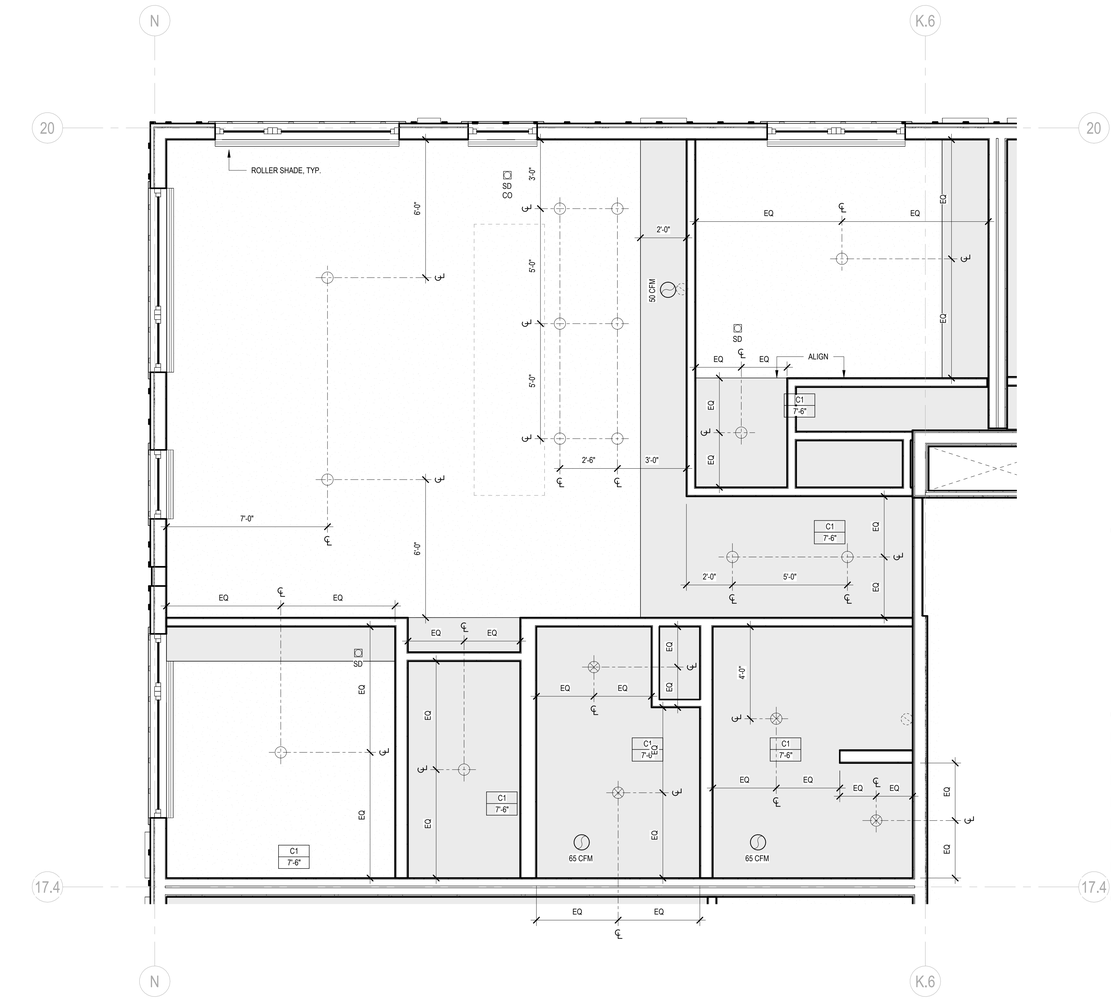


1 UNIT PLAN - D03

SCALE: 3/8" = 1'-0"



2 UNIT RCP - D03

SCALE: 3/8" = 1'-0"

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PM: ELI HARDI
DRAWN BY: JG, PD, MB
04/29/22

ENLARGED UNIT PLANS - D03

A430

10/17/2024 12:05:12 PM Autodesk Docs://MG2-CE-Shelter Holdings-Everett Riverfront Development PH2-21-5905-01A/A_21-5905-01A_Everett Riverfront BLD-D_R22.rvt

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RCP LEGEND

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GWB CEILING
WOOD SOFFIT
RECESSED LIGHT
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COVE LIGHT
WALL MOUNTED LIGHT
FLOURESCENT LIGHT
RECESSED CAN FIXTURE
LINEAR DIFFUSER
SPRINKLER HEAD (CS = CEILING, WS = WALL MOUNTED)
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FIRE ALARM — FA
SUPPLY AIR DEVICE
RETURN/ EXHAUST AIR DEVICE
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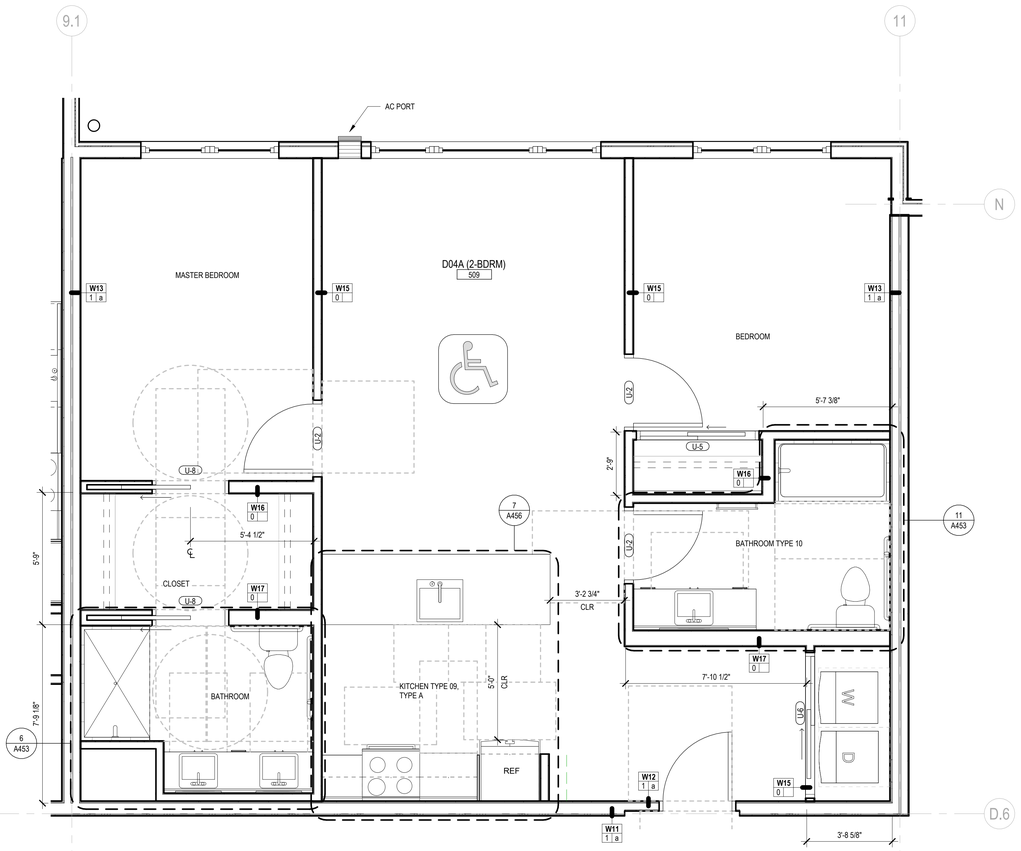
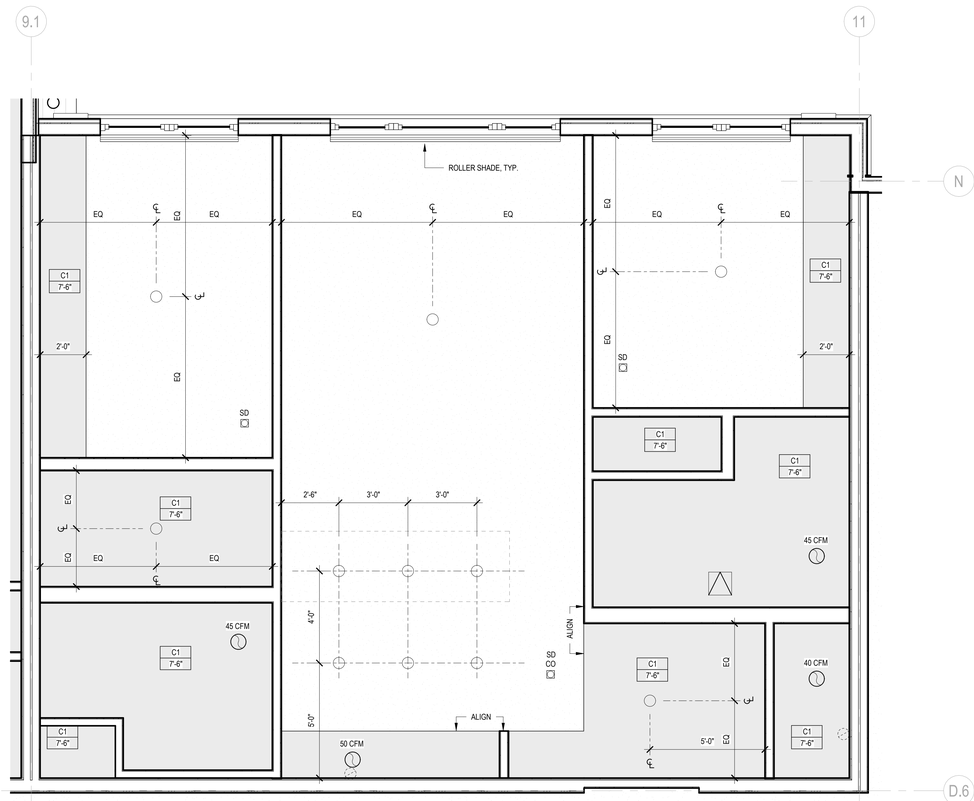
MECHOSHADE
ACCESS PANEL
GRID STARTING POINT
ROLLER SHADE



1 UNIT PLAN - D04 TYPE A
SCALE: 3/8" = 1'-0"



2 UNIT RCP - D04 TYPE A
SCALE: 3/8" = 1'-0"

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04/29/22

ENLARGED UNIT PLANS - D04 TYPE A

A431

10/17/2024 12:05:13 PM Autodesk Docs://MG2-CE-Shelter Holdings-Everett Riverfront Development PH2-21-5905-01A/A_21-5905-01A_Everett Riverfront BLD-D_R22.rvt

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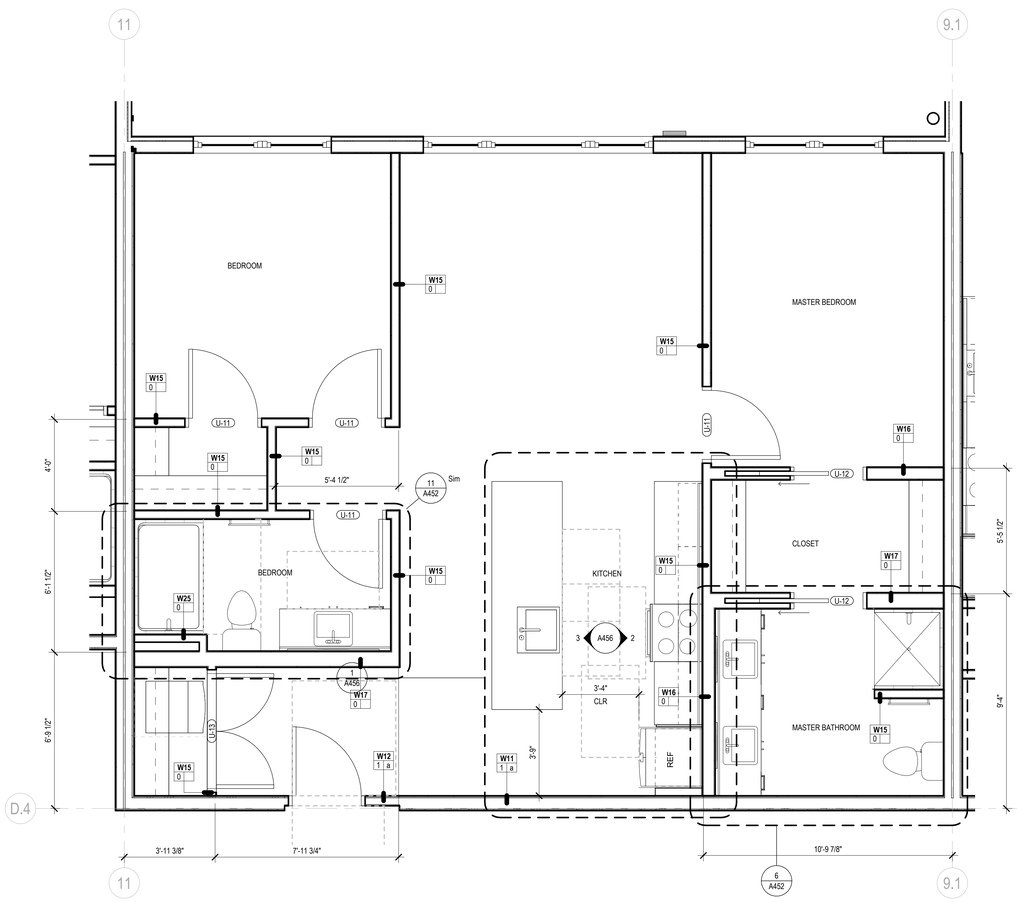
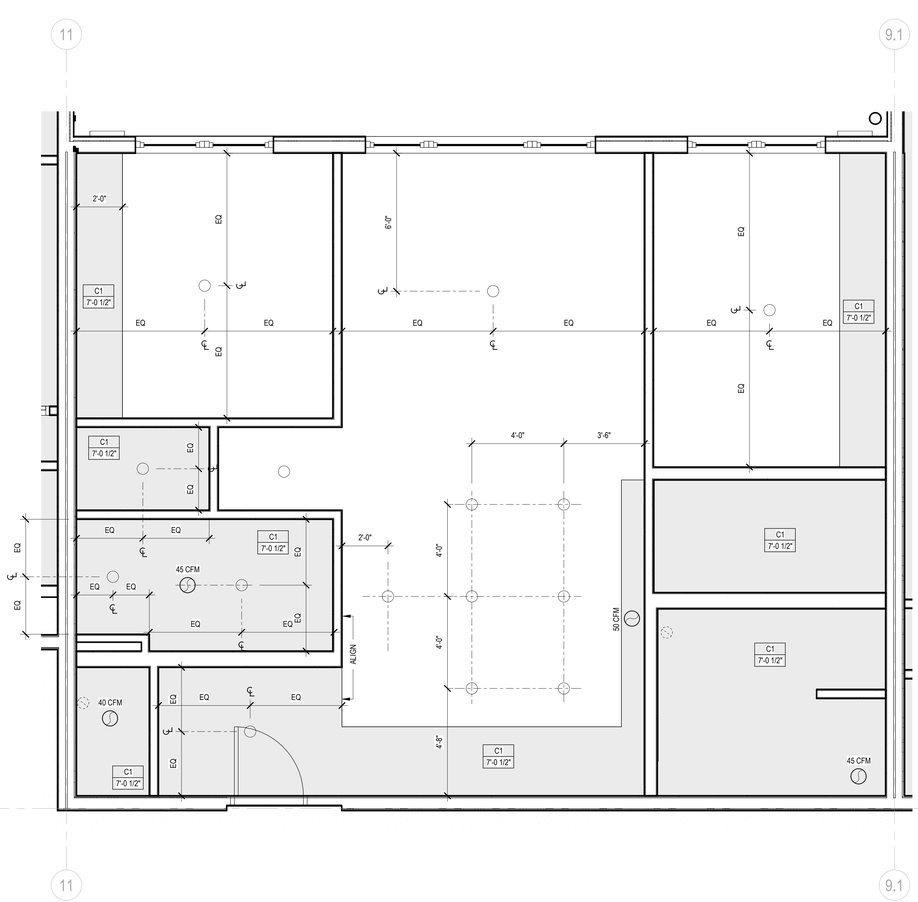


1 UNIT PLAN - D05

SCALE: 3/8" = 1'-0"



2 UNIT D5 RCP

SCALE: 3/8" = 1'-0"

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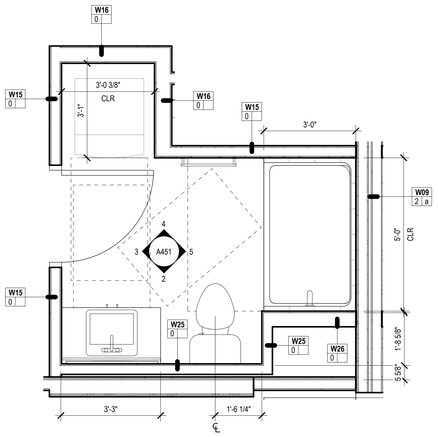
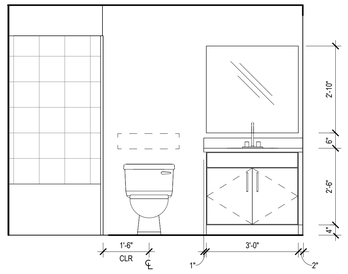
ENLARGED UNIT PLANS - D05

A432



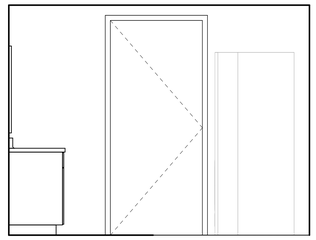
1 BATH 01 - ENLARGED PLAN

SCALE: 1/2" = 1'-0"



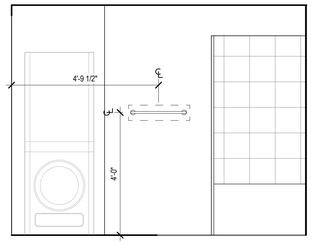
2 BATH 01 - ENLARGED ELEVATION

SCALE: 1/2" = 1'-0"



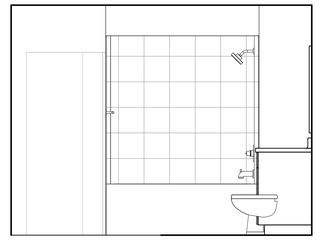
3 BATH 01 - ENLARGED ELEVATION

SCALE: 1/2" = 1'-0"



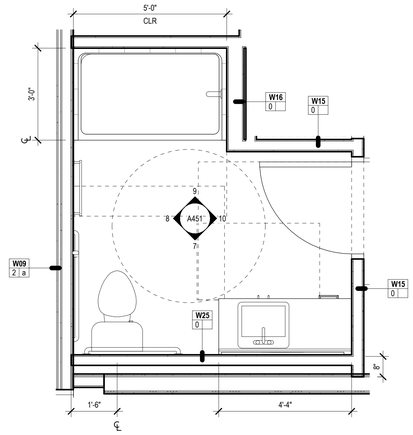
4 BATH 01 - ENLARGED ELEVATION

SCALE: 1/2" = 1'-0"



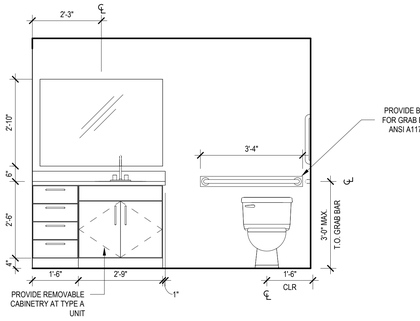
5 BATH 01 - ENLARGED ELEVATION

SCALE: 1/2" = 1'-0"



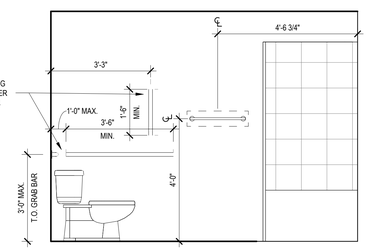
6 BATH 03 (TYPE A) - ENLARGED PLAN

SCALE: 1/2" = 1'-0"



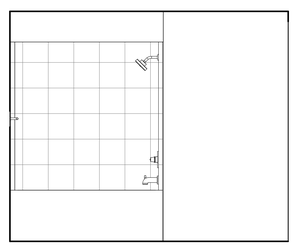
7 BATH 03 (TYPE A) - ENLARGED ELEVATION

SCALE: 1/2" = 1'-0"



8 BATH 03 (TYPE A) - ENLARGED ELEVATION

SCALE: 1/2" = 1'-0"



9 BATH 03 (TYPE A) - ENLARGED ELEVATION

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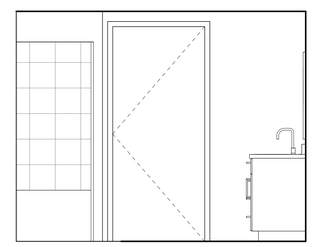
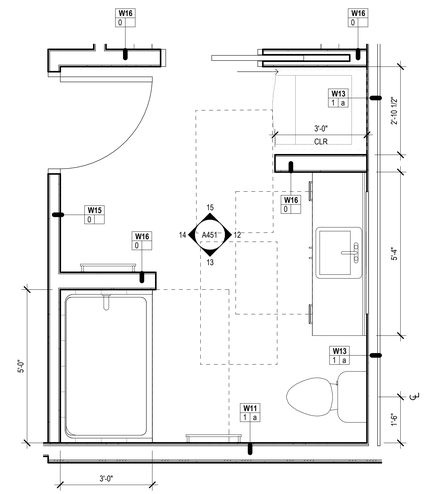


10 BATH 03 (TYPE A) - ENLARGED ELEVATION

SCALE: 1/2" = 1'-0"



11 BATH 04 - ENLARGED PLAN

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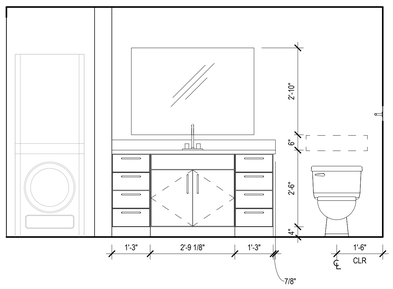

12 BATH 04 - ENLARGED ELEVATION 2

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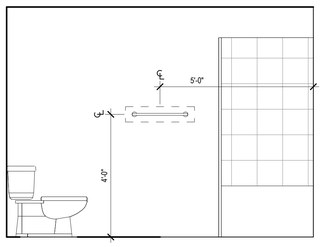

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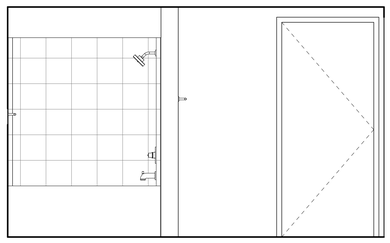
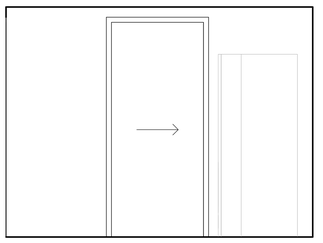


14 BATH 04 - ENLARGED ELEVATION

SCALE: 1/2" = 1'-0"



15 BATH 04 - ENLARGED ELEVATION

SCALE: 1/2" = 1'-0"

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RUSSELL H. HAZZARD
STATE OF WASHINGTON

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△	DATE	DESCRIPTION

21-5971-01A
PM: ELI HARDI
DRAWN BY: JG, PD, MB
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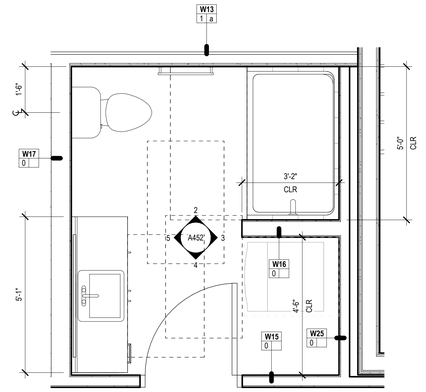
ENLARGED UNIT
BATH PLANS &
ELEV

A451

10/17/2024 12:05:17 PM Autodesk Docs://MG2-CE-Shelter Holdings-Everett Riverfront Development PH2-21-5905-01A/A_21-5905-01A_Everett Riverfront BLD-D_R22.rvt



1 BATH C-02 - ENLARGED PLAN

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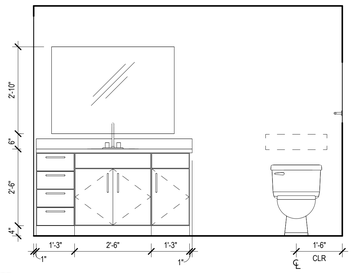

5 BATH C-02 - ENLARGED ELEVATION

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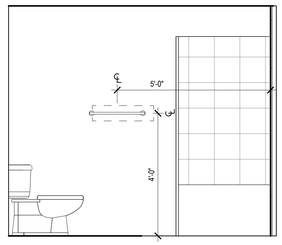

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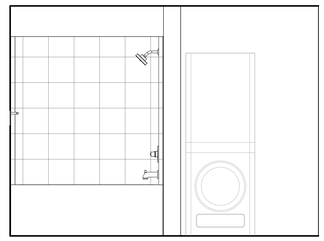

3 BATH C-02 - ENLARGED ELEVATION

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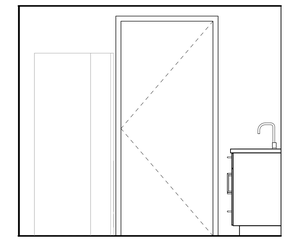

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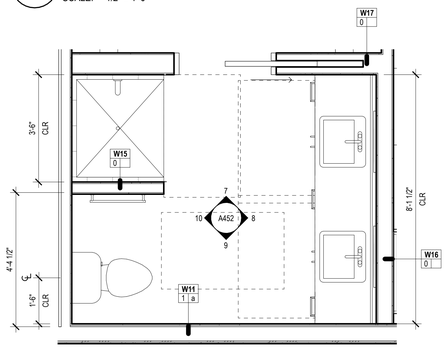
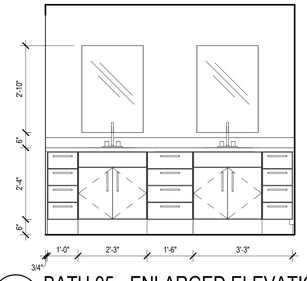


6 BATH 05 - ENLARGED PLAN

SCALE: 1/2" = 1'-0"



8 BATH 05 - ENLARGED ELEVATION

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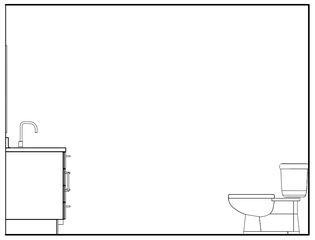

9 BATH 05 - ENLARGED ELEVATION

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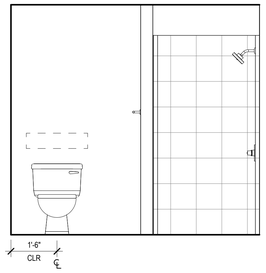

10 BATH 05 - ENLARGED ELEVATION

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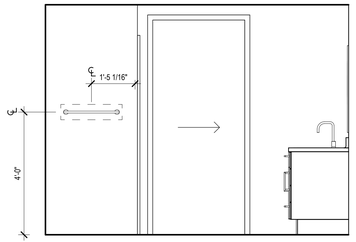

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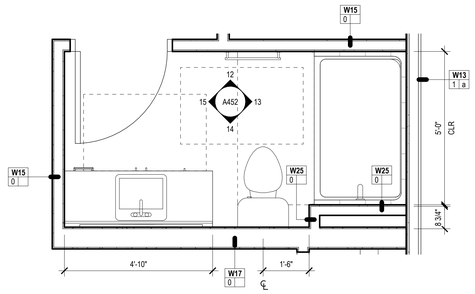
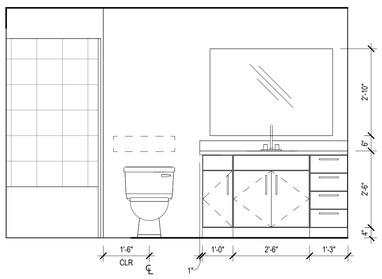


11 BATH 06 - ENLARGED PLAN

SCALE: 1/2" = 1'-0"



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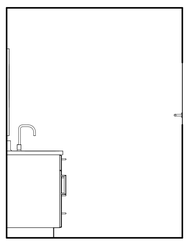

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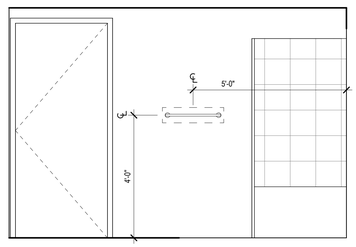

12 BATH 06 - ENLARGED ELEVATION

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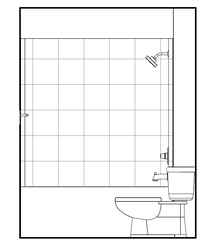

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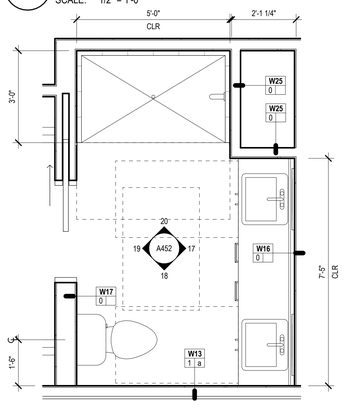

16 BATH 07 - ENLARGED PLAN

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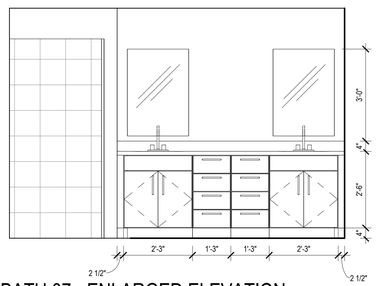

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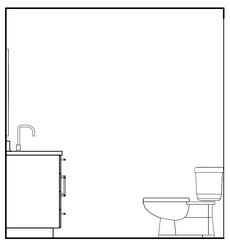

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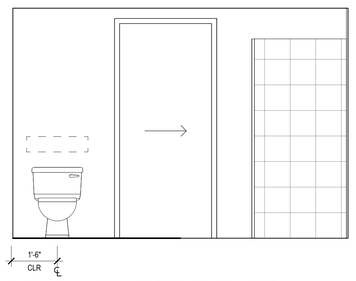

19 BATH 07 - ENLARGED ELEVATION

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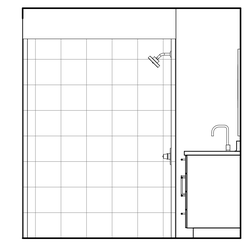

20 BATH 07 - ENLARGED ELEVATION

SCALE: 1/2" = 1'-0"

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STATE OF WASHINGTON

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ENLARGED UNIT BATH PLANS & ELEV

A452

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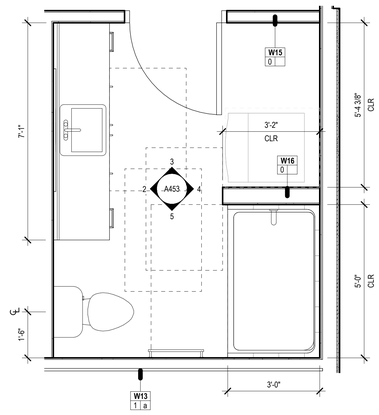

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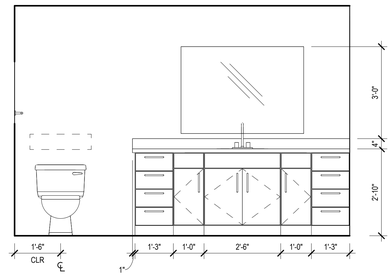
SCALE: 1/2" = 1'-0"



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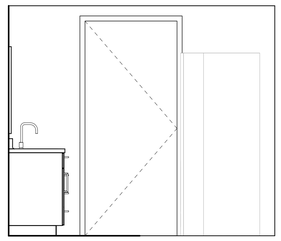

3 BATH 08 - ENLARGED ELEVATION

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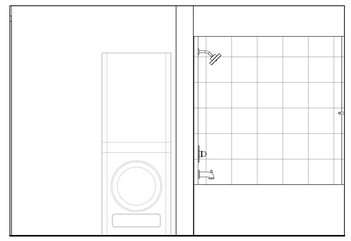

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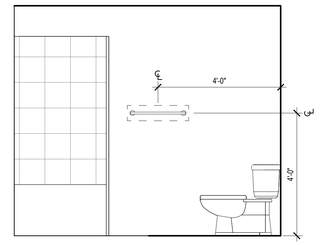

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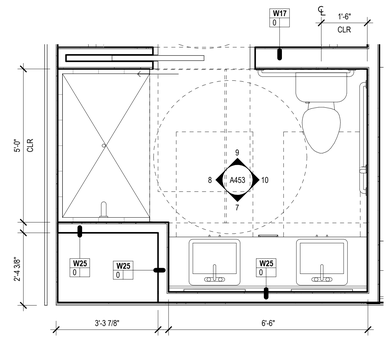
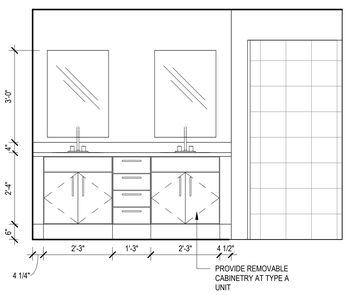


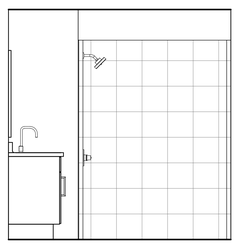
6 BATH 09 (TYPE A) - ENLARGED PLAN

SCALE: 1/2" = 1'-0"



7 BATH 09 (TYPE A) - ENLARGED ELEVATION

SCALE: 1/2" = 1'-0"



8 BATH 09 (TYPE A) - ENLARGED ELEVATION

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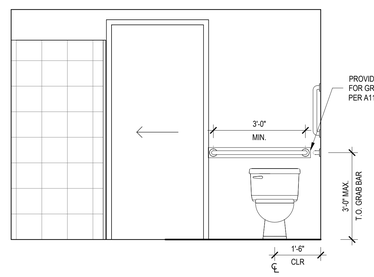

9 BATH 09 (TYPE A) - ENLARGED ELEVATION

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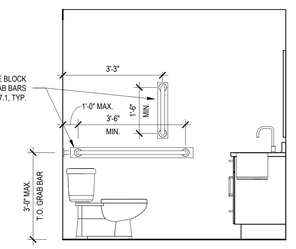

10 BATH 09 (TYPE A) - ENLARGED ELEVATION

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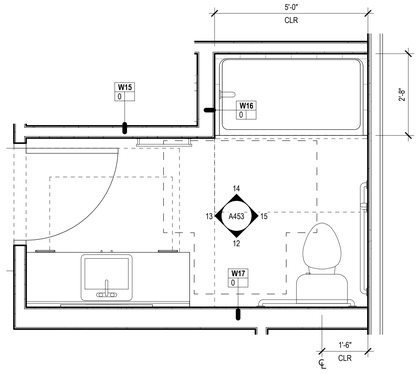

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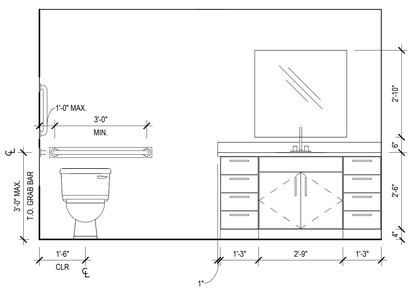

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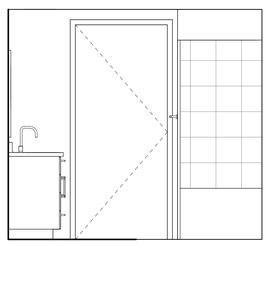

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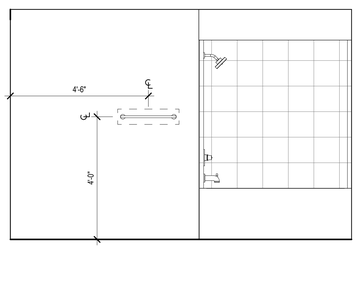

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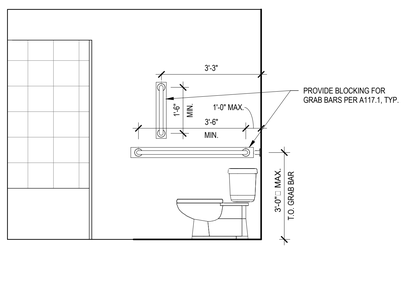

15 BATH 10 (TYPE A) - ENLARGED ELEVATION

SCALE: 1/2" = 1'-0"

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A453

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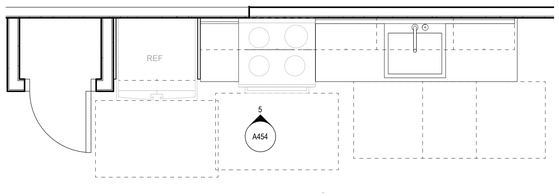
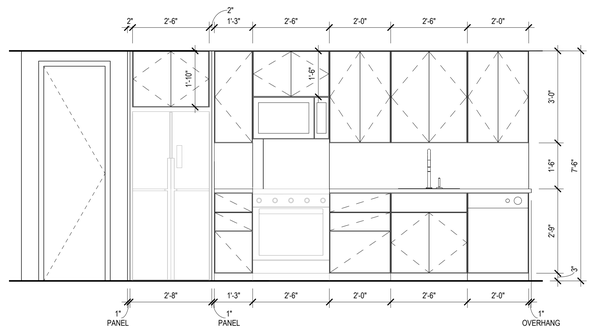


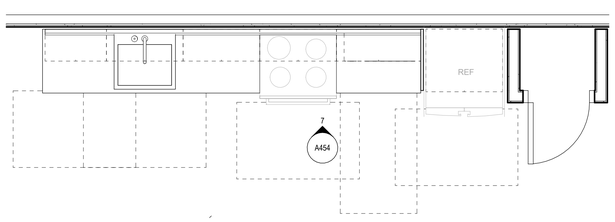
4 KITCHEN 02 - ENLARGED PLAN

SCALE: 1/2" = 1'-0"



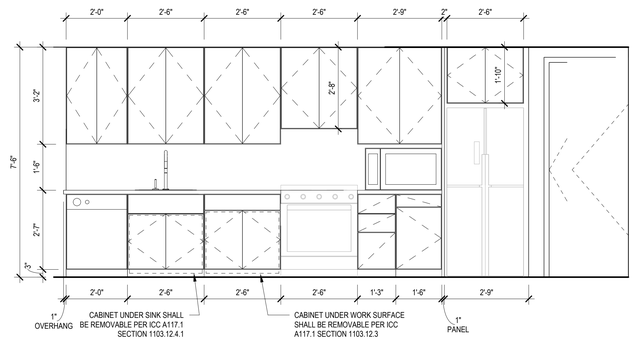
5 KITCHEN 02 - ENLARGED ELEVATION

SCALE: 1/2" = 1'-0"



6 KITCHEN 03 (TYPE A) - ENLARGED PLAN

SCALE: 1/2" = 1'-0"



7 KITCHEN 03 (TYPE A) - ENLARGED ELEVATION

SCALE: 1/2" = 1'-0"

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PM: ELI HARDI
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04/29/22

ENLARGED UNIT KITCHENS PLANS & ELEVATIONS

A454

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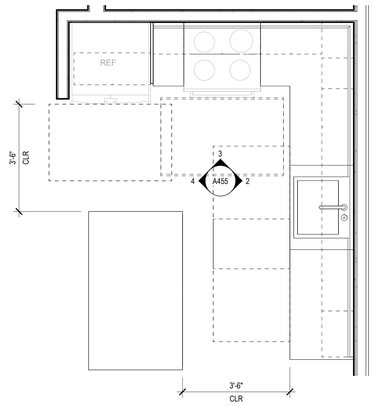
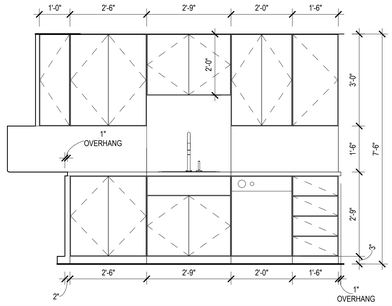
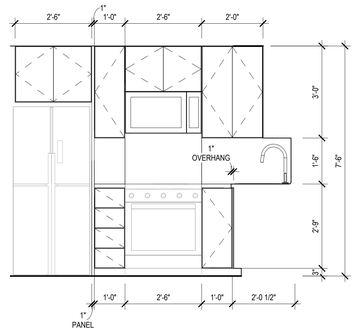


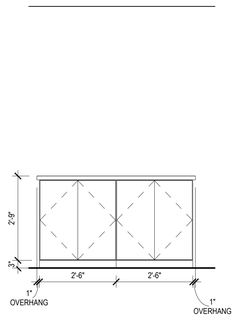
1 KITCHEN 04 - ENLARGED PLAN
SCALE: 1/2" = 1'-0"



2 KITCHEN 04 - ENLARGED ELEVATION
SCALE: 1/2" = 1'-0"



3 KITCHEN 04 - ENLARGED ELEVATION
SCALE: 1/2" = 1'-0"



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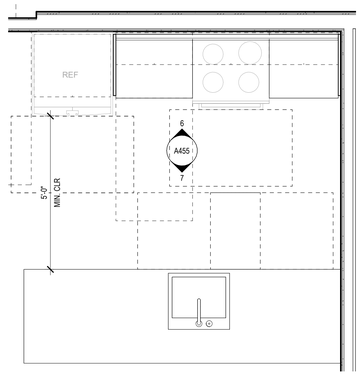
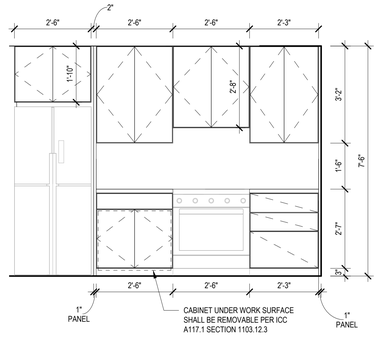
SCALE: 1/2" = 1'-0"



5 KITCHEN 05 (TYPE A) - ENLARGED PLAN
SCALE: 1/2" = 1'-0"



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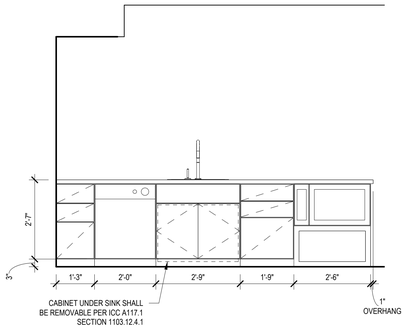
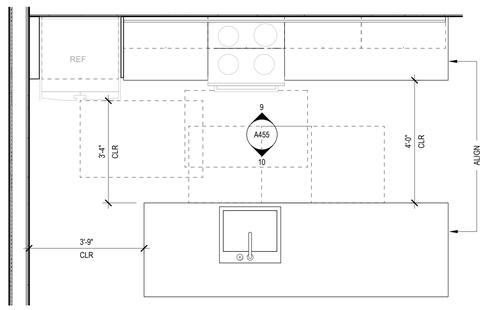
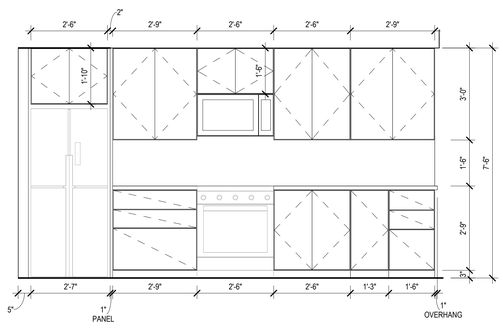
SCALE: 1/2" = 1'-0"



7 KITCHEN 05 (TYPE A) - ENLARGED ELEVATION
SCALE: 1/2" = 1'-0"



8 KITCHEN 06 - ENLARGED PLAN
SCALE: 1/2" = 1'-0"



9 KITCHEN 06 - ENLARGED ELEVATION
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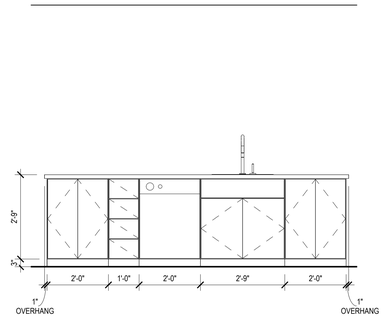

10 KITCHEN 06 - ENLARGED ELEVATION
SCALE: 1/2" = 1'-0"

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ENLARGED UNIT
KITCHENS PLANS &
ELEVATIONS

A455

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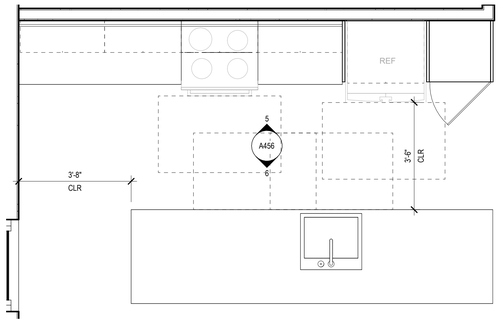
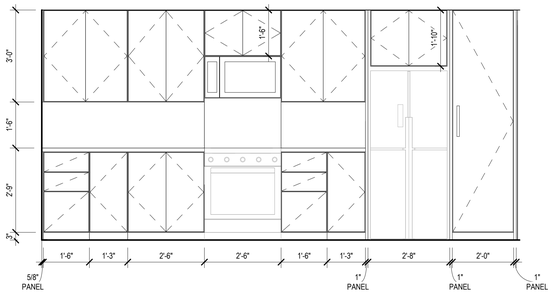


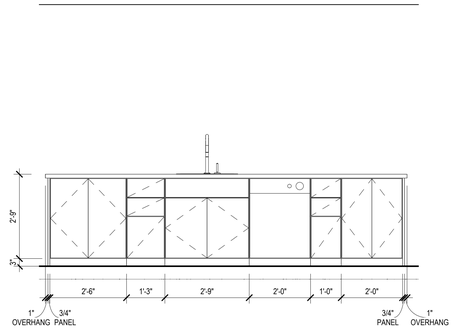
4 KITCHEN 08 - ENLARGED PLAN

SCALE: 1/2" = 1'-0"



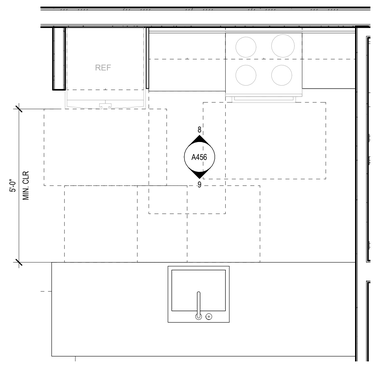
5 KITCHEN 08 - ENLARGED ELEVATION

SCALE: 1/2" = 1'-0"



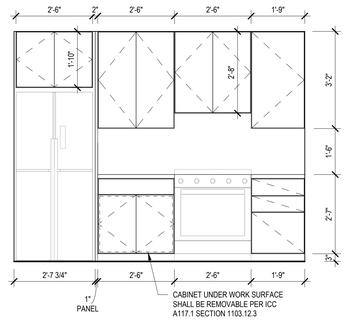
6 KITCHEN 08 - ENLARGED ELEVATION

SCALE: 1/2" = 1'-0"



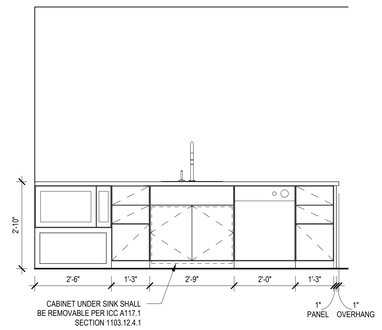
7 KITCHEN 09 (TYPE A) - ENLARGED PLAN

SCALE: 1/2" = 1'-0"



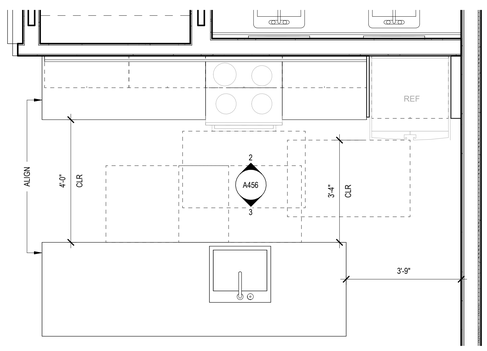
8 KITCHEN 09 (TYPE A) - ENLARGED ELEVATION

SCALE: 1/2" = 1'-0"



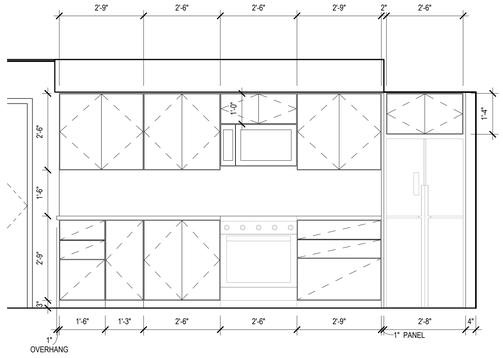
9 KITCHEN 09 (TYPE A) - ENLARGED ELEVATION

SCALE: 1/2" = 1'-0"



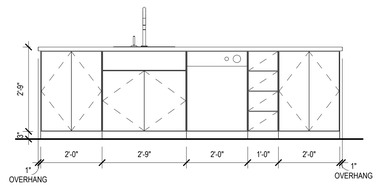
1 KITCHEN 10 - ENLARGED PLAN

SCALE: 1/2" = 1'-0"



2 KITCHEN 10 - ENLARGED ELEVATION 1

SCALE: 1/2" = 1'-0"



3 KITCHEN 10 - ENLARGED ELEVATION 2

SCALE: 1/2" = 1'-0"

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PM: ELI HARDI
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04/29/22

ENLARGED UNIT KITCHENS PLANS & ELEVATIONS

A456

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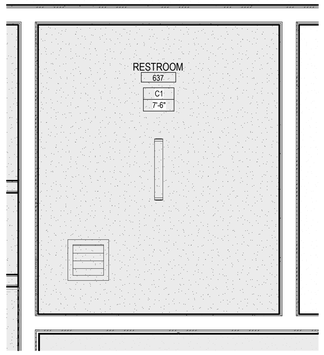
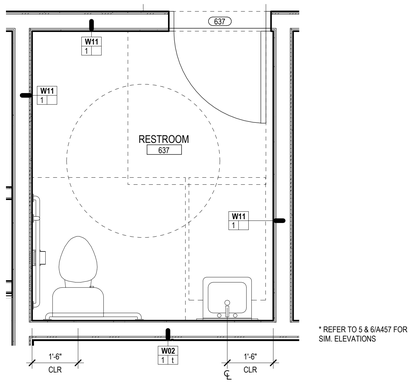


1 L6 AMENITY BATHROOM RCP

SCALE: 1/2" = 1'-0"



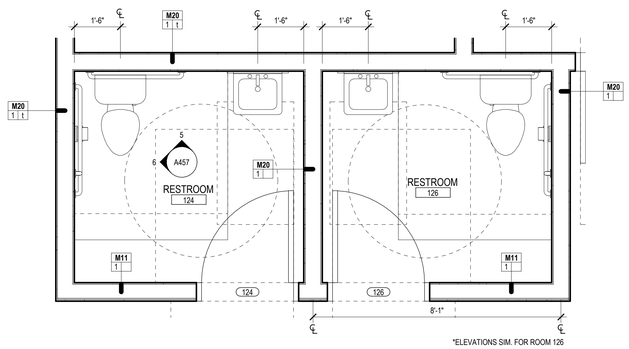
* REFER TO 5 & 6/A457 FOR SIM. ELEVATIONS

2 L6 AMENITY BATHROOM FLOOR PLAN

SCALE: 1/2" = 1'-0"

3 L1 COMMON RESTROOM RCP

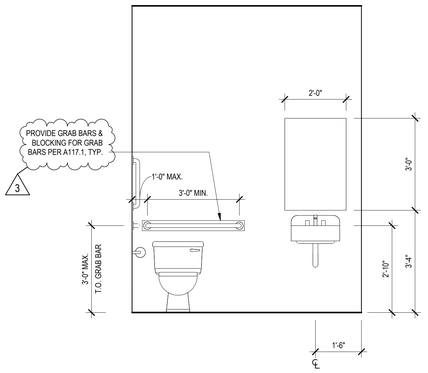
SCALE: 1/2" = 1'-0"



*ELEVATIONS SIM. FOR ROOM 126

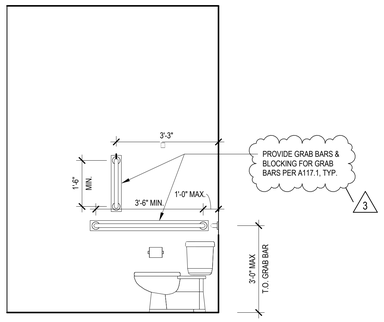
4 L1 COMMON RESTROOM - ENLARGED PLAN

SCALE: 1/2" = 1'-0"



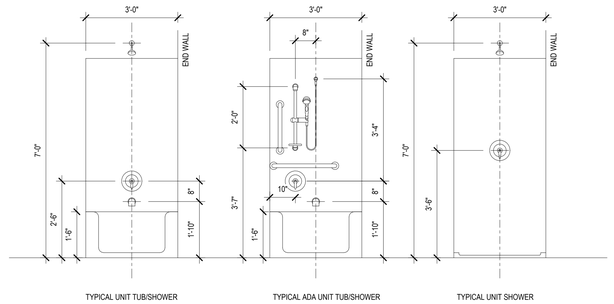
5 COMMON RESTROOM - ELEVATION

SCALE: 1/2" = 1'-0"



6 COMMON RESTROOM - ELEVATION

SCALE: 1/2" = 1'-0"



TYPICAL UNIT TUB/SHOWER

TYPICAL ADA UNIT TUB/SHOWER

TYPICAL UNIT SHOWER

FOR GRAB BAR LOCATIONS SEE DETAIL A8/G403

7 TUB AND SHOWER CONTROL LOCATIONS TYPICAL

SCALE: 1/2" = 1'-0"

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3	9/20/24	PERMIT CORRECTIONS 03

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PM: ELI HARDI
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04/29/22

ENLARGED COMMON BATHROOMS

A457

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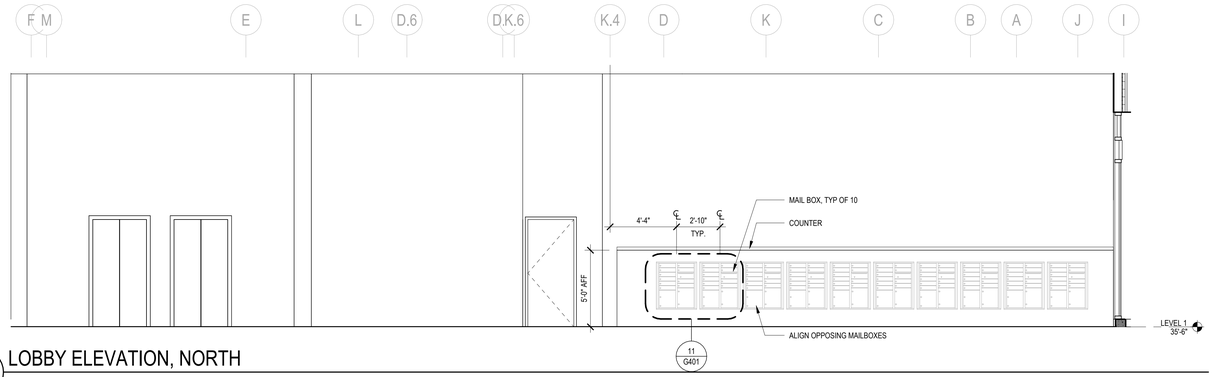

2 LOBBY ELEVATION, NORTH

SCALE: 1/4" = 1'-0"

1 LOBBY ELEVATION, EAST

SCALE: 1/4" = 1'-0"

5 MAIL BOX ISLAND

SCALE: 1/4" = 1'-0"

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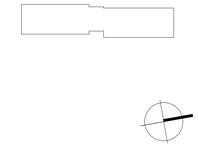
KEY PLAN



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PM: ELI HARDI
DRAWN BY: Author
04/29/22

INTERIOR
ELEVATIONS

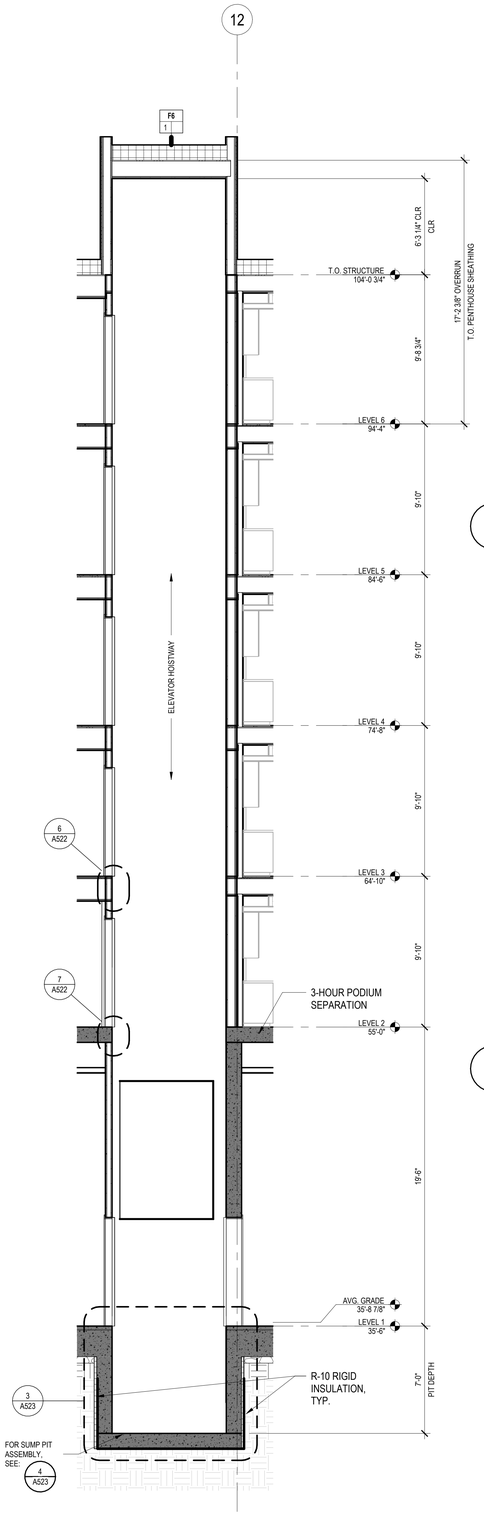
A480

STAIR & RAILING NOTES

STAIR WIDTH:	IBC 1011.2: ALL STAIRS SHALL BE MINIMUM 44-INCHES WIDE, EXCEPT STAIRS WITH AN OCCUPANT LOAD OF 50 OR LESS MAY BE 36-INCHES WIDE.
HANDRAIL PROJECTIONS	IBC 1014.8: A HANDRAIL MAY PROJECT INTO THE REQUIRED WIDTH 4.5-INCHES MAX.
TREADS/RISERS (ALL OTHER AREAS	IBC 1011.5.2: RISERS 4-INCH MIN. TO 7-INCH MAX.; TREADS 11-INCH MIN.
STAIR HANDRAILS	IBC 1014.2: STAIRWAYS SHALL HAVE HANDRAILS PROVIDED ONE ON EACH SIDE HEIGHT SHALL BE MEASURED ABOVE STAIR TREAD NOSING AND SHALL BE UNIFORM. HEIGHT MAY BE 34-INCHES TO 38-INCHES.
INTERMEDIATE HANDRAILS	IBC 1014.9: ALL PORTIONS OF STAIR WIDTH (AS REQUIRED FOR EGRESS CAPACITY) SHALL BE WITHIN 30-INCHES OF A HANDRAIL.
GUARDS	IBC 1015.2: SHALL BE LOCATED ALONG OPEN-SIDED WALKING SURFACES, MEZZANINES, EQUCIPMENT PLATFORMS, STAIRWAYS, RAMPS, AND LANDINGS THAT ARE LOCATED MORE THAN 30-INCHES ABOVE THE FLOOR OR GRADE BELOW.
GLAZING	IBC 1015.2.1: WHERE GLASS IS USED TO PROVIDE A GUARD OR PORTION OF GUARD SYSTEM, THE GUARD SHALL COMPLY WITH IBC SECTION 2407.
GUARD HEIGHT	IBC 1015.3: NOT LESS THAN 42-INCHES; EXCEPT WITHIN DWELLING UNITS, WHERE THE GUARD'S TOP RAIL ALSO SERVES AS THE HANDRAIL, THEY SHALL BE BETWEEN 34-INCHES AND 38-INCHES.
GUARD OPENINGS	IBC 1015.4: OPEN GUARDS SHALL HAVE BALUSTERS OR ORNAMENTAL PATTERNS SUCH THAT A 4-INCH DIAMETER SPHERE CANNOT PASS THROUGH ANY OPENING UP TO 36-INCHES. FROM A HEIGHT OF 36 TO 42-INCHES ABOVE THE ADJACENT WALKING SURFACES, A SPHERE 4-3/8 INCHES IN DIAMETER SHALL NOT PASS. AT THE TRIANGULAR OPENINGS BETWEEN THE BOTTOM RAIL, AND TREAD/RISER INTERFACE, THE OPENING SHALL BE LIMITED SO THAT A 6-INCH DIAMETER SPHERE CANNOT PASS.
STAIRWAY IDENTIFICATION SIGNS:	IBC 1023.9: A SIGN SHALL BE PROVIDED AT EACH FLOOR LANDING IN AN INTERIOR EXIT STAIRWAY AND RAMP CONNECTING MORE THAN THREE STORIES DESIGNATING THE FLOOR LEVEL, THE TERMINUS OF THE TOP AND BOTTOM OF THE INTERIOR EXIT STAIRWAY AND RAMP AND THE IDENTIFICATION OF THE STAIRWAY OR RAMP. THE SIGNAGE SHALL ALSO STATE THE STORY OF, AND THE DIRECTION TO, THE EXIT DISCHARGE AND WHETHER THERE IS ROOF ACCESS FROM THE INTERIOR EXIT STAIRWAY AND RAMP FOR THE FIRE DEPARTMENT, AND WHETHER THE ROOF ACCESS IS ACCESSED BY ROOF HATCH. THE SIGN SHALL BE LOCATED 5 FEET ABOVE THE FLOOR LANDING IN A POSITION THAT IS READILY VISIBLE WHEN THE DOORS ARE IN THE OPEN AND CLOSED POSITIONS. IN ADDITION TO THE STAIRWAY IDENTIFICATION SIGN, A FLOOR-LEVEL SIGN IN VISUAL CHARACTERS, RAISED CHARACTERS AND BRAILLE COMPLYING WITH ICC A117.1 SHALL BE LOCATED AT EACH FLOOR-LEVEL LANDING ADJACENT TO THE DOOR LEADING FROM THE INTERIOR EXIT STAIRWAY AND RAMP INTO THE CORRIDOR TO IDENTIFY THE FLOOR-LEVEL.

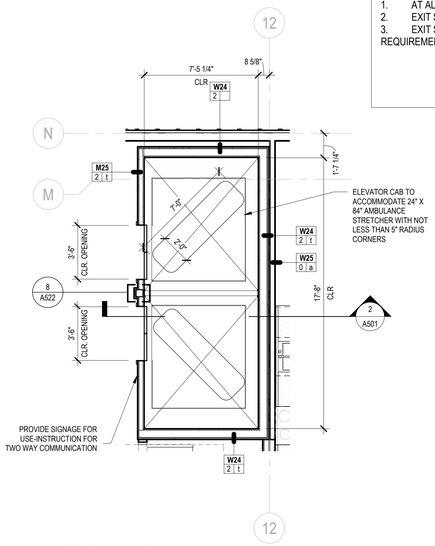
ELEVATOR NOTES

IBC 1009.2.1	ELEVATORS REQUIRED: IN BUILDINGS WHERE A REQUIRED ACCESSIBLE FLOOR IS FOUR OR MORE STORIES ABOVE OR BELOW A LEVEL OF EXIT DISCHARGE, NOT LESS THAN ONE REQUIRED ACCESSIBLE MEANS OF EGRESS SHALL BE AN ELEVATOR COMPLYING WITH SECTION 1009.4.
IBC 1009.4	ELEVATORS: IN ORDER TO BE CONSIDERED PART OF AN ACCESSIBLE MEANS OF EGRESS, AN ELEVATOR SHALL COMPLY WITH THE EMERGENCY OPERATION AND SIGNALING DEVICE REQUIREMENTS OF SECTION 2.27 OF ASME A17.1/CSA B44. AN EMERGENCY OR LEGALLY REQUIRED STANDBY POWER SYSTEM SHALL BE PROVIDED IN ACCORDANCE WITH CHAPTER 27 AND THE SEATTLE ELECTRICAL CODE FOR THE FOR OPERATION OF THE ELEVATOR, THE SHUNT TRIP AND LIGHTING FOR ELEVATOR CARS, CONTROL ROOMS, MACHINE ROOMS, AND MACHINERY SPACES. THE ELEVATOR SHALL BE ACCESSED FROM AN AREA OF REFUGE COMPLYING WITH SECTION 1009.6. EXCEPTION 2: AREAS OF REFUGE ARE NOT REQUIRED IN BUILDINGS AND FACILITIES EQUIPPED THROUGHOUT WITH AN AUTOMATIC SPRINKLER SYSTEM INSTALLED IN ACCORDANCE WITH SECTION 903.3.1.1 OR 903.3.1.2.
IBC 1009.8	TWO-WAY COMMUNICATION: A TWO-WAY COMMUNICATION SYSTEM COMPLYING WITH SECTIONS 1009.8.1 AND 1009.8.2 SHALL BE PROVIDED AT THE LANDING SERVING EACH ELEVATOR OR BANK OF ELEVATORS ON EACH ACCESSIBLE FLOOR THAT IS ONE OR MORE STORIES ABOVE OR BELOW THE LEVEL OF EXIT DISCHARGE.
IBC 1009.10	DIRECTIONAL SIGNAGE: DIRECTIONAL SIGNAGE INDICATING THE LOCATION OF ALL OTHER MEANS OF EGRESS AND WHICH OF THOSE ARE ACCESSIBLE MEANS OF EGRESS SHALL BE PROVIDED AT THE FOLLOWING: 1. AT EXITS SERVING A REQUIRED ACCESSIBLE SPACE BUT NOT PROVIDING AN APPROVED ACCESSIBLE MEANS OF EGRESS. 2. AT ELEVATOR LANDINGS.
ASME SECTIONS 2.7 & 2.8	PIPES, DUCTS, CONDUITS, AND EQUIPMENT NOT USED FOR THE OPERATION OF THE ELEVATORS ARE PROHIBITED IN MACHINE ROOM AND HOISTWAYS.
IBC 3020	MAINTAIN ALL REQUIRED WORKING CLEARANCES IN MACHINE ROOM.
ASME RULE 2.2.2	WATERPROOF AS NECESSARY TO PREVENT ENTRY OF GROUND WATER. SUMP PUMPS MAY BE INSTALLED FOR FLOOD CONTROL BUT NOT APPROVED TO MAINTAIN A DRY PIT.
ASME RULE 2.2.4	PROVIDE PIT LADDER.
ASME RULE 2.7.9.2	MACHINE ROOM TEMPERATURE AND HUMIDITY CONTROL.
ASME RULE 2.7.5.2	PROVIDE MACHINE ROOME VENTILATION.
ASME RULE 2.7.4	PROVIDE 7'-0" CLEAR HEADROOM IN MACHINE ROOM.
IBC CH. 11	ACCOMMODATE PEOPLE WITH DISABILITIES.
ASME SECTION 2.4 & 3.4	PROVIDE PROPER TOP CAR RUNBYS, CLEARANCES AND REFUGE SPACE.
ASME RULE 2.1.1.2 & 2.11.14	GROUT ALL MASONRY JAMBS AND HEADERS TO RETAIN FIRE RATING OF HOISTWAY. IN OTHER THAN MASONRY, PROVIDE LABELED ENTRANCE ASSEMBLIES INSTALLED AS TESTED.
ASME RULE 2.1.1.2 & 2.14.1.8	GLASS USED IN OR ON ELEVATOR HOISTWAYS AND CARS MUST BE LAMINATED AND MEET THE REQUIREMENTS OF ASME Z97.1.
IBC 107	PROVIDE CALCULATIONS AND DRAWINGS FOR APPROVAL OF THE STRESSES AS NOTED IN THE APPLICABLE RULES OF ASME SECTION 2.9.
ASME SECTION 2.6	PROVIDE CALCULATIONS FOR APPROVAL OF THE ABILITY OF THE PIT FLOOR AND STRUCTURE TO WITHSTAND THE ELEVATOR BUFFER ENGAGEMENT REACTIONS
ASME 2.27.1	PROVIDE MEANS OF TWO-WAY CONVERSATION BETWEEN EACH ELEVATOR AND A READILY ACCESSIBLE POINT (MAIN ELEVATOR LOBBY) OUTSIDE THE HOISTWAY.
ASME 2.27.1.1.2	THIS STRUCTURE IS CONSIDERED AS UNATTENDED, AND AN ADDITIONAL EMERGENCY SIGNALING DEVICE SHALL BE PROVIDED (PHONE TO ANSWERING SERVICE).
ASME 2.27.1.1.5	PROVIDE AN EMERGENCY POWER SUPPLY FOR THE DEVICES REQUIRED BY 2.27.1. THE SUPPLY SHALL BE CAPABLE OF OPERATING THE AUDIBLE DEVICE FOR AT LEAST ONE HOUR AND THE MEANS OF A TWO-WAY CONVERSATION FOR AT LEAST FOUR HOURS.
IBC 3003.3	ALL ELEVATORS SHALL BE EQUIPPED TO OPERATE WITH A STANDARDIZED FIRE SERVICE ELEVATOR KEY IN ACCORDANCE WITH THE INTERNATIONAL FIRE CODE.
IBC 3006.3	WHERE SECTION 3006.2 REQUIRES PROTECTION OF THE ELEVATOR HOISTWAY DOOR OPENING, THE PROTECTION SHALL BE PROVIDED BY ONE OF THE FOLLOWING: 4. THE ELEVATOR HOISTWAY SHALL BE PRESSURIZED IN ACCORDANCE WITH SECTIONS 909.6.3 AND 909.21. ELEVATOR HOISTWAYS ARE PRESSURIZED. EACH CONVEYANCE REQUIRES A SEPARATE PERMIT WITH DETAILED INSTALLATION PLANS AND SHALL BE INSTALLED BY A WASHINGTON STATE LICENSED CONTRACTOR.
COMPLY WITH ALL APPLICABLE CODES	



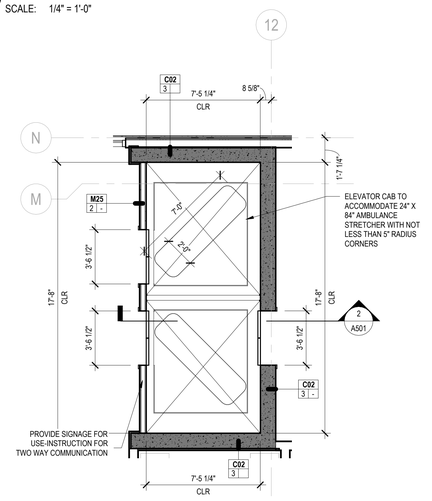
2 ELEVATOR SECTION

SCALE: 1/4" = 1'-0"



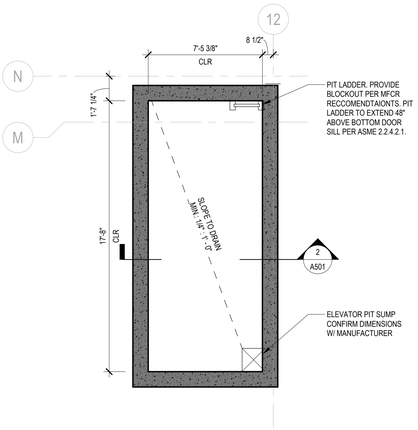
3 ELEVATOR - LEVEL 2-5

SCALE: 1/4" = 1'-0"



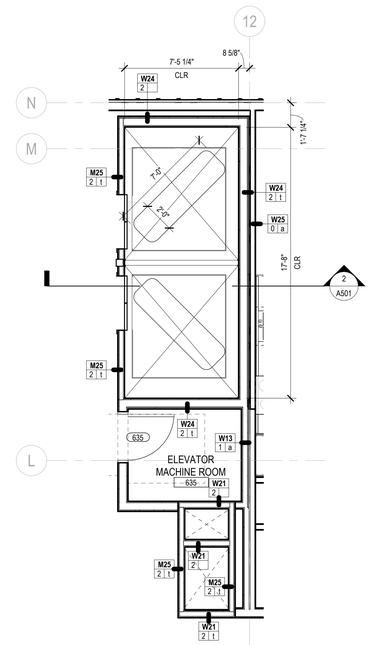
1 ELEVATOR - LEVEL 1

SCALE: 1/4" = 1'-0"



4 ELEVATOR - PIT PLAN

SCALE: 1/4" = 1'-0"



5 ELEVATOR- LEVEL 6

SCALE: 1/4" = 1'-0"

EXIT ENLARGED PLANS GENERAL NOTES:

1. AT ALL EXPOSED CONCRETE WALLS, COVER COAT AND PAINT
2. EXIT STAIRS AND ELEVATOR SHAFTS WILL BE PRESSURIZED IN ACCORDANCE WITH SECTION 909.6.3
3. EXIT STAIRS AND ELEVATOR SHAFTS SHALL COMPLY WITH THE SPECIAL INSPECTION AND TEST REQUIREMENTS IN ACCORDANCE WITH SECTION 909.3

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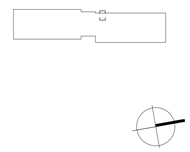

RUSSELL H. HAZZARD, ARCHITECT

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REGISTERED
ARCHITECT
RUSSELL H. HAZZARD
STATE OF WASHINGTON

10/17/2024

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1	11/04/22	PERMIT CORRECTIONS 01

21-5971-01A
PM: ELI HARDI
DRAWN BY: JG, PD, MB
04/29/22

ELEVATOR PLAN AND SECTION

A501

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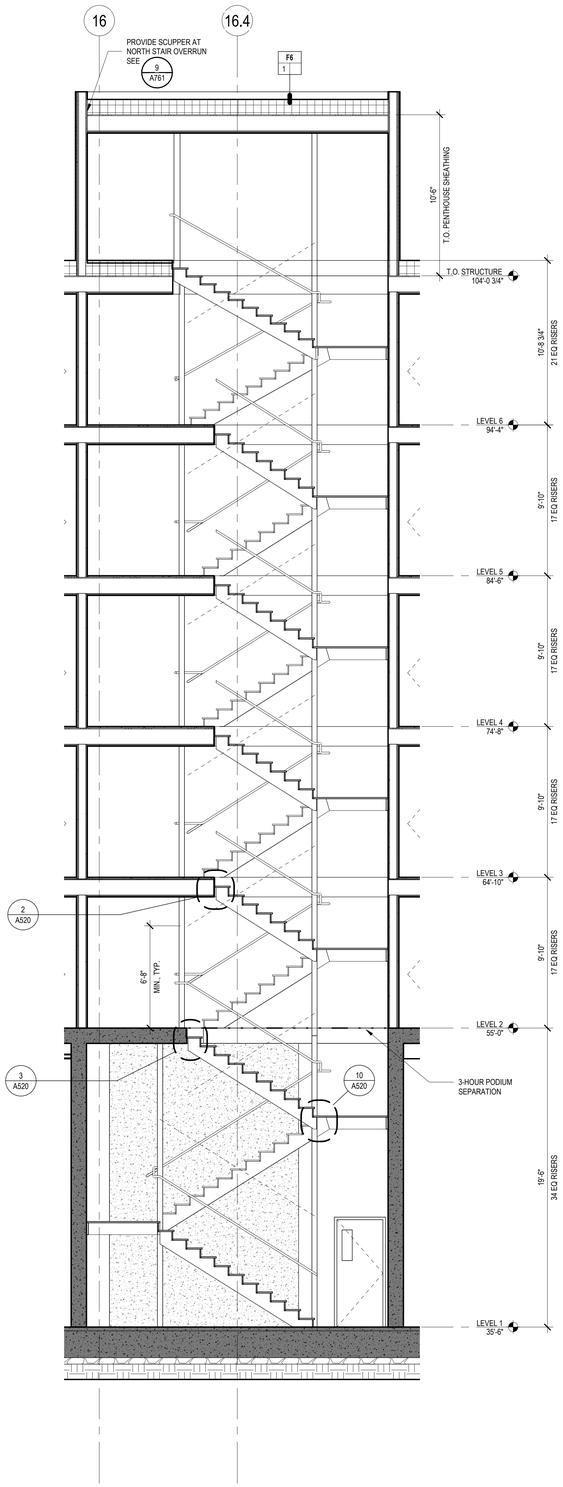
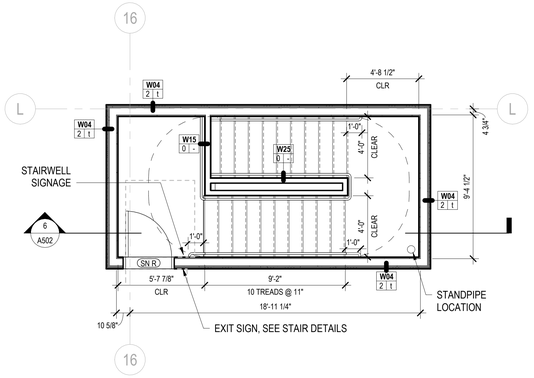


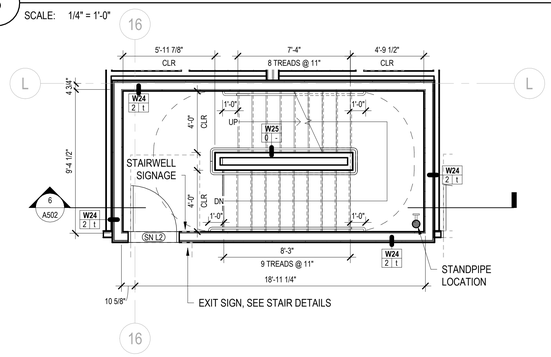
6 NORTH STAIR SECTION

SCALE: 1/4" = 1'-0"



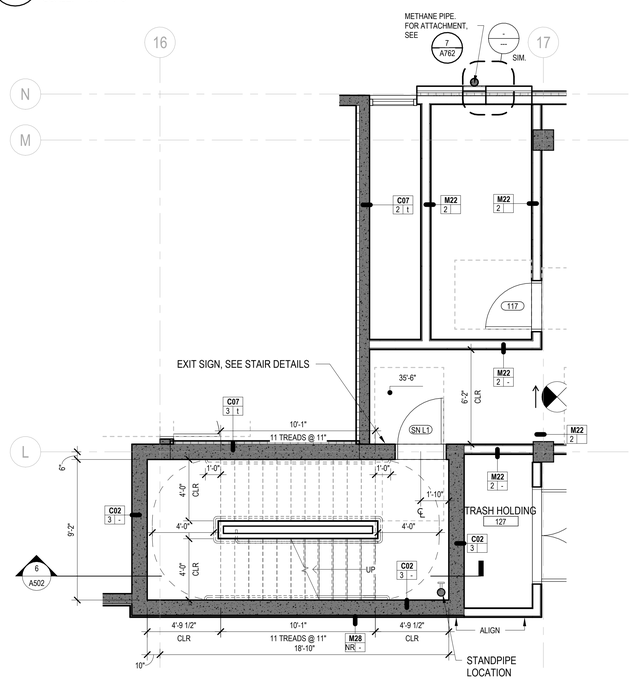
3 NORTH STAIR ROOF LEVEL

SCALE: 1/4" = 1'-0"



2 NORTH STAIR TYPICAL LEVEL

SCALE: 1/4" = 1'-0"



1 NORTH STAIR LEVEL 1

SCALE: 1/4" = 1'-0"

EXIT ENLARGED PLANS GENERAL NOTES:

1. AT ALL EXPOSED CONCRETE WALLS, COVER COAT AND PAINT
2. EXIT STAIRS AND ELEVATOR SHAFTS WILL BE PRESSURIZED IN ACCORDANCE WITH SECTION 909.6.3
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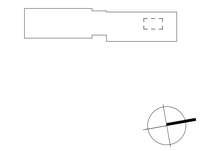

RUSSELL H. HAZZARD, ARCHITECT

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RUSSELL H. HAZZARD
STATE OF WASHINGTON

10/17/2024

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NORTH STAIR PLAN AND SECTION

A502

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EXIT ENLARGED PLANS GENERAL NOTES:

1. AT ALL EXPOSED CONCRETE WALLS, COVER COAT AND PAINT
2. EXIT STAIRS AND ELEVATOR SHAFTS WILL BE PRESSURIZED IN ACCORDANCE WITH SECTION 909.6.3
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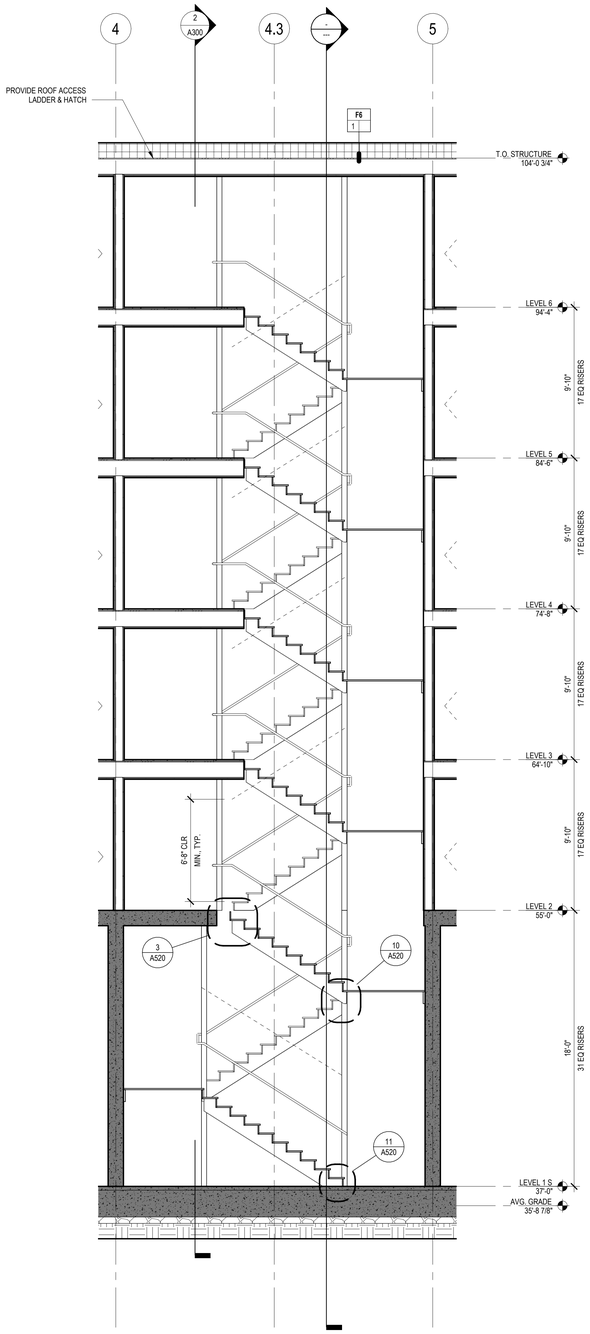
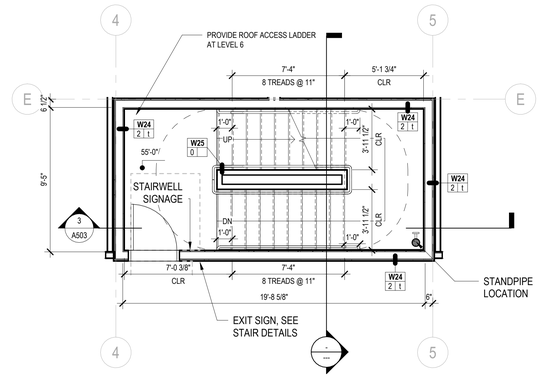


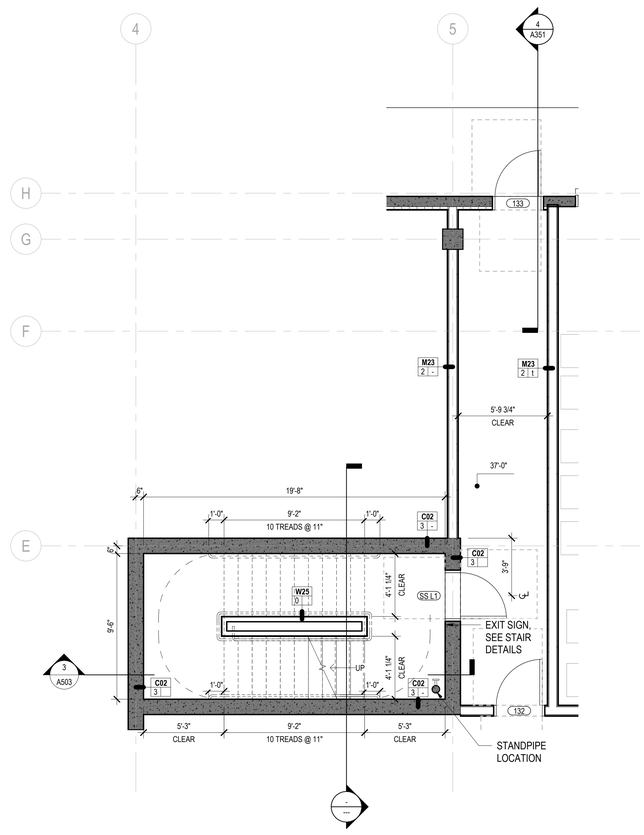
3 SOUTH STAIR SECTION

SCALE: 1/4" = 1'-0"



2 SOUTH STAIR TYPICAL LEVEL

SCALE: 1/4" = 1'-0"



1 SOUTH STAIR LEVEL 1

SCALE: 1/4" = 1'-0"

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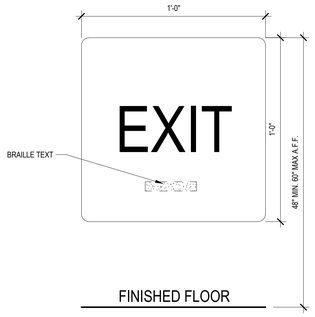
SOUTH STAIR PLAN AND SECTION

A503

10/17/2024 12:05:34 PM Autodesk Docs://MG2-CE-Shelter Holdings-Everett Riverfront Development PH2-21-5905-01A/A_21-5905-01A_Everett Riverfront BLD-D_R22.rvt



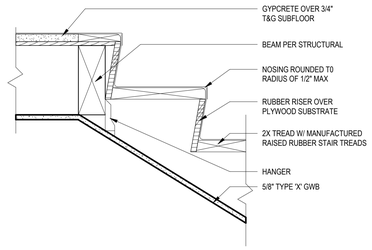
SBC 1013.4 RAISED CHARACTER AND BRAILLE EXIT SIGNS:

A SIGN STATING EXIT IN VISUAL CHARACTERS, RAISED CHARACTERS AND BRAILLE AND COMPLYING WITH ICC A117.1 SHALL BE PROVIDED ADJACENT TO EACH DOOR TO AN AREA OF REFUGE, AN EXTERIOR AREA FOR ASSISTED RESCUE, AN EXIST STAIRWAY OR RAMP, AN EXIT PASSAGEWAY AND THE EXIT DISCHARGE.

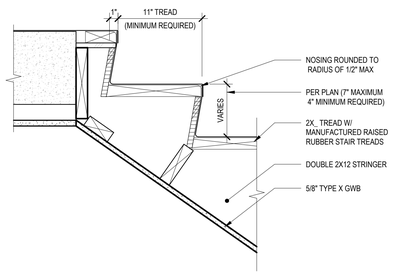
703.3.11 LOCATE SIGNS ON LATCH SIDE OF DOOR WHEREVER POSSIBLE. AT DOUBLE DOORS LOCATE TO THE RIGHT OF THE RIGHT-HAND DOOR ON THE NEAREST ADJACENT WALL. EXCEPTION: SIGNS MAY BE LOCATED ON THE PUSH SIDE OF DOORS PROVIDED WITH CLOSERS AND WITHOUT HOLD OPEN DEVICES.

703.3.10 SIGNS SHALL BE LOCATED 48" MIN. FROM BASE OF LOWEST CHARACTER TO FLOOR LEVEL, SIXTY INCHES MAX TO THE BASE OF THE HIGHEST CHARACTER FROM THE FLOOR.

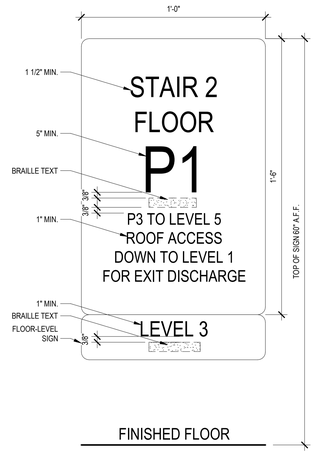
1 TACTILE EXIT SIGNAGE
SCALE: 3" = 1'-0"



2 WOOD INTERIOR STAIR AT TOP LANDING
SCALE: 1 1/2" = 1'-0"



3 STAIR AT CONCRETE TOP LANDING
SCALE: 1 1/2" = 1'-0"



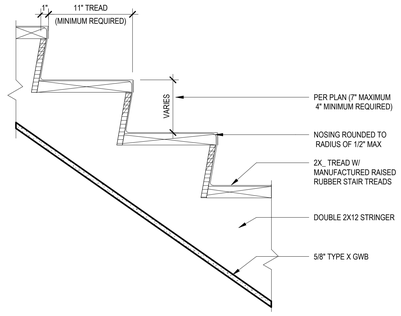
SIGNANGE REQUIREMENTS (SBC 1023.9.1): STAIRWAY IDENTIFICATION SIGNS SHALL COMPLY WITH ALL OF THE FOLLOWING REQUIREMENTS:

1. THE SIGNS SHALL BE A MINIMUM SIZE OF 18 INCHES BY 12 INCHES.
2. THE LETTERS DESIGNATING THE IDENTIFICATION OF THE INTERIOR EXIT STAIRWAY AND RAMP SHALL BE NOT LESS THAN 1 1/2 INCHES IN HEIGHT.
3. THE NUMBER DESIGNATING THE FLOOR LEVEL SHALL NOT BE LESS THAN 5 INCHES IN HEIGHT AND LOCATED IN THE CENTER OF THE SIGN.
4. OTHER LETTERING AND NUMBERS SHALL BE NOT LESS THAN 1 INCH IN HEIGHT
5. CHARACTERS IN THEIR BACKGROUND SHALL HAVE A NON-GLARE FINISH. CHARACTERS SHALL CONTRAST WITH THEIR BACKGROUND, WITH EITHER LIGHT CHARACTERS ON A DARK BACKGROUND OR DARK CHARACTERS ON A LIGHT BACKGROUND.
6. WHERE SIGNS REQUIRED BY SECTION 1023.9 ARE INSTALLED IN THE INTERIOR EXIT STAIRWAYS AND RAMPS OF BUILDINGS SUBJECT TO SECTION 1025, THE SIGNS SHALL BE MADE OF THE SAME MATERIALS AS REQUIRED BY SECTION 1025.4

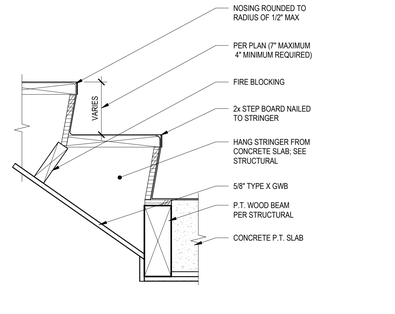
LOCATE TACTILE SIGNAGE AT THE LATCH SIDE OF DOOR WHEN POSSIBLE. LOCATE AT THE RIGHT HAND SIDE OF DOUBLE DOORS. IF NO WALL SPACE IS AVAILABLE TO THE RIGHT, SIGN SHALL BE PLACED ON THE NEAREST WALL.

* VISUAL CHARACTERS TO COMPLY WITH ICC A117.1
* TACTILE CHARACTERS TO COMPLY WITH ICC A117.1

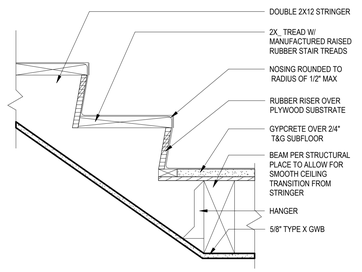
5 STAIRWELL SIGNAGE1
SCALE: 3" = 1'-0"



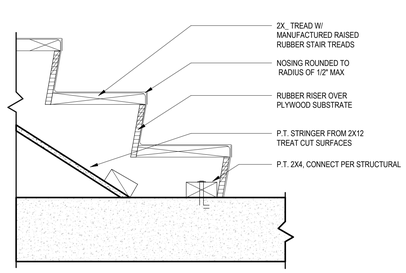
6 WOOD INTERIOR STAIR
SCALE: 1 1/2" = 1'-0"



7 STAIR AT CONCRETE BOTTOM LANDING
SCALE: 1 1/2" = 1'-0"



10 WOOD STAIR AT BOTTOM LANDING
SCALE: 1 1/2" = 1'-0"



11 WOOD STAIR AT CONCRETE SLAB
SCALE: 1 1/2" = 1'-0"

DETAIL REMOVED.
NO LONGER IN USE

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RUSSELL H. HAZZARD, ARCHITECT
8079 REGISTERED ARCHITECT
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STATE OF WASHINGTON
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1	11/04/22	PERMIT CORRECTIONS 01
2	07/12/24	PERMIT CORRECTIONS 02

21-5971-01A
PM: ELI HARDI
DRAWN BY: JG, PD, MB
04/29/22

STAIR DETAILS

A520

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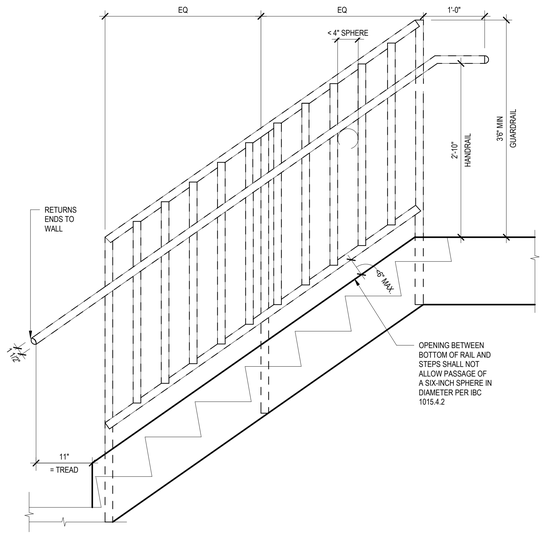

1 STAIR RAIL ARRANGEMENT - TYPICAL

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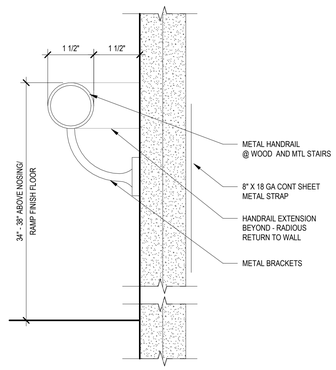
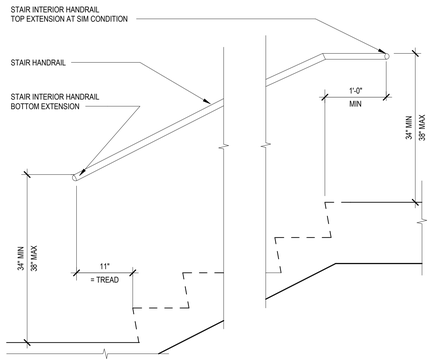


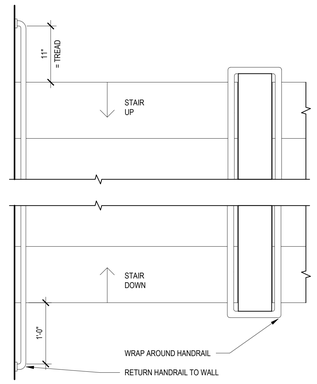
2 WALL MOUNTED HANDRAILS

SCALE: 6" = 1'-0"



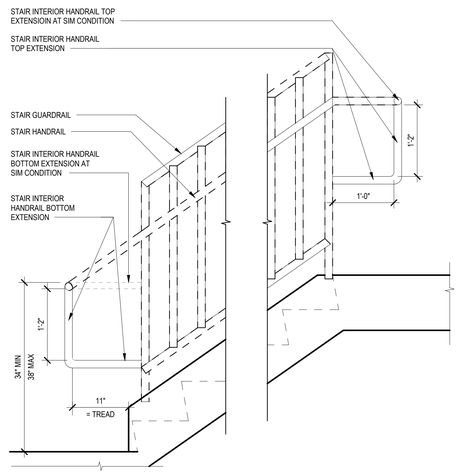
3 WALL-MOUNTED HANDRAIL EXTENSION AT GUARD RETURN SECT

SCALE: 1" = 1'-0"



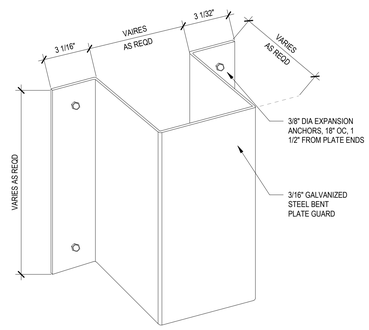
4 HANDRAIL EXTENSION AT WALL RETURN

SCALE: 1" = 1'-0"



5 HANDRAIL EXTENSION AT GUARD RETURN SECT

SCALE: 1" = 1'-0"



yhtfc STEEL PIPE GUARD

SCALE: 3" = 1'-0"

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RUSSELL H. HAZZARD, ARCHITECT

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RUSSELL H. HAZZARD
STATE OF WASHINGTON

10/17/2024

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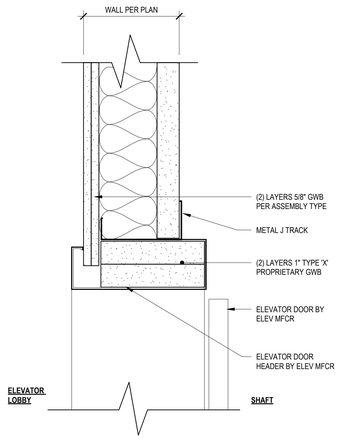
1	11/04/22	PERMIT CORRECTIONS 01

21-5971-01A
PM: ELI HARDI
DRAWN BY: JG, PD, MB
04/29/22

STAIR DETAILS

A521

10/17/2024 12:05:35 PM Autodesk Docs://MG2-CE-Shelter Holdings-Everett Riverfront Development PH2-21-5905-01A/A_21-5905-01A_Everett Riverfront BLD-D_R22.rvt

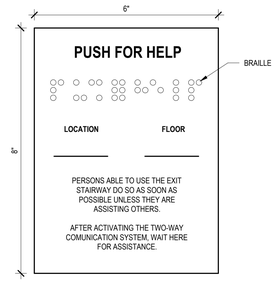


1 ELEVATOR DOOR HEAD

SCALE: 3" = 1'-0"

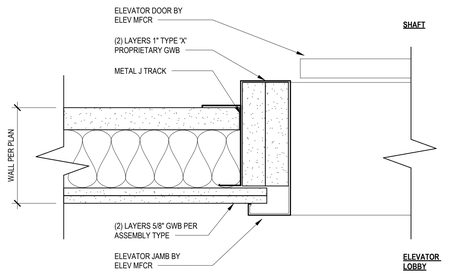
2 ELEVATOR EGRESS SIGNAGE

SCALE: 3" = 1'-0"



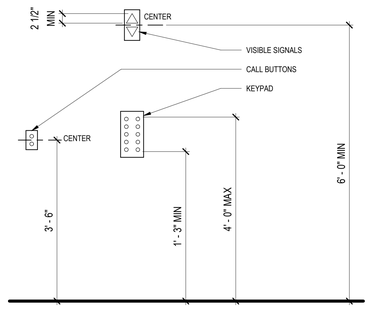
3 SIGN - TWO-WAY COMMUNICATION

SCALE: 6" = 1'-0"



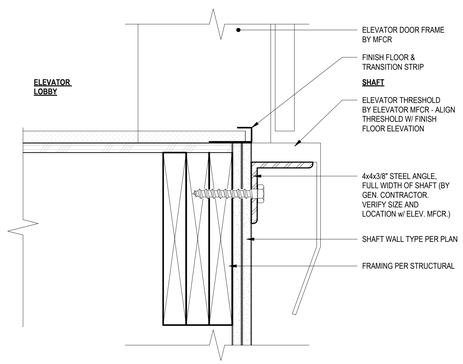
4 ELEVATOR DOOR JAMB

SCALE: 3" = 1'-0"



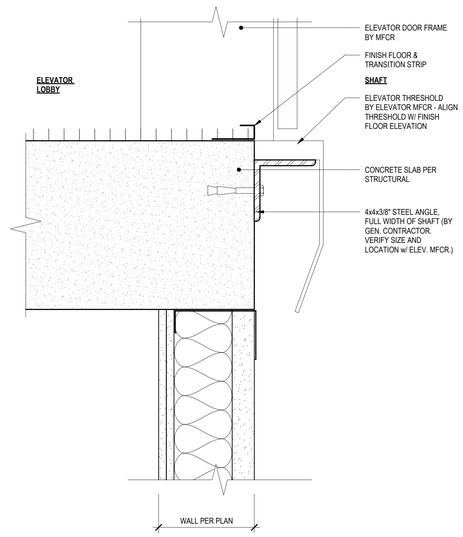
5 ELEVATOR CONTROLS AND SIGNALS

SCALE: 3/4" = 1'-0"



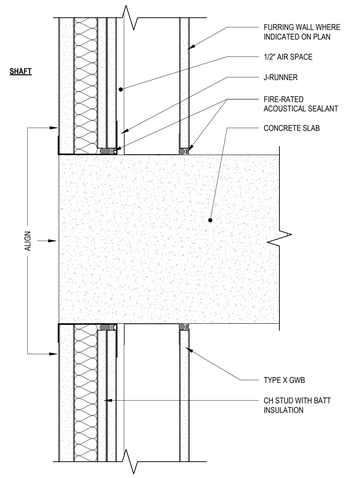
6 ELEVATOR SILL AT WOOD FLOOR

SCALE: 3" = 1'-0"



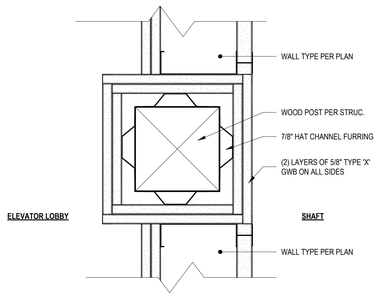
7 ELEVATOR SILL AT PT SLAB

SCALE: 3" = 1'-0"



8a SHAFT WALL AT PT SLAB

SCALE: 3" = 1'-0"



8 ELEVATOR SHAFT COLUMN PLAN DETAIL

SCALE: 3" = 1'-0"

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ELEVATOR DETAILS

A522

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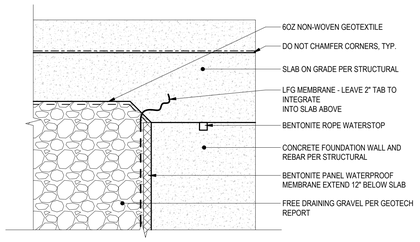
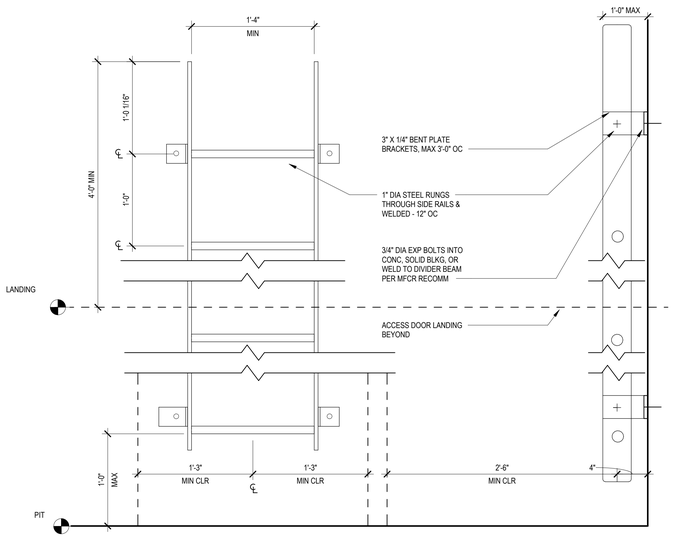


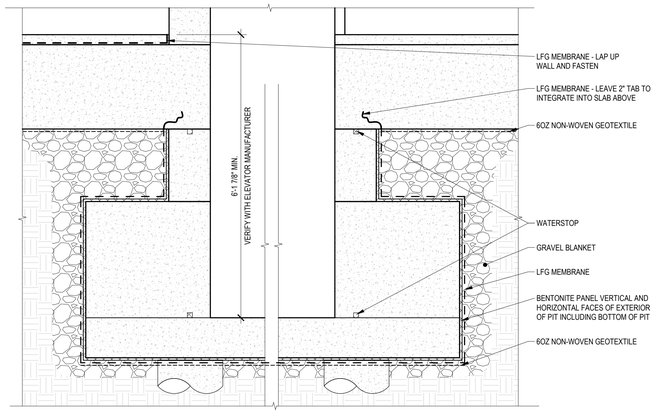
1 TOP OF ELEVATOR PIT - SECTION

SCALE: 1 1/2" = 1'-0"



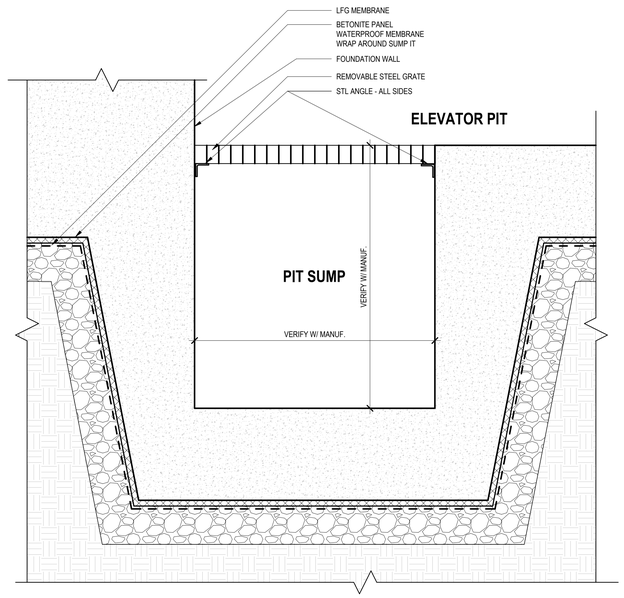
2 ELEVATOR PIT ACCESS LADDER

SCALE: 1 1/2" = 1'-0"



3 ELEVATOR PIT - SECTION

SCALE: 3/4" = 1'-0"



4 ELEVATOR SUMP PIT

SCALE: 1 1/2" = 1'-0"

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ELEVATOR DETAILS

A523

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F1

SLAB ON GRADE

FIRE RATING: - HR

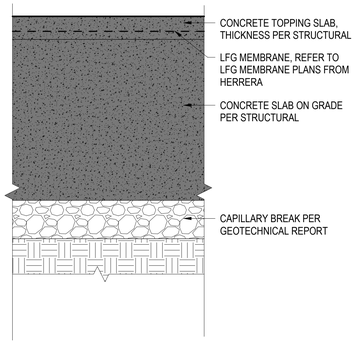
STC RATING:

ASSEMBLY LISTING: ibc table 721.1.(3)

COMMENTS:

1 HR: 3 1/2" MIN. THICKNESS
2 HR: 5" MIN. THICKNESS
3 HR: 6 1/4" MIN. THICKNESS

REFER TO STRUCTURAL FOR MIN. REBAR COVERAGE PER IBC 722.2.3



F2

TYP. CONCRETE SLAB

FIRE RATING: 3 HR

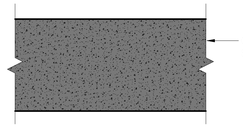
STC RATING:

ASSEMBLY LISTING: IBC TABLE 721.1.(3)

COMMENTS:

1 HR: 3 1/2" MIN. THICKNESS
2 HR: 5" MIN. THICKNESS
3 HR: 6 1/4" MIN. THICKNESS

REFER TO STRUCTURAL FOR MIN. REBAR COVERAGE PER IBC 722.2.3



F3

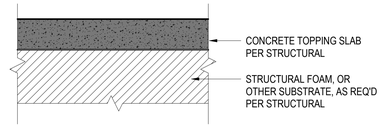
TOPPING SLAB

FIRE RATING: - HR

STC RATING:

ASSEMBLY LISTING:

COMMENTS:



F13

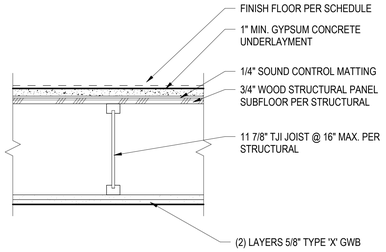
STAIR LANDING @ FLOOR

FIRE RATING: - HR

STC RATING:

ASSEMBLY LISTING:

COMMENTS:



F5

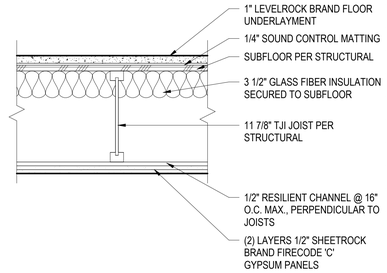
TYP. FLOOR

FIRE RATING: 1 HR

STC RATING: 60-64

ASSEMBLY LISTING: GA FC 5011

COMMENTS:



F6

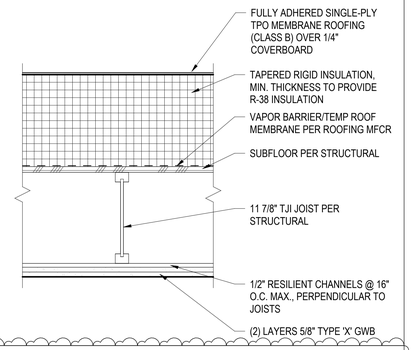
TYP. ROOF

FIRE RATING: 1 HR

STC RATING: 50-54

ASSEMBLY LISTING: GA FC 5111

COMMENTS:



F14

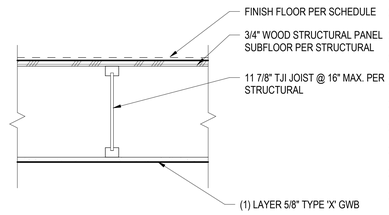
INTERMEDIATE STAIR LANDING

FIRE RATING: - HR

STC RATING:

ASSEMBLY LISTING:

COMMENTS:



F8

AMENITY TERRACE FLOOR

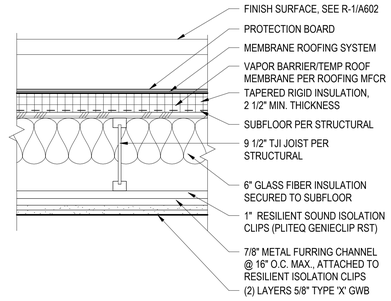
FIRE RATING: 1 HR

STC RATING: 60-61 IIC RATING 71

ASSEMBLY LISTING: UL M532

COMMENTS:

STC AND IIC RATING FOR THIS ASSEMBLY IS FROM TEST REFERENCE #H3506.05-113-11-R0



F9

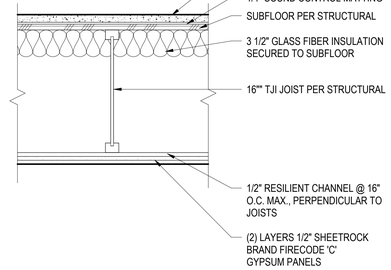
TYP. FLOOR @ CORRIDOR

FIRE RATING: 1 HR

STC RATING:

ASSEMBLY LISTING: GA FC 5011

COMMENTS:



F10

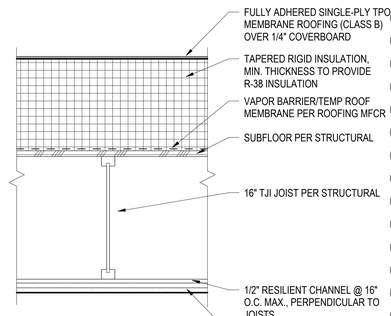
TYP. ROOF

FIRE RATING: 1 HR

STC RATING: 50-54

ASSEMBLY LISTING: GA FC 5111

COMMENTS:



F15

TYP. FLOOR

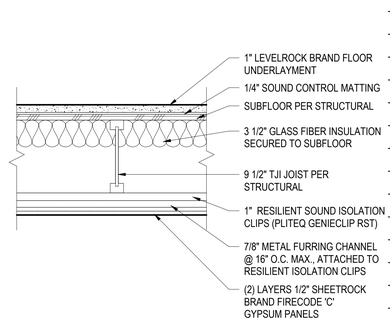
FIRE RATING: 1 HR

STC RATING: 62

ASSEMBLY LISTING: GA FC 5011

COMMENTS:

STC RATING FOR THIS ASSEMBLY IS FROM TEST REFERENCE #J0273.06-113-11-R1



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3	9/20/24	PERMIT CORRECTIONS 03

21-5971-01A
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HORIZONTAL ASSEMBLIES

A601

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C1

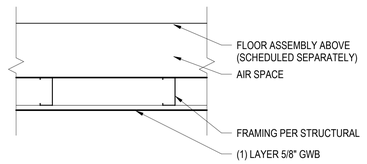
INTERIOR SUSPENDED GWB

FIRE RATING
- HR

STC RATING

ASSEMBLY LISTING

COMMENTS



C4

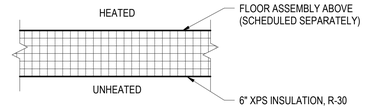
UNDERSLAB RIGID INSULATION

FIRE RATING
- HR

STC RATING

ASSEMBLY LISTING

COMMENTS



C5

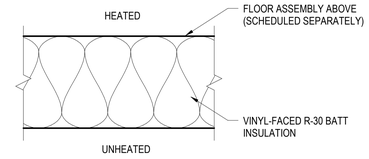
UNDERSLAB BATT INSULATION

FIRE RATING
- HR

STC RATING

ASSEMBLY LISTING

COMMENTS



C6

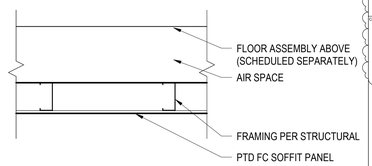
EXTERIOR FIBER CEMENT SOFFIT

FIRE RATING
- HR

STC RATING

ASSEMBLY LISTING

COMMENTS



C7

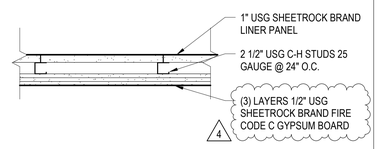
2HR HORIZONTAL SEPARATION

FIRE RATING
2 HR

STC RATING

ASSEMBLY LISTING
WHI-495
PSH0154/0167

COMMENTS
PER USG FIRE-RESISTANT ASSEMBLIES CATALOG, SECTION D, HORIZONTAL MEMBRANES
4



C9

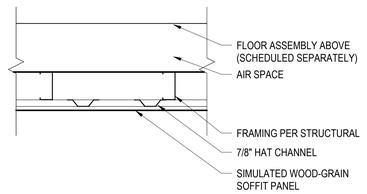
EXTERIOR WOOD-LOOK SOFFIT

FIRE RATING
- HR

STC RATING

ASSEMBLY LISTING

COMMENTS



R1

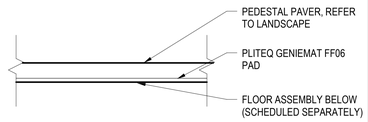
PEDESTAL PAVER

FIRE RATING
- HR

STC RATING

ASSEMBLY LISTING

COMMENTS
LEVEL 6 AMENITY DECK



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4	3/25/26	PERMIT CORRECTIONS 04

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HORIZONTAL ASSEMBLIES

A602

3/25/2026 10:09:46 AM Autodesk Docs://MG2-CE-Shelter Holdings-Everett Riverfront Development PH2-21-5905-01A/A_21-5905-01A_Everett Riverfront BLD-D_R25.rvt

C02

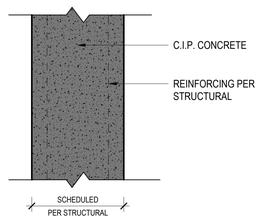
CONCRETE WALL

FIRE RATING: 3 HR

STC RATING:

ASSEMBLY LISTING: IBC TABLE 721.1(2) ITEM 4-1.1

COMMENTS: 6.2" MINIMUM THICKNESS FOR 3HR RATING.



C05

CMU WALL

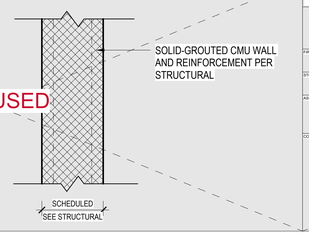
FIRE RATING: 3 HR

STC RATING:

ASSEMBLY LISTING: IBC TABLE 721.1(2); 3-1.1

COMMENTS: 8" NOMINAL CMU

NOT USED



C06

CMU WALL

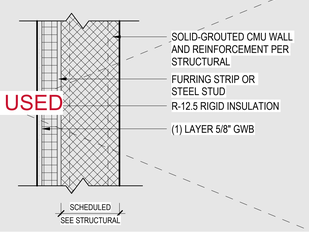
FIRE RATING: 3 HR

STC RATING:

ASSEMBLY LISTING: UL U914 (SIM)

COMMENTS:

NOT USED



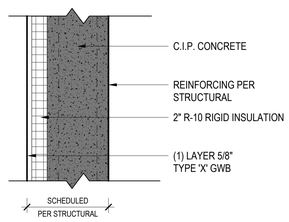
C07

FIRE RATING: 3 HR

STC RATING:

ASSEMBLY LISTING: IBC TABLE 721.1(2) ITEM 4-1.1

COMMENTS: 6.2" MINIMUM THICKNESS FOR 3HR RATING.



M02

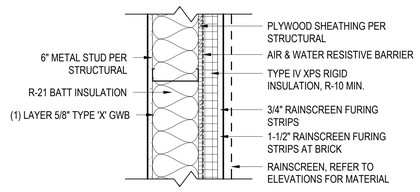
TYP. I-A EXTERIOR WALL

FIRE RATING: 1 HR

STC RATING:

ASSEMBLY LISTING: GA WP 8122

COMMENTS:



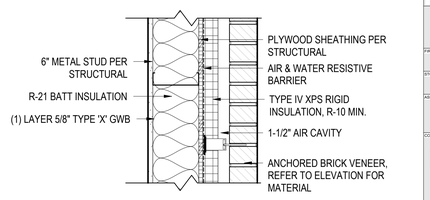
M03

FIRE RATING: 1 HR

STC RATING:

ASSEMBLY LISTING: GA WP 8122

COMMENTS: FUL FACE BRICK VENEER



M10

CORRIDOR WALL

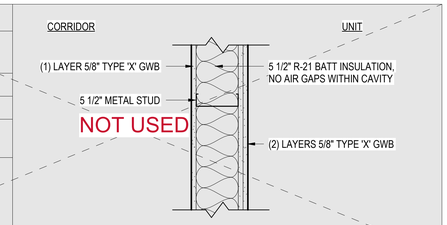
FIRE RATING: 1 HR

STC RATING: 50-54

ASSEMBLY LISTING: GA WP1052

COMMENTS: ACOUSTIC SEALANT EACH SIDE @ CEILING & FINISH FLOOR

NOT USED



M11

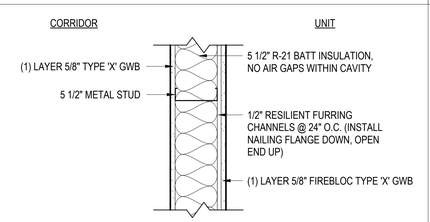
CORRIDOR WALL - ACOUSTIC

FIRE RATING: 1 HR

STC RATING: 50-54

ASSEMBLY LISTING: GA WP 1067

COMMENTS: ACOUSTIC SEALANT EACH SIDE @ CEILING & FINISH FLOOR



M15

TYP. INTERIOR PARTITION

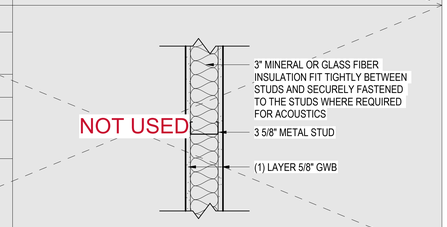
FIRE RATING: 0 HR

STC RATING:

ASSEMBLY LISTING:

COMMENTS: ACOUSTIC SEALANT EACH SIDE @ CEILING & FINISH FLOOR

NOT USED



M16

TYP. INTERIOR PARTITION

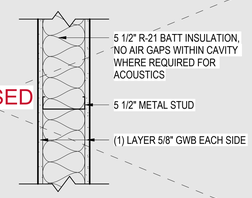
FIRE RATING: 0 HR

STC RATING:

ASSEMBLY LISTING:

COMMENTS: ACOUSTIC SEALANT EACH SIDE @ CEILING & FINISH FLOOR

NOT USED



M17

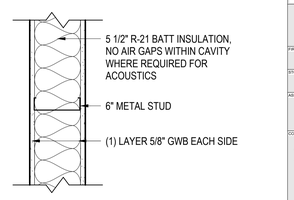
TYP. INTERIOR PARTITION

FIRE RATING: 0 HR

STC RATING:

ASSEMBLY LISTING:

COMMENTS: ACOUSTIC SEALANT EACH SIDE @ CEILING & FINISH FLOOR



M18

TYP. INTERIOR PARTITION

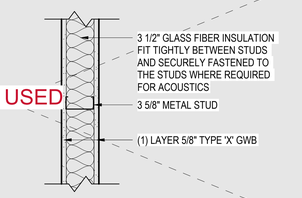
FIRE RATING: 1 HR

STC RATING: 45-49

ASSEMBLY LISTING: GA WP1072

COMMENTS: ACOUSTIC SEALANT EACH SIDE @ CEILING & FINISH FLOOR

NOT USED



M20

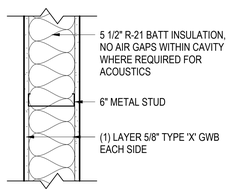
TYP. INTERIOR PARTITION

FIRE RATING: 1 HR

STC RATING: 45-49

ASSEMBLY LISTING: GA WP 1072

COMMENTS: ACOUSTIC SEALANT EACH SIDE @ CEILING & FINISH FLOOR



M21

TYP. INTERIOR PARTITION

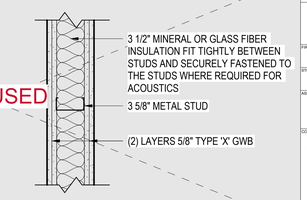
FIRE RATING: 2 HR

STC RATING: 55-59

ASSEMBLY LISTING: GA WP 1522

COMMENTS: ACOUSTIC SEALANT EACH SIDE @ CEILING & FINISH FLOOR

NOT USED



M22

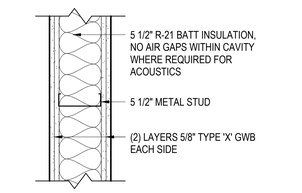
TYP. INTERIOR PARTITION

FIRE RATING: 2 HR

STC RATING: 55-59

ASSEMBLY LISTING: GA WP 1522

COMMENTS: ACOUSTIC SEALANT EACH SIDE @ CEILING & FINISH FLOOR



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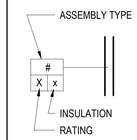

INSULATION:

- - NO INSULATION
- a ACOUSTICAL INSULATION
- t THERMAL INSULATION

NOTES:

1. ALL INSULATION SHALL HAVE MAXIMUM FLAME SPREAD INDEX OF 25 AND MAXIMUM SMOKE DEVELOPED INDEX OF 450 IN ACCORDANCE WITH IBC 720.2 (IBC 2018)
2. REFER TO SPECIFICATIONS FOR LOCATION, PROVISIONS FOR AND LIMITS OF DIFFERENT TYPES OF GWB SUCH AS CEMENTITIOUS TILE BACKER BOARD, MOISTURE AND MOLD RESISTANT GWB, FIRE-RATED GWB, ETC.

   USE MOISTURE OR MOLD RESISTANT GWB ON ALL PIPING UTILITY CHASES, UNCONDITIONED SPACES, PUBLIC RESTROOMS AND RESIDENTIAL BATHROOMS UNO.
3. REFER TO SPECIFICATIONS FOR STUD GAUGE AND SPACING.
4. FIRE RATING AND SOUND TRANSMISSION COEFFICIENTS ARE BASED UPON THE ASSEMBLIES SHOWN *WITHOUT* INSULATION, UNLESS NOTED OTHERWISE
5. REFER TO WALL DETAILS FOR TERMINATIONS, DEFLECTIONS, CONNECTIONS, PENETRATIONS AND INTERSECTIONS.
6. ACOUSTIC SEALANT SHALL CONFORM TO ASTM C919-02.
7. SEPARATE BACK TO BACK ELECTRICAL OR OTHER UTILITY BOXES BY AT LEAST ONE FULL STUD BAY IN SINGLE STUD WALLS AND TWO STUD BAYS IN STAGGERED STUD OR DOUBLE STUD WALL ASSEMBLIES UNO.
8. SEAL ALL DUCT, CONDUIT OR PIPING PENETRATIONS THROUGH ACOUSTICALLY RATED CONSTRUCTION TO PREVENT DIRECT CONTACT USING RESILIENT NON-HARDENING CAULK. USE FIRE-RATED ACOUSTICAL CAULK IN FIRE-RATED CONSTRUCTION.
9. REFER TO PLUMBING DRAWINGS AND SPECIFICATIONS FOR VIBRATION ISOLATION REQUIREMENTS IN AREAS WHERE PLUMBING RUNS IN PROXIMITY TO NOISE-SENSITIVE SPACES.
10. STAGGER ALL JOINTS VERTICALLY AND HORIZONTALLY WHENEVER TWO OR MORE LAYERS OF GWB ARE SCHEDULED.
11. SECURE BATT INSULATION TO THE STRUCTURE AS REQUIRED TO PREVENT SAGGING OR DISPLACEMENT.
12. CONFORM TO TESTING AGENCY ASSEMBLY # NOTED FOR EACH RATED WALL TYPE.
13. STC RATINGS ARE BASED ON WALL INSULATION R-VALUES RANGING FROM R-11 TO R-15 U.N.O.
14. FILL IN ALL VOIDS WITH MATERIAL MATCHING FIRE RATING REQUIREMENTS OF THE WALL ASSEMBLY.

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206 962 6500
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PERMIT SET

10/18/2024

RUSSELL H. HAZZARD, ARCHITECT

8079 REGISTERED ARCHITECT
RUSSELL H. HAZZARD
STATE OF WASHINGTON

10/17/2024

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△	DATE	DESCRIPTION
1	11/04/22	PERMIT CORRECTIONS 01
2	07/12/24	PERMIT CORRECTIONS 02

21-5971-01A
PM: ELI HARDI
DRAWN BY: JG, PD, MB
04/29/22

WALL TYPES

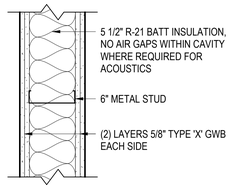
A610

10/17/2024 12:05:38 PM Autodesk Docs://MG2-CE-Shelter Holdings-Everett Riverfront Development PH2-21-5905-01A/A_21-5905-01A_Everett Riverfront BLD-D_R22.rvt

M23

TYP. INTERIOR PARTITION

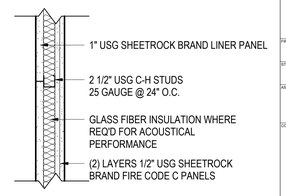
FIRE RATING: 2 HR
STC RATING: 55-59
ASSEMBLY LISTING: GA WP 1522
COMMENTS:



M24

TYP. SHAFT PARTITION

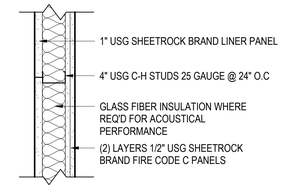
FIRE RATING: 2 HR
STC RATING: 50
ASSEMBLY LISTING: UL U415 System B
COMMENTS:



M25

TYP. SHAFT PARTITION

FIRE RATING: 2 HR
STC RATING: 50
ASSEMBLY LISTING: UL U415 System B
COMMENTS:

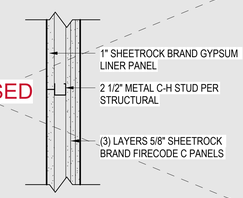


M26

TYP. SHAFT PARTITION

FIRE RATING: 3 HR
STC RATING: 45-49
ASSEMBLY LISTING: GA FC 7400
COMMENTS:

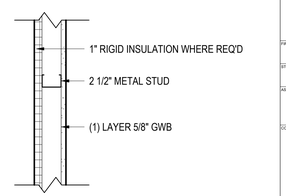
NOT USED



M27

FURRED WALL

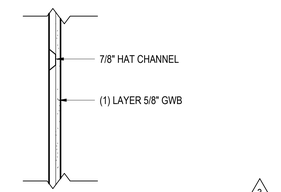
FIRE RATING: 0 HR
STC RATING:
ASSEMBLY LISTING:
COMMENTS: INTERIOR 2 1/2" METAL STUD FURRING



M28

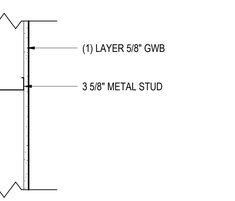
FURRED WALL

FIRE RATING: NR HR
STC RATING:
ASSEMBLY LISTING:
COMMENTS: INTERIOR 7/8" HAT CHANNEL FURRING



M29

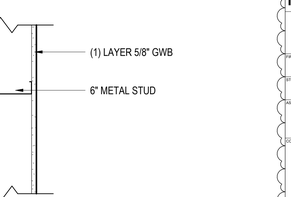
FIRE RATING: NR HR
STC RATING:
ASSEMBLY LISTING:
COMMENTS:



M30

FURRED WALL

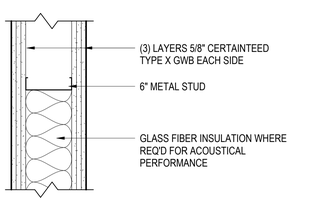
FIRE RATING: 0 HR
STC RATING:
ASSEMBLY LISTING:
COMMENTS:



M31

TYP. INTERIOR PARTITION

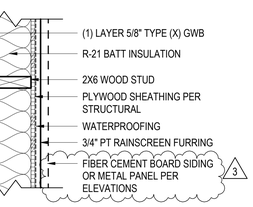
FIRE RATING: 3 HR
STC RATING: 55-59
ASSEMBLY LISTING: GA WP 2753
COMMENTS:



W02

TYP. EXTERIOR WALL

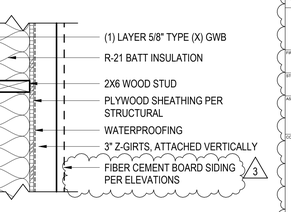
FIRE RATING: 1 HR
STC RATING: 33
ASSEMBLY LISTING: UL U356
COMMENTS:



W03

EXTERIOR WALL

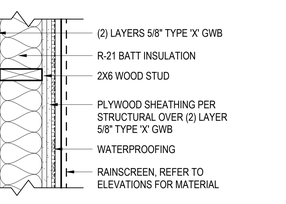
FIRE RATING: 1 HR
STC RATING: 33
ASSEMBLY LISTING: UL U356
COMMENTS:



W04

EXTERIOR WALL

FIRE RATING: 2 HR
STC RATING: 40-44
ASSEMBLY LISTING: GA WP 8418
COMMENTS: EXTERIOR WALL @ STAIR & ELEVATOR PENTHOUSE

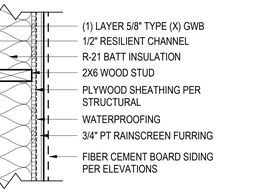


W05

3

TYP. EXTERIOR WALL

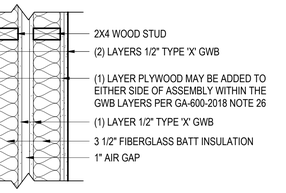
FIRE RATING: 1 HR
STC RATING: 33
ASSEMBLY LISTING: UL U356
COMMENTS:



W09

FIRE WALL

FIRE RATING: 2 HR
STC RATING: 55-59
ASSEMBLY LISTING: GA WP 4232
COMMENTS: ACOUSTIC SEALANT EACH SIDE @ CEILING & FINISH FLOOR



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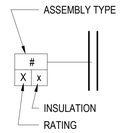

INSULATION:

- - NO INSULATION
- a ACOUSTICAL INSULATION
- t THERMAL INSULATION

NOTES:

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7. SEPARATE BACK TO BACK ELECTRICAL OR OTHER UTILITY BOXES BY AT LEAST ONE FULL STUD BAY IN SINGLE STUD WALLS AND TWO STUD BAYS IN STAGGERED STUD OR DOUBLE STUD WALL ASSEMBLIES UNO.
8. SEAL ALL DUCT, CONDUIT OR PIPING PENETRATIONS THROUGH ACOUSTICALLY RATED CONSTRUCTION TO PREVENT DIRECT CONTACT USING RESILIENT NON-HARDENING CAULK. USE FIRE-RATED ACOUSTICAL CAULK IN FIRE-RATED CONSTRUCTION.
9. REFER TO PLUMBING DRAWINGS AND SPECIFICATIONS FOR VIBRATION ISOLATION REQUIREMENTS IN AREAS WHERE PLUMBING RUNS IN PROXIMITY TO NOISE-SENSITIVE SPACES.
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11. SECURE BATT INSULATION TO THE STRUCTURE AS REQUIRED TO PREVENT SAGGING OR DISPLACEMENT.
12. CONFORM TO TESTING AGENCY ASSEMBLY # NOTED FOR EACH RATED WALL TYPE.
13. STC RATINGS ARE BASED ON WALL INSULATION R-VALUES RANGING FROM R-11 TO R-15 U.N.O.
14. FILL IN ALL VOIDS WITH MATERIAL MATCHING FIRE RATING REQUIREMENTS OF THE WALL ASSEMBLY.

EVERETT RIVERFRONT BUILDING D

3610 RIVERFRONT BLVD, EVERETT, WA 98203

1101 Second Ave, Ste 100
Seattle, WA 98101
206 962 6500
MG2.com

PERMIT SET

10/18/2024

RUSSELL H. HAZZARD, ARCHITECT

8078 REGISTERED ARCHITECT
RUSSELL H. HAZZARD
STATE OF WASHINGTON

10/17/2024

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△	DATE	DESCRIPTION
1	11/04/22	PERMIT CORRECTIONS 01
2	07/12/24	PERMIT CORRECTIONS 02
3	9/20/24	PERMIT CORRECTIONS 03

21-5971-01A
PM: ELI HARDI
DRAWN BY: JG, PD, MB
04/29/22

WALL TYPES

A611

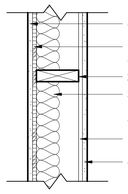
10/17/2024 12:05:39 PM Autodesk Docs://MG2-CE-Shelter Holdings-Everett Riverfront Development PH2-21-5905-01A/A_21-5905-01A_Everett Riverfront BLD-D_R22.rvt

W11

TYP. CORRIDOR WALL

FIRE RATING: 1 HR
STC RATING: 50-54
ASSEMBLY LISTING: GA WP3242
COMMENTS: ACOUSTIC SEALANT EACH SIDE @ CEILING & FINISH FLOOR

CORRIDOR / UNIT

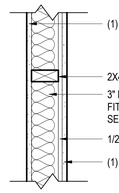


W12

TYP. CORRIDOR WALL

FIRE RATING: 1 HR
STC RATING: 50-54
ASSEMBLY LISTING: GA WP 3242
COMMENTS: 2X4 WOOD STUD @ UNIT ENTRIES; ACOUSTIC SEALANT EACH SIDE @ CEILING & FINISH FLOOR

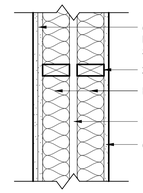
CORRIDOR / UNIT



W13

PARTY WALL

FIRE RATING: 1 HR
STC RATING: 50-54
ASSEMBLY LISTING: GA WP 3269
COMMENTS: ACOUSTIC SEALANT EACH SIDE @ CEILING & FINISH FLOOR

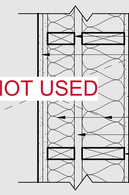


W14

PARTY WALL

FIRE RATING: 1 HR
STC RATING: 62 (NRC TL-93-271)
ASSEMBLY LISTING: GA WP3370 (SIM)
COMMENTS: ACOUSTIC SEALANT EACH SIDE @ CEILING & FINISH FLOOR

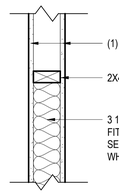
NOT USED



W15

TYP. INTERIOR PARTITION

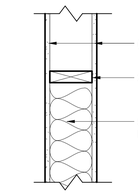
FIRE RATING: 0 HR
STC RATING: 36
ASSEMBLY LISTING: NGC 2008029
COMMENTS: ACOUSTIC SEALANT EACH SIDE @ CEILING & FINISH FLOOR



W16

TYP. INTERIOR PARTITION

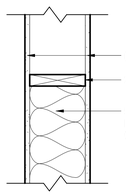
FIRE RATING: 0 HR
STC RATING:
ASSEMBLY LISTING:
COMMENTS: ACOUSTIC SEALANT EACH SIDE @ CEILING & FINISH FLOOR



W17

TYP. INTERIOR PARTITION

FIRE RATING: 0 HR
STC RATING:
ASSEMBLY LISTING:
COMMENTS: ACOUSTIC SEALANT EACH SIDE @ CEILING & FINISH FLOOR

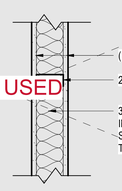


W18

TYP. INTERIOR PARTITION

FIRE RATING: 1 HR
STC RATING: 33
ASSEMBLY LISTING: GA WP 3510
COMMENTS: ACOUSTIC SEALANT EACH SIDE @ CEILING & FINISH FLOOR

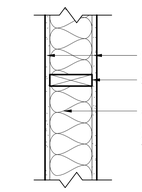
NOT USED



W19

TYP. INTERIOR PARTITION

FIRE RATING: 1 HR
STC RATING: 45-49
ASSEMBLY LISTING: GA WP 3510
COMMENTS: ACOUSTIC SEALANT EACH SIDE @ CEILING & FINISH FLOOR

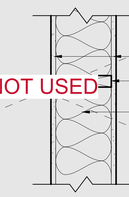


W20

TYP. INTERIOR PARTITION

FIRE RATING: 1 HR
STC RATING: 45-49
ASSEMBLY LISTING: GA WP 3510
COMMENTS: ACOUSTIC SEALANT EACH SIDE @ CEILING & FINISH FLOOR

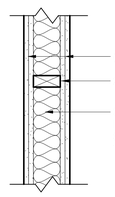
NOT USED



W21

TYP. INTERIOR PARTITION

FIRE RATING: 2 HR
STC RATING: 40-44
ASSEMBLY LISTING: GA WP 4135
COMMENTS: ACOUSTIC SEALANT EACH SIDE @ CEILING & FINISH FLOOR

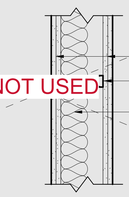


W22

TYP. INTERIOR PARTITION

FIRE RATING: 2 HR
STC RATING: 40-44
ASSEMBLY LISTING: GA WP 4135
COMMENTS: ACOUSTIC SEALANT EACH SIDE @ CEILING & FINISH FLOOR

NOT USED

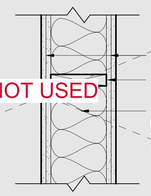


W23

TYP. INTERIOR PARTITION

FIRE RATING: 2 HR
STC RATING: 40-44
ASSEMBLY LISTING: GA WP 4135
COMMENTS: ACOUSTIC SEALANT EACH SIDE @ CEILING & FINISH FLOOR

NOT USED

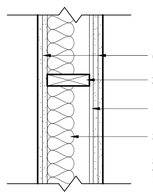


W24

STAIR WALL

FIRE RATING: 2 HR
STC RATING: 55-59
ASSEMBLY LISTING: GA WP 3825
COMMENTS: ACOUSTIC SEALANT EACH SIDE @ CEILING & FINISH FLOOR

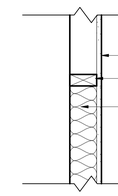
STAIR / UNIT/CORRIDOR



W25

FURRED WALL

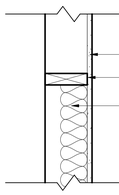
FIRE RATING: 0 HR
STC RATING:
ASSEMBLY LISTING:
COMMENTS:



W26

FURRED WALL

FIRE RATING: 0 HR
STC RATING:
ASSEMBLY LISTING:
COMMENTS:

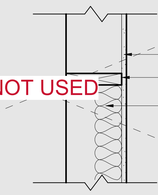


W27

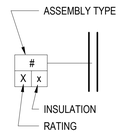
FURRED WALL

FIRE RATING: 0 HR
STC RATING:
ASSEMBLY LISTING:
COMMENTS:

NOT USED



WALL TYPE TAG:



INSULATION:

- - NO INSULATION
- a ACOUSTICAL INSULATION
- t THERMAL INSULATION

NOTES:

1. ALL INSULATION SHALL HAVE MAXIMUM FLAME SPREAD INDEX OF 25 AND MAXIMUM SMOKE DEVELOPED INDEX OF 450 IN ACCORDANCE WITH IBC 720.2 (IBC 2018)
2. REFER TO SPECIFICATIONS FOR LOCATION, PROVISIONS FOR AND LIMITS OF DIFFERENT TYPES OF GWB SUCH AS CEMENTITIOUS TILE BACKER BOARD, MOISTURE AND MOLD RESISTANT GWB, FIRE-RATED GWB, ETC.

   USE MOISTURE OR MOLD RESISTANT GWB ON ALL PIPING UTILITY CHASES, UNCONDITIONED SPACES, PUBLIC RESTROOMS AND RESIDENTIAL BATHROOMS UNO.
3. REFER TO SPECIFICATIONS FOR STUD GAUGE AND SPACING.
4. FIRE RATING AND SOUND TRANSMISSION COEFFICIENTS ARE BASED UPON THE ASSEMBLIES SHOWN *WITHOUT* INSULATION, UNLESS NOTED OTHERWISE
5. REFER TO WALL DETAILS FOR TERMINATIONS, DEFLECTIONS, CONNECTIONS, PENETRATIONS AND INTERSECTIONS.
6. ACOUSTIC SEALANT SHALL CONFORM TO ASTM C919-02.
7. SEPARATE BACK TO BACK ELECTRICAL OR OTHER UTILITY BOXES BY AT LEAST ONE FULL STUD BAY IN SINGLE STUD WALLS AND TWO STUD BAYS IN STAGGERED STUD OR DOUBLE STUD WALL ASSEMBLIES UNO.
8. SEAL ALL DUCT, CONDUIT OR PIPING PENETRATIONS THROUGH ACOUSTICALLY RATED CONSTRUCTION TO PREVENT DIRECT CONTACT USING RESILIENT NON-HARDENING CAULK. USE FIRE-RATED ACOUSTICAL CAULK IN FIRE-RATED CONSTRUCTION.
9. REFER TO PLUMBING DRAWINGS AND SPECIFICATIONS FOR VIBRATION ISOLATION REQUIREMENTS IN AREAS WHERE PLUMBING RUNS IN PROXIMITY TO NOISE-SENSITIVE SPACES.
10. STAGGER ALL JOINTS VERTICALLY AND HORIZONTALLY WHENEVER TWO OR MORE LAYERS OF GWB ARE SCHEDULED.
11. SECURE BATT INSULATION TO THE STRUCTURE AS REQUIRED TO PREVENT SAGGING OR DISPLACEMENT.
12. CONFORM TO TESTING AGENCY ASSEMBLY # NOTED FOR EACH RATED WALL TYPE.
13. STC RATINGS ARE BASED ON WALL INSULATION R-VALUES RANGING FROM R-11 TO R-15 U.N.O.
14. FILL IN ALL VOIDS WITH MATERIAL MATCHING FIRE RATING REQUIREMENTS OF THE WALL ASSEMBLY.

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10/18/2024

RUSSELL H. HAZZARD, ARCHITECT

8079 REGISTERED ARCHITECT

RUSSELL H. HAZZARD
STATE OF WASHINGTON

10/17/2024

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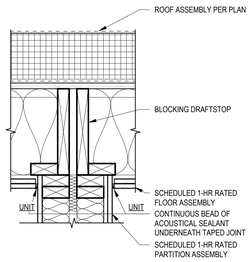
△	DATE	DESCRIPTION
1	11/04/22	PERMIT CORRECTIONS 01
2	07/12/24	PERMIT CORRECTIONS 02

21-5971-01A
PM: ELI HARDI
DRAWN BY: JG, PD, MB
04/29/22

WALL TYPES

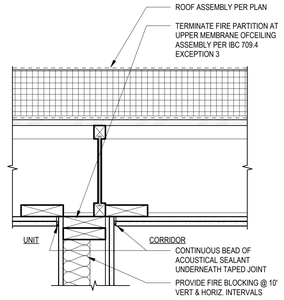
A612

10/17/2024 12:05:40 PM Autodesk Docs://MG2-CE-Shelter Holdings-Everett Riverfront Development PH2-21-5905-01A/A_21-5905-01A_Everett Riverfront BLD-D_R22.rvt



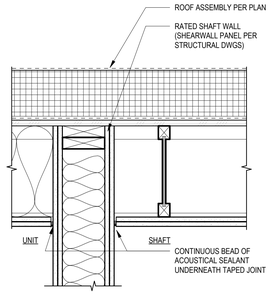
1 PARTY WALL @ ROOF

SCALE: 1 1/2" = 1'-0"



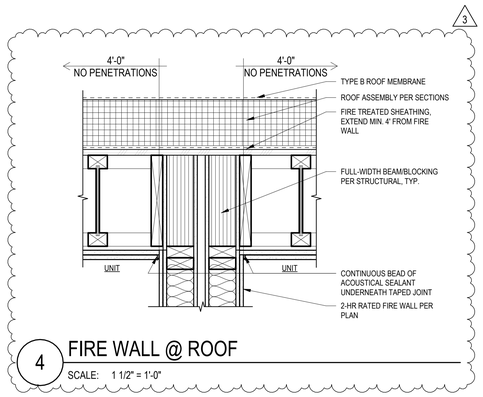
2 RATED CORRIDOR WALL @ ROOF

SCALE: 1 1/2" = 1'-0"



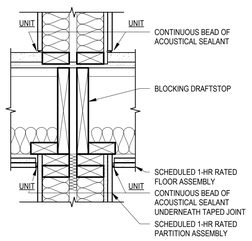
3 SHAFT WALL @ ROOF

SCALE: 1 1/2" = 1'-0"



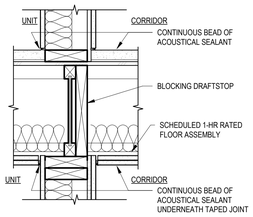
4 FIRE WALL @ ROOF

SCALE: 1 1/2" = 1'-0"



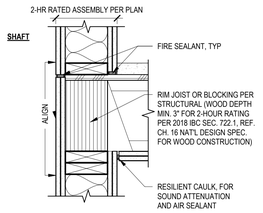
5 PARTY WALL @ 1-HR FLOOR

SCALE: 1 1/2" = 1'-0"



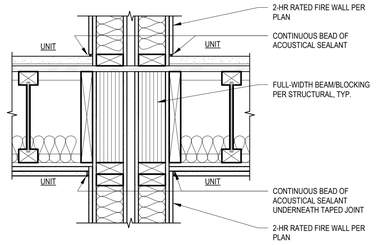
6 RATED CORRIDOR WALL @ 1-HR FLOOR

SCALE: 1 1/2" = 1'-0"



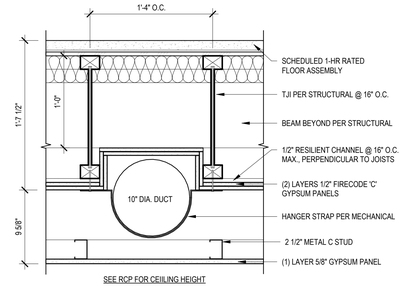
7 FIRE BARRIER - SHAFT TRANSITION @ WOOD FLOOR

SCALE: 1 1/2" = 1'-0"



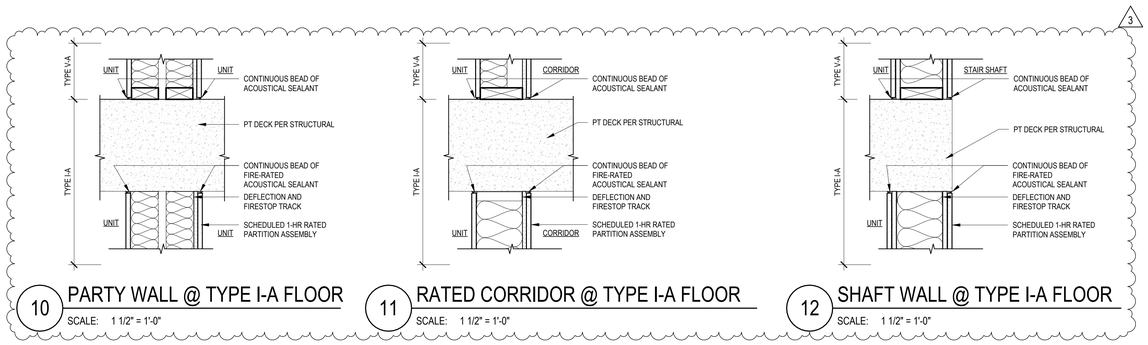
8 FIRE WALL @ FLOOR/CEILING

SCALE: 1 1/2" = 1'-0"



9 RATED CORRIDOR CEILING @ MECHANICAL SHAFT

SCALE: 1 1/2" = 1'-0"



10 PARTY WALL @ TYPE I-A FLOOR

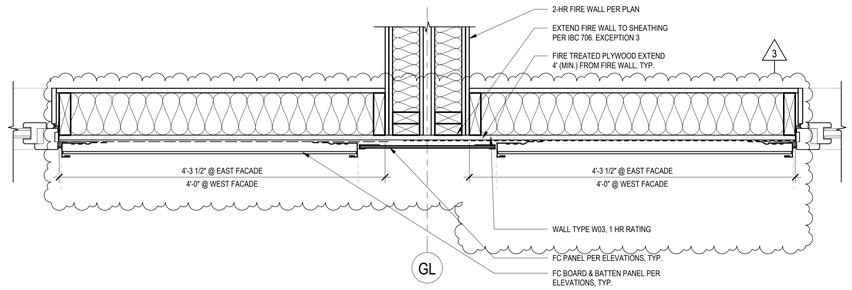
SCALE: 1 1/2" = 1'-0"

11 RATED CORRIDOR @ TYPE I-A FLOOR

SCALE: 1 1/2" = 1'-0"

12 SHAFT WALL @ TYPE I-A FLOOR

SCALE: 1 1/2" = 1'-0"



13 FIRE WALL @ EXTERIOR WALL

SCALE: 1 1/2" = 1'-0"

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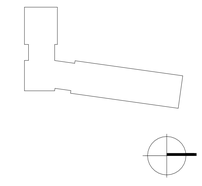
KEY PLAN



RUSSELL H. HAZZARD, ARCHITECT

10/17/2024

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△	DATE	DESCRIPTION
1	11/04/22	PERMIT CORRECTIONS 01
3	9/20/24	PERMIT CORRECTIONS 03

21-5971-01A
PM: ELI HARDI
DRAWN BY: JG, MB
04/29/22

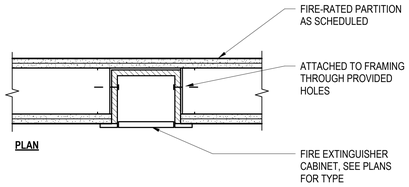
RATED ASSEMBLY DETAILS

A701

10/17/2024 12:05:41 PM Autodesk Docs://MG2-CE-Shelter Holdings-Everett Riverfront Development PH2-21-5905-01A/A_21-5905-01A_Everett Riverfront BLD-D_R22.rvt

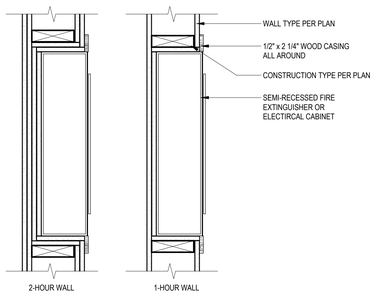
FEC SCHEDULE

FEC-1	FULLY RECESSED STAINLESS STEEL CABINET
FEC-1R	FULLY RECESSED FIRE-RATED STAINLESS STEEL CABINET
FEC-2	SEMI-RECESSED STAINLESS STEEL CABINET
FEC-2R	SEMI-RECESSED FIRE-RATED STAINLESS STEEL CABINET
FEC-3	SURFACE MOUNTED STAINLESS STEEL CABINET



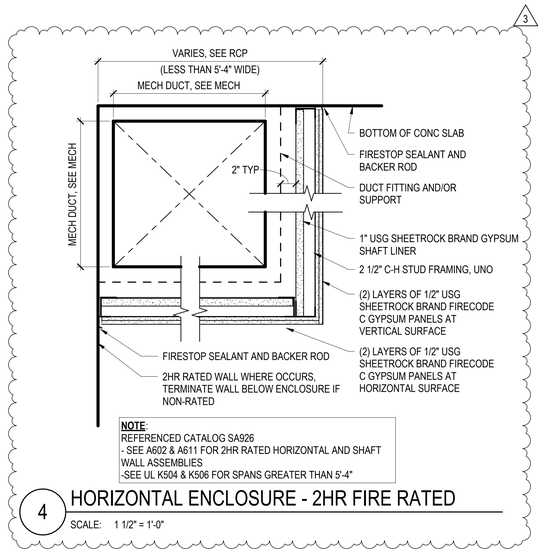
1 FEC SCHEDULE AND PLAN DETAIL

SCALE: 1 1/2" = 1'-0"



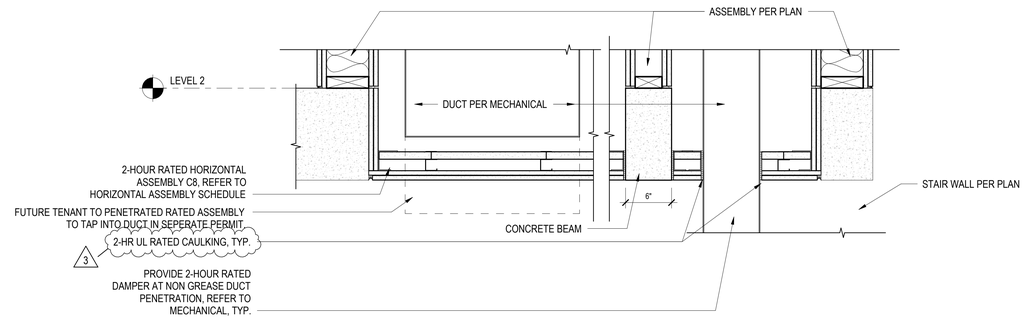
2 FIRE EXTINGUISHER CABINET - SECTION

SCALE: 1 1/2" = 1'-0"



4 HORIZONTAL ENCLOSURE - 2HR FIRE RATED

SCALE: 1 1/2" = 1'-0"



6 LEVEL 1 DUCT SEPARATION

SCALE: 1 1/2" = 1'-0"

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RUSSELL H. HAZZARD, ARCHITECT

8078 REGISTERED ARCHITECT

RUSSELL H. HAZZARD
STATE OF WASHINGTON

10/17/2024

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△	DATE	DESCRIPTION
1	11/04/22	PERMIT CORRECTIONS 01
2	07/12/24	PERMIT CORRECTIONS 02
3	9/20/24	PERMIT CORRECTIONS 03

21-5971-01A
PM: ELI HARDI
DRAWN BY: JG, MB
04/29/22

RATED ASSEMBLY DETAILS

A702

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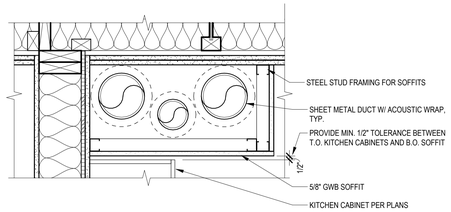
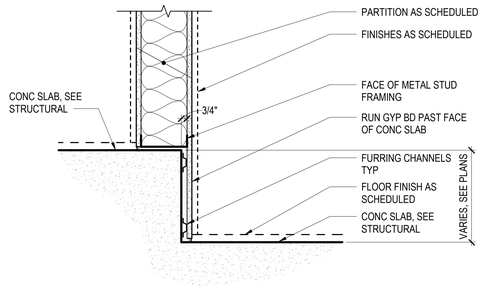


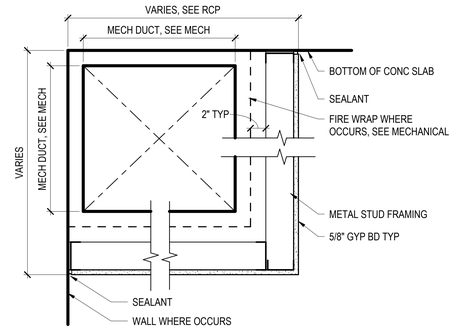
1 HORIZONTAL DUCT IN SOFFIT

SCALE: 1 1/2" = 1'-0"



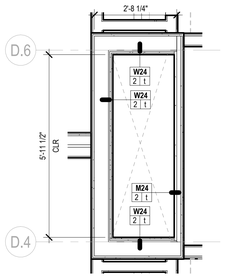
2 TYP PARTITION AT LEVEL CHANGE

SCALE: 1 1/2" = 1'-0"



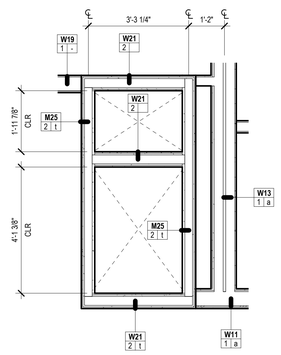
3 HORIZONTAL ENCLOSURE - NON-RATED

SCALE: 1 1/2" = 1'-0"



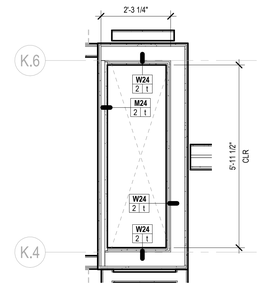
6 SOUTH SHAFT PLAN

SCALE: 1/2" = 1'-0"



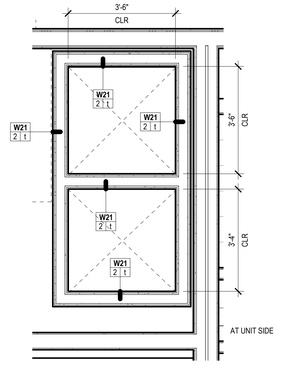
9 CORRIDOR EXHAUST SHAFT

SCALE: 1/2" = 1'-0"



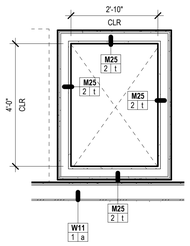
8 NORTH SHAFT PLAN

SCALE: 1/2" = 1'-0"



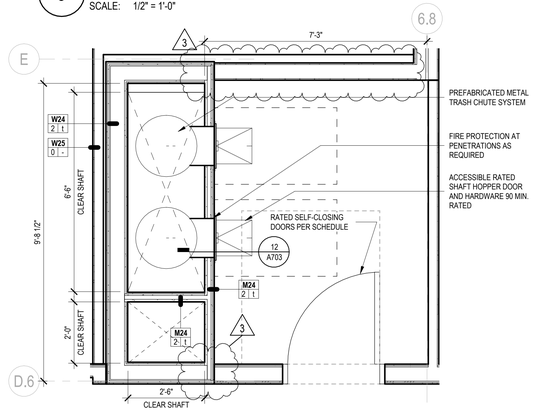
10 KITCHEN EXHAUST AND MAKEUP AIR SHAFTS

SCALE: 1/2" = 1'-0"



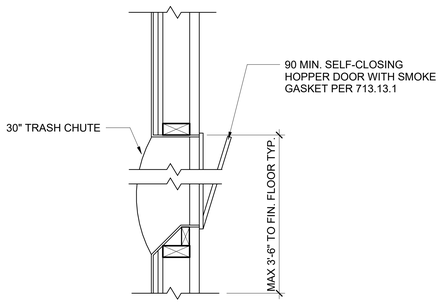
11 TRANSFORMER AIR INTAKE SHAFT

SCALE: 1/2" = 1'-0"



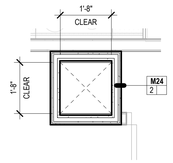
7 TRASH SHAFT PLAN

SCALE: 1/2" = 1'-0"



12 TRASH CHUTE DOOR

SCALE: 1 1/2" = 1'-0"



13 GENERATOR EXHAUST SHAFT

SCALE: 1/2" = 1'-0"

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RUSSELL H. HAZZARD
STATE OF WASHINGTON

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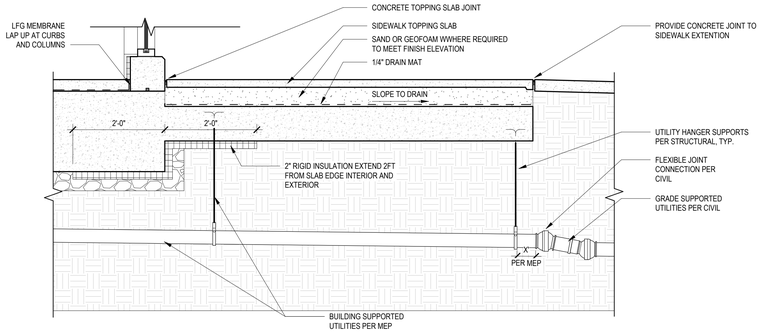
1	11/04/22	PERMIT CORRECTIONS 01
2	07/12/24	PERMIT CORRECTIONS 02
3	9/20/24	PERMIT CORRECTIONS 03

21-5971-01A
PM: ELI HARDI
DRAWN BY: JG, PD, MB
04/29/22

INTERIOR SHAFT AND PENETRATION DETAILS

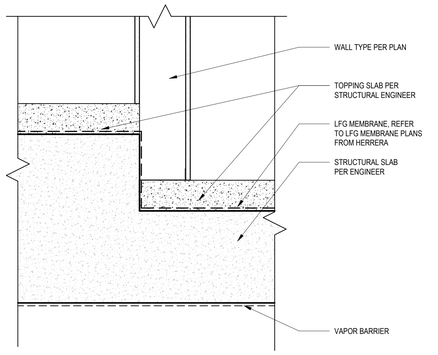
A703

10/17/2024 12:05:44 PM Autodesk Docs://MG2-CE-Shelter Holdings-Everett Riverfront Development PH2-21-5905-01A/A_21-5905-01A_Everett Riverfront BLD-D_R22.rvt



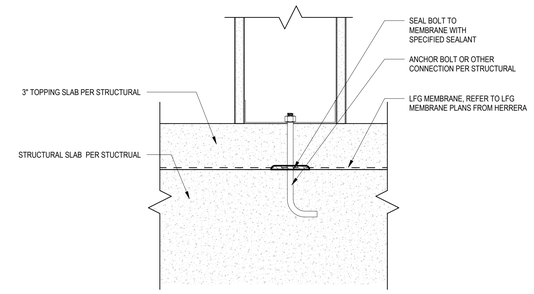
5 CONCRETE APRON

SCALE: 3/4" = 1'-0"



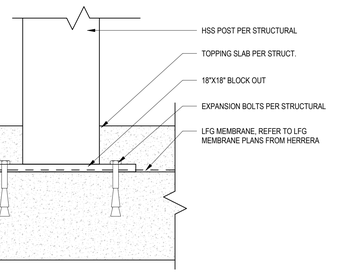
2 WALL @ SLAB STEP

SCALE: 1 1/2" = 1'-0"



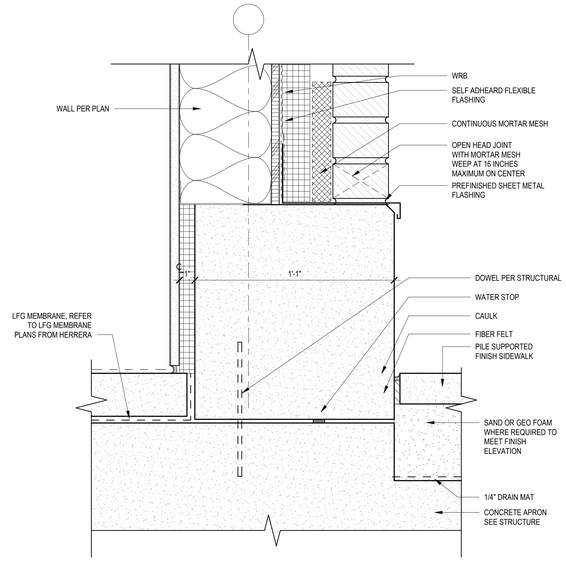
4 SECTION - STRUCTURAL STUD WALL TO SLAB

SCALE: 3" = 1'-0"



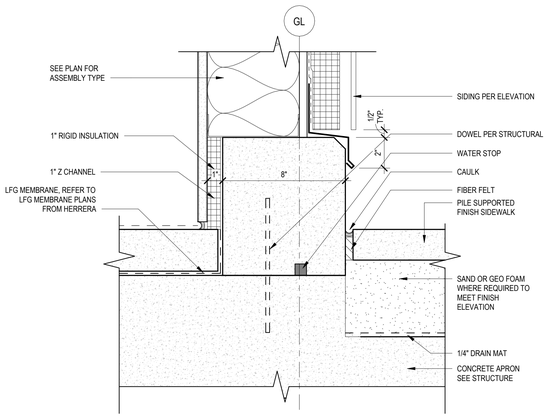
6 HSS POST TO SLAB

SCALE: 3" = 1'-0"



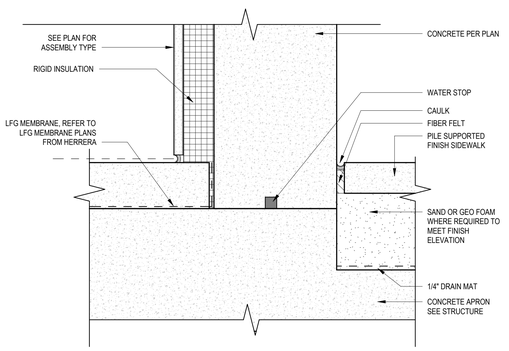
7 CONCRETE CURB AT BRICK

SCALE: 3" = 1'-0"



9 CURB AT FC & METAL PANEL

SCALE: 3" = 1'-0"



10 CMU WALL AT SLAB ON GRADE

SCALE: 3" = 1'-0"

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KEY PLAN

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△	DATE	DESCRIPTION
2	07/12/24	PERMIT CORRECTIONS 02

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PM: ELI HARDI
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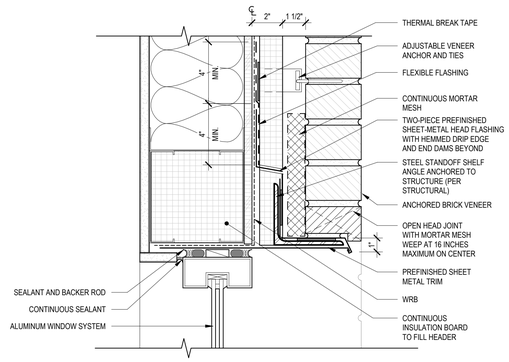
04/29/22

FOUNDATION & SLAB EDGE DETAILS

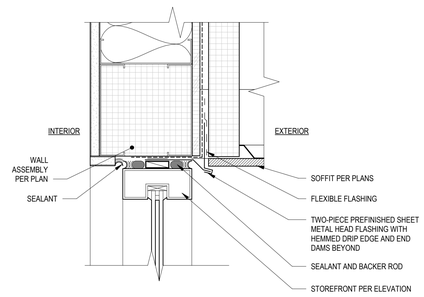
A750

10/17/2024 12:05:45 PM Autodesk Docs://MG2-CE-Shelter Holdings-Everett Riverfront Development PH2-21-5905-01A/A_21-5905-01A_Everett Riverfront BLD-D_R22.rvt



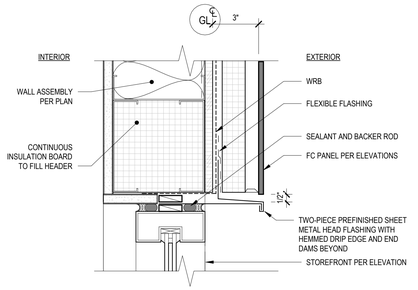
2 STOREFRONT HEAD AT BRICK

SCALE: 3" = 1'-0"



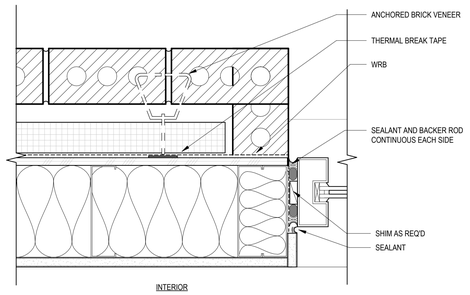
3 STOREFRONT HEAD AT LOBBY SOFFIT

SCALE: 3" = 1'-0"



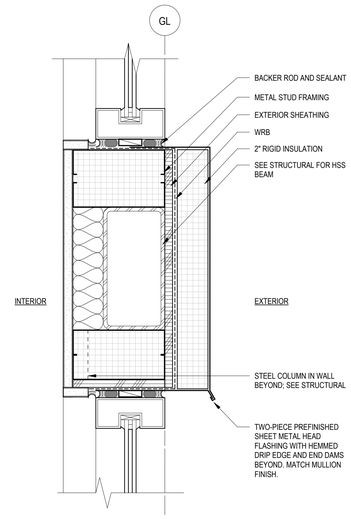
4 STOREFRONT HEAD AT FC PANEL

SCALE: 3" = 1'-0"



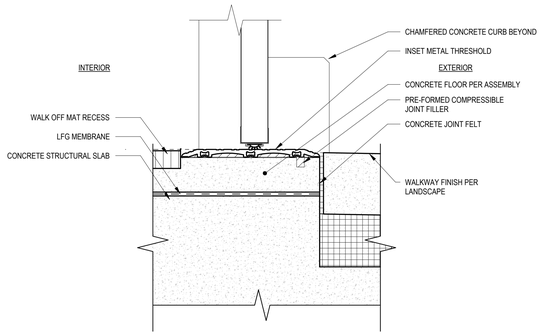
6 STOREFRONT JAMB AT BRICK

SCALE: 3" = 1'-0"



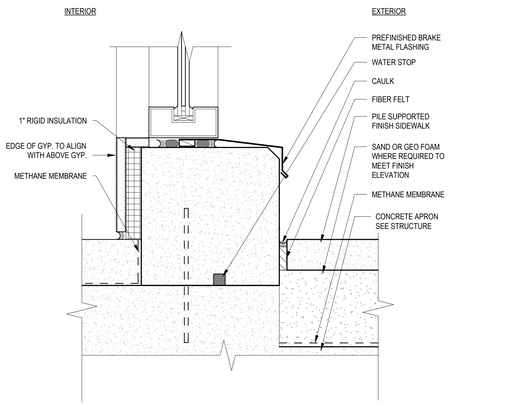
8 TYP. STOREFRONT HEAD / SILL AT BEAM

SCALE: 3" = 1'-0"



11 STOREFRONT DOOR SILL

SCALE: 3" = 1'-0"



12 STOREFRONT ON CURB

SCALE: 3" = 1'-0"

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KEY PLAN

RUSSELL H. HAZZARD, ARCHITECT

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2	07/12/24	PERMIT CORRECTIONS 02

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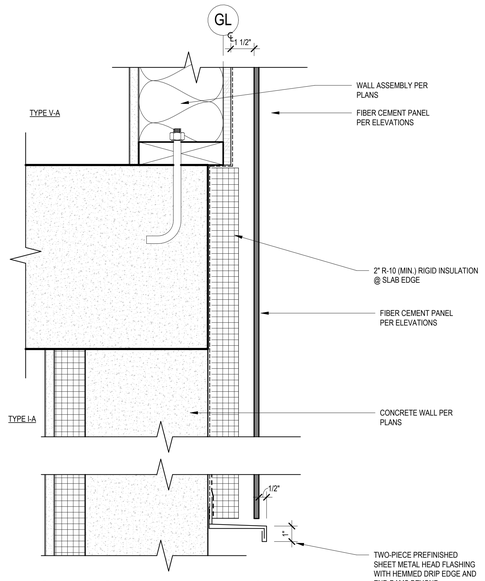
04/29/22

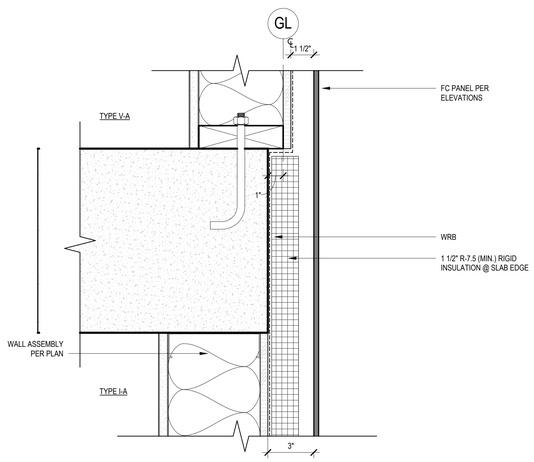
STOREFRONT DETAILS

A752



4 PT SLAB CONCRETE WITH FC PANEL

SCALE: 3" = 1'-0"



5 PT SLAB AT FC PANEL

SCALE: 3" = 1'-0"

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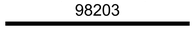
KEY PLAN



RUSSELL H. HAZZARD, ARCHITECT

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△	DATE	DESCRIPTION
2	07/12/24	PERMIT CORRECTIONS 02

21-5971-01A
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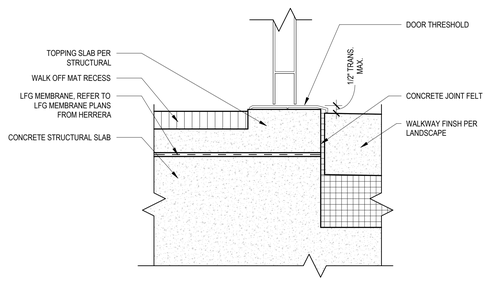
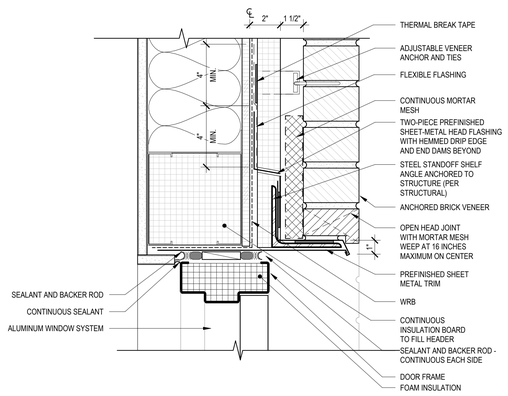
TRANSITION DETAILS

A753



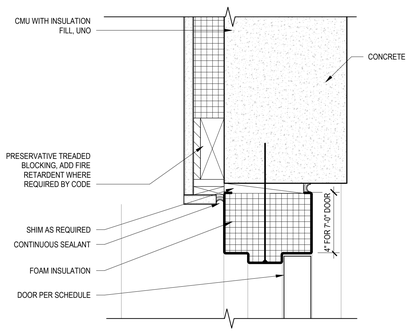
12 CONCRETE DOOR SILL

SCALE: 3" = 1'-0"



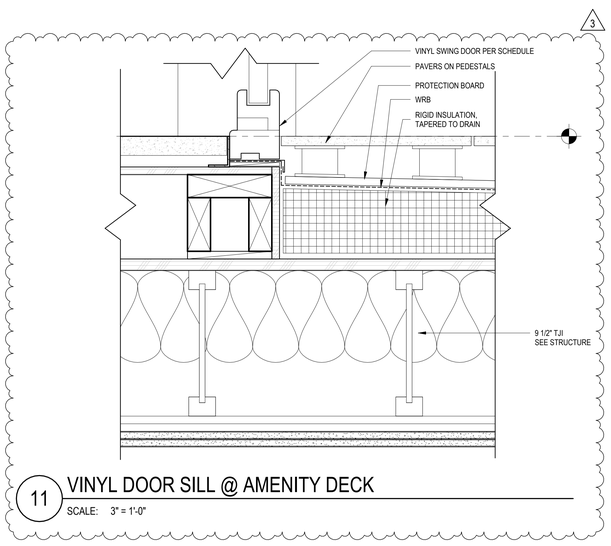
1 DOOR HEAD AT MTL STUD w/ BRICK

SCALE: 3" = 1'-0"



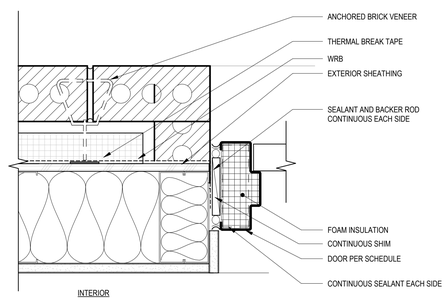
3 METAL DOOR HEAD AT CONC

SCALE: 3" = 1'-0"



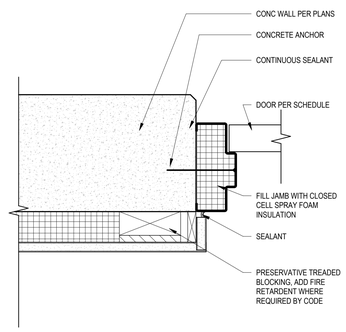
11 VINYL DOOR SILL @ AMENITY DECK

SCALE: 3" = 1'-0"



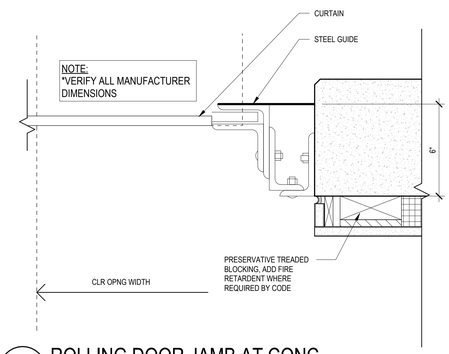
5 DOOR JAMB AT MTL STUD w/ BRICK

SCALE: 3" = 1'-0"



7 METAL DOOR JAMB AT CONC

SCALE: 3" = 1'-0"



8 ROLLING DOOR JAMB AT CONC

SCALE: 3" = 1'-0"

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△	DATE	DESCRIPTION
3	9/20/24	PERMIT CORRECTIONS 03

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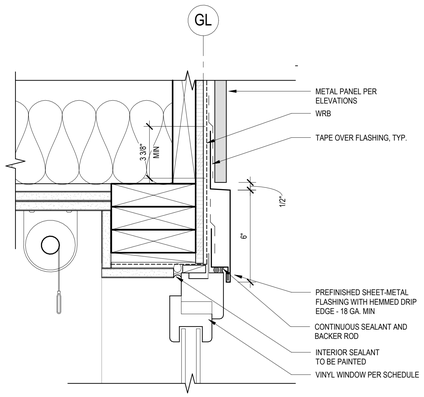
PM: ELI HARDI
DRAWN BY: JG, PD, MB
04/29/22

DOOR DETAILS

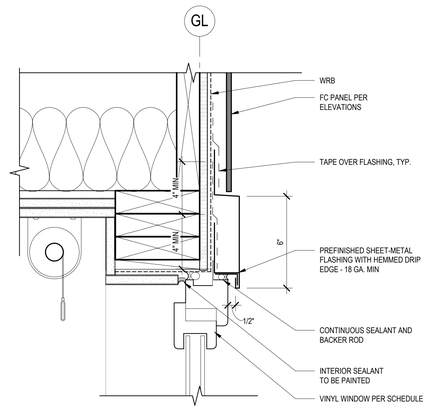
A754

10/17/2024 12:05:48 PM Autodesk Docs://MG2-CE-Shelter Holdings-Everett Riverfront Development PH2-21-5905-01A/A_21-5905-01A_Everett Riverfront BLD-D_R22.rvt



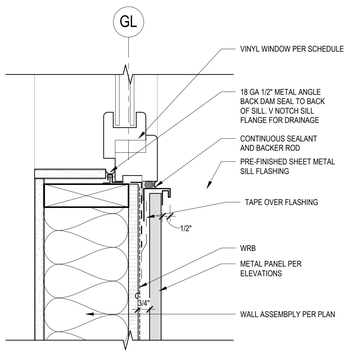
1 WINDOW HEAD AT METAL PANEL

SCALE: 3" = 1'-0"



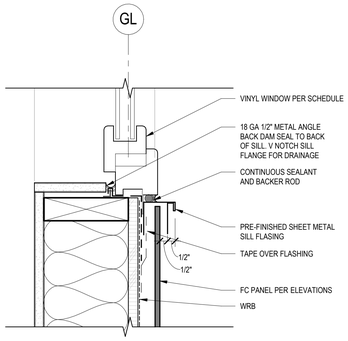
2 WINDOW HEAD AT CEMENT PANEL

SCALE: 3" = 1'-0"



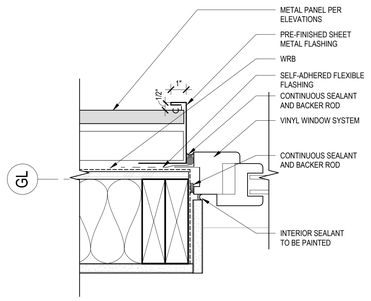
4 WINDOW SILL AT METAL PANEL

SCALE: 3" = 1'-0"



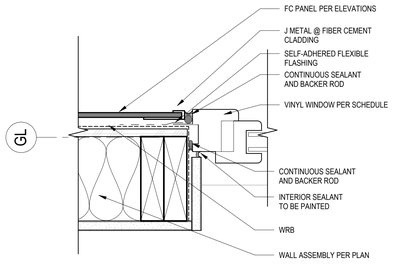
5 WINDOW SILL AT CEMENT PANEL

SCALE: 3" = 1'-0"



7 WINDOW JAMB AT METAL PANEL

SCALE: 3" = 1'-0"



8 WINDOW JAMB AT FIBER CEMENT

SCALE: 3" = 1'-0"

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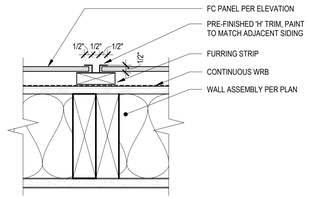
21-5971-01A
PM: ELI HARDI
DRAWN BY: JG, PD, MB
04/29/22

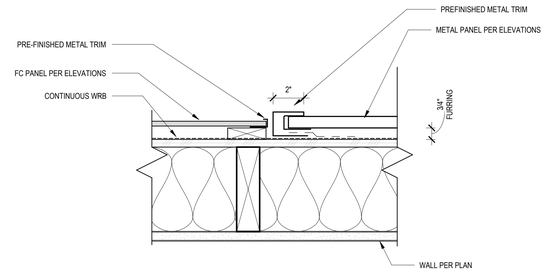
WINDOW DETAILS

A755



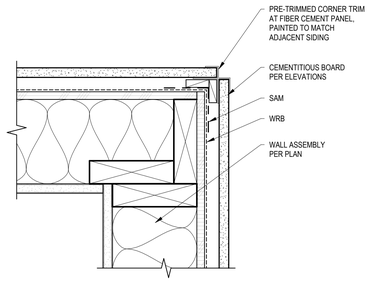
1 TYPICAL FC VERTICAL JOINT

SCALE: 3" = 1'-0"



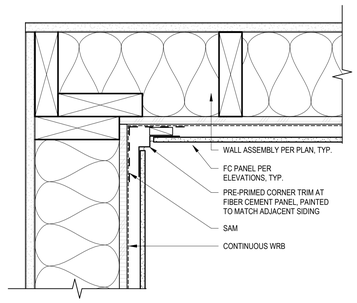
3 FIBER CEMENT TO METAL PANEL TRANSITION

SCALE: 3" = 1'-0"



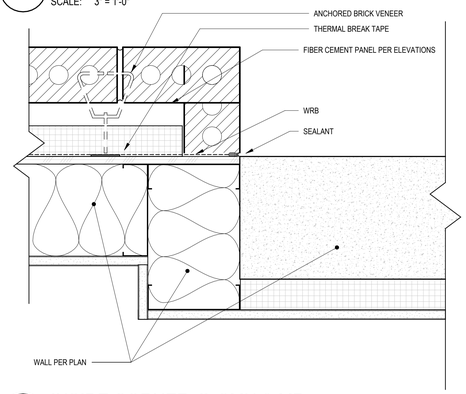
6 OUTSIDE CORNER @ FIBER CEMENT

SCALE: 3" = 1'-0"



7 INSIDE CORNER @ FIBER CEMENT

SCALE: 3" = 1'-0"



10 INSIDE CORNER @ CMU & MP

SCALE: 3" = 1'-0"

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RUSSELL H. HAZZARD, ARCHITECT

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2	07/12/24	PERMIT CORRECTIONS 02

21-5971-01A
PM: ELI HARDI
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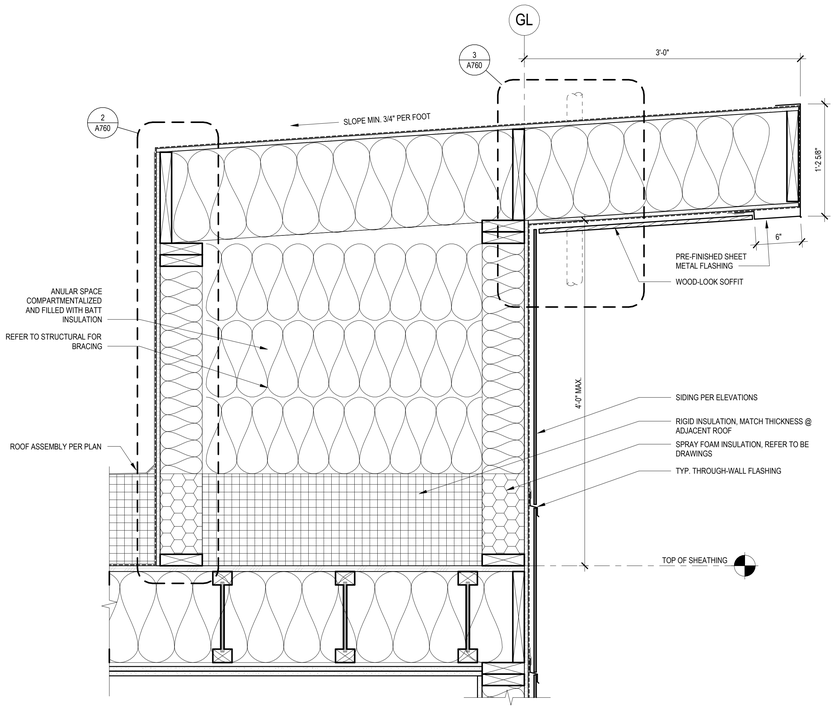
WALL DETAILS

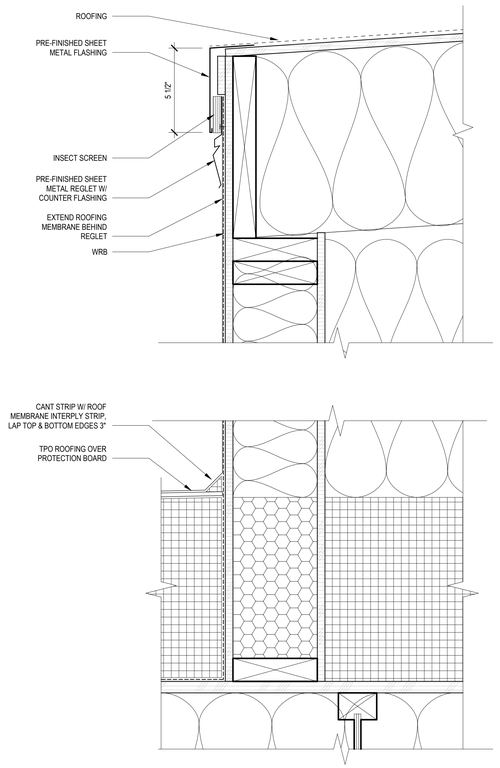
A756

10/17/2024 12:05:49 PM Autodesk Docs://MG2-CE-Shelter Holdings-Everett Riverfront Development PH2-21-5905-01A/A_21-5905-01A_Everett Riverfront BLD-D_R22.rvt



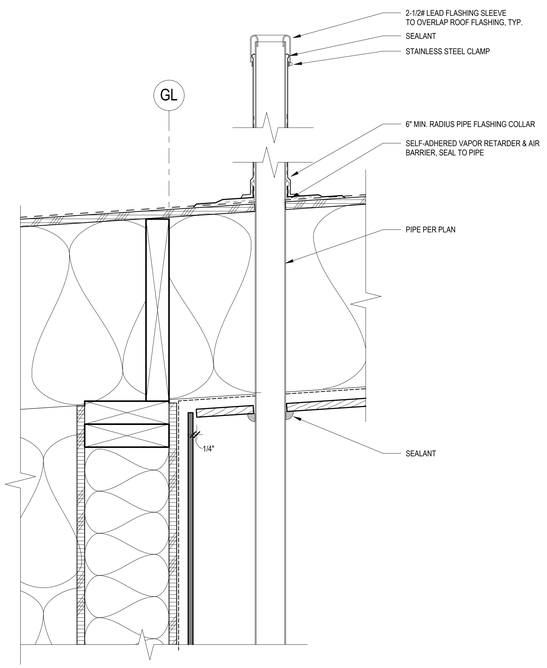
1 SLOPED ROOF EAVE

SCALE: 1 1/2" = 1'-0"



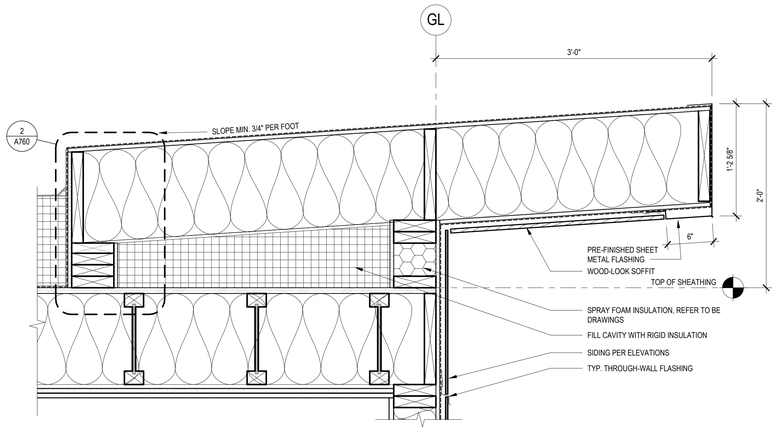
2 ROOF MEMBRANE DETAIL

SCALE: 3" = 1'-0"



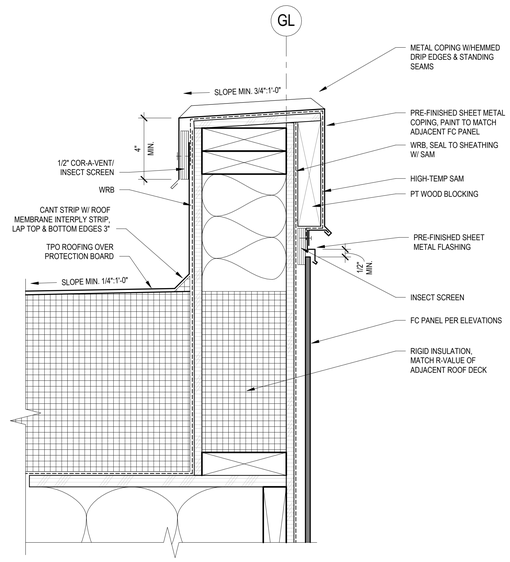
3 PIPE PENETRATION @ ROOF OVERHANG

SCALE: 3" = 1'-0"



4 ROOF EAVE

SCALE: 1 1/2" = 1'-0"



5 TYP. PARAPET @ FC PANEL

SCALE: 3" = 1'-0"

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ROOF DETAILS

A760

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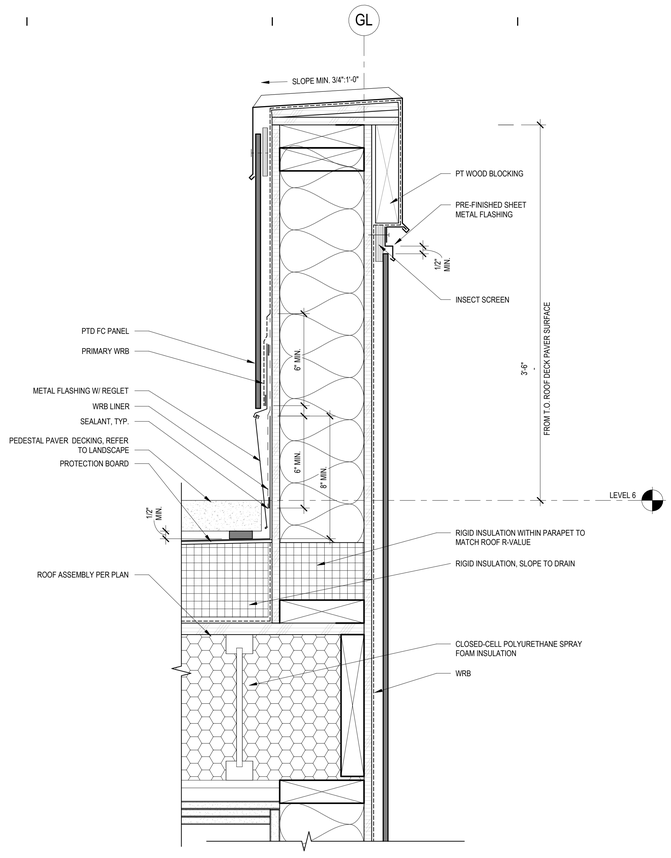
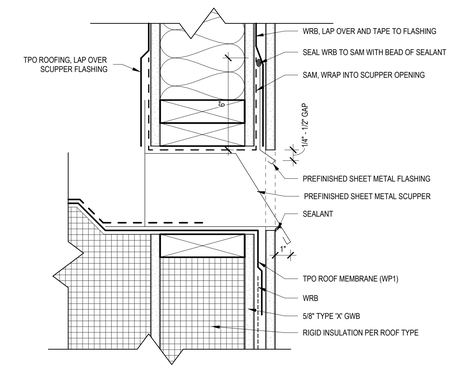
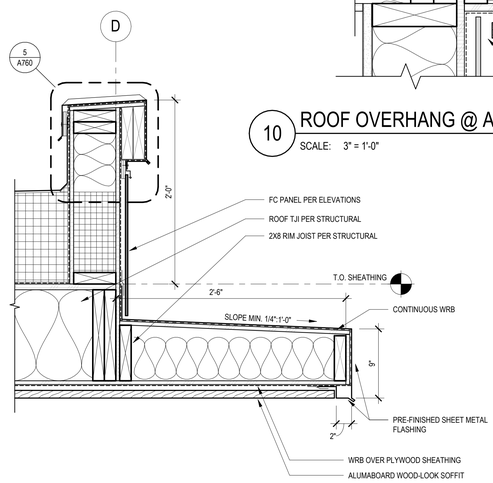
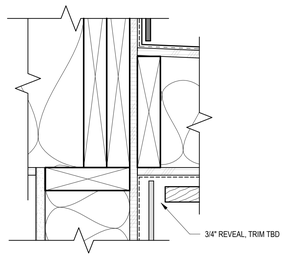


2 PARAPET @ L6 AMENITY DECK

SCALE: 3" = 1'-0"





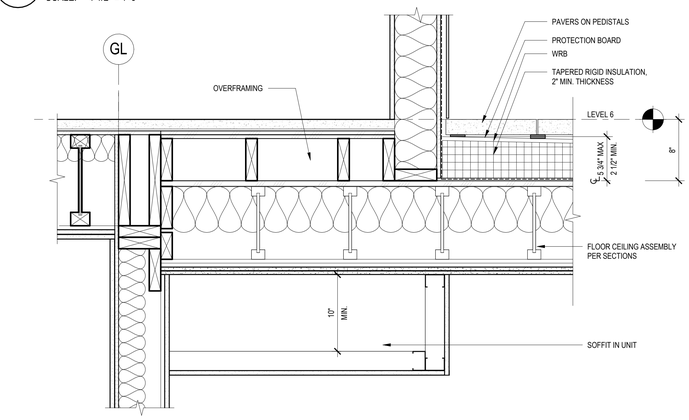


10 ROOF OVERHANG @ AMENITY EXTERIOR WALL

SCALE: 3" = 1'-0"

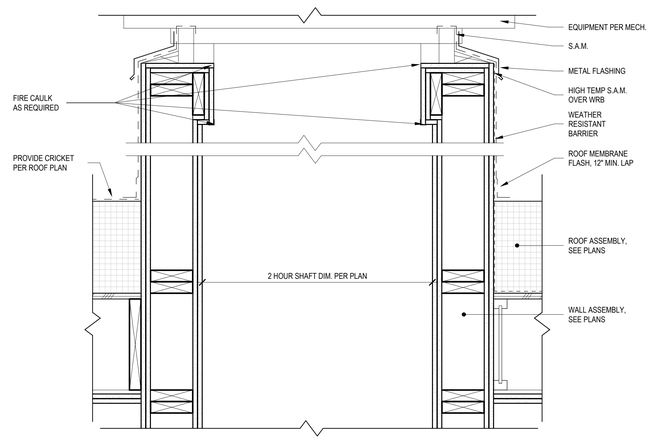
6 ROOF OVERHANG @ AMENITY

SCALE: 1 1/2" = 1'-0"



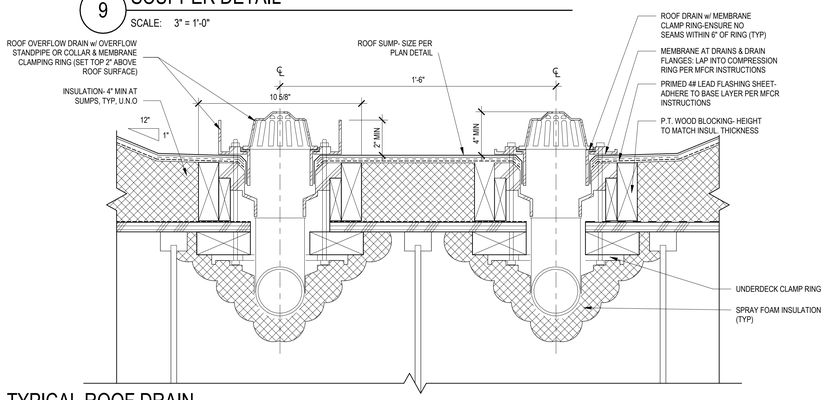
3 AMENITY DECK AT ENTRANCE

SCALE: 1 1/2" = 1'-0"



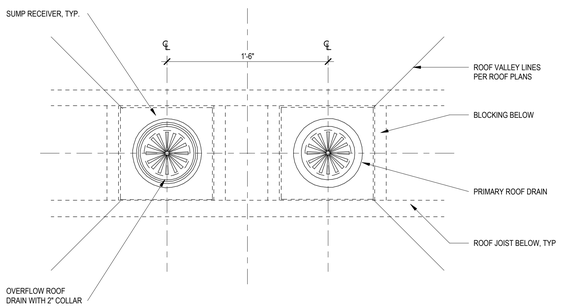
8 TRASH CHUTE ROOF DETAIL

SCALE: 1 1/2" = 1'-0"



9 SCUPPER DETAIL

SCALE: 3" = 1'-0"



7 ROOF DRAIN - PLAN VIEW

SCALE: 3" = 1'-0"

5 TYPICAL ROOF DRAIN

SCALE: 3" = 1'-0"

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ROOF DETAILS

A761

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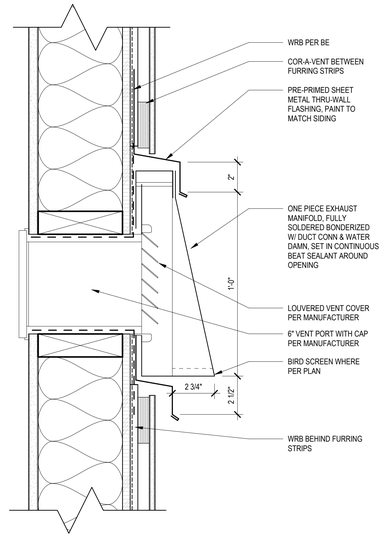
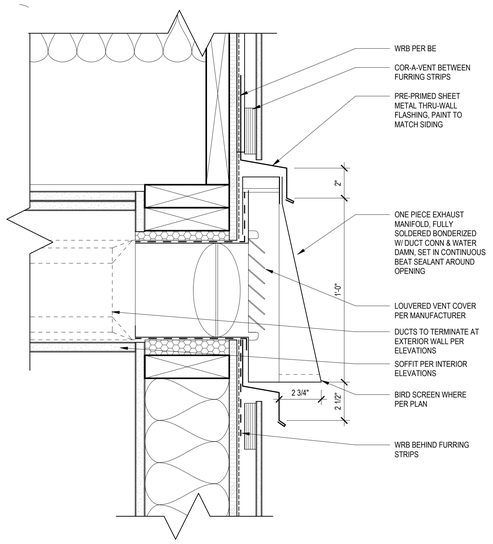


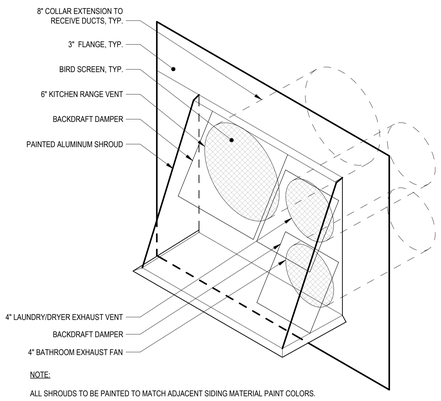
2 UNIT AC VENT SHROUD @ FC

SCALE: 3" = 1'-0"



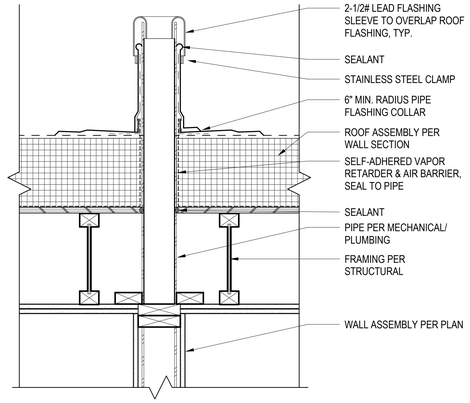
3 EXHAUST VENT SHROUD @ FC

SCALE: 3" = 1'-0"



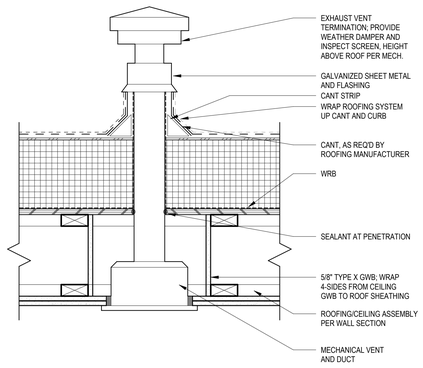
4 SHROUD AT VENT

SCALE: 3" = 1'-0"



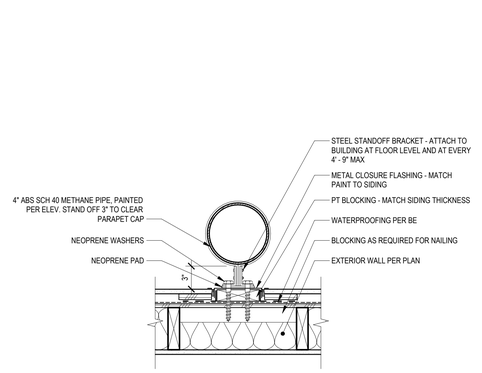
5 PIPE PENETRATION @ ROOF

SCALE: 1 1/2" = 1'-0"



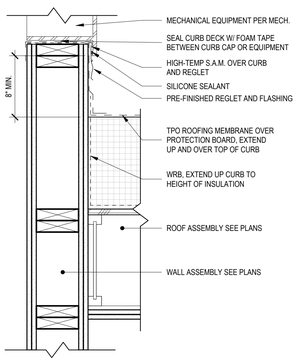
6 EXHAUST DUCT @ ROOF

SCALE: 1 1/2" = 1'-0"



7 METHANE PIPES - PLAN

SCALE: 1 1/2" = 1'-0"



8 2-HR MECHANICAL SHAFT @ ROOF

SCALE: 1 1/2" = 1'-0"

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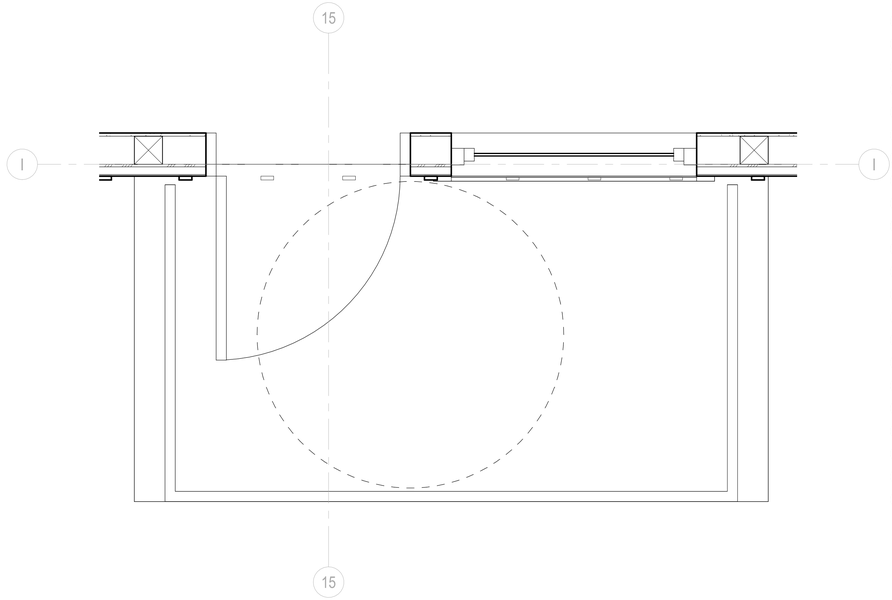
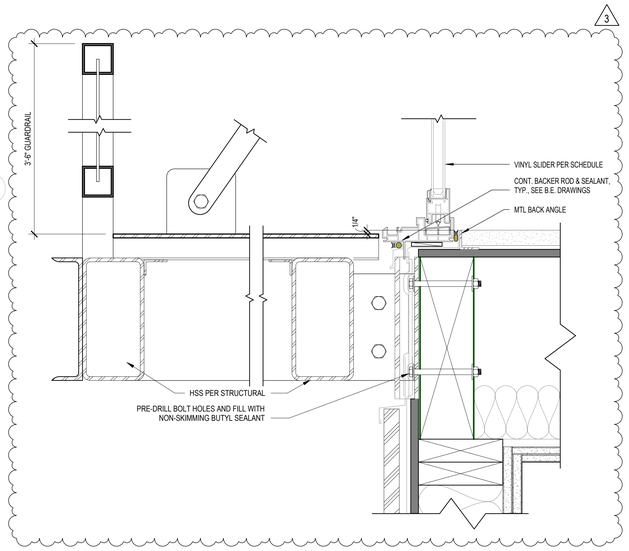
EXTERIOR DETAILS

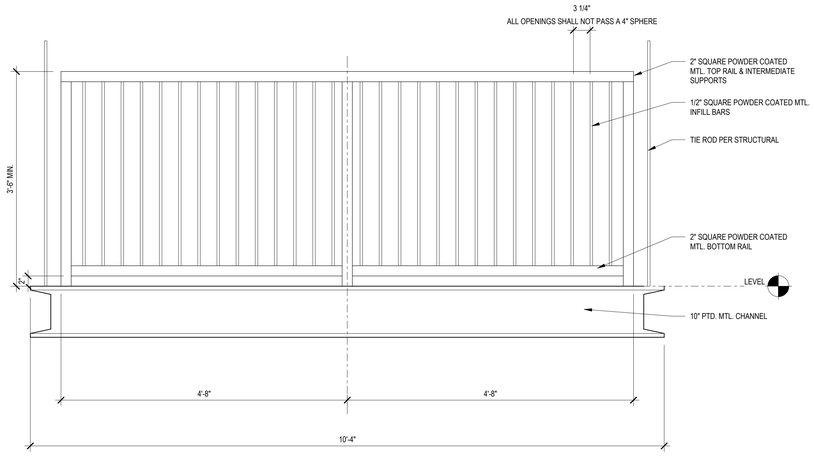
A762





1 ENLARGED UNIT BALCONY PLAN 1

SCALE: 1" = 1'-0"

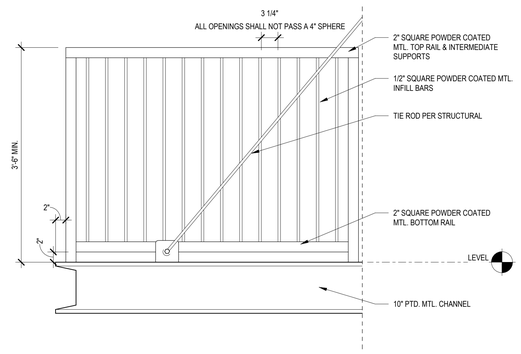


3 UNIT BALCONY FRONT ELEVATION

SCALE: 1" = 1'-0"

2 BALCONY WITH TIE ROD

SCALE: 3" = 1'-0"



4 UNIT BALCONY SIDE ELEVATION

SCALE: 1" = 1'-0"

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1	11/04/22	PERMIT CORRECTIONS 01
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BALCONY DETAILS

A770

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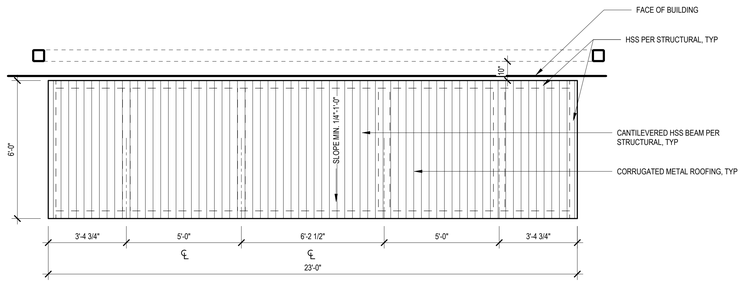
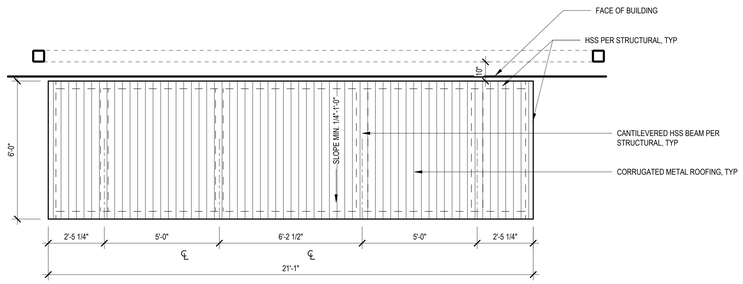


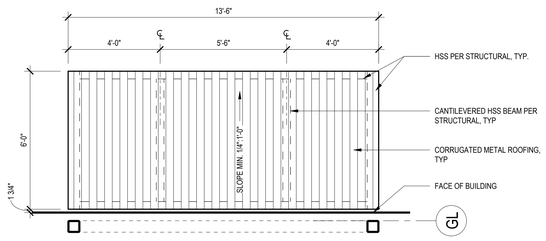
8 COMMERCIAL CANOPY 5

SCALE: 3/8" = 1'-0"



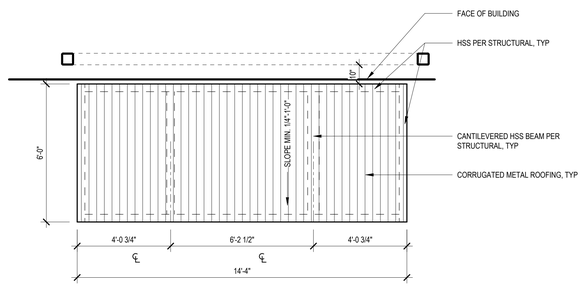
1 COMMERCIAL CANOPY 6

SCALE: 3/8" = 1'-0"



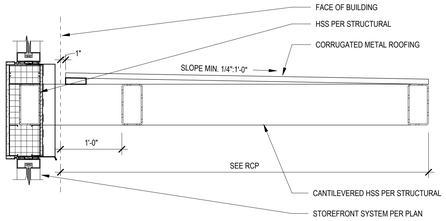
5 COMMERCIAL CANOPY 2 PLAN

SCALE: 3/8" = 1'-0"



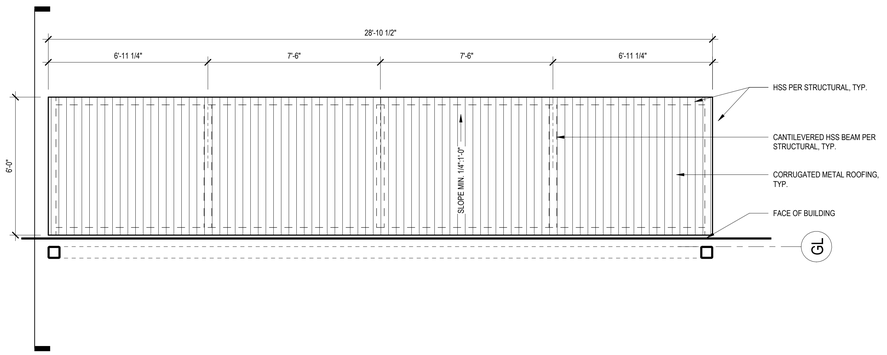
3 COMMERCIAL CANOPY 7

SCALE: 3/8" = 1'-0"



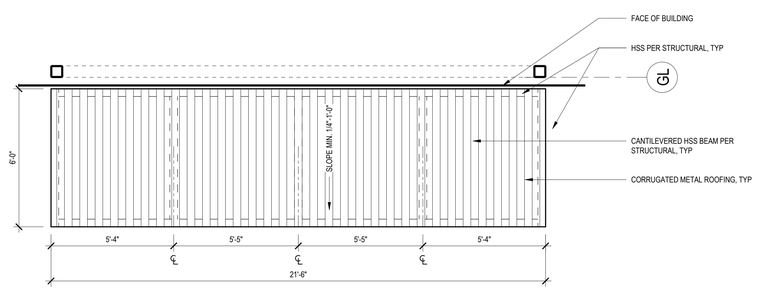
2 COMMERCIAL CANOPY SECTION

SCALE: 1" = 1'-0"



4 COMMERCIAL CANOPY 1 PLAN

SCALE: 3/8" = 1'-0"

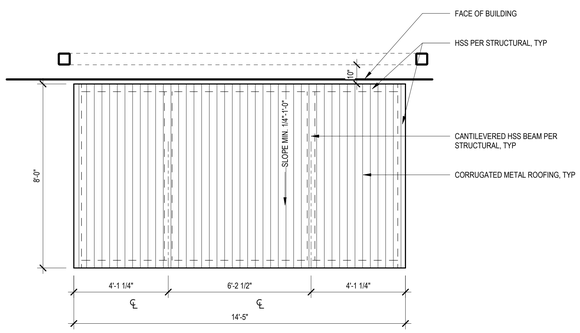


6 COMMERCIAL CANOPY 3 PLAN

SCALE: 3/8" = 1'-0"

7 COMMERCIAL CANOPY 4 PLAN

SCALE: 3/8" = 1'-0"



9 RESIDENTIAL ENTRY CANOPY

SCALE: 3/8" = 1'-0"

GENERAL NOTES:
1. LEVEL 1 CANOPIES DO NOT INCLUDE COMBUSTIBLE MATERIALS AND THEREFORE DO NOT REQUIRE FIRE SPRINKLERS PER CODE SECTION 903.3.1.1.1 EXCEPTION 4

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CANOPY DETAILS

A772

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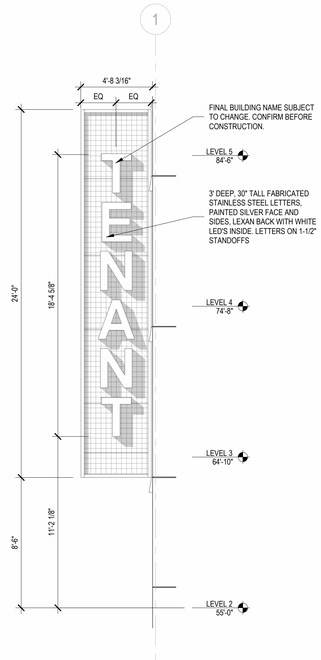
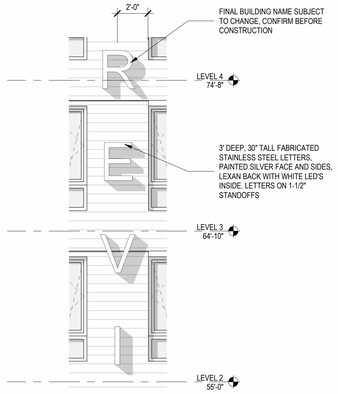


2 BUILDING SIGNAGE AT SOUTH FACADE ELEVATION

SCALE: 1/4" = 1'-0"



3 BUILDING SIGNAGE AT EAST FACADE ELEVATION

SCALE: 1/4" = 1'-0"

EVERETT RIVERFRONT BUILDING D

3610 RIVERFRONT BLVD, EVERETT, WA 98203

1101 Second Ave, Ste 100
Seattle, WA 98101

206 962 6500
MG2.com

PERMIT SET

10/18/2024

RUSSELL H. HAZZARD, ARCHITECT

8079 REGISTERED ARCHITECT

RUSSELL H. HAZZARD
STATE OF WASHINGTON

10/17/2024

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△	DATE	DESCRIPTION

21-5971-01A
PM: ELI HARDI
DRAWN BY: JG, PD, MB
04/29/22

BUILDING SIGNAGE DETAILS

A774

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WINDOW GENERAL NOTES

1. ALL WINDOWS ARE VINYL U.N.O., TYPICAL.

2. VINYL WINDOWS:
U-VALUE: 0.26
SHGC = 0.35

REFER TO ENERGY COMPLIANCE CALCULATIONS FOR COMPLIANCE. ENERGY COMPLIANCE REPORT TAKES PRECEDENT FOR U-VALUE AND SHGC.

3. ALL WINDOWS ARE SHOWN FROM THE EXTERIOR.

4. CASEMENT WINDOWS TO MEET THE REQUIREMENTS FOR EMERGENCY ESCAPE & RESCUE OPENINGS (IBC 1029).

5. T = TEMPERED GLASS LITE
T* = TEMPERED GLASS IF ADJACENT TO DOOR PER IBC 2406.4.2

6. IBC 2403.1: EACH PANE SHALL BEAR THE MANUFACTURER'S MARK DESIGNATING THE TYPE AND THICKNESS OF THE GLASS OR GLAZING MATERIAL. EACH PANE OF TEMPERED GLASS, EXCEPT TEMPERED SPANDREL GLASS, SHALL BE PERMANENTLY IDENTIFIED BY THE MANUFACTURER. THE IDENTIFICATION MARK SHALL BE ACID ETCHED, SAND BLASTED, CERMIC FIRED, LASER ETCHED, EMBOSSED OR OF A TYPE THAT, ONCE APPLIED, CANNOT BE REMOVED WITHOUT BEING DESTRYOED. TEMPERED SPANDREL GLASS SHALL BE PROVIDED WITH A REMOVABLE PAPER MAKING BY THE MANUFACTURER.

7. IBC 2403.4: WHERE INTERIOR GLAZING IS INSTALLED ADJACENT TO A WALKING SURFACE, THE DIFFERENTIAL DEFLECTION OF TWO ADJACENT UNSUPPORTED EDGES SHALL NOT BE GREATER THAN THE THICKNESS OF THE PANELS WHEN A FORCE OF 50 POUNDS PER LINEAR FOOT IS APPLIED HORIZONTALLY TO ONE PANEL AT ANY POINT UP TO 42 INCHES ABOVE THE WALKING SURFACE.

8. IBC 2406.3: EACH PANE OF SAFETY GLAZING INSTALLED IN HAZARDOUS LOCATIONS SHALL BE IDENTIFIED BY A MANUFACTURER'S DESIGNATION SPECIFYING WHO APPLIED THE DESIGNATION, THE MANUFACTURER OR INSTALLER AND THE SAFETY GLAZING STANDARD WITH WHICH IT COMPLIES, AS WELL AS THE INFORMATION SPECIFIED IN SECTION 2403.1. THE DESIGNATION SHALL BE ACID ETCHED SAND BLASED, CERAMIC FIRED, LASER ETCHED, EMBOSSED OR OF A TYPE THAT ONCE APPLIED, CANNOT BE REMOVED WITHOUT BEING DESTROYED.

9. IBC 2406.4.2: GLAZING IN AN INDIVIDUAL FIXED OR OPERABLE PANEL ADJACENT TO A DOOR WHERE THE NEAREST VERTICAL EDGE OF THE GLAZING IS WITHIN A 24-INCH ARC OF EITHER VERTICAL EDGE OF THE DOOR IN A CLOSED POSITION AND WHERE THE BOTTOM EXPOSED EDGE OF THE GLAZING IS LESS THAN 60 INCHES ABOVE THE WALKING SURFACE SHALL BE CONSIDERED A HAZARDOUS LOCATION

10. ALL WINDOWS AND DOORS TO MEET REQUIRMENTS OF THE 2018 WASHINGTON STATE ENERGY CODE.

11. ALL WINDOWS WHOSE OPERABLE PART FALL BELOW 36" ABOVE FINISHED FLOOR SURFACE SHALL BE EQUIPPED WITH HARDWARE RESTRICTING THE OPENING TO A DIMENSION OF 4" AT ITS WIDEST POINT, IN COMPLIANCE WITH IBC 1013.8 EXCEPTION 2.

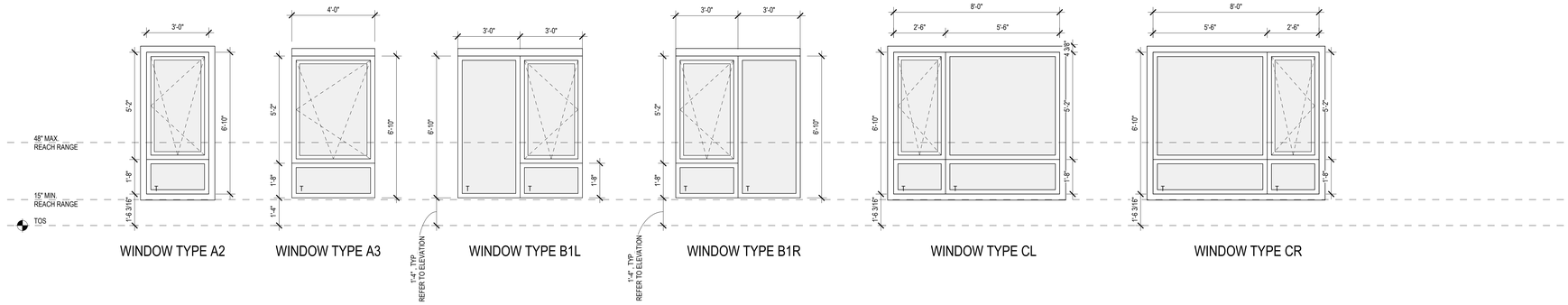
12. WINDOW ACCESSIBILITY IN TYPE 'A' UNITS (ICC/ ANSI A117.1-2009 SECTION 1003.1.3)

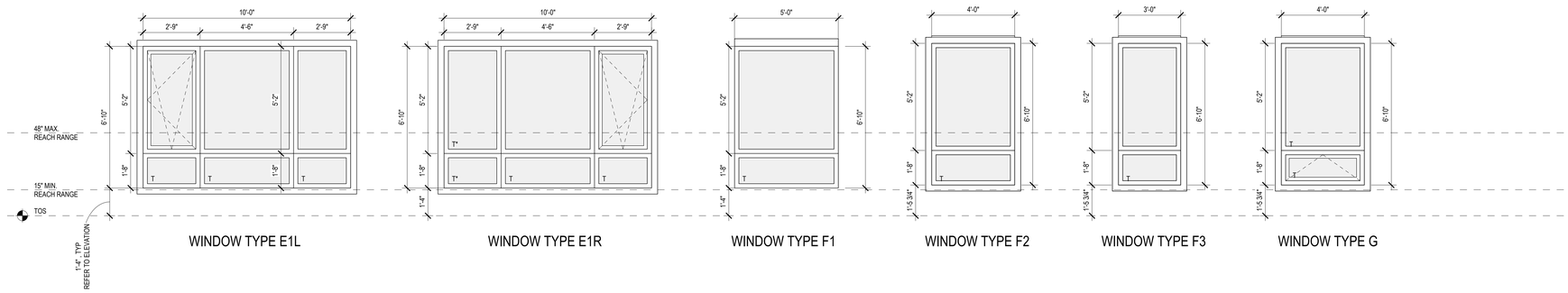
• IN TYPE 'A' UNITS, OPERABLE WINDOWS REQUIRED TO PROVIDE NATURAL VENTILATION SHALL COMPLY WITH SECTIONS 309.2 AND 309.3.
• OPERABLE WINDOWS REQUIRED TO PROVIDE AN EMERGENCY ESCAPE AND RESCUE OPENING SHALL COMPLY WITH SECTION 309.2.
• OPERABLE WINDOWS SHALL COMPLY WITH SECTION 309 AS FOLLOWS:
• A 30" X 48" CLEAR FLOOR SPACE SHALL BE PROVIDED PER SECTION 305
• OPERABLE PARTS MUST BE IN THE REACH RANGE PER SECTION 308.
• OPERABLE PARTS SHALL BE OPERABLE WITH ONE HAND AND SHALL NOT REQUIRE TIGHT GRASPING, PINCHING, OR TWISTING OF THE WRIST.
• THE FORCE REQUIRED TO ACTIVATE OPERABLE PARTS SHALL BE 5.0 POUNDS MAX
• CHANGE IN LEVEL BETWEEN 1/4" AND 1/2" HIGH MAX. SHALL BE BEVELED WITH A SLOPE NOT STEEPER THAN 1:2.

WINDOW AND DOOR ACOUSTIC GENERAL NOTE:
1. ALL WEST AND NORTH FACING RESIDENTIAL WINDOWS NEED A TO MEET A MIN 35-40 STC RATING PER SITE NOISE REPORT
2. ALL SOUTH FACING RESIDENTIAL WINDOWS NEED TO MEET A MIN 33-35 STC RATING PER SITE NOISE REPORT
3. ALL RESIDENTIAL WINDOWS NEED TO MEET A MINIMUM OF 28-30 STC RATING PER SITE NOISE REPORT

WINDOW SCHEDULE

Type Mark	SIZE Width	SIZE Height	SIZE Sill Height	Operation	Manufacturer	Heat Transfer Coefficient (U)	Solar Heat Gain Coefficient (SHGC)	Count	Remarks
G8	3'-0"	6'-10"	1'-4"	TILT TURN	ECO WINDOW - IGLO 5 CLASSIC	0.2600 BTU/(h·ft²·°F)	0.35	20	
A2	3'-0"	6'-10"	1'-4"	TILT TURN	ECO WINDOW - IGLO 5 CLASSIC	0.2600 BTU/(h·ft²·°F)	0.35	15	
A3	4'-0"	6'-10"	1'-4"	TILT TURN	ECO WINDOW - IGLO 5 CLASSIC	0.2600 BTU/(h·ft²·°F)	0.35	30	
B1L	6'-0"	6'-10"	<varies>	TILT TURN	ECO WINDOW - IGLO 5 CLASSIC	0.2600 BTU/(h·ft²·°F)	0.35	26	
G5	6'-0"	6'-10"	1'-4"	TILT TURN	ECO WINDOW - IGLO 5 CLASSIC	0.2600 BTU/(h·ft²·°F)	0.35	8	
B1L	6'-0"	6'-10"	1'-4"	TILT TURN	ECO WINDOW - IGLO 5 CLASSIC	0.2600 BTU/(h·ft²·°F)	0.35	25	
B1R	6'-0"	6'-10"	<varies>	TILT TURN	ECO WINDOW - IGLO 5 CLASSIC	0.2600 BTU/(h·ft²·°F)	0.35	32	
G4	6'-0"	6'-10"	1'-4"	TILT TURN	ECO WINDOW - IGLO 5 CLASSIC	0.2600 BTU/(h·ft²·°F)	0.35	4	
B1R	6'-0"	6'-10"	1'-4"	TILT TURN	ECO WINDOW - IGLO 5 CLASSIC	0.2600 BTU/(h·ft²·°F)	0.35	23	
G7	8'-0"	6'-10"	1'-4"	TILT TURN	ECO WINDOW - IGLO 5 CLASSIC	0.2600 BTU/(h·ft²·°F)	0.35	25	
CL	8'-0"	6'-10"	1'-4"	TILT TURN	ECO WINDOW - IGLO 5 CLASSIC	0.2600 BTU/(h·ft²·°F)	0.35	28	
G6	8'-0"	6'-10"	1'-4"	TILT TURN	ECO WINDOW - IGLO 5 CLASSIC	0.2600 BTU/(h·ft²·°F)	0.35	25	
CR	8'-0"	6'-10"	1'-4"	TILT TURN	ECO WINDOW - IGLO 5 CLASSIC	0.2600 BTU/(h·ft²·°F)	0.35	40	
E1L	10'-0"	6'-10"	1'-4"	TILT TURN	ECO WINDOW - IGLO 5 CLASSIC	0.2600 BTU/(h·ft²·°F)	0.35	5	
G3	10'-0"	6'-10"	<varies>	TILT TURN	ECO WINDOW - IGLO 5 CLASSIC	0.2600 BTU/(h·ft²·°F)	0.35	9	
E1R	10'-0"	6'-10"	1'-4"	TILT TURN	ECO WINDOW - IGLO 5 CLASSIC	0.2600 BTU/(h·ft²·°F)	0.35	11	
F1	5'-0"	6'-10"	1'-4"	TILT TURN	ECO WINDOW - IGLO 5 CLASSIC	0.2600 BTU/(h·ft²·°F)	0.35	31	
F2	4'-0"	6'-10"	1'-4"	TILT TURN	ECO WINDOW - IGLO 5 CLASSIC	0.2600 BTU/(h·ft²·°F)	0.35	5	
F3	3'-0"	6'-10"	1'-4"	TILT TURN	ECO WINDOW - IGLO 5 CLASSIC	0.2600 BTU/(h·ft²·°F)	0.35	10	
G1	4'-0"	6'-10"	1'-4"	TILT TURN	ECO WINDOW - IGLO 5 CLASSIC	0.2600 BTU/(h·ft²·°F)	0.35	12	





WINDOW LEGEND

SCALE: 3/8" = 1'-0"

EVERETT RIVERFRONT BUILDING D

3610 RIVERFRONT BLVD, EVERETT, WA 98203

1101 Second Ave, Ste 100
Seattle, WA 98101

206 962 6500
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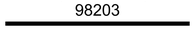
KEY PLAN



RUSSELL H. HAZZARD, ARCHITECT

8079 REGISTERED ARCHITECT
RUSSELL H. HAZZARD
STATE OF WASHINGTON

10/17/2024

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△	DATE	DESCRIPTION
1	11/04/22	PERMIT CORRECTIONS 01

21-5971-01A
PM: ELI HARDI
DRAWN BY: JG, PD, MB
04/29/22

WINDOW SCHEDULE

A801

10/17/2024 12:06:01 PM Autodesk Docs://MG2-CE-Shelter Holdings-Everett Riverfront Development PH2-21-5905-01A/A_21-5905-01A_Everett Riverfront BLD-D_R22.rvt

STOREFRONT NOTES

1. STOREFRONT WINDOWS: ALL VERTICAL FENESTRATION SHALL COMPLY WITH THE FOLLOWING U-FACTOR:
   METAL FIXED = U-0.34
   METAL OPERABLE = U-0.36
   ENTRANCE DOORS = U-0.60
   ALL OTHER VERTICAL FENESTRATION (OPERABLE, FIXED, GLAZED DOORS) = U-0.26.
   THE SHGC OF ALL VERTICAL FENESTRATION SHALL BE LESS THAN OR EQUAL TO 0.35.

2. ALL WINDOWS SHOWN FROM THE EXTERIOR.

3. CONTRACTOR TO VERIFY ROUGH OPENING DIMENSIONS IN FIELD BEFORE ORDERING WINDOWS.

4. T = TEMPERED GLASS LITE.

5. IDENTIFICATION - IBC 2403.1
   EACH PANE OF SAFETY GLAZING INSTALLED IN HAZARDOUS LOCATIONS SHALL BE IDENTIFIED BY A MANUFACTURER'S DESIGNATION SPECIFYING WHO APPLIED THE DESIGNATION. THE MANUFACTURER OR INSTALLER AND THE SAFETY GLAZING STANDARD WITH WHICH IT COMPLIES.

   THE DESIGNATION SHALL BE ACID ETCHED, SAND BLASTED, CERAMIC FIRED, LASER ETCHED, EMBOSSED OR OF A TYPE THAT ONCE APPLIED, CANNOT BE REMOVED WITHOUT BEING DESTROYED.

6. INTERIOR GLAZING - IBC 2304.4
   WHERE INTERIOR GLAZING IS INSTALLED ADJACENT TO A WALKING SURFACE, THE DIFFERENTIAL DEFLECTION OF TWO ADJACENT UNSUPPORTED EDGES SHALL BE NOT GREATER THAN THE THICKNESS OF THE PANELS WHEN A FORCE OF 50 POUNDS PER LINEAR FOOT IS APPLIED

   ALL WINDOWS AND DOORS TO MEET REQUIREMENTS OF THE 2018 WASHINGTON STATE ENERGY CODE, SEE ENERGY REPORT FOR ALL ENERGY CODE REQUIREMENTS.

7. WINDOW ACCESSIBILITY IN TYPE 'A' UNITS - ICC/ ANSI A117.1-2003, 1003.13
   IN TYPE 'A' UNITS, WHERE OPERABLE WINDOWS ARE PROVIDED, AT LEAST ONE WINDOW IN EACH SLEEPING, LIVING, OR DINING SPACE SHALL HAVE OPERABLE PARTS COMPLYING WITH SECTION 1003.9. EACH REQUIRED OPERABLE WINDOW SHALL HAVE OPERABLE PARTS COMPLYING WITH SECTION 1003.9.

8. OPERABLE WINDOWS SHALL COMPLY WITH SECTION 309 AS FOLLOWS:
   A 30" X 48" CLEAR FLOOR SPACE SHALL BE PROVIDED PER SECTION 305, SEE SHEET G401-G404

9. OPERABLE PARTS MUST BE IN THE REACH RANGE PER SECTION 308, SEE DIAGRAMS ON G401-G404.

10. OPERABLE PARTS SHALL BE OPERABLE WITH ONE HAND AND SHALL NOT REQUIRE TIGHT GRASPING, PINCHING, OR TWISTING OF THE WRIST.

11. THE FORCE REQUIRED TO ACTIVATE OPERABLE PARTS SHALL BE 5.0 POUNDS MAX.

12. OPERABLE PARTS AFTER OPERATION TO RELEASE THE CONTROL DEVICE ALLOWING THE WINDOW TO FULLY OPEN SHALL NOT REDUCE THE MINIMUM NET CLEAR OPENING AREA OF THE WINDOW UNIT TO LESS THAN THE AREA REQUIRED BY IBC SECTION 1030.2.

13. ALL WINDOWS WHOSE OPERABLE PARTS FALL BELOW 36" ABOVE FINISHED FLOOR SURFACE SHALL BE EQUIPPED WITH HARDWARE RESTRICTING THE OPENING TO A DIMENSION OF 4" AT IT'S WIDEST POINT, IN COMPLIANCE WITH IBC 1015.4.

14. PER ANSI A117.1 - 2009, CHANGE IN LEVEL BETWEEN 1/4" & 1/4" HIGH MAX. SHALL BE BEVELED WITH A SLOPE NOT STEEPER THAN 1:2.

15. THE NFRC LABEL CERTIFICATES FOR THE STOREFRONT GLAZING AND OTHER SITE-FABRICATED FENESTRATION ARE REQUIRED TO BE AVAILABLE TO THE INSPECTORS ON SITE BEFORE ANY PORTION OF THE FENESTRATION ASSEMBLY IS INSTALLED.

16. STOREFRONT MULLIONS WITHIN OVERALL STOREFRONT FRAME ARE DIMENSIONED TO CENTERLINE UON

SAFETY GLAZING

HUMAN IMPACT LOADS - IBC 2406.1
INDIVIDUAL GLAZED AREAS, INCLUDING GLASS MIRRORS, IN HAZARDOUS LOCATIONS AS DEFINED IN SECTION 2406.4 SHALL COMPLY WITH SECTIONS 2406.1.1 THROUGH 2406.1.4

IDENTIFICATION OF SAFETY GLAZING - IBC 2406.3
EACH PANE OF SAFETY GLAZING INSTALLED IN HAZARDOUS LOCATIONS SHALL BE IDENTIFIED BY A MNUFACTURER'S DESIGNATION SPECIFYING WHO APPLIED THE DESIGNATION, THE MANUFACTURER OR INSTALLER AND THE SAFETY GLAZING STANDARD WITH WHICH IT COMPLIES.

THE DESIGNATION SHALL BE ACID ETCHED, SAND BLASTED, CERAMIC FIRED, LASER ETCHED, EMBOSSED OR OF A TYPE THAT ONCE APPLIED, CANNOT BE REMOVED WITHOUT BEING DESTROYED.

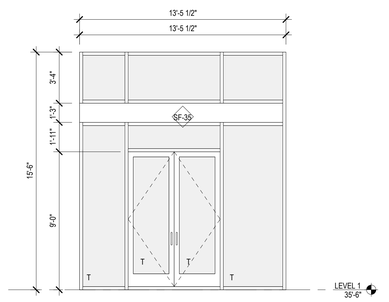
HAZARDOUS LOCATIONS - IBC 2406.4
THE FOLLOWING SHALL BE CONSIDERED SPECIFIC HAZARDOUS LOCATIONS REQUIRING SAFETY GLAZING MATERIALS.

IBC 2406.4.1
GLAZING IN SWINGING DOORS , SLIDING AND BIFOLD DOORS

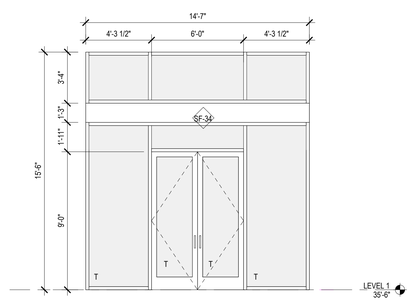
IBC 2406.4.2
GLAZING IN INDIVIDUAL FIXED OR OPERABLE PANEL ADJACENT TO A DOOR WHERE THE NEAREST VERTICAL EDGE OF THE GLAZING IS WITHIN A 24" ARC OF EITHER VERTICAL EDGE OF THE DOOR IN A CLOSED POSITION AND WHERE THE BOTTOM EXPOSED EDGE OF THE GLAZING IS < 60" ABOVE THE WALKING SURFACE.

IBC 2406.4.3
GLAZING IN AN INDIVIDUAL OR OPERABLE PANEL THAT MEETS ALL OF THE FOLLOWING CONDITIONS:
- EXPOSED AREA OF AN INDIVIDUAL PANE IS > 9SF
- BOTTOM EDGE IS < 18" ABOVE THE FLOOR
- TOP EDGE IS > 36" ABOVE THE FLOOR
- ONE OR MORE WALKING SURFACES WITHIN 36" HORIZONTALLY OF THE PLANE OF THE GLAZING

IBC 2406.4.6
GLAZING ADJACENT TO STAIRWAYS, LANDINGS & RAMPS WITHIN 36" HORIZONTALLY OF A WALKING SURFACE; WHEN THE EXPOSED SURFACE OF GLASS IS LESS THAN 60" ABOVE THE PLANE OF THE ADJACENT WALKING SURFACE.



1 INTERIOR STOREFRONT 35
SCALE: 1/4" = 1'-0"
DOOR REMARK: 5
3



2 INTERIOR STOREFRONT 34
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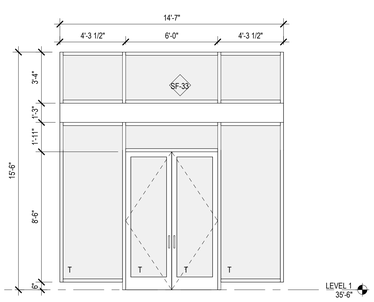
DOOR REMARK: 5
3



3 STOREFRONT 33
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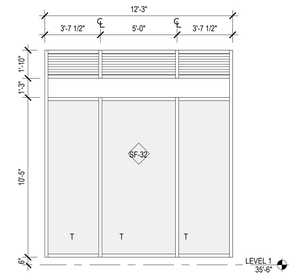
DOOR REMARK: 5
3



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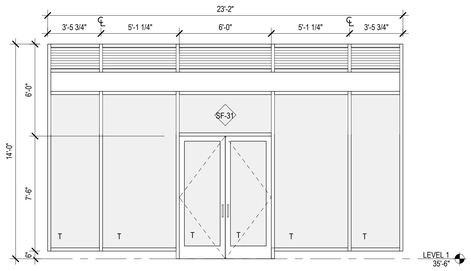

5 STOREFRONT 31
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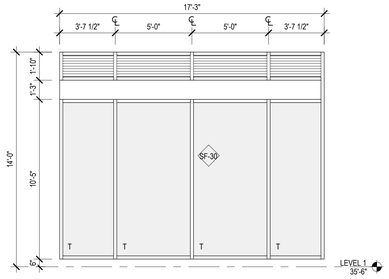

6 STOREFRONT 30
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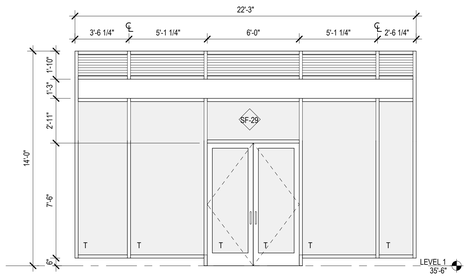

7 STOREFRONT 29
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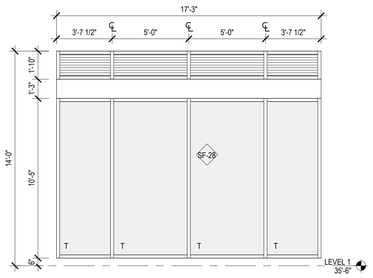

8 STOREFRONT 28
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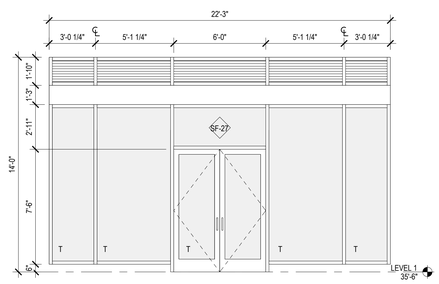

9 STOREFRONT 27
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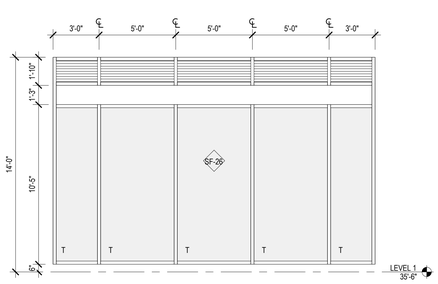

10 STOREFRONT 26
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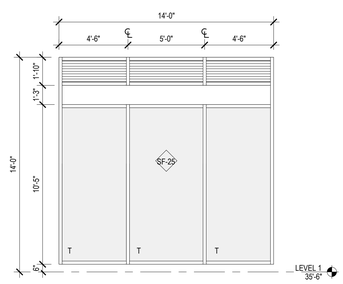

11 STOREFRONT 25
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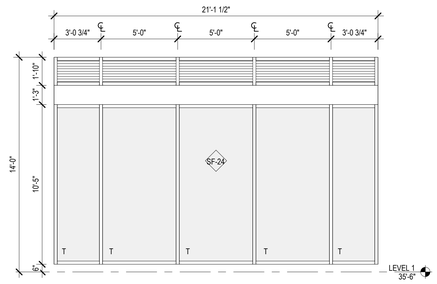

12 STOREFRONT 24
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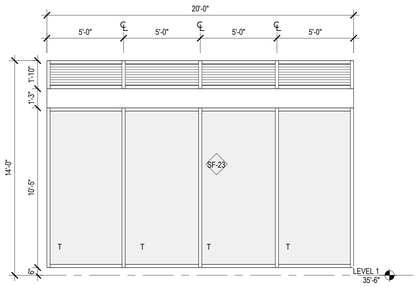

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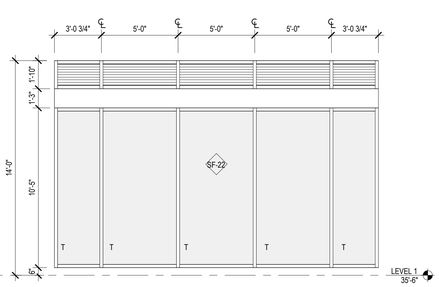

14 STOREFRONT 22
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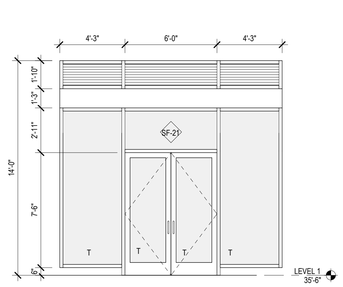

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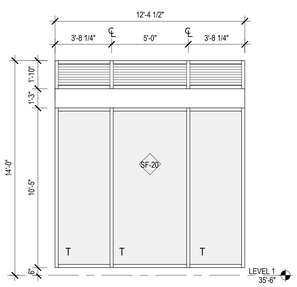

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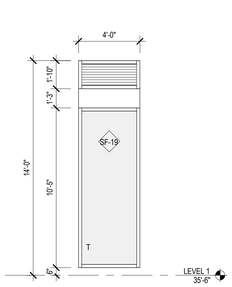

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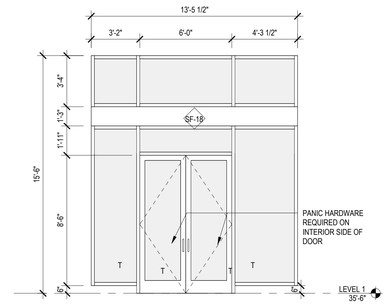

18 STOREFRONT 18
SCALE: 1/4" = 1'-0"
DOOR REMARK: 5
3

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10/18/2024

RUSSELL H. HAZZARD, ARCHITECT

8079 REGISTERED ARCHITECT
RUSSELL H. HAZZARD
STATE OF WASHINGTON

10/17/2024

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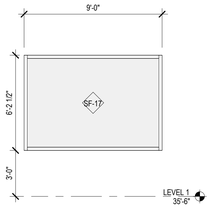
△	DATE	DESCRIPTION
1	11/04/22	PERMIT CORRECTIONS 01
3	9/20/24	PERMIT CORRECTIONS 03

21-5971-01A
PM: ELI HARDI
DRAWN BY: JG, PD, MB
04/29/22

STOREFRONT SCHEDULE

A802

10/17/2024 12:06:04 PM Autodesk Docs://MG2-CE-Shelter Holdings-Everett Riverfront Development PH2-21-5905-01A/A_21-5905-01A_Everett Riverfront BLD-D_R22.rvt



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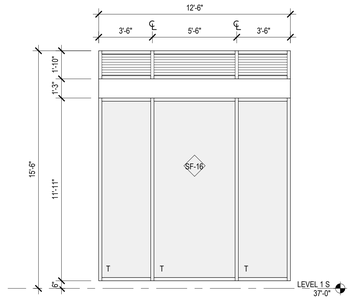

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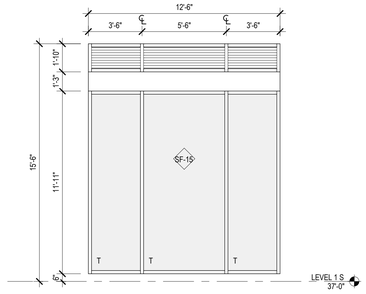

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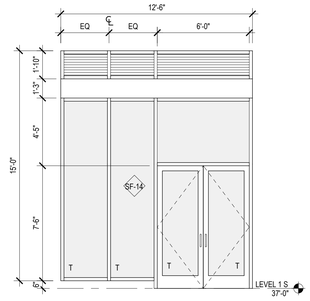

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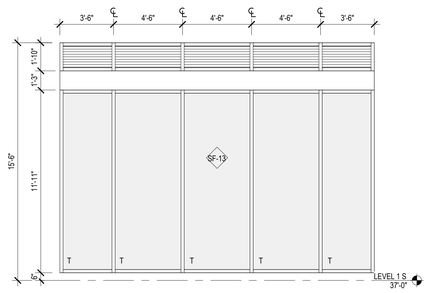

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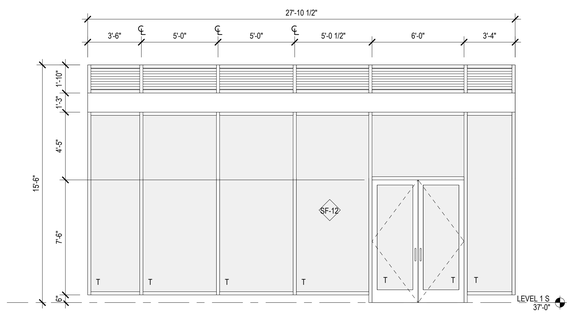

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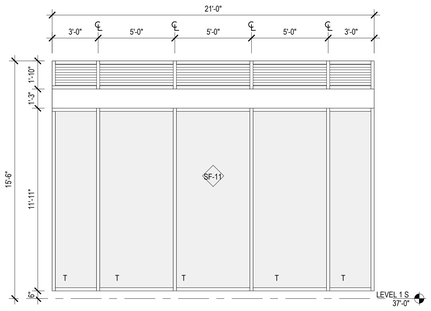

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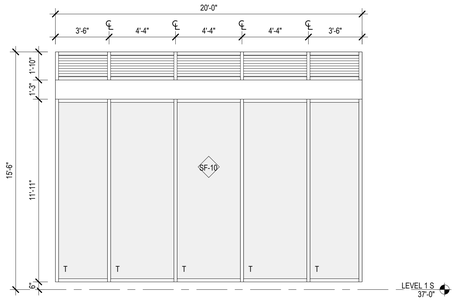

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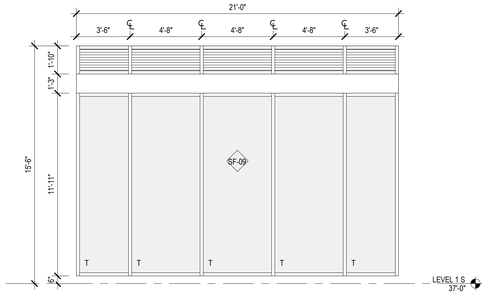

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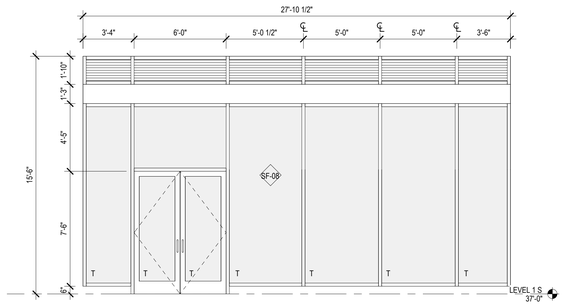

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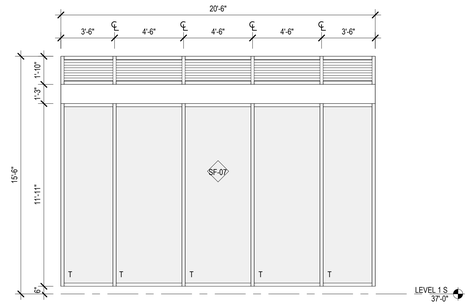

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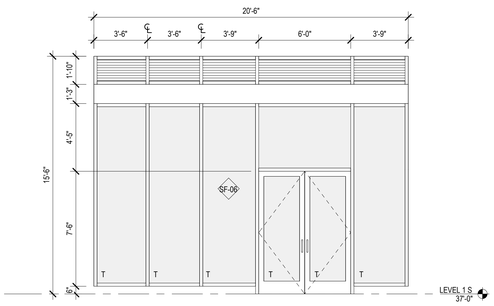

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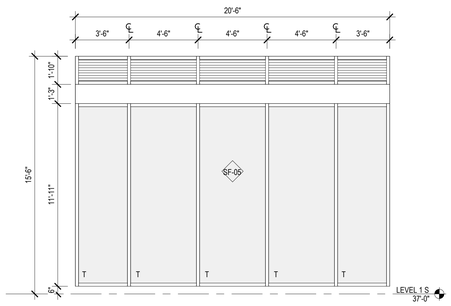

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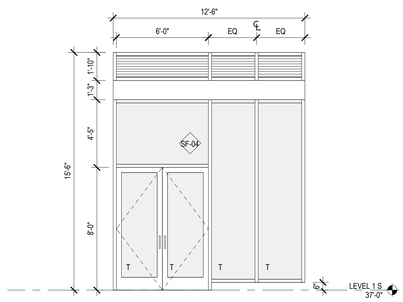

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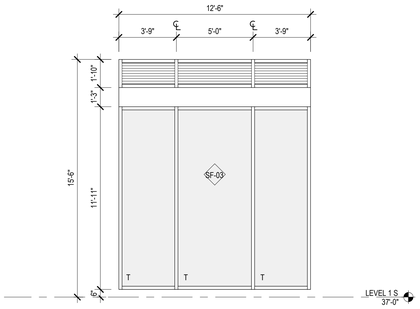

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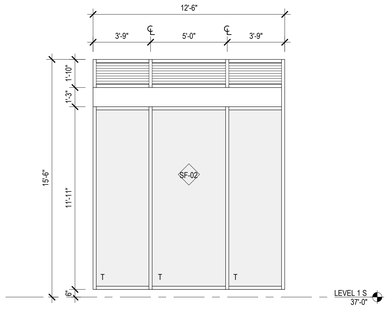

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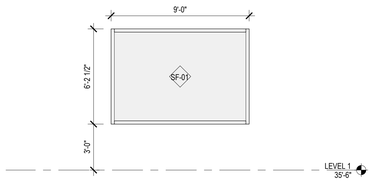

17 STOREFRONT 01
SCALE: 1/4" = 1'-0"

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RUSSELL H. HAZZARD, ARCHITECT

8079 REGISTERED ARCHITECT
RUSSELL H. HAZZARD
STATE OF WASHINGTON

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PM: ELI HARDI
DRAWN BY: JG, PD, MB
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STOREFRONT SCHEDULE

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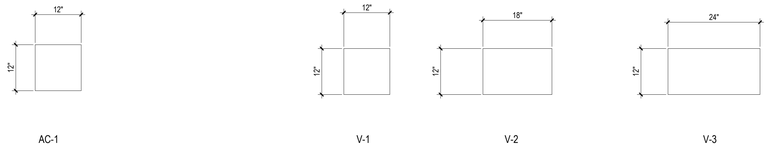
LOUVER LEGEND



LOUVER NOTES

1. SEE SHEET A762 FOR LOUVER DETAILS.
2. SEE ELEVATIONS FOR LOUVER LOCATIONS AND COLOR.
3. ALL LOUVERS SHALL BE PRE PAINTED OFFSITE.

RESIDENTIAL VENT / LOUVER SCHEDULE	
TYPE	DESCRIPTION
AC-1	12" X 12" AC PORT
V-1	12" X 12" UNIT INTAKE
V-2	12" X 18" UNIT EXHAUST
V-3	12"X 24" UNIT EXHAUST

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RUSSELL H. HAZZARD, ARCHITECT

8079 REGISTERED ARCHITECT RUSSELL H. HAZZARD STATE OF WASHINGTON

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LOUVER SCHEDULE

A804

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GENERAL NOTES

1. 60% NET FREE AREA MINIMUM.

2. OPENING PROTECTIVES (IBC 716)
A. FIRE DOOR ASSEMBLIES AND SHUTTERS SHALL BE INSTALLED IN ACCORDANCE WITH IBC 716.5 AND NFPA 80.
B. IBC 716.5.1: SIDE HINGED DOORS SHALL BE TESTED IN ACCORDANCE WITH NFPA 252 OR UL 10C. AFTER 5 MINUTES INTO THE NFPA 252 TEST, THE NEUTRAL PRESSURE LEVEL IN THE FURNACE SHALL BE ESTABLISHED AT 40 INCHES OR LESS ABOVE THE SILL.
C. IBC 716.5.2: OTHER TYPES OF DOORS SHALL BE TESTED IN ACCORDANCE WITH NFPA 252 OR UL 10B. THE PRESSURE IN THE FURNACE SHALL BE MAINTAINED AS NEARLY EQUAL TO THE ATMOSPHERIC PRESSURE AS POSSIBLE. ONCE ESTABLISHED, THE PRESSURE SHALL BE MAINTAINED DURING THE ENTIRE TEST PERIOD.
D. IBC 716.5.7: FIRE DOOR ASSEMBLES SHALL BE LABELED BY AN APPROVED AGENCY. THE LABELS SHALL COMPLY WITH NFPA 80, AND SHALL BE PERMANENTLY AFFIXED TO THE DOOR FRAME.
E. IBC 716.5.9: FIRE DOORS SHALL BE SELF-CLOSING OR AUTOMATIC CLOSING. SIDE-HINGED SWINGING FIRE DOORS SHALL BE PROVIDED WITH AN ACTIVE LATCH BOLT THAT WILL SECURE THE DOOR WHEN IT IS CLOSED. IBC 716.5.9.3-SMOKE ACTIVATED DOORS: INSTALLED IN THE FOLLOWING LOCATIONS SHALL BE ATUOMATICCLOSING BY THE ACTUATION OF SMOKE DETECTORS INSTALLED IN ACCORDANCE WITH SECTION 907.2 OR BY LOSS OF POWER TO THE SMOKE DETECTORS OR HOLD OPEN DEVICES.
F. IBC 716.5.7: FIRE DOORS ARE REQUIRED TO BE TESTED, LISTED AND LABELED BY A THIRD PARTY TESTING AGENCY. LABELS SHALL COMPLY WITH NFPA 80 AND SHALL BE PERMANENTLY AFFIXED TO THE DOOR OR FRAME.
G. IBC 716.5.7.4: THE FRAMES OF FIRE DOORS SHALL BE LABELED SHOWING THE NAMES OF THE MANUFACTURER AND THIRD-PARTY INSPECTION AGENCY.

3. SMOKE BARRIERS & SMOKEPROOF ENCLOSURES (IBC 716.2.2.1) FIRE DOOR ASSEMBLIES REQUIRED TO HAVE A MINIMUM FIRE PROTECTION RATING OF 20 MINUTES WHERE LOCATED IN CORRIDOR WALLS SHALL BE TESTED IN ACCORDANCE WITH NFPA 252 OR UL 10C WITHOUT THE HOSE STREAM TEST. IF A 20 MINUTE FIRE DOOR ASSEMBLY CONTAINS GLAZING MATERIAL, THE GLAZING MATERIAL IN THE DOOR ITSELF SHALL HAVE A MINIMUM FIRE PROTECTION OF 20 MINUTES AND BE EXEMPT FROM THE HOSE STREAM TEST. GLAZING MATERIAL IN ANY OTHER PART OF THE DOOR ASSEMBLY, INCLUDING TRANSOM LITES AND SIDELITES, SHALL BE TESTED IN ACCORDANCE WITH NFPA 257, INCLUDING THE HOSE STREAM TEST. FIRE DOOR ASSEMBLIES SHALL ALSO MEET THE REQUIREMENTS FOR A SMOKEAND DRAFT-CONTROL DOOR ASSEMBLY TESTED IN ACCORDANCE WITH UL 1784 WITH AN ARTIFICIAL BOTTOM SEAL INSTALLED ACROSS THE FULL WIDTH OF THE BOTTOM OF DOOR ASSEMBLY. THE AIR LEAKAGE RATE OF THE DOOR ASSEMBLY SHALL NOT EXCEED 3.0 CFM PER SQUARE FOOT OF DOOR OPENING AT 0.10 INCH OF WATER FOR BOTH THE AMBIENT TEMPERATURE AND ELEVATED TEMPERATURE TESTS. LOUVERS SHALL BE PROHIBITED.

4. HEADROOM (IBC 1003.3.1) DOOR CLOSERS AND STOPS SHALL NOT REDUCE HEADROOM TO LESS THAN 78 INCHES.

5. MEANS OF EGRESS DOORS (IBC 1008.1)
A. SHALL BE READILY DISTINGUISHABLE FROM THE ADJACENT CONSTRUCTION AND FINISHES SUCH THAT DOORS ARE EASILY RECOGNIZABLE AS DOORS.
B. MINIMUM 32 INCHES CLEAR WIDTH
C. EGRESS DOORS SHALL BE SIDE-HINGED OR PIVOTED SWINGING.
D. DOORS SHALL SWING IN THE DIRECTION OF EGRESS TRAVEL WHERE SERVING AN OCCUPANT LOAD OF 50 OR MORE PERSONS.
E. EGRESS DOORS SHALL BE READILY OPENABLE FROM THE EGRESS SIDE WITHOUT THE USE OF KEY OR SPECIAL KNOWLEDGE OR EFFORT.
F. DOOR HANDLES, PULLS, LATCHES LOCKS OR OTHER OPERATING DEVICES ON DOORS SHALL BE INSTALLED 34 INCHES MIN AND 48 INCHES MAX.

6. DOOR OPENING FORCE IBC 1008.1.3: FIRE DOORS SHALL HAVE THE MINIMUM OPENING FORCE ALLOWABLE BY THE BUILDING OFFICIAL. THE MAXIMUM FORCE FOR PUSHING OPEN OR PULLING OPEN DOORS OTHER THAN FIRE DOORS SHALL BE AS FOLLOWS:
A. INTERIOR HINGED DOOR: 5.0 POUNDS
B. SLIDING OR FOLDING DOORS: 5.0 POUNDS
C. EXTERIOR HINGED, SLIDING, OR FOLDING DOOR: 10.0 POUNDS THESE FORCES DO NOT APPLY TO THE FORCE REQUIRED TO RETRACT LATCH BOLTS OR DISENGAGE OTHER DEVICES THAT HOLD THE DOOR IN A CLOSED POSITION.

7. AIR-BORNE SOUND (IBC 1207.2) DWELLING UNIT ENTRY DOORS SHALL HAVE AN STC RATING OF 28 MIN., AND SHALL HAVE PERIMETER SEALS.

8.. ACCESSIBLE UNITS FOR LOCATIONS OF ACCESSIBLE UNITS, SEE FLOOR PLANS.

9. VISITOR OBSERVATION PORTS IN CORRIDORS & SMOKE BARRIERS (IBC 715.4.3 EXCEPTION 1) VIEWPORTS MUST NOT BE LARGER THAN 1 INCH IN DIAMETER & MUST HAVE AT LEAST AN 0.25-INCH-THICK GLASS DISC AND THE HOLDER IS OF METAL THAT WILL NOT MELT OUT WHERE SUBJECT TO TEMPERATURES OF 1,700 DEGREES F (927 DEGREES C).

10. MISC NOTES DOOR THRESHOLDS SHALL NOT EXCEED 1/2-INCH PER ANSI A-117.1, CONTRACTOR SHALL FIELD MEASURE ALL ROUGH OPENINGS AND CONFIRM DIMENSIONS PRIOR TO ORDERING DOORS.

11. AT LAUNDRY ROOM DOORS PROVIDE LOUVER TO ALLOW 100 SQ. INCHES MIN. OF OPEN AREA FOR VENTILATION, SEE MECH.

12. PANIC HARDWARE DOORS SERVING ROOMS OR SPACES WITH AN OCCUPANT LOAD OF 50 OR MORE IN A GROUP A OR E OCCUPANCY SHALL NOT BE PROVIDED WITH A LATCH OR LOCK UNLESS IT IS PANIC HARDWARE OR FIRE EXIT HARDWARE.

13.REFER TO THE ENERGY CALCULATION REPORT FOR EXTERIOR DOOR U-FACTORS.

14. HUMAN IMPACT LOADS (IBC 2406.1)
INDIVIDUAL GLAZED AREAS IN HAZARDOUS LOCATIONS AS DEFINED BY IBC 2406.4 SHALL COMPLY WITH SECTIONS 2406.1.1 THROUGH 2406.1.4
GLAZING IN DOORS (IBC 2406.4.1)
GLAZING IN ALL FIXED AND OPERABLE PANELS OF SWINGING, SLIDING, AND BIFOLD DOORS SHALL BE CONSIDERED A HAZARDOUS LOCATION.

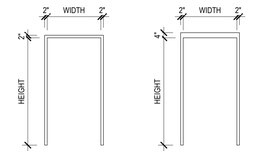
GENERAL NOTES

1. REFERENCE SHEET A810 FOR DOOR TYPES.
2. REFERENCE SHEET A810 FOR FRAME TYPES.
3. REFERENCE SHEET A754 FOR DOOR HEAD, JAMB, AND THRESHOLD DETAILS, UNLESS OTHERWISE NOTED.
4. REFERENCE SHEET A987 FOR FINISH LEGEND.
5. REFERENCE SPECIFICATION FOR INFORMATION ON DOOR HARDWARE GROUPS. DOOR HARDWARE MUST MEET CODE ACCESSIBILITY REQUIREMENTS.
6. MINIMUM REQUIRED CLEAR WIDTH AT DOORS FOR USER PASSAGE:
   TYPE 'A' UNITS: 32"
   TYPE 'B' UNITS: 31-3/4"
7. GLAZED DOORS AND GLAZED SIDELITES SHALL HAVE TEMPERED SAFETY GLASS PER SBC 716.5.8.
8. MAXIMUM DOOR THRESHOLD HEIGHT SHALL NOT EXCEED 1/2" ALONG AN ACCESSIBLE ROUTE OF TRAVEL PER ANSI A117.1, SECTION 303.
9. DOORS TO BE LOCATED 4" MINIMUM FROM DOOR PANEL TO INSIDE FACE OF GYP., UNLESS OTHERWISE NOTED.
10. BOTTOM OF VISION LITES SHALL BE LOCATED 43" MAXIMUM ABOVE THE FLOOR PER IBC 1101.2 AND ICC A117.1-09 SECTION 404.2.10
11. T = TEMPERED GLASS
12. ALL WEST AND NORTH FACING EXTERIOR RESIDENTIAL DOORS NEED TO MEET A MIN 33 STC RATING PER SITE NOISE REPORT
13. ALL EXTERIOR RESIDENTIAL DOORS NEED TO MEET A MINIMUM OF 29 STC RATING PER SITE NOISE REPORT

SCHEDULE ABBREVIATIONS

AL	ALUMINUM
FR	FIRE RATED
GL-03	CLEAR LOW IRON TEMPERED CLASS
GL-09	CLEAR TEMPERED GLASS
GL-10	ETCHED GLASS
HC:WD	HOLLOW CORE WOOD
HM	HOLLOW METAL
MT	METAL
MT-1	MATTE BLACK POWDER COAT METAL
OFCI	OWNER FURNISHED CONTRACTOR INSTALLED
SC:WD	SOLID CORE WOOD
VIN	VINYL

FRAME TYPES



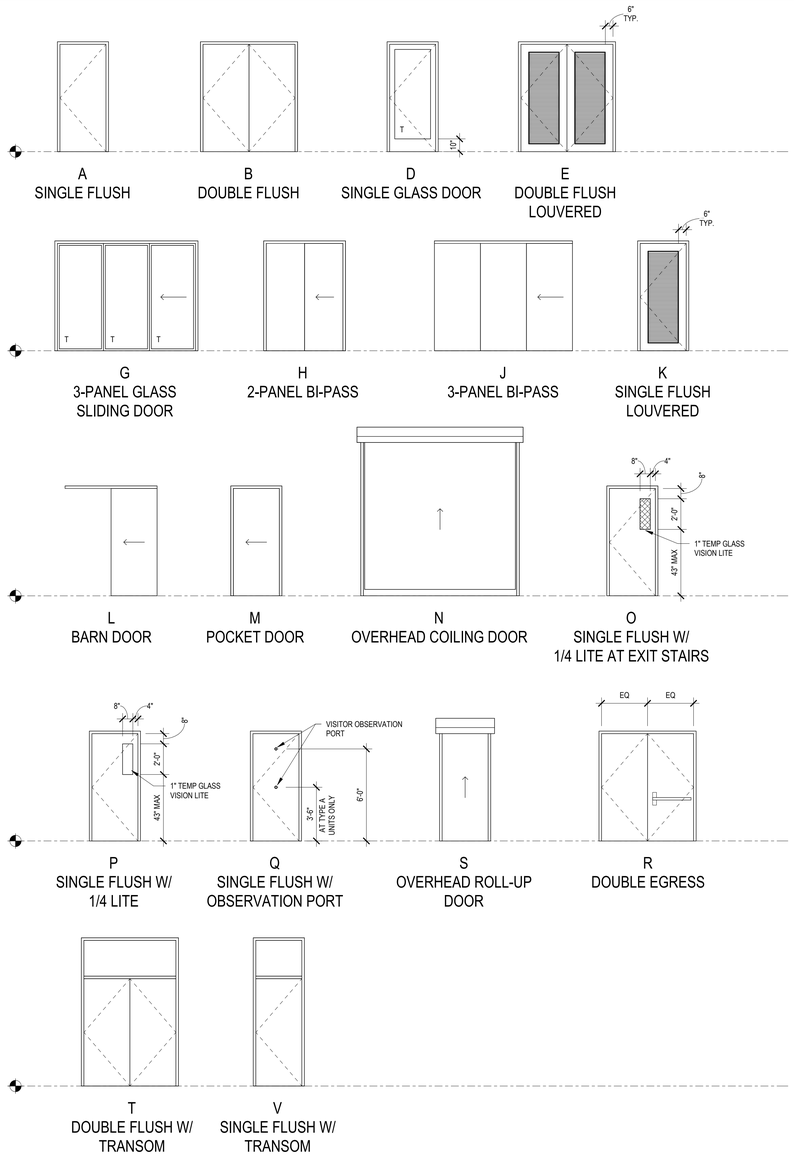
DOOR SCHEDULE LEVEL 1-2

DOOR NO.	ROOM NAME	DOORS WIDTH	DOORS HEIGHT	DOORS TYPE	DOORS MATERIAL	DOORS FINISH	FIRE RATING	HARDWARE GROUP	FRAME TYPE	FRAME MATERIAL	FRAME FINISH	REMARKS
LEVEL 1												
101	LOBBY	3'-0"	7'-0"	A	HM	PT	20 MIN			HM	PT	1, 2, 5
102A	LEASING	3'-0"	7'-0"	A	HM	PT	NR			HM	PT	2, 3
102B	LEASING	3'-0"	7'-0"	A	HM	PT	NR			HM	PT	
103A	BIKE STORAGE	3'-0"	7'-0"	A	HM	PT	NR			HM	PT	1, 2
103B	BIKE STORAGE	3'-0"	7'-0"	A	HM	PT	NR			HM	PT	2
106	PARCEL STORAGE	3'-0"	7'-0"	A	HM	PT	NR			HM	PT	2
107	MOVE-IN	3'-0"	7'-0"	A	HM	PT	NR			HM	PT	2
108	DOG WASH	3'-0"	7'-0"	A	HM	PT	20 MIN			HM	PT	2
109A	COMMERCIAL FLEX	3'-0"	7'-0"	A	HM	PT	20 MIN			HM	PT	2, 3
110A	COMMERCIAL FLEX	3'-0"	7'-0"	A	HM	PT	20 MIN			HM	PT	2, 3
111A	COMMERCIAL FLEX	3'-0"	7'-0"	A	HM	PT	20 MIN			HM	PT	2, 3
112A	COMMERCIAL FLEX	3'-0"	7'-0"	A	HM	PT	20 MIN			HM	PT	2, 3
117	MAINTENANCE	3'-0"	7'-0"	O	HM	PT	90 MIN			HM	PT	
118A	GENERATOR	6'-0"	7'-0"	T	HM	PT	45 MIN			HM	PT	1, 2
118B	GENERATOR	3'-0"	7'-0"	A	HM	PT	90 MIN			HM	PT	
119A	ELECTRICAL	5'-0"	7'-0"	B	HM	PT	45 MIN			HM	PT	1, 2
119C	CORRIDOR	3'-0"	7'-0"	A	HM	PT	45 MIN			HM	PT	1, 2
120A	TRANSFORMER	8'-0"	10'-0"	B	HM	PT	NR			HM	PT	1, 2
120B	CORRIDOR	3'-0"	7'-0"	A	HM	PT	90 MIN			HM	PT	1, 2
121A	WATER SERVICE / HEATER ROOM	3'-0"	7'-0"	A	HM	PT	45 MIN			HM	PT	1, 2
121B	CORRIDOR	3'-0"	7'-0"	A	HM	PT	45 MIN			HM	PT	1, 2
122	MPOE	3'-0"	7'-0"	A	HM	PT	20 MIN			HM	PT	2
123	FIRE SPRINKLER	3'-0"	7'-0"	A	HM	PT	45 MIN			HM	PT	1, 2
124	RESTROOM	3'-0"	7'-0"	A	HM	PT	20 MIN			HM	PT	2, 3
126	CORRIDOR	3'-0"	7'-0"	A	HM	PT	20 MIN			HM	PT	2, 3
128A	CORRIDOR	6'-0"	7'-0"	T	HM	PT	NR			HM	PT	2
128B	CORRIDOR	3'-0"	7'-0"	A	HM	PT	NR			HM	PT	1, 2
129A	EXIT PASSAGEWAY	3'-0"	7'-0"	A	HM	PT	NR					
129B	EXIT PASSAGEWAY	3'-0"	7'-0"	A	HM	PT	90 MIN			HM	PT	1, 2
SN L1	EXIT PASSAGEWAY	3'-0"	7'-0"	O	HM	PT	180 MIN			HM	PT	1, 2, 180 degree opening
LEVEL 1 S												
130A	CORRIDOR	3'-0"	7'-0"	A	HM	PT	20 MIN			HM	PT	1, 2
130C	CORRIDOR	3'-0"	7'-0"	A	HM	PT	20 MIN			HM	PT	1, 2
131A	TRASH	3'-0"	7'-0"	A	HM	PT	20 MIN			HM	PT	1, 2
131B	TRASH	6'-0"	7'-0"	T	HM	PT	90 MIN			HM	PT	2
131C	TRASH	8'-0"	10'-0"	N	HM	PT	NR			HM	PT	
132	EXIT PASSAGEWAY	3'-0"	7'-0"	A	HM	PT	90 MIN			HM	PT	
133	EXIT PASSAGEWAY	3'-0"	7'-0"	A	HM	PT	NR			HM	PT	1, 2
SS L1	EXIT PASSAGEWAY	3'-0"	7'-0"	O	HM	PT	180 MIN			HM	PT	1, 2
LEVEL 2												
201	D03 (2-BDRM)	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
202	D03 (2-BDRM)	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
203	C02 (1-BDRM)	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
204	C02 (1-BDRM)	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
205	C02 (1-BDRM)	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
206	B01 (1-BDRM)	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
207	B01 (1-BDRM)	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
208	B01 (1-BDRM)	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
209	D01 (2-BDRM)	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
210	B01 (1-BDRM)	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
211	B01 (1-BDRM)	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
212	C02 (1-BDRM)	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
213	C01 (1-BDRM)	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
214	C02 (1-BDRM)	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
215	C02 (1-BDRM)	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
216	D03 (2-BDRM)	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
217	D03 (2-BDRM)	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
218	C01 (1-BDRM)	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
219	C01 (1-BDRM)	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
220	C01 (1-BDRM)	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
221	C01 (1-BDRM)	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
222	B01 (1-BDRM)	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
223	B01 (1-BDRM)	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
224	B01 (1-BDRM)	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
225	D01 (2-BDRM)	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
226	B01 (1-BDRM)	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
227	B01 (1-BDRM)	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
228	B01 (1-BDRM)	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
229	C02 (1-BDRM)	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
230	C04 (1-BDRM)	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
231	C01 (1-BDRM)	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
232	TRASH	3'-0"	7'-0"	A	HM	PT	45 MIN			HM	PT	2
232	MEP	3'-0"	7'-0"	A	HM	PT	20 MIN			HM	PT	2
234	STORAGE	3'-0"	7'-0"	A	HM	PT	45 MIN			HM	PT	2
235	IDF	3'-0"	7'-0"	A	SC:WD	PT	20 MIN			WD	PT	2
236	CORRIDOR	6'-0"	7'-0"	R	HM	PT	90 MIN			HM	PT	1, 2, 4
SN L2	NORTH STAIR	3'-0"	7'-0"	O	HM	PT	90 MIN			HM	PT	1, 2
SS L2	SOUTH STAIR	3'-0"	7'-0"	O	HM	PT	90 MIN			HM	PT	1, 2

DOOR REMARKS

1. PROVIDE PANIC HARDWARE.
2. PROVIDE AUTOMATIC CLOSER.
3. PROVIDE PRIVACY LOCK.
4. PROVIDE 180 DEGREE MAGNETIC HOLD OPEN IN COMPLIANCE WITH IBC SECTION 716.2.6.4 AND NFPA 80.
5. PANIC HARDWARE SHALL BE PROVIDED FOR ALL DOORS THAT SERVE ROOMS OR SPACES WITH AN OCCUPANT LOAD OF 50 OR MORE IN A GROUP A OR E OCCUPANCY, AND SHALL NOT BE PROVIDED WITH A LATCH OR LOCK OTHER THAN PANIC HARDWARE OR FIRE EXIT HARDWARE.

DOOR TYPES



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Seattle, WA 98101
206 962 6500
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10/18/2024

RUSSELL H. HAZZARD, ARCHITECT
8079 REGISTERED ARCHITECT RUSSELL H. HAZZARD STATE OF WASHINGTON
10/17/2024

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△	DATE	DESCRIPTION
1	11/04/22	PERMIT CORRECTIONS 01
2	07/12/24	PERMIT CORRECTIONS 02
3	9/20/24	PERMIT CORRECTIONS 03

21-5971-01A
PM: ELI HARDI
DRAWN BY: JG, PD, MB
04/29/22

DOOR SCHEDULE

A810

10/17/2024 12:06:09 PM Autodesk Docs://MG2-CE-Shelter Holdings-Everett Riverfront Development PH2-21-5905-01A/A_21-5905-01A_Everett Riverfront BLD-D_R22.rvt

DOOR SCHEDULE LEVEL 3-4

DOOR NO.	ROOM NAME	ROOM NO.	DOORS					FIRE RATING	HARDWARE GROUP	FRAME			REMARKS
			WIDTH	HEIGHT	TYPE	MATERIAL	FINISH			TYPE	MATERIAL	FINISH	
LEVEL 3													
301	D03 (2-BDRM)	301	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
302	D03 (2-BDRM)	302	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
303	C02 (1-BDRM)	303	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
304	C02 (1-BDRM)	304	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
305	C02 (1-BDRM)	305	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
306	B01 (1-BDRM)	306	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
307	B01 (1-BDRM)	307	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
308	B01 (1-BDRM)	308	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
309	D01 (2-BDRM)	309	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
310	B01 (1-BDRM)	310	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
311	B01 (1-BDRM)	311	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
312	C02 (1-BDRM)	312	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
313	C01 (1-BDRM)	313	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
314	C02 (1-BDRM)	314	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
315	C02 (1-BDRM)	315	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
316	D03 (2-BDRM)	316	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
317	D03 (2-BDRM)	317	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
318	C01 (1-BDRM)	318	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
318B	C01 (1-BDRM)	318	3'-0"	8'-0"	D	VIN	VIN	NR			VIN	VIN	
319	C01 (1-BDRM)	319	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
320	C01 (1-BDRM)	320	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
320B	C01 (1-BDRM)	320	3'-0"	8'-0"	D	VIN	VIN	NR			VIN	VIN	
321	C01 (1-BDRM)	321	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
322	B01 (1-BDRM)	322	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
323	B01 (1-BDRM)	323	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
324	B01 (1-BDRM)	324	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
325	D01 (2-BDRM)	325	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
326	B01 (1-BDRM)	326	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
327	B01 (1-BDRM)	327	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
328	B01 (1-BDRM)	328	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
329	C02 (1-BDRM)	329	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
330	C04 (1-BDRM)	330	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
331	C01 (1-BDRM)	331	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
332	MEP	332	3'-0"	7'-0"	A	HM	PT	20 MIN			HM	PT	2
333	TRASH	333	3'-0"	7'-0"	A	HM	PT	45 MIN			HM	PT	2
334	STORAGE	334	3'-0"	7'-0"	A	HM	PT	45 MIN			HM	PT	2
335	IDF	335	3'-0"	7'-0"	A	SC:WD	PT	20 MIN			WD	PT	2
336	CORRIDOR	335B	6'-0"	7'-0"	R	HM	PT	90 MIN			HM	PT	1, 2, 4
SN L3	NORTH STAIR	SN L3	3'-0"	7'-0"	O	HM	PT	90 MIN			HM	PT	1, 2
SS L3	SOUTH STAIR	SS L3	3'-0"	7'-0"	O	HM	PT	90 MIN			HM	PT	1, 2
U430	B01 (1-BDRM)	322	3'-0"	8'-0"	D	VIN	VIN	NR			VIN	VIN	
LEVEL 4													
401	D03 (2-BDRM)	401	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
402	D03 (2-BDRM)	402	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
403	C02 (1-BDRM)	403	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
404	C02 (1-BDRM)	404	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
405	C02 (1-BDRM)	405	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
406	B01 (1-BDRM)	406	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
407	B01 (1-BDRM)	407	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
408	B01 (1-BDRM)	408	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
409	D01 (2-BDRM)	409	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
410	B01 (1-BDRM)	410	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
411	B03A (1-BDRM)	411	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
412	C02 (1-BDRM)	412	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
413	C01 (1-BDRM)	413	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
414	C02 (1-BDRM)	414	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
415	C02 (1-BDRM)	415	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
416	D03 (2-BDRM)	416	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
417	D03 (2-BDRM)	417	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
418	C01 (1-BDRM)	418	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
418B	C01 (1-BDRM)	418	3'-0"	8'-0"	D	VIN	VIN	NR			VIN	VIN	
419	C01 (1-BDRM)	419	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
420	C01 (1-BDRM)	420	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
420B	C01 (1-BDRM)	420	3'-0"	8'-0"	D	VIN	VIN	NR			VIN	VIN	
421	C01 (1-BDRM)	421	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
422	B01 (1-BDRM)	422	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
422B	B01 (1-BDRM)	422	3'-0"	8'-0"	D	VIN	VIN	NR			VIN	VIN	
423	B01 (1-BDRM)	423	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
424	B01 (1-BDRM)	424	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
425	D01 (2-BDRM)	425	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
426	B01 (1-BDRM)	426	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
427	B01 (1-BDRM)	427	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
428	B01 (1-BDRM)	428	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
429	C02 (1-BDRM)	429	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
430	C04A (1-BDRM)	430	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
431	C01 (1-BDRM)	431	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
432	MEP	432	3'-0"	7'-0"	A	HM	PT	20 MIN			HM	PT	2
433	TRASH	433	3'-0"	7'-0"	A	HM	PT	45 MIN			HM	PT	2
434	STORAGE	434	3'-0"	7'-0"	A	HM	PT	45 MIN			HM	PT	2
435	IDF	435	3'-0"	7'-0"	A	SC:WD	PT	20 MIN			WD	PT	2
436	CORRIDOR	435A	6'-0"	7'-0"	R	HM	PT	90 MIN			HM	PT	1, 2, 4
SN L4	NORTH STAIR	SN L4	3'-0"	7'-0"	O	HM	PT	90 MIN			HM	PT	1, 2
SS L4	SOUTH STAIR	SS L4	3'-0"	7'-0"	O	HM	PT	90 MIN			HM	PT	1, 2

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10/18/2024

RUSSELL H. HAZZARD, ARCHITECT
8079
REGISTERED ARCHITECT
RUSSELL H. HAZZARD
STATE OF WASHINGTON
10/17/2024

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△	DATE	DESCRIPTION
1	11/04/22	PERMIT CORRECTIONS 01

21-5971-01A
PM: ELI HARDI
DRAWN BY: JG, PD, MB
01/18/22

DOOR SCHEDULE

A811

DOOR SCHEDULE LEVEL 5-6

DOOR NO.	ROOM NAME	DOORS WIDTH	DOORS HEIGHT	DOORS TYPE	DOORS MATERIAL	DOORS FINISH	FIRE RATING	HARDWARE GROUP	FRAME TYPE	FRAME MATERIAL	FRAME FINISH	REMARKS
LEVEL 5												
501	D03 (2-BDRM)	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
502	D03 (2-BDRM)	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
503	C02 (1-BDRM)	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
504	C02 (1-BDRM)	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
505	C02 (1-BDRM)	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
506	B01 (1-BDRM)	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
507	B01 (1-BDRM)	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
508	B01 (1-BDRM)	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
509	D04A (2-BDRM)	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
510	B01 (1-BDRM)	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
511	B03A (1-BDRM)	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
512	C02 (1-BDRM)	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
513	C01 (1-BDRM)	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
514	C02 (1-BDRM)	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
515	C02 (1-BDRM)	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
516	D03 (2-BDRM)	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
517	D03 (2-BDRM)	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
518	C01 (1-BDRM)	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
518B	C01 (1-BDRM)	3'-0"	8'-0"	D	VIN	VIN	NR			VIN	VIN	
519	C01 (1-BDRM)	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
520	C01 (1-BDRM)	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
520B	C01 (1-BDRM)	3'-0"	8'-0"	D	VIN	VIN	NR			VIN	VIN	
521	C01 (1-BDRM)	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
522	B01 (1-BDRM)	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
523	B01 (1-BDRM)	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
524	B01 (1-BDRM)	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
525	D05 (2-BDRM)	3'-0"	6'-8"	CC	SC:WD	PT	20 MIN			WD	PT	2
526	B01 (1-BDRM)	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
527	B01 (1-BDRM)	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
528	B01 (1-BDRM)	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
529	C02 (1-BDRM)	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
530	C04A (1-BDRM)	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
531	C01 (1-BDRM)	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
532	MEP	3'-0"	7'-0"	A	HM	PT	20 MIN			HM	PT	2
533	TRASH	3'-0"	7'-0"	A	HM	PT	45 MIN			HM	PT	2
534	STORAGE	3'-0"	7'-0"	A	HM	PT	45 MIN			HM	PT	2
535	IDF	3'-0"	7'-0"	A	SC:WD	PT	20 MIN			WD	PT	2
536	CORRIDOR	6'-0"	7'-0"	R	HM	PT	90 MIN			HM	PT	1, 2, 4
NS L5	NORTH STAIR	3'-0"	7'-0"	O	HM	PT	90 MIN			HM	PT	1, 2
SS L5	SOUTH STAIR	3'-0"	7'-0"	O	HM	PT	90 MIN			HM	PT	1, 2
U427	B01 (1-BDRM)	3'-0"	8'-0"	D	VIN	VIN	NR			VIN	VIN	
LEVEL 6												
601	D03 (2-BDRM)	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
602	D03 (2-BDRM)	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
603	C02 (1-BDRM)	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
604	C02 (1-BDRM)	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
605	C02 (1-BDRM)	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
606	B01 (1-BDRM)	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
607	B01 (1-BDRM)	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
608	B01 (1-BDRM)	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
609	D04A (2-BDRM)	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
610	B01 (1-BDRM)	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
611	B03A (1-BDRM)	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
612	C02 (1-BDRM)	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
613	C01 (1-BDRM)	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
614	C02 (1-BDRM)	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
615	C02 (1-BDRM)	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
616	D03 (2-BDRM)	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
617	D03 (2-BDRM)	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
618	C01 (1-BDRM)	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
618B	C01 (1-BDRM)	3'-0"	8'-0"	D	VIN	VIN	NR			VIN	VIN	
619	C01 (1-BDRM)	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
620	C01 (1-BDRM)	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
620B	C01 (1-BDRM)	3'-0"	8'-0"	D	VIN	VIN	NR			VIN	VIN	
621	C01 (1-BDRM)	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
622	B01 (1-BDRM)	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
622B	B01 (1-BDRM)	3'-0"	8'-0"	D	VIN	VIN	NR			VIN	VIN	
623	B01 (1-BDRM)	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
624A	CORRIDOR	3'-0"	8'-0"	D	VIN		20 MIN				VIN	1, 2
624B	ROOF DECK	3'-0"	8'-0"	D	VIN	VIN	20 MIN			VIN	VIN	2
625	CORRIDOR	3'-0"	8'-0"	D	VIN	VIN	20 MIN			VIN	VIN	1, 2
626	B01 (1-BDRM)	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
627	B01 (1-BDRM)	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
628	B01 (1-BDRM)	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
629	C02 (1-BDRM)	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
630	C04A (1-BDRM)	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
631	C01 (1-BDRM)	3'-0"	7'-0"	Q	SC:WD	PT	20 MIN			WD	PT	2
632	MEP	3'-0"	7'-0"	A	HM	PT	20 MIN			HM	PT	2
633	TRASH	3'-0"	7'-0"	A	HM	PT	45 MIN			HM	PT	2
634	STORAGE	3'-0"	7'-0"	A	HM	PT	45 MIN			HM	PT	2
635	ELEVATOR MACHINE ROOM	3'-0"	7'-0"	A	SC:WD	PT	90 MIN			WD	PT	2
636	CORRIDOR	6'-0"	7'-0"	R	HM	PT	90 MIN			HM	PT	1, 2, 4
637	RESTROOM	3'-0"	7'-0"	A	HM	PT	20 MIN			HM	PT	2, 3
638	STORAGE	3'-0"	7'-0"	A	HM	PT	20 MIN			HM	PT	2
SN L6	NORTH STAIR	3'-0"	7'-0"	O	HM	PT	90 MIN			HM	PT	1, 2
SS L6	SOUTH STAIR	3'-0"	7'-0"	O	HM	PT	90 MIN			HM	PT	1, 2

DOOR SCHEDULE - UNITS

DOOR #	DOORS WIDTH	DOORS HEIGHT	DOORS TYPE	DOORS MATERIAL	DOORS FINISH	FIRE RATING	HARDWARE GROUP	FRAME TYPE	FRAME MATERIAL	FRAME FINISH	REMARKS
U-1	2'-6"	7'-0"	A	SC:WD	PT	NR			WD	PT	
U-2	3'-0"	7'-0"	A	SC:WD	PT	NR			WD	PT	
U-3	5'-0"	7'-0"	B	SC:WD	PT	NR			WD	PT	
U-4	4'-0"	7'-0"	H	SC:WD	PT	NR			WD	PT	
U-5	5'-0"	7'-0"	H	SC:WD	PT	NR			WD	PT	
U-6	6'-0"	7'-0"	H	SC:WD	PT	NR			WD	PT	
U-7	4'-0"	7'-0"	L	SC:WD	PT	NR			WD	PT	
U-8	3'-0"	7'-0"	M	SC:WD	PT	NR			WD	PT	
U-9	2'-6"	7'-0"	A	SC:WD	PT	NR			WD	PT	
U-11	3'-0"	6'-8"	A	SC:WD	PT	NR			WD	PT	
U-12	3'-0"	6'-8"	M	SC:WD	PT	NR			WD	PT	
U-13	5'-0"	6'-8"	B	SC:WD	PT	NR			WD	PT	

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EVERETT RIVERFRONT BUILDING D

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Seattle, WA 98101

206 962 6500
MG2.com

PERMIT SET

10/18/2024

RUSSELL H. HAZZARD, ARCHITECT

8079 REGISTERED ARCHITECT
RUSSELL H. HAZZARD
STATE OF WASHINGTON

10/17/2024

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△	DATE	DESCRIPTION
1	11/04/22	PERMIT CORRECTIONS 01

21-5971-01A
PM: ELI HARDI
DRAWN BY: JG, PD, MB
04/29/22

DOOR SCHEDULES

A812

01000: GENERAL REQUIREMENTS

THE STRUCTURAL NOTES SUPPLEMENT THE PLANS AND SPECIFICATIONS. ANY DISCREPANCY FOUND BETWEEN THE DRAWINGS, NOTES, SPECIFICATIONS, SITE CONDITIONS, AND ARCHITECTURAL PLANS SHALL BE REPORTED TO THE ARCHITECT WHO SHALL CORRECT THE DISCREPANCY IN WRITING. ANY WORK COMPLETED AFTER DISCOVERY OF THE DISCREPANCY SHALL BE DONE AT THE CONTRACTOR'S RISK. REFER TO ARCHITECTURAL PLANS FOR OPENINGS, ARCHITECTURAL TREATMENTS, AND DIMENSIONS NOT SHOWN. CONSULT MECHANICAL PLANS FOR DUCTS AND PIPES ETC. NOT SHOWN.

THE CONTRACTOR SHALL PROVIDE BRACING AND SUPPORT REQUIRED FOR TEMPORARY CONSTRUCTION LOADS AND FOR STRUCTURAL COMPONENTS AS REQUIRED DURING ERECTION. BACKFILL BEHIND WALLS SHALL NOT BE PLACED UNTIL THE WALLS ARE PROPERLY SUPPORTED.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION OF ALL WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COORDINATION OF THE EXCAVATION, SHORING, AND OTHER WORK WITH ALL UTILITIES AND ADJACENT PROPERTIES. CALL THE UTILITY LOCATE SERVICE PRIOR TO ANY WORK AT 811.

01100: CODE REQUIREMENTS

ALL DESIGN AND CONSTRUCTION SHALL CONFORM TO THE 2018 INTERNATIONAL BUILDING CODE AS ADOPTED BY THE CITY OF EVERETT, WASHINGTON.

01200: DESIGN LOADS

	UNIFORM	CONCENTRATED
FLOOR LIVE LOADS		
FLOORS (UNIT AREAS)	40 PSF	–
CORRIDORS	100 PSF	–
DECKS (UNIT AREAS)	60 PSF	–
PARKING	40 PSF	–
EXIT FACILITIES	100 PSF	300 POUNDS
COMMON AREAS	100 PSF	–
ROOF LOADS		
ROOF (SNOW)	NOT APPLICABLE	
ROOF (LIVE)	20 PSF	

3

ELEVATOR LOADS

CAR R1 435 LBS; Vx 1890 LBS (PERPENDICULAR TO WALL)
R2 75 LBS; Vy 950 LBS (PARALLEL TO WALL)
CWT. R1 225 LBS; Vy 1990 LBS (PERPENDICULAR TO WALL)
R2 20 LBS; Vy 990 LBS (PARALLEL TO WALL)
PIT
CAR RAIL 14120 LBS & 10120 LBS
CWT RAIL 2810 LBS & 6180 LBS, BUFFER 25520 LBS
BUFFER 16640 LBS & 16640 LBS

RAIL FORCES INCLUDE DOUBLING FOR IMPACT
RAIL FORCES AND BUFFER FORCES DO NOT ACT SIMULTANOUSLY

SNOW LOAD DESIGN DATA:
Pg = 0 PSF, Ce = 0.9, Is = 1.0, Ct = 1.0.

WIND DESIGN DATA:

BASIC WIND SPEED:	110 MPH (3-SECOND GUST)
WIND IMPORTANCE FACTOR:	Iw = 1.0
WIND EXPOSURE:	EXPOSURE B
TOPOGRAPHIC FACTOR	Kt = 1.00
INTERNAL PRESSURE COEFFICIENT:	GCpi = +/- 0.18
COMPONENT/CLADDING WIND PRESSURE:	P(C) = 22 PSF

EARTHQUAKE DESIGN DATA:

SEISMIC IMPORTANCE FACTOR:	Ie = 1.0
SPECTRAL RESPONSE ACCELERATIONS:	Ss = 1.242 S1 = 0.440
SITE CLASS:	SITE CLASS D
SPECTRAL RESPONSE COEFFICIENTS	SDS = 0.831 SD1 = 0.546
SEISMIC DESIGN CATEGORY:	SEISMIC DESIGN CATEGORY D
LATERAL FORCE RESISTING SYSTEM:	
WOOD LEVELS	WOOD PANEL SHEARWALLS
CONCRETE LEVELS	SPECIAL CONCRETE SHEARWALLS
DESIGN BASE SHEAR:	
WOOD SUPERSTRUCTURE	639 KIPS (LRFD)
CONCRETE BASE STRUCTURE	3574 KIPS (LRFD, WOOD + CONC.)
RESPONSE MODIFICATION FACTOR:	
WOOD LEVELS	R = 6.5 (BEARING WALL SYSTEM)
CONCRETE LEVELS	R = 5.0 (BEARING WALL SYSTEM)
ANALYSIS PROCEDURE:	EQUIVALENT LATERAL FORCE

01300: GEOTECHNICAL INFORMATION

EARTHWORK AND FOUNDATIONS SHALL BE CONSISTENT WITH THE GEOTECHNICAL ENGINEERING RECOMMENDATIONS. SEE THE GEOTECHNICAL ENGINEERING REPORT PREPARED BY HWA GEOSCIENCES INC. (PROJECT NO. 2015-061-21 TASK 600-7) DATED 12/08/21.

FOUNDATIONS SHALL BE SUPPORTED ON 16" DIA.

DESIGN PARAMETERS ARE AS FOLLOWS:
SITE CLASS D

CONSTRUCTION OF PILES SHALL BE PERFORMED UNDER CONTINUOUS OBSERVATION OF THE GEOTECHNICAL ENGINEER. ACTUAL PILE TIP ELEVATIONS AND CAPACITIES SHOWN ON THE DRAWINGS SHALL BE FIELD VERIFIED BY THE GEOTECHNICAL ENGINEER.

THE PILES SHALL BE INSTALLED BY A CONTRACTOR EXPERIENCED IN THE INSTALLATION OF GROUT DRIVEN PILES.

PILE GROUT SHALL BE A DESIGN MIX OF f'c=5000 PSI. REINFORCING BAR CAGES SHALL BE PLACED TO THE DEPTH WHILE THE GROUT IS STILL FLUID, SPACERS FOR REINFORCING BARS SHALL BE PROVIDED TO ENSURE CLEARANCES SHOWN ON THE DRAWINGS. TOLERANCES FOR CONCRETE PILE POSITION SHALL BE 3 INCHES IN ANY HORIZONTAL DIRECTION. SHAFT SHALL BE PLUMB PLUS OR MINUS 1/2 DEGREE.

01330: SUBMITTALS & SHOP DRAWINGS

SUBMITTALS FOR THE FOLLOWING ITEMS SHALL BE SUBMITTED FOR REVIEW AND APPROVAL PRIOR TO FABRICATION.

1. CONTRACTORS STATEMENT OF RESPONSIBILITY
2. CONCRETE MIX DESIGN
3. REINFORCING STEEL PLACING AND FABRICATION DRAWINGS
4. POST-TENSIONING PLACING AND FABRICATION DRAWINGS
5. STUD RAIL FABRICATION & PLACING DRAWINGS
6. STRUCTURAL STEEL ERECTION AND FABRICATION
7. STRUCTURAL GLUED LAMINATED TIMBERS
8. STRUCTURAL COMPOSITE WOOD MEMBERS
9. PREFABRICATED WOOD I-JOIST
10. PRE-FABRICATIONED WOOD TRUSSES
11. CONTINUOUS ROD HOLDOWN SYSTEM. RE: S1.03
12. PRE-FABRICATED STAIR COMPONENTS, DECK/STAIR GUARD RAILS/HAND RAILS
13. STEEL/ALUMINUM BALCONIES/CANOPIES
14. ELEVATOR DESIGN DRAWINGS

IF SHOP DRAWINGS DIFFER FROM THE APPROVED DESIGN DRAWNGS, NEW DESIGN DRAWINGS BEARING THE SEAL AND SIGNATURE OF A LICENSED WASHINGTON STRUCTURAL ENGINEER SHALL BE SUBMITTED ALONG WITH THE SHOP DRAWINGS TO THE ENGINEER OF RECORD FOR APPROVAL PRIOR TO FABRICATION.

A DEFERRED SUBMITTAL CONSISTING OF CALCULATIONS BEARING THE SEAL AND SIGNATURE OF A LICENSED WASHINGTON STRUCTURAL ENGINEER SHALL BE SUBMITTED ALONG WITH THE SHOP DRAWINGS FOR POST TENSION TENDONS, CONTINUOUS HOLDOWN ROD SYSTEM, PRE-FABRICATION WOOD TRUSSES, STEEL/ALUMINUM BALCONIES, RAILINGS, AND STAIRS. DOCUMENTS FOR EACH DEFERRED SUBMITTAL ITEM SHALL BE SUBMITTED TO THE THE ENGINEER OF RECORD WHO SHALL REVIEW DOCUMENTS TO CONFIRM THEY ARE IN GENERAL CONFORMANCE TO THE DESIGN.

ELEVATOR SUBMITTAL TO INCLUDE CALCULATIONS TO EVALUATE RAIL FORCE DUE TO THE WOOD SHRINKAGE OR PROVIDE CONNECTIONS THAT ALLOW FOR VERTICAL MOVEMENT.

01400: SPECIAL INSPECTIONS

THE CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE ALL INSPECTIONS REQUIRED BY THE LOCAL BUILDING DEPARTMENT. IN ADDITION TO INSPECTIONS REQUIRED BY THE LOCAL BUILDING DEPARTMENT, THE OWNER OR A REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE ACTING AS THE OWNER'S AGENT SHALL EMPLOY ONE OR MORE SPECIAL INSPECTORS TO PROVIDE INSPECTIONS FOR ITEMS NOTED IN IBC SECTION 1704 WHICH ARE SUMMARIZED IN THE SPECIAL INSPECTION SCHEDULE ON SHEET S1.01.

THE SPECIAL INSPECTOR SHALL BE A QUALIFIED PERSON EMPLOYED BY AN APPROVED AGENCY. THE SPECIAL INSPECTOR SHALL KEEP RECORDS OF INSPECTIONS AND FURNISH THEM TO THE BUILDING OFFICIAL AND THE ENGINEER OF RECORD ON A REGULAR BASIS. A FINAL REPORT DOCUMENTING REQUIRED SPECIAL INSPECTIONS AND THE CORRECTION OF ANY DISCREPANCIES SHALL BE PROVIDED PRIOR TO COMPLETION OF BUILDING FINISHES. WHERE FABRICATION OF STRUCTURAL COMPONENTS AND ASSEMBLES IS BEING PERFORMED ON THE PREMISES OF A FABRICATOR'S SHOP, SPECIAL INSPECTION OF THE FABRICATED ITEMS SHALL BE REQUIRED EXCEPT WHERE THE FABRICATOR IS REGISTERED AND APPROVED TO DO SUCH WORK WITHOUT SPECIAL INSPECTION IN ACCORDANCE WITH IBC SECTION 1704.2.2. PERIODIC INSPECTION ALLOWS INSPECTION AT INTERVALS NECESSARY TO CONFIRM THAT WORK REQUIRING SPECIAL INSPECTION IS IN COMPLIANCE WITH REQUIREMENTS. CONTINUOUS SPECIAL INSPECTION REQUIRES THAT THE INSPECTOR BE ONSITE AT ALL TIMES THAT WORK REQUIRING SPECIAL INSPECTION IS PERFORMED.

01401: STRUCTURAL OBSERVATION

STRUCTURAL OBSERVATION SHALL BE REQUIRED. STRUCTURAL OBSERVATION SHALL BE THE VISUAL OBSERVATION OF THE STRUCTURAL SYSTEM BY A REGISTERED DESIGN PROFESSIONAL FOR GENERAL CONFORMANCE TO THE APPROVED CONSTRUCTION DOCUMENTS AT SIGNIFICANT CONSTRUCTION STAGES AND AT COMPLETION OF THE STRUCTURAL SYSTEM. STRUCTURAL OBSERVATION DOES NOT INCLUDE OR WAIVE THE RESPONSIBILITY FOR REQUIRED SPECIAL INSPECTION AS NOTED IN SECTION 01400 OR FOR INSPECTIONS REQUIRED BY THE LOCAL JURISDICTION. THE OWNER OR OWNER'S AGENT SHALL RETAIN A REGISTERED DESIGN PROFESSIONAL TO PERFORM STRUCTURAL OBSERVATIONS FOR THE FOLLOWING ITEMS ON SHEET S1.01, OR IF NOT SHOWN, SHALL BE AS FOLLOWS AND AS LISTED IN THE STRUCTURAL OBSERVATION SCHEDULE.

ITEM REQUIRING STRUCTURAL OBSERVATION	FREQUENCY
POST TENSION STEEL PLACEMENT	PRIOR TO CONCRETE PLACEMENT
WOOD STRUCTURAL PANELS	PERIODIC
GENERAL FRAMING	PERIODIC

THE REGISTERED DESIGN PROFESSIONAL SHALL KEEP RECORDS OF STRUCTURAL OBSERVATIONS AND FURNISH THEM TO THE BUILDING OFFICIAL AND THE OWNER ON A REGULAR BASIS. A FINAL DOCUMENT NOTING REQUIRED STRUCTURAL OBSERVATIONS SHALL BE COMPLETED AND THE CORRECTION OF ANY DISCREPANCIES SHALL BE PROVIDED TO THE BUILDING OFFICIAL AND THE OWNER PRIOR TO ISSUANCE OF CERTIFICATE OF OCCUPANCY.

01402: CONTRACTORS RESPONSIBILITY

EACH CONTRACTOR RESPONSIBLE FOR THE CONSTRUCTION OF A MAIN WIND-OR SEISMIC-RESISTING COMPONENT LISTED IN THE STATEMENT OF SPECIAL INSPECTIONS (SECTION 1400) SHALL SUBMIT A WRITTEN STATEMENT OF RESPONSIBILITY TO THE BUILDING OFFICIAL AND THE OWNER PRIOR TO THE COMMENCEMENT OF WORK ON THE SYSTEM OR COMPONENT. THE CONTRACTOR'S STATEMENT OF RESPONSIBILITY SHALL CONTAIN ACKNOWLEDGMENT OF AWARENESS OF THE SPECIAL REQUIREMENTS CONTAINED IN THE STATEMENT OF SPECIAL INSPECTIONS.

01700: EXECUTION REQUIREMENTS

INSTALLATION OF ALL STRUCTURAL COMPONENTS SHALL BE AS REQUIRED PER ALL LOCAL CODES.

01731: CUTTING AND PATCHING

SPECIAL PROCEDURES FOR CUTTING AND PATCHING SHALL BE VERIFIED WITH THE ENGINEER OF RECORD PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE ALL TRADES SUCH THAT WORK COMPLIES WITH THE SPECIAL PROCEDURES. THE CONTRACTOR SHALL MAKE AN ALLOWANCE FOR ALL CUTTING AND PATCHING.

02000: SITE CONSTRUCTION

ALL SITE CONSTRUCTION SHALL BE CONSISTENT WITH THE GEOTECHNICAL ENGINEERING RECOMMENDATIONS AS NOTED IN THE GEOTECHNICAL ENGINEERING REPORT (SEE SECTION 01300) AND IN SUBSEQUENT DIRECTIVES.

02300: BACKFILL AND COMPACTION

BACKFILL SHALL NOT BE PLACED UNTIL THE REMOVAL OF FORMWORK AND OF ANY DEBRIS. BACKFILL BEHIND ALL WALLS SHALL NOT BE PLACED UNTIL THE WALLS ARE PROPERLY SUPPORTED. ALL BACKFILL MATERIAL AND PLACEMENT PROCEDURES SHALL BE CONSISTENT WITH THE GEOTECHNICAL ENGINEERING RECOMMENDATIONS.

03000: CONCRETE

CONCRETE CONSTRUCTION SHALL CONFORM TO THE AMERICAN CONCRETE INSTITUTE STANDARD ACI 318-14 "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE".

CEMENT AND CONCRETE SHALL CONFORM TO IBC SECTION 1903. ADMIXTURES SHALL BE APPROVED BY THE ENGINEER OF RECORD AND SHALL COMPLY WITH ACI 318-14 SECTION 3.6. CONCRETE EXPOSED TO FREEZING AND THAWING SHALL HAVE AN AIR ENTRAINING ADMIXTURE CONFORMING TO IBC SECTION 1904.4.1 THE USE OF WATER SOLUBLE CHLORIDE ION SHALL NOT BE USED.

THE CONTRACTOR SHALL SUBMIT MIX DESIGNS TO ENGINEER OF RECORD FOR APPROVAL FOUR WEEKS PRIOR TO PLACING CONCRETE. MIX DESIGNS SHALL BE REVIEWED FOR CONFORMANCE TO IBC SECTIONS 1905 AND 1908.

CONCRETE MIX DESIGNS SHALL MEET THE FOLLOWING REQUIREMENTS:

28 DAY STRENGTH f'c (PSI)	MAX. W/C RATIO	MAX. SLUMP (INCHES)	AIR ENTRAINMENT (PERCENT)	SPECIAL INSPECTION REQUIRED	LOCATION AND APPLICATION
4000	0.50	5±1	0±1	YES	GRADE BEAMS
4000	0.45	4±1	5±1	YES	INTERIOR LEVEL 1 SLAB
4500	0.45	4±1	5±1	YES	EXTERIOR LEVEL 1 SLAB
4000	0.45	5±1	0±1	YES	INTERIOR WALLS
4000	0.45	4±1	0±1	YES	EXTERIOR WALLS
4000	0.39	5±1	0±1	YES	COLUMNS
5000	0.44	4±1	0±1	YES	INTERIOR ELEVATED SLABS
5000	0.35	4±1	5±1	YES	EXTERIOR ELEVATED SLABS
4000	0.45	4±1	0±1	YES	INTERIOR TOPPING SLABS
5000	0.40	4±1	5±1	YES	EXTERIOR TOPPING SLABS

ALL CONCRETE MIXES TO MEET FOLLOWING EXPOSURE CATEGORIES/CLASSES:

FREEZING AND THAWING	CLASS F1 TYP. EXT. SLAB CLASS F2, EXT. TOPPING SLAB CLASS F3
SULFATE	CLASS S0
CONTACT WITH WATER	CLASS W0
CORROSION PROTECTION	CLASS C1

ONE COMPRESSION TEST MINIMUM SHALL BE COMPILED FOR EVERY 150 CUBIC YARDS OR 5000 SQUARE FEET OF SURFACE AREA FOR EACH MIX DESIGN PLACED EACH DAY. A TEST SHALL BE THE AVERAGE STRENGTH OF TWO CYLINDERS MADE FROM THE SAME SAMPLE AND TESTED AT THE SPECIFIED AGE. ADDITIONAL CYLINDERS MAY BE MADE FOR INFORMATION REGARDING POST TENSIONING, FORM REMOVAL, STRENGTH DEVELOPMENT, OR OTHER PURPOSES. CONCRETE SHALL BE ACCEPTABLE IF:

1. NO TEST FALLS 500 PSI BELOW THE SPECIFIED STRENGTH
2. THE AVERAGE OF ALL SETS OF 3 CONSECUTIVE TESTS DOES NOT FALL BELOW THE SPECIFIED STRENGTH.

CONCRETE NOT MEETING THE ABOVE CRITERIA SHALL BE SUBJECT TO FURTHER TESTING AT NO ADDITIONAL EXPENSE TO THE OWNER.

PERMEABILITY TESTING FOR EXTERIOR LEVEL 1 CONCRETE SLAB. CONCRETE MIX TO HAVE A PERMEABILITY OF LESS THAN 1X10E-5 CM/SEC PER ASTM 5084. TESTING TO BE DONE BY HWA GEOSCIENCES INC. OR APPROVED OTHER.

RESHORING, WHERE REQUIRED, SHALL CONFORM TO ACI 301 SECTION 4.6.

CHAMFER ALL EXPOSED CORNERS PER THE ARCHITECTURAL PLANS OR 3/4 INCH IF NOT SPECIFIED BY THE ARCHITECT.

03100: REINFORCING STEEL

REINFORCING STEEL DETAILING, FABRICATION, AND PLACEMENT SHALL BE PER ACI 318-14. REINFORCING STEEL SHALL MEET THE FOLLOWING REQUIREMENTS:

ASTM A-615 DEFORMED BARS GRADE 40 (fy=40 KSI) FOR #3 BARS ONLY
ASTM A-615 DEFORMED BARS GRADE 60 (fy=60 KSI) FOR #4 BARS AND LARGER
ASTM A-615 DEFORMED BARS GRADE 80 (fy=80 KSI) FOR BARS NOTED
ASTM A-706 DEFORMED BARS GRADE 60 (fy=60 KSI) FOR ALL WELDABLE BARS
ASTM A-185 SMOOTH BAR (fy=60 KSI) FOR WELDED WIRE FABRIC

THE ACTUAL YIELD STRENGTH OF ASTM A615 DEFORMED BARS BASED ON MILL TESTS SHALL NOT EXCEED THE SPECIFIED YIELD STRENGTH BY MORE THAN 18,000 PSI, AND THE RATIO OF THE ACTUAL ULTIMATE TENSILE STRESS TO THE ACTUAL TENSILE STRENGTH IS NOT LESS THAN 1.25. MILL TEST CERTIFICATIONS SHALL BE SUBMITTED TO THE OWNERS SPECIAL INSPECTOR AND ARCHITECT PRIOR TO PLACING THE BARS.

REINFORCING FOR STRUCTURAL SLAB ON GRADE TO BE PER FOUNDATION PLANS. FOR TOPPING SLAB PROVIDE MASTERFIBER FIBER MESH AT AN APPLICATION RATE OF 1.5 LB/YD. PROVIDE LAP SPLICES PER THE LAP SPLICE SCHEDULE ON SHEET S6.01. REINFORCING STEEL AT ALL WALLS, SLABS, AND FOOTINGS SHALL BE CONTINUOUS AROUND CORNERS ELSE CORNER BARS SHALL BE PROVIDED.

CONCRETE CAST AGAINST EARTH	
ALL BAR SIZES	3"
FORMED SURFACE EXPOSED TO EARTH OR WEATHER	
#6 AND LARGER	2"
#5 AND SMALLER	1 1/2"
CONCRETE NOT EXPOSED TO EARTH OR WEATHER	
WALLS AND JOISTS	
#14 AND #18 BARS	1 1/2"
#11 BARS AND SMALLER	3/4"
SLABS AND JOISTS	
#14 AND #18 BARS	1 1/2"
#11 BARS AND SMALLER	1"
BEAMS, COLUMNS	
PRIMARY REINFORCEMENT	1 1/2"
TIES, STIRRUPS, AND SPIRALS	1 1/2"

REINFORCING STEEL SHALL BE ACCURATELY PLACED AND ADEQUATELY SECURED IN PLACE PRIOR TO CONCRETE PLACEMENT. REINFORCING STEEL SHALL NOT BE FIELD BENT EXCEPT AS NOTED IN THE DESIGN DRAWINGS. WELDING OF REINFORCING STEEL SHALL NOT BE PERMITTED WITHOUT PRIOR APPROVAL OF THE ENGINEER OF RECORD EXCEPT AS NOTED ON THE DESIGN DRAWINGS.

03200: CONCRETE REINFORCEMENT (STUD RAILS)

SHEAR REINFORCEMENT AT THE SLAB-COLUMN CONNECTION AS SHOWN ON THE DRAWINGS AND DETAILS, SHALL BE STUDRAILS AS MANUFACTURED BY DECON AND DETAILED IN ICC ESR-2494 (OR APPROVED EQUAL). THE COMPLETE AND FINISHED STUDRAIL SHALL BE ICC ES EVALUATED AND WELDING SHALL TAKE PLACE IN AN ISO ES AUDITED FACILITY. STUDRAILS SHALL CONFORM TO THE LATEST UPDATE OF THE ASTM A1044.

03201: CONCRETE WALL REINFORCING

PLACE TWO HORIZONTAL #5 BARS AT EACH FLOOR LEVEL OR TOP OF WALL ELEVATION. PROVIDE CORNER BARS TO MATCH HORIZONTAL REINFORCEMENT AT EACH WALL CORNER AND INTERSECTION. PROVIDE TWO VERTICAL #5 BARS AT EACH WALL CORNER AND INTERSECTION. AT ALL WALL OPENINGS PROVIDE TWO #5 BARS OVER, UNDER, AND AT THE SIDES OF THE OPENINGS. EXTEND THE HORIZONTAL BARS THE LAP SPLICE DISTANCE PAST THE OPENING OR EXTEND AS FAR AS POSSIBLE AND HOOK. PROVIDE ONE #5 BAR BY 4'-0" LONG DIAGONALLY AT EACH CORNER OF THE WALL OPENING. WALLS SHALL BE REINFORCED PER THE PLANS AND DETAILS OR IF NOT SHOWN SHALL BE AS FOLLOWS:

WALL THICKNESS	HORIZONTAL BARS	VERTICAL BARS	BAR LOCATION
6"	#4 AT 14" O.C.	#5 AT 18" O.C.	WALL CENTERLINE
8"	#4 AT 10" O.C.	#5 AT 16" O.C.	WALL CENTERLINE
10"	#4 AT 12" O.C.	#5 AT 12" O.C.	EACH FACE OF WALL
12"	#5 AT 12" O.C.	#5 AT 12" O.C.	EACH FACE OF WALL
14"	#5 AT 12" O.C.	#5 AT 12" O.C.	EACH FACE OF WALL

03371: SHOTCRETE (PNEUMATICALLY PLACED CONCRETE)

CONCRETE PLACED PNEUMATICALLY SHALL REQUIRE PRIOR APPROVAL FROM THE ENGINEER OF RECORD. PROVIDE NONCONTACT LAP SPLICES. OPERATORS OF PNEUMATIC PLACING DEVICES SHALL BE REQUIRED TO BE PREQUALIFIED TO COMPLETE THE WORK.

03381: UNBONDED POST TENSION TENDONS FOR PRESTRESSED CONCRETE

UNBONDED POST TENSION TENDONS SHALL BE STRESS RELIEVED OR LOW RELAXATION SEVEN WIRE STRAND CONFORMING TO ASTM A-416. TENDON PROPERTIES SHALL BE AS FOLLOWS:

1/2" DIAMETER SEVEN STRAND WIRE	0.153 SQ. INCHES AREA
ULTIMATE STRENGTH (fpu)	270 KSI (41.3 KIPS)
MAXIMUM TEMPORARY STRESS TO OVERCOME FRICTION	216 KSI (33.0 KIPS)
ANCHORING STRESS	189 KSI (28.9 KIPS)
EFFECTIVE DESIGN STRESS (fse)	175 KSI (26.8 KIPS)

TENDONS SHALL BE ENCASED IN SLIPPAGE SHEATHING CONSTRUCTED OF DURABLE WATERPROOF POLYETHYLENE PLASTIC TUBING (0.04 INCHES THICK MINIMUM) CAPABLE OF PREVENTING THE PENETRATION OF CEMENT PASTE AND SHALL CONTAIN A RUST INHIBITING GREASE COATING MEETING THE REQUIREMENTS OF THE POST TENSION INSTITUTE "SPECIFICATION FOR UNBONDED SINGLE STRAND TENDONS". SHOP DRAWINGS AND CALCULATIONS SHALL BE SUBMITTED PER THE REQUIREMENTS OF SECTION 01330.

TENDONS SHALL BE PLACED WITH A VERTICAL TOLERANCE OF ± 1/4 INCH.

03382: CORROSION PROTECTION SYSTEM

TENDONS SHALL HAVE A FULLY ENCAPSULATED CORROSION PROTECTION SYSTEM (CPS) WHICH PROVIDES CONTINUOUS WATERTIGHT PROTECTION OF THE TENDON STRANDS FROM THE CONCRETE FROM ANCHOR TO ANCHOR AS MANUFACTURED BY GENERAL TECHNOLOGIES, INC. OR APPROVED EQUIVALENT. THE CORROSION PROTECTION SYSTEM SHALL MEET THE REQUIREMENTS OF POST TENSION INSTITUTE "SPECIFICATION FOR UNBONDED SINGLE STRAND TENDONS".

03383: TENDON ANCHORS

TENDONS ANCHORS SHALL BE FULLY ENCAPSULATED AND SHALL BE RECESSED 2 INCHES MINIMUM FROM THE EDGE OF SLAB. CONTRACTOR SHALL TAKE SPECIAL PRECAUTIONS TO INSURE COMPLETE CONSOLIDATION OF CONCRETE AT TENDON ANCHORS. TENDONS AND ANCHORS SHALL BE SUPPLIED FORM THE SAME SOURCE AND SHALL BE COMPATIBLE.

03384: TENDON STRESSING

TENDON STRESSING SHALL NOT TAKE PLACE UNTIL CYLINDER TESTS INDICATE THAT THE CONCRETE HAS ATTAINED 3000 PSI COMPRESSIVE STRENGTH.TENSIONING SHALL BE DONE WITH A CALIBRATED HYDRAULIC RAM UNDER THE IMMEDIATE CONTROL OF A PERSON WITH EXPERIENCE IN TENDON STRESSING. MAXIMUM TENDON FORCE SHALL NOT EXCEED 33.0 KIPS (216 KSI). MAXIMUM TENDON ANCHOR SET FORCE SHALL NOT EXCEED 28.9 KIPS (189 KSI). MINIMUM TENDON FINAL EFFECTIVE FORCE SHALL NOT BE LESS THAN 26.8 KIPS (175 KSI).CONTINUOUS SPECIAL INSPECTION AND RECORDING OF ALL ELONGATIONS SHALL BE REQUIRED DURING ALL STRESSING OPERATIONS. THE OBSERVED ELONGATIONS SHALL BE WITHIN MINUS 5 PERCENT TO PLUS 7 PERCENT OF THE CALCULATED ELONGATIONS. IF ELONGATIONS EXCEED TOLERANCES STOP STRESSING PROCEDURE IMMEDIATELY AND NOTIFY THE ENGINEER OF RECORD. REPORT ALL TENDON ELONGATIONS TO THE ENGINEER OF RECORD AT THE COMPLETION OF THE TENDON STRESSING AND RECEIVE APPROVAL PRIOR TO TRIMMING TENDON ENDS.

TENDON TRIMMING AND PLACEMENT OF THE CORROSION PROTECTION SYSTEM GREASE CAPS SHALL BE COMPLETED WITHIN ONE DAY AFTER APPROVAL TO CUT AND CAP. TENDON BLOCKOUTS SHALL BE FILLED WITH AN APPROVED NONSHRINK GROUT.

03385: SLAB PENETRATIONS

PENETRATIONS INTO THE POST TENSIONED SLAB WITH DRIVEN FASTENERS OR DRILLED ANCHORS SHALL NOT BE PERMITTED WITHOUT PRIOR APPROVAL OF THE ENGINEER OF RECORD.

03900: CONTROL OF CRACKS IN CONCRETE

UNDER NORMAL CONDITIONS AND FOR CONVENTIONAL BUILDINGS REINFORCED CONCRETE AND POST TENSIONED CONCRETE DEVELOPS CRACKS. CRACKS ARE DUE TO INHERENT SHRINKAGE OF CONCRETE, CREEP, AND THE RESTRAINING EFFECTS OF WALLS AND OTHER STRUCTURAL ELEMENTS.

CRACKS FORMED ARE NORMALLY COSMETIC. CONCRETE MAINTAINS SERVICEABILITY AND STRENGTH REQUIREMENTS. WITH UNBONDED TENDONS IN POST TENSIONED CONCRETE IT IS POSSIBLE THAT A NUMBER OF HAIR CRACKS, WHICH NORMALLY SPREAD OVER A WIDE AREA, WILL INTEGRATE INTO A SINGLE CRACK THAT EXCEEDS .01 INCH IN WIDTH. MOST OF SUCH CRACKS DEVELOP WITHIN TWO YEARS OF CONCRETE PLACEMENT. CRACKS IN EXCESS OF .01 INCH MAY REQUIRE PRESSURE INJECTION EPOXY REPAIR.

SPECIAL EFFORT IS MADE TO REDUCE CRACK POTENTIAL BY INTRODUCING RELEASE AND CONTROL JOINTS TO ALLOW MOVEMENT OF THE CONCRETE. IT SHALL BE EMPHASIZED THAT IT IS NOT PRACTICAL TO TO PROVIDE TOTAL ARTICULATION AT CONCRETE JOINTS AND THEREBY ACHIEVE COMPLETE INHIBITION OF CRACKS.

03930: CONCRETE REHABILITATION

CONTRACTOR SHALL MAKE AN ALLOWANCE TO PROVIDE FOR CONCRETE REHABILITATION INCLUDING, BUT NOT LIMITED TO, CONCRETE SACKING, PATCHING, REPAIR, SEALING, AND CRACK INJECTION. EXPOSED CONCRETE SHALL BE FINISHED PER ARCHITECTURAL DOCUMENTS.

05120: STRUCTURAL STEEL

DESIGN, FABRICATION, AND ERECTION OF STRUCTURAL STEEL SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION "AISC SPECIFICATION FOR STRUCTURAL STEEL FOR BUILDINGS". MATERIALS SHALL BE IN ACCORDANCE WITH THE FOLLOWING:

STRUCTURAL W SHAPES	ASTM A-992	Fy = 50 KSI
S, M, AND C SHAPES	ASTM A-36	Fy = 36 KSI
STEEL ANGLES	ASTM A-36	Fy = 36 KSI
PLATE MATERIAL	ASTM A-36	Fy = 36 KSI
STRUCTURAL PIPE	ASTM A-53 GRADE B	Fy = 35 KSI
STRUCTURAL TUBE	ASTM A-500 GRADE B	Fy = 46 KSI
HEADED STUDS	ASTM A-108	
WELDING ELECTRODES	E70-XX TYPICAL, U.N.O.	
HIGH STRENGTH BOLTS	ASTM A-325N BEARING TYPE (SNUG TIGHT)	
ANCHOR RODS	ASTM A-307 OR ASTM A-36	
WOOD CONNECTION BOLTS	ASTM A-307	

ALL WELDING SHALL CONFORM TO THE AWS D1-1 "STRUCTURAL WELDING CODE". ALL WELDING SHALL BE PERFORMED BY A WASHINGTON ASSOCIATION OF BUILDING OFFICIALS (WABO) AND AMERICAN WELDING SOCIETY (AWS) CERTIFIED WELDERS. ALL COMPLETE PENETRATION (CP) WELDS SHALL BE ULTRASONICALLY TESTED. ALL FILLET WELDS SHALL BE VISUALLY INSPECTED.

STRUCTURAL STEEL AND CONNECTIONS EXPOSED TO WEATHER SHALL BE HOT DIPPED GALVANIZED AFTER FABRICATION IN COMPLIANCE WITH ASTM A-153. ALL FIELD WELDS EXPOSED TO WEATHER SHALL BE COATED WITH BRUSH APPLIED ZINC-RICH PAINT COMPLYING WITH ASTM A-780.

05400: COLD FORMED METAL FRAMING

LIGHT GAGE STEEL FRAMING MEMBERS SHALL BE FABRICATED IN ACCORDANCE WITH THE AMERICAN IRON AND STEEL INSTITUTE (AISI) "SPECIFICATION FOR THE DESIGN OF COLD FORMED STEEL STRUCTURAL MEMBERS". MATERIALS SHALL CONFORM WITH THE FOLLOWING:

GAGE	ASTM DESIGNATION	MIN. Fy
0.0179" (25 GA.) TO 0.0451" (18 GA.)	ASTM A653 SS GRADE 33	33 KSI
0.0538" (16 GA.) TO 0.1180" (12 GA.)	ASTM A653 SS GRADE 50	50 KSI

ALL MEMBERS SHALL BE GALVANIZED. ALL MEMBERS SHALL BE STAMPED WITH ICC EVALUATION NUMBER, BASE METAL THICKNESS, AND YIELD STRENGTH. SIZE, SHAPE, AND GAGE SHALL BE AS INDICATED ON THE PLANS. SECTION DESIGNATIONS, SECTION PROPERTIES, ETC. ARE AS SET FORTH IN THE STEEL STUD MANUFACTURERS ASSOCIATION (SSMA) "PRODUCT TECHNICAL INFORMATION" AND NOTED SUCH AS (600S162-54):

DEPTH (1/100")	SHAPE	WIDTH (1/100")	MATERIAL THICKNESS (MILS.)
600	S	162	54

FASTENING OF COMPONENTS SHALL BE WITH SELF DRILLING SCREWS OR WELDING. WELDING OF COLD FORMED METAL FRAMING SHALL BE IN ACCORDANCE WITH AWS D1.3. SCREWS SHALL MEET THE REQUIREMENTS OF AISI SPECIFICATION E4, AND SHALL BE ICC CERTIFIED FOR THE FOLLOWING LOADS:

FRAMING THICKNESS		#8 SCREW (0.164" DIA.)		#10 SCREW (0.190" DIA.)	
MILS	INCHES

ABBREVIATIONS

&	AND	IN.	INCH(ES)
@	AT	INFO.	INFORMATION
'	FEET(FOOT)	INT.	INTERIOR
"	INCH (INCHES)		
#	POUND(S), NUMBER	JST.	JOIST
=	EQUAL(S)	JT.	JOINT
/	PER		
		K	KIPS(1000)
A.B.	ANCHOR BOLT	LAT.	LATERAL
ABV.	ABOVE	LB.	POUND(S)
ADD.	ADDITIONAL	LBL.	LAG BOLT(S)
ADJ.	ADJACENT	LG.	LONG(ITUDINAL)
ALUM.	ALUMINUM	LGTH.	LENGTH
ALT.	ALTERNATE	LGMF	LIGHT GAUGE METAL FRAMING
APPRX.	APPROXIMATE(LY)	LLH	LONG LEG HORIZONTAL
ARCH.	ARCHITECT(URAL)	LLV	LONG LEG VERTICAL
ASSY	ASSEMBLY	LSH	LONG SLOTTED HOLE(S)
B.	BOTTOM	LT. WT.	LIGHT WEIGHT
BEL.	BELOW	L.W.	LIGHT WEIGHT
BEN	BOUNDARY EDGE NAILING		
B.F.	BRACED FRAME		
BLDG.	BUILDING	MAS.	MASONRY
BLK.	BLOCK	MASN.	MASONRY
BLKG.	BLOCKING	MAT.	MATERIAL
BLW.	BELOW	MAX.	MAXIMUM
BM.	BEAM	M.B.	MACHINE BOLT
BMU	BRICK MASONRY UNIT	MBM	METAL BUILDING MANUFACTURER
BN	BOUNDARY NAILING	MECH.	MECHANICAL
BNDRY.	BOUNDARY	M.E.J.	MASONRY EXPANSION JOINT
B.O.	BOTTOM OF	MEZZ.	MEZZANINE
B.O.E.	BOTTOM OF EXCAVATION	MFR.	MANUFACTURER
B.O.F.	BOTTOM OF FOOTING	MIN.	MINIMUM
BRDG.	BRIDGE(ING)	MISC.	MISCELLANEOUS
BRG.	BEARING	M.O.	MASONRY OPENING
BTM.	BOTTOM	MTL.	METAL
BTWN.	BETWEEN		
		(N)	NEW
C	CAMBER	N/A	NOT APPLICABLE
CAMB.	CAMBER(ED)	N.L.B.	NON-LOAD BEARING
CANT.	CANTILEVER(ED)	NO.	NUMBER
CF	CUBIC FOOT	N.S.	NEAR SIDE
C.I.P.	CAST IN PLACE	N.T.S.	NOT TO SCALE
C.J.	CONSTRUCTION JOINT	N.W.C.	NORMAL WEIGHT CONCRETE
CL	CENTER LINE		
CLG.	CEILING	O.C.	ON CENTER
CLR.	CLEAR	O.D.	OUTSIDE DIAMETER
CMU	CONCRETE MASONRY UNIT	O.F.	OUTSIDE FACE
COL.	COLUMN	O.H.	OPPOSITE HAND
CONC.	CONCRETE	OPNG.	OPENING
CONN.	CONNECTION	OPP.	OPPOSITE
CONST.	CONSTRUCTION	ORNT.	ORIENTATE(ION)
CONT.	CONTINUOUS	OSB	ORIENTED STRAND BOARD
CTSK.	COUNTERSINK	O.W.J.	OPEN WEB JOIST
CTR.	CENTER(ED)	O.W.T.	OPEN WEB TRUSS
CVR	COVER MECHANICAL REINF.		
CY	CUBIC YARD	PAF	POWDER ACTUATED FASTENER
		PAR.	PARALLEL
d	PENNY(NAILS)	P/C	PRECAST
DB	DROPPED BEAM	PEN	PANEL EDGE NAIL
DBA	DEFORMED BAR ANCHORS	PERP.	PERPENDICULAR
DBL.	DOUBLE	PL.	PLATE
DCW	DEMAND CRITICAL WELD	PL	PROPERTY LINE
DEPT.	DEPARTMENT	PLN	PLAN
DET.	DETAIL	PLMBG.	PLUMBING
DF	DOUGLAS FIR	PLYWD.	PLYWOOD
DIA.	DIAMETER	PSF	POUNDS PER SQUARE FOOT
DIAG.	DIAGONAL	PSI	POUNDS PER SQUARE INCH
DIAPHR.	DIAPHRAGM	P.T.	PRESERVATIVE TREATED
DIM.	DIMENSION	PT	POST TENSION(ED)
DN.	DOWN		
DO.	DITTO(REPEAT)	QTY.	QUANTITY
DP.	DEEP		
DS	DOWNSPOUT	R.	RADIUS
DWG.	DRAWING(S)	RAD.	RADIUS
DWL.	DOWEL(S)	RE:	REFERENCE
		REF.	REFERENCE
(E)	EXISTING	REINF.	REINFORCEMENT(ING)
EA.	EACH	REQ.	REQUIRED
E.E.	EACH END	R.F.	RIGID FRAME
E.F.	EACH FACE	R.O.	ROUGH OPENING
E.J.	EXPANSION JOINT	R.S.	ROUGH SAWN
EL.	ELEVATION	R.D.	ROOF DRAIN
ELEV.	ELEVATOR		
EMBD.	EMBED(MENT)	SCH.	SCHEDULE
EN	EDGE NAIL	SCL	STRUCTURAL COMPOSITE WOOD
ENG.	ENGINEER	SCHED.	SCHEDULE
EQ.	EQUAL	SHT.	SHEET
EQPT.	EQUIPMENT	SIM.	SIMILAR
E.W.	EACH WAY	S.J.	SHRINKAGE CONTROL JOINT
EXP.	EXPANSION	SKW.	SKEW(ED)
EXST.	EXISTING	S.O.G.	SLAB ON GRADE
EXT.	EXTERIOR	SPC.	SPACE(S) (ING)
		SPEC.	SPECIFICATION(S)
FAB.	FABRICATION	SQ.	SQUARE
FB	FLUSH BEAM	STD.	STANDARD
FD	FLOOR DRAIN	STGR.	STAGGER
FDN.	FOUNDATION	STIFF.	STIFFENER(S)
F.F.	FINISH FLOOR	STIR.	STIRRUP(S)
FIN.	FINISH(ED)	STL.	STEEL
FLG.	FLANGE	STRUC.	STRUCTURAL
FLR.	FLOOR	STRUCT.	STRUCTURAL
FN	FIELD (FACE) NAIL	SUSP.	SUSPENDED(TION)
F.O.	FINISHED OPENING	SYMM.	SYMMETRICAL
F.O.C.	FACE OF CONCRETE		
F.O.M.	FACE OF MASONRY	T.	TOP
F.O.S.	FACE OF STUD	T.&B.	TOP AND BOTTOM
F.O.W.	FACE OF WALL	TEMP.	TEMPORARY
FRMG.	FRAME(ING)	T.&G.	TONGUE AND GROOVE
F.S.	FAR SIDE	THK.	THICK(NESS)
FSD	FORMED STEEL DECK	THRD.	THREADED
FT.	FEET(FOOT)	TN	TOE NAIL
FRTW	FIRE RETARDANT TREATED WOOD	T.O.S.	TOP OF SHEATHING(SLAB)
FTG.	FOOTING	T.O.W.	TOP OF WALL
		TRANSV.	TRANSVERSE
GA.	GAUGE	T.O.S..	TOP OF STEEL
GALV.	GALVANIZE(D)	TYP.	TYPICAL
GB.	GRADE BEAM		
GLB	GLUE LAMINATED BEAM	U.N.O.	UNLESS NOTED OTHERWISE
GRD.	GRADE	U/S	UNDERSIDE
GT	GIRDER TRUSS		
GWB	GYPSUM WALLBOARD	V.	VERTICAL
GYP.	GYPCRETE	VERT.	VERTICAL
		VIF	VERIFY IN FIELD
H.	HORIZONTAL		
HD	HOLDOWN	W.	WIDE(WIDTH)
H.D.G.	HOT DIPPED GALVANIZED	W/	WITH
HDR.	HEADER	W/O	WITHOUT
HGR.	HANGER	WD.	WOOD
HORZ.	HORIZONTAL	W.H.S.	WELDED HEADED STUDS
HORIZ.	HORIZONTAL	W.P.	WORK POINT
HR	HEADER	W.S.	WELDED STUD
H.S.B.	HIGH STRENGTH BOLT	WT.	WEIGHT
HT.	HEIGHT	W.W.F.	WELDED WIRE FABRIC
I.D.	INSIDE DIAMETER	X-STG	EXTRA STRONG
I.E.	INVERT ELEVATION	XX-STG	DOUBLE EXTRA STRONG
I.F.	INSIDE FACE		
		YD	YARD

SPECIAL INSPECTIONS, TESTING and STRUCTURAL OBSERVATION SCHEDULE

REQUIRED SPECIAL INSPECTIONS OF DRIVEN DEEP FOUNDATION ELEMENTS

RE: IBC 2018 TABLE 1705.7

	ELEMENT TYPE	CONTINUOUS	PERIODIC
1.	VERIFY ELEMENT MATERIALS, SIZES AND LENGTHS COMPLY WITH THE REQUIREMENTS	X	-
2.	DETERMINE CAPACITIES OF TEST ELEMENTS AND CONDUCT ADDITIONAL LOAD TESTS AS REQUIRED	X	-
3.	INSPECT DRIVING OPERATIONS AND MAINTAIN COMPLETE AND ACCURATE RECORDS FOR EACH ELEMENT	X	-
4.	VERIFY PLACEMENT LOCATIONS AND PLUMBNESS, CONFIRM TYPE AND SIZE OF HAMMER, RECORD NUMBER OF BLOWS PER FOOT OF PENETRATION, DETERMINE REQUIRED PENETRATIONS TO ACHIEVE DESIGN CAPACITY, RECORD TIP AND BUTT ELEVATIONS AND DOCUMENT ANY DAMAGE TO FOUNDATION ELEMENT	X	-
5.	FOR STEEL ELEMENTS, PERFORM ADDITIONAL SPECIAL INSPECTIONS PER IBC 1705.2	-	-
6.	FOR CONCRETE ELEMENTS AND CONCRETE FILLED ELEMENTS, PERFORM TESTS AND ADDITIONAL SPECIAL INSPECTIONS PER IBC 1705.3	-	-
7.	FOR SPECIALTY ELEMENTS, PERFORM ADDITIONAL INSPECTIONS AS DETERMINED BY THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE.	-	-

REQUIRED SPECIAL INSPECTIONS OF CAST-IN-PLACE DEEP FOUNDATION ELEMENTS

RE: IBC 2018 TABLE 1705.8

	ELEMENT TYPE	CONTINUOUS	PERIODIC
1.	INSPECT DRILLING OPERATIONS AND MAINTAIN COMPLETE AND ACCURATE RECORDS FOR EACH ELEMENT	X	-
2.	VERIFY PLACEMENT LOCATIONS AND PLUMBNESS, CONFIRM ELEMENT DIAMETERS, BELL DIAMETERS, LENGTHS, EMBEDMENT INTO BEDROCK AND ADEQUATE END-BEARING STRATA CAPACITY. RECORD CONCRETE AND GROUT VOLUMES	X	-
3.	FOR CONCRETE ELEMENTS, PERFORM TEST AND ADDITIONAL SPECIAL INSPECTIONS PER IBC 1705.3	-	-

REQUIRED VERIFICATION AND INSPECTION OF CONCRETE CONSTRUCTION

RE: IBC 2018 TABLE 1705.3

	VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC
1.	INSPECTION OF REINFORCING STEEL, INCLUDING PRESTRESSING TENDONS AND PLACEMENT.	-	X
2.	INSPECTION OF REINFORCING STEEL WELDING IN ACCORDANCE WITH TABLE 1705.2.2, ITEM 5b.	-	-
3.	INSPECTION OF ANCHORS CAST IN CONCRETE.	-	X
4.	INSPECTION OF ANCHORS POST-INSTALLED IN HARDENED CONCRETE MEMBERS.	-	X
	a. ADHESIVE ANCHORS INSTALLED HORIZONTALLY OR UPWARDLY INCLINED ORIENTATIONS TO RESIST SUSTAINED TENSION LOADS	X	-
	b. MECHANICAL AND ADHESIVE ANCHORS NOT DEFINED IN 4a.	-	X
5.	VERIFYING USE OF REQUIRED DESIGN MIX.	-	X
6.	PRIOR TO CONCRETE PLACEMENT, FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF CONCRETE.	X	-
7.	INSPECTION OF CONCRETE AND SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES.	X	-
8.	INSPECTION FOR MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES.	-	X
9.	INSPECTION OF PRESTRESSED CONCRETE:		
	a. APPLICATION OF PRESTRESSING FORCES.	X	-
	b. GROUTING OF BONDED PRESTRESSING TENDONS IN THE SEISMIC-FORCE-RESISTING SYSTEM.	X	-
10.	ERECTION OF PRECAST CONCRETE MEMBERS.	-	X
11.	VERIFICATION OF IN-SITU CONCRETE STRENGTH, PRIOR TO STRESSING OF TENSONS IN POST TENSIONED CONCRETE AND PRIOR TO REMOVAL OF SHORES AND FORMS FROM BEAMS AND STRUCTURAL SLABS.	-	X
12.	INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED.	-	X

IINSPECTIONS FOR WOOD CONSTRUCTION

RE: IBC 2018 SECTION 1705.5

		INSPECTIONS REQUIRED
1.		SPECIAL INSPECTIONS OF PREFABRICATED WOOD STRUCTURAL ELEMENTS AND ASSEMBLIES SHALL BE IN ACCORDANCE WITH IBC 1704.2.5
2.		HIGH-LOAD DIAPHRAGMS (ALL DESIGNATED DIAPHRAGMS PER IBC 2306.2) SHALL BE INSTALLED ACCORDING TO THE PROVISIONS OF IBC 1704.2. THE FOLLOWING SHALL BE INSPECTED:
	a.	WOOD STRUCTURAL PANEL SHEATHING - CONFIRM GRADE AND THICKNESS PER APPROVED CONSTRUCTION DOCUMENTS
	b.	VERIFY SIZE OF FRAMING MEMBERS AT ADJOINING PANEL EDGES
	c.	VERIFY NAIL OR STAPLE DIAMETER AND LENGTH
	d.	VERIFY NUMBER OF FASTENER LINES AND THE SPACING BETWEEN EACH FASTENER LINE AND AT EDGE MARGINS
3.		FOR METAL-PLATE-CONNECTED WOOD TRUSSES SPANNING 60FT OR MORE, THE SPECIAL INSPECTOR SHALL VERIFY THAT THE TEMPORARY RESTRAINT/BRACING AND PERMANENT INDIVIDUAL TRUSS MEMBER RESTRAINT/BRACING ARE INSTALLED ACCORDING TO THE APPROVED TRUSS SUBMITTAL PACKAGE
4.		SEISMIC RESISTING ELEMENTS: PERIODIC SPECIAL INSPECTION IS REQUIRED FOR NAILING, BOLTING, ANCHORING AND OTHER FASTENING OF ELEMENTS OF THE SEISMIC FORCE-RESISTING SYSTEM - INCLUDING WOOD SHEAR WALLS, WOOD DIAPHRAGMS, DRAG-STRUTS, BRACES AND HOLDOWNS - EXCEPT THAT SUCH IS NOT REQUIRED WHERE THE SHEATHING FASTENER SPACING IS MORE THAN 4'OC.

REQUIRED SPECIAL INSPECTIONS OF OPEN-WEB JOISTS AND JOIST GIRDERS

RE: IBC 2018 TABLE 1705.2.3

	INSPECTION TYPE	CONTINUOUS	PERIODIC
1.	INSTALLATION OF OPEN-WEB STEEL JOISTS AND JOIST GIRDERS		
	a. END CONNECTIONS - WELDING OR BOLTED	-	X
	b. BRIDGING - HORIZONTAL OR DIAGONAL	-	
	b.i. STANDARD BRIDGING	-	X
	b.ii. BRIDGING THAT DIFFERES FROM THE SJI SPECIFICATIONS RE: 2207.1		X

INSPECTION SCHEDULE NOTES:

1. ITEMS MARKED WITH AND "X" SHALL BE INSPECTED IN ACCORDANCE WITH IBC 1704 AND 1705 BY A CERTIFIED SPECIAL INSPECTOR FROM AN AGENCY APPROVED BY THE JURISDICTION.
2. SPECIAL INSPECTION SHALL NOT BE REQUIRED FOR WORK PERFORMED IN AN APPROVED FABRICATOR'S PER IBC 1705.2 VERIFY APPROVAL WITH JURISDICTION PRIOR TO FABRICATION.
3. CONTINUOUS SPECIAL INSPECTION REQUIRES THE INSPECTOR SHALL BE ONSITE AT ALL TIMES AND THAT WORK REQUIRING SPECIAL INSPECTION IS PERFORMED. PERIODIC SPECIAL INSPECTION SHALL ALLOW INSPECTION AT THE INTERVALS NECESSARY TO CONFORM THAT WORK REQUIRING SPECIAL INSPECTION IS IN COMPLIANCE WITH THE REQUIREMENTS.
4. ALL WELDS SHALL BE VISUALLY INSPECTED.
5. ALL COMPLETE PENETRATION WELDS SHALL BE TESTED ULTRASONICALLY.
6. PERIODIC SPECIAL INSPECTION SHALL BE ALLOWED FOR SHOP WELDING OF ASTM A706 REINFORCEMENT NO. 5 OR SMALLER USED FOR EMBEDDED ITEMS, PROVIDED THAT, THE MATERIALS AND THE QUALIFICATIONS OF WELDING PROCEDURES AND WELDERS ARE VERIFIED PRIOR TO THE START OF WORK, THAT PERIODIC INSPECTIONS ARE MADE OF WORK IN PROGRESS, AND THAT A VISUAL INSPECTION OF ALL WELDS IS MADE PRIOR TO SHIPMENT OF SHOP WELDED ITEMS.
7. STRUCTURAL OBSERVATION SHALL MEAN THE VISUAL OBSERVATION OF THE STRUCTURAL SYSTEM BY THE ENGINEER OF RECORD FOR THE GENERAL CONFORMANCE TO THE APPROVED PLANS AND SPECIFICATIONS AT SIGNIFICANT CONSTRUCTION STAGES AND AT COMPLETION OF THE STRUCTURAL FRAMING SYSTEM PRIOR TO COVER. THE CONTRACTOR SHALL PROVIDE AT LEAST TWO WORKING DAYS NOTICE TO THE ENGINEER OF RECORD PRIOR TO COVERING OF SYSTEMS REQUIRING OBSERVATION. STRUCTURAL OBSERVATION BY THE ENGINEER OF RECORD DOES NOT REPLACE OR WAIVE REQUIREMENTS FOR BUILDING INSPECTION BY THE JURISDICTION NOR REQUIREMENTS FOR SPECIAL INSPECTIONS.
8. STRUCTURAL OBSERVATION FOR CONCRETE CONSTRUCTION SHALL CONSIST OF OBSERVATION AT OR NEAR THE COMPLETION OF FORMWORK, REBAR, AND PT TENDON PLACEMENT AND PRIOR TO CONCRETE PLACEMENT ON ALL PT SLABS.
9. STRUCTURAL OBSERVATION FOR WOOD CONSTRUCTION SHALL CONSIST OF OBSERVATION AT OR NEAR THE COMPLETION OF THE FIRST ELEVATED WOOD FLOOR FOR ANCHOR BOLT AND HOLDOWN INSTALLATION, SHEATHING AND STRAPPING NAILING. AND AT OR NEAR COMPLETION OF THE ROOF FRAMING PRIOR TO PLACEMENT OF THE ROOFING.
10. THE SPECIAL INSPECTOR SHALL PROVIDE THE BUILDING OFFICIAL, OWNER, ARCHITECT, ENGINEER OF RECORD, AND CONTRACTOR WITH COPIES OF ALL REPORTS AND TEST RESULTS (IBC 1704.2.4)

MINIMUM REQUIREMENTS FOR INSPECTION OF STRUCTURAL STEEL BUILDINGS

RE: IBC 2018 AND AISC 360

SPECIAL INSPECTIONS AND NON-DESTRUCTIVE TESTING OF STRUCTURAL STEEL ELEMENTS IN BUILDINGS, STRUCTURES AND PORTIONS THEREOF SHALL BE IN ACCORDANCE WITH THE QUALITY ASSURANCE INSPECTION REQUIREMENTS OF AISC 360 - CHAPTER N

STEEL INSPECTIONS

RE: IBC 2018 AND AISC 360

	INSPECTION TASKS	QC	QA
O=	OBSERVE ITEMS ON A RANDOM BASIS - OPERATIONS NEED NOT BE DELAYED PENDING THESE INSPECTIONS		
P=	PERFORM THESE TASKS FOR EACH CONNECTION, ELEMENT OR MEMBER		
QC=	QUALITY CONTROL INSPECTION TASKS SHALL BE PROVIDED BY THE FABRICATOR AND ERECTOR.		
QA=	QUALITY ASSURANCE INSPECTION TASKS SHALL BE PERFORMED BY A SPECIAL INSPECTOR. RE: STRUCTURAL NOTES SECTION 01400.		
TABLE N5.4-1 INSPECTION TASKS PRIOR TO WELDING			
	WELDING PROCEDURE SPECIFICATIONS (WPSs) AVAILABLE	P	P
	MANUFACTURER CERTIFICATIONS FOR WELDING CONSUMABLES AVAILABLE	P	P
	MATERIAL IDENTIFICATION (TYPE/GRADE)	O	O
	WELDER IDENTIFICATION SYSTEM	O	O
	FIT-UP OF GROOVE WELDS (INCLUDING JOINT GEOMETRY); JOINT PREPARATION; DIMENSIONS (ALIGNMENT ROOT OPENING, ROOT FACE, BEVEL); CLEANLINESS (CONDITION OF STEEL SURFACES); TACKING (TACK WELD QUALITY AND LOCATION); BACKING TYPE AND FIT (IF APPLICABLE)	O	O
	CONFIGURATION AND FINISH OF ACCESS HOLES	O	O
	FIT-UP OF FILLET WELDS: DIMENSIONS (ALIGNMENT, GAPS AT ROOT); CLEANLINESS (CONDITION OF STEEL SURFACE); TACKING (TACK WELD QUALITY AND LOCATION)	O	O
	CHECK WELDING EQUIPMENT	O	-
TABLE N5.4-2 INSPECTION TASKS DURING WELDING			
	USE OF QUALIFIED WELDERS	O	O
	CONTROL AND HANDLING OF WELDING CONSUMABLES: PACKAGING; EXPOSURE CONTROL	O	O
	NO WELDING OVER CRACKED TACK WELDS	O	O
	ENVIRONMENTAL CONDITIONS: WIND SPEED WITHIN LIMITS; PRECIPITATION AND TEMPERATURE	O	O
	WPS FOLLOWED: SETTINGS ON WELDING EQUIPMENT; TRAVEL SPEED; SELECTED WELDING MATERIALS; SHIELDING GAS TYPE/FLOW RATE; PREHEAT APPLIED; INTERPASS TEMPERATURE MAINTAINED (MIN/MAX); PROPER POSITION (F, V, H, OH)	O	O
	WELDING TECHNIQUES: INTERPASS AND FINAL CLEANING; EACH PASS WITHIN PROFILE LIMITATIONS; EACH PASS MEETS QUALITY REQUIREMENTS	O	O
TABLE N5.4-3 INSPECTION TASKS AFTER WELDING			
	WELDS CLEANED	O	O
	SIZE, LENGTH AND LOCATION OF WELDS	P	P
	WELDS MEET VISUAL ACCEPTANCE CRITERIA: CRACK PROHIBITION; WELD/BASE-METAL FUSION; CRATER CROSS SECTION; WELD PROFILES; WELD SIZE; UNDERCUT; POROSITY	P	P
	ARC STRIKES	P	P
	k-AREA	P	P
	BACKING REMOVED AND WELD TABS REMOVED (IF REQUIRED)	P	P
	REPAIR ACTIVITIES	P	P
	DOCUMENT ACCEPTANCE OR REJECTION OF WELDED JOINT OR MEMBER	P	P
TABLE N5.6-1 INSPECTION TASKS PRIOR TO BOLTING			
	MANUFACTURERS CERTIFICATIONS AVAILABLE FOR FASTENER MATERIALS	O	P
	FASTENERS MARKED IN ACCORDANCE WITH ASTM REQUIREMENTS	O	O
	PROPER FASTENERS SELECTED FOR THE JOINT DETAIL (GRADE, TYPE, BOLT LENGTH IF THREADS ARE TO BE EXCLUDED FROM SHEAR PLANE)	O	O
	PROPER BOLTING PROCEDURE SELECTED FOR JOINT DETAIL	O	O
	CONNECTING ELEMENTS, INCLUDING THE APPROPRIATE FAYING SURFACE CONDITION AND HOLE PREPARATION, IF SPECIFIED, MEET APPLICABLE REQUIREMENTS	O	O
	PRE-INSTALLATION VERIFICATION TESTING BY INSTALLATION PERSONNEL OBSERVED AND DOCUMENTED FOR FASTENER ASSEMBLIES AND METHODS USED	P	O
	PROPER STORAGE PROVIDED FOR BOLTS, NUTS, WASHERS AND OTHER FASTENER COMPONENTS	O	O
TABLE N5.6-2 INSPECTION TASKS DURING BOLTING			
	FASTENER ASSEMBLIES, OF SUITABLE CONDITION, PLACED IN ALL HOLES AND WASHERS (IF REQUIRED) ARE POSITIONED AS REQUIRED	O	O
	JOINT BROUGHT TO THE SNUG-TIGHT CONDITION PRIOR TO THE PRETENSIONING OPERATION	O	O
	FASTENER COMPONENT NOT TURNED BY WRENCH PREVENTED FROM ROTATING	O	O
	FASTENERS ARE PRETENSIONED IN ACCORDANCE WITH THE RCSC SPEC, PROGRESSING SYSTEMATICALLY FROM THE MOST RIGID POINT TOWARD THE FREE EDGES	O	O
TABLE N5.6-3 INSPECTION TASKS AFTER BOLTING			
	DOCUMENT ACCEPTANCE OR REJECTION OF BOLTED CONNECTIONS	P	P
TABLE N6.1 INSPECTION OF STEEL ELEMENTS OF COMPOSITE CONSTRUCTION PRIOR TO CONCRETE PLACEMENT			
	PLACEMENT AND INSTALLATION OF STEEL DECK	P	P
	PLACEMENT AND INSTALLATION OF STEEL HEADED STUD ANCHORS	P	P
	DOCUMENT ACCEPTANCE OR REJECTION OF STEEL ELEMENTS	P	P

06071: PRESERVATIVE TREATED WOOD PRODUCTS
PRESERVATIVE TREATED WOOD SHALL BE REQUIRED FOR;

ALL WOOD THAT FORMS THE STRUCTURAL SUPPORT OF THE BUILDING. BALCONIES PORCHES, OR SIMILAR PERMANENT BUILDING APPURTENANCES THAT ARE EXPOSED TO THE WEATHER WITHOUT ADEQUATE PROTECTION FROM A ROOF, EAVE, OVERHANG OR OTHER COVERING TO PREVENT MOISTURE OR WATER ACCUMULATION AT THE SURFACE OR AT JOINTS BETWEEN MEMBERS.

ALL WOOD INSTALLED ABOVE GROUND AND RESTING ON AN EXTERIOR CONCRETE OR MASONRY FOUNDATION WALL LESS THAN 8 INCHES FROM EXPOSED EARTH.

POSTS OR COLUMNS SUPPORTING PERMANENT STRUCTURES AND SUPPORTED BY A CONCRETE SLAB OR FOOTING THAT IS IN DIRECT CONTACT WITH THE EARTH. EXCEPT;

1. IF LOCATED IN BASEMENTS ON A CONCRETE PIER OR METAL PEDESTAL 1 INCH ABOVE THE SLAB AND SEPARATED THEREFROM BY AN IMPERVIOUS MOISTURE BARRIER.

2. IF IN AN ENCLOSED CRAWL SPACE OR AN UNEXCAVATED AREA WITHIN THE BUILDING PERIPHERY AND SUPPORTED BY A CONCRETE PIER OR PEDESTAL MORE THAN 8 INCHES FROM EXPOSED GROUND AND SEPARATED THEREFROM BY AN IMPERVIOUS MOISTURE BARRIER.

3. SLEEPERS AND SILLS ON A CONCRETE SLAB ON GRADE THAT DOES NOT HAVE AN IMPERVIOUS MOISTURE BARRIER SEPARATION WITH EXPOSED EARTH.

4. LEDGERS AND FURRING ATTACHED DIRECTLY TO THE INTERIOR OF EXTERIOR CONCRETE OR MASONRY WALLS BELOW GRADE.

PRESERVATIVE TREATMENT SHALL BE PER AMERICAN WOOD PRESERVERS' ASSOCIATION (AWPA) SPECIFICATION U1 AND M4 OR APPLICABLE STANDARDS.

ALL FASTENERS (NAILS, BOLTS, ANCHOR BOLTS, PLATES, HANGERS, ETC.) IN CONTACT WITH TREATED LUMBER SHALL BE CORROSION RESISTANT G-185 HOT DIPPED GALVANIZED PER ASTM A153, A653 AND B695 CLASS 55 (MINIMUM) OR STAINLESS STEEL, TYPE 303, 304, 305 OR 316.

06100: ROUGH FRAMING
SAWN LUMBER SHALL CONFORM TO WEST COAST LUMBER INSPECTION BUREAU (WCLIB) "GRADING AND DRESSING RULES" NO. 17 LATEST EDITION. SAWN LUMBER SHALL BE S4S AND SURFACED DRIED, 19 PERCENT MAXIMUM MOISTURE CONTENT. PROTECT LUMBER FROM WEATHER AND PROVIDE FURTHER DRYING OF ASSEMBLED FRAMING TO MINIMIZE WOOD SHRINKAGE POTENTIAL. ALL LUMBER EXPOSED TO WEATHER OR IN CONTACT WITH CONCRETE OR MASONRY SHALL BE PRESERVATIVE TREATED UNLESS NOTED OTHERWISE PER PLAN. LUMBER SPECIES, GRADE, AND PROPERTIES FOR EACH USE/LOCATION SHALL BE AS FOLLOWS UNLESS NOTED OTHERWISE PER PLAN/SCHEDULE:

USE/LOCATION	SPECIES	GRADE	Fb (PSI)	Fv (PSI)	Fcp (PSI)	Fc (PSI)	E
WALL STUDS/BLOCKING							
2X, 3X 4" WIDE	DOUGLAS FIR-LARCH	NO. 2	900	180	625	1350	1.6E6
2X, 3X 6" & WIDER	DOUGLAS FIR-LARCH	NO. 2	900	180	625	1350	1.6E6
WALL PLATES							
2X4, 3X4	DOUGLAS FIR-LARCH	STUD	700	180	625	850	1.4E6
2X6, 3X6	DOUGLAS FIR-LARCH	NO. 2	900	180	625	1350	1.6E6
JOISTS							
2X, 3X	HEM-FIR	NO. 2	850	150	405	1300	1.3E6
	SPRUCE-PINE-FIR	NO. 2	875	150	425	1150	1.4E6
	DOUGLAS FIR-LARCH	NO. 2	900	180	625	1350	1.6E6
LEDGERS							
2X, 3X	DOUGLAS FIR-LARCH	NO. 2	900	180	625	1350	1.6E6
4X	DOUGLAS FIR-LARCH	NO. 1	1000	180	625	1500	1.7E6
BEAMS AND POSTS							
4X	DOUGLAS FIR-LARCH	NO. 2	900	180	625	1350	1.6E6
6X	DOUGLAS FIR-LARCH	NO. 1	1200	170	625	1000	1.6E6

06101: STRUCTURAL FINGER JOINTED LUMBER
APPROVED STRUCTURAL FINGER JOINTED LUMBER SHALL BE PERMITTED TO BE USED INTERCHANGEABLY WITH SAWN LUMBER MEMBERS OF THE SAME SPECIES AND GRADE. STRUCTURAL FINGER JOINTED LUMBER SHALL BE GRADED UNDER AMERICAN LUMBER STANDARD COMMITTEE "PRODUCT STANDARD PS 20-05". LUMBER CLASSIFIED AS STUD USE ONLY SHALL BE LIMITED TO INTERIOR VERTICAL APPLICATIONS ONLY. LUMBER WITH CERTIFIED EXTERIOR JOINTS IS NOT RESTRICTED TO ANY TYPE OF LOADING.

06102: FRAMING NOTES
FRAMING CONNECTORS, ACCESSORIES, AND FASTENERS AS NOTED IN THE PLANS AND DETAILS SHALL BE AS MANUFACTURED BY SIMPSON STRONG-TIE. EQUIVALENT HARDWARE MAY BE USED WITH PRIOR APPROVAL BY ENGINEER OF RECORD. INSTALL ALL HARDWARE PER MANUFACTURERS' SPECIFICATIONS. WHERE STRAPS CONNECT TWO MEMBERS TOGETHER, PLACE HALF OF THE REQUIRED FASTENERS INTO EACH MEMBER. PROVIDE SOLID BLOCKING AT ALL BEARING POINTS. SEE SECTION 06071 FOR FASTENER REQUIREMENTS AT TREATED LUMBER. TYPICAL NAILING NOT SHOWN PER PLAN, DETAIL, OR SCHEDULE SHALL CONFORM TO FASTENING SCHEDULE PER IBC TABLE 2304.10.1 OR TO THE ROUGH FRAMING NAILING SCHEDULE ON SHEET S9.00.

NAILS SHALL BE COMMON UNLESS NOTED OTHERWISE COMMON NAIL DIMENSIONS SHALL BE AS FOLLOWS:

NAIL SIZE	DIAMETER	LENGTH
8d	0.131"	2.5"
10d	0.148"	3.0"
12d	0.148"	3.25"
16d	0.162"	3.5"

UNLESS NOTED OTHERWISE PER SHEARWALL SCHEDULE OR PLANS, ANCHOR BOLTS AT SILL PLATES SHALL BE 5/8 INCH DIAMETER WITH 7 INCHES MINIMUM EMBEDMENT INTO CONCRETE AND SHALL BE SPACED NOT MORE THAN 4 FEET APART. THERE SHALL BE A MINIMUM OF TWO BOLTS PER SILL PIECE WITH ONE BOLT LOCATED NOT MORE THAN 12 INCHES NOR LESS THAN 4.5 INCHES FROM EACH END OF THE PIECE. A 3"X3"X0.229" PLATE WASHER SHALL BE PROVIDED FOR ALL ANCHOR BOLTS (COUNTERSUNK PLATE WASHERS SHALL NOT BE ALLOWED).

06103: JOIST AND BEAM HANGERS
JOIST AND BEAM HANGERS AS NOTED IN THE PLANS SHALL BE AS MANUFACTURED BY SIMPSON STRONG-TIE. EQUIVALENT HARDWARE MAY BE USED WITH PRIOR APPROVED BY ENGINEER OF RECORD. JOIST AND BEAM HANGERS SHALL BE INSTALLED PER MANUFACTURERS' SPECIFICATIONS AND SHALL BE AS FOLLOWS UNLESS NOTED OTHERWISE PER PLANS OR DETAILS:

MEMBER SIZE	HANGER
SAWN LUMBER	"U" SERIES TO MATCH LUMBER SIZE
3.125" WIDE GLULAM BEAM	GLTV3
5.125" WIDE GLULAM BEAM	HGLT5
6.75" WIDE GLULAM BEAM	HGLT7
8.75" WIDE GLULAM BEAM	HGLT9
MANUFACTURED WOOD "I" JOIST	"ITS" SERIES TO MATCH "I" JOIST SIZE
1.75" WIDE PSL OR LVL BEAM	"LBV" TO MATCH DEPTH

Shearwall Schedule - APA Rated Sheathing W/ Doug Fir Lumber

WALL TYPE	SHEATHING	PANEL EDGE NAILING	FIELD NAILING	2X BOTTOM PLATE NAILING		LTP4 RIM/BLK'G TO TOP PLATE CONN. SPACING	FRAMING @ ADJOINING PANEL EDGES	FOUNDATION SILL PLATE	ANCHOR BOLT SPACING	DETAIL
				ROWS	SPACING					
P6	15/32" SHT. ONE SIDE	6" O.C.	12" O.C.	(1)	4.5" O.C. STAGGERED	24" O.C. ONE SIDE	2x	2x	48" O.C.	3, 8, 13/S1.02
P4	15/32" SHT. ONE SIDE	4" O.C.	12" O.C.	(2)	6" O.C. STAGGERED	16" O.C. ONE SIDE	3x	2x	36" O.C.	4, 9, 14/S1.02
								3x	48" O.C.	
P3	15/32" SHT. ONE SIDE	3" O.C.	12" O.C.	(2)	4" O.C. STAGGERED	12" O.C. ONE SIDE	3x	2x	30" O.C.	4, 9, 14/S1.02
								3x	36" O.C.	
P2	15/32" SHT. ONE SIDE	2" O.C.	12" O.C.	(3)	6" O.C. STAGGERED	10" O.C. ONE SIDE	3x	2x	24" O.C.	5, 10, 15/S1.02
								3x	30" O.C.	
P2-T	19/32" SHT. ONE SIDE	2" O.C.	12" O.C.	(3)	5" O.C. STAGGERED	9" O.C. ONE SIDE	3x	2x	20" O.C.	5, 10, 15/S1.02
								3x	24" O.C.	

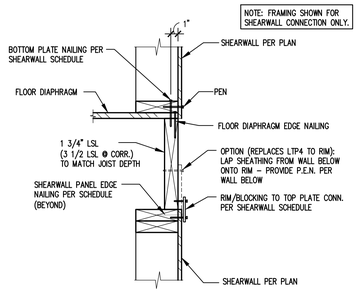
FOR EXTERIOR WALLS NOT DESIGNATED AS SHEARWALLS USE WALL TYPE P6 ON SHEARWALL SCHEDULE FOR NON-SHEARWALL CONDITION.

SHEARWALL SCHEDULE NOTES

1. STUDS SHALL NOT BE SPACED MORE THAN 16" O.C..
2. SEE S1.00 SECTION 06100 "ROUGH FRAMING" FOR REQUIRED WALL STUD AND PLATE SPECIES AND GRADE.
3. SEE S1.00 SECTION 06160 "WOOD SHEATHING" FOR REQUIRED SHEAR WALL SHEATHING, THICKNESS AND GRADE. ALL SHEAR WALL PANELS SHALL BE APPLIED DIRECTLY TO FRAMING.
4. SHEATHING PANELS MAY BE INSTALLED EITHER HORIZONTALLY OR VERTICALLY WITH ALL PANEL EDGES BACKED/BLOCKED WITH 2" NOMINAL OR WIDER FRAMING.
5. NAILING SHALL BE STAGGERED AT ABUTTING PANEL EDGES WITH 3X FRAMING.
6. WHERE PANELS ARE APPLIED ON BOTH FACES OF A WALL PANEL JOINTS SHALL BE OFFSET TO FALL ON DIFFERENT FRAMING MEMBERS OR FRAMING SHALL BE 3" NOMINAL OR THICKER AND NAILS SHALL BE STAGGERED.
7. NAILS FOR PLYWOOD AND OSB PANEL EDGE AND FIELD NAILING SHALL BE 10d COMMON (0.148" X 2 1/4" MIN.).
8. NAILS FOR BOTTOM PLATE FRAMING SHALL BE 12d COMMON (0.148" X 3 1/4"). TYPICAL.
9. FLOOR DIAPHRAGM NAILING SHALL BE PLACED BETWEEN THE SPACING CALLED OUT FOR BOTTOM PLATE NAILING. DO NOT OVER NAIL THE BLOCKING.
10. ANCHOR BOLTS SHALL BE 5/8" DIAMETER W/ 7" MIN. CONC. EMBEDMENT A-307 AND SHALL BE SECURED IN PLACE PRIOR TO CONCRETE POUR. WET STICKING OF ANCHOR BOLTS IS NOT ALLOWED.
11. PLATE WASHERS ARE REQUIRED AT EACH ANCHOR BOLT - SEE 18 AND 19 THIS SHEET FOR SIZE AND PLACEMENT REQUIREMENTS. RECESSING PLATE WASHERS IN PLATES IS NOT ALLOWED.
12. SEE DETAIL 20/S1.02 FOR LTP4 FRAMING PLATE INSTALLATION.
13. ALL NAILS, ANCHOR BOLTS AND WASHERS IN CONTACT WITH PRESSURE TREATED WOOD SHALL BE HOT-DIPPED GALVANIZED CONFORMING TO ASTM 153 OR STAINLESS STEEL.
14. ALL WOOD IN CONTACT WITH CONCRETE SHALL BE PRESERVATIVE TREATED.
15. 2-2x'S IN LIEU OF 3x'S AT PANEL EDGES ACCEPTABLE PROVIDED STUDS ARE ATTACHED PER BOTTOM PLATE NAILING REQUIREMENTS.

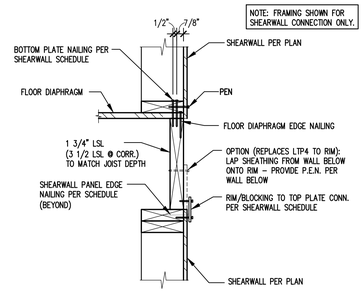
SCALE: NONE

6 **SHEARWALL SCHEDULE**



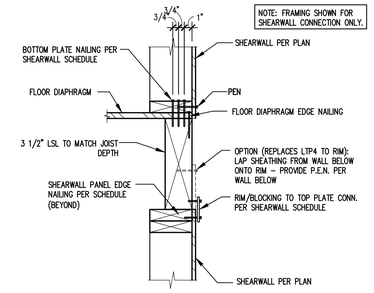
SCALE: NONE

3 **(1 ROW OF PLATE NAILING)**
TYP. EXT./CORR. WALL SHEAR CONNECTION



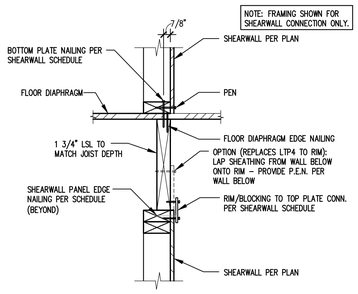
SCALE: NONE

4 **(2 ROWS OF PLATE NAILING)**
TYP. EXT./CORR. WALL SHEAR CONNECTION



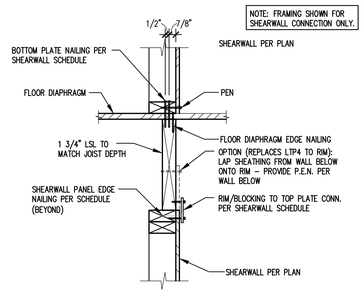
SCALE: NONE

5 **(3 ROWS OF PLATE NAILING)**
TYP. EXT./CORR. WALL SHEAR CONNECTION



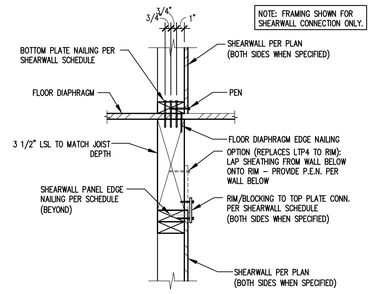
SCALE: NONE

8 **(1 ROW OF PLATE NAILING)**
TYP. INTERIOR WALL SHEAR CONNECTION



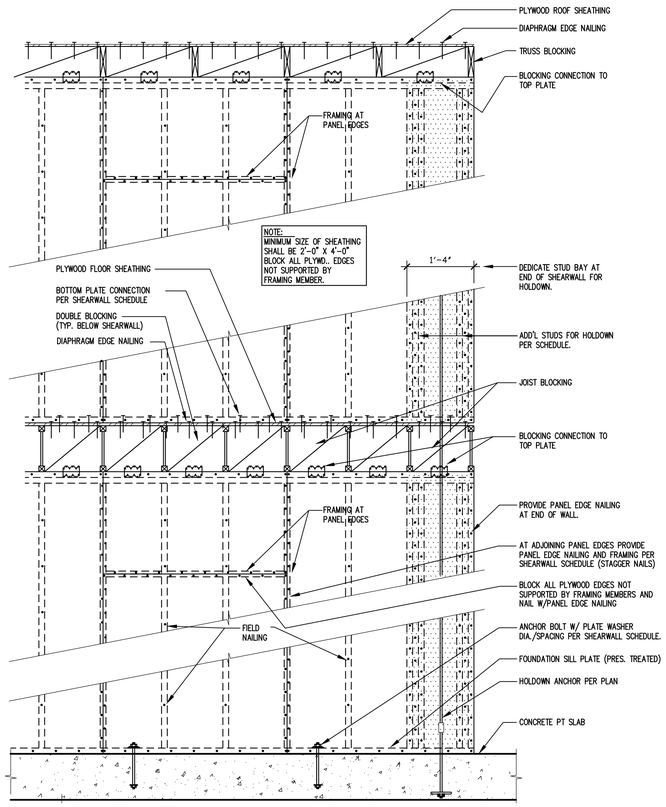
SCALE: NONE

9 **(2 ROWS OF PLATE NAILING)**
TYP. INTERIOR WALL SHEAR CONNECTION



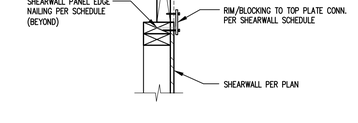
SCALE: NONE

10 **(3 ROWS OF PLATE NAILING)**
TYP. INTERIOR WALL SHEAR CONNECTION



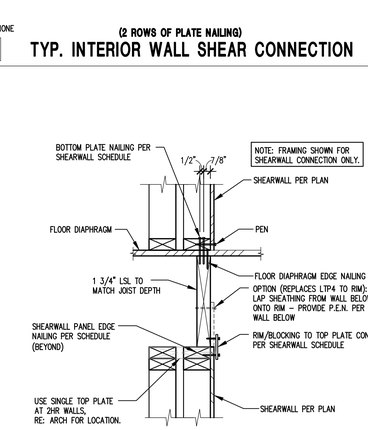
SCALE: NONE

16 **TYPICAL SHEARWALL NOMENCLATURE (ELEVATION)**



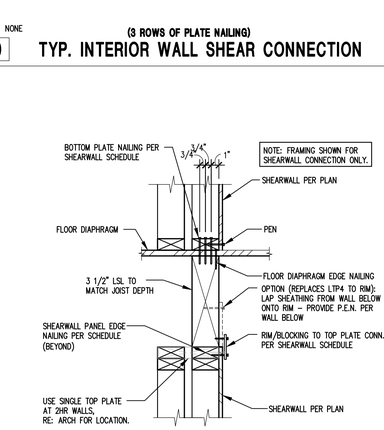
SCALE: NONE

13 **(1 ROW OF PLATE NAILING)**
TYP. PARTY WALL SHEAR CONNECTION



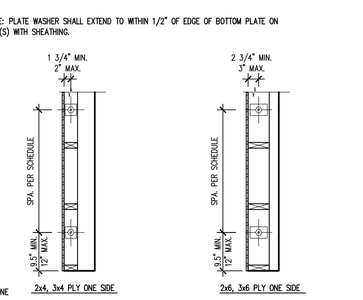
SCALE: NONE

14 **(2 ROWS OF PLATE NAILING)**
TYP. PARTY WALL SHEAR CONNECTION



SCALE: NONE

15 **(3 ROWS OF PLATE NAILING)**
TYP. PARTY WALL SHEAR CONNECTION



SCALE: NONE

18 **ANCHOR BOLT PLACEMENT DETAILS**

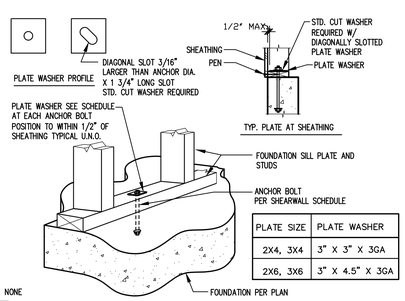
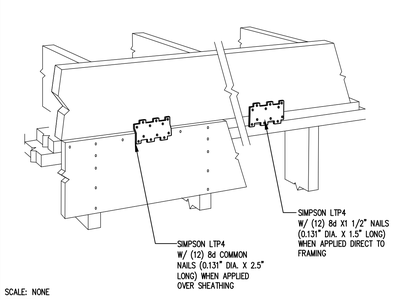


PLATE SIZE	PLATE WASHER
2X4, 3X4	3" X 3" X 3GA
2X6, 3X6	3" X 4.5" X 3GA

SCALE: NONE

19 **TYP. SHEARWALL ANCHOR BOLT TO CONC.**



SCALE: NONE

20 **TYPICAL SIMPSON LTP4**

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206.285.4512 (V) 206.285.0618 (F)

NO.	REVISION	DATE
1	BUILDING PERMIT CORRECTION #4	03/02/26
2	BUILDING PERMIT CORRECTION #3	10/17/24
3	BUILDING PERMIT CORRECTION #2	07/19/24
4	BUILDING PERMIT CORRECTION #1	11/03/22

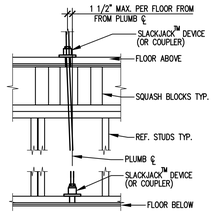
ENGR: SMK | CAD: SMK | PLOT: 02/27/26 | FILE: 19010 S100 | JOB #: 19010

Shelter HOLDINGS

Shearwall Schedule and Details

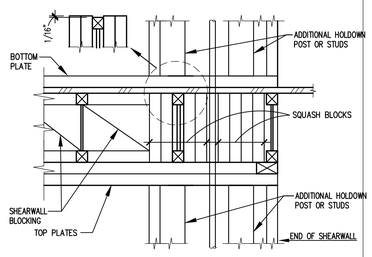
Everett Riverfront
3610 Riverfront Boulevard - Building D
Everett, Washington

S1.02



SCALE: NONE

1 ALLOWABLE ROD OFFSET

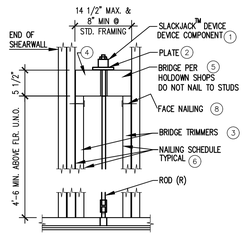


SQUASH BLOCK NOTES:

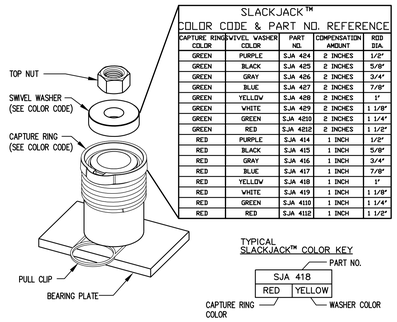
1. PROVIDE ENOUGH SOLID BLOCKING IN JOIST SPACE TO MATCH WIDTH OF ALL COMPRESSION STUDS OR POSTS OF THE WALL BELOW.
2. INSTALL WITH WOOD GRAIN IN VERTICAL DIRECTION.

SCALE: NONE

2 TYPICAL SQUASH BLOCK



TYPICAL BRIDGE INSTALLATION
SCALE: NONE



SLACKJACK™ COLOR CODE & PART NO. REFERENCE

CAPTURE RING COLOR	SWIVEL WASHER COLOR	PART NO.	COMPENSATION AMOUNT	ROD DIA.
GREEN	PURPLE	SJA 424	2 INCHES	1/2"
GREEN	BLACK	SJA 425	2 INCHES	5/8"
GREEN	GRAY	SJA 426	2 INCHES	3/4"
GREEN	BLUE	SJA 427	2 INCHES	7/8"
GREEN	YELLOW	SJA 428	2 INCHES	1"
GREEN	WHITE	SJA 429	2 INCHES	1 1/8"
GREEN	GREEN	SJA 4210	2 INCHES	1 1/4"
GREEN	RED	SJA 4212	2 INCHES	1 1/2"
RED	PURPLE	SJA 414	1 INCH	1/2"
RED	BLACK	SJA 415	1 INCH	5/8"
RED	GRAY	SJA 416	1 INCH	3/4"
RED	BLUE	SJA 417	1 INCH	7/8"
RED	YELLOW	SJA 418	1 INCH	1"
RED	WHITE	SJA 419	1 INCH	1 1/8"
RED	GREEN	SJA 4110	1 INCH	1 1/4"
RED	RED	SJA 4112	1 INCH	1 1/2"

TYPICAL SLACKJACK™ COLOR KEY

SCALE: NONE

7 SLACKJACK™ COLOR CODE TABLE

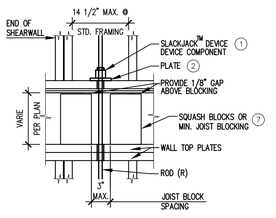
ROD SIZE	MIN. HOLE SIZE	MAX. HOLE SIZE
1/2" DIA.	1" DIA.	1 1/8" DIA.
5/8" DIA.	1" DIA.	1 1/8" DIA.
3/4" DIA.	1" DIA.	1 1/8" DIA.
7/8" DIA.	1 1/8" DIA.	1 1/4" DIA.
1" DIA.	1 1/4" DIA.	1 3/8" DIA.
1 1/8" DIA.	1 3/8" DIA.	1 1/2" DIA.
1 1/4" DIA.	1 1/2" DIA.	1 5/8" DIA.

DO NOT USE SILICON OR CAULKING IN HOLES FOR HOLDOWN RODS.

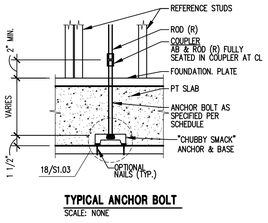
THROUGH TOP/BOTTOM PLATES AND BRIDGE

SCALE: NONE

8 ROD HOLE SCHEDULE



TYPICAL SLACKJACK INSTALLATION
SCALE: NONE



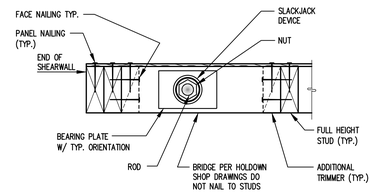
TYPICAL ANCHOR BOLT
SCALE: NONE

HOLDOWN DETAIL NOTES

1. THE SLACKJACK IS A FACTORY ASSEMBLED, PRELOADED COMPRESSION CONTROLLED SHRINKAGE COMPENSATION DEVICE REFERENCE ICC ESR-2848. SEE DETAIL 7 THIS SHEET FOR COMPONENTS.
2. ALL BEARING PLATES SHALL HAVE FULL BEARING CONTACT AREA ON WOOD MEMBERS.
3. BRIDGE SUPPORT STUDS AT THIS LEVEL SHALL BE SYMMETRICALLY PLACED AS SHOWN ON THE SHOP DRAWINGS.
4. TYPICAL COMPRESSION BRIDGE ACROSS COLLECTOR STUDS.
5. COMPRESSION BRIDGE MEMBER SHALL BE DOUG-FIR, CONSTRUCTION GRADE WITH MINIMUM 800 PSI ALLOWABLE BENDING STRESS. TIMBERSTRAND 1.5 LSL BEAM SUBSTITUTION IS ALLOWED.
6. ALL COLLECTOR STUD MEMBERS SHALL BE NAILED AS PER SHEARWALL EDGE NAILING SCHEDULE IN THE DRAWINGS.
7. SQUASH BLOCKS SHALL BE INSTALLED WITH WOOD GRAIN IN VERTICAL DIRECTION. SEE DETAIL 2 THIS SHEET.
8. FACE NAILING: BRIDGE SUPPORT STUDS SHALL HAVE SUPPLEMENTAL (2) 10d Ø 4" O.C. FACE NAILING IN ADDITION TO THE NAILING REQUIREMENTS OF THE SHEARWALL SCHEDULE. SEE DETAIL 12 THIS SHEET.

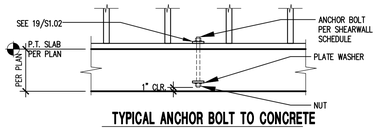
16 TYPICAL HOLDOWN DETAILS

REFER TO HOLDOWN SHOP DRAWINGS FOR TOTAL NUMBER OF TRIMMERS REQUIRED.

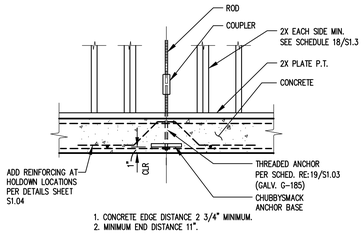


SCALE: NONE

12 BRIDGE TRIMMER NAILING DETAIL



TYPICAL ANCHOR BOLT TO CONCRETE

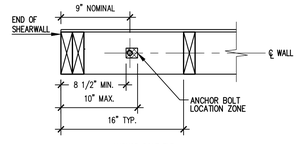


1. CONCRETE EDGE DISTANCE 2 3/4" MINIMUM.
2. MINIMUM END DISTANCE 11".

TYPICAL REINFORCING AT HOLDOWN

SCALE: 3/4" =1'-0"

17 TYPICAL ANCHORAGE TO CONCRETE



ANCHOR BOLT TYP.

ANCHOR BOLT NOTES:

1. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION OF WALL TYPE AND FRAMING LAYOUT BEFORE LOCATING ANCHOR BOLTS IN CONCRETE.
2. ALL DIMENSIONS ARE TYPICAL U.N.O.
3. ADDITIONAL COMPRESSION STUDS NOT SHOWN FOR CLARITY

SCALE: NONE

13 TYPICAL ANCHOR BOLT LOCATION PLAN

HOLDOWN LOADING AND POST SCHEDULE

FRAMING LEVEL	4A	4B	5A	5B	5C	5D
ADD'L. STUDS:						
AT 2X4 WALL			–	–	–	N.A.
AT 2X6 WALL			–	–	–	–
LOAD			2000	1500	1000	2000
LEVEL 6						
ADD'L. STUDS:						
AT 2X4 WALL	–	–	–	–	–	N.A.
AT 2X6 WALL	–	–	–	–	–	–
LOAD	2000	1500	6500	4000	3000	6500
LEVEL 5						
ADD'L. STUDS:						
AT 2X4 WALL	–	–	(1) 2X4	(1) 2X4	–	N.A.
AT 2X6 WALL	–	–	–	–	–	–
LOAD	6000	4000	11000	8500	6000	13500
LEVEL 4						
ADD'L. STUDS:						
AT 2X4 WALL	(1) 2X4	–	(4) 2X4	(2) 2X4	(1) 2X4	N.A.
AT 2X6 WALL	–	–	(1) 2X6	–	–	(2) 2X6
LOAD	10000	7100	18000	13500	10000	21000
LEVEL 3						
ADD'L. STUDS:						
AT 2X4 WALL	(3) 2X4	(1) 2X4	(6) 2X4	(4) 2X4	(3) 2X4	N.A.
AT 2X6 WALL	–	–	(2) 2X6	(1) 2X6	–	(3) 2X6
LOAD	14500	10500	24000	19000	14500	30500
LEVEL 2						
ANCHOR BOLT	7/8" DIA.	3/4" DIA.	1 1/8" DIA.	1" DIA.	7/8" DIA.	1 1/4" DIA.
ADDITIONAL REINF. Ø LEVEL 2 PT SLAB PER EDGE CONDITION	5 S1.04, 6 S1.04	5 S1.04	4 S1.04, 5 S1.04, 6 S1.04	5 S1.04, 6 S1.04	5 S1.04, 6 S1.04	4 S1.04, 5 S1.04, 6 S1.04

17/S1.03

Holdown Notes

1. HOLDOWNS SHALL BE THE EARTHBOUND HOLDOWN SYSTEM BY EARTHBOUND CORPORATION. SHOP DRAWINGS BEARING THE SEAL AND SIGNATURE OF A WASHINGTON STATE PROFESSIONAL ENGINEER SHALL BE SUBMITTED FOR REVIEW.
2. HOLDOWN SYSTEM DESIGNER TO DETERMINE NUMBER OF SHRINKAGE DEVICES PER HOLDOWN RUN.
3. HOLDOWN DESIGN LOADS (ALLOWABLE) ARE AS INDICATED ABOVE IN POUNDS TENSION, ANCHOR ROD ONLY.
4. ANCHOR BOLT SHALL BE "CHUBBY SMACK" ANCHORS BY EARTHBOUND INC. ANCHORS ARE TO A307, F'_U = 60 KSI AND ACHIEVE LOADS INDICATED.
5. DOUBLE STUDS AT END AND A SINGLE STUD 16" FROM END ARE ASSUMED. SEE DETAIL 13 THIS SHEET.
6. NUMBER OF STUDS INDICATED ARE FOR COMPRESSION AND SHALL BE IN ADDITION TO THOSE INDICATED IN NOTE 5. STUD SPECIES AND GRADE TO MATCH SHEARWALL.
7. DO NOT NOTCH OR BORE HOLES THROUGH STUDS EITHER SIDE OF ROD HOLDOWN WITHOUT PRIOR APPROVAL FROM THE STRUCTURAL ENGINEER.
8. SEE DETAIL 8 THIS SHEET FOR ROD HOLE SIZE THROUGH TOP AND BOTTOM PLATES.
9. SEE DETAIL 1 THIS SHEET FOR MAXIMUM HOLDOWN ROD OFFSET.
10. SEE DETAIL 13 THIS SHEET FOR TYPICAL HOLDOWN ANCHOR BOLT LOCATION AT END OF SHEARWALL.

Holdown Legend

- HOLDOWN DEVICE
- PLATE
- 4X6 BRIDGE
- HOLDOWN ROD
- COUPLER
- JOIST BLOCKING
- NUT/WASHER
- PLATE/NUT

19 HOLDOWN SCHEDULE

CT ENGINEERING INC.
Structural Engineers
180 Nickerson Street, Suite 302, Seattle, WA 98109
206.285.4512 (V) 206.285.0618 (F)

NO.	REVISION	DATE
4	BUILDING PERMIT CORRECTION #4	03/02/26
3	BUILDING PERMIT CORRECTION #3	10/17/24
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1	BUILDING PERMIT CORRECTION #1	11/03/22
	ENGR: SWK CAD: SWK PLOT: 02/27/26	FILE: 19010 S100

JOB #: 19010

Shelter HOLDINGS

Holdown Schedule and Details

Everett Riverfront
3610 Riverfront Boulevard - Building D
Everett, Washington

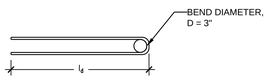
S1.03

CONCRETE STRENGTH (psi)	l_d (in)
5,000	21
L = (h + 1¾") + (l_d) + h/2	

HAIRPIN QUANTITY SCHEDULE

ANCHOR BOLT DIAMETER (IN)	NUMBER OF HAIRPINS
1 1/8" OR LESS	1
1 1/4"	2

FOR MULTIPLE HAIRPINS, SPACE 1 1/2" APART



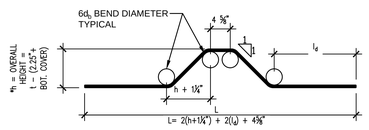
#5 BAR HAIRPIN REINFORCEMENT

SCALE: NONE

1

HAIRPIN REINFORCMENT AT EDGES

CONCRETE STRENGTH (psi)	l_d (in.)
5,000	21
L = 2(h + 1 ¾") + 2(l_d) + 4 ⅜"	



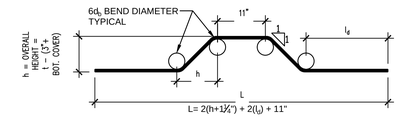
*NOTE:
WHEN LABELED AS PIECE 'A' AT EDGE,
h = t – (1.5" + BOT. COVER)

ELEVATION VIEW, OF PIECE 'A'

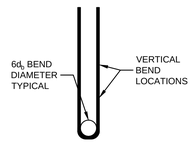
SCALE: NONE

2

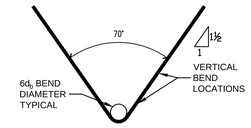
FULL LENGTH ANCHOR REINFORCMENT, PIECE A



ELEVATION VIEW, OF PIECES 'B' & 'C' PRIOR TO HORIZONTAL BENDS



PLAN VIEW, PIECE 'B'



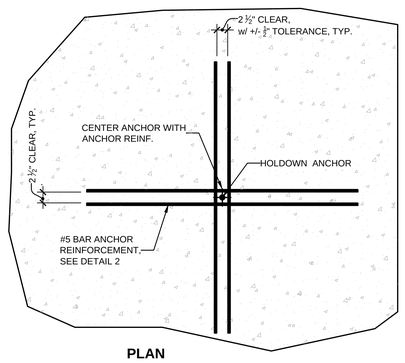
PLAN VIEW, PIECE 'C'

SCALE: NONE

3

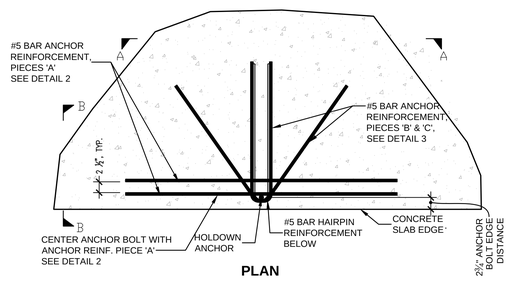
ANCHOR REINFORCMENT AT EDGES, PIECES B & C

FLEXURAL REINFORCEMENT
NOT SHOWN IN PLAN FOR CLARITY



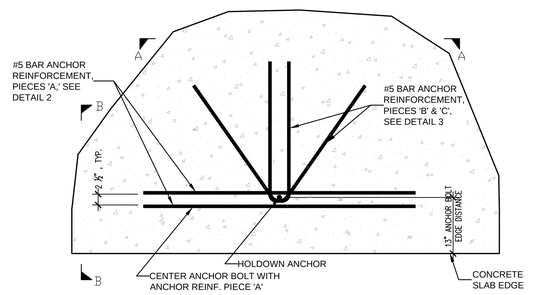
PLAN

FLEXURAL REINFORCEMENT
NOT SHOWN IN PLAN FOR CLARITY

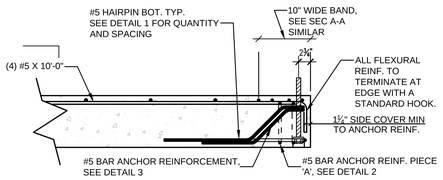


PLAN

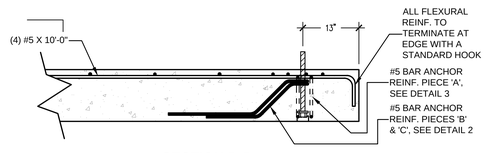
FLEXURAL REINFORCEMENT
NOT SHOWN IN PLAN FOR CLARITY



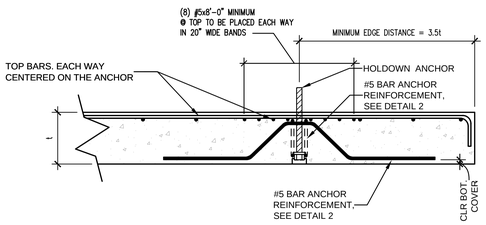
PLAN



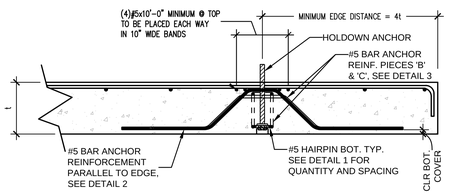
SECTION B-B



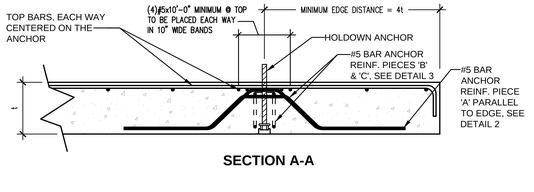
SECTION B-B



SECTION A-A



SECTION A-A



SECTION A-A

SCALE: NONE

4

HOLDOWN ANCHOR AWAY FROM EDGE

SCALE: NONE

5

HOLDOWN NEAR EDGE

SCALE: NONE

6

HOLDOWN 13" FROM EDGE

CT ENGINEERING INC.
Structural Engineers
180 Nickerson Street, Suite 302, Seattle, WA 98109
206.285.4512 (V) 206.285.0618 (F)

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ENGR: SWK	CAD: SWK	PLOT: 02/27/26

FILE: 19010 S100
JOB #:

Shelter HOLDINGS

Holdown Details

Everett Riverfront
3610 Riverfront Boulevard - Building D
Everett, Washington

S1.04

EVERETT RIVERFRONT - BUILDING D - T.O. SLAB ELEV. 35.25'

PILE NUMBER	DRIVEN GROUT PILE DIA.	T.O. PILE ELEVATION	ANTICIPATED SLEEVE DEPTH	ANTICIPATED PILE LENGTH
P-D1 THRU P-D10	16"	T.O. SLAB ELEV. -18"	SEE GEOTECH.	70'
P-D13 THRU P-D19	16"	T.O. SLAB ELEV. -18"	SEE GEOTECH.	70'
P-D21 THRU P-D31	16"	T.O. SLAB ELEV. -18"	SEE GEOTECH.	70'
P-D34 THRU P-D41	16"	T.O. SLAB ELEV. -18"	SEE GEOTECH.	70'
P-D44 THRU P-D54	16"	T.O. SLAB ELEV. -18"	SEE GEOTECH.	70'
P-D57 THRU P-D65	16"	T.O. SLAB ELEV. -18"	SEE GEOTECH.	70'
P-D67 THRU P-D77	16"	T.O. SLAB ELEV. -18"	SEE GEOTECH.	70'

EVERETT RIVERFRONT - BUILDING D - T.O. SLAB ELEV. 35.25'

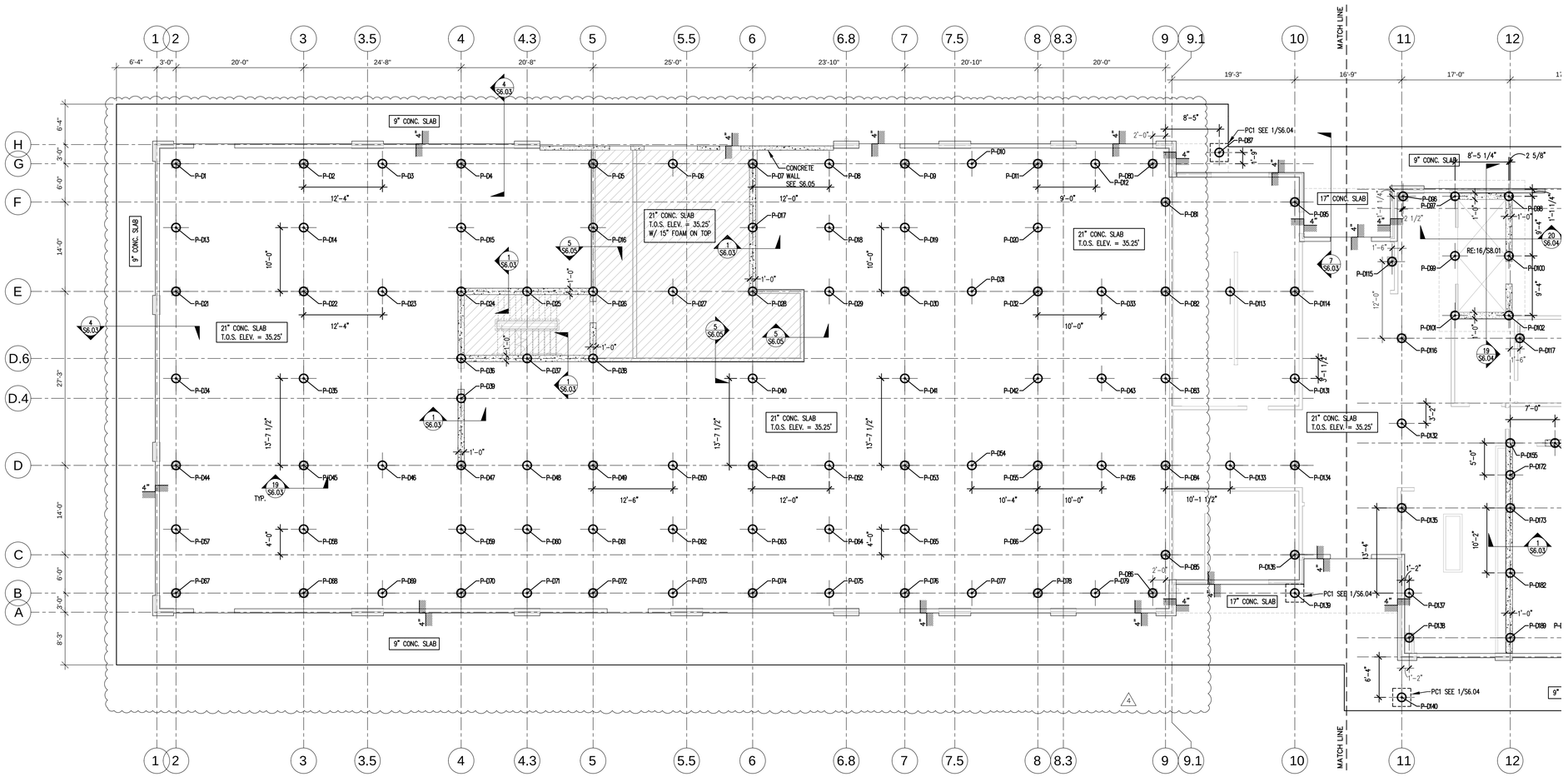
PILE NUMBER	DRIVEN GROUT PILE DIA.	T.O. PILE ELEVATION	ANTICIPATED SLEEVE DEPTH	ANTICIPATED PILE LENGTH
P-D11, P-D12, P-D20	16"	T.O. SLAB ELEV. -18"	SEE GEOTECH.	70'
P-D32, P-D33, P-D42	16"	T.O. SLAB ELEV. -18"	SEE GEOTECH.	70'
P-D43, P-D55, P-D56	16"	T.O. SLAB ELEV. -18"	SEE GEOTECH.	70'
P-D66, P-D78, P-D79	16"	T.O. SLAB ELEV. -18"	SEE GEOTECH.	70'
P-D80 THRU P-D86	16"	T.O. SLAB ELEV. -18"	SEE GEOTECH.	70'
P-D87	16"	T.O. SLAB ELEV. -22"	SEE GEOTECH.	70'
P-D88 THRU P-D93	16"	T.O. SLAB ELEV. -18"	SEE GEOTECH.	70'
P-D95 THRU P-D96	16"	T.O. SLAB ELEV. -18"	SEE GEOTECH.	70'
P-D97 THRU P-D102	16"	T.O. SLAB ELEV. -72"	SEE GEOTECH.	70'
P-D103 THRU P-D138	16"	T.O. SLAB ELEV. -18"	SEE GEOTECH.	70'
P-D139	16"	T.O. SLAB ELEV. -22"	SEE GEOTECH.	70'
P-D140	16"	T.O. SLAB ELEV. -22"	SEE GEOTECH.	70'

EVERETT RIVERFRONT - BUILDING D - T.O. SLAB ELEV. 35.25'

PILE NUMBER	DRIVEN GROUT PILE DIA.	T.O. PILE ELEVATION	ANTICIPATED SLEEVE DEPTH	ANTICIPATED PILE LENGTH
P-D141	16"	T.O. SLAB ELEV. -18"	SEE GEOTECH.	70'
P-D144 THRU P-D152	16"	T.O. SLAB ELEV. -18"	SEE GEOTECH.	70'
P-D153 THRU P-D154	16"	T.O. SLAB ELEV. -18"	SEE GEOTECH.	70'
P-D155 THRU P-D196	16"	T.O. SLAB ELEV. -18"	SEE GEOTECH.	70'
P-D197 THRU P-D202	16"	T.O. SLAB ELEV. -18"	SEE GEOTECH.	70'

STRUCTURAL DIAPHRAGM NOTE:
THE 21" & 17" CONCRETE SLAB IS A STRUCTURAL DIAPHRAGM. SLAB SHALL NOT BE MODIFIED WITHOUT PERFORMING A STRUCTURAL EVALUATION TO DETERMINE THE IMPACTS TO THE LATERAL PERFORMANCE OF THE DIAPHRAGM, GRADE BEAMS, AND PILES.

PILE SCHEDULE NOTES:
1. ALLOWABLE PILE LOAD AFTER ACCOUNTING FOR DOWNDRAG FORCES IS 255 KIPS FOR 16" DIAMETER.ANTICIPATED PILE EMBEDMENT INTO BEARING SURFACE IS 15 FEET.
2. PILE EMBEDMENT AND CAPACITY TO BE VERIFIED BY LOAD TESTING PROGRAM.
3. ANTICIPATED PILE LENGTH TO BE VERIFIED BY GEOTECHNICAL ENGINEER.
4. PILES P-D94, D-142, D-143, D-203, D-204 NOT USED.



Bldg. D Pile Plan (South)

SCALE: 1/8" = 1'-0"

REFERENCE

GRAPHIC SCALE
-8 0 4 8 16
(IN FEET)
1 inch = 8 ft.

CT ENGINEERING INC.
Structural Engineers
180 Nickerson Street Suite 302 Seattle, WA 98109
206.285.4512 (V) 206.285.0618 (F)

NO.	REVISION	DATE
4	BUILDING PERMIT CORRECTION #4	03/02/26
3	BUILDING PERMIT CORRECTION #3	10/17/24
2	BUILDING PERMIT CORRECTION #2	07/19/24
1	BUILDING PERMIT CORRECTION #1	11/03/22
ENGR: SWK	DRAWN: SWK	PLOT: 02/27/26

FILE: 19010 S200
JOB #:

Shelter HOLDINGS

Building D Pile Plan (South)

Everett Riverfront
3610 Riverfront Boulevard - Building D
Everett, Washington

S2.01D

EVERETT RIVERFRONT - BUILDING D - T.O. SLAB ELEV. 35.25'

PILE NUMBER	DRIVEN GROUT PILE DIA.	T.O. PILE ELEVATION	ANTICIPATED SLEEVE DEPTH	ANTICIPATED PILE LENGTH
P-D1 THRU P-D10	16"	T.O. SLAB ELEV. -18"	SEE GEOTECH.	70'
P-D13 THRU P-D19	16"	T.O. SLAB ELEV. -18"	SEE GEOTECH.	70'
P-D21 THRU P-D31	16"	T.O. SLAB ELEV. -18"	SEE GEOTECH.	70'
P-D34 THRU P-D41	16"	T.O. SLAB ELEV. -18"	SEE GEOTECH.	70'
P-D44 THRU P-D54	16"	T.O. SLAB ELEV. -18"	SEE GEOTECH.	70'
P-D57 THRU P-D65	16"	T.O. SLAB ELEV. -18"	SEE GEOTECH.	70'
P-D67 THRU P-D77	16"	T.O. SLAB ELEV. -18"	SEE GEOTECH.	70'

4

EVERETT RIVERFRONT - BUILDING D - T.O. SLAB ELEV. 35.25'

PILE NUMBER	DRIVEN GROUT PILE DIA.	T.O. PILE ELEVATION	ANTICIPATED SLEEVE DEPTH	ANTICIPATED PILE LENGTH
P-D11, P-D12, P-D20	16"	T.O. SLAB ELEV. -18"	SEE GEOTECH.	70'
P-D32, P-D33, P-D42	16"	T.O. SLAB ELEV. -18"	SEE GEOTECH.	70'
P-D43, P-D55, P-D56	16"	T.O. SLAB ELEV. -18"	SEE GEOTECH.	70'
P-D66, P-D78, P-D79	16"	T.O. SLAB ELEV. -18"	SEE GEOTECH.	70'
P-D80 THRU P-D86	16"	T.O. SLAB ELEV. -18"	SEE GEOTECH.	70'
P-D87	16"	T.O. SLAB ELEV. -22"	SEE GEOTECH.	70'
P-D88 THRU P-D93	16"	T.O. SLAB ELEV. -18"	SEE GEOTECH.	70'
P-D95 THRU P-D96	16"	T.O. SLAB ELEV. -18"	SEE GEOTECH.	70'
P-D97 THRU P-D102	16"	T.O. SLAB ELEV. -72"	SEE GEOTECH.	70'
P-D103 THRU P-D138	16"	T.O. SLAB ELEV. -18"	SEE GEOTECH.	70'
P-D139	16"	T.O. SLAB ELEV. -22"	SEE GEOTECH.	70'
P-D140	16"	T.O. SLAB ELEV. -22"	SEE GEOTECH.	70'

EVERETT RIVERFRONT - BUILDING D - T.O. SLAB ELEV. 35.25'

PILE NUMBER	DRIVEN GROUT PILE DIA.	T.O. PILE ELEVATION	ANTICIPATED SLEEVE DEPTH	ANTICIPATED PILE LENGTH
P-D141	16"	T.O. SLAB ELEV. -18"	SEE GEOTECH.	70'
P-D144 THRU P-D152	16"	T.O. SLAB ELEV. -18"	SEE GEOTECH.	70'
P-D153 THRU P-D154	16"	T.O. SLAB ELEV. -18"	SEE GEOTECH.	70'
P-D155 THRU P-D196	16"	T.O. SLAB ELEV. -18"	SEE GEOTECH.	70'
P-D197 THRU P-D202	16"	T.O. SLAB ELEV. -18"	SEE GEOTECH.	70'

STRUCTURAL DIAPHRAGM NOTE:
THE 21" & 17" CONCRETE SLAB IS A STRUCTURAL DIAPHRAGM. SLAB SHALL NOT BE MODIFIED WITHOUT PERFORMING A STRUCTURAL EVALUATION TO DETERMINE THE IMPACTS TO THE LATERAL PERFORMANCE OF THE DIAPHRAGM, GRADE BEAMS, AND PILES.

PILE SCHEDULE NOTES:
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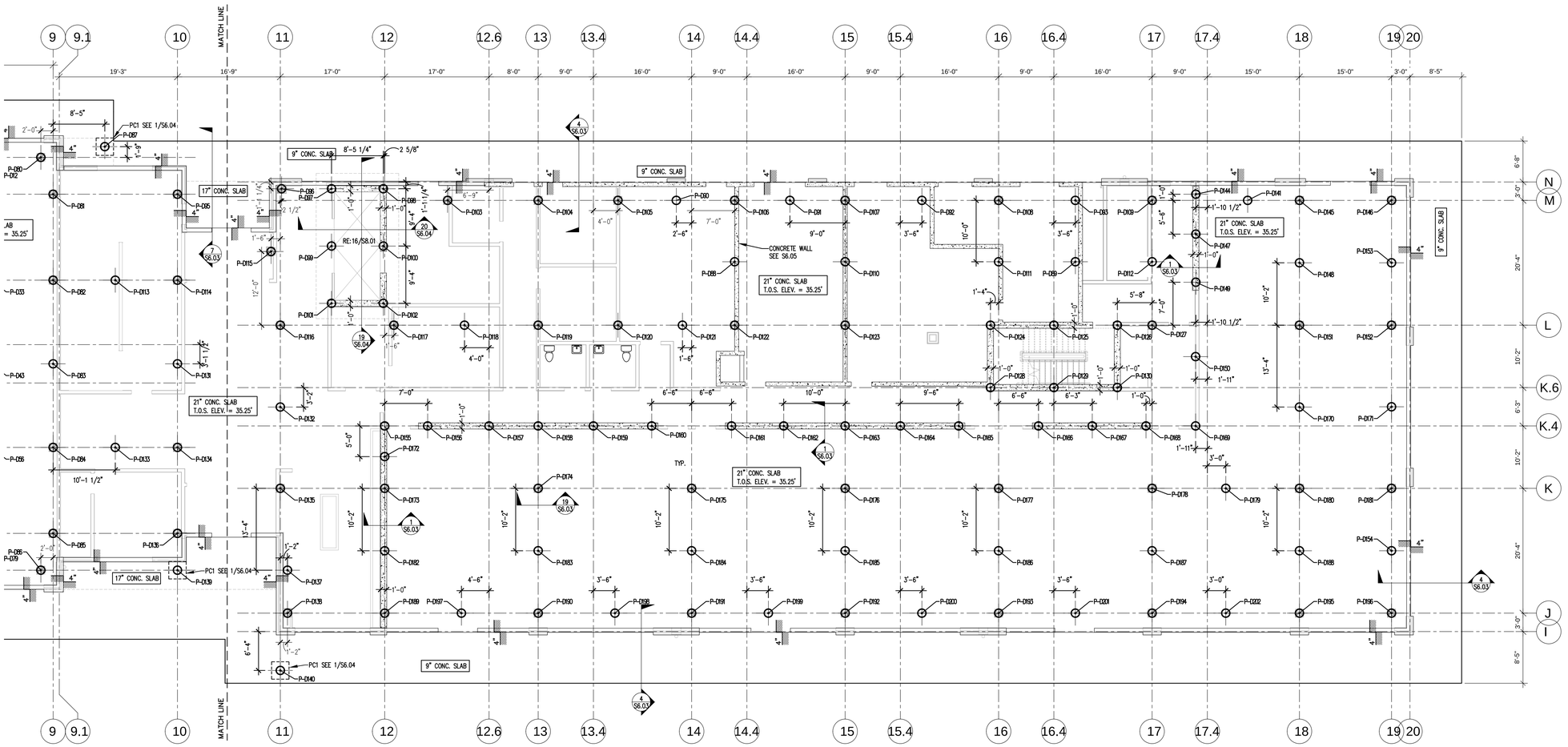
4. PILES P-D94, D-142, D-143, D-203, D-204 NOT USED.



Bldg. D Pile Plan (North)

SCALE: 1/8" = 1'-0"

REFERENCE

GRAPHIC SCALE
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(IN FEET)
1 inch = 8 ft.

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A	BUILDING PERMIT CORRECTION #1	11/03/22

ENGR: SMK | Cad: SMK | PLOT: 02/27/26 | FILE: 19010 S200
JOB #:

Shelter HOLDINGS

Building D Pile Plan (North)

Everett Riverfront
3610 Riverfront Boulevard - Building D
Everett, Washington

S2.02D

STRUCTURAL DIAPHRAGM NOTE:
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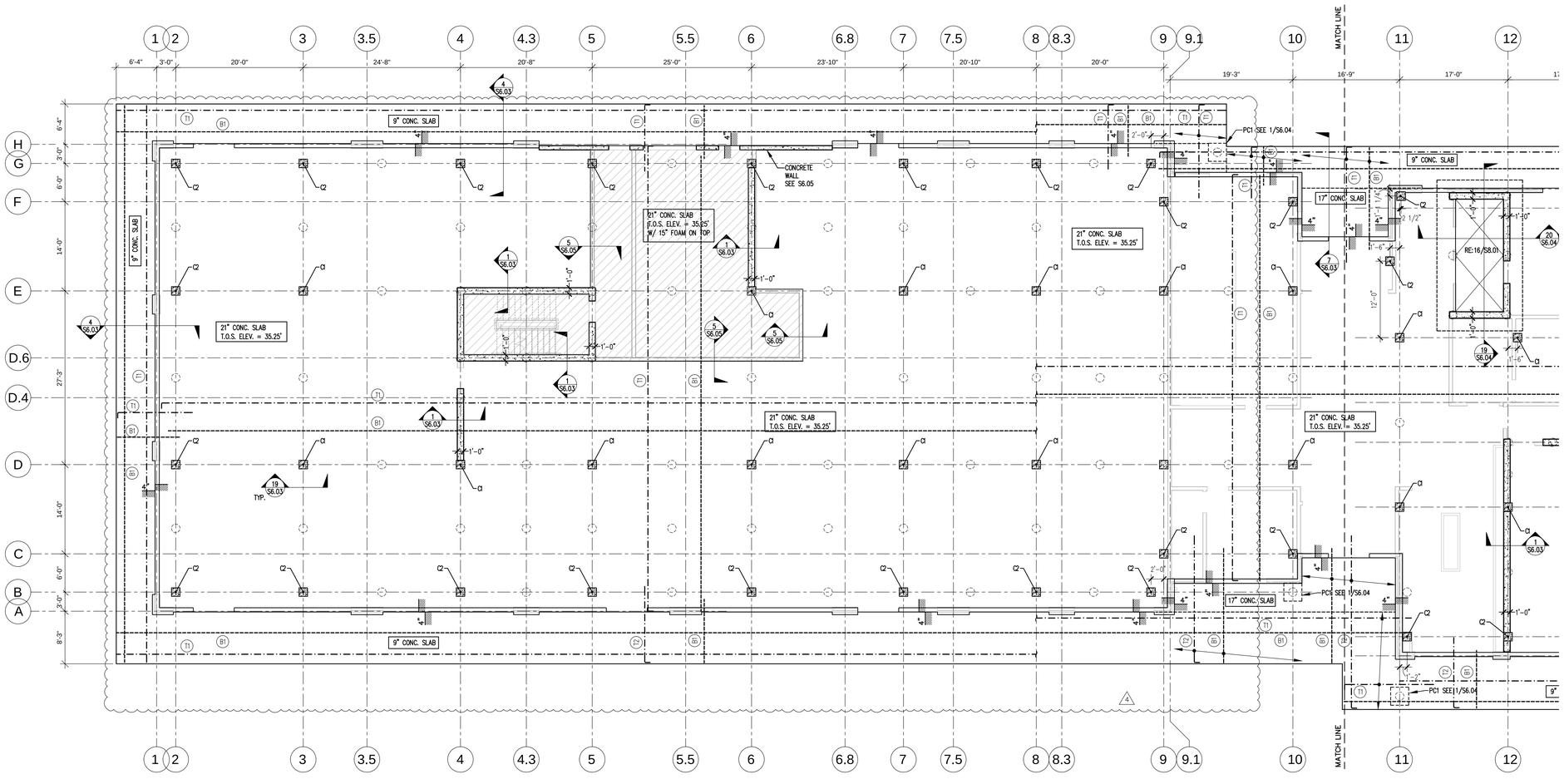
Reinforcing Keynotes

- (B1) #5 AT 12" O.C. BOT.
- (T1) #5 AT 12" O.C. TOP HOOK AT SLAB EDGE
- (T2) #6 AT 12" O.C. TOP HOOK AT SLAB EDGE
- (T3) #6 AT 8" O.C. TOP HOOK AT SLAB EDGE



Bldg. D Foundation Plan (South)

SCALE: 1/8" = 1'-0"

REFERENCE

GRAPHIC SCALE
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(IN FEET)
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A	BUILDING PERMIT CORRECTION #2	07/19/24
A	BUILDING PERMIT CORRECTION #1	11/03/22
ENGR: SWK	CAD: SWK	PLOT: 02/27/26

FILE: 19010 S200
JOB #:

Shelter HOLDINGS

Building D Foundation Plan (South)

Everett Riverfront
3610 Riverfront Boulevard - Building D
Everett, Washington

S2.11D

STRUCTURAL DIAPHRAGM NOTE:
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Reinforcing Keynotes

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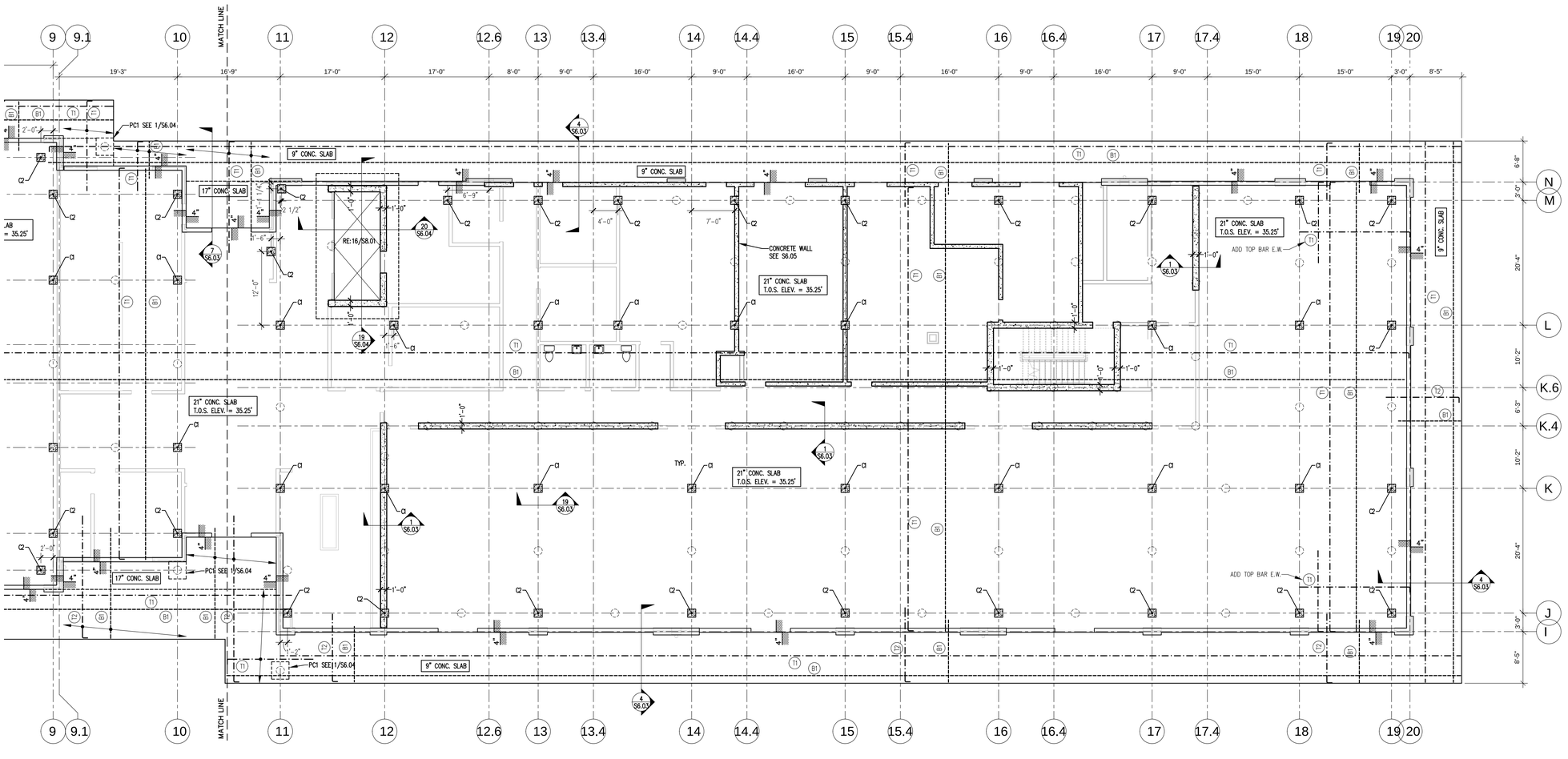
- (T1) #5 AT 12" O.C. TOP HOOK AT SLAB EDGE
- (T2) #6 AT 12" O.C. TOP HOOK AT SLAB EDGE
- (T3) #6 AT 8" O.C. TOP HOOK AT SLAB EDGE



Bldg. D Foundation Plan (North)

SCALE: 1/8" = 1'-0"

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1	BUILDING PERMIT CORRECTION #1	11/03/22
	ENGR: SWK Cad: SWK PLOT: 02/27/26	FILE: 19010 S200
		JOB #:

Shelter HOLDINGS

Building D Foundation Plan (North)

Everett Riverfront
3610 Riverfront Boulevard - Building D
Everett, Washington

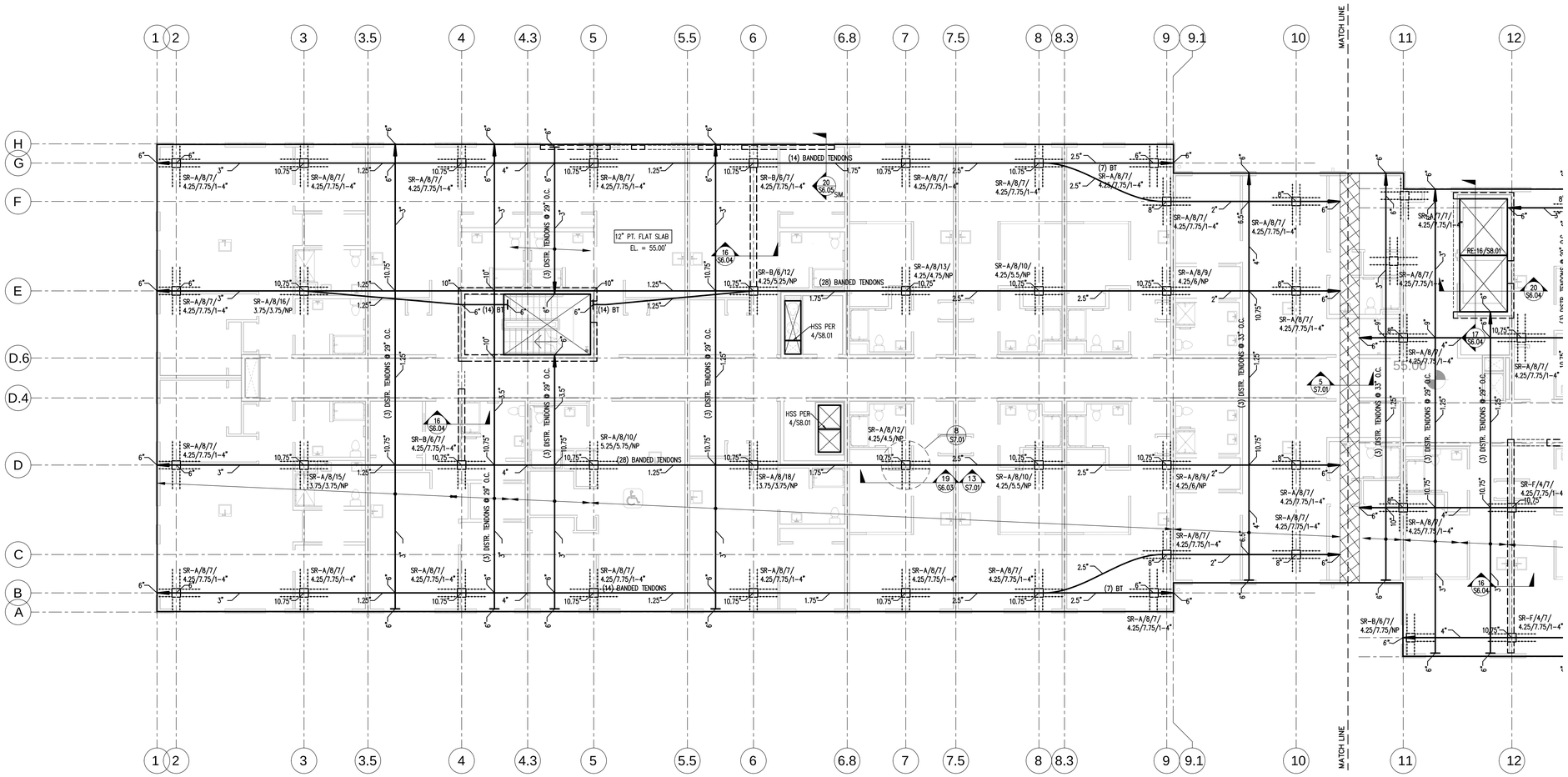
S2.12D

Post Tension Slab Notes

1. ALL CONCRETE FOR POST TENSIONED SLABS TO BE f'c = 3000 PSI PRIOR TO STRESSING AND 5000 PSI @ 28 DAYS.
2. T = TOP
   B=BOTTOM MAT
   MD = MID DEPTH OF SLAB
3. TENDON ELEVATIONS INDICATED ARE MEASURED FROM BOTTOM OF SLAB TO C.G.S. OF 1/2" DIAMETER TENDON. NOTE: TENDON ELEVATIONS MARKED WITH AN ASTERISK (I.E. *17 3/4") ARE MEASURED FROM BOTTOM OF DROPPED SOFFIT TO C.G.S. OF 1/2" DIAMETER TENDON.
4. REBAR PARALLEL TO BANDED TENDONS SHALL BE AT TOP UPPER MAT. REBAR PERPENDICULAR TO BANDED TENDONS SHALL BE TOP BARS AT LOWER MAT.
5. DASHED LINES INDICATE WALLS BELOW THIS LEVEL, SOLID LINES INDICATE WALLS AT THIS LEVEL.
6. SLAB OPENINGS – SEE DETAILS 6–9, 11–12/S7.02
7. COLUMN PENETRATION – SEE DETAIL 19/S6.03
8. STRESSING END (2 & 4 / S7.01)
   ANCHOR END (1, 3 / S7.01)
   ADDED TENDON ANCHOR (18 / S7.01)
9. PROVIDE MINIMUM OF (2) DISTRIBUTED TENDONS OVER CONCRETE COLUMNS.
10. CONCRETE ELEVATION LEGEND:
    38.5' TOP OF CONCRETE ELEVATION
    T.O.W. 34.5 TOP OF CONCRETE WALL ELEVATION
    C5 CONCRETE COLUMN
11. 3" STEP IN SLAB 3" STEP IN SOFFIT
12. CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY PROPOSED SLAB PENETRATIONS OR OPENINGS NOT SHOWN ON THESE DRAWINGS PRIOR TO CONSTRUCTION.
13. CONTRACTOR SHALL SUBMIT TO THE ENGINEER ACCURATE PLANS ILLUSTRATING LOCATION AND SIZE OF ALL ITEMS TO BE EMBEDDED IN SLAB INCLUDING ELECTRICAL CONDUIT, PLUMBING, DRAINS, ETC..
14. STUDRAIL LEGEND – SEE DETAILS S7.03

    SR–A/10/6/3.0/4.75/1–4"
    - ONE 4" PENETRATION ALLOWED "NP" NO PENETRATIONS ALLOWED (12 / S7.03)
    - SPACING BETWEEN RAILS
    - FIRST SPACING So
    - NUMBER OF STUDS PER RAIL
    - QUANTITY OF STUDRAILS
    - STUDRAIL CONFIGURATION TYPE (1 / S7.03)

Note:
ALL SECTION CUTS ARE TYPICAL



Bldg. D Level 2 PT Slab Plan (South)

SCALE: 1/8" = 1'–0"

REFERENCE

GRAPHIC SCALE
–8 0 4 8 16
(IN FEET)
1 inch = 8 ft.

CT ENGINEERING INC.
Structural Engineers
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206.285.4512 (V) 206.285.0618 (F)

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1	BUILDING PERMIT CORRECTION #1	11/03/22

ENGR: SMK | CAD: SMK | PLOT: 02/27/26 | FILE: 19010 S301

JOB #:

Shelter HOLDINGS

Building D - Level 2 PT Plan (South)

Everett Riverfront
3610 Riverfront Boulevard - Building D
Everett, Washington

S3.11D

Post Tension Slab Notes

1. ALL CONCRETE FOR POST TENSIONED SLABS TO BE f'c = 3000 PSI PRIOR TO STRESSING AND 5000 PSI @ 28 DAYS.
2. T = TOP
   B=BOTTOM MAT
   MD = MID DEPTH OF SLAB
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4. REBAR PARALLEL TO BANDED TENDONS SHALL BE AT TOP UPPER MAT. REBAR PERPENDICULAR TO BANDED TENDONS SHALL BE TOP BARS AT LOWER MAT.
5. DASHED LINES INDICATE WALLS BELOW THIS LEVEL, SOLID LINES INDICATE WALLS AT THIS LEVEL.
6. SLAB OPENINGS – SEE DETAILS 6–9, 11–12/S7.02
7. COLUMN PENETRATION – SEE DETAIL 19/S6.03
8. STRESSING END (2-4 / S7.01)
   ANCHOR END (1-3 / S7.01)
   ADDED TENDON ANCHOR (18 / S7.01)
9. PROVIDE MINIMUM OF (2) DISTRIBUTED TENDONS OVER CONCRETE COLUMNS.
10. CONCRETE ELEVATION LEGEND:
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    SR–A/10/6/3.0/4.75/1–4"
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    - SPACING BETWEEN RAILS
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    - QUANTITY OF STUDRAILS
    - STUDRAIL CONFIGURATION TYPE (1 / S7.03)

Note:
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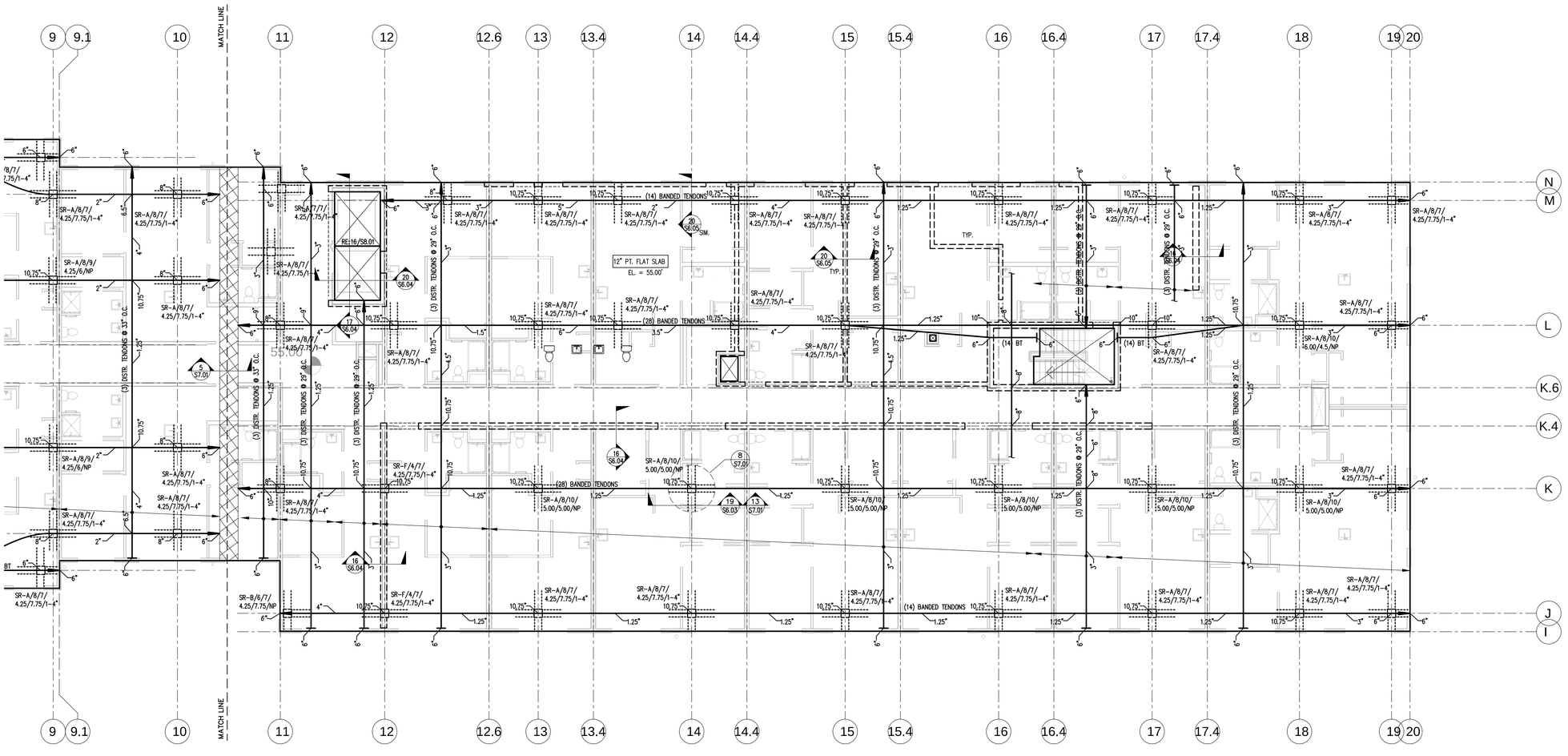

Bldg. D Level 2 PT Slab Plan (North)

SCALE: 1/8" = 1'–0"

REFERENCE

GRAPHIC SCALE
–8 0 4 8 16
(IN FEET)
1 inch = 8 ft.

CT ENGINEERING INC.
Structural Engineers
180 Nickerson Street Suite 302 Seattle, WA 98109
206.285.4512 (V) 206.285.0618 (F)

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2	BUILDING PERMIT CORRECTION #2	07/19/24
1	BUILDING PERMIT CORRECTION #1	11/03/22

ENGR: SNK | CAD: SNK | PLOT: 02/27/26 | FILE: 19010 S301
JOB #:

Shelter HOLDINGS

Building D - Level 2 PT Plan (North)

Everett Riverfront
3610 Riverfront Boulevard - Building D
Everett, Washington

S3.12D

Post Tension Slab Notes

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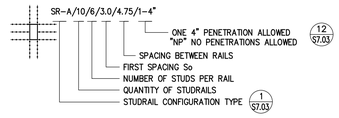
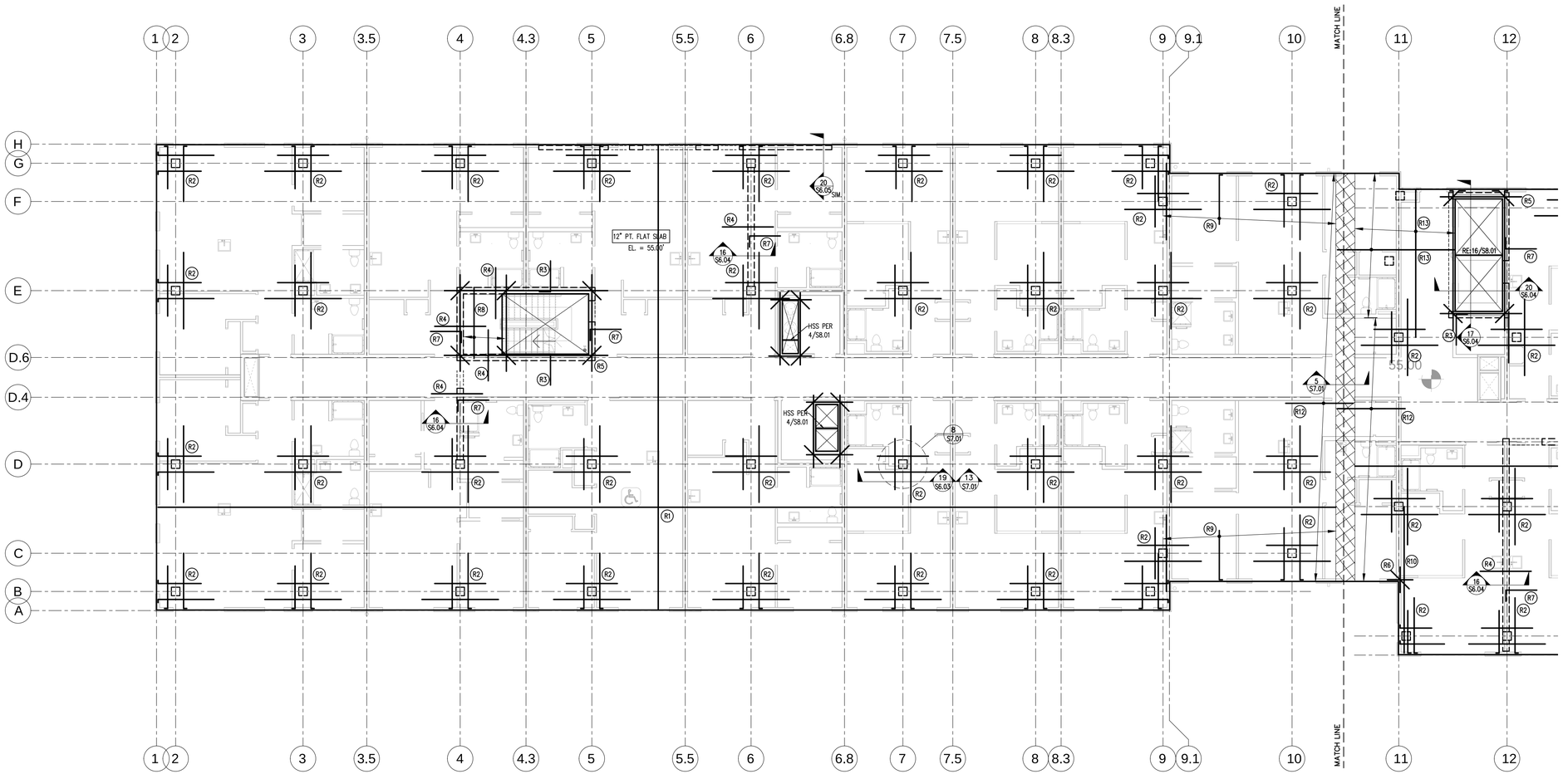
14. STUDRAIL LEGEND – SEE DETAILS S7.03



Note:
ALL SECTION CUTS ARE TYPICAL

Reinforcing Keynotes

R1 #5 AT 24" O.C. BOTTOM EACH WAY
R2 (12) #5 X 12'–0" TOP EACH WAY & (4) #5 X 8'–0" BOTTOM EACH WAY HOOK TOP AND BOTTOM AT SLAB EDGE COLUMN REINFORCING, TYPICAL, U.N.O.
R3 #5 AT 12" O.C. T. TYPICAL AT ALL CONCRETE WALLS ALTERNATE HOOKS AT INTERIOR WALLS (4'–0" / 4'–0")
R4 #5 X 8'–0" AT 12" O.C. T. TYPICAL AT INTERIOR CONCRETE WALLS
R5 TYPICAL CORNER REINFORCING RE: 16/S7.02
R6 TYPICAL TRIM BARS AT REENTRANT CORNERS RE: 14/S7.02
R7 (2) #5 AT 12" O.C. T. ALTERNATE HOOKS AT INTERIOR WALLS (4'–0" / 4'–0")
R8 #5 @ 12" O.C. B.
R9 #5X8' @ 12" O.C. T. W/ HK.
R10 (5) #6 @ 4" O.C. B.
R11 NOT USED
R12 #6 X 10'–6" @ 12" O.C. B
R13 #5 @ 10" O.C. T. & ADD #5 @ 12" O.C. B. E.W. HOOK AT SLAB EDGE



Bldg. D Level 2 Reinf. Slab Plan (South)
SCALE: 1/8" = 1'–0"

REFERENCE

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	ENGR: SMK CAD: SMK PLOT: 02/27/26	FILE: 19010 S301
		JOB #:

Shelter HOLDINGS

Building D - Level 2 Reinforcement Plan (South)

Everett Riverfront
3610 Riverfront Boulevard - Building D
Everett, Washington

S3.21D

Post Tension Slab Notes

1. ALL CONCRETE FOR POST TENSIONED SLABS TO BE f'c = 3000 PSI PRIOR TO STRESSING AND 5000 PSI @ 28 DAYS.
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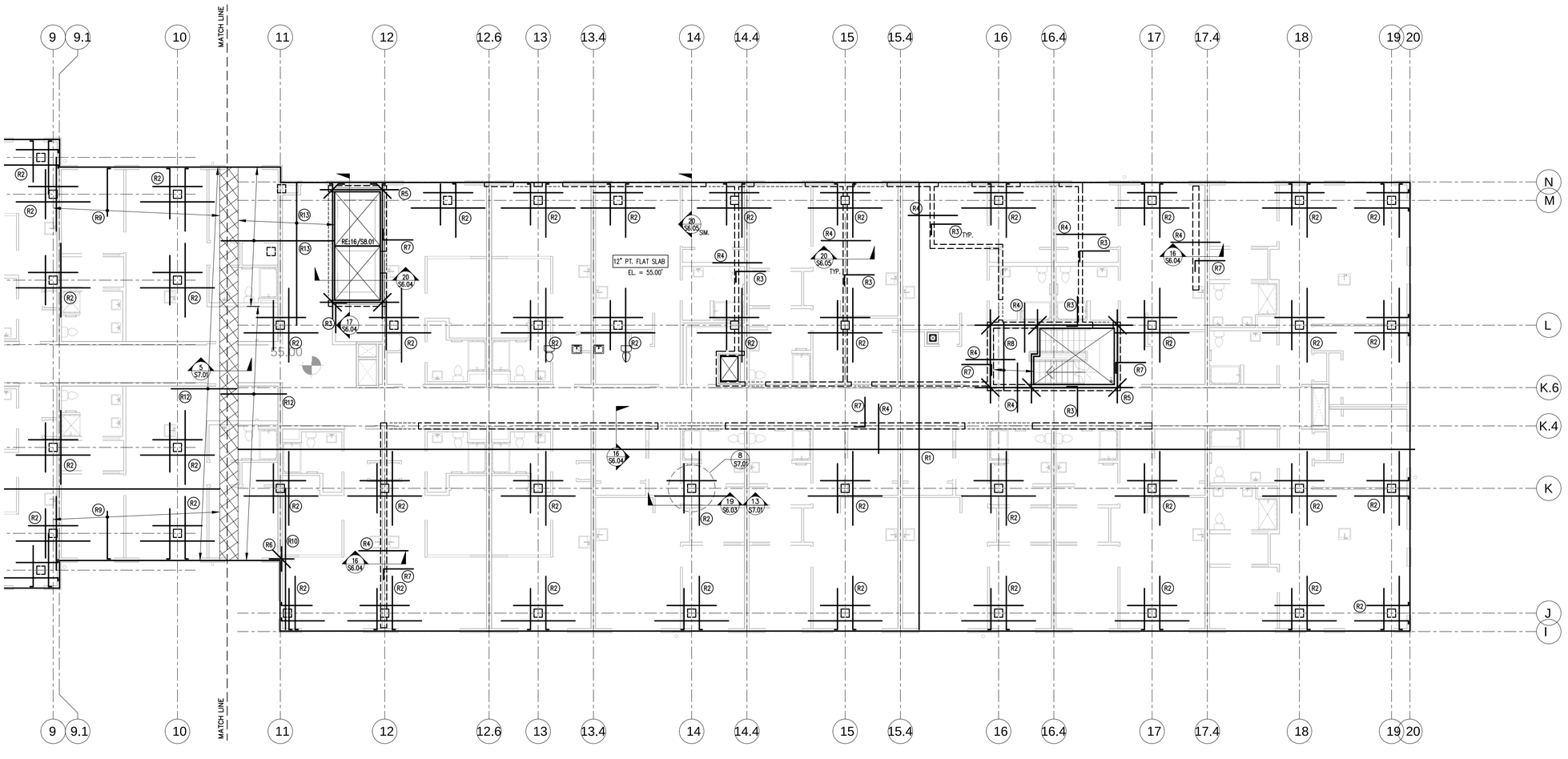
11. 3" STEP IN SLAB; 3" STEP IN SOFFIT
12. CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY PROPOSED SLAB PENETRATIONS OR OPENINGS NOT SHOWN ON THESE DRAWINGS PRIOR TO CONSTRUCTION.
13. CONTRACTOR SHALL SUBMIT TO THE ENGINEER ACCURATE PLANS ILLUSTRATING LOCATION AND SIZE OF ALL ITEMS TO BE EMBEDDED IN SLAB INCLUDING ELECTRICAL CONDUIT, PLUMBING, DRAINS, ETC..
14. STUDRAIL LEGEND – SEE DETAILS S7.03

    SR–A/10/6/3.0/4.75/1–4"
    - ONE 4" PENETRATION ALLOWED "NP" NO PENETRATIONS ALLOWED (12 / S7.03)
    - SPACING BETWEEN RAILS
    - FIRST SPACING So
    - NUMBER OF STUDS PER RAIL
    - QUANTITY OF STUDRAILS
    - STUDRAIL CONFIGURATION TYPE (1 / S7.03)

Note:
ALL SECTION CUTS ARE TYPICAL

Reinforcing Keynotes

R1 #5 AT 24" O.C. BOTTOM EACH WAY
R2 (12) #5 X 12'–0" TOP EACH WAY & (4) #5 X 8'–0" BOTTOM EACH WAY HOOK TOP AND BOTTOM AT SLAB EDGE COLUMN REINFORCING, TYPICAL, U.N.O.
R3 #5 AT 12" O.C. T. TYPICAL AT ALL CONCRETE WALLS ALTERNATE HOOKS AT INTERIOR WALLS (4'–0")
R4 #5 X 8'–0" AT 12" O.C. T. TYPICAL AT INTERIOR CONCRETE WALLS
R5 TYPICAL CORNER REINFORCING RE: 16/S7.02
R6 TYPICAL TRIM BARS AT REENTRANT CORNERS RE: 14/S7.02
R7 (2) #5 AT 12" O.C. T. ALTERNATE HOOKS AT INTERIOR WALLS (4'–0")
R8 #5 @ 12" O.C. B.
R9 #5X8' @ 12" O.C. T. W/ HK.
R10 (5) #6 @ 4" O.C. B.
R11 NOT USED
R12 #6 X 10'–6" @ 12" O.C. B
R13 #5 @ 10" O.C. T. & ADD #5 @ 12" O.C. B. E.W. HOOK AT SLAB EDGE



Bldg. D Level 2 Reinf. Slab Plan (North)
SCALE: 1/8" = 1'–0"

REFERENCE

GRAPHIC SCALE
–8 0 4 8 16
(IN FEET)
1 inch = 8 ft.

CT ENGINEERING INC.
Structural Engineers
180 Nickerson Street Suite 302 Seattle, WA 98109
206.285.4512 (V) 206.285.0618 (F)

NO.	REVISION	DATE
4	BUILDING PERMIT CORRECTION #4	03/02/26
3	BUILDING PERMIT CORRECTION #3	10/17/24
2	BUILDING PERMIT CORRECTION #2	07/19/24
1	BUILDING PERMIT CORRECTION #1	11/03/22
	ENGR: SWK CAD: SWK PLOT: 02/27/26	FILE: 19010 S301
		JOB #:

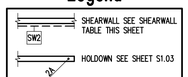
Shelter HOLDINGS

Building D - Level 2 Reinforcement Plan (North)

Everett Riverfront
3610 Riverfront Boulevard - Building D
Everett, Washington

S3.22D

Legend

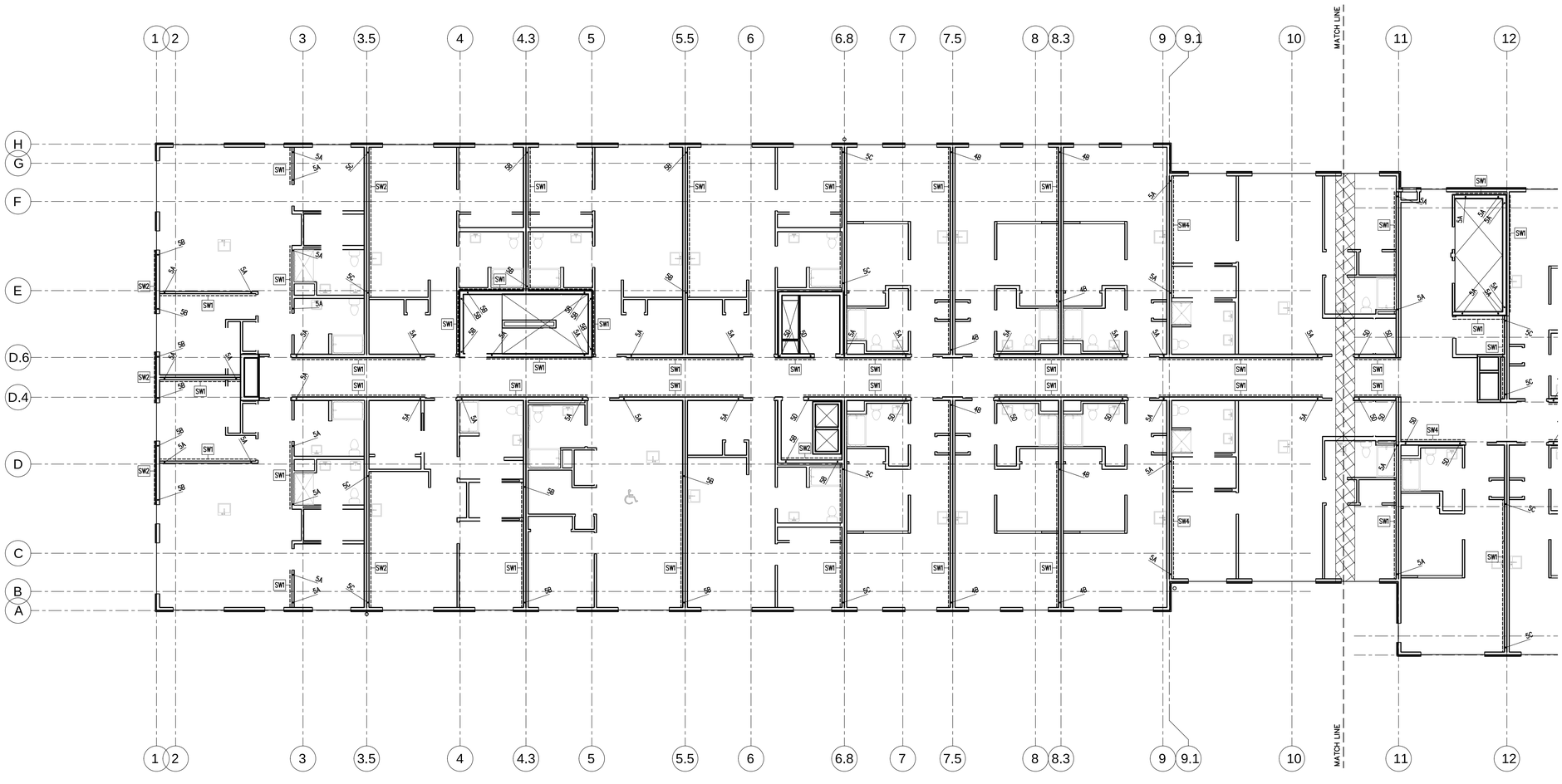


Shearwall Table

TYPE	LEVEL 2	LEVEL 3	LEVEL 4	LEVEL 5	LEVEL 6
SW1	P2	P2	P3	P4	P6
SW2	P3	P3	P4	P4	P6
SW3	P3	P3	P4	P4	--
SW4	P2-T	P2	P2	P4	P6

Shearwall/Holdown Plan Notes

1. ALL PLUMBING, MECHANICAL, AND ELECTRICAL SYSTEMS SHALL BE DESIGNED AND BUILT TO ACCOMMODATE 3/8" PER FLOOR WOOD SHRINKAGE.
2. FRAMING MEMBERS AND SHEATHING SHALL BE PER STRUCTURAL NOTES AS NOTED ON SHEET S1.01.
3. SOME SHEARWALLS REQUIRE 3X FRAMING AT PANEL EDGES. RE: SHEARWALL SCHEDULE ON SHEET S1.02.
4. PROVIDE BLOCKING ATOP SHEARWALLS PER SHEARWALL SCHEDULE SHEET S1.02.
5. SEE DETAILS ON SHEET S9.01 FOR TYPICAL CORNER FRAMING DETAILS.
6. ALL EXTERIOR WALLS SHALL BE SHEATHED W/PLYWOOD. USE TYPE P6 SHEARWALL, TYPICAL U.N.O.
7. SEE SHEET S1.02 FOR SHEARWALL SCHEDULE AND DETAILS.
8. SEE SHEET S1.03 & S1.04 FOR HOLDOWN SCHEDULE AND DETAILS.
9. SEE SHEARWALL SCHEDULE ON SHEET S1.02 FOR WALL SHEATHING, ADDITIONAL PLATE AND STUD REQUIREMENTS, BLOCKING, AND PLATE NAILING.
10. SEE HOLDOWN SCHEDULE ON SHEET S1.03 FOR ADDITIONAL STUDS.
11. SEE ARCHITECTURAL PLANS FOR DRAFTSTOP AND VENTING LOCATIONS.
12. SEE ARCHITECTURAL PLANS FOR DIMENSIONS AND TOP PLATE ELEVATIONS.



Bldg. D Shearwall & Holdown Plan (South)

SCALE: 1/8" = 1'-0"

REFERENCE

GRAPHIC SCALE
-8 0 4 8 16
(IN FEET)
1 inch = 8 ft.

CT ENGINEERING INC.
Structural Engineers
180 Nickerson Street Suite 302 Seattle, WA 98109
206.285.4512 (V) 206.285.0618 (F)

NO.	REVISION	DATE
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3	BUILDING PERMIT CORRECTION #3	10/17/24
2	BUILDING PERMIT CORRECTION #2	07/19/24
1	BUILDING PERMIT CORRECTION #1	11/03/22
	ENGR: SMK CAD: SMK PLOT: 02/27/26	FILE: 19010 S309 JOB #:

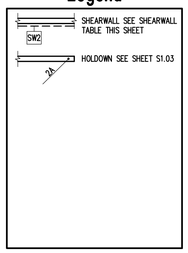
Shelter HOLDINGS

Building D Shearwall & Holdown Plan (South)

Everett Riverfront
3610 Riverfront Boulevard - Building D
Everett, Washington

S3.91D

Legend

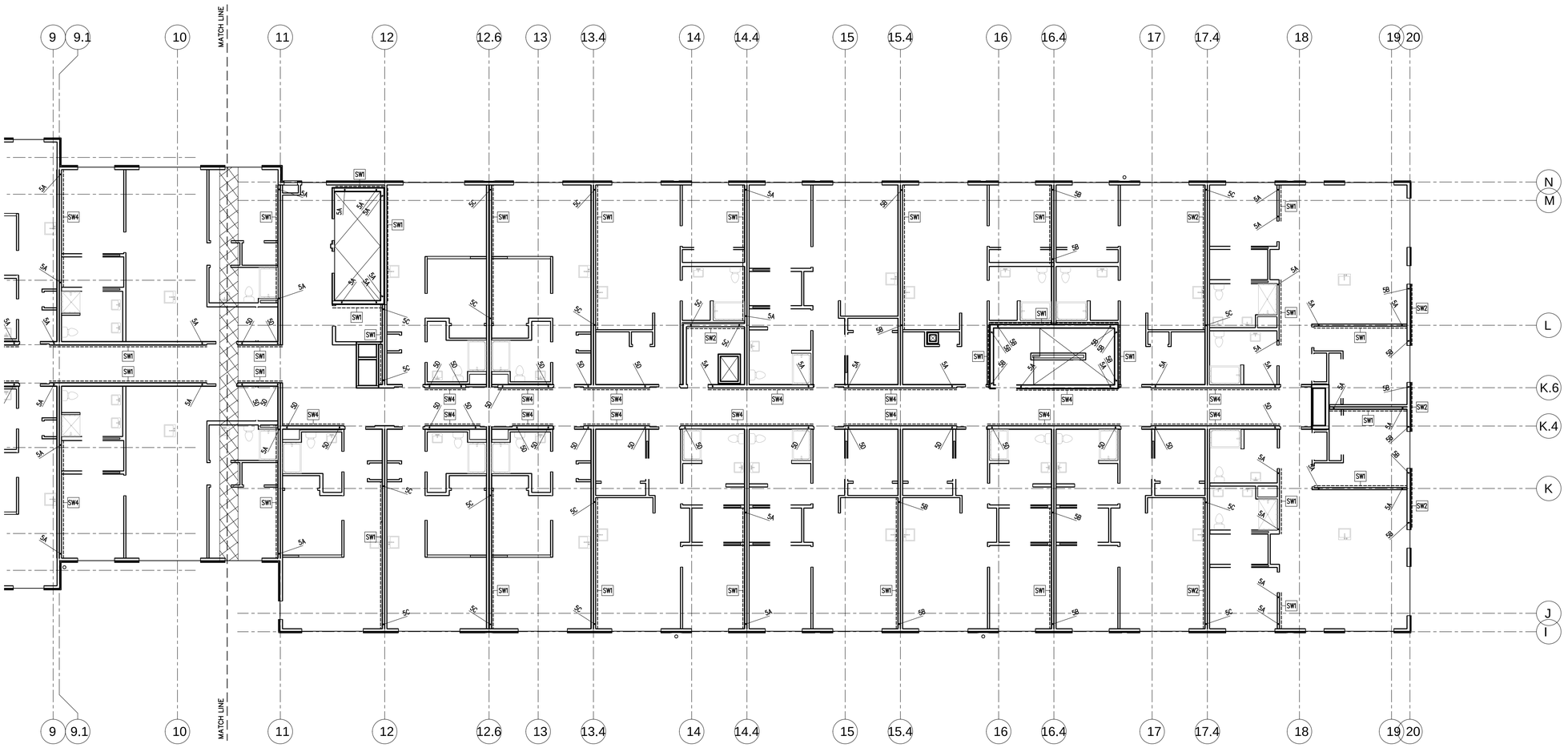


Shearwall Table

TYPE	LEVEL 2	LEVEL 3	LEVEL 4	LEVEL 5	LEVEL 6
SW1	P2	P2	P3	P4	P6
SW2	P3	P3	P4	P4	P6
SW3	P3	P3	P4	P4	--
SW4	P2-T	P2	P2	P4	P6

Shearwall/Holdown Plan Notes

1. ALL PLUMBING, MECHANICAL, AND ELECTRICAL SYSTEMS SHALL BE DESIGNED AND BUILT TO ACCOMMODATE 3/8" PER FLOOR WOOD SHRINKAGE.
2. FRAMING MEMBERS AND SHEATHING SHALL BE PER STRUCTURAL NOTES AS NOTED ON SHEET S1.01.
3. SOME SHEARWALLS REQUIRE 3X FRAMING AT PANEL EDGES. RE: SHEARWALL SCHEDULE ON SHEET S1.02.
4. PROVIDE BLOCKING ATOP SHEARWALLS PER SHEARWALL SCHEDULE SHEET S1.02.
5. SEE DETAILS ON SHEET S9.01 FOR TYPICAL CORNER FRAMING DETAILS.
6. ALL EXTERIOR WALLS SHALL BE SHEATHED W/PLYWOOD. USE TYPE P6 SHEARWALL, TYPICAL U.N.O.
7. SEE SHEET S1.02 FOR SHEARWALL SCHEDULE AND DETAILS.
8. SEE SHEET S1.03 & S1.04 FOR HOLDOWN SCHEDULE AND DETAILS.
9. SEE SHEARWALL SCHEDULE ON SHEET S1.02 FOR WALL SHEATHING, ADDITIONAL PLATE AND STUD REQUIREMENTS, BLOCKING, AND PLATE NAILING.
10. SEE HOLDOWN SCHEDULE ON SHEET S1.03 FOR ADDITIONAL STUDS.
11. SEE ARCHITECTURAL PLANS FOR DRAFTSTOP AND VENTING LOCATIONS.
12. SEE ARCHITECTURAL PLANS FOR DIMENSIONS AND TOP PLATE ELEVATIONS.



Bldg. D Shearwall & Holdown Plan (North)

SCALE: 1/8" = 1'-0"

REFERENCE

GRAPHIC SCALE
-8 0 4 8 16
(IN FEET)
1 inch = 8 ft.

CT ENGINEERING INC.
Structural Engineers
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206.285.4512 (V) 206.285.0618 (F)

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3	BUILDING PERMIT CORRECTION #3	10/17/24
2	BUILDING PERMIT CORRECTION #2	07/19/24
1	BUILDING PERMIT CORRECTION #1	11/03/22

ENGR: SWK | CAD: SWK | PLOT: 02/27/26 | FILE: 19010 S309 | JOB #:

Shelter HOLDINGS

Building D Shearwall & Holdown Plan (North)

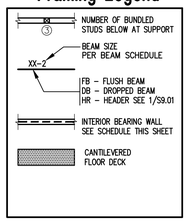
Everett Riverfront
3610 Riverfront Boulevard - Building D
Everett, Washington

S3.92D

Floor/Roof Framing Notes

1. FRAMING – PREMANUFACTURED JOISTS PER PLAN. SECURE JOIST TO TOP PLATE WITH (2) 8d NAILS. BLOCKING AT BEARING AND SHEARWALLS SHALL BE PER BEARING WALL AND SHEARWALL SCHEDULE. USE IUS HANGERS TO MATCH JOIST SIZE AT FLUSH FRAMING CONDITIONS.
2. FLOOR SHEATHING SHALL BE GLUED AND NAILED.
3. WALLS INDICATED ARE BELOW THE FRAMING LEVEL. SEE BEARING WALL SCHEDULE THIS SHEET.
4. PLUMBING, MECHANICAL, AND ELECTRICAL SYSTEMS SHALL BE DESIGNED AND BUILT TO ACCOMMODATE 3/8" PER FLOOR WOOD SHRINKAGE.
5. SEE DETAIL 1/S9.01 FOR TYPICAL HEADER/BUNDLED STUD CONSTRUCTION.
6. SEE ARCHITECTURAL PLANS FOR DRAFTSTOP AND VENTING LOCATIONS.
7. SEE ARCHITECTURAL PLANS FOR DIMENSIONS AND TOP PLATE ELEVATIONS.
8. SOME SHEARWALLS REQUIRE 3X FRAMING AT PANEL EDGES. SEE SHEARWALL SCHEDULE ON SHEET S1.02.
9. HANGERS INDICATED ARE AS MANUFACTURED BY SIMPSON STRONG-TIE. SEE SHEET S9.01 FOR BEAM HANGER SCHEDULE.
10. PROVIDE BLOCKING ATOP SHEARWALLS.
11. BUNDLED STUDS FROM THIS LEVEL SHALL BE CONTINUED DOWN TO PT SLAB OR SUPPORTING BEAM.
12. PROVIDE BLOCKING AT ALL BUNDLED STUDS, SEE DETAIL 4/S9.01.
13. ALL BEAMS AND HEADERS SHALL HAVE A MINIMUM OF (1) FULL HEIGHT STUD AT EACH END FOR BRACING TYPICAL UNLESS NOTED OTHERWISE
14. PROVIDE MINIMUM (2) 2X BUNDLED STUDS UNDER EACH BEAM END, TYPICAL UNLESS NOTED OTHERWISE.
15. SEE DETAILS ON SHEET S9.01 FOR TYPICAL CORNER FRAMING DETAILS.
16. SEE 19/S9.01 FOR TYPICAL STAIR FRAMING DETAILS.
17. ALL EXTERIOR WALLS SHALL BE SHEATHED WITH PLYWOOD. USE TYPE P6 SHEARWALL, TYPICAL, U.N.O.
18. SEE DETAIL 3/S9.01 FOR NOTCHES AND HOLES IN STUDS.
19. SEE 13/S9.02 AND 13/S9.03 DETAILS FOR ROOF TOP MECHANICAL EQUIPMENTS. SEE MECHANICAL DRAWINGS FOR LOCATIONS.

Framing Legend



Joist Schedule

MARK	JOIST
J-1	11 7/8" TJI 110 @ 16" O.C.
J-2	(2) 11 7/8" TJI 210 @ 16" O.C.
J-3	11 7/8" TJI 110 @ 24" O.C.
J-4	11 7/8" TJI 230 @ 24" O.C.
J-5	9 1/2" TJI 230 @ 12" O.C.
J-6	16" TJI 110 @ 16" O.C.
J-7	16" TJI 110 @ 24" O.C.

Wood Beam Schedule

TYPE	SIZE	HANGER
XX-1	4X8	HUS48
XX-2	6X10	HU610
XX-3	LSL 1 3/4 X 11 7/8	HU11
XX-4	PSL 3 1/2 X 11 7/8	HHUS410
XX-5	PSL 5 1/4 X 11 7/8	HHUS5.5/10
XX-6	PSL 7 X 11 7/8	HGU7.25-SDS
XX-7	LSL 3 1/2 X 7 1/4	HHUS48
XX-8	PSL 3 1/2 X 9 1/2	HHUS410

Bearing Wall Stud Schedule

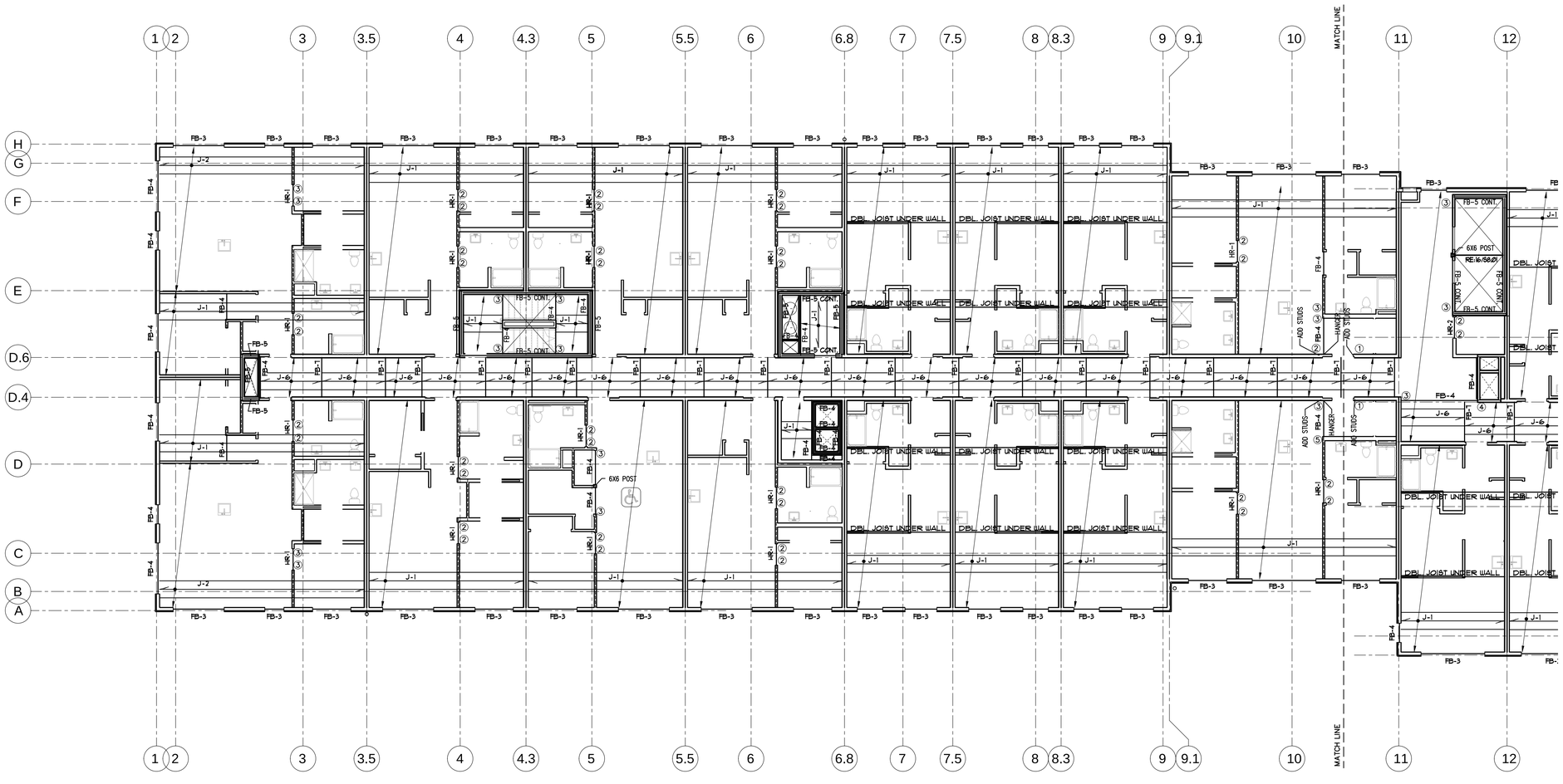
WALL TYPE	LEVEL	PLATE SIZE	STUD SIZE AND SPACING, U.N.O.	RIM/BLOCKING
EXTERIOR	LEVEL 6	2X6 DF	2X6 @ 16" O.C. DF #2	1 3/4" LSL RIM
	LEVEL 5	2X6 DF	2X6 @ 16" O.C. DF #2	1 3/4" LSL RIM
	LEVEL 4	2X6 DF	2X6 @ 16" O.C. DF #2	1 3/4" LSL RIM
	LEVEL 3	2X6 DF	2X6 @ 16" O.C. DF #2	1 3/4" LSL RIM
	LEVEL 2	2X6 DF	2X6 @ 16" O.C. DF #2	1 3/4" LSL RIM
CORRIDOR	LEVEL 6	2X6 DF	2X6 @ 16" O.C. DF #2	3 1/2" LSL RIM
	LEVEL 5	2X6 DF	2X6 @ 16" O.C. DF #2	3 1/2" LSL RIM
	LEVEL 4	2X6 DF	2X6 @ 16" O.C. DF #2	3 1/2" LSL RIM
	LEVEL 3	2X6 DF	2X6 @ 16" O.C. DF #2	3 1/2" LSL RIM
	LEVEL 2	2X6 DF	2X6 @ 16" O.C. DF #2	3 1/2" LSL RIM
INTERIOR	LEVEL 6	2X4 DF	2X4 @ 16" O.C. DF #2	1 3/4" LSL BLK'G
	LEVEL 5	2X4 DF	3X4 @ 16" O.C. DF #2	1 3/4" LSL BLK'G
	LEVEL 4	2X4 DF	3X4 @ 16" O.C. DF #2	1 3/4" LSL BLK'G
	LEVEL 3	2X4 DF	(2) 2X4 @ 16" O.C. DF #2	1 3/4" LSL BLK'G
	LEVEL 2	2X4 DF	(2) 3X4 @ 16" O.C. DF #2	(2) 1 3/4" LSL BLK'G
INTERIOR @ 2-BR END UNITS AND UNDER ROOF DECK	LEVEL 6	DBL. 2X4 DF	2X4 @ 16" O.C. DF #2	1 3/4" LSL BLK'G
	LEVEL 5	DBL. 2X4 DF	3X4 @ 16" O.C. DF #2	1 3/4" LSL BLK'G
	LEVEL 4	DBL. 2X4 DF	(2) 3X4 @ 16" O.C. DF #2	1 3/4" LSL BLK'G
	LEVEL 3	DBL. 2X4 DF	(2) 3X4 @ 16" O.C. DF #2	(2) 1 3/4" LSL BLK'G
	LEVEL 2	DBL. 2X4 DF	(2) 3X4 @ 16" O.C. DF #2	(2) 1 3/4" LSL BLK'G
PARTY	LEVEL 6	DBL. 2X4 DF	DBL. 2X4 @ 16" O.C. DF #2	1 3/4" LSL RIM/BLK'G
	LEVEL 5	DBL. 2X4 DF	DBL. 2X4 @ 16" O.C. DF #2	1 3/4" LSL RIM/BLK'G
	LEVEL 4	DBL. 2X4 DF	DBL. 2X4 @ 16" O.C. DF #2	1 3/4" LSL RIM/BLK'G
	LEVEL 3	DBL. 2X4 DF	DBL. 3X4 @ 16" O.C. DF #2	1 3/4" LSL RIM/BLK'G
	LEVEL 2	DBL. 2X4 DF	DBL. 3X4 @ 16" O.C. DF #2	1 3/4" LSL RIM/BLK'G
STAIR / VENT ELEVATOR WALLS	LEVEL 6	2X6 DF	2X6 @ 16" O.C. DF #2	1 3/4" LSL RIM
	LEVEL 5	2X6 DF	2X6 @ 16" O.C. DF #2	1 3/4" LSL RIM
	LEVEL 4	2X6 DF	2X6 @ 16" O.C. DF #2	1 3/4" LSL RIM
	LEVEL 3	2X6 DF	2X6 @ 16" O.C. DF #2	1 3/4" LSL RIM
	LEVEL 2	2X6 DF	2X6 @ 16" O.C. DF #2	1 3/4" LSL RIM

BEARING WALL NOTES

1. SEE SHEARWALL SCHEDULE SHEET S1.02 FOR WALL SHEATHING, ADDITIONAL PLATE AND STUD REQUIREMENTS, BLOCKING AND PLATE NAILING. SEE SAWN LUMBER STRUCTURAL NOTES SHEET S1.01 FOR SPECIES AND GRADE OF WALL PLATES AND STUDS.
2. SECURE SILL PLATES TO CONCRETE W/ 5/8" DIA. A.B. W/ 7" EMBED INTO CONCRETE SLAB AT 48" TYPICALLY U.N.O. REFER TO SHEAR WALL AND HOLD-DOWN SCHEDULE FOR ADDITIONAL ANCHOR BOLT REQUIREMENTS. WHERE PRESERVATIVE TREATED WOOD IS USED, REFER TO NOTE SECTION 06071 FOR CORROSION PROTECTION REQUIREMENTS FOR CONNECTORS.
3. SEE DETAIL 2/S9.01 FOR TOP PLATE SPLICE. PROVIDE ADDITIONAL CONNECTORS AT SHEAR WALLS AS INDICATED ON THE PLANS.
4. ALL EXTERIOR WALLS, CORRIDOR WALLS, PARTY WALLS, STAIR WALLS, VENT WALLS, AND ELEVATOR WALLS ARE CONSIDERED BEARING. ONLY BEARING INTERIOR WALLS ARE INDICATED ON THE PLANS.

2

Note:
ALL SECTION CUTS ARE TYPICAL



Bldg. D Level 3 Wood Framing Plan (South)

SCALE: 1/8" = 1'-0"

REFERENCE

GRAPHIC SCALE
-8 0 4 8 16
(IN FEET)
1 inch = 8 ft.

CT ENGINEERING INC.
Structural Engineers
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206.285.4512 (V) 206.285.0618 (F)

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2	BUILDING PERMIT CORRECTION #2	07/19/24
1	BUILDING PERMIT CORRECTION #1	11/03/22
	ENGR: SMK CAD: SMK PLOT: 02/27/26	FILE: 19010 S401
		JOB #:

Shelter HOLDINGS

Building D - Level 3 Wood Framing Plan (Soiuth)

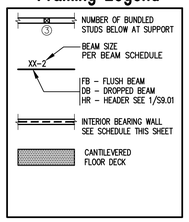
Everett Riverfront
3810 Riverfront Boulevard - Building D
Everett, Washington

S4.11D

Floor/Roof Framing Notes

1. FRAMING – PREMANUFACTURED JOISTS PER PLAN. SECURE JOIST TO TOP PLATE WITH (2) 8d NAILS. BLOCKING AT BEARING AND SHEARWALLS SHALL BE PER BEARING WALL AND SHEARWALL SCHEDULE. USE IUS HANGERS TO MATCH JOIST SIZE AT FLUSH FRAMING CONDITIONS.
2. FLOOR SHEATHING SHALL BE GLUED AND NAILED.
3. WALLS INDICATED ARE BELOW THE FRAMING LEVEL. SEE BEARING WALL SCHEDULE THIS SHEET.
4. PLUMBING, MECHANICAL, AND ELECTRICAL SYSTEMS SHALL BE DESIGNED AND BUILT TO ACCOMMODATE 3/8" PER FLOOR WOOD SHRINKAGE.
5. SEE DETAIL 1/S9.01 FOR TYPICAL HEADER/BUNDLED STUD CONSTRUCTION.
6. SEE ARCHITECTURAL PLANS FOR DRAFTSTOP AND VENTING LOCATIONS.
7. SEE ARCHITECTURAL PLANS FOR DIMENSIONS AND TOP PLATE ELEVATIONS.
8. SOME SHEARWALLS REQUIRE 3X FRAMING AT PANEL EDGES. SEE SHEARWALL SCHEDULE ON SHEET S1.02.
9. HANGERS INDICATED ARE AS MANUFACTURED BY SIMPSON STRONG-TIE. SEE SHEET S9.01 FOR BEAM HANGER SCHEDULE.
10. PROVIDE BLOCKING ATOP SHEARWALLS.
11. BUNDLED STUDS FROM THIS LEVEL SHALL BE CONTINUED DOWN TO PT SLAB OR SUPPORTING BEAM.
12. PROVIDE BLOCKING AT ALL BUNDLED STUDS, SEE DETAIL 4/S9.01.
13. ALL BEAMS AND HEADERS SHALL HAVE A MINIMUM OF (1) FULL HEIGHT STUD AT EACH END FOR BRACING TYPICAL UNLESS NOTED OTHERWISE
14. PROVIDE MINIMUM (2) 2X BUNDLED STUDS UNDER EACH BEAM END, TYPICAL UNLESS NOTED OTHERWISE.
15. SEE DETAILS ON SHEET S9.01 FOR TYPICAL CORNER FRAMING DETAILS.
16. SEE 19/S9.01 FOR TYPICAL STAIR FRAMING DETAILS.
17. ALL EXTERIOR WALLS SHALL BE SHEATHED WITH PLYWOOD. USE TYPE P6 SHEARWALL, TYPICAL, U.N.O.
18. SEE DETAIL 3/S9.01 FOR NOTCHES AND HOLES IN STUDS.
19. SEE 13/S9.02 AND 13/S9.03 DETAILS FOR ROOF TOP MECHANICAL EQUIPMENTS. SEE MECHANICAL DRAWINGS FOR LOCATIONS.

Framing Legend



Joist Schedule

MARK	JOIST
J-1	11 7/8" TJI 110 @ 16" O.C.
J-2	(2) 11 7/8" TJI 210 @ 16" O.C.
J-3	11 7/8" TJI 110 @ 24" O.C.
J-4	11 7/8" TJI 230 @ 24" O.C.
J-5	9 1/2" TJI 230 @ 12" O.C.
J-6	16" TJI 110 @ 16" O.C.
J-7	16" TJI 110 @ 24" O.C.

Wood Beam Schedule

TYPE	SIZE	HANGER
XX-1	4X8	HUS48
XX-2	6X10	HU610
XX-3	LSL 1 3/4 X 11 7/8	HU11
XX-4	PSL 3 1/2 X 11 7/8	HHUS410
XX-5	PSL 5 1/4 X 11 7/8	HHUS5.5/10
XX-6	PSL 7 X 11 7/8	HGU7.25-SDS
XX-7	LSL 3 1/2 X 7 1/4	HHUS48
XX-8	PSL 3 1/2 X 9 1/2	HHUS410

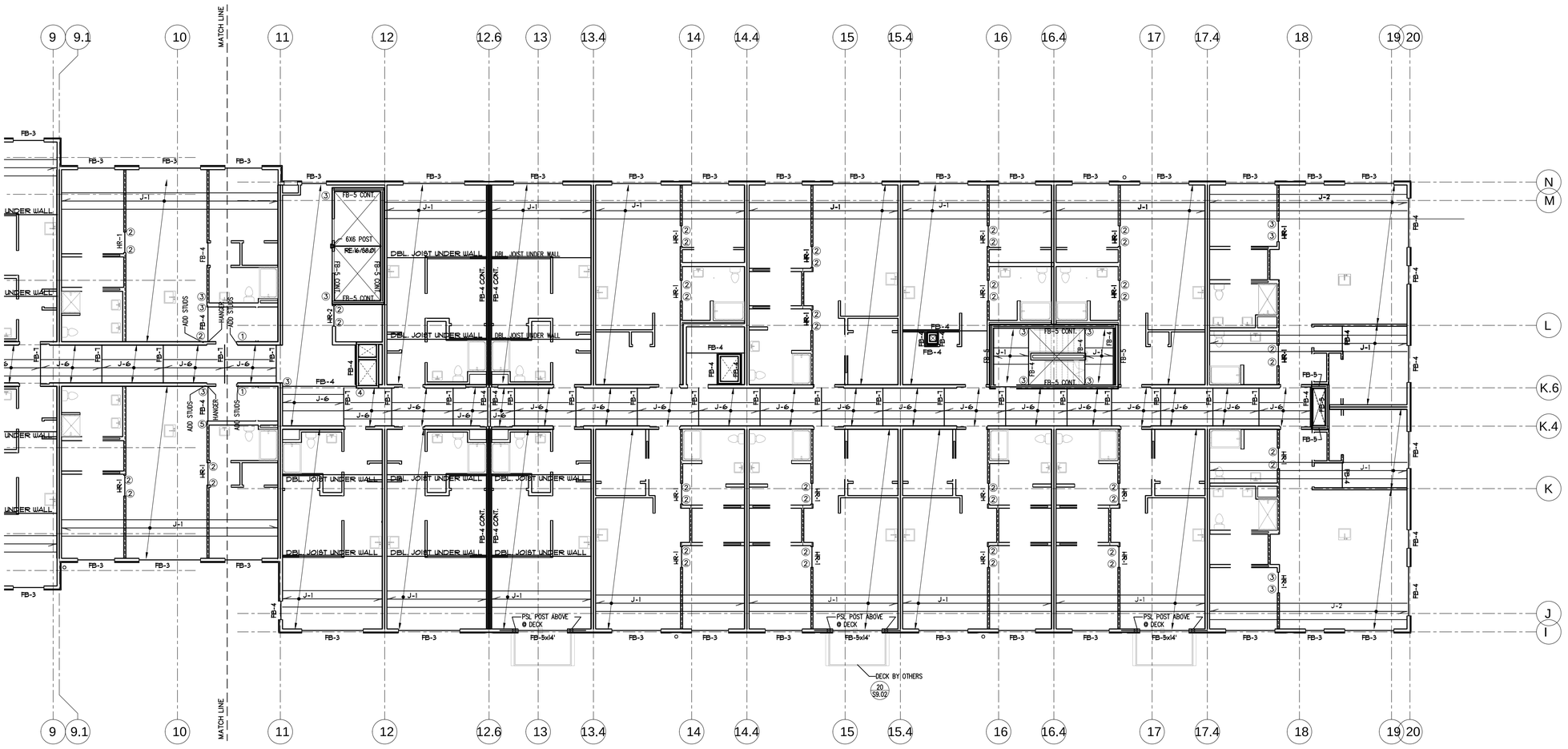
Bearing Wall Stud Schedule

WALL TYPE	LEVEL	PLATE SIZE	STUD SIZE AND SPACING, U.N.O.	RIM/BLOCKING
EXTERIOR	LEVEL 6	2X6 DF	2X6 @ 16" O.C. DF #2	1 3/4" LSL RIM
	LEVEL 5	2X6 DF	2X6 @ 16" O.C. DF #2	1 3/4" LSL RIM
	LEVEL 4	2X6 DF	2X6 @ 16" O.C. DF #2	1 3/4" LSL RIM
	LEVEL 3	2X6 DF	2X6 @ 16" O.C. DF #2	1 3/4" LSL RIM
	LEVEL 2	2X6 DF	2X6 @ 16" O.C. DF #2	1 3/4" LSL RIM
CORRIDOR	LEVEL 6	2X6 DF	2X6 @ 16" O.C. DF #2	3 1/2" LSL RIM
	LEVEL 5	2X6 DF	2X6 @ 16" O.C. DF #2	3 1/2" LSL RIM
	LEVEL 4	2X6 DF	2X6 @ 16" O.C. DF #2	3 1/2" LSL RIM
	LEVEL 3	2X6 DF	2X6 @ 16" O.C. DF #2	3 1/2" LSL RIM
	LEVEL 2	2X6 DF	2X6 @ 16" O.C. DF #2	3 1/2" LSL RIM
INTERIOR	LEVEL 6	2X4 DF	2X4 @ 16" O.C. DF #2	1 3/4" LSL BLK'G
	LEVEL 5	2X4 DF	3X4 @ 16" O.C. DF #2	1 3/4" LSL BLK'G
	LEVEL 4	2X4 DF	3X4 @ 16" O.C. DF #2	1 3/4" LSL BLK'G
	LEVEL 3	2X4 DF	(2) 2X4 @ 16" O.C. DF #2	1 3/4" LSL BLK'G
	LEVEL 2	2X4 DF	(2) 3X4 @ 16" O.C. DF #2	(2) 1 3/4" LSL BLK'G
INTERIOR @ 2-BR END UNITS AND UNDER ROOF DECK	LEVEL 6	DBL. 2X4 DF	2X4 @ 16" O.C. DF #2	1 3/4" LSL BLK'G
	LEVEL 5	DBL. 2X4 DF	3X4 @ 16" O.C. DF #2	1 3/4" LSL BLK'G
	LEVEL 4	DBL. 2X4 DF	(2) 3X4 @ 16" O.C. DF #2	1 3/4" LSL BLK'G
	LEVEL 3	DBL. 2X4 DF	(2) 3X4 @ 16" O.C. DF #2	(2) 1 3/4" LSL BLK'G
	LEVEL 2	DBL. 2X4 DF	(2) 3X4 @ 16" O.C. DF #2	(2) 1 3/4" LSL BLK'G
PARTY	LEVEL 6	DBL. 2X4 DF	DBL. 2X4 @ 16" O.C. DF #2	1 3/4" LSL RIM/BLK'G
	LEVEL 5	DBL. 2X4 DF	DBL. 2X4 @ 16" O.C. DF #2	1 3/4" LSL RIM/BLK'G
	LEVEL 4	DBL. 2X4 DF	DBL. 2X4 @ 16" O.C. DF #2	1 3/4" LSL RIM/BLK'G
	LEVEL 3	DBL. 2X4 DF	DBL. 3X4 @ 16" O.C. DF #2	1 3/4" LSL RIM/BLK'G
	LEVEL 2	DBL. 2X4 DF	DBL. 3X4 @ 16" O.C. DF #2	1 3/4" LSL RIM/BLK'G
STAIR / VENT ELEVATOR WALLS	LEVEL 6	2X6 DF	2X6 @ 16" O.C. DF #2	1 3/4" LSL RIM
	LEVEL 5	2X6 DF	2X6 @ 16" O.C. DF #2	1 3/4" LSL RIM
	LEVEL 4	2X6 DF	2X6 @ 16" O.C. DF #2	1 3/4" LSL RIM
	LEVEL 3	2X6 DF	2X6 @ 16" O.C. DF #2	1 3/4" LSL RIM
	LEVEL 2	2X6 DF	2X6 @ 16" O.C. DF #2	1 3/4" LSL RIM

BEARING WALL NOTES
1. SEE SHEARWALL SCHEDULE SHEET S1.02 FOR WALL SHEATHING, ADDITIONAL PLATE AND STUD REQUIREMENTS, BLOCKING AND PLATE NAILING. SEE SAWN LUMBER STRUCTURAL NOTES SHEET S1.01 FOR SPECIES AND GRADE OF WALL PLATES AND STUDS.
2. SECURE SILL PLATES TO CONCRETE W/ 5/8" DIA. A.B. W/ 7" EMBED INTO CONCRETE SLAB AT 48" TYPICALLY U.N.O. REFER TO SHEAR WALL AND HOLD-DOWN SCHEDULE FOR ADDITIONAL ANCHOR BOLT REQUIREMENTS. WHERE PRESERVATIVE TREATED WOOD IS USED, REFER TO NOTE SECTION 06071 FOR CORROSION PROTECTION REQUIREMENTS FOR CONNECTORS.
3. SEE DETAIL 2/S9.01 FOR TOP PLATE SPLICE. PROVIDE ADDITIONAL CONNECTORS AT SHEAR WALLS AS INDICATED ON THE PLANS.
4. ALL EXTERIOR WALLS, CORRIDOR WALLS, PARTY WALLS, STAIR WALLS, VENT WALLS, AND ELEVATOR WALLS ARE CONSIDERED BEARING. ONLY BEARING INTERIOR WALLS ARE INDICATED ON THE PLANS.

2

Note:
ALL SECTION CUTS ARE TYPICAL



Bldg. D Level 3 Wood Framing Plan (North)

SCALE: 1/8" = 1'-0"

REFERENCE

GRAPHIC SCALE
-8 0 4 8 16
(IN FEET)
1 inch = 8 ft.

CT ENGINEERING INC.
Structural Engineers
180 Nickerson Street Suite 302 Seattle, WA 98109
206.285.4512 (V) 206.285.0618 (F)

NO.	REVISION	DATE
4	BUILDING PERMIT CORRECTION #4	03/02/26
3	BUILDING PERMIT CORRECTION #3	10/17/24
2	BUILDING PERMIT CORRECTION #2	07/19/24
1	BUILDING PERMIT CORRECTION #1	11/03/22
	ENGR: SWK CAD: SWK PLOT: 02/27/26	FILE: 19010 S401
		JOB #:

Shelter HOLDINGS

Building D - Level 3 Wood Framing Plan (North)

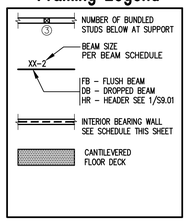
Everett Riverfront
3810 Riverfront Boulevard - Building D
Everett, Washington

S4.12D

Floor/Roof Framing Notes

1. FRAMING – PREMANUFACTURED JOISTS PER PLAN. SECURE JOIST TO TOP PLATE WITH (2) 8d NAILS. BLOCKING AT BEARING AND SHEARWALLS SHALL BE PER BEARING WALL AND SHEARWALL SCHEDULE. USE IUS HANGERS TO MATCH JOIST SIZE AT FLUSH FRAMING CONDITIONS.
2. FLOOR SHEATHING SHALL BE GLUED AND NAILED.
3. WALLS INDICATED ARE BELOW THE FRAMING LEVEL. SEE BEARING WALL SCHEDULE THIS SHEET.
4. PLUMBING, MECHANICAL, AND ELECTRICAL SYSTEMS SHALL BE DESIGNED AND BUILT TO ACCOMMODATE 3/8" PER FLOOR WOOD SHRINKAGE.
5. SEE DETAIL 1/S9.01 FOR TYPICAL HEADER/BUNDLED STUD CONSTRUCTION.
6. SEE ARCHITECTURAL PLANS FOR DRAFTSTOP AND VENTING LOCATIONS.
7. SEE ARCHITECTURAL PLANS FOR DIMENSIONS AND TOP PLATE ELEVATIONS.
8. SOME SHEARWALLS REQUIRE 3X FRAMING AT PANEL EDGES. SEE SHEARWALL SCHEDULE ON SHEET S1.02.
9. HANGERS INDICATED ARE AS MANUFACTURED BY SIMPSON STRONG-TIE. SEE SHEET S9.01 FOR BEAM HANGER SCHEDULE.
10. PROVIDE BLOCKING ATOP SHEARWALLS.
11. BUNDLED STUDS FROM THIS LEVEL SHALL BE CONTINUED DOWN TO PT SLAB OR SUPPORTING BEAM.
12. PROVIDE BLOCKING AT ALL BUNDLED STUDS, SEE DETAIL 4/S9.01.
13. ALL BEAMS AND HEADERS SHALL HAVE A MINIMUM OF (1) FULL HEIGHT STUD AT EACH END FOR BRACING TYPICAL UNLESS NOTED OTHERWISE
14. PROVIDE MINIMUM (2) 2X BUNDLED STUDS UNDER EACH BEAM END, TYPICAL UNLESS NOTED OTHERWISE.
15. SEE DETAILS ON SHEET S9.01 FOR TYPICAL CORNER FRAMING DETAILS.
16. SEE 19/S9.01 FOR TYPICAL STAIR FRAMING DETAILS.
17. ALL EXTERIOR WALLS SHALL BE SHEATHED WITH PLYWOOD. USE TYPE P6 SHEARWALL, TYPICAL, U.N.O.
18. SEE DETAIL 3/S9.01 FOR NOTCHES AND HOLES IN STUDS.
19. SEE 13/S9.02 AND 13/S9.03 DETAILS FOR ROOF TOP MECHANICAL EQUIPMENTS. SEE MECHANICAL DRAWINGS FOR LOCATIONS.

Framing Legend



Joist Schedule

MARK	JOIST
J-1	11 7/8" TJI 110 @ 16" O.C.
J-2	(2) 11 7/8" TJI 210 @ 16" O.C.
J-3	11 7/8" TJI 110 @ 24" O.C.
J-4	11 7/8" TJI 230 @ 24" O.C.
J-5	9 1/2" TJI 230 @ 12" O.C.
J-6	16" TJI 110 @ 16" O.C.
J-7	16" TJI 110 @ 24" O.C.

Wood Beam Schedule

TYPE	SIZE	HANGER
XX-1	4X8	HUS48
XX-2	6X10	HU610
XX-3	LSL 1 3/4 X 11 7/8	HU11
XX-4	PSL 3 1/2 X 11 7/8	HHUS410
XX-5	PSL 5 1/4 X 11 7/8	HHUS5.5/10
XX-6	PSL 7 X 11 7/8	HGU7.25-SDS
XX-7	LSL 3 1/2 X 7 1/4	HHUS48
XX-8	PSL 3 1/2 X 9 1/2	HHUS410

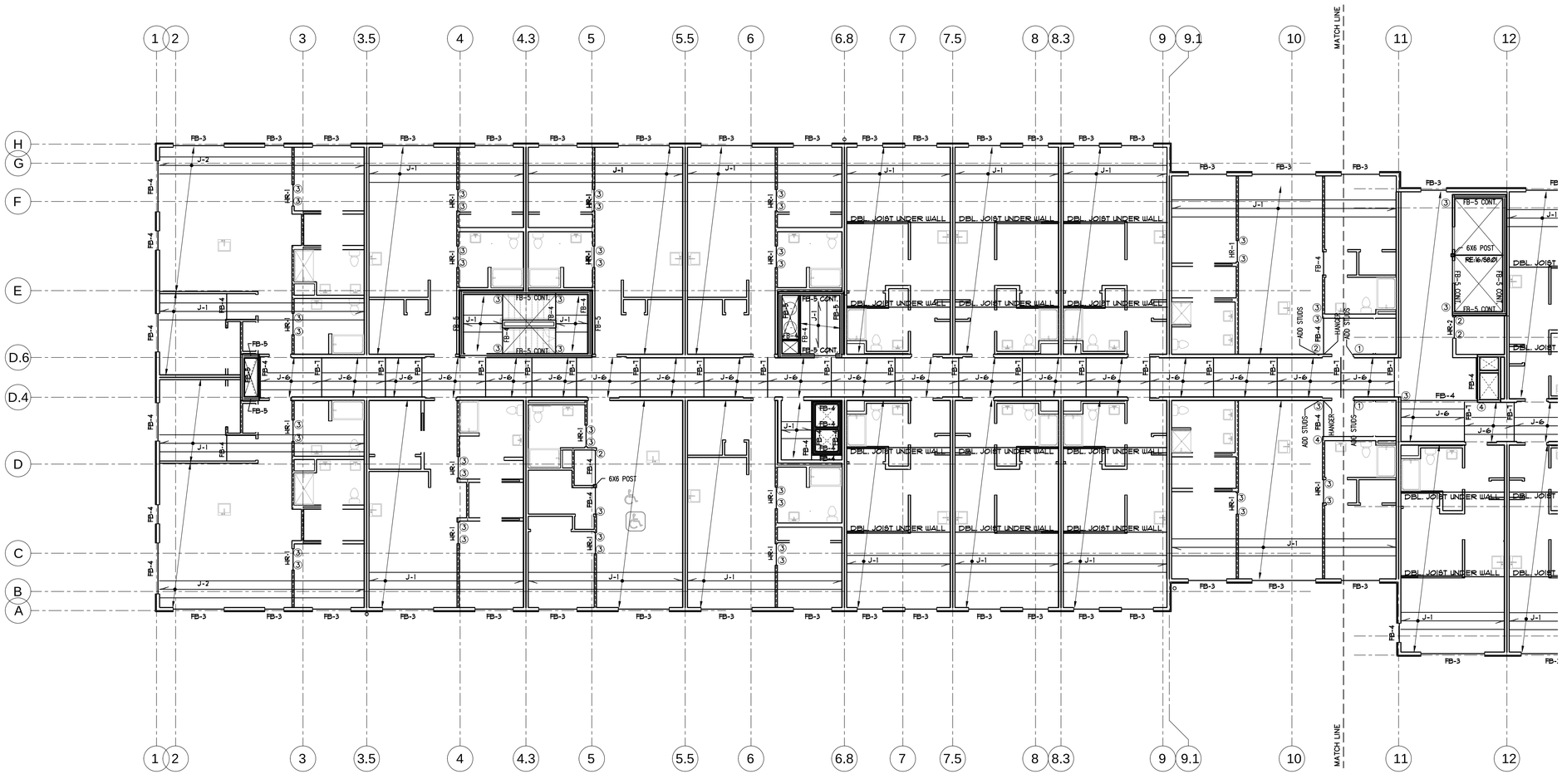
Bearing Wall Stud Schedule

WALL TYPE	LEVEL	PLATE SIZE	STUD SIZE AND SPACING, U.N.O.	RIM/BLOCKING
EXTERIOR	LEVEL 6	2X6 DF	2X6 @ 16" O.C. DF #2	1 3/4" LSL RIM
	LEVEL 5	2X6 DF	2X6 @ 16" O.C. DF #2	1 3/4" LSL RIM
	LEVEL 4	2X6 DF	2X6 @ 16" O.C. DF #2	1 3/4" LSL RIM
	LEVEL 3	2X6 DF	2X6 @ 16" O.C. DF #2	1 3/4" LSL RIM
	LEVEL 2	2X6 DF	2X6 @ 16" O.C. DF #2	1 3/4" LSL RIM
CORRIDOR	LEVEL 6	2X6 DF	2X6 @ 16" O.C. DF #2	3 1/2" LSL RIM
	LEVEL 5	2X6 DF	2X6 @ 16" O.C. DF #2	3 1/2" LSL RIM
	LEVEL 4	2X6 DF	2X6 @ 16" O.C. DF #2	3 1/2" LSL RIM
	LEVEL 3	2X6 DF	2X6 @ 16" O.C. DF #2	3 1/2" LSL RIM
	LEVEL 2	2X6 DF	2X6 @ 16" O.C. DF #2	3 1/2" LSL RIM
INTERIOR	LEVEL 6	2X4 DF	2X4 @ 16" O.C. DF #2	1 3/4" LSL BLK'G
	LEVEL 5	2X4 DF	3X4 @ 16" O.C. DF #2	1 3/4" LSL BLK'G
	LEVEL 4	2X4 DF	3X4 @ 16" O.C. DF #2	1 3/4" LSL BLK'G
	LEVEL 3	2X4 DF	(2) 2X4 @ 16" O.C. DF #2	1 3/4" LSL BLK'G
	LEVEL 2	2X4 DF	(2) 3X4 @ 16" O.C. DF #2	(2) 1 3/4" LSL BLK'G
INTERIOR @ 2-BR END UNITS AND UNDER ROOF DECK	LEVEL 6	DBL. 2X4 DF	2X4 @ 16" O.C. DF #2	1 3/4" LSL BLK'G
	LEVEL 5	DBL. 2X4 DF	3X4 @ 16" O.C. DF #2	1 3/4" LSL BLK'G
	LEVEL 4	DBL. 2X4 DF	(2) 3X4 @ 16" O.C. DF #2	1 3/4" LSL BLK'G
	LEVEL 3	DBL. 2X4 DF	(2) 3X4 @ 16" O.C. DF #2	(2) 1 3/4" LSL BLK'G
	LEVEL 2	DBL. 2X4 DF	(2) 3X4 @ 16" O.C. DF #2	(2) 1 3/4" LSL BLK'G
PARTY	LEVEL 6	DBL. 2X4 DF	DBL. 2X4 @ 16" O.C. DF #2	1 3/4" LSL RIM/BLK'G
	LEVEL 5	DBL. 2X4 DF	DBL. 2X4 @ 16" O.C. DF #2	1 3/4" LSL RIM/BLK'G
	LEVEL 4	DBL. 2X4 DF	DBL. 2X4 @ 16" O.C. DF #2	1 3/4" LSL RIM/BLK'G
	LEVEL 3	DBL. 2X4 DF	DBL. 3X4 @ 16" O.C. DF #2	1 3/4" LSL RIM/BLK'G
	LEVEL 2	DBL. 2X4 DF	DBL. 3X4 @ 16" O.C. DF #2	1 3/4" LSL RIM/BLK'G
STAIR / VENT ELEVATOR WALLS	LEVEL 6	2X6 DF	2X6 @ 16" O.C. DF #2	1 3/4" LSL RIM
	LEVEL 5	2X6 DF	2X6 @ 16" O.C. DF #2	1 3/4" LSL RIM
	LEVEL 4	2X6 DF	2X6 @ 16" O.C. DF #2	1 3/4" LSL RIM
	LEVEL 3	2X6 DF	2X6 @ 16" O.C. DF #2	1 3/4" LSL RIM
	LEVEL 2	2X6 DF	2X6 @ 16" O.C. DF #2	1 3/4" LSL RIM

BEARING WALL NOTES
1. SEE SHEARWALL SCHEDULE SHEET S1.02 FOR WALL SHEATHING, ADDITIONAL PLATE AND STUD REQUIREMENTS, BLOCKING AND PLATE NAILING. SEE SAWN LUMBER STRUCTURAL NOTES SHEET S1.01 FOR SPECIES AND GRADE OF WALL PLATES AND STUDS.
2. SECURE SILL PLATES TO CONCRETE W/ 5/8" DIA. A.B. W/ 7" EMBED INTO CONCRETE SLAB AT 48" TYPICALLY U.N.O. REFER TO SHEAR WALL AND HOLD-DOWN SCHEDULE FOR ADDITIONAL ANCHOR BOLT REQUIREMENTS. WHERE PRESERVATIVE TREATED WOOD IS USED, REFER TO NOTE SECTION 06071 FOR CORROSION PROTECTION REQUIREMENTS FOR CONNECTORS.
3. SEE DETAIL 2/S9.01 FOR TOP PLATE SPLICE. PROVIDE ADDITIONAL CONNECTORS AT SHEAR WALLS AS INDICATED ON THE PLANS.
4. ALL EXTERIOR WALLS, CORRIDOR WALLS, PARTY WALLS, STAIR WALLS, VENT WALLS, AND ELEVATOR WALLS ARE CONSIDERED BEARING. ONLY BEARING INTERIOR WALLS ARE INDICATED ON THE PLANS.

2

Note:
ALL SECTION CUTS ARE TYPICAL



Bldg. D Level 4 Wood Framing Plan (South)

SCALE: 1/8" = 1'-0"

REFERENCE

GRAPHIC SCALE
-8 0 4 8 16
(IN FEET)
1 inch = 8 ft.

CT ENGINEERING INC.
Structural Engineers
180 Nickerson Street Suite 302 Seattle, WA 98109
206.285.4512 (V) 206.285.0618 (F)

NO.	REVISION	DATE
4	BUILDING PERMIT CORRECTION #4	03/02/26
3	BUILDING PERMIT CORRECTION #3	10/17/24
2	BUILDING PERMIT CORRECTION #2	07/19/24
1	BUILDING PERMIT CORRECTION #1	11/03/22
	ENGR: SMK CAD: SMK PLOT: 02/27/26	FILE: 19010 S402
		JOB #:

Shelter HOLDINGS

Building D - Level 4 Wood Framing Plan (South)

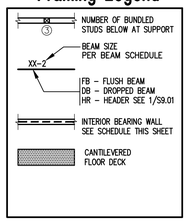
Everett Riverfront
3810 Riverfront Boulevard - Building D
Everett, Washington

S4.21D

Floor/Roof Framing Notes

1. FRAMING – PREMANUFACTURED JOISTS PER PLAN. SECURE JOIST TO TOP PLATE WITH (2) 8d NAILS. BLOCKING AT BEARING AND SHEARWALLS SHALL BE PER BEARING WALL AND SHEARWALL SCHEDULE. USE IUS HANGERS TO MATCH JOIST SIZE AT FLUSH FRAMING CONDITIONS.
2. FLOOR SHEATHING SHALL BE GLUED AND NAILED.
3. WALLS INDICATED ARE BELOW THE FRAMING LEVEL. SEE BEARING WALL SCHEDULE THIS SHEET.
4. PLUMBING, MECHANICAL, AND ELECTRICAL SYSTEMS SHALL BE DESIGNED AND BUILT TO ACCOMMODATE 3/8" PER FLOOR WOOD SHRINKAGE.
5. SEE DETAIL 1/S9.01 FOR TYPICAL HEADER/BUNDLED STUD CONSTRUCTION.
6. SEE ARCHITECTURAL PLANS FOR DRAFTSTOP AND VENTING LOCATIONS.
7. SEE ARCHITECTURAL PLANS FOR DIMENSIONS AND TOP PLATE ELEVATIONS.
8. SOME SHEARWALLS REQUIRE 3X FRAMING AT PANEL EDGES. SEE SHEARWALL SCHEDULE ON SHEET S1.02.
9. HANGERS INDICATED ARE AS MANUFACTURED BY SIMPSON STRONG-TIE. SEE SHEET S9.01 FOR BEAM HANGER SCHEDULE.
10. PROVIDE BLOCKING ATOP SHEARWALLS.
11. BUNDLED STUDS FROM THIS LEVEL SHALL BE CONTINUED DOWN TO PT SLAB OR SUPPORTING BEAM.
12. PROVIDE BLOCKING AT ALL BUNDLED STUDS, SEE DETAIL 4/S9.01.
13. ALL BEAMS AND HEADERS SHALL HAVE A MINIMUM OF (1) FULL HEIGHT STUD AT EACH END FOR BRACING TYPICAL UNLESS NOTED OTHERWISE
14. PROVIDE MINIMUM (2) 2X BUNDLED STUDS UNDER EACH BEAM END, TYPICAL UNLESS NOTED OTHERWISE.
15. SEE DETAILS ON SHEET S9.01 FOR TYPICAL CORNER FRAMING DETAILS.
16. SEE 19/S9.01 FOR TYPICAL STAIR FRAMING DETAILS.
17. ALL EXTERIOR WALLS SHALL BE SHEATHED WITH PLYWOOD. USE TYPE P6 SHEARWALL, TYPICAL, U.N.O.
18. SEE DETAIL 3/S9.01 FOR NOTCHES AND HOLES IN STUDS.
19. SEE 13/S9.02 AND 13/S9.03 DETAILS FOR ROOF TOP MECHANICAL EQUIPMENTS. SEE MECHANICAL DRAWINGS FOR LOCATIONS.

Framing Legend



Joist Schedule

MARK	JOIST
J-1	11 7/8" TJI 110 @ 16" O.C.
J-2	(2) 11 7/8" TJI 210 @ 16" O.C.
J-3	11 7/8" TJI 110 @ 24" O.C.
J-4	11 7/8" TJI 230 @ 24" O.C.
J-5	9 1/2" TJI 230 @ 12" O.C.
J-6	16" TJI 110 @ 16" O.C.
J-7	16" TJI 110 @ 24" O.C.

Wood Beam Schedule

TYPE	SIZE	HANGER
XX-1	4X8	HUS48
XX-2	6X10	HU610
XX-3	LSL 1 3/4 X 11 7/8	HU11
XX-4	PSL 3 1/2 X 11 7/8	HHUS410
XX-5	PSL 5 1/4 X 11 7/8	HHUS5.5/10
XX-6	PSL 7 X 11 7/8	HGU7.25-SDS
XX-7	LSL 3 1/2 X 7 1/4	HHUS48
XX-8	PSL 3 1/2 X 9 1/2	HHUS410

Bearing Wall Stud Schedule

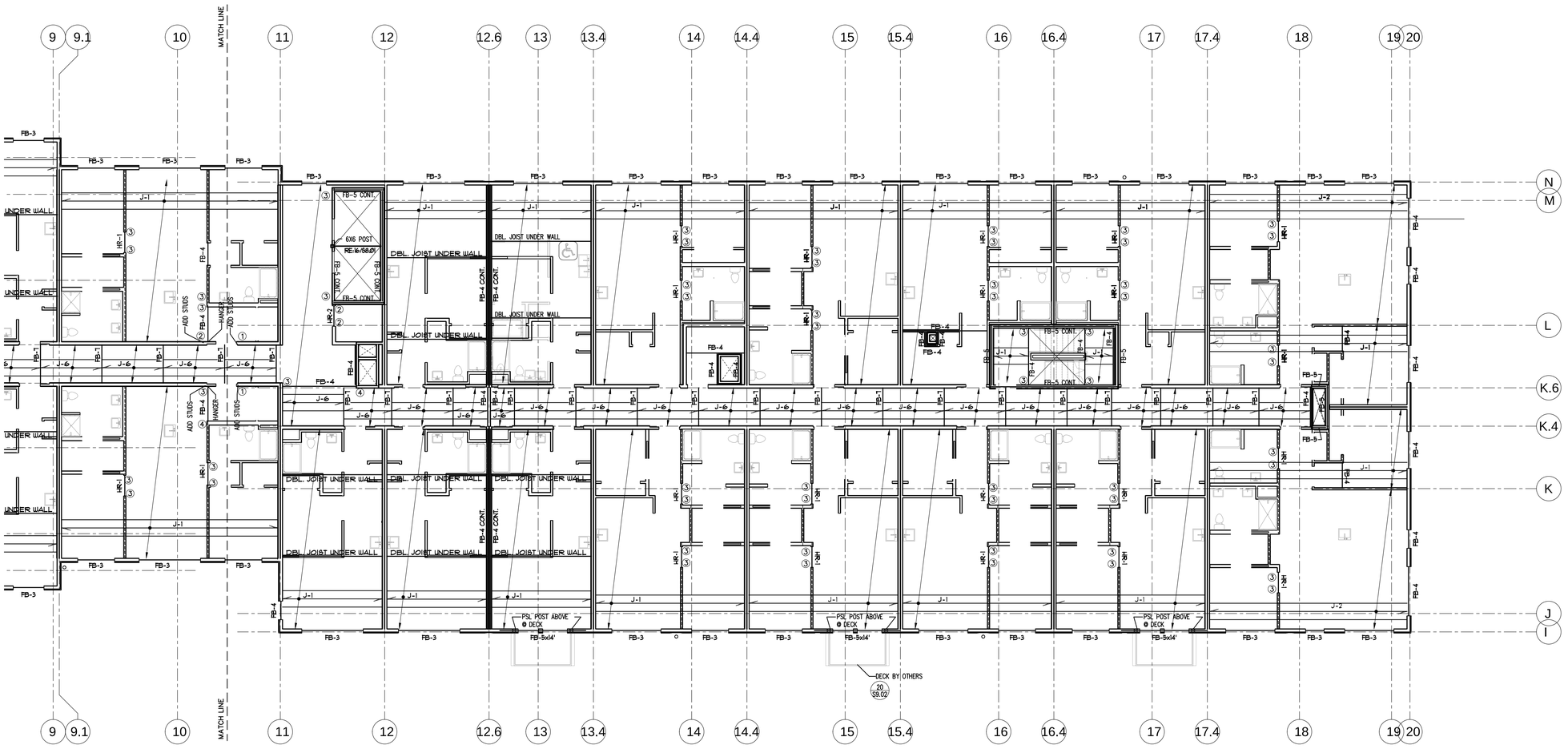
WALL TYPE	LEVEL	PLATE SIZE	STUD SIZE AND SPACING, U.N.O.	RIM/BLOCKING
EXTERIOR	LEVEL 6	2X6 DF	2X6 @ 16" O.C. DF #2	1 3/4" LSL RIM
	LEVEL 5	2X6 DF	2X6 @ 16" O.C. DF #2	1 3/4" LSL RIM
	LEVEL 4	2X6 DF	2X6 @ 16" O.C. DF #2	1 3/4" LSL RIM
	LEVEL 3	2X6 DF	2X6 @ 16" O.C. DF #2	1 3/4" LSL RIM
	LEVEL 2	2X6 DF	2X6 @ 16" O.C. DF #2	1 3/4" LSL RIM
CORRIDOR	LEVEL 6	2X6 DF	2X6 @ 16" O.C. DF #2	3 1/2" LSL RIM
	LEVEL 5	2X6 DF	2X6 @ 16" O.C. DF #2	3 1/2" LSL RIM
	LEVEL 4	2X6 DF	2X6 @ 16" O.C. DF #2	3 1/2" LSL RIM
	LEVEL 3	2X6 DF	2X6 @ 16" O.C. DF #2	3 1/2" LSL RIM
	LEVEL 2	2X6 DF	2X6 @ 16" O.C. DF #2	3 1/2" LSL RIM
INTERIOR	LEVEL 6	2X4 DF	2X4 @ 16" O.C. DF #2	1 3/4" LSL BLK'G
	LEVEL 5	2X4 DF	3X4 @ 16" O.C. DF #2	1 3/4" LSL BLK'G
	LEVEL 4	2X4 DF	3X4 @ 16" O.C. DF #2	1 3/4" LSL BLK'G
	LEVEL 3	2X4 DF	(2) 2X4 @ 16" O.C. DF #2	1 3/4" LSL BLK'G
	LEVEL 2	2X4 DF	(2) 3X4 @ 16" O.C. DF #2	(2) 1 3/4" LSL BLK'G
INTERIOR @ 2-BR END UNITS AND UNDER ROOF DECK	LEVEL 6	DBL. 2X4 DF	2X4 @ 16" O.C. DF #2	1 3/4" LSL BLK'G
	LEVEL 5	DBL. 2X4 DF	3X4 @ 16" O.C. DF #2	1 3/4" LSL BLK'G
	LEVEL 4	DBL. 2X4 DF	(2) 3X4 @ 16" O.C. DF #2	1 3/4" LSL BLK'G
	LEVEL 3	DBL. 2X4 DF	(2) 3X4 @ 16" O.C. DF #2	(2) 1 3/4" LSL BLK'G
	LEVEL 2	DBL. 2X4 DF	(2) 3X4 @ 16" O.C. DF #2	(2) 1 3/4" LSL BLK'G
PARTY	LEVEL 6	DBL. 2X4 DF	DBL. 2X4 @ 16" O.C. DF #2	1 3/4" LSL RIM/BLK'G
	LEVEL 5	DBL. 2X4 DF	DBL. 2X4 @ 16" O.C. DF #2	1 3/4" LSL RIM/BLK'G
	LEVEL 4	DBL. 2X4 DF	DBL. 2X4 @ 16" O.C. DF #2	1 3/4" LSL RIM/BLK'G
	LEVEL 3	DBL. 2X4 DF	DBL. 3X4 @ 16" O.C. DF #2	1 3/4" LSL RIM/BLK'G
	LEVEL 2	DBL. 2X4 DF	DBL. 3X4 @ 16" O.C. DF #2	1 3/4" LSL RIM/BLK'G
STAIR / VENT ELEVATOR WALLS	LEVEL 6	2X6 DF	2X6 @ 16" O.C. DF #2	1 3/4" LSL RIM
	LEVEL 5	2X6 DF	2X6 @ 16" O.C. DF #2	1 3/4" LSL RIM
	LEVEL 4	2X6 DF	2X6 @ 16" O.C. DF #2	1 3/4" LSL RIM
	LEVEL 3	2X6 DF	2X6 @ 16" O.C. DF #2	1 3/4" LSL RIM
	LEVEL 2	2X6 DF	2X6 @ 16" O.C. DF #2	1 3/4" LSL RIM

BEARING WALL NOTES

1. SEE SHEARWALL SCHEDULE SHEET S1.02 FOR WALL SHEATHING, ADDITIONAL PLATE AND STUD REQUIREMENTS, BLOCKING AND PLATE NAILING. SEE SAWN LUMBER STRUCTURAL NOTES SHEET S1.01 FOR SPECIES AND GRADE OF WALL PLATES AND STUDS.
2. SECURE SILL PLATES TO CONCRETE W/ 5/8" DIA. A.B. W/ 7" EMBED INTO CONCRETE SLAB AT 48" TYPICALLY U.N.O. REFER TO SHEAR WALL AND HOLD-DOWN SCHEDULE FOR ADDITIONAL ANCHOR BOLT REQUIREMENTS. WHERE PRESERVATIVE TREATED WOOD IS USED, REFER TO NOTE SECTION 06071 FOR CORROSION PROTECTION REQUIREMENTS FOR CONNECTORS.
3. SEE DETAIL 2/S9.01 FOR TOP PLATE SPLICE. PROVIDE ADDITIONAL CONNECTORS AT SHEAR WALLS AS INDICATED ON THE PLANS.
4. ALL EXTERIOR WALLS, CORRIDOR WALLS, PARTY WALLS, STAIR WALLS, VENT WALLS, AND ELEVATOR WALLS ARE CONSIDERED BEARING. ONLY BEARING INTERIOR WALLS ARE INDICATED ON THE PLANS.

2

Note:
ALL SECTION CUTS ARE TYPICAL



Bldg. D Level 4 Wood Framing Plan (North)

SCALE: 1/8" = 1'-0"

REFERENCE

GRAPHIC SCALE
-8 0 4 8 16
(IN FEET)
1 inch = 8 ft.

CT ENGINEERING INC.
Structural Engineers
180 Nickerson Street Suite 302 Seattle, WA 98109
206.285.4512 (V) 206.285.0618 (F)

NO.	REVISION	DATE
4	BUILDING PERMIT CORRECTION #4	03/02/26
3	BUILDING PERMIT CORRECTION #3	10/17/24
2	BUILDING PERMIT CORRECTION #2	07/19/24
1	BUILDING PERMIT CORRECTION #1	11/03/22

ENGR: SWK | CAD: SWK | PLOT: 02/27/26 | FILE: 19010 S402

JOB #: 19010

Shelter HOLDINGS

Building D - Level 4 Wood Framing Plan (North)

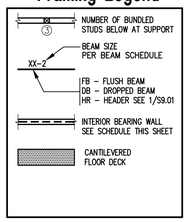
Everett Riverfront
3810 Riverfront Boulevard - Building D
Everett, Washington

S4.22D

Floor/Roof Framing Notes

1. FRAMING – PREMANUFACTURED JOISTS PER PLAN. SECURE JOIST TO TOP PLATE WITH (2) 8d NAILS. BLOCKING AT BEARING AND SHEARWALLS SHALL BE PER BEARING WALL AND SHEARWALL SCHEDULE. USE IUS HANGERS TO MATCH JOIST SIZE AT FLUSH FRAMING CONDITIONS.
2. FLOOR SHEATHING SHALL BE GLUED AND NAILED.
3. WALLS INDICATED ARE BELOW THE FRAMING LEVEL. SEE BEARING WALL SCHEDULE THIS SHEET.
4. PLUMBING, MECHANICAL, AND ELECTRICAL SYSTEMS SHALL BE DESIGNED AND BUILT TO ACCOMMODATE 3/8" PER FLOOR WOOD SHRINKAGE.
5. SEE DETAIL 1/S9.01 FOR TYPICAL HEADER/BUNDLED STUD CONSTRUCTION.
6. SEE ARCHITECTURAL PLANS FOR DRAFTSTOP AND VENTING LOCATIONS.
7. SEE ARCHITECTURAL PLANS FOR DIMENSIONS AND TOP PLATE ELEVATIONS.
8. SOME SHEARWALLS REQUIRE 3X FRAMING AT PANEL EDGES. SEE SHEARWALL SCHEDULE ON SHEET S1.02.
9. HANGERS INDICATED ARE AS MANUFACTURED BY SIMPSON STRONG-TIE. SEE SHEET S9.01 FOR BEAM HANGER SCHEDULE.
10. PROVIDE BLOCKING ATOP SHEARWALLS.
11. BUNDLED STUDS FROM THIS LEVEL SHALL BE CONTINUED DOWN TO PT SLAB OR SUPPORTING BEAM.
12. PROVIDE BLOCKING AT ALL BUNDLED STUDS, SEE DETAIL 4/S9.01.
13. ALL BEAMS AND HEADERS SHALL HAVE A MINIMUM OF (1) FULL HEIGHT STUD AT EACH END FOR BRACING TYPICAL UNLESS NOTED OTHERWISE
14. PROVIDE MINIMUM (2) 2X BUNDLED STUDS UNDER EACH BEAM END, TYPICAL UNLESS NOTED OTHERWISE.
15. SEE DETAILS ON SHEET S9.01 FOR TYPICAL CORNER FRAMING DETAILS.
16. SEE 19/S9.01 FOR TYPICAL STAIR FRAMING DETAILS.
17. ALL EXTERIOR WALLS SHALL BE SHEATHED WITH PLYWOOD. USE TYPE P6 SHEARWALL, TYPICAL, U.N.O.
18. SEE DETAIL 3/S9.01 FOR NOTCHES AND HOLES IN STUDS.
19. SEE 13/S9.02 AND 13/S9.03 DETAILS FOR ROOF TOP MECHANICAL EQUIPMENTS. SEE MECHANICAL DRAWINGS FOR LOCATIONS.

Framing Legend



Joist Schedule

MARK	JOIST
J-1	11 7/8" TJI 110 @ 16" O.C.
J-2	(2) 11 7/8" TJI 210 @ 16" O.C.
J-3	11 7/8" TJI 110 @ 24" O.C.
J-4	11 7/8" TJI 230 @ 24" O.C.
J-5	9 1/2" TJI 230 @ 12" O.C.
J-6	16" TJI 110 @ 16" O.C.
J-7	16" TJI 110 @ 24" O.C.

Wood Beam Schedule

TYPE	SIZE	HANGER
XX-1	4X8	HUS48
XX-2	6X10	HU610
XX-3	LSL 1 3/4 X 11 7/8	HU11
XX-4	PSL 3 1/2 X 11 7/8	HHUS410
XX-5	PSL 5 1/4 X 11 7/8	HHUS5.5/10
XX-6	PSL 7 X 11 7/8	HGU7.25-SDS
XX-7	LSL 3 1/2 X 7 1/4	HHUS48
XX-8	PSL 3 1/2 X 9 1/2	HHUS410

Bearing Wall Stud Schedule

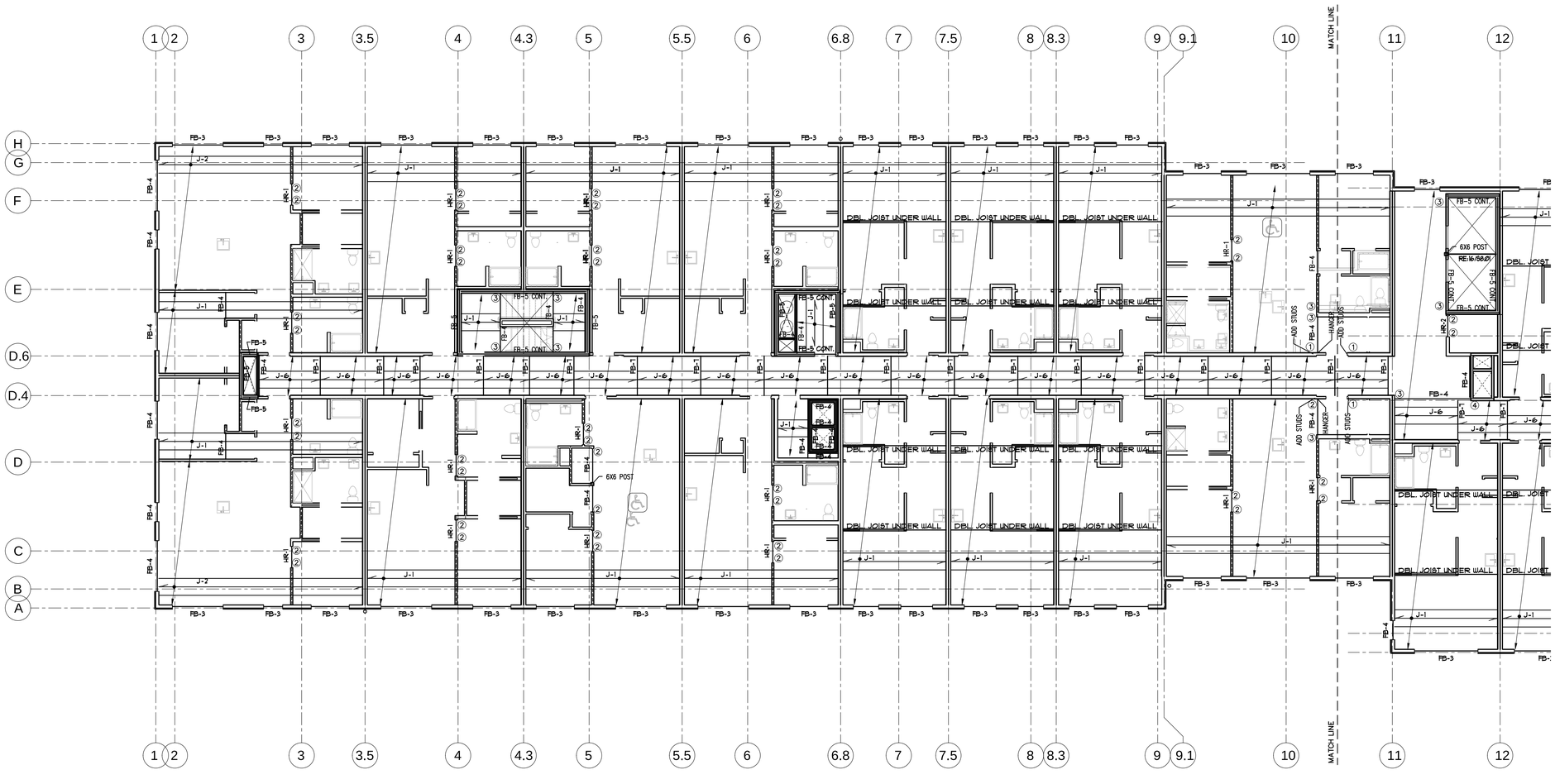
WALL TYPE	LEVEL	PLATE SIZE	STUD SIZE AND SPACING, U.N.O.	RIM/BLOCKING
EXTERIOR	LEVEL 6	2X6 DF	2X6 @ 16" O.C. DF #2	1 3/4" LSL RIM
	LEVEL 5	2X6 DF	2X6 @ 16" O.C. DF #2	1 3/4" LSL RIM
	LEVEL 4	2X6 DF	2X6 @ 16" O.C. DF #2	1 3/4" LSL RIM
	LEVEL 3	2X6 DF	2X6 @ 16" O.C. DF #2	1 3/4" LSL RIM
	LEVEL 2	2X6 DF	2X6 @ 16" O.C. DF #2	1 3/4" LSL RIM
CORRIDOR	LEVEL 6	2X6 DF	2X6 @ 16" O.C. DF #2	3 1/2" LSL RIM
	LEVEL 5	2X6 DF	2X6 @ 16" O.C. DF #2	3 1/2" LSL RIM
	LEVEL 4	2X6 DF	2X6 @ 16" O.C. DF #2	3 1/2" LSL RIM
	LEVEL 3	2X6 DF	2X6 @ 16" O.C. DF #2	3 1/2" LSL RIM
	LEVEL 2	2X6 DF	2X6 @ 16" O.C. DF #2	3 1/2" LSL RIM
INTERIOR	LEVEL 6	2X4 DF	2X4 @ 16" O.C. DF #2	1 3/4" LSL BLK'G
	LEVEL 5	2X4 DF	3X4 @ 16" O.C. DF #2	1 3/4" LSL BLK'G
	LEVEL 4	2X4 DF	3X4 @ 16" O.C. DF #2	1 3/4" LSL BLK'G
	LEVEL 3	2X4 DF	(2) 2X4 @ 16" O.C. DF #2	1 3/4" LSL BLK'G
	LEVEL 2	2X4 DF	(2) 3X4 @ 16" O.C. DF #2	(2) 1 3/4" LSL BLK'G
INTERIOR @ 2-BR END UNITS AND UNDER ROOF DECK	LEVEL 6	DBL. 2X4 DF	2X4 @ 16" O.C. DF #2	1 3/4" LSL BLK'G
	LEVEL 5	DBL. 2X4 DF	3X4 @ 16" O.C. DF #2	1 3/4" LSL BLK'G
	LEVEL 4	DBL. 2X4 DF	(2) 3X4 @ 16" O.C. DF #2	1 3/4" LSL BLK'G
	LEVEL 3	DBL. 2X4 DF	(2) 3X4 @ 16" O.C. DF #2	(2) 1 3/4" LSL BLK'G
	LEVEL 2	DBL. 2X4 DF	(2) 3X4 @ 16" O.C. DF #2	(2) 1 3/4" LSL BLK'G
PARTY	LEVEL 6	DBL. 2X4 DF	DBL. 2X4 @ 16" O.C. DF #2	1 3/4" LSL RIM/BLK'G
	LEVEL 5	DBL. 2X4 DF	DBL. 2X4 @ 16" O.C. DF #2	1 3/4" LSL RIM/BLK'G
	LEVEL 4	DBL. 2X4 DF	DBL. 2X4 @ 16" O.C. DF #2	1 3/4" LSL RIM/BLK'G
	LEVEL 3	DBL. 2X4 DF	DBL. 3X4 @ 16" O.C. DF #2	1 3/4" LSL RIM/BLK'G
	LEVEL 2	DBL. 2X4 DF	DBL. 3X4 @ 16" O.C. DF #2	1 3/4" LSL RIM/BLK'G
STAIR / VENT ELEVATOR WALLS	LEVEL 6	2X6 DF	2X6 @ 16" O.C. DF #2	1 3/4" LSL RIM
	LEVEL 5	2X6 DF	2X6 @ 16" O.C. DF #2	1 3/4" LSL RIM
	LEVEL 4	2X6 DF	2X6 @ 16" O.C. DF #2	1 3/4" LSL RIM
	LEVEL 3	2X6 DF	2X6 @ 16" O.C. DF #2	1 3/4" LSL RIM
	LEVEL 2	2X6 DF	2X6 @ 16" O.C. DF #2	1 3/4" LSL RIM

BEARING WALL NOTES

1. SEE SHEARWALL SCHEDULE SHEET S1.02 FOR WALL SHEATHING, ADDITIONAL PLATE AND STUD REQUIREMENTS, BLOCKING AND PLATE NAILING. SEE SAWN LUMBER STRUCTURAL NOTES SHEET S1.01 FOR SPECIES AND GRADE OF WALL PLATES AND STUDS.
2. SECURE SILL PLATES TO CONCRETE W/ 5/8" DIA. A.B. W/ 7" EMBED INTO CONCRETE SLAB AT 48" TYPICALLY U.N.O. REFER TO SHEAR WALL AND HOLD-DOWN SCHEDULE FOR ADDITIONAL ANCHOR BOLT REQUIREMENTS. WHERE PRESERVATIVE TREATED WOOD IS USED, REFER TO NOTE SECTION 06071 FOR CORROSION PROTECTION REQUIREMENTS FOR CONNECTORS.
3. SEE DETAIL 2/S9.01 FOR TOP PLATE SPLICE. PROVIDE ADDITIONAL CONNECTORS AT SHEAR WALLS AS INDICATED ON THE PLANS.
4. ALL EXTERIOR WALLS, CORRIDOR WALLS, PARTY WALLS, STAIR WALLS, VENT WALLS, AND ELEVATOR WALLS ARE CONSIDERED BEARING. ONLY BEARING INTERIOR WALLS ARE INDICATED ON THE PLANS.

2

Note:
ALL SECTION CUTS ARE TYPICAL



Bldg. D Level 5 Wood Framing Plan (South)

SCALE: 1/8" = 1'-0"

REFERENCE

GRAPHIC SCALE
-8 0 4 8 16
(IN FEET)
1 inch = 8 ft.

CT ENGINEERING INC.
Structural Engineers
180 Nickerson Street Suite 302 Seattle, WA 98109
206.285.4512 (V) 206.285.0618 (F)

NO.	REVISION	DATE
4	BUILDING PERMIT CORRECTION #4	03/02/26
3	BUILDING PERMIT CORRECTION #3	10/17/24
2	BUILDING PERMIT CORRECTION #2	07/19/24
1	BUILDING PERMIT CORRECTION #1	11/03/22
	ENGR: SMK CAD: SMK PLOT: 02/27/26	FILE: 19010 S403
		JOB #:

Shelter HOLDINGS

Building D - Level 5 Wood Framing Plan (Sout)

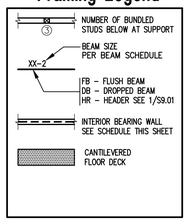
Everett Riverfront
3810 Riverfront Boulevard - Building D
Everett, Washington

S4.31D

Floor/Roof Framing Notes

1. FRAMING – PREMANUFACTURED JOISTS PER PLAN. SECURE JOIST TO TOP PLATE WITH (2) 8d NAILS. BLOCKING AT BEARING AND SHEARWALLS SHALL BE PER BEARING WALL AND SHEARWALL SCHEDULE. USE IUS HANGERS TO MATCH JOIST SIZE AT FLUSH FRAMING CONDITIONS.
2. FLOOR SHEATHING SHALL BE GLUED AND NAILED.
3. WALLS INDICATED ARE BELOW THE FRAMING LEVEL. SEE BEARING WALL SCHEDULE THIS SHEET.
4. PLUMBING, MECHANICAL, AND ELECTRICAL SYSTEMS SHALL BE DESIGNED AND BUILT TO ACCOMMODATE 3/8" PER FLOOR WOOD SHRINKAGE.
5. SEE DETAIL 1/S9.01 FOR TYPICAL HEADER/BUNDLED STUD CONSTRUCTION.
6. SEE ARCHITECTURAL PLANS FOR DRAFTSTOP AND VENTING LOCATIONS.
7. SEE ARCHITECTURAL PLANS FOR DIMENSIONS AND TOP PLATE ELEVATIONS.
8. SOME SHEARWALLS REQUIRE 3X FRAMING AT PANEL EDGES. SEE SHEARWALL SCHEDULE ON SHEET S1.02.
9. HANGERS INDICATED ARE AS MANUFACTURED BY SIMPSON STRONG-TIE. SEE SHEET S9.01 FOR BEAM HANGER SCHEDULE.
10. PROVIDE BLOCKING ATOP SHEARWALLS.
11. BUNDLED STUDS FROM THIS LEVEL SHALL BE CONTINUED DOWN TO PT SLAB OR SUPPORTING BEAM.
12. PROVIDE BLOCKING AT ALL BUNDLED STUDS, SEE DETAIL 4/S9.01.
13. ALL BEAMS AND HEADERS SHALL HAVE A MINIMUM OF (1) FULL HEIGHT STUD AT EACH END FOR BRACING TYPICAL UNLESS NOTED OTHERWISE
14. PROVIDE MINIMUM (2) 2X BUNDLED STUDS UNDER EACH BEAM END, TYPICAL UNLESS NOTED OTHERWISE.
15. SEE DETAILS ON SHEET S9.01 FOR TYPICAL CORNER FRAMING DETAILS.
16. SEE 19/S9.01 FOR TYPICAL STAIR FRAMING DETAILS.
17. ALL EXTERIOR WALLS SHALL BE SHEATHED WITH PLYWOOD. USE TYPE P6 SHEARWALL, TYPICAL, U.N.O.
18. SEE DETAIL 3/S9.01 FOR NOTCHES AND HOLES IN STUDS.
19. SEE 13/S9.02 AND 13/S9.03 DETAILS FOR ROOF TOP MECHANICAL EQUIPMENTS. SEE MECHANICAL DRAWINGS FOR LOCATIONS.

Framing Legend



Joist Schedule

MARK	JOIST
J-1	11 7/8" TJI 110 @ 16" O.C.
J-2	(2) 11 7/8" TJI 210 @ 16" O.C.
J-3	11 7/8" TJI 110 @ 24" O.C.
J-4	11 7/8" TJI 230 @ 24" O.C.
J-5	9 1/2" TJI 230 @ 12" O.C.
J-6	16" TJI 110 @ 16" O.C.
J-7	16" TJI 110 @ 24" O.C.

Wood Beam Schedule

TYPE	SIZE	HANGER
XX-1	4X8	HUS48
XX-2	6X10	HU610
XX-3	LSL 1 3/4 X 11 7/8	HU11
XX-4	PSL 3 1/2 X 11 7/8	HHUS410
XX-5	PSL 5 1/4 X 11 7/8	HHUS5.5/10
XX-6	PSL 7 X 11 7/8	HGU7.25-SDS
XX-7	LSL 3 1/2 X 7 1/4	HHUS48
XX-8	PSL 3 1/2 X 9 1/2	HHUS410

Bearing Wall Stud Schedule

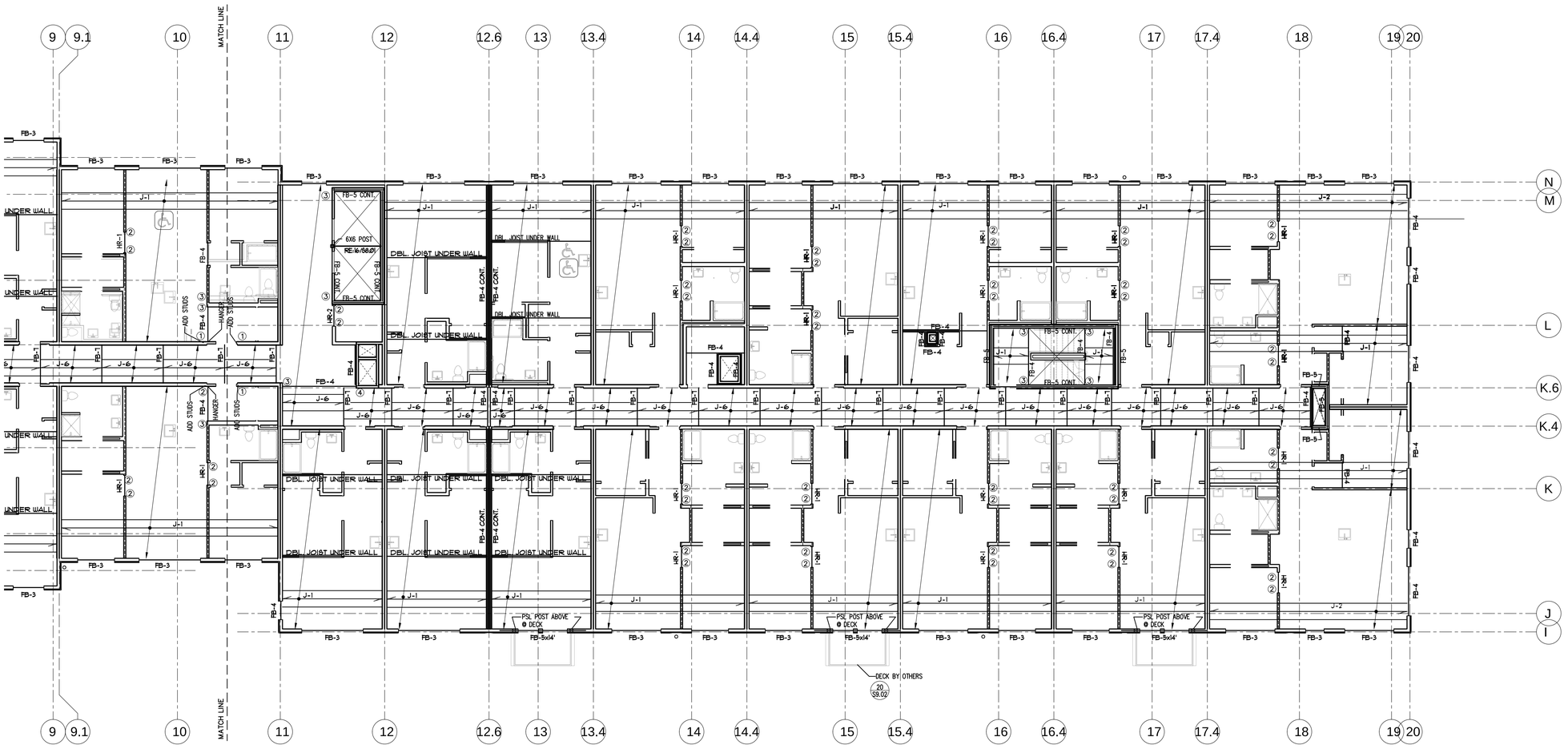
WALL TYPE	LEVEL	PLATE SIZE	STUD SIZE AND SPACING, U.N.O.	RIM/BLOCKING
EXTERIOR	LEVEL 6	2X6 DF	2X6 @ 16" O.C. DF #2	1 3/4" LSL RIM
	LEVEL 5	2X6 DF	2X6 @ 16" O.C. DF #2	1 3/4" LSL RIM
	LEVEL 4	2X6 DF	2X6 @ 16" O.C. DF #2	1 3/4" LSL RIM
	LEVEL 3	2X6 DF	2X6 @ 16" O.C. DF #2	1 3/4" LSL RIM
	LEVEL 2	2X6 DF	2X6 @ 16" O.C. DF #2	1 3/4" LSL RIM
CORRIDOR	LEVEL 6	2X6 DF	2X6 @ 16" O.C. DF #2	3 1/2" LSL RIM
	LEVEL 5	2X6 DF	2X6 @ 16" O.C. DF #2	3 1/2" LSL RIM
	LEVEL 4	2X6 DF	2X6 @ 16" O.C. DF #2	3 1/2" LSL RIM
	LEVEL 3	2X6 DF	2X6 @ 16" O.C. DF #2	3 1/2" LSL RIM
	LEVEL 2	2X6 DF	2X6 @ 16" O.C. DF #2	3 1/2" LSL RIM
INTERIOR	LEVEL 6	2X4 DF	2X4 @ 16" O.C. DF #2	1 3/4" LSL BLK'G
	LEVEL 5	2X4 DF	3X4 @ 16" O.C. DF #2	1 3/4" LSL BLK'G
	LEVEL 4	2X4 DF	3X4 @ 16" O.C. DF #2	1 3/4" LSL BLK'G
	LEVEL 3	2X4 DF	(2) 2X4 @ 16" O.C. DF #2	1 3/4" LSL BLK'G
	LEVEL 2	2X4 DF	(2) 3X4 @ 16" O.C. DF #2	(2) 1 3/4" LSL BLK'G
INTERIOR @ 2-BR END UNITS AND UNDER ROOF DECK	LEVEL 6	DBL. 2X4 DF	2X4 @ 16" O.C. DF #2	1 3/4" LSL BLK'G
	LEVEL 5	DBL. 2X4 DF	3X4 @ 16" O.C. DF #2	1 3/4" LSL BLK'G
	LEVEL 4	DBL. 2X4 DF	(2) 3X4 @ 16" O.C. DF #2	1 3/4" LSL BLK'G
	LEVEL 3	DBL. 2X4 DF	(2) 3X4 @ 16" O.C. DF #2	(2) 1 3/4" LSL BLK'G
	LEVEL 2	DBL. 2X4 DF	(2) 3X4 @ 16" O.C. DF #2	(2) 1 3/4" LSL BLK'G
PARTY	LEVEL 6	DBL. 2X4 DF	DBL. 2X4 @ 16" O.C. DF #2	1 3/4" LSL RIM/BLK'G
	LEVEL 5	DBL. 2X4 DF	DBL. 2X4 @ 16" O.C. DF #2	1 3/4" LSL RIM/BLK'G
	LEVEL 4	DBL. 2X4 DF	DBL. 2X4 @ 16" O.C. DF #2	1 3/4" LSL RIM/BLK'G
	LEVEL 3	DBL. 2X4 DF	DBL. 3X4 @ 16" O.C. DF #2	1 3/4" LSL RIM/BLK'G
	LEVEL 2	DBL. 2X4 DF	DBL. 3X4 @ 16" O.C. DF #2	1 3/4" LSL RIM/BLK'G
STAIR / VENT ELEVATOR WALLS	LEVEL 6	2X6 DF	2X6 @ 16" O.C. DF #2	1 3/4" LSL RIM
	LEVEL 5	2X6 DF	2X6 @ 16" O.C. DF #2	1 3/4" LSL RIM
	LEVEL 4	2X6 DF	2X6 @ 16" O.C. DF #2	1 3/4" LSL RIM
	LEVEL 3	2X6 DF	2X6 @ 16" O.C. DF #2	1 3/4" LSL RIM
	LEVEL 2	2X6 DF	2X6 @ 16" O.C. DF #2	1 3/4" LSL RIM

BEARING WALL NOTES

1. SEE SHEARWALL SCHEDULE SHEET S1.02 FOR WALL SHEATHING, ADDITIONAL PLATE AND STUD REQUIREMENTS, BLOCKING AND PLATE NAILING. SEE SAWN LUMBER STRUCTURAL NOTES SHEET S1.01 FOR SPECIES AND GRADE OF WALL PLATES AND STUDS.
2. SECURE SILL PLATES TO CONCRETE W/ 5/8" DIA. A.B. W/ 7" EMBED INTO CONCRETE SLAB AT 48" TYPICALLY U.N.O. REFER TO SHEAR WALL AND HOLD-DOWN SCHEDULE FOR ADDITIONAL ANCHOR BOLT REQUIREMENTS. WHERE PRESERVATIVE TREATED WOOD IS USED, REFER TO NOTE SECTION 06071 FOR CORROSION PROTECTION REQUIREMENTS FOR CONNECTORS.
3. SEE DETAIL 2/S9.01 FOR TOP PLATE SPLICE. PROVIDE ADDITIONAL CONNECTORS AT SHEAR WALLS AS INDICATED ON THE PLANS.
4. ALL EXTERIOR WALLS, CORRIDOR WALLS, PARTY WALLS, STAIR WALLS, VENT WALLS, AND ELEVATOR WALLS ARE CONSIDERED BEARING. ONLY BEARING INTERIOR WALLS ARE INDICATED ON THE PLANS.

2

Note:
ALL SECTION CUTS ARE TYPICAL



Bldg. D Level 5 Wood Framing Plan (North)

SCALE: 1/8" = 1'-0"

REFERENCE

GRAPHIC SCALE
-8 0 4 8 16
(IN FEET)
1 inch = 8 ft.

CT ENGINEERING INC.
Structural Engineers
180 Nickerson Street Suite 302 Seattle, WA 98109
206.285.4512 (V) 206.285.0618 (F)

NO.	REVISION	DATE
4	BUILDING PERMIT CORRECTION #4	03/02/26
3	BUILDING PERMIT CORRECTION #3	10/17/24
2	BUILDING PERMIT CORRECTION #2	07/19/24
1	BUILDING PERMIT CORRECTION #1	11/03/22

ENGR: SWK | CAD: SWK | PLOT: 02/27/26 | FILE: 19010 S403

JOB #:

Shelter HOLDINGS

Building D - Level 5 Wood Framing Plan (North)

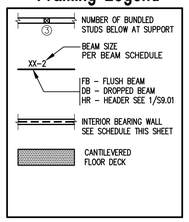
Everett Riverfront
3810 Riverfront Boulevard - Building D
Everett, Washington

S4.32D

Floor/Roof Framing Notes

1. FRAMING – PREMANUFACTURED JOISTS PER PLAN. SECURE JOIST TO TOP PLATE WITH (2) 8d NAILS. BLOCKING AT BEARING AND SHEARWALLS SHALL BE PER BEARING WALL AND SHEARWALL SCHEDULE. USE IUS HANGERS TO MATCH JOIST SIZE AT FLUSH FRAMING CONDITIONS.
2. FLOOR SHEATHING SHALL BE GLUED AND NAILED.
3. WALLS INDICATED ARE BELOW THE FRAMING LEVEL. SEE BEARING WALL SCHEDULE THIS SHEET.
4. PLUMBING, MECHANICAL, AND ELECTRICAL SYSTEMS SHALL BE DESIGNED AND BUILT TO ACCOMMODATE 3/8" PER FLOOR WOOD SHRINKAGE.
5. SEE DETAIL 1/S9.01 FOR TYPICAL HEADER/BUNDLED STUD CONSTRUCTION.
6. SEE ARCHITECTURAL PLANS FOR DRAFTSTOP AND VENTING LOCATIONS.
7. SEE ARCHITECTURAL PLANS FOR DIMENSIONS AND TOP PLATE ELEVATIONS.
8. SOME SHEARWALLS REQUIRE 3X FRAMING AT PANEL EDGES. SEE SHEARWALL SCHEDULE ON SHEET S1.02.
9. HANGERS INDICATED ARE AS MANUFACTURED BY SIMPSON STRONG-TIE. SEE SHEET S9.01 FOR BEAM HANGER SCHEDULE.
10. PROVIDE BLOCKING ATOP SHEARWALLS.
11. BUNDLED STUDS FROM THIS LEVEL SHALL BE CONTINUED DOWN TO PT SLAB OR SUPPORTING BEAM.
12. PROVIDE BLOCKING AT ALL BUNDLED STUDS, SEE DETAIL 4/S9.01.
13. ALL BEAMS AND HEADERS SHALL HAVE A MINIMUM OF (1) FULL HEIGHT STUD AT EACH END FOR BRACING TYPICAL UNLESS NOTED OTHERWISE
14. PROVIDE MINIMUM (2) 2X BUNDLED STUDS UNDER EACH BEAM END, TYPICAL UNLESS NOTED OTHERWISE.
15. SEE DETAILS ON SHEET S9.01 FOR TYPICAL CORNER FRAMING DETAILS.
16. SEE 19/S9.01 FOR TYPICAL STAIR FRAMING DETAILS.
17. ALL EXTERIOR WALLS SHALL BE SHEATHED WITH PLYWOOD. USE TYPE P6 SHEARWALL, TYPICAL, U.N.O.
18. SEE DETAIL 3/S9.01 FOR NOTCHES AND HOLES IN STUDS.
19. SEE 13/S9.02 AND 13/S9.03 DETAILS FOR ROOF TOP MECHANICAL EQUIPMENTS. SEE MECHANICAL DRAWINGS FOR LOCATIONS.

Framing Legend



Joist Schedule

MARK	JOIST
J-1	11 7/8" TJI 110 @ 16" O.C.
J-2	(2) 11 7/8" TJI 210 @ 16" O.C.
J-3	11 7/8" TJI 110 @ 24" O.C.
J-4	11 7/8" TJI 230 @ 24" O.C.
J-5	9 1/2" TJI 230 @ 12" O.C.
J-6	16" TJI 110 @ 16" O.C.
J-7	16" TJI 110 @ 24" O.C.

Wood Beam Schedule

TYPE	SIZE	HANGER
XX-1	4X8	HUS48
XX-2	6X10	HU610
XX-3	LSL 1 3/4 X 11 7/8	HU11
XX-4	PSL 3 1/2 X 11 7/8	HHUS410
XX-5	PSL 5 1/4 X 11 7/8	HHUS5.5/10
XX-6	PSL 7 X 11 7/8	HGU7.25-SDS
XX-7	LSL 3 1/2 X 7 1/4	HHUS48
XX-8	PSL 3 1/2 X 9 1/2	HHUS410

Bearing Wall Stud Schedule

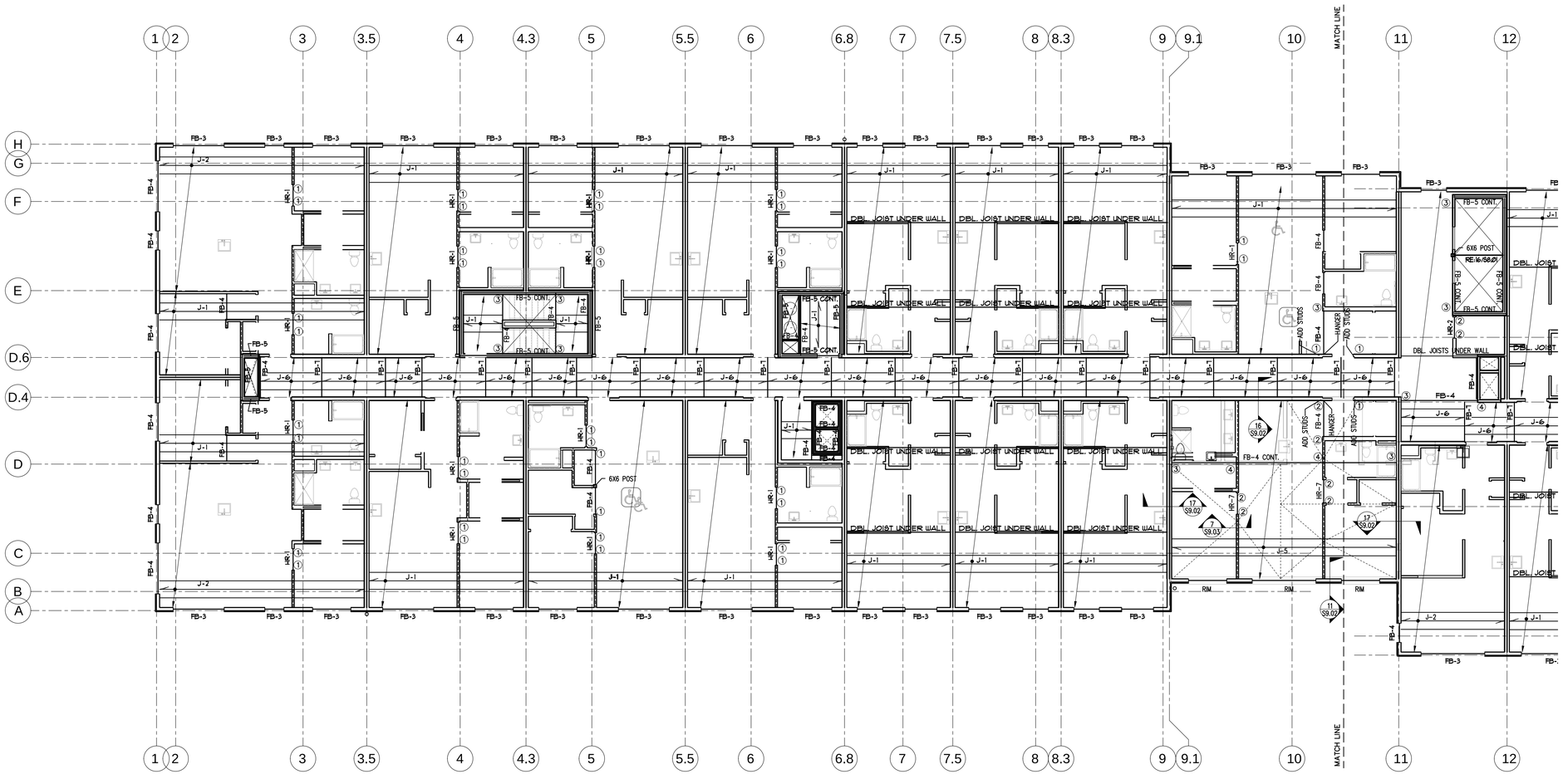
WALL TYPE	LEVEL	PLATE SIZE	STUD SIZE AND SPACING, U.N.O.	RIM/BLOCKING
EXTERIOR	LEVEL 6	2X6 DF	2X6 @ 16" O.C. DF #2	1 3/4" LSL RIM
	LEVEL 5	2X6 DF	2X6 @ 16" O.C. DF #2	1 3/4" LSL RIM
	LEVEL 4	2X6 DF	2X6 @ 16" O.C. DF #2	1 3/4" LSL RIM
	LEVEL 3	2X6 DF	2X6 @ 16" O.C. DF #2	1 3/4" LSL RIM
	LEVEL 2	2X6 DF	2X6 @ 16" O.C. DF #2	1 3/4" LSL RIM
CORRIDOR	LEVEL 6	2X6 DF	2X6 @ 16" O.C. DF #2	3 1/2" LSL RIM
	LEVEL 5	2X6 DF	2X6 @ 16" O.C. DF #2	3 1/2" LSL RIM
	LEVEL 4	2X6 DF	2X6 @ 16" O.C. DF #2	3 1/2" LSL RIM
	LEVEL 3	2X6 DF	2X6 @ 16" O.C. DF #2	3 1/2" LSL RIM
	LEVEL 2	2X6 DF	2X6 @ 16" O.C. DF #2	3 1/2" LSL RIM
INTERIOR	LEVEL 6	2X4 DF	2X4 @ 16" O.C. DF #2	1 3/4" LSL BLK'G
	LEVEL 5	2X4 DF	3X4 @ 16" O.C. DF #2	1 3/4" LSL BLK'G
	LEVEL 4	2X4 DF	3X4 @ 16" O.C. DF #2	1 3/4" LSL BLK'G
	LEVEL 3	2X4 DF	(2) 2X4 @ 16" O.C. DF #2	1 3/4" LSL BLK'G
	LEVEL 2	2X4 DF	(2) 3X4 @ 16" O.C. DF #2	(2) 1 3/4" LSL BLK'G
INTERIOR @ 2-BR END UNITS AND UNDER ROOF DECK	LEVEL 6	DBL. 2X4 DF	2X4 @ 16" O.C. DF #2	1 3/4" LSL BLK'G
	LEVEL 5	DBL. 2X4 DF	3X4 @ 16" O.C. DF #2	1 3/4" LSL BLK'G
	LEVEL 4	DBL. 2X4 DF	(2) 3X4 @ 16" O.C. DF #2	1 3/4" LSL BLK'G
	LEVEL 3	DBL. 2X4 DF	(2) 3X4 @ 16" O.C. DF #2	(2) 1 3/4" LSL BLK'G
	LEVEL 2	DBL. 2X4 DF	(2) 3X4 @ 16" O.C. DF #2	(2) 1 3/4" LSL BLK'G
PARTY	LEVEL 6	DBL. 2X4 DF	DBL. 2X4 @ 16" O.C. DF #2	1 3/4" LSL RIM/BLK'G
	LEVEL 5	DBL. 2X4 DF	DBL. 2X4 @ 16" O.C. DF #2	1 3/4" LSL RIM/BLK'G
	LEVEL 4	DBL. 2X4 DF	DBL. 2X4 @ 16" O.C. DF #2	1 3/4" LSL RIM/BLK'G
	LEVEL 3	DBL. 2X4 DF	DBL. 3X4 @ 16" O.C. DF #2	1 3/4" LSL RIM/BLK'G
	LEVEL 2	DBL. 2X4 DF	DBL. 3X4 @ 16" O.C. DF #2	1 3/4" LSL RIM/BLK'G
STAIR / VENT ELEVATOR WALLS	LEVEL 6	2X6 DF	2X6 @ 16" O.C. DF #2	1 3/4" LSL RIM
	LEVEL 5	2X6 DF	2X6 @ 16" O.C. DF #2	1 3/4" LSL RIM
	LEVEL 4	2X6 DF	2X6 @ 16" O.C. DF #2	1 3/4" LSL RIM
	LEVEL 3	2X6 DF	2X6 @ 16" O.C. DF #2	1 3/4" LSL RIM
	LEVEL 2	2X6 DF	2X6 @ 16" O.C. DF #2	1 3/4" LSL RIM

BEARING WALL NOTES

1. SEE SHEARWALL SCHEDULE SHEET S1.02 FOR WALL SHEATHING, ADDITIONAL PLATE AND STUD REQUIREMENTS, BLOCKING AND PLATE NAILING. SEE SAWN LUMBER STRUCTURAL NOTES SHEET S1.01 FOR SPECIES AND GRADE OF WALL PLATES AND STUDS.
2. SECURE SILL PLATES TO CONCRETE W/ 5/8" DIA. A.B. W/ 7" EMBED INTO CONCRETE SLAB AT 48" TYPICALLY U.N.O. REFER TO SHEAR WALL AND HOLD-DOWN SCHEDULE FOR ADDITIONAL ANCHOR BOLT REQUIREMENTS. WHERE PRESERVATIVE TREATED WOOD IS USED, REFER TO NOTE SECTION 06071 FOR CORROSION PROTECTION REQUIREMENTS FOR CONNECTORS.
3. SEE DETAIL 2/S9.01 FOR TOP PLATE SPLICE. PROVIDE ADDITIONAL CONNECTORS AT SHEAR WALLS AS INDICATED ON THE PLANS.
4. ALL EXTERIOR WALLS, CORRIDOR WALLS, PARTY WALLS, STAIR WALLS, VENT WALLS, AND ELEVATOR WALLS ARE CONSIDERED BEARING. ONLY BEARING INTERIOR WALLS ARE INDICATED ON THE PLANS.

2

Note:
ALL SECTION CUTS ARE TYPICAL



Bldg. D Level 6 Wood Framing Plan (South)

SCALE: 1/8" = 1'-0"

REFERENCE

GRAPHIC SCALE
-8 0 4 8 16
(IN FEET)
1 inch = 8 ft.

CT ENGINEERING INC.
Structural Engineers
180 Nickerson Street Suite 302 Seattle, WA 98109
206.285.4512 (V) 206.285.0618 (F)

NO.	REVISION	DATE
4	BUILDING PERMIT CORRECTION #4	03/02/26
3	BUILDING PERMIT CORRECTION #3	10/17/24
2	BUILDING PERMIT CORRECTION #2	07/19/24
1	BUILDING PERMIT CORRECTION #1	11/03/22
	ENGR: SMK CAD: SMK PLOT: 02/27/26	FILE: 19010 S4041 ADR.rvt

Shelter HOLDINGS

Building D - Level 6 Wood Framing Plan (South)

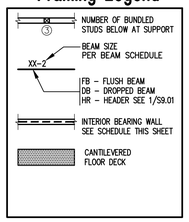
Everett Riverfront
3810 Riverfront Boulevard - Building D
Everett, Washington

S4.41D

Floor/Roof Framing Notes

1. FRAMING – PREMANUFACTURED JOISTS PER PLAN. SECURE JOIST TO TOP PLATE WITH (2) 8d NAILS. BLOCKING AT BEARING AND SHEARWALLS SHALL BE PER BEARING WALL AND SHEARWALL SCHEDULE. USE IUS HANGERS TO MATCH JOIST SIZE AT FLUSH FRAMING CONDITIONS.
2. FLOOR SHEATHING SHALL BE GLUED AND NAILED.
3. WALLS INDICATED ARE BELOW THE FRAMING LEVEL. SEE BEARING WALL SCHEDULE THIS SHEET.
4. PLUMBING, MECHANICAL, AND ELECTRICAL SYSTEMS SHALL BE DESIGNED AND BUILT TO ACCOMMODATE 3/8" PER FLOOR WOOD SHRINKAGE.
5. SEE DETAIL 1/S9.01 FOR TYPICAL HEADER/BUNDLED STUD CONSTRUCTION.
6. SEE ARCHITECTURAL PLANS FOR DRAFTSTOP AND VENTING LOCATIONS.
7. SEE ARCHITECTURAL PLANS FOR DIMENSIONS AND TOP PLATE ELEVATIONS.
8. SOME SHEARWALLS REQUIRE 3X FRAMING AT PANEL EDGES. SEE SHEARWALL SCHEDULE ON SHEET S1.02.
9. HANGERS INDICATED ARE AS MANUFACTURED BY SIMPSON STRONG-TIE. SEE SHEET S9.01 FOR BEAM HANGER SCHEDULE.
10. PROVIDE BLOCKING ATOP SHEARWALLS.
11. BUNDLED STUDS FROM THIS LEVEL SHALL BE CONTINUED DOWN TO PT SLAB OR SUPPORTING BEAM.
12. PROVIDE BLOCKING AT ALL BUNDLED STUDS, SEE DETAIL 4/S9.01.
13. ALL BEAMS AND HEADERS SHALL HAVE A MINIMUM OF (1) FULL HEIGHT STUD AT EACH END FOR BRACING TYPICAL UNLESS NOTED OTHERWISE
14. PROVIDE MINIMUM (2) 2X BUNDLED STUDS UNDER EACH BEAM END, TYPICAL UNLESS NOTED OTHERWISE.
15. SEE DETAILS ON SHEET S9.01 FOR TYPICAL CORNER FRAMING DETAILS.
16. SEE 19/S9.01 FOR TYPICAL STAIR FRAMING DETAILS.
17. ALL EXTERIOR WALLS SHALL BE SHEATHED WITH PLYWOOD. USE TYPE P6 SHEARWALL, TYPICAL, U.N.O.
18. SEE DETAIL 3/S9.01 FOR NOTCHES AND HOLES IN STUDS.
19. SEE 13/S9.02 AND 13/S9.03 DETAILS FOR ROOF TOP MECHANICAL EQUIPMENTS. SEE MECHANICAL DRAWINGS FOR LOCATIONS.

Framing Legend



Joist Schedule

MARK	JOIST
J-1	11 7/8" TJI 110 @ 16" O.C.
J-2	(2) 11 7/8" TJI 210 @ 16" O.C.
J-3	11 7/8" TJI 110 @ 24" O.C.
J-4	11 7/8" TJI 230 @ 24" O.C.
J-5	9 1/2" TJI 230 @ 12" O.C.
J-6	16" TJI 110 @ 16" O.C.
J-7	16" TJI 110 @ 24" O.C.

Wood Beam Schedule

TYPE	SIZE	HANGER
XX-1	4X8	HUS48
XX-2	6X10	HU610
XX-3	LSL 1 3/4 X 11 7/8	HU11
XX-4	PSL 3 1/2 X 11 7/8	HHUS410
XX-5	PSL 5 1/4 X 11 7/8	HHUS5.5/10
XX-6	PSL 7 X 11 7/8	HGU7.25-SDS
XX-7	LSL 3 1/2 X 7 1/4	HHUS48
XX-8	PSL 3 1/2 X 9 1/2	HHUS410

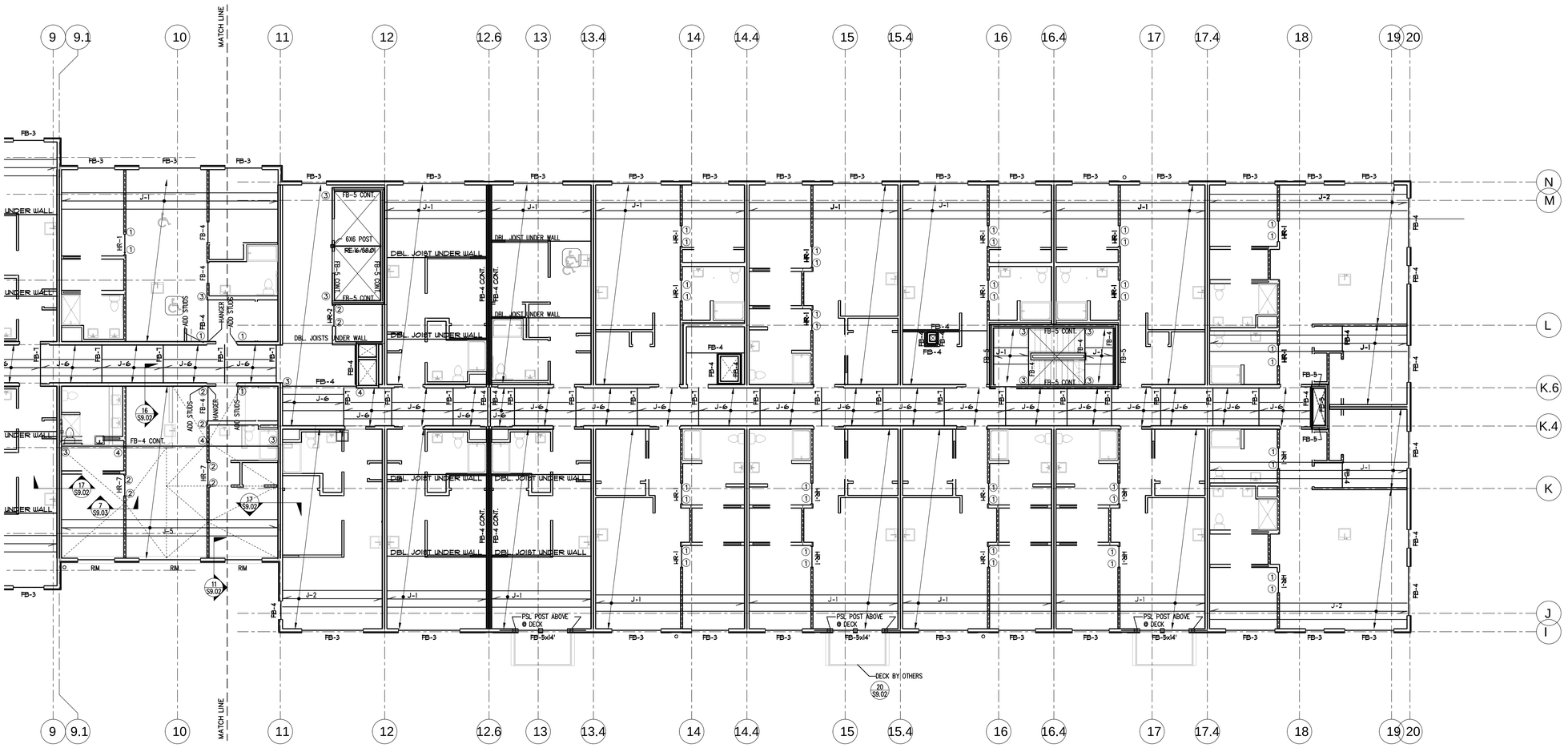
Bearing Wall Stud Schedule

WALL TYPE	LEVEL	PLATE SIZE	STUD SIZE AND SPACING, U.N.O.	RIM/BLOCKING
EXTERIOR	LEVEL 6	2X6 DF	2X6 @ 16" O.C. DF #2	1 3/4" LSL RIM
	LEVEL 5	2X6 DF	2X6 @ 16" O.C. DF #2	1 3/4" LSL RIM
	LEVEL 4	2X6 DF	2X6 @ 16" O.C. DF #2	1 3/4" LSL RIM
	LEVEL 3	2X6 DF	2X6 @ 16" O.C. DF #2	1 3/4" LSL RIM
	LEVEL 2	2X6 DF	2X6 @ 16" O.C. DF #2	1 3/4" LSL RIM
CORRIDOR	LEVEL 6	2X6 DF	2X6 @ 16" O.C. DF #2	3 1/2" LSL RIM
	LEVEL 5	2X6 DF	2X6 @ 16" O.C. DF #2	3 1/2" LSL RIM
	LEVEL 4	2X6 DF	2X6 @ 16" O.C. DF #2	3 1/2" LSL RIM
	LEVEL 3	2X6 DF	2X6 @ 16" O.C. DF #2	3 1/2" LSL RIM
	LEVEL 2	2X6 DF	2X6 @ 16" O.C. DF #2	3 1/2" LSL RIM
INTERIOR	LEVEL 6	2X4 DF	2X4 @ 16" O.C. DF #2	1 3/4" LSL BLK'G
	LEVEL 5	2X4 DF	3X4 @ 16" O.C. DF #2	1 3/4" LSL BLK'G
	LEVEL 4	2X4 DF	3X4 @ 16" O.C. DF #2	1 3/4" LSL BLK'G
	LEVEL 3	2X4 DF	(2) 2X4 @ 16" O.C. DF #2	1 3/4" LSL BLK'G
	LEVEL 2	2X4 DF	(2) 3X4 @ 16" O.C. DF #2	(2) 1 3/4" LSL BLK'G
INTERIOR @ 2-BR END UNITS AND UNDER ROOF DECK	LEVEL 6	DBL. 2X4 DF	2X4 @ 16" O.C. DF #2	1 3/4" LSL BLK'G
	LEVEL 5	DBL. 2X4 DF	3X4 @ 16" O.C. DF #2	1 3/4" LSL BLK'G
	LEVEL 4	DBL. 2X4 DF	(2) 3X4 @ 16" O.C. DF #2	1 3/4" LSL BLK'G
	LEVEL 3	DBL. 2X4 DF	(2) 3X4 @ 16" O.C. DF #2	(2) 1 3/4" LSL BLK'G
	LEVEL 2	DBL. 2X4 DF	(2) 3X4 @ 16" O.C. DF #2	(2) 1 3/4" LSL BLK'G
PARTY	LEVEL 6	DBL. 2X4 DF	DBL. 2X4 @ 16" O.C. DF #2	1 3/4" LSL RIM/BLK'G
	LEVEL 5	DBL. 2X4 DF	DBL. 2X4 @ 16" O.C. DF #2	1 3/4" LSL RIM/BLK'G
	LEVEL 4	DBL. 2X4 DF	DBL. 2X4 @ 16" O.C. DF #2	1 3/4" LSL RIM/BLK'G
	LEVEL 3	DBL. 2X4 DF	DBL. 3X4 @ 16" O.C. DF #2	1 3/4" LSL RIM/BLK'G
	LEVEL 2	DBL. 2X4 DF	DBL. 3X4 @ 16" O.C. DF #2	1 3/4" LSL RIM/BLK'G
STAIR / VENT ELEVATOR WALLS	LEVEL 6	2X6 DF	2X6 @ 16" O.C. DF #2	1 3/4" LSL RIM
	LEVEL 5	2X6 DF	2X6 @ 16" O.C. DF #2	1 3/4" LSL RIM
	LEVEL 4	2X6 DF	2X6 @ 16" O.C. DF #2	1 3/4" LSL RIM
	LEVEL 3	2X6 DF	2X6 @ 16" O.C. DF #2	1 3/4" LSL RIM
	LEVEL 2	2X6 DF	2X6 @ 16" O.C. DF #2	1 3/4" LSL RIM

BEARING WALL NOTES
1. SEE SHEARWALL SCHEDULE SHEET S1.02 FOR WALL SHEATHING, ADDITIONAL PLATE AND STUD REQUIREMENTS, BLOCKING AND PLATE NAILING. SEE SAWN LUMBER STRUCTURAL NOTES SHEET S1.01 FOR SPECIES AND GRADE OF WALL PLATES AND STUDS.
2. SECURE SILL PLATES TO CONCRETE W/ 5/8" DIA. A.B. W/ 7" EMBED INTO CONCRETE SLAB AT 48" TYPICALLY U.N.O. REFER TO SHEAR WALL AND HOLD-DOWN SCHEDULE FOR ADDITIONAL ANCHOR BOLT REQUIREMENTS. WHERE PRESERVATIVE TREATED WOOD IS USED, REFER TO NOTE SECTION 06071 FOR CORROSION PROTECTION REQUIREMENTS FOR CONNECTORS.
3. SEE DETAIL 2/S9.01 FOR TOP PLATE SPLICE. PROVIDE ADDITIONAL CONNECTORS AT SHEAR WALLS AS INDICATED ON THE PLANS.
4. ALL EXTERIOR WALLS, CORRIDOR WALLS, PARTY WALLS, STAIR WALLS, VENT WALLS, AND ELEVATOR WALLS ARE CONSIDERED BEARING. ONLY BEARING INTERIOR WALLS ARE INDICATED ON THE PLANS.

2

Note:
ALL SECTION CUTS ARE TYPICAL



Bldg. D Level 6 Wood Framing Plan (North)
SCALE: 1/8" = 1'-0"

REFERENCE

GRAPHIC SCALE
-8 0 4 8 16
(IN FEET)
1 inch = 8 ft.

CT ENGINEERING INC.
Structural Engineers
180 Nickerson Street Suite 302 Seattle, WA 98109
206.285.4512 (V) 206.285.0618 (F)

NO.	REVISION	DATE
4	BUILDING PERMIT CORRECTION #4	03/02/26
3	BUILDING PERMIT CORRECTION #3	10/17/24
2	BUILDING PERMIT CORRECTION #2	07/19/24
1	BUILDING PERMIT CORRECTION #1	11/03/22

ENGR: SWK | CAD: SWK | PLOT: 02/27/26 | FILE: 19010 3404
JOB #:

Shelter HOLDINGS

Building D - Level 6 Wood Framing Plan (North)

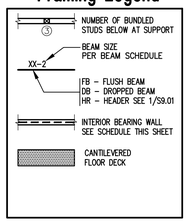
Everett Riverfront
3810 Riverfront Boulevard - Building D
Everett, Washington

S4.42D

Floor/Roof Framing Notes

1. FRAMING – PREMANUFACTURED JOISTS PER PLAN. SECURE JOIST TO TOP PLATE WITH (2) 8d NAILS. BLOCKING AT BEARING AND SHEARWALLS SHALL BE PER BEARING WALL AND SHEARWALL SCHEDULE. USE IUS HANGERS TO MATCH JOIST SIZE AT FLUSH FRAMING CONDITIONS.
2. FLOOR SHEATHING SHALL BE GLUED AND NAILED.
3. WALLS INDICATED ARE BELOW THE FRAMING LEVEL. SEE BEARING WALL SCHEDULE THIS SHEET.
4. PLUMBING, MECHANICAL, AND ELECTRICAL SYSTEMS SHALL BE DESIGNED AND BUILT TO ACCOMMODATE 3/8" PER FLOOR WOOD SHRINKAGE.
5. SEE DETAIL 1/S9.01 FOR TYPICAL HEADER/BUNDLED STUD CONSTRUCTION.
6. SEE ARCHITECTURAL PLANS FOR DRAFTSTOP AND VENTING LOCATIONS.
7. SEE ARCHITECTURAL PLANS FOR DIMENSIONS AND TOP PLATE ELEVATIONS.
8. SOME SHEARWALLS REQUIRE 3X FRAMING AT PANEL EDGES. SEE SHEARWALL SCHEDULE ON SHEET S1.02.
9. HANGERS INDICATED ARE AS MANUFACTURED BY SIMPSON STRONG-TIE. SEE SHEET S9.01 FOR BEAM HANGER SCHEDULE.
10. PROVIDE BLOCKING ATOP SHEARWALLS.
11. BUNDLED STUDS FROM THIS LEVEL SHALL BE CONTINUED DOWN TO PT SLAB OR SUPPORTING BEAM.
12. PROVIDE BLOCKING AT ALL BUNDLED STUDS, SEE DETAIL 4/S9.01.
13. ALL BEAMS AND HEADERS SHALL HAVE A MINIMUM OF (1) FULL HEIGHT STUD AT EACH END FOR BRACING TYPICAL UNLESS NOTED OTHERWISE
14. PROVIDE MINIMUM (2) 2X BUNDLED STUDS UNDER EACH BEAM END, TYPICAL UNLESS NOTED OTHERWISE.
15. SEE DETAILS ON SHEET S9.01 FOR TYPICAL CORNER FRAMING DETAILS.
16. SEE 19/S9.01 FOR TYPICAL STAIR FRAMING DETAILS.
17. ALL EXTERIOR WALLS SHALL BE SHEATHED WITH PLYWOOD. USE TYPE P6 SHEARWALL, TYPICAL, U.N.O.
18. SEE DETAIL 3/S9.01 FOR NOTCHES AND HOLES IN STUDS.
19. SEE 13/S9.02 AND 13/S9.03 DETAILS FOR ROOF TOP MECHANICAL EQUIPMENTS. SEE MECHANICAL DRAWINGS FOR LOCATIONS.

Framing Legend



Joist Schedule

MARK	JOIST
J-1	11 7/8" TJI 110 @ 16" O.C.
J-2	(2) 11 7/8" TJI 210 @ 16" O.C.
J-3	11 7/8" TJI 110 @ 24" O.C.
J-4	11 7/8" TJI 230 @ 24" O.C.
J-5	9 1/2" TJI 230 @ 12" O.C.
J-6	16" TJI 110 @ 16" O.C.
J-7	16" TJI 110 @ 24" O.C.

Wood Beam Schedule

TYPE	SIZE	HANGER
XX-1	4X8	HUS48
XX-2	6X10	HU610
XX-3	LSL 1 3/4 X 11 7/8	HU11
XX-4	PSL 3 1/2 X 11 7/8	HHUS410
XX-5	PSL 5 1/4 X 11 7/8	HHUS5.5/10
XX-6	PSL 7 X 11 7/8	HGU7.25-SDS
XX-7	LSL 3 1/2 X 7 1/4	HHUS48
XX-8	PSL 3 1/2 X 9 1/2	HHUS410

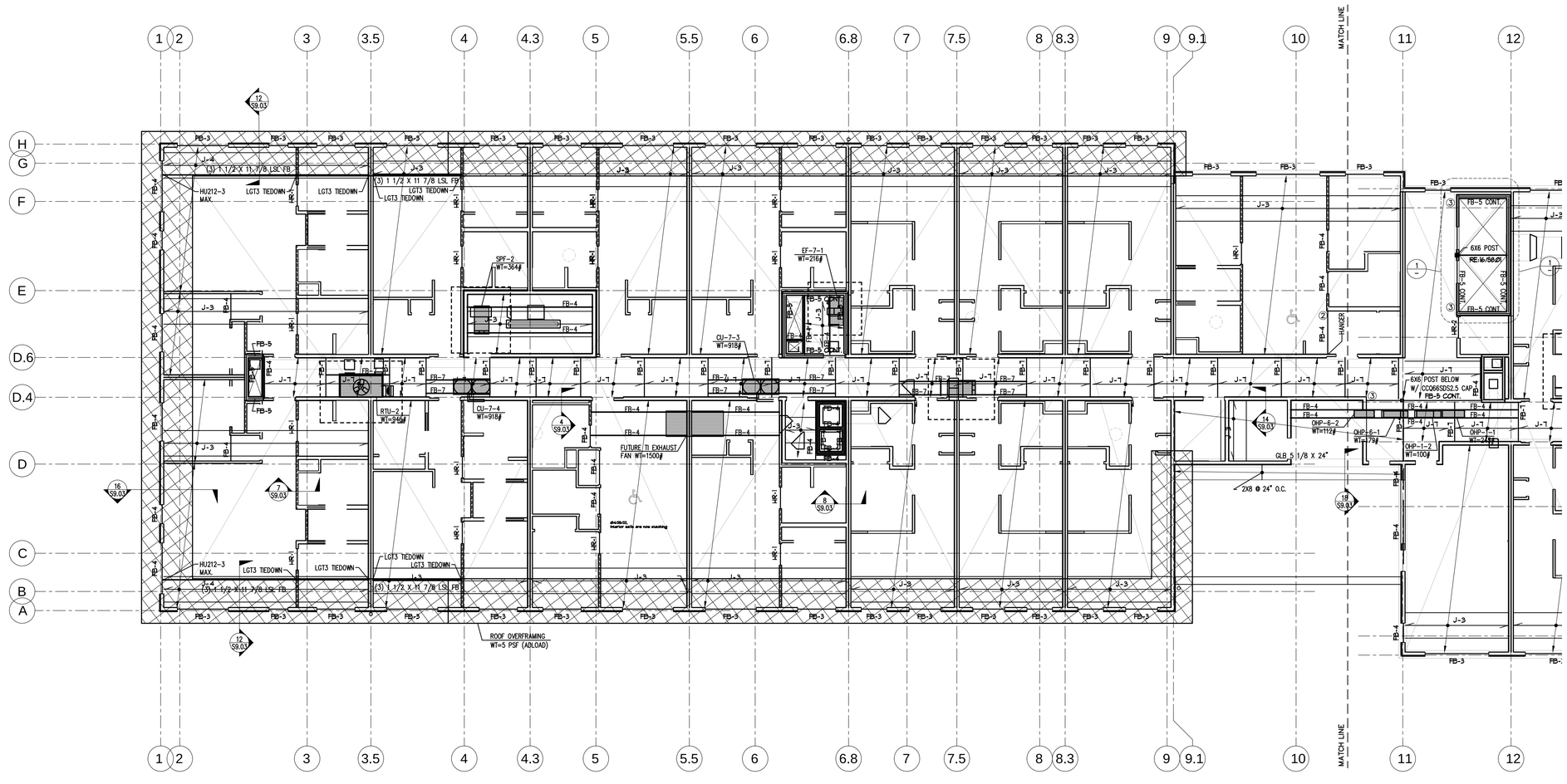
Bearing Wall Stud Schedule

WALL TYPE	LEVEL	PLATE SIZE	STUD SIZE AND SPACING, U.N.O.	RIM/BLOCKING
EXTERIOR	LEVEL 6	2X6 DF	2X6 @ 16" O.C. DF #2	1 3/4" LSL RIM
	LEVEL 5	2X6 DF	2X6 @ 16" O.C. DF #2	1 3/4" LSL RIM
	LEVEL 4	2X6 DF	2X6 @ 16" O.C. DF #2	1 3/4" LSL RIM
	LEVEL 3	2X6 DF	2X6 @ 16" O.C. DF #2	1 3/4" LSL RIM
	LEVEL 2	2X6 DF	2X6 @ 16" O.C. DF #2	1 3/4" LSL RIM
CORRIDOR	LEVEL 6	2X6 DF	2X6 @ 16" O.C. DF #2	3 1/2" LSL RIM
	LEVEL 5	2X6 DF	2X6 @ 16" O.C. DF #2	3 1/2" LSL RIM
	LEVEL 4	2X6 DF	2X6 @ 16" O.C. DF #2	3 1/2" LSL RIM
	LEVEL 3	2X6 DF	2X6 @ 16" O.C. DF #2	3 1/2" LSL RIM
	LEVEL 2	2X6 DF	2X6 @ 16" O.C. DF #2	3 1/2" LSL RIM
INTERIOR	LEVEL 6	2X4 DF	2X4 @ 16" O.C. DF #2	1 3/4" LSL BLK'G
	LEVEL 5	2X4 DF	3X4 @ 16" O.C. DF #2	1 3/4" LSL BLK'G
	LEVEL 4	2X4 DF	3X4 @ 16" O.C. DF #2	1 3/4" LSL BLK'G
	LEVEL 3	2X4 DF	(2) 2X4 @ 16" O.C. DF #2	1 3/4" LSL BLK'G
	LEVEL 2	2X4 DF	(2) 3X4 @ 16" O.C. DF #2	(2) 1 3/4" LSL BLK'G
INTERIOR @ 2-BR END UNITS AND UNDER ROOF DECK	LEVEL 6	DBL. 2X4 DF	2X4 @ 16" O.C. DF #2	1 3/4" LSL BLK'G
	LEVEL 5	DBL. 2X4 DF	3X4 @ 16" O.C. DF #2	1 3/4" LSL BLK'G
	LEVEL 4	DBL. 2X4 DF	(2) 3X4 @ 16" O.C. DF #2	1 3/4" LSL BLK'G
	LEVEL 3	DBL. 2X4 DF	(2) 3X4 @ 16" O.C. DF #2	(2) 1 3/4" LSL BLK'G
	LEVEL 2	DBL. 2X4 DF	(2) 3X4 @ 16" O.C. DF #2	(2) 1 3/4" LSL BLK'G
PARTY	LEVEL 6	DBL. 2X4 DF	DBL. 2X4 @ 16" O.C. DF #2	1 3/4" LSL RIM/BLK'G
	LEVEL 5	DBL. 2X4 DF	DBL. 2X4 @ 16" O.C. DF #2	1 3/4" LSL RIM/BLK'G
	LEVEL 4	DBL. 2X4 DF	DBL. 2X4 @ 16" O.C. DF #2	1 3/4" LSL RIM/BLK'G
	LEVEL 3	DBL. 2X4 DF	DBL. 3X4 @ 16" O.C. DF #2	1 3/4" LSL RIM/BLK'G
	LEVEL 2	DBL. 2X4 DF	DBL. 3X4 @ 16" O.C. DF #2	1 3/4" LSL RIM
STAIR / VENT ELEVATOR WALLS	LEVEL 6	2X6 DF	2X6 @ 16" O.C. DF #2	1 3/4" LSL RIM
	LEVEL 5	2X6 DF	2X6 @ 16" O.C. DF #2	1 3/4" LSL RIM
	LEVEL 4	2X6 DF	2X6 @ 16" O.C. DF #2	1 3/4" LSL RIM
	LEVEL 3	2X6 DF	2X6 @ 16" O.C. DF #2	1 3/4" LSL RIM
	LEVEL 2	2X6 DF	2X6 @ 16" O.C. DF #2	1 3/4" LSL RIM

BEARING WALL NOTES
1. SEE SHEARWALL SCHEDULE SHEET S1.02 FOR WALL SHEATHING, ADDITIONAL PLATE AND STUD REQUIREMENTS, BLOCKING AND PLATE NAILING. SEE SAWN LUMBER STRUCTURAL NOTES SHEET S1.01 FOR SPECIES AND GRADE OF WALL PLATES AND STUDS.
2. SECURE SILL PLATES TO CONCRETE W/ 5/8" DIA. A.B. W/ 7" EMBED INTO CONCRETE SLAB AT 48" TYPICALLY U.N.O. REFER TO SHEAR WALL AND HOLD-DOWN SCHEDULE FOR ADDITIONAL ANCHOR BOLT REQUIREMENTS. WHERE PRESERVATIVE TREATED WOOD IS USED, REFER TO NOTE SECTION 06071 FOR CORROSION PROTECTION REQUIREMENTS FOR CONNECTORS.
3. SEE DETAIL 2/S9.01 FOR TOP PLATE SPLICE. PROVIDE ADDITIONAL CONNECTORS AT SHEAR WALLS AS INDICATED ON THE PLANS.
4. ALL EXTERIOR WALLS, CORRIDOR WALLS, PARTY WALLS, STAIR WALLS, VENT WALLS, AND ELEVATOR WALLS ARE CONSIDERED BEARING. ONLY BEARING INTERIOR WALLS ARE INDICATED ON THE PLANS.

2

Note:
ALL SECTION CUTS ARE TYPICAL



Bldg. D Roof Wood Framing Plan (South)
SCALE: 1/8" = 1'-0"

REFERENCE

GRAPHIC SCALE
-8 0 4 8 16
(IN FEET)
1 inch = 8 ft.

CT ENGINEERING INC.
Structural Engineers
180 Nickerson Street, Suite 302, Seattle, WA 98109
206.285.4512 (V) 206.285.0618 (F)

NO.	REVISION	DATE
4	BUILDING PERMIT CORRECTION #4	03/02/26
3	BUILDING PERMIT CORRECTION #3	10/17/24
2	BUILDING PERMIT CORRECTION #2	07/19/24
1	BUILDING PERMIT CORRECTION #1	11/03/22
	ENGR: SMK CAD: SMK PLOT: 02/27/26	FILE: 19010 S4605 JOB #:

Shelter HOLDINGS

Building D - Roof Framing Plan (South)

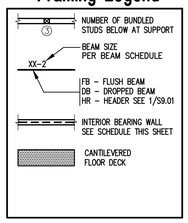
Everett Riverfront
3810 Riverfront Boulevard - Building D
Everett, Washington

S4.51D

Floor/Roof Framing Notes

1. FRAMING – PREMANUFACTURED JOISTS PER PLAN. SECURE JOIST TO TOP PLATE WITH (2) 8d NAILS. BLOCKING AT BEARING AND SHEARWALLS SHALL BE PER BEARING WALL AND SHEARWALL SCHEDULE. USE IUS HANGERS TO MATCH JOIST SIZE AT FLUSH FRAMING CONDITIONS.
2. FLOOR SHEATHING SHALL BE GLUED AND NAILED.
3. WALLS INDICATED ARE BELOW THE FRAMING LEVEL. SEE BEARING WALL SCHEDULE THIS SHEET.
4. PLUMBING, MECHANICAL, AND ELECTRICAL SYSTEMS SHALL BE DESIGNED AND BUILT TO ACCOMMODATE 3/8" PER FLOOR WOOD SHRINKAGE.
5. SEE DETAIL 1/S9.01 FOR TYPICAL HEADER/BUNDLED STUD CONSTRUCTION.
6. SEE ARCHITECTURAL PLANS FOR DRAFTSTOP AND VENTING LOCATIONS.
7. SEE ARCHITECTURAL PLANS FOR DIMENSIONS AND TOP PLATE ELEVATIONS.
8. SOME SHEARWALLS REQUIRE 3X FRAMING AT PANEL EDGES. SEE SHEARWALL SCHEDULE ON SHEET S1.02.
9. HANGERS INDICATED ARE AS MANUFACTURED BY SIMPSON STRONG-TIE. SEE SHEET S9.01 FOR BEAM HANGER SCHEDULE.
10. PROVIDE BLOCKING ATOP SHEARWALLS.
11. BUNDLED STUDS FROM THIS LEVEL SHALL BE CONTINUED DOWN TO PT SLAB OR SUPPORTING BEAM.
12. PROVIDE BLOCKING AT ALL BUNDLED STUDS, SEE DETAIL 4/S9.01.
13. ALL BEAMS AND HEADERS SHALL HAVE A MINIMUM OF (1) FULL HEIGHT STUD AT EACH END FOR BRACING TYPICAL UNLESS NOTED OTHERWISE
14. PROVIDE MINIMUM (2) 2X BUNDLED STUDS UNDER EACH BEAM END, TYPICAL UNLESS NOTED OTHERWISE.
15. SEE DETAILS ON SHEET S9.01 FOR TYPICAL CORNER FRAMING DETAILS.
16. SEE 19/S9.01 FOR TYPICAL STAIR FRAMING DETAILS.
17. ALL EXTERIOR WALLS SHALL BE SHEATHED WITH PLYWOOD. USE TYPE P6 SHEARWALL, TYPICAL, U.N.O.
18. SEE DETAIL 3/S9.01 FOR NOTCHES AND HOLES IN STUDS.
19. SEE 13/S9.02 AND 13/S9.03 DETAILS FOR ROOF TOP MECHANICAL EQUIPMENTS. SEE MECHANICAL DRAWINGS FOR LOCATIONS.

Framing Legend



Wood Beam Schedule

TYPE	SIZE	HANGER
XX-1	4X8	HUS48
XX-2	6X10	HU610
XX-3	LSL 1 3/4 X 11 7/8	HU11
XX-4	PSL 3 1/2 X 11 7/8	HHUS410
XX-5	PSL 5 1/4 X 11 7/8	HHUS5.5/10
XX-6	PSL 7 X 11 7/8	HGU7.25-SDS
XX-7	LSL 3 1/2 X 7 1/4	HHUS48
XX-8	PSL 3 1/2 X 9 1/2	HHUS410

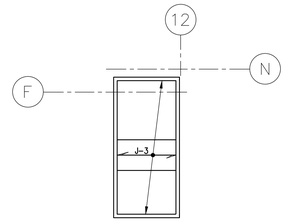
Joist Schedule

MARK	JOIST
J-1	11 7/8" TJI 110 @ 16" O.C.
J-2	(2) 11 7/8" TJI 210 @ 16" O.C.
J-3	11 7/8" TJI 110 @ 24" O.C.
J-4	11 7/8" TJI 230 @ 24" O.C.
J-5	9 1/2" TJI 230 @ 12" O.C.
J-6	16" TJI 110 @ 16" O.C.
J-7	16" TJI 110 @ 24" O.C.

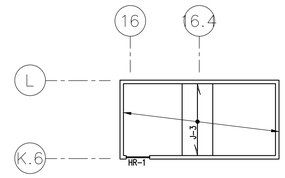
Bearing Wall Stud Schedule

WALL TYPE	LEVEL	PLATE SIZE	STUD SIZE AND SPACING, U.N.O.	RIM/BLOCKING
EXTERIOR	LEVEL 6	2X6 DF	2X6 @ 16" O.C. DF #2	1 3/4" LSL RIM
	LEVEL 5	2X6 DF	2X6 @ 16" O.C. DF #2	1 3/4" LSL RIM
	LEVEL 4	2X6 DF	2X6 @ 16" O.C. DF #2	1 3/4" LSL RIM
	LEVEL 3	2X6 DF	2X6 @ 16" O.C. DF #2	1 3/4" LSL RIM
	LEVEL 2	2X6 DF	2X6 @ 16" O.C. DF #2	1 3/4" LSL RIM
CORRIDOR	LEVEL 6	2X6 DF	2X6 @ 16" O.C. DF #2	3 1/2" LSL RIM
	LEVEL 5	2X6 DF	2X6 @ 16" O.C. DF #2	3 1/2" LSL RIM
	LEVEL 4	2X6 DF	2X6 @ 16" O.C. DF #2	3 1/2" LSL RIM
	LEVEL 3	2X6 DF	2X6 @ 16" O.C. DF #2	3 1/2" LSL RIM
	LEVEL 2	2X6 DF	2X6 @ 16" O.C. DF #2	3 1/2" LSL RIM
INTERIOR	LEVEL 6	2X4 DF	2X4 @ 16" O.C. DF #2	1 3/4" LSL BLK'G
	LEVEL 5	2X4 DF	3X4 @ 16" O.C. DF #2	1 3/4" LSL BLK'G
	LEVEL 4	2X4 DF	3X4 @ 16" O.C. DF #2	1 3/4" LSL BLK'G
	LEVEL 3	2X4 DF	(2) 2X4 @ 16" O.C. DF #2	1 3/4" LSL BLK'G
	LEVEL 2	2X4 DF	(2) 3X4 @ 16" O.C. DF #2	(2) 1 3/4" LSL BLK'G
INTERIOR @ 2-BR END UNITS AND UNDER ROOF DECK	LEVEL 6	DBL. 2X4 DF	2X4 @ 16" O.C. DF #2	1 3/4" LSL BLK'G
	LEVEL 5	DBL. 2X4 DF	3X4 @ 16" O.C. DF #2	1 3/4" LSL BLK'G
	LEVEL 4	DBL. 2X4 DF	(2) 3X4 @ 16" O.C. DF #2	1 3/4" LSL BLK'G
	LEVEL 3	DBL. 2X4 DF	(2) 3X4 @ 16" O.C. DF #2	(2) 1 3/4" LSL BLK'G
	LEVEL 2	DBL. 2X4 DF	(2) 3X4 @ 16" O.C. DF #2	(2) 1 3/4" LSL BLK'G
PARTY	LEVEL 6	DBL. 2X4 DF	DBL. 2X4 @ 16" O.C. DF #2	1 3/4" LSL RIM/BLK'G
	LEVEL 5	DBL. 2X4 DF	DBL. 2X4 @ 16" O.C. DF #2	1 3/4" LSL RIM/BLK'G
	LEVEL 4	DBL. 2X4 DF	DBL. 2X4 @ 16" O.C. DF #2	1 3/4" LSL RIM/BLK'G
	LEVEL 3	DBL. 2X4 DF	DBL. 3X4 @ 16" O.C. DF #2	1 3/4" LSL RIM/BLK'G
	LEVEL 2	DBL. 2X4 DF	DBL. 3X4 @ 16" O.C. DF #2	1 3/4" LSL RIM/BLK'G
STAIR / VENT ELEVATOR WALLS	LEVEL 6	2X6 DF	2X6 @ 16" O.C. DF #2	1 3/4" LSL RIM
	LEVEL 5	2X6 DF	2X6 @ 16" O.C. DF #2	1 3/4" LSL RIM
	LEVEL 4	2X6 DF	2X6 @ 16" O.C. DF #2	1 3/4" LSL RIM
	LEVEL 3	2X6 DF	2X6 @ 16" O.C. DF #2	1 3/4" LSL RIM
	LEVEL 2	2X6 DF	2X6 @ 16" O.C. DF #2	1 3/4" LSL RIM

BEARING WALL NOTES
1. SEE SHEARWALL SCHEDULE SHEET S1.02 FOR WALL SHEATHING, ADDITIONAL PLATE AND STUD REQUIREMENTS, BLOCKING AND PLATE NAILING. SEE SAWN LUMBER STRUCTURAL NOTES SHEET S1.01 FOR SPECIES AND GRADE OF WALL PLATES AND STUDS.
2. SECURE SILL PLATES TO CONCRETE W/ 5/8" DIA. A.B. W/ 7" EMBED INTO CONCRETE SLAB AT 48" TYPICALLY U.N.O. REFER TO SHEAR WALL AND HOLD-DOWN SCHEDULE FOR ADDITIONAL ANCHOR BOLT REQUIREMENTS. WHERE PRESERVATIVE TREATED WOOD IS USED, REFER TO NOTE SECTION 06071 FOR CORROSION PROTECTION REQUIREMENTS FOR CONNECTORS.
3. SEE DETAIL 2/S9.01 FOR TOP PLATE SPLICE. PROVIDE ADDITIONAL CONNECTORS AT SHEAR WALLS AS INDICATED ON THE PLANS.
4. ALL EXTERIOR WALLS, CORRIDOR WALLS, PARTY WALLS, STAIR WALLS, VENT WALLS, AND ELEVATOR WALLS ARE CONSIDERED BEARING. ONLY BEARING INTERIOR WALLS ARE INDICATED ON THE PLANS.

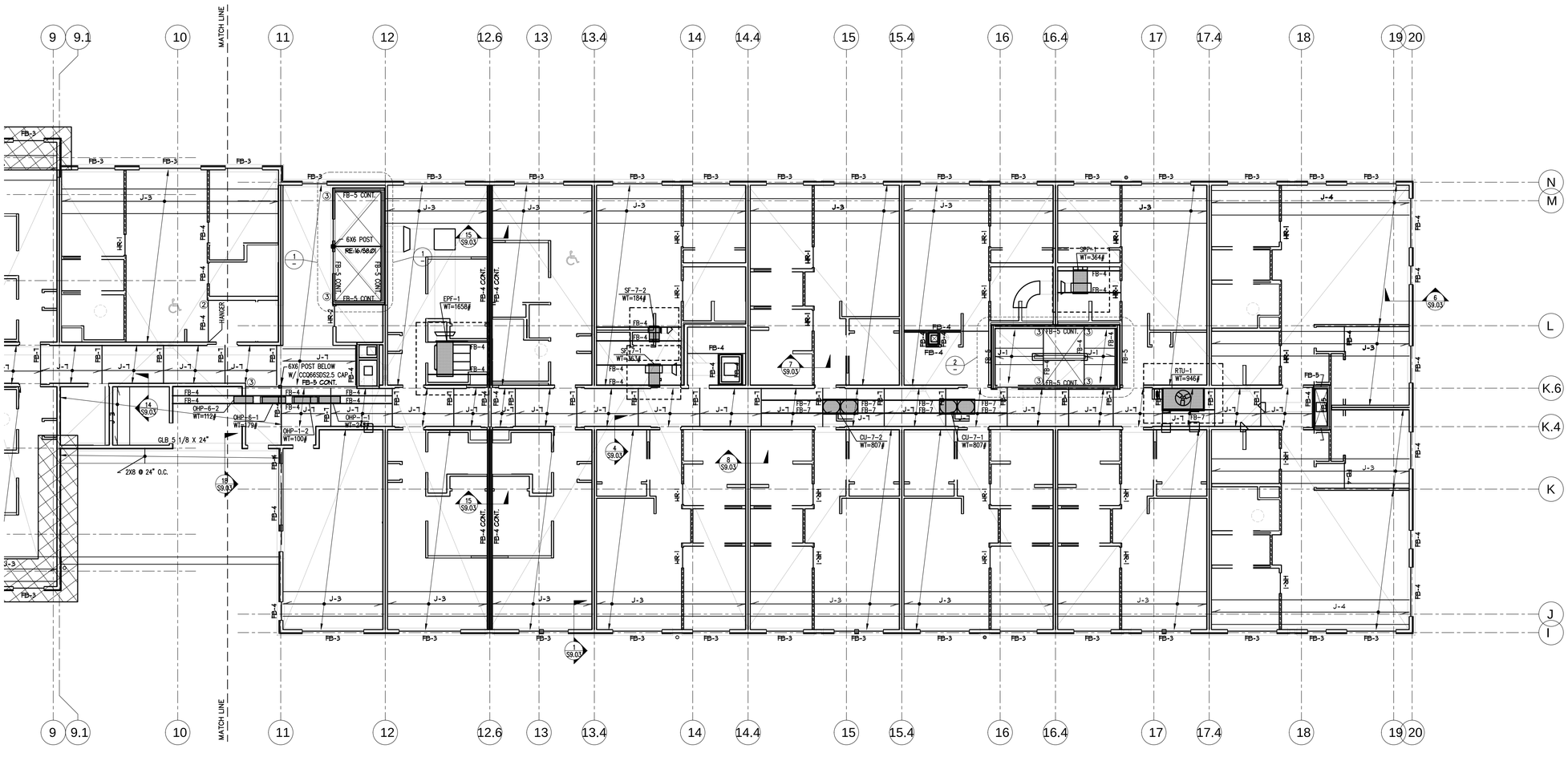


1 — **High Roof Elevator**
SCALE: 1/8" = 1'-0"



2 — **High Roof Stair North**
SCALE: 1/8" = 1'-0"

Note:
ALL SECTION CUTS ARE TYPICAL



Bldg. D Roof Wood Framing Plan (North)
SCALE: 1/8" = 1'-0"

REFERENCE

GRAPHIC SCALE
-8 0 4 8 16
(IN FEET)
1 inch = 8 ft.

CT ENGINEERING INC.
Structural Engineers
180 Nickerson Street Suite 302 Seattle, WA 98109
206.285.4512 (V) 206.285.0618 (F)

NO.	REVISION	DATE
4	BUILDING PERMIT CORRECTION #4	03/02/26
3	BUILDING PERMIT CORRECTION #3	10/17/24
2	BUILDING PERMIT CORRECTION #2	07/19/24
1	BUILDING PERMIT CORRECTION #1	11/03/22
	ENGR: SMK CAD: SMK PLOT: 02/27/26	FILE: 19010 S4605 JOB #:

Shelter HOLDINGS

Building D - Roof Framing Plan (North)

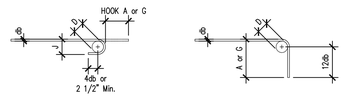
Everett Riverfront
3810 Riverfront Boulevard - Building D
Everett, Washington

S4.52D

BAR SIZE	f'c = 3000 psi			f'c = 4000 psi			f'c = 5000 psi		
	Ld	OTHER BARS LAP SPLICE	TOP BARS LAP SPLICE	Ld	OTHER BARS LAP SPLICE	TOP BARS LAP SPLICE	Ld	OTHER BARS LAP SPLICE	TOP BARS LAP SPLICE
#3	16"	21"	28"	14"	18"	24"	13"	17"	22"
#4	22"	28"	37"	19"	25"	32"	17"	22"	29"
#5	27"	36"	46"	24"	31"	40"	21"	28"	36"
#6	33"	43"	56"	28"	37"	48"	25	33"	43"
#7	48"	62"	81"	42"	54"	70"	37"	48"	63"
#8	55"	71"	93"	47"	62"	80"	42"	55"	72"
#9	62"	80"	104"	53"	69"	90"	48"	62"	81"

1. TENSION LAP SPLICE SHOWN ABOVE ARE FOR CONCRETE COVER GREATER THAN OR EQUAL TO BAR DIAMETER AND CENTER TO CENTER SPACING GREATER THAN OR EQUAL TO TWO BAR DIAMETERS (SPACING AND COVER CASE 1). TENSION LAP SPLICE SHOWN ABOVE ARE CLASS B SPLICES.
2. "OTHER BARS" ARE ALL VERTICAL BARS AND HORIZONTAL BARS WITH LESS THAN 12" OF CONCRETE CAST BELOW THE BAR.
3. "TOP BARS" ARE HORIZONTAL BARS WITH MORE THAN 12" OF CONCRETE CAST BELOW THE BARS.
4. COMPRESSION LAP SPLICES SHALL BE 30 BAR DIAMETERS MIN. U.N.O. ON THE DRAWINGS.
5. DEVELOPMENT LENGTH (Ld) IS "OTHER BARS", CLASS A.

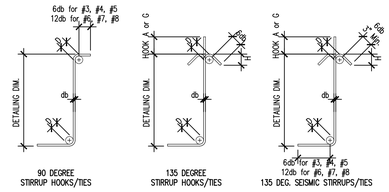
1 TYPICAL LAP SPLICE SCHEDULE



STANDARD 180 DEGREE HOOK — STANDARD 90 DEGREE HOOK
D = FINISHED INSIDE BEND DIAMETER

BAR SIZE	D	STANDARD 180 DEGREE HOOK			STANDARD 90 DEGREE HOOK		
		D	A OR G	J	BAR SIZE	D	A OR G
#3	6db	2 1/4"	5"	3"	#3	2 1/4"	6"
#4	6db	3"	6"	4"	#4	3"	8"
#5	6db	3 3/4"	7"	5"	#5	3 3/4"	10"
#6	6db	4 1/2"	8"	6"	#6	4 1/2"	1'-0"
#7	6db	5 1/4"	10"	7"	#7	5 1/4"	1'-2"
#8	6db	6"	11"	8"	#8	6"	1'-4"
#9	8db	9 1/2"	1'-3"	11 3/4"	#9	9 1/2"	1'-7"
#10	8db	10 3/4"	1'-5"	1'-1 1/4"	#10	10 3/4"	1'-10"
#11	8db	12"	1'-7"	1'-2 3/4"	#11	12"	2'-0"
#14	10db	18 1/4"	2'-3"	1'-9 3/4"	#14	18 1/4"	2'-7"
#18	10db	24"	3'-0"	2'-4 1/2"	#18	24"	3'-5"

2 TYPICAL HOOK DETAILS

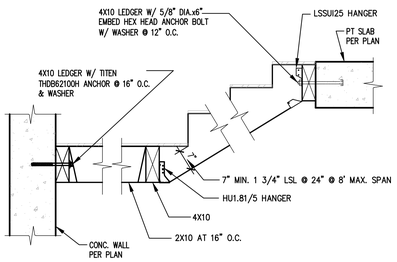


90 DEGREE STIRRUP HOOKS/TIES — 135 DEGREE STIRRUP HOOKS/TIES — 135 DEG. SEISMIC STIRRUPS/TIES

D = FINISHED INSIDE BEND DIAMETER

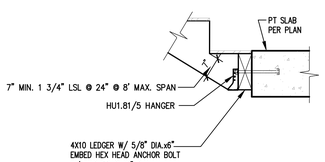
BAR SIZE	D	D	STIRRUP HOOKS/TIES			SEISMIC STIRRUP/TIE	
			90 DEG.	135 DEG.		135 DEG. SEISMIC HOOK	
			A OR G	A OR G	APPROX. H	A OR G	APPROX. H
#3	4db	1 1/2"	4"	4"	2 1/2"	4 1/4"	3"
#4	4db	2"	4 1/2"	4 1/2"	3"	4 1/2"	3"
#5	4db	2 1/2"	6"	5 1/2"	3 3/4"	5 1/2"	3 3/4"
#6	6db	4 1/2"	1'-0"	7 3/4"	4 1/2"	7 3/4"	4 1/2"
#7	6db	5 1/4"	1'-2"	9"	5 1/4"	9"	5 1/4"
#8	6db	6"	1'-4"	10 1/4"	6"	10 1/4"	6"

3 STIRRUP and TIE HOOK DETAILS



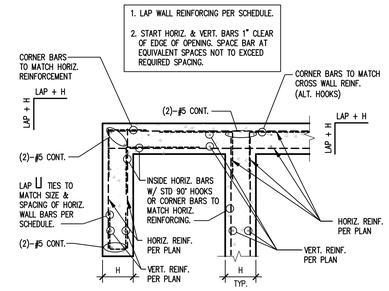
SCALE: 3/4" =1'-0"

6 TYP. STAIRS at CONCRETE LEVELS



SCALE: 3/4" =1'-0"

7 TYP. STAIRS at CONCRETE LEVELS



SCALE: 3/4" =1'-0"

10 DOUBLE CURTAIN WALL REINFORCMENT PLACEMENT

AD 318 7.7.1	CONCRETE EXPOSURE	MINIMUM COVER (INCHES)
(a)	CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH	3"
(b)	CONCRETE EXPOSED TO EARTH OR WEATHER NO. 6 THROUGH NO. 18 BARS NO. 5 BARS AND SMALLER	2" 1 1/2"
(c)	CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND SLABS, WALLS, JOISTS: NO. 14 AND NO. 18 BARS NO. 11 BARS AND SMALLER BEAMS, COLUMNS: PRIMARY REINFORCEMENT, TIES, STIRRUPS, SPIRALS SHELLS, FOLDED PLATE MEMBERS NO. 6 BAR AND LARGER NO. 5 BAR, W31 OR D31 WIRE, AND SMALLER	 1 1/2" 3/4" 1 1/2" 3/4" 1/2"

NOTES: THE ABOVE MINIMUM CONCRETE COVER SHALL BE PROVED FOR DEFORMED REINFORCING BARS, BUT SHALL NOT BE LESS THAN THAT REQUIRED TO PROVIDE FIRE PROTECTION — SEE DETAIL 13 THIS SHEET.

11 CONCRETE PROTECTION FOR REINFORCEMENT C.I.P. CONCRETE (NON-PRESTRESSED)

	AD 318 7.7.2	CONCRETE EXPOSURE	MINIMUM COVER (INCHES)
	(a)	CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH	3"
	(b)	CONCRETE EXPOSED TO EARTH OR WEATHER WALL PANELS, SLABS, JOISTS OTHER MEMBERS	1" 1 1/2"
	(c)	CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND SLABS, WALLS, JOISTS: BEAMS, COLUMNS: PRIMARY REINFORCEMENT TIES, STIRRUPS, SPIRALS SHELLS, FOLDED PLATE MEMBERS NO. 5 BAR, W31 OR D31 WIRE, AND SMALLER OTHER REINFORCEMENT	 3/4" 1 1/2" 1" 3/8" db BUT NOT LESS THAN 3/4"

NOTES: THE ABOVE MINIMUM CONCRETE COVER SHALL BE PROVED FOR DEFORMED REINFORCING BARS, BUT SHALL NOT BE LESS THAN THAT REQUIRED TO PROVIDE FIRE PROTECTION — SEE DETAIL 13 THIS SHEET.

12 CONCRETE PROTECTION FOR REINFORCEMENT CAST-IN-PLACE CONCRETE (PRESTRESSED)

MINIMUM CONCRETE THICKNESS	REQUIRED FIRE PROTECTION RATING (RE: ARCH.)			
	4 HR	3 HR	2 HR	1 HR
MINIMUM WALL THICKNESS PER IBC TABLE 721.1(2)	7"	6.2"	5"	3.5"
MINIMUM SLAB THICKNESS PER IBC TABLE 721.1(3)	7"	6.2"	5"	3.5"

NOTES:
1. SILICEOUS AGGREGATE ASSUMED.

MINIMUM COVER TO SLAB REINFORCING STEEL PER IBC TABLE 721.1(3) FOOTNOTE b.	REQUIRED FIRE PROTECTION RATING (RE: ARCH.)			
	4 HR	3 HR	2 HR	1 HR
UNRESTRAINED (END SPANS)	1 5/8"	1 1/4"	1"	3/4"
RESTRAINED (INTERIOR SPANS)	3/4"	3/4"	3/4"	3/4"

NOTES:
1. SILICEOUS AGGREGATE ASSUMED.

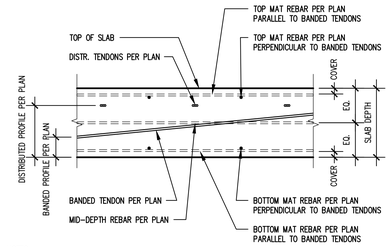
13 MINIMUM CONCRETE THICKNESS AND CONCRETE PROTECTION FOR REINFORCEMENT IN FIRE RATED CONCRETE WALLS AND SLABS

MINIMUM COVER TO POST TENSION TENDONS IN SLABS PER IBC TABLE 721.1(1)	REQUIRED FIRE PROTECTION RATING (RE: ARCH.)			
	4 HR	3 HR	2 HR	1 HR
UNRESTRAINED (END SPANS)	–	2.4"	1.8"	1.8"
RESTRAINED (INTERIOR SPANS)	1.5"	1.2"	0.9"	0.9"

NOTES:
1. THE ABOVE MINIMUM CONCRETE COVER TO TENDONS HAS BEEN INCREASED BY 20 PERCENT FOR SLABS WITH SILICEOUS AGGREGATE – IBC TABLE 720.1(1) FOOTNOTE f.
2. COVER TO THE PRESTRESSING STEEL SHALL BE INCREASED 1/2" AT ANCHORS.
3. MINIMUM COVER TO STEEL BEARING PLATES SHALL BE 1" IN BEAMS AND 3/4" IN SLABS.

MINIMUM COVER TO POST TENSION TENDONS IN BEAMS AND GRDERS 12" WIDE AND GREATER PER IBC TABLE 721.1(1)	REQUIRED FIRE PROTECTION RATING (RE: ARCH.)			
	4 HR	3 HR	2 HR	1 HR
UNRESTRAINED (END SPANS)	3"	2 1/2"	2"	1 1/2"
RESTRAINED (INTERIOR SPANS)	2"	1 3/4"	1 1/2"	1 1/2"

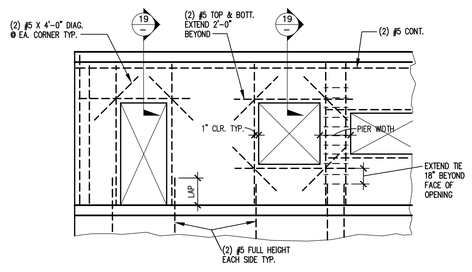
14 MINIMUM CONCRETE COVER FOR POST TENSION TENDONS IN FIRE RATED CONCRETE SLABS, BEAMS, AND GIRDERS



NOTES:
1. FOR NON-PRESTRESSED CONCRETE SLABS PROVIDE COVER TO REINFORCING BARS PER 11/S6.01 UNLESS GREATER COVER IS REQUIRED FOR FIRE PROTECTION PER 13/S6.01.
2. FOR PRESTRESSED CONCRETE SLABS PROVIDE COVER TO REINFORCING BARS PER 12/S6.01 UNLESS GREATER COVER IS REQUIRED FOR FIRE PROTECTION PER 13/S6.01.
3. FOR POST TENSION TENDONS PROVIDE COVER PER 14/S6.01.

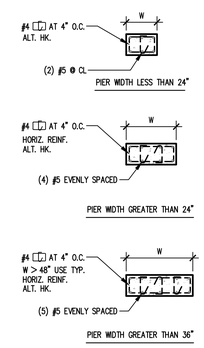
SCALE: NONE

15 SLAB REINFORCEMENT PLACEMENT DETAILS

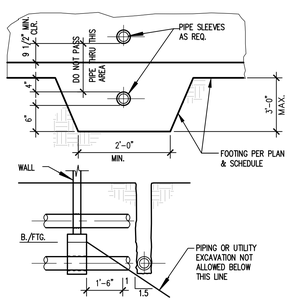


SCALE: NONE

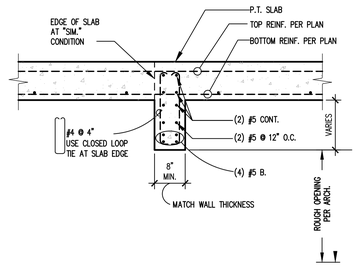
16 TYPICAL CONCRETE WALL OPENING REINFORCING



PIER PLAN



18 TYPICAL WALL PENETRATION DETAIL



SCALE: 3/4" =1'-0"

19 TYPICAL CONCRETE HEADER

CT ENGINEERING INC.
Structural Engineers
180 Nickerson Street Suite 302 Seattle, WA 98109
206.285.4512 (V) 206.285.0618 (F)

NO.	REVISION	DATE
1	BUILDING PERMIT CORRECTION #4	03/02/26
2	BUILDING PERMIT CORRECTION #3	10/17/24
3	BUILDING PERMIT CORRECTION #2	07/19/24
4	BUILDING PERMIT CORRECTION #1	11/03/22

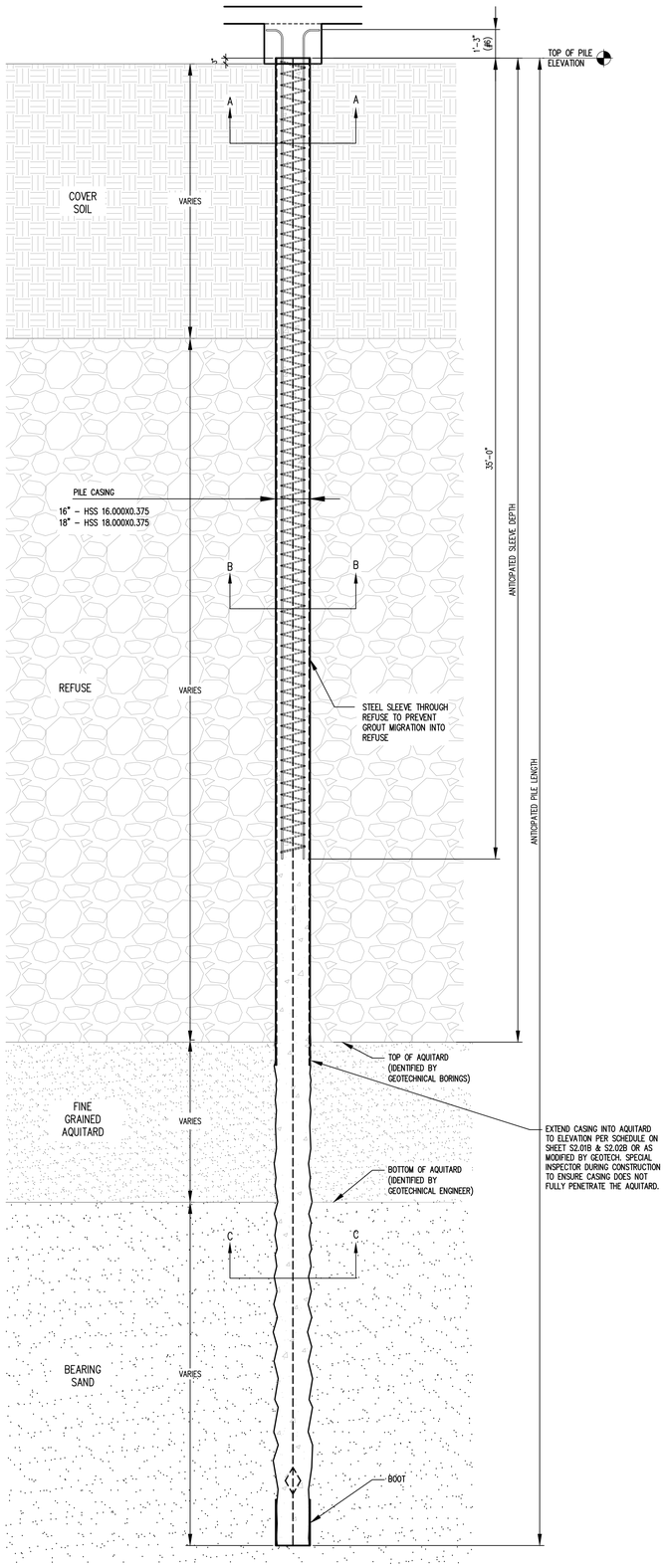
ENGR: SMK | CAD: SMK | PLOT: 02/27/26 | FILE: 19010 S601 | JOB #: 19010

Shelter HOLDINGS

Concrete Details

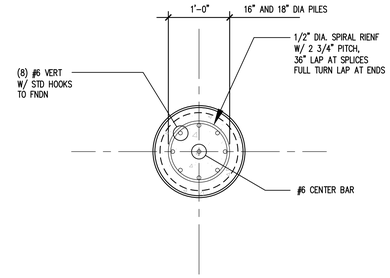
Everett Riverfront
3610 Riverfront Boulevard - Building D
Everett, Washington

S6.01

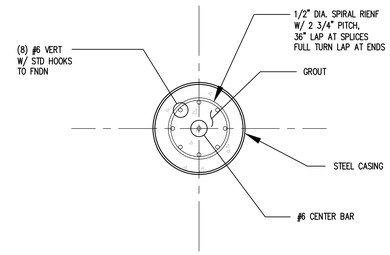


DETAIL 1
16" DIA BUILDING PILES

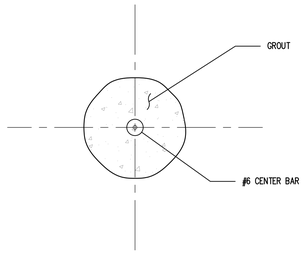
(NTS)



CROSS SECTION A–A



CROSS SECTION B–B



CROSS SECTION C–C

PILE NOTES

PILE CAPACITY REQUIRED (ASD)

	AXIAL	BENDING
16" DIA BUILDING PILES	255 KIPS	135 FT–KIPS

GROUT STRENGTH:
16" DIA BUILDING PILES f'c = 5000 PSI

CT ENGINEERING INC.
Structural Engineers
180 Nickerson Street Suite 302 Seattle, WA 98109
206.285.4512 (V) 206.285.0618 (F)

NO.	REVISION	DATE
A	BUILDING PERMIT CORRECTION #4	03/02/26
A	BUILDING PERMIT CORRECTION #3	10/17/24
A	BUILDING PERMIT CORRECTION #2	07/19/24
A	BUILDING PERMIT CORRECTION #1	11/03/22

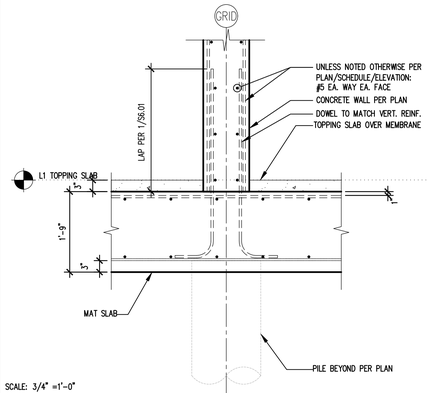
ENGR: SMK Cad: SMK PLOT: 02/27/26 FILE: 19010 S601
JOB #:

Shelter HOLDINGS

Typical Pile Details

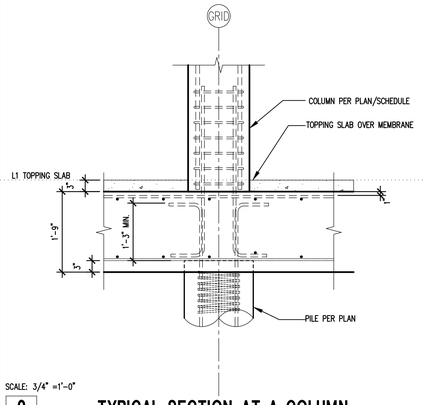
Everett Riverfront
3610 Riverfront Boulevard - Building D
Everett, Washington

S6.02



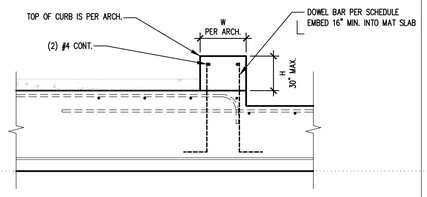
SCALE: 3/4" =1'-0"

1 TYPICAL SECTION AT A WALL



SCALE: 3/4" =1'-0"

2 TYPICAL SECTION AT A COLUMN

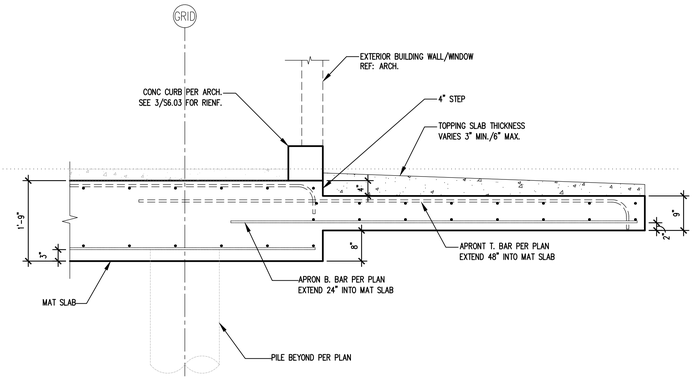


"W" WIDTH	"H" HEIGHT	DOWEL BAR SIZE AND SPACING
8"	LESS THAN 18"	(1) #4 @ 16" O.C. ALT. HK.
	19" TO 30"	(1) #4 @ 12" O.C. ALT. HK.
9"	LESS THAN 18"	(2) #4 @ 16" O.C. ALT. HK.
	19" TO 30"	(2) #4 @ 12" O.C. ALT. HK.
12"	LESS THAN 18"	(2) #4 @ 16" O.C. ALT. HK.
	19" TO 30"	(2) #4 @ 12" O.C. ALT. HK.

NOTE:
1. AT 8" WIDE CURB SINGLE DOWEL BAR TO BE AT CENTER OF CURB, NOT SHOWN.

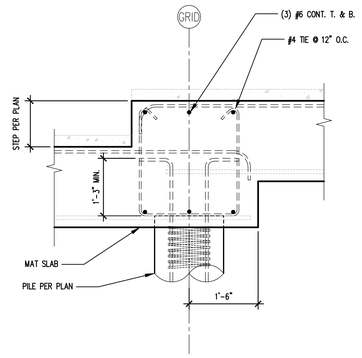
SCALE: 3/4" =1'-0"

3 TYPICAL CURB AT SLAB EDGE



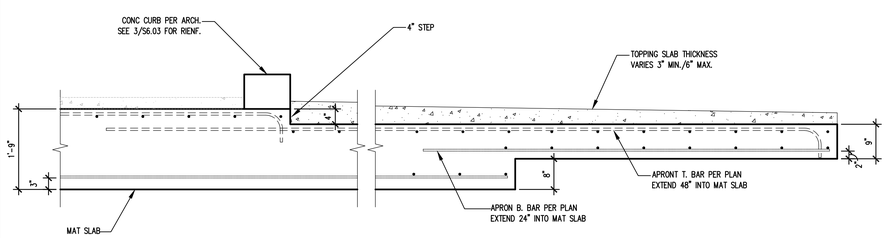
SCALE: 3/4" =1'-0"

4 TYPICAL APRON BEAM DETAIL



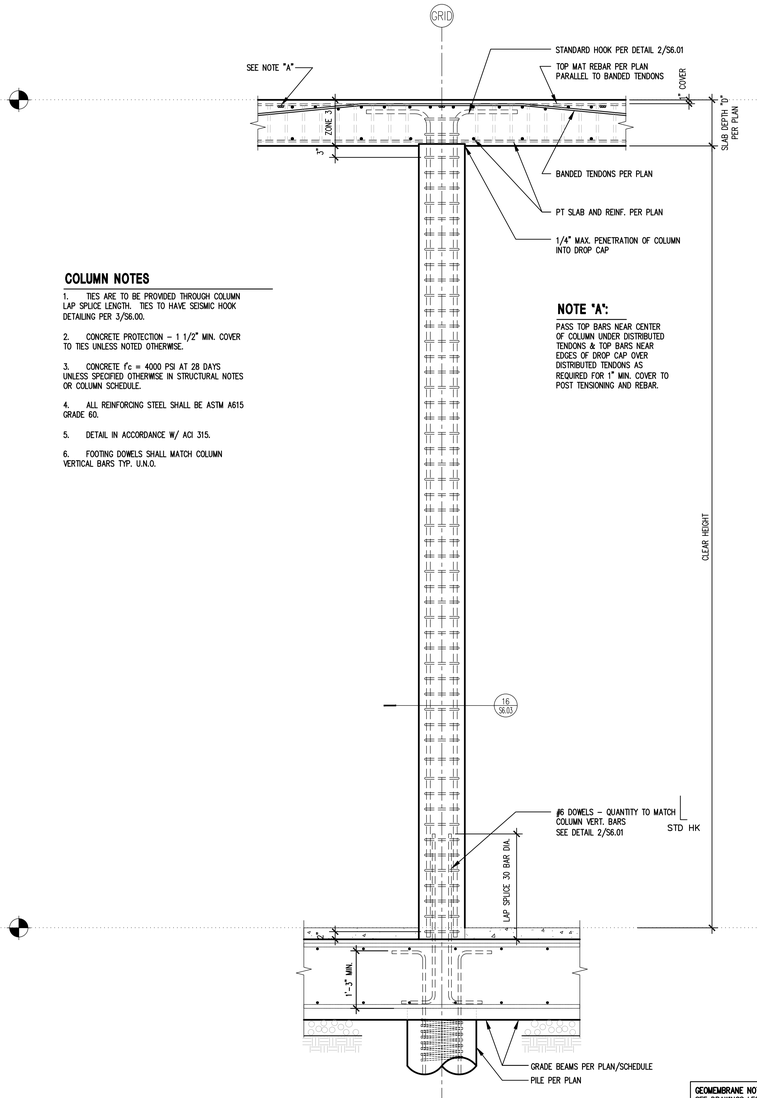
SCALE: 3/4" =1'-0"

6 TYPICAL STEP IN MAT SLAB



SCALE: 3/4" =1'-0"

7 SECTION AT VESTIBULE



COLUMN NOTES

1. TIES ARE TO BE PROVIDED THROUGH COLUMN LAP SPLICE LENGTH. TIES TO HAVE SEISMIC HOOK DETAILING PER 3/S6.00.
2. CONCRETE PROTECTION – 1 1/2" MIN. COVER TO TIES UNLESS NOTED OTHERWISE.
3. CONCRETE f'_c = 4000 PSI AT 28 DAYS UNLESS SPECIFIED OTHERWISE IN STRUCTURAL NOTES OR COLUMN SCHEDULE.
4. ALL REINFORCING STEEL SHALL BE ASTM A615 GRADE 60.
5. DETAIL IN ACCORDANCE W/ ACI 315.
6. FOOTING DOWELS SHALL MATCH COLUMN VERTICAL BARS TYP. U.N.O.

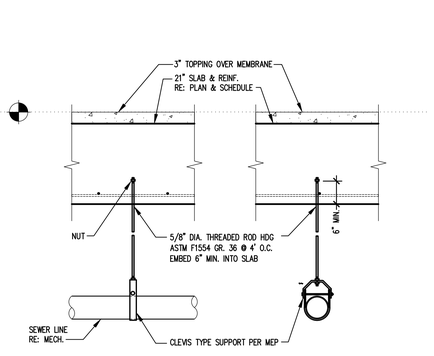
NOTE "A":

PASS TOP BARS NEAR CENTER OF COLUMN UNDER DISTRIBUTED TENDONS & TOP BARS NEAR EDGES OF DROP CAP OVER DISTRIBUTED TENDONS AS REQUIRED FOR 1" MIN. COVER TO POST TENSIONING AND REBAR.

GEOMEMBRANE NOTE:
SEE DRAWINGS LFG1B2 FOR GEOMEMBRANE & GEOSYNTHETIC HYDRAULIC BARRIER INSTALLATION REQUIREMENTS. TYPICAL FOR ALL DETAILS.

SCALE: 3/4" =1'-0"

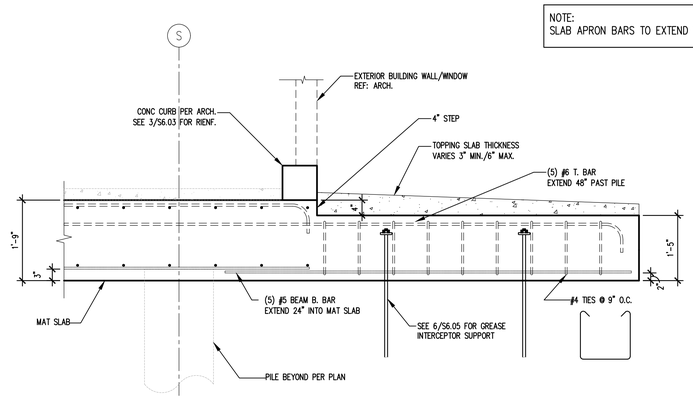
19 TYPICAL COLUMN DETAIL (W/O DROP CAP)



SCALE: 3/4" =1'-0"

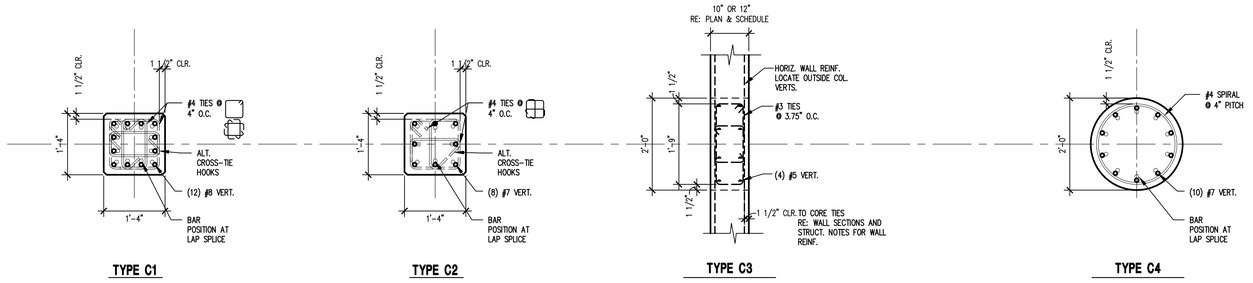
11 TYPICAL DWV SUPPORT

NOTE:
SLAB APRON BARS TO EXTEND THRU GRADE BEAM



SCALE: 3/4" =1'-0"

12 GRADE BEAM "GB1" AT GREASE INTERCEPTOR



SCALE: 3/4" =1'-0"

16 TYPICAL COLUMN TYPES

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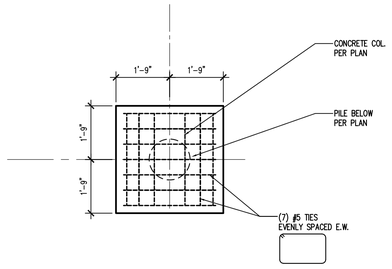
5	BUILDING PERMIT CORRECTION #2	07/19/24
4	BUILDING PERMIT CORRECTION #1	11/03/22
3	BUILDING PERMIT CORRECTION	02/27/26
ENGR: SWK	CAD: SWK	PLOT:

FILE: 19010 S601
JOB #:

Shelter HOLDINGS

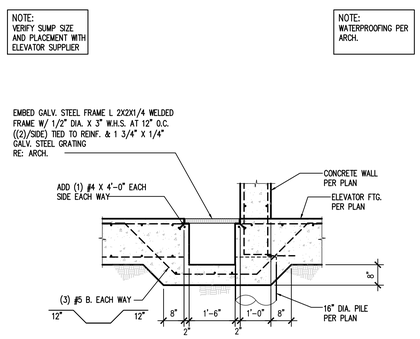
Concrete Details
Everett Riverfront
3610 Riverfront Boulevard - Building D
Everett, Washington

S6.03



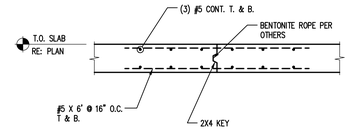
SCALE: 1/2" =1'-0"

1 PILE CAP "PC1"



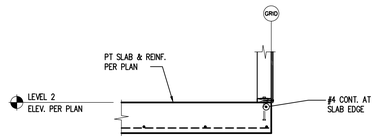
SCALE: 1/2"= 1'-0"

3 ELEVATOR SUMP DETAIL



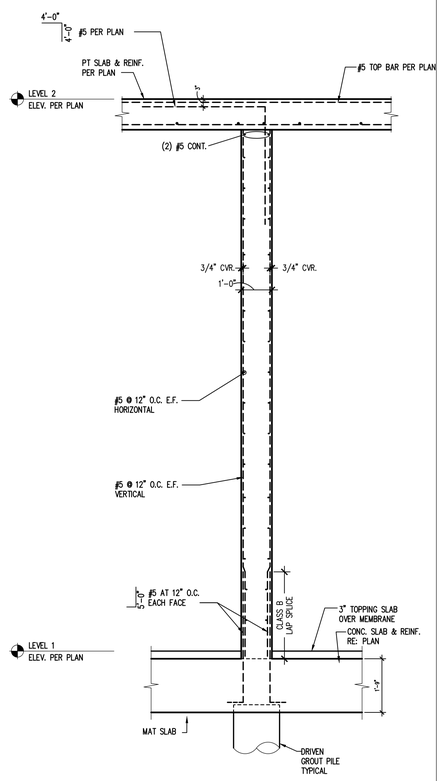
SCALE: 1/2" = 1'-0"

4 TYPICAL CONSTRUCTION JUNCTION



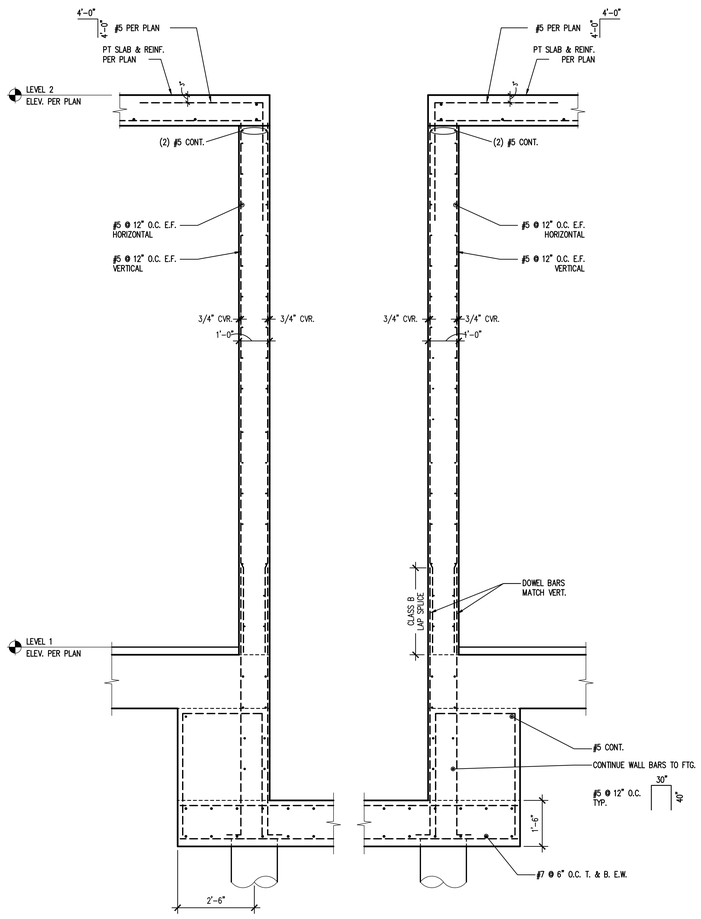
SCALE: 1/2" = 1'-0"

5 SECTION



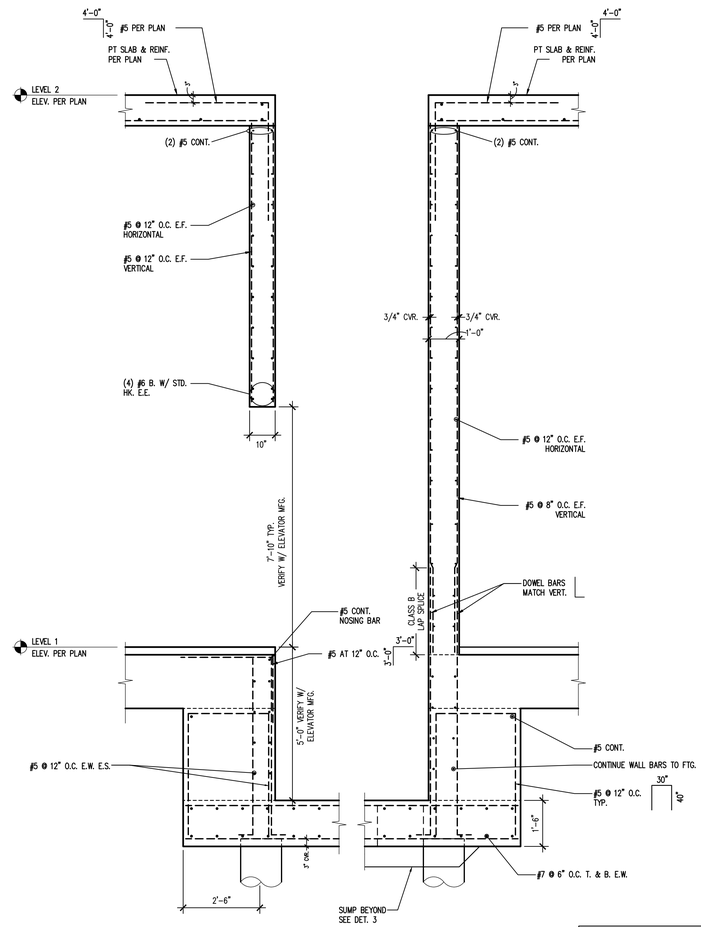
SCALE: 1/2" = 1'-0"

16 SECTION



SCALE: 1/2" = 1'-0"

17 SECTION



SCALE: 1/2" = 1'-0"

20 SECTION

GEOMEMBRANE NOTE:
SEE DRAWINGS LF01B2 FOR GEOMEMBRANE & GEOSYNTHETIC HYDRAULIC BARRIER INSTALLATION REQUIREMENTS. TYPICAL FOR ALL DETAILS.

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A	BUILDING PERMIT CORRECTION #1	11/03/22
ENGR: SNK	DRAWN: SNK	PLOT: 02/27/26

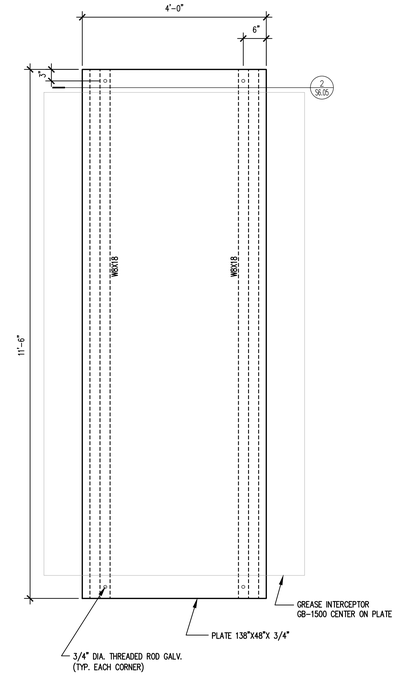
JOB #: 19010 .3601

Shelter HOLDINGS

Concrete Details

Everett Riverfront
3610 Riverfront Boulevard - Building D
Everett, Washington

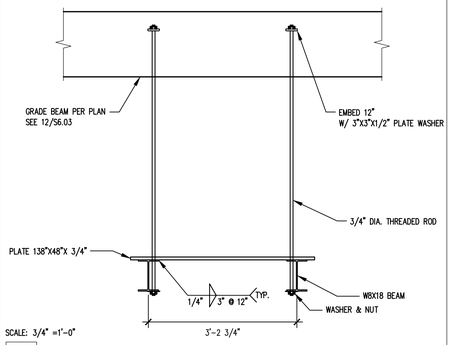
S6.04



(PLAN)

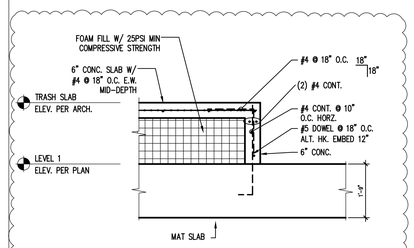
SCALE: 3/4" =1'-0"

6 GREASE INTERCEPTOR SUPPORT



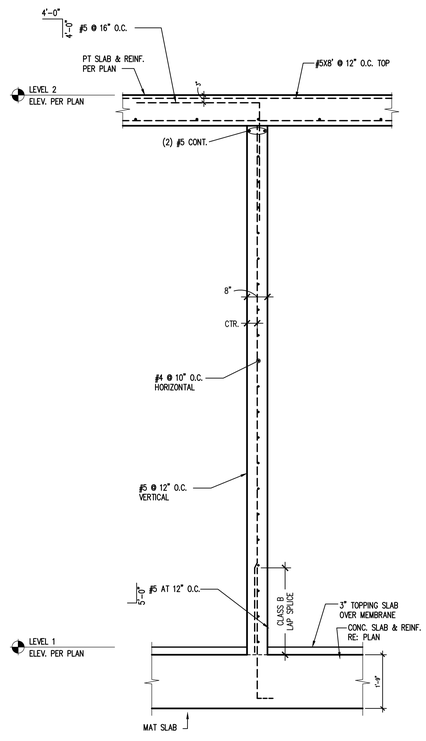
SCALE: 3/4" =1'-0"

2 SECTIOIN AT G.I. SUPPORT



SCALE: 1/2" = 1'-0"

5 SECTION @ RAISED FLOOR TYP.



SCALE: 1/2" = 1'-0"

20 8" CONCRETE WALL SECTION TYP.

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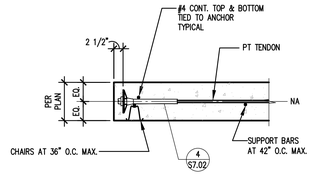
ENGR: SMK CAD: SMK PLOT: 02/27/26 FILE: 19010 S601
JOB #:

Shelter HOLDINGS

Concrete Details

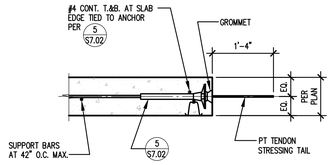
Everett Riverfront
3610 Riverfront Boulevard - Building D
Everett, Washington

S6.05



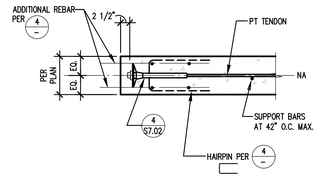
SCALE: 3/4" =1'-0"

1 DEAD END ANCHOR at DISTR. TENDONS



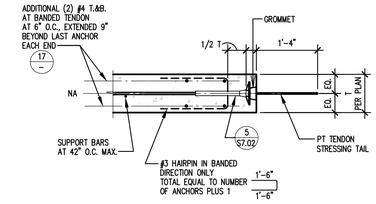
SCALE: 3/4" =1'-0"

2 STRESSING END ANCHOR at DISTR. TENDONS



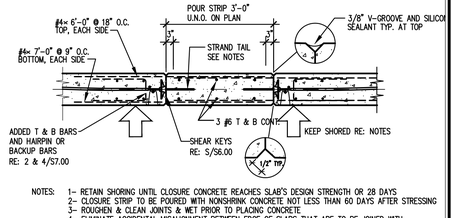
SCALE: 3/4" =1'-0"

3 DEAD END ANCHOR at TENDON BANDS



SCALE: 3/4" =1'-0"

4 STRESSING END ANCHOR at TENDON BANDS



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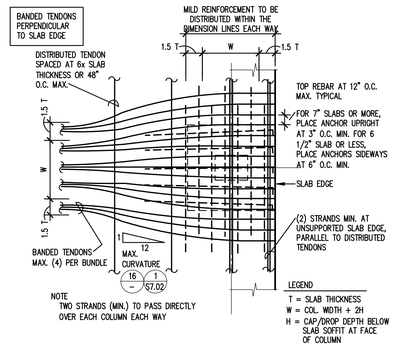
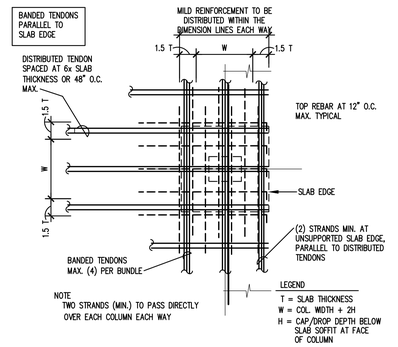
5 CLOSURE STRIP



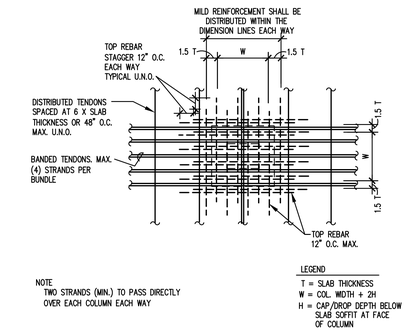
SCALE: 3/4" =1'-0"

6 TOP REINFORCEMENT at EXTERIOR COLUMNS



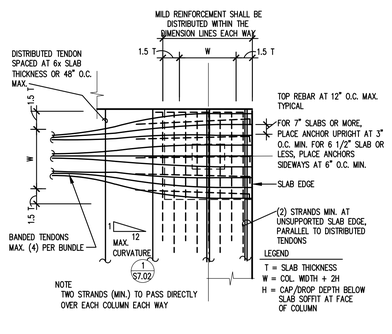
SCALE: 3/4" =1'-0"

7 TOP REINFORCEMENT at EXTERIOR COLUMNS



SCALE: 3/4" =1'-0"

8 TOP REINFORCMENT at INTERIOR COLUMNS

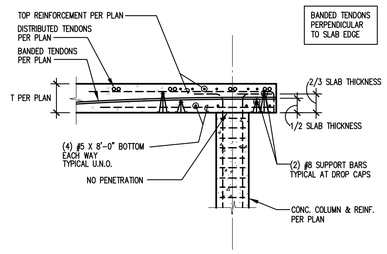


SCALE: 3/4" =1'-0"

9 TOP REINFORCEMENT at CORNER COLUMNS

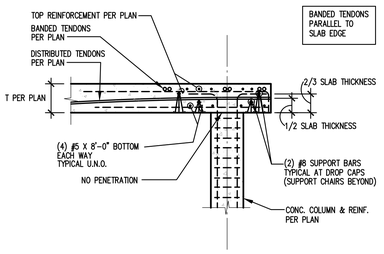
SCALE: 3/4" =1'-0"

10 NOT USED



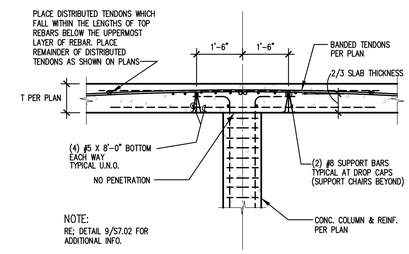
SCALE: 3/4" =1'-0"

11 TYPICAL EXTERIOR COLUMN SECTION



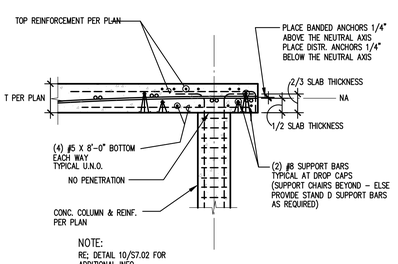
SCALE: 3/4" =1'-0"

12 TYPICAL EXTERIOR COLUMN SECTION



SCALE: 3/4" =1'-0"

13 TYPICAL INTERIOR COLUMN SECTION

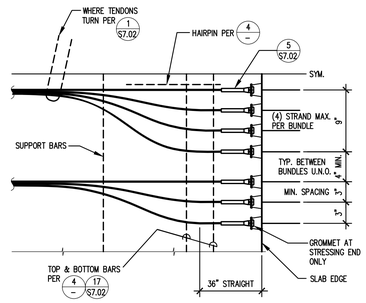


SCALE: 3/4" =1'-0"

14 SECTION at CORNER COLUMN

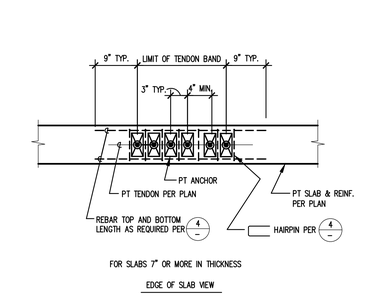
SCALE: 3/4" =1'-0"

15 NOT USED



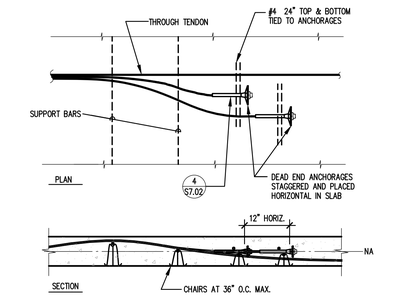
SCALE: 3/4" =1'-0"

16 FLARING OF BANED TENDONS at SLAB EDGE



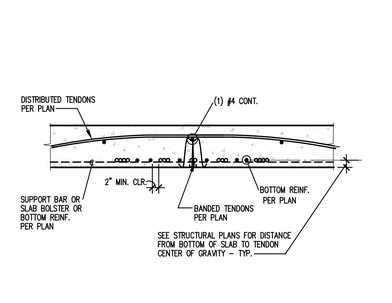
SCALE: 3/4" =1'-0"

17 REINF. OF TENDONS BAND at SLAB EDGE



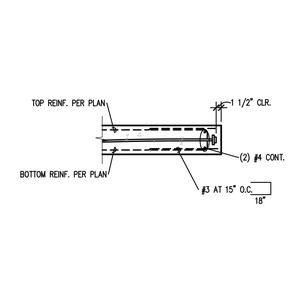
SCALE: 3/4" =1'-0"

18 PLACEMENT OF ADDED TENDONS



SCALE: 3/4" =1'-0"

19 SECTION - BANDED TENDONS at MIDSECTION



SCALE: 3/4" =1'-0"

20 TYPICAL CANTILEVER EDGE

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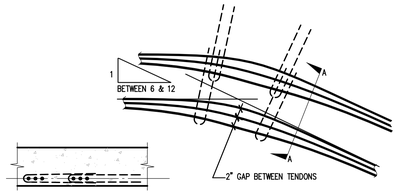
1	BUILDING PERMIT CORRECTION #1	11/03/22
ENGR. SUK	CAD SUK	PLOT 02/27/26

FILE: 1500G S7.01
JOB #:

Shelter HOLDINGS

PT Details
Everett Riverfront
3610 Riverfront Boulevard - Building D
Everett, Washington

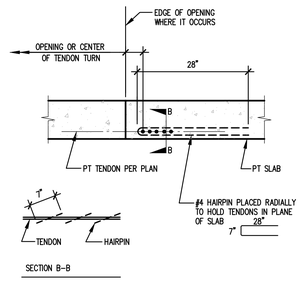
S7.01



NOTE: WHERE TENDON TURN IS GREATER THAN 1:12
1. KEEP TENDONS MIN. 2" APART AT TURN
2. PLACE HAIRPIN PER (2/–)
3. MAXIMUM TENDON CURVATURE SHALL BE LESS THAN 1:6

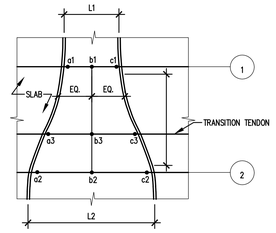
SCALE: 3/4" =1'-0"

1 PLACEMENT FOR TURNS GREATER THAN 1:12



SCALE: 3/4" =1'-0"

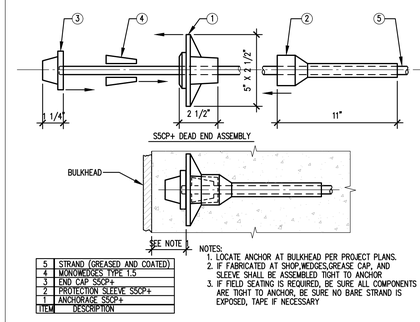
2 TYPICAL HAIRPIN at TENDON TURNS



NOTE:
THE SPAN OF THE TRANSITION TENDON CHANGES FROM L1 AT LINE 1 TO L2 AT LINE 2. PLACE TRANSITION TENDON WITH ITS CONTROL POINTS a3, b3 AND c3, EACH VARYING LINEARLY FROM 1 TO 2 BETWEEN THEIR RESPECTIVE VALUES AT 1 AND 2.

SCALE: 3/4" =1'-0"

3 PLACEMENT IN SPANS OF VARYING LENGTH

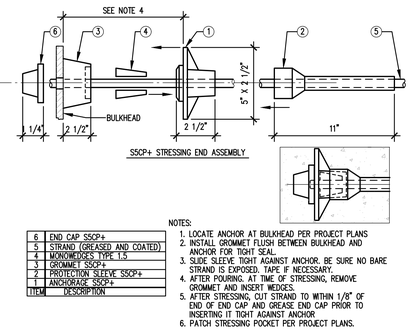


ITEM	DESCRIPTION
5	STRAND (GREASED AND COATED)
4	MONOWEDGES TYPE 1.5
3	END CAP SSCP+
2	PROTECTION SLEEVE SSCP+
1	ANCHORAGE SSCP+

NOTES:
1. LOCATE ANCHOR AT BULKHEAD PER PROJECT PLANS.
2. IF FABRICATED AT SHOP,WEDGES,GREASE CAP, AND SLEEVE SHALL BE ASSEMBLED TIGHT TO ANCHOR
3. IF FIELD SEATING IS REQUIRED, BE SURE ALL COMPONENTS ARE TIGHT TO ANCHOR, BE SURE NO BARE STRAND IS EXPOSED, TAPE IF NECESSARY

SCALE: 3/4" =1'-0"

4 ENCAPSULATED SYSTEM at DEAD END

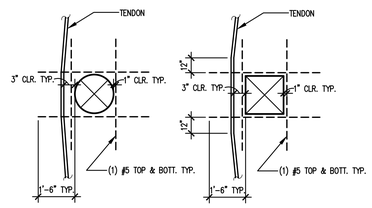


ITEM	DESCRIPTION
6	END CAP SSCP+
5	STRAND (GREASED AND COATED)
4	MONOWEDGES TYPE 1.5
3	GROMMET SSCP+
2	PROTECTION SLEEVE SSCP+
1	ANCHORAGE SSCP+

NOTES:
1. LOCATE ANCHOR AT BULKHEAD PER PROJECT PLANS.
2. INSTALL GROMMET FLUSH BETWEEN BULKHEAD AND ANCHOR FOR TIGHT SEAL.
3. SLIDE SLEEVE TIGHT AGAINST ANCHOR. BE SURE NO BARE STRAND IS EXPOSED. TAPE IF NECESSARY.
4. AFTER POURING, AT TIME OF STRESSING, REMOVE GROMMET AND INSERT WEDGES.
5. AFTER STRESSING, CUT STRAND TO WITHIN 1/8" OF END OF END CAP AND GREASE END CAP PRIOR TO INSERTING IT TIGHT AGAINST ANCHOR
6. PATCH STRESSING POCKET PER PROJECT PLANS.

SCALE: 3/4" =1'-0"

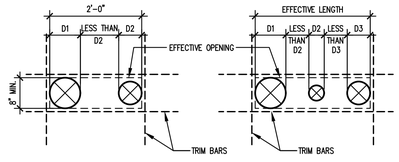
5 ENCAPSULATED SYSTEM at STRESSING END



REINFORCING FOR OPENINGS IN SLAB, 0'-10" TO 2'-0"
SINGLE OPENINGS OF SMALLER DIMENSION DO NOT REQUIRE TRIM BARS.
FOR OPENINGS OF LARGER DIMENSION AND MULTIPLE OPENINGS REFER TO (7/–) (8/–)

SCALE: 3/4" =1'-0"

6 TRIM BARS at SLAB OPENINGS



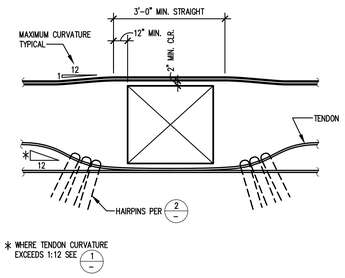
REINFORCING FOR MULTIPLE OPENINGS IN SLAB:

INSERTS IN WHICH CLEAR DISTANCE BETWEEN OPENINGS IS LESS THAN THE DIAMETER OF THE LARGER OF THE TWO ARE CONSIDERED TO FORM A COMBINED OPENING.

1. IF THE COMBINED OPENING IS LESS THAN 1'-0", NO TRIM BARS ARE REQUIRED.
2. IF THE COMBINED OPENING IS MORE THAN 1'-0", BUT LESS THAN 2'-0", PROVIDE (1) #5 T.&B. WITH 1'-0" EMBEDMENT PAST THE OPENING.
3. NO DIAGONAL BARS ARE REQUIRED.
3. IF COMBINED OPENING IS LARGER THAN 24" REFER TO (8/–)

SCALE: 3/4" =1'-0"

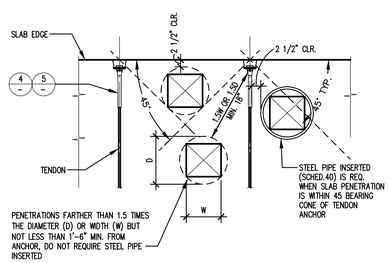
7 TRIM BARS at MULTIPLE SLAB OPENINGS



* WHERE TENDON CURVATURE EXCEEDS 1:12 SEE (1/–)

SCALE: 3/4" =1'-0"

8 PLACEMENT at OPENINGS 24" OR LARGER



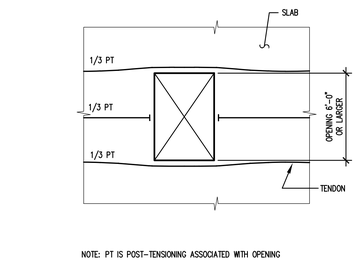
NOTE: PENETRATION WITH DIMENSIONS GREATER THAN 1'-0" REQUIRE TRIM REBAR PER (12/–)

SCALE: 3/4" =1'-0"

9 OPENINGS at TENDON ANCHORAGE

SCALE: 3/4" =1'-0"

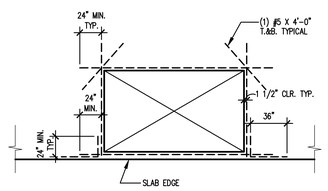
10 NOT USED



NOTE: PT IS POST-TENSIONING ASSOCIATED WITH OPENING

SCALE: 3/4" =1'-0"

11 ARRANGEMENT at OPENINGS 6'-0" OR LARGER

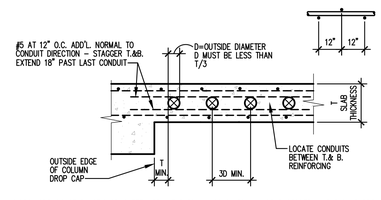


MAX. DIMENSION	REINFORCING
1'-0" TO 1'-6"	(1) #5 EACH SIDE
1'-6" TO 2'-6"	(1) #5 T.&B., EACH SIDE
2'-6" & LARGER	SEE PLAN

NOTES:
1. ALL OPENINGS LARGER THAN 1'-0" SHALL BE TRIMMED AS SHOWN
2. THESE BARS ARE IN ADDITION TO REBAR SHOWN ON PLANS
3. FOR MULTIPLE OPENINGS SEE (7/–)

SCALE: 3/4" =1'-0"

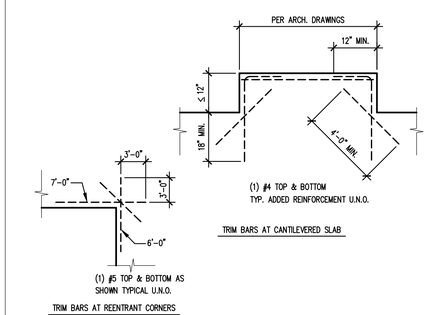
12 TRIM BARS FOR OPENINGS at SLAB EDGE



PIPES: GROUPS OF PLASTIC OR SHEET METAL ELECTRICAL CONDUITS MAY BE EMBEDDED IN THE SLAB PROVIDED THE FOLLOWING CRITERIA ARE MET:
1. DIAMETER DOES NOT EXCEED ONE THIRD OF THE SLAB THICKNESS. (DIAMETER REFERS TO OUTSIDE DIAMETER)
2. CENTER TO CENTER SPACING OF THE CONDUITS IS NOT LESS THAN THREE (3) TIMES THE DIAMETER OF THE LARGEST CONDUIT.
3. CONDUITS GREATER THAN OR EQUAL TO 1 1/2" DIAMETER SHALL BE LOCATED WITHIN THE MIDDLE THIRD OF THE SLAB.
4. CONDUITS SMALLER THAN 1 1/2" DIAMETER MAY BE LOCATED AT AT ANY DEPTH OF THE SLAB PROVIDED MIN. COVER REQUIREMENTS ARE FOLLOWED.
5. CONDUITS MUST NOT INTERRUPT THE POST TENSIONING TENDONS..
6. COLUMN DROP CAP AREAS SHOULD BE AVOIDED.
7. ALUMINUM EMBEDMENTS ARE NOT PERMITTED.

SCALE: 3/4" =1'-0"

13 CONDUIT GROUPS EMBEDDED IN SLAB

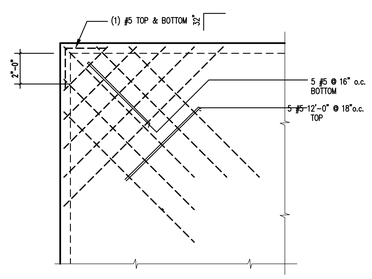


SCALE: 3/4" =1'-0"

14 TRIM BARS at REENTRANT CORNERS & CANT.

SCALE: 3/4" =1'-0"

15 NOT USED

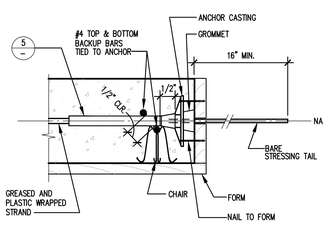


SCALE: 3/4" =1'-0"

16 TRIM BARS at SUPPORTED SLAB EDGES

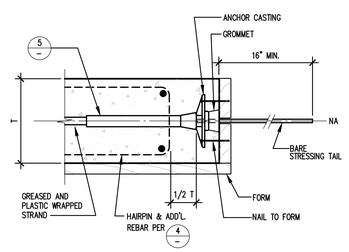
SCALE: 3/4" =1'-0"

17 NOT USED



SCALE: 3/4" =1'-0"

18 STRESSING END FOR DISTRIBUTED TENDONS



SCALE: 3/4" =1'-0"

19 STRESSING END FOR BANDED TENDONS

SCALE: 3/4" =1'-0"

20 NOT USED

CT ENGINEERING INC.
Structural Engineers
180 Nickerson Street Suite 302 Seattle, WA 98109
206.285.4512 (V) 206.285.0618 (F)

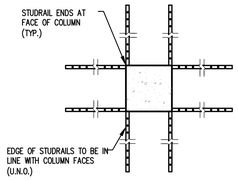
NO.	REVISION	DATE
A	BUILDING PERMIT CORRECTION #4	03/02/26
A	BUILDING PERMIT CORRECTION #3	10/17/24
A	BUILDING PERMIT CORRECTION #2	07/19/24
A	BUILDING PERMIT CORRECTION #1	11/03/22

ENGR: SUK | CAD: SUK | PLOT: 02/27/26 | TITLE: PSCP S7.02 | JOB #:

Shelter HOLDINGS

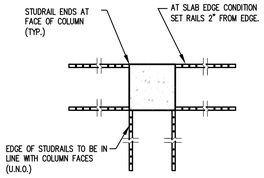
PT Details
Everett Riverfront
3610 Riverfront Boulevard - Building D
Everett, Washington

S7.02



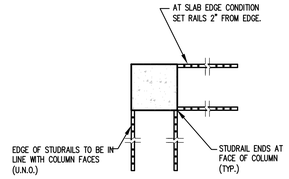
SCALE: NONE

1 STUDRAIL CONFIGURATION A (SR-A)



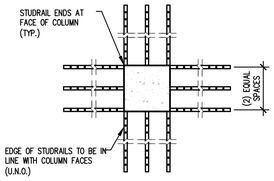
SCALE: NONE

2 STUDRAIL CONFIGURATION B (SR-B)



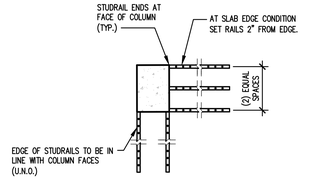
SCALE: NONE

3 STUDRAIL CONFIGURATION C (SR-C)



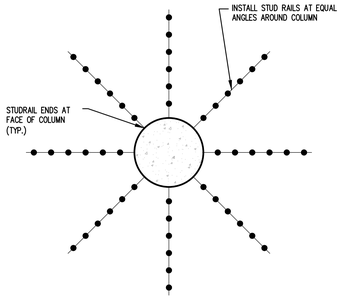
SCALE: 1/2" =1'-0"

4 STUDRAIL CONFIGURATION D (SR-D)



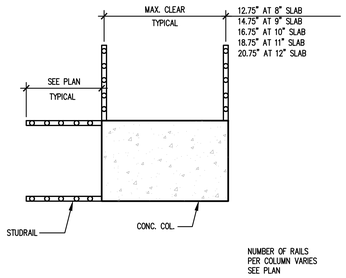
SCALE: 1/2" =1'-0"

5 STUDRAIL CONFIGURATION E (SR-E)



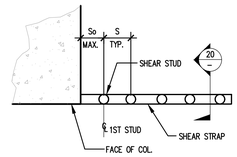
SCALE: NONE

6 STUDRAIL CONFIGURATION R (SR-R)



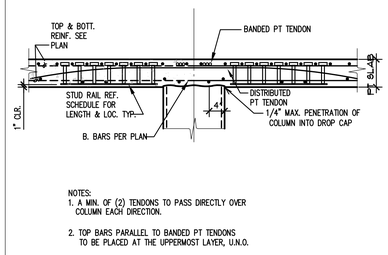
SCALE: 3/4" =1'-0"

7 STUDRAIL LOCATION TO COLUMN



SCALE: 3/4" =1'-0"

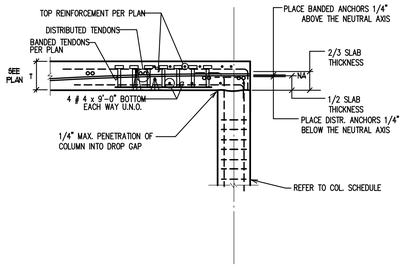
8 SHEAR STRAP DETAIL



NOTES:
1. A MIN. OF (2) TENDONS TO PASS DIRECTLY OVER COLUMN EACH DIRECTION.
2. TOP BARS PARALLEL TO BANDED PT TENDONS TO BE PLACED AT THE UPPERMOST LAYER, U.N.O.

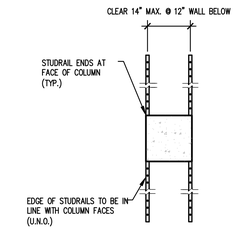
SCALE: 3/4" =1'-0"

9 SECTION



SCALE: 3/4" =1'-0"

10 SECTION

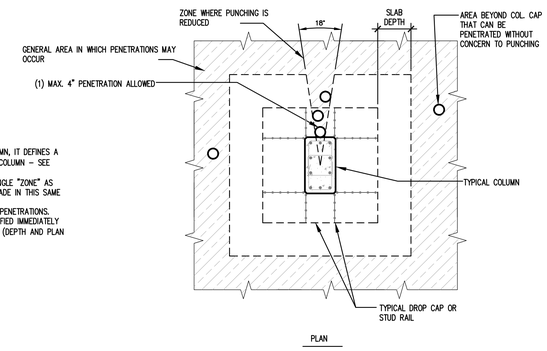


SCALE: NONE

11 STUDRAIL CONFIGURATION F (SR-F)

GENERAL NOTES ABOUT PENETRATIONS AT COLUMN CAPS:

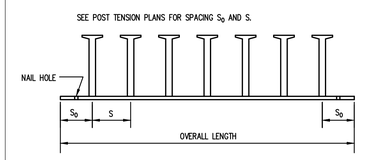
1. WHERE PENETRATIONS ARE MADE ADJACENT TO THE COLUMN, IT DEFINES A "ZONE" THAT REDUCES THE PUNCHING CAPACITY AT THE COLUMN – SEE ZONE DEFINED BY AN 18° ANGLE.
2. ADJACENT TO ANY COLUMN MAY BE PENETRATED IN A SINGLE "ZONE" AS SHOWN. NOTE THAT ADDITIONAL PENETRATIONS MAY BE MADE IN THIS SAME ZONE, SPACED FURTHER AWAY FROM THE COLUMN.
3. NO COLUMN CAP SHALL HAVE TWO OR MORE ZONES FOR PENETRATIONS. SHOULD THIS BE REQUIRED, THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY – AND PRIOR TO CONSTRUCTION. A LARGER COLUMN CAP (DEPTH AND PLAN AREA) WILL LIKELY BE SPECIFIED.



PLAN

SCALE: NONE

12 SINGLE PENETRATION at COLUMNS W/ STUDRAILS



SHEAR REINFORCEMENT (STUD RAILS)
SHEAR REINFORCEMENT AT THE SLAB COLUMN CONNECTION. AS SHOWN ON THE DRAWINGS AND DETAILS SHALL BE STUDRAILS AS MANUFACTURED BY DECON (ESR-2494). THE SHEAR STUDS USED IN FABRICATION SHALL BE LOW CARBON STEEL, ASTM A108 GRADES 1010 THROUGH 1020. THE STRENGTH AND DUCTILITY REQUIRMENTS ARE:

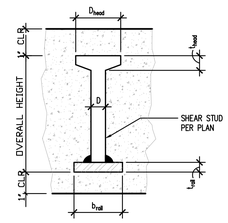
YIELD STRENGTH:	51,000 PSI MIN.
TENSILE STRENGTH	65,000 PSI MIN.
ELONGATION IN 2 IN.	20% MIN.
REDUCTION IN AREA	50% MIN.

THE RAIL USED IN STUD RAILS SHALL BE LOW CARBON STEEL TYPE 44W. THE STUDS ARE WELDED IN ACCORDANCE WITH AWS D1.1.

SCALE: NONE

19 STUDRAIL ELEVATION

D (IN)	SHANK AREA (IN²)	D_{head} (IN)	t_{head} (IN)	b_{rail} (IN)	t_{rail} (IN)
5/8"	0.307	1.98	0.35	1.75	5/16



20 SHEAR STUD TO RAIL CONNECTION

CT ENGINEERING INC.
Structural Engineers
180 Nickerson Street Suite 302 Seattle, WA 98109
206.285.4512 (V) 206.285.0618 (F)

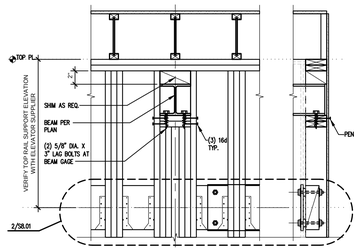
NO.	REVISION	DATE
1	BUILDING PERMIT CORRECTION #4	03/02/26
2	BUILDING PERMIT CORRECTION #3	10/17/24
3	BUILDING PERMIT CORRECTION #2	07/19/24
4	BUILDING PERMIT CORRECTION #1	11/03/22

ENGR: SUK CAD: SUK PLOT: 02/27/26 TITLE: ROOF STDS. JOB #:

Shelter HOLDINGS

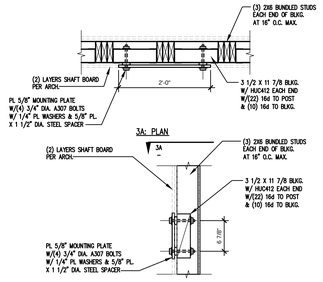
PT Details
Everett Riverfront
3610 Riverfront Boulevard - Building D
Everett, Washington

S7.03



SCALE: 1" = 1'-0"

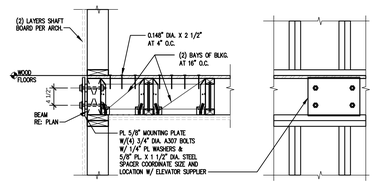
1 DETAIL AT HOIST BEAM



BETWEEN WALL STUDS

SCALE: 1" = 1'-0"

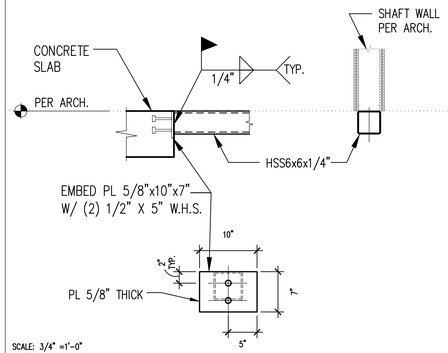
2 SECTION AT GUIDE RAIL SUPPORT



ELEVATED WOOD FLOORS

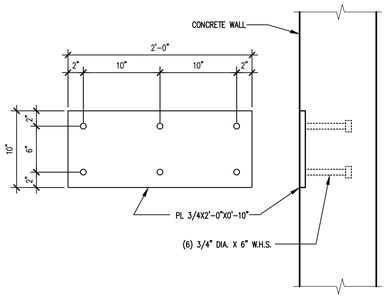
SCALE: 1" = 1'-0"

3 GUIDE RAIL SUPPORT AT RIM BEAM



SCALE: 3/4" =1'-0"

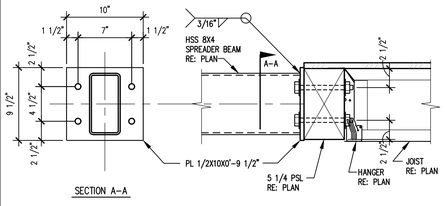
4 EMBED AT SHAFT WALL SUPPORT



RAIL BRACKET

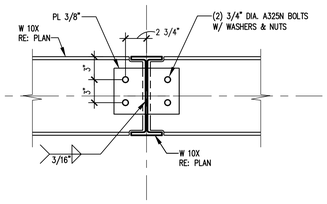
SCALE: 1 1/2" = 1'-0"

5 SECTION



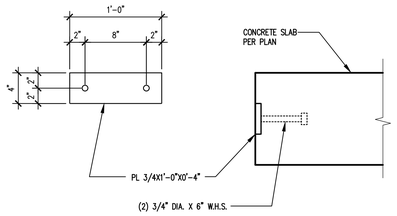
SCALE: 1 1/2" = 1'-0"

6 SECTION



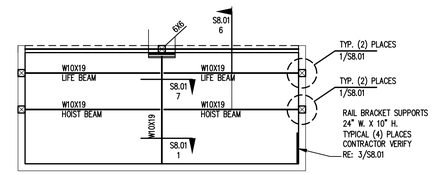
SCALE: 1 1/2" = 1'-0"

7 SECTION

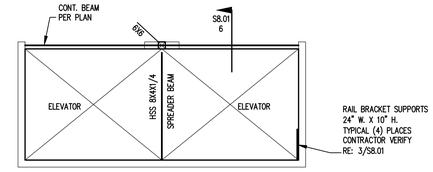


SCALE: 1 1/2" = 1'-0"

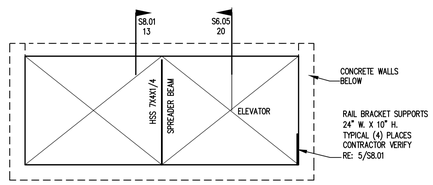
8 EMBED FOR ELEVATOR SILL (PER MFG.)



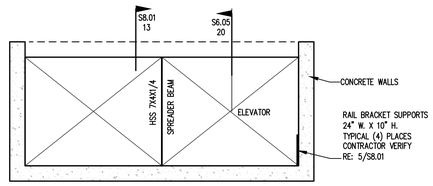
PENTHOUSE



LEVELS 3, 4, 5, 6, ROOF



LEVEL 2

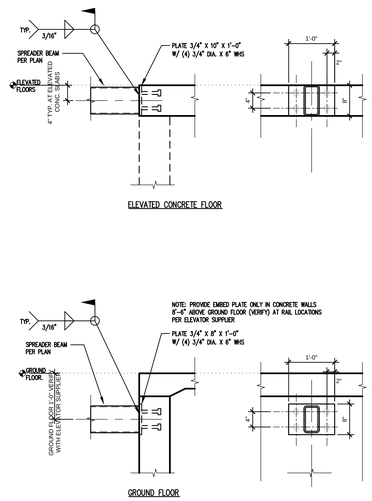


LEVEL 1

NOTE:
1. CONTRACTOR SHALL VERIFY ALL LOCATIONS OF SEPARATOR BEAMS WITH ELEVATOR SUPPLIER.
2. CONTRACTOR SHALL VERIFY ALL LOCATIONS, SIZE, ETC. OF ALL RAIL BRACKET SUPPORTS WITH ELEVATOR SUPPLIER.

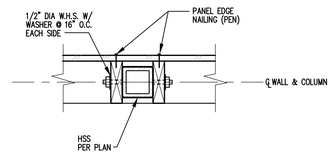
SCALE: 1/4" = 1'-0"

16 ELEVATOR PLANS



SCALE: 1" = 1'-0"

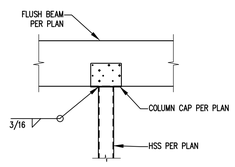
13 SPREADER BEAM AT CONCRETE



PLAN VIEW

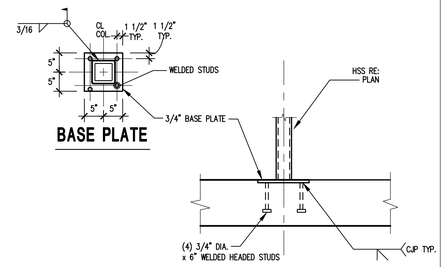
SCALE: 1 1/2" = 1'-0"

11 STUDS TO STEEL HSS BEAM



SCALE: 3/4" = 1'-0"

14 HSS TO PSL FLUSH BEAM



SCALE: 3/4" = 1'-0"

15 HSS TO CONCRETE CONNECTION

NO.	REVISION	DATE
A	BUILDING PERMIT CORRECTION #4	03/02/26
A	BUILDING PERMIT CORRECTION #3	10/17/24
A	BUILDING PERMIT CORRECTION #2	07/19/24
A	BUILDING PERMIT CORRECTION #1	11/03/22
ENGR: SWK	CAD: SWK	PLOT: 02/27/26

FILE: 19010 S801
JOB #:

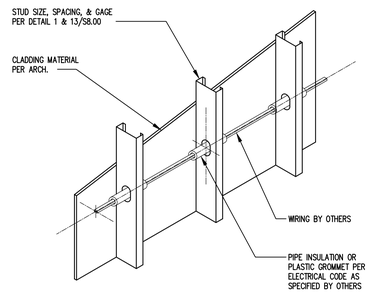
CT ENGINEERING INC.
Structural Engineers
180 Nickerson Street, Suite 302, Seattle, WA 98109
206.285.0512 (V) 206.285.0618 (F)

Shelter HOLDINGS

Elevator Details

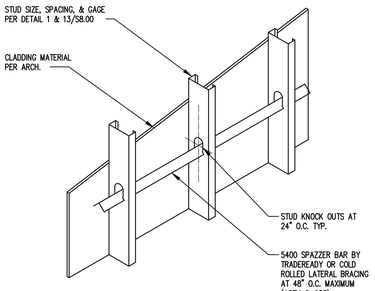
Everett Riverfront
3610 Riverfront Boulevard - Building D
Everett, Washington

S8.01



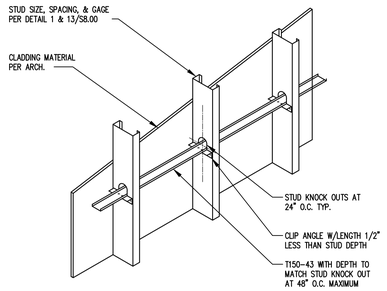
SCALE: 3/4" = 1'-0"

1 TYPICAL WIRING PENETRATION



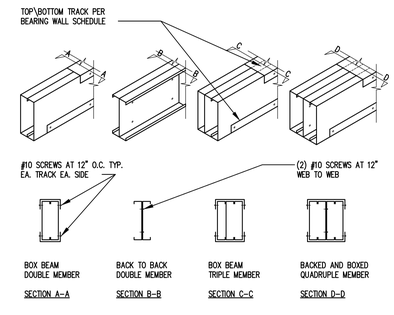
SCALE: 3/4" = 1'-0"

2 TYPICAL HORIAONTAL BRACING DETAIL



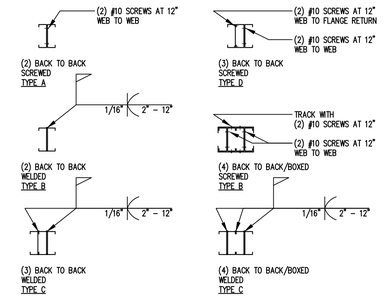
SCALE: 3/4" = 1'-0"

3 TYPICAL COLD ROLLED LATERAL BRACING



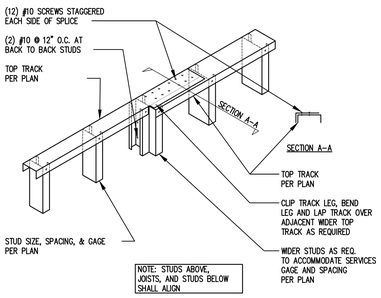
SCALE: 3/4" = 1'-0"

4 TYPICAL BUILT-UP JOIST/BEAM



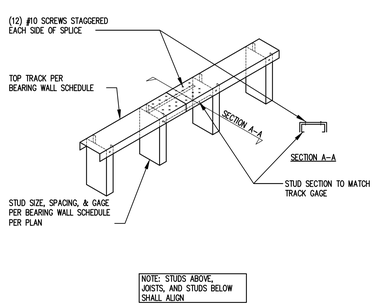
SCALE: 3/4" = 1'-0"

5 TYPICAL BUILT-UP STUD/POST



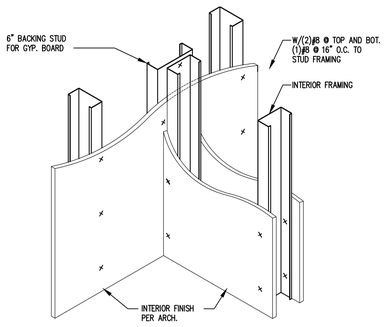
SCALE: 3/4" = 1'-0"

6 TYPICAL TOP PLATE TRANSITION SPLICE



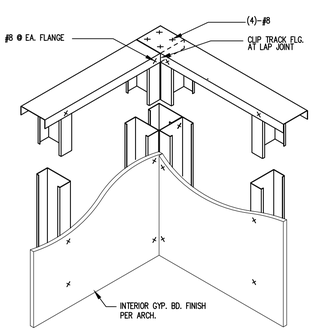
SCALE: 3/4" = 1'-0"

7 TYPICAL TOP PLATE SPILE



SCALE: 3/4" = 1'-0"

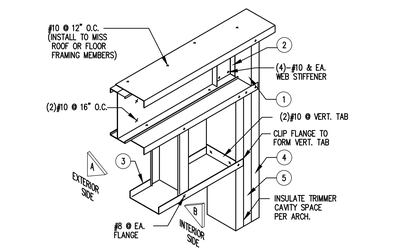
8 TYPICAL INTERIOR CORNER



SCALE: 3/4" = 1'-0"

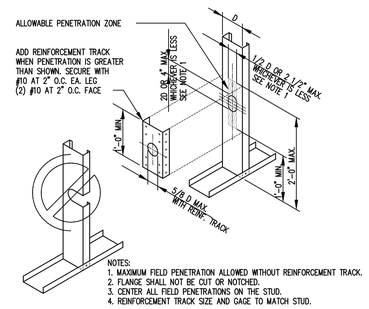
9 TYICAL EXTERIOR CORNER

HEADER TYPE	HEADER MATERIALS (1)	WEB STIFFENERS (2)	HEADER TRACK (3)	JAMB STUD (4)	TRIMMER STUD(S) (5)
HR-1	PER PLAN	TO MATCH JAMB	PER SCHED.	PER SCHED.	PER SCHED.
–	–	–	–	–	–



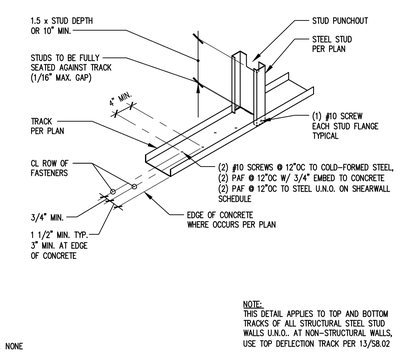
SCALE: 3/4" = 1'-0"

10 TYPICAL BUILT-UP HEADER



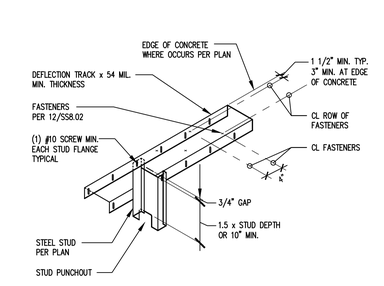
SCALE: 3/4" = 1'-0"

8 TYPICAL FIELD PENETRATION & REINFORCING



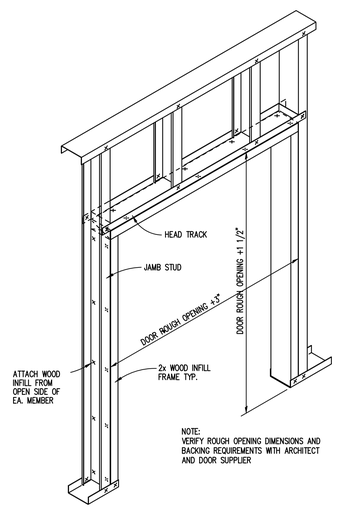
SCALE: NONE

12 TYPICAL TOP AND BOTTOM TRACK DETAIL



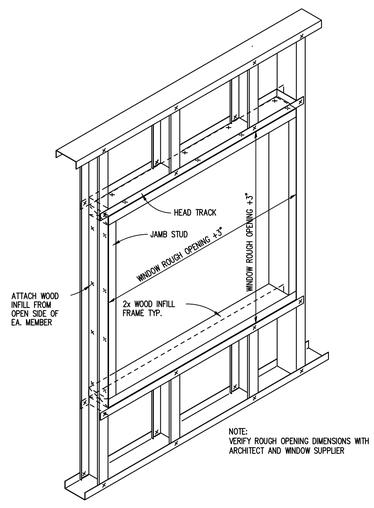
SCALE: NONE

13 TYPICAL NON-BEARING WALL TOP TRACK



SCALE: 3/4" = 1'-0"

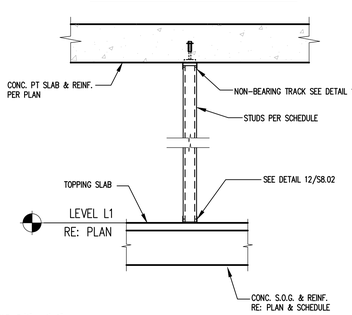
19 TYPICAL INTERIOR NON-LOAD BEARING DOOR AND WINDOW OPENING



SCALE: 3/4" = 1'-0"

16 NOT USED

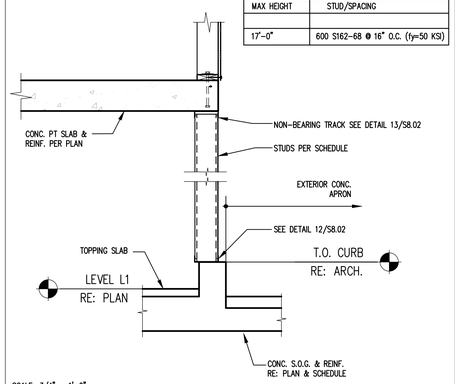
INTERIOR NON BEARING WALL SCHEDULE	
MAX HEIGHT	STUD/SPACING
17'-0"	350 S125-43 @ 16" O.C.
17'-0"	600 S125-30 @ 24" O.C.



SCALE: 3/4" = 1'-0"

17 TYPICAL INTERIOR TOP and BOTTOM TRACK

EXTERIOR NON BEARING WALL SCHEDULE	
MAX HEIGHT	STUD/SPACING
17'-0"	600 S162-68 @ 16" O.C. (fy=50 KSI)



SCALE: 3/4" = 1'-0"

18 TYPICAL EXTERIOR TOP and BOTTOM TRACK

CT ENGINEERING INC.
Structural Engineers
180 Nickerson Street Suite 302 Seattle, WA 98109
206.285.4512 (V) 206.285.0618 (F)

NO.	REVISION	DATE
A	BUILDING PERMIT CORRECTION #4	03/02/26
A	BUILDING PERMIT CORRECTION #3	10/17/24
A	BUILDING PERMIT CORRECTION #2	07/19/24
A	BUILDING PERMIT CORRECTION #1	11/03/22
ENGR: SWK	CAD: SWK	PLOT: 02/27/26

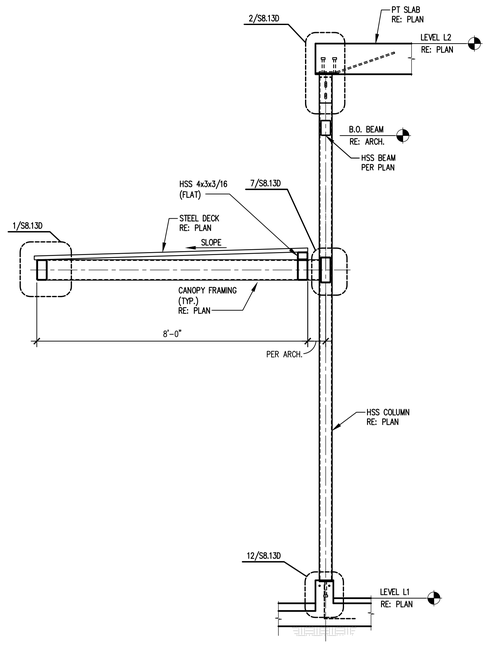
FILE: 19010 S801
JOB #:

Shelter HOLDINGS

Steel Details

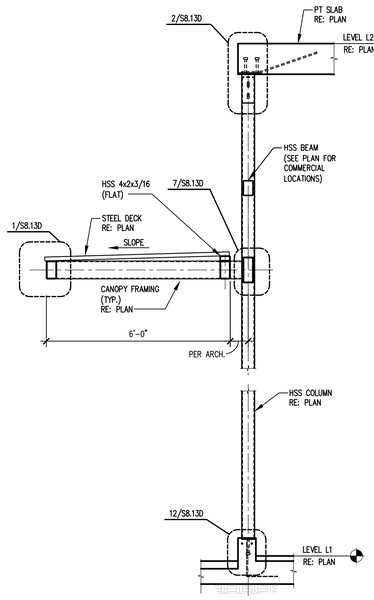
Everett Riverfront
3610 Riverfront Boulevard - Building D
Everett, Washington

S8.02



Type 1 Canopy Section

SCALE: 1/2" = 1'-0"



Steel Post Schedule

MARK	MEMBER	SUPPORT	REMARKS
P1	HSS 5X5X1/4	NON-CANOPY	
P2	HSS 5X5X3/8	NON-CANOPY	
P3	HSS 5X5X3/8	CANOPY	

Misc. Beam Schedule

MARK	MEMBER	POST	REMARKS
HD1	HSS 5X5X1/4	P1	
HD2	HSS 6X5X1/4	P1	
HD3	HSS 10X5X1/4	P2	
HD4	HSS 6X5X1/2	--	ABOVE

Residential Canopy Beam Schedule

MARK	MEMBER	DECK	REMARKS
TBB1	HSS 8X4X1/4	1 1/2" X 22 GAGE TYPE B	
TBB2	HSS 8X4X1/4		
TBB3	HSS 8X4X1/4		
TBB4	HSS 8X4X1/4		
TBB5	HSS 10X5X1/4		

Type 1 Canopy Beam Schedule

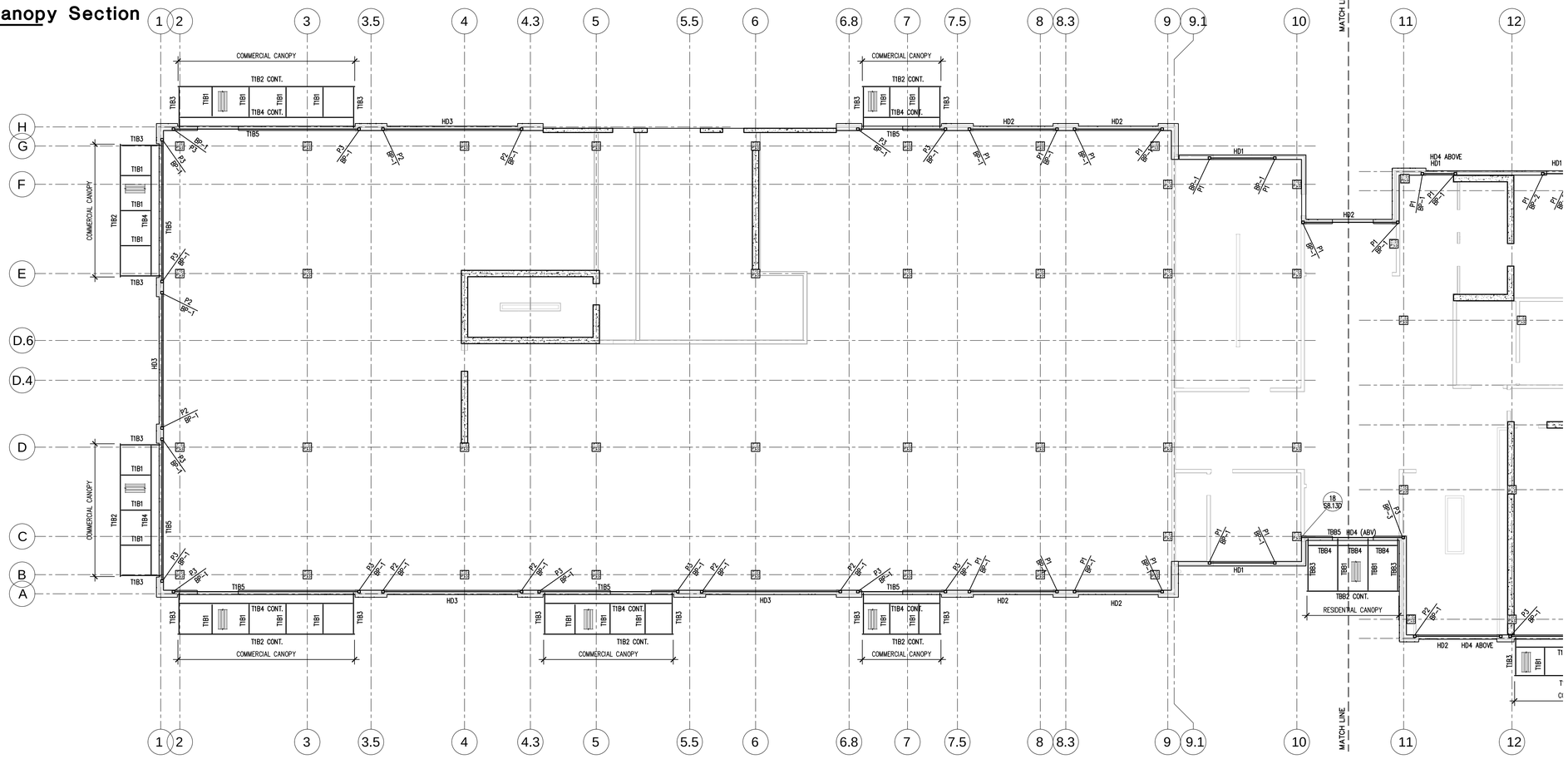
MARK	MEMBER	DECK	REMARKS
TIB1	HSS 8X4X1/4	1 1/2" X 22 GAGE TYPE B	
TIB2	HSS 8X4X1/4		
TIB3	HSS 8X4X3/8		
TIB4	HSS 10X5X1/4		
TIB5	HSS 10X5X1/4		

Canopy Framing Notes

1. ROOF DECK - 1 1/2" TYPE B DECKING (SEE CANOPY TYPE FOR GAGE.) FROM VERCO OR APPROVED EQUAL.
2. ROOF DECK ATTACHMENT SHALL BE (4) 1/2" DIA. PUDDLE WELDS AT SUPPORTS AND SIDELAP CONNECTION WITH VSC/PUNCHLOK AT 12" O.C.
3. VERIFY LOCATION, CANOPY TYPES AND DIMENSIONS WITH ARCHITECTURAL DRAWINGS.

Residential Canopy Section

SCALE: 1/2" = 1'-0"



Bldg. D Canopy Framing & HSS Post Plan (South)

SCALE: 1/8" = 1'-0"

REFERENCE

GRAPHIC SCALE
-8 0 4 8 16
(IN FEET)
1 inch = 8 ft.

CT ENGINEERING INC.
Structural Engineers
180 Nickerson Street Suite 302 Seattle, WA 98109
206.285.4512 (V) 206.285.0618 (F)

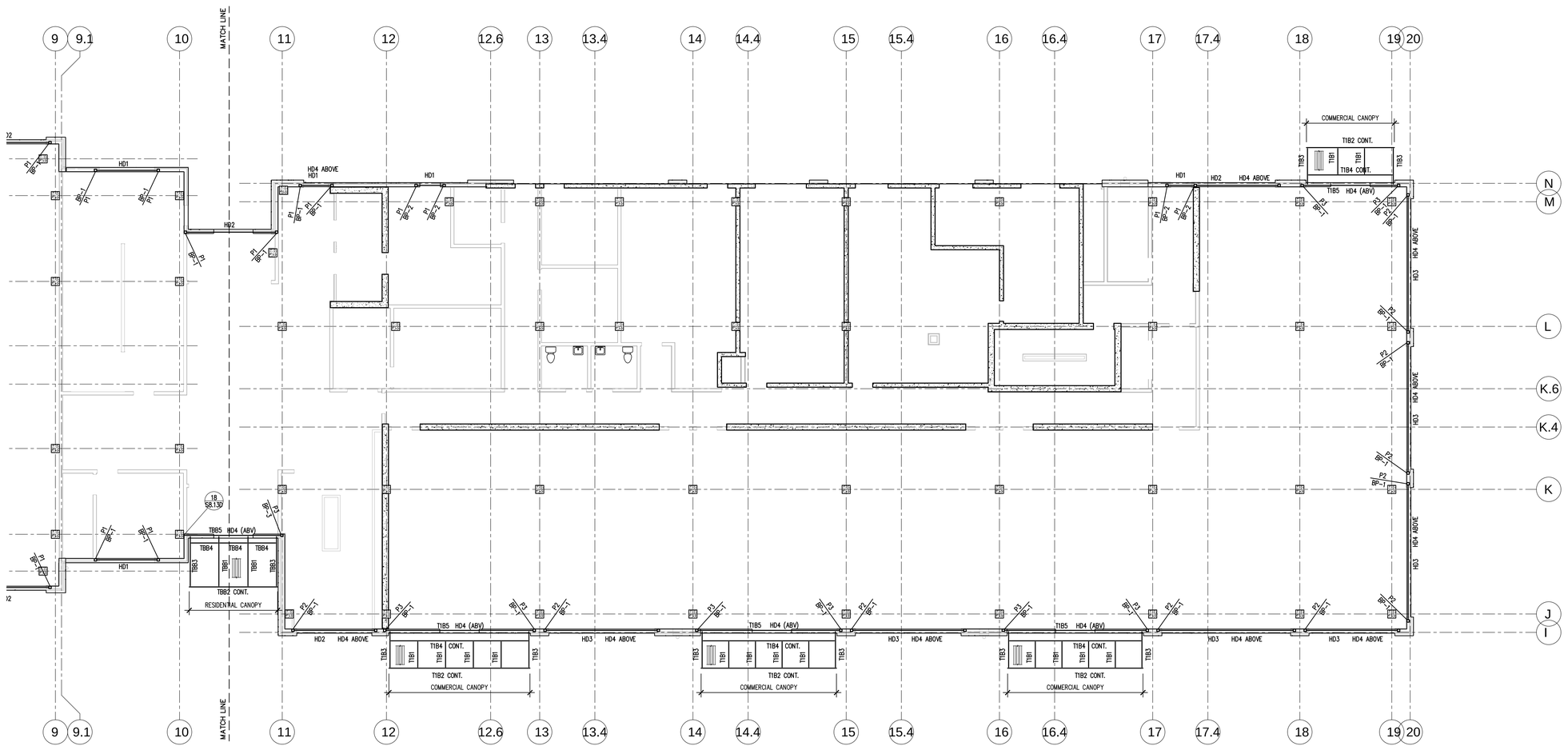
NO.	REVISION	DATE
4	BUILDING PERMIT CORRECTION #4	03/02/26
3	BUILDING PERMIT CORRECTION #3	10/17/24
2	BUILDING PERMIT CORRECTION #2	07/19/24
1	BUILDING PERMIT CORRECTION #1	11/03/22
	ENGR: SWK CAD: SWK PLOT: 02/27/26	FILE: 19010 S811
		JOB #:

Shelter HOLDINGS

Building D Canopy & HSS Post Plan (South)

Everett Riverfront
3610 Riverfront Boulevard - Building D
Everett, Washington

S8.11D



Bldg. D Canopy Framing & HSS Post Plan (North)

SCALE: 1/8" = 1'-0"

REFERENCE

GRAPHIC SCALE
-8 0 4 8 16
(IN FEET)
1 inch = 8 ft.

CT ENGINEERING INC.
Structural Engineers
180 Nickerson Street Ste. 302 Seattle, WA 98109
206.285.4512 (V) 206.285.0618 (F)

NO.	REVISION	DATE
4	BUILDING PERMIT CORRECTION #4	03/02/26
3	BUILDING PERMIT CORRECTION #3	10/17/24
2	BUILDING PERMIT CORRECTION #2	07/19/24
1	BUILDING PERMIT CORRECTION #1	11/03/22

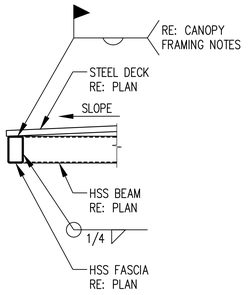
ENGR: SNK Cad: SNK PLOT: 02/27/26 FILE: 19010 -3811
JOB #:

Shelter HOLDINGS

Building D Canopy & HSS Post Plan (North)

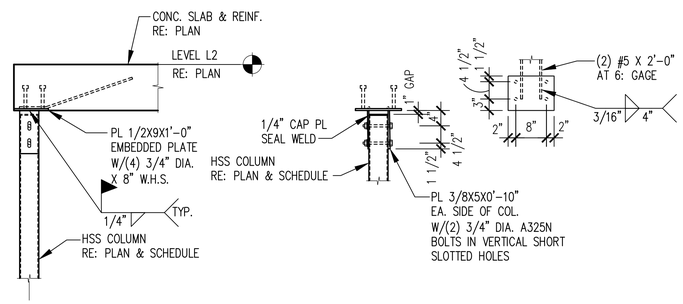
Everett Riverfront
3610 Riverfront Boulevard - Building D
Everett, Washington

S8.12D



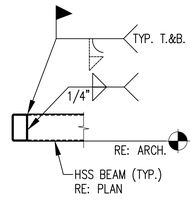
SCALE: 3/4" = 1'-0"

1 DETAIL



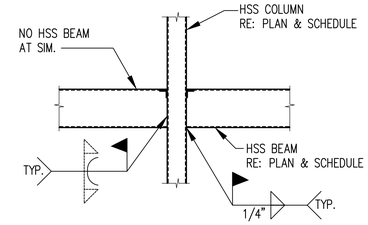
SCALE: 3/4" = 1'-0"

2 SECTION



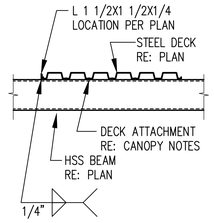
SCALE: 3/4" = 1'-0"

4 DETAIL



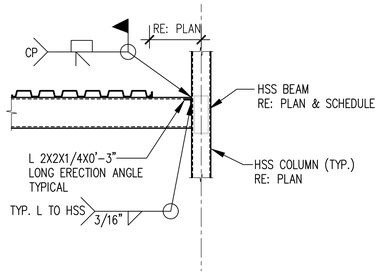
SCALE: 3/4" = 1'-0"

5 DETAIL



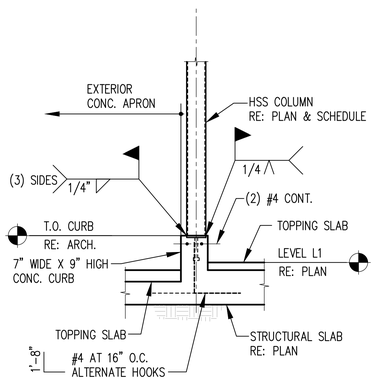
SCALE: 3/4" = 1'-0"

6 DETAIL



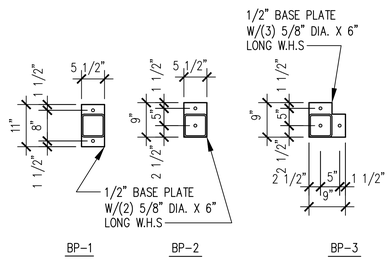
SCALE: 3/4" = 1'-0"

7 SECTION



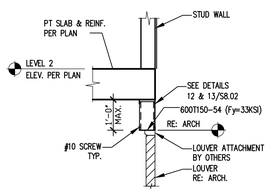
SCALE: 3/4" = 1'-0"

12 SECTION



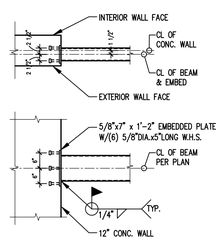
SCALE: 3/4" = 1'-0"

13 DETAIL



SCALE: 1/2" =1'-0"

16 TYPICAL LOUVER AT STOREFRONT



SCALE: 1/2" =1'-0"

18 BEAM TO CONC. WALL CONN.

CT ENGINEERING INC.
Structural Engineers
180 Nickerson Street Suite 302 Seattle, WA 98109
206.285.4512 (V) 206.285.0618 (F)

NO.	REVISION	DATE
4	BUILDING PERMIT CORRECTION #4	03/02/26
3	BUILDING PERMIT CORRECTION #3	10/17/24
2	BUILDING PERMIT CORRECTION #2	07/19/24
1	BUILDING PERMIT CORRECTION #1	11/03/22
ENGR: SMK	CAD: SMK	PLOT: 02/27/26

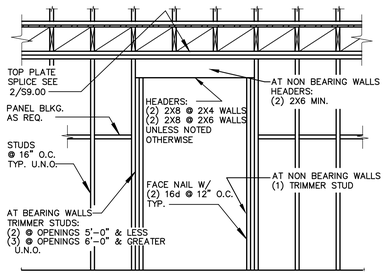
JOB #: 19010 -2811

Shelter HOLDINGS

Building D Canopy Details

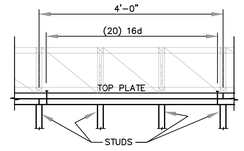
Everett Riverfront
3610 Riverfront Boulevard - Building D
Everett, Washington

S8.13D



SCALE: NONE

1 TYP. HEADER at WALL

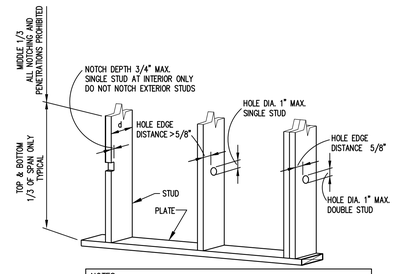


NOTE:

1. SPLICE & NAIL TOP PLATES AS SHOWN @ ALL EXTERIOR, PLUMBING, PARTY & SHEAR WALLS @ EA. FLOOR LEVEL AND AT ROOF.
2. PROVIDE (2) LSTA 36 STRAP W/ (26) 10d NAIL ONE EACH SIDE WHERE DRILLED HOLES EXCEED THE FOLLOWING:
   1" FOR 2X4
   3" FOR 2X6 WALL PLATES.
   CENTER ALL HOLES MIN. EDGE DIST. = 1 1/4"

SCALE: NONE

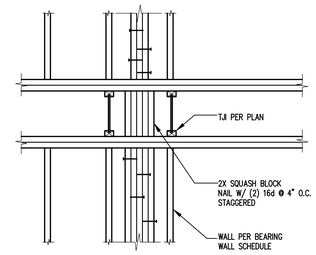
2 TYPICAL TOP PLATE SPLICE



NOTES:
1. d DENOTES STUD DEPTH (3 1/2" OR 5 1/2").
2. STUD NOTCHING AND BORING AT BUNDLED STUDS GREATER THAN (2), POST AND HOLDOWN STUDS SHALL NOT BE ALLOWED WITHOUT WRITTEN APPROVAL FROM THE STRUCTURAL ENGINEER.

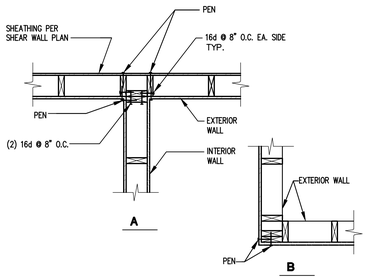
SCALE: NONE

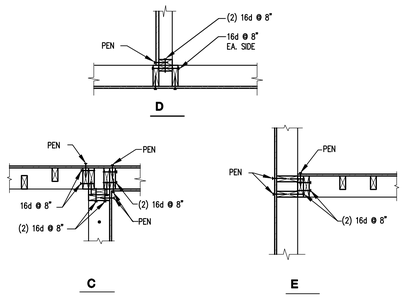
3 STUD NOTCHING and BORING LIMITS



SCALE: NONE

4 TYPICAL BLOCKING at BUNDLED STUDS

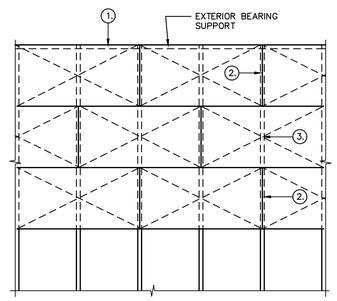




PLAN

SCALE: NONE

6 TYP. CORNER STUD FRAMING



1. BOUNDARY NAILING AT ROOF PERIMETER, AT CONT. PANEL EDGES (B.N.)
2. EDGE NAILING (E.N.) AT ALL EDGES OF ALL PLYWOOD SHEETS AT SUPPORTS
3. INTERIOR FIELD NAILING (F.N.) 6" O.C. AT BEARING SUPPORTS
4. SEE PLANS FOR PLYWOOD THICKNESS & NAILING SCHEDULE
5. LONG DIMENSION OF PLYWOOD SHALL RUN ACROSS TRUSS SYSTEM FRAMING
6. MIN. EDGE DISTANCE FOR NAILS SHALL BE 3/8"
7. MINIMUM PLYWOOD SHEET SIZE 2'-0" X 4'-0"
8. NAILS SHALL NOT BE OVER DRIVEN

SCALE: NONE

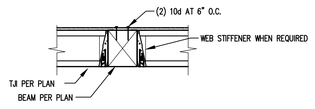
8 ROOF/FLOOR SHEATHING LAYOUT

NOTE: STRUCTURAL SHEARWALLS SHOWN ON THESE PLANS WILL REQUIRE ADDITIONAL FASTENERS.

CONNECTION	FASTENING (a)	LOCATION
1. JOIST TO SILL OR GIRDER	(3) 8d COMMON (3) 3" X 0.131" NAILS	TOENAIL TOENAIL
2. BRIDGING TO JOIST	(2) 8d COMMON (2) 3" X 0.131" NAILS	TOENAIL EA. END TOENAIL EA. END
3. 1X6 SUBFLOOR OR LESS TO JST.	(2) 8d COMMON	FACE NAIL
4. WIDER THAN 1X6 SUBFLOOR TO JST.	(3) 8d COMMON	FACE NAIL
5. 2" SUBFLOOR TO JST./GIRDER	(2) 16d COMMON	BLIND & FACE NAIL
6. SOLE PLATE TO JST. OR BLKG.	16d AT 16" O.C. 3" X 0.131" NAILS AT 8" O.C.	TYP. FACE NAIL TYP. FACE NAIL
7. TOP PLATE TO STUD	(2) 16d COMMON (3) 3" X 0.131" NAILS	END NAIL END NAIL
8. STUD TO SOLE PLATE	(4) 8d COMMON (4) 3" X 0.131" NAILS	TOENAIL TOENAIL
	(2) 16d COMMON (3) 3" X 0.131" NAILS	END NAIL END NAIL
9. DOUBLE STUDS	16d COMMON AT 24" O.C. 3" X 0.131" NAIL AT 8" O.C.	FACE NAIL FACE NAIL
10. DOUBLE TOP PLATES	16d COMMON AT 16" O.C. 3" X 0.131" NAIL AT 12" O.C.	TYP. FACE NAIL TYP. FACE NAIL
DOUBLE TOP PLATE SPLICE	(8) 16d COMMON (12) 3" X 0.131" NAILS	LAP SPLICE LAP SPLICE
11. BLOCKING BETWEEN JOISTS OR RAFTERS TO TOP PLATE	(3) 8d COMMON (3) 3" X 0.131" NAILS	TOENAIL TOENAIL
12. RIM JOIST TO TOP PLATE	8d COMMON AT 6" O.C. 3" X 0.131" NAILS AT 6" O.C.	TOENAIL TOENAIL
13. TOP PLATES, LAPS AND INTERSECTIONS	(2) 16d COMMON (3) 3" X 0.131" NAILS	FACE NAIL FACE NAIL
14. CONTINUOUS HEADER, TWO PIECES	16d COMMON AT 16" O.C.	ALONG EDGE
15. CEILING JOISTS TO PLATE	(3) 8d COMMON (3) 3" X 0.131" NAILS	TOENAIL TOENAIL
16. CONTINUOUS HEADER TO STUD	(4) 8d COMMON	TOENAIL
17. CEILING JOISTS, LAPS OVER PARTITIONS (TABLE 2308.10.4.1)	(3) 16d COMMON MIN. (4) 3" X 0.131" NAILS	FACE NAIL FACE NAIL
18. CEILING JOISTS TO PARALLEL RAFTERS (TABLE 2308.10.4.1)	(3) 16d COMMON MIN. (4) 3" X 0.131" NAILS	FACE NAIL FACE NAIL
19. RAFTER TO PLATE (SECTION 2308.10.1)	(3) 8d COMMON (3) 3" X 0.131" NAILS	TOENAIL TOENAIL
20. 1" DIAGONAL BRACE TO EACH STUD AND PLATE	(2) 8d COMMON (2) 3" X 0.131" NAILS	FACE NAIL FACE NAIL
21. 1"X8" SHEATHING TO EACH BEARING	(3) 8d COMMON	FACE NAIL
22. WIDER THAN 1"X8" SHEATHING TO EACH BEARING	(3) 8d COMMON	FACE NAIL
23. BUILT UP CORNER STUDS	16d COMMON 3" X 0.131" NAILS	24" O.C. 16" O.C.
24. BUILT UP GIRDER AND BEAMS	20d COMMON AT 32" O.C. 3" X 0.131" NAILS AT 24" O.C. STAGGERED	FACE NAIL TOP AND BOTTOM
	(2) 20d COMMON (3) 3" X 0.131" NAILS	FACE NAIL AT ENDS AND EA SPLICE
25. 2" PLANKS	16d COMMON	AT EACH BEARING
26. COLLAR TIE TO RAFTER	(3) 10d COMMON (4) 3" X 0.131" NAILS	FACE NAIL FACE NAIL
27. JACK RAFTER TO HIP	(3) 10d COMMON (4) 3" X 0.131" NAILS	TOENAIL TOENAIL
	(2) 16d COMMON (3) 3" X 0.131" NAILS	FACE NAIL FACE NAIL
28. ROOF RAFTER TO 2-BY RIDGE BEAM	(2) 16d COMMON (3) 3" X 0.131" NAILS	TOENAIL TOENAIL
	(2) 16d COMMON (3) 3" X 0.131" NAILS	FACE NAIL FACE NAIL
29. JOIST TO BAND JOIST	(3) 16d COMMON (4) 3" X 0.131" NAILS	FACE NAIL FACE NAIL
30. LEDGER STRIP	(3) 16d COMMON (4) 3" X 0.131" NAILS	FACE NAIL AT EACH JOIST FACE NAIL AT EACH JOIST
31. WOOD STRUCTURAL PANELS TO FRAMING	SEE SHEARWALL SCHEDULE	SHEET S1.02
SUBFLOOR TO FRAMING	SEE STRUCTURAL NOTES	SECTION 06160

a. COMMON OR BOX NAILS ARE PERMITTED TO BE USED EXCEPT WHERE NOTED OTHERWISE.
b. FASTENING SCHEDULE BASED ON IBC TABLE 2304.9.1 AND PROVIDES THE MINIMUM NAILING REQUIRED. WHEN SPECIFIED ELSEWHERE IN THESE PLANS PROVIDE NAILING AS SPECIFIED. SEE IBC FOR COMPLETE NAILING SCHEDULE.

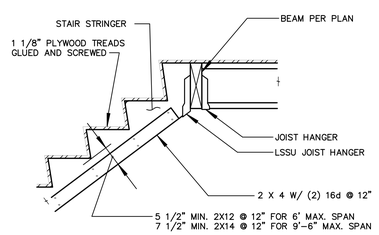
20 FASTENING SCHEUDLE



Simpson Strong-Tie Joist Hangers		
TJI SIZE	HANGER TYP	NAILING
11 7/8" TJI 110	IUS1.81/11.88	FACE (10) 10d ---
11 7/8" TJI 230	IUS2.37/11.88	FACE (10) 10d
(2) 11 7/8" TJI 210	MIU4.28/11	FACE (20) 16d JOIST (2) 10d X 1 1/2
9 1/2" TJI 230	IUS2.37/9.5	FACE (8) 10d ---

SCALE: NONE

11 TYP. JOIST HANGER CONN. at WOOD BEAM



SCALE: NONE

19 TYPICAL STAIR FRAMING

CT ENGINEERING INC.
Structural Engineers
180 Nickerson Street Suite 302 Seattle, WA 98109
206.285.4512 (V) 206.285.0618 (F)

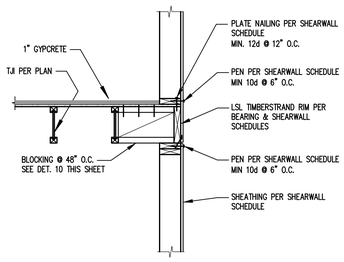
NO.	REVISION	DATE
A	BUILDING PERMIT CORRECTION #4	03/02/26
A	BUILDING PERMIT CORRECTION #3	10/17/24
A	BUILDING PERMIT CORRECTION #2	07/19/24
A	BUILDING PERMIT CORRECTION #1	11/03/22

ENGR: SWK | CAD: SWK | PLOT: 02/27/26 | FILE: 19010 S901 | JOB #:

Shelter HOLDINGS

Wood Details
Everett Riverfront
3610 Riverfront Boulevard - Building D
Everett, Washington

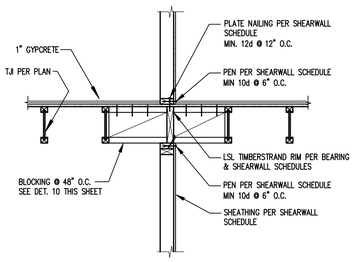
S9.01



SCALE: 3/4" = 1'-0"

PARALLEL

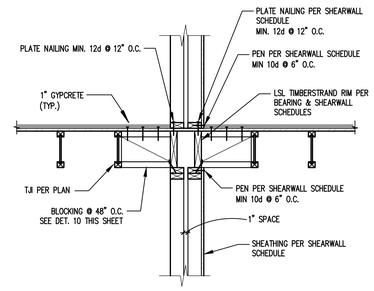
1 TYP. EXTERIOR WALL TO FRAMING



SCALE: 3/4" = 1'-0"

PARALLEL

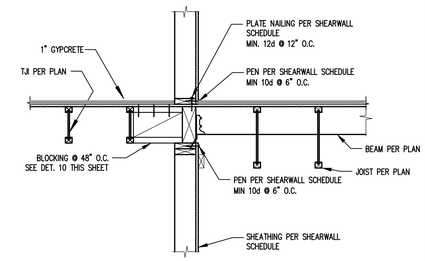
2 TYP. INTERIOR WALL TO FRAMING



SCALE: 3/4" = 1'-0"

PARALLEL

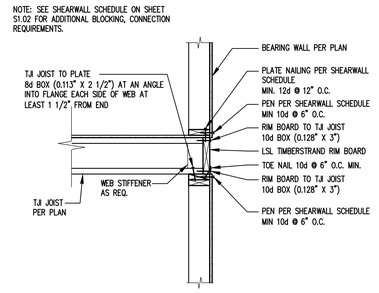
3 TYPICAL PARTY WALL



SCALE: 3/4" = 1'-0"

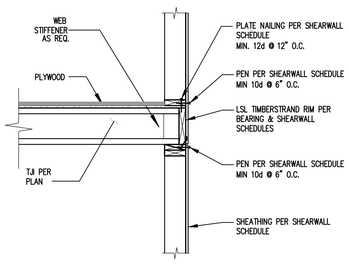
PARALLEL

4 TYP. CORRIDOR WALL TO FRAMING



SCALE: 3/4" = 1'-0"

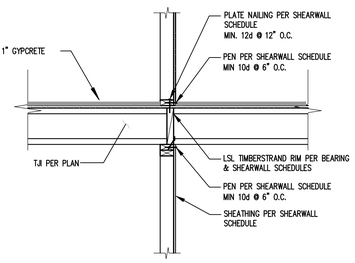
TYP. SECTION @ TJI SUPPORT



SCALE: 3/4" = 1'-0"

PERPENDICULAR

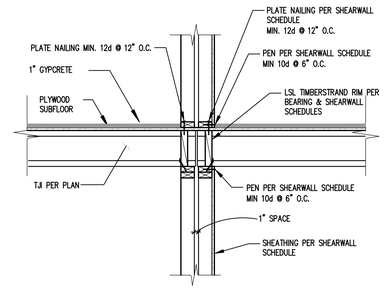
6 TYPICAL EXTERIOR WALL TO FRAMING



SCALE: 3/4" = 1'-0"

PERPENDICULAR

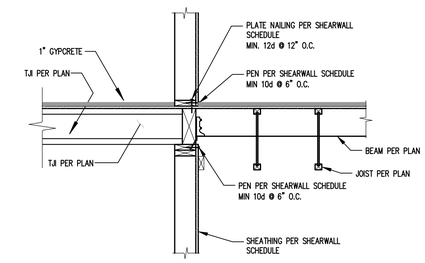
7 TYP. INTERIOR WALL TO FRAMING



SCALE: 3/4" = 1'-0"

PERPENDICULAR

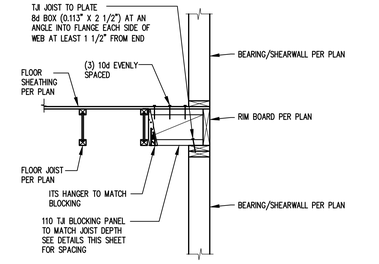
8 TYPICAL PARTY WALL



SCALE: 3/4" = 1'-0"

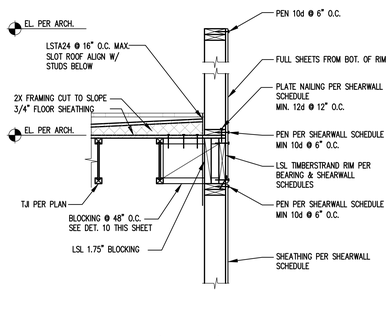
PERPENDICULAR

9 TYP. CORRIDOR WALL TO FRAMING



SCALE: 3/4" = 1'-0"

TYP. BLOCKING DETAIL

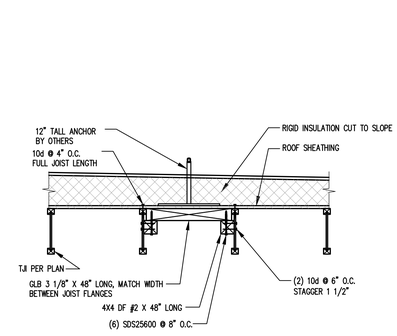


(ACCESSABLE)

SCALE: 3/4" = 1'-0"

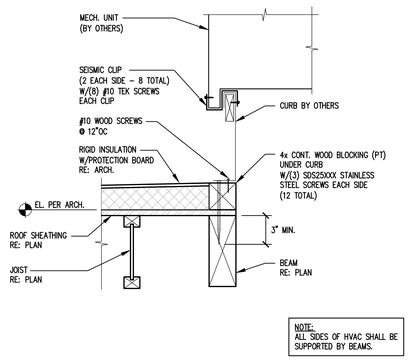
PARALLEL

11 TYP. EXTERIOR WALL TO FRAMING



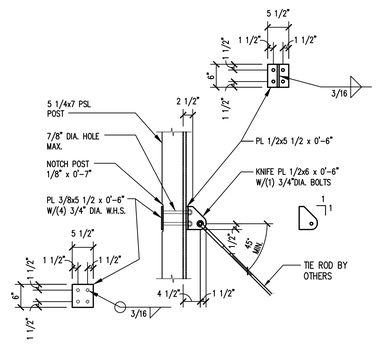
SCALE: 3/4" = 1'-0"

TYP. ROOF ANCHOR



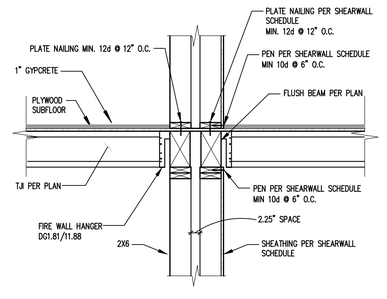
SCALE: 1 1/2" = 1'-0"

HVAC SUPPORT DETAIL



SCALE: 3/4" = 1'-0"

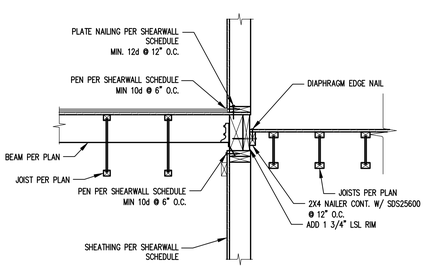
SECTION AT BRACE



SCALE: 3/4" = 1'-0"

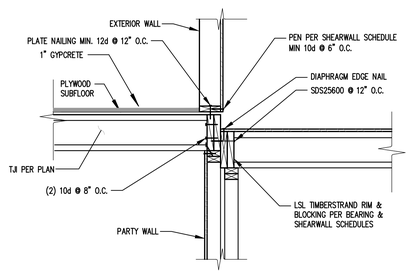
PERPENDICULAR

15 TYPICAL FIRE WALL



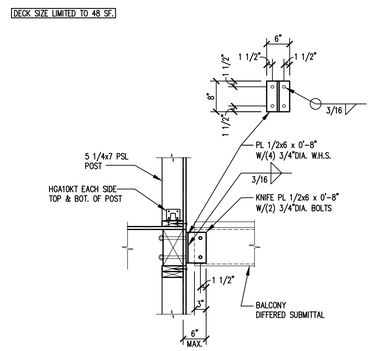
SCALE: 3/4" = 1'-0"

TYP. SECTION @ ROOF DECK



SCALE: 3/4" = 1'-0"

TYP. SECTION @ ROOF DECK

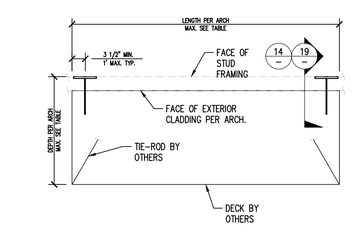


SCALE: 3/4" = 1'-0"

SECTION AT FLOOR

Maximum Dimensions	
DEPTH	LENGTH
4'	12'
5'	9'-6"

DECK SIZE LIMITED TO 48 SF.



SCALE: NONE

TIE-ROD EACH END

DECK TYPICAL

CT ENGINEERING INC.
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180 Nickerson Street, Suite 302, Seattle, WA 98109
206.285.4512 (V) 206.285.0618 (F)

NO.	REVISION	DATE
A	BUILDING PERMIT CORRECTION #4	03/02/26
A	BUILDING PERMIT CORRECTION #3	10/17/24
A	BUILDING PERMIT CORRECTION #2	07/19/24
A	BUILDING PERMIT CORRECTION #1	11/03/22
ENGR: SMK	CAD: SMK	PLOT: 02/27/26

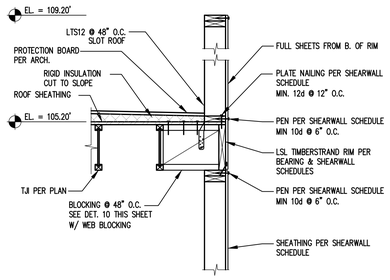
FILE: 19010 S901
JOB #:

Shelter HOLDINGS

Wood Details

Everett Riverfront
3610 Riverfront Boulevard - Building D
Everett, Washington

S9.02

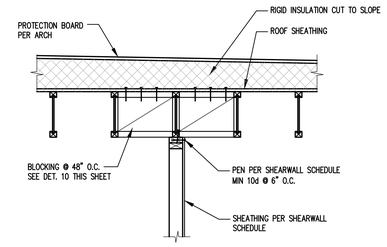


(NON-ACCESSABLE)

SCALE: 3/4" = 1'-0"

PARALLEL

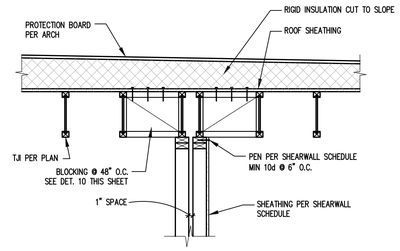
1 TYP. EXTERIOR WALL TO FRAMING



SCALE: 3/4" = 1'-0"

PARALLEL

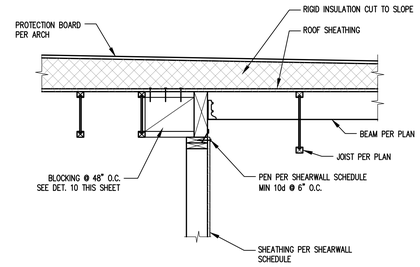
2 TYP. INTERIOR WALL TO FRAMING



SCALE: 3/4" = 1'-0"

PARALLEL

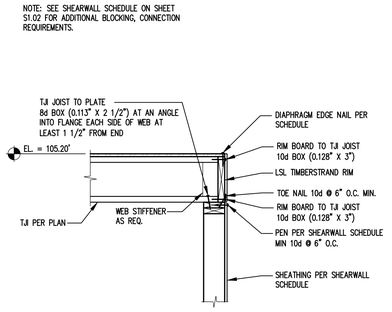
3 TYPICAL PARTY WALL



SCALE: 3/4" = 1'-0"

PARALLEL

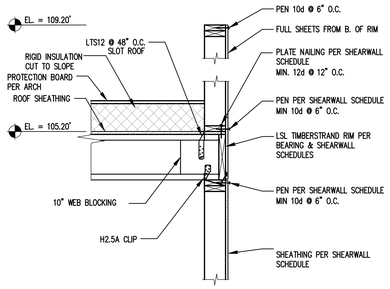
4 TYP. CORRIDOR WALL TO FRAMING



SCALE: 3/4" = 1'-0"

PARALLEL

5 TYP. ROOF SECTION @ TJI SUPPORT

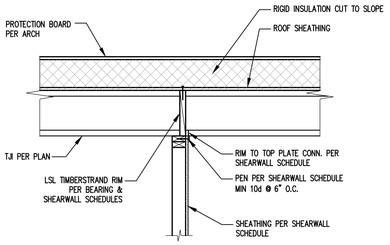


(NON-ACCESSABLE)

SCALE: 3/4" = 1'-0"

PERPENDICULAR

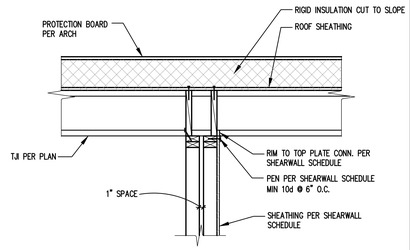
6 TYPICAL EXTERIOR WALL TO FRAMING



SCALE: 3/4" = 1'-0"

PERPENDICULAR

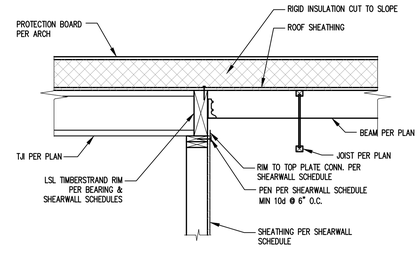
7 TYP. INTERIOR WALL TO FRAMING



SCALE: 3/4" = 1'-0"

PERPENDICULAR

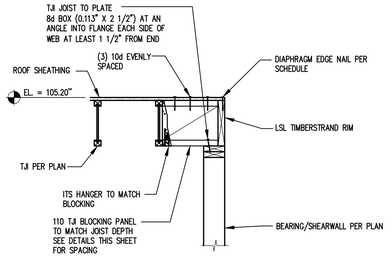
8 TYPICAL PARTY WALL



SCALE: 3/4" = 1'-0"

PERPENDICULAR

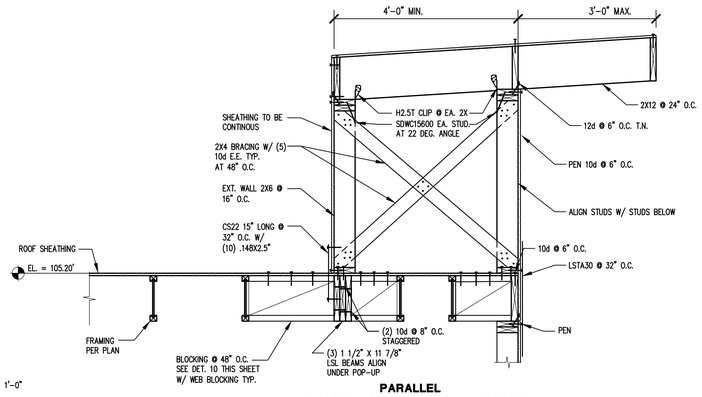
9 TYP. CORRIDOR WALL TO FRAMING



SCALE: 3/4" = 1'-0"

PERPENDICULAR

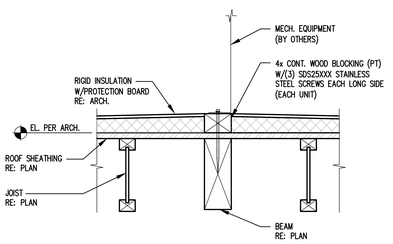
10 TYP. ROOF BLOCKING DETAIL



SCALE: 3/4" = 1'-0"

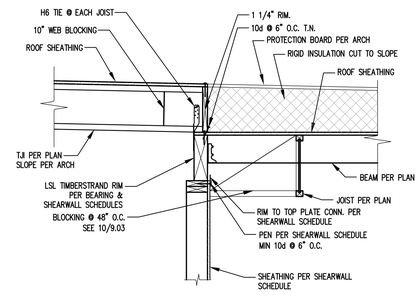
PARALLEL

12 TYPICAL OVERHANG FRAMING



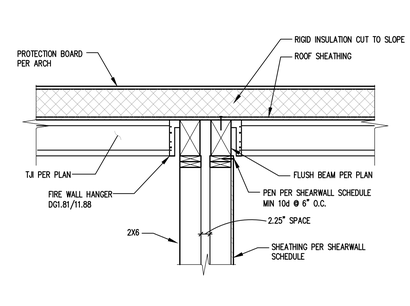
SCALE: 1 1/2" = 1'-0"

13 MECH. EQUIPMENT SUPPORT DETAIL



SCALE: 3/4" = 1'-0"

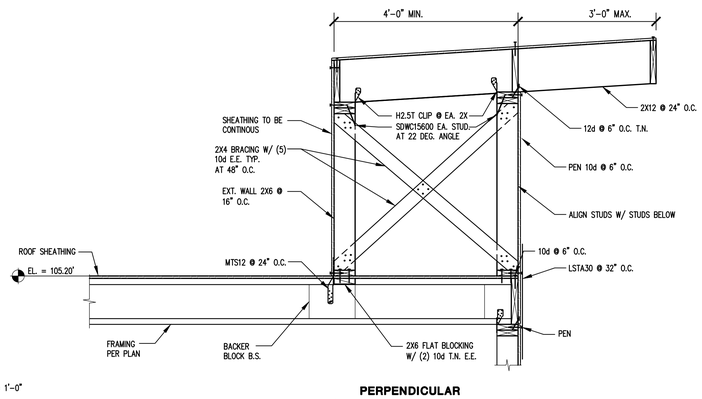
14 SECTION AT DECK ROOF



SCALE: 3/4" = 1'-0"

PERPENDICULAR

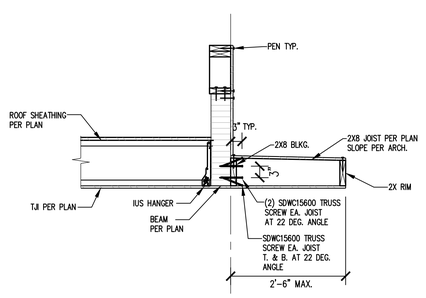
15 TYPICAL FIRE WALL



SCALE: 3/4" = 1'-0"

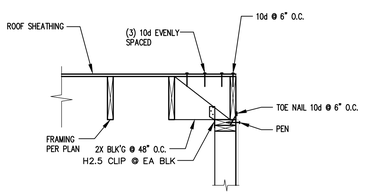
PERPENDICULAR

16 TYPICAL OVERHANG FRAMING



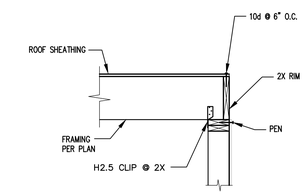
SCALE: 3/4" = 1'-0"

18 SECTION



SCALE: 3/4" = 1'-0"

19 TYPICAL STAIR/ELEVATOR ROOF FRAMING



SCALE: 3/4" = 1'-0"

20 TYPICAL STAIR/ELEVATOR ROOF FRAMING

CT ENGINEERING INC.
Structural Engineers
180 Nickerson Street Suite 302 Seattle, WA 98109
206.285.4512 (V) 206.285.0618 (F)

NO.	REVISION	DATE
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ENGR: SWK | Cad: SWK | PLOT: 02/27/26 | FILE: 19010 S903 | JOB #:

Shelter HOLDINGS

Wood Details

Everett Riverfront
3610 Riverfront Boulevard - Building D
Everett, Washington

S9.03

GENERAL NOTES

I. Introduction

B.E.E. Consulting, LLC (BEE) has created building envelope concept design details for the **Everett Riverfront**. The Building Envelope drawings are intimately related to the materials specified in the project material specifications and building inspection. Details provided by BEE are only for use on the **Everett Riverfront**and are © copyrighted.

Each sheet in this set of Building Envelope drawings, bearing the BEE Titleblock and Logo in the upper right corner, was prepared by BEE and is accounted for in the drawing index on the title page. In its original form, this set was prepared for **Riverfront Commercial Investment, LLC** for a specific project.

The act of submitting for government approval of building permit, a set of drawings bearing the BEE titleblock and logo, which has been altered in any way by **Riverfront Commercial Investment, LLC**, by any third party, or for a project other than that which it was originally prepared by BEE without the prior written consent of BEE shall constitute consent by **Riverfront Commercial Investment, LLC** to defend, indemnify, and hold harmless BEE from and against any and all claims, suits, demands, liabilities, losses, and costs arising in whole or in part out of or in any way connected with the use of the such altered drawings by **Riverfront Commercial Investment, LLC** or any third party.

Such alterations shall include, but shall not be limited to, the addition or removal of individual sheets, the modifications of any graphic or textual information contained within a sheet prepared by BEE. The removal of this statement, and any construction inconsistent with that which has been shown by BEE in its original drawing set.

II. General

A. Water Penetration Resistance Field Testing

For all windows, doors, and skylights a mock setup will be water intrusion tested in field. Mock setup may be created in-situ or be free standing as best suits the needs of the project, provided it allows for the following parameters to be achieved.

At least one (1) window of each operational type will be tested to the Specified Field Test Pressure specified below, in accord with the current version of ASTM E1105. For windows and doors such as aluminum, wood clad aluminum, vinyl, or fiberglass windows and doors, Procedure B (cyclic) test will be used for 4 cycles each 5 minutes in duration, with a pressure reduced to 0 psf for one minute between cycles. For storefront and curtain wall assemblies, Procedure A (Uniform) test will be used for a single cycle of 15 minutes in duration. The initial test will be inclusive of both installation interface and window product. In the case of failure (defined as any water intrusion observed on the interior that is not in a drainage area), the representative sample will be expanded to three (3) specimens in order to obtain statistical confidence. In the case of failure during retest, the representative sample will be expanded to five (5) additional specimens. In the case of a failure during second retest, a meeting will be held with all parties concerned to determine necessary actions. In the case of failure, the responsible party will be held financially liable for the cost of retesting, and any related wall assembly or cladding deconstruction needed to obtain passing results. This test specification supersedes AAMA Voluntary Specification for Field Testing.

Regardless of AAMA deductions for field installed product, the minimum Water Resistance Field Test Pressure (during field test), as determined by the consultant, shall be:

- 6.0 psf for sliding doors
- 6.0 psf for storefronts
- 6.0 psf for swing doors
- 6.0 psf for windows

The above referenced test pressures should be placed on the purchase order prior to ordering the windows or doors.

Doors are to be installed and tested in a similar fashion as windows.

B. Louvers

Louvers through the building envelope shall be designed for exterior use in accord with wind and rain exposure conditions.

C. Sealant Performance Requirements

All sealants shall be validated and approved by the Sealant Waterproofing and Restoration Institute (SWRI).

Sealant and Self Adhesive Membrane (S.A.M.) combinations shall have documentation from the manufacturer that adhesion is acceptable prior to construction.

As part of the quality control procedures, sealant dependant installations require an adhesion test performed on site by the contractor.

D. Laboratory Test Reports

All windows and doors shall be pre-tested by the manufacturer to design conditions.

The associated test records and certifications shall be submitted to project team.

E. Contractor Responsibility

It shall be the specific duty and responsibility of each trade and supplier to examine all project drawings, details and specifications, and to provide and furnish proper equipment, hardware, fixtures, materials, etc., pertaining to their part of the work shown or listed in any part of these documents. Quality control, adverse material reactions, and compliance to industry standard workmanship are the responsibility of the contractor.

Any omissions or contradictions in these documents shall be called to the attention of BEE prior to submitting a bid. Bids received shall be considered to include all items shown and/or specified or scheduled for a complete project. The contractor shall note that the waterproofing details do not always reflect the Architectural details and are intended to supplement the architectural details not replace them.

Installers are to be certified by manufacturer's approved warranty requirements.

F. Material Warranty

Products shall be installed to comply with manufacturer's warranty requirements. All waterproofing material and installation warranties shall be transferable to new building ownership within the warranty's period.

Specified Membrane Roof Systems are designed to receive the 20 year No Dollar Limit (NDL) coverage for the roofing system itself. Warranty coverage apart from this (including, but not limited to overburden, plant establishment, and wind riders) should be considered in the procurement process, with manufacturer confirmation of system eligibility for enhanced coverage at the time of Submittal.

G. Material Submittals/Substitutions

All recommended materials may be exchanged for materials with equal performance specifications. All material substitutions and submittals must be submitted to and approved by the responsible members of the design team. Substitutions and submittals shall include, but are not limited to, product data sheets, intended locations for use, installer certifications as required, sample warranties, testing and or certification data as required.

H. Fasteners

All fasteners, including nuts and washers, in contact with preservative-treated wood shall be of hot-dipped zinc coated galvanized steel or stainless steel.

III. Construction

A. Inspection

Building Envelope inspection shall be performed by BEE Consulting throughout the duration of construction in conformance with RCW 64.55. The frequency of inspection is identified in the contract. Inspections will be performed on site. Inspections will be documented and recorded as deemed necessary by the Project Manager.

B. Dry-in Requirements

Prior to the end of each shift, the structure will be temporarily weather protected using industry recognized standards to prevent damage to existing work in place and the structure.

The General Contractor (GC) shall provide quality assurance procedures, facilitate inspections and coordinate testing and verification to maintain the material standards and enveloping practices as specified herein. This shall also include periodically documenting the moisture content by weight at a minimum of three (3) locations of framing, sheathing and gypsum. Additionally, the temperature and moisture content of concrete slabs shall be monitored and periodically documented to comply with any relative waterproofing installations that are to be conducted. Documented signs of excessive water or humidity are exhibited by, but not limited to:

Interior condensation on window. Warping, staining, or delamination of fiber cement, gypsum or wood based products (i.e. construction products that are absorptive). Organic growth (mold, fungi, mildew). Water intrusion/leaks and or damage.

Roofs need to be installed prior to construction drying and wet substrates/framing shall not be directly covered with roofing or other finish materials. Permanently installed HVAC equipment is not to be used for the purpose of construction drying. Any questions pertaining to the allowable moisture percentage of specific materials shall be referred to the most applicable edition of the building code.

IV. Building Envelope Materials

040900 Masonry Accessories

Vent Cells
Driwall Weep Vents
- Available from Keene Building Envelope Products

WeepVent
- Available from Mortar Net Solutions

Cell Vents
- Available from Mason Pro

071700 Bentonite Waterproofing

A. Bentonite Panel Systems
CETCO System
Note: Compression strength of insulation per CETCO recommendations.
- Available from CETCO

Bentonite Panel:	Voltex DS
Bentonite Mastic:	Bentoseal
Waterstop:	Waterstop RX-101, with WB-Adhesive (3"min. cover) Waterstop RX-102, with WB-Adhesive (2"min. cover)
Foundation Drain Mat:	Aquadrain 15x Aquadrain 100BD (used at base of wall)
Transition Membrane:	Envirosheet

Tremco Triple Waterproofing System (TWS)
- Available from Tremco

Bentonite Panel:	Paraseal LG
Liquid Membrane:	TREMproof 260
Bentonite Mastic:	Paramastic
Waterstop:	Superstop, with WB-Adhesive (3"min. cover)
Foundation Drain Mat:	TREMDrain 1000 TREMDrain Total Drain (Collector for Drain Mat)

B. Mechanical Pipe Seals
Link-Seal Modular Seals
- Available from GPT Industries

C. Protection Board
Note: Per Membrane Manufacturer recommendation.
CCW Protection Boards V (1/4" thick)
- Available from CETCO

GreenGuard PB4 (1/4" thick)
- Available from GreenGuard

071800 Traffic Coatings

Trash Room Membrane
FSS 45DC, w/ Nickel Oxide Granules- 80 mils minimum
- Available from VersaFlex
  a) WBG 250 (Gloss Waterborne Urethane for UV Protection)
     - Available from VersaFlex
  b) WBS 252 (Semi Gloss Waterborne Urethane for UV Protection)
     - Available from VersaFlex

MasterSeal Traffic 2500 Extra Heavy Duty
Note: Use TC295 top coat
- Available from BASF Master Builders Solutions

071900 Water Repellents

Notes: For use at exposed, vertical concrete at exterior building envelope.
All exposed, vertical concrete shall be treated.
All concrete cold joints at exposed concrete require waterstop.

Concrete & Concrete Block/Brick Sealer
Blok-Guard & Graffiti Control II (Silicone Sealer)
Note: - Do not use at post tension grout pockets.
- Two coats required.
- Available from Prosoco

Series 626 Dur a Pell GS
Note: Two coats required.
- Available from Tnemec

072119 Foamed-In-Place Insulation

A. Spray Foam Insulation
Notes: The applied spray foam must be installed by a certified installer.
A copy of the ICC-ES report for the product used must be provided on the job site for field inspector verification.
Spraytite 178 (polyurethane foam insulation)
Note: Minimum 2" thickness for vapor barrier
- Available from BASF

B. Air Barrier Foam
CF 812 (Low-Pressure Filler Foam)
- Available from Hilti

072500 Weather Resistant Barrier (W.R.B.)

A. Primary W.R.B./W.R.B. Liner
Note: Fastening of W.R.B. products to be per manufacturer recommendations.
WrapShield IT Integrated Tape
- Available from VaproShield

B. Primary W.R.B. SA/W.R.B. SA Liner
WrapShield SA Self-Adhered (W.R.B. SA)
Note: Primary W.R.B. at Steel and Concrete
- Available from VaproShield

C. Liquid Applied Flashing
VaproLiqui-Flash
- Available from VaproShield

D. W.R.B. Accessories
Screw Head Caps
VaproCaps
- Available from VaproShield

Quickflash Device
Quickflash Device
Note: Use @ Electrical Boxes & Pipe Penetrations
- Available from Quickflash Weatherproofing Products

Sill Pans
Note: 5/8" min. upstand, extending 1/2" min. above bottom edge of Window.
  a) **L-Angle**
     Note: For use with SAM and/or Liquid applied sill pans.
     If window is fastened to L-angle then confirm with window manufacturer for guage and fastening requirements.
     1/8" Anodized Aluminum L-angle
     22ga L-angle
  b) **Metal Sill Pan**
     24ga Sheet Metal Sill Pan
     Note: Sill Pan to be galvanized or bonderized and fully soldered.

Preformed Corners
Moistop Corner Shield
- Available from Henry Company

Shims
1/8" Plastic Horseshoe Shims
- Available from Atlas Supply

1/8" Grove Structural Shims
- Available from Grove Products

1/4" VaproShims SA
Note: Used behind Horizontal Furring
- Available from VaproShield

E. Furring Systems
Notes: Furring of all material types to be minimum of 3/4" deep & maintain 1/2" gaps at butt joints, floor plate level, and sill flanges.
All rainscreen cavities shall have approved closure accessories to prevent debris & insect entry.

Pressure Treated Wood 1x4

Metal Hat Channel

Perforated Horizontal Hat Channel
Note: SA shims required for Rainscreen drainage.

Metal Z-Girt

072600 Vapor Barriers/Retarders

A. LFG Membrane
Note: LFG membrane per environmental consultant (See sheet LFG1B3)

B. Interior Vapor Retarder
PVA Primer
Note: For non-vented roof, do not apply PVA Primer to the ceiling at roof level.

074600 Siding

Note: All rainscreen cavities need to have approved closure accessories to prevent debris & insect entry.
Fiber Cement Siding
Brick Veneer
Metal Panel Siding
Metal Standing Seam Siding
Exposed Concrete

075000 Roofing Membrane

Notes: All roofing shall slope positively to a drain with at least ¼" per linear foot slope. No water ponding is admissible.
All applicators must be approved by manufacturer.

A. Roofing Membrane
Firestone UltraPly TPO SA
Note: 12' wide, fully adhered, 60 mil minimum
- Available from Firestone

Sure-Weld TPO Membrane
Note: 12' wide, fully adhered, 60 mil minimum
- Available from Carlisle Syntec

B. Liquid Applied Roofing
Note: Use to detail curbs & penetrations.
LIQUISEAL Liquid Flashing
Note: For use with Carlisle Roofing Systems.
- Available from Carlisle Syntec

C. Roof Vapor Barrier
Note: Self-Adhesive Vapor Barrier per roofing manufacturer recommendation. Seal vapor barrier at all transitions and laps per manufacturer recommendation.

D. Protection Board
Note: Per Roofing Membrane Manufacturer recommendation.
CCW Protection Boards V (1/4" thick)
- Available from CETCO

GreenGuard PB4 (1/4" thick)
- Available from GreenGuard

E. Roofing Accessories

Sill Pans
Note: 5/8" min. upstand, extending 1/2" min. above bottom edge of Window.
To be roofing membrane coated per roofing manufacturer recommendation.

Roofing Membrane Coated Sill Pan
24ga Roofing Membrane Coated Sheet Metal Sill Pan

Roofing Membrane Coated Flashings
24ga Roofing Membrane Coated Metal Flashings

Rigid Insulation
Polyiso Insulation per mfr.

076200 Sheet Metal Flashing and Trim

Flashings
Note: All Saddle Flashings and Sill Pans shall be fully soldered.
22ga Sheet Metal Coping, w/ Standing Seams
24ga Sheet Metal Head Flashings, w/ End Dams
24ga Sheet Metal Saddle Flashings
24ga Sheet Metal Through Wall Flashing, w/ 4" Bayonet Seams & End Dams
Note: Through Wall Flashings are required at every other floor & at each floor exceeding twenty feet.

076500 Self-Adhesive Membrane (S.A.M.)

Notes: All Self-Adhered Membrane (S.A.M.) types to be roller applied.
Prime substrates per manufacturer recommendation prior to installing SA.M.
Confirm compatibility between S.A.M. and other envelope products with manufacturer warranties.
Use approved primer when adhering to Concrete, Exterior Gypsum and Wood.

A. S.A.M. 1
Jiffy Seal BUTYL Ice & Water Guard HT
- Available from Protecto Wrap Company

Perm-A-Barrier Wall Flashing
- Available from GCP Applied Technologies

B. S.A.M. 2
3" VaproTape UV Black
- Available from VaproShield

C. S.A.M. Foil Faced
Protecto Seal 45 Butyl
- Available from Protecto Wrap Company

D. S.A.M. HT - High Temperature
Grace Ultra
Note: Not for use in conjunction with PVC materials.
- Available from GCP Applied Technologies

Jiffy Seal BUTYL Ice & Water Guard HT
- Available from Protecto Wrap Company

E. S.A.M. TWF
Textroflash Flashing
- Available from Hohmann & Barnard

079000 Joint Protection

A. Compressive Foam
Backerseal
- Available from Emseal

B. Neoprene Pad
TEX-NEO60
Note: 60 Duro Neoprene Sheet
- Available by Texcel

079200 Joint Sealants

A. Sealant 1
MasterSeal NP 150
- Available from BASF Master Builders Solutions

B. Sealant 2
Dowsil 758 Silicone
- Available from Dow Chemical Company

Pecora AVB Silicone
- Available from Pecora Corporation

C. Sealant 4
Dowsil 795 Silicone
- Available from Dow Chemical Company

Pecora 895 NST Silicone
- Available from Pecora Corporation

D. Sealant 5
Dowsil 758 Silicone
- Available from Dow Chemical Company

Pecora AV8 Silicone
- Available from Pecora Corporation

E. Sealant 6
Sikaflex-2c SL
- Available from Sika

F. Sealant 7
SikaLastomer-511
- Available from Sika Corporation

BA-98
- Available from Pecora Corporation

081000 Doors and Frames

Flanged Thermally Broken Hollow Metal Doors
Note: Provide with welded flange.
Weather stripping/sweeps required at all exterior doors and door separating conditioned and unconditioned space.
- Available from Ceco Door

TBD

085000 Windows

A. Flanged:
TBD

B. Storefronts
TBD

089000 Louvers and Vents

24ga Metal Vents

220000 Plumbing

Note: Drains used shall be warrantable with Waterproofing System

Drains
Thunderbird Flanged Drain
- Available from Thunderbird Products

Zurn Cast Iron Floor Drain
- Available from Zurn Engineered Water Solutions

260000 Electrical

Conduit
Water-tight PVC Coated Flexible Metallic Conduit YF-707
- Available from Delikon

EVERETT
RIVERFRONT
BUILDING D

3610 Riverfront Blvd
Everett, WA 98203

BEE ENGINEERS
170 W DAYTON ST, SUITE 206
EDMONDS, WA 98020
PH: 425 672-3900
FAX: 425 712-8608

PERMIT SET

10/17/2024

KEY PLAN

JAMES C. FREELING, ENGINEER

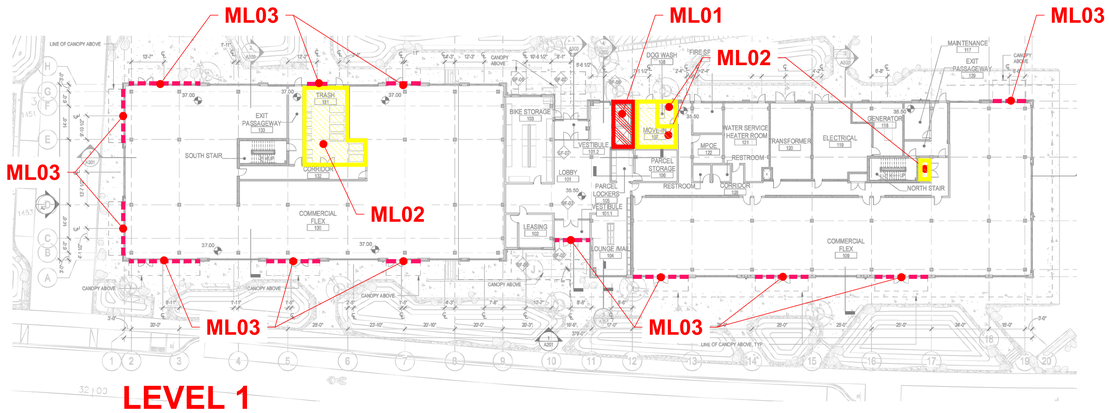
THE UNDERSIGNED HAS PROVIDED BUILDING ENCLOSURE DOCUMENTS THAT IN MY PROFESSIONAL JUDGMENT ARE APPROPRIATE TO SATISFY THE REQUIREMENTS OF RCW 64.55.005 THROUGH 64.55.090.*

△	DATE	DESCRIPTION
1	11/04/22	PERMIT CORRECTIONS 01
2	06/14/24	PERMIT CORRECTIONS 02
3	10/17/24	PERMIT CORRECTIONS 03

1903-1005
PM: DENIN DAZEY
DD: ERIC JONES
10/17/24

NOTES &
SPECIFICATIONS

BE000



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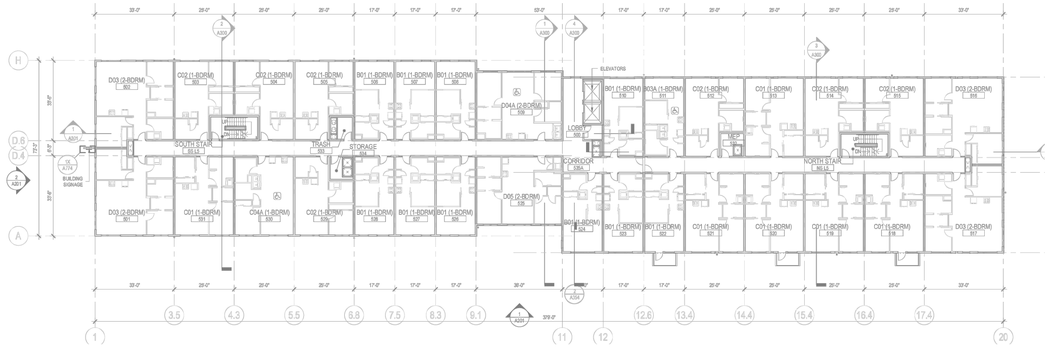

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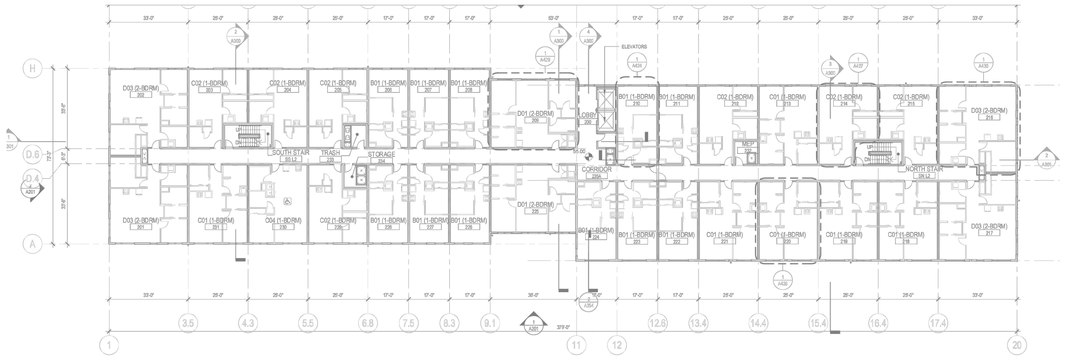

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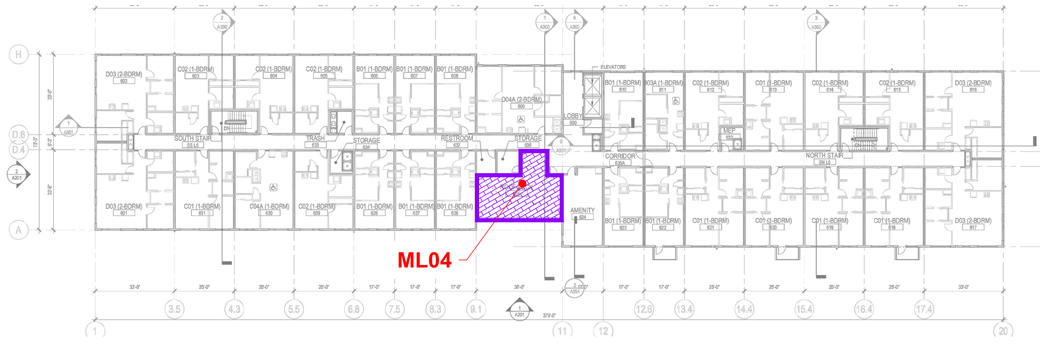

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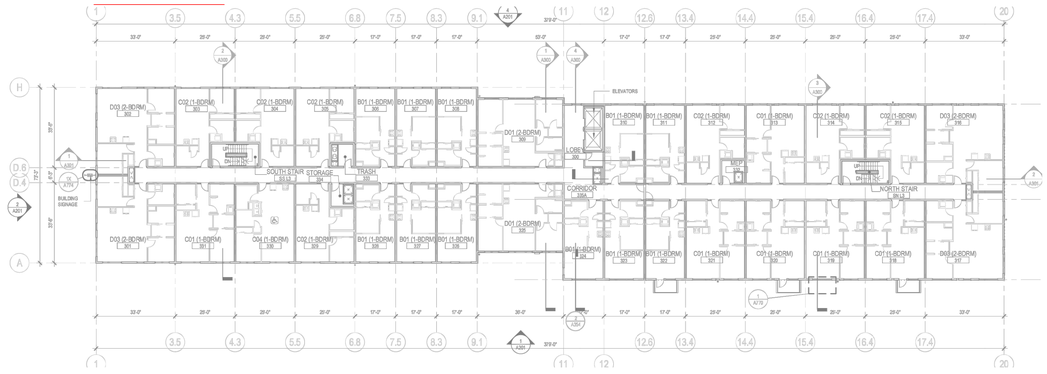

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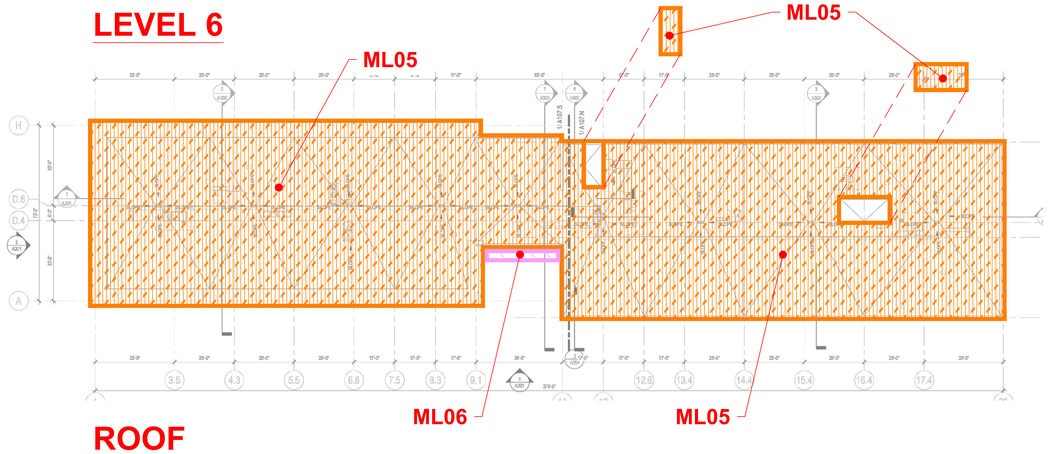
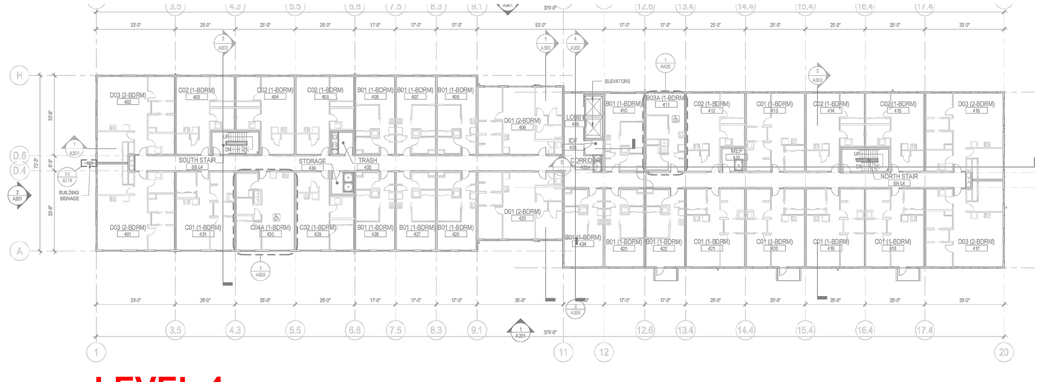


ROOF



LEVEL 4

MATERIAL LOCATION KEY

ML01		BENTONITE PANEL SYSTEM
ML02		TRASH ROOM MEMBRANE
ML03		KNIFEPLATE ATTACHMENTS
ML04		PROTECTED ROOFING MEMBRANE w/ PROTECTION BOARD AT PAVERS
ML05		ROOFING MEMBRANE
ML06		METAL ROOFING PER ARCH.

PLAN VIEWS WERE TAKEN FROM ARCHITECTURAL SET DATED 05.20.2024, THEY ARE DIAGRAMMATIC AND SHOULD NOT BE USED FOR MATERIAL TAKE-OFFS. FINAL BUILDING PLANS SHOULD BE VERIFIED.

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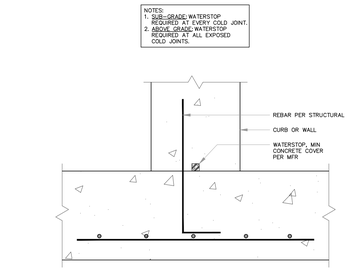
10/17/24

MATERIAL LOCATION DIAGRAMS

BE001



1 BE100 SECTION: TYPICAL CONCRETE COLD JOINT

SCALE: NTS

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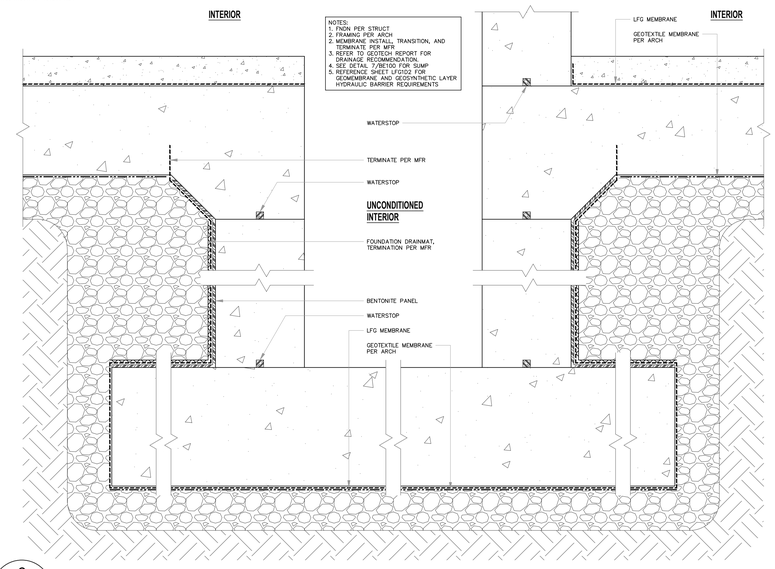

6 BE100 SECTION: ELEVATOR PIT

SCALE: NTS

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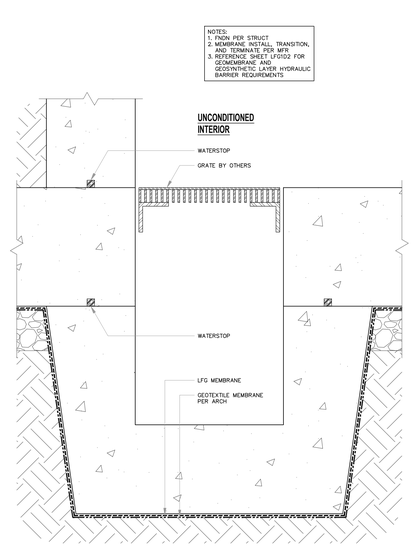

7 BE100 SECTION: ELEVATOR PIT SUMP

SCALE: NTS

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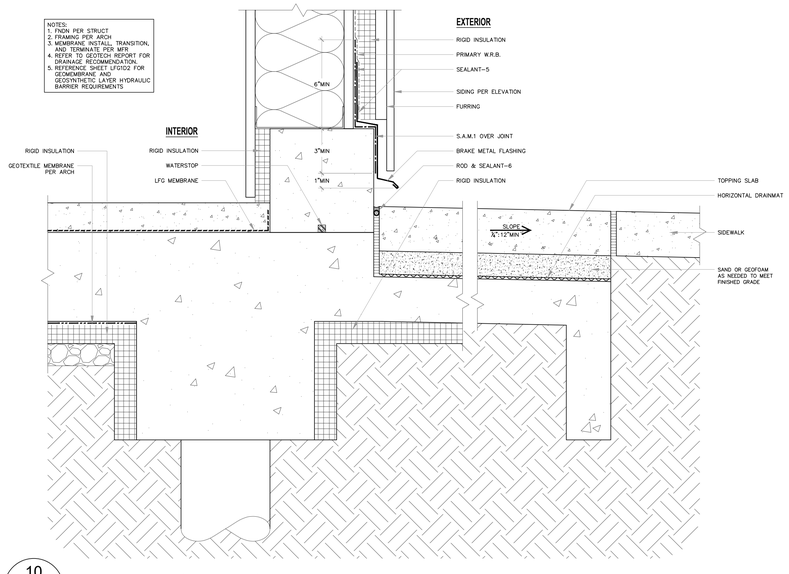

10 BE100 SECTION: APRON SLAB AT BASE OF WALL & SIDEWALK

SCALE: NTS

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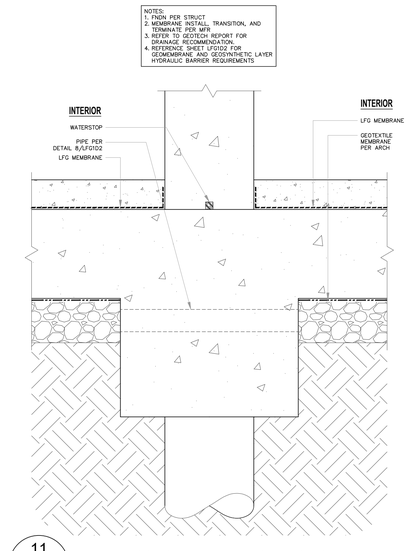

11 BE100 SECTION: CONCRETE WALL TO FLOOR SLAB

SCALE: NTS

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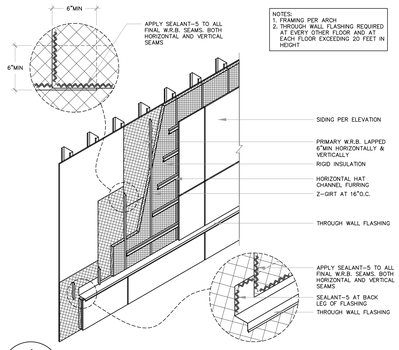
BELOW GRADE DETAILS

BE100



1 BE200 WALL ASSEMBLY: METAL FRAMING w/ RIGID INSULATION & FIBER CEMENT SIDING

SCALE: NTS

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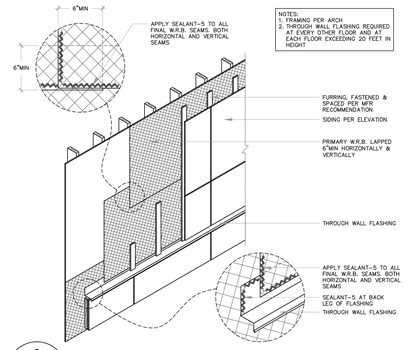

2 BE200 WALL ASSEMBLY: FIBER CEMENT SIDING

SCALE: NTS

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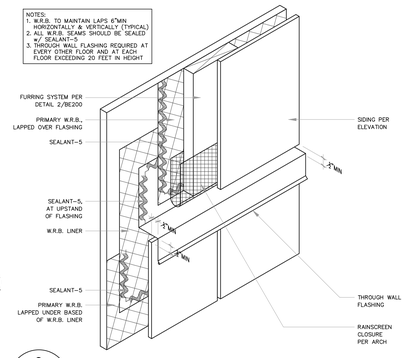

3 BE200 ASSEMBLY: THROUGH WALL FLASHING w/ FIBER CEMENT SIDING

SCALE: NTS

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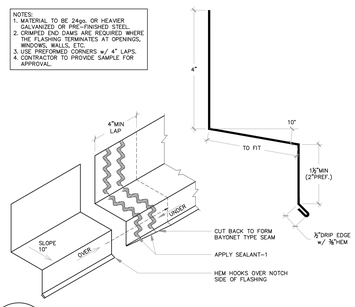

4 BE200 PROFILE: THROUGH WALL FLASHING

SCALE: NTS

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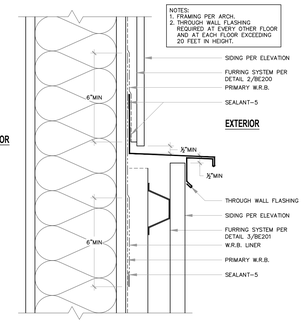

5 BE200 SECTION: THROUGH WALL FLASHING w/ FIBER CEMENT PANEL AT OVERFRAME

SCALE: NTS

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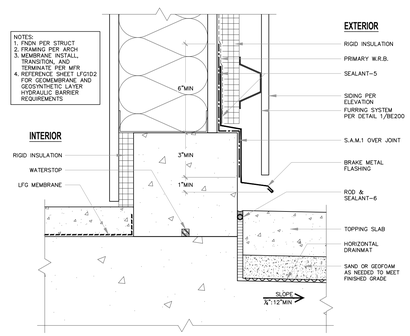

6 BE200 SECTION: BASE OF WALL AT SIDEWALK w/ FIBER CEMENT PANEL

SCALE: NTS

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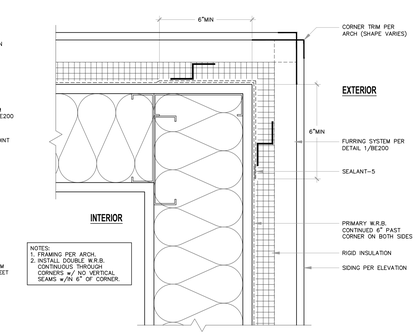

7 BE200 PLAN: OUTSIDE CORNER w/ FIBER CEMENT PANEL & RIGID INSULATION

SCALE: NTS

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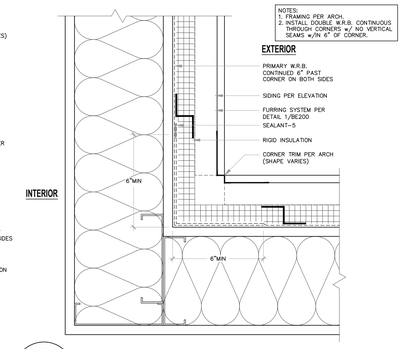

8 BE200 PLAN: INSIDE CORNER w/ FIBER CEMENT PANEL & RIGID INSULATION

SCALE: NTS

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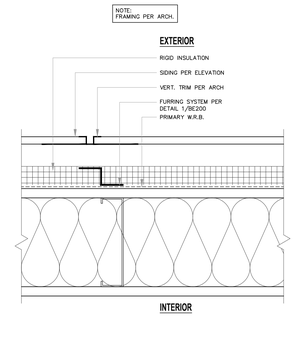

9 BE200 PLAN: VERTICAL JOINT TRIM AT FIBER CEMENT PANEL w/ RIGID INSULATION

SCALE: NTS

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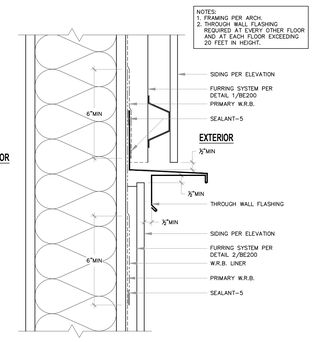

10 BE200 SECTION: THROUGH WALL FLASHING w/ FIBER CEMENT PANEL AT OVERFRAME

SCALE: NTS

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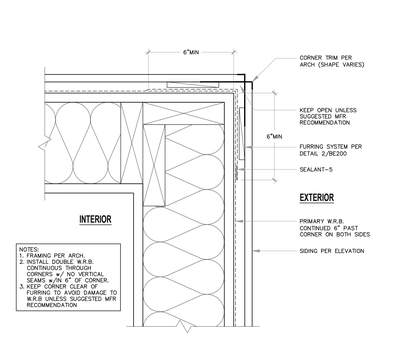

11 BE200 PLAN: OUTSIDE CORNER w/ FIBER CEMENT PANEL

SCALE: NTS

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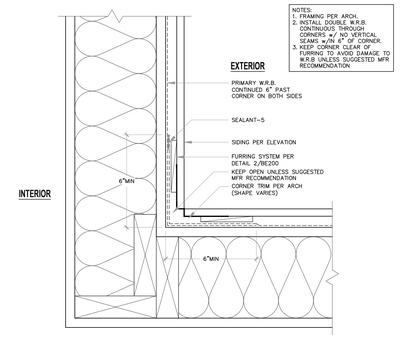

12 BE200 PLAN: INSIDE CORNER w/ FIBER CEMENT PANEL

SCALE: NTS

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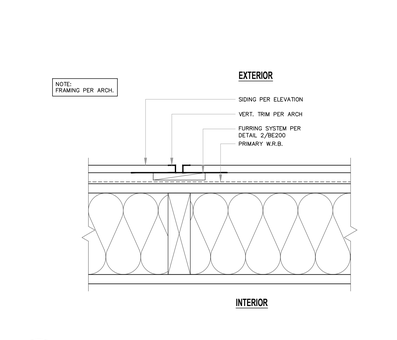
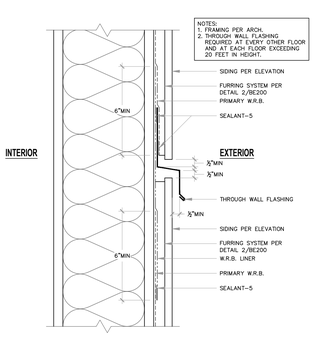


13 BE200 PLAN: VERTICAL JOINT TRIM AT FIBER CEMENT PANEL

SCALE: NTS

© COPYRIGHT BEE CONSULTING



14 BE200 SECTION: THROUGH WALL FLASHING w/ FIBER CEMENT PANEL

SCALE: NTS

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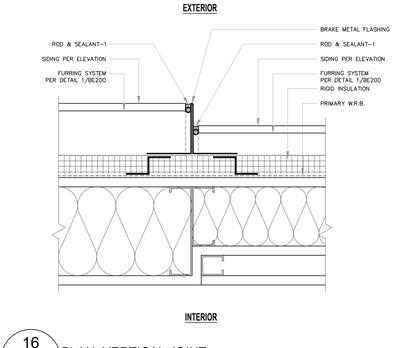

16 BE200 PLAN: VERTICAL JOINT AT OVERFRAME TRANSITION

SCALE: NTS

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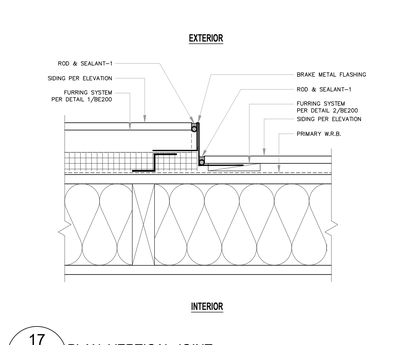

17 BE200 PLAN: VERTICAL JOINT AT OVERFRAME TERMINATION

SCALE: NTS

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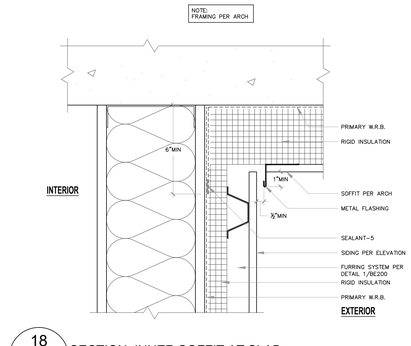

18 BE501 SECTION: INNER SOFFIT AT SLAB

SCALE: NTS

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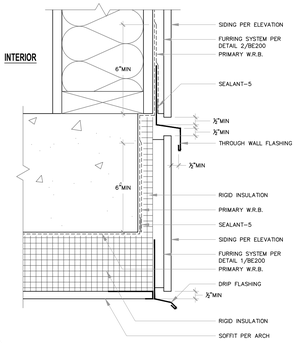

19 BE200 SECTION: SLAB EDGE w/ FIBER CEMENT PANEL AT SOFFIT

SCALE: NTS

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1903-1005
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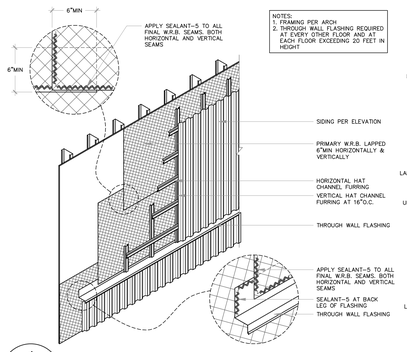
DD: ERIC JONES
10/17/24

WALL DETAILS

BE200



NOTES:
1. FRAMING PER ARCH
2. THROUGH WALL FLASHING REQUIRED AT EVERY OTHER FLOOR AND AT EACH FLOOR EXCEEDING 20 FEET IN HEIGHT

1 BE201 WALL ASSEMBLY: VERTICAL METAL PANEL

SCALE: NTS

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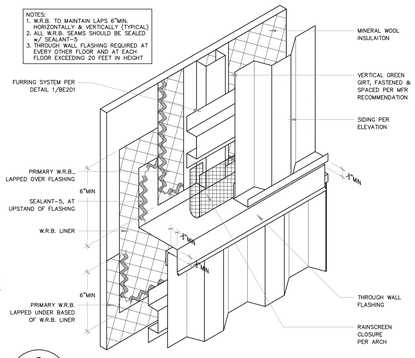

NOTES:
1. W.R.B. TO MAINTAIN LAPS 6"MIN. HORIZONTALLY & VERTICALLY (TYPICAL)
2. ALL W.R.B. SEAMS SHOULD BE SEALED w/ SEALANT-5
3. THROUGH WALL FLASHING REQUIRED AT EVERY OTHER FLOOR AND AT EACH FLOOR EXCEEDING 20 FEET IN HEIGHT

2 BE201 ASSEMBLY: THROUGH WALL FLASHING AT VERTICAL METAL PANEL

SCALE: NTS

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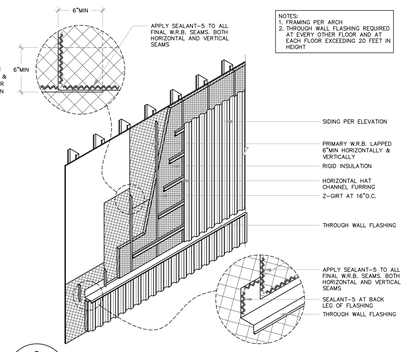

NOTES:
1. FRAMING PER ARCH
2. THROUGH WALL FLASHING REQUIRED AT EVERY OTHER FLOOR AND AT EACH FLOOR EXCEEDING 20 FEET IN HEIGHT

3 BE201 WALL ASSEMBLY: METAL FRAMING w/ RIGID INSULATION & VERTICAL METAL PANEL

SCALE: NTS

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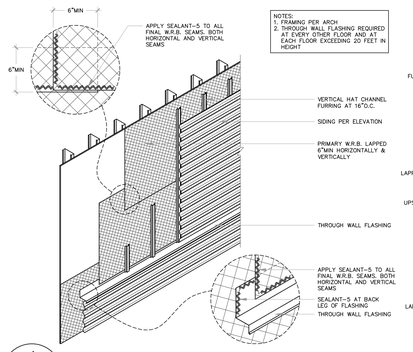

NOTES:
1. FRAMING PER ARCH
2. THROUGH WALL FLASHING REQUIRED AT EVERY OTHER FLOOR AND AT EACH FLOOR EXCEEDING 20 FEET IN HEIGHT

4 BE201 WALL ASSEMBLY: HORIZONTAL METAL PANEL

SCALE: NTS

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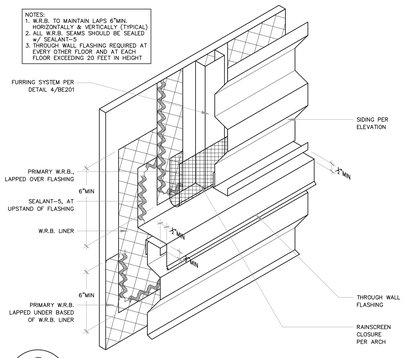

NOTES:
1. W.R.B. TO MAINTAIN LAPS 6"MIN. HORIZONTALLY & VERTICALLY (TYPICAL)
2. ALL W.R.B. SEAMS SHOULD BE SEALED w/ SEALANT-5
3. THROUGH WALL FLASHING REQUIRED AT EVERY OTHER FLOOR AND AT EACH FLOOR EXCEEDING 20 FEET IN HEIGHT

5 BE201 ASSEMBLY: THROUGH WALL FLASHING w/ HORIZONTAL METAL PANEL

SCALE: NTS

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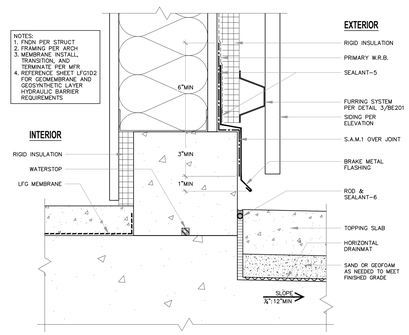

NOTES:
1. FNDN PER STRUCT
2. FRAMING PER ARCH
3. MEMBRANE INSTALL. TO BE FULLY TERMINATED PER MFR
4. REFERENCE SHEET LFC102 FOR GEOMEMBRANE AND GEOSYNTHETIC LAYER HYDRAULIC BARRIER REQUIREMENTS

6 BE201 SECTION: BASE OF WALL AT SIDEWALK w/ VERTICAL METAL PANEL

SCALE: NTS

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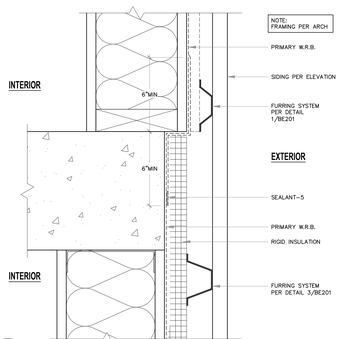

NOTE:
FRAMING PER ARCH

7 BE201 SECTION: SLAB EDGE w/ VERTICAL METAL PANEL

SCALE: NTS

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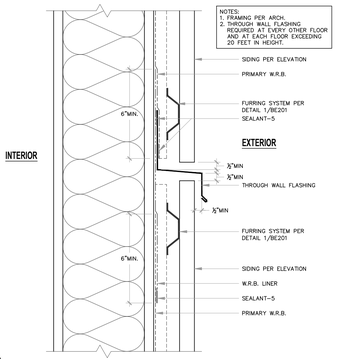

NOTES:
1. FRAMING PER ARCH.
2. THROUGH WALL FLASHING REQUIRED AT EVERY OTHER FLOOR AND AT EACH FLOOR EXCEEDING 20 FEET IN HEIGHT.

8 BE201 SECTION: THROUGH WALL FLASHING AT VERTICAL METAL PANEL

SCALE: NTS

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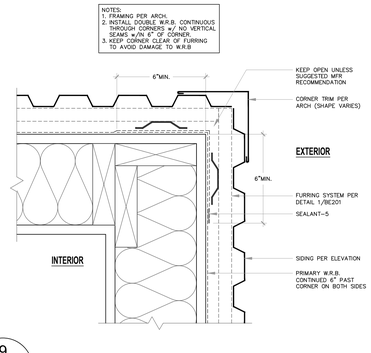

NOTES:
1. FRAMING PER ARCH.
2. INSTALL DOUBLE W.R.B. CONTINUOUS THROUGH CORNERS w/ NO VERTICAL SEAMS w/IN 6" OF CORNER.
3. KEEP CORNER CLEAR OF FURRING TO AVOID DAMAGE TO W.R.B

9 BE201 PLAN: TYPICAL OUTSIDE CORNER w/ METAL PANEL

SCALE: NTS

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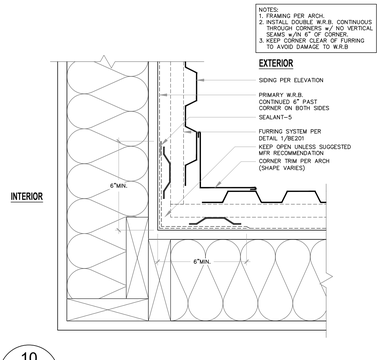

NOTES:
1. FRAMING PER ARCH.
2. INSTALL DOUBLE W.R.B. CONTINUOUS THROUGH CORNERS w/ NO VERTICAL SEAMS w/IN 6" OF CORNER.
3. KEEP CORNER CLEAR OF FURRING TO AVOID DAMAGE TO W.R.B

10 BE201 PLAN: TYPICAL INSIDE CORNER w/ METAL PANEL

SCALE: NTS

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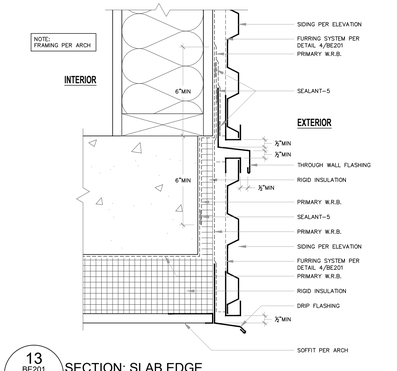

13 BE201 SECTION: SLAB EDGE w/ HORIZONTAL METAL PANEL AT SOFFIT

SCALE: NTS

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PERMIT SET

10/17/2024

KEY PLAN

JAMES C. FREELING, ENGINEER

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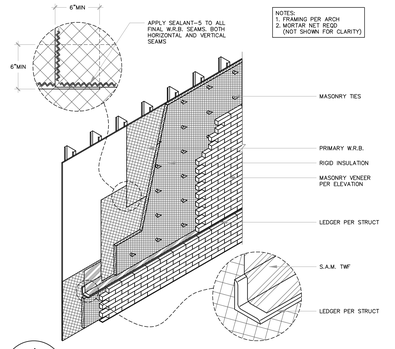
3	10/17/24	PERMIT CORRECTIONS 03

1903-1005
PM: DENIN DAZEY
DD: ERIC JONES
10/17/24

WALL DETAILS

BE201



1 BE202 WALL ASSEMBLY: BRICK VENEER

SCALE: NTS

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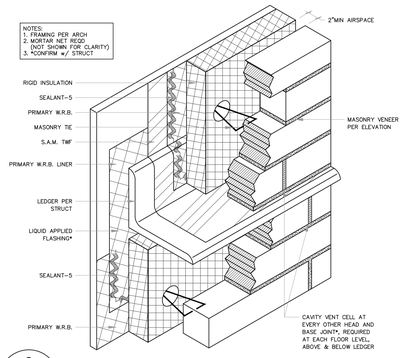

2 BE202 ASSEMBLY: THROUGH WALL FLASHING w/ PANEL SIDING

SCALE: NTS

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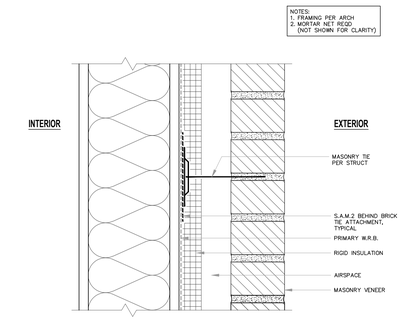

6 BE202 SECTION: MASONRY TIE

SCALE: NTS

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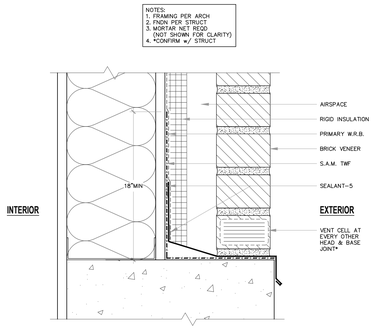

7 BE202 SECTION: BASE OF WALL AT GRADE w/ MASONRY VENEER

SCALE: NTS

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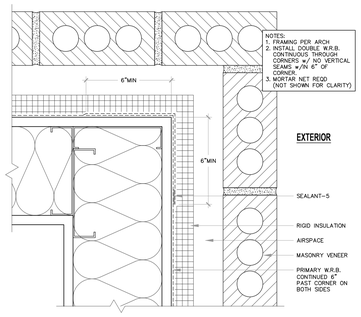

8 BE202 PLAN: OUTSIDE CORNER AT BRICK

SCALE: NTS

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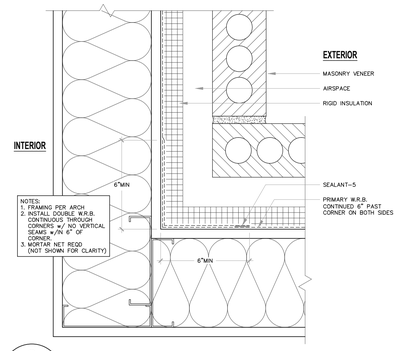

9 BE202 PLAN: INSIDE CORNER AT BRICK

SCALE: NTS

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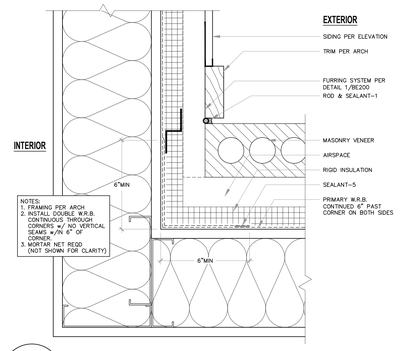

10 BE202 PLAN: INSIDE CORNER AT BRICK

SCALE: NTS

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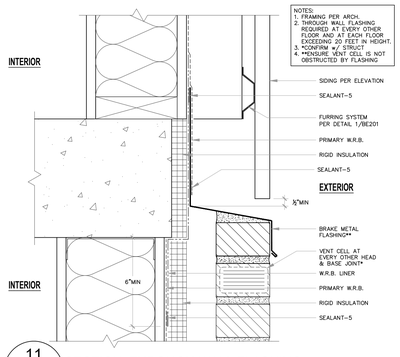

11 BE202 SECTION: THROUGH WALL FLASHING AT OVERFRAME w/ VERTICAL METAL PANEL & BRICK VENEER

SCALE: NTS

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PERMIT SET

10/17/2024

KEY PLAN

JAMES C. FREELING, ENGINEER

JAMES C. FREELING STATE OF WASHINGTON 16758 REGISTERED PROFESSIONAL ENGINEER

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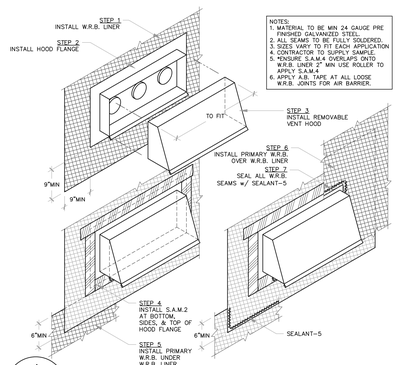
1903-1005
PM: DENIN DAZEY
DD: ERIC JONES
10/17/24

WALL DETAILS

BE202



1 BE300 ASSEMBLY: REMOVABLE GANGED HOOD VENT

SCALE: NTS

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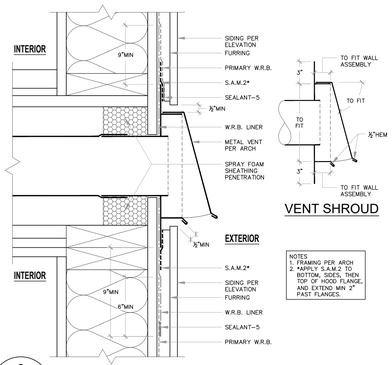

2 BE300 SECTION: REMOVABLE HOOD VENT

SCALE: NTS

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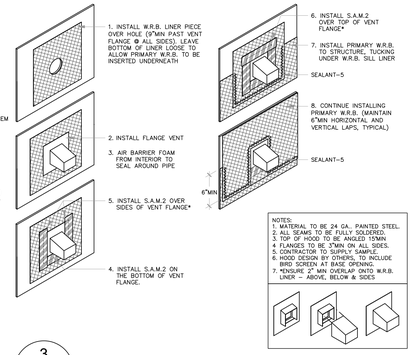
VENT SHROUD

NOTES
1. FRAMING PER ARCH
2. APPLY S.A.M.2 TO BOTTOM, SIDES, THEN TOP OF HOOD FLANGE, AND EXTEND MIN 2" PAST FLANGES.



3 BE300 ASSEMBLY: METAL AIR VENT

SCALE: NTS

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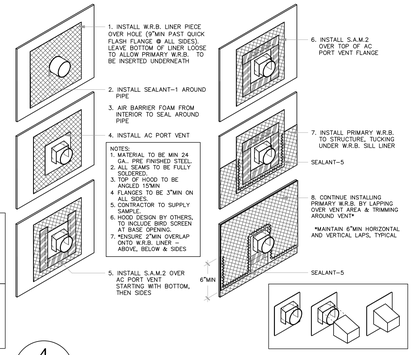

4 BE300 ASSEMBLY: AC PORT PENETRATION

SCALE: NTS

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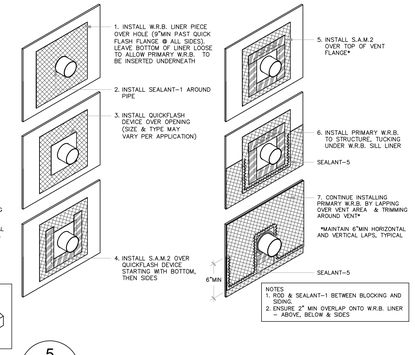

5 BE300 ASSEMBLY: 3"-8" PIPE PENETRATION

SCALE: NTS

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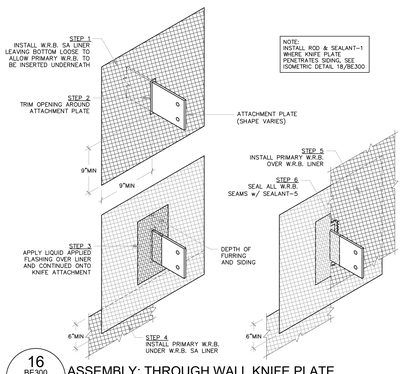

6 BE300 ASSEMBLY: CONDUIT PIPE PENETRATION

SCALE: NTS

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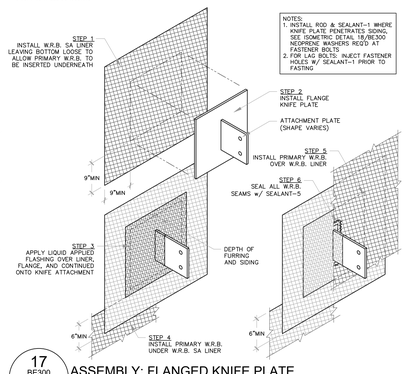

7 BE300 ASSEMBLY: TYPICAL HOSE BIBB

SCALE: NTS

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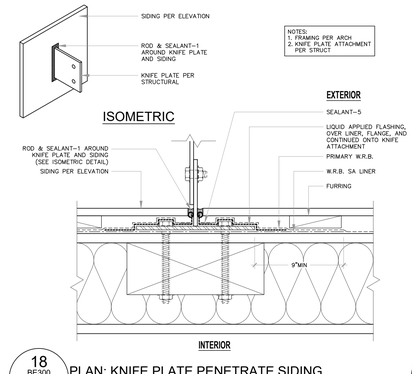

8 BE300 ASSEMBLY: RAILING ATTACHMENT

SCALE: NTS

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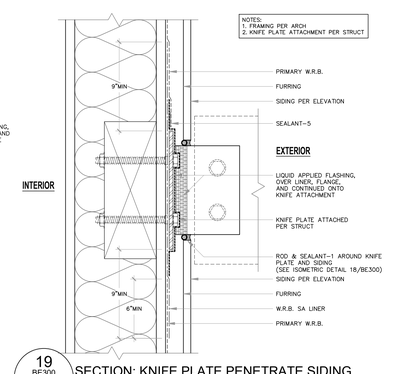

9 BE300 ASSEMBLY: ELECT. WALL OUTLETS (ALARM PULL SIMILAR)

SCALE: NTS

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10 BE300 ASSEMBLY: ELECTRICAL WALL MOUNTED LIGHT

SCALE: NTS

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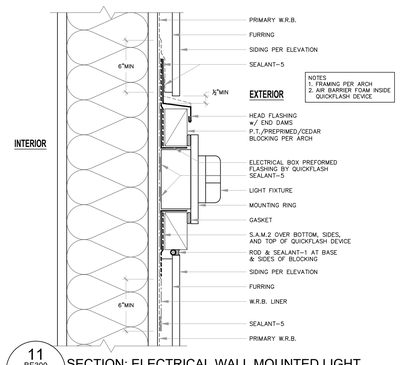

11 BE300 SECTION: ELECTRICAL WALL MOUNTED LIGHT

SCALE: NTS

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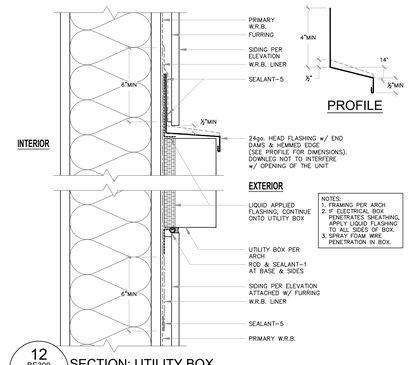

12 BE300 SECTION: UTILITY BOX

SCALE: NTS

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16 BE300 ASSEMBLY: THROUGH WALL KNIFE PLATE

SCALE: NTS

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17 BE300 ASSEMBLY: FLANGED KNIFE PLATE

SCALE: NTS

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18 BE300 PLAN: KNIFE PLATE PENETRATE SIDING

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19 BE300 SECTION: KNIFE PLATE PENETRATE SIDING

SCALE: NTS

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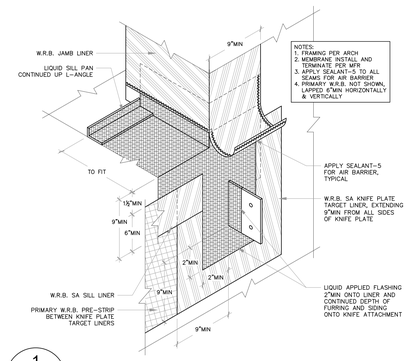
10/17/24

PENETRATION DETAILS

BE300



1 BE400 ISOMETRIC: KNIFE PLATES AT DOOR SILL & JAMB

SCALE: NTS

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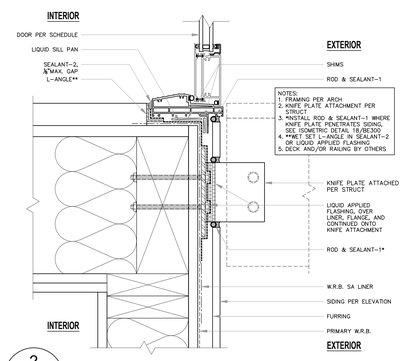

2 BE400 SECTION: SWING DOOR SILL AT KNIFE PLATE

SCALE: NTS

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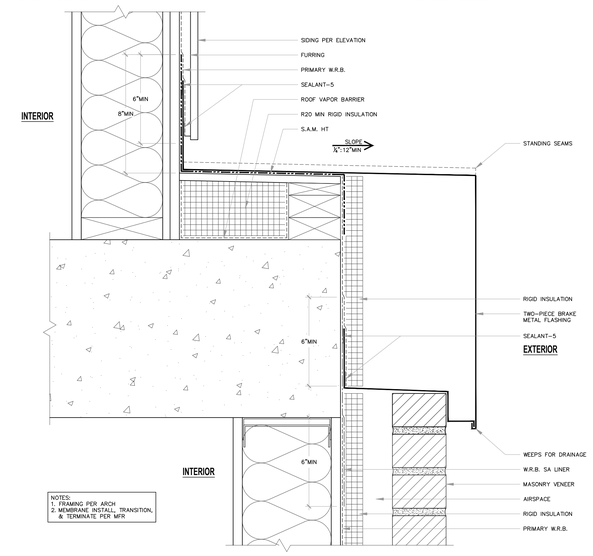

11 BE400 REF ARCH 9/A753 SECTION: SIDING TRANSITION TO MASONRY VENEER AT SLAB EDGE

SCALE: NTS

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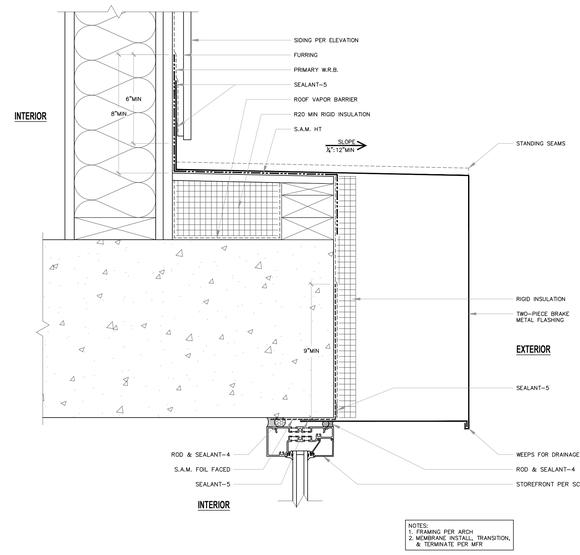

11 BE400 REF ARCH 3/A753 SECTION: SIDING TRANSITION TO STOREFRONT HEAD AT SLAB EDGE

SCALE: NTS

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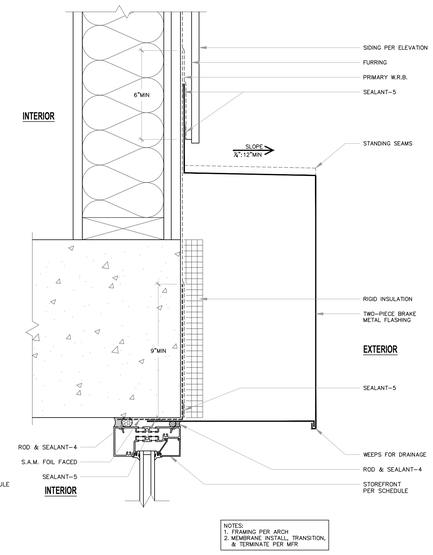

11 BE400 REF ARCH 5/A753 SECTION: SIDING TRANSITION TO STOREFRONT HEAD AT SLAB EDGE

SCALE: NTS

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1903-1005
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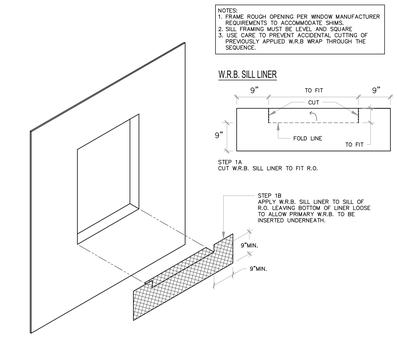
DD: ERIC JONES
10/17/24

DECK & ABOVE GRADE DETAILS

BE400



1.01 BE500 FLANGE WINDOW INSTALL
STEP 1

SCALE: NTS
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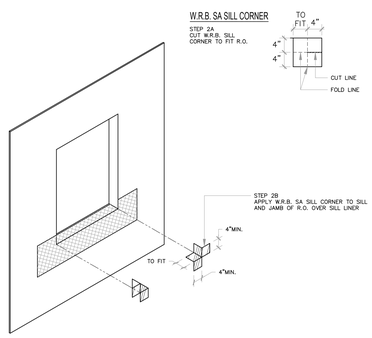

1.02 BE500 FLANGE WINDOW INSTALL
STEP 2

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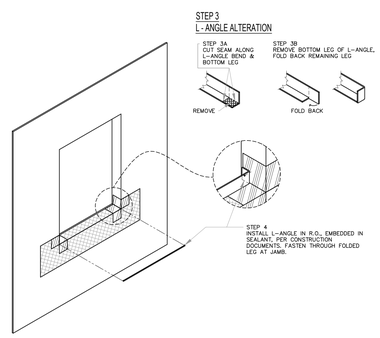

1.03 BE500 FLANGE WINDOW INSTALL
STEPS 3 & 4

SCALE: NTS
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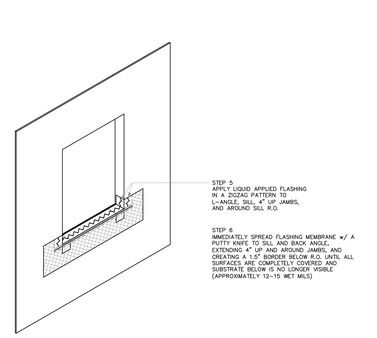

1.04 BE500 FLANGE WINDOW INSTALL
STEPS 5 & 6

SCALE: NTS
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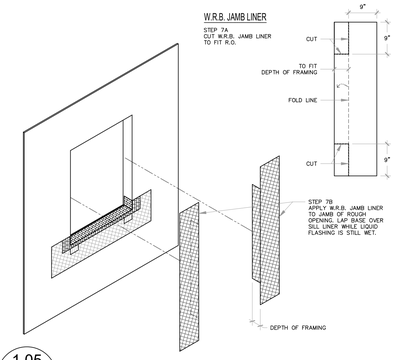

1.05 BE500 FLANGE WINDOW INSTALL
STEP 7

SCALE: NTS
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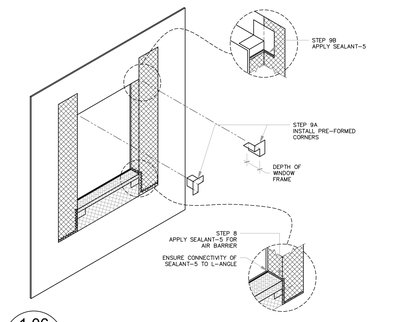

1.06 BE500 FLANGE WINDOW INSTALL
STEPS 8 & 9

SCALE: NTS
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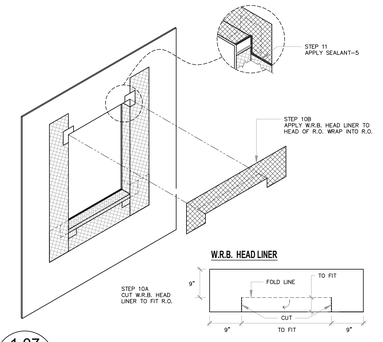

1.07 BE500 FLANGE WINDOW INSTALL
STEPS 10 & 11

SCALE: NTS
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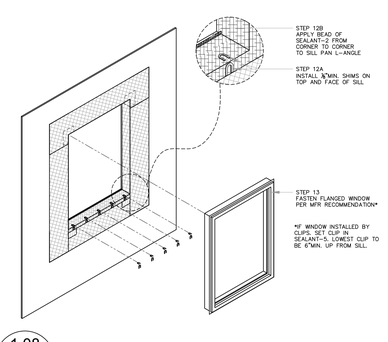

1.08 BE500 FLANGE WINDOW INSTALL
STEPS 12 & 13

SCALE: NTS
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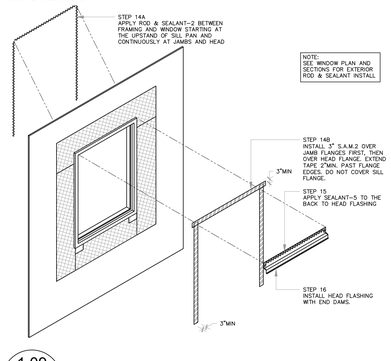

1.09 BE500 FLANGE WINDOW INSTALL w/ HEAD FLASHING
STEPS 14, 15, & 16

SCALE: NTS
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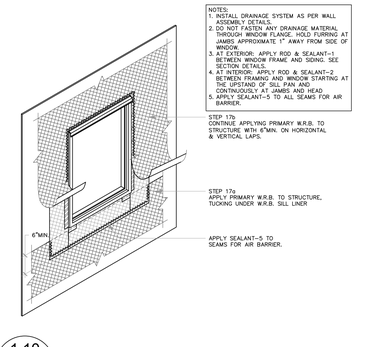

1.10 BE500 FLANGE WINDOW INSTALL w/ HEAD FLASHING
STEP 17

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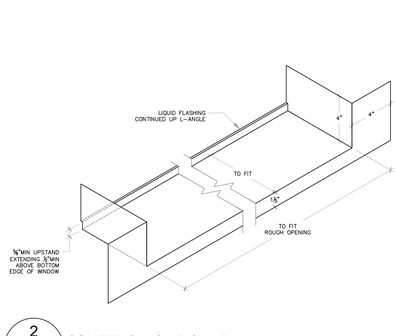

2 BE500 ISOMETRIC: LIQUID SILL PAN

SCALE: NTS
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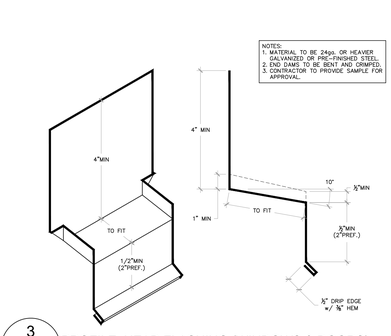

3 BE500 PROFILE: HEAD FLASHING (WINDOWS & DOORS)

SCALE: NTS
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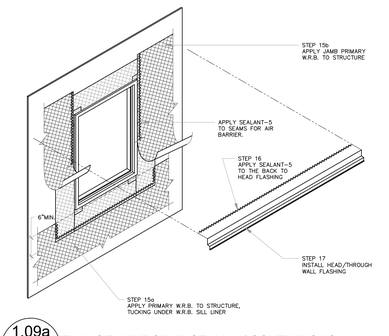

1.09a BE500 FLANGE WINDOW INSTALL w/ CONTINUOUS THROUGH WALL FLASHING STEPS 15, 16, & 17

SCALE: NTS
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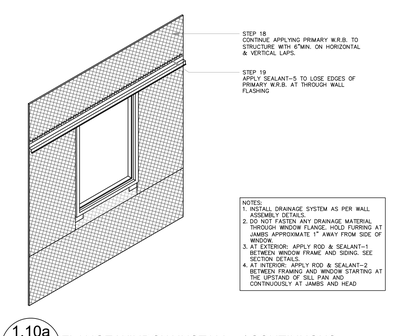

1.10a BE500 FLANGE WINDOW INSTALL w/ CONTINUOUS THROUGH WALL FLASHING STEPS 18 & 19

SCALE: NTS
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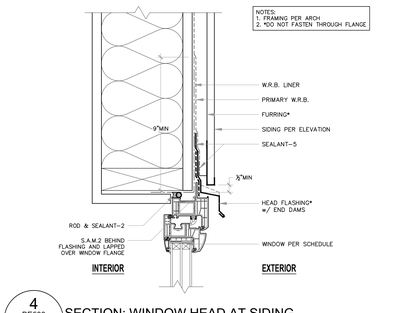

4 BE500 SECTION: WINDOW HEAD AT SIDING

SCALE: NTS
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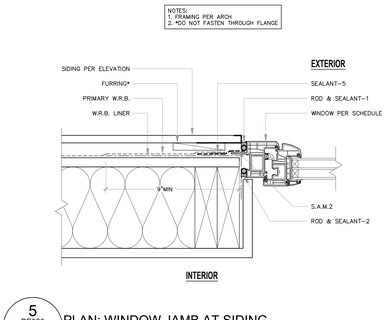

5 BE500 PLAN: WINDOW JAMB AT SIDING

SCALE: NTS
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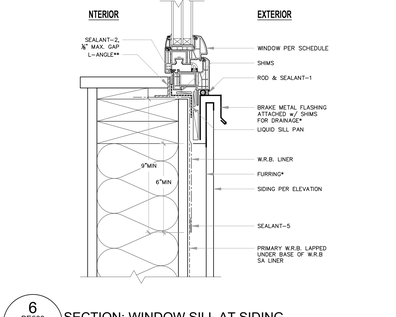

6 BE500 SECTION: WINDOW SILL AT SIDING

SCALE: NTS
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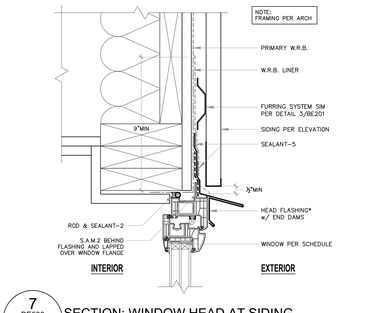

7 BE500 SECTION: WINDOW HEAD AT SIDING

SCALE: NTS
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KEY PLAN

JAMES C. FREELING, ENGINEER

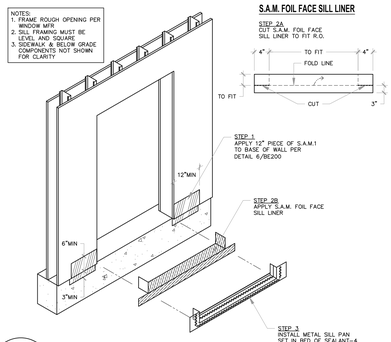
THE UNDERSIGNED HAS PROVIDED BUILDING ENCLOSURE DOCUMENTS THAT IN MY PROFESSIONAL JUDGMENT ARE APPROPRIATE TO SATISFY THE REQUIREMENTS OF RCW 64.55.005 THROUGH 64.55.090.*

△	DATE	DESCRIPTION
1	11/04/22	PERMIT CORRECTIONS 01
2	06/14/24	PERMIT CORRECTIONS 02
3	10/17/24	PERMIT CORRECTIONS 03

1903-1005
PM: DENIN DAZEY
DD: ERIC JONES
10/17/24

WINDOW & DOOR DETAILS

BE500



1.01 BE501 ASSEMBLY: STOREFRONT WINDOW
STEP 1

SCALE: NTS
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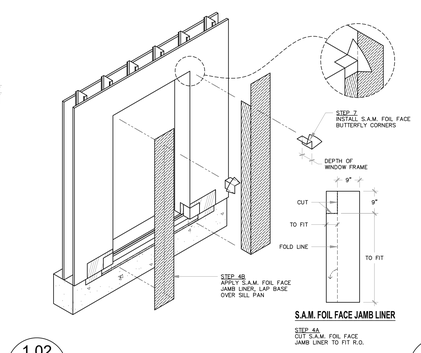

1.02 BE501 ASSEMBLY: STOREFRONT WINDOW
STEPS 2 THRU 5

SCALE: NTS
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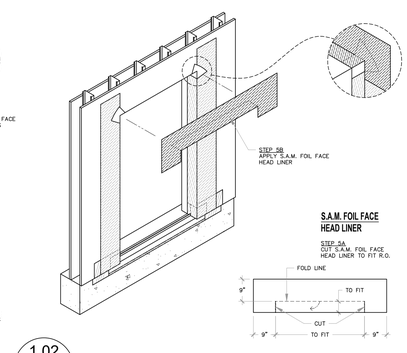

1.02 BE501 ASSEMBLY: STOREFRONT WINDOW
STEPS 2 THRU 5

SCALE: NTS
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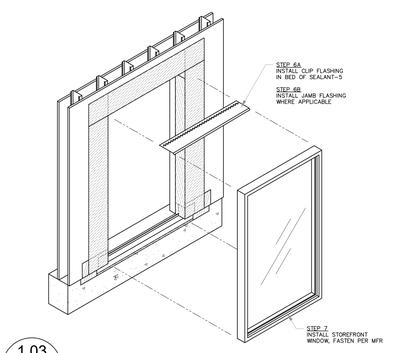

1.03 BE501 ASSEMBLY: STOREFRONT WINDOW
STEPS 6 & 7

SCALE: NTS
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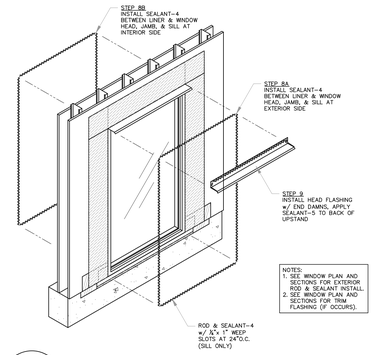

1.04 BE501 ASSEMBLY: STOREFRONT WINDOW
STEPS 8 THRU 10

SCALE: NTS
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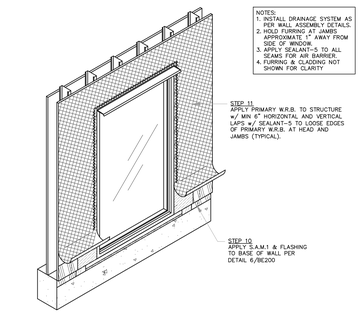

1.05 BE501 ASSEMBLY: STOREFRONT WINDOW
STEP 11

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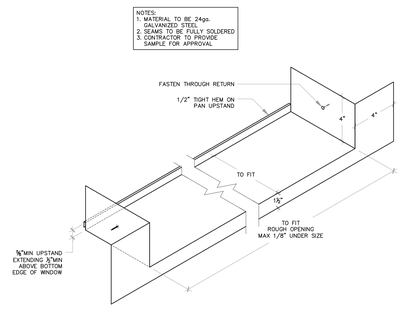

2 BE501 ISOMETRIC: METAL SILL PAN

SCALE: NTS
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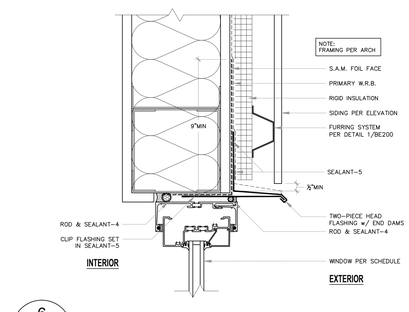

6 BE501 SECTION: STOREFRONT WINDOW HEAD
w/ RIGID INSULATION AT SIDING

SCALE: NTS
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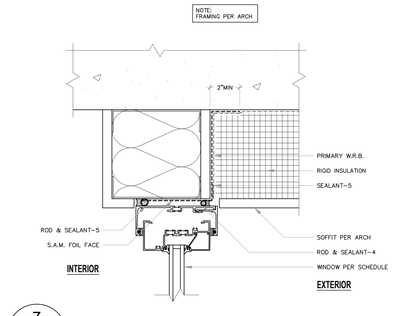

7 BE501 SECTION: STOREFRONT WINDOW HEAD
AT SOFFIT

SCALE: NTS
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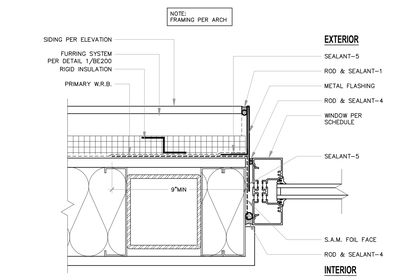

8 BE501 PLAN: STOREFRONT WINDOW JAMB
w/ RIGID INSULATION AT SIDING

SCALE: NTS
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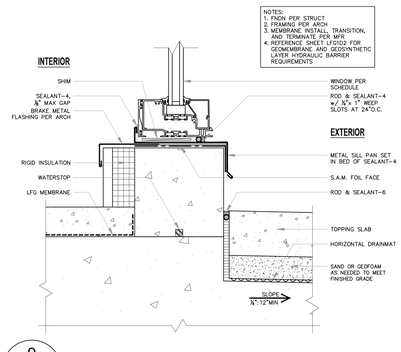

9 BE501 SECTION: STOREFRONT WINDOW SILL

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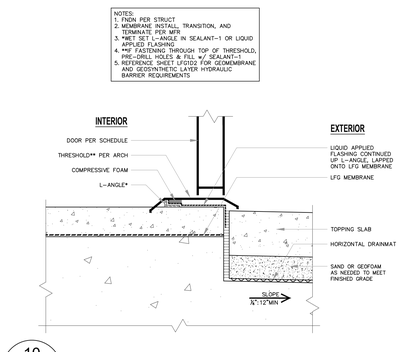

10 BE501 SECTION: STOREFRONT DOOR THRESHOLD

SCALE: NTS
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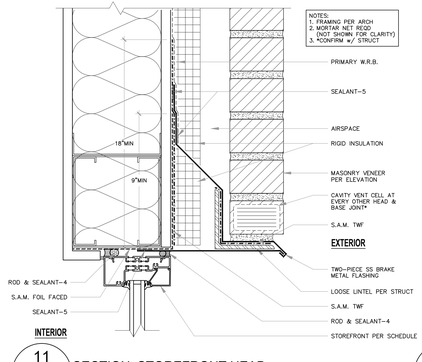

11 BE501 REF. ARCH 2/A752 SECTION: STOREFRONT HEAD
AT MASONRY VENEER w/ RIGID INSULATION

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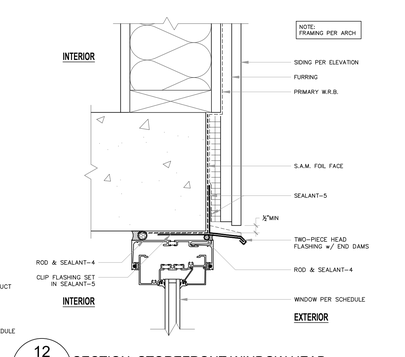

12 BE501 SECTION: STOREFRONT WINDOW HEAD
AT SLAB EDGE

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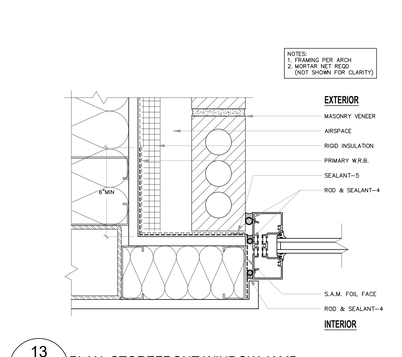

13 BE501 PLAN: STOREFRONT WINDOW JAMB
w/ RIGID INSULATION AT BRICK INSIDE CORNER

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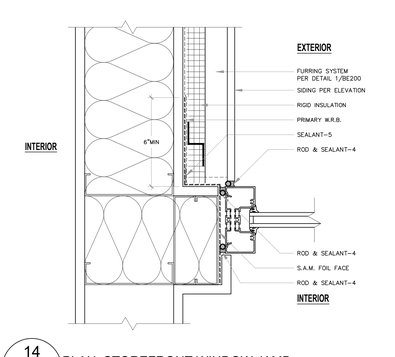

14 BE501 PLAN: STOREFRONT WINDOW JAMB
AT INSIDE CORNER

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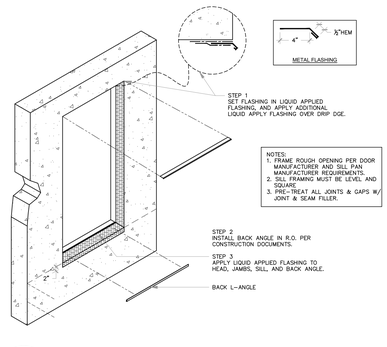
1903-1005
PM: DENIN DAZEY
DD: ERIC JONES
10/17/24

WINDOW &
DOOR DETAILS

BE501



1.01 BE502 DOOR INSTALL STEPS 1, 2 & 3 (of 6)

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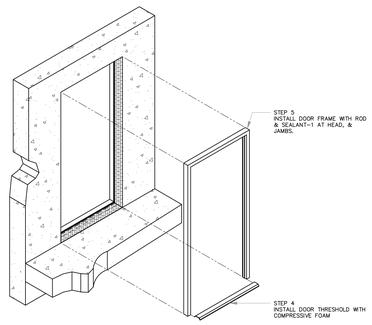

1.02 BE502 DOOR INSTALL STEPS 4 & 5

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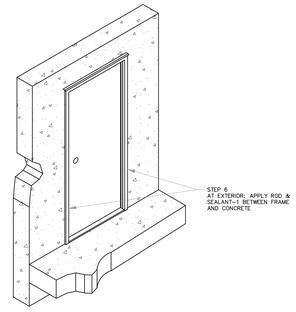

1.03 BE502 DOOR INSTALL STEP 6

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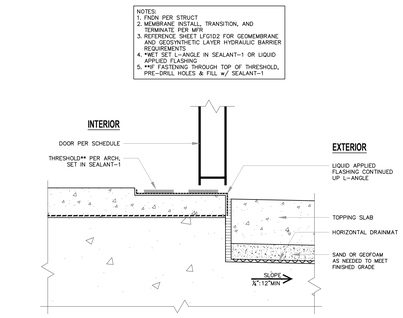

4 BE502 SECTION: HM DOOR THRESHOLD

SCALE: NTS
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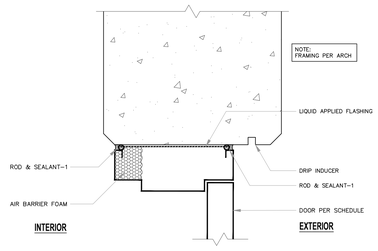

5 BE502 SECTION: HM DOOR HEAD AT CONCRETE

SCALE: NTS
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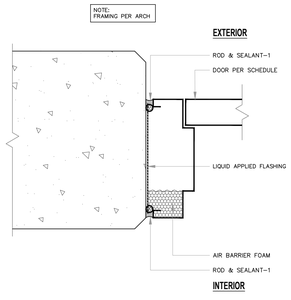

6 BE502 PLAN: HM DOOR JAMB AT CONCRETE

SCALE: NTS
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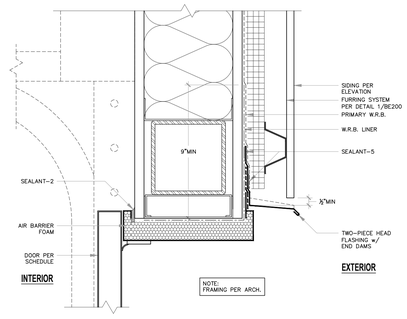

7 BE502 SECTION: SECTIONAL DOOR HEAD

SCALE: NTS
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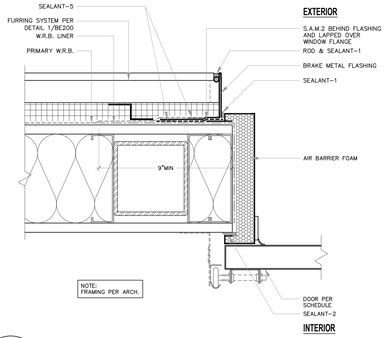

8 BE502 PLAN: SECTIONAL DOOR JAMB

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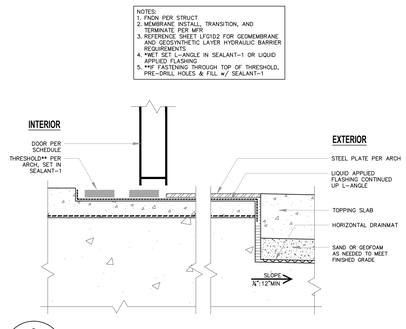

9 BE502 SECTION: HM DOOR THRESHOLD AT SETBACK

SCALE: NTS
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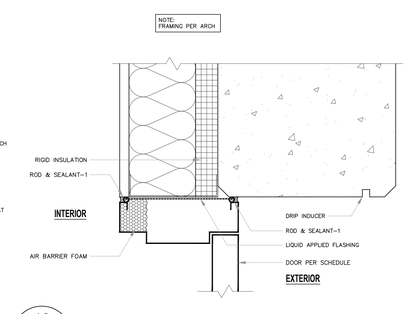

10 BE502 SECTION: HM DOOR HEAD AT CONCRETE SETBACK

SCALE: NTS
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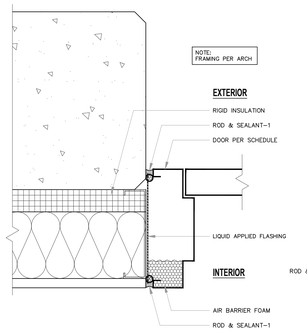

11 BE502 PLAN: HM DOOR JAMB AT CONCRETE SETBACK

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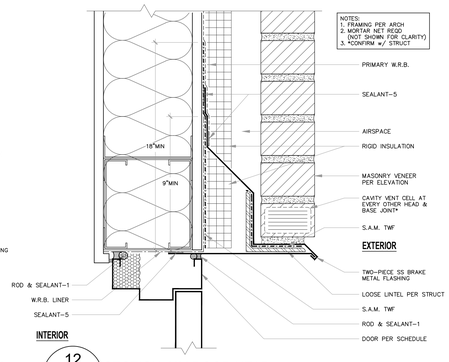

12 BE501 REF.ARCH 1/A754 SECTION: HM DOOR HEAD AT MASONRY VENEER w/ RIGID INSULATION

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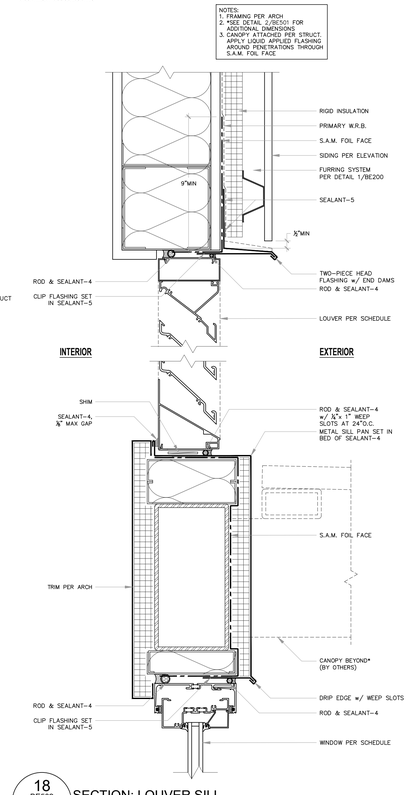

18 BE502 SECTION: LOUVER SILL & STOREFRONT HEAD TRANSOM

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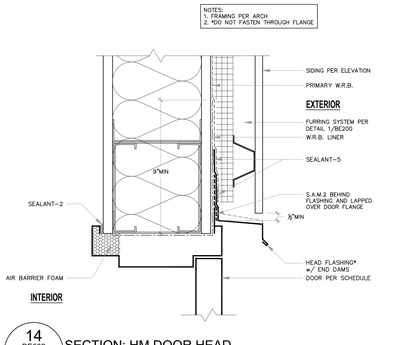

14 BE502 SECTION: HM DOOR HEAD AT FIBER CEMENT PANEL w/ RIGID INSULATION

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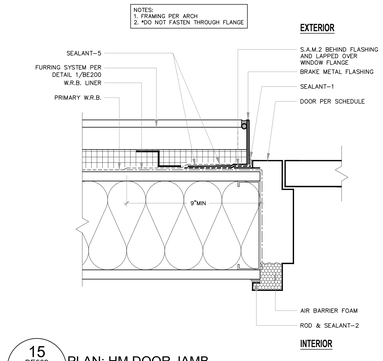

15 BE502 PLAN: HM DOOR JAMB AT FIBER CEMENT PANEL w/ RIGID INSULATION

SCALE: NTS
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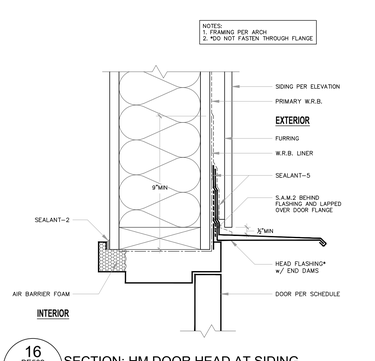

16 BE502 SECTION: HM DOOR HEAD AT SIDING

SCALE: NTS
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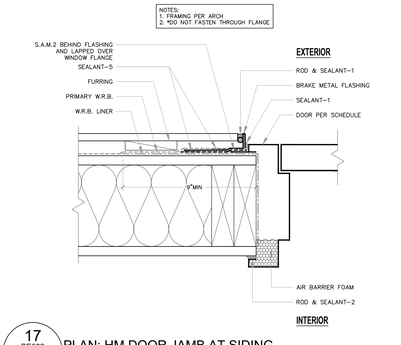

17 BE502 PLAN: HM DOOR JAMB AT SIDING

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10/17/2024

KEY PLAN

JAMES C. FREELING, ENGINEER

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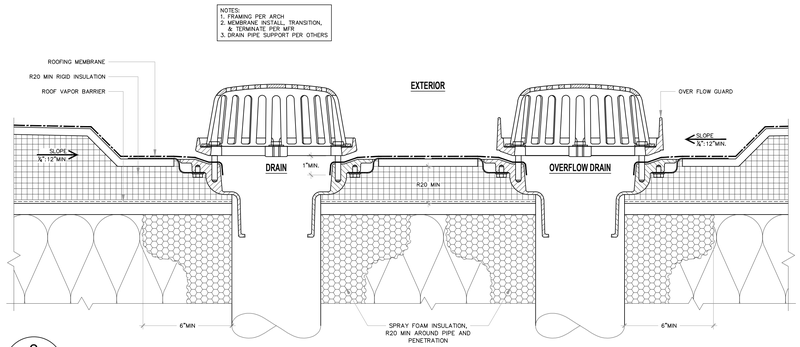
1903-1005
PM: DENIN DAZEY
DD: ERIC JONES
10/17/24

WINDOW & DOOR DETAILS

BE502



2 BE600 REF.ARCH 5/A761 — SECTION: DRAIN w/ OVERFLOW AT ROOF

SCALE: NTS

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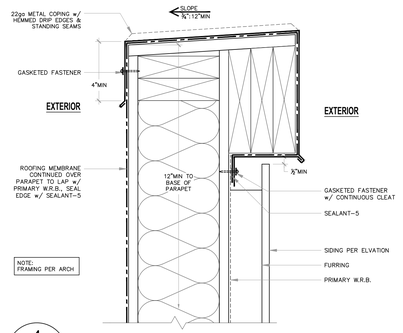

4 BE600 REF.ARCH 6/A760 — SECTION: PARAPET CAP w/ OVERFRAME & ROOFING MEMBRANE

SCALE: NTS

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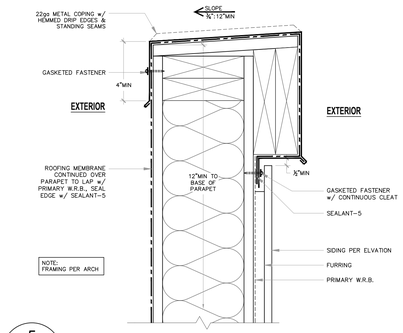

5 BE600 REF.ARCH 5/A760 — SECTION: PARAPET CAP w/ ROOFING MEMBRANE

SCALE: NTS

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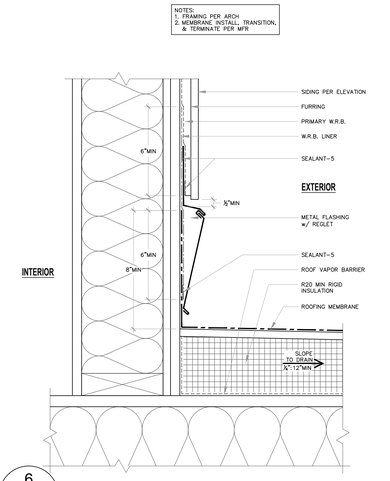

6 BE600 — SECTION: BASE OF WALL AT ROOF

SCALE: NTS

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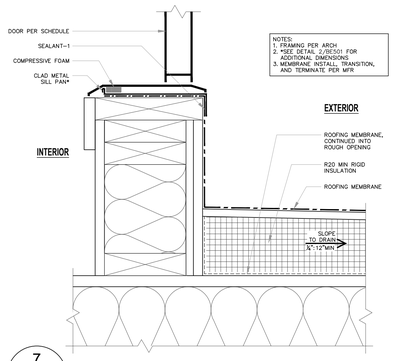

7 BE600 — SECTION: SWING DOOR THRESHOLD AT ROOF

SCALE: NTS

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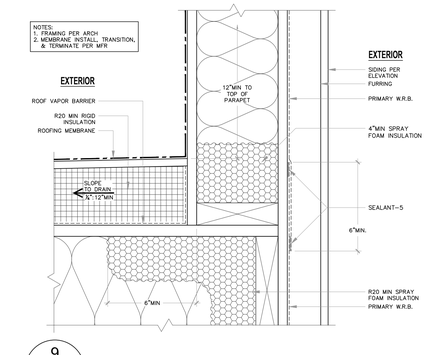

9 BE600 REF.ARCH 6/A760 — SECTION: BASE OF PARAPET w/ OVERFRAME AT ROOF

SCALE: NTS

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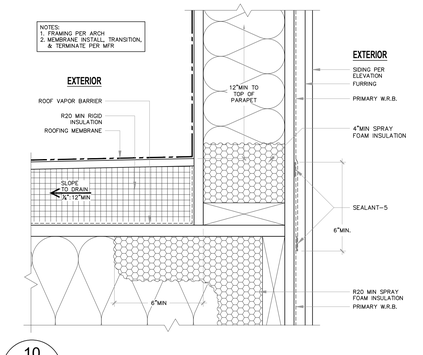

10 BE600 REF.ARCH 5/A760 — SECTION: BASE OF PARAPET AT ROOF

SCALE: NTS

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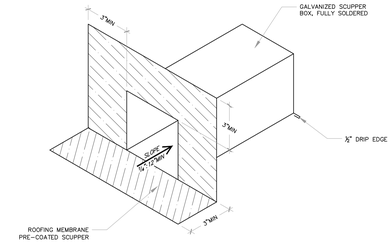

11 BE600 — ISOMETRIC: SCUPPER ROOFING MEMBRANE PRE-COATED

SCALE: NTS

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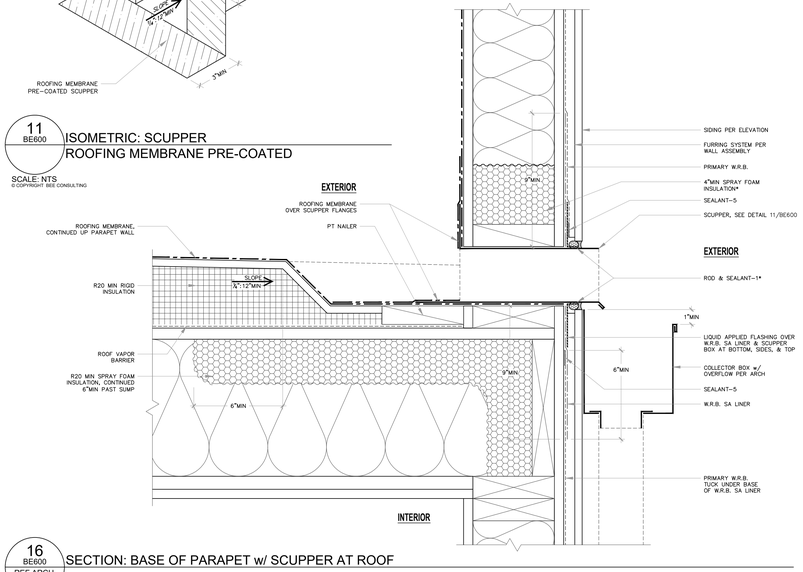
NOTES:
1. FRAMING PER ARCH
2. FOR ADDITIONAL INFORMATION SEE DETAIL 18/BE600
3. MEMBRANE INSTALL, TRANSITION, TERMINATE & SEAL PER MFR
4. OVERFLOW DRAINS TO BE 2 INCHES ABOVE PRIMARY DRAINS
5. *INSTALL ROD & SEALANT-1 WHERE SCUPPER BOX PENETRATES SIDING
6. **SPRAY FOAM MUST ADHERE TO SHEATHING ON BOTH SIDES OF PARAPET



16 BE600 REF.ARCH 9/A761 — SECTION: BASE OF PARAPET w/ SCUPPER AT ROOF

SCALE: NTS

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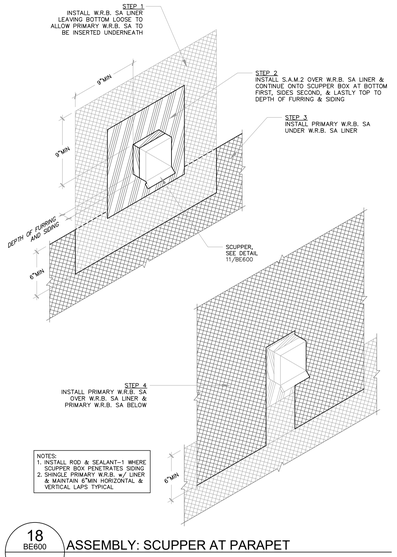

18 BE600 — ASSEMBLY: SCUPPER AT PARAPET

SCALE: NTS

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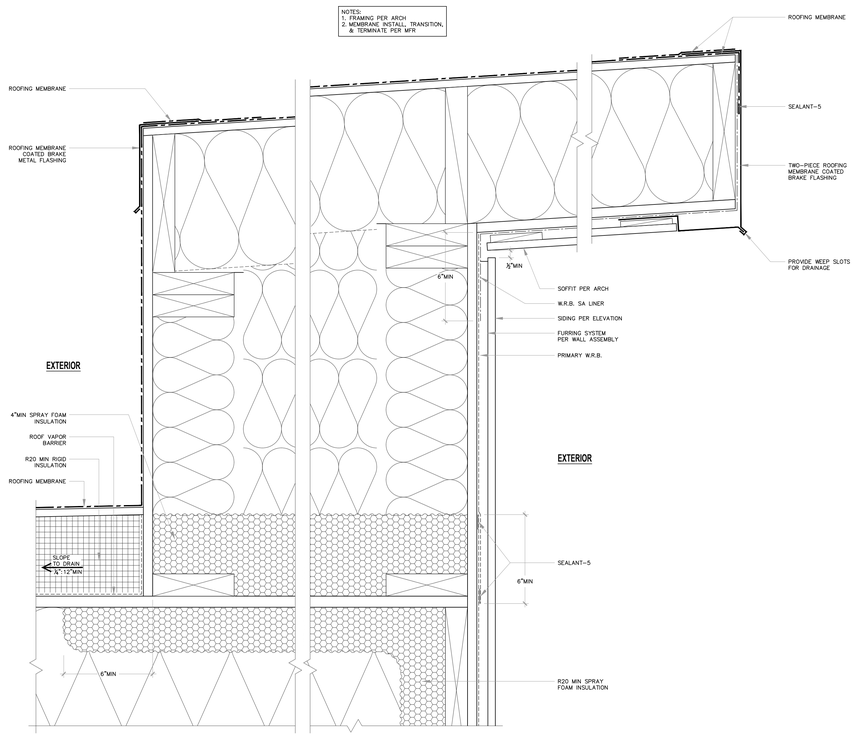

19 BE600 REF.ARCH 1/A760 — SECTION: BASE OF LARGE PARAPET AT ROOF w/ OVERFRAME

SCALE: NTS

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10/17/2024

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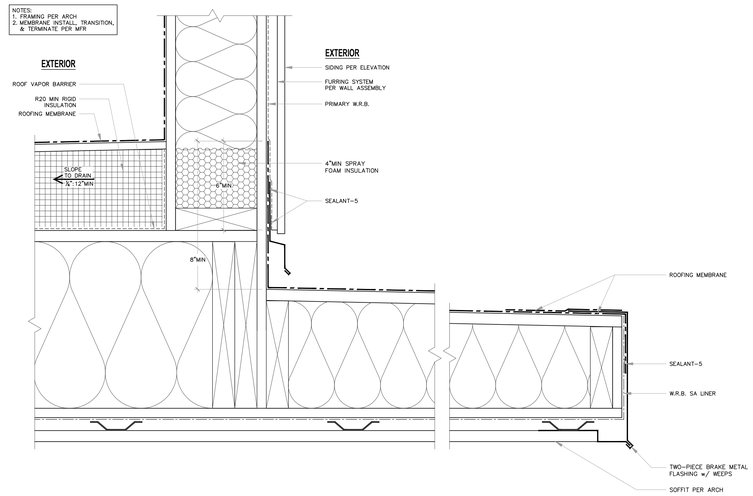
ROOF DETAILS

BE600



6 BE601 REF.ARCH 6/A761 — SECTION: ROOF OVERHANG AT AMENITY

SCALE: NTS

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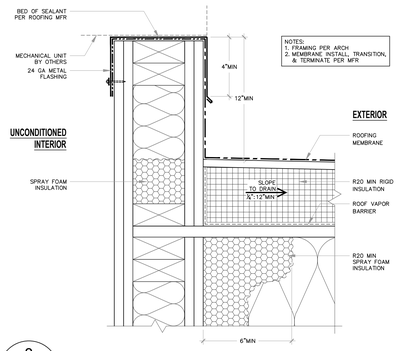

8 BE601 REF.ARCH 8/A761 SIM — SECTION: MECHANICAL CURB AT ROOF

SCALE: NTS

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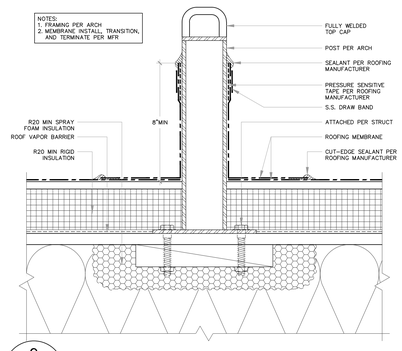

9 BE601 — SECTION: ATTACHMENT AT ROOF

SCALE: NTS

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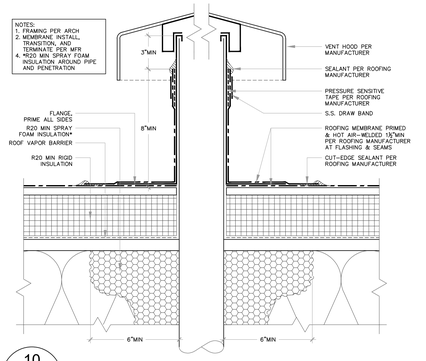

10 BE601 — SECTION: VENT PENETRATION AT ROOF

SCALE: NTS

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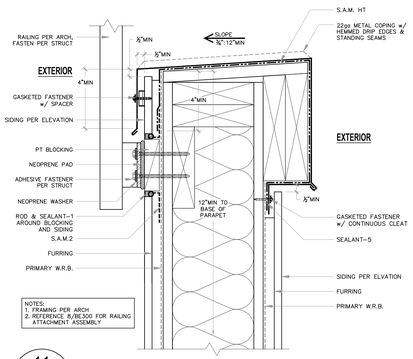

11 BE601 — SECTION: PARAPET CAP w/ GUARDRAIL & SIDING

SCALE: NTS

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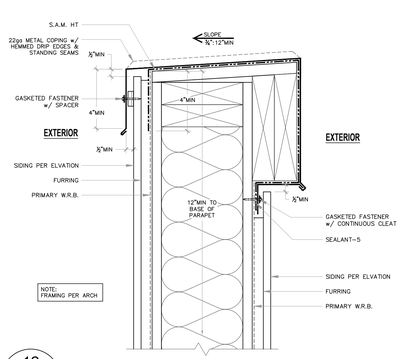

12 BE601 — SECTION: PARAPET CAP w/ SIDING

SCALE: NTS

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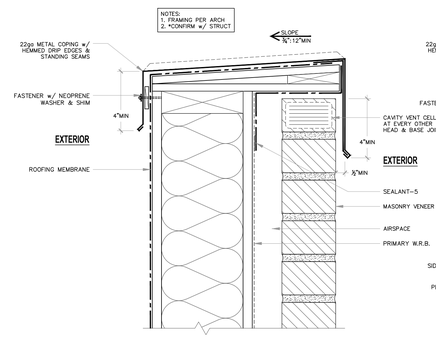

14 BE601 REF.ARCH 1/A761 — SECTION: PARAPET CAP AT ROOF w/ MASONRY

SCALE: NTS

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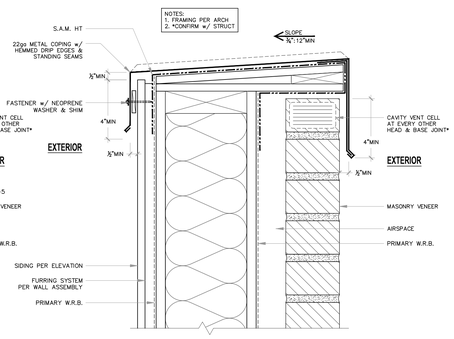

15 BE601 REF.ARCH 2/A761 — SECTION: PARAPET CAP AT ROOF w/ MASONRY

SCALE: NTS

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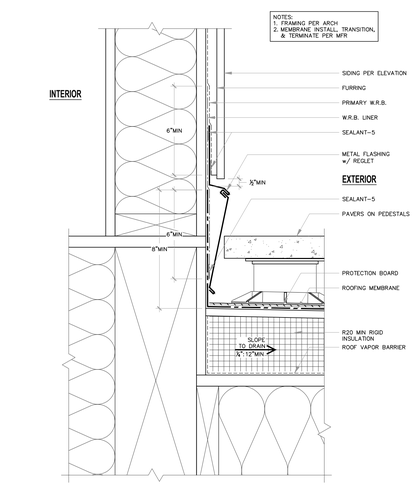

16 BE601 — SECTION: BASE OF WALL AT ROOF w/ PAVERS

SCALE: NTS

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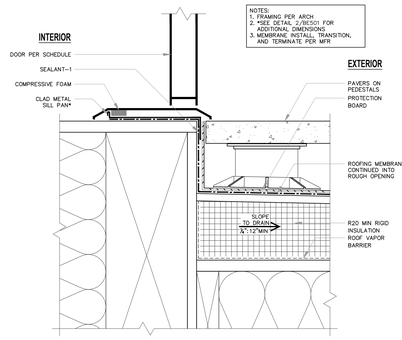

17 BE601 REF.ARCH 11/A754 — SECTION: SWING DOOR THRESHOLD AT AMENITY DECK

SCALE: NTS

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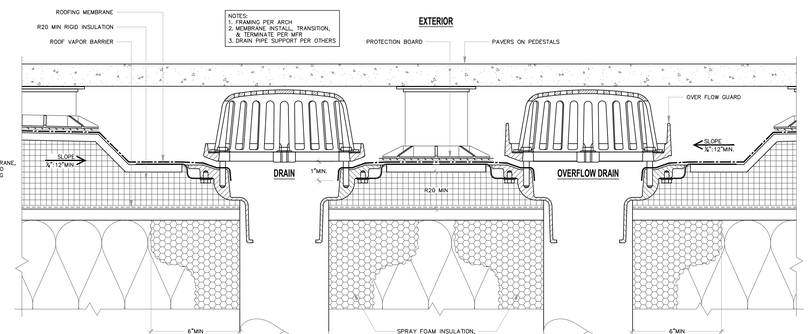

18 BE601 — SECTION: DRAIN w/ OVERFLOW AT AMENITY DECK

SCALE: NTS

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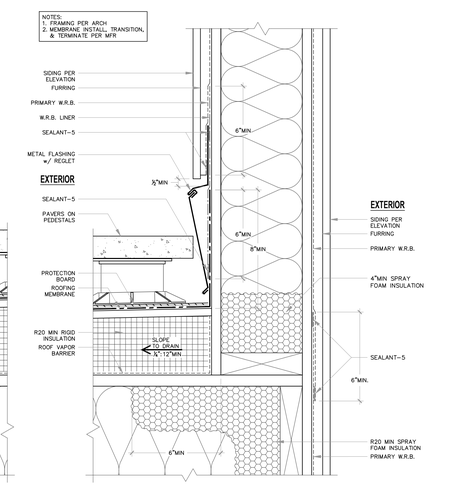

20 BE601 — SECTION: BASE OF PARAPET AT AMENITY DECK

SCALE: NTS

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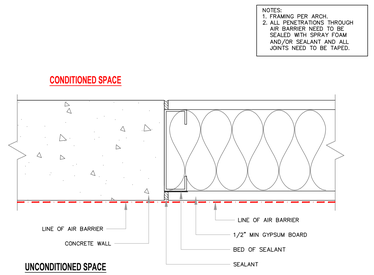
ROOF DETAILS

BE601



1 BE700 PLAN: CONCRETE WALL TO FRAMED WALL TRANSITION

SCALE: NTS

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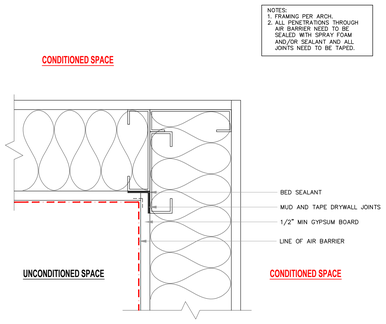

2 BE700 PLAN: FRAMED WALL @ INSIDE CORNER

SCALE: NTS

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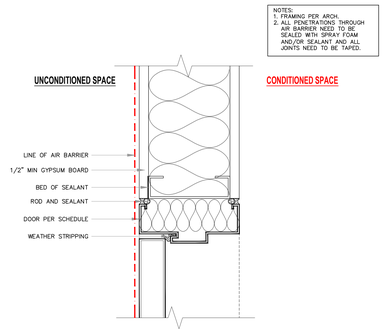

3 BE700 SECTION: DOOR HEAD & JAMB@FRAMED WALL

SCALE: NTS

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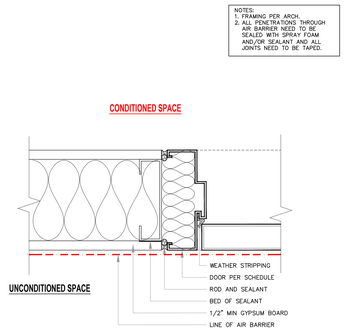

4 BE700 PLAN: DOOR HEAD & JAMB@FRAMED WALL

SCALE: NTS

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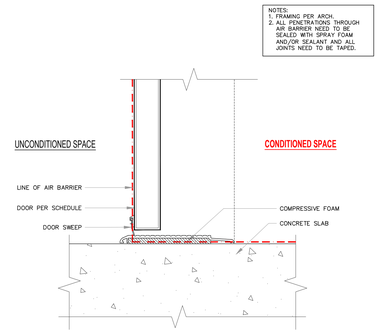

5 BE700 SECTION: DOOR SILL @ CONCRETE SLAB

SCALE: NTS

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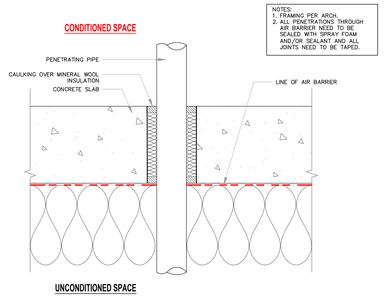

6 BE700 SECTION: PIPE PENETRATION @ SLAB

SCALE: NTS

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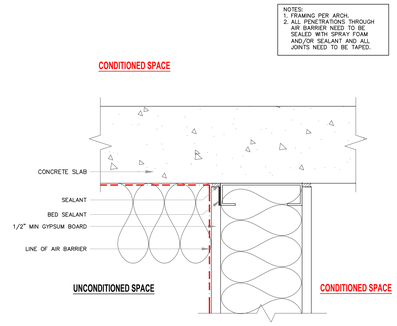

7 BE700 SECTION: FRAMED WALL TO CONCRETE CEILING TRANSITION

SCALE: NTS

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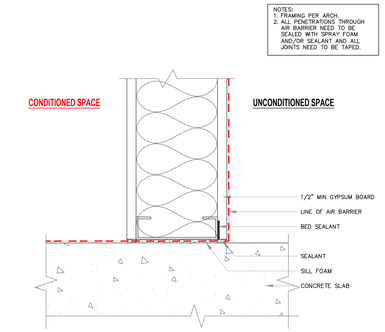

8 BE700 SECTION: FRAMED WALL TO SLAB TRANSITION

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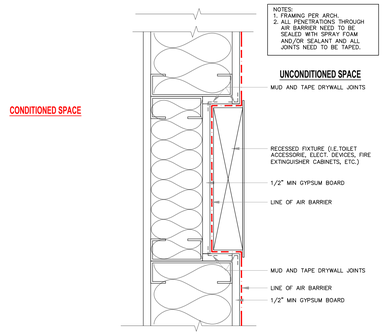

9 BE700 SECTION: RECESSED WALL FIXTURE (GWB Box)

SCALE: NTS

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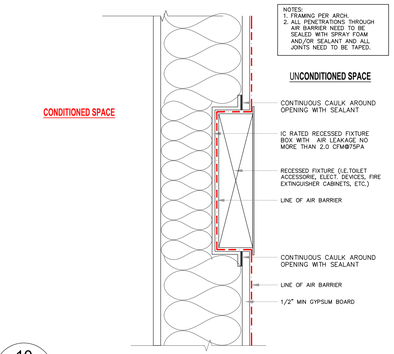

10 BE700 SECTION: RECESSED WALL FIXTURE (AB Rated Box)

SCALE: NTS

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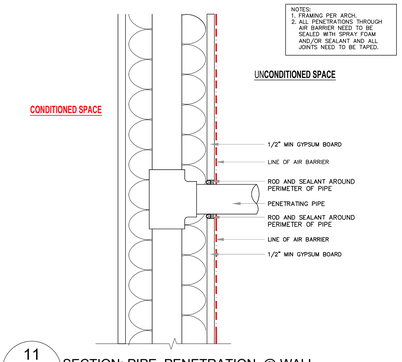

11 BE700 SECTION: PIPE PENETRATION @ WALL

SCALE: NTS

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10/17/24

AIR BARRIER SEMI-EXTERIOR DETAILS

BE700

2018 Washington State Energy Code, Commercial Provision.

A. Air leakage - thermal envelope (Mandatory).
The thermal envelope of buildings shall comply with Sections B through L.

B. Air barriers.
A continuous air barrier shall be provided throughout the building thermal envelope. The air barriers shall be permitted to be located on the inside or outside of the building envelope, located within the assemblies composing the envelope, or any combination thereof. The air barrier shall comply with Sections C and D.

C. Air barrier construction.
The continuous air barrier shall be constructed to comply with the following:
1. The air barrier shall be continuous for all assemblies that are the thermal envelope of the building and across the joints and assemblies.
2. Air barrier joints and seams shall be sealed, including sealing transitions in places and changes in materials. The joints and seals shall be securely installed in or on the joint for its entire length so as not to dislodge, loosen or otherwise impair its ability to resist positive and negative pressure from wind, stack effect and mechanical ventilation.
3. Penetrations of the air barrier shall be caulked, gasketed or otherwise sealed in a manner compatible with the construction materials and location. Joints and seals associated with penetrations shall be sealed in the same manner or taped or covered with moisture vapor-permeable wrapping material. Sealing materials shall be appropriate to the construction materials being sealed and shall be securely installed around the penetrations so as not to dislodge, loosen or otherwise impair the penetrations ability to resist positive and negative pressure from wind, stack effect, and mechanical ventilation. Sealing of concealed fire sprinklers, where required, shall be in a manner that is recommended by the manufacturer. Caulking or other adhesive sealants shall not be used to fill voids between fire sprinkler cover plates and walls or ceilings.
4. Recessed lighting fixtures shall comply with Section J. Where similar objects are installed which penetrate the air barrier, provisions shall be made to maintain the integrity of the air barrier.
5. Construction documents shall contain a diagram showing the building's pressure boundary in plan(s) and section(s) and a calculation of the area of the pressure boundary to be considered in the test.

D. Building test.
The completed building shall be tested and the air leakage of the building envelope shall not exceed Max Allowed Air Leakage called out in Building Envelope Air Leakage Calculations Table at a pressure differential of 0.3 inches water gauge (2.0 L/s x m^2 at 75 Pa) at the upper 95 percent confidence interval in accordance with ASTM E 779 or an equivalent method approved by the code official. A report that includes the tested surface area, floor area, air by volume, stories above grade, and leakage rates shall be submitted to the building owner and the Code Official. If the tested rate exceeds that defined here by up to 0.15 cfm/ft^2, a visual inspection of the air barrier shall be conducted and any leaks noted shall be sealed to the extent practicable. An additional report identifying the corrective actions taken to seal air leaks shall be submitted to the building owner and the Code Official and any further requirement to meet the leakage air rate will be waived. If the tested rate exceeds 0.40 cfm/ft^2, corrective actions must be made and the test completed again. A test above 0.40 cfm/ft^2 will not be accepted.
1. Test shall be accomplished using either (1) both pressurization and depressurization or (2) pressurization alone, but not depressurization The test results shall be plotted against the correct P for pressurization in accordance with Section 9.4 of ASTM E779.
2. The test pressure range shall be from 25 Pa to 80 Pa per Section 8.10 of ASTM E779, but the upper limit shall not be less than 50 Pa, and the difference between the upper and lower limit shall not be less than 25 Pa.
3. If the pressure exponent n is less than 0.45 or greater than 0.85 per Section 9.6.4 of ASTM E779, the test shall be rerun with additional readings over a longer time interval.

E. Building test for mixed-use buildings.
Where a building is three or fewer stories above grade plane and contains both commercial and residential uses, the air barrier of the R-2 and R-3 occupancy areas of the building is permitted to be separately tested according to Section R402.4.1.2. Alternatively, it is permissible to test the air barrier of the entire building according to Section D, provided that the tested air leakage rate does not exceed the rate specified in Section D.

F. Rooms containing fuel-burning appliances.
Where combustion air is supplied through openings in an exterior wall to a room or space containing a space conditioning fuel-burning appliance, one of the following shall apply:
1. The room or space containing the appliance shall be located outside of the building thermal envelope.
2. The room or space containing the appliance shall be enclosed and isolated from conditioned spaces inside the building thermal envelope. Such rooms shall comply with all of the following:
2.1. The walls, floor and ceiling that separate the enclosed room or space from the conditioned spaces shall be insulated to be at least equivalent to the insulation requirement of below grade walls as specified in Table C402.1.3 or C402.1.4.
2.2. The walls, floors and ceiling that separate the enclosed room or space from conditioned spaces
shall be sealed in accordance with Section C.
2.3. The doors into the enclosed room or space shall be fully gasketed.
2.4. Water lines and ducts in the enclosed room or space shall be insulated in accordance with Section C403.
2.5. Where the air duct supplying combustion air to the enclosed room or space passes through conditioned space, the duct shall be insulated to an R-value of not less than R-8.
Exceptions:
Fireplaces and stoves complying with Sections 901 through 905 of the International Mechanical Code, and Section 2111.13 of the International Building Code. C402.5.4 Doors and access openings to shafts, chutes, stairways, and elevator lobbies. Doors and access openings from conditioned space to shafts, chutes, stairways and elevator lobbies shall be gasketed, weather stripped or sealed.

G. Doors and access openings to shafts, chutes, stairways, and elevator lobbies.
Doors and access openings from conditioned space to shafts, chutes, stairways and elevator lobbies shall be gasketed, weather stripped or sealed.
Exceptions:
1. Door openings required to comply with Section 716 of the International Building Code.
2. Doors and door openings required to comply with UL 1784 by the International Building Code.

I. Air intakes, exhaust openings, stairways and shafts.
Stairway enclosures, elevator shaft vents and other outdoor air intakes and exhaust openings integral to the building envelope shall be provided with dampers in accordance with Section C403.7.9.

J. Loading dock weather seals.
Cargo door openings and loading dock door openings shall be equipped with weather seals that restrict infiltration and provide direct contact along the top and sides of vehicles that are parked in the doorway.

K. Vestibules.
All building entrances shall be protected with an enclosed vestibule, with all doors opening into and out of the vestibule equipped with self-closing devices. Vestibules shall be designed so that in passing through the vestibule it is not necessary for the interior and exterior doors to open at the same The installation of one or more revolving doors in the building entrance shall not eliminate the requirement that a vestibule be provided on any doors adjacent to revolving doors. For the purposes of this section, "building entrances" shall include exit-only doors in buildings where separate doors for entering and exiting are provided.
Interior and exterior doors shall have a minimum distance between them of not less than 7 feet. The exterior envelope of conditioned vestibules shall comply with the requirements for a conditioned space. Either the interior or exterior envelope of unconditioned vestibules shall comply with the requirements for a conditioned space. The building lobby is not considered a vestibule.
Exception: Vestibules are not required for the following:
1. Doors not intended to be used as building entrances.
2. Unfinished ground-level space greater than 3,000 square feet (298 m^2) if a note is included on the permit documents at each exterior entrance to the space stating "Vestibule required at time of tenant build-out if entrance serves a space greater than 3,000 square feet in area".
3. Doors opening directly from a sleeping unit or dwelling unit.
4. Doors between a space smaller than 3,000 square feet (298 m^2) in area and the exterior of the building or the building entrance lobby, where those doors do not comprise one of the primary entrance paths to the remainder of the building. The space must be enclosed and separated without transfer air paths from the primary building entrance paths. If there are doors between the space and the primary entrance path then the doors shall be equipped with self-closing devices so the space acts as a vestibule for the primary building entrance.
5. Revolving doors.
6. Doors used primarily to facilitate vehicular movement or material handling and adjacent personnel doors.
7. In buildings less than three stories above grade or in spaces that do not directly connect with the building elevator lobby, doors that have an air curtain with a velocity of not less than 6.56 feet per second (2 m/s) at the floor that have been tested in accordance with ANSI/AMCA 220 and installed in accordance with the manufacturer's instructions. Manual or automatic controls shall be provided that will operate the air curtain with the opening and closing of the door. Air curtains and their controls shall comply with Section C408.2.3.
8. Building entrances in buildings that are less than four stories above grade and less than 10,000 square feet in area.
9. Elevator doors in parking garages provided that the elevators have an enclosed lobby at each level of the garage.
10. Entrances to semi-heated spaces.

L. Recessed lighting.
Recessed luminaires installed in the building thermal envelope shall be all of the following:
1. IC Rated.
2. Labeled as having an air leakage rate of not more than 2.0 cfm (0.944 L/s) when tested in accordance with ASTM E 283 at a 1.57 psf (75 Pa) pressure differential.
3. Sealed with a gasket or caulk between the housing and interior wall or ceiling covering.

M. Preparation of the Building
Contractor is responsible for sealing or otherwise effectively isolating all "intentional" holes in the test boundary.
Contractor will be liable for costs of removal of finishes and/or cladding required to provide corrections to the air barrier system.

N. Compliance documentation
All energy code compliance forms and calculations shall be delivered in one document to the building owner as part of the project record documents, manuals, or as a standalone document. This document shall include the specific energy code year utilized for compliance determination for each system, NFRC certificates for the installed windows, list of total area for each NFRC certificate, and the interior lighting power compliance path (building area, space-by-space) used to calculate the lighting power allowance.
For projects complying with Section C401.2 item 1, the documentation shall include:
1. The envelope insulation compliance path (prescriptive or component performance).
2. All required completed code compliance forms, and all required compliance calculations.
For projects complying with Section C401.2 item 2, the documentation shall include:
1. A list of all proposed envelope component types, areas and U-values.
2. A list of all lighting area types with areas, lighting power allowance, and installed lighting power density.
3. A list of each HVAC system modeled with the assigned and proposed system type.
4. Electronic copies of the baseline and proposed model input and output file. The input files shall be in a format suitable for rerunning the model and shall not consist solely of formatted reports of the inputs.

LEGEND

-AIR BARRIER & BUILDING THERMAL ENVELOPE

-CONDITIONED AND SEMI-HEATED SPACES

Whole Building

BUILDING ENVELOPE AIR LEAKAGE CALCULATIONS
Based on AutoCAD and PDF drawings provided by architect.

	Floor Perimeter ft	Level Height ft	Floor Area ft²	Exterior Floor area ft²	Exterior Ceiling Area ft²	Exterior Wall Area ft²	Thermal Envelope Area ft²	Thermal Envelope Volume ft³
Level 1	1,187	19.5	25,749	25,749	59	23,147	48,955	502,106
Level 2	929	9.8	27,649	1,959	0	9,104	11,063	270,960
Level 3	929	9.8	27,649	0	0	9,104	9,104	270,960
Level 4	929	9.8	27,649	0	0	9,104	9,104	270,960
Level 5	929	9.8	27,649	0	774	9,104	9,878	270,960
Level 6	986	9.7	26,875	0	26,481	9,564	36,045	260,688
Roof	119	10.4	394	0	394	1,238	1,632	4,098
Total Building	6,008	79	163,614	27,708	27,708	70,365	125,781	1,850,731
MAX ALLOWED AIR LEAKAGE OF BUILDING ENVELOPE								
per AREA of Building Thermal Envelope at 75 Pa			0.25	cfm/ft² x	125,781	ft² =	31,445	CFM
AVE. GRADE			36.5'					
T.O. ROOF DECK			102.5'					

REDUCED AIR INFILTRATION IN ACCORDANCE WITH SECTION C406.11 CREDIT IS NOT APPLIED

BASED ON : 2024-0520_2024-0516 building D progress set

EVERETT RIVERFRONT BUILDING D

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PERMIT SET

10/17/2024

KEY PLAN

JAMES C. FREELING, ENGINEER

THE UNDERSIGNED HAS PROVIDED BUILDING ENCLOSURE DOCUMENTS THAT IN MY PROFESSIONAL JUDGMENT ARE APPROPRIATE TO SATISFY THE REQUIREMENTS OF RCW 64.55.005 THROUGH 64.55.090."

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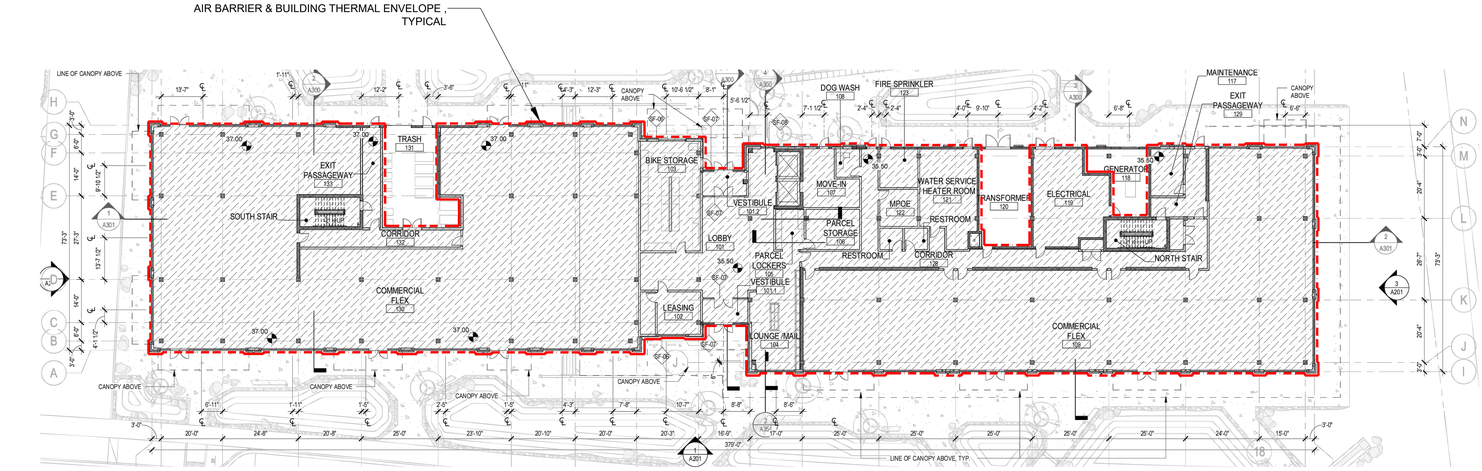
2	06/14/24	PERMIT CORRECTIONS 02
3	10/17/24	PERMIT CORRECTIONS 03

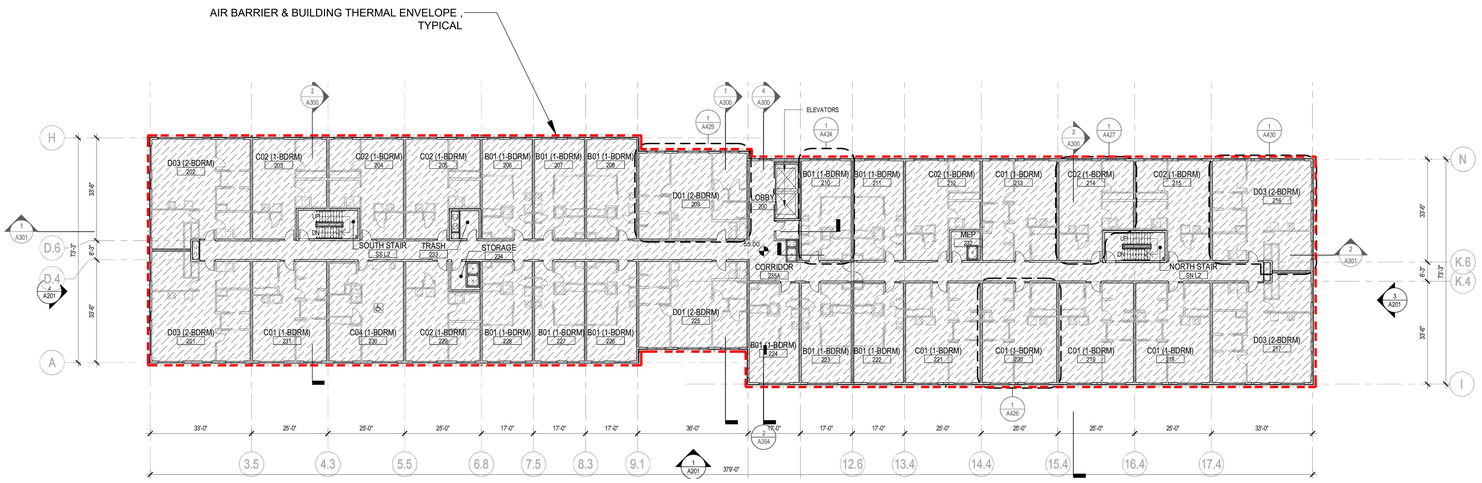
1903-1005
PM: DENIN DAZEY
DD: ERIC JONES
10/17/24

AIR BARRIER NOTES

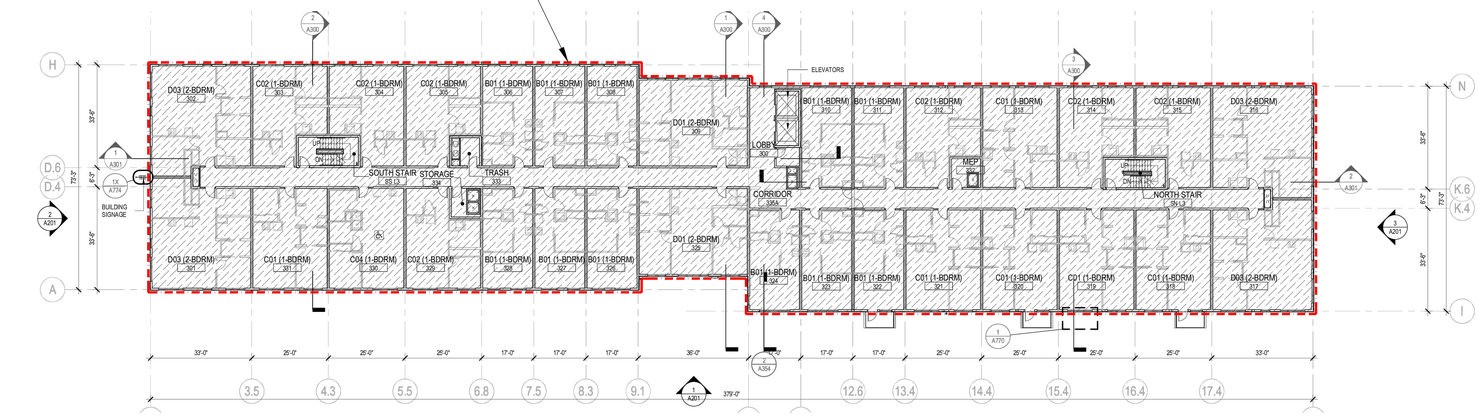
BE800



FLOOR PLAN - LEVEL 1
SCALE: NTS
REFERENCE ARCH: A101



FLOOR PLAN - LEVEL 2
SCALE: NTS
REFERENCE ARCH: A102



FLOOR PLAN - LEVEL 3
SCALE: NTS
REFERENCE ARCH: A103

PLAN VIEWS WERE TAKEN FROM ARCHITECTURAL SET DATED 05.20.2024 , THEY ARE DIAGRAMMATIC AND SHOULD NOT BE USED FOR MATERIAL TAKE-OFFS. FINAL BUILDING PLANS SHOULD BE VERIFIED.

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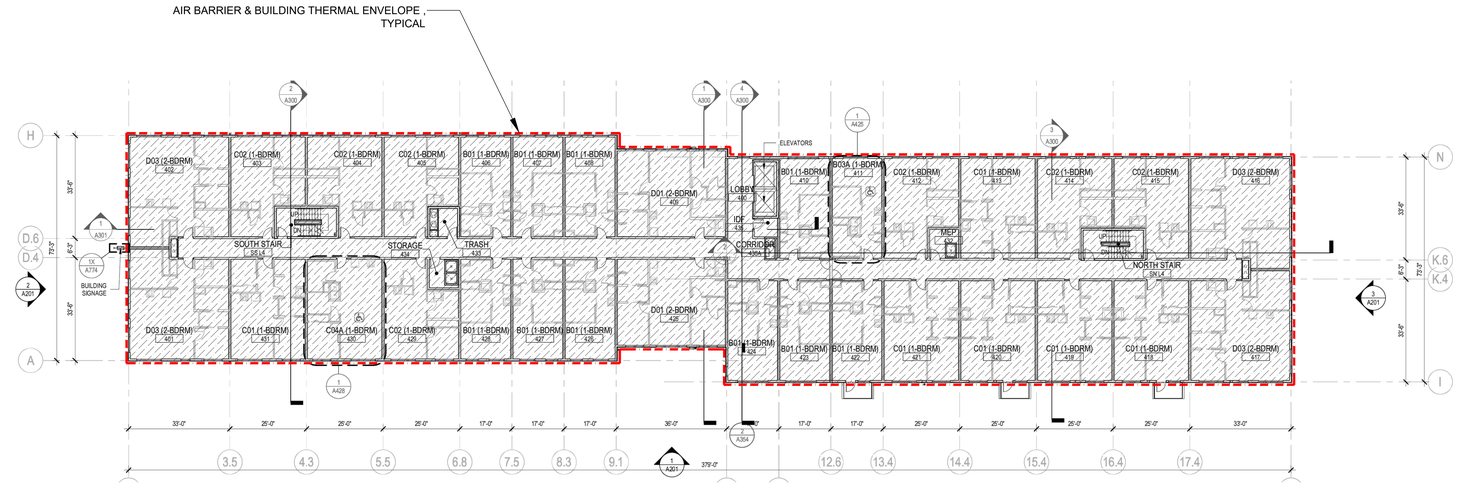
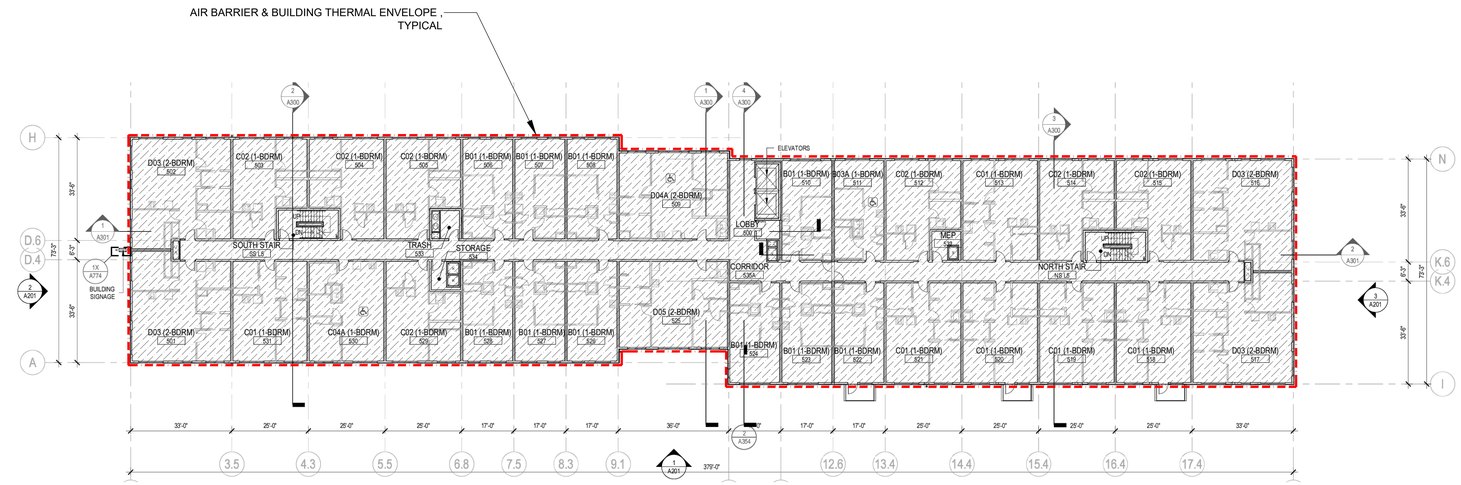
AIR BARRIER DIAGRAMS

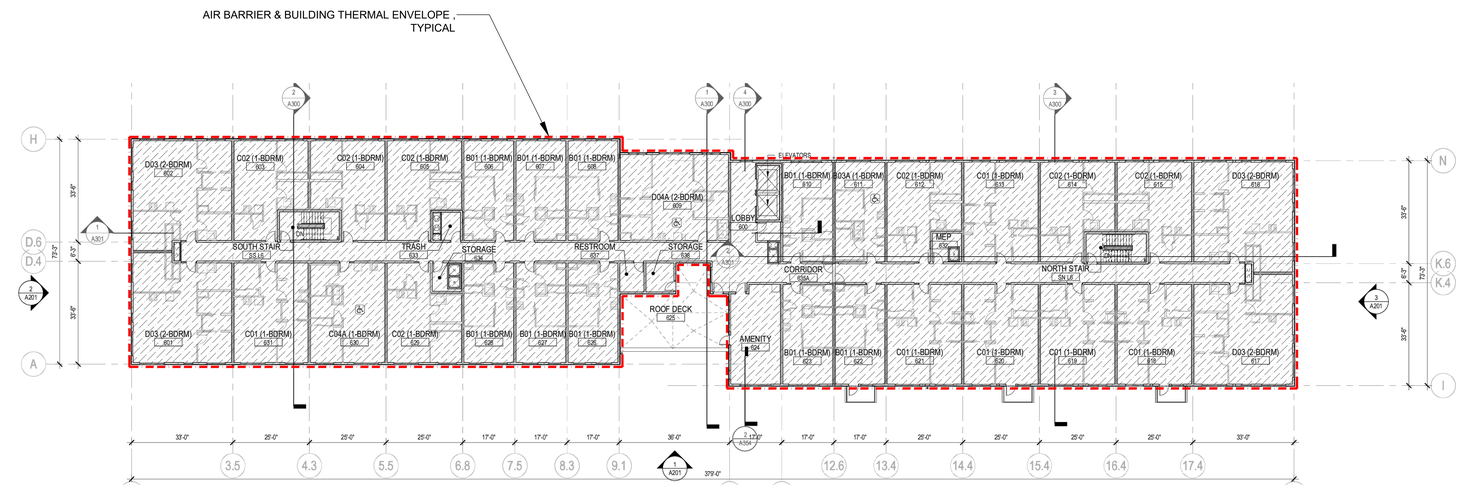
BE801



FLOOR PLAN - LEVEL 4
SCALE: NTS
REFERENCE ARCH: A104



FLOOR PLAN - LEVEL 5
SCALE: NTS
REFERENCE ARCH: A105



FLOOR PLAN - LEVEL 6
SCALE: NTS
REFERENCE ARCH: A106

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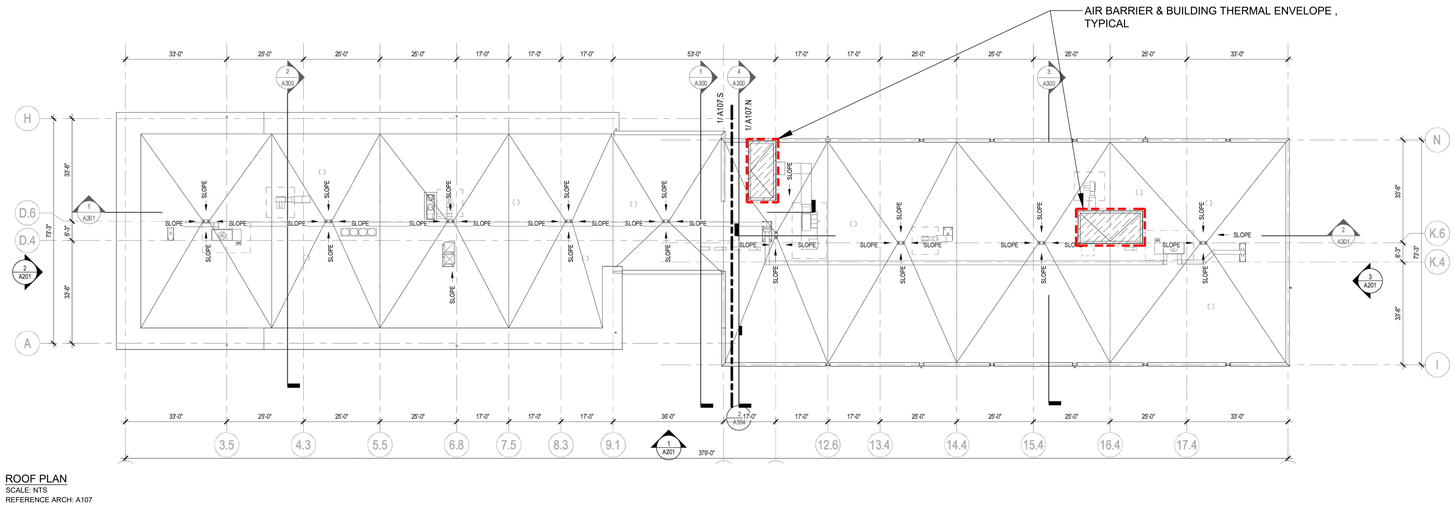
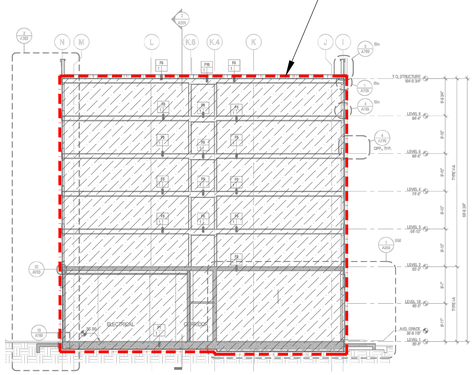
AIR BARRIER DIAGRAMS

BE802



ROOF PLAN
SCALE: NTS
REFERENCE ARCH: A107



BUILDING SECTION 3
SCALE: NTS
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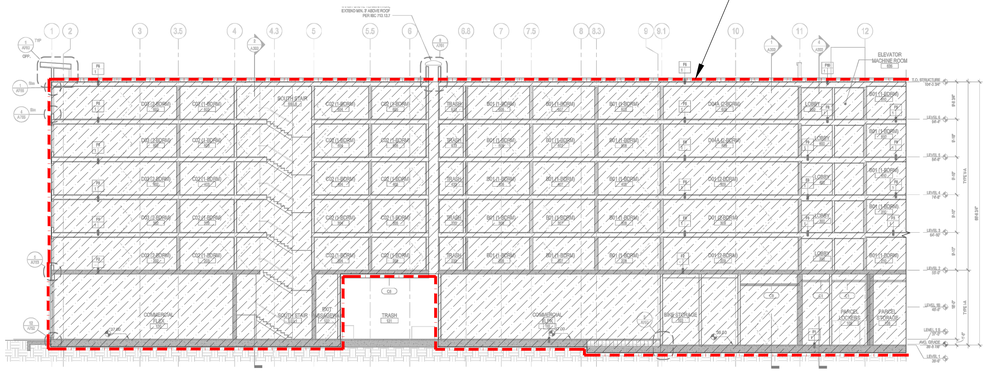

BUILDING SECTION 5
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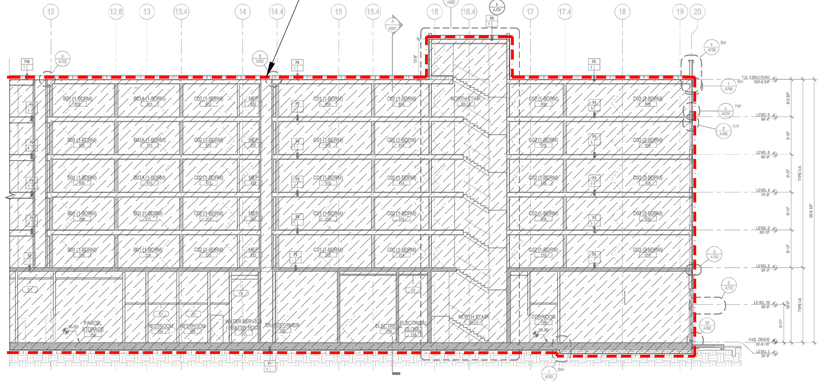
REFERENCE ARCH: A301



BUILDING SECTION 6
SCALE: NTS
REFERENCE ARCH: A301

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AIR BARRIER DIAGRAMS

BE803

GENERAL NOTES

GENERAL NOTES - MECHANICAL

1. REFERENCE TO RELATED WORK: "REF" INDICATIONS DENOTE WORK COVERED ELSEWHERE (ARCHITECTURAL, STRUCTURAL, CIVIL, ELECTRICAL, LANDSCAPE, OR KITCHEN), OR ITEM BASED ON A SPECIFIC MANUFACTURER'S DIMENSIONS (VERIFY).

2. ELECTRICAL CHARACTERISTICS: REFER TO ELECTRICAL DRAWINGS FOR ELECTRICAL CHARACTERISTICS (VOLTAGES, ETC. OF MECHANICAL EQUIPMENT, UNLESS OTHERWISE INDICATED.

3. CODES: COMPLETE INSTALLATION OF THE MECHANICAL SYSTEM SHALL BE PER THE APPLICABLE BUILDING, MECHANICAL, ENERGY, PLUMBING, FIRE, AND HEALTH CODES AND REGULATIONS AS ADOPTED BY THE LOCAL AHJ.

4. PREPARE AND SUBMIT FOR REVIEW A SHOP DRAWING BASED ON FINAL STRUCTURAL SHOP DRAWINGS FOR LOCATING AND ROUTING ALL DUCTWORK, DAMPERS, EQUIPMENT, PIPING, ETC.
A. COORDINATE FLOOR AND BEAM PENETRATIONS WITH STRUCTURAL.
B. COORDINATE FINAL LOCATION AND ROUTING WITH CEILING, LIGHTS, WALLS, FIRE SPRINKLER PIPING, AND OTHER TRADES WORK.
C. INCLUDE ADDITIONAL OFFSETS, ELBOWS, ROUTING, EQUIVALENT DUCT SIZING EXCHANGE, RELOCATING, ETC. AS REQUIRED FOR A COMPLETE OPERATING MECHANICAL SYSTEM.
D. PROVIDE SHOP DRAWINGS AT NO ADDITIONAL COST TO THE OWNER.

5. MECHANICAL CONTRACTOR SHALL LOCATE AND COORDINATE EXACT LOCATION OF ALL MECHANICAL EQUIPMENT WITHIN THE STRUCTURE.

6. ACCESS DOORS: COORDINATE WITH ARCHITECT AND LOCATE ALL ACCESS DOORS ON SHOP DRAWINGS PRIOR TO BEGINNING OF CONSTRUCTION. ACCESS DOORS IN FIRE RATED STRUCTURE SHALL BE FIRE RATED. VERIFY ACCESS DOOR LOCATIONS WITH GENERAL CONTRACTOR PRIOR TO BIDDING.

7. RATED PENETRATION: DUCT PENETRATIONS THROUGH RATED ENCLOSURES SHALL BE FIRE/SMOKE DAMPERED PER THE LATEST EDITION OF THE UNDERWRITERS LABORATORIES(UL) FIRE RESISTANCE WITH HOURLY RATINGS FOR THROUGH-PENETRATION FIRE STOPS SYSTEM VOLUME #2, OR SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S UL LISTINGS (3M OR EQUIVALENT). DETERMINE REQUIREMENTS WITH GENERAL CONTRACTOR PRIOR TO BID.

8. EXHAUST OUTLETS: SOURCE-SPECIFIC FANS SHALL BE VENTED TO OUTDOORS WITH A MINIMUM 3' CLEARANCE BETWEEN VENT OUTLETS AND BUILDING OPENINGS, AND 10' MINIMUM BETWEEN VENT OUTLETS AND MECHANICAL AIR INTAKES.

9. ROOF PENETRATIONS: SEE ARCHITECTURAL DRAWINGS FOR ROOF CAP, ROOF CURB, ROOF DRAIN, AND VTR DETAILS.

10. EXPOSED PIPING: PROVIDE CHROME PLATING FOR EXPOSED PIPING IN FINISHED ROOMS.

11. PENETRATIONS: PROVIDE ESCUTCHEON PLATES FOR EXPOSED PIPING PENETRATIONS AND SHEET METAL FLASHING FOR EXPOSED DUCTWORK PENETRATIONS.

12. SHAFT AND PLENUM CONNECTIONS: SEAL CONNECTIONS TO AIR SHAFTS AIRTIGHT. PROVIDE AIRTIGHT SEAL AROUND PENETRATIONS IN AIR PLENUMS.

13. LIGHT FIXTURE CLEARANCE: COORDINATE LOCATIONS OF MECHANICAL WORK TO PROVIDE CLEARANCES OVER LIGHTING FIXTURES FOR REMOVAL AND REPLACEMENT.

14. MOTORS: COMPLY WITH ENERGY CODE ENFORCED BY AHJ FOR MINIMUM EFFICIENCIES UNDER FULL LOAD.

15. ACCESS CLEARANCES FOR MAINTENANCE AND REPLACEMENT: VERIFY PHYSICAL DIMENSIONS OF EQUIPMENT TO ENSURE THAT ACCESS CLEARANCES CAN BE MET. COORDINATE LOCATIONS OF MECHANICAL WORK AND WORK OF OTHER TRADES TO PROVIDE ACCESS CLEARANCES FOR SERVICE AND MAINTENANCE.

COORDINATION REQUIREMENTS

1. PIPING: COORDINATE WITH STRUCTURAL FOR EXACT LOCATION OF ALL STRUCTURAL FRAMING AND FOOTINGS AND FINALIZE THE EXACT ROUTING OF ALL PIPES WITH STRUCTURAL AND AT THE SITE PRIOR AND DURING THE CONSTRUCTION.

2. DUCTWORK: LOCATE AND COORDINATE THE EXACT LOCATION OF DUCTWORK WITH STRUCTURAL PLANS AND WITH THE GENERAL CONTRACTOR PRIOR TO INSTALLATION OF ANY STRUCTURE OR EQUIPMENT. COORDINATE WITH FRAMING CONTRACTOR TO ASSURE JOIST SPACES LINE UP WHEN DUCTWORK MUST PASS THROUGH DIFFERENT JOIST SPACES.

3. ADJUSTMENTS: ALL EQUIPMENT, MOTORS, FANS GAS BURNERS, IGNITION DEVICES, DRIVES, ETC. SHALL BE ADJUSTED AND BALANCED TO OPERATE AT SPECIFIED RATINGS AS REQUIRED FOR THIS PROJECT SITE AND ACCOUNTING FOR ELEVATION ABOVE SEA LEVEL.

4. APPROVALS: MECHANICAL AND PLUMBING EQUIPMENT SHALL BE APPROVED FOR INSTALLATION IN THE PROJECT LOCATION AND SHALL HAVE ALL CERTIFICATIONS AND RATINGS TO MEET ALL ENERGY, POLLUTION, ENVIRONMENTAL, SEISMIC, ETC. CODES AND REGULATIONS. THE CONTRACTOR SHALL COORDINATE WITH HIS MANUFACTURE SUPPLIERS AND SHALL INCLUDE ALL COSTS REQUIRED TO MEET THESE REQUIREMENTS IN HIS BID.

5. FIRE PROTECTION: CONTRACTOR SHALL PROVIDE A FULLY DESIGNED FIRE PROTECTION SPRINKLER SYSTEM IN COMPLIANCE WITH NFPA AND LOCAL CODES. PROVIDE DESIGN, PERMITS, MATERIALS, INSTALLATION, TESTING AND ALL OTHER FOR A FULLY OPERATIONAL SYSTEM. LOCATION OF ALL PIPING TO BE COORDINATED WITH OTHER TRADES.

6. FIREPLACES: COORDINATE WITH THE GENERAL CONTRACTOR TO DETERMINE GAS FIREPLACE FLUE AND COMBUSTION AIR DUCTWORK REQUIREMENTS PRIOR TO BIDDING.

PIPING NOTES

1. DISASSEMBLY PROVISIONS: PROVIDE UNIONS OR FLANGES AT PIPING CONNECTIONS TO EQUIPMENT, COILS, TRAPS, CONTROL VALVES, AND OTHER COMPONENTS TO ALLOW DISASSEMBLY FOR MAINTENANCE.

2. REDUCERS: PROVIDE AS REQUIRED FROM LINE PIPE SIZE TO EQUIPMENT, TRAP, COIL, AND CONTROL VALVE CONNECTION SIZES.

3. OFFSETS: PROVIDE FOR BRANCH LINES TO EQUIPMENT.

4. DIELECTRIC UNIONS: PROVIDE AT CONNECTIONS OF DISSIMILAR PIPE.

5. REFRIGERANT PIPING: PROVIDE SIZING & INSTALLATION IN STRICT ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.

6. CONDENSATE DRAIN: PROVIDE A P-TRAP FOR EACH HVAC UNIT CONDENSATE PAN WITH PLUG TEES FOR CLEANING. CONDENSATE DRAINS SHALL BE DISCHARGED TO AN INDIRECT WASTE OR OUTSIDE.

INSULATION/LINING NOTES

1. ENERGY CODE: AS A MINIMUM, COMPLY WITH THICKNESSES AND TYPES LISTED IN ENERGY CODE ENFORCED BY AHJ.

2. EXTENT OF INTERNAL DUCT LINING:
A. GRILLE AND DIFFUSER BOXES AND BOOTS.
B. TRANSFER DUCTS.
C. THE FIRST 10 FEET OF SUPPLY AND RETURN DUCTWORK FROM THE AIR HANDLER.

3. EXTENT OF EXTERNAL DUCT INSULATION:
A. SUPPLY AND RETURN AIR IN UNCONDITIONED SPACES, MECHANICAL ROOMS, ELECTRICAL ROOMS, AND EQUIPMENT ROOMS NOT SPECIFIED TO BE INTERNALLY LINED .
B. SUPPLY AIR ABOVE CEILINGS OR EXPOSED NOT SPECIFIED TO BE INTERNALLY LINED.
C. OUTDOOR AIR INTAKE.

4. MISCELLANEOUS DUCT FITTINGS (CONICAL TAKEOFFS, ETC.): WRAP WITH INSULATION FOR CONDENSATION CONTROL.

PLAN NOTES

1. DUCTWORK SHALL BE METALLIC DUCTWORK

2. TEST AND BALANCE WORK SHALL BE PERFORMED BY AN INDEPENDENT TEST AND BALANCE AGENCY. PROVIDE (3) COPIES OF TEST AND BALANCE REPORT TO OWNER.

3. COORDINATE DUCTWORK WITH MISCELLANEOUS OBSTRUCTIONS IN CEILING SPACE.

4. RESTROOM EXHAUST SHALL BE A MINIMUM OF 10' FROM ANY MECHANICAL OUTSIDE AIR INTAKES.

5. ROUTE DUCTWORK UNDERNEATH JOISTS UON.

6. TRANSITION DUCT UNDER BEAMS AND DUCTS. FIELD VERIFY AVAILABLE CEILING CAVITY DIMENSIONS.

7. COORDINATE MOUNTING HEIGHT OF DIFFUSERS WITH ARCHITECTURAL PLANS.

SHEET METAL NOTES

1. REFERENCE: SMACNA HVAC DUCT CONSTRUCTION STANDARDS, METAL AND FLEXIBLE, CURRENT EDITION.

2. CLEARANCE: COORDINATE DUCTWORK WITH MISCELLANEOUS OBSTRUCTIONS IN CEILING SPACE.

3. ROUND ELBOWS AND OFFSETS: FULL RADIUS (R/D = 1.5), 5-PIECE SEGMENTED OR STAMPED. REFER TO SMACNA HVAC FIG 2-7, 2-3. DO NOT USE ANGLED OFFSET (TYPE 1). MITERED OFFSET (TYPE 2) MAY BE USED UP TO 30 DEGREE OFFSET ANGLE.

4. ROUND TEES AND LATERALS: CONICAL TEE PER SMACNA HVAC FIG 3-5; DO NOT USE STRAIGHT TEE; DO NOT USE CONICAL SADDLE TAP FOR EXPOSED DUCTWORK IN FINISHED SPACES. 90-DEGREE TEE WITH OVAL TO ROUND TAP, LATERAL, AND 45-DEGREE RECTANGULAR LEAD-IN PER SMACNA HVAC FIG 3-4.

5. RECTANGULAR ELBOWS AND OFFSETS: FULL RADIUS WHERE SPACE PERMITS, R/W = 1.5; OTHERWISE USE SQUARE CORNER ELBOW WITH TURNING VANES.

6. RECTANGULAR DIVIDED FLOW FITTINGS: USE GENERALLY, EXCEPT BRANCHES TO TERMINALS; SMACNA HVAC FIG 2-5, TYPES 1, 2, 4A, AND 4B. DO NOT USE TYPE 3.

7. TURNING VANES: H.E.P. MANUFACTURER OR APPROVED HIGH EFFICIENCY PROFILE AIRFOIL TYPE FOR RECTANGULAR SQUARE THROAT ELBOWS. ACOUSTICAL TYPE FOR RETURN AIR MITERED ELBOWS.

8. TAKEOFFS TO OPENINGS: CONICAL TYPE WITH VOLUME DAMPER FOR ROUND DUCT BRANCHES PER SMACNA HVAC FIG 2-6, MINIMUM INLET DIAMETER 2 INCHES LARGER THAN DUCT SIZE. 45 DEGREE ENTRY FITTING FOR RECTANGULAR DUCT BRANCHES PER SMACNA HVAC FIG 2-6.

9. FLEXIBLE CONNECTIONS: PROVIDE AT EACH DUCT CONNECTION TO FANS, PACKAGED HVAC EQUIPMENT, EXTERNALLY ISOLATED AIR HANDLING UNITS, FAN COIL UNITS, AND SIMILAR EQUIPMENT. EXCEPTION: EQUIPMENT IN CORRIDOR CEILING SPACES WHERE FIRE RATING IS REQUIRED.

HVAC NOTES

1. ATTACHMENTS: AIR DISTRIBUTION OUTLETS AND LOUVERS SHALL HAVE ALL REQUIRED ACCESSORIES AND ATTACHMENTS FOR A COMPLETE CONNECTION TO THE SPECIFIC TYPE OF STRUCTURE THAT THEY ARE BEING ATTACHED TO, THIS INCLUDES, BUT IS NOT LIMITED TO, EXTERIOR BRICKS, GWB WALLS, GWB CEILING, ETC.

2. DUCTWORK: DUCTWORK SHALL BE SMOOTH SHEET METAL (CLASS-1). DUCTWORK THROUGH FIRE RATED STRUCTURE AND FLOOR SHALL BE MIN. 26 GA. STEEL. MAXIMUM LENGTH OF FLEXIBLE DUCTS SHALL BE 5'-0", UNLESS OTHERWISE NOTED ON DRAWINGS. DUCTWORK SIZES SHOWN ARE INSIDE CLEAR DIMENSIONS.

3. VOLUME DAMPERS: PROVIDE AN ACCESSIBLE MANUAL VOLUME DAMPER FOR EACH SUPPLY, RETURN, OSA, AND EXHAUST OPENING, LOCATED AS FAR UPSTREAM AS POSSIBLE FROM THE OPENING. PROVIDE A MANUAL VOLUME DAMPER FOR BRANCH MAINS SERVING MORE THAN ONE OPENING. VOLUME DAMPERS IN NON-ACCESSIBLE CEILINGS SHALL HAVE A CONTROL ARM EXTENDED TO AN ACCESSIBLE LOCATION.

4. SEISMIC: PROVIDE SEISMIC RESTRAINTS FOR MECHANICAL EQUIPMENT, PIPING, AND DUCTWORK PER SMACNA AND LOCAL REGULATIONS.

5. FILTER CLEARANCE: PROVIDE ADEQUATE CLEARANCE FOR CHANGING AIR FILTERS.

6. DUCTWORK AND PIPING OUTSIDE OF MECHANICAL ROOMS SHALL BE CONCEALED, COORDINATE WITH THE GENERAL CONTRACTOR TO FUR-OUT AS REQUIRED.

7. FIRE RATINGS: RATED FLOOR/CEILING JOINT SPACES HAVING DUCTWORK INSIDE THEM SHALL BE FIRE/SMOKE PROTECTED TO MAINTAIN THE 1-HOUR FLOOR/CEILING RATING PER LOCAL JURISDICTIONS. EXHAUST DUCTWORK PENETRATING THE 1-HOUR ROOF/CEILING OR FLOOR/CEILING ASSEMBLY SHALL HAVE ACCESSIBLE CEILING FIRE DAMPERS. ALTERNATIVELY, THE EXHAUST DUCTWORK SHALL BE ROUTED INSIDE A RATED SHAFT TO PROTECT THE CEILING/ROOF RATING PER THE LOCAL JURISDICTIONS.

8. FIRESTOP: PIPE, DUCT AND CONDUIT PENETRATIONS THROUGH RATED ASSEMBLIES SHALL BE FIRE AND SMOKE STOPPED PER CODE.

9. DUCTWORK: DUCTWORK SHALL BE SMOOTH SHEET METAL (CLASS-1). DUCTWORK THROUGH FIRE RATED STRUCTURE AND FLOOR SHALL BE MIN. 26 GA. STEEL. MAXIMUM LENGTH OF FLEXIBLE DUCTS SHALL BE 5'-0" UNLESS OTHERWISE NOTED ON DRAWINGS. DUCTWORK SIZES SHOWN ARE INSIDE CLEAR DIMENSIONS.

10. VOLUME DAMPERS: PROVIDE AN ACCESSIBLE MANUAL VOLUME DAMPER FOR EACH SUPPLY, RETURN, OSA AND EXHAUST OPENING, LOCATED AS FAR UPSTREAM AS POSSIBLE FROM THE OPENING. PROVIDE A MANUAL VOLUME DAMPER FOR BRANCH MAINS SERVING MORE THAN ONE OPENING. VOLUME DAMPERS IN NON-ACCESSIBLE CEILING SHALL HAVE A CONTROL ARM EXTENDED TO AN ACCESSIBLE LOCATION. PROVIDE "YOUNG" REGULATOR OR EQUAL. EXACT LOCATION OF CONTROL DEVICES VISIBLE IN FINISHED SPACES SHALL BE COORDINATED WITH THE ARCHITECT.

11. CORRIDOR THERMOSTAT: PROVIDE TAMPERPROOF THERMOSTATS IN CORRIDORS. DO NOT PROVIDE PLASTIC GUARDS TO MAKE THE THERMOSTATS TAMPERPROOF. PROVIDE BLANK SECURABLE THERMOSTAT COVERS.

ABBREVIATIONS

ACU	AIR CONDITIONING UNIT
AFF	ABOVE FINISHED FLOOR
AHJ	AUTHORITY HAVING JURISDICTION
AHU	AIR HANDLING UNIT
BDD	BACKDRAFT DAMPER
BHP	BRAKE HORSEPOWER
BTUH	BRITISH THERMAL UNIT PER HOUR
C	COMMON
CAP	CAPACITY
CC	COOLING COIL
CD	CEILING DIFFUSER
CFM	CUBIC FEET PER MINUTE
CLG	CEILING, COOLING
CO	CLEANOUT
COMB	COMBUSTION
CONT	CONTINUE, CONTROL
COP	COEFFICIENT OF PERFORMANCE
CWS	CHILLED/CONDENSER WATER SUPPLY
CWR	CHILLED/CONDENSER WATER RETURN
D	DIAMETER
DB	DRY BULB, DECIBEL
DIM	DIMENSION
DISCH	DISCHARGE
DN	DOWN
EA	EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE
EER	ENERGY EFFICIENCY RATIO
EF	EXHAUST FAN
EFF	EFFICIENCY
EG	EXHAUST GRILLE
ELEC	ELECTRIC
ESP	EXTERNAL STATIC PRESSURE
EXH	EXHAUST
EXT	EXTERIOR, EXTERNAL
F	FAHRENHEIT
FCU	FAN COIL UNIT
FLR	FLOOR
FPM	FEET PER MINUTE
FPS	FEET PER SECOND
FSD	FIRE/SMOKE DAMPER
G	GAS
GAL	GALLONS
GPM	GALLONS PER MINUTE
GRD	GRILLES, REGISTERS, DIFFUSERS
GWB	GYPSUM WALLBOARD
HD	HEAD
HORIZ	HORIZONTAL
HP	HORSEPOWER
HPU	HEAT PUMP UNIT
HRU	HEAT RECOVERY UNIT
HVAC	HEATING, VENTILATING, AND AIR CONDITIONING
HVU	HEATING & VENTILATION UNIT
HWR	HOT WATER RETURN
HWS	HOT WATER SUPPLY
HX	HEAT EXCHANGER
ID	INDIDRECT DRAIN, INSIDE DIAMETER
IN	INCH
KW	KILOWATT
L	LONG, LENGTH
LB	POUND
MBH	THOUSAND BTU PER HOUR
MECH	MECHANICAL
MCA	MIN. CIRCUIT AMPACITY
MOCP	MAX. OVER CURRENT PROTECTION
MTD	MOUNTED
OSA	OUTDOOR AIR
OBD	OPPOSED BLADE DAMPER
OD	OUTSIDE DIMENSION OR DIAMETER
OPNG	OPENING
P	PUMP
PD	PRESSURE DROP, PUMPED DRAIN
POC	POINT OF CONNECTION
PRV	PRESSURE REDUCING VALVE
PSIG	POUNDS PER SQUARE IN GAUGE
RA	RETURN AIR
RD	ROOF DRAIN
REF	REFERENCE
RF	RELIEF FAN
RG	RETURN GRILLE
RPM	REVOLUTIONS PER MINUTE
SA	SUPPLY AIR
SCH	SCHEDULE
SF	SUPPLY FAN, SQUARE FOOT
SENS	SENSIBLE
SG	SUPPLY GRILLE
SMACNA	SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION
SO	SCREENED OPENING
SP	STATIC PRESSURE
SS	STAINLESS STEEL, SANITARY SEWER
SQ	SQUARE
TG	TRANSFER GRILLE
TYP	TYPICAL
UH	UNIT HEATER
UON	UNLESS OTHERWISE NOTED
V	VENT
VENT	VENTILATION, VENTILATOR
VTR	VENT THRU ROOF
W	WASTE, WATT, WIDE
WB	WET BULB (TEMPERATURE)

EQUIPMENT

- EF-1 — TYPICAL EQUIPMENT DESIGNATION (EXHAUST FAN SHOWN)
- DSD — DUCT SMOKE DETECTOR
- T — ROOM THERMOSTAT OR TEMPERATURE TRANSMITTER
- H — ROOM HUMIDISTAT OR HUMIDITY TRANSMITTER
- CO — CARBON MONOXIDE SENSOR
- SD — SMOKE DETECTOR

TERMINALS

- CD-12x12 OR CD-1, 400 400 — DIFFUSER/GRILLE TYPE, AND NUMBER OR SIZE DESIGN CFM (WHERE APPLICABLE)
- CEILING DIFFUSER (FLOW ARROWS SHOWN FOR NON SYMMETRICAL AIRFLOW)
- CEILING RETURN/EXHAUST GRILLE
- LINEAR DIFFUSER, CEILING OR WALL MOUNTED (FLOW ARROWS SHOWN FOR NON SYMMETRICAL AIRFLOW)
- WALL SUPPLY GRILLE (SG)
- WALL RETURN/EXHAUST GRILLE (RG, EG)
- 50 — TRANSFER GRILLE (TG), DUCT CONNECTED, WALL MOUNTED W/ OPTIONAL CFM SHOWN
- TRANSFER GRILLE, CEILING MOUNTED WITH FULL-SIZED LINED DUCT CONNECTION

PIPING

- CD — CONDENSATE DRAINAGE
- G — NATURAL GAS - STD. PRESSURE
- MPG — NATURAL GAS - MEDIUM PRESSURE
- GWB — GYPSUM WALLBOARD
- HD — HEAD
- PIPE CAP
- PIPE PLUG
- UNION
- FLANGE
- GATE VALVE OR BALL VALVE
- BALL VALVE
- PRESSURE REDUCING VALVE (PRV)
- BREAK IN PIPING OR DUCTWORK
- RL — RAIN LEADER (RL)
- OL — OVERFLOW RAIN LEADER (OL)
- CHECK VALVE

DUCTWORK

- 18x12 — DUCT (1ST FIGURE = SIDE SHOWN, 2ND FIGURE = SIDE NOT SHOWN)
- UP DOWN — DUCT SECTION, POSITIVE PRESSURE
- UP DOWN — DUCT SECTION, NEGATIVE PRESSURE
- UP DOWN — ROUND DUCT SECTION
- UP UP UP — DUCT PENETRATION THRU FLOOR OR ROOF
- VOLUME DAMPER
- FSD FSD — FIRE/SMOKE DAMPER (--<| = HORIZ DUCT, --<> = VERT DUCT), 2-HR RATED, UON
- FD FD — FIRE DAMPER (--<| = HORIZ DUCT, --<> = VERT DUCT), 2-HR RATED, UON
- 90° ELBOW, R/D OR R/W=1.5
- SQUARE CORNER ELBOW WITH TURNING VANES
- 90° TAKE-OFF OR TEE
- 90° CONICAL TAKE-OFF
- 45° LATERAL TAKE-OFF
- TRANSITION OR REDUCER (FOT = FLAT ON TOP, FOB = FLAT ON BOTTOM)
- WYE FITTING
- 90° RECTANGULAR TAKE-OFF WITH 45° TAPER
- 90° DIVERGING RECTANGULAR TEE, EITHER RADIUS OR TURNING VANES
- PARALLEL FLOW BRANCH CONNECTION, EITHER RADIUS OR TURNING VANES
- FLEXIBLE DUCT
- ROUND DUCT INDICATOR

APPLICABLE CODES

2018 WASHINGTON STATE BUILDING CODE
2018 WASHINGTON STATE FIRE CODE
2018 WASHINGTON STATE MECHANICAL CODE
2018 WASHINGTON STATE PLUMBING CODE
2018 WASHINGTON STATE ENERGY CODE - COMMERCIAL
2020 NATIONAL ELECTRIC CODE

CONTRACTOR SUBSTITUTIONS & REVISIONS

CONTRACTOR SUBSTITUTIONS & REVISIONS: PLEASE SUBMIT PROPOSALS FOR SUBSTITUTIONS OR REVISIONS FOR REVIEW AND APPROVAL PRIOR TO ORDERING MATERIAL OR DOING WORK. FOR EQUIPMENT THAT IS SCHEDULED BY MANUFACTURER'S NAME AND CATALOG DESIGNATIONS, THE MANUFACTURER'S PUBLISHED DATA AND/OR SPECIFICATION FOR THAT ITEM ARE CONSIDERED PART OF SPECIFICATION. ENGINEERING COSTS FOR REVISING MEP PLANS SHALL BE ADDRESSED IN THE COST ANALYSIS OF THE SUBSTITUTION PROPOSAL. CONTRACTOR TO COORDINATE WITH ENGINEER AND DETERMINE ASSOCIATED DESIGN AND PERMITTING COSTS. CONTRACTOR SHALL BE RESPONSIBLE FOR OTHER COSTS ASSOCIATED WITH UNFORESEEN ISSUES RESULTING FROM SUBSTITUTIONS OR REVISIONS.

DRAWINGS ARE DIAGRAMMATIC, SHOWING THE GENERAL LOCATION, TYPE, LAYOUT, AND EQUIPMENT REQUIRED. THE DRAWINGS SHALL NOT BE SCALED FOR EXACT MEASUREMENT. REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS. REFER TO MANUFACTURER'S STANDARD INSTALLATION DRAWINGS FOR EQUIPMENT CONNECTIONS AND INSTALLATION REQUIREMENTS. PROVIDE DUCTWORK, CONNECTIONS, ACCESSORIES, OFFSETS, AND MATERIALS NECESSARY FOR A COMPLETE SYSTEM.

VICINITY MAP:

ASSESSOR'S PARCEL NO:
00576001300001

PROJECT DESCRIPTION:
SIX STORY MIXED-USE DEVELOPMENT. THE THIRD OF EIGHT MIXED-USE BUILDINGS FRONTING RIVERFRONT BOULEVARD. OTHER COMMERCIAL BUILDINGS TO BE DEVELOPED ON THIS SITE.

ADDRESS:
3710 RIVERFRONT BLVD
EVERETT, WA 98201

		INCLUDED IN SET					
DWG	DESCRIPTION	BUILDING PERMIT SET 05/31/22	PERMIT RESPONSE 02 03/13/26				
M0.00	LEGEND, GENERAL NOTES, & DRAWING INDEX	X	X				
M0.01	PROJECT NOTES & TABLES	X	X				
M0.02	VENTILATION CALCULATIONS	X	X				
M0.03	MECHANICAL SCHEDULES	X	X				
M2.01N	LEVEL 1 FLOOR PLAN - NORTH	X	X				
M2.01S	LEVEL 1 FLOOR PLAN - SOUTH	X	X				
M2.02N	LEVEL 2 FLOOR PLAN - NORTH	X	X				
M2.02S	LEVEL 2 FLOOR PLAN - SOUTH	X	X				
M2.03N	LEVEL 3 FLOOR PLAN - NORTH	X	X				
M2.03S	LEVEL 3 FLOOR PLAN - SOUTH	X	X				
M2.04N	LEVEL 4 FLOOR PLAN - NORTH	X	X				
M2.04S	LEVEL 4 FLOOR PLAN - SOUTH	X	X				
M2.05N	LEVEL 5 FLOOR PLAN - NORTH	X	X				
M2.05S	LEVEL 5 FLOOR PLAN - SOUTH	X	X				
M2.06N	LEVEL 6 FLOOR PLAN - NORTH	X	X				
M2.06S	LEVEL 6 FLOOR PLAN - SOUTH	X	X				
M2.07N	ROOF PLAN - NORTH	X	X				
M2.07S	ROOF PLAN - SOUTH	X	X				
M3.00	ENLARGED DWELLING UNIT HVAC PLANS	X	X				
M3.01	ENLARGED DWELLING UNIT HVAC PLANS	X	X				
M3.02	ENLARGED DWELLING UNIT HVAC PLANS	X	X				
M3.03	ENLARGED DWELLING UNIT HVAC PLANS	X	X				
M3.04	ENLARGED DWELLING UNIT HVAC PLANS	X	X				
M4.00	MECHANICAL DETAILS	X	X				
M4.01	MECHANICAL DETAILS	X	X				
M5.00	VRF RISER DIAGRAM	X					
M7.00	LOAD CALCULATIONS	X	X				
M7.01	LOAD CALCULATIONS	X	X				
M7.02	LOAD CALCULATIONS	X					
M8.00	WSEC FORMS	X	X				

EVERETT RIVERFRONT BUILDING 1-D
3710 Riverfront Blvd
Everett, WA 98203

ROBISON ENGINEERING, INC
19401 40TH AVE W, SUITE 302
LYNNWOOD, WA 98036
TEL: 2063643343
CONTACT: PETER ROCKSTEAD

REED JACKSON STATE OF WASHINGTON PROFESSIONAL ENGINEER 03-13-26

1101 Second Ave, Ste 100
Seattle, WA 98101

206 962 6500
MG2.com

PERMIT RESPONSE 02

03/13/2026

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△	DATE	DESCRIPTION

1073-002
PM: PETER ROCKSTEAD
DRAWN BY: PCR
03/13/2026

COVER SHEET, GENERAL NOTES & DRAWING INDEX

M0.00

3/13/2026 2:02:11 PM Autodesk Docs://MG2-CE Shelter Holdings-Everett Riverfront Development PH2-21-5905-01A/Riverfront Apartments Building D - MEP.rvt

SEQUENCE OF OPERATION

SPLIT SYSTEM & VRF HEAT PUMPS
UNOCCUPIED MODE:
SUPPLY FAN: OFF
HEAT PUMP HEATING: OFF
HEAT PUMP COOLING: OFF
NIGHT SETBACK CYCLE TO MAINTAIN NIGHT SETBACK SETPOINT.
OCCUPIED MODE:
SUPPLY FAN: ON WHEN HEATING OR COOLING IS CALLED FOR
HEAT PUMP HEATING: CYCLED IN SEQUENCE TO MAINTAIN HEATING SETPOINT.
HEAT PUMP COOLING: CYCLED IN SEQUENCE TO MAINTAIN COOLING SETPOINT.

CORRIDOR VENTILATION UNITS: RTU-1, RTU-2
DESCRIPTION:
SINGLE ZONE ROOFTOP PACKAGE UNIT, HEAT PUMP HEATING & COOLING, SUPPLY & RETURN WITH OUTSIDE AIR ECONOMIZER.
OPERATION:
RTU-1 AND RTU-2 SHALL OPERATE CONTINUOUSLY 24/7. HEATING AND COOLING SHALL BE CYCLED IN SEQUENCE TO MAINTAIN TEMPERATURE SETPOINTS. UNITS SHALL BE CONNECTED TO FIRE ALARM SYSTEM AND TURN OFF UPON ACTIVATION OF ANY GENERAL BUILDING ALARM.

EXHAUST FANS:
TRASH ROOMS EXHAUST FAN: EF-7-1
EF-7-1 SHALL RUN CONTINUOUSLY 24/7. EF-7-1 IS CONNECTED TO LEGALLY REQUIRED STANDBY POWER AND SHALL CONTINUE TO RUN AT SAME SPEED WHEN METHANE ALARM ACTIVATES INCREASED LEVEL 1 VENTILATION.

ENERGY RECOVERY VENTILATORS:
RESIDENTIAL:
RESIDENTIAL ERVS SHALL RUN CONTINUOUSLY 24/7 AT LOW SPEED. HIGH SPEED ACTIVATED BY 20/40/60-MINUTE TIMER SWITCH IN ANY BATHROOM. MANUAL ON/OFF CONTROLS PROVIDED BY ELECTRICAL CONTRACTOR TO TURN UNIT OFF DURING PERIODS OF POOR OUTDOOR AIR QUALITY PER WSMC 403.4.

L1 TRASH ROOM SUPPLEMENTAL EXHAUST FAN: EF-1-1
FAN SHALL ACTIVATE AND RUN CONTINUOUSLY AT 'ALARM' SPEED INDICATED IN SCHEDULE UPON ACTIVATION OF METHANE ALARM SYSTEM AT 1,000 PPM OF METHANE. INCREASED EXHAUST AIRFLOW KEEPS ROOM PRESSURE NEUTRAL DURING ALARM OPERATION. NEGATIVE PRESSURE IS UNACCEPTABLE FOR CONSENT DECREE REQUIREMENTS AND POSITIVE PRESSURE IS UNACCEPTABLE FOR WSMC REQUIREMENTS IN TRASH ROOM.

L6 AMENITY:
ERV-6-1 SHALL RUN CONTINUOUSLY AT SPEED INDICATED IN SCHEDULE DURING OCCUPIED HOURS WITH MOTORIZED DAMPERS OPEN.
WHEN AMENITY SPACE IS CLOSED AND UNOCCUPIED, ERV SHALL TURN OFF AND MOTORIZED DAMPERS SHALL CLOSE.

LEVEL 1:
ERVs ON LEVEL 1 SHALL RUN CONTINUOUSLY 24/7 AT 'NORMAL OPERATION' AIRFLOW RATE INDICATED IN SCHEDULE TO PROVIDE 1 AIR CHANGE PER HOUR OF CONTINUOUS VENTILATION.
ERVs SHALL RAMP UP TO 'ALARM' SPEED INDICATED IN SCHEDULE TO PROVIDE INCREASE IN VENTILATION AIRFLOW TO 2 AIR CHANGES PER HOUR UPON ACTIVATION OF METHANE ALARM SYSTEM AT 1,000 PPM OF METHANE.

SUPPLY FANS:
SUPPLY FANS SERVING LEVEL 1 SPACES: SF-1-2, SF-1-3, SF-1-4, SF-1-5
FANS SHALL RUN CONTINUOUSLY 24/7 AT 'NORMAL OPERATION' AIRFLOW RATE INDICATED IN SCHEDULE TO PROVIDE 1 AIR CHANGE PER HOUR OF CONTINUOUS VENTILATION.
FANS SHALL RAMP UP TO 'ALARM' SPEED INDICATED IN SCHEDULE TO PROVIDE INCREASE IN VENTILATION AIRFLOW TO 2 AIR CHANGES PER HOUR UPON ACTIVATION OF METHANE ALARM SYSTEM AT 1,000 PPM OF METHANE.

TRANSFORMER ROOM FANS: SF-7-1 & SF-7-2
WHEN TEMPERATURE IN XFMR ROOM IS BETWEEN 70°F AND 140°F, SF-7-1 SHALL TURN ON AT SPEED INDICATED IN SCHEDULE AND ASSOCIATED MOTORIZED DAMPER SHALL OPEN. SF-7-2 SHALL TURN OFF AND ASSOCIATED MOTORIZED DAMPER SHALL CLOSE.
WHEN TEMPERATURE IN XFMR ROOM IS GREATER THAN 140°F, BOTH SF-7-1 AND SF-7-2 SHALL TURN OFF AND ASSOCIATED MOTORIZED DAMPERS SHALL CLOSE. ALARM WILL SOUND, DESCRIBED IN TRANSFORMER ROOM VENTILATION NOTES ON THIS SHEET.
WHEN TEMPERATURE IN XFMR ROOM IS BELOW 70°F, SF-7-1 SHALL TURN OFF AND ASSOCIATED MOTORIZED DAMPER SHALL CLOSE. SF-7-2 MOTORIZED DAMPER SHALL OPEN AND SF-7-2 SHALL RUN CONTINUOUSLY AT 'NORMAL OPERATION' AIRFLOW RATE INDICATED IN SCHEDULE TO PROVIDE 1 AIR CHANGE PER HOUR OF CONTINUOUS VENTILATION. SF-7-2 SHALL RAMP UP TO 'ALARM' SPEED INDICATED IN SCHEDULE TO PROVIDE INCREASE IN VENTILATION AIRFLOW TO 2 AIR CHANGES PER HOUR UPON ACTIVATION OF METHANE ALARM SYSTEM AT 1,000 PPM OF METHANE.

WA STATE ENERGY CODE (2018)

1. WHERE USED TO CONTROL BOTH HEATING AND COOLING, HVAC THERMOSTATS SHALL BE SET TO MAINTAIN A MINIMUM DEADBAND OF 5°F IN AREAS SERVED AS REQUIRED PER WSEC C403.4.1.2, WITHIN WHICH THE SUPPLY OF HEATING AND COOLING ENERGY TO THE ZONE IS SHUT OFF OR REDUCED TO A MINIMUM.

2. MOTORIZED DAMPERS: PER WSEC C403.7.8 PROVIDE CLASS I MOTORIZED DAMPERS ON ALL OUTSIDE AIR INTAKES, EXHAUST OUTLETS, RELIEF OUTLETS AND STAIRWAY AND ELEVATOR HOISTWAY SHAFT VENTS, WHICH CLOSE AUTOMATICALLY WHEN THE SYSTEM IS OFF. RETURN AIR OPENINGS USED FOR AIRSIDE ECONOMIZER OPERATION SHALL BE EQUIPPED WITH MOTORIZED DAMPERS.

EXCEPTIONS:
GRAVITY DAMPERS IN GROUP R OCCUPANCIES ARE PERMITTED WHERE THE DESIGN OUTDOOR AIR INTAKE OR EXHAUST CAPACITY DOES NOT EXCEED 400 CFM.

2.1. PER WSEC C403.7.8.4, FOR ELEVATOR AND STAIR SHAFTS, PROVIDE MOTORIZED DAMPERS THAT ARE POWERED CLOSED AND FAIL OPEN IN THE RELAXED POSITION. (ELEVATOR AND STAIR SHAFT DAMPERS SHALL BE TIED TO THE FIRE ALARM SYSTEM).

3. ALL DUCTWORK SHALL BE CONSTRUCTED AND SEALED PER REQUIREMENTS IN WSEC C403.10.2.

4. PER WSEC C403.10.3, ALL PIPING SERVING AS PART OF A HEATING OR COOLING SYSTEM SHALL BE THERMALLY INSULATED IN ACCORDANCE WITH TABLE C403.10.3.
4.1. FACTORY-INSTALLED PIPING WITHIN HVAC EQUIPMENT TESTED AND RATED IN ACCORDANCE WITH A TEST PROCEDURE REFERENCED BY WSEC.
4.2. FACTORY-INSTALLED PIPING WITHIN ROOM FAN-COILS AND UNIT VENTILATORS TESTED AND RATED ACCORDING TO AHRI 440 (EXCEPT THAT THE SAMPLING AND VARIATION PROVISIONS OF SECTION 6.5 SHALL NOT APPLY) AND 840, RESPECIVELY.
4.3. PIPING THAT CONVEYS FLUIDS THAT HAVE A DESIGN OPERATING TEMPERATURE RANGE BETWEEN 60°F AND 105°F.
4.4. PIPING THAT CONVEYS FLUIDS THAT HAVE NOT BEEN HEATED OR COOLED THROUGH THE USE OF FOSSIL FUELS OR ELECTRIC POWER.
4.5. STRAINERS, CONTROL VALVES, AND BALANCING VALVES ASSOCIATED WITH PIPING 1 INCH OR LESS IN DIAMETER
4.6. DIRECT BURIED PIPING THAT CONVEYS FLUIDS AT OR BELOW 60° F

5. PER TABLE C403.10.3 WSEC, ALL HEATING AND COOLING SYSTEM HOT WATER PIPING CONVEYING FLUID BELOW 140°F SHALL BE INSULATED AS FOLLOWS:
5.1. PIPE DIAMETERS 1" OR LESS: 1" THICKNESS.
5.2. PIPE DIAMETERS 1" TO 11/2": 1" THICKNESS.
5.3. PIPE DIAMETERS 11/2" OR GREATER: 11/2" THICKNESS.
5.4. INSULATION CONDUCTIVITY RANGE 0.21-0.28 BTU*IN/(H*FT2*°F)

SMOKE CONTROL - ELEVATOR PRESSURIZATION SYSTEMS

1. TO MAINTAIN TENABLE MEANS OF EGRESS IN THE EVENT OF A FIRE, WHERE ELEVATOR PRESSURIZATION IS PROVIDED IN LIEU OF ENCLOSED ELEVATOR LOBBIES, THE ELEVATOR PRESSURIZATION SYSTEM SHALL COMPLY WITH WSFC 909.21. A SEPARATE FAN SYSTEM SHALL BE USED FOR EACH PRESSURIZED ELEVATOR HOISTWAY.

2. PRESSURIZATION FANS SHALL BE ACTIVATED UPON ANY OF THE FOLLOWING:
2.1. ACTIVATION OF MANUAL CONTROL AT FSCP.
2.2. TRANSMISSION OF AN ALARM SIGNAL FROM SPRINKLER WATERFLOW SWITCH OR ALARM-INITIATING SMOKE DETECTOR (OTHER THAN RESIDENTIAL SMOKE ALARM, WHICH ACTIVATES LOCAL ALARM ONLY)
2.3. ACTIVATION OF ANY GENERAL BUILDING ALARM

3. MANUAL CONTROLS SHALL BE PROVIDED AT FSCP NEXT TO FIRE ALARM ANNUNCIATION AND CONTROL PANEL. CONTROLS SHALL BE IN ACCORDANCE WITH WSBC&WSFC 909.16.2.

4. PER WSBC&WSFC 909.11 & 909.21.5, SMOKE CONTROL SYSTEM SHALL BE PROVIDED WITH LEGALLY REQUIRED STANDBY POWER (LRSP) IN ACCORDANCE WITH WSBC 2702, WSFC 1203 & WASHINGTON ELECTRICAL CODE 701. PER WSBC&WSFC 909.11.1, STANDBY POWER SOURCE AND TRANSFER SWITCH ROOM SHALL BE VENTILATED DIRECTLY TO AND FROM THE EXTERIOR. THE INTENT OF THIS VENTILATION IS FOCUSED ON THE PROPER FUNCTION OF STANDBY SOURCE IN TERMS OF ENGINE-DRIVEN GENERATORS HAVING APPROPRIATE COOLING AIR AND COMBUSTION AIR. WHERE GENERATORS ARE NOT THE SOURCE OF LRSP, DIRECT VENTILATION SHALL NOT BE REQUIRED. PER WSBC&WSFC 909.4.6, SMOKE CONTROL SYSTEM SHALL BE CAPABLE OF CONTINUED OPERATION AFTER DETECTION OF THE FIRE EVENT FOR PERIOD OF NOT LESS THAN EITHER 20 MINUTES OR 1.5 TIMES THE CALCULATED EGRESS TIME, WHICHEVER IS GREATER.

5. PROVIDE VFD (BOD: ABB ACH580 4X) FOR EACH PRESSURIZATION FAN TO FACILITATE FINAL BALANCING. VFD SHALL BE MOUNTED NEAR THE PRESSURIZATION FANS IN WEATHERPROOF ENCLOSURES. VFD SHALL HAVE STATUS SIGNAL INDICATOR TO FSCP. FAN SHALL HAVE "INVERTER DUTY" ON NAME PLATE.

6. PER WSBC&WSFC 909.21.1, THE ELEVATOR SHAFTS SHALL BE PRESSURIZED TO A MINIMUM OF 0.10 INCH OF WATER AND A MAXIMUM OF 0.25 INCH OF WATER WITH RESPECT TO ADJACENT OCCUPIED SPACE ON ALL FLOORS. THIS PRESSURE SHALL BE MEASURED AT THE UPPER HOISTWAY DOOR, WITH ALL ELEVATOR CARS AT THE FLOOR OF RECALL AND ALL HOISTWAY DOORS ON THE FLOOR OF RECALL OPEN AND ALL OTHER HOISTWAY DOORS CLOSED. THE PRESSURE DIFFERENTIALS SHALL BE MEASURED BETWEEN THE HOISTWAY AND THE ADJACENT ELEVATOR LANDING. THE OPENING AND CLOSING OF HOISTWAY DOORS AT EACH LEVEL MUST BE DEMONSTRATED DURING THIS TEST. THE SUPPLY AIR INTAKE SHALL BE TAKEN DIRECTLY FROM AN OUTSIDE, UNCONTAMINATED SOURCE AT LEAST 20 FEET FROM ANY MECHANICAL EXHAUST SYSTEM OR OUTLET.
EXCEPTIONS:
6.1. #1: ON FLOORS CONTAINING ONLY GROUP R OCCUPANCIES, THE PRESSURE DIFFERENTIAL IS PERMITTED TO BE MEASURED BETWEEN THE HOISTWAY AND A DWELLING UNIT OR SLEEPING UNIT.
6.2. #2: WHERE AN ELEVATOR OPENS INTO A LOBBY ENCLOSED IN ACCORDANCE WITH SECTION 3007.6 OR 3008.6, THE PRESSURE DIFFERENTIAL IS PERMITTED TO BE MEASURED BETWEEN THE HOISTWAY AND THE SPACE IMMEDIATELY OUTSIDE THE DOORS FROM THE FLOOR TO THE ENCLOSED LOBBY.
6.3. #3: THE PRESSURE DIFFERENTIAL IS PERMITTED TO BE MEASURED RELATIVE TO THE OUTDOOR ATMOSPHERE ON FLOORS OTHER THAN THE FIRE FLOOR, THE TWO FLOORS IMMEDIATELY BELOW THE FIRE FLOOR, OR THE FLOOR IMMEDIATELY ABOVE THE FIRE FLOOR.
6.4. #4: THE MINIMUM POSITIVE PRESSURE OF 0.10 INCHES OF WATER AND A MAXIMUM POSITIVE PRESSURE OF 0.25 INCHES OF WATER WITH RESPECT TO OCCUPIED FLOORS ARE NOT REQUIRED AT THE FLOOR OF RECALL WITH THE DOORS OPEN.

7. FOR EACH PRESSURIZATION FAN, PROVIDE PROVIDE TWO (2) DUCT SMOKE DETECTORS LOCATED DOWNSTREAM OF THE FAN. DETECTORS SHALL BE CONNECTED TO THE FIRE ALARM AS A SUPERVISORY SIGNAL. ACTIVATION OF ONE DETECTOR SHALL TRIGGER SUPERVISORY ALARM. ACTIVATION OF BOTH DETECTORS SHALL AUTOMATICALLY SHUT DOWN THE FAN. MANUAL CONTROLS AT FSCP SHALL BE ABLE TO OVERRIDE DETECTOR SHUTOFF OF FAN. PER WSBC&WSFC 909.10.2, DUCTS SHALL BE LEAK TESTED TO 1.5 TIMES THE MAXIMUM DESIGN PRESSURE IN ACCORDANCE TO INDUSTRY STANDARD. MEASURED LEAKAGE SHALL NOT EXCEED 5% OF DESIGN FLOW.

8. FOR EACH PRESSURIZATION FAN, PROVIDE CLASS-I FAIL-OPEN MOTORIZED DAMPER (BOD: GREENHECK VCD-23) WITH 120 VAC LRSP CONNECTION. DAMPER SHALL HAVE OCI SWITCH FOR MONITORING OF OPEN/CLOSED POSITION BY FIRE ALARM SYSTEM (WIRING FOR MONITORING BY FIRE ALARM VENDOR). POWER AND CONTROL WIRING SHALL BE 2-HOUR PROTECTED PER WSBC 909.20.7.1 & WSFC 909.20.6.1. INTERLOCK DAMPER TO OPEN WHEN FAN OPERATES.

9. PER WSBC&WSFC 909.21.4.4, PRESSURIZATION FANS FOR ELEVATOR HOISTWAY SHALL BE EITHER ADJUSTABLE WITH A CAPACITY OF NOT LESS THAN 1,000 CFM PER ELEVATOR DOOR, OR SHALL BE SPECIFIED BY A REGISTERED DESIGN PROFESSIONAL TO MEET THE REQUIREMENTS OF A DESIGNED PRESSURIZATION SYSTEM SUCH AS PRESCRIBED BY SMOKE CONTROL RATIONAL ANALYSIS.

10. PER WSBC&WSFC 909.20.7.3, BEFORE THE MECHANICAL EQUIPMENT IS APPROVED, THE SYSTEM SHALL BE TESTED IN THE PRESENCE OF THE BUILDING OFFICIAL TO CONFIRM THAT THE SYSTEM IS OPERATING IN COMPLIANCE WITH THESE REQUIREMENTS.

SMOKE CONTROL - GENERAL NOTES

1. SMOKE CONTROL SYSTEM SHALL BE INSPECTED BY THIRD-PARTY SMOKE CONTROL TESTING AGENCY (UNITED BUILDING AND ENGINEERING SERVICES, LLC) OR SHALL SUPPORT ALL SMOKE CONTROL TESTING WITH THIS FIRM. MECHANICAL CONTRACTOR SHALL RETAIN NEBB-CERTIFIED BALANCING FIRM EXXEPERIENCED IN SMOKE CONTROL SYSTEMS FOR BALANCING / FINAL BALANCING / ADJUSTMENTS TO MEET REQUIREMENTS AS LISTED BY CODE AND BY THE THIRD-PARTY SMOKE CONTROL TESTING AGENCY. CERTIFIED BALANCING REPORTS OF THE SYSTEM SHALL BE PROVIDED TO THE SMOKE CONTROL TESTING AGENCY. CONTRACTOR SHALL SUPPORT ALL TESTING AND INSPECTIONS WORK AS REQUIRED.

2. SMOKE DETECTION SYSTEM CONTROL SHALL COMPLY WITH WSMC 606
2.1. PER WSMC 606.1, DUCT SMOKE DETECTOR SHALL COMPLY WITH UL 268A.
2.2. PER WSMC 606.1, OTHER SMOKE DETECTOR SHALL COMPLY WITH UL 268
2.3. PER WSMC 606.2.1, SMOKE DETECTOR SHALL BE INSTALLED IN THE RETURN AIR SYSTEM WITH DESIGN CAPACITY GREATER THAN 2,000 CFM.
2.4. PER WSMC 606.2.2, WHERE MULTIPLE AIR-HANDLER SYSTEM SHALL COMMON DUCT OR PLENUM WITH COMBINED DESIGN CAPACITY GREATER THAN 2,000 CFM SHALL BE INSTALLED SMOKE DETECTOR IN THE RETURN AIR SYSTEM

3. SMOKE DAMPERS SHALL COMPLY WITH WSBC 717.3.3.2 & WSMC 607.3.3.2
3.1. WHERE A SMOKE DAMPER IS INSTALLED WITHIN A DUCT, A SMOKE DETECTOR SHALL BE INSTALLED INSIDE THE DUCT OR OUTSIDE THE DUCT WITH SAMPLING TUBES PROTRUDING INTO THE DUCT. THE DETECTOR OR TUBES WITHIN THE DUCT SHALL BE WITHIN 5 FEET OF THE DAMPER. AIR OUTLETS AND INLETS SHALL NOT BE LOCATED BETWEEN THE DETECTOR OR TUBES AND THE DAMPER. THE DETECTOR SHALL BE LISTED FOR THE AIR VELOCITY, TEMPERATURE AND HUMIDITY ANTICIPATED AT THE POINT WHERE IT IS INSTALLED. OTHER THAN IN MECHANICAL SMOKE CONTROL SYSTEMS, DAMPERS SHALL BE CLOSED UPON FAN SHUTDOWN WHERE LOCAL SMOKE DETECTORS REQUIRE A MINIMUM VELOCITY TO OPERATE.
3.2. WHERE A SMOKE DAMPER IS INSTALLED ABOVE SMOKE BARRIER DOOR IN A SMOKE BARRIER, A SPOT-TYPE DETECTOR SHALL BE INSTALLED ON EITHER SIDE OF THE DOOR OPENING. THE DETECTOR SHALL BE LISTED FOR RELEASING SERVICE IF USED FOR DIRECT INTERFACE WITH THE DAMPER.
3.3. WHERE A SMOKE DAMPER IS INSTALLED IN AN AIR TRANSFER OPENING IN A WALL, A SPOT-TYPE DETECTOR SHALL BE INSTALLED ON EITHER SIDE OF THE SMOKE BARRIER DOOR OPENING. THE DETECTOR SHALL BE LISTED FOR RELEASING SERVICE IF USED FOR DIRECT INTERFACE WITH THE DAMPER.
3.4. WHERE A SMOKE DAMPER IS INSTALLED IN A CORRIDOR WALL OR CEILING, THE DAMPER SHALL BE PERMITTED TO BE CONTROLLED BY A SMOKE DETECTION SYSTEM INSTALLED IN THE CORRIDOR.
3.5. WHERE A SMOKE DAMPER IS INSTALLED IN AN AREA SERVED BY THE DUCT IN WHICH THE DAMPER WILL BE LOCATED, THE DAMPER SHALL BE PERMITTED TO BE CONTROLLED BY A SMOKE DETECTION SYSTEM.

4. PRESSURIZATION SYSTEM SHALL COMPLY WITH WSBC&WSFC 909. PER RCW 19.27.700, SMOKE CONTROL SYSTEM SHALL ALSO COMPLY WITH NFPA 92.

5. A RATIONAL ANALYSIS SUPPORTING THE SMOKE CONTROL SYSTEMS, OPERATION, SUPPORTING SYSTEMS, AND CONSTRUCTION METHODS SHALL ACCOMPANY THE CONSTRUCTION DOCUMENTS PER WSBC&WSFC 909.4 AND NFPA 92 CHAPTER 7.
5.1. PER SECTIONS 909.4.1 THRU 909.4.7, RATIONAL ANALYSIS SHALL INCLUDE ANALYSIS OF THE STACK EFFECT, THE TEMPERATURE EFFECT OF FIRE, THE EFFECTS OF WIND, THE EFFECTS OF HVAC SYSTEMS ON SMOKE AND FIRE TRANSPORT, EFFECTS OF THE LOCAL CLIMATE ON THE SYSTEM, THE DURATION OF OPERATION, AND THE INTERACTION EFFECTS BETWEEN THE SMOKE CONTROL SYSTEMS.
5.2. RATIONAL ANALYSIS SHALL DETERMINE THE BASIS OF DESIGN FOR THE PRESSURIZATION SYSTEM AND SHALL BE PROVIDED TO THE DESIGN TEAM.

6. PER WSBC&WSFC 909.5.3.2, DUCTS AND AIR TRANSFER OPENINGS PENETRATING SMOKE BARRIERS SHALL BE PROTECTED WITH A MINIMUM CLASS II, 250°F SMOKE DAMPER COMPLYING WITH SECTION 717.

7. PER WSBC&WSFC 909.7, SMOKE CONTROL SYSTEMS USING THE AIRFLOW METHOD SHALL BE DESIGNED IN ACCORDANCE WITH NFPA 92.

8. PER WSBC&WSFC 909.10.5, BELT-DRIVEN FANS SHALL HAVE 1.5 TIMES THE NUMBER OF BELTS REQUIRED FOR THE DESIGN DUTY, WITH THE MINIMUM NUMBER OF BELTS BEING TWO.

9. PER WSBC&WSFC 909.10.5, MOTORS DRIVING FANS SHALL NOT BE OPERATED BEYOND THEIR NAMEPLATE HP AND SHALL HAVE A MINIMUM SERVICE FACTOR OF 1.15. DOES NOT APPLY TO FAN WITH VFD THAT HAS "INVERTER DUTY" ON FAN NAMEPLATE DUE TO COMPLYING WITH NEMA STANDARD.

11. FIRE DETECTION SYSTEMS PROVIDING CONTROL INPUT OR OUTPUT SIGNALS TO MECHANICAL SMOKE CONTROL SYSTEMS SHALL COMPLY WITH WSBC&WSFC 907 AND BE EQUIPPED WITH A CONTROL UNIT COMPLYING WITH UL 864 AND LISTED AS SMOKE CONTROL EQUIPMENT.

12. PER WSBC&WSFC 909.15, IDENTICAL CONTROL DIAGRAMS SHOWING ALL DEVICES IN THE SYSTEM & IDENTIFYING THEIR LOCATION & FUNCTION SHALL BE MAINTAINED CURRENT AND KEPT ON FILE WITH THE FIRE CODE OFFICIAL, THE FIRE DEPARTMENT AND IN THE FIRE COMMAND CENTER IN A FORMAT AND MANNER APPROVED BY THE FIRE CODE OFFICIAL. SUCH CONTROL DIAGRAMS ARE NOT REQUIRED FOR STAIRWAY OR ELEVATOR HOISTWAY PRESSURIZATION SYSTEMS IN LOW-RISE BUILDINGS.

13. PER WSBC&WSFC 909.16.1, STATUS INDICATORS SHALL BE PROVIDED FOR ALL SMOKE CONTROL EQUIPMENT, ANNUNCIATED BY FAN AND ZONE AND BY PILOT-LAMP-TYPE INDICATORS AS FOLLOW:
13.1. FANS, DAMPER AND OTHER OPERATING EQUIPMENT IN THEIR NORMAL STATUS-WHITE.
13.2. FANS, DAMPER AND OTHER OPERATING EQUIPMENT IN THEIR OFF OR CLOSED STATUS-RED.
13.3. FANS, DAMPER AND OTHER OPERATING EQUIPMENT IN THEIR ON OR OPEN STATUS-GREEN.
13.4. FANS, DAMPER AND OTHER OPERATING EQUIPMENT IN THEIR FAULT STATUS-YELLOW/AMBER.

14. PER WSBC&WSFC 909.16.2, SMOKE CONTROL PANEL SHALL PROVIDE CONTROL CAPABILITY OVER THE COMPLETE SMOKE CONTROL SYSTEM EQUIPMENT WITHIN THE BUILDING AS FOLLOWS:
14.1. ON-AUTO-OFF CONTROL OVER EACH INDIVIDUAL PIECE OF OPERATING SMOKE CONTROL EQUIPMENT THAT CAN BE CONTROLLED FROM OTHER SOURCES WITHIN THE BUILDING.
14.2. OPEN-AUTO-CLOSE CONTROL OVER INDIVIDUAL DAMPERS RELATING TO SMOKE CONTROL AND THAT ARE CONTROLLED FROM OTHER SOURCES WITHIN THE BUILDING.
14.3. ON-OFF OR OPEN-CLOSE CONTROL OVER SMOKE CONTROL AND OTHER CRITICAL EQUIPMENT ASSOCIATED WITH A FIRE OR SMOKE EMERGENCY AND THAT CAN ONLY BE CONTROLLED FROM THE CONTROL PANEL.

15. ACCEPTANCE TESTING SHALL BE PERFORMED IN ACCORDANCE WITH WSBC&WSFC 909.18. PER 909.19, TESTING SHALL BE CONDUCTED PRIOR TO OCCUPANCY AND BUILDINGS SHALL NOT BE ISSUED CERTIFICATE OF OCCUPANCY UNTIL BUILDING OFFICIAL DETERMINES THAT THE PROVISIONS OF THIS SECTION HAVE BEEN FULLY MET.

16. PER WSBC&WSFC 1010.1.3, FORCES TO UNLATCH AND OPEN DOORS:
16.1. THE FORCES TO UNLATCH DOOR SHALL COMPLY WITH THE FOLLOWING:
16.1.1. WHERE DOOR HARDWARE OPERATES BY PUSH OR PULL, THE OPERATIONAL FORCE TO UNLATCH THE DOOR SHALL NOT EXCEED 15 POUNDS.
16.1.2. WHERE DOOR HARDWARE OPERATES BY ROTATION, THE OPERATIONAL FORCE TO UNLATCH THE DOOR SHALL NOT EXCEED 28 INCH-POUNDS.
16.2. THE FORCE TO OPEN DOORS SHALL COMPLY WITH THE FOLLOWING:
16.2.1. FOR INTERIOR SWINGING EGRESS DOOR THAT ARE MANUALLY OPERATED, OTHER THAN DOOR REQUIRED TO BE FIRE RATED, THE FORCE FOR PUSHING OR PULLING OPEN THE DOOR SHALL NOT EXCEED 5 POUNDS.
16.2.2. FOR OTHER SWING DOORS, SLIDING DOORS OR FOLDING DOORS, AND DOORS REQUIRED TO BE FIRE RATED, THE DOOR SHALL REQUIRED NOT MORE THAN A 30-POUND FORCE TO BE SET IN MOTION AND SHALL MOVE TO A FULL-OPEN POSITION WHEN SUBJECTED TO NOT MORE THAN A 15-POUND FORCE.

17. PER WSBC 3003.1.4, WHERE STANDBY POWER IS CONNECTED TO ELEVATORS, THE MACHINE ROOM AIR CONDITIONING SHALL BE CONNECTED TO THE STANDBY POWER SOURCE

SMOKE CONTROL - EXIT STAIRWAY PRESSURIZATION SYSTEMS

1. TO MAINTAIN TENABLE MEANS OF EGRESS IN THE EVENT OF A FIRE, WHERE STAIRWAY PRESSURIZATION IS PROVIDED, THE PRESSURIZATION SYSTEM SHALL COMPLY WITH WSBC&WSFC 909.20.6. A SEPARATE FAN SYSTEM SHALL BE USED FOR EACH PRESSURIZED STAIRWAY.

2. PRESSURIZATION FANS SHALL BE ACTIVATED UPON ANY OF THE FOLLOWING:
2.1. ACTIVATION OF MANUAL CONTROLS AT FSCP
2.2. TRANSMISSION OF AN ALARM SIGNAL FROM SPRINKLER WATERFLOW SWITCH OR ALARM-INITIATING SMOKE DETECTOR (OTHER THAN RESIDENTIAL SMOKE ALARM, WHICH ACTIVATES LOCAL ALARM ONLY)
2.3. ACTIVATION OF ANY GENERAL BUILDING ALARM

3. MANUAL CONTROLS SHALL BE PROVIDED AT FSCP NEXT TO FIRE ALARM ANNUNCIATION AND CONTROL PANEL. CONTROLS SHALL BE IN ACCORDANCE WITH WSBC&WSFC 909.16.2.

4. PER WSBC&WSFC 909.11, SMOKE CONTROL SYSTEM SHALL BE PROVIDED WITH LEGALLY REQUIRED STANDBY POWER (LRSP) IN ACCORDANCE WITH WSBC 2702, WSFC 1203 & WASHINGTON ELECTRICAL CODE 701. PER WSBC&WSFC 909.11.1, STANDBY POWER SOURCE AND TRANSFER SWITCH ROOM SHALL BE VENTILATED DIRECTLY TO AND FROM THE EXTERIOR. THE INTENT OF THIS VENTILATION IS FOCUSED ON THE PROPER FUNCTION OF STANDBY SOURCE IN TERMS OF ENGINE-DRIVEN GENERATORS HAVING APPROPRIATE COOLING AIR AND COMBUSTION AIR. WHERE GENERATORS ARE NOT THE SOURCE OF LRSP, DIRECT VENTILATION SHALL NOT BE REQUIRED. PER WSBC&WSFC 909.4.6, SMOKE CONTROL SYSTEM SHALL BE CAPABLE OF CONTINUED OPERATION AFTER DETECTION OF THE FIRE EVENT FOR PERIOD OF NOT LESS THAN EITHER 20 MINUTES OR 1.5 TIMES THE CALCULATED EGRESS TIME, WHICHEVER IS GREATER.

5. PROVIDE VFD (BOD: ABB ACH580 4X) FOR EACH PRESSURIZATION FAN TO FACILITATE FINAL BALANCING. VFD SHALL BE MOUNTED NEAR THE PRESSURIZATION FANS IN WEATHERPROOF ENCLOSURES. VFD SHALL HAVE STATUS SIGNAL INDICATOR TO FSCP. FAN SHALL HAVE "INVERTER DUTY" ON NAME PLATE.

6. PRESSURIZATION EQUIPMENT, CONTROL WIRING, POWER WIRING AND DUCTWORK WITHIN BUILDING SHALL BE 2-HOUR PROTECTED PER 909.20.7.1.

7. OPTION #1: PER WSBC&WSFC 909.20.5, STAIRWAY AND RAMP PRESSURIZATION: WHERE THE BUILDING IS EQUIPPED THROUGHOUT WITH AN AUTOMATIC SPRINKLER SYSTEM IN ACCORDANCE WITH SECTION 903.3.1.1, VESTIBULES DESCRIBED IN WSBC&WSFC 909.20.1 ARE NOT REQUIRED, PROVIDED THAT EACH INTERIOR EXIT STAIRWAY OR RAMP IS PRESSURIZED TO NOT LESS THAN 0.10 INCH OF WATER AND NOT MORE THAN 0.35 INCHES OF WATER IN THE SHAFT RELATIVE TO THE BUILDING. PRESSURE DIFFERENTIAL SHALL BE MEASURED WITH ALL INTERIOR EXIT STAIRWAY AND RAMP DOORS CLOSED UNDER MAXIMUM ANTICIPATED CONDITIONS OF STACK EFFECT AND WIND EFFECT.

8. OPTION #2: PER WSBC&WSFC 909.20.6.6, STAIRWAY AND VESTIBULE PRESSURIZATION:
8.1. EACH PRESSURIZED STAIR ENCLOSURE SHALL BE PRESSURIZED TO NOT LESS THAN 0.05 INCH OF WATER GAGE POSITIVE PRESSURE RELATIVE TO THE VESTIBULE. PRESSURE DIFFERENTIAL SHALL BE MEASURED WITH ALL STAIRWAY DOORS CLOSED UNDER MAXIMUM ANTICIPATED CONDITIONS OF STACK EFFECT AND WIND EFFECT. PRESSURE DIFFERENTIAL SHALL NOT EXCEED 30 POUNDS MAXIMUM FORCE TO BEGIN OPENING THE DOORS.
8.2. A CONTROLLED RELIEF VENT HAVING THE CAPACITY TO DISCHARGE NOT LESS THAN 2,500 CFM OF AIR AT DESIGN PRESSURE DIFFERENTIAL SHALL BE LOCATED IN THE UPPER PORTION OF THE PRESSURIZED EXIT ENCLOSURE.

9. PER WSBC&WSFC 909.20.7, SMOKE DETECTORS SHALL BE INSTALLED AT EACH FLOOR LEVEL AT AN APPROVED LOCATION. WHEN THE CLOSING DEVICE FOR THE STAIRWAY AND RAMP SHAFT AND VESTIBULE DOOR IS ACTIVATED BY SMOKE DETECTION OR POWER FAILURE, THE MECHANICAL EQUIPMENT SHALL ACTIVE AND OPERATE REQUIRED PERFORMANCE LEVELS. SMOKE DETECTORS SHALL BE INSTALLED IN ACCORDANCE WITH SECTION 907.3.

10. FOR EACH PRESSURIZATION FAN, PROVIDE PROVIDE TWO (2) DUCT SMOKE DETECTORS LOCATED DOWNSTREAM OF THE FAN. DETECTORS SHALL BE CONNECTED TO THE FIRE ALARM AS A SUPERVISORY SIGNAL. ACTIVATION OF ONE DETECTOR SHALL TRIGGER SUPERVISORY ALARM. ACTIVATION OF BOTH DETECTORS SHALL AUTOMATICALLY SHUT DOWN THE FAN. MANUAL CONTROLS AT FSCP SHALL BE ABLE TO OVERRIDE DETECTOR SHUTOFF OF FAN. PER WSBC&WSFC 909.10.2, DUCTS SHALL BE LEAK TESTED TO 1.5 TIMES THE MAXIMUM DESIGN PRESSURE IN ACCORDANCE TO INDUSTRY STANDARD. MEASURED LEAKAGE SHALL NOT EXCEED 5% OF DESIGN FLOW.

11. FOR EACH PRESSURIZATION FAN, PROVIDE CLASS-I FAIL-OPEN MOTORIZED DAMPER (BOD: GREENHECK VCD-23) WITH 120 VAC LRSP CONNECTION. DAMPER SHALL HAVE OCI SWITCH FOR MONITORING OF OPEN/CLOSED POSITION BY FIRE ALARM SYSTEM (WIRING FOR MONITORING BY FIRE ALARM VENDOR). POWER AND CONTROL WIRING SHALL BE 2-HOUR PROTECTED PER WSBC 909.20.7.1 & WSFC 909.20.6.1. INTERLOCK DAMPER TO OPEN WHEN FAN OPERATES.

12. PER WSBC&WSFC 909.20.7.3, BEFORE THE MECHANICAL EQUIPMENT IS APPROVED, THE SYSTEM SHALL BE TESTED IN THE PRESENCE OF TH

VENTILATION CALCULATIONS

ROOM	ROOM NO.	MECHANICAL UNIT(S)	AREA, SF (4)	FLOOR-TO-CEILING HEIGHT, FT	ROOM CATEGORY	ACTUAL OCCUPANTS	2018 WSMC - TABLE 403.3.1.1 (1)									ZONE AIR DISTRIBUTION EFFECTIVENESS (1)	1 ACH EQUIVALENT CFM (2)	2 ACH EQUIVALENT CFM (2)	WSMC CONTINUOUS OSA CFM REQUIRED	CONTINUOUS OSA CFM PROVIDED	ALARM OSA CFM PROVIDED (2)	ALARM CHANGE IN ACH (OSA)	CONTINUOUS EXH CFM REQUIRED	CONTINUOUS EXH CFM PROVIDED	ALARM EXH CFM PROVIDED (2)	ALARM CHANGE IN ACH (EXH)
							DEFAULT OCCUPANTS	DEFAULT PEOPLE PER 1,000 SF	OSA CFM / PERSON	OSA CFM / SF	EXH CFM / SF	OSA CFM (WSMC PERSON)	OSA CFM (WSMC AREA)	OSA CFM (WSMC TOTAL)	EXH CFM (WSMC TOTAL)											
LOBBY	101		1,103	18.5	MAIN ENTRY LOBBY	12	12	10	5	0.06	0	60	67	127	0	0.8	340	680	159	350	700	1.0	0	350	700	1.0
LEASING	102	ERV-1-1	338	18.5	OFFICE SPACE	2	2	5	5	0.06	0	10	21	31	0	0.8	104	208	39	105	210	1.0	0	105	210	1.0
BIKE STORAGE	103	(840 CFM CONTINUOUS)	692	18.5	RETAIL STORAGE	0	0	0	0	0.12	0	0	84	84	0	0.8	213	427	105	220	440	1.0	0	220	440	1.0
PARCEL LOCKERS	105	(1680 CFM ALARM)	121	18.5	RETAIL STORAGE	0	0	0	0	0.12	0	0	15	15	0	0.8	37	75	19	40	80	1.1	0	40	80	1.1
LOUNGE/MAIL	104		394	18.5	RETAIL STORAGE	0	0	0	0	0.12	0	0	48	48	0	0.8	121	243	60	125	250	1.0	0	125	250	1.0
PARCEL STORAGE	106		227	18.5	RETAIL STORAGE	0	0	0	0	0.12	0	0	28	28	0	0.8	70	140	35	80	160	1.1	0	80	160	1.1
MOVE-IN	107		272	18.5	RETAIL STORAGE	0	0	0	0	0.12	0	0	33	33	0	0.8	84	168	42	90	180	1.1	0	90	180	1.1
DOG WASH	108		71	18.5	PET SHOP/ANIMAL AREA	1	1	10	7.5	0.18	0.9	8	13	21	64	0.8	22	44	27	120	240	5.5	80	120	240	5.5
MPOE	122		149	18.5	RETAIL STORAGE	0	0	0	0	0.12	0	0	18	18	0	0.8	46	92	23	50	100	1.1	0	50	100	1.1
FIRE SPRINKLER	123		152	18.5	RETAIL STORAGE	0	0	0	0	0.12	0	0	19	19	0	0.8	47	94	24	50	100	1.1	0	50	100	1.1
RESTROOM	124	ERV-1-2	52	18.5	TOILET ROOM (PUBLIC)	0	0	0	0	0	50 CFM	0	0	0	50	0.8	16	32	0	65	130	4.1	63	65	130	4.1
RESTROOM	126	(1400 CFM CONTINUOUS)	52	18.5	TOILET ROOM (PUBLIC)	0	0	0	0	0	50 CFM	0	0	0	50	0.8	16	32	0	65	130	4.1	63	65	130	4.1
GENERATOR	118	(2800 CFM ALARM)	361	18.5	RETAIL STORAGE	0	0	0	0	0.12	0	0	44	44	0	0.8	111	223	55	120	240	1.1	0	120	220	0.9
ELECTRICAL	119		645	18.5	RETAIL STORAGE	0	0	0	0	0.12	0	0	78	78	0	0.8	199	398	98	210	420	1.1	0	210	420	1.1
WATER SERVICE	121		514	18.5	RETAIL STORAGE	0	0	0	0	0.12	0	0	62	62	0	0.8	158	317	78	165	330	1.0	0	165	330	1.0
TRASH HOLDING	127		45	18.5	JANITOR, TRASH, RECYCLING	0	0	0	0	0	1	0	0	0	45	0.8	14	28	0	65	130	4.7	57	65	130	4.7
CORRIDOR	128		1,018	18.5	CORRIDORS (NON-GROUP R)	0	0	0	0	0.06	0	0	62	62	0	0.8	314	628	78	320	640	1.0	0	320	640	1.0
TRANSFORMER	120	SF-7-1 [COOLING] 4800 CFM [70°<T<140°] & SF-7-2 [VENTILATION, T<70°] 170 CFM CONTINUOUS 340 CFM ALARM	536	18.5	RETAIL STORAGE	0	0	0	0	0.12	0	0	65	65	0	0.8	165	331	82	170	340	1.0	0	170	340	1.0
MAINTENANCE	117	SF-1-6 (55 CFM CONTINUOUS) (110 CFM ALARM)	101	18.5	OFFICE SPACE	1	1	5	5	0.06	0	5	7	12	0	0.8	31	62	15	55	110	1.8	0	55	110	1.8
EXIT PASSAGEWAY	129	SF-1-2 (70 CFM CONTINUOUS) (140 CFM ALARM)	220	18.5	CORRIDORS (NON-GROUP R)	0	0	0	0	0.06	0	0	14	14	0	0.8	68	136	18	70	140	1.0	0	70	140	1.0
COMMERCIAL FLEX	109	ERV-1-3 (1050 CFM CONTINUOUS) (2100 CFM ALARM) ERV-1-4 (1050 CFM CONTINUOUS) (2100 CFM ALARM)	6,705	18.5	SALES	101	101	15	7.5	0.12	0	758	805	1563	0	0.8	2067	4135	1954	2100	4200	1.0	0	2100	4200	1.0
COMMERCIAL FLEX	130	ERV-1-5 (1450 CFM CONTINUOUS) (2900 CFM ALARM) ERV-1-6 (1450 CFM CONTINUOUS) (2900 CFM ALARM)	10,157	17.0	SALES	153	153	15	7.5	0.12	0	1148	1219	2367	0	0.8	2878	5756	2959	2900	5800	1.0	0	2900	5800	1.0
EXIT PASSAGEWAY	133	SF-1-3 (55 CFM CONTINUOUS) (110 CFM ALARM)	186	17.0	CORRIDORS (NON-GROUP R)	0	0	0	0	0.06	0	0	12	12	0	0.8	53	105	15	55	110	1.0	0	55	110	1.0
L1 TRASH	131	EF-7-1 (1850 CFM CONTINUOUS) (1850 CFM ALARM) & SF-1-4 [L1 ONLY] (850 CFM CONTINUOUS) (1050 CFM ALARM) & EF-1-1 [L1 ONLY] (0 CFM CONTINUOUS) (200 CFM ALARM)	653	17.0	JANITOR, TRASH, RECYCLING	0	0	0	0	0	1	0	0	0	653	0.8	185	370	0	850	1050	1.1	817	850	1050	1.1
L2 TRASH			60	-	JANITOR, TRASH, RECYCLING	0	0	0	0	0	1	0	0	0	60	0.8	-	-	0	0	0	-	75	200	200	-
L3 TRASH			60	-	JANITOR, TRASH, RECYCLING	0	0	0	0	0	1	0	0	0	60	0.8	-	-	0	0	0	-	75	200	200	-
L4 TRASH			60	-	JANITOR, TRASH, RECYCLING	0	0	0	0	0	1	0	0	0	60	0.8	-	-	0	0	0	-	75	200	200	-
L5 TRASH			60	-	JANITOR, TRASH, RECYCLING	0	0	0	0	0	1	0	0	0	60	0.8	-	-	0	0	0	-	75	200	200	-
L6 TRASH			60	-	JANITOR, TRASH, RECYCLING	0	0	0	0	0	1	0	0	0	60	0.8	-	-	0	0	0	-	75	200	200	-
L2 CORRIDOR		RTU-1	2,561	-	CORRIDORS (GROUP R NON-WHF)	0	0	0	0	0.06	0	0	154	154	0	0.8	-	-	193	200	-	-	0	0	-	-
L3 CORRIDOR		(500 CFM OSA / 250 CFM EXH)	2,561	-	CORRIDORS (GROUP R NON-WHF)	0	0	0	0	0.06	0	0	154	154	0	0.8	-	-	193	200	-	-	0	0	-	-
L4 CORRIDOR		&	2,561	-	CORRIDORS (GROUP R NON-WHF)	0	0	0	0	0.06	0	0	154	154	0	0.8	-	-	193	200	-	-	0	0	-	-
L5 CORRIDOR		RTU-2	2,561	-	CORRIDORS (GROUP R NON-WHF)	0	0	0	0	0.06	0	0	154	154	0	0.8	-	-	193	200	-	-	0	0	-	-
L6 CORRIDOR		(500 CFM OSA / 250 CFM EXH)	2,561	-	CORRIDORS (GROUP R NON-WHF)	0	0	0	0	0.06	0	0	154	154	0	0.8	-	-	193	200	-	-	0	0	-	-
AMENITY	624	ERV-6-1 (180 CFM)	534	-	MULTIPURPOSE ASSEMBLY	20	65	120	5	0.06	0	100	33	133	0	0.8	-	-	167	180	-	-	0	180	-	-
LAST UPDATED: 3/13/2026																		**TOTAL:**	**7017**	**9620**			**1455**	**9620**		

NOTES:
(1) VENTILATION RATES CALCULATED PER TABLE 403.3.1.1 AND ZONE AIR DISTRIBUTION EFFECTIVENESS FROM TABLE 403.3.1.1.1.2 IN THE 2018 WSMC.
(2) IN ADDITION TO CODE MINIMUM VENTILATION, LEVEL 1 SPACES REQUIRE 1 ACH CONTINUOUS VENTILATION FOR METHANE CONTROL. UPON METHANE DETECTION EXCEEDING 1,000 PPM INSIDE THE BUILDING, VENTILATION INCREASES TO 2 ACH. METHANE DETECTION SYSTEM DESIGNED BY METHANE ENGINEER.

2

DWELLING UNIT WHOLE-HOUSE MECHANICAL VENTILATION RATES

UNIT TYPE	2018 WSMC TABLE 403.4.2			
	FLOOR AREA, FT ^{2}	NUMBER OF BEDROOMS	CFM REQUIRED (1)	CFM PROVIDED (2)
B01, B02, B03 TYPE A, C01, C02, C03 TYPE A, C04	500-1000	0-1	30	65
D01, D04 TYPE A	500-1000	2	35	65
D02, D03	1000-1500	2	40	65

NOTES: (1) MIN. OSA FOR OPERATING CONTINUOUSLY.
(2) ENERGY RECOVERY VENTILATOR OPERATES CONTINUOUSLY AT 65 CFM AND IS PROVIDED WITH CONTROLS FOR TEMPORARY BOOST TO 130 CFM.

EVERETT RIVERFRONT BUILDING 1-D
3710 Riverfront Blvd
Everett, WA 98203

ROBISON ENGINEERING, INC
19401 40TH AVE W, SUITE 302
LYNNWOOD, WA 98036
TEL: 2063643343
CONTACT: PETER ROCKSTEAD

REED JACKSON STATE OF WASHINGTON PROFESSIONAL ENGINEER 03-13-26

1101 Second Ave, Ste 100
Seattle, WA 98101
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MG2

PERMIT RESPONSE 02

03/13/2026

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△	DATE	DESCRIPTION
2	02/27/26	PERMIT RESPONSE 02

1073-002
PM: PETER ROCKSTEAD
DRAWN BY: PCR
03/13/2026

VENTILATION CALCULATIONS

M0.02

3/13/2026 2:02:12 PM Autodesk Docs://MG2-CE-Shelter Holdings-Everett Riverfront Development PH2-21-5905-01A/Riverfront Apartments Building D - MEP.rvt

SPLIT HEAT PUMP SCHEDULE - OUTDOOR UNIT

EQUIP NO.	SERVICE	NOMINCAL CAPACITY, TONS	COOLING		HEATING		ELECTRICAL			REFRIGERANT									SOUND PRESSURE, dBA	WEIGHT, LBS	BASIS OF DESIGN (1)(2)(3)(4)(5)(6)(7)	CONNECTED INDOOR UNIT
			CAPACITY, BTU/H	SEER2/EER2	CAPACITY, BTU/H	HSPF2/COP@47°F	VOLTAGE	MCA	MOCP	REFRIGERANT TYPE	PRE-CHARGE (LBS)	MAX PRE-CHARGED PIPE LENGTH (FT)	MAX PIPING LENGTH (FT)	MAX VERTICAL (FT)	ADD'L CHARGE PER FT (OZ/FT)	ADD'L CHARGE PER FT (LB/FT)	MAX POSSIBLE CHARGE (LBS) (9)	ACTUAL CHARGE (LBS)	MIN ROOM AREA (FT²) (8)(12)	ROOM AREA ON PLAN (FT²)			
OHP-1-1	LOBBY, LOUNGE	3.5	42,000	18.3/12.00	48,000	9.0/-	208V/1P	32	40	R-32	6.60	24.6	246	98.4	0.43	0.0269	13.21	-	225	1171	39	111	LG KNUJB421A	IHP-1-1
OHP-1-2	LEASING	1.0	12,000	16.4/12.00	15,000	10.5/-	208V/1P	13.4	15	R-32	2.43	24.6	65.6	49.2	0.22	0.0138	3.33	-	50	272	31	72	LG KNUJB121A	IHP-1-2
OHP-6-1	L6 AMENITY	1.5	18,000	17.5/12.40	20,000	9.2/-	208V/1P	16.0	25	R-32	4.19	24.6	164	98.4	0.38	0.0238	8.08	-	150	507	36	72	LG KNUJB181A	OHP-6-1
OHP-6-1	ELEVATOR MACHINE ROOM	2.0	22,000	22.0/13.00	24,000	9.7/-	208V/1P	19	30	R-32	4.081	24.6	164	98.4	0.32	0.0200	7.36	4.081 (13)	45 (13)	45	56	136	LG KUSAP241A (10)(11)	OHP-6-2

NOTES:
(1) ARI LISTED WITH ALL STANDARD FEATURES, INSTALLATION ACCESSORIES AND COMPRESSOR SHORT CYCLING PROTECTION. FILTER DRIVER, REFRIGERANT LINE FILTER, LIQUID SOLENOID VALVE, AND SAFETY PRESSURE SWITCHES. INSTALL REFRIGERANT TUBING AND LENGTH IN STRICT ACCORDANCE WITH MANUFACTURER'S RECOMMENDATION.
(2) WITH FACTORY OPTION ELECTRICAL DISCONNECT.
(3) ROUTING OF REFRIGERANT LINES FROM INDOOR TO OUTDOOR UNITS NOT SHOWN ON PLAN SHEETS. CONTRACTOR SHALL COORDINATE ROUTING IN FIELD. REFRIGERANT PIPE MATERIAL SHALL BE DEOXIDIZED COPPER.
(4) ROUTE CONDENSATE TO APPROVED DRAIN.
(5) PROVIDE ALL REQUIRED ACCESSORIES FOR LOW-AMBIENT AND LONG-LINE APPLICATIONS.
(6) REFRIGERANT SHALL BE R-32.
(7) REQUIREMENTS FOR REFRIGERANT PIPING CONVEYING A2L REFRIGERANTS ARE DETERMINED PER ASHRAE 15-2024 WITH ADDENDA. REFRIGERANT PIPING SHAFTS ARE NOT REQUIRED PER ASHRAE 15-2024 9.12.1.5.1 EXCEPTION D (CONTINUOUS REFRIGERANT PIPE, INCLUDING JOINTS AND CONNECTIONS TESTED IN ACCORDANCE WITH 9.13).
(8) EFFECTIVE DISPERSAL VOLUME CHARGE (EDVC) FOR CODE COMPLIANCE IS CALCULATED PER ASHRAE 15-2024 , EQUATION 7-9A FOR SYSTEMS WITHOUT BUILT-IN AIR CIRCULATION MODE . $EDVC = M_{DEF} \times F_{UFL} \times F_{OCC}$, (WHERE F_{OCC} IS 1, F_{UFL} IS 1 (FOR R-32) , AND M_{DEF} IS ACQUIRED FROM ASHRAE 15-2024 TABLE 7-1 BASED ON CEILING HEIGHT AND SQUARE FOOTAGE).
(9) 'MAX POSSIBLE CHARGE' COLUMN SHOWS THE MAXIMUM CHARGE THAT THE HEAT PUMP SYSTEM CAN HOLD IN ACCORDANCE WITH THE EQUIPMENT DOCUMENTATION, ASSUMING THE MAXIMUM ALLOWED PIPE LENGTH IS USED. THIS NUMBER IS USED FOR MOST SYSTEMS FOR THE PURPOSE OF SIMPLIFYING THE CALCULATION. WHERE THE MAX CHARGE WOULD EXCEED EDVC, ACTUAL CHARGE IS USED INSTEAD. SEE NOTE 13.
(10) PRIOR TO ORDERING, CONTRACTOR TO COORDINATE WITH ELEVATOR MANUFACTURER TO ENSURE UNIT CAN ADEQUATELY COOL THE ELEVATOR MACHINE ROOM.
(11) PROVIDE LEGALLY REQUIRED STANDBY POWER PER WSBC 3003.1.4 AND 3007.8.
(12) THIS COLUMN INDICATES THE MINIMUM FLOOR AREA REQUIRED IN ORDER FOR THE CALCULATED EDVC FROM EQUATION 7-9a TI EXCEED THE MAXIMUM POSSIBLE CHARGE FOR THE SYSTEM (WHICH ASSUMES MAXED-OUT REFRIGERANT LINE LENGTH). FOR THIS DETERMINATION PER ASHRAE 15-2024 TABLE 7-1, AN 8-FOOT CEILING IS USED UNLESS OTHERWISE NOTED. MDEF IS EQUAL TO 7.7 LBS FOR 100 SF, 9.6 LBS FOR 150 SF, 12.4 LBS FOR 175 SF, 13.2 LBS FOR 200 SF, 14 LBS FOR 225 SF, 14.8 LBS FOR 250 SF, AND 16.2 LBS FOR 300 SF.
(13) ACTUAL CHARGE OF SYSTEM IS LOWER THAN EDVC FROM EQUATION 7-9a AND TABLE 7-1 AND IS USED HERE. ELSEWHERE, THE CHARGE FROM THE 'MAX POSSIBLE CHARGE' COLUMN WOULD NOT EVEN EXCEED EDVC FOR THE ROOM SERVED BY THE SYSTEM. THEREFORE, ACTUAL CHARGE WOULD NOT EXCEED EDVC EITHER. ELEVATOR MACHINE ROOM DOES NOT HAVE DROPPED SOFFIT, AND CEILING HEIGHT IS GREATER THAN 9 FT. EDVC AT 50 SQUARE FEET IS 4.3 LBS. ROOM AREA IS 45 SQUARE FEET.

SPLIT HEAT PUMP SCHEDULE - INDOOR UNIT

EQUIP NO.	SERVICE	MOUNTING/ DISCHARGE	FAN		COOLING CAPACITY (BTU/H)	HEATING CAPACITY (BTU/H)	ELECTRICAL			DIMENSIONS, INCHES			SOUND PRESSURE, dBA	BASIS OF DESIGN (1)(2)(3)(4)(5)	CONNECTED OUTDOOR UNIT
			MAX AIRFLOW, CFM	ESP, IN WG			VOLTAGE	MCA	MOCP	L	W	H			
IHP-1-1	LOBBY, LOUNGE	CEILING DUCTED	1410	0.6	42,000	48,000	208V/1P	(4)	(4)	51	29	15	39	LG KNSJB421A	OHP-1-1
IHP-1-2	LEASING	CEILING DUCTED	495	0.6	12,000	15,000	208V/1P	(4)	(4)	41	28	10	31	LG KNUJB121A	OHP-1-2
IHP-6-1	L6 AMENITY	CEILING DUCTED	635	0.6	18,000	20,000	208V/1P	(4)	(4)	41	28	10	36	LG KNUJB181A	OHP-6-1
IHP-6-2	ELEVATOR MACHINE ROOM	WALL MOUNTED	920	-	22,000	24,000	208V/1P	(4)	(4)	36	11	15	49	LG KNSAPB241A	OHP-6-2

NOTES:
(1) PROVIDE ELECTRICAL DISCONNECT SWITCH AND INDIVIDUAL THERMOSTAT FOR EACH UNIT.
(2) PROVIDE INTEGRAL CONDENSATE PUMP KIT (WITH OVERFLOW SHUTOFF PER UPC 814.2 ITEM (1) FOR ALL FAN COIL UNITS.
(3) INDOOR UNIT IS POWERED FROM OUTDOOR UNIT.
(4) THERMOSTAT TO BE INITIALLY SET TO 68°F FOR HEATING AND 73°F FOR COOLING (ADJUSTABLE).
(5) ECONOMIZER NOT REQUIRED PER 2018 WSEC C403.5 EXCEPTION 1 FOR HEAT PUMP INSTALLED IN CONJUNCTION WITH DOAS WITH ENERGY RECOVERY, SERVING SPACES WITH YEAR-ROUND LIGHTING/EQUIPMENT COOLING LOAD (HEAT GENERATION) BELOW 5 WATTS PER SQUARE FOOT).

FAN SCHEDULE

EQUIP NO.	EQUIPMENT LOCATION	AREA SERVED	MOUNTING / DISCHARGE	AIRFLOW, CFM		ESP, IN. WG	WEIGHT (LBS)	ELECTRICAL			OPERATION	SOUND POWER, DBA/SONES	EXTERNAL VFD	STANDBY POWER	BASIS OF DESIGN (1)(8)
				NORMAL OPERATION	ALARM (3)			VOLTAGE	HP	BHP					
EF-1-1	L1 TRASH ROOM	L1 TRASH ROOM	INLINE	0	200	0.25	49	115V/1P	1/6	FHP	(3)	48/4.7	VARI-GREEN	YES	GREENHECK SQ-80-VG (3)
EF-6-1	L6 RESTROOM	L6 RESTROOM	CEILING	50	-	0.25	12	115V/1P	FHP	FHP	CONTINUOUS	-/0.4	-	NO	PANASONIC FV-0511VK2
EF-7-1	ROOF	L1-L7 TRASH ROOMS	UTILITY UPBLAST	1,850	1,850	0.75	216	460V/3P	3/4	0.37	(3)	63/12.9	-	YES	GREENHECK USF-15-B7 (3)
SF-1-1	L1 GENERATOR ROOM	L1 GENERATOR ROOM	UTILITY HORIZ.	19,000	19,000	1.5	1,569	208V/3P	15	10.2	(6)	84/44	YES	YES	GREENHECK USF-33-B1 (3)(6)
SF-1-2	EXIT PASSAGEWAY 129	EXIT PASSAGEWAY 129	INLINE	70	140	0.5	24	115V/1P	1/15	FHP	(3)	34/2.0	VARI-GREEN	YES	GREENHECK CSP-A390-VG (3)
SF-1-3	EXIT PASSAGEWAY 133	EXIT PASSAGEWAY 133	INLINE	55	110	0.5	24	115V/1P	1/15	FHP	(3)	34/1.9	VARI-GREEN	YES	GREENHECK CSP-A390-VG (3)
SF-1-4	L1 TRASH ROOM	L1 TRASH ROOM	INLINE	850	1,050	0.25	95	460V/3P	1/4	0.14	(3)	56/8.2	YES	YES	GREENHECK BSQ-130 (3)
SF-1-6	MAINTENANCE 117	MAINTENANCE 117	INLINE	55	110	0.5	24	115V/1P	1/15	FHP	(3)	34/1.9	VARI-GREEN	YES	GREENHECK CSP-A390-VG (3)
SF-7-1	ROOF	TRANSFORMER COOLING	UTILITY HORIZ.	4,800	-	1.5	363	460V/3P	3	2.45	(2)(5)	75/31	YES	NO	GREENHECK USF-18-B7 (2)(5)
SF-7-2	ROOF	TRANSFORMER VENTILATION	UTILITY HORIZ.	170	340	0.5	184	460V/3P	1/4	0.14	(3)(5)	67/16.7	YES	YES	GREENHECK USF-04-B6 (3)(5)
SPF-1	ROOF	N STAIR PRESSURIZATION	UTILITY HORIZ.	7,000	7,000	1.0	364	460V/3P	5	3.25	(4)	77/32	YES	YES	GREENHECK USF-22-B7 (3)(4)(7)(9)(10)
SPF-2	ROOF	NE STAIR PRESSURIZATION	UTILITY HORIZ.	7,000	7,000	1.0	364	460V/3P	5	3.25	(4)	77/32	YES	YES	GREENHECK USF-22-B7 (3)(4)(7)(9)(10)
EPF-1	ROOF	ELEVATOR PRESSURIZATION	UTILITY HORIZ.	24,000	24,000	1.5	1,658	460V/3P	15	12.77	(4)	80/37	YES	YES	GREENHECK USF-40-B4 (3)(4)(7)(9)(10)

NOTES:
(1) MOUNT FAN ON VIBRATION ISOLATORS PER ACOUSTICAL NOTES ON SHEET M0.01.
(2) TRANSFORMER FAN SHALL RUN ON CALL FROM THERMOSTATS LOCATED IN TRANSFORMER ROOM. WHEN TEMPERATURE IS BETWEEN 70° AND 140°F, FAN WILL RUN AT 4800 CFM. IF TEMPERATURE IS BELOW 70°F OR ABOVE 140°F, FAN SHALL TURN OFF. INCLUDE VFD FOR BALANCING. FAN SHALL BE AMCA TYPE A OR B SPARK RESISTANT. SEE TRANSFORMER ROOM VENTILATION NOTES ON SHEET M0.01.
(3) METHANE MITIGATION: PROVIDE LEGALLY REQUIRED STANDBY POWER FOR FAN. FAN SHALL BE MONITORED BY METHANE ALARM SYSTEM FOR "RUNNING" CONDITION. FAN SHALL RAMP UP TO "ALARM" AIRFLOW RATE UPON DETECTION OF METHANE IN L1 SPACE SERVED BY FAN ABOVE 1,000 PPM AND ACTIVATION OF METHANE ALARM. PROVIDE GREENHECK HOA CONTROLLER AND MOUNT ADJACENT TO FAN. COORDINATE WIRING WITH ELECTRICAL CONTRACTOR.
(4) PER 2018 WSBC 909.20.6. PROVIDE VFD (BASIS ABB ACH580) IN WEATHERPROOF ENCLOSURE NEARBY FAN AND PROVIDE LEGALLY REQUIRED STANDBY POWER (LRSP). INTERLOCK WITH BUILDING FIRE ALARM SYSTEM (COORDINATE WITH PHASED OCCUPANCY OF BUILDING). PROVIDE TWO DUCT MOUNTED SMOKE DETECTORS, FIRST DETECTOR FOR FIRE ALARM SUPERVISORY ALARM AND SECOND DETECTOR FOR FAN SHUTOFF. IF FAN IS TURNED OFF BY DETECTOR ALARM AND IS MANUALLY TURNED ON AT FIREFIGHTER SMOKE CONTROL PANEL, FAN SHALL IGNORE DETECTOR SHUTOFF AND TURN ON. PROVIDE DOUBLE BLADE INSULATED MOTORIZED DAMPER (BASIS GREENHECK VCD-23) AT OUTLET, FAIL OPEN, WITH LRSP AND OPEN/CLOSED INDICATOR SWITCHES WITH WIRING BY FIRE ALARM VENDOR FOR MONITORING OF OPEN/CLOSED POSITION. INTERLOCK MOTORIZED DAMPER TO OPEN WHEN FAN RUNS.
(5) PROVIDE EACH TRANSFORMER ROOM FAN WITH MOTORIZED SHUTOFF DAMPER (FAIL-CLOSED FOR SF-7-1 AND FAIL-OPEN FOR SF-7-2). SEE SEQUENCE OF OPERATION NOTES ON SHEET M0.01.
(6) INTERLOCK WITH GENERATOR OPERATION.
(7) REFER TO SMOKE CONTROL NOTES ON SHEET M0.01. FINAL FAN SIZE SUBJECT TO APPROVAL BY SMOKE CONTROL CONTRACTOR.
(8) PROVIDE OUTLET GUARD ON FANS WITH UNPROTECTED INLET OR OUTLET GUARD ON FANS WITH UNPROTECTED OUTLETS.
(9) BELT-DRIVEN FANS SHALL HAVE 1.5 TIMES THE NUMBER OF BELTS REQUIRED FOR THE DESIGN DUTY, WITH THE MINIMUM NUMBER OF BELTS BEING TWO. IF NUMBER OF BELTS REQUIRED FOR DESIGN DUTY IS TWO, THREE BELTS SHALL BE PROVIDED, AND SO ON.
(10) PROVIDE WEATHER HOOD, INLET GUARD AND INLET HOOD.

ENERGY RECOVERY VENTILATORS

EQUIP NO.	SERVICE	FAN			FILTER	SENSIBLE EFFECTIVENESS %	ELECTRICAL			DIMENSIONS, INCHES			WEIGHT (LBS)	STANDBY POWER	BASIS OF DESIGN (1)(5)
		AIRFLOW, CFM		ESP, IN. WG			VOLTAGE	AMPS/ MCA	MOCP	L	W	H			
		NORMAL OPERATION	ALARM (6)												
ERV-RES	APARTMENT UNIT	(3)	-	0.4	MERV-8	80.0%	120V/1P	1.4/-	15	24	22	10	36	NO	GREENHECK SYNC-110SE-S1 (2)(3)(4)(5)
ERV-RES-M	APARTMENT UNIT	(3)	-	0.4	MERV-8	80.0%	120V/1P	1.4/-	15	24	22	10	36	NO	GREENHECK SYNC-110SE-M1 (2)(3)(4)(5)
ERV-1-1	LOBBY, LEASING, PARCEL, LOUNGE	840	1680	0.5	STANDARD	75.8%	460V/3P	-/7.2	10	87	46	45	700	YES	ALDES PE20[i] (6)
ERV-1-2	RESTROOMS, DOG WASH, MOVE-IN, CORRIDOR, BOH ROOMS	1400	2800	0.5	STANDARD	74.0%	460V/3P	-/10.4	12	96	55	56	900	YES	ALDES PE30[i] (6)
ERV-1-3	COMMERCIAL FLEX 109	1050	2100	0.5	STANDARD	77.2%	460V/3P	-/10.4	12	96	55	56	900	YES	ALDES PE30[i] (6)
ERV-1-4	COMMERCIAL FLEX 109	1050	2100	0.5	STANDARD	77.2%	460V/3P	-/10.4	12	96	55	56	900	YES	ALDES PE30[i] (6)
ERV-1-5	COMMERCIAL FLEX 130	1450	2900	0.5	STANDARD	75.8%	460V/3P	-/10.4	12	96	55	56	900	YES	ALDES PE30[i] (6)
ERV-1-6	COMMERCIAL FLEX 130	1450	2900	0.5	STANDARD	75.8%	460V/3P	-/10.4	12	96	55	56	900	YES	ALDES PE30[i] (6)
ERV-6-1	L6 AMENITY	180	-	0.4	STANDARD	88%	120V/1P	2.0/-	15	26	22	10	42	NO	GREENHECK SYNC-180SCE-M1

NOTES:
(1) ENERGY RECOVERY SYSTEM SHALL HAVE THE CAPABILITY TO PROVIDE A CHANGE IN THE ENTHALPY OF THE THE OUTDOOR AIR SUPPLY OF NOT LESS THAN 50 PERCENT OF THE DIFFERENCE BETWEEN THE OUTDOOR AIR AND RETURN AIR ENTHALPIES, AT DESIGN CONDITIONS.
(2) PROVIDE FACTORY OPTION MERV-8 FILTER FOR RESIDENTIAL ERV UNIT.
(3) PROVIDE TIMER SWITCH IN EACH BATHROOM OF DWELLING UNIT TO RAMP ERV UP FROM LOW SPEED TO FULL SPEED (ALDES #611228 OR EQUIVALENT). INSTALL PER ERV INSTALLATION MANUAL. ERV TO RUN AT LOW SPEED (65 CFM) CONTINUOUS AND TEMPORARILY RAMP UP TO HIGH SPEED (110 CFM) WHEN ACTIVATED BY TIMER SWITCH.
(4) SEE WHOLE HOUSE VENTILATION CRITERIA TABLE, WHOLE HOUSE VENTILATION NOTES, OUTSIDE AIR NOTES, AND SEQUENCE OF OPERATION ON SHEET M0.01.
(5) ERV POWER TO BE HARD-WIRED. FLEX CORD PROHIBITED IN DROPPED CEILINGS PER NEC 400.12(5).
(6) METHANE MITIGATION: PROVIDE LEGALLY REQUIRED STANDBY POWER FOR ERV. ERV SHALL BE MONITORED BY METHANE ALARM SYSTEM FOR "RUNNING" CONDITION. ERV SHALL OPERATE CONTINUOUSLY AT 'NORMAL OPERATION' AIRFLOW RATE AND RAMP UP TO 'INCREASED' AIRFLOW RATE UPON DETECTION OF METHANE IN ANY L1 SPACE ABOVE 1,000 PPM AND ACTIVATION OF METHANE ALARM.

ROOFTOP UNIT SCHEDULE - HEAT PUMP

EQUIP NO.	SERVICE	DISCHARGE	SUPPLY FAN							HEAT PUMP COOLING						HEAT PUMP HEATING						ELECTRICAL			DIMENSIONS, INCHES			WEIGHT, LBS	SOUND POWER, dBA	BASIS OF DESIGN (2)(3)(4)(5)
			SUPPLY AIRFLOW, CFM	MIN. OSA AIRFLOW, CFM	SUPPLY ESP, IN WG (1)	RETURN AIRFLOW, CFM	RETURN ESP, IN WG (1)	MOTOR		CAPACITY, MBH	TEMPERATURES				EFFICIENCY		CAPACITY, MBH	TEMPERATURES				EFFICIENCY		VOLTAGE	MCA	MOCP	L	W	H			
								SIZE, HP	BHP		EAT		LAT		SEER2	EER2		EAT		LAT		COP2@47°F	HSPF2								
											DB	WB	DB	WB				DB	WB	DB	WB										
RTU-1	CORRIDOR VENTILATION	HORIZONTAL	1000	500	1.0	500	1.0	1.0	0.84	46.5	80.5	64.6	49.9	48.6	14.5	12.0	31.4	47.0	42.9	71.8	54.1	3.65	7.0	480V/3P	19	20	100	44	51	946	65	AAON RQA-004-A-A-3-GJB0A-A01N0 : 0G-0EDGD-E00-00000-00000-UE-000A-00-00-A-AN0-E0-JA0A-00-000-A00A00-C0000B-000000E
RTU-2	CORRIDOR VENTILATION	HORIZONTAL	1000	500	1.0	500	1.0	1.0	0.84	46.5	80.5	64.6	49.9	48.6	14.5	12.0	31.4	47.0	42.9	71.8	54.1	3.65	7.0	480V/3P	19	20	100	44	51	946	65	AAON RQA-004-A-A-3-GJB0A-A01N0 : 0G-0EDGD-E00-00000-00000-UE-000A-00-00-A-AN0-E0-JA0A-00-000-A00A00-C0000B-000000E

NOTES:
(1) ESP IS EXTERNAL TO UNIT CASING; DOES NOT INCLUDE CASING, CLEAN FILTER, WET COIL, OR AUX HEAT LOSSES.
(2) REFRIGERANT SHALL BE R-410A. IF EPA MANDATE OF GWP<700 PROHIBITS PURCHASE OR INSTALLATION DUE TO INSTALL DATE, MECHANICAL SYSTEM MUST BE REDESIGNED AND RESUBMITTED TO AHJ FOR APPROVAL WITH COMPLIANT SYSTEM. ADDITIONAL COST FOR CHANGE SHALL BE PAID EITHER BY GC OR OWNER DUE TO DELAY OF EQUIPMENT ORDER OR INSTALLATION.
(3) PROVIDE 100% OUTSIDE AIR ECONOMIZER AND RETURN-SIDE ECONOMIZER RELIEF.
(4) UNIT SHALL INCLUDE THE FOLLOWING: SIGHT GLASS, MANUAL RESET HIGH PRESSURE SWITCHES & AUTO RESET LOW PRESSURE SWITCHES, 2 INCH MERV-8 PLEATED FILTERS, INTEGRAL NON-FUSED DISCONNECT SWITCH, AND DISCHARGE AIR TEMPERATURE CONTROL.
(5) CONNECT UNIT TO FIRE ALARM SYSTEM. UNIT SHALL DEACTIVATE UPON ACTIVATION OF ANY GENERAL BUILDING ALARM.

ELECTRIC HEATERS

EQUIP NO.	SERVICE	MOUNTING/ DISCHARGE	HEATING CAPACITY, KW	VOLTAGE	BASIS OF DESIGN (1)(2)
EH-1-1	NORTH STAIR	WALL-MOUNTED	2.25	208V/1P	CADET COM-PAK TWIN OR EQUIVALENT (3)(4)
EH-1-2	EXIT PASSAGEWAY 129	WALL-MOUNTED	2.25	208V/1P	CADET COM-PAK TWIN OR EQUIVALENT (3)(4)
EH-1-3	ELECTRICAL 119	WALL-MOUNTED	3.0	208V/1P	CADET COM-PAK TWIN OR EQUIVALENT (3)
EH-1-4	WATER SERVICE/HEATER 121	WALL-MOUNTED	2.25	208V/1P	CADET COM-PAK TWIN OR EQUIVALENT (3)
EH-1-5	FIRE SPRINKLER 123	WALL-MOUNTED	1.0	208V/1P	CADET COM-PAK OR EQUIVALENT (3)
EH-1-6	MAINTENANCE 117	WALL-MOUNTED	1.5	208V/1P	CADET COM-PAK OR EQUIVALENT (3)
EH-1-7	CORRIDOR 128	WALL-MOUNTED	2.25	208V/1P	CADET COM-PAK OR EQUIVALENT (3)(4)
EH-1-8		WALL-MOUNTED	1.5	208V/1P	CADET COM-PAK OR EQUIVALENT (3)(4)
EH-1-9	DOG WASH 108	WALL-MOUNTED	1.0	208V/1P	CADET COM-PAK OR EQUIVALENT (4)
EH-1-10	MOVE-IN 107	WALL-MOUNTED	1.5	208V/1P	CADET COM-PAK OR EQUIVALENT (4)
EH-1-11	BIKE STORAGE 103	WALL-MOUNTED	3.0	208V/1P	CADET COM-PAK TWIN OR EQUIVALENT (3)(4)
EH-1-12	SOUTH STAIR	WALL-MOUNTED	2.25	208V/1P	CADET COM-PAK TWIN OR EQUIVALENT (3)(4)
EH-1-14	EXIT PASSAGEWAY 133	WALL-MOUNTED	1.0	208V/1P	CADET COM-PAK OR EQUIVALENT (3)(4)
EH-109-1	COMMERCIAL 109	CEILING-HUNG	5.7	208V/1P	KING KBP OR EQUIVALENT (6)
EH-109-2	COMMERCIAL 109	CEILING-HUNG	5.7	208V/1P	KING KBP OR EQUIVALENT (6)
EH-109-3	COMMERCIAL 109	CEILING-HUNG	5.7	208V/1P	KING KBP OR EQUIVALENT (6)
EH-109-4	COMMERCIAL 109	CEILING-HUNG	5.7	208V/1P	KING KBP OR EQUIVALENT (6)
EH-130-1	COMMERCIAL 130	CEILING-HUNG	5.7	208V/1P	KING KBP OR EQUIVALENT (6)
EH-130-2	COMMERCIAL 130	CEILING-HUNG	5.7	208V/1P	KING KBP OR EQUIVALENT (6)
EH-130-3	COMMERCIAL 130	CEILING-HUNG	5.7	208V/1P	KING KBP OR EQUIVALENT (6)
EH-130-4	COMMERCIAL 130	CEILING-HUNG	5.7	208V/1P	KING KBP OR EQUIVALENT (6)
EH-130-5	COMMERCIAL 130	CEILING-HUNG	5.7	208V/1P	KING KBP OR EQUIVALENT (6)
EH-RES-0.75	APARTMENT UNIT	WALL-MOUNTED	0.75	208V/1P	CADET COM-PAK OR EQUIVALENT (5)
EH-RES-1	APARTMENT UNIT	WALL-MOUNTED	1.125	208V/1P	CADET COM-PAK OR EQUIVALENT (5)
EH-RES-1.5	APARTMENT UNIT	WALL-MOUNTED	1.5	208V/1P	CADET COM-PAK OR EQUIVALENT (5)
EH-RES-2	APARTMENT UNIT	WALL-MOUNTED	2.0	208V/1P	CADET COM-PAK OR EQUIVALENT (5)

NOTES:
(1) INSTALL UNITS AS SHOWN AND AS RECOMMENDED BY THE MANUFACTURER IN COMPLIANCE WITH LOCAL CODES. PROVIDE INTEGRAL THERMOSTAT UNLESS OTHERWISE NOTED.
(2) HEATERS SHALL BE FURNISHED AND INSTALLED BY ELECTRICAL CONTRACTOR.
(3) NON-RECESSED INSTALLATION. PROVIDE SURFACE-MOUNT WALL CAN AND MOUNT UNIT ON WALL.
(4) PROVIDE REMOTE THERMOSTAT WITH LOCKING COVER.
(5) PROVIDE LINE-VOLTAGE 7-DAY PROGRAMMABLE REMOTE THERMOSTAT.

DIFFUSER SCHEDULE

CALLOUT	DESCRIPTION	AIRFLOW RANGE, CFM	FACE SIZE, IN	BASIS OF DESIGN (1)
CD-1	CEILING SUPPLY DIFFUSER	0-350	12x12	TITUS TMS
CD-2	CEILING SUPPLY DIFFUSER	0-1000	24x24	TITUS TMS
RG-1	CEILING RETURN GRILLE	0-750	12x12	TITUS 350ZRL
RG-2	CEILING RETURN GRILLE	0-2125	24x24	TITUS 350ZRL
RG-3	SIDEWALL RETURN GRILLE	0-750	12x12	TITUS 350ZRL
EG-1	CEILING EXHAUST GRILLE	0-750	12x12	TITUS 350ZRL
EG-2	CEILING EXHAUST GRILLE	0-2125	24x24	TITUS 350ZRL
EG-3	SIDEWALL EXHAUST GRILLE	0-750	12x12	TITUS 350ZRL
EG-4	CEILING EXHAUST GRILLE	0-170	6x6	TITUS 350ZRL
SG-1	SIDEWALL SUPPLY GRILLE	0-600	12x12	TITUS 300RL
SG-2	SIDEWALL SUPPLY GRILLE	0-130	6x6	TITUS 300RL

NOTES:
(1) ALL DIFFUSERS, REGISTERS, AND GRILLES SHALL BE FACTORY PAINTED.

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MECHANICAL SCHEDULES

M0.03

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GENERAL NOTES:

1. EXHAUST OUTLETS SHALL BE LOCATED NOT LESS THAN 3 FEET FROM PROPERTY LINES & OPERABLE OPENINGS & NOT LESS THAN 10 FEET FROM MECHANICAL AIR INTAKES.

2. MECHANICAL OUTDOOR AIR INTAKES SHALL BE LOCATED NOT LESS THAN 10 FEET FROM LOT LINES (UNLESS FRONTING STREET OR PUBLIC WAY); 10 FEET FROM EXHAUST OUTLETS; 10 FEET HORIZONTALLY FROM OR 25 FEET ABOVE VENTS, STREETS, ALLEYS, PARKING LOTS, LOADING DOCKS; NOT LESS THAN 3 FEET BELOW CONTAMINANT SOURCES WHERE SOURCES ARE LOCATED WITHIN 10 FEET OF THE OPENING.

3. PROVIDE ACCESSIBLE MANUAL VOLUME DAMPERS OR OPPOSED-BLADE DAMPERS IN ALL DUCTED SYSTEMS FOR BALANCING PER HVAC NOTES ON SHEET M0.00.

FLAG NOTES: <## >

1. PROVIDE 24x48 TRANSFORMER SUPPLY AIR OPENING 18" TO 24" AFF (4800 CFM) WITH METAL GRATINGS & WIRE MESH PER TRANSFORMER ROOM VENTILATION NOTES ON SHEET M0.01. SUPPLY AIR SHAFT SHALL HAVE 2-HOUR FIRE RESISTANCE RATING AND SHALL NOT EXTEND MORE THAN 24 INCHES INTO VAULT.

2. PROVIDE 96x28 TRANSFORMER EXHAUST AIR OPENING (4,800 CFM) WITH LOUVER & WIRE MESH PER PER TRANSFORMER ROOM VENTILATION NOTES ON SHEET M0.01. EXHAUST OPENING SHALL MAINTAIN THE FOLLOWING CLEARANCES PER WSMC 501.3.1:
10 FEET FROM: PROPERTY LINES SEPARATING TWO LOTS; OPERABLE OPENINGS INTO BUILDINGS; AIR INTAKES.
3 FEET HORIZONTALLY FROM (OR 10 FEET ABOVE OR BELOW) ADJOINING FINISHED SIDEWALK.

3. GENERATOR RADIATOR EXHAUST: PROVIDE 72x96 EXHAUST LOUVER SIZED FOR 10,800 CFM. CONNECT EXHAUST DUCT TO LOUVER AND GENERATOR RADIATOR PUSHER FAN PER MANUFACTURER'S INSTRUCTIONS. STATIC PRESSURE IN RADIATOR EXHAUST DUCT SHALL NOT EXCEED 0.5 INCHES W.G. PER NFPA 110 7.7.4.1 AND ANY PORTION OF RADIATOR DISCHARGE SYSTEM OUTSIDE GENERATOR ROOM SHALL BE PROTECTED BY 2-HOUR SHAFT ENCLOSURE PER NFPA 110 7.7.4.2.

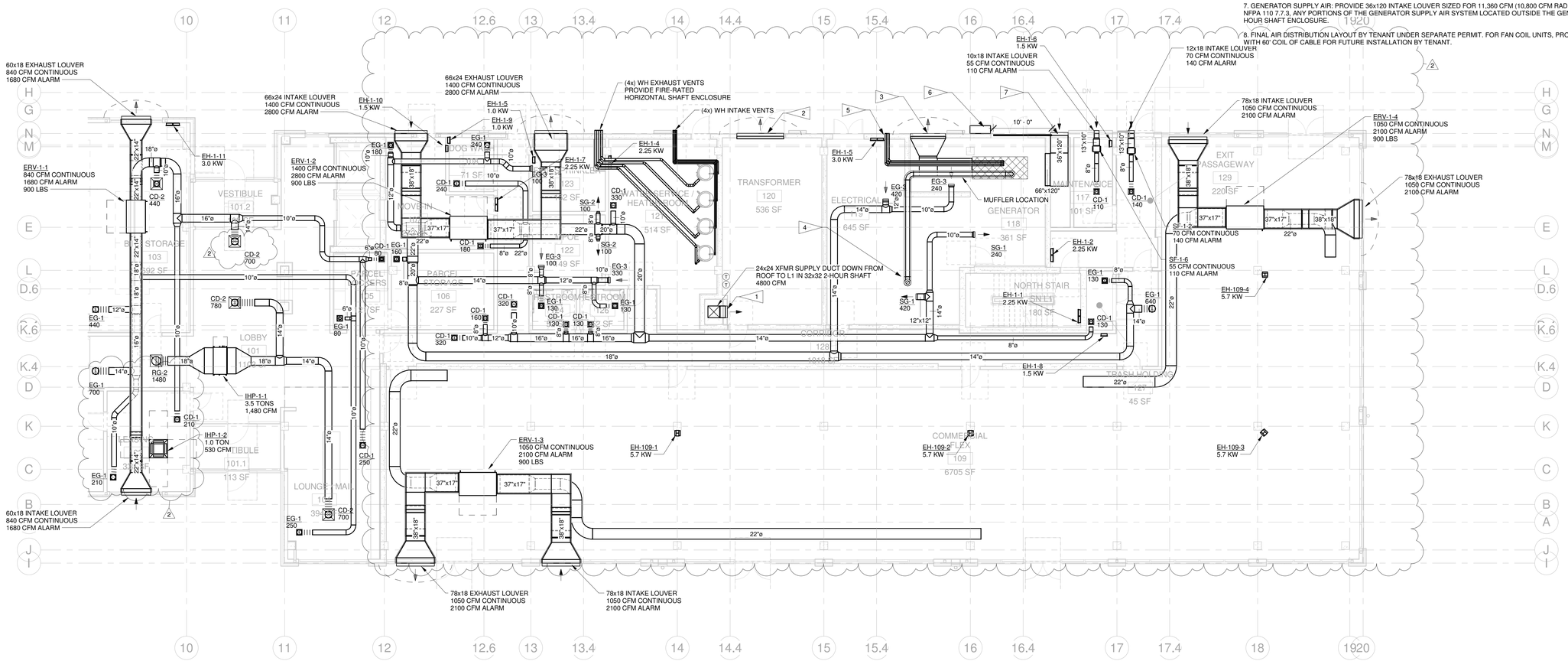
4. GENERATOR ENGINE EXHAUST: PROVIDE FACTORY-BUILT 8" DOUBLE WALL STEEL TAILPIPE (CAPTIVEAIRE OR EQUIVALENT). CONNECT TO ENGINE FLUE EXHAUST. TAILPIPE TERMINATION AT BUILDING EXTERIOR SHALL MAINTAIN 18" CLEARANCE FROM COMBUSTIBLE MATERIALS PER NFPA 37. PROVIDE MUFFLER AND CONDENSATE DRAINAGE FOR PIPE. INSTALL PER MANUFACTURER'S INSTRUCTIONS. ROUTE EXHAUST TO TERMINATION ON ROOF IN 20x20 METAL-FRAMED 2-HOUR SHAFT ENCLOSURE. EXTEND FLUE AT LEAST 3' ABOVE ROOF SURFACE. MAINTAIN 10' CLEARANCE FROM OPERABLE OPENINGS, AIR INTAKES. MAINTAIN 20' FROM PRESSURIZATION FAN INTAKES.

5. THREE (3) FUEL TANK VENTS FOR GENERATOR (REF. ONLY - PROVIDED BY PLUMBING CONTRACTOR). CLEARANCES: 15 FEET FROM FORCED-AIR INTAKES, 12 FEET FROM TAILPIPE EXHAUST, 12 FEET ABOVE ADJOINING GRADE, 5 FEET FROM BUILDING OPENINGS. ADDITIONAL CLEARANCES AS APPLICABLE PER MANUFACTURER INSTRUCTIONS AND ASME BOILER & PRESSURE VESSEL CODE.

6. GENERATOR REMOTE FUEL FILL STATION (REF ONLY). ENCLOSE FUEL LINE WITH 2 HOUR CHASE WHERE LOCATED OUTSIDE OF GENERATOR ROOM.

7. GENERATOR SUPPLY AIR: PROVIDE 36x120 INTAKE LOUVER SIZED FOR 11,360 CFM (10,800 CFM RADIATOR AIR AND 560 CFM COMBUSTION AIR). PER NFPA 110 7.7.3, ANY PORTIONS OF THE GENERATOR SUPPLY AIR SYSTEM LOCATED OUTSIDE THE GENERATOR ROOM SHALL BE PROTECTED BY 2-HOUR SHAFT ENCLOSURE.

8. FINAL AIR DISTRIBUTION LAYOUT BY TENANT UNDER SEPARATE PERMIT. FOR FAN COIL UNITS, PROVIDE THERMOSTAT MOUNTED ADJACENT TO FCU WITH 60" COIL OF CABLE FOR FUTURE INSTALLATION BY TENANT.



1 LEVEL 1 HVAC PLAN - NORTH
1/8" = 1'-0"

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LEVEL 1 HVAC FLOOR PLAN NORTH

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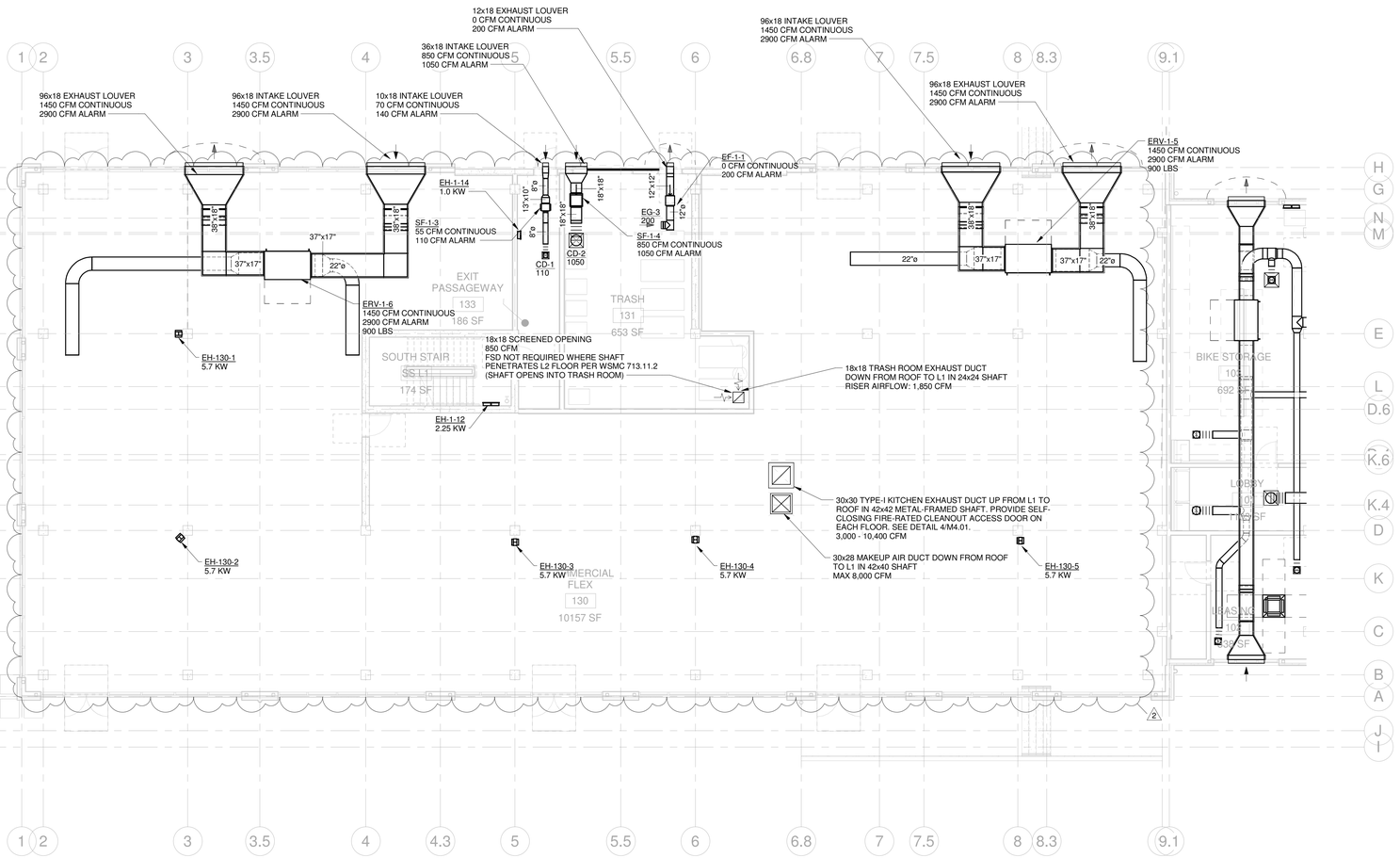

1 LEVEL 1 HVAC PLAN - SOUTH
1/8" = 1'-0"

GENERAL NOTES:

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FLAG NOTES: <1> ##

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LEVEL 1 HVAC FLOOR PLAN SOUTH

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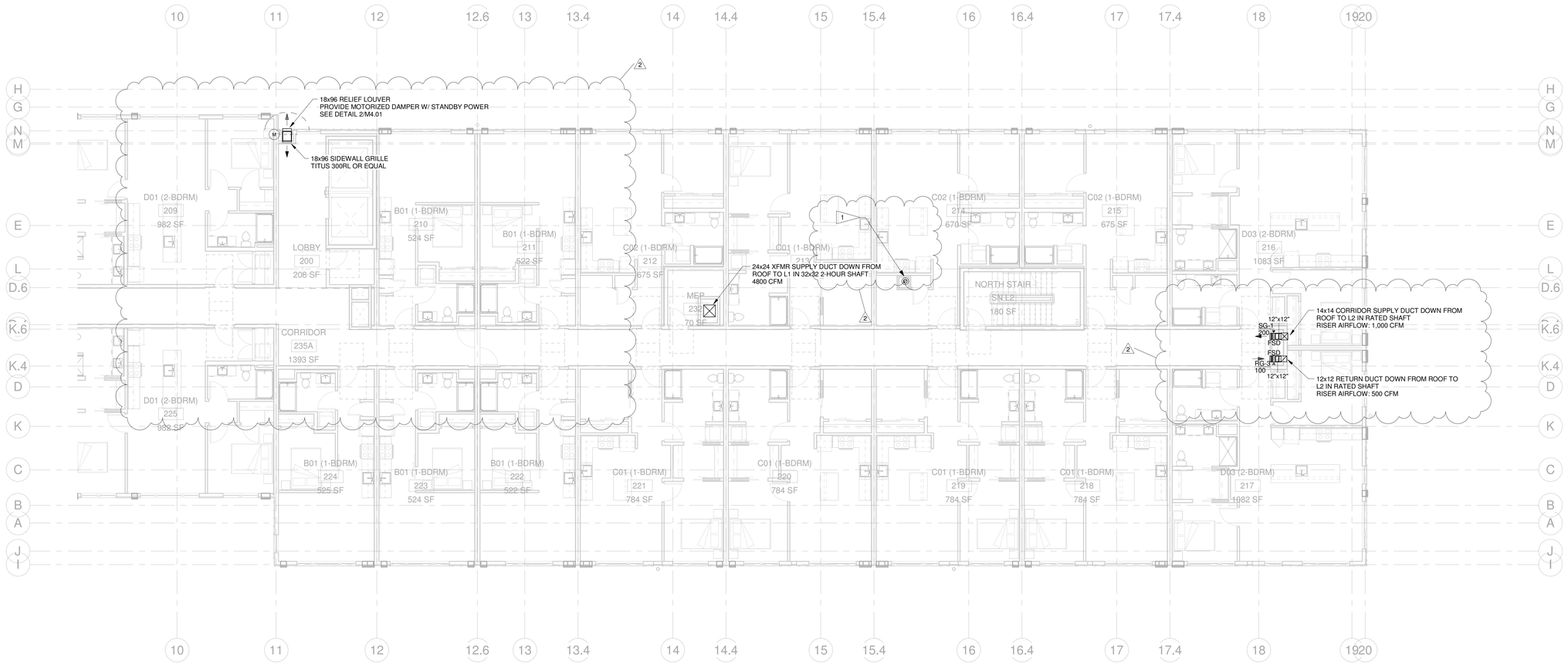

1 LEVEL 2 HVAC PLAN - NORTH
1/8" = 1'-0"

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LEVEL 2 HVAC FLOOR PLAN NORTH

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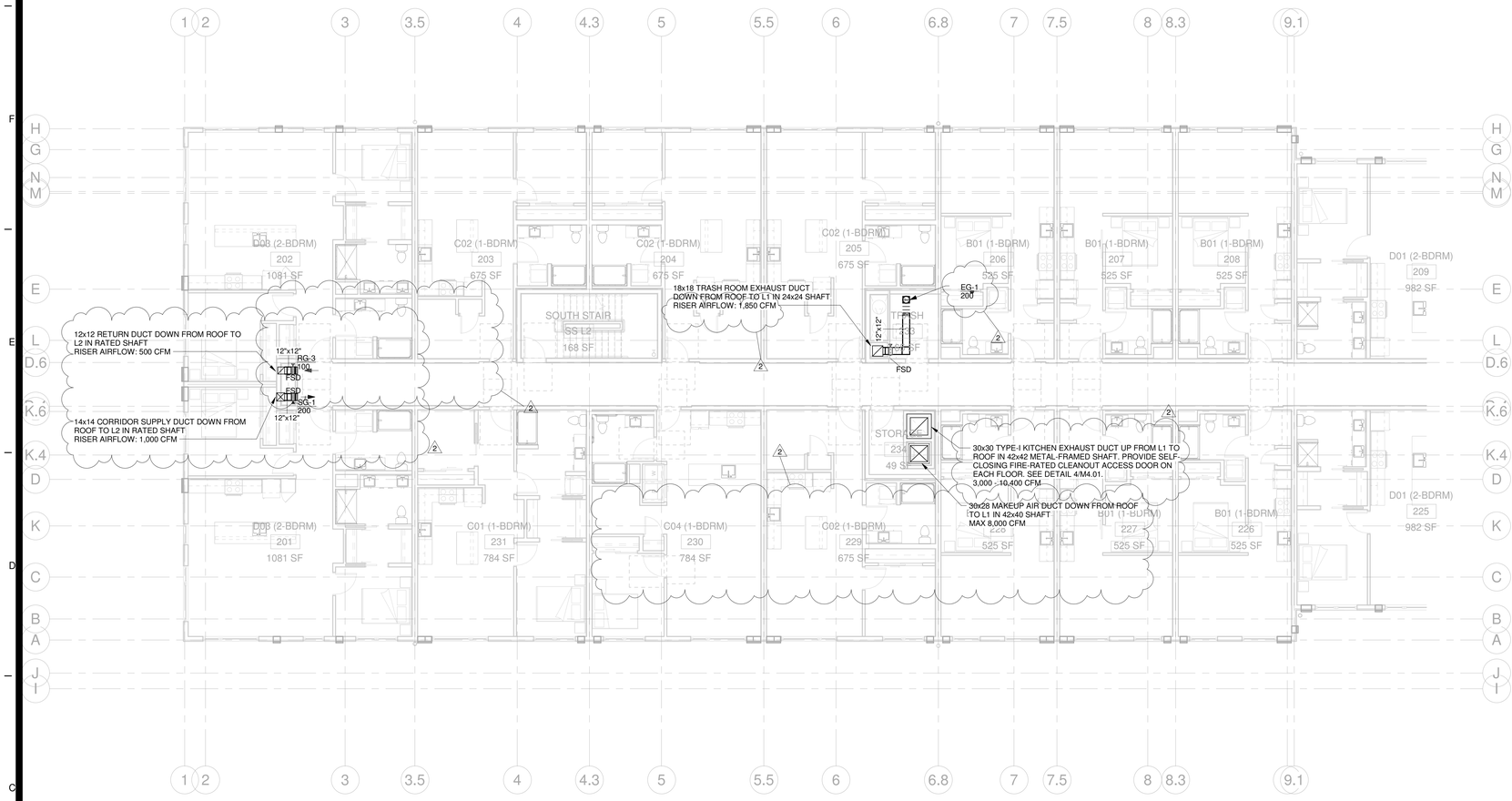

1 LEVEL 2 HVAC PLAN - SOUTH
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LEVEL 2 HVAC FLOOR PLAN SOUTH

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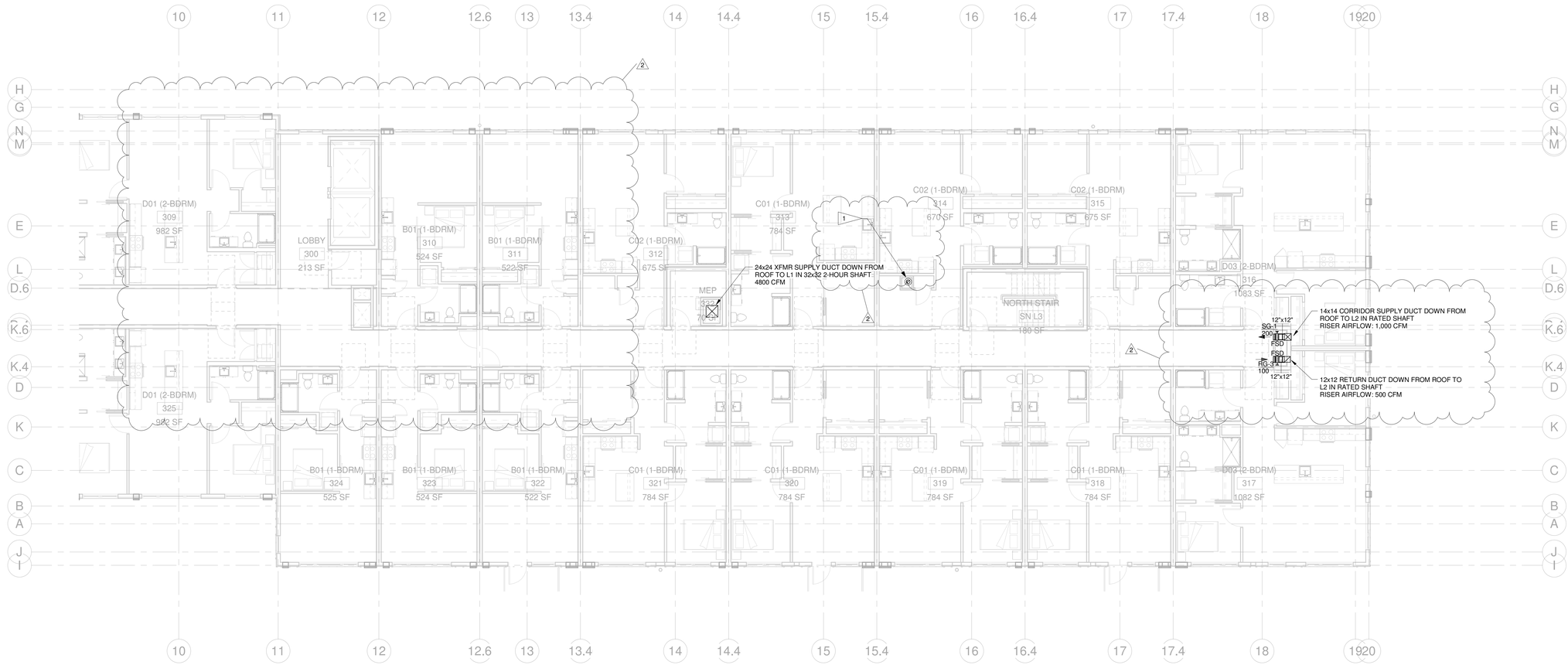

1 LEVEL 3 HVAC PLAN - NORTH
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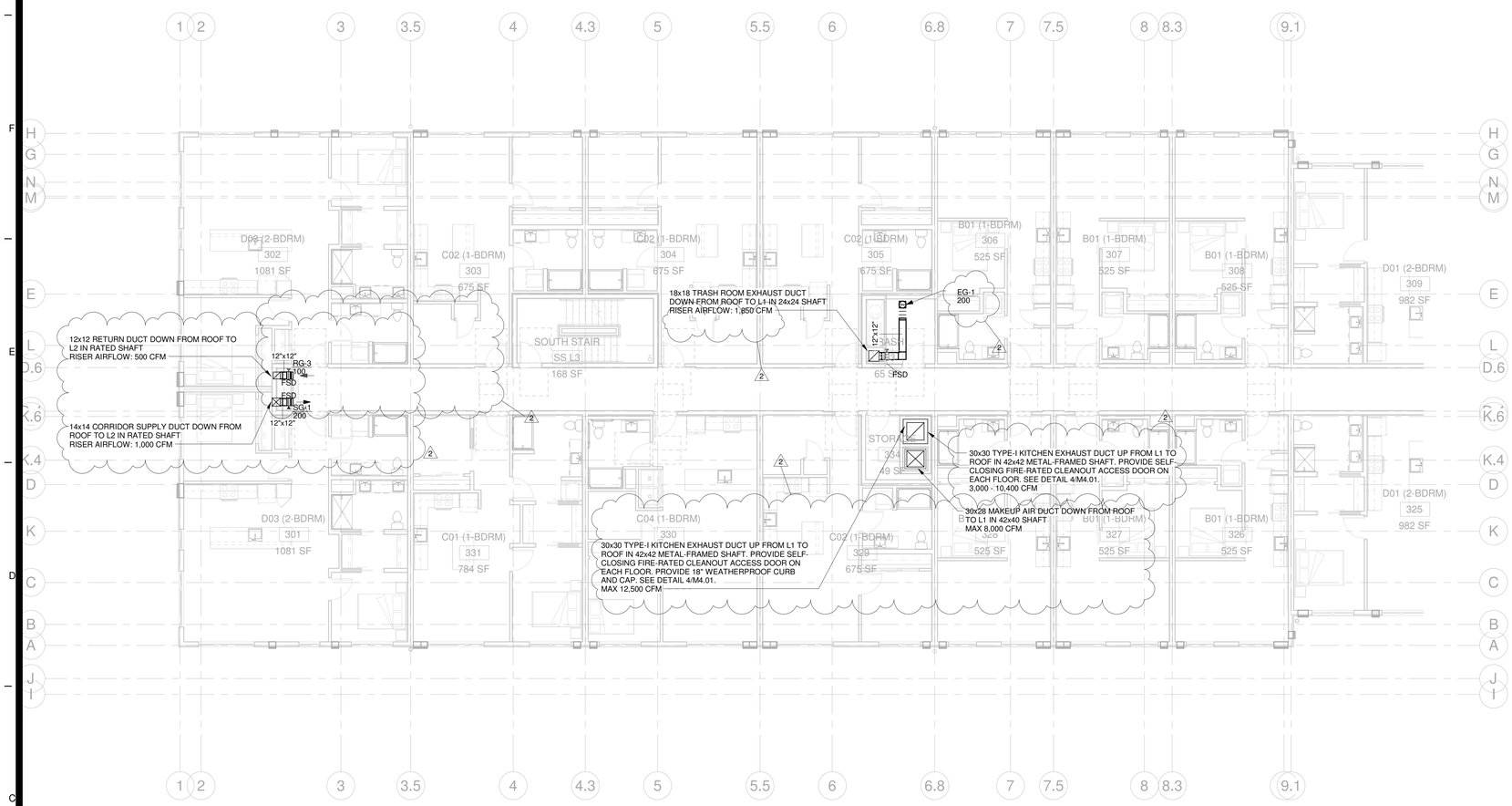
LEVEL 3 HVAC FLOOR PLAN NORTH

M2.03N

3/13/2026 2:02:17 PM Autodesk Docs://MG2-CE Shelter Holdings-Everett Riverfront Development PH2 21-5905-01A/Riverfront Apartments Building D - MEP.rvt



1 LEVEL 3 HVAC PLAN - SOUTH
1/8" = 1'-0"

GENERAL NOTES:

1. EXHAUST OUTLETS TO BE LOCATED NOT LESS THAN 3 FEET FROM PROPERTY LINES & OPERABLE OPENINGS & NOT LESS THAN 10 FEET FROM MECHANICAL AIR INTAKES.

2. MECHANICAL OUTDOOR AIR INTAKES TO BE LOCATED NOT LESS THAN 10 FEET FROM LOT LINES (UNLESS FRONTING STREET OR PUBLIC WAY); 10 FEET FROM EXHAUST OUTLETS; 10 FEET HORIZONTALLY FROM OR 25 FEET ABOVE VENTS, STREETS, ALLEYS, PARKING LOTS, LOADING DOCKS; NOT LESS THAN 3 FEET BELOW CONTAMINANT SOURCES WHERE SOURCES ARE LOCATED WITHIN 10 FEET OF THE OPENING.

3. PROVIDE ACCESSIBLE MANUAL VOLUME DAMPERS OR OPPOSED-BLADE DAMPERS IN ALL DUCTED SYSTEMS FOR BALANCING PER HVAC NOTES ON SHEET M0.00.

EVERETT RIVERFRONT BUILDING 1-D

3710 Riverfront Blvd
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ROBISON ENGINEERING, INC
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CONTACT: PETER ROCKSTEAD

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STATE OF WASHINGTON
PROFESSIONAL ENGINEER
03-13-26

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LEVEL 3 HVAC FLOOR PLAN SOUTH

M2.03S

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FLAG NOTES: ##

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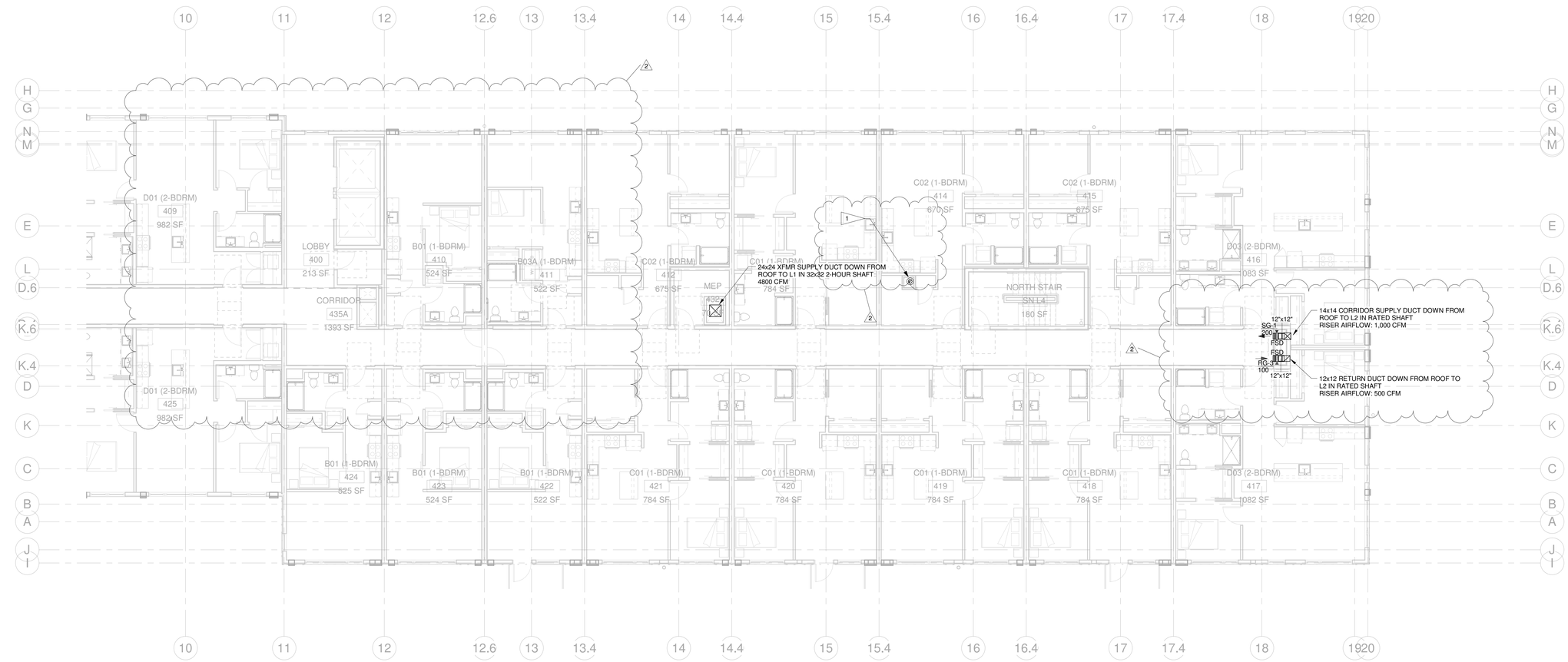

1 LEVEL 4 HVAC PLAN - NORTH
1/8" = 1'-0"

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LEVEL 4 HVAC FLOOR PLAN NORTH

M2.04N

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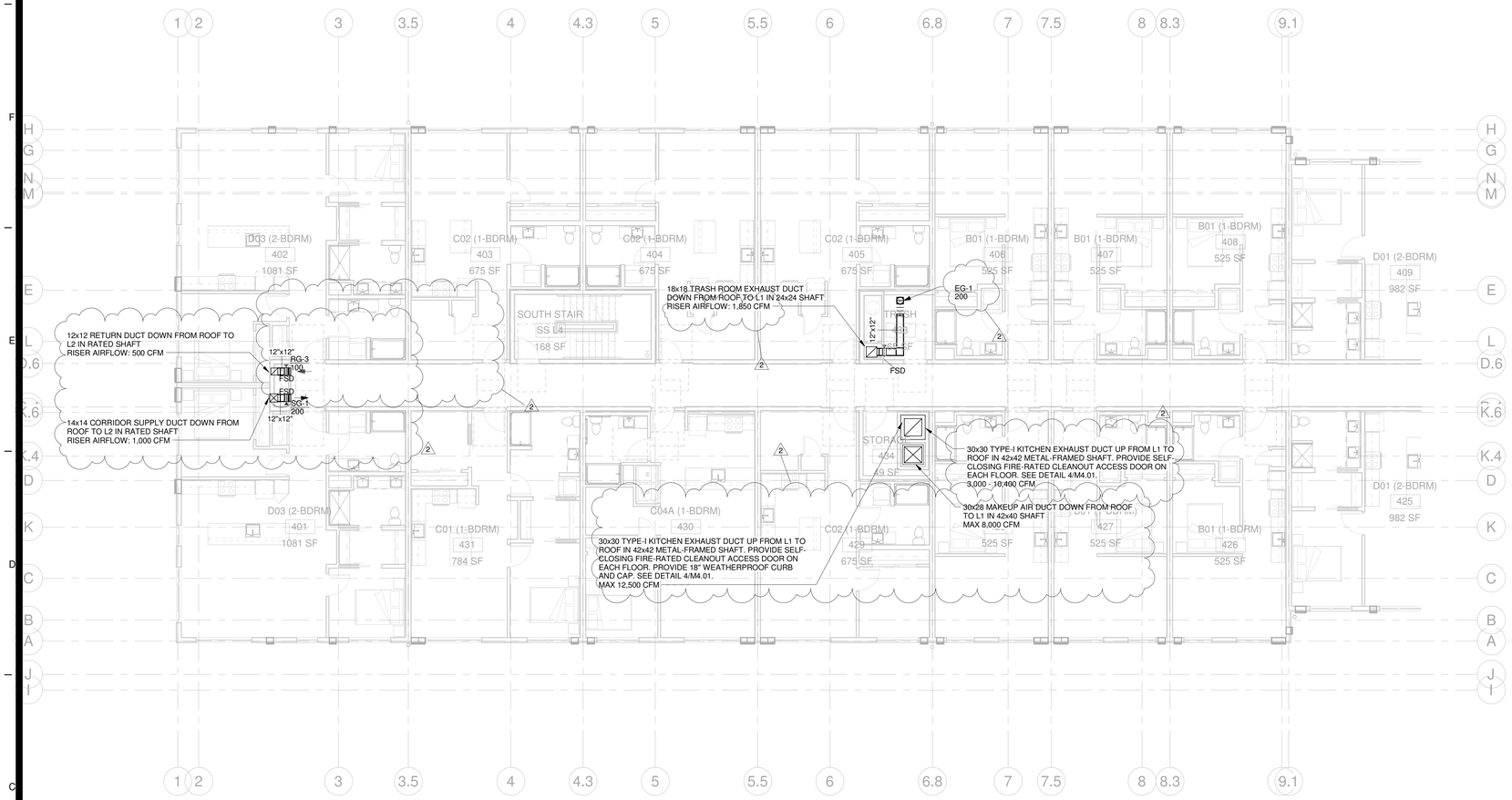

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LEVEL 4 HVAC FLOOR PLAN SOUTH

M2.04S

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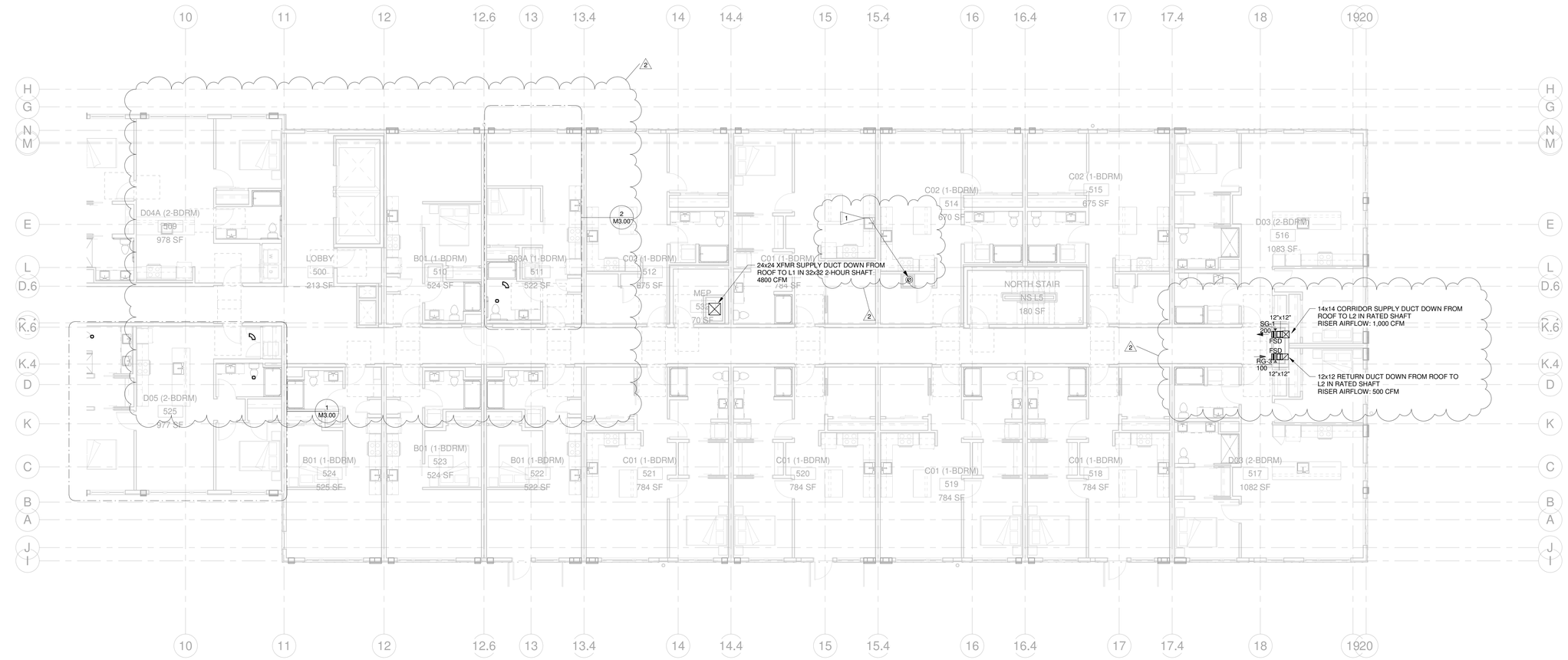

1 LEVEL 5 HVAC PLAN - NORTH
1/8" = 1'-0"

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LEVEL 5 HVAC FLOOR PLAN NORTH

M2.05N

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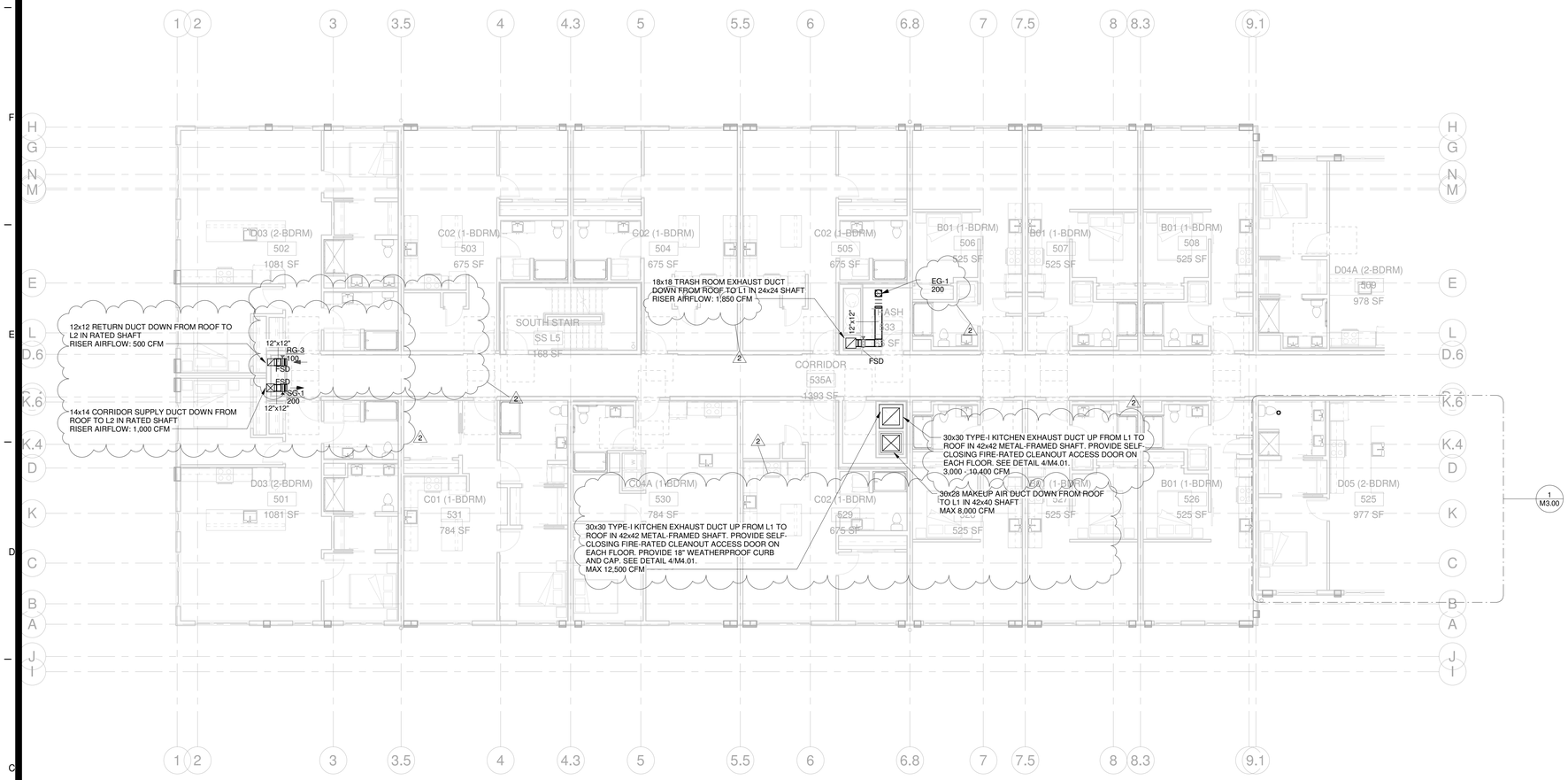

1 LEVEL 5 HVAC PLAN - SOUTH
1/8" = 1'-0"

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LEVEL 5 HVAC FLOOR PLAN SOUTH

M2.05S

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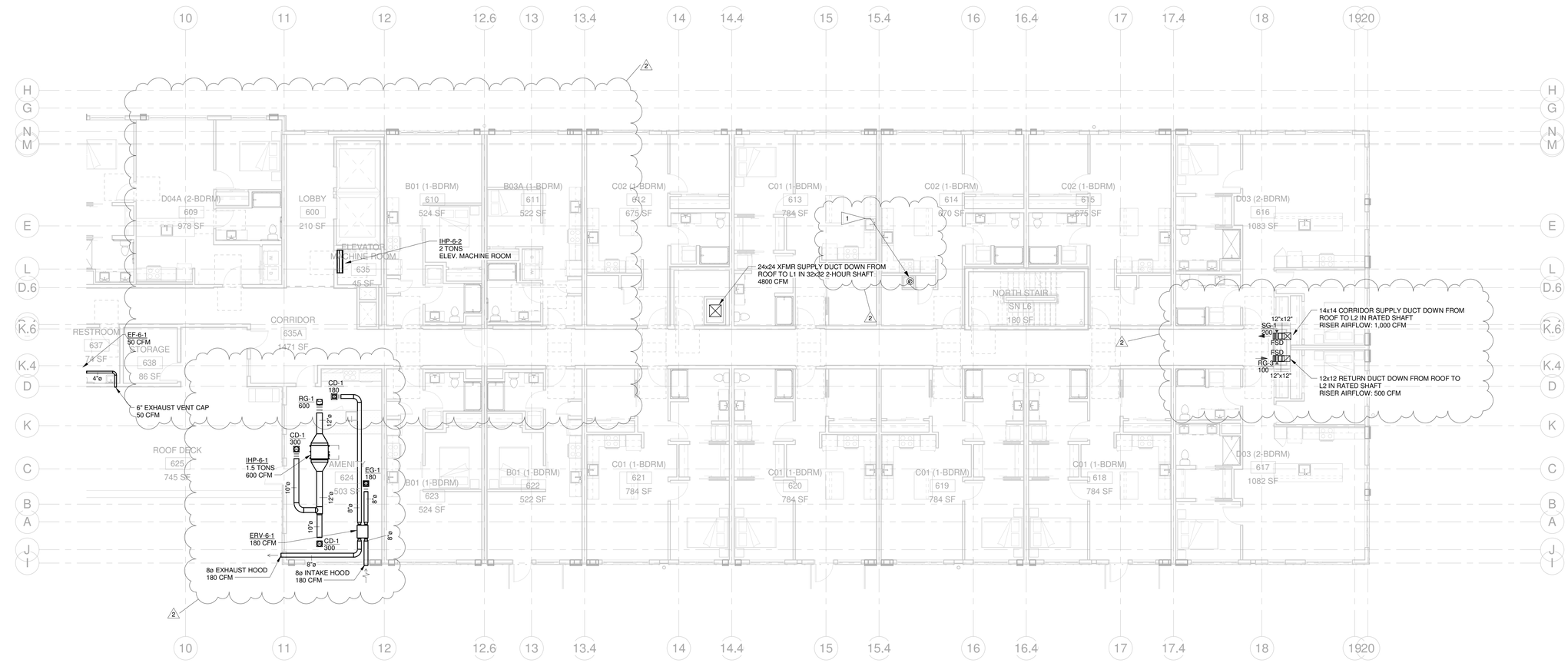

1 LEVEL 6 HVAC PLAN - NORTH
1/8" = 1'-0"

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LEVEL 6 HVAC FLOOR PLAN NORTH

M2.06N

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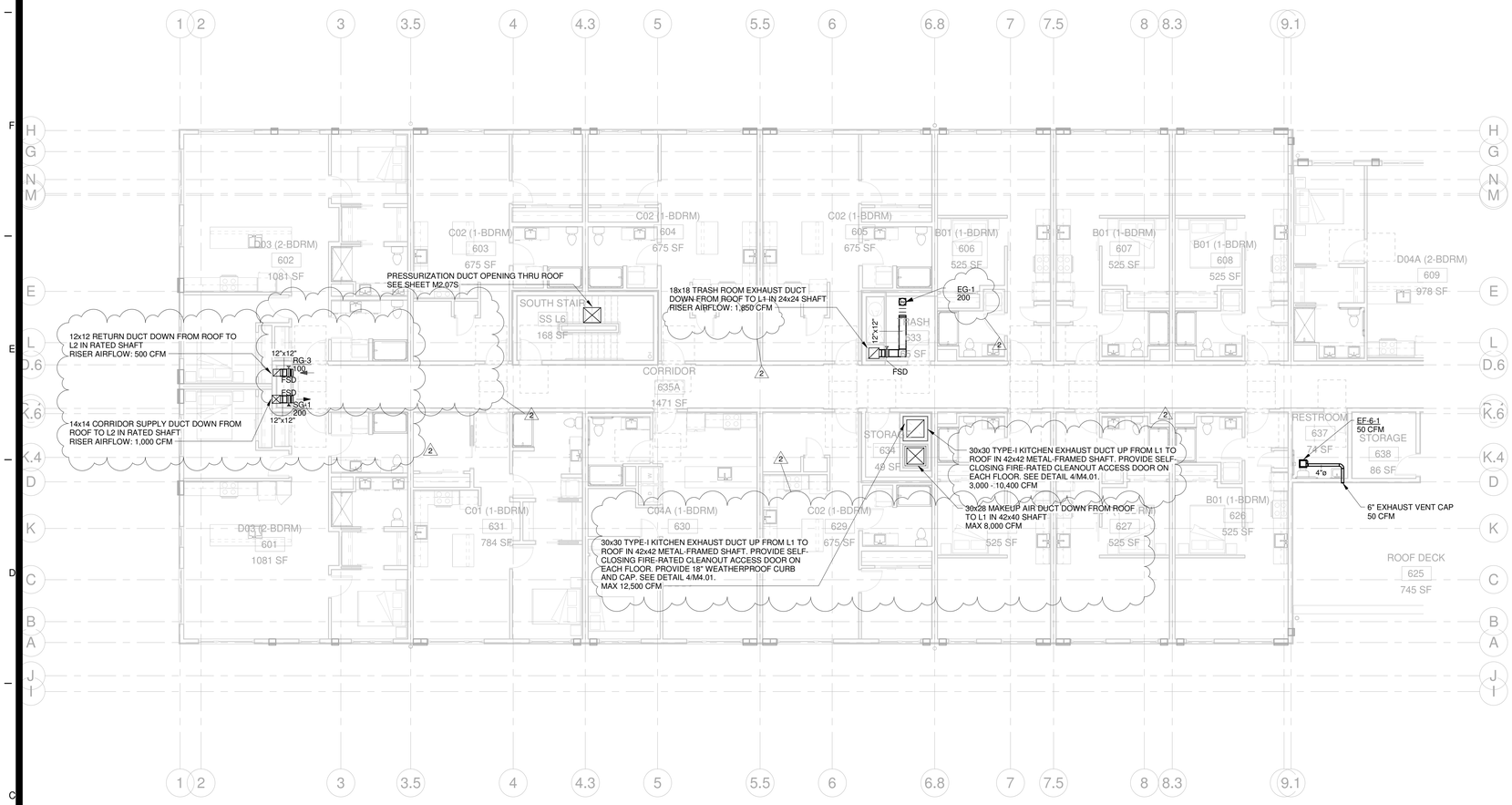

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LEVEL 6 HVAC FLOOR PLAN SOUTH

M2.06S

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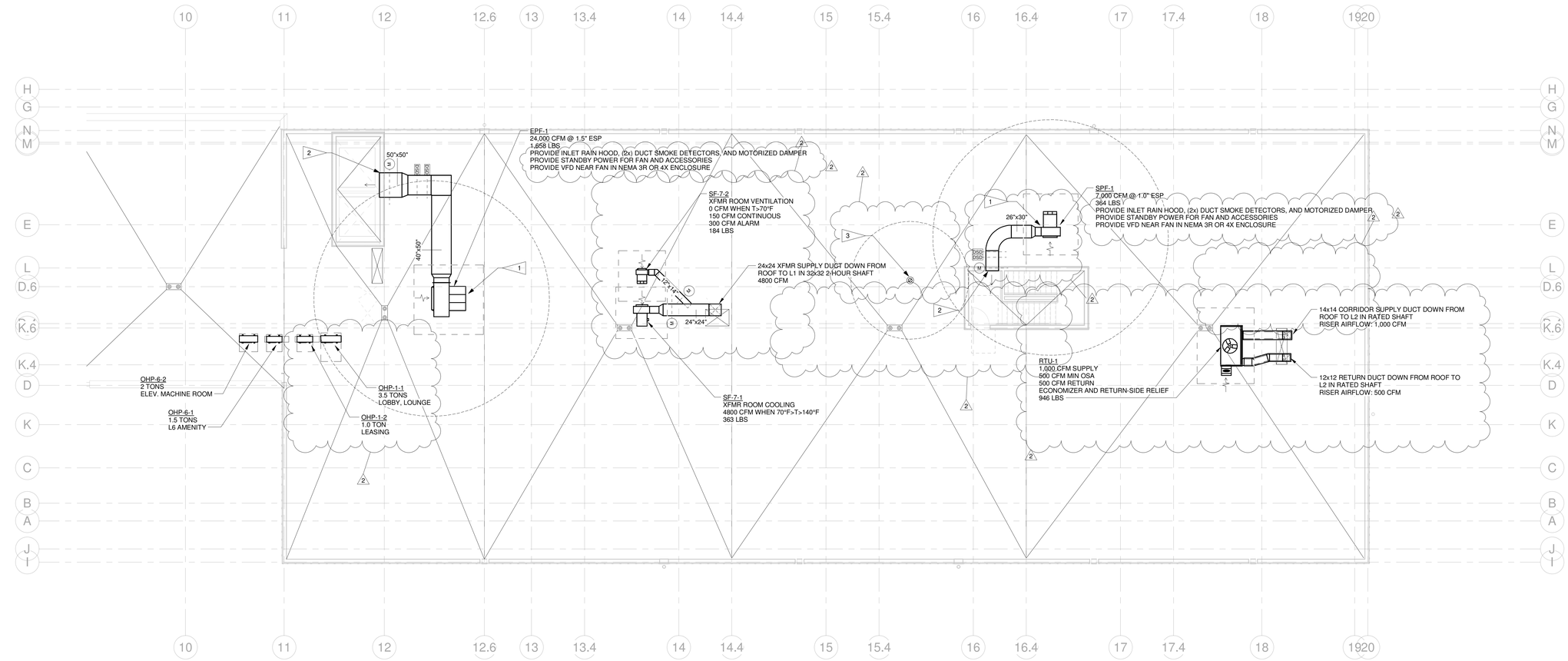

1 ROOF HVAC PLAN - NORTH
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ROOF HVAC FLOOR PLAN NORTH

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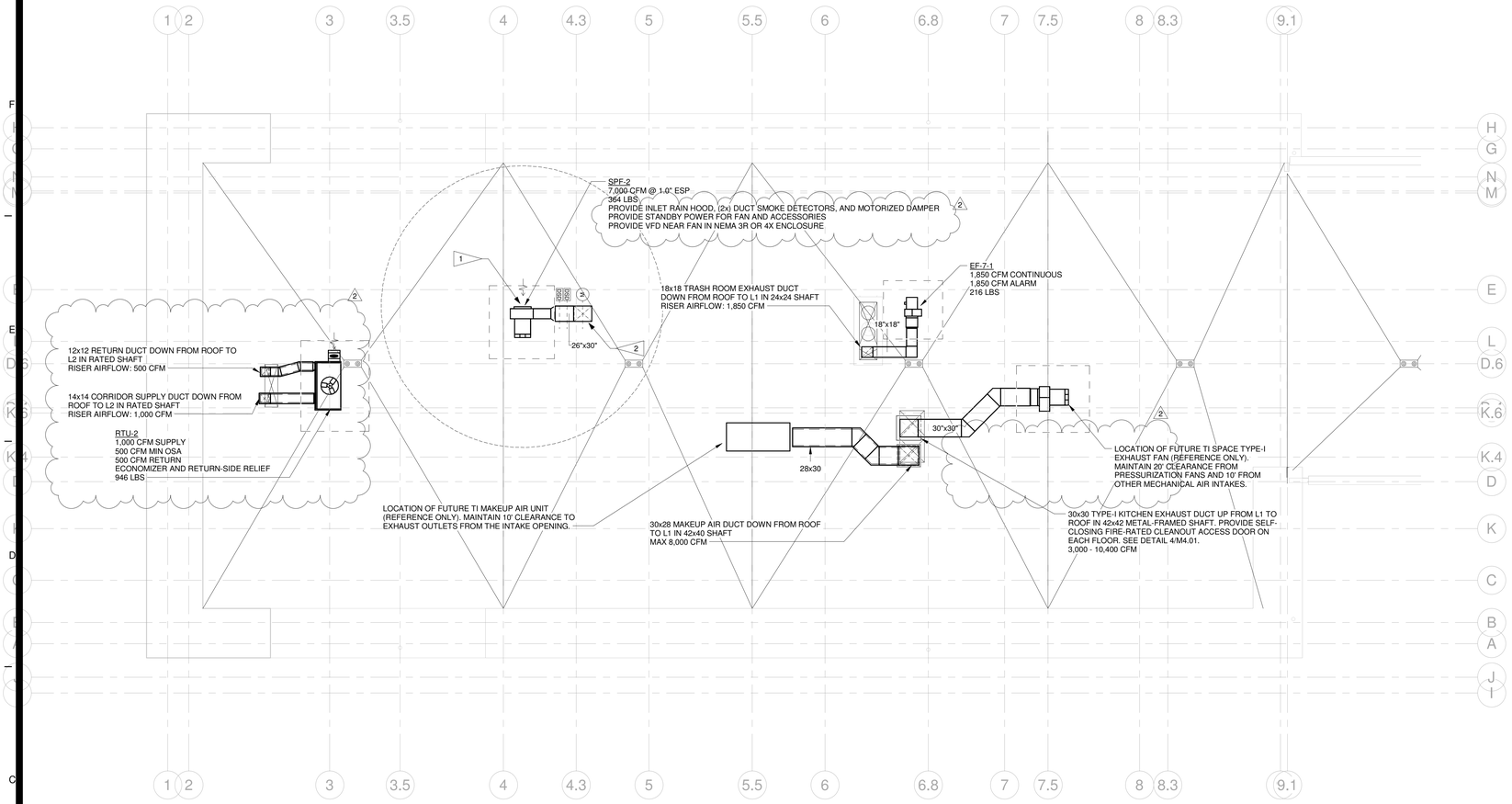

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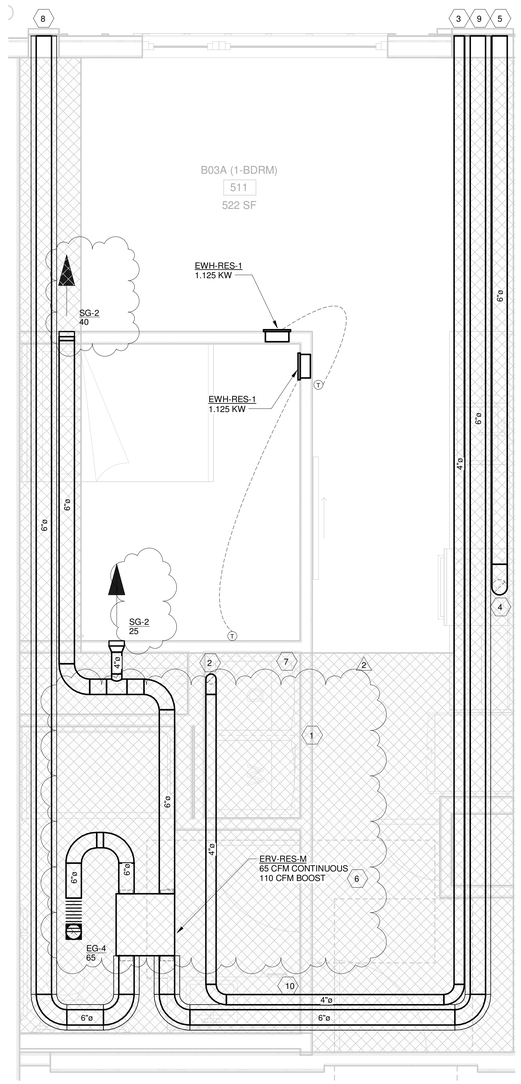
△	DATE	DESCRIPTION
2	02/27/26	PERMIT RESPONSE 02

1073-002
PM: PETER ROCKSTEAD
DRAWN BY:PCR
03/13/2026

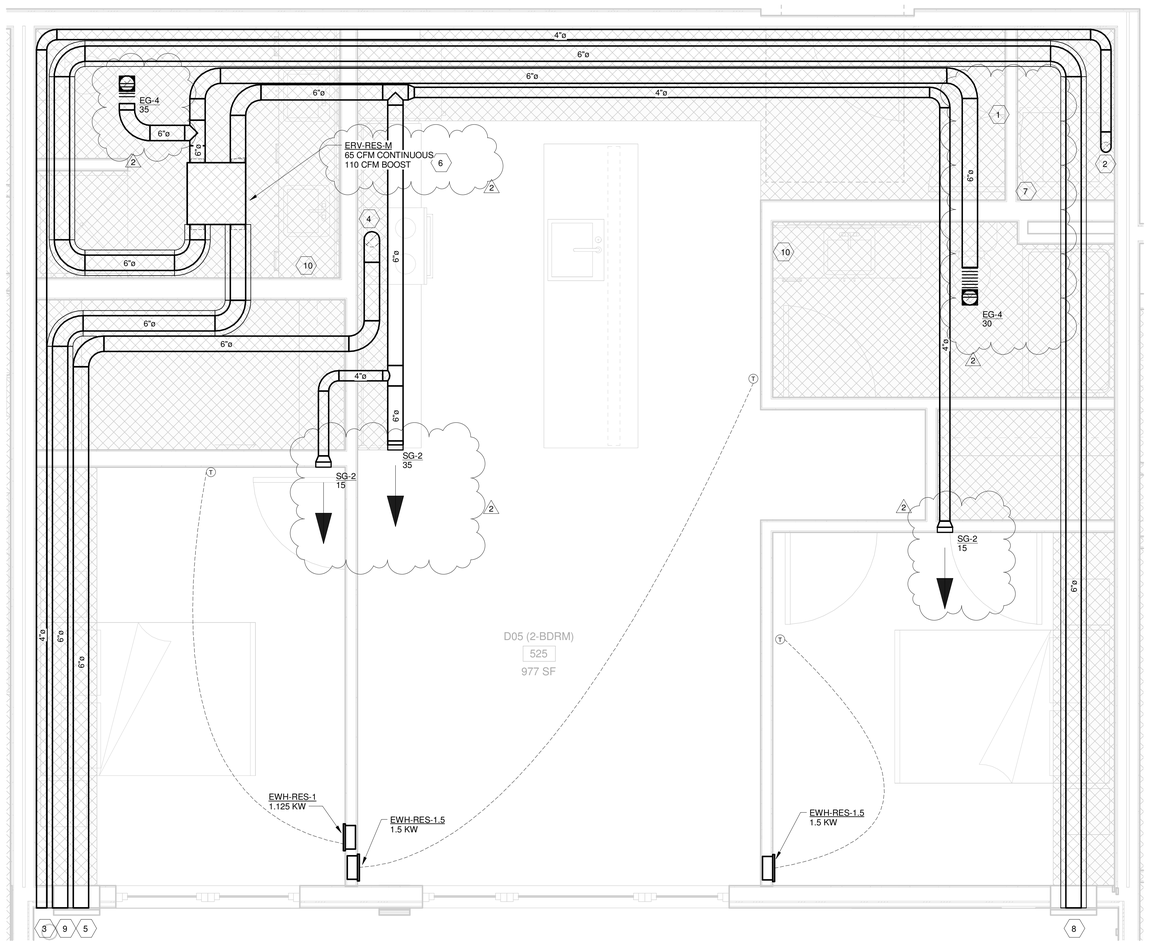
ROOF HVAC FLOOR PLAN SOUTH

M2.07S

3/13/2026 2:02:28 PM Autodesk Docs://MG2-CE-Shelter Holdings-Everett Riverfront Development PH2-21-5905-01A-Riverfront Apartments Building D - MEP.rvt



2 UNIT PLAN - 1-BED B03A
1/2" = 1'-0"



1 UNIT PLAN - 2-BED D05
1/2" = 1'-0"

GENERAL NOTES:

1. ENVIRONMENTAL EXHAUST TERMINATIONS: MAINTAIN 3 FOOT SEPARATION FROM PROPERTY LINES AND OPERABLE OPENINGS, 10 FEET FROM MECHANICAL AIR INTAKES.
2. MOUNT REMOTE THERMOSTATS 48" AFF. PER WSEC 403.4.9, AT LEAST ONE THERMOSTAT SHALL BE PROGRAMMABLE ON A 5-2 SCHEDULE.
3. UNDERCUT ALL BATHROOM DOORS BY MINIMUM 1/2" TO ALLOW TRANSFER OF MAKEUP AIR FOR BATHROOM EXHAUST.
4. ELECTRIC WALL HEATERS SHALL BE RECESSED IN WALL UNLESS LOCATED ON FIRE RATED OR EXTERIOR WALL. FOR HEATERS MOUNTED ON SUCH WALLS, PROVIDE SURFACE-MOUNT WALL CAN.
5. PROVIDE ACCESSIBLE MANUAL VOLUME DAMPERS AT BRANCHES OR OPPOSED-BLADE DAMPERS AT GRILLES FOR AIR BALANCING PER VOLUME DAMPERS NOTE ON SHEET M0.00.

HEX NOTES: (##)

1. LAUNDRY ROOMS OR CLOSETS CONTAINING DRYERS SHALL BE PROVIDED WITH LOUVERED DOOR OR 100 SQ. IN FREE-AREA OPENING ABOVE DOOR PER WSMC 504.6.
2. 4ø POC TO DRYER. REFER TO MANUFACTURER INSTRUCTIONS FOR MAXIMUM ALLOWED LENGTH OF DRYER VENT. PROVIDE PERMANENT PLACARD SHOWING NET EQUIVALENT LENGTH. VENT SHALL REMAIN SEPARATE FROM OTHER EXHAUST SYSTEMS UP TO TERMINATION.
3. 4ø DRYER EXHAUST VENT WALL CAP. PROVIDE BACKDRAFT DAMPER AT WALL CAP. DO NOT INSTALL SCREENS ON DRYER EXHAUST TERMINATIONS.
4. 6ø POC TO DOMESTIC KITCHEN RANGE HOOD. DUCT SHALL REMAIN SEPARATE FROM OTHER EXHAUST SYSTEMS UP TO TERMINATION.
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6. RESIDENTIAL ENERGY RECOVERY VENTILATOR (ERV) FOR WHOLE-HOUSE VENTILATION. INSTALL PER MANUFACTURER INSTRUCTIONS WITHIN DROPPED CEILING. PROVIDE 28x24 ACCESS PANEL BELOW UNIT. PROVIDE MERV-8 FILTERS FOR SUPPLY AND EXHAUST. FOR A MIRRORED LAYOUT OF UNIT TYPE, USE ERV-RES-M WHERE ERV-RES IS INDICATED ON THE NON-MIRRORED PLAN, OR USE ERV-RES FOR MIRRORED UNIT WHERE ERV-RES-M IS INDICATED ON THE NON-MIRRORED PLAN. BASIS OF DESIGN UNIT (BLP150) USES ONE FIELD-MIRRORABLE MODEL.
7. ELECTRICAL CONTRACTOR SHALL PROVIDE ON/OFF SWITCH FOR ERV NEAR LAUNDRY, LABELED WITH THE FOLLOWING OR EQUIVALENT TEXT: "LEAVE VENTILATION ON UNLESS OUTDOOR AIR QUALITY IS VERY POOR." SWITCH 'ON' SHALL TURN ERV ON, AND SWITCH 'OFF' SHALL TURN ERV OFF.
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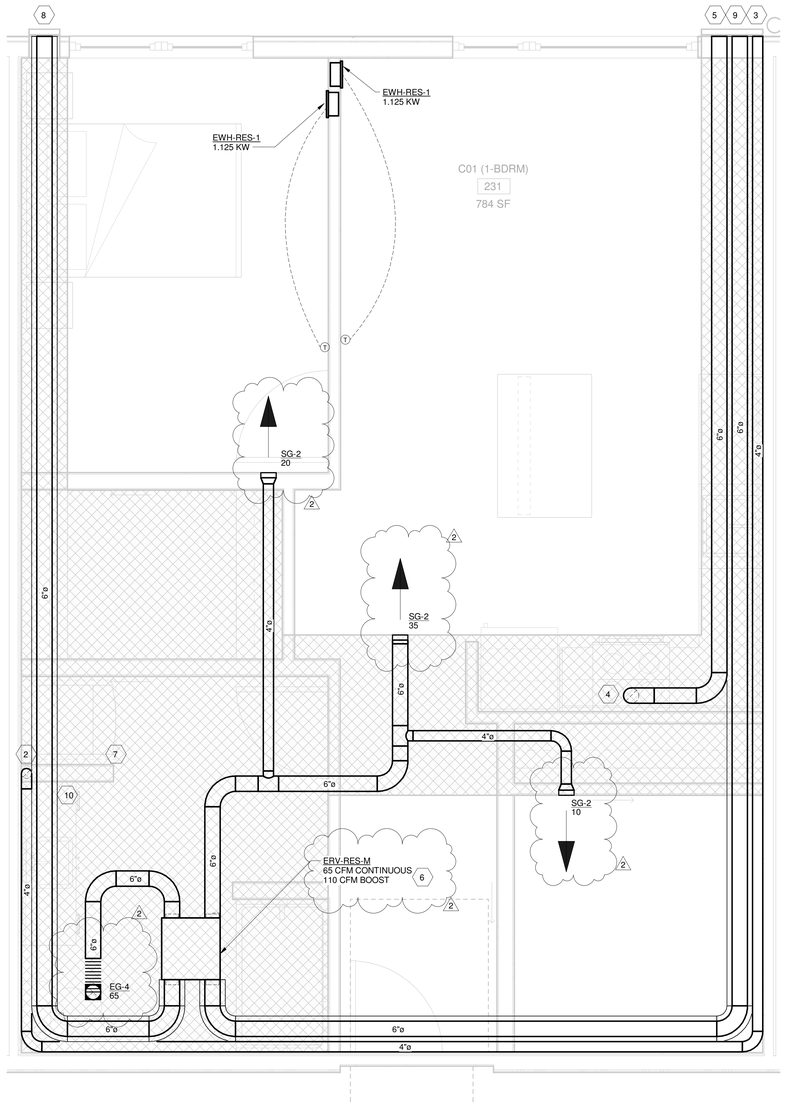
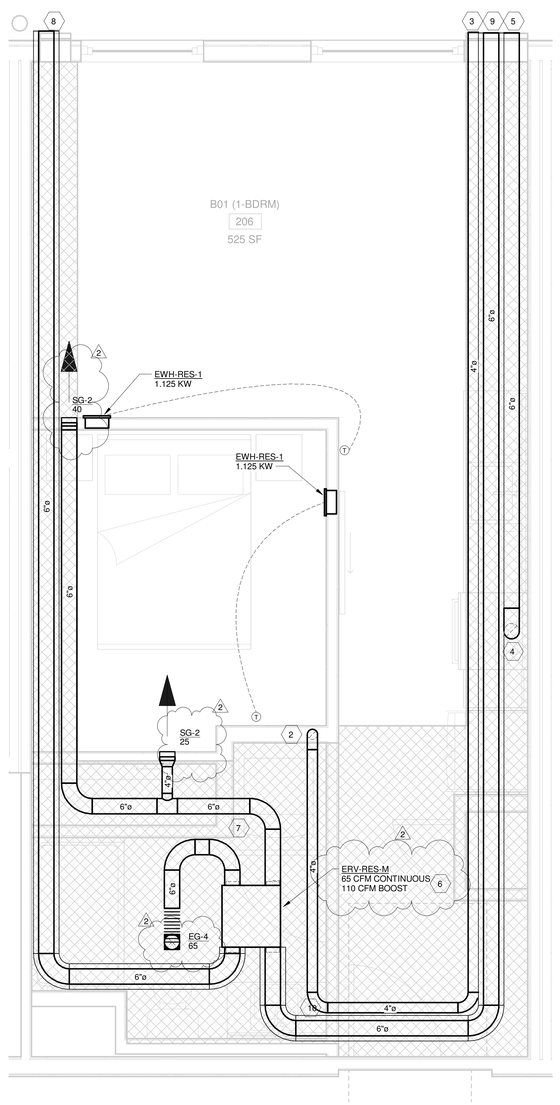
ENLARGED DWELLING UNIT HVAC PLANS

M3.00

3/13/2026 2:02:28 PM Autodesk Docs://MG2-CE-Shelter Holdings-Everett Riverfront Development PH2-21-5905-01A/Riverfront Apartments Building D - MEP.rvt



2 UNIT PLAN - 1-BED C01
1/2" = 1'-0"



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M3.01

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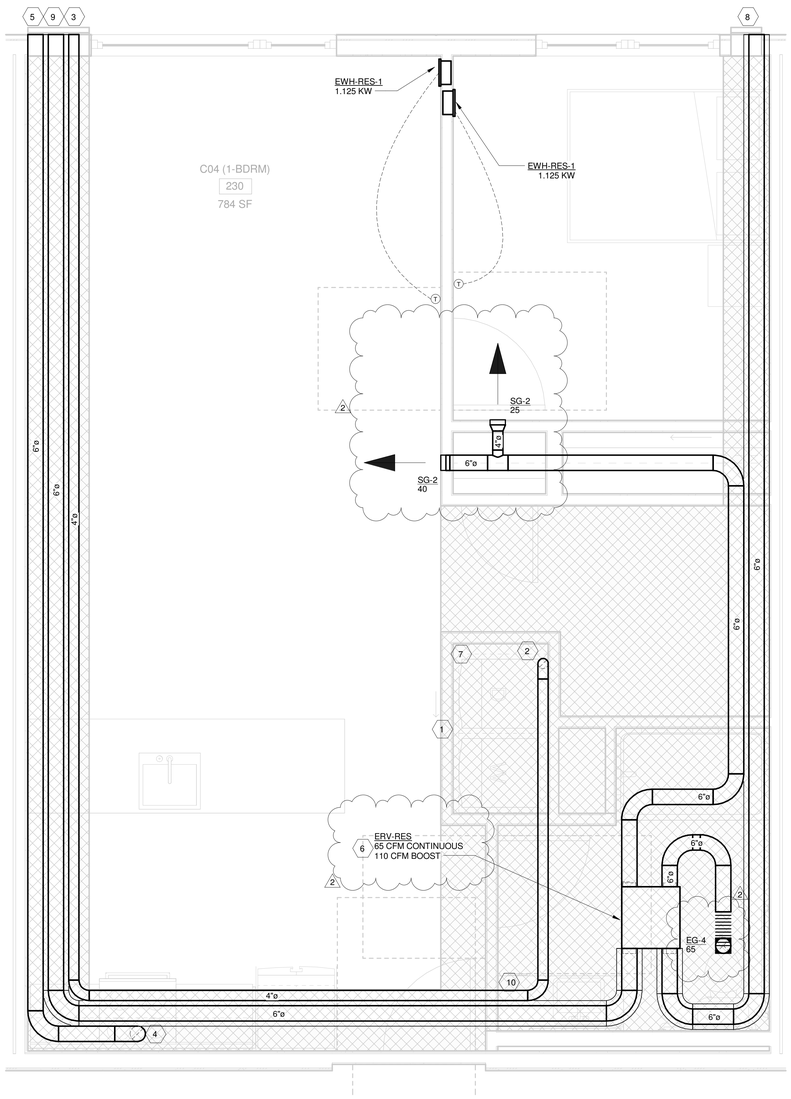
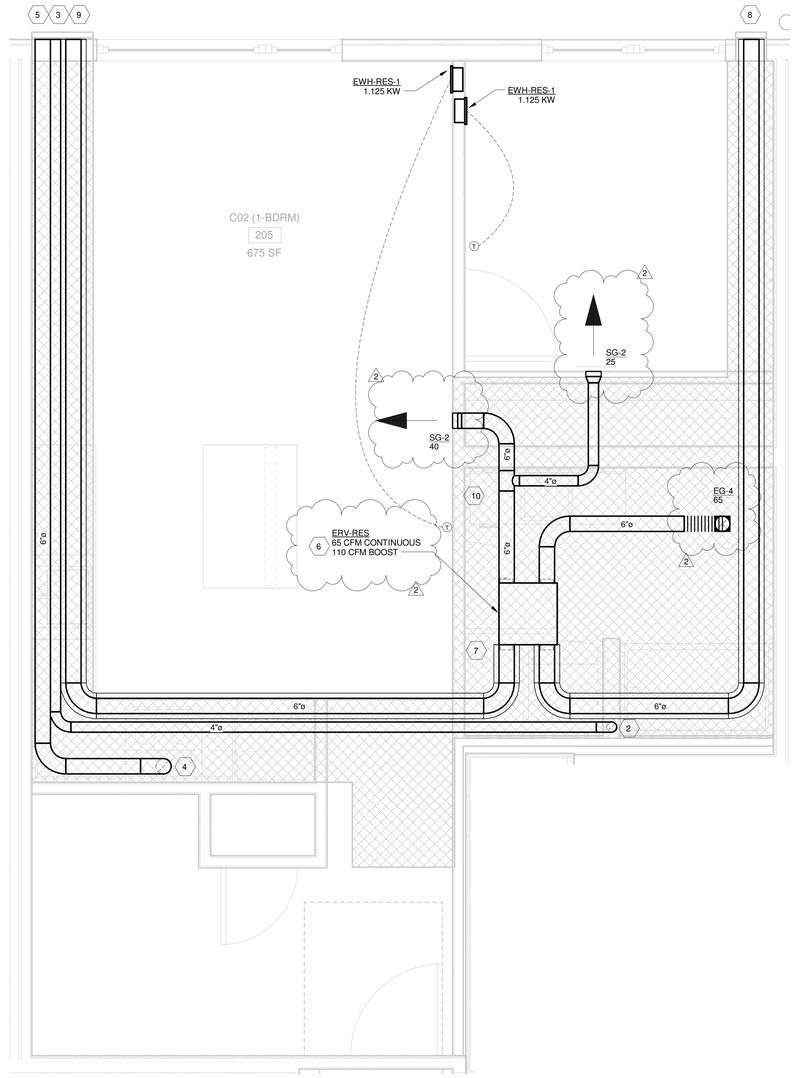


2 UNIT PLAN - 1-BED C04/C04A
1/2" = 1'-0"



1 UNIT PLAN - 1-BED C02
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1073-002
PM: PETER ROCKSTEAD
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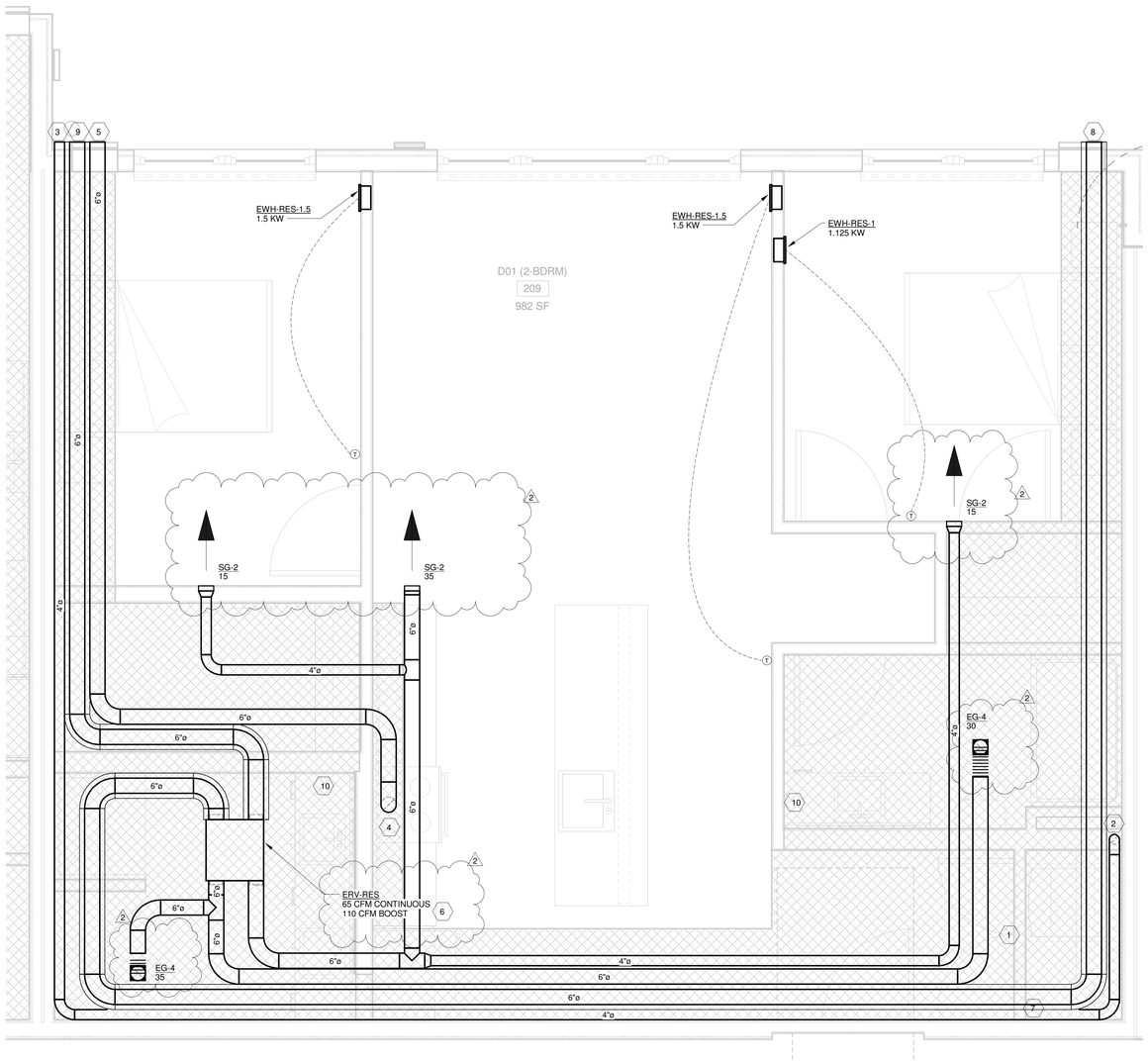
ENLARGED DWELLING UNIT HVAC PLANS

M3.02

3/13/2026 2:02:30 PM Autodesk Docs://MG2-CE-Shelter Holdings-Everett Riverfront Development PH2-21-5905-01A/Riverfront Apartments Building D - MEP.rvt



1 UNIT PLAN - 2-BED D01/D04A
1/2" = 1'-0"

GENERAL NOTES:

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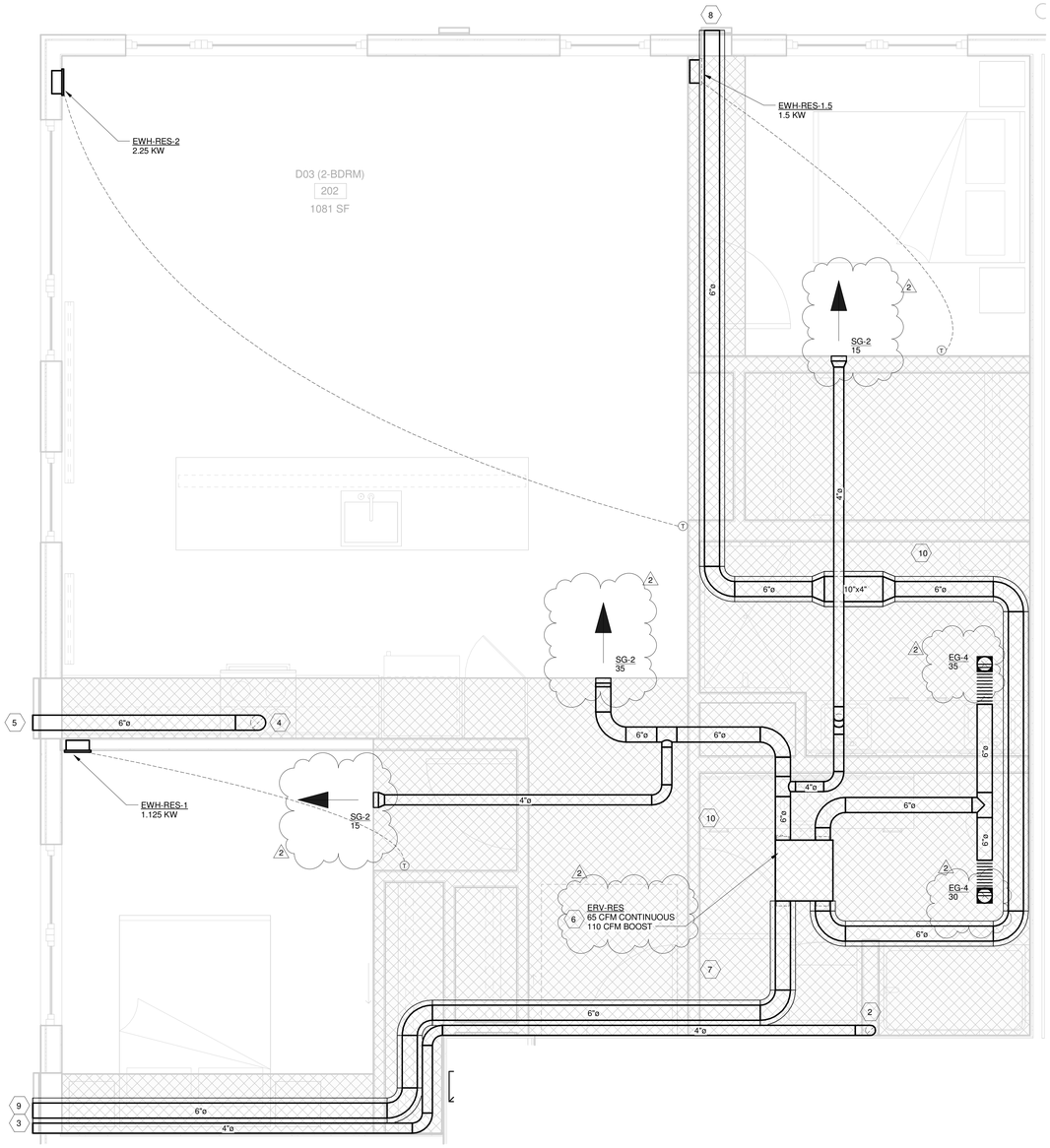

1 UNIT PLAN - 2-BED D03
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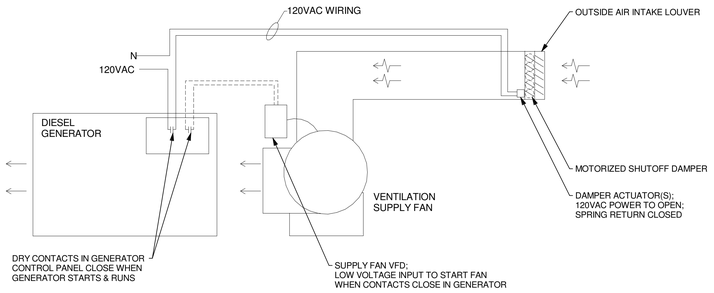
03/13/2026

ENLARGED DWELLING UNIT HVAC PLANS

M3.04

3/13/2026 2:02:31 PM Autodesk Docs://MG2-CE-Shelter Holdings-Everett Riverfront Development PH2-21-5905-01A/Riverfront Apartments Building D - MEP.rvt

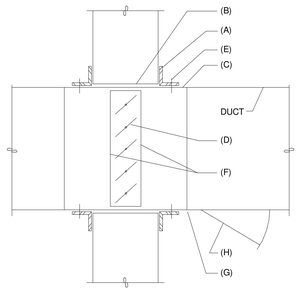


GENERATOR SUPPLY FAN * MOTORIZED DAMPER DIAGRAM

DETAIL

SCALE: NONE

7 / M4.00



NOTES:
(A) RETAINING ANGLES, LAP OPENING 1" MINIMUM AND COVER CORNERS OF OPENING.
(B) CLEARANCE BETWEEN WALL AND SLEEVE BOTH DIMENSIONS.
(C) STEEL SLEEVE.
(D) APPROVED COMBINATION FIRE/SMOKE DAMPER.
(E) SECURE RETAINING ANGLES TO SLEEVE ONLY.
(F) SECURE DAMPER TO SLEEVE.
(G) CONNECT DUCT TO SLEEVE WITH BREAK-AWAY CONNECTION (TYP).
(H) ACCESS DOOR, SIZE TO MEET AHJ REQUIREMENTS (6x6 MINIMUM).

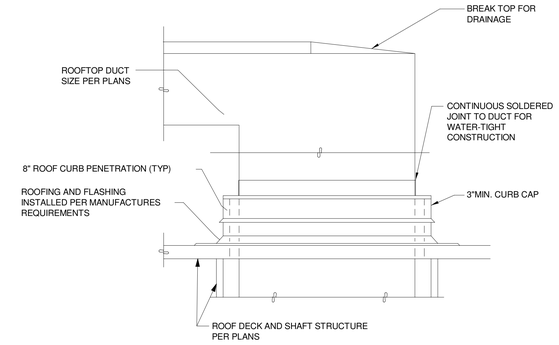
1. COMPLY WITH SMACNA FSRDIG AND MANUFACTURER'S INSTRUCTIONS.
2. DAMPER FREE AREA SHALL BE MINIMUM 90% OF AREA OF CONNECTING DUCT. INCREASE DAMPER SIZE AND PROVIDE TRANSITIONS TO CONNECTING DUCTS AS NECESSARY TO MEET THIS REQUIREMENT.

COMBINATION FIRE/SMOKE DAMPER INSTALLATION

DETAIL

SCALE: NONE

4 / M4.00

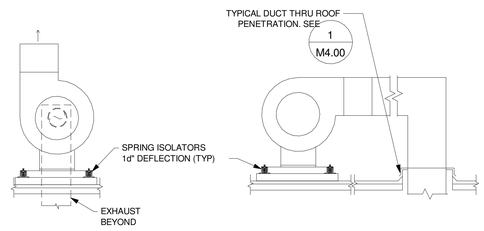


DUCT PENETRATION THROUGH ROOF

DETAIL

SCALE: NONE

1 / M4.00



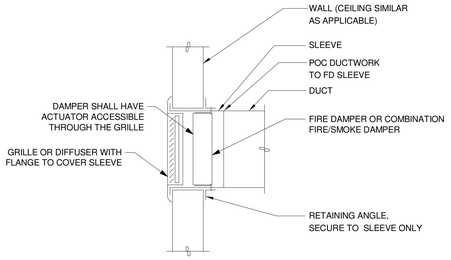
EXHAUST SUPPLY

UTILITY FAN MOUNTING

DETAIL

SCALE: NONE

8 / M4.00

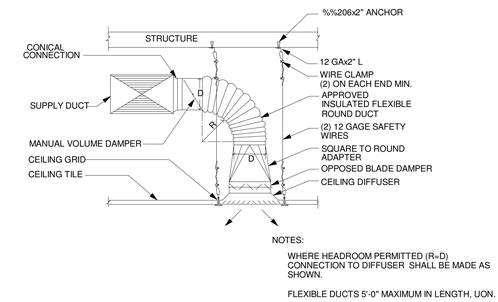


DAMPER INSTALLATION AT GRILLE OR DIFFUSER

DETAIL

SCALE: NONE

5 / M4.00



NOTES:

WHERE HEADROOM PERMITTED (R=D) CONNECTION TO DIFFUSER SHALL BE MADE AS SHOWN.

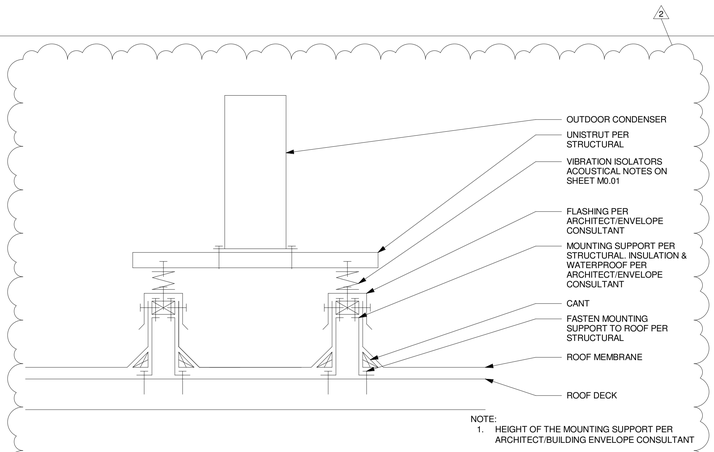
FLEXIBLE DUCTS 5'-0" MAXIMUM IN LENGTH, UON.

DIFFUSER CONNECTION

DETAIL

SCALE: NONE

2 / M4.00



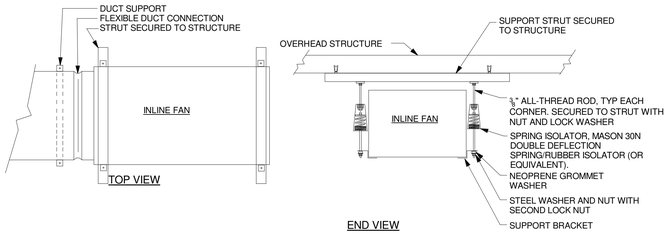
NOTE:
1. HEIGHT OF THE MOUNTING SUPPORT PER ARCHITECT/BUILDING ENVELOPE CONSULTANT

SECTION - CONDENSER MOUNTING AT ROOF DECK

DETAIL

SCALE: NONE

9 / M4.00



END VIEW

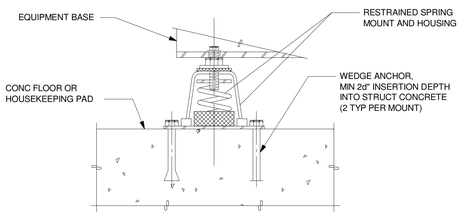
MECHANICAL UNIT SUPPORT REQUIREMENTS :
1. MECHANICAL UNITS TO BE SUPPORTED FROM STRUCTURE AS SHOWN AT ALL FOUR CORNERS.
2. PROVIDE RUBBER GROMMETS AT CORNER SUPPORTS AT UNIT.
3. PROVIDE MASON #30N COMBINATION DOUBLE DEFLECTION AND SPRING ISOLATORS SECURED TO STRUT SECTIONS. SUSPEND THREADED ROD FROM ISOLATOR.
4. PROVIDE FLEX CONNECTION BETWEEN UNIT AND DUCTWORK.
5. SUPPORT RODS AND ANCHORS TO BE PLACED SUCH THAT THE SUPPORTS TO NOT CONTACT THE MECHANICAL UNIT.
6. PROVIDE SECTION OF RUBBER HOSE TO ISOLATE THE COPPER CONDENSATE DRAIN. SECURE THE HOSE TO PIPE WITH HOSE CLAMPS.
7. PROVIDE FLEXIBLE HOSES FOR CONDENSER WATER (WHERE APPLICABLE).

HORIZONTAL FAN MOUNTING DETAIL

DETAIL

SCALE: NONE

6 / M4.00



SPRING ISOLATOR MOUNTING

DETAIL

SCALE: NONE

3 / M4.00

EVERETT
RIVERFRONT
BUILDING 1-D

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REGISTERED
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MG2

PERMIT
RESPONSE 02

03/13/2026

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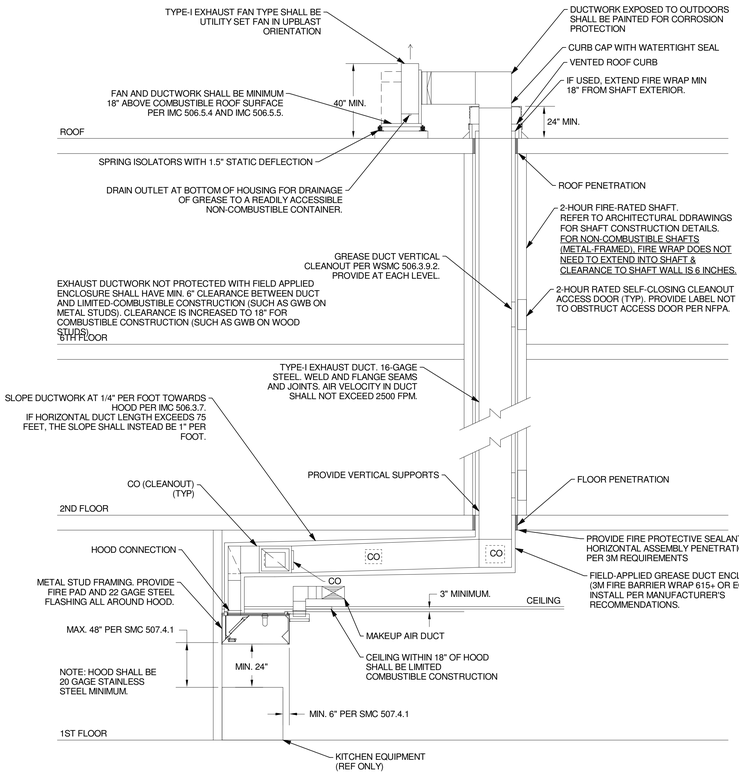
△	DATE	DESCRIPTION
2	02/27/26	PERMIT RESPONSE 02

1073-002
PM: PETER ROCKSTEAD
DRAWN BY: PCR
03/13/2026

MECHANICAL
DETAILS

M4.00

3/13/2026 2:02:31 PM Autodesk Docs://MG2-CE-Shelter Holdings-Everett Riverfront Development PH2-21-5905-01A/Riverfront Apartments Building D - MEP.rvt



NOTES:

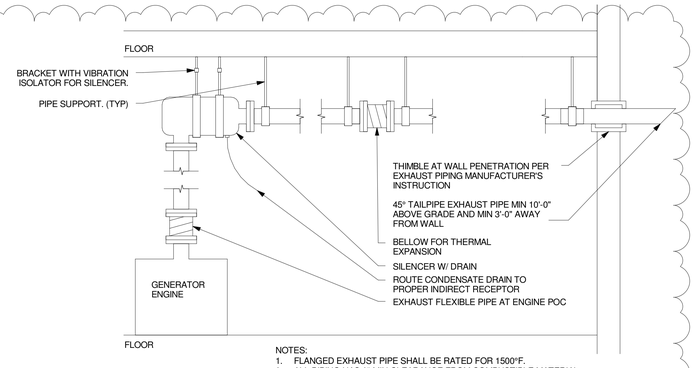
1. EXPOSED DUCTWORK SHALL BE 18 GAGE STAINLESS STEEL.
2. CLEANOUTS SHALL BE INSTALLED AT CHANGES IN DIRECTION, AT 12' INTERVALS OF HORIZONTAL DUCTWORK, AT THE BASE OF VERTICAL DUCTS, AND AT EVERY FLOOR OF VERTICAL RISERS.
3. FIELD APPLIED OR FACTORY BUILT GREASE DUCT ENCLOSURE SHALL BE INSTALLED PER THE LATEST MANUFACTURER'S INSTALLATION INSTRUCTIONS AND IN COMPLIANCE WITH TERMS OF ITS LISTING.
4. ALL END CUTS OR CUTS IN THE FOIL JACKET OF FIELD APPLIED GREASE DUCT ENCLOSURE SHALL BE SEALED PER THE MANUFACTURER'S RECOMMENDATIONS.
5. ALL INSTALLATIONS SHALL BE COMPLETELY ACCESSIBLE FOR VISUAL INSPECTION.
6. AT TIME OF INSPECTION, THE FIELD APPLIED OR FACTORY BUILT GREASE DUCT ENCLOSURE INSTALLATION INSTRUCTIONS SHALL BE MADE AVAILABLE AT THE JOB SITE.
7. LISTED GREASE HOOD ASSEMBLIES SHALL BE INSTALLED IN ACCORDANCE WITH THE TERMS OF THEIR LISTING AND THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.
8. FIRE DEPARTMENT APPROVAL SHALL BE REQUIRED ON FIRE PROTECTION SYSTEM FOR GREASE HOODS AND DUCTS AS REQUIRED BY SECTION 513 OF THE MECHANICAL CODE AND AS REQUIRED BY THE FIRE CODE.
9. ALL FIRE-EXTINGUISHING SYSTEMS SHALL BE INTERCONNECTED TO THE FUEL OR CURRENT SUPPLY SO THAT THE FUEL IS AUTOMATICALLY SHUT OFF TO ALL EQUIPMENT UNDER THE HOOD WHEN THE SYSTEM IS ACTIVATED.
10. OWNER OF ESTABLISHMENT SHALL BE RESPONSIBLE FOR CLEANLINESS, MAINTENANCE, AND INSPECTION OF KITCHEN EXHAUST SYSTEM, FIRE PROTECTION, AND COOKING EQUIPMENT.
11. ALL SEAMS, JOINTS, AND PENETRATIONS OF THE HOOD ENCLOSURE THAT DIRECT AND CAPTURE GREASE-LADEN VAPORS AND EXHAUST GASES SHALL HAVE A LIQUID TIGHT CONTINUOUS EXTERNAL WELD TO THE LOWER OUTERMOST PERIMETER OF THE HOOD.
12. DUCTWORK SHALL BE TESTED PER IMC 506.3.2.5.
13. TYPE-I DUCTWORK THAT PENETRATES A CEILING, WALL, FLOOR, OR ANY CONCEALED SPACE SHALL BE ENCLOSED FROM POINT OF TERMINATION TO OUTLET TERMINAL PER IMC 506.3.11. PENETRATIONS WITH FIELD-APPLIED GREASE DUCT ENCLOSURES SHALL BE PROTECTED/WITH THROUGH-PENETRATION FIRESTOP SYSTEMS PER IMC 506.3.11.2.

TYPE-I KITCHEN EXHAUST DIAGRAM & REQUIREMENTS

DETAIL

SCALE: NONE

4 / M401



NOTES:

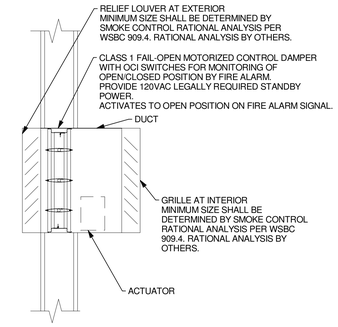
1. FLANGED EXHAUST PIPE SHALL BE RATED FOR 1500°F.
2. ALL PIPING HAS 9" MIN CLEARANCE FROM COMBUSTIBLE MATERIAL.
3. KEEP EXHAUST PIPE AWAY FROM FUEL RELATED ITEMS.
4. PIPE SHALL SLOPE AWAY FROM ENGINE.
5. PIPE SIZE PER EXHAUST PIPING MANUFACTURER'S INSTRUCTION.
6. SWEEP ELBOW RADIUS SHALL BE 3 TIMES THE PIPE DIAMETER.

GENERATOR EXHAUST PIPING DETAIL

DETAIL

SCALE: NONE

1 / M4.01



RELIEF OPENING FOR PRESSURIZATION SYSTEM

DETAIL

SCALE: NONE

2 / M4.01

NOT USED

DETAIL

SCALE: NONE

9 / M4.01

NOT USED

DETAIL

SCALE: NONE

6 / M4.01

NOT USED

DETAIL

SCALE: NONE

3 / M4.01

EVERETT RIVERFRONT BUILDING 1-D

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PERMIT RESPONSE 02

03/13/2026

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△	DATE	DESCRIPTION
1	11/03/22	PERMIT RESPONSE 01
2	02/27/26	PERMIT RESPONSE 02

1073-002
PM: PETER ROCKSTEAD
DRAWN BY: PCR
03/13/2026

MECHANICAL DETAILS

M4.01

3/13/2026 2:02:31 PM Autodesk Docs://MG2-CE-Shelter Holdings-Everett Riverfront Development PH2-21-5905-01A/Riverfront Apartments Building D - MEP.rvt

Cooling Load Details - System

(Btu/h / % Total)

(See "Cooling Load Details - Room" for lighting, equipment, and people loads)

Location	Peak	Roof		Wall		Glass		Vertical Partitions		Ventilation				Infiltration			
										Sensible		Latent		Sensible		Latent	
Room Apartment C02	July 1:00 p.m.	661	6%	88	1%	4,820	44%	0	0%	210	2%	416	4%	119	1%	77	1%
Room Apartment D01	July 1:00 p.m.	955	6%	109	1%	8,630	51%	0	0%	210	1%	416	2%	179	1%	115	1%
Room Apartment D03	July 4:00 p.m.	1,720	8%	624	3%	11,300	52%	0	0%	210	1%	416	2%	385	2%	217	1%
Zone Tenant Improvement (Heat to 40, Tempered OSA)	Exchaded from cooling																

Cooling Load Details - Room

(Btu/h / % of Total)

Location	Peak	Roof		Wall		Glass		Vertical Partitions		Lighting		Equipment		People				Infiltration			
												Sensible	Latent	Sensible		Latent		Sensible		Latent	
Zone Common (Non-Tempered OSA)	CV - Sum of Peaks	0	0%	634	15%	0	0%	0	0%	1,500	36%	1,040	25%	0	0%	250	6%	200	5%	321	8%	249	6%
Room EXIT PASSAGEWAY 129	July 6:00 p.m.	0	0%	223	25%	0	0%	0	0%	439	50%	0	0%	0	0%	0	0%	0	0%	123	14%	96	11%
Room EXIT PASSAGEWAY 133	July 6:00 p.m.	0	0%	205	26%	0	0%	0	0%	385	49%	0	0%	0	0%	0	0%	0	0%	107	14%	83	11%
Room MAINTENANCE 117	July 6:00 p.m.	0	0%	206	8%	0	0%	0	0%	677	27%	1,040	41%	0	0%	250	10%	200	8%	91	4%	70	3%
Zone Common (Tempered Freeze Prot)	CV - Sum of Peak	0	0%	6,340	2%	185,000	45%	0	0%	60,200	15%	12,100	3%	0	0%	62,300	15%	62,300	15%	12,400	3%	7,170	2%
Room COMMERCIAL FLEX 109	July 1:00 p.m.	0	0%	2,550	2%	79,500	49%	0	0%	24,000	15%	1	0%	0	0%	25,300	15%	25,300	15%	4,450	3%	2,860	2%
Room COMMERCIAL FLEX 130	July 3:00 p.m.	0	0%	3,790	2%	106,000	43%	0	0%	36,200	15%	12,100	5%	0	0%	37,000	15%	37,000	15%	7,980	3%	4,310	2%
Zone Common (Tempered OSA)	CV - Sum of Peaks	5,080	5%	5,420	6%	27,000	29%	581	1%	24,300	26%	6,760	7%	0	0%	8,900	10%	6,300	7%	4,970	5%	3,130	3%
Room 624 Amenity	July 5:00 p.m.	845	4%	558	3%	8,850	42%	0	0%	1,890	9%	861	4%	0	0%	4,900	23%	3,100	15%	192	1%	122	1%
Room BIKE STORAGE 103	July 5:00 p.m.	0	0%	741	24%	0	0%	0	0%	1,540	49%	0	0%	0	0%	0	0%	0	0%	516	17%	326	10%
Room CORRIDOR 128	July 3:00 p.m.	0	0%	102	3%	0	0%	0	0%	2,370	61%	0	0%	0	0%	0	0%	0	0%	924	24%	499	13%
Room Corridor L2-L6 50	July 6:00 p.m.	3,710	45%	0	0%	0	0%	0	0%	4,540	55%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
Room DOG WASH 108	July 9:00 p.m.	0	0%	187	9%	0	0%	0	0%	485	23%	485	23%	0	0%	500	24%	400	19%	9	0%	32	2%
Room ELECTRICAL 119	July 5:00 p.m.	0	0%	430	16%	0	0%	160	6%	1,370	51%	0	0%	0	0%	0	0%	0	0%	455	17%	288	11%
Room FIRE SPRINKLER 123	July 9:00 p.m.	0	0%	414	50%	0	0%	0	0%	318	39%	0	0%	0	0%	0	0%	0	0%	20	2%	70	9%
Room LEASING 102	July 2:00 p.m.	0	0%	430	5%	2,350	30%	0	0%	1,500	19%	2,300	29%	0	0%	500	6%	400	5%	261	3%	147	2%

Cooling Load Details - Room

(Btu/h / % of Total)

Location	Peak	Roof		Wall		Glass		Vertical Partitions		Lighting		Equipment		People				Infiltration			
												Sensible	Latent	Sensible		Latent		Sensible		Latent	
Room LOBBY 101 & LOUNGE 104	July 1:00 p.m.	0	0%	347	1%	15,800	48%	116	0%	6,240	19%	3,120	9%	0	0%	3,000	9%	2,400	7%	1,210	4%	780	2%
Room Lobby L2-L6 47	July 3:00 p.m.	0	0%	0	0%	0	0%	0	0%	642	63%	0	0%	0	0%	0	0%	0	0%	249	24%	134	13%
Room MOVE IN 107	July 6:00 p.m.	0	0%	286	24%	0	0%	97	8%	549	46%	0	0%	0	0%	0	0%	0	0%	148	12%	115	10%
Room MPOE 123	July 3:00 p.m.	0	0%	0	0%	0	0%	0	0%	308	61%	0	0%	0	0%	0	0%	0	0%	130	26%	70	14%
Room NORTH STAIR	July 8:00 p.m.	251	11%	1,530	68%	0	0%	0	0%	353	16%	0	0%	0	0%	0	0%	0	0%	45	2%	77	3%
Room PARCEL LOCKERS 105	July 3:00 p.m.	0	0%	0	0%	0	0%	36	8%	249	55%	0	0%	0	0%	0	0%	0	0%	107	24%	58	13%
Room PARCEL STORAGE 106	July 3:00 p.m.	0	0%	0	0%	0	0%	0	0%	469	62%	0	0%	0	0%	0	0%	0	0%	190	25%	102	13%
Room SOUTH STAIR	July 4:00 p.m.	274	33%	0	0%	0	0%	0	0%	353	42%	0	0%	0	0%	0	0%	0	0%	136	16%	77	9%
Room WATER SERVICE 121	July 5:00 p.m.	0	0%	396	17%	0	0%	172	7%	1,120	49%	0	0%	0	0%	0	0%	0	0%	375	16%	237	10%
Zone Dwelling Units	CV - Sum of Peaks	4,610	7%	970	1%	32,700	49%	0	0%	8,300	13%	13,800	21%	0	0%	2,500	4%	2,000	3%	883	1%	537	1%
Room Apartment B01	July 1:00 p.m.	510	7%	61	1%	3,110	41%	0	0%	1,070	14%	1,790	24%	0	0%	500	7%	400	5%	80	1%	51	1%
Room Apartment C01	July 1:00 p.m.	762	7%	88	1%	4,820	44%	0	0%	1,610	15%	2,680	24%	0	0%	500	5%	400	4%	119	1%	77	1%
Room Apartment C02	July 1:00 p.m.	661	6%	88	1%	4,820	46%	0	0%	1,390	13%	2,320	22%	0	0%	500	5%	400	4%	119	1%	77	1%
Room Apartment D01	July 1:00 p.m.	955	6%	109	1%	8,630	53%	0	0%	2,010	12%	3,350	21%	0	0%	500	3%	400	2%	179	1%	115	1%
Room Apartment D03	July 4:00 p.m.	1,720	8%	624	3%	11,300	54%	0	0%	2,210	10%	3,690	17%	0	0%	500	2%	400	2%	385	2%	217	1%
Zone Tenant Improvement (Heat to 40, Tempered OSA)	Excluded from cooling																						

Heating Load Details - System and Room

(Btu/h / % of System Total)

Location	Roof		Wall		Glass		Slab		Vertical Partitions		Ventilation		Infiltration	
Zone Common (Non-Tempered OSA)	0	0%	2,110	18%	0	0%	624	5%	0	0%	6,730	58%	2,100	18%
Room EXIT PASSAGEWAY 129	0	0%	744	14%	0	0%	182	3%	0	0%	3,770	68%	808	15%
Room EXIT PASSAGEWAY 133	0	0%	684	44%	0	0%	157	10%	0	0%	0	0%	700	45%
Room MAINTENANCE 117	0	0%	687	15%	0	0%	285	6%	0	0%	2,960	65%	592	13%
Zone Common (Tempered Freeze Prot)	0	0%	12,300	8%	45,700	30%	9,400	6%	0	0%	53,800	35%	32,600	21%
Room COMMERCIAL FLEX 109	0	0%	5,240	8%	18,700	29%	3,960	6%	0	0%	22,600	36%	13,000	20%
Room COMMERCIAL FLEX 130	0	0%	7,050	8%	27,000	30%	5,440	6%	0	0%	31,200	35%	19,600	22%
Zone Common (Tempered OSA)	4,140	4%	16,900	16%	11,600	11%	8,170	8%	3,480	3%	35,100	33%	26,400	25%
Room 624 Amenity	681	7%	1,230	13%	3,000	31%	1,230	13%	0	0%	2,520	26%	1,020	11%
Room BIKE STORAGE 103	0	0%	1,950	23%	0	0%	810	9%	0	0%	3,080	36%	2,750	32%
Room CORRIDOR 128	0	0%	638	5%	0	0%	138	1%	0	0%	7,770	61%	4,200	33%
Room Corridor L2-L6 50	2,990	52%	0	0%	0	0%	0	0%	0	0%	2,800	48%	0	0%
Room DOG WASH 108	0	0%	493	23%	0	0%	205	9%	0	0%	1,190	55%	269	12%

Room Information, Part 1

Values in italics have been changed from the default

Number	Name	Area	Ceiling Height	Ventilation				Infiltration				Cooling Temperature	Heating Temperature	Relative Humidity
				Cooling		Heating		Cooling		Heating				
MPOE 123	Storage	150 ft²	16'	*Direct*	*50 CFM*	Same as cooling	50 CFM	0.25 AC / hour	11 CFM	Same as cooling	11 CFM	75° F	68° F	50%
NORTH STAIR	Stairs	172 ft²	16'	*Direct*	*0 CFM*	Same as cooling	0 CFM	0.25 AC / hour	12 CFM	Same as cooling	12 CFM	75° F	68° F	50%
PARCEL LOCKERS 105	Storage	122 ft²	16'	*Direct*	*40 CFM*	Same as cooling	40 CFM	0.25 AC / hour	9 CFM	Same as cooling	9 CFM	75° F	68° F	50%
PARCEL STORAGE 106	Storage	229 ft²	16'	*Direct*	*75 CFM*	Same as cooling	75 CFM	0.25 AC / hour	16 CFM	Same as cooling	16 CFM	75° F	68° F	50%
SOUTH STAIR	Stairs	172 ft²	16'	*Direct*	*0 CFM*	Same as cooling	0 CFM	0.25 AC / hour	12 CFM	Same as cooling	12 CFM	75° F	68° F	50%
WATER SERVICE 121	Storage	547 ft²	16'	*Direct*	*165 CFM*	Same as cooling	165 CFM	0.25 AC / hour	37 CFM	Same as cooling	37 CFM	75° F	68° F	50%

Room Information, Part 2

Values in italics have been changed from the default

Number	Lighting Load	Equipment Load		People			Glass Zone Type
		Sensible	Latent		Sensible btuh / Person	Latent btuh / Person	
624 Amenity	1.1 watts / ft²	1,890	861	0	20 people	245	155 B
Apartment B01	0.6 watts / ft²	1,070	1,790	0	2 people	250	200 B
Apartment C01	0.6 watts / ft²	1,610	2,680	0	2 people	250	200 B
Apartment C02	0.6 watts / ft²	1,390	2,320	0	2 people	250	200 B
Apartment D01	0.6 watts / ft²	2,010	3,350	0	2 people	250	200 B
Apartment D03	0.6 watts / ft²	2,210	3,690	0	2 people	250	200 B
BIKE STORAGE 103	0.6 watts / ft²	1,540	0	0	0 people	250	200 B
COMMERCIAL FLEX 109	1.05 watts / ft²	24,000	*1*	0	*101 people*	250	250 B
COMMERCIAL FLEX 130	1.05 watts / ft²	36,200	*0.35 watts / ft²*	*12,100*	*148 people*	250	250 B
CORRIDOR 128	0.6 watts / ft²	2,370	0	0	0 people	250	200 B
Corridor L2-L6 50	0.6 watts / ft²	4,540	0	0	0 people	250	200 B
DOG WASH 108	2 watts / ft²	485	2 watts / ft²	485	0 people	250	200 C
ELECTRICAL 119	0.6 watts / ft²	1,370	0	0	0 people	250	200 B
EXIT PASSAGEWAY 129	0.6 watts / ft²	439	0	0	0 people	250	200 B
EXIT PASSAGEWAY 133	0.6 watts / ft²	385	0	0	0 people	250	200 B
FIRE SPRINKLER 123	0.6 watts / ft²	318	0	0	0 people	250	200 B
LEASING 102	1.3 watts / ft²	1,500	2 watts / ft²	2,300	*2 people*	250	200 B
LOBBY 101 & LOUNGE 104	*1 watts / ft²*	*6,240*	*0.5 watts / ft²*	*3,120*	*12 people*	250	200 B
Lobby L2-L6 47	0.6 watts / ft²	642	0	0	0 people	250	200 B
MAINTENANCE 117	1.3 watts / ft²	677	2 watts / ft²	1,040	*1 person*	250	200 B
MOVE IN 107	0.6 watts / ft²	549	0	0	0 people	250	200 B
MPOE 123	0.6 watts / ft²	308	0	0	0 people	250	200 B
NORTH STAIR	0.6 watts / ft²	353	0	0	0 people	250	200 *B*
PARCEL LOCKERS 105	0.6 watts / ft²	249	0	0	0 people	250	200 B
PARCEL STORAGE 106	0.6 watts / ft²	469	0	0	0 people	250	200 B
SOUTH STAIR	0.6 watts / ft²	353	0	0	0 people	250	200 *B*
WATER SERVICE 121	0.6 watts / ft²	1,120	0	0	0 people	250	200 B

Cooling Load Details - System

(Btu/h / % Total)

(See "Cooling Load Details - Room" for lighting, equipment, and people loads)

Location	Peak	Roof		Wall		Glass		Vertical Partitions		Ventilation				Infiltration			
										Sensible		Latent		Sensible		Latent	
Zone Common (Non-Tempered OSA)	July 3:00 p.m.	0	0%	634	10%	0	0%	0	0%	6,730	23%	800	12%	321	5%	249	4%
Room EXIT PASSAGEWAY 129	July 5:00 p.m.	0	0%	119	6%	0	0%	0	0%	829	39%	448	21%	178	8%	96	5%
Room EXIT PASSAGEWAY 133	July 6:00 p.m.	0	0%	205	26%	0	0%	0	0%	0	0%	0	0%	107	14%	83	11%
Room MAINTENANCE 117	July 3:00 p.m.	0	0%	110	3%	0	0%	0	0%	651	19%	352	10%	130	4%	70	2%
Zone Common (Tempered Freeze Prot)	July 12:00 p.m.	0	0%	6,340	1%	185,000	41%	0	0%	16,200	4%	32,000	7%	12,400	3%	7,170	2%
Room COMMERCIAL FLEX 109	July 1:00 p.m.	0	0%	2,550	1%	79,500	43%	0	0%	6,780	4%	13,400	7%	4,450	2%	2,860	2%
Room COMMERCIAL FLEX 130	July 3:00 p.m.	0	0%	3,790	1%	106,000	39%	0	0%	9,370	3%	18,600	7%	7,980	3%	4,310	2%
Zone Common (Tempered OSA)	July 12:00 p.m.	5,080	4%	5,420	5%	27,000	23%	581	0%	8,110	7%	16,100	14%	4,970	4%	3,130	3%
Room 624 Amenity	July 5:00 p.m.	845	4%	558	2%	8,850	38%	0	0%	581	3%	1,150	5%	192	1%	122	1%
Room BIKE STORAGE 103	July 5:00 p.m.	0	0%	741	14%	0	0%	0	0%	711	14%	1,410	27%	516	10%	326	6%
Room CORRIDOR 128	July 3:00 p.m.	0	0%	102	1%	0	0%	0	0%	1,790	19%	3,550	38%	924	10%	499	5%
Room Corridor L2-L6 50	July 6:00 p.m.	3,710	36%	0	0%	0	0%	0	0%	646	6%	1,280	13%	0	0%	0	0%
Room DOG WASH 108	July 9:00 p.m.	0	0%	187	6%	0	0%	0	0%	275	9%	544	19%	9	0%	32	1%
Room ELECTRICAL 119	July 5:00 p.m.	0	0%	430	9%	0	0%	160	3%	727	15%	1,440	30%	455	9%	288	6%
Room FIRE SPRINKLER 123	July 9:00 p.m.	0	0%	414	32%	0	0%	0	0%	162	12%	320	25%	20	2%	70	5%
Room LEASING 102	July 2:00 p.m.	0	0%	430	5%	2,350	27%	0	0%	275	3%	544	6%	261	3%	147	2%
Room LOBBY 101 & LOUNGE 104	July 1:00 p.m.	0	0%	347	1%	15,800	42%	116	0%	1,600	4%	3,170	8%	1,210	3%	780	2%
Room Lobby L2-L6 47	July 3:00 p.m.	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	249	24%	134	13%
Room MOVE IN 107	July 6:00 p.m.	0	0%	286	14%	0	0%	97	5%	275	14%	544	27%	148	7%	115	6%
Room MPOE 123	July 3:00 p.m.	0	0%	0	0%	0	0%	0	0%	162	16%	320	32%	130	13%	70	7%
Room NORTH STAIR	July 8:00 p.m.	251	11%	1,530	68%	0	0%	0	0%	0	0%	0	0%	45	2%	77	3%
Room PARCEL LOCKERS 105	July 3:00 p.m.	0	0%	0	0%	0	0%	0	0%	36	4%	129	15%	256	31%	107	13%
Room PARCEL STORAGE 106	July 3:00 p.m.	0	0%	0	0%	0	0%	0	0%	0	0%	242	16%	480	32%	190	13%
Room SOUTH STAIR	July 4:00 p.m.	274	33%	0	0%	0	0%	0	0%	0	0%	0	0%	136	16%	77	9%
Room WATER SERVICE 121	July 5:00 p.m.	0	0%	396	10%	0	0%	172	4%	533	14%	1,060	27%	375	10%	237	6%
Zone Dwelling Units	July 12:00 p.m.	4,610	7%	970	1%	32,700	47%	0	0%	1,050	2%	2,080	3%	883	1%	537	1%
Room Apartment B01	July 1:00 p.m.	510	6%	61	1%	3,110	38%	0	0%	210	3%	416	5%	80	1%	51	1%
Room Apartment C01	July 1:00 p.m.	762	7%	88	1%	4,820	41%	0	0%	210	2%	416	4%	119	1%	77	1%

Room Information, Part 1

Values in italics have been changed from the default

Number	Name	Area	Ceiling Height	Ventilation				Infiltration				Cooling Temperature	Heating Temperature	Relative Humidity
				Cooling		Heating		Cooling		Heating				
624 Amenity	Recreation	505 ft²	9'	*Direct*	*180 CFM*	Same as cooling	180 CFM	0.25 AC / hour	19 CFM	Same as cooling	19 CFM	75° F	68° F	50%
Apartment B01	Dwelling Unit	525 ft²	9'	Direct	65 CFM	Same as cooling	65 CFM	0.05 CFM / ft² of wall	8 CFM	Same as cooling	8 CFM	75° F	68° F	50%
Apartment C01	Dwelling Unit	784 ft²	9'	Direct	65 CFM	Same as cooling	65 CFM	0.05 CFM / ft² of wall	12 CFM	Same as cooling	12 CFM	75° F	68° F	50%
Apartment C02	Dwelling Unit	680 ft²	9'	Direct	65 CFM	Same as cooling	65 CFM	0.05 CFM / ft² of wall	12 CFM	Same as cooling	12 CFM	75° F	68° F	50%
Apartment D01	Dwelling Unit	983 ft²	9'	Direct	65 CFM	Same as cooling	65 CFM	0.05 CFM / ft² of wall	18 CFM	Same as cooling	18 CFM	75° F	68° F	50%
Apartment D03	Dwelling Unit	1,080 ft²	9'	Direct	65 CFM	Same as cooling	65 CFM	0.05 CFM / ft² of wall	34 CFM	Same as cooling	34 CFM	75° F	68° F	50%
BIKE STORAGE 103	Storage	753 ft²	16'	*Direct*	*220 CFM*	Same as cooling	220 CFM	0.25 AC / hour	51 CFM	Same as cooling	51 CFM	75° F	68° F	50%
COMMERCIAL FLEX 109	Showroom-Retail	6,690 ft²	16'	*Direct*	*2,100 CFM*	Same as cooling	2,100 CFM	0.25 AC / hour	447 CFM	Same as cooling	447 CFM	75° F	45° F	50%
COMMERCIAL FLEX 130	Showroom-Retail	10,100 ft²	16'	*Direct*	*2,900 CFM*	Same as cooling	2,900 CFM	0.25 AC / hour	674 CFM	Same as cooling	674 CFM	75° F	45° F	50%
CORRIDOR 128	Corridors	1,160 ft²	16'	*Direct*	*553 CFM*	Same as cooling	555 CFM	0.25 AC / hour	78 CFM	Same as cooling	78 CFM	75° F	68° F	50%
Corridor L2-L6 50	Corridors	2,220 ft²	9'	*Direct*	*200 CFM*	Same as cooling	200 CFM	*0.1 CFM / ft² of wall*	*0 CFM*	Same as cooling	0 CFM	75° F	68° F	50%
DOG WASH 108	Barber Shop	71 ft²	16'	*Direct*	*85 CFM*	Same as cooling	85 CFM	0.25 AC / hour	5 CFM	Same as cooling	5 CFM	75° F	68° F	50%
ELECTRICAL 119	Storage	671 ft²	16'	*Direct*	*225 CFM*	Same as cooling	225 CFM	0.25 AC / hour	45 CFM	Same as cooling	45 CFM	75° F	68° F	50%
EXIT PASSAGEWAY 129	Corridors	214 ft²	16'	*Direct*	*70 CFM*	Same as cooling	70 CFM	0.25 AC / hour	15 CFM	Same as cooling	15 CFM	75° F	68° F	50%
EXIT PASSAGEWAY 133	Corridors	188 ft²	16'	*55 CFM / person*	*0 CFM*	Same as cooling	0 CFM	0.25 AC / hour	13 CFM	Same as cooling	13 CFM	75° F	68° F	50%
FIRE SPRINKLER 123	Storage	155 ft²	16'	*Direct*	*50 CFM*	Same as cooling	50 CFM	0.25 AC / hour	11 CFM	Same as cooling	11 CFM	75° F	68° F	50%
LEASING 102	Office	337 ft²	16'	*Direct*	*85 CFM*	Same as cooling	85 CFM	0.25 AC / hour	23 CFM	Same as cooling	23 CFM	75° F	68° F	50%
LOBBY 101 & LOUNGE 104	Lobby-Main Entry	1,830 ft²	16'	*Direct*	*495 CFM*	Same as cooling	495 CFM	0.25 AC / hour	122 CFM	Same as cooling	122 CFM	75° F	68° F	50%
Lobby L2-L6 47	Corridors	314 ft²	16'	15 CFM / person	0 CFM	Same as cooling	0 CFM	0.25 AC / hour	21 CFM	Same as cooling	21 CFM	75° F	68° F	50%
MAINTENANCE 117	Office	153 ft²	16'	*Direct*	*55 CFM*	Same as cooling	55 CFM	0.25 AC / hour	11 CFM	Same as cooling	11 CFM	75° F	68° F	50%
MOVE IN 107	Storage	268 ft²	16'	*Direct*	*85 CFM*	Same as cooling	85 CFM	0.25 AC / hour	18 CFM	Same as cooling	18 CFM	75° F	68° F	50%

Doors

Room Number	Area	Type	Facing Direction
COMMERCIAL FLEX 130	21 ft²	Riverfront Opaque Swinging Door	E
CORRIDOR 128	21 ft²	Riverfront Opaque Swinging Door	N
ELECTRICAL 119	42 ft²	Riverfront Opaque Swinging Door	N
EXIT PASSAGEWAY 129	21 ft²	Riverfront Opaque Swinging Door	N
EXIT PASSAGEWAY 133	21 ft²	Riverfront Opaque Swinging Door	N
FIRE SPRINKLER 123	21 ft²	Riverfront Opaque Swinging Door	N
MOVE IN 107	21 ft²	Riverfront Opaque Swinging Door	N
NORTH STAIR	21 ft²	Riverfront Opaque Swinging Door	N
WATER SERVICE 121	21 ft²	Riverfront Opaque Swinging Door	N

Glass Types

Glass Type	U-Value	SHGC	Description
2013 CA Min - Fixed	0.36	0.25	2013 CA Minimum - Fixed
Riverfront Fixed Window	0.34	0.35	
Riverfront Glazed Door	0.33	0.22	

Glass

Room Number	Area	Type	Facing Direction	Shaded
624 Amenity	21 ft²	Riverfront Glazed Door	W	
624 Amenity	88 ft²	Riverfront Fixed Window	W	
624 Amenity	68 ft²	Riverfront Fixed Window	S	
Apartment B01	62 ft²	Riverfront Fixed Window	S	
Apartment C01	96 ft²	Riverfront Fixed Window	S	
Apartment C02	96 ft²	Riverfront Fixed Window	S	
Apartment D01	172 ft²	Riverfront Fixed Window	S	
Apartment D03	116 ft²	Riverfront Fixed Window	W	
Apartment D03	116 ft²	Riverfront Fixed Window	S	
COMMERCIAL FLEX 109	238 ft²	Riverfront Fixed Window	N	
COMMERCIAL FLEX 109	126 ft²	Riverfront Glazed Door	S	
COMMERCIAL FLEX 109	1,110 ft²	Riverfront Fixed Window	S	
COMMERCIAL FLEX 109	560 ft²	Riverfront Fixed Window	E	
COMMERCIAL FLEX 130	42 ft²	Riverfront Glazed Door	N	
COMMERCIAL FLEX 130	355 ft²	Riverfront Fixed Window	N	
COMMERCIAL FLEX 130	669 ft²	Riverfront Fixed Window	W	
COMMERCIAL FLEX 130	126 ft²	Riverfront Glazed Door	S	
COMMERCIAL FLEX 130	1,240 ft²	Riverfront Fixed Window	S	
COMMERCIAL FLEX 130	42 ft²	Riverfront Glazed Door	N	
COMMERCIAL FLEX 130	480 ft²	Riverfront Fixed Window	N	
LEASING 102	50 ft²	Riverfront Fixed Window	S	
LOBBY 101 & LOUNGE 104	34 ft²	Riverfront Fixed Window	N	
LOBBY 101 & LOUNGE 104	108 ft²	Riverfront Fixed Window	S	
LOBBY 101 & LOUNGE 104	42 ft²	Riverfront Glazed Door	S	
LOBBY 101 & LOUNGE 104	122 ft²	Riverfront Fixed Window	S	
LOBBY 101 & LOUNGE 104	42 ft²	Riverfront Glazed Door	N	
LOBBY 101 & LOUNGE 104	108 ft²	Riverfront Fixed Window	N	

Project Information

Project Name:	Riverfront Apartments Building D		
Project Location:	Everett (2017), WA		
Default Heating Temperature:	68° F	**Heating Safety Factor (Room):**	0%
		Heating Safety Factor (Ventilation):	0%
Default Cooling Temperature:	75° F	**Cooling Safety Factor (Room):**	0%
		Cooling Safety Factor (Ventilation):	0%
Default Relative Humidity:	50%	**Floor Slab Heat Loss Coefficient:**	0.54
Calculation Date:	March 13, 2026, 1:42 p.m.		

Design Conditions

OSA Low:	18° F	**Latitude:**	48° N
OSA Daily Range:	16° F	**Elevation:**	82'
	OSA High Dry Bulb	**OSA High Wet Bulb**	
July	86° F	68° F	

Roof Types

Roof Type	U-Value	ASHRAE Type	Color	Description
WSEC 2018	0.027	5	Dark	

Roofs

Location	Type	Area	
Room NORTH STAIR	WSEC 2018	(100% of Room)	172 ft²
Room SOUTH STAIR	WSEC 2018	(100% of Room)	172 ft²
Floor LEVEL 6	WSEC 2018		6,770 ft²

Wall Types

Wall Type	U-Value	ASHRAE Type	Color	Description
BRK - GWB - R11	0.091	10	Dark	Brick - GWB - R11
Riverfront Mass Wall	0.078	9	Dark	
Riverfront Wood Wall	0.051	9	Dark	

Walls

Room Number	Length	Height	Area (Minus Doors and Glass)	Type	Facing Direction	On Perimeter
624 Amenity	29'-3"	9'-10"	178 ft²	BRK - GWB - R11	W	
624 Amenity	16'-3"	9'-10"	91 ft²	BRK - GWB - R11	S	
Apartment B01	16'-2"	9'-10"	97 ft²	Riverfront Mass Wall	S	
Apartment C01	24'-2"	9'-10"	142 ft²	Riverf

Load Total Summary - Room

(Excludes Ventilation and Plenum Loads)

Location	Area	Cooling										Heating			
		CFM	Peak	btuh			Tons			ft²/ ton	CFM/ ton	CFM/ ft²	btuh	kW	CFM/ ft²
				Total	Sensible	Latent	Total	Sensible	Latent						
Zone Common (Tempered Freeze Prot)	16,800 ft²	15,400	CV - Sum of Peaks	408,000	338,000	69,400	34	28.2	5.8	495	454	0.92	5,000	100,000	29.3	0.3
Room COMMERCIAL FLEX 109	6,690 ft²	6,190	July 1:00 p.m.	164,000	136,000	28,100	13.7	11.3	2.3	490	453	0.92	2,100	40,900	12	0.31
Room COMMERCIAL FLEX 130	10,100 ft²	9,240	July 3:00 p.m.	244,000	203,000	41,300	20.3	16.9	3.4	497	454	0.91	2,900	59,100	17.3	0.29
Zone Common (Tempered OSA)	9,670 ft²	4,620	CV - Sum of Peaks	92,500	83,100	9,430	7.7	6.9	0.8	1,250	599	0.48	3,770	70,600	20.7	0.39
Room 624 Amenity	505 ft²	825	July 5:00 p.m.	21,300	18,100	3,220	1.8	1.5	0.3	284	464	1.63	332	7,160	2.1	0.66
Room BIKE STORAGE 103	753 ft²	220	July 5:00 p.m.	3,130	2,800	326	0.3	0.2	0	2,890	845	0.29	256	5,510	1.6	0.34
Room CORRIDOR 128	1,160 ft²	555	July 3:00 p.m.	3,890	3,390	499	0.3	0.3	0	3,560	1,710	0.48	555	4,980	1.5	0.48
Room Corridor L2-L6 50	2,220 ft²	376	July 6:00 p.m.	8,250	8,250	0	0.7	0.7	0	3,220	547	0.17	200	2,990	0.9	0.09
Room DOG WASH 108	71 ft²	85	July 9:00 p.m.	2,100	1,670	432	0.2	0.1	0	406	486	1.2	85	967	0.3	1.2
Room ELECTRICAL 119	671 ft²	225	July 5:00 p.m.	2,710	2,420	288	0.2	0.2	0	2,970	997	0.34	254	5,470	1.6	0.38
Room FIRE SPRINKLER 123	155 ft²	50	July 9:00 p.m.	823	753	70	0.1	0.1	0	2,260	729	0.32	93	2,010	0.6	0.6
Room LEASING 102	337 ft²	334	July 2:00 p.m.	7,880	7,330	547	0.7	0.6	0	513	509	0.99	184	3,970	1.2	0.55
Room LOBBY 101 & LOUNGE 104	1,830 ft²	1,360	July 1:00 p.m.	33,100	29,900	3,180	2.8	2.5	0.3	663	494	0.75	949	20,400	6	0.52
Room Lobby L2-L6 47	314 ft²	40	July 3:00 p.m.	1,030	891	134	0.1	0.1	0	3,670	468	0.13	52	1,130	0.3	0.17
Room MOVE IN 107	268 ft²	85	July 6:00 p.m.	1,200	1,080	115	0.1	0.1	0	2,690	853	0.32	129	2,770	0.8	0.48
Room MPOE 123	150 ft²	50	July 3:00 p.m.	508	438	70	0	0	0	3,550	1,180	0.33	50	592	0.2	0.33
Room NORTH STAIR	172 ft²	99	July 8:00 p.m.	2,260	2,180	77	0.2	0.2	0	916	527	0.58	239	5,140	1.5	1.39
Room PARCEL LOCKERS 105	122 ft²	40	July 3:00 p.m.	450	392	58	0	0	0	3,250	1,070	0.33	40	702	0.2	0.33
Room PARCEL STORAGE 106	229 ft²	75	July 3:00 p.m.	761	659	102	0.1	0.1	0	3,610	1,180	0.33	75	861	0.3	0.33
Room SOUTH STAIR	172 ft²	34	July 4:00 p.m.	839	763	77	0.1	0.1	0	2,460	486	0.2	41	878	0.3	0.24
Room WATER SERVICE 121	547 ft²	165	July 5:00 p.m.	2,300	2,060	237	0.2	0.2	0	2,850	861	0.3	235	5,050	1.5	0.43
Zone Dwelling Units	4,050 ft²	2,910	CV - Sum of Peaks	66,400	63,800	2,540	5.5	5.3	0.2	733	526	0.72	1,370	29,600	8.7	0.34
Room Apartment B01	525 ft²	324	July 1:00 p.m.	7,580	7,130	451	0.6	0.6	0	831	513	0.62	140	3,010	0.9	0.27
Room Apartment C01	784 ft²	481	July 1:00 p.m.	11,000	10,600	477	0.9	0.9	0	852	522	0.61	211	4,540	1.3	0.27
Room Apartment C02	680 ft²	451	July 1:00 p.m.	10,400	9,900	477	0.9	0.8	0	786	521	0.66	204	4,400	1.3	0.3
Room Apartment D01	983 ft²	717	July 1:00 p.m.	16,300	15,700	515	1.4	1.3	0	725	529	0.73	318	6,850	2	0.32
Room Apartment D03	1,080 ft²	933	July 4:00 p.m.	21,100	20,500	617	1.8	1.7	0.1	615	531	0.86	500	10,800	3.2	0.46

Heating Load Details - System and Room

(Btu/h) / (% of System Total)

Location	Roof		Wall		Glass		Slab		Vertical Partitions		Ventilation		Infiltration	
Room ELECTRICAL 119	0	0%	1,650	19%	0	0%	432	5%	958	11%	3,150	37%	2,420	28%
Room FIRE SPRINKLER 123	0	0%	1,090	40%	0	0%	325	12%	0	0%	700	26%	592	22%
Room LEASING 102	0	0%	1,270	25%	850	16%	610	12%	0	0%	1,190	23%	1,240	24%
Room LOBBY 101 & LOUNGE 104	0	0%	3,330	12%	7,710	28%	2,120	8%	696	3%	6,930	25%	6,570	24%
Room Lobby L2-L6 47	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	1,130	100%
Room MOVE IN 107	0	0%	953	24%	0	0%	269	7%	582	15%	1,190	30%	969	24%
Room MPOE 123	0	0%	0	0%	0	0%	0	0%	0	0%	700	54%	592	46%
Room NORTH STAIR	232	5%	2,740	53%	0	0%	1,530	30%	0	0%	0	0%	646	13%
Room PARCEL LOCKERS 105	0	0%	0	0%	0	0%	0	0%	217	17%	560	44%	485	38%
Room PARCEL STORAGE 106	0	0%	0	0%	0	0%	0	0%	0	0%	1,050	55%	861	45%
Room SOUTH STAIR	232	26%	0	0%	0	0%	0	0%	0	0%	0	0%	646	74%
Room WATER SERVICE 121	0	0%	1,520	21%	0	0%	505	7%	1,030	14%	2,310	31%	1,990	27%
Zone Dwelling Units	5,470	14%	3,860	10%	11,200	29%	4,520	12%	0	0%	8,750	23%	4,520	12%
Room Apartment B01	708	15%	379	8%	1,050	22%	437	9%	0	0%	1,750	37%	431	9%
Room Apartment C01	1,060	17%	553	9%	1,630	26%	653	10%	0	0%	1,750	28%	646	10%
Room Apartment C02	918	15%	553	9%	1,630	27%	653	11%	0	0%	1,750	28%	646	11%
Room Apartment D01	1,330	15%	678	8%	2,920	34%	950	11%	0	0%	1,750	20%	969	11%
Room Apartment D03	1,460	12%	1,690	14%	3,940	32%	1,830	15%	0	0%	1,750	14%	1,830	15%
Zone Tenant Improvement (Heat to 40, Tempered OSA)	Excluded from heating													

Load Total Summary - System

(Includes Ventilation and Plenum Loads)

Location	Area	Cooling										Heating			
		CFM	Peak	btuh			Tons			ft²/ ton	CFM/ ton	CFM/ ft²	btuh	kW	CFM/ ft²
				Total	Sensible	Latent	Total	Sensible	Latent						
Zone Common (Non-Tempered OSA)	555 ft²	255	July 3:00 p.m.	6,480	5,230	1,250	0.5	0.4	0.1	1,030	472	0.46	255	11,600	3.4	0.46
Room EXIT PASSAGEWAY 129	214 ft²	70	July 3:00 p.m.	2,110	1,570	544	0.2	0.1	0	1,220	398	0.33	80	5,500	1.6	0.37
Room EXIT PASSAGEWAY 133	188 ft²	31	July 6:00 p.m.	780	697	83	0.1	0.1	0	2,890	477	0.17	72	1,540	0.5	0.38
Room MAINTENANCE 117	153 ft²	103	July 3:00 p.m.	3,480	2,860	622	0.3	0.2	0.1	526	355	0.68	73	4,530	1.3	0.48
Zone Common (Tempered Freeze Prot)	16,800 ft²	15,400	July 12:00 p.m.	456,000	355,000	101,000	38	29.5	8.5	442	406	0.92	15,400	154,000	45.1	0.92
Room COMMERCIAL FLEX 109	6,690 ft²	6,190	July 1:00 p.m.	184,000	143,000	41,500	15.3	11.9	3.5	436	403	0.92	2,100	63,500	18.6	0.31
Room COMMERCIAL FLEX 130	10,100 ft²	9,240	July 3:00 p.m.	272,000	212,000	59,900	22.7	17.7	5	446	408	0.91	2,900	90,300	26.5	0.29
Zone Common (Tempered OSA)	9,670 ft²	5,000	July 12:00 p.m.	117,000	91,200	25,500	9.7	7.6	2.1	994	514	0.52	5,000	106,000	31	0.52
Room 624 Amenity	505 ft²	825	July 5:00 p.m.	23,100	18,700	4,370	1.9	1.6	0.4	263	429	1.63	332	9,680	2.8	0.66
Room BIKE STORAGE 103	753 ft²	220	July 5:00 p.m.	5,240	3,510	1,730	0.4	0.3	0.1	1,720	504	0.29	256	8,590	2.5	0.34
Room CORRIDOR 128	1,160 ft²	555	July 3:00 p.m.	9,240	5,190	4,050	0.8	0.4	0.3	1,500	721	0.48	555	12,700	3.7	0.48
Room Corridor L2-L6 50	2,220 ft²	376	July 6:00 p.m.	10,200	8,900	1,280	0.8	0.7	0.1	2,610	443	0.17	200	5,790	1.7	0.09
Room DOG WASH 108	71 ft²	85	July 9:00 p.m.	2,920	1,940	976	0.2	0.2	0.1	292	350	1.2	85	2,160	0.6	1.2

Load Total Summary - Room

(Excludes Ventilation and Plenum Loads)

Location	Area	Cooling										Heating			
		CFM	Peak	btuh			Tons			ft²/ ton	CFM/ ton	CFM/ ft²	btuh	kW	CFM/ ft²
				Total	Sensible	Latent	Total	Sensible	Latent						
Zone Tenant Improvement (Heat to 40, Tempered OSA)		Excluded from cooling											Excluded from heating		

Load Total Summary - System

(Includes Ventilation and Plenum Loads)

Location	Area	Cooling										Heating			
		CFM	Peak	btuh			Tons			ft²/ ton	CFM/ ton	CFM/ ft²	btuh	kW	CFM/ ft²
				Total	Sensible	Latent	Total	Sensible	Latent						
Room ELECTRICAL 119	671 ft²	225	July 5:00 p.m.	4,870	3,150	1,730	0.4	0.3	0.1	1,650	554	0.34	254	8,620	2.5	0.38
Room FIRE SPRINKLER 123	155 ft²	50	July 9:00 p.m.	1,300	914	390	0.1	0.1	0	1,430	460	0.32	93	2,710	0.8	0.6
Room LEASING 102	337 ft²	334	July 2:00 p.m.	8,700	7,610	1,090	0.7	0.6	0.1	465	461	0.99	184	5,160	1.5	0.55
Room LOBBY 101 & LOUNGE 104	1,830 ft²	1,360	July 1:00 p.m.	37,800	31,500	6,350	3.2	2.6	0.5	580	432	0.75	949	27,400	8	0.52
Room Lobby L2-L6 47	314 ft²	40	July 3:00 p.m.	1,030	891	134	0.1	0.1	0	3,670	468	0.13	52	1,130	0.3	0.17
Room MOVE IN 107	268 ft²	85	July 6:00 p.m.	2,010	1,350	659	0.2	0.1	0.1	1,600	507	0.32	129	3,960	1.2	0.48
Room MPOE 123	150 ft²	50	July 3:00 p.m.	990	600	390	0.1	0.1	0	1,820	606	0.33	50	1,290	0.4	0.33
Room NORTH STAIR	172 ft²	99	July 8:00 p.m.	2,260	2,180	77	0.2	0.2	0	916	527	0.58	239	5,140	1.5	1.39
Room PARCEL LOCKERS 105	122 ft²	40	July 3:00 p.m.	835	521	313	0.1	0	0	1,750	575	0.33	40	1,260	0.4	0.33
Room PARCEL STORAGE 106	229 ft²	75	July 3:00 p.m.	1,480	901	582	0.1	0.1	0	1,850	607	0.33	75	1,910	0.6	0.33
Room SOUTH STAIR	172 ft²	34	July 4:00 p.m.	839	763	77	0.1	0.1	0	2,460	486	0.2	41	878	0.3	0.24
Room WATER SERVICE 121	547 ft²	165	July 5:00 p.m.	3,890	2,600	1,290	0.3	0.2	0.1	1,690	509	0.3	235	7,360	2.2	0.43
Zone Dwelling Units	4,050 ft²	2,910	July 12:00 p.m.	69,500	64,900	4,620	5.8	5.4	0.4	700	502	0.72	2,910	38,300	11.2	0.72
Room Apartment B01	525 ft²	324	July 1:00 p.m.	8,200	7,340	867	0.7	0.6	0.1	767	474	0.62	140	4,760	1.4	0.27
Room Apartment C01	784 ft²	481	July 1:00 p.m.	11,700	10,800	893	1	0.9	0.1	806	494	0.61	211	6,290	1.8	0.27
Room Apartment C02	680 ft²	451	July 1:00 p.m.	11,000	10,100	893	0.9	0.8	0.1	742	492	0.66	204	6,150	1.8	0.3
Room Apartment D01	983 ft²	717	July 1:00 p.m.	16,900	16,000	931	1.4	1.3	0.1	699	510	0.73	318	8,600	2.5	0.32
Room Apartment D03	1,080 ft²	933	July 4:00 p.m.	21,700	20,700	1,030	1.8	1.7	0.1	598	516	0.86	500	12,500	3.7	0.46
Zone Tenant Improvement (Heat to 40, Tempered OSA)		Excluded from cooling											Excluded from heating		

Load Total Summary - Room

(Excludes Ventilation and Plenum Loads)

Location	Area	Cooling										Heating			
		CFM	Peak	btuh			Tons			ft²/ ton	CFM/ ton	CFM/ ft²	btuh	kW	CFM/ ft²
				Total	Sensible	Latent	Total	Sensible	Latent						
Zone Common (Non-Tempered OSA)	555 ft²	204	CV - Sum of Peaks	4,200	3,750	449	0.4	0.3	0	1,590	583	0.37	225	4,840	1.4	0.41
Room EXIT PASSAGEWAY 129	214 ft²	70	July 6:00 p.m.	882	786	96	0.1	0.1	0	2,920	953	0.33	80	1,730	0.5	0.37
Room EXIT PASSAGEWAY 133	188 ft²	31	July 6:00 p.m.	780	697	83	0.1	0.1	0	2,890	477	0.17	72	1,540	0.5	0.38
Room MAINTENANCE 117	153 ft²	103	July 6:00 p.m.	2,540	2,270	270	0.2	0.2	0	722	487	0.68	73	1,560	0.5	0.48

EVERETT RIVERFRONT BUILDING 1-D

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03-13-26

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PERMIT RESPONSE 02

03/13/2026

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△	DATE	DESCRIPTION
4	03/13/26	PERMIT RESPONSE 04

1073-002
PM: PETER ROCKSTEAD
DRAWN BY: PCR
03/13/2026

LOAD CALCULATIONS

M7.01

3/13/2026 2:02:32 PM Autodesk Docs://MG2-CE-Shelter Holdings-Everett Riverfront Development PH2-21-5905-01A/Riverfront Apartments Building D - MEP.rvt

	Heating Section/Auxiliary Heating Type: Electric resistance (or None)		Economizer Compliance Method: Applying air-side economizer exception
	Air-side economizer exception applied: Exp 1 - DOAS paired with cooling system (Note equip location limitations)		WSEC Equip Efficiency Reference Table - Cooling: Table C403.3.2(2) - Unitary and Applied Heat Pumps
	Proposed Low OSA Temp Efficiency:		LTH Units: COP
	WSEC Equip Efficiency Reference Table - Heating: Table C403.3.2(2) - Unitary and Applied Heat Pumps		
BHP-1-2	LEASING	M2.01N	
	System/Equip ID for a single or multiple items?: Single item		
	Heating Section/Auxiliary Heating Type: Electric resistance (or None)		Economizer Compliance Method: Economizer not required
	WSEC Equip Efficiency Reference Table - Cooling: Table C403.3.2(2) - Unitary and Applied Heat Pumps		
	Proposed Low OSA Temp Efficiency:		LTH Units: COP
	WSEC Equip Efficiency Reference Table - Heating: Table C403.3.2(2) - Unitary and Applied Heat Pumps		
BHP-6-1	LE AMENITY	M2.06N	
	System/Equip ID for a single or multiple items?: Single item		
	Heating Section/Auxiliary Heating Type: Electric resistance (or None)		Economizer Compliance Method: Economizer not required
	WSEC Equip Efficiency Reference Table - Cooling: Table C403.3.2(2) - Unitary and Applied Heat Pumps		
	Proposed Low OSA Temp Efficiency:		LTH Units: COP
	WSEC Equip Efficiency Reference Table - Heating: Table C403.3.2(2) - Unitary and Applied Heat Pumps		
BHP-6-2	ELEVATOR MACHINE ROOM	M2.06N	
	System/Equip ID for a single or multiple items?: Single item		
	Heating Section/Auxiliary Heating Type: Electric resistance (or None)		Economizer Compliance Method: Economizer not required
	WSEC Equip Efficiency Reference Table - Cooling: Table C403.3.2(2) - Unitary and Applied Heat Pumps		
	Proposed Low OSA Temp Efficiency:		LTH Units: COP
	WSEC Equip Efficiency Reference Table - Heating: Table C403.3.2(2) - Unitary and Applied Heat Pumps		
RTU-1	CORRIDORS	M2.07N	
	System/Equip ID for a single or multiple items?: Single item		
RTU-2	CORRIDORS	M2.07S	
	System/Equip ID for a single or multiple items?: Single item		

Single Zone Equipment Category - Condensing Unit

Equipment Summary Information

System/Equip ID	Quantity of Items
OHP-1-2	
OHP-1-1	
OHP-6-1	
OHP-6-2	
CU-7-1	
CU-7-2	
CU-7-3	
CU-7-4	

Equipment - Cooling

System/ Equip ID	Cooling System/Equip Type	Specific Type	Cooling Capacity per item (Btu/h)	AEC Efficiency Multiplier	Econo Exception Multiplier (FL & PL)	Combined Efficiency Multiplier (AEC & Econo)	Proposed Cooling Efficiency	CE Units	Proposed Part Load Efficiency	PL Units	Efficiency Compliance Verification
OHP-1-1	Condensing unit, air cooled		42,000	1		0		NA		IEER	COMPLIES
OHP-6-1	Condensing unit, air cooled		18,000	1		0		NA		IEER	COMPLIES
OHP-6-2	Condensing unit, air cooled		24,000	1		0		NA		IEER	COMPLIES
OHP-1-2	Condensing unit, air cooled		12,000	1		0		NA		IEER	COMPLIES
CU-7-1	Condensing unit, air cooled		168,000	1		0	11.2	EER	23.4	IEER	COMPLIES
CU-7-2	Condensing unit, air cooled		168,000	1		0	11.2	EER	23.4	IEER	COMPLIES
CU-7-3	Condensing unit, air cooled		240,000	1		0	10.5	EER	19.6	IEER	COMPLIES
CU-7-4	Condensing unit, air cooled		240,000	1		0	10.5	EER	19.6	IEER	COMPLIES

Equipment Details

System/Equip ID	Area(s) Served	Location In Project Documents - Plan/Detail #
OHP-1-2	L1 LOUNGE/MAIL	M2.07N
	System/Equip ID for a single or multiple items?: Single item	
	WSEC Equip Efficiency Reference Table - Cooling: Table C403.3.2(1)A - Unitary Air Conditioners & Condensing Units	
OHP-1-1	MAINTENANCE OFFICE	M2.07N
	System/Equip ID for a single or multiple items?: Single item	
	WSEC Equip Efficiency Reference Table - Cooling: Table C403.3.2(1)A - Unitary Air Conditioners & Condensing Units	
OHP-6-1	LE AMENITY	M2.07N
	System/Equip ID for a single or multiple items?: Single item	
	WSEC Equip Efficiency Reference Table - Cooling: Table C403.3.2(1)A - Unitary Air Conditioners & Condensing Units	
OHP-6-2	ELEVATOR MACHINE ROOM	M2.07N
	System/Equip ID for a single or multiple items?: Single item	
	WSEC Equip Efficiency Reference Table - Cooling: Table C403.3.2(1)A - Unitary Air Conditioners & Condensing Units	
CU-7-1	COMMERCIAL FLEX 109	M2.07N
	System/Equip ID for a single or multiple items?: Single item	
	WSEC Equip Efficiency Reference Table - Cooling: Table C403.3.2(1)A - Unitary Air Conditioners & Condensing Units	
CU-7-2	COMMERCIAL FLEX 109	M2.07N
	System/Equip ID for a single or multiple items?: Single item	
	WSEC Equip Efficiency Reference Table - Cooling: Table C403.3.2(1)A - Unitary Air Conditioners & Condensing Units	
CU-7-3	COMMERCIAL FLEX 130	M2.07S
	System/Equip ID for a single or multiple items?: Single item	
	WSEC Equip Efficiency Reference Table - Cooling: Table C403.3.2(1)A - Unitary Air Conditioners & Condensing Units	
CU-7-4	COMMERCIAL FLEX 130	M2.07S
	System/Equip ID for a single or multiple items?: Single item	
	WSEC Equip Efficiency Reference Table - Cooling: Table C403.3.2(1)A - Unitary Air Conditioners & Condensing Units	

System/Equip ID	Area(s) Served	Location In Project Documents - Plan/Detail #
FCU-1-1	COMMERCIAL FLEX 109	M2.01N
	System/Equip ID for a single or multiple items?: Single item	
	Cooling Capacity Source: CU-7-1	
	Heating Capacity Source: CU-7-1	
FCU-1-2	COMMERCIAL FLEX 109	M2.01N
	System/Equip ID for a single or multiple items?: Single item	
	Cooling Capacity Source: CU-7-1	
	Heating Capacity Source: CU-7-1	
FCU-1-3	COMMERCIAL FLEX 109	M2.01N
	System/Equip ID for a single or multiple items?: Single item	
	Cooling Capacity Source: CU-7-1	
	Heating Capacity Source: CU-7-1	
FCU-1-4	COMMERCIAL FLEX 109	M2.01N
	System/Equip ID for a single or multiple items?: Single item	
	Cooling Capacity Source: CU-7-1	
	Heating Capacity Source: CU-7-1	
FCU-1-5	COMMERCIAL FLEX 109	M2.01N
	System/Equip ID for a single or multiple items?: Single item	
	Cooling Capacity Source: CU-7-2	
	Heating Capacity Source: CU-7-2	
FCU-1-6	COMMERCIAL FLEX 109	M2.01N
	System/Equip ID for a single or multiple items?: Single item	
	Cooling Capacity Source: CU-7-2	
	Heating Capacity Source: CU-7-2	
FCU-1-7	COMMERCIAL FLEX 109	M2.01N
	System/Equip ID for a single or multiple items?: Single item	
	Cooling Capacity Source: CU-7-2	
	Heating Capacity Source: CU-7-2	
FCU-1-8	COMMERCIAL FLEX 109	M2.01N
	System/Equip ID for a single or multiple items?: Single item	
	Cooling Capacity Source: CU-7-2	
	Heating Capacity Source: CU-7-2	
FCU-1-9	COMMERCIAL FLEX 130	M2.01S
	System/Equip ID for a single or multiple items?: Single item	
	Cooling Capacity Source: CU-7-3	
	Heating Capacity Source: CU-7-3	
FCU-1-10	COMMERCIAL FLEX 130	M2.01S
	System/Equip ID for a single or multiple items?: Single item	
	Cooling Capacity Source: CU-7-3	
	Heating Capacity Source: CU-7-3	
FCU-1-11	COMMERCIAL FLEX 130	M2.01S
	System/Equip ID for a single or multiple items?: Single item	
	Cooling Capacity Source: CU-7-3	
	Heating Capacity Source: CU-7-3	
FCU-1-12	COMMERCIAL FLEX 130	M2.01S
	System/Equip ID for a single or multiple items?: Single item	
	Cooling Capacity Source: CU-7-3	
	Heating Capacity Source: CU-7-3	
FCU-1-13	COMMERCIAL FLEX 130	M2.01S
	System/Equip ID for a single or multiple items?: Single item	
	Cooling Capacity Source: CU-7-4	
	Heating Capacity Source: CU-7-4	
FCU-1-14	COMMERCIAL FLEX 130	M2.01S
	System/Equip ID for a single or multiple items?: Single item	
	Cooling Capacity Source: CU-7-4	
	Heating Capacity Source: CU-7-4	
FCU-1-15	COMMERCIAL FLEX 130	M2.01S
	System/Equip ID for a single or multiple items?: Single item	
	Cooling Capacity Source: CU-7-4	
	Heating Capacity Source: CU-7-4	
FCU-1-16	COMMERCIAL FLEX 130	M2.01S
	System/Equip ID for a single or multiple items?: Single item	
	Cooling Capacity Source: CU-7-4	
	Heating Capacity Source: CU-7-4	
FCU-1-17	COMMERCIAL FLEX 130	M2.01S
	System/Equip ID for a single or multiple items?: Single item	
	Cooling Capacity Source: CU-7-4	
	Heating Capacity Source: CU-7-4	
FCU-1-18	COMMERCIAL FLEX 130	M2.01S
	System/Equip ID for a single or multiple items?: Single item	
	Cooling Capacity Source: CU-7-4	
	Heating Capacity Source: CU-7-4	

Single Zone Air Systems Category - Heat pump, unitary, thru-wall, SDHV

Air Systems Summary Information

System/Equip ID	Quantity of Items	Supply Airflow Control	Ventilation Standard	Ventilation CFM (Total if Multiple Items)	Ventilation Air Source	Paired with DOAS	Ventilation energy recovery	Energy Recovery Efficiency (%)
HP-1-1		Constant volume	IMC Ventilation	840	Separate DOAS	ERV-1-1	Yes per C403.7.6 Energy Recovery	76
HP-1-2		Constant volume	IMC Ventilation	840	Separate DOAS	ERV-1-1	Yes per C403.7.6 Energy Recovery	76
HP-6-1		Constant volume	IMC Ventilation	225	Separate DOAS	ERV-6-1	Yes per C403.7.6 Energy Recovery	82
HP-6-2		Constant volume	Unoccupied, no ventilation requirement					
RTU-1		Constant volume	IMC Ventilation	500	Integral		Not provided, not required	
RTU-2		Constant volume	IMC Ventilation	500	Integral		Not provided, not required	

Air Systems & Equipment - Cooling

System/ Equip ID	Cooling System/Equip Type	Specific Type	Cooling Capacity per item (Btu/h)	AEC Efficiency Multiplier	Econo Exception Multiplier (FL & PL)	Combined Efficiency Multiplier (AEC & Econo)	Proposed Cooling Efficiency	CE Units	Proposed Part Load Efficiency	PL Units	Efficiency Compliance Verification
HP-1-1	Heat pump, air cooled	Split system	42,000	1	1.0	1	16.1	SEER		IEER	COMPLIES
HP-1-2	Heat pump, air cooled	Split system	12,000	1	0	1	27.0	SEER		IEER	COMPLIES
HP-6-1	Heat pump, air cooled	Split system	18,000	1	0	1	19.9	SEER		IEER	COMPLIES
HP-6-2	Heat pump, air cooled	Split system	24,000	1	0	1	21.4	SEER		IEER	COMPLIES

Air Systems & Equipment - Heating

System /Equip ID	Heating System/Equip Type	Specific Type	Heat Pump Heating Capacity (Btu/h)	Cooling Capacity (Btu/h)	AEC Efficiency Multiplier	Proposed Heat Pump Heating Efficiency	HPH Units	Proposed Low OSA Temp Efficiency	LTH Units	Efficiency Compliance Verification
HP-1-1	Heat pump, air cooled, heating	Split system	12,000	12,000	1	10.2	HSPF		COP	COMPLIES
HP-1-2	Heat pump, air cooled, heating	Split system	22,000	18,000	1	10.2	HSPF		COP	COMPLIES
HP-6-1	Heat pump, air cooled, heating	Split system	22,000	18,000	1	10.2	HSPF		COP	COMPLIES
HP-6-2	Heat pump, air cooled, heating	Split system	28,000	24,000	1	11.0	HSPF		COP	COMPLIES

Air Systems & Equipment Details

System/Equip ID	Area(s) Served	Location In Project Documents - Plan/Detail #
HP-1-1	LOBBY, LOUNGE	M2.01N
	System/Equip ID for a single or multiple items?: Single item	

MECHANICAL COMPLIANCE SUMMARY

2018 WSEC Compliance Forms for Commercial Buildings including Group R2, R3 & R4 over 3 stories and all R1

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Project & Applicant Information	**Project Title**	Riverfront Apartments Building D - 2018 WSEC	For Building Department Use:	**Date: Jun 18, 2024**
	Project Address	3710 Riverfront Blvd Everett, WA 98203		
	Applicant Name	Peter Rockstead		
	Applicant Phone	425-244-7828		
	Applicant Email	prockstead@robisonengineering.com		

For questions about this report, contact WSEC Commercial Technical Support at 360-539-5300 or via email at com.techsupport@waenergycodes.com

General Occupancy	Mixed Use - Commercial + Group R building over 3 stories		**General Building Use Type**	Multifamily Residential, Mixed Use		**Building Cond. Floor Area**	162,000
General Project Types	New Building	**New Building or Addition**	Single Zone Systems & Equipment	**Alteration**		**Project Cond. Floor Area**	162,000
		Mechanical Scope		**Mechanical Scope**		**Floors Above Grade**	6
						Compliance Method	General Prescriptive
Mechanical Project Description	6-Story apartment building with Live/Work Dwelling Units, Common & Back-Of-House spaces, and Future Tenant Improvement space on Level 1. Building is on site formerly used for landfill, and consent decree requires level 1 spaces to have enhanced ventilation. All L1 spaces are to have minimum 1 ACH ventilation 24-7 on standby power, which increases by at least 1 additional ACH when methane is detected within the building at or above 1,000 PPM. If methane is detected at 10,000 PPM, building is to be evacuated. Methane detection system by others, but interlocked with L1 ventilation systems to automatically control ventilation. L1 ventilation is achieved with a combination of ERVs, supply fans, and exhaust fans. Conditioning via 1-to-1 split-system heat pumps in common and BOH spaces. Conditioning via VRF heat pump system in TI space. Dwelling units on L2-L6 are ventilated with ERVs and heated with electric resistance heaters.						

Mechanical Compliance Scope and Method	**Project Type**	**Mechanical Scope**	**Economizer Exception(s) Applied?**	**DOAS Ventilation Provided?**	**Higher Equipment Efficiency Option Applied?**	**Equipment Efficiency Compliance Verification**
	New Building	Single Zone Systems & Equipment	Yes	Yes	NA	**COMPLIES**
Additional Efficiency Credits Included (AEC)	**Dedicated outside air systems (DOAS)**					
Does building include occupancy classifications requiring DOAS?	No		**Does project include DOAS equipment?**			Yes
Based on project scope do TSPR requirements apply?	No		**Do all systems comply with Appendix D standard reference design or qualify for an exception to TSPR?**			No

Scope & Space Conditioning	**NEW BUILDING - SINGLE ZONE SYSTEMS & EQUIPMENT**	**Compliance Verification**	**COMPLIES**

Single Zone Air Systems Category - Fan coil unit, hydronic & VRF

Air Systems Summary Information

System/Equip ID	Quantity of Items	Supply Airflow Control	Ventilation Standard	Ventilation CFM (Total if Multiple Items)	Ventilation Air Source	Paired with DOAS
FCU-1-1		Constant volume	IMC Ventilation	1,050	Separate DOAS	ERV-1-4
FCU-1-2		Constant volume	IMC Ventilation	1,050	Separate DOAS	ERV-1-4
FCU-1-3		Constant volume	IMC Ventilation	1,050	Separate DOAS	ERV-1-4
FCU-1-4		Constant volume	IMC Ventilation	1,050	Separate DOAS	ERV-1-4
FCU-1-5		Constant volume	IMC Ventilation	1,050	Separate DOAS	ERV-1-3
FCU-1-6		Constant volume	IMC Ventilation	1,050	Separate DOAS	ERV-1-3
FCU-1-7		Constant volume	IMC Ventilation	1,050	Separate DOAS	ERV-1-3
FCU-1-8		Constant volume	IMC Ventilation	1,050	Separate DOAS	ERV-1-3
FCU-1-9		Constant volume	IMC Ventilation	1,450	Separate DOAS	ERV-1-5
FCU-1-10		Constant volume	IMC Ventilation	1,450	Separate DOAS	ERV-1-5

FCU-1-11		Constant volume	IMC Ventilation	1,450	Separate DOAS	ERV-1-5
FCU-1-12		Constant volume	IMC Ventilation	1,450	Separate DOAS	ERV-1-5
FCU-1-13		Constant volume	IMC Ventilation	1,450	Separate DOAS	ERV-1-5
FCU-1-14		Constant volume	IMC Ventilation	1,450	Separate DOAS	ERV-1-6
FCU-1-15		Constant volume	IMC Ventilation	1,450	Separate DOAS	ERV-1-6
FCU-1-16		Constant volume	IMC Ventilation	1,450	Separate DOAS	ERV-1-6
FCU-1-17		Constant volume	IMC Ventilation	1,450	Separate DOAS	ERV-1-6
FCU-1-18		Constant volume	IMC Ventilation	1,450	Separate DOAS	ERV-1-6

Air Systems & Equipment - Cooling

System/ Equip ID	Cooling System/Equip Type	Specific Type	Cooling Capacity per item (Btu/h)	AEC Efficiency Multiplier	Econo Exception Multiplier (FL & PL)	Combined Efficiency Multiplier (AEC & Econo)	Proposed Cooling Efficiency	CE Units	Proposed Part Load Efficiency	PL Units	Efficiency Compliance Verification
FCU-1-1	Fan coils, hydronic & VRF, cooling	VRF	36,000	1		0					COMPLIES
FCU-1-2	Fan coils, hydronic & VRF, cooling	VRF	36,000	1		0					COMPLIES
FCU-1-3	Fan coils, hydronic & VRF, cooling	VRF	48,000	1		0					COMPLIES
FCU-1-4	Fan coils, hydronic & VRF, cooling	VRF	48,000	1		0					COMPLIES
FCU-1-5	Fan coils, hydronic & VRF, cooling	VRF	48,000	1		0					COMPLIES
FCU-1-6	Fan coils, hydronic & VRF, cooling	VRF	36,000	1		0					COMPLIES
FCU-1-7	Fan coils, hydronic & VRF, cooling	VRF	36,000	1		0					COMPLIES
FCU-1-8	Fan coils, hydronic & VRF, cooling	VRF	48,000	1		0					COMPLIES
FCU-1-9	Fan coils, hydronic & VRF, cooling	VRF	48,000	1		0					COMPLIES
FCU-1-10	Fan coils, hydronic & VRF, cooling	VRF	48,000	1		0					COMPLIES
FCU-1-11	Fan coils, hydronic & VRF, cooling	VRF	48,000	1		0					COMPLIES
FCU-1-12	Fan coils, hydronic & VRF, cooling	VRF	48,000	1		0					COMPLIES
FCU-1-13	Fan coils, hydronic & VRF, cooling	VRF	48,000	1		0					COMPLIES
FCU-1-14	Fan coils, hydronic & VRF, cooling	VRF	48,000	1		0					COMPLIES
FCU-1-15	Fan coils, hydronic & VRF, cooling	VRF	48,000	1		0					COMPLIES
FCU-1-16	Fan coils, hydronic & VRF, cooling	VRF	48,000	1		0					COMPLIES
FCU-1-17	Fan coils, hydronic & VRF, cooling	VRF	48,000	1		0					COMPLIES
FCU-1-18	Fan coils, hydronic & VRF, cooling	VRF	48,000	1		0					COMPLIES

Air Systems & Equipment - Heating

System /Equip ID	Heating System/Equip Type	Specific Type	Heat Pump Heating Capacity (Btu/h)	Cooling Capacity (Btu/h)	AEC Efficiency Multiplier	Proposed Heat Pump Heating Efficiency	HPH Units	Proposed Low OSA Temp Efficiency	LTH Units	Efficiency Compliance Verification
FCU-1-1	Fan coils, hydronic & VRF, heating	VRF			1					COMPLIES
FCU-1-2	Fan coils, hydronic & VRF, heating	VRF			1					COMPLIES
FCU-1-3	Fan coils, hydronic & VRF, heating	VRF			1					COMPLIES
FCU-1-4	Fan coils, hydronic & VRF, heating	VRF			1					COMPLIES
FCU-1-5	Fan coils, hydronic & VRF, heating	VRF			1					COMPLIES
FCU-1-6	Fan coils, hydronic & VRF, heating	VRF			1					COMPLIES
FCU-1-7	Fan coils, hydronic & VRF, heating	VRF			1					COMPLIES
FCU-1-8	Fan coils, hydronic & VRF, heating	VRF			1					COMPLIES
FCU-1-9	Fan coils, hydronic & VRF, heating	VRF			1					COMPLIES
FCU-1-10	Fan coils, hydronic & VRF, heating	VRF			1					COMPLIES
FCU-1-11	Fan coils, hydronic & VRF, heating	VRF			1					COMPLIES
FCU-1-12	Fan coils, hydronic & VRF, heating	VRF			1					COMPLIES
FCU-1-13	Fan coils, hydronic & VRF, heating	VRF			1					COMPLIES
FCU-1-14	Fan coils, hydronic & VRF, heating	VRF			1					COMPLIES
FCU-1-15	Fan coils, hydronic & VRF, heating	VRF			1					COMPLIES
FCU-1-16	Fan coils, hydronic & VRF, heating	VRF			1					COMPLIES
FCU-1-17	Fan coils, hydronic & VRF, heating	VRF			1					COMPLIES
FCU-1-18	Fan coils, hydronic & VRF, heating	VRF			1					COMPLIES

Air Systems & Equipment Details

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△	DATE	DESCRIPTION

1073-002
PM: PETER ROCKSTEAD
DRAWN BY:PCR
03/13/2026

WSEC FORMS

M8.00

EVERETT RIVERFRONT BUILDING 1-D
3710 Riverfront Blvd
Everett, WA 98203

ROBISON ENGINEERING, INC
19401 40TH AVE W, SUITE 302
LYNNWOOD, WA 98036
TEL: 2063643343
CONTACT: PETER ROCKSTEAD

REED JACKSON STATE OF WASHINGTON PROFESSIONAL ENGINEER 03-13-26

1101 Second Ave, Ste 100
Seattle, WA 98101
206 962 6500
MG2.com

PERMIT RESPONSE 02
03/13/2026

3/13/2026 2:02:32 PM Autodesk Docs://MG2-CE-Shelter Holdings-Everett Riverfront Development PH2-21-5905-01A/Riverfront Apartments Building D - MEP.rvt

DETECTOR SPACING

ROOM FLOOR AREA OR CONCEALED SPACE AREA (square feet)	NUMBER OF DETECTORS	
	WITH HEATING, VENTILATION AND AIR CONDITIONING	WITHOUT HEATING, VENTILATION AND AIR CONDITIONING
10,000 & More	Minimum of 3 Detectors plus one for every 20,000 and fraction thereof in excess of 10,000 (Max 50' Spacing)	Minimum of 3 Detectors plus one for every 2,500 and fraction thereof
More Than 5,000 and Less Than 10,000	3 Detectors (Max 50' Spacing)	Minimum of 2 Detectors plus one for every 2,500 and fraction thereof
More Than 1,000 and Up to 5,000	2 Detectors (Max 50' Spacing)	Minimum of 1 Detector plus one for every 2,500 and fraction thereof
0 and Up to 1,000	1 Detector (Max 50' Spacing)	1 Detector

NOTE:
* in addition to the required number of Detectors in this gable, there shall be at least one Detector in each elevator shaft and enclosed stairway.

(GD) METHANE GAS DETECTOR WITH 4-20mA OUTPUT

(H) METHANE ALARM HORN/STROBE

(B) METHANE ALARM STROBE HIGH INTENSITY STROBE LIGHT

(A) TEST MODE ALARM STROBE HIGH INTENSITY STROBE LIGHT

(R) METHANE EVACUATION ALARM STROBE HIGH INTENSITY STROBE LIGHT

(M) VENTILATION FAN AND AIR FLOW SWITCH - TO BE MONITORED FOR ('RUNNING', AIR FLOW) AND CONTROLLED FOR HI SPEED UPON GAS DETECTION.

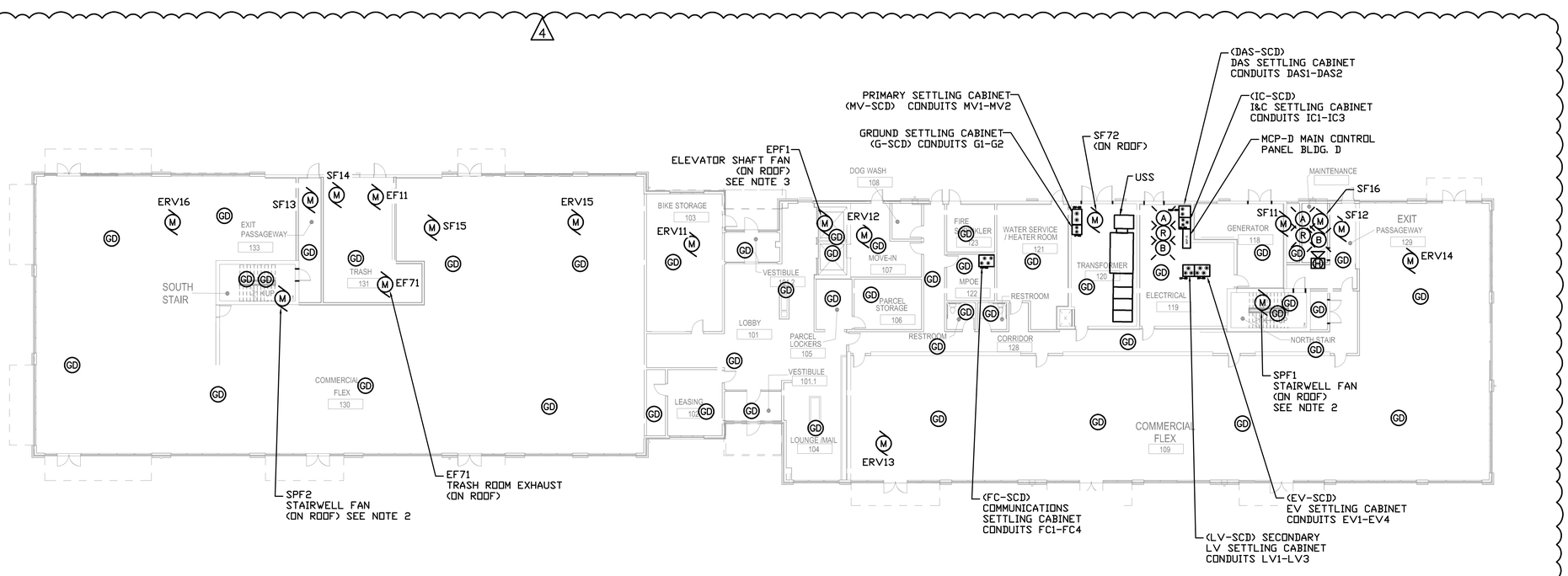
GENERAL NOTES:

1. MOUNT ALL LEVEL 1 DETECTORS AS CLOSE TO THE CENTER OF THE SPACE AS PRACTICAL, WITHIN 8" OF THE CEILING, AND NO CLOSER THAN 12" FROM ANY WALL.
2. STAIRWELLS SHALL BE PROVIDED WITH TWO DETECTORS; 1) SHALL BE INSTALLED ON THE CEILING OF THE STAIRWELL & 2) SHALL BE INSTALLED IN STAIRWELL SUPPLY FAN DUCT. SEE DETAILS OF STAIRWELL DETECTOR INSTALLATION FOR INSTALLATION AND WIRING.
3. ELEVATOR SHAFTS SHALL BE PROVIDED WITH TWO DETECTORS; 1) SHALL BE INSTALLED ON THE CEILING OF THE ELEVATOR SHAFT & 2) SHALL BE INSTALLED IN ELEVATOR SHAFT SUPPLY FAN DUCT. SEE DETAILS OF ELEVATOR SHAFT DETECTOR INSTALLATION FOR INSTALLATION AND WIRING.

N

0 8 16 32
Scale In Feet

4



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Shelter HOLDINGS

EVERETT RIVERFRONT

3810 RIVERFRONT BLVD
EVERETT, WA 98203

FOLLETT ENGINEERING
ELECTRICAL ENGINEERING & CONSULTING
SEATTLE, WA 425-765-6304

BUILDING PERMIT SET
03/14/2026

REVISIONS / NOTES

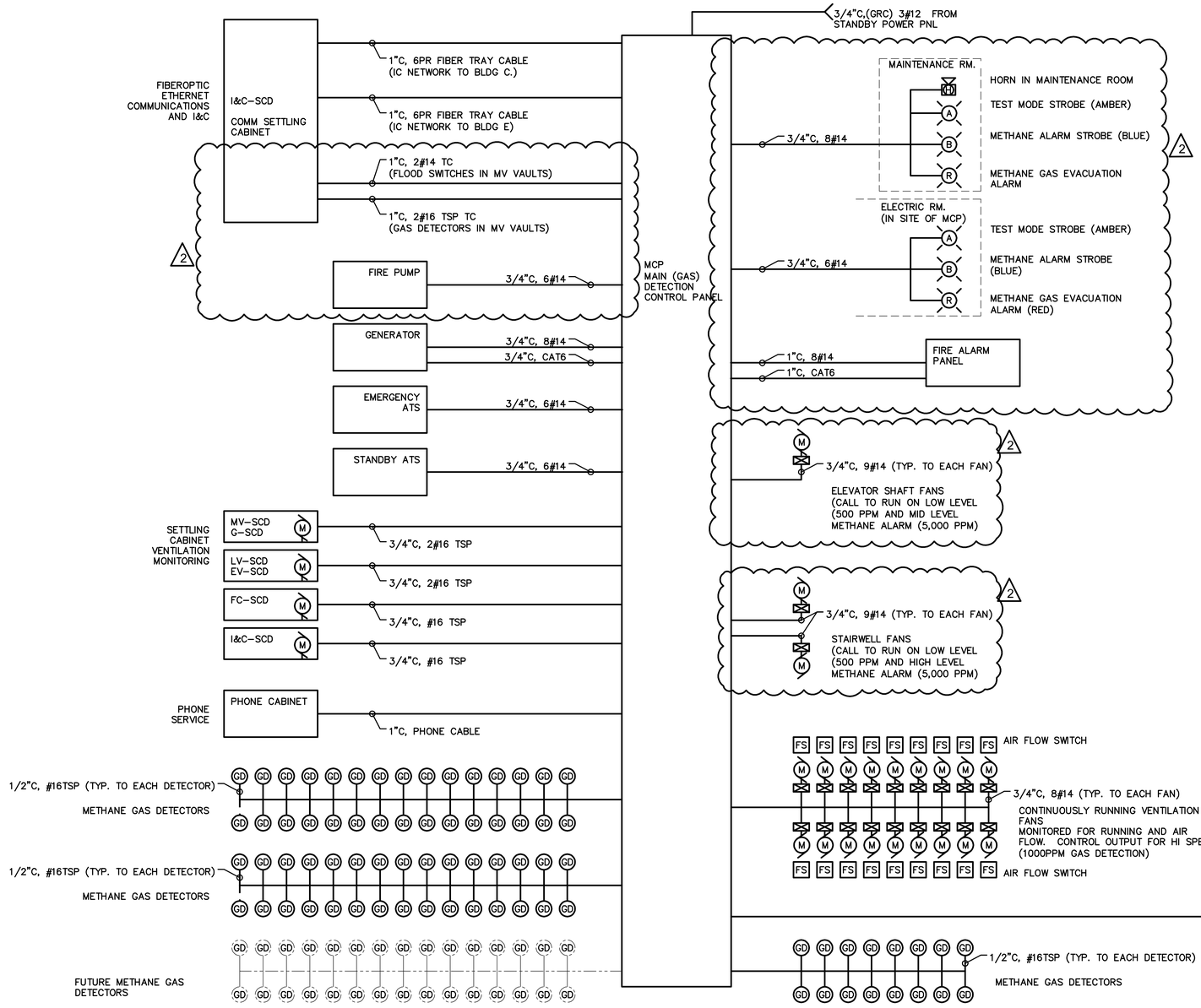
NO	DATE	DESCRIPTION
1	11/03/22	PERMIT CORRECTIONS 01
2	07/12/24	PERMIT CORRECTIONS 02
4	03/14/26	PERMIT CORRECTIONS 04

PHASE-BUILDING
2-D

TITLE
BLDG D
LEVEL 1 GAS DETECTION PLAN

PERMIT #
DRAWN VF/MP
CHECKED VF
ISSUE DATE 3/14/2026
JOB NO. 1905D
SHEET NO.:
EFD1

3/28/2026



M FAN MOTOR

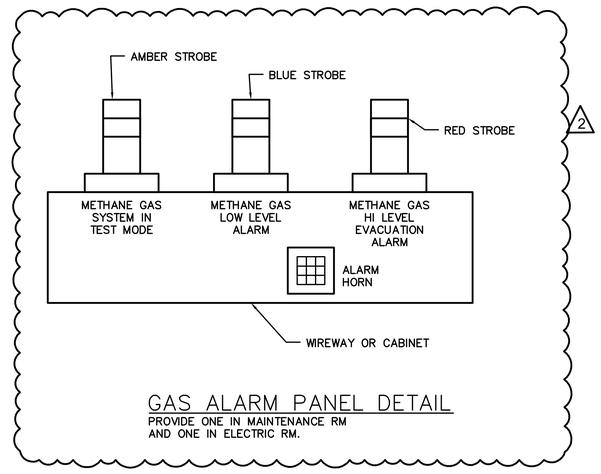
GD METHANE GAS DETECTOR WITH 4–20mA OUTPUT

METHANE ALARM HORN

B METHANE ALARM STROBE (BLUE) HIGH INTENSITY STROBE LIGHT

GENERAL NOTES:

1. PROVIDE GAS DETECTORS FOR EACH SEPARATE SPACE ON THE GROUND LEVEL
2. PROVIDE INTERFACE TO EACH HVAC CONTROL PANEL FOR THE LOW LEVEL GAS ALARM TO ACTIVATE THE "GAS ALARM HIGH AIR FLOW VENTILATION SYSTEM" FOR THE AREA OF THE GAS DETECTION.
3. PROVIDE INTERFACE TO THE FIRE ALARM PANEL FOR HIGH LEVEL GAS ALARM TO ACTIVATE FIRE ALARM SYSTEM AND STAIRWELL FANS TO EVACUATE BUILDING.
4. PROVIDE RACEWAYS AND WIRE TO ALL DEVICES AS SHOWN FOR MONITORING AND ALARMING. SIZE RACEWAYS PER NEC FOR THE WIRING INSTALLED.
5. PROVIDE INTERFACE TO THE GENERATOR AND ATS'S



GAS ALARM PANEL DETAIL

PROVIDE ONE IN MAINTENANCE RM AND ONE IN ELECTRIC RM.

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ELECTRICAL ENGINEERING & CONSULTING
SEATTLE, WA 425–765–6304

BUILDING PERMIT SET
05/31/2022

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	11/03/22	PERMIT CORRECTIONS 01
2	07/12/24	PERMIT CORRECTIONS 02

PHASE-BUILDING
2-D

TITLE
BLDG D METHANE GAS DETECTION & ALARMING RISER DIAGRAM

PERMIT #	
DRAWN	VF/MP
CHECKED	VF
ISSUE DATE	8/03/2023
JOB NO.	1905D
SHEET NO.:	EFD2

MAIN (GAS) CONTROL PANEL (MCP–D)

BUILDING D

ENGINEER: HERRERA
ELECTRICAL ENGINEER: FOLLETT ENGINEERING
SYSTEM PROGRAMMER: QUALITY CONTROLS
ELECT. CONTRACTOR: –
PANEL SHOP: QUALITY CONTROLS

8" WIDE X 6" HIGH – MOUNT ON FRONT OF OUTER CABINET DOORS

GENERAL NOTES:

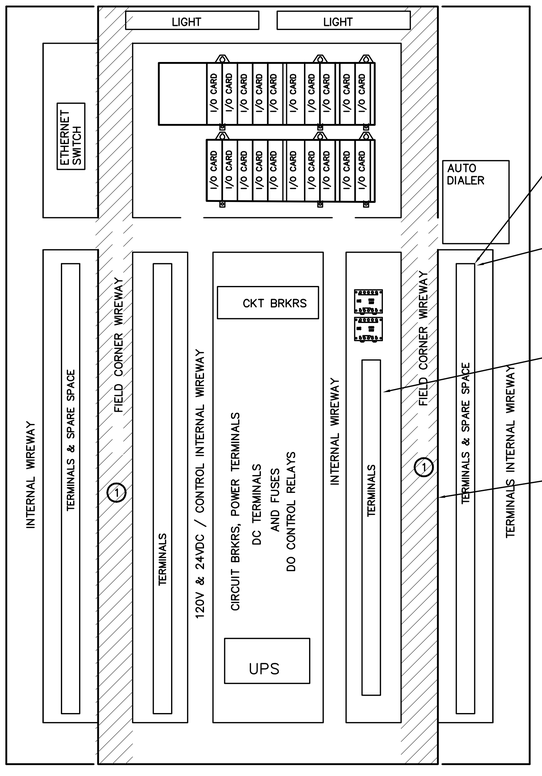
LAYOUT OF CONTROL PANEL IS GENERAL IN NATURE – SPECIFIC LAYOUT TO BE DETERMINED BY THE SYSTEM INTEGRATOR AND REVIEWED BY THE ENGINEER DURING THE SUBMITTAL PROCESS – SIZE OF THE CONTROL PANEL SHOWN IS INTENDED TO BE A MINIMUM SIZE. INTEGRATOR SHALL UPSIZE THE CABINET IF NECESSARY TO FIT THE REQUIRED COMPONENTS.

KEY NOTES:

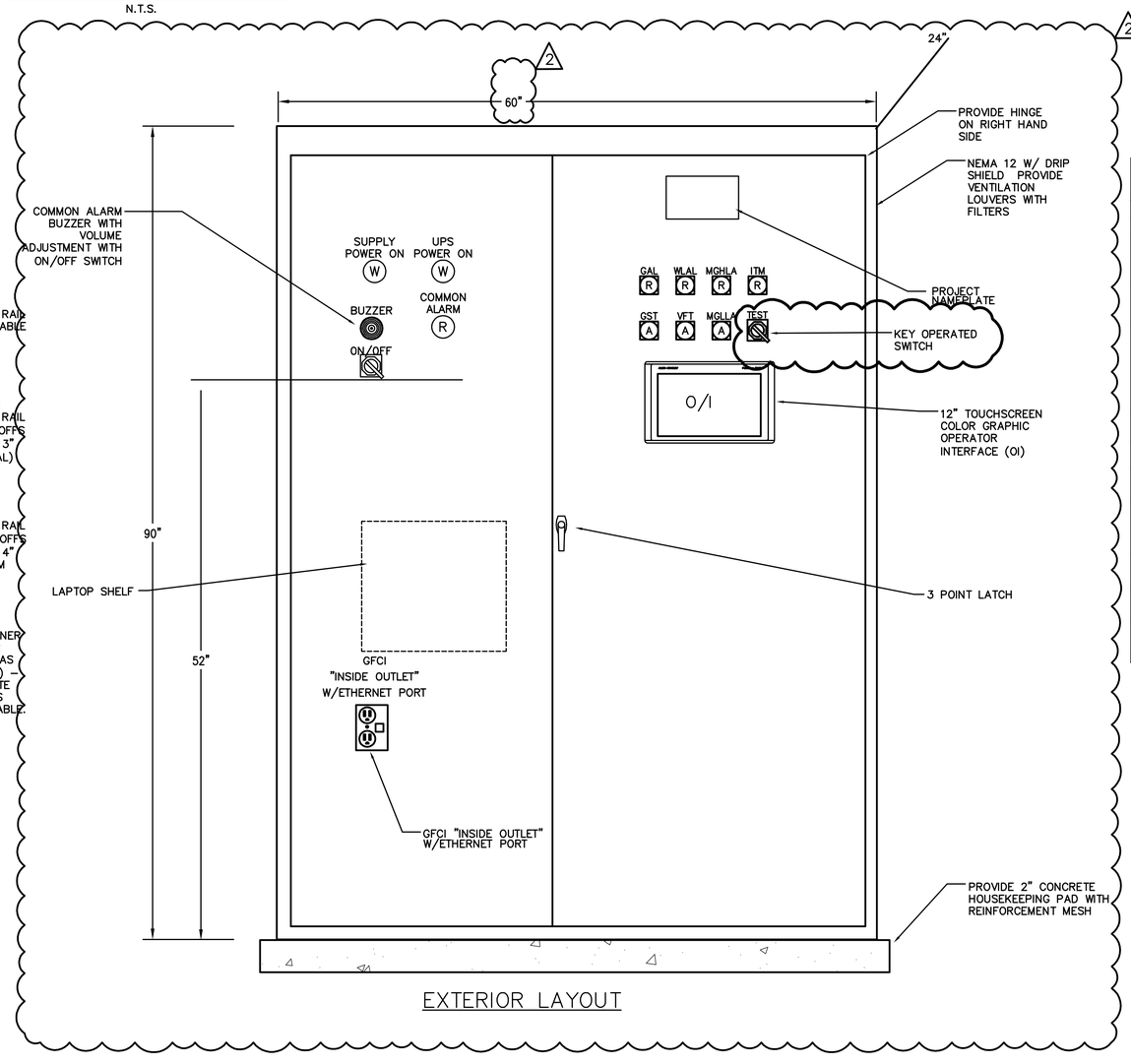
1. PROVIDE ONLY CORNER WIRE WAYS – SEPARATE SIDE PAN AND BACKPAN WIREWAYS ARE NOT ACCEPTABLE.

PROJECT NAMEPLATE

N.T.S.



INTERIOR LAYOUT



EXTERIOR LAYOUT

NAMEPLATE SCHEDULE & DEVICE DETAILS

TAG	DESCRIPTION
TEST	METHANE GAS SYSTEM (TEST/AUTO) MODE SWITCH
ITM	MG MONITORING SYSTEM IN TEST MODE
MGLLA	METHANE GAS LOW LEVEL WARNING
MGHLA	METHANE GAS HIGH LEVEL EVACUATION ALARM
WLAL	WORK LIVE AREA ALARM
VFT	VENT FAN TROUBLE
GST	EMER GENERATOR SYSTEM TROUBLE
GAL	EMER GENERATOR SYSTEM ALARM
R	RED INDICATION LIGHT
W	WHITE INDICATION LIGHT
G	GREEN INDICATION LIGHT
A	AMBER INDICATION LIGHT

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BUILDING PERMIT SET
05/31/2022

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	11/03/22	PERMIT CORRECTIONS 01
2	07/12/24	PERMIT CORRECTIONS 02

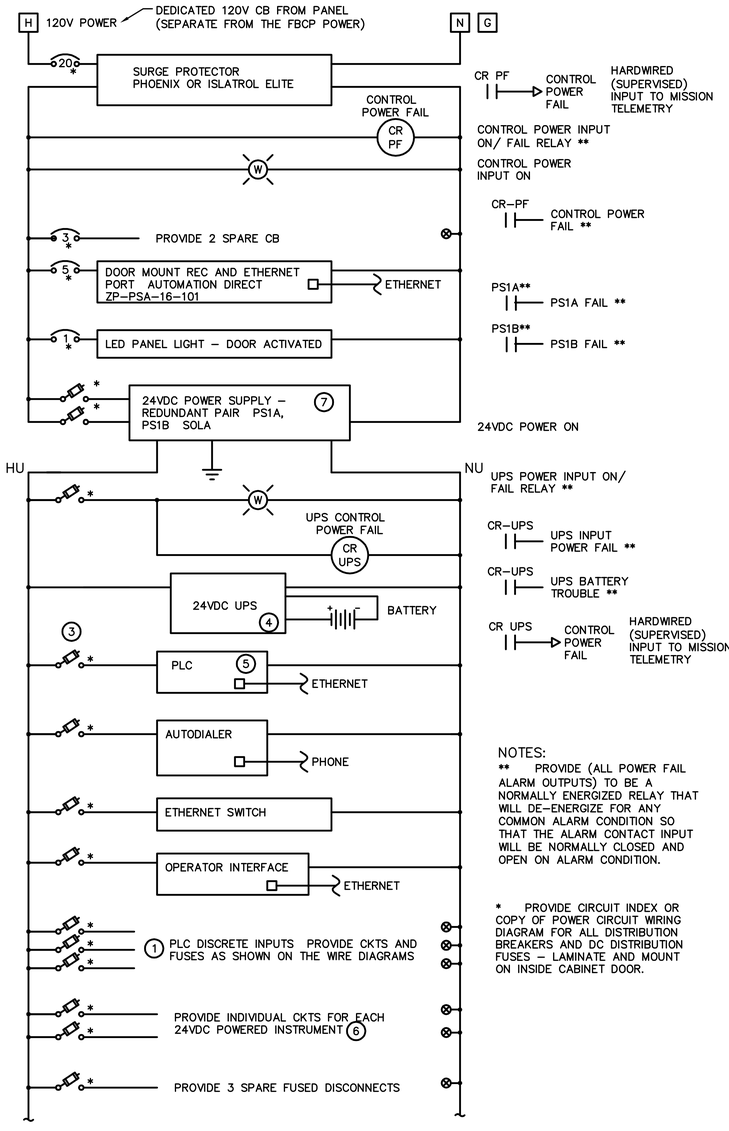
PHASE-BUILDING
2-D

TITLE
BLDG D _ - MCP - MAIN (GAS) CONTROL PANEL DETAILS

PERMIT #	
DRAWN	VF/MP
CHECKED	VF
ISSUE DATE	8/03/2023
JOB NO.	1905D
SHEET NO.:	EFD3

VINCENT M. FOLLETT — STATE OF WASHINGTON — 28947 — REGISTERED PROFESSIONAL ENGINEER
7/12/2024

BLDG. D – MCPD



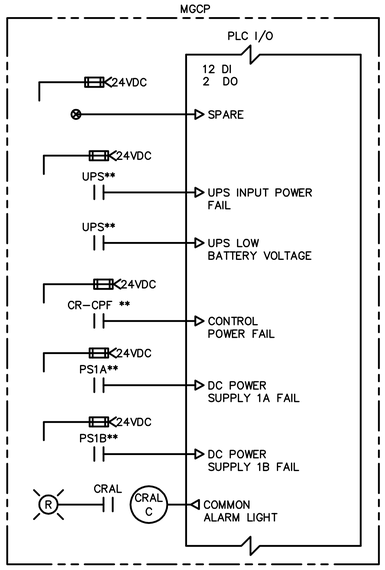
CONTROL POWER DISTRIBUTION

METHANE GAS CONTROL PANEL (MGCP)

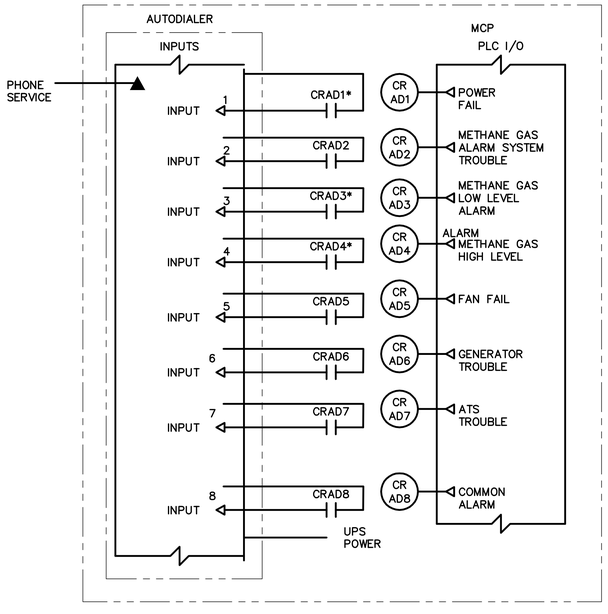
NOTES:

** PROVIDE (ALL POWER FAIL ALARM OUTPUTS) TO BE A NORMALLY ENERGIZED RELAY THAT WILL DE–ENERGIZE FOR ANY COMMON ALARM CONDITION SO THAT THE ALARM CONTACT INPUT WILL BE NORMALLY CLOSED AND OPEN ON ALARM CONDITION.

* PROVIDE CIRCUIT INDEX OR COPY OF POWER CIRCUIT WIRING DIAGRAM FOR ALL DISTRIBUTION BREAKERS AND DC DISTRIBUTION FUSES – LAMINATE AND MOUNT ON INSIDE CABINET DOOR.

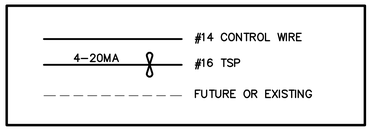


AUTODIALER



NOTES: PROVIDE 8PT. PHONE BASED AUTODIALER. – CONFIGURE TO CALL ALARM FOR LOSS OF INPUT POWER.

* PROGRAM COMMON ALARM OUTPUT TO BE A NORMALLY ENERGIZED RELAY THAT WILL DE–ENERGIZE FOR ANY COMMON ALARM CONDITION SO THAT DIALER CONTACT INPUT WILL BE NORMALLY CLOSED AND OPEN ON ALARM CONDITION.



CONSTRUCTION NOTES:

1. PROVIDE ONE – 1 AMP FUSE FOR THE INPUTS ASSOCIATED WITH EACH INDIVIDUAL MOTOR LOAD AND ONE 1 AMP FUSE FOR EACH GROUP OF 4 PLC INPUTS. PROVIDE BLOWN FUSE INDICATORS ON ALL FUSES. PROVIDE ONE SPARE FUSE FOR EVERY 4 SPARE PLC INPUTS PLUS AN ADDITIONAL 2 SPARE 1 AMP FUSES.
2. PROVIDE ONE 50mA FUSE FOR EACH WIRED AND EACH SPARE ANALOG INPUT. WIRE ALL SPARE ANALOG INPUT TERMINALS FOR EITHER LOOP OR SEPARATELY POWERED INSTRUMENTS.
3. PROVIDE ONE APPROPRIATELY SIZED FUSE FOR EACH DC CIRCUIT PLUS 3 – 1 AMP SPARE FUSES.
4. DIN–RAIL MOUNTED UPS – SIZE FOR APPLICATION.
5. PROVIDE INPUT TO PLC FOR TROUBLE MONITORING, UPS AND POWER SUPPLIES – PROVIDE INTERPOSING RELAY IF NECESSARY.
6. PROVIDE ONE CIRCUIT FOR EACH INSTRUMENT – SIZE PER LOAD SERVED AND MANUFACTURERS REQUIREMENTS.
7. PROVIDE REDUNDANT PAIRS FOR EACH TYPE OF POWER SUPPLY W/ MONITORING FOR FAILURE TO THE PLC.

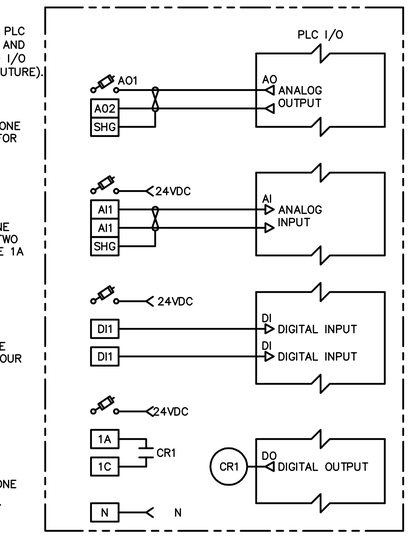
TYPICAL TERMINAL WIRING FOR PLC I/O CARDS – PROVIDE WIRING AND TERMINALS FOR ALL INSTALLED I/O ON CARDS (USED, SPARE, & FUTURE).

TYPICAL TERMINAL WIRING FOR ANALOG OUTPUTS – PROVIDE ONE SHIELD GROUNDING TERMINAL FOR EVERY TWO ANALOG OUTPUTS

TYPICAL TERMINAL WIRING FOR ANALOG INPUTS – PROVIDE ONE SHIELD TERMINAL FOR EVERY TWO ANALOG INPUTS. PROVIDE ONE 1A FUSED DISCONNECT FOR EACH ANALOG INPUT

TYPICAL TERMINAL WIRING FOR DIGITAL INPUTS – PROVIDE ONE FUSED TERMINAL FOR EVERY FOUR DIGITAL INPUTS

TYPICAL TERMINAL WIRING FOR DIGITAL OUTPUTS – PROVIDE ONE 2A FUSED TERMINAL AND ONE NEUTRAL TERMINAL FOR EVERY EIGHT DIGITAL OUTPUTS



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BUILDING PERMIT SET
05/31/2022

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	11/03/22	PERMIT CORRECTIONS 01
2	07/12/24	PERMIT CORRECTIONS 02

PHASE-BUILDING

2-D

TITLE

WIRE DIAGRAM 1
MAIN (GAS)
CONTROL
PANEL (MCP)

PERMIT #	
DRAWN	VF/MP
CHECKED	VF
ISSUE DATE	8/03/2023
JOB NO.	1905D
SHEET NO.:	EFD4

VINCENT M. FOLLETT
STATE OF WASHINGTON
28947
REGISTERED PROFESSIONAL ENGINEER
7/12/2024

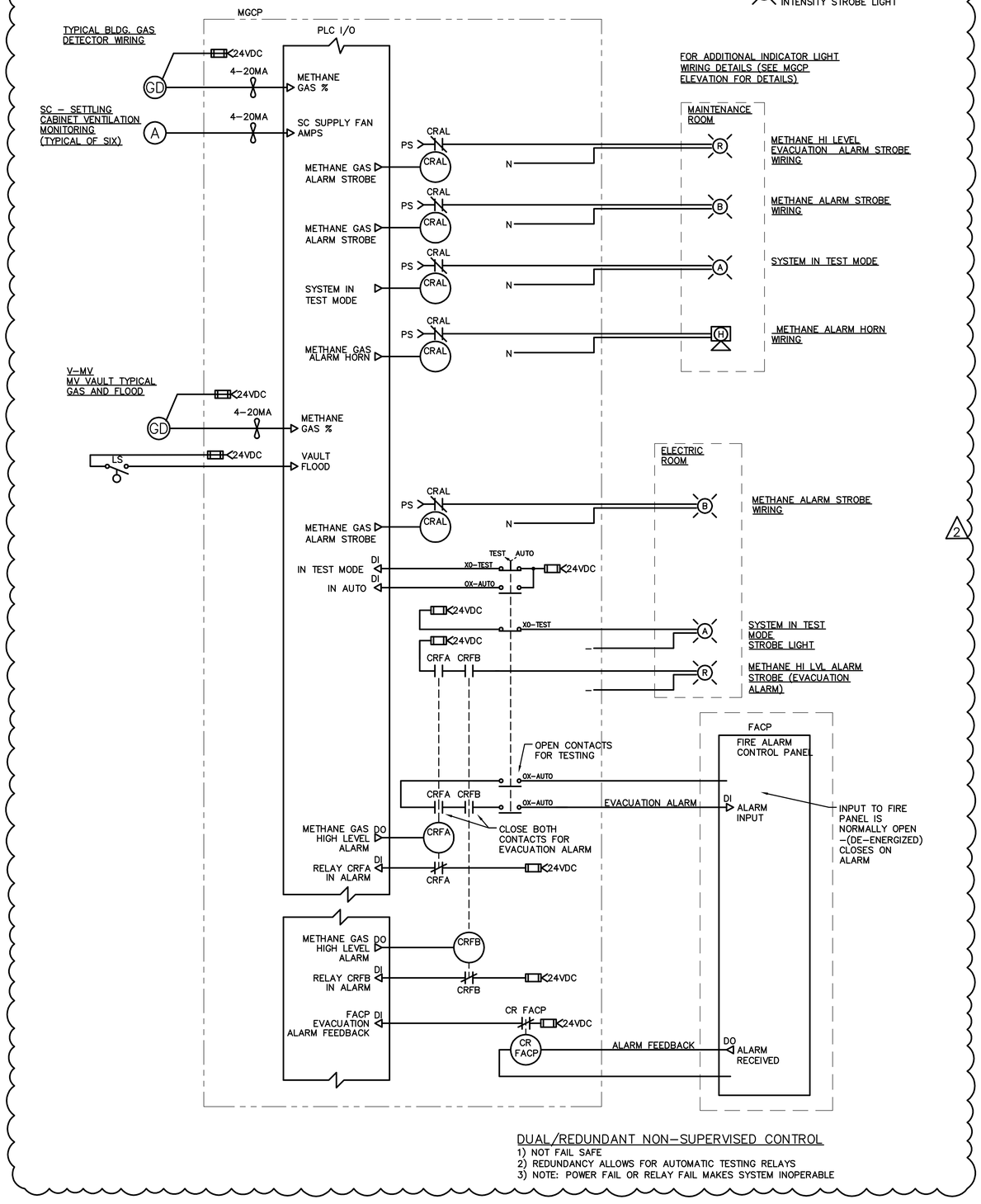
BLDG. D

GAS MONITORING & ALARMING

GD METHANE GAS DETECTOR WITH 4–20mA OUTPUT

(H) METHANE ALARM HORN/STROBE

(B) METHANE ALARM STROBE HIGH INTENSITY STROBE LIGHT



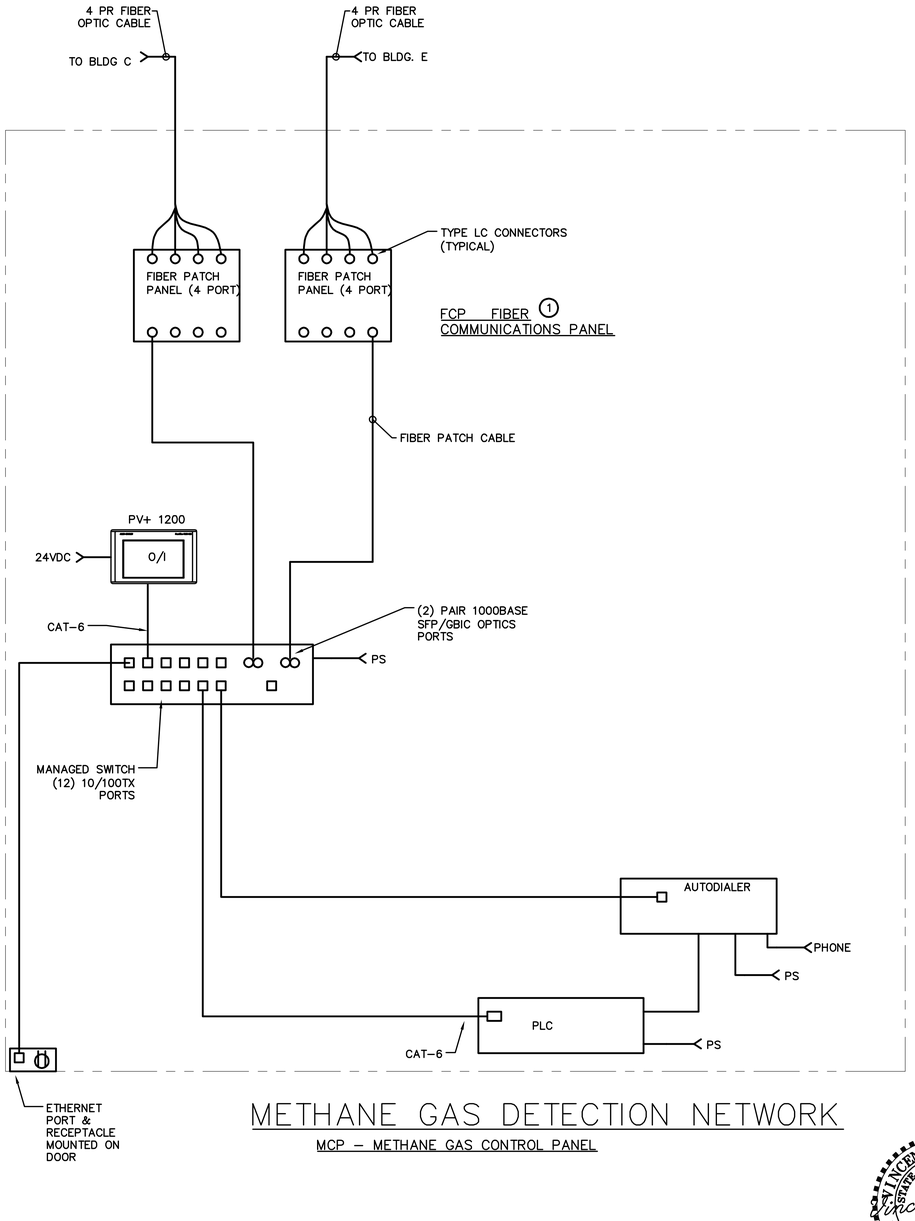
DUAL/REDUNDANT NON–SUPERVISED CONTROL

1) NOT FAIL SAFE
2) REDUNDANCY ALLOWS FOR AUTOMATIC TESTING RELAYS
3) NOTE: POWER FAIL OR RELAY FAIL MAKES SYSTEM INOPERABLE

#14 CONTROL WIRE

4–20MA #16 TSP

FUTURE OR EXISTING



METHANE GAS DETECTION NETWORK

MCP – METHANE GAS CONTROL PANEL

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FOLLETT ENGINEERING
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BUILDING PERMIT SET
05/31/2022

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	11/03/22	PERMIT CORRECTIONS 01
2	07/12/24	PERMIT CORRECTIONS 02

PHASE-BUILDING

2-D

TITLE

WIRE DIAGRAM 2 (MCP)

PERMIT #	
DRAWN	VF/MP
CHECKED	VF
ISSUE DATE	8/03/2023
JOB NO.	1905D
SHEET NO.:	EFD5

VINCENT M. FOLLETT — STATE OF WASHINGTON — 28947 — REGISTERED PROFESSIONAL ENGINEER

7/12/2024

BLDG. D

VENTILATION MONITORING & CONTROL

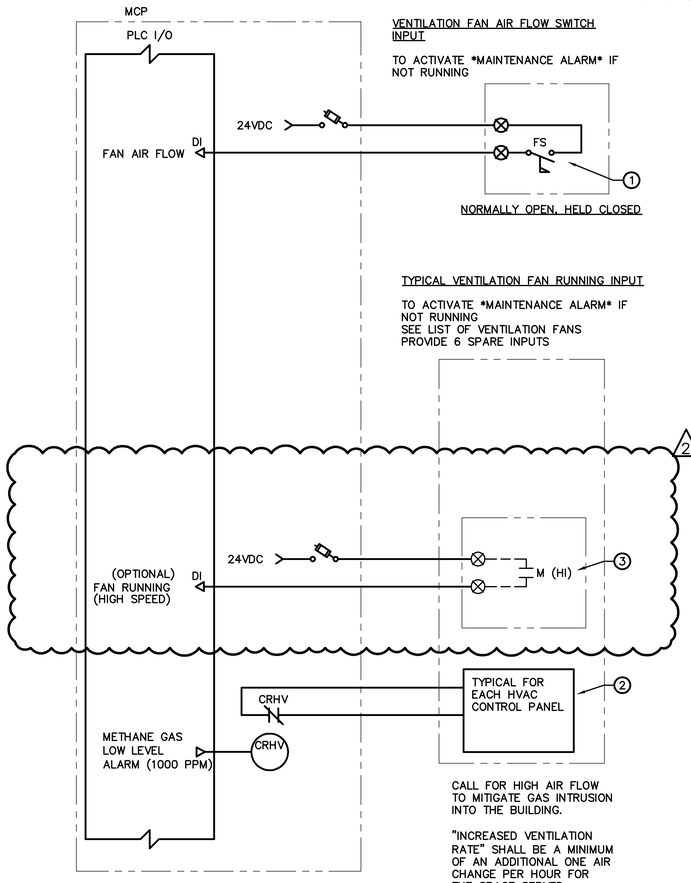
DESIGN CRITERIA

1. THE MINIMUM CONTINUOUS AIR FLOW FOR THE FIRST LEVEL VENTILATION SHALL BE 1 ACH (AIR CHANGE PER HOUR).
2. UPON DETECTION OF GAS FROM ANY DETECTOR IN THE VENTILATION EQUIPMENT ZONE, THE VENTILATION WILL BE INCREASED BY A MINIMUM OF 1 ACH.
3. THE AIR FLOW SWITCH SHALL CONTINUOUSLY MONITOR FOR AIR FLOW AT THE LOWER AIR FLOW RATE. UPON LOSS OF AIR FLOW DETECTION, A MAINTENANCE ALARM SHALL BE GENERATED BY THE MCP.

#14 CONTROL WIRE
4–20MA — #16 TSP
FUTURE OR EXISTING

KEY NOTES:

1. AIR FLOW SWITCHES SHALL BE AMERITROL, INC FX SERIES.
2. COORDINATE VENTILATION FAN AND ERV CONTROLS FOR HIGH SPEED INPUT (FOR INCREASED AIR FLOW) FROM THE CONTROL PANEL AND DRY CONTACT FOR RUNNING FEEDBACK.
3. COORDINATE RUN CONTACT FEEDBACK "DRY CONTACT" FOR HI SPEED FEEDBACK TO THE PLC. (INPUT NOT REQUIRED, PROVIDE ONLY IF AVAILABLE FROM MFR.)



VENTILATION EQUIPMENT CONNECTED TO METHANE DETECTION & STANDBY POWER

ROOM	ROOM NO.	MECHANICAL UNIT(S)	AREA, SF (4)	FLOOR-TO-CEILING HEIGHT, FT	1 ACH EQUIVALENT CFM (2)	2 ACH EQUIVALENT CFM (2)	CONTINUOUS OSA CFM PROVIDED	ALARM OSA CFM PROVIDED (2)	ALARM CHANGE IN ACH (OSA)	CONTINUOUS EXH CFM PROVIDED	ALARM EXH CFM PROVIDED (2)	ALARM CHANGE IN ACH (EXH)
LOBBY	101	ERV-1-1 (840 CFM CONTINUOUS) (1680 CFM ALARM)	1,171	18.5	361	722	370	740	1.0	370	740	1.0
LEASING	102		272	18.5	84	168	85	170	1.0	85	170	1.0
BIKE STORAGE	103		692	18.5	213	427	220	440	1.0	220	440	1.0
PARCEL LOCKERS	105		121	18.5	37	75	40	80	1.1	40	80	1.1
LOUNGE/MAIL	104		394	18.5	121	243	125	250	1.0	125	250	1.0
PARCEL STORAGE	106	ERV-1-2 (1400 CFM CONTINUOUS) (2800 CFM ALARM)	227	18.5	70	140	75	150	1.1	75	150	1.1
MOVE-IN	107		272	18.5	84	168	85	170	1.0	85	170	1.0
DOG WASH	108		71	18.5	22	44	95	170	3.4	85	170	3.9
MPOE	122		149	18.5	46	92	50	100	1.1	50	100	1.1
FIRE SPRINKLER	123		154	18.5	47	95	50	100	1.1	50	100	1.1
RESTROOM	124		52	18.5	16	32	65	130	4.1	65	130	4.1
RESTROOM	126		52	18.5	16	32	65	130	4.1	65	130	4.1
GENERATOR	118		341	18.5	105	210	110	220	1.0	110	220	1.0
ELECTRICAL	119		668	18.5	206	412	210	420	1.0	225	450	1.1
WATER SERVICE	121		525	18.5	162	324	165	330	1.0	165	330	1.0
TRASH HOLDING	127		45	18.5	14	28	65	130	4.7	75	150	5.4
CORRIDOR	128		1,016	18.5	313	627	320	640	1.0	350	700	1.1
TRANSFORMER	120	SF-7-2 [VENTILATION, T<70°] 170 CFM CONTINUOUS 340 CFM ALARM	536	18.5	165	331	170	340	1.0	170	340	1.0
MAINTENANCE	117	SF-1-6 (55 CFM CONTINUOUS) (110 CFM ALARM)	163	18.5	50	101	55	110	1.1	55	110	1.1
EXIT PASSAGEWAY	129	SF-1-2 (70 CFM CONTINUOUS) (140 CFM ALARM)	220	18.5	68	136	70	140	1.0	70	140	1.0
COMMERCIAL FLEX	109	ERV-1-3 (1050 CFM CONTINUOUS) (2100 CFM ALARM) ERV-1-4 (1050 CFM CONTINUOUS) (2100 CFM ALARM)	6,733	18.5	2076	4152	2100	4200	1.0	2100	4200	1.0
COMMERCIAL FLEX	130	ERV-1-5 (1450 CFM CONTINUOUS) (2900 CFM ALARM) ERV-1-6 (1450 CFM CONTINUOUS) (2900 CFM ALARM)	9,849	17.0	2791	5581	2900	5800	1.0	2900	5800	1.0
CORRIDOR	132	SF-1-5 (90 CFM CONTINUOUS) (180 CFM ALARM)	296	17.0	84	168	90	180	1.1	90	180	1.1
EXIT PASSAGEWAY	133	SF-1-3 (55 CFM CONTINUOUS) (110 CFM ALARM)	188	17.0	53	107	55	110	1.0	55	110	1.0
L1 TRASH	131	EF-7-1 (1850 CFM CONTINUOUS **[850 TO THIS ROOM]**) (1850 CFM ALARM **[850 TO THIS ROOM]**) & SF-1-4 [L1 ONLY] (850 CFM CONTINUOUS) (1050 CFM ALARM) & EF-1-1 [L1 ONLY] (0 CFM CONTINUOUS) (200 CFM ALARM)	658	17.0	186	373	850	1050	1.1	850	1050	1.1
LAST UPDATED: ########						**TOTAL:**	**8485**			**8530**		

NOTES: (1) VENTILATION RATES CALCULATED PER TABLE 403.3.1.1 AND ZONE AIR DISTRIBUTION EFFECTIVENESS FROM TABLE 403.3.1.1.1.2 IN THE 2018 WSMC.
IN ADDITION TO CODE MINIMUM VENTILATION, LEVEL 1 SPACES REQUIRE 1 ACH CONTINUOUS VENTILATION FOR METHANE CONTROL. UPON METHANE DETECTION EXCEEDING 1,000 PPM INSIDE THE BUILDING, VENTILATION INCREASES
(2) TO 2 ACH. METHANE DETECTION SYSTEM DESIGNED BY METHANE ENGINEER.

ACTIVATE HI SPEED AIR FLOW UPON GAS DETECTION IN THE AREA SERVED GREATER THAN 1000 PPM

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BUILDING PERMIT SET
05/31/2022

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	11/03/22	PERMIT CORRECTIONS 01
2	07/12/24	PERMIT CORRECTIONS 02

PHASE-BUILDING
2-D

TITLE
WIRE DIAGRAM 3 (MCP)

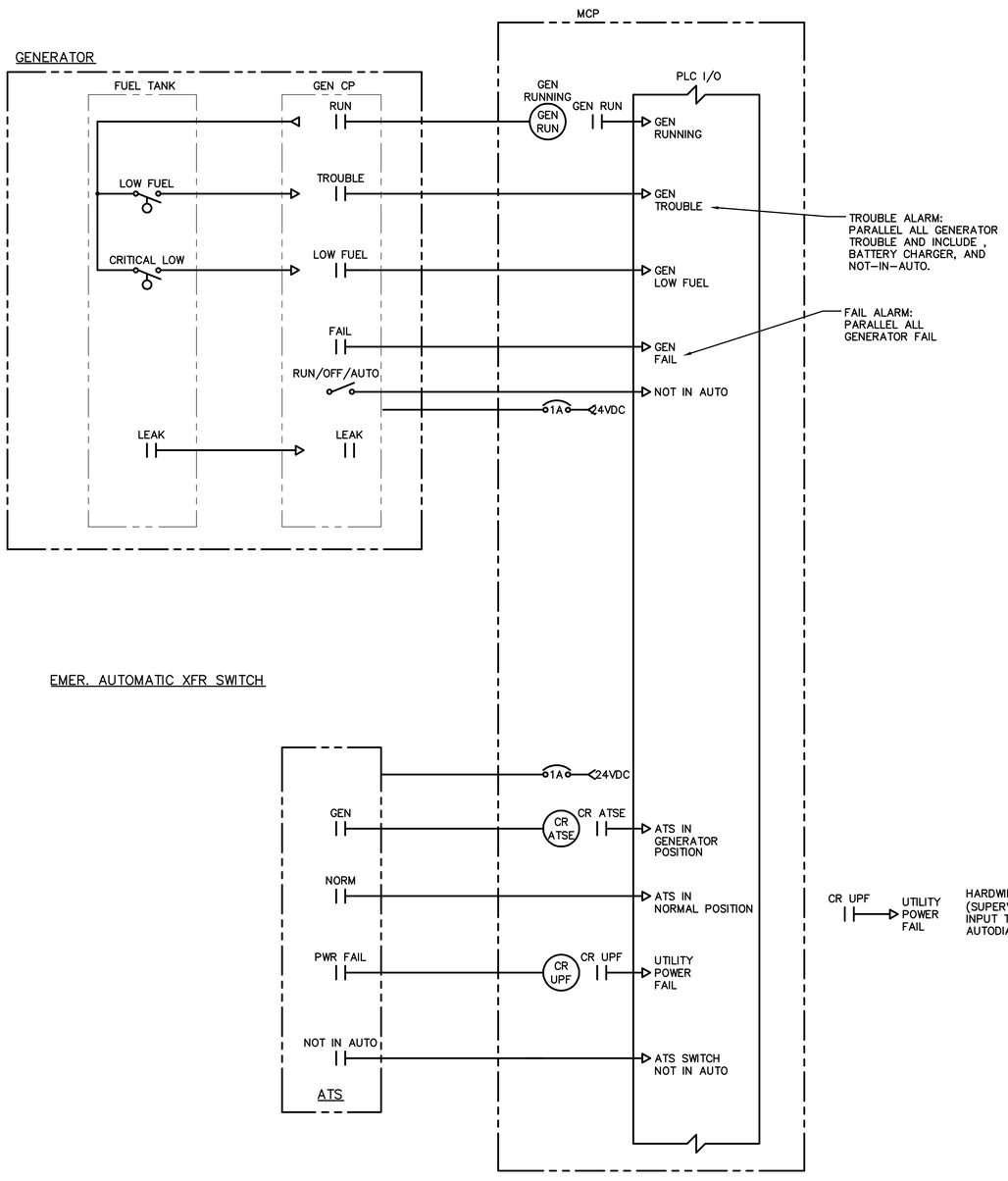
PERMIT #
DRAWN VF/MP
CHECKED VF
ISSUE DATE 8/03/2023
JOB NO. 1905D
SHEET NO.:
EFD6

VINCENT M. FOLLETT — STATE OF WASHINGTON — 28947 — REGISTERED PROFESSIONAL ENGINEER
7/12/2024

BLDG. D

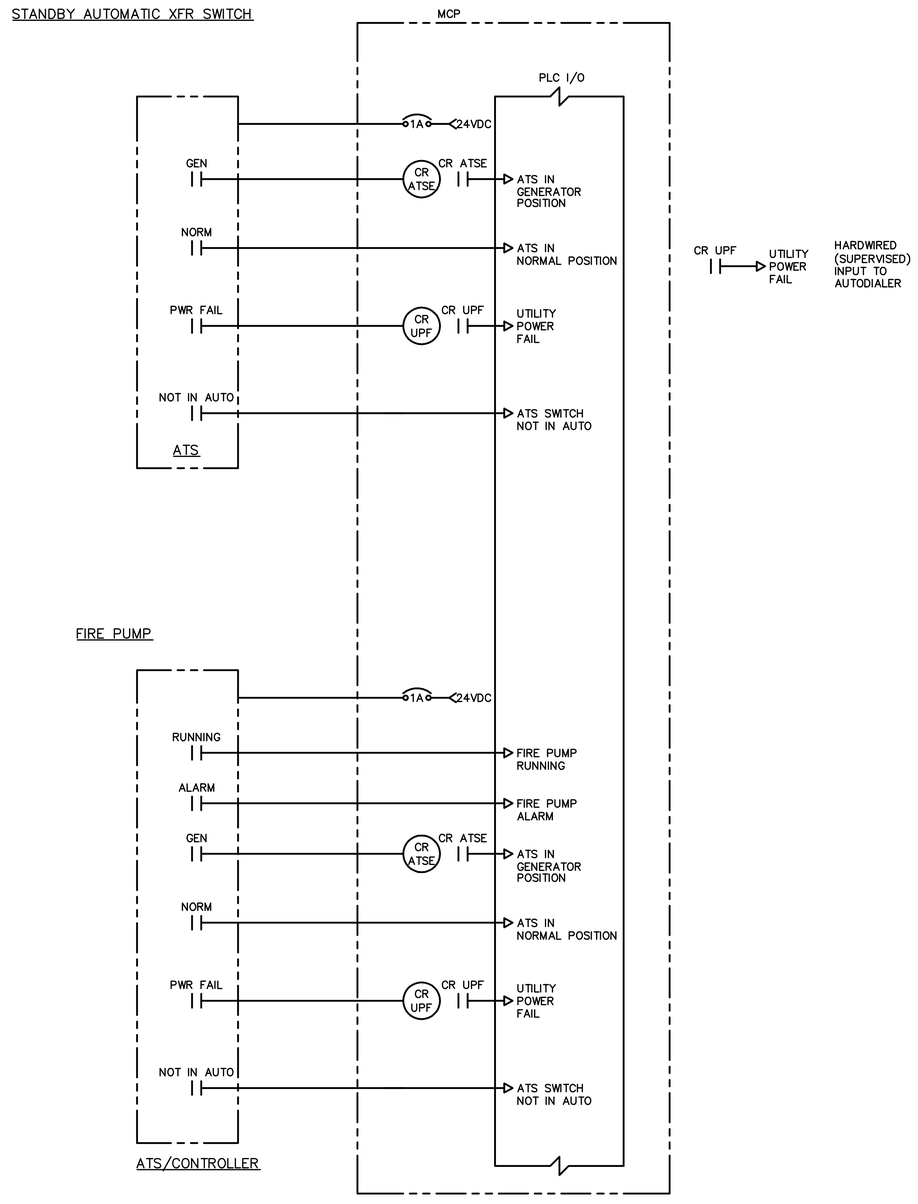
#14 CONTROL WIRE
4–20MA — #16 TSP
FUTURE OR EXISTING

EMERGENCY GENERATOR



EMER. AUTOMATIC XFR SWITCH

STANDBY AUTOMATIC XFR SWITCH



FIRE PUMP

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05/31/2022

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	11/03/22	PERMIT CORRECTIONS 01
2	07/12/24	PERMIT CORRECTIONS 02

PHASE-BUILDING
2-D

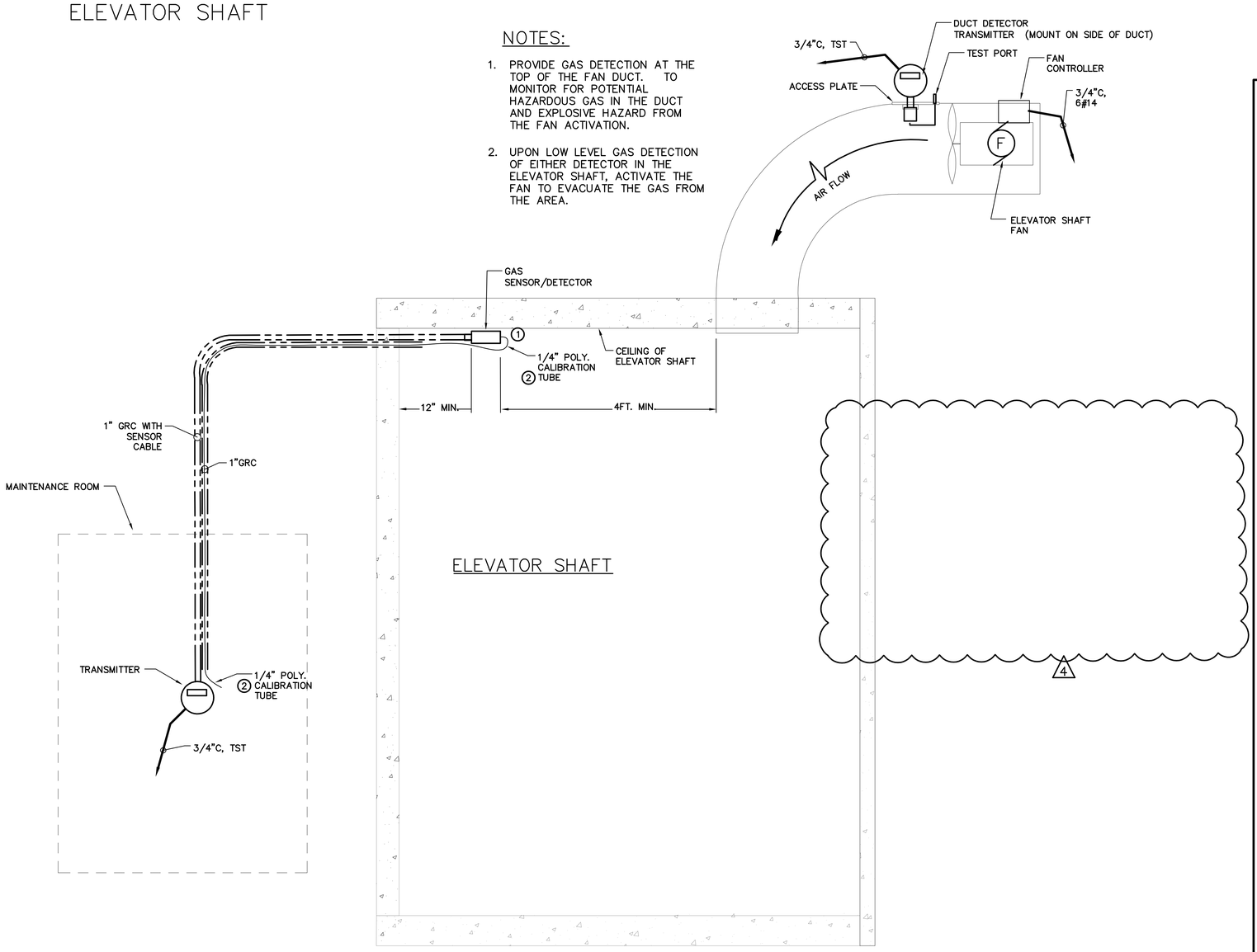
TITLE
WIRE DIAGRAM 4 (MCP)

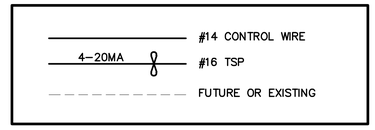
PERMIT #	
DRAWN	VF/MP
CHECKED	VF
ISSUE DATE	8/03/2023
JOB NO.	1905D
SHEET NO.:	EFD7A

VINCENT M. FOLLETT — STATE OF WASHINGTON — 28947 — REGISTERED PROFESSIONAL ENGINEER
7/12/2024

BLDG. D

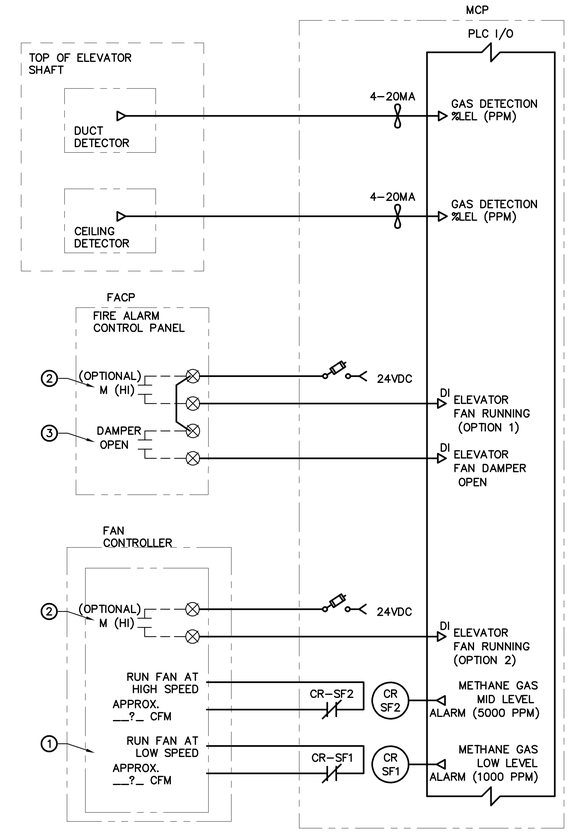
ELEVATOR SHAFT





KEY NOTES:

1. COORDINATE VENTILATION FAN CONTROLS FOR SEPARATE LOW & HIGH SPEED INPUTS
2. COORDINATE RUN CONTACT FEEDBACK "DRY CONTACT" FOR FAN RUNNING FEEDBACK TO THE PLC. (PROVIDE DIRECTLY FROM FAN CONTROLLER IF AVAILABLE, IF NOT PROVIDE FROM FACP)
3. FAN RUNNING AND DAMPER OPEN SIGNALS MAY BE COMBINED IF NECESSARY TO ONE INPUT



TYPICAL ELEVATOR SHAFT FAN

ACTIVATE ALL ELEVATOR SHAFT FANS ON LOW LEVEL METHANE DETECTION (1,000 PPM) FROM ANY DETECTOR IN THE BUILDING.

ACTIVATE HIGH SPEED AT A MID LEVEL DETECTION (5,000 PPM) – FROM A ELEVATOR SHAFT DETECTOR FOR THE ASSOCIATED FAN IN THAT ELEVATOR SHAFT ONLY.

BLDG D –ELEVATOR SHAFT DETECTORS

3/23/2026

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BUILDING PERMIT SET
03/14/2026

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	11/03/22	PERMIT CORRECTIONS 01
2	07/12/24	PERMIT CORRECTIONS 02
4	03/14/26	PERMIT CORRECTIONS 04

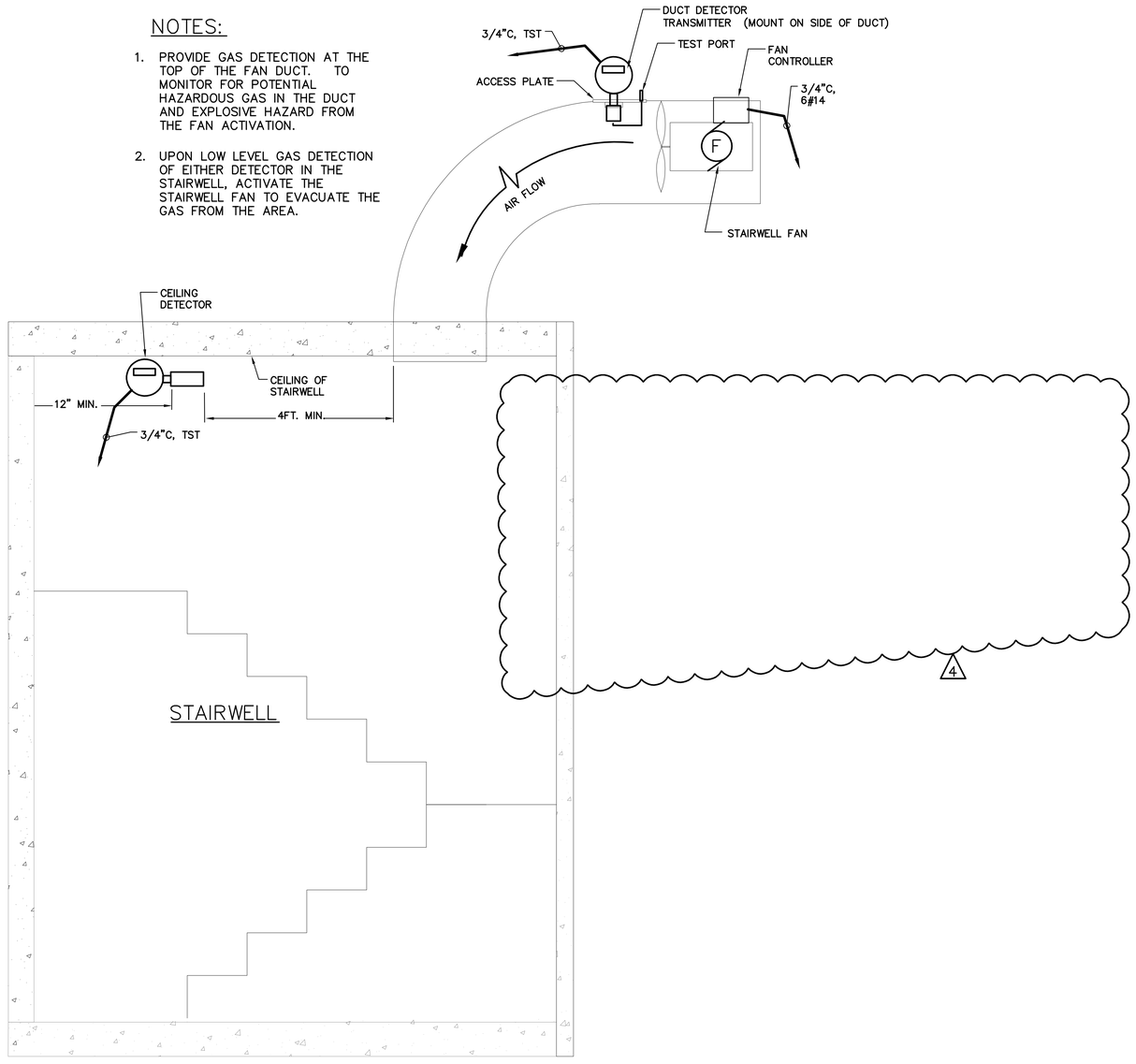
PHASE-BUILDING
2-D

TITLE
WIRE DIAGRAM 4 (MCP)

PERMIT #	
DRAWN	VF/MP
CHECKED	VF
ISSUE DATE	3/14/2026
JOB NO.	1905D
SHEET NO.:	EFD7B

BLDG. D

STAIRWELLS

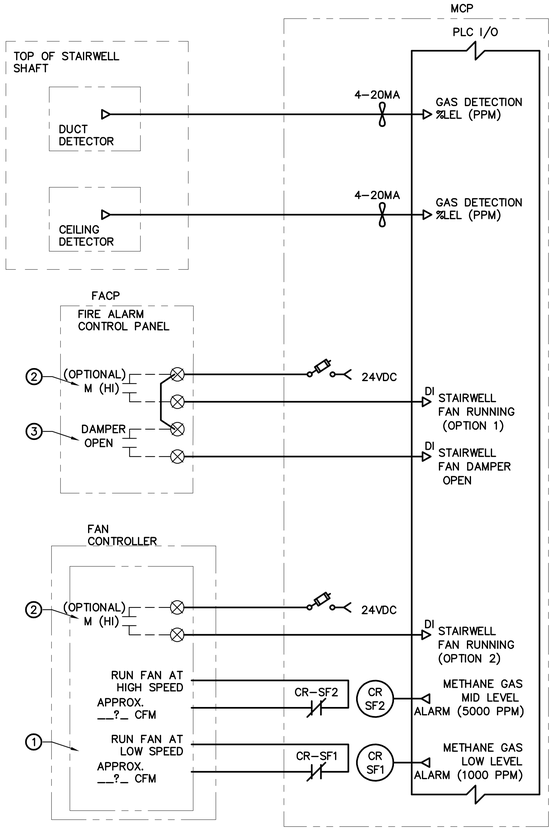


BLDG D – STAIRWELL DETECTORS

#14 CONTROL WIRE
4–20MA #16 TSP
FUTURE OR EXISTING

KEY NOTES:

1. COORDINATE VENTILATION FAN CONTROLS FOR SEPARATE LOW & HIGH SPEED INPUTS
2. COORDINATE RUN CONTACT FEEDBACK "DRY CONTACT" FOR FAN RUNNING FEEDBACK TO THE PLC. (PROVIDE DIRECTLY FROM FAN CONTROLLER IF AVAILABLE, IF NOT PROVIDE FROM FACP)
3. FAN RUNNING AND DAMPER OPEN SIGNALS MAY BE COMBINED IF NECESSARY TO ONE INPUT



TYPICAL STAIRWELL FAN CONTROL

ACTIVATE ALL STAIRWELL FANS ON LOW LEVEL METHANE DETECTION (1,000 PPM) FROM ANY DETECTOR IN THE BUILDING.

ACTIVATE MID SPEED AT A MID LEVEL DETECTION (5,000 PPM) – FROM A STAIRWELL DETECTOR FOR THE ASSOCIATED FAN IN THAT STAIRWELL ONLY.

ACTIVATE HIGH SPEED FOR A HIGH LEVEL METHANE DETECTION (10,000 PPM) THRU THE FIRE ALARM PANEL FOR BUILDING EVACUATION.

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3/23/2026

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BUILDING PERMIT SET
03/14/2026

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	11/03/22	PERMIT CORRECTIONS 01
2	07/12/24	PERMIT CORRECTIONS 02
4	03/14/26	PERMIT CORRECTIONS 04

PHASE-BUILDING
2-D

TITLE
WIRE DIAGRAM 4 (MCP)

PERMIT #	
DRAWN	VF/MP
CHECKED	VF
ISSUE DATE	3/14/2026
JOB NO.	1905D
SHEET NO.:	EFD7C

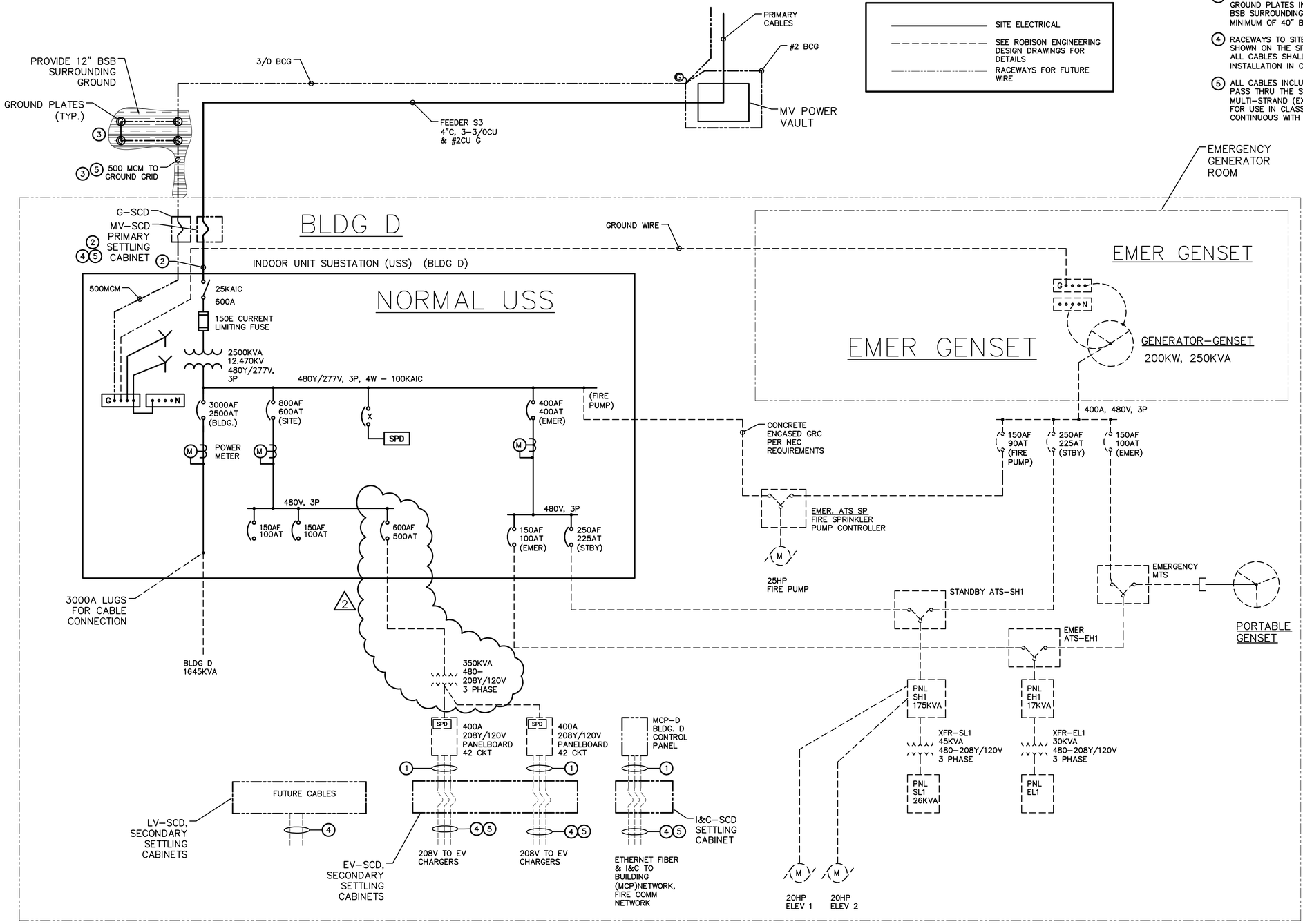
GENERAL NOTES:

1. ALL MAIN LINE UNDERGROUND RACEWAYS SHALL BE HDPE, EITHER PHYSICALLY SEPARATED FROM THE CLASS 1, DIV 2 (LANDFILL) WITH A 3' LAYER OF LPSB, OR LINER WRAPPED.
2. RACEWAYS UNDER THE BUILDING INCLUDING SWEEPS AND RISERS INTO THE SETTLING CABINETS SHALL BE PGRC.
3. RACEWAYS FROM THE LV VAULTS TO SITE LOADS SHALL BE LFMC

SITE ELECTRICAL
SEE ROBISON ENGINEERING DESIGN DRAWINGS FOR DETAILS
RACEWAYS FOR FUTURE WIRE

KEY NOTES:

1. PROVIDE CABLE TRAYS FROM PANELS TO THE SECONDARY SETTLING CABINET – PROVIDE LV/SECONDARY SETTLING CABINET FOR FUTURE CABLES. EV SETTLING CABINET FOR EV CHARGING STATION CABLES.
2. PROVIDE PRIMARY (MV) SETTLING CABINET AND RACEWAYS TO THE USS AND PRIMARY CABLES & GROUND WIRE TO THE PRIMARY DISCONNECT.
3. PLATES A MINIMUM OF 10' APART. 2X2 FT. COPPER GROUND PLATES INSTALLED IN THE LPSB LAYER WITH 12" BSB SURROUNDING THE PLATES AND GROUND WIRE, MINIMUM OF 40" BELOW GRADE
4. RACEWAYS TO SITE VAULTS – PROVIDE RACEWAYS AS SHOWN ON THE SITE PLAN FOR FUTURE WIRE BY OTHERS ALL CABLES SHALL BE TYPE TC AND RATED FOR INSTALLATION IN C1/D2 HAZARDOUS AREAS.
5. ALL CABLES INCLUDING THE GROUND CONDUCTOR THAT PASS THRU THE SETTLING CABINETS SHALL BE MULTI–STRAND (EXTRA FLEXIBLE) TRAY CABLES SUITABLE FOR USE IN CLASS 1, DIV 2 AREAS. CABLES SHALL BE CONTINUOUS WITH NO SPLICES.



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BUILDING PERMIT SET
05/31/2022

REVISIONS / NOTES

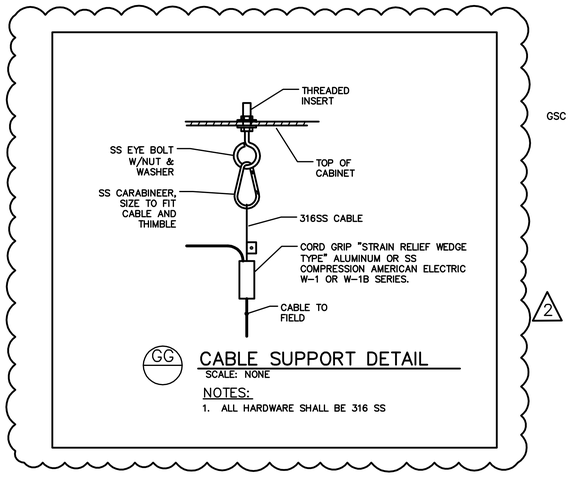
NO	DATE	DESCRIPTION
1	11/03/22	PERMIT CORRECTIONS 01
2	07/12/24	PERMIT CORRECTIONS 02

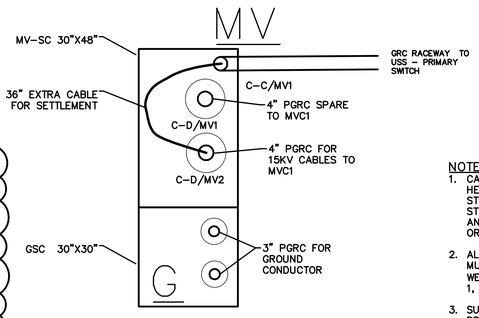
PHASE-BUILDING
2-D

TITLE
ONELINE DIAGRAM BLDG D. USS

PERMIT #	
DRAWN	VF/MP
CHECKED	VF
ISSUE DATE	8/03/2023
JOB NO.	1905D
SHEET NO.:	EFD8

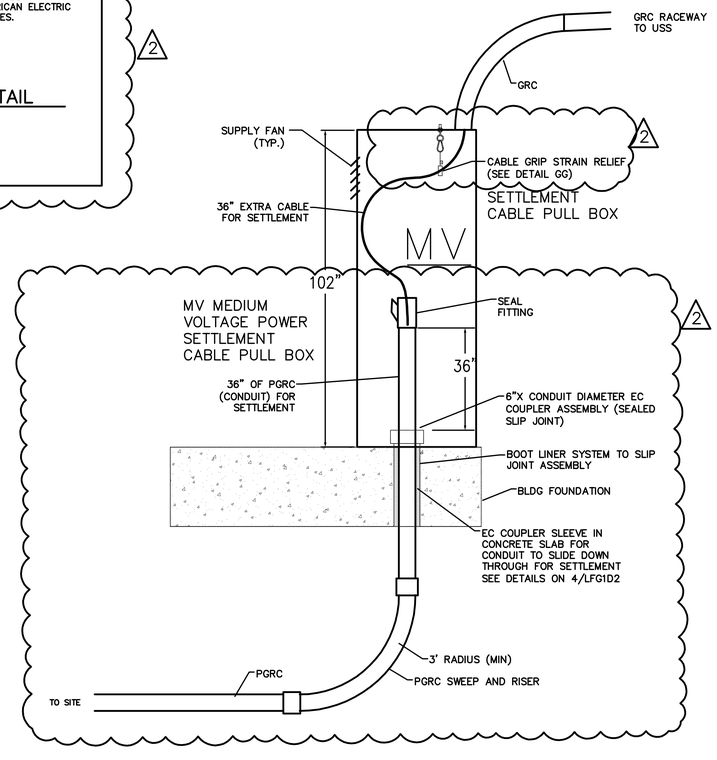
VINCENT M. FOLLETT STATE OF WASHINGTON 28947 REGISTERED PROFESSIONAL ENGINEER
7/12/2024





PLAN VIEW
SETTLEMENT CABLE PULL BOX

NOTES:
1. CABINET SHALL BE NEMA 12 WITH FULL HEIGHT AND WIDTH DOORS, LOCAKABLE STAINLESS STEEL 3 POINT LATCH AND STAINLESS STEEL HINGES. PROVIDE VENTS AND SUPPLY FAN AS SHOWN. HOFFMAN OR EQUAL
2. ALL LV CABLES SHALL BE MULTI-CONDUCTOR TRAY CABLE, 600V, 90C WET/DRY, AND LISTED FOR USE IN CLASS 1, DIV 2 HAZARDOUS ENVIRONMENTS.
3. SUPPLY FAN SHALL BE CAPABLE OF PROVIDING A MINIMUM OF 50 CFM, AND SHALL BE MONITORED WITH 4-20MA AMP METER AND ALARMED FOR FAILURE.

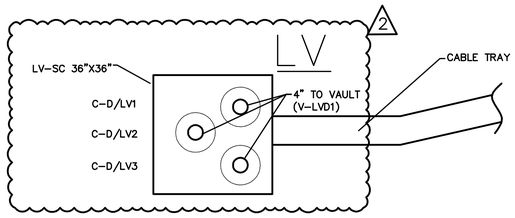


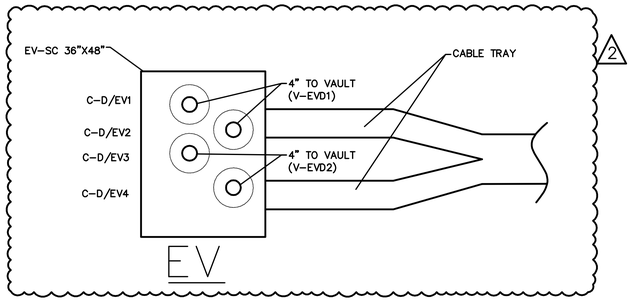
ELEVATION VIEW

PRIMARY SETTLING CABINET
MV/PRIMARY CABLES (12.47KV)

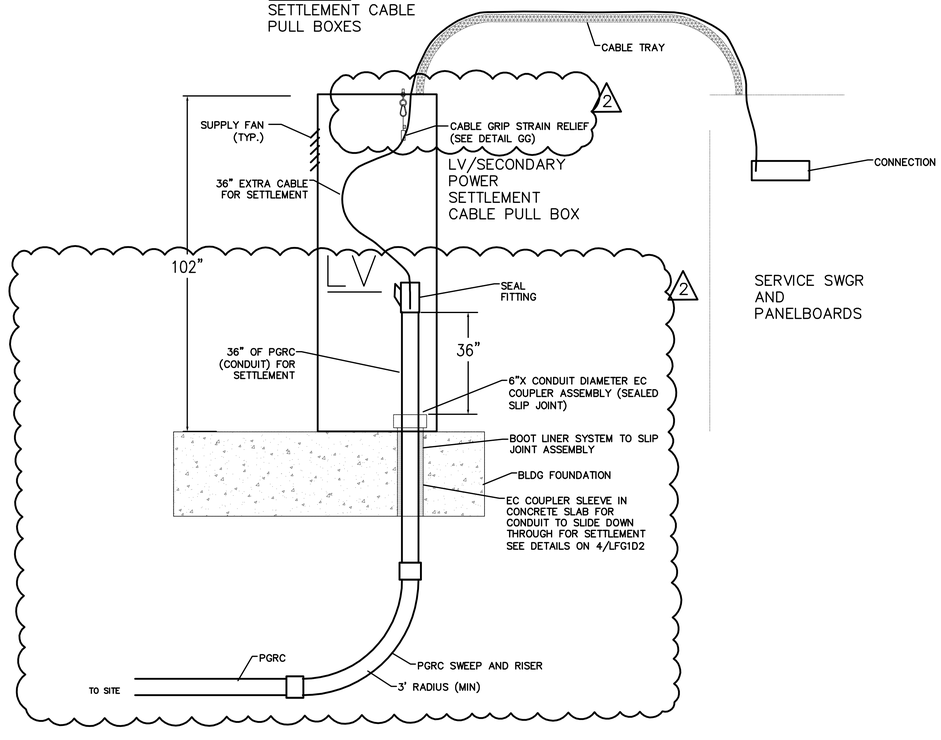
MV-SCD & G-SCD

SETTLEMENT CABLE PULL BOX





PLAN VIEW -
SETTLEMENT CABLE PULL BOXES



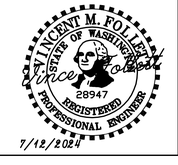
SERVICE SWGR AND PANELBOARDS

ELEVATION VIEW

LOW VOLTAGE (LV) SETTLING CABINET
LV/SECONDARY CABLES (480, 277, 208, 120V)

LV-SCD & EV-SCD

SETTLEMENT CABLE PULL BOX



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BUILDING PERMIT SET
05/31/2022

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	11/03/22	PERMIT CORRECTIONS 01
2	07/12/24	PERMIT CORRECTIONS 02

PHASE-BUILDING

2-D

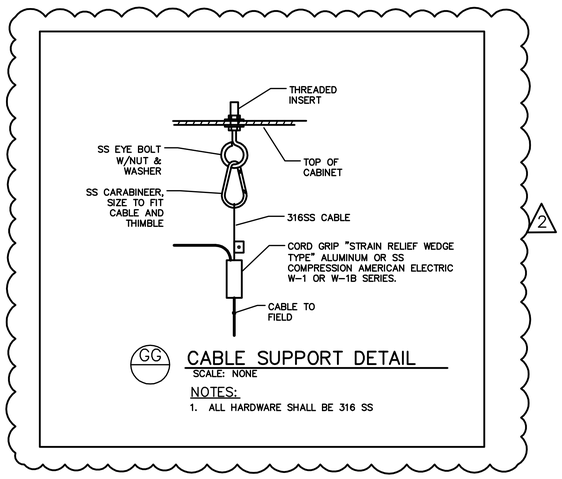
TITLE

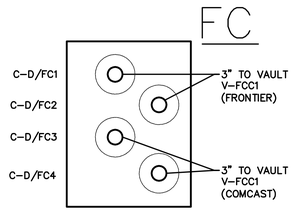
SETTLING CABINETS DETAILS 1 (MV-LV)

PERMIT #	
DRAWN	VF/MP
CHECKED	VF
ISSUE DATE	8/03/2023
JOB NO.	1905D

SHEET NO.:

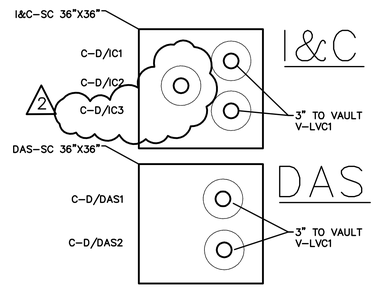
EFD9



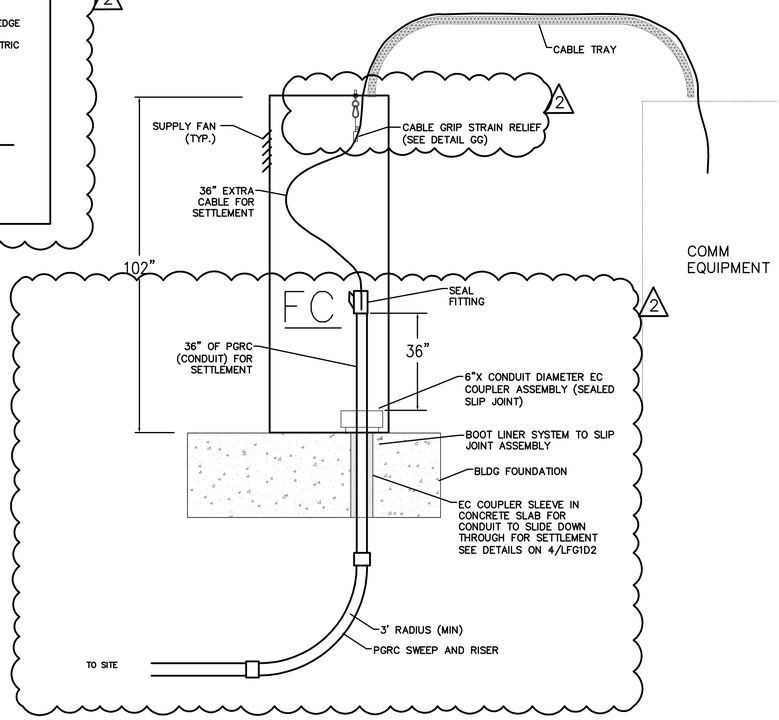


PLAN VIEW –
SETTLEMENT CABLE
PULL BOX
3'X4'

NOTES:
1. CABINET SHALL BE NEMA 12 WITH FULL HEIGHT AND WIDTH DOORS, LOCAKABLE STAINLESS STEEL 3 POINT LATCH AND STAINLESS STEEL HINGES. PROVIDE VENTS AND SUPPLY FAN AS SHOWN. HOFFMAN OR EQUAL
2. ALL LV CABLES SHALL BE MULTI-CONDUCTOR TRAY CABLE, 600V, 90C WET/DRY, AND LISTED FOR USE IN CLASS 1, DIV 2 HAZARDOUS ENVIRONMENTS.
3. SUPPLY FAN SHALL BE CAPABLE OF PROVIDING A MINIMUM OF 50 CFM, AND SHALL BE MONITORED WITH 4-20MA AMP METER AND ALARMED FOR FAILURE.



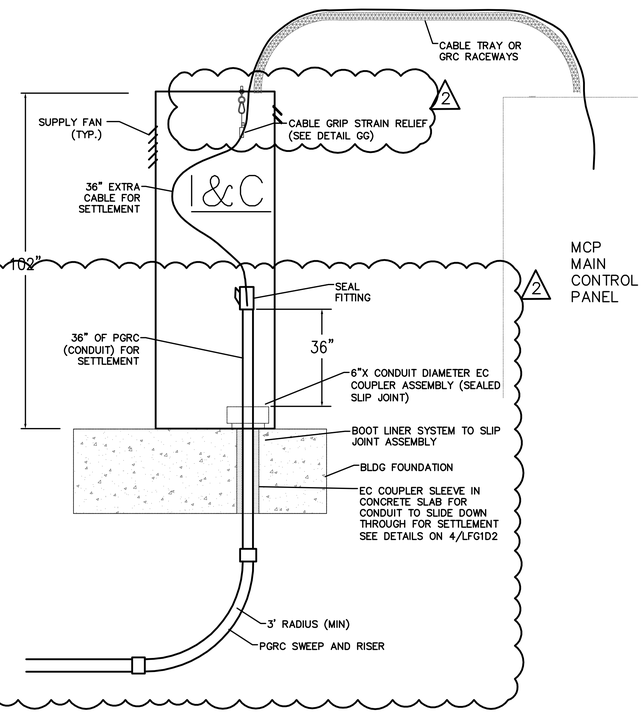
PLAN VIEW –
SETTLEMENT CABLE
PULL BOX



ELEVATION VIEW
FRONTIER & COMCAST COMMUNICATIONS

FC–SCD

SETTLEMENT CABLE PULL BOX



ELEVATION VIEW
I&C (FIBER COMM, 24VDC, CONTROL)

I&C–SCD DAS–SCD

SETTLEMENT CABLE PULL BOX

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Shelter HOLDINGS

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FOLLETT ENGINEERING
ELECTRICAL ENGINEERING & CONSULTING
SEATTLE, WA 425-765-6304

BUILDING PERMIT SET
05/31/2022

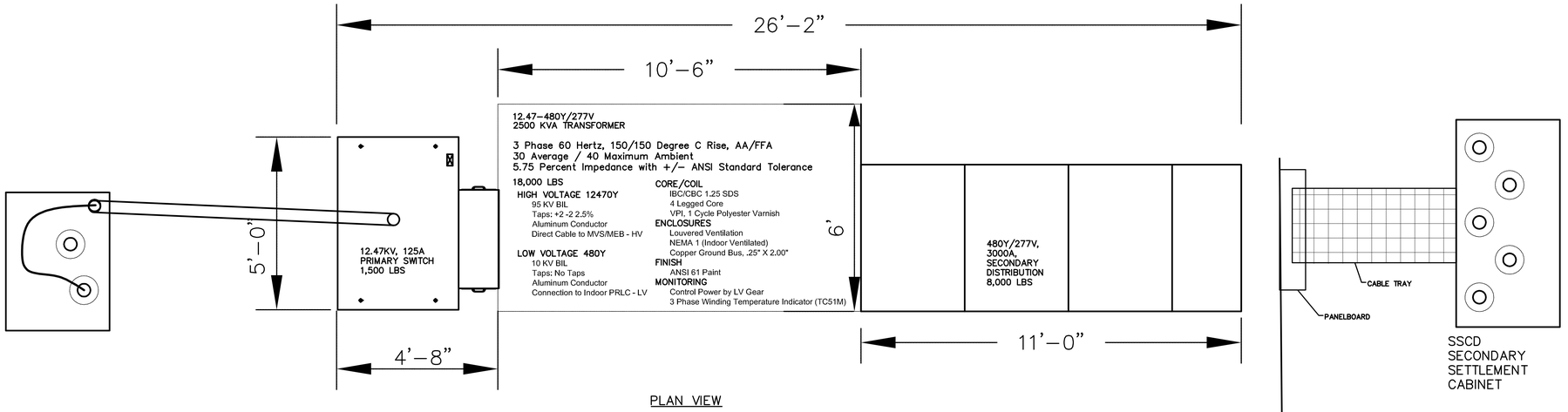
REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	11/03/22	PERMIT CORRECTIONS 01
2	07/12/24	PERMIT CORRECTIONS 02

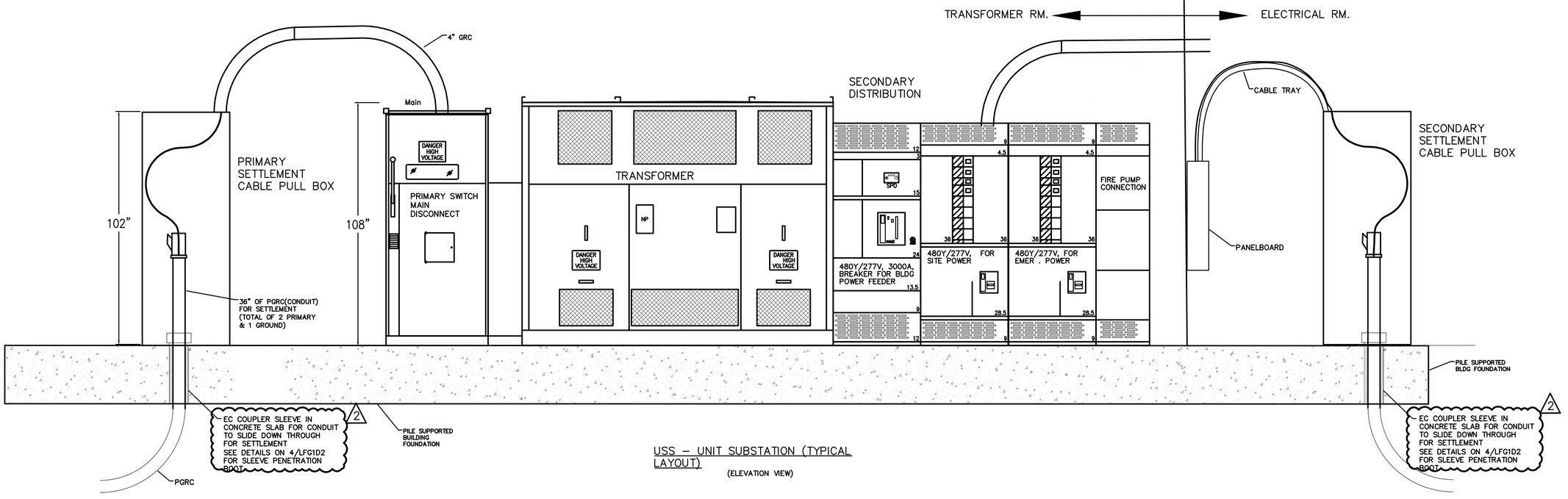
PHASE-BUILDING
2-D

TITLE
SETTLEMENT CABINETS DETAILS 2 (FC-IC-DAS)

PERMIT #	
DRAWN	VF/MP
CHECKED	VF
ISSUE DATE	8/03/2023
JOB NO.	1905D
SHEET NO.:	EFD10



PLAN VIEW



USS – UNIT SUBSTATION (TYPICAL LAYOUT)

(ELEVATION VIEW)

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BUILDING PERMIT SET
05/31/2022

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	11/03/22	PERMIT CORRECTIONS 01
2	07/12/24	PERMIT CORRECTIONS 02

PHASE-BUILDING

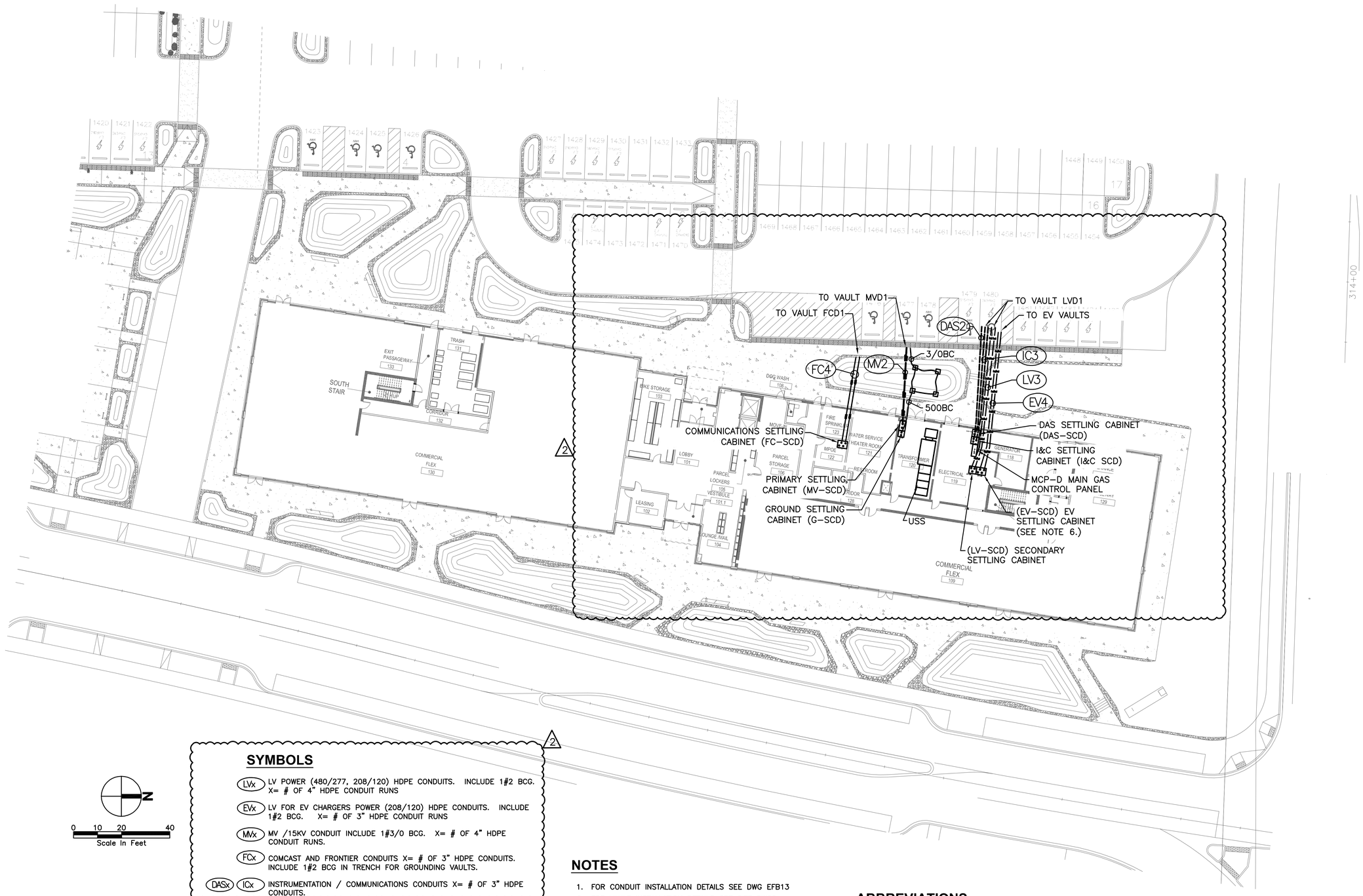
2-D

TITLE

BLDG D
UNIT SUB
STATION
(USS)

PERMIT #	
DRAWN	VF/MP
CHECKED	VF
ISSUE DATE	8/03/2023
JOB NO.	1905D
SHEET NO.:	EFD11

VINCENT M. FOLLETT
STATE OF WASHINGTON
28947
REGISTERED
PROFESSIONAL ENGINEER
7/12/2024



0 10 20 40
Scale In Feet

SYMBOLS

- (LVx) LV POWER (480/277, 208/120) HDPE CONDUITS. INCLUDE 1#2 BCG. X= # OF 4" HDPE CONDUIT RUNS
- (EVx) LV FOR EV CHARGERS POWER (208/120) HDPE CONDUITS. INCLUDE 1#2 BCG. X= # OF 3" HDPE CONDUIT RUNS
- (MVx) MV /15KV CONDUIT INCLUDE 1#3/0 BCG. X= # OF 4" HDPE CONDUIT RUNS.
- (FCx) COMCAST AND FRONTIER CONDUITS X= # OF 3" HDPE CONDUITS. INCLUDE 1#2 BCG IN TRENCH FOR GROUNDING VAULTS.
- (DASx) (ICx) INSTRUMENTATION / COMMUNICATIONS CONDUITS X= # OF 3" HDPE CONDUITS.
- (LFMx) LFMC RACEWAYS TO SITE EQUIPMENT X= # OF 2" LFMC CONDUITS
- MV 12.47KV (MV (12.47KV POWER) VAULT WITH WATERTIGHT LID, AND RACKS FOR MV
- LV LOW VOLTAGE (LV) POWER VAULT 6X8X7 (277/480, 120/208) WITH SEPARATE CABLE RACKS FOR LV CABLES AND COMMS.
- FC COMBINED (FRONTIER / COMCAST) VAULT, WATERTIGHT LID, WITH SEPARATE RACKS FOR EACH.
- EV EV VAULT, WATERTIGHT LID, WITH CABLE RACKS
- EV CHARGING STATION CONNECTION IN GROUND BOX DUAL CHARGING STATION – (CHARGEPOINT CT4000 LEVEL 2)
- (KO) LFG PUMP STATION KNOCK OUT STATION
- ECP LFG PUMP STATION CONTROL PANEL

NOTES

1. FOR CONDUIT INSTALLATION DETAILS SEE DWG EFB13
2. FOR VAULT INSTALLATION DETAILS SEE SITE DWGS EF9–EF14 & EF30–EF36.
3. MINIMUM BENDING RADIUS FOR ALL RACEWAYS HORIZONTAL BENDS SHALL BE 12FT. MINIMUM FOR VERTICAL BENDS 3', UNLESS PRIOR AGREEMENT WITH THE ENGINEER & OWNER
4. PROVIDE LPSB BACKFILL OR BSB AS REQUIRED IN ALL TRENCHES
5. VAULT DIMENSIONS LISTED ARE THE MINIMUM INTERIOR DIMENSIONS
6. INFRASTRUCTURE FOR A MINIMUM OF 23 DUAL CHARGERS TO SUPPORT A MINIMUM OF 46 CHARGING PARKING SPOTS (STALLS).

ABBREVIATIONS

(F) = FUTURE
(E) = EXISTING
UON = UNLESS OTHERWISE NOTED
MV = MEDIUM VOLTAGE / PRIMARY / 12.47KV
LV = LOW VOLTAGE / SECONDARY / 120, 208, 277, 480V
LFMC = LIQUIDTIGHT FLEXIBLE METALIC CONDUIT (RATED FOR CLASS 1, DIV. 2) (AFC "LIQUID–TUFF")
EVCB = ELECTRIC VEHICLE CONDUIT BOX
BCG = BARE COPPER GROUND (3/0 FOR MAIN TRENCH, #2 FOR BRANCH TRENCH AND LOOPS)

VINCENT M. FOLLETT — STATE OF WASHINGTON — 28947 — REGISTERED PROFESSIONAL ENGINEER
7/12/2024

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BUILDING PERMIT SET
05/31/2022

REVISIONS / NOTES

NO	DATE	DESCRIPTION
1	11/03/22	PERMIT CORRECTIONS 01
2	07/12/24	PERMIT CORRECTIONS 02

PHASE-BUILDING
2-D

TITLE
BLDG. D
SITE PLAN

PERMIT #	
DRAWN	VF/MP
CHECKED	VF
ISSUE DATE	8/03/2023
JOB NO.	1905D
SHEET NO.:	EFD12

GENERAL NOTES

GENERAL

1. PROVIDE ELECTRICAL INSTALLATION IN ACCORDANCE WITH THE N.E.C., THE W.A.C. AND THE NATIONAL ELECTRICAL SAFETY CODE, LOCAL CODES, ORDINANCES AND REQUIREMENTS OF UTILITY COMPANIES FURNISHING SERVICES TO INSTALLATION.
2. PROVIDE ALL WORK AND ITEMS NECESSARY FOR COMPLETE AND FUNCTIONAL ELECTRICAL SYSTEMS. THE ELECTRICAL DRAWINGS ARE DIAGRAMMATIC AND DO NOT NECESSARILY SHOW EVERY CONDUIT, BOX, CONDUCTOR OR SIMILAR ITEMS FOR A COMPLETE INSTALLATION.
3. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO BID AND DETERMINE CONDITIONS WHICH MAY AFFECT BID. ANY ITEMS NOT FULLY UNDERSTOOD SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT PRIOR TO BIDDING.
4. "REF" INDICATIONS DENOTE WORK COVERED ELSEWHERE (ARCHITECTURAL, STRUCTURAL, OR MECHANICAL).
4. REFERENCE ARCHITECTURAL DRAWING FOR EXACT LOCATION OF DEVICES. QUESTIONS CONCERNING THE LOCATION OF DEVICES AND EQUIPMENT SHALL BE DIRECTED TO THE ARCHITECT. FAILURE TO COORDINATE REQUIREMENTS SHALL IN NO WAY RESULT IN ADDITIONAL COMPENSATION BEING PROVIDED TO THE CONTRACTOR.
5. WHEREVER THE WORD "PROVIDE" IS USED, IT MEANS, "FURNISH AND INSTALL COMPLETE AND READY FOR USE."
6. COORDINATE LOCATION OF ELECTRICAL WITH OTHER TRADES.
7. REFER TO EQUIPMENT DRAWINGS FOR MECHANICAL CHARACTERISTICS (SIZE, LOCATION, ETC.) OF MECHANICAL EQUIPMENT, UNLESS OTHERWISE INDICATED. COORDINATE INSTALLATION AND LOCATION OF ALL EQUIPMENT WITH MECHANICAL CONTRACTOR. VERIFY ALL FUSE RATINGS, WIRE SIZES AND DISCONNECT SIZES PRIOR TO INSTALLATION.
8. PROVIDE CONDUCTORS AND RACEWAYS PER 2017 NATIONAL ELECTRICAL CODE AND W.A.C..

MATERIALS AND METHODS

10. PROVIDE RACEWAY AND WIRING ROUTED CONCEALED WITHIN BUILDING STRUCTURE WHERE POSSIBLE. WHERE RACEWAY CANNOT BE CONCEALED, IT SHALL BE INSTALLED PER PROJECT MANAGER'S DIRECTION. ALL CONDUIT SHALL BE INSTALLED IN NEAT SYMMETRICAL LINES HORIZONTAL OR PERPENDICULAR TO BUILDING COLUMNS AND ROOF LINES. CONDUITS SHALL BE GROUPED ON COMMON SUPPORTS WHEREVER POSSIBLE.
11. EXPOSED CONDUIT ROUTING: CONDUITS MAY BE ROUTED EXPOSED IN MECHANICAL AND ELECTRICAL ROOMS ONLY. EXPOSED CONDUITS SHALL BE SECURED A MINIMUM OF 6" ABOVE FLOOR.
12. OUTDOOR EXPOSED CONDUIT ROUTING: CONDUITS ROUTED ON ROOF OR EXPOSED TO WEATHER SHALL BE GRC, PVC OR LIQUID-TIGHT FLEX. PROVIDE WATER-TIGHT CONNECTIONS AND FITTINGS.
13. CLEARANCES: VERIFY PHYSICAL DIMENSIONS OF EQUIPMENT TO ENSURE THAT ACCESS CLEARANCES CAN BE MET.
14. CONNECTIONS: PROVIDE METALLIC FLEX (FMC), LFMC, OR LFNC FOR CONNECTIONS TO MOTORS OR MOTORIZED EQUIPMENT.
15. WIRING: PROVIDE MINIMUM #12 AWG WIRE SIZE. IF CONDUIT IS TO BE USED MINIMUM IS TO BE 1/2". FLEXIBLE CONDUIT AND FLEXIBLE CABLE IS PERMISSIBLE THROUGHOUT THE BUILDING.
16. WIRING: PROVIDE MINIMUM #10 AWG COPPER CONDUCTOR SIZE IN 120V BRANCH CIRCUIT RUNS OVER 75' IN LENGTH.
17. WIRING: POWER WIRING FOR BRANCH CIRCUITS SHALL BE COPPER, THWN/THHN, INSULATED FOR 600V. ALUMINUM CONDUCTORS PERMITTED FOR FEEDERS 100 AMPS OR LARGER. INCREASE WIRE AND CONDUIT SIZE TO EQUAL OR EXCEED DESIGNED COPPER RATING.
18. DISCONNECTS: PROVIDE DISCONNECTS, FUSED AND UNFUSED, SHOWN AND REQUIRED BY CODE FOR EQUIPMENT FURNISHED UNDER ELECTRICAL AND MECHANICAL SCOPES OF WORK. REFER TO COORDINATION MATRIX.
19. FUSES: PROVIDE FUSES PER EQUIPMENT NAMEPLATE UNLESS OTHERWISE INDICATED. FUSES SHALL BE PROVIDED WITH REJECTION TYPE FUSE HOLDERS.
20. SUPPORT: SUPPORT LIGHT FIXTURES FROM BUILDING STRUCTURE. DO NOT SUPPORT FIXTURES FROM SUSPENDED CEILING.
21. LABELS: ELECTRICAL PANEL, TIME SWITCH, DISCONNECT, STARTER, CONTACTOR, PULL BOX, ETC. ENCLOSURES SHALL BE PERMANENTLY LABELED TO IDENTIFY ITS DESIGNATION OR UNIT SERVED. ENCLOSURES FOR ARTICLE 700 SYSTEMS LARGER THAN 6"X6" SHALL HAVE A PERMANENT IDENTIFICATION PLATE THAT IS SUBSTANTIALLY ORANGE IN COLOR.
22. PAINTING: ELECTRICAL ENCLOSURES SHALL BE PAINTED ONLY AS REQUIRED BY ARCHITECT.
23. COVERPLATES: PROVIDE AS FOLLOWS. SUBMIT SAMPLE OF EACH FOR APPROVAL.
    a. MECHANICAL AND ELECTRICAL ROOMS: GALVANIZED STEEL
    b. ALL OTHER AREAS: WHITE UNLESS OTHERWISE NOTED.
24. PROVIDE A DISCONNECTING MEANS FOR MULTIWIRE BRANCH CIRCUITS SUCH THAT ALL UNGROUNDED CONDUCTORS ARE SIMULTANEOUSLY DISCONNECTED AT THE POINT WHERE THEY ORIGINATE.
25. SITE ELECTRICAL

    TRENCHING: COORDINATE ALL TRENCHING WORK WITH OTHER UTILITY LOCATIONS AND DRAINAGE TRENCHES.
26. UNDERGROUND CONDUITS: PROVIDE PVC, SCHEDULE 40, 3/4" MINIMUM. PROVIDE GRC CONDUIT TRANSITION ELBOW WHEN TURNING UP TO ABOVE GRADE.
27. DIRECT-BURIED: CONDUIT FOR BRANCH CIRCUITS OUTSIDE BUILDINGS NOT BENEATH DRIVEWAYS OR PARKING AREAS SHALL BE DIRECTLY BURIED WITHOUT CONCRETE ENCASEMENT. THE DEPTH TO THE TOP OF BURIED CONDUITS SHALL BE 36". PROVIDE MARKER TAPE 12" BELOW GRADE.
28. BELOW SLAB: CONDUIT ROUTED BELOW ON-GRADE FLOOR SLABS SHALL BE INSTALLED PRIOR TO FLOOR SLAB POUR. ROUTE CONDUITS BELOW SLAB AS STRAIGHT AS POSSIBLE TO MINIMIZE BENDS.
29. ALL CONDUITS PENETRATING THE BUILDING ENVELOPE BELOW GRADE SHALL FOLLOW WATERPROOFING REQUIREMENTS IN THE ARCHITECURAL DRAWINGS.

NEUTRALS

30. AT CONTRACTORS OPTION, NEUTRALS MAY BE SHARED ON COMBINED HOMERUNS UNLESS THE CIRCUIT HAS A GFCI BREAKER, AN ISOLATED GROUND, OR IS FROM A PANEL WITH TVSS PROTECTION. ANY NEUTRAL DOWNSTREAM FROM A DIMMER SHALL BE DEDICATED TO THE DIMMED LOAD.
31. NEUTRAL WIRES SHOWN FOR TWO AND THREE POLE MECHANICAL AND KITCHEN EQUIPMENT MAY BE OMITTED UPON VERIFICATION THAT THEY ARE NOT REQUIRED EITHER FOR OPERATION OR CONTROL CIRCUITS PER MANUFACTURER'S SPECIFICATIONS.

LIGHTING

32. PROVIDE LIGHT FIXTURES WITH PROPER FITTING FLANGES, MOUNTING SUPPORTS, AND ACCESSORY ITEMS, UL LISTED FOR CONDITIONS OF USE.
33. LOW VOLTAGE LIGHTING
    A. PROVIDE LOW VOLTAGE TRANSFORMERS IN NEARBY ACCESSIBLE CEILING SPACE.
    B. PROVIDE LOW VOLTAGE CONDUCTORS SIZED PER MANUFACTURER'S GUIDELINES TO MINIMIZE VOLTAGE DROP.

LIGHTING CONTROL

34. THE MAXIMUM LIGHTING POWER THAT MAY BE CONTROLLED FROM A SINGLE SWITCH OR AUTOMATIC CONTROL SHALL NOT EXCEED THAT WHICH IS PROVIDED BY A TWENTY AMPERE CIRCUIT LOADED TO NOT MORE THAN EIGHTY PERCENT. A MASTER CONTROL MAY BE INSTALLED PROVIDED THE INDIVIDUAL SWITCHES RETAIN THEIR CAPABILITY TO FUNCTION INDEPENDENTLY.
35. BATTERY BALLASTS & EMERGENCY FIXTURES SHALL BE CONNECTED TO AN UNSWITCHED LEG OF THE DESIGNATED CIRCUIT.
36. EMERGENCY COMMUNICATION:
    a. PROVIDE A 2-WAY COMMUNICATION SYSTEM PER WASHINGTON STATE BUILDING CODE 1007.8.1
    b. PROVIDE EMERGENCY RADIO COVERAGE PER LYNNWOOD MUNICIPAL CODE SECTION 510. OWNER TO PROVIDE MAINTENANCE OF ALL COMMUNICATIONS SYSTEMS AS REQUIRED.
37. NOT USED.
38. ACCESS PANELS: CONTRACTOR IS RESPONSIBLE FOR PROVIDING THEIR OWN ACCESS PANELS FOR ACCESS TO THEIR EQUIPMENT. CONTRACTOR SHALL SUBMIT A FULL PLAN SHOWING LOCATIONS TO THE GC PRIOR TO INSTALLATION.
39. COMBINATION MOTOR-STARTERS

    THE CONTROL TRANSFORMERS IN ALL COMBINATION MOTOR-STARTERS SHALL HAVE 120 VOLT COILS.
40. FIRE PROTECTION

    OPENINGS IN FIRE RATED ASSEMBLIES FOR ELECTRICAL CONDUIT, BUS DUCT, AND OTHER EQUIPMENT SHALL BE SEALED WITH FIRE CAULK OR OTHER MATERIAL SUITABLE FOR MAINTAINING THE INTEGRITY OF THE FIRE RATING.
41. ADDITIONAL ADJUSTMENTS FOR CONDUITS EXPOSED TO SUNLIGHT ON OR ABOVE ROOFTOPS SHALL BE FACTORED PER NEC TABLE 310.15(B)(2)(C)
42. DIMENSIONS

    ALL MEASUREMENTS ARE FROM FACE OF METAL FRAMING TO CENTER OF THE BOX.

ADA REQUIREMENTS

1. RECEPTACLE OUTLETS SHALL BE LOCATED NOT LESS THAN 15 INCHES ABOVE THE FLOOR TO THE BOTTOM OF THE OPERABLE PART.
2. LIGHT SWITCHES SHALL BE INSTALLED WITH THE TOP OF THE OPERABLE PART TO BE WITHIN 34-48 INCHES OF THE FLOOR.

DESIGN/BUILD SYSTEMS

FIRE ALARM SYSTEM:
DESIGN AND PROVIDE COMPLETE, OPERATING, AND FULLY FUNCTIONAL FIRE DETECTION ALARM SYSTEM THAT MEETS ALL LOCAL CODES AND ORDINANCES. SUCCESSFUL SUB-CONTRACTOR SHALL SUBMIT FULL SET OF PLANS TO OWNER, INDICATING DEVICE LOCATIONS, WIRING, CONNECTIONS, AND SPECIAL MOUNTING DETAILS. REFER TO ELECTRICAL PLANS FOR MAIN EQUIPMENT LOCATIONS. SUBMIT PLANS AND OBTAIN PERMIT FROM LOCAL AHJ.

SECURITY CAMERAS:
DESIGN AND PROVIDE COMPLETE, OPERATING, AND FULLY FUNCTIONAL SECURITY CAMERA SYSTEM BASED ON OWNER'S REQUIREMENTS. PROVIDE CAMERAS AT ENTRY LOBBIES, ALL ELEVATOR LOBBIES, ALL COURTYARDS, ALL STAIRWELL LANDINGS, AND ALL WALKWAYS. CONTRACTOR TO PROVIDE CONDUIT TO ALL LOCATIONS. COORDINATE EXACT LOCATIONS OF ALL CAMERAS AND HEADEND EQUIPMENT.

OTHER SYSTEM:
THE FOLLOWING IS A RESPONSIBILITY LIST FOR WHO IS TO FURNISH, PERMIT, AND INSTALL THE FOLLOWING:

- PHONE/DATA WIRING TO APARTMENTS: CONTRACTOR
- FIRE ALARM SYSTEMS: CONTRACTOR
- LOW VOLTAGE LIGHTING CONTROLS: CONTRACTOR
- LOW VOLTAGE HVAC CONTROLS: CONTRACTOR (MECH)

EMERGENCY RESPONDER RADIO COVERAGE SYSTEM (IFC SECTION 510):
DESIGN AND PROVIDE COMPLETE, OPERATING, AND FULLY FUNCTIONAL EMERGENCY RESPONDER RADIO COVERAGE SYSTEM. CONTRACTOR TO PROVIDE CIRCUITS, BREAKERS, RACEWAY, CONDUCTORS AND CONNECTIONS FOR THE SYSTEM. BUILDING CONDUIT AND PATHWAY MUST MEET ALL SURVIVABILITY REQUIREMENTS.

TELEPHONE WIRING SYSTEM:
DESIGN AND PROVIDE COMPLETE, OPERATING, AND FULLY FUNCTIONAL TELEPHONE WIRING SYSTEM PER OWNER REQUIREMENTS. SEE PLANS FOR OUTLET LOCATIONS AND SERVICE ENTRANCE REQUIREMENTS. SUCCESSFUL SUB-CONTRACTOR IS RESPONSIBLE FOR ALL WIRING TERMINATIONS AT THE OUTLETS AND AT THE EQUIPMENT. COORDINATE TERMINATION TYPES WITH EQUIPMENT VENDOR. VERTICAL RISERS ARE TO BE IN RACEWAY, HORIZONTAL WIRING TO BE CABLE.

DATA WIRING SYSTEM:
DESIGN AND PROVIDE COMPLETE, OPERATING, AND FULLY FUNCTIONAL DATA WIRING SYSTEM PER OWNER REQUIREMENTS. SEE PLANS FOR OUTLET LOCATIONS AND SERVICE ENTRANCE REQUIREMENTS. SUCCESSFUL SUB-CONTRACTOR IS RESPONSIBLE FOR ALL WIRING TERMINATIONS AT THE OUTLETS AND AT THE EQUIPMENT. COORDINATE TERMINATION TYPES WITH EQUIPMENT VENDOR. VERTICAL RISERS ARE TO BE IN RACEWAY, HORIZONTAL WIRING TO BE CABLE.

MASTER TELEVISION DISTRIBUTION SYSTEM:
DESIGN AND PROVIDE COMPLETE, OPERATING, AND FULLY FUNCTIONAL SATELLITE AND CABLE TELEVISION DISTRIBUTION SYSTEM. SEE PLANS FOR OUTLET LOCATIONS AND SERVICE ENTRANCE REQUIREMENTS. SUCCESSFUL SUB-CONTRACTOR IS RESPONSIBLE FOR ALL WIRING & WIRING TERMINATIONS AT THE OUTLETS AND AT THE EQUIPMENT. COORDINATE TERMINATION TYPES WITH ACTIVE EQUIPMENT VENDOR. COORDINATE MAXIMUM WIRE LENGTH WITH ACTIVE EQUIPMENT SUPPLIER, VERIFY IT IS OF SUFFICIENT SIGNAL STRENGTH. VERTICAL RISERS ARE TO BE IN RACEWAY, HORIZONTAL WIRING TO BE CABLE.

LEGEND

GENERAL

LIGHT LINE INDICATES NON-ELECTRICAL OR BACKGROUND (THIS IS NOT CONTRACTUAL DEFINITION OF WORK)

HEAVY LINE INDICATES NEW WORK (THIS IS NOT CONTRACTUAL DEFINITION OF WORK)

DETAIL IDENTIFICATION

NAME

SYMBOL

FLAG NOTE

REVISION NOTE

REVISION DEFINITION, AREA ENCIRCLED CONTAINS DRAWING CHANGES MADE SUBSEQUENT TO PREVIOUS ISSUE

LIGHTING

L10 , A 2-32

FIXTURE IDENTIFICATION SYMBOL (TYPE A, (2) 32 WATT LAMPS SHOWN) SEE SCHEDULE
SEE LUMINAIRE SCHEDULE FOR FIXTURE SYMBOLS

SWITCHES

S_a — SWITCH, SINGLE POLE; WITH SWITCHING SUBSCRIPT

S_{OS} — OCCUPANCY SENSOR SWITCH, PROXIMITY INFRARED

S_D — SWITCH, SINGLE POLE; WITH SWITCHING SUBSCRIPT "D" INDICATES WALLBOX DIMMER

S_{OS} — CEILING MOUNTED OCCUPANCY SENSOR

S_{AL} — CEILING MOUNTED AMBIENT LIGHT SENSOR

S_{DT} — WALL MOUNTED DUAL TECHNOLOGY OCCUPANT SENSOR

S_T — SWITCH, TIMER.

S_2 — SWITCH, TWO POLE.

RECEPTACLES

- SINGLE RECEPTACLE
- DUPLEX RECEPTACLE: WALL MOUNTED, +18" AFF
- Φ_a — DUPLEX RECEPTACLE: SWITCHED, SPLIT-WIRED
- DUPLEX RECEPTACLE – ABOVE COUNTER
- GFCI — DUPLEX GFCI ABOVE COUNTER
- GFCI — DUPLEX GFCI
- +42" — DUPLEX RECEPTACLE, WITH HEIGHT ABOVE FINISHED FLOOR INDICATED
- USB POWER DUPLEX
- DOUBLE DUPLEX RECEPTACLE: WALL MOUNTED, +18" AFF
- SPECIAL PURPOSE RECEPTACLE, AS NOTED
- DUPLEX CONTROL RECEPTACLE
- DW U.C. GFCI — DUPLEX RECEPTACLE: UNDER-CABINET DISHWASHER
- DUPLEX RECEPTACLE: FLOORBOX

MISCELLANEOUS

- JUNCTION BOX: 4SQ MOUNTED
- JUNCTION BOX: 4SQ WALL MOUNTED
- JUNCTION BOX: 4SQ TRACK
- MD — MOTORIZED DAMPER

SIGNAL/COMMUNICATION

- COMBINATION SMOKE & CARBON MONOXIDE DETECTOR.
- DATA OUTLET: WALL MOUNTED @ +18" AFF U.O.N.
- TELEPHONE/DATA OUTLET: WALL MOUNTED @ +18" AFF U.O.N.
- TV — TELEVISION OUTLET: WALL MOUNTED @ +18" AFF U.O.N.

POWER

- PANELBOARD
- WP — NON-FUSED DISCONNECT SWITCH (WP = NEMA 3R WHERE APPROPRIATE)
- FUSED DISCONNECT SWITCH
- MAU-1,5HP,480,3 — MOTOR CONNECTION (EQUIPMENT NAME, HORSEPOWER, VOLTAGE, AND PHASE INDICATED)
- EF-1,12KVA,208,1 — EQUIPMENT CONNECTION (EQUIPMENT NAME, LOAD, VOLTAGE, AND PHASE INDICATED)
- T — TRANSFORMER, DRY TYPE, SHOWN TO SCALE
- M — KW METER AND BASE
- VFD — VARIABLE FREQUENCY DRIVE

VFD
FHP,120V1P2W

PART OF THE DESIGN/BUILD FIRE ALARM SYSTEM

- FACP — FIRE ALARM SYSTEM CONTROL PANEL
- P — FIRE ALARM SYSTEM PULL STATION
- FIRE ALARM SYSTEM STROBE/SPEAKER
- SD — FIRE ALARM PHOTOELECTRIC SMOKE DETECTOR AND SPEAKER.
- FIRE ALARM COMBINATION PHOTOELECTRIC SMOKE DETECTOR, CARBON MONOXIDE DETECTOR, AND SPEAKER, GUESTROOM.
- CO — CARBON MONOXIDE DETECTOR.
- ELECTRO-MAGNETIC DOOR HOLDER

RACEWAYS

- CONCEALED RACEWAY (EXPOSED IN UNFINISHED AREAS)
- RACEWAY CONCEALED IN OR BELOW FLOOR OR BELOW GRADE
- HW-1 — A-1,3,5 — POWER OR LIGHTING BRANCH CIRCUIT OR CIRCUITS, HOME RUN TO SOURCE, (HASH MARKS SHOW NO. OF WIRES WHEN MORE THAN TWO REQ'D, NEUTRAL SHOWN LONGER, DOTS INDICATE ISOLATED GROUND WIRES)
- TURNING UP
- TURNING DOWN
- E — RACEWAY STUBBED OUT WITH BUSHING
- BREAK LINE FOR DRAWING CLARITY

DRAWING INDEX

DWG	DESCRIPTION	INCLUDED IN SET: PROGRESS SET 04/28/2022	BUILDING PERMIT SET 05/31/2022	PERMIT RESPONSE 01 11/03/2022	PERMIT RESPONSE 02 07/12/2024
E0.00	LEGEND, GENERAL NOTES, DRAWING INDEX	X	X	X	X
E0.01	GENERAL NOTES	X	X	X	X
E0.10	EXTERIOR LIGHTING PLAN	X	X	X	X
E0.11	EXTERIOR PHOTOMETRIC PLAN				X
E1.01N	LEVEL 1 NORTH LIGHTING PLAN	X	X	X	X
E1.01NP	LEVEL 1 NORTH PHOTOMETRIC PLAN	X	X	X	X
E1.01S	LEVEL 1 SOUTH LIGHTING PLAN	X	X	X	X
E1.01SP	LEVEL 1 SOUTH PHOTOMETRIC PLAN	X	X	X	X
E1.02N	LEVEL 2 NORTH LIGHTING PLAN	X	X	X	X
E1.02NP	LEVEL 2 NORTH PHOTOMETRIC PLAN	X	X	X	X
E1.02S	LEVEL 2 SOUTH LIGHTING PLAN	X	X	X	X
E1.02SP	LEVEL 2 SOUTH PHOTOMETRIC PLAN	X	X	X	X
E1.03N	LEVEL 3 NORTH LIGHTING PLAN	X	X	X	X
E1.03S	LEVEL 3 SOUTH LIGHTING PLAN	X	X	X	X
E1.04N	LEVEL 4 NORTH LIGHTING PLAN	X	X	X	X
E1.04S	LEVEL 4 SOUTH LIGHTING PLAN	X	X	X	X
E1.05N	LEVEL 5 NORTH LIGHTING PLAN	X	X	X	X
E1.05S	LEVEL 5 SOUTH LIGHTING PLAN	X	X	X	X
E1.06N	LEVEL 6 NORTH LIGHTING PLAN	X	X	X	X
E1.06S	LEVEL 6 SOUTH LIGHTING PLAN	X	X	X	X
E1.07N	ROOF NORTH LIGHTING PLAN	X	X	X	X
E1.07S	ROOF SOUTH LIGHTING PLAN	X	X	X	X
E1.50	LUMINAIRE SCHEDULE & LIGHTING NOTES	X	X	X	X
E2.01N	LEVEL 1 NORTH POWER PLAN	X	X	X	X
E2.01S	LEVEL 1 SOUTH POWER PLAN	X	X	X	X
E2.02N	LEVEL 2 NORTH POWER PLAN	X	X	X	X
E2.02S	LEVEL 2 SOUTH POWER PLAN	X	X	X	X
E2.03N	LEVEL 3 NORTH POWER PLAN	X	X	X	X
E2.03S	LEVEL 3 SOUTH POWER PLAN	X	X	X	X
E2.04N	LEVEL 4 NORTH POWER PLAN	X	X	X	X
E2.04S	LEVEL 4 SOUTH POWER PLAN	X	X	X	X
E2.05N	LEVEL 5 NORTH POWER PLAN	X	X	X	X
E2.05S	LEVEL 5 SOUTH POWER PLAN	X	X	X	X
E2.06N	LEVEL 6 NORTH POWER PLAN	X	X	X	X
E2.06S	LEVEL 6 SOUTH POWER PLAN	X	X	X	X
E2.07N	ROOF NORTH POWER PLAN	X	X	X	X
E2.07S	ROOF SOUTH POWER PLAN	X	X	X	X
E3.00	ENLARGED POWER PLANS	X	X	X	X
E3.01	ENLARGED POWER PLANS		X	X	X
E4.00	UNIT PLAN NOTES	X	X	X	X
E4.01	TYPICAL UNIT PLANS	X	X	X	X
E4.02	TYPICAL UNIT PLANS	X	X	X	X
E5.00	ELECTRICAL ONE-LINE	X	X	X	X
E5.01	ELECTRICAL ONE-LINE	X	X	X	X
E5.10	ELECTRICAL PANEL SCHEDULES		X	X	X
E5.11	ELECTRICAL PANEL SCHEDULES		X	X	X
E5.12	ELECTRICAL PANEL SCHEDULES		X	X	X
E5.13	ELECTRICAL PANEL SCHEDULES		X	X	X
E5.14	ELECTRICAL PANEL SCHEDULES		X	X	X
E5.15	ELECTRICAL PANEL SCHEDULES		X	X	X
E5.20	FAULT CURRENT CALCULATIONS		X	X	X
E7.00	LIGHTING COMPLIANCE FORMS	X	X	X	X

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MARK STEINKE — STATE OF WASHINGTON — REGISTERED PROFESSIONAL ENGINEER — 02-27-26

PERMIT RESPONSE 02
02/27/26

KEY PLAN

Stamping Architect

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	DATE	DESCRIPTION
1	11/03/22	PERMIT RESPONSE 01
2	02/27/26	PERMIT RESPONSE 02

1073-001
PM: PETER ROCKSTEAD
DRAWN BY: MARK STEINKE

COVER SHEET, GENERAL NOTES & DRAWING INDEX

E0.00

ABBREVIATIONS

A	AMPERE	MFR	MANUFACTURER
AC	ALTERNATING CURRENT, ABOVE COUNTER	MIN	MINIMUM
AFF	ABOVE FINISHED FLOOR	MLO	MAIN LUGS ONLY
AIC	AMPS INTERRUPTING CAPACITY	N	NEUTRAL
AL	ALUMINUM	NEC	NATIONAL ELECTRICAL CODE (NFPA-70)
AMP	AMPERE	NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
AWG	AMERICAN WIRE GAUGE		
BKR	BREAKER	NIC	NOT IN CONTRACT
BLDG	BUILDING	NT	NEON TRANSFORMER
BOH	BACK OF HOUSE	NTS	NOT TO SCALE
C	COIL or CONDUIT	PNL	PANEL
CKT	CIRCUIT	POC	POINT OF CONNECTION
CO	CONDUIT/RACEWAY ONLY	PT	POTENTIAL TRANSFORMER
CT	CURRENT TRANSFORMER	PVC	POLYVINYL CHLORIDE
Cu	COPPER	PWR	POWER
CW	COOL WHITE	QTY	QUANTITY
DCO	DUPLEX CONVENIENCE OUTLET	RECEPT	RECEPTACLE
DN	DOWN	RI	ROUGH-IN
EXIST	EXISTING	RM	ROOM
EF	EXHAUST FAN	RO	RACEWAY ONLY
ELEC	ELECTRICAL	SHT	SHEET
EMT	ELECTRICAL METALLIC TUBING	SPEC	SPECIFICATIONS
ENT	ELECTRICAL NON-METALLIC TUBING	SW	SWITCH
EQUIP	EQUIPMENT	SWBD	SWITCHBOARD
FLR	FLOOR	SWGR	SWITCHGEAR
FLUOR	FLUORESCENT	TTB	TELEPHONE TERMINAL BOARD
FOH	FRONT OF HOUSE	TYP	TYPICAL
GFCI	GROUND FAULT CIRCUIT INTERRUPTER	UG	UNDERGROUND
GND	GROUND	UL	UNDERWRITERS LABORATORIES
GRS	GALVANIZED RIGID STEEL	UON	UNLESS OTHERWISE NOTED
HID	HIGH INTENSITY DISCHARGE	V	VOLTS
HP	HORSEPOWER	W	WATTS
HT	HEAT TRACE	WW	WARM WHITE
KCMIL	THOUSAND CIRCULAR MILLS	WP	WEATHERPROOF
KEC	KITCHEN EQUIPMENT CONTRACTOR	W/	WITH
KVA	KILOVOLT AMPERES	W/O	WITHOUT
KW	KILOWATT	XFMR	TRANSFORMER
LTG	LIGHTING	XFR	TRANSFER
LV	LOW VOLTAGE	Z	IMPEDANCE OR ZONE

BASIS OF DESIGN/ SCOPE OF WORK

A. EVERETT RIVERFRONT BUILDING D IS A 6-STORY, MIXED-USE, 152 UNIT APARTMENT BUILDING IN EVERETT WASHINGTON. IT IS PART OF 4 SEPARATE MIXED-USE APARTMENTS AND IS BUILT OVER A LANDFILL WITH APPROXIMATELY EIGHT FEET OF SOIL COVERING. THE BUILDINGS ARE TO BE CONSTRUCTED ON PYLONS SO AS NOT TO BE AFFECTED BY THE 30 INCHES OF SETTLING EXPECTED IN THE FUTURE. ANY CONDUITS GOING UNDER THE SLAB SHALL ACCOUNT FOR THIS EXPECTED SETTLING AS WELL AS BE PROVIDED WITH SEALED GASKETS TO PREVENT METHANE FROM SEEPING UP THROUGH THE CONDUITS.

B. THE SITE WILL HAVE ITS OWN PRIVATE POWER DISTRIBUTION SYSTEM DESIGNED BY FOLLETT ENGINEERING. IT WILL HAVE TWO POINTS OF CONNECTION WITH THE LOCAL UTILITY, SNOHOMISH COUNTY PUBLIC UTILITY DISTRICT (SNOPUD). THE SITE POWER DISTRIBUTION SYSTEM WILL BE DESIGNED BY A PRIVATE UTILITY ENGINEER, FOLLETT ENGINEERING. IT WILL BE DISTRIBUTED TO A 3,000KVA UNIT SUBSTATION LOCATED IN SIDE BUILDING B. THIS INCOMING ELECTRICAL ROOM WILL BE DIRECTLY ADJACENT TO THE MAIN ELECTRICAL ROOM.

C. POWER DISTRIBUTION OUTLINE

C.1. INCOMING 12.47KV SERVICE WILL ENTER THE ELECTRICAL ROOM THROUGH A SETTLING CABINET BEFORE ENTERING THE UNIT SUBSTATION (USS). THE UNIT SUBSTATION WILL CONTAIN A FUSED PRIMARY DISCONNECT SWITCH, A 2,500KVA, 12.47KV-TO-480V TRANSFORMER, AND TWO DISTRIBUTION SECTIONS (ONE FOR SITE POWER AND ONE FOR BUILDING POWER).

C.2. THE USS WILL FEED A 2500A, 480/277V SWITCHBOARD IN THE MAIN ELECTRICAL ROOM ON THE GROUND LEVEL. FROM THERE, THE SERVICE WILL BE TRANSFORMED DOWN TO (2) 208/120V DISTRIBUTION BOARDS THAT WILL SERVE THE DWELLING UNIT DISTRIBUTION PANELS

C.3. THE 152 DWELLING UNITS IN THE BUILDING WILL BE PRIVATELY METERED.

C.4. (1) 2,000A DISTRIBUTION BOARD AND (1) 1,600A DISTRIBUTION BOARD WILL SERVE THE RESIDENTIAL DISTRIBUTION PANELS ON LEVELS 2-6. THESE DISTRIBUTION PANELS AND THEIR ASSOCIATED DIGITAL METERS WILL BE LOCATED ON EACH FLOOR WITH TWO METERING HUBS ON EACH OF THOSE FLOORS IN THEIR ELECTRICAL ROOM.

C.5. THE CENTER OF THE BUILDING WILL HAVE (1) 480Y/277V RISER AND (2) 208Y/120V RISER, WITH ELECTRICAL PANELS LOCATED ON LEVEL 5 IN THE ELECTRICAL ROOM.

C.6. ALL TRANSFORMERS WILL BE HOUSED IN THE MAIN LEVEL ELECTRICAL ROOM.

C.7. THE MAIN ELECTRICAL ROOM WILL BE SIZED TO ACCOMODATE A TRANSFORMER AND DISTRIBUTION PANEL TO SERVE THE REQUIRED 10% EV CHARGIN SPACES AND FUTURE 10% EV CHARGING SPACES.

C.8. INFRASTRUCTURE FOR FUTURE PV ARRAY ON ROOF: BUILDING C SHALL OUTFITTED WITH THE ELECTRICAL INFRASTRUCTURE NEEDED TO INSTALL A FUTURE SOLAR PV ARRAY ON THE ROOF TO MET THE WASHINGTON ENERGY CODE ON-SITE RENEWABLE ENERGY REQUIREMENT.

C.9. CONDUIT AND FEEDERS ARE TO BE ROUTED ABOVE GROUND WHENEVER POSSIBLE. LIMIT PENETRATION INTO THE GROUND.

C.10. EXTERIOR SITE& STREET LIGHTING: PANELS WILL INCLUDE CAPACITY TO POWER SITE LIGHTING ON OVERALL SHELTER SITE AFTER TEMPORARY POWER CONNECTION IS REMOVED.

D. EMERGENCY AND STANDBY LOADS WILL BE SERVED FROM A 250KW/313KVA GENERATOR. THIS GENERATOR WILL BE LOCATED IN A SEPARATE GENERATOR ROOM NEXT TO THE MAIN ELECTRICAL ROOM. THE FOLLOWING LOADS WILL BE PLACED ON THE GENERATOR.

D.1. EMERGENCY (EM):
- D.1.1. EGRESS LIGHTING
- D.1.2. FIRE ALARM PANELS
- D.1.3. FIRE SMOKE DAMPERS
- D.1.4. HVAC CONTROLS
- D.1.5. FIRE COMMAND CENTER PANELS
- D.1.6. FIRE PUMP (25 HP) GENERATOR CONTROLS
- D.1.7. MAIN CONTROL PANEL

D.2. STANDBY POWER(LR)
- D.2.1. IDF ROOM SECURITY/ PHONE SWITCHES
- D.2.2. BOTH ELEVATORS SHALL BE ON STANDBY POWER BUT SHALL BE SELECTABLE SUCH THAT ONLY ONE WILL OPERATE AT A GIVEN TIME WHILE THE GENERATOR IS RUNNING.
- D.2.3. ELEVATOR AND STAIRWELL PRESSURIZATION FANS.
- D.2.4. METHANE DETECTION CONTROL PANEL AND METHANE VENTILATION SYSTEMS

E. DIGITAL METERING:

E.1. BASIS OF DESIGN IS LEVITON ENERGY MONITORING 7000 SERIES .

F. POWER REQUIREMENTS FOR DWELLING UNITS

F.1. 100A SERVICE TO EACH DWELLING UNIT WHERE LOAD ALLOWS

F.2. POWER DENSITY: 3W/SF FOR LIGHTING & RECEPTACLE CIRCUITS

F.3. UNITS TO HAVE ELECTRIC HEAT, ELECTRIC DRYERS, ELECTRIC RANGE COOKTOPS.

F.4. DWELLING UNIT TO HAVE A DEDICATED SWITCHED 20A RECEPTACLE FOR PORTABLE AC UNIT NEAR EXTERIOR WINDOW IN THE LIVING ROOM AND EACH BEDROOM.

SMOKE CONTROL SYSTEM

THE FIRE ALARM SUBCONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING THE CONTROL SYSTEM AND INTEGRATION OF THE SMOKE CONTROL SYSTEM. REFER TO MECHANICAL PLANS FOR EQUIPMENT, FIRE/SMOKE DAMPERS, SEQUENCE OF OPERATION, FIREMAN'S CONTROL PANEL, RISER DIAGRAMS, AND OTHER INFORMATION RELATED TO THE SMOKE CONTROL SYSTEM. CONTACT ENGINEER WITH ANY QUESTIONS REGARDING THIS WORK.

PLANS FOR FIXED FIRE PROTECTION MUST BE SUBMITTED TO, AND APPROVED BY, FIRE PLAN CHECK BEFORE THIS EQUIPMENT IS INSTALLED.

907.2.12.1 ALARM.
ACTIVATION OF ANY SINGLE SMOKE DETECTOR, THE AUTOMATIC SPRINKLER SYSTEM OR ANY OTHER AUTOMATIC FIRE DETECTION DEVICE SHALL IMMEDIATELY SOUND AN ALARM AT THE BUILDING AT A CONSTANTLY ATTENDED LOCATION FROM WHICH EMERGENCY ACTION CAN BE INITIATED, INCLUDING THE CAPABILITY OF MANUAL INITIATION OF REQUIREMENTS IN SECTION 907.2.12.2.

907.2.12.2 SYSTEM RESPONSE
THE ACTIVATION OF TWO OR MORE SMOKE DETECTORS, A SINGLE SMOKE DETECTOR EQUIPPED WITH AN ALARM VERIFICATION FEATURE, THE AUTOMATIC SPRINKLER SYSTEM OR OTHER APPROVED FIRE DETECTION DEVICE SHALL AUTOMATICALLY:
1) CAUSE ILLUMINATION OF THE MEANS OF EGRESS WITH LIGHT NOT LESS THAN 1 FOOT-CANDLE AT THE WALKING SURFACE LEVEL.
2) STOP ANY CONFLICTING OR CONFUSING SOUNDS AND VISUAL DISTRACTIONS.
3) ACTIVATE AN APPROVED DIRECTIONAL EXIT MARKING THAT WILL BECOME APPARENT IN AN EMERGENCY; AND
4) ACTIVATE A PRERECORDED MESSAGE, AUDIBLE THROUGHOUT THE BUILDING, INSTRUCTING RESIDENTS AND GUESTS TO PROCEED TO THE NEAREST EXIT. ALARM SIGNALS USED IN CONJUNCTION WITH A PRERECORDED MESSAGE SHALL PRODUCE A SOUND WHICH IS DISTINCTIVE FROM OTHER SOUNDS USED DURING NORMAL OPERATION.

909.16.3 CONTROL ACTION AND PRIORITIES.
SMOKE CONTROL MECHANICAL EQUIPMENT PROVIDED WITH VFD'S:
CONTROL ACTIONS FROM THE FIREFIGHTER'S SMOKE-CONTROL PANEL (FSCP) ARE TO HAVE THE HIGHEST PRIORITY OF ANY CONTROL POINT IN THE BUILDING. NO AUTOMATIC OR MANUAL CONTROL FROM ANY OTHER CONTROL POINT IS TO CONTRADICT THE CONTROL ACTION OF THE FSCP. THE ONLY EXCEPTION IS THE POWER DISCONNECT AS REQUIRED BY THE NATIONAL ELECTRICAL CODE (NEC).

IF THE POWER DISCONNECT IS PROVIDED WITH THE VFD, THE KEYPAD CONTROLS ON THE VFD ARE TO BE DISABLED WHEN OVERRIDDEN BY THE FSCP, EXCEPT FOR THE "OFF" FEATURE.

IF THE POWER DISCONNECT IS NOT PROVIDED WITH THE VFD (IF IT IS A SEPARATE DEVICE), THE KEYPAD CONTROLS ON THE VFD ARE TO BE DISABLED WHEN OVERRIDDEN BY THE FSCP, THERE ARE NO EXCEPTIONS. IF THE KEYPAD DOES NOT HAVE THE CAPABILITY TO BE OVERRIDDEN, THE KEYPAD IS TO BE REMOVED AND REPLACED WITH A BLANK COVERPLATE, AND THE REMOVED KEYPAD IS TO BE STORED IN A SAFE LOCATION.

ALL WIRING ASSOCIATED WITH THE SMOKE CONTROL SYSTEM IS TO BE IN CONTINUOUS CONDUIT. THIS INCLUDES:
- POWER WIRING TO ALL FANS AND SMOKE CONTROL PANEL.
- CONTROL WIRING (INCLUDING FIRE ALARM WIRING BETWEEN FACP AND FFSP AND CONTROL WIRING FROM THE FSCP TO THE STARTER ON THE SMOKE FANS)
- FIRE SMOKE DAMPERS
- DUCT SMOKE DETECTORS DO NOT REQUIRE CONDUIT (THEY ARE PART OF THE FIRE ALARM SYSTEM AND NOT THE SMOKE CONTROL SYSTEM)

CONTRACTOR SUBSTITUTIONS & REVISIONS

CONTRACTOR SUBSTITUTIONS & REVISIONS: PLEASE SUBMIT PROPOSALS FOR SUBSTITUTIONS OR REVISIONS FOR REVIEW AND APPROVAL PRIOR TO ORDERING MATERIAL OR DOING WORK. FOR EQUIPMENT THAT IS SCHEDULED BY MANUFACTURER'S NAME AND CATALOG DESIGNATIONS, THE MANUFACTURER'S PUBLISHED DATA AND/OR SPECIFICATION FOR THAT ITEM ARE CONSIDERED PART OF SPECIFICATION. ENGINEERING COSTS FOR REVISING MEP PLANS SHALL BE ADDRESSED IN THE COST ANALYSIS OF THE SUBSTITUTION PROPOSAL. CONTRACTOR TO COORDINATE WITH ENGINEER AND DETERMINE ASSOCIATED DESIGN AND PERMITTING COSTS. CONTRACTOR SHALL BE RESPONSIBLE FOR OTHER COSTS ASSOCIATED WITH UNFORESEEN ISSUES RESULTING FROM SUBSTITUTIONS OR REVISIONS.

PRE-CONSTRUCTION MEETING

CONTRACTORS SHALL ATTEND A PRE-CONSTRUCTION MEETING WITH THE ENGINEER FOR THE PURPOSE OF REVIEWING THE WORK PRIOR TO ORDERING ANY EQUIPMENT OR PERFORMING ANY WORK. THE MEETING SHALL BE LOCATED AT THE PROJECT SITE ON A DATE AND TIME TO BE MUTUALLY AGREED. THE MEETING WILL BE A WORKING SESSION. THE MEETING WILL BE FACILITATED BY THE ENGINEER AND THE AGENDA WILL INCLUDE A DETAILED REVIEW OF THE PLANS AND SPECIFICATIONS, CROSS CHECK WITH OTHER TRADES FOR COORDINATION ISSUES, REVIEW OF PROPOSED PRODUCTS, REVIEW OF PLANNED MEANS AND METHODS,AND ON-SITE INVESTIGATION OF FIELD CONDITIONS RELATIVE TO EXISTING CONDITIONS THAT COULD AFFECT THE WORK. PERSONS ATTENDING THE MEETING SHALL BE KNOWLEDGEABLE OF THE PROJECT AND SHALL BE THE SPECIFIC PERSONS INTENDED TO CONTINUE WITH THE PROJECT THROUGH TO COMPLETION. IF REQUIRED, REVISED PLANS WILL BE ISSUED THROUGH OFFICIAL CHANNELS. CHANGES IN THE BID PRICE WILL BE DISCUSSED, BUT NO CHANGE ORDERS WILL BE ISSUED UNLESS PROCESSED THOUGH OFFICIAL CHANNELS. IT SHALL BE UNDERSTOOD THAT THE ENGINEER HAS NO AUTHORITY TO ISSUE CHANGE ORDERS.

THE FOLLOWING TRADES SHALL BE REPRESENTED FOR THE MINIMUM TIME INDICATED:

PLUMBING/PIPING	4 HOURS
ELECTRICAL	4 HOURS
MECHANICAL SHEET METAL	4 HOURS
SPRINKLER	2 HOURS
GENERAL CONTRACTOR	ALL SESSIONS

APPLICABLE CODES

THE FOLLOWING PROJECT DESIGN IS BASED ON THE FOLLOWING CODES:
- 2023 NATIONAL ELECTRICAL CODE (NEC) (2)
- ~~2018 WASHINGTON STATE ENERGY CODE (WSEC)~~
- 2018 INTERNATIONAL BUILDING CODE (IBC) & WASHINGTON STATE AMENDMENTS
- 2018 INTERNATIONAL FIRE CODE (IFC) & WASHINGTON STATE AMENDMENTS
- 2018 INTERNATIONAL MECHANICAL CODE (IMC) & WASHINGTON STATE AMENDMENTS
- 2018 UNIFORM PLUMBING CODE (UPC) & WASHINGTON STATE AMENDMENTS

VIBRATION AND ACOUSTICAL ISOLATION

THE FOLLOWING MEASURES SHALL BE TAKEN TO MINIMIZE VIBRATION AND NOISE TRANSMISSION FROM MECHANICAL AND ELECTRICAL EQUIPMENT TO THE INTERIOR SPACES:

TRANSFORMERS:

A) PROVIDE FLEXIBLE CONDUIT OR MC CABLE AT EQUIPMENT CONNECTION.
B) MOUNT TRANSFORMERS ON NEOPRENE GROMMET ISOLATORS.

SUBDUCT EXHAUST FANS:

A) PROVIDE FLEXIBLE CONDUIT OR MC CABLE AT EQUIPMENT CONNECTION.

ENCLOSED GARAGE EXHAUST FANS:

A) PROVIDE FLEXIBLE CONDUIT OR MC CABLE AT EQUIPMENT CONNECTION.

ROOFTOP AIR HANDLERS:

A) PROVIDE FLEXIBLE CONDUIT OR MC CABLE AT EQUIPMENT CONNECTION.

FAN COIL UNITS:

A) PROVIDE FLEXIBLE CONDUIT OR MC CABLE AT EQUIPMENT CONNECTION.

ROOF MOUNTED CONDENSERS:

A) PROVIDE FLEXIBLE CONDUIT OR MC CABLE AT EQUIPMENT CONNECTION.

FLEXIBLE CONDUIT OR MC CABLE CONNECTIONS FOR VIBRATION ISOLATION SHALL BE A MINIMUM OF TWO FEET LONG.

STRUCTURAL PENETRATIONS

THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR FINAL COORDINATION OF EDGE OF SLAB DRAWINGS AND OTHER PENETRATIONS OF STRUCTURAL SLABS AND SHEAR WALLS FOR ALL ITEMS RELATED TO THE ELECTRICAL SCOPE OF WORK.

TEMPERATURE LIMITATION OF CONDUCTORS

ADDITIONAL ADJUSTMENTS FOR CONDUITS EXPOSED TO SUNLIGHT ON OR ABOVE ROOFTOPS SHALL BE FACTORED PER NEC TABLE 310.15(B)(2)(C)

IRRIGATION NOTES

COORDINATE WITH LANDSCAPE CONTRACTOR FOR CONDUIT PATHWAY WITHIN THE BUILDING FOR ANY IRRIGATION CONTROLS FOR UPPER FLOORS.

CONDUIT & CONDUCTOR FIRE RATING

1. CONDUIT FOR ELECTRICAL CONDUCTORS BY THE FACP OR FIRE ALARM SYSTEM SHALL BE IN 2 HOUR RATED ENCLOSURES OR ENCASED IN 2-INCH OF CONCRETE AND RATED CABLE ASSEMBLIES, OR BE CONDUCTORS IN 2 HOUR-RATED RACEWAYS PER NFPA 72.
2. THE EQUIPMENT AND CONTROL WIRING SHALL BE ENCLOSED BY FIRE BARRIERS CONSTRUCTED IN ACCORDANCE WITH IBC SECTION 707 OR HORIZONTAL ASSEMBLIES CONSTRUCTED IN ACCORDANCE WITH IBC SECTION 711, OR USING A 2 HR RATED CABLE SYSTEM OR ENCLOSED WITHIN 2" OF CONCRETE.
3. FIRE ALARM WIRING SHALL COMPLY WITH IBC 907.6.1. WIRING SHALL COMPLY WITH THE REQUIREMENTS OF NFPA 70.
4. RACEWAYS FOR THE DEDICATED BRANCH CIRCUIT(S) REQUIRED FOR PRIMARY POWER TO THE FIRE ALARM CONTROL PANEL (FACP) SHALL BE IN 2 HOUR RATED ENCLOSURES OR ENCASED IN 2-INCH OF CONCRETE AND RATED CABLE ASSEMBLIES, OR BE CONDUCTORS IN 2 HOUR-RATED RACEWAYS PER IBC 907 AND NFPA 72 SECTION 10.6.11.3.1.3
5. ALL WIRING USED FOR SMOKE CONTROL, REGARDLESS OF THE VOLTAGE SHALL HAVE FIRE-RESISTANCE RATED PROTECTION OF AT LEAST 2 HOURS OR AS REQUIRED IN RULES PROMULGATED BY THE BUILDING OFFICIAL. IFC 909.11.2

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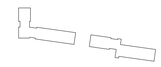
MARK STEINKE — STATE OF WASHINGTON — 27026 — REGISTERED PROFESSIONAL ENGINEER — 02-27-26

PERMIT RESPONSE 02
02/27/26

KEY PLAN



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DATE	DESCRIPTION
11/03/22	PERMIT RESPONSE 01
02/27/26	PERMIT RESPONSE 02

1073-001
PM: PETER ROCKSTEAD
DRAWN BY: MARK STEINKE

GENERAL NOTES

E0.01

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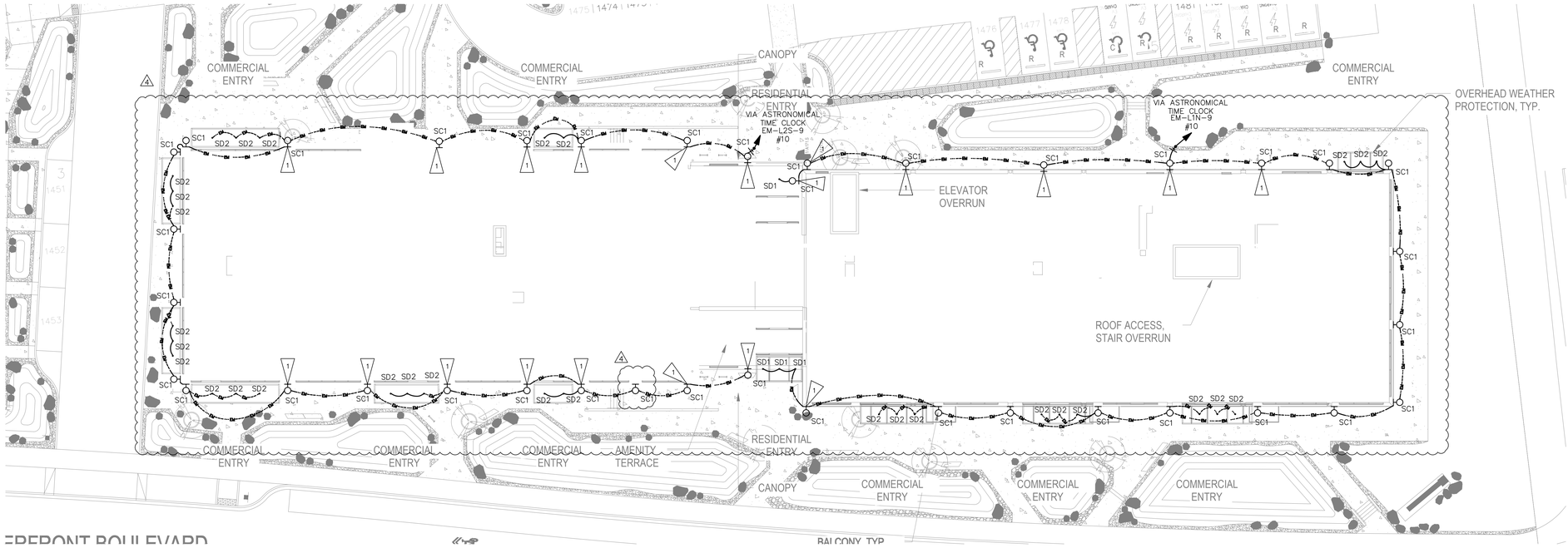
MSTEINKE F:\1073 SHELTER HOLDINGS\1073-002 RIVERFRONT APARTMENTS - BUILDING D\DWG\E000 COVERSHEET.DWG 02-27-2026 11:22

SITE NOTES

1. PROVIDE EXTERIOR LIGHTING CONTROLS TO COMPLY WITH WSEC C405.2.6. REFER TO 'LIGHTING CONTROL SYSTEM REQUIREMENTS' ON SHEET E1.50.
2. REFER TO SERIES E1.00 FOR INTERIOR LIGHTING LAYOUT.
3. SEE SHEET E1.50 FOR LIGHTING NOTES & LUMINAIRE SCHEDULE.
4. EMERGENCY EGRESS LIGHTING: UPON LOSS OF NORMAL POWER SUPPLY, GENERATOR SHALL START AND LIGHTING FOR EGRESS PATHS AND ROOMS AND SPACES REQUIRED TO HAVE ILLUMINATION SHALL TRANSFER TO THE EMERGENCY POWER SUPPLY. THESE CIRCUITS ARE SUPPLIED BY PANELS EM-L1N, EM-L2S, EM-L5N, AND EM-L5S. HOMERUNS INDICATE PANELS WITH EMERGENCY SOURCE.

FLAG NOTES

1. FIXTURE PROVIDES EMERGENCY ILLUMINATION FOR EXTERIOR EGRESS LANDING. GENERATOR SHALL SUPPLY POWER UPON LOSS OF NORMAL POWER.



1 EXTERIOR LIGHTING PLAN
SCALE: 1/16" = 1'-0"

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PERMIT RESPONSE 02
02/27/26

KEY PLAN

BUILDING C BUILDING D

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	DATE	DESCRIPTION
1	11/03/22	PERMIT RESPONSE 01
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1073-001
PM: PETER ROCKSTEAD
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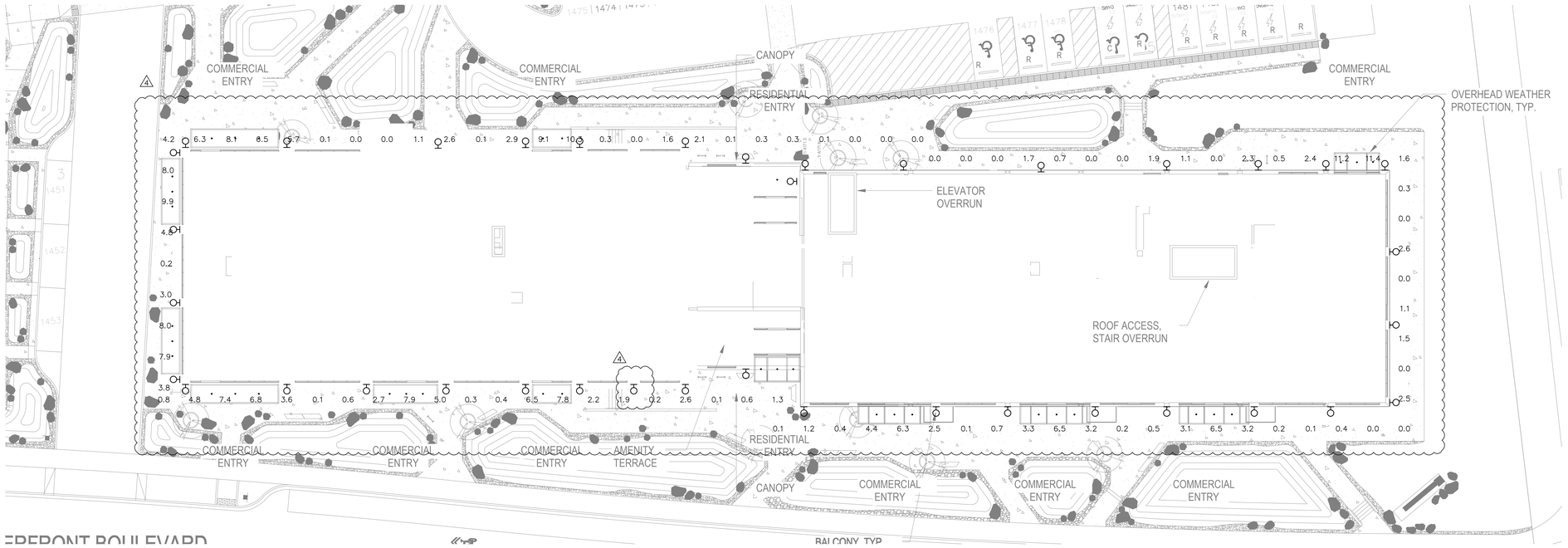
EXTERIOR LIGHTING PLAN

E0.10

Site Photometric Schedule	
AVERAGE FOOT-CANDLES	2.60
MAXIMUM FOOT-CANDLES	11.4
MINIMUM FOOT-CANDLES	0.0
MAXIMUM TO MINIMUM FC RATIO	17708.78
AVERAGE TO MINIMUM FC RATIO	4030.98

GENERAL PHOTOMETRIC NOTES

1. PHOTOMETRIC CALCULATIONS BASED ON AVAILABLE IES FILES FROM FIXTURE MANUFACTURER (OR EQUIVALENT). FIXTURE SUBSTITUTIONS MAY COMPROMISE FOOT CANDLE (FC) LEVELS.
2. PHOTOMETRIC CALCULATION ELEVATION FROM CEILING HEIGHT UON IN LUMINAIRE SCHEDULE ON SHEET E1.50 OR ARCH/ID PLANS.
3. SITE PHOTOMETRIC: BASED ON PROPOSED SITE LIGHTING FOR PROJECT ONLY.
4. LIGHT TRESPASS: LIGHT SPILL PAST PROJECT SITE PROPERTY LINE.



1 EXTERIOR PHOTOMETRIC PLAN
SCALE: 1/16" = 1'-0"

RIVERFRONT APARTMENTS BUILDING D
3710 Riverfront Blvd
Everett, WA 98203

ROBISON ENGINEERING, INC
19401 40TH AVE W., SUITE 302
LYNNWOOD, WA 98036
2063643343 TEL
CONTACT: MARK STEINKE

MARK STEINKE — STATE OF WASHINGTON — REGISTERED PROFESSIONAL ENGINEER — 02-27-26

PERMIT RESPONSE 02
02/27/26

KEY PLAN

BUILDING C BUILDING D

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△	DATE	DESCRIPTION
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2	02/27/26	PERMIT RESPONSE 02

1073-001
PM: PETER ROCKSTEAD
DRAWN BY: MARK STEINKE

EXTERIOR PHOTOMETRIC PLAN

E0.11

SHEET FLAG NOTES

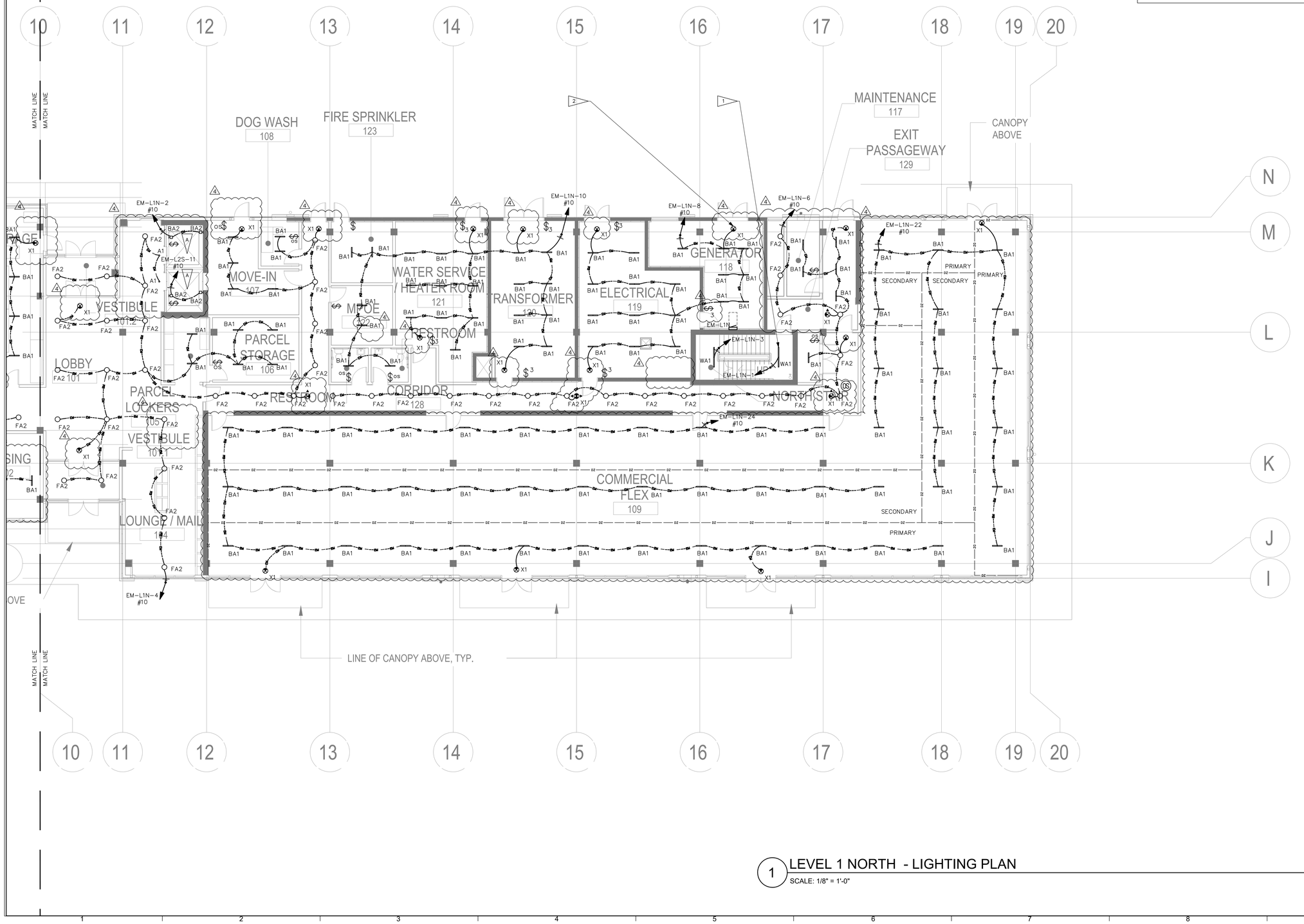
A. MOUNT PIT LIGHT SWITCH ADJACENT TO LADDER. USE ILLUMINATED HANDLE TYPE. DO NOT COMBINE CIRCUITS SERVING ELEVATOR, ELEVATOR PIT, OR ELEVATOR HOISTWAY WITH HOMERUNS FROM OTHER ROOMS/AREAS. (NEC 620.23-24)

GENERAL NOTES

1. EMERGENCY EGRESS LIGHTING: UPON LOSS OF NORMAL POWER SUPPLY, GENERATOR SHALL START AND LIGHTING FOR EGRESS PATHS AND ROOMS AND SPACES REQUIRED TO HAVE ILLUMINATION SHALL TRANSFER TO THE EMERGENCY POWER SUPPLY. THESE CIRCUITS ARE SUPPLIED BY PANELS EM-L1N, EM-L2S, EM-L5N, AND EM-L5S. HOMERUNS INDICATE PANELS WITH EMERGENCY SOURCE.
2. REFER TO SERIES E4.00 DRAWINGS FOR TYPICAL GUEST ROOM PLANS SHOWING ELECTRICAL AND LIGHTING LAYOUT.
3. SEE SHEET E1.50 FOR LUMINAIRE SCHEDULE AND LIGHTING NOTES.

FLAG NOTES

1. CIRCUIT STAIRS VERTICALLY. LUMINAIRE(S) IN STAIRWELL SHALL HAVE INTEGRAL OCCUPANCY SENSOR WHICH REDUCES LIGHTING POWER OF FIXTURE(S) BY 50% WHEN SPACE IS VACANT. (TYP)
2. EXIT SIGNS: PROVIDE UNSWITCHED HOT. (TYP)



1 LEVEL 1 NORTH - LIGHTING PLAN

SCALE: 1/8" = 1'-0"

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Everett, WA 98203

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19401 40TH AVE W., SUITE 302
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2063643343 TEL
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MARK STEINKE
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1073-001
PM: PETER ROCKSTEAD
DRAWN BY: MARK STEINKE

LEVEL 1 NORTH
LIGHTING PLAN

E1.01N

Elevator Sill Photometric Schedule	
AVERAGE FOOT–CANDLES	13.99
MAXIMUM FOOT–CANDLES	15.9
MINIMUM FOOT–CANDLES	12.0
MAXIMUM TO MINIMUM FC RATIO	1.32
AVERAGE TO MINIMUM FC RATIO	1.16

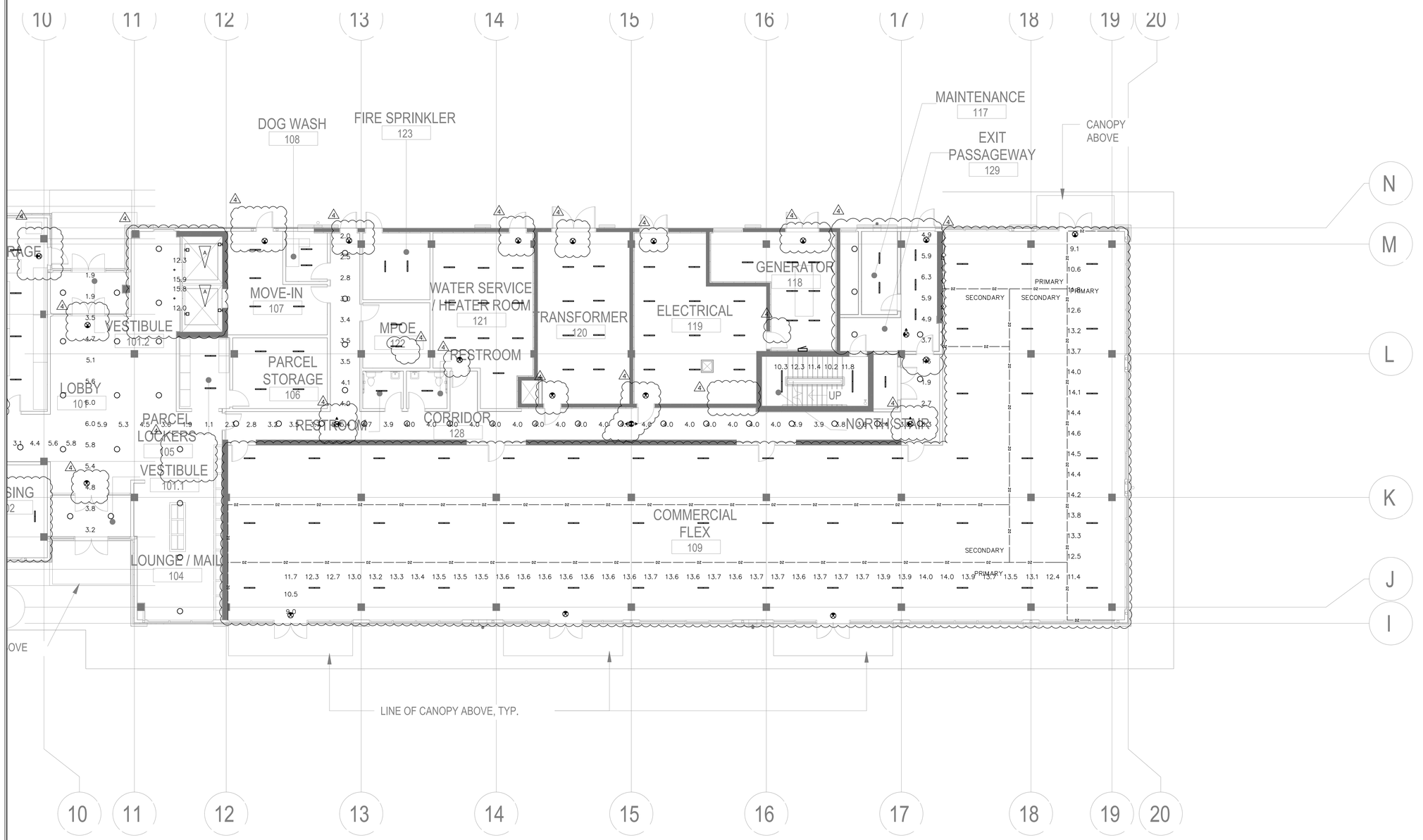
North Stair Photometric Schedule	
AVERAGE FOOT–CANDLES	11.22
MAXIMUM FOOT–CANDLES	12.3
MINIMUM FOOT–CANDLES	10.2
MAXIMUM TO MINIMUM FC RATIO	1.20
AVERAGE TO MINIMUM FC RATIO	1.09

Emergency Egress Photometric Schedule	
AVERAGE FOOT–CANDLES	3.95
MAXIMUM FOOT–CANDLES	6.3
MINIMUM FOOT–CANDLES	1.1
MAXIMUM TO MINIMUM FC RATIO	5.86
AVERAGE TO MINIMUM FC RATIO	3.68

Commercial Flex 109 Emergency Egress Photometric Schedule	
AVERAGE FOOT–CANDLES	13.21
MAXIMUM FOOT–CANDLES	14.6
MINIMUM FOOT–CANDLES	9.0
MAXIMUM TO MINIMUM FC RATIO	1.62
AVERAGE TO MINIMUM FC RATIO	1.47

GENERAL PHOTOMETRIC NOTES

1. PHOTOMETRIC CALCULATIONS BASED ON AVAILABLE IES FILES FROM FIXTURE MANUFACTURER (OR EQUIVALENT). FIXTURE SUBSTITUTIONS MAY COMPROMISE FOOT CANDLE (FC) LEVELS.
2. PHOTOMETRIC CALCULATION ELEVATION FROM CEILING HEIGHT UON IN LUMINAIRE SCHEDULE ON SHEET E1.50 OR ARCH/ID PLANS.
3. EMERGENCY EGRESS PHOTOMETRIC CALCULATIONS BASED ON EMERGENCY LIGHTING ONLY. CALCULATION ELEVATION AFF.
4. STAIR PHOTOMETRIC: CALCULATION ELEVATION AT APPROXIMATE STAIR TREAD TO MEET MINIMUM 10FC PER NFPA–101 7.8.1.3(1).
5. ELEVATOR SILL PHOTOMETRIC: CALCULATION ELEVATION AT ELEVATOR SILL TO MEET MINIMUM 10FC PER ASME 17.1, 2.11.10.2.



1 LEVEL 1 NORTH - PHOTOMETRIC PLAN
SCALE: 1/8" = 1'-0"

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MARK STEINKE
STATE OF WASHINGTON
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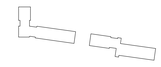
PROFESSIONAL ENGINEER
02-27-26

PERMIT RESPONSE 02
02/27/26

KEY PLAN



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PM: PETER ROCKSTEAD
DRAWN BY: MARK STEINKE

LEVEL 1 NORTH
PHOTOMETRIC PLAN

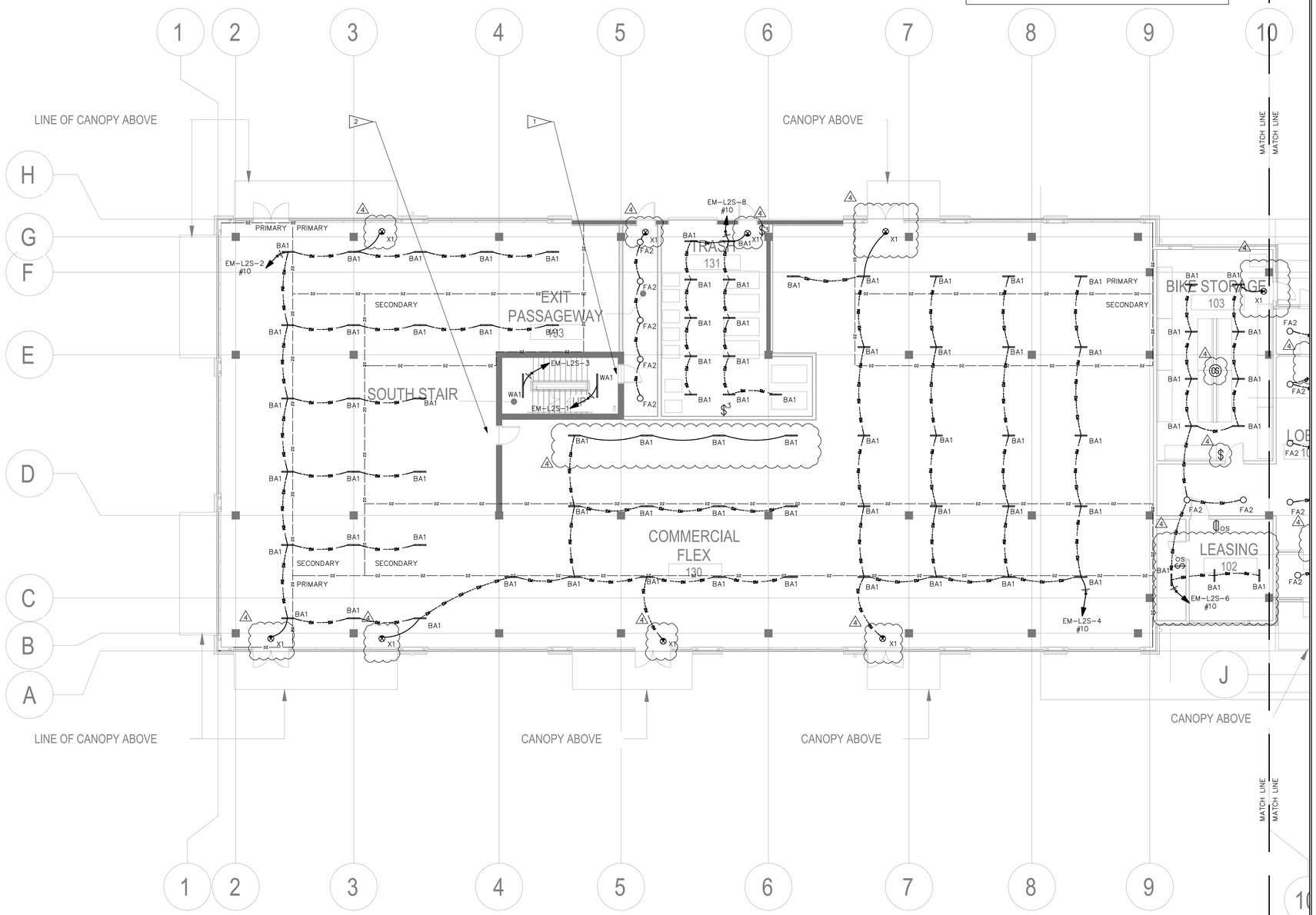
E1.01NP

GENERAL NOTES

1. EMERGENCY EGRESS LIGHTING: UPON LOSS OF NORMAL POWER SUPPLY, GENERATOR SHALL START AND LIGHTING FOR EGRESS PATHS AND ROOMS AND SPACES REQUIRED TO HAVE ILLUMINATION SHALL TRANSFER TO THE EMERGENCY POWER SUPPLY. THESE CIRCUITS ARE SUPPLIED BY PANELS EM-L1N, EM-L2S, EM-L5N, AND EM-L5S. HOMERUNS INDICATE PANELS WITH EMERGENCY SOURCE.
2. REFER TO SERIES E4.00 DRAWINGS FOR TYPICAL GUEST ROOM PLANS SHOWING ELECTRICAL AND LIGHTING LAYOUT.
3. SEE SHEET E1.50 FOR LUMINAIRE SCHEDULE AND LIGHTING NOTES.

FLAG NOTES

1. CIRCUIT STAIRS VERTICALLY. LUMINAIRE(S) IN STAIRWELL SHALL HAVE INTEGRAL OCCUPANCY SENSOR WHICH REDUCES LIGHTING POWER OF FIXTURE(S) BY 50% WHEN SPACE IS VACANT. (TYP)
2. EXIT SIGNS: PROVIDE UNSWITCHED HOT. (TYP)



1 LEVEL 1 SOUTH - LIGHTING PLAN

SCALE: 1/8" = 1'-0"

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LYNNWOOD, WA 98036
2063643343 TEL
CONTACT: MARK STEINKE

MARK STEINKE STATE OF WASHINGTON REGISTERED PROFESSIONAL ENGINEER 02-27-26

PERMIT RESPONSE 02
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KEY PLAN

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1073-001
PM: PETER ROCKSTEAD
DRAWN BY: MARK STEINKE

LEVEL 1 SOUTH LIGHTING PLAN

E1.01S

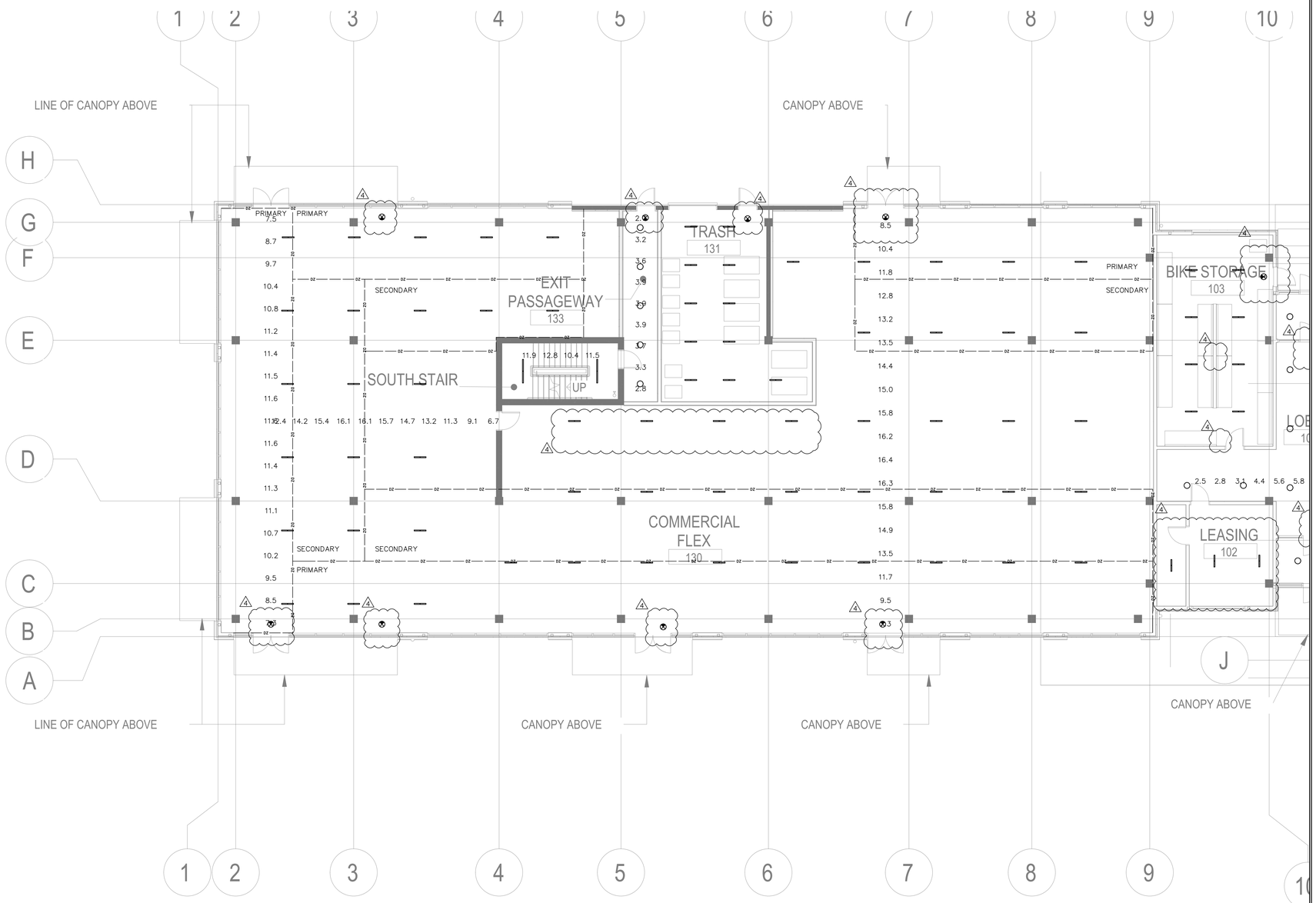
South Stair Photometric Schedule	
AVERAGE FOOT-CANDLES	11.64
MAXIMUM FOOT-CANDLES	12.8
MINIMUM FOOT-CANDLES	10.4
MAXIMUM TO MINIMUM FC RATIO	1.23
AVERAGE TO MINIMUM FC RATIO	1.12

Emergency Egress Photometric Schedule	
AVERAGE FOOT-CANDLES	3.44
MAXIMUM FOOT-CANDLES	3.9
MINIMUM FOOT-CANDLES	2.7
MAXIMUM TO MINIMUM FC RATIO	1.47
AVERAGE TO MINIMUM FC RATIO	1.29

Commercial Flex 130 Emergency Egress Photometric Schedule	
AVERAGE FOOT-CANDLES	12.04
MAXIMUM FOOT-CANDLES	16.4
MINIMUM FOOT-CANDLES	6.7
MAXIMUM TO MINIMUM FC RATIO	2.46
AVERAGE TO MINIMUM FC RATIO	1.81

GENERAL PHOTOMETRIC NOTES

1. PHOTOMETRIC CALCULATIONS BASED ON AVAILABLE IES FILES FROM FIXTURE MANUFACTURER (OR EQUIVALENT). FIXTURE SUBSTITUTIONS MAY COMPROMISE FOOT CANDLE (FC) LEVELS.
2. PHOTOMETRIC CALCULATION ELEVATION FROM CEILING HEIGHT UON IN LUMINAIRE SCHEDULE ON SHEET E1.50 OR ARCH/ID PLANS.
3. EMERGENCY EGRESS PHOTOMETRIC CALCULATIONS BASED ON EMERGENCY LIGHTING ONLY. CALCULATION ELEVATION AFF.



1 LEVEL 1 SOUTH - PHOTOMETRIC PLAN
SCALE: 1/8" = 1'-0"

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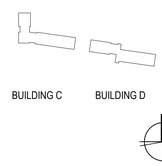
02-27-26

PERMIT RESPONSE 02
02/27/26

KEY PLAN



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DATE	DESCRIPTION
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1073-001
PM: PETER ROCKSTEAD
DRAWN BY: MARK STEINKE

LEVEL 1 SOUTH PHOTOMETRIC PLAN

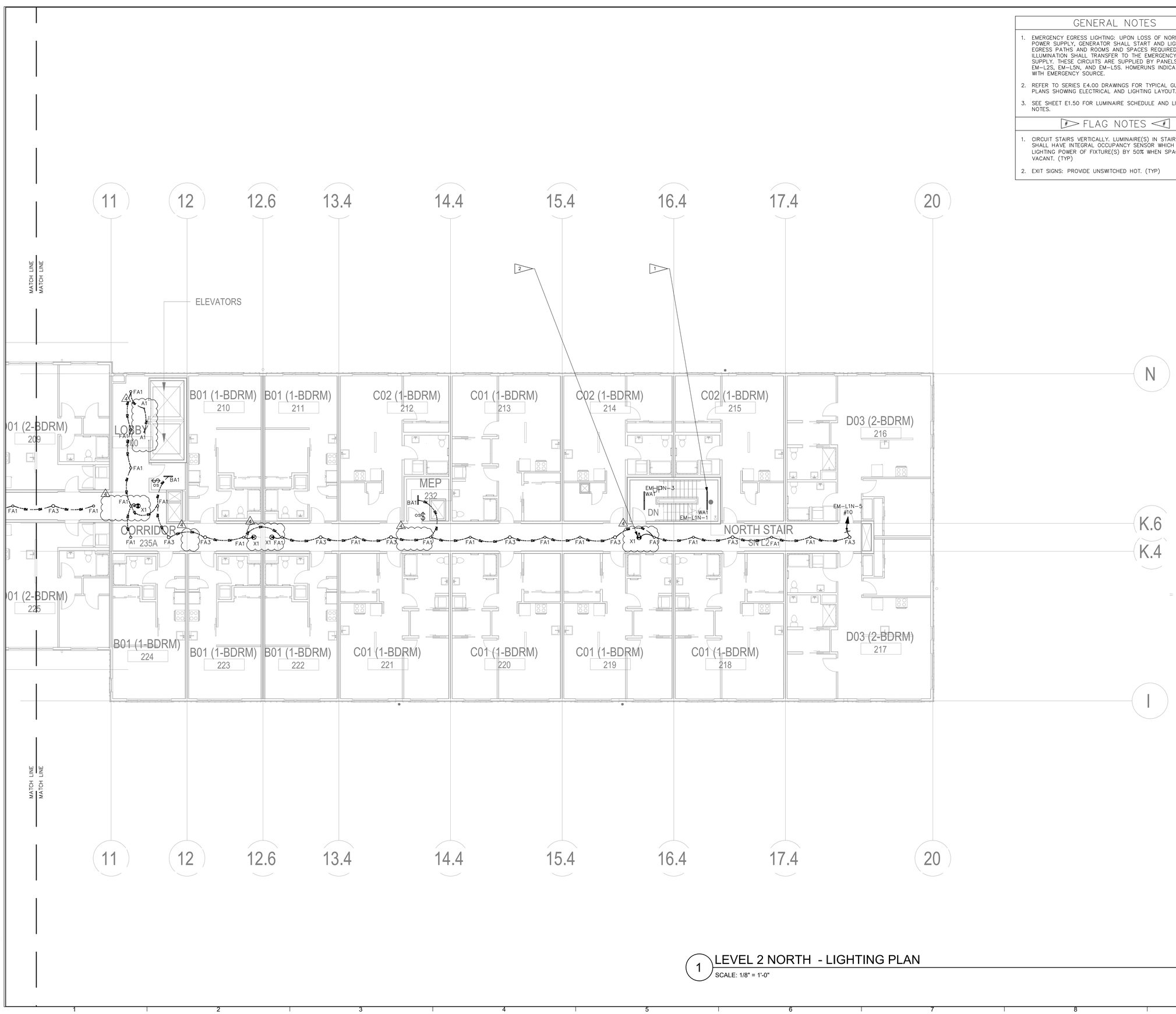
E1.01SP

GENERAL NOTES

1. EMERGENCY EGRESS LIGHTING: UPON LOSS OF NORMAL POWER SUPPLY, GENERATOR SHALL START AND LIGHTING FOR EGRESS PATHS AND ROOMS AND SPACES REQUIRED TO HAVE ILLUMINATION SHALL TRANSFER TO THE EMERGENCY POWER SUPPLY. THESE CIRCUITS ARE SUPPLIED BY PANELS EM-L1N, EM-L2S, EM-L5N, AND EM-L5S. HOMERUNS INDICATE PANELS WITH EMERGENCY SOURCE.
2. REFER TO SERIES E4.00 DRAWINGS FOR TYPICAL GUEST ROOM PLANS SHOWING ELECTRICAL AND LIGHTING LAYOUT.
3. SEE SHEET E1.50 FOR LUMINAIRE SCHEDULE AND LIGHTING NOTES.

FLAG NOTES

1. CIRCUIT STAIRS VERTICALLY. LUMINAIRE(S) IN STAIRWELL SHALL HAVE INTEGRAL OCCUPANCY SENSOR WHICH REDUCES LIGHTING POWER OF FIXTURE(S) BY 50% WHEN SPACE IS VACANT. (TYP)
2. EXIT SIGNS: PROVIDE UNSWITCHED HOT. (TYP)



1 LEVEL 2 NORTH - LIGHTING PLAN
SCALE: 1/8" = 1'-0"

RIVERFRONT APARTMENTS BUILDING D
3710 Riverfront Blvd
Everett, WA 98203

ROBISON ENGINEERING, INC
19401 40TH AVE W., SUITE 302
LYNNWOOD, WA 98036
2063643343 TEL
CONTACT: MARK STEINKE

MARK STEINKE
STATE OF WASHINGTON
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02-27-26

PERMIT RESPONSE 02
02/27/26

KEY PLAN

BUILDING C BUILDING D

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DATE	DESCRIPTION
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1073-001
PM: PETER ROCKSTEAD
DRAWN BY: MARK STEINKE

LEVEL 2 NORTH
LIGHTING PLAN

E1.02N

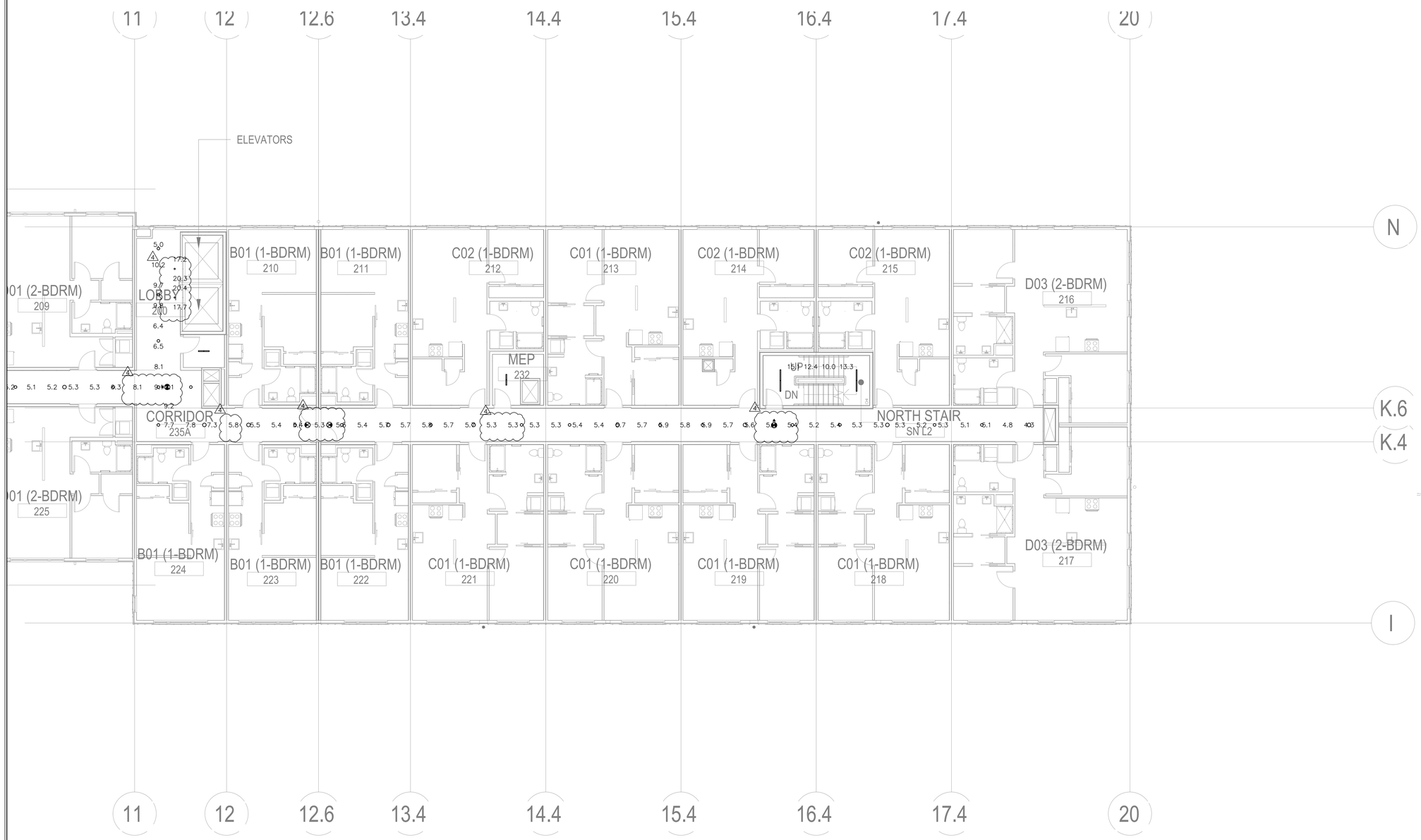
North Stair Photometric Schedule	
AVERAGE FOOT–CANDLES	12.69
MAXIMUM FOOT–CANDLES	15.1
MINIMUM FOOT–CANDLES	10.0
MAXIMUM TO MINIMUM FC RATIO	1.51
AVERAGE TO MINIMUM FC RATIO	1.27

Elevator Sill Photometric Schedule	
AVERAGE FOOT–CANDLES	18.89
MAXIMUM FOOT–CANDLES	20.4
MINIMUM FOOT–CANDLES	17.2
MAXIMUM TO MINIMUM FC RATIO	1.19
AVERAGE TO MINIMUM FC RATIO	1.10

Emergency Egress Photometric Schedule	
AVERAGE FOOT–CANDLES	5.80
MAXIMUM FOOT–CANDLES	10.2
MINIMUM FOOT–CANDLES	4.3
MAXIMUM TO MINIMUM FC RATIO	2.39
AVERAGE TO MINIMUM FC RATIO	1.36

GENERAL PHOTOMETRIC NOTES

1. PHOTOMETRIC CALCULATIONS BASED ON AVAILABLE IES FILES FROM FIXTURE MANUFACTURER (OR EQUIVALENT). FIXTURE SUBSTITUTIONS MAY COMPROMISE FOOT CANDLE (FC) LEVELS.
2. PHOTOMETRIC CALCULATION ELEVATION FROM CEILING HEIGHT UON IN LUMINAIRE SCHEDULE ON SHEET E1.50 OR ARCH/ID PLANS.
3. EMERGENCY EGRESS PHOTOMETRIC CALCULATIONS BASED ON EMERGENCY LIGHTING ONLY. CALCULATION ELEVATION AFF.
4. ELEVATOR SILL PHOTOMETRIC: CALCULATION ELEVATION AT ELEVATOR SILL TO MEET MINIMUM 10FC PER ASME 17.1, 2.11.10.2.



1 LEVEL 2 NORTH - PHOTOMETRIC PLAN

SCALE: 1/8" = 1'-0"

RIVERFRONT APARTMENTS BUILDING D

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Everett, WA 98203

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19401 40TH AVE W., SUITE 302
LYNNWOOD, WA 98036
2063643343 TEL
CONTACT: MARK STEINKE

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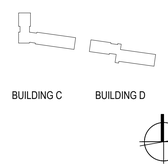
PERMIT RESPONSE 02
02/27/26

KEY PLAN



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1073-001
PM: PETER ROCKSTEAD
DRAWN BY: MARK STEINKE

LEVEL 2 NORTH PHOTOMETRIC PLAN

E1.02NP

GENERAL NOTES

1. EMERGENCY EGRESS LIGHTING: UPON LOSS OF NORMAL POWER SUPPLY, GENERATOR SHALL START AND LIGHTING FOR EGRESS PATHS AND ROOMS AND SPACES REQUIRED TO HAVE ILLUMINATION SHALL TRANSFER TO THE EMERGENCY POWER SUPPLY. THESE CIRCUITS ARE SUPPLIED BY PANELS EM-L1N, EM-L2S, EM-L5N, AND EM-L5S. HOMERUNS INDICATE PANELS WITH EMERGENCY SOURCE.
2. REFER TO SERIES E4.00 DRAWINGS FOR TYPICAL GUEST ROOM PLANS SHOWING ELECTRICAL AND LIGHTING LAYOUT.
3. SEE SHEET E1.50 FOR LUMINAIRE SCHEDULE AND LIGHTING NOTES.

FLAG NOTES

1. CIRCUIT STAIRS VERTICALLY. LUMINAIRE(S) IN STAIRWELL SHALL HAVE INTEGRAL OCCUPANCY SENSOR WHICH REDUCES LIGHTING POWER OF FIXTURE(S) BY 50% WHEN SPACE IS VACANT. (TYP)
2. EXIT SIGNS: PROVIDE UNSWITCHED HOT. (TYP)

1 LEVEL 2 SOUTH - LIGHTING PLAN

SCALE: 1/8" = 1'-0"

RIVERFRONT APARTMENTS BUILDING D
3710 Riverfront Blvd
Everett, WA 98203

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19401 40TH AVE W., SUITE 302
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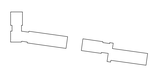
MARK STEINKE — STATE OF WASHINGTON — REGISTERED PROFESSIONAL ENGINEER — 02-27-26

PERMIT RESPONSE 02
02/27/26

KEY PLAN



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PM: PETER ROCKSTEAD
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LEVEL 2 SOUTH
LIGHTING PLAN

E1.02S

North Stair Photometric Schedule	
AVERAGE FOOT–CANDLES	12.69
MAXIMUM FOOT–CANDLES	15.1
MINIMUM FOOT–CANDLES	10.0
MAXIMUM TO MINIMUM FC RATIO	1.51
AVERAGE TO MINIMUM FC RATIO	1.27

Elevator Sill Photometric Schedule	
AVERAGE FOOT–CANDLES	18.89
MAXIMUM FOOT–CANDLES	20.4
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Emergency Egress Photometric Schedule	
AVERAGE FOOT–CANDLES	5.80
MAXIMUM FOOT–CANDLES	10.2
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GENERAL PHOTOMETRIC NOTES

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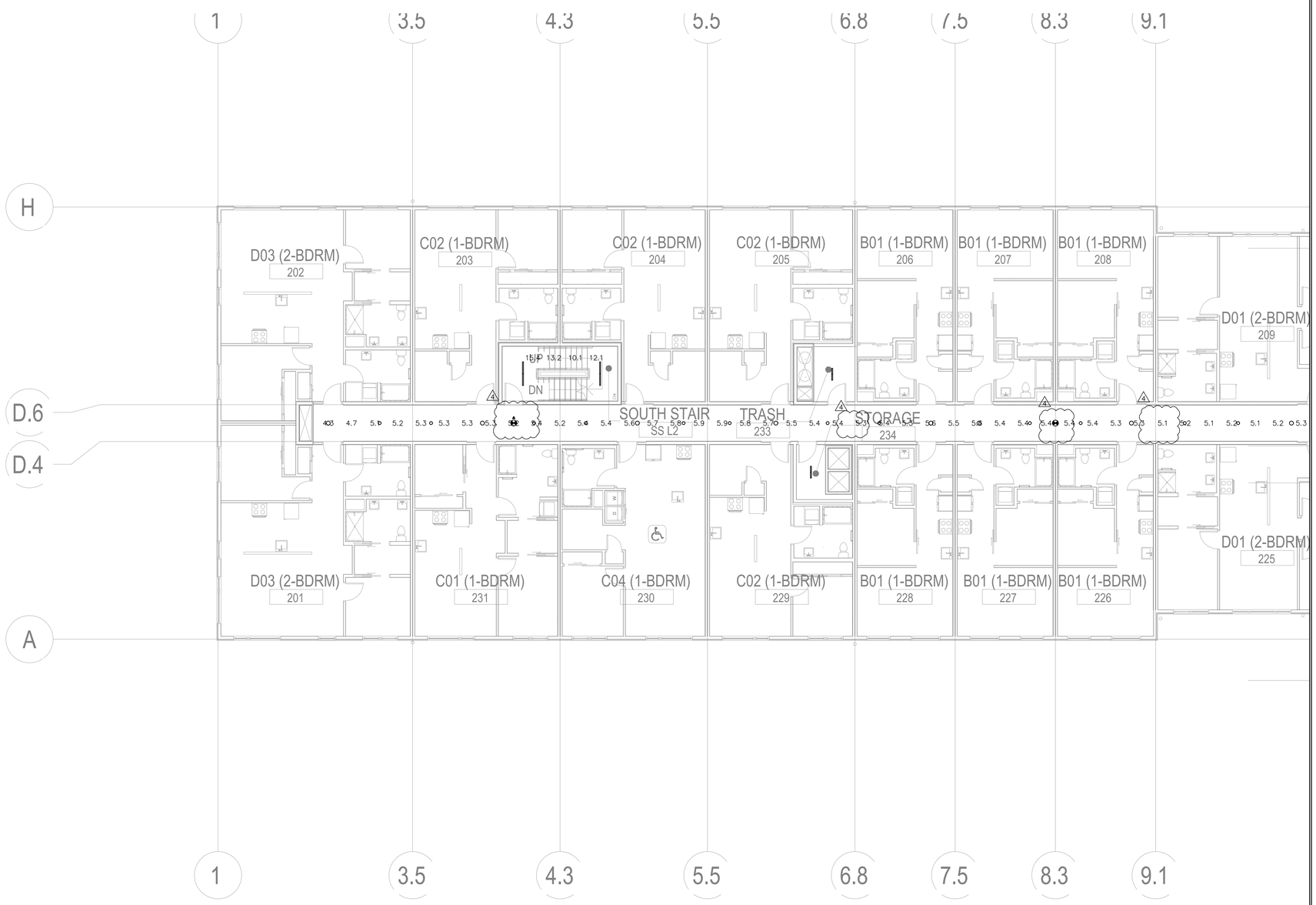
4. ELEVATOR SILL PHOTOMETRIC: CALCULATION ELEVATION AT ELEVATOR SILL TO MEET MINIMUM 10FC PER ASME 17.1, 2.11.10.2.



1 LEVEL 2 SOUTH - PHOTOMETRIC PLAN

SCALE: 1/8" = 1'-0"

RIVERFRONT APARTMENTS BUILDING D
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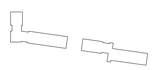
MARK STEINKE STATE OF WASHINGTON REGISTERED PROFESSIONAL ENGINEER 02-27-26

PERMIT RESPONSE 02
02/27/26

KEY PLAN



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1073-001
PM: PETER ROCKSTEAD
DRAWN BY: MARK STEINKE

LEVEL 2 SOUTH PHOTOMETRIC PLAN

E1.02SP

GENERAL NOTES

1. EMERGENCY EGRESS LIGHTING: UPON LOSS OF NORMAL POWER SUPPLY, GENERATOR SHALL START AND LIGHTING FOR EGRESS PATHS AND ROOMS AND SPACES REQUIRED TO HAVE ILLUMINATION SHALL TRANSFER TO THE EMERGENCY POWER SUPPLY. THESE CIRCUITS ARE SUPPLIED BY PANELS EM-L1N, EM-L2S, EM-L5N, AND EM-L5S. HOMERUNS INDICATE PANELS WITH EMERGENCY SOURCE.
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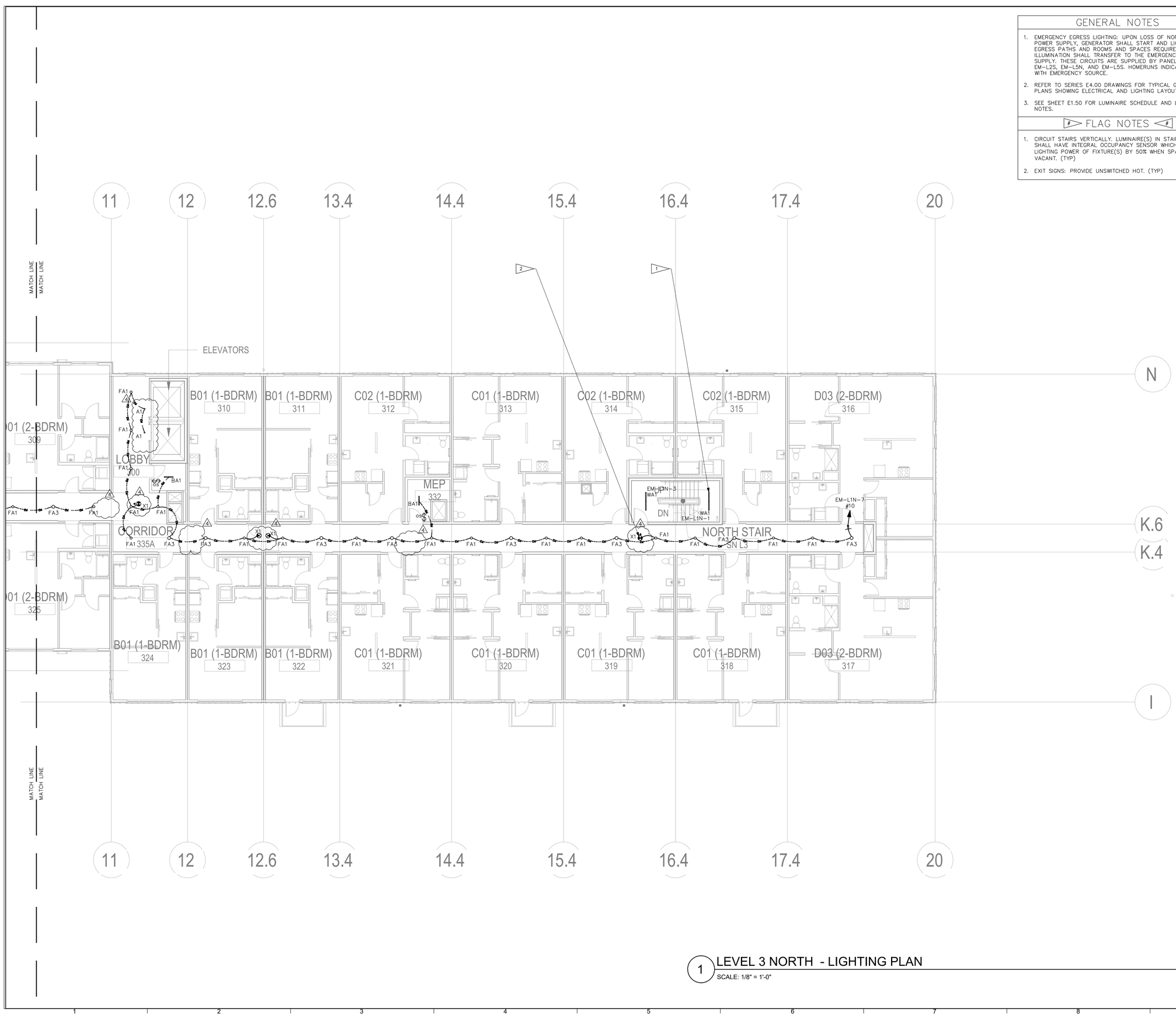
FLAG NOTES

1. CIRCUIT STAIRS VERTICALLY. LUMINAIRE(S) IN STAIRWELL SHALL HAVE INTEGRAL OCCUPANCY SENSOR WHICH REDUCES LIGHTING POWER OF FIXTURE(S) BY 50% WHEN SPACE IS VACANT. (TYP)
2. EXIT SIGNS: PROVIDE UNSWITCHED HOT. (TYP)



1 LEVEL 3 NORTH - LIGHTING PLAN
SCALE: 1/8" = 1'-0"

RIVERFRONT APARTMENTS BUILDING D
3710 Riverfront Blvd
Everett, WA 98203

ROBISON ENGINEERING, INC
19401 40TH AVE W., SUITE 302
LYNNWOOD, WA 98036
2063643343 TEL
CONTACT: MARK STEINKE

MARK STEINKE
STATE OF WASHINGTON
REGISTERED
PROFESSIONAL ENGINEER
02-27-26

PERMIT RESPONSE 02
02/27/26

KEY PLAN

BUILDING C BUILDING D

Stamping Architect

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	DATE	DESCRIPTION
1	11/03/22	PERMIT RESPONSE 01
2	02/27/26	PERMIT RESPONSE 02

1073-001
PM: PETER ROCKSTEAD
DRAWN BY: MARK STEINKE

LEVEL 3 NORTH LIGHTING PLAN

E1.03N

GENERAL NOTES

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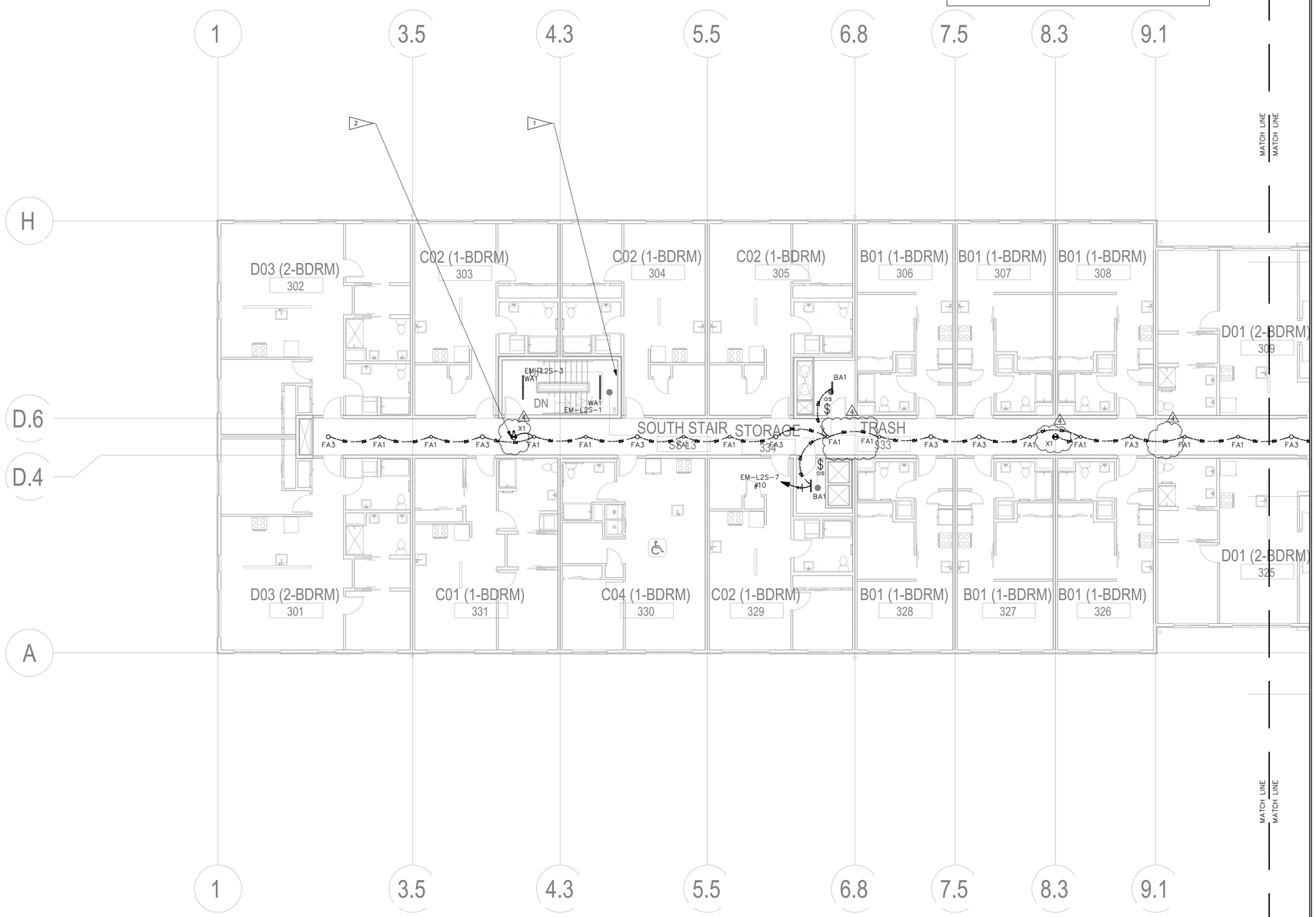

1 LEVEL 3 SOUTH - LIGHTING PLAN

SCALE: 1/8" = 1'-0"

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1073-001
PM: PETER ROCKSTEAD
DRAWN BY: MARK STEINKE

LEVEL 3 SOUTH
LIGHTING PLAN

E1.03S

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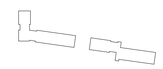

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PM: PETER ROCKSTEAD
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LEVEL 4 NORTH
LIGHTING PLAN

E1.04N

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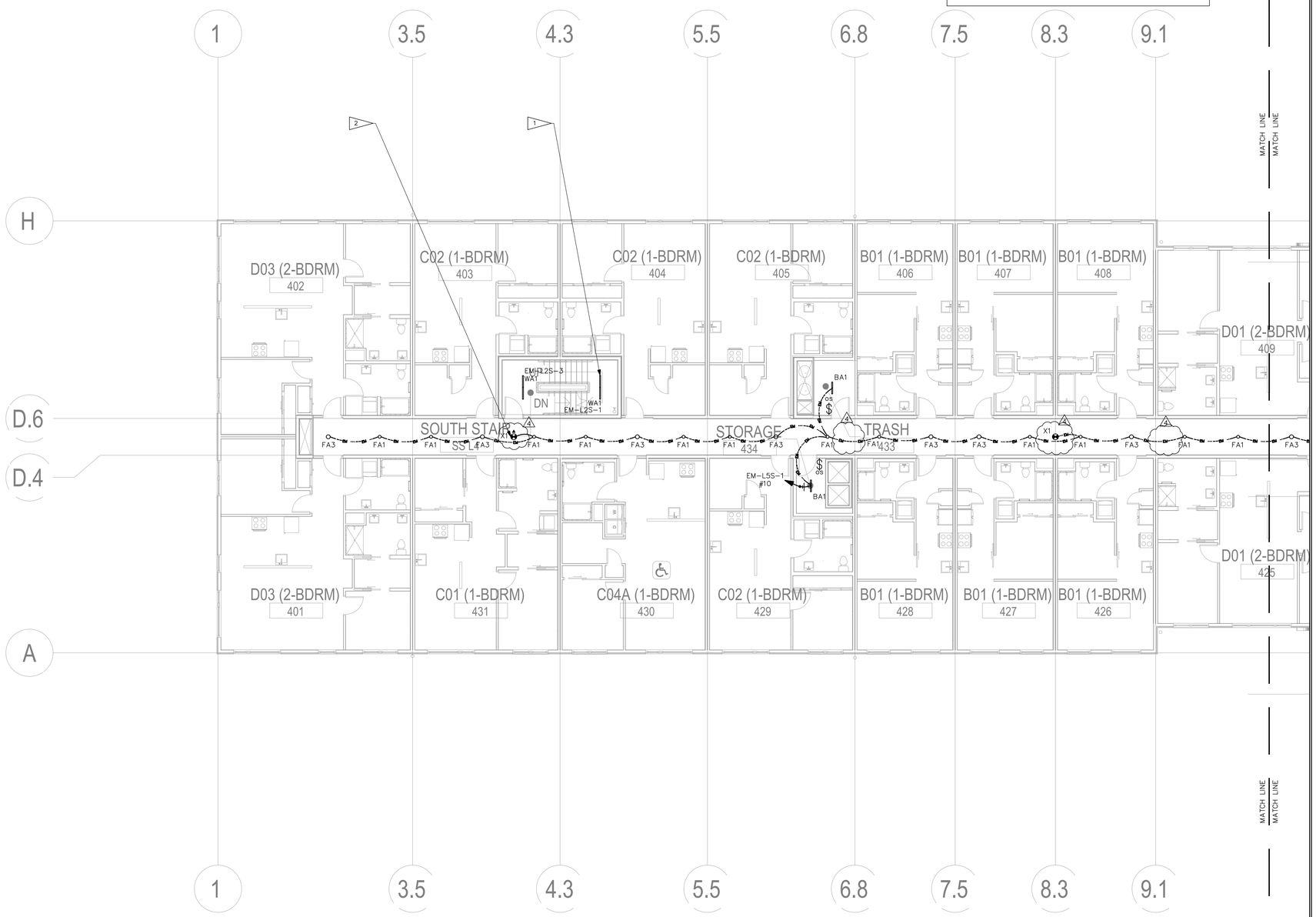

1 LEVEL 4 SOUTH - LIGHTING PLAN

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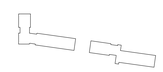

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LEVEL 4 SOUTH
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E1.04S

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MATCH LINE
MATCH LINE

ELEVATORS

04A (2-BDRM) 509 | LOBBY 500 | B01 (1-BDRM) 510 | B03A (1-BDRM) 511 | C02 (1-BDRM) 512 | C01 (1-BDRM) 513 | C02 (1-BDRM) 514 | C02 (1-BDRM) 515 | D03 (2-BDRM) 516

MEP 532 | CORRIDOR 535A | NORTH STAIR

05 (2-BDRM) 525 | B01 (1-BDRM) 524 | B01 (1-BDRM) 523 | B01 (1-BDRM) 522 | C01 (1-BDRM) 521 | C01 (1-BDRM) 520 | C01 (1-BDRM) 519 | C01 (1-BDRM) 518 | D03 (2-BDRM) 517

EM-L5N-3 #10 | EM-L1N-3 | EM-L1N-1 | DN

11 | 12 | 12.6 | 13.4 | 14.4 | 15.4 | 16.4 | 17.4 | 20

N | K.6 | K.4 | I

1 LEVEL 5 NORTH - LIGHTING PLAN
SCALE: 1/8" = 1'-0"

RIVERFRONT APARTMENTS BUILDING D
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PERMIT RESPONSE 02
02/27/26

KEY PLAN

BUILDING C BUILDING D

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LEVEL 5 NORTH
LIGHTING PLAN

E1.05N

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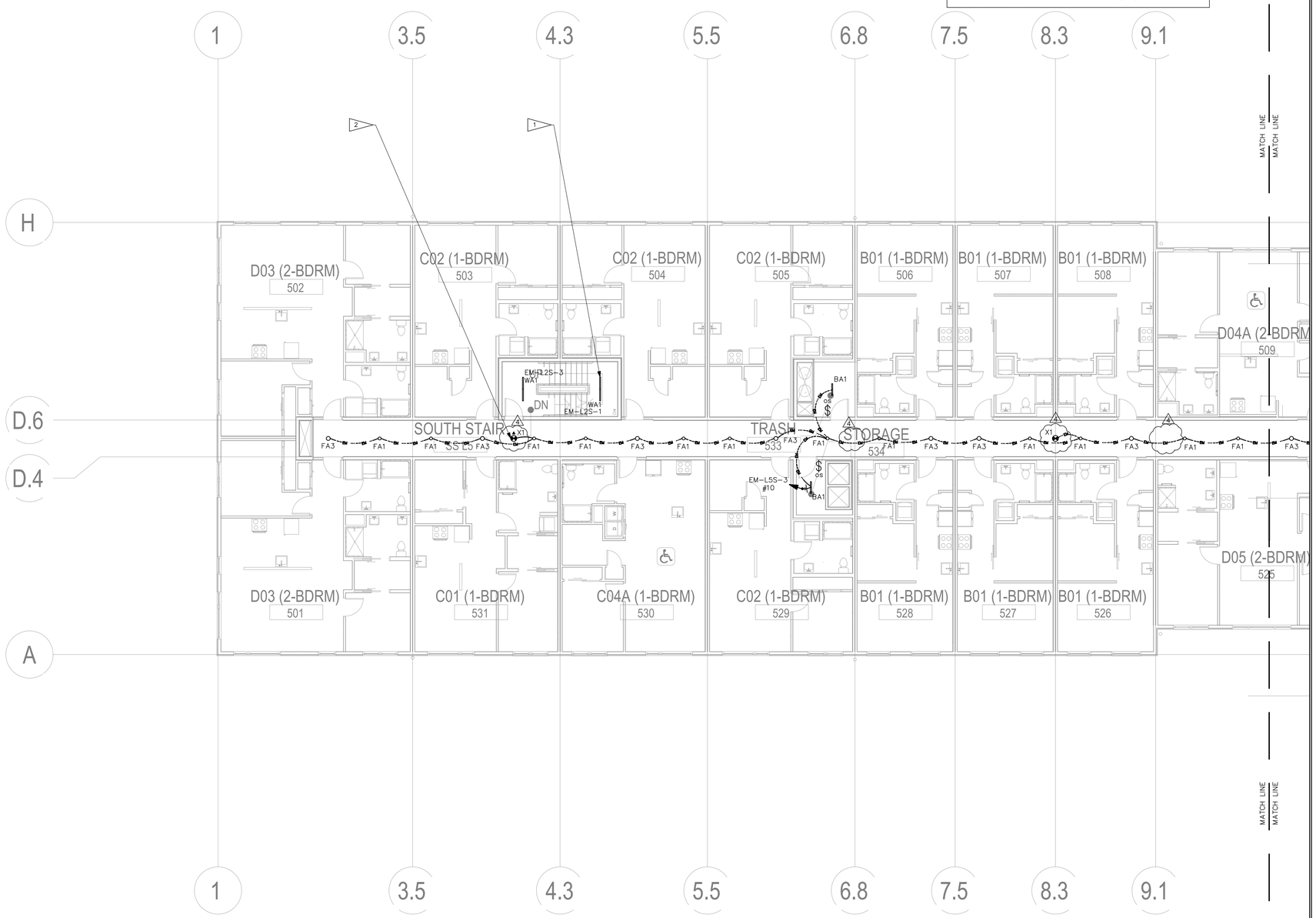

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MARK STEINKE — STATE OF WASHINGTON — REGISTERED PROFESSIONAL ENGINEER — 02-27-26

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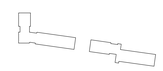

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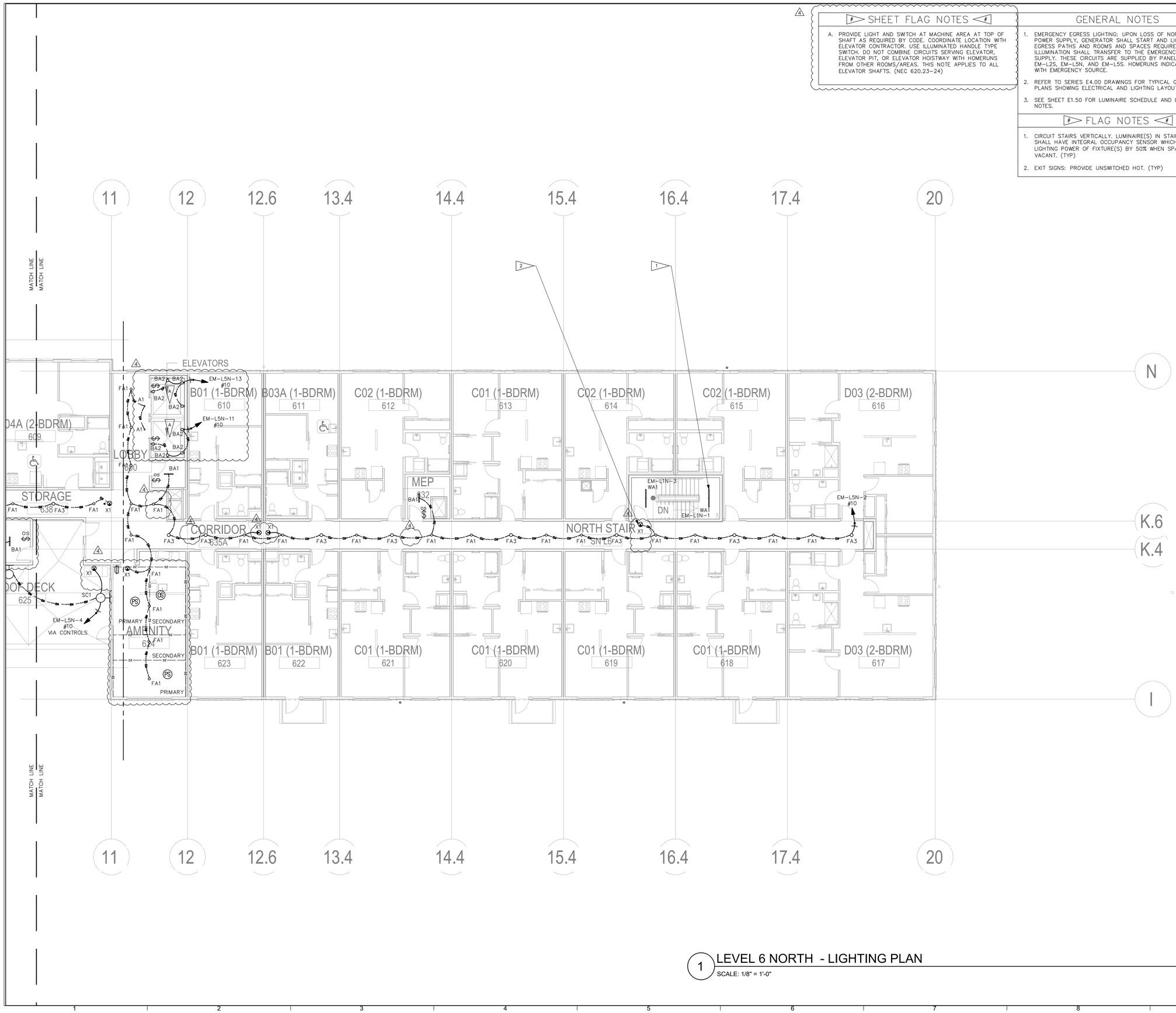
LEVEL 5 SOUTH
LIGHTING PLAN

E1.05S



1 LEVEL 6 NORTH - LIGHTING PLAN

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MARK STEINKE STATE OF WASHINGTON REGISTERED PROFESSIONAL ENGINEER 02-27-26

PERMIT RESPONSE 02
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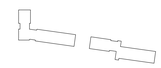

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LEVEL 6 NORTH LIGHTING PLAN

E1.06N

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1 LEVEL 6 SOUTH - LIGHTING PLAN

SCALE: 1/8" = 1'-0"

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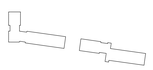

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LEVEL 5 SOUTH LIGHTING PLAN

E1.06S

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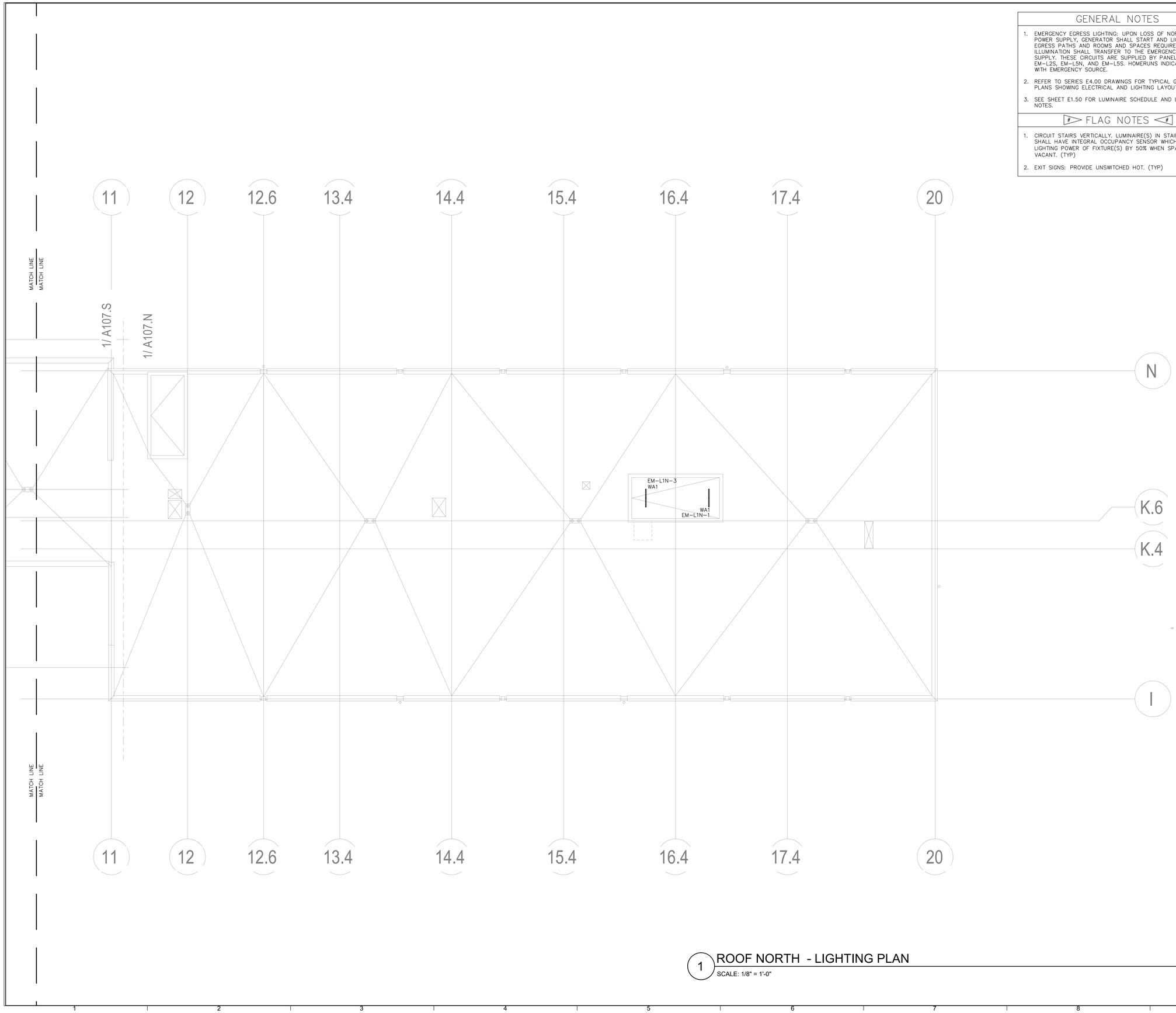

1 ROOF NORTH - LIGHTING PLAN

SCALE: 1/8" = 1'-0"

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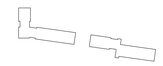

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ROOF NORTH
LIGHTING PLAN

E1.07N

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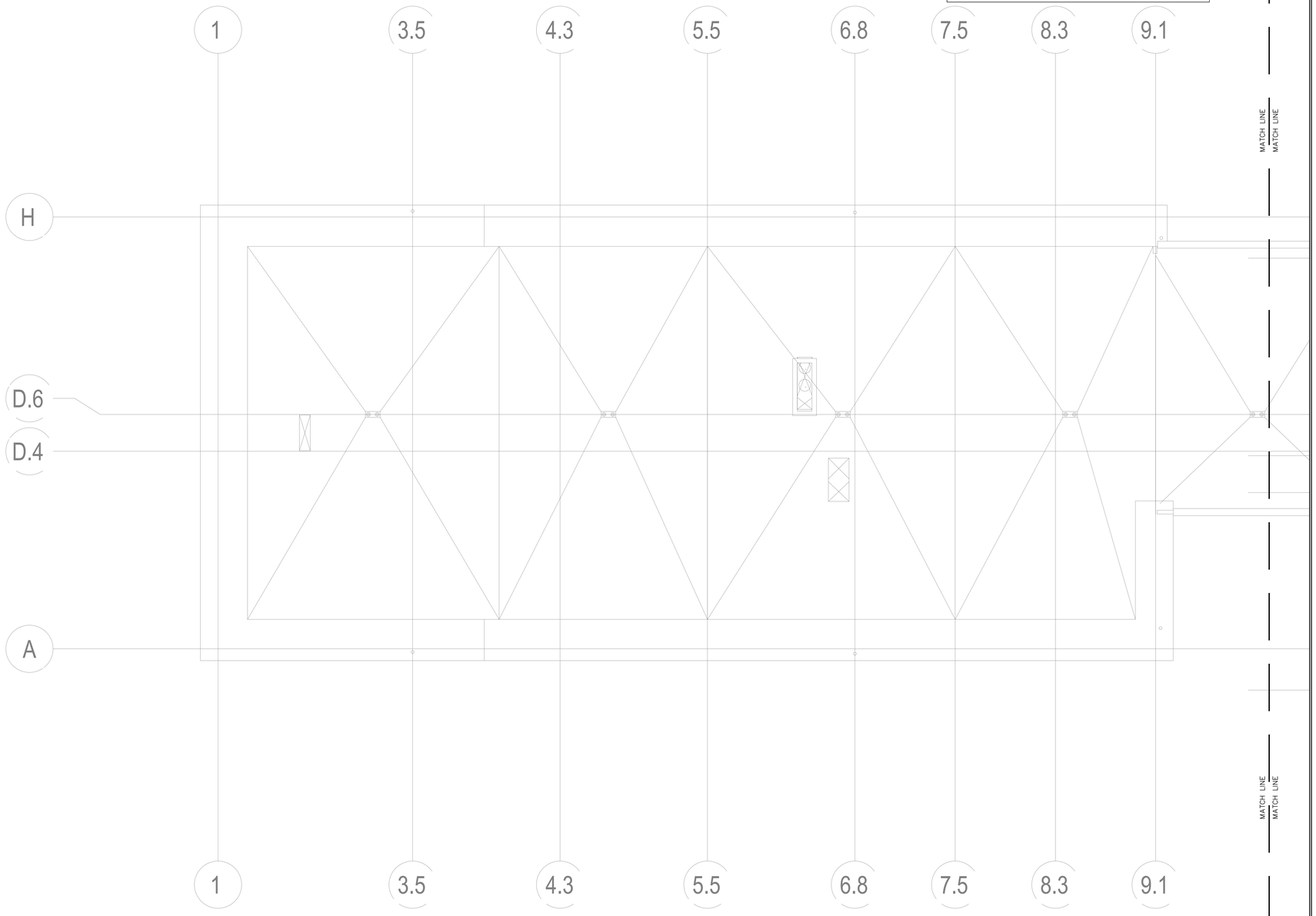
FLAG NOTES

4
1. NOT USED.
2. NOT USED.



1 ROOF SOUTH - LIGHTING PLAN
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ROOF SOUTH
LIGHTING PLAN

E1.07S

UNIT LUMINAIRE SCHEDULE

CALLOUT	SYMBOL	MOUNTING	DESCRIPTION	MODEL	VOLTAGE	DIMMING	LAMPING	WATTAGE
U1	○	CEILING	6" SURFACE LIGHT	NORA LIGHTING: NELO 6RTWMPW	120	ELECTRONIC	(1) 15W	15
U2	○	CEILING	12" SURFACE LIGHT	NORA LIGHTING: NELO 12RTWMPW	120	ELECTRONIC	(1) 15W	15
U3	▯	CEILING	VANITY MIRROR LIGHT	MAXIM: 5210SN RAIL LED 1 BATH VANITY	120	ELECTRONIC	(1) 16W	16
U5	⊙	CEILING	LED OUTDOOR SCONCE	AFX: EVYW070410LAJ	120	ELECTRONIC	(1) 15W	15

NOTES:
1. CONTRACTOR TO FURNISH AND INSTALL ALL FIXTURES.
2. CONTRACTOR TO COORDINATE FIXTURE FINISHES WITH ARCHITECT/OWNER.
3. LIGHTING FIXTURE MODELS ON ARCHITECTURAL SET TO SUPERSEDE. ELECTRICAL DRAWINGS FOR WATTAGE AND VOLTAGE ONLY.
4. CONTRACTOR TO FIELD VERIFY ALL DISTANCES, LENGTHS, AND QUANTITIES.

GENERAL LUMINAIRE SCHEDULE

CALLOUT	SYMBOL	MOUNTING	DESCRIPTION	MODEL	VOLTAGE	TYPE	CRI / CCT	LAMPING	WATTAGE
A1	◦	RECESSED	2" DOWNLIGHT	DMF: X2NCR / XMD07930SPO / X2TRDS [FINISH]	120	0–10V DIMMING	90 / 3000K	(1) 9.5W LED	9.5
BA1	▬	SURFACE	SURFACE OR SUSPENDED LED STRIPLIGHT	ELITE: 2 OEC LED 2000L/3000L/4000L DIM10 MVOLT 35K/40K/50K 85	120	0–10V DIMMING	85 / SELECTABLE	(1) 31.6W LED	31.6
BA2	▭	SURFACE	ELEVATOR PIT/OVERHEAD	ENVISIONLED: LED–VPT 4FT–3M50 CTRI	120	0–10V DIMMING	80 / SELECTABLE	(1) 50W LED	50
FA1	○	SURFACE	6" DOWNLIGHT	NORA LIGHTING: NELOCAC–6R 30 W	120	ELV DIMMMING	80 / 3000K	(1) 12W LED	12
FA2	○	SURFACE	12" DOWNLIGHT	AFX: RVF12 1400L 30 D1 BKGD	120	ELV DIMMMING	90 / 3000K	(1) 17.5W LED	17.5
FA3	○	SURFACE	8" DOWNLIGHT	NORA LIGHTING: NELOCAC–8RP 930 W	120	ELV DIMMING	90 / 3000K	(1) 18W LED	18
WA1	▬	SURFACE	4' STAIRWELL STRIP – INTEGRAL OCCUPANCY SENSOR	CANDELA: LSR S 4 FS4 12 OSBL50 EM	120	ELV DIMMING	80 / SELECTABLE	(1) 40W LED	40

NOTES:
1. CONTRACTOR TO FURNISH AND INSTALL ALL FIXTURES.
2. LUMINAIRE SCHEDULE IS BOD ONLY. CONTRACTOR TO SUBMIT FIXTURE MODEL OR EQUIVALENT. CONTRACTOR TO COORDINATE FIXTURE FINISHES WITH ARCHITECT/OWNER.
3. FIXTURE CATALOG NUMBERS DO NOT NECESSARILY DENOTE SPECIFIC MOUNTING ACCESSORIES. CONTRACTOR TO PROVIDE ALL NECESSARY ACCESSORIES TO SUCCESSFULLY COMPLETE THE INSTALLATION.

EXTERIOR LUMINAIRE SCHEDULE

CALLOUT	SYMBOL	MOUNTING	DESCRIPTION	MODEL	VOLTAGE	TYPE	CRI / CCT	LAMPING	WATTAGE
SC1	⊢○	SURFACE	EXTERIOR WALL MOUNT LED SCONCE	BEGA: 24596	120	0–10V DIMMING	80 / 3000K	(1) 19.3W LED	19.3
SD1	◦	RECESSED	4" RECESSED CANOPY LIGHT – WET–RATED	DMF LIGHTING: M4NCRN MD 07 9 30K WF O M4TRS [FINISH]	120	0–10V DIMMING	93 / 3000K	(1) 9.5W LED	9.5
SD2	◦	SURFACE	4" SURFACE CANOPY LIGHT – WET–RATED	DMF LIGHTING: DC4 SM W S D 07 WF O 00 00 30 [FINISH] O	120	0–10V DIMMING	93 / 3000K	(1) 9.5W LED	9.5

NOTES:
1. CONTRACTOR TO FURNISH AND INSTALL ALL FIXTURES.
2. LUMINAIRE SCHEDULE IS BOD ONLY. CONTRACTOR TO SUBMIT FIXTURE MODEL OR EQUIVALENT. CONTRACTOR TO COORDINATE FIXTURE FINISHES WITH ARCHITECT/OWNER.
3. FIXTURE CATALOG NUMBERS DO NOT NECESSARILY DENOTE SPECIFIC MOUNTING ACCESSORIES. CONTRACTOR TO PROVIDE ALL NECESSARY ACCESSORIES TO SUCCESSFULLY COMPLETE THE INSTALLATION.

LIGHTING CONTROL SYSTEM REQUIREMENTS

1. CONTRACTOR TO PROVIDE A FULLY OPERATIONAL LIGHTING CONTROL SYSTEM.
2. CONTRACTOR SHALL VERIFY THE COMPATIBILITY OF DIMMING AND CONTROL MODULES WITH FIXTURE TYPES PRIOR TO INSTALLATION.
3. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH A LIGHTING CONTROLS VENDOR TO OBTAIN LIGHTING CONTROL SYSTEM PACKAGE COMPLETE WITH DEVICES, WIRING DIAGRAMS, ANNOTATED PLANS INDICATING WHICH DEVICE TO BE USED IN EACH LOCATION, CONNECTION REQUIREMENTS, SET UP INSTRUCTIONS, COMMISSIONING AND CHECK–OUT FOLLOWING COMPLETION. PROVIDE ALL LOW VOLTAGE WIRING AS REQUIRED FOR CONTROL DEVICE INTERCONNECTIONS.
4. INSTALLER QUALIFICATIONS: TECHNICIAN INSTALLING AND WIRING THE LIGHTING CONTROL SYSTEM SHALL HAVE INSTALLED THIS SAME SYSTEM AT LEAST ONCE PREVIOUSLY. TECHNICIAN SHALL HAVE RECEIVED TRAINING BY FACTORY REPRESENTATIVE ON THE SYSTEM BEING INSTALLED.
5. PROVIDE LIGHTING CONTROL SYSTEM TO PERFORM THE FUNCTIONS DESCRIBED BELOW:
   - 5.1. PROVIDE MULTI–SCENE DIMMING SCHEDULING AND CONTROL. INSTALLER TO COORDINATE SCENE CONFIGURATIONS WITH BRAND AND PROPERTY MANAGER.
     - 5.1.1. PROVIDE KEYPAD CONTROLS STATIONS FOR SELECTING LIGHTING SCENES AND FOR MANUAL ON/OFF AND MULTI–LEVEL LIGHTING CONTROL. REFER TO PLANS FOR KEYPAD LOCATIONS.
   - 5.2. LIGHTING CONTROL SCHEDULE: PROVIDE SEPARATE SWITCHING AND DIMMING CONTROL FOR LIGHTING ZONES AS INDICATED.
   - 5.3. AUTOMATIC LIGHTING CONTROLS:
     - 5.3.1. UNLESS OTHERWISE NOTED ON PLANS, OCCUPANCY SENSORS SHALL AUTOMATICALLY TURN OFF ALL CONNECTED LIGHTING WITHIN 20 MINUTES OF SPACE BEING UNOCCUPIED. OCCUPANCY SENSORS SHALL EITHER BE MANUAL ON OR SHALL BE CONTROLLED TO AUTOMATICALLY TURN THE LIGHTING ON TO NOT MORE THAN 50 PERCENT POWER EXCEPT WHERE MANUAL ON WOULD ENDANGER THE SAFETY OR SECURITY OF THE ROOM OR BUILDING OCCUPANTS. (C405.2.1.1)
     - 5.3.2. MULTI–ZONE PHOTO–SENSORS SHALL PROVIDE SEPARATE CONTROL FOR LUMINAIRES IN EACH TYPE OF DAYLIGHT ZONE. (C405.2.4.1)
     - 5.3.3. EXTERIOR LIGHTING CONTROLS SHALL AUTOMATICALLY TURN OFF ALL EXTERIOR LIGHTING AS A FUNCTION OF AVAILABLE DAYLIGHT. BUILDING FACADE AND LANDSCAPE LIGHTING SHALL HAVE CONTROLS THAT AUTOMATICALLY SHUT OFF THE LIGHTING FOR A MINIMUM OF 6 HOURS PER NIGHT OR NOT LATER THAN ONE HOUR AFTER BUSINESS CLOSING TO NOT EARLIER THAN ONE HOUR BEFORE BUSINESS OPENING, WHICHEVER IS LESS. OTHER LIGHTING SHALL HAVE CONTROLS CONFIGURED TO AUTOMATICALLY REDUCE THE CONNECTED LIGHTING POWER BY AT LEAST 30 PERCENT FROM NO LATER THAN 12 MIDNIGHT TO 6 AM OR FROM ON HOUR AFTER BUSINESS CLOSING TO ONE HOUR BEFORE BUSINESS OPENING OR DURING ANY PERIOD WHEN NO ACTIVITY HAS BEEN DETECTED FOR A TIME OF NO LONGER THAN 15 MINUTES. (C405.2.6)
6. MEANS OF EGRESS ILLUMINATION: AT ANY TIME THE BUILDING IS OCCUPIED, THE MEANS OF EGRESS SHALL BE ILLUMINATED AT AN INTENSITY OF NOT LESS THAN 1 FOOTCANDLE AT FLOOR LEVEL. (IBC 1008.2.1)
7. DURING EMERGENCY CONDITIONS EMERGENCY LIGHTING CIRCUITS SHALL BYPASS ALL LIGHTING CONTROLS IN ORDER TO ENERGIZE ALL CONNECTED LUMINAIRES AT FULL CAPACITY. PROVIDE UL924 RELAYS AS REQUIRED TO BYPASS AREA CONTROLS.
   - 7.1. EMERGENCY PATHWAY EGRESS LIGHTING: ILLUMINATION PROVIDED ALONG THE EGRESS PATH AT FLOOR LEVEL SHALL AVERAGE AT LEAST 1 FOOT CANDLE. (IBC 1008.3.5)
   - 7.2. EMERGENCY LIGHTING SHALL BE SUPPLIED BY: ALL COMMON AREA LIGHTING CIRCUITS ARE POWERED FROM THE EMERGENCY GENERATOR SYSTEM AND SHALL BE ILLUMINATED AT FULL POWER FOR A MINIMUM OF 90 MINUTES

LIGHTING CONTROLS LEGEND

SYMBOL	CONTROL TYPE	CONTROL FUNCTION
a k $ $ $	TOGGLE SWITCH	MANUAL ON/OFF LIGHTING CONTROL. SUBSCRIPT INDICATES WHICH FIXTURES ARE TO BE CONTROLLED BY WHICH SWITCH (WSEC C405.2.3). SUBSCRIPT 'k' INDICATES TAMPER RESISTANT KEYED SWITCH FOR USE BY AUTHORIZED PERSONNEL ONLY.
a $	DIMMER SWITCH	MANUAL MULTI–LEVEL LIGHTING CONTROL. SWITCH SHALL ALSO HAVE MANUAL ON/OFF FUNCTIONALITY. SUBSCRIPT INDICATES WHICH FIXTURES ARE TO BE CONTROLLED BY WHICH DIMMER. (C405.2.3)
vs vs os os $ $	TOGGLE/DIMMER SWITCH WITH OCCUPANCY SENSOR	SWITCHES LABELED 'os' OR 'vs' SHALL TURN OFF ALL CONNECTED LUMINAIRES WITHIN 20 MINUTES OF SPACE BEING VACANT. (C405.2.1.1)
CS–01	CONTROL STATION; SEE LIGHTING CONTROL ZONE TABLE ON PLANS.	MANUAL LOCAL LIGHTING CONTROL (C405.2.1.1). CONTROL STATION SHALL HAVE CAPACITY TO CONTROL MULTIPLE ZONES AND MULTIPLE SCENES AS NEEDED. SUBSCRIPT CORRESPONDS TO 'LIGHTING CONTROLS' TABLE ON PLANS.
(OS)	SURFACE MOUNTED OCCUPANCY SENSOR	AUTOMATIC LIGHTING CONTROL SHALL TURN OFF ALL CONNECTED LUMINAIRES WITHIN 20 MINUTES OF SPACE BEING VACANT. (C404.2.1.1)
ox (PS)	MULTIZONE PHOTOSENSOR	AUTOMATIC LIGHTING CONTROL SHALL AUTOMATICALLY ADJUST THE LIGHT OUTPUT OF ALL CONNECTED LUMINAIRES BASED ON THE DAYLIGHT LEVEL IN THE PRIMARY AND SECONDARY ZONES (C405.2.4). SUBSCRIPT INDICATES WHICH FIXTURES ARE TO BE CONTROLLED BY ZONE; 'x' INDICATES MULTIPLE ZONE CONTROL.

GENERAL LIGHTING NOTES

1. LIGHTING CONTROLS SHALL BE INSTALLED WHICH MEET ALL REQUIREMENTS OF LOCAL ENERGY CODES.
2. EMERGENCY LIGHT FIXTURES: IN ADDITION TO SWITCH–LEG, PROVIDE UNSWITCHED HOT TO SERVE INTERNAL BATTERY AND CHARGER.
3. LOCATIONS OF OCCUPANCY SENSORS, PHOTO SENSORS, DIMMERS, AND SWITCHES ARE DIAGRAMMATIC. CONTRACTOR TO COORDINATE QUANTITIES AND OPTIMAL LOCATIONS WITH LIGHTING CONTROL MANUFACTURER AND ARCH/OWNER.
4. AUTOMATIC LIGHTING SHUT–OFF CONTROLS SHALL BE PROVIDED BY LOCAL OCCUPANCY SENSORS UNLESS OTHERWISE NOTED. PUBLIC SPACES ARE ACTIVE 24/7 AND THEREFORE EXEMPT FROM AUTOMATIC LIGHTING SHUT–OFF REQUIREMENTS FOR SECURITY. (WSEC C405.2)
5. DAYLIGHT ZONES ARE SHOWN ON PLANS AS DEFINED BY WASHINGTON STATE ENERGY CODE (WSEC) C405.2.4.2. SIDELIGHT DAYLIGHT ZONES ARE REFERRED TO AS 'PRIMARY' AND 'SECONDARY' ON PLANS AND DENOTED BY DASHED LINES.
6. FOR CUSTOM FF&E FIXTURES, IT IS THE MANUFACTURER'S RESPONSIBILITY TO FURNISH PRODUCTS WHICH ARE COMPLIANT WITH ALL REQUIREMENTS OF LOCAL ENERGY CODES, AS WELL AS MATCH THE ELECTRICAL SPECIFICATIONS PROVIDED IN THE LUMINAIRE SCHEDULES. PROVIDE SUBMITTAL SHOP DRAWINGS WITHIN 30 DAYS OF RECEIVING FIXTURE ORDER. SUBMITTALS SHALL CLEARLY INDICATE LAMPING AND MAXIMUM WATTAGE RATING OF LAMP SOCKETS. NON–COMPLIANT FIXTURES REJECTED BY ELECTRICAL INSPECTOR SHALL BE RETURNED TO THE MANUFACTURER FOR REWORKING AND/OR RE–LABELING.
7. ALL FIXTURES SHALL BE INSTALLED ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS.
8. CONTRACTOR SHALL BE RESPONSIBLE TO ORDER ALL NECESSARY HARDWARE, ELECTRICAL CABLE, TIMERS, TRANSFORMERS, ETC., AS REQUIRED FOR COMPLETION OF INSTALLATION OF A FULLY FUNCTIONING SYSTEM.
9. CONTRACTOR SHALL BE RESPONSIBLE FOR EQUIPPING ALL FIXTURES WITH THE EXACT LAMPS SPECIFIED IN THE FIXTURE SCHEDULE.
10. WHERE FIXTURES REQUIRE REMOTE TRANSFORMERS OR BALLASTS, THE CONTRACTOR SHALL DETERMINE LOCATIONS AS REQUIRED FOR EVEN LOAD DISTRIBUTION, SERVICE ACCESS, AND VENTILATION.
11. THE CONTRACTOR SHALL COORDINATE WITH THE ELECTRICAL ENGINEER FOR EXACT LOCATIONS OF TIMERS AND/OR PHOTO CELLS, IF ANY.
12. WHERE APPLICABLE, THE CONTRACTOR SHALL AIM AND ADJUST LIGHTING FIXTURES AS DIRECTED BY THE LIGHTING DESIGNER UPON COMPLETION OF THE INSTALLATION.

SPECIAL NOTE TO THE CONTRACTOR:

1. FIXTURE SUBMITTALS THAT DO NOT INCLUDE LAMP SPECIFICATIONS WILL BE CONSIDERED INCOMPLETE AND WILL NOT BE REVIEWED.

EXIT SIGN NOTES

DURING CONSTRUCTION UPON COMPLETION OF A TYPICAL FLOOR FRAMING AND BEFORE WALL COVER, ELECTRICAL CONTRACTOR SHALL WALK THE EGRESS PATHS WITH THE LOCAL INSPECTOR (AHJ) TO CONFIRM THAT ALL THE EXIT SIGNS ARE LOCATED PER THE AHJ'S SATISFACTION AND IDENTIFY ANY ADDITIONAL EXIT SIGNS THAT THE AHJ WISHES TO BE INSTALLED (IBC 1013.1). CONTRACTOR SHALL PROVIDE UP TO 10% ADDITIONAL EXIT SIGNS AT NO ADDITIONAL COST.

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CONTACT: MARK STEINKE

MARK STEINKE — STATE OF WASHINGTON — REGISTERED PROFESSIONAL ENGINEER — 02-27-26

PERMIT RESPONSE 02
02/27/26

KEY PLAN

BUILDING C BUILDING D

Stamping Architect

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	DATE	DESCRIPTION
1	11/03/22	PERMIT RESPONSE 01
2	02/27/26	PERMIT RESPONSE 02

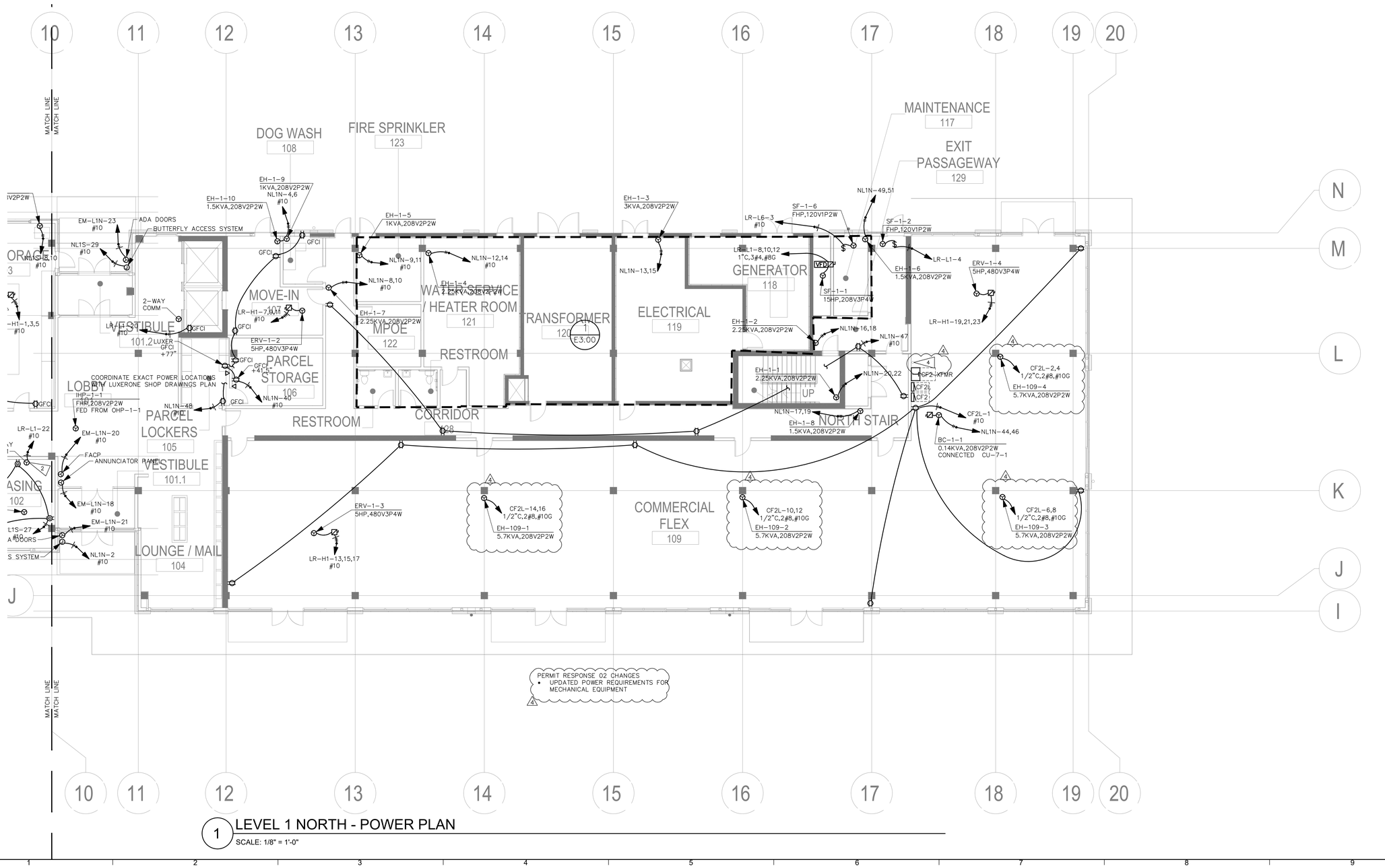
1073-001
PM: PETER ROCKSTEAD
DRAWN BY: MARK STEINKE

LUMINAIRE SCHEDULE & LIGHTING NOTES

E1.50

FLAG NOTES

1. PROVIDE CONDUIT, WIRE, AND TERMINATIONS FOR CONNECTION TO TRASH CHUTE LOW VOLTAGE SYSTEM WITH INTERLOCKING SWITCHES AND CONTROLS. COORDINATE WITH VENDOR AS TO WHAT IS REQUIRED. SEE SHEET E6.00 DETAIL 2, FOR TYPICAL DIAGRAM OF CHUTE INTERLOCK.
2. PROVIDE A 2-WAY COMMUNICATION CALL STATION (CORNELL RESCUE ASSISTANCE SYSTEM SERIES 4200 AUDIO/VISUAL) THAT CONNECTS DIRECTLY BETWEEN EACH REQUIRED LOCATION AND A CENTRAL CONTROL POINT LOCATION APPROVED BY THE FIRE DEPT. WHERE THE CENTRAL CONTROL POINT IS NOT CONSTANTLY ATTENDED, A TWO-WAY COMMUNICATION SYSTEM SHALL HAVE A TIMED AUTOMATIC TELEPHONE DIAL-OUT CAPABILITY TO AN APPROVED MONITORING LOCATION. THE TWO WAY COMMUNICATION SHALL INCLUDE BOTH AUDIBLE AND VISIBLE SIGNALS. CALL STATIONS SHALL BE ON EACH ACCESSIBLE FLOOR THAT IS ONE OR MORE STORIES ABOVE OR BELOW THE STORY OF EXIT DISCHARGE PER IBC 1007.8, COMPLYING WITH IBC 1007.8.1 & IBC 1007.8.2. COORDINATE EXACT LOCATION WITH ARCHITECTURAL. SEE SHEET E6.02 DETAIL 1.
3. NOT USED.
4. PROVIDE 2-1/2" CONDUIT FROM MPOE ROOM TO COMMERCIAL SPACE WITH PULL FOR FUTURE COMUNICATION/DATA



1 LEVEL 1 NORTH - POWER PLAN

SCALE: 1/8" = 1'-0"

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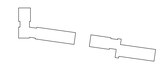

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1073-001
PM: PETER ROCKSTEAD
DRAWN BY: MARK STEINKE

LEVEL 1 NORTH POWER PLAN

E2.01N

FLAG NOTES

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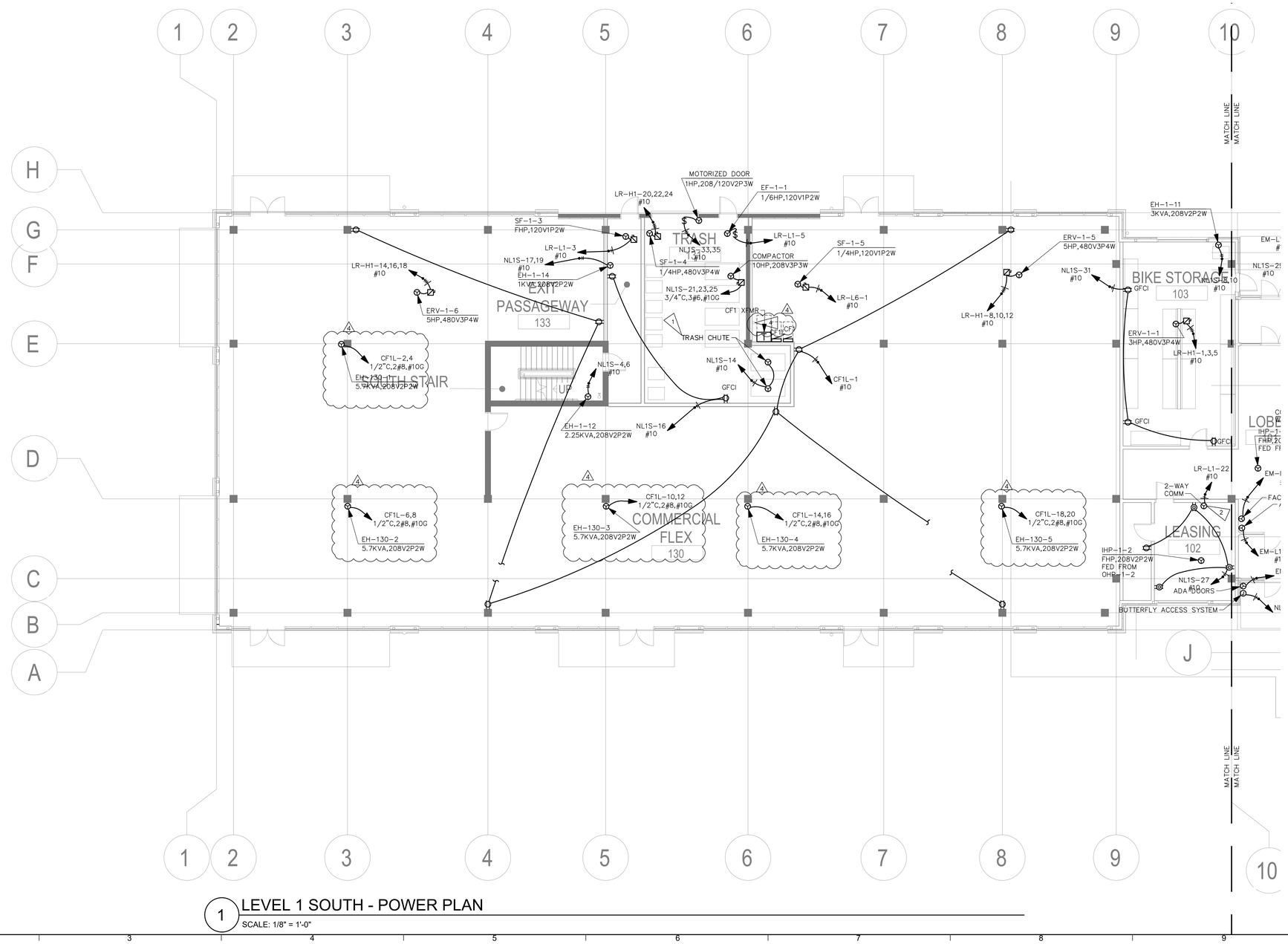

1 LEVEL 1 SOUTH - POWER PLAN

SCALE: 1/8" = 1'-0"

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MARK STEINKE — STATE OF WASHINGTON — REGISTERED PROFESSIONAL ENGINEER — 02-27-26

PERMIT RESPONSE 02
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LEVEL 1 SOUTH POWER PLAN

E2.01S

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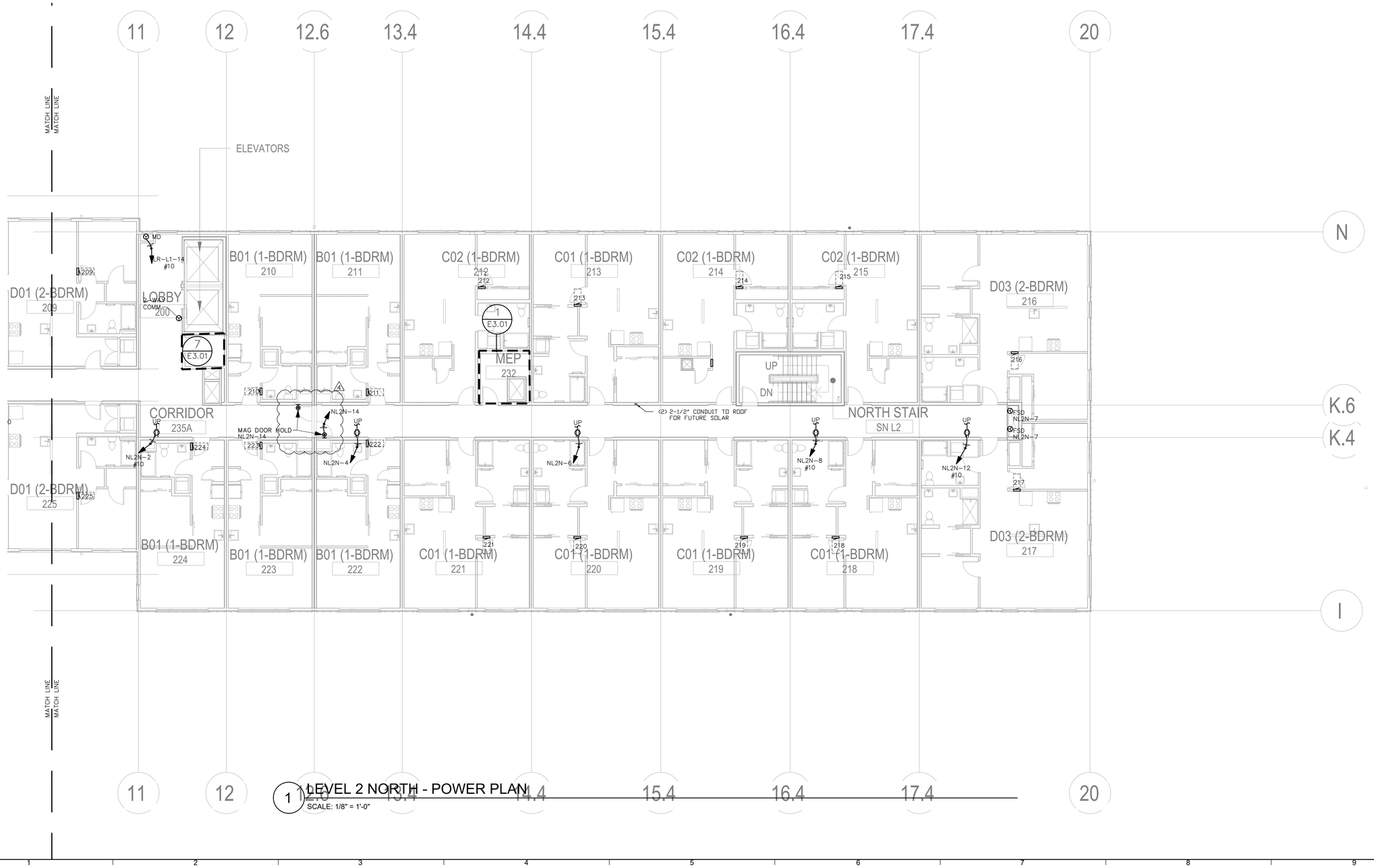

1 LEVEL 2 NORTH - POWER PLAN
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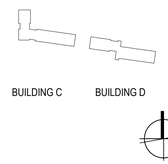

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PM: PETER ROCKSTEAD
DRAWN BY: MARK STEINKE

LEVEL 2 NORTH
POWER PLAN

E2.02N

FLAG NOTES

1. PROVIDE CONDUIT, WIRE, AND TERMINATIONS FOR CONNECTION TO TRASH CHUTE LOW VOLTAGE SYSTEM WITH INTERLOCKING SWITCHES AND CONTROLS. COORDINATE WITH VENDOR AS TO WHAT IS REQUIRED. SEE SHEET E6.00 DETAIL 2, FOR TYPICAL DIAGRAM OF CHUTE INTERLOCK.
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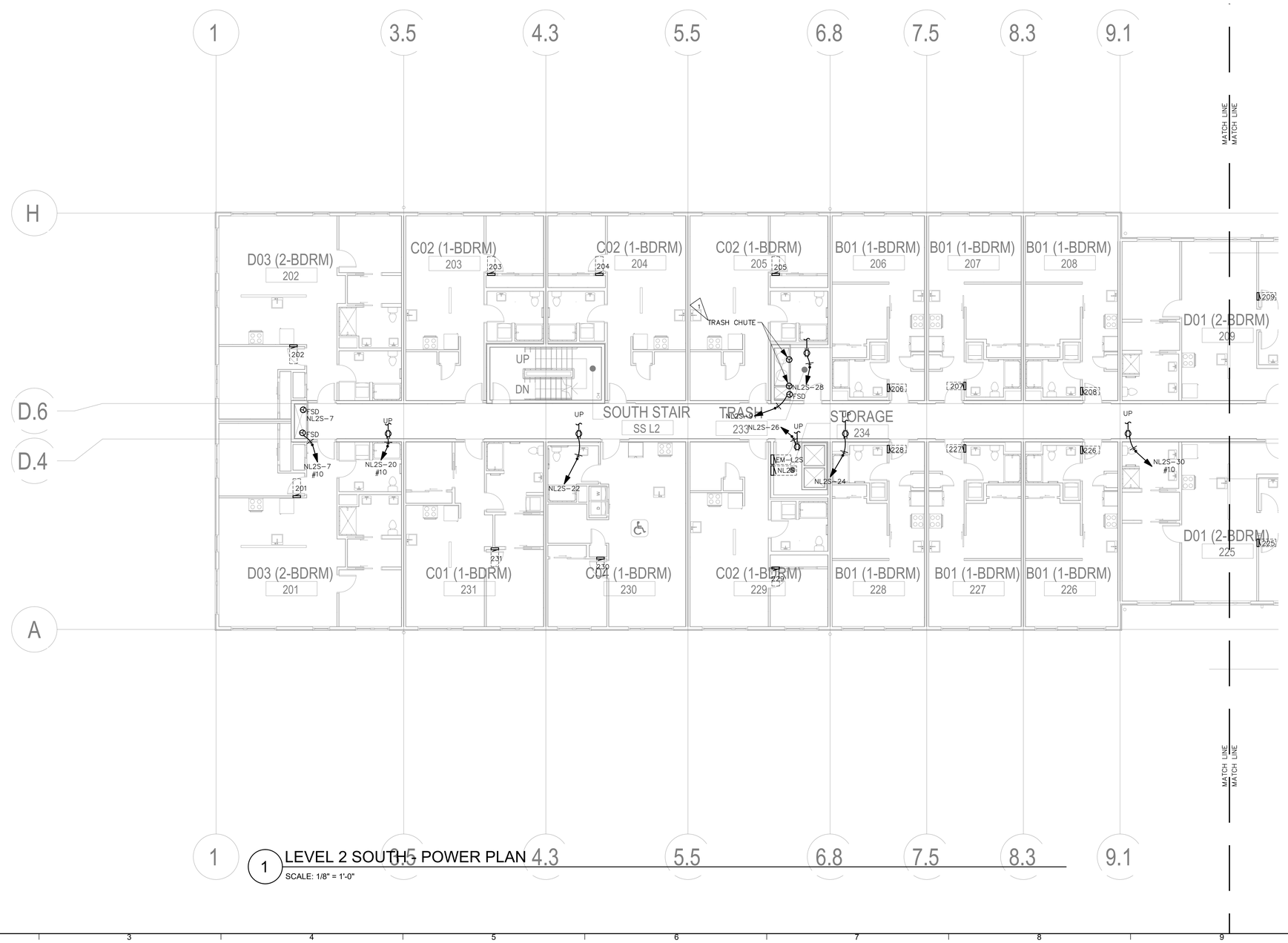

1 LEVEL 2 SOUTH POWER PLAN
SCALE: 1/8" = 1'-0"

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LEVEL 2 SOUTH POWER PLAN

E2.02S

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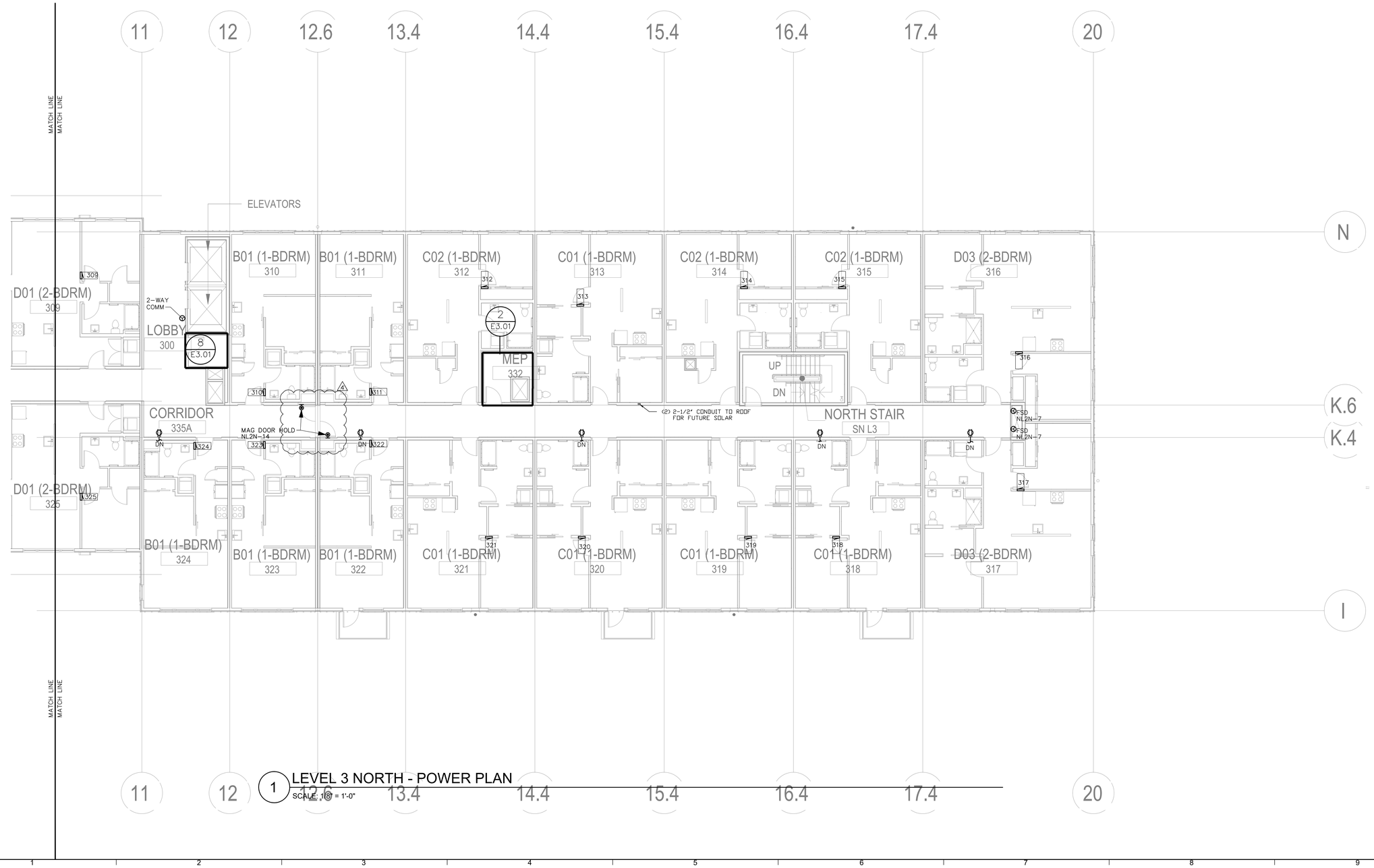

1 LEVEL 3 NORTH - POWER PLAN
SCALE: 1/8" = 1'-0"

RIVERFRONT APARTMENTS BUILDING D
3710 Riverfront Blvd
Everett, WA 98203

ROBISON ENGINEERING, INC
19401 40TH AVE W., SUITE 302
LYNNWOOD, WA 98036
2063643343 TEL
CONTACT: MARK STEINKE

MARK STEINKE
STATE OF WASHINGTON
REGISTERED
PROFESSIONAL ENGINEER
02-27-26

PERMIT RESPONSE 02
02/27/26

KEY PLAN

BUILDING C BUILDING D

Stamping Architect

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△	DATE	DESCRIPTION
1	11/03/22	PERMIT RESPONSE 01
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1073-001
PM: PETER ROCKSTEAD
DRAWN BY: MARK STEINKE

LEVEL 3 NORTH POWER PLAN

E2.03N

FLAG NOTES

1. PROVIDE CONDUIT, WIRE, AND TERMINATIONS FOR CONNECTION TO TRASH CHUTE LOW VOLTAGE SYSTEM WITH INTERLOCKING SWITCHES AND CONTROLS. COORDINATE WITH VENDOR AS TO WHAT IS REQUIRED. SEE SHEET E6.00 DETAIL 2, FOR TYPICAL DIAGRAM OF CHUTE INTERLOCK.
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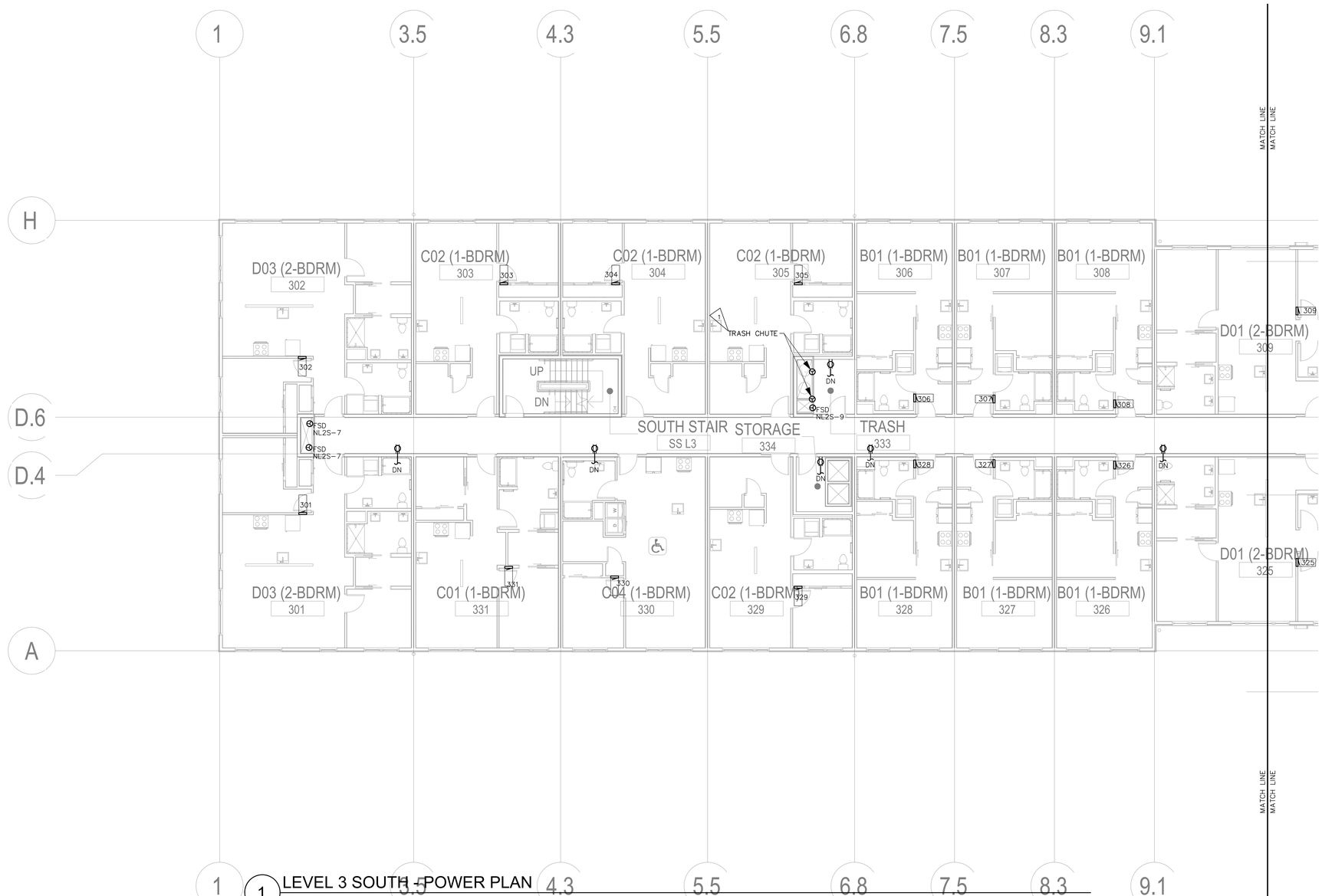

1 LEVEL 3 SOUTH - POWER PLAN
SCALE: 1/8" = 1'-0"

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PM: PETER ROCKSTEAD
DRAWN BY: MARK STEINKE

LEVEL 3 SOUTH POWER PLAN

E2.03S

FLAG NOTES

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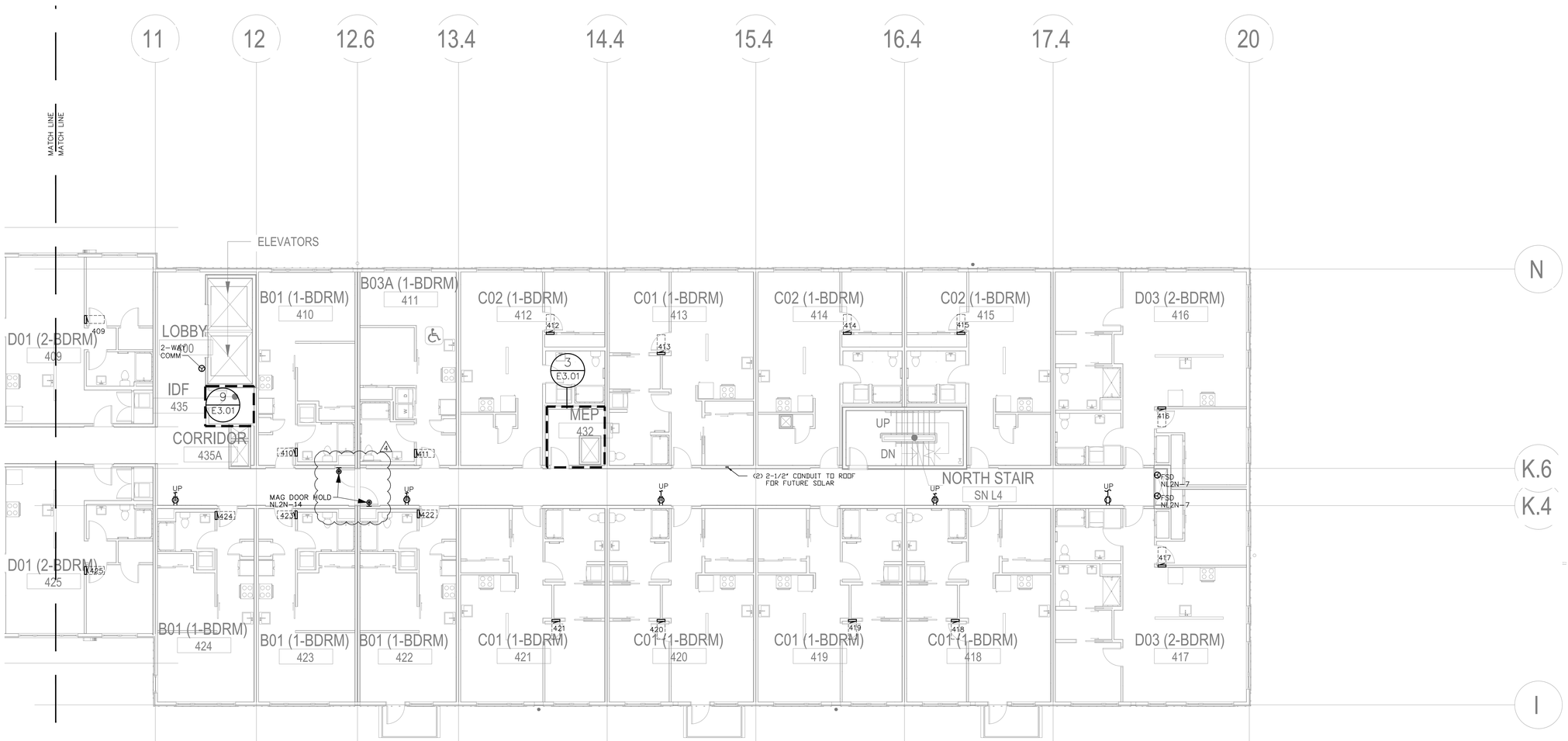

1 LEVEL 4 NORTH - POWER PLAN
SCALE: 1/8" = 1'-0"

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1073-001
PM: PETER ROCKSTEAD
DRAWN BY: MARK STEINKE

LEVEL 4 NORTH
POWER PLAN

E2.04N

FLAG NOTES

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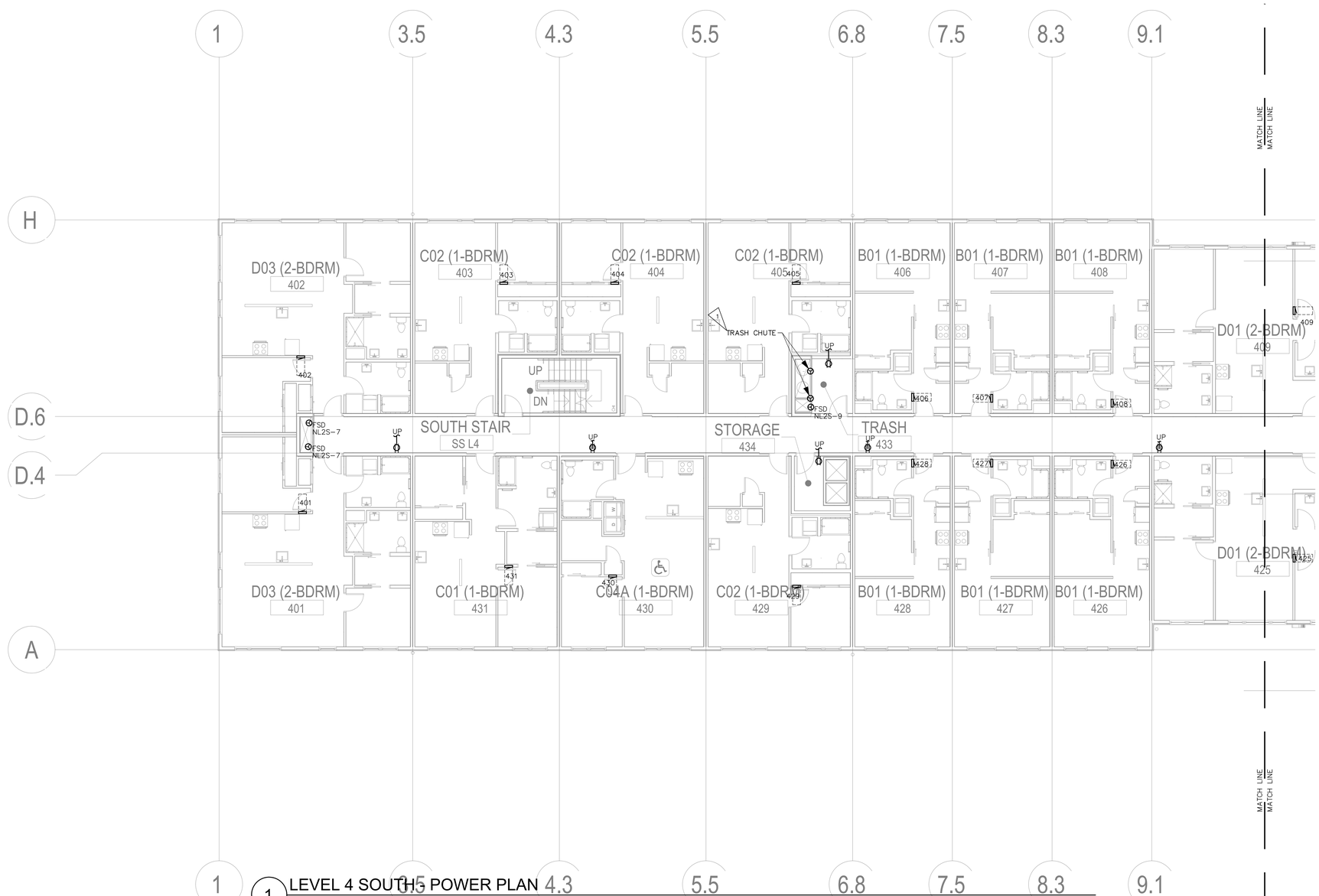

1 LEVEL 4 SOUTH POWER PLAN
SCALE: 1/8" = 1'-0"

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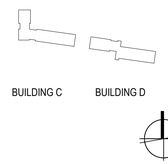

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1073-001
PM: PETER ROCKSTEAD
DRAWN BY: MARK STEINKE

LEVEL 4 SOUTH POWER PLAN

E2.04S

FLAG NOTES

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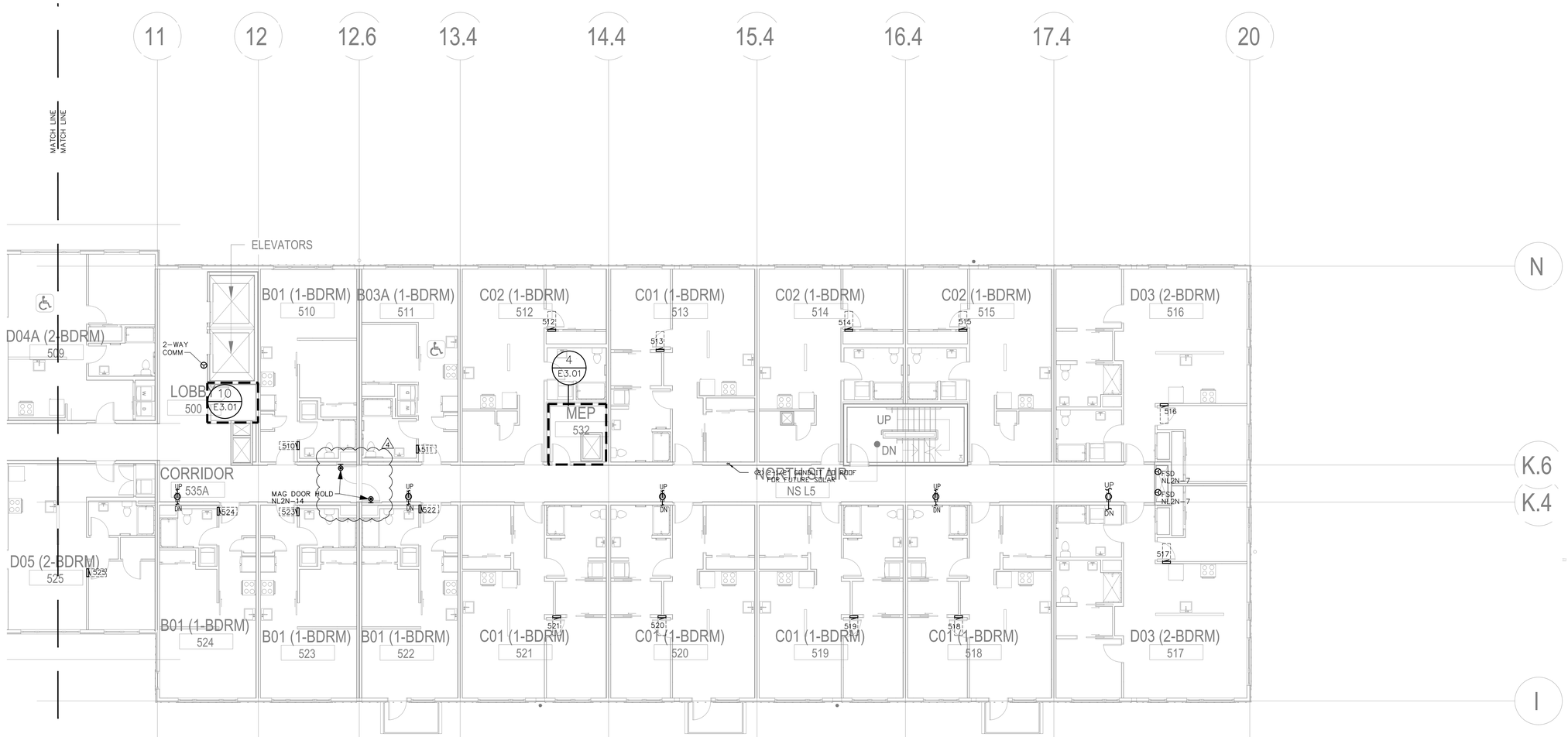

1 LEVEL 5 NORTH - POWER PLAN
SCALE: 1/8" = 1'-0"

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2063643343 TEL
CONTACT: MARK STEINKE

MARK STEINKE — STATE OF WASHINGTON — REGISTERED PROFESSIONAL ENGINEER — 27-26

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02/27/26

KEY PLAN

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LEVEL 5 NORTH POWER PLAN

E2.05N

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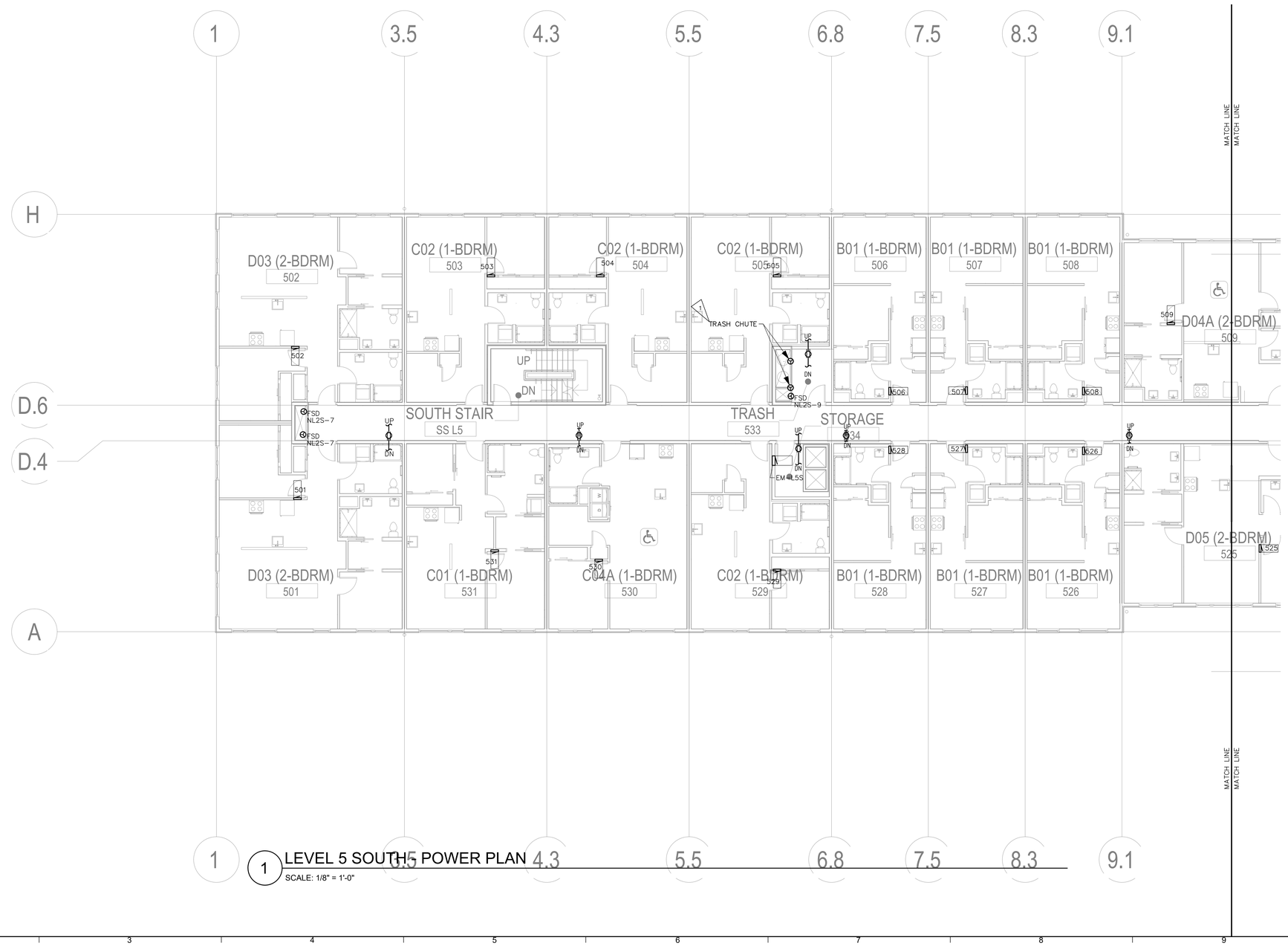

1 LEVEL 5 SOUTH POWER PLAN
SCALE: 1/8" = 1'-0"

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19401 40TH AVE W., SUITE 302
LYNNWOOD, WA 98036
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CONTACT: MARK STEINKE

MARK STEINKE
STATE OF WASHINGTON
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PROFESSIONAL ENGINEER
02-27-26

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LEVEL 5 SOUTH POWER PLAN

E2.05S

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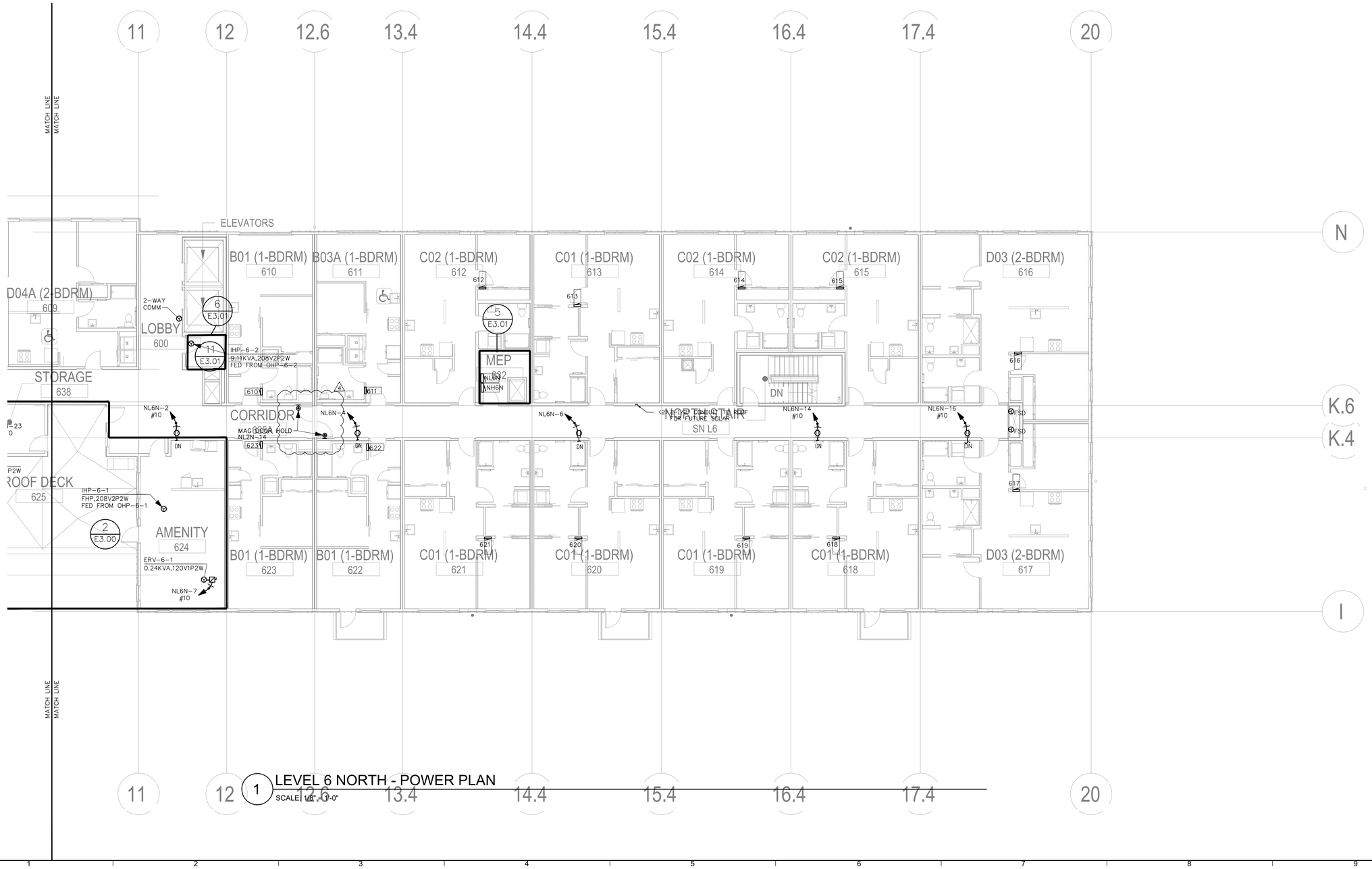

1 LEVEL 6 NORTH - POWER PLAN
SCALE: 1/8" = 1'-0"

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LEVEL 6 NORTH POWER PLAN

E2.06N

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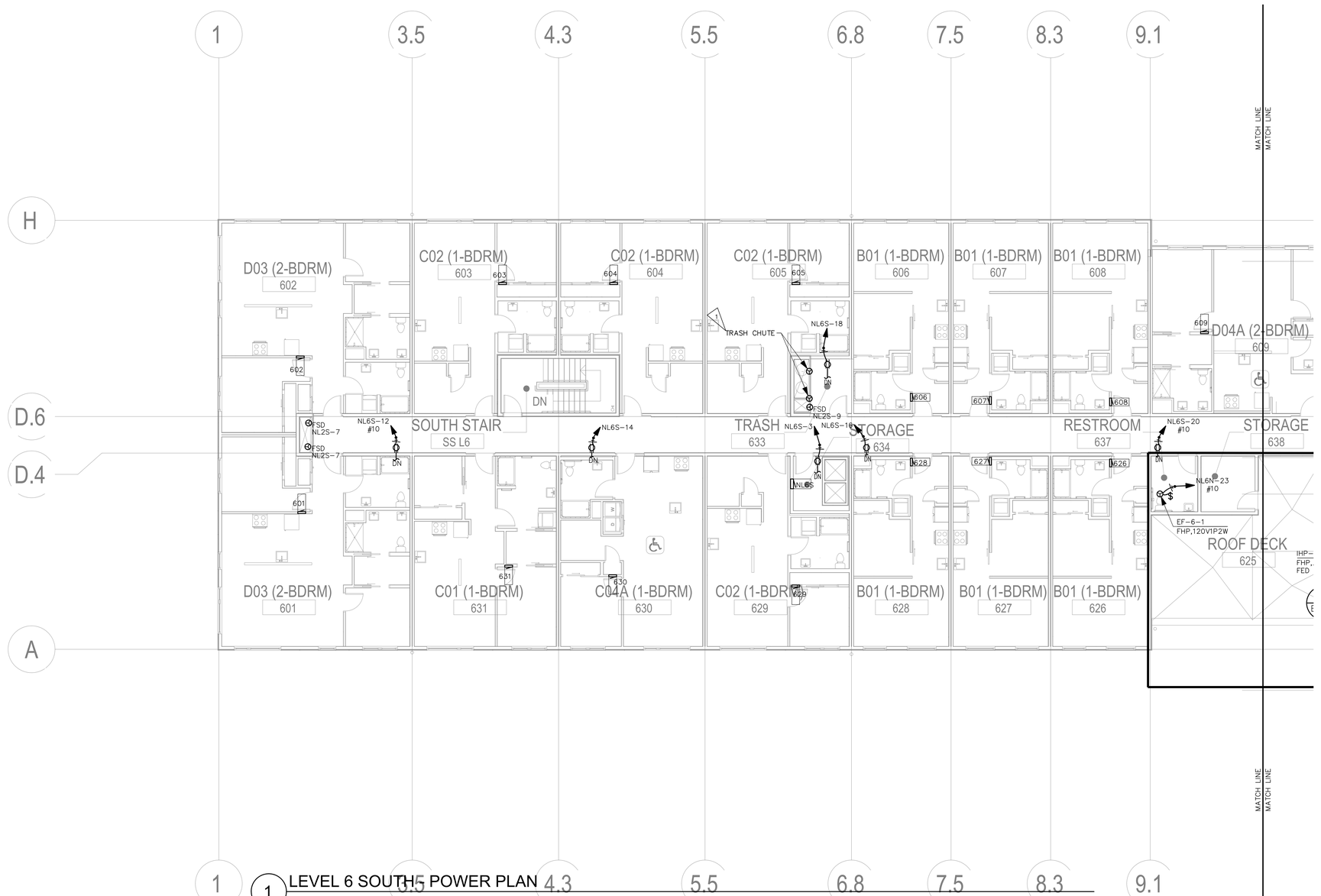

1 LEVEL 6 SOUTH POWER PLAN
SCALE: 1/8" = 1'-0"

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LEVEL 6 SOUTH POWER PLAN

E2.06S

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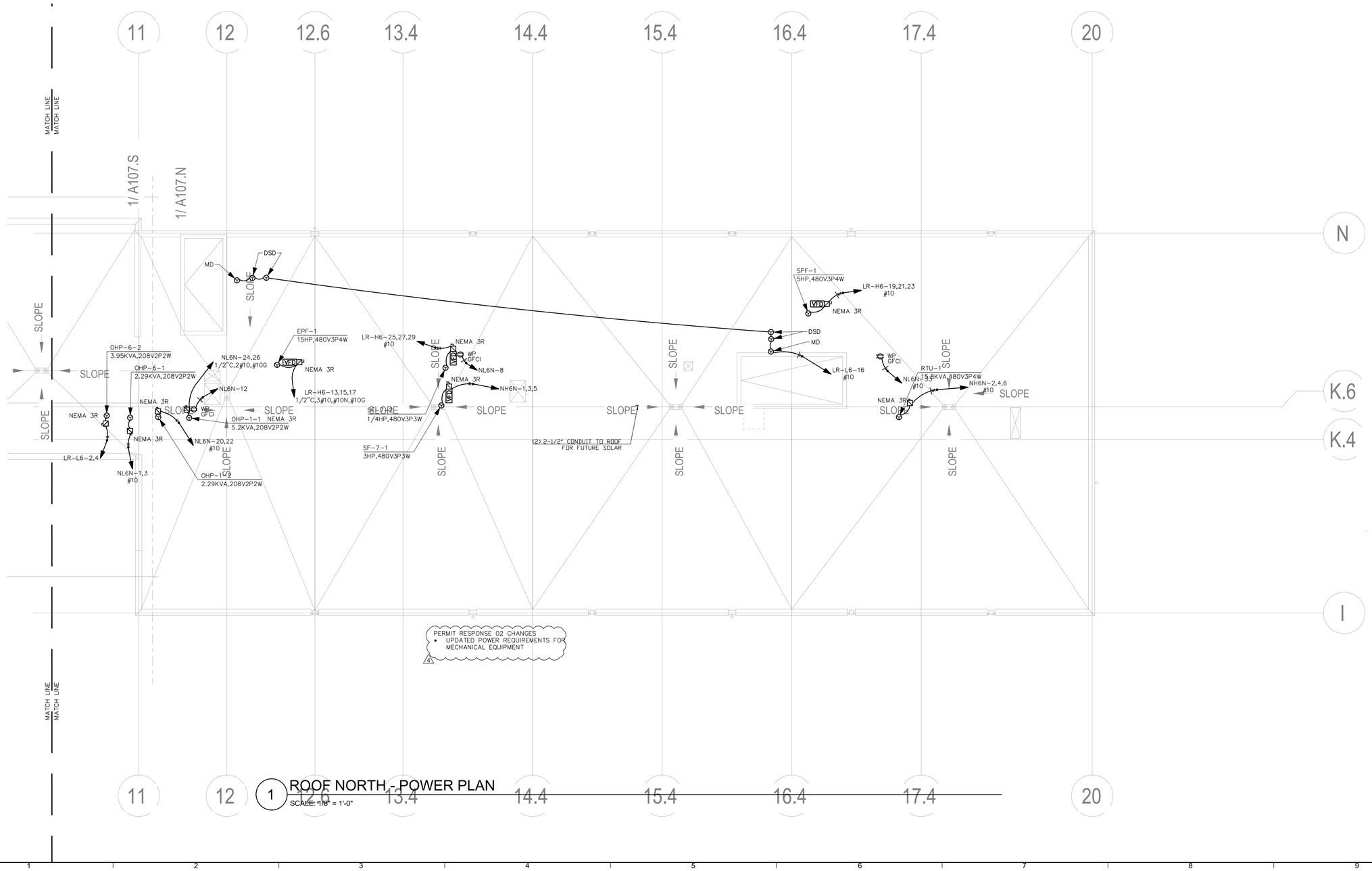

PERMIT RESPONSE 02 CHANGES
- UPDATED POWER REQUIREMENTS FOR MECHANICAL EQUIPMENT

4

1 ROOF NORTH - POWER PLAN
SCALE: 1/8" = 1'-0"

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ROOF NORTH POWER PLAN

E2.07N

FLAG NOTES

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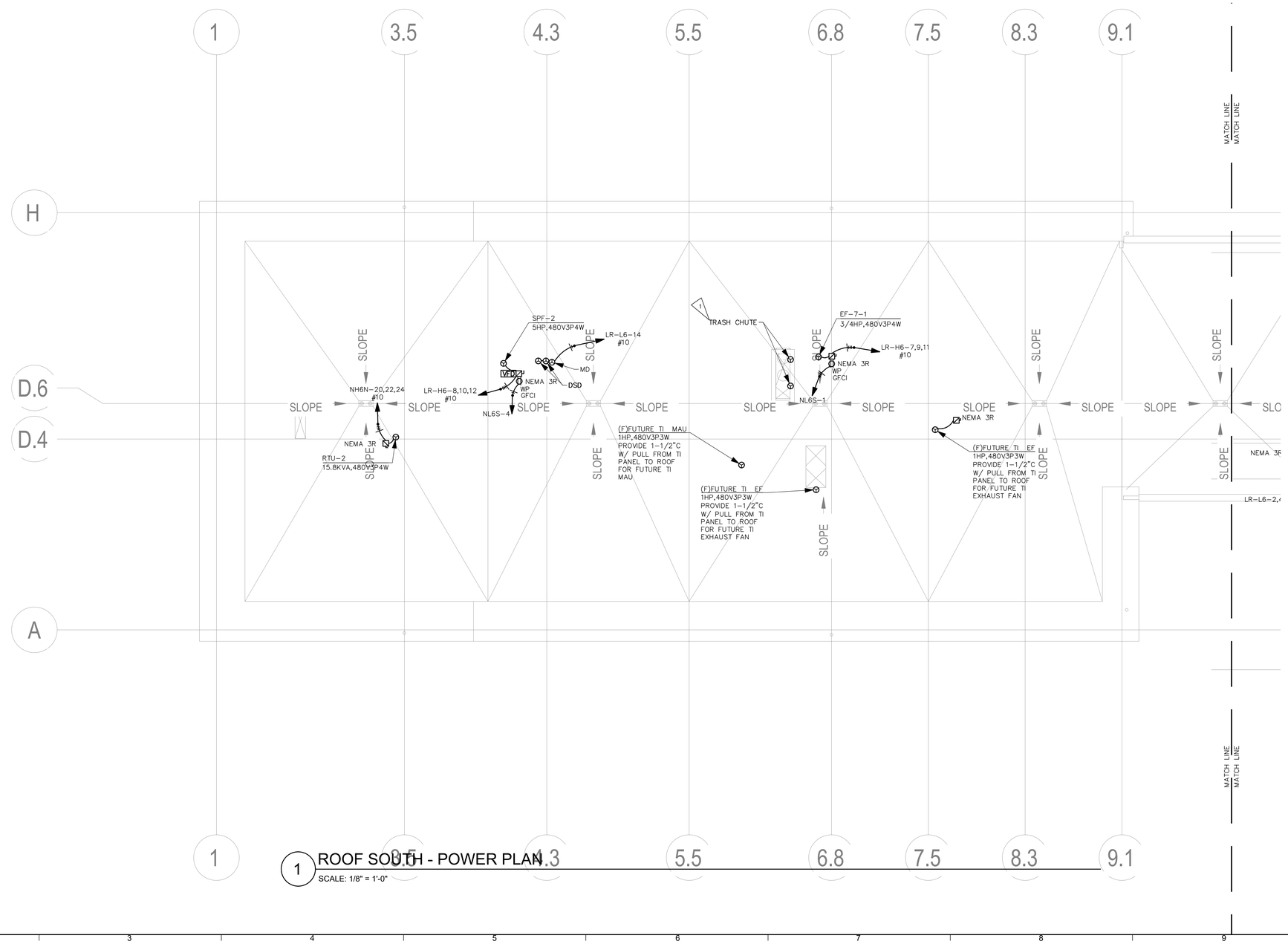

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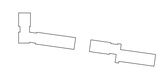
02-27-26

PERMIT RESPONSE 02
02/27/26

KEY PLAN



Stamping Architect

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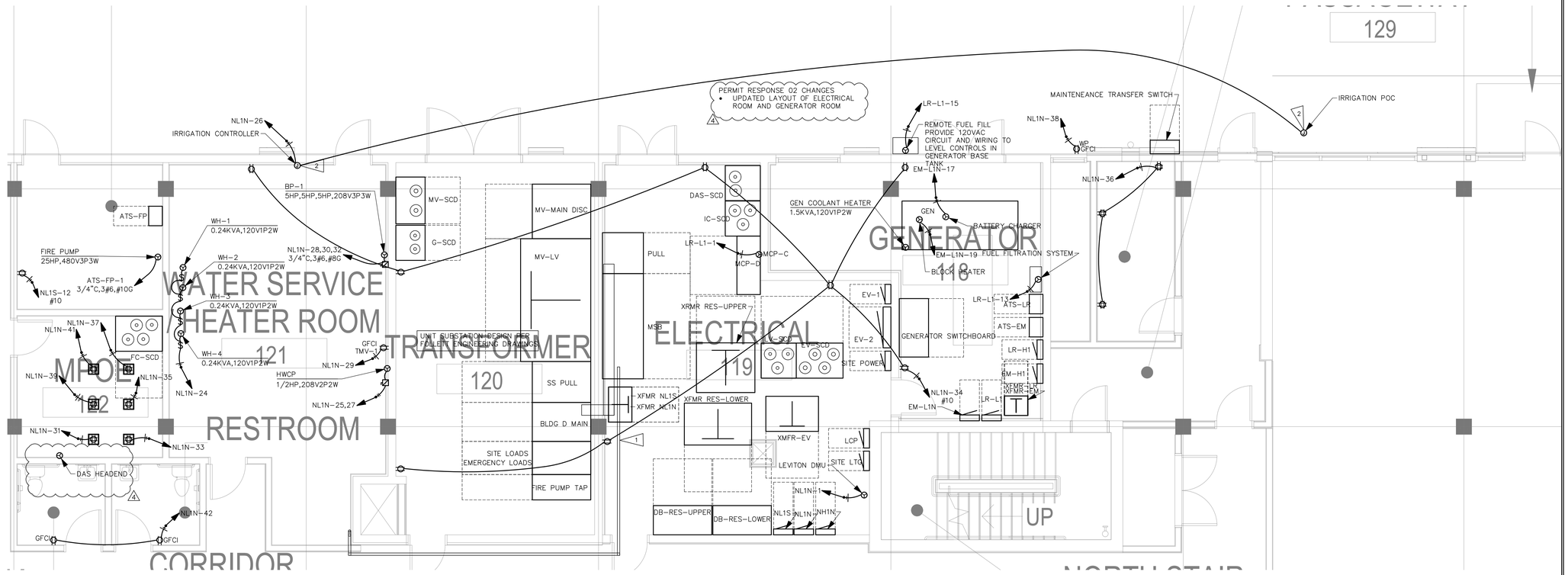
	DATE	DESCRIPTION
1	11/03/22	PERMIT RESPONSE 01
2	02/27/26	PERMIT RESPONSE 02

1073-001
PM: PETER ROCKSTEAD
DRAWN BY: MARK STEINKE

ROOF SOUTH POWER PLAN

E2.07S

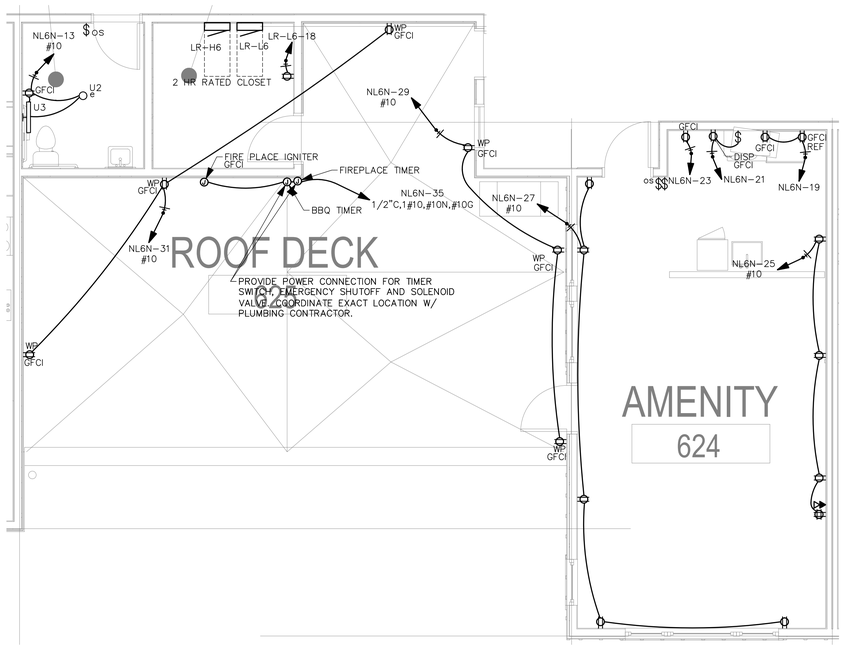


LEVEL 1

ELECTRICAL ROOM

SCALE: 1/4" = 1'-0"

1 E3.00



LEVEL 6

AMENITY ROOM, ROOF DECK, RR

SCALE: 1/4" = 1'-0"

2 E3.00

FLAG NOTES

1. PROVIDE (2) 2-1/2" CONDUIT TO ROOF FOR FUTURE SOLAR
2. EC TO PROVIDE 4" CONDUIT THROUGH BUILDING TO EXTERIOR IRRIGATION POC FOR CONTROL WIRE.
3. BOD: EATON POW-R-WAY III BUSWAY. DIMENSION OF BUSWAY:18.64"X4.5" PROVIDE FLOOR PENETRATIONS NO MORE THAN 1" WIDER THAN BUSBAR DIMENSIONS AND PROVIDE 6" CURB SURROUNDING PENETRATION.COORDINATE EXACT PENETRATION SIZE AND LOCATION WITH ARCHITECT AND BUS-BAR SHOP DRAWINGS PRIOR TO INSTALLATION.
4. DMU BOD: LEVITON VERIFEYE MINI METER – EXTRA LARGE. (2) UNITS ARE REQUIRED PER RESIDENTIAL DIST PANEL AS THEY HOUSE UP TO 19 MINI METERS EACH.
5. PROVIDE 4'X8'X¾" FIRE RETARDANT PLYWOOD. BOTTOM 6" AFF TOP OF PLYWOOD 102"AFF. PROVIDE COPPER GROUND BAR 2"X24" X¼" AND #6 COPPER GROUND WIRE TO MAIN SERVICE GROUND.
6. PROVIDE (3) 4" SLEEVES FOR LV CABLE.

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JREDIT F:\1073-002 RIVERFRONT APARTMENTS – BUILDING D\DWG\E300 POWER ENLARGED.DWG 01-20-2022 11:42

RIVERFRONT APARTMENTS BUILDING D
3710 Riverfront Blvd
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CONTACT: MARK STEINKE

MARK STEINKE
STATE OF WASHINGTON
REGISTERED PROFESSIONAL ENGINEER
02-27-26

PERMIT RESPONSE 02
02/27/26

KEY PLAN

BUILDING C BUILDING D

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1073-001
PM: PETER ROCKSTEAD
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ENLARGED POWER PLANS

E3.00

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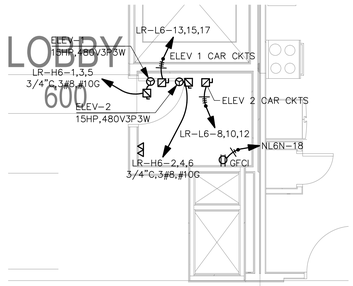
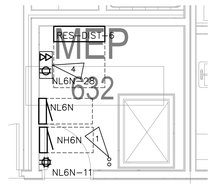


6TH FLOOR ELEV RM 6 E3.01 11 E3.01

SCALE: 1/4" = 1'-0"



6TH FLOOR MEP 5 E3.01

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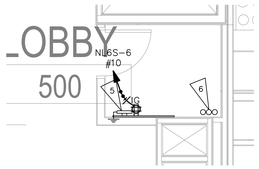
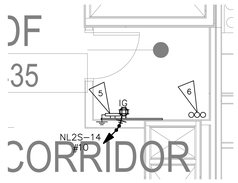


5TH FLOOR DATA 10 E3.01

SCALE: 1/4" = 1'-0"



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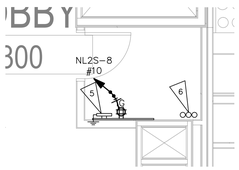
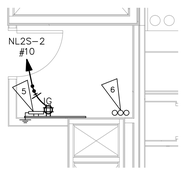
SCALE: 1/4" = 1'-0"



3RD FLOOR DATA 8 E3.01

SCALE: 1/4" = 1'-0"



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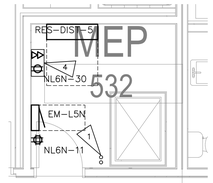
SCALE: 1/4" = 1'-0"



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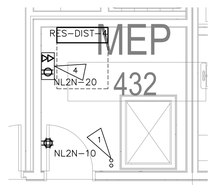
SCALE: 1/4" = 1'-0"



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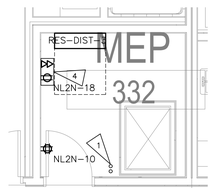
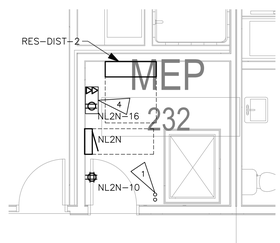


3RD FLOOR MEP 2 E3.01

SCALE: 1/4" = 1'-0"



2ND FLOOR MEP 1 E3.01

SCALE: 1/4" = 1'-0"

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JREDIT F:\1073-002 RIVERFRONT APARTMENTS – BUILDING D\DWG\E300 POWER ENLARGED.DWG 01-20-2022 11:42

RIVERFRONT APARTMENTS BUILDING D
3710 Riverfront Blvd
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REGISTERED
PROFESSIONAL ENGINEER
02-27-26

PERMIT RESPONSE 02
02/27/26

KEY PLAN

BUILDING C BUILDING D

Stamping Architect

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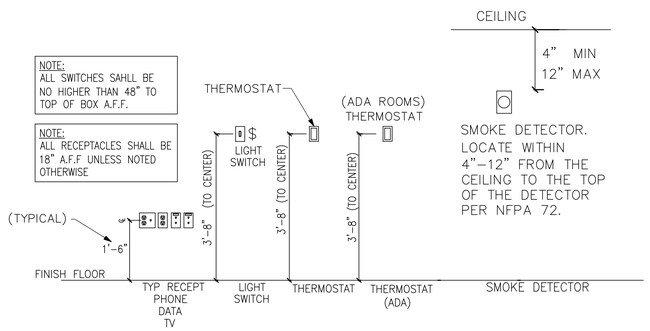
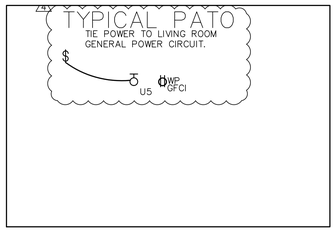
1073-001
PM: PETER ROCKSTEAD
DRAWN BY: MARK STEINKE

ENLARGED POWER PLANS

E3.01

TYPICAL MOUNTING HEIGHTS FOR ELECTRICAL





ACCESSIBILITY NOTES:

1. ALL SWITCHES AND CONTROLS – 15" MIN; 48" MAX TO CONTROL.
2. GENERAL OUTLETS MIN 18" AFF.
3. ALL SWITCHES/CONTROLS ABOVE COUNTERTOPS 48" MAX.
4. ELECTRICAL SUB–PANELS IN UNITS MUST COMPLY WITH ABOVE REACH RANGES.
5. SWITCHES FOR EXHAUST HOODS AND GARBAGE DISPOSALS MUST COMPLY WITH ABOVE REACH RANGES. INSTALL SWITCHES ON FACE OF CABINETS IF REQUIRED TO COMPLY.

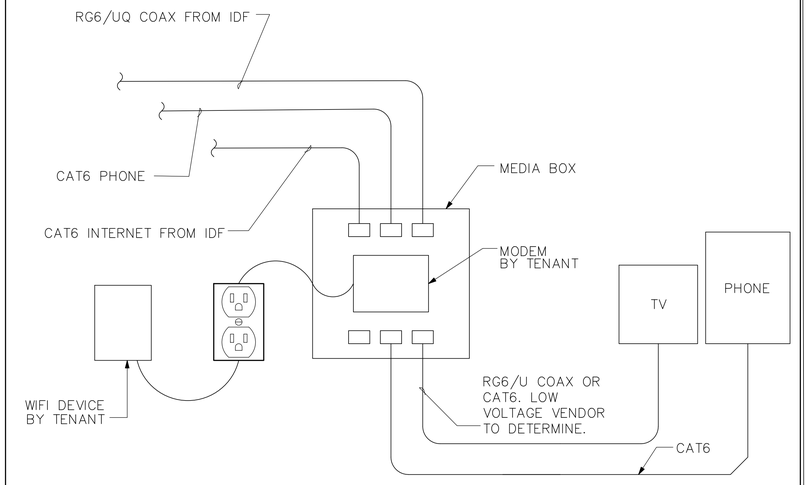
APARTMENT NOTES:

1. ALL ELECTRICAL WORK SHALL COMPLY WITH ALL LOCAL AND NATIONAL CODES.
2. DEVICE BOXES ON OPPOSITE SIDES OF DEMISING WALLS SHALL BE IN SEPARATE STUD BAYS. PROVIDE BACKING EQUIVALENT TO LOWRY'S OUTLET BOX PADS. CONDUIT FROM ONE UNIT SHALL NOT PASS THROUGH STUDS OF A SHARED WALL(DOUBLE STUDS) FROM AN ADJACENT UNIT(BRIDGING).
3. PROVIDE ARC–FAULT PROTECTION, TAMPER PROOF AND GFCI RECEPTACLES AS REQUIRED BY CODE AND LOCAL AHJ. ARC–FAULT PROTECTION MUST BE PROVIDED FOR CIRCUITS IN THE AREAS LISTED IN NEC 210.12(A).
4. SPLIT WIRED RECEPTACLES SHALL HAVE LOWER OUTLET SWITCHED, UPPER OUTLET SHALL BE NON–SWITCHED.
5. PROVIDE SUFFICIENT DUPLEX RECEPTACLES TO MEET NEC 210.52.
6. THERMOSTAT JUNCTION BOX AND CONTROL CONDUIT TO BE FURNISHED AND INSTALLED BY ELECTRICAL CONTRACTOR.
7. THERMOSTATS SHALL NOT INTERFERE WITH DOOR SWINGS.
8. ELECTRICAL CONTRACTOR SHALL MAKE ALL FINAL CONNECTIONS FOR KITCHEN APPLIANCES. COORDINATE ALL J–BOX LOCATIONS WITH APPLIANCE INSTALLATION INSTRUCTIONS PRIOR TO ROUGH–IN.
9. ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL CORD AND PLUG ASSEMBLY FOR EACH DISPOSER.
10. PROVIDE A DEDICATED 20 AMP CIRCUIT TO EACH UNIT BATHROOM RECEPTACLE. BATHROOM LIGHTS, FAN TO BE ON SAME CIRCUIT PER 210.11(C)(3) EXCEPTION.
11. HOME RUNS AND LOOPS CONNECTING LIGHT FIXTURES, WIRING DEVICES, AND HVAC EQUIPMENT ON PLANS INDICATE CIRCUITING SCHEME. SEE TYPICAL PANEL SCHEDULES FOR ACTUAL CIRCUIT NUMBERS FOR TYPICAL APARTMENT.
12. LOWER CASE LETTERS SHOWN NEXT TO LIGHT SWITCHES, LIGHT FIXTURES, AND SPLIT WIRED RECEPTACLES INDICATE CONTROL SCHEME. I.E.: SWITCH 'a' CONTROLS RECEPTACLE 'a', SWITCH 'b' CONTROLS LIGHT 'b', ETC.
13. LIGHTS WITHIN 3' HORIZONTAL OF SHOWER OR TUB TO BE WET LOCATION RATED AND HAVE FULLY ENCLOSED TRIMS. PROVIDE GFCI PROTECTION IF THE LUMINAIRE INSTALLATION MANUAL STATES IT IS REQUIRED.
14. PROVIDE SMOKE DETECTORS AND CO ALARMS AS REQUIRED. DETECTORS AND ALARMS TO BE HARDWIRED AND PROVIDED WITH BATTERY BACKUP.
15. ELECTRICAL CONTRACTOR SHALL INSTALL RECEPTACLES AND TV, DATA/PHONE OUTLETS UNDER COMMON COVER PLATE WHERE POSSIBLE. PROVIDE AND INSTALL DIVIDERS AS REQUIRED FOR CABLE/POWER SEPARATION.
16. SEE ARCHITECTURAL DRAWINGS FOR DIMENSIONS AND LAYOUTS OF ALL DEVICES.
17. ALL WALL PENETRATIONS SHALL BE CAULKED WITH APPROVED MATERIAL TO MAINTAIN THE FIRE RATING OF ALL WALLS AND FLOORS.
18. ALL CONDUIT SHALL BE INSTALLED IN NEAT SYMMETRICAL LINES HORIZONTAL OR PERPENDICULAR TO BUILDING COLUMNS AND ROOF LINES. CONDUITS SHALL BE GROUPED ON COMMON SUPPORTS WHEREVER POSSIBLE.
19. REFERENCE MECHANICAL DRAWINGS FOR EXACT LOCATION OF ALL MECHANICAL EQUIPMENT.
20. ELECTRICAL CONTRACTOR SHALL VERIFY ALL FUSE RATING WIRE SIZES AND DISCONNECT SIZES WITH EQUIPMENT SERVED ON THE JOB PRIOR TO INSTALLATION.
21. SEE ARCHITECTURAL DRAWINGS AND ELEVATIONS FOR ADDITIONAL DETAILS AND CASEWORK DIMENSIONS.
22. DEVICE LOCATIONS IN 1ST DWELLING/RESIDENT UNIT SHALL BE REVIEWED AND APPROVED BY OWNER PRIOR TO ROUGH–IN OF REMAINING UNITS
23. CONFIRM FINAL LOCATION OF HEATERS AND THERMOSTATS IN FIELD PRIOR TO ROUGH–IN

APARTMENT ELECTRICAL DEVICE SCHEDULE

SYMBOL	DEVICE	NOTES
	RECEPTACLE, SIMPLEX	PROVIDE WHERE INDICATED.
	RECEPTACLE, DUPLEX, FLOOR MOUNT	PROVIDE WHERE INDICATED.
	RECEPTACLE, DUPLEX	PROVIDE WHERE INDICATED.
	RECEPTACLE, LOWER HALF SWITCHED	PROVIDE WHERE INDICATED.
TV	RECEPTACLE, QUAD + TELEVISION CABLE OUTLET	PROVIDE WHERE INDICATED.
	RECEPTACLE, QUAD	PROVIDE WHERE INDICATED.
	TELEPHONE WALL OUTLET	REFER TO LOW VOLTAGE PLANS
	COMM/DATA WALL OUTLET	REFER TO LOW VOLTAGE PLANS
TV	TELEVISION CABLE OUTLET	REFER TO LOW VOLTAGE PLANS
$	WALL SWITCH	PROVIDE WHERE INDICATED.
$VS	WALL SWITCH VACANCY SENSOR	PROVIDE WHERE INDICATED.
	WALL SWITCH DIMMER	PROVIDE WHERE INDICATED.
$AT	SWITCH ASTRONOMICAL TIME CLOCK CONTROL	PROVIDE WHERE INDICATED.
	LIGHT FIXTURE, WALL MOUNTED SCONCE	PROVIDE ROUGH IN WHERE INDICATED REFER TO LUMINAIRE SCHEDULE
	LIGHT FIXTURE, CEILING MOUNTED	PROVIDE ROUGH IN WHERE INDICATED REFER TO LUMINAIRE SCHEDULE
	PENDANT LIGHT FIXTURE, CEILING MOUNTED	PROVIDE ROUGH IN WHERE INDICATED REFER TO LUMINAIRE SCHEDULE
	LIGHT FIXTURE, WALL MOUNTED	PROVIDE ROUGH IN WHERE INDICATED REFER TO LUMINAIRE SCHEDULE
EF	FAN, CEILING MOUNTED.	FURNISHED & INSTALLED BY MECH, WIRED BY ELECTRICAL CONTRACTOR
T	THERMOSTAT	FURNISHED & INSTALLED BY ELEC
SD	SMOKE DETECTOR & CARBON MONOXIDE DETECTOR	PART OF DESIGN/BUILD FIRE ALARM SYSTEM. SMOKE/CO DETECTORS TO BE WIRED TO FIRE ALARM SYSTEM.
DB	DOOR BELL BUTTON	PROVIDE WHERE INDICATED.
DBC	DOOR BELL CHIMES	PROVIDE WHERE INDICATED.
DBT	DOOR BELL TRANSFORMER	PROVIDE WHERE INDICATED.
MB	MULTIMEDIA BOX	PROVIDE WHERE INDICATED.
FCU	FAN COIL UNIT	FURNISHED & INSTALLED BY MECH (ELECTRICAL PROVIDE POWER TO THE UNIT PER NEC)
PC	PHOTOCELL	EXTERIOR WEATHERPROOF PHOTOCELL CONTROL FOR DUSK TO DAWN OPERATION
EWH	ELECTRIC WALL HEATER	FURNISHED & INSTALLED BY ELEC

NOTE: NOT ALL ITEMS USED ON PROJECT.



WIRING DIAGRAM FOR MEDIA BOX

ELECTRIC HEATERS

EQUIP NO.	SERVICE	MOUNTING/ DISCHARGE	HEATING ROOM LOAD, kW	HEATING CAPACITY, kW	VOLTAGE	BASIS OF DESIGN (1)(2)
EWH-0.75	APARTMENT UNIT	WALL-MOUNTED	-	0.75	208V/1P	CADET COM-PAK OR EQUIVALENT
EWH-1	APARTMENT UNIT	WALL-MOUNTED	-	1.125	208V/1P	CADET COM-PAK OR EQUIVALENT
EWH-1.5	APARTMENT UNIT	WALL-MOUNTED	-	1.5	208V/1P	CADET COM-PAK OR EQUIVALENT
EWH-2	APARTMENT UNIT	WALL-MOUNTED	-	2.0	208V/1P	CADET COM-PAK OR EQUIVALENT

NOTES:
(1) INSTALL UNITS AS RECOMMENDED BY THE MANUFACTURER IN COMPLIANCE WITH LOCAL CODES.
(2) HEATERS AND THERMOSTATS TO BE FURNISHED AND INSTALLED BY ELECTRICAL CONTRACTOR.
(3) PROVIDE 7-DAY PROGRAMMABLE REMOTE THERMOSTAT.

SEE SHEET E1.50 FOR UNIT LUMINAIR SCHEDULE

ERV NOTES:

1. ENERGY RECOVERY VENTILATOR (ERV) WITH MOTORIZED DAMPER. ABOVE BATHROOM CEILING, PROVIDED AND INSTALLED BY MECHANICAL CONTRACTOR. FOR DWELLING UNITS WITH MORE THAN ONE BATHROOM, COORDINATE LOCATION OF ERV WITH MECHANICAL CONTRACTOR.
2. ELECTRICAL CONTRACTOR SHALL PROVIDE ONE ON/OFF SWITCH AND LABEL (CALLED STANDBY SWITCH ON THE DRAWINGS) IN THE MAIN BATHROOM TO ALLOW OCCUPANT TO POWER ON/OFF THE ERV AND ASSOCIATED MOTORIZED DAMPER. THE SWITCH SHALL BE LABELED WITH THE FOLLOWING OR EQUIVALENT TEXT "LEAVE VENTILATION ON UNLESS OUTDOOR AIR QUALITY IS VERY POOR. " THE SWITCH "ON" POSITION POWERS ON THE ERV AND OPENS MOTORIZED DAMPER. THE SWITCH IN THE "OFF" POSITION POWERS OFF THE ERV AND CLOSES THE MOTORIZED DAMPER.
3. 20/40/60 MINUTE TIMER SWITCH FOR ERV (ONE TIMER SWITCH IN EACH BATHROOM). ACTIVATION OF TIMER SWITCH SHALL TEMPORARILY INCREASE THE SPEED OF ERV FROM LOW TO HIGH SPEED. TIMER SWITCHES AND ASSOCIATED LOW–VOLTAGE CONTROL WIRING PROVIDED BY MECHANICAL CONTRACTOR. THE ELECTRICAL CONTRACTOR TO PROVIDE POWER AND ALL ASSOCIATED MATERIALS AND WIRING TO CONNECT THE TIMER TO ERV.

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MARK STEINKE — STATE OF WASHINGTON — 22007 — REGISTERED PROFESSIONAL ENGINEER — 02-27-26

PERMIT RESPONSE 02
02/27/26

KEY PLAN

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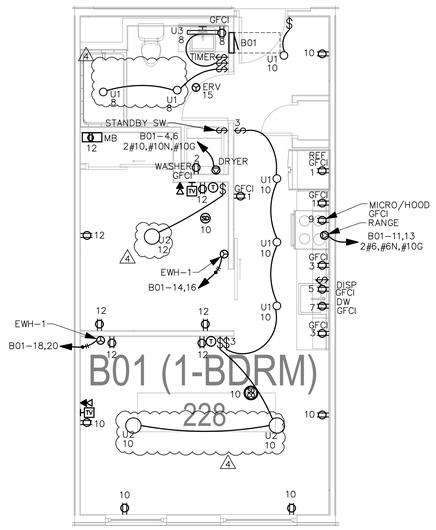
DRAWN BY: MARK STEINKE

UNIT PLAN NOTES

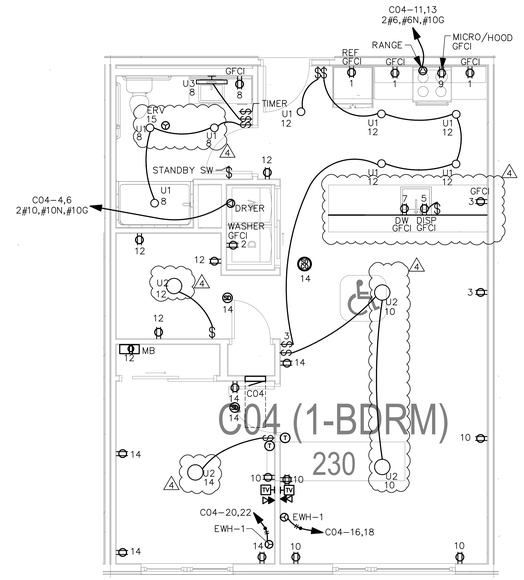
E4.00



B01 – 1 BDRM

SCALE: 1/4" = 1'–0"

1 E4.01



20,22

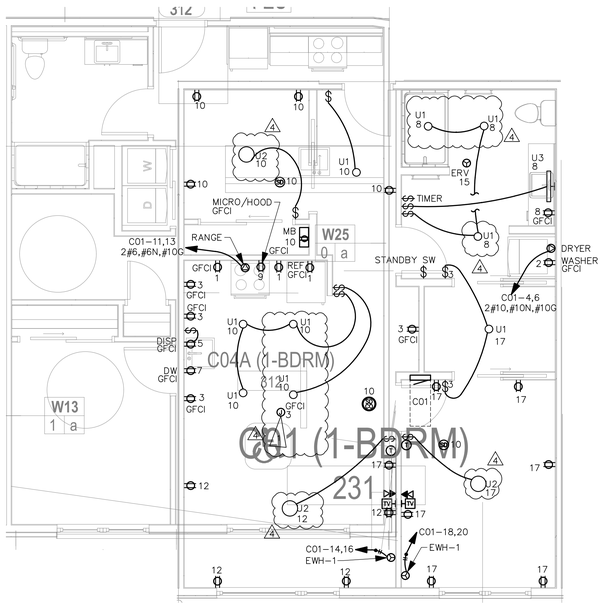
C04 – 1 BDRM

SCALE: 1/4" = 1'–0"

2 E4.01

FLAG NOTES:

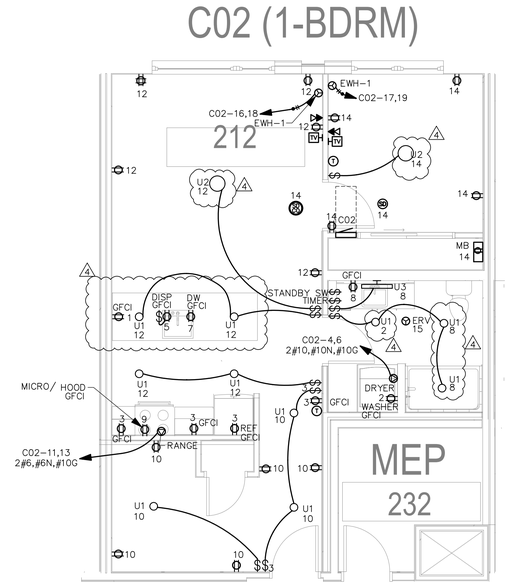
1. FUTURE PROVISON FOR ISLAND RECEPTACLE PER NEC 210.52(C)(2).



C01 – 1 BDRM

SCALE: 1/4" = 1'–0"

3 E4.01



C02 – 1 BDRM

SCALE: 1/4" = 1'–0"

4 E4.01

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CONTACT: MARK STEINKE

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27-26

PERMIT RESPONSE 02
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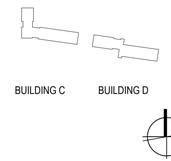

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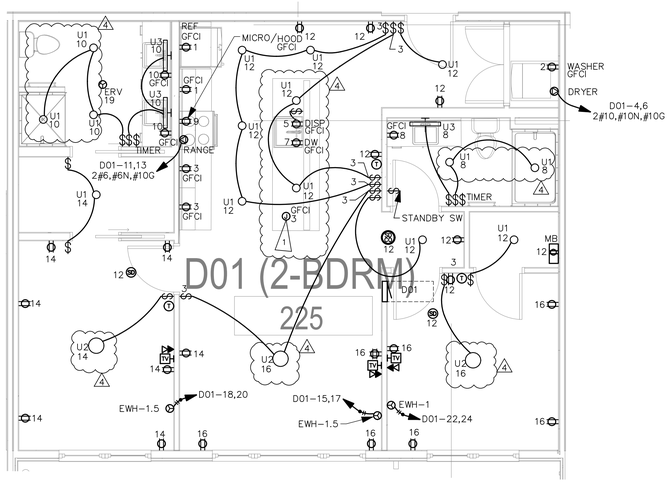
	DATE	DESCRIPTION
1	11/03/22	PERMIT RESPONSE 01
2	02/27/26	PERMIT RESPONSE 02

1073-001
PM: PETER ROCKSTEAD
DRAWN BY: MARK STEINKE

TYPICAL UNIT PLANS

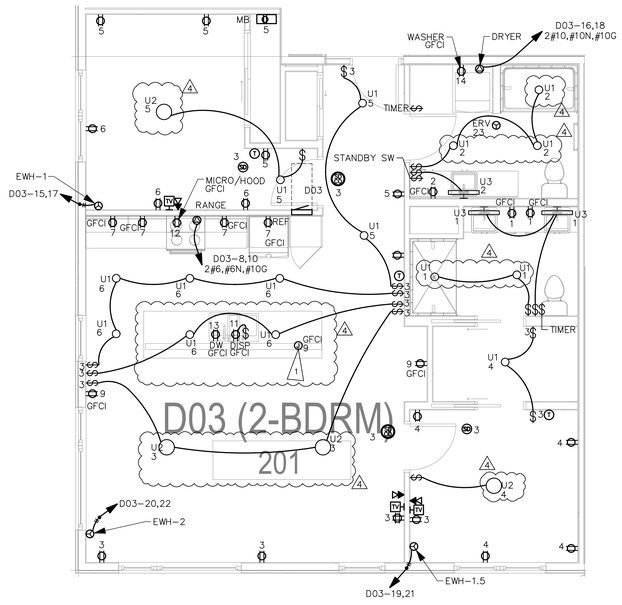
E4.01



D01 – 2 BDRM

SCALE: 1/4" = 1'-0"

1 E4.02



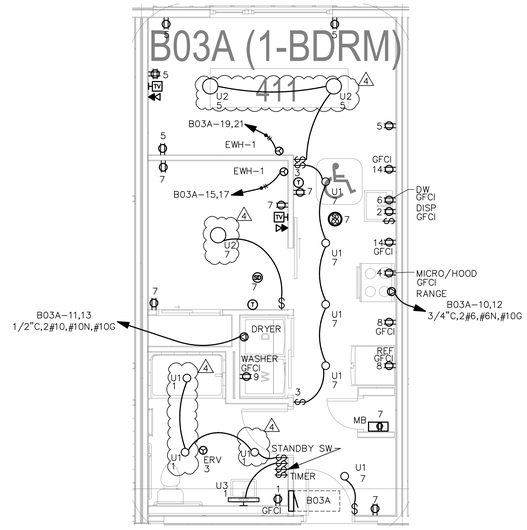
D03 – 2 BDRM

SCALE: 1/4" = 1'-0"

2 E4.02

FLAG NOTES:

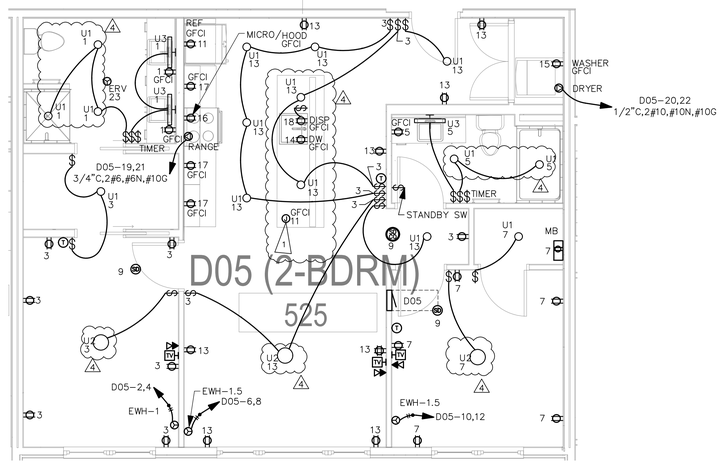
1. FUTURE PROVISON FOR ISLAND RECEPTACLE PER NEC 210.52(C)(2).



B03A – 1 BDRM

SCALE: 1/4" = 1'-0"

1 E4.02



D05 – 2 BDRM

SCALE: 1/4" = 1'-0"

2 E4.02

RIVERFRONT APARTMENTS BUILDING D

3710 Riverfront Blvd
Everett, WA 98203

ROBISON ENGINEERING, INC
19401 40TH AVE W., SUITE 302
LYNNWOOD, WA 98036
2063643343 TEL
CONTACT: MARK STEINKE

MARK STEINKE — STATE OF WASHINGTON — 22007 — REGISTERED PROFESSIONAL ENGINEER — 02-27-26

PERMIT RESPONSE 02
02/27/26

KEY PLAN

BUILDING C BUILDING D

Stamping Architect

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1073-001
PM: PETER ROCKSTEAD
DRAWN BY: MARK STEINKE

TYPICAL UNIT PLANS

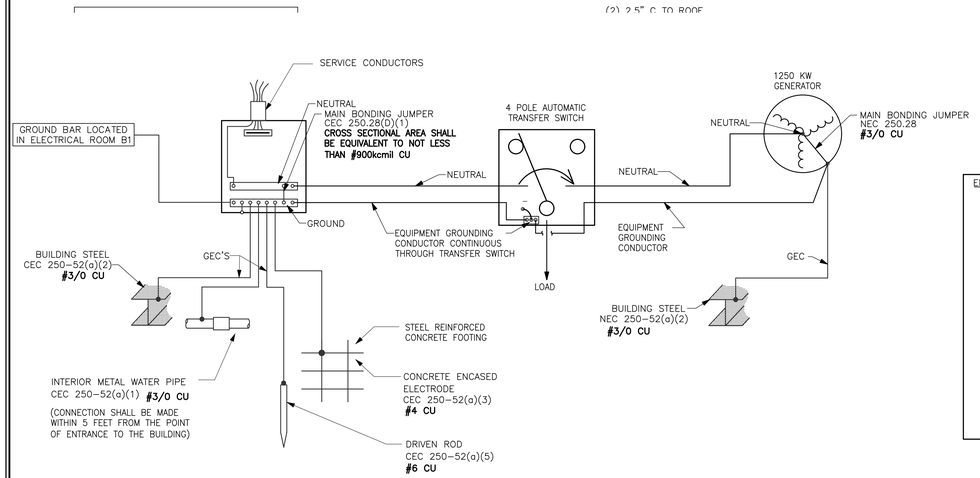
E4.02

REQUIRED ELECTRIC VEHICLE CHARGING INFRASTRUCTURE – WAC 427:

- WHERE PARKING IS PROVIDED, TEN PERCENT OF PARKING SPACES SHALL BE PROVIDED WITH ELECTRIC VEHICLE CHARGING INFRASTRUCTURE.
- ELECTRICAL ROOM(S) SERVING PARKING AREAS SHALL BE DESIGNED TO ACCOMMODATE THE ELECTRICAL EQUIPMENT AND DISTRIBUTION REQUIRED TO SERVE A MINIMUM OF 20 PERCENT OF THE TOTAL PARKING SPACES WITH 208/240 V 40–AMP ELECTRIC VEHICLE CHARGING INFRASTRUCTURE.
- MINIMUM ONE ACCESSIBLE PARKING SPACE SHALL BE SERVED BY ELECTRIC VEHICLE CHARGING INFRASTRUCTURE.
- TOTAL NUMBER OF PARKING SPACES = **352; 352 x 0.10 = 36 EV CHARGING SPACES.**

TOTAL NUMBER OF PARKING SPACES = 352; 352 x 0.2/2 = CAPACITY FOR 36 DUAL EV CHARGERS
36 CHARGERS x 208V x 40A/1000 = 300 KVA = 833 A 3 PHASE POWER @ 120/208V

PER WAC 427, ELECTRICAL INFRASTRUCTURE SHALL BE DESIGNED TO ACCOMMODATE AN ADDITIONAL 810 AMPS OF ELECTRICAL LOAD FOR EV CHARGERS.



2 GEC DIAGRAM
SCALE: NONE

EMERGENCY GENERATOR REQUIREMENTS:

1. ACCEPTABLE MFRS: CUMMINS, CATERPILLAR, MTU, GENERAC AND KOHLER.
2. FUEL: DIESEL
3. LISTED TO UL 2200
4. STEEL WEATHERPROOF AND SOUND ATTENUATING ENCLOSURE FOR OUTDOOR LOCATION
5. ENCLOSED EXHAUST SILENCER
6. DOUBLE–SHELL CONTAINMENT BELLY TANK
7. MINIMUM 24 HOUR FUEL CAPACITY AT FULL LOAD
8. COMPLIANT WITH STATE EMISSIONS STANDARDS
9. ELECTRONIC IGNITION AND ELECTRONIC GOVERNOR
10. FULL PRESSURE LUBRICATION
11. 120V BATTERY CHARGER AND BATTERIES
12. STANDARD COOLING SYSTEM WITH 120V COOLANT HEATER
13. HIGH TEMP, LOW OIL PRESSURE, LOW COOLANT LEVEL, OVERCRANK AND OVER SPEED SHUTDOWNS
14. RUNNING TIME METER
15. AUTOMATIC TRANSFER SWITCH AS INDICATED ON ONE–LINE DIAGRAM
16. GENERATOR CONTROL PANEL
17. REMOTE ANNUNCIATOR PANEL
18. DRY CONTACTS IN CONTROL PANEL FOR FIRE ALARM MONITORING AND FOR ACTIVATING VENTILATION SUPPLY FAN AND MOTORIZED DAMPER
19. START–UP, TEST AND COMMISSIONING
20. SHOP DRAWING SUBMITTALS
21. TWO–YEAR WARRANTY

COORDINATION AND ARC FLASH STUDIES:

IMMEDIATELY UPON SELECTION OF ACTUAL EQUIPMENT BEING PROVIDED FOR THE PROJECT, THE ELECTRICAL CONTRACTOR SHALL PERFORM AN ARC FLASH ANALYSIS AND COORDINATION STUDY BASED ON ACTUAL EQUIPMENT TO BE PROVIDED, CONDUCTOR TYPES/SIZES/LENGTHS, ETC. COORDINATION SHALL BE CONFIRMED BASED ON FAULT NUMBERS SHOWN ON THIS DRAWING.

STUDIES SUBMITTED SHALL BE STAMPED BY A PROFESSIONAL ELECTRICAL ENGINEER HOLDING A CURRENT LICENSE FROM THE STATE OF WA.

PRELIMINARY ARC FLASH AND COORDINATION STUDIES ARE TO BE SUBMITTED WITH THE SUBMITTALS FOR THE PROTECTIVE DEVICES, PANELBOARDS, SWITCHBOARDS, AND OTHER ELECTRICAL EQPT.

THE ELECTRICAL CONTRACTOR SHALL SUBMIT THE STAMPED AND SIGNED ARC FLASH AND COORDINATION STUDY TO THE AHJ AS REQUIRED.

THE ELECTRICAL CONTRACTOR SHALL PROVIDE AND INSTALL PERMANENT LABELS INDICATING ARC FLASH HAZARD RISK CATEGORIES ON ALL DISTRIBUTION POINTS (SWITCHBOARDS, PANELBOARDS, VFDS, DISCONNECT SWITCHES, ETC). LABELS SHALL COMPLY WITH NFPA 70E.

SHEET NOTES:

A. SEE LOAD CALCULATIONS AS SHOWN IN SCHEDULES. OPTIONAL DWELLING UNIT CALCULATIONS ARE USED.

B. SEE PANEL SCHEDULES SHEETS E5.01.

C. SEE UNIT PANEL SCHEDULES SHEETS E4.02.

D. SEE FEEDER SCHEDULE SHEET E5.00.

E. CONTRACTOR TO OBTAIN APPROVAL OF ALL SERVICE EQUIPMENT PRIOR TO ORDERING. FAULT VALUES SHOWN ARE ASSUMED, AND NOT ACTUAL. ACTUAL FAULT VALUES TO BE OBTAINED FROM FOLLETT ENGINEERING PRIOR TO ORDERING.

F. DISTRIBUTION SYSTEM AS DESIGNED IS FULLY RATED. CONTRACTOR WILL BE RESPONSIBLE FOR ENGINEERING IF SERIES RATED SYSTEMS ARE SUBMITTED. THE SUBMITTED SYSTEM SHALL MEET NEC 240.86(B) REQUIREMENTS FOR TESTED COMBINATIONS, AND SHALL NOT BE USED IF MOTOR CONTRIBUTION EXCEEDS LIMITS PER 240.86(C). NEC 110.22 MARKING REQUIREMENTS MUST BE MET.

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FLAG NOTES: (FOR E5.00 & E5.01)

1. CONTRACTOR TO PROVIDE FULLY FUNCTIONING ERRC SYSTEM IF REQUIRED BY CITY FIRE DEPT. PROVIDE 2" RACEWAY WITH ACCESSIBLE J–BOX AND STUB RACEWAY TO ACCESS POINTS ON EACH FLOOR. PROVIDE ACCESS DOORS AS REQUIRED BY SYSTEM DESIGN. ERRC SYSTEM BOXES AND CONDUITS SHALL BE INSTALLED IN A 2 HOUR RATED ENCLOSURE, OR BE A TWO LISTED CABLE AND SYSTEM. THE ERRCS ROOM SHALL BE CONSTRUCTED FOR 2 HOUR RATING. THE ERRC SYSTEM SHALL HAVE A 24 HOUR BATTERY BACK–UP.
2. SEE SYSTEM GROUNDING AND BONDING DETAIL THIS SHEET. SYSTEM GROUNDING SIZED PER N.E.C. 250
3. PROVIDE BUSSMAN POWER MODULE SWITCH ELEVATOR DISCONNECT OR EQUIVALENT UNIT, LOCKABLE OPEN, WITH SHUNT TRIP CAPABILITES AND CLASS J FUSES. LOCATE IN ELEVATOR MACHINE ROOM.
4. LEVITON ELECTRICAL METERING USED FOR PROJECT. IN ADDITION TO METERS INDICATED ON PLANS, "RES DIST" PANELS FEEDING ALL DWELLING UNITS SHALL BE EQUIPPED WITH METERS TO MONITOR EACH UNIT'S POWER USAGE.
5. PROVIDE SEPARATE ENCLOSURE OR BARRIERS BETWEEN EACH SERVICE DISCONNECT AS REQUIRED BY 230.71(B).
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7. COORDINATE FUSE SIZES FOR ELEVATOR, CONFIRM FUSE SIZE AND TYPE REQUIRED BY VENDOR.
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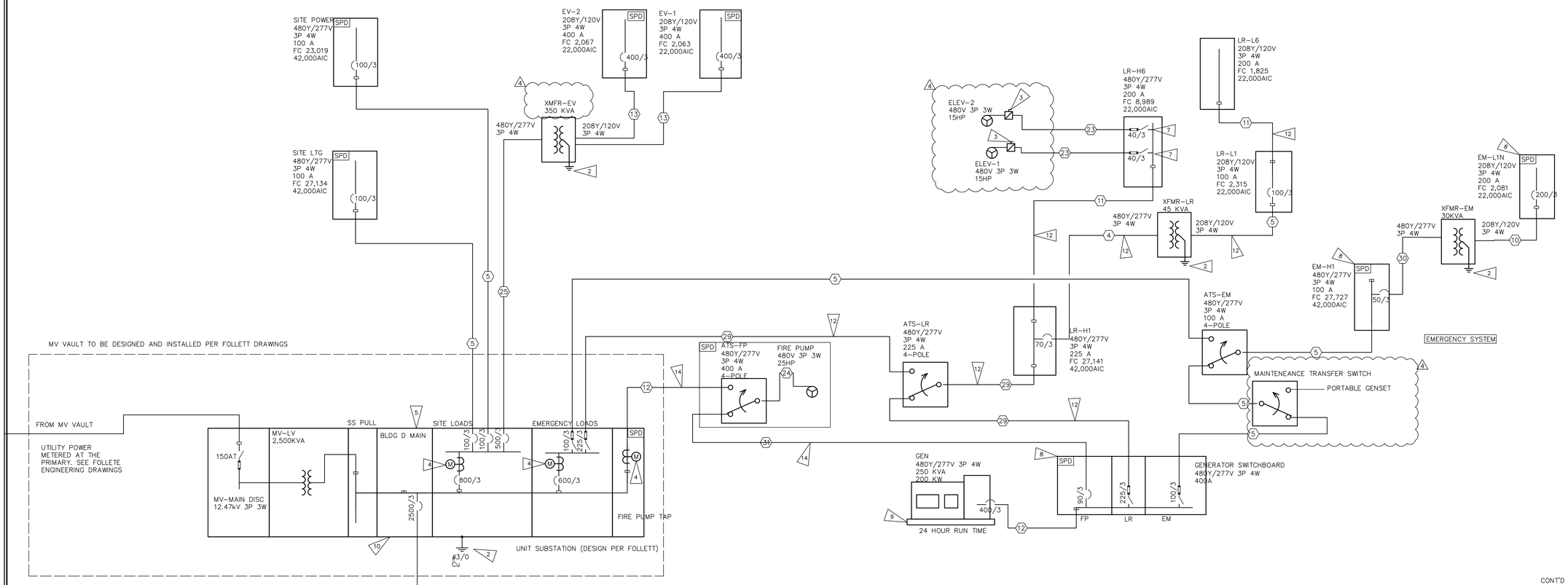

CONT'D ON E5.01

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2063643343 TEL
CONTACT: MARK STEINKE

MARK STEINKE — STATE OF WASHINGTON — REGISTERED PROFESSIONAL ENGINEER — 02-27-26

PERMIT RESPONSE 02
02/27/26

KEY PLAN

BUILDING C BUILDING D

Stamping Architect

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1073-001
PM: PETER ROCKSTEAD
DRAWN BY: MARK STEINKE

ELECTRICAL ONE-LINE

E5.00

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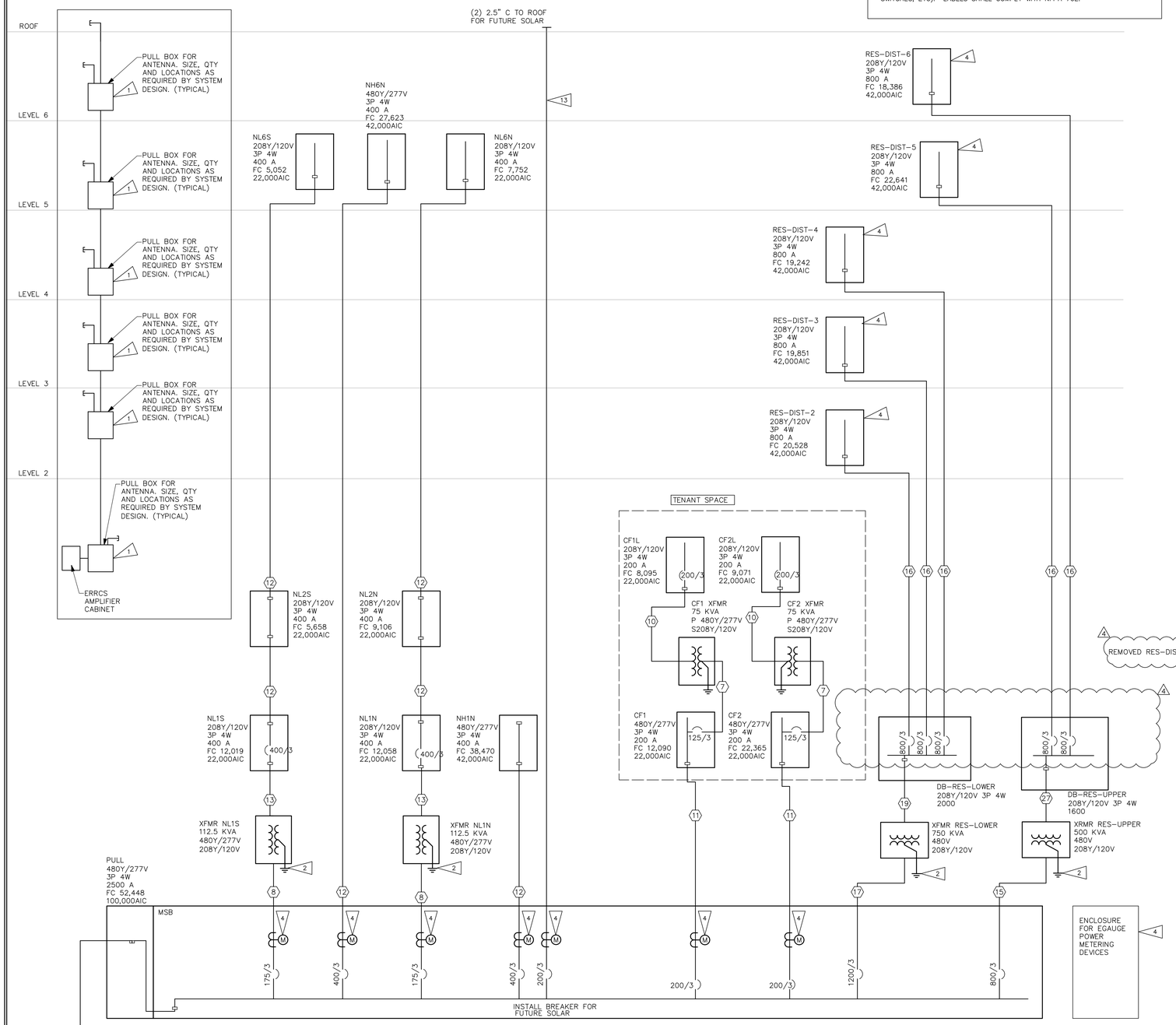

ELECTRICAL ONE LINE

NOT TO SCALE

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GENERAL FEEDER SCHEDULE

ID	*FEEDER AMPS*	*CONDUIT AND FEEDER*
2	40	3/4"C,3#8,#8N,#10G
4	70	1–1/4"C,3#4,#4N,#8G
5	100	1–1/2"C,3#1/0 AL,#1/0 AL N,#6 AL G
7	125	2"C,3#2/0 AL,#2/0 AL N,#4 AL G
8	175	2–1/2"C,3#4/0 AL,#4/0 AL N,#4 AL G
10	200	2–1/2"C,3#250kcmil AL,#250kcmil AL N,#2 AL G
11	200	2–1/2"C,3#250kcmil AL,#250kcmil AL N,#4 AL G
12	400	(2)2–1/2"C,3#250kcmil AL,#250kcmil AL N,#1 AL G
13	400	(2)2–1/2"C,3#250kcmil AL,#250kcmil AL N,#1/0 AL G
15	800	(3)3"C,3#400kcmil AL,#3/0 AL G
16	800	(3)3"C,3#400kcmil AL,#400kcmil AL N,#3/0 AL G
17	1200	(4)3"C,3#500kcmil AL,#250kcmil AL G
19	2000	(6)3–1/2"C,3#600kcmil AL,#600kcmil AL N,#250kcmil AL G
21	2500	(8)4"C,3#600kcmil AL,#600kcmil AL N,#600kcmil AL G
23	40	3/4"C,3#8,#10G
24	50	3/4"C,3#6,#10G
25	500	(2)3"C,3#350kcmil AL,#350kcmil AL N,#1/0 AL G
27	1600	(5)3–1/2"C,3#600kcmil AL,#600kcmil AL N,#250kcmil AL G
29	225	3"C,3#300kcmil AL,#300kcmil AL N,#2 AL G
30	50	1"C,3#6,#6N,#10G
31	90	1–1/4"C,3#2,#2N,#8G

SIZING METHOD: COPPER, 60°C #12 THROUGH #1, 75°C 1/0 AND ABOVE

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PERMIT RESPONSE 02
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KEY PLAN

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PM: PETER ROCKSTEAD
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ELECTRICAL ONE-LINE

E5.01

MV-LV

ROOM
FED FROM **MV-MAIN DISC**
NOTE

PRIMARY VOLTS **12.47kV 3P 3W**
SECONDARY VOLTS **480Y/277V 3P 4W**

AIC **NA**
KVA **2,500**

CKT #	BREAKER TRIP/POLES	CIRCUIT DESCRIPTION	LOAD KVA A	B	C	FEEDER RACEWAY AND CONDUCTORS
1	**2500/3**	**SWITCHBOARD SS PULL**	**1,340**	**2,250**	**1,130**	**N/A**
		TOTAL CONNECTED KVA BY PHASE	**1,340**	**2,250**	**1,130**	

OPTIONAL MULTIFAMILY DWELLING CALCULATION (NEC 220.84)

DWELLING UNIT LOADS

	KVA			KVA
LIGHTING AND RECEPTACLES	359	119,736 SF (3 VA/SF)	CONNECTED LOAD	3,900
SMALL-APPLIANCE	456		DWELLING UNITS	152
LAUNDRY	228		DEMAND FACTOR	(23%)
APPLIANCES	1,260		CALCULATED LOAD	896
ELECTRIC COOKING	1,220			
HEATING	373	(100%)		

HOUSE LOADS

	CONN KVA	CALC KVA			CONN KVA	CALC KVA	
LIGHTING	30.6	38.2	(125%)	EV LOAD	238	190	(80%)
LARGEST MOTOR	28.3	7.07	(25%)	CONTINUOUS	2.89	3.61	(125%)
MOTORS	237	237	(100%)	NONCONTINUOUS	8.65	8.65	(100%)
RECEPTACLES	35.6	22.8	(50%>10)	HEATING	124	124	(100%)
				COOLING	40.9	0	(0%)
				TOTAL HOUSE LOAD		631	

TOTAL LOAD

	KVA		KVA
TOTAL DWELLING UNIT LOAD	896	TOTAL LOAD	1,530
TOTAL HOUSE LOAD	631	BALANCED 3-PHASE LOAD	1,840 A

MV-MAIN DISC

ROOM
MOUNTING **FLOOR**
FED FROM **MV-SCD**
NOTE

VOLTS **12.47kV 3P 3W**
BUS AMPS **150**
NEUTRAL **NONE**

AIC **22,000**
MAIN BKR **175**
LUGS **STANDARD**

CKT #	BREAKER TRIP/POLES	CIRCUIT DESCRIPTION	LOAD KVA A	B	C	FEEDER RACEWAY AND CONDUCTORS
1	**-/3**	**XFMR MV-LV**	**1,230**	**1,790**	**1,690**	**N/A**
		TOTAL CONNECTED KVA BY PHASE	**1,230**	**1,790**	**1,690**	

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TOTAL LOAD

	KVA		KVA
TOTAL DWELLING UNIT LOAD	896	TOTAL LOAD	1,530
TOTAL HOUSE LOAD	631	BALANCED 3-PHASE LOAD	70.7 A

SS PULL

ROOM
MOUNTING **FLOOR**
FED FROM **MV-LV**
NOTE

VOLTS **480Y/277V 3P 4W**
BUS AMPS **2500**
NEUTRAL **100%**

AIC **100,000**
MAIN BKR **MLO**
LUGS **STANDARD**

CKT #	BREAKER TRIP/POLES	CIRCUIT DESCRIPTION	LOAD KVA A	B	C	FEEDER RACEWAY AND CONDUCTORS
1	**800/3**	**SWITCHBOARD SITE LOADS**	**106**	**108**	**93.4**	**N/A**
2	**-/3**	**SWITCHBOARD FIRE PUMP TAP**	**9.42**	**9.42**	**9.42**	**1-1/4"C,3#4,#4N,#10G**
3	**2500/3**	**SWITCHBOARD BLDG D MAIN**	**1,170**	**2,080**	**976**	**N/A**
4	**600/3**	**SWITCHBOARD EMERGENCY LOADS**	**48.3**	**49.5**	**49.1**	**N/A**
5	**20/3**	**SPARE**	**0**	**0**	**0**	
6	**20/3**	**SPARE**	**0**	**0**	**0**	
		TOTAL CONNECTED KVA BY PHASE	**1,340**	**2,250**	**1,130**	

OPTIONAL MULTIFAMILY DWELLING CALCULATION (NEC 220.84)

DWELLING UNIT LOADS

	KVA			KVA
LIGHTING AND RECEPTACLES	359	119,736 SF (3 VA/SF)	CONNECTED LOAD	3,900
SMALL-APPLIANCE	456		DWELLING UNITS	152
LAUNDRY	228		DEMAND FACTOR	(23%)
APPLIANCES	1,260		CALCULATED LOAD	896
ELECTRIC COOKING	1,220			
HEATING	373	(100%)		

HOUSE LOADS

	CONN KVA	CALC KVA			CONN KVA	CALC KVA	
LIGHTING	30.6	38.2	(125%)	EV LOAD	238	190	(80%)
LARGEST MOTOR	28.3	7.07	(25%)	CONTINUOUS	2.89	3.61	(125%)
MOTORS	237	237	(100%)	NONCONTINUOUS	8.65	8.65	(100%)
RECEPTACLES	35.6	22.8	(50%>10)	HEATING	124	124	(100%)
				COOLING	40.9	0	(0%)
				TOTAL HOUSE LOAD		631	

TOTAL LOAD

	KVA		KVA
TOTAL DWELLING UNIT LOAD	896	TOTAL LOAD	1,530
TOTAL HOUSE LOAD	631	BALANCED 3-PHASE LOAD	1,840 A

EMERGENCY LOADS

ROOM
MOUNTING **FLOOR**
FED FROM **SS PULL**
NOTE

VOLTS **480Y/277V 3P 4W**
BUS AMPS **600**
NEUTRAL **100%**

AIC **100,000**
MAIN BKR **600**
LUGS **STANDARD**

CKT #	BREAKER TRIP/POLES	CIRCUIT DESCRIPTION	LOAD KVA A	B	C	FEEDER RACEWAY AND CONDUCTORS
1	**225/3**	**TRANSFER SWITCH ATS-LR**	**44.3**	**43.9**	**41.8**	**3"C,3#300kcmil AL,#300kcmil AL N,#2 AL G**
2	**100/3**	**TRANSFER SWITCH ATS-EM**	**4.04**	**5.65**	**7.37**	**1-1/2"C,3#1/0 AL,#1/0 AL N,#6 AL G**
		TOTAL CONNECTED KVA BY PHASE	**48.3**	**49.5**	**49.1**	

	CONN KVA	CALC KVA			CONN KVA	CALC KVA	
LIGHTING	14.5	18.2	(125%)	CONTINUOUS	1.79	2.24	(125%)
LARGEST MOTOR	17.5	4.36	(25%)	NONCONTINUOUS	1.38	1.38	(100%)
MOTORS	123	123	(100%)	HEATING	3.95	0	(0%)
RECEPTACLES	1.72	1.72	(50%>10)	COOLING	4.75	4.75	(100%)
				TOTAL LOAD		155	
				BALANCED 3-PHASE LOAD		187 A	

FIRE PUMP TAP

ROOM
MOUNTING **FLOOR**
FED FROM **SS PULL**
NOTE

VOLTS **480Y/277V 3P 4W**
BUS AMPS **60**
NEUTRAL **100%**

AIC **42,000**
MAIN BKR **MLO**
LUGS **STANDARD**

CKT #	BREAKER TRIP/POLES	CIRCUIT DESCRIPTION	LOAD KVA A	B	C	FEEDER RACEWAY AND CONDUCTORS
1	**-/3**	**TRANSFER SWITCH ATS-FP**	**9.42**	**9.42**	**9.42**	**(2)2-1/2"C,3#250kcmil AL,#250kcmil AL N,#1 AL G**
		TOTAL CONNECTED KVA BY PHASE	**9.42**	**9.42**	**9.42**	

	CONN KVA	CALC KVA			CALC KVA
LARGEST MOTOR	28.3	7.07	(25%)	TOTAL LOAD	35.3
MOTORS	28.3	28.3	(100%)	BALANCED 3-PHASE LOAD	42.5 A

SITE LOADS

ROOM
MOUNTING **FLUSH**
FED FROM **SS PULL**
NOTE

VOLTS **480Y/277V 3P 4W**
BUS AMPS **800**
NEUTRAL **100%**

AIC **100,000**
MAIN BKR **800**
LUGS **STANDARD**

CKT #	BREAKER TRIP/POLES	CIRCUIT DESCRIPTION	LOAD KVA A	B	C	FEEDER RACEWAY AND CONDUCTORS
1	**100/3**	**PANEL SITE LTG**	**6**	**5**	**5**	**1-1/2"C,3#1/0 AL,#1/0 AL N,#6 AL G**
2	**100/3**	**PANEL SITE POWER**	**15.5**	**15.5**	**15.5**	**1-1/2"C,3#1/0 AL,#1/0 AL N,#6 AL G**
3	**500/3**	**XFMR XMFR-EV**	**84.3**	**87**	**72.9**	**(2)3"C,3#350kcmil AL,#350kcmil AL N,#1/0 AL G**
		TOTAL CONNECTED KVA BY PHASE	**106**	**108**	**93.4**	

OPTIONAL MULTIFAMILY DWELLING CALCULATION (NEC 220.84)

DWELLING UNIT LOADS

KVA		CONNECTED LOAD	KVA 0
		DWELLING UNITS	0
		DEMAND FACTOR	(N/A)
		CALCULATED LOAD	0

HOUSE LOADS

	CONN KVA	CALC KVA			CONN KVA	CALC KVA	
LIGHTING	16	20	(125%)	RECEPTACLES	4.8	4.8	(50%>10)
LARGEST MOTOR	11.6	2.91	(25%)	EV LOAD	238	190	(80%)
MOTORS	46.6	46.6	(100%)	NONCONTINUOUS	1.8	1.8	(100%)
				TOTAL HOUSE LOAD		266	

TOTAL LOAD

	KVA		KVA
TOTAL DWELLING UNIT LOAD	0	TOTAL LOAD	266
TOTAL HOUSE LOAD	266	BALANCED 3-PHASE LOAD	320 A

BLDG D MAIN

ROOM
MOUNTING **FLUSH**
FED FROM **SS PULL**
NOTE

VOLTS **480Y/277V 3P 4W**
BUS AMPS **2500**
NEUTRAL **100%**

AIC **100,000**
MAIN BKR **MLO**
LUGS **STANDARD**

CKT #	BREAKER TRIP/POLES	CIRCUIT DESCRIPTION	LOAD KVA A	B	C	FEEDER RACEWAY AND CONDUCTORS
1	**2500/3**	**SWITCHBOARD PULL**	**1,170**	**2,080**	**976**	**(8)4"C,3#600kcmil AL,#600kcmil AL N,#600kcmil AL G**
		TOTAL CONNECTED KVA BY PHASE	**1,170**	**2,080**	**976**	

OPTIONAL MULTIFAMILY DWELLING CALCULATION (NEC 220.84)

DWELLING UNIT LOADS

	KVA			KVA
LIGHTING AND RECEPTACLES	359	119,736 SF (3 VA/SF)	CONNECTED LOAD	3,900
SMALL-APPLIANCE	456		DWELLING UNITS	152
LAUNDRY	228		DEMAND FACTOR	(23%)
APPLIANCES	1,260		CALCULATED LOAD	896
ELECTRIC COOKING	1,220			
HEATING	373	(100%)		

HOUSE LOADS

	CONN KVA	CALC KVA			CONN KVA	CALC KVA	
LIGHTING	0.031	0.039	(125%)	CONTINUOUS	1.1	1.38	(125%)
LARGEST MOTOR	15.8	3.95	(25%)	NONCONTINUOUS	5.47	5.47	(100%)
MOTORS	39.2	39.2	(100%)	HEATING	120	120	(100%)
RECEPTACLES	29.1	19.5	(50%>10)	COOLING	36.2	0	(0%)
				TOTAL HOUSE LOAD		189	

TOTAL LOAD

	KVA		KVA
TOTAL DWELLING UNIT LOAD	896	TOTAL LOAD	1,090
TOTAL HOUSE LOAD	189	BALANCED 3-PHASE LOAD	1,310 A

PULL

ROOM
MOUNTING **FLOOR**
FED FROM **BLDG D MAIN**
NOTE

VOLTS **480Y/277V 3P 4W**
BUS AMPS **2500**
NEUTRAL **100%**

AIC **100,000**
MAIN BKR **MLO**
LUGS **STANDARD**

CKT #	BREAKER TRIP/POLES	CIRCUIT DESCRIPTION	LOAD KVA A	B	C	FEEDER RACEWAY AND CONDUCTORS
1	**3000/3**	**SWITCHBOARD MSB**	**1,170**	**2,080**	**976**	**N/A**
		TOTAL CONNECTED KVA BY PHASE	**1,170**	**2,080**	**976**	

OPTIONAL MULTIFAMILY DWELLING CALCULATION (NEC 220.84)

DWELLING UNIT LOADS

	KVA			KVA
LIGHTING AND RECEPTACLES	359	119,736 SF (3 VA/SF)	CONNECTED LOAD	3,900
SMALL-APPLIANCE	456		DWELLING UNITS	152
LAUNDRY	228		DEMAND FACTOR	(23%)
APPLIANCES	1,260		CALCULATED LOAD	896
ELECTRIC COOKING	1,220			
HEATING	373	(100%)		

HOUSE LOADS

	CONN KVA	CALC KVA			CONN KVA	CALC KVA	
LIGHTING	0.031	0.039	(125%)	CONTINUOUS	1.1	1.38	(125%)
LARGEST MOTOR	15.8	3.95	(25%)	NONCONTINUOUS	5.47	5.47	(100%)
MOTORS	39.2	39.2	(100%)	HEATING	120	120	(100%)
RECEPTACLES	29.1	19.5	(50%>10)	COOLING	36.2	0	(0%)
				TOTAL HOUSE LOAD		189	

TOTAL LOAD

	KVA		KVA
TOTAL DWELLING UNIT LOAD	896	TOTAL LOAD	1,090
TOTAL HOUSE LOAD	189	BALANCED 3-PHASE LOAD	1,310 A

MSB

ROOM
MOUNTING **FLOOR**
FED FROM **PULL**
NOTE

VOLTS **480Y/277V 3P 4W**
BUS AMPS **3000**
NEUTRAL **100%**

AIC **100,000**
MAIN BKR **MLO**
LUGS **STANDARD**

CKT #	BREAKER TRIP/POLES	CIRCUIT DESCRIPTION	LOAD KVA A	B	C	FEEDER RACEWAY AND CONDUCTORS
1	**200/3**	**PANEL CF1**	**12.7**	**8.55**	**8.55**	**2-1/2"C,3#250kcmil AL,#250kcmil AL N,#4 AL G**
2	**175/3**	**XFMR XFMR NL1S**	**11.1**	**11**	**9.8**	**2-1/2"C,3#4/0 AL,#4/0 AL N,#4 AL G**
3	**400/3**	**PANEL NH6N**	**11.9**	**11.9**	**11.9**	**(2)2-1/2"C,3#250kcmil AL,#250kcmil AL N,#1 AL G**
4	**175/3**	**XFMR XFMR NL1N**	**24.9**	**24**	**24.3**	**2-1/2"C,3#4/0 AL,#4/0 AL N,#4 AL G**
5	**400/3**	**PANEL NH1N**	**0**	**0**	**0**	**(2)2-1/2"C,3#250kcmil AL,#250kcmil AL N,#1 AL G**
6	**200/3**	**PANEL FUTURE PV**	**0**	**0**	**0**	**N/A**
7	**20/3**	**PROVISIONAL ONLY**	**0**	**0**	**0**	**-**
8	**20/3**	**PROVISIONAL ONLY**	**0**	**0**	**0**	**-**
9	**20/3**	**PROVISIONAL ONLY**	**0**	**0**	**0**	**2"C,3#3/0,#3/0G**
10	**20/3**	**PROVISIONAL ONLY**	**0**	**0**	**0**	**-**
11	**20/3**	**PROVISIONAL ONLY**	**0**	**0**	**0**	**-**
12	**20/3**	**PROVISIONAL ONLY**	**0**	**0**	**0**	**-**
13	**1200/3**	**XFMR XFMR RES-LOWER**	**668**	**1,220**	**555**	**(4)3"C,3#500kcmil AL,#250kcmil AL G**
14	**800/3**	**XFMR XRMR RES-UPPER**	**435**	**796**	**361**	**(3)3"C,3#400kcmil AL,#3/0 AL G**
15	**15/3**	**eGAUGE METERING VOLTAGE INPUT**	**0**	**0**	**0**	**-**
16	**200/3**	**PANEL CF2**	**9.81**	**8.55**	**5.7**	**2-1/2"C,3#250kcmil AL,#250kcmil AL N,#4 AL G**
		TOTAL CONNECTED KVA BY PHASE	**1,170**	**2,080**	**976**	

OPTIONAL MULTIFAMILY DWELLING CALCULATION (NEC 220.84)

DWELLING UNIT LOADS

	KVA			KVA
LIGHTING AND RECEPTACLES	359	119,736 SF (3 VA/SF)	CONNECTED LOAD	3,900
SMALL-APPLIANCE	456		DWELLING UNITS	152
LAUNDRY	228		DEMAND FACTOR	(23%)
APPLIANCES	1,260		CALCULATED LOAD	896
ELECTRIC COOKING	1,220			
HEATING	373	(100%)		

HOUSE LOADS

	CONN KVA	CALC KVA			CONN KVA	CALC KVA	
LIGHTING	0.031	0.039	(125%)	CONTINUOUS	1.1	1.38	(125%)
LARGEST MOTOR	15.8	3.95	(25%)	NONCONTINUOUS	5.47	5.47	(100%)
MOTORS	39.2	39.2	(100%)	HEATING	120	120	(100%)
RECEPTACLES	29.1	19.5	(50%>10)	COOLING	36.2	0	(0%)
				TOTAL HOUSE LOAD		189	

TOTAL LOAD

	KVA		KVA
TOTAL DWELLING UNIT LOAD	896	TOTAL LOAD	1,090
TOTAL HOUSE LOAD	189	BALANCED 3-PHASE LOAD	1,310 A

RIVERFRONT APARTMENTS BUILDING D
3710 Riverfront Blvd
Everett, WA 98203

ROBISON ENGINEERING, INC
19401 40TH AVE W., SUITE 302
LYNNWOOD, WA 98036
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CONTACT: MARK STEINKE

MARK STEINKE — STATE OF WASHINGTON — REGISTERED PROFESSIONAL ENGINEER — 02-27-26

PERMIT RESPONSE 02
02/27/26

KEY PLAN

BUILDING C BUILDING D

Stamping Architect

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DATE	DESCRIPTION
11/03/22	PERMIT RESPONSE 01
02/27/26	PERMIT RESPONSE 02

1073-001
PM: PETER ROCKSTEAD
DRAWN BY: MARK STEINKE

ELECTRICAL PANEL SCHEDULES

E5.10

EV-1

Panel | ROOM | VOLTS 208Y/120V 3P 4W | AIC 22,000
MOUNTING FLUSH | BUS AMPS 400 | MAIN BKR 400
FED FROM XMFR-EV | NEUTRAL 100% | LUGS STANDARD
NOTE

CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION		CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION
1	40/2	6.6	DUAL EV CHARGER	a	2	40/2	6.6	DUAL EV CHARGER
3	|			b	4	|		
5	40/2	6.6	DUAL EV CHARGER	c	6	40/2	6.6	DUAL EV CHARGER
7	|			a	8	|		
9	40/2	6.6	DUAL EV CHARGER	b	10	40/2	6.6	DUAL EV CHARGER
11	|			c	12	|		
13	40/2	6.6	DUAL EV CHARGER	a	14	40/2	6.6	DUAL EV CHARGER
15	|			b	16	|		
17	40/2	6.6	DUAL EV CHARGER	c	18	20/1	0.6	SITE PLUG LOADS
19	|			a	20	20/1	0.6	SITE PLUG LOADS
21	40/2	6.6	DUAL EV CHARGER	b	22	40/2	6.6	DUAL EV CHARGER
23	|			c	24	|		
25	20/1	0.6	PLAZA LOADS	a	26	40/2	6.6	DUAL EV CHARGER
27	20/1	0.6	PLAZA LOADS	b	28	|		
29	20/1	0.6	PLAZA LOADS	c	30	40/2	6.6	DUAL EV CHARGER
31	20/1	0.6	PLAZA LOADS	a	32	|		
33	20/1	0.6	PLAZA LOADS	b	34	40/2	6.6	DUAL EV CHARGER
35	20/1	0.6	PLAZA LOADS	c	36	|		
37	40/2	6.6	DUAL EV CHARGER	a	38	40/2	6.6	DUAL EV CHARGER
39	|			b	40	|		
41	20/1	0	SPARE	c	42	20/1	0	SPARE

	CONN KVA	CALC KVA			CALC KVA
RECEPTACLES	4.8	4.8	(50%>10)	TOTAL LOAD	89.3
EV LOAD	106	84.5	(80%)	BALANCED 3-PHASE LOAD	248 A
				PHASE A	104%
				PHASE B	111%
				PHASE C	85.2%

EV-2

Panel | ROOM | VOLTS 208Y/120V 3P 4W | AIC 22,000
MOUNTING FLUSH | BUS AMPS 400 | MAIN BKR 400
FED FROM XMFR-EV | NEUTRAL 100% | LUGS STANDARD
NOTE

CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION		CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION
1	40/2	6.6	DUAL EV CHARGER	a	2	40/2	6.6	DUAL EV CHARGER
3	|			b	4	|		
5	40/2	6.6	DUAL EV CHARGER	c	6	40/2	6.6	DUAL EV CHARGER
7	|			a	8	|		
9	40/2	6.6	DUAL EV CHARGER	b	10	40/2	6.6	DUAL EV CHARGER
11	|			c	12	|		
13	40/2	6.6	DUAL EV CHARGER	a	14	40/2	6.6	DUAL EV CHARGER
15	|			b	16	|		
17	40/2	6.6	DUAL EV CHARGER	c	18	40/2	6.6	DUAL EV CHARGER
19	|			a	20	|		
21	40/2	6.6	DUAL EV CHARGER	b	22	40/2	6.6	DUAL EV CHARGER
23	|			c	24	|		
25	40/2	6.6	DUAL EV CHARGER	a	26	40/2	6.6	DUAL EV CHARGER
27	|			b	28	|		
29	40/2	6.6	DUAL EV CHARGER	c	30	40/2	6.6	DUAL EV CHARGER
31	|			a	32	|		
33	40/2	6.6	DUAL EV CHARGER	b	34	40/2	6.6	DUAL EV CHARGER
35	|			c	36	|		
37	40/2	6.6	DUAL EV CHARGER	a	38	40/2	6.6	DUAL EV CHARGER
39	|			b	40	|		
41	20/1	0.9	IRRIGATION CONTROLLER	c	42	20/1	0.9	IRRIGATION CONTROLLER

	CONN KVA	CALC KVA			CALC KVA
EV LOAD	132	106	(80%)	TOTAL LOAD	107
NONCONTINUOUS	1.8	1.8	(100%)	BALANCED 3-PHASE LOAD	298 A
				PHASE A	104%
				PHASE B	104%
				PHASE C	92.6%

SITE LIGHTS

Panel | ROOM | VOLTS 480Y/277V 3P 4W | AIC 42,000
MOUNTING FLUSH | BUS AMPS 100 | MAIN BKR 100
FED FROM SITE LOADS | NEUTRAL 100% | LUGS STANDARD
NOTE

CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION		CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION
1	20/1	1	PARKING LOT LIGHTING	a	2	20/1	1	PARKING LOT LIGHTING
3	20/1	1	PARKING LOT LIGHTING	b	4	20/1	1	PARKING LOT LIGHTING
5	20/1	1	PARKING LOT LIGHTING	c	6	20/1	1	PARKING LOT LIGHTING
7	20/1	1	PARKING LOT LIGHTING	a	8	20/1	1	PARKING LOT LIGHTING
9	20/1	1	PARKING LOT LIGHTING	b	10	20/1	1	PARKING LOT LIGHTING
11	20/1	1	PARKING LOT LIGHTING	c	12	20/1	1	PARKING LOT LIGHTING
13	20/1	1	PARKING LOT LIGHTING	a	14	20/1	1	PARKING LOT LIGHTING
15	20/1	1	PARKING LOT LIGHTING	b	16	20/1	0	SPARE
17	20/1	1	PARKING LOT LIGHTING	c	18	20/1	0	SPARE
19	20/1	0	SPARE	a	20	20/1	0	SPARE
21	20/1	0	SPARE	b	22	20/1	0	SPARE
23	20/1	0	SPARE	c	24	20/1	0	SPARE
25	20/1	0	SPARE	a	26	20/1	0	SPARE
27	20/1	0	SPARE	b	28	20/1	0	SPARE
29	20/1	0	SPARE	c	30	20/1	0	SPARE
31	20/1	0	SPARE	a	32	20/1	0	SPARE
33	20/1	0	SPARE	b	34	20/1	0	SPARE
35	20/1	0	SPARE	c	36	20/1	0	SPARE
37	20/1	0	SPARE	a	38	20/1	0	SPARE
39	20/1	0	SPARE	b	40	20/1	0	SPARE
41	20/1	0	SPARE	c	42	20/1	0	SPARE

	CONN KVA	CALC KVA			CALC KVA
LIGHTING	16	20	(125%)	TOTAL LOAD	20
				BALANCED 3-PHASE LOAD	24.1 A
				PHASE A	113%
				PHASE B	93.8%
				PHASE C	93.8%

SITE POWER

Panel | ROOM | VOLTS 480Y/277V 3P 4W | AIC 42,000
MOUNTING FLUSH | BUS AMPS 100 | MAIN BKR 100
FED FROM SITE LOADS | NEUTRAL 100% | LUGS STANDARD
NOTE

CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION		CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION
1	20/3	11.6	TRASH COMPACTOR	a	2	20/3	11.6	TRASH COMPACTOR
3	|			b	4	|		
5	|			c	6	|		
7	20/3	11.6	TRASH COMPACTOR	a	8	20/3	11.6	TRASH COMPACTOR
9	|			b	10	|		
11	|			c	12	|		
13	20/1	0	SPARE	a	14	20/1	0	SPARE
15	20/1	0	SPARE	b	16	20/1	0	SPARE
17	20/1	0	SPARE	c	18	20/1	0	SPARE
19	20/1	0	SPARE	a	20	20/1	0	SPARE
21	20/1	0	SPARE	b	22	20/1	0	SPARE
23	20/1	0	SPARE	c	24	20/1	0	SPARE
25	20/1	0	SPARE	a	26	20/1	0	SPARE
27	20/1	0	SPARE	b	28	20/1	0	SPARE
29	20/1	0	SPARE	c	30	20/1	0	SPARE
31	20/1	0	SPARE	a	32	20/1	0	SPARE
33	20/1	0	SPARE	b	34	20/1	0	SPARE
35	20/1	0	SPARE	c	36	20/1	0	SPARE
37	20/1	0	SPARE	a	38	20/1	0	SPARE
39	20/1	0	SPARE	b	40	20/1	0	SPARE
41	20/1	0	SPARE	c	42	20/1	0	SPARE

	CONN KVA	CALC KVA			CONN KVA	CALC KVA	
LARGEST MOTOR	11.6	2.91	(25%)	MOTORS	46.6	46.6	(100%)
				TOTAL LOAD		49.5	
				BALANCED 3-PHASE LOAD		59.5 A	
				PHASE A		100%	
				PHASE B		100%	
				PHASE C		100%	

XMFR-EV

ROOM | PRIMARY VOLTS 480Y/277V 3P 4W | AIC NA
FED FROM SITE LOADS | SECONDARY VOLTS 208Y/120V 3P 4W | KVA 350
NOTE

CKT #	BREAKER TRIP/POLES	CIRCUIT DESCRIPTION	LOAD KVA A	LOAD KVA B	LOAD KVA C	FEEDER RACEWAY AND CONDUCTORS
1	-/3	PANEL EV-2	46.2	46.2	41.4	(2)2-1/2"C,3#250kcmil AL,#250kcmil AL N,#1/0 AL G
2	-/3	PANEL EV-1	38.1	40.8	31.5	(2)2-1/2"C,3#250kcmil AL,#250kcmil AL N,#1/0 AL G
		TOTAL CONNECTED KVA BY PHASE	84.3	87	72.9	

	CONN KVA	CALC KVA			CONN KVA	CALC KVA	
RECEPTACLES	4.8	4.8	(50%>10)	EV LOAD	238	190	(80%)
				NONCONTINUOUS	1.8	1.8	(100%)
				TOTAL LOAD		197	
				BALANCED 3-PHASE LOAD		546 A	

DB-RES-LOWER

ROOM | VOLTS 208Y/120V 3P 4W | AIC 42,000
MOUNTING FLOOR | BUS AMPS 2000 | MAIN BKR MLO
FED FROM XFMR RES-LOWER | NEUTRAL 100% | LUGS STANDARD
NOTE

CKT #	BREAKER TRIP/POLES	CIRCUIT DESCRIPTION	LOAD KVA A	LOAD KVA B	LOAD KVA C	FEEDER RACEWAY AND CONDUCTORS
1	20/3	SPARE	0	0	0	
2	800/3	SWITCHBOARD RES-DIST-2	435	362	0	(3)3"C,3#400kcmil AL,#400kcmil AL N,#3/0 AL G
3	800/3	SWITCHBOARD RES-DIST-3	451	373	0	(3)3"C,3#400kcmil AL,#400kcmil AL N,#3/0 AL G
4	800/3	SWITCHBOARD RES-DIST-4	450	374	0	(3)3"C,3#400kcmil AL,#400kcmil AL N,#3/0 AL G
5	20/3	SPARE	0	0	0	
		TOTAL CONNECTED KVA BY PHASE	1,340	1,110	0	

OPTIONAL MULTIFAMILY DWELLING CALCULATION (NEC 220.84)

	KVA			KVA
LIGHTING AND RECEPTACLES	216	72,151 SF (3 VA/SF)	CONNECTED LOAD	2,360
SMALL-APPLIANCE	276		DWELLING UNITS	92
LAUNDRY	138		DEMAND FACTOR	(23%)
APPLIANCES	765		CALCULATED LOAD	542
ELECTRIC COOKING	736		BALANCED 3-PHASE LOAD	1,500 A
HEATING	226	(100%)		

DB-RES-UPPER

ROOM | VOLTS 208Y/120V 3P 4W | AIC 42,000
MOUNTING FLOOR | BUS AMPS 1600 | MAIN BKR MLO
FED FROM XRMR RES-UPPER | NEUTRAL 100% | LUGS STANDARD
NOTE

CKT #	BREAKER TRIP/POLES	CIRCUIT DESCRIPTION	LOAD KVA A	LOAD KVA B	LOAD KVA C	FEEDER RACEWAY AND CONDUCTORS
1	20/3	SPARE	0	0	0	
2	800/3	SWITCHBOARD RES-DIST-5	450	374	0	(3)3"C,3#400kcmil AL,#400kcmil AL N,#3/0 AL G
3	800/3	SWITCHBOARD RES-DIST-6	421	348	0	(3)3"C,3#400kcmil AL,#400kcmil AL N,#3/0 AL G
4	20/3	SPARE	0	0	0	
5	20/3	SPARE	0	0	0	
		TOTAL CONNECTED KVA BY PHASE	870	722	0	

OPTIONAL MULTIFAMILY DWELLING CALCULATION (NEC 220.84)

	KVA			KVA
LIGHTING AND RECEPTACLES	143	47,585 SF (3 VA/SF)	CONNECTED LOAD	1,540
SMALL-APPLIANCE	180		DWELLING UNITS	60
LAUNDRY	90		DEMAND FACTOR	(24%)
APPLIANCES	499		CALCULATED LOAD	369
ELECTRIC COOKING	480		BALANCED 3-PHASE LOAD	1,020 A
HEATING	147	(100%)		

XRMR RES-UPPER

ROOM | PRIMARY VOLTS 480V 3P 3W | AIC NA
FED FROM MSB | SECONDARY VOLTS 208Y/120V 3P 4W | KVA 500
NOTE

CKT #	BREAKER TRIP/POLES	CIRCUIT DESCRIPTION	LOAD KVA A	LOAD KVA B	LOAD KVA C	FEEDER RACEWAY AND CONDUCTORS
1	1600/3	SWITCHBOARD DB-RES-UPPER	870	722	0	(5)3-1/2"C,3#600kcmil AL,#600kcmil AL N,#250kcmil AL G
		TOTAL CONNECTED KVA BY PHASE	870	722	0	

OPTIONAL MULTIFAMILY DWELLING CALCULATION (NEC 220.84)

	KVA			KVA
LIGHTING AND RECEPTACLES	143	47,585 SF (3 VA/SF)	CONNECTED LOAD	1,540
SMALL-APPLIANCE	180		DWELLING UNITS	60
LAUNDRY	90		DEMAND FACTOR	(24%)
APPLIANCES	499		CALCULATED LOAD	369
ELECTRIC COOKING	480		BALANCED 3-PHASE LOAD	1,020 A
HEATING	147	(100%)		

XFMR RES-LOWER

ROOM | PRIMARY VOLTS 480V 3P 3W | AIC NA
FED FROM MSB | SECONDARY VOLTS 208Y/120V 3P 4W | KVA 750
NOTE

CKT #	BREAKER TRIP/POLES	CIRCUIT DESCRIPTION	LOAD KVA A	LOAD KVA B	LOAD KVA C	FEEDER RACEWAY AND CONDUCTORS
1	2000/3	SWITCHBOARD DB-RES-LOWER	1,340	1,110	0	(6)3-1/2"C,3#600kcmil AL,#600kcmil AL N,#250kcmil AL G
		TOTAL CONNECTED KVA BY PHASE	1,340	1,110	0	

OPTIONAL MULTIFAMILY DWELLING CALCULATION (NEC 220.84)

	KVA			KVA
LIGHTING AND RECEPTACLES	216	72,151 SF (3 VA/SF)	CONNECTED LOAD	2,360
SMALL-APPLIANCE	276		DWELLING UNITS	92
LAUNDRY	138		DEMAND FACTOR	(23%)
APPLIANCES	765		CALCULATED LOAD	542
ELECTRIC COOKING	736		BALANCED 3-PHASE LOAD	1,500 A
HEATING	226	(100%)		

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MARK STEINKE — STATE OF WASHINGTON — REGISTERED PROFESSIONAL ENGINEER — 02-27-26

PERMIT RESPONSE 02
02/27/26

KEY PLAN

Stamping Architect

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DATE	DESCRIPTION
11/03/22	PERMIT RESPONSE 01
02/27/26	PERMIT RESPONSE 02

1073-001
PM: PETER ROCKSTEAD
DRAWN BY: MARK STEINKE

ELECTRICAL PANEL SCHEDULES

E5.11

Panel LR–H1

ROOM
MOUNTING **SURFACE**
FED FROM **ATS–LR**
NOTE

VOLTS **480Y/277V 3P 4W**
BUS AMPS **225**
NEUTRAL **100%**

AIC **42,000**
MAIN BKR **MLO**
LUGS **FEEDTHRU**

CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION		CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION
1	20/3	3.99	ERV–1–1	a	2	70/3	26.6	XFMR XFMR–LR
3	|			b	4	|		
5	|			c	6	|		
7	15/3	6.32	ERV–1–2	a	8	15/3	6.32	ERV–1–5
9	|			b	10	|		
11	|			c	12	|		
13	15/3	6.32	ERV–1–3	a	14	15/3	6.32	ERV–1–6
15	|			b	16	|		
17	|			c	18	|		
19	15/3	6.32	ERV–1–4	a	20	20/3	0.694	SF–1–4
21	|			b	22	|		
23	|			c	24	|		
			LUG LOAD: 67 KVA PANEL LR–H6					

	CONN KVA	CALC KVA			CONN KVA	CALC KVA	
LIGHTING	0.8	1	(125%)	RECEPTACLES	0.72	0.72	(50%>10)
LARGEST MOTOR	17.5	4.36	(25%)	CONTINUOUS	1.43	1.79	(125%)
MOTORS	121	121	(100%)	NONCONTINUOUS	1.38	1.38	(100%)
				HEATING	3.95	0	(0%)
				COOLING	4.75	4.75	(100%)
				TOTAL LOAD		135	
				BALANCED 3–PHASE LOAD		162 A	
				PHASE A		102%	
				PHASE B		101%	
				PHASE C		96.4%	

Panel LR–H6

ROOM
MOUNTING **FLUSH**
FED FROM **LR–H1**
NOTE

VOLTS **480Y/277V 3P 4W**
BUS AMPS **200**
NEUTRAL **100%**

AIC **22,000**
MAIN BKR **MLO**
LUGS **STANDARD**

CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION		CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION
1	40/3	17.5	ELEV–1	a	2	40/3	17.5	ELEV–2
3	|			b	4	|		
5	|			c	6	|		
7	15/3	1.33	EF–7–1	a	8	15/3	6.32	SPF–2
9	|			b	10	|		
11	|			c	12	|		
13	30/3	17.5	EPF–1	a	14	20/1	0	SPARE
15	|			b	16	20/1	0	SPARE
17	|			c	18	20/1	0	SPARE
19	15/3	6.32	SPF–1	a	20	20/1	0	SPARE
21	|			b	22	20/1	0	SPARE
23	|			c	24	20/1	0	SPARE
25	20/3	0.694	SF–7–2	a	26	20/1	0	SPARE
27	|			b	28	20/1	0	SPARE
29	|			c	30	20/1	0	SPARE
31	20/1	0	SPARE	a	32	20/1	0	SPARE
33	20/1	0	SPARE	b	34	20/1	0	SPARE
35	20/1	0	SPARE	c	36	20/1	0	SPARE
37	20/1	0	SPARE	a	38	20/1	0	SPARE
39	20/1	0	SPARE	b	40	20/1	0	SPARE
41	20/1	0	SPARE	c	42	20/1	0	SPARE
43	20/1	0	SPARE	a	44	20/1	0	SPARE
45	20/1	0	SPARE	b	46	20/1	0	SPARE
47	20/1	0	SPARE	c	48	20/1	0	SPARE

	CONN KVA	CALC KVA			CONN KVA	CALC KVA	
LARGEST MOTOR	17.5	4.36	(25%)	MOTORS	65.7	65.7	(100%)
				CONTINUOUS	1.33	1.66	(125%)
				TOTAL LOAD		71.7	
				BALANCED 3–PHASE LOAD		86.3 A	
				PHASE A		100%	
				PHASE B		100%	
				PHASE C		100%	

Panel EM–H1

ROOM
MOUNTING **SURFACE**
FED FROM **ATS–EM**
NOTE

VOLTS **480Y/277V 3P 4W**
BUS AMPS **100**
NEUTRAL **100%**

AIC **42,000**
MAIN BKR **MLO**
LUGS **STANDARD**

CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION		CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION
1	20/3	0	SPARE	a	2	50/3	17.1	XFMR XFMR–EM
3	|			b	4	|		
5	|			c	6	|		
7	20/1	0	SPARE	a	8	20/1	0	SPARE

	CONN KVA	CALC KVA			CONN KVA	CALC KVA	
LIGHTING	13.7	17.2	(125%)	MOTORS	1.96	1.96	(100%)
LARGEST MOTOR	0.98	0.245	(25%)	RECEPTACLES	1	1	(50%>10)
				CONTINUOUS	0.36	0.45	(125%)
				TOTAL LOAD		20.8	
				BALANCED 3–PHASE LOAD		25.1 A	
				PHASE A		71.1%	
				PHASE B		99.3%	
				PHASE C		130%	

Panel EM–L2

ROOM
MOUNTING **SURFACE**
FED FROM **EM–L1N**
NOTE

VOLTS **208Y/120V 3P 4W**
BUS AMPS **40**
NEUTRAL **100%**

AIC **22,000**
MAIN BKR **MLO**
LUGS **STANDARD**

CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION		CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION
1	20/1	0.24	LIGHTING	a	2	20/1	0.98	LIGHTING
3	20/1	0.24	LIGHTING	b	4	20/1	0.664	LIGHTING
5	20/1	0.368	LIGHTING	c	6	20/1	0.383	LIGHTING
7	20/1	0.368	LIGHTING	a	8	20/1	0.558	LIGHTING
9	20/1	0.566	S SITE LIGHTING	b	10	20/1	0	SPARE
11	20/1	0.1	LIGHTING	c	12	20/1	0	SPARE
13	20/1	0	SPARE	a	14	20/1	0	SPARE
15	20/1	0	SPARE	b	16	20/1	0	SPARE
17	20/1	0	SPARE	c	18	20/1	0	SPARE
19	20/1	0	SPARE	a	20	20/1	0	SPARE
21	20/1	0	SPARE	b	22	20/1	0	SPARE
23	20/1	0	SPARE	c	24	20/1	0	SPARE

	CONN KVA	CALC KVA			CALC KVA
LIGHTING	4.47	5.58	(125%)	TOTAL LOAD	5.58
				BALANCED 3–PHASE LOAD	15.5 A
				PHASE A	144%
				PHASE B	98.7%
				PHASE C	57.1%

Panel LR–L1

ROOM
MOUNTING **SURFACE**
FED FROM **XFMR–LR**
NOTE

VOLTS **208Y/120V 3P 4W**
BUS AMPS **100**
NEUTRAL **100%**

AIC **22,000**
MAIN BKR **100**
LUGS **FEEDTHRU**

CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION		CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION
1	20/1	1		a	2	20/1	0	SPARE
3	20/1	0.1	SF–1–3	b	4	20/1	0.1	SF–1–2
5	15/1	0.528	EF–1–1	c	6	20/1	0	SPARE
7	20/1	0	SPARE	a	8	70/3	17.5	SF–1–1
9	20/1	0	SPARE	b	10	|		
11	20/1	0	SPARE	c	12	|		
13	20/1	0.18	FUEL FILTRATION SYSTEM	a	14	20/1	0.05	DAMPER
15	20/1	0.5	REMOTE FUEL FILL	b	16	20/1	0	SPARE
17	20/1	0	SPARE	c	18	20/1	0	SPARE
19	20/1	0	SPARE	a	20	20/1	0.18	RECEPTACLE
21	20/1	0	SPARE	b	22	20/1	0.2	2–WAY COMM
23	20/1	0	SPARE	c	24	20/1	0	SPARE
			LUG LOAD: 7.34 KVA PANEL LR–L6					

	CONN KVA	CALC KVA			CONN KVA	CALC KVA	
LIGHTING	0.8	1	(125%)	RECEPTACLES	0.72	0.72	(50%>10)
LARGEST MOTOR	17.5	4.36	(25%)	CONTINUOUS	0.1	0.125	(125%)
MOTORS	18.9	18.9	(100%)	NONCONTINUOUS	1.38	1.38	(100%)
				HEATING	3.95	0	(0%)
				COOLING	4.75	4.75	(100%)
				TOTAL LOAD		31.2	
				BALANCED 3–PHASE LOAD		86.7 A	
				PHASE A		111%	
				PHASE B		107%	
				PHASE C		82.1%	

Panel LR–L6

ROOM
MOUNTING **SURFACE**
FED FROM **LR–L1**
NOTE

VOLTS **208Y/120V 3P 4W**
BUS AMPS **200**
NEUTRAL **100%**

AIC **22,000**
MAIN BKR **MLO**
LUGS **STANDARD**

CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION		CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION
1	20/1	0.696	SF–1–5	a	2	25/2	3.95	OHP–6–2
3	20/1	0.1	SF–1–6	b	4	|		
5	20/1	0	SPARE	c	6	20/1	0	SPARE
7	20/1	0	SPARE	a	8	20/1	0.4	ELEV 2 CAR CKTS
9	20/1	0	SPARE	b	10	20/1	0.18	CAR REC
11	20/1	0	SPARE	c	12	20/1	0.4	CAR VENT
13	20/1	0.4	ELEV 1 CAR CKTS	a	14	20/1	0.15	DAMPER, DSD
15	20/1	0.18	CAR REC	b	16	20/1	0.3	DAMPER, DSD
17	20/1	0.4	CAR VENT	c	18	20/1	0.18	RECEPTACLE

	CONN KVA	CALC KVA			CONN KVA	CALC KVA	
LIGHTING	0.8	1	(125%)	RECEPTACLES	0.54	0.54	(50%>10)
LARGEST MOTOR	3.95	0.988	(25%)	NONCONTINUOUS	0.45	0.45	(100%)
MOTORS	0.796	0.796	(100%)	HEATING	3.95	0	(0%)
				COOLING	4.75	4.75	(100%)
				TOTAL LOAD		8.53	
				BALANCED 3–PHASE LOAD		23.7 A	
				PHASE A		147%	
				PHASE B		115%	
				PHASE C		38%	

Panel EM–L5

ROOM
MOUNTING **SURFACE**
FED FROM **EM–L5N**
NOTE

VOLTS **208Y/120V 3P 4W**
BUS AMPS **40**
NEUTRAL **100%**

AIC **22,000**
MAIN BKR **MLO**
LUGS **STANDARD**

CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION		CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION
1	20/1	0.363	LIGHTING	a	2	20/1	0.407	LIGHTING
3	20/1	0.363	LIGHTING	b	4	20/1	0	SPARE
5	20/1	0	SPARE	c	6	20/1	0	SPARE
7	20/1	0	SPARE	a	8	20/1	0	SPARE
9	20/1	0	SPARE	b	10	20/1	0	SPARE
11	20/1	0	SPARE	c	12	20/1	0	SPARE
13	20/1	0	SPARE	a	14	20/1	0	SPARE
15	20/1	0	SPARE	b	16	20/1	0	SPARE

	CONN KVA	CALC KVA			CALC KVA
LIGHTING	1.13	1.42	(125%)	TOTAL LOAD	1.42
				BALANCED 3–PHASE LOAD	3.93 A
				PHASE A	204%
				PHASE B	96.2%
				PHASE C	0%

Panel EM–L5N

ROOM
MOUNTING **SURFACE**
FED FROM **EM–L1N**
NOTE

VOLTS **208Y/120V 3P 4W**
BUS AMPS **40**
NEUTRAL **100%**

AIC **22,000**
MAIN BKR **MLO**
LUGS **STANDARD**

CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION		CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION
1	20/1	0.43	LIGHTING	a	2	20/1	0.508	LIGHTING
3	20/1	0.43	LIGHTING	b	4	20/1	0.039	LIGHTING
5	40/3	1.13	PANEL EM–L5S	c	6	20/1	0	SPARE
7	|			a	8	20/1	0	SPARE
9	|			b	10	20/1	0	SPARE
11	20/1	0.2	ELEV OH LIGHTING	c	12	20/1	0	SPARE
13	20/1	0.2	ELEV OH LIGHTING	a	14	20/1	0	SPARE
15	20/1	0	SPARE	b	16	20/1	0	SPARE

	CONN KVA	CALC KVA			CALC KVA
LIGHTING	2.94	3.68	(125%)	TOTAL LOAD	3.68
				BALANCED 3–PHASE LOAD	10.2 A
				PHASE A	153%
				PHASE B	47.8%
				PHASE C	99%

GEN

ROOM
NOTE

VOLTS **480Y/277V 3P 4W**

KVA **250**
KW **200**
PF **0.8**

CKT #	BREAKER TRIP/POLES	CIRCUIT DESCRIPTION	LOAD KVA A	LOAD KVA B	LOAD KVA C	FEEDER RACEWAY AND CONDUCTORS
1	400/3	SWITCHBOARD GENERATOR SWITCHBOARD	57.8	59	58.6	(2)2–1/2"C,3#250kcmil AL,#250kcmil AL N,#1 AL G
2	20/3	SPARE	0	0	0	
		TOTAL CONNECTED KVA BY PHASE	57.8	59	58.6	

	CONN KVA	CALC KVA			CONN KVA	CALC KVA	
LIGHTING	14.5	18.2	(125%)	CONTINUOUS	1.79	2.24	(125%)
LARGEST MOTOR	28.3	7.07	(25%)	NONCONTINUOUS	1.38	1.38	(100%)
MOTORS	151	151	(100%)	HEATING	3.95	0	(0%)
RECEPTACLES	1.72	1.72	(50%>10)	COOLING	4.75	4.75	(100%)
				TOTAL LOAD		186	
				BALANCED 3–PHASE LOAD		224 A	

GENERATOR SWITCHBOARD

ROOM
MOUNTING **FLUSH**
FED FROM **GEN**
NOTE

VOLTS **480Y/277V 3P 4W**
BUS AMPS **400**
NEUTRAL **100%**

AIC **42,000**
MAIN BKR **MLO**
LUGS **STANDARD**

CKT #	BREAKER TRIP/POLES	CIRCUIT DESCRIPTION	LOAD KVA A	LOAD KVA B	LOAD KVA C	FEEDER RACEWAY AND CONDUCTORS
1	90/3	TRANSFER SWITCH ATS–FP	9.42	9.42	9.42	1–1/4"C,3#2,#2N,#8G
2	225/3	TRANSFER SWITCH ATS–LR	44.3	43.9	41.8	3"C,3#300kcmil AL,#300kcmil AL N,#2 AL G
3	100/3	TRANSFER SWITCH MAINTENEANCE TRANSFER SWITCH	4.04	5.65	7.37	1–1/2"C,3#1/0 AL,#1/0 AL N,#6 AL G
		TOTAL CONNECTED KVA BY PHASE	57.8	59	58.6	

	CONN KVA	CALC KVA			CONN KVA	CALC KVA	
LIGHTING	14.5	18.2	(125%)	CONTINUOUS	1.79	2.24	(125%)
LARGEST MOTOR	28.3	7.07	(25%)	NONCONTINUOUS	1.38	1.38	(100%)
MOTORS	151	151	(100%)	HEATING	3.95	0	(0%)
RECEPTACLES	1.72	1.72	(50%>10)	COOLING	4.75	4.75	(100%)
				TOTAL LOAD		186	
				BALANCED 3–PHASE LOAD		224 A	

XFMR–LR

ROOM
FED FROM **LR–H1**
NOTE

PRIMARY VOLTS **480Y/277V 3P 4W**
SECONDARY VOLTS **208Y/120V 3P 4W**

AIC **NA**
KVA **45**

CKT #	BREAKER TRIP/POLES	CIRCUIT DESCRIPTION	LOAD KVA A	LOAD KVA B	LOAD KVA C	FEEDER RACEWAY AND CONDUCTORS
1	–/3	PANEL LR–L1	9.85	9.46	7.33	1–1/2"C,3#1/0 AL,#1/0 AL N,#6 AL G
		TOTAL CONNECTED KVA BY PHASE	9.85	9.46	7.33	

	CONN KVA	CALC KVA			CONN KVA	CALC KVA	
LIGHTING	0.8	1	(125%)	CONTINUOUS	0.1	0.125	(125%)
LARGEST MOTOR	17.5	4.36	(25%)	NONCONTINUOUS	1.38	1.38	(100%)
MOTORS	18.9	18.9	(100%)	HEATING	3.95	0	(0%)
RECEPTACLES	0.72	0.72	(50%>10)	COOLING	4.75	4.75	(100%)
				TOTAL LOAD		31.2	
				BALANCED 3–PHASE LOAD		86.7 A	

XFMR–EM

ROOM
FED FROM **EM–H1**
NOTE

PRIMARY VOLTS **480Y/277V 3P 4W**
SECONDARY VOLTS **208Y/120V 3P 4W**

AIC **NA**
KVA **30**

CKT #	BREAKER TRIP/POLES	CIRCUIT DESCRIPTION	LOAD KVA A	LOAD KVA B	LOAD KVA C	FEEDER RACEWAY AND CONDUCTORS
1	–/3	PANEL EM–L1N	4.04	5.65	7.37	2–1/2"C,3#250kcmil AL,#250kcmil AL N,#2 AL G
		TOTAL CONNECTED KVA BY PHASE	4.04	5.65	7.37	

	CONN KVA	CALC KVA			CONN KVA	CALC KVA	
LIGHTING	13.7	17.2	(125%)	MOTORS	1.96	1.96	(100%)
LARGEST MOTOR	0.98	0.245	(25%)	RECEPTACLES	1	1	(50%>10)
				CONTINUOUS	0.36	0.45	(125%)
				TOTAL LOAD		20.8	
				BALANCED 3–PHASE LOAD		57.8 A	

Panel EM–L1N

ROOM
MOUNTING **SURFACE**
FED FROM **XFMR–EM**
NOTE

VOLTS **208Y/120V 3P 4W**
BUS AMPS **200**
NEUTRAL **100%**

AIC **22,000**
MAIN BKR **200**
LUGS **STANDARD**

CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION		CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION
1	20/1	0.28	NORTH STAIR N LIGHTING	a	2	20/1	0.1	ELEV PIT LIGHTING
3	20/1	0.28	NORTH STAIR S LIGHTING	b	4	20/1	0.836	LOBBY LIGHTING
5	20/1	0.43	L2 LIGHTING	c	6	20/1	0.491	L1 LIGHTING
7	20/1	0.445	L3 LIGHTING	a	8	20/1	0.6	BOH LIGHTING
9	20/1	0.499	N SITE LIGHTING	b	10	20/1	0.758	BOH LIGHTING
11	40/3	2.94	PANEL EM–L5N	c	12	40/3	4.47	PANEL EM–L2S
13	|			a	14	|		
15	|			b	16	|		
17	20/1	0.18	BATTERY CHARGER	c	18	20/1	0.5	ANNUNCIATOR PANEL
19	20/1	0.18	BLOCK HEATER	a	20	20/1	0.5	FACP
21	20/1	0.98	ADA DOORS	b	22	20/1	0.474	N RETAIL LIGHTING
23	20/1	0.98	ADA DOORS	c	24	20/1	1.14	N RETAIL LIGHTING

	CONN KVA	CALC KVA			CONN KVA	CALC KVA	
LIGHTING	13.7	17.2	(125%)	MOTORS	1.96	1.96	(100%)
LARGEST MOTOR	0.98	0.245	(25%)	RECEPTACLES	1	1	(50%>10)
				CONTINUOUS	0.36	0.45	(125%)
				TOTAL LOAD		20.8	
				BALANCED 3–PHASE LOAD		57.8 A	
				PHASE A		71.1%	
				PHASE B		99.3%	
				PHASE C		130%	

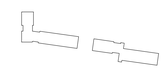
RIVERFRONT APARTMENTS
BUILDING D
3710 Riverfront Blvd
Everett, WA 98203

ROBISON ENGINEERING, INC
19401 40TH AVE W., SUITE 302
LYNNWOOD, WA 98036
206.364.3343 TEL
CONTACT: MARK STEINKE

MARK STEINKE
STATE OF WASHINGTON
REGISTERED
PROFESSIONAL ENGINEER
02-27-26

PERMIT RESPONSE 02
02/27/26

KEY PLAN



Stamping Architect

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	DATE	DESCRIPTION
1	11/03/22	PERMIT RESPONSE 01
2	02/27/26	PERMIT RESPONSE 02

1073-001
PM: PETER ROCKSTEAD
DRAWN BY: MARK STEINKE

ELECTRICAL PANEL SCHEDULES

E5.12

RES-DIST-4

ROOM
MOUNTING **FLUSH**
FED FROM **DB-RES-LOWER**
NOTE

VOLTS **208Y/120V 3P 4W**
BUS AMPS **800**
NEUTRAL **100%**

AIC **42,000**
MAIN BKR **MLO**
LUGS **STANDARD**

CKT #	BREAKER TRIP/POLES	CIRCUIT DESCRIPTION	LOAD KVA A	LOAD KVA B	LOAD KVA C	FEEDER RACEWAY AND CONDUCTORS
1	125/2	PANEL 401	15.3	14.4		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
2	125/2	PANEL 402	15.3	14.4		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
3	125/2	PANEL 403	14.6	11.6		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
4	125/2	PANEL 404	14.6	11.6		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
5	125/2	PANEL 405	14.6	11.6		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
6	125/2	PANEL 406	13.7	11.5		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
7	125/2	PANEL 407	13.7	11.5		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
8	125/2	PANEL 408	13.7	11.5		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
9	125/2	PANEL 409	15.3	14.1		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
10	125/2	PANEL 410	13.7	11.5		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
11	125/2	PANEL 411	13.7	11.5		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
12	125/2	PANEL 412	14.6	11.6		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
13	125/2	PANEL 413	15.1	11.4		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
14	125/2	PANEL 414	14.6	11.6		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
15	125/2	PANEL 415	14.6	11.6		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
16	125/2	PANEL 416	15.3	14.4		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
17	125/2	PANEL 417	15.3	14.4		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
18	125/2	PANEL 418	15.1	11.4		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
19	125/2	PANEL 419	15.1	11.4		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
20	125/2	PANEL 420	15.1	11.4		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
21	125/2	PANEL 421	15.1	11.4		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
22	125/2	PANEL 422	13.7	11.5		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
23	125/2	PANEL 423	13.7	11.5		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
24	125/2	PANEL 424	13.7	11.5		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
25	125/2	PANEL 425	15.3	14.1		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
26	125/2	PANEL 426	13.7	11.5		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
27	125/2	PANEL 427	13.7	11.5		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
28	125/2	PANEL 428	13.7	11.5		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
29	125/2	PANEL 429	14.6	11.6		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
30	125/2	PANEL 430	14.8	11.5		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
31	125/2	PANEL 431	15.1	11.4		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
32	15/2	eGAUGE METERING VOLTAGE INPUT	0	0		–
33	20/3	SPARE	0	0	0	
34	20/3	SPARE	0	0	0	
35	20/2	SPARE	0	0		
		TOTAL CONNECTED KVA BY PHASE	450	374	0	

OPTIONAL MULTIFAMILY DWELLING CALCULATION (NEC 220.84)

	KVA			KVA
LIGHTING AND RECEPTACLES	73.1	24,360 SF (3 VA/SF)	CONNECTED LOAD	794
SMALL-APPLIANCE	93		DWELLING UNITS	31
LAUNDRY	46.5		DEMAND FACTOR	(32%)
APPLIANCES	258		CALCULATED LOAD	254
ELECTRIC COOKING	248		BALANCED 3-PHASE LOAD	705 A
HEATING	76	(100%)		

RES-DIST-5

ROOM
MOUNTING **FLUSH**
FED FROM **DB-RES-UPPER**
NOTE

VOLTS **208Y/120V 3P 4W**
BUS AMPS **800**
NEUTRAL **100%**

AIC **42,000**
MAIN BKR **MLO**
LUGS **STANDARD**

CKT #	BREAKER TRIP/POLES	CIRCUIT DESCRIPTION	LOAD KVA A	LOAD KVA B	LOAD KVA C	FEEDER RACEWAY AND CONDUCTORS
1	125/2	PANEL 501	15.3	14.4		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
2	125/2	PANEL 502	15.3	14.4		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
3	125/2	PANEL 503	14.6	11.6		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
4	125/2	PANEL 504	14.6	11.6		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
5	125/2	PANEL 505	14.6	11.6		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
6	125/2	PANEL 506	13.7	11.5		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
7	125/2	PANEL 507	13.7	11.5		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
8	125/2	PANEL 508	13.7	11.5		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
9	125/2	PANEL 509	15.3	14.4		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
10	125/2	PANEL 510	13.7	11.5		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
11	125/2	PANEL 511	13.7	11.5		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
12	125/2	PANEL 512	14.6	11.6		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
13	125/2	PANEL 513	15.1	11.4		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
14	125/2	PANEL 514	14.6	11.6		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
15	125/2	PANEL 515	14.6	11.6		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
16	125/2	PANEL 516	15.3	14.4		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
17	125/2	PANEL 517	15.3	14.4		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
18	125/2	PANEL 518	15.1	11.4		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
19	125/2	PANEL 519	15.1	11.4		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
20	125/2	PANEL 520	15.1	11.4		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
21	125/2	PANEL 521	15.1	11.4		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
22	125/2	PANEL 522	13.7	11.5		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
23	125/2	PANEL 523	13.7	11.5		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
24	125/2	PANEL 524	13.7	11.5		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
25	125/2	PANEL 525	15.3	14.1		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
26	125/2	PANEL 526	13.7	11.5		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
27	125/2	PANEL 527	13.7	11.5		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
28	125/2	PANEL 528	13.7	11.5		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
29	125/2	PANEL 529	14.6	11.6		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
30	125/2	PANEL 530	14.8	11.5		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
31	125/2	PANEL 531	15.1	11.4		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
32	15/2	eGAUGE METERING VOLTAGE INPUT	0	0		–
33	20/2	SPARE	0	0		
34	20/2	SPARE	0	0		
35	20/2	SPARE	0	0		
		TOTAL CONNECTED KVA BY PHASE	450	374	0	

OPTIONAL MULTIFAMILY DWELLING CALCULATION (NEC 220.84)

	KVA			KVA
LIGHTING AND RECEPTACLES	73.6	24,517 SF (3 VA/SF)	CONNECTED LOAD	795
SMALL-APPLIANCE	93		DWELLING UNITS	31
LAUNDRY	46.5		DEMAND FACTOR	(32%)
APPLIANCES	258		CALCULATED LOAD	254
ELECTRIC COOKING	248		BALANCED 3-PHASE LOAD	706 A
HEATING	76.5	(100%)		

RES-DIST-2

ROOM
MOUNTING **FLUSH**
FED FROM **DB-RES-LOWER**
NOTE

VOLTS **208Y/120V 3P 4W**
BUS AMPS **800**
NEUTRAL **100%**

AIC **42,000**
MAIN BKR **MLO**
LUGS **STANDARD**

CKT #	BREAKER TRIP/POLES	CIRCUIT DESCRIPTION	LOAD KVA A	LOAD KVA B	LOAD KVA C	FEEDER RACEWAY AND CONDUCTORS
1	125/2	PANEL 201	15.3	14.4		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
2	125/2	PANEL 202	15.3	14.4		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
3	125/2	PANEL 203	14.6	11.6		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
4	125/2	PANEL 204	14.6	11.6		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
5	125/2	PANEL 205	14.6	11.6		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
6	125/2	PANEL 206	13.7	11.5		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
7	125/2	PANEL 207	13.7	11.5		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
8	125/2	PANEL 208	13.7	11.5		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
9	125/2	PANEL 209	15.3	14.1		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
10	125/2	PANEL 210	13.7	11.5		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
11	125/2	PANEL 211	13.7	11.5		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
12	125/2	PANEL 212	14.6	11.6		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
13	125/2	PANEL 213	15.1	11.4		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
14	125/2	PANEL 214	14.6	11.6		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
15	125/2	PANEL 215	14.6	11.6		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
16	125/2	PANEL 216	15.3	14.4		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
17	125/2	PANEL 217	15.3	14.4		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
18	125/2	PANEL 218	15.1	11.4		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
19	125/2	PANEL 219	15.1	11.4		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
20	125/2	PANEL 220	15.1	11.4		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
21	125/2	PANEL 221	15.1	11.4		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
22	125/2	PANEL 222	13.7	11.5		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
23	125/2	PANEL 223	13.7	11.5		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
24	125/2	PANEL 224	13.7	11.5		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
25	125/2	PANEL 225	15.3	14.1		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
26	125/2	PANEL 226	13.7	11.5		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
27	125/2	PANEL 227	13.7	11.5		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
28	125/2	PANEL 228	13.7	11.5		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
29	125/2	PANEL 229	14.6	11.6		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
30	125/2	PANEL 230	14.8	11.5		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
31	15/2	eGAUGE METERING VOLTAGE INPUT	0	0		–
32	20/3	SPARE	0	0	0	
33	20/3	SPARE	0	0	0	
34	20/3	SPARE	0	0	0	
35	20/3	SPARE	0	0	0	
		TOTAL CONNECTED KVA BY PHASE	435	362	0	

OPTIONAL MULTIFAMILY DWELLING CALCULATION (NEC 220.84)

	KVA			KVA
LIGHTING AND RECEPTACLES	71	23,683 SF (3 VA/SF)	CONNECTED LOAD	769
SMALL-APPLIANCE	90		DWELLING UNITS	30
LAUNDRY	45		DEMAND FACTOR	(33%)
APPLIANCES	249		CALCULATED LOAD	254
ELECTRIC COOKING	240		BALANCED 3-PHASE LOAD	705 A
HEATING	74	(100%)		

RES-DIST-3

ROOM
MOUNTING **FLUSH**
FED FROM **DB-RES-LOWER**
NOTE

VOLTS **208Y/120V 3P 4W**
BUS AMPS **800**
NEUTRAL **100%**

AIC **42,000**
MAIN BKR **MLO**
LUGS **STANDARD**

CKT #	BREAKER TRIP/POLES	CIRCUIT DESCRIPTION	LOAD KVA A	LOAD KVA B	LOAD KVA C	FEEDER RACEWAY AND CONDUCTORS
1	125/2	PANEL 301	15.3	14.4		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
2	125/2	PANEL 302	15.3	14.4		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
3	125/2	PANEL 303	14.6	11.6		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
4	125/2	PANEL 304	14.6	11.6		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
5	125/2	PANEL 305	15.1	11.4		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
6	125/2	PANEL 306	13.7	11.5		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
7	125/2	PANEL 307	13.7	11.5		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
8	125/2	PANEL 308	13.7	11.5		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
9	125/2	PANEL 309	15.3	14.1		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
10	125/2	PANEL 311	13.7	11.5		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
11	125/2	PANEL 312	14.6	11.6		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
12	125/2	PANEL 313	15.1	11.4		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
13	125/2	PANEL 314	14.6	11.6		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
14	125/2	PANEL 315	14.6	11.6		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
15	125/2	PANEL 316	15.3	14.4		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
16	125/2	PANEL 231	15.1	11.4		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
17	125/2	PANEL 317	15.3	14.4		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
18	125/2	PANEL 318	15.1	11.4		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
19	125/2	PANEL 319	15.1	11.4		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
20	125/2	PANEL 320	15.1	11.4		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
21	125/2	PANEL 321	15.1	11.4		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
22	125/2	PANEL 322	13.7	11.5		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
23	125/2	PANEL 323	13.7	11.5		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
24	125/2	PANEL 324	13.7	11.5		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
25	125/2	PANEL 325	15.3	14.1		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
26	125/2	PANEL 326	13.7	11.5		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
27	125/2	PANEL 327	13.7	11.5		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
28	125/2	PANEL 328	13.7	11.5		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
29	125/2	PANEL 329	14.6	11.6		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
30	125/2	PANEL 330	14.8	11.5		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
31	125/2	PANEL 331	15.1	11.4		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
32	15/2	eGAUGE METERING VOLTAGE INPUT	0	0		–
33	20/3	SPARE	0	0	0	
34	20/3	SPARE	0	0	0	
35	20/3	SPARE	0	0	0	
		TOTAL CONNECTED KVA BY PHASE	451	373	0	

OPTIONAL MULTIFAMILY DWELLING CALCULATION (NEC 220.84)

	KVA			KVA
LIGHTING AND RECEPTACLES	72.3	24,108 SF (3 VA/SF)	CONNECTED LOAD	793
SMALL-APPLIANCE	93		DWELLING UNITS	31
LAUNDRY	46.5		DEMAND FACTOR	(32%)
APPLIANCES	258		CALCULATED LOAD	254
ELECTRIC COOKING	248		BALANCED 3-PHASE LOAD	705 A
HEATING	76	(100%)		

RES-DIST-6

ROOM
MOUNTING **FLUSH**
FED FROM **DB-RES-UPPER**
NOTE

VOLTS **208Y/120V 3P 4W**
BUS AMPS **800**
NEUTRAL **100%**

AIC **42,000**
MAIN BKR **MLO**
LUGS **STANDARD**

CKT #	BREAKER TRIP/POLES	CIRCUIT DESCRIPTION	LOAD KVA A	LOAD KVA B	LOAD KVA C	FEEDER RACEWAY AND CONDUCTORS
1	125/2	PANEL 601	15.3	14.4		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
2	125/2	PANEL 602	15.3	14.4		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
3	125/2	PANEL 603	14.6	11.6		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
4	125/2	PANEL 604	14.6	11.6		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
5	125/2	PANEL 605	14.6	11.6		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
6	125/2	PANEL 606	13.7	11.5		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
7	125/2	PANEL 607	13.7	11.5		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
8	125/2	PANEL 608	13.7	11.5		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
9	125/2	PANEL 609	15.3	14.4		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
10	125/2	PANEL 610	13.7	11.5		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
11	125/2	PANEL 611	13.7	11.5		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
12	125/2	PANEL 612	14.6	11.6		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
13	125/2	PANEL 613	15.1	11.4		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
14	125/2	PANEL 614	14.6	11.6		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
15	125/2	PANEL 615	14.6	11.6		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
16	125/2	PANEL 616	15.3	14.4		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
17	125/2	PANEL 617	15.3	14.4		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
18	125/2	PANEL 618	15.1	11.4		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
19	125/2	PANEL 619	15.1	11.4		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
20	125/2	PANEL 620	15.1	11.4		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
21	125/2	PANEL 621	15.1	11.4		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
22	125/2	PANEL 622	13.7	11.5		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
23	125/2	PANEL 623	13.7	11.5		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
24	125/2	PANEL 626	13.7	11.5		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
25	125/2	PANEL 627	13.7	11.5		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
26	125/2	PANEL 628	13.7	11.5		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
27	125/2	PANEL 629	14.6	11.6		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
28	125/2	PANEL 630	14.8	11.5		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
29	125/2	PANEL 631	15.1	11.4		1-1/2"C,2#2/0 AL,#2/0 AL N,#4 AL G
30	15/2	eGAUGE METERING VOLTAGE INPUT	0	0		–
31	20/3	SPARE	0	0	0	
32	20/3	SPARE	0	0	0	
33	20/3	SPARE	0	0	0	
34	20/3	SPARE	0	0	0	
35	20/3	SPARE	0	0	0	
		TOTAL CONNECTED KVA BY PHASE	421	348	0	

OPTIONAL MULTIFAMILY DWELLING CALCULATION (NEC 220.84)

	KVA			KVA
LIGHTING AND RECEPTACLES	69.2	23,068 SF (3 VA/SF)	CONNECTED LOAD	743
SMALL-APPLIANCE	87		DWELLING UNITS	29
LAUNDRY	43.5		DEMAND FACTOR	(33%)
APPLIANCES	241		CALCULATED LOAD	245
ELECTRIC COOKING	232		BALANCED 3-PHASE LOAD	681 A
HEATING	70.5	(100%)		

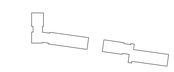
RIVERFRONT APARTMENTS
BUILDING D
3710 Riverfront Blvd
Everett, WA 98203

ROBISON ENGINEERING, INC
19401 40TH AVE W., SUITE 302
LYNNWOOD, WA 98036
2063643343 TEL
CONTACT: MARK STEINKE

MARK STEINKE
STATE OF WASHINGTON
REGISTERED
PROFESSIONAL ENGINEER
02-27-26

PERMIT RESPONSE 02
02/27/26

KEY PLAN



Stamping Architect

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	DATE	DESCRIPTION
1	11/03/22	PERMIT RESPONSE 01
2	02/27/26	PERMIT RESPONSE 02

1073-001
PM: PETER ROCKSTEAD
DRAWN BY: MARK STEINKE

ELECTRICAL PANEL SCHEDULES

E5.13

NL1N

Panel | ROOM | VOLTS 208Y/120V 3P 4W | AIC 22,000
MOUNTING SURFACE | BUS AMPS 400 | MAIN BKR 400
FED FROM XFMR NL1N | NEUTRAL 100% | LUGS FEEDTHRU
NOTE

CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION		CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION
1	20/1	0.18	LEVITON DMU	a	2	20/1	0.05	BUTTERFLY ACCESS SYSTEM
3	20/1	0	SPARE	b	4	20/2	2.5	EH-1-9, EH-1-10
5	20/2	0	SPARE	c	6	|		
7	|			a	8	20/2	2.25	EH-1-7
9	20/2	1	EH-1-5	b	10	|		
11	|			c	12	20/2	2.25	EH-1-4
13	20/2	3	EH-1-3	a	14	|		
15	|			b	16	20/2	2.25	EH-1-2
17	20/2	1.5	EH-1-8	c	18	|		
19	|			a	20	20/2	2.25	EH-1-1
21	20/2	0	SPARE	b	22	|		
23	|			c	24	15/1	0.96	WH-1, WH-2, WH-3, WH-4
25	20/2	1.18	HWCP	a	26	20/1	0.5	IRRIGATION CTRL
27	|			b	28	70/3	19	BP-1
29	20/1	1	TMV-1	c	30	|		
31	20/1	0.36	RECEPTACLE	a	32	|		
33	20/1	0.36	RECEPTACLE	b	34	20/1	1.44	RECEPTACLE
35	20/1	0.36	RECEPTACLE	c	36	20/1	0.54	RECEPTACLE
37	20/1	0.36	RECEPTACLE	a	38	20/1	0.18	RECEPTACLE
39	20/1	0.36	RECEPTACLE	b	40	20/1	0.68	LUXER, RECEPTACLE
41	20/1	0.36	RECEPTACLE	c	42	20/1	0.36	RECEPTACLE
43	20/2	0	SPARE	a	44	15/2	0.14	BC-1-1
45	|			b	46	|		
47	20/1	0.72	RECEPTACLE	c	48	20/1	0.9	RECEPTACLE
49	20/2	1.5	EH-1-6	a	50	20/1	0	SPARE
51	|			b	52	20/1	0	SPARE
		LUG LOAD: 24.8 KVA PANEL NL2N						

	CONN KVA	CALC KVA			CONN KVA	CALC KVA	
LIGHTING	0.031	0.039	(125%)	RECEPTACLES	17.9	14	(50%>10)
LARGEST MOTOR	6.32	1.58	(25%)	CONTINUOUS	1.1	1.38	(125%)
MOTORS	21.6	21.6	(100%)	NONCONTINUOUS	4.31	4.31	(100%)
				HEATING	28.3	28.3	(100%)
				COOLING	4.58	0	(0%)
				TOTAL LOAD		71.2	
				BALANCED 3-PHASE LOAD		197 A	
				PHASE A		102%	
				PHASE B		98.6%	
				PHASE C		99.4%	

NL2N

Panel | ROOM | VOLTS 208Y/120V 3P 4W | AIC 22,000
MOUNTING SURFACE | BUS AMPS 400 | MAIN BKR MLO
FED FROM NL1N | NEUTRAL 100% | LUGS FEEDTHRU
NOTE

CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION		CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION
1	20/3	0	SPARE	a	2	20/1	0.36	RECEPTACLE
3	|			b	4	20/1	0.36	RECEPTACLE
5	|			c	6	20/1	0.36	RECEPTACLE
7	20/1	0.4	FSD	a	8	20/1	0.36	RECEPTACLE
9	20/1	0	SPARE	b	10	20/1	0.54	RECEPTACLE
11	20/1	0	SPARE	c	12	20/1	0.36	RECEPT
13	20/1	0	SPARE	a	14	20/1	0.1	MAG DOOR HOLD
15	20/1	0	SPARE	b	16	20/1	0.18	RECEPTACLE
17	20/1	0	SPARE	c	18	20/1	0.18	RECEPTACLE
19	20/1	0	SPARE	a	20	20/1	0.18	RECEPTACLE
21	20/1	0	SPARE	b	22	20/1	0	SPARE
23	20/1	0	SPARE	c	24	20/1	0	SPARE
25	20/1	0	SPARE	a	26	20/1	0	SPARE
27	20/1	0	SPARE	b	28	20/1	0	SPARE
29	20/1	0	SPARE	c	30	20/1	0	SPARE
31	20/1	0	SPARE	a	32	20/1	0	SPARE
33	20/1	0	SPARE	b	34	20/1	0	SPARE
35	20/1	0	SPARE	c	36	20/1	0	SPARE
37	20/1	0	SPARE	a	38	20/1	0	SPARE
39	20/1	0	SPARE	b	40	20/1	0	SPARE
41	20/1	0	SPARE	c	42	20/1	0	SPARE
		LUG LOAD: 21.4 KVA PANEL NL6N						

	CONN KVA	CALC KVA			CONN KVA	CALC KVA	
LIGHTING	0.031	0.039	(125%)	RECEPTACLES	10.3	10.1	(50%>10)
LARGEST MOTOR	2.29	0.572	(25%)	CONTINUOUS	0.1	0.125	(125%)
MOTORS	1.34	1.34	(100%)	NONCONTINUOUS	3.3	3.3	(100%)
				HEATING	9.78	9.78	(100%)
				COOLING	4.58	0	(0%)
				TOTAL LOAD		25.3	
				BALANCED 3-PHASE LOAD		70.2 A	
				PHASE A		119%	
				PHASE B		83%	
				PHASE C		98.1%	

NL6N

Panel | ROOM | VOLTS 208Y/120V 3P 4W | AIC 22,000
MOUNTING SURFACE | BUS AMPS 400 | MAIN BKR MLO
FED FROM NL2N | NEUTRAL 100% | LUGS STANDARD
NOTE

CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION		CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION
1	25/2	2.29	OHP-6-1	a	2	20/1	0.54	RECEPTACLE
3	|			b	4	20/1	0.54	RECEPTACLE
5	20/1	0	SPARE	c	6	20/1	0.54	RECEPTACLE
7	15/1	0.24	ERV-6-1	a	8	20/1	0.18	RECEPTACLE
9	20/1	0	SPARE	b	10	20/1	0	SPARE
11	20/1	0.36	RECEPTACLE	c	12	20/1	0.18	RECEPTACLE
13	20/1	0.211	LIGHTING, RECEPTACLE	a	14	20/1	0.54	RECEPTACLE
15	20/1	0.1	EF-6-1	b	16	20/1	0.54	RECEPT
17	20/1	0	SPARE	c	18	20/1	0.18	RECEPTACLE
19	20/1	0.68	RECEPTACLE, REFRIGERATOR	a	20	25/2	2.29	OHP-1-2
21	20/1	1	DISPOSAL	b	22	|		
23	20/1	0.18	RECEPTACLE	c	24	30/2	5.2	OHP-1-1
25	20/1	0.72	RECEPTACLE	a	26	|		
27	20/1	0.9	RECEPTACLE	b	28	20/1	0.18	RECEPTACLE
29	20/1	0.54	RECEPTACLE	c	30	20/1	0.18	RECEPTACLE
31	20/1	0.54	RECEPTACLE	a	32	20/1	0	SPARE
33	20/1	0.18	RECEPTACLE	b	34	20/1	0	SPARE
35	30/1	2.4	FIRE PLACE, FIRE PLACE IGNITER	c	36	20/1	0	SPARE
37	20/1	0	SPARE	a	38	20/1	0	SPARE
39	20/1	0	SPARE	b	40	20/1	0	SPARE
41	20/1	0	SPARE	c	42	20/1	0	SPARE

	CONN KVA	CALC KVA			CONN KVA	CALC KVA	
LIGHTING	0.031	0.039	(125%)	RECEPTACLES	7.38	7.38	(50%>10)
LARGEST MOTOR	2.29	0.572	(25%)	NONCONTINUOUS	2.9	2.9	(100%)
MOTORS	1.34	1.34	(100%)	HEATING	9.78	9.78	(100%)
				COOLING	4.58	0	(0%)
				TOTAL LOAD		22	
				BALANCED 3-PHASE LOAD		61.1 A	
				PHASE A		118%	
				PHASE B		81.1%	
				PHASE C		101%	

NL1S

Panel | ROOM | VOLTS 208Y/120V 3P 4W | AIC 22,000
MOUNTING SURFACE | BUS AMPS 400 | MAIN BKR 400
FED FROM XFMR NL1S | NEUTRAL 100% | LUGS FEEDTHRU
NOTE

CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION		CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION
1	20/2	0	SPARE	a	2	20/1	0.18	RECEPTACLE
3	|			b	4	20/2	2.25	EH-1-12
5	20/2	0	SPARE	c	6	|		
7	|			a	8	20/2	3	EH-1-11
9	20/2	0	SPARE	b	10	|		
11	|			c	12	20/1	0.18	RECEPTACLE
13	20/2	0	SPARE	a	14	20/1	0.36	TRASH CHUTE
15	|			b	16	20/1	0.54	RECEPTACLE
17	20/2	3.25	EH-1-13, EH-1-14	c	18	20/1	0	SPARE
19	|			a	20	20/1	0	SPARE
21	50/3	11.6	COMPACTOR	b	22	20/1	0	SPARE
23	|			c	24	20/1	0	SPARE
25	|			a	26	20/1	0	SPARE
27	20/1	0.72	RECEPTACLE	b	28	20/1	0	SPARE
29	20/1	0.05	BUTTERFLY ACCESS SYSTEM	c	30	20/1	0	SPARE
31	20/1	0.54	RECEPTACLE	a	32	20/1	0	SPARE
33	20/2	1.92	MOTORIZED DOOR	b	34	20/1	0	SPARE
35	|			c	36	20/1	0	SPARE
37	20/1	0	SPARE	a	38	20/1	0	SPARE
39	20/1	0	SPARE	b	40	20/1	0	SPARE
41	20/1	0	SPARE	c	42	20/1	0	SPARE
		LUG LOAD: 7.23 KVA PANEL NL2S						

	CONN KVA	CALC KVA			CONN KVA	CALC KVA	
LARGEST MOTOR	11.6	2.91	(25%)	RECEPTACLES	8.64	8.64	(50%>10)
MOTORS	13.6	13.6	(100%)	NONCONTINUOUS	1.16	1.16	(100%)
				HEATING	8.5	8.5	(100%)
				TOTAL LOAD		34.8	
				BALANCED 3-PHASE LOAD		96.5 A	
				PHASE A		105%	
				PHASE B		103%	
				PHASE C		92.3%	

NL2S

Panel | ROOM | VOLTS 208Y/120V 3P 4W | AIC 22,000
MOUNTING SURFACE | BUS AMPS 400 | MAIN BKR 400
FED FROM NL1S | NEUTRAL 100% | LUGS FEEDTHRU
NOTE

CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION		CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION
1	20/3	0	SPARE	a	2	20/1	0.18	RECEPTACLE
3	|			b	4	20/1	0	SPARE
5	|			c	6	20/1	0	SPARE
7	20/1	0.5	FSD	a	8	20/1	0.18	RECEPTACLE
9	20/1	0.25	FSD	b	10	20/1	0	SPARE
11	20/1	0	SPARE	c	12	20/1	0	SPARE
13	20/1	0	SPARE	a	14	20/1	0.18	RECEPTACLE
15	20/1	0	SPARE	b	16	20/1	0	SPARE
17	20/1	0	SPARE	c	18	20/1	0	SPARE
19	20/1	0	SPARE	a	20	20/1	0.36	RECEPT
21	20/1	0	SPARE	b	22	20/1	0.36	RECEPTACLE
23	20/1	0	SPARE	c	24	20/1	0.36	RECEPTACLE
25	20/1	0	SPARE	a	26	20/1	0.36	RECEPTACLE
27	20/1	0	SPARE	b	28	20/1	0.36	RECEPTACLE
29	20/1	0	SPARE	c	30	20/1	0.36	RECEPTACLE
31	20/1	0	SPARE	a	32	20/1	0	SPARE
33	20/1	0	SPARE	b	34	20/1	0	SPARE
35	20/1	0	SPARE	c	36	20/1	0	SPARE
37	20/1	0	SPARE	a	38	20/1	0	SPARE
39	20/1	0	SPARE	b	40	20/1	0	SPARE
41	20/1	0	SPARE	c	42	20/1	0	SPARE
		LUG LOAD: 3.78 KVA PANEL NL6S						

	CONN KVA	CALC KVA			CALC KVA
RECEPTACLES	6.48	6.48	(50%>10)	TOTAL LOAD	7.23
NONCONTINUOUS	0.75	0.75	(100%)	BALANCED 3-PHASE LOAD	20.1 A
				PHASE A	125%
				PHASE B	92.5%
				PHASE C	82.2%

NL6S

Panel | ROOM | VOLTS 208Y/120V 3P 4W | AIC 22,000
MOUNTING SURFACE | BUS AMPS 400 | MAIN BKR MLO
FED FROM NL2S | NEUTRAL 100% | LUGS STANDARD
NOTE

CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION		CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION
1	20/1	0.18	RECEPTACLE	a	2	20/1	0	SPARE
3	20/1	0.54	RECEPTACLE	b	4	20/1	0.18	RECEPTACLE
5	20/1	0	SPARE	c	6	20/1	0.18	RECEPTACLE
7	20/1	0	SPARE	a	8	20/1	0	SPARE
9	20/1	0	SPARE	b	10	20/1	0	SPARE
11	20/1	0	SPARE	c	12	20/1	0.54	RECEPT
13	20/1	0	SPARE	a	14	20/1	0.54	RECEPTACLE
15	20/1	0	SPARE	b	16	20/1	0.54	RECEPTACLE
17	20/1	0	SPARE	c	18	20/1	0.54	RECEPTACLE
19	20/1	0	SPARE	a	20	20/1	0.54	RECEPTACLE
21	20/1	0	SPARE	b	22	20/1	0	SPARE
23	20/1	0	SPARE	c	24	20/1	0	SPARE
25	20/1	0	SPARE	a	26	20/1	0	SPARE
27	20/1	0	SPARE	b	28	20/1	0	SPARE
29	20/1	0	SPARE	c	30	20/1	0	SPARE
31	20/1	0	SPARE	a	32	20/1	0	SPARE
33	20/1	0	SPARE	b	34	20/1	0	SPARE
35	20/1	0	SPARE	c	36	20/1	0	SPARE
37	20/1	0	SPARE	a	38	20/1	0	SPARE
39	20/1	0	SPARE	b	40	20/1	0	SPARE
41	20/1	0	SPARE	c	42	20/1	0	SPARE

	CONN KVA	CALC KVA			CALC KVA
RECEPTACLES	3.78	3.78	(50%>10)	TOTAL LOAD	3.78
				BALANCED 3-PHASE LOAD	10.5 A
				PHASE A	100%
				PHASE B	100%
				PHASE C	100%

NH1N

Panel | ROOM | VOLTS 480Y/277V 3P 4W | AIC 42,000
MOUNTING SURFACE | BUS AMPS 400 | MAIN BKR MLO
FED FROM MSB | NEUTRAL 100% | LUGS FEEDTHRU
NOTE

CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION		CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION
1	20/1	0	SPARE	a	2	20/1	0	SPARE
3	20/1	0	SPARE	b	4	20/1	0	SPARE
5	20/1	0	SPARE	c	6	20/1	0	SPARE
7	20/1	0	SPARE	a	8	20/1	0	SPARE
9	20/1	0	SPARE	b	10	20/1	0	SPARE
11	20/1	0	SPARE	c	12	20/1	0	SPARE
13	20/1	0	SPARE	a	14	20/1	0	SPARE
15	20/1	0	SPARE	b	16	20/1	0	SPARE
17	20/1	0	SPARE	c	18	20/1	0	SPARE
19	20/1	0	SPARE	a	20	20/1	0	SPARE
21	20/1	0	SPARE	b	22	20/1	0	SPARE
23	20/1	0	SPARE	c	24	20/1	0	SPARE
25	20/1	0	SPARE	a	26	20/1	0	SPARE
27	20/1	0	SPARE	b	28	20/1	0	SPARE
29	20/1	0	SPARE	c	30	20/1	0	SPARE
31	20/1	0	SPARE	a	32	20/1	0	SPARE
33	20/1	0	SPARE	b	34	20/1	0	SPARE
35	20/1	0	SPARE	c	36	20/1	0	SPARE
37	20/1	0	SPARE	a	38	20/1	0	SPARE
39	20/1	0	SPARE	b	40	20/1	0	SPARE
41	20/1	0	SPARE	c	42	20/1	0	SPARE

	CONN KVA	CALC KVA			CALC KVA
				TOTAL LOAD	0
				BALANCED 3-PHASE LOAD	0 A
				PHASE A	0.00%
				PHASE B	0.00%
				PHASE C	0.00%

NH6N

Panel | ROOM | VOLTS 480Y/277V 3P 4W | AIC 42,000
MOUNTING SURFACE | BUS AMPS 400 | MAIN BKR MLO
FED FROM MSB | NEUTRAL 100% | LUGS STANDARD
NOTE

CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION		CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION
1	20/3	3.99	SF-7-1	a	2	20/3	15.8	RTU-1
3	|			b	4	|		
5	|			c	6	|		
7	20/3	0	SPARE	a	8	20/3	0	SPARE
9	|			b	10	|		
11	|			c	12	|		
13	20/3	0	SPARE	a	14	20/3	0	SPARE
15	|			b	16	|		
17	|			c	18	|		
19	20/1	0	SPARE	a	20	20/3	15.8	RTU-2
21	20/1	0	SPARE	b	22	|		
23	20/1	0	SPARE	c	24	|		
25	20/1	0	SPARE	a	26	20/1	0	SPARE
27	20/1	0	SPARE	b	28	20/1	0	SPARE
29	20/1	0	SPARE	c	30	20/1	0	SPARE
31	20/1	0	SPARE	a	32	20/1	0	SPARE
33	20/1	0	SPARE	b	34	20/1	0	SPARE
35	20/1	0	SPARE	c	36	20/1	0	SPARE
37	20/1	0	SPARE	a	38	20/1	0	SPARE
39	20/1	0	SPARE	b	40	20/1	0	SPARE
41	20/1	0	SPARE	c	42	20/1	0	SPARE

	CONN KVA	CALC KVA			CONN KVA	CALC KVA	
LARGEST MOTOR	15.8	3.95	(25%)	MOTORS	3.99	3.99	(100%)
				HEATING	31.6	31.6	(100%)
				COOLING	31.6	0	(0%)
				TOTAL LOAD		39.5	
				BALANCED 3-PHASE LOAD		47.5 A	
				PHASE A		100%	
				PHASE B		100%	
				PHASE C		100%	

XFMR NL1N

ROOM | PRIMARY VOLTS 480Y/277V 3P 4W | AIC NA
FED FROM MSB | SECONDARY VOLTS 208Y/120V 3P 4W | KVA 112.5
NOTE

CKT #	BREAKER TRIP/POLES	CIRCUIT DESCRIPTION	LOAD KVA A	LOAD KVA B	LOAD KVA C	FEEDER RACEWAY AND CONDUCTORS
1	400/3	PANEL NL1N	24.9	24	24.3	(2)2-1/2"C,3#250kcmil AL,#250kcmil AL N,#1/0 AL G
		TOTAL CONNECTED KVA BY PHASE	24.9	24	24.3	

	CONN KVA	CALC KVA			CONN KVA	CALC KVA	
LIGHTING	0.031	0.039	(125%)	CONTINUOUS	1.1	1.38	(125%)
LARGEST MOTOR	6.32	1.58	(25%)	NONCONTINUOUS	4.31	4.31	(100%)
MOTORS	21.6	21.6	(100%)	HEATING	28.3	28.3	(100%)
RECEPTACLES	17.9	14	(50%>10)	COOLING	4.58	0	(0%)
				TOTAL LOAD		71.2	
				BALANCED 3-PHASE LOAD		197 A	

XFMR NL1S

ROOM | PRIMARY VOLTS 480Y/277V 3P 4W | AIC NA
FED FROM MSB | SECONDARY VOLTS 208Y/120V 3P 4W | KVA 112.5
NOTE

CKT #	BREAKER TRIP/POLES	CIRCUIT DESCRIPTION	LOAD KVA A	LOAD KVA B	LOAD KVA C	FEEDER RACEWAY AND CONDUCTORS
1	400/3	PANEL NL1S	11.1	11	9.8	(2)2-1/2"C,3#250kcmil AL,#250kcmil AL N,#1/0 AL G
		TOTAL CONNECTED KVA BY PHASE	11.1	11	9.8	

	CONN KVA	CALC KVA			CONN KVA	CALC KVA	
LARGEST MOTOR	11.6	2.91	(25%)	RECEPTACLES	8.64	8.64	(50%>10)
MOTORS	13.6	13.6	(100%)	NONCONTINUOUS	1.16	1.16	(100%)
				HEATING	8.5	8.5	(100%)
				TOTAL LOAD		34.8	
				BALANCED 3-PHASE LOAD		96.5 A	

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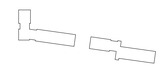
CONTACT: MARK STEINKE

MARK STEINKE — STATE OF WASHINGTON — REGISTERED PROFESSIONAL ENGINEER — 02-27-26

PERMIT RESPONSE 02
02/27/26

KEY PLAN



Stamping Architect

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	DATE	DESCRIPTION
1	11/03/22	PERMIT RESPONSE 01
2	02/27/26	PERMIT RESPONSE 02

1073-001
PM: PETER ROCKSTEAD
DRAWN BY: MARK STEINKE

ELECTRICAL PANEL SCHEDULES

E5.14

Panel B01

ROOM
MOUNTING **FLUSH**
FED FROM
NOTE

VOLTS **208/120V 2P 3W**
BUS AMPS **125**
NEUTRAL **100%**

AIC **22,000**
MAIN BKR **MLO**
LUGS **STANDARD**

CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION		CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION
1	20/1	1.5	AFCI SMALL APPLIANCE	a	2	20/1	1.5	AFCI WASHER
3	20/1	1.5	AFCI SMALL APPLIANCE	b	4	30/2	4.98	GFCI DRYER
5	20/1	0.7	AFCI DISPOSAL	a	6	|		
7	20/1	1.1	AFCI DISHWASHER	b	8	20/1	0.226	AFCI LIGHTING, RECP BATH
9	20/1	1.4	AFCI MICRO/HOOD	a	10	20/1	1.12	AFCI LIGHTING, RECEPT, RECEPTACLE, SD
11	50/2	8	GFCI RANGE	b	12	20/1	1.1	AFCI LIGHTING, MEDIA BOX, RECEPT
13	|			a	14	20/2	1	EWH-1
15	20/1	0.13	AFCI ERV	b	16	|		
17	20/1	0	SPARE	a	18	20/2	1	EWH-1
19	20/1	0	SPARE	b	20	|		
21	20/1	0	SPARE	a	22	20/2	0	SURGE PROTECTIVE DEVICE
23	20/1	0	SPARE	b	24	|		

OPTIONAL DWELLING UNIT CALCULATION (NEC 220.82)

	CONN KVA		GENERAL LOAD	CONN KVA	CALC KVA	
LIGHTING AND RECEPTACLES	1.58	525 SF (3 VA/SF)	UP TO 10 KVA	10	10	(100%)
SMALL-APPLIANCE	3		OVER 10 KVA	12.4	4.95	(40%)
LAUNDRY	1.5		MAX HEATING OR COOLING		1.3	(220.82(C)(4))
APPLIANCES	8.31		TOTAL LOAD		16.3	
ELECTRIC COOKING	8		BALANCED LOAD		78.1 A	
TOTAL GENERAL LOAD	22.4		PHASE A		108%	
			PHASE B		92.3%	

Panel C01

ROOM
MOUNTING **FLUSH**
FED FROM
NOTE

VOLTS **208/120V 2P 3W**
BUS AMPS **125**
NEUTRAL **100%**

AIC **22,000**
MAIN BKR **MLO**
LUGS **STANDARD**

CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION		CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION
1	20/1	1.5	AFCI SMALL APPLIANCE	a	2	20/1	1.5	AFCI WASHER
3	20/1	1.5	AFCI SMALL APPLIANCE	b	4	30/2	4.98	GFCI DRYER
5	20/1	0.7	AFCI DISPOSAL	a	6	|		
7	20/1	1.1	AFCI DISHWASHER	b	8	20/1	0.241	AFCI LIGHTING, RECP BATH
9	20/1	1.4	AFCI MICRO/HOOD	a	10	20/1	1.17	AFCI LIGHTING, MEDIA BOX, RECEPT, RECEPTACLE, SD
11	50/2	8	GFCI RANGE	b	12	20/1	0.915	AFCI LIGHTING, RECEPT, RECEPTACLE
13	|			a	14	20/2	1	EWH-1
15	20/1	0.13	AFCI ERV	b	16	|		
17	20/1	1.29	AFCI LIGHTING, RECEPT	a	18	20/2	1	EWH-1
19	20/2	0	SURGE PROTECTIVE DEVICE	b	20	|		
21	|			a	22	20/1	0	SPARE
23	20/1	0	SPARE	b	24	20/1	0	SPARE

OPTIONAL DWELLING UNIT CALCULATION (NEC 220.82)

	CONN KVA		GENERAL LOAD	CONN KVA	CALC KVA	
LIGHTING AND RECEPTACLES	2.03	677 SF (3 VA/SF)	UP TO 10 KVA	10	10	(100%)
SMALL-APPLIANCE	3		OVER 10 KVA	12.8	5.14	(40%)
LAUNDRY	1.5		MAX HEATING OR COOLING		1.3	(220.82(C)(4))
APPLIANCES	8.31		TOTAL LOAD		16.4	
ELECTRIC COOKING	8		BALANCED LOAD		79 A	
TOTAL GENERAL LOAD	22.8		PHASE A		113%	
			PHASE B		87.5%	

Panel D01

ROOM
MOUNTING **FLUSH**
FED FROM
NOTE

VOLTS **208/120V 2P 3W**
BUS AMPS **125**
NEUTRAL **100%**

AIC **22,000**
MAIN BKR **MLO**
LUGS **STANDARD**

CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION		CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION
1	20/1	1.5	AFCI SMALL APPLIANCE	a	2	20/1	1.5	AFCI WASHER
3	20/1	1.5	AFCI SMALL APPLIANCE	b	4	30/2	4.98	GFCI DRYER
5	20/1	0.7	AFCI DISPOSAL	a	6	|		
7	20/1	1.1	AFCI DISHWASHER	b	8	20/1	0.226	AFCI LIGHTING, RECP BATH
9	20/1	1.4	AFCI MICRO/HOOD	a	10	20/1	0.437	AFCI LIGHTING, RECP BATH
11	50/2	8	GFCI RANGE	b	12	20/1	1.22	AFCI LIGHTING, MEDIA BOX, RECEPT, RECEPTACLE, SD, SMALL APPLIANCE
13	|			a	14	20/1	1.29	AFCI LIGHTING, RECEPT
15	20/2	1.5	EWH-1.5	b	16	20/1	1.47	AFCI LIGHTING, RECEPT, RECEPTACLE
17	|			a	18	20/2	1.5	EWH-1.5
19	20/1	0.13	ERV	b	20	|		
21	20/2	0	SURGE PROTECTIVE DEVICE	a	22	20/2	1	EWH-1
23	|			b	24	|		

OPTIONAL DWELLING UNIT CALCULATION (NEC 220.82)

	CONN KVA		GENERAL LOAD	CONN KVA	CALC KVA	
LIGHTING AND RECEPTACLES	2.77	924 SF (3 VA/SF)	UP TO 10 KVA	10	10	(100%)
SMALL-APPLIANCE	3		OVER 10 KVA	13.6	5.43	(40%)
LAUNDRY	1.5		MAX HEATING OR COOLING		2.6	(220.82(C)(4))
APPLIANCES	8.31		TOTAL LOAD		18	
ELECTRIC COOKING	8		BALANCED LOAD		86.7 A	
TOTAL GENERAL LOAD	23.6		PHASE A		104%	
			PHASE B		96.4%	

Panel C02

ROOM
MOUNTING **FLUSH**
FED FROM
NOTE

VOLTS **208/120V 2P 3W**
BUS AMPS **125**
NEUTRAL **100%**

AIC **22,000**
MAIN BKR **MLO**
LUGS **STANDARD**

CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION		CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION
1	20/1	1.5	AFCI SMALL APPLIANCE	a	2	20/1	1.5	AFCI WASHER
3	20/1	1.5	AFCI SMALL APPLIANCE	b	4	30/2	4.98	GFCI DRYER
5	20/1	0.7	AFCI DISPOSAL	a	6	|		
7	20/1	1.1	AFCI DISHWASHER	b	8	20/1	0.226	AFCI LIGHTING, RECP BATH
9	20/1	1.4	AFCI MICRO/HOOD	a	10	20/1	0.945	AFCI LIGHTING, RECEPT
11	50/2	8	GFCI RANGE	b	12	20/1	1.16	AFCI LIGHTING, RECEPT, RECEPTACLE
13	|			a	14	20/1	1.05	AFCI LIGHTING, MEDIA BOX, RECEPT, RECEPTACLE, SD
15	20/1	0.13	AFCI ERV	b	16	20/2	1	EWH-1
17	20/2	1	EWH-1	a	18	|		
19	|			b	20	20/1	0	SPARE
21	20/2	0	SURGE PROTECTIVE DEVICE	a	22	20/1	0	SPARE
23	|			b	24	20/1	0	SPARE

OPTIONAL DWELLING UNIT CALCULATION (NEC 220.82)

	CONN KVA		GENERAL LOAD	CONN KVA	CALC KVA	
LIGHTING AND RECEPTACLES	3.24	1,081 SF (3 VA/SF)	UP TO 10 KVA	10	10	(100%)
SMALL-APPLIANCE	3		OVER 10 KVA	14.1	5.62	(40%)
LAUNDRY	1.5		MAX HEATING OR COOLING		1.3	(220.82(C)(4))
APPLIANCES	8.31		TOTAL LOAD		16.9	
ELECTRIC COOKING	8		BALANCED LOAD		81.4 A	
TOTAL GENERAL LOAD	24.1		PHASE A		110%	
			PHASE B		89.7%	

Panel D03

ROOM
MOUNTING **FLUSH**
FED FROM
NOTE

VOLTS **208/120V 2P 3W**
BUS AMPS **125**
NEUTRAL **100%**

AIC **22,000**
MAIN BKR **MLO**
LUGS **STANDARD**

CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION		CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION
1	20/1	0.422	AFCI LIGHTING, RECP BATH	a	2	20/1	0.226	AFCI LIGHTING, RECP BATH
3	20/1	1.19	AFCI LIGHTING, RECEPT, RECEPTACLE, SD	b	4	20/1	0.75	AFCI LIGHTING, RECEPT
5	20/1	0.96	AFCI LIGHTING, MEDIA BOX, RECEPT	a	6	20/1	0.81	AFCI LIGHTING, RECEPT
7	20/1	1.5	AFCI SMALL APPLIANCE	b	8	50/2	8	GFCI RANGE
9	20/1	1.5	AFCI SMALL APPLIANCE	a	10	|		
11	20/1	0.7	AFCI DISPOSAL	b	12	20/1	1.4	AFCI MICRO/HOOD
13	20/1	1.1	AFCI DISHWASHER	a	14	20/1	1.5	AFCI WASHER
15	20/2	1	EWH-1	b	16	30/2	4.98	GFCI DRYER
17	|			a	18	|		
19	20/2	1.5	EWH-1.5	b	20	20/2	2	EWH-2
21	|			a	22	|		
23	20/1	0.13	AFCI ERV	b	24	20/2	0	SURGE PROTECTIVE DEVICE
25	20/1	0	SPARE	a	26	|		

OPTIONAL DWELLING UNIT CALCULATION (NEC 220.82)

	CONN KVA		GENERAL LOAD	CONN KVA	CALC KVA	
LIGHTING AND RECEPTACLES	3.24	1,081 SF (3 VA/SF)	UP TO 10 KVA	10	10	(100%)
SMALL-APPLIANCE	3		OVER 10 KVA	14.1	5.62	(40%)
LAUNDRY	1.5		MAX HEATING OR COOLING		2.93	(220.82(C)(4))
APPLIANCES	8.31		TOTAL LOAD		18.5	
ELECTRIC COOKING	8		BALANCED LOAD		89.2 A	
TOTAL GENERAL LOAD	24.1		PHASE A		103%	
			PHASE B		97.4%	

Panel C04

ROOM
MOUNTING **FLUSH**
FED FROM
NOTE

VOLTS **208/120V 2P 3W**
BUS AMPS **125**
NEUTRAL **100%**

AIC **22,000**
MAIN BKR **MLO**
LUGS **STANDARD**

CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION		CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION
1	20/1	1.5	AFCI SMALL APPLIANCE	a	2	20/1	1.5	AFCI WASHER
3	20/1	1.5	AFCI SMALL APPLIANCE	b	4	30/2	4.98	GFCI DRYER
5	20/1	0.7	AFCI DISPOSAL	a	6	|		
7	20/1	1.1	AFCI DISHWASHER	b	8	20/1	0.241	AFCI LIGHTING, RECP BATH
9	20/1	1.4	AFCI MICRO/HOOD	a	10	20/1	1.11	AFCI LIGHTING, RECEPT, RECEPTACLE
11	50/2	8	GFCI RANGE	b	12	20/1	0.99	AFCI LIGHTING, MEDIA BOX, RECEPT
13	|			a	14	20/1	1.1	AFCI LIGHTING, RECEPT, RECEPTACLE, SD
15	20/1	0.13	AFCI ERV	b	16	20/2	1	EWH-1
17	20/2	0	SURGE PROTECTIVE DEVICE	a	18	|		
19	|			b	20	20/2	1	EWH-1
21	20/1	0	SPARE	a	22	|		
23	20/1	0	SPARE	b	24	20/1	0	SPARE

OPTIONAL DWELLING UNIT CALCULATION (NEC 220.82)

	CONN KVA		GENERAL LOAD	CONN KVA	CALC KVA	
LIGHTING AND RECEPTACLES	2.35	784 SF (3 VA/SF)	UP TO 10 KVA	10	10	(100%)
SMALL-APPLIANCE	3		OVER 10 KVA	13.2	5.26	(40%)
LAUNDRY	1.5		MAX HEATING OR COOLING		1.3	(220.82(C)(4))
APPLIANCES	8.31		TOTAL LOAD		16.6	
ELECTRIC COOKING	8		BALANCED LOAD		79.6 A	
TOTAL GENERAL LOAD	23.2		PHASE A		111%	
			PHASE B		88.5%	

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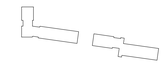
CONTACT: MARK STEINKE

MARK STEINKE — STATE OF WASHINGTON — REGISTERED PROFESSIONAL ENGINEER — 02-27-26

PERMIT RESPONSE 02
02/27/26

KEY PLAN



BUILDING C BUILDING D

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DATE	DESCRIPTION
11/03/22	PERMIT RESPONSE 01
02/27/26	PERMIT RESPONSE 02

1073-001
PM: PETER ROCKSTEAD
DRAWN BY: MARK STEINKE

ELECTRICAL PANEL SCHEDULES

E5.15

FAULT CURRENT SCHEDULE

DEVICE	FAULT	AIC RATING	UTILITY X	FED FROM DEVICE	FEEDER SIZE	FEEDER LENGTH
GEN	36,727		0.007545			
GENERATOR SWITCHBOARD	33,592	42,000	0.008006	GEN	(2)#250kcmil AL	23'
MAINTENEANCE TRANSFER SWITCH	543,241,703	***22,000***	0.0000005	GENERATOR SWITCHBOARD	#1/0 AL-1	42'
MTS-EM	19,586,858	***42,000***	0.00001		#1/0 AL-1	
MV-LV	54,083	NA	0.005193	MV-MAIN DISC		21'
SS PULL	54,083	100,000	0.005193	MV-LV		14'
BLDG D MAIN	54,081	100,000	0.005193	SS PULL		13'
PULL	52,448	100,000	0.005334	BLDG D MAIN	(8)#600kcmil AL	29'
MSB	52,448	100,000	0.005334	PULL		13'
CF1	12,090	22,000	0.0137	MSB	#250kcmil AL	204'
CF1 XFMR	8,658	22,000	0.01258	CF1	#2/0 AL	15'
CF1L	8,095	22,000	0.01311	CF1 XFMR	#250kcmil AL	13'
CF2	22,365	***22,000***	0.008984	MSB	#250kcmil AL	89'
CF2 XFMR	9,722	22,000	0.01169	CF2	#2/0 AL	15'
CF2L	9,071	22,000	0.01222	CF2 XFMR	#250kcmil AL	13'
NH1N	38,470	42,000	0.006371	MSB	(2)#250kcmil AL	51'
NH6N	27,623	42,000	0.00769	MSB	(2)#250kcmil AL	115'
XFMR NL1N	13,841	NA	0.008688	MSB	#4/0 AL	20'
NL1N	12,058	22,000	0.009477	XFMR NL1N	(2)#250kcmil AL	39'
NL2N	9,106	22,000	0.01105	NL1N	(2)#250kcmil AL	77'
NL6N	7,752	22,000	0.01207	NL2N	(2)#250kcmil AL	50'
XFMR NL1S	13,726	NA	0.008688	MSB	#4/0 AL	20'
NL1S	12,019	22,000	0.009441	XFMR NL1S	(2)#250kcmil AL	37'
NL2S	5,658	22,000	0.01435	NL1S	(2)#250kcmil AL	240'
NL6S	5,052	22,000	0.01537	NL2S	(2)#250kcmil AL	50'
XFMR RES-LOWER	27,412	NA	0.004311	MSB	(4)#500kcmil AL	34'
DB-RES-LOWER	26,278	42,000	0.00447	XFMR RES-LOWER	(6)#600kcmil AL	25'
RES-DIST-2	20,528	42,000	0.005394	DB-RES-LOWER	(3)#400kcmil AL	69'
RES-DIST-3	19,851	42,000	0.005531	DB-RES-LOWER	(3)#400kcmil AL	80'
RES-DIST-4	19,242	42,000	0.00566	DB-RES-LOWER	(3)#400kcmil AL	89'
XRMR RES-UPPER	37,034	NA	0.003319	MSB	(3)#400kcmil AL	28'
DB-RES-UPPER	34,468	42,000	0.003891	XRMR RES-UPPER	(5)#600kcmil AL	26'
RES-DIST-5	22,641	42,000	0.004644	DB-RES-UPPER	(3)#400kcmil AL	94'
RES-DIST-6	18,386	42,000	0.005427	DB-RES-UPPER	(3)#400kcmil AL	153'
EMERGENCY LOADS	54,081	100,000	0.005193	SS PULL		16'
ATS-EM	38,843	42,000	0.001533	EMERGENCY LOADS / MAINTENEANCE TRANSFER SWITCH	#1/0 AL-1	60' / 35'
EM-H1	27,727	42,000	0.002148	ATS-EM	#1/0 AL-1	14'
XFMR-EM	2,109	NA	0.05689	EM-H1	#6	16'
EM-L1N	2,087	22,000	0.05747	XFMR-EM	#250kcmil AL	14'
EM-L2S	530	22,000	0.07117	EM-L1N	#8	263'
EM-L5N	983	22,000	0.0638	EM-L1N	#8	122'
EM-L5S	468	22,000	0.07322	EM-L5N	#8	181'
ATS-LR	30,104	42,000	0.007752	EMERGENCY LOADS / GENERATOR SWITCHBOARD	#300kcmil AL	62' / 25'
LR-H1	27,141	42,000	0.008322	ATS-LR	#300kcmil AL	14'
LR-H6	8,989	22,000	0.01803	LR-H1	#250kcmil AL	237'
XFMR-LR	2,348	NA	0.05689	LR-H1	#4	18'
LR-L1	2,315	22,000	0.05743	XFMR-LR	#1/0 AL-1	12'
LR-L6	1,825	22,000	0.06662	LR-L1	#250kcmil AL	224'
FIRE PUMP TAP	31,125	42,000	0.006073	SS PULL	#4	18'
ATS-FP	22,158	42,000	0.00751	FIRE PUMP TAP / GENERATOR SWITCHBOARD	(2)#250kcmil AL / #2	70' / 78'
SITE LOADS	54,080	100,000	0.005193	SS PULL		16'
SITE LTG	27,134	42,000	0.006697	SITE LOADS	#1/0 AL-1	34'
SITE POWER	23,019	42,000	0.007154	SITE LOADS	#1/0 AL-1	45'
XMFR-EV	2,087	NA	0.05689	SITE LOADS	(2)#350kcmil AL	36'
EV-1	2,063	22,000	0.05738	XMFR-EV	(2)#250kcmil AL	24'
EV-2	2,067	22,000	0.0573	XMFR-EV	(2)#250kcmil AL	20'

RIVERFRONT APARTMENTS BUILDING D
3710 Riverfront Blvd
Everett, WA 98203

ROBISON ENGINEERING, INC
19401 40TH AVE W., SUITE 302
LYNNWOOD, WA 98036
2063643343 TEL
CONTACT: MARK STEINKE

MARK STEINKE — STATE OF WASHINGTON — 22007 — REGISTERED PROFESSIONAL ENGINEER — 02-27-26

PERMIT RESPONSE 02
02/27/26

KEY PLAN

Stamping Architect

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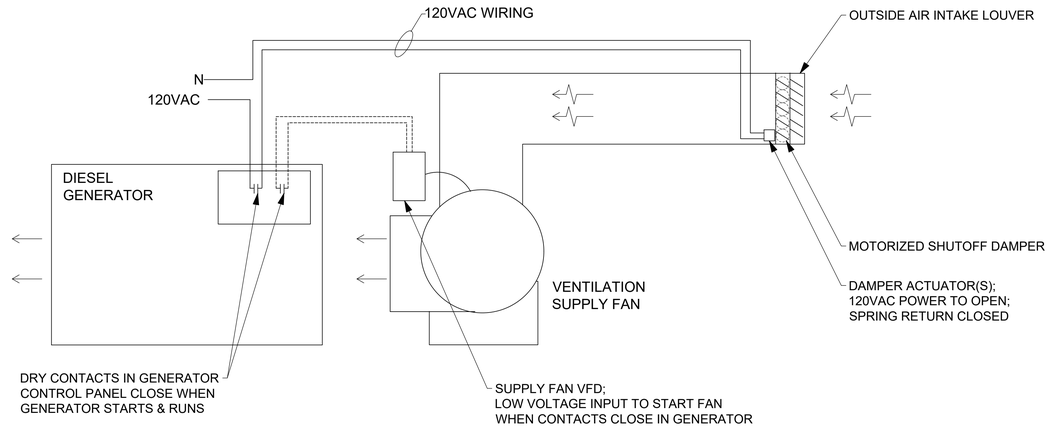
DATE	DESCRIPTION
11/03/22	PERMIT RESPONSE 01
02/27/26	PERMIT RESPONSE 02

1073-001
PM: PETER ROCKSTEAD
DRAWN BY: MARK STEINKE

FAULT CURRENT CALCULATIONS

E5.20



GENERATOR SUPPLY FAN * MOTORIZED DAMPER DIAGRAM

DETAIL

SCALE: NONE

1
E6.00

RIVERFRONT
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STATE OF WASHINGTON
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ELECTRICAL DETAILS

E6.01

LIGHTING COMPLIANCE SUMMARY

2018 WSEC Compliance Forms for Commercial Buildings including Group R2, R3 & R4 over 3 stories and all R1

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Project & Applicant Information	**Project Title**	Riverfront - Building D - 2018 WSEC	For Building Department Use: **Date: Jul 12, 2024**
	Project Address	3710 Riverfront BLVD Everett, WA 98203	
	Applicant Name	Michelle Rockstead	
	Applicant Phone	206-343-3343	
	Applicant Email	mrockstead@robisonengineering.com	

For questions about this report, contact WSEC Commercial Technical Support at 360-539-5300 or via email at com.techsupport@waenergycodes.com

General Occupancy	Mixed Use - Commercial + Group R building over 3 stories		**General Building Use Type**		Multifamily/Residential, Mixed Use	**Building Cond. Floor Area**	164,925
General Project Types	New Building	**New Building or Addition Lighting Scope**	Interior Lighting Exterior Lighting	**Alteration Lighting Scope**		**Project Cond. Floor Area**	164,925
						Floors Above Grade	6
						Compliance Method	General Prescriptive
Lighting Project Description							

Lighting Compliance Scope and Method	**Project Type**	**Interior / Exterior (Interior includes both interior & parking)**	**Luminaire Replacement Scope**	**Compliance Method**	**LPA Calculation Adjustment**	**Compliance Verification**
	New Building	Interior Lighting		Space by space	No Calculation Adjustments selected	**COMPLIES**
	New Building	Exterior Lighting			Not applicable to exterior	**COMPLIES**

Project Title	**Riverfront - Building D - 2018 WSEC**	**Date**	**Jul 12, 2024**
Lighting Power Calculation	**NEW BUILDING - INTERIOR LIGHTING**	**Compliance Verification**	**COMPLIES**
Compliance Method	**Space by space**	**LPA Calculation Adjustment**	**none**

Interior Lighting Power Allowance - Space by Space

General Space Type	Specific Space Type	Gross Interior Area (SF)	LPA (Watts/SF)	Total Watts Allowed (SF x LPA x 1)	Total Proposed Watts (LPD + Display LPD)	Compliance Status
Corridors	General	12,898	0.41	5,288		
Electrical/mechanical		3,214	0.43	1,382		
Loading dock		271	0.88	239		
Lobby	General	1,891	0.84	1,588		
Lobby	Elevator	1,022	0.65	664		
Lounge/breakroom	General	507	0.59	299		
Office	Enclosed > 250 sf	195	0.66	129		
Restroom	General	107	0.63	67		
Stairwell	General	2,344	0.49	1,149		
Storage room	General	18,324	0.38	6,963		
Storage room	Less than 50 sf	314	0.51	160		
Storage room	50-100 sf	505	0.38	192		
			Proposed Total LPD		**11,780**	
	Totals			**18,120**	**11,780**	**COMPLIES**

Proposed Lighting Power Density

Fixture Type	Fixture ID	Quantity of Fixtures (#F)	Watts or Wattage Limit	Total Linear Feet (LF)	Watts per Linear Foot (WpLF)	Total Watts Proposed

			per Fixture (W/pF)			(#F x W/pF) or (LF x W/pLF)
Individual Fixtures						
Recessed downlight	FA2	58	15			870
Recessed downlight	FA1	153	10			1,530
Recessed downlight	FA3	80	15			1,200
Suspended	BA1	214	35			7,447
Wall-mounted	WA1	26	28			733
					Proposed Total LPD	**11,780**

Project Title	**Riverfront - Building D - 2018 WSEC**	**Date**	**Jul 12, 2024**
Proposed Fixtures Details	**NEW BUILDING - INTERIOR LIGHTING**		

Fixture Type/Application	Fixture ID	Location in Documents	Lamp Type	New or Existing-to-Remain
Individual Fixtures				
Recessed downlight	FA2	E1.00N, E1.00S	LED	New
	Fixture Description: 11-INCH SURFACE MOUNT LED DOWNLIGHT			Are these fixtures located within a daylight zone?: No
	Do these fixtures require specific application lighting controls?: None required			
Recessed downlight	FA1	E1.00N-E1.00S, E1.00S-E1.00S	LED	New
	Fixture Description: NOMINAL 5-IN SURFACE MOUNT LED DOWNLIGHT			Are these fixtures located within a daylight zone?: No
	Do these fixtures require specific application lighting controls?: None required			
Recessed downlight	FA3	E1.00N-E1.00N, E1.00S-E1.00S	LED	New
	Fixture Description: DECORATIVE SURFACE MOUNT LED CYLINDER DOWNLIGHT			Are these fixtures located within a daylight zone?: No
	Do these fixtures require specific application lighting controls?: None required			
Suspended	BA1	E1.00N-E1.00N, E1.00S-E1.00S	LED	New
	Fixture Description: SURFACE OR SUSPENDED LED STRIPLIGHT			Are these fixtures located within a daylight zone?: No
	Do these fixtures require specific application lighting controls?: None required			
Wall-mounted	WA1	E1.00N-E1.07N, E1.00S-E1.00S	LED	New
	Fixture Description: WALL MOUNT LED STRIPLIGHT WITH INTEGRAL OCCUPANCY SENSOR			Are these fixtures located within a daylight zone?: No
	Do these fixtures require specific application lighting controls?: None required			

Project Title	**Riverfront - Building D - 2018 WSEC**	**Date**	**Jul 12, 2024**
Lighting Power Calculation	**NEW BUILDING - EXTERIOR LIGHTING**	**Compliance Verification**	**COMPLIES**
Exterior Lighting Zone	**ZONE 2**	**Base Site Allowance**	**400**

Exterior Tradable Lighting Power Allowance

Exterior Surface	Surface Sub-Type	Surface Area (SF)	LPA (Watts/SF)	Linear Feet (LF)	LPA (Watts/LF)	Total Watts Allowed (LPA x SF) or (LPA x LF)	Total Proposed Watts	Compliance Status
Building grounds	Walkways < 10 feet wide			978	0.50	489		
Building grounds	Walkways 10 feet and wider	777	0.10			78		
Building entrances and exits	Entry canopies	1,698	0.25			425		
					Base Site Allowance	400		
					Totals	1,391	1,085	COMPLIES

Proposed Tradable Lighting Power Density

Fixture Type	Fixture ID	Exterior Surface Type	Quantity of Fixtures (#F)	Watts or Wattage Limit per Fixture (W/pF)	Total Linear Feet (LF)	Watts per Linear Foot (WpLF)	Total Watts Proposed (#F x W/pF) or (LF x WpLF)
Individual Fixtures							
Wall-mounted	SC1	Building grounds - Walkways 10 feet and wider	2	19			39

Wall-mounted	SC1	Building grounds - Walkways < 10 feet wide	37	19			714
Other fixture type	SD2	Building entrances and exits - Entry canopies	31	10			295
Other fixture type	SD1	Building entrances and exits - Entry canopies	4	10			38
						Proposed Total LPD	**1,085**

4 FORMS UPDATED.

RIVERFRONT APARTMENTS BUILDING D
3710 Riverfront Blvd
Everett, WA 98203

ROBISON ENGINEERING, INC
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CONTACT: MARK STEINKE

MARK STEINKE — STATE OF WASHINGTON — 27026 — REGISTERED PROFESSIONAL ENGINEER — 02-27-26

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PERMIT RESPONSE 02
02/27/26

KEY PLAN

BUILDING C BUILDING D

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△	DATE	DESCRIPTION
1	11/03/22	PERMIT RESPONSE 01
2	02/27/26	PERMIT RESPONSE 02

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PM: PETER ROCKSTEAD
DRAWN BY: MARK STEINKE

E7.00

GENERAL NOTES

1. REFERENCE TO RELATED WORK: "REF" INDICATIONS DENOTE WORK COVERED ELSEWHERE (ARCHITECTURAL, STRUCTURAL, CIVIL, ELECTRICAL, LANDSCAPE, OR KITCHEN), OR ITEM BASED ON A SPECIFIC MANUFACTURER'S DIMENSIONS (VERIFY).
2. ELECTRICAL CHARACTERISTICS: REFER TO ELECTRICAL DRAWINGS FOR ELECTRICAL CHARACTERISTICS (VOLTAGES, ETC. OF MECHANICAL EQUIPMENT, UNLESS OTHERWISE INDICATED.
3. CODES: COMPLETE INSTALLATION OF THE PLUMBING SYSTEM SHALL BE PER THE APPLICABLE BUILDING, MECHANICAL, ENERGY, PLUMBING, FIRE, AND HEALTH CODES AND REGULATIONS AS ADOPTED BY THE LOCAL AHJ.
4. PREPARE AND SUBMIT FOR REVIEW A SHOP DRAWING BASED ON FINAL STRUCTURAL SHOP DRAWINGS FOR LOCATING AND ROUTING ALL EQUIPMENT, PIPING, ETC.
   A. COORDINATE FLOOR AND BEAM PENETRATIONS WITH STRUCTURAL.
   B. COORDINATE FINAL LOCATION AND ROUTING WITH CEILING, LIGHTS, WALLS, FIRE SPRINKLER PIPING, AND OTHER TRADES WORK.
   C. INCLUDE ADDITIONAL OFFSETS, ELBOWS, ROUTING, EQUIVALENT DUCT SIZING EXCHANGE, RELOCATING, ETC. AS REQUIRED FOR A COMPLETE OPERATING MECHANICAL SYSTEM.
   D. PROVIDE SHOP DRAWINGS AT NO ADDITIONAL COST TO THE OWNER.
5. PLUMBING CONTRACTOR SHALL LOCATE AND COORDINATE EXACT LOCATION OF ALL PLUMBING EQUIPMENT WITHIN THE STRUCTURE.
6. ACCESS DOORS: COORDINATE WITH ARCHITECT AND LOCATE ALL ACCESS DOORS ON SHOP DRAWINGS PRIOR TO BEGINNING OF CONSTRUCTION. ACCESS DOORS IN FIRE RATED STRUCTURE SHALL BE FIRE RATED. VERIFY ACCESS DOOR LOCATIONS WITH GENERAL CONTRACTOR PRIOR TO BIDDING.
7. ROOF PENETRATIONS: SEE ARCHITECTURAL DRAWINGS FOR ROOF CAP, ROOF CURB, ROOF DRAIN, OVERFLOW DRAINS AND VTR DETAILS.
8. EXPOSED PIPING: PROVIDE CHROME PLATING FOR EXPOSED PIPING IN FINISHED ROOMS.
9. PENETRATIONS: PROVIDE ESCUTCHEON PLATES FOR EXPOSED PIPING PENETRATIONS AND SHEET METAL FLASHING FOR EXPOSED DUCTWORK PENETRATIONS.
10. SHAFT AND PLENUM CONNECTIONS: SEAL CONNECTIONS TO AIR SHAFTS AIRTIGHT. PROVIDE AIRTIGHT SEAL AROUND PENETRATIONS IN AIR PLENUMS.
11. LIGHT FIXTURE CLEARANCE: COORDINATE LOCATIONS OF MECHANICAL WORK TO PROVIDE CLEARANCES OVER LIGHTING FIXTURES FOR REMOVAL AND REPLACEMENT.
12. CABLE TRAYS: PIPING INSTALLED ADJACENT TO ELECTRICAL CABLE TRAYS SHALL ALLOW MINIMUM ACCESS OF 6" ABOVE AND TO THE SIDE OF CABLE TRAYS.
13. MOTORS: COMPLY WITH ENERGY CODE ENFORCED BY AHJ FOR MINIMUM EFFICIENCIES UNDER FULL LOAD.
14. ACCESS CLEARANCES FOR MAINTENANCE AND REPLACEMENT: VERIFY PHYSICAL DIMENSIONS OF EQUIPMENT TO ENSURE THAT ACCESS CLEARANCES CAN BE MET. COORDINATE LOCATIONS OF MECHANICAL WORK AND WORK OF OTHER TRADES TO PROVIDE ACCESS CLEARANCES FOR SERVICE AND MAINTENANCE.

COORDINATION REQUIREMENTS

1. IRRIGATION SYSTEM: COORDINATE IRRIGATION WATER DEMAND, MINIMUM WATER PRESSURE REQUIREMENTS & CONTROL CABINET LOCATIONS WITH IRRIGATION CONTRACTOR.
2. GAS: CONTRACTOR/GAS COMPANY SHALL FINALIZE GAS METER AND GAS SERVICE LOCATIONS. INSTALL SEISMIC GAS SHUT OFF VALVE PER GAS COMPANY REGULATIONS.
3. UTILITIES: COORDINATE WITH SITE UTILITY CONTRACTOR AND CIVIL DRAWINGS FOR UTILITY CONNECTIONS AND EXTENSIONS.
4. ROOF DRAINAGE: COORDINATE WITH GENERAL CONTRACTOR FOR ROOF DRAIN AND OVERFLOWS, SCUPPER DRAINS, AND CONDENSATE DRAINS.
5. PLUMBING FIXTURES & EQUIPMENT: COORDINATE EXACT LOCATION OF ALL PLUMBING FIXTURES & EQUIPMENT WITH ARCHITECTURAL AND OTHER TRADES DOCUMENTS.
6. PIPING: COORDINATE EXACT LOCATION OF ALL STRUCTURAL FRAMING & FOOTINGS AND FINALIZE THE EXACT ROUTING OF ALL PIPES WITH STRUCTURAL ENGINEER AT THE SITE PRIOR TO AND DURING THE CONSTRUCTION. COORDINATE UNDER GRADE PIPING & FOUNDATION DRAINAGE PIPING WITH CIVIL ENGINEER.
7. ADJUSTMENTS: ALL EQUIPMENT, MOTORS, FANS GAS BURNERS, IGNITION DEVICES, DRIVES, ETC. SHALL BE ADJUSTED AND BALANCED TO OPERATE AT SPECIFIED RATINGS AS REQUIRED FOR THIS PROJECT SITE AND ACCOUNTING FOR ELEVATION ABOVE SEA LEVEL.
8. APPROVALS: MECHANICAL AND PLUMBING EQUIPMENT SHALL BE APPROVED FOR INSTALLATION IN THE PROJECT LOCATION AND SHALL HAVE ALL CERTIFICATIONS AND RATINGS TO MEET ALL ENERGY, POLLUTION, ENVIRONMENTAL, SEISMIC, APPLICABLE CODES AND REGULATIONS. THE CONTRACTOR SHALL COORDINATE WITH MANUFACTURE SUPPLIERS AND SHALL INCLUDE ALL COSTS REQUIRED TO MEET THE BID DOCUMENTS.
9. FIRE PROTECTION: CONTRACTOR SHALL PROVIDE A FULLY DESIGNED FIRE PROTECTION SPRINKLER SYSTEM IN COMPLIANCE WITH NFPA AND LOCAL CODES. PROVIDE DESIGN, PERMITS, MATERIALS, INSTALLATION, TESTING AND ALL OTHER FOR A FULLY OPERATIONAL SYSTEM. LOCATION OF ALL PIPING TO BE COORDINATED WITH OTHER TRADES.
10. PRIOR TO PIPING INSTALLATION: PLUMBING CONTRACTOR TO COORDINATE PIPING LAYOUT WITH ALL OTHER TRADES.
11. ACCESS: COORDINATE ALL ACCESS LOCATIONS WITH GENERAL CONTRACTOR AND ARCHITECT TO ENSURE ALL REQUIRED ACCESS HATCHES, ACCESS PANELS & ACCESS COVERS ARE PROVIDED.
12. PROVIDE WATER TIGHT SEALS FOR ANY PIPING PENETRATING THE EXTERIOR FOUNDATION WALLS OR SLABS.
13. ANY DISCREPANCIES SHOULD BE REPORTED TO THE ARCHITECT IMMEDIATELY.
14. PROVIDE FIRE PROOFING FOR ALL PIPING PENETRATING FIRE BARRIER WALLS OR FLOOR SLABS.

DISINFECTION OF POTABLE WATER SYSTEM REQUIREMENTS

1. NEW OR REPAIRED POTABLE WATER SUPPLY SYSTEMS SHALL BE DISINFECTED PRIOR TO USE.
2. INITIAL COLIFORM SAMPLE IS REQUIRED PRIOR TO ADMINISTERING WATER–CHLORINE SOLUTION.
3. SECTION 609.9 ITEMS #2 OR #3 CAN BE USED PRECEDED BY AND FOLLOWED BY ITEM #1.
   3.1. NOTE FILL PORT TO ADD CHLORINE MUST BE WHERE WATER SUPPLY ENTERS BUILDING AND A FLOW METER TO MEASURE SOLUTION.
4. AFTER WATEROCHLORINE SOLUTION IS INCORPORATED INTO THE NEW OR REPAIRED WATER SUPPLY SYSTEM A 48 HOUR WAITING PERIOD MUST BE OBSERVED PRIOR TO BACTERIOLOGICAL TEST.
5. BACTERIOLOGICAL TEST SHALL BE CONDUCTED BY A LABORATORY CERTIFIED FOR DRINKING WATER IN WASHINGTON STATE AFFIRMING WATER QUALITY CONTAINS NO COLIFORM BY SAMPLE TESTING THE FURTHEST FIXTURE FROM PUBLIC WATER SOURCE AND NOT LESS THAN TWO OTHER LOCATIONS PART OF THE WATER SUPPLY SYSTEM.
6. CHLORINE LEVEL IN THE NEW OR REPAIRED WATER SUPPLY SYSTEM SHALL NOT BE LESS THAN THE MEAN AVERAGE OF THE AREA IN RELATIONSHIP FROM THE WATER PURVEYOR SOURCE.
7. WARNING: IN CASE A WATER SOFTENER IS PART OF THE COLD WATER SYSTEM, CONTRACTOR TO ENSURE THE WATER SOFTENER IS CONNECTED AND OPERATIONAL BEFORE STARTING THE DISINFECTION PROCESS. FAILURE TO FOLLOW THE INSTRUCTIONS WILL VOID THE WATER HEATER OR HEAT PUMP WARRANTY.

SYMBOLS

GENERAL

- ARCHITECTURAL BACKGROUND (THIN LINE)
- NEW PIPING (HEAVY LINE)
- EXISTING PIPING (THIN LINE)
- EXISTING WORK TO BE REMOVED
- MATCHLINE OR PROPERTY LINE
- CONNECTION TO EXISTING

SECTION IDENTIFICATION

- INDICATES DIRECTION OF CUTTING PLANE
- LETTER INDICATES SECTION (NO. INDICATES DETAIL)
- SHEET NUMBER WHERE SECTION IS DRAWN
- SHEET NUMBER WHERE SECTION IS TAKEN

DETAIL IDENTIFICATION

- DETAIL NUMBER
- DRAWING/SHEET NUMBER

EQUIPMENT

- TYPICAL EQUIPMENT DESIGNATION

PIPING

- W — WASTE BELOW GRADE
- W — WASTE ABOVE GRADE
- PW — PUMPED WASTE
- IW — INDIRECT WASTE
- SS — SANITARY SEWER BELOW GRADE
- SS — SANITARY SEWER ABOVE GRADE
- PSS — PUMPED SANITARY SEWER
- V — VENT
- SD — STORM DRAIN
- OD — OVERFLOW STORM DRAIN
- PSD — PUMPED STORM DRAIN
- CD — CONDENSATE DRAIN
- PCD — PUMPED CONDENSATE DRAIN
- CW — COLD WATER (CW)
- HW — HOT WATER (HW), POTABLE, 120°F
- 140 — HOT WATER, POTABLE, TEMPERATURE OTHER THAN 120°F
- HWC — HOT WATER CIRCULATING (HWC), POTABLE, 120°F
- 140 — HOT WATER CIRCULATING, POTABLE, TEMPERATURE OTHER THAN 120°F
- FOF — FUEL OIL FILL
- FOS — FUEL OIL SUPPLY
- FOR — FUEL OIL RETURN
- FOV — FUEL OIL VENT
- RV — RELIEF VENT
- G — LOW PRESSURE NATURAL GAS
- MPG — MEDIUM PRESSURE NATURAL GAS
- IRR — IRRIGATION (NON POTABLE)
- F — FIRE MAIN

PIPE SYMBOLS

- TOP PIPE CONNECTION
- BOTTOM PIPE CONNECTION
- PIPE TURNING UP
- PIPE TURNING DOWN/DROP
- PIPE CAP
- PIPE PLUG
- UNION
- FLANGE
- WYE STRAINER
- WYE STRAINER WITH CAPPED HOSE END BLOWDOWN VALVE
- BALL VALVE
- BALL VALVE
- GLOBE VALVE
- CHECK VALVE
- BALANCING OR PLUG VALVE
- BUTTERFLY VALVE
- FLEXIBLE CONNECTION IN PIPING
- PRESSURE REDUCING VALVE (PRV)
- AUTOMATIC CONTROL VALVE, 2–WAY
- AUTOMATIC CONTROL VALVE, 3–WAY
- RELIEF VALVE
- BALANCING/METERING VALVE
- REDUCER

- DIRECTION OF FLOW
- PIPE ANCHOR
- PIPE ALIGNMENT GUIDE
- PIPE SUPPORT
- VALVE STATION OR ASSEMBLY
- INDIRECT DRAIN, PIPE TO DRAIN
- POINT OF CONNECTION
- ROOF DRAIN, OVERFLOW DRAIN
- FLOOR DRAIN
- HOSE BIBB
- BREAK IN PIPING OR DUCTWORK
- GAS METER
- INLINE WATER METER
- PUMP
- PRESSURE GAUGE
- THERMOMETER
- PRESSURE/TEMPERATURE TEST PORT
- REDUCED PRESSURE BACKFLOW PREVENTER
- DOUBLE CHECK VALVE ASSEMBLY
- CATCH BASIN – SAND/OIL INTERCEPTOR
- TRENCH DRAIN
- EMERGENCY GAS SHUT–OFF VALVE
- SEISMIC GAS SHUT–OFF VALVE
- WASHER BOX
- GREASE INTERCEPTOR

ABBREVIATIONS

ABV	ABOVE
AD	AREA DRAIN
AFF	ABOVE FINISHED FLOOR
AHJ	AUTHORITY HAVING JURISDICTION
BFF	BELOW FINISHED FLOOR
BFP	BACKFLOW PREVENTER
BOH	BACK OF HOUSE
BP	BOOSTER PUMP
BT	BATHTUB
BTUH	BRITISH THERMAL UNIT PER HOUR
BV	BALANCING VALVE
C	COMMON
CAP	CAPACITY
CB	CATCH BASIN
CD	CONDENSATE DRAIN
CFF	CAPPED FOR FUTURE
CFM	CUBIC FEET PER MINUTE
CI	CAST IRON
CLG	CEILING, COOLING
CLW	CLOTHES WASHER
CO	CLEANOUTS
COMB	COMBUSTION
CONT	CONTINUE, CONTROL
CONTR	CONTRACTOR
COTG	CLEANOUTS TO GRADE
CP	CIRCULATING PUMP
CV	CHECK VALVE
CW	COLD WATER
D	DIAMETER
DB	DRY BULB, DECIBEL
DF	DRINKING FOUNTAIN
DFU	DRAIN FIXTURE UNITS
DI	DUCTILE IRON
DIM	DIMENSION
DN	DOWN
DS	DOWN SPOUT
DWG	DRAWING
(E)	EXISTING
EFF	EFFICIENCY
ELEC	ELECTRIC
EQUIV	EQUIVALENT
EWC	ELECTRIC WATER COOLER
EWH	ELECTRIC WATER HEATER
EXT	EXTERIOR, EXTERNAL
F	FAHRENHEIT
FCO	FLOOR CLEANOUTS
FD	FLOOR DRAIN
FDC	FIRE DEPARTMENT CONNECTION
FF	FINISHED FLOOR
FLR	FLOOR
FPM	FEET PER MINUTE
FPS	FEET PER SECOND
FS	FLOOR SINK
FT	FEET
FU	FIXTURE UNITS
G	GAS (LOW PRESSURE)
GAL	GALLONS
GD	GARAGE DRAIN
GM	GAS METER
GPG	GRAINS PER GALLON
GPM	GALLONS PER MINUTE
GV	GATE VALVE
GWB	GYPSUM WALLBOARD
GWH	GAS WATER HEATER
HB	HOSE BIBB
HD	HEAD
HDR	HUB DRAIN
HEDV	HOSE END DRAIN VALVE
HORIZ	HORIZONTAL
HP	HORSEPOWER
HPCW	HIGH PRESSURE COLD WATER
HW	HOT WATER
HWC	HOT WATER RE–CIRCULATION
HWCP	HOT WATER CIRCULATION PUMP
HWR	HOT WATER RETURN
HWST	HOT WATER STORAGE TANK
HX	HEAT EXCHANGER
ICW	INDUSTRIAL COLD WATER
ID	INDIRECT DRAIN, INSIDE DIAMETER
IE	INVERT ELEVATION
IHW	INDUSTRIAL HOT WATER
IN	INCH
KS	KITCHEN SINK
KW	KILOWATT
L	LONG, LENGTH
LAV	LAVATORY
LB	POUND
M	WATER METER
MBH	THOUSAND BTU PER HOUR
MECH	MECHANICAL
MCA	MIN. CIRCUIT AMPACITY
MOCP	MAX. OVER CURRENT PROTECTION
MPG	MEDIUM PRESSURE GAS
MTD	MOUNTED
(N)	NEW
NC	NORMALLY CLOSED
NO	NORMALLY OPEN
OD	OUTSIDE DIMENSION/DIAMETER
OPD	OVERFLOW DRAIN/DECK DRAIN
OPNG	OVER PRESSURE DEVICE
P	OPENING
PD	PUMP
POC	PRESSURE DROP, PLANTER DRAIN
PRV	POINT OF CONNECTION
PS	PRESSURE REDUCING VALVE
PSIG	PRESSURE RELIEF VALVE
PSD	PUMPED STORM DRAINAGE
PSS	POUNDS PER SQUARE INCH GAUGE
PSW	PUMPED STORM DRAINAGE
PW	PUMPED SANITARY SEWER
RD	PUMPED SANITARY WASTE
REF	PUMPED WASTE
RPBP	ROOF DRAIN
RPM	REFERENCE
S	REDUCED PRESSURE BACKFLOW PREVENTER
SCH	REVOLUTIONS PER MINUTE
SCW	SINK
SD	SCHEDULE
SEP	SOFTENED COLD WATER
SF	STORM DRAIN
SGSV	SEWAGE EJECTOR PUMP
SH	SQUARE FOOT
SO	SEISMIC GAS SHUT–OFF VALVE
SP	SHOWER
SR	STORM OVERFLOW
SS	STATIC PRESSURE/SUMP PUMP
SSS	SUDS RELIEF
STD	STAINLESS STEEL/SANITARY SEWER
SQ	SIDE SANITARY SEWER
TD	STANDARD
TMV	SQUARE
TP	TRENCH DRAIN
TYP	THERMOSTATIC MIXING VALVE
UH	TRAP PRIMER
UON	TYPICAL
UR	UNIT HEATER
V	UNLESS OTHERWISE NOTED
VTR	URINAL
W	VENT
WC	VENT THRU ROOF
WCO	WASTE, WATT, WIDE
WHD	WATER CLOSET
WM	WALL CLEANOUTS
WSFU	WALL HYDRANT
	WASHING MACHINE
	WATER SUPPLY FIXTURE UNITS

PRE-CONSTRUCTION MEETING NOTES

CONTRACTORS SHALL ATTEND A PRE–CONSTRUCTION MEETING WITH THE ENGINEER FOR THE PURPOSE OF REVIEWING THE WORK PRIOR TO ORDERING ANY EQUIPMENT OR PERFORMING ANY WORK. THE MEETING SHALL BE LOCATED AT THE PROJECT SITE ON A DATE AND TIME TO BE MUTUALLY AGREED. THE MEETING WILL BE A WORKING SESSION. THE MEETING WILL BE FACILITATED BY THE ENGINEER AND THE AGENDA WILL INCLUDE A DETAILED REVIEW OF THE PLANS AND SPECIFICATIONS, CROSS CHECK WITH OTHER TRADES FOR COORDINATION ISSUES, REVIEW OF PROPOSED PRODUCTS, REVIEW OF PLANNED MEANS AND METHODS,AND ON–SITE INVESTIGATION OF FIELD CONDITIONS RELATIVE TO EXISTING CONDITIONS THAT COULD AFFECT THE WORK. PERSONS ATTENDING THE MEETING SHALL BE KNOWLEDGEABLE OF THE PROJECT AND SHALL BE THE SPECIFIC PERSONS INTENDED TO CONTINUE WITH THE PROJECT THROUGH TO COMPLETION. IF REQUIRED, REVISED PLANS WILL BE ISSUED THROUGH OFFICIAL CHANNELS. CHANGES IN THE BID PRICE WILL BE DISCUSSED, BUT NO CHANGE ORDERS WILL BE ISSUED UNLESS PROCESSED THOUGH OFFICIAL CHANNELS. IT SHALL BE UNDERSTOOD THAT THE ENGINEER HAS NO AUTHORITY TO ISSUE CHANGE ORDERS.

THE FOLLOWING TRADES SHALL BE REPRESENTED FOR THE MINIMUM TIME INDICATED:

MECHANICAL SHEET METAL	4 HOURS
PLUMBING/PIPING	4 HOURS
ELECTRICAL	4 HOURS
SPRINKLER	2 HOURS
GENERAL CONTRACTOR	ALL SESSIONS

CONTRACTOR SUBSTITUTIONS & REVISIONS

PLEASE SUBMIT PROPOSALS FOR SUBSTITUTIONS OR REVISIONS FOR REVIEW AND APPROVAL PRIOR TO ORDERING MATERIAL OR DOING WORK. FOR EQUIPMENT THAT IS SCHEDULED BY MANUFACTURER'S NAME AND CATALOG DESIGNATIONS, THE MANUFACTURER'S PUBLISHED DATA AND/OR SPECIFICATION FOR THAT ITEM ARE CONSIDERED PART OF SPECIFICATION. ENGINEERING COSTS FOR REVISING MEP PLANS SHALL BE ADDRESSED IN THE COST ANALYSIS OF THE SUBSTITUTION PROPOSAL. CONTRACTOR TO COORDINATE WITH ENGINEER AND DETERMINE ASSOCIATED DESIGN AND PERMITTING COSTS. CONTRACTOR SHALL BE RESPONSIBLE FOR OTHER COSTS ASSOCIATED WITH UNFORESEEN ISSUES RESULTING FROM SUBSTITUTIONS OR REVISIONS.

APPLICABLE CODES

THE FOLLOWING PROJECT DESIGN IS BASED ON THE FOLLOWING CODES:

–2018 INTERNATIONAL BUILDING CODE (IBC) & WASHINGTON STATE AMENDMENTS
–2018 INTERNATIONAL MECHANICAL CODE (IMC) & WASHINGTON STATE AMENDMENTS
–2018 UNIFORM PLUMBING CODE (UPC) & WASHINGTON STATE AMENDMENTS
–2018 WASHINGTON STATE ENERGY CODE (WSEC)

NOTE TO CONTRACTOR

DRAWINGS ARE DIAGRAMMATIC, SHOWING THE GENERAL LOCATION, TYPE, LAYOUT, AND EQUIPMENT REQUIRED. THE DRAWINGS SHALL NOT BE SCALED FOR EXACT MEASUREMENT. REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS. REFER TO MANUFACTURER'S STANDARD INSTALLATION DRAWINGS FOR EQUIPMENT CONNECTIONS AND INSTALLATION REQUIREMENTS. PROVIDE DUCTWORK, CONNECTIONS, ACCESSORIES, OFFSETS, AND MATERIALS NECESSARY FOR A COMPLETE SYSTEM.

DRAWING INDEX

DWG	DESCRIPTION	PROGRESS SET 04/28/2022	PERMIT SET 05/31/2022	PERMIT RESPONSE 04 03/17/2026			
P0.00	LEGEND, GENERAL NOTES, AND DRAWING INDEX	x	x	x			
P0.01	PLUMBING NOTES AND TABLES	x	x	x			
P0.02	PLUMBING CALCULATIONS	x	x	x			
P0.03	PLUMBING SCHEDULES	x	x	x			
P2.00N	UNDERSLAB PLUMBING PLAN – NORTH	x	x	x			
P2.00S	UNDERSLAB PLUMBING PLAN – SOUTH	x	x	x			
P2.01N	LEVEL 1 PLUMBING PLAN – NORTH	x	x	x			
P2.01S	LEVEL 1 PLUMBING PLAN – SOUTH	x	x	x			
P2.02N	LEVEL 2 PLUMBING PLAN – NORTH	x	x	x			
P2.02S	LEVEL 2 PLUMBING PLAN – SOUTH	x	x	x			
P2.03N	LEVEL 3 PLUMBING PLAN – NORTH	x	x	x			
P2.03S	LEVEL 3 PLUMBING PLAN – SOUTH	x	x	x			
P2.04N	LEVEL 4 PLUMBING PLAN – NORTH	x	x	x			
P2.04S	LEVEL 4 PLUMBING PLAN – SOUTH	x	x	x			
P2.05N	LEVEL 5 PLUMBING PLAN – NORTH	x	x	x			
P2.05S	LEVEL 5 PLUMBING PLAN – SOUTH	x	x	x			
P2.06N	LEVEL 6 PLUMBING PLAN – NORTH	x	x	x			
P2.06S	LEVEL 6 PLUMBING PLAN – SOUTH	x	x	x			
P2.07N	ROOF PLUMBING PLAN – NORTH	x	x	x			
P2.07S	ROOF PLUMBING PLAN – SOUTH	x	x	x			
P4.00	WASTE & VENT RISER DIAGRAMS	x	x	x			
P4.01	WASTE & VENT RISER DIAGRAMS	x	x	x			
P4.02	WASTE & VENT RISER DIAGRAMS	x	x	x			
P4.03	WASTE & VENT RISER DIAGRAMS	x	x	x			
P5.00	SUPPLY RISER DIAGRAMS		x	x			
P5.01	SUPPLY RISER DIAGRAMS		x	x			
P5.02	GAS RISER DIAGRAM		x	x			
P6.00	ENLARGED PLANS	x	x	x			
P7.00	DETAILS	x	x	x			
P7.01	DETAILS	x	x	x			
P7.02	DETAILS	x	x	x			
P7.03	DETAILS		x	x			

P2.0MN AND P2.0MS MEZZANINE FLOOR PLANS REMOVED
P4.04 REMOVED
4

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03-17-26

1101 Second Ave, Ste 100
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PERMIT RESPONSE 04

03/17/2026

KEY PLAN

Stamping Architect

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△	DATE	DESCRIPTION
1	11/03/22	PERMIT RESPONSE 01
4	03/17/26	PERMIT RESPONSE 04

1073-002
PM: Peter Rockstead
DRAWN BY: MLT
03/17/2026

LEGEND, GENERAL NOTES, AND DRAWING INDEX

P0.00

PLUMBING TABLES

PIPE MATERIALS

PIPE TYPE	MATERIAL	JOINT	NOTES
UNDERGROUND WATER SERVICE ENTRANCE PIPING	COPPER, TYPE K.	SOLDERED	2
ABOVE GROUND WATER PIPING	COPPER, TYPE L.	SOLDERED	4
ABOVE GROUND WATER PIPING – WITHIN APARTMENT UNITS	PEX	EXPANSION FITTINGS	4
UNDERGROUND WASTE AND VENT PIPING	SCHEDULE 80 SOLID CORE PVC	SOLVENT CEMENT	1,5
ABOVE GROUND WASTE AND VENT PIPING	SCHEDULE 40 SOLID CORE PVC	SOLVENT CEMENT	1
UNDERGROUND STORM PIPING	SCHEDULE 80 SOLID CORE PVC	SOLVENT CEMENT	5
ABOVE GROUND STORM PIPING	SCHEDULE 40 SOLID CORE PVC	SOLVENT CEMENT	
CONDENSATE DRAIN PIPING	COPPER, TYPE M.	SOLDERED	3
NATURAL GAS PIPING	STEEL PIPE, ASTM A 53; TYPE E OR S; GRADE B; SCHEDULE 40	THREADED, WELDED, OR GROOVED COUPLING	
DIESEL FUEL PIPING	UL 1369 DOUBLE–WALL STAINLESS STEEL	PER MANUFACTURER	
DIESEL FUEL TANK VENT PIPING	CARBON STEEL, SCHEDULE 40	WELDED	

NOTES:

1. ALL SANITARY SYSTEM MATERIALS SHALL BE LISTED BY AN APPROVED LISTING AGENCY.
2. PLASTIC WRAP UNDERGROUND WATER SUPPLY PIPING TO PREVENT CORROSION.
3. CPVC IS ACCEPTABLE FOR CONDENSATE PIPING IN LIEU OF COPPER IF APPROVED BY AHJ.
4. PROVIDE THERMAL EXPANSION LOOPS FOR ALL WATER PIPING PER MANUFACTURER REQUIREMENTS.
5. UNDERGROUND PIPING SHALL BE SUSPENDED BELOW THE BUILDING SLAB PER DETAIL 1/P7.03.

PIPE INSULATION SCHEDULE

SERVICE	OPTION 1		OPTION 2		VAPOR RETARDER REQUIRED	NOTES
	MATERIAL	THICKNESS	MATERIAL	THICKNESS		
DOMESTIC COLD WATER, IRRIGATION WATER, CONDENSATE DRAINS, STORM DRAIN (IN CONDITIONED SPACE)	MINERAL–FIBER WITH JACKET	ALL SIZES: ½"	PVC/NBR	ALL SIZES: ⅜"	YES	12,13
DOMESTIC COLD WATER, IRRIGATION WATER, CONDENSATE DRAINS, WASTE (OUTSIDE THE CONDITIONED SPACE)	MINERAL–FIBER WITH JACKET	(R–3) ½" PIPE: ½" ALL OTHER SIZES: 1"	PVC/NBR	(R–3) ½" PIPE: ½" ALL OTHER SIZES: ¾"	YES	7,8,10
ROOF DRAIN BODIES	MINERAL–FIBER OR CELLULAR GLASS WITH JACKET	1"	PVC/NBR	1"	YES	12
DOMESTIC HOT WATER AND RECIRCULATED HOT WATER (NONRESIDENTIAL)	MINERAL–FIBER WITH JACKET	½"–1¼" PIPE: 1" 1½"–4" PIPE:1.5"	PVC/NBR	½"–1¼" PIPE: 1" 1½"–4" PIPE:1.5"	NO	3,9
EXPOSED SANITARY DRAINS AND DOMESTIC WATER SUPPLIES AND STOPS FOR ADA FIXTURES.	TRUEBRO LAV–GUARD	N/A	N/A	N/A	NO	11

NOTES:

1. PIPING INSULATION EXPOSED TO THE WEATHER SHALL BE PROTECTED FROM DAMAGE. CONTRACTOR SHALL PROVIDE SHIELDING FROM SOLAR RADIATION THAT CAN CAUSE DEGRADATION OF THE MATERIAL. ADHESIVE TAPE SHALL NOT BE PERMITTED.
2. PER 2018 WSEC SECTION R403.5.3 (RESIDENTIAL) INSULATION FOR HOT WATER PIPE SHALL HAVE A MINIMUM R–VALUE OF R–3.
3. PIPING FROM WATER HEATER TO THE TERMINATION OF HEATED WATER SUPPLY PIPE SHALL BE INSULATED IN ACCORDANCE WITH TABLE C403.2.9.
4. ON BOTH THE INLET AND OUTLET PIPING OF A STORAGE HOT WATER HEATER, THE FIRST 8 FEET OF PIPING OR PIPING FROM WATER HEATER TO HEAT TRAP SHALL BE INSULATED.
5. HEAT TRACED PIPING SHALL BE INSULATED IN THE SAME MANNER AS NON HEAT TRACED PIPING OR PER THE HEAT TRACE MANUFACTURER'S INSTRUCTIONS.
6. TUBULAR PIPING INSULATION SHALL NOT BE REQUIRED FOR THE FOLLOWING:
   - 6.1. THE TUBING FROM THE CONNECTION AT THE TERMINATION OF THE FIXTURE SUPPLY PIPING TO A PLUMBING FIXTURE OR PLUMBING APPLIANCE.
   - 6.2. VALVES, PUMPS, STRAINERS, AND THREADED UNIONS IN PIPING THAT IS 1 INCH OR LESS IN NOMINAL DIAMETER.
   - 6.3. PIPING FROM USER–CONTROLLED SHOWER AND BATH MIXING VALVES TO THE WATER OUTLETS.
   - 6.4. COLD WATER PIPING OF A DEMAND RECIRCULATION WATER SYSTEM.
   - 6.5. TUBING FROM A HOT DRINKING–WATER HEATING UNIT TO THE WATER OUTLET.
   - 6.6. PIPING AT LOCATIONS WHERE A VERTICAL SUPPORT OF THE PIPING IS INSTALLED.
   - 6.7. PIPING SURROUNDED BY BUILDING INSULATION WITH A THERMAL RESISTANCE (R–VALUE) OF NOT LESS THAN R–3.
   - 6.8. HOT WATER PIPING THAT IS PART OF THE FINAL PIPE RUN TO THE PLUMBING FIXTURE AND IS NOT PART OF THE HEATED–WATER CIRCULATION SYSTEM CIRCULATION PATH IS NOT REQUIRED TO MEET THE MINIMUM INSULATION REQUIREMENTS OF C404.6.
7. PER 2018 UPC SECTION 312.6 NO WATER, SOIL, OR WASTE PIPE SHALL BE INSTALLED OR PERMITTED OUTSIDE OF A BUILDING, IN ATTICS OR CRAWL SPACES, OR IN AN EXTERIOR WALL UNLESS, WHERE NECESSARY, ADEQUATE PROVISION IS MADE TO PROTECT SUCH PIPE FROM FREEZING. ALL HOT AND COLD WATER PIPES OUTSIDE THE CONDITIONED SPACE SHALL BE PROVIDED WITH INSULATION WITH A MINIMUM R–VALUE OF R–3.
8. HEAT TRACING SHALL BE PROVIDED FOR COLD WATER AND IRRIGATION WATER IN UNCONDITIONED SPACES. CONTACT ENGINEERING IF NECESSARY. PER 2018 WSEC SECTION C403.12.3 FREEZE PROTECTION SYSTEMS, SUCH AS HEAT TRACING OF OUTDOOR PIPING, SHALL INCLUDE AUTOMATIC CONTROLS CONFIGURED TO SHUT OFF THE SYSTEMS WHEN OUTDOOR AIR TEMPERATURES ARE ABOVE 40°F.
9. PER 2018 WSEC TABLE C403.2.9 INSULATION FOR HOT WATER AND HOT WATER RECIRCULATION SHALL HAVE A THERMAL CONDUCTIVITY OF 0.21–0.28 (BTU.IN/H.FT².°F) AT OPERATING TEMPERATURE.
10. INSULATION R–VALUE SHALL MEET THE MINIMUM REQUIREMENT. THICKNESS IS BASED ON GRAINGER SAMPLE DATA FOR K–FLEX(PVC/NBR) AND OWENS CORNING(FIBER GLASS).
11. ALL ADA P–TRAPS, HOT WATER SUPPLY TUBING, AND SHUT–OFF COCKS SHALL BE PROTECTED WITH APPROVED COVERS TO PREVENT SCALDING.
12. REQUIRED BY ENGINEERING BASED ON BEST PRACTICE.
13. INSULATION IS NOT REQUIRED ON PLASTIC COLD WATER PIPING.

HANGER SPACING FOR WATER PIPING

ALL SUSPENDED WATER SUPPLY PIPE SHALL BE SUPPORTED AS FOLLOWS PER 2018 UPC TABLE 313.3:

	MAX. HORIZONTAL SPACING	MAX. VERTICAL SPACING
COPPER PIPE ≤1½"	6 FT.	10 FT.
COPPER PIPE >2"	10 FT.	10 FT.
COPPER TUBING ≤1½"	6 FT.	10 FT.
COPPER TUBING >2"	10 FT.	10 FT.
CPVC ≤ 1"	3 FT.	10 FT.
CPVC > 1¼"	4 FT.	10 FT.

HANGER SPACING FOR WASTE AND VENT PIPING

ALL SUSPENDED SANITARY AND VENT PIPE SHALL BE SUPPORTED AS FOLLOWS PER 2018 UPC TABLE 313.3:

	MAX. HORIZ. SPACING	MAX. VERT. SPACING
ABS	4 FT.	10 FT.
PVC (TYPE DWV)	4 FT.	10 FT.
CAST–IRON HUBLESS*	EVERY OTHER JOINT	15 FT.

*CAST–IRON OVER 4' SHALL BE SUPPORTED AT EVERY JOINT

PLUMBING FIXTURE FLOW RATES PER WAC 51-56-0400

FIXTURE TYPE	MAXIMUM FLOW RATE	NOTES
SHOWERHEADS	1.8 GPM @ 80 PSI	
LAVATORY FAUCETS, RESIDENTIAL	1.2 GPM @ 60 PSI	1
LAVATORY FAUCETS, NON–RESIDENTIAL	0.5 GPM @ 60 PSI	2
KITCHEN FAUCETS	1.8 GPM @ 60 PSI	3
GRAVITY TANK–TYPE WATER CLOSETS	1.28 GALLONS/FLUSH	4
FLUSHOMETER TANK WATER CLOSETS	1.28 GALLONS/FLUSH	4
FLUSHOMETER VALVE WATER CLOSETS	1.28 GALLONS/FLUSH	4
ELECTROMECHANICAL HYDRAULIC WATER CLOSETS	1.28 GALLONS/FLUSH	4
WALL–MOUNTED URINALS	0.125 GALLONS/FLUSH	
FLOOR–MOUNTED URINALS	0.5 GALLONS/FLUSH	

NOTES:

1. LAVATORY FAUCETS SHALL NOT HAVE A FLOW RATE LESS THAN 0.8 GPM AT 20 PSI.
2. WHERE COMPLYING FAUCETS ARE UNAVAILABLE, AERATORS RATED AT 0.35 GPM OR OTHER MEANS MAY BE USED TO ACHIEVE REDUCTION.
3. KITCHEN FAUCETS MAY TEMPORARILY INCREASE FLOW ABOVE THE MAXIMUM RATE, BUT NOT ABOVE 2.2 GPM @ 60 PSI AND MUST DEFAULT TO A MAXIMUM FLOW RATE OF 1.8 GPM @ 60 PSI.
4. INCLUDES SINGLE AND DUAL FLUSH WATER CLOSETS WITH AN EFFECTIVE FLUSH OF 1.28 GALLONS OR LESS. SINGLE FLUSH TOILETS – THE EFFECTIVE FLUSH VOLUME SHALL NOT EXCEED 1.28 GALLONS. THE EFFECTIVE FLUSH VOLUME IS THE AVERAGE FLUSH VOLUME WHEN TESTED IN ACCORDANCE WITH ASME A112.19.2 DUAL FLUSH TOILETS – THE EFFECTIVE FLUSH VOLUME SHALL NOT EXCEED 1.28 GALLONS. THE EFFECTIVE FLUSH VOLUME IS DEFINED AS THE COMPOSITE, AVERAGE FLUSH VOLUME OF TWO REDUCED FLUSHES AND ONE FULL FLUSH. FLUSH VOLUMES WILL BE TESTED IN ACCORDANCE WITH ASME A112.19.2 AND ASME A112.19.14.

PLUMBING NOTES

1. CONNECTIONS: PROVIDE PLUMBING FIXTURE CONNECTIONS TO BUILDING WASTE, VENT, COLD WATER, AND HOT WATER SYSTEM IN ACCORDANCE WITH DRAWINGS, MANUFACTURER'S RECOMMENDATIONS, AND LOCAL CODES. CONNECT TO EACH FIXTURE, EQUIPMENT, ETC. WITH ALL ACCESSORIES, VALVES, VACUUM BREAKERS, REGULATORS, UNIONS, ETC. AS REQUIRED AND AS RECOMMENDED BY THE MANUFACTURERS. REFER TO PLUMBING FIXTURE CONNECTION SCHEDULE ON PLANS.
2. HOT AND COLD: WATER PIPING CONNECTION TO EACH FIXTURE SHALL BE COLD WATER ON THE RIGHT HAND SIDE AND HOT WATER ON THE LEFT HAND SIDE.
3. HOT WATER: NON–CIRCULATING HOT WATER PIPE SHALL NOT EXCEED 10' UNLESS OTHERWISE SHOWN ON DRAWINGS.
4. VENT STACKS: COORDINATE VENT STACK WITH HVAC EQUIPMENT TO MAINTAIN MINIMUM 10' CLEARANCE FROM OUTSIDE AIR INTAKES.
5. CLEANOUTS: PROVIDE CLEANOUTS PER CURRENT UPC AND AS REQUIRED BY LOCAL JURISDICTIONS. CLEANOUTS SHALL BE LOCATED IN WALLS/FLOORS WHERE THEY ARE NOT HIGHLY VISIBLE. FLOOR CLEANOUTS IN CARPETED AREAS TO BE FITTED WITH CARPET INSERTS. LOCATIONS SHALL BE SUBMITTED TO ARCHITECT FOR APPROVAL. NOTE: NOT ALL CLEANOUTS ARE SHOWN ON THE PLUMBING DRAWINGS.
6. SUDS RELIEF: PROVIDE SUDS RELIEF IN ACCORDANCE WITH 2018 UPC SECTION 711.0, STATE AND LOCAL CODES.
7. SHUT–OFFS: PROVIDE 1/4 TURN BALL VALVE ANGLE STOP SHUT–OFF VALVES AND BRAIDED STAINLESS STEEL FLEX CONNECTORS AT HOT AND COLD WATER SUPPLY TO EACH FIXTURE. EXCEPTION: PROVIDE SCREWDRIVER STOPS AT BATH/SHOWERS.
8. TUB SPOUTS SHALL BE THREADED (NO PUSH–ON FITTINGS).
9. TRAP ARMS: PROVIDE TRAP ARMS SUCH THAT THE MAXIMUM LENGTH WILL NOT EXCEED CODE REQUIREMENTS.
10. ADA INSULATION: AT PLUMBING PIPING EXPOSED UNDER LAVATORIES, INSULATE THE EXPOSED PIPING AND TRAPS WITH PRODUCT SPECIFICALLY DESIGNED FOR THIS APPLICATION MEETING ADA REQUIREMENTS. PROVIDE HANDI–LAV GUARD OR EQUIVALENT. OFFSET P–TRAPS TO CLEAR WHEELCHAIR ACCESS.
11. GAS EQUIPMENT: GAS EQUIPMENT SHALL BE INSTALLED PER EQUIPMENT LISTINGS, APPLICABLE IFGC, UPC, LOCAL CODES & NFPA STANDARDS.
12. GAS CONNECTIONS: INSTALL FLEXIBLE QUICK DISCONNECT ASSEMBLIES FOR ALL GAS FIRED KITCHEN EQUIPMENT PER APPLICABLE IFGC, UPC, LOCAL CODES & NFPA STANDARDS. PROVIDE LOCKABLE GAS SHUT–OFF VALVES FOR FIREPLACES & BBQS IN UNATTENDED PUBLIC LOCATIONS IN THE BUILDING.
13. GAS PIPING CONNECTIONS TO WATER HEATERS, BOILERS AND FURNACES SHALL HAVE DIRT LEGS AND UNIONS PROVIDED ON APPLIANCE SIDE OF SHUTOFF VALVE.
14. GAS PIPING INSTALLATION: STEEL OR MALLEABLE IRON FUEL LINES 2" OR SMALLER SHALL BE ASSEMBLED USING THREAD SEALANT SUITABLE FOR NATURAL GAS. GAS PIPING LARGER THAN 2" SHALL HAVE WELDED FITTINGS.
15. GAS PIPING UNDERGROUND: WHERE INSTALLED BELOW GRADE THROUGH THE OUTER FOUNDATION OR BASEMENT WALL OF A BUILDING, SHALL BE ENCASED IN A PROTECTIVE PIPE SLEEVE. THE ANNULAR SPACE BETWEEN THE GAS PIPING AND THE SLEEVE SHALL BE SEALED.
16. GAS PIPING ABOVE GROUND: WHERE PASSING THROUGH AN OUTSIDE WALL, GAS PIPING SHALL BE PROTECTED AGAINST CORROSION BY COATING OR WRAPPING WITH AN INERT MATERIAL. WHERE PIPING IS ENCASED IN A PROTECTIVE PIPE SLEEVE, THE ANNULAR SPACE BETWEEN THE PIPING AND THE SLEEVE SHALL BE SEALED.
17. GAS PIPE SUPPORT: FUEL LINES SHALL BE SUPPORTED OR STRAPPED, AND SHALL BE PLUMB AND SQUARE.
18. GAS PIPING ON ROOFTOPS SHALL BE SUPPORTED AND ANCHORED TO THE ROOF.
19. GAS PIPING SHALL NOT BE BURIED UNDER A BUILDING, SLAB OR OTHER STRUCTURE.
20. GAS PIPING PROTECTIVE COATING: PAINT ALL EXTERIOR EXPOSED GAS PIPING WITH TWO COATS OF RUST INHIBITIVE PAINT. COLOR: GRAY.
21. WATER HAMMER ARRESTORS: PROVIDE AT THE END OF HOT AND COLD WATER LINES SERVING TWO OR MORE FIXTURES; SIZE IN ACCORDANCE WITH PLUMBING AND DRAINAGE INSTITUTE (PDI) REQUIREMENTS. WATER HAMMER ARRESTORS ARE REQUIRED FOR QUICK CLOSING VALVES, SUCH AS LAUNDRY WASHERS, FLUSH VALVES (PUBLIC TOILETS), ETC.
22. TRAP PRIMERS AS SPECIFIED: PROVIDE TRAP PRIMERS AND PIPING FOR FLOOR DRAINS, FLOOR SINKS, AREA DRAINS & HUB DRAINS. ARRANGE PIPING TO ACHIEVE EQUAL FLOW TO EACH DRAIN AND FLOOR SINK FOR TRAP PRIMERS SERVING MULTIPLE DRAINS AND FLOOR SINKS. COORDINATE EXACT LOCATIONS WITH ARCHITECT & ELECTRICAL ENGINEER.
23. P–TRAPS: ALL EXPOSED P–TRAPS SHALL BE CHROME–PLATED BRASS. P–TRAPS SERVING HANDICAPPED COUNTER TOP LAVATORIES SHALL BE INSULATED.
24. THROUGHOUT THE PROJECT PROVIDE BALL VALVES. GATE VALVES SHALL NOT BE USED. NO EXCEPTIONS.
25. HOT WATER RECIRCULATING BALANCING VALVES SHOULD BE BELL & GOSSETT CIRCUIT SETTER (WATTS OR EQUAL) WITH INTEGRAL READOUT PORTS, ADJUSTMENT KNOB, DRAIN CONNECTION, AND POSITIVE SHUTOFF.
26. DISASSEMBLY PROVISIONS: PROVIDE UNIONS OR FLANGES AT PIPING CONNECTIONS TO EQUIPMENT, COILS, TRAPS, CONTROL VALVES, AND OTHER COMPONENTS TO ALLOW DISASSEMBLY FOR MAINTENANCE.
27. REDUCERS: PROVIDE AS REQUIRED FROM LINE PIPE SIZE TO EQUIPMENT, TRAP, COIL, AND CONTROL VALVE CONNECTION SIZES.
28. VALVE TAGS: PROVIDE VALVE TAGS PER SPECIFICATIONS TO IDENTIFY VALVE AND THE AREA IT SERVES.
29. OFFSETS: PROVIDE FOR BRANCH LINES TO EQUIPMENT.
30. ALL TEMPERATURE MIXING VALVES SHALL COMPLY WITH ASSE–1070 SAFETY STANDARDS.
31. PROVIDE PIPE MARKER WITH DIRECTION OF FLOW. LABEL "NON–POTABLE WATER DO NOT DRINK" CLEARLY ON NON–POTABLE WATER PIPING.
32. PROVIDE EXPANSION LOOPS/EXPANSION JOINTS IN PIPING PER 2018 UPC TABLE 313.3 AND MANUFACTURER INSTALLATION INSTRUCTIONS.
33. PROVIDE APPROVED PIPE HANGERS & PIPE SUPPORTS IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS AND 2018 UPC TABLES 313.3 & 313.6. SUBMIT FOR APPROVAL.
34. DIELECTRIC UNIONS: PROVIDE AT CONNECTIONS OF DISSIMILAR PIPE.
35. REFRIGERANT PIPING: PROVIDE SIZING & INSTALLATION IN STRICT ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
36. CONDENSATE DRAIN: PROVIDE A P–TRAP FOR EACH HVAC UNIT CONDENSATE PAN WITH PLUG TEES FOR CLEANING. CONDENSATE DRAINS SHALL BE DISCHARGED TO AN INDIRECT WASTE OR OUTSIDE.
37. PIPING & EQUIPMENT SUPPORTS/HANGERS & SEISMIC RESTRAINTS TO BE DESIGNED BY DESIGN BUILT CONTRACTOR.
38. IF NEEDED, PROVIDE VACUUM BREAKERS AT ALL HOSE BIBBS.
39. FLOOR DRAINS OR SIMILAR TRAPS DIRECTLY CONNECTED TO THE DRAINAGE AND SUBJECT TO INFREQUENT USE SHALL BE PROVIDED WITH AN APPROVED AUTOMATIC MEANS OF MAINTAINING THEIR WATER SEALS IN ACCORDANCE WITH 2018 UPC 1007.0.
40. INSULATION MATERIAL SHALL MEET CITY OF EVERETT QUALITY STANDARDS.
41. ALL PIPING AND DUCTWORK SHALL BE INSULATED CONSISTENT WITH THE 2018 WASHINGTON STATE ENERGY CODE.
42. BUILDING DRAIN AND VENT PIPING MATERIALS SHALL COMPLY WITH 2018 UPC 701.0 AND 903.0.
43. ALL SANITARY SYSTEM MATERIAL SHALL BE LISTED BY AN APPROVED LISTING AGENCY.
44. ALL STORAGE WATER HEATING EQUIPMENT SHALL BE PROVIDED WITH AN APPROVED, LISTED EXPANSION TANK OR OTHER DEVICE DESIGNED FOR INTERMITTENT OPERATION FOR THERMAL EXPANSION CONTROL PER 2018 UPC 608.3.
45. WATER HEATERS SHALL BE ANCHORED OR STRAPPED TO RESIST HORIZONTAL DISPLACEMENTS DUE TO SEISMIC MOTION PER 2018 UPC 507.2.
46. MATERIAL EXPOSED WITHIN A DUCT OR PLENUM SHALL COMPLY WITH 2018 IMC 602.2.1.
47. HVAC EQUIPMENT AND WATER HEATERS SHALL COMPLY WITH 2018 IMC CHAPTER 3.
48. BOILERS SHALL COMPLY WITH ALL THE REQUIREMENTS OF 2018 IMC CHAPTER 10.
49. PROVIDE EXPANSION TANKS FOR BOILERS PER 2018 IMC SECTION 1009.0.
50. SHOWERS AND TUB/SHOWER COMBINATIONS SHALL BE PROVIDED WITH MIXING VALVES PER 2018 UPC 408.0.
51. PLUMBING FIXTURES AND FITTINGS SHALL COMPLY WITH CITY OF EVERETT WATER CONSERVATION STANDARDS.
52. CONTRACTOR SHALL PROVIDE FIRESTOPPING AT PENETRATIONS AS NECESSARY TO RETAIN THE FIRE RATING OF ALL ASSEMBLIES. ALL WORK SHALL BE IN COMPLIANCE WITH CODE REQUIREMENTS FOR THE BUILDING CONSTRUCTION TYPE.
53. ALL GARAGE DRAINS, TRASH ROOMS DRAINS & GARAGE TRENCH DRAINS SHALL BE TAKEN TO SAND/OIL INTERCEPTOR(S) BEFORE CONNECTING TO THE SANITARY SEWER SYSTEM.
54. PLUMBING CONTRACTOR SHALL PROVIDE REDUCED PRESSURE BACKFLOW PREVENTERS OR OTHER APPROVED BACKFLOW PREVENTION DEVICE WHERE REQUIRED BY HEALTH AUTHORITIES, FOOD SERVICE DRAWINGS, APPLIANCE MANUFACTURER INSTRUCTIONS AND BY CODE.

PROVIDE REQUIRED & PROPER BACK FLOW PREVENTERS AS SPECIFIED FOR THE APPLIANCES INCLUDING, BUT NOT LIMITED TO THE FOLLOWING:

a. ICE MACHINES AND ICE MAKERS
b. CARBONATED BEVERAGE DISPENSING SYSTEMS
c. COFFEE BREWERS
d. ESPRESSO MACHINES
e. WATER FILTERS
f. STEAM OR HOT WATER BOILERS
g. IRRIGATION SYSTEM
h. FIRE PROTECTION SYSTEM
i. CHEMICAL TREATMENT SYSTEM
j. SOAP/CHEMICAL DISPENSER SYSTEM
k. COMMERCIAL WASHER

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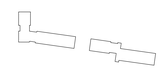
03/17/2026

KEY PLAN



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△	DATE	DESCRIPTION
1	11/03/22	PERMIT RESPONSE 01
4	03/17/26	PERMIT RESPONSE 04

1073-002
PM: Peter Rockstead
DRAWN BY: MLT
03/17/2026

PLUMBING NOTES AND TABLES

P0.01

PLUMBING CALCULATIONS

WATER SUPPLY PRESSURE CALCULATIONS ARE BASED ON 2018 UPC APPENDIX A		
FROM STREET TO BOOSTER PUMP		
STREET PRESSURE, PSI		**64**
FROM FLOW TEST REPORT DATED 3/8/2022		
MINIMUM STREET PRESSURE, PSI		**59**
ASSUME A RANGE OF +/- 5 PSI		
EQUIPMENT LOSSES, PSI		
WATER METER LOSS		**5.0**
BACKFLOW PREVENTER LOSS		**10.0**
6" RPBP AT 406 GPM		
SITE SERVICE LINE (ESTIMATE)		
PIPING SYSTEM LENGTH, FEET	50	
FITTING ALLOWANCE, FEET	25	
FROM STREET TO BOOSTER PUMP		
ZONE FRICTION LOSS FACTOR, PSI/100'	**1.0**	
TOTAL ZONE FRICTION LOSS, PSI		**0.8**
MINIMUM PRESSURE AT BOOSTER PUMP INLET, PSI		**43.3**
FROM BOOSTER PUMP TO FURTHEST APARTMENT		
MINIMUM PRESSURE AT BOOSTER PUMP INLET, PSI		**43.3**
BOOSTER PUMP PRESSURE GAIN, PSI		**36.8**
BOOSTER PUMP DISCHARGE PRESSURE, PSI		**80.0**
EQUIPMENT LOSSES, PSI		
THERMOSTATIC MIXING VALVE LOSS		**5.0**
STATIC HEAD, PSI		
TOTAL ELEVATION GAIN, FT	68	**29.4**
PIPING UP TO LEVEL 6		
PIPING FRICTION LOSSES		
PIPING SYSTEM LENGTH, FEET	400	
FITTING ALLOWANCE, FEET	100	
FROM BOOSTER PUMP TO FURTHEST APARTMENT		
ZONE FRICTION LOSS FACTOR, PSI/100'	**2.0**	
TOTAL ZONE FRICTION LOSS, PSI		**10.0**
MINIMUM PRESSURE AT FURTHEST APARTMENT, PSI		**35.6**
TO FURTHEST FIXTURE WITHIN APARTMENT		
MINIMUM PRESSURE AT FURTHEST APARTMENT, PSI		**35.6**
EQUIPMENT LOSSES, PSI		
WATER SUBMETER PRESSURE LOSS, PSI		**5.0**
PIPING FRICTION LOSSES		
PIPING SYSTEM LENGTH, FEET	40	
FITTING ALLOWANCE, FEET	10	
FROM RISER TO FURTHEST FIXTURE		
ZONE FRICTION LOSS FACTOR, PSI/100'	**14.0**	
TOTAL ZONE FRICTION LOSS, PSI		**7**
MINIMUM PRESSURE AT FURTHEST FIXTURE, PSI		**23.6**

FIXTURE UNIT CALCULATIONS

CALCULATIONS ARE BASED ON 2018 UPC TABLES A103.1, 702.1, AND 703.2.

PRIVATE UNIT FIXTURES

FIXTURE	FIXTURE UNITS											TOTAL QTY	TOTAL FIXTURE UNITS			
	TOTAL	CW	HW	W/V	1	2	3	4	5	6	R	OF FIXTURES	SERVICE	CW ONLY	HW ONLY	W/V ONLY
LAVATORY	1	0.75	0.75	1		43	43	43	43	39		211	211	158.25	158.25	211
WATER CLOSET (TANK)	2.5	2.5	0	3		37	37	37	37	34		182	455	455	0	546
SHOWER	2	1.5	1.5	2		6	6	6	6	5		29	58	43.5	43.5	58
BATHTUB	4	3	3	2		31	31	31	31	29		153	612	459	459	306
KITCHEN SINK	1.5	1.125	1.125	2		31	31	31	31	29		153	229.5	172.125	172.125	306
DISHWASHER	1.5	0	1.5	0		31	31	31	31	29		153	229.5	0	229.5	0
CLOTHES WASHER	4	3	3	3		31	31	31	31	29		153	612	459	459	459
													2407	1746.875	1521.375	1886

PUBLIC SPACE FIXTURES

FIXTURE	FIXTURE UNITS											TOTAL QTY	TOTAL FIXTURE UNITS			
	TOTAL	CW	HW	W/V	1	2	3	4	5	6	R	OF FIXTURES	SERVICE	CW ONLY	HW ONLY	W/V ONLY
LAVATORY (PUBLIC)	1	0.75	0.75	1	2					1		3	3	2.25	2.25	3
WATER CLOSET (FLUSH VALVE)	5	5	0	4	2					1		3	15	15	0	12
KITCHEN SINK	1.5	1.125	1.125	2						1		1	1.5	1.125	1.125	2
DISHWASHER	1.5	0	1.5	0						1		1	1.5	0	1.5	0
2" FLOOR DRAIN	0	0	0	2	4							4	0	0	0	8
3" FLOOR DRAIN	0	0	0	6								0	0	0	0	0
2" FLOOR SINK	0	0	0	4	1							1	0	0	0	4
4" HUB DRAIN	0	0	0	8	1							1	0	0	0	8
HOSE BIBB	2.5/1	2.5/1	0	0	6						2	8	9.5	9.5	0	0
HOT WATER HOSE BIBB	2.5/1	0	2.5/1	0	1							1	2.5	0	2.5	0
ELEVATOR PUMP DISCHARGE	0	0	0	100	1							1	0	0	0	100
COMMERCIAL SPACES	50	50	0	50	8							8	400	400	0	400
													433	427.875	7.375	537

	TOTAL	CW	HW	W/V
TOTAL FIXTURE UNITS:	2840	2174.75	1528.75	2423
PEAK FLOW:	406 GPM			
	WATER	SEWER		
REQUIRED SERVICE SIZE IN BUILDING:	6"	(2) 8"		

COPPER PIPE SIZING AT 2.0 PSI/100'

PIPE SIZE	51° COLD WATER FLUSH TANK			51° COLD WATER FLUSH VALVE			120° HOT WATER			110° RECIRCULATED HOT WATER	
	WATER SUPPLY FIXTURE UNITS	GPM FLOW	VELOCITY, FT/S	WATER SUPPLY FIXTURE UNITS	GPM FLOW	VELOCITY, FT/S	WATER SUPPLY FIXTURE UNITS	GPM FLOW	VELOCITY, FT/S	GPM FLOW	VELOCITY, FT/S
½"	0.4	1.4	2.0	0.0	1.4	2.0	0.6	1.6	2.2	1.6	2.2
¾"	3.9	3.9	2.6	0.0	3.9	2.6	4.7	4.4	2.9	4.3	2.9
1"	10.0	8.0	3.1	0.0	8.0	3.1	11.9	9.0	3.5	7.7	3.0
1 ¼"	20.2	14.1	3.6	0.0	14.1	3.6	22.9	15.7	4.0	11.8	3.0
1 ½"	35.1	22.5	4.1	5.5	22.5	4.1	40.1	25.1	4.5	16.6	3.0
2"	113.7	47.4	4.9	41.1	47.4	4.9	116.9	48.2	5.0	28.9	3.0
2 ½"	298.8	84.8	5.7	168.8	84.8	5.7	246.9	74.4	5.0	44.6	3.0
3"	563.2	136.4	6.4	475.6	136.4	6.4	405.8	106.2	5.0	63.7	3.0
4"	1711.3	295.4	7.8	1711.3	295.4	7.8	872.0	189.5	5.0	113.7	3.0
6"	6381.3	669.1	8.0	6381.3	669.1	8.0	2847.0	418.2	5.0	250.9	3.0

PEX PIPE SIZING AT 14 PSI/100'

PIPE SIZE	51° COLD WATER FLUSH TANK			120° HOT WATER FLUSH TANK			110° RECIRCULATED HOT WATER	
	WATER SUPPLY FIXTURE UNITS	GPM FLOW	VELOCITY, FT/S	WATER SUPPLY FIXTURE UNITS	GPM FLOW	VELOCITY, FT/S	GPM FLOW	VELOCITY, FT/S
½"	0.0	3.0	5.5	0.0	2.8	5.0	1.7	3.0
¾"	0.0	7.7	7.0	0.0	5.5	5.0	3.3	3.0
1"	0.0	14.6	8.0	0.0	9.1	5.0	5.5	3.0
1 ¼"	0.0	21.8	8.0	0.0	13.6	5.0	8.2	3.0
1 ½"	14.3	30.3	8.0	0.0	18.9	5.0	11.4	3.0
2"	52.4	52.0	8.0	16.5	32.5	5.0	19.5	3.0
2 ½"	144.5	79.1	8.0	46.1	49.5	5.0	29.7	3.0
3"	318.6	112.8	8.0	108.3	70.5	5.0	42.3	3.0

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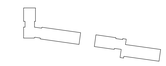

BUILDING C BUILDING D

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1073-002
PM: Peter Rockstead
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PLUMBING CALCULATIONS

P0.02

PLUMBING SCHEDULES

PLUMBING FIXTURE SCHEDULE

PLUMBING PLAN MARK	SERVICE	SERVICE SIZE CW	HW	W	V	FLOW RATE	FIXTURE TYPE	FINISH	BASIS OF DESIGN	NOTES (1-6)
APARTMENT UNITS										
WC-1	UNIT BATHROOMS	1/2"	-	3"	2"	1.28 GPF	WATER CLOSET (FLUSH TANK)	WHITE	AMERICAN STANDARD 215CA.104	
							SEAT	WHITE	BEMIS 1500EC	
WC-1A	ADA UNIT BATHROOMS	1/2"	-	3"	2"	1.28 GPF	WATER CLOSET (FLUSH TANK)	WHITE	AMERICAN STANDARD 215AA.104	
							SEAT	WHITE	BEMIS 1500EC	
LV-1	UNIT BATHROOMS	1/2"	1/2"	1-1/2"	1-1/2"	1.2 GPM	LAVATORY	WHITE	AMERICAN STANDARD 0614000.020	
							FAUCET	CHROME	DELTA 559HAR-DST	
SH-1	UNIT BATHROOMS	1/2"	1/2"	2"	1-1/2"	1.75 GPM	SHOWER INSERT	WHITE	AQUATIC BATH 1603COS	60"X36"
							SHOWER TRIM	CHROME	DELTA T14259	
SH-1A	ADA UNIT BATHROOMS	1/2"	1/2"	2"	1-1/2"	1.75 GPM	SHOWER INSERT	WHITE	AQUATIC BATH 16034BFSC	60"X36" ROLL-IN SHOWER
							SHOWER TRIM	CHROME	DELTA T14259	
BT-1	UNIT BATHROOMS	1/2"	1/2"	2"	1-1/2"	1.75 GPM	BATH-TUB/SHOWER INSERT	WHITE	AQUATIC BATH 6036STT	60"X36"
							BATH-TUB/SHOWER TRIM	CHROME	DELTA T14459	
BT-1A	ADA UNIT BATHROOMS	1/2"	1/2"	2"	1-1/2"	1.75 GPM	BATH-TUB/SHOWER INSERT	WHITE	MAAX OPTS-6032 106061-000-002-106	60"X36"
							BATH-TUB/SHOWER TRIM	CHROME	DELTA T14159	
KS-1	UNIT KITCHENS	1/2"	1/2"	2"	1-1/2"	1.5 GPM	KITCHEN SINK	STAINLESS	DELTA 953034-325-SS	
							FAUCET	CHROME	KOHLER K-22972-CP	
KS-1A	ADA UNIT KITCHENS	1/2"	1/2"	2"	1-1/2"	1.5 GPM	KITCHEN SINK	STAINLESS	ELKAY ELUHAD211545	
							FAUCET	CHROME	KOHLER K-22972-CP	
WB-1	ALL UNITS	1/2"	1/2"	2"	1-1/2"	---	WASHER BOX	WHITE	SIOUX CHIEF 696 SERIES	
PUBLIC & BACK OF HOUSE SPACES										
LV-2	L1 & L6 PUBLIC RESTROOMS	1/2"	1/2"	1-1/2"	1-1/2"	0.5 GPM	LAVATORY	WHITE	DURAVIT STARCK 3 030970	
							FAUCET	MATTE BLACK	SYMMONS SLW3512MBPP05	
WC-2	L1 & L6 PUBLIC RESTROOMS	1/2"	-	3"	2"	1.6 GPF	WATER CLOSET (FLUSH VALVE)	WHITE	GERBER SE-21-112/MAXWELL SE	
							SEAT	WHITE	BEMIS 1500EC 000	
KS-2	L6 AMENITY	1/2"	1/2"	2"	1-1/2"	1.5 GPM	SINK	STAINLESS	KRAUS KA1AS25B	
							FAUCET	MATTE BLACK	KOHLER K-22972-BL	
DW-1	DOG WASH	3/4"	3/4"	2"	1-1/2"	4.12 GPM	DOG WASH TUB	BLACK	GROOMER'S BEST GB58EADA-R	
							FAUCET	CHROME	T&S BRASS PG-8WREV	
HB-1	PER PLANS	3/4"	-	-	-	--	WALL HYDRANT	BRASS	WOODFORD 17CP-6-MH	
RH-1	PER PLANS	3/4"	-	-	-	--	ROOF HYDRANT	N/A	WOODFROD RHY-2	

NOTES:
1 CONTRACTOR SHALL CONFIRM MAKE, MODEL, AND FINISH OF ALL FIXTURES WITH OWNER, ARCHITECT, AND INTERIOR DESIGNER PRIOR TO ORDERING.
2 PROVIDE 1/4-TURN BALL VALVE ANGLE STOPS WITH BRAIDED STAINLESS STEEL FLEX CONNECTORS AT HOT AND COLD WATER SUPPLY TO EACH FIXTURE EXCEPT SHOWERS AND BATHS. PROVIDE SCREWDRIVER STOPS AT SHOWERS AN
3 PROVIDE RED/HOT AND BLUE/COLD INDICATORS AT ALL FIXTURES.
4 REFER TO ARCH PLANS FOR MOUNTING HEIGHT
5 ALL EXPOSED P-TRAPS SHALL BE CHROME-PLATED BRASS
6 PROVIDE WATER HAMMER ARRESTOR FOR CLOTHES WASHERS, DISHWASHER, & OTHER QUICK CLOSING VALVES. PROVIDE ACCESS PANELS.

DRAIN SCHEDULE

PLUMBING PLAN MARK	SERVICE	SERVICE SIZE GW	OW	W	V	FLOW RATE	FIXTURE TYPE	FINISH	BASIS OF DESIGN	NOTES (1-3)
FS-1	PER PLANS	-	-	PER PLANS		N/A	FLOOR SINK	NICKEL BRONZE	JAY R SMITH 3140Y	
FCO	PER PLANS	-	-	PER PLANS		N/A	FLOOR CLEANOUT	TBD	JAY R SMITH 4020	
WCO	PER PLANS	-	-	PER PLANS		N/A	WALL CLEANOUT	TBD	JAY R SMITH 4402	
FD-1	PER PLANS	-	-	PER PLANS		N/A	FLOOR DRAIN	NICKEL BRONZE	JAY R SMITH 2006	
HD-1	PER PLANS	-	-	PER PLANS		N/A	HUB DRAIN	STAINLESS STEEL	JAY R SMITH 9654	
RC-1	CONDENSATE			PER PLANS		N/A	ROOF-CEPTOR INDIRECT DRAIN	STAINLESS STEEL	JAY R SMITH 3960	
ROD-1	STORM DRAINAGE/ OVERFLOW	-	-	PER PLANS		N/A	COMBINED ROOF/OVERFLOW DRAIN	NICKEL BRONZE	JAY R SMITH 1850	

NOTES:
1 CONTRACTOR SHALL CONFIRM MAKE, MODEL, AND FINISH OF ALL FIXTURES WITH OWNER, ARCHITECT, AND INTERIOR DESIGNER PRIOR TO ORDERING.
2 PROVIDE & INSTALL TRAP PRIMER FOR DRAIN WHERE REQUIRED BY CODE OR AHS.
3 ALL EXPOSED P-TRAPS SHALL BE CHROME-PLATED BRASS.

REDUCED PRESSURE BACKFLOW ASSEMBLY

EQUIP NO.	SERVICE	INLET/OUTLET SIZE	BASIS OF DESIGN	NOTES
RPBP-1	DOMESTIC WATER SERVICE	6"	ZURN WILKINS 375	1

NOTES:
1. INSTALL IN ACCORDANCE WITH MANUFACTURER INSTRUCTIONS.
2. PROVIDE A DRAIN TO THE NEAREST FLOOR SINK OR OTHER APPROVED WASTE RECEPTOR.

PACKAGED BOOSTER PUMP

EQUIP NO.	SERVICE	TYPE	FLOW PER PUMP (GPM)	TOTAL FLOW (GPM)	SUCTION PRESSURE (PSI)	DISCHARGE PRESSURE (PSI)	MOTOR HP (PER PUMP)	ELECTRICAL	WEIGHT (LBS)	BASIS OF DESIGN	NOTES
BP-1	DOMESTIC WATER	TRIPLEX	135.3	406	43	80	5	208V/3P/41.1FLA	1,840	FLOWTHERM FMV 3.1-9LH	1,2,3,4,5

NOTES:
1. SINGLE POINT POWER CONNECTION.
2. PROVIDE ALL REQUIRED VALVES, PIPING, CONTROLS, ETC. FOR A COMPLETE SYSTEM.
3. PROVIDE VFD'S FOR EACH PUMP.
4. ALL CLEAR WATER PUMPS OVER 2 HORSEPOWER SHALL COMPLY WITH US DEPARTMENT OF ENERGY (DOE) PUMP EFFICIENCY REQUIREMENTS. APPLICABLE PUMPS SHALL BEAR A PUMP EFFICIENCY INDEX (PEI) LABEL.
5. INSTALL IN ACCORDANCE WITH MANUFACTURER INSTRUCTIONS AND STATE AND LOCAL AHJ REQUIREMENTS.

DOMESTIC WATER HEATERS

EQUIP NO.	SERVICE	HEAT EXCHANGER FUEL SOURCE	INPUT (MBH)	THERMAL EFFICIENCY	RECOVERY AT 100°F TR (GPH)	STORAGE (GAL)	INLET/OUTLET CONNECTION	COMMON PIPING	GAS CONNECTION	OPERATING WEIGHT (LBS)	ELECTRICAL	BASIS OF DESIGN	NOTES
WH-1,2,3,4	DOMESTIC HOT WATER	NAT. GAS	499	94%	568	119	1½"	6"	1"	2,128	120V/1P/15A	BRADFORD WHITE EF-120T-500-3N	1,2,3,4

NOTES:
1. PROVIDE CONDENSATE NEUTRALIZER. VENT PER MANUFACTURER'S INSTRUCTIONS.
2. UNITS SHALL BE CERTIFIED IN THE AIR QUALITY MANAGEMENT DISTRICT HAVING JURISDICTION.
3. FACTORY AUTHORIZED START-UP AND OWNERS TRAINING REQUIRED. OWNER, ENGINEER, AND CONTRACTOR TO RECEIVE A COPY OF START UP REPORT.
4. FOR WATER HEATER PIPING SEE DETAIL 1/P7.00.

EXPANSION TANKS

EQUIP NO.	SERVICE	CAPACITY (GAL)	TANK SIZE DIAMETER (INCHES)	TANK SIZE HEIGHT (INCHES)	OPERATING WEIGHT (LBS)	BASIS OF DESIGN	NOTES
ET-1	DOMESTIC HOT WATER	13	14	24	158	WESSELS TXA-50	1
ET-2	HYDROPNEUMATIC TANK	127.9	30	65	1,678	WESSELS FXA-500	1

NOTES:
1. INSTALL IN ACCORDANCE WITH MANUFACTURER INSTRUCTIONS.

MASTER THERMOSTATIC MIXING VALVE

EQUIP NO.	SERVICE	SETPOINT	DESIGN FLOW (GPM)	MAX FLOW (GPM)	PRESSURE DROP (PSI)	ELECTRICAL	BASIS OF DESIGN	NOTES
TMV-1	DOMESTIC HOT WATER (120°F)	120°F	60.5	91.3	5	N/A	LAWLER 804 PI MS	1

NOTES:
1. INSTALL IN ACCORDANCE WITH MANUFACTURER INSTALLATION REQUIREMENTS, INCLUDING ISOLATION VALVES AT BOTH INLETS AND AT OUTLET, AND STRAINERS AND CHECK VALVES AT BOTH INLETS.

HOT WATER CIRCULATION PUMP

EQUIP NO.	SERVICE	TYPE	FLOW, GPM	HEAD, FT	PUMP RPM	PRESSURE RATING, PSI	ELECTRICAL VOLTAGE	ELECTRICAL HP	WEIGHT, LBS	BASIS OF DESIGN	NOTES
HWCP-1	DOMESTIC HOT WATER LOOP (120°F)	INLINE	17	20	VARIABLE	175	208V/1P	½	29	BELL & GOSSETT ECOCIRC XL N 55-45	1,2

NOTES:
1. STAINLESS STEEL, SUITABLE FOR POTABLE WATER APPLICATION.
2. ALL DOMESTIC WATER EQUIPMENT SHALL BE NSF-61 LISTED.

SEISMIC GAS SHUT-OFF VALVE

EQUIP NO.	SERVICE	SIZE	MAX PRESSURE	LENGTH	HEIGHT	WIDTH	ORIENTATION	BASIS OF DESIGN	NOTES
SGSV-1	GAS SERVICE LINE	1"	60 PSI	4"	4¾"	3⅞"	HORIZONTAL	PACIFIC SEISMIC PRODUCTS MODEL 311	1
SGSV-2	GAS SERVICE LINE	1¼"	60 PSI	5¼"	5"	3⅞"	HORIZONTAL	PACIFIC SEISMIC PRODUCTS MODEL 312	1

NOTES:
1. VALVE SHALL BE MOUNTED RIGIDLY TO BUILDING EXTERIOR.

GAS PRESSURE REGULATOR

EQUIP NO.	SERVICE	MAX INLET PRESSURE	MIN INLET PRESSURE	OUTLET PRESSURE	MAX CAPACITY (MBH)	MAX INDIVIDUAL LOAD (MBH)	ORIFICE SIZE	BASIS OF DESIGN	NOTES
GPRV-1	PER PLANS	2 PSI	1 PSI	7"WC	1,250	1,250	1¼"	MAXITROL 325-7AL	1,2

NOTES:
1. PROVIDE APPROVED VENT LIMITING DEVICE OR VENT TO EXTERIOR SIZED TO MATCH VENT CONNECTION ON REGULATOR. VENTS ARE NOT SHOWN ON THE PLANS.

HYDROMECHANICAL GREASE INTERCEPTOR

EQUIP NO.	SERVICE	FLOW RATE (GPM)	CAPACITY LIQUIDS	CAPACITY GREASE	CAPACITY SOLIDS	OPERATING WEIGHT	BASIS OF DESIGN	NOTES
GI-1	COMMERCIAL SPACES	200	1,500 GAL	1,294 GAL/ 9,446 LBS	318 GAL	12,000 LBS	SCHIER GB-1500	1,2

NOTES:
1. PROVIDE TRAFFIC RATED COVER.
2. PROVIDE SAMPLING BOX DOWNSTREAM OF GREASE INTERCEPTOR.S SCHIER SV-24 OR EQUIVALENT.

RIVERFRONT APARTMENTS BUILDING D

3710 Riverfront Blvd
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CONTACT: PETER ROCKSTEAD

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03/17/2026

KEY PLAN

Stamping Architect

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PM: Peter Rockstead
DRAWN BY: MLT
03/17/2026

PLUMBING SCHEDULES

P0.03

GENERAL NOTES:

(S / #) = SUPPLY RISER IDENTIFICATION (I.E. RISER "S1"). REFER TO RISER DIAGRAMS FOR DETAILS

(WV / #) = WASTE RISER IDENTIFICATION (I.E. RISER "W1"). REFER TO RISER DIAGRAMS FOR DETAILS

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PIPE SIZE	VERTICAL	HORIZONTAL
3"	8,800 SF	3,288 SF
4"	18,400 SF	7,520 SF
6"	34,600 SF	21,400 SF
8"	54,000 SF	46,000 SF
10"	116,000 SF	82,800 SF

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PIPE SIZE	VERTICAL	2% HORIZONTAL	1% HORIZONTAL	VENT
1-1/2"	2 DFU	1 DFU	----	8 DFU
2"	16 DFU	8 DFU	----	24 DFU
3"	48 DFU	35 DFU	----	84 DFU
4"	256 DFU	216 DFU	172 DFU	256 DFU
6"	1,380 DFU	720 DFU	576 DFU	1,380 DFU
8"	3,600 DFU	2,640 DFU	2112 DFU	3,600 DFU

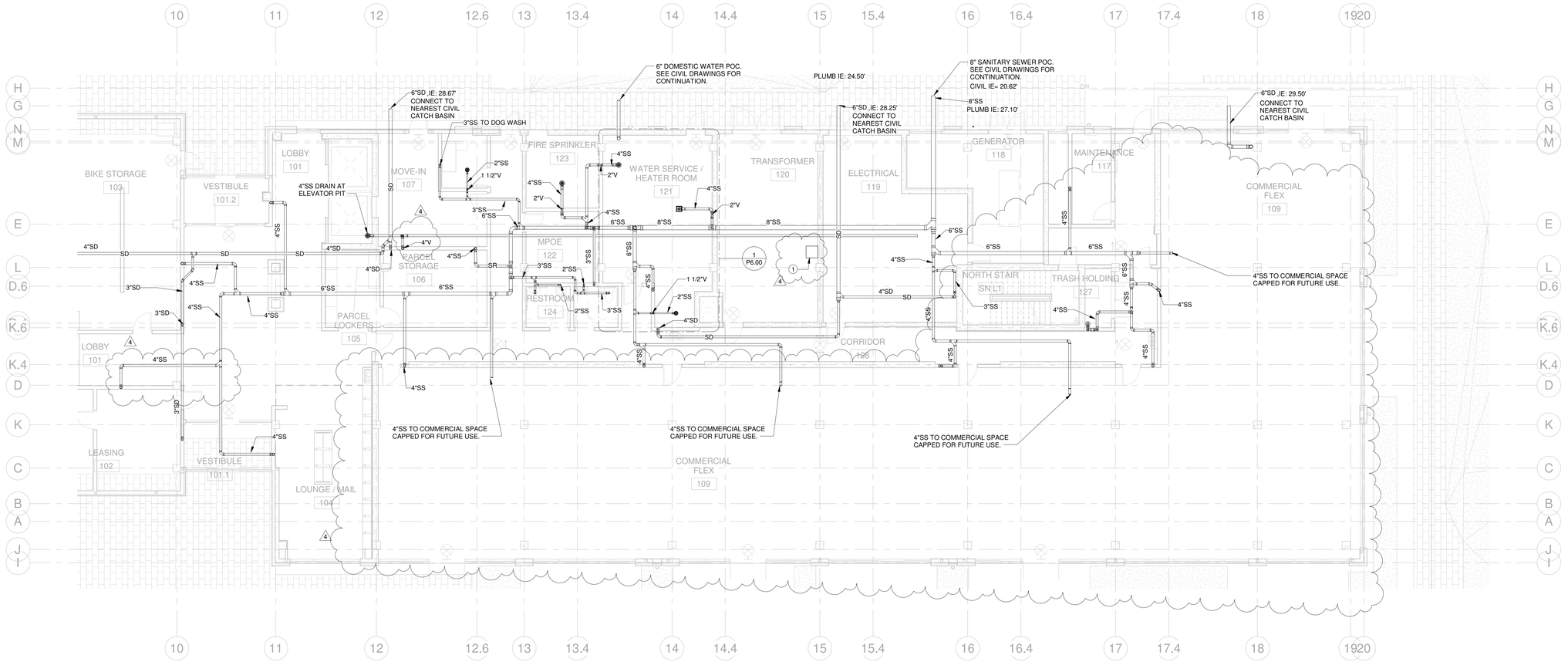
3. CONDENSATE PIPE SIZING: CONDENSATE WASTE IS SIZED PER 2018 UPC TABLE 814.3, FOR 1/8" PER FOOT SLOPE:

PIPE SIZE	VERTICAL/HORIZONTAL
3/4"	20 TONS
1"	40 TONS
1-1/4"	90 TONS
1-1/2"	125 TONS
2"	250 TONS

4. PROVIDE TRAP PRIMER FOR ALL FLOOR DRAINS.
5. PROVIDE ENOUGH CLEARANCE AND/OR EXPANSION LOOPS TO ACCOMODATE THERMAL EXPANSION OF PIPING AND BUILDING SETTLEMENT/ SHRINKAGE.
6. FIXTURES WITHIN LIVING UNITS TO BE SUPPLIED BY PEX MANIFOLD SYSTEM. SEE DETAIL 7, P7.01.
7. CONTRACTOR TO COORDINATE WITH FIRE SPRINKLER LOCATIONS.
8. FOR PIPE SLAB PENETRATION DETAILS REFER TO DETAILS 2 AND 3 ON SHEET LFG1D2.
9. EXCAVATION FOR GI MAY EXPOSE REFUSE. WHERE EXCAVATION INTO REFUSE IS REQUIRED, FOLLOW THE SPECIFICATIONS AND RELOCATION AREA IDENTIFIED IN THE EVERETT RIVERFRONT BOULEVARD PROJECT DOCUMENTS.
10. CONNECT UTILITY PIPING TO FLEXIBLE CONNECTION. REFER TO CIVIL DRAWINGS FOR SPECIFICATIONS AND SEE DETAIL 5 ON SHEET A750.
11. FOR PIPING HUNG BELOW FOUNDATION SLAB, REFER TO DETAIL 1 ON SHEET P7.03.

SHEET NOTES:

1. PROVIDE 2'X2'X2' DRY SUMP AT TRANSFORMER ROOM. COORDINATE SUMP LOCATION WITH UTILITY. (4)



1 UNDERSLAB PLUMBING PLAN - NORTH
1/8" = 1'-0"

EVERETT RIVERFRONT BUILDING 1-D
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Everett, WA 98203

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03-17-26

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03/17/2026

UNDERSLAB PLUMBING PLAN - NORTH

P2.00N

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GENERAL NOTES:

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3. CONDENSATE PIPE SIZING: CONDENSATE WASTE IS SIZED PER 2018 UPC TABLE 814.3, FOR 1/8" PER FOOT SLOPE:

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3/4"	20 TONS
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4. PROVIDE TRAP PRIMER FOR ALL FLOOR DRAINS.

5. PROVIDE ENOUGH CLEARANCE AND/OR EXPANSION LOOPS TO ACCOMODATE THERMAL EXPANSION OF PIPING AND BUILDING SETTLEMENT/ SHRINKAGE.

6. FIXTURES WITHIN LIVING UNITS TO BE SUPPLIED BY PEX MANIFOLD SYSTEM. SEE DETAIL 7, P7.01.

7. CONTRACTOR TO COORDINATE WITH FIRE SPRINKLER LOCATIONS.

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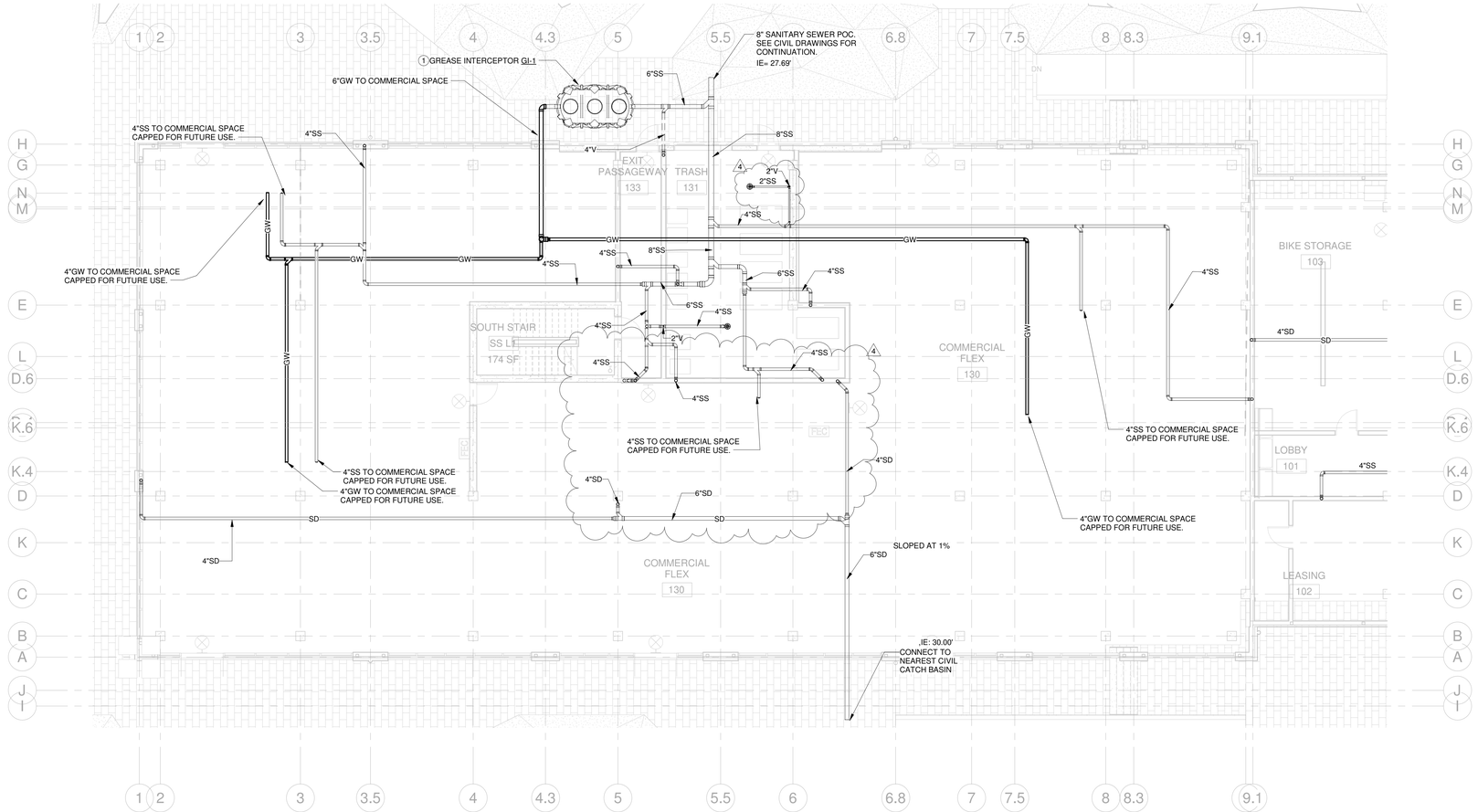
SHEET NOTES:

1. SEE STRUCTURAL PLANS FOR STRUCTURAL SUPPORT DETAILS.



1 UNDERSLAB PLUMBING PLAN - SOUTH
1/8" = 1'-0"

EVERETT RIVERFRONT BUILDING 1-D

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UNDERSLAB PLUMBING PLAN - SOUTH

P2.00S

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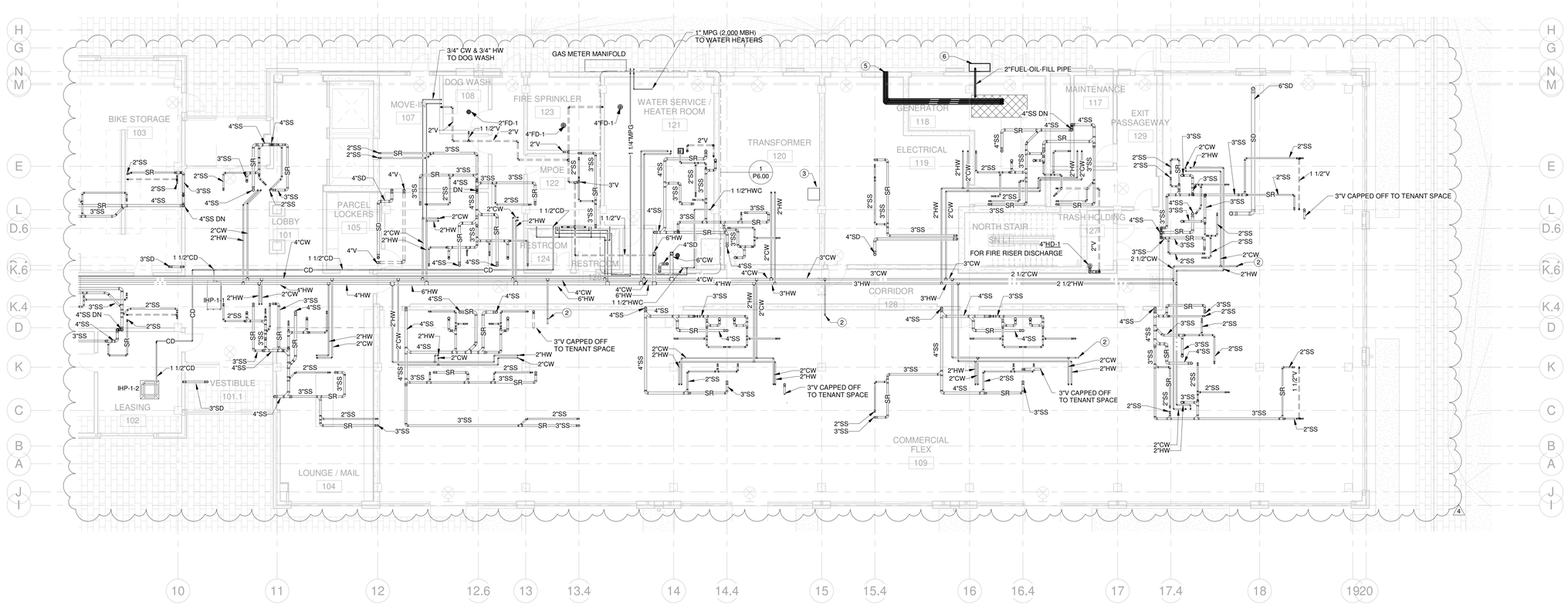
6. FIXTURES WITHIN LIVING UNITS TO BE SUPPLIED BY PEX MANIFOLD SYSTEM. SEE DETAIL 7, P7.01.

7. CONTRACTOR TO COORDINATE WITH FIRE SPRINKLER LOCATIONS.

SHEET NOTES:

4

1. CONDENSATE DISCHARGED TO LAVATORY TAILPIECE.
2. 2"CW TO COMMERCIAL TI SPACE. PROVIDE SHUTOFF VALVE AND CAP FOR FUTURE USE.
3. PROVIDE 2'X2'X2' DRY SUMP AT TRANSFORMER ROOM. COORDINATE WITH UTILITY ON SUMP LOCATION.
5. THREE (3) FUEL TANK VENTS FOR GENERATOR . CLEARANCES: 5 FEET FROM OPENINGS, 12 FEET FROM TAILPIPE EXHAUST, 12 FEET ABOVE ADJOINING GRADE, 15 FEET FROM FORCED-AIR INTAKES. ADDITIONAL CLEARANCES PER MANUFACTURER INSTRUCTIONS AND ASME BOILER & PRESSURE VESSEL CODE. SEE DETAIL 3, P7.03.
6. GENERATOR REMOTE FUEL FILL STATION (MAINTAIN 5' CLEARANCE TO PROPERTY LINES, OPENINGS AND INTAKES.)



2 LEVEL 1 PLUMBING PLAN - NORTH
1/8" = 1'-0"

EVERETT RIVERFRONT BUILDING 1-D

3710 Riverfront Blvd
Everett, WA 98203

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LEVEL 1 PLUMBING PLAN - NORTH

P2.01N

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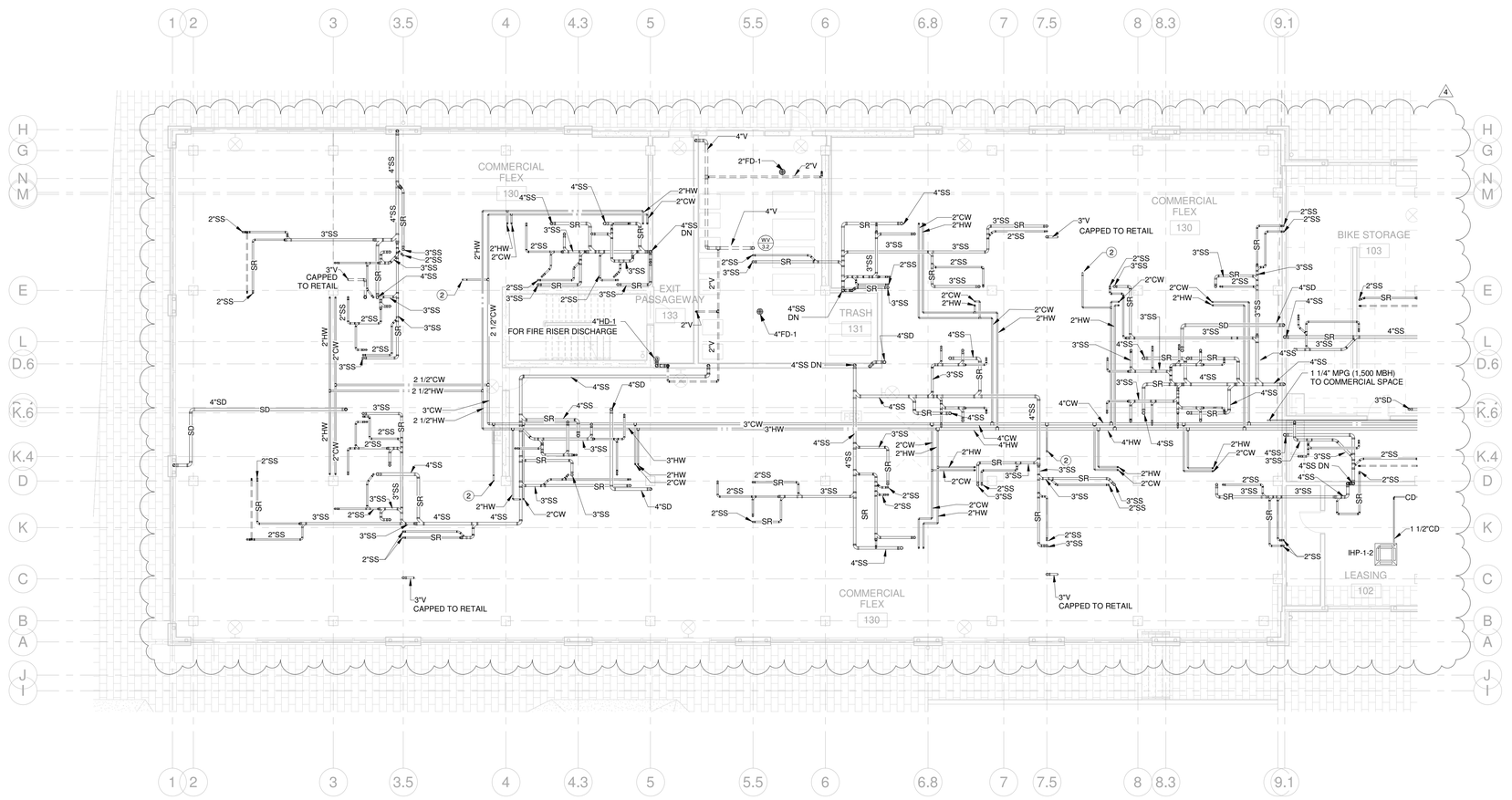
7. CONTRACTOR TO COORDINATE WITH FIRE SPRINKLER LOCATIONS.

SHEET NOTES:

1. NOT USED.
2. 2"CW TO COMMERCIAL TI SPACE. PROVIDE SHUTOFF VALVE AND CAP FOR FUTURE USE.

(4)



(2) LEVEL 1 PLUMBING PLAN - SOUTH
1/8" = 1'-0"

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LEVEL 1 PLUMBING PLAN - SOUTH

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7. CONTRACTOR TO COORDINATE WITH FIRE SPRINKLER LOCATIONS.

SHEET NOTES:

1. NOT USED.

1 LEVEL 2 PLUMBING PLAN - NORTH
1/8" = 1'-0"

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03/17/2026

LEVEL 2 PLUMBING PLAN - NORTH

P2.02N

3/17/2026 2:56:31 PM Autodesk Docs://MG2-CE-Shelter Holdings-Everett Riverfront Development PH2-21-5905-01A/Riverfront Apartments Building D - MEP.rvt

GENERAL NOTES:

(S / #) = SUPPLY RISER IDENTIFICATION (I.E. RISER "S1"). REFER TO RISER DIAGRAMS FOR DETAILS

(WV / #) = WASTE RISER IDENTIFICATION (I.E. RISER "W1"). REFER TO RISER DIAGRAMS FOR DETAILS

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PIPE SIZE	VERTICAL	HORIZONTAL
3"	8,800 SF	3,288 SF
4"	18,400 SF	7,520 SF
6"	34,600 SF	21,400 SF
8"	54,000 SF	46,000 SF
10"	116,000 SF	82,800 SF

2. WASTE & VENT SIZING: WASTE & VENT PIPING IS SIZED PER 2018 UPC TABLE 703.2. DRAINAGE PIPING SHALL BE SLOPED AT 1/4" PER FOOT OR 2%. WHERE NEEDED TO MEET INVERT OR HEIGHT CLEARANCE REQUIREMENTS, 4" OR LARGER PIPING MAY BE SLOPED AT 1/8" PER FOOT OR 1%, WITH APPROVAL FROM AHJ.

PIPE SIZE	VERTICAL	2% HORIZONTAL	1% HORIZONTAL	VENT
1-1/2"	2 DFU	1 DFU	----	8 DFU
2"	16 DFU	8 DFU	----	24 DFU
3"	48 DFU	35 DFU	----	84 DFU
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8"	3,600 DFU	2,640 DFU	2112 DFU	3,600 DFU

3. CONDENSATE PIPE SIZING: CONDENSATE WASTE IS SIZED PER 2018 UPC TABLE 814.3, FOR 1/8" PER FOOT SLOPE:

PIPE SIZE	VERTICAL/HORIZONTAL
3/4"	20 TONS
1"	40 TONS
1-1/4"	90 TONS
1-1/2"	125 TONS
2"	250 TONS

4. PROVIDE TRAP PRIMER FOR ALL FLOOR DRAINS.

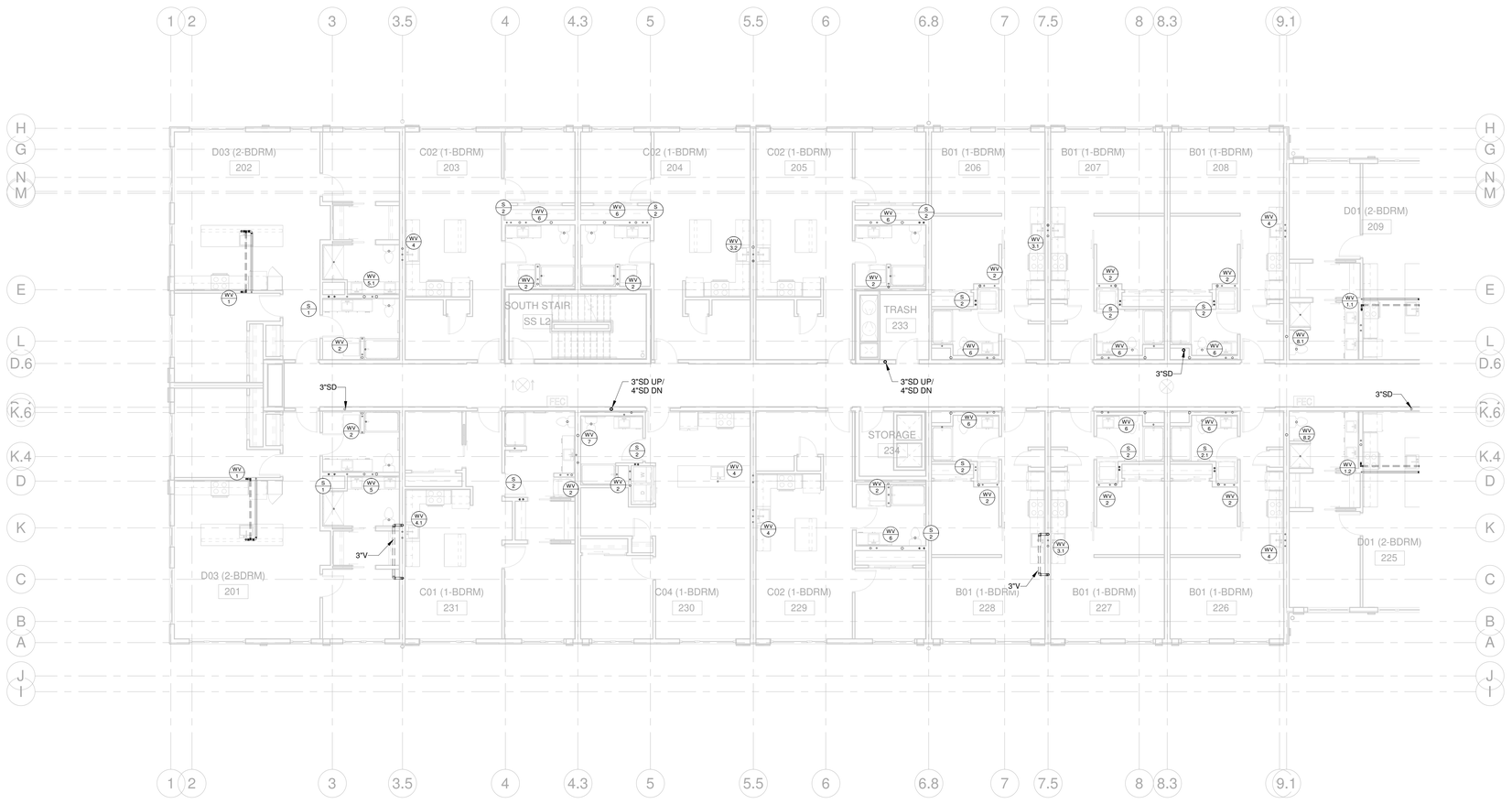
5. PROVIDE ENOUGH CLEARANCE AND/OR EXPANSION LOOPS TO ACCOMODATE THERMAL EXPANSION OF PIPING AND BUILDING SETTLEMENT/ SHRINKAGE.

6. FIXTURES WITHIN LIVING UNITS TO BE SUPPLIED BY PEX MANIFOLD SYSTEM. SEE DETAIL 7, P7.01.

7. CONTRACTOR TO COORDINATE WITH FIRE SPRINKLER LOCATIONS.

SHEET NOTES:

1. NOT USED.



1 LEVEL 2 PLUMBING PLAN - SOUTH
1/8" = 1'-0"

EVERETT RIVERFRONT BUILDING 1-D

3710 Riverfront Blvd
Everett, WA 98203

ROBISON ENGINEERING, INC
19401 40TH AVE W, SUITE 302
LYNNWOOD, WA 98036
TEL: 2063643343
CONTACT: PETER ROCKSTEAD

REED JACKSON
STATE OF WASHINGTON
PROFESSIONAL ENGINEER
03-17-26

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LEVEL 2 PLUMBING PLAN - SOUTH

P2.02S

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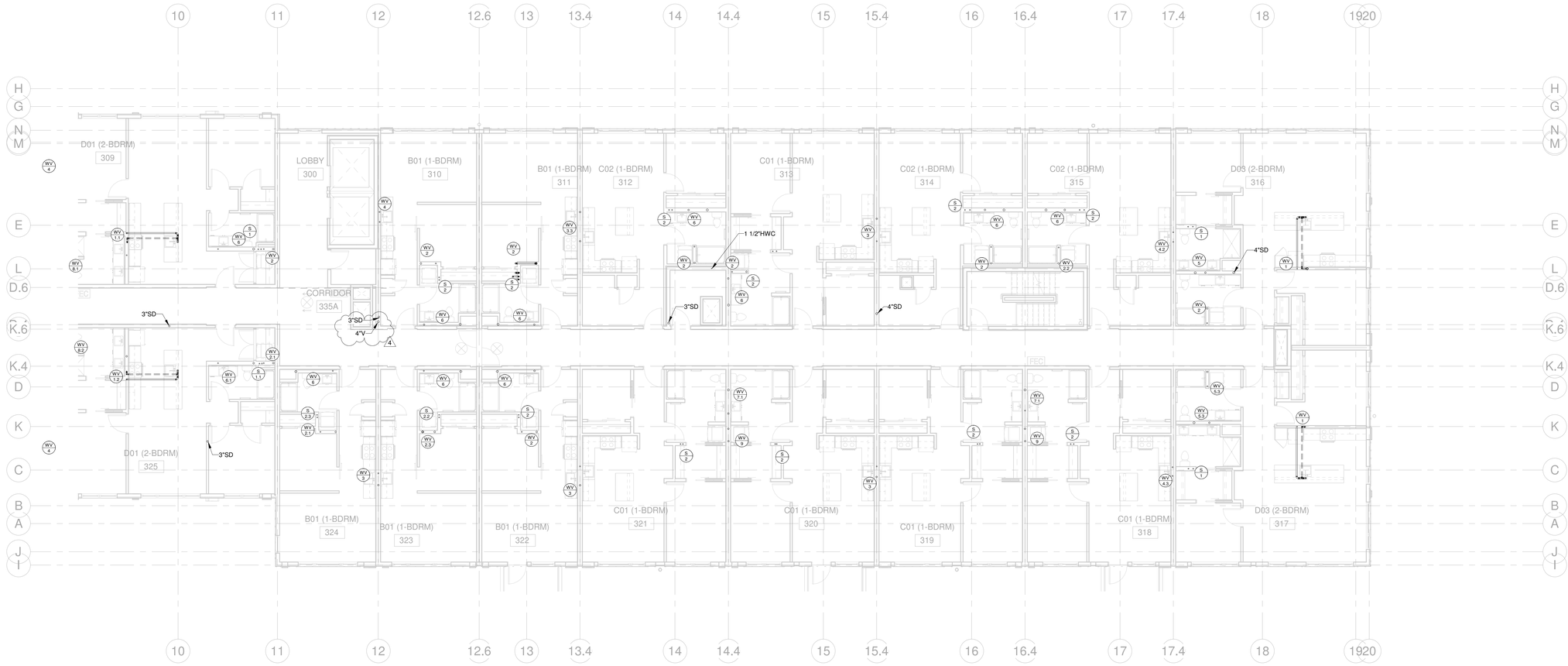

1 LEVEL 3 PLUMBING PLAN - NORTH
1/8" = 1'-0"

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LEVEL 3 PLUMBING PLAN - NORTH

P2.03N

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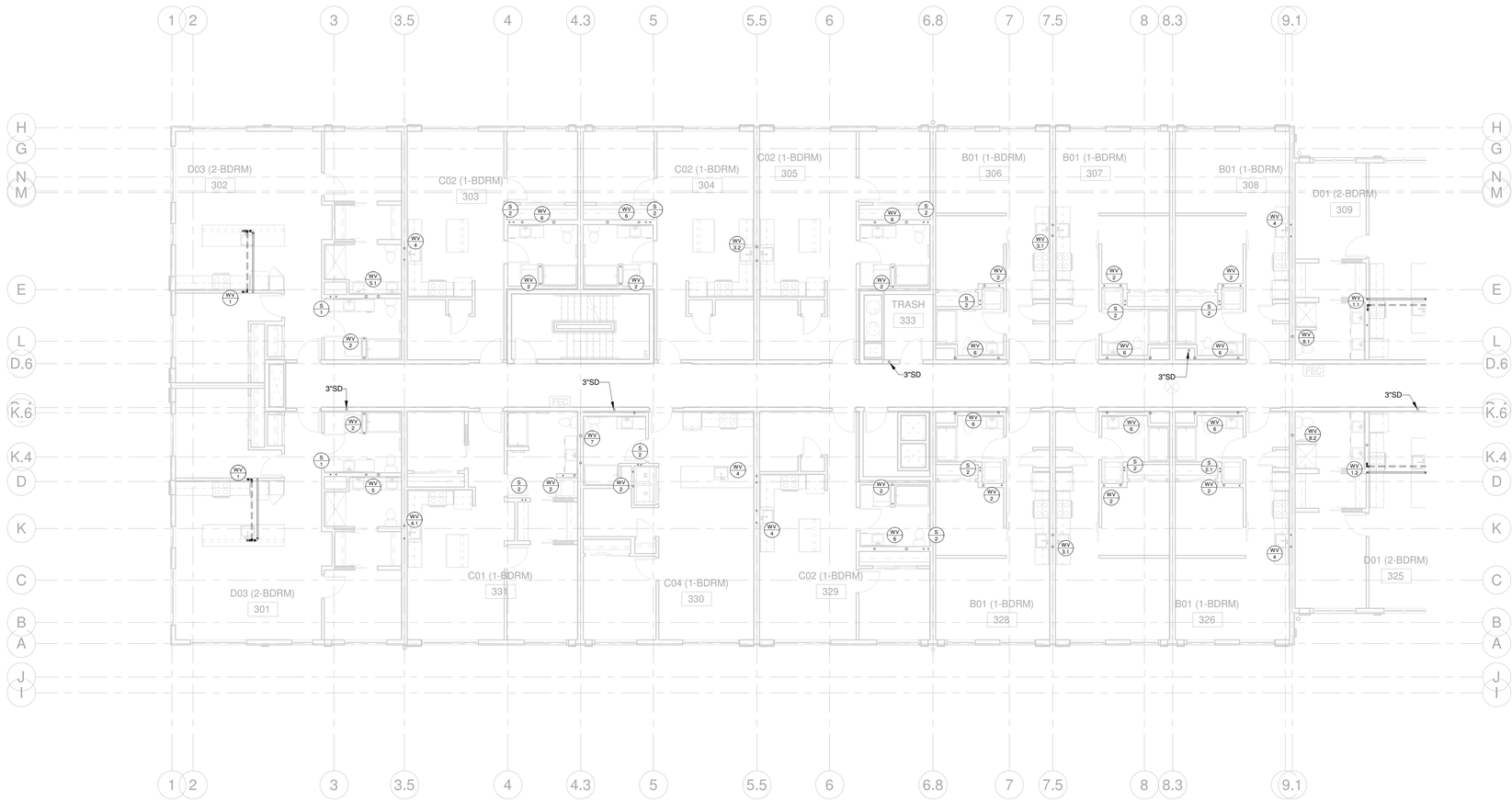

1 LEVEL 3 PLUMBING PLAN - SOUTH
1/8" = 1'-0"

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LEVEL 3 PLUMBING PLAN - SOUTH

P2.03S

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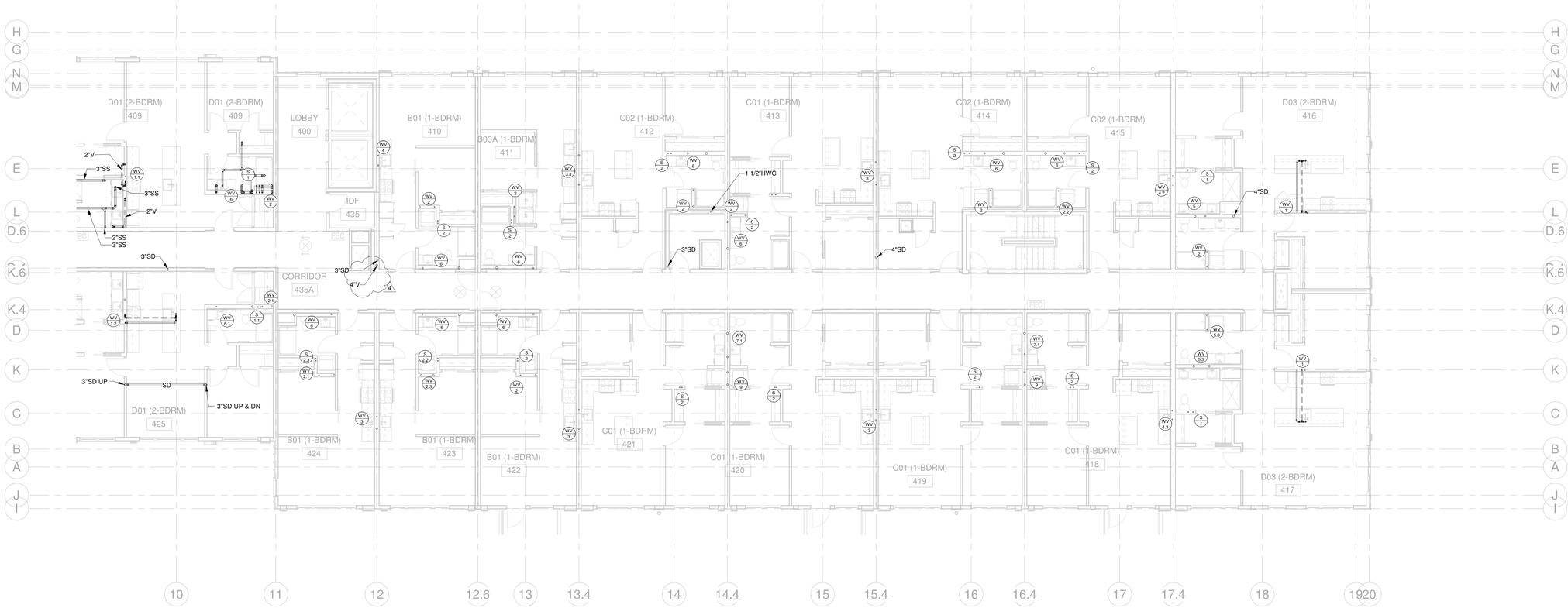

1 LEVEL 4 PLUMBING PLAN - NORTH
1/8" = 1'-0"

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LEVEL 4 PLUMBING PLAN - NORTH

P2.04N

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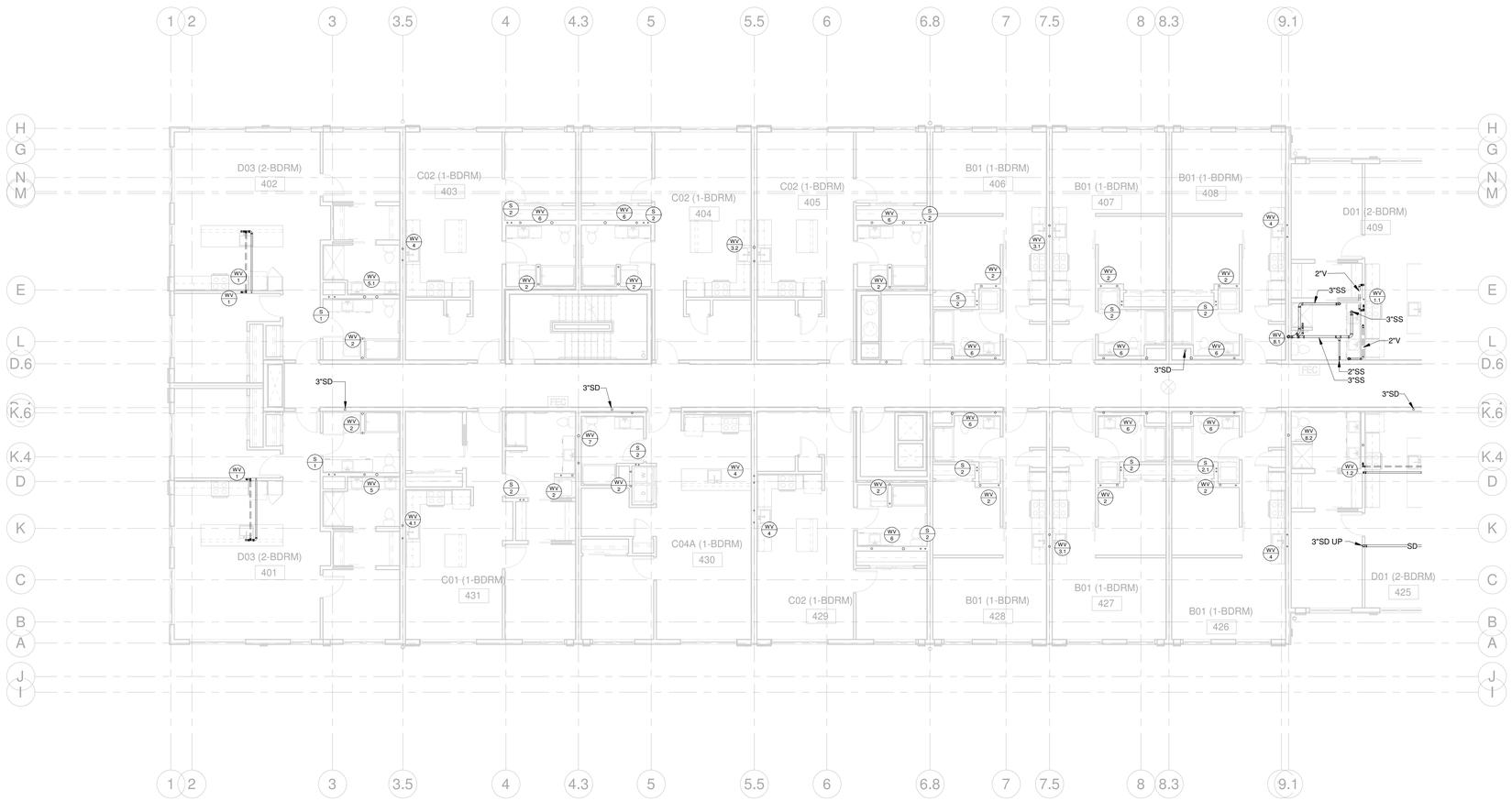

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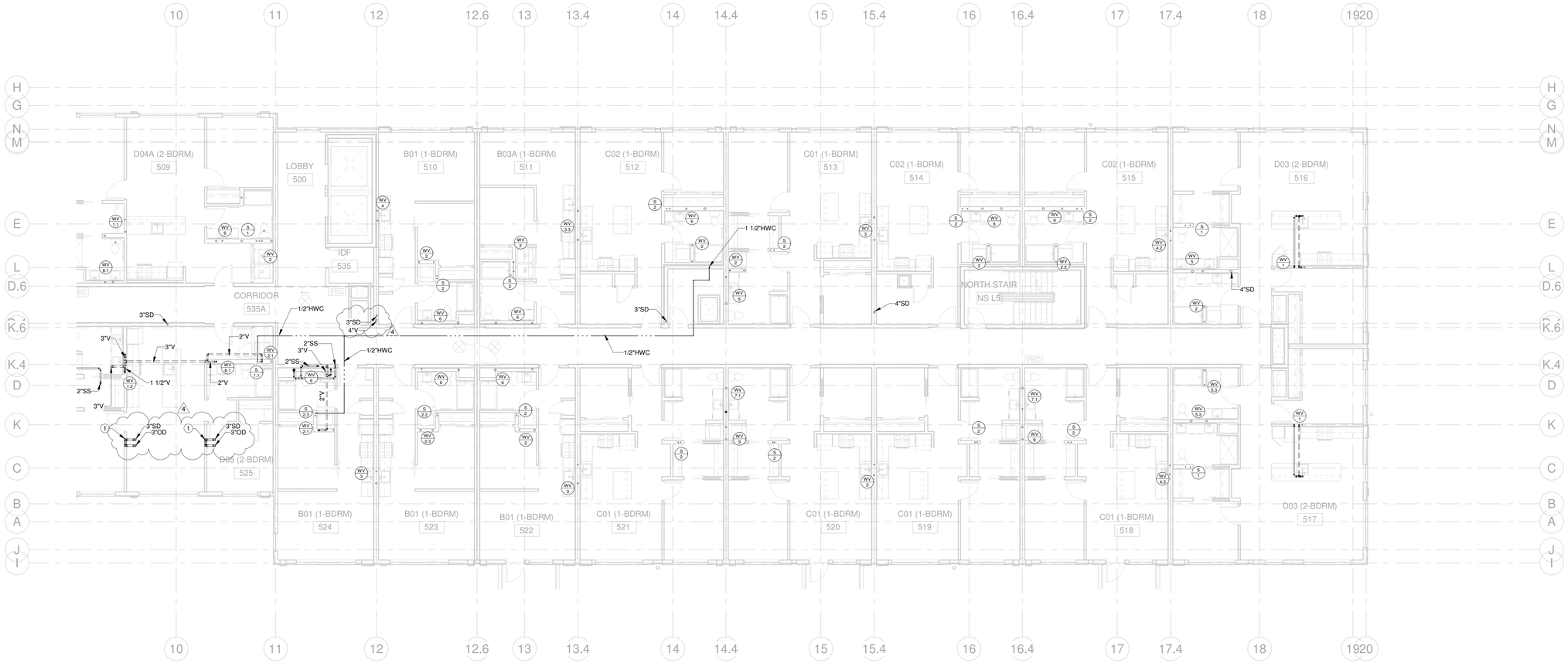
SHEET NOTES:

1. COMBINE STORM AND OVERFLOW DRAINS IN THE VERTICAL WITH A 'WYE' FITTING. COMBINED STORM DRAIN SYSTEM SHALL BE SIZED AT TWICE THE RAINFALL RATE. (4)



1 LEVEL 5 PLUMBING PLAN - NORTH
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PM: PETER ROCKSTEAD
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LEVEL 5 PLUMBING PLAN - NORTH

P2.05N

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3. CONDENSATE PIPE SIZING: CONDENSATE WASTE IS SIZED PER 2018 UPC TABLE 814.3, FOR 1/8" PER FOOT SLOPE:

PIPE SIZE	VERTICAL/HORIZONTAL
3/4"	20 TONS
1"	40 TONS
1-1/4"	90 TONS
1-1/2"	125 TONS
2"	250 TONS

4. PROVIDE TRAP PRIMER FOR ALL FLOOR DRAINS.

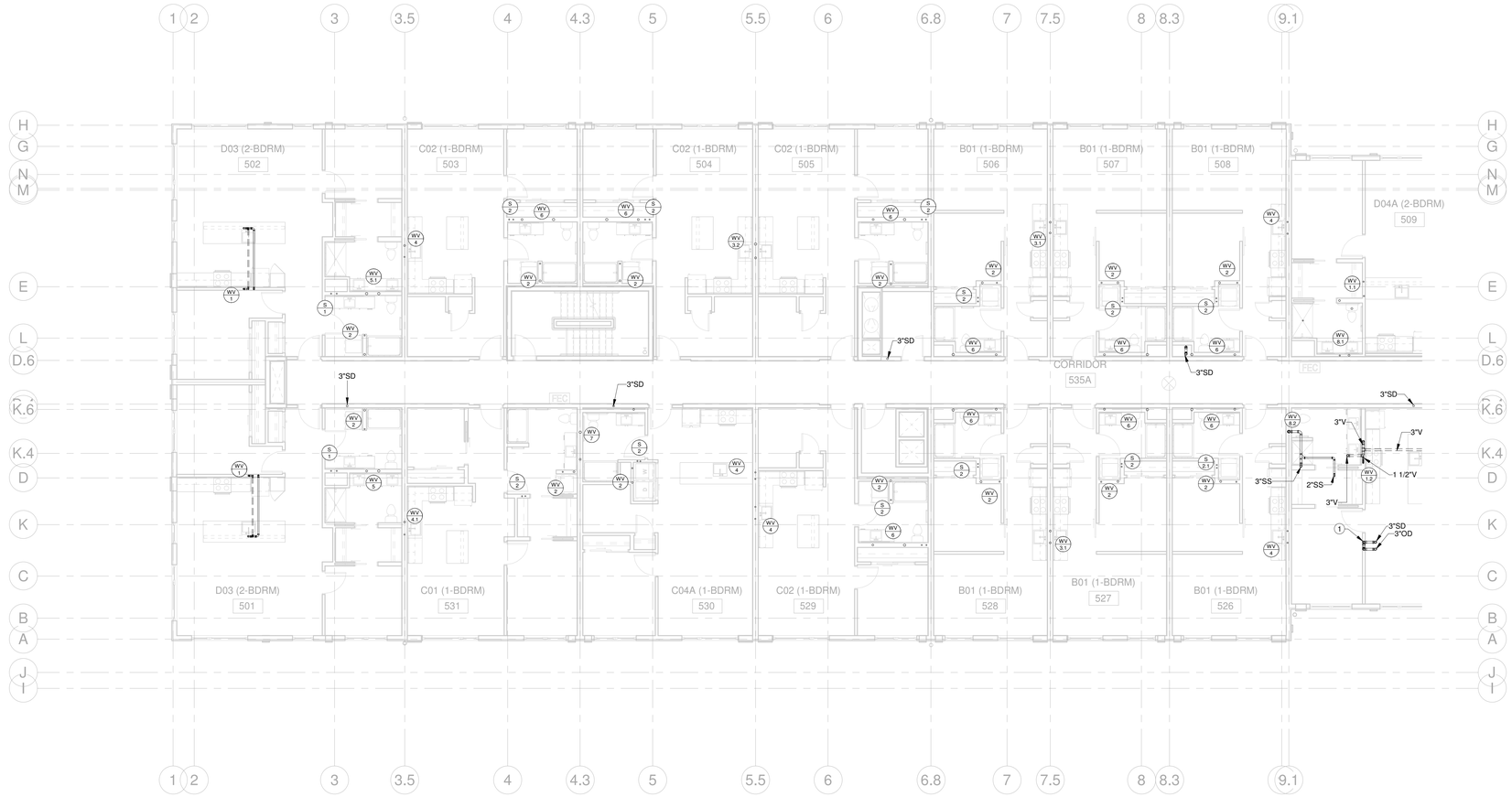
5. PROVIDE ENOUGH CLEARANCE AND/OR EXPANSION LOOPS TO ACCOMODATE THERMAL EXPANSION OF PIPING AND BUILDING SETTLEMENT/ SHRINKAGE.

6. FIXTURES WITHIN LIVING UNITS TO BE SUPPLIED BY PEX MANIFOLD SYSTEM. SEE DETAIL 7, P7.01.

7. CONTRACTOR TO COORDINATE WITH FIRE SPRINKLER LOCATIONS.

SHEET NOTES:

1. COMBINE STORM AND OVERFLOW DRAINS IN THE VERTICAL WITH A 'WYE' FITTING. COMBINED STORM DRAIN SYSTEM SHALL BE SIZED AT TWICE THE RAINFALL RATE. (4)



1 LEVEL 5 PLUMBING PLAN - SOUTH
1/8" = 1'-0"

EVERETT RIVERFRONT BUILDING 1-D

3710 Riverfront Blvd
Everett, WA 98203

ROBISON ENGINEERING, INC
19401 40TH AVE W, SUITE 302
LYNNWOOD, WA 98036
TEL: 2063643343
CONTACT: PETER ROCKSTEAD

REED JACKSON — STATE OF WASHINGTON — PROFESSIONAL ENGINEER — 03-17-26

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LEVEL 5 PLUMBING PLAN - SOUTH

P2.05S

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GENERAL NOTES:

(S / #) = SUPPLY RISER IDENTIFICATION (I.E. RISER "S1"). REFER TO RISER DIAGRAMS FOR DETAILS

(WV / #) = WASTE RISER IDENTIFICATION (I.E. RISER "W1"). REFER TO RISER DIAGRAMS FOR DETAILS

1. STORM DRAIN SIZING: STORM DRAINAGE PIPING IS SIZED PER 2018 UPC TABLE 1101.8, FOR 1" PER HOUR RAINFALL RATE, AT 1/8" PER FOOT SLOPE:

PIPE SIZE	VERTICAL	HORIZONTAL
3"	8,800 SF	3,288 SF
4"	18,400 SF	7,520 SF
6"	34,600 SF	21,400 SF
8"	54,000 SF	46,000 SF
10"	116,000 SF	82,800 SF

2. WASTE & VENT SIZING: WASTE & VENT PIPING IS SIZED PER 2018 UPC TABLE 703.2. DRAINAGE PIPING SHALL BE SLOPED AT 1/4" PER FOOT OR 2%. WHERE NEEDED TO MEET INVERT OR HEIGHT CLEARANCE REQUIREMENTS, 4" OR LARGER PIPING MAY BE SLOPED AT 1/8" PER FOOT OR 1%, WITH APPROVAL FROM AHJ.

PIPE SIZE	VERTICAL	2% HORIZONTAL	1% HORIZONTAL	VENT
1-1/2"	2 DFU	1 DFU	----	8 DFU
2"	16 DFU	8 DFU	----	24 DFU
3"	48 DFU	35 DFU	----	84 DFU
4"	256 DFU	216 DFU	172 DFU	256 DFU
6"	1,380 DFU	720 DFU	576 DFU	1,380 DFU
8"	3,600 DFU	2,640 DFU	2112 DFU	3,600 DFU

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PIPE SIZE	VERTICAL/HORIZONTAL
3/4"	20 TONS
1"	40 TONS
1-1/4"	90 TONS
1-1/2"	125 TONS
2"	250 TONS

4. PROVIDE TRAP PRIMER FOR ALL FLOOR DRAINS.

5. PROVIDE ENOUGH CLEARANCE AND/OR EXPANSION LOOPS TO ACCOMODATE THERMAL EXPANSION OF PIPING AND BUILDING SETTLEMENT/ SHRINKAGE.

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7. CONTRACTOR TO COORDINATE WITH FIRE SPRINKLER LOCATIONS.

SHEET NOTES:

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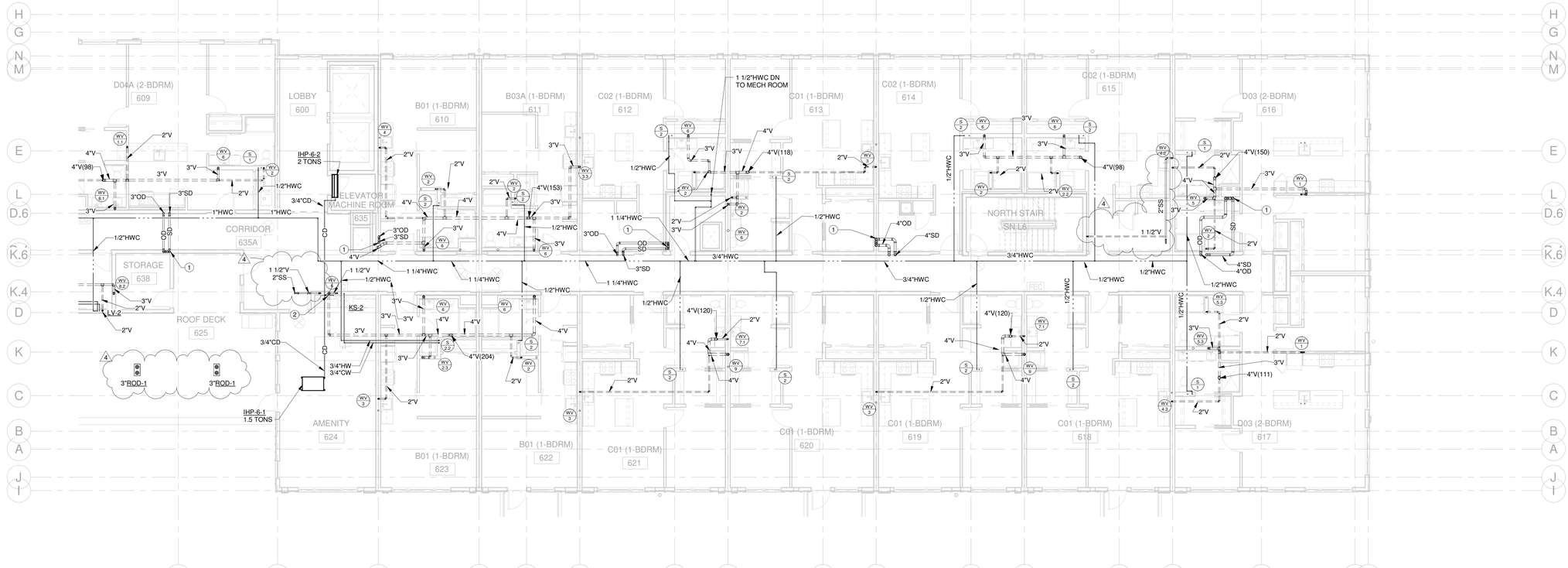
2. DISCHARGE CONDENSATE TO SINK TAILPIECE.



1 LEVEL 6 PLUMBING PLAN - NORTH
1/8" = 1'-0"

EVERETT RIVERFRONT BUILDING 1-D

3710 Riverfront Blvd
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LEVEL 6 PLUMBING PLAN - NORTH

P2.06N

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PIPE SIZE	VERTICAL	2% HORIZONTAL	1% HORIZONTAL	VENT
1-1/2"	2 DFU	1 DFU	----	8 DFU
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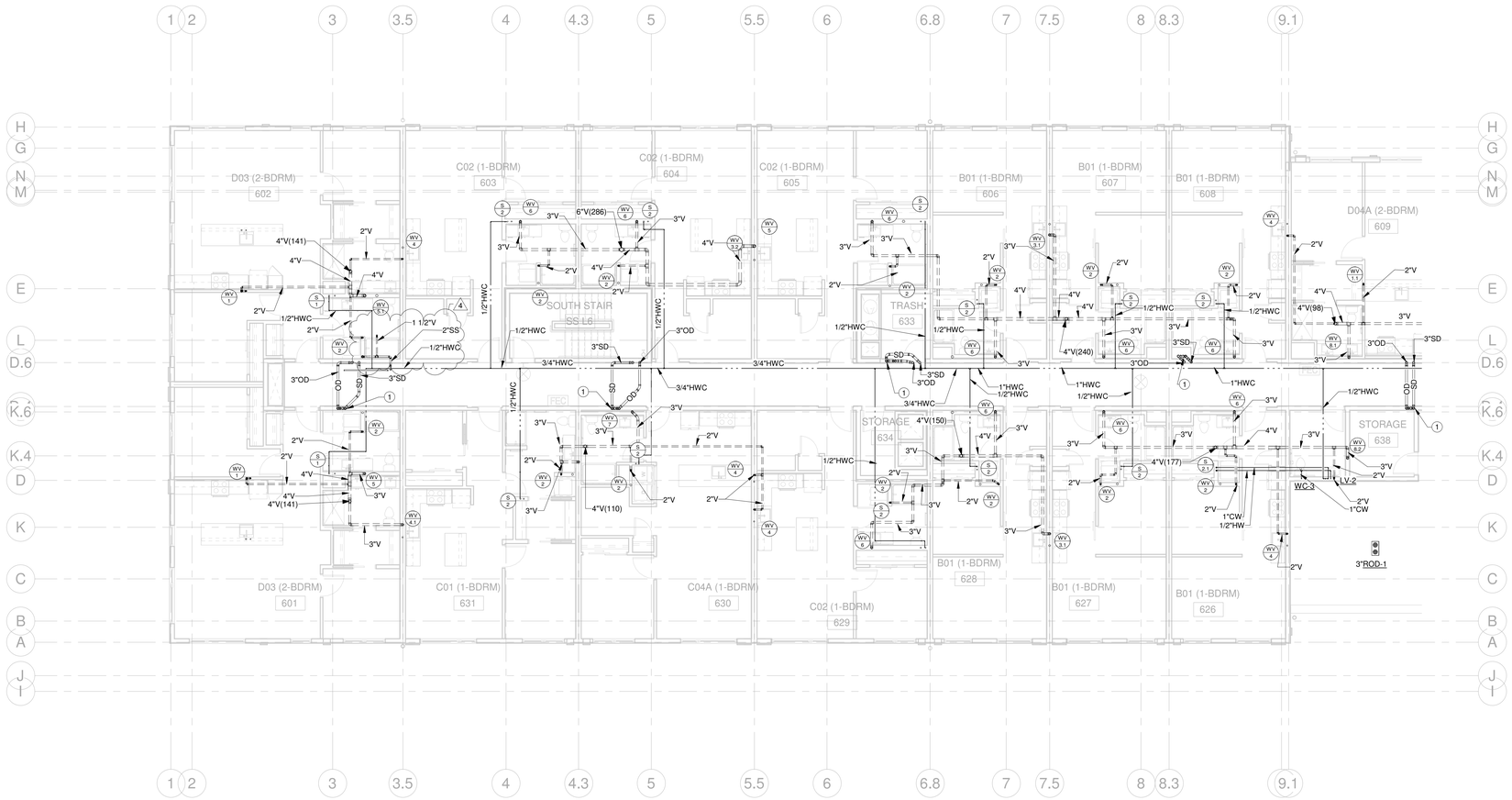

1 LEVEL 6 PLUMBING PLAN - SOUTH
1/8" = 1'-0"

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LEVEL 6 PLUMBING PLAN - SOUTH

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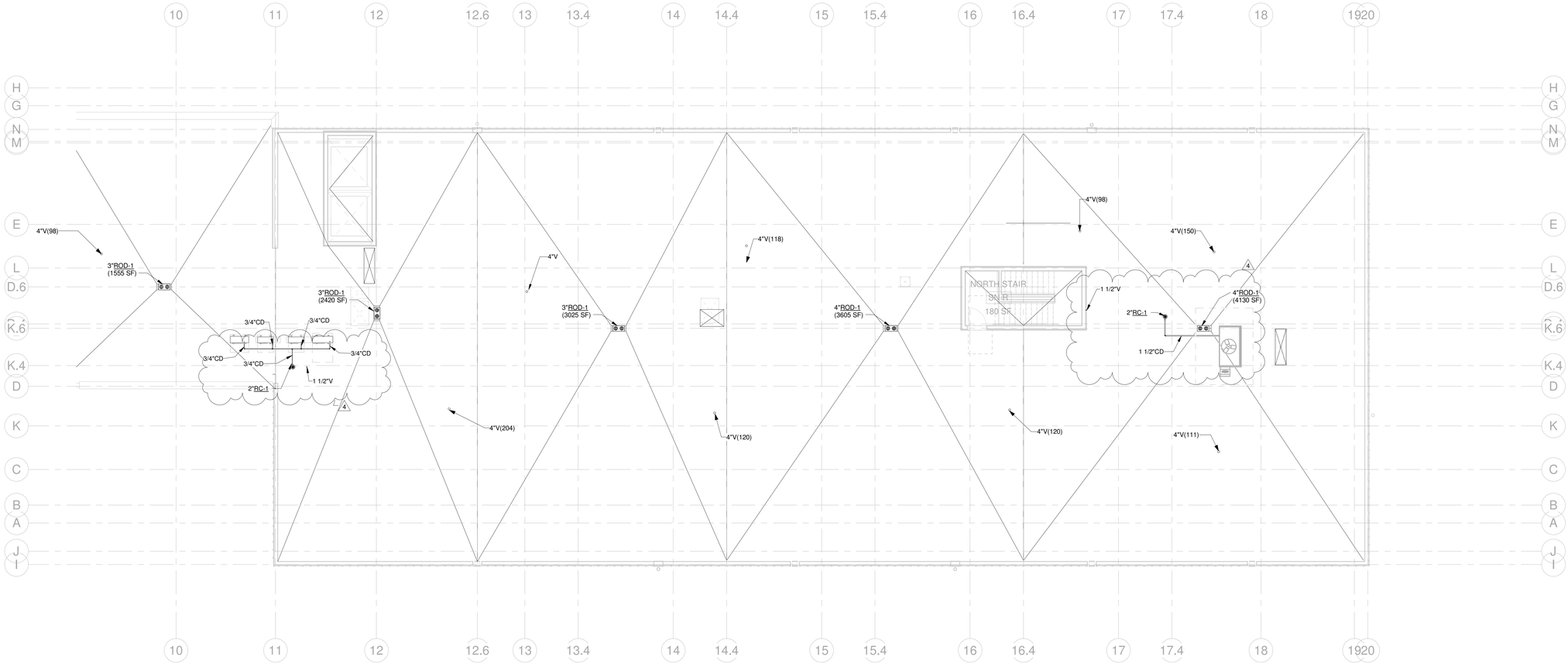
SHEET NOTES:

1. NOT USED.



1 ROOF PLUMBING PLAN - NORTH
1/8" = 1'-0"

EVERETT RIVERFRONT BUILDING 1-D

3710 Riverfront Blvd
Everett, WA 98203

ROBISON ENGINEERING, INC
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ROOF PLUMBING PLAN - NORTH

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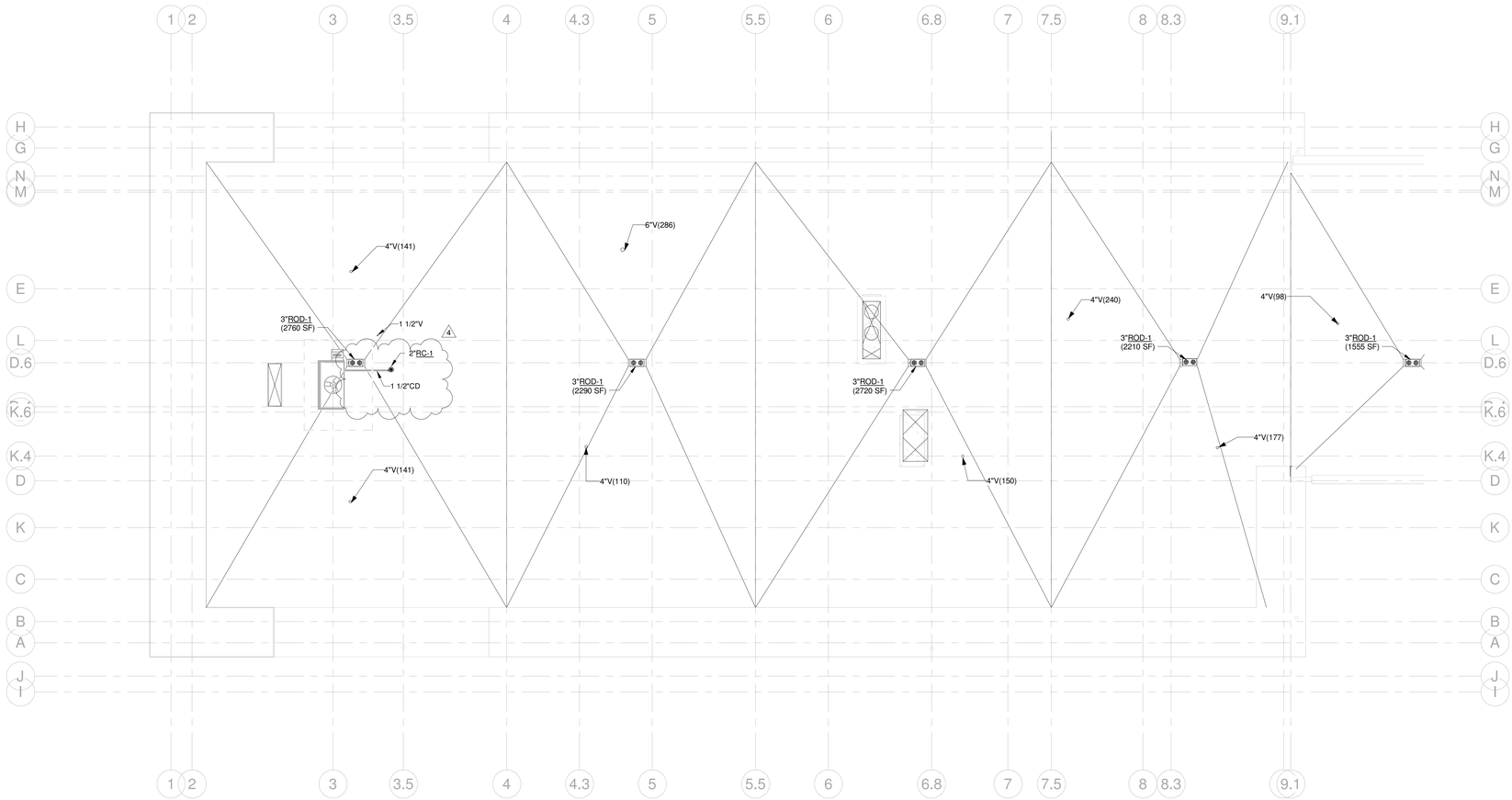

1 ROOF PLUMBING PLAN - SOUTH
1/8" = 1'-0"

EVERETT RIVERFRONT BUILDING 1-D

3710 Riverfront Blvd
Everett, WA 98203

ROBISON ENGINEERING, INC
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ROOF PLUMBING PLAN - SOUTH

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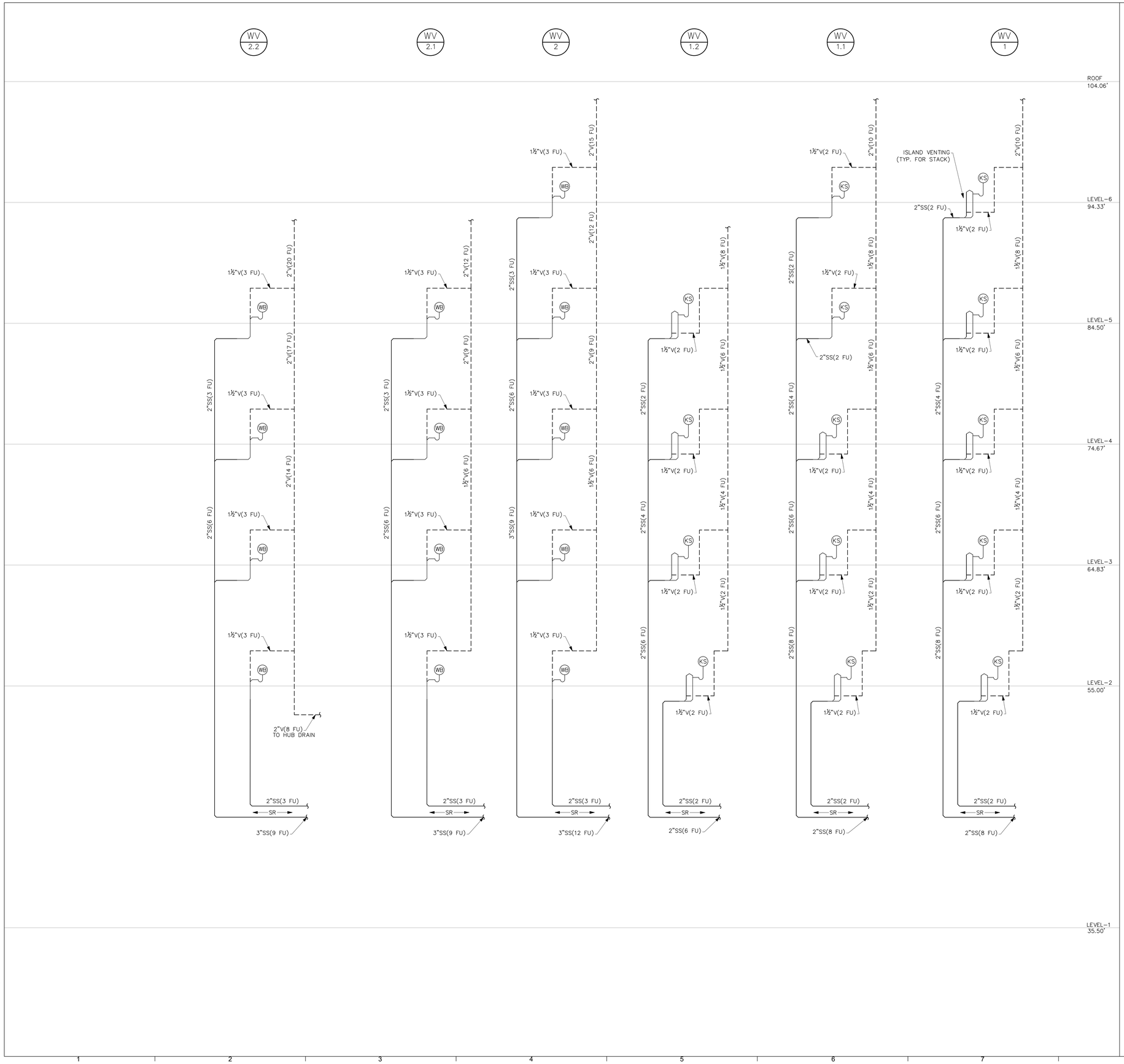

GENERAL NOTES

1. PROVIDE TRAP PRIMERS FOR ALL FLOOR DRAINS AND HUB DRAINS PER 2018 UPC 1007.1. SEE DETAIL 7/P7.00.
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PIPE SIZE	VERTICAL	HORIZONTAL	VENT
1½"	2 DFU	1 DFU	8 DFU
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4"	256 DFU	172 DFU	256 DFU
6"	1,380 DFU	576 DFU	1,380 DFU
8"	3,600 DFU	2,112 DFU	3,600 DFU

4
RISERS SERVING LIVE–WORK UNITS REMOVED

RIVERFRONT APARTMENTS BUILDING D

3710 Riverfront Blvd
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KEY PLAN

Stamping Architect

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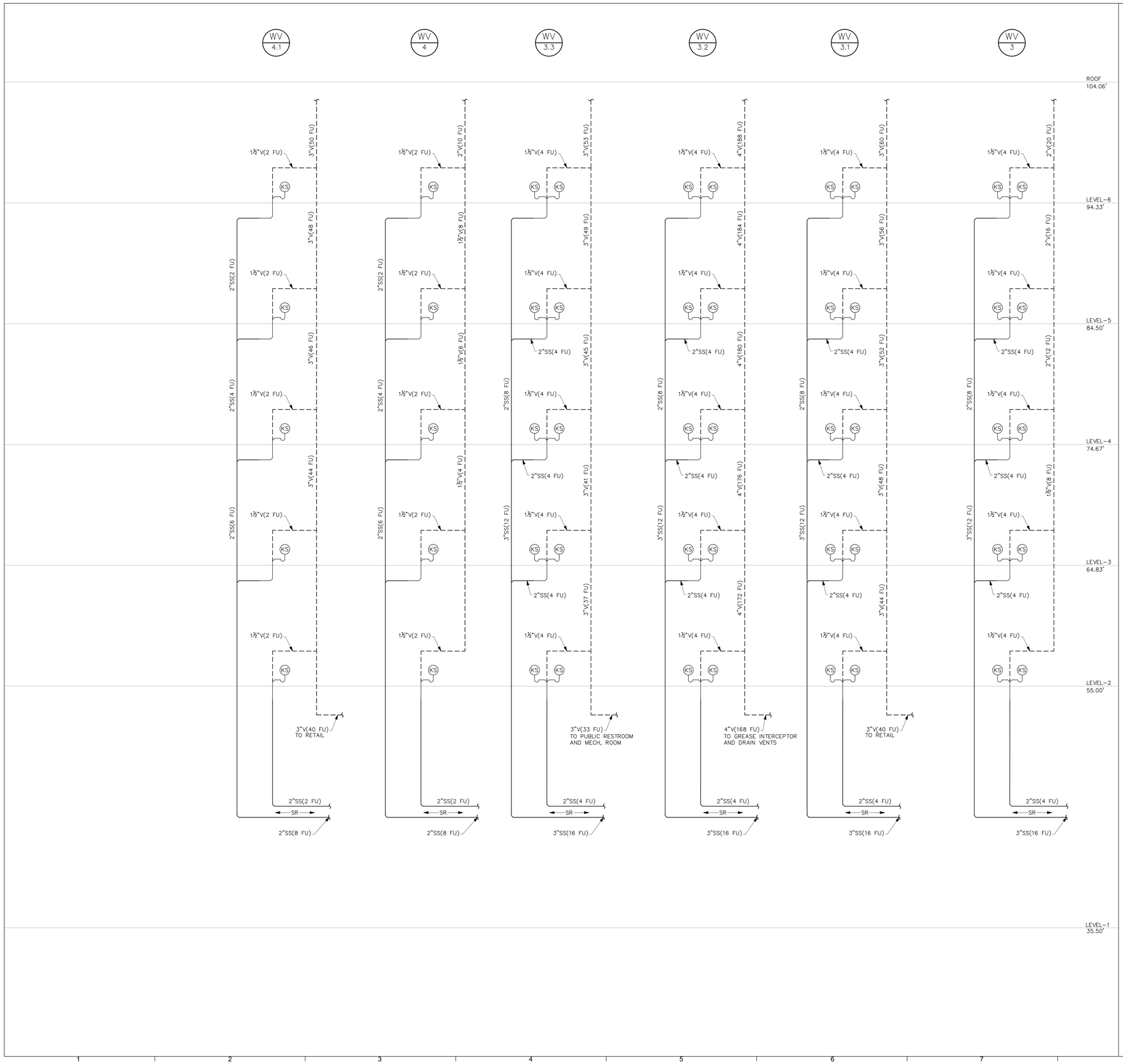
WASTE & VENT RISER DIAGRAMS

P4.00



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△4
RISERS SERVING LIVE-WORK UNITS REMOVED

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KEY PLAN

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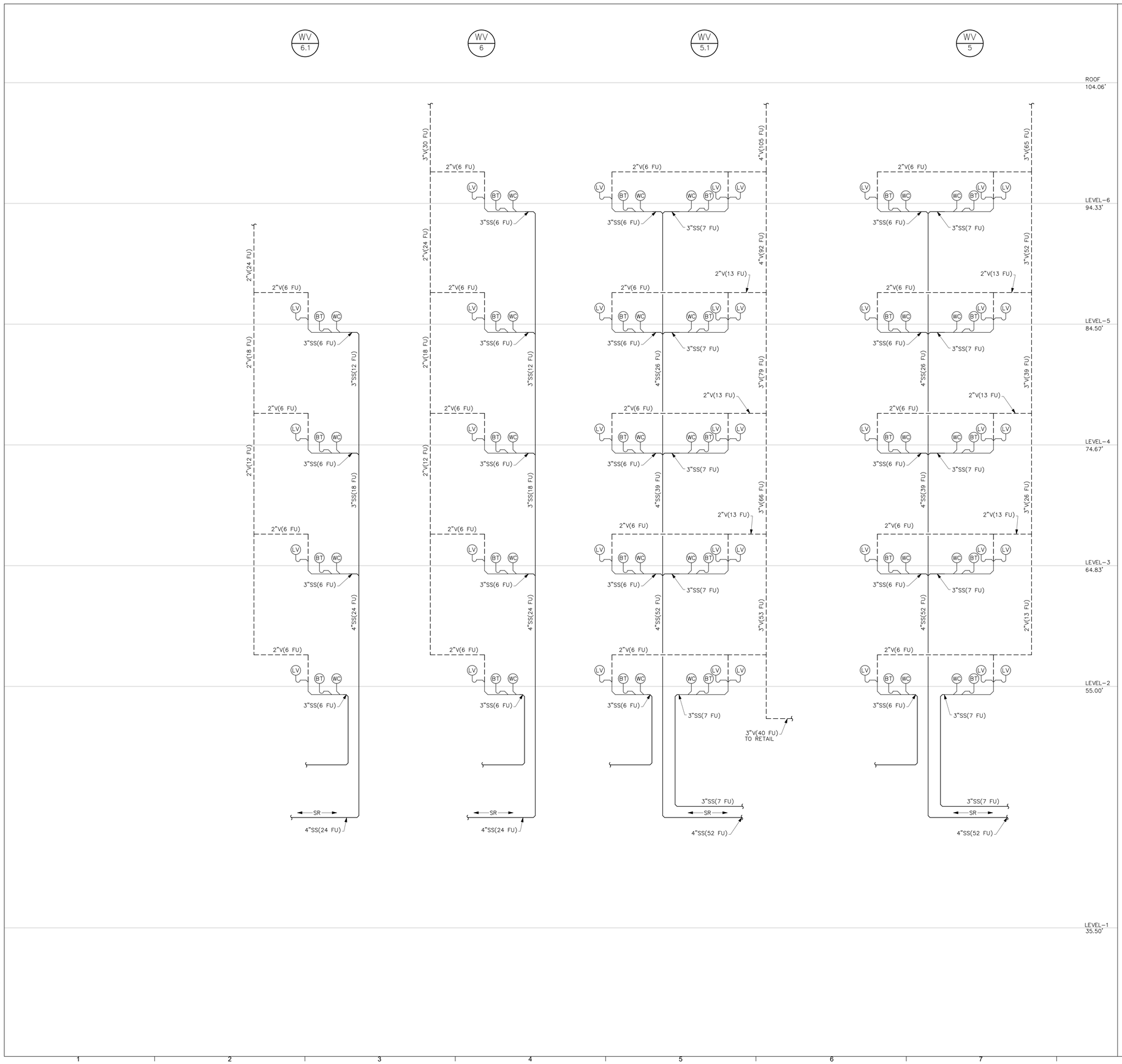
WASTE & VENT RISER DIAGRAMS

P4.01



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03/17/2026

KEY PLAN

BUILDING C BUILDING D

Stamping Architect

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△	DATE	DESCRIPTION
1	11/03/22	PERMIT RESPONSE 01
4	03/17/26	PERMIT RESPONSE 04

1073-002
PM: Peter Rockstead
DRAWN BY: MLT
03/17/2026

WASTE & VENT RISER DIAGRAMS

P4.02

GENERAL NOTES

1. PROVIDE TRAP PRIMERS FOR ALL FLOOR DRAINS AND HUB DRAINS PER 2018 UPC 1007.1. SEE DETAIL 7/P7.00.
2. WASTE & VENT SIZING: WASTE & VENT PIPING IS SIZED PER 2018 UPC TABLE 703.2. DRAINAGE PIPING SHALL BE SLOPED AT 1/4" PER FOOT OR 2%. WHERE IT IS IMPRACTICAL TO OBTAIN A SLOPE OF 2% DUE TO THE DEPTH OF THE STREET SEWER OR TO STRUCTURAL FEATURES OF THE BUILDING, DRAINAGE PIPING MAY BE SLOPED AT 1/8" PER FOOT OR 1% WITH APPROVAL FROM THE AHJ.

PIPE SIZE	VERTICAL	HORIZONTAL	VENT
1½"	2 DFU	1 DFU	8 DFU
2"	16 DFU	8 DFU	24 DFU
3"	48 DFU	35 DFU	84 DFU
4"	256 DFU	172 DFU	256 DFU
6"	1,380 DFU	576 DFU	1,380 DFU
8"	3,600 DFU	2,112 DFU	3,600 DFU

△4 RISERS SERVING LIVE-WORK UNITS REMOVED

RIVERFRONT APARTMENTS BUILDING D

3710 Riverfront Blvd
Everett, WA 98203

ROBISON ENGINEERING, INC
13810 40TH AVE W., SUITE 202
LYNNWOOD, WA 98036
206.364.3343 tel.
CONTACT: PETER ROCKSTEAD

REED JACKSON STATE OF WASHINGTON 22400 REGISTERED PROFESSIONAL ENGINEER
03-17-26

1101 Second Ave, Ste 100
Seattle, WA 98101

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PERMIT RESPONSE 04

03/17/2026

KEY PLAN

BUILDING C BUILDING D

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1073-002
PM: Peter Rockstead
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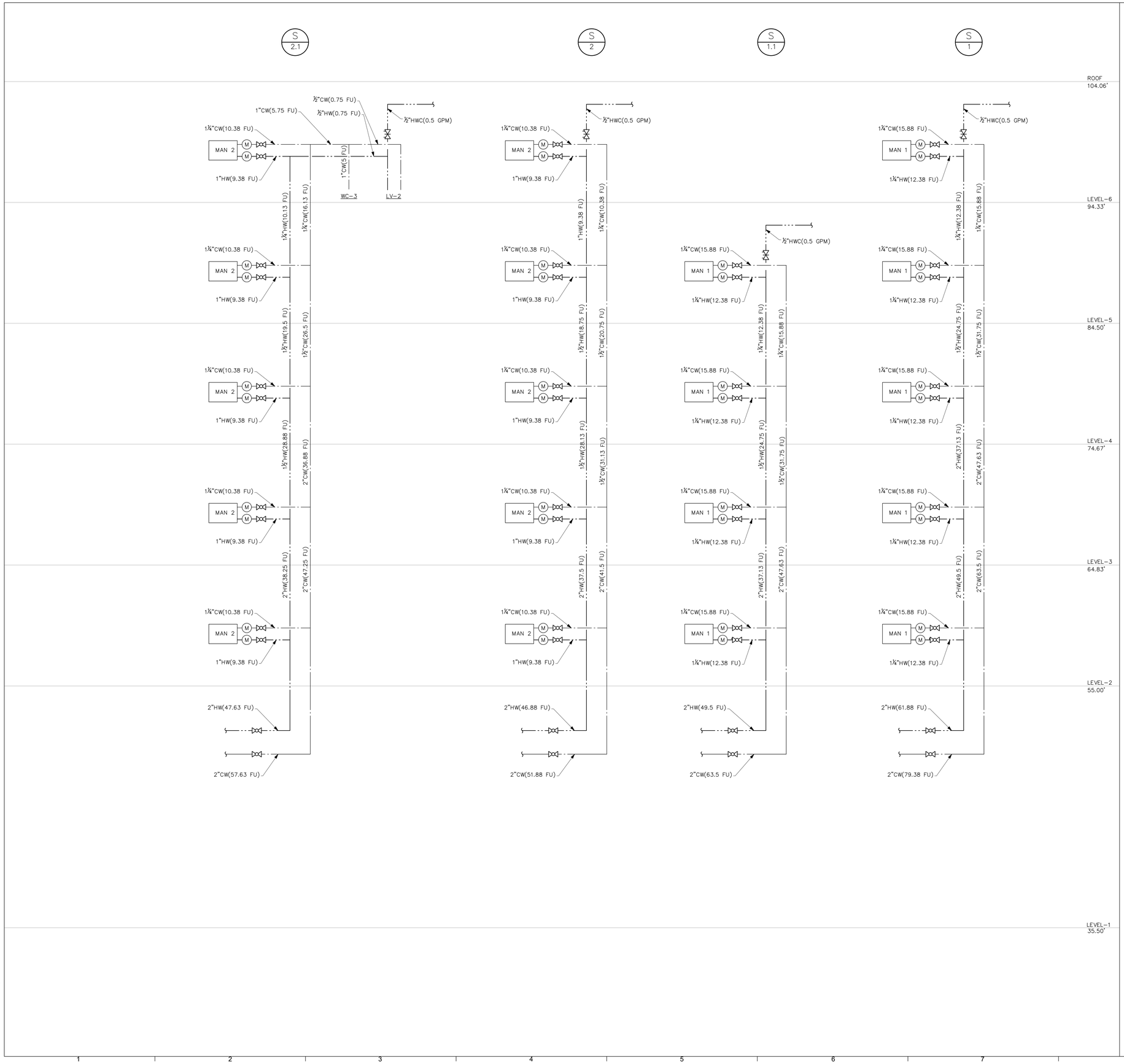
03/17/2026

WASTE & VENT RISER DIAGRAMS

P4.03



GENERAL NOTES

1. PROVIDE TRAP PRIMERS FOR ALL FLOOR DRAINS AND HUB DRAINS PER 2018 UPC 1007.1. SEE DETAIL 7/P7.00.
2. PROVIDE EXPANSION LOOPS FOR ALL WATER PIPING PER THE MANUFACTURER'S RECOMMENDATIONS

PEX MANIFOLD MATRIX						
MAN. #	FIXTURES					
	LAVATORY	WATER CLOSET	KS & DISHWASHER	CLOTHES WASHER	BATH - TUB	SHOWER
1	3	2	1	1	1	1
2	1	1	1	1	1	0

4 RISERS SERVING LIVE-WORK UNITS REMOVED

RIVERFRONT APARTMENTS BUILDING D

3710 Riverfront Blvd
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ROBISON ENGINEERING, INC
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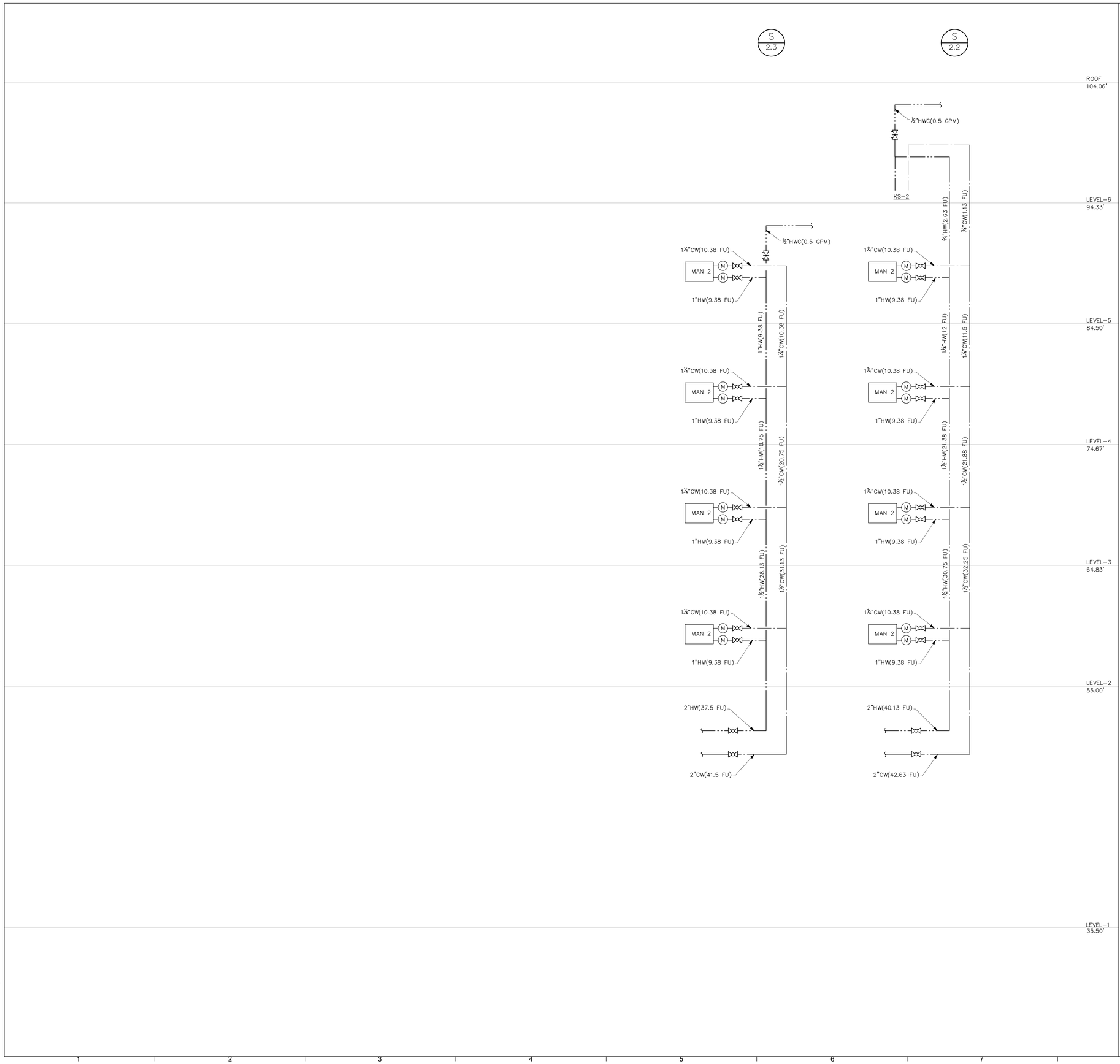
03/17/2026

SUPPLY RISER DIAGRAMS

P5.00



GENERAL NOTES

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2. PROVIDE EXPANSION LOOPS FOR ALL WATER PIPING PER THE MANUFACTURER'S RECOMMENDATIONS

PEX MANIFOLD MATRIX						
MAN. #	FIXTURES					
	LAVATORY	WATER CLOSET	KS & DISHWASHER	CLOTHES WASHER	BATH - TUB	SHOWER
1	3	2	1	1	1	1
2	1	1	1	1	1	0

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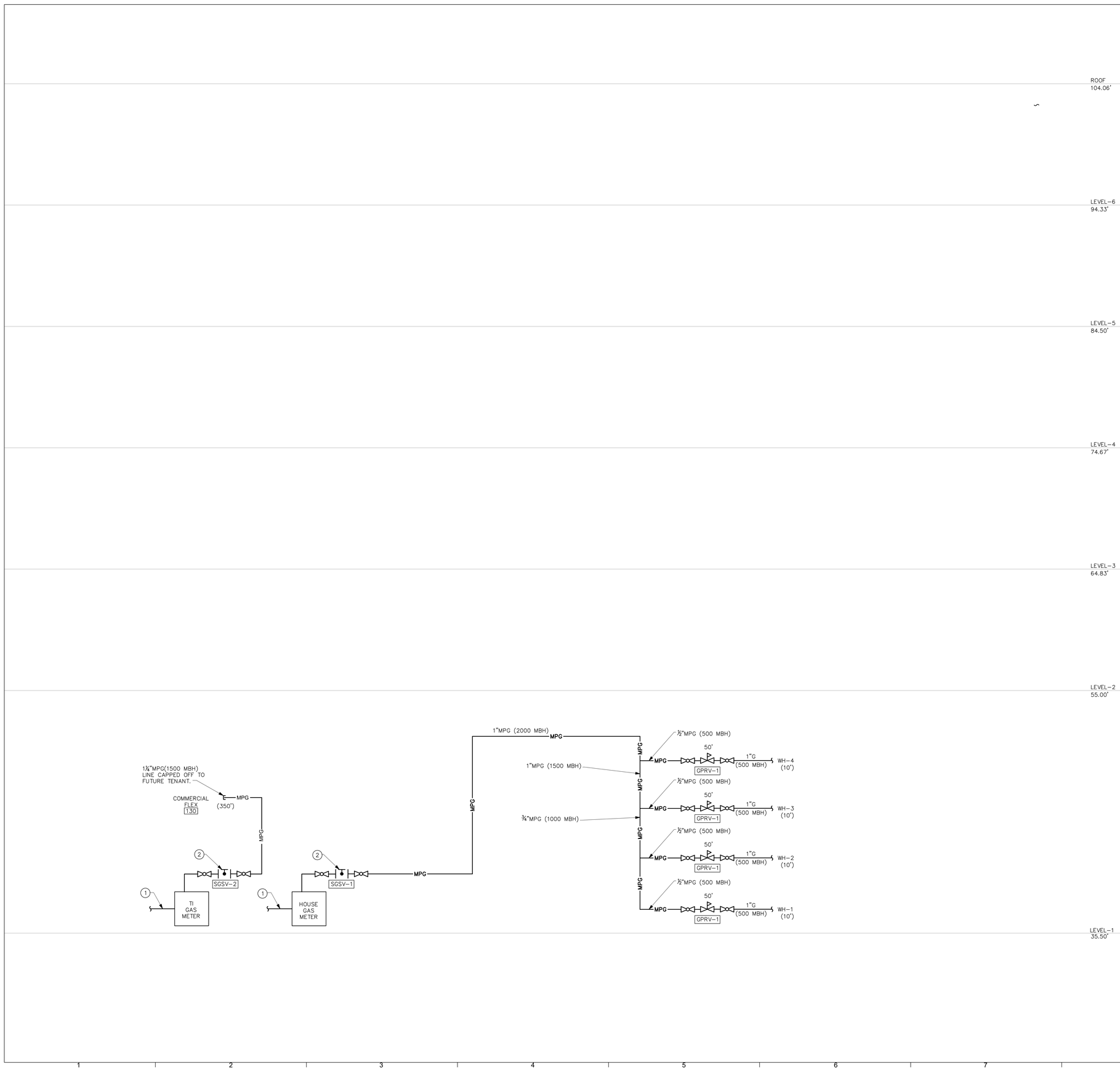
SUPPLY RISER DIAGRAMS

P5.01



GENERAL NOTES:

= 2 PSI VENTLESS GAS PRESSURE REGULATOR WITH. SET OUTLET AT 7"W.C. UNLESS NOTED OTHERWISE.

1. PROVIDE 2 PSI HOUSE AND AMENITIES GAS SERVICE TO THE BUILDING, INSTALL PRV WHERE SHOWN ON THE DWGS.
2. LENGTH FROM METER TO FURTHEST REGULATOR IS APPROXIMATELY 360 FEET. DISTANCES FROM REGULATORS TO MOST REMOTE APPLIANCES ARE LABELED ON THE RISER DIAGRAM. GAS PIPING IS SIZED PER 2018 UPC TABLES 1215.2(1) AND 1215.2(4).
3. PROVIDE CONNECTION TO EACH PIECE OF EQUIPMENT WITH UNION, GAS COCK(TYP), AND SEDIMENT TRAP INSTALLED AS CLOSE AS POSSIBLE TO THE APPLIANCE. EXCEPTIONS: APPLIANCES WITH AN INTERNAL SEDIMENT TRAP, RANGES, AND GAS FIREPLACES.
4. CONTRACTOR SHALL OBTAIN VERIFICATION FROM LOCAL UTILITY PRIOR TO CONSTRUCTION THAT 2.0 PSI GAS SERVICE IS AVAILABLE. NOTIFY ENGINEER IMMEDIATELY IF 2.0 PSI GAS SERVICE IS NOT AVAILABLE.
5. ALL REGULATORS MUST BE ACCESSIBLE.
6. PROVIDE LOCKABLE SHUT–OFF VALVES AT THE FIRE PITS AND BBQS FOR SAFETY.

MEDIUM PRESSURE GAS SIZING CHART (SCH.40 METALLIC PIPING)

MPG GAS PIPING UP TO REGULATOR IS SIZED USING 2.0 PSI INLET PRESSURE, 1.0 PSI PRESSURE DROP.

MAX DISTANCE:	50'	350'
PIPE SIZE:	MAX CFH/MBH:	MAX CFH/MBH:
½"	673	232
¾"	1360	486
1"	2490	869
1¼"	5,110	1,790
1½"	7,650	2,670
2"	14,700	5,150
2½"	23,500	8,210
3"	41,500	14,500
4"	84,700	29,600

LOW PRESSURE GAS SIZING CHART (SCHEDULE 40 – METALLIC PIPING)

LOW PRESSURE GAS PIPING AFTER THE REGULATOR IS SIZED USING LESS THAN 2 PSI INLET PRESSURE, 0.5" W.C PRESSURE DROP.

MAX DISTANCE:	10'	50'
PIPE SIZE:	MAX CFH/MBH:	MAX CFH/MBH:
½"	172	72
¾"	360	151
1"	678	284
1¼"	1,390	583
1½"	2,090	873
2"	4,020	1680

SHEET NOTES: (#)

1. GAS SERVICE TO METERS TO BE PROVIDED BY PSE. GAS LINES AFTER METER WILL BE BY OWNER.
2. SEISMIC GAS SHUT–OFF VALVE SHALL BE MOUNTED RIGIDLY TO THE EXTERIOR OF THE BUILDING OR STRUCTURE (TYP. AS SHOWN)

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PM: Peter Rockstead
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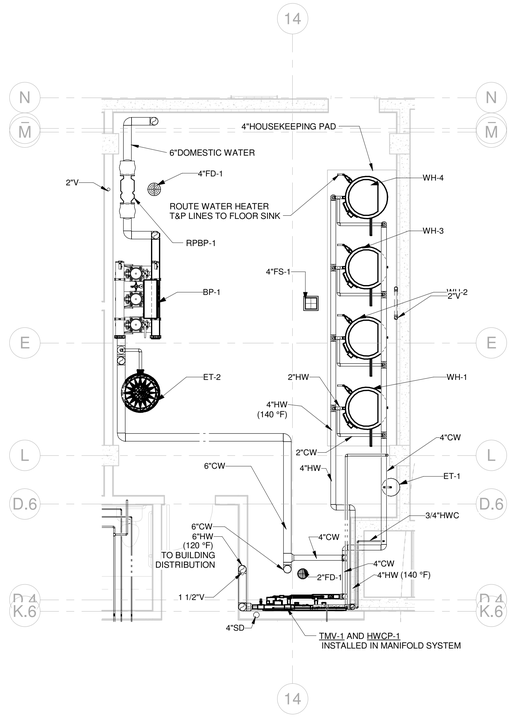
03/17/2026

GAS RISER DIAGRAM

P5.02



1 ENLARGED MECH. ROOM PLUMBING
1/4" = 1'-0"

EVERETT
RIVERFRONT
BUILDING 1-D

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Everett, WA 98203

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RESPONSE 04

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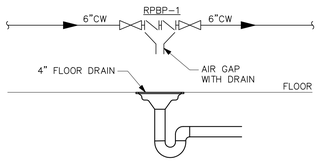
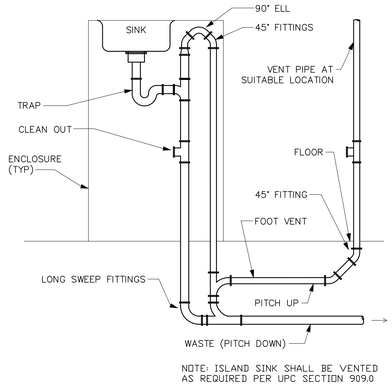
Enlarged Plans

P6.00

3/17/2026 2:56:56 PM Autodesk Docs://MG2-CE-Shelter Holdings-Everett Riverfront Development PH2-21-5905-01A/Riverfront Apartments Building D - MEP.rvt

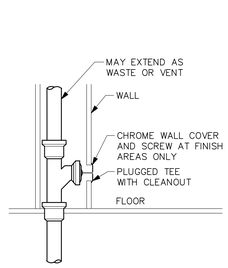


DOMESTIC BACKFLOW PREVENTER
DETAIL 10
SCALE: NONE

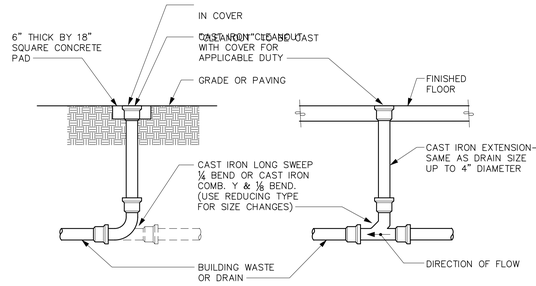


NOTE: ISLAND SINK SHALL BE VENTED AS REQUIRED PER UPC SECTION 909.0

DETAIL
ISLAND SINK 9
SCALE: NONE



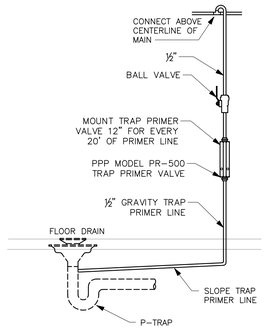
INTERIOR WALL CLEANOUT (WCO)



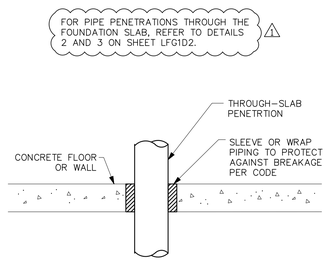
EXTERIOR CLEANOUT TO GRADE (COTG)
(LIGHT TRAFFIC AREA)

INTERIOR FLOOR CLEANOUT (FCO)

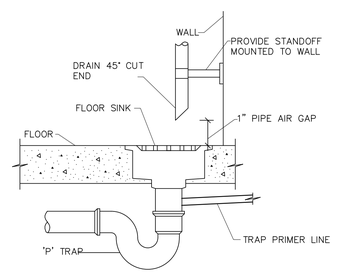
CLEANOUTS
DETAIL 8
SCALE: NONE



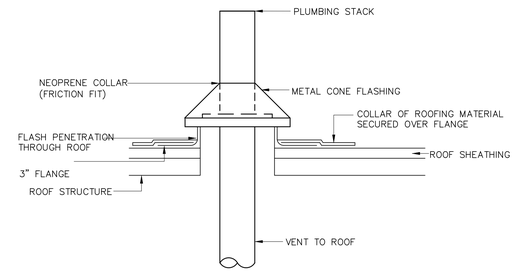
TRAP PRIMER
DETAIL 7
SCALE: NONE



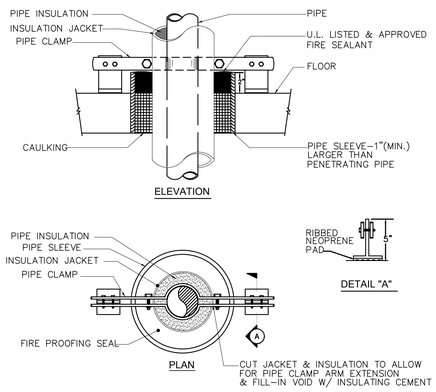
PIPE SLAB PENETRATION
DETAIL 6
SCALE: NONE



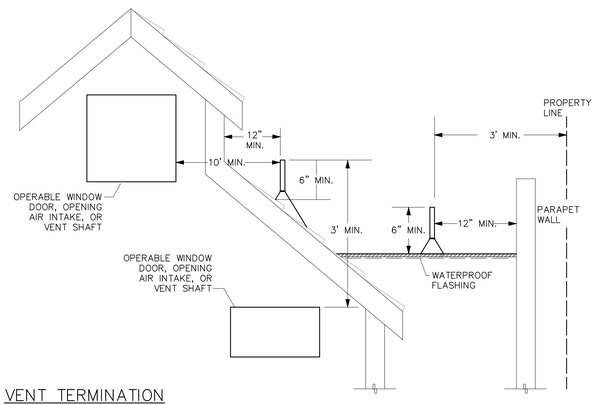
INDIRECT DRAIN TO FLOOR SINK
DETAIL 5
SCALE: NONE



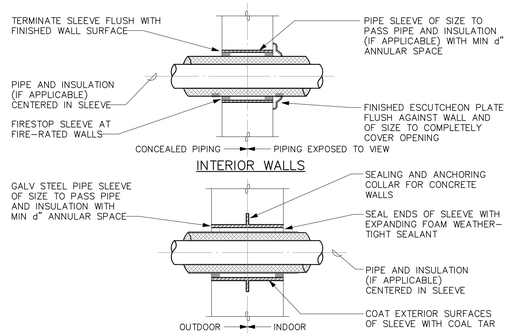
VENT THROUGH ROOF
DETAIL 4
SCALE: NONE



RISER PIPE SUPPORT
DETAIL 3
SCALE: NONE



VENT TERMINATION
DETAIL 2
SCALE: NONE



PIPE SLEEVES THROUGH WALLS
DETAIL 1
SCALE: NONE

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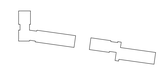
PERMIT RESPONSE 04

03/17/2026

KEY PLAN



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1073-002
PM: Peter Rockstead
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03/17/2026

DETAILS

P7.00

EQUIPMENT SCHEDULE

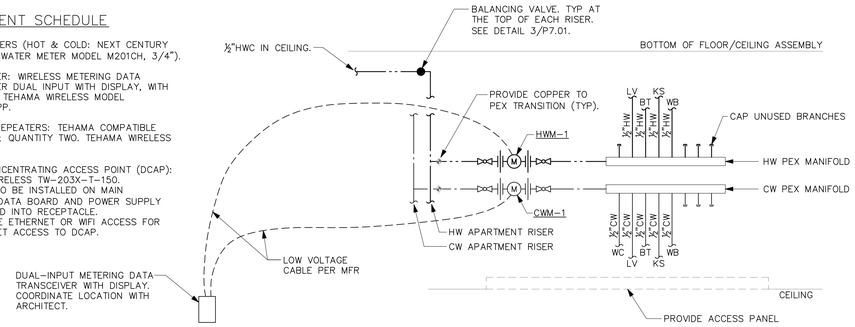
WATER METERS (HOT & COLD: NEXT CENTURY MULTI–JET WATER METER MODEL M201CH, 3/4").

TRANSCEIVER: WIRELESS METERING DATA TRANSCEIVER DUAL INPUT WITH DISPLAY, WITH BATTERIES, TEHAMA WIRELESS MODEL TW–165A–PP.

WIRELESS REPEATERS: TEHAMA COMPATIBLE REPEATERS; QUANTITY TWO. TEHAMA WIRELESS TW–191X.

UDATA CONCENTRATING ACCESS POINT (DCAP): TEHAMA WIRELESS TW–203X–T–150.

- DCAP TO BE INSTALLED ON MAIN COMM/DATA BOARD AND POWER SUPPLY PLUGGED INTO RECEPTACLE.
- PROVIDE ETHERNET OR WIFI ACCESS FOR INTERNET ACCESS TO DCAP.



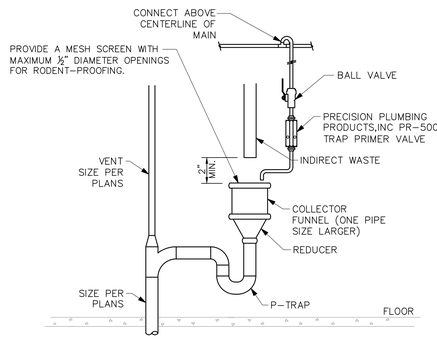
NOTES:

1. PROVIDE HOT AND COLD WATER METER AND REMOTE TRANSCEIVER FOR EACH APARTMENT.
2. SECURE METER TO FLOOR/CEILING ASSEMBLY.
3. REFER TO P5 SERIES FOR PIPE SIZES.
4. TRANSITION TO PEX PIPING WITHIN EACH UNIT.

UNIT SUBMETER AND PEX MANIFOLD

DETAIL 7

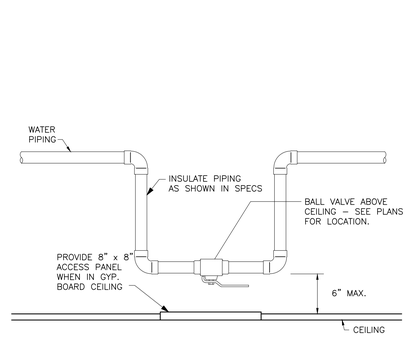
SCALE: NONE



HUB DRAIN

DETAIL 5

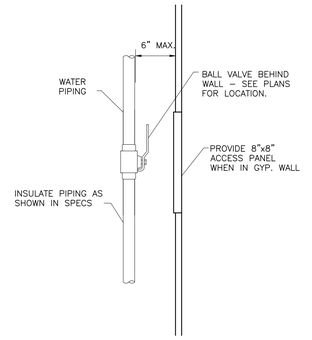
SCALE: NONE



TYPICAL VALVE PLACEMENT

DETAIL 4

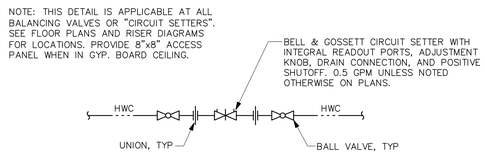
SCALE: NONE



NOT USED

DETAIL 6

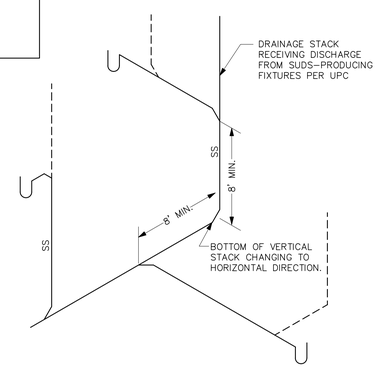
SCALE: NONE



HOT WATER RECIRCULATION BALANCING VALVE ASSEMBLY

DETAIL 3

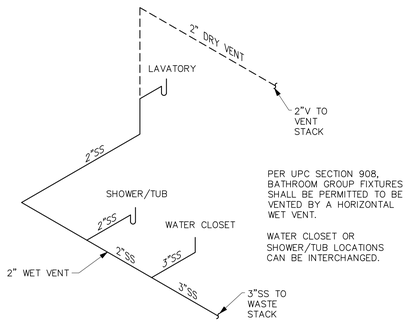
SCALE: NONE



SUDS RELIEF

DETAIL 2

SCALE: NONE



BATHROOM WET VENTING

DETAIL 1

SCALE: NONE

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PERMIT RESPONSE 04

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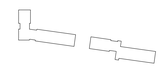

BUILDING C BUILDING D

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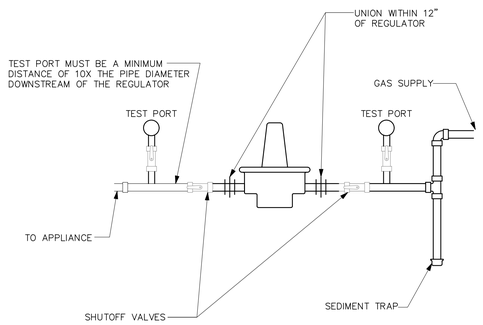
DETAILS

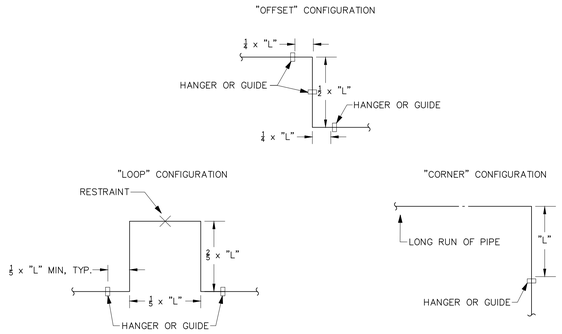
P7.01



GAS PRESSURE REGULATOR

DETAIL 4

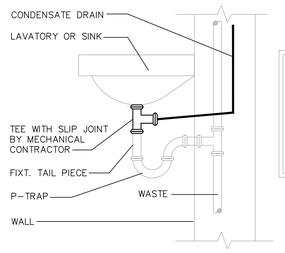
SCALE: NONE



EXPANSION LOOP CONFIGURATIONS

DETAIL 3

SCALE: NONE



NOTE:

PER 2018 UPC SECTION 814.6 WHERE CONDENSATE WASTE FROM AIR CONDITIONING COILS DISCHARGES BY DIRECT CONNECTION TO A LAVATORY TAILPIECE OR TO AN APPROVED ACCESSIBLE INLET ON A BATHTUB OVERFLOW, THE CONNECTION SHALL BE LOCATED IN THE AREA CONTROLLED BY THE SAME PERSON CONTROLLING THE AIR CONDITIONED SPACE.

CONDENSATE TERMINATION TO LAVATORY

DETAIL 2

SCALE: NONE

SHEET NOTES

1. GAS PRESSURE REGULATOR, SET TO 7" WC.
2. EMERGENCY GAS SHUT-OFF VALVE (LOCATE AT AN ACCESSIBLE LOCATION NEAR EXIT DOOR).

GENERAL NOTES

A. PIPE LENGTH & NUMBER OF FITTINGS TO INDIVIDUAL HEATERS SHALL BE EQUAL FOR A COMPLETE MANIFOLDED SELF-BALANCED PIPING.

B. RELIEF DRAIN PIPING SHALL BE UNDIMINISHED IN SIZE (SAME AS OUTLET), SHALL TERMINATE AT 3" ABOVE FLOOR SINK, AND SHALL COMPLY WITH 2018 UPC.

C. ANCHOR AND STRAP WATER HEATERS AND EXPANSION TANK TO RESIST HORIZONTAL DISPLACEMENT OF EARTHQUAKES PER CODE (COORDINATE WITH STRUCTURAL). THE SEISMIC STRAPS SHALL BE AT POINTS WITHIN THE UPPER 1/3 AND LOWER 1/3 OF THE WATER HEATER. A MINIMUM DISTANCE OF 4" SHALL BE MAINTAINED BETWEEN THE CONTROLS AND THE STRAP. WATER HEATERS WITH AN OPERATING WEIGHT OF 400 POUNDS OR MORE SHALL BE PROVIDED WITH AN ENGINEERED ANCHORING SYSTEM COMPLYING WITH ASCE7.

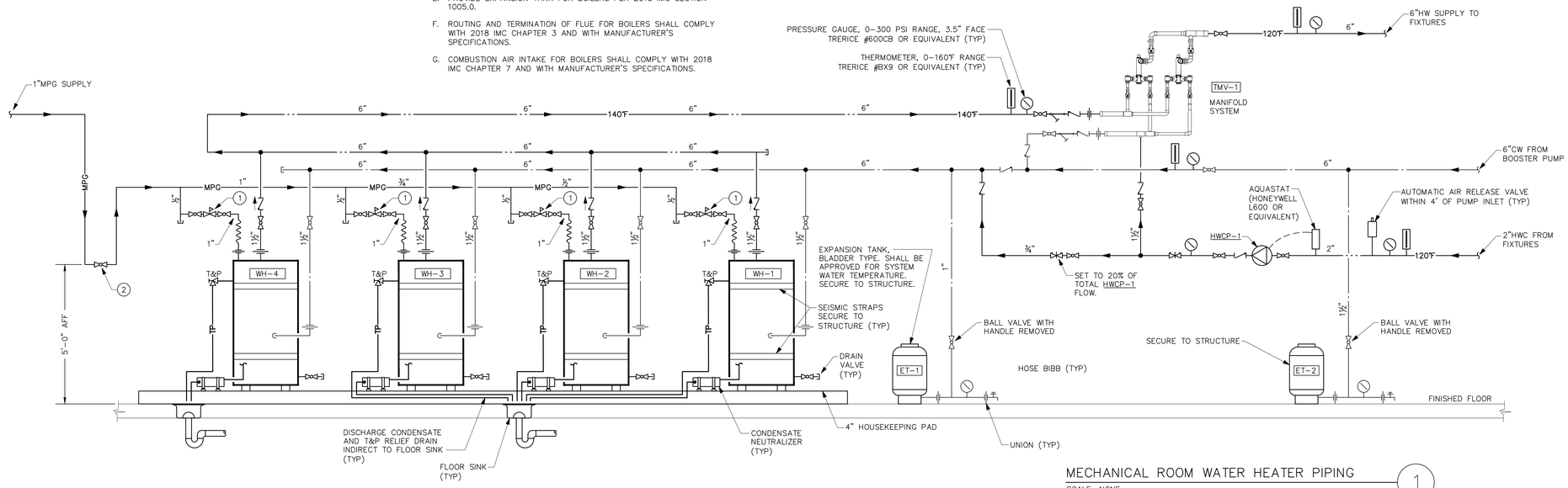
D. BOILERS SHALL COMPLY WITH ALL THE REQUIREMENTS OF CHAPTER 10 OF THE 2018 IMC.

E. PROVIDE EXPANSION TANK FOR BOILERS PER 2018 IMC SECTION 1005.0.

F. ROUTING AND TERMINATION OF FLUE FOR BOILERS SHALL COMPLY WITH 2018 IMC CHAPTER 3 AND WITH MANUFACTURER'S SPECIFICATIONS.

G. COMBUSTION AIR INTAKE FOR BOILERS SHALL COMPLY WITH 2018 IMC CHAPTER 7 AND WITH MANUFACTURER'S SPECIFICATIONS.

ALL WATER PIPES IN THE MECHANICAL ROOM SHALL BE COPPER, TYPE L.



MECHANICAL ROOM WATER HEATER PIPING

SCALE: NONE 1

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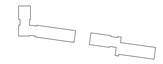
PERMIT RESPONSE 04

03/17/2026

KEY PLAN



Stamping Architect

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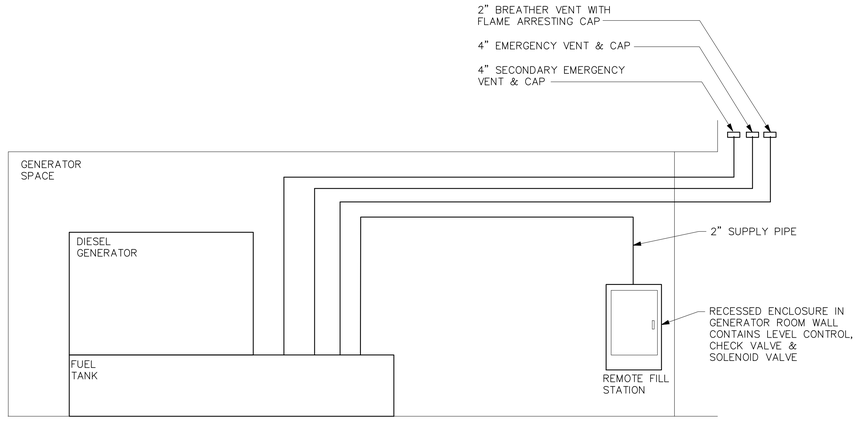
	DATE	DESCRIPTION
1	11/03/22	PERMIT RESPONSE 01
4	03/17/26	PERMIT RESPONSE 04

1073-002
PM: Peter Rockstead
DRAWN BY: MLT
03/17/2026

DETAILS

P7.02



PLUMBING CONTRACTOR WORK:
1. FURNISH AND INSTALL U.L. LISTED REMOTE FILL STATION WITH ELECTRONIC MONITORING ADJACENT TO FILL PORT AND ASSOCIATED PIPING AND CONNECTIONS.
2. BASIS OF DESIGN: MASCOTT EQUIPMENT OR EQUIVALENT WITH OVERFILL PROTECTION CONTROLS
3. FILL STATION TO BE RECESSED IN WALL AS INDICATED ON PLANS.
4. OVERFILL PROTECTION: ALARM TO SOUND AT REMOTE FILL STATION WHEN THE FUEL LEVEL RISES TO 90% AND 95% TANK CAPACITY.
5. ELECTRIC SOLENOID VALVE ON SUPPLY LINE PIPE TO CLOSE UPON RISE TO 95% LEVEL ALARM.

ELECTRICAL CONTRACTOR WORK:
1. PROVIDE DEDICATED 120V EMERGENCY POWER CIRCUIT
2. PROVIDE CONDUIT WIRE & TERMINATIONS FROM CONTROL PANEL TO FUEL LEVEL MONITORING
3. PROVIDE 120VAC POWER TO FUEL POLISHER.

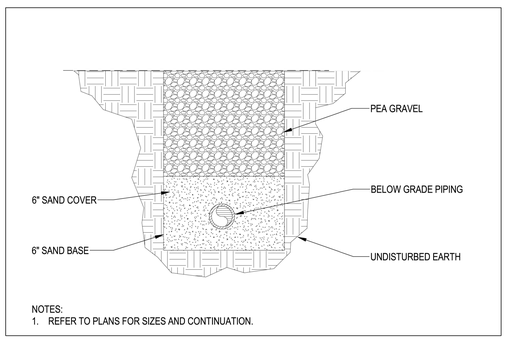
MATERIAL & INSTALLATION REQUIREMENTS:
1. VENT PIPING: WELDED BLACK STEEL.
2. FUEL FILL PIPING (ABOVE GROUND): UL 1369 DOUBLE-WALL STAINLESS-STEEL.
3. MINIMIZE THREADED CONNECTIONS
4. SLOPE: SUPPLY PIPE SHALL SLOPE 1" FOR 10' OF RUN.
5. PROTECTION: FUEL PIPING NOT INSIDE GENERATOR ROOM SHALL BE ROUTED IN 2-HOUR RATED ENCLOSURE.

CLEARANCE REQUIREMENTS:
1. VENT PIPING:
   a. MINIMUM 12' ABOVE FINISHED GRADE
   b. MINIMUM 5' FROM ANY BUILDING OPENINGS
   c. MINIMUM 10' FROM ANY INTAKE LOUVERS
   d. MINIMUM 12' FROM ENGINE EXHAUST OUTLET
2. FUEL FILL PORT:
   a. LOCATE OUTSIDE BUILDING WITHIN REACH OF FILL HOSE FROM TRUCK
   b. MINIMUM 5' FROM BUILDING OPENINGS
   c. LOCATE AWAY FROM SOURCES OF IGNITION
   d. MINIMUM 10' FROM PROPERTY LINES

GENERATOR FILL STATION AND VENT 3
SCALE: NONE

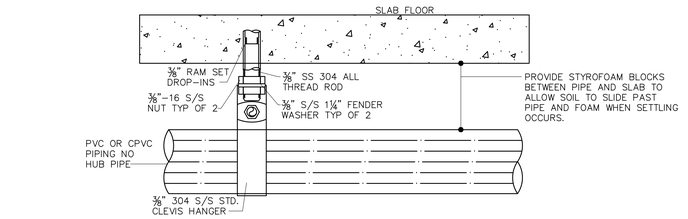
△4

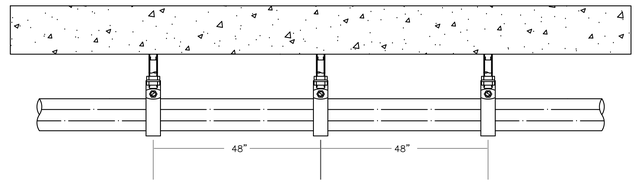
△4



NOTES:
1. REFER TO PLANS FOR SIZES AND CONTINUATION.

PIPE TRENCH DETAIL 2
SCALE: NONE





UNDERSLAB PIPE SUPPORT (PVC) 1
SCALE: NONE

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BUILDING C BUILDING D

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PM: Peter Rockstead
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03/17/2026

DETAILS

P7.03

PERFORATIONS ARE NOT TO BE WITHIN 2' OF EDGE OF BUILDING SLAB, TYP

REMOVE EXISTING 6" CAP AND CONNECT TO EXISTING 6" HDPE LATERAL

SEE DETAILS 5 AND 6 ON SHEET LFG1D2 FOR TRANSITION BETWEEN PILE SUPPORTED STRUCTURE AND SITE

MATCHLINE - SEE BELOW

EXISTING RIVERFRONT BLVD 8" HDPE LFG HEADER

PERFORATIONS ARE NOT TO BE WITHIN 2' OF EDGE OF BUILDING SLAB, TYP

REMOVE EXISTING 6" CAP AND CONNECT TO EXISTING 6" HDPE LATERAL

PRIVATE

PUBLIC

10 0 10 20
SCALE IN FEET

4" DIA VENT PIPE, TYP

6" DIA HDPE PIPE, TYP

MATCHLINE - SEE ABOVE

6" DIA HDPE PERF PIPE, TYP

REMOVE EXISTING 6" CAP AND CONNECT TO EXISTING 6" HDPE LATERAL

EXISTING RIVERFRONT BLVD 8" HDPE LFG HEADER

PERFORATIONS ARE NOT TO BE WITHIN 2' OF EDGE OF BUILDING SLAB, TYP

REMOVE EXISTING 6" CAP AND CONNECT TO EXISTING 6" HDPE LATERAL

PRIVATE

PUBLIC

IN WATER METER BOX

NOTE:

THE WORK TO BE PERFORMED IS IN AN AREA LOCATED OVER THE CLOSED EVERETT LANDFILL. REFUSE, LEACHATE, AND LANDFILL GAS MAY BE PRESENT AND POSE A SAFETY AND HEALTH HAZARD. IN ADDITION, PETROLEUM AND/OR METALS-CONTAMINATED SOILS AND GROUNDWATER MAY BE ENCOUNTERED. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE CONTRACTOR'S HEALTH AND SAFETY PLAN.

LFG PIPING KEY

- LFG LATERAL
- LFG COLLECTOR
- LFG VENT STACK
- COLLECTOR CONNECTION TEE
- EXTENTS OF COMPOSITE LINER SYSTEM

ONE INCH
AT FULL SIZE, IF NOT ONE INCH SCALE ACCORDINGLY

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KEY PLAN

BUILDING C BUILDING D

TYSON M. WRIGHT, PE

STATE OF WASHINGTON TYSON M. WRIGHT 44408 REGISTERED PROFESSIONAL ENGINEER
06/21/2024

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1	11/04/22	PERMIT CORRECTIONS 1
2	06/14/24	PERMIT CORRECTIONS 2

15-06075-008
PM: TYSON M WRIGHT
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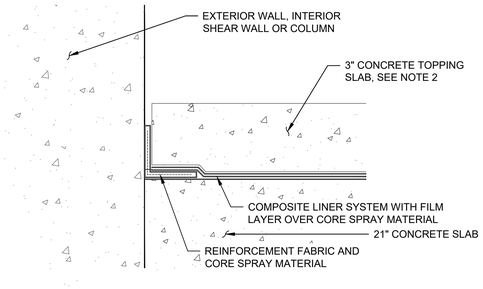
12/14/22

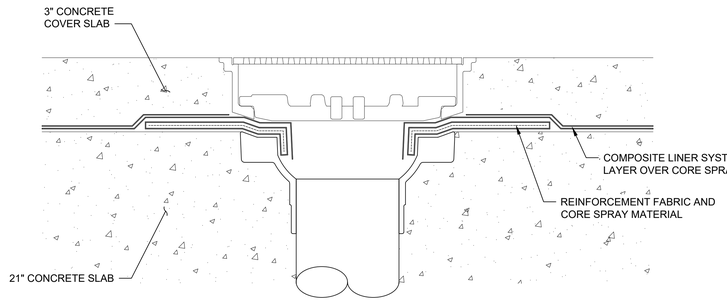
BUILDING 1-D
SUBGRADE LFG PLAN

LFG1D1



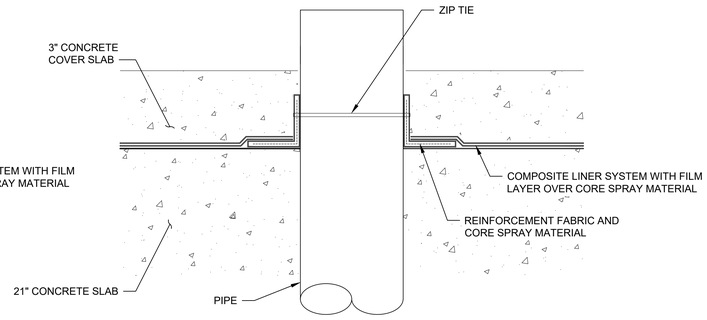
DETAIL - VERTICAL LINER SEAL 1 / -

SCALE: NTS



DETAIL - DRAIN ASSEMBLY BOOT 2 / -

SCALE: NTS

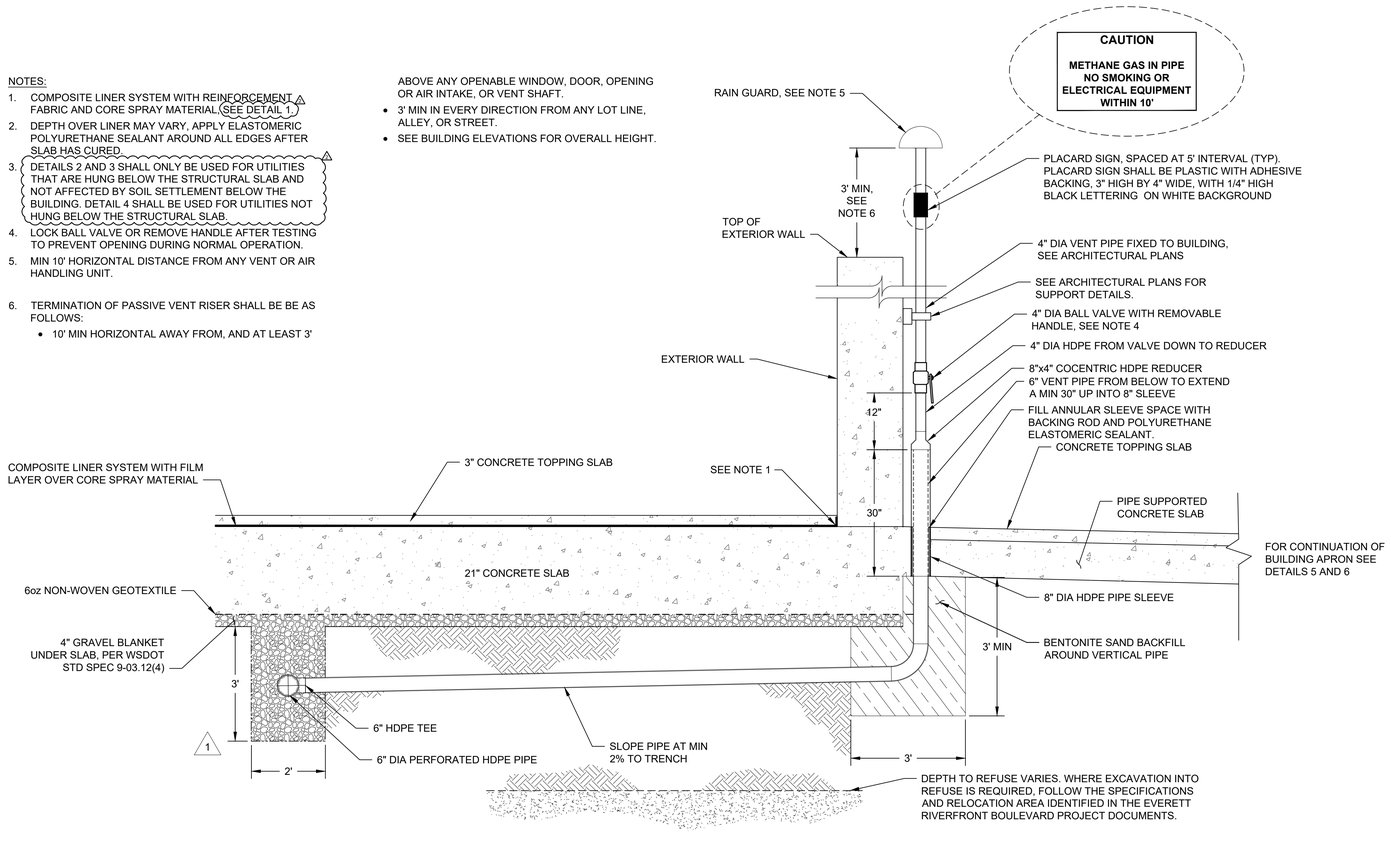


DETAIL - VERTICAL PIPE BOOT 3 / -

SCALE: NTS

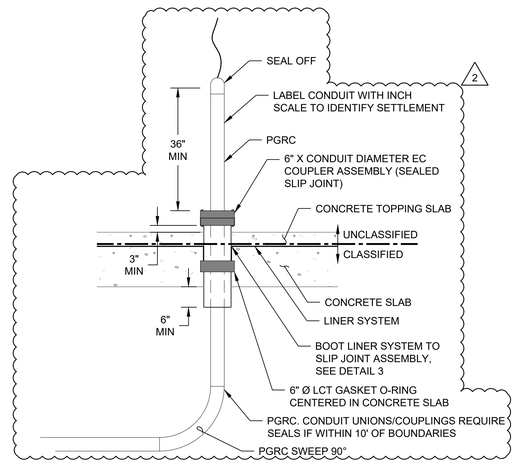
NOTES:

1. COMPOSITE LINER SYSTEM WITH REINFORCEMENT FABRIC AND CORE SPRAY MATERIAL (SEE DETAIL 1). △
2. DEPTH OVER LINER MAY VARY, APPLY ELASTOMERIC POLYURETHANE SEALANT AROUND ALL EDGES AFTER SLAB HAS CURED.
3. DETAILS 2 AND 3 SHALL ONLY BE USED FOR UTILITIES THAT ARE HUNG BELOW THE STRUCTURAL SLAB AND NOT AFFECTED BY SOIL SETTLEMENT BELOW THE BUILDING. DETAIL 4 SHALL BE USED FOR UTILITIES NOT HUNG BELOW THE STRUCTURAL SLAB. △
4. LOCK BALL VALVE OR REMOVE HANDLE AFTER TESTING TO PREVENT OPENING DURING NORMAL OPERATION.
5. MIN 10' HORIZONTAL DISTANCE FROM ANY VENT OR AIR HANDLING UNIT.
6. TERMINATION OF PASSIVE VENT RISER SHALL BE BE AS FOLLOWS:
   - 10' MIN HORIZONTAL AWAY FROM, AND AT LEAST 3' ABOVE ANY OPENABLE WINDOW, DOOR, OPENING OR AIR INTAKE, OR VENT SHAFT.
   - 3' MIN IN EVERY DIRECTION FROM ANY LOT LINE, ALLEY, OR STREET.
   - SEE BUILDING ELEVATIONS FOR OVERALL HEIGHT.



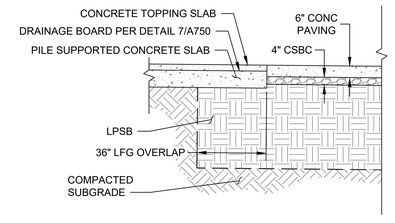
SECTION - TYPICAL PIPE TRENCH, VENT, AND LATERAL A / LFG1D1

SCALE: NTS



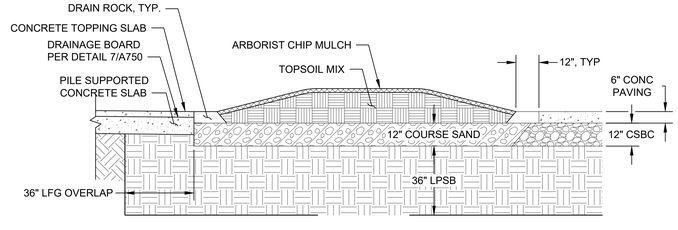
DETAIL - VERTICAL SLEEVE FLOOR PENETRATION 4 / -

SCALE: NTS



DETAIL - SITE PAVING TO BUILDING 5 / - 1

SCALE: NTS



DETAIL - SITE LANDSCAPING TO BUILDING INTERFACE 6 / - 1

SCALE: NTS

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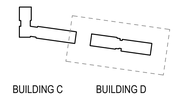

TYSON M. WRIGHT, PE

STATE OF WASHINGTON 64408 REGISTERED PROFESSIONAL ENGINEER

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1	11/04/22	PERMIT CORRECTIONS 1
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15-06075-008
PM: TYSON M WRIGHT
DRAWN BY: CPM
12/14/22

LFG STANDARD DETAILS

LFG1D2

NOTE: FOR SPECIFICATIONS NOT INCLUDED ON THESE PLANS, REFER TO THE EVERETT RIVERFRONT BOULEVARD PROJECT DOCUMENTS.

CSI SPECIFICATION SECTIONS

02 56 16 - GAS CONTAINMENT

02 56 19.13 - FLUID APPLIED GAS BARRIER

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. DRAWINGS AND GENERAL PROVISIONS OF THE CONTRACT, INCLUDING GENERAL AND SUPPLEMENTARY CONDITIONS, AND DIVISION 1 SPECIFICATION SECTION, APPLY TO THIS SECTION.

1.2 SECTION INCLUDES

A. THE INSTALLATION OF MATERIALS DESIGNED TO PROVIDE VAPOR INTRUSION PROTECTION WHEN INSTALLED PER PROJECT SPECIFICATION, THIS SECTION COVERS THE METHANE MITIGATION AND VAPOR INTRUSION MEMBRANE, ALONG WITH THE FOLLOWING:

1. SURFACE PREPARATION AND SUBSTRATE TREATMENT
2. AUXILIARY MATERIALS
3. PREFABRICATED DRAINAGE MAT (IF APPLICABLE)
4. FOUNDATION DRAIN (IF APPLICABLE)

1.3 RELATED SECTIONS

A. EARTHWORK AND CONCRETE

1.4 PERFORMANCE REQUIREMENTS

A. GENERAL: PROVIDE A VAPOR MITIGATION SYSTEM THAT PREVENTS THE PASSAGE OF METHANE GAS, CONTAMINANT VAPORS INCLUDING CHLORINATED SOLVENTS AND PETROLEUM HYDROCARBONS, AND COMPLIES WITH THE PHYSICAL REQUIREMENTS AS DEMONSTRATED BY TESTING PERFORMED BY AN INDEPENDENT TESTING AGENCY.

1.5 SUBMITTALS

A. PRODUCT DATA: SUBMIT MANUFACTURER'S PRINTED TECHNICAL DATA, TESTED PHYSICAL AND PERFORMANCE PROPERTIES, INSTRUCTIONS FOR EVALUATING, PREPARING, AND TREATING SUBSTRATES, AND INSTALLATION INSTRUCTIONS.

B. SHOP DRAWINGS: PROJECT SPECIFIC DRAWINGS SHOWING LOCATIONS AND EXTENT OF VAPOR INTRUSION BARRIER SYSTEM, DETAILS FOR OVERLAPS, PENETRATIONS, TRANSITIONS, AND TERMINATION CONDITIONS.

C. MANUFACTURER CERTIFICATION AND APPROVAL DOCUMENTS: SUBMIT CERTIFICATES OF CONFORMANCE AND ANALYSIS FOR ALL MATERIAL SHIPPED TO THE JOBSITE THAT ASSURES THAT MANUFACTURER'S PRODUCT IS OF HIGHEST QUALITY AND CONFORMS TO MANUFACTURER'S PRODUCT AND PERFORMANCE REQUIREMENTS.

D. ASSURANCE WARRANTY: SUBMIT MANUFACTURER PRODUCT ASSURANCE WARRANTY THAT THE SYSTEM AND MATERIAL IS PER MANUFACTURER'S PUBLISHED SPECIFICATIONS.

E. APPLICATOR CERTIFICATION: SUBMIT WRITTEN CONFIRMATION AT THE TIME OF BID THAT APPLICATOR IS CURRENTLY APPROVED BY THE MEMBRANE MANUFACTURER.

1.6 QUALITY ASSURANCE

D. CONTRACTOR QUALIFICATIONS: INSTALLATION CONTRACTOR SHALL BE AN AUTHORIZED APPLICATOR RECOGNIZED BY THE MANUFACTURER WHO IS TRAINED TO PERFORM WORK THAT IS IN ACCORDANCE WITH MANUFACTURER STANDARDS AND POLICIES.

1. INSTALLATION CONTRACTOR SHALL HAVE PREVIOUSLY INSTALLED A MINIMUM OF 5,000,000 SQUARE FEET OF A SIMILAR COMPOSITE LINER SYSTEM WITHIN THE LAST FIVE (5) YEARS, WITH A MINIMUM OF 200,000 SQUARE FEET IN A SINGLE INSTALLATION.

(a) THE SUPERINTENDENT ASSIGNED TO THE INSTALLATION SHALL HAVE SATISFACTORILY INSTALLED 2,000,000 SQUARE FEET OF A COMPOSITE LINER SYSTEM WITHIN THE PAST THREE (3) YEARS.

(b) THE COMPOSITE LINER SYSTEM INSTALLATION COMPANY SHALL, AT THEIR OWN EXPENSE, PROVIDE A TECHNICAL REPRESENTATIVE OF THE GEOMEMBRANE FABRICATOR AT THE JOB SITE TO ENSURE COMPLIANCE WITH THE MANUFACTURER'S DIRECTIONS FOR HANDLING AND INSTALLING THE SYSTEM. THE TECHNICAL REPRESENTATIVE MUST BE PRESENT WHEN THE SYSTEM INSTALLATION IS STARTED AND WHENEVER THE SYSTEM IS INSTALLED, UNLESS THIS REQUIREMENT IS WAIVED BY THE ENGINEER. THE TECHNICAL REPRESENTATIVE SHALL OBSERVE THE WORK, REPORT UNSATISFACTORY CONDITIONS, AND MAKE RECOMMENDATIONS FOR IMPROVEMENT IN PROCEDURES TO THE CONTRACTOR.

E. MANUFACTURER QUALIFICATION: OBTAIN VAPOR INTRUSION BARRIER MATERIALS AND SYSTEM COMPONENTS FROM A SINGLE MANUFACTURER SOURCE. MANUFACTURER MUST HAVE 20 YEARS OF EXPERIENCE IN THE MANUFACTURE OF VAPOR INTRUSION BARRIER SYSTEMS.

F. THIRD PARTY INSPECTION AND QUALIFICATIONS: INDEPENDENT INSPECTION OF THE COMPOSITE SYSTEM INSTALLATION IS REQUIRED. PRESENCE OF APPROVED THIRD PARTY INSPECTOR IS REQUIRED FOR POLYMER ASPHALT INSTALLATION AND SMOKE TESTING AT A MINIMUM. ADDITIONAL INSPECTIONS BY THIRD PARTY INSPECTOR MAY BE REQUIRED BASED ON PROJECT CONDITIONS AND DESIRED WARRANTY COVERAGE, OR AS REQUIRED BASED ON LOCAL BUILDING CODE/GOVERNMENT AGENCY JURISDICTION. LINER SYSTEM CQA FIELD INSPECTOR SHALL PERFORM THIRD PARTY INSPECTION AND SHALL BE APPROVED BY PROJECT MANAGERS BASED ON RELEVANT EXPERIENCE. INSPECTION REPORTS SHALL BE SUBMITTED DIRECTLY TO THE COMPOSITE VAPOR INTRUSION BARRIER MANUFACTURER AND MADE AVAILABLE TO OTHER PARTIES PER THE OWNER'S DIRECTION.

G. PRE-CONSTRUCTION MEETING: A MEETING SHALL BE HELD PRIOR TO APPLICATION OF THE COMPOSITE LINER SYSTEM TO ASSURE PROPER SUBSTRATE PREPARATION, CONFIRM INSTALLATION CONDITIONS, AND ANY ADDITIONAL PROJECT SPECIFIC REQUIREMENTS. ATTENDEES OF THE MEETING SHALL INCLUDE, BUT ARE NOT LIMITED TO THE FOLLOWING:

1. MANUFACTURER AUTHORIZED APPLICATOR
2. THIRD PARTY INSPECTOR / LINER SYSTEM CQA FIELD INSPECTOR
3. GENERAL CONTRACTOR
4. OWNER'S REPRESENTATIVE
5. ARCHITECT AND ENGINEER
6. CONCRETE/SHOTCRETE CONTRACTOR
7. REBAR CONTRACTOR
8. ALL APPROPRIATE RELATED TRADES

E. FIELD SAMPLE: APPLY COMPOSITE LINER SYSTEM FIELD SAMPLE TO 100 FT^2 (9.3 M^2) OF EACH ASSEMBLY TO DEMONSTRATE PROPER APPLICATION TECHNIQUES AND STANDARD OF WORKMANSHIP.

1. NOTIFY COMPOSITE LINER SYSTEM MANUFACTURER REPRESENTATIVE, ENGINEER, CERTIFIED INSPECTOR, AND OTHER APPROPRIATE PARTIES ONE WEEK IN ADVANCE OF THE DATES AND TIMES WHEN FIELD SAMPLE WILL BE PREPARED.
2. IF ENGINEER AND CERTIFIED INSPECTOR DETERMINES THAT FIELD SAMPLE DOES NOT MEET REQUIREMENTS; REAPPLY COMPOSITE LINER SYSTEM UNTIL FIELD SAMPLE IS APPROVED.
3. RETAIN AND MAINTAIN APPROVED FIELD SAMPLE DURING CONSTRUCTION IN AN UNDISTURBED CONDITION AS A STANDARD FOR JUDGING THE COMPLETED COMPOSITE LINER SYSTEM. AN UNDAMAGED FIELD SAMPLE MAY BECOME PART OF THE COMPLETED WORK.

1.7 DELIVERY, STORAGE AND HANDLING

A. DELIVERY: DELIVER MATERIALS TO SITE LABELED WITH MANUFACTURER'S NAME, PRODUCT BRAND NAME, MATERIAL TYPE, AND DATE OF MANUFACTURE. UPON THE ARRIVAL OF MATERIALS TO THE JOBSITE, INSPECT MATERIALS TO CONFIRM MATERIAL HAS NOT BEEN DAMAGED DURING TRANSIT.

B. STORAGE: PROPER STORAGE OF ONSITE MATERIALS IS THE RESPONSIBILITY OF THE CERTIFIED APPLICATOR. CONSULT PRODUCT DATA SHEETS TO CONFIRM STORAGE REQUIREMENTS. STORAGE AREA SHALL BE CLEAN, DRY, AND PROTECTED FROM THE ELEMENTS. IF AMBIENT AIR TEMPERATURES ARE EXPECTED TO FALL BELOW 40F, PRECAUTIONS WILL NEED TO BE TAKEN TO PROTECT ANY EMULSION PRODUCT FROM NEAR FREEZING TEMPERATURES. PROTECT STORED MATERIALS FROM DIRECT SUNLIGHT.

C. DISPOSAL: REMOVE AND REPLACE ANY MATERIAL THAT CANNOT BE PROPERLY APPLIED IN ACCORDANCE WITH LOCAL REGULATIONS AND SPECIFICATION SECTION 01 74 19.

1.8 PROJECT CONDITIONS

A. SUBSTRATE REVIEW: SUBSTRATES SHALL BE REVIEWED AND ACCEPTED BY THE CERTIFIED APPLICATOR AND INDEPENDENT INSPECTOR PRIOR TO APPLICATION.

B. PENETRATIONS: ALL PLUMBING, ELECTRICAL, MECHANICAL, AND STRUCTURAL ITEMS TO BE PASSING THROUGH THE COMPOSITE MEMBRANE SYSTEM SHALL BE PROPERLY SPACED, POSITIVELY SECURED IN THEIR PROPER POSITIONS, AND APPROPRIATELY PROTECTED PRIOR TO SYSTEM APPLICATION AND THROUGHOUT THE CONSTRUCTION PHASE. BRAIDED GROUNDING RODS ARE NOT ALLOWED TO PASS THROUGH THE COMPOSITE LINER SYSTEM.

C. REINFORCEMENT STEEL AND CONCRETE FORMS: COMPOSITE LINER SYSTEM SHALL BE INSTALLED BEFORE PLACEMENT OF REINFORCING STEEL. WHEN PENETRATIONS POST SYSTEM INSTALLATION OCCURS, IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO NOTIFY THE COMPOSITE LINER SYSTEM APPLICATOR TO IMMEDIATELY MAKE REPAIRS PRIOR TO THE PLACEMENT OF OVERBURDEN, THIS INCLUDES THE USE OF SOLID PLASTIC "VAPORSTAKES" USED TO SECURE CONCRETE FORMS.

D. CLEARANCE: MINIMUM CLEARANCE OF 24 INCHES IS REQUIRED FOR APPLICATION OF SPRAY APPLIED POLYMER MODIFIED ASPHALT. FOR AREAS WITH LESS THAN 24-INCH CLEARANCE, THE PRODUCT MAY BE APPLIED BY HAND.

E. OVERSPRAY: PROTECT ALL ADJACENT AREAS NOT RECEIVING THE CORE SPRAY MATERIAL APPLICATION. MASKING IS NECESSARY TO PREVENT UNWANTED OVERSPRAY FROM ADHERING TO, OR STAINING, AREAS NOT RECEIVING APPLICATION. ONCE A COMPOSITE LINER SYSTEM ADHERES TO A SURFACE IT IS EXTREMELY DIFFICULT TO REMOVE.

F. WEATHER LIMITATIONS: PERFORM WORK ONLY WHEN EXISTING AND FORECAST WEATHER CONDITIONS ARE WITHIN MANUFACTURER'S RECOMMENDATIONS.

1. SPRAY APPLIED POLYMER MODIFIED ASPHALT MEMBRANE: MINIMUM AMBIENT TEMPERATURE SHOULD BE 40F (7C) AND RISING. FOR APPLICATIONS TEMPERATURES BELOW 38F, BUT GREATER THAN +19F/-7C, SPECIAL EQUIPMENT AND MATERIAL HANDLING IS REQUIRED. SUBSTRATE SHALL BE CLEAN AND FREE FROM STANDING MOISTURE.
2. MANUFACTURER APPROVED APPLICATORS RESERVE THE RIGHT NOT TO INSTALL PRODUCT WHEN APPLICATION CONDITIONS MIGHT BE WITHIN MANUFACTURES ACCEPTANCE, BUT AMBIENT CONDITIONS MAY LIMIT A SUCCESSFUL APPLICATION.

1.9 WARRANTY

A. THE INSTALLATION CONTRACTOR OF THE COMPOSITE LINER SYSTEM TO BE USED IN THE WORK SHALL WARRANT WORKMANSHIP TO BE FREE OF DEFECTS ON A NON-PRORATA BASIS FOR ONE YEAR AFTER FINAL ACCEPTANCE OF THE WORK. THIS WARRANTY SHALL INCLUDE, BUT NOT BE LIMITED TO, WARRANTY WORK REQUIRED BY THE OWNER AT CONTRACTOR'S SOLE EXPENSE.

1. THE MANUFACTURER SHALL PROVIDE A 20-YEAR, INDUSTRY STANDARD, WARRANTY. ALL WARRANTIES SHALL BE VALID FOR TEMPERATURES RANGING FROM MINUS (-) 20 DEGF TO PLUS (+) 110 DEGF.
2. SHOULD A DEFECT OR FAILURE OCCUR WITHIN THE AFORESAID PERIODS, THE CONTRACTOR SHALL BEAR ALL COSTS FOR REPAIR AND/OR REPLACEMENT OF THE COMPOSITE LINER SYSTEM AND SHALL IN ADDITION BEAR ALL COSTS FOR THE EXCAVATION OF ANY COVER, BACKFILL DEWATERING & PUMPING OR SLUDGE REMOVAL THAT IS REQUIRED TO BE REMOVED IN ORDER TO REPAIR AND/OR REPLACE THE COMPOSITE LINER SYSTEM. ALL MATERIALS REMOVED TO ALLOW REPAIRS TO BE MADE SHALL BE REINSTALLED BY THE CONTRACTOR, AT THE CONTRACTOR'S EXPENSE, IN ACCORDANCE WITH THESE CONTRACT DOCUMENTS.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. ACCEPTABLE MANUFACTURERS: EPRO SERVICES, INC. (EPRO), P.O. BOX 347; DERBY, KS 67037; TEL: (800) 882-1896; WWW.EPROINC.COM; OR APPROVED EQUAL.

2.2 ABOVE SLAB VAPOR INTRUSION BARRIER MATERIALS

A. THE PHYSICAL PROPERTIES LISTED IN THIS SECTION REFLECT TESTING ON THE ENTIRE ABOVE SLAB COMPOSITE SYSTEM. PHYSICAL PROPERTIES OF THE INDIVIDUAL SYSTEM COMPOSITE CAN BE FOUND IN SPECIFICATION SECTIONS 2.3 AND 2.4.

1. VAPOR INTRUSION BARRIER SHALL CONSIST OF A 30 MIL LAYER OF POLYMER MODIFIED ASPHALTIC MEMBRANE AND AN 11 MIL HDPE GEOMEMBRANE. THE VAPOR INTRUSION BARRIER SHALL BE APPROPRIATE FOR MOISTURE PROTECTION ON SITES THAT MAY ALSO CONTAIN METHANE GAS, CONTAMINATED SOIL, OR CONTAMINATED GROUNDWATER.

PROPERTIES	TEST METHOD	VALUE
TENSILE STRENGTH	ASTM E154 (ATSM D882)	55 lbf/in (45 lbf/in min)
ELONGATION	ASTM D882	600
ADHESION TO CONCRETE & MASONRY (MIN 1 lbf/in IS PASSING)	ASTM C836 AND C704	11 lbf/in
PUNCTURE RESISTANCE	ASTM D1709	2,400 grams (Dart)
METHANE TRANSMISSION RATE	ASTM D14334	0
WATER VAPOR TRANSMISSION	ASTM E96	0.020 perms
PCE DIFFUSION RATE	GEOKINETICS	1.16 x 10^{-17} m^2/sec
BENZENE DIFFUSION RATE	GEOKINETICS	2.31 x 10^{-18} m^2/sec
VAPOR BARRIER CLASSIFICATION	ASTM E1745	A, B & C

2.3 INDIVIDUAL ABOVE SLAB VAPOR INTRUSION BARRIER MATERIALS

A. POLYMER MODIFIED ASPHALT

1. *POLYMER MODIFIED ASPHALT SHALL BE* A NON-HAZARDOUS, LOW-VISCOSITY, WATER-BASED, ANIONIC ASPHALT EMULSION MODIFIED WITH A BLEND OF SYNTHETIC POLYMERIZED RUBBERS AND ADDITIVES. *POLYMER MODIFIED ASPHALT SHALL* BE HIGHLY STABLE DURING TRANSIT AND WHEN PROPERLY STORED. POLYMER MODIFIED ASPHALT SHALL BECOME HIGHLY REACTIVE DURING SPRAY APPLICATION TO FORM A RAPIDLY CURED MEMBRANE WITH EXCEPTIONAL BONDING, ELONGATION, AND HYDROPHOBIC CHARACTERISTICS.

PROPERTIES	TEST METHOD	VALUE
COLOR		BROWN TO BLACK
SOLVENT CONTENT		NO SOLVENTS
SHELF LIFE		6 MONTHS
TENSILE STRENGTH	ASTM 412	32 psi
ELONGATION	ASTM 412	4140%
RESISTANCE TO DECAY (<10% PASSING)	ASTM E154 SECTION 13	4% PERM LOS
ACCELERATED AGING (NO REDUCTION IN TENSION AND ELONGATION OF AGED SAMPLES)	ASTM G23	NO EFFECT
HYDROSTATIC WATER PRESSURE	ASTM D751	26 psi
WATER VAPOR TRANSMISSION (<1 PASSING)	ASTM E96 (US PERMS)	0.21
METHANE TRANSMISSION RATE	ASTM D1434	0
ADHESION TO CONCRETE & MASONRY (MIN 1 lbf/inch IS PASSING)	ASTM C836 & C704	11 lbf/inch
ADHESION TO HDPE	ASTM C836	28.363 lbf/inch
ADHESION TO POLYPROPYLENE FABRIC	ASTM C836	31.19 lbf/inch
HARDNESS (50 MIN PASSING)	ASTM C836	80
CRACK BRIDGING (NO RUPTURE, CRACKING, SEPARATION IS PASSING)	ASTM C836	NO CRACKING

2. *POLYMER MODIFIED ASPHALT TO BE HAND APPLIED WHEN A 24-INCH CLEARANCE IS NOT AVAILABLE SHALL BE A* SINGLE COMPONENT, MEDIUM VISCOSITY, WATER-BASED, POLYMER-MODIFIED ANIONIC ASPHALT EMULSION, WHICH EXHIBITS EXCEPTIONAL BONDING, ELONGATION AND HYDROPHOBIC CHARACTERISTICS.

PROPERTIES	TEST METHOD	VALUE
COLOR		BROWN TO BLACK
SOLVENT CONTENT		NO SOLVENTS
SHELF LIFE		6 MONTHS
TENSILE STRENGTH	ASTM 412	32 psi
ELONGATION	ASTM 412	3860%
RESISTANCE TO DECAY (<10% PASSING)	ASTM E154 SECTION 13	9% PERM LOS
ACCELERATED AGING (NO REDUCTION IN TENSION AND ELONGATION OF AGED SAMPLES)	ASTM G23	NO EFFECT
HYDROSTATIC WATER PRESSURE	ASTM D751	28 psi
ADHESION TO CONCRETE AND MASONRY (MIN 1 lbf/in IS PASSING	ASTM C836 & C704	7 lbf/in
WATER VAPOR TRANSMISSION (<1 PASSING)	ASTM E96 (US PERMS)	0.17
METHANE TRANSMISSION RATE	ASTM D1434	0
HARDNESS (50 MIN PASSING)	ASTM C836	85
CRACK BRIDGING (NO RUPTURE, CRACKING, SEPARATION IS PASSING)	ASTM C836	NO CRACKING

B. FILM GEOCOMPOSITE PROTECTION COURSE

1. THE ABOVE SLAB GEOCOMPOSITE PROTECTION COURSE SHEET SHALL BE COMPRISED OF AN 11 MIL HDPE FILM. THE FILM SHALL BE CROSS LAMINATED TO CREATE RIDGES THAT ENHANCE THE BOND BETWEEN THE FILM SHEET AND THE POLYMER MODIFIED ASPHALT.

PROPERTIES	TEST METHOD	VALUE	MIN SPEC VALUE
MATERIAL		HDPE	
COLOR		GREEN	
THICKNESS		11 mil (+/- 10%)	(+/- 10%)
TENSILE STRENGTH	ATSME E154 (ATSM D882)	55 lbf/in (45 lbf/in MIN)	MIN 45 lbf/in
PUNCTURE RESISTANCE	ATSM D1709	2,400 grams (Dart)	MIN 2250
ELONGATION	ASTM D882	600	MIN 500
WEIGHT (GSM)	INTERNAL	239.5	(+/- 10%)
WIDTH	INTERNAL	153	EQUAL TO. OR GREATER THAN 153

2.4 INDIVIDUAL BELOW SLAB VAPOR INTRUSION BARRIER MATERIALS

A. BASE SHEET

1. BASE SHEET SHALL BE A STURDY AND VERSITILE BASE COURSE MADE FROM THE LAMINATION OF HDPE FILM AND NONWOVEN POLYPROPYLENE GEOTEXTILE FABRIC.

PROPERTIES	TEST METHOD	VALUE
FILM MATERIAL		HDPE
FILM COLOR		GRAY
FABRIC MATERIAL		NON-WOVEN POLYPROPELENE
FABRIC COLOR		WHITE
FILM THICKNESS		5 mil
COMPOSITE THICKNESS		18 mil
TENSILE @ ULT	ASTM D882	TD 32.0 lbs/in
		MD 37.3 lbs/in
ELONGATION @ ULT	ASTM D882	TD 65.3%
		MD 51.0%
DART IMPACT	ASTM D1709	METHOD A >1070 grams
		METHOD B 894 grams
MODULUS	ASTM D882	TD 270.6 lbs/in
		MD 295.5 lbs/in
ELMENDORF TEAR	ASTM D1922	TD 5,140 grams
		MD 5,260 grams
PUNCTURE-PROP TEAR	ASTM D2582	TD 13,250 grams SLED: 1-lb
		MD 11,290 grams SLED: 1-lb
BEACH PUNCTURE TEAR	ASTM D751	TD 165 in-lbs
		MD 160 in-lbs
WATER PERMEANCE	ASTM E96	0.11 perms (US)

B. POLYMER MODIFIED ASHPHALT

1. POLYMER MODIFIED ASPHALT INSTALLED FOR BELOW SLAB SYSTEM SHALL BE IN ACCORDANCE WITH THE PROPERTIES DESCRIBED IN SECTION 2.3 A.

C. BENTONITE GEOCOMPOSITE PROTECTION COURSE

1. THE BELOW SLAB GEOCOMPOSITE PROTECTION COURSE SHALL BE AN EXTREMELY DURABLE, HIGH STRENGTH PROTECTION COURSE COMPRISED OF THREE DISTINCT LAYERS, AN HDPE FILM, A NONWOVEN POLYPROPYLENE GEOTEXTILE FABRIC, AND A CHEMICALLY BONDED LAYER OF SODIUM MONTMORILLONITE BENTONITE.

PROPERTIES	TEST METHOD	VALUE
FILM MATERIAL		HDPE
FILM COLOR		GRAY
FABRIC MATERIAL		NON-WOVEN POLYPROPELENE
FABRIC COLOR		WHITE
TENSILE STRENGTH: MEMBRANE (psi)	ASTM D882	6,100 psi (42MPA)
% ELONGATION AT BREAK	ATSM D882	100%
BENTONITE		SODIUM MONTMARONLONITE (>90%)
OVERALL WEIGHT		0.6 PER sq ft (2.44 kg/m^2)
RESISTANCE	ASTM D751 PROCEDURE A	174 ft (52.9 m) OF WATER
CRACK BRIDGING		1.8" (0.032 cm) CRACK
WATER VAPOR PERMEABILITY	ASTM E96	0.53 X 10^{-3} cm/sec

2.5 AUXILIARY MATERIALS

A. GENERAL: ALL ACCESSORY PRODUCTS SHALL BE PROVIDED BY THE COMPOSITE LINER SYSTEM MANUFACTURER. AUXILIARY PRODUCTS USED IN LIEU OF, OR IN ADDITION TO, THE MANUFACTURES PRODUCTS MUST BE APPROVED IN WRITING BY THE MANUFACTURER PRIOR TO INSTALLATION.

B. REINFORCEMENT FABRIC: MANUFACTURER'S POLYESTER FABRIC.

C. DETAILING MATERIAL: A ROLLER APPLIED, WATER BASED, HIGH VISCOSITY, POLYMER MODIFIED ASPHALTIC MATERIAL.

D. BACKER ROD: CLOSED CELL POLYETHYLENE FOAM

E. TERMINATION BAR: *E.TERM HD*, OR APPROVED ALTERNATE

PART 3 - EXECUTION

3.1 EXAMINATION

A. COMPLY WITH PROJECT DOCUMENTS, MANUFACTURER'S PRODUCT INFORMATION, INCLUDING PRODUCT APPLICATION AND INSTALLATION GUIDELINES, PRE-JOB PUNCH LIST, AS WELL AS, MANUFACTURER'S SHIPPING AND STORAGE RECOMMENDATIONS.

3.1.2 SURFACE PREPARATION

A. THE GENERAL CONTRACTOR SHALL ENGAGE THE CERTIFIED INSTALLATION CONTRACTOR AND CERTIFIED INSPECTOR TO ENSURE SURFACES ARE PREPARED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. UNLESS, EXPLICITLY STATED IN THE CONTRACT DOCUMENTS, THE INSTALLATION CONTRACTOR IS NOT RESPONSIBLE FOR SURFACE PREPARATION.

B. EXAMINE ALL SUBSTRATES, AREAS, AND CONDITIONS UNDER WHICH THE COMPOSITE LINER SYSTEM WILL BE INSTALLED, APPLICATOR AND INSPECTOR MUST BE PRESENT. DO NOT PROCEED WITH INSTALLATION UNTIL UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED AND SURFACE PREPARATION REQUIREMENTS HAVE BEEN MET. IF CONDITIONS EXIST THAT ARE NOT ADDRESSED IN THIS SECTION, NOTIFY INSPECTOR AND CONTACT THE MANUFACTURER FOR ADDITIONAL CLARIFICATION.

C. SOIL AND SAND SUBSTRATES: NATIVE SOIL AND SAND SUBSTRATES SHALL BE UNIFORMLY COMPACTED TO MEET STRUCTURAL AND BUILDING CODE REQUIREMENTS. ALL SURFACES SHALL BE FREE FROM PROTRUSIONS AND DEBRIS THAT MAY COMPROMISE THE MEMBRANE SYSTEM. FREE STANDING WATER MUST BE REMOVED PRIOR TO APPLICATION.

D. AGGREGATE SUBSTRATES: AGGREGATE SUBSTRATES SHALL BE COMPACTED TO MEET STRUCTURAL AND BUILDING CODE REQUIREMENTS AND THEN ROLLED FLAT TO PROVIDE A UNIFORM SUBSTRATE. ¾ INCH MINUS AGGREGATE WITH NO MORE THAN ONE FRACTURED FACE IS RECOMMENDED, BUT OTHER AGGREGATES SUBSTRATES MAY BE APPROVED BY THE MANUFACTURER PROVIDED THEY DO NOT CREATE SHARP ANGULAR PROTRUSIONS THAT MAY COMPROMISE THE COMPOSITE LINER SYSTEM WITH HDPE GEOMEMBRANE AND ADHESION LAYERS.

E. WORKING SLAB: MUD SLAB, RAT SLAB, OR OTHER CONCRETE WORKING SLAB SHALL HAVE A UNIFORM PLANE WITH A LIGHT BROOM OR LIGHT TROWEL FINISH.

F. CONCRETE SURFACES: CLEAN AND PREPARE CONCRETE SURFACE TO MANUFACTURER'S RECOMMENDATIONS. IN GENERAL, ONLY APPLY THE POLYMER MODIFIED ASPHALT MATERIAL TO DRY, CLEAN AND UNIFORM CONCRETE SUBSTRATES WITH A LIGHT TROWEL, LIGHT BROOM, OR EQUIVALENT FINISH.

G. CAST-IN-PLACE OR SHOTCRETE WALLS: APPLICATION TO GREEN CONCRETE IS ACCEPTABLE PROVIDED THE SUBSTRATE IS PREPARED IN ACCORDANCE WITH MANUFACTURERS SPECIFICATIONS AND PUBLISHED INSTRUCTIONS.

1. PROVIDE CLEAN, DUST-FREE, AND DRY SUBSTRATE FOR VAPOR INTRUSION BARRIER APPLICATION.
2. SURFACES SHALL BE POWER WASHED TO REMOVE GREASE, OIL, FORM RELEASE AGENTS, OR ANY OTHER PENETRATING CONTAMINANTS FROM THE CONCRETE.
3. REMOVE ALL FINS, RIDGES, AND OTHER PROTRUSIONS.
4. FILL HONEYCOMB, AGGREGATE POCKETS, TIE HOLES, AND OTHER VOIDS WITH HYDRAULIC CEMENT, OR RAPID-SET GROUT.

3.2 VAPOR INTRUSION BARRIER INSTALLATION

A. GENERAL: THE UNDERSLAB VAPOR INTRUSION SYSTEM SHALL BE INSTALLED UNDER STRICT ACCORDANCE WITH THE MANUFACTURER'S GUIDELINE AND PROJECT SPECIFICATIONS.

3.2.2 BASE COURSE - BASE SHEET

A. WHENEVER POSSIBLE ROLL OUT *BASE SHEET* IN THE SAME DIRECTION OVER THE SUBSTRATE. WHEN MULTIPLE POURS WILL OCCUR, EXTEND THE *BASE SHEET* A MINIMUM OF 2 FEET PAST THE POUR JOINT.

B. OVERLAP *BASE SHEET* A MINIMUM OF 6 INCHES.

C. AT THE SEAM OVERLAP, PEEL BACK THE TOP LAYER OF *BASE SHEET* AND APPLY 80 MILS INTO THE OVERLAPPING SEAM, MAKING CERTAIN TO APPLY *POLYMER MODIFIED ASPHALT* TO BOTH THE TOP OF THE BOTTOM SHEET AND THE BOTTOM OF THE TOP SHEET. EMBED THE TOP SHEET INTO THE BOTTOM SHEET.

D. VISUALLY VERIFY THERE ARE NO GAPS/FISH-MOUTHS IN SEAMS.

3.2.3 TERMINATION SEQUENCE

A. SYSTEM TERMINATION: THE TERMINATION PROCESS IS APPROPRIATE FOR TERMINATING THE MEMBRANE ONTO EXTERIOR FOOTINGS, PILE CAPS, INTERIOR FOOTINGS AND GRADE BEAMS. WHEN TERMINATING THE MEMBRANE TO STEM WALLS OR VERTICAL SURFACES THE SAME PROCESS SHOULD BE USED.

1. CONCRETE SURFACES THAT ARE NOT A LIGHT TROWEL, LIGHT BROOM OR EQUIVALENT FINISH, WILL NEED TO BE REPAIRED.
2. TERMINATIONS ON HORIZONTAL AND VERTICAL SURFACES SHOULD EXTEND 6" ONTO THE TERMINATION SURFACE. JOB SPECIFIC CONDITIONS MAY PREVENT A 6" TERMINATION. IF THESE CONDITIONS EXIST, DETAILS MUST BE SUBMITTED AND APPROVED BY THE ENGINEER OR RECOMMENDED BY THE MANUFACTURER PRIOR TO APPLICATION.
3. APPLY 60 MILS OF *POLYMER MODIFIED ASPHALT* TO THE TERMINATING SURFACE. FOR THE BELOW SLAB SYSTEM, EMBED THE *BASE SHEET* LAYER BY PRESSING IT FIRMLY INTO THE *POLYMER MODIFIED ASPHALT* LAYER.
4. FOR THE BELOW SLAB SYSTEM, APPLY 80 MILS OF *POLYMER MODIFIED ASPHALT* TO THE *BASE SHEET* LAYER.
5. APPLY THE *GEOCOMPOSITE PROTECTION COURSE* LAYER AND APPLY A FINAL 30 MIL SEAL OF THE *POLYMER MODIFIED ASPHALT* LAYER OVER THE EDGE OF THE TERMINATION. *POLYMER MODIFIED ASPHALT* SEAL SHALL BE 30 MILS FOR THE ABOVE SLAB SYSTEM AND 80 MILS FR THE BELOW SLAB SYSTEM. FOR FURTHER CLARIFICATION, REFER TO THE TERMINATION DETAIL PROVIDED BY MANUFACTURER.

3.2.4 SEALING OF PENETRATIONS

A. SEALING OF STANDARD PIPE PENETRATIONS: PREPARE MEMBRANE PENETRATIONS SO THEY ARE FREE OF ANY MATERIAL THAT WILL INHIBIT A DIRECT BOND TO THE PENETRATION SURFACE: FOAM, INSULATION, PROTECTIVE COATINGS, ETC.

1. TRIM *BASE SHEET* TO WITHIN 1/8 INCH OF THE PENETRATION IN THE CASE OF THE BELOW SLAB SYSTEM.
2. FOR BOTH THE ABOVE SLAB AND BELOW SLAB SYSTEMS, APPLY *DETAILING MATERIAL* 3 INCHES HORIZONTALLY AND 3 INCHES VERTICALLY AROUND THE BASE OF THE PENETRATION.
3. EMBED REINFORCEMENT FABRIC 3 INCHES HORIZONTALLY AND 3 INCHES VERTICALLY AROUND THE BASE OF THE PENETRATION.
4. APPLY A SECOND LAYER OF *DETAILING MATERIAL* TO REINFORCEMENT FABRIC UNTIL THE REINFORCEMENT FABRIC IS FULLY SATURATED. SECURE REINFORCEMENT FABRIC TO PENETRATION WITH A CABLE TIE, FOR FURTHER CLARIFICATION, REFER TO THE TERMINATION DETAIL PROVIDED BY MANUFACTURER.

3.2.5 POLYMER MODIFED ASPHALT MEMBRANE

A. MASK OFF ADJOINING SURFACES WHERE UNWANTED POLYMER MODIFIED ASPHALT MEMBRANE MAY BE EXPOSED ON FINISHED SURFACES OR IMPACT OTHER CONSTRUCTION TRADES.

B. COMMENCE APPLICATION OF POLYMER MODIFIED ASPHALT WHEN AMBIENT AIR TEMPERATURES ARE WITHIN MANUFACTURER RECOMMENDATIONS.

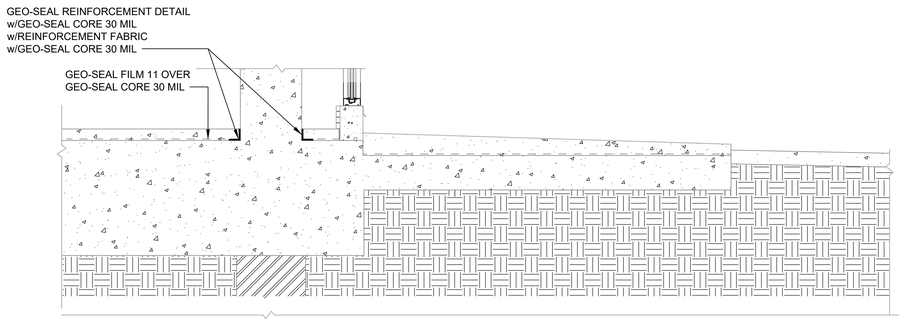
C. SURFACES THAT WILL RECEIVE THE MEMBRANE MUST BE CLEAN AND FREE FROM STANDING MOISTURE.

D. START INSTALLING *POLYMER MODIFIED ASPHALT* IN PRESENCE OF APPROVED 3RD PARTY INSPECTOR OR REQUIRED CITY INSPECTOR.

E. APPLY ONE APPLICATION OF *POLYMER MODIFIED ASPHALT* MEMBRANE IN ACCORDANCE TO MANUFACTURER'S INSTRUCTIONS IN ORDER TO OBTAIN A SEAMLESS MEMBRANE WITH A MINIMUM DRY FILM THICKNESS OF 30 MILS (1.5 MM) FOR THE ABOVE SLAB SYSTEM AND 80 MILS (4 MM) FOR THE BELOW SLAB SYSTEM.

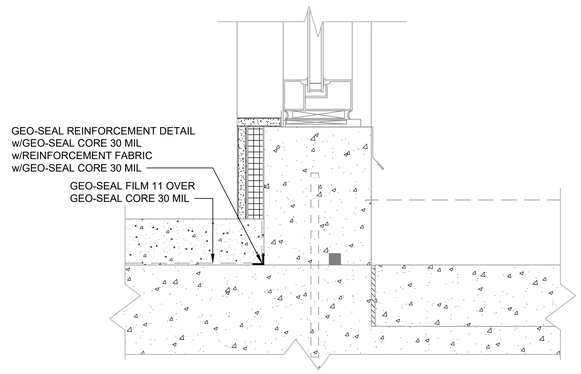
F. APPLY *POLYMER MODIFIED ASPHALT AND DETAILING MATERIAL* IN AND AROUND PENETRATIONS AND CAVITIES TO ENSURE THE FORMATION OF MONOLITHIC SEAL AROUND ALL PENETRATIONS.

G. APPLY *POLYMER MODIFIED ASPHALT AND DETAILING MATERIAL* TO PREPARED WALL TERMINATIONS AND VERTICAL SURFACES TO HEIGHTS INDICATED ACCORDING TO MANUFACTURER'S RECOMMEND



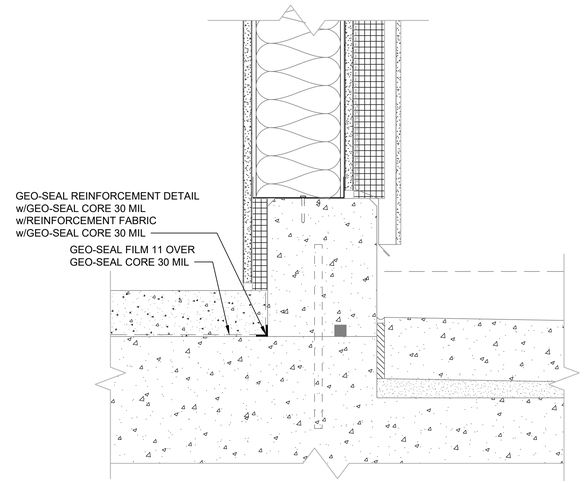
SECTION - CONCRETE APRON 1

SCALE: NTS



SECTION - STORE FRONT AT CURB 2

SCALE: NTS



SECTION - EXTERIOR METAL STUD WALL AT CURB 6

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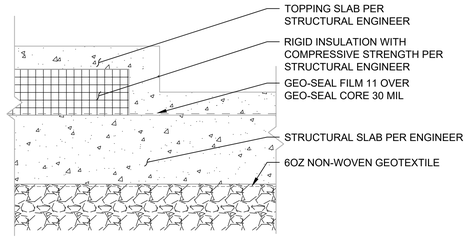
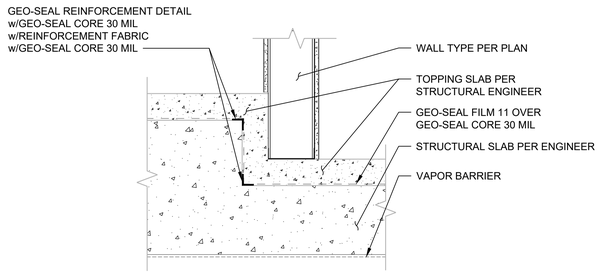


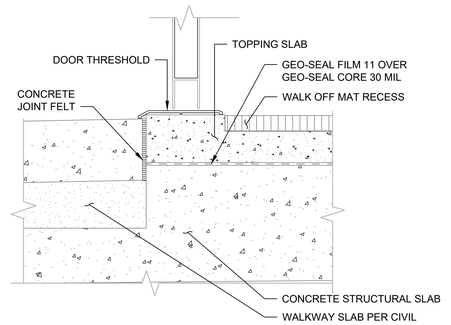
SECTION - SLAB STEP 3

SCALE: NTS



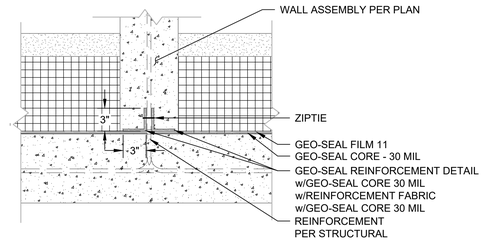
SECTION - WALL AT SLAB STEP 4

SCALE: NTS



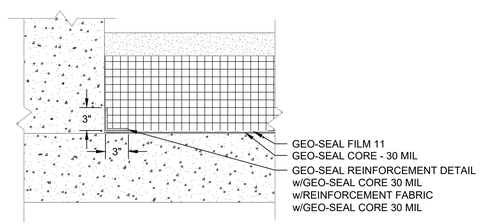
SECTION - CONCRETE DOOR SILL 5

SCALE: NTS



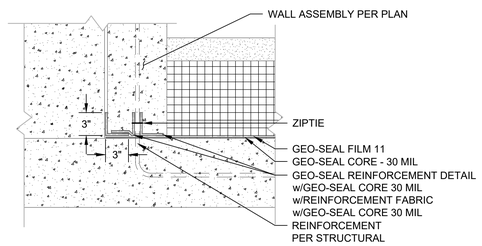
SECTION - WALL ASSEMBLY WITH REBAR LINER PENETRATION 7

SCALE: NTS



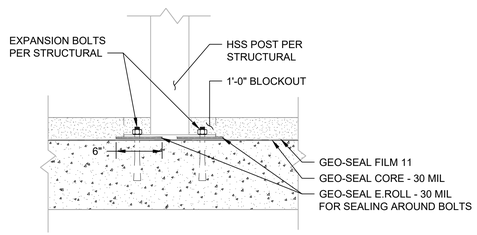
SECTION - LINER SEAL TO CONCRETE WALL 8

SCALE: NTS



SECTION - LINER SEAL TO WALL ASSEMBLY 9

SCALE: NTS



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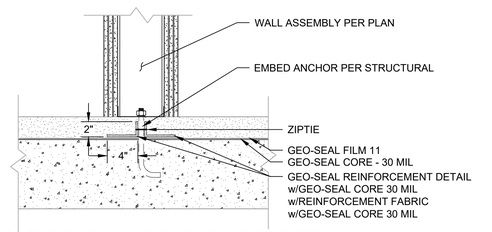

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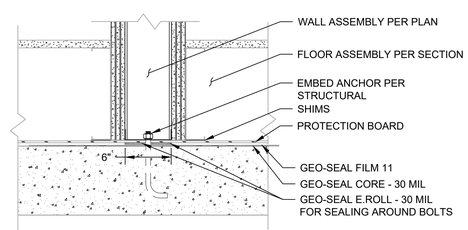

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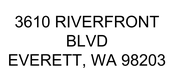

TYSON M. WRIGHT, PE

TYSON M. WRIGHT
STATE OF WASHINGTON
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REGISTERED
PROFESSIONAL ENGINEER
06/21/2024

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LINER
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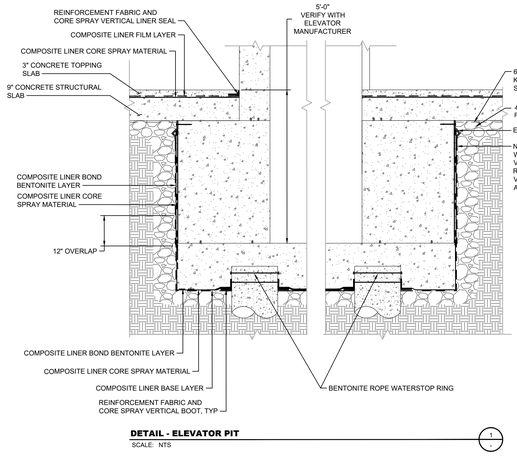

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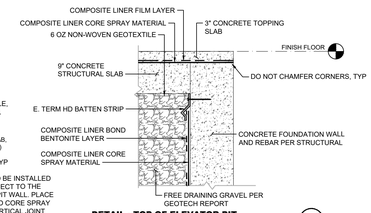

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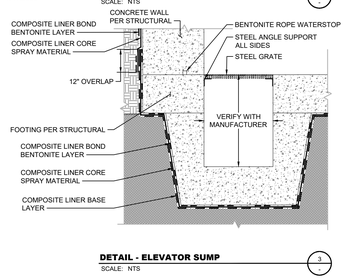

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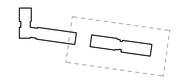

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ELEVATOR PIT DETAILS

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GEOTECHNICAL REPORT
Everett Riverfront Development

Phase II

Everett, Washington

HWA Project No. 2015-061-21

Prepared for
Shelter Holdings

December 8, 2021

HWA GeoSciences Inc.
DBE/MWBE

Geotechnical Engineering
Pavement Engineering
Geoenvironmental
Hydrogeology
Inspection & Testing

HWA GeoSciences Inc.
DBE/MWBE

December 8, 2021
HWA Project No. 2015-061-21

Shelter Holdings
11624 SE 5th Street, Suite 210
Bellevue, Washington 98005

Attention: Mr. Eric Evans

SUBJECT: GEOTECHNICAL ENGINEERING REPORT
EVERETT RIVERFRONT DEVELOPMENT
PHASE 2
Everett, Washington

Dear Mr. Evans:

As requested, HWA GeoSciences Inc. (HWA) has completed a geotechnical engineering study in support of the design of Phase 2 of the Riverfront Development, in Everett, Washington. Results of our investigation and geotechnical recommendations pertinent to the proposed improvements are provided in the accompanying geotechnical report.

We appreciate the opportunity to provide geotechnical services on this project.

Sincerely,

HWA GEOSCIENCES INC.

Michael S. Place, P.E.
Senior Geotechnical Engineer

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GEOTECHNICAL ENGINEERING REPORT
EVERETT RIVERFRONT DEVELOPMENT
PHASE II
EVERETT, WASHINGTON

1.0 INTRODUCTION

1.1 GENERAL

This report presents the results of the geotechnical engineering investigation performed by HWA GeoSciences Inc. (HWA) in support of design and construction of proposed new buildings located in the Phase 2 are of the Riverfront Development in Everett, Washington. It is our understanding that site improvements will consist of two new multistory buildings and associated surface parking areas, with the southern building L-shaped (Building C) and the northern building rectangular (Building D). These new buildings are a part of the Phase 2 Development Plan by Shelter Holdings, which proposes to construct a total of two new multistory mixed-use commercial/residential buildings. The proposed buildings will be constructed across the Everett Landfill site as shown in the Vicinity Map, Figure 1. The proposed geometry of the current Phase 2 development work detailed in this report is shown on the Site and Exploration Plan, Figure 2.

The purpose of our investigation was to evaluate the subsurface conditions in and around the footprint of the development area, perform geotechnical engineering analyses, and provide geotechnical recommendations in support of the design of the buildings, parking areas and utility lines.

1.2 PROJECT DESCRIPTION

It is our understanding that Shelter Holdings is planning to continue to develop the old Everett Landfill site with their multi-phased development plan. HWA's work for Phase 2 included explorations for two mixed-use buildings designated Buildings C and D. The approximate layout and proposed grading of the site is shown in Figure 2. We understand that development of the remainder of the site outside of the Phase 2 area will occur in future phases.

Thick and highly variable deposits of landfill refuse and compressible alluvial soils underlie the proposed Phase 2 area, as shown in cross-sections on Figures 3 and 4. These soils were previously surcharged to reduce anticipated settlement across the site. However, long-term secondary settlements are expected to occur over the design life of the development. The anticipated settlements are expected to have a significant impact on the proposed development. Anticipated settlement magnitudes will need to be considered in the design of all proposed improvements.

2.0 FIELD AND LABORATORY INVESTIGATION

2.1 PREVIOUS INVESTIGATIONS AND GEOTECHNICAL INFORMATION

HWA reviewed all readily available geotechnical information for the Phase 2 project site. This included a review of HWA's project library and a review of geotechnical reports completed by others in support of previous proposed developments at the site. It should be noted that many of borings conducted prior to our recent investigation were drilled prior to recent grading activities. Therefore, the ground surface elevations and soil unit contacts shown in these borings are no longer accurate.

HWA reviewed an existing geotechnical report from GeoEngineers (2008). This report was generated in support of a previously planned development of the site. In this effort, GeoEngineers completed multiple borings; only information from two of these explorations were used, GEI-17 and GEI-8, were used in generating this report. The locations and designation of these borings are shown in the Site and Exploration Plan, Figure 2. The boring log is provided in Appendix B. It should be noted that borings from the GeoEngineers report were made prior to preloading and subsequent grading of the site. Therefore, the position of the geologic contacts shown on this boring log have changed due to surcharging of the site.

HWA utilized fifteen geotechnical borings, designated BH-6 through BH-15 and BH-17 through 20, BH17 through BH-20 and BH-22, that were drilled as part of our 2017 Project Evergreen site investigation (HWA, 2017). Their approximate locations are shown on the Site and Exploration Plan, Figure 2 and the boring logs are provided in Appendix B.

2.2 FIELD INVESTIGATIONS

HWA's fieldwork consisted of a subsurface exploration program that included six (6) borings designated BH-51 through BH-56. The approximate locations of these borings are shown on the Site and Exploration Plan, Figure 2. Exploration locations were surveyed and staked in the field prior to drilling. These subsurface explorations were performed to determine the character and extent of fill and refuse on the site, to characterize alluvial deposits below the refuse and determine depths to dense to very dense glacially consolidated deposits.

Borehole drilling was conducted from November 1 to November 3, 2021, by Holocene Drilling, Inc. of Puyallup, Washington under subcontract to Shelter Holdings. Drilling equipment was selected based on site access conditions and consisted of one track-mounted drill rig. The boreholes were advanced to depths ranging from about 71½ to 81½ feet below the existing ground surface (bgs). Hollow stem auger drilling techniques were used from the ground surface to the base of the refuse. Below the base of the refuse, each boring was switched to mud rotary drilling techniques. Each of the explorations were advanced under full-time HWA supervision and were logged by a geotechnical engineer. Soil samples were classified in the field during the investigation. Other pertinent information including sample depths, stratigraphy, soil engineering characteristics and groundwater occurrence was recorded.

Drilling spoils were collected in metal 55-gallon drums for future disposal in a designated refuse disposal area within the Everett Riverfront Development site.

Representative soil samples were obtained from the explorations and taken to our laboratory for further examination and geotechnical testing. Field exploration methods are described in detail and logs of the explorations are presented in Appendix A.

2.3 PREVIOUS REFRACTION MICROTRMOR (REMI) SURVEY

As part of our Phase I HWA also performed Refraction Microtremor (ReMi) testing at the site. This analysis is summarized in our original Phase 1 report. Based on the data, the approximate average shear wave velocity for the soil profile in the upper 100 feet is about 740 feet per second. It should be noted that the ReMi survey was completed outside of the Phase 2 development area but inside the limits of the landfill. However, we believe that the average shear wave velocities obtained from the ReMi survey are representative of the Phase 2 development area.

2.4 LABORATORY TESTING

Laboratory tests were conducted on selected samples obtained from the explorations to characterize relevant engineering and index properties of the soils encountered. Laboratory tests included in-situ moisture content, grain size distribution, and Atterberg Limits. The tests were conducted in general accordance with appropriate American Society of Testing and Materials (ASTM) standards. The test results and a discussion of laboratory test methodology are presented in Appendix B, or displayed on the exploration logs in Appendix A, as appropriate.

3.0 GENERAL SITE CONDITIONS

3.1 SITE TOPOGRAPHY AND HISTORY

The Riverfront Development site is located within the limits of the Old Everett Landfill and is bounded on the west by the Burlington Northern Santa Fe Railway (BNSF) rail lines, on the north by 36th Street and on the east by the Lowell Riverfront Trail, and the Snohomish River. For over 50 years the Old Everett Landfill accepted municipal solid waste until its eventual closing in 1975. The site remained relatively dormant from 1975 to 2008 at which time the site started to be prepared for development. From 2008 to 2012 the site underwent several phases of surcharging meant to consolidate the underlying refuse and alluvial deposits. After completion of surcharging, the site was graded to its current configuration and the upper 18 inches of soil, across portions of the site, was cement-treated to develop an all-weather construction surface. Additional fill was placed over the cement treated soil in 2018. Most of the site is currently relatively flat with a slight slope to the east. The eastern edge of the site slopes downward at a 2 to 1 slope to the edge of the landfill. The Phase 2 buildings, Buildings C and D, are located west of Riverfront Boulevard within the northwest quadrant of the Riverfront Development site.

3.2 General Geologic Conditions

The geology of the Puget Sound region includes a thick sequence of over-consolidated glacial and unconsolidated non-glacial soils overlying bedrock. Glacial deposits were formed by ice originating in the mountains of British Columbia (Cordilleran Ice Sheet) and from alpine glaciers which descended from the Olympic and Cascade Mountains. These ice sheets invaded the Puget Lowland at least four times during the early to late Pleistocene Epoch (approximately 2.4 million to 10,000 years before present). The southern extent of these glacial advances was near Tenino, Washington. During periods between these glacial advances and after the last glaciation, portions of the Puget Lowland filled with alluvial sediments deposited by rivers draining the western slopes of the Cascades and the eastern slopes of the Olympics. The most recent glacial advance, the Fraser Glaciation, included the Vashon Stade, during which the Puget Lobe of the Cordilleran Ice Sheet advanced and retreated through the Puget Sound Basin. Existing topography, surficial geology and hydrogeology in the project area are heavily influenced by the advance and retreat of the Vashon Ice Sheet.

Surficial geological information for the site area was obtained partly from the published geological map, Geologic Map of the Everett Quadrangle (Minard, 1985). The map indicates that the site is generally underlain by younger alluvium (Holocene). Younger alluvium deposits consist of unconsolidated, stratified, clay, silt, and very fine to fine sand with abundant organic material. Medium to coarse sand and gravel underlie much of the fine-grained floodplain sediment. Glacial till, advance outwash, and transitional beds are mapped west of the site in the upland area and underlie the alluvial deposits. These underlying glacial and interglacial deposits were overconsolidated by the weight of over 3,000 feet of ice during the Vashon Stade.

3.3 Subsurface Conditions

The current and previous soil investigations at the project site have encountered five general material types: fill, refuse, alluvium, advance outwash, and pre-Vashon alluvium, as summarized in the following sub-sections. The entire site contains surficial fill soil, placed as a cap over the refuse and regraded during preloading and recent grading activities.

At depth, dense to very dense advance outwash and/or pre-Vashon alluvium were encountered in each boring drilled for this study. These deposits will form the bearing layer for deep foundations.

Two geologic cross-sections through the project site, presented in Figures 3A through 3B, are based on current and previous exploration logs. It is to be noted that, due to the interpretive nature of cross-sections, only the exploration logs should be relied upon for subsurface detail at particular locations.

Fill Soil: A fill cap was encountered in all borings for this study and previous studies within the landfill limits. This soil typically consisted of gravelly, silty sand (Unified Soil Classification SM), and ranged in thickness from approximately 4.5 to 10 feet. It consisted of three primary types as follows:

Preload Fill: Approximately 15 to 20 feet of fill material generally meeting the gradation requirements of WSDOT Common Borrow was imported and placed across the majority of this section of the landfill site. This material was imported in the summer of 2018 from the 3-Acre Park preload and the preload at the Simpson site. This material was previously tested by HWA for use as Low Permeability Soil Barrier (LPSB) and was found to meet the requirements for LPSB as described in Section 4.1.1 of this report.

Landfill Cap: Fill placed upon closure of the landfill, was encountered throughout the site. The fill typically consisted of gravelly, silty sand, and sandy silt. Blowcounts (SPT N-values) obtained in this fill ranged from 15 to 62 blows per foot (bpf). In general, the fill was medium dense to very dense, with occasional large gravel and cobbles resulting in high blow counts. In most areas the Landfill Cap material was indistinguishable from the Preload Fill.

Surcharge Fill and Landfill Fill Cap: Fill placed upon closure of the landfill, during surcharging and prior to 2016 was encountered throughout the site. In select areas, the upper two feet of this material was cement-treated to form an all-weather working surface. The fill typically consisted of gravelly, silty sand, with clean sand and sandy silt encountered in a couple of borings. Blowcounts obtained in this fill ranged from 12 to in excess of 50 bpf. In general, the fill was loose to dense, with cement-treated soil and scattered cobbles and concrete rubble resulting in high blow counts.

Refuse: Refuse (municipal solid waste) was encountered in each of the explorations within the Phase 2 area. The refuse was observed to consist of household waste with glass, assorted metal, plastic, construction debris, porcelain, paper, etc. The refuse sampled in the area explored consisted of blackened silty sand to sandy silt with blackened to charcoalized wood and scattered non-burnable waste including glass, metal, and porcelain. The refuse thickness in the proposed Phase 2 area varied from approximately 20 to 36.0 feet and extended to from depths at shallow as about 4 feet to depths as great as about 41 feet bgs. Blowcounts within the refuse were highly variable, which is indicative of the variable nature of refuse materials. Higher reported N-values within the refuse materials are likely due to the types of materials the sampler is driving through and may not be an indication of greater density of a particular area of the refuse.

Alluvium: Alluvium was encountered in each of the explorations within the Phase 2 area. The alluvium consisted of soft to stiff, organic silt, peat, and loose to medium dense sand. The presence and thickness of these sub-units varied throughout the site. The overall thickness of alluvium ranged from approximately 5 feet to 12 feet. Heaving sands were encountered below the peat and organic silt in some of the explorations and blow counts noted from the heave are very likely understated.

Advance Outwash: Advance outwash was encountered in each of the explorations within the Phase 2 area at depth. These soil materials were dense to very dense sands, generally consisting of massive to stratified clean to silty sand (classified as SP SP-SM, and SM based on the Unified Soil Classification System, USCS). The upper sands were interpreted as advance outwash, consisting of glaciofluvial sediment deposited by glacial meltwater as the Puget Lobe advanced

into the Puget Lowland. It was subsequently overridden by the advancing ice, causing over-consolidation to a very dense condition. Layers of hard silt with dark brown organics were encountered between sand layers. Due to the organic content, these are interpreted as pre-Vashon alluvium. Underlying and interbedded sand layers can be either alluvium of similar age, or older glacial outwash deposits. These could not be clearly differentiated from either the advance outwash or pre-Vashon alluvium soils based on color, grain size and density alone. Blowcounts in the advance outwash soils ranged from 32 bpf to 50 blows per 5 inches, which is consistent with dense to very dense coarse-grained soils. Likewise, the pre-Vashon alluvium intercalated with the advance outwash had blowcounts ranging from 35 bpf to 50 blows per 6 inches.

The subsurface profile described above is a generalized interpretation provided to highlight the major subsurface stratification features and material characteristics. The boring logs and laboratory test data in Appendices A, B and C should be reviewed for more specific information. This record includes soil description, stratifications, penetration resistances, location of samples, and laboratory test data. The stratifications shown on the boring logs represent the conditions only at each of the exploration locations. The stratifications indicated on the boring logs represent the approximate boundary between subsurface materials. The actual transitions may be gradual. Subsurface soils and conditions may vary across relatively short distances at the site and may become apparent with additional explorations or excavation. If soil conditions are found to be different than those described herein, HWA should be allowed to reevaluate our recommendations, if necessary.

3.4 GROUNDWATER

Groundwater was observed in each of our borings during drilling. While perched water was present in several of the borings, true groundwater was typically encountered within the refuse and sometimes within the alluvium. However, once drilling advanced through the refuse and alluvium and into the underlying glacial material, groundwater rose to stable depths ranging between 16 to 23 feet bgs. These levels are shown on the logs; however, it should be noted that these are not stabilized water levels as would be observed in a well. Actual groundwater levels are typically higher than those observed on sampling rods during drilling. Based on our experience, groundwater elevations are anticipated to vary seasonally and in response to significant precipitation events.

4.0 CONCLUSIONS AND RECOMMENDATIONS

4.1 GENERAL

The proposed Phase 2 Building C and Building D footprints are underlain by a series of compressible materials consisting of landfill refuse and soft alluvial peats. These soils have been surcharged to reduce the anticipated settlement across the site but are still expected to undergo

significant settlement over the design life of the proposed site improvements. Our analyses suggest that settlements will generally increase in magnitude from west to east and from north to south and will be differential in nature and magnitude. As a result of the anticipated settlements, the buildings in the Phase 2 site will need to be pile supported.

4.2 SEISMIC DESIGN CONSIDERATIONS

4.2.1 Seismic Design Parameters

The contribution of potential earthquake-induced ground motion from known sources is included in the probabilistic ground motion maps developed by the USGS. Design data seismic site characterization and design recommendations based on USGS mapping and analysis are implemented in the 2018 International Building Code (IBC). As part of this code, the design of structures must consider dynamic forces resulting from seismic events. These forces are dependent upon the magnitude of the earthquake event as well as the properties of the soils that underlie the site.

As part of the procedure to evaluate seismic forces, the 2018 IBC requires the evaluation of the Seismic Site Class, which categorizes the site based upon the characteristics of the subsurface profile 100 feet below the proposed foundation. As a result, the Site Class to be determined in accordance with Section 20.3 and the corresponding values of F_a and F_v determined from Tables 11.4-1 and 11.4-2 of ASCE 7-16. Based on the shear wave velocity measurements obtained from our previous ReMi analysis, the site class classifies as a site class "D." However, in Section 11.4.8 of ASCE 7-16, it is stated that a site specific ground motions hazard analysis is required on sites with three additional conditions.

1. Seismically isolated structures and structures with dampening systems on site with S_1 greater than or equal to 0.6.
2. Structures on Site Class E sites with S_s greater than or equal to 1.0.
3. Structures on Site Class D and E sites with S_1 greater than or equal to 0.2.

Condition 1 should be determined by the project structural engineer, but is assumed to not apply to the proposed site improvements. Conditions 2 and 3 would necessitate performing a site specific ground motions hazard analysis on this site; however, three exceptions are provided, in section 11.4.8 of ASCE 7-16, to determine seismic design parameters without performing a site specific ground motions hazard analysis. These exceptions are:

1. Structures on site Class E site with S_S greater than or equal to 1.0, provided the site coefficient F_a is taken to be equal to that of Site Class C.
2. Structures of Site Class D sites with S_1 greater than or equal to 0.2, provided the value of the seismic response coefficient (Cs) is determined by Eq 12.8-2 of ASCE 7-16 for values of $T \leq 1.5T_s$ and taken as equal to 1.5 times the value computed in accordance with either Equation 12.8-3 of ASCE 7-16 for $T_L \geq T > 1.5T_s$, or Equation 12.8-4 of ASCE 7-16 for $T > T_L$.
3. Structures on Site Class E sites with S_1 greater than or equal to 0.2, provided that T is less than or equal to T_s and the equivalent static force procedure is used for design.

Please note that unless a site specific ground motions hazard analysis is performed, the requirements in exception 2, listed above, will need to be followed.

Should the information used as a basis for this design be incorrect, HWA should be notified to provide appropriate recommendations. The probabilistic ground acceleration values (S_S, S_1, and PGA) were obtained from the Applied Technology Council Seismic Hazard Maps website and site coefficients for the general site area are based on the site soil conditions and were calculated based on the requirements in section Chapter 11 of ASCE 7-16 and Section 1613 of the 2018 IBC. The risk targeted seismic values and coefficient are presented in Table 1.

Table 1: Ground Motion Values, Site Class D*

Period (sec)	Mapped MCE Spectral Response Acceleration (g)		Site Coefficients		Adjusted MCE Spectral Response Acceleration (g)		Design Spectral Response Acceleration (g)	
0.0	PGA	0.534	F_{PGA}	1.100	PGA_m	0.587	-	-
0.2	S_s	1.242	F_a	1.003	S_{Ms}	1.246	S_{Ds}	0.831
1.0	S_1	0.440	F_v	1.86	S_{M1}	0.818	S_{D1}	0.546

Transition Point	Period (sec)
T_0	0.131
T_S	0.657
T_L	6

Notes: **2% Probability of Exceedance in 50 years for Latitude 47.9687° and Longitude -122.1926°*
PGA = Peak ground acceleration
F_{PGA} = PGA site coefficient
PGA_M = Maximum considered earthquake geometric mean peak ground acceleration adjusted for Site Class effects
S_S = Short period (0.2 second) Mapped Spectral Acceleration
S_1 = 1.0 second period Mapped Spectral Acceleration
S_{MS} = Spectral Response adjusted for site class effects for short period = $F_a \cdot S_S$
S_{M1} = Spectral Response adjusted for site class effects for 1-second period = $F_V \cdot S1$
S_{DS} = Design Spectral Response Acceleration for short period =2/3 • SMS
S_{D1} = Design Spectral Response Acceleration for 1-second period =2/3 • SM1
F_a = Short Period Site Coefficients
F_v = Long Period Site Coefficients
$T_0 = 0.2 \cdot S_{D1}/S_{DS}$
$T_S = S_{D1}/S_{DS}$
T_L = Long Period Transition period

Based on Tables 11.6-1 and 11.6-2 (of ASCE 7-16), the Seismic Design Category for the site is "D".

4.2.2 Liquefaction Hazard

Liquefaction is a temporary loss of soil shear strength due to earthquake shaking. Loose, saturated, cohesionless soils are highly susceptible to earthquake-induced liquefaction. Research also indicates that certain silts and low-plasticity clays are also susceptible. Primary factors controlling the development of liquefaction include the intensity and duration of strong ground motions, the characteristics of subsurface soils, in-situ stress conditions and the depth to ground water. To evaluate the liquefaction susceptibility of the soils along the project alignment, the

simplified procedure originally developed by Seed and Idriss (1971) and updated by Youd et al (2001) and Andrus and Stokoe (2010), was used.

For this site, the PGAM was used to evaluate liquefaction is 0.590 g. The analyses indicate that three zones of loose, saturated sands in BH-53, BH-55, and BH-56 are expected to liquefy during the design level event. Where present, the predicted liquefaction zone was noted immediately below the peat soils, for unit thicknesses of less than 5 feet, at depths varying from approximately 40 to 55 feet bgs. It should be noted that in each exploration where liquefaction was noted heave was noted in the boring immediately prior to the testing and as a result the blow counts reported are likely understated and the actual susceptibility to liquefaction in these soils may be significantly less than calculated (i.e. have a lower likelihood of liquefaction than predicted).

The impacts to the site that could occur because of liquefaction are liquefaction induced settlement, which can significantly increase the down-drag loads on deep foundations, and liquefaction induced slope instability, including flow sliding and lateral spreading. These liquefiable soils at BH-53, BH-55, and BH-56 are within the limits of the proposed Building C and Building D locations, and thus where piles are anticipated to be needed.

Liquefaction within the refuse has been ruled out. HWA does not believe that liquefaction will occur within the refuse for several reasons. First, while groundwater was noted within the refuse, it was highly variable and groundwater observed at shallower depths is likely due to perched groundwater systems. As a result, the thickness of the saturated portions of the refuse are likely less significant than noted in the boring logs. Second, the material makeup of the refuse is not considered to be conducive to allowing for the buildup of hydrostatic pressures high enough to mobilize the larger waste materials scattered throughout the refuse layer. If a large enough area of appropriately sized soil participles and extremely low amount of larger refuse material existed within the refuse layer, some limited amount of liquefaction could occur. However, HWA has no evidence of such conditions existing within the refuse, and HWA does not believe such conditions to be likely. Additionally, due to the high predicted settlements within the refuse, it is unlikely that liquefaction induced settlement will be distinguishable from settlements due to static forces and biodegradation.

4.2.3 Liquefaction Induced Settlement

Loose sand deposits tend to densify when they are subject to earthquake shaking. For saturated sand deposits, excess pore water pressure builds up during the earthquake excitation, leading to loss of strength or liquefaction. After the shaking stops, excess pore water pressures dissipate toward a zone where water pressure is relatively lower, usually the ground surface. The dissipation is accompanied by a reconsolidation of the loose sand (Ishihara and Yoshimine, 1992). The reconsolidation is manifested at the ground surface as vertical settlement, usually termed as liquefaction-induced settlement or seismic settlement. Where piles are installed, this also results in additional loading on the piles because of the settlement of the materials above the

liquefied materials exert a frictional force along the pile causing what is commonly called down-drag.

The potential for liquefaction-induced settlement was evaluated where liquefaction was predicted. The methodologies used were developed by Ishihara and Yoshimine (1992) and Yoshimine et al (2006) and are generally based on the relationship between cyclic stress ratio, corrected SPT blow counts, and volumetric strain. Using these methods, we calculated that no liquefaction induced settlements will occur in borings BH-51, BH-52, and BH-54. However, settlements of up to 0.6, 1.5, and 1.2 inches are possible in borings BH-53, BH-55, and BH-56, respectively, during the design earthquake. It should be noted that, this settlement is predicted to occur at depths of 40 to 55 feet below existing site grades and based on Ishihara (1985) manifestations to the surface resultant from these settlements are not predicted to. Additionally, as stated above areas where liquefaction was predicted are within areas where blow counts were very likely understated and thus these liquefaction values are likely overstated. These minimal layers of predicted liquefaction are not anticipated to affect the buildings or the building piles

4.2.4 Near Fault Hazards

The site is located 5 miles from the northernmost fault in the Southern Whidbey Island Fault Zone. The Southern Whidbey Island Fault Zone consists of late Quaternary Reverse Faults with slip rates on the order of 0.2 to 1 mm per year. Due to the sites proximity to these active faults, the site is likely to experience large accelerations as a result of the design earthquake. The large ground motions are included in the design parameters and therefore will be incorporated into the design. Near fault ground motions also have the potential to exhibit forward directivity, which results in a strong pulse of acceleration at longer structural periods. Provided the site structures have a structural period less than about ½ second, forward directivity should not be a concern; however, if buildings are determined to have structural periods in excess of ½ second it may require further evaluation.

4.2.5 Ground Rupture

Ground rupture can occur when a fault extends up to the ground surface. Based on a review of the United States Geological Survey Fault Database, the closest fault to the site is the northernmost fault in the Southern Whidbey Island Fault Zone, which is approximately 5 miles southeast of the site. As a result, HWA believes that site has a low potential for ground rupture.

4.2.6 Lateral Spread

Lateral spreading involves lateral displacement of large, surficial blocks of soil as a result of liquefaction of a saturated subsurface layer. Displacement occurs in response to the combination of gravitational forces and inertial forces generated by an earthquake. Lateral spreading can develop in gentle slopes and move toward a free face such as a river channel. Differential internal movements within the spreading mass usually creates such features as fissures, scarps, and grabens. Lateral displacement may range from a few inches up to several feet, depending on

the soil conditions, geometry of adjacent slopes and the magnitude and duration of the seismic loading at the site. Differential vertical movements, or ground settlements may range up to about half the horizontal movement. When lateral spreading occurs it commonly disrupts foundations of buildings built on or across the failure surfaces and severs utilities in the failure mass.

As discussed in our Addendum to our Phase 1 geotechnical report for this site dated May 13, 2019, while the risk of lateral spreading is currently predicted to occur elsewhere on the Everett Landfill site, particularly where close to the Snohomish River, lateral spreading is not predicted to extend into the Phase 2 site area and is not a design consideration.

4.3 ANTICIPATED CONSOLIDATION SETTLEMENT

The refuse, peat and organic silt underlying the Riverfront Development site are highly compressible. Although the site has been previously surcharged, additional settlement is expected to occur over the design life of the proposed development area. These settlements will occur due to several mechanisms including long term secondary compression and biodegradation. A more detailed description of each of these mechanisms is provided below.

4.3.1 Secondary and Biodegradation Settlement

Secondary compression is associated with structural deformation within the soil as the result of applied load. In mineral soils the secondary compression is relatively small in comparison to the primary consolidation. However, secondary compression in organic soil and refuse is much larger than in mineral soil, due to the potential for cellular deformation within the organic material/refuse. Secondary compression continues for many years after the application of load.

Biodegradation occurs as organic materials within the refuse and organic soil decompose. The rate and magnitude of biodegradation is independent of applied load and depends on several factors including groundwater level and the nature and amount of organic material present. For the landfill refuse, the magnitude of biodegradation is expected to vary widely and be dependent on the composition of the waste stream as it was placed. As both secondary compression and biodegradation occur slowly over time, it is generally very difficult, if not impossible to distinguish the individual components of each mechanism.

Modified secondary compression indices for the refuse were determined through back calculations of observed settlements at settlement plates and settlement instruments across the landfill. As observed long-term settlement readings across the site were a result of a combination of both secondary settlement and biodegradation, HWA has based our calculations on modified secondary settlement indexes which accounts for both mechanisms. Therefore, specific biodegradation settlement calculations of the refuse were not performed.

Secondary settlement indexes for the alluvial soils were determined based on the results of consolidation testing completed on relatively undisturbed Shelby tube samples and through back calculations of observed settlements at settlement plates and settlement instruments across the landfill.

The secondary settlement can be estimated using the following equation:

$$\Delta H = C\alpha e * H * \log(\Delta t)$$

- ΔH is the long-term or secondary settlement.
- $C\alpha e$ is the modified secondary compression index.
- Δt is the time over which the long-term settlement occurs in years (the design life of the facility).
- H is the initial thickness of the compressible layer.

4.3.2 Anticipated Settlement Magnitudes

Long-term settlement magnitudes were estimated at boring locations within the proposed Phase 2 site. HWA estimates that total settlement magnitudes, over a design life of 50 years, be as high as 30 inches within this area. Given the nature of the refuse, settlement magnitudes could vary over short distances and could exceed our estimates in some areas. Based on our borings, HWA anticipates that the greatest settlement will occur on the northeast portion of the site. .

4.3.3 Impacts of Anticipated Settlements and Associated Design Considerations

The differential nature of the anticipated settlements across the proposed Phase 2 site will impact several aspects of the development and the associated maintenance cycles. These impacts are discussed below.

Due to the anticipated long-term settlement across the Phase 2 site, all proposed structures should be supported on pile foundations bearing in the dense to very dense sandy soils observed below the refuse and alluvial soils across the site. Additional recommendations associated with pile foundations are provided in Section 4.4 below.

As the proposed buildings will be supported on pile foundations, bearing below the compressible soils, these structures are expected to experience only minor settlement (less than 1 inch) over time. Therefore, we expect that large differential settlement will occur between pile supported structures and adjacent grade supported improvements. To minimize the impact of these differential settlements on the operation of the proposed buildings, we recommend that building perimeter sidewalks and frontage walkways be structurally supported by the pile supported buildings. This will prevent anticipated long-term settlements from causing doorway and ADA access issues over time.

As the proposed parking lot and drive lanes are anticipated to be grade supported and are anticipated to settle significantly over time, transition zones between the pavements and pile supported buildings and walkways will be required. These transition zones could experience as much as 30 inches of differential settlement between the pavement and the edge of the pile supported walkways. As a result, we expect that the total settlements observed in these areas will manifest as differential settlement relative to immediately adjacent pile supported structures. This settlement will occur slowly over time and will result in the development of abrupt vertical

drops at the outside edge of the pile supported structures. We recommend that the design team develop a surface treatment plan for these transition areas that allows for easy and cost-effective periodic regrading. Landscape and planter areas may be the most cost-effective surface treatment for the settlement transition areas. If hardscape areas are proposed to extend past the limits of the pile supported walkways, increased maintenance cycle should be considered to avoid the development of abrupt tripping hazards at the transition from pile supported hardscape to grade supported hardscape.

We understand that active gas collection systems will be required below the proposed buildings and across the roadway and parking areas. These gas collection systems should be designed to accommodate the anticipated long-term settlements. This includes proposed gas barriers and gas collection piping. We recommend that proposed gas barrier systems be flexible and capable of maintaining functionality under the anticipated settlement magnitudes. Design of the gas barrier system, at transition points from pile supported to grade supported area, should consider the anticipated differential settlements at these areas.

Settlements that occur within the footprint of proposed buildings are expected to result in the development of a void space as the subgrade soils settle away from the underside of the buildings. We recommend that the buildings and associated systems be designed in anticipation of the development of these void spaces and site maintenance be conducted to avoid these void spaces being exposed.

Drive lanes and parking areas will be constructed around the proposed Buildings C and D. The parking areas are anticipated to be paved with hot mix asphalt. Settlements within the parking area are expected to be differential in nature and highly variable from location to location. These differential settlements could result in the development of large or isolated depressions within the parking area. The development of depressions within the parking lot could result in the ponding of stormwater during periods of wet weather and premature pavement distress. Without pile supporting the parking areas it is not practical to mitigate the occurrence of differential settlements within these areas. Therefore, we recommend an increased maintenance frequency be assumed for the parking lot areas.

All utilities transitioning from grade supported to the pile supported building will be subject to large differential settlement. These settlement magnitudes are expected to be large enough to result in failure of utilities entering the buildings. Therefore, we recommend that all utilities be designed with flexible connections capable of tolerating the anticipated differential settlements and anticipated associated elongation.

The sanitary sewer systems supporting the Phase II buildings are expected to experience significant differential settlement across the phase II site. If large enough fall heights of the sewer line cannot be achieved for grade supported sewer lines, significant sags in the sewer system may occur. These sags would impede the functionality of the system and require frequent maintenance. If the sanitary sewer system cannot be designed with adequate fall to

prevent the development of such sags in the sewer line, a pile supported sewer line should be considered.

Anticipated settlement across the Phase II site may result in future undesirable stormwater flow paths. This may require the installation of additional catch basin structures as areas of unfavorable stormwater flow are identified.

4.4 PILE FOUNDATIONS

Due to the thickness of the refuse layer and the highly compressible nature of these materials, HWA recommends that the proposed Buildings C and D be pile supported. This section describes the pile types of piles that may be utilized and the requirements for each pile type.

4.4.1 Background for Pile Type Determination

The consent decree for the site provides requirements for future development of the landfill property. Per the requirements of the Ecology Cleanup Action Plan, a Shallow Aquifer Characterization study was completed (HWA, 2005). This study defined a Pile Restriction Zone across large portions of the landfill site and set restrictions for pile foundations installed within this zone. The criteria used in determining the need for the pile restriction zone were based on the presence of an aquitard below the refuse, the presence of water in the refuse and the presence of contamination in encountered groundwater. The proposed Phase 2 buildings are currently within the mapped pile restriction zone and HWA did note the presence of an aquitard below the refuse and groundwater within the refuse.

The Shallow Aquifer Characterization report states with respect to the Pile Restriction Zone that *"Deep foundation systems in these areas should be restricted to augercast piles or other equivalent piling types that minimize the potential to create new groundwater flowpaths parallel to the pile. The rationale for using augercast piles instead of driven piles is that the likelihood of creating a hydraulic connection between the shallow and deep aquifer is higher with the use of driven piles. Driven pile systems employing some form of external grouting would also decrease the potential for cross-connection of shallow and deep zones." (HWA, 2005)*. Therefore, deep foundations systems installed within the Pile Restriction Zone are required to consist of augercast piles or an equivalent piling system that minimize the potential to create new groundwater flowpaths between the shallow and deep aquifer.

Our explorations suggest that the refuse across the site is highly variable in composition and relatively porous. During our 2017 drilling operation, loss of drilling fluid into the refuse was documented at several boring locations across the site. This observed migration of drilling fluid suggests that grout from construction of augercast piles has a high potential for migration into the refuse layer if this foundation system is used. Given the variability in the composition of the refuse, it is impossible to estimate the volume, geometry and depth of potential grout migration. From a construction cost prospective, grout migration potential for augercast piles could be addressed through construction contingencies. However, from a design perspective, grout

migration can influence down-drag and affect localized pile capacity, representing a significant design concern.

As a result of the concerns associated with augercast piles HWA generated a memo (HWA, 2018) outlining an alternative pile type to be used within the Pile Restriction Zone that meet the intent of the Consent Decree. The Washington State Department of Ecology reviewed the proposed pile type and approved to the use of driven grout piles with steel sleeves through the refuse within the pile restriction zone.

4.4.2 Pile Foundation

For the Riverfront Development, HWA proposes the use of driven grout pile with a steel sleeve through the refuse. Driven grout piles are installed using a mandrel that is placed in a "boot." The mandrel is then charged with fluid grout. At this point the driving commences. Once bearing is achieved, grout is injected under pressure as the mandrel is extracted. The design of the mandrel keeps soil from entering the grout column. Upon completion, a grout pile is very similar to an augercast pile is created. For use at this site, we recommend that the driven grout pile installation process be modified to include installation of a steel sleeve through the refuse. The sleeve should terminate at or just past the base of the refuse and be used to minimize grout migration into the refuse. Steel sleeves would be driven with a boot at each location to the base of the refuse. Once the sleeve is in place the mandrel would be installed through the center of the sleeve and pile driving would continue.

Much like augercast piles, driven grout piles would likely fail under down-drag loads if not sleeved through the refuse. The length of sleeves for Buildings C and D were determined based on the depth of the base of the refuse, observed in the geotechnical borings. Recommendations for driven grout pile sleeve lengths are provided in Appendix C. Below the sleeved portion of the pile the driven grout pile system should have the same soil to grout interface as an augercast pile system. This grout-to-soil interface will minimize the potential to create new groundwater flowpaths between the shallow and deep aquifer, as required within the pile restriction zone. A schematic representation of the pile geometry and the steps involved in the use of a driven grout pile system, with a sleeve through the refuse, is shown on Figure 4.

The refuse layer is expected to possess abundant obstructions that could impact installation of driven grout piles. Encountering obstructions during driving could result in damage to the driven grout pile sleeves. Sleeve damage or deformation could hinder the contractor's ability complete installation of the pile. Therefore, we recommend that the sleeve wall thickness be great enough to allow for installation through the refuse without damage. We understand the sleeve wall thickness will be determined by the pile driving contractor based on their experience in similar driving conditions. Past pile driving projects on the landfill have used piles with ½-inch, grade 50, walls thickness with minimal damage during driving.

4.4.3 Vertical Pile Capacities

Pile capacities are determined based on two primary factors, the soil interaction with the base of the pile (end bearing) and the friction from the interaction of the soil with the sides of the pile (skin friction). The combination of these two factors is the ultimate total pile capacity. Due to the presence of large amounts of refuse and organic rich soils below the proposed structures much of the upper section of each pile can be considered unreliable for providing positive skin frictional resistance and as such was ignored in the pile capacity calculations. Additionally, these same materials are highly compressible and prone to significant settlements which can pull downward on the pile exerting a negative skin frictional component (down-drag). To provide adequate support, each pile will need to be embedded into the dense materials that exist below the compressible materials. Due to the varied depths of the compressible materials, pile depths and down-drag components will vary depending upon the pile's location within the landfill.

The following tables show the ultimate total pile capacities, down-drag components, uplift capacities and allowable pile capacities utilizing a factor of safety of 2 for the skin friction and end bearing capacities for the proposed building. Table 2 show anticipated depths to bearing and ranges for anticipated pile depths and embedment. Note that these values are based on our calculation and the previous CAP-WAP and PDA testing conducted on piles during the Phase I installation work and are valid assuming the same equipment is utilized for the installation of the Phase II building pile (Vulcan 512 Single-Action Air Hammer for 16 inch and 18 inch piles). If different equipment or different pile diameters will be utilized alternate capacities will be to be estimated to assess preliminary pile capacities. Please note that the summary pile information in the following table are estimates and actual depths and embedment lengths will be dependent on field actual field conditions.

Table 2: Pile Capacity Summary Table for Phase 2 Buildings

Pile Type	Ultimate Capacity (kip)	Down-drag (kip)	Allowable Capacity (kip)	Allowable Uplift Capacity (kips)	Anticipated Pile Depth (feet)	Anticipated Depth to Bearing (feet)	Anticipated Pile Embedment Into Bearing (feet)
18-inch Driven Grout (conventional)	620	60	280	45	50-75	40-55	10-20
16-inch Driven Grout (conventional)	560	50	2550	40	50-75	40-55	10-20

Notes: 1. Pile capacities listed above are based on piles being driven to refusal and a minimum embedment of 10 feet into bearing soil.
2. Ultimate capacities are based on anticipated maximum pile type and material capacities but ultimate loads but were confirmed to reach the anticipated maximum pile type capacities.

4.4.4 Pile Lateral Capacities

Piles from the proposed building location were also analyzed for lateral capacity using the Ensoft software LPile version 2018.10.07. Our analysis was based on an embedment depth of at least 10 feet into the bearing sandy soils on the site and was conducted for each proposed soil condition across the building pad. Pile deflections in each case were analyzed for maximum deflections of ½ inch and 1 inch. The results obtained from the analyses were nearly identical and did not vary significantly between boring locations or based on increased pile length extending more than the minimum 10-foot embedment. The results from the soil profile with the poorest soil conditions in the proposed building footprint were used for this report. A fixed head condition was utilized for our design. A summary of lateral pile capacities for each pile diameter are listed in Table 3 below.

Table 3: Lateral Pile Capacity Summary

Pile Diameter (inches)	Calculated load to produce 1/2 inch of deflection (kip)	Calculated load to produce 1 inch of deflection (kip)	Calculated Depth to Maximum Bending Moment (Feet)
16-inch Driven Grout	21	42	7.8
18-inch Driven Grout	29	45	8.4

Please note that the above parameters are meant for use in determining the preferred pile type. Actual loading conditions should be reviewed and analyzed once specific pile dimensions, and materials to be used in the pile are determined. The lateral capacities in Table 3 are based on grouted concrete piles with a grout strength of 4,000 psi.

4.4.5 Pile Testing

Pile load testing was performed during the Phase 1 work and was used in the calculated capacities for pile state in this report. Provided the same equipment is utilized in the Phase I portion of this project is utilized in the Phase II piles and provided suitable embedment (as determined by HWA) can be obtained pile load testing will not be required. However if different equipment is utilized, or HWA determines that proper embedment is not obtained on the piles, pile testing will be required. Test pile vertical load testing should consist of PDA and CAPWAP analysis and at least one test should be performed for each pile conditions being evaluated (i.e. 16 inch and/or 18 inch piles).

HWA should be allowed to view the installation of any test pile and should be provided the results of the pile load test for review to compare to predicted pile capacities and determine is the allowable pile capacities need to be adjusted, prior to construction.

4.4.6 Pile Group Affects

The pile capacities listed in Tables 2 and 3 are based on piles driven at least 3 pile diameters apart (center to center) to avoid group effects that can lead to a reduction in pile capacities. Axial capacities for piles spaced at 2 pile diameters should be reduced by 1/3 for group effects.

The reduction may be interpolated linearly between 2 and 3 pile diameters. However, any piles spaced closer than 2 pile diameters are generally not recommended; and will have to be analyzed by the Geotechnical Engineer on a case-by-case basis.

4.5 FOUNDATION DRAINAGE

We recommend footing drains be placed around the exterior of the building foundation to reduce the potential for lateral migration of moisture into the building envelope. We recommend that roof drains be connected to a tight-line pipe leading to storm drain facilities. Pavement surfaces and open space areas should be sloped such that surface water runoff is collected and routed to suitable discharge points. We also recommend that ground surfaces adjacent to buildings be sloped to facilitate positive drainage away from the buildings. Due to anticipated settlements, we expect regrading will be required to achieve positive drainage away from the building over time.

4.6 UTILITIES

We expect that the Riverfront development will require the construction of numerous subsurface utility systems. Due to the anticipated differential settlement along across the Phase 2 site, we recommend that all subsurface utilities be constructed using fused HDPE piping or similar approved flexible materials. Specific recommendations associated with each utility type are provided below.

4.6.1 Non-Grade Sensitive Utilities

Non-grade sensitive utilities such as electrical, methane collection, communication, gas and water can be installed as grade supported utilities. The utilities are expected to settle with the surrounding site. All of these utilities and their associated conduits should be constructed using materials capable of handling the predicted site settlement, such as fused HDPE piping. Utilities such as power and communication should be installed with sufficient wire slack to allow for the settlement and associated elongation of the conductor wire as the ground settles. This may require that additional wire be looped in pull boxes to allow for the anticipated elongation. Utility piping and conduits should be designed with sufficient pipe penetration into manholes and pull boxes such that they do not pull out as the ground settles.

4.6.2 Flexible Connections

Flexible connections capable of tolerating large differential settlements over short distances will be required at all points where utilities transition from grade-supported to pile-supported. Flexible connections should be designed to tolerate both rotation and elongation associated with the anticipated settlements. Based on the potential variability of within the refuse, utilities could experience deflections associated with up to 30 inches of settlement and 30 inches of elongation at the transition points from grade supported to pile supported. Therefore, flexible utility connections designed to tolerate predicted rotation and elongation should be used at all points that utilities transition from grade-supported to pile-supported.

Flexible connections capable of withstanding deflections and elongation associated with less than the predicated settlements (up to 30 inches in some locations) could be used. However, the design life of the connection would be reduced, the potential for connection failure would increase, and required maintenance of the connections would increase. If flexible connections capable of tolerating less than the predicted differential settlement and the associated elongation are used, we recommend that the connections be constructed with access vaults to allow for easy access and replacement when needed. We also recommend that the connection conditions be monitored to allow for identification of potential connection distress prior to failure. No non-accessible utility transitions from grade supported to pile supported should be made with flexible connections capable of withstanding less than the rotation associated with predicted settlements and associated elongation.

4.6.3 Sewer and Storm Drain

We expect that the sewer and storm drain system for the Phase 2 site will be constructed conventionally as a grade supported system. Therefore, these systems are expected to undergo the same differential settlements as the site settles. We recommend that the sewer and storm drain system be designed with sufficient fall such that the systems will function after the maximum predicted settlements occur. With respect to the storm system, we expect that site settlements may change the surface flow characteristics of stormwater, resulting in undesirable ponding or flows across the site. Therefore, additional stormwater inlet structure may need to be installed as the site settlements develop. The location of these additional inlets should be determined based on the observed site settlement over time.

4.6.4 Electrical Line

The proposed electric utility lines to be installed on the site, at the request of the Public Utilities District (PUD) require the electric utility line to be wrapped in geosynthetic plastic to prevent the migration of landfill gas around the electrical line and through the bedding. HWA recommends that the pipe bedding within the geosynthetic plastic consist of pea gravel or clean sand fill that remains flowable after placement. This will better allow for the soils around the pipe to deform after site settlements occur and help to mitigate the pressures on the pipe that can result from the expected settlements.

4.6.5 Utility Excavation Considerations

The near surface soils across the Phase 2 site consist of varying amounts of fill soils over refuse. The fill soils consist of silty sands with varying densities. We anticipate that Landfill Refuse exists below the fill at all locations within the proposed Phase 2 site. Excavations through each of these material types may result in specific construction challenges. These challenges are addressed below.

Common Borrow Fill soils

The near surface fill soils consist of predominantly glacial till derived fill of variable density. Given the high fines content of this material, it is considered highly moisture sensitive and will degrade under construction equipment during periods of wet weather. If work is to be conducted outside of the dry season, the near surface fill soils should be expected to degrade under construction traffic associated with the utility installation. If not mitigated, this degradation will likely impede construction progress and reduce the integrity of the road subbase. To mitigate this potential, we recommend that the contractor be prepared to place a non-moisture sensitive material, such as crushed rock, to provide a working surface along the proposed work areas. The thickness of this non-moisture sensitive material should be determined in the field based on needs at the time of the site work. We expect that standard trench boxes will be a sufficient means of temporary shoring for the utility installations.

Refuse

Where refuse is encountered within utility excavations handling, stockpiling and disposal of the refuse shall be completed per the requirements of the Consent Decree and the approved Health and Safety Plan. HWA recommends that a Mirafi® 500X (or equivalent) separator fabric be placed at the base of any trench extending into the refuse material.

4.6.6 Utility Foundation Recommendations

Proposed utility laterals may be founded within the near surface fill soils or within the underlying refuse where the refuse is close to the ground surface. Specific foundation recommendations are provided below for both conditions.

Utilities Founded in Fill

The near surface fill soils will provide suitable support for the new utilities and associated manholes, if they are properly excavated and prepared.

Where the fill soils are competent and do not require over-excavation, bedding material should be placed directly on the undisturbed fill soils. Trench bottoms should be free of debris and standing water. If subgrade soils are disturbed, the disturbed material should be removed down to undisturbed soil and replaced with properly placed and compacted bedding material. To minimize trench subgrade disturbance during excavation, the contractor should consider the use of an excavator with a smooth-edged bucket rather than a toothed bucket.

Utilities Founded within Refuse

Refuse encountered at the pipe invert elevation during excavation should be over-excavated to a depth of at least 6 inches below the base of the proposed pipe bedding. Over-excavation should extend the full width of the trench. Over excavated areas should be prepared by placing Mirafi® 500X (or equivalent) separator fabric over the exposed refuse and should be backfilled with foundation aggregate. The foundation material should be compacted to the extent possible prior to placing the pipe zone bedding.

4.6.7 Pipe Bedding

Pipe bedding should be provided to create a firm uniform cradle for support of the pipes. A minimum 12-inch thickness of bedding material beneath the pipe should be provided. Prior to installation of the pipe, the pipe bedding should be shaped to fit the lower part of the pipe exterior with reasonable closeness to provide uniform support along the pipe. Pipe bedding material should be used as pipe zone backfill and placed in layers and tamped around the pipes to obtain complete contact. To protect the pipe, bedding material should extend at least 12 inches above the top of the pipe. Pipe bedding materials should have a maximum aggregate size of 5/8 inch and less than 5 percent fines.

4.6.8 Trench Backfill Placement and Compaction

Proper placement and compaction of the trench backfill is extremely important to limit future settlement of the ground surface along the trench. Trench backfill should be uniformly moisture conditioned to within about 2 percent of optimum moisture content prior to placement in the trench. Properly prepared backfill, greater than 2 feet above the pipe bedding, should be placed in uniform loose lifts not to exceed 12 inches and densely compacted in a systematic manner using appropriately sized compaction equipment to achieve at least 95 percent of the maximum dry density as determined using ASTM D 1557 (Modified Proctor). Smaller loose lifts may be necessary to achieve compaction where less suitable materials are used, or when hand held compaction equipment such as jumping jacks, hoe-packs or plate compactors are used.

The contractor should develop compaction methods that consistently produce adequate compaction levels. Observation and testing of trench backfill placement by a representative of the HWA is recommended to help the contractor achieve proper backfill preparation and uniform moisture conditioning, loose lift thickness control and application of appropriate compaction effort.

During placement of the initial lifts, the trench backfill material should not be bulldozed into the trench or dropped directly on the pipe. Furthermore, heavy vibratory equipment should not be permitted to operate directly over the pipe until a minimum of 2 feet of backfill has been placed over the pipe bedding to an in-place density of at least 90 percent of the maximum dry density as determined using ASTM D 1557.

4.6.9 Utility Line Transitions

In areas where lines are to be pile supported or attached to pile supported structures, they should be bedded in pea gravel to allow for the material to flow around the pipe when settlements of the surrounding soils occur. In areas where utility lines go horizontally from grade supported to pile supported, the pea gravel bedding should extend at least 20 feet into the grade supported area from the beginning of the pile supported area and the pea gravel should be placed to at least 15 inches above the utility line. If utilities go are designed to go from grade supported to pile supported vertically and are designed to handle the differential settlement and elongation the use of pea gravel bedding will not be needed.

4.7 ONSITE ROADS AND PAVEMENTS

4.7.1 Permanent Roads and Pavements

It is our understanding that the Phase 2 site will include the construction of paved parking lot and delivery truck routes. HWA has developed recommended pavement sections for both parking areas and delivery truck routs. To facilitate the pavement design, the following estimated pavement subgrade parameters were used based on the laboratory analyses and experience in the general area of the project site with similar subgrade soils:

- Estimated Native Silty Sands Subgrade California Bearing Ratio (CBR) – 4
- Estimated Native Silty Sands Subgrade Resilient Modulus (MR) – 5,000 psi
- Reliability = 90%
- Standard Deviation = 0.5
- Initial Serviceability Index = 4.2
- Terminal Serviceability Index = 2.0
- Estimated Traffic Volumes
  - Light-Duty – 10,000 ESALs (Parking Areas)
  - Heavy-Duty – 970,900 ESALs (Delivery Routes and fire lanes)

The CBR value should be verified by formal laboratory testing and specific traffic frequencies and axle loading determined prior to pavement design acceptance. In accepting the following pavement designs based on the correlated CBR value, Shelter holdings must then accept a greater risk of over-design or pavement failure and/or higher maintenance costs, compared to an engineered design.

Table 4: Flexible Pavement Recommendations

	Pavement Loading Conditions	Assumed ESAL	Recommended Pavement Section
Hot-Mix Asphalt (HMA) Pavement	Light-Duty (Parking Areas)	10,000	2½ inches HMA over 4 inches Class II Aggregate Base
	Heavy Duty (Delivery Routes)	970,900	3 inches HMA over 5 inches of ATB, 12 inches Class II Aggregate Base
Rigid Concrete Pavement	Light-Duty (Parking Areas	10,000	6 inches of Concrete over 4 inches of Class II Aggregate Base
	Heavy Duty (Delivery Routes)	970,900	8 inches of Concrete over 4 inches of Class II Aggregate Base

The recommended pavement sections in Table 4 are based on the AASHTO design methods for flexible and rigid pavement design, and a design life of 20 years. The light duty pavement section is anticipated to be used in Parking Areas and the heavy-duty pavement section is anticipated in Delivery Truck Routes.

The "Light Duty" flexible pavement section is recommended for areas of passenger vehicle parking areas, and the "Heavy Duty" flexible pavement section is recommended for areas of delivery truck routes and turning areas. Periodic maintenance should be expected and performed on all pavements during the service life.

Concrete pavement design parameters include a 28-day mean modulus of rupture of 600 pounds per square inch (psi) and a 28-day mean modulus of elasticity of approximately 3,600,000 psi. The concrete mix design should consist of a normal weight concrete with a minimum 28-day compressive strength of 4,000 psi when tested in accordance to ASTM C39. The concrete should contain an air entraining admixture to resist the effects of freezing and thawing. The design of joints, joint spacing, doweling and steel/wire mesh reinforcement was not included in HWA's Scope-of-Services, but should conform to the applicable local or Washington State Department of Transportation (WSDOT) requirements.

All pavement materials and construction procedures should conform to WSDOT, or other local requirements, as appropriate.

Pavements may be placed after the subgrade has been properly prepared as outlined in this report. The recommended pavement sections were designed based on them being founded on firm subgrade conditions, i.e. undisturbed soil or structural fill, and that the pavement will be constructed during the dry summer months. Proof-rolling using a fully loaded tandem-axle dump truck should be used to evaluate pavement subgrade. Soft areas, those with ruts or deflections or greater than 1 inch disclosed by proof-rolling, will require over-excavation and replacement with properly compacted structural fill. Some contingencies should be provided by the Contractor for the repair of any soft areas.

Permanent, properly installed drainage is an essential aspect of pavement design and construction. All paved areas should have positive drainage to prevent ponding of surface water and saturation of the base course. This is particularly important in cut sections or at low points within the paved areas, such as around stormwater catch basins.

Vehicle traffic or the loading of partially constructed pavement sections will likely cause premature pavement failure. All vehicle traffic or pavement loading should be restricted until the pavement section has been completely constructed, or the partial pavement section must be designed for this purpose, particularly if construction traffic will use the partial pavement.

Due to the fact that the proposed pavement areas on the site are to be constructed across the landfill at grade and unsupported by piles the pavements are likely to experience significant settlements. These settlements will be variable across the site and could result in the development of low areas and premature pavement distress. A robust pavement maintenance program should be assumed for all pavement across the site. Additionally, HWA understands that pavements are not planned to be used as a gas barrier on this site. As a result, other types of barriers will need to be implemented below the pavements, such as a low permeability soil barrier (LPSB).

4.7.2 Temporary Access Roads, Laydown Yards and Trailer Pad.

To allow for site construction to occur, temporary roadways, laydown yards and trailer pads will need to be constructed. The near surface onsite soils were observed to have high silt contents and as a result are considered moisture sensitive. Therefore, protective cover of these temporary improvements is recommended. Prior to construction of these temporary improvements, the subgrade soils should be compacted to a firm and unyielding state, as determined by HWA, and then proof rolled using a tandem axel dump truck, or other HWA approved equipment, under the observation of HWA personnel. Soft spots observed should be excavated to firm soil conditions or to a maximum depth of 24 inches have Mirafi® 500X geotextile fabric (or equivalent), placed at the base of the excavation and then backfilled with structural fill. Upon completion of repairs proof rolls should be performed in repaired areas. A minimum of 12 inches of crushed rock, approved by HWA, should be placed above the prepared subgrades above a layer of Mirafi® 500X geotextile fabric (or equivalent) unless previous soft spot repair already necessitated the earlier use of the geotextile. All fill placed in this process should conform to the requirements in Section 4.12.1 of this report should be compacted in accordance with Section 4.12.2 of this report.

4.8 PERMANENT RETAINING WALLS

We do not expect that retaining walls will be required for the Phase 2 site. However, in the event that walls do become required, the following design recommendations should be used.

Design lateral earth pressures against retaining walls or other embedded structures depend on the drainage condition provided behind the wall, the geometry of the backfill slope, and the type of construction, i.e., the ability of the wall to yield. The two possible conditions regarding the ability of the wall to yield include the active and at-rest earth pressure cases. The active earth pressure case is applicable to a wall that is capable of yielding slightly away from the backfill by either sliding or rotating about its base. A conventional cantilever retaining wall is an example of a wall that can develop the active earth pressure case by yielding. The at-rest earth pressure case is applicable to a wall that is considered to be relatively rigid and laterally supported at the top and bottom and therefore is unable to yield.

We recommend that permanent drainage be provided behind retaining walls. In the event that any other embedded structures, such as utility vaults, are designed to be watertight, it should be assumed that the water table may rise to the ground surface at some time during the design life of the development and the resultant hydrostatic pressures should be included into the design of the walls.

Walls that are allowed to yield by tilting about their base should be designed using a lateral earth pressure based on an equivalent fluid having a unit weight of 35 pounds per cubic foot (pcf) for near horizontal backfill (less than 5 degrees). Non-yielding walls should be designed using a lateral earth pressure based on an equivalent fluid having a unit weight of 55 pcf for near

horizontal backfill (less than 5 degrees). The pressures listed above are ultimate pressures and do not include factors of safety, nor do they include hydrostatic pressures.

To account for seismic loading, the earth pressures should be considered to act on the wall as a uniform rectangular and should be added to the static earth pressures provided. For walls over 4 feet in height lateral seismic pressures may need to be included. Lateral seismic pressure can be assumed to act as a uniform pressure calculated using the equation 19.6*H pounds per square foot, where H is the exposed height of the wall. Over-compaction of the backfill behind walls should be avoided. We recommend that backfill be compacted to 95% of the maximum dry density (ASTM D 1557); however, heavy compactors and large pieces of construction equipment should not operate within 5 feet of any embedded wall to avoid the buildup of excessive lateral pressures. Compaction close to the walls should be accomplished using hand-operated compaction equipment.

If walls are place outside of the proposed pile supported structures, horizontal forces can be resisted partially or completely by frictional forces developed between the base of the wall footings and the underlying soils. The total shearing resistance between the foundation footprint and the soil should be taken as the normal force (i.e., the sum of all vertical forces, and dead loads, times the coefficient of friction between the soil and the base of the footing). HWA recommends utilizing an ultimate coefficient of friction value of 0.25 for design. If additional lateral resistance is required, ultimate passive earth pressures against embedded footings or walls that are at least 12 inches below external grades can be computed using a pressure based on an equivalent fluid with a unit weight of 250 pounds per cubic foot (pcf). This value is based on the fill being used around footings will be placed as engineered fill, and includes a reduction factor of 1.5. Walls should be designed accounting for minimum factors of safety of 1.5 for static conditions and 1.1 for seismic conditions.

4.9 ILLUMINATION FOUNDATIONS

We expect that parking lot illumination and associated illumination foundations will be constructed per the City of Everett Standard Plans. These plans require a 4-foot deep and 3-foot wide foundation to support the proposed illumination poles. We expect that the existing near surface soils will provide adequate lateral support for the proposed illumination foundations, provided areas of fill thinner than 4 feet are not encountered. However, it should be noted that grade supported illumination foundations will settle with the surrounding parking lot over time.

4.10 STORMWATER MANAGEMENT

Due to the Phase 2 site being within the limits of a closed landfill, on-site infiltration of storm water is not an acceptable means of storm water management. Therefore, storm water collection, treatment and discharge to a suitable outlet will be required.

4.11 LANDFILL GAS

The refuse across the site is expected to continue to generate landfill gasses throughout the design life of the development. Landfill gas collection will likely be required within the footprint of the proposed buildings and across the site. In addition to collection and disposal of landfill gas, measures should be implemented to prevent landfill gas from migrating along utility trench backfill and utilidors, and into manhole and vault structures. These measures could include placement of low permeability trench backfill at specific locations and around manholes structures to prevent gas migration. Due to the anticipated low rate of flow through the more recently placed landfill cap materials, it may be necessary to install gas collections systems below these cap fill soils or extend vertical pipes below the cap fill materials, at regular intervals to facilitate gas removal. Further evaluations with respect to gas migration along utility trenches and gas collection in general is being completed by Herrera.

4.11.1 Low Permeability Soil Barrier (LPSB)

It is our understanding that low permeability soil barrier (LPSB) is to be used as one of many tools to prevent migration of landfill gas to the surface within the Phase 2 site. Past projects within the landfill site have used LPSB material as a means of stopping the migration of landfill gas to the ground surface. A minimum thickness of 3 feet of LPSB has been used as a gas barrier in the past to reduce the potential for differential strain-induced tension cracks to penetrate through the entire layer depth. Historically, LPSB import sources have been identified and tested to ensure that they meet the gradation and permeability requirements to for the site. Generally, glacial till sources, meeting the gradation specifications shown below, have met the permeability requirements for LPSB ($1x10^{-5}$ cm/sec).

Sieve Size	Percent Passing
3 – inch	100
1 1/2 – inch	75-100
U.S. No. 4	45-75
U.S. No. 200	12-45

All percentages are by weight.

HWA has previously collected sample of the onsite landfill cap soil and till fill stockpiles around the site. Based on our testing of these onsite soils they have been found to meet the requirements of LPSB. Additional permeability testing is not considered to be necessary at this point, but grainsize and proctor analysis tests will be required for these materials to confirm that they are consistent with previously approved materials. However, if additional LPSB materials are required and are to be imported from an offsite source additional index testing, including permeability testing, will be required to confirm suitability for use as LPSB.

Due to the high moisture sensitivity of LPSB, placement and compaction should only be attempted during the dry times of year. Other types of gas barrier should be installed in areas requiring construction outside of the dry summer months.

4.11.2 Excavations through Existing LPSB

It is our understanding that the proposed development may require excavations or trenching that will extend through existing layers of LPSB that were placed as a landfill gas barrier during past projects. All excavations and/or trenching that extends through existing layers of LPSB should be backfilled in such a way to re-establish the continuity and functionality of the original LPSB layer. This will require that LPSB be placed and compacted at depths to match, to the extent feasible, the elevations of LPSB observed in the sidewall of the trench and/or excavation. LPSB placed in trench and/or excavations should consist of a minimum thickness of 3-feet. If more than 3 feet of existing LPSB in observed in the sidewalls of excavations, placement of more than 3 feet of LPSB back into the trench is not required.

4.11.3 Bentonite Sand Backfill

Bentonite Sand Backfill (BSB) is a contractor manufactured mixture of sand and bentonite that can be placed in areas not accessible by compaction equipment and achieve an in-place permeability of less than $1x10^{-5}$ cm/sec. BSB is generally used strategically to prevent gas migration along pipe bedding for utilities transitioning through LPSB, as trench damns, and around manhole/catch basins.

Like other gas barrier systems, BSB has a detailed acceptance and mix design procedure. This procedure involves combining a particular sand source and bentonite material then running permeability tests on various mix ratios of the sand and bentonite. Based on the results of these tests, a mix design that will achieve the desired permeability of less than $1x10^{-5}$ cm/sec can be recommended.

Once the mix design is provided to the contractor, they order the raw materials and develop a plan to generate the mix in the volumes required by the contract documents. This process is reviewed by the design team and generally involves mixing on site with a pug mill of bulk mixing within a constructed enclosure. Once the material is mixed, it must be protected from the elements to ensure that it does not take on excess moisture.

The creation of BSB is time consuming and costly. Therefore, it should only be used where required to achieve the desired gas barrier.

4.11.4 Gas Barrier Above Shallow Improvements

In some areas of the site pipe or other structure may be less than 3 feet from the surface and immediately around pipes LPSB is not always suitable for pipe bedding. In such areas pipes may be bedded or encased in BSB materials and then the remaining portion of the trench backfilled with LPSB. Provided at least 3 feet of the combination of BSB and LPSB exists a suitable gas barrier will be created.

4.12 GENERAL EARTHWORK

4.12.1 Structural Fill

Structural fill will be required in various location around the site. Structural fill may consist of either existing onsite soils or imported soil and should be approved by the project geotechnical engineer prior to use.

Onsite soils may be considered for reuse provided they can be suitably compacted to meet the compaction requirements for the areas they are being used. They should also be free of refuse and debris, particles larger than 4 inches in diameter, and significant organic materials. Organic content of structural fill soils should not exceed 3 percent. Due to the higher fines content (portion passing the U.S. Standard No. 200 sieve) of many of the onsite soils, they may be difficult if not impossible to compact during wetter times of year. As such special care should be taken to maintain the proper moisture content of these materials if they are to be used as structural fill.

If imported soil is to be used as structural fill it should be free of refuse, debris and significant organic materials, and particles larger than 2 inches in diameter. It should also have a plasticity index of less than 10, be free of organic material and have a fines content of less than 10 percent, unless otherwise approved by HWA.

4.12.2 Compaction

Structural fill soils should be placed in level lifts be moisture conditioned to near the material optimum moisture content and be compacted to at least 95 percent of ASTM D 1557 (Modified Proctor). However, fill placed at depths of greater than 3 feet below finish grade or within 5 feet of the top of retaining walls may use the minimum compaction requirement of 90 percent of ASTM D 1557. Structural fill should be placed in lifts no thicker than 12 inches. Depending upon the type of material and compaction equipment used thinner lifts may be necessary to achieve proper compaction. A suitable number of density tests, as determined by the geotechnical engineer, should be performed on the structural fill to verify compaction.

4.12.3 Wet Weather Earthwork

The Phase 2 site is underlain by near surface soils that are highly moisture sensitive. Construction traffic during periods of wet weather is expected to cause significant deterioration of the existing subgrade soils. Subgrade deterioration could impede construction activities and require importation of crushed rock to provide a working surface. We recommend that, to the maximum extent possible, construction grading and other site earthwork take place during the dry summer months. Planned construction actives outside of the dry summer months should assume the need to import non-moisture sensitive materials, such as crushed rock, to provide a stable working surface. Additionally, the Contractor must employ construction equipment and procedures that prevent disturbance and softening of the subgrade soils. The use of excavation equipment equipped with smooth-edged buckets for excavation with the concurrent placement of

granular work pads tends to minimize the potential for subgrade disturbance. Additionally, proper grading and compaction of surface soil can help support proper drainage limiting hydration of surface soils. Covering stockpiles with plastic to limit the over hydration of soil should also be considered.

It has been our experience that during warm, dry weather, the moisture content of the upper few feet of soil will decrease; however, below the upper few feet the moisture content of the soil tends to remain relatively unchanged and is often well above the optimum moisture content for compaction.

4.12.4 Excavations and Slopes

Excavations should be made in accordance with applicable Federal and State Occupational Safety and Health Administration regulations. Utility trenches in the near surface sand soils at the site will need to be sloped or shored from the ground surface due to the potential for caving. Actual inclinations will ultimately depend on the soil conditions encountered during earthwork. While we may provide certain approaches for trench and slope excavations, the contractor should be responsible for selecting the excavation technique, monitoring the trench and slope excavations for safety, and providing shoring, as required, to protect personnel and adjacent improvements. The information provided below is for use by the owner and engineer and should not be interpreted to mean that HWA is assuming responsibility for the contractor's actions or site safety. The near surface soils HWA encountered within the upper 10 feet of the site should be classified as Type C soil according to the most recent OSHA regulations and cut at no steeper than 1½H:1V. If excavations are anticipated to extend below an encountered groundwater table and/or groundwater flow exceeds anticipated levels, HWA should be notified and allowed to evaluate this classification. In our opinion, excavations should be safely sloped or shored. The contractor should be aware that excavation and shoring should conform to the requirements specified in the applicable local, state, and federal safety regulations, such as OSHA Health and Safety Standards for Excavations, 29 CFR Part 1926, or successor regulations. We understand that such regulations are being strictly enforced, and if not followed, the contractor may be liable for substantial penalties.

Excavation and construction operations may expose the on-site soils to inclement weather conditions. The stability of exposed soils may deteriorate due to a change in moisture content or the action of heavy or repeated construction traffic. Accordingly, foundation and pavement area excavations must be protected from the elements and from the action of repetitive or heavy construction loadings. In addition, it is recommended that surcharge loads due to construction traffic, material laydown, excavation spoils, etc., not be allowed within a horizontal distance of H/2 from the top of the cut, where H is the height of the cut.

Fill placed on slopes with inclinations greater than 4 horizontal to 1 vertical (4H:1V) should be keyed in at that base, brought up in lifts, and have the slopes overbuilt with material that can be cut to final grade the upon completion of slope construction. No permanent cut or fill soil slopes should exceed 2H:1V unless they have been designed and/or signed off by a licensed engineer.

4.13 FUTURE WORK

It is our understanding that HWA will be providing construction quality control to the geotechnical aspects of the Phase 2 site. This will include compaction testing, CESCL monitoring and reporting, pile driving observation, utility installation monitoring, pavement subgrade verification, pavement compaction testing, and summary reporting to the City and the Washington State Department of Ecology.

5.0 CONDITIONS AND LIMITATIONS

We have prepared this report for Shelter Holdings their client and agents for use in design and construction of the proposed Phase 2 area of the Everett Riverfront. The conclusions and interpretations presented in this report should not be construed as a warranty of the subsurface conditions. Experience has shown that soil and ground water conditions can vary significantly over small distances. Inconsistent conditions can occur between explorations and may not be detected by a geotechnical study of this scope and nature. If, during future site operations, subsurface conditions are encountered which vary appreciably from those described herein, HWA should be notified for review of the recommendations of this report, and revision of such if necessary.

We recommend HWA be retained to review the plans and specifications to verify that our recommendations have been interpreted and implemented as intended. Sufficient geotechnical monitoring, testing, and consultation should be provided by HWA during construction to confirm the conditions encountered are consistent with those indicated by the explorations, to provide recommendations for design changes should conditions revealed during construction differ from those anticipated, and to verify that the geotechnical aspects of construction comply with the contract plans and specifications.

Within the limitations of scope, schedule and budget, HWA executed these services in accordance with generally accepted professional principles and practices in the fields of geotechnical engineering and engineering geology in the area at the time the report was prepared. No warranty, express or implied, is made.

HWA does not practice or consult in the field of safety engineering. We do not direct the contractor's operations and cannot be responsible for the safety of personnel other than our own on the site. As such, the safety of others is the responsibility of the contractor. The contractor should notify the owner if any of the recommended actions presented herein are considered unsafe.

December 8, 2021
HWA Project No. 2015-061-21

We appreciate the opportunity to provide geotechnical services on this project. Should you have any questions or comments, or if we may be of further service, please do not hesitate to call.

Sincerely,

HWA GEOSCIENCES INC.

Michael S. Place, P.E.

Senior Geotechnical Engineer

6.0 REFERENCES

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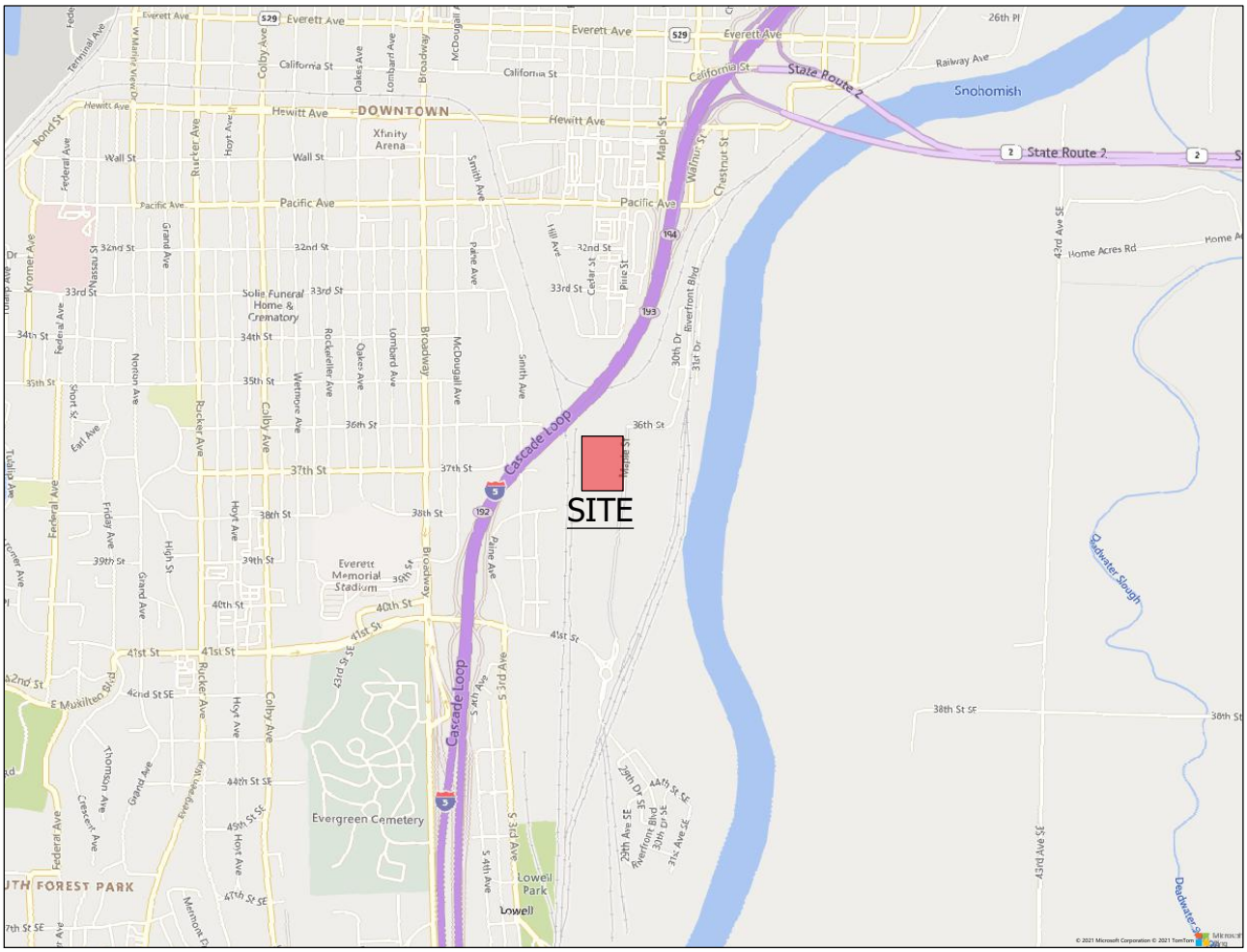
SITE MAP

0 200' 400' 600' 800'

SCALE: 1" = 400'



VICINITY MAP

0 1000' 2000' 3000' 4000'

SCALE: 1" = 2000'

GeoSciences Inc.
DBE/MWBE

SITE AND VICINITY MAP

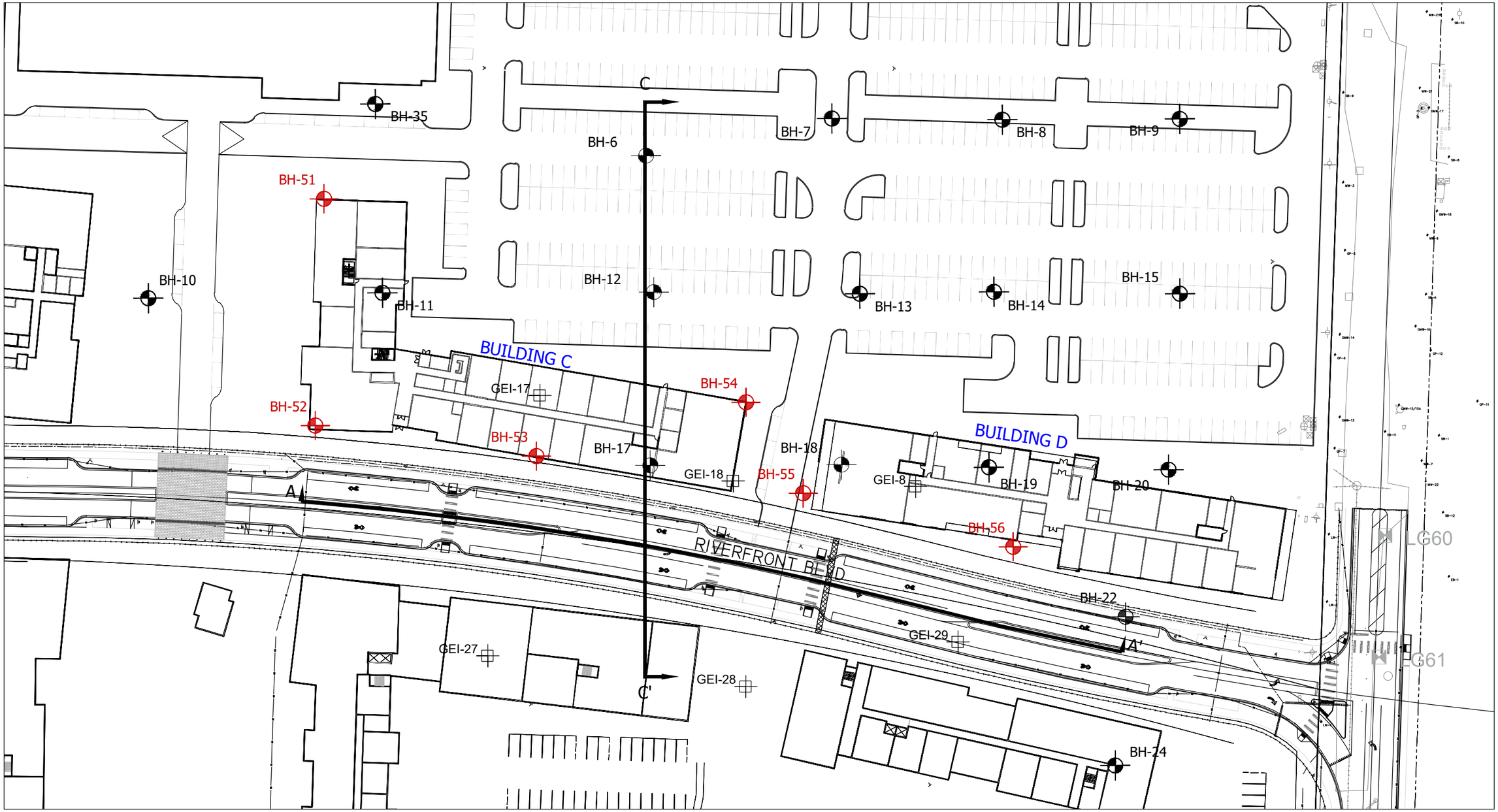
GEOTECHNICAL ENGINEERING REPORT
PHASE 2
EVERETT, WASHINGTON

FIGURE NO.: 1

DRAWN BY: CF
CHECK BY: AO/MSP

PROJECT # 2015-061-21

C:\USERS\CFRY\DESKTOP\2015-061-21 EVERETT RIVERFRONT\CAD (FIG 2)\2015-061 T600 EVERETT RIVERFRONT.DWG <1> Plotted: 12/6/2021 2:06 PM



RIVERFRONT BOULEVARD
Scale: 1" = 80'-0"

EXPLORATION LEGEND

BH-51 BOREHOLE DESIGNATION AND APPROX. LOCATION (HWA, 2021)

BH-35 BOREHOLE DESIGNATION AND APPROX. LOCATION (HWA, 2017)

GEI-30 BOREHOLE DESIGNATION AND APPROX. LOCATION (GEOENGINEERS, 2008)

A A' GEOLOGIC CROSS SECTION

N

0 40 80 120 160

SCALE: 1" = 80'

BASE MAP PROVIDED BY: PERTEET 03.06.2020

HWA GEOSCIENCES INC. DBE/MWBE

GEOTECHNICAL ENGINEERING REPORT
PHASE 2
EVERETT, WASHINGTON

SITE & EXPLORATION PLAN

DRAWN BY:	FIGURE NO.:
CF	2
CHECK BY:	PROJECT NO.:
AO/MSP	2015-061-21

C:\USERS\CFRY\DESKTOP\2015-061-21 EVERETT RIVERFRONT\CAD (FIG 2)\2015-061 T600 EVERETT RIVERFRONT.DWG <2> Plotted: 12/7/2021 12:48 PM

NOTES

- The subsurface conditions shown are based on widely spaced borings and should be considered approximate. Further, the contact lines shown between units are interpretive in nature and may vary laterally or vertically over relatively short distances on site.
- Geologic contacts associated with geoengineers borings have been updated to reflect preload settlement based on nearby settlement plate readings.

SYMBOL LEGEND

BH-35 — BORING DESIGNATION (HWA - 2017)

GEI-30 — BORING DESIGNATION (GEI - 2008)

BH-50 — BORING DESIGNATION (HWA - 2021)

ZONE SUSCEPTIBLE TO LIQUEFACTION

BORE LEGEND

BH-11 — BOREHOLE DESIGNATION

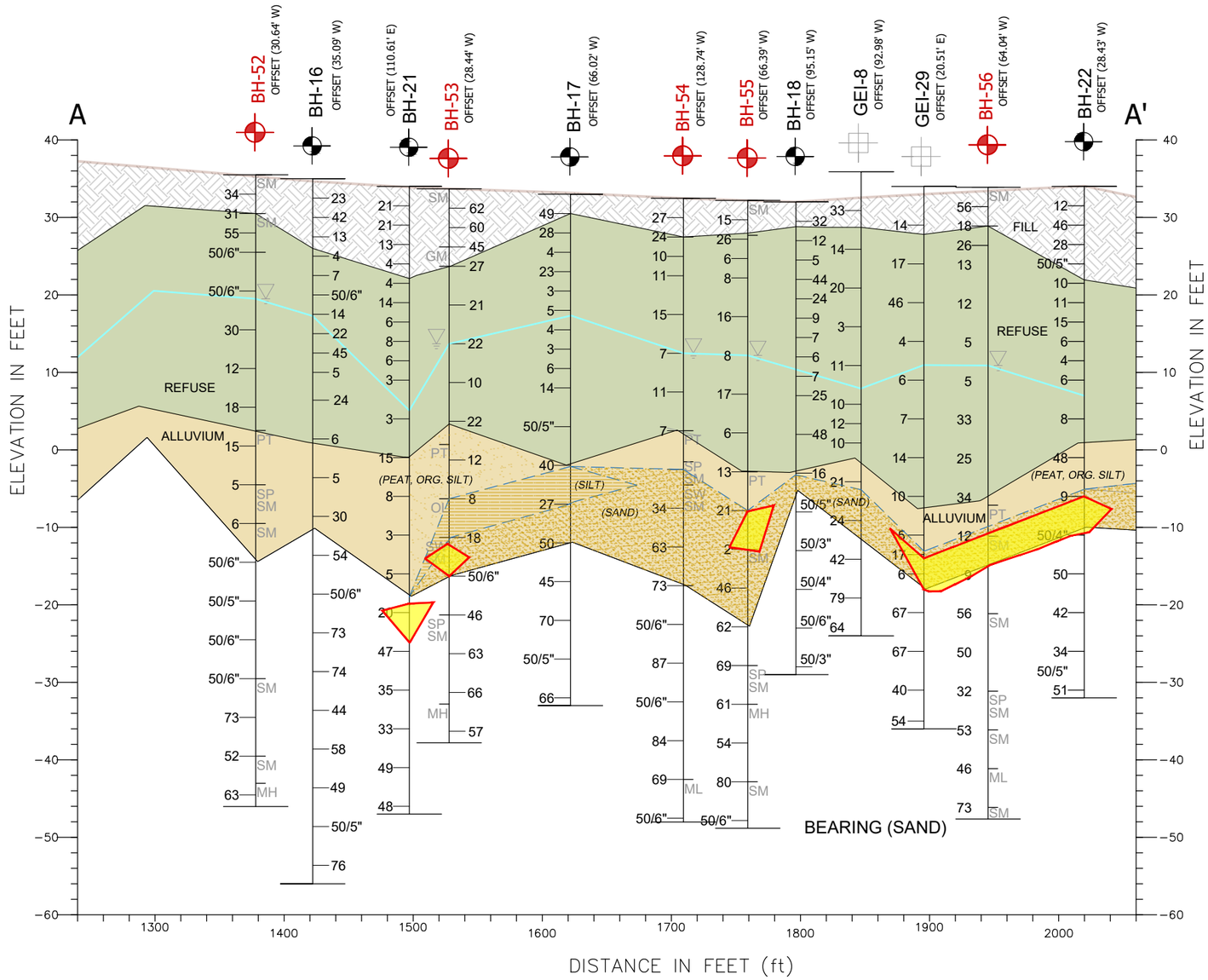
SM — USCS SOIL CLASS

6 — BLOW COUNT "N-VALUE "

WATER LEVEL AT TIME OF DRILLING

29 — INFERRED GEOLOGIC CONTACT

35 — BOTTOM OF BORING



GeoSciences Inc. DBE/MWBE

GEOTECHNICAL ENGINEERING REPORT
PHASE 2
EVERETT, WASHINGTON

LIQUEFIABLE SOIL
SECTION A-A'

DRAWN BY:	FIGURE NO.:
CF	3A
CHECK BY:	PROJECT NO.:
AO/MSP	2015-061-21

NOTES

- The subsurface conditions shown are based on widely spaced borings and should be considered approximate. Further, the contact lines shown between units are interpretive in nature and may vary laterally or vertically over relatively short distances on site.
- Geologic contacts associated with geoengineers borings have been updated to reflect preload settlement based on nearby settlement plate readings.

SYMBOL LEGEND

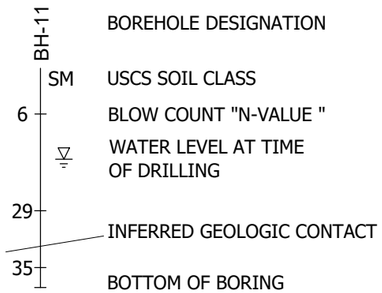
ZONE SUSCEPTIBLE TO LIQUEFACTION

BH-35 BORING DESIGNATION (HWA -2017)

GEI-30 BORING DESIGNATION (GEOENGINEERS, 2008)

BH-50 BORING DESIGNATION (HWA - 2021)

BORE LEGEND



BOREHOLE DESIGNATION

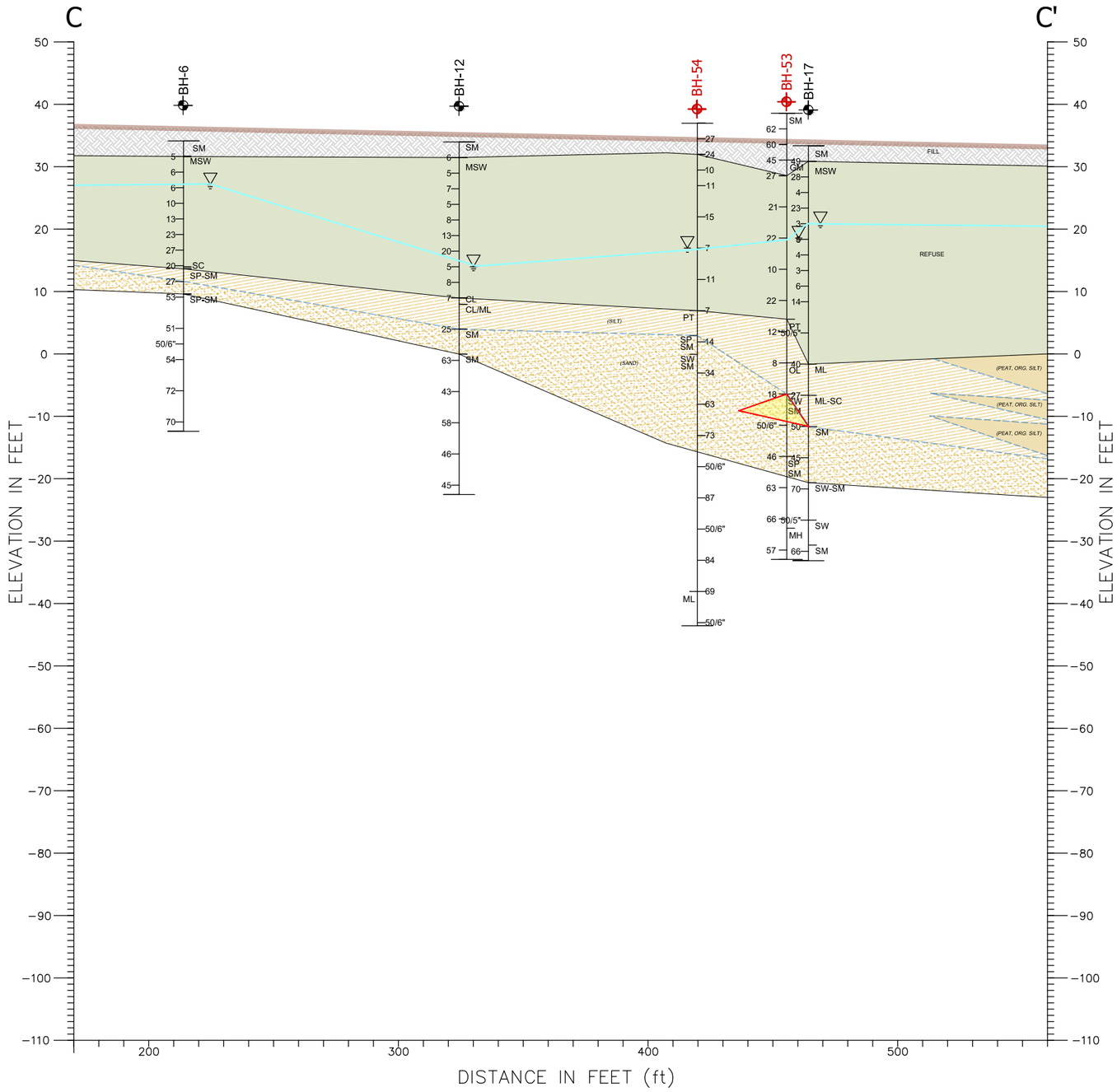
USCS SOIL CLASS

BLOW COUNT "N-VALUE "

WATER LEVEL AT TIME OF DRILLING

INFERRED GEOLOGIC CONTACT

BOTTOM OF BORING



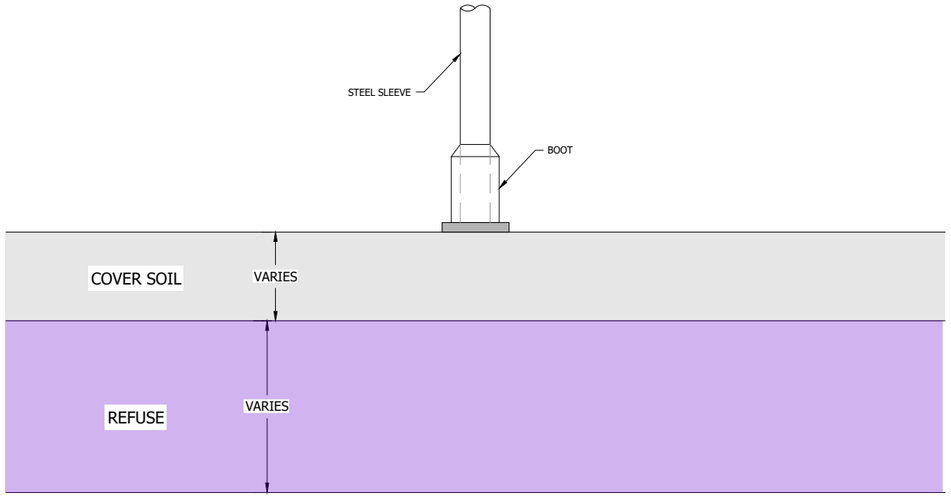
GeoSciences Inc. DBE/MWBE

GEOTECHNICAL ENGINEERING REPORT
PHASE 2
EVERETT, WASHINGTON

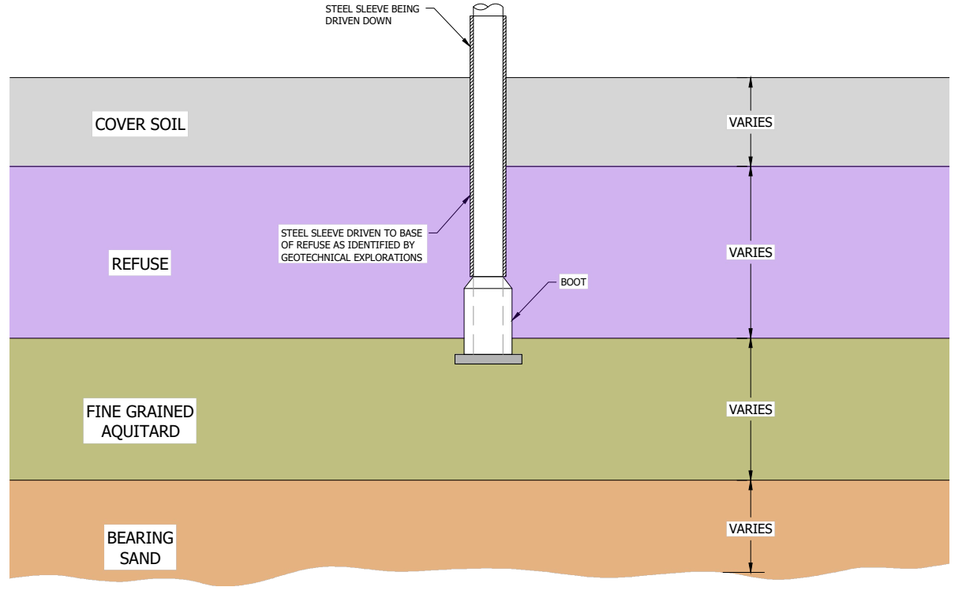
LIQUEFIABLE SOIL
SECTION C-C'

DRAWN BY:	FIGURE NO.:
CF	3B
CHECK BY:	PROJECT NO.:
AO	2015-061-21

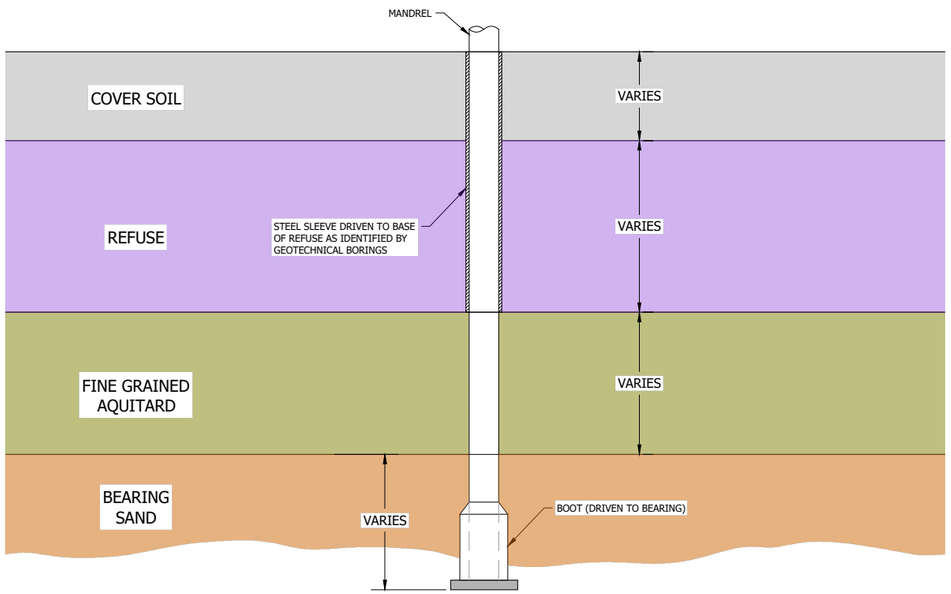
STEP 1: SET UP



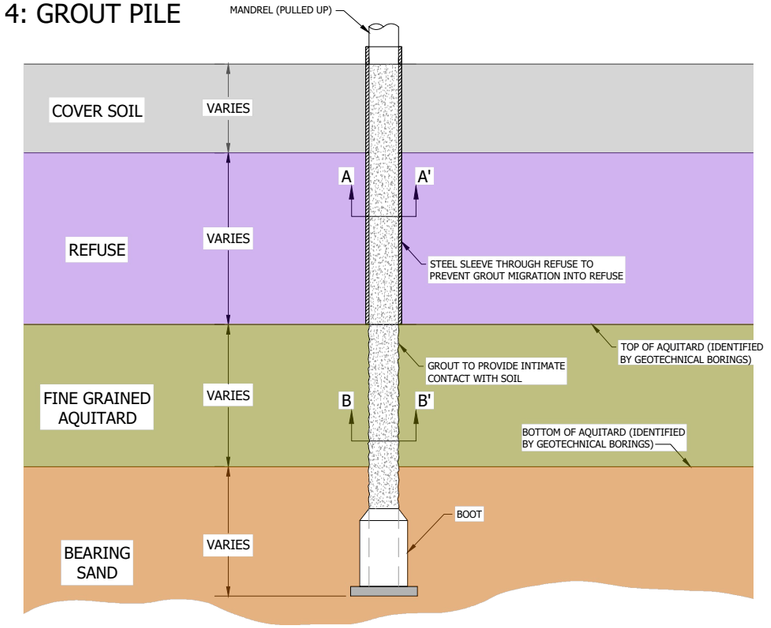
STEP 2: DRIVE STEEL SLEEVE

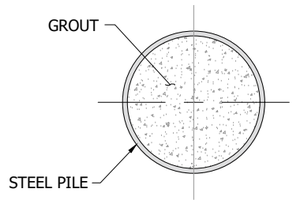


STEP 3: DRIVE MANDREL

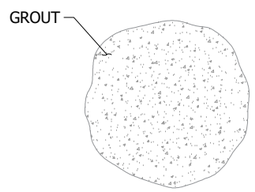


STEP 4: GROUT PILE





CROSS SECTION A-A'



CROSS SECTION B-B'

HWA GeoSciences Inc.

GEOTECHNICAL ENGINEERING REPORT
PHASE 2
EVERETT, WASHINGTON

DRIVEN GROUT PILE WITH SLEEVE THROUGH REFUSE

DRAWN BY	BFM
CHECK BY	MSP
DATE:	12.8.2021
FIGURE #	4
PROJECT #	2015-061-21

APPENDIX A

FIELD INVESTIGATION

APPENDIX A
FIELD INVESTIGATION

The subsurface exploration program consisted of 6 boreholes, drilled to depths ranging from about 71½ to 81½ feet below the existing ground surface. Under subcontract to Shelter Holdings, Holocene Drilling, Inc. of Puyallup, Washington, drilled the borings from November 1, 2021, to November 3, 2021. The borings were drilled using a track-mounted Diedrich D-50 Turbo tracked drill rig.

All 6 subsurface explorations conducted for the proposed Phase II site area were joint hollow stem auger and mud rotary borings. The rigs were deployed onsite, equipped with eight-inch outer diameter hollow stem augers and 4½-inch diameter tri-cone bits for mud rotary. Each boring used the hollow stem auger technique down past the bottom of the refuse, then switched over to mud rotary for the rest of the boring. The switchover depth generally varied from approximately 40 to 50 feet below the existing ground surface across the site.

Exploration locations were surveyed and staked in the field prior to drilling. The approximate exploration locations are shown on the Site and Exploration Plan, Figure 2.

Each of the explorations was completed under the full-time observation of an HWA engineering or environmental geologist. HWA personnel recorded pertinent information including soil sample depths, stratigraphy, soil engineering characteristics and groundwater occurrence as the explorations were drilled. Soils were classified in general accordance with the classification system described in Figure A-1, which also provides a key to the exploration log symbols. Soil layers containing refuse are left blank in the left-hand column for soil symbols because of the wide variety of conditions in the refuse. The summary logs of boreholes are presented on Figures A-2 through A-7. The stratigraphic contacts shown on the individual logs represent the approximate boundaries between soil types. The actual transitions may be more gradual.

Where possible, intact soil samples were obtained using Shelby tubes. Shelby tubes were advanced into soft soils by drill rig hydraulics.

Standard Penetration Test (SPT) samples were obtained by driving a two-inch split spoon sampler at the end of drilling rods (threaded heavy steel pipe). The SPT sample rods were driven with a 140-lb hammer with a 30-inch drop, at 2½-foot intervals from 2½ feet bgs to 10 feet bgs and at 5-foot intervals after that. Soil samples were collected in sample bags and catalogued. SPT's were conducted using a 2-inch samples and no California Modified Samplers were used.

Soil boring cuttings were placed in steel 55-gallon drums. These were sealed and set near the boring locations for future disposal in a refuse disposal area on the Everett Riverfront Development area. Disposal will be arranged by Shelter Holdings.

Upon completion, each borehole was abandoned in accordance with Department of Ecology requirements. Bentonite grout was mixed and pumped into each boring. Typically, the grout settled several feet, such that on a subsequent day each borehole was topped off to the ground surface with bentonite chips.

RELATIVE DENSITY OR CONSISTENCY VERSUS SPT N-VALUE

COHESIONLESS SOILS			COHESIVE SOILS		
Density	N (blows/ft)	Approximate Relative Density(%)	Consistency	N (blows/ft)	Approximate Undrained Shear Strength (psf)
Very Loose	0 to 4	0 - 15	Very Soft	0 to 2	<250
Loose	4 to 10	15 - 35	Soft	2 to 4	250 - 500
Medium Dense	10 to 30	35 - 65	Medium Stiff	4 to 8	500 - 1000
Dense	30 to 50	65 - 85	Stiff	8 to 15	1000 - 2000
Very Dense	over 50	85 - 100	Very Stiff	15 to 30	2000 - 4000
			Hard	over 30	>4000

USCS SOIL CLASSIFICATION SYSTEM

MAJOR DIVISIONS			GROUP DESCRIPTIONS	
Coarse Grained Soils (More than 50% Retained on No. 200 Sieve)	Gravel and Gravelly Soils, More than 50% of Coarse Fraction Retained on No. 4 Sieve	Clean Gravel (Little to no Fines)	GW	Well-graded GRAVEL
			GP	Poorly-graded GRAVEL
		Gravel with Fines (Appreciable Amount of Fines)	GM	Silty GRAVEL
			GC	Clayey GRAVEL
	Sand and Sandy Soils, 50% or More of Coarse Fraction Passing No. 4 Sieve	Clean Sand (Little to no Fines)	SW	Well-graded SAND
			SP	Poorly-graded SAND
		Sand with Fines (Appreciable Amount of Fines)	SM	Silty SAND
			SC	Clayey SAND
Fine Grained Soils (50% or More Passing the No. 200 Sieve)	Non-Plastic or Low to Moderate Plasticity Silts and Clays	Liquid Limit Less than 50%	ML	SILT
			CL	Lean CLAY
			OL	Organic SILT/Organic CLAY
	High Plasticity Silts and Clays	Liquid Limit 50% or More	MH	Elastic SILT
			CH	Fat CLAY
			OH	Organic SILT/Organic CLAY
Highly Organic Soils			PT	PEAT

TEST SYMBOLS

%F	Percent Fines
AL	Atterberg Limits: PL = Plastic Limit, LL = Liquid Limit
CBR	California Bearing Ratio
CN	Consolidation
DD	Dry Density (pcf)
DS	Direct Shear
GS	Grain Size Distribution
K	Permeability
MD	Moisture/Density Relationship (Proctor)
MR	Resilient Modulus
PID	Photoionization Device Reading
PP	Pocket Penetrometer, Approx. Compressive Strength (tsf)
SG	Specific Gravity
TC	Triaxial Compression
TV	Torvane, Approx. Shear Strength (tsf)
UC	Unconfined Compression

SAMPLE TYPE SYMBOLS

- 2.0" OD Split Spoon (SPT) (140 lb. hammer with 30 in. drop)
- Shelby Tube
- 3-1/4" OD Split Spoon with Brass Rings
- Small Bag Sample
- Large Bag (Bulk) Sample
- Core Run
- Non-standard Penetration Test (3.0" OD split spoon)

GROUNDWATER SYMBOLS

- Groundwater Level (measured at time of drilling)
- Groundwater Level (measured in well or open hole after water level stabilized)

COMPONENT DEFINITIONS

COMPONENT	SIZE RANGE
Boulders	Larger than 12 in
Cobbles	3 in to 12 in
Gravel	3 in to No 4 (4.5mm)
Coarse gravel	3 in to 3/4 in
Fine gravel	3/4 in to No 4 (4.5mm)
Sand	No. 4 (4.5 mm) to No. 200 (0.074 mm)
Coarse sand	No. 4 (4.5 mm) to No. 10 (2.0 mm)
Medium sand	No. 10 (2.0 mm) to No. 40 (0.42 mm)
Fine sand	No. 40 (0.42 mm) to No. 200 (0.074 mm)
Silt and Clay	Smaller than No. 200 (0.074mm)

COMPONENT PROPORTIONS

PROPORTION RANGE	DESCRIPTIVE TERMS
< 5%	Clean
5 - 12%	Slightly (Clayey, Silty, Sandy)
12 - 30%	Clayey, Silty, Sandy, Gravelly
30 - 50%	Very (Clayey, Silty, Sandy, Gravelly)
Components are arranged in order of increasing quantities.	

NOTES: Soil classifications presented on exploration logs are based on visual and laboratory observation.
Soil descriptions are presented in the following general order:

Density/consistency, color, modifier (if any) GROUP NAME, additions to group name (if any), moisture content. Proportion, gradation, and angularity of constituents, additional comments. (GEOLOGIC INTERPRETATION)

Please refer to the discussion in the report text as well as the exploration logs for a more complete description of subsurface conditions.

MOISTURE CONTENT

DRY	Absence of moisture, dusty, dry to the touch.
MOIST	Damp but no visible water.
WET	Visible free water, usually soil is below water table.

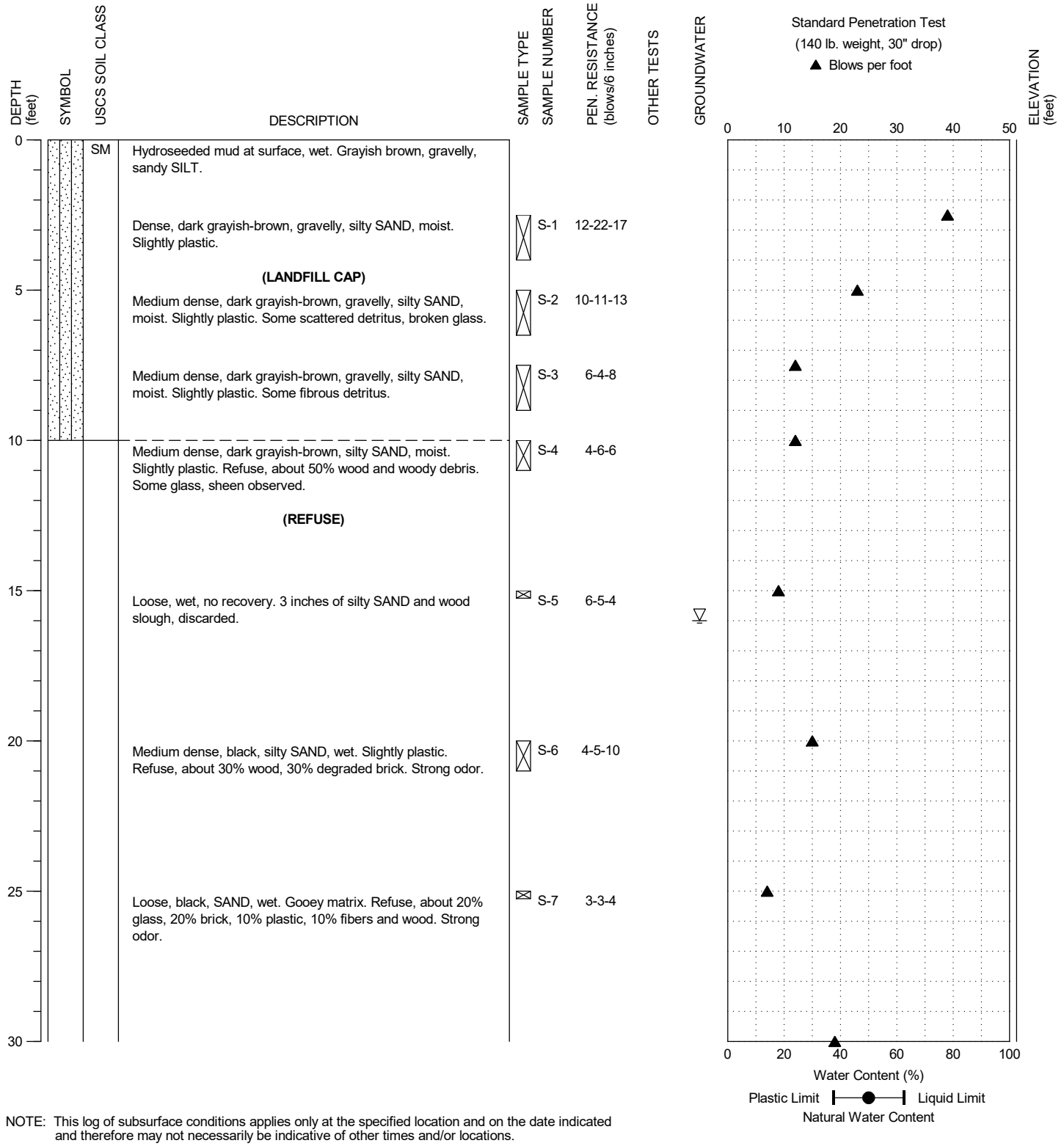
HWA GEOSCIENCES INC.

LEGEND OF TERMS AND SYMBOLS USED ON EXPLORATION LOGS

FIGURE: A-1

DRILLING COMPANY: Holocene Drilling
DRILLING METHOD: Dietrich D-50 Turbo, HSA & Mud Rotary
SAMPLING METHOD: SPT with Autohammer
LOCATION: See Figure 2

DATE STARTED: 11/1/2021
DATE COMPLETED: 11/1/2021
LOGGED BY: A. Ong



NOTE: This log of subsurface conditions applies only at the specified location and on the date indicated and therefore may not necessarily be indicative of other times and/or locations.

GeoSciences Inc.

EVERETT RIVERFRONT DEVELOPMENT
RIVERFRONT BOULEVARD
EVERETT, WASHINGTON

BORING:
BH-51

PROJECT NO.: 2015-061

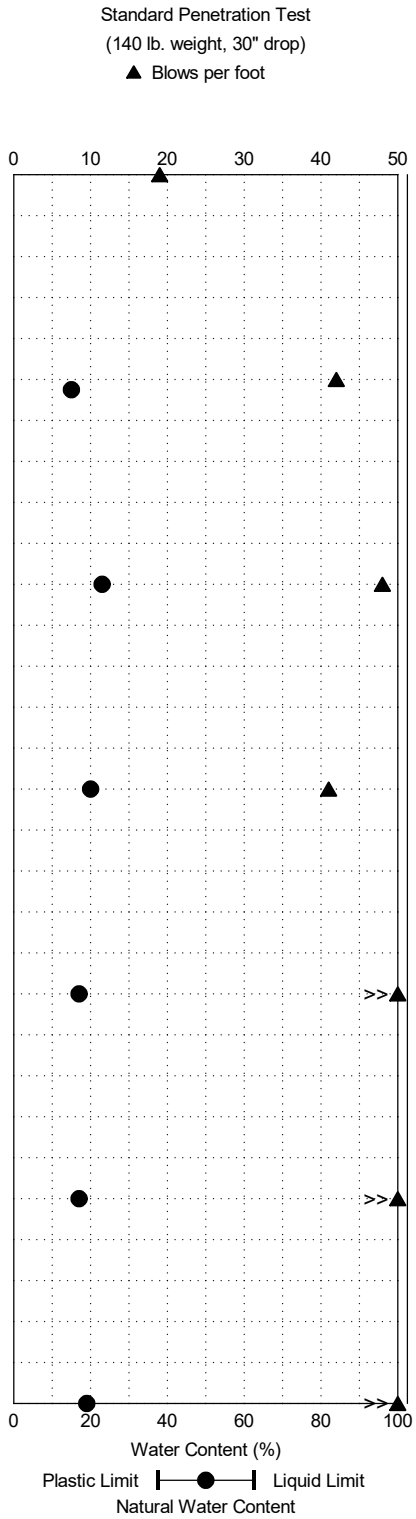
FIGURE: A-2

DRILLING COMPANY: Holocene Drilling
DRILLING METHOD: Dietrich D-50 Turbo, HSA & Mud Rotary
SAMPLING METHOD: SPT with Autohammer
LOCATION: See Figure 2

DATE STARTED: 11/1/2021
DATE COMPLETED: 11/1/2021
LOGGED BY: A. Ong

DEPTH (feet)	SYMBOL	USCS SOIL CLASS	DESCRIPTION	SAMPLE TYPE / SAMPLE NUMBER	PEN. RESISTANCE (blows/6 inches)	OTHER TESTS
30		SM	2 inches of wet refuse at top of 30-foot sample, about 70% wood fibers, 10% plastic. Abrupt transition.	S-8a S-8b	3-7-12	
			Medium dense, dark bluish-gray, thinly bedded silty SAND, moist. with organics.			
			(ALLUVIUM)			
35		SM	Dense. Upper 3 inches gray, silty, medium SAND, wet. Lower 15 inches olive brown, slightly gravelly, silty, medium SAND, moist. Dilatant. Abrupt transition.	S-9a S-9b	14-18-24	GS
			(ADVANCE OUTWASH)			
40		SP SM	Dense, olive-brown, slightly silty, poorly-graded medium SAND, wet. Dilatant.	S-10	8-24-24	
			Switch to mud rotary.			
45			ome scattered subangular/subrounded coarse sand. Finer sections are siltier than coarser sections.	S-11	16-20-21	GS
50				S-12	24-26-30	
55		SM	Very dense, moist. Upper 12 inches olive-brown, silty, medium SAND. Scattered subrounded coarse sand and gravel. Lower 6 inches oxidized olive brown, slightly silty to silty, thinly bedded fine sand. Oxidation in thin bands within bedding. Abrupt transition.	S-13a S-13b	24-35-33	
60						

GROUNDWATER



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GeoSciences Inc.

EVERETT RIVERFRONT DEVELOPMENT
RIVERFRONT BOULEVARD
EVERETT, WASHINGTON

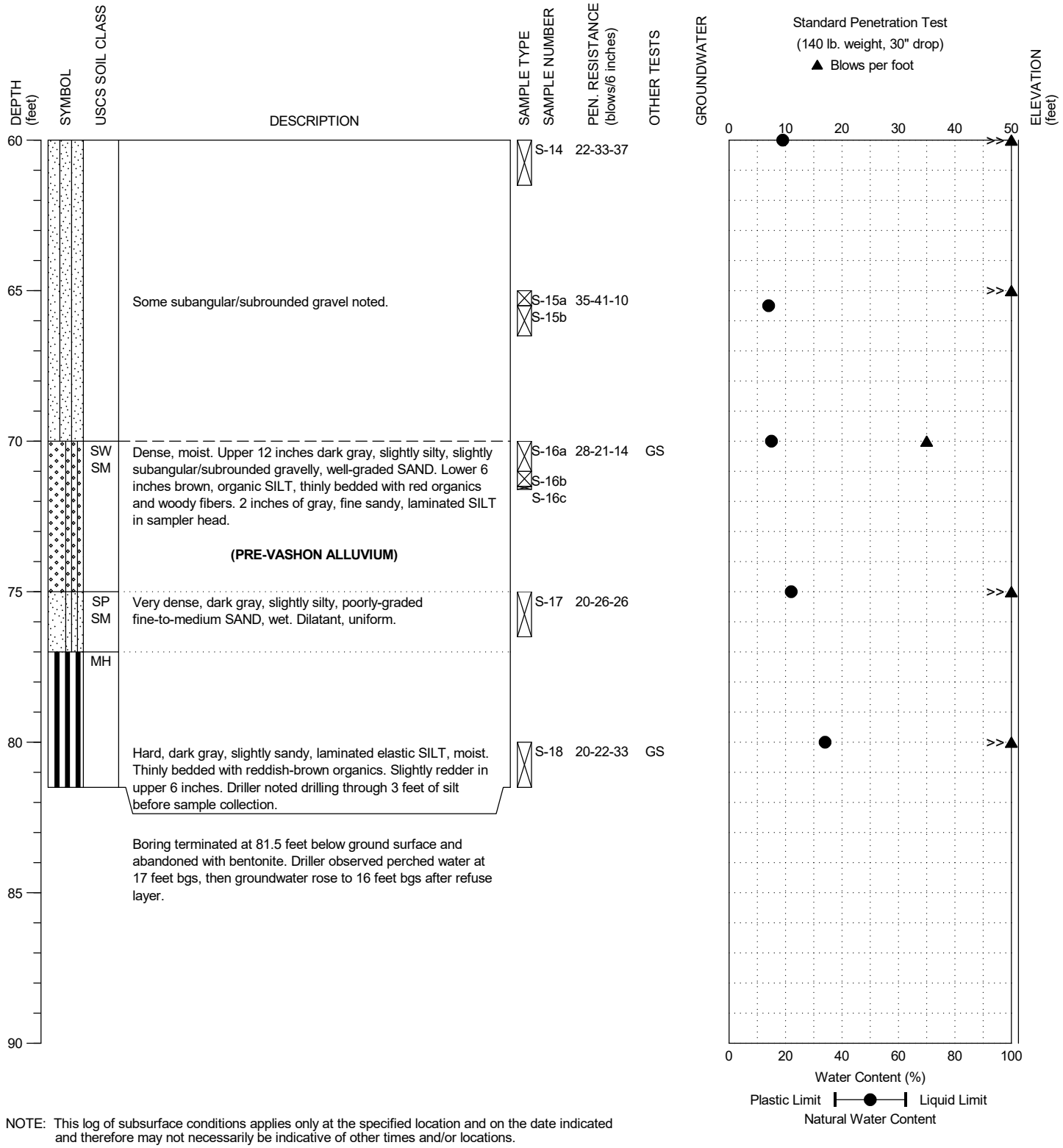
BORING:
BH-51

PROJECT NO.: 2015-061

FIGURE: A-2

DRILLING COMPANY: Holocene Drilling
DRILLING METHOD: Dietrich D-50 Turbo, HSA & Mud Rotary
SAMPLING METHOD: SPT with Autohammer
LOCATION: See Figure 2

DATE STARTED: 11/1/2021
DATE COMPLETED: 11/1/2021
LOGGED BY: A. Ong



NOTE: This log of subsurface conditions applies only at the specified location and on the date indicated and therefore may not necessarily be indicative of other times and/or locations.

GeoSciences Inc.

EVERETT RIVERFRONT DEVELOPMENT
RIVERFRONT BOULEVARD
EVERETT, WASHINGTON

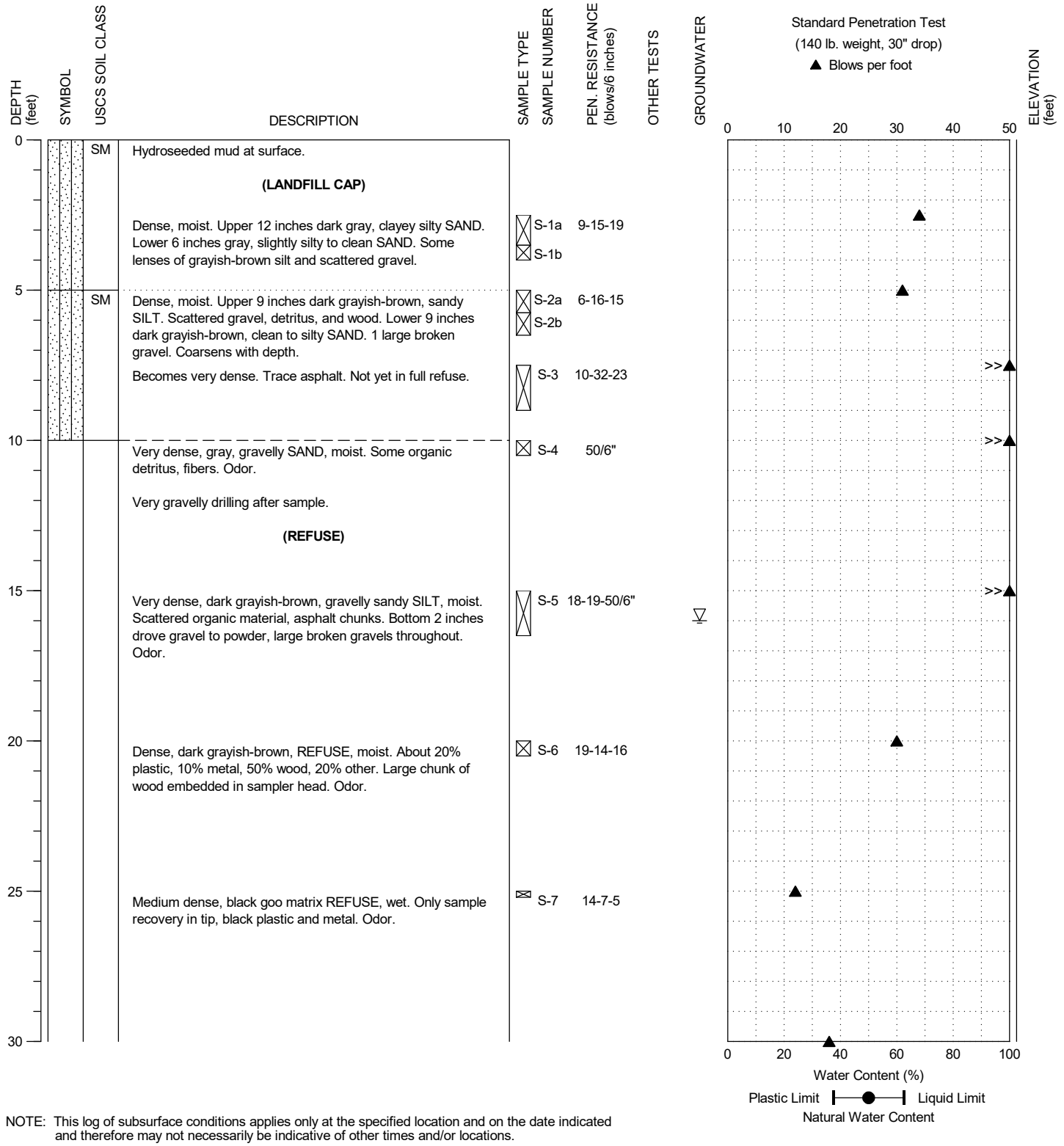
BORING:
BH-51

PROJECT NO.: 2015-061

FIGURE: A-2

DRILLING COMPANY: Holocene Drilling
DRILLING METHOD: Dietrich D-50 Turbo, HSA & Mud Rotary
SAMPLING METHOD: SPT with Autohammer
LOCATION: See Figure 2

DATE STARTED: 11/1/2021
DATE COMPLETED: 11/1/2021
LOGGED BY: A. Ong



NOTE: This log of subsurface conditions applies only at the specified location and on the date indicated and therefore may not necessarily be indicative of other times and/or locations.

GeoSciences Inc.

EVERETT RIVERFRONT DEVELOPMENT
RIVERFRONT BOULEVARD
EVERETT, WASHINGTON

BORING:
BH-52

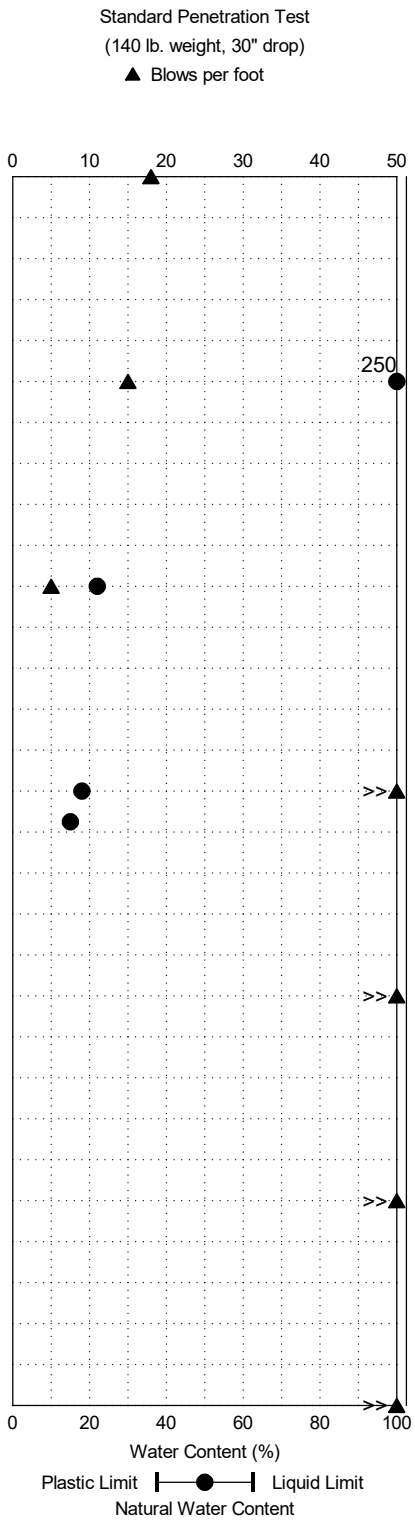
PROJECT NO.: 2015-061

FIGURE: A-3

DRILLING COMPANY: Holocene Drilling
DRILLING METHOD: Dietrich D-50 Turbo, HSA & Mud Rotary
SAMPLING METHOD: SPT with Autohammer
LOCATION: See Figure 2

DATE STARTED: 11/1/2021
DATE COMPLETED: 11/1/2021
LOGGED BY: A. Ong

DEPTH (feet)	SYMBOL	USCS SOIL CLASS	DESCRIPTION	SAMPLE TYPE	SAMPLE NUMBER	PEN. RESISTANCE (blows/6 inches)	OTHER TESTS
30			Medium dense, black goo matrix silty SAND, wet. Refuse, about 10% broken glass, 20% woody debris, 5% plastic. Odor.	☒	S-8	15-9-9	
		PT					
35			Stiff, very dark brown, PEAT, moist. 6 inches of black goo slough at top. Odor.	☒	S-9	3-6-9	
			(ALLUVIUM)				
40		SP SM	Loose, dark olive-gray, poorly-graded SAND, wet. 1 inch of soft red peat at top. 6 inches of black goo silty, gravelly slough. Driller noted a couple feet of heave. Blow counts likley unrepresentatively low.	☒	S-10	8-4-1	%F
45		SM	Very dense, wet. Upper 9 inches olive-brown, slightly silty to silty, poorly-graded medium SAND. 1 inch lens of subrounded coarse sand at bottom of section. Lower 9 inches olive-brown, silty fine SAND. Thinly bedded and oxidized in bands. Switch to mud rotary.	☒	S-11a	20-28-33	
				☒	S-11b		GS
			(ADVANCE OUTWASH)				
50			Very dense, olive brown, silty, clayey SAND, wet. Some gravel slough, collected.	☒	S-12	50/6"	
55			no recovery.		S-13	50/5"	
60							



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EVERETT RIVERFRONT DEVELOPMENT
RIVERFRONT BOULEVARD
EVERETT, WASHINGTON

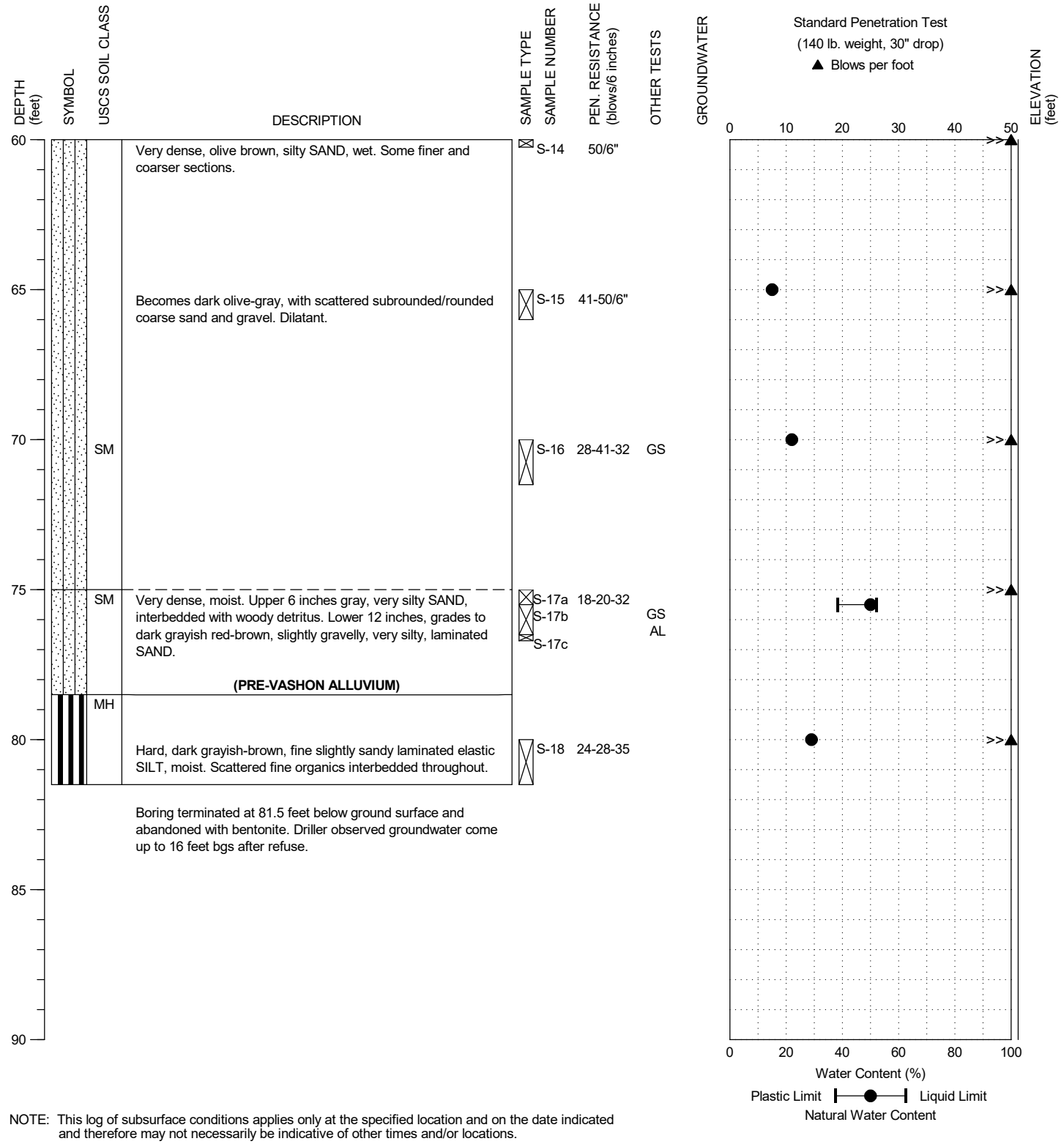
BORING:
BH-52

PROJECT NO.: 2015-061

FIGURE: A-3

DRILLING COMPANY: Holocene Drilling
DRILLING METHOD: Dietrich D-50 Turbo, HSA & Mud Rotary
SAMPLING METHOD: SPT with Autohammer
LOCATION: See Figure 2

DATE STARTED: 11/1/2021
DATE COMPLETED: 11/1/2021
LOGGED BY: A. Ong



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EVERETT RIVERFRONT DEVELOPMENT
RIVERFRONT BOULEVARD
EVERETT, WASHINGTON

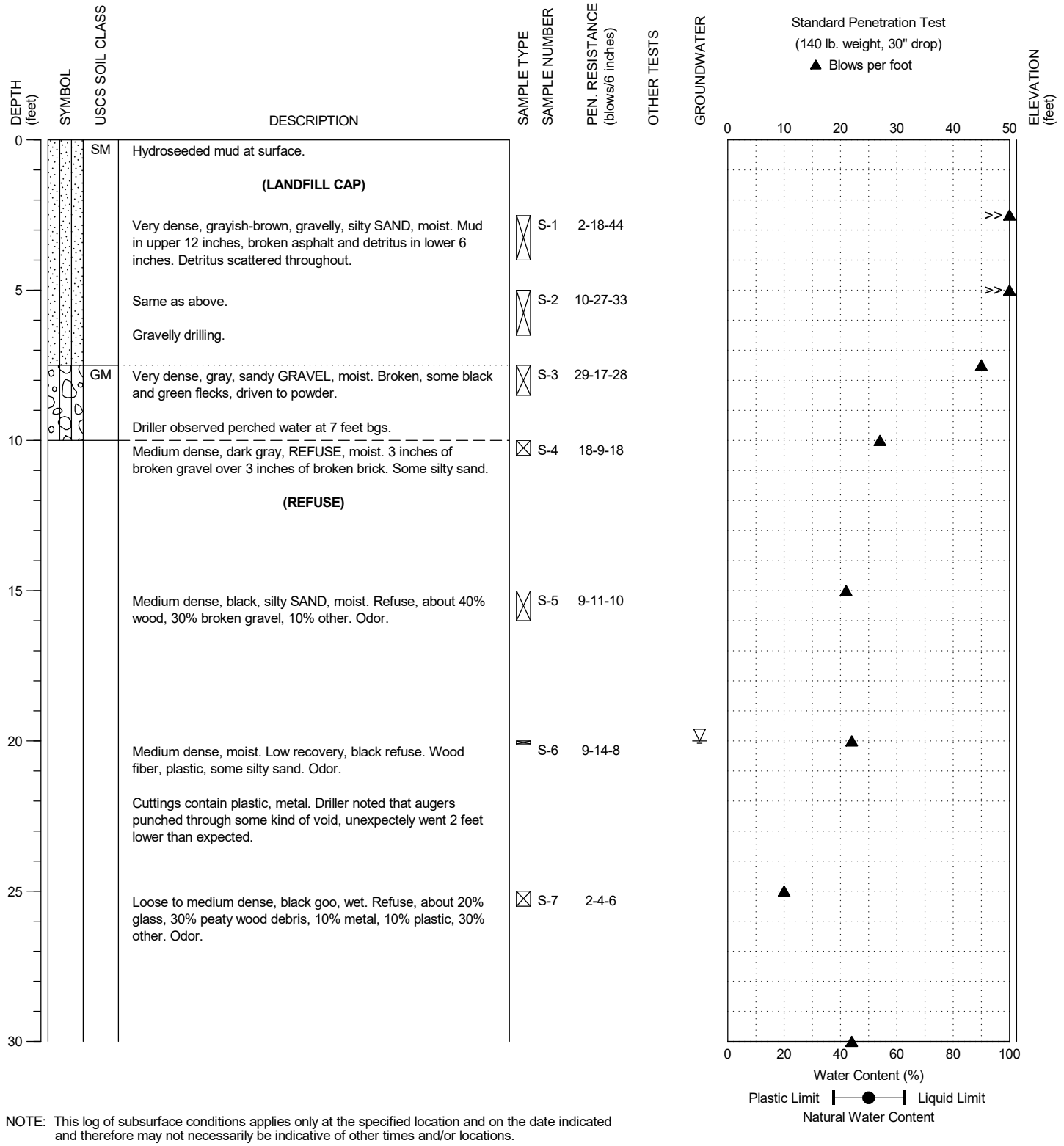
BORING:
BH-52

PROJECT NO.: 2015-061

FIGURE: A-3

DRILLING COMPANY: Holocene Drilling
DRILLING METHOD: Dietrich D-50 Turbo, HSA & Mud Rotary
SAMPLING METHOD: SPT with Autohammer
LOCATION: See Figure 2

DATE STARTED: 11/2/2021
DATE COMPLETED: 11/2/2021
LOGGED BY: A. Ong



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EVERETT RIVERFRONT DEVELOPMENT
RIVERFRONT BOULEVARD
EVERETT, WASHINGTON

BORING:
BH-53

PROJECT NO.: 2015-061

FIGURE: A-4

DRILLING COMPANY: Holocene Drilling
DRILLING METHOD: Dietrich D-50 Turbo, HSA & Mud Rotary
SAMPLING METHOD: SPT with Autohammer
LOCATION: See Figure 2

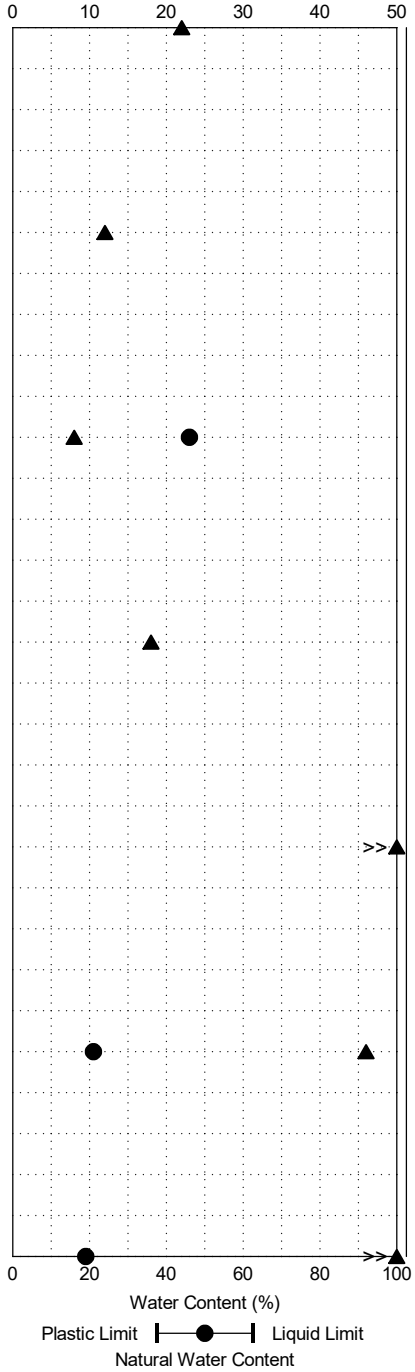
DATE STARTED: 11/2/2021
DATE COMPLETED: 11/2/2021
LOGGED BY: A. Ong

DEPTH (feet)	SYMBOL	USCS SOIL CLASS	DESCRIPTION	SAMPLE TYPE / SAMPLE NUMBER	PEN. RESISTANCE (blows/6 inches)	OTHER TESTS
30			Medium dense, black goo, wet. Refuse, about 90% wood fibers and peat, 10% metal with wire and nails.	S-8	10-10-12	
		PT				
35			Medium dense, dark reddish-brown, peaty WOOD in black goo matrix, wet. 1 inch of lean CLAY with wood embedded in sampler head, moist. Driller encountered water at 35 feet bgs. **(ALLUVIUM)**	S-9a S-9b	3-4-8	
40		OL	Loose, oxidized very dark grayish-brown, slightly gravelly, fine-to-medium sandy, organic SILT, wet. Black goo all over. 2 inches of clayey woody organic SILT at top, mixed with slough. Piece of wood wedged in sampler tip. Switch to mud rotary. Driller noted at 40 feet, drilled through 4 feet of heave, groundwater rose to 20 feet bgs.	S-10	6-2-6	
45		SM	Medium dense, gray, slightly silty to clean, medium SAND, wet. Some scattered subrounded gravel. Driller noted heave. Blow counts likley unrepresentatively low.	S-11	3-10-8	
50			Very dense, gray, silty medium SAND, wet. Low recovery. **(ADVANCE OUTWASH)**	S-12	50/6"	
55		SW SM	Dense, dark gray, slightly silty to silty, well-graded fine-to-medium SAND, wet. Some thin bedding in fine sand portions. Micaceous. Dilatant.	S-13	24-22-24	GS
60						

GROUNDWATER

Standard Penetration Test
(140 lb. weight, 30" drop)
▲ Blows per foot

ELEVATION (feet)



NOTE: This log of subsurface conditions applies only at the specified location and on the date indicated and therefore may not necessarily be indicative of other times and/or locations.

GeoSciences Inc.

EVERETT RIVERFRONT DEVELOPMENT
RIVERFRONT BOULEVARD
EVERETT, WASHINGTON

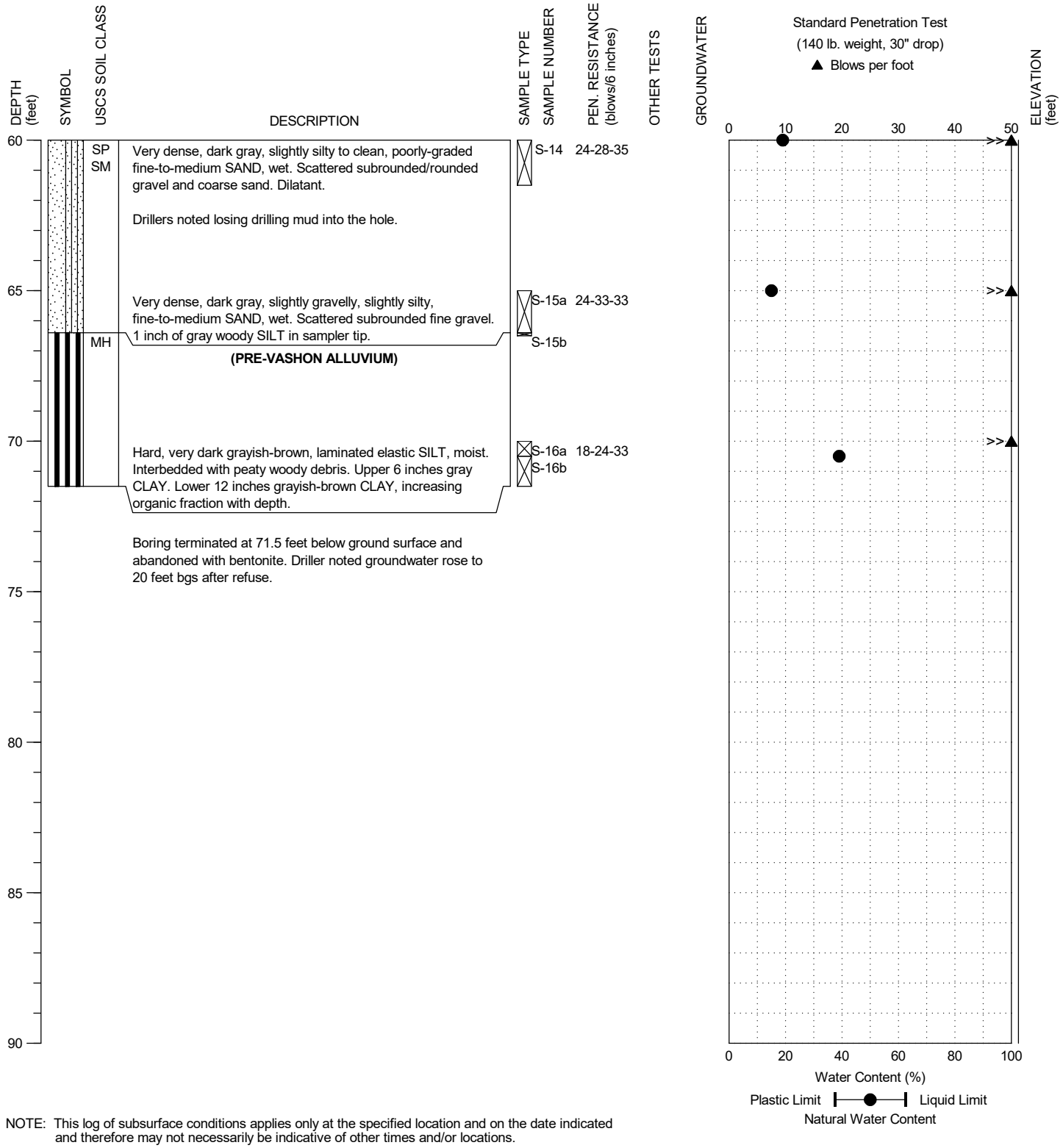
BORING:
BH-53

PROJECT NO.: 2015-061

FIGURE: A-4

DRILLING COMPANY: Holocene Drilling
DRILLING METHOD: Dietrich D-50 Turbo, HSA & Mud Rotary
SAMPLING METHOD: SPT with Autohammer
LOCATION: See Figure 2

DATE STARTED: 11/2/2021
DATE COMPLETED: 11/2/2021
LOGGED BY: A. Ong



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GeoSciences Inc.

EVERETT RIVERFRONT DEVELOPMENT
RIVERFRONT BOULEVARD
EVERETT, WASHINGTON

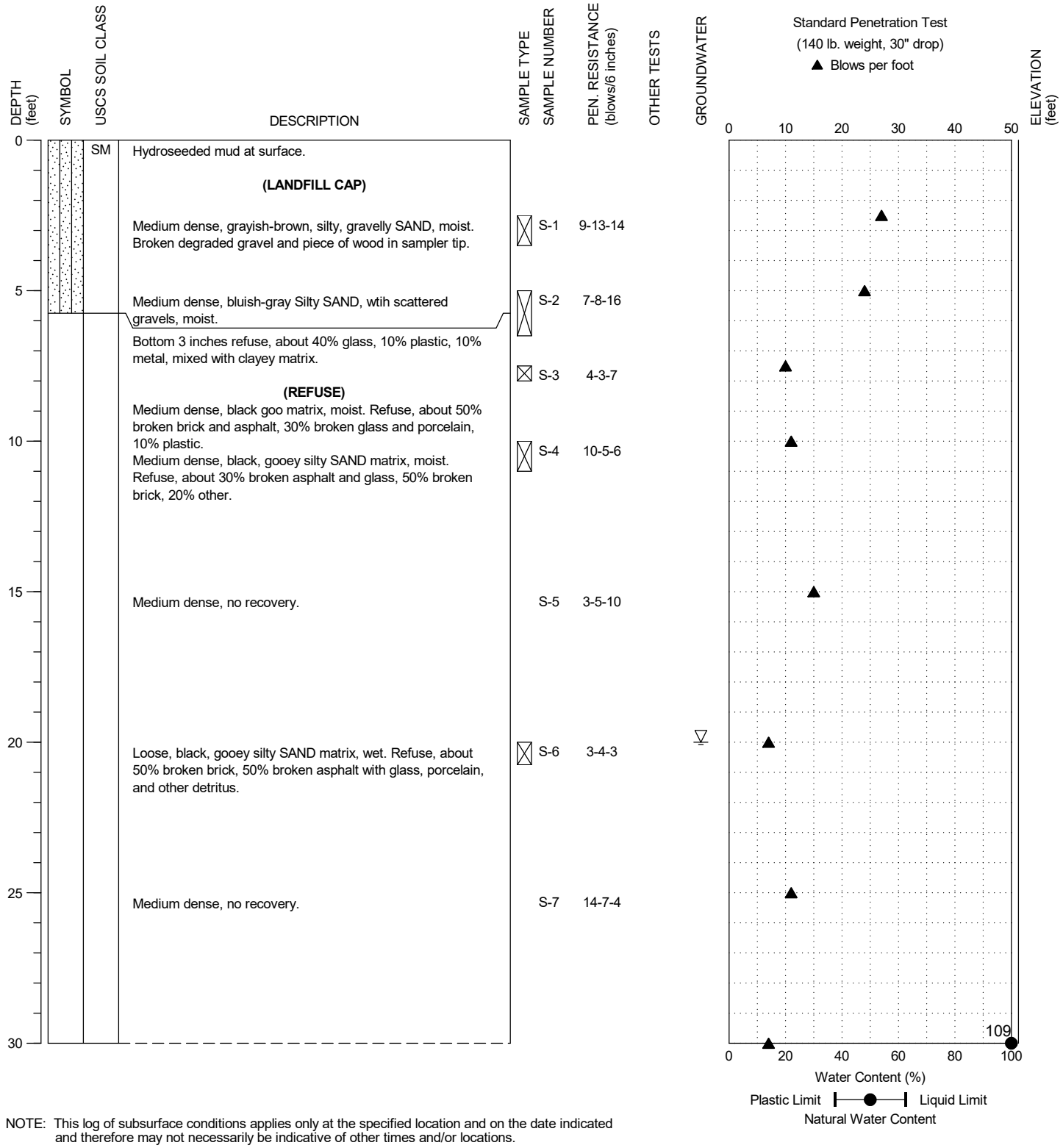
BORING:
BH-53

PROJECT NO.: 2015-061

FIGURE: A-4

DRILLING COMPANY: Holocene Drilling
DRILLING METHOD: Dietrich D-50 Turbo, HSA & Mud Rotary
SAMPLING METHOD: SPT with Autohammer
LOCATION: See Figure 2

DATE STARTED: 11/2/2021
DATE COMPLETED: 11/3/2021
LOGGED BY: A. Ong



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GeoSciences Inc.

EVERETT RIVERFRONT DEVELOPMENT
RIVERFRONT BOULEVARD
EVERETT, WASHINGTON

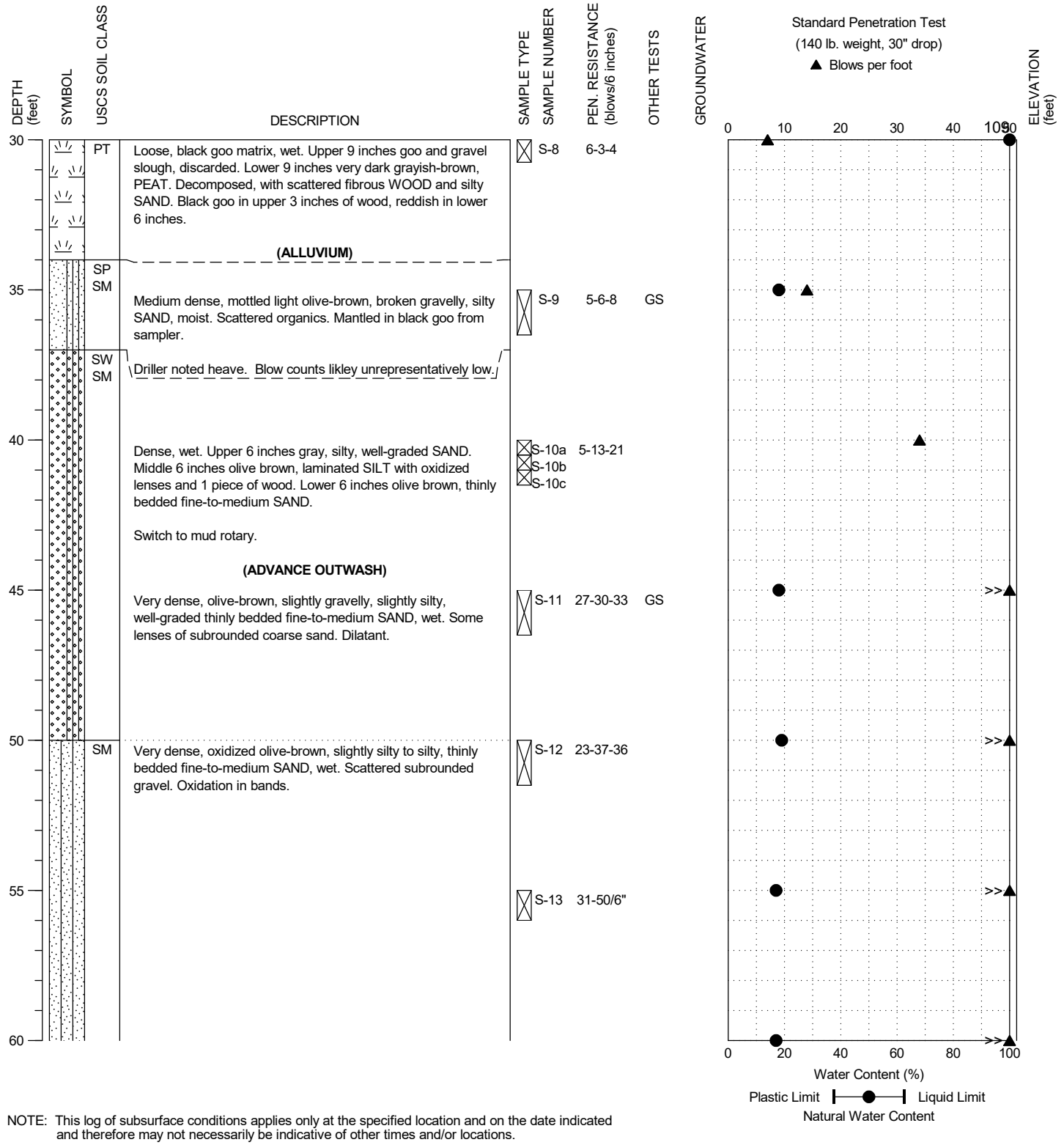
BORING:
BH-54

PROJECT NO.: 2015-061

FIGURE: A-5

DRILLING COMPANY: Holocene Drilling
DRILLING METHOD: Dietrich D-50 Turbo, HSA & Mud Rotary
SAMPLING METHOD: SPT with Autohammer
LOCATION: See Figure 2

DATE STARTED: 11/2/2021
DATE COMPLETED: 11/3/2021
LOGGED BY: A. Ong



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GeoSciences Inc.

EVERETT RIVERFRONT DEVELOPMENT
RIVERFRONT BOULEVARD
EVERETT, WASHINGTON

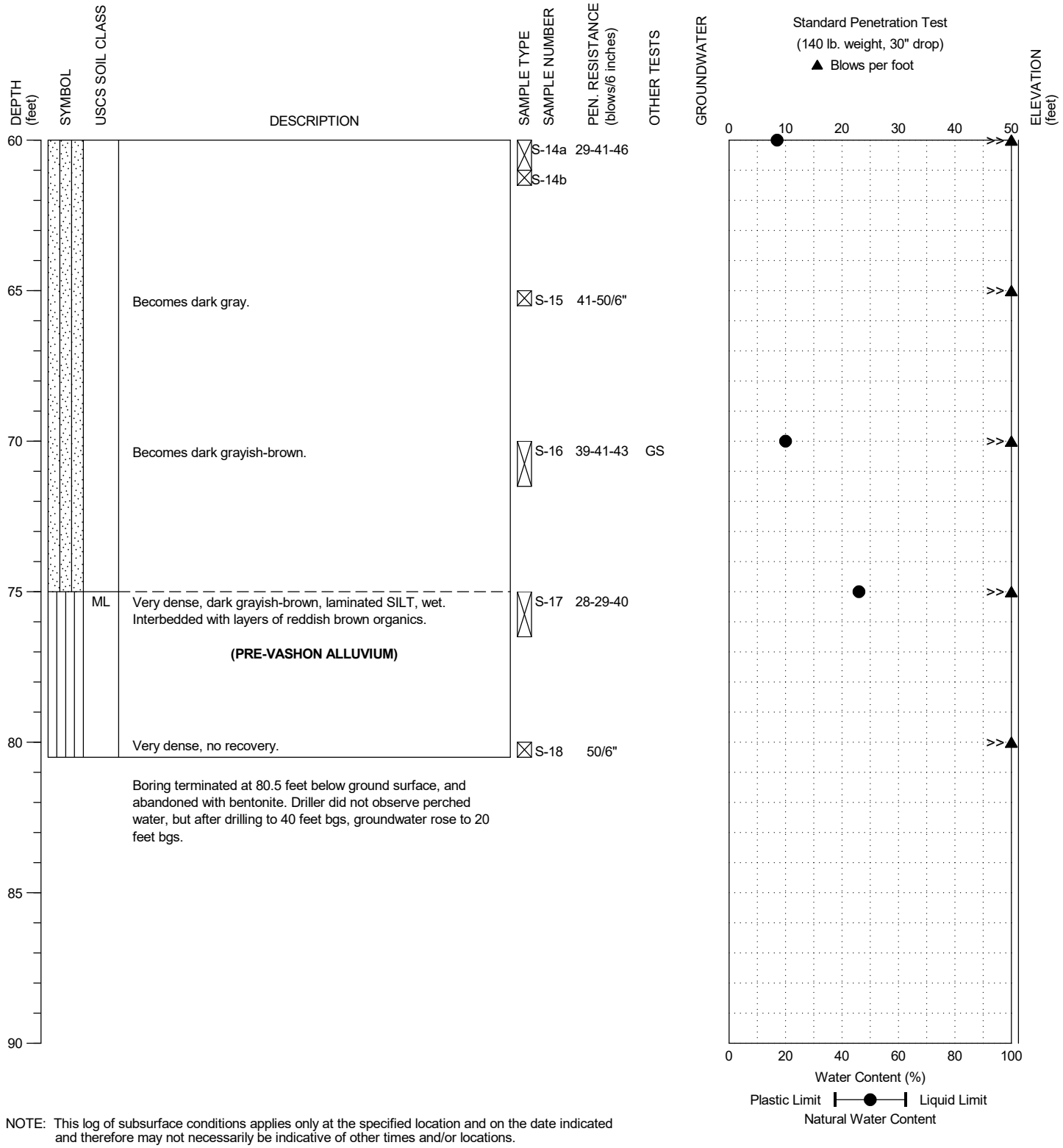
BORING:
BH-54

PROJECT NO.: 2015-061

FIGURE: A-5

DRILLING COMPANY: Holocene Drilling
DRILLING METHOD: Dietrich D-50 Turbo, HSA & Mud Rotary
SAMPLING METHOD: SPT with Autohammer
LOCATION: See Figure 2

DATE STARTED: 11/2/2021
DATE COMPLETED: 11/3/2021
LOGGED BY: A. Ong



Boring terminated at 80.5 feet below ground surface, and abandoned with bentonite. Driller did not observe perched water, but after drilling to 40 feet bgs, groundwater rose to 20 feet bgs.

NOTE: This log of subsurface conditions applies only at the specified location and on the date indicated and therefore may not necessarily be indicative of other times and/or locations.

GeoSciences Inc.

EVERETT RIVERFRONT DEVELOPMENT
RIVERFRONT BOULEVARD
EVERETT, WASHINGTON

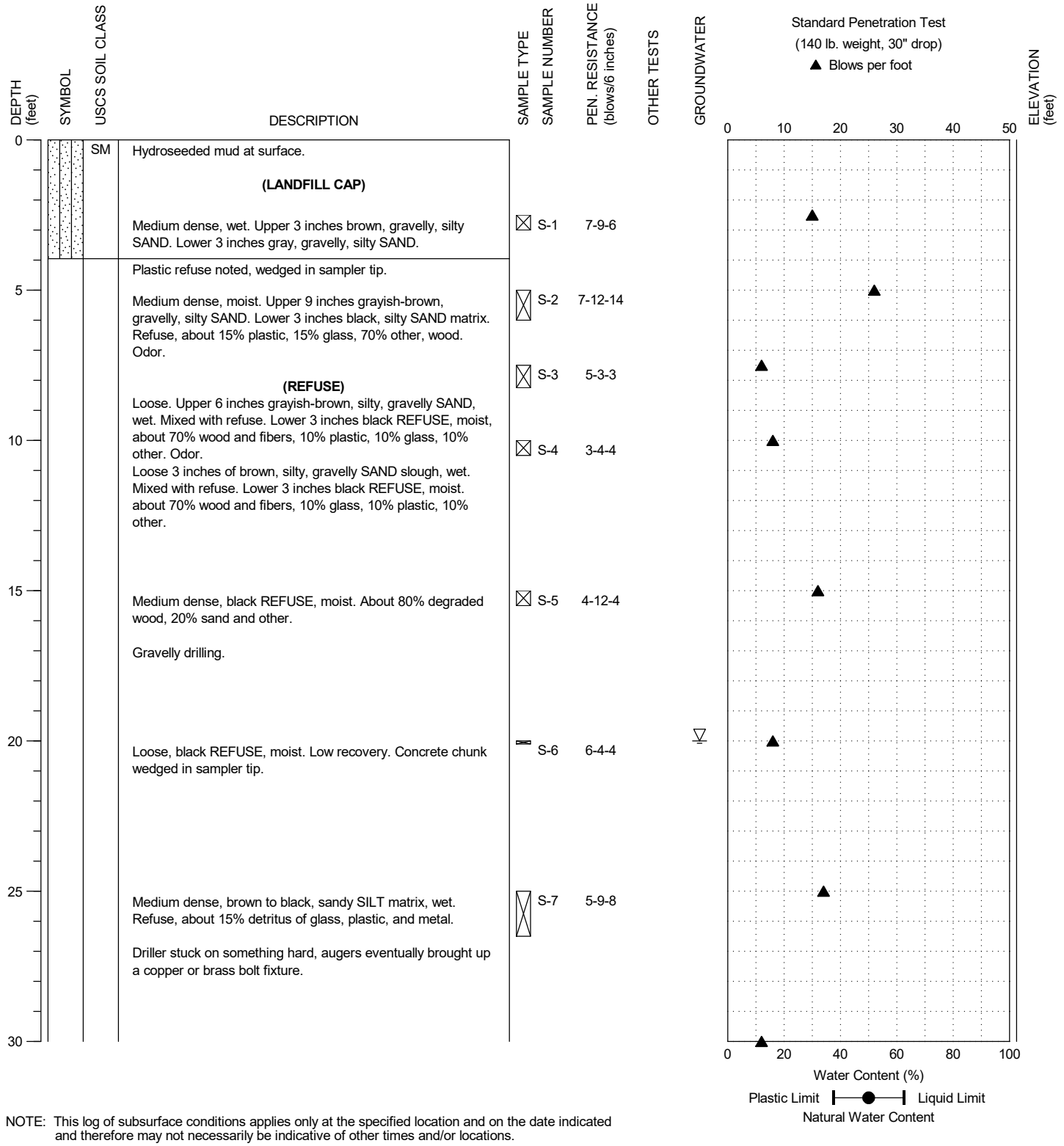
BORING:
BH-54

PROJECT NO.: 2015-061

FIGURE: A-5

DRILLING COMPANY: Holocene Drilling
DRILLING METHOD: Dietrich D-50 Turbo, HSA & Mud Rotary
SAMPLING METHOD: SPT with Autohammer
LOCATION: See Figure 2

DATE STARTED: 11/3/2021
DATE COMPLETED: 11/3/2021
LOGGED BY: A. Ong



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GeoSciences Inc.

EVERETT RIVERFRONT DEVELOPMENT
RIVERFRONT BOULEVARD
EVERETT, WASHINGTON

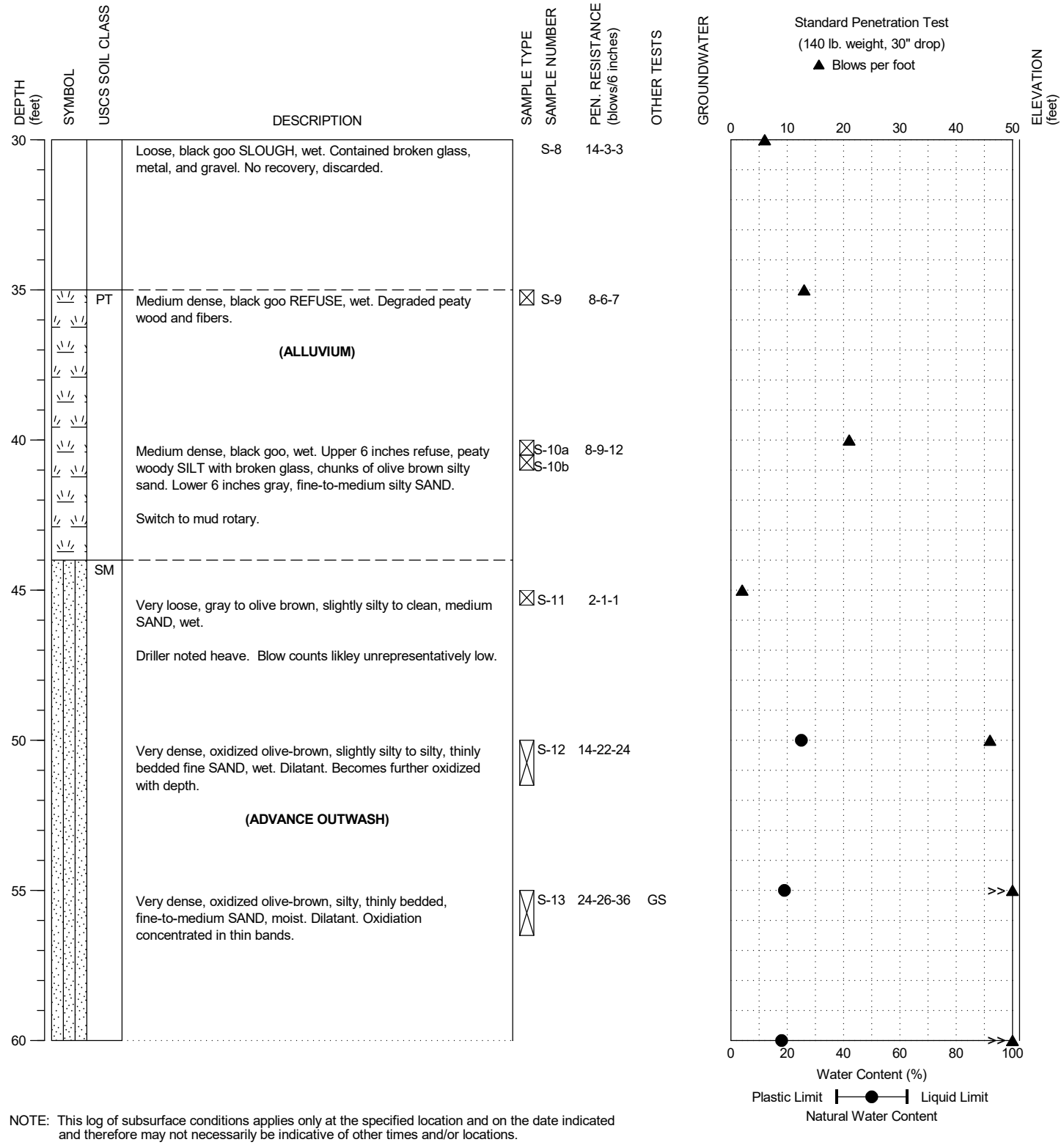
BORING:
BH-55

PROJECT NO.: 2015-061

FIGURE: A-6

DRILLING COMPANY: Holocene Drilling
DRILLING METHOD: Dietrich D-50 Turbo, HSA & Mud Rotary
SAMPLING METHOD: SPT with Autohammer
LOCATION: See Figure 2

DATE STARTED: 11/3/2021
DATE COMPLETED: 11/3/2021
LOGGED BY: A. Ong



NOTE: This log of subsurface conditions applies only at the specified location and on the date indicated and therefore may not necessarily be indicative of other times and/or locations.

GeoSciences Inc.

EVERETT RIVERFRONT DEVELOPMENT
RIVERFRONT BOULEVARD
EVERETT, WASHINGTON

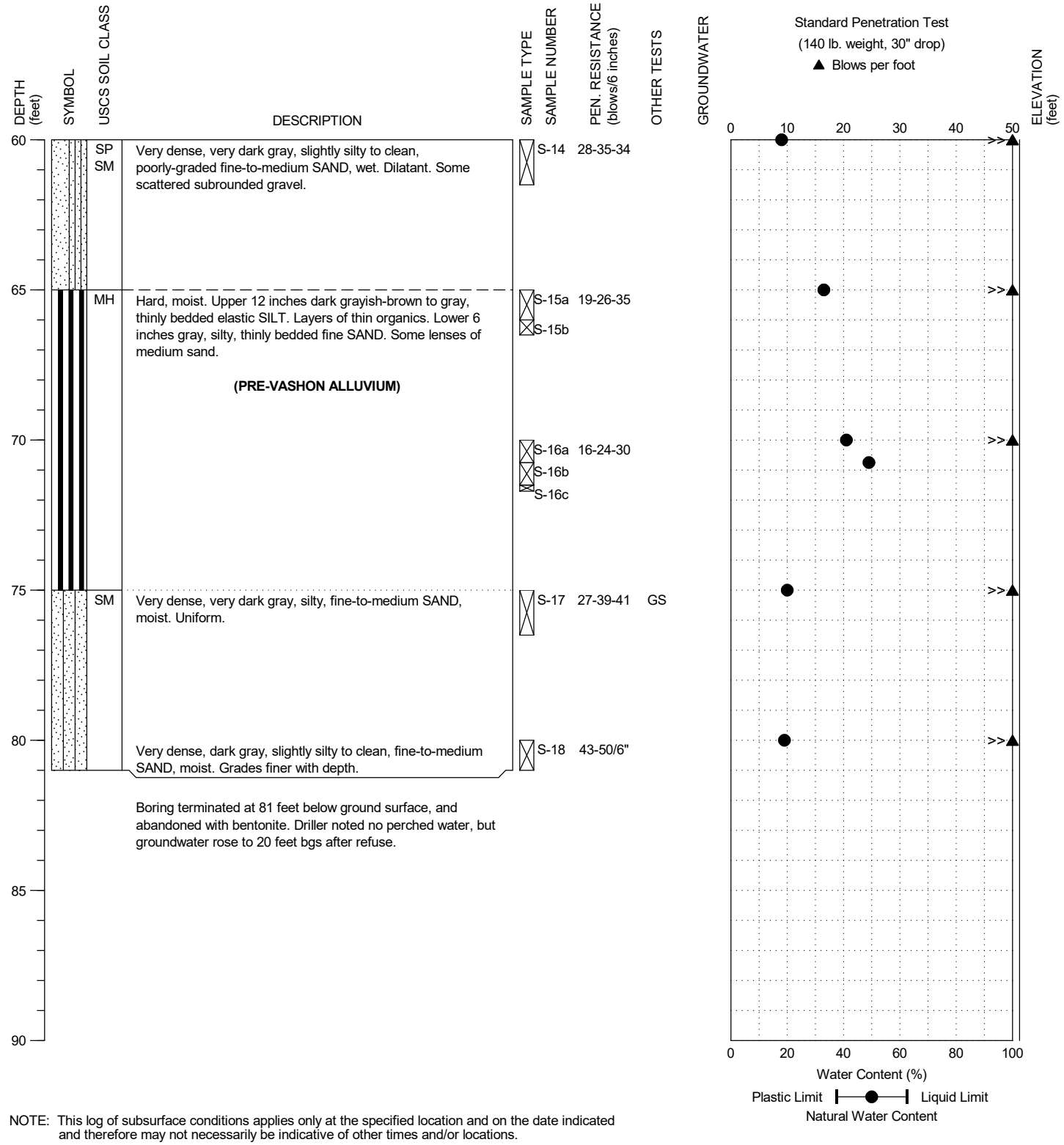
BORING:
BH-55

PROJECT NO.: 2015-061

FIGURE: A-6

DRILLING COMPANY: Holocene Drilling
DRILLING METHOD: Dietrich D-50 Turbo, HSA & Mud Rotary
SAMPLING METHOD: SPT with Autohammer
LOCATION: See Figure 2

DATE STARTED: 11/3/2021
DATE COMPLETED: 11/3/2021
LOGGED BY: A. Ong



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GeoSciences Inc.

EVERETT RIVERFRONT DEVELOPMENT
RIVERFRONT BOULEVARD
EVERETT, WASHINGTON

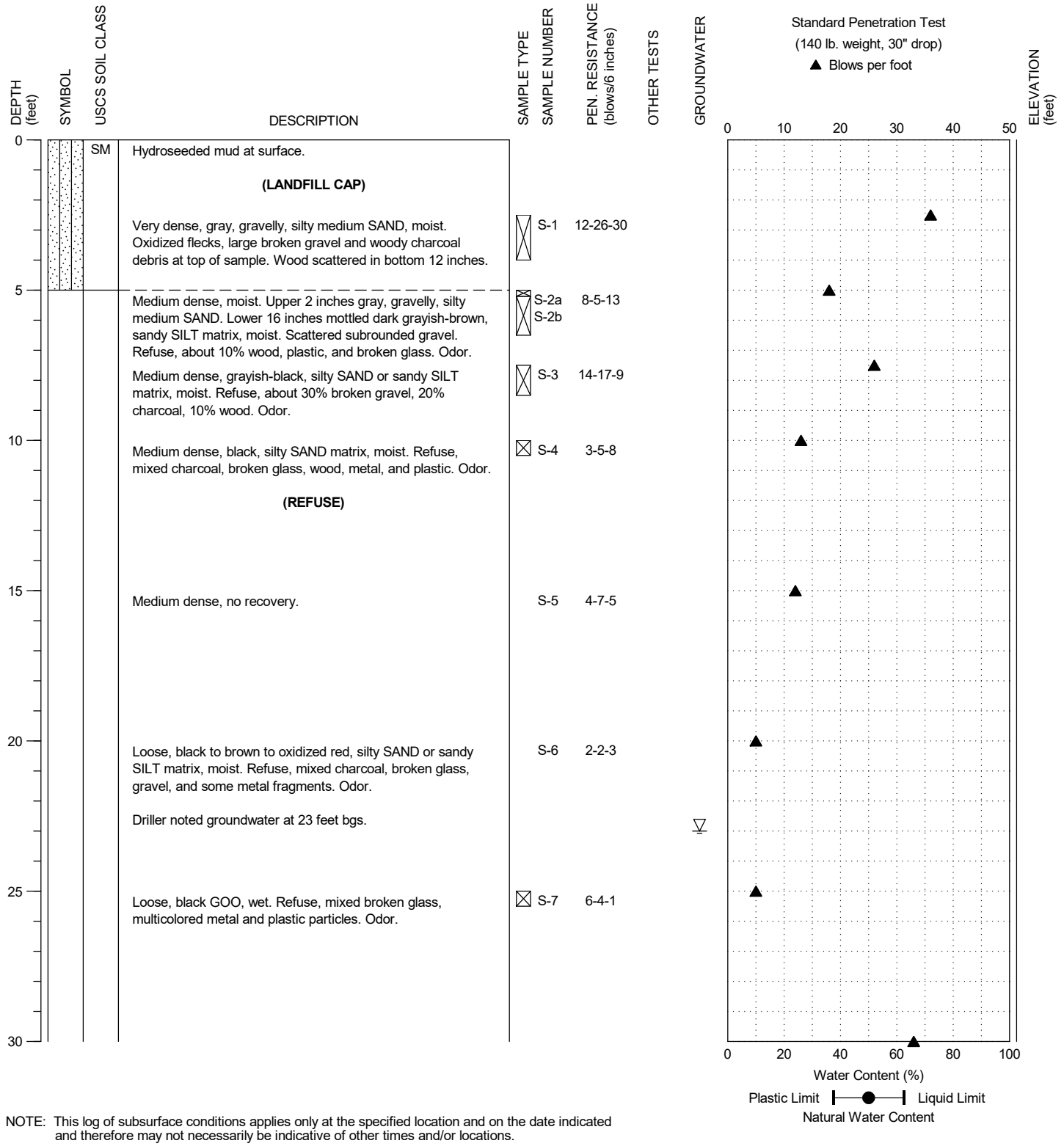
BORING:
BH-55

PROJECT NO.: 2015-061

FIGURE: A-6

DRILLING COMPANY: Holocene Drilling
DRILLING METHOD: Dietrich D-50 Turbo, HSA & Mud Rotary
SAMPLING METHOD: SPT with Autohammer
LOCATION: See Figure 2

DATE STARTED: 11/3/2021
DATE COMPLETED: 11/3/2021
LOGGED BY: A. Ong



NOTE: This log of subsurface conditions applies only at the specified location and on the date indicated and therefore may not necessarily be indicative of other times and/or locations.

GeoSciences Inc.

EVERETT RIVERFRONT DEVELOPMENT
RIVERFRONT BOULEVARD
EVERETT, WASHINGTON

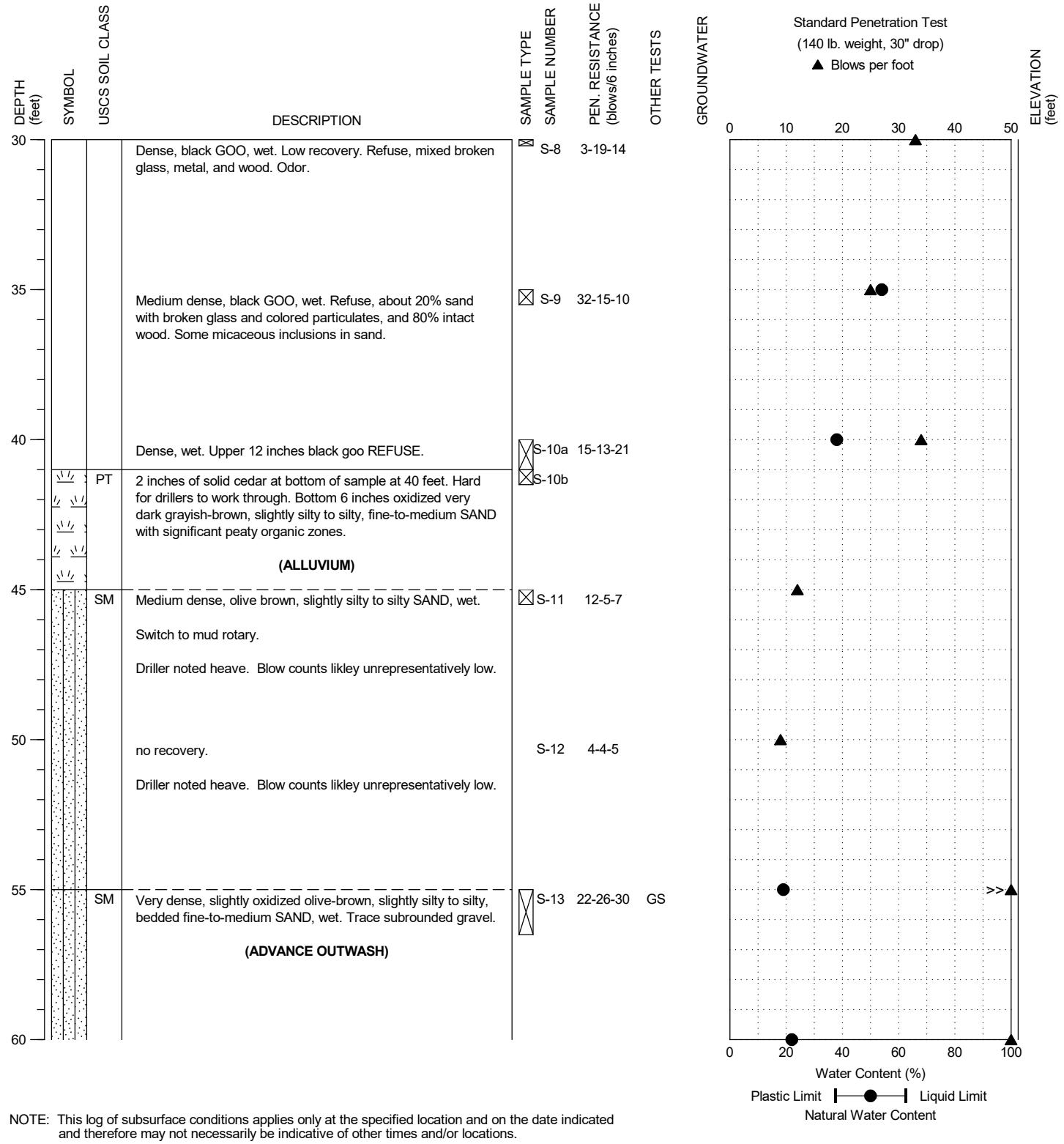
BORING:
BH-56

PROJECT NO.: 2015-061

FIGURE: A-7

DRILLING COMPANY: Holocene Drilling
DRILLING METHOD: Dietrich D-50 Turbo, HSA & Mud Rotary
SAMPLING METHOD: SPT with Autohammer
LOCATION: See Figure 2

DATE STARTED: 11/3/2021
DATE COMPLETED: 11/3/2021
LOGGED BY: A. Ong



NOTE: This log of subsurface conditions applies only at the specified location and on the date indicated and therefore may not necessarily be indicative of other times and/or locations.

GeoSciences Inc.

EVERETT RIVERFRONT DEVELOPMENT
RIVERFRONT BOULEVARD
EVERETT, WASHINGTON

BORING:
BH-56

PROJECT NO.: 2015-061

FIGURE: A-7

DRILLING COMPANY: Holocene Drilling
DRILLING METHOD: Dietrich D-50 Turbo, HSA & Mud Rotary
SAMPLING METHOD: SPT with Autohammer
LOCATION: See Figure 2

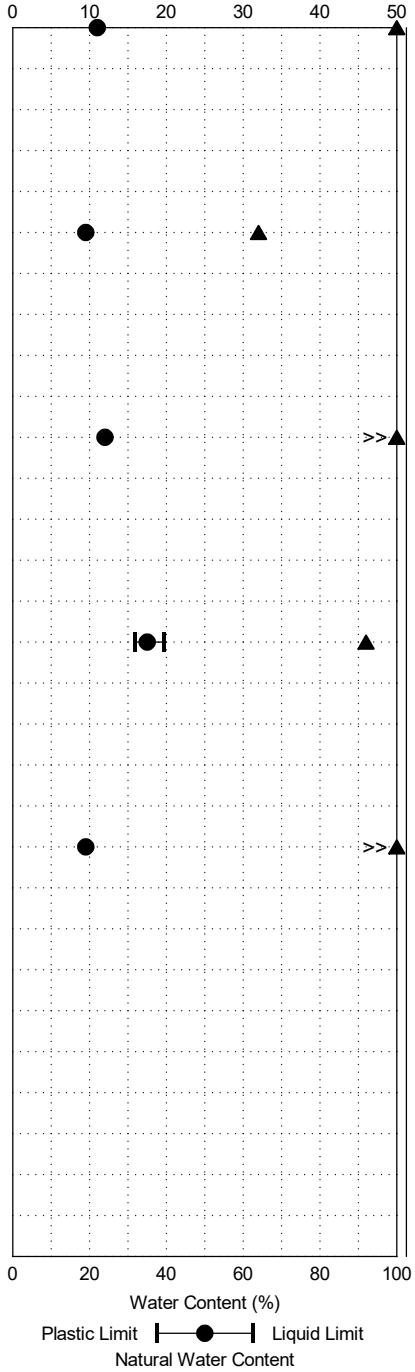
DATE STARTED: 11/3/2021
DATE COMPLETED: 11/3/2021
LOGGED BY: A. Ong

DEPTH (feet)	SYMBOL	USCS SOIL CLASS	DESCRIPTION	SAMPLE TYPE / SAMPLE NUMBER	PEN. RESISTANCE (blows/6 inches)	OTHER TESTS
60			Dense, wet. Same as above.	S-14a S-14b	24-19-31	
65		SP SM	Medium dense, wet. Upper 12 inches dark gray, slightly silty, poorly graded fine-to-medium SAND. Some coarse sand. Lower 6 inches grayish-brown, laminated SILT interbedded with organics. Abrupt transition. **(PRE-VASHON ALLUVIUM)**	S-15a S-15b	18-17-15	
70		SM	Very dense, dark gray, silty, thinly bedded fine SAND, wet. Dilatant. Large piece of broken wood at top of sample. Some medium sand towards the bottom of sample.	S-16	24-29-24	GS
75		ML	Dense, moist. Upper 8 inches dark grayish-brown, sandy, laminated SILT. Interbedded with organics. Middle 6 inches gray, very silty, laminated fine SAND. Lower 4 inches gray, silty fine-to-medium SAND.	S-17a S-17b S-17c	12-17-29	%F AL
80		SM	Very dense, dark gray, slightly silty to clean, fine-to-medium SAND, wet.	S-18	27-37-36	
85			Boring terminated at 81.5 feet below ground surface, and abandoned with bentonite. Driller noted consistent groundwater around 23 feet bgs.			
90						

GROUNDWATER

Standard Penetration Test
(140 lb. weight, 30" drop)
▲ Blows per foot

ELEVATION (feet)



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GeoSciences Inc.

EVERETT RIVERFRONT DEVELOPMENT
RIVERFRONT BOULEVARD
EVERETT, WASHINGTON

BORING:
BH-56

PROJECT NO.: 2015-061

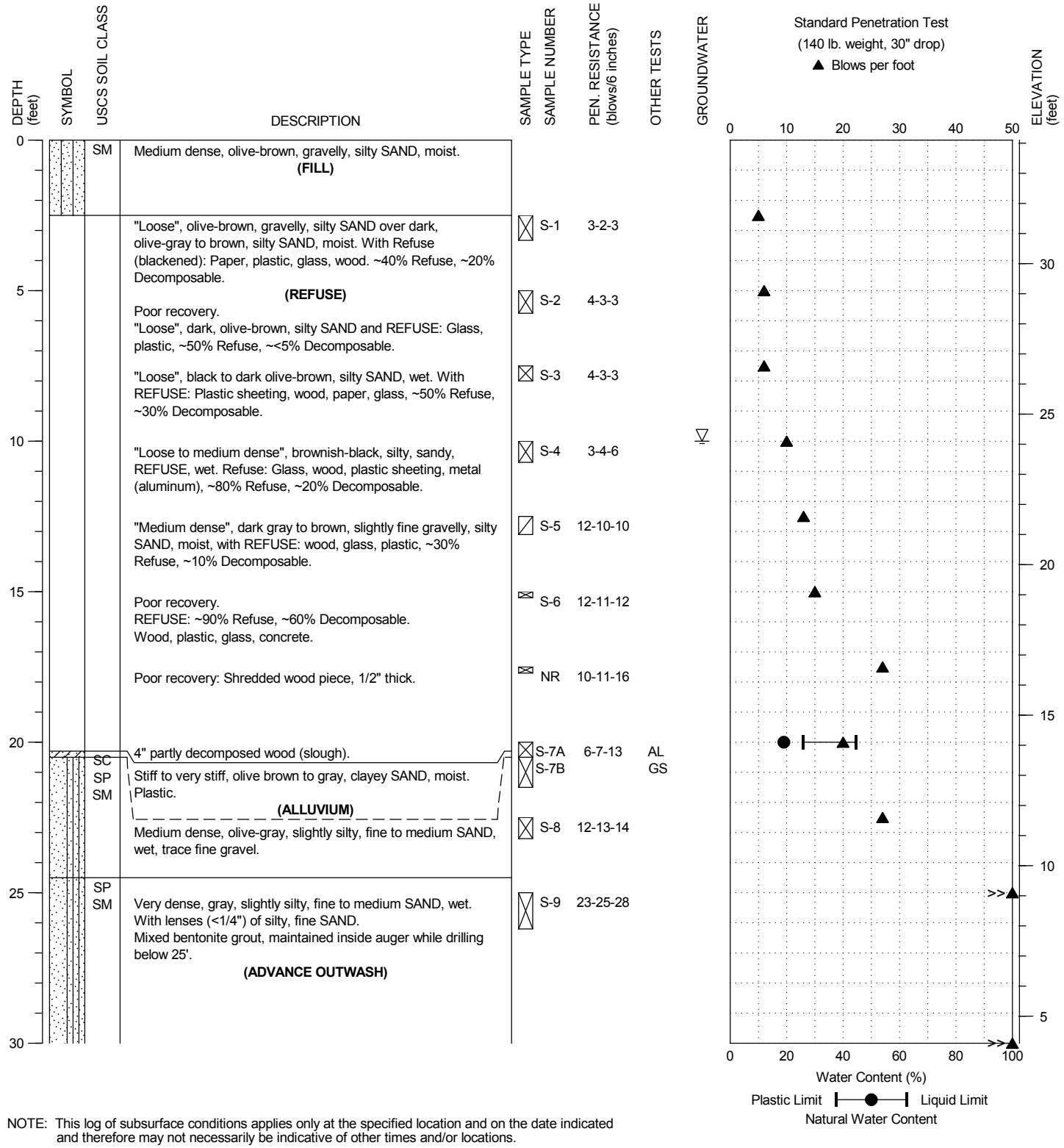
FIGURE: A-7

APPENDIX B

PREVIOUS EXPLORATIONS BY HWA AND OTHERS

DRILLING COMPANY: Holocene Drilling
DRILLING METHOD: CME 850 Tracked Rig, HSA
SAMPLING METHOD: SPT with Autohammer
LOCATION: See Figure 2

DATE STARTED: 5/30/2017
DATE COMPLETED: 5/30/2017
LOGGED BY: B. Thurber
SURFACE ELEVATION: 34.1 ± feet



NOTE: This log of subsurface conditions applies only at the specified location and on the date indicated and therefore may not necessarily be indicative of other times and/or locations.

HWA GEOSCIENCES INC.

PROJECT EVERGREEN
36th ST & RIVERSIDE DRIVE
EVERETT, WASHINGTON

BORING:
BH- 6

PROJECT NO.: 2015-061

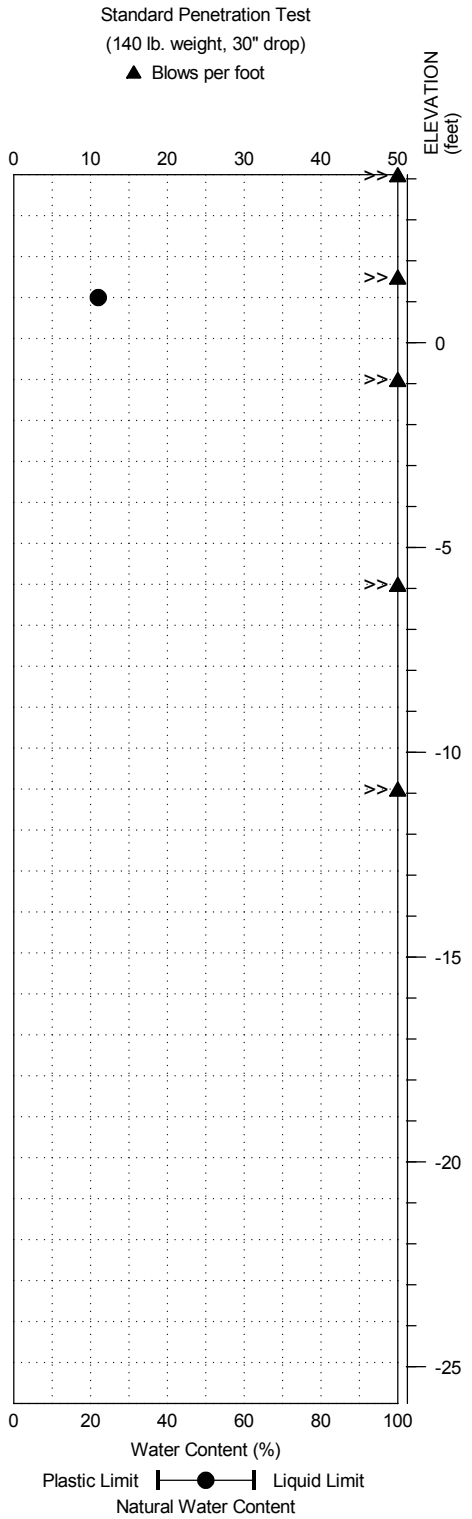
FIGURE: C-7

DRILLING COMPANY: Holocene Drilling
DRILLING METHOD: CME 850 Tracked Rig, HSA
SAMPLING METHOD: SPT with Autohammer
LOCATION: See Figure 2

DATE STARTED: 5/30/2017
DATE COMPLETED: 5/30/2017
LOGGED BY: B. Thurber
SURFACE ELEVATION: 34.1 ± feet

DEPTH (feet)	SYMBOL	USCS SOIL CLASS	DESCRIPTION	SAMPLE TYPE	SAMPLE NUMBER	PEN. RESISTANCE (blows/6 inches)	OTHER TESTS
30			Very dense, bluish-gray to 30.25' then light brownish-gray to bluish-brown, slightly silty, fine to medium and fine to coarse SAND, wet. Trace fine gravel. Stratified, ~2-3" beds.		S-10	12-21-30	
			Very dense, gray, slightly silty, fine to medium SAND, wet.		S-11A S-11B	32-50/6"	GS UW DS
35			(Same)		S-12	20-22-32	
40			Very dense, gray, slightly silty, fine to medium to fine to coarse SAND, wet. Scattered fine gravel. Vaguely stratified.		S-13	20-34-38	
45			Very dense, gray, clean to slightly silty, fine to medium to fine to coarse SAND, wet. 1" lens, fine, gravelly at 46'.		S-14	20-34-36	
50			Borehole terminated at 46.5' below ground surface (bgs). Groundwater encountered at ~7' bgs during drilling. Borehole abandoned with bentonite grout, chips in upper 2'.				
55							
60							

GROUNDWATER



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HWA GEOSCIENCES INC.

PROJECT EVERGREEN
36th ST & RIVERSIDE DRIVE
EVERETT, WASHINGTON

BORING:
BH- 6

PROJECT NO.: 2015-061

FIGURE: C-7

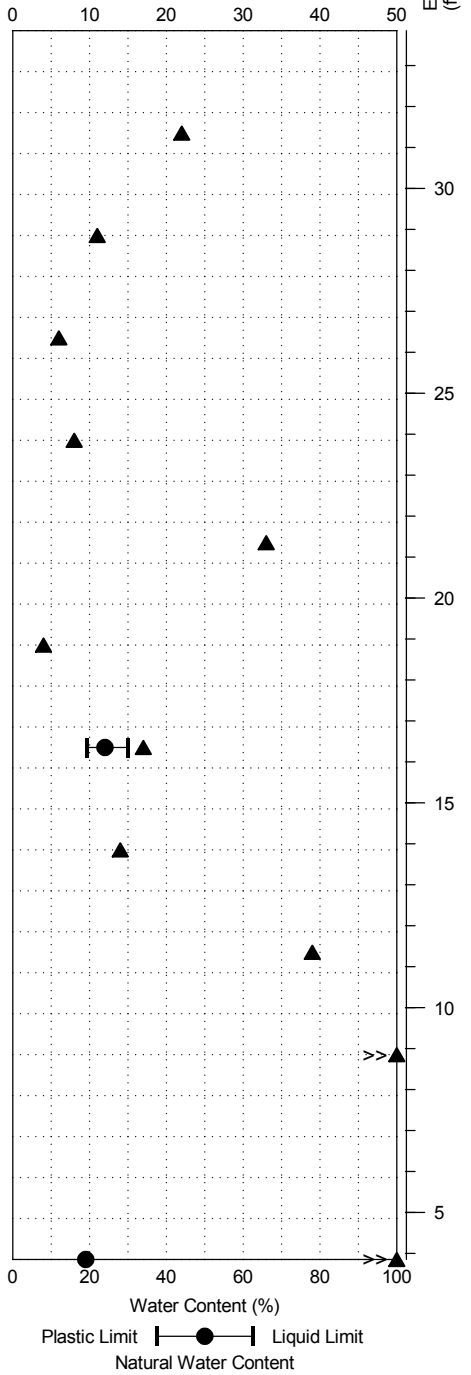
DRILLING COMPANY: Holocene Drilling
DRILLING METHOD: CME 850 Tracked Rig, HSA
SAMPLING METHOD: SPT with Autohammer
LOCATION: See Figure 2

DATE STARTED: 5/30/2017
DATE COMPLETED: 5/30/2017
LOGGED BY: B. Thurber
SURFACE ELEVATION: 33.9 ± feet

DEPTH (feet)	SYMBOL	USCS SOIL CLASS	DESCRIPTION	SAMPLE TYPE	SAMPLE NUMBER	PEN. RESISTANCE (blows/6 inches)	OTHER TESTS
0		SM	1.5' of silty SAND soil cover. **(FILL)**				
			Thin cuttings become dark gray with Refuse. Medium dense, brown to olive-gray, gravelly, silty SAND, moist. Trace asphalt, <5% Refuse, 0% Decomposable.		S-1	6-9-13	
5			"Medium dense", olive-gray, gravelly, silty SAND, moist, with paper. ~15% Refuse, ~15% Decomposable. **(REFUSE)**		S-2	4-5-6	
			No recovery.		NR	3-3-3	
10			Poor recovery. REFUSE with silty sand: Black foam rubber, paper, aluminum can fragments. ~80% Refuse, ~30% Decomposable.		S-3	3-3-5	
			Brown, angular rock (stuck in tip). Poor recovery. REFUSE: Paper, aluminum can piece; brown, silty SAND, wet, ~70% Refuse, ~30% Decomposable.		S-4	27-32-19	
15			"Loose", black, silty, sandy, REFUSE, wet. Refuse = blackened wood, aluminum, 50% Refuse, 50% Decomposable, slight creosote sheen.		S-5	2-2-2	
		ML	Stiff, bluish-gray, SILT in tip.				
		CL	Stiff, olive-gray, slightly sandy CLAY, moist. Becomes brown below ~18 ft. Black slurry coating, no odor. **(ALLUVIUM)**		S-6	7-8-9	AL
20		SM	Medium dense, olive-gray to brown, silty, fine to coarse and fine to medium, SAND, wet.		S-7	3-5-9	
		SP	Dense, gray, clean, slightly fine gravelly, fine to coarse, fine to medium, SAND, wet. Slightly silty below ~23.5'. **(ADVANCE OUTWASH)**		S-8	3-12-27	
25		SP SM	Very dense, olive-gray to gray, with 1" olive-brown, slightly silty, fine to coarse, SAND, wet. With scattered gravel, to 26'. Below 26': Gray, slightly silty, fine to medium SAND, wet. Rust-banded brown is silty, fine to medium SAND.		S-9	12-25-26	
30							

GROUNDWATER ▽

Standard Penetration Test
(140 lb. weight, 30" drop)
▲ Blows per foot



NOTE: This log of subsurface conditions applies only at the specified location and on the date indicated and therefore may not necessarily be indicative of other times and/or locations.

HWA GEOSCIENCES INC.

PROJECT EVERGREEN
36th ST & RIVERSIDE DRIVE
EVERETT, WASHINGTON

BORING:
BH- 7

PROJECT NO.: 2015-061 FIGURE: C-8

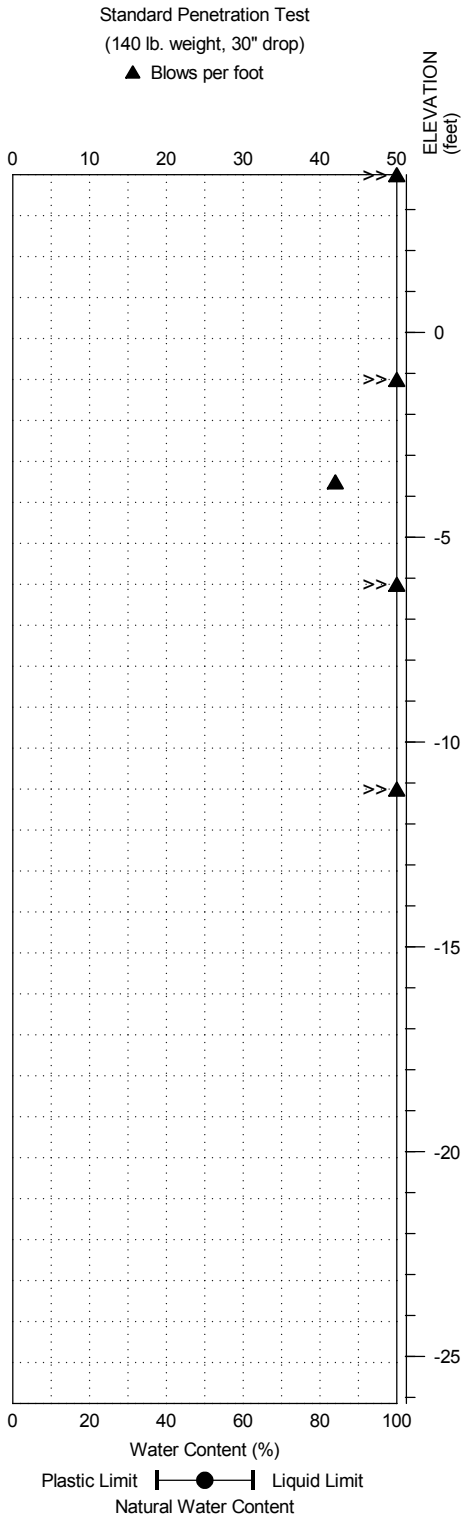
DRILLING COMPANY: Holocene Drilling
DRILLING METHOD: CME 850 Tracked Rig, HSA
SAMPLING METHOD: SPT with Autohammer
LOCATION: See Figure 2

DATE STARTED: 5/30/2017
DATE COMPLETED: 5/30/2017
LOGGED BY: B. Thurber
SURFACE ELEVATION: 33.9 ± feet

DEPTH (feet)	DESCRIPTION	SAMPLE TYPE	SAMPLE NUMBER	PEN. RESISTANCE (blows/6 inches)
30	Very dense, bluish-gray over rust-banded brown (3" each) then olive-brown, slightly silty, fine to medium to fine to coarse SAND, wet. Rust-banded brown is silty, fine to medium SAND.		S-10	12-28-35
35	Very dense, olive-gray, with some rust-banding, slightly silty, fine to medium SAND, wet. Fine to coarse below 36'.		S-11	18-36-39
	Very dense, olive-gray, clean to slightly silty, fine to medium SAND, wet. Trace fine gravel in tip.		S-12A S-21B	20-29-35
40	Very dense, olive-gray, slightly silty, stratified, slightly fine gravelly, fine to medium SAND, wet. Beds ~1-3" thick.		S-13	18-36-39
45	Very dense, gray, clean to slightly silty, fine to medium SAND, wet.		S-14	21-32-37
50	Borehole terminated at 46.5' below ground surface (bgs). Groundwater encountered below ~7' bgs during drilling. Borehole abandoned with bentonite grout, 2 batches x 40-45 gallons.			
55				
60				

OTHER TESTS

GROUNDWATER



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HWA GEOSCIENCES INC.

PROJECT EVERGREEN
36th ST & RIVERSIDE DRIVE
EVERETT, WASHINGTON

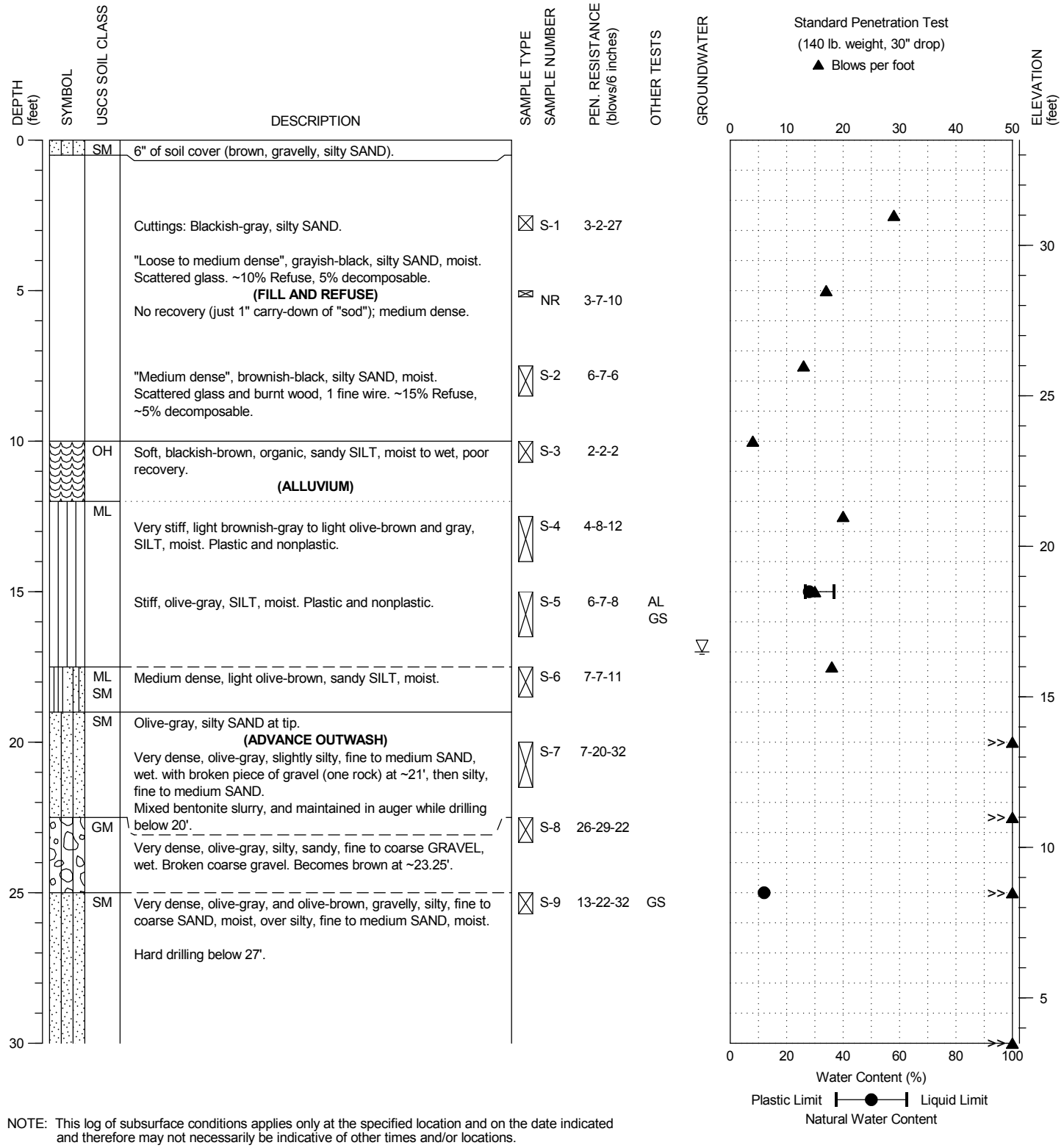
BORING:
BH- 7

PROJECT NO.: 2015-061

FIGURE: C-8

DRILLING COMPANY: Holocene Drilling
DRILLING METHOD: CME 850 Tracked Rig, HSA
SAMPLING METHOD: SPT with Autohammer
LOCATION: See Figure 2

DATE STARTED: 5/30/2017
DATE COMPLETED: 5/30/2017
LOGGED BY: B. Thurber
SURFACE ELEVATION: 33.5 ± feet



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HWA GEOSCIENCES INC.

PROJECT EVERGREEN
36th ST & RIVERSIDE DRIVE
EVERETT, WASHINGTON

BORING:
BH- 8

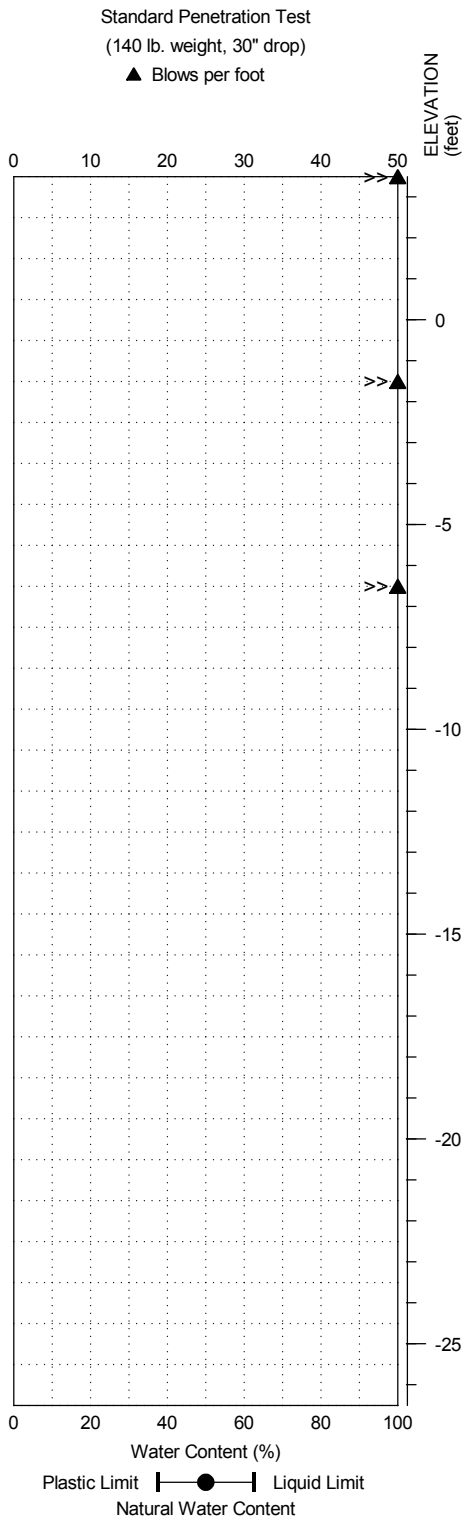
PROJECT NO.: 2015-061

FIGURE: C-9

DRILLING COMPANY: Holocene Drilling
DRILLING METHOD: CME 850 Tracked Rig, HSA
SAMPLING METHOD: SPT with Autohammer
LOCATION: See Figure 2

DATE STARTED: 5/30/2017
DATE COMPLETED: 5/30/2017
LOGGED BY: B. Thurber
SURFACE ELEVATION: 33.5 ± feet

DEPTH (feet)	SYMBOL	USCS SOIL CLASS	DESCRIPTION	SAMPLE TYPE	SAMPLE NUMBER	PEN. RESISTANCE (blows/6 inches)	OTHER TESTS	GROUNDWATER
30			Poor recovery. Very dense, light-brown, gravelly, silty, fine to medium SAND, wet.	⊠	S-10	50/5"		
35			Drove rock with SPT. Switched to California Sampler. Hammer bouncing on rock. No recovery. Drilled out large rock.	▬	NR	50/1"		
40		SP SM	Very dense, olive-brown, with fine rust banding, clean to slightly silty, fine to medium to fine to coarse SAND, wet. Trace fine gravel. Stratified; lies from ~1-3" thick.	⊠	S-11	7-12-40		
45			Borehole terminated at 41.5' below ground surface (bgs). Groundwater encountered at ~17' bgs during drilling. Borehole abandoned with bentonite slurry; 80-90 gallons total including slurry in auger during drilling.					
50								
55								
60								



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HWA GEOSCIENCES INC.

PROJECT EVERGREEN
36th ST & RIVERSIDE DRIVE
EVERETT, WASHINGTON

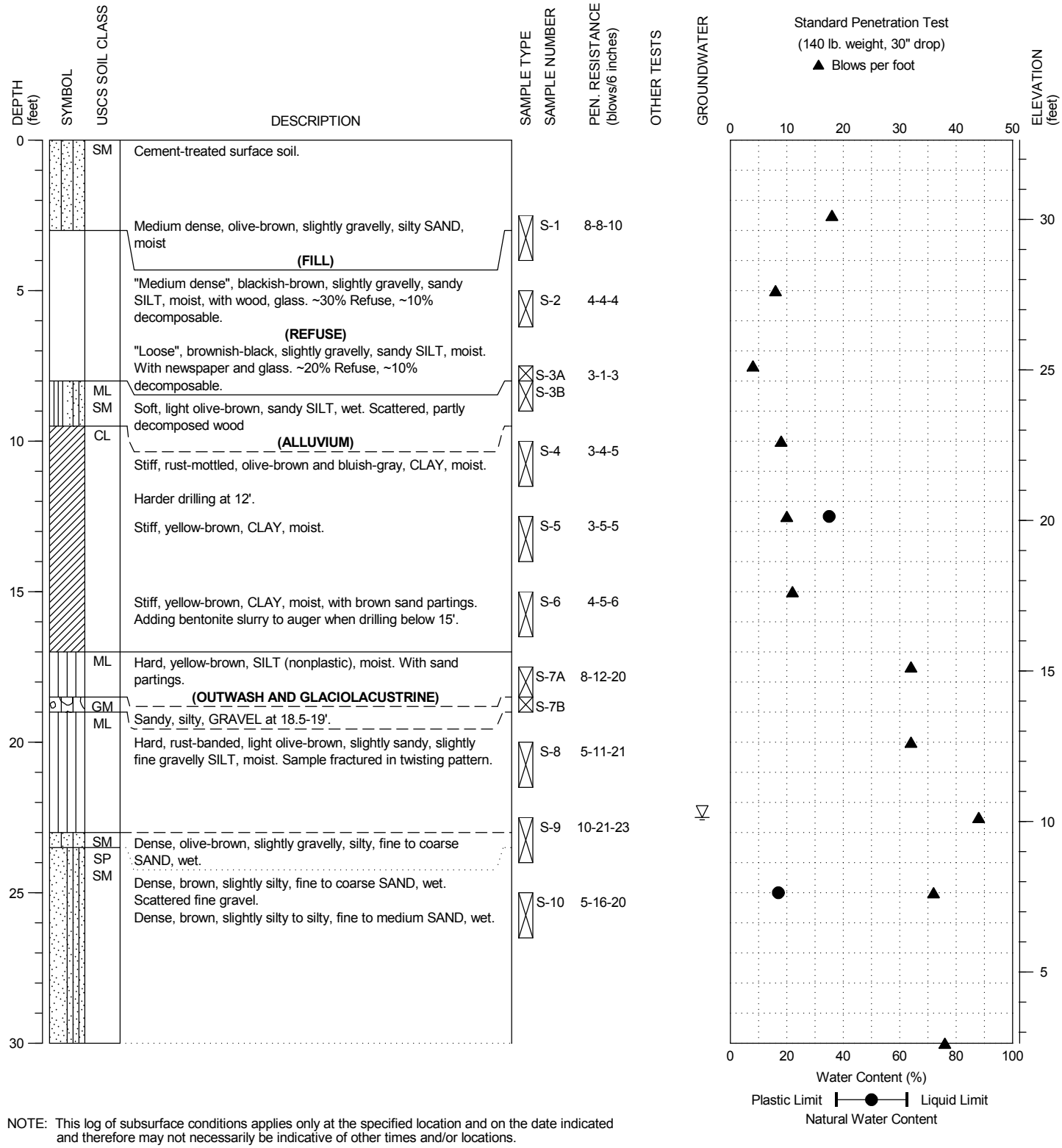
BORING:
BH- 8

PROJECT NO.: 2015-061

FIGURE: C-9

DRILLING COMPANY: Holocene Drilling
DRILLING METHOD: CME 850 Tracked Rig, HSA
SAMPLING METHOD: SPT with Autohammer
LOCATION: See Figure 2

DATE STARTED: 5/30/2017
DATE COMPLETED: 5/30/2017
LOGGED BY: B. Thurber
SURFACE ELEVATION: 32.6 ± feet



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HWA GEOSCIENCES INC.

PROJECT EVERGREEN
36th ST & RIVERSIDE DRIVE
EVERETT, WASHINGTON

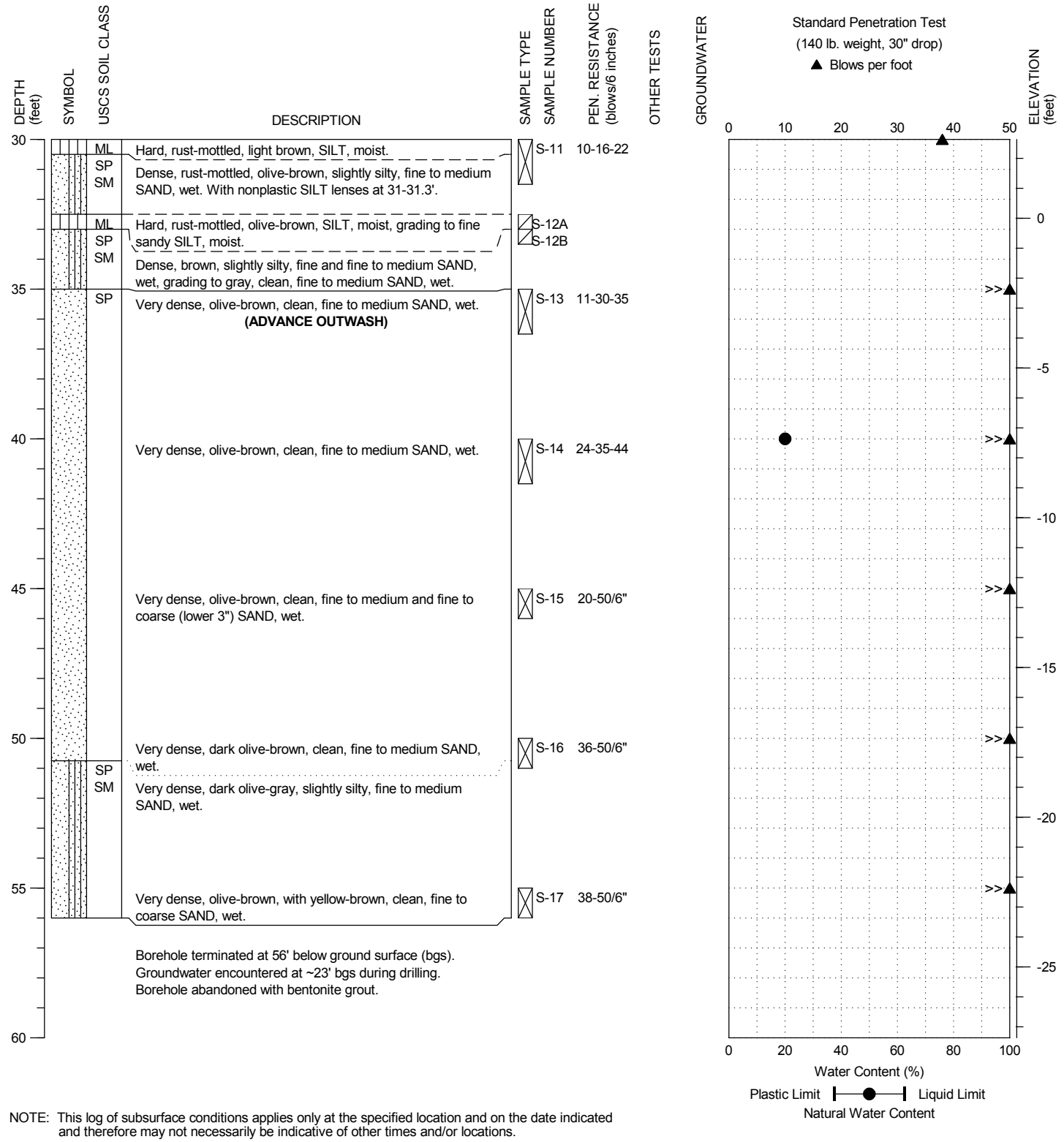
BORING:
BH- 9

PROJECT NO.: 2015-061

FIGURE: C-10

DRILLING COMPANY: Holocene Drilling
DRILLING METHOD: CME 850 Tracked Rig, HSA
SAMPLING METHOD: SPT with Autohammer
LOCATION: See Figure 2

DATE STARTED: 5/30/2017
DATE COMPLETED: 5/30/2017
LOGGED BY: B. Thurber
SURFACE ELEVATION: 32.6 ± feet



Borehole terminated at 56' below ground surface (bgs).
Groundwater encountered at ~23' bgs during drilling.
Borehole abandoned with bentonite grout.

NOTE: This log of subsurface conditions applies only at the specified location and on the date indicated and therefore may not necessarily be indicative of other times and/or locations.

HWA GEOSCIENCES INC.

PROJECT EVERGREEN
36th ST & RIVERSIDE DRIVE
EVERETT, WASHINGTON

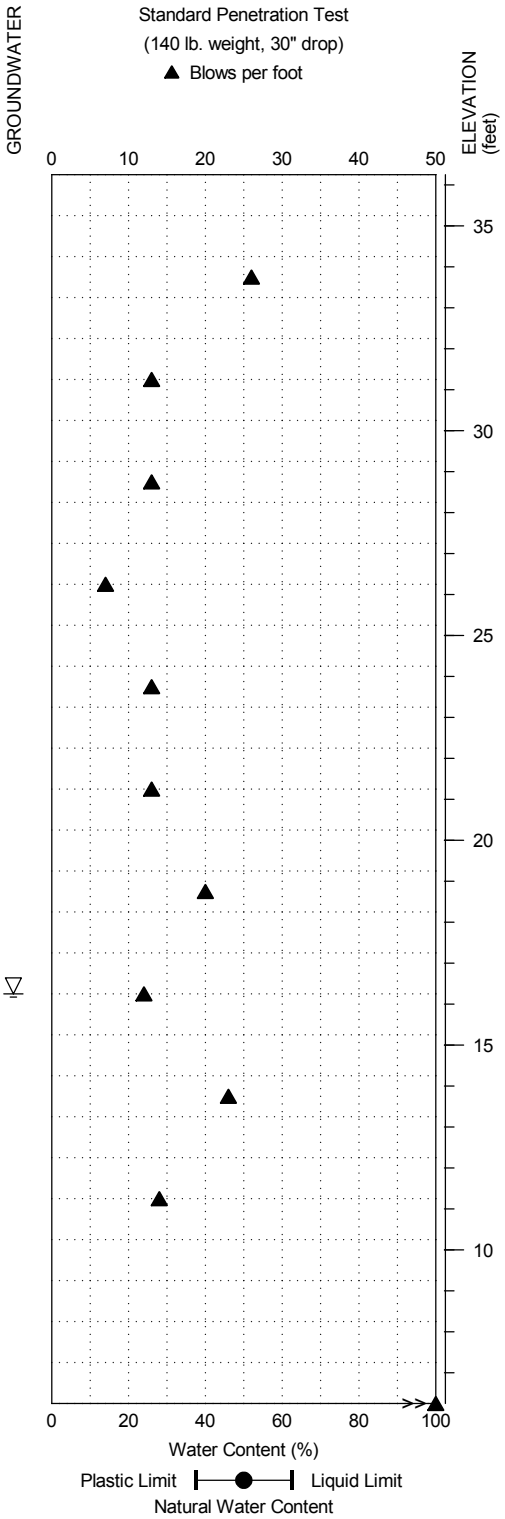
BORING:
BH- 9

PROJECT NO.: 2015-061 FIGURE: C-10

DRILLING COMPANY: Holocene Drilling
DRILLING METHOD: CME 850 Tracked Rig, HSA
SAMPLING METHOD: SPT with Autohammer
LOCATION: See Figure 2

DATE STARTED: 5/31/2017
DATE COMPLETED: 5/31/2017
LOGGED BY: B. Thurber
SURFACE ELEVATION: 36.3 ± feet

DEPTH (feet)	SYMBOL	USCS SOIL CLASS	DESCRIPTION	SAMPLE TYPE	SAMPLE NUMBER	PEN. RESISTANCE (blows/6 inches)	OTHER TESTS	GROUNDWATER
0		SM	Cement-treated soil.					
			Medium dense, olive-brown, gray and bluish-gray, sandy SILT, moist. 1 piece of plastic sheeting. **(FILL)**		S-1	8-12-14		
5			Brownish-black, silty SAND with REFUSE, moist. ~30% Refuse (plastic, burnt wood), ~10% Decomposable. **(REFUSE)**		S-2	20-7-6		
			"Medium dense", grayish-brown, silty SAND, moist, and REFUSE (plastic sheeting, fabric, glass). ~40% Refuse, ~10% Decomposable.		S-3	3-4-9		
			"Medium dense", REFUSE, with olive-brown, silty SAND, moist. paper (1" thick), plastic, fabric, glass, wood, aluminum sheeting. ~80% Refuse, ~50% Decomposable.					
10			Poor recovery.		S-4	5-3-4		
			"Medium dense", REFUSE: Paper, plastic, glass, fabric. Trace silty SAND, ~95% Refuse, ~40-45% Decomposable.		S-5	10-7-6		
15			Poor recovery; drove wood. ~90% REFUSE: Wood, glass, plastic. ~10% dark brown, sandy SILT, moist. ~70% Decomposable.		S-6	9-6-7		
			"Medium dense", REFUSE with brown and gray-brown soil (sandy SILT), ~95% Refuse (wood, plastic, glass, metal), ~40% Decomposable. Gray, silty SAND at tip (<1/2" thick).		S-7	6-10-20		
20			"Medium dense", olive-brown and grayish dark brown, slightly gravelly, silty SAND, moist, with wood and burnt wood. ~25% Refuse, ~25% Decomposable. Black-coated (wet), REFUSE: Paper, plastic, glass. ~100% Refuse, ~30% Decomposable.		S-8	3-4-8		▽
			"Medium dense", black grading to dark brown, burnt wood in sandy SILT grading to silty SAND, moist, wood in lower 4". ~40% Refuse, ~40% Decomposable.		S-9	7-10-13		
25			"Medium dense", black and dark brownish gray, blackened wood, sandy SILT, metal, wood fragments, wet. ~80% refuse, ~70% Decomposable.		S-10	5-6-8		
30								



NOTE: This log of subsurface conditions applies only at the specified location and on the date indicated and therefore may not necessarily be indicative of other times and/or locations.

HWA GEOSCIENCES INC.

PROJECT EVERGREEN
36th ST & RIVERSIDE DRIVE
EVERETT, WASHINGTON

BORING:
BH-10

PROJECT NO.: 2015-061

FIGURE: C-11

DRILLING COMPANY: Holocene Drilling
DRILLING METHOD: CME 850 Tracked Rig, HSA
SAMPLING METHOD: SPT with Autohammer
LOCATION: See Figure 2

DATE STARTED: 5/31/2017
DATE COMPLETED: 5/31/2017
LOGGED BY: B. Thurber
SURFACE ELEVATION: 36.3 ± feet

DEPTH (feet)	SYMBOL	USCS SOIL CLASS	DESCRIPTION	SAMPLE TYPE	SAMPLE NUMBER	PEN. RESISTANCE (blows/6 inches)	OTHER TESTS
30			WOOD, wet. Partly decomposed in top 4".		S-11	14-23-46	
35			"Medium dense", REFUSE: Wood, plastic, fabric. ~95% Refuse, ~50% Decomposable.		S-12	14-36-20	
40		SM	Very dense, yellow-brown and light yellow-brown, silty, fine to medium SAND, wet. **(ADVANCE OUTWASH)**		S-13	10-26-46	
45			4" hard, rust-banded, brown, SILT (Plastic), moist. Very dense, brown with a rust band, slightly silty, fine to medium SAND, moist. Silty, fine to medium SAND below 46.25'.		S-14	10-23-32	
		SP SM	Wood pushed into upper portion. Very dense, yellow-brown, clean to slightly silty, slightly fine gravelly and coarse sandy, fine to medium SAND, moist to wet.				
50			Very dense, yellow-brown, slightly silty, slightly fine to medium and fine to coarse SAND, wet.		S-16	26-31-34	
					S-15A	14-36-50/5"	
					S-15B		UW DS
55			Very dense, dark gray, slightly silty, fine to medium SAND, wet, with fine lenses, with coarse SAND, finely stratified.		S-17	21-32-38	
60							

GROUNDWATER

Standard Penetration Test
(140 lb. weight, 30" drop)
▲ Blows per foot

0 10 20 30 40 50

ELEVATION (feet)
5 0 -5 -10 -15 -20

0 20 40 60 80 100
Water Content (%)
Plastic Limit ⊢●⊣ Liquid Limit
Natural Water Content

NOTE: This log of subsurface conditions applies only at the specified location and on the date indicated and therefore may not necessarily be indicative of other times and/or locations.

HWA GEOSCIENCES INC.

PROJECT EVERGREEN
36th ST & RIVERSIDE DRIVE
EVERETT, WASHINGTON

BORING:
BH-10

PROJECT NO.: 2015-061 FIGURE: C-11

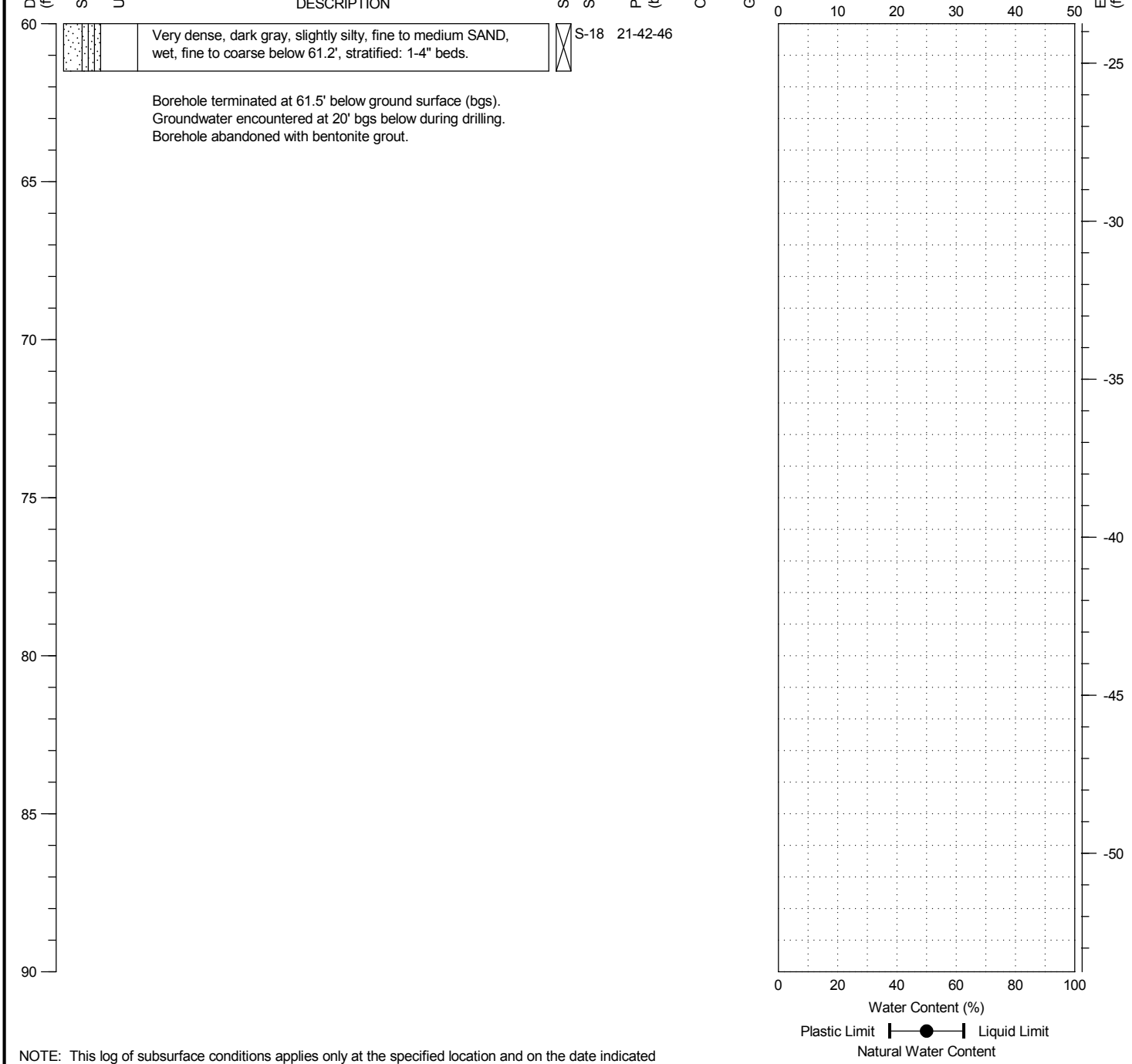
DRILLING COMPANY: Holocene Drilling
DRILLING METHOD: CME 850 Tracked Rig, HSA
SAMPLING METHOD: SPT with Autohammer
LOCATION: See Figure 2

DATE STARTED: 5/31/2017
DATE COMPLETED: 5/31/2017
LOGGED BY: B. Thurber
SURFACE ELEVATION: 36.3 ± feet

DEPTH (feet)	SYMBOL	USCS SOIL CLASS	DESCRIPTION	SAMPLE TYPE	SAMPLE NUMBER	PEN. RESISTANCE (blows/6 inches)	OTHER TESTS	GROUNDWATER
60			Very dense, dark gray, slightly silty, fine to medium SAND, wet, fine to coarse below 61.2', stratified: 1-4" beds.		S-18	21-42-46		

Borehole terminated at 61.5' below ground surface (bgs).
Groundwater encountered at 20' bgs below during drilling.
Borehole abandoned with bentonite grout.

Standard Penetration Test
(140 lb. weight, 30" drop)
▲ Blows per foot



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HWA GEOSCIENCES INC.

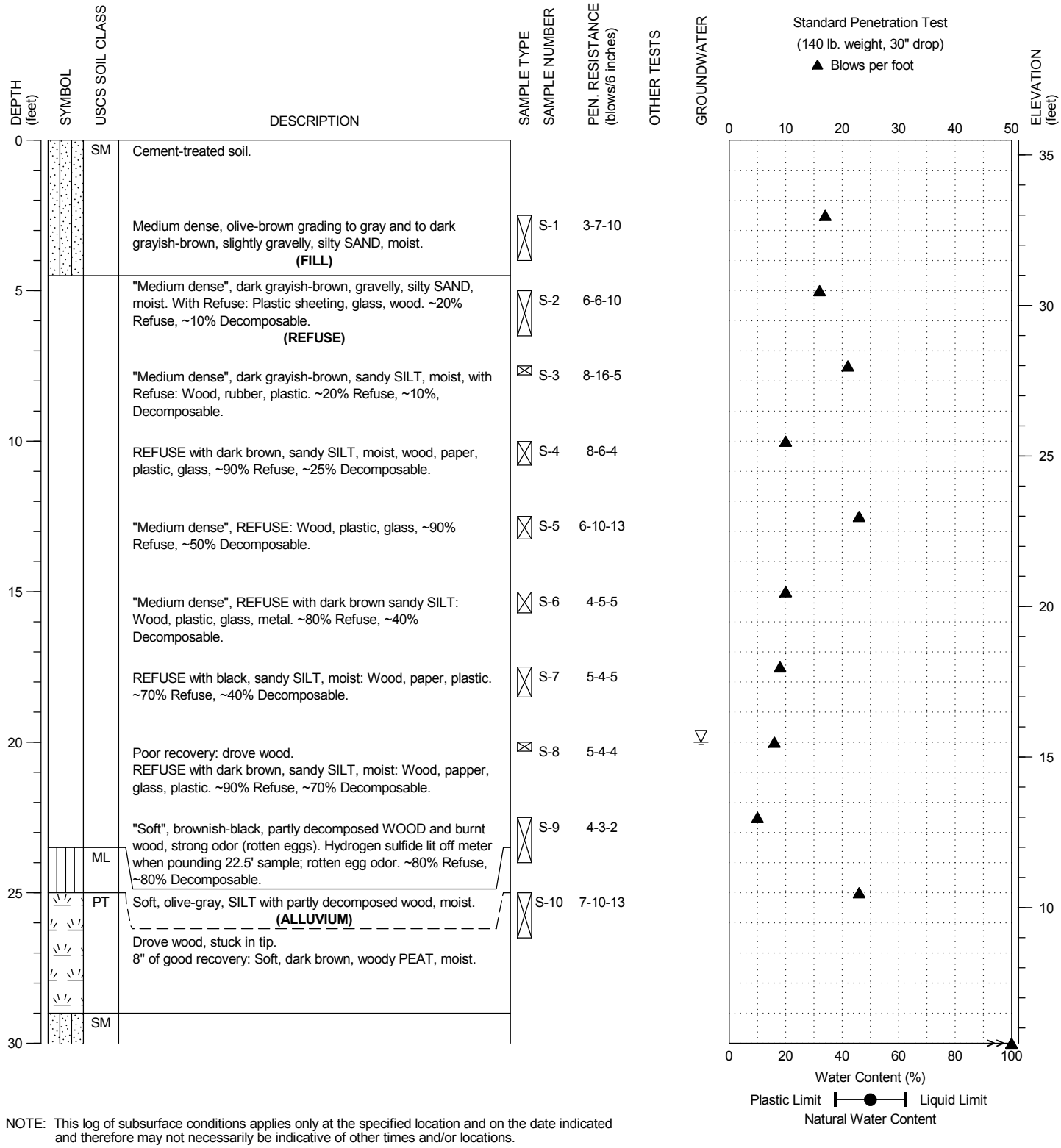
PROJECT EVERGREEN
36th ST & RIVERSIDE DRIVE
EVERETT, WASHINGTON

BORING:
BH-10

PROJECT NO.: 2015-061 FIGURE: C-11

DRILLING COMPANY: Holocene Drilling
DRILLING METHOD: CME 850 Tracked Rig, HSA
SAMPLING METHOD: SPT with Autohammer
LOCATION: See Figure 2

DATE STARTED: 5/31/2017
DATE COMPLETED: 5/31/2017
LOGGED BY: B. Thurber
SURFACE ELEVATION: 35.5 ± feet



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HWA GEOSCIENCES INC.

PROJECT EVERGREEN
36th ST & RIVERSIDE DRIVE
EVERETT, WASHINGTON

BORING:
BH-11

PROJECT NO.: 2015-061

FIGURE: C-12

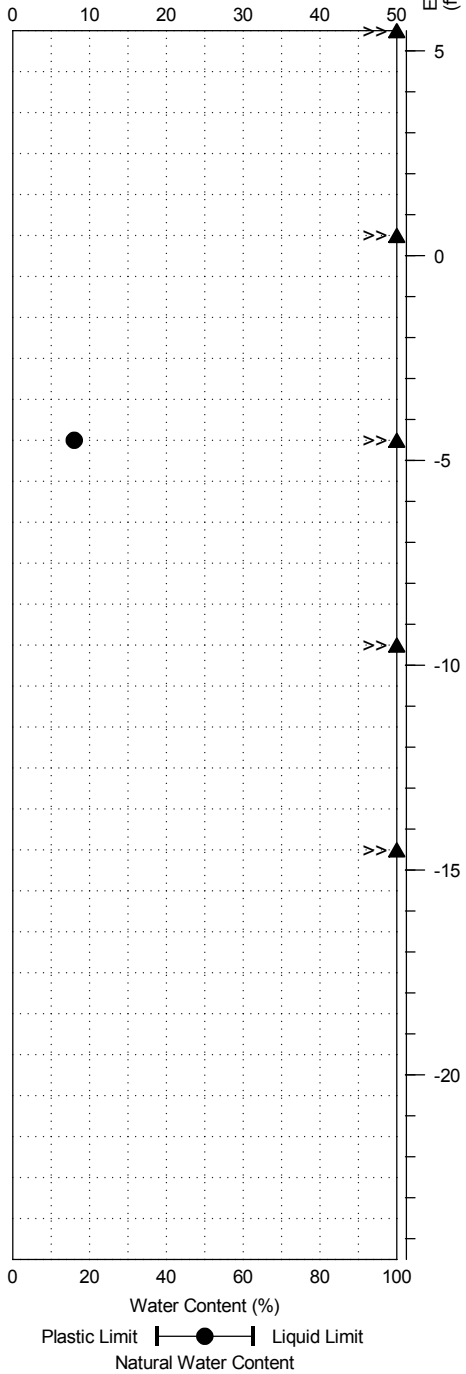
DRILLING COMPANY: Holocene Drilling
DRILLING METHOD: CME 850 Tracked Rig, HSA
SAMPLING METHOD: SPT with Autohammer
LOCATION: See Figure 2

DATE STARTED: 5/31/2017
DATE COMPLETED: 5/31/2017
LOGGED BY: B. Thurber
SURFACE ELEVATION: 35.5 ± feet

DEPTH (feet)	SYMBOL	USCS SOIL CLASS	DESCRIPTION	SAMPLE TYPE	SAMPLE NUMBER	PEN. RESISTANCE (blows/6 inches)	OTHER TESTS
30			Very dense, yellow-brown with rust-banding grading to olive-brown, slightly silty to silty, slightly fine gravelly, fine to medium and fine to coarse SAND, wet.		S-11	12-25-27	
			Mixed bentonite slurry and put inside auger before drilling below 30'.				
			(ADVANCE OUTWASH)				
35		SP SM	Very dense, yellow-brown, slightly silty grading to clean, fine to medium SAND, wet. Lens of fine gravel at 36.5'.		S-12	10-24-29	
40			Very dense, yellow-brown, slightly gravelly, silty grading to clean, fine to medium SAND, wet.		S-13	18-24-30	GS
		SP	Rust-banded, yellow-brown, clean, fine to medium SAND grading to silty, fine SAND, wet.				
45		SP SM	Very dense, light olive-brown, clean to slightly slity, fine to coarse SAND, wet. Scattered fine gravel, </= 1/4".		S-14	22-30-34	
50		SM	Very dense, reddish-brown, silty, fine SAND, wet, grading to dark, yellow-brown, slightly silty, fine to medium SAND, wet. Olive-brown at lower 2". Lens with fine gravel at 50.9'.		S-15	18-25-48	
			Borehole terminated at 51.5' below ground surface (bgs). Groundwater encountered below 20' bgs during drilling. Borehole abandoned with bentonite grout.				
55							
60							

GROUNDWATER

Standard Penetration Test
(140 lb. weight, 30" drop)
▲ Blows per foot



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HWA GEOSCIENCES INC.

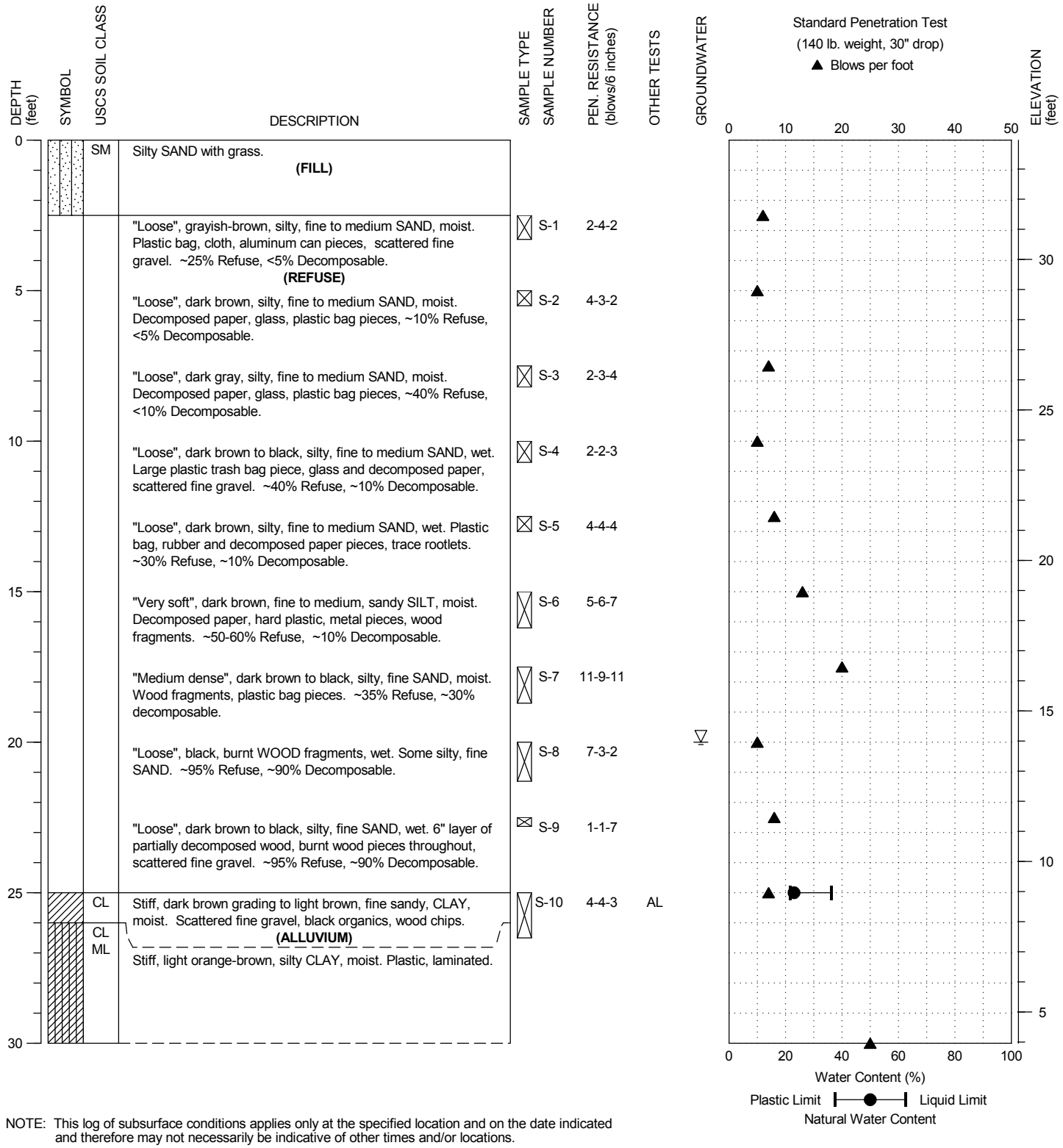
PROJECT EVERGREEN
36th ST & RIVERSIDE DRIVE
EVERETT, WASHINGTON

BORING:
BH-11

PROJECT NO.: 2015-061 FIGURE: C-12

DRILLING COMPANY: Holocene Drilling
DRILLING METHOD: Mobile B-58 Truck Rig, HSA
SAMPLING METHOD: SPT with Autohammer
LOCATION: See Figure 2

DATE STARTED: 6/2/2017
DATE COMPLETED: 6/2/2017
LOGGED BY: A. York
SURFACE ELEVATION: 34.0 ± feet



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HWA GEOSCIENCES INC.

PROJECT EVERGREEN
36th ST & RIVERSIDE DRIVE
EVERETT, WASHINGTON

BORING:
BH-12

PROJECT NO.: 2015-061 FIGURE: C-13

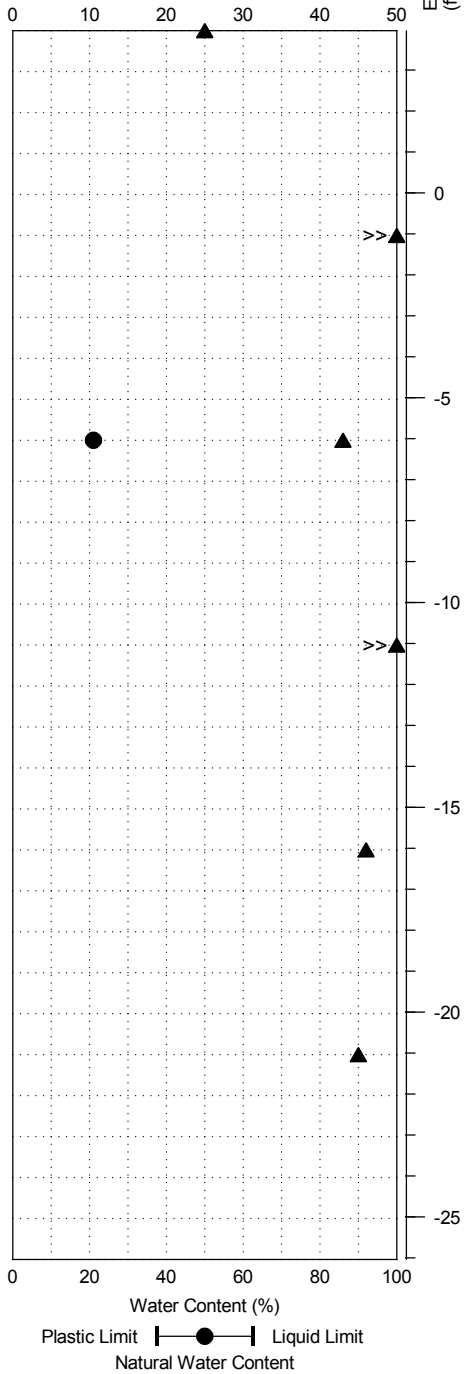
DRILLING COMPANY: Holocene Drilling
DRILLING METHOD: Mobile B-58 Truck Rig, HSA
SAMPLING METHOD: SPT with Autohammer
LOCATION: See Figure 2

DATE STARTED: 6/2/2017
DATE COMPLETED: 6/2/2017
LOGGED BY: A. York
SURFACE ELEVATION: 34.0 ± feet

DEPTH (feet)	SYMBOL	USCS SOIL CLASS	DESCRIPTION	SAMPLE TYPE	SAMPLE NUMBER	PEN. RESISTANCE (blows/6 inches)	OTHER TESTS
30		SM	Medium dense, orange to olive-brown, silty, fine to medium SAND, moist. Layers of iron oxide staining, fine, sandy silt, scattered fine to medium gravel, some wood fragments.		S-11	8-11-14	
35		SM	Very dense, light orange to olive-brown, silty, fine to medium gravelly, fine to coarse SAND, moist to wet. Small lens (1-2") of SILT 35.1'. **(ADVANCE OUTWASH)**		S-12	7-24-39	
40			Dense, olive-brown, silty, fine to medium SAND, wet. Iron oxide bands in lower 6", grades to silty, fine SAND in lower 4".		S-13	12-21-22	GS
45			Very dense, light olive-brown, silty, fine to medium SAND, wet. Scattered fine gravel, iron oxide bands in lower 4".		S-14	12-20-38	
50			Dense, olive-gray, silty, fine to coarse SAND, wet. Scattered fine gravel.		S-15	14-19-27	
55			Dense, light olive-brown, silty, fine to coarse SAND, wet. Scattered fine gravel.		S-16	13-20-25	
60			Borehole terminated at 56.5' below ground surface (bgs). Groundwater encountered at ~20' bgs during drilling. Borehole abandoned with bentonite grout.				

GROUNDWATER

Standard Penetration Test
(140 lb. weight, 30" drop)
▲ Blows per foot



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HWA GEOSCIENCES INC.

PROJECT EVERGREEN
36th ST & RIVERSIDE DRIVE
EVERETT, WASHINGTON

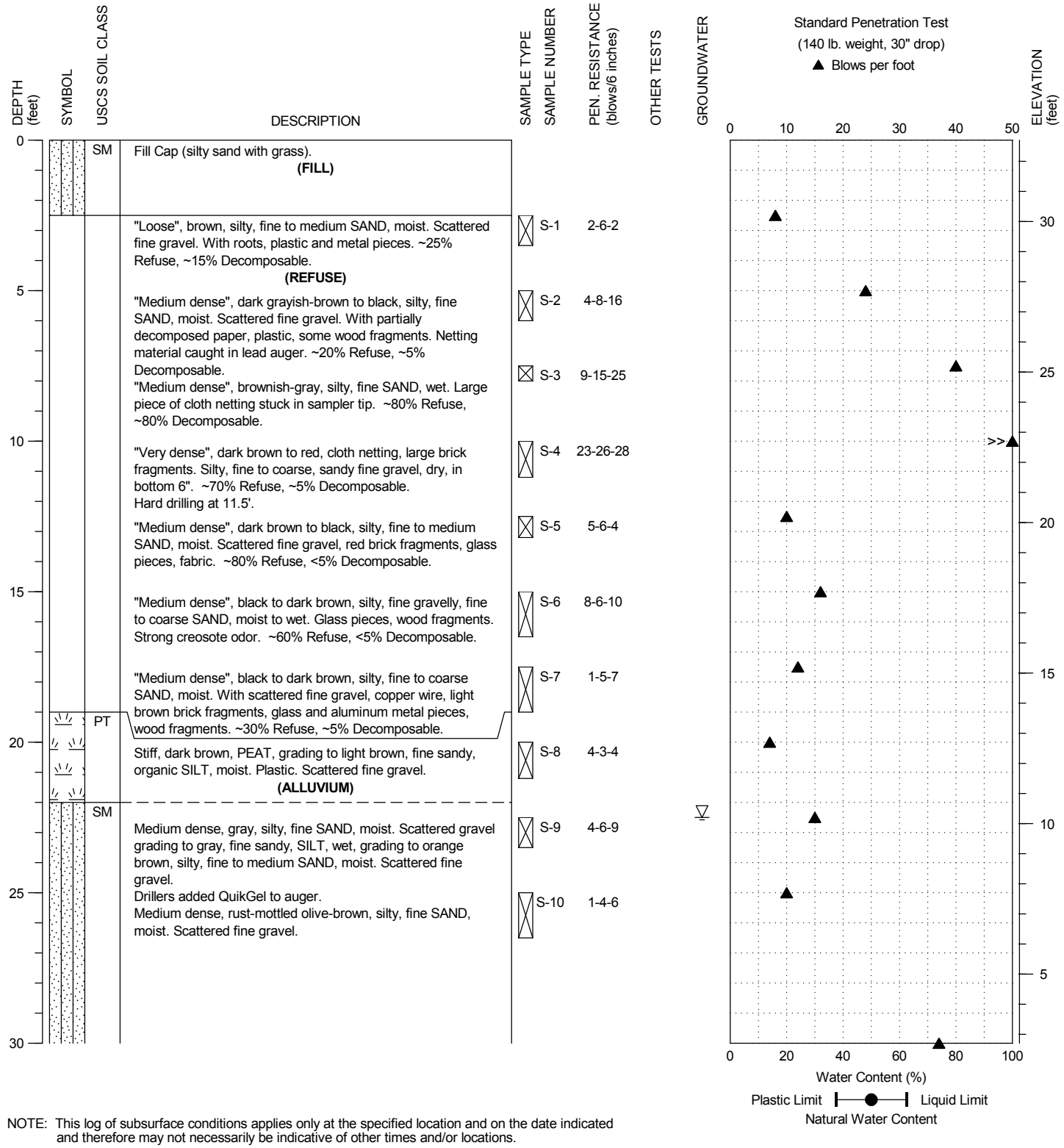
BORING:
BH-12

PROJECT NO.: 2015-061

FIGURE: C-13

DRILLING COMPANY: Holocene Drilling
DRILLING METHOD: Mobile B-58 Truck Rig, HSA
SAMPLING METHOD: SPT with Autohammer
LOCATION: See Figure 2

DATE STARTED: 6/2/2017
DATE COMPLETED: 6/2/2017
LOGGED BY: A. York
SURFACE ELEVATION: 32.7 ± feet



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HWA GEOSCIENCES INC.

PROJECT EVERGREEN
36th ST & RIVERSIDE DRIVE
EVERETT, WASHINGTON

BORING:
BH-13

PROJECT NO.: 2015-061

FIGURE: C-14

DRILLING COMPANY: Holocene Drilling
DRILLING METHOD: Mobile B-58 Truck Rig, HSA
SAMPLING METHOD: SPT with Autohammer
LOCATION: See Figure 2

DATE STARTED: 6/2/2017
DATE COMPLETED: 6/2/2017
LOGGED BY: A. York
SURFACE ELEVATION: 32.7 ± feet

DEPTH (feet)	SYMBOL	USCS SOIL CLASS	DESCRIPTION	SAMPLE TYPE	SAMPLE NUMBER	PEN. RESISTANCE (blows/6 inches)	OTHER TESTS
30			Dense, light olive-brown, rust mottling, silty, fine SAND, wet. Scattered coarse sand. Stratified layers of orange, silty, fine to medium sand.		S-11	15-18-19	
35			Medium dense, olive-gray, silty, fine SAND grading to fine to medium SAND, wet. Stratified layers of rust-mottled, olive-gray, fine to medium SAND.		S-12	7-9-16	
40		SM	Very dense, olive-gray, silty, fine to medium SAND, wet. Trace fine gravel, scattered coarse sand, red bands of iron oxidation. **(ADVANCE OUTWASH)**		S-13	17-22-28	
45			Very dense, olive-brown, silty, fine to coarse SAND, wet. Olive-gray, silty, fine sand in sampler tip.		S-14	16-26-27	
50		SP SM	Very dense, olive-brown, silty, fine to medium SAND grading to fine SAND, wet. Red bands of iron oxide.		S-15	17-27-33	
55			Dense, olive-brown, slightly silty, fine to coarse SAND, wet.		S-16A S-16B S-16C	13-30-50/6"	
60		SP					

GROUNDWATER

Standard Penetration Test
(140 lb. weight, 30" drop)
▲ Blows per foot

0 10 20 30 40 50

ELEVATION (feet)
0
-5
-10
-15
-20
-25

>>
>>
>>

0 20 40 60 80 100
Water Content (%)
Plastic Limit — Liquid Limit
Natural Water Content

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HWA GEOSCIENCES INC.

PROJECT EVERGREEN
36th ST & RIVERSIDE DRIVE
EVERETT, WASHINGTON

BORING:
BH-13

PROJECT NO.: 2015-061 FIGURE: C-14

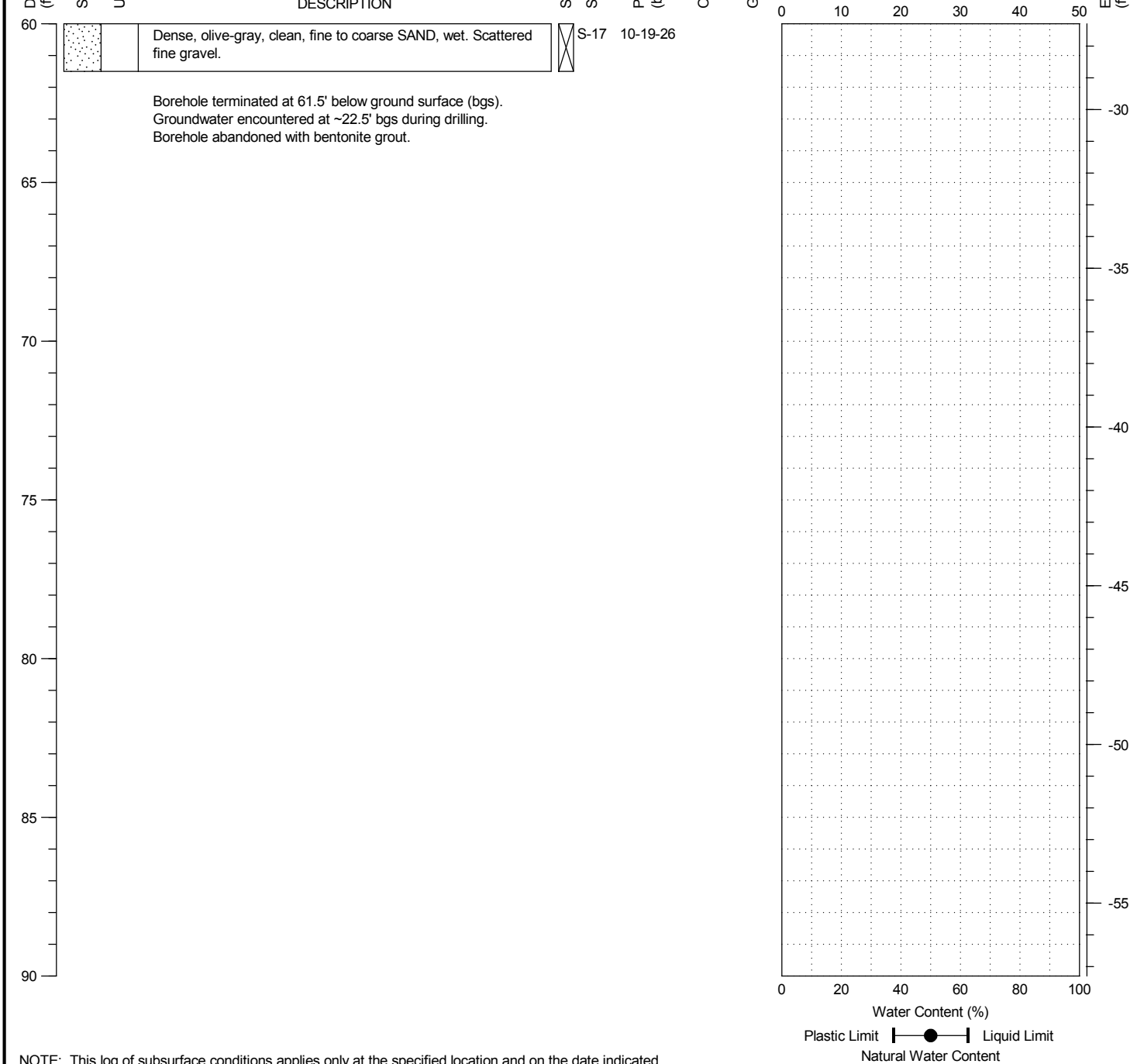
DRILLING COMPANY: Holocene Drilling
DRILLING METHOD: Mobile B-58 Truck Rig, HSA
SAMPLING METHOD: SPT with Autohammer
LOCATION: See Figure 2

DATE STARTED: 6/2/2017
DATE COMPLETED: 6/2/2017
LOGGED BY: A. York
SURFACE ELEVATION: 32.7 ± feet

DEPTH (feet)	SYMBOL	USCS SOIL CLASS	DESCRIPTION	SAMPLE TYPE	SAMPLE NUMBER	PEN. RESISTANCE (blows/6 inches)	OTHER TESTS	GROUNDWATER
60			Dense, olive-gray, clean, fine to coarse SAND, wet. Scattered fine gravel.		S-17	10-19-26		

Borehole terminated at 61.5' below ground surface (bgs).
Groundwater encountered at ~22.5' bgs during drilling.
Borehole abandoned with bentonite grout.

Standard Penetration Test
(140 lb. weight, 30" drop)
▲ Blows per foot



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HWA GEOSCIENCES INC.

PROJECT EVERGREEN
36th ST & RIVERSIDE DRIVE
EVERETT, WASHINGTON

BORING:
BH-13

PROJECT NO.: 2015-061

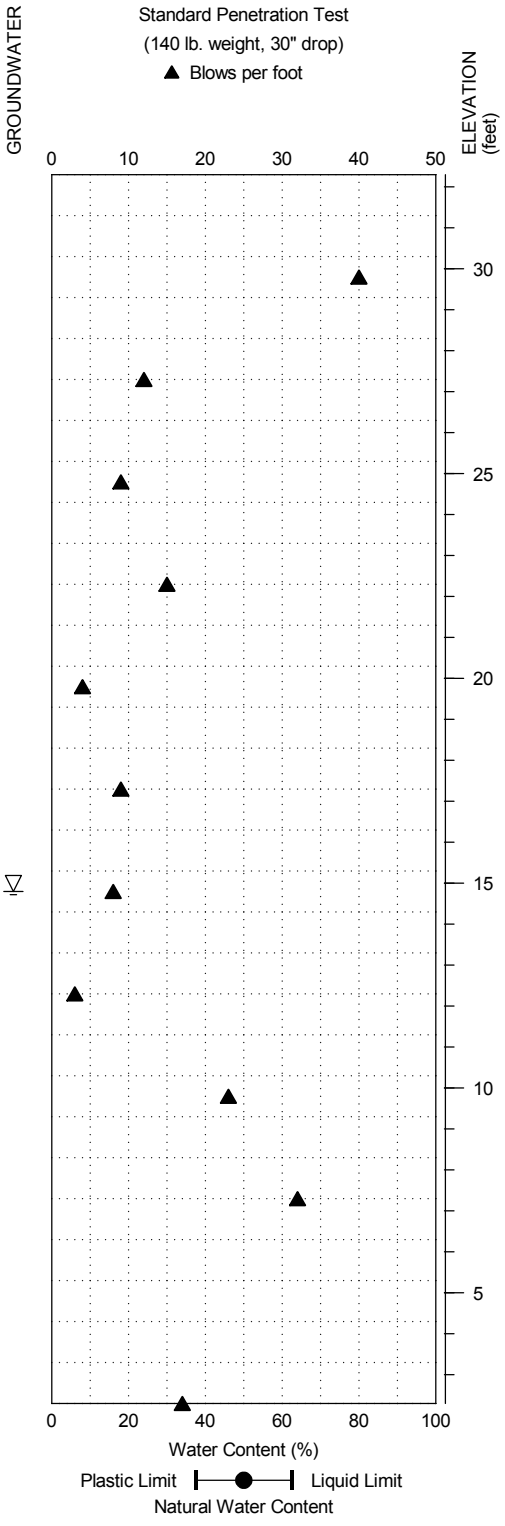
FIGURE: C-14

DRILLING COMPANY: Holocene Drilling
DRILLING METHOD: Mobile B-58 Truck Rig, HSA & Mud Rotary
SAMPLING METHOD: SPT with Autohammer
LOCATION: See Figure 2

DATE STARTED: 6/7/2017
DATE COMPLETED: 6/7/2017
LOGGED BY: A. York
SURFACE ELEVATION: 32.3 ± feet

DEPTH (feet)	SYMBOL	USCS SOIL CLASS	DESCRIPTION	SAMPLE TYPE	SAMPLE NUMBER	PEN. RESISTANCE (blows/6 inches)	OTHER TESTS
0		SM	Silty SAND soil cap. **(FILL)**				
			"Dense", dark brown, silty, fine to medium SAND, moist. Scattered fine gravel, wood fragments. ~10% Refuse, <5% Decomposable. **(REFUSE)**	☒	S-1	20-27-13	
5			"Stiff", dark brown, fine sandy SILT, moist. Scattered fine gravel, wood fragments, glass pieces. ~10% Refuse, <5% Decomposable.	☒	S-2	16-6-6	
			"Loose", dark brown, silty, fine sandy SAND, moist. Scattered fine gravel, red brick fragments and cinders. ~50% Refuse, <5% Decomposable.	☒	S-3	16-5-4	
10			"Medium dense", dark grayish-brown, fine SAND, moist. Scattered fine gravel, glass and metal pieces. ~10% Refuse, <5% Decomposable.	☒	S-4	6-7-8	
			"Loose", dark brown to reddish brown, silty, fine gravelly, fine to coarse SAND, moist. With glass pieces, cinders, and wood fragments. ~40% Refuse, <5% Decomposable.	☒	S-5	2-2-2	
15			"Loose", reddish brown, fine to coarse SAND composed of red brick fragments and fine cinder, grading to a dark brownish black, silty, fine to medium SAND, moist. With scattered fine gravel, wood fragments and red brick fragments, ceramic, and glass. ~40% Refuse, <5% Decomposable.	☒	S-6	3-4-5	
			"Loose", dark brown to black, silty, fine to medium SAND, wet. Consists of charcoal with cinders and glass pieces. ~50% Refuse, 30% Decomposable.	☒	S-7	1-3-5	
20			"Loose", black grading to dark brown, silty, fine to medium SAND, wet. Scattered fine gravel, charcoal, wood, glass and metal pieces. ~60% Refuse, ~30% Decomposable.	☒	S-8	1-2-1	
		ML	Hard, light olive-brown with rust mottling, clayey SILT, moist. Grading to a fine sandy SILT **(ALLUVIUM)**	☒	S-9	6-10-13	
25		SM	Dense, light olive brown with rust mottling, silty, fine SAND, moist. Scattered fine gravel.	☒	S-10	9-13-19	
			Drillers switched over to Mud Rotary.				
30							

GROUNDWATER ▽



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HWA GEOSCIENCES INC.

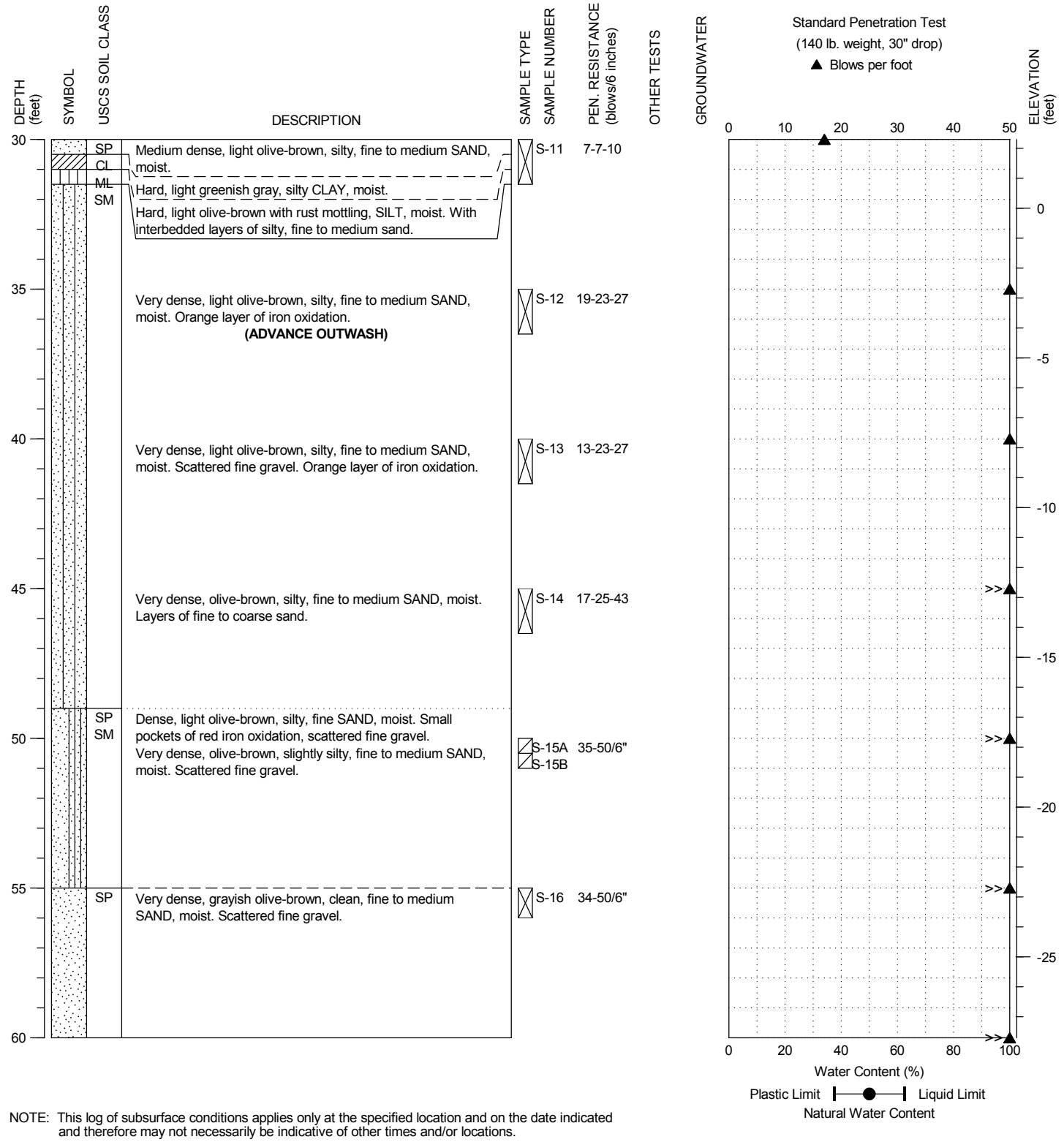
PROJECT EVERGREEN
36th ST & RIVERSIDE DRIVE
EVERETT, WASHINGTON

BORING:
BH-14

PROJECT NO.: 2015-061 FIGURE: C-15

DRILLING COMPANY: Holocene Drilling
DRILLING METHOD: Mobile B-58 Truck Rig, HSA & Mud Rotary
SAMPLING METHOD: SPT with Autohammer
LOCATION: See Figure 2

DATE STARTED: 6/7/2017
DATE COMPLETED: 6/7/2017
LOGGED BY: A. York
SURFACE ELEVATION: 32.3 ± feet



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HWA GEOSCIENCES INC.

PROJECT EVERGREEN
36th ST & RIVERSIDE DRIVE
EVERETT, WASHINGTON

BORING:
BH-14

PROJECT NO.: 2015-061 FIGURE: C-15

DRILLING COMPANY: Holocene Drilling
DRILLING METHOD: Mobile B-58 Truck Rig, HSA & Mud Rotary
SAMPLING METHOD: SPT with Autohammer
LOCATION: See Figure 2

DATE STARTED: 6/7/2017
DATE COMPLETED: 6/7/2017
LOGGED BY: A. York
SURFACE ELEVATION: 32.3 ± feet

DEPTH (feet)	SYMBOL	USCS SOIL CLASS	DESCRIPTION	SAMPLE TYPE	SAMPLE NUMBER	PEN. RESISTANCE (blows/6 inches)	OTHER TESTS
60		SP	Very dense, olive-gray, silty, fine SAND grading to clean, fine to medium SAND, wet. Scattered fine gravel.		S-17	26-27-32	
		ML	Hard, olive-gray, SILT, moist. Nonplastic.				
		SP SM	Very dense, dark olive-gray, slightly silty, fine to medium SAND, moist.		S-18	33-21-37	
70		ML	Hard, dark brownish gray, SILT, moist. Interbedded with dark brown to black organics. **(PRE-VASHON ALLUVIUM)**		S-19A S-19B S-19C	32-35-50/5"	DS
		SP SM	Very dense, dark olive-gray, slightly silty, fine to medium SAND, moist.		S-20	25-34-38	
75			Borehole terminated at 76.5' below ground surface (bgs). Groundwater encountered at ~17.5' bgs during drilling. Borehole abandoned with bentonite grout.				
80							
85							
90							

GROUNDWATER

Standard Penetration Test
(140 lb. weight, 30" drop)
▲ Blows per foot

0 10 20 30 40 50

ELEVATION (feet)
-30 -35 -40 -45 -50 -55

0 20 40 60 80 100
Water Content (%)
Plastic Limit ⊢●⊣ Liquid Limit
Natural Water Content

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HWA GEOSCIENCES INC.

PROJECT EVERGREEN
36th ST & RIVERSIDE DRIVE
EVERETT, WASHINGTON

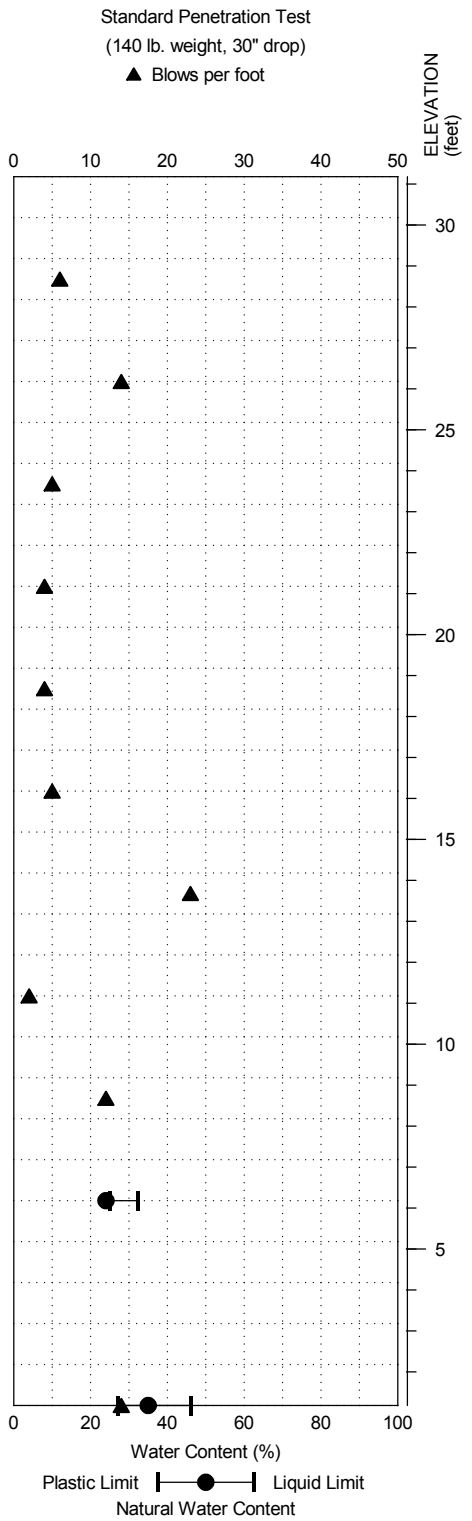
BORING:
BH-14

PROJECT NO.: 2015-061 FIGURE: C-15

DRILLING COMPANY: Holocene Drilling
DRILLING METHOD: Mobile B-58 Truck Rig, HSA
SAMPLING METHOD: SPT with Autohammer
LOCATION: See Figure 2

DATE STARTED: 5/30/2017
DATE COMPLETED: 5/30/2017
LOGGED BY: A. York
SURFACE ELEVATION: 31.2 ± feet

DEPTH (feet)	SYMBOL	USCS SOIL CLASS	DESCRIPTION	SAMPLE TYPE	SAMPLE NUMBER	PEN. RESISTANCE (blows/6 inches)	OTHER TESTS
0		SM	Silty, gravelly SAND. **(FILL)**				
			Loose, brown grading to black, silty, fine SAND, moist, scattered fine gravel and rootlets.		S-1	5-3-3	
5			Loose, brown olive-gray, silty, fine to coarse SAND, moist, grading to silty, fine gravelly, fine to coarse SAND.		S-2	2-8-6	
			"Loose", dark brown, silty, fine to coarse SAND, wet, glass and brick pieces, ~30% Refuse, <5% Decomposable. **(REFUSE)**		S-3	2-3-2	
10			"Soft", dark grayish, greenish brown, SILT, moist. Plastic. Some rootlets, blue glass in bottom of sample. ~10% Refuse, <5% Decomposable.		S-4	2-1-3	
			No recovery: Some sample in tip shows brown, silty, fine to coarse SAND.		NR	2-2-2	
15			"Loose", red to light brown, brick fragments in top 2", cinder and glass pieces, some soil, light brown, SAND. ~95% Refuse, <5% Decomposable.		S-5	2-3-2	
			"Medium dense", light orange-brown, gravelly cinder pieces, dry, scattered fine gravel, some silty, fine to medium SAND. ~90% Refuse, <5% Decomposable.		S-6	13-19-4	
20		ML	Soft, brown, fine sandy, SILT, wet. Plastic. Some black mottling. **(ALLUVIUM)**		S-7	2-1-1	
			Very stiff, light grayish brown with orange mottling, SILT, moist. Nonplastic.		S-8	5-5-7	
25			Very stiff, light olive brown, SILT, moist. With scattered organics.		S-9	Push	DS AL
30							



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HWA GEOSCIENCES INC.

PROJECT EVERGREEN
36th ST & RIVERSIDE DRIVE
EVERETT, WASHINGTON

BORING:
BH-15

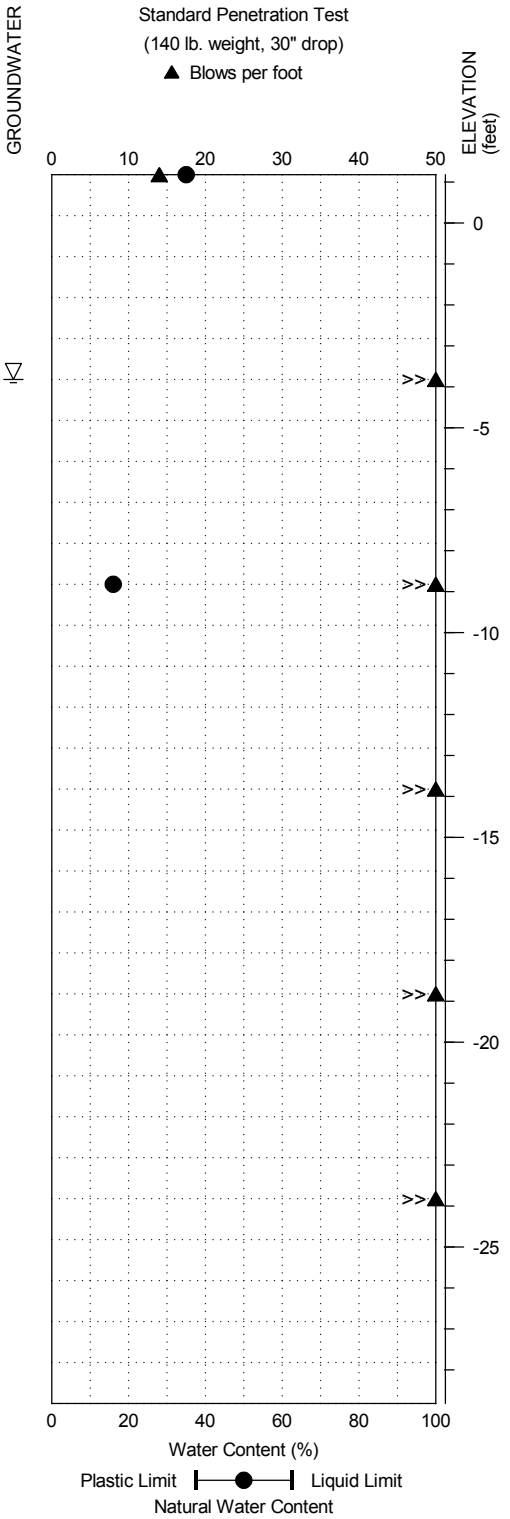
PROJECT NO.: 2015-061 FIGURE: C-16

DRILLING COMPANY: Holocene Drilling
DRILLING METHOD: Mobile B-58 Truck Rig, HSA
SAMPLING METHOD: SPT with Autohammer
LOCATION: See Figure 2

DATE STARTED: 5/30/2017
DATE COMPLETED: 5/30/2017
LOGGED BY: A. York
SURFACE ELEVATION: 31.2 ± feet

DEPTH (feet)	SYMBOL	USCS SOIL CLASS	DESCRIPTION	SAMPLE TYPE	SAMPLE NUMBER	PEN. RESISTANCE (blows/6 inches)	OTHER TESTS
30		ML	Very stiff, light olive-brown with gray and orange mottling, SILT, moist. Moderately plastic.		S-10	3-5-9	AL
35		SP SM	Very dense, olive-brown, silty, fine to medium, grading to fine to coarse SAND, wet. Some fine gravel in bottom 6". **(ADVANCE OUTWASH)**		S-11	32-50/5"	
40			Very dense, olive-brown, slightly silty, fine to coarse SAND, wet. Drillers used QuikGel grout.		S-12	9-28-36	GS
45		SM	Very dense, olive-brown, slightly silty, fine to medium SAND, wet, with some lenses of silty, fine SAND.		S-13	22-24-33	
50			Very dense, orange-brown, silty, fine to medium SAND, wet.		S-14	9-31-50/5"	
55			Very dense, orange-brown, silty, fine to medium SAND, wet, olive-gray lens at 56.2-56.4', grades to fine to coarse SAND.		S-15	10-38-35	
60			Borehole terminated at 56.5' below ground surface (bgs). Groundwater encountered at 35' bgs during drilling. Borehole abandoned with bentonite grout.				

GROUNDWATER



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HWA GEOSCIENCES INC.

PROJECT EVERGREEN
36th ST & RIVERSIDE DRIVE
EVERETT, WASHINGTON

BORING:
BH-15

PAGE: 2 of 2

PROJECT NO.: 2015-061 FIGURE: C-16

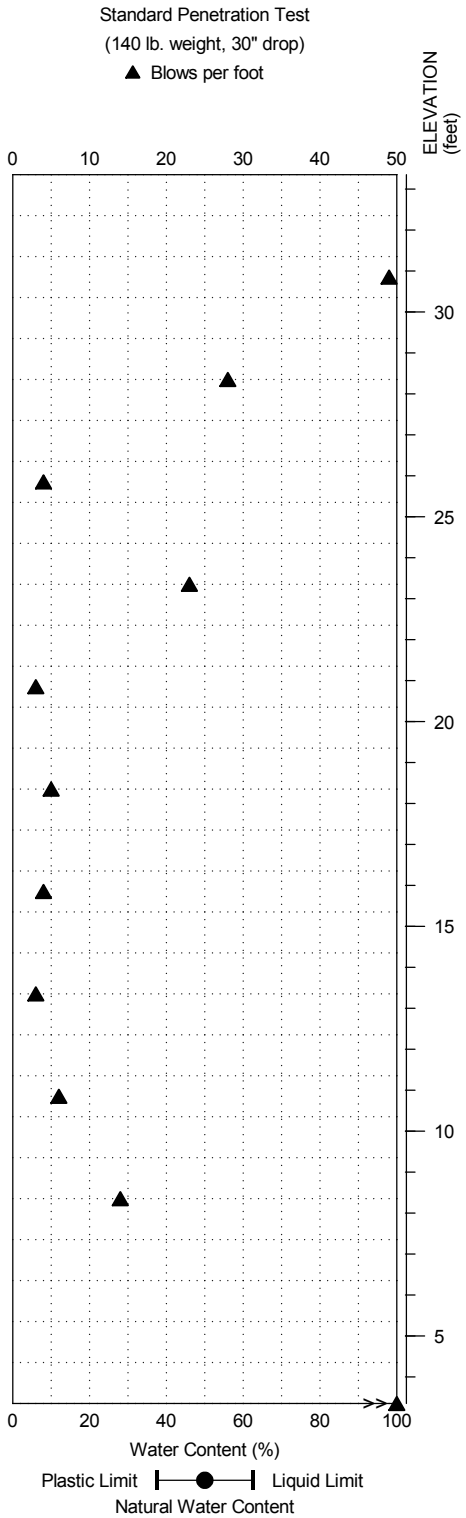
BORING-DSM 2015-061.GPJ 12/11/18

DRILLING COMPANY: Holocene Drilling
DRILLING METHOD: Mobile B-58 Truck Rig, HSA
SAMPLING METHOD: SPT with Autohammer
LOCATION: See Figure 2

DATE STARTED: 6/1/2017
DATE COMPLETED: 6/1/2017
LOGGED BY: A. York
SURFACE ELEVATION: 33.4 ± feet

DEPTH (feet)	SYMBOL	USCS SOIL CLASS	DESCRIPTION	SAMPLE TYPE	SAMPLE NUMBER	PEN. RESISTANCE (blows/6 inches)	OTHER TESTS
0		SM	Medium dense, olive brown, fine to coarse gravelly, silty, fine to coarse SAND, moist. **(FILL)**				
			"Dense", light brown to dark brown, silty, fine to medium SAND, moist. Wood fragments. ~10% Refuse, ~10% Decomposable. **(REFUSE)**		S-1	12-24-25	
5			"Medium dense", black to dark brown, asphalt with silty, fine to medium SAND, moist. Brick fragments, glass, hard plastic pieces, scattered fine to coarse gravel. ~20% Refuse, <5% Decomposable.		S-2	9-11-17	
			"Loose", reddish-black, silty, fine to coarse SAND, moist. Red brick fragments, glass pieces, fine grains of cinders, metal wire piece (1"). ~40% Refuse, <5% Decomposable.		S-3	1-1-3	
10			"Medium dense", dark red to black, red brick and cinder grains, with silty, fine to coarse SAND, moist. Scattered fine to medium gravel, glass pieces. ~50% Refuse, <5% Decomposable.		S-4	2-8-15	
			"Loose", dark brown to black, silty, fine to coarse SAND, wet. Fine to coarse grains of cinder and red brick, hard plastic pieces, scattered fine medium gravel. ~80% Refuse, <5% Decomposable.		S-5	1-1-2	
15			"Loose", dark brown to black, silty, fine to coarse SAND, moist to wet. Red brick fragments, glass pieces, burnt wood fragments. ~80% Refuse, <5% Decomposable.		S-6	2-1-4	
			"Loose", dark brown to black, silty, fine to coarse SAND, wet. Glass pieces. ~20% Refuse, <5% Decomposable.		S-7	3-2-2	
20			"Loose", dark brown to black, silty, fine to coarse SAND, wet. Metal and glass pieces, scattered fine to coarse gravel. ~20% Refuse, <5% Decomposable.		S-8	2-1-2	
			"Loose", black, silty, fine to coarse sandy, fine GRAVEL, wet. Glass pieces. ~30% Refuse, <5% Decomposable.		S-9	2-1-5	
25			"Medium dense", black, silty, fine gravelly, fine to coarse SAND, wet. Wood fragments, glass. 3" layer of olive-gray, silty fine to medium SAND, scattered fine gravel at 25.4'. ~40% Refuse, 10% Decomposable.		S-10	5-7-7	
30							

GROUNDWATER ▽



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HWA GEOSCIENCES INC.

PROJECT EVERGREEN
36th ST & RIVERSIDE DRIVE
EVERETT, WASHINGTON

BORING:
BH-17

PROJECT NO.: 2015-061 FIGURE: C-18

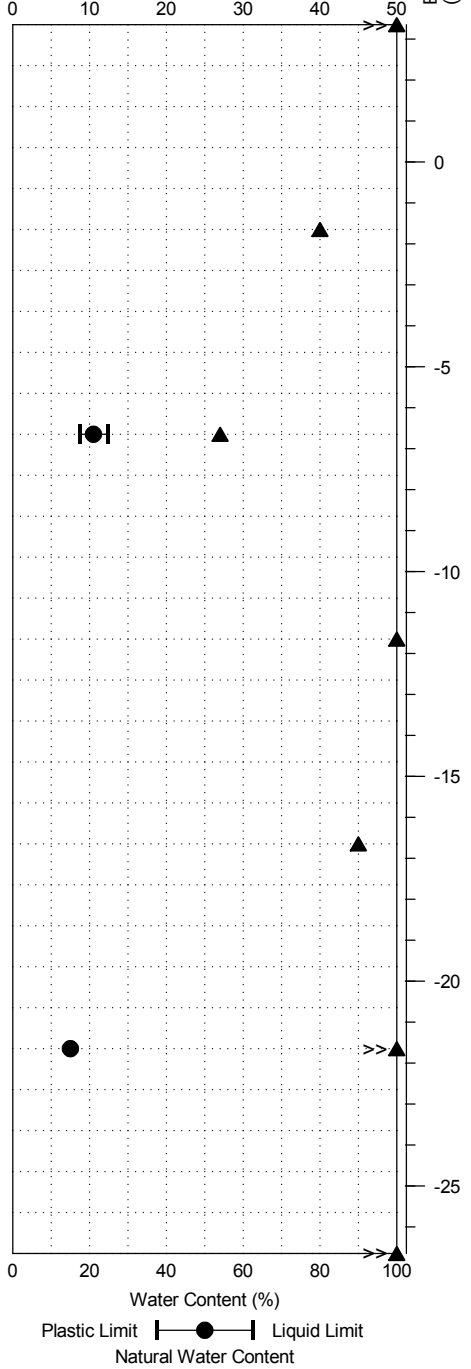
DRILLING COMPANY: Holocene Drilling
DRILLING METHOD: Mobile B-58 Truck Rig, HSA
SAMPLING METHOD: SPT with Autohammer
LOCATION: See Figure 2

DATE STARTED: 6/1/2017
DATE COMPLETED: 6/1/2017
LOGGED BY: A. York
SURFACE ELEVATION: 33.4 ± feet

DEPTH (feet)	SYMBOL	USCS SOIL CLASS	DESCRIPTION	SAMPLE TYPE	SAMPLE NUMBER	PEN. RESISTANCE (blows/6 inches)	OTHER TESTS
30			"Hard", black, WOOD fragments with silty, fine to coarse SAND, wet. Scattered fine gravel. ~50% Refuse, ~50% Decomposable.	☒	S-11	4-25-50/5"	
			Driller injected QuikGel into auger at 35'.				
35		ML	Hard, dark brown-coated, partially decomposed WOOD with some dark brown SILT above the wood, ~90% decomposable. **(ALLUVIUM)**	☒	S-12	17-17-23	
			Very hard drilling at 37'-40'.				
40		ML SC	Slough contains mixture of wood fragments and SILT. Very stiff, olive-brown with rust mottling, clayey SILT, moist. Grades to olive-brown, clayey, fine to medium SAND, moist. Scattered fine gravel.	☒	S-13	11-13-14	AL GS
45		SM	Very dense, light orange olive-brown, silty, fine to coarse SAND, wet. Scattered fine gravel. **(ADVANCE OUTWASH)**	☒	S-14	17-22-28	
50			Dense, light orange olive-brown, silty, fine to medium SAND, wet.	☒	S-15	12-21-24	
55		SW SM	Very dense, olive-brown, slightly silty, fine to medium SAND, wet. Trace fine gravel.	☒	S-16	20-30-40	GS
60							

GROUNDWATER

Standard Penetration Test
(140 lb. weight, 30" drop)
▲ Blows per foot



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HWA GEOSCIENCES INC.

PROJECT EVERGREEN
36th ST & RIVERSIDE DRIVE
EVERETT, WASHINGTON

BORING:
BH-17

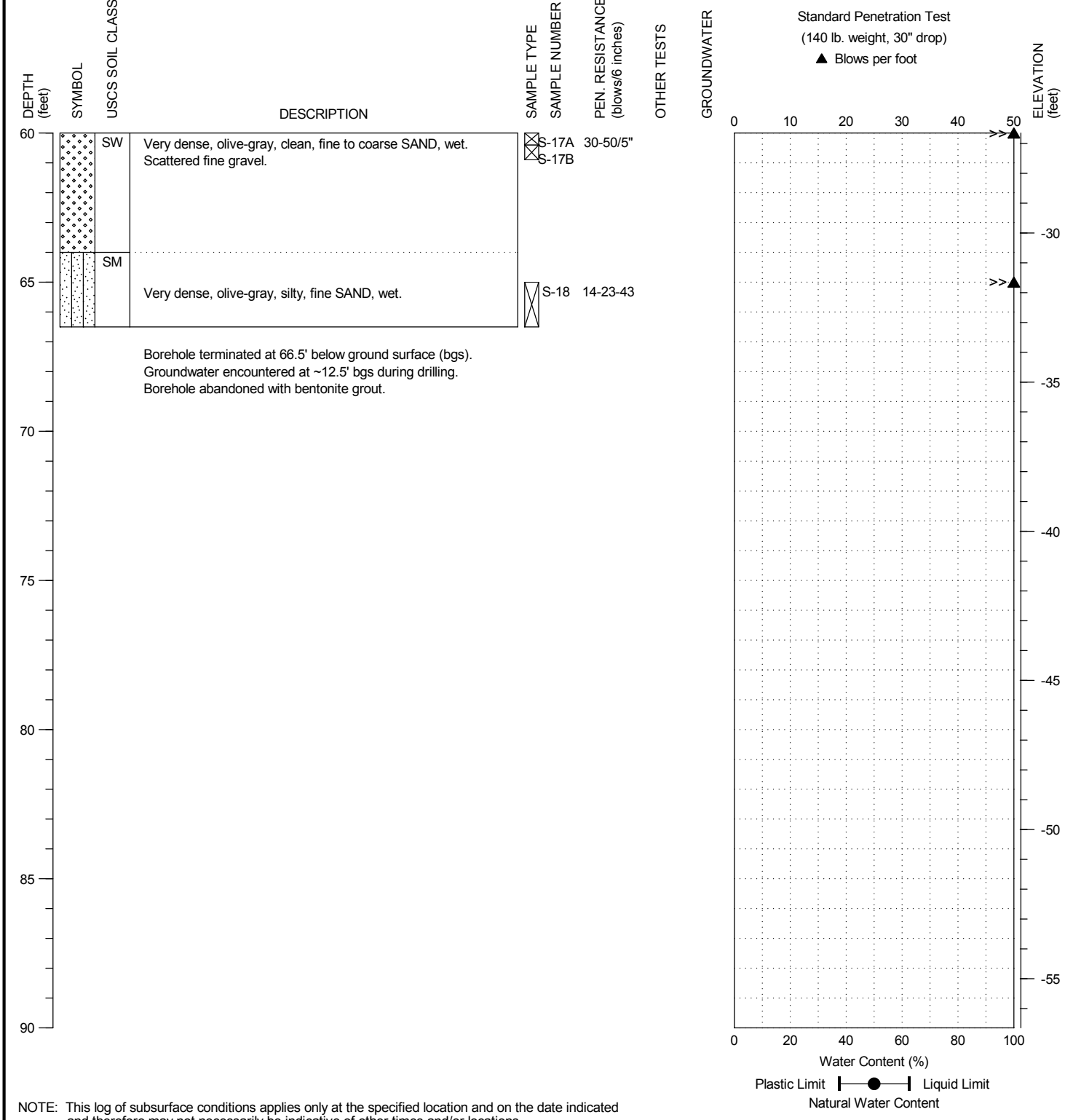
PROJECT NO.: 2015-061 FIGURE: C-18

DRILLING COMPANY: Holocene Drilling
DRILLING METHOD: Mobile B-58 Truck Rig, HSA
SAMPLING METHOD: SPT with Autohammer
LOCATION: See Figure 2

DATE STARTED: 6/1/2017
DATE COMPLETED: 6/1/2017
LOGGED BY: A. York
SURFACE ELEVATION: 33.4 ± feet

DEPTH (feet)	SYMBOL	USCS SOIL CLASS	DESCRIPTION	SAMPLE TYPE	SAMPLE NUMBER	PEN. RESISTANCE (blows/6 inches)	OTHER TESTS	GROUNDWATER
60		SW	Very dense, olive-gray, clean, fine to coarse SAND, wet. Scattered fine gravel.		S-17A S-17B	30-50/5"		
65		SM	Very dense, olive-gray, silty, fine SAND, wet.		S-18	14-23-43		

Borehole terminated at 66.5' below ground surface (bgs).
Groundwater encountered at ~12.5' bgs during drilling.
Borehole abandoned with bentonite grout.



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HWA GEOSCIENCES INC.

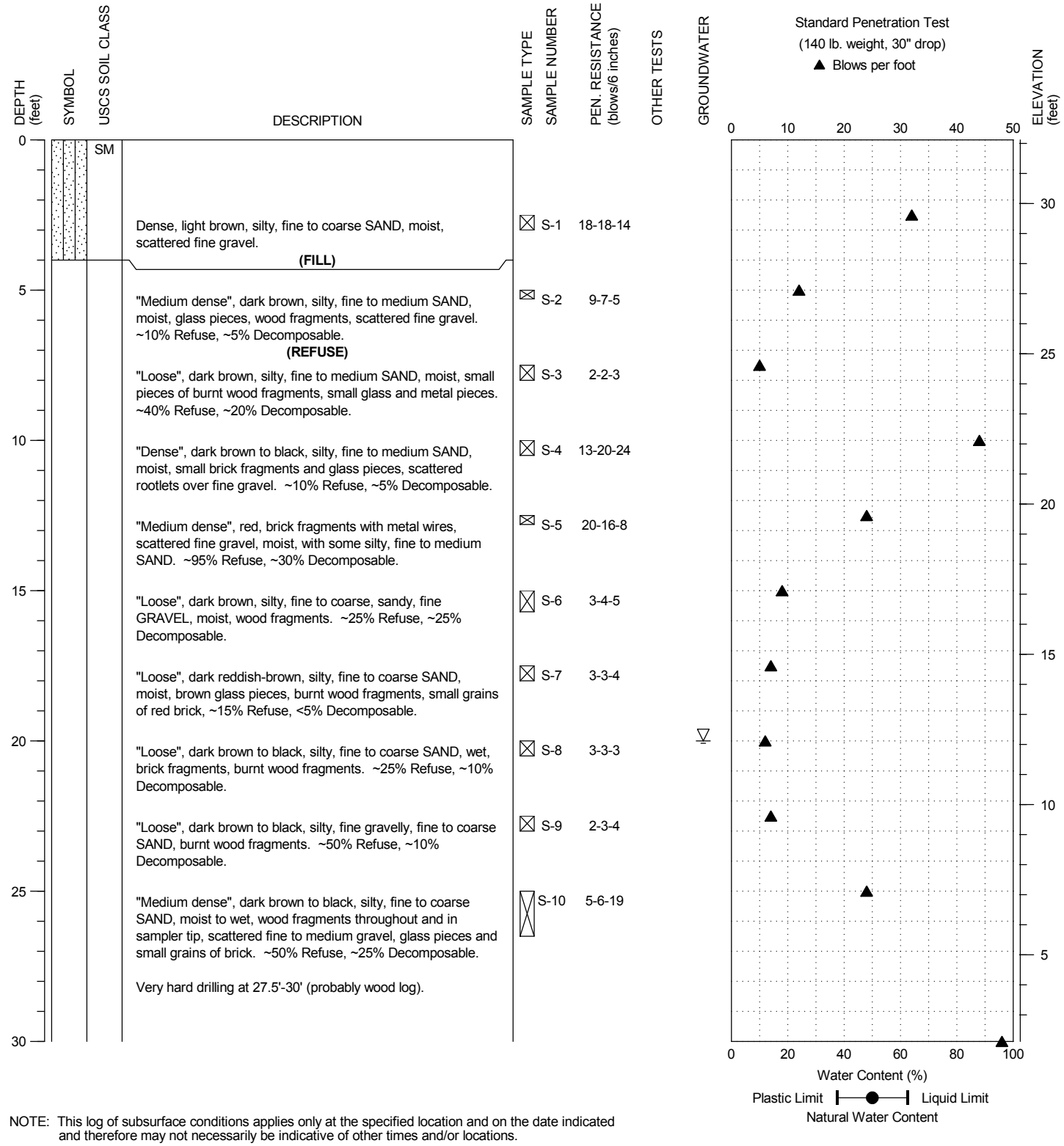
PROJECT EVERGREEN
36th ST & RIVERSIDE DRIVE
EVERETT, WASHINGTON

BORING:
BH-17

PROJECT NO.: 2015-061 FIGURE: C-18

DRILLING COMPANY: Holocene Drilling
DRILLING METHOD: Mobile B-58 Truck Rig, HSA
SAMPLING METHOD: SPT with Autohammer
LOCATION: See Figure 2

DATE STARTED: 6/1/2017
DATE COMPLETED: 6/1/2017
LOGGED BY: A. York
SURFACE ELEVATION: 32.1 ± feet



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HWA GEOSCIENCES INC.

PROJECT EVERGREEN
36th ST & RIVERSIDE DRIVE
EVERETT, WASHINGTON

BORING:
BH-18

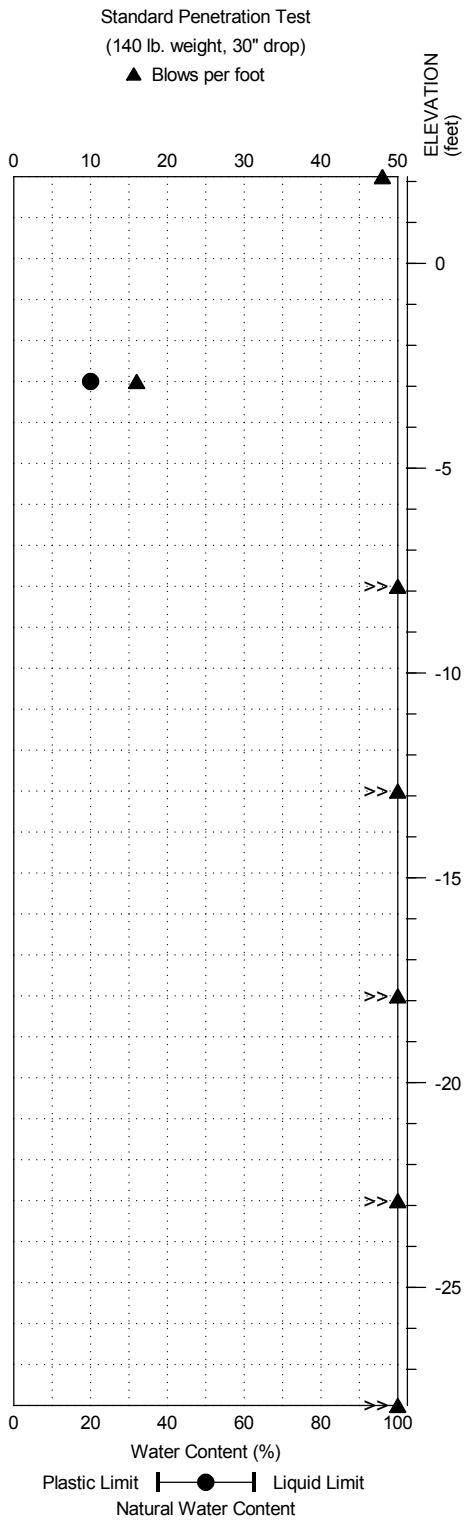
PROJECT NO.: 2015-061

FIGURE: C-19

DRILLING COMPANY: Holocene Drilling
DRILLING METHOD: Mobile B-58 Truck Rig, HSA
SAMPLING METHOD: SPT with Autohammer
LOCATION: See Figure 2

DATE STARTED: 6/1/2017
DATE COMPLETED: 6/1/2017
LOGGED BY: A. York
SURFACE ELEVATION: 32.1 ± feet

DEPTH (feet)	SYMBOL	USCS SOIL CLASS	DESCRIPTION	SAMPLE TYPE	SAMPLE NUMBER	PEN. RESISTANCE (blows/6 inches)	OTHER TESTS	GROUNDWATER
30			"Dense", dark brown-coated, undecomposed WOOD, dry. 100% Refuse, 100% Decomposable.		S-11	13-20-28		
			Hard drilling continues from 31.5'-35'.					
35		ML	Medium dense, brownish-gray, silty, fine to medium SAND,		S-12	4-7-9		
		SM	grading to very stiff, light gray with rust mottling, SILT, moist. **(ALLUVIUM)**					
			@ 37.5 feet: Shelby Tube sample attempted; Too firm to push, no recovery.		NR	Push		
		SM						
40			~5" of slough (light olive-brown, silty, fine to medium SAND). Very dense, light olive-brown, silty, fine to coarse SAND, wet. **(ADVANCE OUTWASH)**		S-13	50/5"		
45			Driller using QuikGel in borehole. Very dense, light olive-brown, silty, fine gravelly, fine to medium SAND, wet.		S-14	20-50/3"		
50			Very dense, light olive-brown, silty, fine to coarse SAND, wet, scattered fine gravel.		S-15	20-50/4"		
55			Very dense, light olive-brown, silty, fine to coarse SAND, wet.		S-16A S-16B	21-50/6"		
60								



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HWA GEOSCIENCES INC.

PROJECT EVERGREEN
36th ST & RIVERSIDE DRIVE
EVERETT, WASHINGTON

BORING:
BH-18

PROJECT NO.: 2015-061

FIGURE: C-19

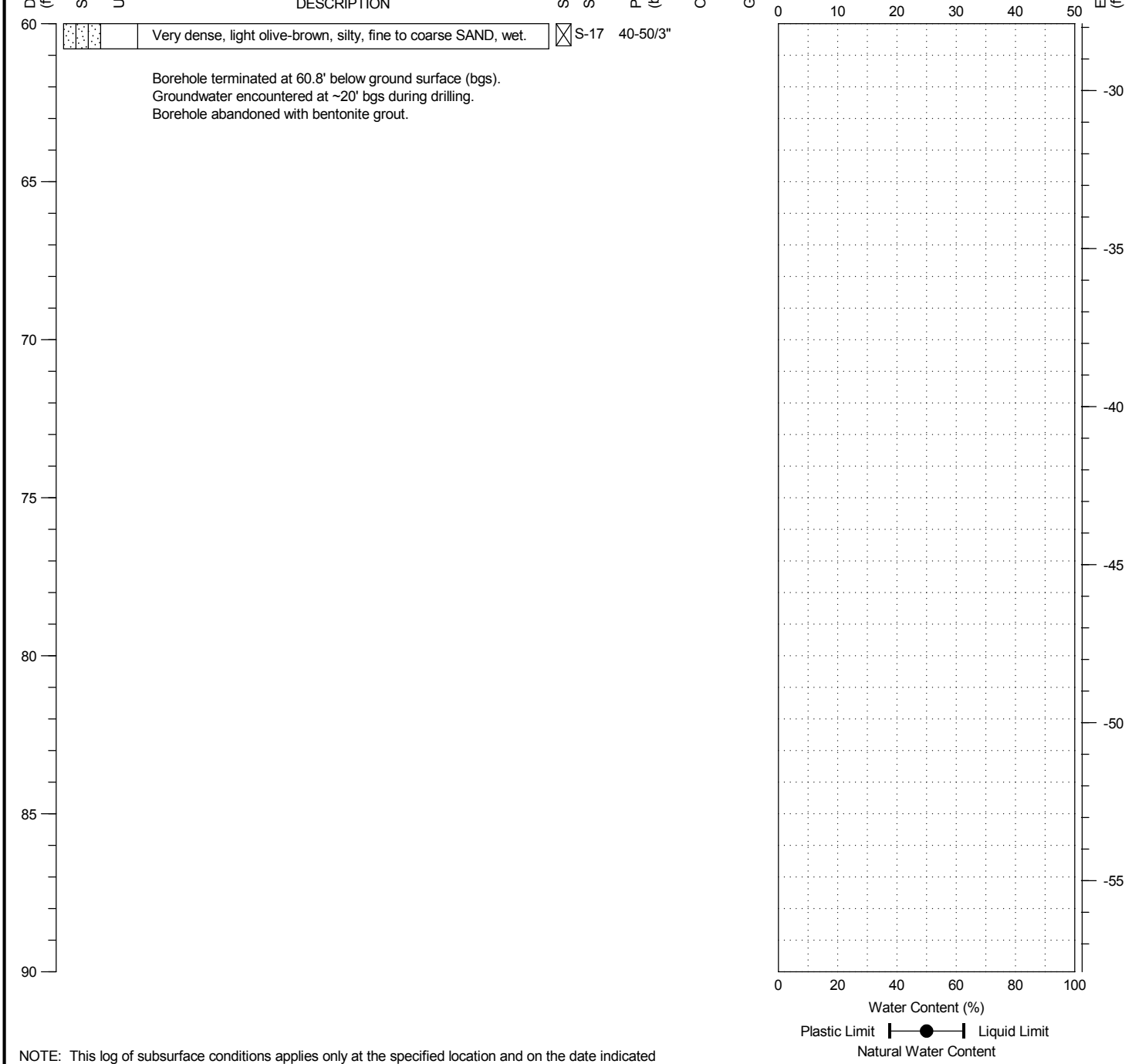
DRILLING COMPANY: Holocene Drilling
DRILLING METHOD: Mobile B-58 Truck Rig, HSA
SAMPLING METHOD: SPT with Autohammer
LOCATION: See Figure 2

DATE STARTED: 6/1/2017
DATE COMPLETED: 6/1/2017
LOGGED BY: A. York
SURFACE ELEVATION: 32.1 ± feet

DEPTH (feet)	SYMBOL	USCS SOIL CLASS	DESCRIPTION	SAMPLE TYPE	SAMPLE NUMBER	PEN. RESISTANCE (blows/6 inches)	OTHER TESTS	GROUNDWATER
60			Very dense, light olive-brown, silty, fine to coarse SAND, wet.		S-17	40-50/3"		

Borehole terminated at 60.8' below ground surface (bgs).
Groundwater encountered at ~20' bgs during drilling.
Borehole abandoned with bentonite grout.

Standard Penetration Test
(140 lb. weight, 30" drop)
▲ Blows per foot



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HWA GEOSCIENCES INC.

PROJECT EVERGREEN
36th ST & RIVERSIDE DRIVE
EVERETT, WASHINGTON

BORING:
BH-18

PROJECT NO.: 2015-061

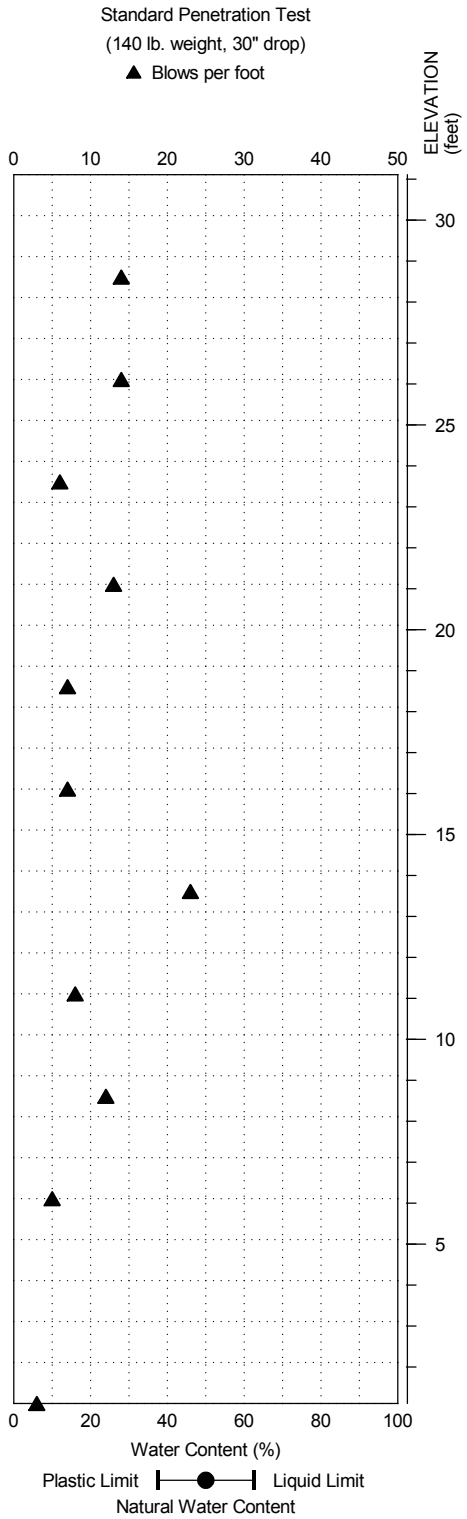
FIGURE: C-19

DRILLING COMPANY: Holocene Drilling
DRILLING METHOD: Mobile B-58 Truck Rig, HSA
SAMPLING METHOD: SPT with Autohammer
LOCATION: See Figure 2

DATE STARTED: 6/1/2017
DATE COMPLETED: 6/1/2017
LOGGED BY: A. York
SURFACE ELEVATION: 31.1 ± feet

DEPTH (feet)	SYMBOL	USCS SOIL CLASS	DESCRIPTION	SAMPLE TYPE	SAMPLE NUMBER	PEN. RESISTANCE (blows/6 inches)	OTHER TESTS
0		SM	Medium dense, dark brown, silty, fine to medium SAND, moist, scattered fine to medium gravel. **(FILL)**	☒	S-1	5-6-8	
5			Medium dense, dark brown, silty, fine to medium gravelly, fine to medium SAND, moist, small rootlets, <1% Decomposable.	☒	S-2	6-7-7	
			"Loose", black, silty, fine to medium SAND, moist, glass pieces and mostly decomposed paper. ~20% Refuse, ~10% Decomposable. **(REFUSE)**	☒	S-3	2-3-3	
10			"Medium dense", black, silty, fine to coarse SAND with REFUSE, moist. Pieces of glass, decomposed paper and metal, wood fragments. ~40% Refuse, ~5% Decomposable.	☒	S-4	4-7-6	
			"Loose", orange-brown to black, silty, fine gravelly, fine to coarse SAND, dry, pieces of cinder. ~10% Refuse, <5% Decomposable.	☒	S-5	3-3-4	
15			"Loose", reddish-brown, fine, sandy SILT to silty fine to medium SAND, moist, pieces of glass, metal wire, scattered fine gravel. ~10% Refuse, <5% Decomposable.	☒	S-6	3-3-4	
			"Medium dense", dark brown to black, silty, fine to coarse SAND, moist, pieces of glass, scattered fine gravel. ~10% Refuse, <5% Decomposable.	☒	S-7	6-9-14	
20			"Loose", dark brown to brownish red, silty, fine to coarse, sandy, fine GRAVEL, wet. Crushed cinder in bottom 3". ~10% Refuse, <5% Decomposable.	☒	S-8	3-4-4	
			"Medium dense", black, silty, fine to coarse, sandy, fine GRAVEL, wet. Large piece of cinders, ceramic and glass pieces, copper wiring. ~20% Refuse, <5% Decomposable.	☒	S-9	10-7-5	
25			"Loose", dark brown, silty, fine to coarse SAND, wet. Small grains of cinders, pieces of glass, wood fragments. ~20% Refuse, <5% Decomposable.	☒	S-10	2-2-3	
30		PT					

GROUNDWATER ▽



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HWA GEOSCIENCES INC.

PROJECT EVERGREEN
36th ST & RIVERSIDE DRIVE
EVERETT, WASHINGTON

BORING:
BH-19

PROJECT NO.: 2015-061

FIGURE: C-20

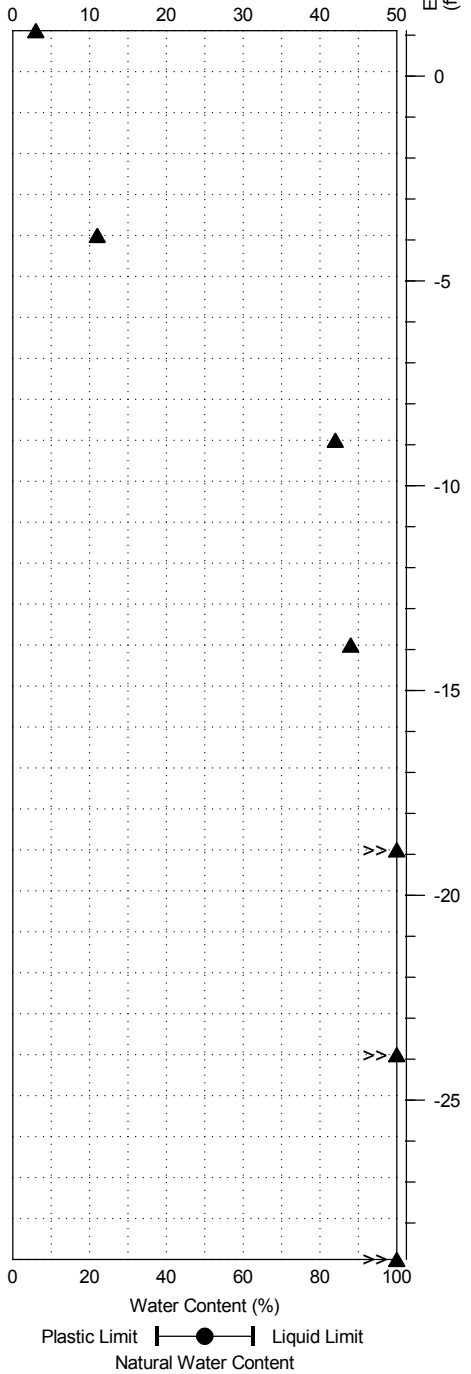
DRILLING COMPANY: Holocene Drilling
DRILLING METHOD: Mobile B-58 Truck Rig, HSA
SAMPLING METHOD: SPT with Autohammer
LOCATION: See Figure 2

DATE STARTED: 6/1/2017
DATE COMPLETED: 6/1/2017
LOGGED BY: A. York
SURFACE ELEVATION: 31.1 ± feet

DEPTH (feet)	SYMBOL	USCS SOIL CLASS	DESCRIPTION	SAMPLE TYPE	SAMPLE NUMBER	PEN. RESISTANCE (blows/6 inches)	OTHER TESTS
30			Soft, dark brown, PEAT, moist, with wood chips and rootlets, grading to dark brownish-gray, organic SILT, plastic. **(ALLUVIUM)**		S-11	1-1-2	
35		SM	Medium dense, olive-brown, silty, fine to medium SAND, wet, trace fine gravel.		S-12	2-5-6	
40		SP SM	Driller added QuikGel to auger. Dense, olive-brown, slightly silty, fine to coarse SAND, wet, grading to silty, fine to medium SAND, scattered fine gravel. **(ADVANCE OUTWASH)**		S-13	9-14-28	
45		SM	Dense, olive-brown, silty, fine to medium SAND, moist, small layers (1mm) of iron oxide.		S-14	9-19-25	
50			Very dense, olive-brown, silty, fine to coarse SAND, wet, grading to brownish dark red, silty, fine SAND with heavy iron oxide staining, grading to silty, fine to medium SAND.		S-15	11-24-35	
55		SP SM	Very dense, olive-gray, slightly silty, fine to medium SAND, moist.		S-16	13-24-34	
60		ML	Hard, olive-brown, SILT, moist. Laminated, nonplastic. **(PRE-VASHON ALLUVIUM)**				

GROUNDWATER

Standard Penetration Test
(140 lb. weight, 30" drop)
▲ Blows per foot



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HWA GEOSCIENCES INC.

PROJECT EVERGREEN
36th ST & RIVERSIDE DRIVE
EVERETT, WASHINGTON

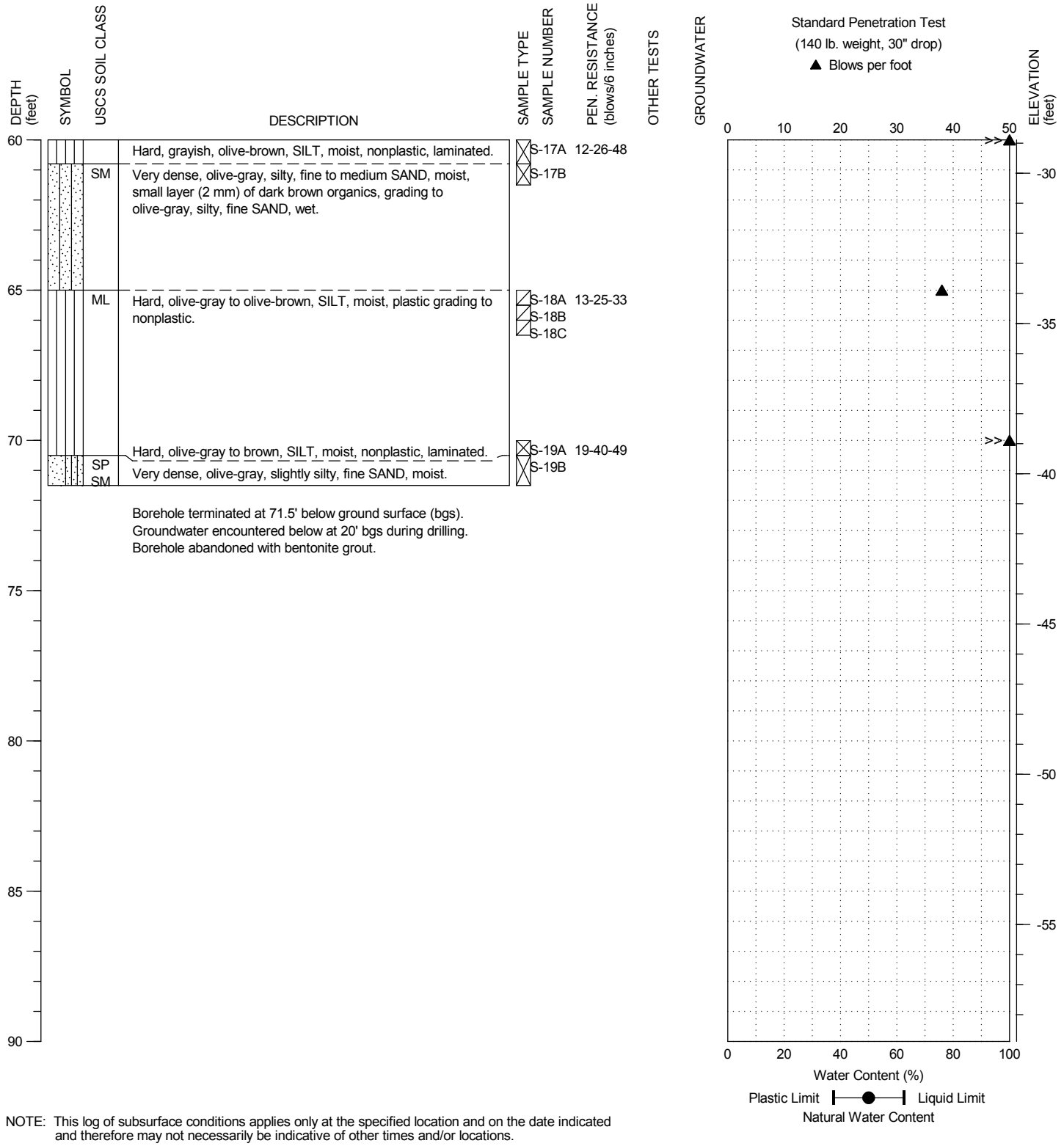
BORING:
BH-19

PROJECT NO.: 2015-061

FIGURE: C-20

DRILLING COMPANY: Holocene Drilling
DRILLING METHOD: Mobile B-58 Truck Rig, HSA
SAMPLING METHOD: SPT with Autohammer
LOCATION: See Figure 2

DATE STARTED: 6/1/2017
DATE COMPLETED: 6/1/2017
LOGGED BY: A. York
SURFACE ELEVATION: 31.1 ± feet



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HWA GEOSCIENCES INC.

PROJECT EVERGREEN
36th ST & RIVERSIDE DRIVE
EVERETT, WASHINGTON

BORING:
BH-19

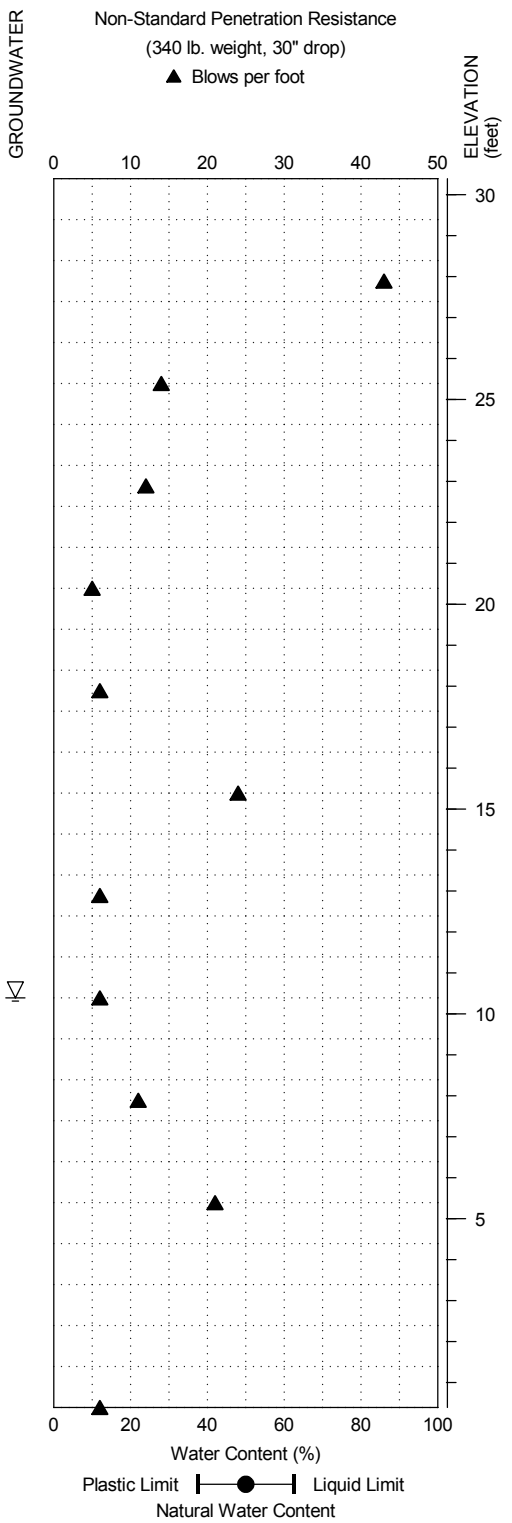
PROJECT NO.: 2015-061

FIGURE: C-20

DRILLING COMPANY: Holocene Drilling
DRILLING METHOD: Mobile B-58 Truck Rig, HSA
SAMPLING METHOD: SPT with Autohammer; CA w/ 340 lb. Autohammer
LOCATION: See Figure 2

DATE STARTED: 5/31/2017
DATE COMPLETED: 5/31/2017
LOGGED BY: A. York
SURFACE ELEVATION: 30.4 ± feet

DEPTH (feet)	SYMBOL	USCS SOIL CLASS	DESCRIPTION	SAMPLE TYPE	SAMPLE NUMBER	PEN. RESISTANCE (blows/6 inches)	OTHER TESTS
0		SM	Dense, dark gray to dark brown to black, silty, fine gravelly, fine to coarse SAND, dry. Pieces of asphalt. **(FILL)**		S-1	14-21-22	
5			"Medium dense", olive-gray to dark brown, silty, fine to medium SAND, moist. Wood from 6.2' to 6.4'. Scattered fine to medium gravel. ~40% Refuse, ~30% Decomposable. **(REFUSE)**		S-2	5-8-6	
			"Medium dense", olive-brown to black, silty, fine to medium SAND, wet. Scattered fine to medium gravel, wood fragments, plastic and glass pieces. ~15% Refuse, ~5% Decomposable. **140-lb hammer broke down. Switched over to 340-lb hammer and California sampler.**		S-3	5-8-7	
10			"Loose", black, silty, fine to coarse SAND, wet. Wood fragments, glass, metal, and paper pieces. ~50% Refuse, ~10% Decomposable.		S-4	1-2-1	
			"Loose", dark brown to black, silty, fine to coarse SAND, wet. Partially decomposed paper, glass and ceramic pieces. ~50% Refuse, ~10% Decomposable.		S-5	3-2-2	
15			"Medium dense", dark brown to black, silty, fine to medium SAND, moist. Large wood fragments and aluminum can, glass, ceramic and metal wire pieces. ~50% Refuse, ~25% Decomposable.		S-6	5-7-8	
			"Loose", brown to gray, silty, fine to medium SAND, moist. Scattered fine to medium gravel. Wood fragments in upper 4". ~50% Refuse, ~50% Decomposable.		S-7	3-2-2	
20			"Loose", dark brown to black, silty, fine to medium SAND, wet. Aluminum can, glass pieces. ~15% Refuse, ~25% Decomposable.		S-8	2-2-2	
			"Loose", dark brown, silty, fine to coarse SAND, wet. Glass and ceramic pieces. ~20% Refuse, ~25% Decomposable.		S-9	1-2-5	
25		PT	Stiff, dark brown to black, silty, fine to medium SAND, wet. Dark brown PEAT with wood fragments in tip of sampler. **(ALLUVIUM)**		S-10	4-7-6	
			Driller added QuikGel in auger.				
30							



NOTE: This log of subsurface conditions applies only at the specified location and on the date indicated and therefore may not necessarily be indicative of other times and/or locations.

HWA GEOSCIENCES INC.

PROJECT EVERGREEN
36th ST & RIVERSIDE DRIVE
EVERETT, WASHINGTON

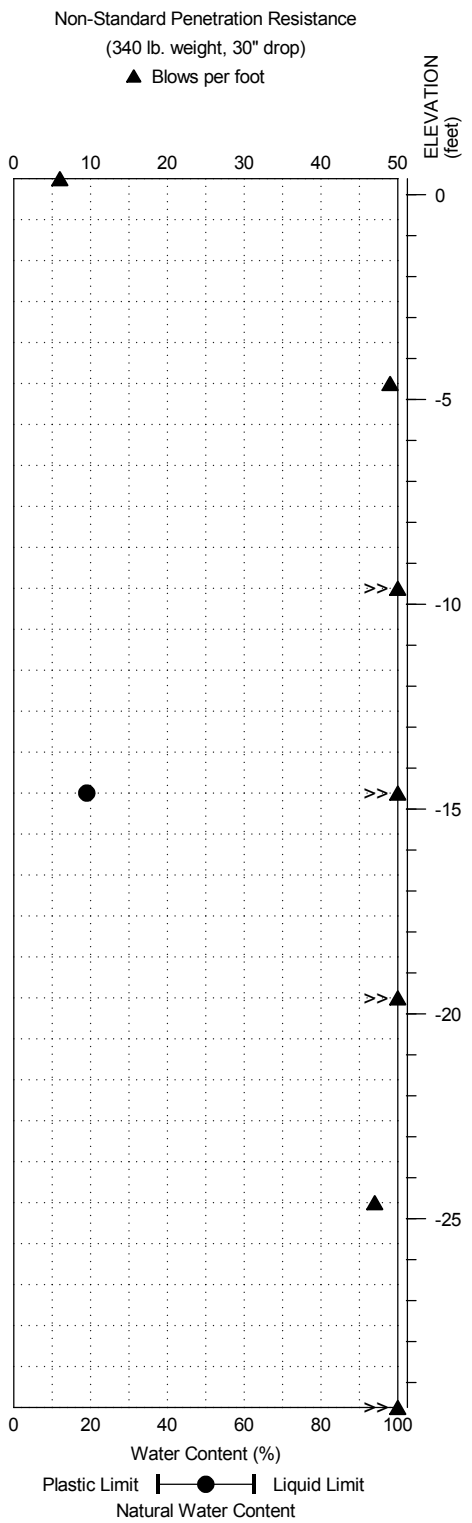
BORING:
BH-20

PROJECT NO.: 2015-061 FIGURE: C-21

DRILLING COMPANY: Holocene Drilling
DRILLING METHOD: Mobile B-58 Truck Rig, HSA
SAMPLING METHOD: SPT with Autohammer; CA w/ 340 lb. Autohammer
LOCATION: See Figure 2

DATE STARTED: 5/31/2017
DATE COMPLETED: 5/31/2017
LOGGED BY: A. York
SURFACE ELEVATION: 30.4 ± feet

DEPTH (feet)	SYMBOL	USCS SOIL CLASS	DESCRIPTION	SAMPLE TYPE	SAMPLE NUMBER	PEN. RESISTANCE (blows/6 inches)	OTHER TESTS	GROUNDWATER
30			Soft, dark brown, PEAT, moist.		S-11	2-2-2		
		ML SM	Soft, light olive-brown, fine to medium sandy, SILT, wet. Plastic.					
		SM						
35			Dense, olive-brown with rust mottling, silty, fine SAND, wet. Stratified layers of fine to coarse sand. **(ADVANCE OUTWASH)**		S-12	9-14-17		
		SP SM						
40			Very dense, light olive-brown, slightly silty, fine gravelly, fine to coarse SAND, wet.		S-13	9-19-28		
45			Very dense, light olive-brown, slightly silty, fine to medium SAND, wet. Grading to olive-brown with rust mottling, slightly silty, fine gravelly, fine to coarse SAND, wet.		S-14	9-16-19		
50			Very dense, light olive-brown, slightly silty, fine to coarse SAND, wet. Grading to fine to medium SAND, moist. Scattered fine gravel.		S-15	11-17-20		
55		SP	Dense, olive-gray, clean, fine to coarse SAND, wet.		S-16A	4-11-19		
		ML SM	Hard, olive-gray, SILT, moist. Nonplastic. Laminated. **(PRE-VASHON ALLUVIUM)**		S-16B			
60								



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HWA GEOSCIENCES INC.

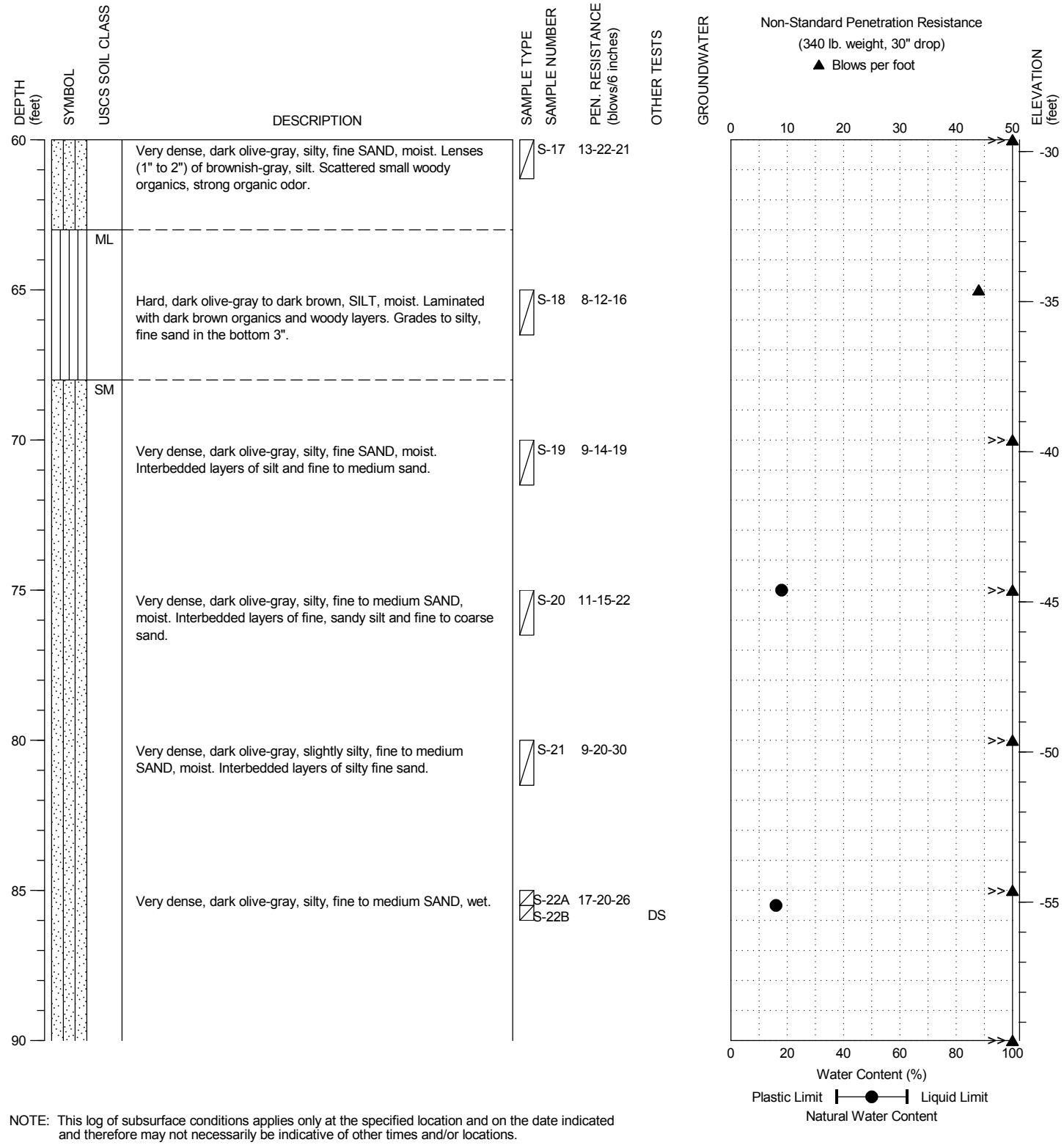
PROJECT EVERGREEN
36th ST & RIVERSIDE DRIVE
EVERETT, WASHINGTON

BORING:
BH-20

PROJECT NO.: 2015-061 FIGURE: C-21

DRILLING COMPANY: Holocene Drilling
DRILLING METHOD: Mobile B-58 Truck Rig, HSA
SAMPLING METHOD: SPT with Autohammer; CA w/ 340 lb. Autohammer
LOCATION: See Figure 2

DATE STARTED: 5/31/2017
DATE COMPLETED: 5/31/2017
LOGGED BY: A. York
SURFACE ELEVATION: 30.4 ± feet



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HWA GEOSCIENCES INC.

PROJECT EVERGREEN
36th ST & RIVERSIDE DRIVE
EVERETT, WASHINGTON

BORING:
BH-20

PROJECT NO.: 2015-061

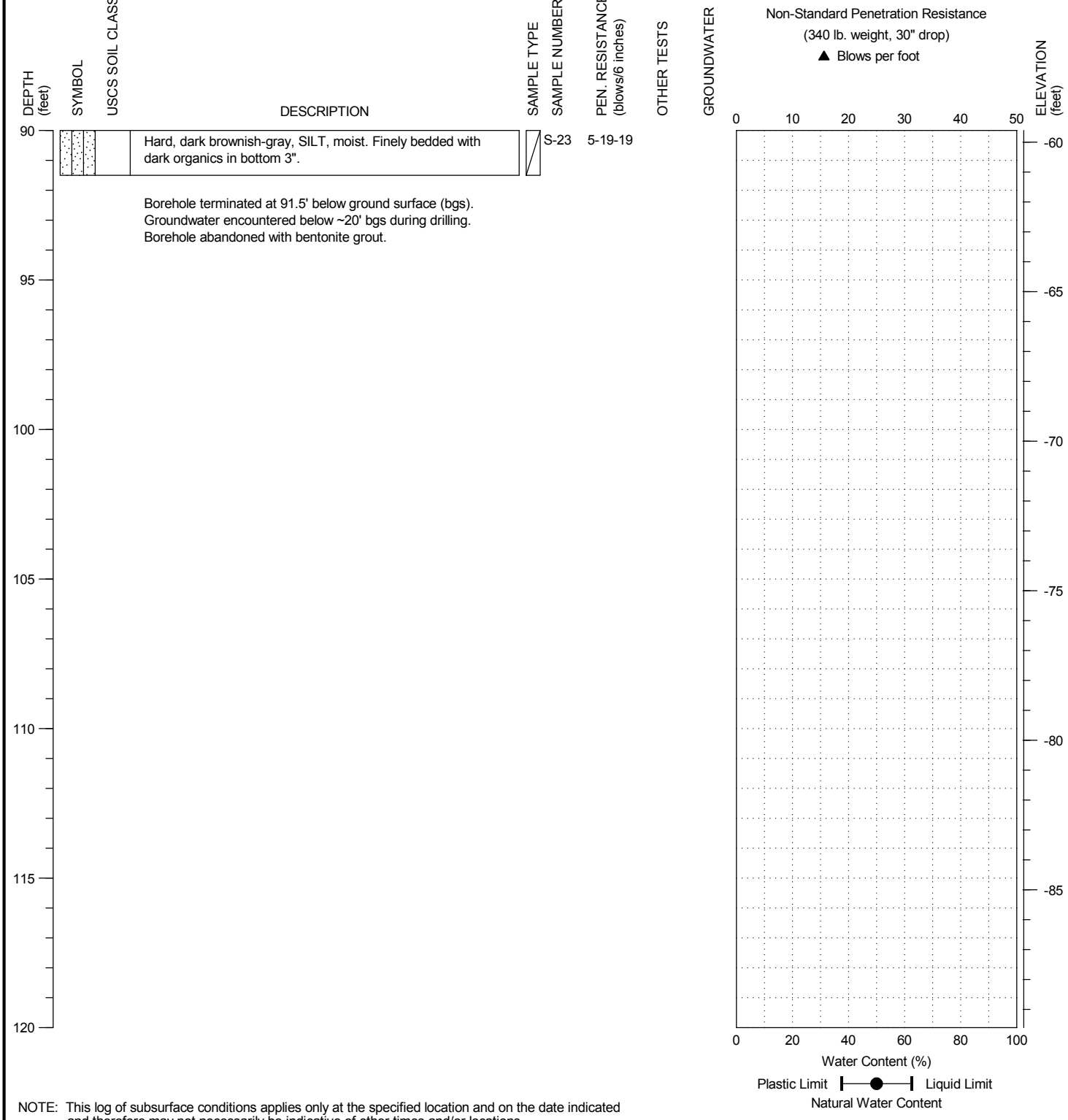
FIGURE: C-21

DRILLING COMPANY: Holocene Drilling
DRILLING METHOD: Mobile B-58 Truck Rig, HSA
SAMPLING METHOD: SPT with Autohammer; CA w/ 340 lb. Autohammer
LOCATION: See Figure 2

DATE STARTED: 5/31/2017
DATE COMPLETED: 5/31/2017
LOGGED BY: A. York
SURFACE ELEVATION: 30.4 ± feet

DEPTH (feet)	SYMBOL	USCS SOIL CLASS	DESCRIPTION	SAMPLE TYPE	SAMPLE NUMBER	PEN. RESISTANCE (blows/6 inches)	OTHER TESTS	GROUNDWATER
90			Hard, dark brownish-gray, SILT, moist. Finely bedded with dark organics in bottom 3".		S-23	5-19-19		

Borehole terminated at 91.5' below ground surface (bgs).
Groundwater encountered below ~20' bgs during drilling.
Borehole abandoned with bentonite grout.



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HWA GEOSCIENCES INC.

PROJECT EVERGREEN
36th ST & RIVERSIDE DRIVE
EVERETT, WASHINGTON

BORING:
BH-20

PROJECT NO.: 2015-061 FIGURE: C-21

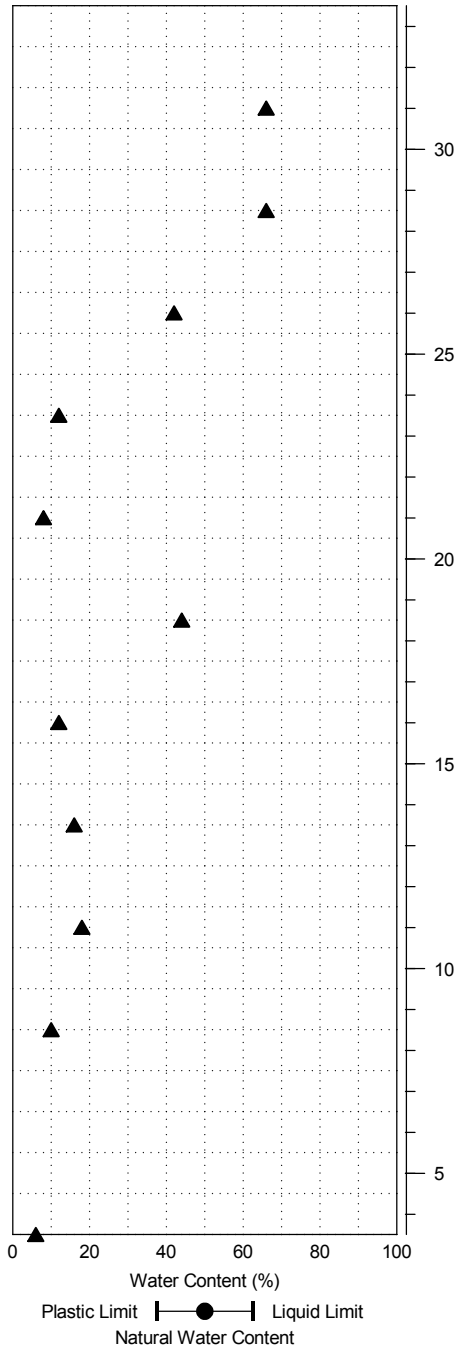
DRILLING COMPANY: Holocene Drilling
DRILLING METHOD: Mobile B-58 Truck Rig, HSA
SAMPLING METHOD: California w/ 340-lb Autohammer
LOCATION: See Figure 2

DATE STARTED: 5/24/2017
DATE COMPLETED: 5/24/2017
LOGGED BY: A. York
SURFACE ELEVATION: 33.5 ± feet

DEPTH (feet)	SYMBOL	USCS SOIL CLASS	DESCRIPTION	SAMPLE TYPE	SAMPLE NUMBER	PEN. RESISTANCE (blows/6 inches)	OTHER TESTS
0		SM	Hard, silty sand (Cap).				
			Dense, olive-brown, silty, fine SAND, moist. Scattered fine to coarse gravel. **(FILL)**		S-1	5-10-11	
5			Dense, grayish-brown to olive-brown, silty, fine SAND, moist. Scattered fine to coarse gravel.		S-2	7-10-11	
		SP	Medium dense, dark gray, clean, fine to medium SAND, moist, scattered fine gravel, large 3" rock in sampler tip.		S-3	5-6-7	
10			Loose, dark gray, clean, fine to medium SAND, moist, scattered coarse gravel.		S-4	2-2-2	
			"Loose", black, wood fragments, glass and plastic pieces, some soil (SILT). ~95% Refuse, ~10% Decomposable. **(REFUSE)**		S-5	1-1-3	
15			"Medium dense", dark brown to black, medium sandy SILT, moist, plastic bagging, bottle cap, rubber wires, glass, large 4" metal piece, wood fragments. ~40% Refuse, ~10% Decomposable.		S-6	2-8-6	
			Top 4" partially decomposed wood fragments. "Loose", dark brown to black, silty, fine SAND, moist, glass, newspaper, plastic, metal washer, scattered fine to coarse gravel. ~20% Refuse, ~5% Decomposable.		S-7	2-2-4	
20			"Loose", dark brown to black, WOOD fragments, some silty, fine sand, plastic bags and glass pieces. ~95% Refuse, ~80% Decomposable.		S-8	2-4-4	
			Top 8", dark brown, WOOD fragments over "loose", black, silty, fine gravelly, fine to coarse SAND, moist. Copper wires, steel and plastic pieces, large wood fragment in sampler tip. ~95% Refuse, ~75% Decomposable.		S-9	3-3-3	
25			"Loose", black, silty, fine to coarse SAND, wet. Copper wire and glass pieces, large gravel piece in sampler tip. ~35% Refuse, ~10% Decomposable.		S-10	2-2-1	
30							

GROUNDWATER

Non-Standard Penetration Resistance
(340 lb. weight, 30" drop)
▲ Blows per foot



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HWA GEOSCIENCES INC.

PROJECT EVERGREEN
36th ST & RIVERSIDE DRIVE
EVERETT, WASHINGTON

BORING:
BH-21

PROJECT NO.: 2015-061

FIGURE: C-22

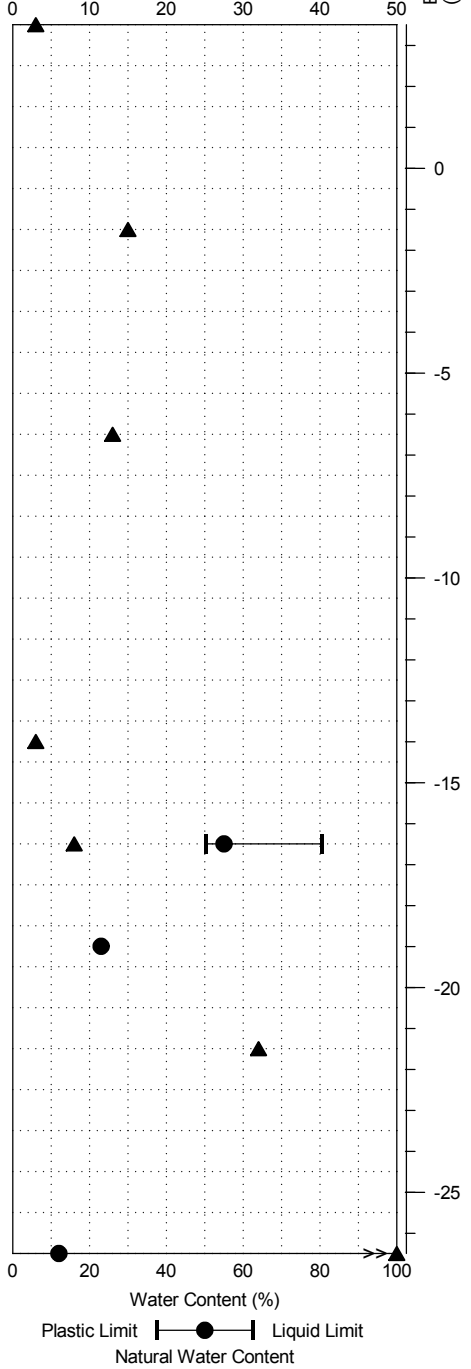
DRILLING COMPANY: Holocene Drilling
DRILLING METHOD: Mobile B-58 Truck Rig, HSA
SAMPLING METHOD: California w/ 340-lb Autohammer
LOCATION: See Figure 2

DATE STARTED: 5/24/2017
DATE COMPLETED: 5/24/2017
LOGGED BY: A. York
SURFACE ELEVATION: 33.5 ± feet

DEPTH (feet)	SYMBOL	USCS SOIL CLASS	DESCRIPTION	SAMPLE TYPE / SAMPLE NUMBER	PEN. RESISTANCE (blows/6 inches)	OTHER TESTS
30			"Loose", black, REFUSE, wet. Paper and newspaper pieces, plastic, glass, and metal wire pieces, with silty, fine to coarse SAND. ~80% Refuse, <5% Decomposable.	S-11	1-1-2	
35		PT	No recovery. Plastic pieces on tip of sampler (carry-down). **(ALLUVIUM)**	NR	4-5-10	
40			Stiff, dark brown, PEAT, moist, scattered rootlets and small wood chips.	S-12	5-4-4	
45		OH	No recovery from Shelby tube.	NR	Push	
			Soft, olive-gray, organic SILT, moist. 1/2" diameter x 3" long wood branch in sample, scattered rootlets and wood chips.	S-13	1-1-2	
50			Medium stiff, grayish brown, organic SILT, moist, with interbedded 1 mm layers of organics, finely laminated, scattered small wood chips.	S-14	2-2-3	AL
		SW SM	Poor recovery, Shelby Tube crushed, sand in bottom of tube. Medium dense, brown, slightly silty, fine to coarse SAND, wet. Scattered organics in gravel.	S-15	Push	GS DS OC
55			Dense, olive-brown, silty, fine to medium SAND, wet. **(ADVANCE OUTWASH)**	S-16A / S-16B	8-6-14	
60		SP				

GROUNDWATER

Non-Standard Penetration Resistance
(340 lb. weight, 30" drop)
▲ Blows per foot



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HWA GEOSCIENCES INC.

PROJECT EVERGREEN
36th ST & RIVERSIDE DRIVE
EVERETT, WASHINGTON

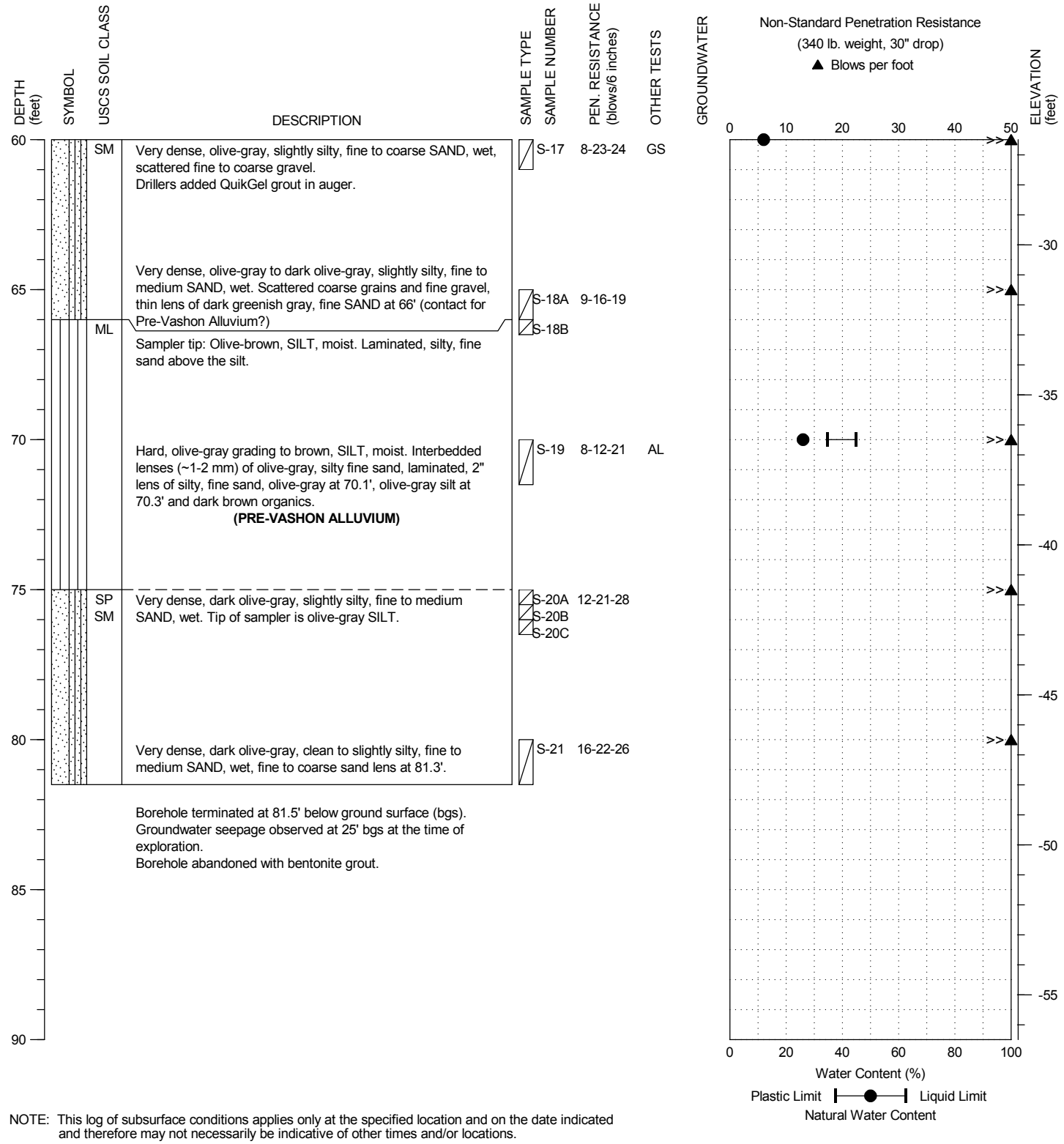
BORING:
BH-21

PROJECT NO.: 2015-061

FIGURE: C-22

DRILLING COMPANY: Holocene Drilling
DRILLING METHOD: Mobile B-58 Truck Rig, HSA
SAMPLING METHOD: California w/ 340-lb Autohammer
LOCATION: See Figure 2

DATE STARTED: 5/24/2017
DATE COMPLETED: 5/24/2017
LOGGED BY: A. York
SURFACE ELEVATION: 33.5 ± feet



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HWA GEOSCIENCES INC.

PROJECT EVERGREEN
36th ST & RIVERSIDE DRIVE
EVERETT, WASHINGTON

BORING:
BH-21

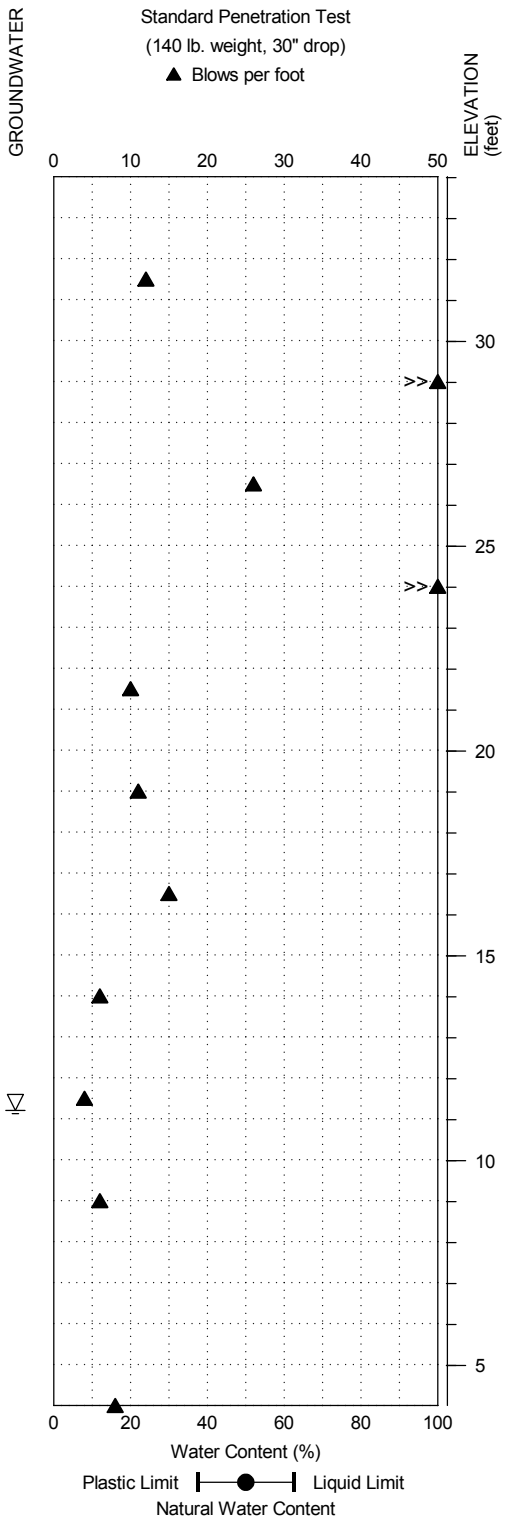
PROJECT NO.: 2015-061

FIGURE: C-22

DRILLING COMPANY: Holocene Drilling
DRILLING METHOD: CME 850 Tracked Rig, HSA
SAMPLING METHOD: SPT with Autohammer
LOCATION: See Figure 2

DATE STARTED: 5/19/2017
DATE COMPLETED: 5/19/2017
LOGGED BY: A. York
SURFACE ELEVATION: 34.0 ± feet

DEPTH (feet)	SYMBOL	USCS SOIL CLASS	DESCRIPTION	SAMPLE TYPE	SAMPLE NUMBER	PEN. RESISTANCE (blows/6 inches)	OTHER TESTS
0		SM	Fill cap.				
			Medium dense, olive-brown, silty, fine to medium SAND, moist. scattered fine gravel. **(FILL)**		S-1	3-5-7	
5		SM	Very dense, gray to brown, silty SAND, grading to silty, fine to medium gravelly, fine to coarse SAND, moist **(CEMENT-TREATED FILL)**		S-2	12-16-30	
		SM	Medium dense, dark brown, silty fine to medium SAND, grading to fine to medium gravelly, fine to coarse SAND, moist. **(FILL)**		S-3	6-12-14	
10			Very dense, dark brown, fine to medium gravelly, silty, fine to coarse SAND, moist. Trace rootlets (<1%).		S-4	12-50/5"	
			"Medium dense", dark brown to black, silty, fine to coarse SAND, moist. Brick fragments, wood fragments, fine to medium gravel. ~20% Refuse, ~10% Decomposable. **(REFUSE)**		S-5	10-5-5	
15			"Medium dense", brown grading to olive-gray, silty SAND, wet. Scattered fine to medium gravel, rootlets <1%, brick fragments, olive-gray SILT in bottom 6", non-plastic. <10% Refuse, <5% Decomposable.		S-6	10-5-6	
			"Medium dense", dark brown to black, silty, fine to medium SAND and wood fragments, moist. ~70% Refuse, ~50% Decomposable.		S-7	5-6-9	
20			"Loose", dark brown to black, fine to medium gravelly, silty, fine to coarse SAND, wet. Glass, ceramic and plastic pieces. ~20% Refuse, <1% Decomposable.		S-8	3-3-3	
			"Loose", dark brown, fine gravelly, silty, fine to coarse SAND, wet. Glass pieces and cinder. ~30% Refuse, <1% Decomposable.		S-9	2-2-2	
25			"Loose", dark brown, silty fine to coarse SAND, wet. Abundant glass pieces, ceramic, plastic pieces and scattered fine gravel. ~30% Refuse, <1% Decomposable.		S-10	3-3-3	
30							



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HWA GEOSCIENCES INC.

PROJECT EVERGREEN
36th ST & RIVERSIDE DRIVE
EVERETT, WASHINGTON

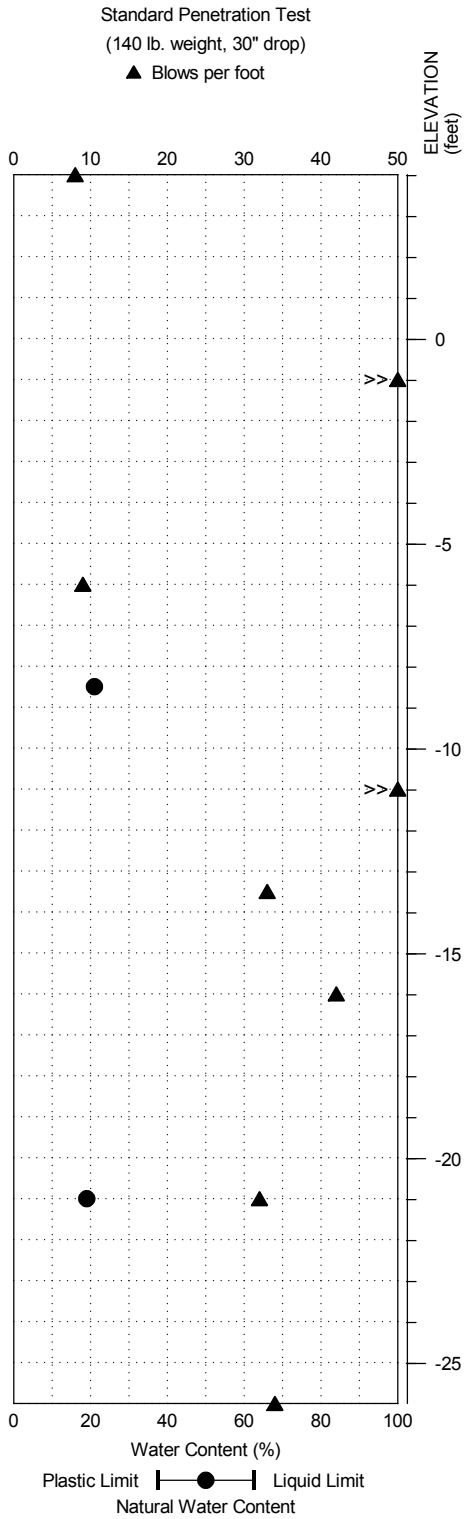
BORING:
BH-22

PROJECT NO.: 2015-061 FIGURE: C-23

DRILLING COMPANY: Holocene Drilling
DRILLING METHOD: CME 850 Tracked Rig, HSA
SAMPLING METHOD: SPT with Autohammer
LOCATION: See Figure 2

DATE STARTED: 5/19/2017
DATE COMPLETED: 5/19/2017
LOGGED BY: A. York
SURFACE ELEVATION: 34.0 ± feet

DEPTH (feet)	SYMBOL	USCS SOIL CLASS	DESCRIPTION	SAMPLE TYPE	SAMPLE NUMBER	PEN. RESISTANCE (blows/6 inches)	OTHER TESTS
30			"Loose", dark brown, silty fine to coarse SAND, wet, abundant glass pieces, cinders, scattered fine gravel and creosote staining and odor. ~30% Refuse, <1% Decomposable.		S-11	7-5-3	
		PT	Medium stiff, dark brown, PEAT, moist. 4" slough (black, silty, fine to coarse SAND, wet) - creosote stained. Blow counts overstated; drove obstruction from Refuse? **(ALLUVIUM)**		S-12	18-22-34	
35		SP	Loose, gray, clean, fine to medium grading to fine to coarse SAND, wet. Driller estimates 6" heave in borehole. QuikGel injected into auger.		S-13	3-4-5	
		SW SM	Loose, grayish brown, slightly silty, fine to coarse SAND, wet. Trace fine gravel. 1-inch lens of organic SILT.		S-14	Push	GS
40		SP	Very dense, gray, clean, fine to medium grading to fine to coarse SAND, wet. **(ADVANCE OUTWASH)**		S-15	3-9-50/4"	
			Very dense, gray, clean, fine to coarse SAND, wet.		S-16A S-16B	12-18-32	
45			Dense, gray, clean, fine to medium grading to fine SAND (bottom 6"), wet. Scattered fine gravel in middle (50.5'-50.8').		S-17	12-19-23	
50			Dense, gray, clean, fine to medium SAND, wet. Slightly silty in bottom 6".		S-18	12-12-20	
55							
60							



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HWA GEOSCIENCES INC.

PROJECT EVERGREEN
36th ST & RIVERSIDE DRIVE
EVERETT, WASHINGTON

BORING:
BH-22

PROJECT NO.: 2015-061 FIGURE: C-23

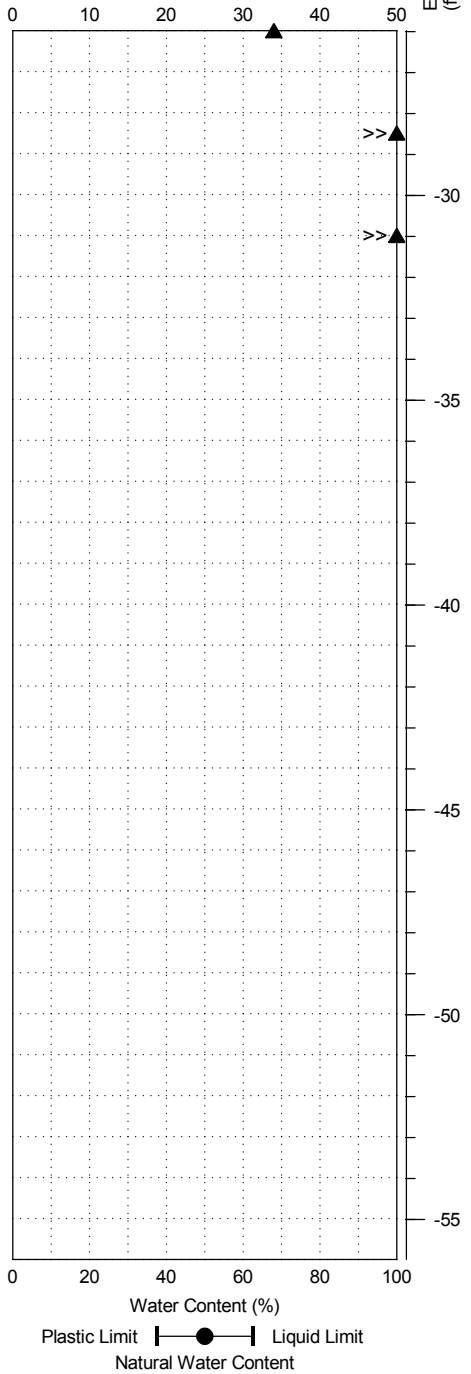
DRILLING COMPANY: Holocene Drilling
DRILLING METHOD: CME 850 Tracked Rig, HSA
SAMPLING METHOD: SPT with Autohammer
LOCATION: See Figure 2

DATE STARTED: 5/19/2017
DATE COMPLETED: 5/19/2017
LOGGED BY: A. York
SURFACE ELEVATION: 34.0 ± feet

DEPTH (feet)	SYMBOL	USCS SOIL CLASS	DESCRIPTION	SAMPLE TYPE	SAMPLE NUMBER	PEN. RESISTANCE (blows/6 inches)	OTHER TESTS
60			Dense, gray, clean to slightly silty, fine to medium SAND, wet. Slightly silty lenses with fine SAND at 60.8'-61' and 61.3'-61.5'.		S-19	9-11-23	
		ML	Very dense, olive-gray, SILT, moist, massive. **(PRE-VASHON ALLUVIUM)**		S-20A S-20B S-20C	13-43-50/5"	
65			Hard, brown grading to olive-brown, SILT, moist, scattered fine gravel, silty fine to medium SAND lens at 65.8'-66'.		S-21	12-18-33	
			Borehole terminated at 66.5' below ground surface (bgs). Groundwater encountered below ~22.5' bgs during drilling. Borehole abandoned with ~80 gallons of grout.				
70							
75							
80							
85							
90							

GROUNDWATER

Standard Penetration Test
(140 lb. weight, 30" drop)
▲ Blows per foot



ELEVATION (feet)

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HWA GEOSCIENCES INC.

PROJECT EVERGREEN
36th ST & RIVERSIDE DRIVE
EVERETT, WASHINGTON

BORING:
BH-22

PAGE: 3 of 3

PROJECT NO.: 2015-061

FIGURE: C-23

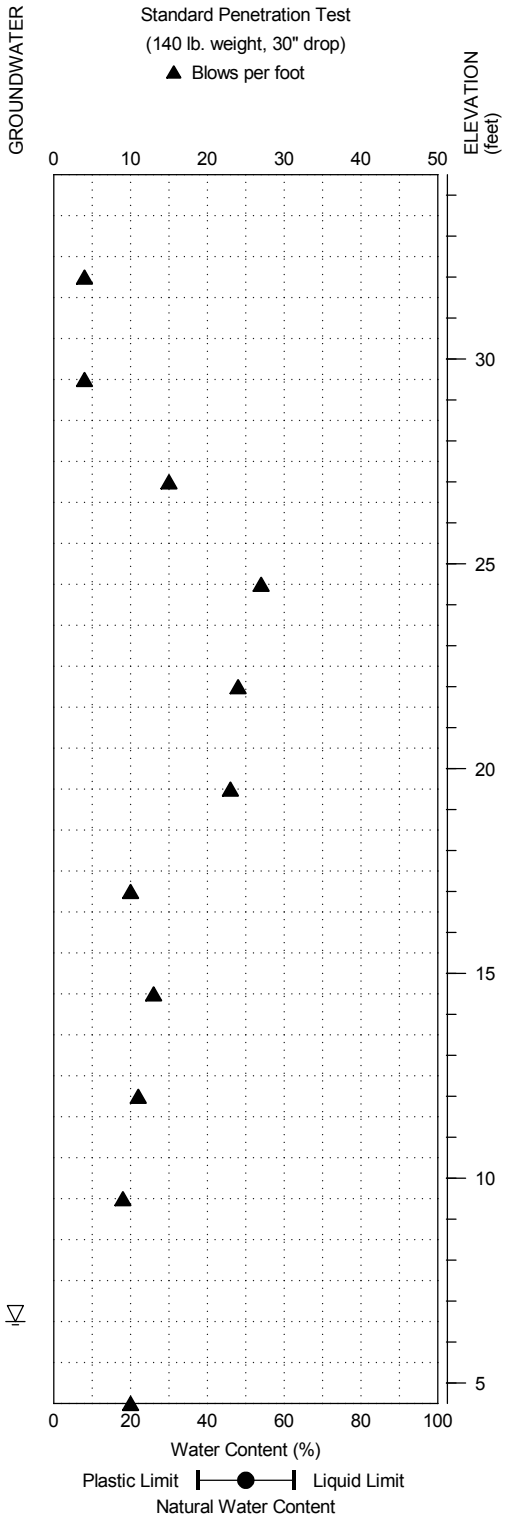
BORING-DSM 2015-061.GPJ 12/11/18

DRILLING COMPANY: Holocene Drilling
DRILLING METHOD: CME 850 Tracked Rig, HSA
SAMPLING METHOD: SPT with Autohammer
LOCATION: See Figure 2

DATE STARTED: 5/18/2017
DATE COMPLETED: 5/18/2017
LOGGED BY: A. York/B. Thurber
SURFACE ELEVATION: 34.5 ± feet

DEPTH (feet)	SYMBOL	USCS SOIL CLASS	DESCRIPTION	SAMPLE TYPE	SAMPLE NUMBER	PEN. RESISTANCE (blows/6 inches)	OTHER TESTS
0		SM	Loose, olive gray, gravelly, silty SAND, moist. **(LOOSE 2016 FILL)**				
		SM	Loose, dark gray, silty, fine to medium SAND, wet. Trace fine gravel. **(FILL)**		S-1	1-2-2	
5			Loose, dark gray, silty, fine to medium SAND, wet. Fine to medium gravel.		S-2	1-2-2	
			"Medium dense", dark gray, grading to dark brown, silty, fine SAND, grading to silty, fine to coarse SAND, moist. Trace fine to medium gravel, wood fragments in lower 6". ~10% Refuse, ~10% Decomposable. **(REFUSE)**		S-3	3-6-9	
10			"Medium dense", dark brown, silty, fine to coarse SAND, moist. Large (2-3") partially decomposed wood fragment in bottom of sample and in sampler tip. ~50% Refuse, ~50% Decomposable.		S-4	12-13-14	
			"Medium dense", dark brown, silty, fine to coarse SAND, moist. Slight creosote odor, fire brick in bottom 3", metal piece in tip of sampler and wood fragments in upper 2". ~70% Refuse, ~30% Decomposable.		S-5	8-12-12	
15			"Medium dense", olive-gray with some light brown, silty, fine SAND, moist. Trace fine to medium gravel, woody fragments in top 6". ~20% Refuse, ~20% Decomposable.		S-6	12-11-12	
			"Medium dense", dark brown, silty fine to medium SAND, moist. Glass pieces and wood fragments, metal bolt. ~50% Refuse, ~25% Decomposable.		S-7	5-2-8	
20			"Medium dense", dark brown, silty fine to medium SAND, moist. Red brick and fire brick fragments, glass pieces, wood fibers, trace fine gravel. ~50% Refuse, ~5% Decomposable.		S-8	4-5-8	
			"Medium dense", dark brown to black, silty fine SAND (slag sand?), wet. With fire brick or cinder pieces, glass, and trace fine to coarse gravel. ~50% Refuse, <5% Decomposable.		S-9	2-6-5	
25			"Loose", dark brown to black, silty fine to medium SAND, wet. With paper fibers and glass, woody fibers in tip of sampler, creosote sheen on water. ~50% Refuse, <5% Decomposable.		S-10	2-4-5	
			Driller noticed water at 28'.				
30							

GROUNDWATER ▽



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HWA GEOSCIENCES INC.

PROJECT EVERGREEN
36th ST & RIVERSIDE DRIVE
EVERETT, WASHINGTON

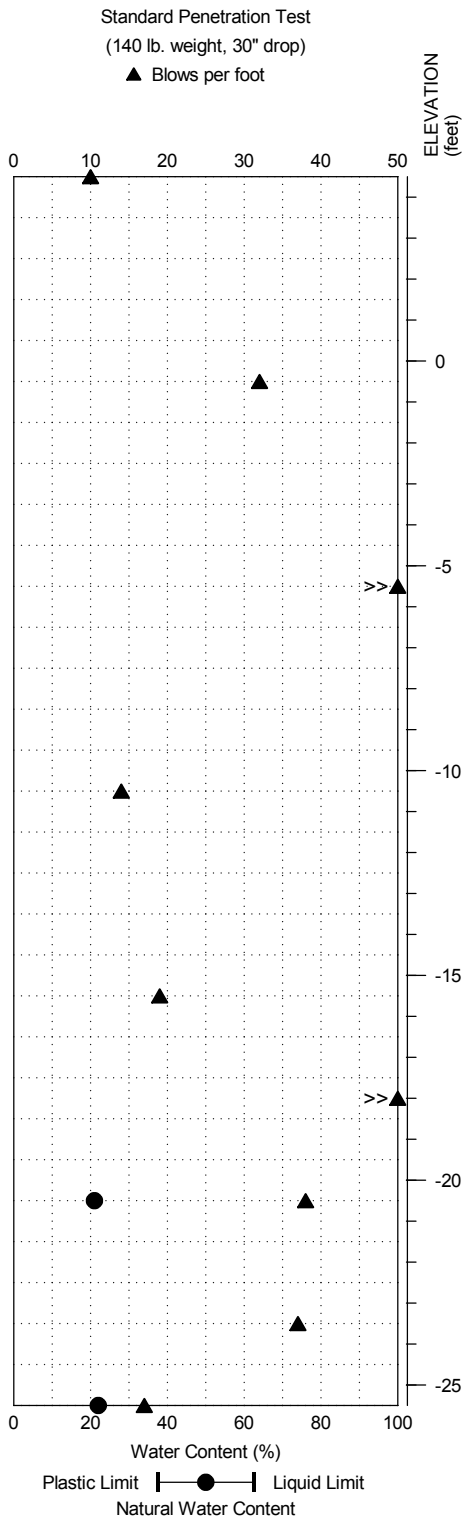
BORING:
BH-24

PROJECT NO.: 2015-061 FIGURE: C-25

DRILLING COMPANY: Holocene Drilling
DRILLING METHOD: CME 850 Tracked Rig, HSA
SAMPLING METHOD: SPT with Autohammer
LOCATION: See Figure 2

DATE STARTED: 5/18/2017
DATE COMPLETED: 5/18/2017
LOGGED BY: A. York/B. Thurber
SURFACE ELEVATION: 34.5 ± feet

DEPTH (feet)	SYMBOL	USCS SOIL CLASS	DESCRIPTION	SAMPLE TYPE	SAMPLE NUMBER	PEN. RESISTANCE (blows/6 inches)	OTHER TESTS
30			"Medium dense", dark brown to black, silty, fine to coarse SAND, wet. Ceramic and glass pieces, small brick pieces, metal fragment, trace fine gravel. ~80% Refuse, <5% Decomposable.		S-11	2-5-5	
35			"Dense", dark brown, silty fine to coarse SAND, wet. Glass, brick, and ceramic pieces, nail and metal wire, trace fine gravel. ~80% Refuse, <5% Decomposable.		S-12	12-15-17	
40			Poor recovery. Slough in sampler - dark brown, slaggy SAND, with broken glass and brick fragments. ~80% Refuse, <5% Decomposable. Hard drilling at 41'.		S-13	50/4"	
45		PT	Stiff, dark brown, alluvial PEAT, moist. With interbedded alluvial silt, wood fragments (50%/50% organic peat/alluvial silt), LEL meter detecting gas (~14% of LEL). **(ALLUVIUM)**		S-14	5-6-8	
			No recovery. Bottom of shelby tube squashed shut.		NR	Push	
50			Very stiff, dark brown, PEAT, moist. With interbedded silt, 2" partially decomposed wood layer at 50.5'.		S-15	5-8-11	
		SP	Attempted to push shelby tube, too dense - no recovery. Re-attempted to sample at 52.5' with ring sampler in CA - no recovery. Driller started using QuikGel mixture in auger.		NR	50/4"	
55			Dense, dark gray, clean, fine grading to fine to medium SAND, wet. **(ADVANCE OUTWASH)** **3' of heave, driller washed out from auger.** **3 batches of QuikGel lost in formation when auger at 57.5' (120-135 gal). Heave washout water (200 gal) also disappeared.**		S-16	9-15-23	GS
		OH			S-17a S-17b	13-23-34	
60		SP	Very dense, dark gray, clean, fine to coarse SAND, wet.				



NOTE: This log of subsurface conditions applies only at the specified location and on the date indicated and therefore may not necessarily be indicative of other times and/or locations.

HWA GEOSCIENCES INC.

PROJECT EVERGREEN
36th ST & RIVERSIDE DRIVE
EVERETT, WASHINGTON

BORING:
BH-24

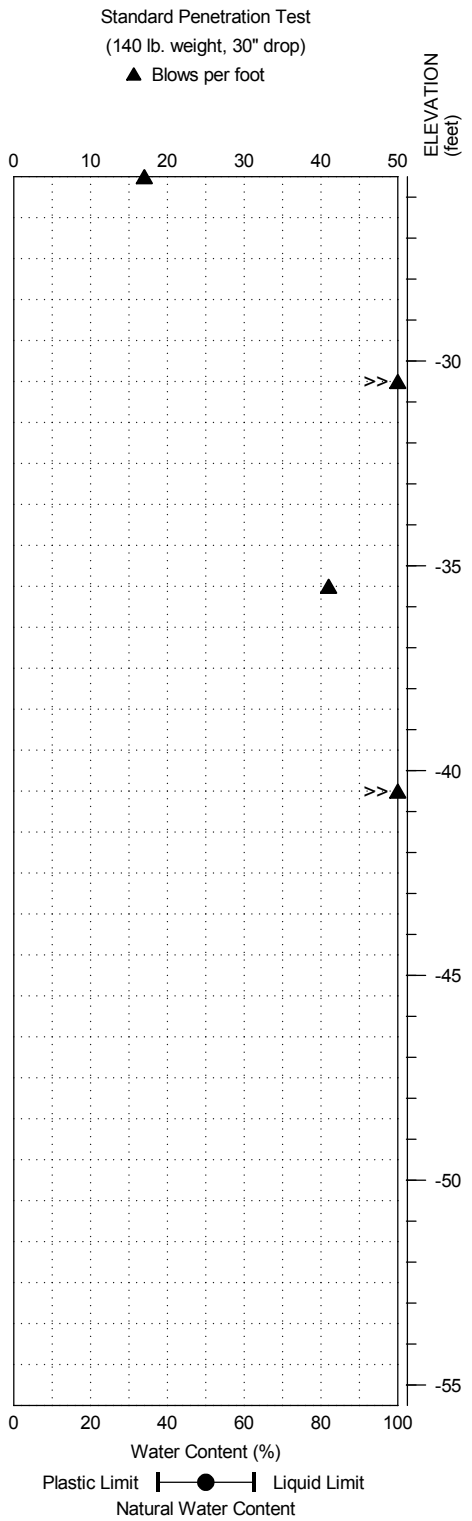
PROJECT NO.: 2015-061

FIGURE: C-25

DRILLING COMPANY: Holocene Drilling
DRILLING METHOD: CME 850 Tracked Rig, HSA
SAMPLING METHOD: SPT with Autohammer
LOCATION: See Figure 2

DATE STARTED: 5/18/2017
DATE COMPLETED: 5/18/2017
LOGGED BY: A. York/B. Thurber
SURFACE ELEVATION: 34.5 ± feet

DEPTH (feet)	SYMBOL	USCS SOIL CLASS	DESCRIPTION	SAMPLE TYPE	SAMPLE NUMBER	PEN. RESISTANCE (blows/6 inches)	OTHER TESTS	GROUNDWATER
60			Heave in top 12".					
			Stiff, brown, organic SILT, moist.		S-18	5-8-9	GS	
			(PRE-VASHON ALLUVIUM)					
			Medium dense, gray, clean, fine to medium SAND, wet. Driller notes heaving sands, SPT values likely not true, ~8" of heave. Still losing Quik grout down the borehole.					
65		SM	Very dense, gray, silty, fine to coarse SAND, with fine gravel, wet. Small lenses of silt (~1") at 66'.		S-19	9-22-36		
70		ML	Dense, olive-brown, SILT, with interbedded fine sand and rootlets, moist.		S-20	12-18-23		
		SM	Dense, olive-gray, silty, fine to medium SAND, wet.					
		SM						
75			Very dense, olive-gray, silty, fine to medium SAND, wet. Fine gravel in upper 2-3".		S-21	8-24-40		
80			Borehole terminated st 76.5' below ground surface (bgs). Groundwater observed at ~28' bgs below ground surface during drilling. **3 batches of QuikGel lost in formation when auger at 57.5' bgs (~120-135 gal). Heave washout water (200 gal) also disappeared.** 2.5 barrels (~130 gal) of extra thick grout used to abandon the borehole.					
85								
90								



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HWA GEOSCIENCES INC.

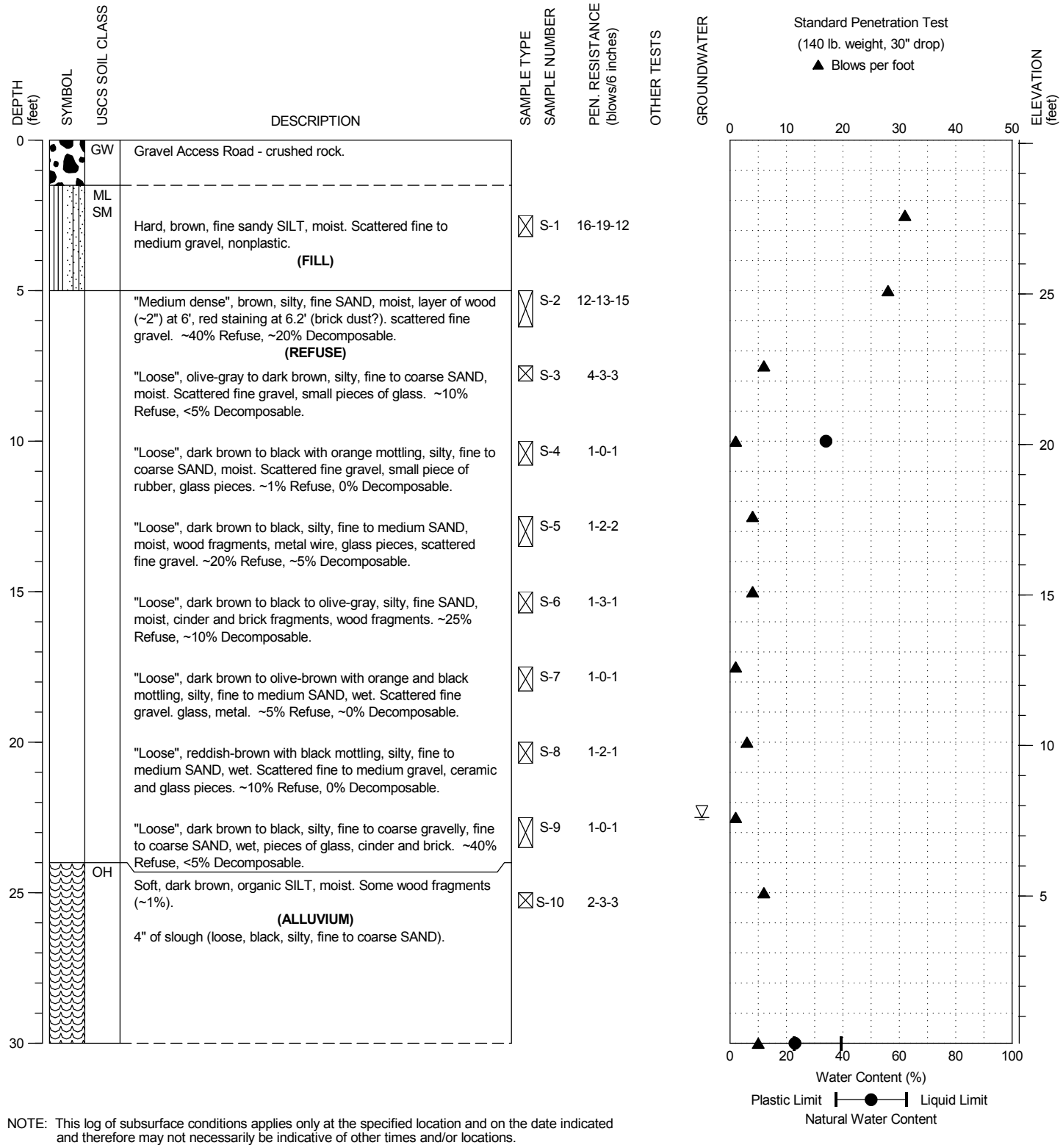
PROJECT EVERGREEN
36th ST & RIVERSIDE DRIVE
EVERETT, WASHINGTON

BORING:
BH-24

PROJECT NO.: 2015-061 FIGURE: C-25

DRILLING COMPANY: Holocene Drilling
DRILLING METHOD: Mobile B-58 Truck Rig, HSA
SAMPLING METHOD: SPT with Autohammer
LOCATION: See Figure 2

DATE STARTED: 5/30/2017
DATE COMPLETED: 5/30/2017
LOGGED BY: A. York
SURFACE ELEVATION: 30.1 ± feet



NOTE: This log of subsurface conditions applies only at the specified location and on the date indicated and therefore may not necessarily be indicative of other times and/or locations.

HWA GEOSCIENCES INC.

PROJECT EVERGREEN
36th ST & RIVERSIDE DRIVE
EVERETT, WASHINGTON

BORING:
BH-33

PROJECT NO.: 2015-061 FIGURE: C-34

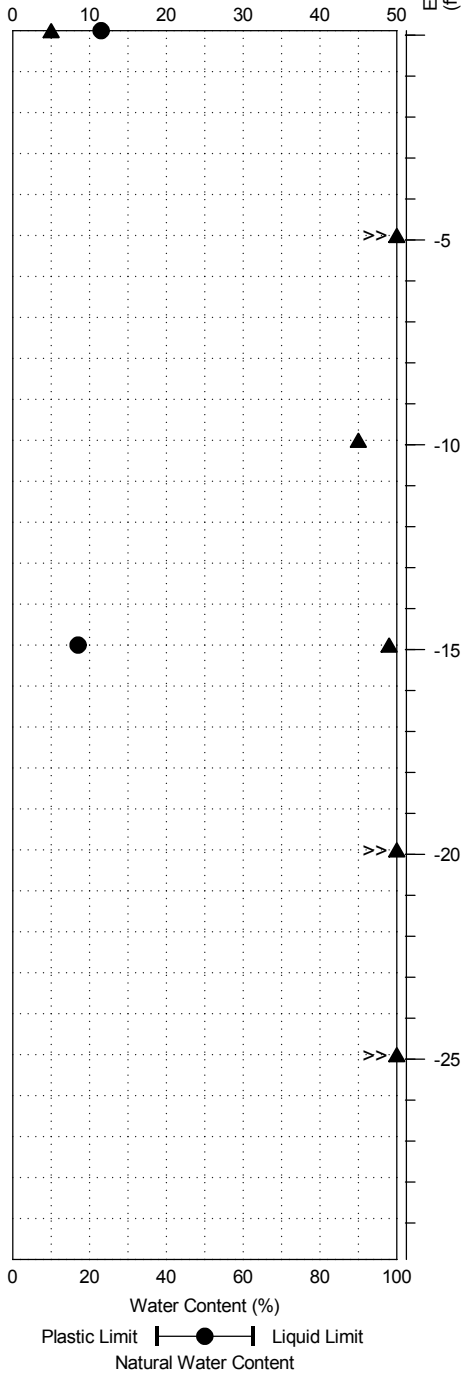
DRILLING COMPANY: Holocene Drilling
DRILLING METHOD: Mobile B-58 Truck Rig, HSA
SAMPLING METHOD: SPT with Autohammer
LOCATION: See Figure 2

DATE STARTED: 5/30/2017
DATE COMPLETED: 5/30/2017
LOGGED BY: A. York
SURFACE ELEVATION: 30.1 ± feet

DEPTH (feet)	SYMBOL	USCS SOIL CLASS	DESCRIPTION	SAMPLE TYPE	SAMPLE NUMBER	PEN. RESISTANCE (blows/6 inches)	OTHER TESTS
30		CL	Soft, bluish-gray, CLAY, moist. Plastic. Scattered burnt wood fragments (<1% Decomposable).		S-11	3-2-3	AL
35		ML	Hard, light brown with gray mottling, clayey SILT, moist, grading to orange-brown, fine sandy SILT, moist. Scattered fine to medium gravel, with silty, fine to medium SAND in bottom 3". **(GLACIOLACUSTRINE)**		S-12	6-24-27	
40		SP SM	Dense, light olive-brown, silty, fine to medium SAND, wet. Scattered fine gravel. **(ADVANCE OUTWASH)**		S-13	11-21-24	
45			Dense, light olive-brown to orange-brown, silty, fine to medium SAND, wet.		S-14	17-23-26	
50			Very dense, light olive-brown, silty, fine to medium SAND, wet.		S-15	16-39-50/6"	
55			Very dense, olive-gray, slightly silty, fine to medium SAND, wet.		S-16	11-22-29	
60			Borehole terminated at 56.6' below ground surface (bgs). Groundwater encountered at 22.5' bgs during drilling. Borehole abandoned with bentonite grout.				

GROUNDWATER

Standard Penetration Test
(140 lb. weight, 30" drop)
▲ Blows per foot



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HWA GEOSCIENCES INC.

PROJECT EVERGREEN
36th ST & RIVERSIDE DRIVE
EVERETT, WASHINGTON

BORING:
BH-33

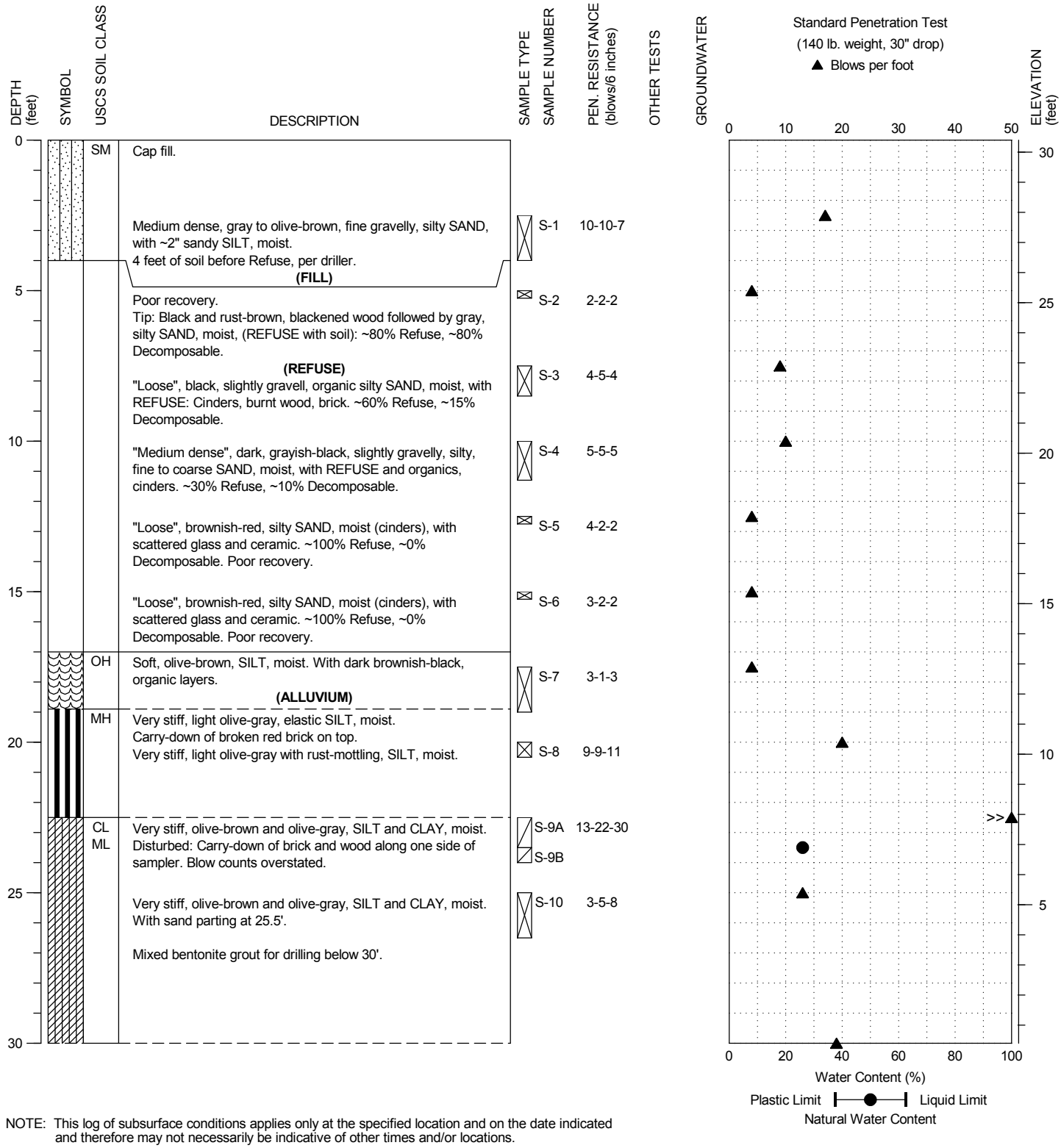
PAGE: 2 of 2

PROJECT NO.: 2015-061 FIGURE: C-34

BORING-DSM 2015-061.GPJ 12/11/18

DRILLING COMPANY: Holocene Drilling
DRILLING METHOD: CME 850 Tracked Rig, HSA
SAMPLING METHOD: SPT with Autohammer
LOCATION: See Figure 2

DATE STARTED: 6/1/2017
DATE COMPLETED: 6/1/2017
LOGGED BY: B. Thurber
SURFACE ELEVATION: 30.4 ± feet



NOTE: This log of subsurface conditions applies only at the specified location and on the date indicated and therefore may not necessarily be indicative of other times and/or locations.

HWA GEOSCIENCES INC.

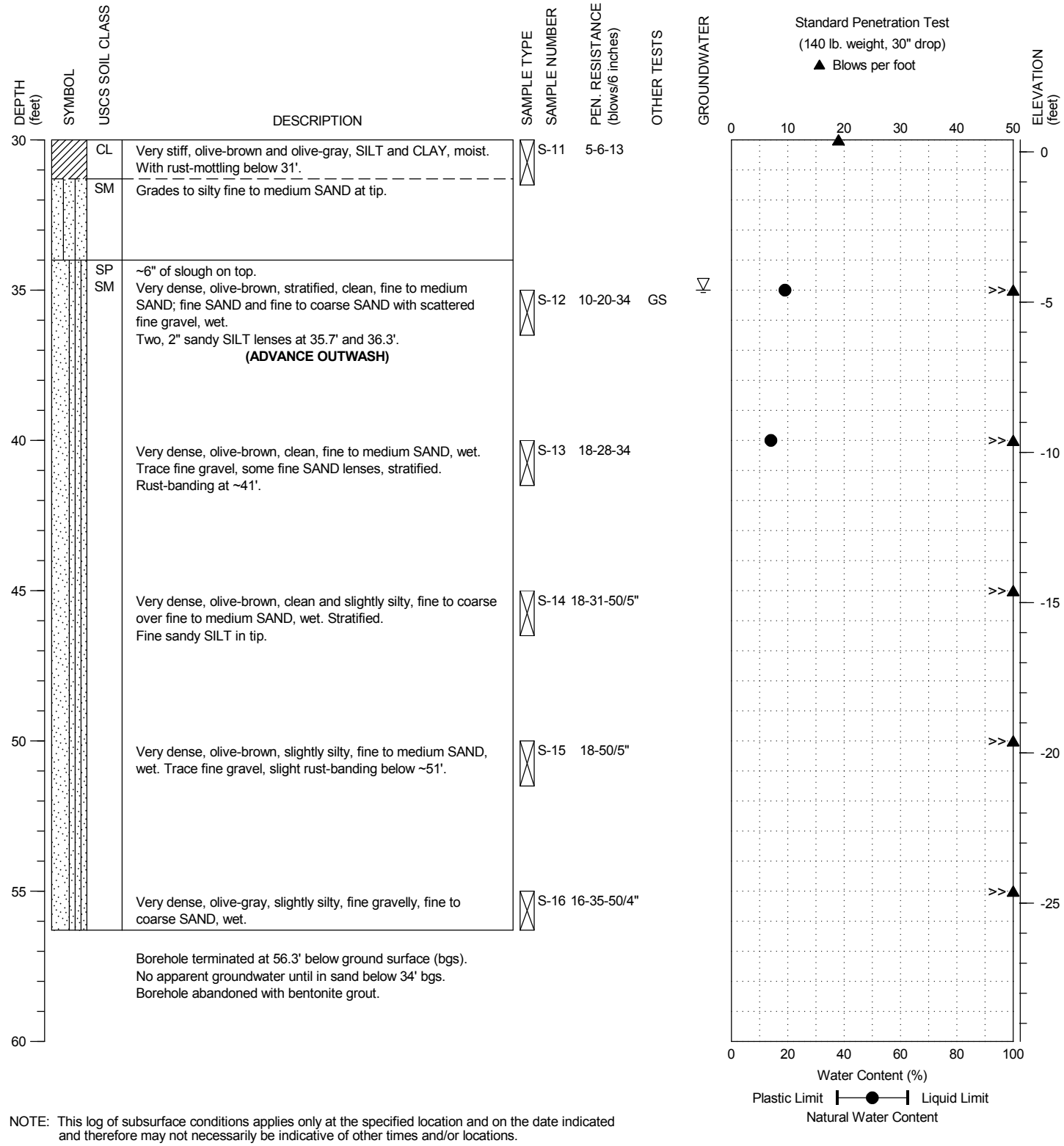
PROJECT EVERGREEN
36th ST & RIVERSIDE DRIVE
EVERETT, WASHINGTON

BORING:
BH-34

PROJECT NO.: 2015-061 FIGURE: C-35

DRILLING COMPANY: Holocene Drilling
DRILLING METHOD: CME 850 Tracked Rig, HSA
SAMPLING METHOD: SPT with Autohammer
LOCATION: See Figure 2

DATE STARTED: 6/1/2017
DATE COMPLETED: 6/1/2017
LOGGED BY: B. Thurber
SURFACE ELEVATION: 30.4 ± feet



NOTE: This log of subsurface conditions applies only at the specified location and on the date indicated and therefore may not necessarily be indicative of other times and/or locations.

HWA GEOSCIENCES INC.

PROJECT EVERGREEN
36th ST & RIVERSIDE DRIVE
EVERETT, WASHINGTON

BORING:
BH-34

PROJECT NO.: 2015-061 FIGURE: C-35

DRAFT

Date(s) Drilled	01/23/08	Logged By	CMK	Checked By	DCO
Drilling Contractor	Boart Longyear/Holt Drilling	Drilling Method	Hollow-stem Auger	Sampling Methods	SPT, Shelby
Auger Data	6-inch ID, 10-inch OD	Hammer Data	140 lb hammer/30 in drop automatic	Drilling Equipment	Mobile B-59 Truck Rig
Total Depth (ft)	59.5	Surface Elevation (ft)	36.5	Groundwater Elevation (ft)	8.5
Vertical Datum	NAVD 88	Datum/ System	NAD 83	Easting(x): Northing(y):	1307538.075 356446.7259

Elevation feet	Depth feet	SAMPLES: Interval Recovered (in)	Blows/foot	Sub-Sample Sample Number	Water Level	Graphic Log	Group Symbol	MATERIAL DESCRIPTION	Moisture Content %	Dry Unit Weight, lbs/ft³	OTHER TESTS AND NOTES
35	0						SOD	3 inches sod mat			
							SM	Dark brown silty fine to medium sand with occasional gravel (medium dense, moist) (fill)			
		12	33	1							
30	5						MSW	Refuse (wood fragments, metal, glass, brick, plaster, intermixed with dark brown/black silty fine to medium sand)			
		9	14	2							
25	10										
		7	20	3							
20	15										
		8	3	4							
15	20										
		8	11	5							
10	25				▼		PT	Dark brown peat, fiberous chips (stiff, wet) (wood waste?)			
		12	10	6							
5	30										
		1	12	7							
0	35	18	10	8							
		20		9							Vibrating wire piezometer installed at Elevation -0.1 feet
-5	40	10	21	10				Becomes very stiff	209		
							OL	Gray organic silt with sand (very stiff, moist to wet)			

Note: See Figure A-1 for explanation of symbols.

LOG OF BORING GEI- 8

GeoEngineers

Project: Everett Riverfront Redevelopment Project
Project Location: Everett, Washington
Project Number: 6191-002-08

Figure A-9
Sheet 1 of 2

V6_GTBORING W:\EVERETT\PROJECTS\6191002\08\FINAL\6191002008.GPJ GEIV6_1.GDT 7/23/08

Elevation feet / Depth feet	Interval Recovered (in)	Blows/foot	Sub-Sample Sample Number	Water Level	Graphic Log	Group Symbol	MATERIAL DESCRIPTION	Moisture Content %	Dry Unit Weight, lbs/ft³	OTHER TESTS AND NOTES
40 / -5	18	24	11a, 11b			SP-SM	(alluvial deposits?) Gray and brown fine to medium sand with silt (dense, wet) (transitional deposits)	19		%F=8
45 / -10	18	42	12			SM	Gray silty fine to coarse sand (very dense, wet)	16		%F=14
50 / -15	16	79	13			SP	Gray fine to medium sand with trace silt (very dense, wet)			
55 / -20	16	64	14							
60 / -25	11	50/5"	15				Sondex settlement system and vibrating wire piezometer installed upon completion			
65 / -30										
70 / -35										
75 / -40										
80 / -45										
85 / -50										

LOG OF BORING GEI- 8 (continued)

GeoEngineers

Project: Everett Riverfront Redevelopment Project
Project Location: Everett, Washington
Project Number: 6191-002-08

Figure A-9
Sheet 2 of 2

V6_GTBORING W:\EVERETT\PROJECTS\6191002\08\FINAL\6191002008.GPJ GEIV6_1.GDT 7/23/08

DRAFT

Date(s) Drilled	11/15/07	Logged By	CMK	Checked By	DCO
Drilling Contractor	Boart Longyear/Holt Drilling	Drilling Method	Hollow-stem Auger	Sampling Methods	SPT
Auger Data	4-inch ID, 8-inch OD	Hammer Data	140 lb hammer/30 in drop automatic	Drilling Equipment	Mobile B-59 Truck Rig
Total Depth (ft)	89	Surface Elevation (ft)	35.7	Groundwater Elevation (ft)	19.7
Vertical Datum	NAVD 88	Datum/ System	NAD 83	Easting(x): Northing(y):	1307464.621 356143.2087

Elevation feet	Depth feet	SAMPLES: Interval Recovered (in)	Blows/foot	Sub-Sample Sample Number	Water Level	Graphic Log	Group Symbol	MATERIAL DESCRIPTION	Moisture Content %	Dry Unit Weight, lbs/ft³	OTHER TESTS AND NOTES
35	0						SOD	0 to 3 inches sod			
		16	20	1			SM	Brown/black silty fine to coarse sand with gravel and organic matter (medium dense, moist to wet)			
30	5						MSW	Refuse (paper, plastic, cloth tile, glass, metal) intermixed with gray silty fine to coarse sand with occasional gravel			
		16	7	2							
25	10										
		6	6	3							
20	15				▼						
		8	5	4							
15	20										
		8	48	5							
10	25										
		4	2	6				Contains increasing wood content (chips, timber)			
5	30										
		8	15	7							
0	35						SP-SM	Gray/black fine to coarse sand with silt (medium dense, wet) (transitional deposits)			
		18	20	8							4 feet heave Drill mud added to hole
	40										

Note: See Figure A-1 for explanation of symbols.

V6_GTBORING W:\EVERETT\PROJECTS\6191002\08\FINAL\6191002008.GPJ GEIV6_1.GDT 7/23/08

LOG OF BORING GEI-17

GeoEngineers

Project: Everett Riverfront Redevelopment Project
Project Location: Everett, Washington
Project Number: 6191-002-08

Figure A-18
Sheet 1 of 2

Elevation feet	Depth feet	SAMPLES: Interval Recovered (in)	SAMPLES: Blows/foot	SAMPLES: Sub-Sample Sample Number	Water Level	Graphic Log	Group Symbol	MATERIAL DESCRIPTION	Moisture Content %	Dry Unit Weight, lbs/ft³	OTHER TESTS AND NOTES
-5	40	16	24	9					27		%F=6
		18	58	10				Grades to very dense			
-10	45										Water added to hole
		11	19	11							1 foot heave Blowcount not representative
-15	50	17	53	12							
		13	58	13							
-20	55										
		16	71	14							
-25	60										
		16	70	15							
-30	65										
		16	42	16a			OH	Brown gray organic clay (hard, moist)	33		
				16b					27		AL
-35	70						SP-SM	Gray fine to medium sand with silt (very dense, wet)			
		18	52	17					20		%F=12
-40	75										
		18	73	18			ML	Gray silt with fine sand (hard, moist)			
-45	80						SP	Gray fine sand (dense, wet)			
		18	37	19							
-50	85						SP-SM	Gray fine to medium sand with silt (very dense, wet)			
		16	83/11.5"	20							

V6_GTBORING W:\EVERETT\PROJECTS\6191002\08\FINAL\6191002008.GPJ GEIV6_1.GDT 7/23/08

LOG OF BORING GEI-17 (continued)

GeoEngineers

Project: Everett Riverfront Redevelopment Project
Project Location: Everett, Washington
Project Number: 6191-002-08

Figure A-18
Sheet 2 of 2

DRAFT

Date(s) Drilled	11/15/07	Logged By	CMK	Checked By	DCO
Drilling Contractor	Boart Longyear/Holt Drilling	Drilling Method	Hollow-stem Auger	Sampling Methods	SPT
Auger Data	4-inch ID, 8-inch OD	Hammer Data	140 lb hammer/30 in drop automatic	Drilling Equipment	Mobile B-59 Truck Rig
Total Depth (ft)	89	Surface Elevation (ft)	35.7	Groundwater Elevation (ft)	19.7
Vertical Datum	NAVD 88	Datum/ System	NAD 83	Easting(x): Northing(y):	1307464.621 356143.2087

Elevation feet	Depth feet	SAMPLES: Interval Recovered (in)	Blows/foot	Sub-Sample Sample Number	Water Level	Graphic Log	Group Symbol	MATERIAL DESCRIPTION	Moisture Content %	Dry Unit Weight, lbs/ft³	OTHER TESTS AND NOTES
35	0						SOD	0 to 3 inches sod			
		16	20	1			SM	Brown/black silty fine to coarse sand with gravel and organic matter (medium dense, moist to wet)			
30	5						MSW	Refuse (paper, plastic, cloth tile, glass, metal) intermixed with gray silty fine to coarse sand with occasional gravel			
		16	7	2							
25	10										
		6	6	3							
20	15				▼						
		8	5	4							
15	20										
		8	48	5							
10	25										
		4	2	6				Contains increasing wood content (chips, timber)			
5	30										
		8	15	7							
0	35						SP-SM	Gray/black fine to coarse sand with silt (medium dense, wet) (transitional deposits)			
		18	20	8							4 feet heave Drill mud added to hole
	40										

Note: See Figure A-1 for explanation of symbols.

V6_GTBORING W:\EVERETT\PROJECTS\6191002\08\FINAL\6191002008.GPJ GEIV6_1.GDT 7/23/08

LOG OF BORING GEI-17

GeoEngineers

Project: Everett Riverfront Redevelopment Project
Project Location: Everett, Washington
Project Number: 6191-002-08

Figure A-18
Sheet 1 of 2

Elevation feet	Depth feet	SAMPLES: Interval Recovered (in)	SAMPLES: Blows/foot	SAMPLES: Sub-Sample Sample Number	Water Level	Graphic Log	Group Symbol	MATERIAL DESCRIPTION	Moisture Content %	Dry Unit Weight, lbs/ft³	OTHER TESTS AND NOTES
-5	40	16	24	9					27		%F=6
		18	58	10				Grades to very dense			
-10	45										Water added to hole
		11	19	11							1 foot heave Blowcount not representative
-15	50	17	53	12							
		13	58	13							
-20	55										
		16	71	14							
-25	60										
		16	70	15							
-30	65										
		16	42	16a			OH	Brown gray organic clay (hard, moist)	33		
				16b					27		AL
-35	70						SP-SM	Gray fine to medium sand with silt (very dense, wet)			
		18	52	17					20		%F=12
-40	75										
		18	73	18			ML	Gray silt with fine sand (hard, moist)			
-45	80						SP	Gray fine sand (dense, wet)			
		18	37	19							
-50	85						SP-SM	Gray fine to medium sand with silt (very dense, wet)			
		16	83/11.5"	20							

V6_GTBORING W:\EVERETT\PROJECTS\6191002\08\FINAL\6191002008.GPJ GEIV6_1.GDT 7/23/08

LOG OF BORING GEI-17 (continued)

GeoEngineers

Project: Everett Riverfront Redevelopment Project
Project Location: Everett, Washington
Project Number: 6191-002-08

Figure A-18
Sheet 2 of 2

DRAFT

Date(s) Drilled	12/04/07	Logged By	SH	Checked By	DCO
Drilling Contractor	Boart Longyear/Holt Drilling	Drilling Method	Hollow-stem Auger	Sampling Methods	SPT
Auger Data	4-inch ID, 8-inch OD	Hammer Data	140 lb hammer/30 in drop automatic	Drilling Equipment	Mobile B-59 Truck Rig
Total Depth (ft)	75	Surface Elevation (ft)	36.0	Groundwater Elevation (ft)	33
Vertical Datum	NAVD 88	Datum/ System	NAD 83	Easting(x): Northing(y):	1307533.733 356299.3945

Elevation feet	Depth feet	SAMPLES: Interval	Recovered (in)	Blows/foot	Sub-Sample Sample Number	Water Level	Graphic Log	Group Symbol	MATERIAL DESCRIPTION	Moisture Content %	Dry Unit Weight, lbs/ft³	OTHER TESTS AND NOTES
35	0							SM	2 to 3 inches root mass Dark gray silty fine to medium sand with trace organic matter (loose, moist) (fill)			
			2	8	1			MSW	Refuse (black organic silt, glass fragments, decayed wood, plastic, and brick)			
30	5											
			3	3	2							
25	10											
			2	5	3							
20	15											
			8	10	4							
15	20											
			16	12	5							
10	25											
			14	16	6							
5	30											
			15	9	7			PT	Brown peat with partially decayed wood chips (medium stiff to stiff, wet) (alluvial deposits)	199		
0	35											
			15	5	8							
-5	40											

Note: See Figure A-1 for explanation of symbols.

V6_GTBORING W:\EVERETT\PROJECTS\6191002\08\FINAL\6191002008.GPJ GEIV6_1.GDT 7/23/08

LOG OF BORING GEI-18

GeoEngineers

Project: Everett Riverfront Redevelopment Project
Project Location: Everett, Washington
Project Number: 6191-002-08

Figure A-19
Sheet 1 of 2

Depth feet	Elevation feet	Interval Recovered (in)	Blows/foot	Sub-Sample Sample Number	Group Symbol	MATERIAL DESCRIPTION	Moisture Content %	Dry Unit Weight, lbs/ft³	OTHER TESTS AND NOTES
40	-5	18	P	9	OL	Gray organic silt (medium stiff, moist)			
45	-10	18	14	10	SM	Gray silty fine sand (medium dense, wet)			
50	-15	15	12	11	SP	Brown and gray fine to medium sand (medium dense, wet)			
55	-20	18	22	12					Water added to hole
60	-25	18	47	13	SP	Brown and gray fine to medium sand (dense to very dense, wet) (transitional deposits)			
65	-30	18	57	14					
70	-35	0	50	15					
75	-40	15	53	16					
80	-45								
85	-50								

SAMPLES

Water Level

Graphic Log

V6_GTBORING W:\EVERETT\PROJECTS\6191002\08\FINAL\6191002O8.GPJ GEIV6_1.GDT 7/23/08

LOG OF BORING GEI-18 (continued)

GeoEngineers

Project: Everett Riverfront Redevelopment Project
Project Location: Everett, Washington
Project Number: 6191-002-08

Figure A-19
Sheet 2 of 2

APPENDIX C

LABORATORY INVESTIGATION

APPENDIX C
LABORATORY INVESTIGATION

Representative soil samples obtained from the boreholes were returned to HWA's laboratory for further examination and testing. Laboratory tests were conducted on selected soil samples to characterize relevant engineering properties of the on-site materials. The laboratory testing program was performed in general accordance with appropriate ASTM Standards as outlined below. Summary Material Properties are presented in Figure B-1 through B-3.

MOISTURE CONTENT Selected samples were tested in general accordance with method ASTM D 2974, using moisture content method 'A' (oven dried at 105^0 C). The test results are summarized on the logs in Appendix A and Figures B-1 through B-3. The results are percent by weight of dry soil.

PARTICLE SIZE ANALYSIS OF SOILS: Selected samples were tested to determine the particle distribution of material in general accordance with ASTM D422. The results are summarized on the attached Grain Size Distribution reports, Figures B-4 through B-9, which also provide information regarding the classification of the sample and the moisture content at the time of testing.

LIQUID LIMIT, PLASTIC LIMIT, AND PLASTICITY INDEX OF SOILS (ATTERBERG LIMITS): Selected samples were tested using method ASTM D 4318, multi-point method. The results are reported on the attached Liquid Limit, Plastic Limit, and Plasticity Index reports, Figure B-10

EXPLORATION DESIGNATION	TOP DEPTH (feet)	BOTTOM DEPTH (feet)	MOISTURE CONTENT (%)	ORGANIC CONTENT (%)	SPECIFIC GRAVITY	ATTERBERG LIMITS (%)			% GRAVEL	% SAND	% FINES	ASTM SOIL CLASSIFICATION	SAMPLE DESCRIPTION
						LL	PL	PI					
BH-51,S-9b	35.3	36.5	15.3						7.9	72.7	19.4	SM	Olive-brown, silty SAND
BH-51,S-10	40.0	41.5	22.7									SP-SM	Olive-brown, poorly graded SAND with silt
BH-51,S-11	45.0	46.5	19.7						3.1	87.5	9.4	SP-SM	Olive-brown, poorly graded SAND with silt
BH-51,S-12	50.0	51.0	16.9									SP-SM	Olive, poorly graded SAND with silt
BH-51,S-13a	55.0	56.0	17.1									SM	Olive-brown, silty SAND
BH-51,S-14	60.0	61.5	19.0									SM	Olive, silty SAND
BH-51,S-15b	65.5	66.5	14.0									SM	Olive-gray, silty SAND with gravel
BH-51,S-16a	70.0	71.0	15.4						9.4	81.8	8.8	SW-SM	Dark gray, well-graded SAND with silt
BH-51,S-17	75.0	76.5	21.9									SP-SM	Dark gray, poorly graded SAND with silt
BH-51,S-18	80.0	81.5	34.0							8.9	91.1	MH	Dark gray, elastic SILT
BH-52,S-9	35.0	36.5	250.4									PT	Very dark brown, PEAT
BH-52,S-10	40.0	40.5	21.9								7.6	SP-SM	Dark olive-gray, poorly graded SAND with silt and gravel
BH-52,S-11a	45.0	45.8	18.3									SP-SM	Olive-brown, poorly graded SAND with silt
BH-52,S-11b	45.8	46.5	15.3						2.8	84.8	12.4	SM	Olive-brown, silty SAND
BH-52,S-15	65.0	77.0	14.9									SM	Dark olive-gray, silty SAND with gravel
BH-52,S-16	70.0	71.5	22.2						0.1	82.5	17.4	SM	Dark gray, silty SAND
BH-52,S-17b	75.5	76.5	50.2			52	38	14	8.9	47.7	43.3	SM	Dark grayish-brown, silty SAND with organics
BH-52,S-18	80.0	81.5	28.7									ML	Dark grayish-brown, SILT
BH-53,S-10	40.0	41.5	46.0									OL	Very dark grayish-brown, sandy organic SILT with gravel
BH-53,S-13	55.0	56.5	20.6						0.6	87.4	12.0	SW-SM	Dark gray, well-graded SAND with silt

Notes: 1. This table summarizes information presented elsewhere in the report and should be used in conjunction with the report test, other graphs and tables, and the exploration logs.
2. The soil classifications in this table are based on ASTM D2487 and D2488 as applicable.

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EVERETT RIVERFRONT DEVELOPMENT
PHASE 2
EVERETT, WASHINGTON

SUMMARY OF
MATERIAL PROPERTIES

PROJECT NO.: 2015-061 FIGURE: B-1

EXPLORATION DESIGNATION	TOP DEPTH (feet)	BOTTOM DEPTH (feet)	MOISTURE CONTENT (%)	ORGANIC CONTENT (%)	SPECIFIC GRAVITY	ATTERBERG LIMITS (%)			% GRAVEL	% SAND	% FINES	ASTM SOIL CLASSIFICATION	SAMPLE DESCRIPTION
						LL	PL	PI					
BH-53,S-14	60.0	61.5	18.7									SP-SM	Dark gray, poorly graded SAND with silt
BH-53,S-15a	65.0	66.4	14.7									SP-SM	Dark gray, poorly graded SAND with silt and gravel
BH-53,S-16b	70.5	71.5	38.9									MH	Very dark grayish-brown, elastic SILT
BH-54,S-8	30.0	39.0	109.1									PT	Very dark grayish-brown, PEAT
BH-54,S-9	35.0	36.5	17.8						16.7	61.6	21.7	SM	Light olive-brown, silty SAND with gravel
BH-54,S-11	45.0	46.5	17.8						8.0	80.6	11.4	SW-SM	Olive-brown, well-graded SAND with silt
BH-54,S-12	50.0	51.5	19.3									SM	Olive-brown, silty SAND
BH-54,S-13	55.0	56.0	17.3									SM	Olive-brown, silty SAND
BH-54,S-14a	60.0	61.0	17.5									SM	Olive-brown, silty SAND
BH-54,S-16	70.0	71.5	20.3						0.0	85.6	14.4	SM	Dark grayish-brown, silty SAND
BH-54,S-17	75.0	76.5	45.5									ML	Dark grayish-brown, SILT
BH-55,S-12	50.0	51.5	24.8									SM	Olive-brown, silty SAND
BH-55,S-13	55.0	56.5	19.2						0.6	86.7	12.6	SM	Olive-brown, silty SAND
BH-55,S-14	60.0	61.5	17.6									SP-SM	Very dark gray, poorly graded SAND with silt
BH-55,S-15a	65.0	66.0	32.9									ML	Dark grayish-brown, SILT with sand
BH-55,S-16a	70.0	70.8	40.6									MH	Very dark grayish-brown, elastic SILT
BH-55,S-16b	70.8	71.5	49.2									MH	Very dark grayish-brown, elastic SILT
BH-55,S-17	75.0	76.5	20.3							83.0	17.0	SM	Very dark gray, silty SAND
BH-55,S-18	80.0	81.0	19.4									SM	Dark gray, silty SAND
BH-56,S-9	35.0	35.5	54.3									SM	Very dark grayish-brown, silty SAND with organics

Notes: 1. This table summarizes information presented elsewhere in the report and should be used in conjunction with the report test, other graphs and tables, and the exploration logs.
2. The soil classifications in this table are based on ASTM D2487 and D2488 as applicable.

EXPLORATION DESIGNATION	TOP DEPTH (feet)	BOTTOM DEPTH (feet)	MOISTURE CONTENT (%)	ORGANIC CONTENT (%)	SPECIFIC GRAVITY	ATTERBERG LIMITS (%)			% GRAVEL	% SAND	% FINES	ASTM SOIL CLASSIFICATION	SAMPLE DESCRIPTION
						LL	PL	PI					
BH-56,S-10a	40.0	41.0	37.9									SM	Very dark grayish-brown, silty SAND with organics
BH-56,S-13	55.0	56.5	19.1						0.8	86.8	12.4	SM	Olive-brown, silty SAND
BH-56,S-14a	60.0	61.3	21.7									SM	Brown, silty SAND
BH-56,S-15a	65.0	66.0	19.2									SP-SM	Dark gray, poorly graded SAND with silt
BH-56,S-16	70.0	71.5	24.0						0.1	82.2	17.7	SM	Dark gray, silty SAND
BH-56,S-17a	75.0	75.7	34.9			39	32	7			78.3	ML	Dark grayish-brown, SILT with sand
BH-56,S-18	80.0	81.5	18.8									SM	Dark gray, silty SAND

Notes: 1. This table summarizes information presented elsewhere in the report and should be used in conjunction with the report test, other graphs and tables, and the exploration logs.
2. The soil classifications in this table are based on ASTM D2487 and D2488 as applicable.

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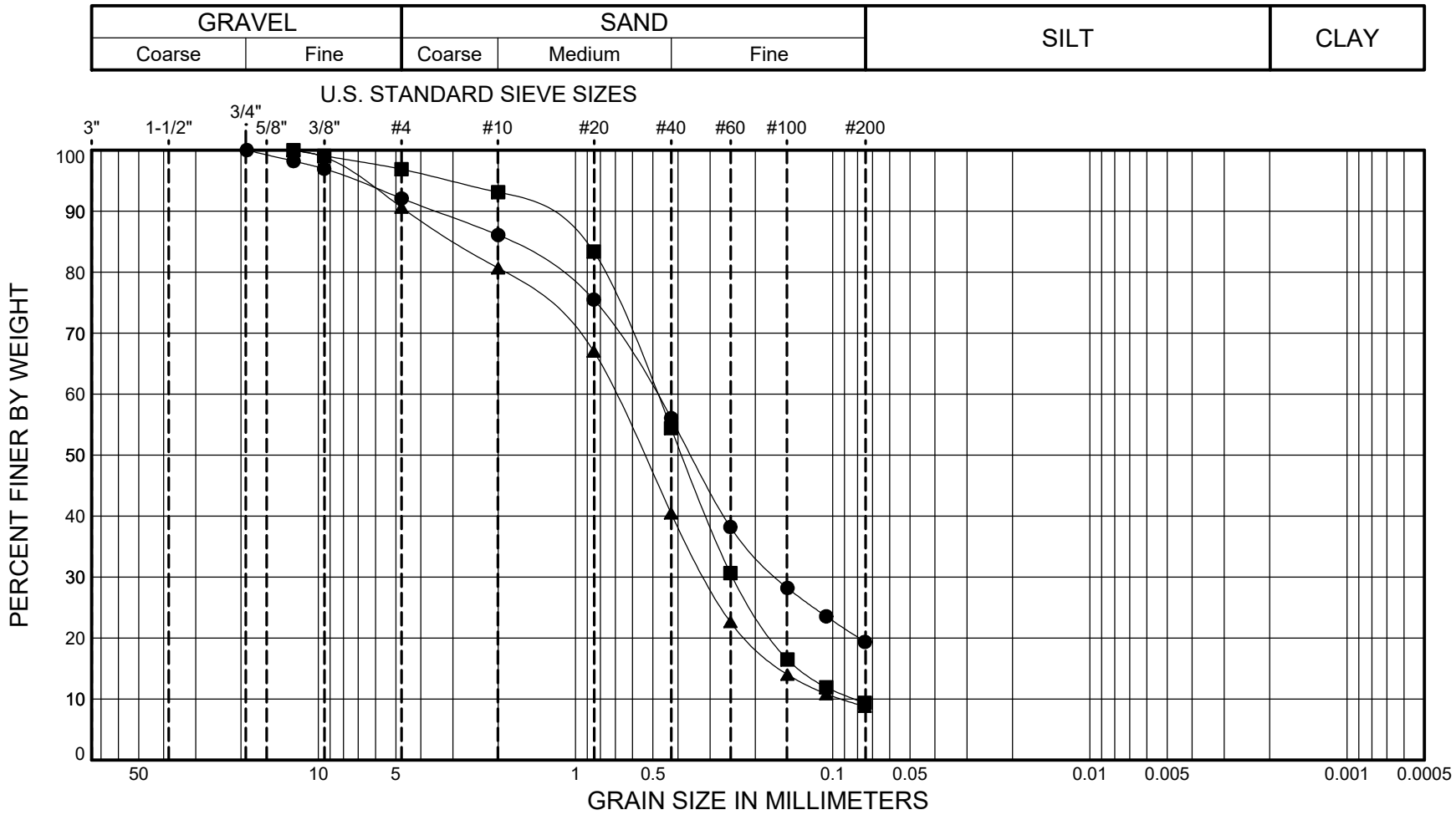
EVERETT RIVERFRONT DEVELOPMENT
PHASE 2
EVERETT, WASHINGTON

SUMMARY OF
MATERIAL PROPERTIES

PROJECT NO.: 2015-061 FIGURE: B-3



SYMBOL	SAMPLE		DEPTH (ft.)	CLASSIFICATION OF SOIL- ASTM D2487 Group Symbol and Name	% MC	LL	PL	PI	Gravel %	Sand %	Fines %
●	BH-51	S-9b	35.3 - 36.5	(SM) Olive-brown, silty SAND	15				7.9	72.7	19.4
■	BH-51	S-11	45.0 - 46.5	(SP-SM) Olive-brown, poorly graded SAND with silt	20				3.1	87.5	9.4
▲	BH-51	S-16a	70.0 - 71.0	(SW-SM) Dark gray, well-graded SAND with silt	15				9.4	81.8	8.8

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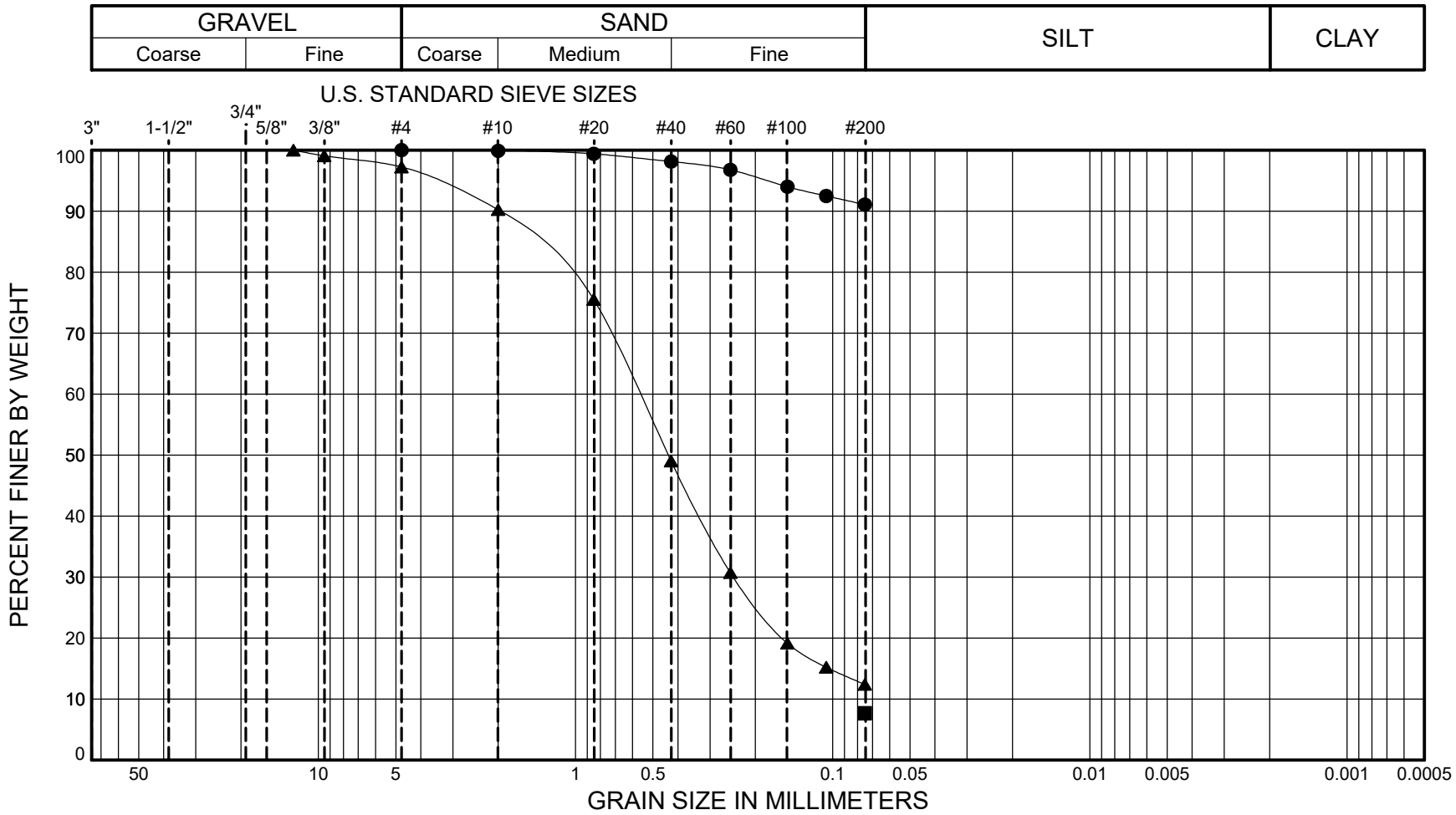
EVERETT RIVERFRONT DEVELOPMENT
PHASE 2
EVERETT, WASHINGTON

PARTICLE-SIZE ANALYSIS
OF SOILS
METHOD ASTM D6913

PROJECT NO.: 2015-061 FIGURE: B-4

HWAGRSZ 2015-061.GPJ 11/16/21



SYMBOL	SAMPLE		DEPTH (ft.)	CLASSIFICATION OF SOIL- ASTM D2487 Group Symbol and Name	% MC	LL	PL	PI	Gravel %	Sand %	Fines %
●	BH-51	S-18	80.0 - 81.5	(MH) Dark gray, elastic SILT	34					8.9	91.1
■	BH-52	S-10	40.0 - 40.5	(SP-SM) Dark olive-gray, poorly graded SAND with silt and gravel	22						7.6
▲	BH-52	S-11b	45.8 - 46.5	(SM) Olive-brown, silty SAND	15				2.8	84.8	12.4

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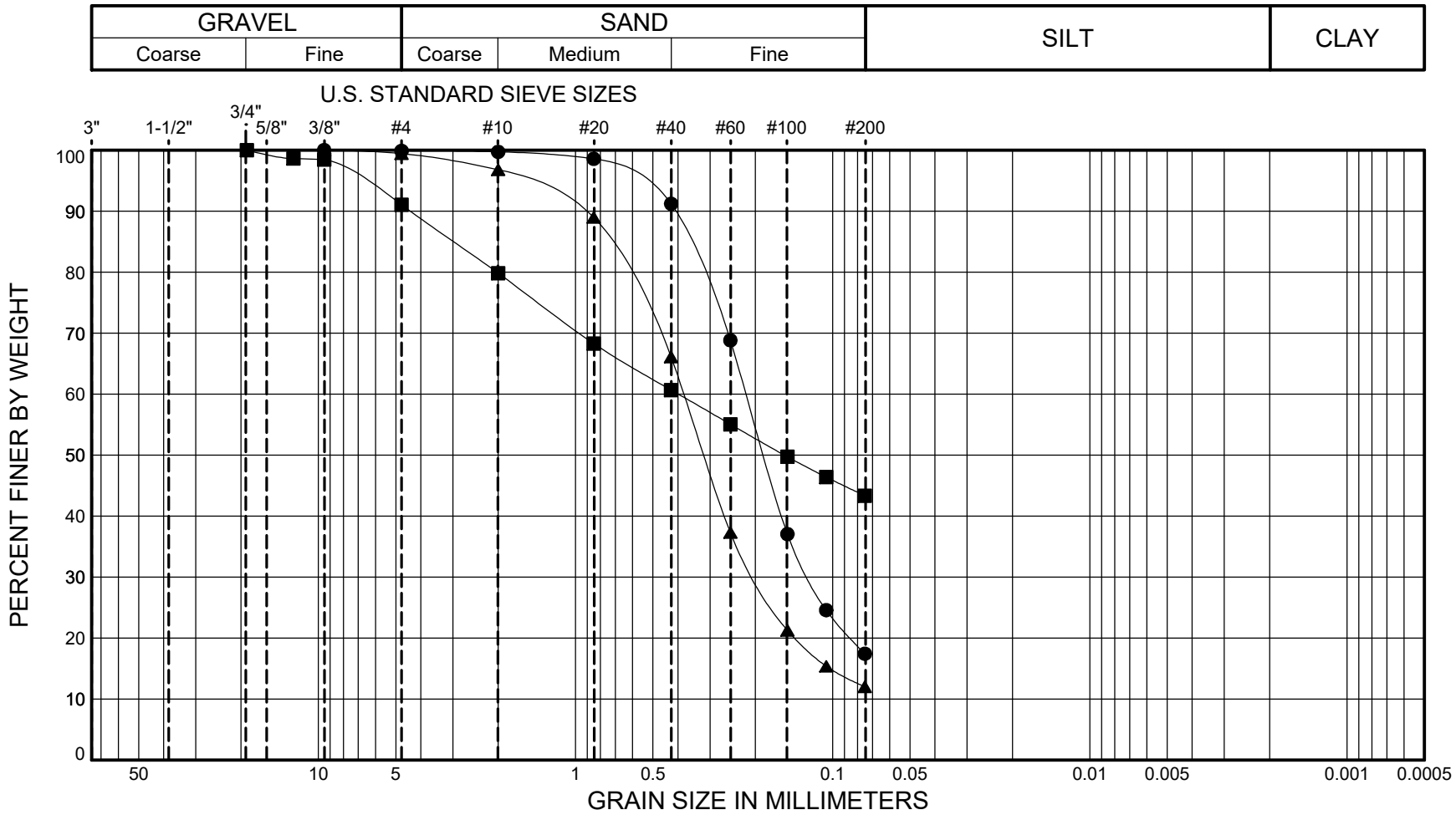
EVERETT RIVERFRONT DEVELOPMENT
PHASE 2
EVERETT, WASHINGTON

PARTICLE-SIZE ANALYSIS
OF SOILS
METHOD ASTM D6913

PROJECT NO.: 2015-061 FIGURE: B-5



SYMBOL	SAMPLE		DEPTH (ft.)	CLASSIFICATION OF SOIL- ASTM D2487 Group Symbol and Name	% MC	LL	PL	PI	Gravel %	Sand %	Fines %
●	BH-52	S-16	70.0 - 71.5	(SM) Dark gray, silty SAND	22				0.1	82.5	17.4
■	BH-52	S-17b	75.5 - 76.5	(SM) Dark grayish-brown, silty SAND with organics	50	52	38	14	8.9	47.7	43.3
▲	BH-53	S-13	55.0 - 56.5	(SW-SM) Dark gray, well-graded SAND with silt	21				0.6	87.4	12.0

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EVERETT RIVERFRONT DEVELOPMENT
PHASE 2
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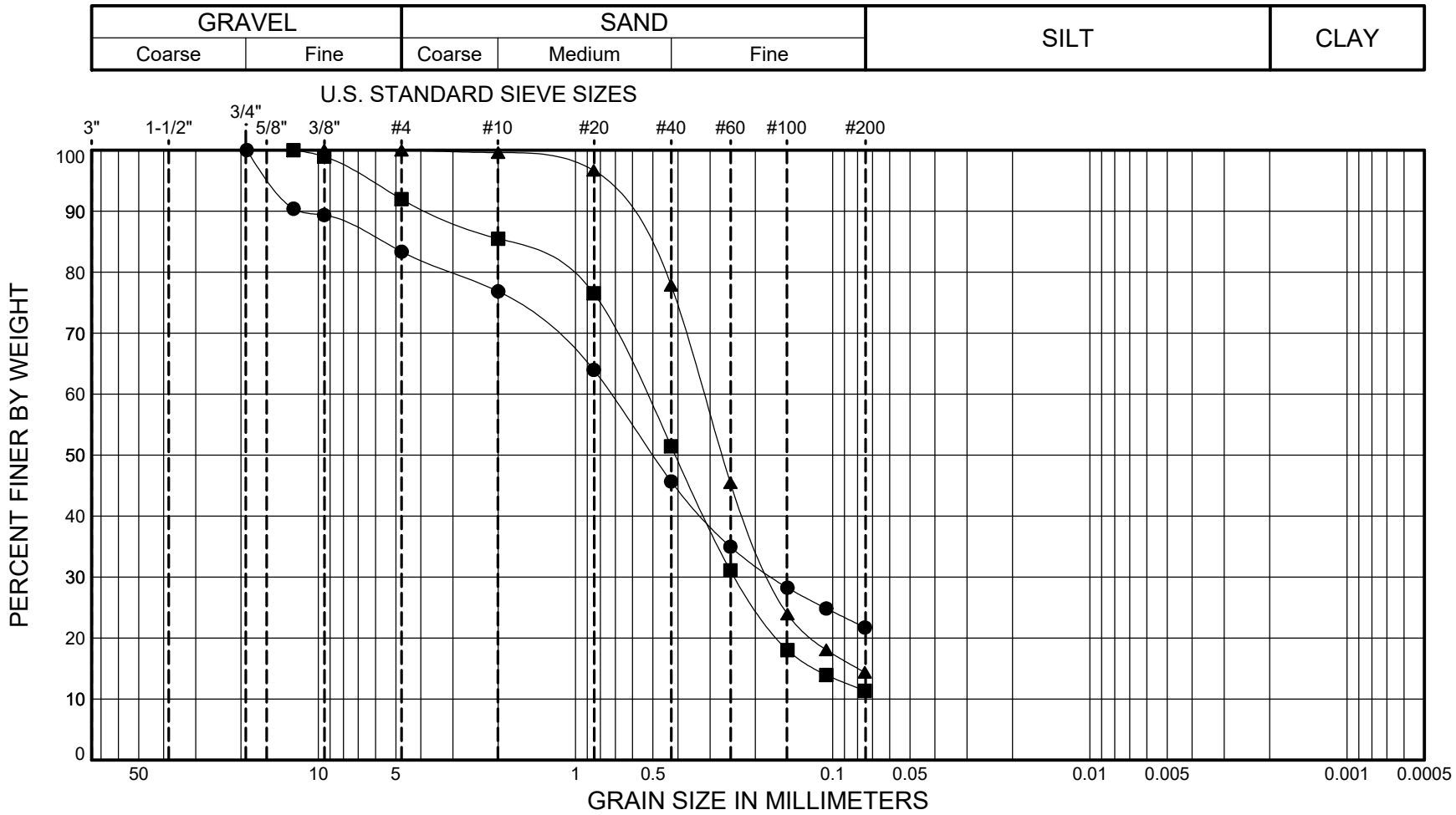
PARTICLE-SIZE ANALYSIS
OF SOILS
METHOD ASTM D6913

PROJECT NO.: 2015-061 FIGURE: B-6



SYMBOL	SAMPLE		DEPTH (ft.)	CLASSIFICATION OF SOIL- ASTM D2487 Group Symbol and Name	% MC	LL	PL	PI	Gravel %	Sand %	Fines %
●	BH-54	S-9	35.0 - 36.5	(SM) Light olive-brown, silty SAND with gravel	18				16.7	61.6	21.7
■	BH-54	S-11	45.0 - 46.5	(SW-SM) Olive-brown, well-graded SAND with silt	18				8.0	80.6	11.4
▲	BH-54	S-16	70.0 - 71.5	(SM) Dark grayish-brown, silty SAND	20				0.0	85.6	14.4

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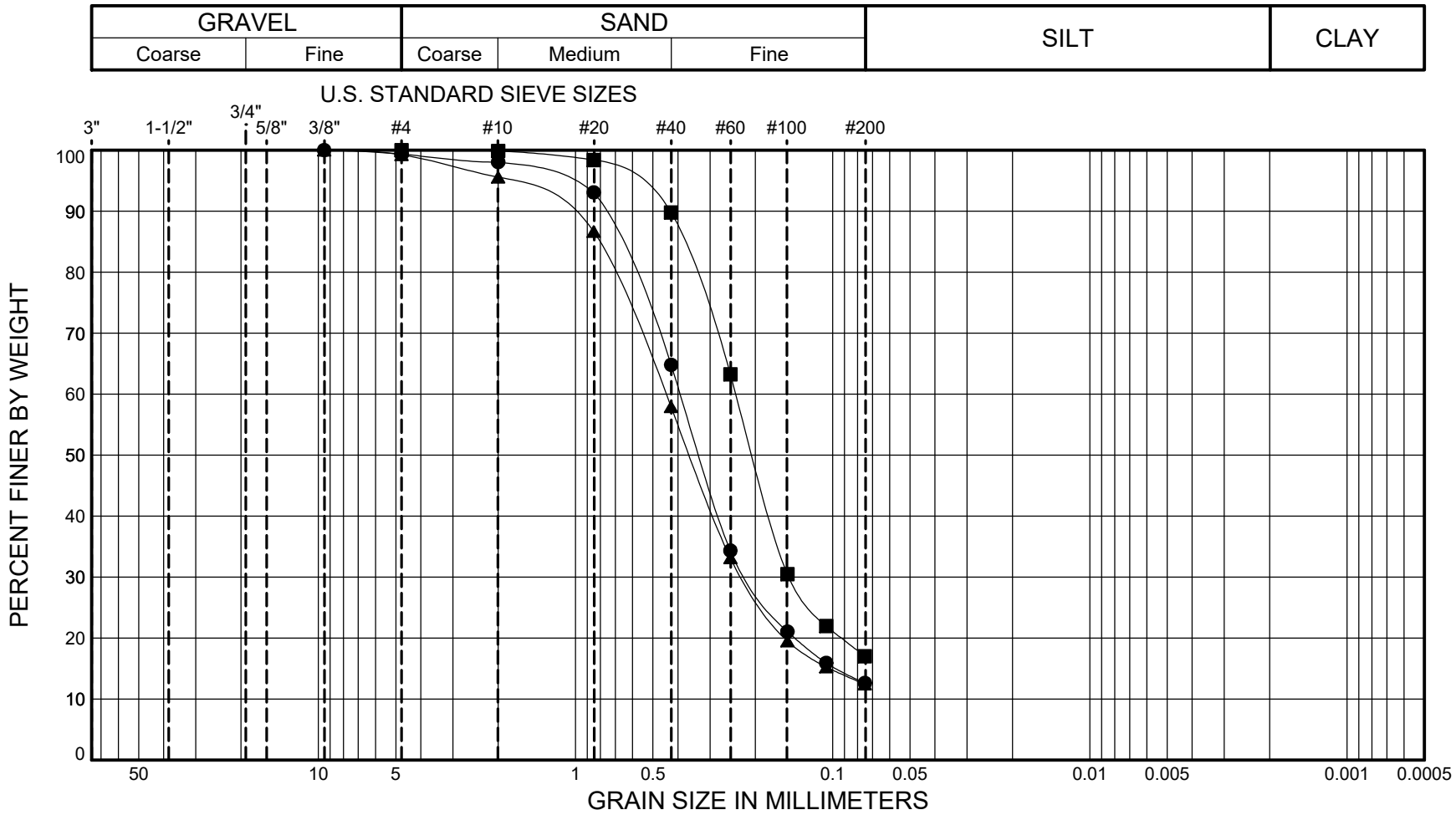
PARTICLE-SIZE ANALYSIS
OF SOILS
METHOD ASTM D6913

PROJECT NO.: 2015-061 FIGURE: B-7

HWAGRSZ 2015-061.GPJ 11/16/21



SYMBOL	SAMPLE		DEPTH (ft.)	CLASSIFICATION OF SOIL- ASTM D2487 Group Symbol and Name	% MC	LL	PL	PI	Gravel %	Sand %	Fines %
●	BH-55	S-13	55.0 - 56.5	(SM) Olive-brown, silty SAND	19				0.6	86.7	12.6
■	BH-55	S-17	75.0 - 76.5	(SM) Very dark gray, silty SAND	20					83.0	17.0
▲	BH-56	S-13	55.0 - 56.5	(SM) Olive-brown, silty SAND	19				0.8	86.8	12.4

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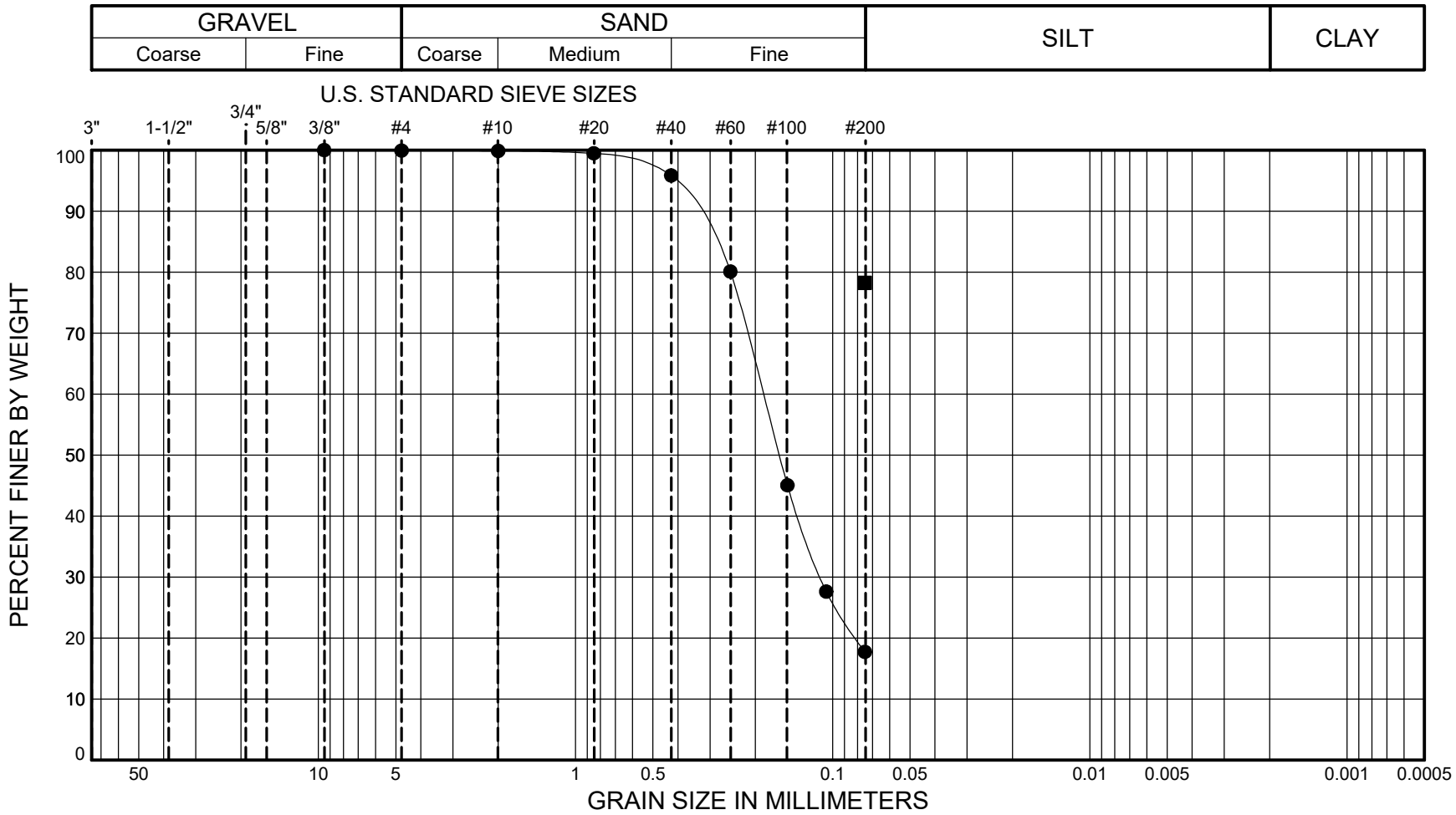
PARTICLE-SIZE ANALYSIS
OF SOILS
METHOD ASTM D6913

PROJECT NO.: 2015-061 FIGURE: B-8

HWAGRSZ 2015-061.GPJ 11/16/21



SYMBOL	SAMPLE		DEPTH (ft.)	CLASSIFICATION OF SOIL- ASTM D2487 Group Symbol and Name	% MC	LL	PL	PI	Gravel %	Sand %	Fines %
●	BH-56	S-16	70.0 - 71.5	(SM) Dark gray, silty SAND	24				0.1	82.2	17.7
■	BH-56	S-17a	75.0 - 75.7	(ML) Dark grayish-brown, SILT with sand	35	39	32	7			78.3

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EVERETT RIVERFRONT DEVELOPMENT
PHASE 2
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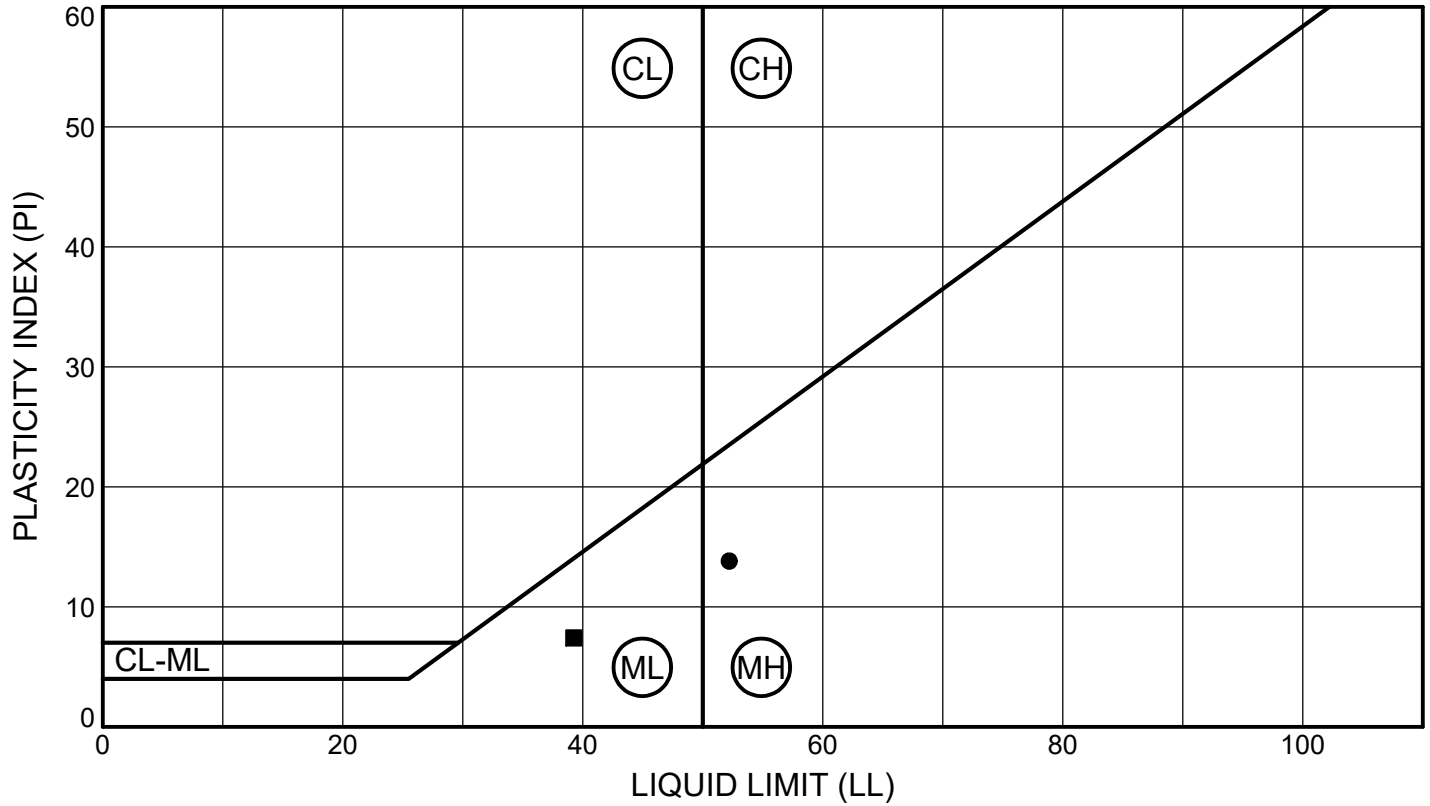
PARTICLE-SIZE ANALYSIS
OF SOILS
METHOD ASTM D6913

PROJECT NO.: 2015-061 FIGURE: B-9

HWAGRSZ 2015-061.GPJ 11/16/21



SYMBOL	SAMPLE		DEPTH (ft)	CLASSIFICATION	% MC	LL	PL	PI	% Fines
●	BH-52	S-17b	75.5 - 76.5	(SM) Dark grayish-brown, silty SAND with organics	50	52	38	14	43.3
■	BH-56	S-17a	75.0 - 75.7	(ML) Dark grayish-brown, SILT with sand	35	39	32	7	78.3

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EVERETT RIVERFRONT DEVELOPMENT
PHASE 2
EVERETT, WASHINGTON

LIQUID LIMIT, PLASTIC LIMIT AND
PLASTICITY INDEX OF SOILS
METHOD ASTM D4318

PROJECT NO.: 2015-061 FIGURE: B-10

HWAATTB 2015-061.GPJ 11/16/21

APPENDIX D

DRIVEN GROUT PILE SLEEVE LENGTH REQUIREMENTS

Pile Sleave Lengths Everett Riverfront Development Phase 2

Building C

North of SW Corner (feet)	0-20	20-40	40-60	60-80	80-100	100-120	120-140	140-160	16-180
320-340	x	x	x	x	34	35	36	37	38
280-320	x	x	x	x	35	36	37	37	37
240-280	x	x	x	x	36	37	37	37	37
200-240	x	x	x	x	37	37	37	37	36
160-200	x	x	x	x	37	37	37	36	36
120-160	x	x	x	x	37	37	36	36	35
80-120	x	x	x	x	36	36	36	35	35
40-80	32	32	33	34	35	35	35	35	35
0-40	32	32	33	33	34	34	34	35	35

East of SW Corner (feet)

Building D

North of SW Corner (feet)	0-20	20-40	40-60	60-80
380-390	30	32	35	37
340-380	30	33	36	38
320-340	31	34	37	40
280-320	31	34	38	41
240-280	32	35	39	42
200-240	33	37	40	43
160-200	34	37	40	42
120-160	35	38	39	41
80-120	36	37	38	40
40-80	37	37	38	39
0-40	38	38	38	38

East of SW Corner (feet)

Note: These values are preliminary and should be revised by HWA once pile designs showing gridlines where actual piles are to be placed are completed.