WORK PLAN – EXCAVATION OF SOIL WITHIN TAYLOR WAY AND THE CITY OF TACOMA RIGHT OF WAY

for the

SUPERLON PLASTICS SITE
TACOMA, WASHINGTON

Prepared for:

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and

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1. Introduction

This Work Plan presents the approach to be used to excavate a 175' by 20' section of Taylor Way and the adjacent City of Tacoma (COT) right of way (ROW). The work area (Figure 3) is located next to the southeast property boundary of the Superlon Plastics Property (Property). The Property is located at 2116 Taylor Way, Tacoma, Washington.

In the spring of 2020 the City of Tacoma plans to begin the reconstruction of Taylor Way (hereafter referenced to as the Taylor Way Rehabilitation Project). This work will include the paving of Taylor Way, the moving and replacement of utilities and the construction of sidewalks along the western side of the new road location. Exposure to contaminated soil is a concern during this construction, especially during the installation of utilities. In discussions with the City's Engineering staff the maximum depth of excavation for the utilities will be 7 feet below current ground surface (bgs) within the proposed work area.

The excavation of soils within the City of Tacoma's right of way (COTROW) and within Taylor Way is necessary to ensure that soils within the proposed utility trench meet the Washington Department of Ecology (Ecology) Industrial clean up standard and OSHA requirements. This work is required prior to the installation of utilities during the COT Taylor Way Rehabilitation project. The soils to be excavated either contain arsenic and lead concentrations greater than the Ecology Industrial clean up standard or overlie soils that do.

This Work Plan has been prepared on behalf of the White Birch Group, LLC (White Birch) and the Chemours Company FC, LLC (Chemours). These companies are hereafter referred to as the Companies. The Companies have retained Pacific Environmental and Redevelopment Corporation (PERC) and Pioneer Technologies Corporation (PIONEER) as their authorized agents to complete the work described in this Work Plan. The work will be completed in accordance with the State of Washington Model Toxics Control Act (MTCA), Chapter 173-340 of the Washington Administrative Code (WAC) under Agreed Order (AO) No. DE 5940.

PERC and PIONEER will manage this work and perform any onsite analytical work. The Project Laboratory will be Analytical Resources Incorporated (ARI) of Tukwila, Washington. Active Construction (ACI) of Puyallup, Washington will be the remediation contractor.

2. Background

A GeoProbe was used to collect soil samples within the COTROW in the summer of 2019 (PERC/PIONEER 2019a). Analysis of these soils determined that the sections of the soil column contained arsenic and lead concentrations greater than the Washington Department of Ecology Industrial cleanup standard. As these soil occurred within the location of the proposed utility trench it was decided that these soils should be removed, treated, if necessary, and disposed of at an approved landfill.

3. Objective and Summary of the proposed work

The objective of this work is to ensure that soils within the COTROW and within the proposed utility trench meets Ecology cleanup standard for Industrial Land uses and OSHA requirements.

4. Soil Characterization

A GeoProbe drilling program was conducted to determine the soil quality within the City of Tacoma right-of-way between the Superlon Plastics Property boundary and Taylor Way (PERC/PIONEER 2019a). Nine GeoProbe borings where advanced to a depth of fifteen feet below ground surface (bgs). Soils were collected for each two foot interval, starting at 2 feet below bgs. Perched water was present, and samples were collected, in two borings.

Fifty four soil samples were collected and analyzed by the on-site XRF to generate real-time data. The use of the XRF eliminated the laboratory turn-around time limitations while still providing high quality data. Forty eight of the collected samples were also submitted to ARI Laboratories for laboratory analyses.

The Method C cleanup standard for arsenic and lead of 88 mg/kg and 1000 mg/kg were used for screening purposes. Of the 55 soils samples collected, 10 contained arsenic concentrations greater than the screening concentration. One sample contained a lead concentration greater than the screening concentration (Table 1). The single lead exceedance (in Boring 119 located in an area outside the proposed work area) also contained one of the 10 arsenic exceedances and was related to an occurrence of visible shot. These samples are represented with the 10 samples intervals listed on Table 2 below. Note that all of the arsenic and lead exceedance locations identified in Table 1 are vertically delineated, (i.e., there are samples above and below the screening level exceedance location that have concentrations less than the screening level). This pattern is similar to the Superlon property where there are distinct layers of material that exceed criteria based on what material was used for fill.

TABLE 1: SCREENING LEVEL EXCEEDANCES - BORING DATA - CITY RIGHT OF WAY SAMPLING

SAMPLE ID	DEPTH - TOP OF SAMPLE	DEPTH - BOTTOM OF SAMPLE	As (mg/kg)	Pb (mg/kg)
BORING 111				
SUP-SL-111-8-10-082219	8	10	215	311
SUP-SL-111-10-12-082219	10	12	123	174
SUP-SL-111-12-14-082219	12	14	453	742
BORING 112				
SUP-SL-112-4-6-082219	4	6	393	18.5
BORING 113				
SUP-SL-113-8-10-082219	8	10	130	35.9
SUP-SL-113-10-12-082219	10	12	335	24.3
BORING 116				
SUP-SL-116-4-6-082219	4	6	166	488
SUP-SL-116-6-8-082219	6	8	565	141
BORING 118				
SUP-SL-118-6-8-082219	6	8	215	553
BORING 119				
SUP-SL-119-4-6-082219 [1]	4	6	562	1,110

[1] Related to the presence of "shot". The location of this boring is outside of the prosed work as the presence of this waste defines the extent of excavation.

In summary:

- Six of the eight borings (SL-111, SL 112, SL-113, SL 116, SL-118 and SL-119) collected from the Taylor Way right-of-way contained arsenic concentrations greater than the screening levels;
- Ten sample intervals contained arsenic concentrations greater than the screening levels; and
- Five of these sample intervals (the 4'-6' interval of SL 112, the 4'-6' and 6'-8' intervals of SL 116, the 6'-8' interval of SL-118 and the 4'-6' interval of SL-119) potentially occur within the depth that will require excavation to install utilities.

5. Soil to be excavated

Excavation will occur from 25 feet from the COT Rail lines to 5 feet northwest of the location of Boring 119 with a lateral width of either 20 feet or the outer edge of the planned Utility trench, whichever is wider. This represents an area of approximately 175 feet in the northwest to southeast direction and 20 feet in the northeast to southwest direction. The excavation will start at the current remediation project fence line. The depth of excavation will be:

- 15 feet within 10 feet of Boring 111,
- 12 feet from 10 feet of Boring 112 to 10 feet from Boring 114 and
- 8 feet to the end of the excavation.

No work will occur within 25 feet from the centerline of the COT Rail lines.

6. Project Design

The Project's engineering consultant, ESM Consulting Engineers (ESM) of Federal Way, Washington developed a design of the work to be done and submitted the design to the COT Engineering Department as part of the COT permit application. This design is attached (Appendix 1).

7. Scope of Work

The following is a generalized description of the proposed scope of work to be completed. The actual scope of work to be performed will be fluid since findings will occur throughout the work which may cause adjustments to be made.

7.1. Pre Excavation Work:

The following work will be completed prior to the start of the excavation:

- Proper notifications ("One Call Systems", utility companies, etc.) will be made 10 calendar days prior to beginning any excavation. Documentation of the notification(s) will be maintained. A request will be made to determine the location of underground installations and identify them with temporary markings.
- The utilities within the work area will be marked and depth verified before start of excavation. The utility lines will be marked 50 ft. upstream and downstream from the planned excavation. The utility locations will be staked and the markers will be maintained during construction.
- Signage, physical barriers, traffic controls and any required utility controls will be installed.

- An inspector from both Tacoma Water and PSE will be hired/arranged for to oversee the work associated with their particular utility line.

7.2. Staging and Preparation

One week prior to the start of soil excavation the work area will be prepared and the equipment staged. This work will include:

- Installation of stormwater controls;
- Expand the work area fence to include the expanded work area;
- Construct the asphalt pad and the soil storage stockpile areas;
- Conduct a safety review; and
- Any other steps necessary to safely and effectively complete the work.

7.3. Work Area Survey

Following the marking of utilities and prior to the start of work the Project's Engineering Company, ESM Consulting Engineers of Federal Way, Washington, will survey and clearly mark the edges of the proposed excavation.

7.4. Creation of the Soil Stockpile Areas

Prior to the start of work a stockpile area will be created for the temporary storage of contaminated soils created during the excavation of soils. Initially an asphalt work pad will be created adjacent to the excavation work area. This pad will be located on the Property. The proposed asphalt pad will be constructed of 2 inches of ACM with a minimum of a 0.5% grade toward the infiltration pond located on Property. An asphalt pad is required to contain the excavated soils and ensure a solid base so the excavated soils cannot become comingled with the underlying soils.

The area on which the pad will be created has been remediated to meet the requirements established with the Washington State Department of Ecology's approval of the Feasibility Study for On-Property Soils and Perched Water. Placing potentially contaminated soils upon the remediated soil could/would re-contaminate the underlying soils. The use of plastics and liners has been attempted in the past. These barriers have been unsuccessful in eliminating the potential for the comingling of soils due to tearing by the heavy equipment, when loading the soils in trucks for disposal.

The soils will be contained in stockpile cells (see Photograph 1). All of the cells will be constructed of stacked ecology blocks (see Photograph 2) underlain by the asphalt pad. The asphalt will be built with a minimum 0.5% slope toward the infiltration pond to control storm water flow. Straw bales will be placed, if necessary, along the sides and downslope side of the stockpile area to control sediment transfer. This stockpile construction method has been effective for containing waste, preventing contaminated soil from contacting underlying soil, loading of waste for disposal, and controlling rain water infiltration into the waste. A 20-mil plastic tarp will cover each stockpile at night or when not in use.

Photograph 1: Typical Stockpile

Photograph 2: Block Construction

7.5. Preparation for Excavation

To verify the exact location of underground installations by safe and acceptable means the utilities will be exposed every 20 feet of along the length of the work area by either hand excavation, potholing, using Hydro-Excavation, or conducting an inductive sweep utilizing a line locator. Theses explorations will be placed in a northwest to southeast direction across the width of the excavation (Figure 3).

7.6. Excavation Methods

The following methods will be used to excavation the targeted soils.

7.6.1. General Excavation

Due to slope stability concerns all soil more than four feet away from known utilities will be excavated using trench boxes whenever excavation depths are greater than six feet and/or when perched water (PW) is present. Once an excavation is completed, steel plates will be placed in the ground to delineate the leading edge(s) of the excavation. The steel plates will be driven into, or placed at, the excavation sidewall before removing the trench box and backfilling the excavation.

7.7. Work near Utilities

The following methods will be used when work is conducted within six feet of existing Utilities.

7.7.1. Known Utilities

There are four know utilities present in the excavation area. They are:

- Water service line
- Electrical (including a power pole)
- Stormwater
- A 6” high pressure gas-line

All of these utilities have been located and marked on the ground. They are also all clearly marked and listed on engineering drawings for the area.

Two excavation methods will be used for the removal of soils; standard excavation using an excavator and the use of Hydro-Excavation or an Air Knife.

7.7.2. Soil Removal Process near Utilities

Two excavation methods will be used for the removal of soils; standard excavation using an excavator and the use of Hydro-Excavation.

An excavator will be used to remove soil to within four feet[2] of the utilities. Hydro-excavation[3] will be used to remove the soil within four feet of the utility lines/pipes. Soil overlying and below

[2] Four feet is a general assumption. The distance to the utilities could be greater if it is determined in the field that excavating to four feet would cause an unsafe condition.

[3] Hydro-excavation is the process of utilizing high-pressure water and a powerful vacuum system to excavate. A high pressure water stream loosens the earth and other debris while simultaneously removing and storing the slurry within the onboard vacuum system. This precision orientated activity is

the utilities, to the target depth in each area, will also be removed using Hydro-excavation. Shoring of the utility lines will be done as described in section 8.5.4.

7.7.3. Pipe Protection

When excavation occurs within 6 feet of an existing pipeline or other utility special precautions and provisions will be necessary to avoid damage and minimize future settlement of the existing utility. The following pipelines and utilities are deemed critical:

- All sizes of Pre-stressed Concrete Cylinder Pipes (PCCP), both water and sewer.
- All ductile iron water and sewer pipelines larger than 24-inch diameter.
- All non-PVC sewer pipes equal to and larger than 18-inch diameter.
- Any other critical utility identified on a case by case basis such as electrical ductbanks, etc.

The necessary precautions and provisions to be considered when working within 6 feet of existing utilities are as follows:

- An inspector from both Tacoma Water and PSE will be present to oversee the work associated with their particular utility line.
- At a minimum, soil located within four feet of the exposed utilities, including the overlying soils, will be removed to using Hydro-Excavation.
- Existing pipe or utility exposed during excavation will be physically supported if the exposed length is greater than requirements that the relevant utility (see Section 7.7.6) have established for self-support. This will be accomplished by either limiting the proposed pipe trench width so that the existing pipe is self-supporting or, if necessary, using an "I" beam anchored on each side by a trench box, or the equivalent, as a support. Thrust blocks and valves will also be supported and protected. The methods and details of this support will be developed in consolation with the Utility Inspector present at the site and will depend on site conditions and the type, size and length of the utility line to be supported.
- The excavation will be backfilled once completed and/or each night to provide a firm foundation and bedding for the exposed utility or pipeline to minimize future settlement and maintain the structural strength of the pipe.

7.7.4. Back filling of the Excavation within six feet of Utilities

Once a sample of the bottom soil in the excavation, and if required, sidewall samples (see section 7.8) are collected and analyzed, the excavation will be backfilled used imported sand, gravel or pit run[4] and compacted as follows:

Disturbed earth under and to 1'-0'' above the existing pipeline will be replaced with compacted structural fill as follows. To prevent ground settlements adjacent to or below existing water mains,

predominately used to expose underground infrastructure while determining/proving its precise location OR its non-existence within a proposed excavation area.

[4] As required by the COT or utilities specifications.

all backfills shall be properly deposited and adequately compacted to standards not less than the following:

- The excavation shall be backfilled with special fill material and fine fill material as defined by the relevant utility in compacted layers. The backfill materials shall not contain any broken concrete, bricks, clay, bituminous material, materials susceptible to spontaneous combustion, perishable materials or debris, and shall not exceed 3 inches in particle size.
- If applicable, fill material around water mains should be carefully deposited in layers not exceeding 5 inches to a level of 15 inches above the crown of the water mains. The backfill material in this zone shall be carefully compacted by hand-rammers or manually operated power equipment to obtain a relative compaction of at least 85%.
- Fill material on top of the 15 inches level will be deposited in layers of suitable thickness and then compacted adequately with suitable means such as a power rammer or a vibratory plate/compactor.
- The compacted backfill shall obtain a relative compaction of at least 98% for levels within 10 inches of the road formation level and at least 95% for other levels.
- All backfill and compaction over the water or sewer mains with less than 3'-0" of soil cover must be performed manually and/or with vehicles positioned a minimum of 10 feet clear of the main(s) until 3'-0" of cover is achieved. If necessary, temporary fill shall be placed over the existing mains to allow approved vehicle traffic to cross over the pipeline. All exposed rocks, broken pavement, curbing and other unyielding debris having any dimension greater than three inches shall be removed from above the main(s) prior to placing and compacting fill, subgrade materials or paving over the main.

7.7.5. Special Construction Consideration for work performed near existing Utilities

The following will be considered when working within 6 feet of known existing utilities:

- Tacoma Water and PSE Construction Inspectors will be notified at least 10 calendar days in advance of the excavation work. All grading and paving over the mains shall be coordinated and performed under the supervision of the relevant Construction Inspector.
- Construction vehicles are not permitted within 10 feet clear of water or sewer mains at any time when less than 3'-0" of cover exists over the mains during construction. The Contractor is responsible for identifying areas where less than 3'-0" of soil cover will exist over the mains during his construction operations.
- Heavy equipment, such as excavator or compaction roller, will not travel over buried water mains after the road surfacing is removed when the cover to the water mains is much reduced. This is to prevent possible pipe damage due to excessive loading.
- Thrust blocks will not be disturbed or exposed without Tacoma Water's prior agreement. Exposure of a thrust block without providing proper support may result in its movement and detachment of the associated pipe joints and eventually a burst. Tacoma Water should therefore be consulted on all cases where exposure of thrust blocks or water mains are required to enable suitable protective measures to be taken.
- Steel wire ropes or chain blocks will not be used to support the exposed water mains. I-beams will be used to provide proper vertical and lateral support.

- Excavated materials will not be stockpiled within 10 feet clear of the water or sewer mains or within 20 feet of valve covers or hydrants. This is to ensure that the valves and hydrants can be accessed and operated at all times. All valve covers should be kept clear of excavated materials during trench excavation or reinstatement. They must not be buried under stockpile of excavated materials or by road reinstatement. Any construction debris that falls into the valve pits should be cleared immediately.
- Valves will not be exposed without protection. Proper fencing with warning signs should be provided to prevent accidental damage to the exposed valves by the swinging parts of the excavators.

7.7.6. Special Consideration for working within six feet of the high pressure Gas line

Puget Sound Energy (PSE), the local utility Company, has the following instructions for working within six feet of the high pressure Gas line

"The contractor is advised that PSE operates a 6-inch high pressure steel gas supply main within the project limits. This is a critical gas supply main that cannot be taken out of service during construction. The contractor shall notify PSE at least 2 (two) weeks prior to commencement of excavation work. The contractor shall coordinate with PSE's Public Improvement Inspector Mel Lasenby (Cell# 360-239-2473) to be onsite while excavating in the vicinity of PSE's natural gas facilities. Any exposed span of the 6" high pressure gas main greater than 21 feet will need to be supported and coordinated with PSE's PI Inspector. Please refer to the guide below for PSE's backfill and material requirements when excavating in the vicinity of PSE's gas line."

PUGET SOUND ENERGY

Preventing Damage to Natural Gas Pipelines

In Construction Zones

Pocket Guide

811

Know what's **below.** **Call** before you dig.

Numbers to call:

One-Call Center
811
Puget Sound Energy
1-888-225-5773
Emergency/Fire/Police
911

Backfilling Natural Gas Pipelines

General Requirements (CFR 192.319)

When a trench is backfilled, it must be backfilled in a manner that:

- Provides firm support under the pipe, and
- Prevents damage to the pipe and pipe coating from equipment or from the backfill material.

Backfill material shall not contain:

- Garbage, cans, glass, recycled glass products, decomposable organic material, or construction debris.
- Washed gravels, including pea gravel.
- Material that will not compact.
- Sharp objects, frozen clods, large rocks and stones, lumps, pieces of pavement, construction debris, wood skids or wedges, timbers, hay bales, boulders, or other material that may cause damage to the pipe, pipe coating, or casing/conduit.

NOTE: Do not unload backfill or pile it directly on top of PE pipe until proper support is provided for the pipe.

Backfill for General Construction

A minimum layer of 6 inches of sand must be used for initial backfill over the natural gas pipeline. If the native soil contains rocks larger than 8 inches in diameter, then a total of 12 inches of initial backfill shall be placed over the gas pipeline and across the full width of the trench.

Final backfill may be soil-based select material or native soil, but shall not contain rocks larger than 10 inches in diameter to prevent impedance of natural gas system maintenance.

Final backfill shall be sufficient to withstand normal wear and tear from foot traffic, weather, and other activities that may cause erosion.

Special Backfills

In cases where controlled density fill (CDF) is used, it must consist of a mix approved by Puget Sound Energy (PSE). When special backfill other than CDF is used, it must be approved by PSE. When either CDF or special backfill is used, a minimum 6-inch layer of initial backfill material shall be installed over PSE's pipeline to separate the pipe from the final backfill. This will help prevent the leaching of chemicals from the CDF or special backfill onto the pipe.

Sand Backfill for Natural Gas Pipe

Standards

Sand shall meet the latest revision of the following applicable national standards:

ASTM C33 - Standard Specification for Concrete Aggregates

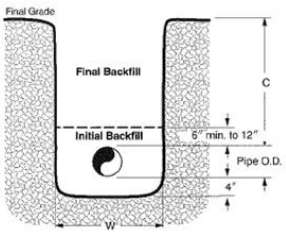
ASTM C40 - Standard Test Method for Organic Impurities in Fine Aggregates

ASTM 136 - Standard Test Method for Sieve Analysis for Fine and Coarse Aggregates

ASTM D 2419 - Standard Test Method for Sand Equivalent Value of Soils and Fine Aggregates

ASTM D 2774 - Standard Practice for Underground Installation of Thermoplastic Pressure Piping

Title 49 CFR - Part 192, Transportation of Natural and Other Gas by Pipeline: Minimum Federal Safety Standards



Material

Sand shall consist of inert granular material, either naturally occurring or processed. It shall be free from various types of wood waste or other extraneous or objectionable materials.

The material specified shall not include recycled glass products.

The sand equivalent percentage of the material shall not be less than 20.

Organic matter, by colorimetric test, shall not be darker than the reference standard color (organic plate No. 3) in ASTM C40, unless another test proves a darker color to be harmless.

Gradation

Sand shall be well graded from coarse to fine. When separated by means of laboratory sieves, grain size distribution shall conform to the following requirements.

PERCENT PASSING (BY WEIGHT)

Sieve Size	Minimum	Maximum
3/8-inch	100	---
U.S. No. 4	95	100
U.S. No. 8	80	100
U.S. No. 16	50	85
U.S. No. 30	25	60
U.S. No. 50	5	30
U.S. No. 100	0	10
U.S. No. 200	0	7

Sand meeting the above requirements is commonly referred to as "Builder's Sand" or "Building Sand" at supplier locations within the PSE service territory.

Material having no greater than 10 percent of its mass passing through the U.S. No. 200 sieve is permitted as an exception to the above requirements.

7.8. Work at distances greater than six feet from Utilities

The following methods will be used when work is conducted within six feet of existing Utilities.

7.8.1. Soil Removal Process at distances greater than six feet from Utilities

Soils within the work area that are greater than 6 feet form Utilities will be removed using an excavator working within a trench box. Excavated soil will be direct loaded into trucks for transport and stockpiling on the Property.

7.8.2. Back filling of the Excavation within six feet of Utilities

Once a sample of the bottom soil in the excavation, and if required, sidewall samples (see section 7.8) are collected and analyzed, the excavation will be backfilled used imported sand, gravel or pit run[5] and compacted as follows:

- The compacted backfill shall obtain a relative compaction of at least 98% for levels within 10 inches of the road formation level and at least 95% for other levels with suitable means such as a power rammer or a vibratory plate/compactor.

7.9. Work near Rail Lines

No work will be conducted within 25 feet of the centerlines of the City of Tacoma Rail Lines.

7.10. Soil Treatment and Disposal

All soils suspected to be non-hazardous or characteristically hazardous will be analyzed for leachability by EPA Toxicity Characteristic Leaching Procedure (TCLP) to determine if they suitable for disposal at the LRI landfill in Puyallup, Washington. If the soil fails TCLP analysis it will be treated to reduce leachability. The results of the TCLP analysis will also be used determine if the debris can or cannot be disposed of as non-hazardous waste. If either the debris or the treated soil fails TCLP analysis, it will be staged in a dedicated stockpile cell for disposal at the Chemical Waste Management Landfill in Arlington, Oregon.

7.11. Managing Overburden

Overburden (soils containing arsenic and lead concentrations less than Ecology's non-restricted clean up standard) will be excavated from the surface of the excavations and between impacted soil layers, and stockpiled separately from impacted soil. The overburden will be analyzed using an X-ray Fluorescence (XRF) to determine if arsenic and lead concentrations are high enough to suspect that the soils are non-hazardous or characteristically hazardous. If either the arsenic or lead total concentration is equal to or greater than the concentration expected to be characteristically hazardous, the sample will be delivered to ARI for TCLP analysis. If they are suspected to be characteristically hazardous the soil will be treated. The overburden soil will be loaded into off road haul trucks and stockpiled in the on-property stockpile adjacent to the excavation. All stockpiles will be covered with 20-mil plastic when not in use, at night, and during times of heavy rainfall.

7.12. Excavating Non-Hazardous Soil

Non-hazardous soil will be excavated, loaded into off road haul trucks, and transported to the stockpile storage cell for characterization and subsequent off-Property disposal. Non-hazardous soil

[5] As required by the COT or utilities specifications.

does not need to be sampled or analyzed prior to being placed in a stockpile storage cell. All stockpiles will be covered with 20-mil plastic when not in use, at night, and during times of heavy rainfall.

7.13. Hazardous Soil

None of the analysis of soil collected during the GeoProbe investigation failed TCLP testing and, thus, was not characteristically hazardous. As such, no hazardous waste is expected. If analysis by the on-property XRF indicates that the soil could be characteristically hazardous the soils will be screened and treated in the following manner.

7.13.1. Screening and Transporting Hazardous Soil and Debris

7.13.2. Excavated hazardous soil will be transported, using the loader, to the soil screening plant for size separation, stabilization treatment, and stockpiling prior to disposal.

7.13.3. Screening Hazardous Soil and Debris

Hazardous soil screening will be conducted to separate oversized debris and rock from the soil and remove hazardous debris (e.g., wood and construction debris). Reducing the soil particle size will also allow for the soil to be effectively mixed with the treatment additive.

The Read Screen All screening plant will be used to screen the hazardous soil and debris. The screen pitch may be adjusted periodically to allow for greater or lesser residence time on the screen depending on the particular soil/debris being screened. The excavated hazardous soil and debris will be transported to the screen using a John Deere 644J loader (or equivalent). The loader will load the top end of the screen from the bottom/down end of the screen.

7.13.4. Transporting Hazardous Soil

The hazardous soil fine fraction (3-inch minus soil) will be collected below the screen and transported, by the loader, from the screen to the hazardous waste treatment cell.

7.13.5. Transporting Hazardous Debris

The screened 3-inch plus rock and debris (which will remain hazardous) will be transported, by the loader, to the hazardous waste disposal storage drop box for storage prior to shipment to the Chemical Waste Management Landfill in Arlington, Oregon.

7.13.6. Treating Hazardous Soil

Hazardous soil will be treated with a stabilization additive to decrease arsenic and lead leachability so they can be disposed of as non-hazardous waste. Treated hazardous soil will be covered with 20-mil plastic when not in use, at night, and during heavy rainfall.

7.13.7. Hazardous Soil Treatment Process

The hazardous soil treatment process will be conducted as follows:

- Screened hazardous soil will be transported from the screen to the treatment cell with the loader, and graded to a less than 2-foot thick layer using the loader bucket;
- Once the treatment cell is at capacity the amount of additive required for treatment will be calculated;
- The blended treatment additive will be applied to the top of the soil layer using the excavator;

- The Mix Head will be attached to the excavator arm and the soil additive will be mixed until well blended using back-and-forth and side-to-side motions;
- The treated soil will be moved to the treated hazardous soil storage cell; and
- A five-point composite sample will be collected from the treated soil after treatment. The composite samples will be submitted to the Project laboratory for TCLP analysis as required for at the LRI Landfill (see table below).

Table 7-1: Sample Frequency Required For Disposal at the LRI Landfill

Cubic Yards of Soil	Number of Samples[1]
0 – 25	2
25 – 100	3
101 - 500	5
501 - 1,000	7
1,001 - 2,000[6]	10

7.14. Laboratory Testing and Analysis

TCLP analysis will be required to determine if the soil treatment additive lowered the leachability of the treated soil so that the soil is no longer characteristically hazardous. Typically, 3 to 5 days are required for this laboratory analysis to be completed.

Sampling will follow the procedures described in the Project's *Sampling and Analytical Plan & Quality Assurance Project Plan* (PERC/PIONEER 2019b).

7.14.1. Excavation Verification Sampling and Over-Excavation

Post-excavation verification soil samples will be collected from the excavated area and analyzed using an on-Property Innov-X Delta XRF (or equivalent) and, if needed, by the Project analytical laboratory. Analytical results will be evaluated to determine compliance with RELs. If soil remaining in the excavation area does not meet RELs, the location will be noted and included in the Independent Action report. If minor additional excavation (<10 cubic yards) will remediate the exceedance it will be conducted followed by verification sampling, and analysis.

7.14.2. Excavation Bottom Verification

A TOPCON GPS depth measurement unit attached to the excavator will measure the depth to determine when the excavation target depth has been reached. A composite sample will be collected and analyzed using the on-Property XRF to confirm compliance with project goals. The

[6] One additional sample is required for each 500 CY greater than 2,000 CY

soil samples will be collected from the bottom of the excavation using the excavator bucket, since collection by hand is both inaccessible and dangerous.

If either the arsenic or lead concentration in an excavation bottom sample exceeds the project goal concentrations, the excavation will be advanced by at least 1 foot to a maximum depth of 15 feet, if practicable. After the additional excavation is completed, an additional composite verification sample will be collected from the bottom of the excavation.

7.14.3. Excavation Sidewall Verification

Excavation sidewall sampling will only be conducted on the northwest, southeast and southwest sides of the excavation boundaries. No samples will be taken in interior of the excavation area since the adjacent soil will also be excavated (i.e., sidewall samples will only be collected in areas that will not be excavated). The sidewall samples will be collected at three foot intervals starting at three feet (i.e., 3-6 feet, 6-9 feet and 9-12 feet) or at the depths where impacted soil was identified in the GeoProbe data.

The excavation will not be advanced beyond the permitted boundaries (as shown on the engineering design drawings).

8. Stormwater Controls

Stormwater controls will be applied consistent with the Superlon Plastics Site Stormwater Pollution Prevention Plan (SWPPP) and the SWPPP for the Taylor Way Rehabilitation Project.

9. Health and Safety Considerations

The following will be considered to create a safe working environment during the duration of this work.

- To prevent or protect from cave-ins trench boxes and steel plates, or some other acceptable means, will be used to support the sidewalls of the excavation.
- All surface encumbrances that are located so as to create a hazard to employees will be removed or supported, as necessary, to safeguard employees and to prevent undermining adjacent structures.
- Materials and equipment used for protective systems (e.g., shoring) will be free from damage or defects that might impair their proper function.
- Excavation methods will comply with applicable regulatory requirements and the site-specific excavation plan.
- No employee shall enter or exit the trench or excavation or perform work outside of the protective system provided.
- Employees will not be allowed in a trench box.
- Employees should not step on cross members or supports installed to support the trench sidewalls or utilities.
- Where employees or equipment are required to cross over excavations, 6 feet or more above lower levels, walkways or bridges with standard guardrails will be provided as fall protection.

- Provide sufficient lighting to facilitate safe operations at each work location.
- When an excavation is within six feet of a pipeline facility, an inspector form the applicable utility will be continuously present during all excavation and backfilling activities to ensure the excavation and backfilling criteria are being met.
- When excavation operations approach the estimated location of underground installations, the exact location of the installations will be determined by safe and acceptable means, such as excavating by hand using a shovel or by using Hydro-Excavation and a protective bar should be installed across the backhoe teeth to prevent an accidental puncture or gouge of the pipeline.
- A spotter will be used if there are overhead power lines, underground utilities or tight working conditions in the work area.
- All equipment, materials, or other debris generated during the process of work activities will be removed prior to backfilling.
- Personnel exposed to vehicular traffic shall be provided with, and shall wear, warning vests or other suitable garments marked with or made of reflectorized or high-visibility material suitable for the traffic hazard(s) they are exposed.
- To assure proper sloping, trench boxes will be used to support and excavation sidewalls.
- Where the stability of adjoining buildings, walls, utility poles, or other structures is endangered by excavation operations, support systems (e.g., shoring, bracing, or underpinning) will be provided to ensure the stability of such structures for the protection of employees.
- Fencing will be used to mark the limits of the work area. If an excavation is left unattended in populated areas, use guardrails or barricades sufficient in size to prevent unintentional entry.
- Use trench shields during trenching operations, when required.
- Protective systems will be inspected to verify that they meet regulatory and design requirements and are in agreement with the site-specific excavation plan.
- Any object projects into a roadway will be adequately marked in accordance with the approved traffic control plan.
- Review the impact loading near the trench to ensure that adequate bracing is in place.
- No machinery or vehicles will be allowed within 10 feet of the edge of the excavation unless the banks are frequently inspected and confirmed to be stable.
- When mobile equipment is operated adjacent to an excavation, or when such equipment is required to approach the edge of an excavation, and the operator does not have a clear and direct view of the edge of the excavation, a warning system (such as barricades, hand or mechanical signals) will be utilized.
- All personnel will remain clear of all active machinery including but not limited to excavators, backhoes, frontend loaders and side-booms. Operators will not be allowed to swing or lift in any way, objects over people's heads.

10. Decontamination of Equipment and Personnel

Decontamination of personnel and equipment will follow the procedures identified in the Project Health and Safety Plan (PERC/PIONEER, 2020).

11. Documentation and Reporting

A technical memorandum will be created to document the completed work. This memorandum will include:

- A description of the work completed noting any exceptions to the methodology described in this work plan;
- A figure showing final excavation limits and other features;
- A table presenting the final analytical data; and
- A figure showing the data obtained from the bottom of the excavation and sidewall sampling.

12. Schedule[7]

This field segment of the work is scheduled to start in mid-April 2020 and will take approximately 30 days to complete. The technical memorandum will be issued to Ecology within 100 days of the completion of the field work. The following schedule lists the key tasks and the milestones for the work.

Task Name	Duration	Start	Finish
TAYLOR WAY REMEDIATION	**78 days**	**4/13/2020**	**7/29/2020**
Receipt of Permits from City of Tacoma	1 day	4/13/2020	4/13/2020
Pave Stockpile Pad	1 day	4/21/2020	4/21/2020
Site Survey to delineate Work Area	1 day	4/14/2020	4/14/2020
Prep for work in Taylor Way	4 days	4/22/2020	4/27/2020
Remediation 175'X20' section of utility trench along Taylor way	20 days	4/28/2020	5/25/2020
Laboratory Analytical	10 days	5/26/2020	6/8/2020
Receipt of the final data	1 day	6/9/2020	6/9/2020
Data QA/QC	15 days	6/10/2020	6/30/2020
Report Development	20 days	7/1/2020	7/28/2020
Report issued to Ecology and the City of Tacoma	1 day	7/29/2020	7/29/2020

[7] Schedule highly dependent upon the receipt of permits from the City of Tacoma

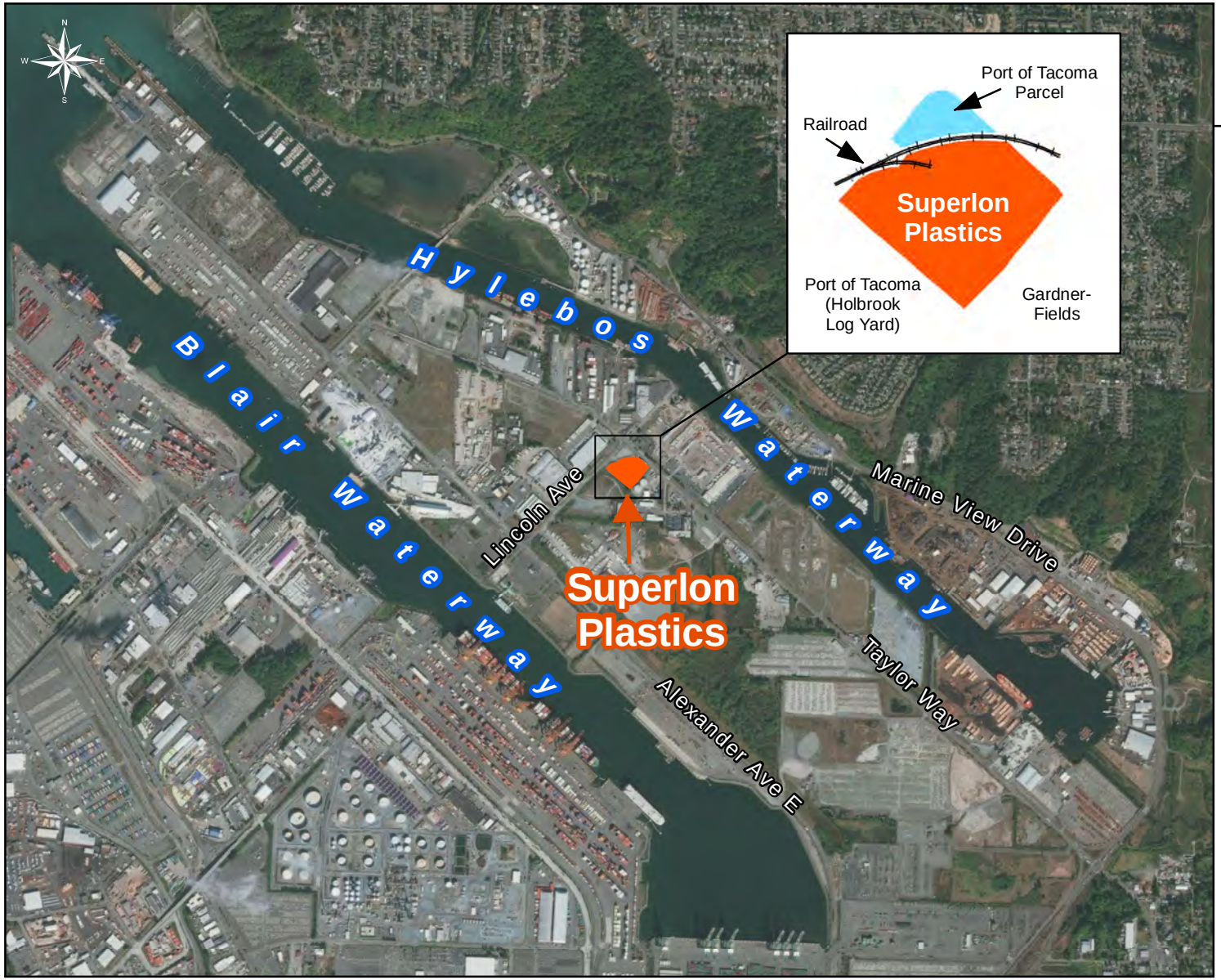
13. References

PERC/PIONEER 2020. Pacific Environmental and Redevelopment Corporation and PIONEER Technologies Corporation. *Health and Safety Plan for the Superlon Plastics Property, Tacoma, Washington*. March 2020.

PERC/PIONEER 2019a. Pacific Environmental and Redevelopment Corporation and PIONEER Technologies Corporation. *Soil Investigation Findings within the City of Tacoma Right-of-way along Taylor Way, Tacoma, WA.* October 2019

PERC/PIONEER 2019b. Pacific Environmental and Redevelopment Corporation and PIONEER Technologies Corporation. *Sampling and Analytical Plan & Quality Assurance Project Plan.* May 2019.

FIGURES



Legend

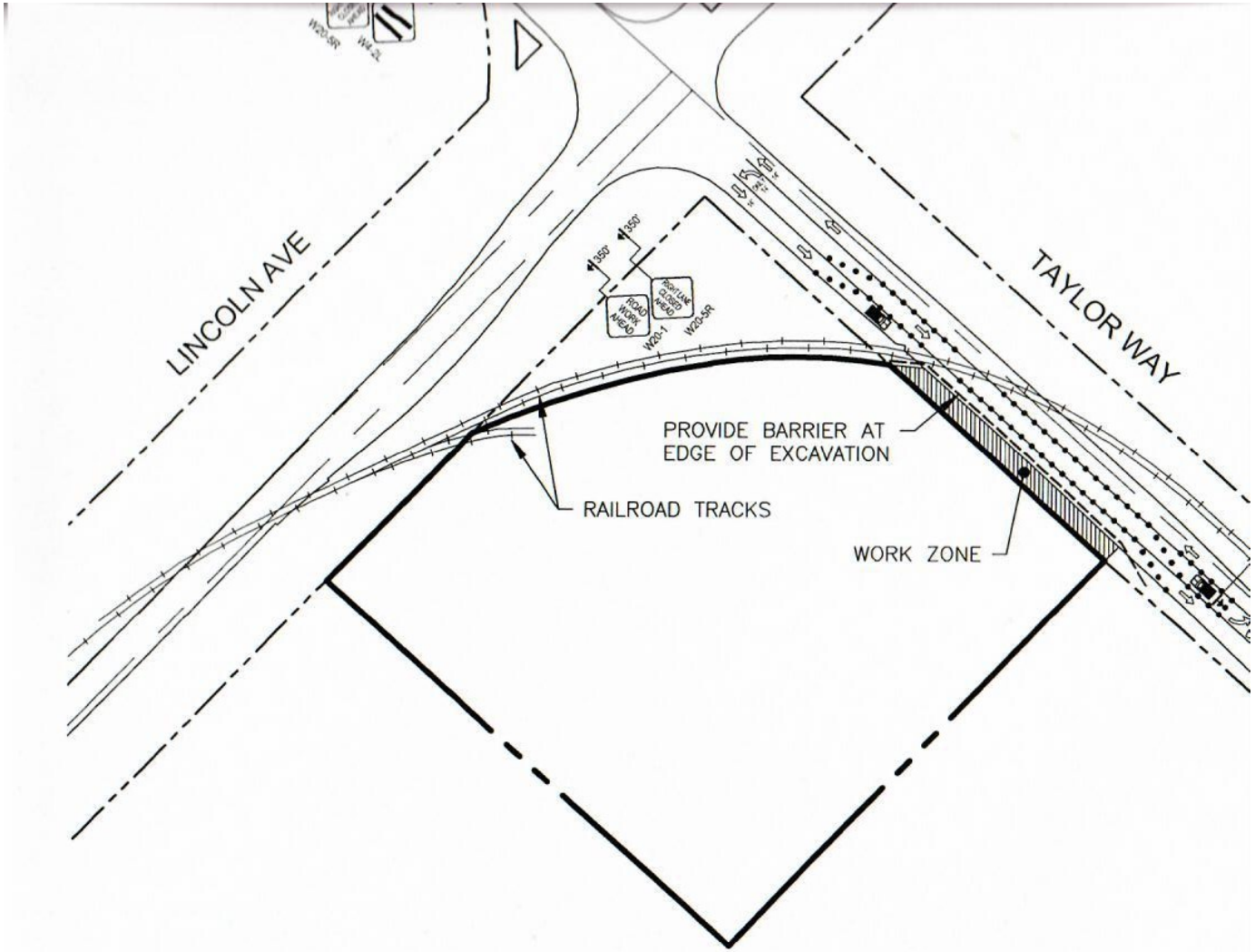
Superlon Plastics Site

0 1,000 2,000 3,000 Feet

PIONEER TECHNOLOGIES CORPORATION

Site Location
Superlon Plastics Site, Tacoma, Washington

Figure 1



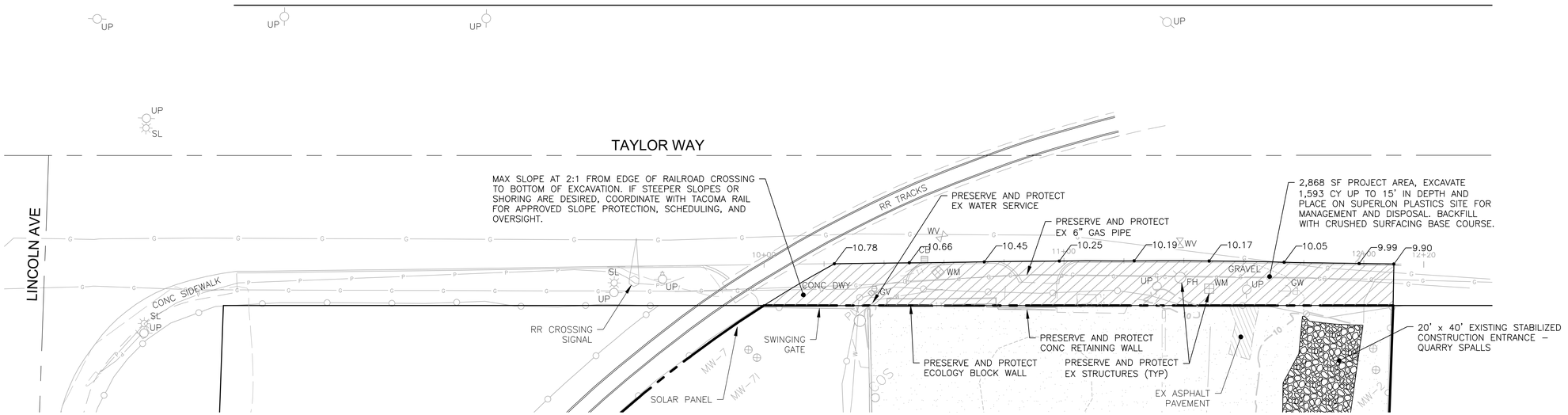
PERC

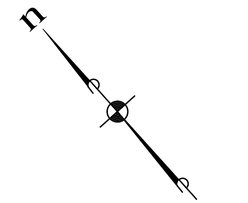
Work Zone Location
Taylor Way Remediation Project
Superlon Plastics Site

Figure 2

APPENDANCES

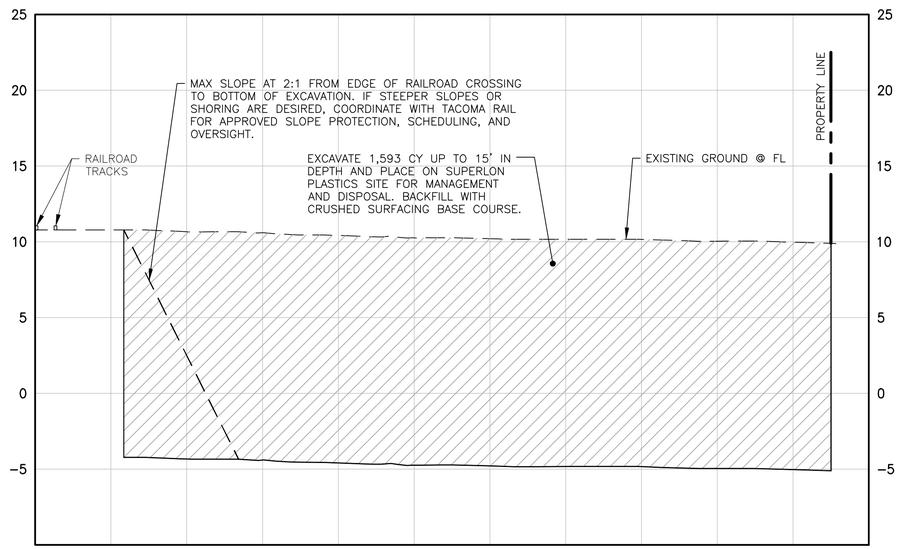
Appendix 1: Engineers Drawings and Traffic Plan





SCALE: 1" = 20'

20 10 0 20 40



SCALE: 1"=20' HORIZ.
1"=5' VERT.

In Support of City of Tacoma Project:
Taylor Way Rehabilitation, SR509 to E 11th St, PW19-0262F
PW Construction Ad Date: 10/29/2019

PW Contact: Mark D'Andrea, 253-591-5518

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www.esmcivil.com
Civil Engineering | Land Surveying | Land Planning
Public Works | Project Management | Landscape Architecture

NO	REVISION	DATE	APPD

FINAL CONSTRUCTION CHECKED
BY
DATE
FIELD BOOKS

DATE	SCALE
01/14/2020	AS SHOWN
DESIGNED	CHECKED
LGB	LGB
DRAWN	PROJECT NAME
GFF	1624-001-009
DRAWING NAME	
WO-02	

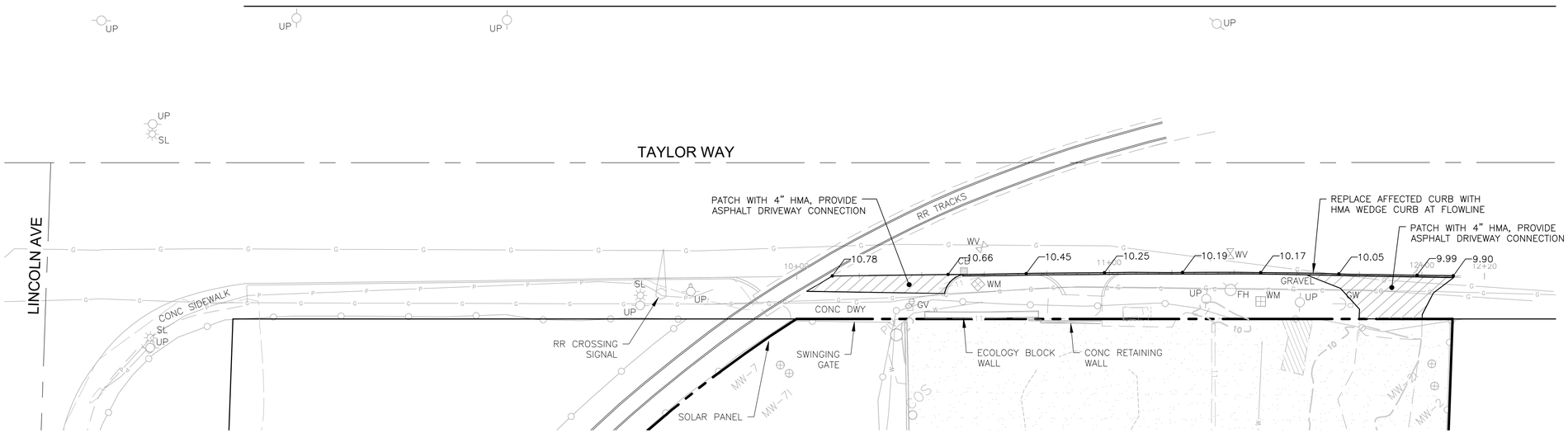
LAURA G. BARTENHAGEN — STATE OF WASHINGTON — 40111 — REGISTERED PROFESSIONAL ENGINEER

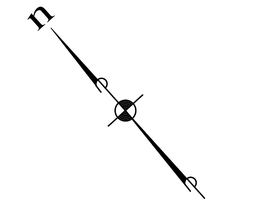
SITE AND BUILDING DIVISION

CITY OF TACOMA
DEPARTMENT OF PUBLIC WORKS

SUPERLON PLASTICS
TACOMA, WA
SOIL REMEDIATION PLAN

SHEET NO.
SHEET 2 OF 5





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NO	REVISION	DATE	APPD

FINAL CONSTRUCTION CHECKED	DATE 01/14/2020	SCALE AS SHOWN
BY	DESIGNED LGB	CHECKED LGB
DATE	DRAWN GFF	PROJECT NAME 1624-001-009
FIELD BOOKS	DRAWING NAME WO-02	

LAURA G. BARTENHAGEN — STATE OF WASHINGTON — 40111 — REGISTERED PROFESSIONAL ENGINEER

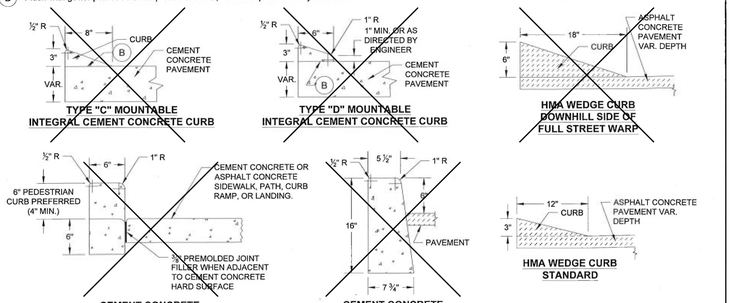
CITY OF TACOMA
DEPARTMENT OF PUBLIC WORKS
SITE AND BUILDING DIVISION

SUPERLON PLASTICS
TACOMA, WA
RESTORATION PLAN

SHEET NO. SHEET 3 OF 5

NOTE:

(B) Flush with gutter pan at curb ramp entrance or ¾" vertical lip at driveway entrance.



NOTES:

1. For trench crossings, curb and gutter shall be removed to a minimum 2' cut back over undisturbed soil.
2. In all projects, any remaining sections of curb and gutter less than 5' in length between the project area and the nearest control joint shall also be removed and replaced.
3. All joints shall be saw cut full depth prior to restoration and ⅜" expansion joint installed.
4. Concrete finish shall match existing.
5. Cutting wheel run-out beyond the limits of the opening shall be filled in accordance with WSDOT Standard Specification 5-05.3(8)B for cement concrete surfaces and 5-04.3(5)C for asphalt concrete surfaces.
6. Foundations shall be fully compacted prior to form placement.
7. Unsuitable foundation shall be replaced with ⅝" crushed surfacing top course.

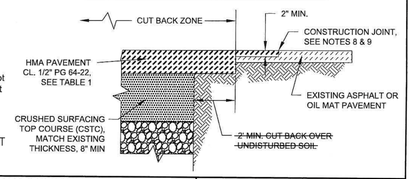
REVIEWED BY		APPROVED FOR PUBLICATION	CITY OF TACOMA CEMENT CONCRETE CURB AND GUTTER AND ASPHALT WEDGE CURB
DCS PUBLIC WORKS	GMS ENVIRONMENTAL SERVICES	8/16/16 CITY ENGINEER — DATE	STANDARD PLAN NO. SU-03A
NA TACOMA POWER	NA TACOMA WATER		

NOTES

1. **All pavement restoration work shall also meet the requirements of the City of Tacoma's Right of Way Restoration Policy. See Standard Plan SU-15B for any streets exempt from this policy.**
2. Temporary Surface Restoration:
   Arterials, industrial areas and/or roads with bus traffic: Temporary patches shall be compacted and leveled to a minimum of 3-inches of hot-mix asphalt (HMA).
   Residentials and alleys: Temporary patches shall be compacted and leveled to a minimum of 2-inches of either HMA or cold-mix asphalt. Temporary patches between October 1st and March 31st shall be made with HMA unless otherwise approved.
3. All permanent final patches shall be rectangular in shape and constructed parallel and perpendicular to the road centerline.
4. Where existing pavement defects are in close proximity to the new cut, the inspector may require additional pavement removal to eliminate the pavement defect.
5. The final cut edge of paved surfaces shall be smooth and straight, consistent with grinding or saw cutting devices. No jagged, broken or undermined edges are allowed. Cutting wheel run-out beyond the limits of the opening shall be filled in accordance with WSDOT Standard Specification 5-05.3(8)B for cement concrete surfaces and 5-04.3(5)C for asphalt concrete surfaces.
6. Final compaction of HMA shall be 91% of maximum density.
   Isolated patches: Minimum 1 test per patch up to 150 square feet, and 1 test required every additional 300 square feet, thereafter.
   Trench patches: 1 test every 150 linear feet of trench with a minimum of 2 tests per trench.
   Testing shall be performed by a certified independent testing laboratory or certified tester, as approved by the City's Construction Division. Tests shall be completed and reports identifying the project number submitted to the City Construction Division within 48 hours of test.
7. All joints between the new and original asphalt pavement shall be sealed with hot asphalt or asphalt emulsion and covered with dry paving sand before the asphalt solidifies. Existing surfaces shall be prepared in accordance with WSDOT Standard Specification 5-04.3(5)A prior to placing any new pavement surfaces.
8. Longitudinal construction joints shall only be located at the center or edge of affected lanes.
   Streets and courts 20 feet or less in width and all alleys are considered one-lane streets. Non-arterial streets and courts greater than 20 feet in width with no traffic channelization are considered two-lane streets with one-lane either side of the centerline of the street.
   Non-arterial streets greater than 32 feet in width with no traffic channelization may be considered three lane streets upon prior approval from the City Engineer.
9. Transverse construction joints terminate at the edge of the 2' cut back.
10. HMA pavement shall not be placed over CDF until approved by the City.

TABLE 1
PAVEMENT REPLACEMENT DEPTH IN CUT BACK ZONE

	MIN.	MAX.
ARTERIALS, INDUSTRIAL AREAS & ROADS WITH BUS TRAFFIC	MATCH EXISTING +1", OR 4", WHICHEVER IS GREATER	6"
RESIDENTIALS AND ALLEYS	MATCH EXISTING +1", OR 3", WHICHEVER IS GREATER	4"



PATCH WITH 4" OF HOT MI ASPHALT. PROVIDE ASPHALT DRIVEWAY CONNECTIONS AND WEDGE CURB.

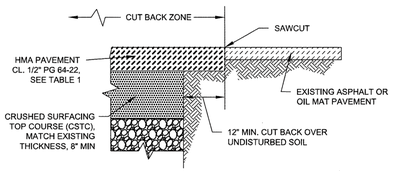
CITY OF TACOMA DEPARTMENT OF PUBLIC WORKS	APPROVED FOR PUBLICATION 12 Jun 2009 CITY ENGINEER — DATE	TYPICAL PAVEMENT RESTORATION FOR ASPHALT CONCRETE/OIL MAT PAVEMENT STANDARD PLAN NO. SU-15A

NOTES

1. **This Standard Plan shall only apply to streets that are exempt from the City of Tacoma's Restoration Policy. See Standard Plan SU-15A for any streets not exempt from this policy.**
2. Temporary Surface Restoration:
   Arterials, industrial areas and/or roads with bus traffic: Temporary patches shall be compacted and leveled to a minimum of 3-inches of hot-mix asphalt (HMA).
   Residentials and alleys: Temporary patches shall be compacted and leveled to a minimum of 2-inches of either HMA or cold-mix asphalt. Temporary patches between October 1st and March 31st shall be made with HMA unless otherwise approved.
3. All permanent final patches shall be rectangular in shape and constructed parallel and perpendicular to the road centerline.
4. Where existing pavement defects are in close proximity to the new cut, the Inspector may require additional pavement removal to eliminate the pavement defect.
5. The final cut edge of paved surfaces shall be smooth and straight, consistent with grinding or saw cutting devices. No jagged, broken or undermined edges are allowed. Cutting wheel run-out beyond the limits of the opening shall be filled in accordance with WSDOT Standard Specification 5-05.3(8)B for cement concrete surfaces and 5-04.3(5)C for asphalt concrete surfaces.
6. Final compaction of HMA shall be 91% of maximum density.
   Testing shall be performed by a certified independent testing laboratory or certified tester, as approved by the City's Construction Division. Tests shall be completed and reports identifying the project number submitted to the City Construction Division within 48 hours of test.
7. All joints between the new and original asphalt pavement shall be sealed with hot asphalt or asphalt emulsion and covered with dry paving sand before the asphalt solidifies. Existing surfaces shall be prepared in accordance with WSDOT Standard Specification 5-04.3(5)A prior to placing any new pavement surfaces.
8. HMA pavement shall not be placed over CDF until approved by the City.
9. If remaining pavement adjacent to the patch is less than 3' wide, remove and replace with asphalt concrete pavement to match existing (minimum 2').

TABLE 1
PAVEMENT REPLACEMENT DEPTH IN CUT BACK ZONE

	MIN.	MAX.
ARTERIALS, INDUSTRIAL AREAS & ROADS WITH BUS TRAFFIC	MATCH EXISTING +1", OR 4", WHICHEVER IS GREATER	6"
RESIDENTIALS AND ALLEYS	MATCH EXISTING +1", OR 3", WHICHEVER IS GREATER	4"



CITY OF TACOMA DEPARTMENT OF PUBLIC WORKS	APPROVED FOR PUBLICATION 7/17/09 CITY ENGINEER — DATE	TYPICAL PAVEMENT RESTORATION FOR ASPHALT CONCRETE/OIL MAT PAVEMENT STANDARD PLAN NO. SU-15B

COMPACTION TESTING REQUIREMENTS ^		
DEPTH	TESTING FREQUENCY [C]	
	VERTICAL	HORIZONTAL
SURFACE (BELOW HMA)	N/A	1 TEST EVERY 150 LINEAR FEET OF TRENCH OR MINIMUM 2 PER TRENCH
		1 TEST FOR 150 SQUARE FEET FOR ISOLATED PATCHES[B]
1 TO 4 FEET (OR MIN 18 IN. ABOVE PIPE)	1 EVERY 12 INCHES	SAME AS FOR SURFACE
> 4 FEET TO BOTTOM OF TRENCH	NO SPECIFIC REQUIREMENT - MAY BE REQUIRED BY COT INSPECTOR FOR VERIFICATION OF COMPACTION	

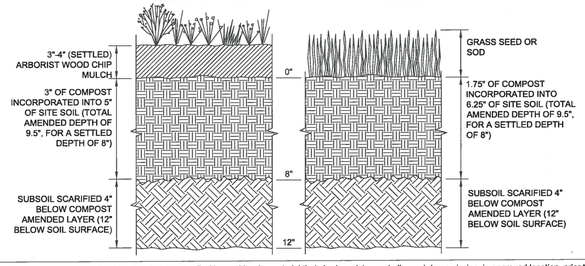
A. TESTING SHALL BE PERFORMED BY A CERTIFIED INDEPENDENT TESTING LABORATORY OR A CERTIFIED TESTOR AS APPROVED BY THE CITY'S CONSTRUCTION DIVISION. THE COST OF TESTING IS THE RESPONSIBILITY OF THE PERMITTEE. TESTS SHALL BE COMPLETED AND REPORTS IDENTIFYING THE PROJECT NUMBER SUBMITTED TO THE CONSTRUCTION DIVISION WITHIN 48 HOURS OF TESTS.
B. ONLY ONE COMPACTION TEST WILL BE REQUIRED FOR MULTIPLE TRENCHES WITHIN A 150 SF AREA PROVIDED COMPACTION PROCEDURES ARE THE SAME.
C. EACH LIFT SHALL BE COMPACTED TO 95% MODIFIED PROCTOR DENSITY, AS VERIFIED BY COMPACTION TESTING, BEFORE PROCEEDING TO THE NEXT LIFT. COT INSPECTOR MAY REQUIRE EXCAVATION AND REMOVAL OF SOIL WHERE COMPACTION IS IN QUESTION.

NOTES:

1. Compact backfill material in max. 12 in. lifts. Compact backfill material to 95% max. modified proctor density (ASTM 1557) except directly over pipe, hand tamp only.
2. Native backfill will require laboratory testing to determine max. modified proctor density. Imported backfill will require submittal of proctor test results from supplier.
3. See WSDOT Standard Specification Section 2-09.3(1)E for material requirements on "Controlled Density Fill" (CDF). CDF may be used for trenches less than 24 in. wide or as approved by the City Engineer. CDF shall be vibrated/compacted.

CITY OF TACOMA DEPARTMENT OF PUBLIC WORKS	APPROVED FOR PUBLICATION 11/3/16 CITY ENGINEER — DATE	TRENCH BACKFILL COMPACTION REQUIREMENTS STANDARD PLAN NO. SU-28

PLANTING BEDS **TURF (LAWN) AREAS**



OPTION 3: Stockpile existing topsoil during grading. Stockpile and cover soil with weed barrier material that sheds moisture yet allows air transmission, in approved location, prior to grading. Replace stockpiled topsoil prior to planting. Stockpiled topsoil shall be tested and amended if needed to meet the organic matter or depth requirements either at preapproved rate or calculated rate. All soil areas disturbed or compacted during construction, and not covered by buildings or pavement, shall be amended with compost as described below.

Scarification: If placed topsoil plus compost or other organic material will amount to less than 12 inches, scarify or till subgrade to depth needed to achieve 12 inches of loosened soil after topsoil and amendment are placed. Entire surface should be disturbed by scarification. Do not scarify within drip line of existing trees to be retained.

A. Planting Beds	B. Turf (Lawn) Areas
1. PREAPPROVED RATE: Place 3 inches of composted material and rototill into 5 inches of replaced soil (a total amended depth of about 9.5 inches, for a settled depth of 8 inches).	1. PREAPPROVED RATE: Place 1.75 inches of composted material and rototill into 6.25 inches of replaced soil (a total amended depth of about 9.5 inches, for a settled depth of 8 inches).
2. CALCULATED RATE: Place calculated amount of composted material or approved organic material and rototill into depth of replaced soil needed to achieve 8 inches of settled soil at 10% organic content.	2. CALCULATED RATE: Place calculated amount of composted material or approved organic material and rototill into depth of replaced soil needed to achieve 8 inches of settled soil at 5% organic content.
Rake beds to smooth and remove surface rocks larger than 2 inches diameter. Mulch planting beds with 3" - 4" of organic mulch or stockpiled duff.	Water or roll to compact to 85% of maximum dry density. Rake to level and remove surface rocks larger than 1 inch diameter.
Setbacks: to prevent uneven settling, do not compost-amend soils within 3 feet on center of utility infrastructure (poles, vaults, meters etc.). Within one foot of pavement edge, curbs and sidewalks; soil should be compacted to approximately 90% max. modified proctor density (ASTM D1557) to ensure a firm surface. Do not compact within the tree protection zone. See Std. Plans LS-08 and LS-09.	
See SWMM BMP L613 for more information.	

REVIEWED BY		APPROVED FOR PUBLICATION	CITY OF TACOMA BMP L613 POST CONSTRUCTION SOIL QUALITY AND DEPTH OPTION 3 - STOCKPILE AND AMEND
DCS PUBLIC WORKS	ENVIRONMENTAL SERVICES	4/24/20 CITY ENGINEER — DATE	STANDARD PLAN NO. GSI-01c
NA TACOMA POWER	NA TACOMA WATER		

In Support of City of Tacoma Project:
Taylor Way Rehabilitation, SR509 to E 11th St, PW19-0262F
PW Construction Ad Date: 10/29/2019

PW Contact: Mark D'Andrea, 253-591-5518

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EVERETT (425) 297-9900
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Civil Engineering | Land Surveying | Land Planning
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NO	REVISION	DATE	APPD

FINAL CONSTRUCTION CHECKED BY	DATE 01/14/2020	SCALE AS SHOWN
DATE	DESIGNED LGB	CHECKED LGB
FIELD BOOKS	DRAWN GFF	PROJECT NAME 1624-001-009
	DRAWING NAME WO-03	

LAURA G. BARTENHAGEN, STATE OF WASHINGTON, 40111, REGISTERED PROFESSIONAL ENGINEER

SITE AND BUILDING DIVISION

CITY OF TACOMA
DEPARTMENT OF PUBLIC WORKS
SUPERLON PLASTICS
TACOMA, WA
STANDARD DETAILS

SHEET NO.
SHEET 4 OF 5

RIGHT–OF–WAY PERMITTING GENERAL NOTES

GENERAL

A. The following special provisions are to be used in conjunction with the City of Tacoma Special Provisions, City of Tacoma Standard Plans and City of Tacoma Right-of-Way Design Manual, "2014 Standard Specifications for Road, Bridge and Municipal Construction" and "Standard Plans for Road, Bridge and Municipal Construction" as prepared by the Washington State Department of Transportation (WSDOT).

B. Any inconsistency between these work order drawings and the 2014 Standard Specifications or the WSDOT Standard Plans shall be resolved by the following order of precedence (e.g., 1 presiding over 2, 3, and so forth):
   1. Approved Work Order Drawings
   2. City of Tacoma Special Provisions, including APWA General Special Provisions, as applicable
   3. City of Tacoma Right-of-Way Design Manual
   4. 2014 Standard Specifications
   5. City of Tacoma Standard Plans
   6. WSDOT Standard Plans

C. Any revisions to these plans must be reviewed and approved by the City of Tacoma prior to any implementation in the field.

D. Contractors shall familiarize themselves with the site and shall bring any discrepancies to the attention of the Engineer prior to undertaking the affected work.

E. Any discrepancy in these drawings, specifications, these notes, and the site conditions shall be reported to the Engineer, who shall correct such discrepancy in writing after reviewing any changes. Any work done by the Contractor after the discovery of such discrepancy shall be done at the Contractor's risk. The Contractor shall verify and coordinate the dimensions among all drawings prior to proceeding with any work.

F. A pre-construction meeting shall be held at the City of Tacoma with the applicant, contractor, and City inspectors prior to issuance of a permit.

ADDITIONAL PERMITS

A. Separate permits are required for on-site work including all retaining walls, grading, and erosion control. Adherence to all conditions of these permits is required as a part of this plan.

B. Separate permits are required for sidewalk installation as well as curb and gutter removal and driveway construction when constructed at building permit stage.

C. Separate storm and sanitary sewer connection permits are required for connections to the wastewater or stormwater systems.

UTILITIES

A. The existing underground utilities shown hereon are based upon existing record drawings and are not guaranteed to be accurate, nor all-inclusive.

B. All utilities must be verified prior to construction. If the project requires any excavation, the developer/contractor is required to call the Utility Underground Location Center at (800) 424-5555 at least two days before starting such excavation in accordance with RCW 19.122.

C. It shall be the Contractor's responsibility to protect, in place, all utilities and/or structures whether shown or not shown on this plan. Damage due to the Contractor's operations shall be repaired at the Contractor's expense.

EXCAVATION

A. If workers enter any trench or other excavation four feet or more in depth that does not meet the open pit requirements of Section 2-09.3(3)B, it shall be shored and cribbed. All trench safety systems shall meet the requirements of the Washington Industrial Safety and Health Act, Chapter 49.17 RCW. The Contractor alone shall be responsible for all worker safety, and neither the City of Tacoma nor the Engineer of record assumes any responsibility.

PAVEMENT PREPARATION / RESTORATION

A. Additional removal and replacement of pavement may be required to provide proper transition/crown as directed by the City of Tacoma Inspector in the field.

B. The street sections shown on this plan are designed to be placed upon a firm and unyielding base.

C. Subgrade compaction shall be tested by a professional geotechnical consultant prior to placing base material.

D. Pavement restoration shall be constructed in accordance with the City of Tacoma Restoration policy and applicable Standard Plans.

E. All permanent traffic channelization, such as but not limited to legends, raised pavement markings, paint, and signage, shall be restored to current Tacoma Standards

F. Final restoration limits shall be determined in the field by the City of Tacoma Inspector.

G. Pavement Preparation and Restoration shall meet all applicable requirements of City of Tacoma Right-of-Way Design Manual Chapter 4 Sections 5.4 and 5.5.

PERMEABLE PAVEMENTS

A. Permeable Pavements including pavers, porous asphalt and pervious concrete may be approved for use within the right of way.

B. Installation shall be in accordance with the approved permit documents and all applicable requirements as outlined in the documents referenced in the GENERAL section above.

C. Permeable pavers shall be designed and installed in accordance with manufacturer's recommendations, per approved permit drawings and the requirements of the City of Tacoma Right-of-Way Design Manual.

HOT MIX ASPHALT

A. Standard hot mix asphalt shall be HMA CL 1/2 Inch PG 64-22.

B. Porous asphalt shall be Class ¾" PG 70-22ER polymer modified or higher grade.

C. Mix design shall be based on Standard Plan PD-01-Pavement Design Standards and PD-02 Pavement Design Worksheet.

D. Section 5-04.3(8)A 'Acceptance Sampling and Testing' of the Standard Specifications is deleted.

E. All standard hot mix asphalt shall be compacted to a minimum of 92 percent of the maximum density as determined by AASHTO T209. All standard hot mix asphalt utilized shall be considered compactable. The level of compaction attained will be determined as the average of not less than 5 nuclear density gauge tests taken on the day the mix is placed (after completion of the finish rolling) at randomly selected locations within each lot. The quantity represented by each lot will be no greater than a single day's production or approximately 400 tons, whichever is less.

F. All testing results shall be provided to the City within 48 hours of the test.

G. Control lots not meeting the minimum density standard shall be removed and replaced with satisfactory material.

H. In addition to the randomly selected locations for test of the control lot, the City Inspector reserves the right to test any area which appears defective and to require further compaction of areas that fall below acceptable density readings. These additional tests shall not impact the compaction evaluation of the entire control lot.

I. Hot mix asphalt pavement shall not be placed on any traveled way between October 1 and April 1 without written approval from a Science & Engineering Assistant Division Manager.

J. No traffic shall be allowed on any newly placed pavement without the approval of the City Inspector.

CONCRETE

A. Concrete pavement mix design shall be based on Standard Plan PD-01-Pavement Design Standards.

B. Cold Weather Concrete Work. The following requirements for placing concrete shall be in effect from November 1 to April 1:
   1. The Engineer shall be notified at least 24 hours prior to any concrete placement.
   2. Weather permitting, all concrete placement shall be completed no later than 2:00 p.m. each day.
   3. Where forms have been placed and the subgrade has been subjected to severe frost, no concrete shall be placed until the ground is completely thawed. At that time, the forms shall be adjusted and subgrade repaired as determined by the Engineer.

C. Curing of concrete shall be in accordance with Section 5-05.3(13) of the Standard Specifications.

D. The slump for standard concrete used for sidewalks shall not exceed four inches +/- one inch.

E. Sidewalks and curb ramps shall be constructed in accordance with ADA Standards for Accessible Design, 28 CFR, Part 35 and as supplemented by the Public Works Right of Way Accessibility Guidelines (PROWAG).

SANITARY AND STORM SEWERS

A. 7-08.3(2)G Jointing of Dissimilar Pipe:

Dissimilar pipe shall be joined by use of rigid couplings manufactured by Romac Industries, Inc., or City of Tacoma approved equal.

B. 7-08.3(2)F Plugs and Connections:

Rigid Couplings, manufactured by Romac Industries, Inc., or City of Tacoma approved equal, shall be used at any pipe joint in which bell and spigot or fused joints are not used. Flexible couplings are not permitted.

C. Section 7-04 of the Standard Specification is deleted. Storm sewers shall meet all the requirements of sanitary sewers.

D. Sewers and appurtenances shall be cleaned and tested after backfilling by either exfiltration or low-pressure air method at the option of the Contractor, except where the ground water table is such that the Engineer may require the infiltration test.

E. All wastewater and stormwater pipes shall be video inspected by City Forces prior to paving where paving occurs over sewers. All other sewers will be video inspected prior to final acceptance.

F. All abandoned pipes encountered during construction and new stormwater and wastewater stub outs shall be sealed with a watertight pipe plug.

G. All frames and grates for standard catch basin inlets on this project shall be "vaned" type and shall conform to that shown on WSDOT Standard Plan No. B-30.30-01 and B-30.40-01.

H. Where existing catch basins are modified, grates may be required to be replaced with vaned grates. Environmental Services will make the final determination based on the condition of the existing grate and structure.

I. Recycled concrete shall not be used for pipe zone backfill.

J. New connections to brick manholes may be allowed on a case by case basis. Manhole replacement may be required by the Environmental Services Department based upon the condition of the existing manhole.

MISCELLANEOUS

A. Any fence or structure replaced and/or relocated shall be maintained to remain functional.

B. Independent quality assurance sampling and testing will be provided by a certified independent laboratory for all improvements within the right-of-way. All special inspection reports shall be forwarded to the Site Development Group on a monthly basis, and / or as requested by the City of Tacoma inspector.

C. The Contractor shall only use those hydrants designated by the agency in charge of water distribution and in strict accordance with its requirements for hydrant use, Water applied by the Contractor shall not be from residential sources.

GRADING, EXCAVATION, AND EROSION CONTROL NOTES

A. All work is to be done in accordance with the approved grading plan, soils report, the most current WSDOT Standard Specifications For Road, Bridge And Municipal Construction and the current City of Tacoma Stormwater Management Manual.

B. When construction operations are such that debris from the work is deposited on the streets, the Contractor shall immediately remove any deposits or debris which may accumulate on the roadway surface. If the Contractor fails to keep the streets free from deposits and debris resulting from the work, the Contractor shall, upon order of the City of Tacoma Inspector, provide facilities for, and remove all clay, dirt, or other deposits from the tires or between wheels before trucks or other equipment will be allowed to travel over paved streets. Should the Contractor fail or refuse to clean the streets in question, or the trucks or equipment in question, the City of Tacoma Inspector may order the work suspended at the Contractor's risk until compliance with the Contractor's obligations is assured, or the City of Tacoma Inspector may order the streets in question cleaned by others and such costs incurred by the City in achieving compliance with these requirements, including cleaning of the streets, shall be deducted from the work order account.

C. The Contractor shall protect existing drainage structures using acceptable methods and materials as shown on this plan. If the methods and materials as shown on this plan are not adequate, the City of Tacoma Inspector may require additional/alternative methods for erosion control and/or protection of existing drainage structures. Additional or alternative methods shall be submitted by the design engineer and accepted by the City of Tacoma Inspector. Any damage caused to the City of Tacoma stormwater system as a result of the work outlined on this plan shall be the sole responsibility of the Contractor. Resolving said damage may include, but not be limited to, the cleaning of the drainage system in question by the Contractor.

D. Watering provisions when applicable must be in place to prevent dust from becoming air borne. Violation of this condition will result in a stop work order until corrected.

E. Fill that will support a street section or other structures shall be placed under the inspection of a Washington State licensed Geotechnical Engineer. Soil to be placed shall be tested and compacted to 95 percent of its maximum density. Engineer shall document existing site conditions, soil and its placement and allowable bearing capacity submitted. Standard requirements for cuts and fill are contained in the WSDOT Standard Specifications For Road, Bridges, and Municipal Construction.

F. A stormwater pollution prevention plan (SWPPP) is required for all work order projects. The plan must be in accordance with the current City Tacoma Stormwater Management Manual.

HYDROSEEDING

A. All areas that are cleared and grubbed, graded, excavated or filled are subject to stabilization. Any of these areas that are left unpaved or unlandscaped shall be hydroseeded or otherwise fully stabilized under the direction and approval of the Construction Inspector.

B. Hydroseeding may occur only during the periods of April 1 though May 31 or September 1 though October 15. Hydroseeding may be allowed during the months of June through August if irrigation is provided.

C. Monitor and maintain hydroseeded areas throughout the winter wet season to ensure that no erosion occurs.

EROSION CONTROL MEASURES

A. Minimum Erosion Control measures shall include:
   1. Construction entrance.
   2. Perimeter erosion/sedimentation control.
   3. Protection of catch basins.
   4. Stabilization of exposed soils.

B. All erosion control shall be in place prior to clearing.The contractor shall call the City of Tacoma Inspector for initial erosion control inspection prior to start of work, per item F. below.

C. Erosion control measures shall be maintained at all times to the approval of the City of Tacoma Inspector.

D. Should temporary erosion and sedimentation control measures, as shown on plans become inadequate, the contractor shall install facilities as necessary to protect adjacent properties and the City of Tacoma drainage system, meeting approval of the City of Tacoma Inspector.

E. No permits to perform grading, excavation, or filling during the period from October 1st through March 31 shall be issued. EXCEPTION: The City may approve a grading, excavation, or filling plan prepared by a licensed Civil or Geotechnical Engineer which specifically addresses the winter rain season and the associated erosion problems, and issue a permit based on such plan.

F. Call for inspection of the City of Tacoma Inspector upon completion of:
   1. Staking of clearing limits.
   2. Installation of erosion control and prior to site grading.
   3. Prior to removal of erosion control devices.

G. All material removed from site shall be placed only at a permitted site. Verify location of destination of material prior to exportation.

H. Traffic control provisions as approved by the City Traffic Engineer shall be adhered to at all times.

I. Trees to be removed shall be clearly marked for removal. Trees to be saved shall be fenced with barricade fence at the drip line (outer edge of tree branches) to keep construction vehicles from compacting root zone and killing trees. This fencing shall be maintained until construction ends.

J. Tree protection measures to be installed with initial TESC measures and shall be maintained throughout the duration of site work. Refer to City of Tacoma Std. Plans LS-08 through LS-11.

RECORD DRAWINGS CRITERIA FOR ACCEPTANCE OF ALL PRIVATE WORK ORDERS

A. All revisions to the approved plans must be approved by the City of Tacoma prior to implementation of the changes.

B. A determination at the time of proposal shall be made whether the revision can be addressed with red line drawings submitted as a part of the record drawings or will require formal submission for approval.

C. Record drawings shall show the station, offset, centerline and gutter flowline elevations, to nearest 0.01 foot; for all horizontal and vertical roadway alignment changes, at the intersection end of radius points and at the beginning and end of new paving.

D. Record drawings shall show the station, offset, invert, and rim elevations to the nearest 0.01 foot for all stormwater and wastewater structures. (i.e.: manholes, catch basins, etc.)

E. After any new stormwater and/or wastewater pipes have been cleaned and the manholes channeled, the main(s) shall be televised for video inspection to provide a record of the constructed conditions and for the wastewater system to verify side sewer connection locations. The City of Tacoma will coordinate this inspection.

F. The property side ends of the side sewers shall be marked in the field by means of a 2-inch by 4-inch board and locate wire that extends from the flow line of the side sewer to at least 1 foot above the finished lot grade. Record drawings shall show all side sewers and shall locate them by measurements from permanent objects. (i.e.: curb, property corner, etc.) In addition, the depth of all side sewers shall be noted on the record drawings and locate board.

G. Record drawings shall be received and accepted prior to issuing utility connection permits or release of performance bonds.

H. Record drawings shall show vertical and horizontal datum for survey monuments (existing or new construction) within the limits of the project.

I. Record drawings shall consist of a clean set of approved work order drawings with all changes noted above shown in red ink.

J. Record drawings, including the Engineer's Certification, as applicable, must be submitted within 30 days of substantial completion or City survey crews will collect the necessary data and bill against the work order.

MONUMENT REMOVAL PERMIT PROCESS

"No survey monument shall be removed or destroyed (the physical disturbance or covering of a monument such that the survey point is no longer visible or readily accessible) before a permit is obtained from the Department of Natural Resources (DNR)." WAC 332-120-030(2) states "It shall be the responsibility of those performing construction work or other activity (including road and street resurfacing projects) to adequately search the records and the physical area of the proposed construction work or other activity for the purpose of locating and referencing any known or existing survey monuments." Construction shall not commence until WAC outlined in Chapter 332-120 is complied with.

STAKING REQUIREMENTS

WASTEWATER AND STORMWATER

A. Clearing stakes if needed.

B. Stakes every 50 feet plus grade breaks. Try to maintain 12 foot offsets in streets and 8 foot offsets in alleys.

C. Double offsets at manholes and catch basins (ahead and back stakes at angle points).

D. Catch basin station shall be to the centerline of the basin. Catch basin offsets shall be to the face of the curb.

RESIDENTIAL STREETS

A. Clearing stakes as needed.

B. Slope stakes every 50 feet and grade breaks if cuts or fills exceed 2 feet.

C. Curb stakes every 50 feet and grade breaks, on 4 foot offset to the face of curb. Curb stakes are set to the top of curb grade (Blue Tops).

D. Also stake the beginning and end of all approaches.

E. No centerline of street grades unless the street grade is warped. If street grades are needed, set blue tops for each course.

ARTERIAL STREETS

A. Clearing stakes as needed.

B. Slope stakes every 50 feet and grade breaks if cuts or fills exceed 2 feet.

C. Curb stakes every 50 feet and grade breaks, on 4 foot offset to the face of curb.

D. Curb stakes are set to the top of curb grade (Blue Tops). Also stake the beginning and end of all approaches.

E. Stake centerline and quarterline grade every 50 feet and grade breaks at grade for each course.

ALLEYS

A. Stake both sides every 50 feet and grade breaks, on a 2 foot offset to the edge of paving, with a cut of fill to edge of paving on high side and flow line on low side.

SIDEWALKS

A. Offsets for walks are set on 50' intervals and grade breaks normally at 2 foot to edge of walk and at edge of walk grade (Blue Tops).

B. Sidewalk alignment is normally at 5 feet from the face of curb. No walk grades are needed if curbs are built.

HORIZONTAL AND VERTICAL CURVES

A. Grade stakes must be set every 25 feet and grade breaks with a minimum of 3 stakes for each curve. Radius points on street Returns.

In Support of City of Tacoma Project:
Taylor Way Rehabilitation, SR509 to E 11th St, PW19–0262F
PW Construction Ad Date: 10/29/2019

PW Contact: Mark D'Andrea, 253–591–5518

REVISED: 01-07-2016

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EVERETT (425) 297-9900
www.esmcivil.com
Civil Engineering | Land Surveying | Land Planning
Public Works | Project Management | Landscape Architecture

NO	REVISION	DATE	APPD

FINAL CONSTRUCTION CHECKED BY DATE
FIELD BOOKS

DATE	SCALE
01/14/2020	AS SHOWN
DESIGNED LGB	CHECKED LGB
DRAWN GFF	PROJECT NAME 1624-001-009
DRAWING NAME WO-04	

LAURA G. BARTENHAGEN — 40111 — STATE OF WASHINGTON — REGISTERED PROFESSIONAL ENGINEER

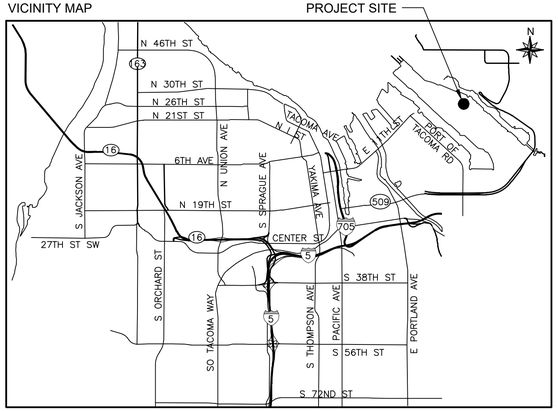
CITY OF TACOMA
DEPARTMENT OF PUBLIC WORKS
SITE AND BUILDING DIVISION

SUPERLON PLASTICS
TACOMA, WA
GENERAL NOTES

SHEET NO. 5 OF 5

VICINITY MAP

PROJECT SITE



SPECIAL TRAFFIC CONTROL REQUIREMENTS

LOCATION: 2116 TAYLOR WAY

THE FOLLOWING SPECIAL TRAFFIC CONTROLS SHALL SUPPLEMENT SECTION 1-07.23 OF THE STANDARD SPECIFICATIONS.

THE CONTRACTOR MAY CLOSE NON-ARTERIAL STREETS TO THROUGH TRAFFIC, PROVIDED THAT LOCAL ACCESS IS MAINTAINED AT ALL TIMES WITH A MINIMUM OF A 20-FOOT WIDE ACCESS LANE. THE CONTRACTOR SHALL COORDINATE ANY CLOSURES AND COOPERATE WITH THE VARIOUS BUSINESSES AND/OR RESIDENCES ADJACENT TO THE PROJECT SITE. A MINIMUM OF ONE ACCESS SHALL BE MAINTAINED TO ALL PROPERTIES AT ALL TIMES.

THE CONTRACTOR SHALL NOTIFY THE FOLLOWING DEPARTMENTS THREE (3) WORKING DAYS PRIOR TO ANY STREET CLOSURE. PIERCE TRANSIT REQUIRES FIVE (5) WORKING DAYS PRIOR TO ANY ROUTE DETOURS.
http://www.govme.org/download/pdf/traffic_control_handbook.pdf

DEPARTMENT	PHONE	FAX	EMAIL
TRAFFIC ENGINEERING	253-591-5500	253-591-5533	
TACOMA FIRE DEPARTMENT	253-591-5733	253-591-5034	kmueller@cityoftacoma.org
TACOMA POLICE-OPS	253-591-5951	253-594-7842	
LESA COMMUNICATION CENTER	253-798-4721-OPT. #3	253-798-2708	
SOUND TRANSIT LINK	206-370-5674		
PIERCE TRANSIT	253-581-8109	253-589-6364 or 589-6367	
PIERCE TRANSIT EVENTS COORD	253-581-8001	253-984-8161	
PUBLIC WORKS/STREET OPS	253-591-5495	253-591-5302	
SCHOOL TRANS OFFICE	253-571-1853	253-571-1932	
DURHAM SCHOOL SERVICES		253-475-0422	
FIRST STUDENTS		253-272-7799	
UWT FACILITIES SERVICES		253-692-5705	
OFF-DUTY POLICE OFFICER	253-591-5932		tacomapoliceevents@cityoftacoma.org
TACOMA REFUSE	253-591-5544	253-591-5547	

ADDITIONAL REQUIREMENTS:

ALL STREETS SHALL REMAIN FULLY OPEN TO VEHICULAR AND PEDESTRIAN TRAFFIC AT ALL TIMES. EXCEPTION: ROADS MAY BE REDUCED BY THE CONTRACTOR TO A MINIMUM OF ONE LANE FLAGGER CONTROLLED BETWEEN THE HOURS OF 8 A.M. AND 5 P.M.

SOIL DISTURBANCE NOTES:

LEAVE NATURAL VEGETATION AND SOIL UNDISTURBED WHERE FEASIBLE. IF DISTURBED, REPLACE WITH EXISTING TOPSOIL, AMENDED WITH ORGANIC MATTER PER CITY OF TACOMA 2012 SURFACE WATER MANAGEMENT MANUAL BMP L613 PER OPTION 4.

LEGEND

BIKE RACK	POWER MANHOLE	RIGHT OF WAY LINE
BOLLARD	SIGNAL CONTROL BOX	C TV CABLE, BURIED
WHEELCHAIR RAMP	SIGNAL JUNCTION BOX	FO FIBER OPTIC LINE
INFORMATION SIGN	TRAFFIC SIGNAL POLE	G GAS
CABLE TV VAULT	FIBER OPTIC MANHOLE	P POWER, BURIED
SANITARY SEWER MANHOLE	TELEPHONE JUNCTION BOX (UG)	D STORM
STORM DRAIN CATCH BASIN	TELEPHONE MANHOLE	T TELEPHONE, BURIED
STORM DRAIN MANHOLE	UTILITY CLEAN OUT	W WATER
YARD DRAIN	FIRE HYDRANT	TREE DRIPLINE
LUMINAIRE W/ARM	WATER MANHOLE	
LUMINAIRE	WATER METER	
GAS MANHOLE LID	MONITORING WELL	
GAS VALVE	WATER VALVE	
GAS VAULT	DECIDUOUS (DC)	
GUY POLE	FOUND CASED MONUMENT	
ELECTRICAL JUNCTION PULL/BOX	FOUND OTHER MONUMENT	
	FOUND SCRIBE	

Sheet Index

STREET CLASSIFICATIONS

STREET NAME	PAVEMENT TYPE	LATEST CONDITION INDEX
TAYLOR WAY	ASPHALT CONCRETE PAVEMENT	47
LINCOLN AVE	ASPHALT CONCRETE PAVEMENT	55

In Support of City of Tacoma Project:
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NO	REVISION	DATE	APPD

FINAL CONSTRUCTION CHECKED	DATE 01/14/2020	SCALE AS SHOWN	
BY	DESIGNED LGB	CHECKED LGB	
DATE	DRAWN GFF	PROJECT NAME 1624-001-009	
FIELD BOOKS	DRAWING NAME WO-01		

LAURA G. BARTENHAGEN — STATE OF WASHINGTON — 40111 — REGISTERED PROFESSIONAL ENGINEER

CITY OF TACOMA
DEPARTMENT OF PUBLIC WORKS
SITE AND BUILDING DIVISION

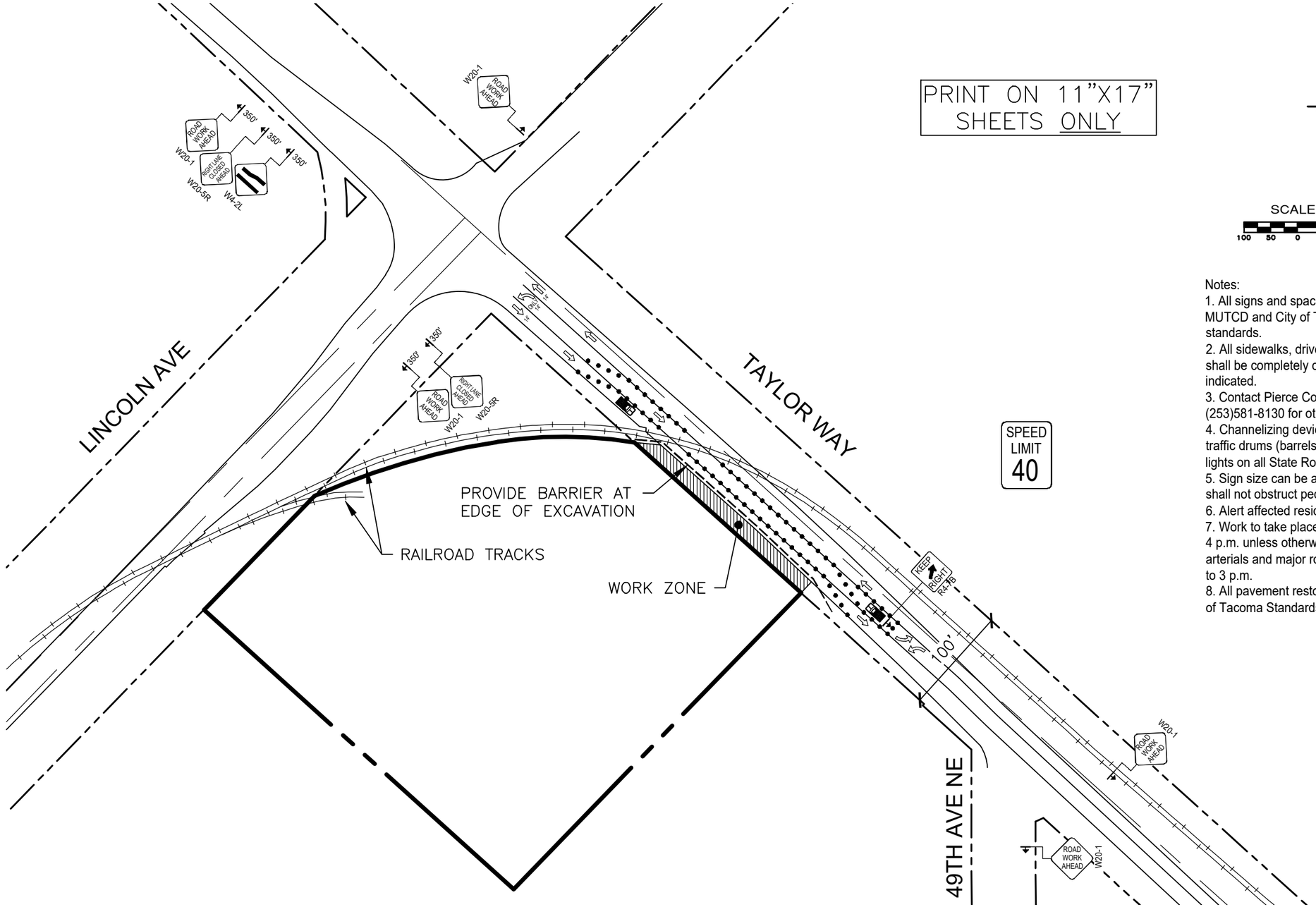
SUPERLON PLASTICS
TACOMA, WA
COVER SHEET

SHEET NO. 1 OF 5

SUPERLON PLASTICS

TEMPORARY TRAFFIC CONTROL PLAN

SUPERLON PLASTICS



PRINT ON 11"X17" SHEETS ONLY

n

SCALE: 1" = 100'

100 50 0 100 200

Notes:
1. All signs and spacing to conform to the MUTCD and City of Tacoma Traffic Control standards.
2. All sidewalks, driveways, exits and egresses shall be completely clear unless otherwise indicated.
3. Contact Pierce County Transit @ (253)581-8130 for other restrictions.
4. Channelizing devices are 28" traffic cones. Use traffic drums (barrels) with steady burning Type C lights on all State Routes and Hwys.
5. Sign size can be a minimum of 36" x 36" and shall not obstruct pedestrian access.
6. Alert affected residents and businesses.
7. Work to take place between 9 a.m. and 4 p.m. unless otherwise indicated. All work for arterials and major roadways will be from 9 a.m. to 3 p.m.
8. All pavement restoration to be executed to City of Tacoma Standards.

LEGEND

- 28" TRAFFIC CONE
- TRAFFIC FLOW
- FLAGGER
- WORK VEHICLE
- SIGN LOCATION
- WARNING FLAG

SIGN SPACING	
MPH	"X"
60/65	1000'
45/55	500'
35/40	350'
30	200'
25	100'

MINIMUM TAPER LENGTH=L (FT.)									
LANE WIDTH	POSTED SPEED (MPH)								
	20	25	30	35	40	45	50	55	60
10	70	105	150	205	270	475	500	550	-
11	75	115	165	225	295	495	550	605	660
12	80	125	180	245	320	540	600	660	720

CHANNELIZATION DEVICE SPACING		
MPH	TAPER	TANGENT
55/70	40	80
35/45	30	60
25/30	20	40

DRAWING: TC-01

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JOB NO. 1624-001-009 | DATE: 01/14/2020
DRAWN: GFF | SHEET 1 OF 1

File: \\esm8\engr\esm-jobs\1624\001\009\traffic control\TC-01.dwg
Plotted: 1/31/2020 10:57 AM
Plotted By: Greg Fedore