

FIBER TO LOT F

TACOMA, WASHINGTON

ELEVATION DATUM:

MEAN LOWER LOW WATER (MLLW);

CONVERSION: MLLW DATUM MINUS 6.17' = NGVD 29 CITY OF TACOMA DATUM

HORIZONTAL DATUM:

NAD 83 (2007)

CONVERSION: PORT OF TACOMA DATUM MINUS N 0.22, E 0.00 = NAD 83/91
CITY OF TACOMA DATUM

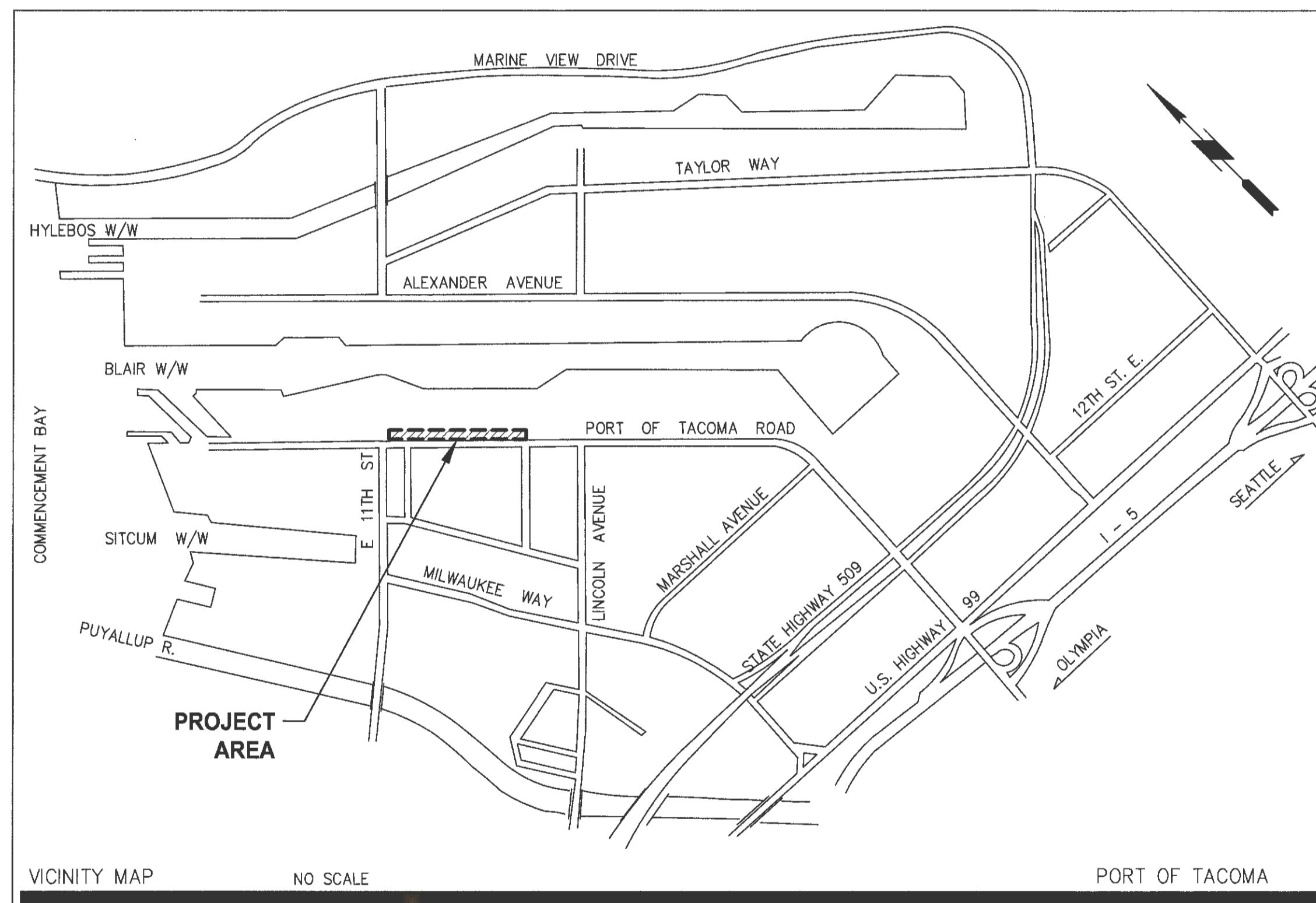
SPECIAL TRAFFIC CONTROL REQUIREMENTS:

1. A MINIMUM OF ONE 20-FOOT WIDE ACCESS SHALL BE MAINTAINED TO ALL PROPERTIES AT ALL TIMES.
2. THREE (3) WORKING DAYS PRIOR TO ANY STREET OR LANE CLOSURE, THE CONTRACTOR SHALL NOTIFY:

TACOMA PUBLIC WORKS ENGINEERING DIVISION	(253) 591-5500
TACOMA PUBLIC WORKS STREETS AND GROUNDS	(253) 591-5495
TACOMA PUBLIC WORKS SOLID WASTE	(253) 591-5544
TACOMA FIRE DEPARTMENT	(253) 591-5733
TACOMA POLICE DEPARTMENT	(253) 591-5951
LESA COMMUNICATION CENTER	(253) 798-4721
	OPT. #3
3. A TRAFFIC CONTROL PLAN SHALL BE SUBMITTED TO, AND APPROVED BY THE TACOMA PUBLIC WORKS, ENGINEERING DIVISION, PRIOR TO BEGINNING ANY WORK ON CITY RIGHT OF WAY.

GENERAL CONSTRUCTION SEQUENCE:

1. HOLD AND ATTEND PRE-CONSTRUCTION MEETING WITH THE CITY OF TACOMA CONSTRUCTION DIVISION AND BUILDING AND LAND USE SERVICE, TACOMA POWER, TACOMA WATER, PORT OF TACOMA, ENGINEER AND OTHERS AS APPLICABLE PRIOR TO COMMENCEMENT OF WORK.
2. STAKE PROJECT LIMITS PRIOR TO BEGINNING CONSTRUCTION.
3. WHEN COMPLETED CONTACT CITY INSPECTOR FOR FINAL APPROVAL.



PROJECT CONTACT INFORMATION

OWNER - PORT OF TACOMA
CONSULTING ENGINEER - MOFFATT & NICHOL

STEVEN GRAY, P.E.
PROJECT MANAGER
PHONE: (206) 622-0222
EMAIL: SGRAY@MOFFATTNICHOL.COM

SHEET LIST INDEX	
SHEET NUMBER	SHEET TITLE
WO-01	COVER SHEET AND SHEET INDEX
WO-02	GENERAL NOTES
WO-03	TESC DETAILS
WO-04	TESC PLAN
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WO-07	DETAILS

GENERAL

- The following special provisions are to be used in conjunction with the "2010" 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). State Standard Specifications are available through WSDOT, by mail at Pre-Contract Section, P.O. Box 47408, Olympia, WA 98504-7408, or by telephoning (360) 705-7430.
- Any inconsistency between these work order drawings and the 2010 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):
 - Approved Work Order Drawings
 - 2010 Standard Specifications
 - WSDOT Standard Plans
- Any revisions to these plans must be reviewed and approved by the City of Tacoma Department of Public Works prior to any implementation in the field.
- Contractors shall familiarize themselves with the site and shall bring any discrepancies to the attention of the Engineer prior to undertaking the affected work.
- 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.
- 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

- Separate permits are required for all retaining walls, grading, and erosion control. Adherence to all conditions of these permits is required as a part of this plan.
- Separate permits are required for sidewalk installation as well as curb and gutter removal and driveway construction when constructed at building permit stage.
- Separate storm and sanitary sewer connection permits are required for connections to the sanitary or storm sewer system.

UTILITIES

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

- 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

- Additional removal and replacement of pavement may be required to provide proper transition/crown as directed by the City of Tacoma Construction Inspector in the field.
- The street sections shown on this plan are designed to be placed upon a firm and unyielding base.
- Subgrade compaction shall be tested by a professional geotechnical consultant prior to placing base material.
- Pavement restoration shall be constructed in accordance with the City of Tacoma Restoration policy.

HOT MIX ASPHALT

- The hot mix asphalt shall be HMA CL 1/2 inch PG 64-22. Mix design shall be based on Standard Plan PD-01-Pavement Design Standards.
- Section 5-04.3(8)A 'Acceptance Sampling and Testing' of the Standard Specifications is deleted.
- All hot mix asphalt shall be compacted to a minimum of 92 percent of the maximum density as determined by AASHTO T209. All 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.
- All testing results shall be provided to the City within 48 hours of the test.
- Control lots not meeting the minimum density standard shall be removed and replaced with satisfactory material.
- In addition to the randomly selected locations for test of the control lot, the Engineer 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.
- Hot mix asphalt pavement shall not be placed on any traveled way between October 1 and April 1 without written approval from the Construction Division Manager.
- No traffic shall be allowed on any newly placed pavement without the approval of the inspector.

CONCRETE

- Concrete pavement mix design shall be based on Standard Plan PD-01-Pavement Design Standards.
- Cold Weather Concrete Work. The following requirements for placing concrete shall be in effect from November 1 to April 1:
 - The Engineer shall be notified at least 24 hours prior to any concrete placement.
 - Weather permitting, all concrete placement shall be completed no later than 2:00 p.m. each day.
 - 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.
- Curing of concrete shall be in accordance with Section 5-05.3(13) of the Standard Specifications.
- The slump for concrete used for sidewalks shall not exceed four inches +/- one inch.
- 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

- 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 Engineer approved equal.
- 7-08.3(2)F Plugs and Connections: Rigid Couplings, manufactured by Romac Industries, Inc., or Engineer 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.
- Section 7-04 of the Standard Specification is deleted. Storm sewers shall meet all the requirements of sanitary sewers.
- 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.
- All sanitary and storm sewers 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.
- All abandoned pipes encountered during construction and new storm and sanitary sewer stub outs shall be sealed with a watertight pipe plug.
- All frames and grates for standard catch basin inlets on this project shall be "varied" type and shall conform to that shown on WSDOT Standard Plan No. B30.30-00
- Recycled concrete shall not be used for pipe zone backfill.

MISCELLANEOUS

- Any fence or structure replaced and/or relocated shall be maintained to remain functional.
- 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 Construction Division Office on a monthly basis, and / or as requested by the construction Inspector.
- 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.

PRIVATE WORK ORDER GENERAL NOTESGRADING, EXCAVATION, AND EROSION CONTROL NOTES

- All work is to be done in accordance with the approved grading plan, soils report, the most current WSDOT Standard Specification For Road, Bridge And Municipal Construction and the current Tacoma Surface Water Management Manual.
- When construction operations are such that debris from the work is deposited on the streets, the Contractor shall, as a minimum, remove on a daily basis any deposits or debris which may accumulate on the roadway surface. Should daily removal be insufficient to keep the streets clean, the Contractor shall perform removal operations on a more frequent basis. If the City of Tacoma Construction Inspector determines that a more frequent cleaning is impractical or 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 Construction Inspector, provide facilities for, and remove all clay 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 Construction 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 Construction 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.
- 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 Construction 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 Construction Inspector. Any damage caused to the City of Tacoma storm sewer 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.
- 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.
- Fill that will support a street section or other structures shall be placed under the inspection of a 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.
- A stormwater pollution prevention plan is required for all work order projects. The plan must be in accordance with the current Tacoma Surfacewater Management Manual.

HYDROSEEDING

- All areas that are cleared and grubbed, graded, excavated or filled are subject to hydroseeding. Any of these areas that are left unpaved or unlandscaped shall be hydroseeded under the direction and approval of the Construction Inspector.
- Hydroseed only during the periods of April 1 through May 31 or September 1 through October 15. This hydroseeding requirement may be met during the months of June through August if irrigation is provided.
- Maintain hydroseeding throughout the winter wet season.

EROSION CONTROL MEASURES

- Minimum Erosion Control measures shall include:
 - Construction entrance.
 - Perimeter erosion/sedimentation control.
 - Protection of catch basins.
 - Stabilization of exposed soils.
- All erosion control shall be in place prior to clearing.
- Erosion control measures shall be maintained at all times to the approval of the Construction Inspector.
- 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 Construction Inspector.
- Grading, excavation, and filling prohibited. No permits to perform grading, excavation, or filling during the period from October 1st through March 31 shall be issued. EXCEPTION: The Building Official 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.
- Call for inspection of the Construction Inspector upon completion of:
 - Staking of clearing limits.
 - Installation of erosion control and prior to site grading.
 - Prior to removal of erosion control devices.
- All material removed from site shall be placed only at a permitted site. Verify location of destination of material prior to exportation.
- Traffic control provisions as approved by the traffic engineer shall be adhered to at all times.
- 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.

RECORD DRAWINGS CRITERIA FOR ACCEPTANCE OF ALL PRIVATE WORK ORDERS

- All revisions to the approved plans must be approved by the City of Tacoma Public Works Construction Division prior to implementation of the changes.
- 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.
- 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.
- Record drawings shall show the station, offset, invert, and hm elevations to the nearest 0.01 foot for all storm and sanitary sewer structures. (i.e.: manholes, catch basins, etc.)
- After any new storm and/or sanitary sewer(s) have been cleaned and the manholes channeled, the main(s) shall be televised to provide a record of the constructed conditions and to verify side sewer connection locations by the City of Tacoma Public Works Sewer Maintenance Division.
- 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.
- Record drawings shall be received and accepted prior to issuing side sewer connection permits or release of performance bonds.
- Record drawings shall show vertical and horizontal datum for survey monuments (existing or new construction) within the limits of the project.
- Record drawings 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.

SEWERS AND STORM

- Clearing stakes if needed.
- Stakes every 50 feet plus grade breaks. Try to maintain 12 foot offsets in streets and 8 foot offsets in alleys.
- Double offsets at manholes and catch basins (ahead and back stakes at angle points).
- Catch basin station shall be to the centerline of the basin. Catch basin offsets shall be to the face of the curb.

RESIDENTIAL STREETS

- Clearing stakes as needed.
- Slope stakes every 50 feet and grade breaks if cuts or fills exceed 2 feet.
- 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).
- Also stake the beginning and end of all approaches.
- No centerline of street grades unless the street grade is warped. If street grades are needed, set blue tops for each course.

ARTERIAL STREETS

- Cleaning stakes as needed.
- Slope stakes every 50 feet and grade breaks if cuts or fills exceed 2 feet.
- 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). Also stake the beginning and end of all approaches.
- Stake centerline and quarterline grade every 50 feet and grade breaks at grade for each course.

ALLEYS

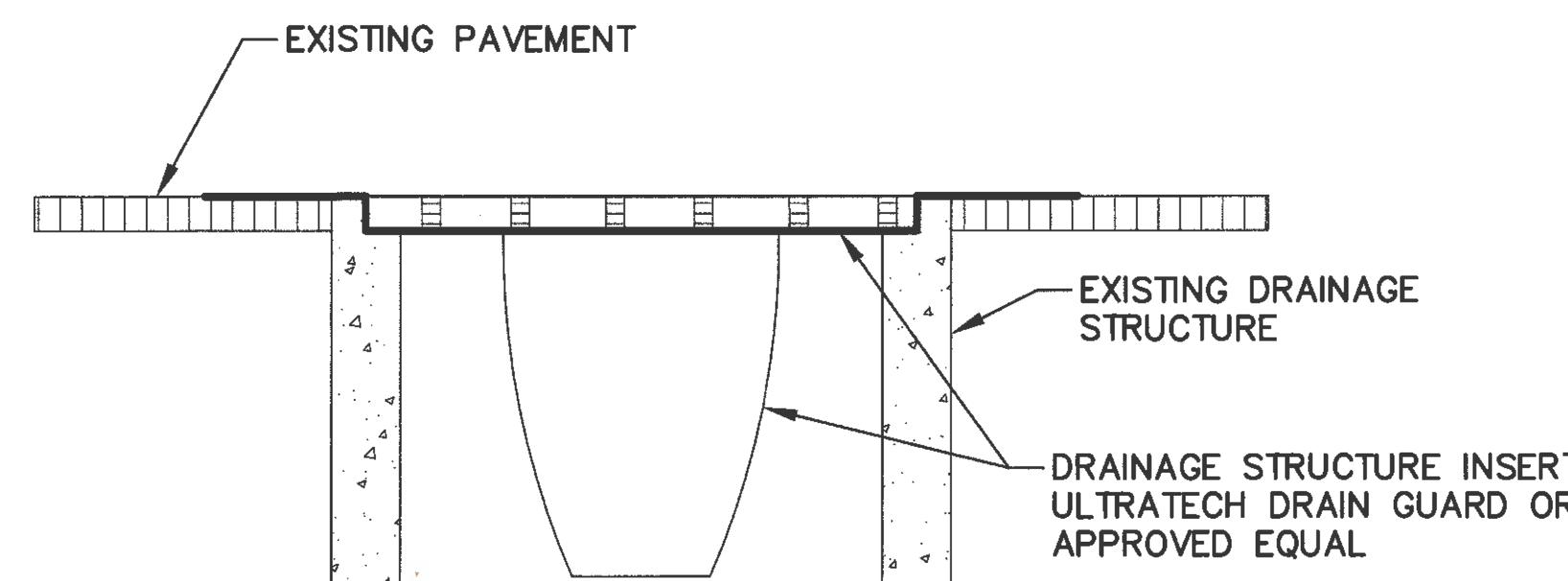
- Stake both sides every 50 feet and grade breaks, on a 2 foot offset to the edge of paving, with a cut of fill to edge of paving on high side and flow line on low side.

SIDEWALKS

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

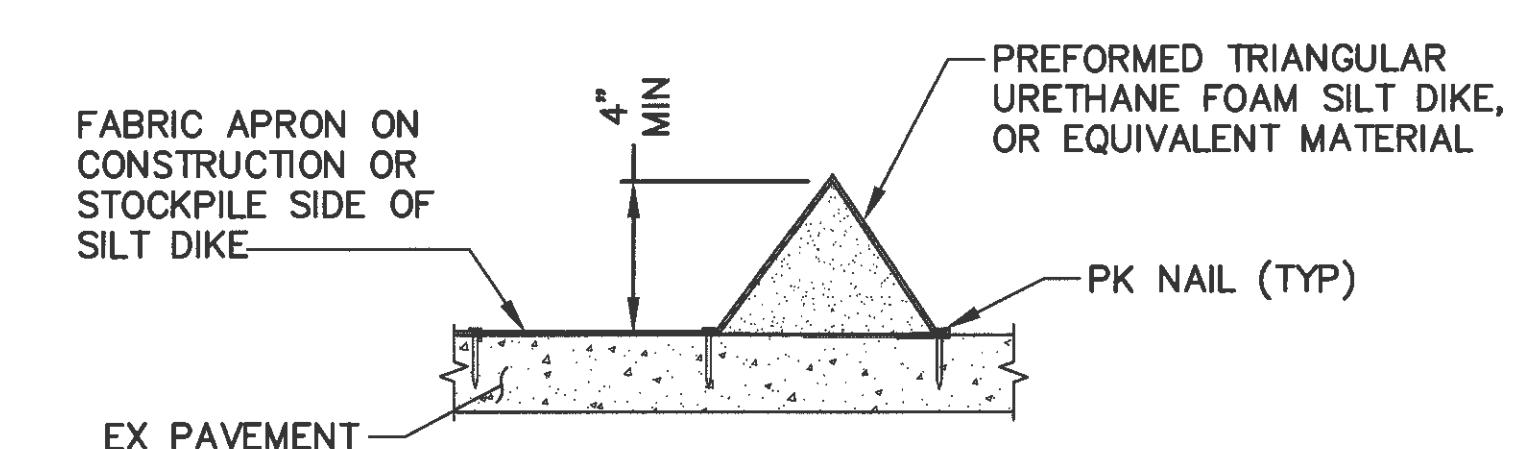
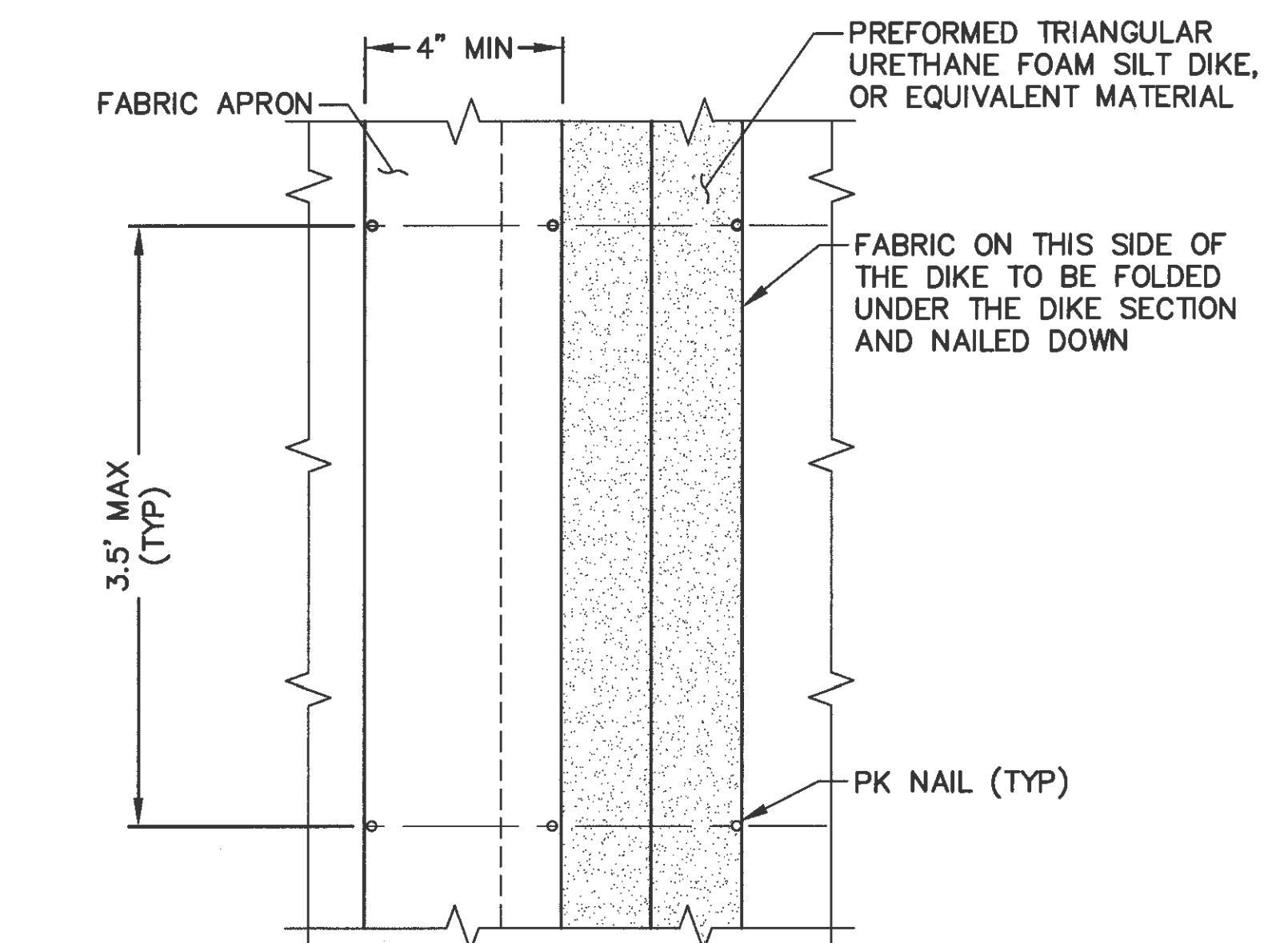
HORIZONTAL AND VERTICAL CURVES

- 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.

NOTES:

1. ANY ACCUMULATED SEDIMENT ON OR AROUND THE FILTER FABRIC SHALL BE REMOVED. ALL SEDIMENT SHALL BE DISPOSED OF OFF-SITE.
2. REFER TO SPECIFICATION SECTION 01 57 13, PARAGRAPH 3.03B FOR REQUIREMENTS TO MAINTAIN AND CLEAN DRAINAGE STRUCTURE INSERTS.

1 **VARIABLES** **TEMPORARY DRAINAGE STRUCTURE INSERT DETAIL**
SCALE: NTS

TRIANGULAR SILT DIKE NOTES

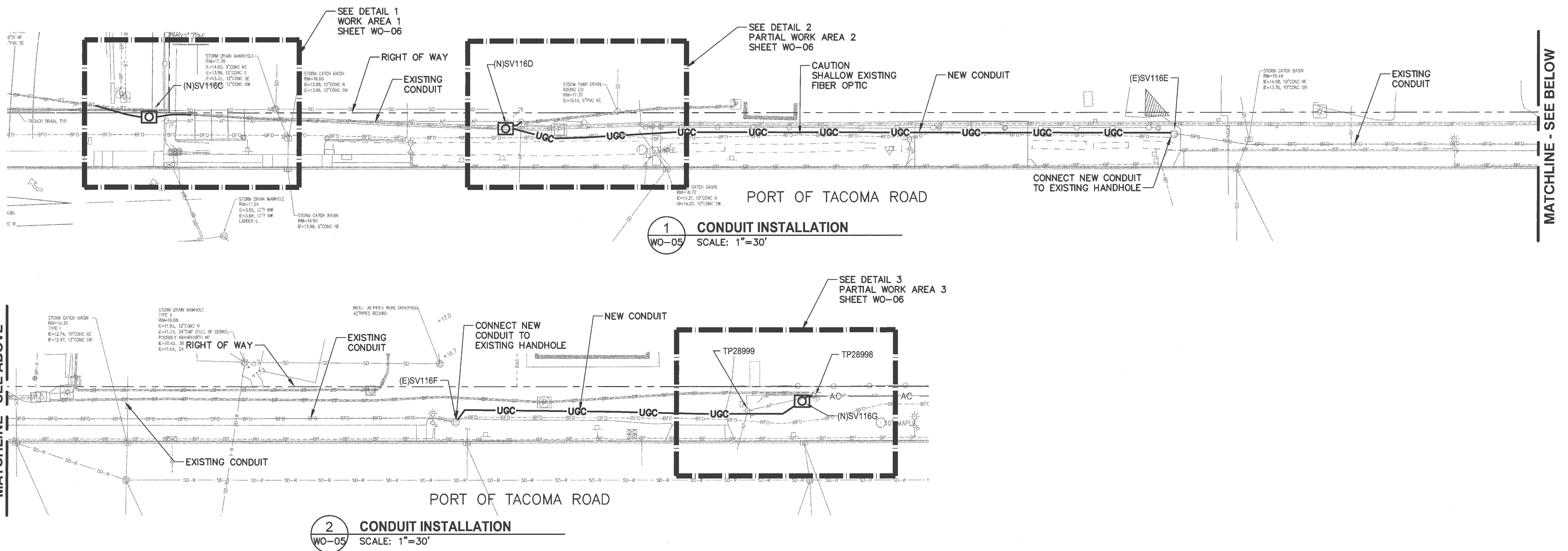
1. PK NAILS SHALL BE PLACED WHERE THE UNITS OVERLAP AND IN THE CENTER OF A 7-FOOT UNIT AS SHOWN ON THE DIKE PLAN.
2. ALTERNATE APPROVED HOLD DOWN DEVICE MAY BE SUBSTITUTED FOR PK NAILS (WIRE STAPLES, ETC.).

2 **VARIABLES** **TEMPORARY TRIANGULAR SILT DIKE**
SCALE: NTS

NOTE

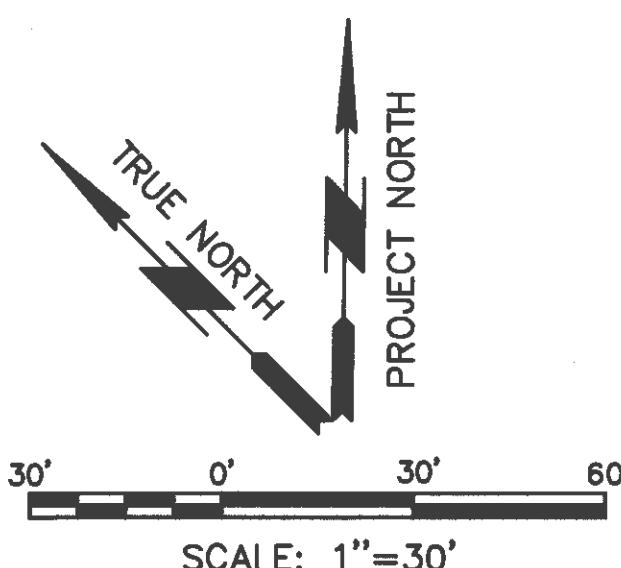
1. ALTERNATE MEANS TO CONTROL SEDIMENT ON PAVEMENT MAY BE SUBSTITUTED FOR TRIANGULAR SILT DIKES SUBJECT TO ENGINEER APPROVAL.

MATCHLINE - SEE ABOVE



NOTES:

1. ALL UTILITY LOCATIONS SHOWN ARE APPROXIMATE BASED ON AVAILABLE SUBSURFACE INFORMATION. CONTRACTOR SHALL VERIFY DEPTH, LOCATION AND CONDITION OF ALL UNDERGROUND FACILITIES PRIOR TO COMMENCING CONSTRUCTION ACTIVITIES.
2. WORK TO RECONFIGURE CONDUIT CONNECTIONS SHOWN ON SHEET WO-06



moffatt & nichol



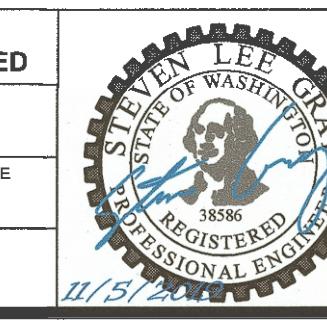
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REVISION

DATE

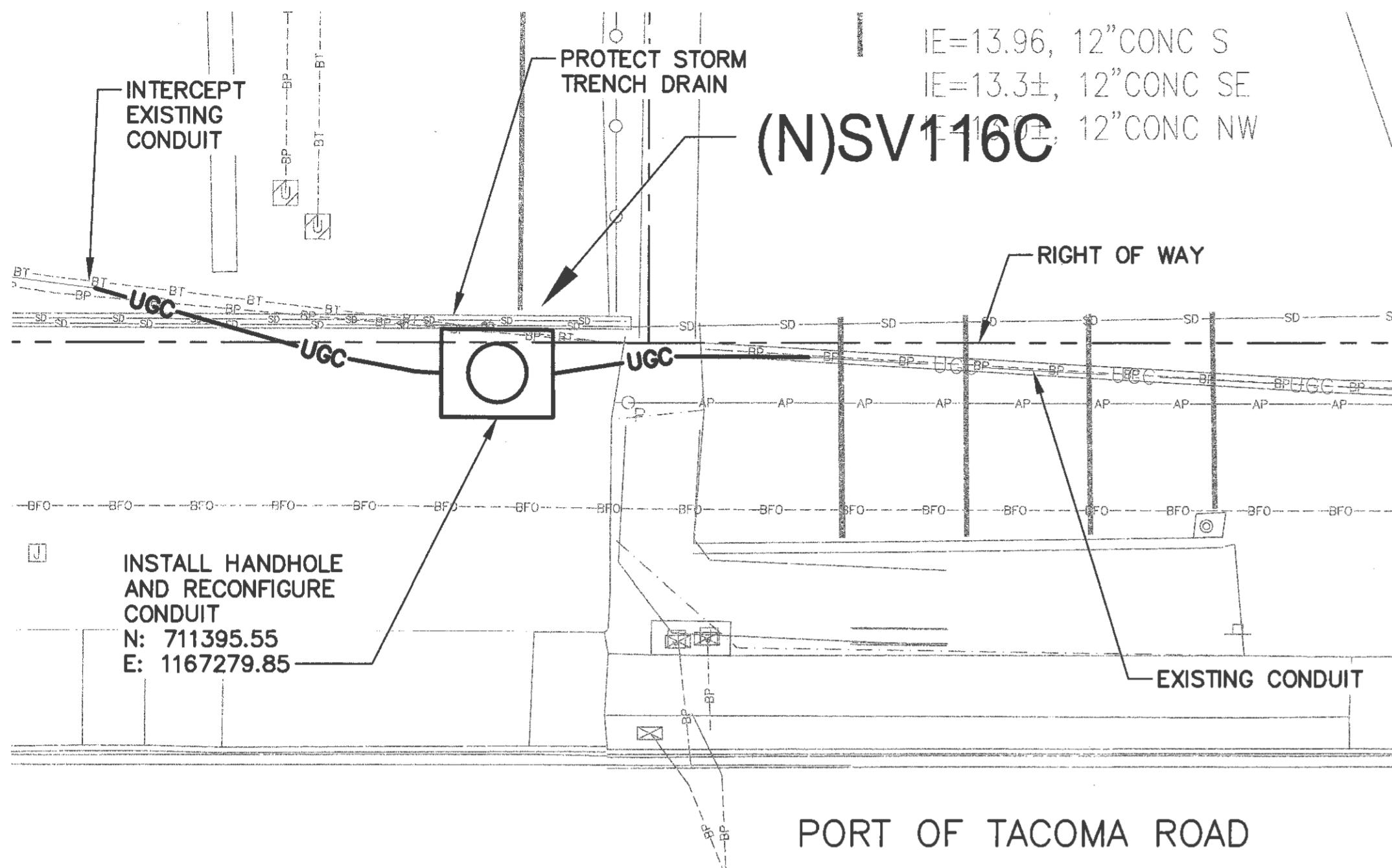
APPD

BY DATE	FINAL CONSTRUCTION CHECKED DESIGNED JAT SENIOR PM SLG	DATE 11/01/2019 CHECKED SLG PROJECT NAME FIBER TO LOT F OVERALL PLAN	SCALE AS NOTED FIELD BOOKS DRAWING NAME ASST. CONSTRUCTION DIVISION MANAGER

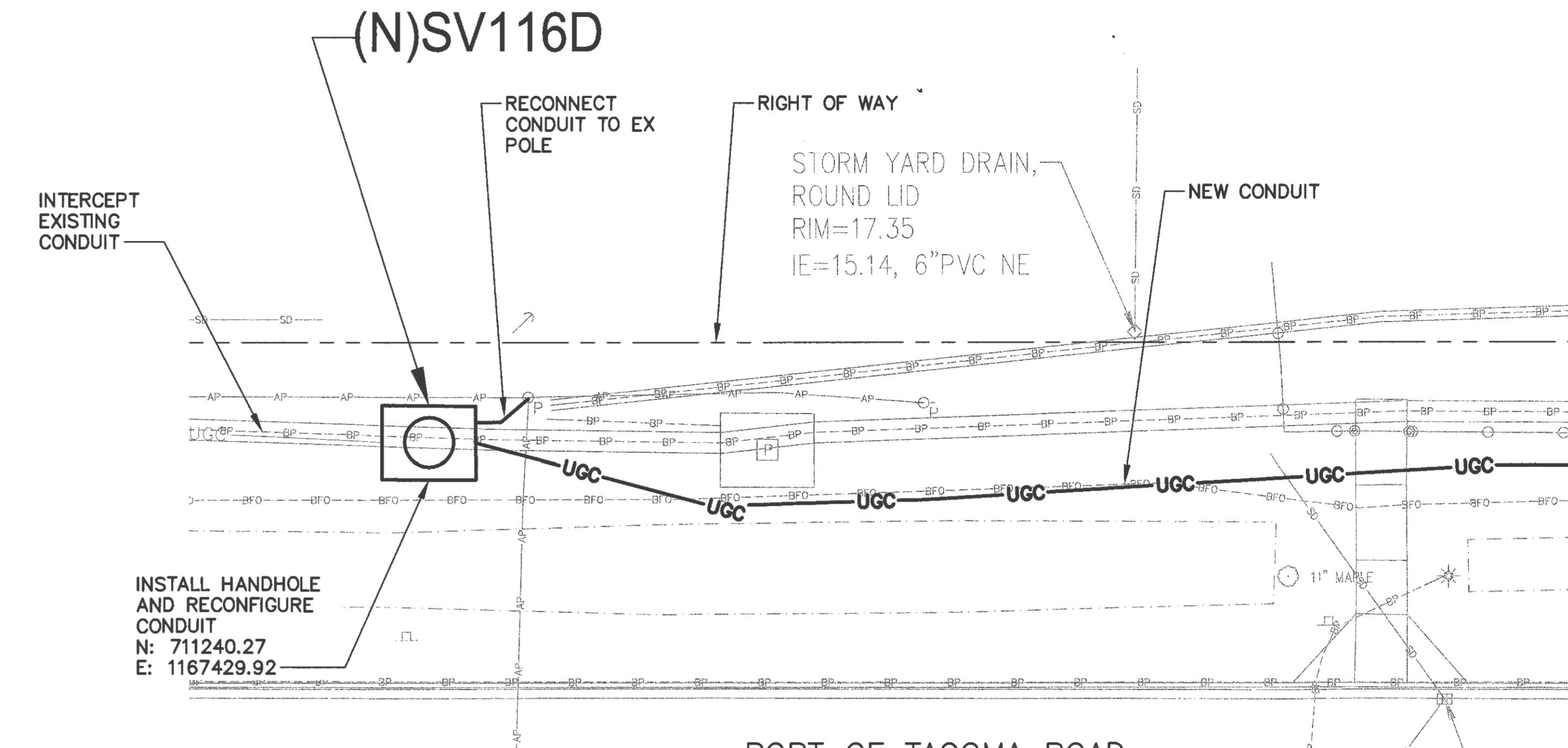
11/5/2019
ASST. CONSTRUCTION DIVISION MANAGER

CITY OF TACOMA
DEPARTMENT OF PUBLIC WORKS
FIBER TO LOT F
OVERALL PLAN

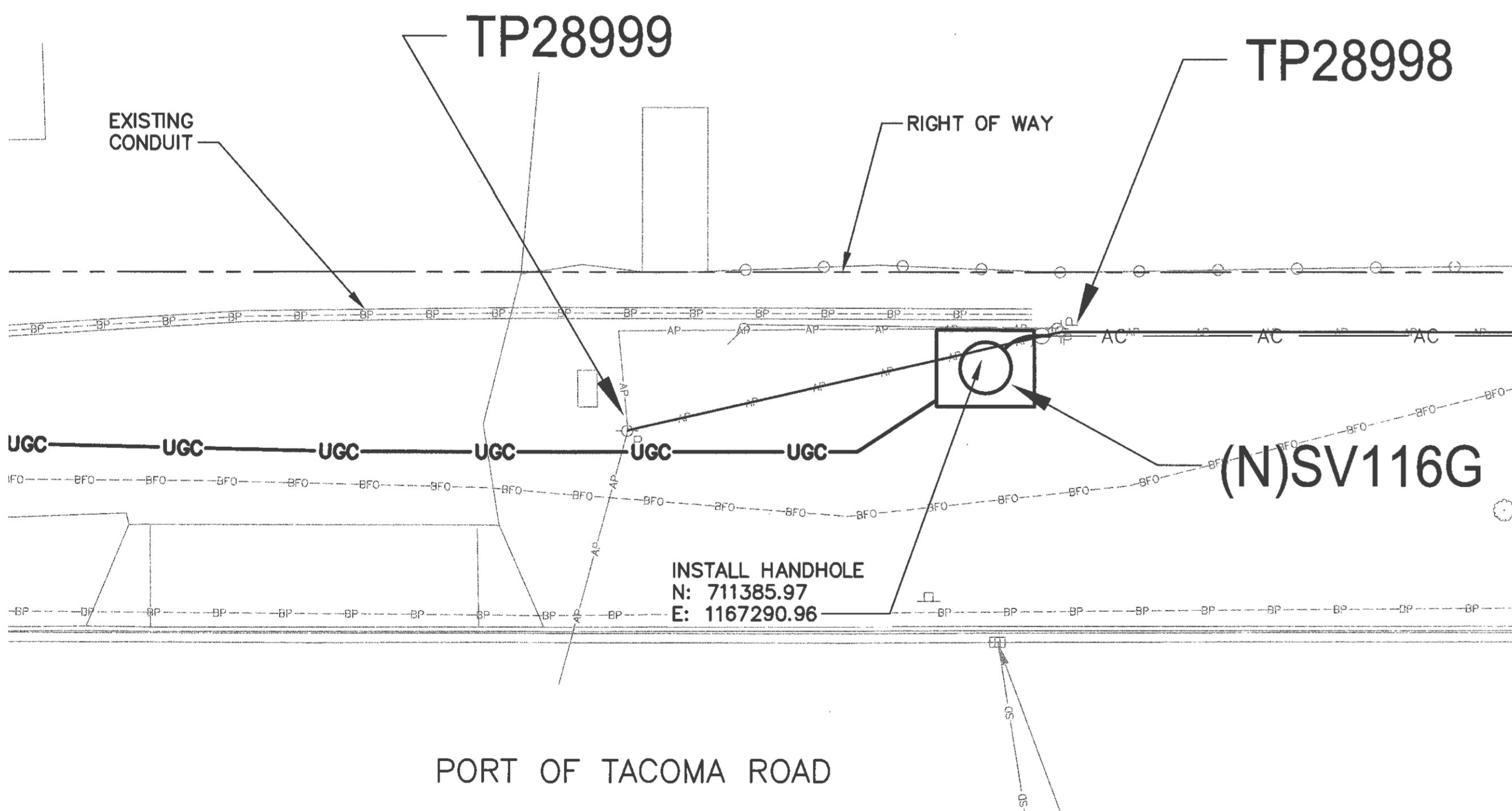
WO-05
SHEET NO.
5 OF 7



1 CONDUIT AND HANDHOLE 1
WO-06 SCALE: 1"=10'



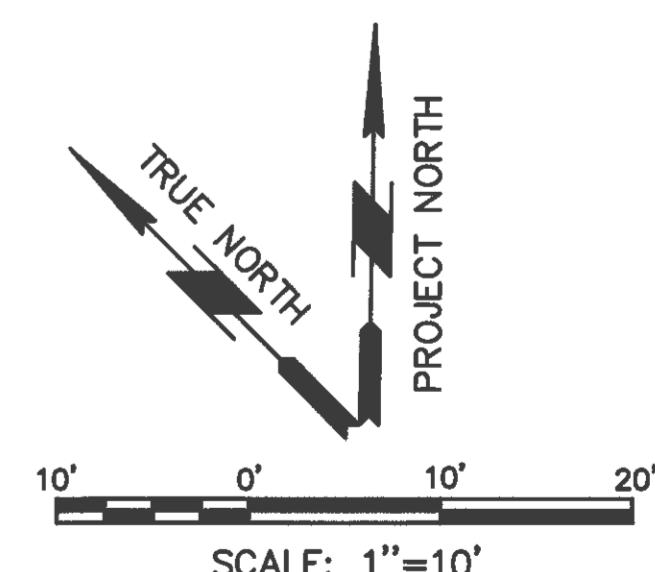
2 CONDUIT AND HANDHOLE 2
WO-06 SCALE: 1"=10'

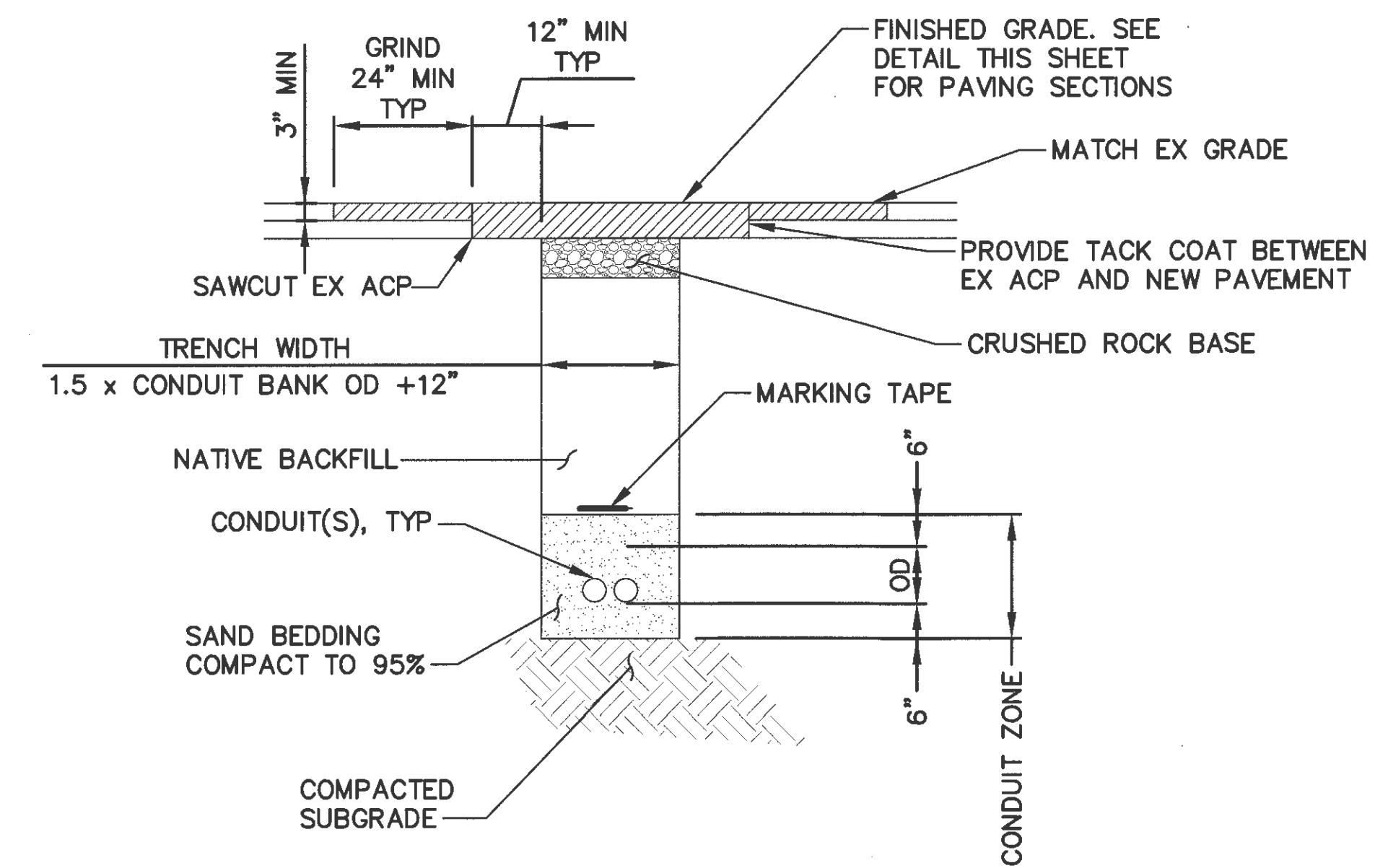


1 CONDUIT AND HANDHOLE 1
WO-06 SCALE: 1"=10'

NOTES:

- ALL UTILITY LOCATIONS SHOWN ARE APPROXIMATE BASED ON AVAILABLE SUBSURFACE INFORMATION. CONTRACTOR SHALL VERIFY DEPTH, LOCATION AND CONDITION OF ALL UNDERGROUND FACILITIES PRIOR TO COMMENCING CONSTRUCTION ACTIVITIES.
- WORK TO RECONFIGURE CONDUIT CONNECTIONS SHALL CONSIST OF THE FOLLOWING:
 - LOCATE EXISTING UNDERGROUND CONDUITS TO BE USED.
 - SAWCUT PAVEMENT TO ALLOW EXCAVATION TO THE CONDUITS
 - REMOVE LATERAL AND VERTICAL RUN OF EXISTING CONDUIT
 - INSTALL HANDHOLE
 - RECONFIGURE CONDUITS FOR TERMINATION AT NEW HANDHOLE

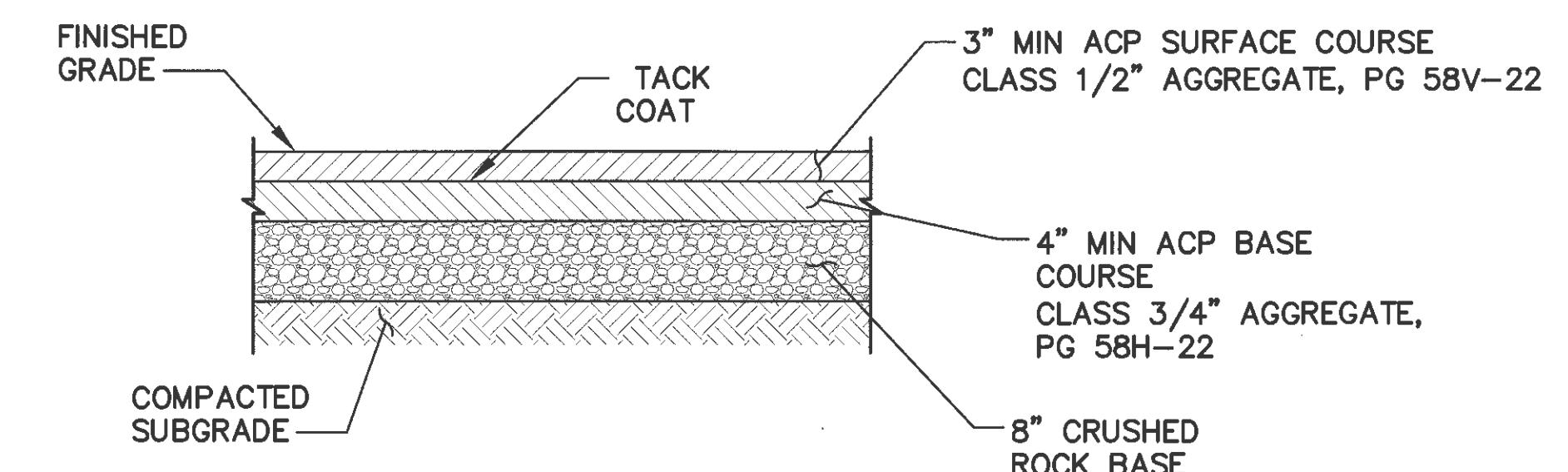




A **UTILITY TRENCH SECTION**
C02.01 SCALE: NTS

NOTES:

1. PROVIDE UNIFORM SUPPORT UNDER PIPE BARREL.
2. HAND TAMP UNDER HAUNCHES.
3. SEE SPECIFICATIONS AND COMPACTION REQUIREMENTS.
4. PROVIDE MARKING TAPE 6 INCHES ABOVE PIPE ZONE BEDDING.



B **TYPICAL PAVEMENT SECTION**
- SCALE: NTS