

AECOM Environment

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Memorandum

Date: May 15, 2009
 To: Brian Sato, P.E.,
 Washington State Department of Ecology
 From: Mark Havighorst, P.E.
 Subject: Addendum #1 to the 2009 Engineering Design Report Former BNSF Maintenance and
 Fueling Facility – Skykomish, Washington – Revised Scope of Work and Schedule

Distribution:	Bruce Sheppard (BNSF)	Craig Trueblood (K&L Gates)	Angie Thompson (EnviroIssues)	Mike Byers
	<u>Greg Chase</u>	<u>Halah Voges</u>	<u>Sarah Albano</u>	<u>David Gorman</u>
	John Guenther	Attila Laszlo (AECOM Transportation)	Dan Davis (AECOM Transportation)	File 01140-370

2009 Engineering Design Report Addendum 1

The 2009 Engineering Design Report (EDR) described remediation activities for 1) a section of the Skykomish Site Northwest Developed Zone (NWDZ) located east of 5th Street and north of Railroad Avenue; and 2) parts of the South Developed Zone (SDZ), Former Maloney Creek Zone (FMCZ), and Railyard Zone (RYZ) associated with the Former Maloney Creek (FMC) East Wetland cleanup. Consistent with the design-build approach described in EDR Section 1, BNSF will be expanding the scope of work and revising the construction schedule in an effort to expedite the cleanup and reduce disruption to the Town and its residents.

The revised scope of work will focus on an expanded NWDZ excavation prism that includes the approximate area north of and including part of Railroad Avenue and south of the levee cleanup and South Fork Skykomish River, between 4th and 6th Streets, and excluding the area excavated in 2008. Excavation in this area will be completed in 2009 and 2010. The FMC East Wetland and SDZ remediation will not be completed in 2009, as originally described in the 2009 EDR, but instead will occur concurrently with the FMC West Wetland remediation in 2010. These scope and schedule changes are depicted in revised CAP Figure 13 (attached).

This addendum has been prepared to describe these changes. For simplicity, the addendum is structured to follow the format of the 2009 EDR and describes changes resulting from the scope and schedule modifications on a section-by-section basis. Sections that are not affected are not addressed in this addendum. The addendum also does not describe the following remediation activities: 1) excavation/remediation beneath the School building and on the School grounds; 2) possible investigation and remediation west of the School grounds; and 3) in-water excavation at the bridge abutment. These activities will be described in future addenda to the 2009 EDR.

The 100 and 200 series drawings from the Draft Construction Plans and Specifications (CPS) submitted to Ecology on February 17, 2009 are attached. These drawings were developed, in part, based on those originally submitted with the 2009 EDR and depict the revised remediation project boundary, excavation extents, temporary sediment and erosion controls, possible work sequencing, traffic control, etc. They are referenced in this addendum, as necessary to describe scope revisions. Attached drawings G-100 through G-104 include geologic cross-sections. These cross-sections have been developed using CPS drawings C-203 and C-204, the results of laboratory analyses summarized in reports and boring logs which were submitted in the *Remedial Design Investigation Report* (ENSR, 2008) and/or 2009 EDR Appendix A. These cross-sections are not part of the Draft CPS submittal, but have been included with this addendum as a basis of design for the revised excavation extents.

EDR Scope and Schedule Modifications

1.2.2 NWDZ Remediation

- **Building/Operations Relocation and Demolition:** Additional buildings, including those located on King County Parcels 7807800675 (Community Center), 7807800770 (Wheatley House), 7807800670 (Town Maintenance Building), and 7807800645 (General Store, aka Stove Shop) will be temporarily relocated to facilitate excavation of impacted soil. The building located on King County Parcel 7807800465 (Skykomish Hotel) could be underpinned or otherwise supported, or temporarily relocated to facilitate excavation of impacted soil. If underpinning or relocating the Hotel building is not possible, containment structures will be constructed as necessary to prevent recontamination of excavated properties, as previously described in 2009 EDR Section 1.2.2. At the owners' request and pursuant to the terms of their access agreement, the Skykomish Hotel Annex (the 1-storey structure abutting the hotel) will be demolished to facilitate excavation of impacted soil. The building located on King County Parcel 7807800780 (Bishop House) may be demolished or sold to a third party and permanently relocated outside of the remediation area. The building on parcel 7807800660 (Opera House) could be temporarily relocated or demolished. All building/operations relocation and demolition will be contingent upon obtaining access from the owners.
- **Metals Excavation:** Shallow soils on the Town Hall and Weideman properties, and if necessary, the McGrath property will be sampled more extensively to determine the need for and extents of excavation to remove soil with concentrations of lead exceeding 250 mg/kg and/or arsenic exceeding 20 mg/kg. Soil sampling and possible excavation will not require temporary relocation of buildings located on these properties.
- **Containment Structures:** Containment structure design for buildings within the entire NWDZ excavation area to which BNSF is denied access by property owners will be described in 2009 EDR addenda, and not in the 2010 EDR, as previously stated in the 2009 EDR.
- **Temporary Containment Structures:** It is likely that each year, excavation will be suspended at some time during fall or winter months. Temporary barriers could be installed as necessary at the seasonal excavation limits where the work is adjacent to future excavation required under the CD. The barriers would delineate the limits of the excavation and prevent clean backfill from contacting LNAPL and impacted soils that will be remediated in the future.
- **Municipal Wastewater Treatment System Construction:** Infrastructure to connect to the community wastewater collection system will be constructed at the following *additional properties* known as King County Tax Lots 7807800675 (Community Center), 7807800770 (Wheatley House), 7807800670 (Town Maintenance Building), 7807800465 (Skykomish Hotel), if as anticipated, access is granted to these properties. Infrastructure will also be

constructed at lot 7807800645 (General Store) and 7807800780 (Bishop House), which are owned by BNSF. These properties are included in the NWDZ excavation extents.

1.2.3 FMC East Wetlands Remediation

- The FMC East Wetland and SDZ remediation, as described in the FMC East Wetland SDR and 2009 EDR, will be conducted in 2010, concurrently with the FMC West Wetland remediation.

3.2.2.1 Excavation Extents

The expanded NWDZ excavation limits will include all of the properties and ROWs described in the 2009 EDR, as well as the 6th Street and Railroad Avenue ROWs, and the following *additional* private properties (King County Parcel numbers are in parentheses).

- Community Center (7807800675)
- Wheatley House (7807800770)
- Town Maintenance Building (7807800670)
- General Store (7807800645)
- Bishop House (7807800780)
- Skykomish Hotel (7807800465)
- Opera House (7807800660).

ROWs. The 6th Street excavation will be completed in order to remove soil exceeding the petroleum RL from the ROWs and to facilitate the removal of soil exceeding the petroleum RL from adjacent private properties. Soil at the north side of the Railroad Avenue ROW that exceeds the petroleum RL and could not be accessed in 2008 will also be excavated. Traffic flow in 6th Street and Railroad Avenue will be restricted at times to allow for removal of impacted soil. Revised traffic routing and pedestrian access are discussed in more detail in Section 5.

Private Properties. The expanded 2009-2010 NWDZ excavation prism will include the following additional properties (not described, or described in part in the 2009 EDR): Community Center, Wheatley House, Bishop House, Town Maintenance Building, General Store, Opera House, and Skykomish Hotel. The lateral excavation extents are based on property boundaries determined by the 2007 survey, the NWDZ petroleum RL of 3,400 mg/kg NWTPH-Dx, and slopes required to reach the anticipated vertical excavation extents. The anticipated vertical extent of this excavation is based on the depth to which soil analytical results indicate that TPH concentrations exceed the NWDZ petroleum RL. The anticipated maximum depth of the excavation to remove impacted soil is 21 feet bgs. The lateral extents are shown on drawings C-200 and C-201. The vertical extents are shown on drawings C-203, C-204, and G-100 through G-104. The excavation extents could change based on the results of ongoing field investigations and the results of performance monitoring.

Excavation of parts or all of the Community Center, Wheatley House, Bishop House, Town Maintenance Building, General Store, Opera House, and Skykomish Hotel properties, as well as and School-owned property north of the tennis court will be completed to remove soil exceeding the petroleum RL. Excavation on the Mitchell House and Moore House properties will be necessary to complete removal of impacted soils which were not able to be removed during the 2006 levee remediation. Alternative excavation extents will be evaluated if access agreements cannot be obtained to any of the affected properties or if access agreements can be obtained for additional affected properties. At this time, BNSF anticipates that no additional access agreements will be obtained beyond those mentioned above.

The Community Center, Wheatley House, Town Maintenance Building, and General Store will be temporarily relocated to facilitate the excavation. The Skykomish Hotel could be underpinned or temporarily relocated to facilitate excavation. The Bishop House will be demolished or sold to a third party and permanently relocated outside of the remediation area. The Opera House could be temporarily relocated or demolished.

Metals Hot Spot. Additional potential metals hot spots are located at the northeast corner on of the Town Hall property, and on the Weideman property adjacent to the 2008 metals excavation on the Javier property. Additional sampling of shallow soils on the Town Hall and Weideman properties will be performed in early 2009 to define the need for and extent of excavation of metals hot spots. If necessary, sampling of shallow soils could also occur on the McGrath property.

4.2.1 Access Agreements

BNSF is contacting property owners to negotiate or has secured access agreements for the following *additional properties* where excavation is required to meet the petroleum RL.

For the NWDZ Remediation:

- Community Center (7807800675). Access to the Community Center property will be necessary to temporarily relocate the building and to complete excavation, and restoration activities. The tennis court is located on this parcel.
- Property north of the tennis court (780700695). Access to this property will be necessary to complete excavation and restoration activities.
- Wheatley House (7807800770). Access to the Wheatley House property will be necessary to temporarily relocate the buildings, and to complete excavation and restoration activities.
- Town Maintenance Building (7807800670). Access to the Town Maintenance Building property will be necessary to temporarily relocate the building and to complete excavation, and restoration activities.
- Skykomish Hotel (7807800465). Access to the Skykomish Hotel property will be necessary to complete the excavation, possibly to underpin or temporarily relocate the main Hotel structure, and to complete excavation and restoration activities. At the owners' request and pursuant to the terms of their access agreement, the Annex will be demolished to facilitate excavation.
- Opera House (7807800660). Access to the Opera House property will be necessary to complete excavation and restoration activities. The property owner has not responded to BNSF's most recent enquiry. The Opera House building could be demolished or temporarily relocated.
- Access to the 6th Street ROW and Railroad Avenue within the 2009-2010 NWDZ Remediation Boundary, as defined by the fence line on drawing C-101, will be necessary for partial excavation will be necessary to complete excavation and restoration activities. This access agreement has been obtained.
- Town Hall property (780780-0140). Access to the Town Hall property will be necessary to complete the metals investigation and potential metals excavation.
- Weideman property (7807800290). Access to the Weideman property would be necessary to complete the metals investigation and potential metals excavation if impacts extend onto that property.

- McGrath property (7807800305). Access to the McGrath property would be necessary to complete the metals investigation and potential metals excavation if impacts extend onto that property.
- Mitchell property (7807800750). Access to this property will be necessary to complete excavation and restoration activities.
- Moore property (7807800706). Access to this property will be necessary to complete excavation and restoration activities.
- The Bishop House and General Store properties are owned by BNSF. No access agreements are therefore required to complete excavation and restoration activities at these properties.

4.2.4 Building Relocation

The following *additional* buildings will be temporarily relocated in 2009 or 2010, contingent on obtaining property access agreements.

4.2.4.1 NWDZ buildings

- Community Center (7807800675)
- Wheatley House (7807800770)
- Town Maintenance Building (7807800670)
- General Store (7807800645)
- Skykomish Hotel (7807800465)

The General Store and Skykomish Hotel (not including the Annex) buildings are on the National Register of Historic Places and will be moved and restored (as appropriate) in accordance with the procedures described in Master EDR Section 4.1.7.1. Historical and structural surveys will be completed for each building. Building relocation guidelines will be prepared by the Contractor. These guidelines will be incorporated into relocation scopes of work, plans, and specifications and will be followed during relocation. Structures will be monitored in accordance with the developed guidelines during the move to the temporary storage location. Relocation of these structures in is contingent on obtaining access agreements.

4.2.5 Resident Relocation

A summary of the additional scope of work, including a status summary for access agreements is provided in Table 4-2.

Table 4-2 Additional Access Agreement and Scope of Work Summary

Parcel Number	Property Owner or Designation	2009-2010 Scope of Work	Access Status
NDWZ Remediation Properties			
7807800675	Community Center (includes Tennis Court)	Building relocation Operations relocation Excavation	Negotiations in progress for the tennis court in 2009. Negotiations pending for community center in 2010
7807800695	Property north of the Tennis Court (Memorial Park)	Excavation	Negotiations in progress

Parcel Number	Property Owner or Designation	2009-2010 Scope of Work	Access Status
7807800770	Wheatley House	Two building relocations Occupant relocation Excavation	Negotiations in progress
7807800670	Town Maintenance Building	Building relocation Operations relocation Excavation	Negotiations in progress
7807800645	General Store (aka Stove Shop)	Building relocation Excavation	BNSF-owned
7807800780	Bishop House (aka BNSF-owned House)	Building demolition or sale to a third party and permanent relocation outside of remediation area Excavation	BNSF-owned
7807800465	Skykomish Hotel	Annex demolition Building underpinning or relocation Excavation	Negotiations in progress
7807800660	Opera House (aka Theatre)	Two building relocations Excavation	The owner is non-responsive to both BNSF and Ecology inquiries; Town is considering condemning the building in 2009.
7807800290	Weideman Property	Shallow soil metals investigation	Access obtained
7807800305	McGrath	Shallow soil metals investigation	Access obtained
7807800610	Town Hall Property	Shallow soil metals investigation	Access obtained
7807800750	Mitchell House	Excavation	Negotiations in progress; mediation scheduled May 21.
7807800706	Moore House	Excavation	Access confirmed verbally

4.2.6.4 Temporary Electric and Communications Utilities

Additional temporary bypasses for overhead electric and telecommunications will be constructed as necessary for the 2009-2010 remediation area.

4.2.7.2 Demolition

Additional structures, including those on the Bishop House, and potentially, the Opera House will be demolished and recycled or disposed of at an appropriate construction demolition waste (CDW) landfill.

4.2.7.3 Extents

Excavation will include removing soil as necessary to reach the estimated areal and vertical extents of impacted soil shown on drawings C-200, C-201, C-203, and C-204. Based on these extents, it is estimated that 95,000 cubic yards of soil will be removed from the site in 2009-2010. The excavation

extents as well as the clean overburden and impacted soil volumes will be refined based on the results of ongoing field investigations and the results of performance monitoring.

5 Construction Sequencing and Phasing

Construction sequencing and phasing will generally be determined by the general Contractor subject to approval by the P.E. of record (Engineer). Certain restrictions on the work are anticipated including the following.

- Resident access must generally be maintained at all times to all occupied houses. Access to houses could be limited or restricted for short periods of time only when roads and/or sidewalks are temporarily blocked in order to complete construction activities. Vehicle access may be restricted to single traffic lanes, or closed in some short-term periods of time (less than one week), and pedestrian access may be guided through active construction zones for safety reasons.
- Emergency access must be maintained at all times to occupied houses.
- Access for firefighting equipment must be maintained to all remaining structures and to houses that are temporarily stored in staging areas.
- Adequate access for school busses must be maintained while school is in session.

Some sequencing elements are time critical or affect pedestrian and vehicle access throughout the Town. These items are described below.

5.1 NWDZ

5.1.1 Building Relocation or Demolition

The sequence of building relocation and demolition will be determined by the Contractor. It is anticipated that relocation and demolition will be sequenced to facilitate excavation and in coordination with traffic control and necessary road closures.

5.1.2 Excavation

The following four-phase approach was developed based on the stated restrictions. It is not intended to be all inclusive, but instead is intended to present the basic components of construction for each phase. This approach may or may not be utilized by the Contractor as they develop their approach to the work. However, any suggested work approach will need to follow the restrictions previously stated to be considered a viable approach to the work.

Phase 1 (see Draft CPS sheet C-103)

- Close 4th Street.
- Complete preparation work, construct shoring, and complete the 4th Street excavation.
- Backfill the Phase 1 excavation area and restore the 4th Street driving surface.
- Open up 4th Street to traffic.

Phase 2 (see Draft CPS sheet C-104)

- Close the 5th Street service road located on the east side of the bridge approach.
- Establish the Phase 2 boundary and complete all preparation work within the Phase 2 excavation area.

- Prepare the Sarno house and garage, and Martin property buildings for moving or demolition, as appropriate. This includes relocation of residents and building contents, installation of support beams, disconnection of all utilities, and securing structures so that they are ready to move.
- Prepare the Post Office for relocation of operations.
- Move the Sarno house and garage, and Martin property buildings to a temporary storage location and demolish the SRI, SRI Office, and Post Office.
- Complete the Phase 2 area excavation.

Phase 3 (see Draft CPS sheet C-105)

- Build a temporary public road from connecting the 5th Street bridge to East River Drive.
- Close 5th Street and establish temporary traffic routing on Railroad Avenue.
- Establish the Phase 3 boundary and complete all preparation work within the Phase 3 excavation area.
- Demolish the Skykomish Hotel Annex and Bishop House.
- Relocate the Wheatley House, General Store and Maintenance Shop; relocate or underpin the Hotel (as appropriate), and complete the Phase 3 excavation.
- Backfill the Phases 2 and 3 excavation areas and restore driving surfaces.
- Open 5th Street to traffic and restore the normal traffic routing on Railroad Avenue.

Phase 4 (see Draft CPS sheet C-106)

- Remove the East River Drive temporary road and open East River Street to traffic.
- Establish the Phase 4 boundary and complete all preparation work within the Phase 4 excavation area.
- Relocate the Community Center, Opera House (or demolish), and Town Maintenance Building.
- Establish temporary traffic routing on Railroad Avenue and 6th Street.
- Complete the Phase 4 excavation.
- Backfill the Phase 4 excavation area and restore driving surfaces.
- Restore the normal traffic routing on Railroad Avenue.

5.1.3 Traffic Routing and Pedestrian Access

Construction will impact 4th Street, 5th Street, 6th Street, East River Drive, and Railroad Avenue. Some disruption to daily traffic patterns will therefore be unavoidable and some level of disruption and inconvenience for local residents is inevitable.

Vehicle access will be maintained at all times for all occupied residential structures through Town. Postings of road closures will be provided early in the process so planning can occur, and individual notifications will be made prior to full lane closures. Resident's needs will be accommodated as much as possible. Signage related to the project will be that typical of a road construction project with traffic routing and authorized personnel access.

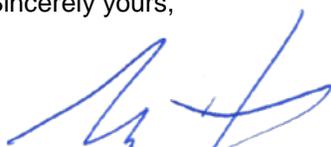
Proposed traffic routing and pedestrian access during remediation activities is shown on drawings C-103 through -106. These drawings will be submitted for review by all affected agencies and persons,

Brian Sato, Washington State Department of Ecology
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including the fire department, the police department (county and state), residents, and the school. These drawings will be submitted to the Contractor during the bidding process, with the understanding that they will need to evaluate the drawings based on the restrictions presented in this EDR, and either accept the proposed traffic routing and pedestrian access as a viable method, or develop an alternative method that meets all requirements for approval by the Engineer. If the Contractor requests revisions to traffic routing to accommodate their construction schedule and approach, the revisions will be reviewed by the Engineer and transmitted to the Town, Ecology, and local fire and emergency personnel.

Please contact me if you have any additional comments.

Sincerely yours,



Mark Havighorst, P.E.

Attachments:

- 1) Revised CAP Figure 13
- 2) NWDZ Remediation Former Maintenance and Fueling Facility Skykomish Washington - 90 Percent Construction Plans, Series 100 and 200
- 3) Geotechnical Cross-Sections, Drawings G-100 through G-104

Professional Certification

May 15, 2009

This 2009 Engineering Design Report (EDR) Addendum was prepared for the Site by ENSR on behalf of the BNSF Railway Company (BNSF) pursuant to a Consent Decree (CD, *State of WA v. BNSF Railway Company*, King County Case No. 07-2-33672-9SEA) between BNSF and Washington State Department of Ecology. The EDR is required under the Model Toxics Control Act (MTCA; Revised Code of Washington 70.105D; Washington Administration Code 173-340) and as such was prepared under the supervision of the Professional Engineer whose seal and signature appears hereon.



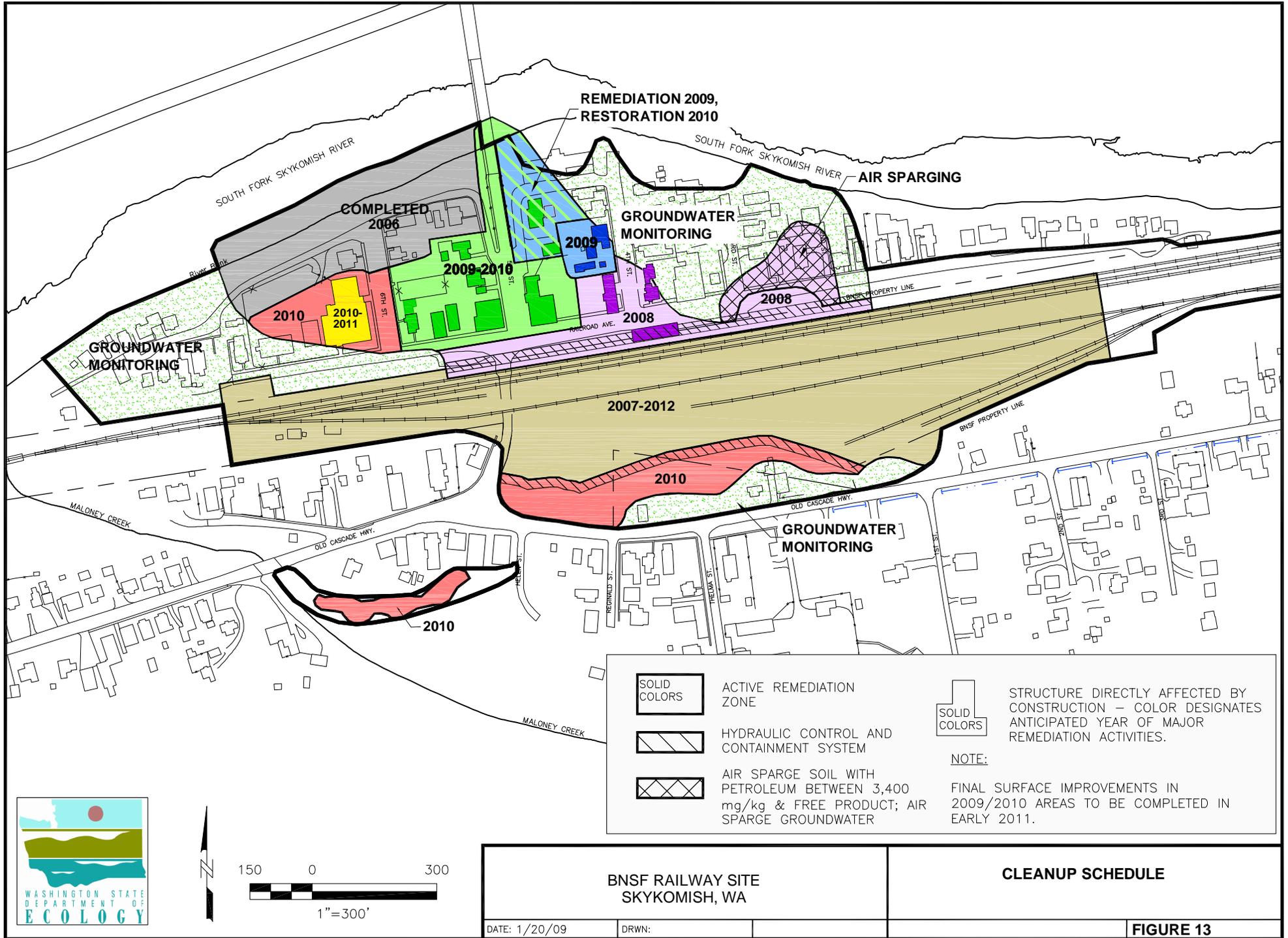
EXPIRES 5/15/09

A handwritten signature in black ink, appearing to be "M. B. Havighorst", written over a horizontal line.

Mark B. Havighorst, P.E.
Registered Professional Engineer
State of Washington #42644

Attachment 1

Revised CAP Figure 13

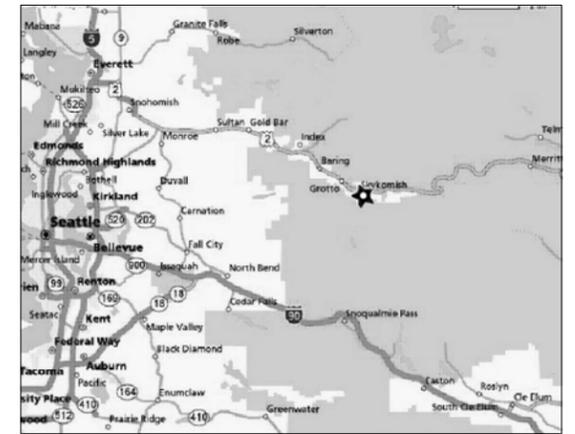


Attachment 2

NWDZ Remediation Former Maintenance and Fueling Facility Skykomish Washington – 90 Percent Construction Plans, Series 100 and 200

NWDZ REMEDIATION FORMER MAINTENANCE AND FUELING FACILITY SKYKOMISH, WASHINGTON

VICINITY MAP



KING COUNTY, WASHINGTON

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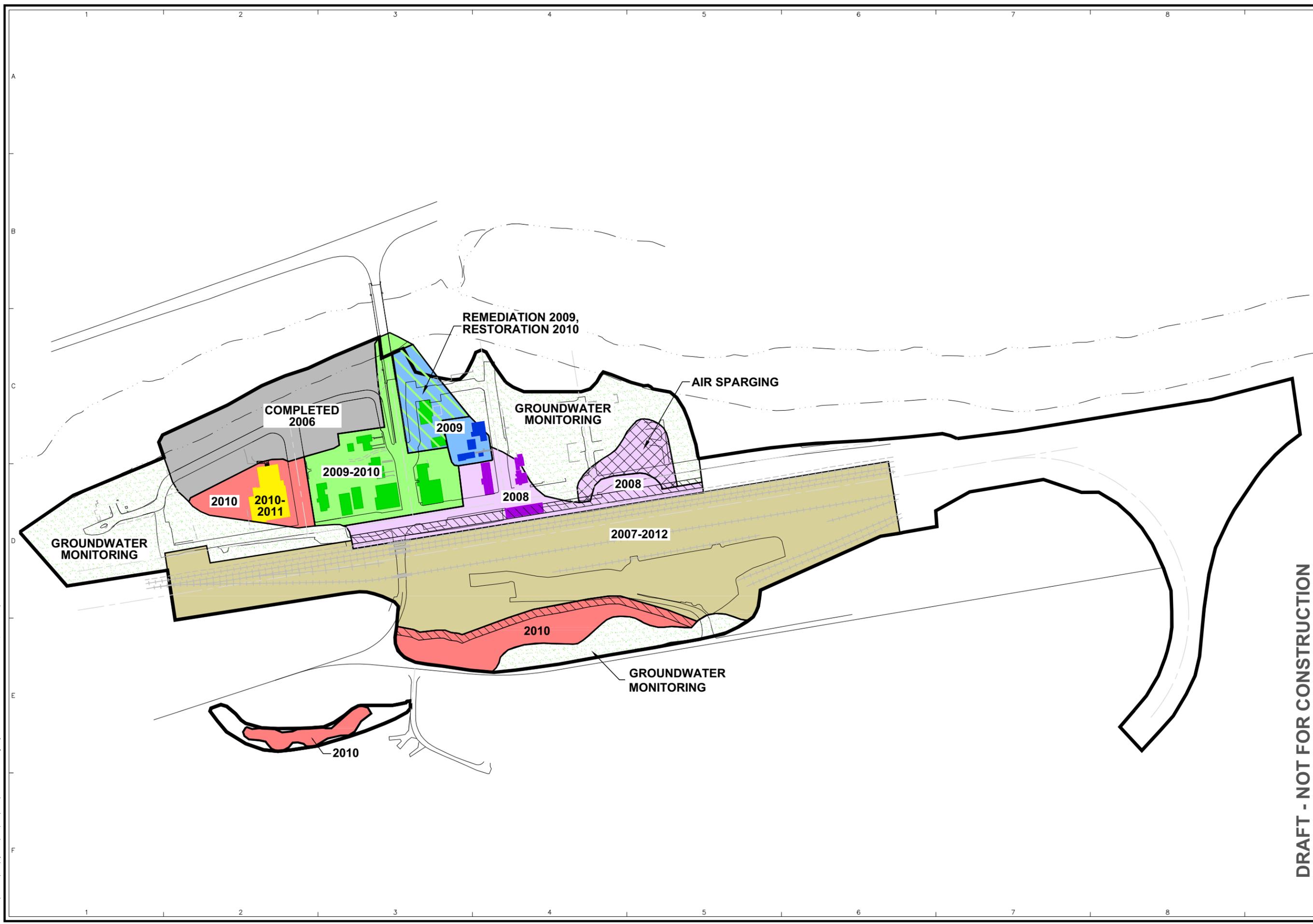
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SHEET	SHEET TITLE		SHEET	SHEET TITLE		SHEET	SHEET TITLE	
T-100	Cover Sheet	Rev. A 02/17/09	C-300:	Fifth Street Utilities Crossing: Plan View	Rev. A 02/17/09	C-417:	Water Utility Bypass Plan	Rev. A 02/17/09
T-101	Legend	Rev. A 02/17/09	C-301:	Fifth Street Utilities Crossing: Plan and Section	Rev. A 02/17/09	C-418:	Water Utility Bypass Plan	Rev. A 02/17/09
T-102	General Notes	Rev. A 02/17/09	C-302:	Fifth Street Utilities Crossing: Geotechnical Instrumentation	Rev. A 02/17/09	C-419:	Channelization Plan: Fourth Street	Rev. A 02/17/09
T-103	NWDZ Site Layout	Rev. A 02/17/09	C-303:	Fifth Street Utilities Crossing: TYP Detail Geotechnical Instrumentation and Casing	Rev. A 02/17/09	C-420:	Channelization Plan: East River Drive	Rev. A 02/17/09
C-100	NWDZ Existing Conditions	Rev. A 02/17/09	C-400:	Typical Roadway Sections: Fourth Street	Rev. A 02/17/09	C-421:	Channelization Plan: Fifth Street	Rev. A 02/17/09
C-101	NWDZ Site Preparation and Erosion Control	Rev. A 02/17/09	C-401:	Typical Roadway Sections: Fifth and E. River Streets	Rev. A 02/17/09	C-422:	Channelization Plan: Sixth Street	Rev. A 02/17/09
C-102	NWDZ Site Preparation and Erosion Control - Stockpile Area	Rev. A 02/17/09	C-402:	Roadway Details	Rev. A 02/17/09	C-500:	Sanitary Sewer Plan and Profile: Fourth Street North	Rev. A 02/17/09
C-103	NWDZ Phase I Limits and Traffic Plan	Rev. A 02/17/09	C-403:	Water Details	Rev. A 02/17/09	C-501:	Sanitary Sewer Plan and Profile: Fifth Street North	Rev. A 02/17/09
C-104	NWDZ Phase II Limits and Traffic Plan	Rev. A 02/17/09	C-404:	Water Details	Rev. A 02/17/09	C-502:	Sanitary Sewer Plan and Profile: East River Drive	Rev. A 02/17/09
C-105	NWDZ Phase III Limits and Traffic Plan	Rev. A 02/17/09	C-405:	Storm Drain Details	Rev. A 02/17/09	C-503:	Sanitary Sewer Plan and Profile: Fifth Street North and River Drive West	Rev. A 02/17/09
C-106	NWDZ Phase IV Limits and Traffic Plan	Rev. A 02/17/09	C-408:	Roadway and Storm Plan and Profile: Fourth Street	Rev. A 02/17/09	C-504:	Sanitary Sewer Plan and Profile: Sixth Street North	Rev. A 02/17/09
C-107	NWDZ Site Preparation and Erosion Control Details	Rev. A 02/17/09	C-409:	Roadway and Storm Plan and Profile: East River Drive	Rev. A 02/17/09	C-505:	Residential Septic Tanks	Rev. A 02/17/09
C-200	NWDZ Clean Overburden Excavation Plan	Rev. A 02/17/09	C-410:	Roadway and Storm Plan and Profile: Fifth Street	Rev. A 02/17/09	C-506:	Dual 1500 Gallon Septic Tanks in Series	Rev. A 02/17/09
C-201	NWDZ Excavation Plan	Rev. A 02/17/09	C-411:	Roadway and Storm Plan and Profile: Sixth Street	Rev. A 02/17/09	C-507:	Miscellaneous Sewer Details	Rev. A 02/17/09
C-202	NWDZ Final Grading Plan	Rev. A 02/17/09	C-412:	Roadway Plan and Typical Section: Old Cascade Highway	Rev. A 02/17/09			
C-203	Excavation Cross Sections (Sheet 1 of 2)	Rev. A 02/17/09	c-413:	Utility Plan: Fourth Street	Rev. A 02/17/09			
C-204	Excavation Cross Sections (Sheet 2 of 2)	Rev. A 02/17/09	C-414:	Utility Plan: East River Drive	Rev. A 02/17/09			
			C-415:	Utility Plan: Fifth Street	Rev. A 02/17/09			
			C-416:	Utility Plan: Sixth Street	Rev. A 02/17/09			
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T-103
SHEET NUMBER:
REVISION **A**

SITE LAYOUT
NWDZ REMEDIATION

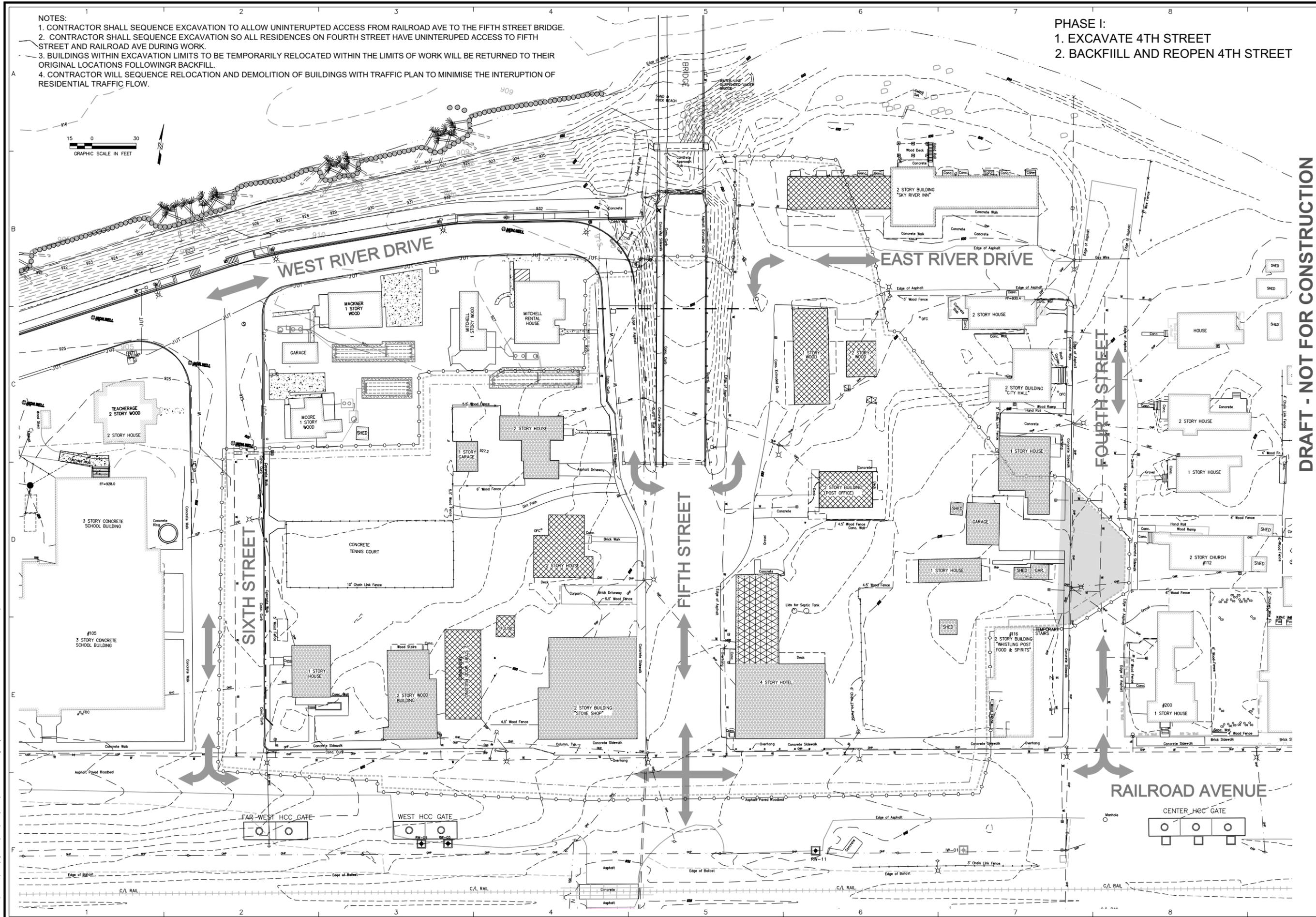
BURLINGTON NORTHERN
FORMER MAINTENANCE FACILITY
SKYKOMISH, WASHINGTON
PROJ. NO.: 01140-204-0380 DATE: 02/11/09

AECOM
AECOM Environment
Seattle, Washington
(206) 624-8349
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- NOTES:
1. CONTRACTOR SHALL SEQUENCE EXCAVATION TO ALLOW UNINTERRUPTED ACCESS FROM RAILROAD AVE TO THE FIFTH STREET BRIDGE.
 2. CONTRACTOR SHALL SEQUENCE EXCAVATION SO ALL RESIDENCES ON FOURTH STREET HAVE UNINTERRUPTED ACCESS TO FIFTH STREET AND RAILROAD AVE DURING WORK.
 3. BUILDINGS WITHIN EXCAVATION LIMITS TO BE TEMPORARILY RELOCATED WITHIN THE LIMITS OF WORK WILL BE RETURNED TO THEIR ORIGINAL LOCATIONS FOLLOWING BACKFILL.
 4. CONTRACTOR WILL SEQUENCE RELOCATION AND DEMOLITION OF BUILDINGS WITH TRAFFIC PLAN TO MINIMISE THE INTERRUPTION OF RESIDENTIAL TRAFFIC FLOW.

PHASE I:
 1. EXCAVATE 4TH STREET
 2. BACKFILL AND REOPEN 4TH STREET



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A	NO DRWNDATE	REVISION	DRAFT - 90% DESIGN	CHKD DATE	APPVDATE				

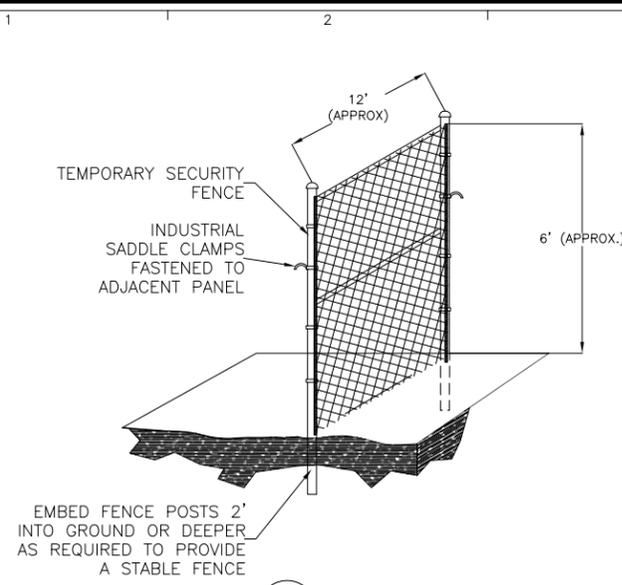
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 PROJ. NO.: 01140-204-0390 DATE: 02/11/09

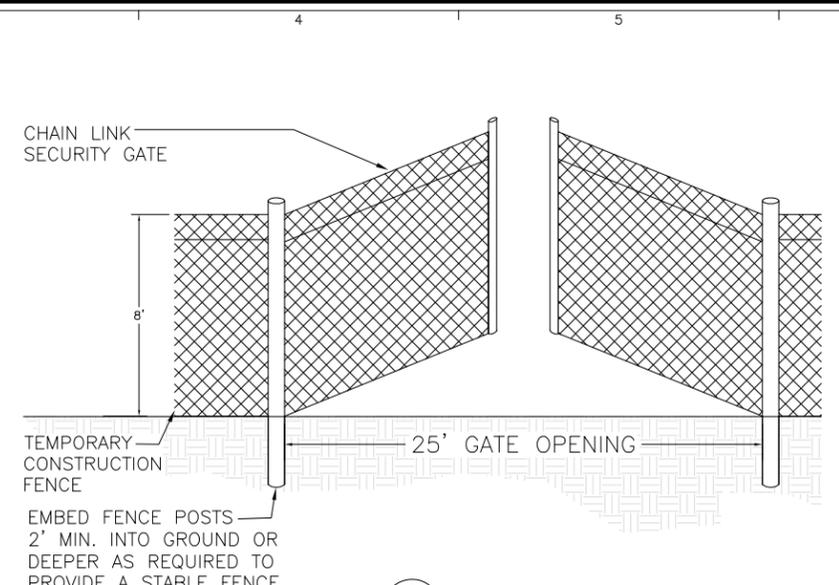
**PHASE I LIMIT
 AND TRAFFIC ROUTE**
 NWDZ REMEDIATION

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C-103
 SHEET NUMBER:
 REVISION **A**

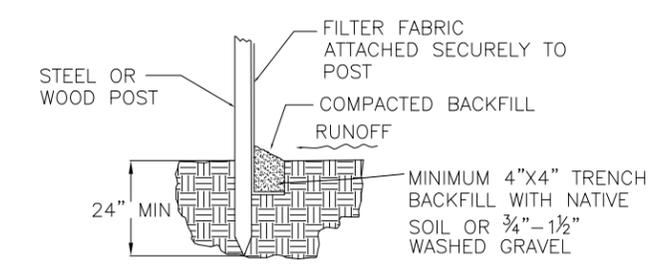
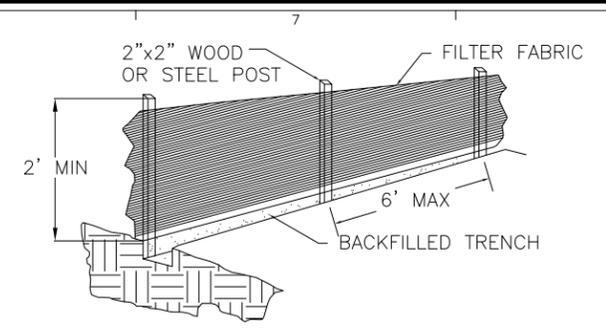
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1 TEMPORARY CONSTRUCTION FENCE
C-101 SCALE: NTS

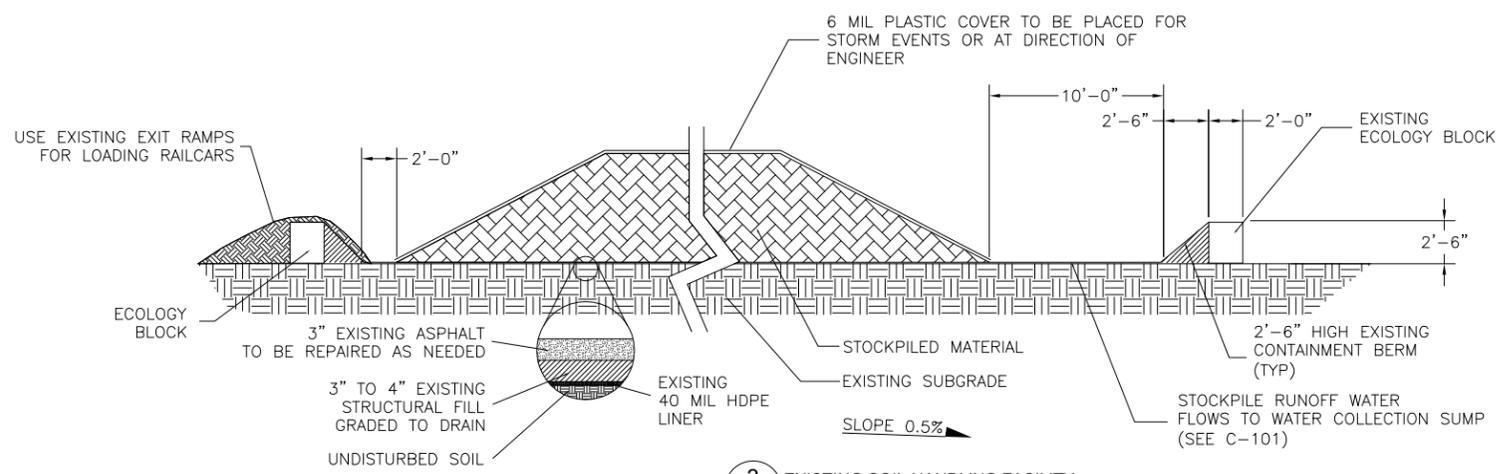


2 CHAIN LINK GATE
C-101 SCALE: NTS

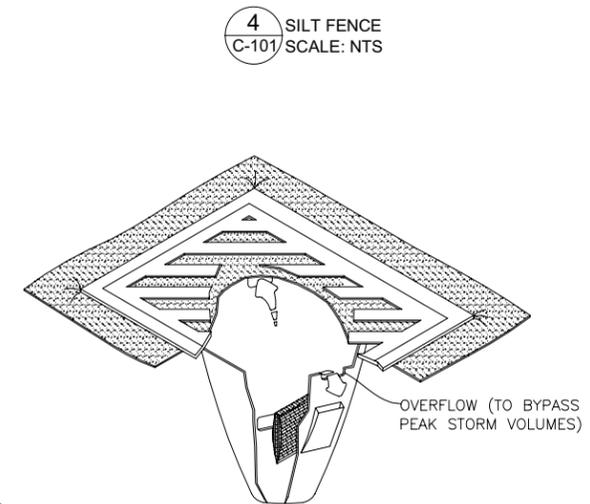


SILT FENCE NOTES:

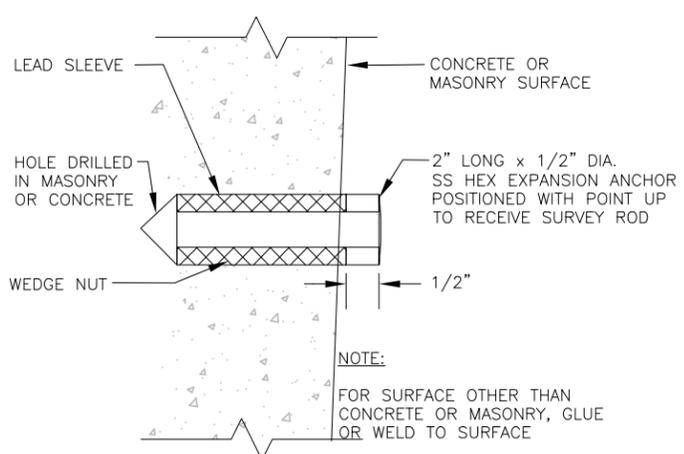
- BACK FILTER FABRIC WITH 2"x2"x14 GAUGE WIRE OR EQUIVALENT, IF STANDARD STRENGTH FABRIC IS USED. POST SPACING MAY BE INCREASED TO 8' IF WIRE BACKING IS USED.
- JOINTS IN FILTER FABRIC SHALL BE SPLICED AT POSTS. USE STAPLES, WIRE RINGS OR EQUIVALENT TO ATTACH FABRIC TO POSTS.
- THE MAXIMUM TRIBUTARY AREA IS LIMITED TO 0.25 ACRES PER 100 FEET OF FENCE.
- INSPECT AND REPAIR FENCE EVERY 7 DAYS AND AFTER EACH STORM EVENT. REMOVE SEDIMENT WHEN ONE HALF THE HEIGHT OF THE FENCE HAS BEEN FILLED. REMOVED SEDIMENT SHALL BE DEPOSITED IN STOCKPILE AREA FOR DISPOSAL.



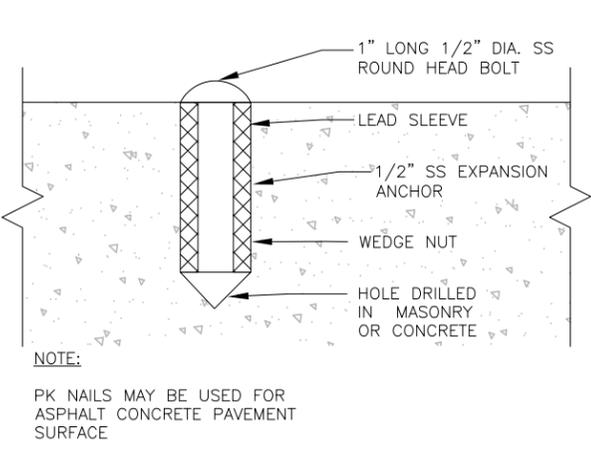
3 EXISTING SOIL HANDLING FACILITY
C-102 SCALE: NTS



4 SILT FENCE
C-101 SCALE: NTS



STRUCTURE SETTLEMENT POINT
IN MASONRY OR CONCRETE WALL
DETAIL



SURFACE SETTLEMENT POINT
IN HORIZONTAL SURFACE
DETAIL

5 SETTLEMENT POINT
C-101 SCALE: NTS

NOTES:

- STORM DRAIN INLETS NEED TO BE REMOVED AT THE END OF THE JOB.
- STORM DRAIN INLETS ARE ONLY TO BE INSTALLED IN DRAINAGE DEVICES PER THE MANUFACTURER'S RECOMMENDATIONS. CATCH BASIN INSERTS ARE NOT TO BE INSTALLED IN CURB INLETS.
- INSERTS SHALL BE INSPECTED AND MAINTAINED WHEN A 1/2 INCH RAIN ACCUMULATES WITHIN A 24 HOUR PERIOD. CLEAN AND/OR REPLACE INSERT WHEN HALF OF THE TRAP IS FILLED WITH SEDIMENTS.

6 CATCH BASIN INSERT
C-101 SCALE: NTS

DRAFT - NOT FOR CONSTRUCTION

NO	DATE	BY	CHKD	APPV
1	02/17/09	BcV	02/17/09	90% DESIGN
2				REVISION
3				NO DRW DATE
4				CHKD DATE
5				APPV DATE

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PROJ. NO.: 01140-240-0390 DATE: 02/11/09

**SITE PREPARATION AND
 EROSION CONTROL
 DETAILS**

NWIDZ REMEDIATION

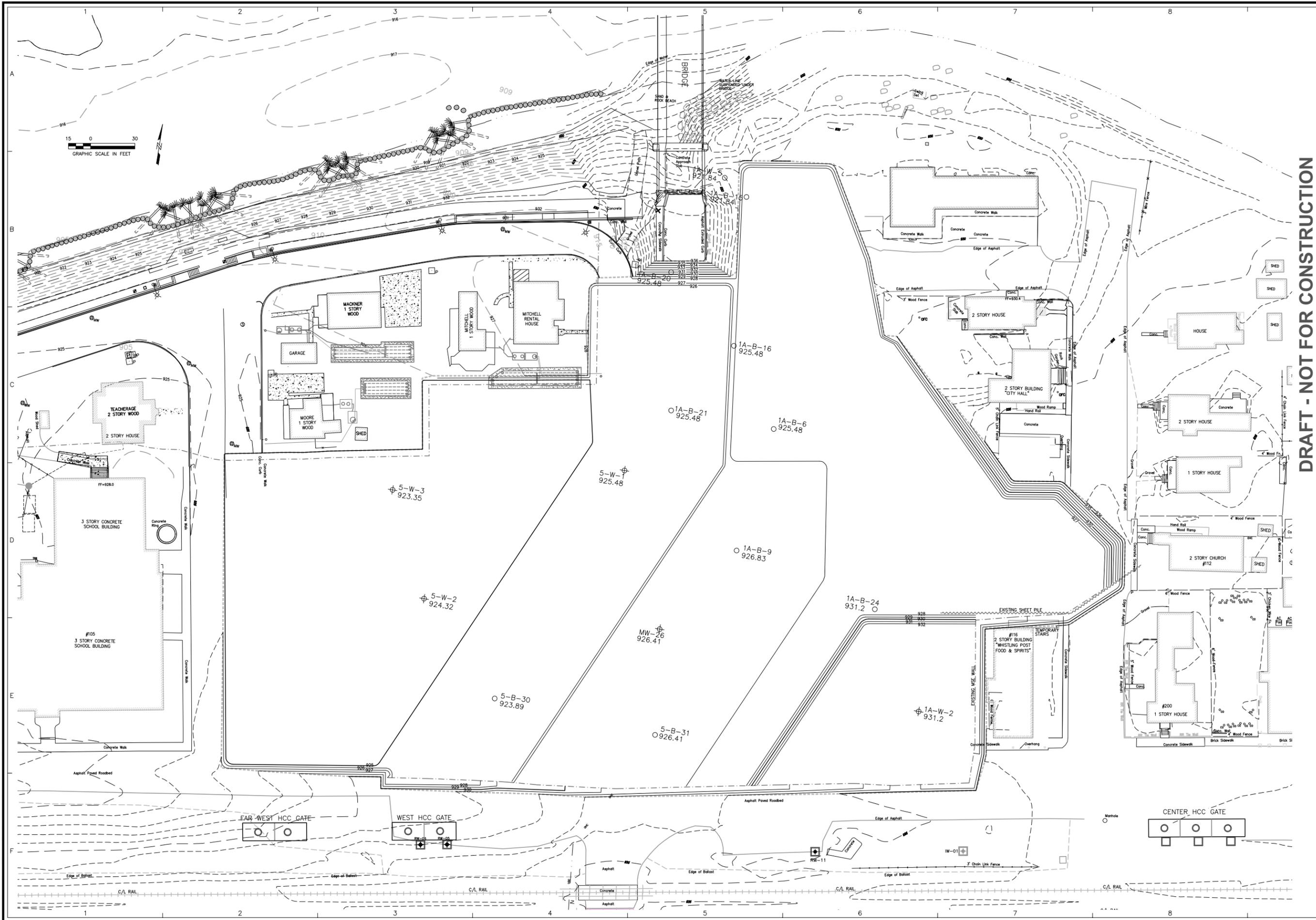
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SHEET NUMBER:
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REVISION

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**CLEAN OVERBURDEN
 EXCAVATION PLAN**

NWDZ REMEDIATION
 DRAWING NUMBER:
C-200
 SHEET NUMBER:
 REVISION **A**

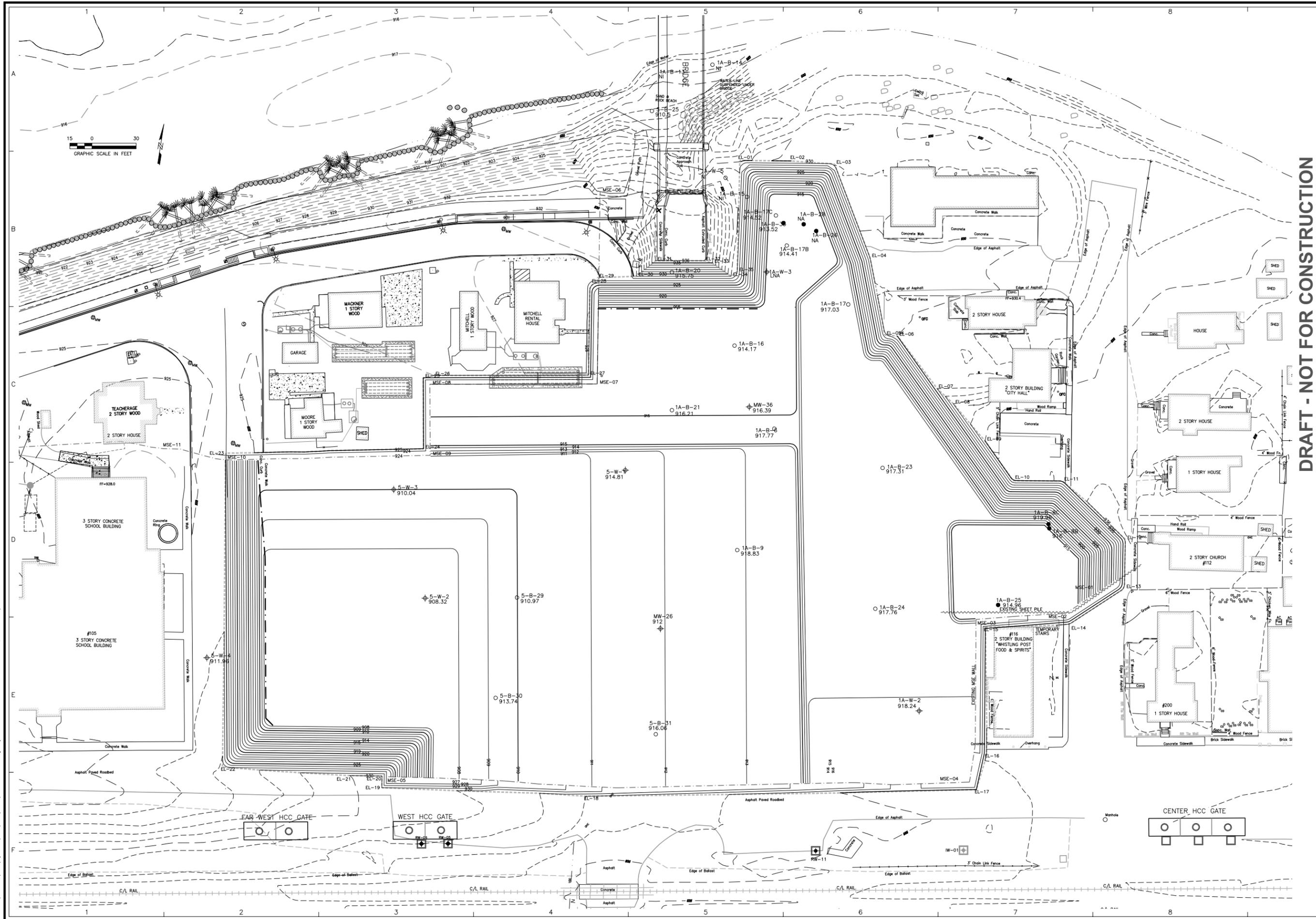
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 02/17/09
 BCV

CHKD DATE
 APPVDATE

PROJ. NO.: 01140-204-0390 DATE: 02/11/09

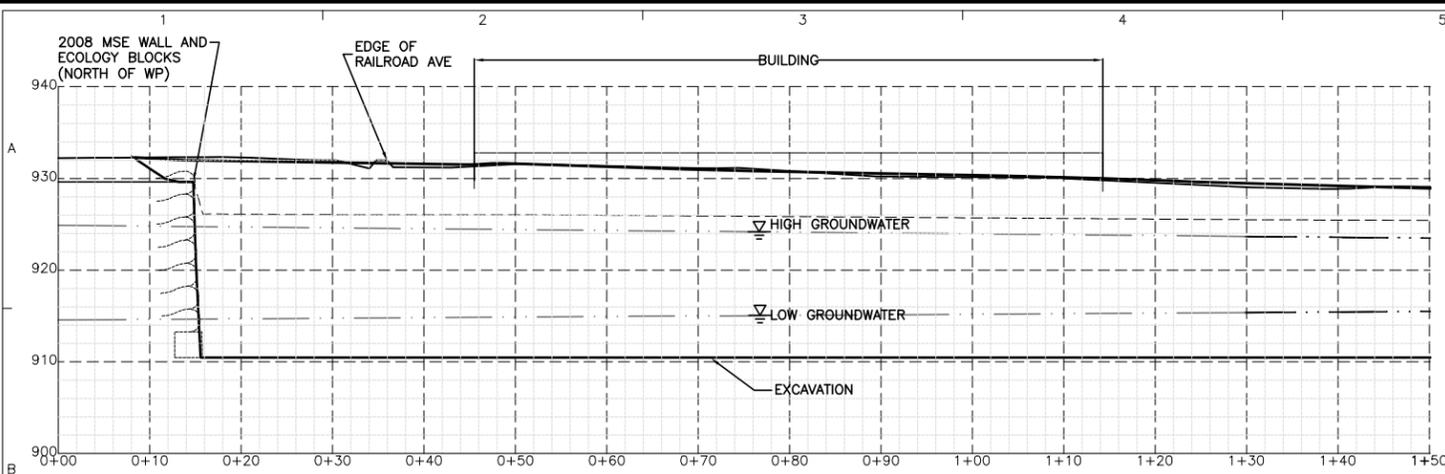
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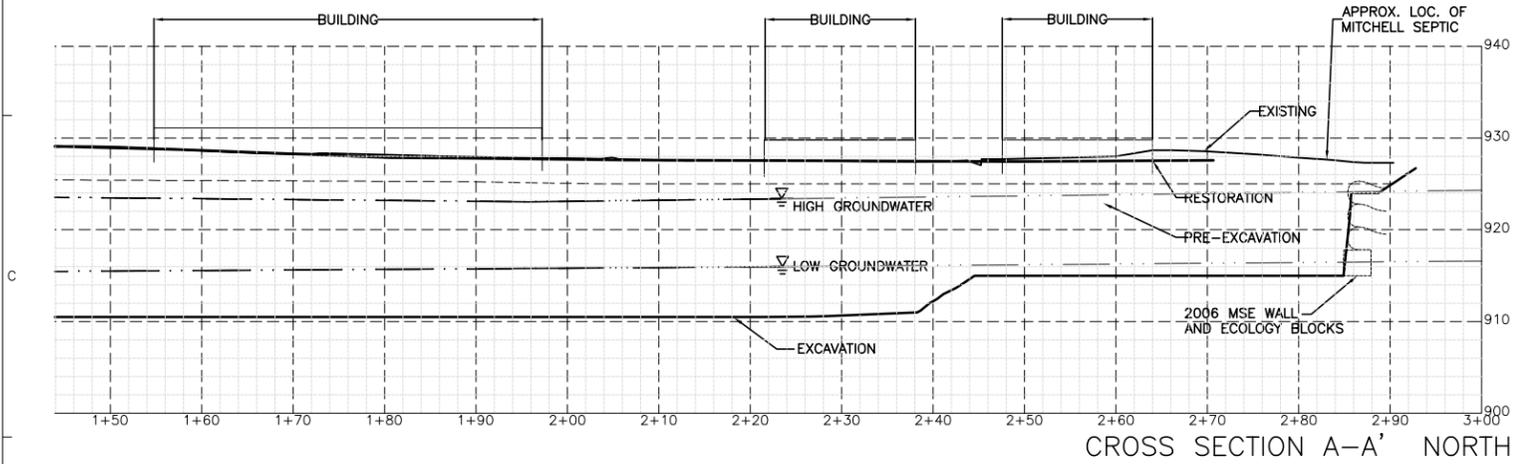


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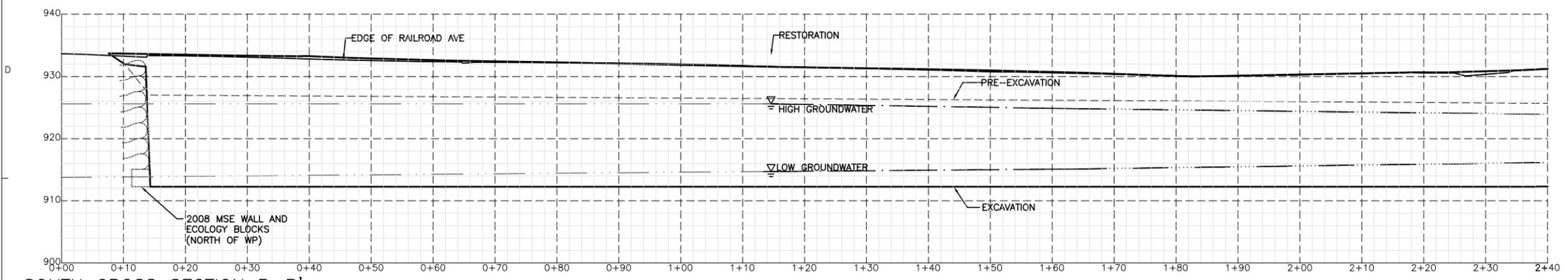
AECOM	BURLINGTON NORTHERN FORMER MAINTENANCE AND FUELING FACILITY SKYKOMISH, WASHINGTON		PROJ. NO.: 01140-204-0390 DATE: 02/11/09	
	EXCAVATION PLAN		NWDZ REMEDIATION	
DRAWING NUMBER: C-201		REVISION A		
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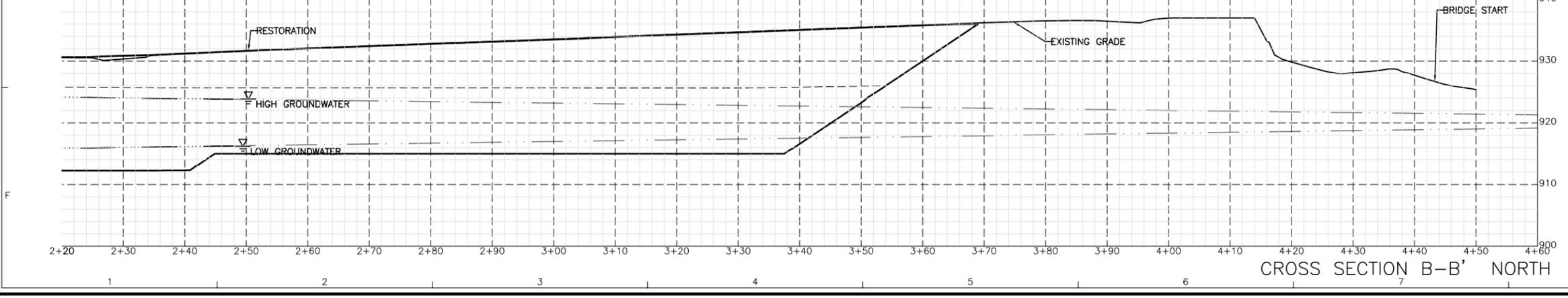
SOUTH CROSS SECTION A-A'



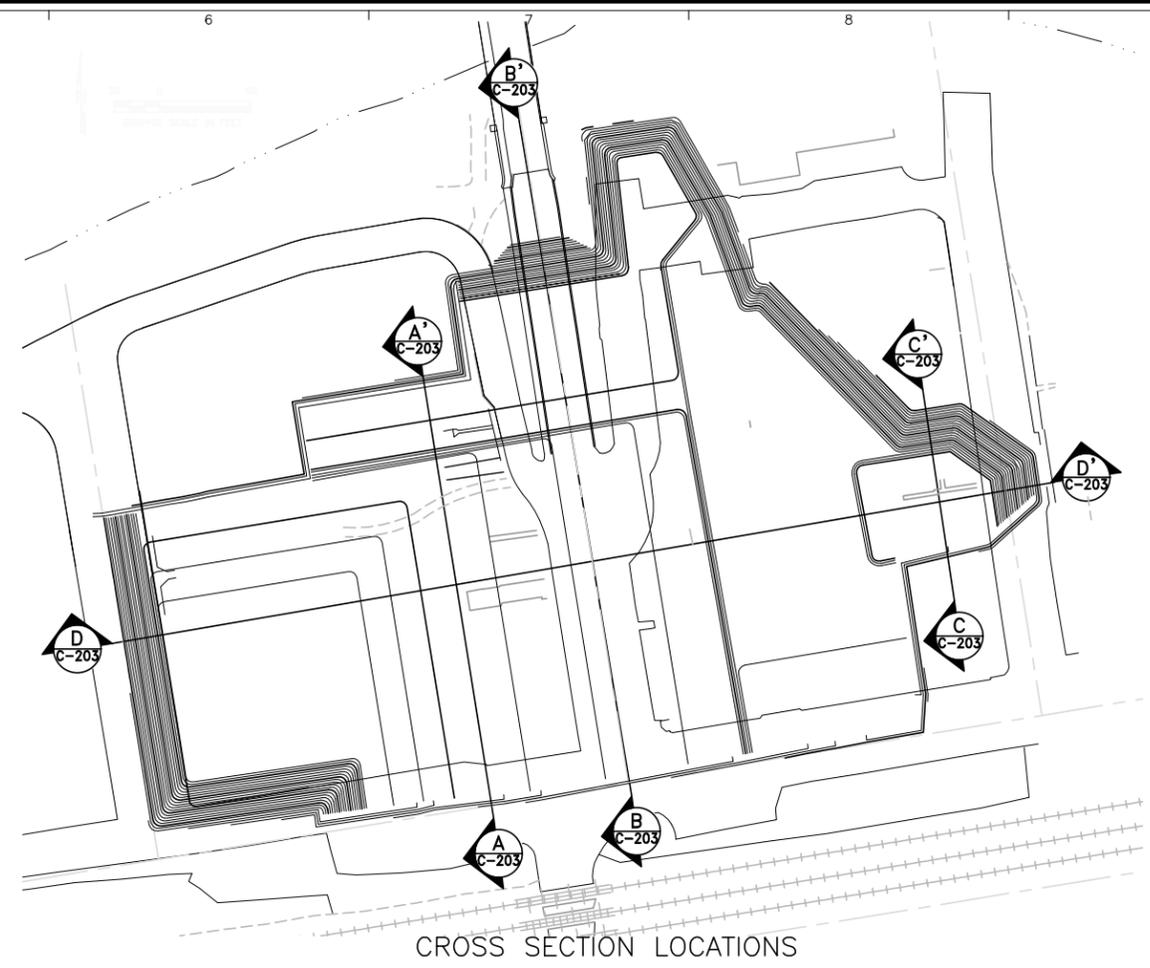
CROSS SECTION A-A' NORTH



SOUTH CROSS SECTION B-B'



CROSS SECTION B-B' NORTH

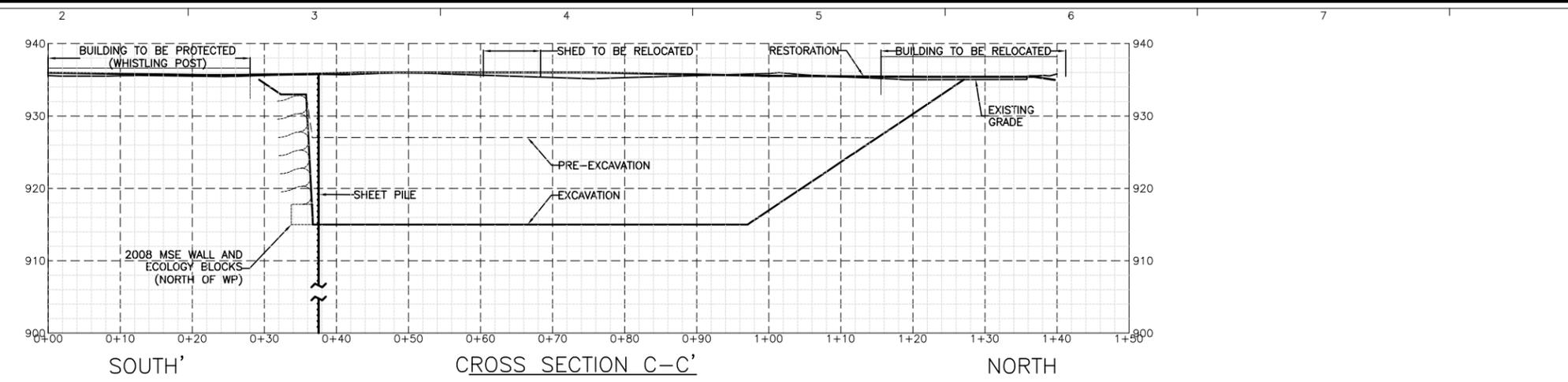


CROSS SECTION LOCATIONS

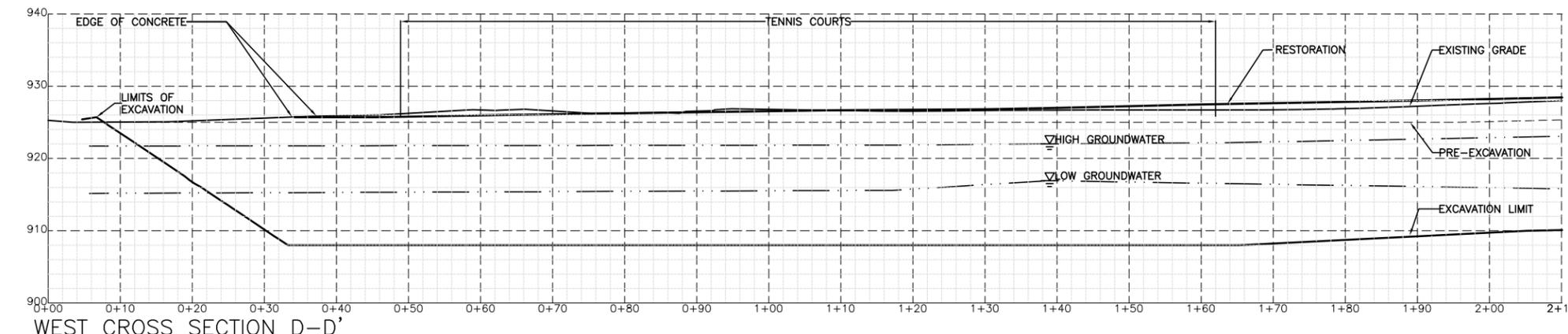
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6	CHKD DATE
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2	NO DRWDATE
1	REVISION
A	BCV 02/17/09 DRAFT - 90% DESIGN
	NO DRWDATE
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PROJ. NO.: 01140-204-0390 DATE: 02/11/09	
CROSS SECTIONS A-A' & B-B' 2009 PRE-EXCAVATION AND LOCATION PLAN	
NWDZ REMEDIATION	
DRAWING NUMBER: C-203	
SHEET NUMBER: 1 OF 2	
REVISION B	

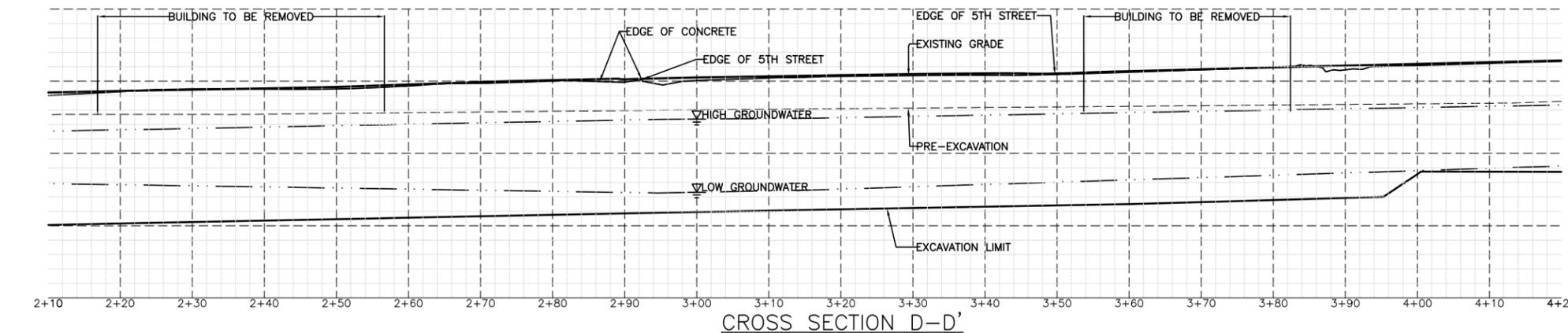
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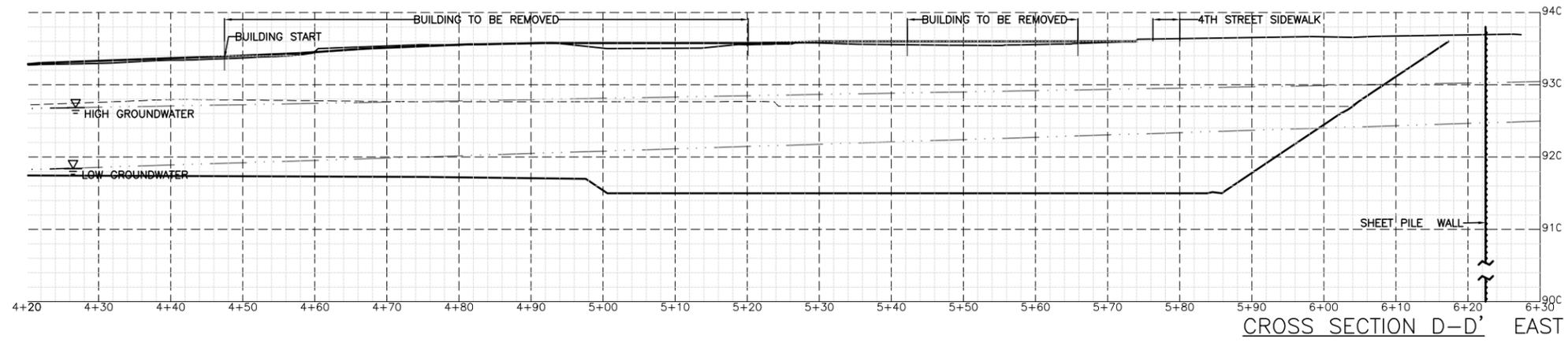
CROSS SECTION C-C'



WEST CROSS SECTION D-D'



CROSS SECTION D-D'



CROSS SECTION D-D'

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CROSS SECTIONS C-C' & D-D'
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NWDZ REMEDIATION

DRAWING NUMBER:
C-204

SHEET NUMBER:
 2 OF 2

REVISION

NO	DATE	REVISION	CHKD	APPV
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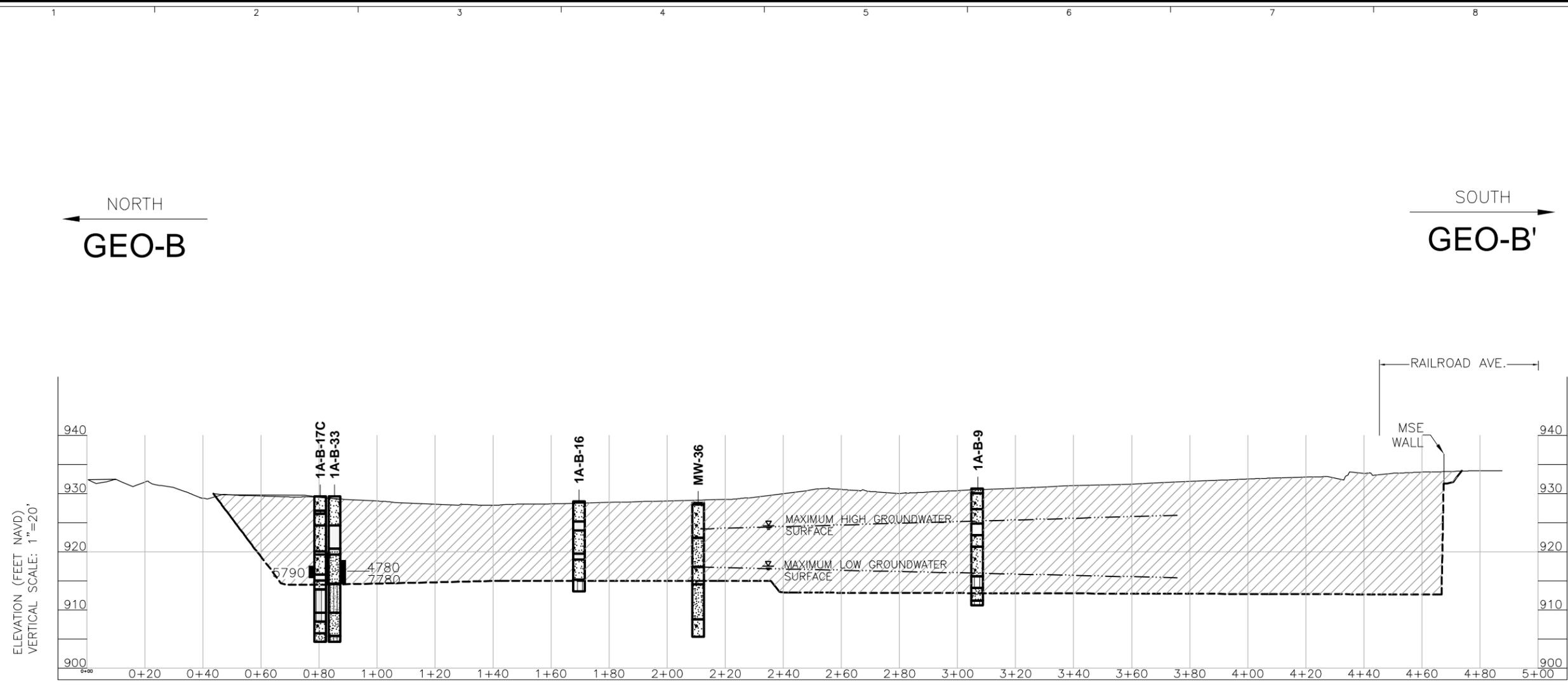
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RE/PG STAMP
 LOCATION BOX
 TEXT DOES NOT PRINT

Attachment 3

Geotechnical Cross-Sections, Drawings G-100 through G-104

File: H:\BIS\Supplemental\X-SECTION B-B' REVISED.dwg User: Huchbrook Date: Apr 21, 2009 - 8:13am Xref:



B-B'

 CROSS-SECTION

 HORIZONTAL SCALE 1" = 40'

LEGEND

- | | |
|---------------------------------|--------------------------------------|
| SILTY SAND, SILTY SAND W/GRAVEL | EXCAVATION AREA |
| WELL GRADED SAND, GRAVELLY SAND | HISTORICAL HIGH AND LOW WATER LEVELS |
| GRAVEL, SANDY/SILTY GRAVEL | 4490 NWTPH-Dx (mg/kg) concentration |
| CLAYEY SILT | |
| SILT | |
| SAND | |
| BOULDERS/COBBLES | |
| ASPHALT/CONCRETE | |
| SILTY CLAY | |

NOTES:

1. HIGH AND LOW WATER MARKS ARE BASED ON HISTORICAL MEASUREMENTS.
2. APPROXIMATE EXCAVATION LIMITS WITHIN THE REMEDIATION BOUNDARY ARE BASED ON OBSERVATIONS DURING SAMPLING AND LABORATORY ANALYTICAL RESULTS. ACTUAL EXCAVATION EXTENTS WITHIN THE REMEDIATION BOUNDARY WILL BE DETERMINED BASED ON EXCAVATION CONFIRMATION SAMPLING.
3. BORINGS 1A-B-17C AND 1A-B-33 ARE LOCATED EAST OF THE BRIDGE ABATEMENT. THE DEPTHS OF PETROLEUM IMPACTS AND THE EXCAVATION EXTENTS SHOWN ON CROSS-SECTION B-B' ARE APPROXIMATED BASED ON THESE BORINGS, WHICH DO NOT COMPLETELY REPRESENT SUBSURFACE CONDITIONS IN 5TH STREET.

30% DRAWINGS - NOT FOR CONSTRUCTION

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PROJ. NO.: 01140-222-210 DATE: 2/11/09

**NORTHWEST
 DEVELOPED ZONE
 GEO-B-B'**

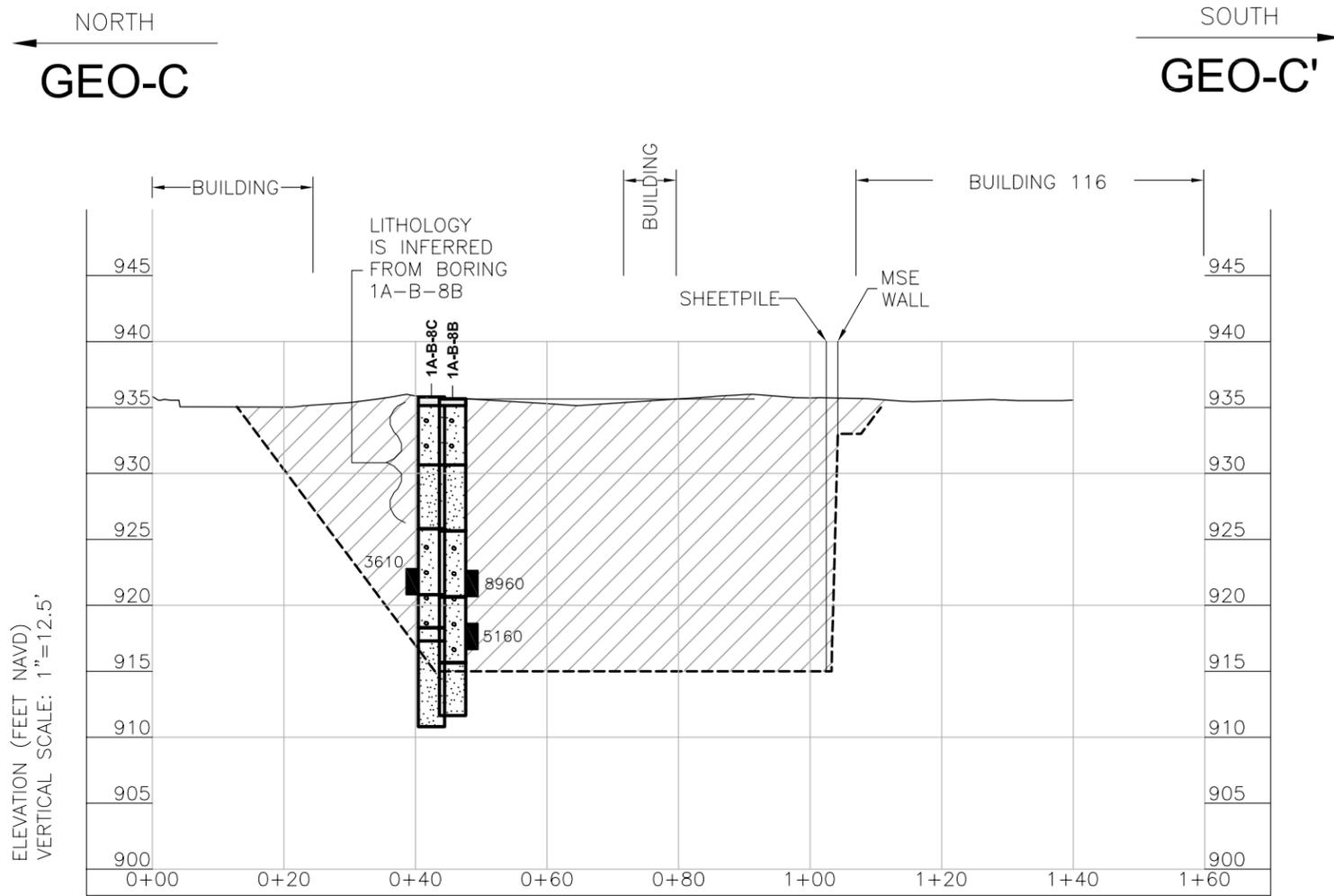
2009 REMEDIATION

DRAWING NUMBER:
G-101

SHEET NUMBER:
0

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C-C'
CROSS-SECTION
HORIZONTAL SCALE 1"=25'

LEGEND

- | | | | |
|--|---------------------------------|--|--------------------------------------|
| | SILTY SAND, SILTY SAND W/GRAVEL | | EXCAVATION AREA |
| | WELL GRADED SAND, GRAVELLY SAND | | HISTORICAL HIGH AND LOW WATER LEVELS |
| | GRAVEL, SANDY/SILTY GRAVEL | | 4490 NWTPH-Dx (mg/kg) concentration |
| | CLAYEY SILT | | |
| | SILT | | |
| | SAND | | |
| | BOULDERS/COBBLES | | |
| | ASPHALT/CONCRETE | | |
| | SILTY CLAY | | |

NOTES:

- HIGH AND LOW WATER MARKS ARE BASED ON HISTORICAL MEASUREMENTS.
- APPROXIMATE EXCAVATION LIMITS WITHIN THE REMEDIATION BOUNDARY ARE BASED ON OBSERVATIONS DURING SAMPLING AND LABORATORY ANALYTICAL RESULTS. ACTUAL EXCAVATION EXTENTS WITHIN THE REMEDIATION BOUNDARY WILL BE DETERMINED BASED ON EXCAVATION CONFIRMATION SAMPLING.

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							REVISION

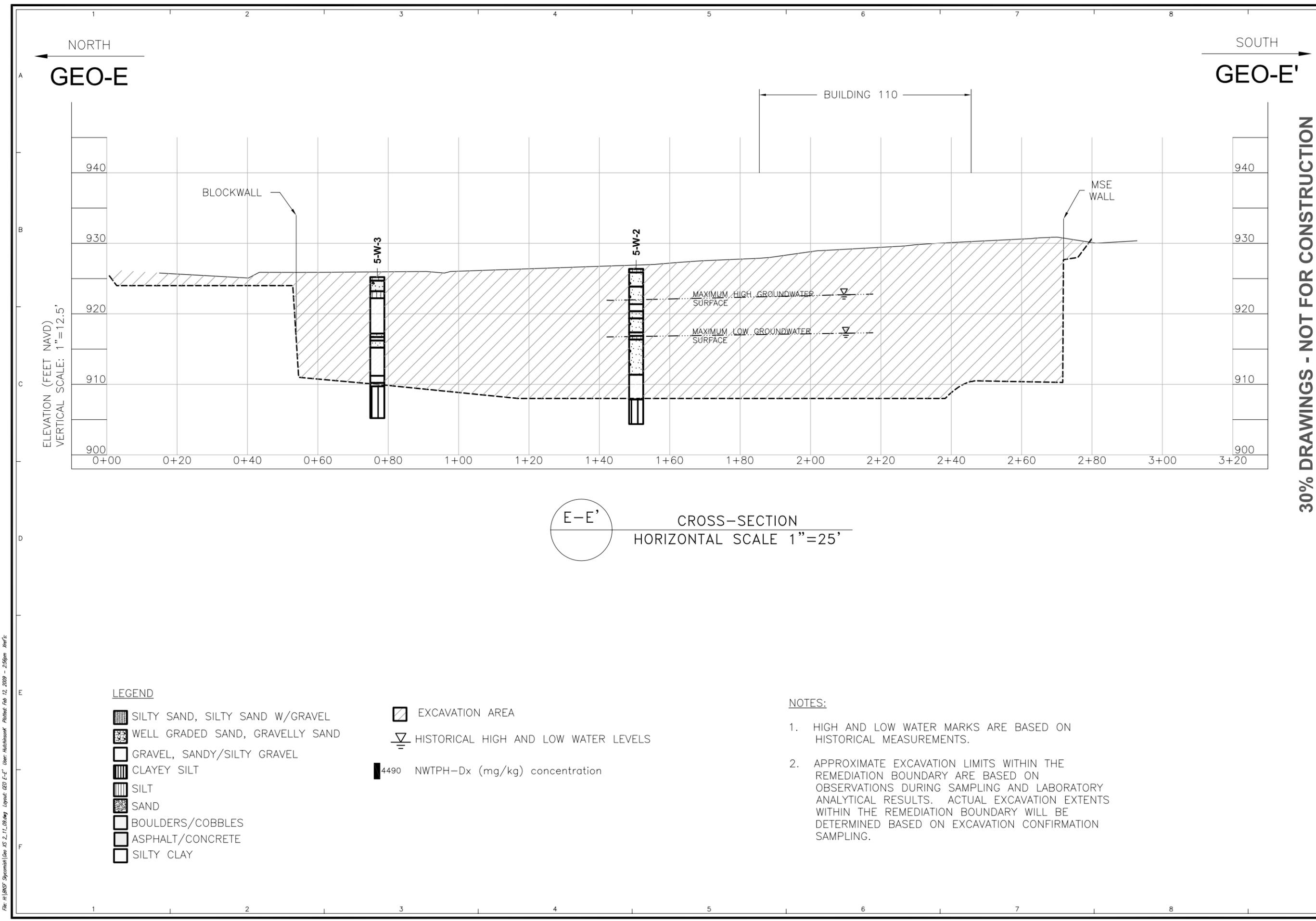
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**NORTHWEST
 DEVELOPED ZONE
 GEO-C-C'**
 2009 REMEDIATION

DRAWING NUMBER:
G-102
 SHEET NUMBER:
 REVISION 0



File: A:\ENR\Springs\Geo IS 2_1_09.dwg Layout: GEO E-E' User: hutchinson Plotter: File 12, 2009 - 2:28pm Xref's:

30% DRAWINGS - NOT FOR CONSTRUCTION

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NORTHWEST DEVELOPED ZONE GEO-E-E'
 2009 REMEDIATION

DRAWING NUMBER:
G-104
 SHEET NUMBER:
 REVISION 0