OPERATION & MAINTENANCE MANUAL

Water Quality Sedimentation Basin

Manual prepared: June 2020

DFI No. D01312

Figure 1: DFI No. D01312, looking [note cardinal direction]

Identification

Drainage Facility ID (DFI):	D01312
Facility Type:	Water Quality Sedimentation Basin
Construction Drawings:	(V-File Numbers) NA
Location:	District: 2B
	Highway No.: 064
	Mile Post: 24.15 to 24.15, NB [right]

1. Manual Purpose

The purpose of this manual is to outline inspection needs and summarize maintenance actions.

2. Facility Location

The location map below details the facility location. The highway, mile posts, side streets, access location, and stormwater flow directions are noted on the map.

Facility location type: Roadway shoulder

Flow direction: North-East

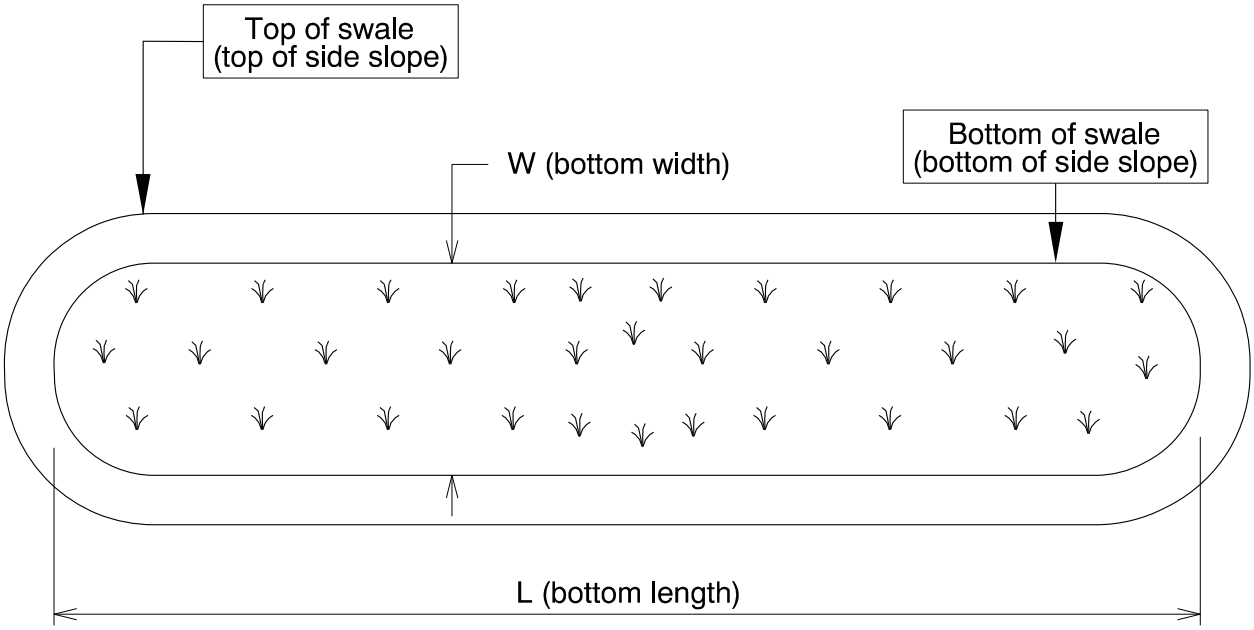
Figure 2: Facility location map

3. Facility Summary

The length and width of a sedimentation basin is based on the bottom dimensions.

The bottom length and bottom width of the sedimentation basin is:

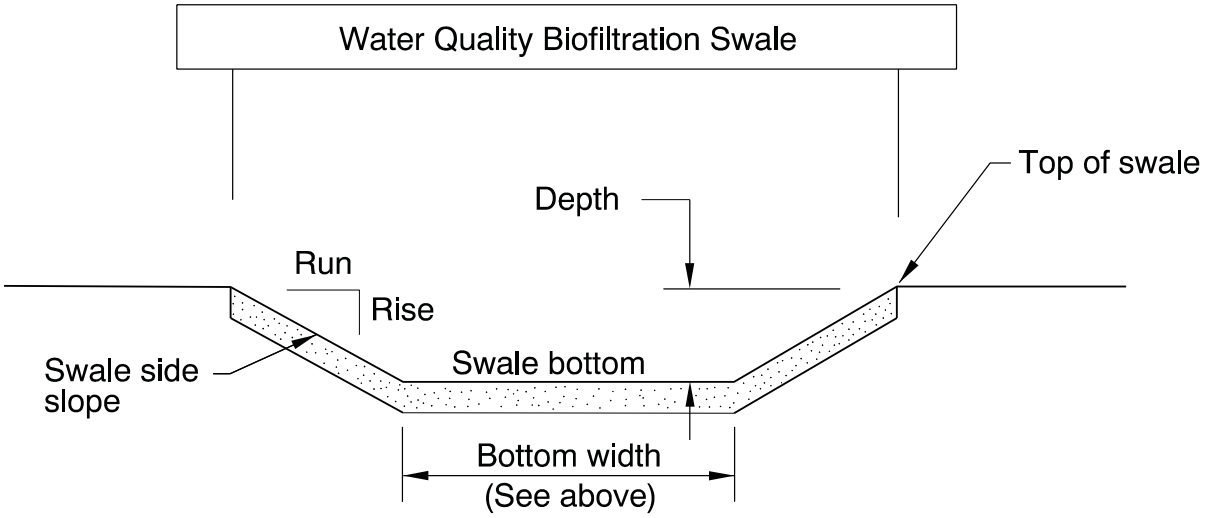
Bottom Length (feet)	Bottom Width (feet)
75	4



The depth of the sedimentation basin is the vertical distance measured from the bottom of the sedimentation basin to the top. The slope of the sedimentation basin sides is presented by a vertical distance (rise) followed by the horizontal distance (run).

Depth and side slopes:

Depth (feet)	Rise (feet)	Run (feet)
0.75	1	3



Site Specific Information: This facility functions as a water quality treatment basin. The bottom of facility is lined and discharges through a pipe. Stormwater detention was not a design criteria. Design is based on City of Portland Bureau of Environmental Services design criteria using the Presumptive Approach Calculator (PAC) tool provided by BES. Discharge is to the Columbia Slough which is regulated by the Multnomah County Drainage District (MCDD). MCDD did not have water quality requirements at the time of design.

4. Facility Access

Maintenance access to the facility:

☐Roadside pad	☐Roadside shoulder
☒Access road with Gate	☐Access road without Gate

Figure 3: Gated access to site from NE 105th Avenue

5. Operational Components / Maintenance Items

Classification

This facility is classified as an:

☒ On-line Facility	☐ Off-line Facility
A facility that does not include a high flow bypass component; flow drains into and through the facility	**A facility that treats low/small flows and diverts high flows using a bypass component**

Bypass Component

This facility includes a high flow bypass component:

☒ No	☐ Yes
There is no bypass component. High flows drains into and through the facility	**There is a bypass component. Only low/small flows drain into the swale. High flows are diverted around the swale using a bypass component**

Operational Components

A sedimentation basin has many components that assist with treatment, conveyance, and reducing flow velocity to minimize erosion. The components in use can vary depending if the facility was designed to operate on-line or off-line. The facility components table (**Table 1**) has been provided to highlight the applicable components for this facility. The component is in use when the box contains an "x" (e.g. ☒).

A link to the manual is attached to the feature marker in TransGIS.
https://gis.odot.state.or.us/TransGIS/

Operational Plan

See Appendix A for the site specific operational plan.

Maintenance Items

Operational components marked in **Table 1** should be inspected and maintained according to Section 7. Each facility component is defined and detailed in the Standard Operation Manual using the associated ID number indicated below.

Table 1: Sedimentation Basin Components		ID #
Manholes/Structures		
Pre-treatment manhole	☐	**S1**
Weir type flow splitter/flow splitter manhole	☐	**S2**
Orifice type flow splitter/flow splitter manhole	☐	**S3**
Standard manhole	☒	**S4**
Facility Inlet		
Pavement sheet flow	☒	**S5**
Inlet Pipe (s)	☐	**S6**
Open channel inlet (ditch)	☒	**S7**
Riprap pad	☐	**S8**
Ground Cover		
Grass bottom	☒	**S9**
Grass side slopes	☒	**S10**
Granular drain rock	☒	**S11**
Plantings	☒	**S12**
Underground Components		
Geotextile fabric	☒	**S13**
Water quality mix	☒	**S14**
Perforated pipe	☒	**S15**
Porous pavers (access grid)	☐	**S16**
Flow Spreader		
Rock basin (used at inlet)	☒	**S17**
Anchored board (midpoint of swale or every 50 feet along swale bottom)	☐	**S18**
Other: describe type	☐	**S19**
Swale Outlet		
Catch basin with grate	☐	**S20**
Outlet Pipe (s)	☒	**S21**
Open channel outlet	☐	**S22**
Auxiliary Outlet: describe type	☐	**S23**
Outfall Type		
Waterbody (**C**reek/**L**ake/**O**cean)	☐ **C** ☐ **L** ☐ **O**	**S24**
Ditch	☐	**S25**
Storm drain system	☒	**S26**
Outfall Components		
Riprap pad	☐	**S27**
Riprap bank protection	☐	**S28**

6. Maintenance

Maintenance Frequency/Maintain Records

a. Inspect annually. Preferably prior to the rainy season.
b. Clean and maintain as necessary. Refer to Activity 125 for conditions when maintenance is needed.
c. Keep a record of inspections, maintenance, and repairs.

Maintenance Guide/Maintenance Actions

The ODOT Routine Road Maintenance Water Quality and Habitat Guide (the *Blue Book*) outlines the standard maintenance actions for water quality facilities under Activity 125.

There are standard maintenance tables for standard ODOT designs. The maintenance tables describe the maintenance component, the defect or problem, the condition when maintenance is needed, and the recommended maintenance to correct the problem. Use the following tables to maintain ODOT water quality or swales:

- Table 1 (General Maintenance): Contains general maintenance and inspection guidelines that are applicable to all ODOT water quality facilities
- Table 3 (Maintenance of Water Quality or Biofiltration Swales): Contains maintenance information for water quality or swales

The *Blue Book* can be viewed at the following website:
http://www.oregon.gov/ODOT/Maintenance/Documents/blue_book.pdf

7. Limitations

Access grid installed:

☒ No	☐ Yes
There are no porous pavers installed in this facility	

Sedimentation basins are designed to allow equipment access along the bottom. If an access grid is **NOT** installed, vehicles entering the swale can create depressions (tire ruts), damage vegetation, and damage structural components (e.g. flow spreaders). These conditions may result in poor treatment and drainage performance.

Equipment wheels should be kept on the tops and side slopes. Mower arms may be run along the facility bottom.

8. Waste Material Handling

Material removed from the facility is defined as waste by the Department of Environmental Quality (DEQ). Refer to the road waste section of the ODOT Maintenance Yard Environmental Management System (EMS) Policy and Procedures Manual for disposal options:

http://www.oregon.gov/ODOT/Maintenance/Documents/ems_manual.pdf

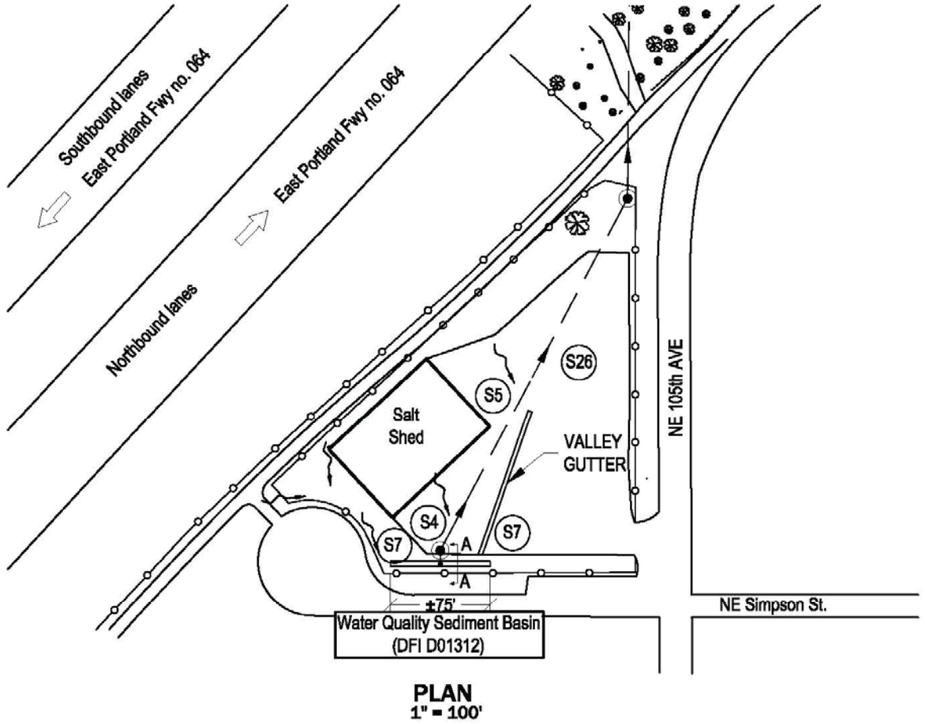
Contact any of the following for more detailed information about management of waste materials found on site:

ODOT Clean Water Unit	(503) 986-3008
ODOT Statewide Hazmat Coordinator	(503) 667-7442
ODOT Region 1 Hazmat Coordinator	(503) 731-8290
ODOT Region 2 Hazmat Coordinator	(503) 986-2647
ODOT Region 3 Hazmat Coordinator	(541) 957-3594
ODOT Region 4 Hazmat Coordinator	(541) 388-6186
ODOT Region 5 Hazmat Coordinator	(541) 963-1590
ODEQ Northwest Region Office	(503) 229-5263

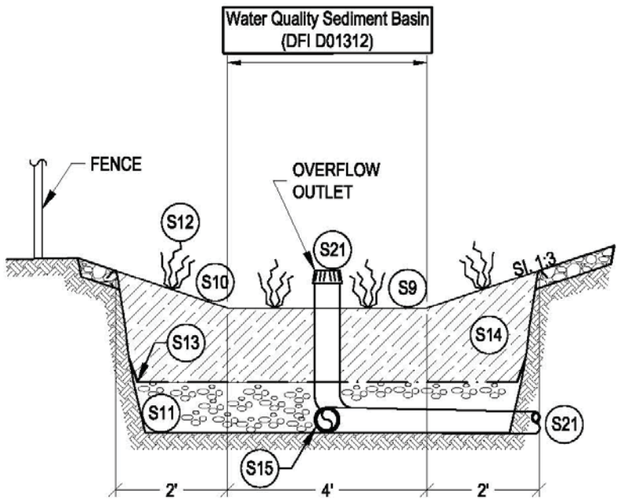
A Appendix A – Site Specific Operational Plan

Contents:

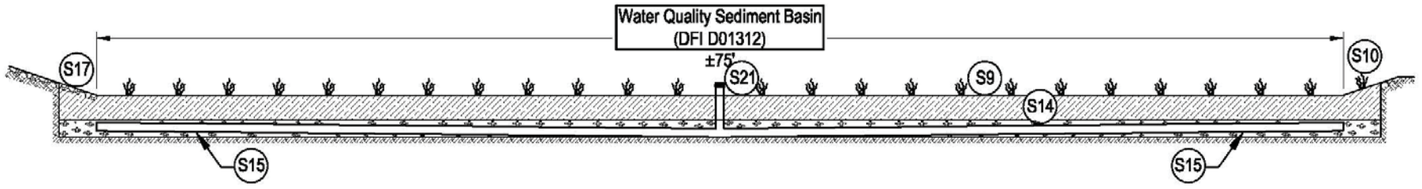
Operational Plan: DFI D01312



PLAN
1" = 100'



SECTION A-A
3/8" = 1'-0"



PROFILE
1/8" = 1'-0"

LEGEND:

- S# — *Facility component (see table 1 in O&M Manual)*
- and or — *Manhole*
- and or — *Inlet*
- *Storm pipe (facility)*
- *Storm pipe*
- *Conveyance direction*
- *Pavement / facility flow path*
- *Traffic flow direction*

OREGON DEPARTMENT OF TRANSPORTATION

Sht. 1 of 1

Prepared By: JON DOUGHTON

Drafted By: FRANCO RAMOS

DFI D01312
MAINTENANCE DISTRICT 2B HWY 064
WATER QUALITY SEDIMENT BASIN
HIGHWAY MP 24.15
MULTNOMAH COUNTY

B Appendix B – Project Contract Plans

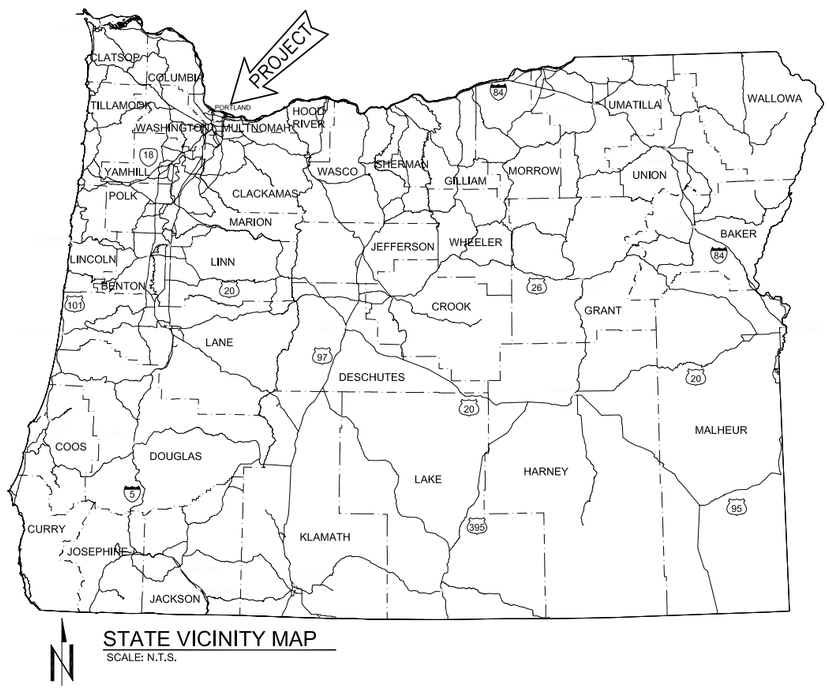
Contents:

Site Specific Subset of Project Contract Plan NA

Prepared by ODOT Facilities Services Branch

ODOT HOLMAN STOCKPILE SITE
NEW SALT STORAGE SHED
NE 105TH AVE AND NE SIMPSON ST, PORTLAND, OR 97220

REDUCED 50% WHEN PRINTED AT 11" x 17"



STATE VICINITY MAP
SCALE: N.T.S.

BUILDING DESIGN CRITERIA

GROUND SNOW LOAD: 25 PSF
SLOPED ROOF SNOW LOAD: 25 PSF
SNOW EXPOSURE FACTOR, Ce: 1.0
SNOW IMPORTANCE FACTOR, Is: 1.0
THERMAL FACTOR, Ct: 1.2

COLLATERAL LOAD: 5 PSF

WIND SPEED: 98 MPH (3 SEC. GUST)
WIND EXPOSURE: C
ENCLOSED/ PARTIALLY ENCLOSED (WORST CASE)
WIND IMPORTANCE FACTOR: 1.0

SEISMIC IMPORTANCE FACTOR, Is: 1.0
RISK CATEGORY: II
MAPPED SPEC. RESPONSE ACCEL. Ss AND S1: 0.780 AND 0.410
SITE CLASS: D
SEISMIC DESIGN CATEGORY: D
SEISMIC BASE SHEAR: TBD.

CODE DATA:

OCCUPANCY: STORAGE S-2

CONSTRUCTION TYPE: II-B

FIRE SPRINKLERS: NOT PROVIDED

BASE ALLOWABLE AREA: 26,000 SF

ACTUAL AREA: 7,000 SF

OCCUPANT LOAD: 1 PER 500 SF (STORAGE)

TOTAL OCCUPANTS: 7,000/500 = 14

REQUIRED EXITS: 1

PRE-ENGINEERED METAL BUILDING NOTES

1. BUILDING AND INDIVIDUAL COMPONENTS SHALL BE DESIGNED FOR WIND LOADS AS PARTIALLY ENCLOSED AS SHOWN ON DRAWINGS AND AS FULLY ENCLOSED TO ALLOW FOR POTENTIAL FUTURE SIDING OF THE ENTIRE BUILDING ENVELOPE. BUILDING AND INDIVIDUAL COMPONENTS SHALL BE DESIGNED FOR THE MAXIMUM LOADING FROM BOTH ENCLOSURE CONDITIONS,
2. BUILDING SHALL BE DESIGNED TO SUPPORT A 5 POUND PER SQUARE FOOT COLLATERAL LOAD IN ADDITION TO OTHER LOADINGS.
3. ALL BUILDING FRAMES ARE CLEAR SPAN RIGID FRAMES, EXCEPT AT GRID 1 AND 5.
4. ALL PRIMARY FRAMING MEMBERS SHALL BE HOT DIP GALVANIZED.
5. ALL SECONDARY FRAMING MEMBERS SHALL BE GALVANIZED PER SPECIFICATIONS.
6. ALL FASTENERS, ANCHOR BOLTS AND HARDWARE SHALL BE HOT DIP GALVANIZED.
7. ALL BUILDING OPENINGS SHALL BE FINISHED AND TRIMMED WITH PRE-FINISHED METAL TO MATCH EXTERIOR.
8. SPACE BETWEEN PURLINS ABOVE FRAMES AT GRID LINES 1 AND 5 SHALL BE LEFT OPEN FOR VENTILATION, TOP OF METAL WALL SIDING SHALL BE TRIMMED, ENDS OF PURLINS AT OVERHANGS SHALL BE COVERED WITH TRIM.
9. ROOF SHALL OVERHANG 5' BEYOND WALLS AT SIDES.
10. ROOF AND WALL PANELS REQUIRE HIGH PERFORMANCE MARINE FINISH AT ROOF AND INTERIOR OF PANELS, SEE METAL PANLE SPECIFICATIONS FOR REQUIREMENTS.

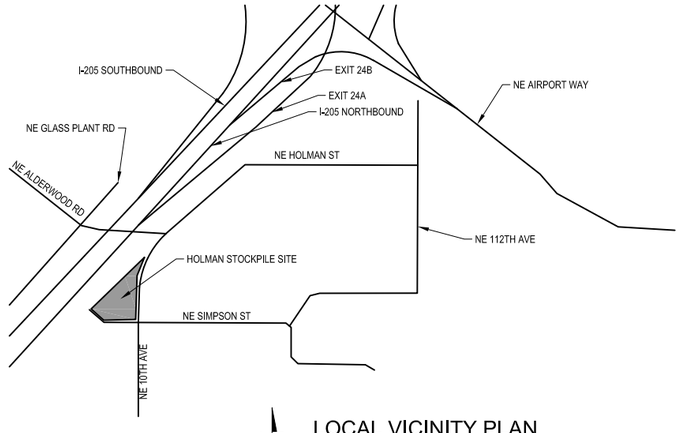
SHEET INDEX

COORDINATION WITH UTILITIES

1. THE LOCATION AND DESCRIPTION OF EXISTING UTILITIES SHOWN ARE FROM AVAILABLE RECORDS AND/OR FIELDS SURVEYS. NO GUARANTEE OF THE ACCURACY NOR COMPLETENESS OF SUCH INFORMATION IS MADE.
2. OREGON LAW REQUIRES THE CONTRACTOR TO FOLLOW RULES ADOPTED BY THE OREGON UTILITY NOTIFICATION CENTER. THOSE RULES ARE SET FORTH IN OAR 952-001-0010 THROUGH OAR 952-001-0090. COPIES OF THE RULES ARE AVAILABLE BY CALLING THE OREGON UTILITY NOTIFICATION CENTER AT (800) 332-2344.
3. THE CONTRACTOR SHALL NOTIFY EACH UNDERGROUND UTILITY AT LEAST 48 BUSINESS-DAY HOURS PRIOR TO EXCAVATING, BORING, OR POTHOLING. ALL UTILITY CROSSINGS SHALL BE POTHOLED AS NECESSARY PRIOR TO EXCAVATING OR BORING TO ALLOW THE CONTRACTOR TO PREVENT GRADE OR ALIGNMENT CONFLICTS.
4. PROVISIONS SHALL BE MADE BY THE CONTRACTOR TO KEEP ALL EXISTING UTILITIES IN SERVICE AND PROTECT THEM DURING CONSTRUCTION.
5. UTILITIES, OR INTERFERING PORTIONS OF UTILITIES, THAT ARE ABANDONED IN PLACE SHALL BE REMOVED BY THE CONTRACTOR TO THE EXTENT NECESSARY TO ACCOMPLISH THE WORK. WHERE PRACTICABLE, THE CONTRACTOR SHALL CAP OR PLUG WITH CONCRETE BOTH ENDS OF ABANDONED UTILITIES.

GENERAL CONSTRUCTION NOTES

1. ALL WORK SHALL CONFORM TO APPLICABLE CODES, LAWS AND ORDINANCES OF THE JURISDICTION HAVING AUTHORITY.
2. CONTRACTOR SHALL COORDINATE AND ODOT SHALL PAY FOR CONCRETE TEST CYLINDERS TO VERIFY 7 DAY AND 28 DAY STRENGTHS OF CONCRETE IN ACCORDANCE WITH SPECIFICATIONS.
3. CONTRACTOR SHALL COORDINATE AND ODOT SHALL PAY FOR COMPACTION TESTING FOR CRUSHED AGGREGATE BASE AT EACH LIFT OR AS DETERMINED BY ODOT CONSTRUCTION PROJECT MANAGER. CRUSHED ROCK SHALL BE COMPACTED TO 95% PER ASTM D1557 UNLESS NOTED OTHERWISE.
4. DO NOT SCALE THE DRAWINGS.
5. CONTRACTOR SHALL MAKE A SITE VISIT AND EXAMINE EXISTING CONDITIONS PRIOR TO PROVIDING A BID. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF ODOT THROUGH A REQUEST FOR CLARIFICATION AS SET FORTH IN THE BID DOCUMENTS.
6. CLARIFICATIONS SHALL BE REQUESTED IN WRITING PRIOR TO ANY INSTALLATION. INCORRECT INSTALLATIONS SHALL BE CORRECTED AT NO ADDITIONAL COST TO ODOT.
7. ALL WORK SHOWN IS TO BE BY THE CONTRACTOR UNLESS SPECIFICALLY NOTED AS BEING BY ODOT OR BY OTHERS. ALL MATERIALS SHOWN ARE TO BE PROVIDED BY THE CONTRACTOR UNLESS SPECIFICALLY NOTED AS EXISTING OR PROVIDED BY ODOT.
8. DRAWINGS ARE SCHEMATIC IN NATURE. MAJOR COMPONENTS AND EQUIPMENT ARE SHOWN ON THE DRAWINGS. CONTRACTOR SHALL SUPPLY AND INSTALL ALL MINOR COMPONENTS AND MATERIALS NECESSARY TO PROVIDE A COMPLETE AND FUNCTIONAL PROJECT WHETHER OR NOT ALL SUCH COMPONENTS ARE NOTED IN THE DRAWINGS AND SPECIFICATIONS.
9. PLANS AND SPECIFICATIONS CALL OUT SPECIFIC MAKES AND MODELS OF EQUIPMENT IN SOME LOCATIONS. SUBSTITUTION REQUESTS SHALL BE MADE DURING THE BID PROCESS. ODOT SHALL AT ITS SOLE DISCRETION DETERMINE THE ACCEPTABILITY OF SUBSTITUTIONS. NO SUBSTITUTIONS SHALL BE INSTALLED WITHOUT PRIOR WRITTEN APPROVAL FROM THE ODOT CONSTRUCTION PROJECT MANAGER.
10. ALL EQUIPMENT AND MATERIALS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S PUBLISHED INSTALLATION INSTRUCTIONS AND RECOMMENDATIONS.
11. CLEAN ENTIRE WORK AREA AT CONCLUSION OF PROJECT TO THE SATISFACTION OF THE ODOT PROJECT MANAGER.



LOCAL VICINITY PLAN
SCALE: 1" = 500'

THIS DRAWING IS REDUCED IF BORDER IS NOT 20 1/2" x 32"

	DATE	REVISION	BY

DESIGNED: JON DOUGHTON
DRAFTED: FRANCO RAMOS
CHECKED:
REVIEWED:

REGISTERED PROFESSIONAL ENGINEER
56468
OREGON
NOVEMBER 13, 2001
JONATHAN S. DOUGHTON
EXPIRES: 12-31-21

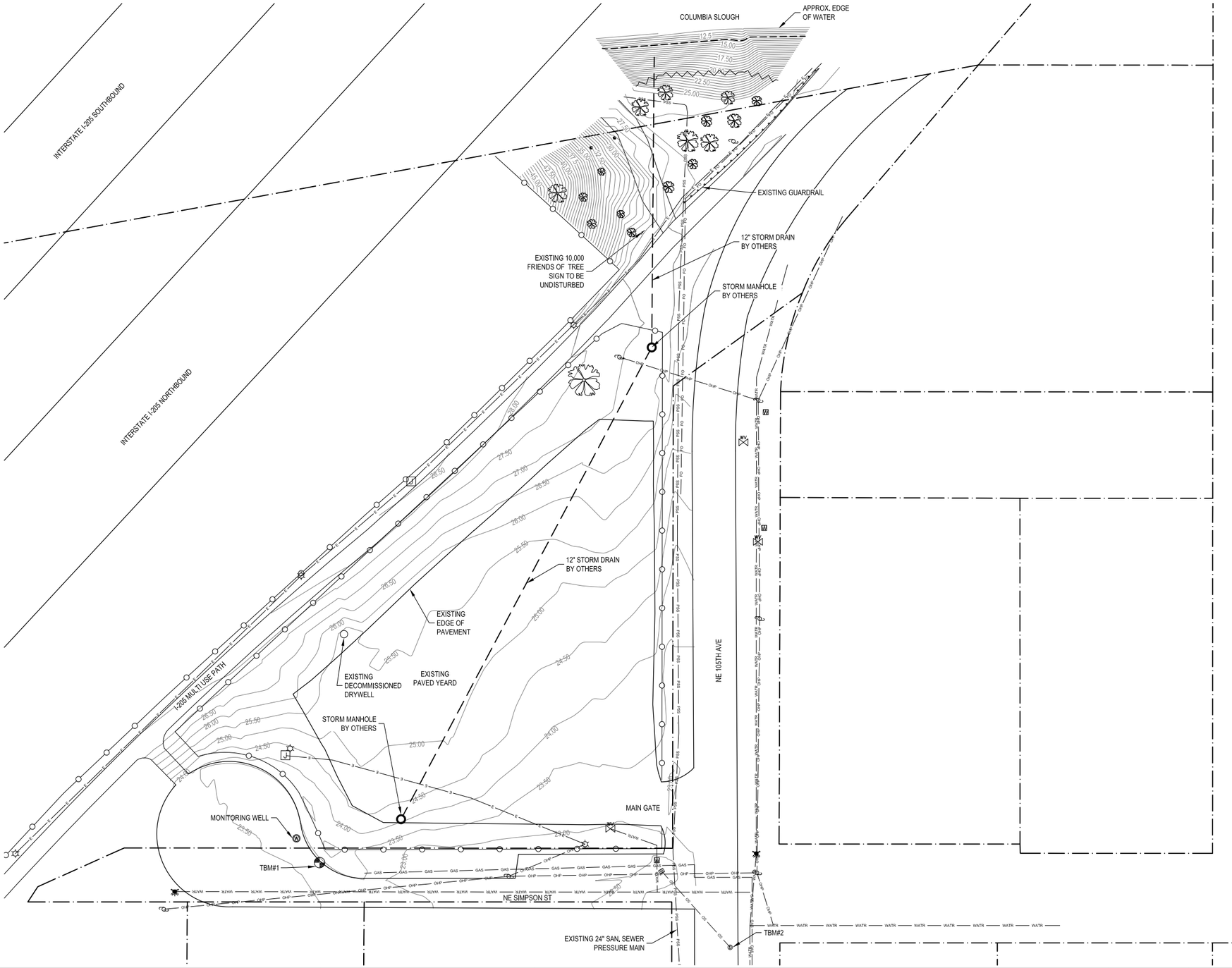
OREGON DEPARTMENT OF TRANSPORTATION
FACILITIES SERVICES BRANCH

FACILITY NO. F2421001
DATE 06/24/20
CALC. BOOK ~

ODOT HOLMAN STOCKPILE SITE
NEW SALT STORAGE SHED
NE 105TH AVE AND NE SIMPSON ST, PORTLAND, OR 97220

TITLE PAGE

SHEET 1 OF 17
DRAWING T101



LEGEND:

- SAN. SEWER PRESSURE MAIN
- SANITARY MANHOLE
- CLEANOUT
- GAS LINE
- GAS VALVE
- GAS METER
- STORM DRAIN
- CATCH BASIN
- STORM MANHOLE
- WATER LINE
- ABANDONED WATER LINE
- WATER METER
- FIRE DEPT. CONNECTION
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- GUY
- ELECT. VAULT/METER
- LUMINAIR
- UNDERGROUND TELEPHONE LINE
- OVERHEAD POWER
- UNDERGROUND POWER LINES
- ELECTRICAL TRANSFORMER
- FENCE
- SIGN
- BOLLARD
- WELL
- DECIDUOUS TREE
- EVERGREEN TREE
- PROPERTY LINE

REDUCED 50% WHEN PRINTED AT 11" x 17"

TEMPORARY BENCH MARK #1 (TBM#1)

YELLOW REBAR CAP IN FRONT OF CURB IN NE SIMPSON
NORTHING 187938.85
EASTING 377879.36
EL 23.28

TEMPORARY BENCH MARK #2 (TBM#2)

TOP CENTER OF EXISTING STORM DRAIN MANHOLE LID IN NE 105TH AVE, SOUTH OF INTERSECTION WITH NE SIMPSON
NORTHING 187892.78
EASTING 378110.21
EL 23.16

EXISTING CONDITIONS
SCALE: 1" = 30'

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△	DATE	REVISION	BY

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ODOT HOLMAN STOCKPILE SITE
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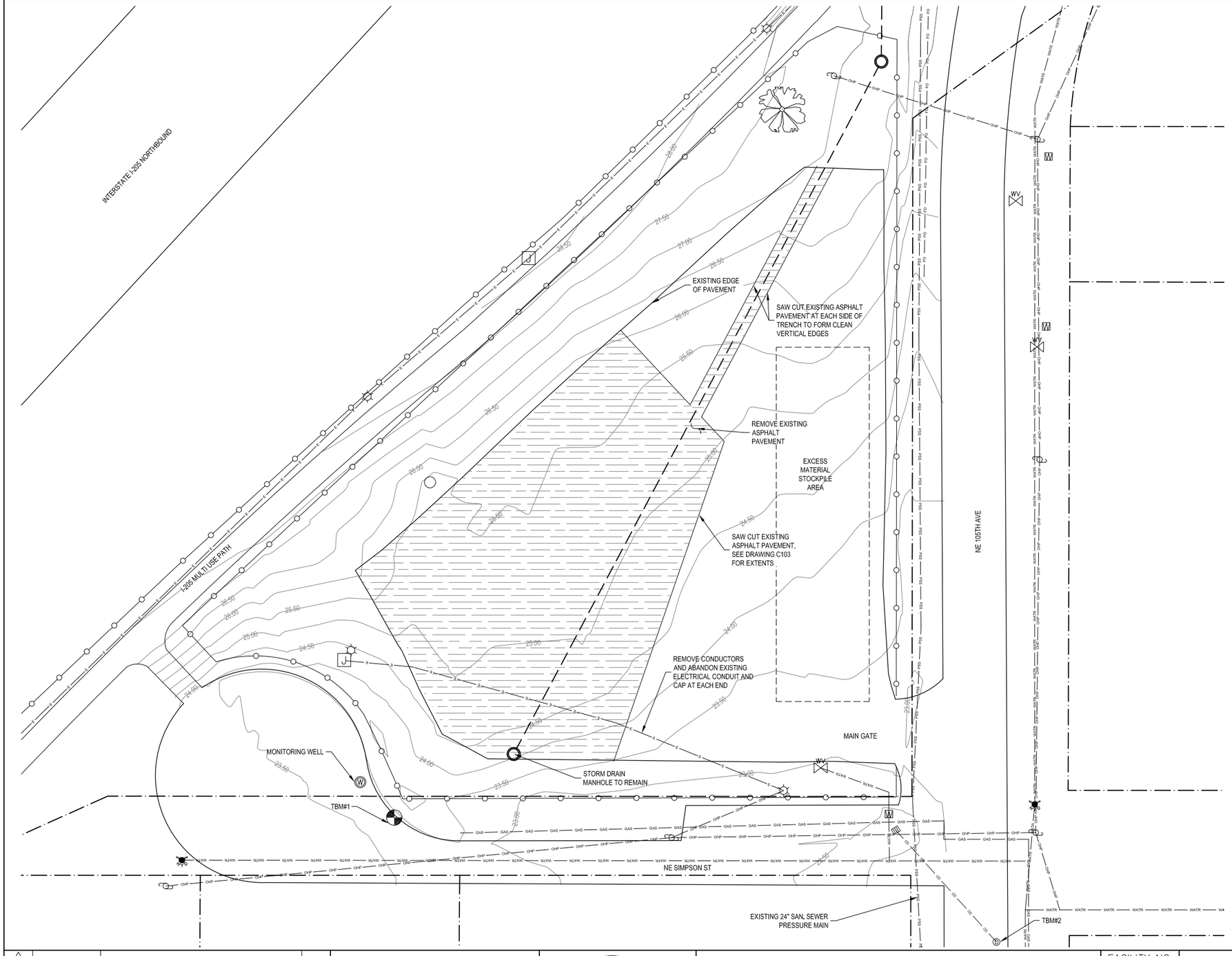
EXISTING CONDITIONS

SHEET 2 OF 17
DRAWING C101



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TOP CENTER OF EXISTING STORM DRAIN MANHOLE LID IN NE 105TH AVE, SOUTH OF INTERSECTION WITH NE SIMPSON
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EASTING 378110.21
EL 23.16

DEMOLITION NOTES:
DEMOLISHED ASPHALT PAVEMENT SHALL BE REMOVED FROM SITE AND DISPOSED OF LEGALLY.

DEMOLITION PLAN
SCALE: 1" = 20'

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	DATE	REVISION	BY

DESIGNED: JON DOUGHTON
DRAFTED: FRANCO RAMOS
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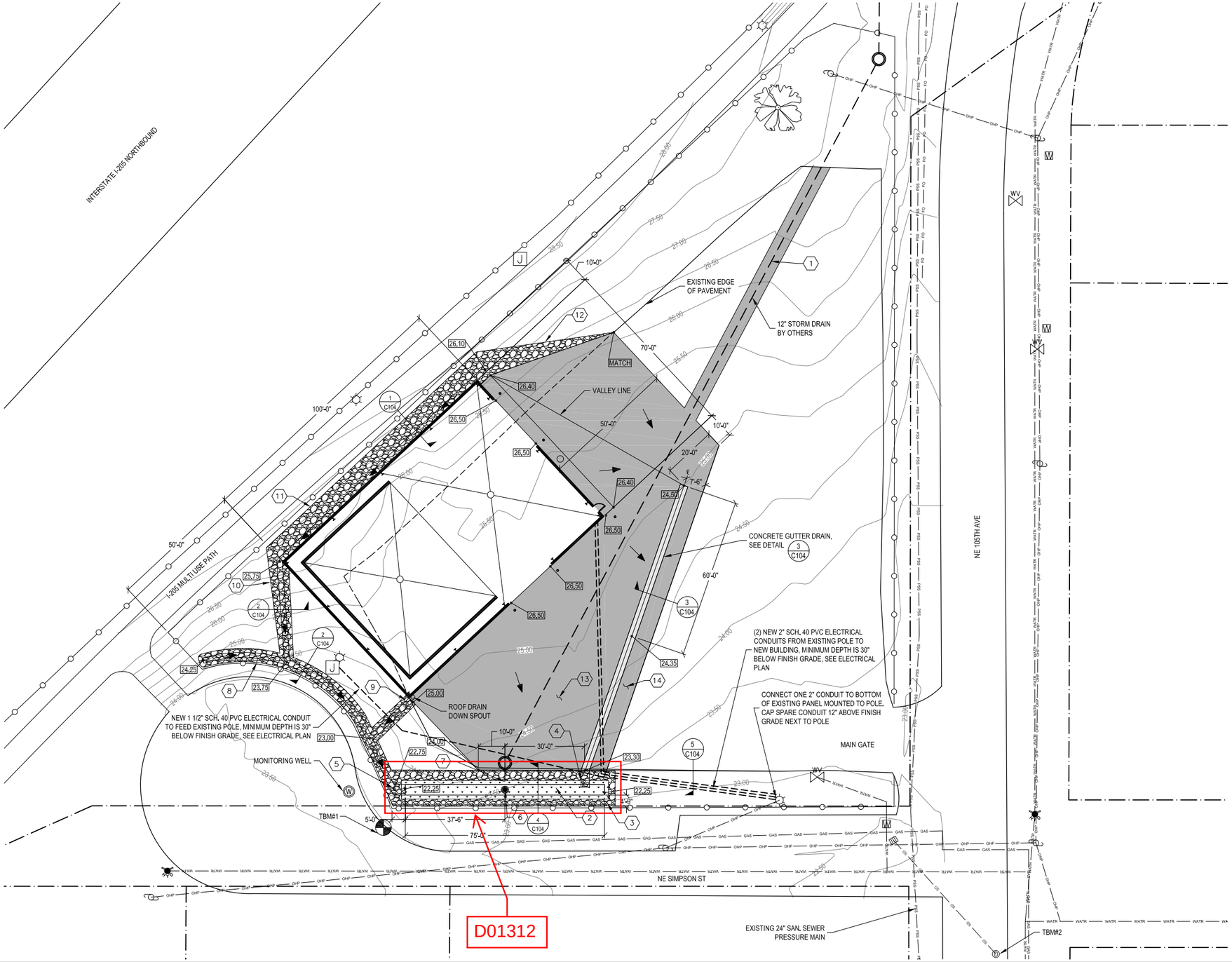
DEMOLITION PLAN

SHEET 3 OF 17
DRAWING C102



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KEYED CONSTRUCTION NOTES

1. COMPACT EXISTING BASE ROCK AT EXISTING TRENCH AND PLACE 4" OF NEW ASPHALT PAVEMENT OVER TRENCH, MATCH EXISTING GRADE AT EACH SIDE OF TRENCH.
2. CONSTRUCT NEW LINED BASIN WATER QUALITY TREATMENT FACILITY AS SHOWN NEXT TO FENCE. FOR ADDITIONAL INFORMATION, SEE DETAILS 4/C104 1/C105
3. INSTALL ROCK SURFACING AROUND TREATMENT BASIN, SEE DETAIL 4/C104
4. INSTALL ROCK SURFACING AT OUTFALL FROM CONCRETE GUTTER DRAIN INTO TREATMENT BASIN. EXTEND TO CENTER OF BASIN WITH A WIDTH OF 3'-0" AND A DEPTH OF 4".
5. INSTALL ROCK SURFACING AT OUTFALL FROM DRAINAGE SWALE INTO TREATMENT BASIN. EXTEND TO BOTTOM OF BASIN WITH A WIDTH OF 3'-0" AND A DEPTH OF 4".
6. CONSTRUCT LINED BASIN OVERFLOW AT CENTER OF BASIN, SEE DETAIL 4/C104
7. INSTALL APPROXIMATELY 10 LINEAL FOOT OF 6" DIA. SCHEDULE 40 PVC STORM DRAIN PIPE AT 2.5% SLOPE FROM OVERFLOW DRAIN INTO EXISTING STORM DRAIN INSTALLED BY OTHERS. SEE DETAIL 4/C104
8. CONSTRUCT ROCK LINED DRAINAGE SWALE ADJACENT TO FENCE TO LINED BASIN. SEE DETAIL 2/C104
9. CONSTRUCT ROCK LINED DRAINAGE SWALE FROM DOWNSPOUT TO SWALE ADJACENT TO FENCE. DIRECT DOWNSPOUT DISCHARGE LEADER INTO SWALE. SEE DETAIL 2/C104
10. CONSTRUCT ROCK LINED DRAINAGE SWALE FROM BUILDING TO SWALE ADJACENT TO FENCE. SEE DETAIL 2/C104
11. CONSTRUCT ROCK LINED DRAINAGE SWALE ADJACENT TO BUILDING. DIRECT DOWNSPOUT DISCHARGE LEADER INTO SWALE. SEE DETAIL 1/C104
12. INSTALL 4" THICK 1"-3" CLEAN, OPEN GRADED SURFACE ROCK ON CUT SLOPE AS SHOWN.
13. NEW 4" THICK ASPHALT PAVEMENT SECTION, SEE DETAIL 4/C105
14. SLOPE ADJACENT PAVEMENT TO GUTTER DRAIN.

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EL 23.28

TEMPORARY BENCH MARK #2 (TBM#2)

TOP CENTER OF EXISTING STORM DRAIN MANHOLE LID IN NE 105TH AVE, SOUTH OF INTERSECTION WITH NE SIMPSON
NORTHING 187892.78
EASTING 378110.21
EL 23.16

PROPOSED SITE PLAN
SCALE: 1" = 20'

THIS DRAWING IS REDUCED IF BORDER IS NOT 20 1/2" x 32"

	DATE	REVISION	BY

DESIGNED: JON DOUGHTON
DRAFTED: FRANCO RAMOS
CHECKED:
REVIEWED:

REGISTERED PROFESSIONAL ENGINEER 56466 OREGON NOVEMBER 13, 2001 JONATHAN S. DOUGHTON EXPIRES: 12-31-21

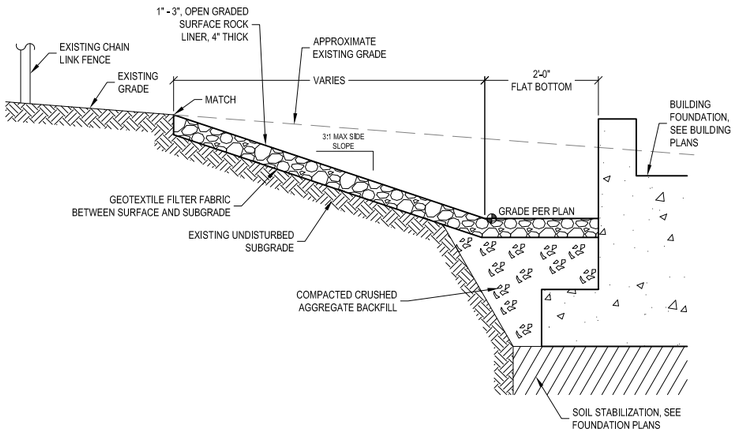
OREGON DEPARTMENT OF TRANSPORTATION
FACILITIES SERVICES BRANCH

FACILITY NO. F2421001
DATE 06/2420
CALC. BOOK ~

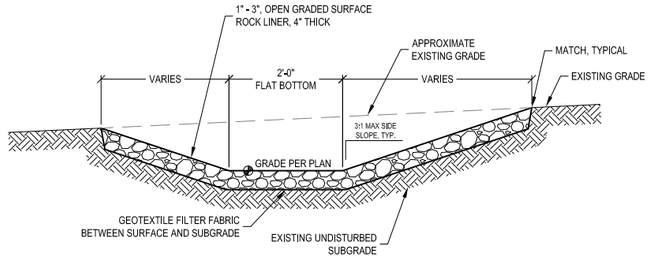
ODOT HOLMAN STOCKPILE SITE
NEW SALT STORAGE SHED
NE 105TH AVE AND NE SIMPSON ST, PORTLAND, OR 97220

PROPOSED SITE PLAN

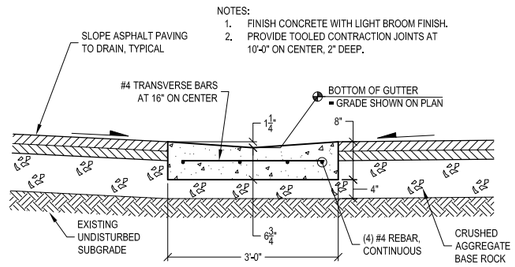
SHEET 4 OF 17
DRAWING C103



1 / C104 **DRAINAGE SWALE AT BUILDING**
SCALE: 3/4" = 1'-0"

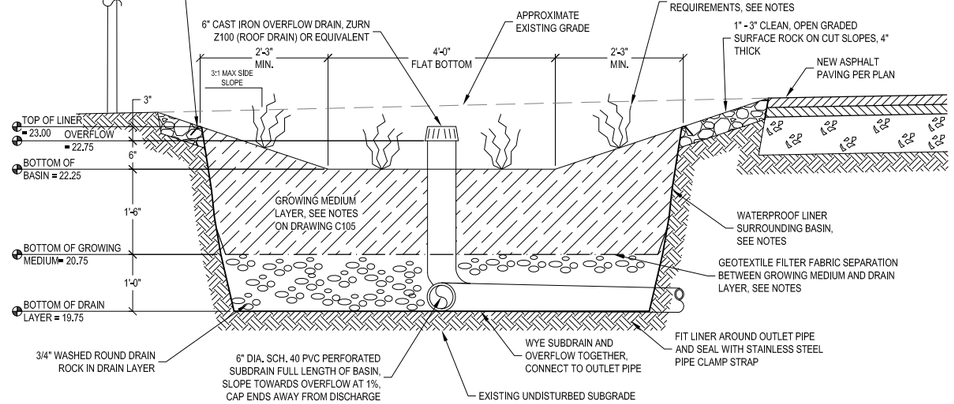


2 / C104 **DRAINAGE SWALE**
SCALE: 3/4" = 1'-0"

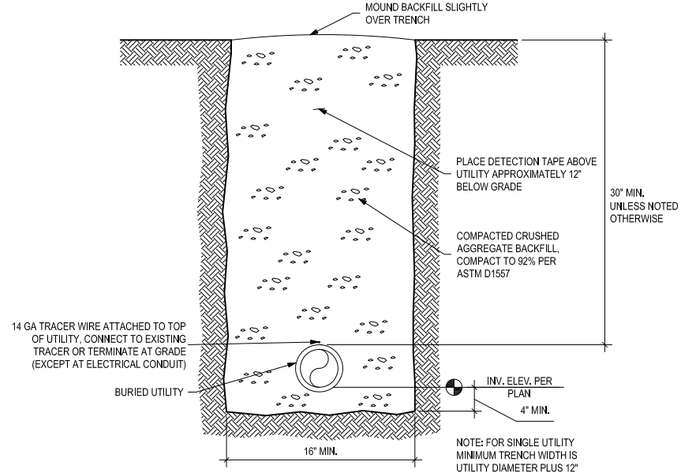


3 / C104 **CONCRETE GUTTER DRAIN**
SCALE: 3/4" = 1'-0"

REDUCED 50% WHEN PRINTED AT 11" x 17"



4 / C104 **LINED BASIN**
SCALE: 3/4" = 1'-0"



5 / C104 **TYPICAL UTILITY TRENCH**
SCALE: N.S.T.

THIS DRAWING IS REDUCED IF BORDER IS NOT 20 1/2" x 32"

	DATE	REVISION	BY

DESIGNED: *JON DOUGHTON*
DRAFTED: *FRANCO RAMOS*
CHECKED:
REVIEWED:

REGISTERED PROFESSIONAL ENGINEER 56466 OREGON NOVEMBER 13, 2001 JONATHAN S. DOUGHTON EXPIRES: 12-31-21

OREGON DEPARTMENT OF TRANSPORTATION
FACILITIES SERVICES BRANCH

FACILITY NO. **F2421001**
DATE **06/24/20**
CALC. BOOK **~**

ODOT HOLMAN STOCKPILE SITE
NEW SALT STORAGE SHED
NE 105TH AVE AND NE SIMPSON ST, PORTLAND, OR 97220

SITE DETAILS

SHEET 5 OF 17
DRAWING **C104**

LINED BASIN WATER QUALITY TREATMENT AND LANDSCAPING SPECIFICATIONS

EXCAVATIONS SHALL BE COMPLETED ACCORDING TO PROJECT SPECIFICATIONS.

WATERPROOF LINER SHALL BE 40 MIL EPDM, HDPE, OR APPROVED ALTERNATE MATERIAL.

GEOTEXTILE SEPARATION FABRIC SHALL BE IN CONFORMANCE WITH SECTION 02320 OF THE CURRENT OREGON DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION.

GROWING MEDIUM FOR LINED BASIN WATER QUALITY TREATMENT FACILITY SHALL BE IMPORTED TOPSOIL BLEND. THE MATERIAL SHALL BE ANY BLEND OF LOAMY SOIL, SAND, AND COMPOST THAT IS 30-40% COMPOST (BY VOLUME) AND MEETS THE OTHER CRITERIA IN THIS SPECIFICATION.

SOIL ANALYSIS FOR THE BLENDED MATERIAL SHALL CONFORM TO THE FOLLOWING. A PARTICLE GRADATION ANALYSIS OF THE BLENDED MATERIAL, INCLUDING COMPOST, SHALL BE CONDUCTED IN CONFORMANCE WITH ASTM C117/C136 (AASHTO T11/T27). THE ANALYSIS SHALL INCLUDE THE FOLLOWING SIEVE SIZES: 1 INCH, 3/8 INCH, #4, #10, #20, #40, #60, #100, #200. THE GRADATION OF THE BLEND SHALL MEET THE FOLLOWING GRADATION CRITERIA.

SIEVE SIZE:	PERCENT PASSING
1 INCH	100
#10	75 - 100
#40	40 - 100
#100	5 - 25
#200	5 - 15

THE BLEND SHALL HAVE A COEFFICIENT OF UNIFORMITY (D60/D10) EQUAL TO OR GREATER THAN 6 TO ENSURE IT IS WELL GRADED (HAS A BROAD RANGE OF PARTICLE SIZES). THE COEFFICIENT IS THE RATIO OF TWO PARTICLE DIAMETERS ON A GRAIN-SIZE DISTRIBUTION CURVE: IT IS THE PARTICLE DIAMETER AT 60% PASSING DIVIDED BY THE PARTICLE DIAMETER AT 10% PASSING.

THE PH (POWER OF HYDROGEN) OF THE BLENDED MATERIAL SHALL BE TESTED AND BE BETWEEN 6 TO 8.

BLENDED SOIL SHALL BE LOOSE AND FRIABLE; WELL MIXED AND HOMOGENOUS; FREE OF WOOD PIECES, PLASTIC, AND OTHER FOREIGN MATTER; AND HAVE NO VISIBLE FREE WATER.

COMPOST SHALL BE DERIVED FROM PLANT MATERIAL AND PROVIDED BY A MEMBER OF THE US COMPOSTING COUNCIL SEAL OF TESTING ASSURANCE (STA) PROGRAM. SEE WWW.COMPOSTINGCOUNCIL.ORG FOR A LIST OF LOCAL PROVIDERS.

THE COMPOST SHALL BE THE RESULT OF THE BIOLOGICAL DEGRADATION AND TRANSFORMATION OF PLANT-DERIVED MATERIALS UNDER CONDITIONS DESIGNED TO PROMOTE AEROBIC DECOMPOSITION. THE MATERIAL SHALL BE WELL COMPOSTED, FREE OF VIABLE WEED SEEDS, AND STABLE WITH REGARD TO OXYGEN CONSUMPTION AND CARBON DIOXIDE GENERATION. THE COMPOST SHALL HAVE NO VISIBLE FREE WATER AND PRODUCE NO DUST WHEN HANDLED. IT SHALL MEET THE FOLLOWING CRITERIA, AS REPORTED BY THE US COMPOSTING COUNCIL STA COMPOST TECHNICAL DATA SHEET PROVIDED BY THE VENDOR.

- 100% OF THE MATERIAL MUST PASS THROUGH A 1/2 INCH SCREEN.
- THE PH OF THE MATERIAL SHALL BE BETWEEN 6 AND 8.
- MANUFACTURED INERT MATERIAL (PLASTIC, CONCRETE, CERAMICS, METAL, ETC.) SHALL BE LESS THAN 1.0% BY WEIGHT.
- THE ORGANIC MATTER CONTENT SHALL BE BETWEEN 30 AND 70% (DRY WEIGHT BASIS).
- SOLUBLE SALT CONTENT SHALL BE LESS THAN 6.0 MMHOS/CM.
- MATURITY INDICATOR SHALL BE GREATER THAN 80% FOR GERMINATION AND VIGOR.
- STABILITY SHALL BE 'STABLE' TO 'VERY STABLE'.
- CARBON/NITROGEN (C/N) RATIO SHALL BE LESS THAN 25:1.
- TRACE METALS TEST RESULT = 'PASS.'

AT LEAST 14 WORKING DAYS IN ADVANCE OF CONSTRUCTION, SUBMIT THE FOLLOWING ANALYSES FOR PARTICLE GRADATION WITH CALCULATED COEFFICIENT OF UNIFORMITY; AND PH. ANALYSIS SHALL BE PERFORMED BY AN ACCREDITED LABORATORY WITH CERTIFICATION MAINTAINED CURRENT. THE DATE OF THE ANALYSES SHALL BE NO MORE THAN 90 CALENDAR DAYS PRIOR TO THE DATE OF THE SUBMITTAL. THE REPORT SHALL INCLUDE THE FOLLOWING INFORMATION:

- NAME AND ADDRESS OF THE LABORATORY.
- PHONE CONTACT AND E-MAIL ADDRESS FOR THE LABORATORY.
- TEST DATA, INCLUDING THE DATE AND NAME OF THE TEST PROCEDURE.
- A COMPOST TECHNICAL DATA SHEET FROM THE COMPOST VENDOR. THE ANALYSIS AND REPORT MUST CONFORM TO THE SAMPLING AND REPORTING REQUIREMENTS OF THE US COMPOSTING COUNCIL SEAL OF TESTING ASSURANCE (STA) PROGRAM. THE ANALYSIS SHALL BE PERFORMED AND REPORTED BY AN APPROVED INDEPENDENT STA PROGRAM LABORATORY AND BE NO MORE THAN 90 CALENDAR DAYS PRIOR TO THE DATE OF THE SUBMITTAL.

SUBMIT TWO 5-GALLON BUCKETS OF THE BLENDED MATERIAL.

SUBMIT A DESCRIPTION OF THE LOCATION, EQUIPMENT, AND METHOD PROPOSED TO MIX THE MATERIAL.

HAUL AND SPREAD MATERIAL WITHOUT COMPACTING THE TOPSOIL OR AREAS WHERE IT IS PLACED. PROTECT FROM DAMAGE ANY SURROUNDING OBJECTS, PAVEMENT, STRUCTURES AND AREAS THAT MUST BE TRAVELED, CROSSED OR MOUNTED BY EQUIPMENT.

SMOOTHLY SPREAD THE TOPSOIL OVER THE SPECIFIED AREAS TO THE THICKNESS, GRADES, AND SLOPES SHOWN OR DIRECTED. AVOID WASTING TOPSOIL AND DO NOT PLACE MATERIAL DURING WET CONDITIONS. DO NOT WORK SATURATED SOILS IN ANY MANNER. MATERIAL PLACED IN UNDESIGNATED PLACES SHALL BE REMOVED AND SURFACE CLEANED.

FINISH AREAS COVERED WITH TOPSOIL TO PROPER GRADE, CONTOUR AND CROSS SECTION. CULTIVATE ALL TOPSOIL NOT IN A LOOSE AND FRIABLE CONDITION TO A DEPTH OF AT LEAST 4 INCHES. BRING THE SURFACE TO A CONDITION READY FOR PLANTING OPERATIONS.

THE MATERIAL SHALL BE PROTECTED FROM ALL SOURCES OF CONTAMINATION, INCLUDING WEED SEEDS, WHILE AT THE SUPPLIER, IN CONVEYANCE, AND AT THE PROJECT SITE.

THE MATERIAL SHALL BE PLACED IN LOOSE LIFTS, NOT TO EXCEED 8 INCHES EACH AND EACH LIFT SHALL BE COMPACTED WITH A WATERFILLED LANDSCAPE ROLLER. THE MATERIAL SHALL NOT OTHERWISE BE MECHANICALLY COMPACTED.

WEATHER PERMITTING AND AS APPROVED, PLANTS SHALL BE INSTALLED AS SOON AS POSSIBLE AFTER PLACING AND GRADING THE TOPSOIL IN ORDER TO MINIMIZE EROSION AND FURTHER COMPACTION.

TEMPORARY EROSION CONTROL MEASURES ARE REQUIRED UNTIL PERMANENT STABILIZATION MEASURES ARE FUNCTIONAL.

IN ALL CASES, THE INSTALLED MATERIAL MUST BE PROTECTED FROM FOOT OR EQUIPMENT TRAFFIC AND SURFACE WATER RUNOFF. TEMPORARY FENCING OR WALKWAYS SHOULD BE INSTALLED AS NEEDED TO KEEP WORKERS, PEDESTRIANS, AND EQUIPMENT OUT OF THE AREA. UNDER NO CIRCUMSTANCES SHOULD MATERIALS AND EQUIPMENT BE STORED ON TOP OF THE INSTALLATION AREA.

PLACEMENT OF THE TOPSOIL WILL NOT BE ALLOWED WHEN THE GROUND IS FROZEN OR SATURATED OR WHEN THE WEATHER IS TOO WET AS DETERMINED BY THE ODOT CONSTRUCTION PROJECT MANAGER.

SUBMIT PLANT LIST INCLUDING SUPPLIER, PLANT NAMES AND QUANITIES FOR APPROVAL PRIOR TO PLANTING.

PROVIDE HEALTHY PLANTS IN THE CONTAINER SIZES NOTED. PLANTS SHALL BE OF A SIZE THAT MATCHES THE SUPPLIED CONTAINER WITH A FULL, BUT UNCONSTRAINED ROOT SYSTEM.

PLANT CONTAINERS SHALL BE FREE OF WEEDS AND ANY FORIGN MATERIALS.

HAND DIG HOLES FOR EACH PLANT TO ALLOW INSTALLATION OF PLANT SO THAT FINISHED GROUND SURFACE MATCHES LEVEL OF POTTING SOIL PRIOR TO PLANTING.

MAINTAIN THE PROJECT IN A NEAT, ORDERLY CONDITION. REMOVE UNSIGHTLY CONSTRUCTION MATERIALS AT THE END OF EACH WORKING SHIFT. CLEAN ALL PAVEMENT SURFACES OF MUD, DEBRIS, OR OTHER MATERIALS THAT MAY, IN THE OPINION OF ODOT, CAUSE PROBLEMS.

PLANTING SHALL BE MADE BETWEEN SEPTEMBER 1ST AND MARCH 1ST.

THE CONTRACTOR IS RESPONSIBLE FOR THE SURVIVAL OF ALL PLANT MATERIAL UNTIL THE END OF A PLANT ESTABLISHMENT PERIOD OF 1 MONTH. THE PLANT ESTABLISHMENT PERIOD WORK WILL BEGIN WHEN ALL THE ORIGINAL PLANTING IS COMPLETED. THE ORIGINAL PLANTING IS CONSIDERED COMPLETE WHEN ALL THE PLANT MATERIAL HAS BEEN PLANTED TO THE SATISFACTION OF ODOT.

ALL WEEDS SHALL BE REMOVED FROM PLANTING AREA AT THE CONCLUSION OF THE PLANT ESTABLISHMENT PERIOD PRIOR TO FINAL ACCEPTANCE BY ODOT.

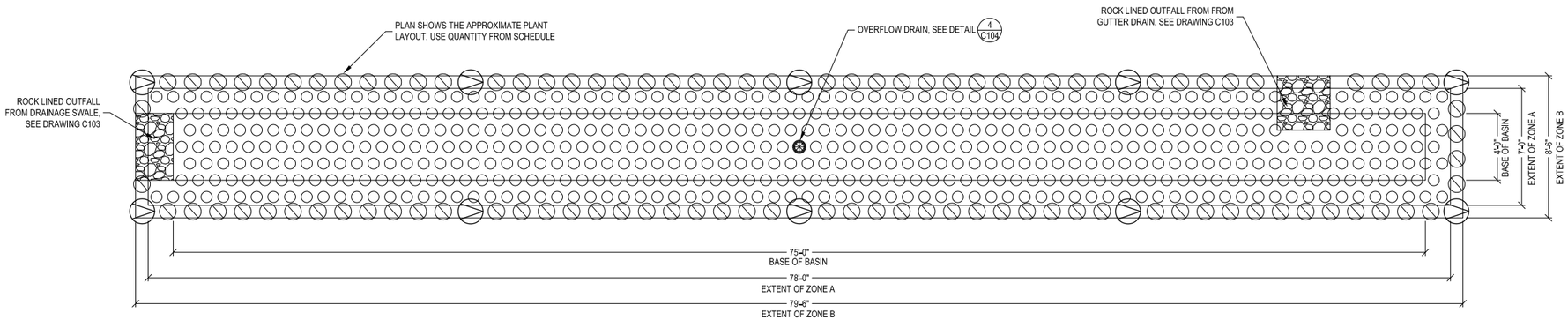
ESTABLISHMENT PERIOD WORK INCLUDES REMOVING ALL PLANTS THAT HAVE REACHED THEIR PERMANENT WILTING POINT, ARE DEAD, DYING, OR WHICH DO NOT MEET SPECIFICATIONS, AND REPLACING THEM WITH HEALTHY PLANTS. ALL PLANTS IN PLACE AFTER THIS REPLACEMENT WILL BE RECOGNIZED AS THE "ORIGINAL PLANTING" AND WILL BE SUBJECT TO THE ESTABLISHMENT SPECIFICATIONS.

ODOT WILL BECOME RESPONSIBLE FOR PLANT CARE AFTER THE CONCLUSION OF THE ESTABILISHMENT PERIOD AND FINAL ACCEPTANCE BY ODOT.

REDUCED 50% WHEN PRINTED AT 11" x 17"

PLANTING SCHEDULE

ZONE	QUANTITY	SYMBOL	BOTANICAL NAME	COMMON NAME	CONTAINER SIZE	SPACING	TYPE	QUANTITY PER 100 SF OF AREA
A	440	○	BROMUS VULGARIS	COLUMBIA BROME	#1	1'-0"	HERBACEOUS	80
B	99	⊘	ARCTOSTAPHYLOS UVA-URSI	KINNICKINNICK	#1	1'-0"	GROUNDCOVER	70
B	10	⊖	BERBERIS (HAHONIA) AQUIFOLIUM	OREGON GRAPE	#1	AS SHOWN	SMALL SHRUB	7



1/C105 LANDSCAPE PLAN DETAIL AT LINED BASIN

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

THIS DRAWING IS REDUCED IF BORDER IS NOT 20 1/2" x 32"

	DATE	REVISION	BY

DESIGNED: JON DOUGHTON

DRAFTED: FRANCO RAMOS

CHECKED:

REVIEWED:

REGISTERED PROFESSIONAL ENGINEER 56466 OREGON NOVEMBER 13, 2001 JONATHAN S. DOUGHTON EXPIRES: 12-31-21

OREGON DEPARTMENT OF TRANSPORTATION
FACILITIES SERVICES BRANCH

FACILITY NO. F2421001

DATE 06/2420

CALC. BOOK ~

ODOT HOLMAN STOCKPILE SITE
NEW SALT STORAGE SHED
NE 105TH AVE AND NE SIMPSON ST, PORTLAND, OR 97220

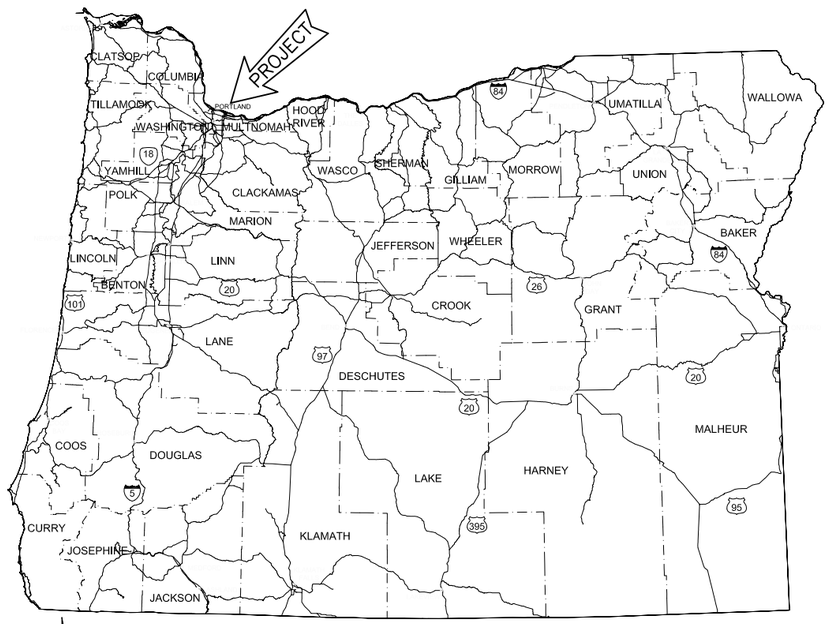
LANDSCAPE PLAN DETAIL AND NOTES

SHEET 6 OF 17

DRAWING C105

ODOT HOLMAN STOCKPILE SITE
STORM DRAIN IMPROVEMENTS
NE 105TH AVE AND NE SIMPSON ST, PORTLAND, OR 97220

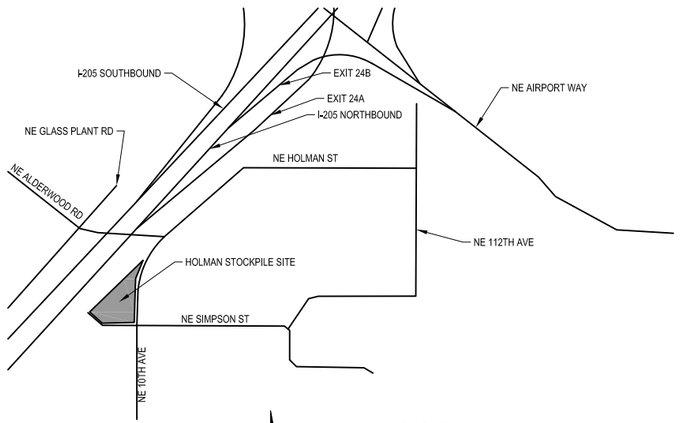
REDUCED 50% WHEN PRINTED AT 11" x 17"



STATE VICINITY MAP
SCALE: N.T.S.

SHEET INDEX

OREGON STANDARD DRAWINGS INCLUDED IN SET
RD300
RD320
RD335
RD336
RD344
RD345
RD356
RD1040



LOCAL VICINITY PLAN
SCALE: 1" = 500'

COORDINATION WITH UTILITIES

1. THE LOCATION AND DESCRIPTION OF EXISTING UTILITIES SHOWN ARE FROM AVAILABLE RECORDS AND/OR FIELDS SURVEYS. NO GUARANTEE OF THE ACCURACY NOR COMPLETENESS OF SUCH INFORMATION IS MADE.
2. OREGON LAW REQUIRES THE CONTRACTOR TO FOLLOW RULES ADOPTED BY THE OREGON UTILITY NOTIFICATION CENTER. THOSE RULES ARE SET FORTH IN OAR 952-001-0010 THROUGH OAR 952-001-0090. COPIES OF THE RULES ARE AVAILABLE BY CALLING THE OREGON UTILITY NOTIFICATION CENTER AT (800) 332-2344.
3. THE CONTRACTOR SHALL NOTIFY EACH UNDERGROUND UTILITY AT LEAST 48 BUSINESS-DAY HOURS PRIOR TO EXCAVATING, BORING, OR POTHOLING. ALL UTILITY CROSSINGS SHALL BE POTHOLED AS NECESSARY PRIOR TO EXCAVATING OR BORING TO ALLOW THE CONTRACTOR TO PREVENT GRADE OR ALIGNMENT CONFLICTS.
4. PROVISIONS SHALL BE MADE BY THE CONTRACTOR TO KEEP ALL EXISTING UTILITIES IN SERVICE AND PROTECT THEM DURING CONSTRUCTION.
5. UTILITIES, OR INTERFERING PORTIONS OF UTILITIES, THAT ARE ABANDONED IN PLACE SHALL BE REMOVED BY THE CONTRACTOR TO THE EXTENT NECESSARY TO ACCOMPLISH THE WORK. WHERE PRACTICABLE, THE CONTRACTOR SHALL CAP OR PLUG WITH CONCRETE BOTH ENDS OF ABANDONED UTILITIES.

GENERAL CONSTRUCTION NOTES

1. CONTRACTOR SHALL MAKE A SITE VISIT AND EXAMINE EXISTING CONDITIONS PRIOR TO PROVIDING A BID. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF ODOT THROUGH A REQUEST FOR CLARIFICATION AS SET FORTH IN THE BID DOCUMENTS.
2. CLARIFICATIONS SHALL BE REQUESTED IN WRITING PRIOR TO ANY INSTALLATION. INCORRECT INSTALLATIONS SHALL BE CORRECTED AT NO ADDITIONAL COST TO ODOT.
3. ALL WORK SHOWN IS TO BE BY THE CONTRACTOR UNLESS SPECIFICALLY NOTED AS BEING BY ODOT OR BY OTHERS. ALL MATERIALS SHOWN ARE TO BE PROVIDED BY THE CONTRACTOR UNLESS SPECIFICALLY NOTED AS BEING BY ODOT OR BY OTHERS.
4. CLEAN ENTIRE WORK AREA AT THE CONCLUSION OF THE PROJECT TO THE SATISFACTION OF THE ODOT CONSTRUCTION PROJECT MANAGER.
5. SECURE THE WORK AREA OUTSIDE OF THE FENCED ODOT STOCKPILE YARD USING TEMPORARY CHAIN LINK FENCING A MINIMUM OF 6' HIGH TO PREVENT UNAUTHORIZED ENTRY.
6. CONTRACTOR IS RESPONSIBLE FOR ALL SHORING DESIGN AND CONSTRUCTION METHODS TO COMPLY WITH ALL APPLICABLE SAFETY RULES, REGULATIONS AND LAWS. PLATE ALL OPEN TRENCHES NOT ACTIVELY IN USE.
7. PROVIDE 'SIDEWALK CLOSED' SIGNS AT EACH SIDE OF THE WORK AREA ON THE MULTI USE PATH FOR THE DURATION OF THE WORK UNTIL SURFACE IS RESTORED AND TEMPORARY FENCING IS REMOVED.
8. EXCESS SPOILS SHALL BE STOCKPILED ON-SITE IN THE LOCATION IDENTIFIED BY THE ODOT CONSTRUCTION PROJECT MANAGER. PLACE STOCKPILED MATERIAL ON 6 MIL PLASTIC SHEETING. SEGREGATE TRASH AND DEBRIS FROM OTHERWISE CLEAN SOILS. COVER ALL STOCKPILED SOILS WITH 6 MIL PLASTIC SHEETING SECURED AND BALLASTED TO PREVENT DISLODGING.
9. SHALLOW SOILS (TO A DEPTH OF 1.5 FEET) AT UNPAVED AREAS ARE KNOWN TO BE CONTAMINATED WITH BENZO(A)PYRENE.
10. THE JUNE 8, 2020 ODOT REPORT, TITLED CLEAN FILL DETERMINATION, PROPOSED HOLMAN SALT SHED DOCUMENTING THE CONTAMINATED MEDIA IDENTIFIED WITHIN THE PROJECT, IS AVAILABLE FROM THE ENGINEER.
11. PREPARE A WRITTEN LEAD COMPLIANCE PLAN FOR WORK WITHIN CONTAMINATED AREAS OF THE PROJECT.
12. CONTAMINATED SOIL IS SOIL THAT DOES NOT MEET THE DEQ DEFINITION OF "CLEAN FILL", AS DEFINED BY OAR 340-093-0030(18), THIS CONTAMINATED SOIL IS A REGULATED WASTE, SUBJECT TO OAR 340-093-0005 THROUGH OAR 340-093-0290. IF THE GRUBBING MATERIAL HAS BEEN DETERMINED TO BE CONTAMINATED, IT WILL BE CONSIDERED AND TREATED AS CONTAMINATED SOIL.
13. SUBMIT A PROJECT-SPECIFIC WRITTEN LEAD COMPLIANCE PLAN, MEETING THE PROJECT APPLICABLE REQUIREMENTS OF 29 CFR 1926.62(E)(2), AT LEAST 10 CALENDAR DAYS BEFORE THE PRE-CONSTRUCTION CONFERENCE. WHEN APPLICABLE, INCLUDE COMPLIANCE PROCEDURES FOR CADMIUM AND CHROMIUM VI. ACCORDING TO 29 CFR 1926.1127 AND 29 CFR 1926.1126.
14. SUBMIT MODIFICATIONS TO THE WRITTEN LEAD COMPLIANCE PLAN THAT ARE REQUESTED BY THE ENGINEER WITHIN SEVEN CALENDAR DAYS OF THE REQUEST.
15. SUBMIT CURRENT EMPLOYEE TRAINING CERTIFICATES AND MEDICAL SURVEILLANCE INFORMATION BEFORE BEGINNING WORK WITHIN THE CONTAMINATED AREAS.
16. PROVIDE EMPLOYEES TRAINED IN LEAD AWARENESS ACCORDING TO 29 CFR 1926.62(L) FOR REMOVAL OF CONTAMINATED SOIL.
17. EXCAVATE AND HANDLE CONTAMINATED SOIL FROM PROJECT EXCAVATIONS AS FOLLOWS. NOTIFY THE ENGINEER 3 CALENDAR DAYS BEFORE BEGINNING EXCAVATION ACTIVITIES WITHIN CONTAMINATED AREAS. ALLOW THE AGENCY TO COLLECT SOIL SAMPLES DURING EXCAVATION ACTIVITIES. SEGREGATE CONTAMINATED SOIL DURING EXCAVATION ACTIVITIES. BASED ON THE PROVIDED CONTAMINATED SOIL LOCATION INFORMATION. REMOVE CONTAMINATED MEDIA FROM THE EXTERIOR OF ALL VEHICLES BEFORE THEY LEAVE THE PROJECT SITE.
18. TEMPORARILY STOCKPILE THE CONTAMINATED SOIL FROM STORMWATER DRAIN LINE TRENCHING FOR POTENTIAL REUSE AS NOTED ABOVE. NON-CONTAMINATED SOIL FROM DEPTH SHALL BE USED FOR TRENCH BACKFILLING PRIOR TO ANY CONTAMINATED SOIL.
19. PROVIDE EROSION CONTROL MEASURES AROUND DOWN SLOPE SIDE OF STOCKPILED MATERIALS TO PREVENT SEDIMENT FROM LEAVING SITE. USE MEASURES ACCEPTABLE TO ODOT CONSTRUCTION PROJECT MANAGER.
20. PROTECT ALL EXISTING TREES FROM DAMAGE. PROVIDE ADEQUATE FLAGGING AND OR STAKING TO KEEP CONSTRUCTION PERSONNEL AND EQUIPMENT AWAY FROM TREES.
21. DO NOT PERFORM ANY WORK BELOW ELEVATION 14.0 ON THE BANK OF COLUMBIA SLOUGH. THIS IS A 'NO WORK ZONE'. PREVENT ANY CONSTRUCTION MATERIALS OR DEBRIS FROM ENTERING THIS AREA. UNDER NO CIRCUMSTANCE SHALL ANY MATERIALS BE PERMITTED TO ENTER THE WATERS OF THE SLOUGH.
22. REMOVE ONLY THE VEGETATION ON THE SLOUGH BANK NECESSARY TO COMPLETE THE PROJECT WORK. MINIMIZE ANY DISTURBANCE TO GROUND FEATURES.
23. GRADE NON-PAVED AREAS TO MATCH EXISTING ADJACENT GRADE.
24. SEEDING OF NON-PAVED AREAS IS BY OTHERS.
25. STOP WORK IMMEDIATELY AND NOTIFY ODOT CONSTRUCTION PROJECT MANAGER IF ANY CULTURAL RESOURCES SUCH AS ARTIFACTS ARE DISCOVERED IN THE COURSE OF THE WORK.
26. CONTRACTOR SHALL COMPLY WITH ENVIRONMENTAL PROTECTION REQUIREMENTS AS SPECIFIED IN THE 2018 OREGON STANDARD SPECIFICATIONS FOR CONSTRUCTION SECTIONS 00290.00 THROUGH 00290.51.

MATERIALS

CONCRETE

CONCRETE SHALL BE COMMERCIAL GRADE CONCRETE HAVING A COMPRESSIVE STRENGTH OF 3,500 PSI AT 28 DAYS. SLUMP SHALL BE 5 INCHES OR LESS. PROVIDE ENTRAINED AIR AT 4.0 TO 7.0 PERCENT BY VOLUME. PLACE WITHIN 90 MINUTES OF BATCHING AND MIXING. CURE WITH TYPE 2 WHITE PIGMENTED CURING COMPOUND MEETING THE REQUIREMENTS OF ASTM C309 AT A RATE NOT LESS THAN 1 GALLON PER 150 SQUARE FEET.

EROSION CONTROL

BIOFILTER BAGS OF MINIMUM 18 BY 6 BY 30 INCH SIZE PLASTIC MESH BAGS WITH ½ INCH OPENINGS. BAGS SHALL BE FILLED WITH APPROXIMATELY 45 POUNDS OF CLEAN, NON-TOXIC 100 PERCENT RECYCLED WOOD PRODUCT WASTE CONTAINING NO FINE MATERIALS OR SEDIMENTS.

PLASTIC SHEETING SHALL CONSIST OF 6 MIL MINIMUM THICKNESS POLYETHYLENE.

SEDIMENT FENCE WITH GEOTEXTILE MEETING THE REQUIREMENTS OF 2018 OREGON STANDARD SPECIFICATION FOR CONSTRUCTION SECTION 00230 AND UNTREATED WOOD STAKES.

MANHOLE

PROVIDE PRE-CAST CONCRETE MANHOLE SECTIONS AND COMPONENTS MEETING THE REQUIREMENTS SHOWN ON OREGON STANDARD DRAWINGS.

REINFORCING STEEL

REINFORCING STEEL SHALL BE GRADE 60 CONFORMING TO ASTM A615.

PIPE

POLYVINYL CHLORIDE PIPE (PVC) SHALL MEET THE REQUIREMENTS OF ASTM D3034 AND HAVE A MINIMUM SDR OF 35. EXCAVATE TRENCH, PREPARE BEDDING, PIPE ZONE MATERIAL AND TRENCH BACKFILL. INSTALL PIPE ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS. INSTALL 14 GAUGE COPPER TRACER WIRE ABOVE PIPE WITH GREEN INSULATION TERMINATING AT STRUCTURES AT EACH END OF RUN.

RIPRAP

CLASS 50 RIPRAP SHALL BE ANGULAR ROCK FREE FROM OVERBURDEN, SPOIL, SHALE AND ORGANIC MATERIAL. MATERIAL SHALL BE GRADED AS 50-30 LB. - 20%; 30-15 LB. - 30%; 15-2 LB. - 40%; 2-0 LB. - 10% BY WEIGHT. PLACE RIPRAP ON PREPARED AREA AS SHOWN.

TRENCH BACKFILL

BEDDING SHALL BE 3/4"-0 CRUSHED AGGREGATE.

PIPE ZONE MATERIAL SHALL BE 1"-0 OR 3/4"-0 CRUSHED AGGREGATE.

CLASS A TRENCH BACKFILL SHALL BE NATIVE MATERIAL FREE OF DEBRIS, ORGANICS OR STONES LARGER THAN 6" IN DIMENSION.

CLASS B TRENCH BACKFILL SHALL BE 1"-0 OR 3/4"-0 CRUSHED AGGREGATE COMPACTED TO 95% PER ASTM D698.

BACKFILL MATERIALS IN LIFTS AS REQUIRED TO ACHIEVE REQUIRED COMPACTION.

ANGULAR ROCK SURFACING SHALL BE 1"-3" OPEN GRADED CLEAN ANGULAR ROCK FREE OF OVERBURDEN, SPOIL, SHALE AND ORGANIC MATERIAL.

KEYED CONSTRUCTION NOTES (SEE DRAWING C1)

1. SAW CUT AND REMOVE EXISTING PAVEMENT SECTION FOR INSTALLATION OF NEW STORM DRAIN.
2. CONSTRUCT NEW 48" DIAMETER STORM DRAIN MANHOLE WITH PRECAST FLAT SLAB TOP PER ODOT STANDARD DRAWING RD335. NO STEPS REQUIRED. SEE PROFILE FOR RIM AND PIPE INVERT ELEVATIONS.
3. CONSTRUCT 300 LINEAL FEET OF NEW 12" DIAMETER 3034 SDR 35 PVC STORM DRAIN PIPE AT 0.5% SLOPE. PROVIDE TRENCH ACCORDING TO OREGON STANDARD DRAWING RD300. EXTEND TRENCH BACKFILL TO WITHIN 4" OF FINISH GRADE AT CLASS B BACKFILL AREAS. CONSTRUCT PIPE PER OREGON STANDARD DRAWING RD300.
4. CONSTRUCT NEW 48" DIAMETER STORM DRAIN MANHOLE WITH PRECAST CONICAL TOP PER ODOT STANDARD DRAWING RD335. NO STEPS REQUIRED. SEE PROFILE FOR RIM AND PIPE INVERT ELEVATIONS.
5. PRESERVE AND PROTECT EXISTING CHAIN LINK FENCE GATE.
6. CONSTRUCT 163 LINEAL FEET OF NEW 12" DIAMETER 3034 SDR 35 PVC STORM DRAIN PIPE AT 0.6% SLOPE. PROVIDE TRENCH ACCORDING TO OREGON STANDARD DRAWING RD300. EXTEND TRENCH BACKFILL TO FINISH GRADE AT CLASS B BACKFILL AREAS AND TO FINISH GRADE AT CLASS A BACKFILL AREAS, EXCEPT AS NOTED FOR SLOUGH BANK. CONSTRUCT PIPE PER OREGON STANDARD DRAWING RD300.
7. REMOVE EXISTING CONCRETE MULTI USE PATH TO INSTALL NEW STORM DRAIN. SAW CUT EXISTING PATH AT JOINT NEAREST TO TRENCH EXCAVATION AT EITHER SIDE OF NEW STORM DRAIN. PLACE CLASS B BACKFILL AFTER INSTALLATION OF NEW STORM DRAIN. POUR NEW 6" THICK CONCRETE PATH WITH WIDTH, JOINTS AND FINISH TO MATCH EXISTING PATH. USE #4 REBAR AT 18" ON CENTER EACH WAY 2" CLEAR OF SURFACE.
8. PRESERVE AND PROTECT EXISTING ELECTRICAL CONDUITS.
9. RESTORE GROUND SURFACE ABOVE TRENCH TO MATCH ADJACENT EXISTING GRADE.
10. PRESERVE AND PROTECT EXISTING 24" DIAMETER DUCTILE IRON PRESSURE SANITARY SEWER MAIN. NEW STORM DRAIN SHALL BE A MINIMUM OF 1'-0" BELOW EXISTING SEWER MAIN.
11. PRESERVE AND PROTECT EXISTING TREES SHOWN INDIVIDUALLY.
12. REMOVE EXISTING VEGITATION ON SLOUGH BANK AS REQUIRED TO CONSTRUCT NEW OUTFALL.
13. INSTALL SEDIMENT FENCE DIRECTLY BELOW NEW STORM DRAIN OUTFALL ON BANK BELOW AREA TO BE DISTURBED AT ELEVATION 15.0. DO NO WORK OR CLEARING BELOW ELEVATION 14.0. SEE OREGON STANDARD DRAWING RD1040.
14. PLACE 4" MINIMUM THICKNESS 1"-3" OPEN GRADED CLEAN ANGULAR ROCK OVER TRENCH BACKFILL ON SLOUGH BANK.
15. CONSTRUCT 4" THICK CONCRETE PAVED END SLOPE FOR OUTFALL PER OREGON STANDARD DRAWING RD320.
16. PLACE CLASS 50 RIPRAP AT TOE OF PAVED END SLOPE.
17. PLACE 3/4" - 0 CRUSHED AGGREGATE OVER TRENCH 6" THICK AT CALSS A BACKFILL AREAS WITHIN FENCED STOCKPILE YARD.

THIS DRAWING IS REDUCED IF BORDER IS NOT 20 1/2" x 32"

	DATE	REVISION	BY

DESIGNED: JON DOUGHTON
DRAFTED: FRANCO RAMOS
CHECKED:
REVIEWED:

REGISTERED PROFESSIONAL ENGINEER
56466
OREGON
NOVEMBER 13, 2001
JONATHAN S. DOUGHTON
EXPIRES: 12-31-21

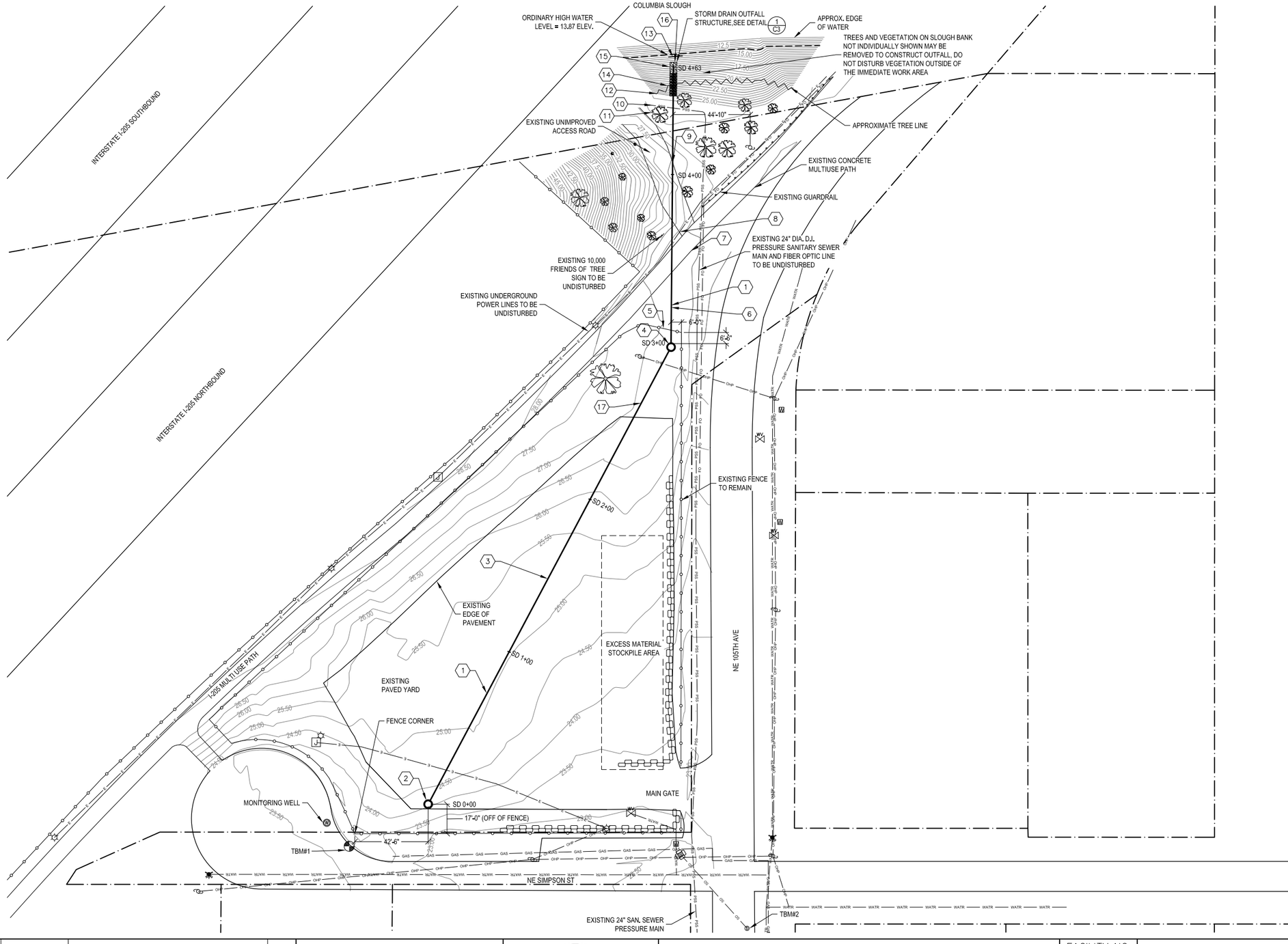
OREGON DEPARTMENT OF TRANSPORTATION
FACILITIES SERVICES BRANCH

FACILITY NO. F2421001
DATE 06/25/20
CALC. BOOK ~

ODOT HOLMAN STOCKPILE SITE
STORM DRAIN IMPROVEMENTS
NE 105TH AVE AND NE SIMPSON ST, PORTLAND, OR 97220

TITLE PAGE

SHEET 1 OF 3
DRAWING T1



LEGEND:

- SAN. SEWER PRESSURE MAIN
- SANITARY MANHOLE
- CLEANOUT
- GAS LINE
- GAS VALVE
- GAS METER
- STORM DRAIN
- CATCH BASIN
- STORM MANHOLE
- WATER LINE
- ABANDONED WATER LINE
- WATER METER
- FIRE DEPT. CONNECTION
- WATER VALVE
- FIRE HYDRANT
- FIRE SPRINKLER VALVE
- UTILITY POLE
- GUY
- ELECT. VAULT/METER
- LUMINAIR
- UNDERGROUND TELEPHONE LINE
- OVERHEAD POWER
- FIBER OPTIC LINE
- UNDERGROUND POWER LINES
- ELECTRICAL TRANSFORMER
- FENCE
- SIGN
- BOLLARD
- WELL
- DECIDUOUS TREE
- EVERGREEN TREE
- PROPERTY LINE

REDUCED 50% WHEN PRINTED AT 11" x 17"

TEMPORARY BENCH MARK #1 (TBM#1)

YELLOW REBAR CAP IN FRONT OF CURB IN NE SIMPSON
NORTHING 187938,85
EASTING 377879,36
EL 23,28

TEMPORARY BENCH MARK #2 (TBM#2)

TOP CENTER OF EXISTING STORM DRAIN MANHOLE LID IN NE 105TH AVE, SOUTH OF INTERSECTION WITH NE SIMPSON
NORTHING 187892,78
EASTING 378110,21
EL 23,16

STORM DRAIN PLAN

SCALE: 1" = 30'

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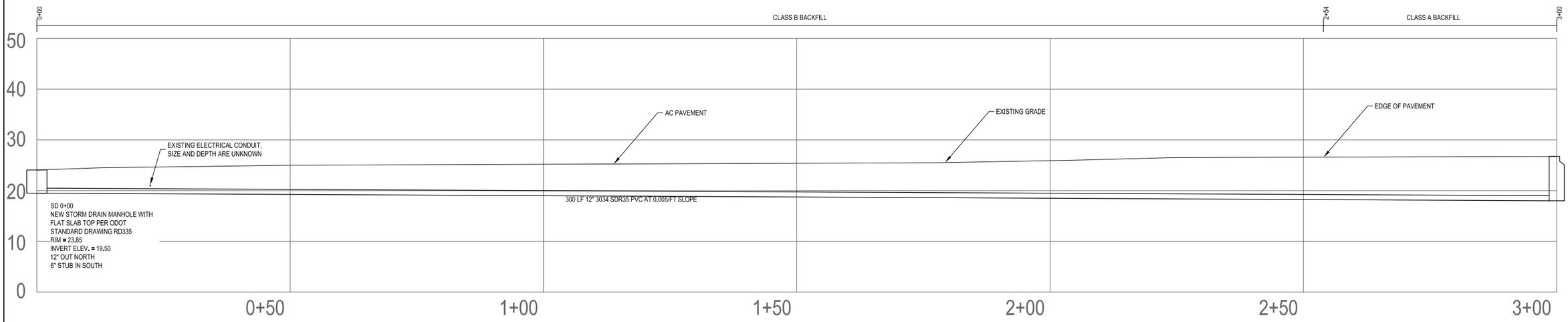
SITE PLAN

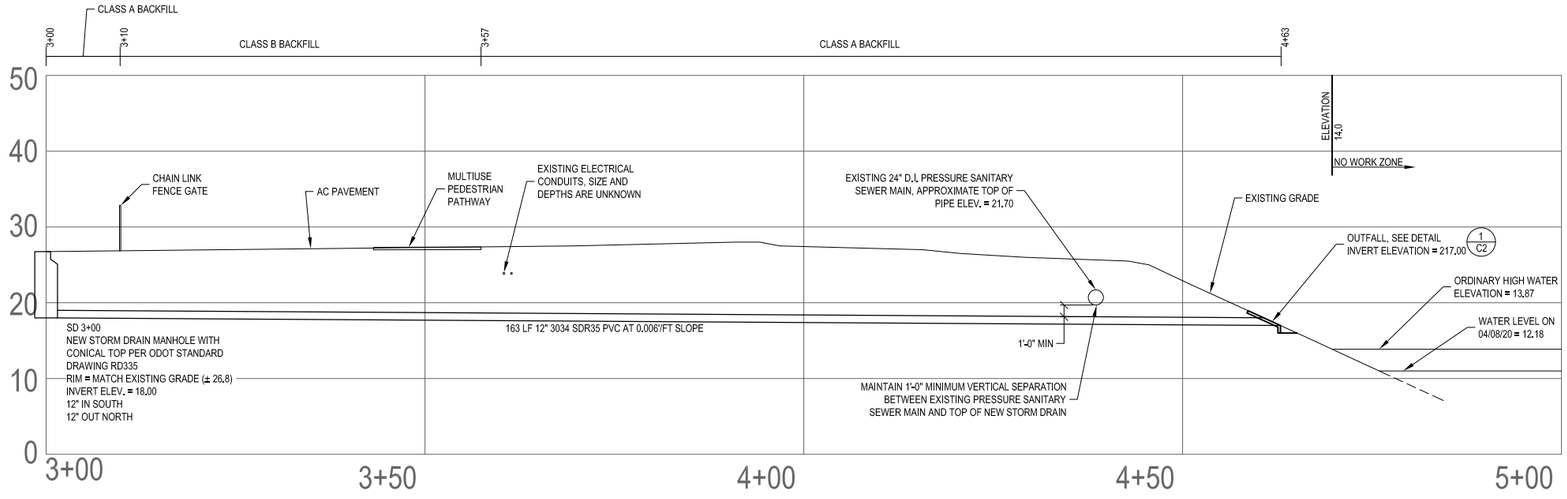
SHEET 2 OF 3
DRAWING C1



STOM DRAIN PROFILE 1

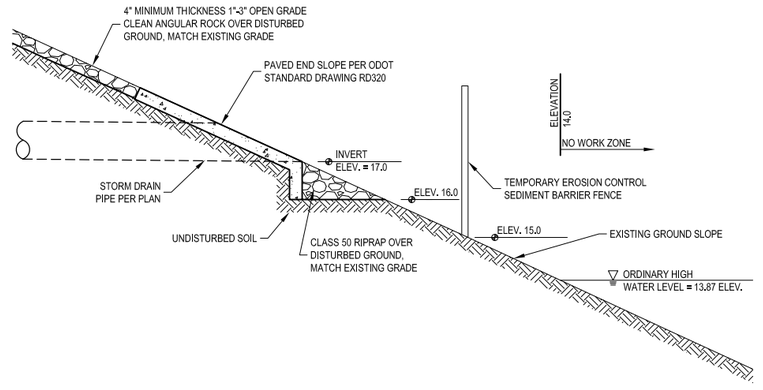
SCALE: 1" = 10'

REDUCED 50% WHEN PRINTED AT 11" x 17"



STORM DRAIN PROFILE 2

SCALE: 1" = 10'



1/C2 STORM DRAIN OUTFALL DETAIL

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

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PROFILES / DETAILS

SHEET 3 OF 3

DRAWING C2