INDEX OF SHEETS	
SHEET NO.	DESCRIPTION
A01	Title Sheet
A02–A03	Index Of Sheets Cont. & Std. Dwg. Nos.
AB01	Plan Sheet Layout
AD01–AD09	Survey Control

STATE OF OREGON
DEPARTMENT OF TRANSPORTATION
PLANS FOR PROPOSED PROJECT

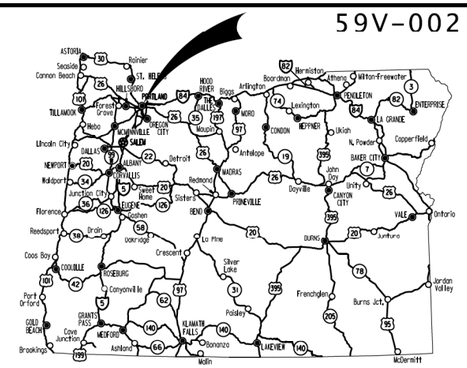
GRADING, DRAINAGE, PAVING, SIGNING, ILLUMINATION, AND ROADSIDE DEVELOPMENT

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT

LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY

MULTNOMAH COUNTY
APRIL 2026

59V-002



PROJECT SITES

WR79 (US30 M.P. 9.06)
WR204 (US30 M.P. 8.65)
WR126 (US30 M.P. 8.26)

PROJECT SITES

OF22D (US30 M.P. 7.29)
WR208/WR211
(US30 M.P. 7.03)

PROJECT SITES

ST. JOHNS BRIDGE WEST AND EAST ENDS
(US30 BYPASS M.P. 0.61, M.P. 1.23)

PROJECT SITES

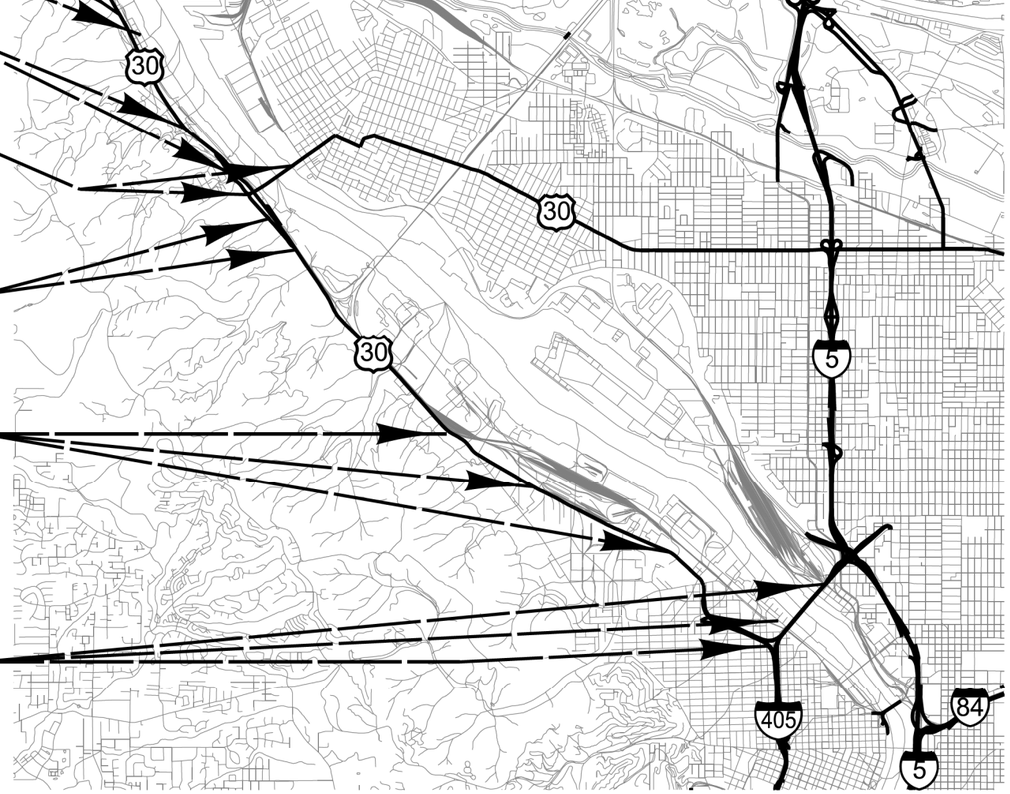
OF22C (US30 M.P. 6.41)
WR206 (US30 BYPASS M.P. 0.33)

PROJECT SITES

OF19 (US30 M.P. 3.88)
OF18 (US30 M.P. 3.00, M.P. 3.46)
OF16 (US30 M.P. 2.33, M.P. 2.21)

PROJECT SITES

FREMONT BRIDGE WEST AND EAST END
(US30 M.P. 3.20, M.P. 3.43)
FREMONT BRIDGE INTERCHANGE
(I-405 M.P. 3.03)



N

T. 1 N., R. 1E., W.M.
T. 1 N., R. 1W., W.M.

LET'S ALL WORK TOGETHER TO MAKE THIS JOB SAFE

ATTENTION:
Oregon Law Requires You To Follow Rules Adopted By The Oregon Utility Notification Center. Those Rules Are Set Forth In OAR 952-001-0001 Through OAR 952-001-0090. You May Obtain Copies Of The Rules By Calling The Center (Note: The Telephone Number For The Oregon Utility Notification Center Is (503) 232-1987).

PLANS PREPARED FOR
OREGON DEPARTMENT OF TRANSPORTATION

OREGON TRANSPORTATION COMMISSION

Julie Brown	CHAIR
Lee Beyer	VICE CHAIR
Phil Chang	COMMISSIONER
Jeff Baker	COMMISSIONER
Lisa Sumption	DIRECTOR OF TRANSPORTATION

These plans were developed using ODOT design standards. Exceptions to these standards, if any, have been submitted and approved by the ODOT Chief Engineer or their delegated authority.

Approving Authority: Veronica Vong 2026.02.24 09:46:08-08'00'
Signature & date

Veronica Vong, PE
WSP USA Project Manager
Print name and title

Tova R Peltz 2026.02.27 13:09:37 -08'00'
Concurrence by ODOT Chief Engineer

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

FEDERAL HIGHWAY ADMINISTRATION	PROJECT NUMBER	SHEET NO.
OREGON DIVISION	SA00(488)	A01

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

INDEX OF SHEETS, CONT.

ROADWAY DETAILS

SHEET NO.	DESCRIPTION
BA01-BA09	Roadway Details
BB01-BB03	Pipe Data Sheet

ROADWAY

SHEET NO.	LOCATION	DESCRIPTION
C001	St. Johns Bridge - West End	General Construction Plan
C101	St. Johns Bridge - East End	General Construction Plan
C201	I405/Fremont Bridge - Interchange	General Construction Plan
C301	Fremont Bridge - West End	General Construction Plan
C401-C401A	Fremont Bridge - East End	General Construction Plan
C502	OF16-2	General Construction Plan
C503	OF16-3	General Construction Plan
C521	OF18-2	General Construction Plan
C522-C524	OF18-1	General Construction Plan
C532-C534	OF19-2	General Construction Plan
C541	OF22C	General Construction Plan
C551	WR206	General Construction Plan
C561-C563	WR208/WR211	General Construction Plan
C571	WR208/WR211	General Construction Plan
C581-C583	OF22D	General Construction Plan
C591-C592	WR126	General Construction Plan
C601-C603	WR204	General Construction Plan
C611-C613	WR79	General Construction Plan

TRAFFIC CONTROL

SHEET NO.	LOCATION	DESCRIPTION
EA01		Traffic Control Details
EB01	St. Johns Bridge - East End	Traffic Control Detour Plan
EB02	OF22C	Traffic Control Detour Plan
EB03	OF18-1	Traffic Control Detour Plan
EB04	OF22D	Traffic Control Detour Plan
EB05	OF19-2	Traffic Control Detour Plan
EB06	WR126	Traffic Control Detour Plan
EB07	WR206	Traffic Control Detour Plan
EB08	OF18-2	Traffic Control Detour Plan
ED01	OF16-2	Traffic Control Plan
EE01	OF16-3	Traffic Control Plan
EG01	OF18-1	Traffic Control Plan
EI01	OF19-2	Traffic Control Plan
EJ01	WR206	Traffic Control Plan
EK01	WR204	Traffic Control Plan
EL01	WR208	Traffic Control Plan
EM01	WR211	Traffic Control Plan
EN01-EN02	OF22C	Traffic Control Plan
EO01-EO03	OF22D	Traffic Control Plan
EP01	WR126	Traffic Control Plan
EQ01	WR79	Traffic Control Plan
ER01	St. Johns Bridge - West End	Traffic Control Plan
ES01	I405/Fremont Bridge - Interchange	Traffic Control Plan
ET01	Fremont Bridge - West End	Traffic Control Plan
EU01	Fremont Bridge - East End	Traffic Control Plan

INDEX OF SHEETS, CONT.

ROADSIDE DEVELOPMENT

SHEET NO.	LOCATION	DESCRIPTION
FA001-FA003		Roadside Development Site Details
FA004		Plant Schedule and Notes
FA101	St. Johns Bridge - East End	Roadside Development Planting Plan
FA201	I405/Fremont Bridge - Interchange	Roadside Development Planting Plan
FA301	Fremont Bridge - West End	Roadside Development Planting Plan
FA401-FA401A	Fremont Bridge - East End	Roadside Development Planting Plan
FA502	OF16-2	Roadside Development Planting Plan
FA503	OF16-3	Roadside Development Planting Plan
FA522	OF18-1	Roadside Development Planting Plan
FA551	WR206	Roadside Development Planting Plan
FA571	WR208/WR211	Roadside Development Planting Plan
FA581	OF22D	Roadside Development Planting Plan
FA591	WR126	Roadside Development Planting Plan
FA611	WR79	Roadside Development Planting Plan

EROSION CONTROL

SHEET NO.	LOCATION	DESCRIPTION
FB001		Legend, General Notes
FB003	St. Johns Bridge - West End	Erosion & Sediment Control Plan
FB101	St. Johns Bridge - East End	Erosion & Sediment Control Plan
FB201	I405/Fremont Bridge - Interchange	Erosion & Sediment Control Plan
FB301	Fremont Bridge - West End	Erosion & Sediment Control Plan
FB401	Fremont Bridge - East End	Erosion & Sediment Control Plan
FB502	OF16-2	Erosion & Sediment Control Plan
FB503	OF16-3	Erosion & Sediment Control Plan
FB521	OF18-2	Erosion & Sediment Control Plan
FB522-FB524	OF18-1	Erosion & Sediment Control Plan
FB532-FB534	OF19-2	Erosion & Sediment Control Plan
FB541	OF22C	Erosion & Sediment Control Plan
FB551	WR206	Erosion & Sediment Control Plan
FB561-FB563	WR208/211	Erosion & Sediment Control Plan
FB581-FB583	OF22D	Erosion & Sediment Control Plan
FB591-FB592	WR126	Erosion & Sediment Control Plan
FB601-FB603	WR204	Erosion & Sediment Control Plan
FB611-FB613	WR79	Erosion & Sediment Control Plan

INDEX OF SHEETS, CONT.

GEOTECHNICAL

SHEET NO.	LOCATION	DESCRIPTION
GA001	St. Johns Bridge - West End	Geotechnical Data
GA101	St. Johns Bridge - East End	Geotechnical Data
GA201	I405/Fremont Bridge - Interchange	Geotechnical Data
GA301	Fremont Bridge - West End	Geotechnical Data
GA401	Fremont Bridge - East End	Geotechnical Data
GA502	OF16-2	Geotechnical Data
GA503	OF16-3	Geotechnical Data
GA521	OF18-2	Geotechnical Data
GA522	OF18-1	Geotechnical Data
GA532	OF19-2	Geotechnical Data
GA541	OF22C	Geotechnical Data
GA551	WR206	Geotechnical Data
GA561	WR208/WR211	Geotechnical Data
GA581	OF22D	Geotechnical Data
GA591	WR126	Geotechnical Data
GA601	WR204	Geotechnical Data
GA611	WR79	Geotechnical Data

HYDRAULIC

SHEET NO.	LOCATION	DESCRIPTION
HA001-HA001A	St. Johns Bridge - West End	Stormwater Plans and Profiles
HA101-HA101A	St. Johns Bridge - East End	Stormwater Plans and Profiles
HA201-HA201C	I405/Fremont Bridge - Interchange	Stormwater Plans and Profiles
HA301-HA301A	Fremont Bridge - West End	Stormwater Plans and Profiles
HA401-HA401A	Fremont Bridge - East End	Stormwater Plans and Profiles
HA502-HA502A	OF16-2	Stormwater Plans and Profiles
HA503-HA503A	OF16-3	Stormwater Plans and Profiles
HA521-HA521A	OF18-2	Stormwater Plans and Profiles
HA522-HA522A	OF18-1	Stormwater Plans and Profiles
HA532-HA532A	OF19-2	Stormwater Plans and Profiles
HA541-HA541A	OF22C	Stormwater Plans and Profiles
HA551-HA551A	WR206	Stormwater Plans and Profiles
HA561-HA561C	WR208/211	Stormwater Plans and Profiles
HA581-HA581A	OF 22D	Stormwater Plans and Profiles
HA591-HA591A	WR126	Stormwater Plans and Profiles
HA601-HA601A	WR204-1/WR204-2	Stormwater Plans and Profiles
HA611-HA611A	WR79	Stormwater Plans and Profiles

OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Standard Drawings located on the web at:
http://www.oregon.gov/ODOT/Engineering/Pages/Standards.aspx

FEDERAL HIGHWAY ADMINISTRATION	PROJECT NUMBER	SHEET NO.
OREGON DIVISION	SEE SHEET A01	A02

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

INDEX OF SHEETS, CONT.

HYDRAULIC DETAILS

SHEET NO.	LOCATION	DESCRIPTION
HB001-HB003	St. Johns Bridge - West End	Stormwater Details
HB101-HB102	St. Johns Bridge - East End	Stormwater Details
HB202-HB214	I405/Fremont Bridge - Interchange	Stormwater Details
HB302-HB306	Fremont Bridge - West End	Stormwater Details
HB402-HB405	Fremont Bridge - East End	Stormwater Details
HB502-HB502A	OF16-2	Stormwater Details
HB503	OF16-3	Stormwater Details
HB521-HB521A	OF18-2	Stormwater Details
HB522	OF18-1	Stormwater Details
HB532-HB533	OF19-2	Stormwater Details
HB541	OF22C	Stormwater Details
HB551-HB552	WR206	Stormwater Details
HB561-HB563	WR208/211	Stormwater Details
HB581-HB583	OF22D	Stormwater Details
HB591	WR126	Stormwater Details
HB601-HB602	WR204-1/WR204-2	Stormwater Details
HB611	WR79	Stormwater Details
HB701-HB702	VARIES	Stormwater Details

BRIDGE

SHEET NO.	LOCATION	DESCRIPTION
J01		Structure Location and Index
J02-J04		Bridge General Notes
J301	Fremont Bridge - West End	Plan and Elevation
J302	Fremont Bridge - West End	Pipe Support Details
J303	Fremont Bridge - West End	Pipe Attachment at Bridge Pedestal
J401	Fremont Bridge - East End	Plan and Elevation
J402	Fremont Bridge - East End	Slab on Grade and Pipe Support Details
J403	Fremont Bridge - East End	Pipe Connection at Bridge Pedestal

SIGNS

SHEET NO.	LOCATION	DESCRIPTION
LA201	I405/Fremont Bridge - Interchange	Signing Plan
LA541	OF22C	Signing Plan
LB001		Sign Details
LC001		Sign & Post Data Table

ILLUMINATION

SHEET NO.	LOCATION	DESCRIPTION
PA001		Illumination Legend & Light Pole Table
PA201	I405/Fremont Bridge - Interchange	Illumination Plan
PA301	Fremont Bridge - West End	Illumination Plan
PA611	WR79	Illumination Plan
PB001-PB002	Varies	Illumination Details
PC201	I405/Fremont Bridge - Interchange	Illumination Wiring Diagram

PERMANENT PAVEMENT MARKINGS

SHEET NO.	LOCATION	DESCRIPTION
QA01		Pavement Marking Legend
QB101	St. Johns Bridge - East End	Pavement Marking Plan
QB301	Fremont Bridge - West End	Pavement Marking Plan
QB502	OF16-2	Pavement Marking Plan
QB503	OF16-3	Pavement Marking Plan
QB521	OF18-2	Pavement Marking Plan
QB522-QB523	OF18-1	Pavement Marking Plan
QB532	OF19-2	Pavement Marking Plan
QB541	OF22C	Pavement Marking Plan

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PERMANENT PAVEMENT MARKINGS (continued)

SHEET NO.	LOCATION	DESCRIPTION
QB561-QB562	WR208/WR211	Pavement Marking Plan
QB581-QB582	OF22D	Pavement Marking Plan
QB591	WR126	Pavement Marking Plan
QB601-QB602	WR204	Pavement Marking Plan
QB611-QB612	WR79	Pavement Marking Plan

STRUCTURAL

SHEET NO.	LOCATION	DESCRIPTION
S01-S04		General Notes
S101-S102	St. Johns Bridge - East End	Cast-in-place Biofilter Details
S201-S203	I405/Fremont Bridge - Interchange	Pump Control Room Structure
S204	I405/Fremont Bridge - Interchange	Presettling Tank
S205	I405/Fremont Bridge - Interchange	Presettling Tank Details
S301	Fremont Bridge - West End	Access Ramp
S401	Fremont Bridge - East End	Slab On Grade and Pipe Support Details
S402-S403	Fremont Bridge - East End	Cast-in-place Biofilter Details
S404-S405	Fremont Bridge - East End	Vortechs Details
S406	Fremont Bridge - East End	Cast-in-place Biofilter Stair Details
S407	Fremont Bridge - East End	Cast-in-place Biofilter Walkway Details

ELECTRICAL, INSTRUMENTATION AND CONTROLS

SHEET NO.	LOCATION	DESCRIPTION
TA201	I405/Fremont Bridge - Interchange	Electrical Site Plan
TA202	I405/Fremont Bridge - Interchange	Wiring Diagram
TA203	I405/Fremont Bridge - Interchange	Instrument & Controls Block Diagram
TA204	I405/Fremont Bridge - Interchange	Electrical Equipment Layout
TA205	I405/Fremont Bridge - Interchange	Electrical Equipment Grounding Layout

List of standard drawings
RD130 - Bollards
RD250 - Thrust Blocking
RD300 - Trench Backfill, Bedding, Pipe Zone and Multiple Installations
RD302 - Street Cut
RD306 - Concrete Encasement, Cradle, and Cap Details
RD312 - Subsurface Drain
RD328 - Slotted CMP Drain Details
RD330 - Pipe Slope Anchors - Metal
RD332 - Pipe Slope Anchors - Concrete
RD334 - Locator Post
RD335 - Standard Storm Sewer Manhole
RD336 - Standard Manhole Details
RD339 - Pipe To Structure Connections
RD342 - Shallow Manholes
RD344 - Standard Manhole Base Section
RD345 - Pipe to Manhole Connections
RD346 - Large Precast Manhole
RD356 - Manhole Covers and Frames
RD360 - Manhole Frame Adjustment
RD362 - Sanitary Cleanout
RD363 - Gutter Transition At Inlet
RD364 - Concrete Inlets Type G-1, G-2, G-2M, & G-2MA
RD365 - Frames & Grates for Concrete Inlets
RD366 - Concrete Inlets Type CG-2
RD376 - Miscellaneous Drainage Structures Siphon Box, Inlet Cap & Inlet Adjustment
RD380 - Fill Height Tables for Aluminum & Steel Corrugated Pipe
RD386 - Fill Height Table for Circular Concrete Pipe
RD388 - Fill Height Tables for PVC Pipe
RD399 - Stormwater Treatment and Storage Facility Field Markers
RD700 - Curbs
RD701 - Drainage Curbs
RD706 - Traffic Separators and Transitions
RD720 - Curb Line Sidewalks
RD722 - Sidewalk Joints and Transition Panels
RD770 - Metal Handrail
RD771 - Metal Handrail Details
RD815 - Chain Link Fence
RD1000 - Construction Entrances
RD1006 - Check Dams Type 2 and 6
RD1010 - Inlet Protection Type 2, 3, 7, 10 and 11
RD1030 - Sediment Barrier Type 2, 3 and 4
RD1040 - Sediment Fence
RD1070 - Concrete Truck Wash Out
TM200 - Sign Installation Details
TM240 - Crosswalk Closure Detail
TM500 - Pavement Marking Standard Detail Blocks
TM501 - Pavement Marking Standard Detail Blocks
TM502 - Pavement Marking Standard Detail Blocks
TM503 - Pavement Marking Standard Detail Blocks
TM504 - Pavement Marking Standard Detail Blocks
TM505 - Rail Crossing Pavement Markings
TM515 - Pavement Markers
TM520 - Durable Pavement Markings Method 'A' & Method 'D' Surface Installed Profiled
TM530 - Intersection Pavement Markings (Crosswalk, Stop Bar & Bike Lane Stencil)
TM531 - Turn Arrow Marking Details
TM539 - Median And Left Turn Channelization Details
TM570 - Traffic Delineators
TM571 - Traffic Delineators Steel Post Details
TM800 - Tables, Abrupt Edge and PCMS Details
TM820 - Temporary Barricades
TM821 - Temporary Sign Supports
TM822 - Temporary Sign Supports
TM830 - Temporary Concrete Barrier And Rumble Strip Details
TM831 - Temporary Impact Attenuators
TM833 - Temporary Impact Attenuators
TM840 - Closure Details
TM841 - Intersection Work Zone Details
TM843 - Multi-Lane Signalized Intersection Details
TM844 - Temporary Pedestrian Accessible Routing
TM845 - Temporary Sidewalk Ramps
TM851 - Non-Freeway Multi-Lane Sections
TM852 - Non-Freeway Multi-Lane Sections
TM853 - Non-Freeway Multi-Lane Sections
TM855 - 2-Lane, 2-Way Roadway

R/W Map No. RW10007

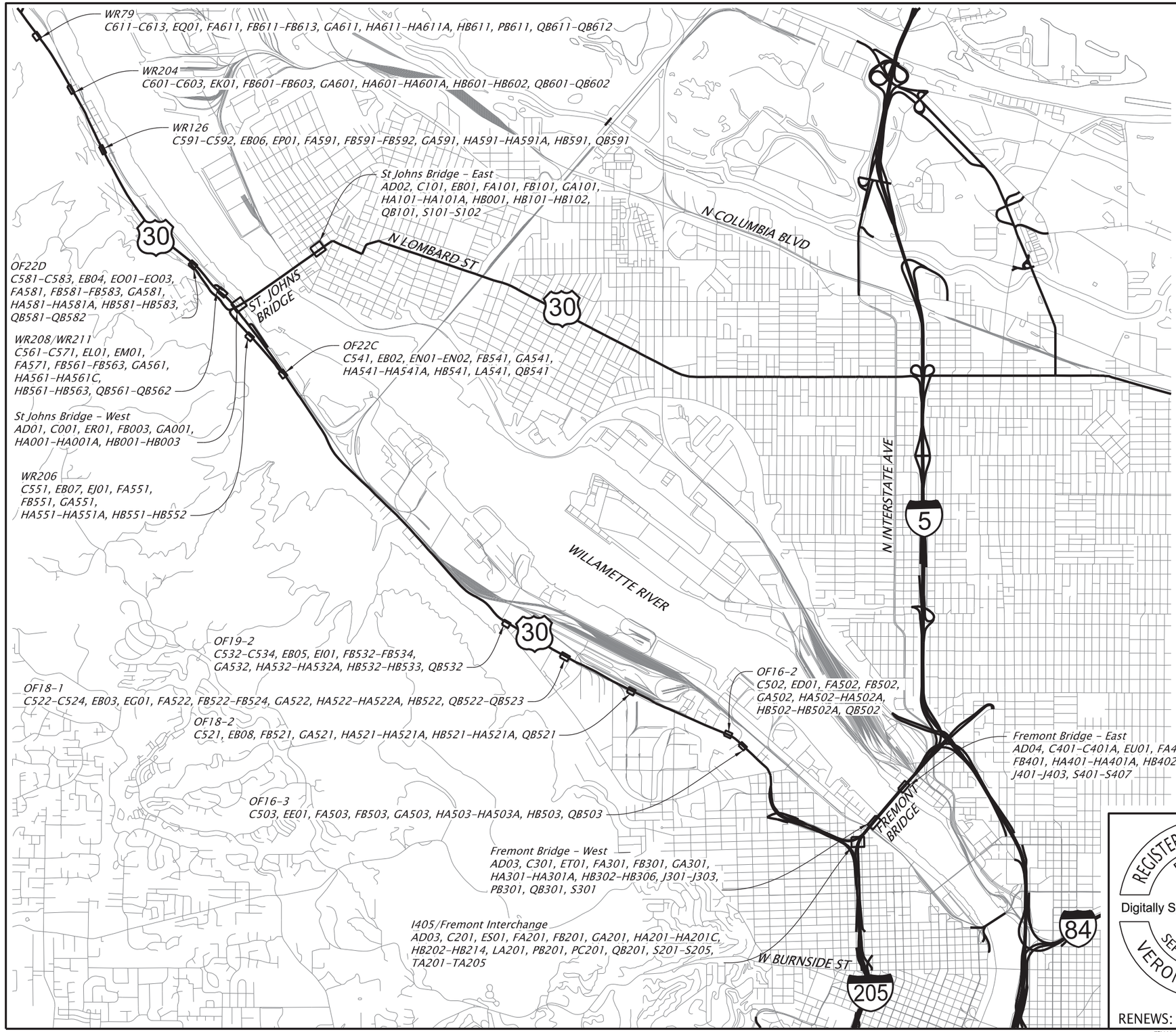
Standard Drawings located on the web at:
http://www.oregon.gov/ODOT/Engineering/Pages/Standards.aspx

OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

FEDERAL HIGHWAY ADMINISTRATION	PROJECT NUMBER	SHEET NO.
OREGON DIVISION	SEE SHEET A01	A03

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST



PROJECT SITES	
OUTFALL ID	LOCATION DESCRIPTION OR NEAREST CROSS STREETS
WR510	St. Johns Bridge - West End
OF52	St. Johns Bridge - East End
WR307	I405/Fremont Bridge - Interchange
FB-W	Fremont Bridge - West End
FB-E	Fremont Bridge - East End
OF16-2	NW 26th Ave, NW 26th Dr
OF16-3	NW 26th Dr, NW Brewer St
OF18-1	NW Express Ave, NW 35th Ave
OF18-2	NW Express Ave, NW 35th Ave
OF19-2	NW Kittridge Ave, NW 44th Ave
OF22C	Between NW Bridge Ave and East Ramp to US30
WR206	NW Bridge Ave, between St. Johns Bridge and East Ramp to US30
WR208/WR211	NW Knappton General Rd, NW Front Ave
OF22D	West Intersection of Bridge Ave/US 30
WR126	US30, NW 1st St
WR204	US30, between NW 112th Ave and NW Marina Way
WR79	NW Marina Way, NW 112th Ave

N

NOT TO SCALE

REGISTERED PROFESSIONAL ENGINEER
93931PE
Digitally Signed 2025.11.12 16:30:29-08'00'
OREGON
SEPT. 11, 2018
VERONICA B. VONG
RENEWS: 06-30-2026

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

WSP USA Inc.
1300 SW 5th Ave
Suite 3100
Portland, OR 97201
Tel: 1 503 274 8772

OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT

LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Grace Harrison
Drafter: Grace Harrison
Reviewer: Veronica Vong
Checker: Veronica Vong

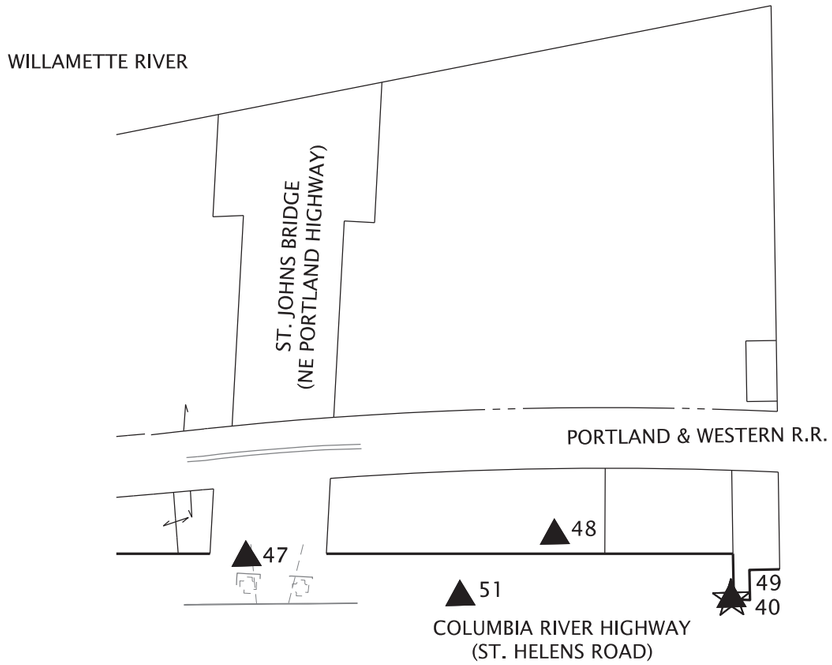
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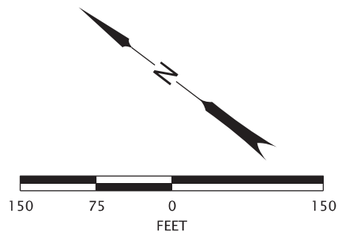
SHEET NO.
AB01

59V-002

Sec.11, T.1N, R.1W, W.M.

ST. JOHNS BRIDGE - WEST END
US30 BYPASS - M.P. 0.61





NOTES:

COORDINATE SYSTEM:
Oregon Coordinate Reference System (OCRS)
Portland Zone

HORIZONTAL DATUM:
NAD83 (2011) Epoch 2010

VERTICAL DATUM:
NAVD88

FIELD VERIFY ALL CONTROL BEFORE USE!

LEGEND

- FOUND GPS STATION
- CONTROL POINT
- EXISTING BRIDGE SUBSTRUCTURE
- EXISTING BRIDGE PIER

CONTROL POINT TABLE

Point	OCRS Northing	OCRS Easting	NAVD88 Elevation	Description
40	*194156.14*	*323772.40*	*60.84*	*FOUND ODOT BRASS DISK MARKED "ODOT #59"*
47	*194562.92*	*323513.98*	*47.41*	*SET MAG NAIL WITH WASHER MARKED "EMERIO DESIGN CONTROL"*
48	*194333.13*	*323716.20*	*45.28*	*SET 5/8" X 30" IRON ROD WITH RED PLASTIC CAP MARKED "EMERIO CONTROL"*
49	*194156.19*	*323772.40*	*60.78*	*GPS TIE FOR CONTROL POINT NUMBER 40, FOUND ODOT BRASS DISK MARKED "ODOT #59"*
51	*194370.85*	*323611.17*	*61.14*	*SET MAG NAIL WITH WASHER MARKED "EMERIO DESIGN CONTROL"*

REGISTERED PROFESSIONAL LAND SURVEYOR

DIGITALLY SIGNED 2025.11.11 15:47:32-08'00'

OREGON
MARCH 9, 2021
NICOLE ALLEN
84893PLS

EXPIRES 12-31-27

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

EMERIO
ENGINEERING • SURVEYING • DESIGN

OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: N/A
Drafter: Angie Jungling
Reviewer: Nicole Allen
Checker: Nicole Allen

SURVEY CONTROL DATA

SHEET NO. AD01

59V-002

Sec.12, T.1N, R.1W, W.M.

ST. JOHNS BRIDGE – EAST END
US30 BYPASS – M.P. 1.23

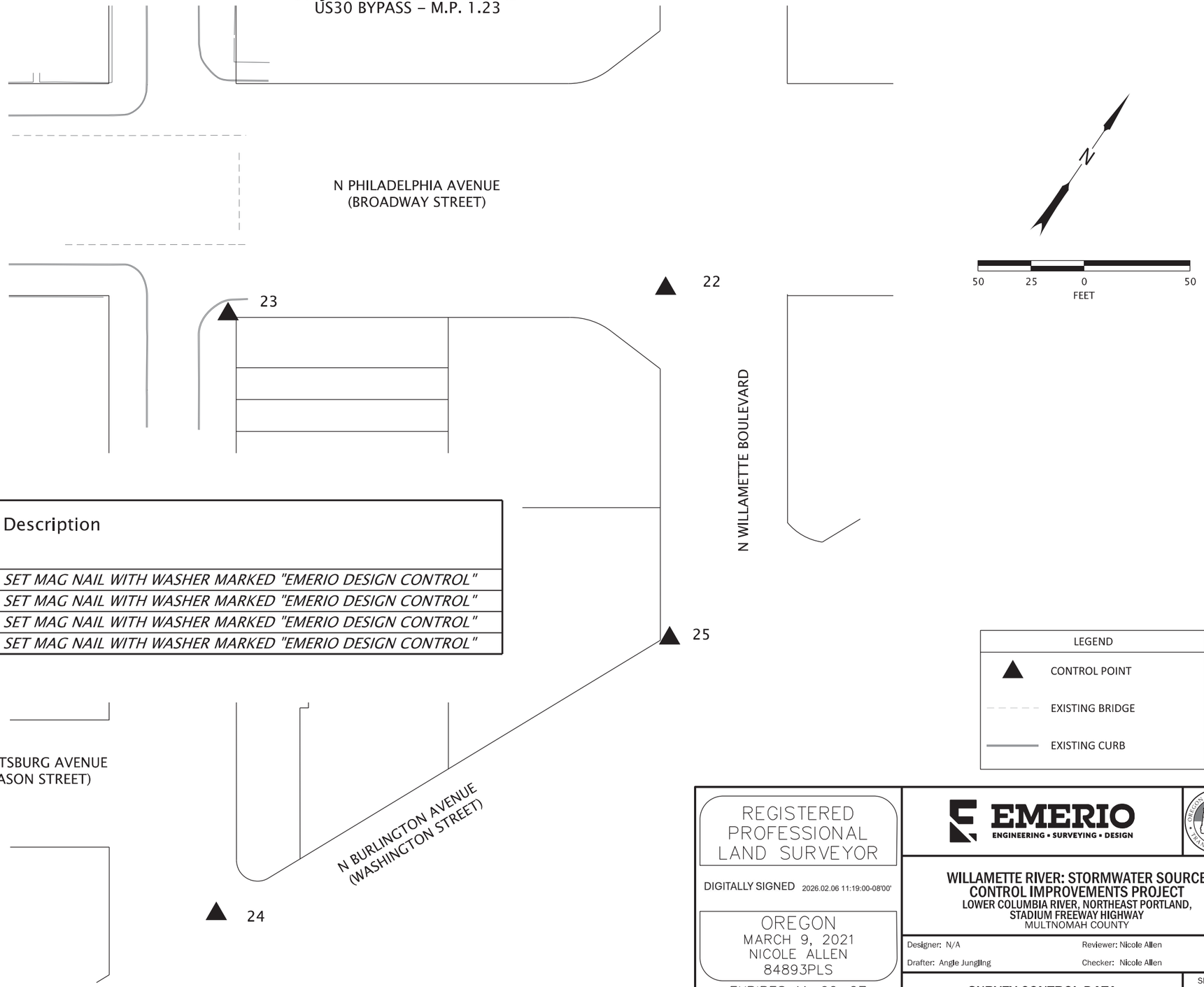
NOTES:

COORDINATE SYSTEM:
Oregon Coordinate Reference System (OCRS)
Portland Zone

HORIZONTAL DATUM:
NAD83 (2011) Epoch 2010

VERTICAL DATUM:
NAVD88

FIELD VERIFY ALL CONTROL BEFORE USE!



CONTROL POINT TABLE

Point	OCRS Northing	OCRS Easting	NAVD88 GEOID18 Elevation	Description
22	*196479.87*	*326470.94*	*141.22*	*SET MAG NAIL WITH WASHER MARKED "EMERIO DESIGN CONTROL"*
23	*196353.94*	*326307.00*	*120.85*	*SET MAG NAIL WITH WASHER MARKED "EMERIO DESIGN CONTROL"*
24	*196116.82*	*326461.33*	*115.43*	*SET MAG NAIL WITH WASHER MARKED "EMERIO DESIGN CONTROL"*
25	*196344.47*	*326565.14*	*141.52*	*SET MAG NAIL WITH WASHER MARKED "EMERIO DESIGN CONTROL"*

LEGEND

- CONTROL POINT
- EXISTING BRIDGE
- EXISTING CURB

REGISTERED PROFESSIONAL LAND SURVEYOR

DIGITALLY SIGNED 2026.02.06 11:19:00-08'00'

OREGON
MARCH 9, 2021
NICOLE ALLEN
84893PLS

EXPIRES 11-02-27

EMERIO
ENGINEERING • SURVEYING • DESIGN

OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

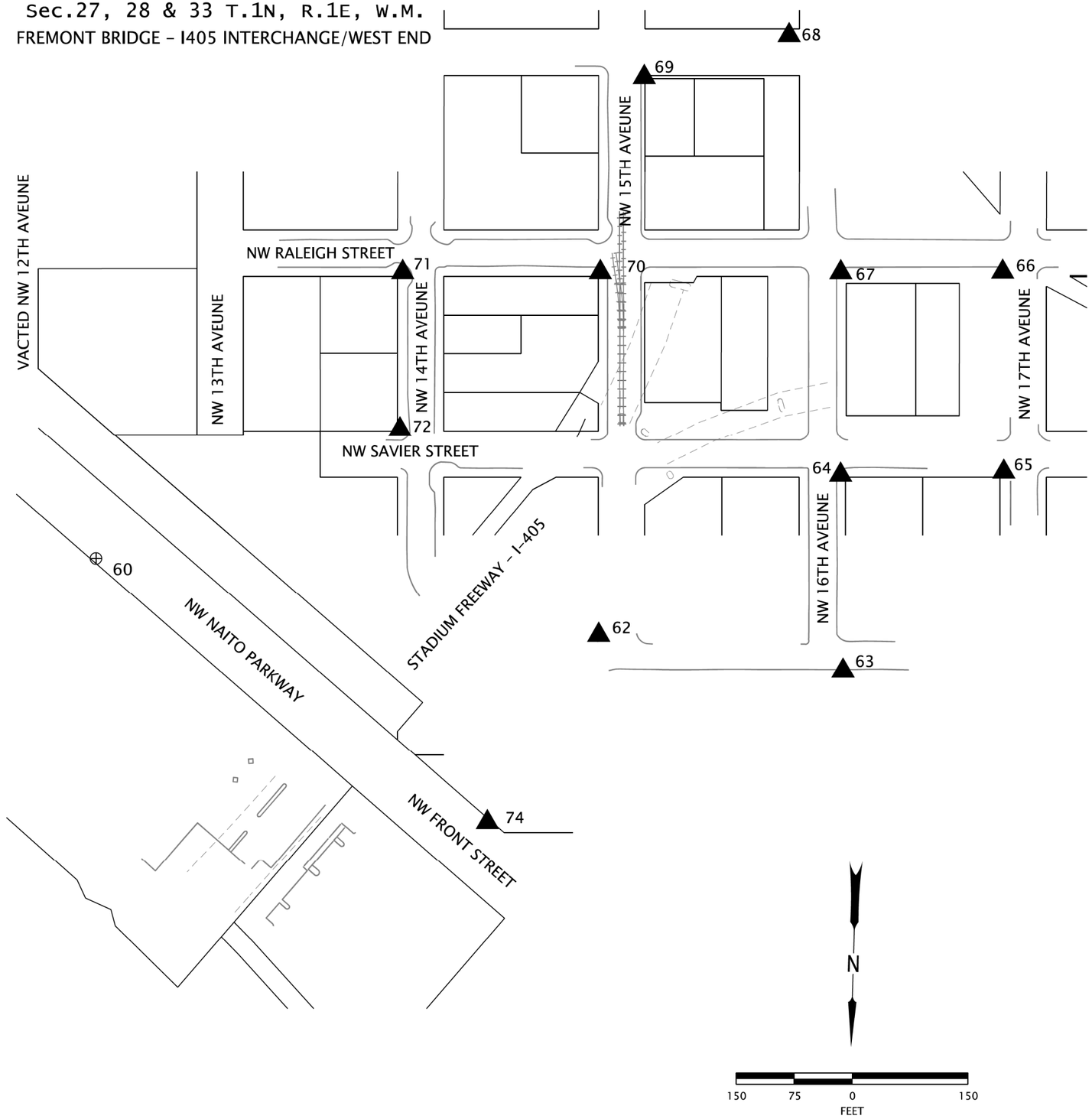
Designer: N/A
Reviewer: Nicole Allen
Drafter: Angie Jungling
Checker: Nicole Allen

SURVEY CONTROL DATA

SHEET NO. AD02

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

Sec.27, 28 & 33 T.1N, R.1E, W.M.
FREMONT BRIDGE - I405 INTERCHANGE/WEST END



NOTES:

COORDINATE SYSTEM:
Oregon Coordinate Reference System (OCRS)
Portland Zone

HORIZONTAL DATUM:
NAD83 (2011) Epoch 2010

VERTICAL DATUM:
NAVD88

FIELD VERIFY ALL CONTROL BEFORE USE!

LEGEND	
⊕	FOUND BENCHMARK
▲	CONTROL POINT
- - - - -	EXISTING BRIDGE
⊏⊐	EXISTING BRIDGE PIER
———	EXISTING CURB

FND COP BM = FOUND CITY OF PORTLAND BENCHMARK #3543
SET MAG = SET MAG NAIL WITH WASHER MARKED "EMERIO DESIGN CONTROL"

CONTROL POINT TABLE

Point	OCRS Northing	OCRS Easting	NAVD88 GEOID18 Elevation	Description
60	*176966.17*	*345002.27*	*31.73*	*FND COP BM*
62	*177048.11*	*344348.92*	*35.33*	*SET MAG*
63	*177085.82*	*344031.68*	*35.78*	*SET MAG*
64	*176832.49*	*344041.48*	*37.95*	*SET MAG*
65	*176822.99*	*343830.48*	*39.65*	*SET MAG*
66	*176564.19*	*343838.84*	*42.81*	*SET MAG*
67	*176570.49*	*344048.46*	*40.27*	*SET MAG*
68	*176265.90*	*344123.34*	*40.36*	*SET MAG*
69	*176324.71*	*344309.40*	*37.04*	*SET MAG*
70	*176578.75*	*344359.48*	*36.32*	*SET MAG*
71	*176585.55*	*344615.20*	*34.20*	*SET MAG*
72	*176788.69*	*344613.35*	*33.64*	*SET MAG*
74	*177293.89*	*344486.55*	*34.05*	*SET MAG*

REGISTERED PROFESSIONAL LAND SURVEYOR

DIGITALLY SIGNED 2026.02.13 08:48:16-08'00'

OREGON
MARCH 9, 2021
NICOLE ALLEN
84893PLS

EXPIRES 11-02-27

EMERIO
ENGINEERING • SURVEYING • DESIGN

OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: N/A
Drafter: Angie Jungling
Reviewer: Nicole Allen
Checker: Nicole Allen

SURVEY CONTROL DATA

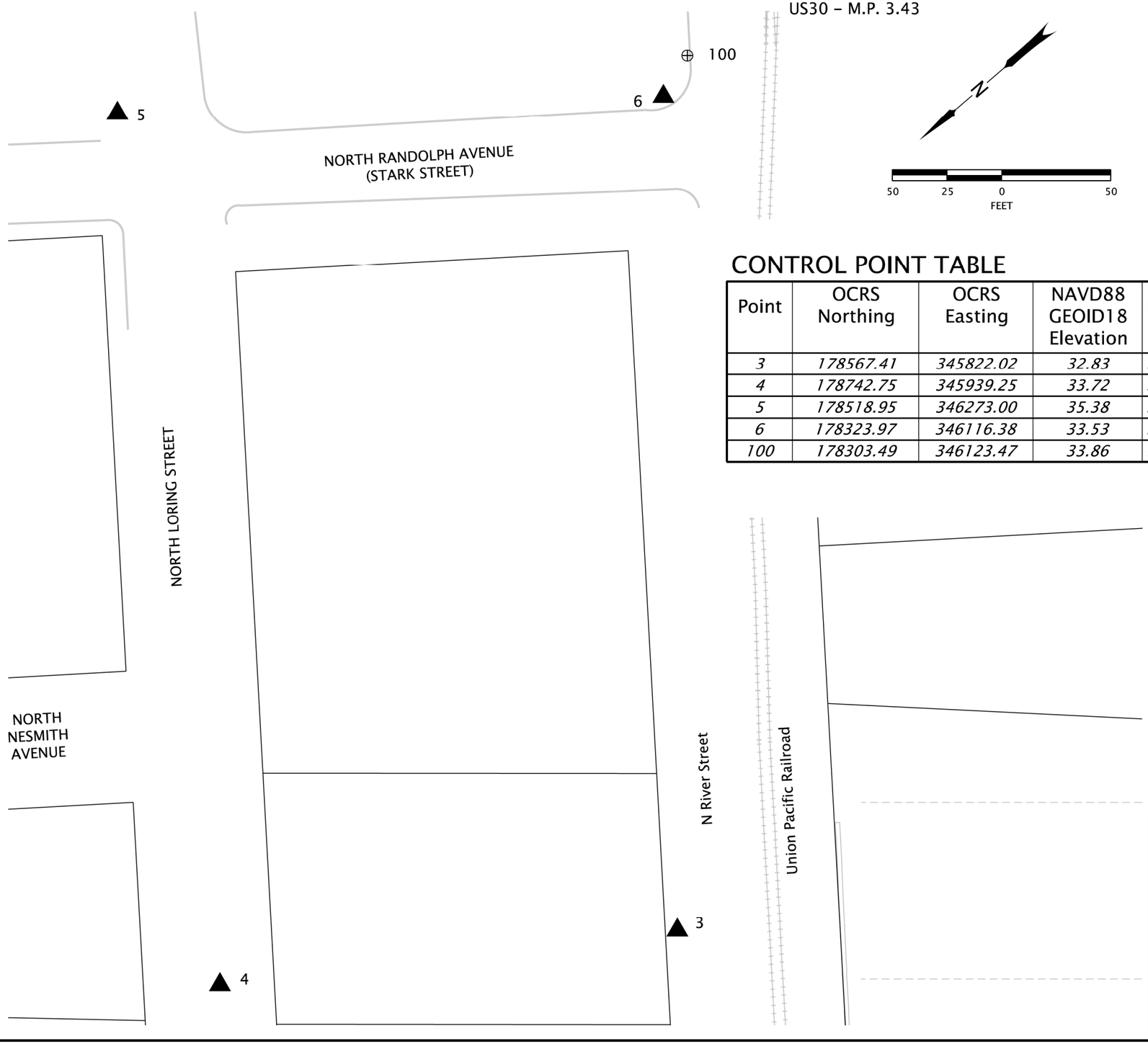
SHEET NO.
AD03

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

59V-002

Sec.27, T.1N, R.1E, W.M.

FREMONT BRIDGE - EAST END
US30 - M.P. 3.43



NOTES:

COORDINATE SYSTEM:
Oregon Coordinate Reference System (OCRS)
Portland Zone

HORIZONTAL DATUM:
NAD83 (2011) Epoch 2010

VERTICAL DATUM:
NAVD88

FIELD VERIFY ALL CONTROL BEFORE USE!

CONTROL POINT TABLE

Point	OCRS Northing	OCRS Easting	NAVD88 GEOID18 Elevation	Description
3	*178567.41*	*345822.02*	*32.83*	*SET MAG NAIL WITH WASHER MARKED "EMERIO DESIGN CONTROL"*
4	*178742.75*	*345939.25*	*33.72*	*SET MAG NAIL WITH WASHER MARKED "EMERIO DESIGN CONTROL"*
5	*178518.95*	*346273.00*	*35.38*	*SET MAG NAIL WITH WASHER MARKED "EMERIO DESIGN CONTROL"*
6	*178323.97*	*346116.38*	*33.53*	*SET MAG NAIL WITH WASHER MARKED "EMERIO DESIGN CONTROL"*
100	*178303.49*	*346123.47*	*33.86*	*FOUND CITY OF PORTLAND BENCHMARK #3878*

LEGEND

- FOUND BENCHMARK
- CONTROL POINT
- EXISTING BRIDGE
- EXISTING WALL
- EXISTING RAILROAD TRACKS

REGISTERED
PROFESSIONAL
LAND SURVEYOR

DIGITALLY SIGNED 2026.02.13 08:48:51-08'00'

OREGON
MARCH 9, 2021
NICOLE ALLEN
84893PLS

EXPIRES 11-02-27

EMERIO
ENGINEERING • SURVEYING • DESIGN

OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: N/A | Reviewer: Nicole Allen
Drafter: Angie Jungling | Checker: Nicole Allen

SURVEY CONTROL DATA

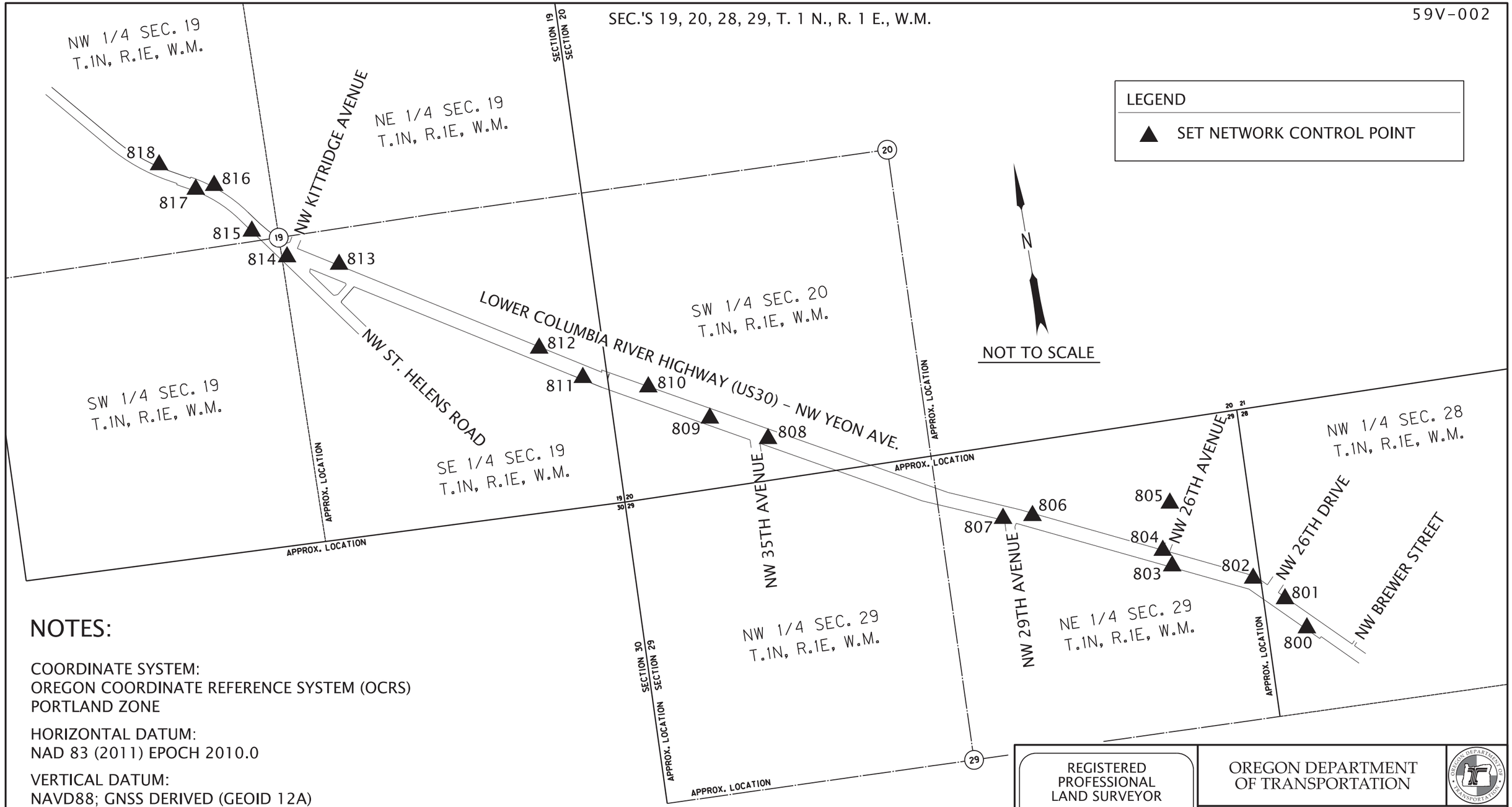
SHEET NO. AD04

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FINAL ELECTRONIC DOCUMENT
AVAILABLE UPON REQUEST

SEC.'S 19, 20, 28, 29, T. 1 N., R. 1 E., W.M.

59V-002



NOTES:

COORDINATE SYSTEM:
OREGON COORDINATE REFERENCE SYSTEM (OCRS)
PORTLAND ZONE

HORIZONTAL DATUM:
NAD 83 (2011) EPOCH 2010.0

VERTICAL DATUM:
NAVD88; GNSS DERIVED (GEOID 12A)

FIELD VERIFY ALL CONTROL BEFORE USE

SEE SHEETS AD08 AND AD09 FOR COORDINATES AND DESCRIPTIONS

REGISTERED PROFESSIONAL LAND SURVEYOR

Digitally Signed 2025.12.10 17:00:18 -08'00'

OREGON
SEPTEMBER 10, 2019
JAMES PETER WASCH
93999PLS

RENEWS: 06-30-2026

OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

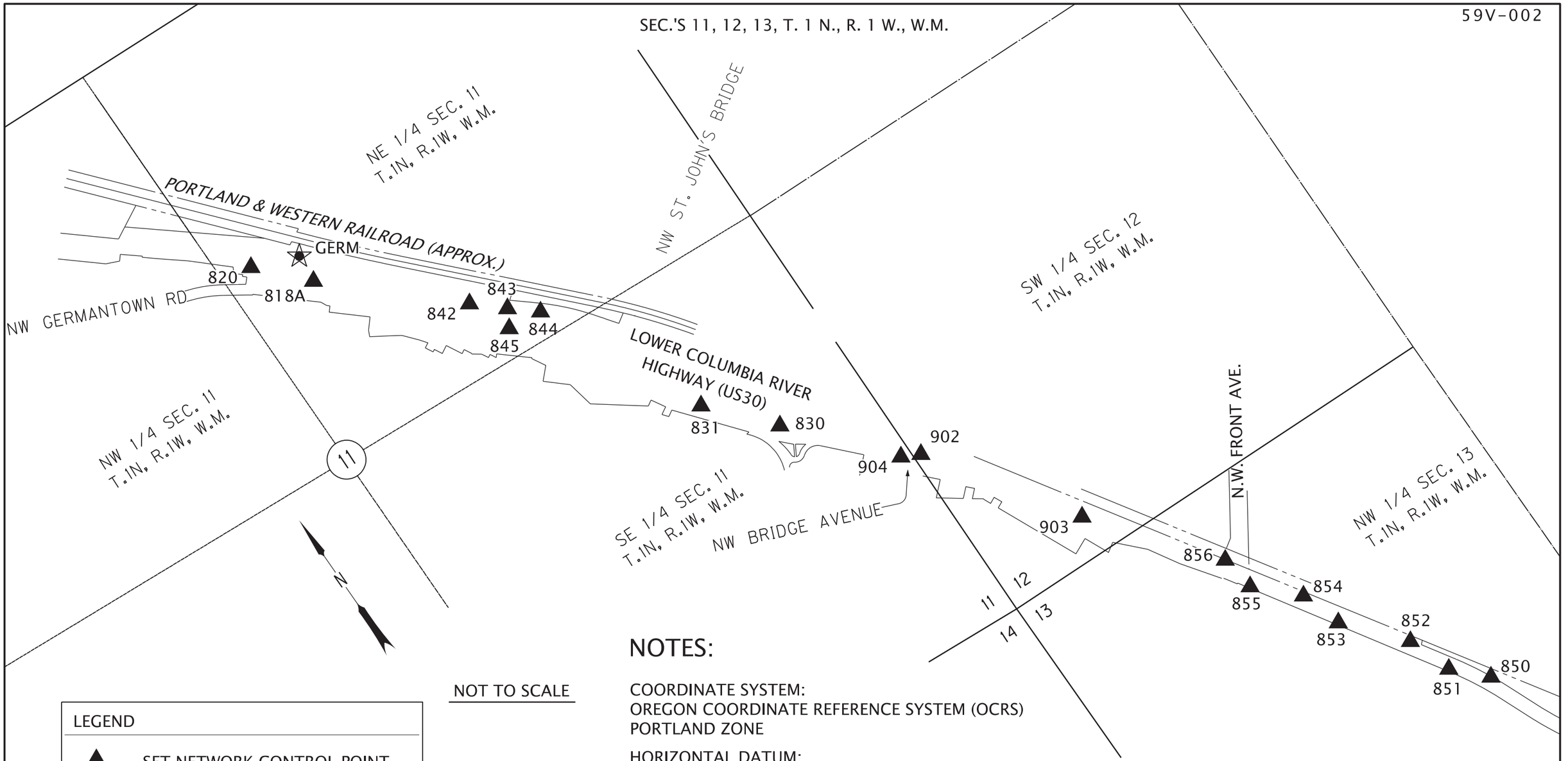
Survey Manager: Chris Pucci, PLS
Lead Surveyor: James Wasch, PLS
Project Surveyor: James Wasch, PLS
Drafter: D. Hilkern

SURVEY CONTROL DATA

SHEET NO. AD05

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

59V-002



NOT TO SCALE

LEGEND

▲ SET NETWORK CONTROL POINT

☆ FOUND GPS CONTROL POINT

NOTES:

COORDINATE SYSTEM:
OREGON COORDINATE REFERENCE SYSTEM (OCRS)
PORTLAND ZONE

HORIZONTAL DATUM:
NAD 83 (2011) EPOCH 2010.0

VERTICAL DATUM:
NAVD88; GNSS DERIVED (GEOID 12A)

FIELD VERIFY ALL CONTROL BEFORE USE

SEE SHEETS AD08 AND AD09 FOR COORDINATES AND DESCRIPTIONS

REGISTERED PROFESSIONAL LAND SURVEYOR

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OREGON
SEPTEMBER 10, 2019
JAMES PETER WASCH
93999PLS

RENEWS: 06-30-2026

OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Survey Manager: Chris Pucci, PLS Lead Surveyor: James Wasch, PLS

Project Surveyor: James Wasch, PLS Drafter: D. Hilkern

SURVEY CONTROL DATA

SHEET NO. AD06

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

59V-002

SEC.'S 2, 3, T. 1 N., R. 1 W.,
SEC.'S 34, 35, T. 2 N., R. 1 W., W.M.

SW 1/4 SEC. 34
T.2N, R.1W, W.M.

SE 1/4 SEC. 34
T.2N, R.1W, W.M.

NE 1/4 SEC. 3
T.1N, R.1W, W.M.

NW 1/4 SEC. 2
T.1N, R.1W, W.M.

SE 1/4 SEC. 3
T.1N, R.1W, W.M.

SW 1/4 SEC. 2
T.1N, R.1W, W.M.

34 / 3

34 35 / 3 2

10 11 12 15 16 17 20 21 22

PORTLAND & WESTERN RAILROAD

LOWER COLUMBIA RIVER HIGHWAY (US30)

NW 112TH AVE.
NW 111TH AVE.
NW 110TH AVE.
NW 109TH AVE.
NW 108TH AVE.
NW 107TH AVE.

TOWN OF LINNTON

3

2

N

NOT TO SCALE

NOTES:

COORDINATE SYSTEM:
OREGON COORDINATE REFERENCE SYSTEM (OCRS)
PORTLAND ZONE

HORIZONTAL DATUM:
NAD 83 (2011) EPOCH 2010.0

VERTICAL DATUM:
NAVD88; GNSS DERIVED (GEOID 12A)

FIELD VERIFY ALL CONTROL BEFORE USE

LEGEND

△ FOUND NETWORK CONTROL POINT

SEE SHEETS AD08 AND AD09 FOR COORDINATES AND DESCRIPTIONS

REGISTERED
PROFESSIONAL
LAND SURVEYOR

Digitally Signed 2025.12.10 16:56:09 -08'00'

OREGON
SEPTEMBER 10, 2019
JAMES PETER WASCH
93999PLS

RENEWS: 06-30-2026

OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Survey Manager: Chris Pucci, PLS
Lead Surveyor: James Wasch, PLS
Project Surveyor: James Wasch, PLS
Drafter: D. Hilkern

SURVEY CONTROL DATA

SHEET NO. AD07

FINAL ELECTRONIC DOCUMENT
AVAILABLE UPON REQUEST

CONTROL POINT TABLE - HORIZONTAL DATUM: NAD 83 (2011) (EPOCH 2010) - VERTICAL DATUM: NAVD 88, GEOID 12A

POINT NO.	NORTHING	EASTING	ELEVATION	DESCRIPTION
GERM	195904.028	322852.401	63.99	FOUND 5/8" IRON ROD W/BRASS CAP STAMPED "ODOT CONTROL GERM", FLUSH, WITH PUNCH MARK
10	204223.328	316448.969	60.89	FOUND 5/8" IRON ROD W/BRASS CAP STAMPED "ODOT CONTROL 10", DOWN 0.2', WITH PUNCH MARK
11	203758.926	316796.774	58.26	FOUND 5/8" IRON ROD W/BRASS CAP STAMPED "ODOT CONTROL 11", FLUSH, WITH PUNCH MARK
12	203280.512	317054.491	55.65	FOUND 1-1/8" BRASS DISK STAMPED "ODOT CONTROL 12", FLUSH IN CONCRETE WALK, WITH PUNCH MARK
15	202105.452	317881.143	56.84	FOUND 1-1/8" BRASS DISK STAMPED "ODOT CONTROL 15", FLUSH IN CONCRETE WALK, WITH PUNCH MARK
16	201554.700	318110.228	50.44	FOUND 1-1/8" BRASS DISK STAMPED "ODOT CONTROL 16", FLUSH IN CONCRETE WALK, WITH PUNCH MARK
17	201324.746	318334.336	51.12	FOUND 1-1/8" BRASS DISK STAMPED "ODOT CONTROL 17", FLUSH IN CONCRETE WALK, WITH PUNCH MARK
20	200007.892	318974.180	59.11	FOUND 1-1/8" BRASS DISK STAMPED "ODOT CONTROL 20", FLUSH IN CONCRETE WALK, WITH PUNCH MARK
21	199796.438	318999.159	61.71	FOUND 1-1/8" BRASS DISK STAMPED "ODOT CONTROL 21", FLUSH IN CONCRETE WALK, WITH PUNCH MARK
22	199551.721	319209.424	67.09	FOUND 1-1/8" BRASS DISK STAMPED "ODOT CONTROL 22", FLUSH IN CONCRETE WALK, WITH PUNCH MARK
800	179719.511	340484.759	50.75	SET 1-1/8" COPPER ALLOY DISK STAMPED "ODOT CONTROL 800", FLUSH IN CONCRETE CURB
801	179990.457	340335.183	48.10	SET 1-1/8" COPPER ALLOY DISK STAMPED "ODOT CONTROL 801", FLUSH IN CONCRETE CURB
802	180201.511	340090.743	36.96	SET 1-1/8" COPPER ALLOY DISK STAMPED "ODOT CONTROL 802", FLUSH IN CONCRETE CURB
803	180401.322	339421.855	36.69	SET 1-1/8" COPPER ALLOY DISK STAMPED "ODOT CONTROL 803", FLUSH IN CONCRETE CURB
804	180544.192	339362.057	36.81	SET 1-1/8" COPPER ALLOY DISK STAMPED "ODOT CONTROL 804", FLUSH IN CONCRETE CURB
805	180916.093	339572.054	35.05	SET 1-1/8" COPPER ALLOY DISK STAMPED "ODOT CONTROL 805", FLUSH IN CONCRETE DRIVEWAY ENTRANCE
806	180991.504	338302.290	37.08	SET 1-1/8" COPPER ALLOY DISK STAMPED "ODOT CONTROL 806", FLUSH IN CONCRETE WALK
807	181003.174	338050.832	38.19	SET 1-1/8" COPPER ALLOY DISK STAMPED "ODOT CONTROL 807", FLUSH IN CONCRETE WALK
808	181954.649	336162.084	37.45	SET 1-1/8" COPPER ALLOY DISK STAMPED "ODOT CONTROL 808", FLUSH IN CONCRETE WALK
809	182197.198	335695.391	38.14	SET 1-1/8" COPPER ALLOY DISK STAMPED "ODOT CONTROL 809", FLUSH IN CONCRETE CURB
810	182533.356	335212.667	38.84	SET 1-1/8" COPPER ALLOY DISK STAMPED "ODOT CONTROL 810", FLUSH IN CONCRETE DRIVEWAY ENTRANCE

REGISTERED PROFESSIONAL LAND SURVEYOR

Digitally Signed 2025.12.10 16:49:19 -08'00'

OREGON
SEPTEMBER 10, 2019
JAMES PETER WASCH
93999PLS

RENEWS: 06-30-2026

OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Survey Manager: Chris Pucci, PLS Lead Surveyor: James Wasch, PLS

Project Surveyor: James Wasch, PLS Drafter: D. Hilkern

SURVEY CONTROL DATA

SHEET NO. AD08

FINAL ELECTRONIC DOCUMENT
AVAILABLE UPON REQUEST

CONTROL POINT TABLE – HORIZONTAL DATUM: NAD 83 (2011) (EPOCH 2010) – VERTICAL DATUM: NAVD 88, GEOID 12A

POINT NO.	NORTHING	EASTING	ELEVATION	DESCRIPTION
811	182690.082	334671.212	37.74	SET 1-1/8" COPPER ALLOY DISK STAMPED "ODOT CONTROL 811", FLUSH IN CONCRETE CURB
812	182989.290	334336.754	37.99	SET 1-1/8" COPPER ALLOY DISK STAMPED "ODOT CONTROL 812", FLUSH IN CONCRETE CURB
813	183931.443	332712.769	39.43	SET 1-1/8" COPPER ALLOY DISK STAMPED "ODOT CONTROL 813", FLUSH IN CONCRETE CURB
814	184088.542	332286.987	40.61	SET 1-1/8" COPPER ALLOY DISK STAMPED "ODOT CONTROL 814", FLUSH IN CONCRETE WALK
815	184317.410	332051.366	39.36	SET 1-1/8" COPPER ALLOY DISK STAMPED "ODOT CONTROL 815", FLUSH IN CONCRETE WALK
816	184720.926	331770.661	39.55	SET 1-1/8" COPPER ALLOY DISK STAMPED "ODOT CONTROL 816", FLUSH IN CONCRETE CURB
817	184737.431	331627.793	37.90	SET 1-1/8" COPPER ALLOY DISK STAMPED "ODOT CONTROL 817", FLUSH IN CONCRETE CURB
818	184943.636	331389.882	37.85	SET 1-1/8" COPPER ALLOY DISK STAMPED "ODOT CONTROL 818", FLUSH IN CONCRETE PAD
818A	195741.453	322187.651	103.08	FOUND SCRIBED "X" IN CONCRETE SIDEWALK
820	196000.952	321935.085	90.89	FOUND MAG NAIL FLUSH IN PAVEMENT
830	193611.393	323936.350	141.54	FOUND 1-1/8" COPPER ALLOY DISK FLUSH IN CONCRETE WALK
831	193950.690	323626.763	166.97	FOUND 1-1/8" COPPER ALLOY DISK FLUSH IN CONCRETE WALK
842	195151.091	322852.401	63.99	FOUND MAG NAIL
843	195010.030	323016.865	61.52	FOUND HUB AND PK NAIL
844	194891.796	323161.892	62.65	FOUND HUB AND PK NAIL
845	194942.247	322976.383	62.79	FOUND HUB AND TACK
850	190218.223	326516.087	59.09	SET MAG NAIL W/WASHER STAMPED "ODOT CONTROL' FLUSH IN PAVEMENT
851	190386.526	326341.035	57.85	SET MAG NAIL W/WASHER STAMPED "ODOT CONTROL' FLUSH IN PAVEMENT
852	190636.808	326245.441	56.80	SET MAG NAIL W/WASHER STAMPED "ODOT CONTROL' FLUSH IN PAVEMENT
853	190949.000	325962.839	54.41	SET MAG NAIL W/WASHER STAMPED "ODOT CONTROL' FLUSH IN PAVEMENT
854	191183.971	325881.306	51.09	SET MAG NAIL W/WASHER STAMPED "ODOT CONTROL' FLUSH IN PAVEMENT
855	191393.697	325657.965	51.52	SET 1-1/8" COPPER ALLOY DISK STAMPED "ODOT CONTROL 855", FLUSH IN CONCRETE CURB
856	191596.267	325622.921	49.88	SET 1-1/8" COPPER ALLOY DISK STAMPED "ODOT CONTROL 856", FLUSH IN CONCRETE
902	193054.564	324442.648	100.70	SET SCRIBED "X" IN CONCRETE SIDEWALK
903	192243.288	325077.506	56.45	SET MAG NAIL IN SEAM OF CONCRETE ISLAND
904	193089.300	324410.230	103.10	SET SCRIBED "X" IN CONCRETE SIDEWALK

REGISTERED PROFESSIONAL LAND SURVEYOR

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OREGON
SEPTEMBER 10, 2019
JAMES PETER WASCH
93999PLS

RENEWS: 06-30-2026

OREGON DEPARTMENT OF TRANSPORTATION

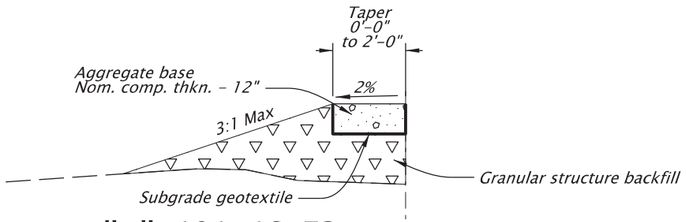
WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Survey Manager: Chris Pucci, PLS Lead Surveyor: James Wasch, PLS
Project Surveyor: James Wasch, PLS Drafter: D. Hilkern

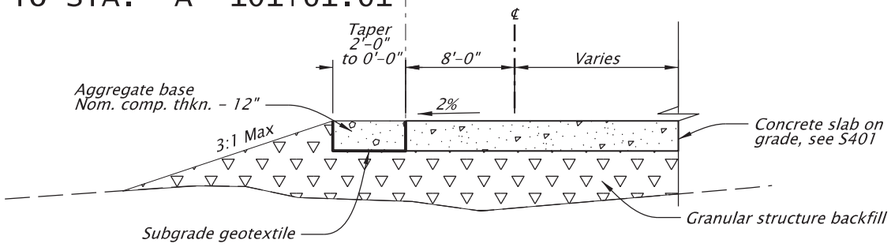
SURVEY CONTROL DATA

SHEET NO. AD09

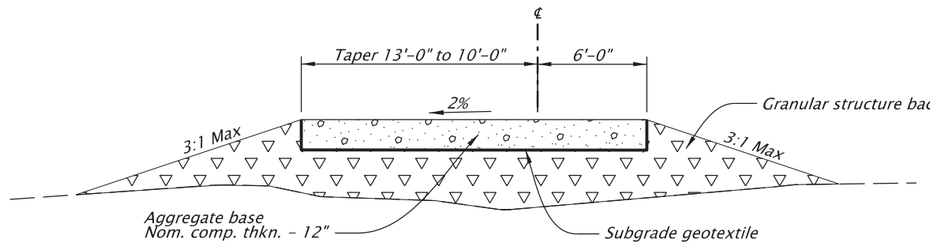
FINAL ELECTRONIC DOCUMENT
AVAILABLE UPON REQUEST



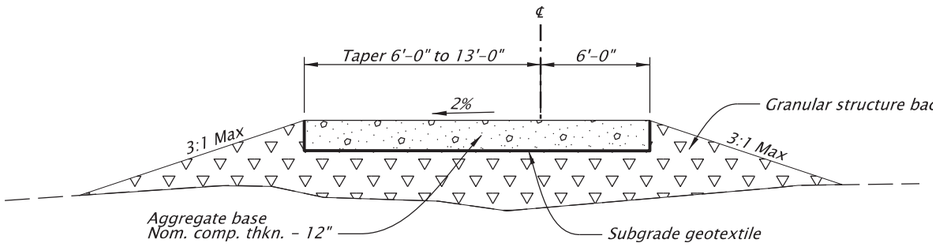
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To STA. "A" 101+61.61



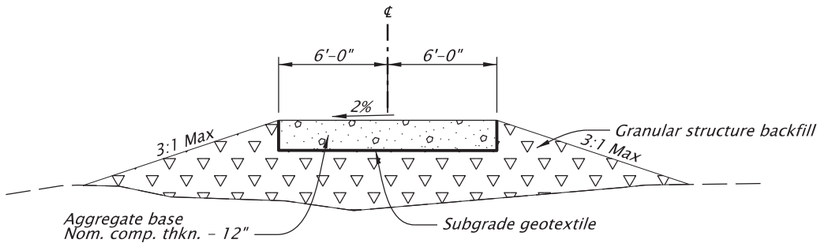
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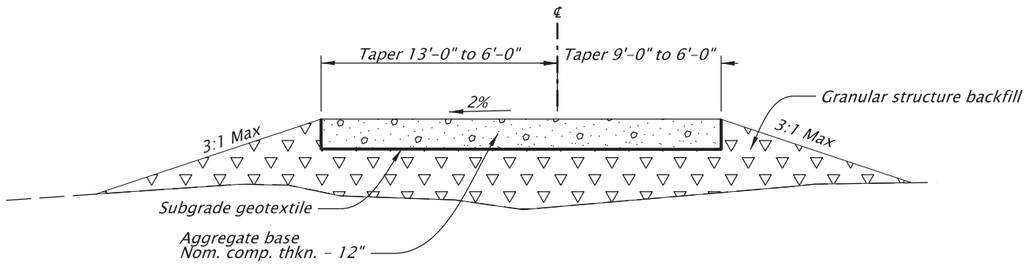
STA. "A" 100+84.17 To STA. "A" 101+04.13



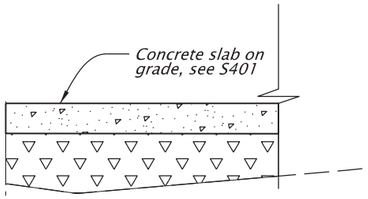
STA. "A" 100+34.17 To STA. "A" 100+84.17



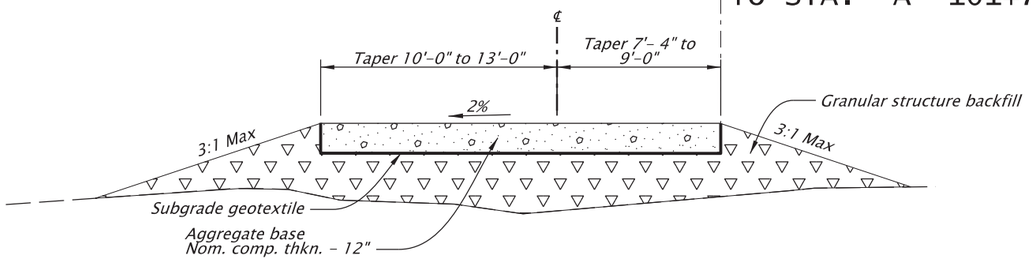
STA. "A" 100+23.42 To STA. "A" 100+34.17
STA. "A" 102+52.92 To STA. "A" 102+92.70



STA. "A" 101+80.37 To STA. "A" 102+52.92



STA. "A" 101+61.61
To STA. "A" 101+72.92



STA. "A" 101+61.61 To STA. "A" 101.80.37

FREMONT EAST ACCESS ROAD SECTIONS

Not to scale

REGISTERED PROFESSIONAL ENGINEER
93931PE
Digitally Signed 2025.11.12 16:32:45-08'00'
OREGON
SEPT. 11, 2018
VERONICA B. VONG
RENEWS: 06-30-2026

WSP USA Inc.
1300 SW 5th Ave
Suite 3100
Portland, OR 97201
Tel: 1 503 274 8772

OREGON DEPARTMENT OF TRANSPORTATION

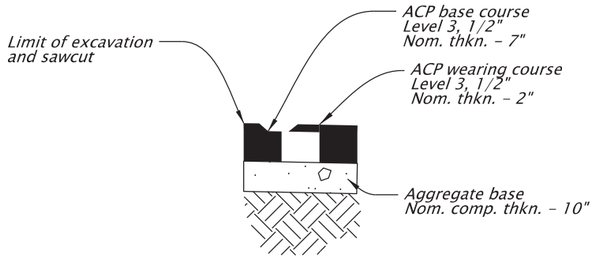
WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Alex Junge
Drafter: Grace Harrison
Reviewer: Veronica Vong
Checker: Veronica Vong

DETAILS

SHEET NO.
BA01

FINAL ELECTRONIC DOCUMENT
AVAILABLE UPON REQUEST

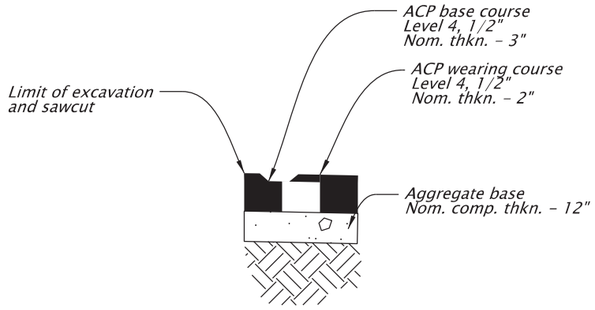


19 INCH ASPH. CONC. PVMT. REPAIR ST. JOHNS EAST (N PHILADELPHIA AVE), AND I405/FREMONT INTERCHANGE (NW 15TH AVE) CITY STREET PAVEMENT

Not to scale

City Street Pavement Notes

1. *Sawcut a min. 6" overlap T-cut, measured from edge of trench, and down through the base material. See dwg. no. BA05 for T-cut details.*

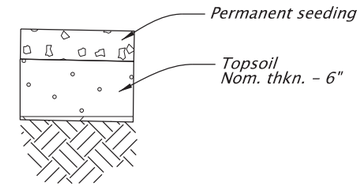


17 INCH ASPH. CONC. PVMT. REPAIR I405/FREMONT INTERCHANGE, FREMONT WEST, WR206 PARKING PAVEMENT

Not to scale

General Pavement Notes:

1. *Restore pavement and base with pavement sections provided, or match existing (whichever is greater).*
2. *Place ACP pavement at depths shown.*
3. *Protect new pavement from traffic until final lift is placed.*
4. *New pavement shall be Level 3, PG 64-22 or Level 4, PG 70-22ER asphalt concrete as shown.*
5. *Within any travel lane, pavement resurfacing shall be at either the lane line or the center of the lane.*
6. *Sawcuts shall be uniform and smooth and either parallel or perpendicular to the roadway centerline. Align sawcuts to remove any jagged, irregular, or broken edges.*
7. *Fully restore pavement to the extents shown on the C series plan sheets.*
8. *Trench backfill shall meet compaction and density requirements. Provide testing results upon request by the inspector. Backfill with CLSM any trench less than or equal to 12" wide.*
9. *Replace any striping damaged, removed, or covered by tack.*
10. *Sand seal all joints.*
11. *See RD300 for trenching details in US30 travel lane/shoulder and BA05 for trenching details on City streets.*

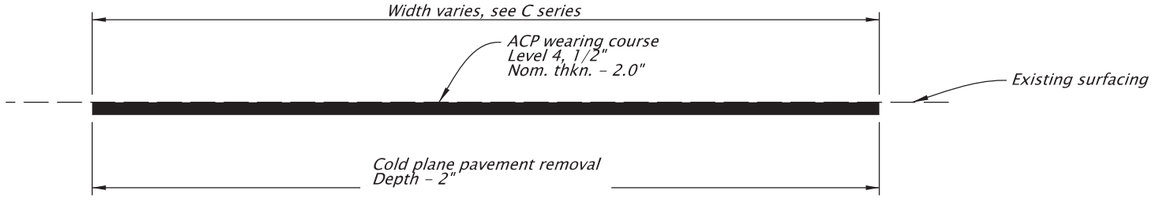


Seeding Notes:

1. *Repair and restore soil grades and re-seed damages and settled areas in addition to areas shown on C sheets.*
2. *Seeding and topsoil to meet requirements of Sections 01030 and 01040.*
3. *Clear and grub the area according to Section 00320 prior to work.*

PERMANENT SEEDING - WHERE SHOWN ON C SERIES

Not to scale



PARTIAL DEPTH ACPR 2" ASPH. CONC. PVMT. REPAIR PARKING LOT, CITY STREET TRAVEL LANE, RUMBLE STRIP REMOVAL, US30 SHOULDER, AND BRIDGE AVE

Not to scale

Parking Lot and City Street Travel Lane ACPR Notes:

1. *Extend 2" ACPR a min. of 2' beyond limits of full depth work or to the extents shown on C series.*

Rumble Strip Removal ACPR Notes:

1. *Extend 2" ACPR to remove full width of existing rumble strip.*

US 30 Shoulder ACPR Notes:

1. *Extend 2" ACPR across the entire width of the shoulder. Where work extends in bike lane, extend ACPR the entire length of adjacent lane paving.*

Bridge Ave ACPR Notes:

1. *Where limits of PCC repair are less than 50' in length, extend 2" ACPR to achieve 50' total paving length.*

REGISTERED PROFESSIONAL ENGINEER
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SEPT. 11, 2018
VERONICA B. VONG
RENEWS: 06-30-2026

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1300 SW 5th Ave
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Portland, OR 97201
Tel: 1 503 274 8772

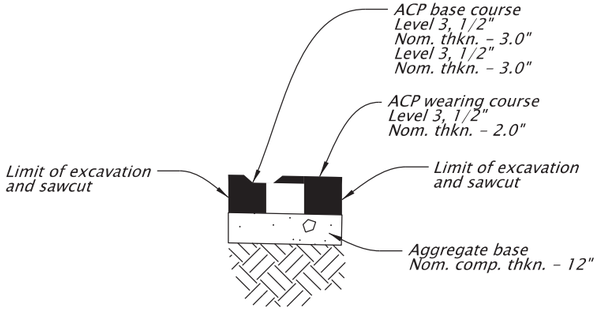
WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Alex Junge | Reviewer: Veronica Vong
Drafter: Grace Harrison | Checker: Veronica Vong

DETAILS

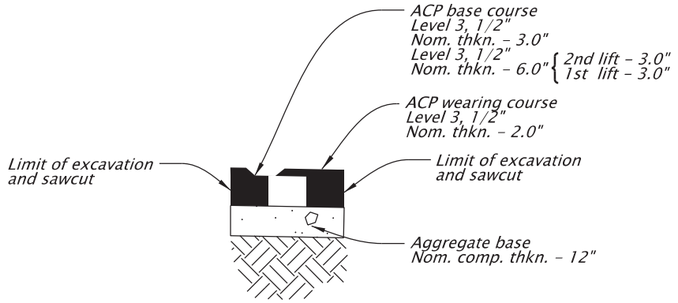
SHEET NO. BA02

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST



FULL DEPTH ACPR
20 INCH ASPH. CONC. PVMT. REPAIR
OF16-2, OF16-3, OF22C, OF22D
US30 SHOULDER PAVEMENT

Not to scale

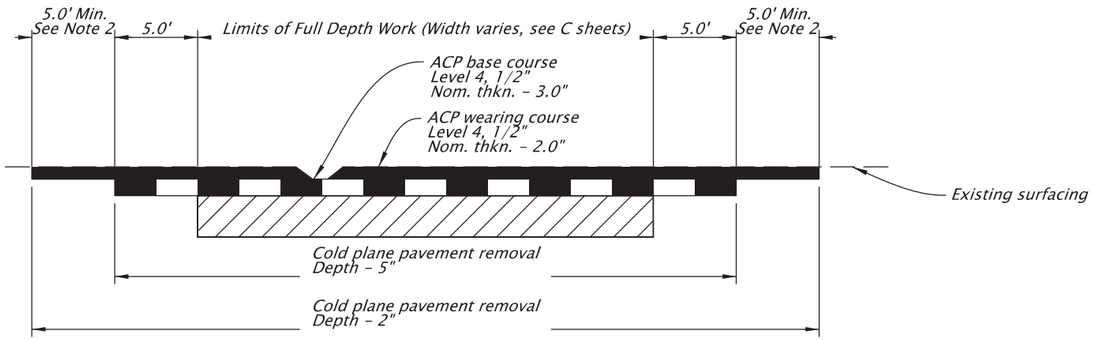


FULL DEPTH ACPR
23 INCH ASPH. CONC. PVMT. REPAIR
OF18-1, OF19-2, WR208/WR211, WR126,
WR204, WR79
US30 TRAVEL LANE PAVEMENT

Not to scale

General Pavement Notes:

1. *Restore pavement and base with pavement sections provided, or match existing (whichever is greater).*
2. *Place ACP pavement at depths shown.*
3. *Protect new pavement from traffic until final lift is placed.*
4. *New pavement shall be Level 3, PG 64-22 or Level 4, PG 70-22ER asphalt concrete as shown.*
5. *Within any travel lane, pavement resurfacing joint shall be at either the lane line or the center of the lane.*
6. *Sawcuts shall be uniform and smooth and either parallel or perpendicular to the roadway centerline. Align sawcuts to remove any jagged, irregular, or broken edges.*
7. *Fully restore pavement to the extents shown on the C series plan sheets.*
8. *Trench backfill shall meet compaction and density requirements. Provide testing results upon request by the inspector. Backfill with CLSM any trench less than or equal to 12" wide.*
9. *Replace any striping damaged, removed, or covered by tack.*
10. *Sand seal all joints.*
11. *See RD300 for trenching details in US30 travel lane/shoulder and BA05 for trenching details on City streets.*

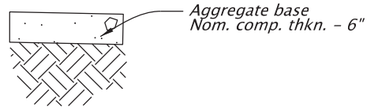


PARTIAL DEPTH ACPR
2" AND 5" ASPH. CONC. PVMT. REPAIR
US30 TRAVEL LANE

Not to scale

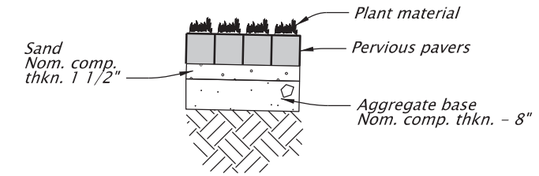
Travel Lane ACPR Notes

1. *Extend 5" ACPR a min. of 5' beyond limits of full depth work.*
2. *Extend 2" ACPR a min. of 10' beyond limits of full depth work and to adaquatly remove temporary pavement markings. Where work extends into any part of a travel lane, paving surfaces shall include the entire width of the lane and include and extend 2" past the existing pavement markings.*
3. *Extend 2" and 5" ACPR at least 2' into shoulder, as shown on C series.*
4. *Where full depth work is fully contained in the shoulder only, 5" ACPR is not required, see 2" ACPR detail on BA02.*



ST. JOHNS WEST AND
WR208/211 GRAVEL
ACCESS PAD

Not to scale



FREMONT WEST
UNIT PAVERS

Not to scale

Unit Paver Notes:

1. *Furnish pavers rated for vehicular traffic with unit strength no less than 200 psi. Furnish pavers with a minimum of 40% open area such that ground cover can be established.*
2. *Material thickness, properties, and installation procedure to meet specifications outlined in product installation instructions.*

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WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND,
STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Alex Junge | Reviewer: Veronica Vong
Drafter: Grace Harrison | Checker: Veronica Vong

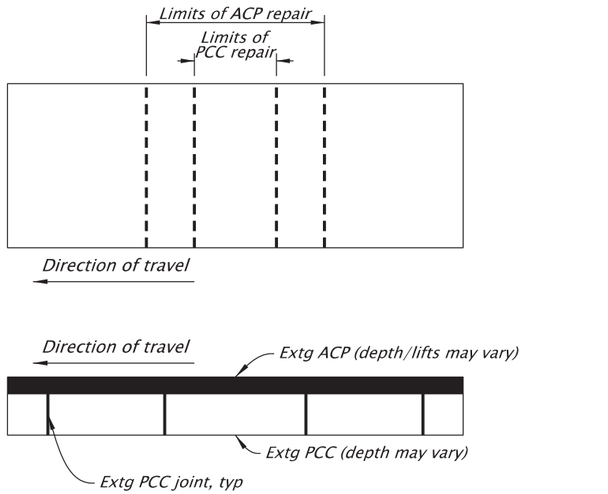
DETAILS

SHEET NO. BA03

FINAL ELECTRONIC DOCUMENT
AVAILABLE UPON REQUEST

TABLE NO. 1 PLAIN CONCRETE PAVEMENT REPAIR DETAILS

Site	APPROX. MP	DIR	LANE	REPAIR WIDTH	REPAIR LENGTH (J)	REPAIR AREA	LANE WIDTH W (ft)	PVMT. THKN. T (in)	EXISTING BASE TYPE	ADJACENT LANE SURFACE	AC DEPTH SAW CUT (INCHES)	FULL DEPTH SAW CUT (INCHES)
OF18-2	3.00	West	All	33.9'	30.2'	1,024 sqft	33.9'	15	Agg base	N/A	5	15
OF22C	6.41	West	All	21.2'	34.1'	720 sqft	21.2'	10	Agg base	N/A	2	10
OF22D	7.29	East/West	All	45.0'	46.7'	2102 sqft	45.0'	10	Agg base	N/A	2	10

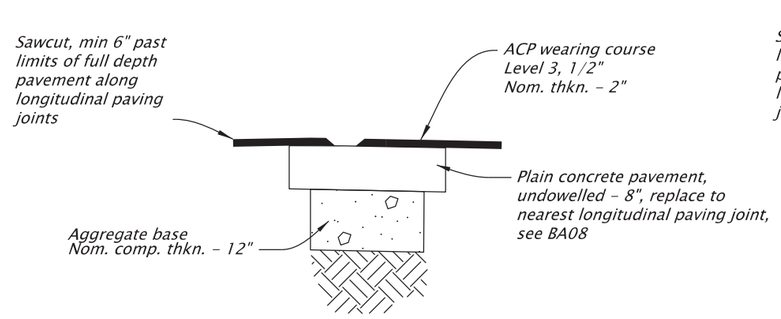


Notes

1. *Sawcut min 6" past PCC base panel transverse joint. Verify a minimum of 3' of panel is in place on either side of trench. If less than 3"of a partial panel is in place, remove and replace panel to exposed joint.*

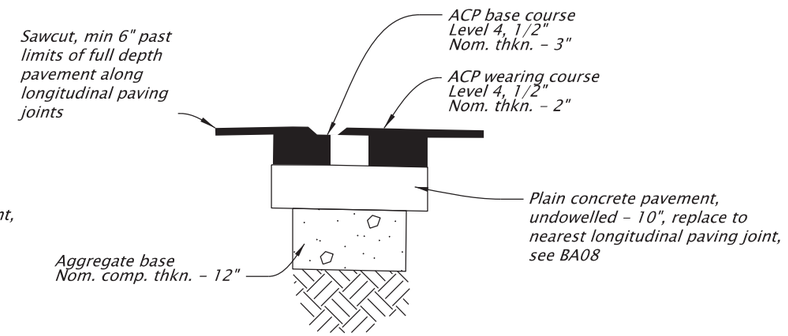
PCC TRENCH RESURFACING
BRIDGE AVE TRAVEL LANE

Not to scale



FULL DEPTH CONC. PVMT. REPAIR
OF22C, OF22D
BRIDGE AVE PAVEMENT

Not to scale



FULL DEPTH ASPH. CONC. PVMT. REPAIR
OF18-2
YEON AVE FRONTAGE RD PAVEMENT

Not to scale

General Pavement Notes:

1. *Restore pavement and base with pavement sections provided, or match existing (whichever is greater).*
2. *Protect new pavement from traffic until final lift is placed.*
3. *New pavement shall be Level 3, PG 64-22 or Level 4, PG 70-22ER asphalt concrete as shown.*
4. *Sawcuts shall be uniform and smooth and either parallel or perpendicular to the roadway centerline. Align sawcuts to remove any jagged, irregular, or broken edges.*
5. *Replace any striping damaged, removed, or covered by tack.*

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RENEWS: 06-30-2026

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OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Alex Junge | Reviewer: Veronica Vong
Drafter: Grace Harrison | Checker: Veronica Vong

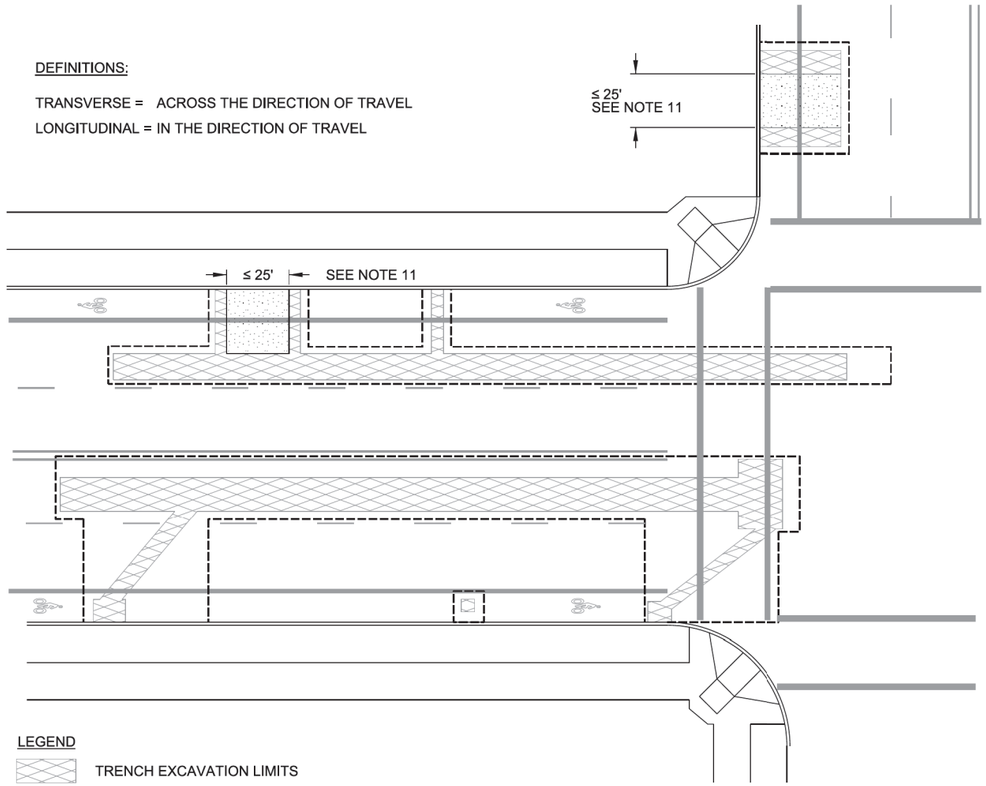
DETAILS

SHEET NO. BA04

DEFINITIONS:

TRANSVERSE = ACROSS THE DIRECTION OF TRAVEL

LONGITUDINAL = IN THE DIRECTION OF TRAVEL



LEGEND

TRENCH EXCAVATION LIMITS

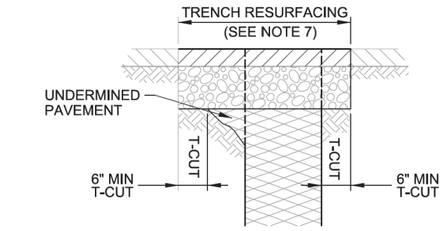
PAVEMENT RESTORATION LIMITS

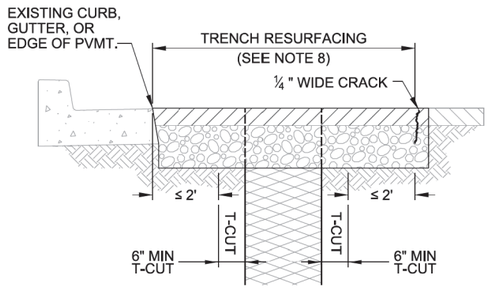
PAVEMENT RESTORATION BETWEEN NEW TRANSVERSE TRENCHES ≤ 25' APART

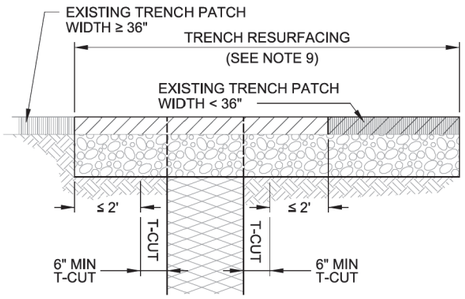
PLAN VIEW
TYPICAL TRENCH RESURFACING
ON BUSY STREETS

NOTES:

1. LOCAL STREETS ARE DEFINED AS RESIDENTIAL STREETS WITH NO LANE MARKINGS AND NOT A TRANSIT BUS ROUTE. BUSY STREETS ARE DEFINED AS ALL OTHER STREETS.
2. RESTORE PAVEMENT AND BASE WITH 9" ASPHALT CONCRETE ON 8" AGGREGATE BASE ROCK, OR MATCH EXISTING (WHICHEVER IS GREATER) UP TO MAX 12" ASPHALT ON 10" AGGREGATE.
3. MAX DEPTH OF 4" THICK ASPHALT LIFTS. ALLOW EACH LIFT TO COOL TO 160°F BEFORE PLACING NEXT LIFT
4. PROTECT NEW PAVEMENT FROM TRAFFIC UNTIL FINAL LIFT IS PLACED AND ASPHALT IS 160°F, OR COOLER.
5. NEW PAVEMENT SHALL BE LEVEL 3, PG 70-22 ASPHALT CONCRETE.
6. SAWCUT A MIN. 6" OVERLAP T-CUT, MEASURED FROM EDGE OF TRENCH, AND DOWN THROUGH THE BASE MATERIAL.
7. WITHIN ANY TRAVEL LANE, PAVEMENT RESURFACING SHALL BE AT EITHER THE LANE LINE OR THE CENTER OF THE LANE.
8. PAVEMENT RESURFACING SHALL BE FULL WIDTH OF BIKE LANES AND MARKED CROSSWALKS.
9. SAWCUTS SHALL BE UNIFORM AND SMOOTH AND EITHER PARALLEL OR PERPENDICULAR TO THE ROADWAY CENTERLINE. ALIGN SAWCUTS TO REMOVE ANY JAGGED, IRREGULAR, OR BROKEN EDGES.
10. FULLY RESTORE PAVEMENT BETWEEN ALL NEW TRANSVERSE TRENCHES THAT EXTEND TO EDGE OF PAVEMENT, CURB, OR GUTTER AND ARE ALSO ≤ 25 FT APART.
11. TRENCH BACKFILL SHALL MEET COMPACTION AND DENSITY REQUIREMENTS. PROVIDE TESTING RESULTS UPON REQUEST BY THE INSPECTOR. BACKFILL WITH CLSM ANY TRENCH ≤ 12" WIDE.
12. PBOT MAY APPROVE GRIND + INLAY IN LIEU OF T-CUT WHEN APPROPRIATE. ANY SUCH APPROVAL SHALL BE OBTAINED IN WRITING THROUGH THE STREET OPENING PERMIT PROCESS.
13. REPLACE ANY STRIPING DAMAGED, REMOVED, OR COVERED BY TACK.
14. SAND SEAL ALL JOINTS.







SECTION VIEW
TYPICAL TRENCH RESURFACING

TRENCH RESURFACING ON CITY STREETS ST. JOHNS EAST (N PHILADELPHIA AVE), AND I405/FREMONT INTERCHANGE (NW 15TH AVE)

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RENEWS: 06-30-2026

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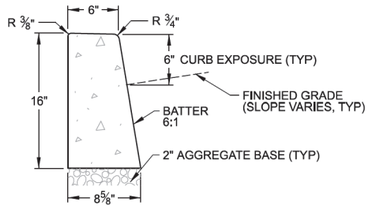
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1300 SW 5th Ave
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WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

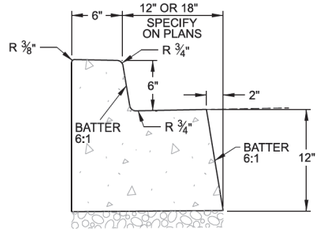
Designer: Alex Junge | Reviewer: Veronica Vong
Drafter: Grace Harrison | Checker: Veronica Vong

DETAILS

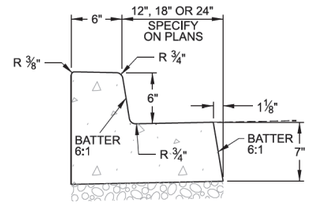
SHEET NO. BA05



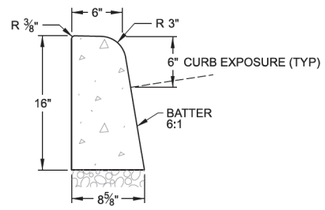
STANDARD CURB



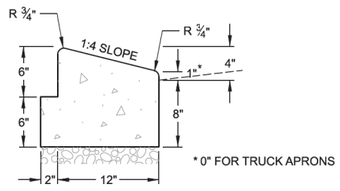
THICKENED CURB AND GUTTER
(SEE NOTE 5)



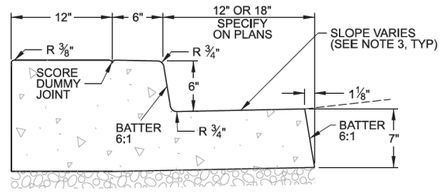
CURB AND GUTTER
(SEE NOTE 4)



MOUNTABLE CURB



LOW PROFILE
MOUNTABLE CURB



MODIFIED CURB AND GUTTER WITH STEP OUT
(SEE NOTE 5)

GENERAL NOTES:

1. TRANSITION CURBS OF DIFFERENT EXPOSURES OVER A LENGTH EQUAL TO 2' FOR EACH INCH IN DIFFERENCE OF EXPOSURE.
2. TOPS OF ALL CURBS SHALL SLOPE TOWARD THE ROADWAY AT 2% MAX.
3. GUTTER PAN SLOPE TO MATCH EXISTING STREET CROSS SLOPE UP TO A MAXIMUM OF 5% AND PER P-549 AT CURB RAMPS.
4. 18" GUTTER PAN TYPICAL. USE 12" GUTTER PAN WHEN ADJACENT TO BIKE LANES. USE 24" GUTTER PAN FOR GRADE BREAK DIFFERENCE AT CURB RAMPS (SEE STD. DRG. NO. P-549).
5. MODIFIED CURB AND GUTTER, AND THICKENED CURB AND GUTTER FOR USE ADJACENT TO SURFACE STORMWATER FACILITIES.

CURBS ON CITY STREETS
ST. JOHNS EAST (N PHILADELPHIA AVE), I405/FREMONT INTERCHANGE (NW 15TH AVE), AND FREMONT BRIGE WEST (PARKING LOT)

REGISTERED PROFESSIONAL ENGINEER
93931PE
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OREGON
SEPT. 11, 2018
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RENEWS: 06-30-2026

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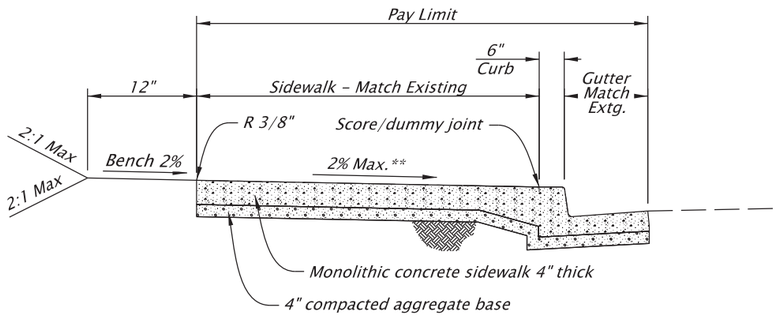
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LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Alex Junge
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Checker: Veronica Vong

DETAILS

SHEET NO.
BA06



SIDEWALK SCORING*	
Zone Width	Scoring Grid
5′	5′x5′
6′	3′x3′
7′	3.5′x3.5′
8′	4′x4′
10′	5′x5′
12′	4′x4′
15′	5′x5′

* Modify scoring at corners to meet ADA requirements.

TYPICAL MONOLITHIC CURB & SIDEWALK SECTION

Not to scale

Notes

1. *Construct contraction joints at 15' maximum spacing, and at ends of each driveway ramp.*
2. *Construct expansion joints adjacent to buildings and at wood poles.*
3. *No separate payment made for face of curb unless specified.*
4. *Provide light broom finish transverse to the line of traffic.*
5. *"Shiners" or smooth trowelled joints shall not be used unless matching into existing conditions.*
6. *Match scoring pattern when abutting existing sidewalk unless otherwise directed.*
7. *Sawcut contraction joints when sidewalk is designated or shared bicycle path. See plans for sawcut layout and details.*
8. *Side-slopes are shown as horiz. to vert.*
9. *Extend limit of removal and replacement of sidewalk to next joint.*
10. *For curb details see drawing RD700.*
11. *For joint details see drawing RD722.*

REGISTERED PROFESSIONAL ENGINEER
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Suite 3100
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Tel: 1 503 274 8772

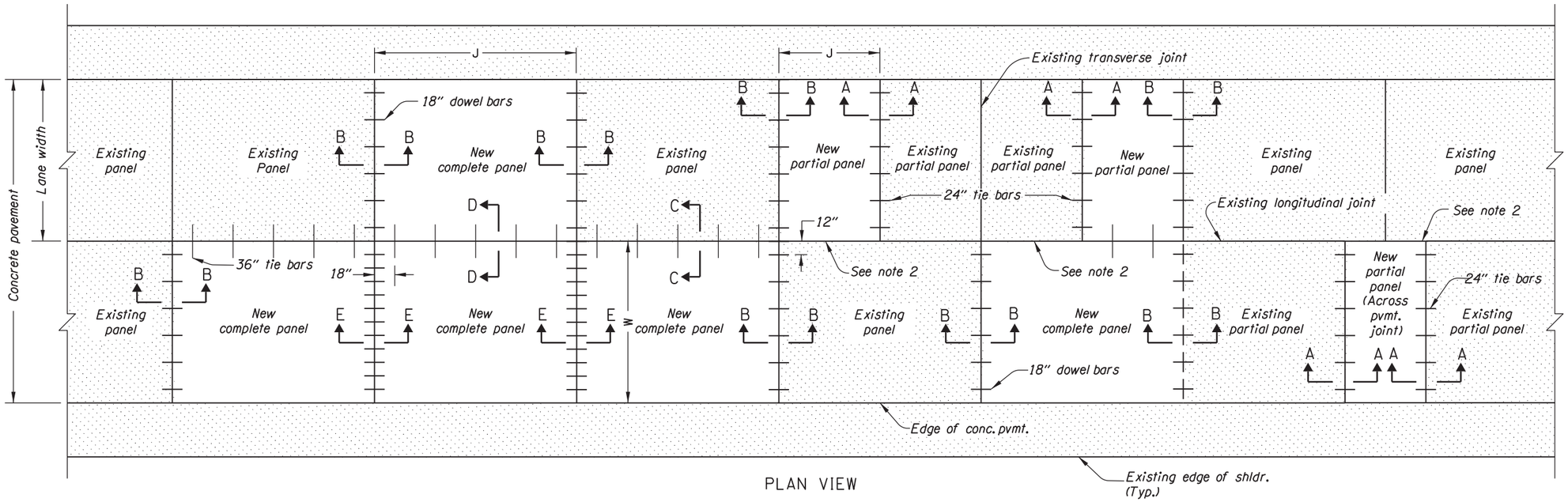
WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Alex Junge | Reviewer: Veronica Vong
Drafter: Grace Harrison | Checker: Veronica Vong

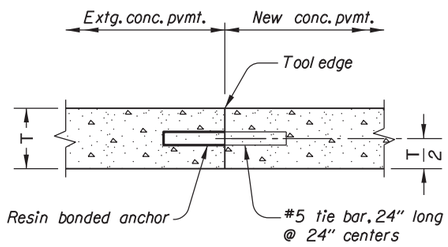
DETAILS

SHEET NO. BA07

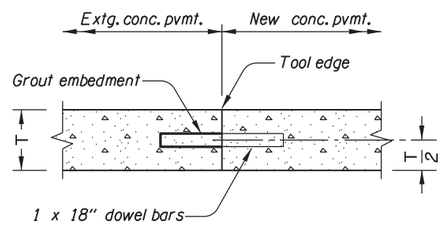
FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST



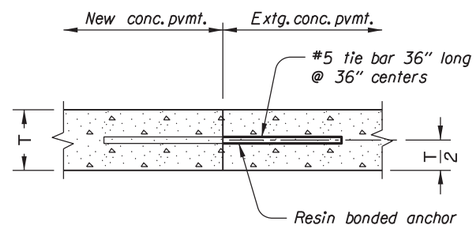
PLAN VIEW



SECTION A-A
CONSTRUCTION JOINT
(Partial panel splice)

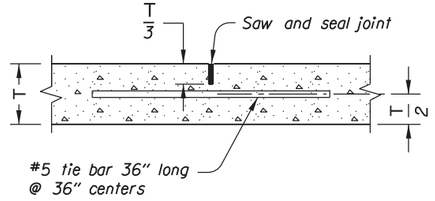


SECTION B-B
CONTRACTION JOINT
(New PCC to extg. PCC transverse joint)



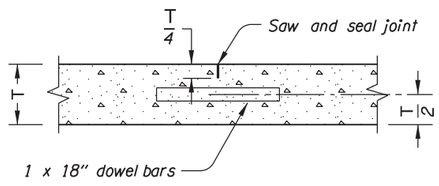
SECTION C-C
CONTACT JOINT
(New PCC to extg. PCC long. joint)

TRANSVERSE JOINT



SECTION D-D
WEAKENED PLANE JOINT
(New PCC long. joint)

LONGITUDINAL JOINT



SECTION E-E

CONTRACTION JOINT

GENERAL NOTES:

1. *Install tie bars along longitudinal joints between full panel replacement and existing concrete pavement. Tie bars are not installed between concrete pavement and ACP pavement.*
2. *Place a bond breaker along the longitudinal joint between partial panel replacement and existing panel.*
3. *Center tie bars and dowel bars on joint.*
4. *For exisiting PCC to new PCC transverse joint spacing of #5 tie bars and 1 x 18" dowel bars use 2ft (Sections A-A and B-B).*
5. *Use dowel spacing of 1ft for new PCC panel to new PCC panel construction (section E-E).*
6. *Follow 00754.43 for dowel bar and tie bar placement.*
7. *Concrete saw-cutting performed to complete a concrete repair will be paid for by the linear foot for the perimeter of the repair. Intermediate cuts to complete concrete repair will be incidental to PCC repair. Additional full-depth cuts the Engineer directs to extend the repair limits will be paid for by the linear foot, unless those cuts are required because of damage due to contractor operations.*

REGISTERED PROFESSIONAL ENGINEER
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OREGON
SEPT. 11, 2018
VERONICA B. VONG
RENEWS: 06-30-2026

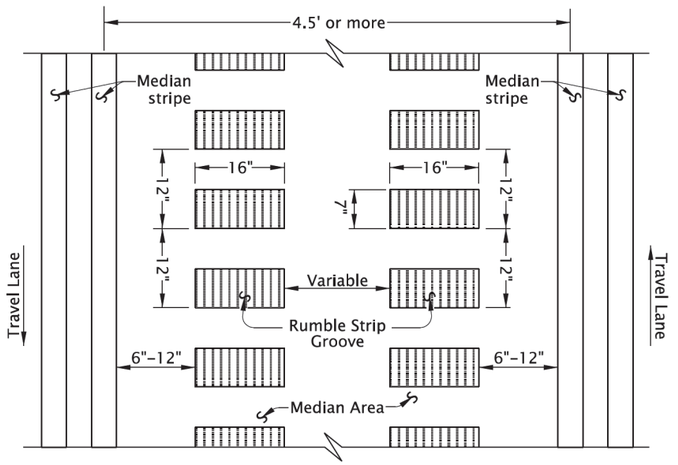
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1300 SW 5th Ave
Suite 3100
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WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

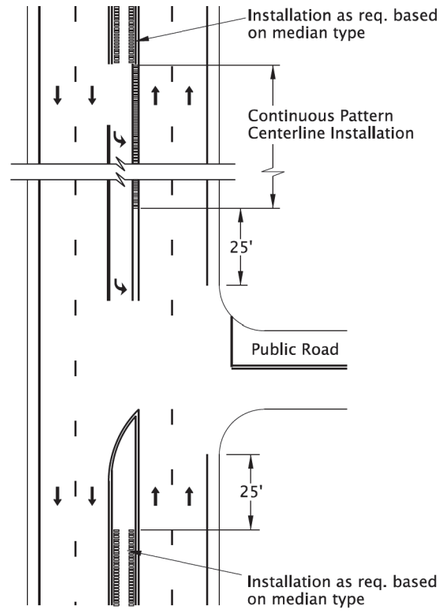
Designer: Alex Junge | Reviewer: Veronica Vong
Drafter: Grace Harrison | Checker: Veronica Vong

DETAILS | SHEET NO. BA08

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RUMBLE STRIP CONTINUOUS PATTERN WIDE MEDIAN INSTALLATION



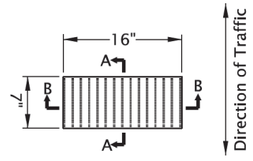
TYPICAL INTERSECTION

GENERAL NOTES:

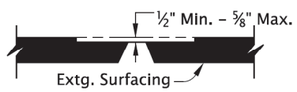
1. *Install continous pattern wide median centerline rumble strips as shown.*
2. *Install bi-directional yellow type IAR recessed pavement markers every 40' o.c. centered between edge of rumble strip and median stripe edge.*

LEGEND

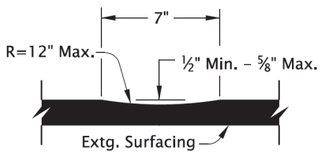
Continuous Pattern



PLAN

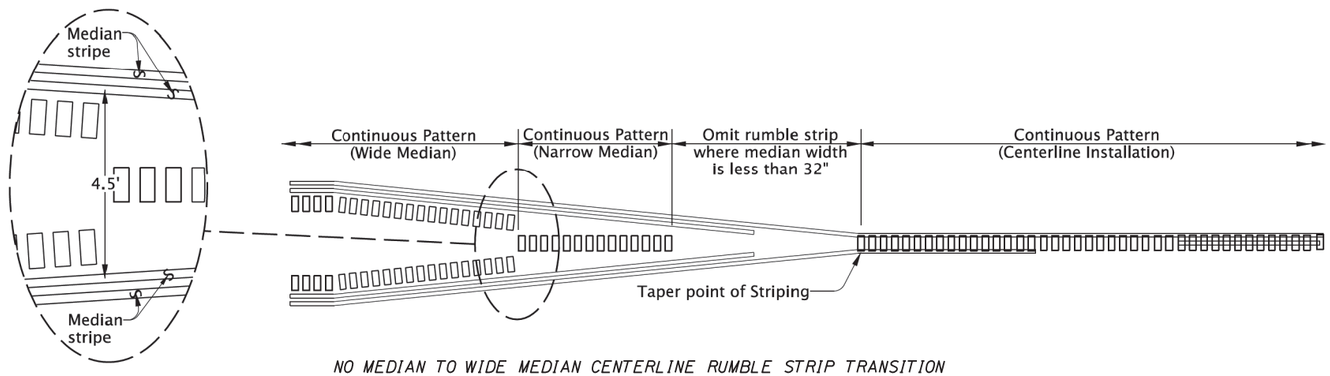


SECTION B-B



SECTION A-A

RUMBLE STRIP GROOVE



NO MEDIAN TO WIDE MEDIAN CENTERLINE RUMBLE STRIP TRANSITION

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SEPT. 11, 2018
VERONICA B. VONG
RENEWS: 06-30-2026

WSP USA Inc.
1300 SW 5th Ave
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Portland, OR 97201
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WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Alex Junge | Reviewer: Veronica Vong
Drafter: Grace Harrison | Checker: Veronica Vong

DETAILS

SHEET NO. BA09

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

59V-002

| SHEET NUMBER | NOTE No. ON PLANS | DESIGN HEIGHT OF COVER (FEET) (1) | PIPE: CIRCULAR OR ELLIPTICAL: SIZE IN (Inches): 10 | 12 | 14 | 15 | 16 | 18 | 30 | 48 | PIPE: CIRCULAR OR ELLIPTICAL: LENGTH IN FEET | PIPE - ARCH: HELICAL: Riveted Welded or Lock Seam: EQUIV. RND SIZE (Inches) | PIPE - ARCH: LENGTH (FEET) | PIPE - ARCH: CROSS - SECTIONAL DIMENSIONS (2): SPAN (Feet-Inches) | RISE (Feet-Inches) | CORNER RADII (Inches) | USE / INSTALLATION CRITERIA: DRAIN (PERFORATED) | CULVERT (ROAD APPROACH) | CULVERT (CONDUIT) | CULVERT | IRRIGATION | SIPHON | STORM SEWER | SANITARY SEWER | OTHERS (SEE REMARKS) | WATERTIGHT JOINTS | SLOPE ANCHORS | IMPERFECT TRENCH | pH | RESISTIVITY (HUNDREDS) | TERMINAL TREATMENT: LT. / RT. SLOPED ENDS: Not for Conc. Pipe Over 60" Dia. | SKEW NUMBER | PAVED END SLOPES: No. | ALTERNATE MATERIALS: HELICAL CORRUGATED METAL: ALUMINUM: SIZE OF CORRUGATIONS: RIVETED, WELDED OR LOCK SEAM: 1 1/2" x 1/4": PLATE THKN. (Inches) | CROSS SECTION (3) | 2 2/3" x 1/2": PLATE THKN. (Inches) | CROSS SECTION (3) | 3" x 1": PLATE THKN. (Inches) | CROSS SECTION (3) | COATING (4) | LOCK SEAM: SMOOTH WALL SPIRAL RIB 3/4" x 3/4" @ 7 1/2" O.C. Or 3/4" x 1" @ 11 1/2" O.C.: PLATE THKN. (Inches) | CROSS SECTION (3) | COATING (4) | ALUMINIZED OR GALVANIZED IRON AND STEEL: SIZE OF CORRUGATIONS: RIVETED, WELDED OR LOCK SEAM: 1 1/2" x 1/4": PLATE THKN. (Inches) | CROSS SECTION (3) | 2 2/3" x 1/2": PLATE THKN. (Inches) | CROSS SECTION (3) | 3" x 1": PLATE THKN. (Inches) | CROSS SECTION (3) | GALVANIZED (4) | ALUMINIZED (4) | LOCK SEAM: SMOOTH WALL SPIRAL RIB 3/4" x 3/4" @ 7 1/2" O.C. Or 3/4" x 1" @ 11 1/2" O.C.: PLATE THKN. (Inches) | CROSS SECTION (3) | GALVANIZED (4) | ALUMINIZED (4) | RIGID: PRE-CAST CONCRETE REINF.: III | IV | V | PLASTIC & IRON: CORRUGATED HDPE | SOLID WALL HDPE | REINFORCED HDPE | PVC - PSI STIFFNESS | POLYPROPYLENE, DOUBLE WALL | DUCTILE IRON - THICKNESS CLASS 52 | STEEL PIPE - SCHEDULE 40 | APPURTENANCES: MANHOLES: DEPTH, TOP OF COVER TO INVERT (Feet) | DIAMETER OF LARGEST PIPE IN BASE (In.) | CONC.: PRECAST | CAST-IN-PLACE | DROP MANHOLE | SPECIAL | INLETS: TYPE: Number Required | EXTENSION: LEFT (Feet) | RIGHT | EXTG. PIPE MATERIAL (5) | REMARKS |
|---|---|---

59V-002

| SHEET NUMBER | NOTE No. ON PLANS | DESIGN HEIGHT OF COVER (FEET) (1) | PIPE: CIRCULAR OR ELLIPTICAL: SIZE IN (Inches): 10 | 12 | 14 | 15 | 18 | 27 | 30 | PIPE: CIRCULAR OR ELLIPTICAL: LENGTH IN FEET | PIPE: PIPE - ARCH: HELICAL: Riveted Welded or Lock Seam: EQUIV. RND SIZE (Inches) | PIPE: PIPE - ARCH: LENGTH (FEET) | PIPE: PIPE - ARCH: CROSS - SECTIONAL DIMENSIONS (2): SPAN (Feet-Inches) | RISE (Feet-Inches) | CORNER RADII (Inches) | USE / INSTALLATION CRITERIA: DRAIN (PERFORATED) | CULVERT (ROAD APPROACH) | CULVERT (CONDUIT) | CULVERT | IRRIGATION | SIPHON | STORM SEWER | SANITARY SEWER | OTHERS (SEE REMARKS) | WATERTIGHT JOINTS | SLOPE ANCHORS | IMPERFECT TRENCH | pH | RESISTIVITY (HUNDREDS) | TERMINAL TREATMENT: LT. / RT. SLOPED ENDS: Not for Conc. Pipe Over 60" Dia. | SKEW NUMBER | PAVED END SLOPES: No. | ALTERNATE MATERIALS: HELICAL CORRUGATED METAL: ALUMINUM: SIZE 0F CORRUGATIONS: RIVETED, WELDED CR LOCK SEAM: 1 1/2" x 1/4": PLATE THKN. (Inches) | CROSS SECTION (3) | 2 2/3" x 1/2": PLATE THKN. (Inches) | CROSS SECTION (3) | 3" x 1": PLATE THKN. (Inches) | CROSS SECTION (3) | COATING (4) | LOCK SEAM: SMOOTH WALL SPIRAL RIB 3/4" x 3/4" @ 7 1/2" O.C. Or 3/4" x 1" @ 11 1/2" O.C.: PLATE THKN. (Inches) | CROSS SECTION (3) | COATING (4) | ALUMINIZED AND GALVANIZED IRON AND STEEL: SIZE OF CORRUGATIONS: RIVETED, WELDED OR LOCK SEAM: 1 1/2" x 1/4": PLATE THKN. (Inches) | CROSS SECTION (3) | 2 2/3" x 1/2": PLATE THKN. (Inches) | CROSS SECTION (3) | 3" x 1": PLATE THKN. (Inches) | CROSS SECTION (3) | COATING: GALVANIZED (4) | ALUMINIZED (4) | LOCK SEAM: SMOOTH WALL SPIRAL RIB 3/4" x 3/4" @ 7 1/2" O.C. Or 3/4" x 1" @ 11 1/2" O.C.: PLATE THKN. (Inches) | CROSS SECTION (3) | COATING: GALVANIZED (4) | ALUMINIZED (4) | RIGID: PRE-CAST CONCRETE REINF.: III | IV | V | PLASTIC & IRON: CORRUGATED HDPE | SOLID WALL HDPE | REINFORCED HDPE | PVC - PSI STIFFNESS | POLYPROPYLENE, DOUBLE WALL | DUCTILE IRON - THICKNESS CLASS 52 | STEEL PIPE - SCHEDULE 40 | APPURTENANCES: MANHOLES: DEPTH, TOP OF COVER TO INVERT (Feet) | DIAMETER OF LARGEST PIPE IN BASE (In.) | CONC.: PRECAST | CAST-IN-PLACE | DROP MANHOLE | SPECIAL | INLETS: TYPE: CG-1 | G-1 | CG-2 | Number Required | EXTENSION: LEFT (Feet) | RIGHT | EXTG. PIPE MATERIAL (5) | REMARKS |
|---|---|---

59V-002

SHEET NUMBER	NOTE No. ON PLANS	DESIGN HEIGHT OF COVER (FEET) (1)	PIPE: CIRCULAR OR ELLIPTICAL: SIZE IN (Inches): LENGTH IN FEET: 10	12	14	16	18	24	30	PIPE: CIRCULAR OR ELLIPTICAL: HELICAL: Riveted Welded or Lock Seam: EQUIV. RND SIZE (Inches)	PIPE: PIPE - ARCH: LENGTH (FEET)	PIPE: PIPE - ARCH: CROSS - SECTIONAL DIMENSIONS (2): SPAN (Feet-Inches)	RISE (Feet-Inches)	CORNER RADII (Inches)	USE / INSTALLATION CRITERIA: DRAIN (PERFORATED)	CULVERT (ROAD APPROACH)	CULVERT (CONDUIT)	CULVERT	IRRIGATION	SIPHON	STORM SEWER	SANITARY SEWER	OTHERS (SEE REMARKS)	WATERTIGHT JOINTS	SLOPE ANCHORS	IMPERFECT TRENCH	pH	RESISTIVITY (HUNDREDS)	TERMINAL TREATMENT: LT. / RT. SLOPED ENDS	SKEW NUMBER	Not for Conc. Pipe Over 60" Dia.	PAVED END SLOPES: No.
HA561	1	5.1		9															✓			✓								
	2	4.6		215															✓			✓								
	4	2.2		42															✓			✓	✓							
	6	3.4		51															✓			✓								
	7	7.7		5															✓			✓								
	8																													
	9	16.6		25															✓			✓								
	10	8.1		8															✓			✓								
	11	8.2		12															✓			✓								
	12	7.6						22											✓			✓								
HA581	1	0.0					69												✓			✓								
	2	0.0					10												✓			✓								
	3	3.7					9												✓			✓								
	4																		✓			✓								
	5			7															✓			✓								
HA591	1	2.5					10												✓			✓								
	2	-0.3					11												✓			✓								
	5	-0.5					231												✓			✓								
HA601	1	0.7					194												✓			✓								
	2	0.8					11												✓			✓								
	3	2.2					12												✓			✓								
	5	0.5		9															✓			✓								
	6																													
HA611	1	3.3					25												✓			✓								
	2	3.7					12												✓			✓								
	3	3.9																	✓			✓								

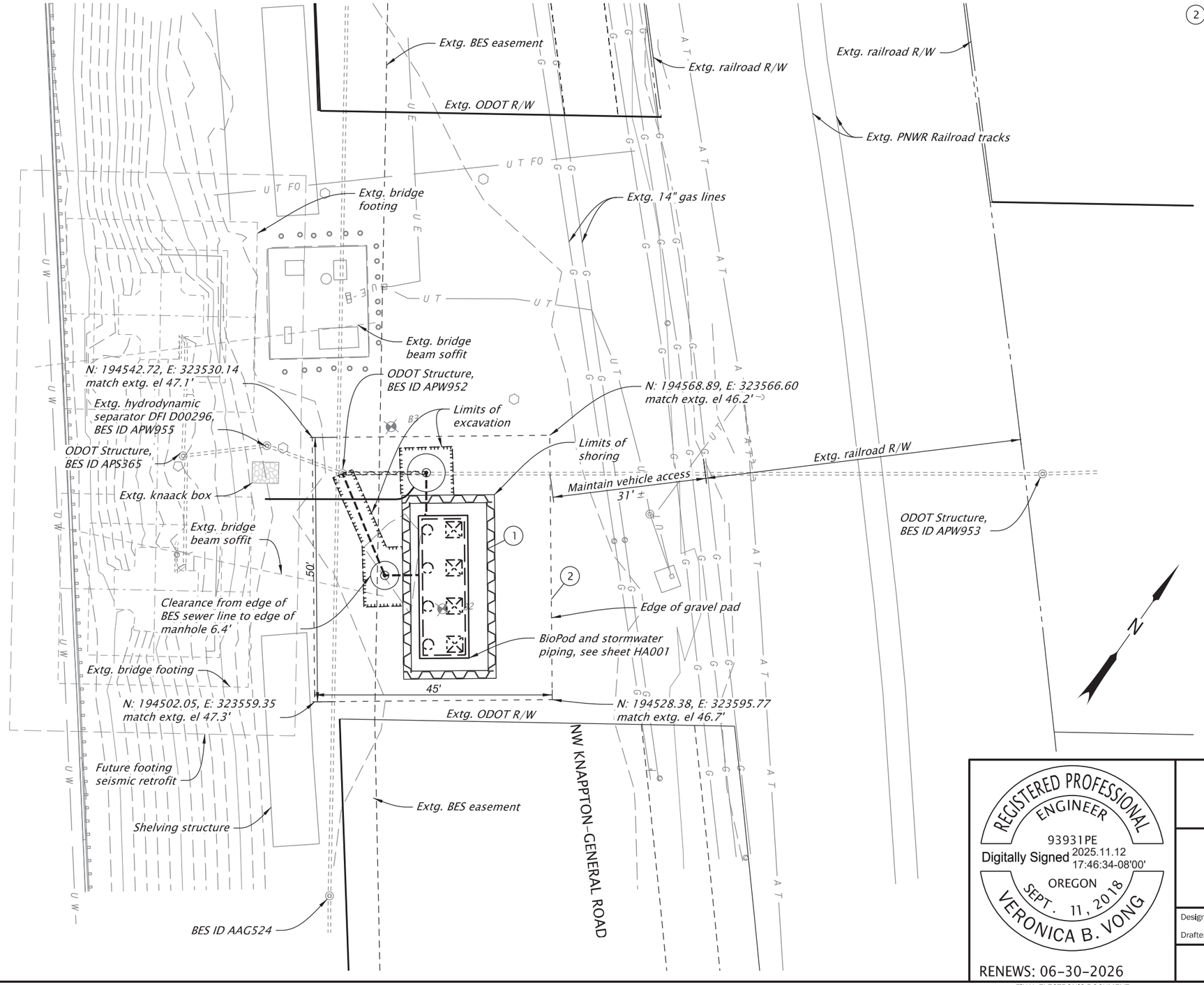
ALTERNATE MATERIALS: HELICAL CORRUGATED METAL: ALUMINUM: SIZE OF CORRUGATIONS: RIVETED, WELDED OR LOCK SEAM: 1 1/2" x 1/4"	PLATE THKN. (Inches)	CROSS SECTION (3)
HA561	1	5.1		9																		

59V-002

Sec.11, T.1N, R.1W, W.M.

ST. JOHNS BRIDGE – WEST END
US30 BYPASS – M.P. 0.61

US30: LOWER COLUMBIA RIVER HIGHWAY



CONSTRUCTION NOTES

1. *Install temporary shoring*
2. *Construct gravel access pad – 2,250 SQFT aggregate base nom. comp. thkn. – 6" (For details, see sht. BA03 – Access Pad)*

Notes:

1. *Contractor to verify overhead clearances prior to excavation.*
2. *Contractor to field verify site conditions prior to installation of shoring.*
3. *All features not designated for adjustment or removal are designated to remain. See subsections 00170.82 and 00310.02 of the standard specifications.*
4. *"BES" labels correspond to City of Portland Bureau of Environmental Services GIS ID numbers.*
5. *See sheet HA001 for drainage details*
6. *Contractor to restore site to original elevations and slopes unless otherwise noted.*

REGISTERED PROFESSIONAL ENGINEER
93931PE
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OREGON
SEPT. 11, 2018
VERONICA B. VONG
RENEWS: 06-30-2026

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WSP USA Inc.
1300 SW 5th Ave
Suite 3100
Portland, OR 97201
Tel: 1 503 274 8772

OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Alex Junge	Reviewer: Veronica Vong
Drafter: Grace Harrison	Checker: Veronica Vong

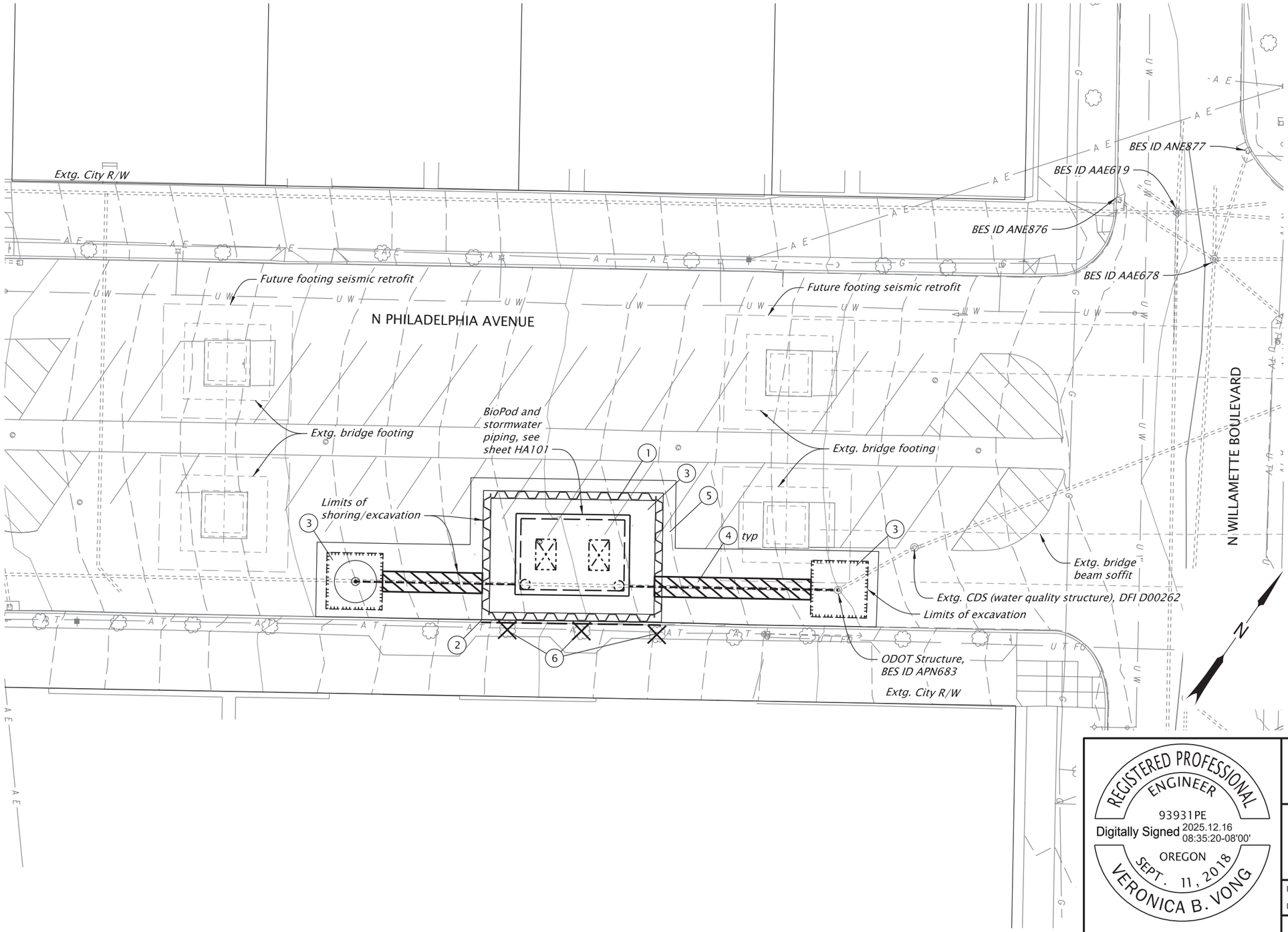
GENERAL CONSTRUCTION

SHEET NO. C001

59V-002

Sec.12, T.1N, R.1W, W.M.

ST. JOHNS BRIDGE – EAST END
US30 BYPASS – M.P. 1.23



CONSTRUCTION NOTES

1. *Install temporary shoring*
2. *N: 196282.11, E: 326159.88*
   Remove curb – 36 LF
   Construct concrete curb, standard curb – 36 LF
   (For details, see sht. BA06)
3. *Const. 19 inch asph. conc. pvmt. repair – 128 SQYD*
   (For details, see sht. BA02 – City Street)
4. *Trench resurfacing – 23 SQYD*
   shown thus:
   (For details, see sht. BA05)
5. *Const. 2 inch asph. conc. pvmt. repair – 93 SQYD*
   (For details, see sht. BA02 – City Street)
6. *Remove tree – 3*

Notes:

1. *Contractor to verify overhead clearances prior to excavation.*
2. *Contractor to field verify site conditions prior to installation of shoring.*
3. *All features not designated for adjustment or removal are designated to remain. See subsections 00170.82 and 00310.02 of the standard specifications.*
4. *"BES" labels correspond to City of Portland Bureau of Environmental Services GIS ID numbers.*
5. *See sheet HA101 for drainage details*
6. *Contractor to restore site to original elevations and slopes unless otherwise noted.*

20 15 0 20
FEET

REGISTERED PROFESSIONAL ENGINEER
93931PE
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OREGON
SEPT. 11, 2018
VERONICA B. VONG
RENEWS: 06-30-2026

WSP USA Inc.
1300 SW 5th Ave
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OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Alex Junge
Drafter: Grace Harrison
Reviewer: Veronica Vong
Checker: Veronica Vong

GENERAL CONSTRUCTION

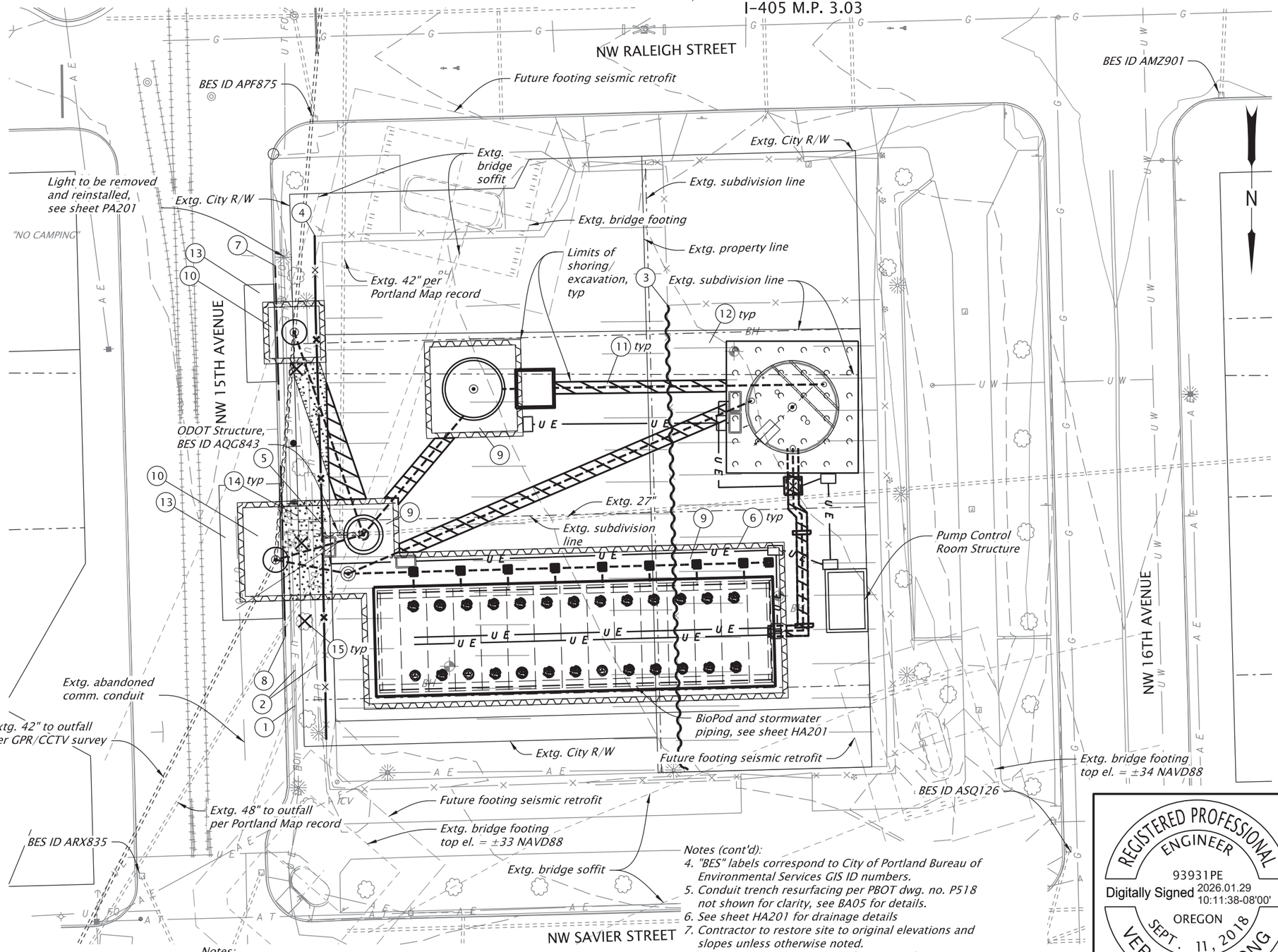
SHEET NO. C101

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

59V-002

Sec.28 & 33, T.1N, R.1E, W.M.

I-405/FREMONT BRIDGE - INTERCHANGE
I-405 M.P. 3.03



CONSTRUCTION NOTES

1. *Relocate extg. underground communication line (by others)*
2. *Relocate extg. underground streetlighting circuit and electrical line (For details, see sht. PA201)*
3. *Remove chain link fence - 132 LF*
4. *Remove and rebuild chain link fence - 142 LF (See dwg. no. RD815)*
5. *Remove and reinstall 4 foot X 24 inch chain link single gate*
6. *Install temporary shoring*
7. *Remove curb - 38 LF Construct concrete curb, standard curb - 38 LF (For details, see sht. BA06)*
8. *Remove curb - 48 LF Construct concrete curb, standard curb - 48 LF (For details, see sht. BA06)*
9. *Const. 17 inch asph. conc. pvmt. repair - 699 SQYD (For details, see sht. BA02 - Parking)*
10. *Const. 19 inch asph. conc. pvmt. repair - 44 SQYD (For details, see sht. BA02 - City Street)*
11. *Trench resurfacing - 109 SQYD shown thus:*
12. *Const. 2 inch asph. conc. pvmt. repair - 786 SQYD (For details, see sht. BA02 - Parking)*
13. *Const. 2 inch asph. conc. pvmt. repair - 97 SQYD (For details, see sht. BA02 - City Street)*
14. *Permanent seeding - 0.012 acres, shown thus: (For details, see sht. BA02 - Seeding)*
15. *Remove tree - 3*

Notes:
1. *Contractor to verify overhead clearances prior to excavation.*
2. *Contractor to field verify site conditions prior to installation of shoring.*
3. *All features not designated for adjustment or removal are designated to remain. See subsections 00170.82 and 00310.02 of the standard specifications.*

Notes (cont'd):
4. *"BES" labels correspond to City of Portland Bureau of Environmental Services GIS ID numbers.*
5. *Conduit trench resurfacing per PBOT dwg. no. P518 not shown for clarity, see BA05 for details.*
6. *See sheet HA201 for drainage details*
7. *Contractor to restore site to original elevations and slopes unless otherwise noted.*
8. *Additional permits required from City of Portland Urban Forestry for existing trees along NW 15th Ave prior to cutting or pruning any branches greater than 1/2 inch in diameter or roots greater than 1/4 inch in diameter. Online applications at https://devhub.portlandoregon.gov.*

REGISTERED PROFESSIONAL ENGINEER
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OREGON
SEPT. 11, 2018
VERONICA B. VONG
RENEWS: 06-30-2026

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OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT

LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Alex Junge | Reviewer: Veronica Vong
Drafter: Grace Harrison | Checker: Veronica Vong

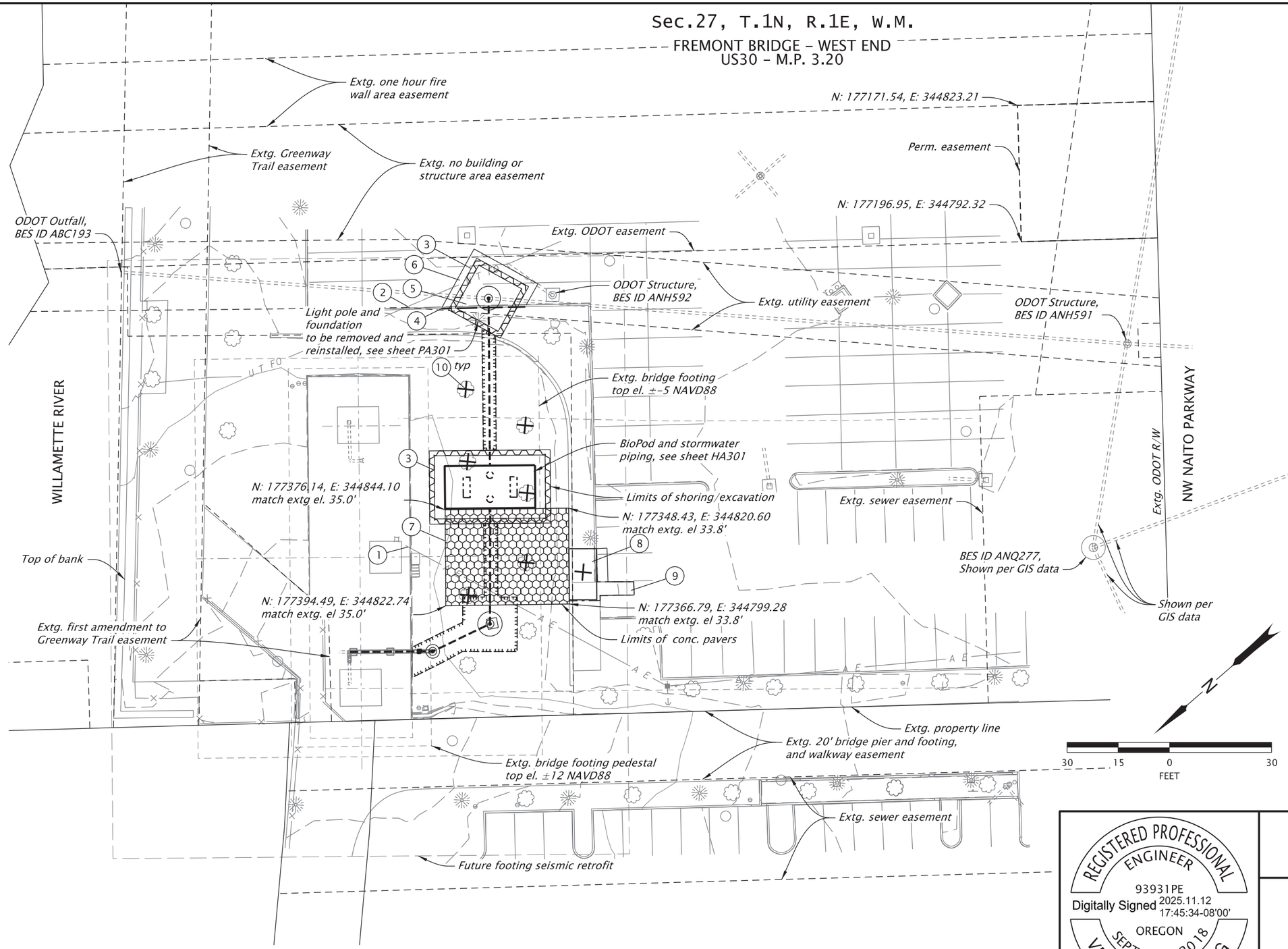
GENERAL CONSTRUCTION

SHEET NO. C201

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Sec.27, T.1N, R.1E, W.M.

FREMONT BRIDGE – WEST END
US30 – M.P. 3.20



CONSTRUCTION NOTES

1. *Remove aerial electrical line (By others) ODOT to coordinate reconnection of power service after the conclusion of the project*
2. *According to Mandrelling results, the depth of the Lumen National conduits is greater than 20' from the bottom of the proposed intercept storm manhole*
3. *Install temporary shoring*
4. *N: 177338.18, E: 344889.26 Remove curb – 25 LF Construct concrete curb, standard curb – 25 LF (For details, see sht. BA06)*
5. *Const. 17 inch asph. conc. pvmt. repair – 23 SQYD (For details, see sht. BA02 – Parking)*
6. *Const. 2 inch asph. conc. pvmt. repair – 10 SQYD (For details see sht. BA02 – Parking)*
7. *Removal of surfacings – 119 SQYD General Excavation Install unit pavers – 1020 SQFT shown thus: Const. base course (For details, see sht. BA03 – Previous Pavers)*
8. *Remove walk – 19 SQYD Const. conc access ramp (For details see sht. S301)*
9. *Const. 17 inch asph. conc. pvmt. repair – 8 SQYD (For details see sht. BA02 – Parking)*
10. *Remove tree – 7*

Notes:

1. *Contractor to verify overhead clearances prior to excavation.*
2. *Contractor to field verify site conditions prior to installation of shoring.*
3. *All features not designated for adjustment or removal are designated to remain. See subsections 00170.82 and 00310.02 of standard specifications.*
4. *See sheet HA301 for drainage details*
5. *Contractor to restore site to original elevations and slopes unless otherwise noted.*
6. *Construction dewatering to the city's system not authorized. If required: Batch Discharge Authorization permit is required for temporary discharges of groundwater or construction related stormwater (channelized, collected and/or pumped) to the City's public sanitary or storm sewer system. If de-watering to a City sanitary or storm sewer system is necessary, pre-authorization must be obtained from the Bureau of Environmental Services at batchdischarge@portlandoregon.gov*

REGISTERED PROFESSIONAL ENGINEER
93931PE
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OREGON
SEPT. 11, 2018
VERONICA B. VONG
RENEWS: 06-30-2026

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

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Portland, OR 97201
Tel: 1 503 274 8772

OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Alex Junge	Reviewer: Veronica Vong
Drafter: Grace Harrison	Checker: Veronica Vong

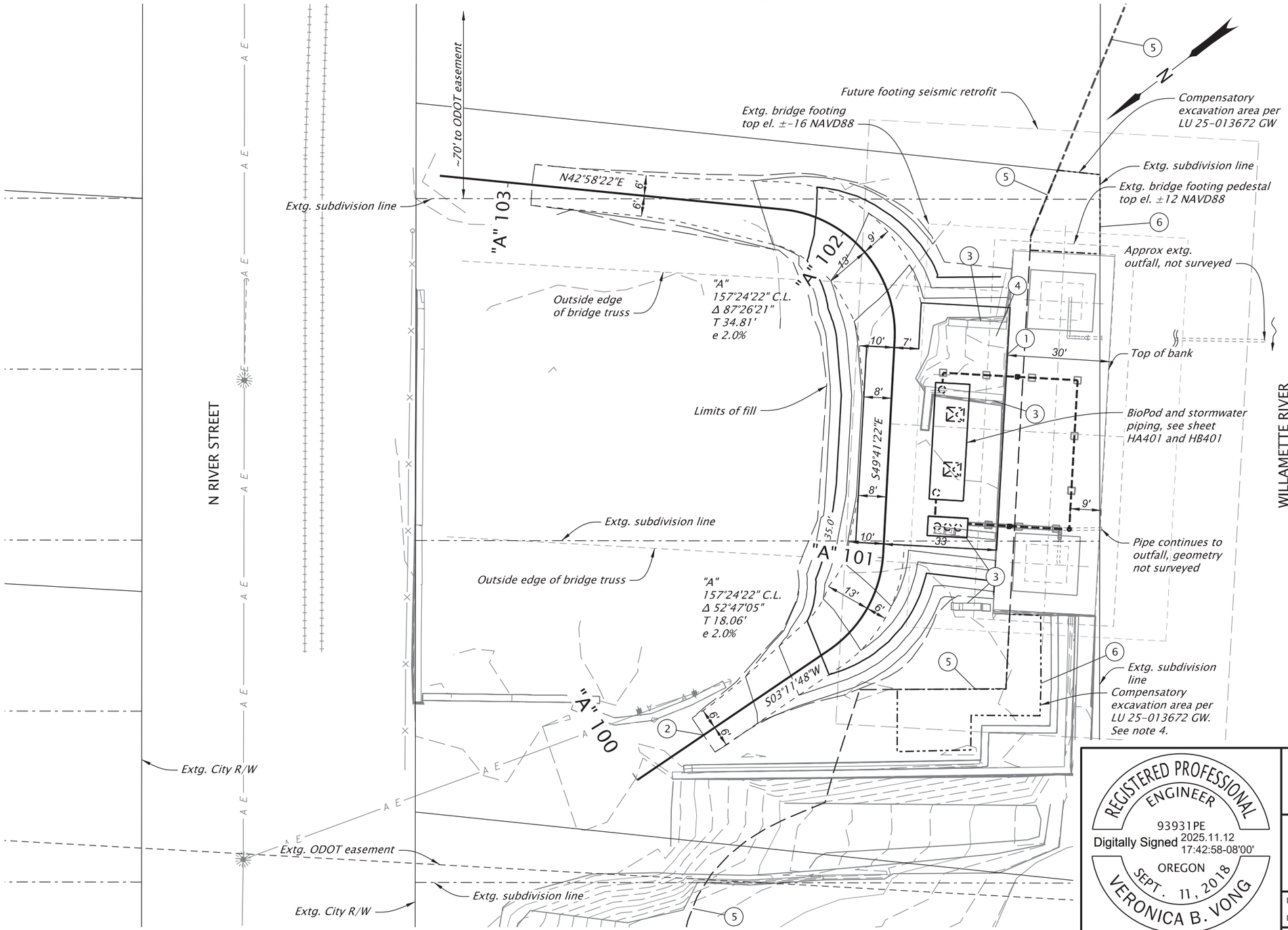
GENERAL CONSTRUCTION

SHEET NO. C301

59V-002

Sec.27, T.1N, R.1E, W.M.

FREMONT BRIDGE - EAST END
US30 - M.P. 3.43



CONSTRUCTION NOTES

1. *Concrete slab on grade (For details, see sht. S401)*
2. *Sta. "A" 100+23.42 to Sta. "A" 102+92.70 Const. access road, width varies (For details, see shts. BA01 and C401A)*
3. *Remove concrete geoblocks - approx. 84 LF Geoblocks vary 1- 3 blocks in height*
4. *General excavation - 68 CUYD existing dirt ramp to be excavated*
5. *Work within the Greenway Setback Zone will be limited to only what is required to fulfill the requirements of the City of Portland Greenway and flood hazard compensatory excavation requirements*
6. *Compensatory excavations will occur entirely within the Greenway Setback Zone to counteract any proposed fill in the upland area within the February 1996 Floor Hazard Inundation Zone Refer to authorized limits per LU 25-013672 GW*

Alignment 'A' Data Table

Element	STA	Northing	Easting
P.O.B.	100+00.00	178516.28	345659.60
P.C.	100+67.67	178448.72	345655.82
P.I.	100+85.73	178430.68	345654.82
P.T.	101+01.20	178418.97	345668.57
P.C.	101+63.87	178378.35	345716.28
P.I.	101+98.68	178355.78	345742.79
P.T.	102+19.42	178381.25	345766.51
P.O.E.	103+20.04	178454.87	345835.10

Note:
1. *All features not designated for adjustment or removal are designated to remain. See subsections 00170.82 and 00310.02 of the standard specifications*
2. *See sheet HA401 for drainage details*
3. *Contractor to restore site to original elevations and slopes unless otherwise noted.*
4. *Any field changes shall be in substantial conformance with approved LU 25-013672 GW, Exhibits C.2 and C.3*

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FEET

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SEPT. 11, 2018
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RENEWS: 06-30-2026

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Tel: 1 503 274 8772

OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Alex Junge | Reviewer: Veronica Vong
Drafter: Grace Harrison | Checker: Veronica Vong

GENERAL CONSTRUCTION

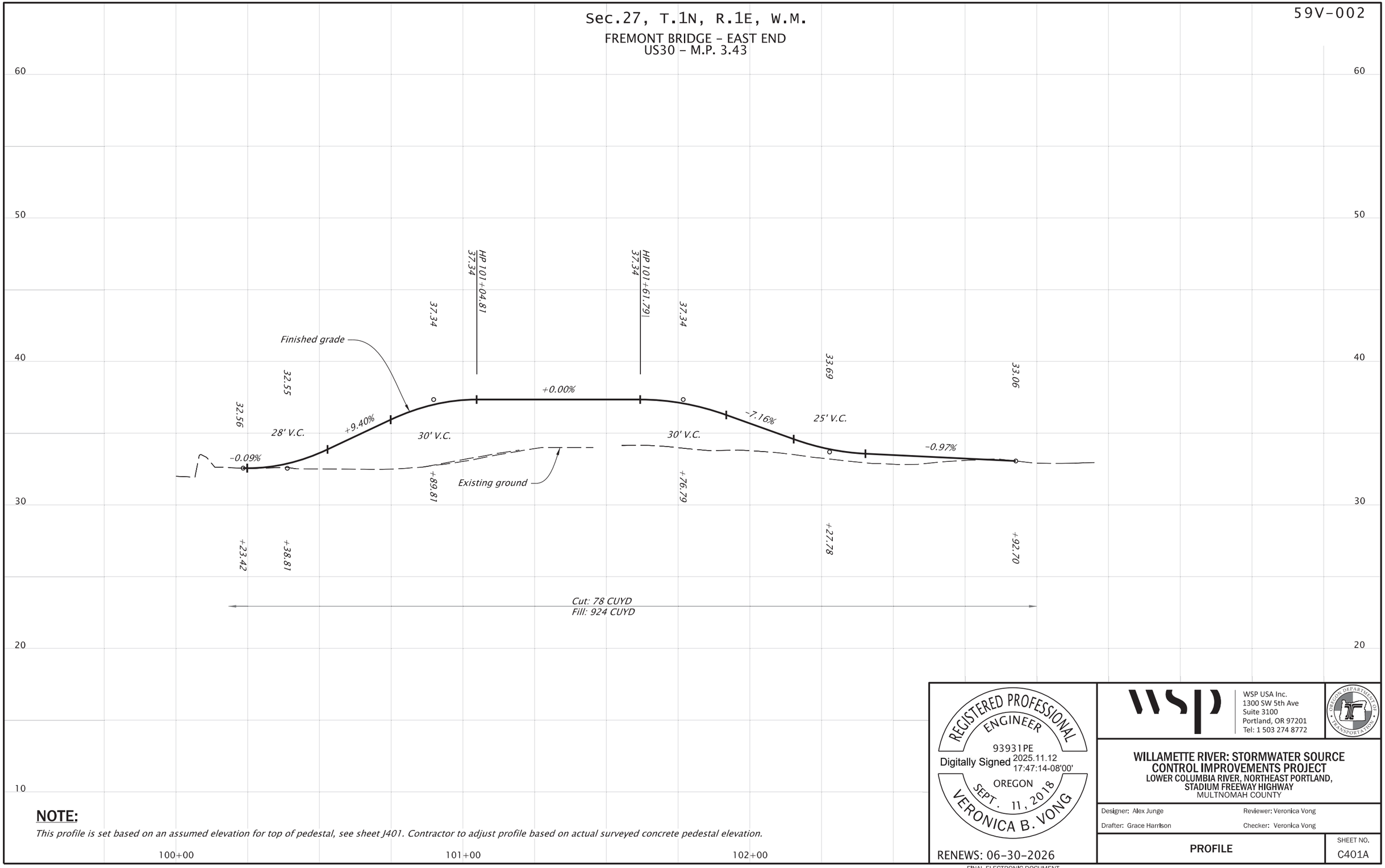
SHEET NO. C401

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59V-002

Sec.27, T.1N, R.1E, W.M.

FREMONT BRIDGE - EAST END
US30 - M.P. 3.43



NOTE:

This profile is set based on an assumed elevation for top of pedestal, see sheet J401. Contractor to adjust profile based on actual surveyed concrete pedestal elevation.

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OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Alex Junge
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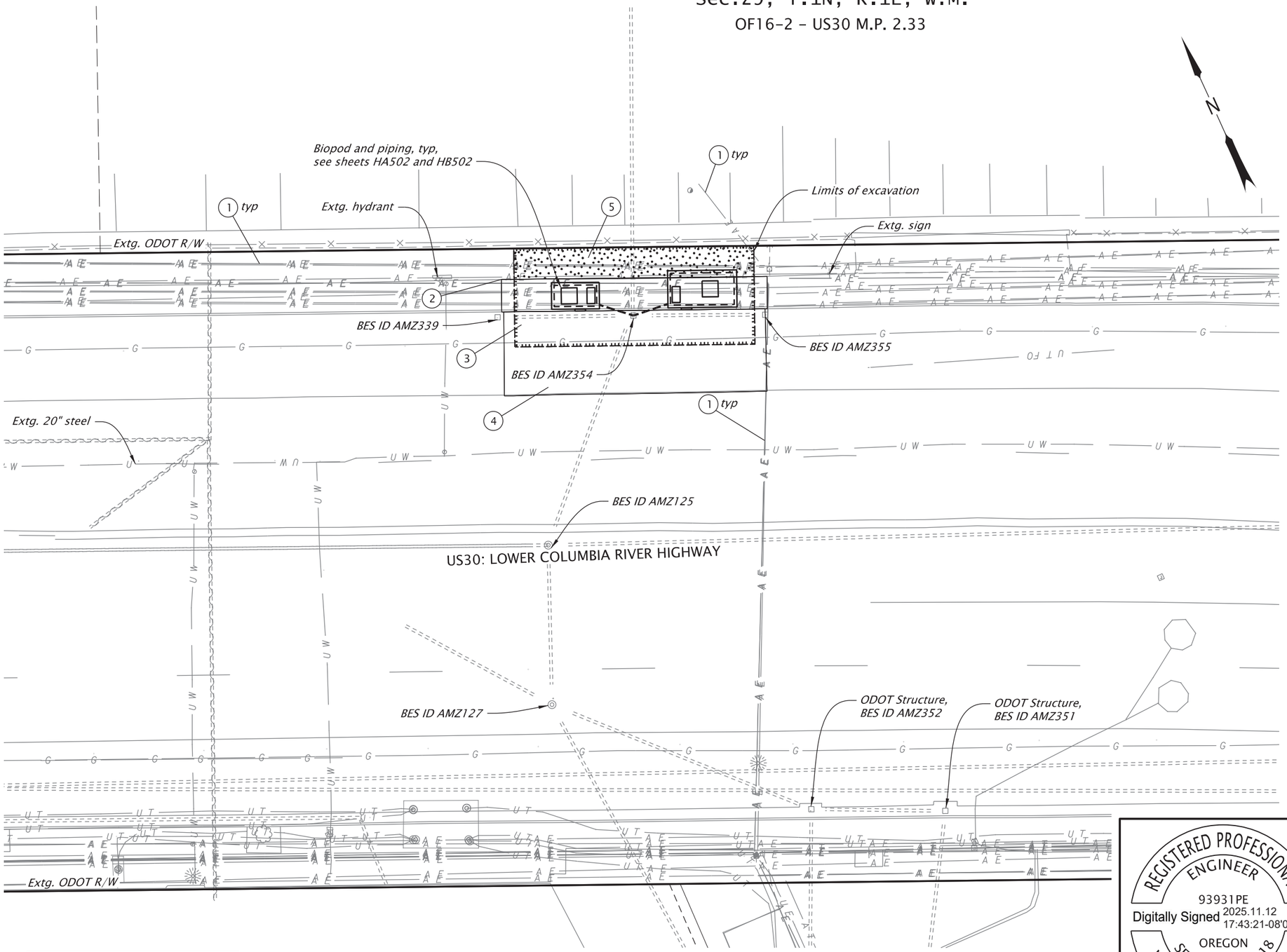
PROFILE

SHEET NO.
C401A

59V-002

Sec.29, T.1N, R.1E, W.M.

OF16-2 - US30 M.P. 2.33



CONSTRUCTION NOTES

1. *Adjust extg. aerial electrical lines (by others)*
2. *Remove walk - 32 SQYD*
   Const. monolithic curb, and sidewalk - 50 LF
   Setback - 0'
   (For details, see sht. BA07)
3. *Const. 20 inch asph. conc. pvmt. repair -33 SQYD*
   (For details, see sht. BA03 - US30 Shoulder)
4. *Const. 2 inch asph. conc. pvmt. repair -86 SQYD*
   (For details, see sht. BA02 - US30 Shoulder)
5. *Permanent seeding - 0.006 acres, shown thus:* [dotted]
   (For details, see sht. BA02 - Seeding)

Notes:

1. *Contractor to verify overhead clearances prior to excavation.*
2. *Contractor to field verify site conditions prior to installation of shoring.*
3. *All features not designated for adjustment or removal are designated to remain. See subsections 00170.82 and 00310.02 of the standard specifications.*
4. *"BES" labels correspond to City of Portland Bureau of Environmental Services GIS ID numbers.*
5. *See sheet HA502 for drainage details*
6. *Contractor to restore site to original elevations and slopes unless otherwise noted.*

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93931PE
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OREGON
SEPT. 11, 2018
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OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Alex Junge	Reviewer: Veronica Vong
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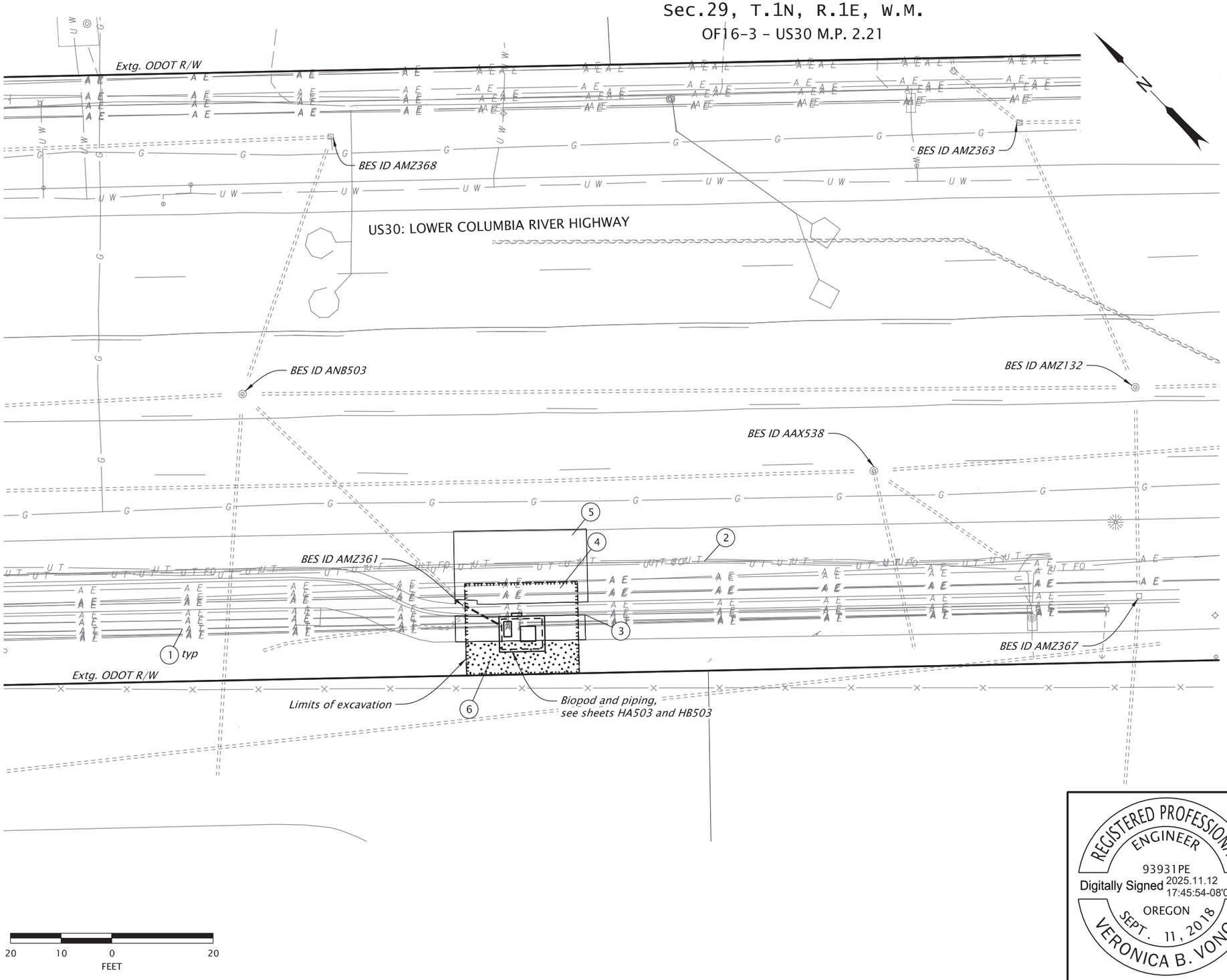
GENERAL CONSTRUCTION

SHEET NO. C502

59V-002

Sec.29, T.1N, R.1E, W.M.

OF16-3 - US30 M.P. 2.21



CONSTRUCTION NOTES

1. *Adjust extg. aerial telecommunication lines and aerial signal interconnect (by others)*
2. *Adjust extg. underground telecommunication lines (by others)*
3. *Remove walk - 14 SQYD*
   Const. monolithic curb, and sidewalk - 25 LF
   Setback - 0'
   (For details, see sht. BA07)
4. *Const. 20 inch asph. conc. pvmt. repair - 15 SQYD*
   (For details, see sht. BA03 - US30 Shoulder)
5. *Const. 2 inch asph. conc. pvmt. repair - 42 SQYD*
   (For details, see sht. BA02 - US30 Shoulder)
6. *Permanent seeding - 0.003 acres, shown thus:*
   (For details, see sht. BA02 - Seeding)

Notes:

1. *Contractor to verify overhead clearances prior to excavation.*
2. *Contractor to field verify site conditions prior to installation of shoring.*
3. *All features not designated for adjustment or removal are designated to remain. See subsections 00170.82 and 00310.02 of the standard specifications.*
4. *"BES" labels correspond to City of Portland Bureau of Environmental Services GIS ID numbers.*
5. *See sheet HA503 for drainage details.*
6. *Contractor to restore site to original elevations and slopes unless otherwise noted.*

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93931PE
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OREGON
SEPT. 11, 2018
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OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Alex Junge	Reviewer: Veronica Vong
Drafter: Grace Harrison	Checker: Veronica Vong

GENERAL CONSTRUCTION

SHEET NO. C503

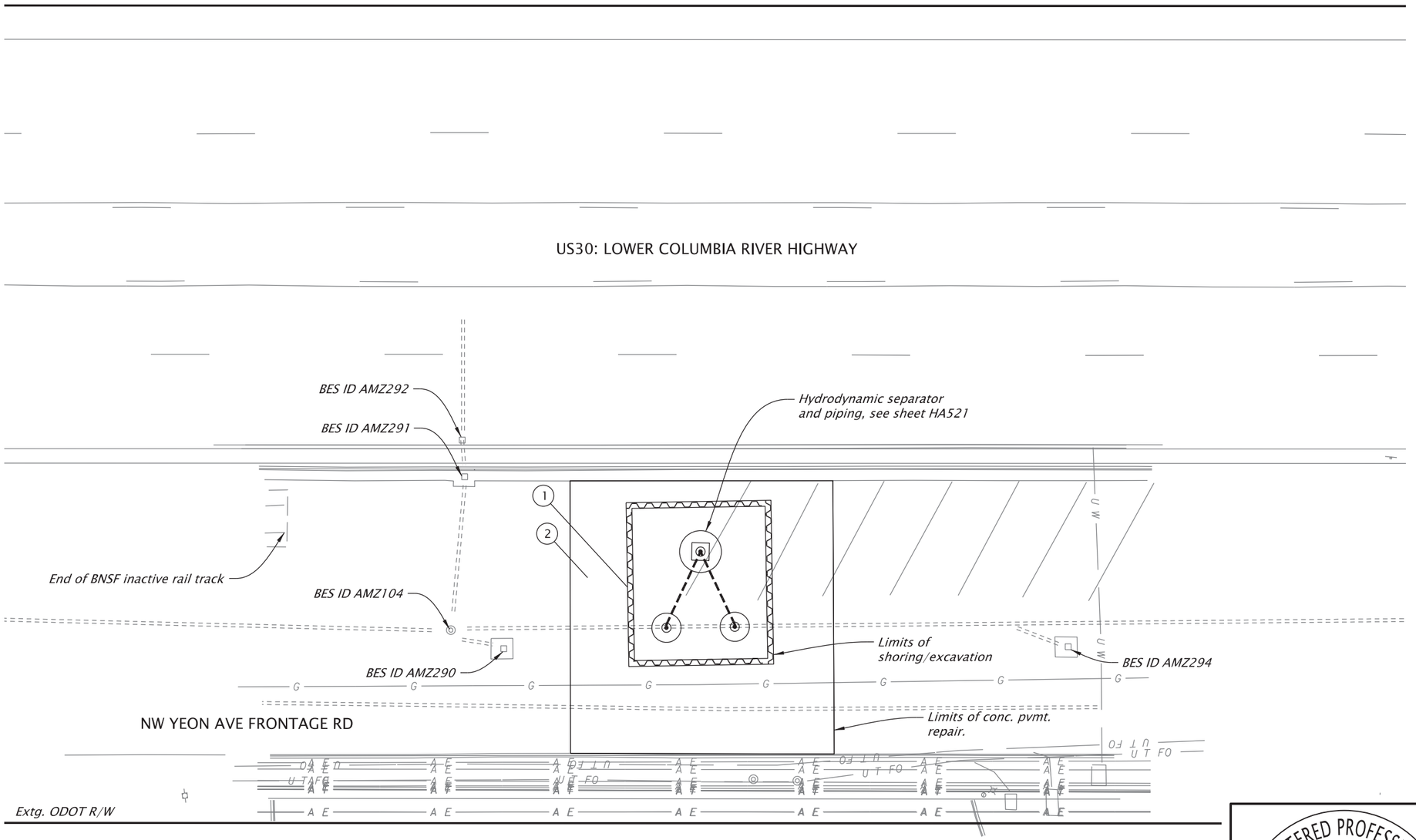
59V-002

Sec.20, T.1N, R.1E, W.M.

OF18-2 - US30 M.P. 3.00

CONSTRUCTION NOTES

1. *Install temporary shoring*
2. *Const. full depth conc. pvmt. repair - 234 SQYD (For details, see sht. BA04 - Yeon Ave Frontage Rd)*



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FEET

Notes:

1. *Contractor to verify overhead clearances prior to excavation.*
2. *Contractor to field verify site conditions prior to installation of shoring.*
3. *All features not designated for adjustment or removal are designated to remain. See subsections 00170.82 and 00310.02 of the standard specifications.*
4. *"BES" labels correspond to City of Portland Bureau of Environmental Services GIS ID numbers.*

REGISTERED PROFESSIONAL ENGINEER
93931PE
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OREGON
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RENEWS: 06-30-2026

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WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

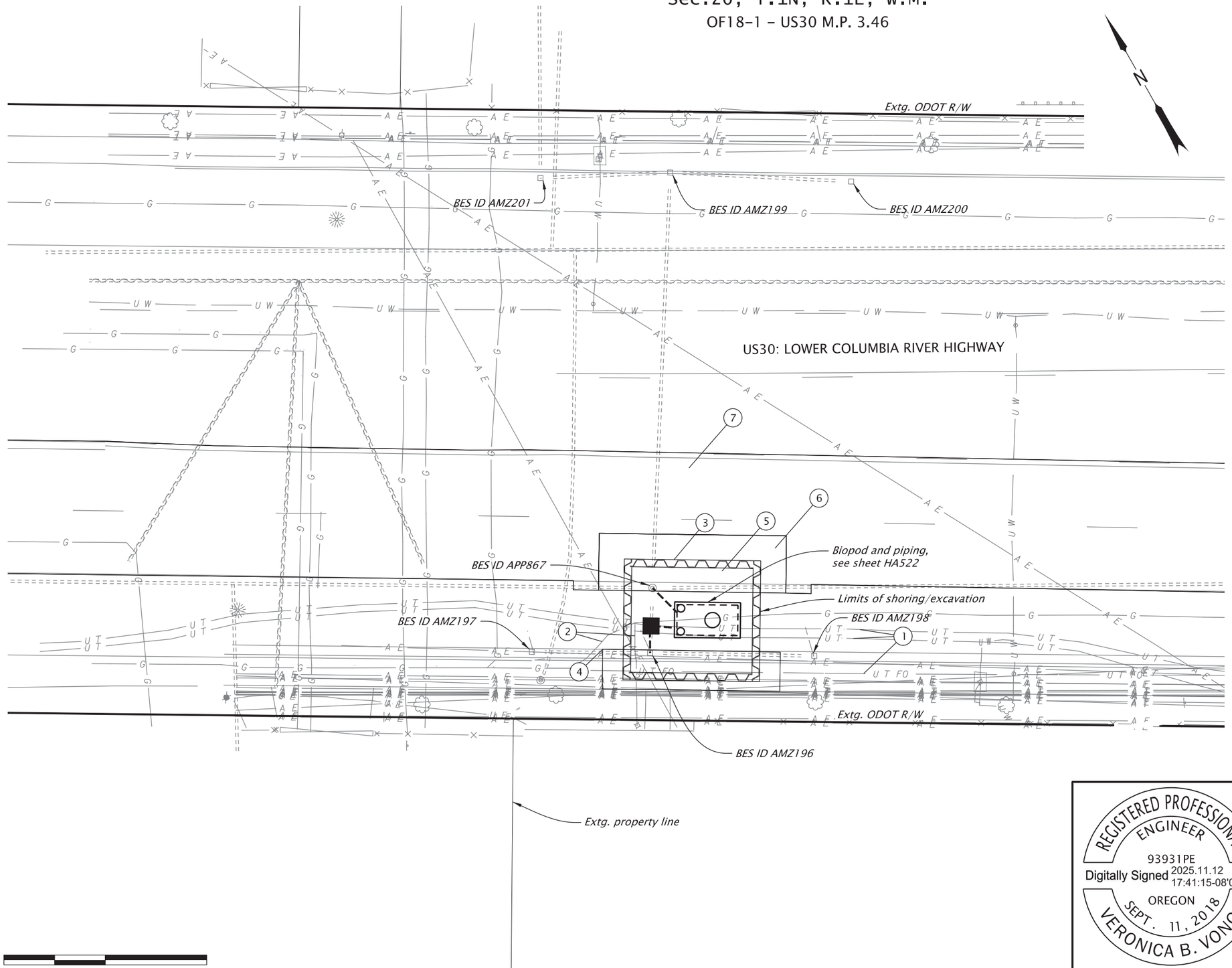
Designer: Alex Junge | Reviewer: Veronica Vong
Drafter: Grace Harrison | Checker: Veronica Vong

GENERAL CONSTRUCTION | SHEET NO. C521

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

59V-002

Sec.20, T.1N, R.1E, W.M.
OF18-1 - US30 M.P. 3.46



CONSTRUCTION NOTES

1. *Relocate extg. underground fiber optic line (by others)*
2. *Relocate extg. gas line (by others)*
3. *Install temporary shoring*
4. *Remove walk - 30 SQYD*
   Const. monolithic curb, and sidewalk - 35 LF
   Setback - 0'
   (For details, see sht. BA07)
5. *Const. 23 inch asph. conc. pvmt. repair - 54 SQYD (For details, see sht. BA03 - US30 Travel Lane)*
6. *Const. 5 inch asph. conc. pvmt. repair - 46 SQYD (For details, see sht. BA03 - US30 Travel Lane)*
7. *Const. 2 inch asph. conc. pvmt. repair - 1834 SQYD (For details, see sht. BA03 - US30 Travel Lane)*

Notes:
1. *Contractor to verify overhead clearances prior to excavation.*
2. *Contractor to field verify site conditions prior to installation of shoring.*
3. *All features not designated for adjustment or removal are designated to remain. See subsections 00170.82 and 00310.02 of the standard specifications.*
4. *"BES" labels correspond to City of Portland Bureau of Environmental Services GIS ID numbers.*
5. *See sheets C523 and C524 for limits of 2" ACPR for temporary striping removal.*
6. *See sheet HA522 for drainage details.*
7. *Contractor to restore site to original elevations and slopes unless otherwise noted.*

REGISTERED PROFESSIONAL ENGINEER
93931PE
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OREGON
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OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Alex Junge
Reviewer: Veronica Vong
Drafter: Grace Harrison
Checker: Veronica Vong

GENERAL CONSTRUCTION

SHEET NO. C522

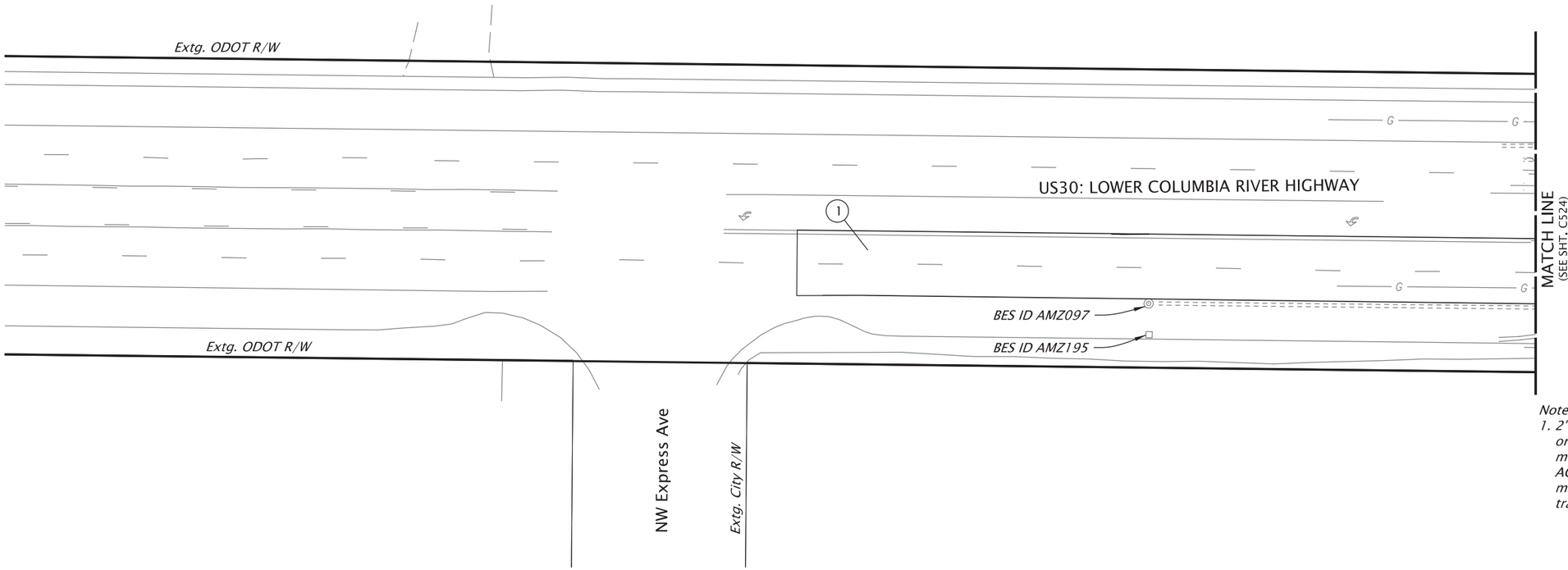
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59V-002

Sec.20, T.1N, R.1E, W.M.
OF18-1 - US30 M.P. 3.46

CONSTRUCTION NOTES

(1) *See sht. C522, Note 7*
Const. 2 inch asph. conc. pvmt. repair



Note:
1. *2" ACPR limits based on temporary traffic control shown on 'E' sheets. Limits shall be adjusted to nearest mid-lane or lane line. Where limits extend to lane lines, ACPR shall include and extend 2" past the pavement markings to adequately remove markings of approved traffic control.*

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FEET

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OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Alex Junge | Reviewer: Veronica Vong
Drafter: Grace Harrison | Checker: Veronica Vong

GENERAL CONSTRUCTION | SHEET NO. C523

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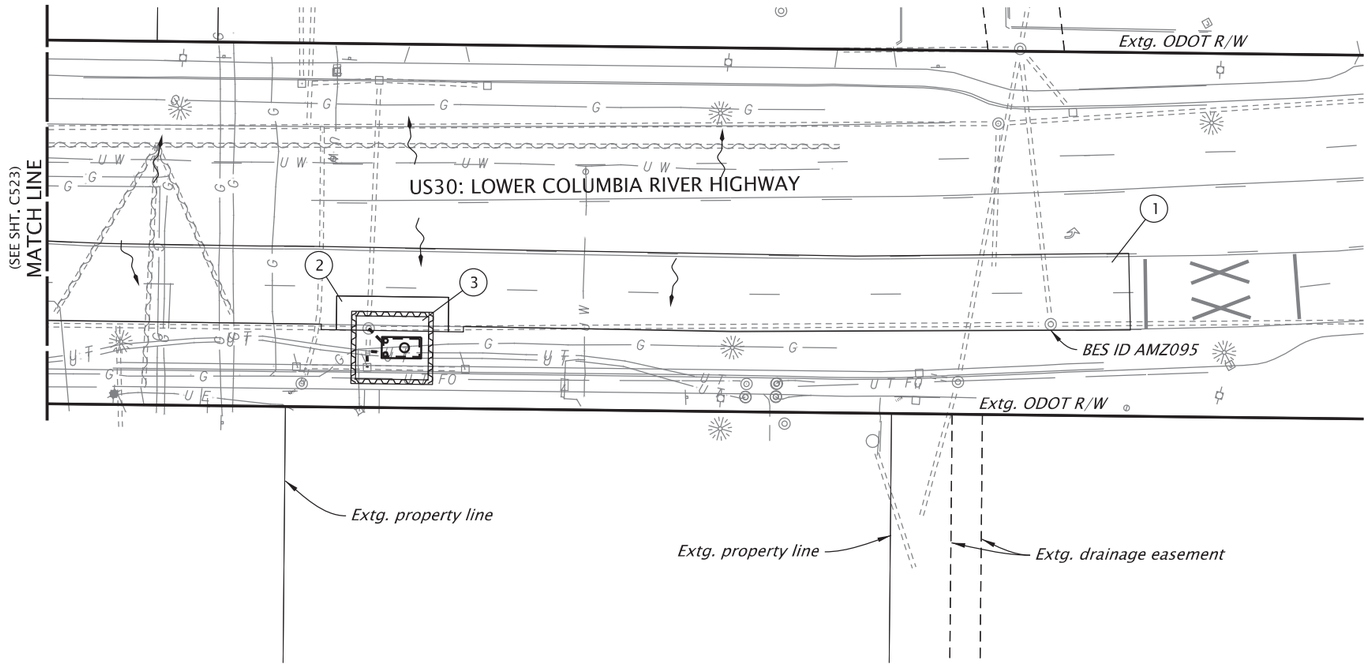
59V-002

Sec.20, T.1N, R.1E, W.M.

OF18-1 - US30 M.P. 3.46

CONSTRUCTION NOTES

1. *See sht. C522, Note 7*
   Const. 2 inch asph. conc. pvmt. repair
2. *See sht. C522, Note 6*
   Const. 5 inch asph. conc. pvmt. repair
3. *See sht. C522, Note 5*
   Const. 23 inch asph. conc. pvmt. repair



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Note:
1. *2" ACPR limits based on temporary traffic control shown on 'E' sheets. Limits shall be adjusted to nearest mid-lane or lane line. Where limits extend to lane lines, ACPR shall include and extend 2" past the pavement markings to adequately remove markings of approved traffic control.*

REGISTERED PROFESSIONAL ENGINEER
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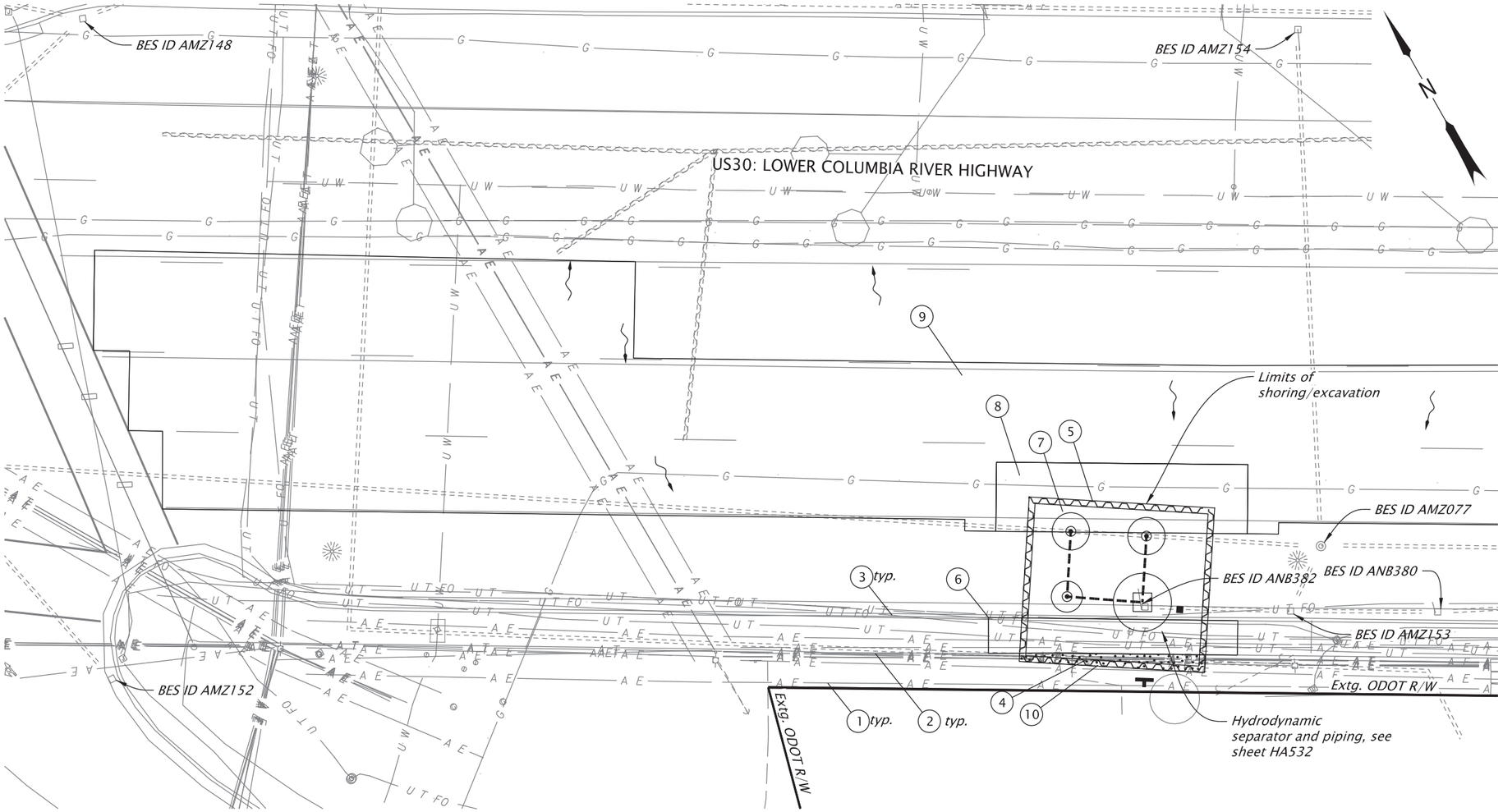
WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Alex Junge	Reviewer: Veronica Vong
Drafter: Grace Harrison	Checker: Veronica Vong

GENERAL CONSTRUCTION — SHEET NO. C524

Sec.19, T.1N, R.1E, W.M.

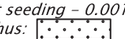
OF19-2 – US30 M.P. 3.88



20 10 0 20

FEET

CONSTRUCTION NOTES

1. *Adjust extg. aerial electrical lines (by others)*
2. *Adjust extg. aerial telecommunication lines and City signal interconnect (by others)*
3. *Relocate extg. underground fiber optic lines (by others)*
4. *Relocate extg. telecommunication guy wire anchor (by others)*
5. *Install temporary shoring*
6. *Remove walk – 25 SQYD*
   Const. monolithic curb, and sidewalk – 40 LF
   Setback – 0'
   (For details, see sht. BA07)
7. *Const. 23 inch asph. conc. pvmt. repair – 62 SQYD (For details, see sht. BA03 – US30 Travel Lane)*
8. *Const. 5 inch asph. conc, pvmt. repair – 49 SQYD (For details, see sht. BA03 – US30 Travel Lane)*
9. *Const. 2 inch asph. conc, pvmt. repair – 1273 SQYD (For details, see sht. BA03 – US30 Travel Lane)*
10. *Permanent seeding – 0.001 acres, shown thus:*  *(For details, see. sht. BA02 – Seeding)*

Notes:

1. *Contractor to verify overhead clearances prior to excavation.*
2. *Contractor to field verify site conditions prior to installation of shoring.*
3. *All features not designated for adjustment or removal are designated to remain. See subsections 00170.82 and 00310.02 of the standard specifications.*
4. *"BES" labels correspond to City of Portland Bureau of Environmental Services GIS ID numbers.*
5. *See sheets C533 and C534 for limits of 2" ACPR for temporary striping removal.*

REGISTERED PROFESSIONAL ENGINEER
93931PE
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OREGON
SEPT. 11, 2018
VERONICA B. VONG
RENEWS: 06-30-2026

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OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT

LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY

MULTNOMAH COUNTY

Designer: Alex Junge | Reviewer: Veronica Vong

Drafter: Grace Harrison | Checker: Veronica Vong

GENERAL CONSTRUCTION

SHEET NO. C532

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

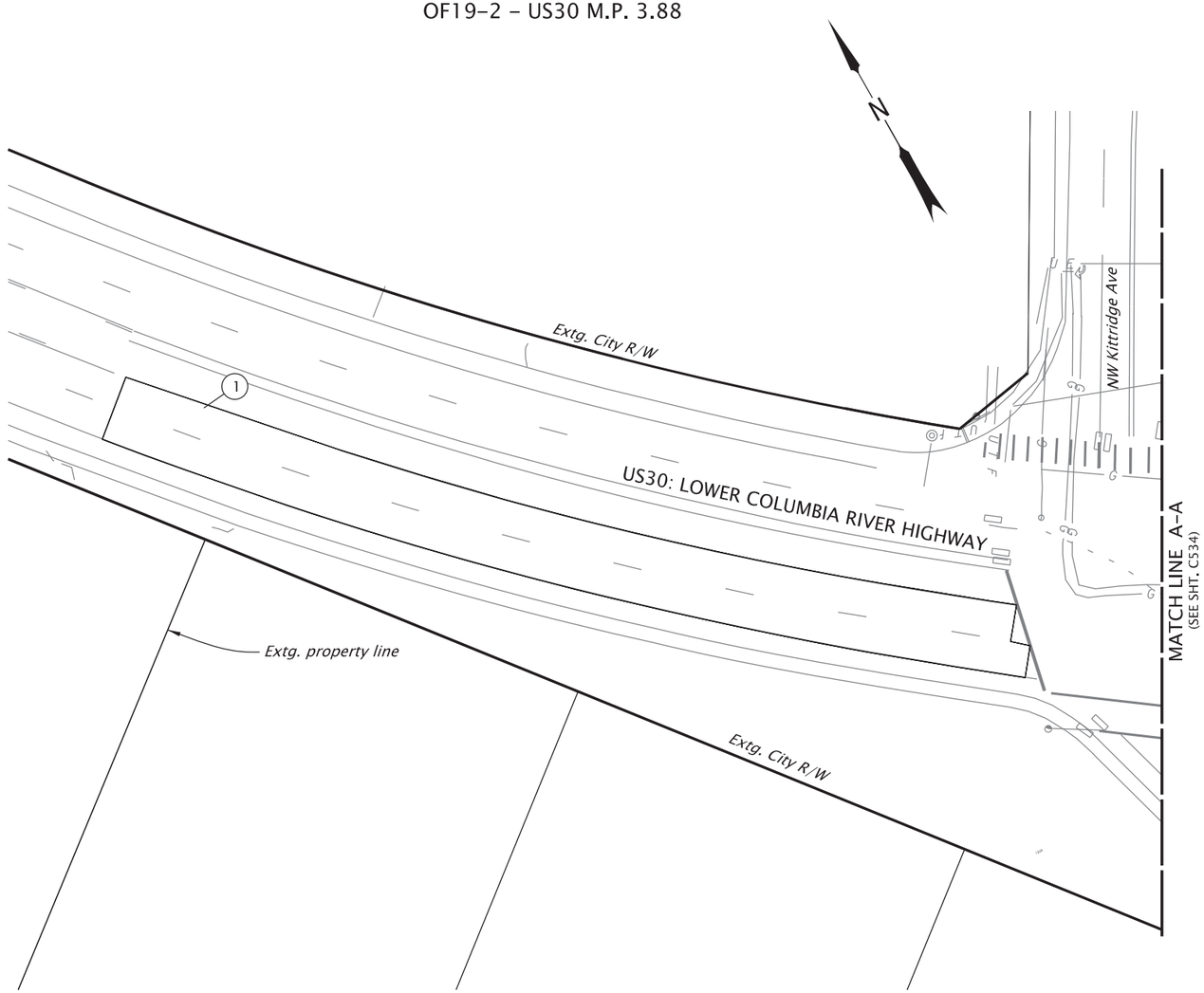
59V-002

Sec.19, T.1N, R.1E, W.M.

OF19-2 - US30 M.P. 3.88

CONSTRUCTION NOTES

(1) *Const. 2 inch asph. conc. pvmt. repair - 872 SQYD*
(For details, see sht. BA03 - US30 Travel Lane)



Note:

1. *2" ACPR limits based on temporary traffic control shown on 'E' sheets. Limits shall be adjusted to nearest mid-lane or lane line. Where limits extend to lane lines, ACPR shall include and extend 2" past the pavement markings to adequately remove markings of approved traffic control.*
2. *Induction loops impacted by construction activities are to be replaced in kind (by others). Coordinate with PBOT.*

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LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

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GENERAL CONSTRUCTION

SHEET NO. C533

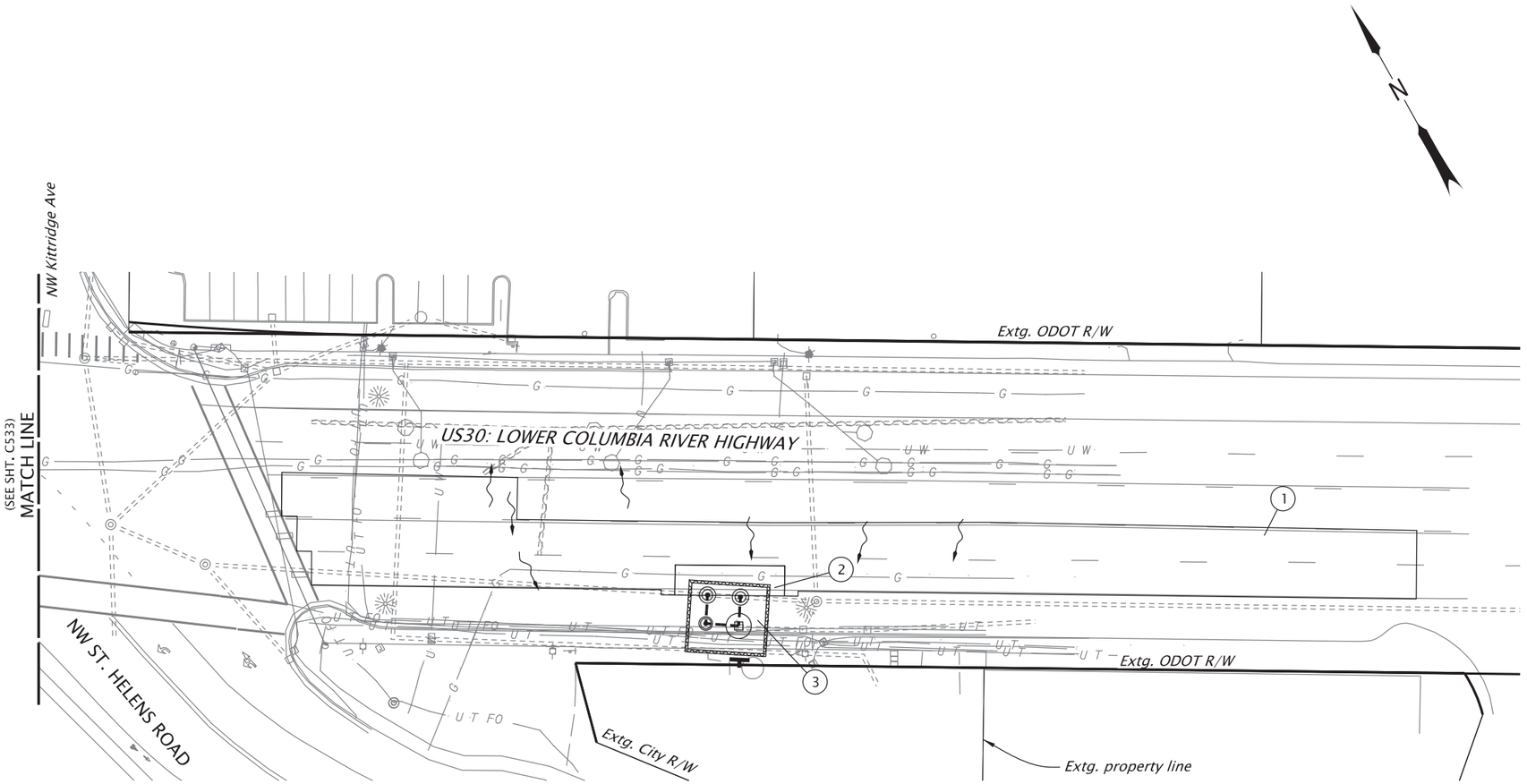
59V-002

Sec.19, T.1N, R.1E, W.M.

OF19-2 – US30 M.P. 3.88

CONSTRUCTION NOTES

1. *See sht. C532, Note 9*
   Const. 2 inch asph. conc. pvmt. repair.
2. *See sht. C532, Note 8*
   Const. 5 inch asph. conc. pvmt. repair.
3. *See sht. C532, Note 7*
   Const. 23 inch asph. conc. pvmt. repair.



Note:

1. *2" ACPR limits based on temporary traffic control shown on 'E' sheets. Limits shall be adjusted to nearest mid-lane or lane line. Where limits extend to lane lines, ACPR shall include and extend 2" past the pavement markings to adequately remove markings of approved traffic control.*
2. *Induction loops impacted by construction activities are to be replaced in kind (by others). Coordinate with PBOT.*

REGISTERED PROFESSIONAL ENGINEER
93931PE
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OREGON
SEPT. 11, 2018
VERONICA B. VONG
RENEWS: 06-30-2026

WSP USA Inc.
1300 SW 5th Ave
Suite 3100
Portland, OR 97201
Tel: 1 503 274 8772

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Alex Junge | Reviewer: Veronica Vong
Drafter: Grace Harrison | Checker: Veronica Vong

GENERAL CONSTRUCTION

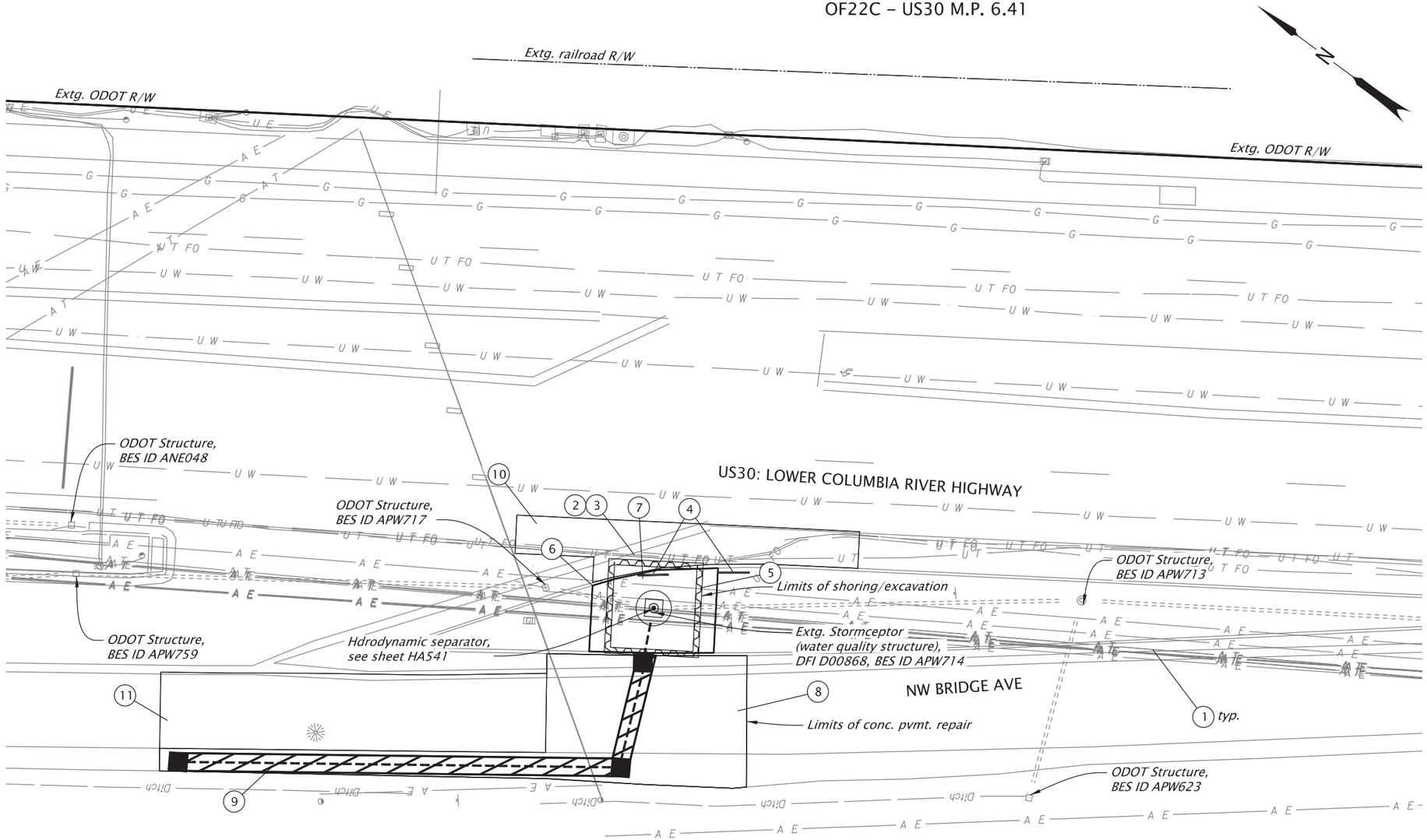
SHEET NO. C534

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

59V-002

Sec.12, T.1N, R.1W, W.M.

OF22C – US30 M.P. 6.41



CONSTRUCTION NOTES

1. *Adjust extg. aerial telecommunication lines (by others)*
2. *Relocate extg. underground concrete fiber optic ductbank (by others)*
3. *Relocate extg. underground fiber optic (See note 3)*
4. *Remove and reinstall sign – estimated location (For details, see sht. LA541)*
5. *Install temporary shoring*
6. *Remove conc. Island – 284 SF Const. conc. island, traffic separator, Type B – 284 SF (See dwg. no. RD706)*
7. *Const. 23 inch asph. conc. pvmt. repair – 29 SQYD (For details, see sht. BA03 – US30 Shoulder)*
8. *Const. conc. pvmt. repair – 72 SQYD (For details, see sht. BA04 –Bridge Ave)*
9. *Trench resurfacing – 32 SQYD shown thus:*
10. *Const. 2 inch asph. conc. pvmt. repair – 46 SQYD (For details, see sht. BA03 – US30 Travel Lane)*
11. *Const. 2 inch asph. conc. pvmt. repair – 125 SQYD (For details, see sht. BA02 – Bridge Ave)*

Notes:

1. *Contractor to verify overhead clearances prior to excavation.*
2. *Contractor to field verify site conditions prior to installation of shoring.*
3. *Adjust Concrete Encased UT FO Conduit outside of shoring limits as needed. See Section 00150.50(g)(3) Utility Information (Anticipated Relocations) for additional information.*
4. *All features not designated for adjustment or removal are designated to remain. See subsections 00170.82 and 00310.02 of the standard specifications.*
5. *"BES" labels correspond to City of Portland Bureau of Environmental Services GIS ID numbers.*
6. *See sheet HA541 for drainage details.*
7. *Contractor to restore site to original elevations and slopes unless otherwise noted.*

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OREGON
SEPT. 11, 2018
VERONICA B. VONG
RENEWS: 06-30-2026

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Portland, OR 97201
Tel: 1 503 274 8772

OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Alex Junge	Reviewer: Veronica Vong
Drafter: Grace Harrison	Checker: Veronica Vong

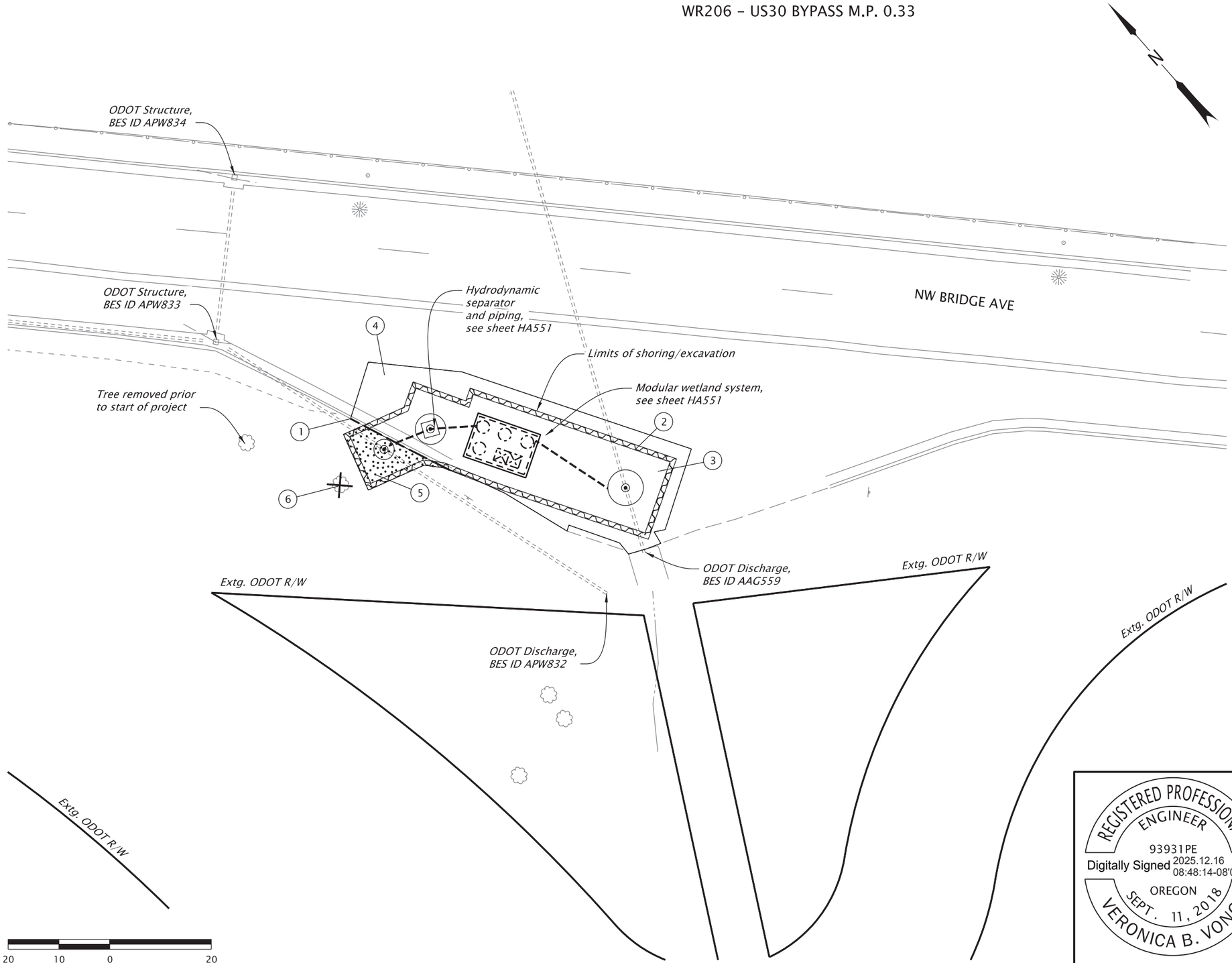
GENERAL CONSTRUCTION

SHEET NO. C541

59V-002

Sec.11, T.1N, R.1W, W.M.

WR206 - US30 BYPASS M.P. 0.33



CONSTRUCTION NOTES

1. *N: 193549.30, E: 323926.95*
   Remove curb - 22 LF
   Const. concrete curb, standard curb - 22 LF
   E = 7", match extg. H
   (See dwg. no RD700)
2. *Install temporary shoring*
3. *Const. 17 inch asph. conc. pvmt. repair - 86 SQYD*
   (For details, see sht. BA02 - Parking)
4. *Const. 2 inch asph. conc. pvmt. repair - 55 SQYD*
   (For details, see sht. BA02 - Parking)
5. *Permanent seeding - 0.003 acres, shown thus:* [dotted]
   (For details, see sht. BA02 - Seeding)
6. *Remove tree - 1*

Notes:

1. *Contractor to verify overhead clearances prior to excavation.*
2. *Contractor to field verify site conditions prior to installation of shoring.*
3. *All features not designated for adjustment or removal are designated to remain. See subsections 00170.82 and 00310.02 of the standard specifications.*
4. *"BES" labels correspond to City of Portland Bureau of Environmental Services GIS ID numbers.*
5. *See sheet HA551 for drainage details.*
6. *Contractor to restore site to original elevations and slopes unless otherwise noted.*

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OREGON
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WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

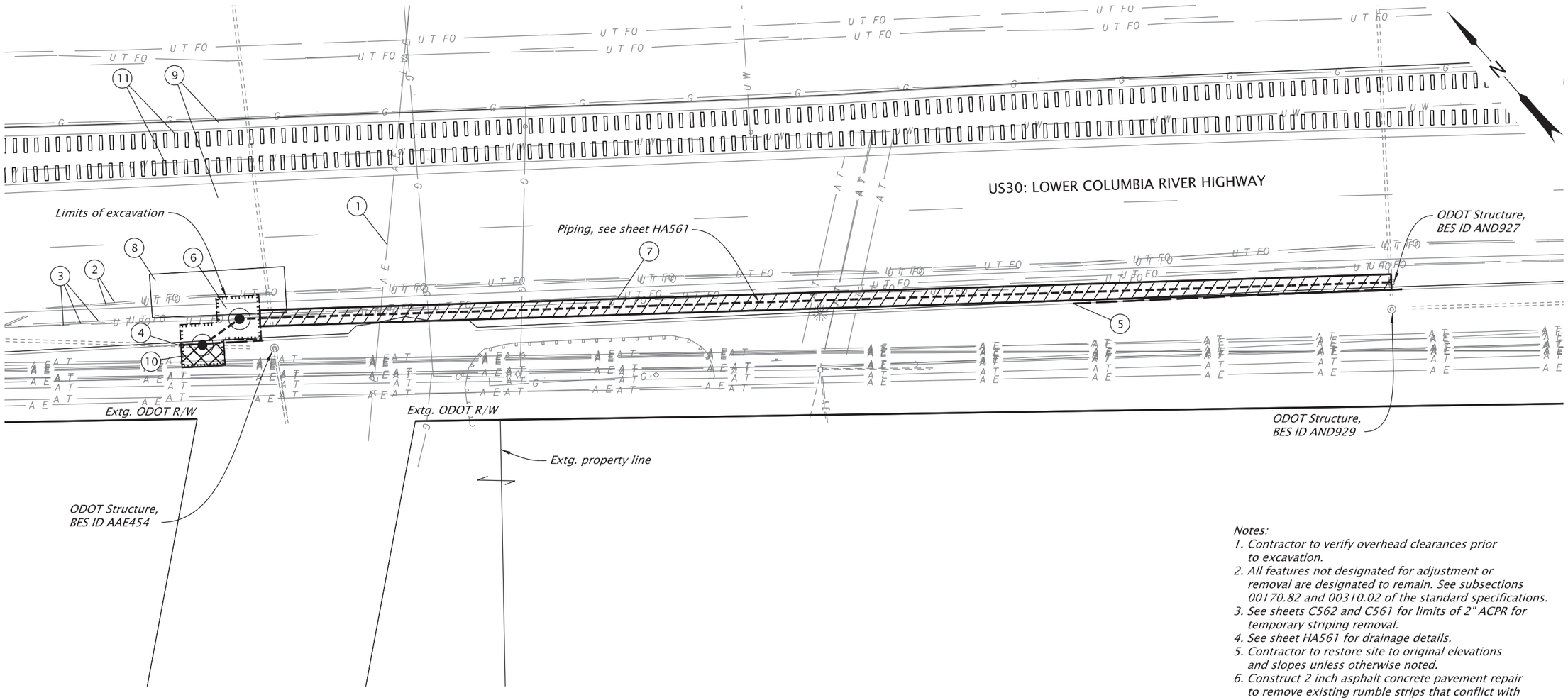
Designer: Alex Junge
Drafter: Grace Harrison
Reviewer: Veronica Vong
Checker: Veronica Vong

GENERAL CONSTRUCTION

SHEET NO. C551

Sec.11, T.1N, R.1W, W.M.

WR208/WR211 – US30 M.P. 7.03



CONSTRUCTION NOTES

1. *Adjust extg. aerial city signal/lighting lines (by others)*
2. *Relocate extg. underground fiber optic lines (by others)*
3. *Relocate extg. underground concrete fiber optic ductbank and City ITS (by others)*
4. *N: 195009.61, E: 322901.06*
   Remove curb – 16 LF
   Const. concrete curb, standard curb – 16 LF
   E=7", match extg. H
   (see dwg. no RD700)
5. *N: 194905.94, E: 323031.24*
   Remove curb – 61 LF
   Const. concrete curb, standard curb – 61 LF
   E=7", match extg. H
   (see dwg. no RD700)
6. *Const. 23 inch asph. conc. pvmt. repair – 10 SQYD (For details, see sht. BA03 – US30 Travel Lane)*
7. *Trench resurfacing – 70 SQYD shown thus:*
8. *Const. 5 inch asph. conc. pvmt. repair – 23 SQYD (For details, see sht. BA03 – Travel Lane)*
9. *Const. 2 inch asph. conc. pvmt. repair – 3590 SQYD (For details, see sht. BA03 – Travel Lane)*
10. *Compacted gravel – 34 SF match extg. depth shown thus:*
11. *Const. continuous rumble strip with bi-directional yellow type IAR recessed markers – 1400 LF (For details, see sht. BA09)*

20 10 0 20
FEET

Notes:

1. *Contractor to verify overhead clearances prior to excavation.*
2. *All features not designated for adjustment or removal are designated to remain. See subsections 00170.82 and 00310.02 of the standard specifications.*
3. *See sheets C562 and C561 for limits of 2" ACPR for temporary striping removal.*
4. *See sheet HA561 for drainage details.*
5. *Contractor to restore site to original elevations and slopes unless otherwise noted.*
6. *Construct 2 inch asphalt concrete pavement repair to remove existing rumble strips that conflict with limits of approved traffic control. Repair limits not shown for clarity. Construct repair before opening to traffic. See sheet BA02 for 2 inch ACPR detail.*

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93931PE
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OREGON
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VERONICA B. VONG
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OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Alex Junge
Drafter: Grace Harrison
Reviewer: Veronica Vong
Checker: Veronica Vong

GENERAL CONSTRUCTION

SHEET NO. C561

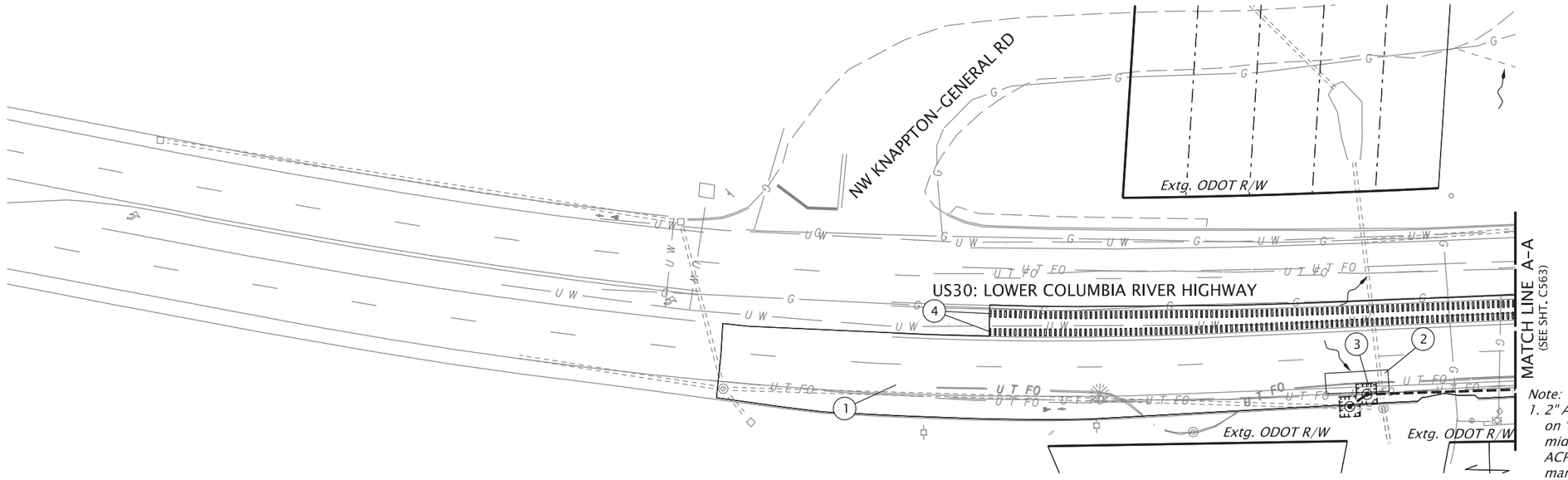
59V-002

Sec.11, T.1N, R.1W, W.M.

WR208/WR211 - US30 M.P. 7.03

CONSTRUCTION NOTES

1. *See sht. C561, Note 9*
   Const. 2 inch asph. conc. pvmt. repair
2. *See sht. C561, Note 8*
   Const. 5 inch asph. conc. pvmt. repair
3. *See sht. C561, Note 6*
   Const. 23 inch asph. conc. pvmt. repair
4. *See sht. C561, Note 11*
   Const. continuous rumble strip with bi-directional yellow type IAR recessed markers



Note:

1. *2" ACPR limits based on temporary traffic control shown on 'E' sheets. Limits shall be adjusted to nearest mid-lane or lane line. Where limits extend to lane lines, ACPR shall include and extend 2" past the pavement markings to adequately remove markings of approved traffic control.*
2. *Construct 2 inch asphalt concrete pavement repair to remove existing rumble strips that conflict with limits of approved traffic control. Repair limits not shown for clarity. Construct repair before opening to traffic. See sheet BA02 for 2 inch ACPR detail.*

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93931PE
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OREGON
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RENEWS: 06-30-2026

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OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Alex Junge
Reviewer: Veronica Vong
Drafter: Grace Harrison
Checker: Veronica Vong

GENERAL CONSTRUCTION

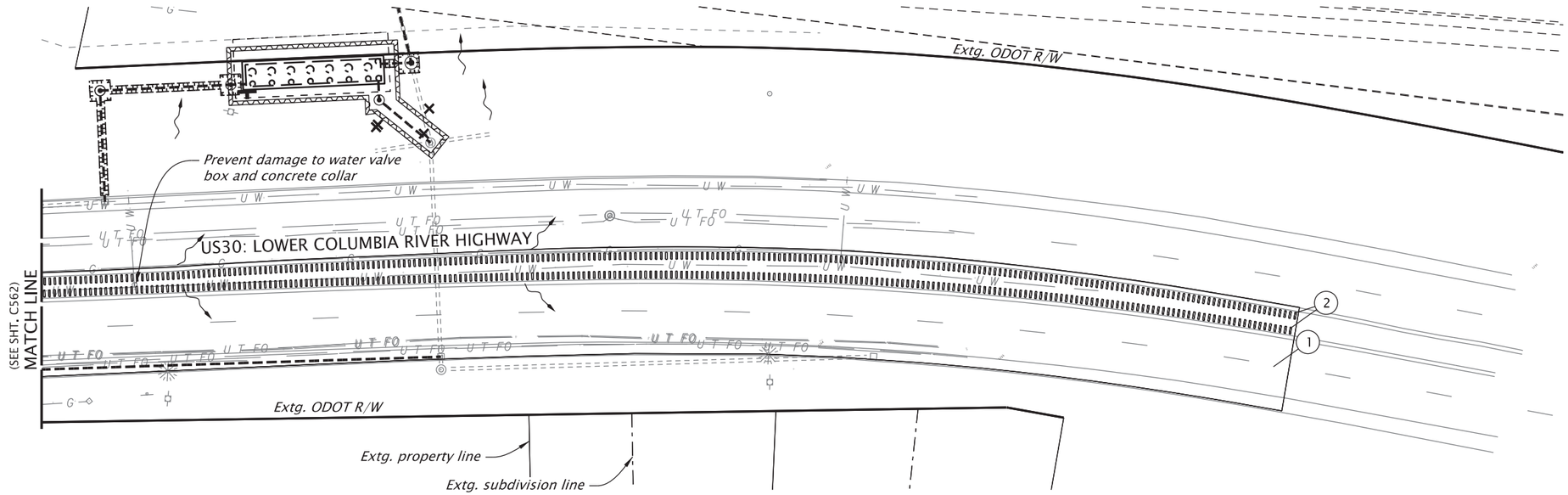
SHEET NO. C562

59V-002

Sec.11, T.1N, R.1W, W.M.
WR208/WR211 – US30 M.P. 7.03

CONSTRUCTION NOTES

1. *See sht. C561, Note 9*
   Const. 2 inch asph. conc. pvmt. repair
2. *See sht. C561, Note 11*
   Const. continuous rumble strip with bi-directional yellow type IAR recessed markers



Note:
1. *2" ACPR limits based on temporary traffic control shown on 'E' sheets. Limits shall be adjusted to nearest mid-lane or lane line. Where limits extend to lane lines, ACPR shall include and extend 2" past the pavement markings to adequately remove markings of approved traffic control.*
2. *Construct 2 inch asphalt concrete pavement repair to remove existing rumble strips that conflict with limits of approved traffic control. Repair limits not shown for clarity. Construct repair before opening to traffic. See sheet BA02 for 2 inch ACPR detail.*

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93931PE
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OREGON
SEPT. 11, 2018
VERONICA B. VONG
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WSP USA Inc.
1300 SW 5th Ave
Suite 3100
Portland, OR 97201
Tel: 1 503 274 8772

OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Alex Junge | Reviewer: Veronica Vong
Drafter: Grace Harrison | Checker: Veronica Vong

GENERAL CONSTRUCTION

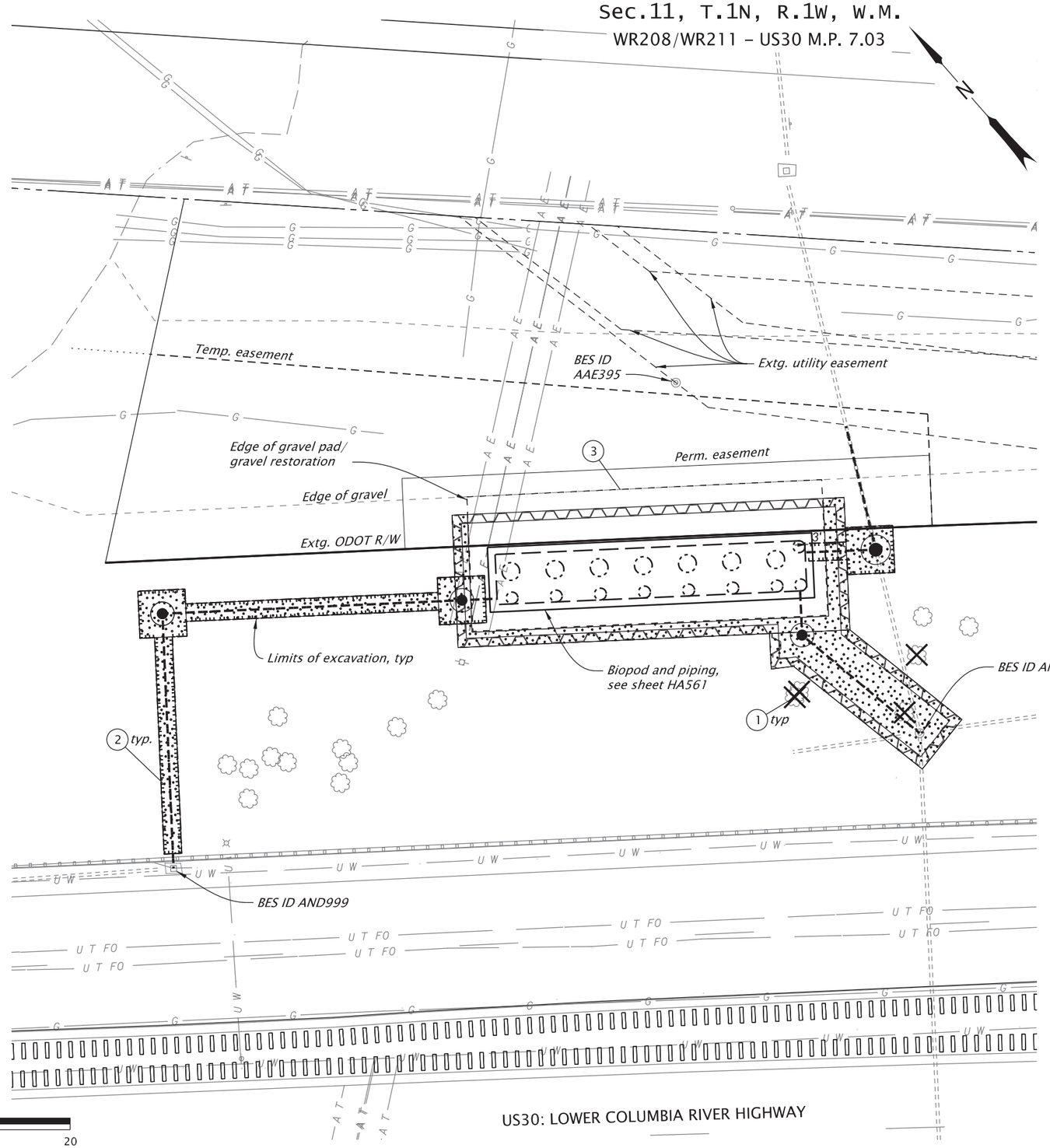
SHEET NO. C563

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

59V-002

Sec.11, T.1N, R.1W, W.M.

WR208/WR211 – US30 M.P. 7.03



CONSTRUCTION NOTES

1. *Remove tree – 4*
2. *Permanent seeding – 0.023 acres, shown thus: [. . . .]*
   (For details, see sht. BA02 – Seeding)
3. *Construct gravel access pad – 1385 SQFT Aggregate base nom. comp. thkn. – 6"*
   (For details, see sht. BA03 – Access Pad)

Notes:

1. *Contractor to verify overhead clearances prior to excavation.*
2. *All features not designated for adjustment or removal are designated to remain. See subsections 00170.82 and 00310.02 of the standard specifications.*
3. *"BES" labels correspond to City of Portland Bureau of Environmental Services GIS ID numbers.*
4. *See sheet HA571 for drainage details.*
5. *Contractor to restore site to original elevations and slopes unless otherwise noted.*

REGISTERED PROFESSIONAL ENGINEER
93931PE
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OREGON
SEPT. 11, 2018
VERONICA B. VONG
RENEWS: 06-30-2026

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Suite 3100
Portland, OR 97201
Tel: 1 503 274 8772

OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Alex Junge
Drafter: Grace Harrison
Reviewer: Veronica Vong
Checker: Veronica Vong

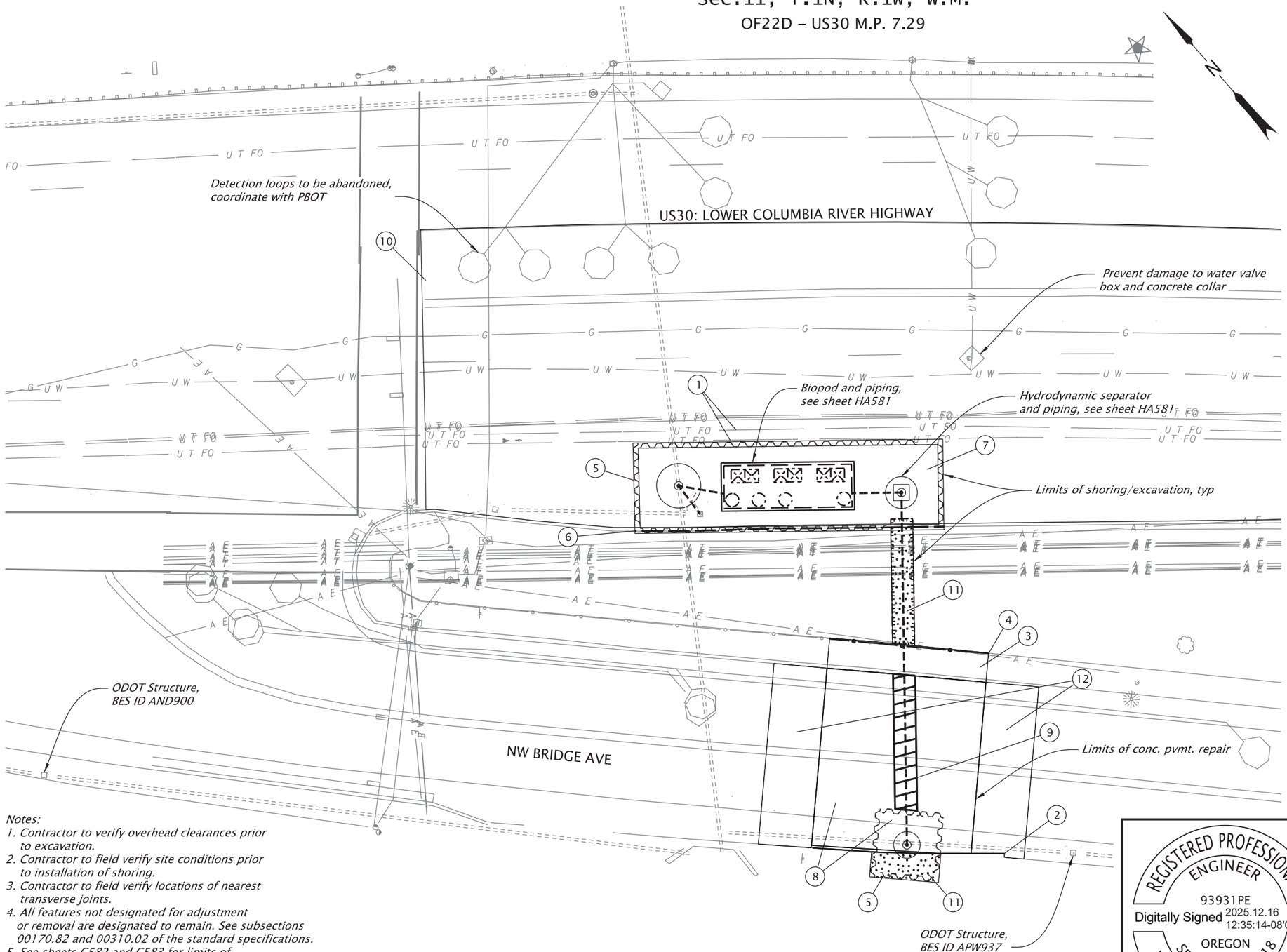
GENERAL CONSTRUCTION

SHEET NO.
C571

59V-002

Sec.11, T.1N, R.1W, W.M.

OF22D – US30 M.P. 7.29



CONSTRUCTION NOTES

1. *Relocate extg. underground concrete fiber optic ductbank (by others)*
2. *Remove and reinstall extg. conc. barrier – 36 LF*
3. *Remove walk – 17 SQYD*
   Const. monolithic curb, and sidewalk – 30 LF
   Setback – 0'
   (For details, see sht. BA07)
4. *Remove pedestrian fencing – 30 LF*
   Install pedestrian fencing in kind – 30 LF
   See dwg. nos. RD770 and RD771
5. *Install temporary shoring*
6. *N: 195899.67, E: 322065.62*
   Remove curb – 59 LF
   Const. concrete curb, standard curb – 59 LF
   E=7", match extg. H
7. *Const. 23 inch asph. conc. pvmt. repair – 107 SQYD*
   (For details, see sht. BA03 – US30 Travel Lane)
8. *Const. conc. pvmt. repair – 100 SQYD*
   (For details, see sht. BA04 – Bridge Ave)
9. *Trench resurfacing – 12 CUYD*
   shown thus:
10. *Const. 2 inch asph. conc. pvmt. repair – 2161 SQYD*
    (For details, see sht. BA03 – US30 Travel Lane)
11. *Const. 2 inch asph. conc. pvmt. repair – 74 SQYD*
    (For details, see sht. BA02 – Bridge Ave)
12. *Permanent seeding – 0.004 acres (total),*
    shown thus:
    (For details, see sht. BA02 – Seeding)

Notes:

1. *Contractor to verify overhead clearances prior to excavation.*
2. *Contractor to field verify site conditions prior to installation of shoring.*
3. *Contractor to field verify locations of nearest transverse joints.*
4. *All features not designated for adjustment or removal are designated to remain. See subsections 00170.82 and 00310.02 of the standard specifications.*
5. *See sheets C582 and C583 for limits of 2" ACPR for temporary striping removal.*
6. *See sheet HA581 for drainage details.*
7. *Contractor to restore site to original elevations and slopes unless otherwise noted.*

20 10 0 20
FEET

REGISTERED PROFESSIONAL ENGINEER
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OREGON
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OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Alex Junge | Reviewer: Veronica Vong
Drafter: Grace Harrison | Checker: Veronica Vong

GENERAL CONSTRUCTION

SHEET NO. C581

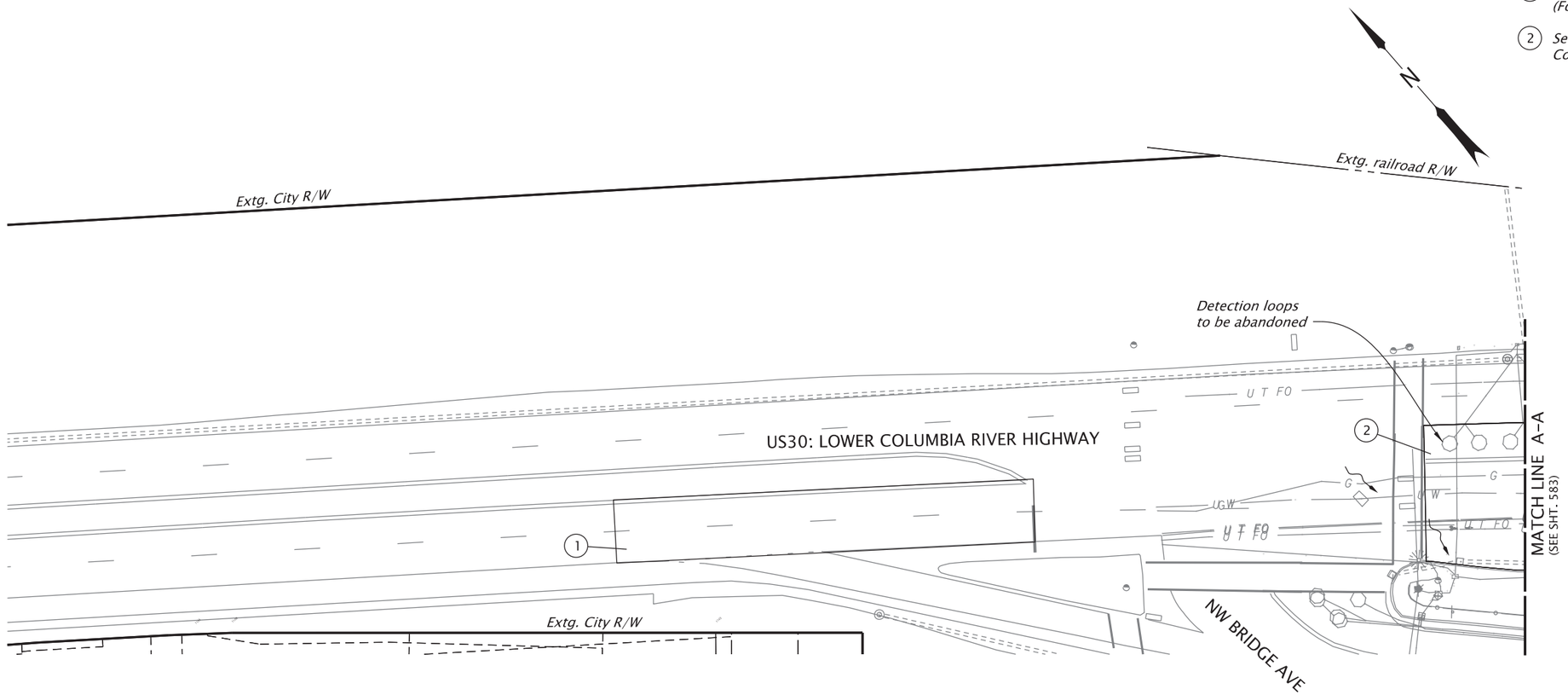
59V-002

Sec.11, T.1N, R.1W, W.M.

OF22D – US30 M.P. 7.29

CONSTRUCTION NOTES

1. *Const. 2 inch asph. conc. pvmt. repair – 443 SQYD (For details, see sht. BA03 – US30 Travel Lane)*
2. *See sht. C581, Note 10 Const. 2 inch asph. conc. pvmt. repair*



Note:

1. *2" ACPR limits based on temporary traffic control shown on 'E' sheets. Limits shall be adjusted to nearest mid-lane or lane line. Where limits extend to lane lines, ACPR shall include and extend 2" past the pavement markings to adequately remove markings of approved traffic control.*
2. *Induction loops impacted by construction activities are to be abandoned.*

50 25 0 50
FEET

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OREGON
SEPT. 11, 2018
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WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Alex Junge | Reviewer: Veronica Vong
Drafter: Grace Harrison | Checker: Veronica Vong

GENERAL CONSTRUCTION

SHEET NO. C582

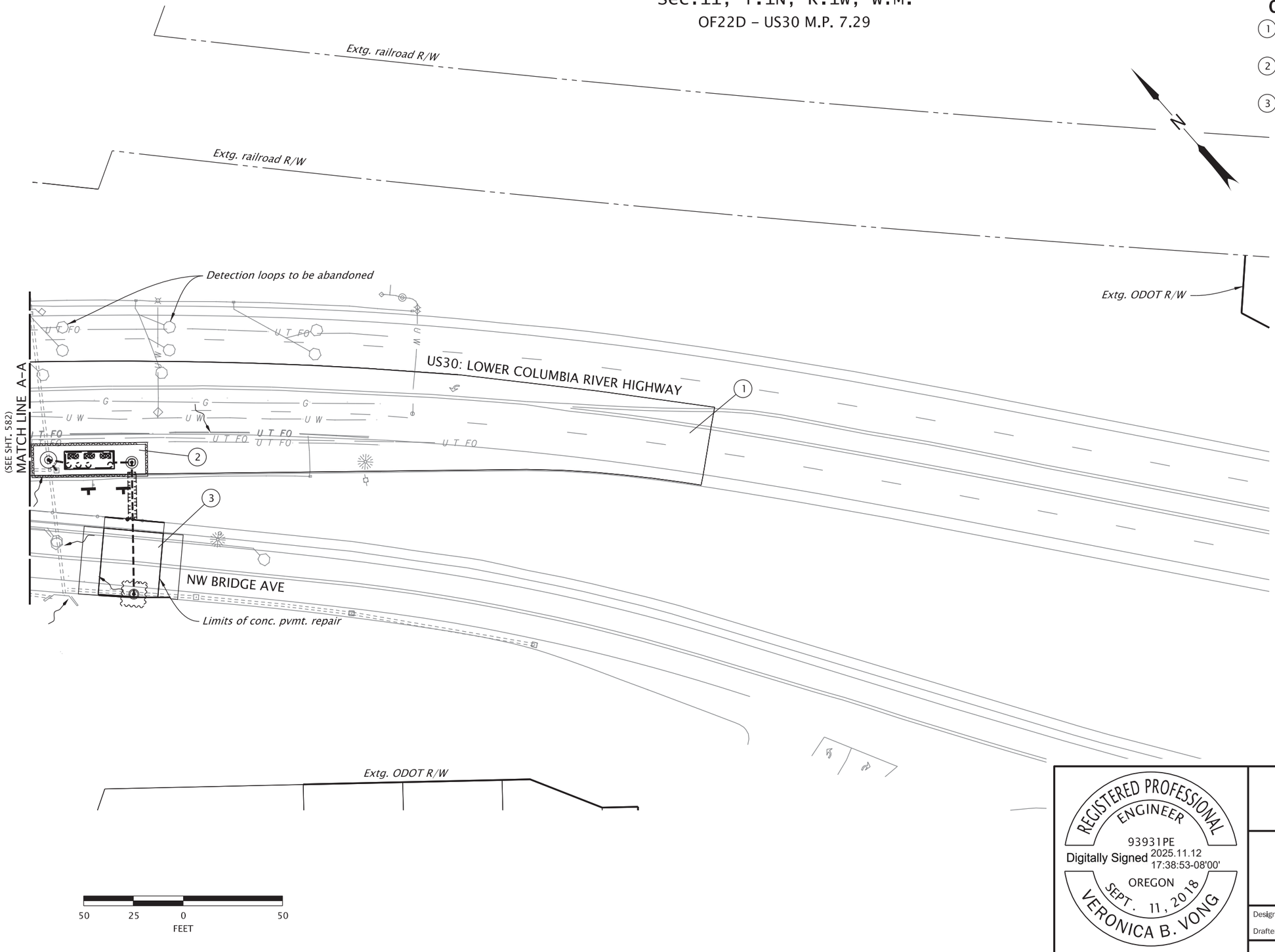
FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

59V-002

Sec.11, T.1N, R.1W, W.M.
OF22D – US30 M.P. 7.29

CONSTRUCTION NOTES

1. *See sht. C581, Note 10*
   Const. 2 inch asph. conc. pvmt. repair
2. *See sht. C581, Note 7*
   Const. 23 inch asph. conc. pvmt. repair
3. *See sht. C581, Note 8*
   Const. conc. pvmt. repair



Note:
1. *2" ACPR limits based on temporary traffic control shown on 'E' sheets. Limits shall be adjusted to nearest mid-lane or lane line. Where limits extend to lane lines, ACPR shall include and extend 2" past the pavement markings to adequately remove markings of approved traffic control.*
2. *Induction loops impacted by construction activities are to be abandoned.*

REGISTERED PROFESSIONAL ENGINEER
93931PE
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OREGON
SEPT. 11, 2018
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WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

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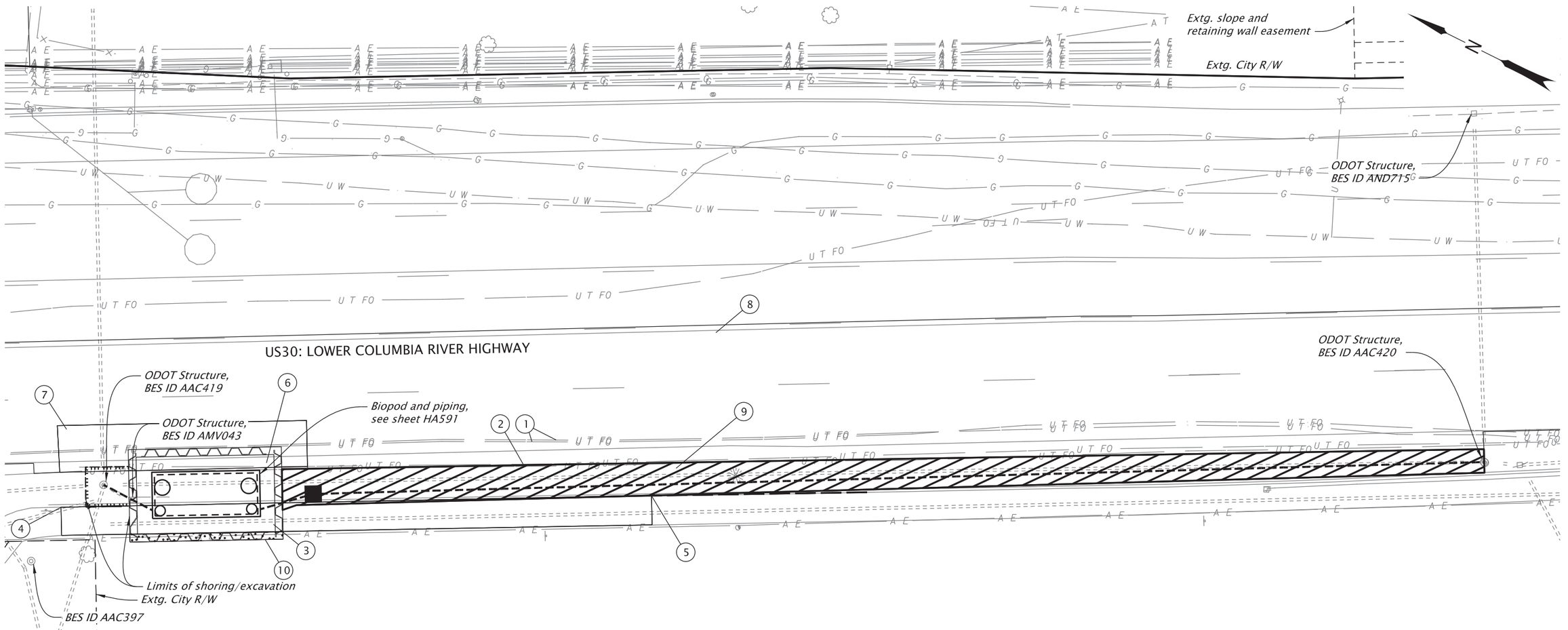
GENERAL CONSTRUCTION

SHEET NO. C583

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

Sec.2, T.1N, R.1W, W.M.

WR126 - US30 M.P. 8.26



CONSTRUCTION NOTES

1. *Relocate extg. underground fiber optic lines (by others)*
2. *Relocate extg. underground concrete fiber optic ductbank (By others)*
3. *Install temporary shoring*
4. *Remove walk - 72 SQYD*
   Const. monolithic sidewalk and curb - 115 LF
   Setback - 0'
   (See dwg. no RD720)
5. *N: 199847.15, E: 318972.36*
   Remove curb - 43 LF
   Const. concrete curb, standard curb - 43 LF
   E=7", match extg. H
   (See dwg. no RD700)
6. *Const. 23 inch asph. conc. pvmt. repair - 62 SQYD*
   (For details, see sht. BA03 - US30 Travel Lane)
7. *Const. 5 inch asph. conc. pvmt. repair - 49 SQYD*
   (For details, see sht. BA03 - US30 Travel Lane)
8. *Const. 2 inch asph. conc. pvmt. repair - 1464 SQYD*
   (For details, see sht. BA03 - US30 Travel Lane)
9. *Trench resurfacing - 154 SQYD shown thus:*
10. *Permanent seeding - 0.001 acres, shown thus:*
    (For details, see sht. BA02 - Seeding)

20 10 0 20
FEET

Notes:

1. *Contractor to verify overhead clearances prior to excavation.*
2. *Contractor to field verify site conditions prior to installation of shoring.*
3. *All features not designated for adjustment or removal are designated to remain. See subsections 00170.82 and 00310.02 of the standard specifications.*
4. *"BES" labels correspond to City of Portland Bureau of Environmental Services GIS ID numbers.*
5. *See sheet C592 for limits of 2" ACPR for temporary striping removal.*
6. *See sheet HA592 for drainage details.*
7. *Contractor to restore site to original elevations and slopes unless otherwise noted.*

REGISTERED PROFESSIONAL ENGINEER
93931PE
Digitally Signed 2025.11.12 17:36:15-08'00'
OREGON
SEPT. 11, 2018
VERONICA B. VONG
RENEWS: 06-30-2026

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

WSP USA Inc.
1300 SW 5th Ave
Suite 3100
Portland, OR 97201
Tel: 1 503 274 8772

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Alex Junge | Reviewer: Veronica Vong
Drafter: Grace Harrison | Checker: Veronica Vong

GENERAL CONSTRUCTION

SHEET NO. C591

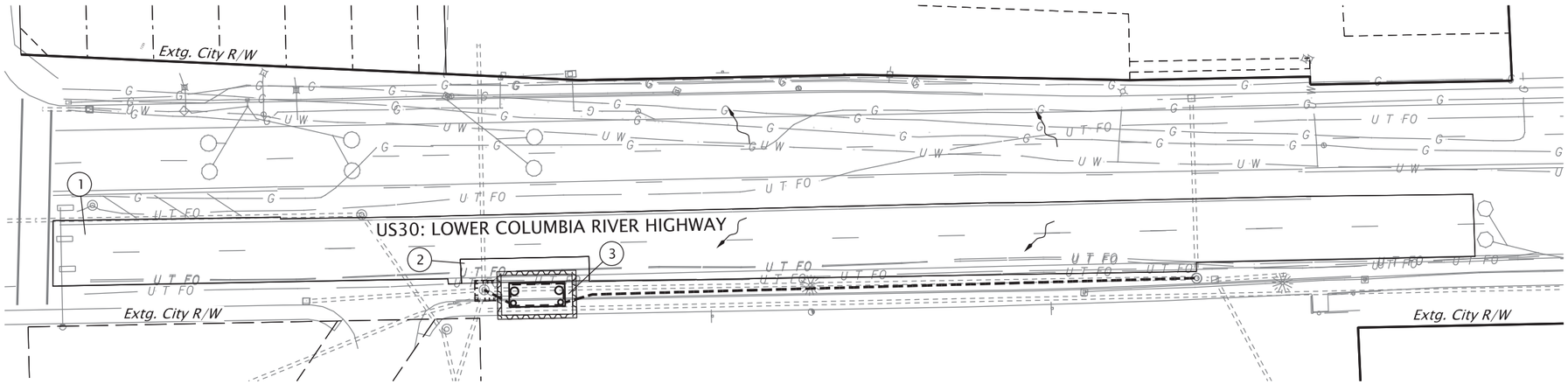
59V-002

Sec.2, T.1N, R.1W, W.M.

WR126 - US30 M.P. 8.26

CONSTRUCTION NOTES

1. *See sht. C591, Note 8*
   Const. 2 inch asph. conc. pvmt. repair
2. *See sht. C591, Note 7*
   Const. 5 inch asph. conc. pvmt. repair
3. *See sht. C591, Note 6*
   Const. 23 inch asph. conc. pvmt. repair



Note:

1. *2" ACPR limits based on temporary traffic control shown on 'E' sheets. Limits shall be adjusted to nearest mid-lane or lane line. Where limits extend to lane lines, ACPR shall include and extend 2" past the pavement markings to adequately remove markings of approved traffic control.*

REGISTERED PROFESSIONAL ENGINEER
93931PE
Digitally Signed 2025.11.12 17:35:34-08'00'
OREGON
SEPT. 11, 2018
VERONICA B. VONG
RENEWS: 06-30-2026

WSP USA Inc.
1300 SW 5th Ave
Suite 3100
Portland, OR 97201
Tel: 1 503 274 8772

OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

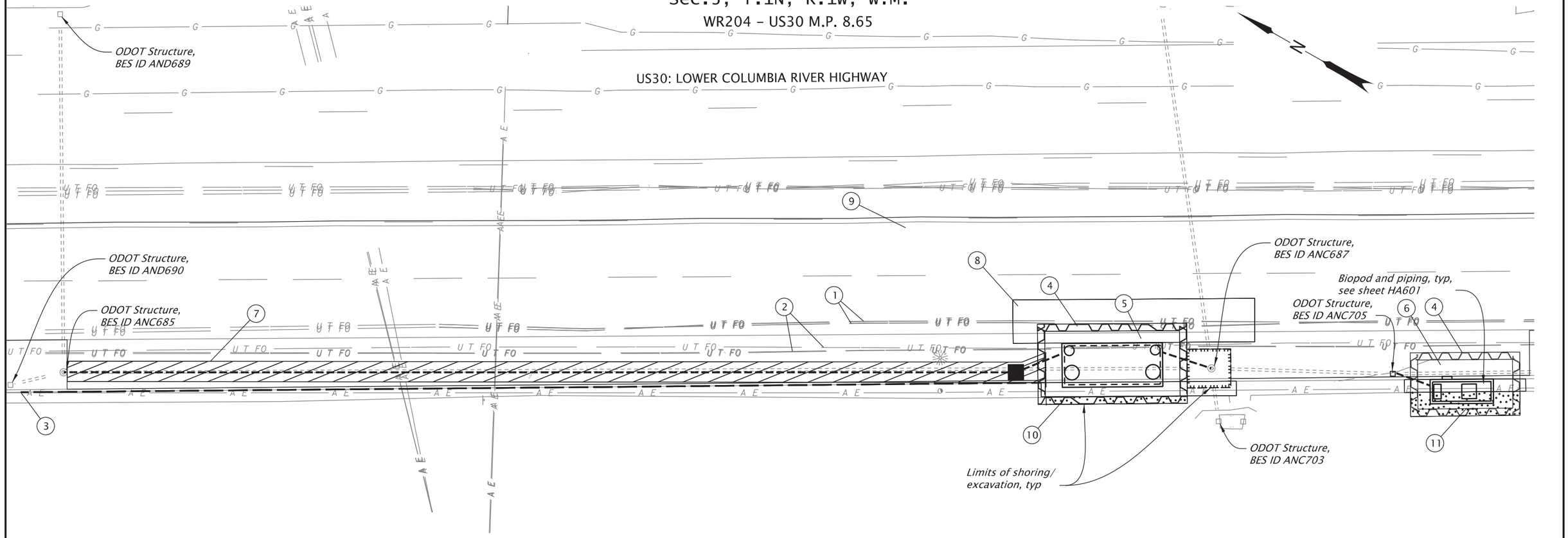
Designer: Alex Junge	Reviewer: Veronica Vong
Drafter: Grace Harrison	Checker: Veronica Vong

GENERAL CONSTRUCTION — SHEET NO. C592

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

Sec.3, T.1N, R.1W, W.M.

WR204 - US30 M.P. 8.65



CONSTRUCTION NOTES

1. *Relocate extg. underground fiber optic lines (by others)*
2. *Relocate extg. underground concrete fiber optic ductbank (by others)*
3. *N: 201851.02, E: 317938.16*
   Remove curb - 210 LF
   Const. concrete curb, standard curb - 210 LF
   E=7", match extg. H
4. *Install temporary shoring*
5. *Const. 23 inch asph. conc. pvmt. repair - 47 SQYD (For details, see sht. BA03 - US30 Travel Lane)*
6. *Const. 23 inch asph. conc. pvmt. repair - 13 SQYD (For details, see sht. BA03 - US30 Travel Lane)*
7. *Trench resurfacing - 94 SQYD shown thus:*
8. *Const. 5 inch asph. conc. pvmt. repair - 50 SQYD (For details, see sht. BA03 - US30 Travel Lane)*
9. *Const. 2 inch asph. conc. pvmt. repair - 2456 SQYD (For details, see sht. BA03 - US30 Travel Lane)*
10. *Permanent seeding - 0.001 acres, shown thus: (For details, see sht. BA02 - Seeding)*
11. *Permanent seeding - 0.003 acres, shown thus: (For details, see sht. BA02 - Seeding)*

20 10 0 20
FEET

Notes:

1. *Contractor to verify overhead clearances prior to excavation.*
2. *Contractor to field verify site conditions prior to installation of shoring.*
3. *All features not designated for adjustment or removal are designated to remain. See subsections 00170.82 and 00310.02 of the standard specifications.*
4. *See sheets C602 and C603 for limits of 2" ACPR for temporary striping removal.*
5. *See sheet HA601 for drainage details.*
6. *Contractor to restore site to original elevations and slopes unless otherwise noted.*

REGISTERED PROFESSIONAL ENGINEER
93931PE
Digitally Signed 2025.11.12 17:35:53-08'00'
OREGON
SEPT. 11, 2018
VERONICA B. VONG
RENEWS: 06-30-2026

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

WSP USA Inc.
1300 SW 5th Ave
Suite 3100
Portland, OR 97201
Tel: 1 503 274 8772

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Alex Junge
Drafter: Grace Harrison
Reviewer: Veronica Vong
Checker: Veronica Vong

GENERAL CONSTRUCTION

SHEET NO. C601

Sec.3, T.1N, R.1W, W.M.
WR204 - US30 M.P. 8.65

CONSTRUCTION NOTES

1. *See sht. C601, Note 9*
   Const. 2 inch asph. conc. pvmt. repair
2. *See sht. C601, Note 8*
   Const. 5 inch asph. conc. pvmt. repair
3. *See sht. C601, Note 5*
   Const. 23 inch asph. conc. pvmt. repair

Note:
1. *2" ACPR limits based on temporary traffic control shown on 'E' sheets. Limits shall be adjusted to nearest mid-lane or lane line. Where limits extend to lane lines, ACPR shall include and extend 2" past the pavement markings to adequately remove markings of approved traffic control.*

REGISTERED PROFESSIONAL ENGINEER
93931PE
Digitally Signed 2025.11.12 17:34:51-08'00'
OREGON
SEPT. 11, 2018
VERONICA B. VONG
RENEWS: 06-30-2026

WSP USA Inc.
1300 SW 5th Ave
Suite 3100
Portland, OR 97201
Tel: 1 503 274 8772

OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Alex Junge
Drafter: Grace Harrison
Reviewer: Veronica Vong
Checker: Veronica Vong

GENERAL CONSTRUCTION

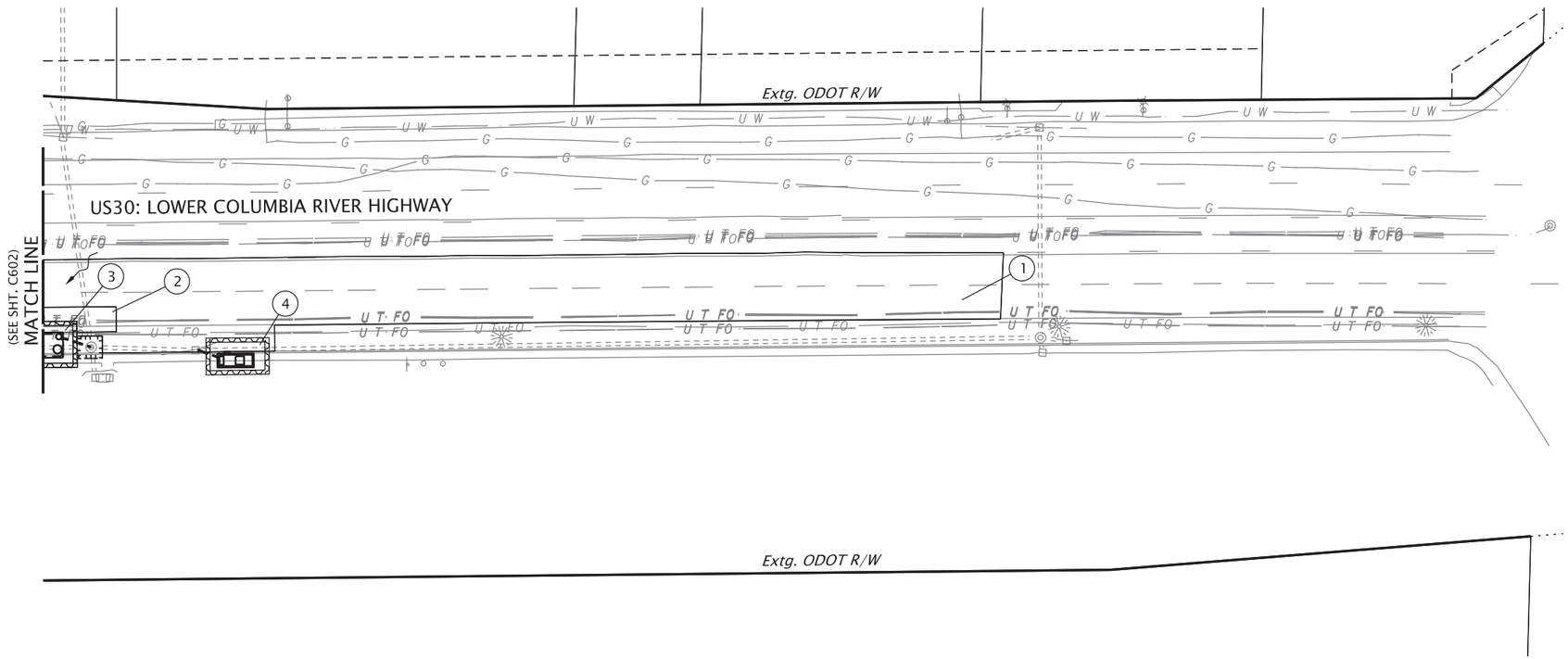
SHEET NO. C602

FINAL ELECTRONIC DOCUMENT
AVAILABLE UPON REQUEST

Sec.3, T.1N, R.1W, W.M.
WR204 - US30 M.P. 8.65

CONSTRUCTION NOTES

1. *See sht. C601, Note 9*
   Const. 2 inch asph. conc. pvmt. repair
2. *See sht. C601, Note 8*
   Const. 5 inch asph. conc. pvmt. repair
3. *See sht. C601, Note 5*
   Const. 23 inch asph. conc. pvmt. repair
4. *See sht. C601, Note 6*
   Const. 23 inch asph. conc. pvmt. repair



Note:
1. *2" ACPR limits based on temporary traffic control shown on 'E' sheets. Limits shall be adjusted to nearest mid-lane or lane line. Where limits extend to lane lines, ACPR shall include and extend 2" past the pavement markings to adequately remove markings of approved traffic control.*

50 25 0 50
FEET

REGISTERED PROFESSIONAL ENGINEER
93931PE
Digitally Signed 2025.11.12 17:36:37-08'00'
OREGON
SEPT. 11, 2018
VERONICA B. VONG
RENEWS: 06-30-2026

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

WSP USA Inc.
1300 SW 5th Ave
Suite 3100
Portland, OR 97201
Tel: 1 503 274 8772

OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

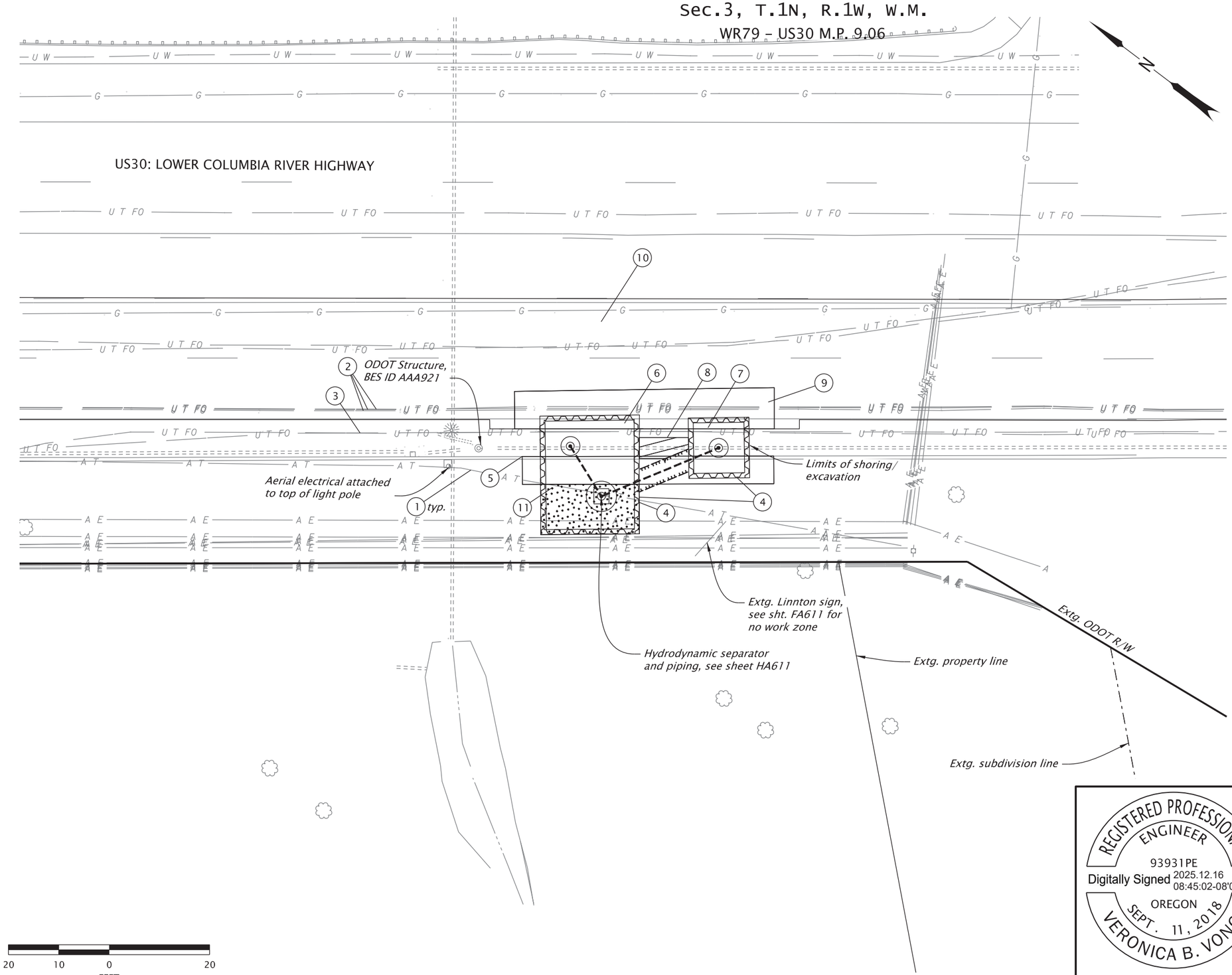
Designer: Alex Junge	Reviewer: Veronica Vong
Drafter: Grace Harrison	Checker: Veronica Vong

GENERAL CONSTRUCTION

SHEET NO. C603

Sec.3, T.1N, R.1W, W.M.

WR79 - US30 M.P. 9.06



CONSTRUCTION NOTES

59V-002

1. *Relocate extg. aerial electrical lines to street lights (by others)*
2. *Relocate extg. underground fiber optic lines (by others)*
3. *Relocate extg. underground concrete fiber optic ductbank (by others)*
4. *Install temporary shoring*
5. *Remove walk - 31 SQYD*
   Const. monolithic sidewalk and curb 50 LF
   Setback - 0'
   Const. mountable curb and gutter
   (For details, see sht. BA07)
6. *Const. 23 inch asph. conc. pvmt. repair - 18 SQYD (For details, see sht. BA03 - US30 Travel Lane)*
7. *Const. 23 inch asph. conc. pvmt. repair - 10 SQYD (For details, see sht. BA03 - US30 Travel Lane)*
8. *Trench resurfacing - 4 SY shown thus:*
9. *Const. 5 inch asph. conc. pvmt. repair - 45 SQYD (For details, see sht. BA03 - US30 Travel Lane)*
10. *Const. 2 inch asph. conc. pvmt. repair - 2263 SQYD (For details, see sht. BA03 - US30 Travel Lane)*
11. *Permanent seeding - 0.004 acres, shown thus:* *(For details, see sht. BA02 - Seeding)*

Notes:

1. *Contractor to verify overhead clearances prior to excavation.*
2. *Contractor to field verify site conditions prior to installation of shoring.*
3. *All features not designated for adjustment or removal are designated to remain. See subsections 00170.82 and 00310.02 of the standard specifications.*
4. *See sheets C612 and C613 for limits of 2" ACPR for temporary striping removal.*
5. *See sheet HA611 for drainage details.*
6. *Contractor to restore site to original elevations and slopes unless otherwise noted.*

REGISTERED PROFESSIONAL ENGINEER
93931PE
Digitally Signed 2025.12.16 08:45:02-08'00'
OREGON
SEPT. 11, 2018
VERONICA B. VONG
RENEWS: 06-30-2026

WSP USA Inc.
1300 SW 5th Ave
Suite 3100
Portland, OR 97201
Tel: 1 503 274 8772

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Alex Junge | Reviewer: Veronica Vong
Drafter: Grace Harrison | Checker: Veronica Vong

GENERAL CONSTRUCTION | SHEET NO. C611

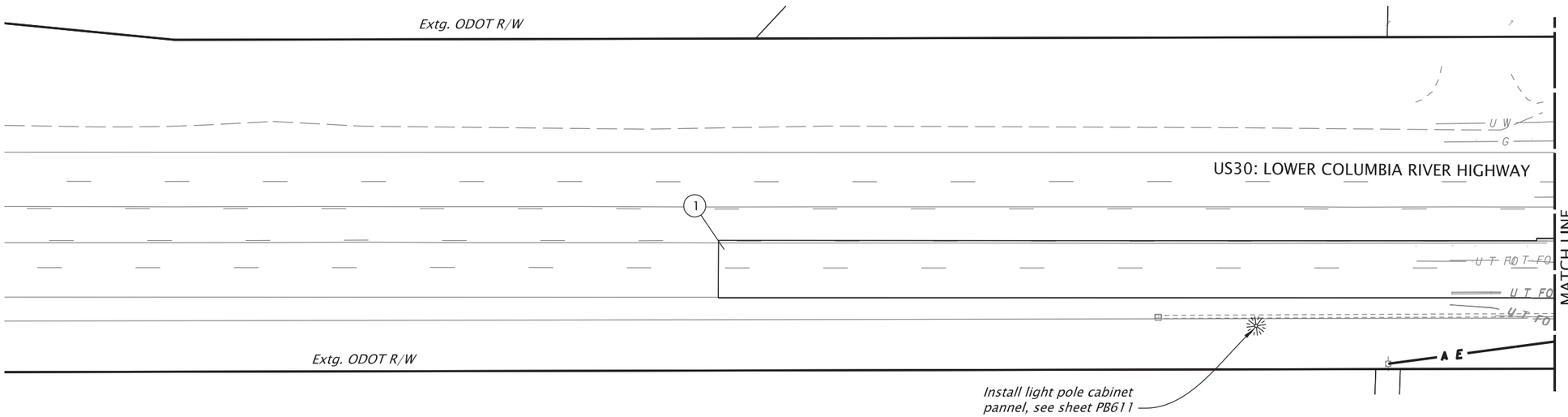
FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

59V-002

Sec.3, T.1N, R.1W, W.M.
WR79 - US30 M.P. 9.06

CONSTRUCTION NOTES

1. *See sht. C611, Note 10*
   Const. 2 inch asph. conc. pvmt. repair



Note:
1. 2" ACPR limits based on temporary traffic control shown on 'E' sheets. Limits shall be adjusted to nearest mid-lane or lane line. Where limits extend to lane lines, ACPR shall include and extend 2" past the pavement markings to adequately remove markings of approved traffic control.

50 25 0 50
FEET

REGISTERED PROFESSIONAL ENGINEER
93931PE
Digitally Signed 2025.11.12 17:34:10-08'00'
OREGON
SEPT. 11, 2018
VERONICA B. VONG
RENEWS: 06-30-2026

FINAL ELECTRONIC DOCUMENT
AVAILABLE UPON REQUEST

WSP USA Inc.
1300 SW 5th Ave
Suite 3100
Portland, OR 97201
Tel: 1 503 274 8772

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

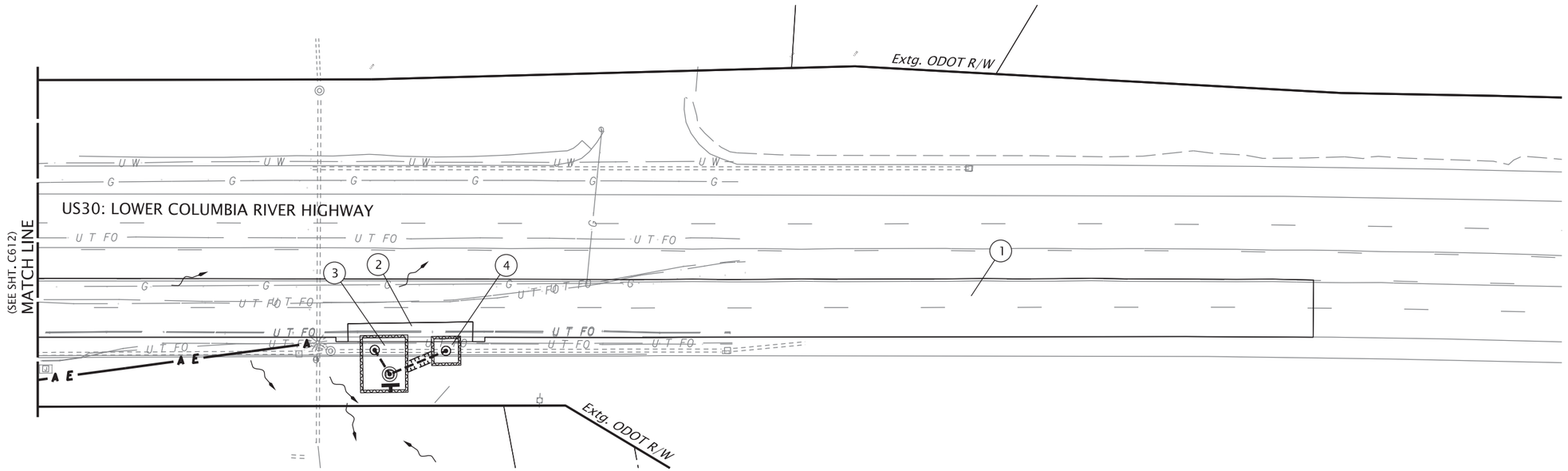
Designer: Alex Junge	Reviewer: Veronica Vong
Drafter: Grace Harrison	Checker: Veronica Vong

GENERAL CONSTRUCTION — SHEET NO. C612

Sec.3, T.1N, R.1W, W.M.
WR79 - US30 M.P. 9.06

CONSTRUCTION NOTES

1. *See sht. C611, Note 10*
   Const. 2 inch asph. conc. pvmt. repair
2. *See sht. C611, Note 9*
   Const. 5 inch asph. conc. pvmt. repair
3. *See sht. C611, Note 6*
   Const. 23 inch asph. conc. pvmt. repair
4. *See sht. C611, Note 7*
   Const. 23 inch asph. conc. pvmt. repair



50 25 0 50
FEET

Note:
1. *2" ACPR limits based on temporary traffic control shown on 'E' sheets. Limits shall be adjusted to nearest mid-lane or lane line. Where limits extend to lane lines, ACPR shall include and extend 2" past the pavement markings to adequately remove markings of approved traffic control.*

REGISTERED PROFESSIONAL ENGINEER
93931PE
Digitally Signed 2025.11.12 17:34:29-08'00'
OREGON
SEPT. 11, 2018
VERONICA B. VONG
RENEWS: 06-30-2026

WSP USA Inc.
1300 SW 5th Ave
Suite 3100
Portland, OR 97201
Tel: 1 503 274 8772

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

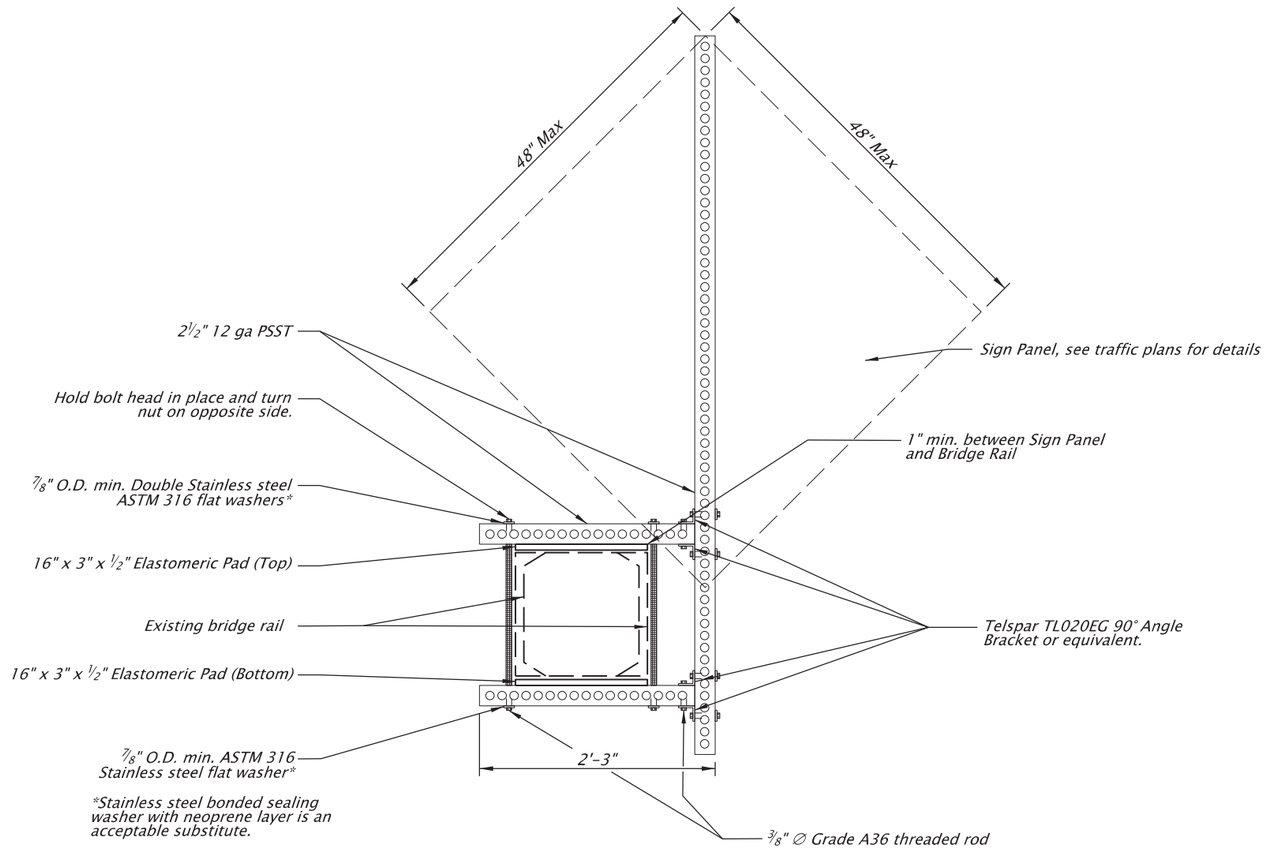
Designer: Alex Junge | Reviewer: Veronica Vong
Drafter: Grace Harrison | Checker: Veronica Vong

GENERAL CONSTRUCTION

SHEET NO. C613

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

TRAFFIC CONTROL DETAILS



NOTE:
1) Post bolts to extend beyond the tightened nuts within the limits of ¼" to 1".

TEMPORARY SIGN SUPPORT

No Scale

ACCOMPANIED BY DWGS.:
TM800, TM820, TM821, TM822, TM830, TM831, TM833, TM840, TM841,TM843, TM844, TM845, TM851, TM852, TM853, and TM855.

REGISTERED PROFESSIONAL ENGINEER
53,044
Digitally Signed
2025.11.12 16:14:45-08'00'
OREGON
JANUARY 15, 2002
DANA M. BECKWITH
EXPIRES: DEC. 31, 2025

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

GLOBAL Transportation Engineering
227 SW Pine Street
SUITE 220
PORTLAND, OR 97204
503.719.7997

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Aman Woldetinsae
Drafter: Tracy Molina
Reviewer: Dana Beckwith
Checker: Dana Beckwith

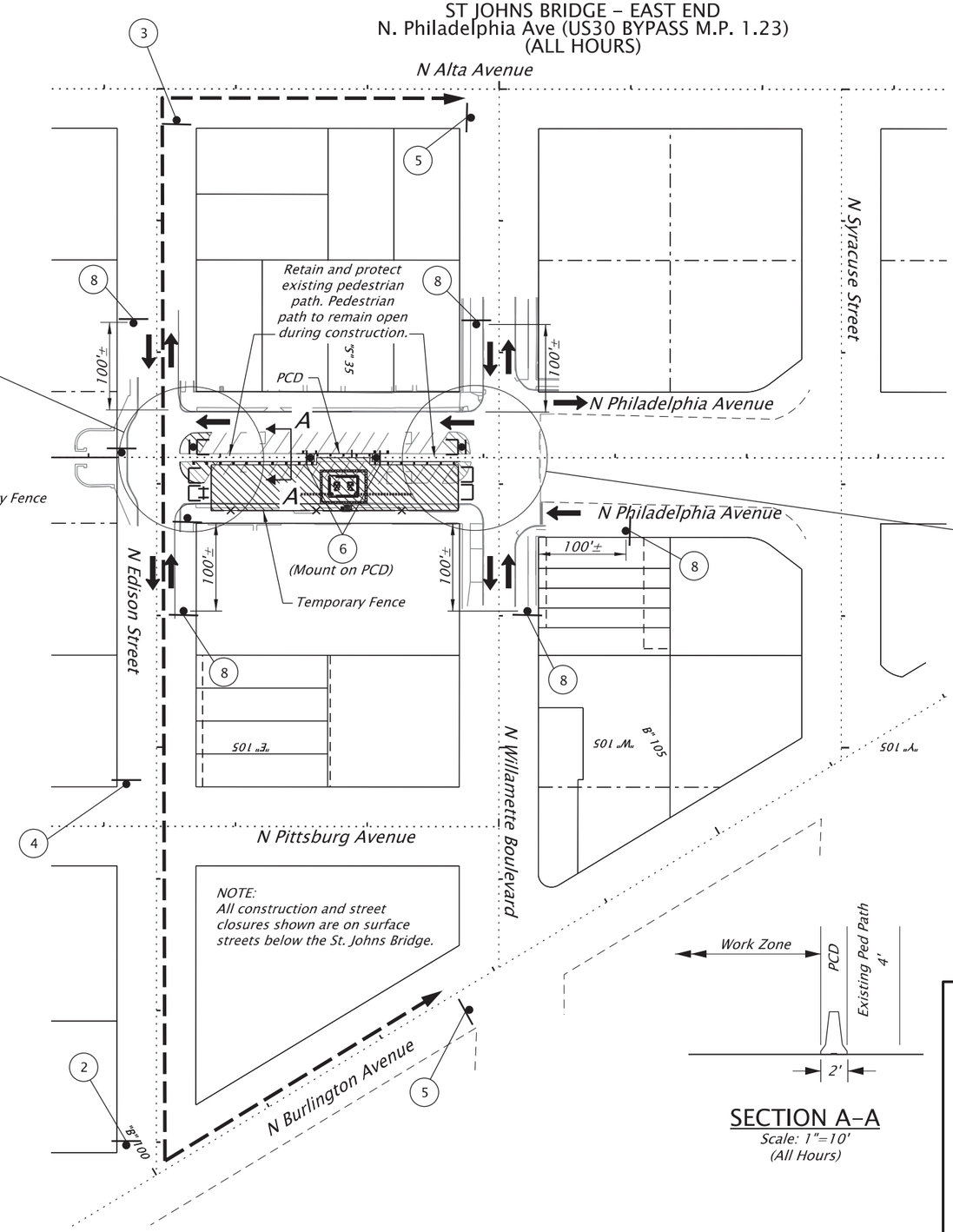
TRAFFIC CONTROL DETAILS

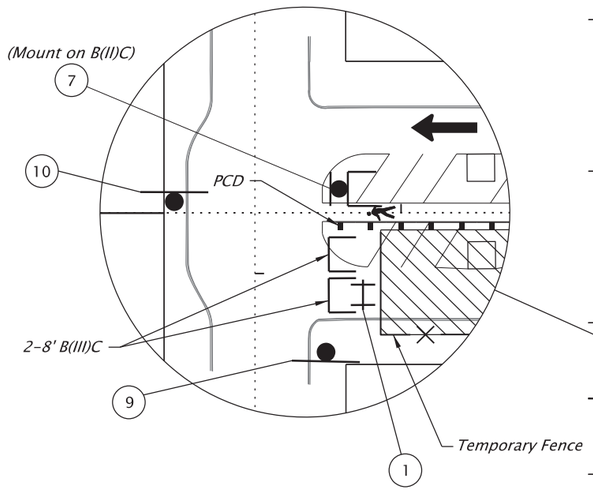
SHEET NO.
EA01

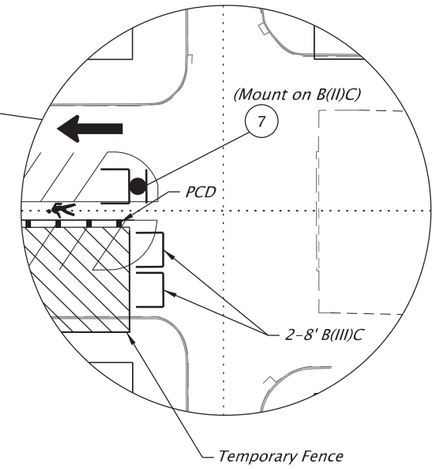
59V-002

DETOUR PLAN

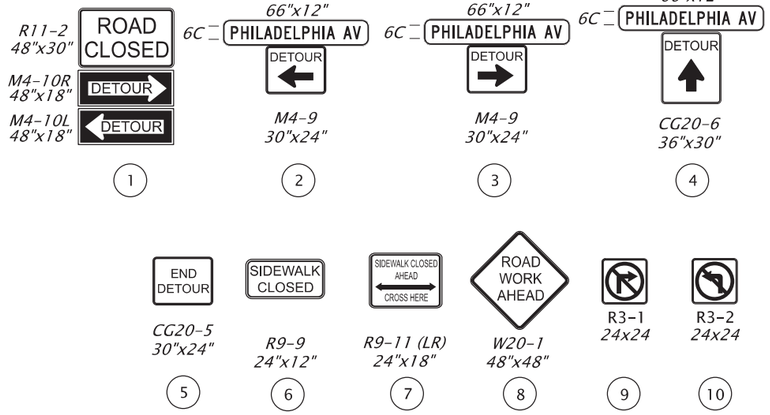
VEHICLES & PEDESTRIANS
ST JOHNS BRIDGE – EAST END
N. Philadelphia Ave (US30 BYPASS M.P. 1.23)
(ALL HOURS)







DETOUR SIGN DETAILS



GENERAL NOTES

1. Adjustments to temporary traffic control devices may be necessary to accommodate field conditions.
2. See ODOT TM800 series drawings for additional guidance on temporary lane closure to accommodate traffic.
3. Contractor to provide fencing along perimeter of work zone to restricted unauthorized access.
4. Cover or remove all permanent signs that conflict with temporary signs.

LEGEND

- (X) Sign no. (X) see details on this sheet.
- Temporary sign on temporary post.
- Temporary sign on Type II Barricade.
- Type III Barricade
- Temporary sign on temporary sign support (TSS).
- Detour Route
- Temporary Fence
- Temporary pedestrian channelization device (PCD)
- Under construction

SECTION A-A

Scale: 1"=10'
(All Hours)

REGISTERED PROFESSIONAL ENGINEER
53,044
Digitally Signed
2025.11.12 16:17:00-08'00'
OREGON
JANUARY 15, 2002
DANA M. BECKWITH
EXPIRES: DEC. 31, 2025

GLOBAL Transportation Engineering
227 SW Pine Street
SUITE 220
PORTLAND, OR 97204
503.719.7997

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Aman Woldetinsae
Reviewer: Dana Beckwith
Drafter: Tracy Molina
Checker: Dana Beckwith

TRAFFIC CONTROL DETOUR PLAN

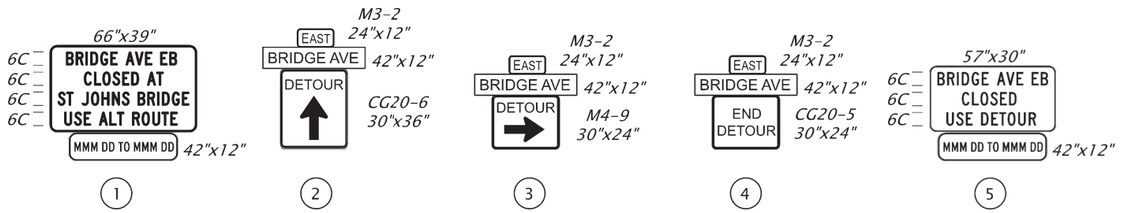
SHEET NO. EB01

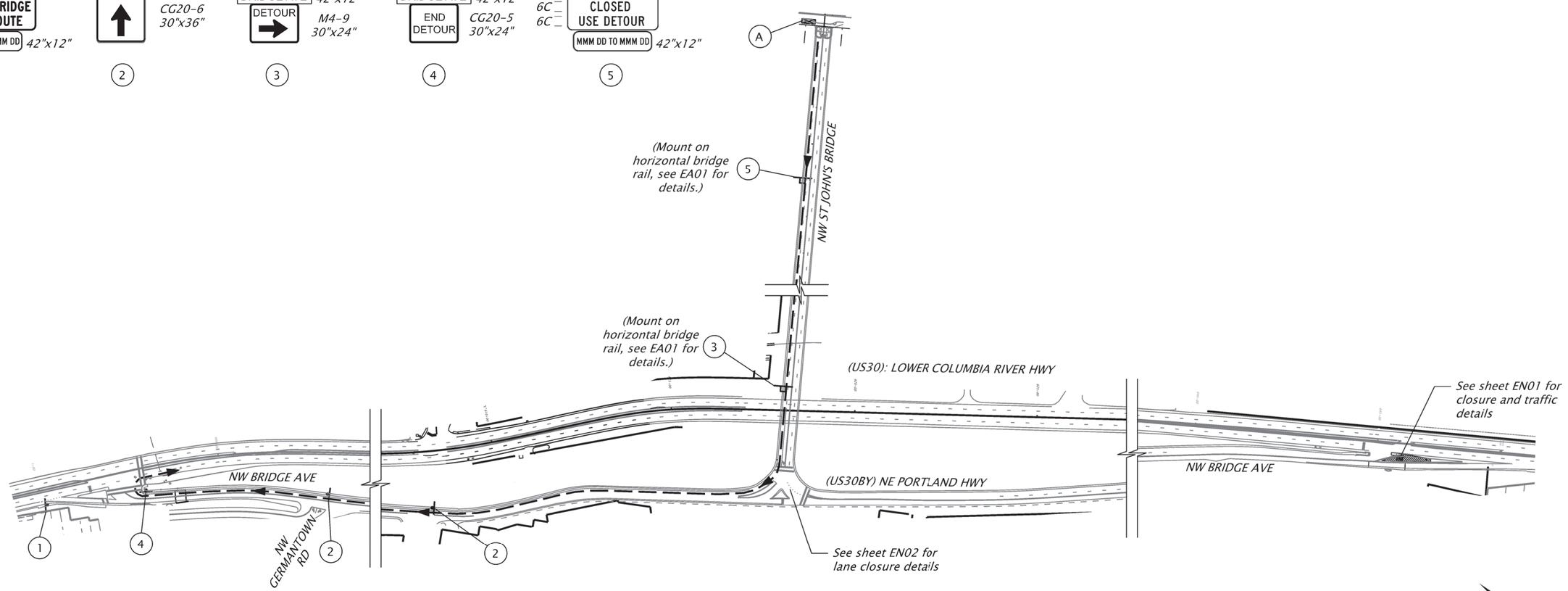
FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

DETOUR PLAN

NW BRIDGE AVE. EAST RAMP
OF22C - US30 M.P. 6.41
(NIGHT WORK ONLY)

DETOUR SIGN DETAILS





US30BY EB RAMP CLOSURE	<DATE> TO <DATE>.

PORTABLE CHANGEABLE MESSAGE SIGN
(Suggested Message 1 Week Prior to Construction)
(Locate As Directed)

US30BY EB RAMP CLOSED	USE US30BY WB RAMP

PORTABLE CHANGEABLE MESSAGE SIGN
(Suggested Message During Closure)
(Locate As Directed)

(A)

GENERAL NOTES

1. Cover or remove all permanent signs that conflict with temporary signs.
2. Adjustments to temporary traffic control devices may be necessary to accommodate field conditions.
3. See ODOT TM800 series drawings for additional guidance on temporary lane closure to accommodate traffic.
4. See sheet EN01 and EN02 for traffic control associated with detour.

LEGEND

- (X) Sign No. (X) See details on this sheet
- PCMS
- Temporary sign on existing bridge structure. See details shown on sheet EA01.
- Temporary sign on temporary post
- Traffic Detour Route
- Under Construction

REGISTERED PROFESSIONAL ENGINEER
53,044
Digitally Signed
2025.11.12 16:17:00-08'00'
OREGON
JANUARY 15, 2002
DANA M. BECKWITH
EXPIRES: DEC. 31, 2025

FINAL ELECTRONIC DOCUMENT
AVAILABLE UPON REQUEST

GLOBAL Transportation Engineering
227 SW Pine Street
SUITE 220
PORTLAND, OR 97204
503.719.7997

OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Aman Woldetinsae
Drafter: Tracy Molina
Reviewer: Dana Beckwith
Checker: Dana Beckwith

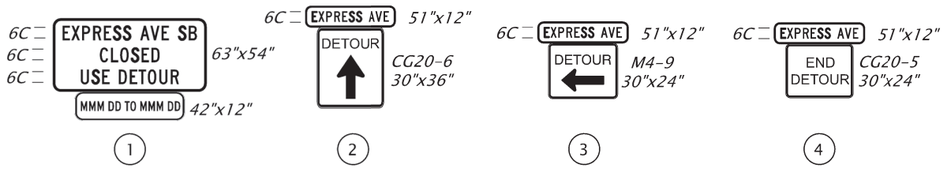
TRAFFIC CONTROL DETOUR PLAN

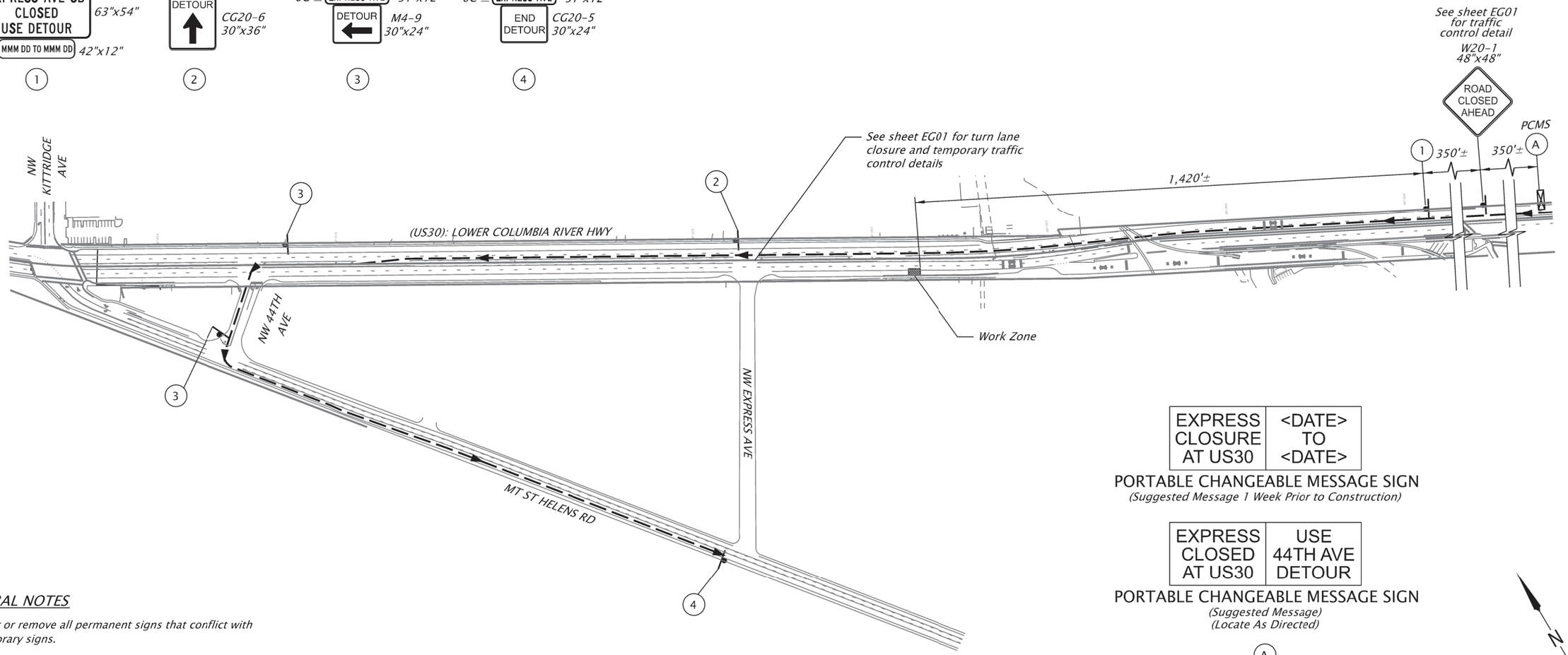
SHEET NO.
EB02

DETOUR PLAN

NW EXPRESS AVE SB
OF18-1 - US30 M.P. 3.46

DETOUR SIGN DETAILS





EXPRESS CLOSURE AT US30	<DATE> TO <DATE>

PORTABLE CHANGEABLE MESSAGE SIGN
(Suggested Message 1 Week Prior to Construction)

EXPRESS CLOSED AT US30	USE 44TH AVE DETOUR

PORTABLE CHANGEABLE MESSAGE SIGN
(Suggested Message)
(Locate As Directed)

A

N

GENERAL NOTES

1. *Cover or remove all permanent signs that conflict with temporary signs.*
2. *Adjustments to temporary traffic control devices may be necessary to accommodate field conditions.*
3. *See ODOT TM800 series drawings for additional guidance on temporary lane closure to accommodate traffic.*
4. *See sheet EG01 for traffic control associated with detour.*

LEGEND

- (X) *Sign No. (X) See details on this sheet*
- *Temporary sign on temporary post*
- *PCMS*
- *Traffic Detour Route*
- *Under Construction*

REGISTERED PROFESSIONAL ENGINEER
53,044
Digitally Signed
2025.11.12 16:17:00-08'00'
OREGON
JANUARY 15, 2002
DANA M. BECKWITH
EXPIRES: DEC. 31, 2025

FINAL ELECTRONIC DOCUMENT
AVAILABLE UPON REQUEST

GLOBAL Transportation Engineering
227 SW Pine Street
SUITE 220
PORTLAND, OR 97204
503.719.7997

OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Aman Woldetinsae
Drafter: Tracy Molina
Reviewer: Dana Beckwith
Checker: Dana Beckwith

TRAFFIC CONTROL DETOUR PLAN

SHEET NO.
EB03

DETOUR SIGN DETAILS

6C NW GERMANTOWN RD / NW SPRINGFIELD RD / USE DETOUR — 75"x30"
MMM DD TO MMM DD — 42"x12"
(1)

6C GERMANTOWN RD 63"x12"
6C SPRINGVILLE RD 60"x12"
DETOUR — M4-9 30"x24"
(2)

DETOUR AHEAD — W20-2 36"x36"
6C GERMANTOWN RD 63"x12"
6C SPRINGVILLE RD 60"x12"
(3)

6C GERMANTOWN RD 63"x12"
6C SPRINGVILLE RD 60"x12"
DETOUR — M4-9 30"x24"
(4)

6C GERMANTOWN RD 63"x12"
6C SPRINGVILLE RD 60"x12"
END DETOUR — CG20-5 30"x24"
(5)

6C GERMANTOWN RD 63"x12"
DETOUR — M4-9 30"x24"
(6)

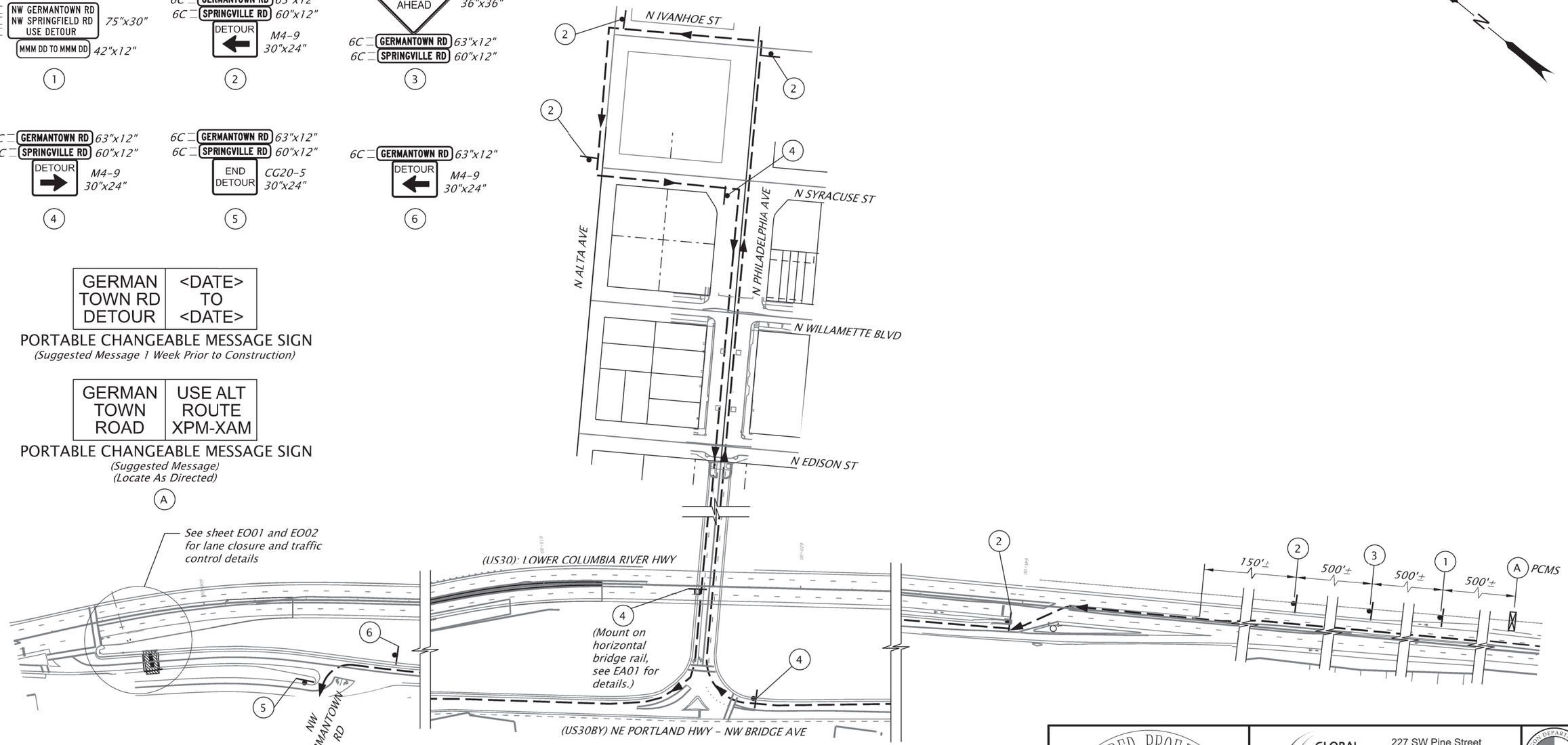
GERMAN TOWN RD DETOUR	<DATE> TO <DATE>

PORTABLE CHANGEABLE MESSAGE SIGN
(Suggested Message 1 Week Prior to Construction)

GERMAN TOWN ROAD	USE ALT ROUTE XPM-XAM

PORTABLE CHANGEABLE MESSAGE SIGN
(Suggested Message)
(Locate As Directed)
(A)

DETOUR PLAN
NW BRIDGE AVE WEST RAMP CLOSURE
OF22D – US30 BYPASS M.P. 7.29
(NIGHT WORK ONLY)



LEGEND

- (X) Sign No. (X) See details on this sheet
- Temporary sign on existing bridge structure. See details shown on sheet EA01.
- Temporary sign on temporary post
- PCMS
- Traffic Detour Route
- Work Area

GENERAL NOTES

1. Cover or remove all permanent signs that conflict with temporary signs.
2. Adjustments to temporary traffic control devices may be necessary to accommodate field conditions.
3. See ODOT TM800 series drawings for additional guidance on temporary lane closure to accommodate traffic.
4. See sheet EO01 and EO02 for traffic control associated with detour.

REGISTERED PROFESSIONAL ENGINEER
53,044
Digitally Signed
2025.11.12 16:17:01-08'00'
OREGON
JANUARY 15, 2002
DANA M. BECKWITH
EXPIRES: DEC. 31, 2025

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

GLOBAL Transportation Engineering
227 SW Pine Street
SUITE 220
PORTLAND, OR 97204
503.719.7997

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

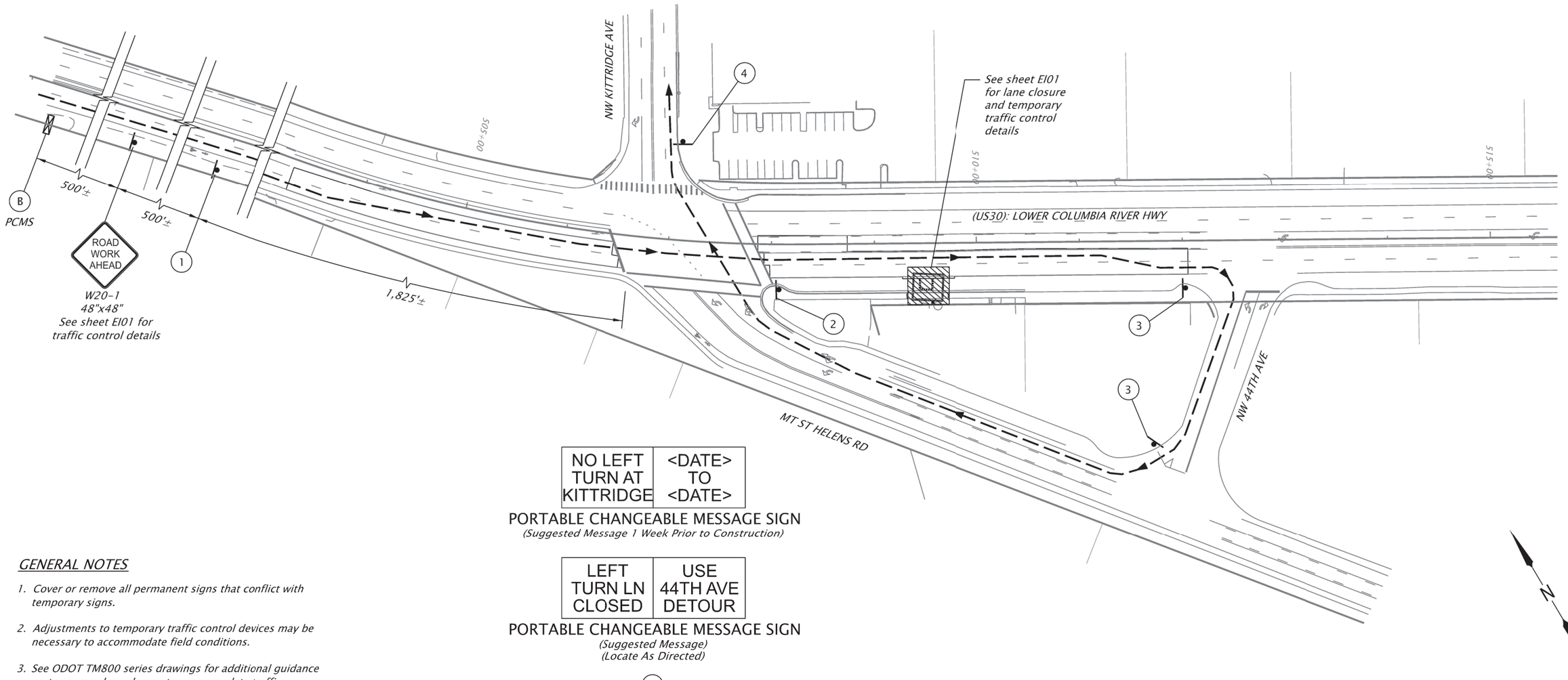
Designer: Aman Woldetinsae
Drafter: Tracy Molina
Reviewer: Dana Beckwith
Checker: Dana Beckwith

TRAFFIC CONTROL DETOUR PLAN

SHEET NO. EB04

DETOUR PLAN

NW KITTRIDGE AVE NB
OF19-2 - US30 M.P. 3.88
(ALL HOURS)



NO LEFT TURN AT KITTRIDGE	<DATE> TO <DATE>

PORTABLE CHANGEABLE MESSAGE SIGN
(Suggested Message 1 Week Prior to Construction)

LEFT TURN LN CLOSED	USE 44TH AVE DETOUR

PORTABLE CHANGEABLE MESSAGE SIGN
(Suggested Message)
(Locate As Directed)

B

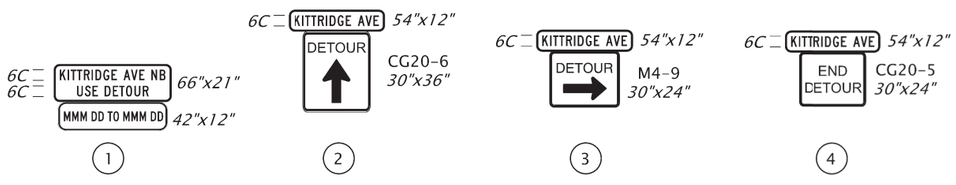
GENERAL NOTES

1. *Cover or remove all permanent signs that conflict with temporary signs.*
2. *Adjustments to temporary traffic control devices may be necessary to accommodate field conditions.*
3. *See ODOT TM800 series drawings for additional guidance on temporary lane closure to accommodate traffic.*
4. *See sheet EI01 for traffic control associated with detour.*

LEGEND

- (X) *Sign No. (X) See details on this sheet*
- *Temporary sign on temporary post*
- *PCMS*
- *Traffic Detour Route*
- *Work Area*

DETOUR SIGN DETAILS



REGISTERED PROFESSIONAL ENGINEER
53,044
Digitally Signed
2025.11.12 16:17:01-08'00'
OREGON
JANUARY 15, 2002
DANA M. BECKWITH
EXPIRES: DEC. 31, 2025

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503.719.7997

OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Aman Woldetinsae
Reviewer: Dana Beckwith
Drafter: Tracy Molina
Checker: Dana Beckwith

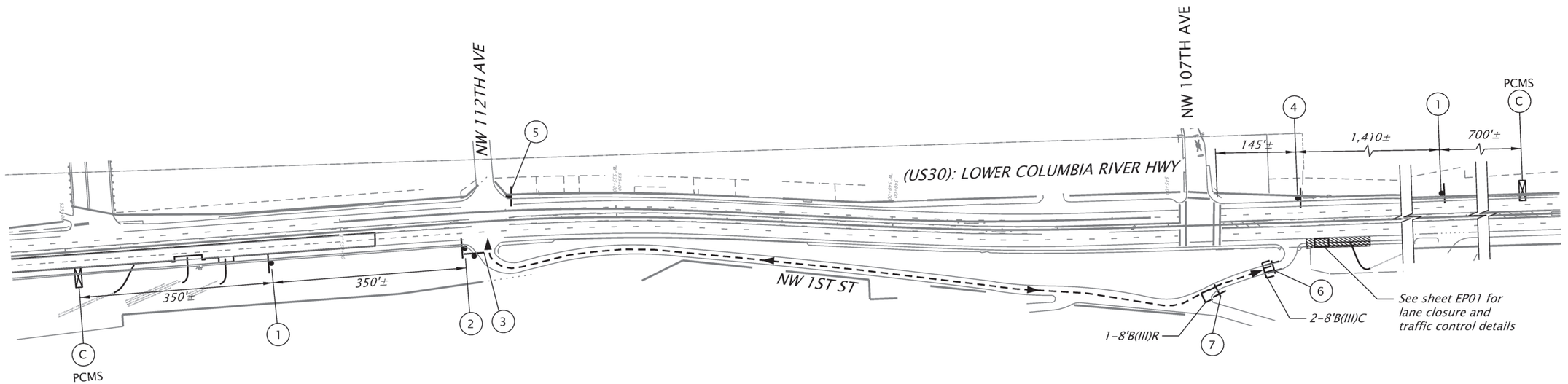
TRAFFIC CONTROL DETOUR PLAN

SHEET NO.
EB05

59V-002

DETOUR PLAN

NW 1ST AVE NB
WR126 - US30 M.P. 8.26
(ALL HOURS)



GENERAL NOTES

1. Cover or remove all permanent signs that conflict with temporary signs.
2. Adjustments to temporary traffic control devices may be necessary to accommodate field conditions.
3. See ODOT TM800 series drawings for additional guidance on temporary lane closure to accommodate traffic.
4. See sheet EP01 for traffic control associated with detour.

LEGEND

- (X) Sign No. (X) See details on this sheet
- Temporary sign on temporary post
- PCMS
- Traffic Detour Route
- Under Construction

1ST ST EAST CLOSURE	<DATE> TO <DATE>

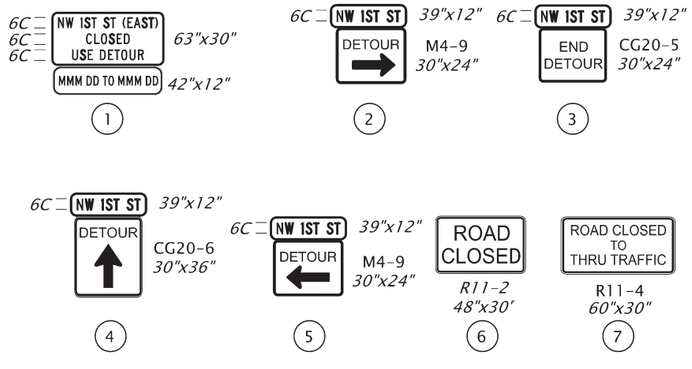
PORTABLE CHANGEABLE MESSAGE SIGN
(Suggested Message 1 Week Prior to Construction)

1ST ST EAST CLOSED	USE 1ST ST WEST

PORTABLE CHANGEABLE MESSAGE SIGN
(Suggested Message)
(Locate As Directed)

(C)

DETOUR SIGN DETAILS



REGISTERED PROFESSIONAL ENGINEER
53,044
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OREGON
JANUARY 15, 2002
DANA M. BECKWITH
EXPIRES: DEC. 31, 2025

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227 SW Pine Street
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503.719.7997

OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

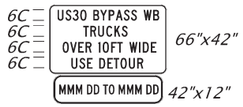
Designer: Aman Woldetinsae
Reviewer: Dana Beckwith
Drafter: Tracy Molina
Checker: Dana Beckwith

TRAFFIC CONTROL DETOUR PLAN

SHEET NO.
EB06

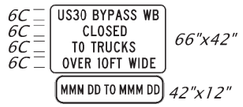
DETOUR PLAN
NW BRIDGE AVENUE - EAST RAMP
WR206 - US30 BYPASS M.P. 0.33
WB TRUCKS - (ALL HOURS)

DETOUR SIGN DETAILS



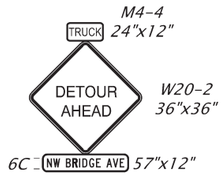
66"x42"
42"x12"

(1)



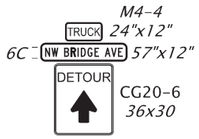
66"x42"
42"x12"

(2)



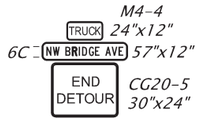
W20-2
36"x36"

(3)



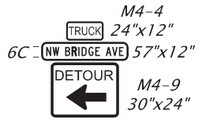
CG20-6
36x30

(4)



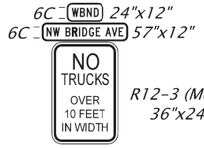
CG20-5
30"x24"

(5)



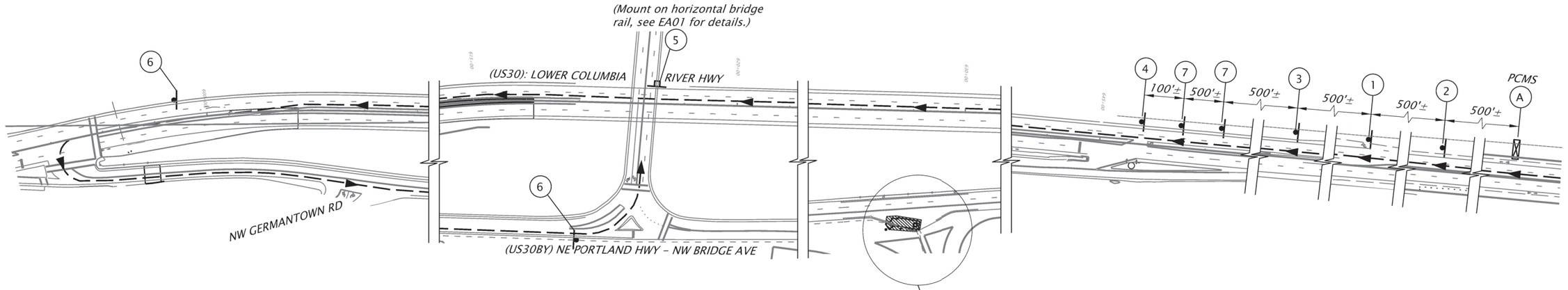
M4-9
30"x24"

(6)



R12-3 (Mod.)
36"x24"

(7)



GENERAL NOTES

1. *Cover or remove all permanent signs that conflict with temporary signs.*
2. *Adjustments to temporary traffic control devices may be necessary to accommodate field conditions.*
3. *See ODOT TM800 series drawings for additional guidance on temporary lane closure to accommodate traffic.*
4. *See sheet EJ01 for traffic control associated with detour.*

LEGEND

- (X) *Sign No. (X) See details on this sheet*
- *Temporary sign on existing bridge structure. See details shown on sheet EA01.*
- *Temporary sign on temporary post*
- *PCMS*
- *Traffic Detour Route*
- *Work Area*

US30BY WB TRUCK DETOUR	<DATE> TO <DATE>

PORTABLE CHANGEABLE MESSAGE SIGN
(Suggested Message 1 Week Prior to Construction)

US30BY WB TRUCK DETOUR	OVERSIZE LOAD USE DETOUR

PORTABLE CHANGEABLE MESSAGE SIGN
(Suggested Message)
(Locate As Directed)

(A)

REGISTERED PROFESSIONAL ENGINEER
53,044
Digitally Signed
2025.11.12 16:17:02-08'00'
OREGON
JANUARY 15, 2002
DANA M. BECKWITH
EXPIRES: DEC. 31, 2025

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

GLOBAL Transportation Engineering
227 SW Pine Street
SUITE 220
PORTLAND, OR 97204
503.719.7997

OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Aman Woldetinsae
Drafter: Tracy Molina
Reviewer: Dana Beckwith
Checker: Dana Beckwith

TRAFFIC CONTROL DETOUR PLAN

SHEET NO.
EB07

59V-002

DETOUR PLAN
US30 LANE CLOSURE
OF18-2 – NW YEON AVE FRONTAGE ROAD
(US30 M.P. 3.00)
(ALL HOURS)

DETOUR SIGN DETAILS

6C YEON AVE / FRONTAGE RD / CLOSED / USE DETOUR — 51"x39"
MMM DD TO MMM DD — 42"x12"
(1)

6C FRONTAGE RD — 51"x12"
DETOUR → M4-9 30"x24"
(2)

6C FRONTAGE RD — 51"x12"
DETOUR ← M4-9 30"x24"
(3)

6C FRONTAGE RD — 51"x12"
END DETOUR — CG20-5 30"x24"
(4)

ROAD CLOSED TO THRU TRAFFIC
R11-4 60"x30"
(5)

ROAD CLOSED
R11-2 48"x30"
(6)

ROAD WORK AHEAD
W20-1 48"x48"
(7)

CONSTRUCTION NOTES:

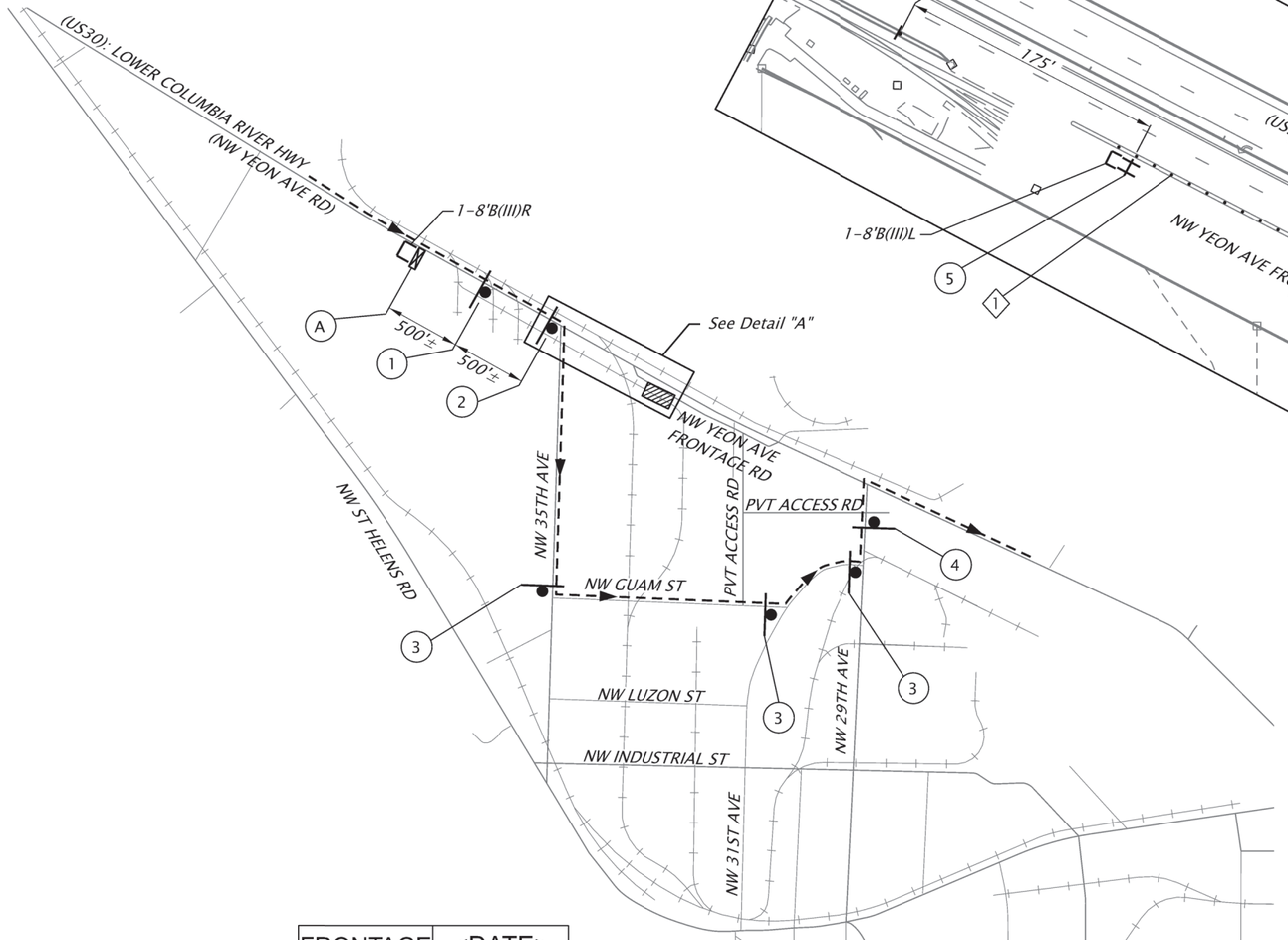
1. Place tubular markers on raised median.
2. After work hours cover excavation with non-slip surface steel plate.

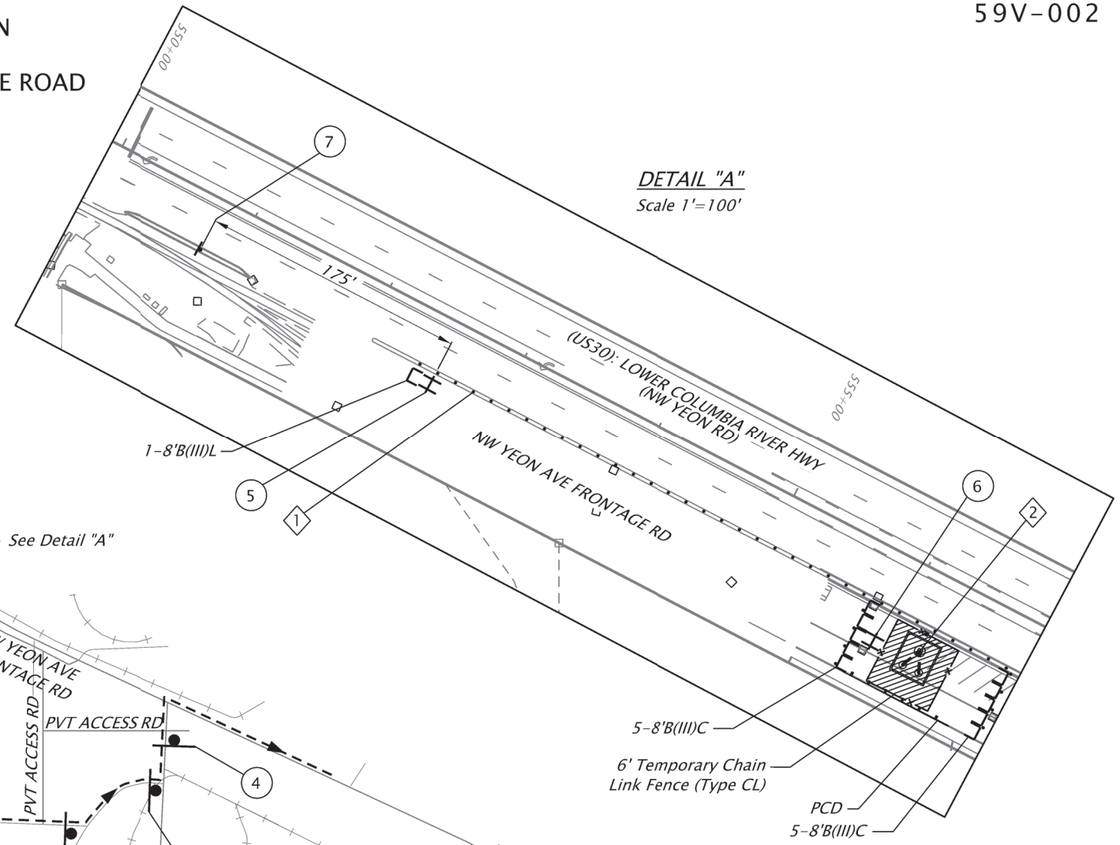
GENERAL NOTES

1. Cover or remove all permanent signs that conflict with temporary signs.
2. Adjustments to temporary traffic control devices may be necessary to accommodate field conditions.
3. See ODOT TM800 series drawings for additional guidance on temporary lane closure to accommodate traffic.

LEGEND

- (X) Sign No. (X) See details on this sheet
- PCMS
- Temporary sign on temporary sign support (TSS)
- Temporary type III barricade
- Temporary sign on temporary post
- 28" tubular markers on 20' max. spacing
- Temporary pedestrian channelization device (PCD)
- Temporary fencing
- Traffic Detour Route
- Work Area





N

FRONTAGE ROAD CLOSURE	<DATE> TO <DATE>

PORTABLE CHANGEABLE MESSAGE SIGN
(Suggested Message 1 Week Prior to Construction)

FRONTAGE ROAD CLOSED	USE NW 35TH DETOUR

PORTABLE CHANGEABLE MESSAGE SIGN
(Suggested Message)
(Locate As Directed)

(A)

REGISTERED PROFESSIONAL ENGINEER
53,044
Digitally Signed
2025.11.12 16:17:02-08'00'
OREGON
JANUARY 15, 2002
DANA M. BECKWITH
EXPIRES: DEC. 31, 2025

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

GLOBAL Transportation Engineering
227 SW Pine Street
SUITE 220
PORTLAND, OR 97204
503.719.7997

OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Aman Woldetinsae — Reviewer: Dana Beckwith
Drafter: Tracy Molina — Checker: Dana Beckwith

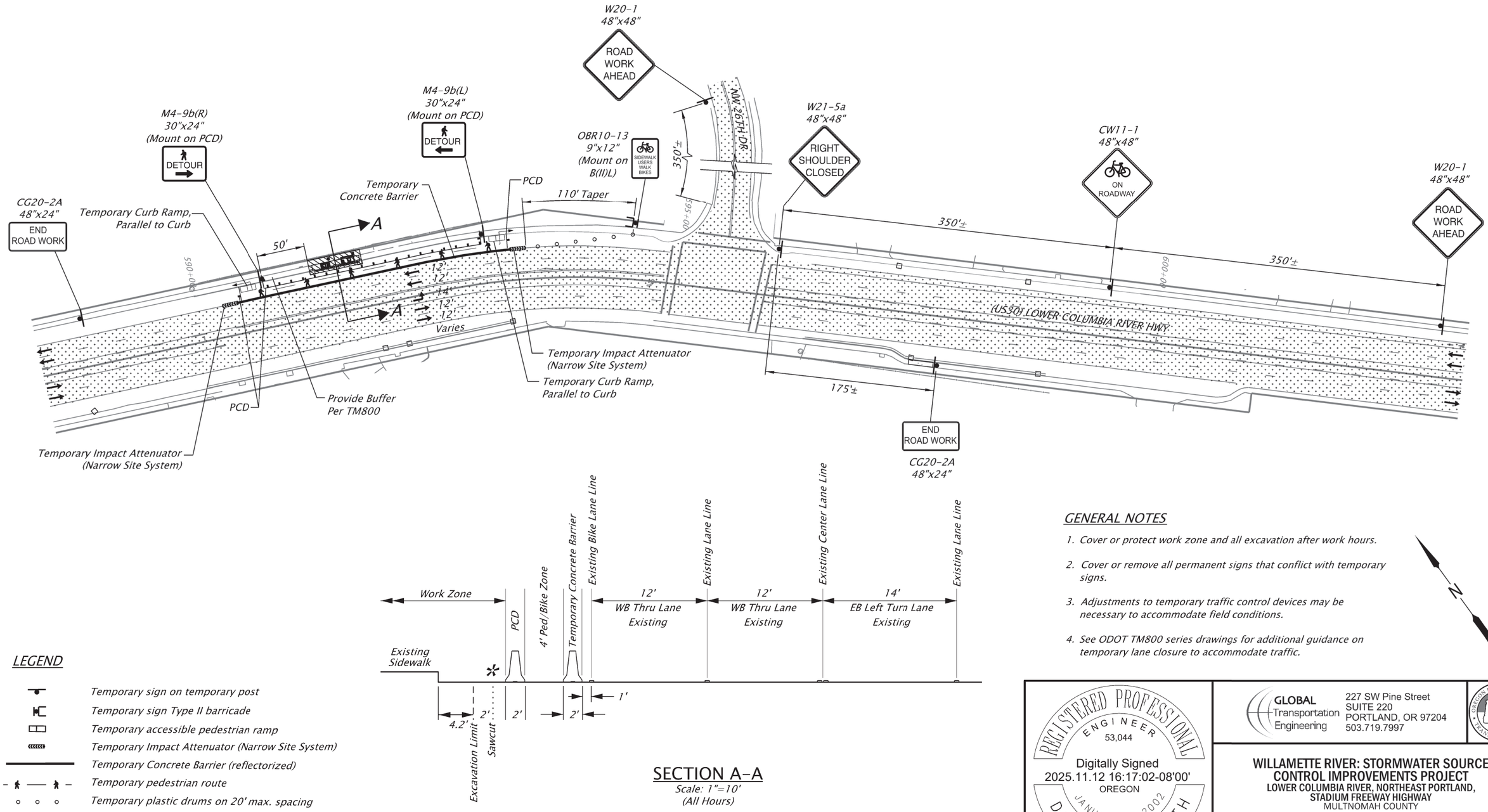
TRAFFIC CONTROL DETOUR PLAN

SHEET NO. EB08

59V-002

TEMPORARY TRAFFIC CONTROL AND ACCESSIBLE PEDESTRIAN ROUTE

OF16-2-US30 M.P. 2.33
(ALL HOURS)



SECTION A-A

Scale: 1"=10'
(All Hours)

* Maintain 1.5-ft minimum clearance behind temporary concrete barrier. Minimum clearance requires barrier to be secured per ODOT Standard Drawing TM830.

LEGEND

- Temporary sign on temporary post
- Temporary sign Type II barricade
- Temporary accessible pedestrian ramp
- Temporary Impact Attenuator (Narrow Site System)
- Temporary Concrete Barrier (reflectorized)
- Temporary pedestrian route
- Temporary plastic drums on 20' max. spacing
- Temporary pedestrian channelization device (PCD)
- Under Construction
- Under Traffic

GENERAL NOTES

1. Cover or protect work zone and all excavation after work hours.
2. Cover or remove all permanent signs that conflict with temporary signs.
3. Adjustments to temporary traffic control devices may be necessary to accommodate field conditions.
4. See ODOT TM800 series drawings for additional guidance on temporary lane closure to accommodate traffic.

N

REGISTERED PROFESSIONAL ENGINEER
53,044
Digitally Signed
2025.11.12 16:17:02-08'00'
OREGON
JANUARY 15, 2002
DANA M. BECKWITH
EXPIRES: DEC. 31, 2025

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OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Aman Woldetinsae
Drafter: Tracy Molina
Reviewer: Dana Beckwith
Checker: Dana Beckwith

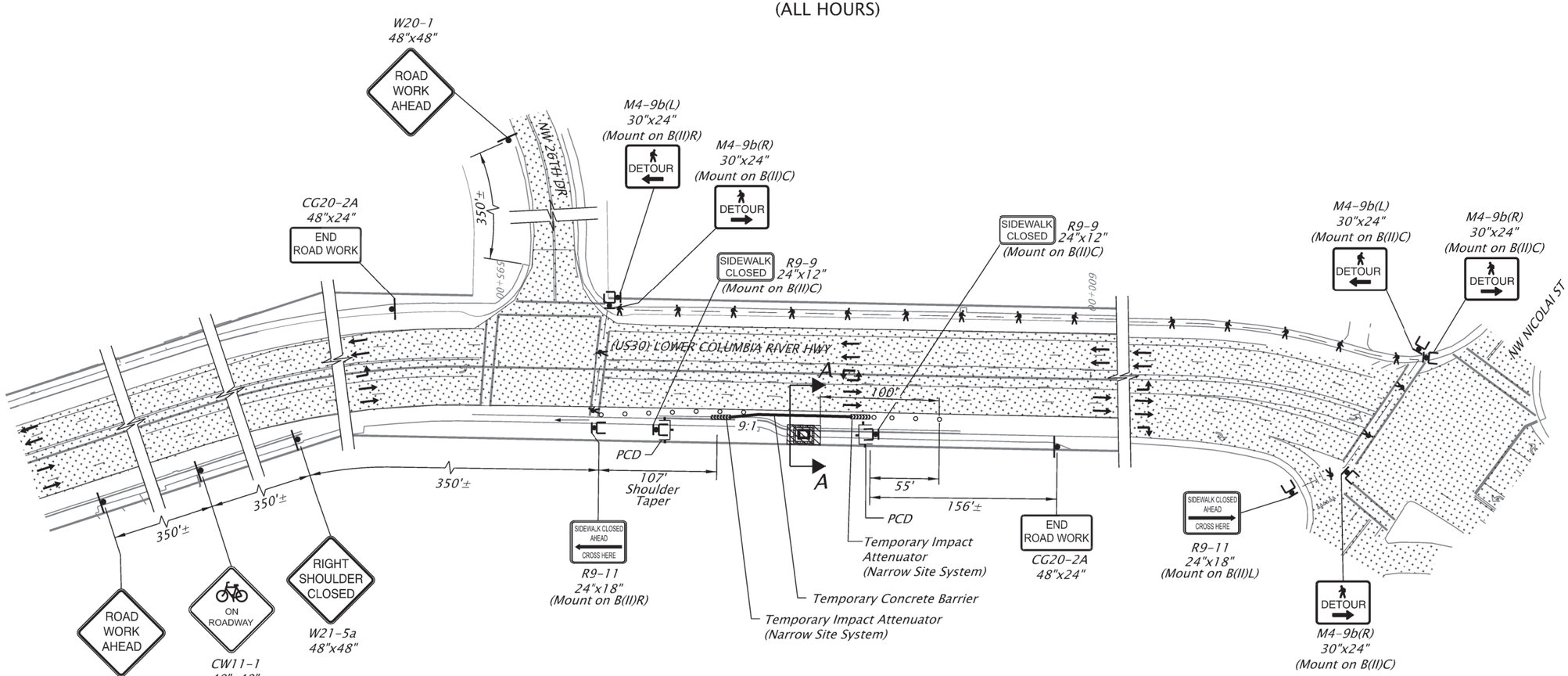
TRAFFIC CONTROL PLAN

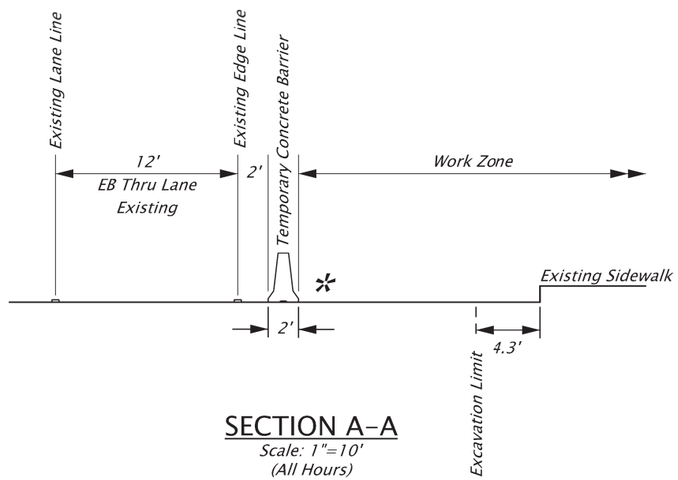
SHEET NO. ED01

59V-002

TEMPORARY TRAFFIC CONTROL AND ACCESSIBLE PEDESTRIAN ROUTE

OF16-3-US30 M.P. 2.21
(ALL HOURS)





SECTION A-A

Scale: 1"=10'
(All Hours)

✲ *Maintain 1.5-ft minimum clearance behind temporary concrete barrier. Minimum clearance requires barrier to be secured per ODOT Standard Drawing TM830.*

LEGEND

- Temporary sign on temporary post
- Temporary sign Type II barricade
- Temporary accessible pedestrian ramp
- Temporary Impact Attenuator (Narrow Site System)
- Temporary Concrete Barrier (reflectorized)
- Temporary pedestrian route
- Temporary plastic drums on 20' max. spacing
- Temporary pedestrian channelization device (PCD)
- Under Construction
- Under Traffic

GENERAL NOTES

1. Cover or protect work zone and all excavation after work hours.
2. Cover or remove all permanent signs that conflict with temporary signs.
3. Adjustments to temporary traffic control devices may be necessary to accommodate field conditions.
4. See ODOT TM800 series drawings for additional guidance on temporary lane closure to accommodate traffic.

REGISTERED PROFESSIONAL ENGINEER
53,044
Digitally Signed
2025.11.12 16:17:03-08'00'
OREGON
JANUARY 15, 2002
DANA M. BECKWITH
EXPIRES: DEC. 31, 2025

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OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Aman Woldetinsae
Drafter: Tracy Molina
Reviewer: Dana Beckwith
Checker: Dana Beckwith

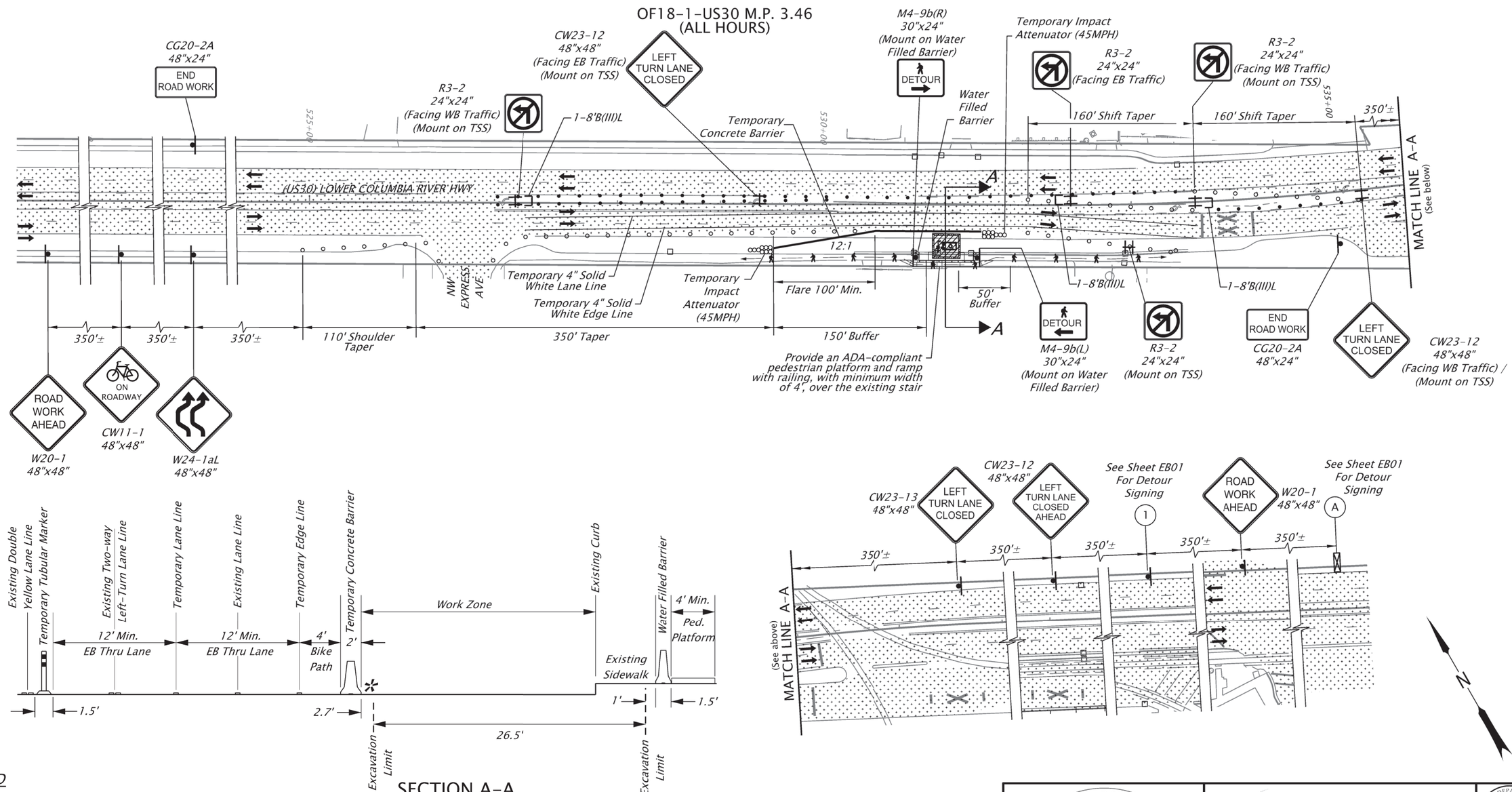
TRAFFIC CONTROL PLAN

SHEET NO.
EE01

59V-002

TEMPORARY TRAFFIC CONTROL AND ACCESSIBLE PEDESTRIAN ROUTE

OF18-1-US30 M.P. 3.46
(ALL HOURS)



SECTION A-A

Scale: 1"=10'
(All Hours)

LEGEND

- (X) Sign No. (X) see detour sheet EB02 for signing
- Temporary sign on temporary post
- Temporary sign on temporary sign support (TSS)
- Temporary type III barricade
- Temporary Impact Attenuator (45MPH)
- Water Filled Barrier
- Temporary pavement marking line
- Temporary Concrete Barrier (reflectorized)
- Temporary pedestrian route
- • • • 28" tubular markers on 20' max. spacing
- ○ ○ ○ Temporary plastic drums on 20' max. spacing
- Under Construction
- Under Traffic

✻ Maintain 1.5-ft minimum clearance behind temporary concrete barrier. Minimum clearance requires barrier to be secured per ODOT Standard Drawing TM830.

GENERAL NOTES

1. Cover or protect work zone and all excavation after work hour.
2. Cover or remove all permanent signs that conflict with temporary signs.
3. Remove any existing pavement markings that conflict with the proposed temporary markings. After construction is complete refer to Q sheets for permanent pavement markings.
4. See ODOT TM800 series drawings for additional guidance on temporary lane closure to accommodate traffic.
5. See sheet EB03 for detour associated with traffic control.

REGISTERED PROFESSIONAL ENGINEER
53,044
Digitally Signed
2025.11.12 16:17:03-08'00'
OREGON
JANUARY 15, 2002
DANA M. BECKWITH
EXPIRES: DEC. 31, 2025

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227 SW Pine Street
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WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Aman Woldetinsae
Drafter: Tracy Molina
Reviewer: Dana Beckwith
Checker: Dana Beckwith

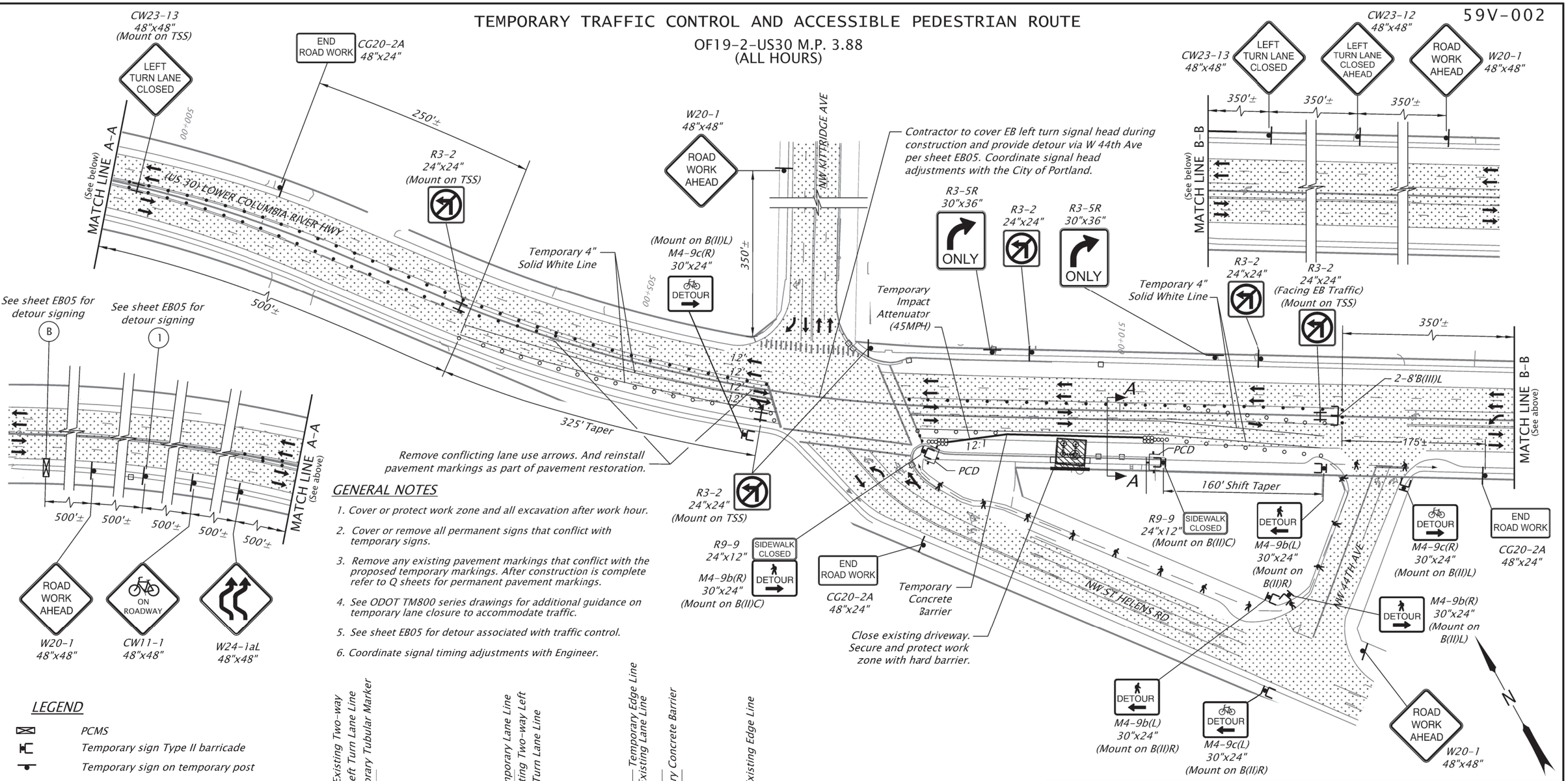
TRAFFIC CONTROL PLAN

SHEET NO. EG01

TEMPORARY TRAFFIC CONTROL AND ACCESSIBLE PEDESTRIAN ROUTE

OF19-2-US30 M.P. 3.88
(ALL HOURS)

59V-002

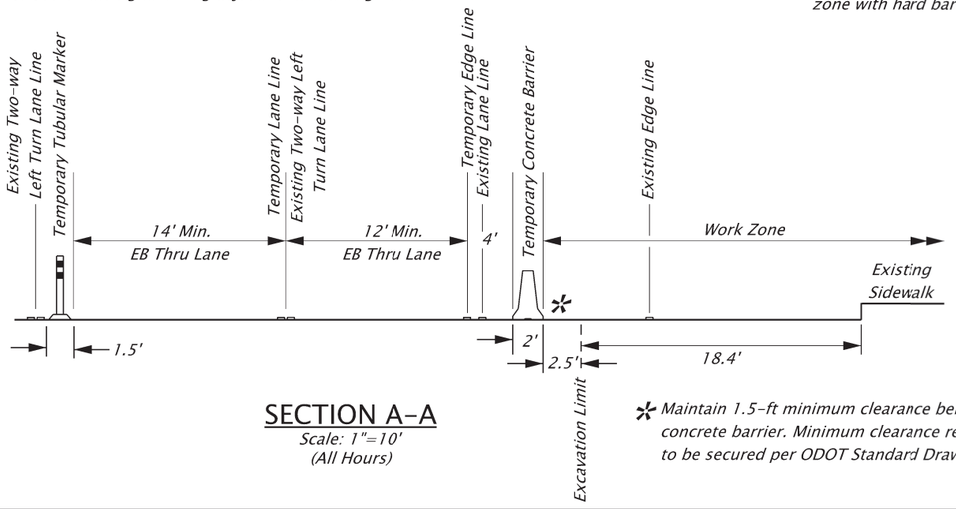


GENERAL NOTES

1. Cover or protect work zone and all excavation after work hour.
2. Cover or remove all permanent signs that conflict with temporary signs.
3. Remove any existing pavement markings that conflict with the proposed temporary markings. After construction is complete refer to Q sheets for permanent pavement markings.
4. See ODOT TM800 series drawings for additional guidance on temporary lane closure to accommodate traffic.
5. See sheet EB05 for detour associated with traffic control.
6. Coordinate signal timing adjustments with Engineer.

LEGEND

- PCMS
- Temporary sign Type II barricade
- Temporary sign on temporary post
- Temporary impact attenuator (45mph)
- Accessible pedestrian route
- Temporary channelization device (PCD)
- Temporary pavement marking line
- Temporary concrete barrier (reflectorized)
- 28" tubular markers on 20' max. spacing
- Temporary plastic drums on 20' max. spacing
- Under construction
- Under Traffic



SECTION A-A

Scale: 1"=10'
(All Hours)

✻ Maintain 1.5-ft minimum clearance behind temporary concrete barrier. Minimum clearance requires barrier to be secured per ODOT Standard Drawing TM830.

REGISTERED PROFESSIONAL ENGINEER
53,044
Digitally Signed
2025.11.12 16:17:04-08'00'
OREGON
JANUARY 15, 2002
DANA M. BECKWITH
EXPIRES: DEC. 31, 2025

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

GLOBAL Transportation Engineering
227 SW Pine Street
SUITE 220
PORTLAND, OR 97204
503.719.7997

OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Aman Woldetinsae
Drafter: Tracy Molina
Reviewer: Dana Beckwith
Checker: Dana Beckwith

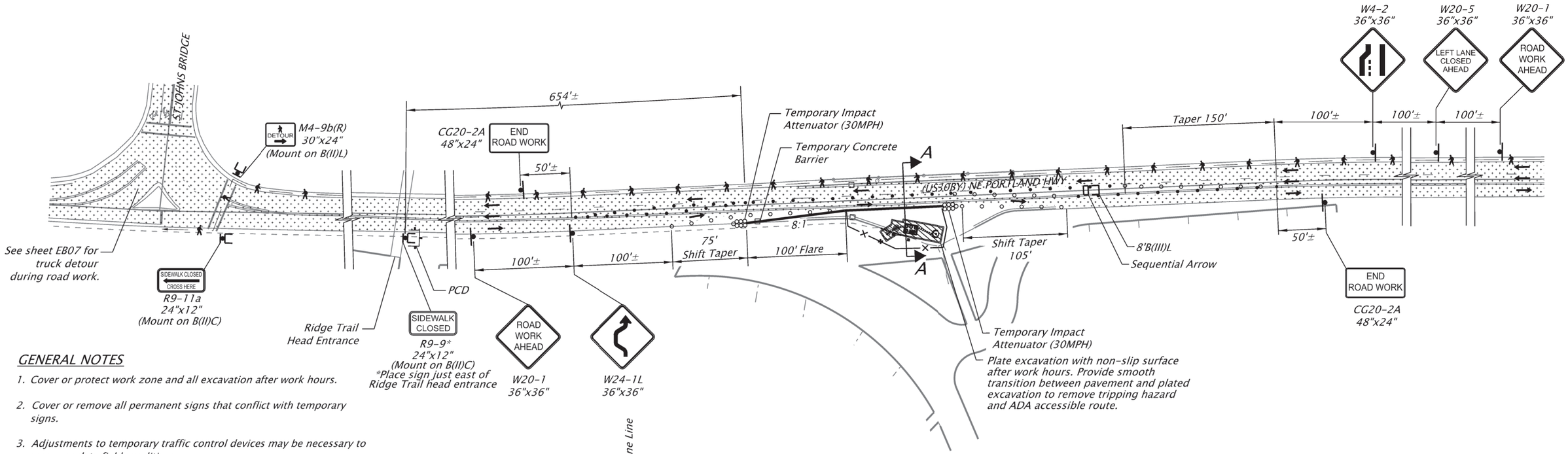
TRAFFIC CONTROL PLAN

SHEET NO. EI01

59V-002

TEMPORARY TRAFFIC CONTROL AND ACCESSIBLE PEDESTRIAN ROUTE

WR206 - US30 M.P. 0.33
(ALL HOURS)

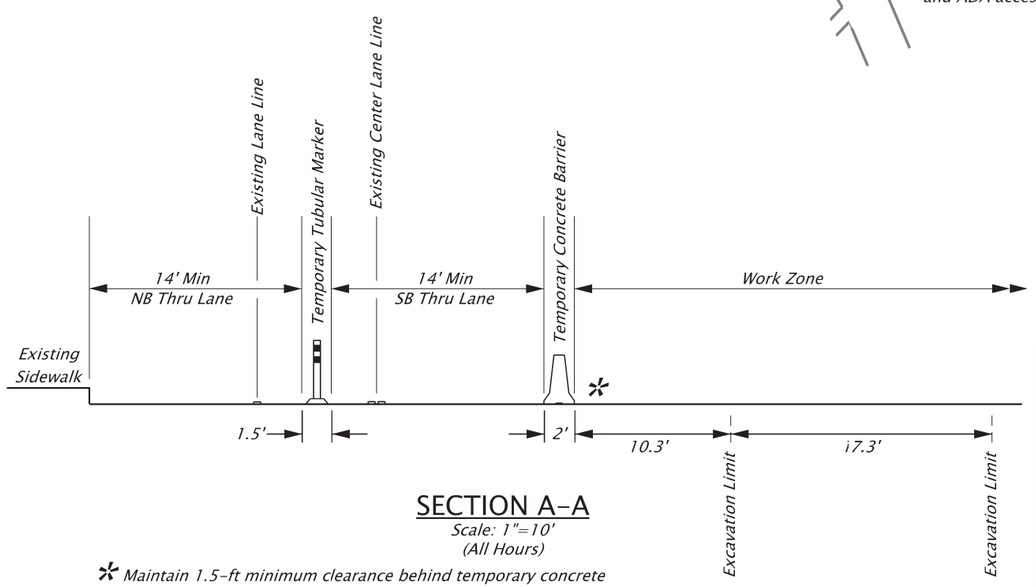


GENERAL NOTES

1. Cover or protect work zone and all excavation after work hours.
2. Cover or remove all permanent signs that conflict with temporary signs.
3. Adjustments to temporary traffic control devices may be necessary to accommodate field conditions.
4. See ODOT TM800 series drawings for additional guidance on temporary lane closure to accommodate traffic.

LEGEND

- Sequential arrow sign
- Temporary type III barricade
- Temporary impact attenuator (30mph)
- Temporary sign Type II barricade
- Temporary sign on temporary sign support (TSS)
- Temporary sign on temporary post
- Temporary Concrete Barrier (reflectorized)
- Temporary pedestrian route
- 28" tubular markers on 20' max. spacing
- Temporary plastic drums on 20' max. spacing
- Temporary pedestrian channelization device (PCD)
- Temporary fencing
- Under construction
- Under Traffic



SECTION A-A

Scale: 1"=10'
(All Hours)

* Maintain 1.5-ft minimum clearance behind temporary concrete barrier. Minimum clearance requires barrier to be secured per ODOT Standard Drawing TM830.

REGISTERED PROFESSIONAL ENGINEER
53,044
Digitally Signed
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OREGON
JANUARY 15, 2002
DANA M. BECKWITH
EXPIRES: DEC. 31, 2025

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OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Aman Woldetinsae
Drafter: Tracy Molina
Reviewer: Dana Beckwith
Checker: Dana Beckwith

TRAFFIC CONTROL PLAN

SHEET NO. EJ01

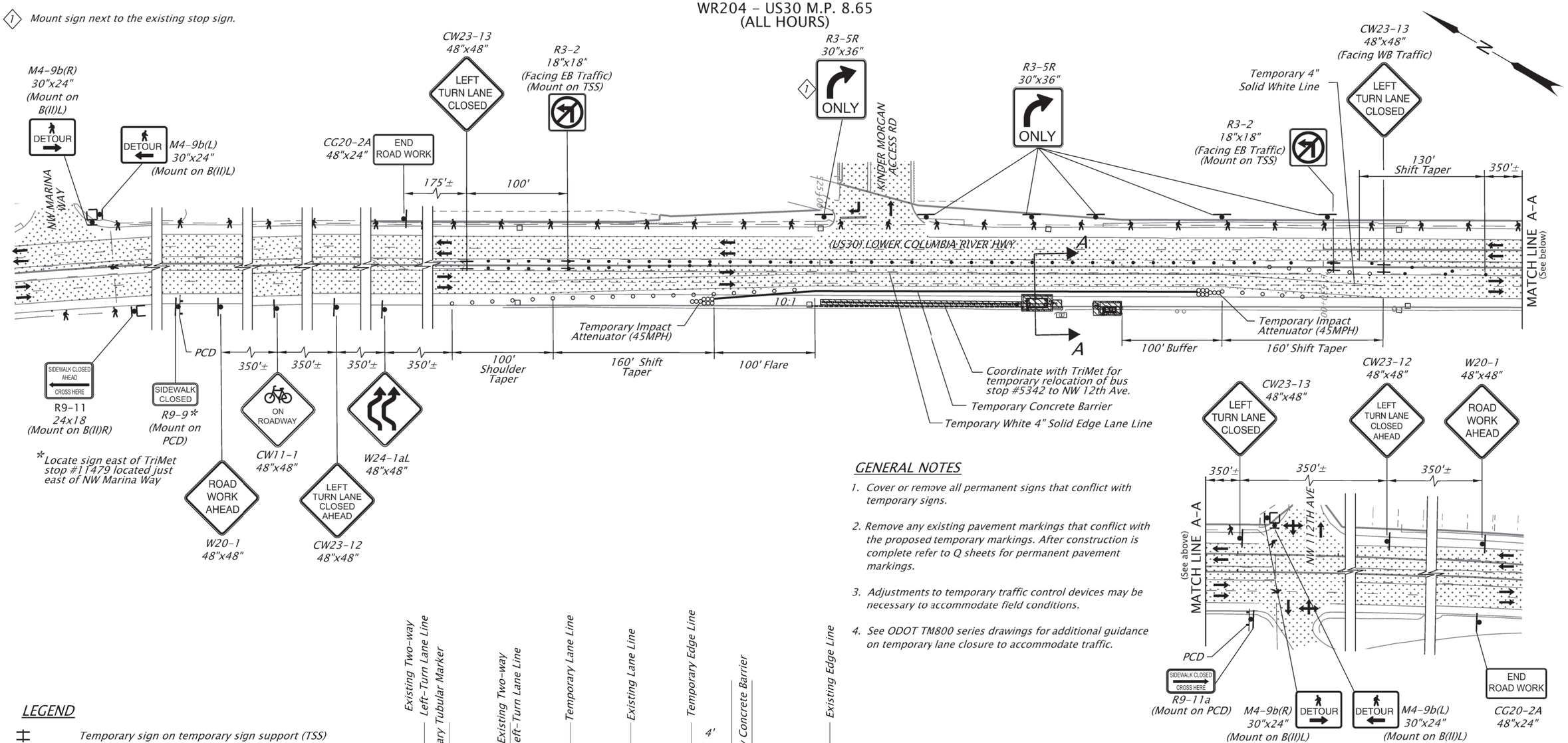
59V-002

TEMPORARY TRAFFIC CONTROL AND ACCESSIBLE PEDESTRIAN ROUTE

WR204 – US30 M.P. 8.65
(ALL HOURS)

CONSTRUCTION NOTE

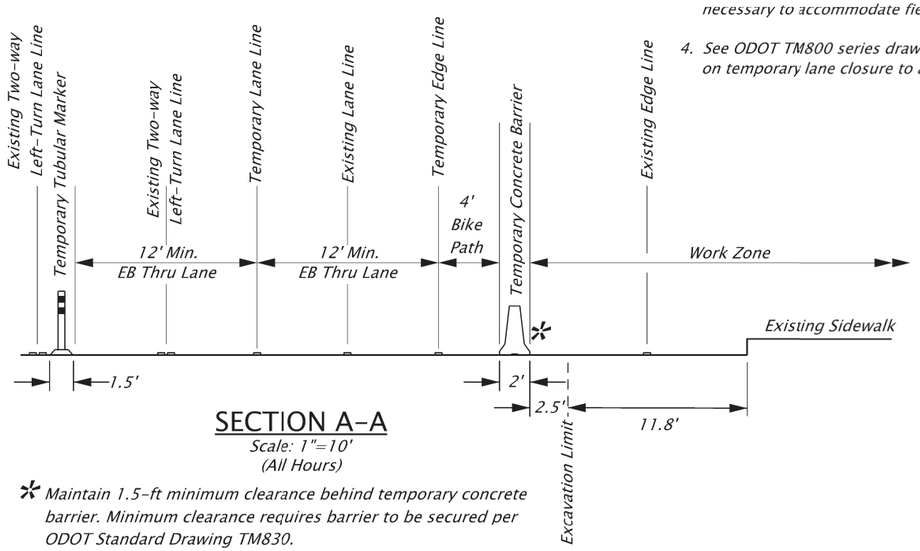
1. Mount sign next to the existing stop sign.



*Locate sign east of TriMet stop #11479 located just east of NW Marina Way

GENERAL NOTES

1. Cover or remove all permanent signs that conflict with temporary signs.
2. Remove any existing pavement markings that conflict with the proposed temporary markings. After construction is complete refer to Q sheets for permanent pavement markings.
3. Adjustments to temporary traffic control devices may be necessary to accommodate field conditions.
4. See ODOT TM800 series drawings for additional guidance on temporary lane closure to accommodate traffic.



SECTION A-A

Scale: 1"=10'
(All Hours)

* Maintain 1.5-ft minimum clearance behind temporary concrete barrier. Minimum clearance requires barrier to be secured per ODOT Standard Drawing TM830.

LEGEND

- Temporary sign on temporary sign support (TSS)
- Temporary sign on temporary post
- Temporary impact attenuator (45mph)
- Temporary accessible pedestrian ramp
- Temporary channelization device (PCD)
- Temporary pavement marking line
- Temporary concrete barrier (reflectorized)
- 28" tubular markers on 20' max. spacing
- Temporary plastic drums on 20' max. spacing
- Under construction
- Under Traffic
- Temporary pedestrian route

REGISTERED PROFESSIONAL ENGINEER
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JANUARY 15, 2002
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EXPIRES: DEC. 31, 2025

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OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

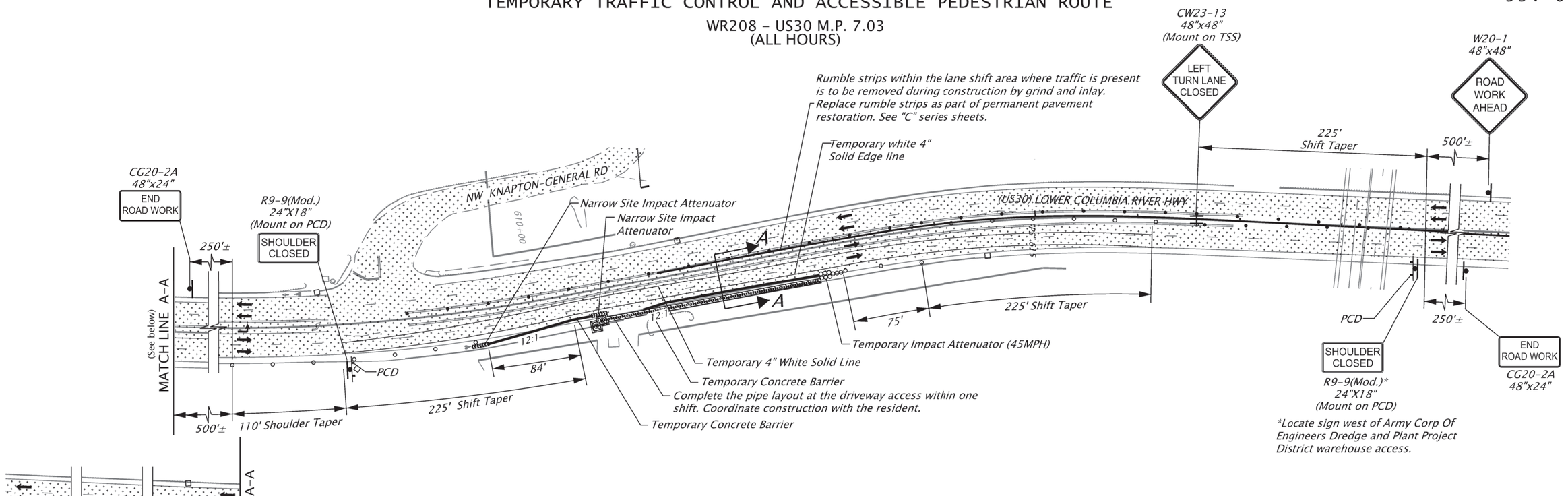
Designer: Aman Woldetinsae
Drafter: Tracy Molina
Reviewer: Dana Beckwith
Checker: Dana Beckwith

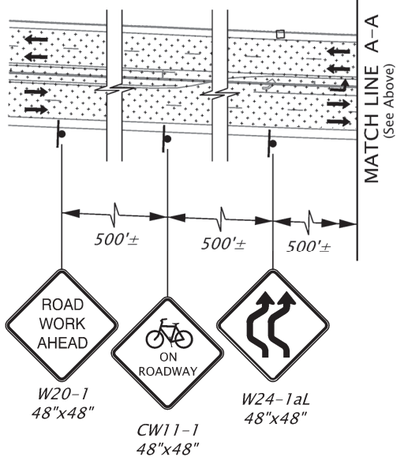
TRAFFIC CONTROL PLAN

SHEET NO. EK01

TEMPORARY TRAFFIC CONTROL AND ACCESSIBLE PEDESTRIAN ROUTE

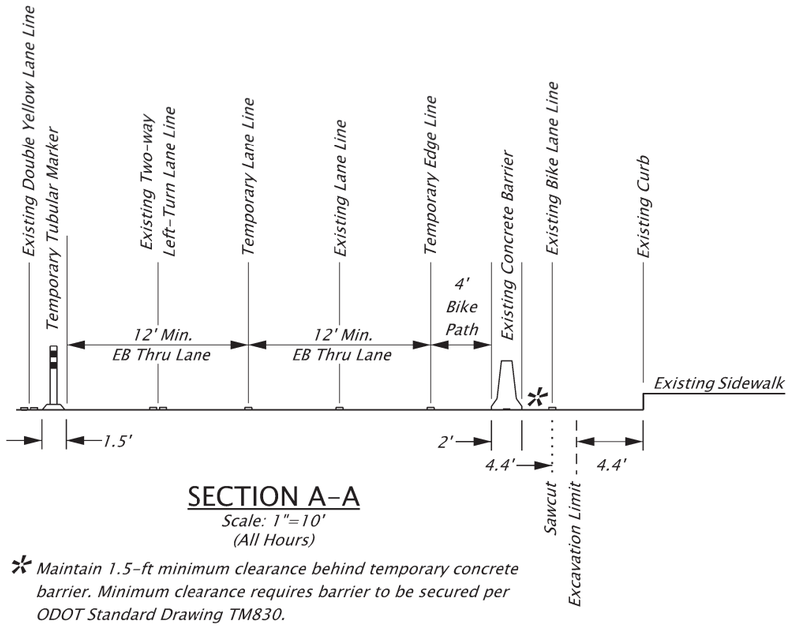
WR208 - US30 M.P. 7.03
(ALL HOURS)





LEGEND

- Temporary Impact Attenuator (Narrow Site System)
- Temporary Impact Attenuator (45MPH)
- Temporary sign on temporary post
- Temporary sign on temporary sign support (TSS)
- Temporary pavement marking line
- Temporary concrete barrier (reflectorized)
- Temporary pedestrian channelization device (PCD)
- Temporary plastic drums on 40' max. spacing
- 28" tubular markers on 40' max. spacing
- Under construction
- Under Traffic



SECTION A-A

Scale: 1"=10'
(All Hours)

✻ Maintain 1.5-ft minimum clearance behind temporary concrete barrier. Minimum clearance requires barrier to be secured per ODOT Standard Drawing TM830.

GENERAL NOTES

1. Cover or remove all permanent signs that conflict with temporary signs.
2. Remove any existing pavement markings that conflict with the proposed temporary markings. After construction is complete refer to Q sheets for permanent pavement markings.
3. Adjustments to temporary traffic control devices may be necessary to accommodate field conditions.
4. See ODOT TM800 series drawings for additional guidance on temporary lane closure to accommodate traffic.

N

REGISTERED PROFESSIONAL ENGINEER
53,044
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OREGON
JANUARY 15, 2002
DANA M. BECKWITH
EXPIRES: DEC. 31, 2025

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OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Aman Woldetinsae
Drafter: Tracy Molina
Reviewer: Dana Beckwith
Checker: Dana Beckwith

TRAFFIC CONTROL PLAN

SHEET NO. EL01

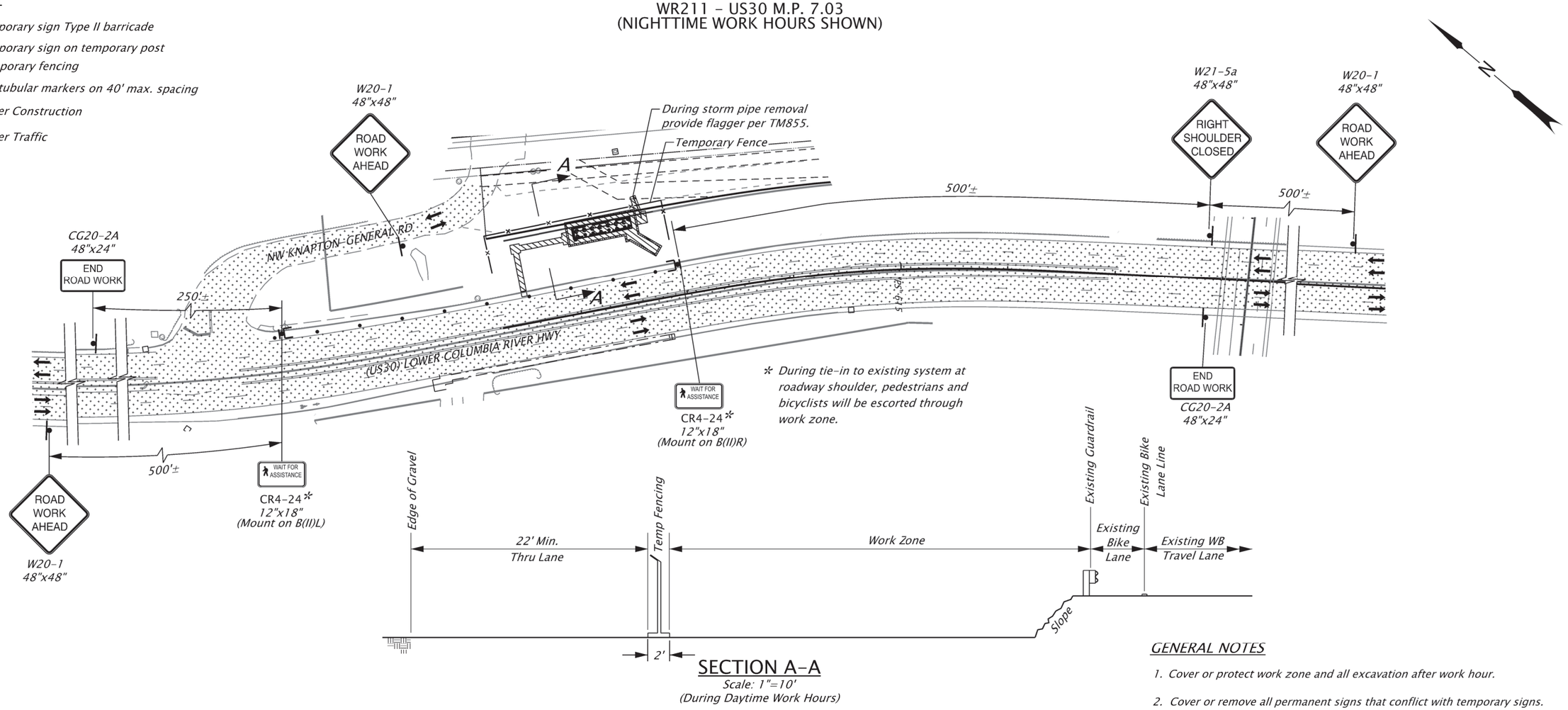
59V-002

TEMPORARY TRAFFIC CONTROL AND ACCESSIBLE PEDESTRIAN ROUTE

WR211 – US30 M.P. 7.03
(NIGHTTIME WORK HOURS SHOWN)

LEGEND

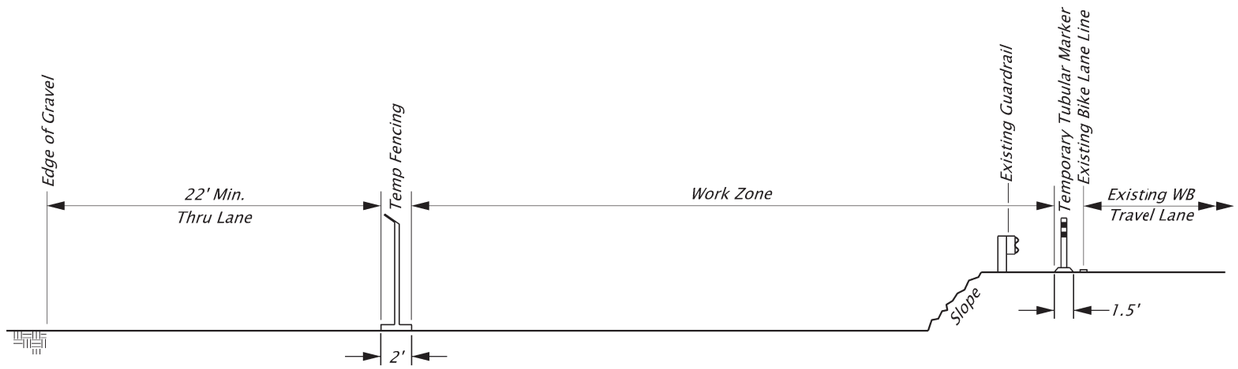
- *Temporary sign Type II barricade*
- *Temporary sign on temporary post*
- *Temporary fencing*
- *28" tubular markers on 40' max. spacing*
- *Under Construction*
- *Under Traffic*



* *During tie-in to existing system at roadway shoulder, pedestrians and bicyclists will be escorted through work zone.*

SECTION A–A

Scale: 1"=10'
(During Daytime Work Hours)



SECTION A–A

Scale: 1"=10'
(During Nighttime Work Hours)

GENERAL NOTES

1. *Cover or protect work zone and all excavation after work hour.*
2. *Cover or remove all permanent signs that conflict with temporary signs.*
3. *Adjustments to temporary traffic control devices may be necessary to accommodate field conditions.*
4. *See ODOT TM800 series drawings for additional guidance on temporary lane closure to accommodate traffic.*

REGISTERED PROFESSIONAL ENGINEER
53,044
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WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Aman Woldetinsae
Drafter: Tracy Molina
Reviewer: Dana Beckwith
Checker: Dana Beckwith

TRAFFIC CONTROL PLAN

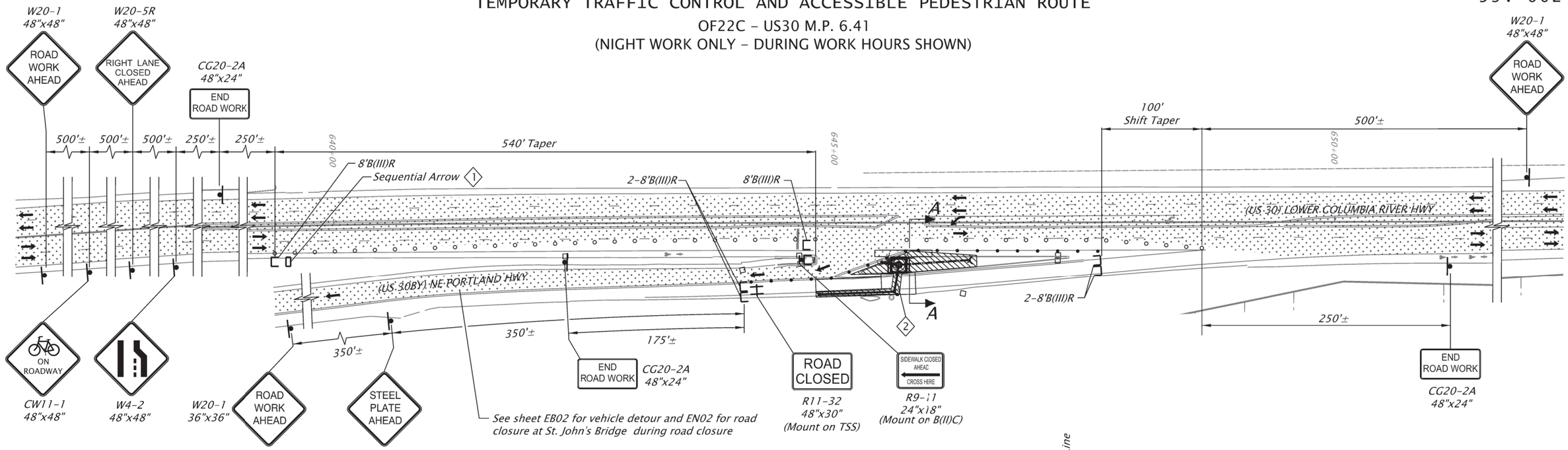
SHEET NO. EM01

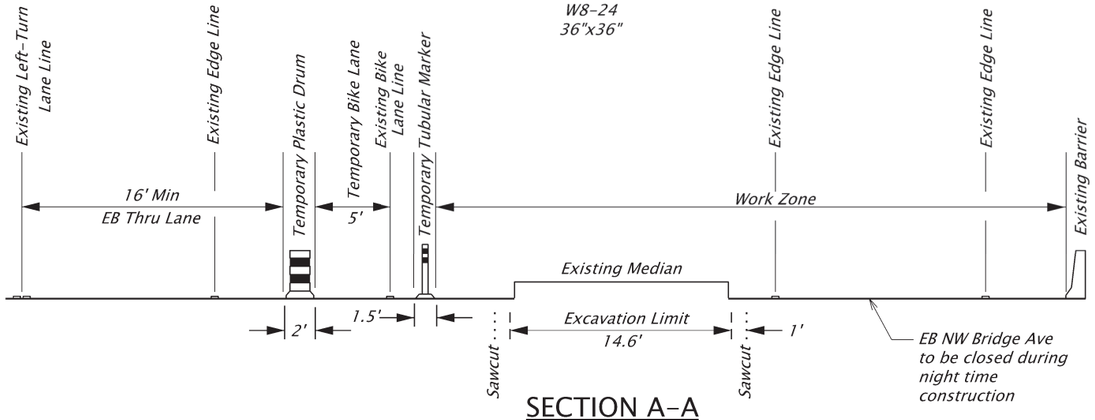
59V-002

TEMPORARY TRAFFIC CONTROL AND ACCESSIBLE PEDESTRIAN ROUTE

OF22C – US30 M.P. 6.41

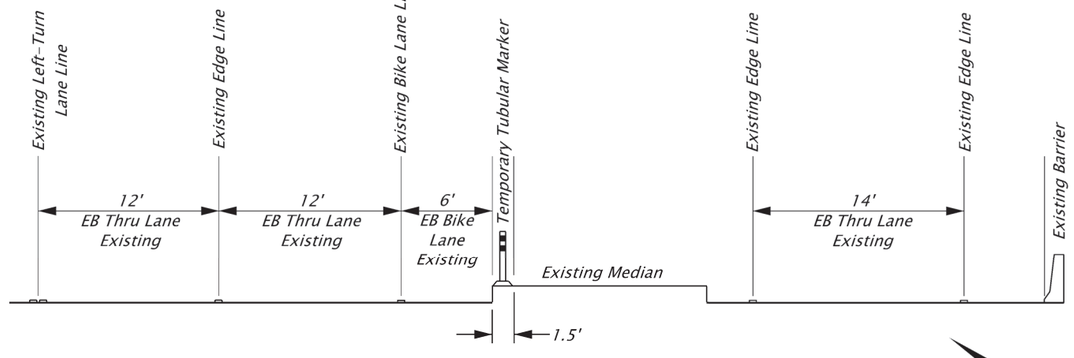
(NIGHT WORK ONLY – DURING WORK HOURS SHOWN)





SECTION A-A

Scale: 1"=10'
(During Active Work Hours)
(Night Time Construction)



SECTION A-A

Scale: 1"=10'
(After Work Hours)

LEGEND

- Sequential arrow sign
- Temporary type III barricade
- Temporary sign on temporary sign support (TSS)
- Temporary sign on temporary post
- 28" tubular markers on 20' max. spacing
- Temporary plastic drums on 20' max. spacing
- Temporary pedestrian channelization device (PCD)
- Under Construction
- Under Traffic

GENERAL NOTES

1. Cover or protect work zone and all excavation after work hours.
2. Cover or remove all permanent signs that conflict with temporary signs.
3. Adjustments to temporary traffic control devices may be necessary to accommodate field conditions.
4. See ODOT TM800 series drawings for additional guidance on temporary lane closure to accommodate traffic.
5. Roadway closure allowed during night time only. See sheet EB02 for vehicle detours during EB NW Bridge Ave closure.

CONSTRUCTION NOTES:

1. If shoulder space for sign placement is unavailable shift the sequential arrow, barricade and taper north up to 1,000 feet from work zone. Ensure the bike lane is retained up to the work zone.
2. After work hours cover excavation with non-slip surface steel plate.

REGISTERED PROFESSIONAL ENGINEER
53,044
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OREGON
JANUARY 15, 2002
DANA M. BECKWITH
EXPIRES: DEC. 31, 2025

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GLOBAL Transportation Engineering
227 SW Pine Street
SUITE 220
PORTLAND, OR 97204
503.719.7997

OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Aman Woldetinsae
Reviewer: Dana Beckwith
Drafter: Tracy Molina
Checker: Dana Beckwith

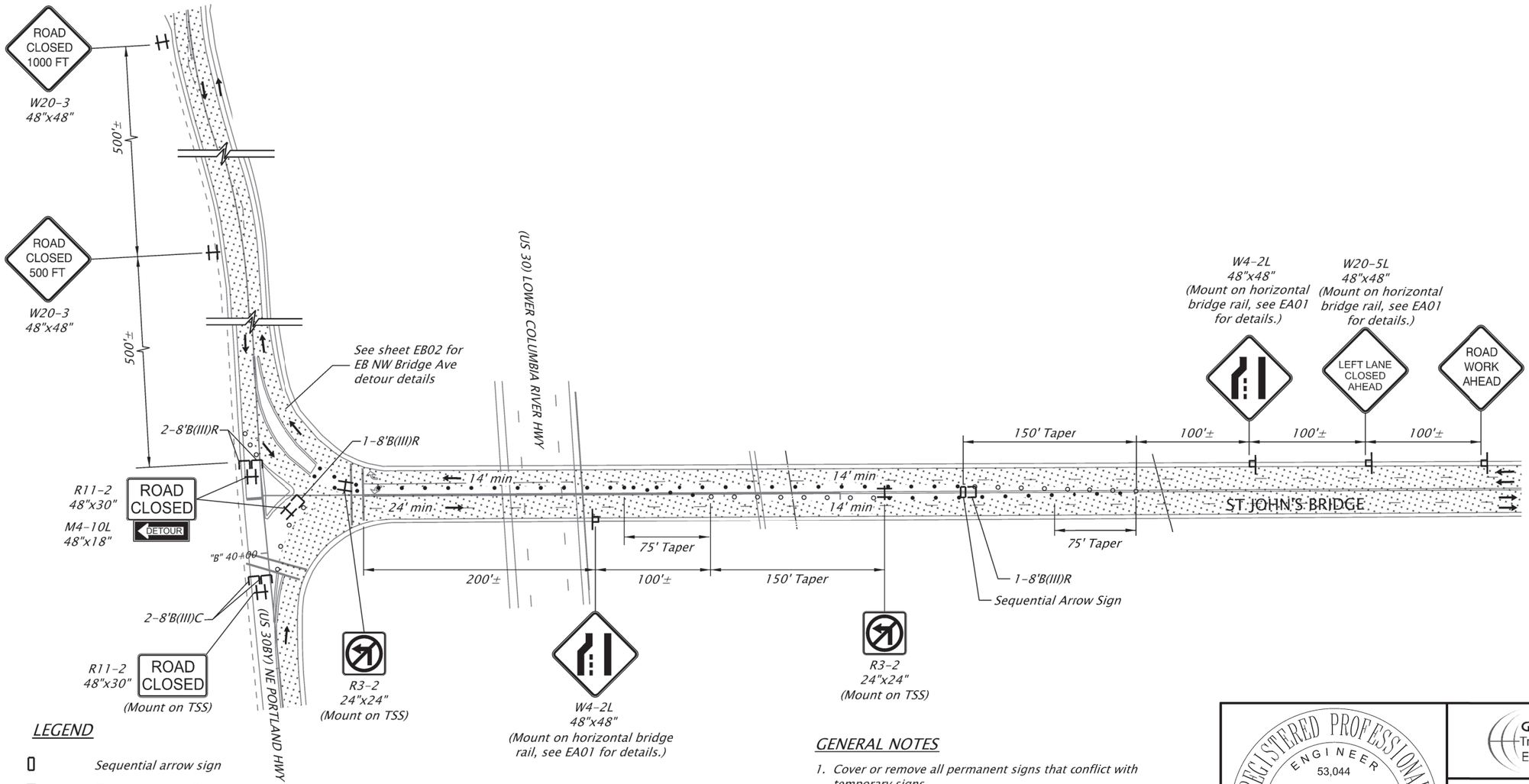
TRAFFIC CONTROL PLAN

SHEET NO.
EN01

59V-002

TEMPORARY TRAFFIC CONTROL AND ACCESSIBLE PEDESTRIAN ROUTE

OF22C – US30 M.P. 6.41
(NIGHT WORK ONLY – DURING WORK HOURS SHOWN)



LEGEND

- Sequential arrow sign
- Temporary type III barricade
- Temporary sign on temporary sign support (TSS)
- Temporary sign on existing bridge structure. See details shown on sheet EA01.
- 28" tubular markers on 20' max. spacing
- Temporary plastic drums on 20' max. spacing
- Under Traffic

GENERAL NOTES

1. Cover or remove all permanent signs that conflict with temporary signs.
2. Adjustments to temporary traffic control devices may be necessary to accommodate field conditions.
3. See ODOT TM800 series drawings for additional guidance on temporary lane closure to accommodate traffic.
4. Roadway closure allowed during night time only. Sheet EB02 for vehicle detours during EB NW Bridge Ave closure.

REGISTERED PROFESSIONAL ENGINEER
53,044
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OREGON
JANUARY 15, 2002
DANA M. BECKWITH
EXPIRES: DEC. 31, 2025

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WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Aman Woldetinsae
Drafter: Tracy Molina
Reviewer: Dana Beckwith
Checker: Dana Beckwith

TRAFFIC CONTROL PLAN

SHEET NO. EN02

Rotation: 34° Scale: 1'=100'

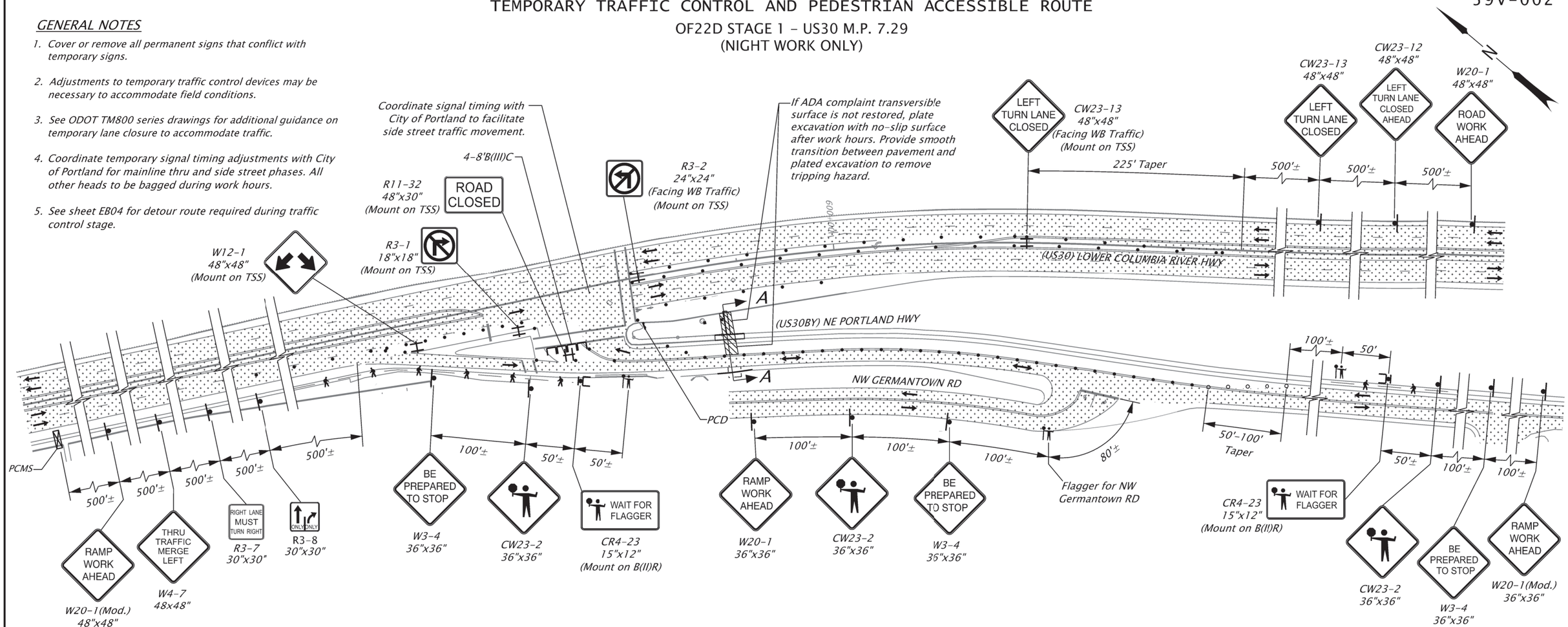
59V-002

TEMPORARY TRAFFIC CONTROL AND PEDESTRIAN ACCESSIBLE ROUTE

OF22D STAGE 1 - US30 M.P. 7.29
(NIGHT WORK ONLY)

GENERAL NOTES

1. Cover or remove all permanent signs that conflict with temporary signs.
2. Adjustments to temporary traffic control devices may be necessary to accommodate field conditions.
3. See ODOT TM800 series drawings for additional guidance on temporary lane closure to accommodate traffic.
4. Coordinate temporary signal timing adjustments with City of Portland for mainline thru and side street phases. All other heads to be bagged during work hours.
5. See sheet EB04 for detour route required during traffic control stage.



LEGEND

- PCMS
- Temporary sign Type II barricade
- Temporary sign on temporary post
- Temporary sign on temporary sign support (TSS)
- Flagger
- Temporary pedestrian route
- Temporary pedestrian channelization device (PCD)
- Temporary plastic drums on 40' max. spacing
- 28" tubular markers on 40' max. spacing
- Temporary plastic drums on 20' max. spacing
- 28" tubular markers on 20' max. spacing
- Under construction
- Under Traffic



SECTION A-A
Scale: 1"=10'
(Night Work Only)

BRIDGE AVE WORK NIGHTS	<DATE> TO <DATE>

PORTABLE CHANGEABLE MESSAGE SIGN
(Suggested Message 1 Week Prior to Construction)
(Locate As Directed)

RIGHT LN RT TURN ONLY	THRU TRAFFIC MERGE LT

PORTABLE CHANGEABLE MESSAGE SIGN
(Suggested Message)
(Locate As Directed)

REGISTERED PROFESSIONAL ENGINEER
53,044
Digitally Signed
2025.11.12 16:17:08-08'00'
OREGON
JANUARY 15, 2002
DANA M. BECKWITH
EXPIRES: DEC. 31, 2025

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227 SW Pine Street
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WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Aman Woldetinsae | Reviewer: Dana Beckwith
Drafter: Tracy Molina | Checker: Dana Beckwith

TRAFFIC CONTROL PLAN

SHEET NO. E001

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

59V-002

TEMPORARY TRAFFIC CONTROL AND PEDESTRIAN ACCESSIBLE ROUTE

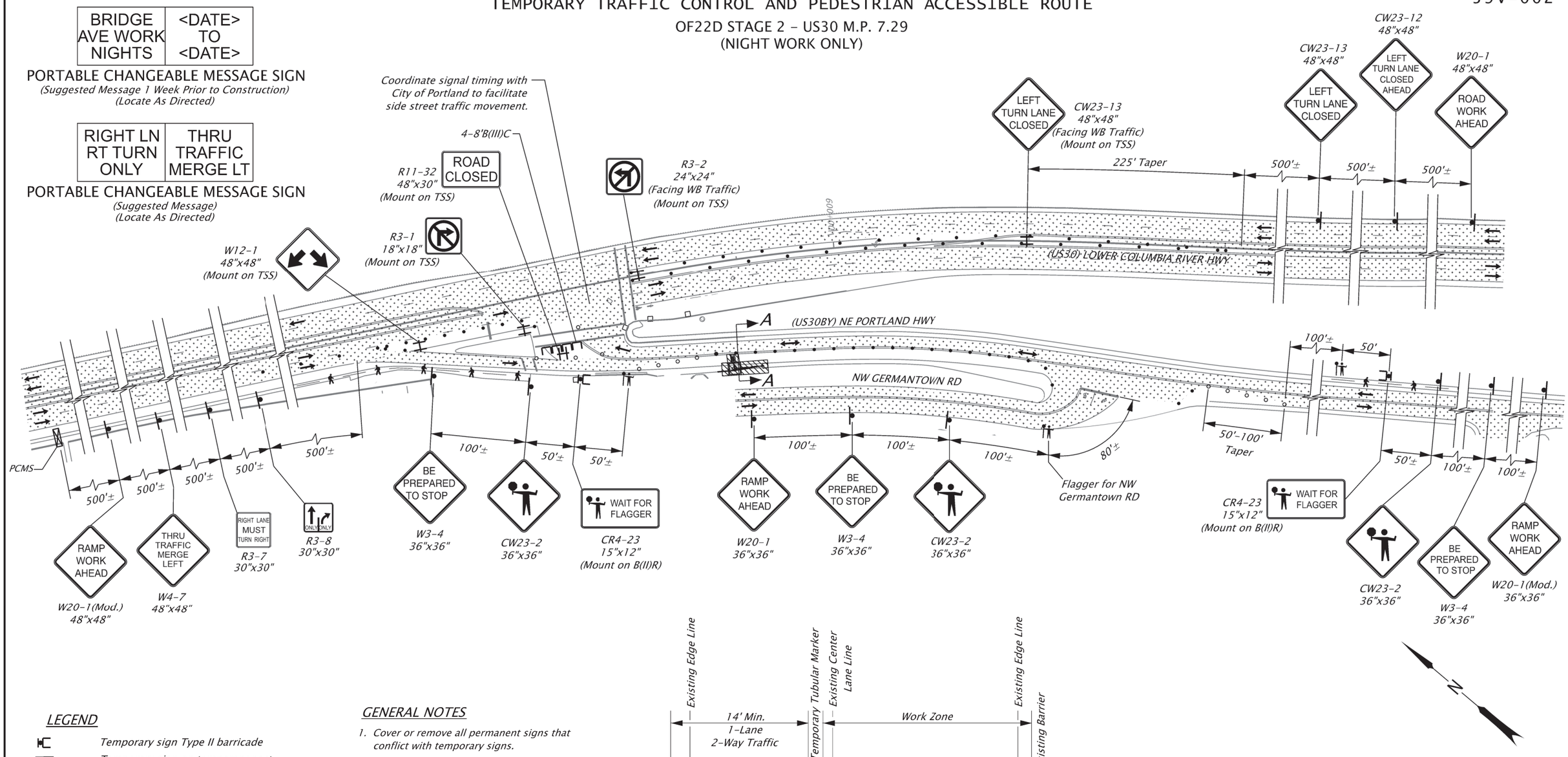
OF22D STAGE 2 - US30 M.P. 7.29
(NIGHT WORK ONLY)

BRIDGE AVE WORK NIGHTS	<DATE> TO <DATE>

PORTABLE CHANGEABLE MESSAGE SIGN
(Suggested Message 1 Week Prior to Construction)
(Locate As Directed)

RIGHT LN RT TURN ONLY	THRU TRAFFIC MERGE LT

PORTABLE CHANGEABLE MESSAGE SIGN
(Suggested Message)
(Locate As Directed)

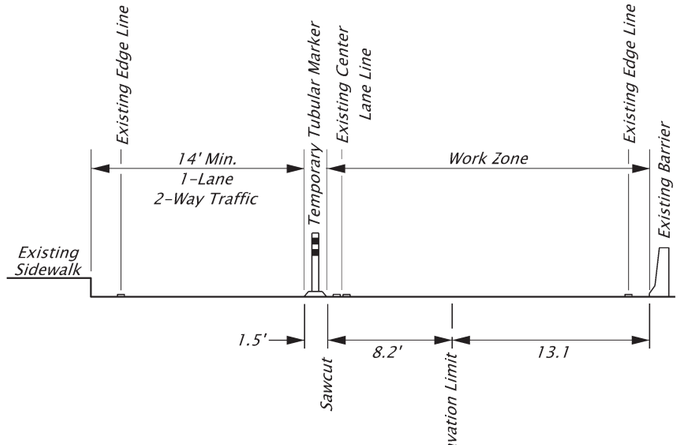


LEGEND

- Temporary sign Type II barricade
- Temporary sign on temporary post
- Temporary sign on temporary sign support (TSS)
- Flagger
- Temporary pedestrian route
- Temporary plastic drums on 40' max. spacing
- 28" tubular markers on 40' max. spacing
- Temporary plastic drums on 20' max. spacing
- 28" tubular markers on 20' max. spacing
- Under construction
- Under Traffic

GENERAL NOTES

1. Cover or remove all permanent signs that conflict with temporary signs.
2. Adjustments to temporary traffic control devices may be necessary to accommodate field conditions.
3. See ODOT TM800 series drawings for additional guidance on temporary lane closure to accommodate traffic.
4. Adjust Signal timing to maintain main lane thru and side street Phases. All other heads to be bagged during work hours.
5. See sheet EB04 for detour route required during traffic control stage.



SECTION A-A
Scale: 1"=10'
(Night Work Only)

REGISTERED PROFESSIONAL ENGINEER
53,044
Digitally Signed
2025.11.12 16:17:08-08'00'
OREGON
JANUARY 15, 2002
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OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Aman Woldetinsae
Drafter: Tracy Molina
Reviewer: Dana Beckwith
Checker: Dana Beckwith

TRAFFIC CONTROL PLAN

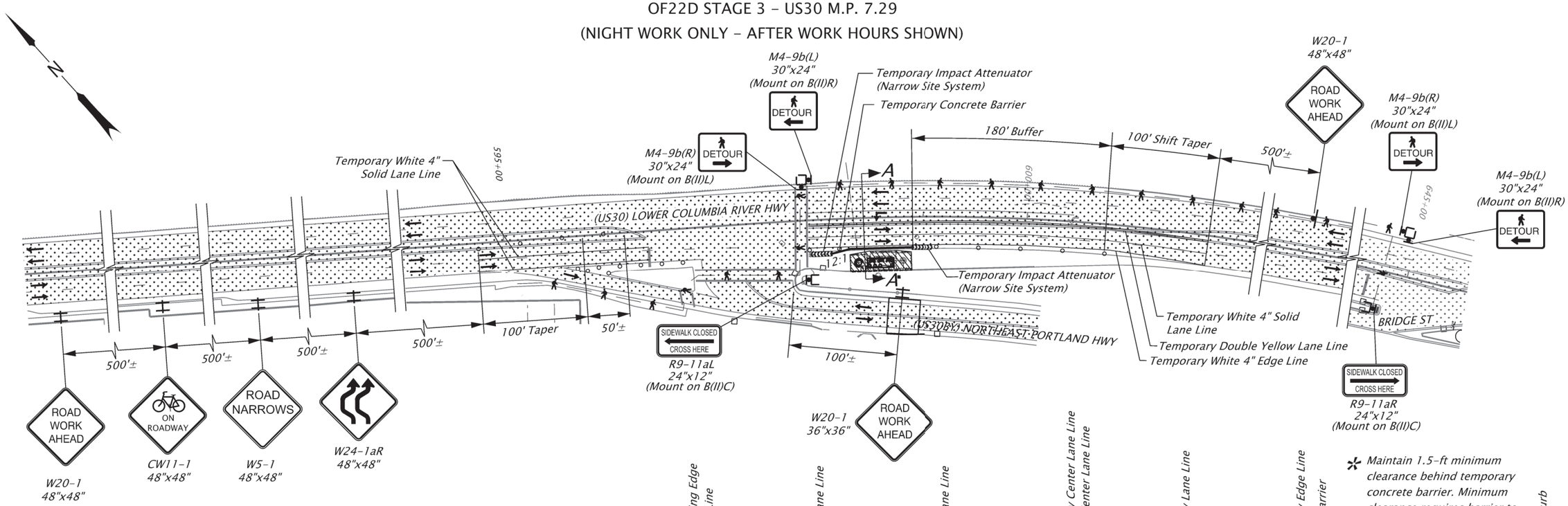
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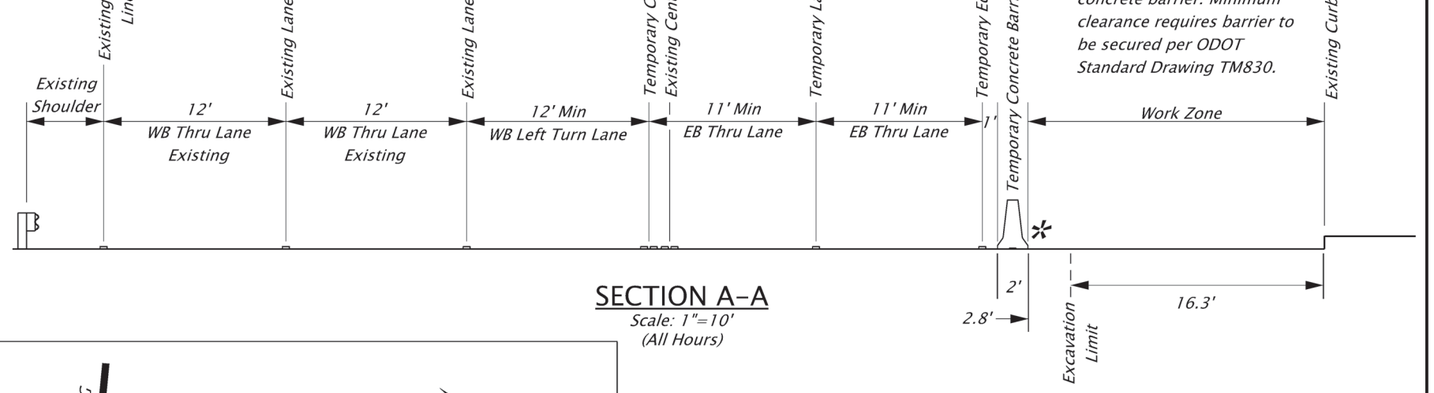
59V-002

TEMPORARY TRAFFIC CONTROL AND PEDESTRIAN ACCESSIBLE ROUTE

OF22D STAGE 3 - US30 M.P. 7.29

(NIGHT WORK ONLY - AFTER WORK HOURS SHOWN)





* *Maintain 1.5-ft minimum clearance behind temporary concrete barrier. Minimum clearance requires barrier to be secured per ODOT Standard Drawing TM830.*

SECTION A-A

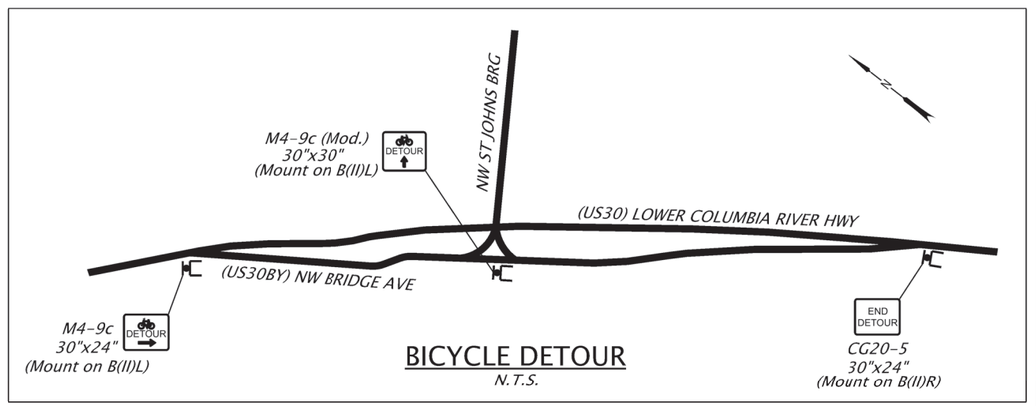
Scale: 1"=10'
(All Hours)

GENERAL NOTES

1. *Cover or protect work zone and all excavation after work hour.*
2. *Cover or remove all permanent signs that conflict with temporary signs.*
3. *Adjustments to temporary traffic control devices may be necessary to accommodate field conditions.*
4. *Remove any existing pavement markings that conflicts with the proposed temporary markings. After construction is complete refer to Q sheets for permanent markings.*
5. *See ODOT TM800 series drawings for additional guidance on temporary lane closure to accommodate traffic.*

LEGEND

- Temporary sign Type II barricade
- Temporary sign on temporary post
- Temporary sign on temporary sign support (TSS)
- Narrow site impact attenuator
- Temporary concrete barrier (reflectorized)
- Temporary pedestrian route
- Temporary plastic drums on 40' max. spacing
- Temporary plastic drums on 20' max. spacing
- Under Construction
- Under Traffic



BICYCLE DETOUR

N.T.S.

REGISTERED PROFESSIONAL ENGINEER
53,044
Digitally Signed
2025.11.12 16:17:09-08'00'
OREGON
JANUARY 15, 2002
DANA M. BECKWITH
EXPIRES: DEC. 31, 2025

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

GLOBAL Transportation Engineering
227 SW Pine Street
SUITE 220
PORTLAND, OR 97204
503.719.7997

OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Aman Woldetinsae
Drafter: Tracy Molina
Reviewer: Dana Beckwith
Checker: Dana Beckwith

TRAFFIC CONTROL PLAN

SHEET NO. E003

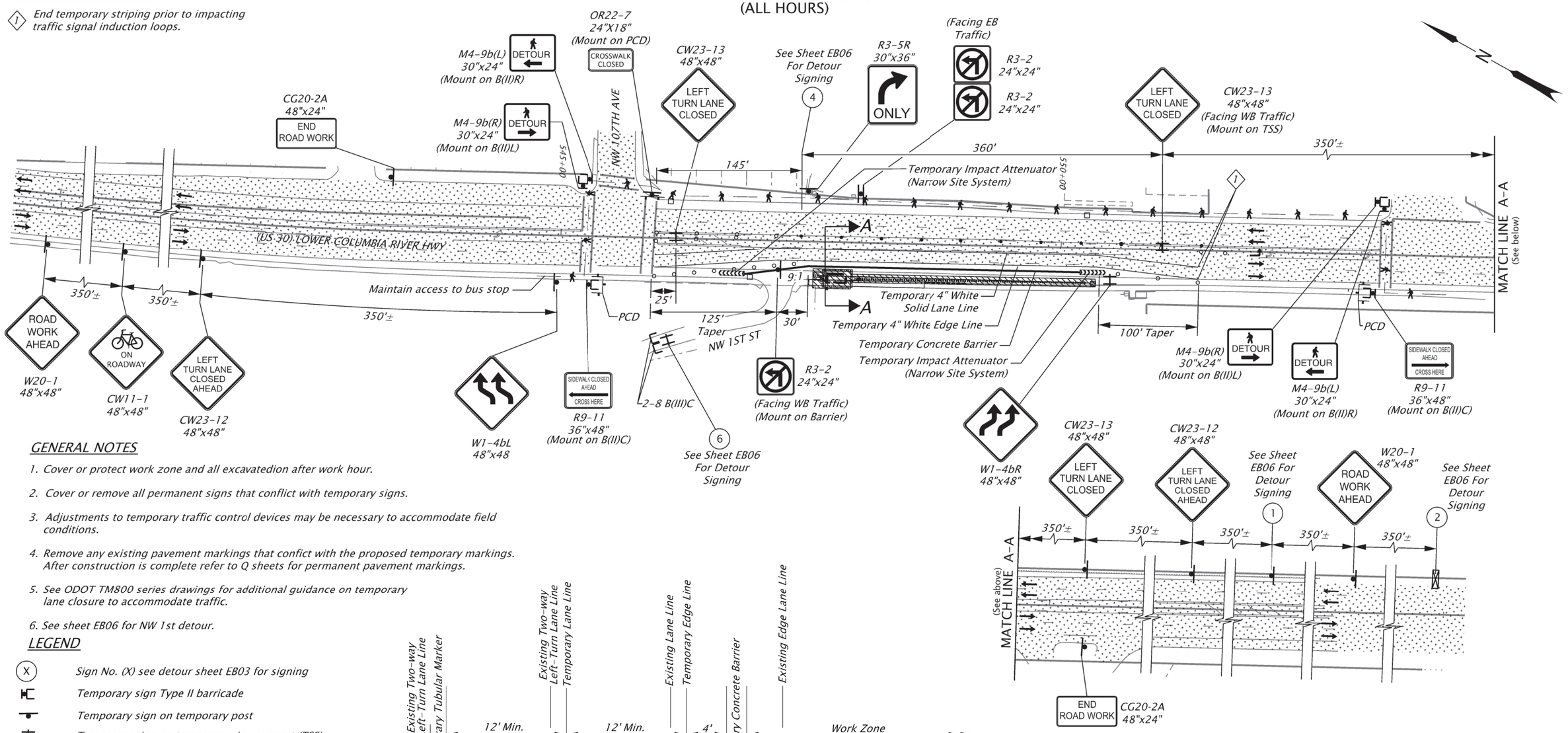
59V-002

TEMPORARY TRAFFIC CONTROL AND ACCESSIBLE PEDESTRIAN ROUTE

WR126 – US30 M.P. 8.26
(ALL HOURS)

CONSTRUCTION NOTE

1. End temporary striping prior to impacting traffic signal induction loops.

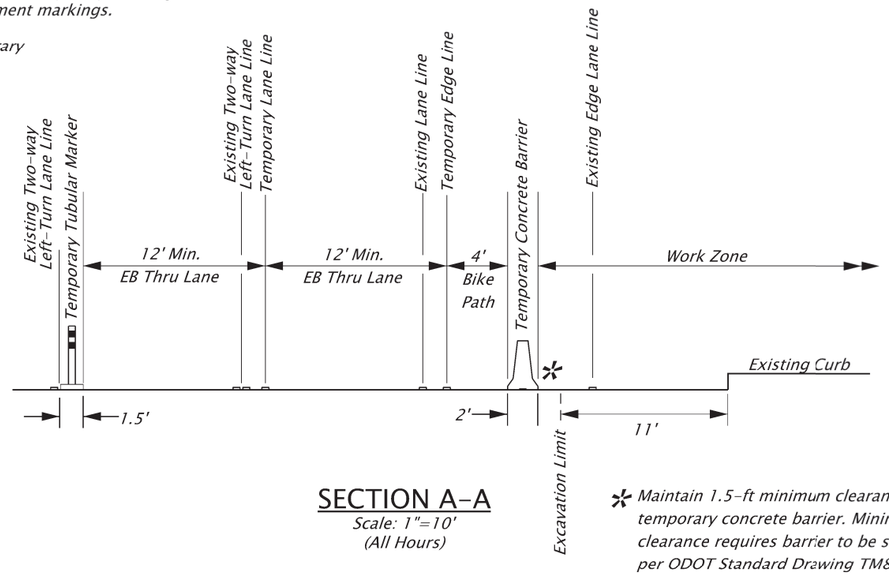


GENERAL NOTES

1. Cover or protect work zone and all excavatedion after work hour.
2. Cover or remove all permanent signs that conflict with temporary signs.
3. Adjustments to temporary traffic control devices may be necessary to accommodate field conditions.
4. Remove any existing pavement markings that confict with the proposed temporary markings. After construction is complete refer to Q sheets for permanent pavement markings.
5. See ODOT TM800 series drawings for additional guidance on temporary lane closure to accommodate traffic.
6. See sheet EB06 for NW 1st detour.

LEGEND

- (X) Sign No. (X) see detour sheet EB03 for signing
- Temporary sign Type II barricade
- Temporary sign on temporary post
- Temporary sign on temporary sign support (TSS)
- Temporary type III barricade
- Temporary Impact Attenuator (Narrow Site System)
- Temporary pedestrian channelization device (PCD)
- Temporary pavement marking line
- Temporary concrete barrier
- Temporary pedestrian route
- Temporary plastic drums on 40' max. spacing
- 28" tubular markers on 40' max. spacing
- Temporary plastic drums on 20' max. spacing
- Under Construction
- Under Traffic



SECTION A-A

Scale: 1"=10'
(All Hours)

✻ Maintain 1.5-ft minimum clearance behind temporary concrete barrier. Minimum clearance requires barrier to be secured per ODOT Standard Drawing TM830.

REGISTERED PROFESSIONAL ENGINEER
53,044
Digitally Signed
2025.11.12 16:17:09-08'00'
OREGON
JANUARY 15, 2002
DANA M. BECKWITH
EXPIRES: DEC. 31, 2025

GLOBAL Transportation Engineering
227 SW Pine Street
SUITE 220
PORTLAND, OR 97204
503.719.7997

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Aman Woldetinsae
Drafter: Tracy Molina
Reviewer: Dana Beckwith
Checker: Dana Beckwith

TRAFFIC CONTROL PLAN

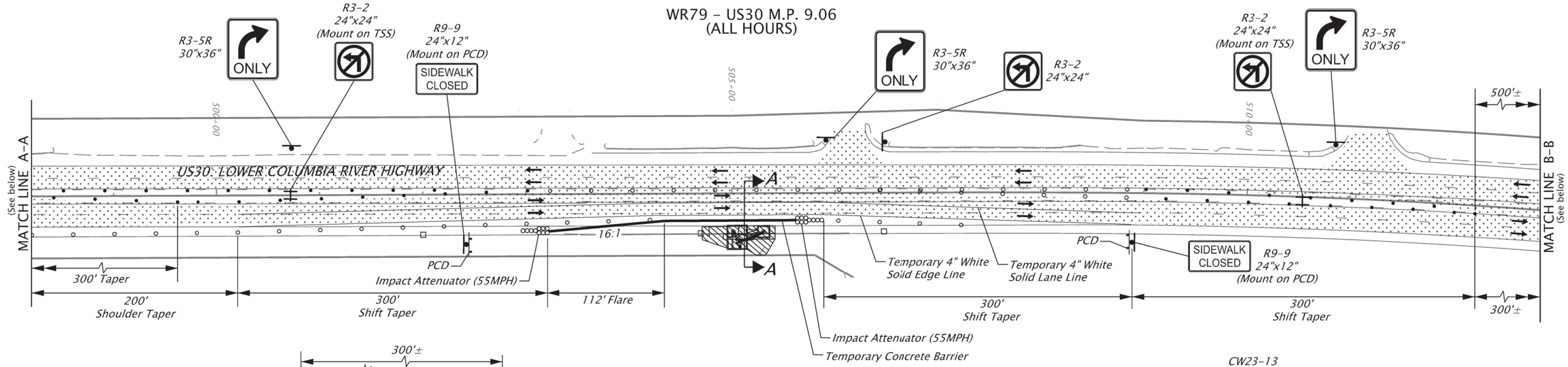
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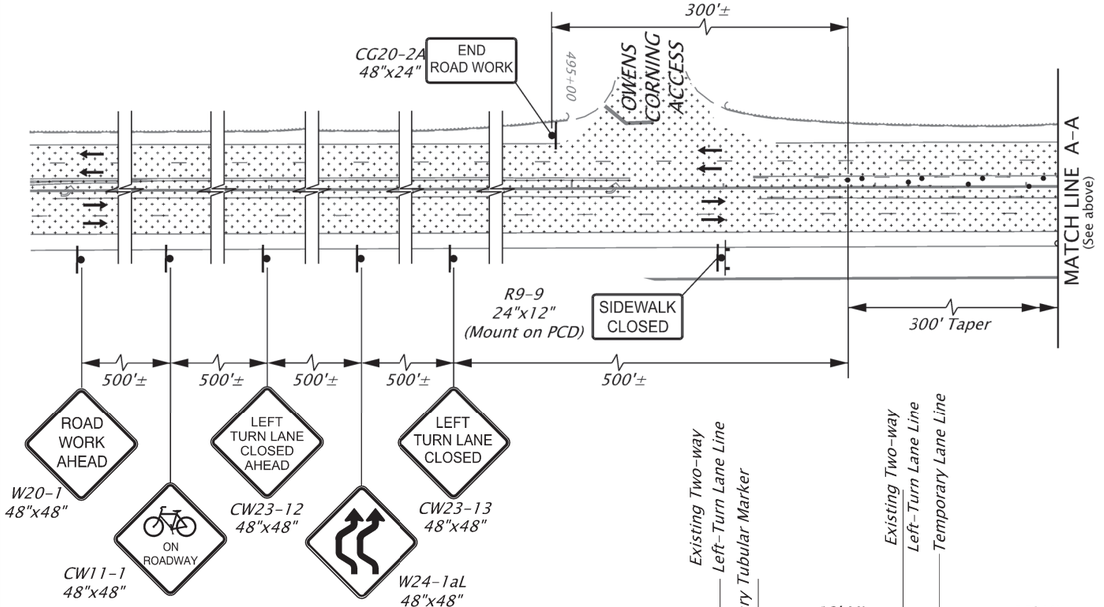
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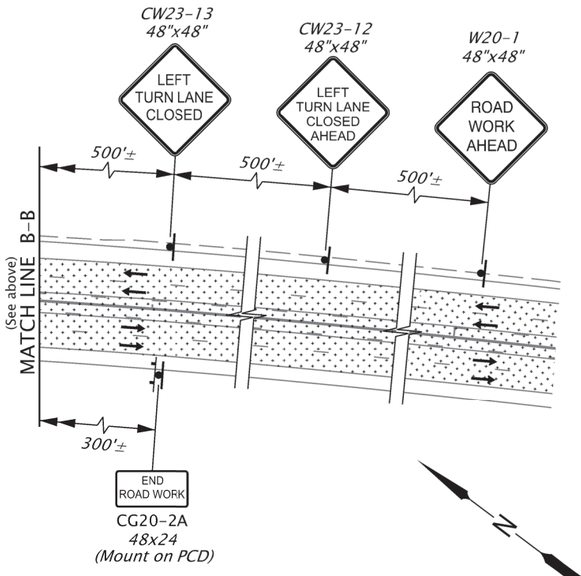
59V-002

TEMPORARY TRAFFIC CONTROL AND ACCESSIBLE PEDESTRIAN ROUTE

WR79 - US30 M.P. 9.06
(ALL HOURS)

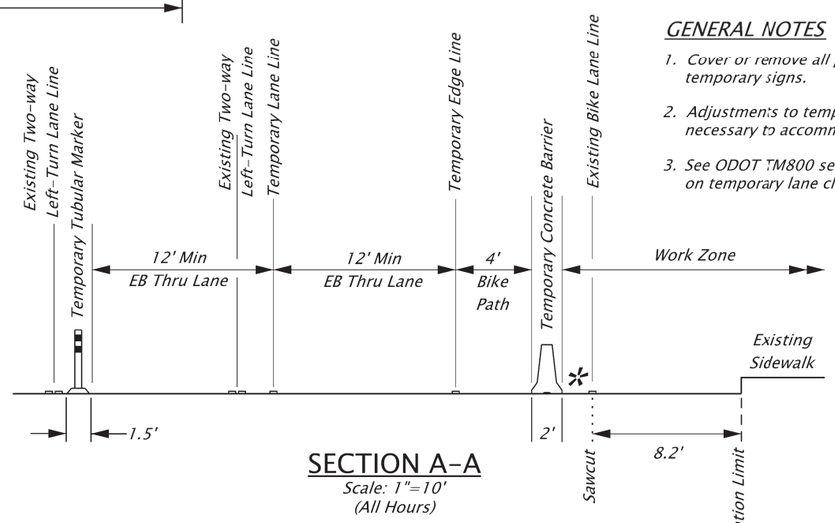






LEGEND

- Temporary sign on temporary post
- Temporary sign on temporary sign support (TSS)
- Temporary Impact Attenuator (55MPH)
- Temporary pavement marking line
- Temporary concrete barrier
- Temporary pedestrian channelization device (PCD)
- Temporary plastic drums on 40' max. spacing
- 28" tubular markers on 40' max. spacing
- Under construction
- Under Traffic



SECTION A-A

Scale: 1"=10'
(All Hours)

GENERAL NOTES

1. Cover or remove all permanent signs that conflict with temporary signs.
2. Adjustments to temporary traffic control devices may be necessary to accommodate field conditions.
3. See ODOT TM800 series drawings for additional guidance on temporary lane closure to accommodate traffic.

✻ Maintain 1.5-ft minimum clearance behind temporary concrete barrier. Minimum clearance requires barrier to be secured per ODOT Standard Drawing TM830.

REGISTERED PROFESSIONAL ENGINEER
53,044
Digitally Signed
2025.11.12 16:17:10-08'00'
OREGON
JANUARY 15, 2002
DANA M. BECKWITH
EXPIRES: DEC. 31, 2025

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

GLOBAL Transportation Engineering
227 SW Pine Street
SUITE 220
PORTLAND, OR 97204
503.719.7997

OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

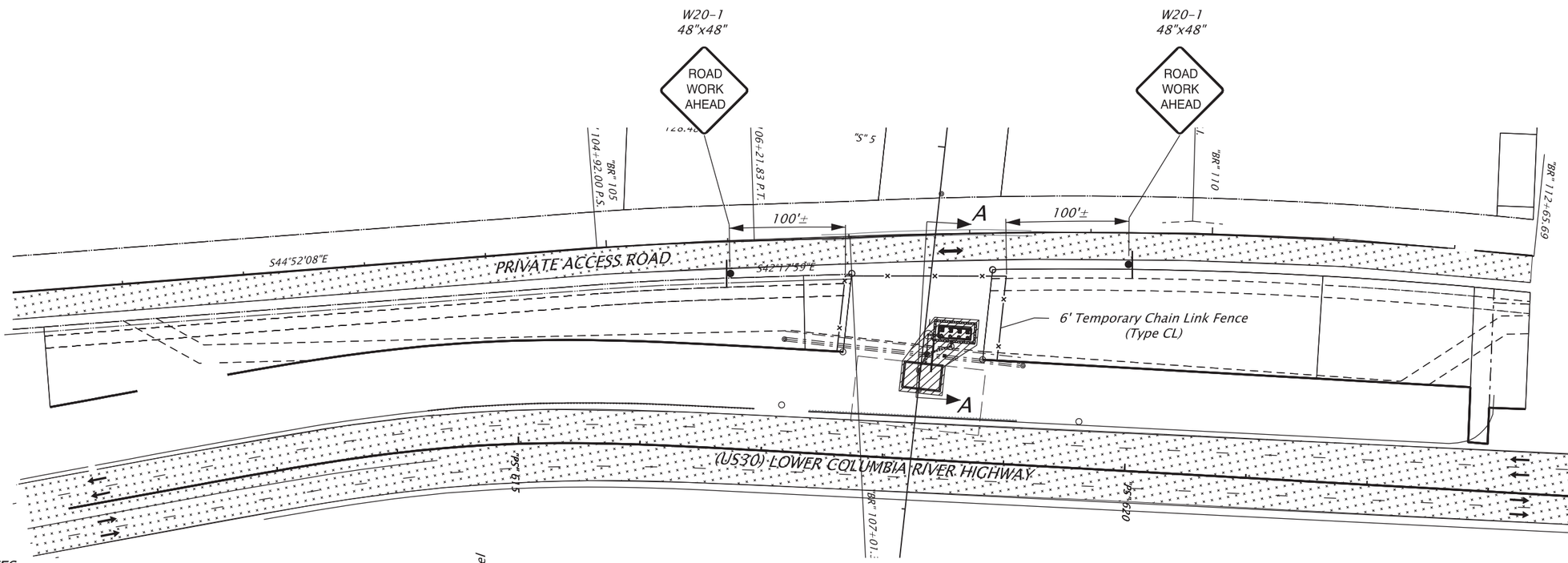
Designer: Aman Woldetinsae
Drafter: Tracy Molina
Reviewer: Dana Beckwith
Checker: Dana Beckwith

TRAFFIC CONTROL PLAN

SHEET NO. EQ01

TEMPORARY TRAFFIC CONTROL AND ACCESSIBLE PEDESTRIAN ROUTE

ST JOHNS BRIDGE-WEST
US30 M.P. 6.92
(ALL HOURS)

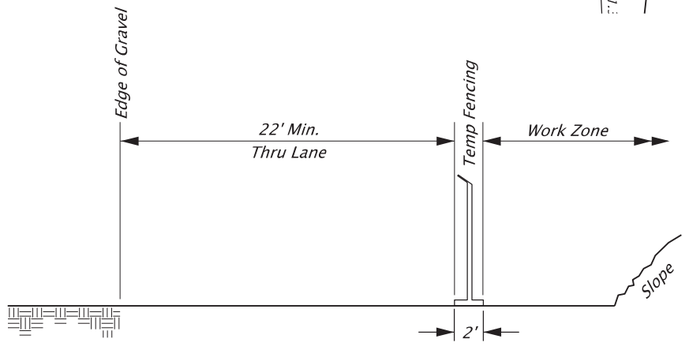


GENERAL NOTES

1. Cover or protect work zone and all excavation after work hours.
2. Cover or remove all permanent signs that conflict with temporary signs.
3. Adjustments to temporary traffic control devices may be necessary to accommodate field conditions.
4. See ODOT TM800 series drawings for additional guidance on temporary lane closure to accommodate traffic.
5. Contractor to provide fencing along perimeter of work zone to restricted unauthorized access.

LEGEND

- Temporary sign on temporary post
- Temporary fencing
- Under construction



SECTION A-A

Scale: 1"=10'
(All Hours)

N

REGISTERED PROFESSIONAL ENGINEER
53,044
Digitally Signed
2025.11.12 16:17:10-08'00'
OREGON
JANUARY 15, 2002
DANA M. BECKWITH
EXPIRES: DEC. 31, 2025

FINAL ELECTRONIC DOCUMENT
AVAILABLE UPON REQUEST

GLOBAL Transportation Engineering
227 SW Pine Street
SUITE 220
PORTLAND, OR 97204
503.719.7997

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

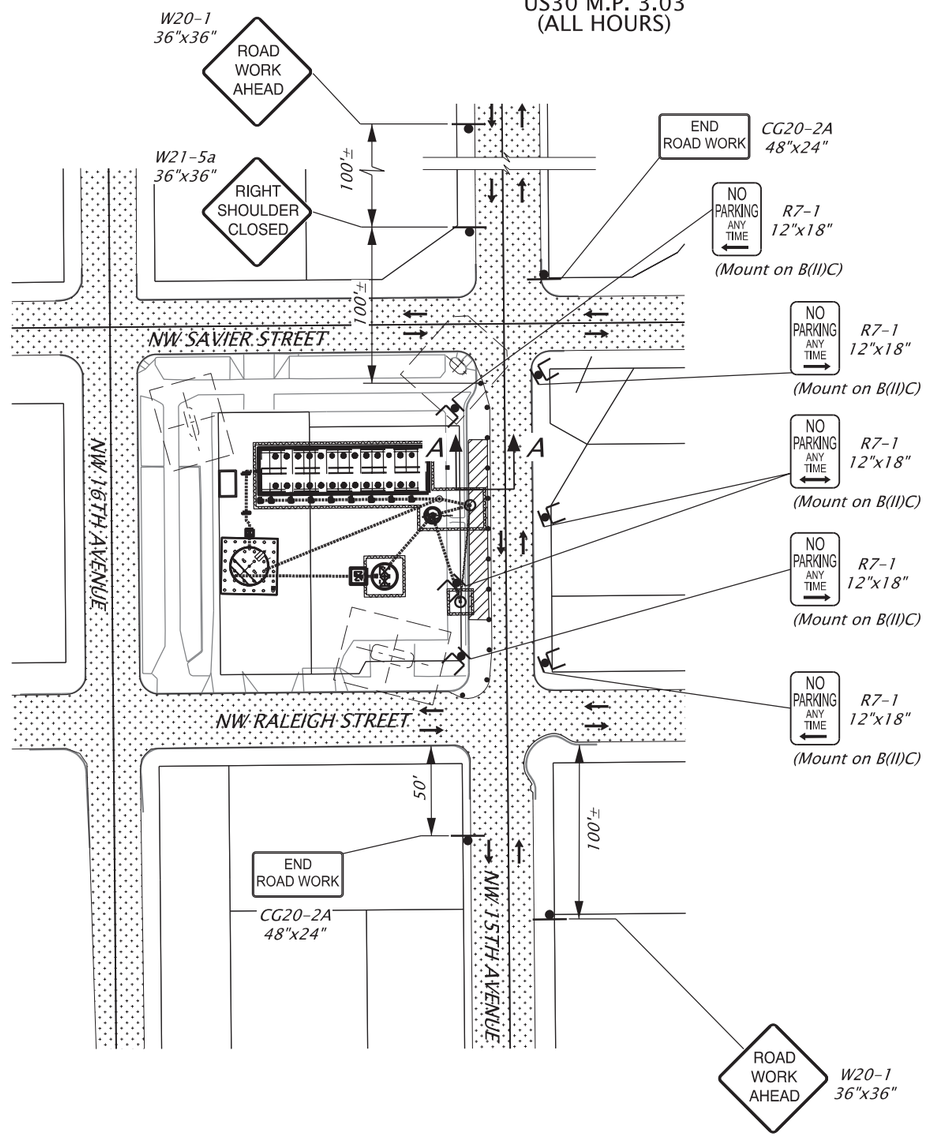
Designer: Aman Woldetinsae
Drafter: Tracy Molina
Reviewer: Dana Beckwith
Checker: Dana Beckwith

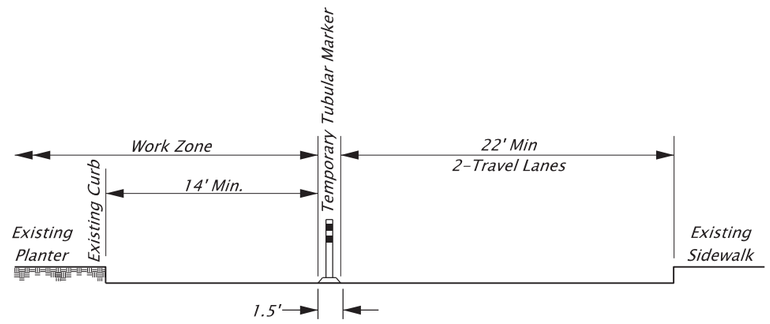
TRAFFIC CONTROL PLAN

SHEET NO.
ER01

TEMPORARY TRAFFIC CONTROL AND PEDESTRIAN ACCESSIBLE ROUTE

1405/FREMONT BRIDGE – INTERCHANGE
US30 M.P. 3.03
(ALL HOURS)





SECTION A–A
Scale: 1"=10'
(All Hours)

N

GENERAL NOTES

1. *Cover or protect work zone and all excavation after work hour.*
2. *Cover or remove all permanent signs that conflict with temporary signs.*
3. *Adjustments to temporary traffic control devices may be necessary to accommodate field conditions.*
4. *See ODOT TM800 series drawings for additional guidance on temporary lane closure to accommodate traffic.*
5. *Contractor to provide fencing along perimeter of work zone to restricted unauthorized access.*

LEGEND

- *Temporary sign Type II barricade*
- *Temporary sign on temporary post*
- *28" tubular markers on 20' max. spacing*
- *Under construction*
- *Under Traffic*

REGISTERED PROFESSIONAL ENGINEER
53,044
Digitally Signed
2025.11.12 16:17:11-08'00'
OREGON
JANUARY 15, 2002
DANA M. BECKWITH
EXPIRES: DEC. 31, 2025

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

GLOBAL Transportation Engineering
227 SW Pine Street
SUITE 220
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503.719.7997

OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Aman Woldetinsae
Drafter: Tracy Molina
Reviewer: Dana Beckwith
Checker: Dana Beckwith

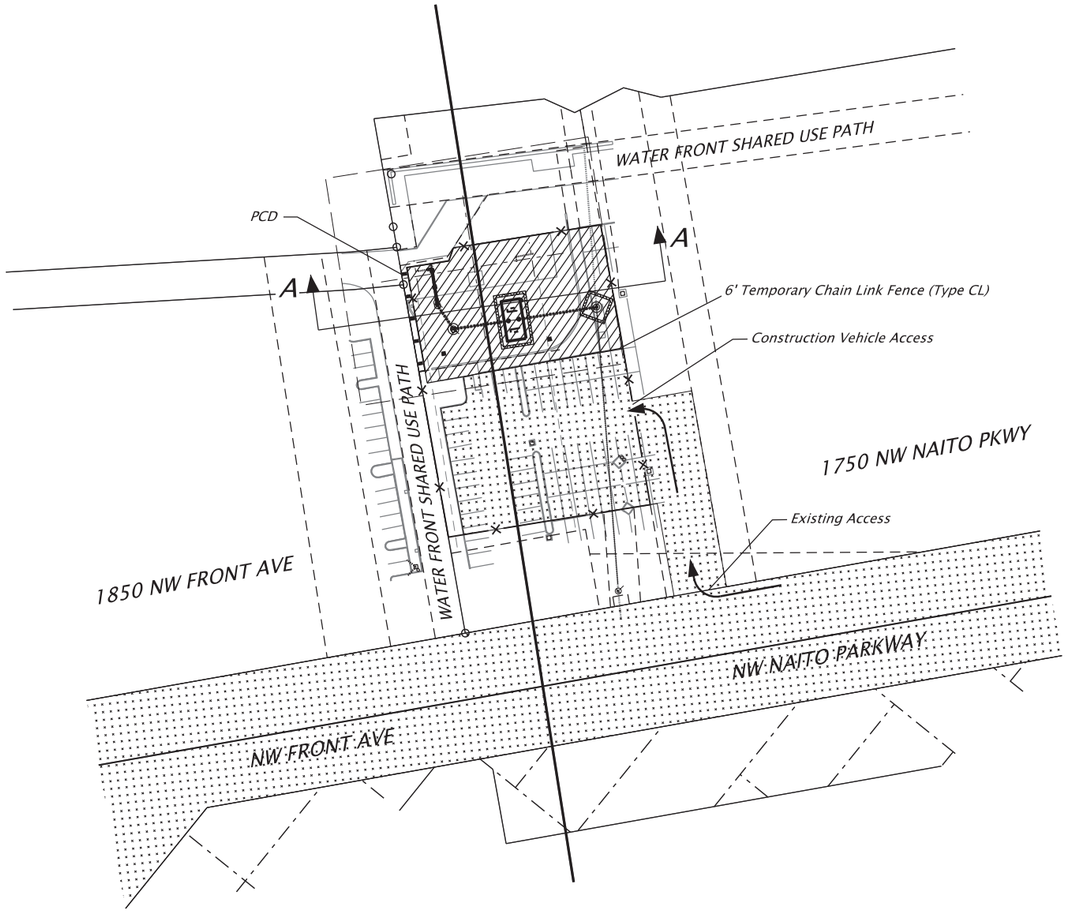
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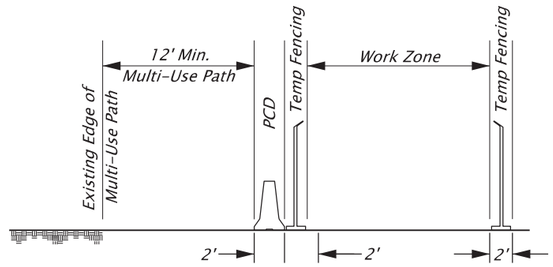
SHEET NO. ES01

59V-002

TEMPORARY TRAFFIC CONTROL AND PEDESTRIAN ACCESSIBLE ROUTE

FREMONT BRIDGE – WEST END
US30 M.P. 3.20
(ALL HOURS)





SECTION A-A

Scale: 1"=10'
(All Hours)

GENERAL NOTES

1. *Cover or remove all permanent signs that conflict with temporary signs.*
2. *Adjustments to temporary traffic control devices may be necessary to accommodate field conditions.*
3. *See ODOT TM800 series drawings for additional guidance on temporary lane closure to accommodate traffic.*
4. *Contractor to provide fencing along perimeter of work zone to restricted unauthorized access.*
5. *Provide Business Access signing.*

LEGEND

- *Temporary fencing*
- *Construction Vehicle Route*
- *Temporary pedestrian channelization device (PCD)*
- *Under construction*
- *Under Traffic*

N

REGISTERED PROFESSIONAL ENGINEER
53,044
Digitally Signed
2025.11.12 16:17:11-08'00'
OREGON
JANUARY 15, 2002
DANA M. BECKWITH
EXPIRES: DEC. 31, 2025

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

GLOBAL Transportation Engineering
227 SW Pine Street
SUITE 220
PORTLAND, OR 97204
503.719.7997

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Aman Woldetinsae
Drafter: Tracy Molina
Reviewer: Dana Beckwith
Checker: Dana Beckwith

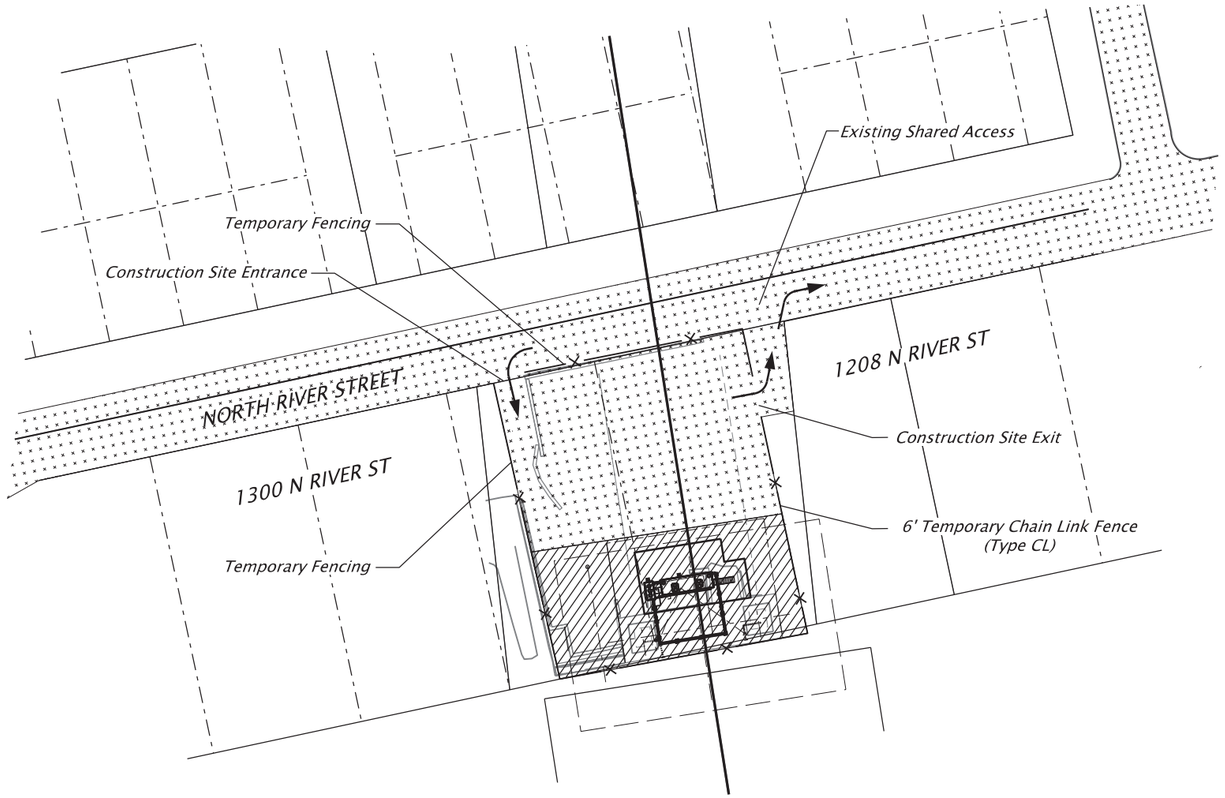
TRAFFIC CONTROL PLAN

SHEET NO. ET01

59V-002

TEMPORARY TRAFFIC CONTROL AND PEDESTRIAN ACCESSIBLE ROUTE

FREMONT BRIDGE - EAST END
US30 M.P. 3.43
(ALL HOURS)



N

LEGEND

- *Temporary fencing*
- *Construction Vehicle Route*
- *Under construction*
- *Under Traffic*

REGISTERED PROFESSIONAL ENGINEER
53,044
Digitally Signed
2025.11.12 16:17:12-08'00'
OREGON
JANUARY 15, 2002
DANA M. BECKWITH
EXPIRES: DEC. 31, 2025

FINAL ELECTRONIC DOCUMENT
AVAILABLE UPON REQUEST

GLOBAL Transportation Engineering
227 SW Pine Street
SUITE 220
PORTLAND, OR 97204
503.719.7997

OREGON DEPARTMENT OF TRANSPORTATION

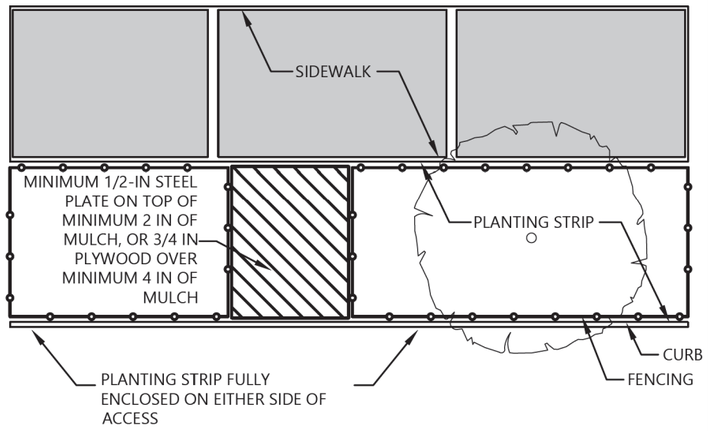
WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Aman Woldetinsae
Drafter: Tracy Molina
Reviewer: Dana Beckwith
Checker: Dana Beckwith

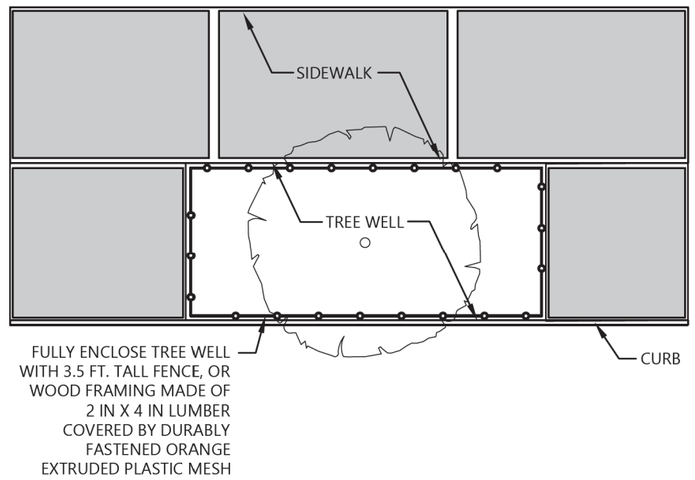
TRAFFIC CONTROL PLAN

SHEET NO.
EU01

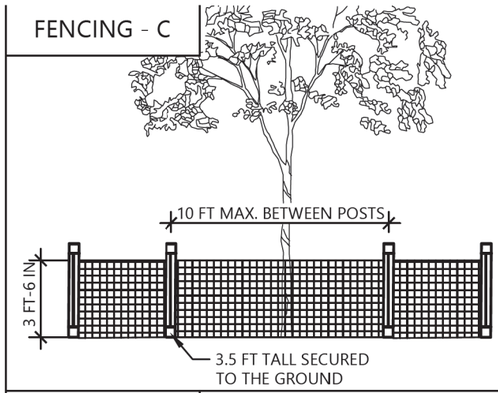
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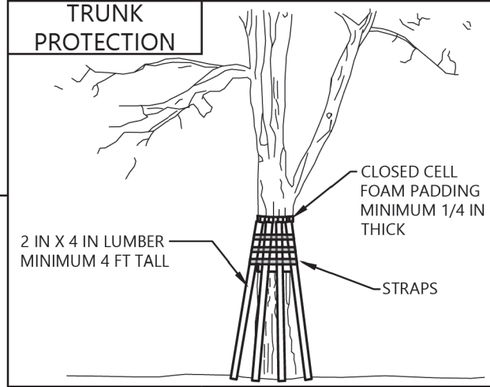
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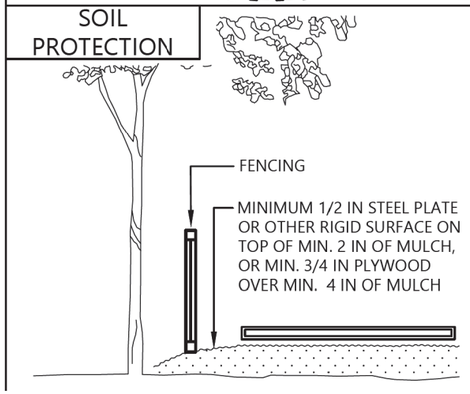
FENCING - C



TRUNK PROTECTION



SOIL PROTECTION



GENERAL NOTES:

1. ADDITIONAL PERMITS ARE REQUIRED FOR ROOT PRUNING. INSPECTION BY THE CITY FORESTER IS REQUIRED BEFORE CUTTING AND/OR REMOVING ANY ROOTS.
2. PRUNING OF BRANCHES MUST BE APPROVED BY THE CITY FORESTER.
3. DUE TO THE COMPACT SPACE IN THE RIGHT-OF-WAY THE ROOT PROTECTION ZONE WILL BE DEFINED BY THE CITY FORESTER. IF NOT DEFINED THE STANDARD ROOT PROTECTION ZONE IS ESTABLISHED AS FOLLOWS; 1 FT RADIUS (MEASURED HORIZONTALLY AWAY FROM THE FACE OF THE TREE TRUNK) FOR EACH INCH OF TREE DIAMETER AT 4.5 FT ABOVE GRADE.
4. PROTECT THE TREE AND ROOT PROTECTION ZONES USING ANY COMBINATION OF FENCING, SOIL PROTECTION, AND TRUNK PROTECTION. CONSIDER SITE CONDITIONS WHEN SELECTING PROTECTION METHODS. ACCESS TO THE PROPERTY MUST BE MAINTAINED FOR FIRE AND LIFE SAFETY. FIVE (5) FT OF CLEAR SPACE MUST BE MAINTAINED AROUND FIRE HYDRANTS, WATER METERS AND OTHER UTILITIES.
5. FENCING: FENCING SHALL BE 3.5 FT TALL FENCE, OR 3.5 FT TALL WOOD FRAMING MADE OF 2 IN BY 4 IN LUMBER COVERED BY DURABLY FASTENED ORANGE FENCE.
6. SOIL PROTECTION: IN CASES WHERE ALLOWING ACCESS IS UNAVOIDABLE THROUGH THE ROOT PROTECTION ZONE, EITHER A MINIMUM OF 1/2 IN STEEL PLATE PLACED ON TOP OF A BED OF MINIMUM 2 IN OF MULCH, OR A MINIMUM OF 3/4 IN PLYWOOD OVER MINIMUM OF 4 IN OF MULCH, MAY BE USED TO BRIDGE OVER THE ROOT PROTECTION ZONE.
7. TRUNK PROTECTION: IF FENCING IS NOT PRACTICABLE, TRUNK PROTECTION MAY BE USED CONSISTING OF 2 IN X 4 IN LUMBER MINIMUM 4 FT TALL LOOSELY BANDED ONTO THE TREES WITH STRAPS, AND ANGLED SO THAT THE TRUNK FLARE AND BUTTRESS ROOTS ARE ALSO PROTECTED. CLOSED CELL FOAM PADDING MINIMUM OF 1/4 IN THICK SHALL BE PLACED BETWEEN THE TRUNK AND THE LUMBER. USE STRAPS OR WIRE TO BIND THE PLANKS IN PLACE. DO NOT DRIVE FASTENERS INTO THE TREE. WHEN USING TRUNK PROTECTION, SOIL PROTECTION AS DESCRIBED ABOVE SHALL ALSO BE USED TO PROTECT UNFENCED ROOT PROTECTION ZONES.
8. TREE PROTECTION SHALL BE PLACED BEFORE GROUND DISTURBING ACTIVITY STARTS AND REMAIN IN PLACE UNTIL CONSTRUCTION HAS BEEN COMPLETED. SIGNAGE DESIGNATING THE PROTECTION ZONE SHALL BE SECURED IN A PROMINENT LOCATION.
9. THE ROOT PROTECTION ZONE SHALL REMAIN FREE OF CONSTRUCTION MATERIALS AND DEBRIS. CITY FORESTER MUST APPROVE ANY CLEARING OR GRUBBING PROPOSED INSIDE THE ROOT PROTECTION ZONE.
10. ANY PROTECTION METHODS THAT DO NOT ADHERE TO THIS PRESCRIPTIVE TREE PROTECTION DETAIL MUST BE APPROVED BY THE CITY FORESTER.

Note:
1. City of Portland standard detail "Street Tree Protection Detail – Prescriptive Path", Standard Drawing No. P-582.

811 Know what's below. Call before you dig. or 800-332-2344

REGISTERED 1004
Digitally Signed 2025.11.12 08:56:51-08'00'
Exp. Date: 2/28/2026
SAMUEL G. R. JONES
OREGON
02/07/2019
LANDSCAPE ARCHITECT

WSP USA Inc.
1300 SW 5th Ave
Suite 3100
Portland, OR 97201
Tel: 1 503 274 8772

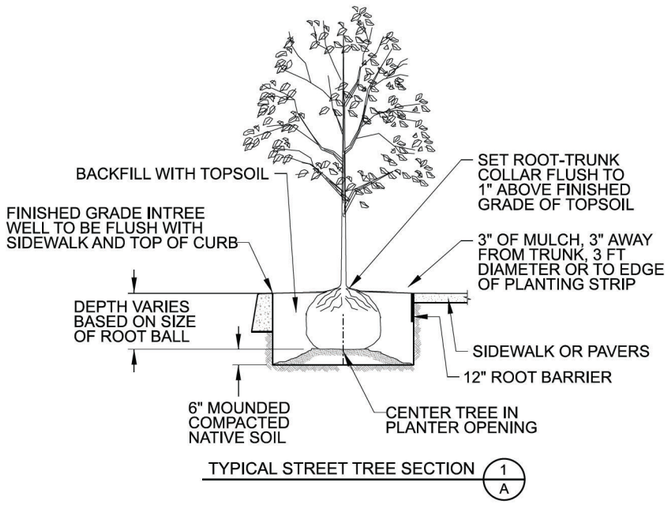
WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Samuel Jones | Reviewer: Dan Wojtala
Drafter: Callan Roemer | Checker: Callan Roemer

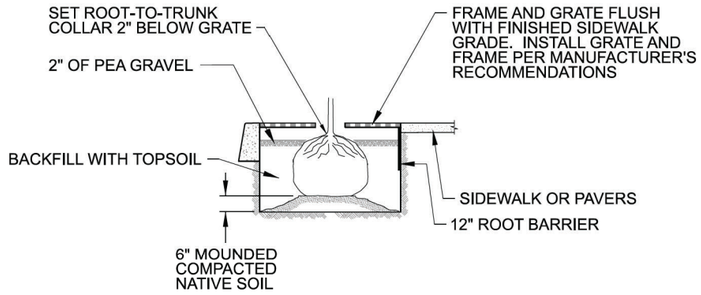
ROADSIDE DEVELOPMENT SITE DETAILS

SHEET NO. FA001

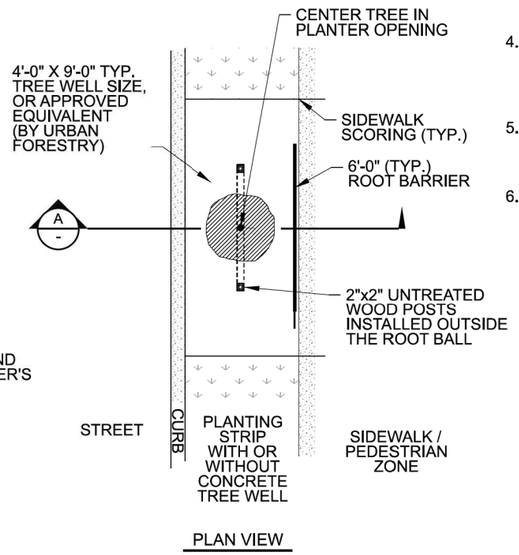
FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST



TYPICAL STREET TREE SECTION 1/A



TYPICAL STREET TREE WITH GRATE SECTION 2/A



PLAN VIEW

NOTES:

1. EXCAVATE 2½ TIMES THE WIDTH OF ROOT BALL OR TREE WELL DIMENSIONS.
2. PRIOR TO PLANTING REMOVE ALL STRING, PLASTIC, WIRE, AND ANY OTHER NON-ORGANIC MATERIAL. REMOVE AT LEAST THE TOP 2/3RDS OF THE BURLAP ENTIRELY FROM THE PLANTING AREA.
3. TREE GRATES ARE NOT PREFERRED AND SUBJECT TO APPROVAL. IF USED TREE GRATES MUST BE ADA-COMPLIANT. USE PRODUCTS ON CPL OR AS APPROVED BY URBAN FORESTRY.
4. WHEN PLANTING NEAR STREET LIGHTING, SIGNAGE AND OTHER UNDERGROUND UTILITIES, REFER TO "PP&R URBAN FORESTRY STREET TREE PLANTING STANDARDS", CONTACT URBAN FORESTRY AT (503) 823-8733 FOR FURTHER INFORMATION.
5. INSTALL ROOT BARRIER ALONG SIDEWALK /PEDESTRIAN ZONE SIDE OF STREET TREE. USE PRODUCTS ON CPL OR AS APPROVED BY URBAN FORESTRY.
6. PROVIDE TREES WITH SINGLE STRAIGHT TRUNK AND WELL-DEVELOPED LEADER TO TRUNK TAPER.

DRAWING ACCOMPANIES THE “PP&R URBAN FORESTRY STREET TREE PLANTING STANDARDS. STANDARDS MUST BE FOLLOWED.

Note:
1. City of Portland standard detail "Typical Street Tree Installation", Standard Drawing No. P-581.

811 Know what's below. Call before you dig. or 800-332-2344

REGISTERED 1004
Digitally Signed 2025.11.12 08:57:50-08'00'
Exp. Date: 2/28/2026
SAMUEL G. R. JONES
OREGON
02/07/2019
LANDSCAPE ARCHITECT

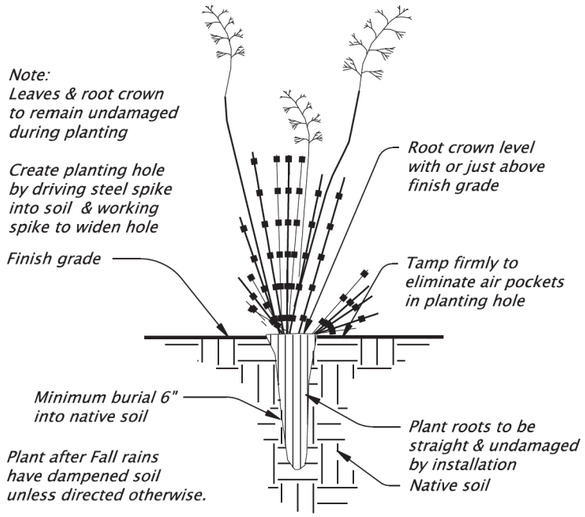
WSP USA Inc.
1300 SW 5th Ave
Suite 3100
Portland, OR 97201
Tel: 1 503 274 8772

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

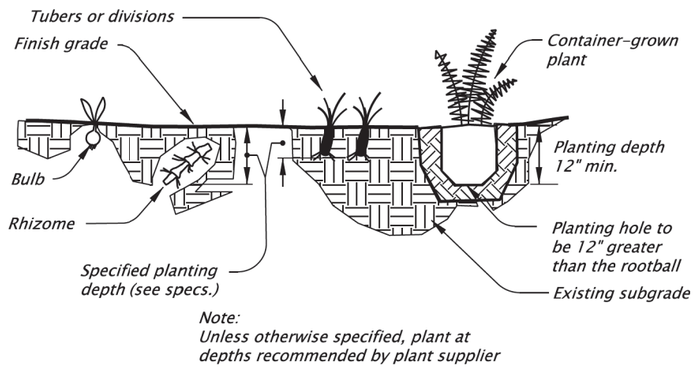
Designer: Samuel Jones | Reviewer: Dan Wojtala
Drafter: Callan Roemer | Checker: Callan Roemer

ROADSIDE DEVELOPMENT SITE DETAILS | SHEET NO. FA002

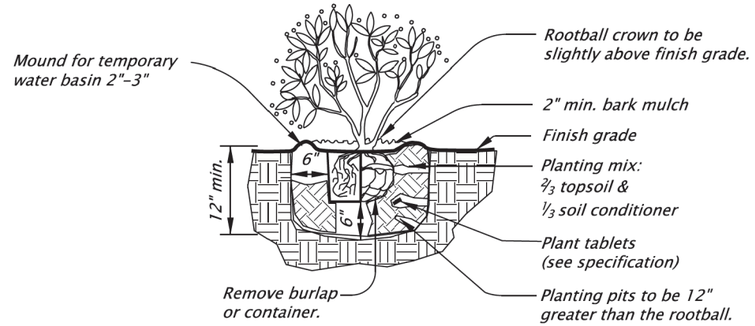
FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST



STYRO-BLOC PLUG PLANTING

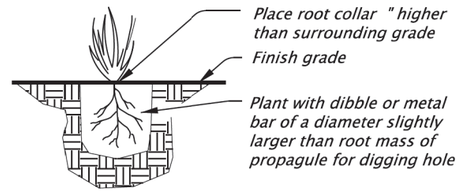


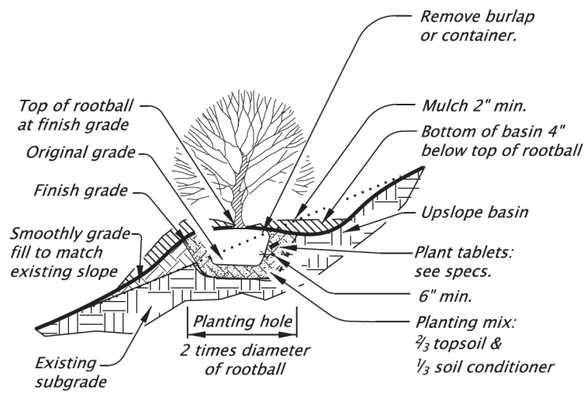
HERBACEOUS PLANTING



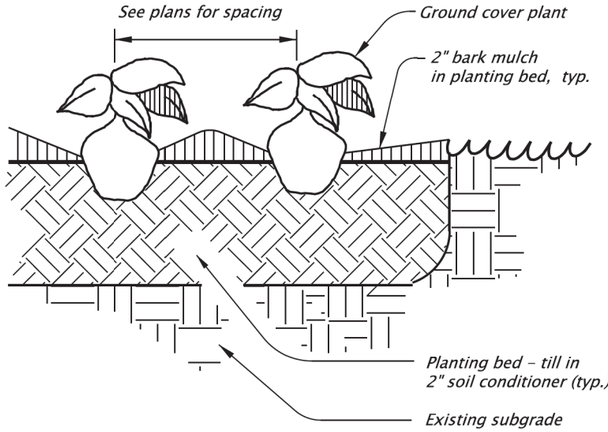
SHRUB PLANTING

(all forms except bareroot)





SLOPED AREA SHRUB PLANTING



GROUNDCOVER PLANTING

811 Know what's below. Call before you dig. or 800-332-2344

REGISTERED 1004
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Exp. Date: 2/28/2026
SAMUEL G. R. JONES
OREGON
02/07/2019
LANDSCAPE ARCHITECT

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OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Samuel Jones | Reviewer: Dan Wojtala
Drafter: Callan Roemer | Checker: Callan Roemer

ROADSIDE DEVELOPMENT SITE DETAILS

SHEET NO. FA003

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

PLANT SCHEDULE

Tree ID Code	Common Name	Botanical Name	Size	Quantities
TC	Greenspire Linden	*Tilia cordata Green Spire*	*2" cal.*	4
CP	Washington Hawthorn	*Crataegus phaenopyrum*	*2" cal.*	7
GB	Ginkgo	*Ginkgo biloba 'Saratoga'*	*2" cal.*	5
NS	Gum Drop Tupelo	*Nyssa sylvatica 'JFS-PN Legacy1'*	*2" cal.*	4
SJ	Japanese Pagodatree	*Styphnolobium japonicum*	*2" cal.*	1
MA	Amur Maackia	*Maackia amurensis*	*2" cal.*	4
PP	Persian Ironwood	*Parrotia persica*	*2" cal.*	5
PW	Ponderosa Pine (Willamette)	*Pinus ponderosa willamettensis*	*6' ht.*	1
QG	Oregon White Oak	*Quercus Garryana*	*2" cal.*	14
Total				**45**

Shrub ID Code	Common Name	Botanical Name	Spacing	Size	Quantities
WB	Wintergreen Barberry	*Berberis julianae*	*36"*	*1" gal.*	10

Shrubs and Ground Cover (see sheet FA401)	Common Name	Botanical Name	Spacing	Size	Quantities
	Red Twig Dogwood	*Cornus sericea*	*48"*	*1 GAL.*	11
	Ocean-Spray	*Holodiscus discolor*	*48"*	*1 GAL.*	4
	Creeping Oregon Grape	*Mahonia repens*	*36"*	*1 GAL.*	9
	Pacific Ninebark	*Physocarpus capitatus*	*48"*	*1 GAL.*	6
	Salmonberry	*Rubus spectabilis*	*48"*	*1 GAL.*	5
	Common White Snowberry	*Symphoricarpos albus*	*48"*	*1 GAL.*	8
	Kinnikinnick	*Arctostaphylos uva-ursi*	*36"*	*1 GAL.*	7
	Nootka Rose	*Rosa nutkana*	*48"*	*1 GAL.*	3
	Western Spirea	*Spiraea douglasii*	*48"*	*1 GAL.*	6

GENERAL PLANTING NOTES

1. *With Engineer's prior approval, adjust planting locations to avoid conflicts with utilities. Verify utility locations prior to planting.*
2. *Planting backfill mix to be 1/3 soil conditioner & 2/3 native topsoil. Mix and wet backfill soil thoroughly while planting.*
3. *Wrap all deciduous tree trunks.*
4. *Ensure new trees are planted outside clear zone limits. Verify with engineer prior to planting.*
5. *Adjust plant locations to avoid conflict with signs, sight lines, utility poles and lines, and other appurtenances. In case of conflict, defer to engineer for placement.*
6. *Install trees in accordance with the Typical Street Tree Installation detail on Sheet FA002.*
7. *Handle the tree by the root ball, not the trunk, to prevent damage.*
8. *Prune any broken or dead branches after planting.*
9. *Plans show tag numbers for existing trees(example: #10) that correspond the project's tree inventory worksheet. Refer to worksheet for additional information on existing trees.*
10. *All shrubs planted within the greenway setback must be arranged in natural clusters composed of the same species. Each grouping should contain three to five plants, with spacing corresponding to the plant schedule.*
11. *Plantings shall be installed between October 1 and March 31 (the planting season).*
12. *Prior to installing the required planting, any nuisance species within 10 feet of the planting area must be removed.*

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WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Samuel Jones | Reviewer: Dan Wojtala
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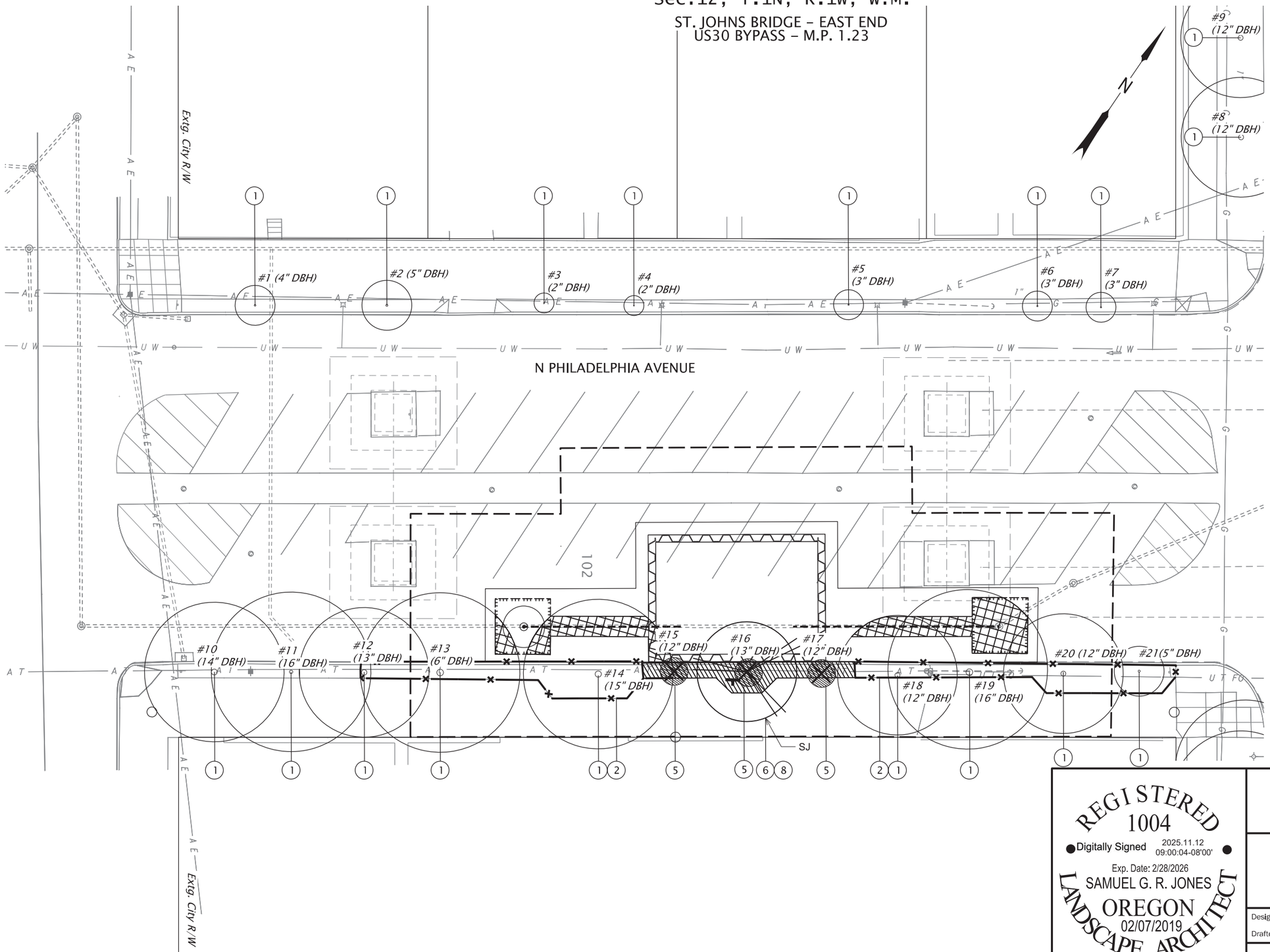
PLANT SCHEDULE AND NOTES

SHEET NO. FA004

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

Sec.12, T.1N, R.1W, W.M.

ST. JOHNS BRIDGE – EAST END
US30 BYPASS – M.P. 1.23



PLANTING KEY NOTES

1. Protect tree in place
2. Install tree protection fencing (See P-582 Sheet FA001)
5. Remove tree (3)
6. Install deciduous or conifer tree (See P-581 Sheet FA002)
8. Install wood chip mulch

LEGEND

- #1 — Tree identification number (See tree inventory worksheet)
- Existing tree / Root protection zone
- Tree to be removed
- Development impact area (15' from construction)
- Tree protection fencing
- AB — Proposed tree (Under utility line)
- AB — Tree code (See sheet FA004 for tree schedule)
- Wood chip mulch
- Proposed shoring
- Existing fence line

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OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Samuel Jones | Reviewer: Dan Wojtala
Drafter: Callan Roemer | Checker: Callan Roemer

ROADSIDE DEVELOPMENT PLANTING PLAN/SECTION

SHEET NO. FA101

FINAL ELECTRONIC DOCUMENT
AVAILABLE UPON REQUEST

Sec.28 & 33, T.1N, R.1E, W.M.

I-405/FREMONT BRIDGE - INTERCHANGE
I-405 M.P. 3.03

NW 15TH AVENUE

#22 (12" DBH)
#23 (12" DBH)
#24 (12" DBH)
#25 (12" DBH)
#26 (12" DBH)
#27 (12" DBH)
#28 (12" DBH)
#29 (18" DBH)
#30 (18" DBH)
#31 (18" DBH)
#32 (18" DBH)
#33 (18" DBH)
#34 (4" DBH)
#35 (4" DBH)
#36 (4" DBH)
#37 (4" DBH)
#38 (18" DBH)
#39 (18" DBH)
#40 (18" DBH)
#41 (18" DBH)
#42 (18" DBH)

Extg. City R/W

GB

N

PLANTING KEY NOTES

1. Protect tree in place
2. Install tree protection fencing (See P-582 Sheet FA001)
4. Special excavation conditions: Use hand-operated equipment. All work within root-zone to be supervised by certified arborist
5. Remove tree (3)
6. Install deciduous or conifer tree (See P-581 Sheet FA002)
7. Vegetation removal / Pruning prior to planting
8. Install wood chip mulch

LEGEND

- #1 — Tree identification number (See tree inventory worksheet)
- Existing tree / Root protection zone
- Tree to be removed
- Development impact area (15' from construction)
- Tree protection fencing
- AB — Proposed tree (Under utility line)
- AB — Tree code (See sheet FA004 for tree schedule)
- Wood chip mulch
- Proposed shoring
- Existing fence line

Note:
1. Any irrigation disturbed during construction to be replaced in kind.
2. All street tree permitting activity is deferred to Public Works Permit TB0182.

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LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Samuel Jones | Reviewer: Dan Wojtala
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ROADSIDE DEVELOPMENT PLANTING PLAN/SECTION

SHEET NO. FA201

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

Sec.27, T.1N, R.1E, W.M.

FREMONT BRIDGE – WEST END
US30 – M.P. 3.20

#43 (12" DBH)
#44 (5" DBH)
#142(5"DBH)
#45 (14" DBH)
#139 (3" DBH)
#138 (2" DBH)
#46 (26" DBH)
#47 (10" DBH)
#137 (2" DBH)
#48 (8" DBH)
#49 (8" DBH)
#136 (2.5" DBH)
#140 (5" DBH)
#141 (5" DBH)
#50 (7" DBH)
#51 (7" DBH)
#135(2" DBH)
#52 (8" DBH)
#53 (7" DBH)
#56 (17" DBH)
#55 (21" DBH)
#57 (10" DBH)
#58 (10" DBH)
#59 (14" DBH)
#60 (12" DBH)
#61 (6" DBH)
#62 (6" DBH)
#63 (6" DBH)
#64 (5" DBH)
#65 (6" DBH)
#66 (5" DBH)

CP
WB
U T FO
A E

Approx. location of shrub hedge (not in survey)

Street trees not shown on plan extents.
However, street tree protection required.
Prescriptive path: Basic
Active protection measures, such as fencing, are not required.
The following is prohibited within the Root Protection Zone (see City of Portland ch.11.60.030.C.1):
Ground disturbance, storage of materials within unpaved areas, heavy equipment in unpaved areas, surface trenching or excavation

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FEET

PLANTING KEY NOTES

1. Protect tree in place
2. Install tree protection fencing (See P-582 Sheet FA001)
4. Special excavation conditions: Use hand-operated equipment. All work within root-zone to be supervised by certified arborist
5. Remove tree (7)
6. Install deciduous or conifer tree (See P-581 Sheet FA002)
7. Vegetation removal / Pruning prior to planting
8. Install wood chip mulch
9. Install permanent seeding (0.059 acres)
10. Existing shrub/shrubs to be removed and replaced 1:1 on site (See Sheet FA003)
11. Tree requires a performance path. Certified arborist prepared a performance path tree protection report that meets the requirements of City of Portland ch.11.60.030.C.2 and ch.11.50.040.C.1.

LEGEND

- #1 — Tree identification number (See tree inventory worksheet)
- Existing tree Root protection zone
- Tree to be removed
- Development impact area (15' from construction)
- Tree protection fencing
- AB — Proposed tree (Under utility line)
- Proposed shrub
- AB — Tree code (See sheet FA004 for tree schedule)
- Wood chip mulch
- Proposed shoring
- Existing fence line
- Permanent lawn seeding
- Tree not include in survey

Note:
1. Any irrigation disturbed during construction to be replaced in kind.
2. Contractor must avoid any tree and shrub impacts not called out in plans.
3. All staging to be located on pavement.

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LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

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ROADSIDE DEVELOPMENT PLANTING PLAN/SECTION

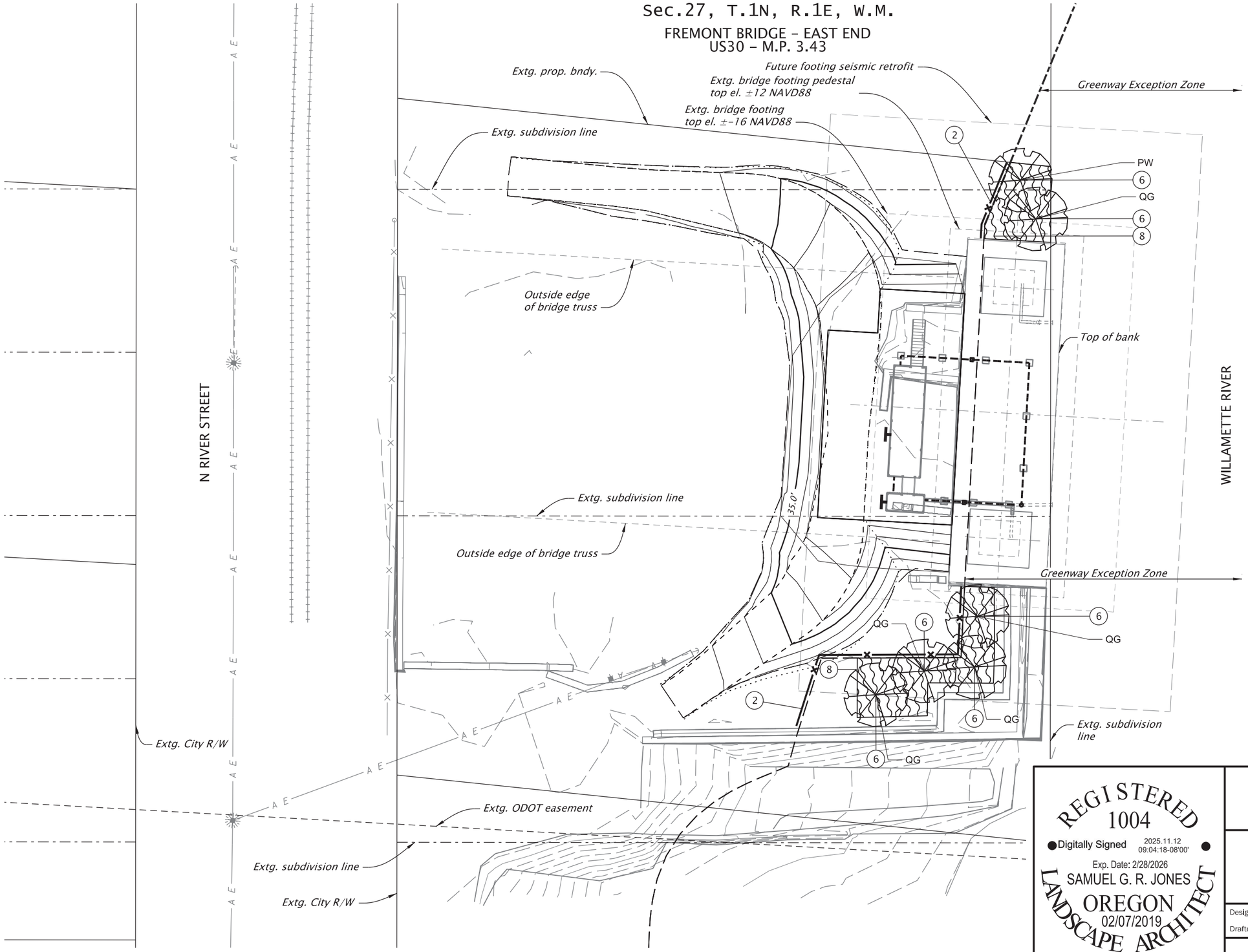
SHEET NO. FA301

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

59V-002

Sec.27, T.1N, R.1E, W.M.

FREMONT BRIDGE - EAST END
US30 - M.P. 3.43



PLANTING KEY NOTES

(2) *Install tree protection fencing (See P-582 Sheet FA001)*

(6) *Install deciduous or conifer tree (See P-581 Sheet FA002)*

(8) *Install wood chip mulch*

LEGEND

Tree protection fencing

AB – *Tree code (See sheet FA004 for tree schedule)*

Shrubs and ground cover

Note:

1. *Replace any existing unsuitable soil and provide new topsoil to a 3' minimum depth (if needed). Incorporate a 4" layer of fine compost thoroughly amended to a 2' depth. Topsoil shall be lightly compacted to 75-80% proctor in 12 inch lifts. Over excavate to achieve no-net fill within planting areas.*
2. *All planting to have temporary irrigation during 2 year establishment period, including a required inspection one year after final inspection to ensure that the landscaping has become established. An inspection fee, paid at the time of permit application, will be required.*
3. *Any field changes shall be in substantial conformance with approved LU 25-013672 GW, Exhibits C.2 and C.3.*
4. *See sht. FA401A for continued notes.*

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LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

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ROADSIDE DEVELOPMENT PLANTING PLAN/SECTION

SHEET NO. FA401

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

Sec.27, T.1N, R.1E, W.M.

FREMONT BRIDGE - EAST END
US30 - M.P. 3.43

Notes (cont'd):

5. All Greenway planting will be in conformance with 33.248.090 Mitigation and Restoration Plantings.

6. Landowner shall monitor the required plantings for two years to ensure survival and replacement. The landowner is responsible for ongoing survival of required plantings beyond the designated monitoring period.

7. After removing the nuisance species and installing the required plantings and associated improvements, the applicant shall requirest inspection of all work associated the the Greenway Landscaping plantings and the final permit.

8. All Greenway Landscaping shrubs and trees shall be marked in the field by a tag attached to the top of the plant for easy identification by the City Inspector; or the applicant shall arrange to accompany the PP&D inspection to the site to locate plantings for inspection. If tape is used it shall be a contrasting color that is easily seen and identified.

9. The landowner shall monitor the required plantings for two years to ensure survival and replacement as described below. The landowner is responsible for ongoing survival of required plantings beyond the designated monitoring period.

a. Prior to issuance of the Construction Permit, the applicant must submit and pay fees for review of the Landscape Monitoring Reports required below (2 to 3 reports).

b. After installation and inspection of the initial mitigation plantings, the land owner must submit two monitoring and maintenance reports for review and approval to the Land Use Services Division of Portland Permitting & Development containing the monitoring information described below. Submit the first report within 12 months following the final inspection approval of the permit required under Condition A. Submit a second report 12 months following the date of the first monitoring report. Monitoring reports shall contain the following information:

i. A count of the number of planted trees and shrubs that have died. One replacement tree or shrub must be planted for each dead one (replacement must occur within one planting season).

ii. The percent coverage of native ground cover. If less than 75 percent of the seeded area(s) are covered with native groundcovers at the time of the annual count, additional installation of groundcover plantings or seeding with a native groundcover mix shall occur to reach 75 percent cover (replacement must occur within one planting season).

iii. A list of replacement plants that were installed.

iv. Photographs of the planting area and a site plan, in conformance with the approved landscape plan, showing the location and direction of photos.

v. An estimate of percent cover of invasive species (e.g. Butterfly bush, Himalayan blackberry, etc.) within 10 feet of all plantings. Invasive species must not exceed 15 percent cover during the monitoring period.

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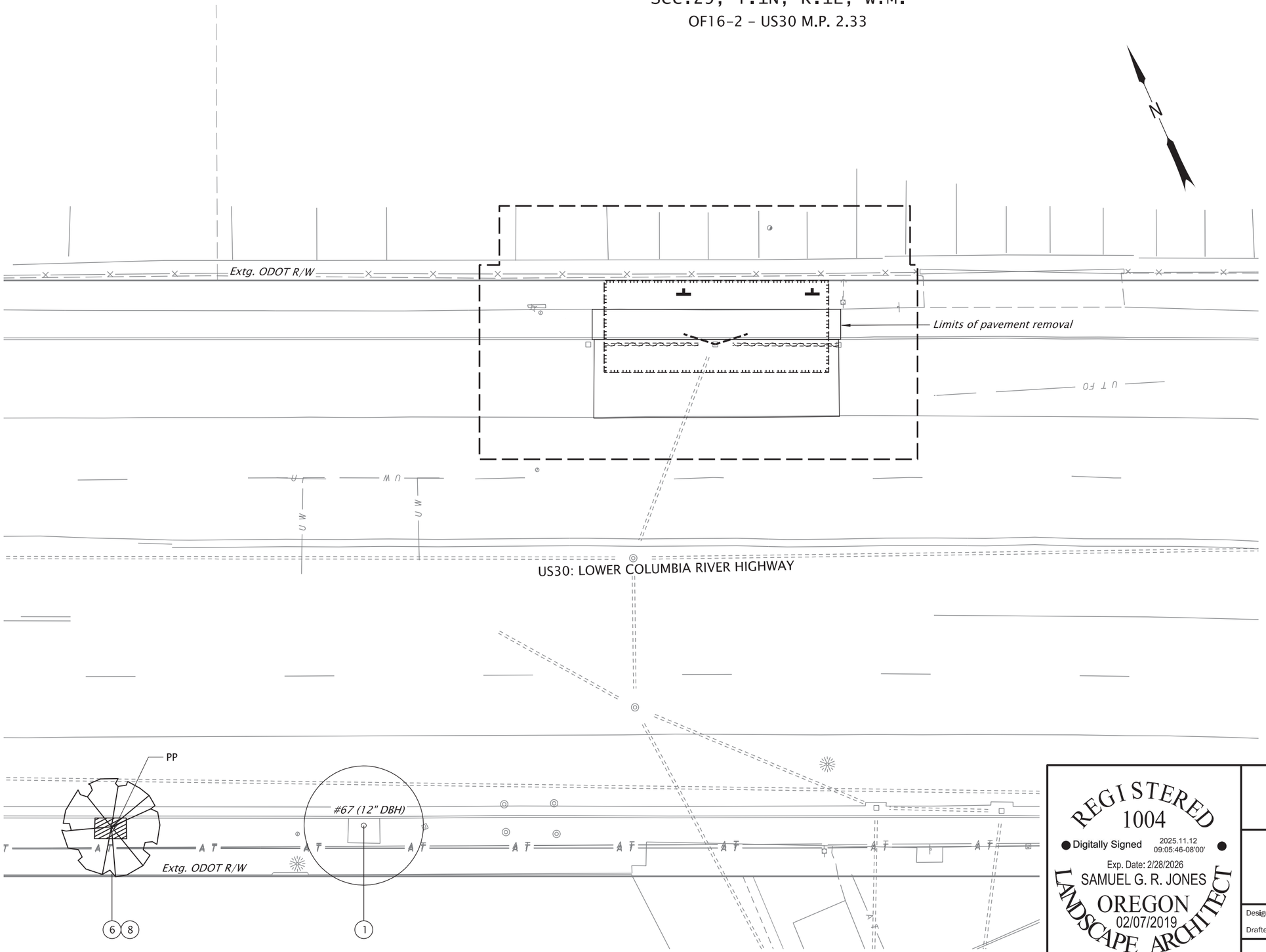
ROADSIDE DEVELOPMENT PLANTING PLAN/SECTION

SHEET NO. FA401A

FINAL ELECTRONIC DOCUMENT
AVAILABLE UPON REQUEST

Sec.29, T.1N, R.1E, W.M.

OF16-2 - US30 M.P. 2.33



PLANTING KEY NOTES

1. *Protect tree in place*
6. *Install deciduous or conifer tree (See P-581 Sheet FA002)*
8. *Install wood chip mulch*

LEGEND

- *Tree identification number (See tree inventory worksheet)*
- *Existing tree Root protection zone*
- *Tree to be removed*
- *Development impact area (15' from construction)*
- *Tree protection fencing*
- AB — *Proposed tree (Under utility line)*
- AB — *Tree code (See sheet FA004 for tree schedule)*
- *Wood chip mulch*
- *Proposed shoring*
- *Existing fence line*

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02/07/2019

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LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY

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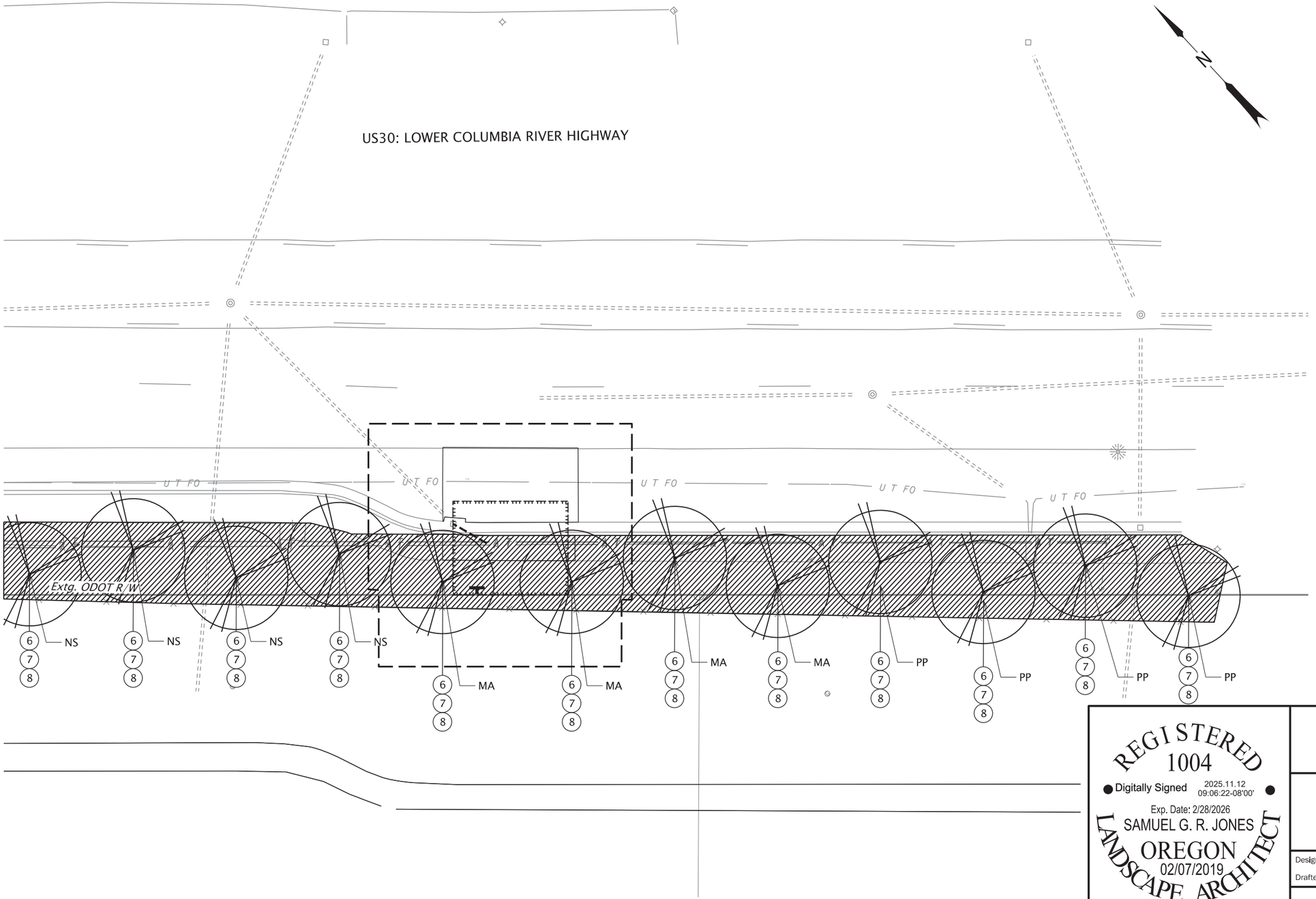
ROADSIDE DEVELOPMENT PLANTING PLAN/SECTION

SHEET NO. FA502

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

Sec.29, T.1N, R.1E, W.M.

OF16-3 - US30 M.P. 2.43



PLANTING KEY NOTES

6. *Install deciduous or conifer tree (See P-581 Sheet FA002)*
7. *Vegetation removal / Pruning prior to planting*
8. *Install wood chip mulch*

LEGEND

- *Tree identification number (See tree inventory worksheet)*
- *Existing tree*
- *Root protection zone*
- *Tree to be removed*
- *Development impact area (15' from construction)*
- *Tree protection fencing*
- *Proposed tree (Under utility line)*
- *Tree code (See sheet FA004 for tree schedule)*
- *Wood chip mulch*
- *Proposed shoring*
- *Existing fence line*

Note:
Any irrigation disturbed during construction to be replaced in kind.

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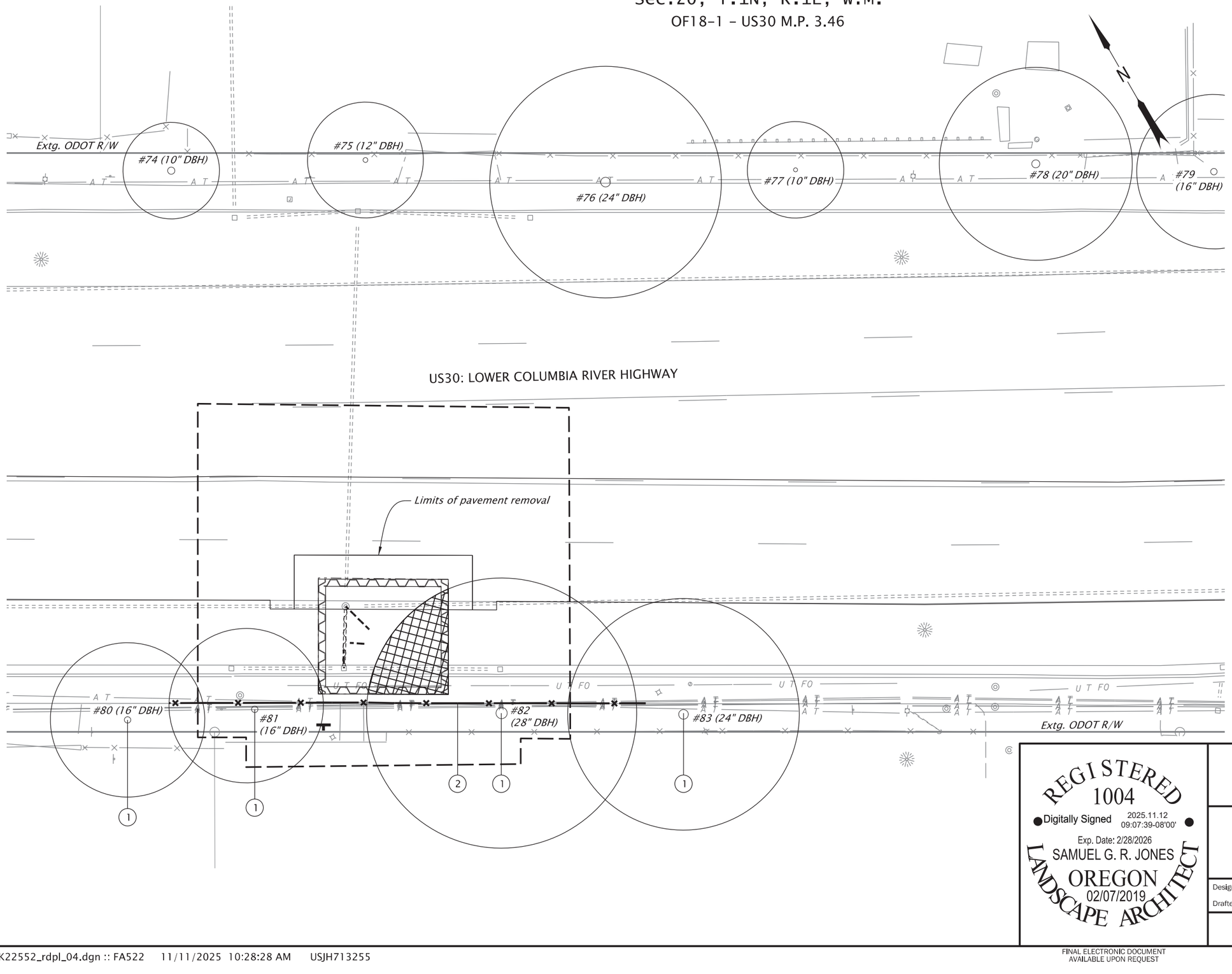
ROADSIDE DEVELOPMENT PLANTING PLAN/SECTION

SHEET NO. FA503

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

Sec.20, T.1N, R.1E, W.M.

OF18-1 - US30 M.P. 3.46



PLANTING KEY NOTES

1. Protect tree in place
2. Install tree protection fencing (See P-582 Sheet FA001)

LEGEND

- Tree identification number (See tree inventory worksheet)
- Existing tree
- Root protection zone
- Tree to be removed
- Development impact area (15' from construction)
- Tree protection fencing
- AB — Proposed tree (Under utility line)
- AB — Tree code (See sheet FA004 for tree schedule)
- Wood chip mulch
- Proposed shoring
- Existing fence line

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FEET

REGISTERED 1004
Digitally Signed 2025.11.12 09:07:39-08'00'
Exp. Date: 2/28/2026
SAMUEL G. R. JONES
OREGON
02/07/2019
LANDSCAPE ARCHITECT

WSP USA Inc.
1300 SW 5th Ave
Suite 3100
Portland, OR 97201
Tel: 1 503 274 8772

OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Samuel Jones | Reviewer: Dan Wojtala
Drafter: Callan Roemer | Checker: Callan Roemer

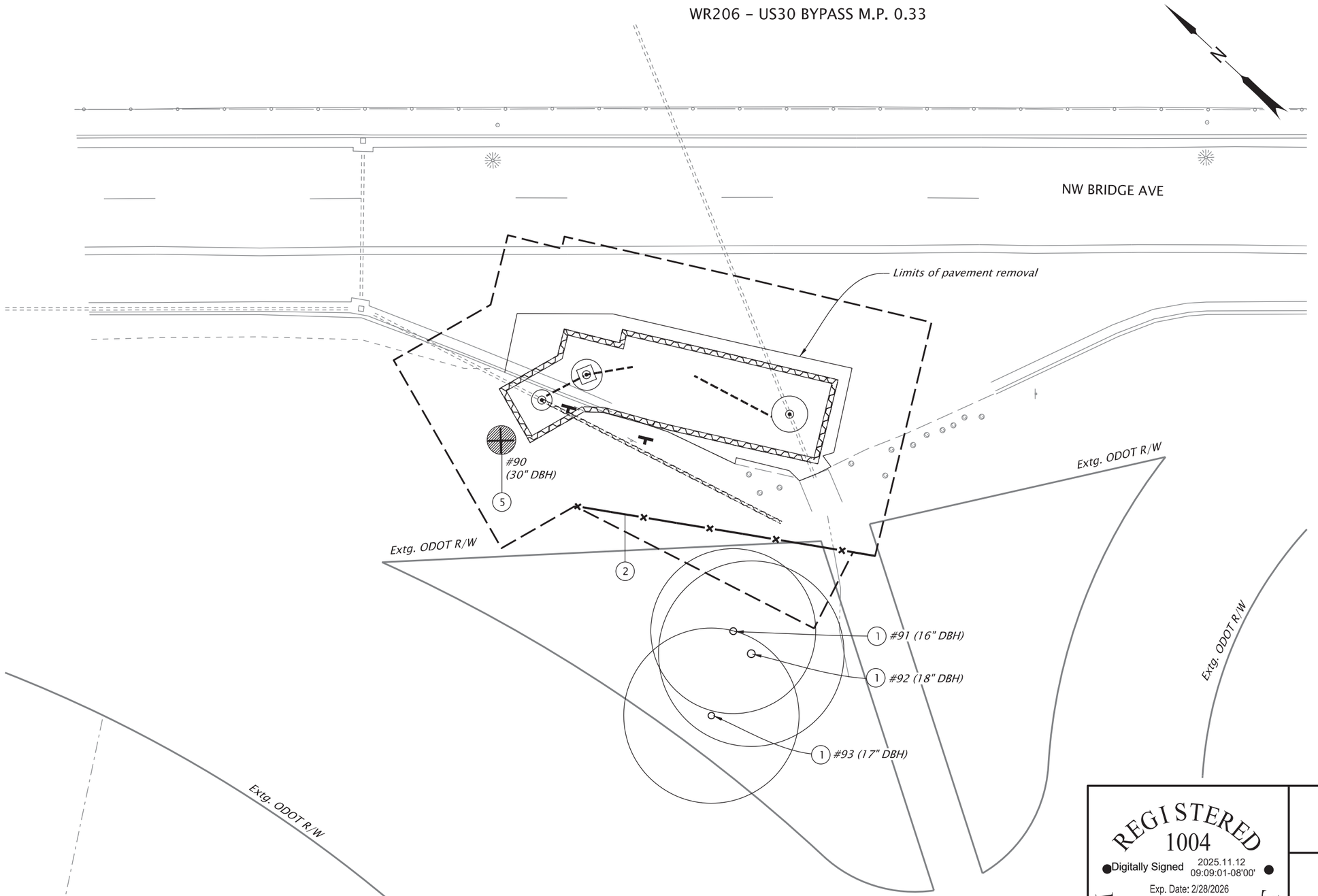
ROADSIDE DEVELOPMENT PLANTING PLAN/SECTION

SHEET NO. FA522

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

Sec.11, T.1N, R.1W, W.M.

WR206 – US30 BYPASS M.P. 0.33



PLANTING KEY NOTES

1. *Protect tree in place*
2. *Install tree protection fencing (See P-582 Sheet FA001)*
5. *Remove tree (1)*

LEGEND

- *Tree identification number (See tree inventory worksheet)*
- *Existing tree Root protection zone*
- *Tree to be removed*
- *Development impact area (15' from construction)*
- *Tree protection fencing*
- *Proposed tree (Under utility line)*
- *Tree code (See sheet FA004 for tree schedule)*
- *Wood chip mulch*
- *Proposed shoring*
- *Existing fence line*

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FEET

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Digitally Signed 2025.11.12 09:09:01-08'00'
Exp. Date: 2/28/2026
SAMUEL G. R. JONES
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02/07/2019
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WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Samuel Jones | Reviewer: Dan Wojtala
Drafter: Callan Roemer | Checker: Callan Roemer

ROADSIDE DEVELOPMENT PLANTING PLAN/SECTION

SHEET NO. FA551

FINAL ELECTRONIC DOCUMENT
AVAILABLE UPON REQUEST

Sec.11, T.1N, R.1W, W.M.

WR208/WR211 – US30 M.P. 7.03

NW KNAPPTON–GENERAL RD

N

1 #97 (18" DBH)
1 #96 (14" DBH)
1 #94 (10" DBH)
1 #95 (8" DBH)
Extg. City R/W
1 4 #101(14" DBH)
Prune dead or dying limbs prior to construction
1 4 #102(8" DBH)
1 7 #100 (10" DBH)
Extg. City R/W
1 #98 (20" DBH)
1 #99 (22" DBH)
1 4 #105 (8" DBH)
1 #104 (10" DBH)
1 #106 (6" DBH)
1 #107(6" DBH)
1 #108(8" DBH)
1 4 #109(6" DBH)
1 4 #103 (12" DBH)
1,062 ft² ±
1 #110 (6" DBH)
#112 (66" DBH) 5
1 #111 (6" DBH)
#117 (10" DBH) 5
1 #114 (8" DBH)
5 #116 (6" DBH)
1 #115 (10" DBH)
6 7 QG
US30: LOWER COLUMBIA RIVER HIGHWAY

PLANTING KEY NOTES

1. *Protect tree in place*
2. *Install tree protection fencing (See P-582 Sheet FA001)*
4. *Special excavation conditions: Use hand-operated equipment. All work within root-zone to be supervised by certified arborist*
5. *Remove Tree (3)*
6. *Install deciduous or conifer tree (See P-581 Sheet FA002)*
7. *Vegetation removal / Pruning prior to planting*
8. *Install wood chip mulch*

LEGEND

- #1 — *Tree identification number (See tree inventory worksheet)*
- *Existing tree Root protection zone*
- *Tree to be removed*
- *Development impact area (15' from construction)*
- *Tree protection fencing*
- AB — *Proposed tree (Under utility line)*
- AB — *Tree code (See sheet FA004 for tree schedule)*
- *Wood chip mulch*
- *Proposed shoring*
- *Existing fence line*

20 10 0 20
FEET

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Exp. Date: 2/28/2026
SAMUEL G. R. JONES
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OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

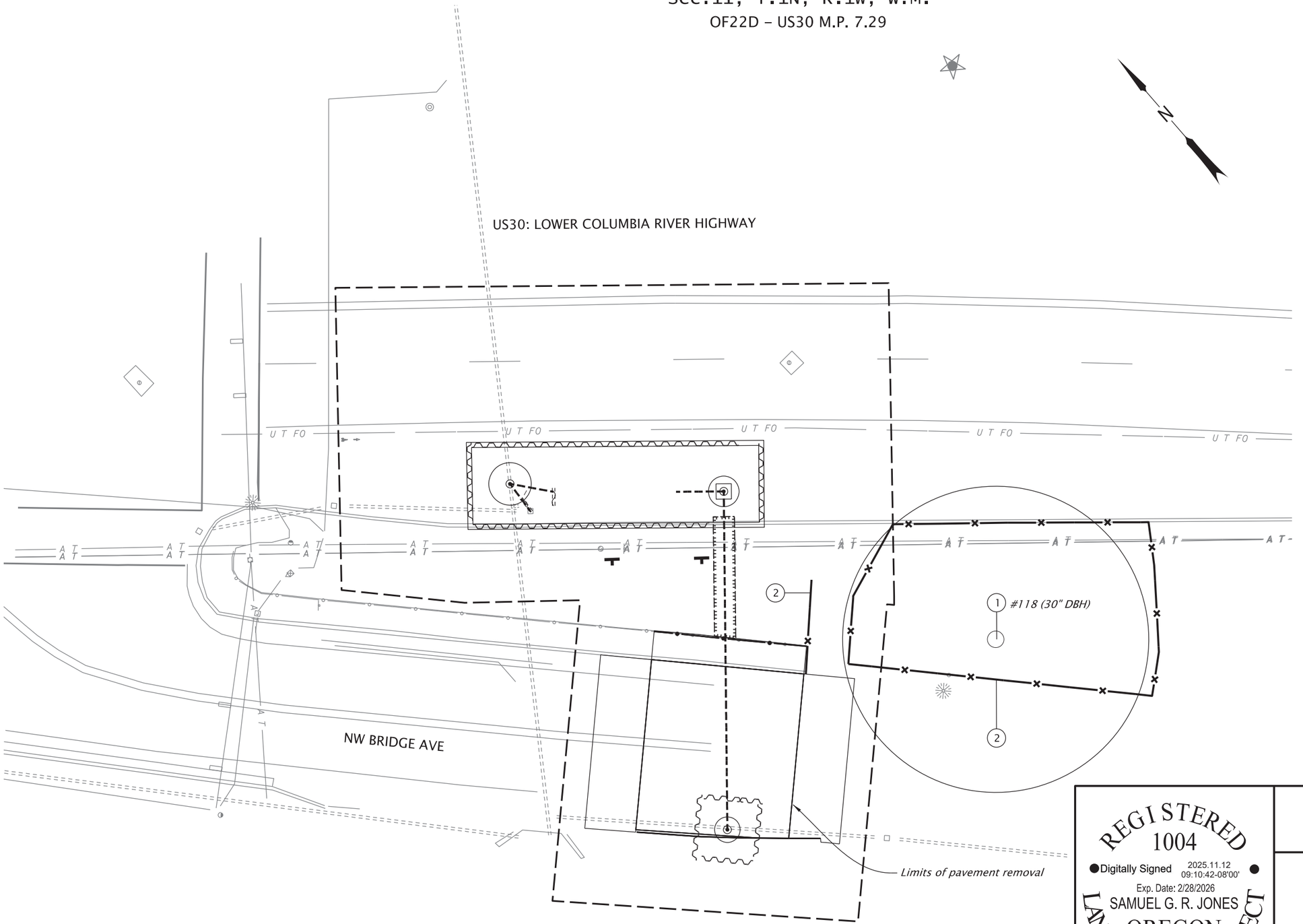
Designer: Samuel Jones | Reviewer: Dan Wojtala
Drafter: Callan Roemer | Checker: Callan Roemer

ROADSIDE DEVELOPMENT PLANTING PLAN/SECTION

SHEET NO. FA571

Sec.11, T.1N, R.1W, W.M.

OF22D – US30 M.P. 7.29



PLANTING KEY NOTES

1. *Protect tree in place*
2. *Install tree protection fencing (See P-582 Sheet FA001)*

LEGEND

- *Tree identification number (See tree inventory worksheet)*
- *Existing tree*
- *Root protection zone*
- *Tree to be removed*
- *Development impact area (15' from construction)*
- *Tree protection fencing*
- *Proposed tree (Under utility line)*
- *Tree code (See sheet FA004 for tree schedule)*
- *Wood chip mulch*
- *Proposed shoring*
- *Existing fence line*

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FEET

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Exp. Date: 2/28/2026
SAMUEL G. R. JONES
OREGON
02/07/2019
LANDSCAPE ARCHITECT

FINAL ELECTRONIC DOCUMENT
AVAILABLE UPON REQUEST

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OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

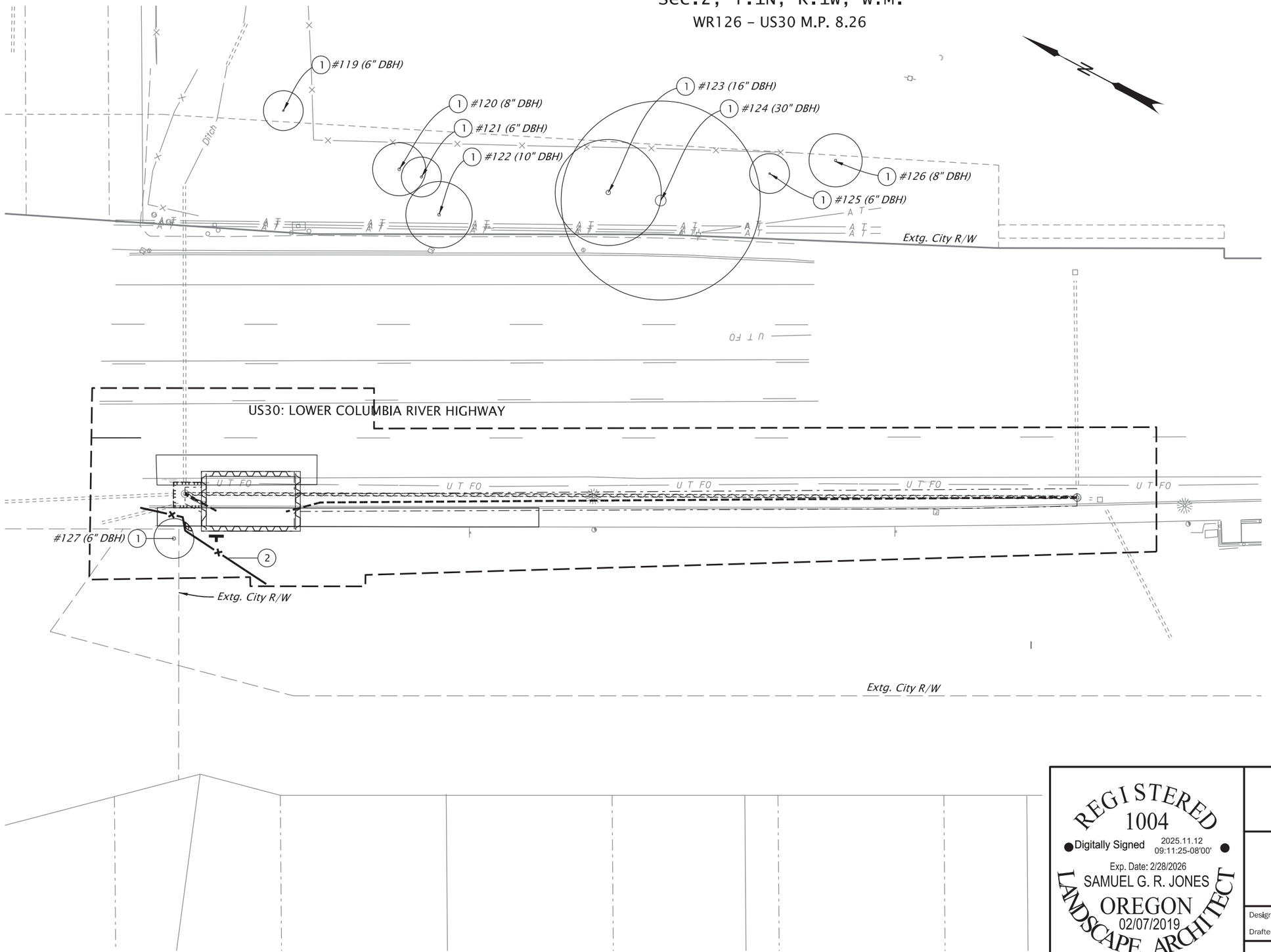
Designer: Samuel Jones | Reviewer: Dan Wojtala
Drafter: Callan Roemer | Checker: Callan Roemer

ROADSIDE DEVELOPMENT PLANTING PLAN/SECTION

SHEET NO. FA581

Sec.2, T.1N, R.1W, W.M.

WR126 - US30 M.P. 8.26



PLANTING KEY NOTES

1. Protect tree in place
2. Install tree protection fencing (See P-582 Sheet FA001)

LEGEND

- #1 — Tree identification number (See tree inventory worksheet); Existing tree; Root protection zone
- Tree to be removed
- Development impact area (15' from construction)
- Tree protection fencing
- AB — Proposed tree (Under utility line)
- AB — Tree code (See sheet FA004 for tree schedule)
- Wood chip mulch
- Proposed shoring
- Existing fence line

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LANDSCAPE ARCHITECT

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WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Samuel Jones | Reviewer: Dan Wojtala
Drafter: Callan Roemer | Checker: Callan Roemer

ROADSIDE DEVELOPMENT PLANTING PLAN/SECTION

SHEET NO. FA591

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

59V-002

Sec.3, T.1N, R.1W, W.M.
WR79 - US30 M.P. 9.06

US30: LOWER COLUMBIA RIVER HIGHWAY

Limits of pavement removal

Linnton Fish Monument Sign to remain

Extg. City R/W

1 #133 (28" DBH)
1 #132 (18" DBH)
1 #134 (30" DBH)
1 #129 (10" DBH)
1 #128 (14" DBH)
1 #131 (18" DBH)
1 #130 (20" DBH)
2

PLANTING KEY NOTES

1. Protect tree in place
2. Install tree protection fencing (See P-582 Sheet FA001)

LEGEND

- #1 — Tree identification number (See tree inventory worksheet); Existing tree; Root protection zone
- Tree to be removed
- Development impact area (15' from construction)
- Tree protection fencing
- AB — Proposed tree (Under utility line)
- AB — Tree code (See sheet FA004 for tree schedule)
- Wood chip mulch
- Proposed shoring
- Existing fence line

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FEET

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OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Samuel Jones | Reviewer: Dan Wojtala
Drafter: Callan Roemer | Checker: Callan Roemer

ROADSIDE DEVELOPMENT PLANTING PLAN/SECTION

SHEET NO. FA611

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

LEGEND

- Fill slope
- Cut slope
- Inlet protection (Type 2)
- Inlet protection (Type 7)
- Sediment fence
- Sediment barrier, biofilter bags
- Flow direction
- Check dam
- Construction entrance
- Permanent seeding, see C-series shts.
- Trench resurfacing, see C-series shts.
- Concrete truck wash out

STANDARD DRAWINGS

■	RD1000	Construction Entrances
□	RD1005	Check Dams Type 1, 3 and 4
■	RD1006	Check Dams Type 2 and 6
■	RD1010	Inlet Protection Type 2, 3, 6, 7 10 and 11
□	RD1015	Inlet Protection Type 4
■	RD1030	Sediment Barrier Type 2, 3 and 4
□	RD1031	Sediment Barrier Type 5 and 6
□	RD1032	Sediment Barrier Type 8
□	RD1033	Sediment Barrier Type 9
■	RD1040	Sediment Fence
□	RD1045	Temporary Slope Drain With Energy Dissipator
□	RD1050	Temporary Scour Basin / Energy Dissipator
□	RD1055	Slope and Channel Matting
□	RD1060	Tire Wash Facility Type 1 and 2
□	RD1065	Sediment Trap
■	RD1070	Concrete Truck Wash Out

EROSION CONTROL GENERAL NOTES FOR BES JURISDICTION

1. Erosion and sediment control is required for this project.
2. The implementation of this ESC and the construction, maintenance, replacement, and upgrading of these ESPCP facilities is the responsibility of the contractor until all construction is completed and approved and vegetation/landscaping is established.
3. Prepare an erosion and sediment control plan (ESCP) before beginning work. Keep a copy of the ESCP and the city erosion and sediment control manual(March 2008) on site at all times during the project.
4. The erosion and sediment control facilities as shown in the contract documents are the minimum requirements for the anticipated project work area and seasonal conditions. Upgrade these facilities to address changing work or weather conditions.
5. Select best management practices (BMPS) from the following documents:
   1) The city of portland erosion and sediment control manual
   2) The standard construction specifications
   3) The project contract documents
6. The ESC facilities shall be inspected daily by the applicant/contractor and maintained as necessary to ensure their continued functioning.
7. Inspect and maintain all facilities and measures until project work areas are permanently resurfaced or stabilized.
8. Complete an erosion control monitoring form after each inspection. Include the inspection date and time. Provide them upon request to the owner's representative.
9. The ESC facilities shown on this plan must be constructed in conjunction with all clearing and grading activities, and in such a manner as to insure that sediment and sediment laden water do not enter the drainage system, roadways, or violate applicable water standards.
10. No visible and measurable sediment shall exit the site, enter a public right-of-way, or be deposited into any water body or storm drainage system.
11. Following a storm event, inspect and adjust, repair, improve, or replace all deficient or failing facilities and measures. The ESC facilities on inactive sites shall be inspected and maintained a minimum of once a month or within the 24 hours following a storm event.
12. Protect all functioning stormwater inlets and catch basins from receiving unfiltered sediment and sediment-laden runoff.
13. Remove sediment and debris from inlets and catch basins before and after paving. Do not flush sediment-laden water into the downstream system.
14. Stabilize all exposed soil immediately following ground disturbing activity.
15. Stabilize and protect stockpiled soil with approved measures.
16. Stabilized construction entrances shall be installed at the beginning of construction and maintained for the duration of the project. Additional measures may be required to insure that all paved areas are kept clean for the duration of the project.
17. Remove temporary erosion and sediment control facilities after the project is completed and accepted by the owner's representative.
18. After ESC BMP installation but prior to performing other ground-disturbing activities, a preconstruction erosion control inspection shall be approved. This inspection may be obtained by calling 503-823-7000 and requesting a #200 inspection using the assigned Interactive Voice Response (IVR) number or permit number.
19. After installation of permanent stabilization BMPs, a permanent erosion control BMPs inspection shall be approved. A permanent erosion control inspection may be obtained by calling 503-823-7000 and requesting a #210 inspection using the permit IVR number.
20. Signage shall be posted on the site of the permitted ground-disturbing activity that identifies the City's Erosion Control Complaint Hotline number or the responsible City project manager/inspector.
21. Between October 1 and April 30, all denuded sites shall be provided with temporary soil stabilization as soon as practicable, but in no case more than 2 days after ground-disturbing activity occurs.
22. Between May 1 and September 30, temporary erosion and sediment control BMPs to reduce dust and sediment transport shall be applied as soon as practicable, but in no case more than 7 days after ground-disturbing activity occurs.
23. Temporary stabilization BMPs shall be maintained until permanent stabilization BMPs are established.

EROSION CONTROL GENERAL NOTES FOR BES JURISDICTION (CONT'D)

23. Temporary stabilization BMPs shall be maintained until permanent stabilization BMPs are established.
24. Where stockpiles of contaminated media is handled and stored on site, adhere to the following standards
   1) Stockpiles of soil must be covered to protect materials from stormwater contact.
   2) Stockpile perimeters must have a containment barrier on all four sides of every stockpile.
   3) Stockpiles of soil must an impervious layer underneath the stockpile.
   4) Site controls must be employed that protect drag-out into a City street from the development site and day-to-day operations.
25. Standard Notes for Sediment Fences:
   1) The filter fabric shall be purchased in a continuous roll cut to the length of the barrier to avoid use of joints. When joints are necessary, filter cloth shall be spliced together only at a support post, with a minimum 6-inch overlap, and both ends securely fastened to the post, or overlap 2 inch x 2 inch posts and attach as shown on COP BMP standard detail 3.15-A and ODOT RD1040.
   2) The filter fabric fence shall be installed to follow the contours where feasible. The fence posts shall be spaced a maximum of 6 feet apart and driven securely into the ground a minimum of 24 inches.
   3) The filter fabric shall have a minimum vertical burial of 6 inches. All excavated material from filter fabric fence installation, shall be backfilled and compacted, along the entire disturbed area.
   4) Standard or heavy duty filter fabric fence shall have manufactured stitched loops for 2 inch x 2 inch post installation. Stitched loops shall be installed on the up hill side of the sloped area.

EROSION AND SEDIMENT CONTROL GENERAL NOTES

The construction, adjustment, maintenance, and upgrading of these Erosion and Sediment Control measures is the responsibility of the contractor for the duration of the project to comply with Section 00280 of the Oregon Standard Specifications for construction and the NPDES 1200-CA permit.

Erosion and Sediment Control measures shown on this plan are for anticipated site conditions. Adjust or upgrade these measures for unexpected storm events to ensure that sediment and sediment-laden water does not leave the site.

Develop a revised plan of the Erosion and Sediment Control measures shown as required by Section 00280, Oregon Standard Specifications for Construction. Implement this plan for all clearing and grading activities and in segments applicable to each staging phase. Construct in such a manner so as to ensure that sediment and sediment-ladenwater does not enter the roadway or drainage system, or violate applicable water standards.

Install measures within the right-of-way unless directed otherwise.

Contractor to provide contact for 24-hour Erosion & Sediment Control site inspector

REGISTERED PROFESSIONAL ENGINEER
93931PE
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OREGON
SEPT. 11, 2018
VERONICA B. VONG
RENEWS: 06-30-2026

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WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Alex Junge | Reviewer: Veronica Vong
Drafter: Grace Harrison | Checker: Veronica Vong

LEGEND, GENERAL NOTES

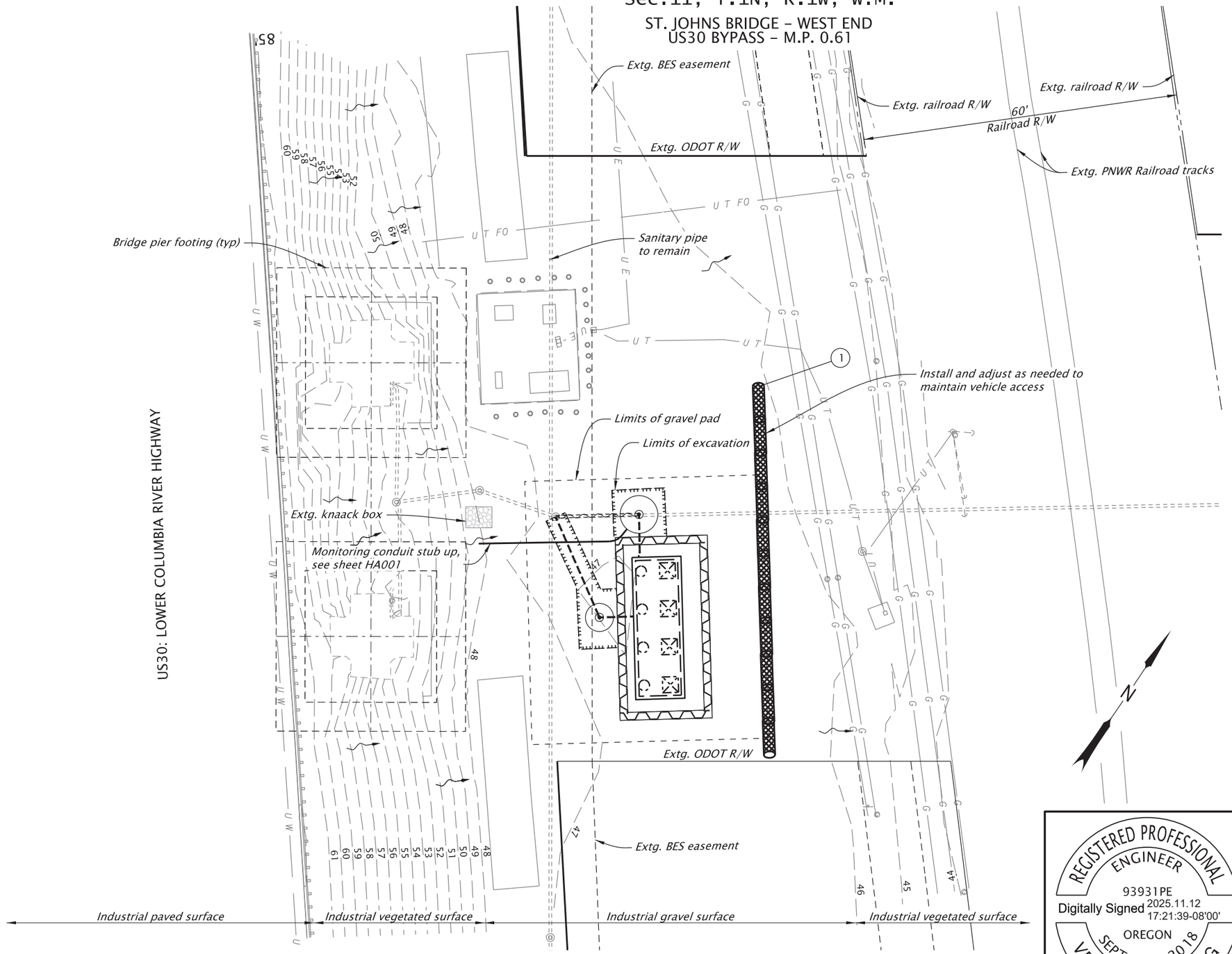
SHEET NO. FB001

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

59V-002

Sec.11, T.1N, R.1W, W.M.

ST. JOHNS BRIDGE - WEST END
US30 BYPASS - M.P. 0.61



CONSTRUCTION NOTES

1. *Inst. sediment barrier (Type 2) (See dwg. no. RD1030)*

Notes:
1. *Overhead utilities not shown for clarity.*
2. *Contractor to field verify site conditions prior to installation of shoring.*

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FEET

REGISTERED PROFESSIONAL ENGINEER
93931PE
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OREGON
SEPT. 11, 2018
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RENEWS: 06-30-2026

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LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Alex Junge | Reviewer: Veronica Vong
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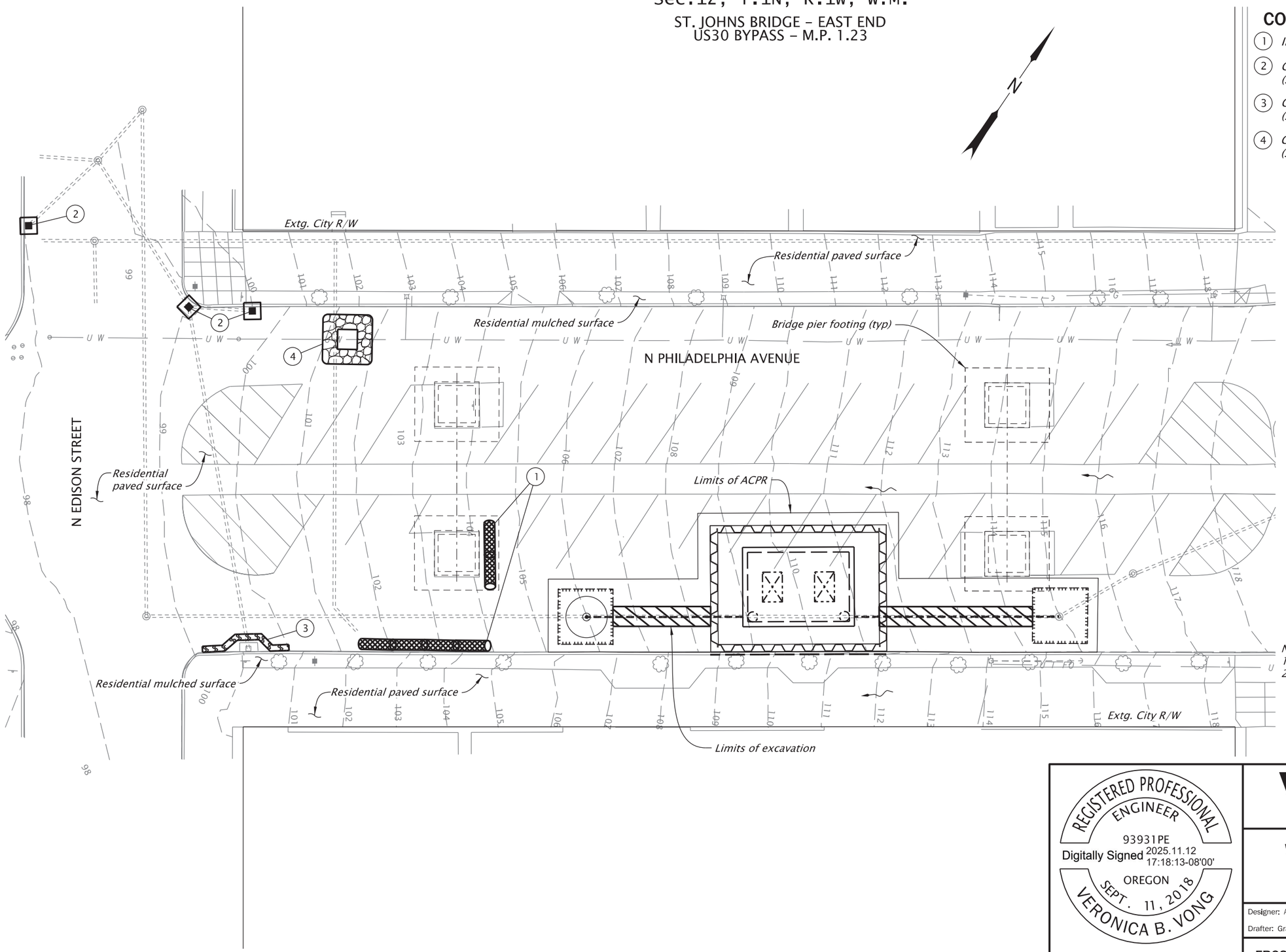
EROSION AND SEDIMENT CONTROL PLAN

SHEET NO. FB003

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

Sec.12, T.1N, R.1W, W.M.

ST. JOHNS BRIDGE – EAST END
US30 BYPASS – M.P. 1.23



CONSTRUCTION NOTES

1. *Inst. sediment barrier (Type 2)*
2. *Const. inlet protection (Type 3) (See dwg. no. RD1010)*
3. *Const. inlet protection (Type 7) (See dwg. no. RD1010)*
4. *Const. concrete truck wash out (See dwg. no. RD1010)*

Notes:
1. *Overhead utilities not shown for clarity.*
2. *Contractor to field verify site conditions prior to installation of shoring.*

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REGISTERED PROFESSIONAL ENGINEER
93931PE
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OREGON
SEPT. 11, 2018
VERONICA B. VONG
RENEWS: 06-30-2026

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OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

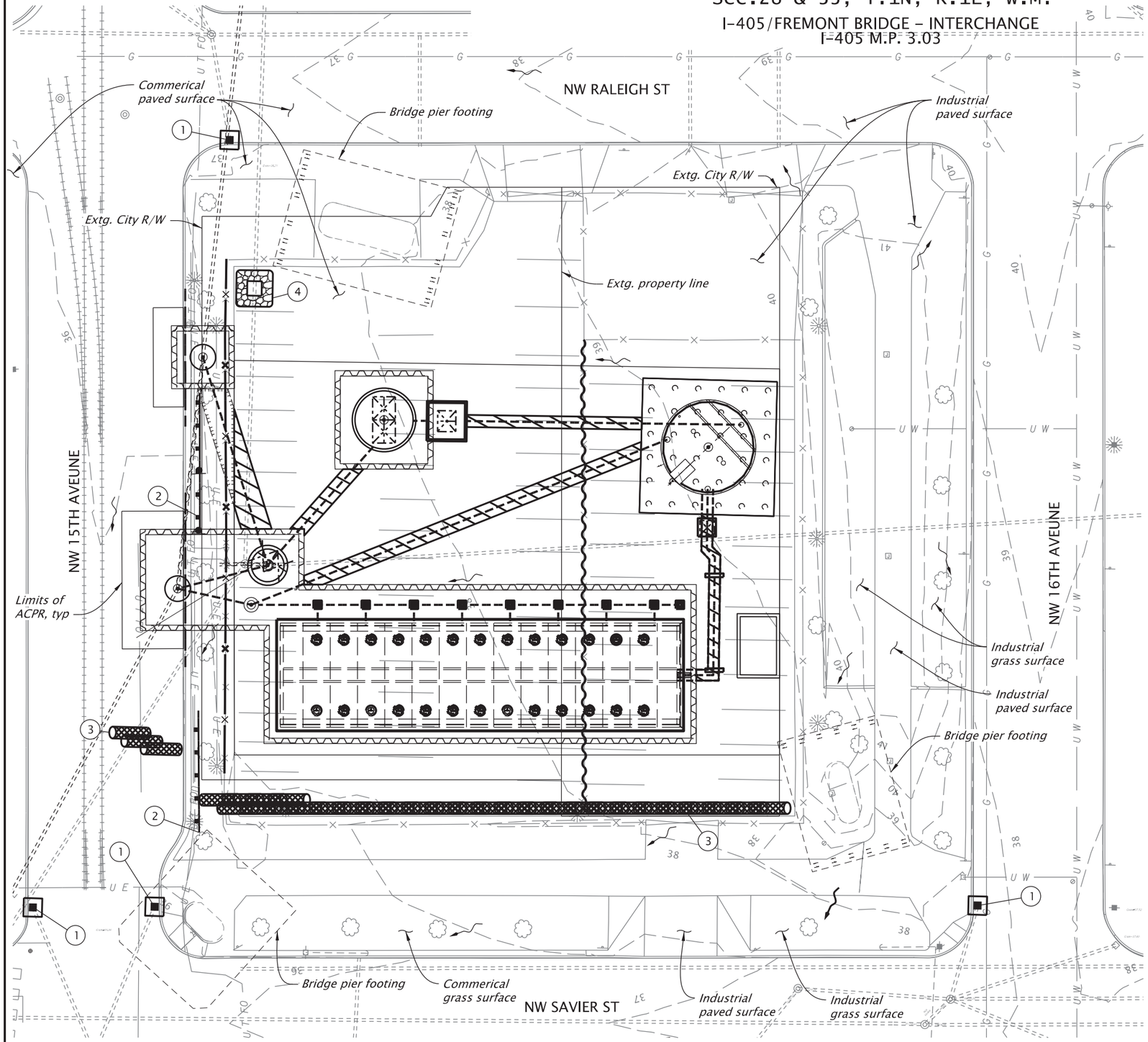
Designer: Alex Junge	Reviewer: Veronica Vong
Drafter: Grace Harrison	Checker: Veronica Vong

EROSION AND SEDIMENT CONTROL PLAN — SHEET NO. FB101

59V-002

Sec.28 & 33, T.1N, R.1E, W.M.

I-405/FREMONT BRIDGE - INTERCHANGE
I-405 M.P. 3.03



CONSTRUCTION NOTES

1. *Const. inlet protection (Type 3)*
2. *Const. sediment fence (See dwg. no. RD1040)*
3. *Inst. sediment barrier (Type 2)*
4. *Const. concrete truck wash*

N

Notes:
1. *Overhead utilities not shown for clarity.*
2. *Contractor to field verify site conditions prior to installation of shoring.*
3. *If construction dewatering is required, discharge will occur only into ODOT infrastructure. Construction dewatering to the City's system not authorized. Batch Discharge Authorization permit is required for temporary discharges of groundwater or construction related stormwater (channelized, collected and/or pumped) to the City's public sanitary or storm sewer system. If dewatering to City sanitary or storm sewer system is necessary, pre-authorization must be obtained from the Bureau of Environmental Services at batchdischarge@portlandoregon.gov*

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REGISTERED PROFESSIONAL ENGINEER
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OREGON
SEPT. 11, 2018
VERONICA B. VONG
RENEWS: 06-30-2026

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WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
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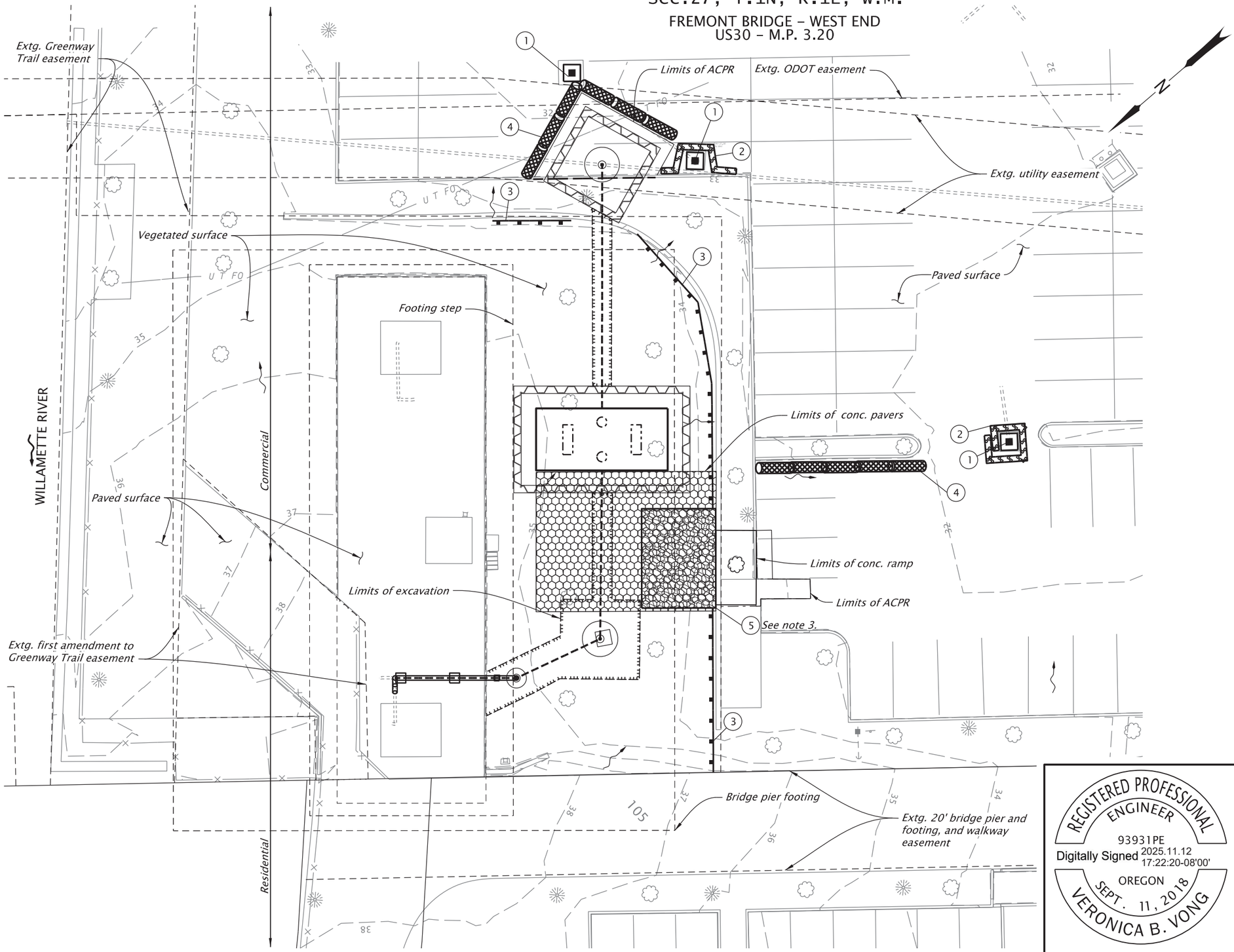
Designer: Alex Junge	Reviewer: Veronica Vong
Drafter: Grace Harrison	Checker: Veronica Vong

EROSION AND SEDIMENT CONTROL PLAN — SHEET NO. FB201

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

Sec.27, T.1N, R.1E, W.M.

FREMONT BRIDGE – WEST END
US30 – M.P. 3.20



CONSTRUCTION NOTES

1. *Const. inlet protection (Type 3)*
2. *Const. inlet protection (Type 7)*
3. *Const. sediment fence*
4. *Inst. sediment barrier (Type 2)*
5. *Const. aggregate construction entrance (Type 3) (See dwg. no. RD1000)*

Notes:

1. *Overhead utilities not shown for clarity.*
2. *Contractor to field verify site conditions prior to installation of shoring.*
3. *Construction entrance may be installed and adjusted as needed to maintain site access.*
4. *Construction dewatering to the city's system not authorized. If required:*
   Batch Discharge Authorization permit is required for temporary discharges of groundwater or construction related stormwater (channelized, collected and/or pumped) to the City's public sanitary or storm sewer system. If de-watering to a City sanitary or storm sewer system is necessary, pre-authorization must be obtained from the Bureau of Environmental Services at batchdischarge@portlandoregon.gov

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OREGON
SEPT. 11, 2018
VERONICA B. VONG

RENEWS: 06-30-2026

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1300 SW 5th Ave
Suite 3100
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OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Alex Junge
Drafter: Grace Harrison
Reviewer: Veronica Vong
Checker: Veronica Vong

EROSION AND SEDIMENT CONTROL PLAN

SHEET NO. FB301

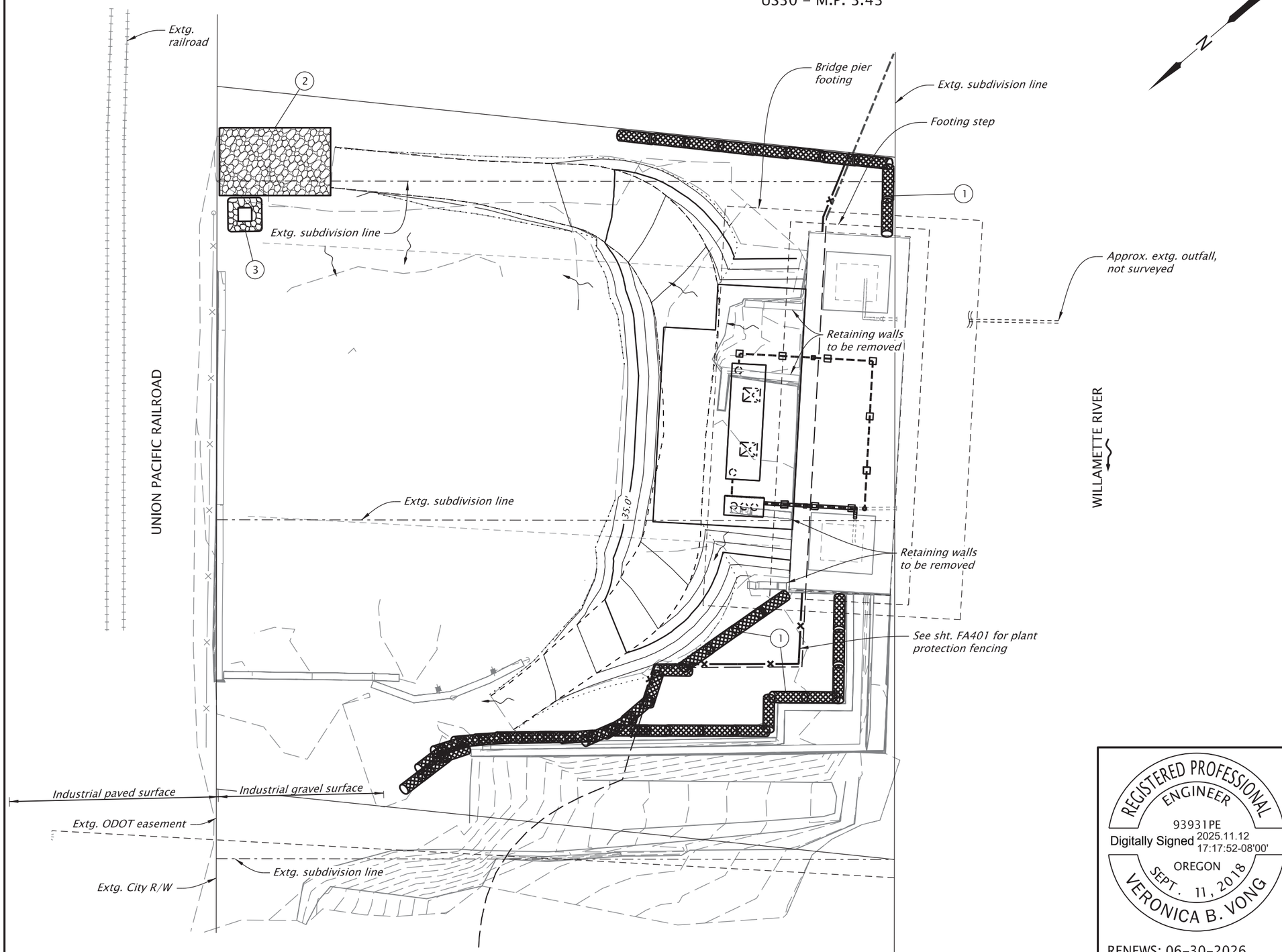
59V-002

Sec.27, T.1N, R.1E, W.M.

FREMONT BRIDGE – EAST END
US30 – M.P. 3.43

CONSTRUCTION NOTES

1. *Inst. sediment barrier (Type 2)*
2. *Const. aggregate construction entrance (Type 1)*
3. *Const. concrete truck wash out*



Notes:
1. Overhead utilities not shown for clarity.
2. Where contour labels are not provided, the contour interval is 1 ft.
3. See FB001 for Erosion Control General Notes for BES Jurisdiction.
4. Any field changes shall be in substantial conformance with approved LU 25-013672 GW, Exhibits C.2 and C.3

30 10 0 30
FEET

REGISTERED PROFESSIONAL ENGINEER
93931PE
Digitally Signed 2025.11.12 17:17:52-08'00'
OREGON
SEPT. 11, 2018
VERONICA B. VONG
RENEWS: 06-30-2026

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

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Tel: 1 503 274 8772

OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Alex Junge | Reviewer: Veronica Vong
Drafter: Grace Harrison | Checker: Veronica Vong

EROSION AND SEDIMENT CONTROL PLAN

SHEET NO. FB401

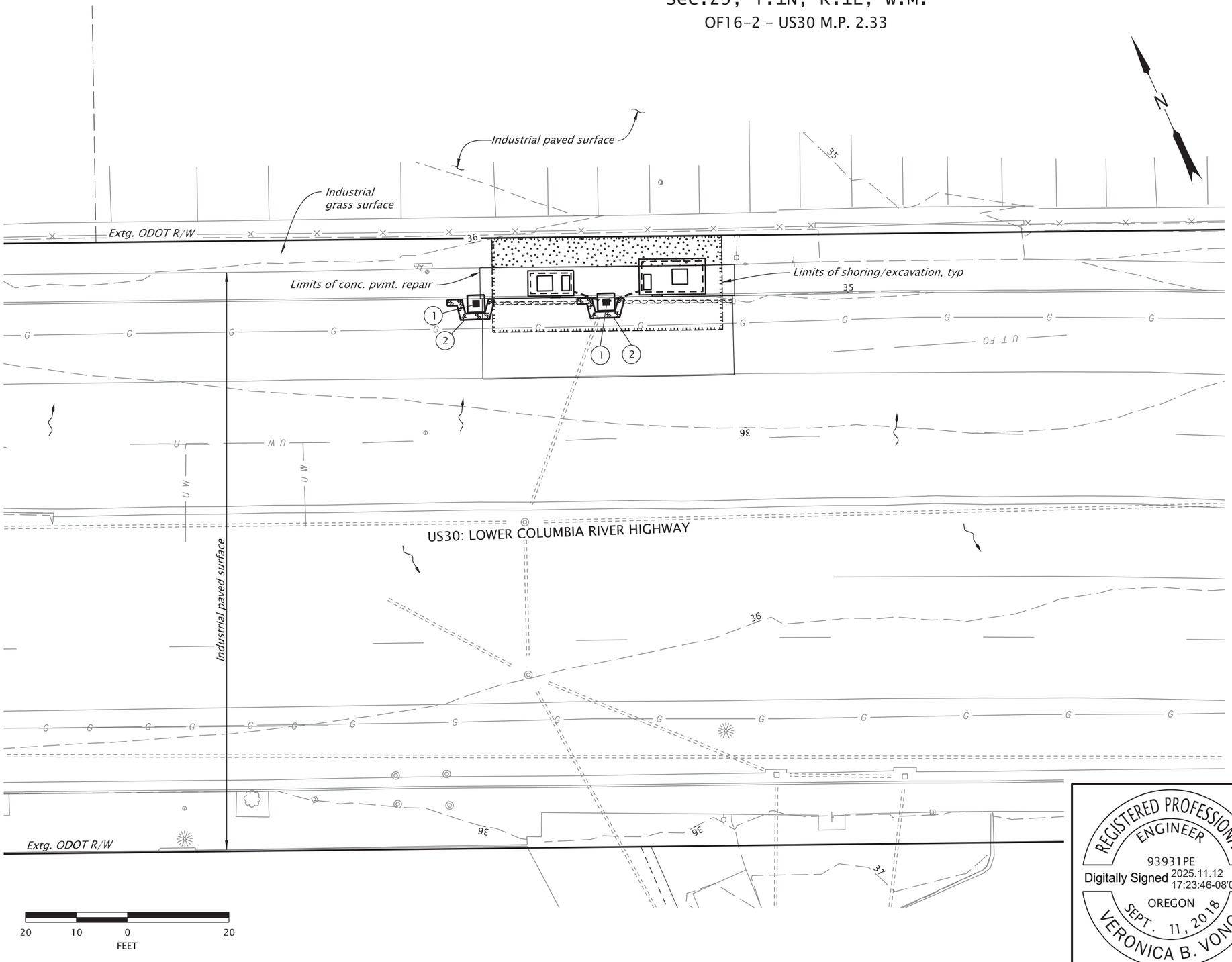
59V-002

Sec.29, T.1N, R.1E, W.M.

OF16-2 - US30 M.P. 2.33

CONSTRUCTION NOTES

1. *Const. inlet protection (Type 3)*
2. *Const. inlet protection (Type 7)*



Notes:
1. Overhead utilities not shown for clarity.

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93931PE
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WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

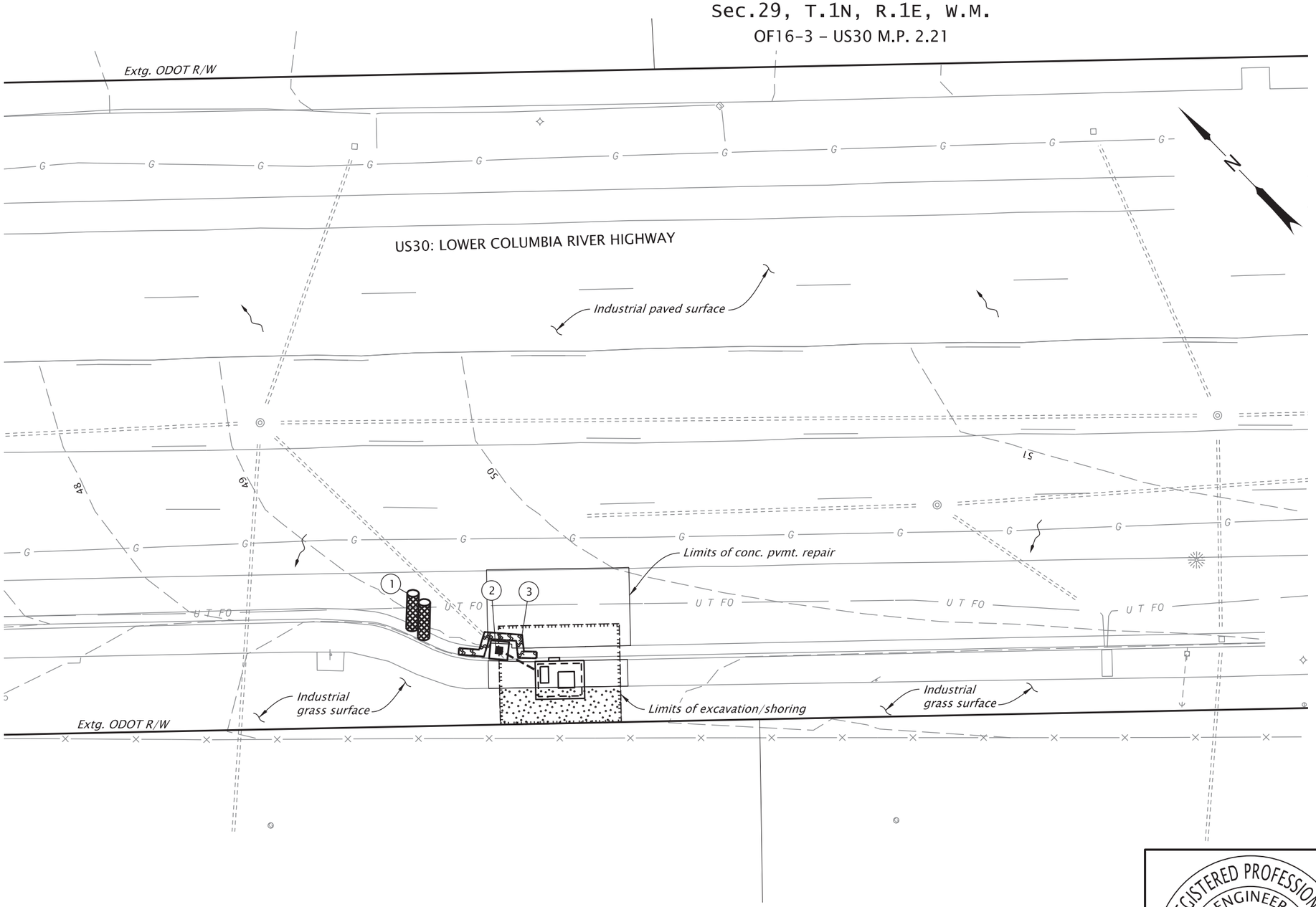
Designer: Alex Junge | Reviewer: Veronica Vong
Drafter: Grace Harrison | Checker: Veronica Vong

EROSION AND SEDIMENT CONTROL PLAN | SHEET NO. FB502

59V-002

Sec.29, T.1N, R.1E, W.M.

OF16-3 – US30 M.P. 2.21



CONSTRUCTION NOTES

1. *Inst. sediment barrier (Type 2)*
2. *Const. inlet protection (Type 3)*
3. *Const. inlet protection (Type 7)*

Notes:
1. Overhead utilities not shown for clarity.

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93931PE
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OREGON
SEPT. 11, 2018
VERONICA B. VONG
RENEWS: 06-30-2026

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Tel: 1 503 274 8772

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WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Alex Junge
Drafter: Grace Harrison
Reviewer: Veronica Vong
Checker: Veronica Vong

EROSION AND SEDIMENT CONTROL PLAN

SHEET NO. FB503

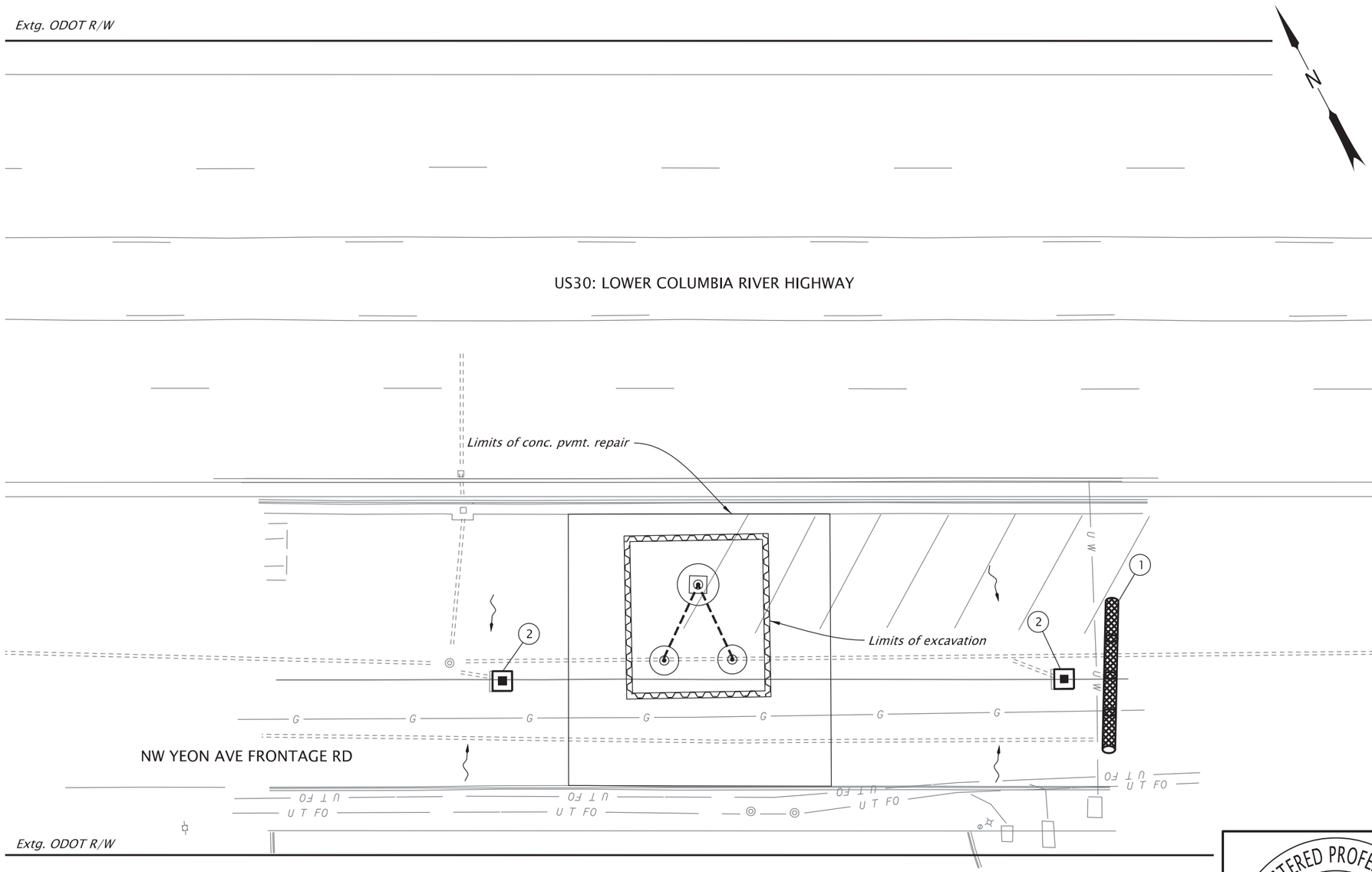
59V-002

Sec.20, T.1N, R.1E, W.M.

OF18-2 – US30 M.P. 3.00

CONSTRUCTION NOTES

1. *Inst. sediment barrier (Type 2)*
2. *Const. inlet protection (Type 3)*



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FEET

Notes:
1. *Overhead utilities not shown for clarity.*
2. *Contractor to field verify site conditions prior to installation of shoring.*

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OREGON
SEPT. 11, 2018
VERONICA B. VONG
RENEWS: 06-30-2026

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Tel: 1 503 274 8772

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WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

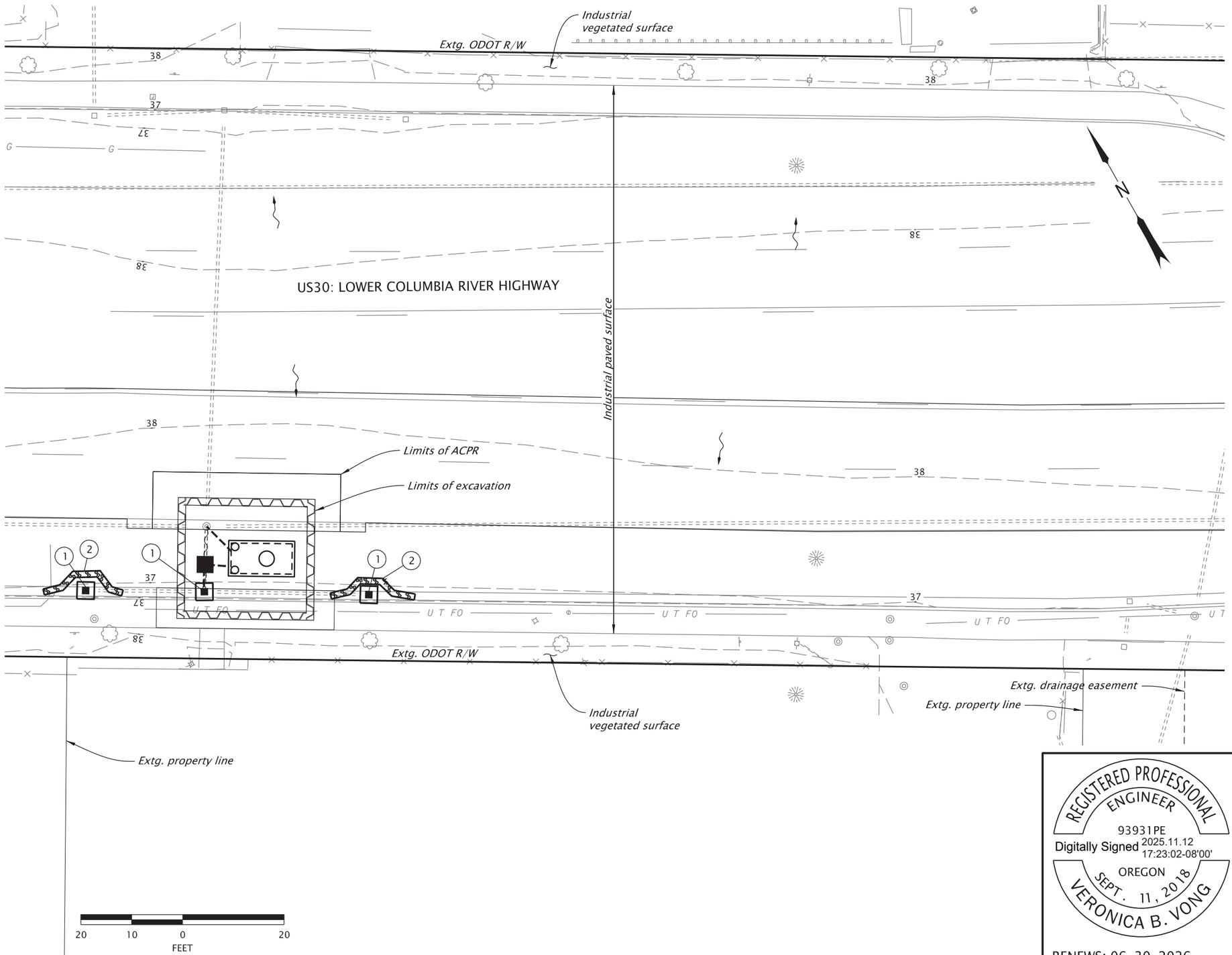
Designer: Alex Junge	Reviewer: Veronica Vong
Drafter: Grace Harrison	Checker: Veronica Vong

EROSION AND SEDIMENT CONTROL PLAN — SHEET NO. FB521

59V-002

Sec.20, T.1N, R.1E, W.M.

OF18-1 – US30 M.P. 3.25



CONSTRUCTION NOTES

1. *Const. inlet protection (Type 3)*
2. *Const. inlet protection (Type 7)*

Notes:

1. *Overhead utilities not shown for clarity.*
2. *Contractor to field verify site conditions prior to installation of shoring.*
3. *See sheets FB523 and FB524 for limits of 2" ACPR for temporary striping removal.*

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93931PE
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RENEWS: 06-30-2026

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WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Alex Junge | Reviewer: Veronica Vong
Drafter: Grace Harrison | Checker: Veronica Vong

EROSION AND SEDIMENT CONTROL PLAN

SHEET NO. FB522

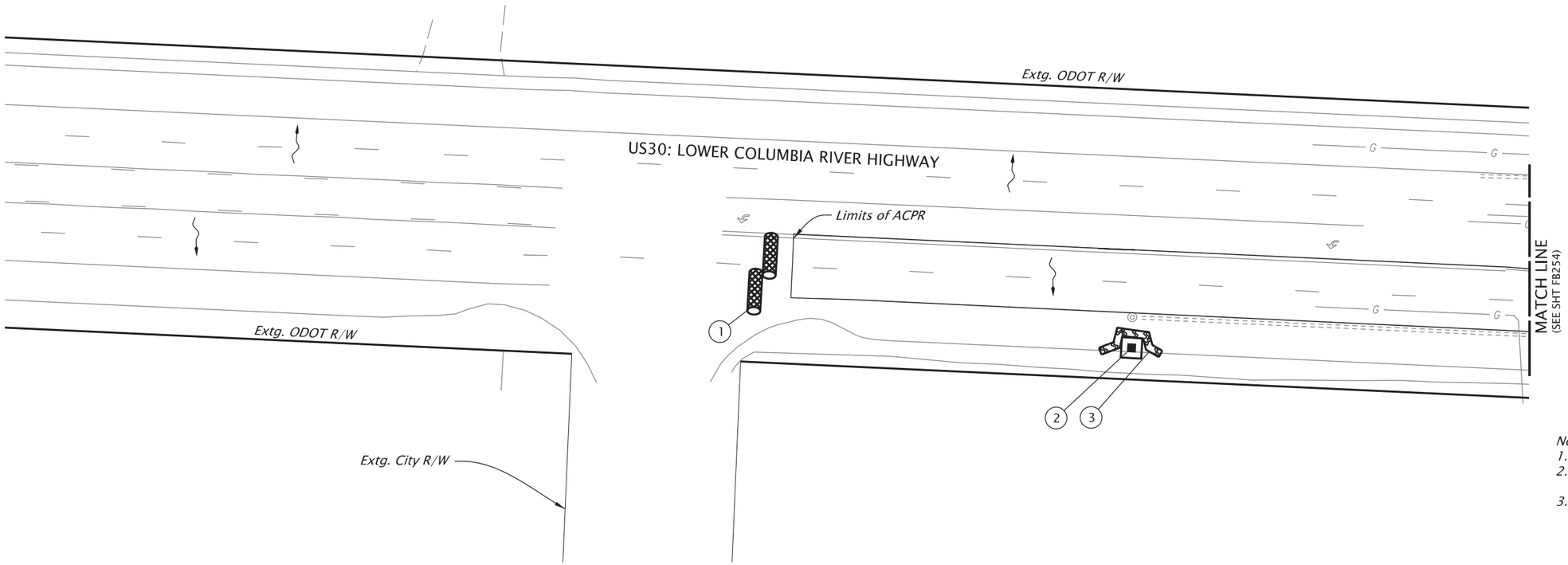
59V-002

Sec.20, T.1N, R.1E, W.M.

OF18-1 – US30 M.P. 3.25

CONSTRUCTION NOTES

1. *Inst. sediment barrier (Type 2)*
2. *Const. inlet protection (Type 3)*
3. *Const. inlet protection (Type 7)*



Note:
1. *Overhead utilities not shown for clarity.*
2. *Erosion control for water quality installation not shown for clarity, see sheet FB522.*
3. *Surveyed topographic contours not available this sheet.*

REGISTERED PROFESSIONAL ENGINEER
93931PE
Digitally Signed 2025.11.12 17:26:14-08'00'
OREGON
SEPT. 11, 2018
VERONICA B. VONG
RENEWS: 06-30-2026

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OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

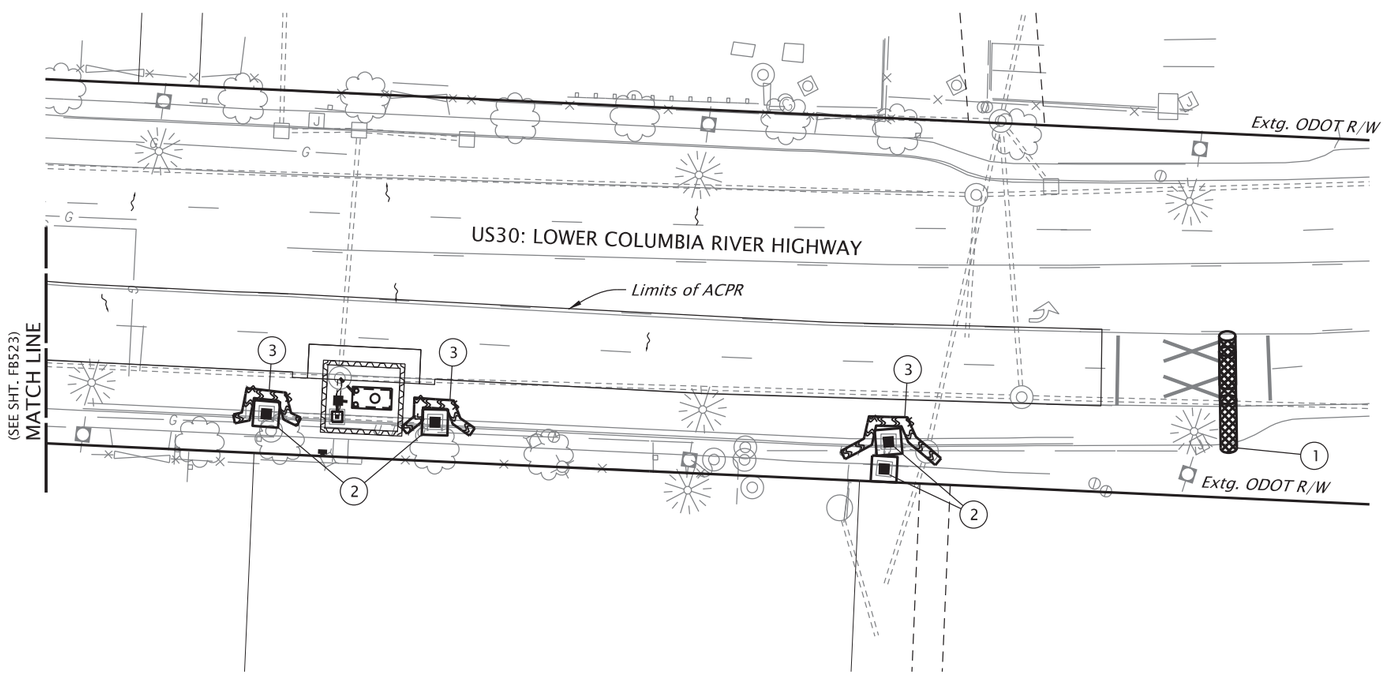
Designer: Alex Junge	Reviewer: Veronica Vong
Drafter: Grace Harrison	Checker: Veronica Vong

EROSION AND SEDIMENT CONTROL PLAN | SHEET NO. FB523

Sec.20, T.1N, R.1E, W.M.
OF18-1- US30 M.P. 3.25

CONSTRUCTION NOTES

1. *Inst. sediment barrier (Type 2)*
2. *Const. inlet protection (Type 3)*
3. *Const. inlet protection (Type 7)*



Note:
1. Overhead utilities not shown for clarity.
2. Erosion control for water quality installation not shown for clarity, see sheet FB522.
3. For surveyed topographic contours, see sheet FB522.

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93931PE
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OREGON
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VERONICA B. VONG
RENEWS: 06-30-2026

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WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Alex Junge | Reviewer: Veronica Vong
Drafter: Grace Harrison | Checker: Veronica Vong

EROSION AND SEDIMENT CONTROL PLAN

SHEET NO. FB524

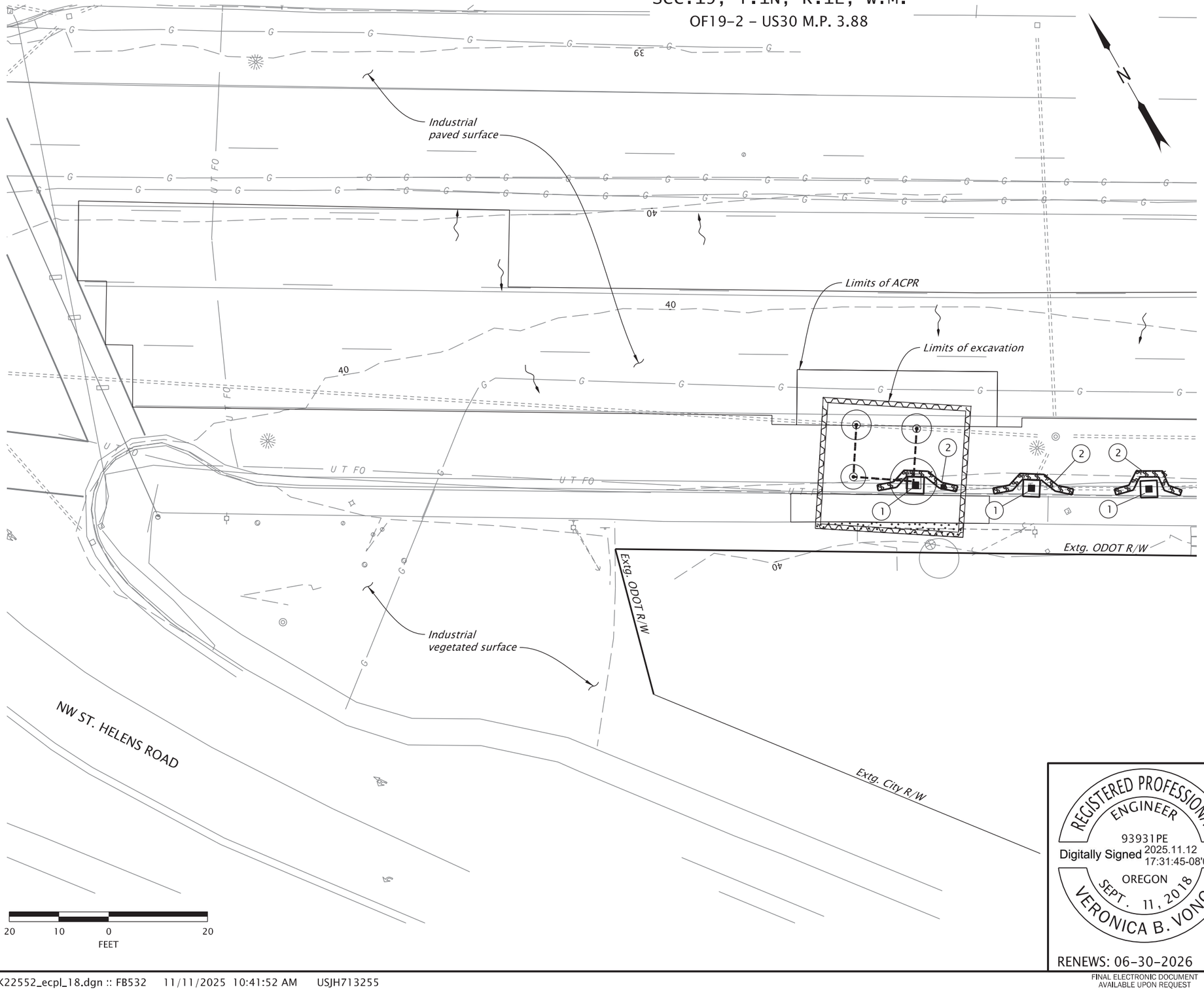
59V-002

Sec.19, T.1N, R.1E, W.M.

OF19-2 – US30 M.P. 3.88

CONSTRUCTION NOTES

1. *Const. inlet protection (Type 3)*
2. *Const. inlet protection (Type 7)*



Notes:
1. *Overhead utilities not shown for clarity.*
2. *Contractor to field verify site conditions prior to installation of shoring.*
3. *See sheets FB533 and FB534 for limits of 2" ACPR for temporary striping removal.*

REGISTERED PROFESSIONAL ENGINEER
93931PE
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OREGON
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RENEWS: 06-30-2026

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OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Alex Junge
Drafter: Grace Harrison
Reviewer: Veronica Vong
Checker: Veronica Vong

EROSION AND SEDIMENT CONTROL PLAN

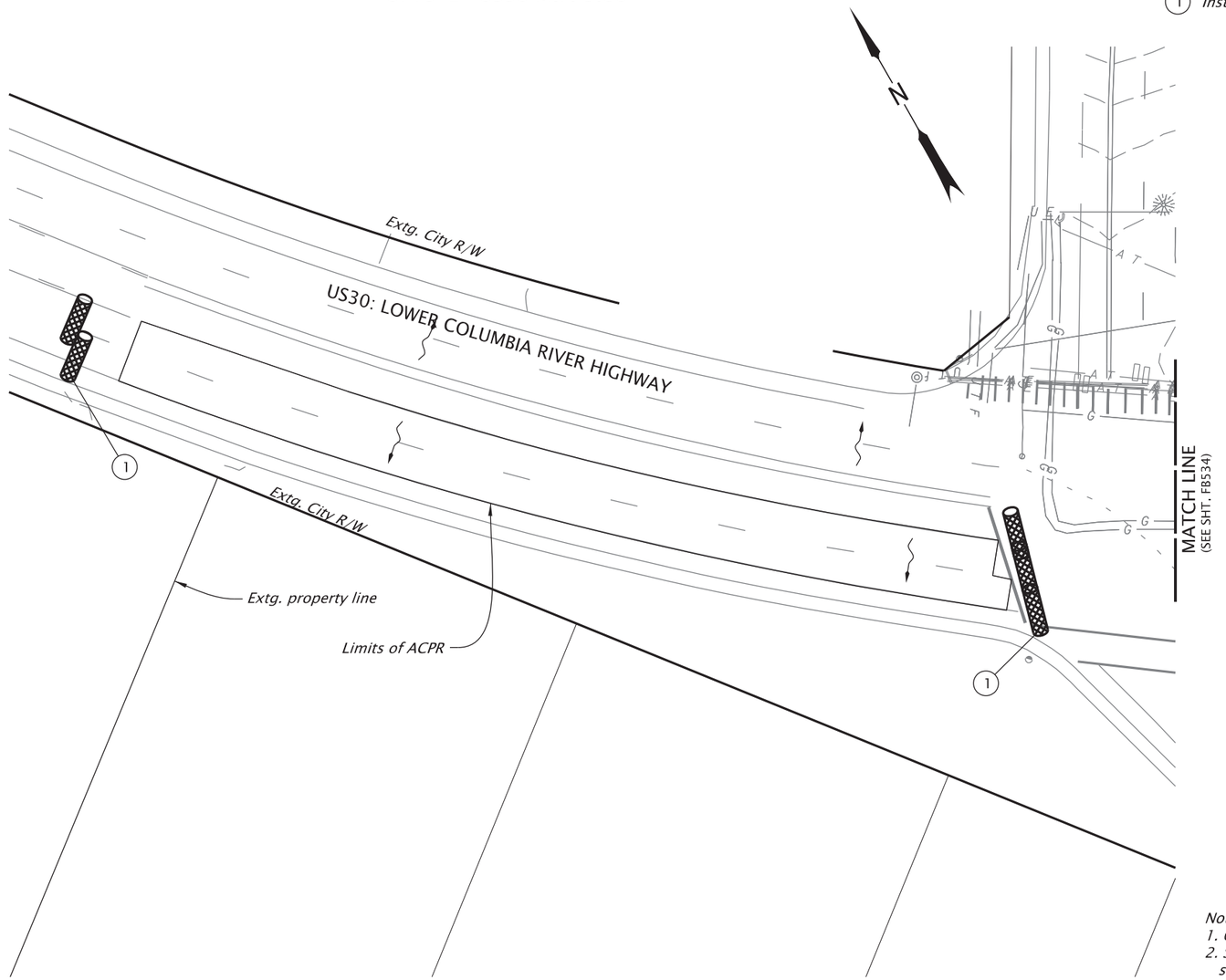
SHEET NO. FB532

Sec.19, T.1N, R.1E, W.M.

OF19-2- US30 M.P. 3.88

CONSTRUCTION NOTES

(1) *Inst. sediment barrier (Type 2)*



Note:
1. *Overhead utilities not shown for clarity.*
2. *Surveyed topographic contours not available this sheet.*

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FEET

REGISTERED PROFESSIONAL ENGINEER
93931PE
Digitally Signed 2025.11.12 17:26:54-08'00'
OREGON
SEPT. 11, 2018
VERONICA B. VONG
RENEWS: 06-30-2026

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Tel: 1 503 274 8772

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Alex Junge
Reviewer: Veronica Vong
Drafter: Grace Harrison
Checker: Veronica Vong

EROSION AND SEDIMENT CONTROL PLAN

SHEET NO. FB533

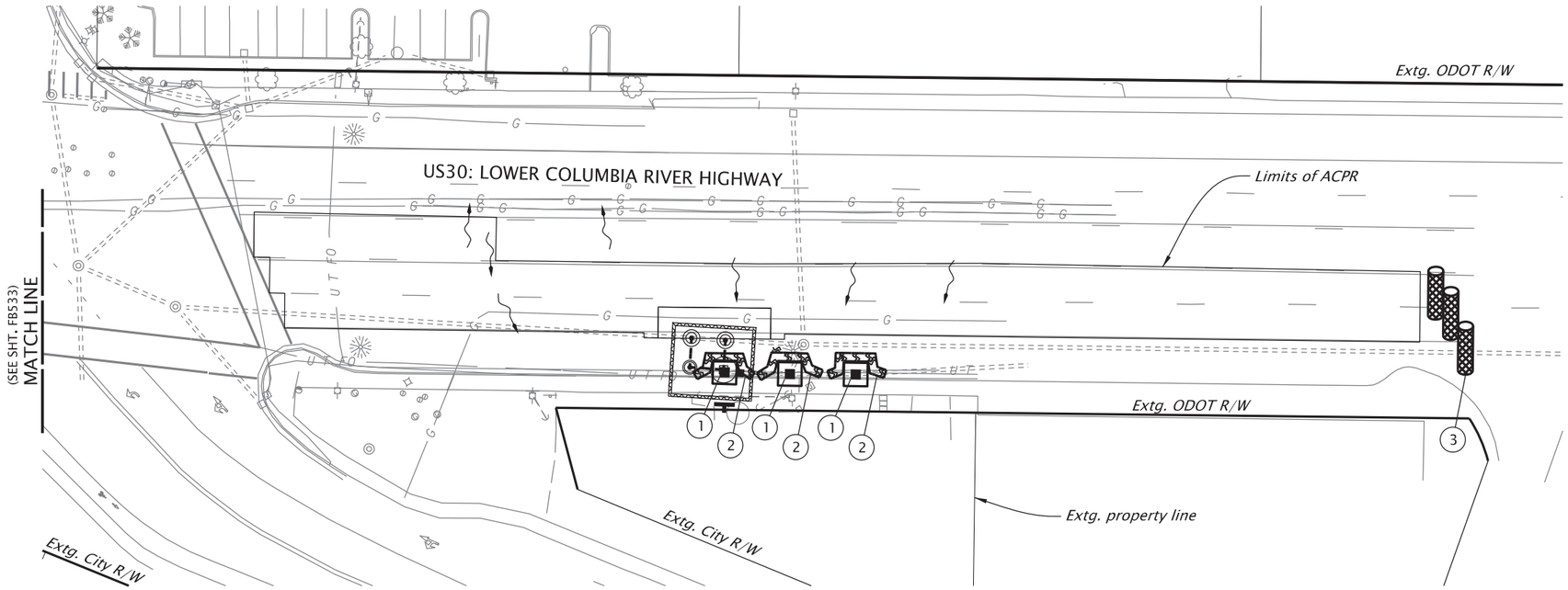
59V-002

Sec.19, T.1N, R.1E, W.M.

OF19-2 – US30 M.P. 3.88

CONSTRUCTION NOTES

1. *Const. inlet protection (Type 3)*
2. *Const. inlet protection (Type7)*
3. *Inst. sediment barrier (Type 2)*



Note:
1. *Overhead utilities not shown for clarity.*
2. *Erosion control for water quality installation not shown for clarity, see sheet FB532.*
3. *For surveyed topographic contours, see sheet FB532.*

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93931PE
Digitally Signed 2025.11.12 17:24:47-08'00'
OREGON
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RENEWS: 06-30-2026

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Suite 3100
Portland, OR 97201
Tel: 1 503 274 8772

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Alex Junge | Reviewer: Veronica Vong
Drafter: Grace Harrison | Checker: Veronica Vong

EROSION AND SEDIMENT CONTROL PLAN

SHEET NO. FB534

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

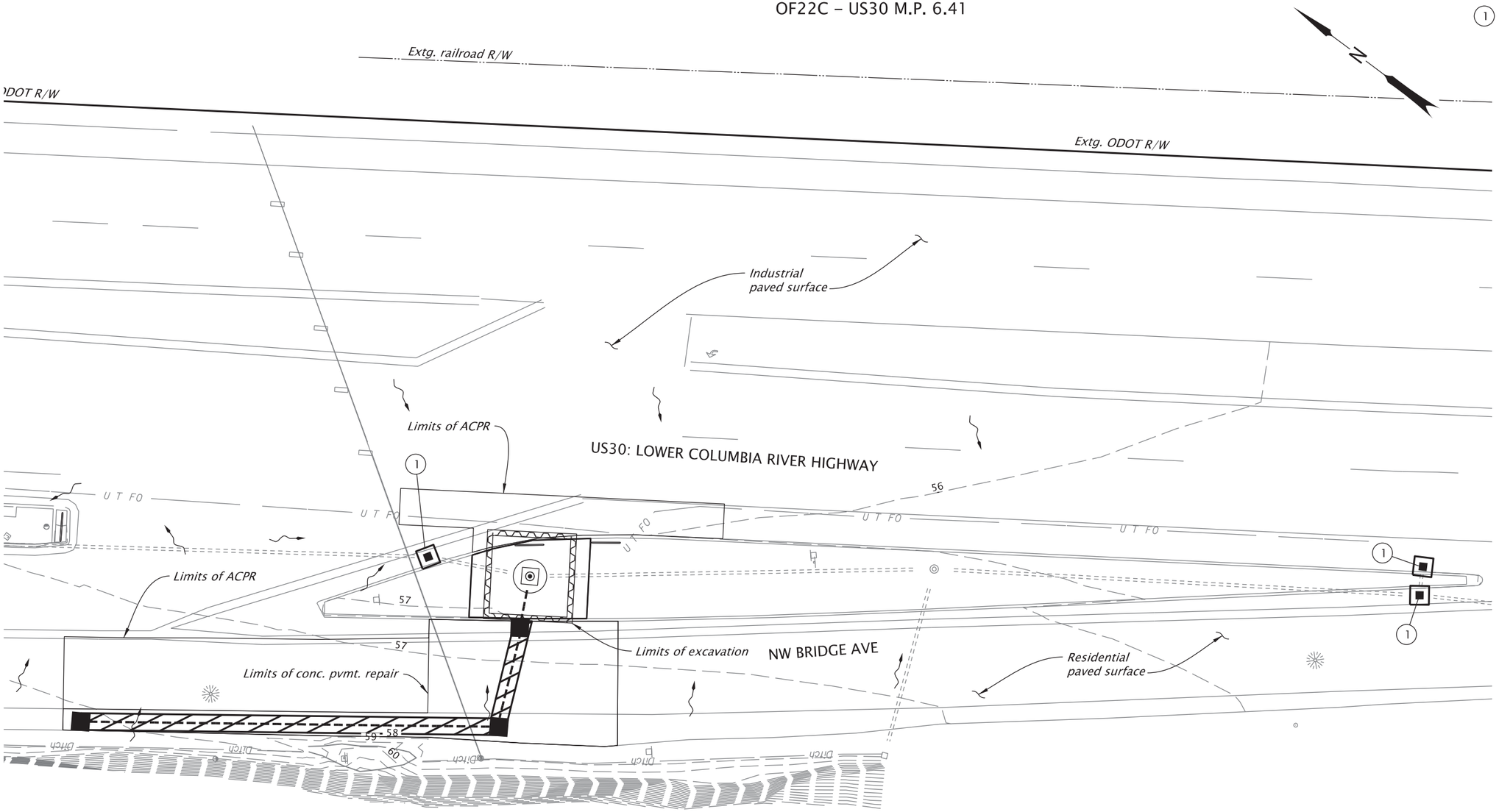
59V-002

Sec.12, T.1N, R.1W, W.M.

OF22C – US30 M.P. 6.41

CONSTRUCTION NOTES

1. *Const. inlet protection (Type 3)*



Notes:

1. *Overhead utilities not shown for clarity.*
2. *Contractor to field verify site conditions prior to installation of shoring.*
3. *Where contour labels are not provided, the contour interval is 1 ft.*

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93931PE
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OREGON
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OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT

LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY

MULTNOMAH COUNTY

Designer: Alex Junge	Reviewer: Veronica Vong
Drafter: Grace Harrison	Checker: Veronica Vong

EROSION AND SEDIMENT CONTROL PLAN

SHEET NO. FB541

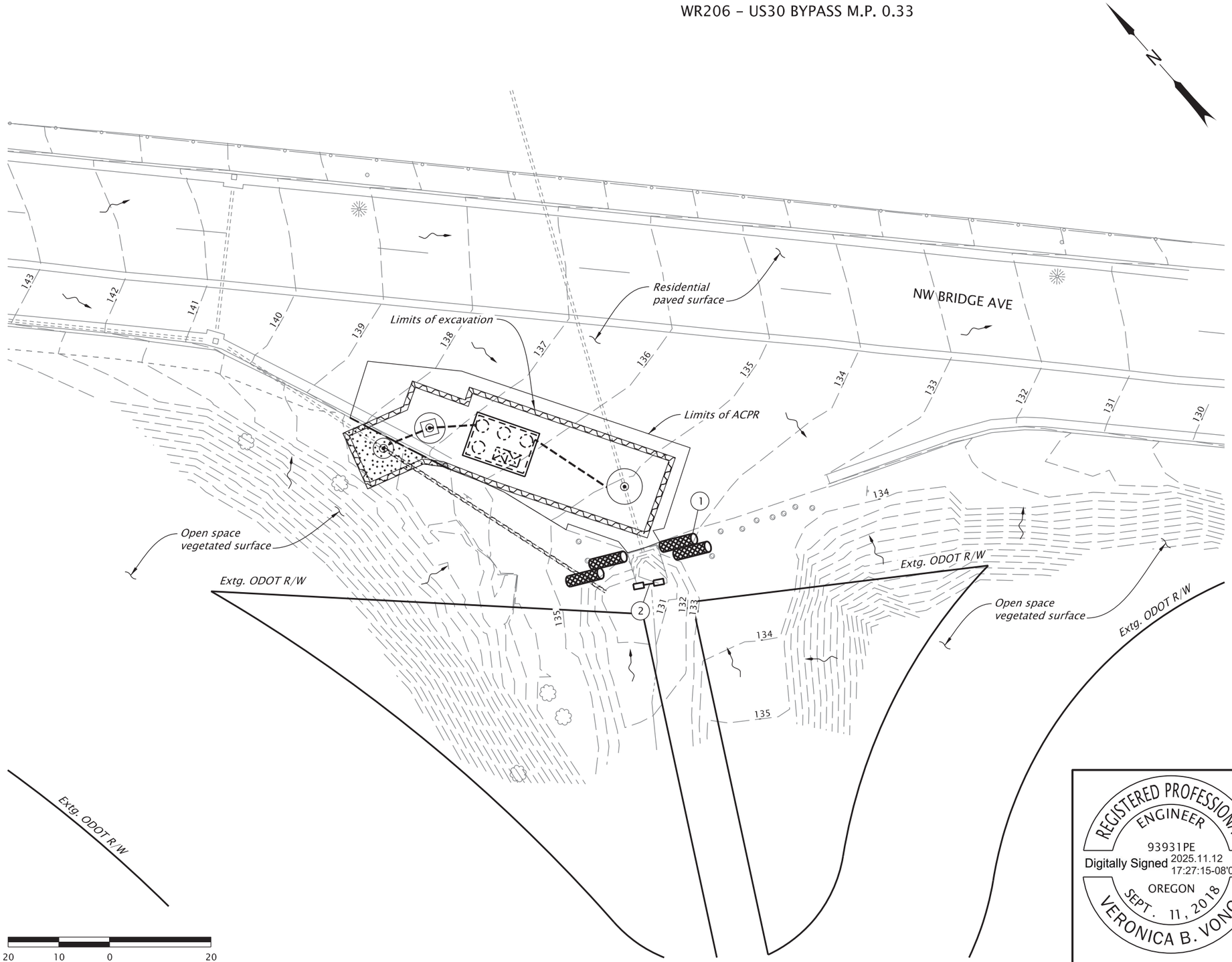
59V-002

Sec.11, T.1N, R.1W, W.M.

WR206 - US30 BYPASS M.P. 0.33

CONSTRUCTION NOTES

1. *Inst. sediment barrier (Type 2)*
2. *Const. check dam (Type 6) (See dwg. no. RD1006)*



Notes:

1. *Contractor to field verify site conditions prior to installation of shoring.*
2. *Where contour labels are not provided, the contour interval is 1 ft.*

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WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Alex Junge | Reviewer: Veronica Vong
Drafter: Grace Harrison | Checker: Veronica Vong

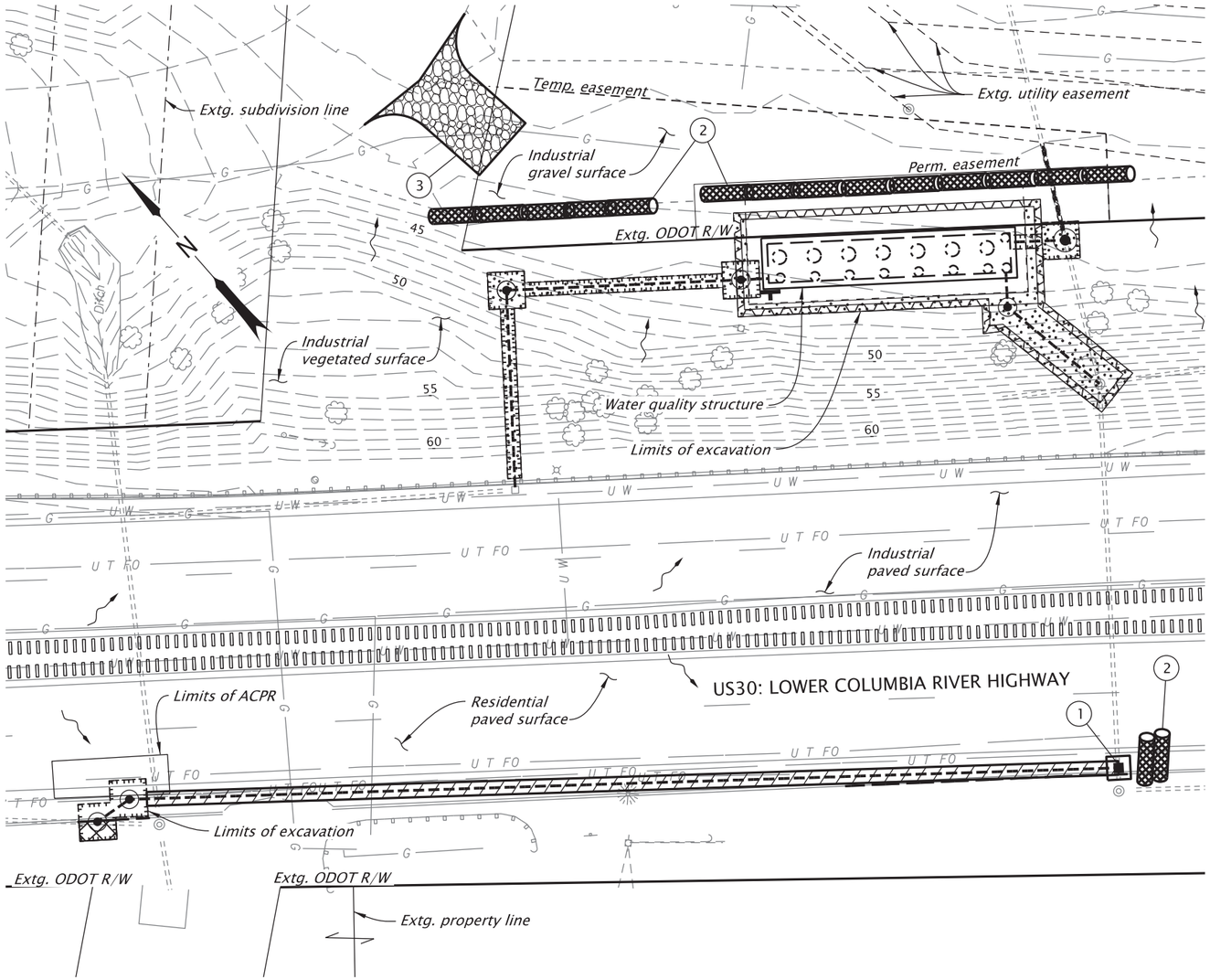
EROSION AND SEDIMENT CONTROL PLAN

SHEET NO. FB551

59V-002

Sec.11, T.1N, R.1W, W.M.

WR208/WR211 – US30 M.P. 7.03



30 15 0 30
FEET

CONSTRUCTION NOTES

1. *Const. inlet protection (Type 3)*
2. *Inst. sediment barrier (Type 2)*
3. *Const. aggregate construction entrance (Type 2)*

Notes:
1. *Overhead utilities not shown for clarity.*
2. *Contractor to field verify site conditions prior to installation of shoring.*
3. *See sheets FB562 and FB563 for limits of 2" ACPR for temporary striping removal.*

REGISTERED PROFESSIONAL ENGINEER
93931PE
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OREGON
SEPT. 11, 2018
VERONICA B. VONG
RENEWS: 06-30-2026

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OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Alex Junge
Drafter: Grace Harrison
Reviewer: Veronica Vong
Checker: Veronica Vong

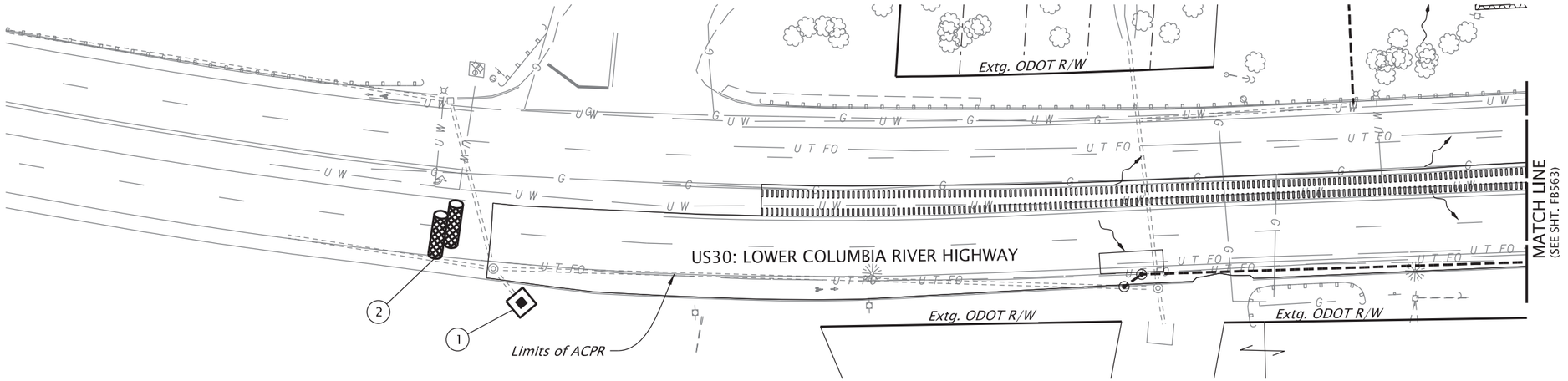
EROSION AND SEDIMENT CONTROL PLAN

SHEET NO.
FB561

Sec.11, T.1N, R.1W, W.M.
WR208/W211 - US30 M.P. 7.03

CONSTRUCTION NOTES

1. *Const. inlet protection (Type 3)*
2. *Inst. sediment barrier (Type 2)*



Note:
1. Overhead utilities not shown for clarity.
2. Erosion control for water quality installation not shown for clarity, see sheet FB561.
3. For surveyed topographic contours, see sheet FB561.

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93931PE
Digitally Signed 2025.11.12 17:17:31-08'00'
OREGON
SEPT. 11, 2018
VERONICA B. VONG
RENEWS: 06-30-2026

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WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Alex Junge | Reviewer: Veronica Vong
Drafter: Grace Harrison | Checker: Veronica Vong

EROSION AND SEDIMENT CONTROL PLAN

SHEET NO. FB562

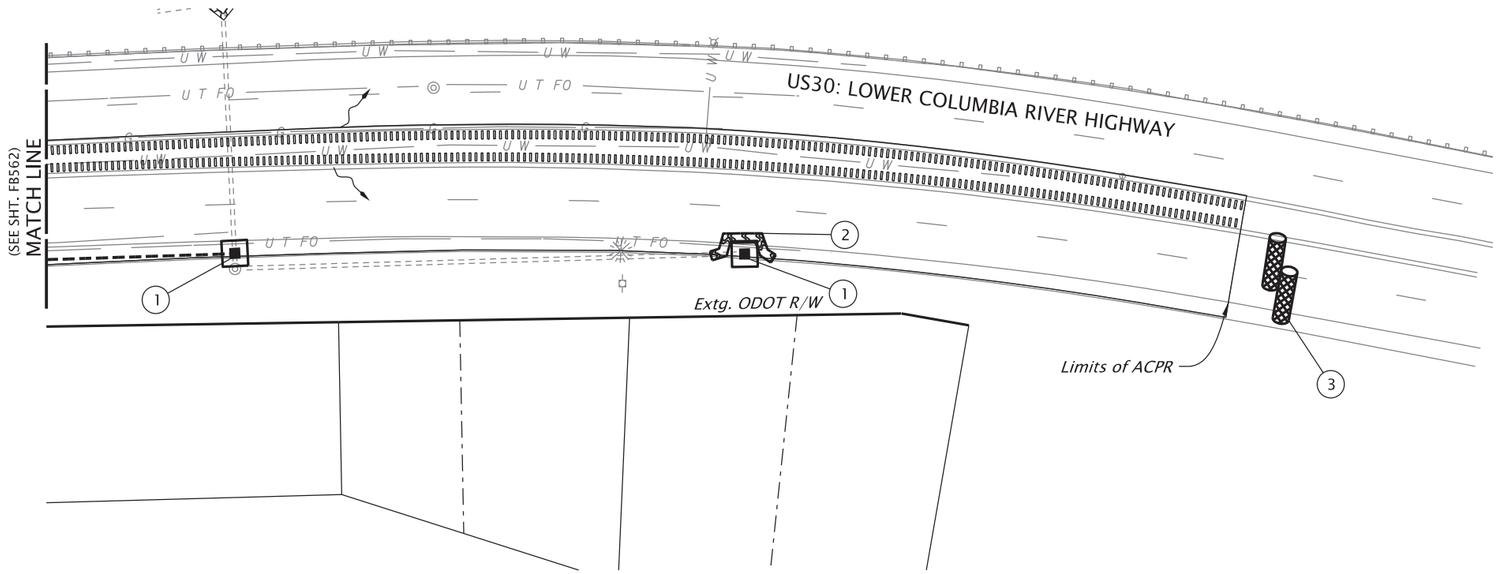
59V-002

Sec.11, T.1N, R.1W, W.M.

WR211/WR208 – US30 M.P. 7.03

CONSTRUCTION NOTES

1. *Const. inlet protection (Type 3)*
2. *Const. inlet protection (Type 7)*
3. *Inst. sediment barrier (Type 2)*



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FEET

Note:
1. *Overhead utilities not shown for clarity.*
2. *Erosion control for water quality installation not shown for clarity, see sheet FB561.*
3. *For surveyed topographic contours, see sheet FB561.*

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93931PE
Digitally Signed 2025.11.12 17:25:53-08'00'
OREGON
SEPT. 11, 2018
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RENEWS: 06-30-2026

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WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

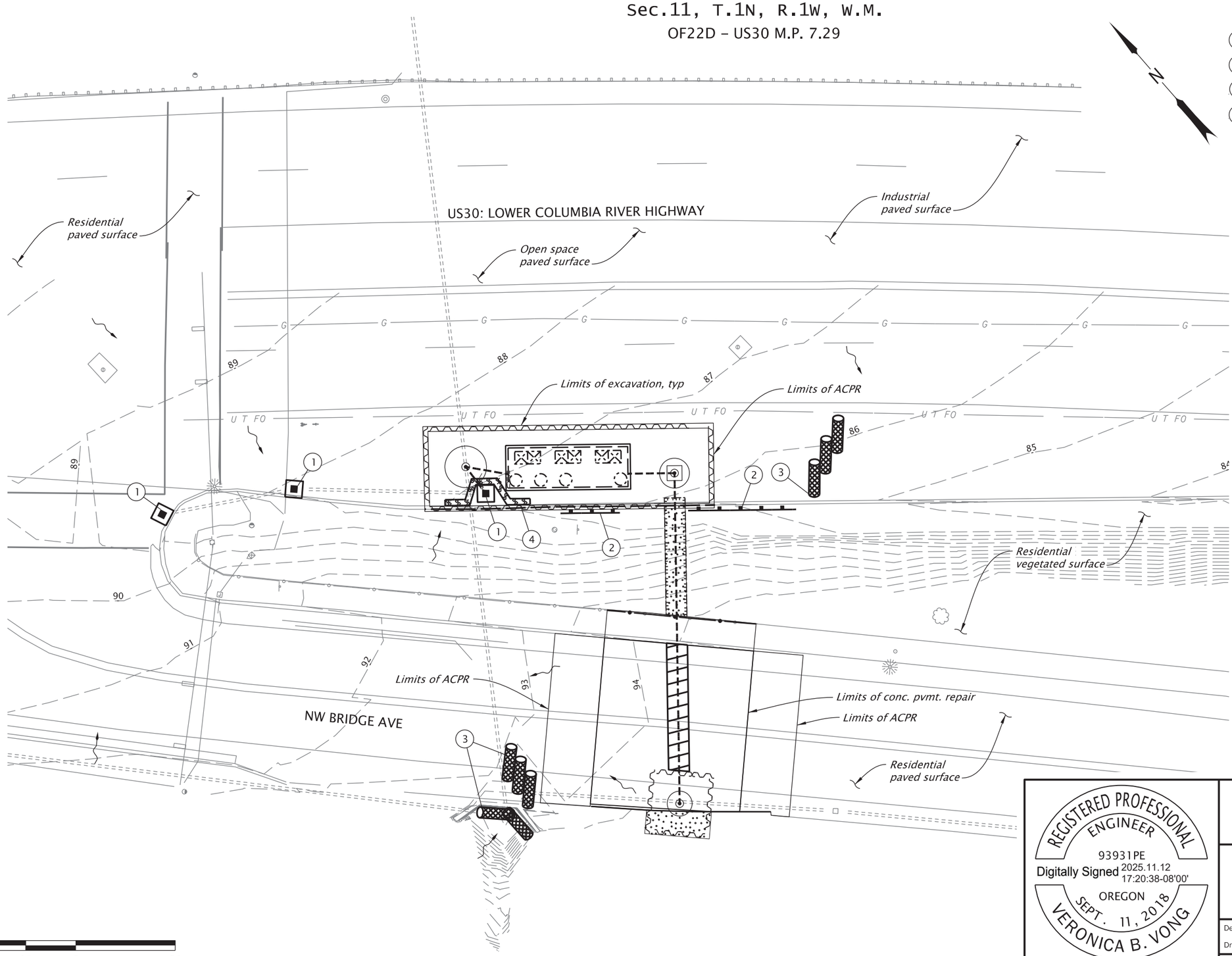
Designer: Alex Junge
Drafter: Grace Harrison
Reviewer: Veronica Vong
Checker: Veronica Vong

EROSION AND SEDIMENT CONTROL PLAN

SHEET NO. FB563

59V-002

Sec.11, T.1N, R.1W, W.M.
OF22D – US30 M.P. 7.29



CONSTRUCTION NOTES

1. *Const. inlet protection (Type 3)*
2. *Const. sediment fence*
3. *Inst. sediment barrier (Type 2)*
4. *Const. inlet protection (Type 7)*

Notes:
1. *Overhead utilities not shown for clarity.*
2. *Contractor to field verify site conditions prior to installation of shoring.*
3. *See sheets FB582 and FB583 for limits of 2" ACPR for temporary striping removal.*
4. *Where contour labels are not shown, the contour interval is 1ft.*

REGISTERED PROFESSIONAL ENGINEER
93931PE
Digitally Signed 2025.11.12 17:20:38-08'00'
OREGON
SEPT. 11, 2018
VERONICA B. VONG
RENEWS: 06-30-2026

WSP USA Inc.
1300 SW 5th Ave
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Tel: 1 503 274 8772

OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Alex Junge | Reviewer: Veronica Vong
Drafter: Grace Harrison | Checker: Veronica Vong

EROSION AND SEDIMENT CONTROL PLAN | SHEET NO. FB581

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

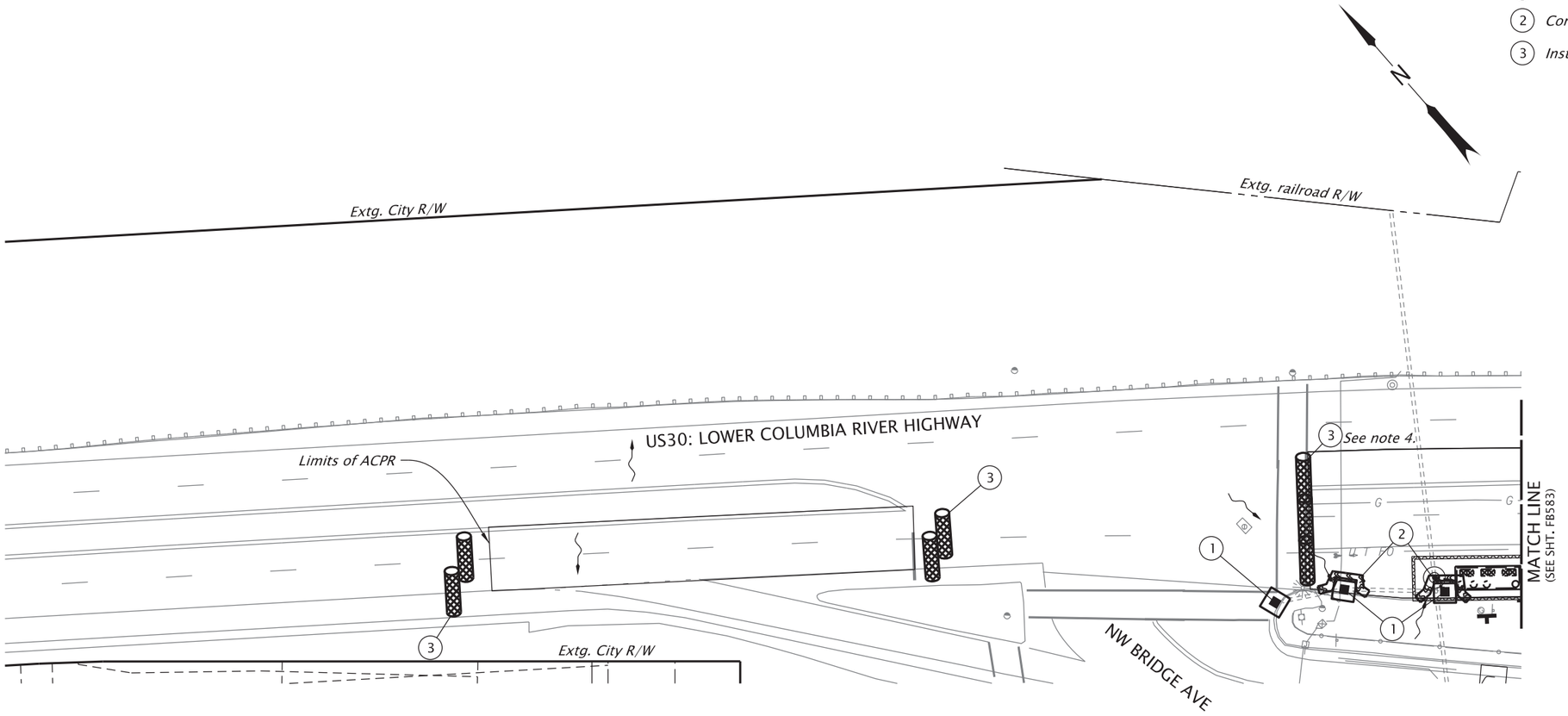
59V-002

Sec.11, T.1N, R.1W, W.M.

OF22D – US30 M.P. 7.29

CONSTRUCTION NOTES

1. *Const. inlet protection (Type 3)*
2. *Const. inlet protection (Type 7)*
3. *Inst. sediment barrier (Type 2)*



50 25 0 50
FEET

Note:
1. *Overhead utilities not shown for clarity.*
2. *Erosion control for water quality installation not shown for clarity, see sheet FB581.*
3. *For surveyed topographic contours, see sheet FB581.*
4. *Sediment barriers not shown to scale, do not place sediment barriers in pedestrian walkway.*

REGISTERED PROFESSIONAL ENGINEER
93931PE
Digitally Signed 2025.11.12 17:22:41-08'00'
OREGON
SEPT. 11, 2018
VERONICA B. VONG
RENEWS: 06-30-2026

WSP USA Inc.
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Portland, OR 97201
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WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Alex Junge | Reviewer: Veronica Vong
Drafter: Grace Harrison | Checker: Veronica Vong

EROSION AND SEDIMENT CONTROL PLAN

SHEET NO. FB582

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

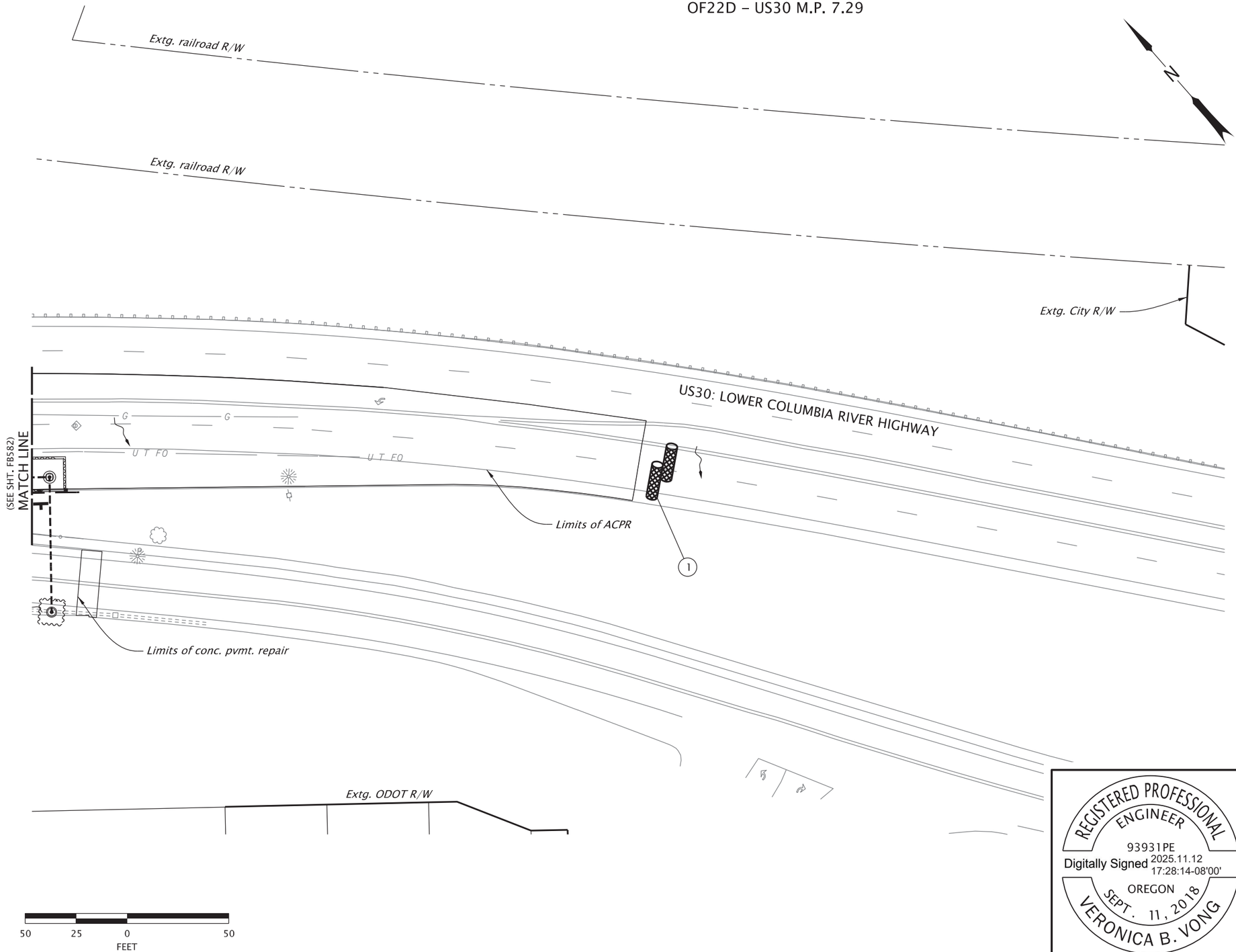
59V-002

Sec.11, T.1N, R.1W, W.M.

OF22D – US30 M.P. 7.29

CONSTRUCTION NOTES

(1) *Inst. sediment barrier (Type 2)*



Note:
1. *Overhead utilities not shown for clarity.*
2. *Erosion control for water quality installation not shown for clarity, see sheet FB581.*
3. *For surveyed topographic contours, see sheet FB581.*

REGISTERED PROFESSIONAL ENGINEER
93931PE
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RENEWS: 06-30-2026

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OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Alex Junge
Drafter: Grace Harrison
Reviewer: Veronica Vong
Checker: Veronica Vong

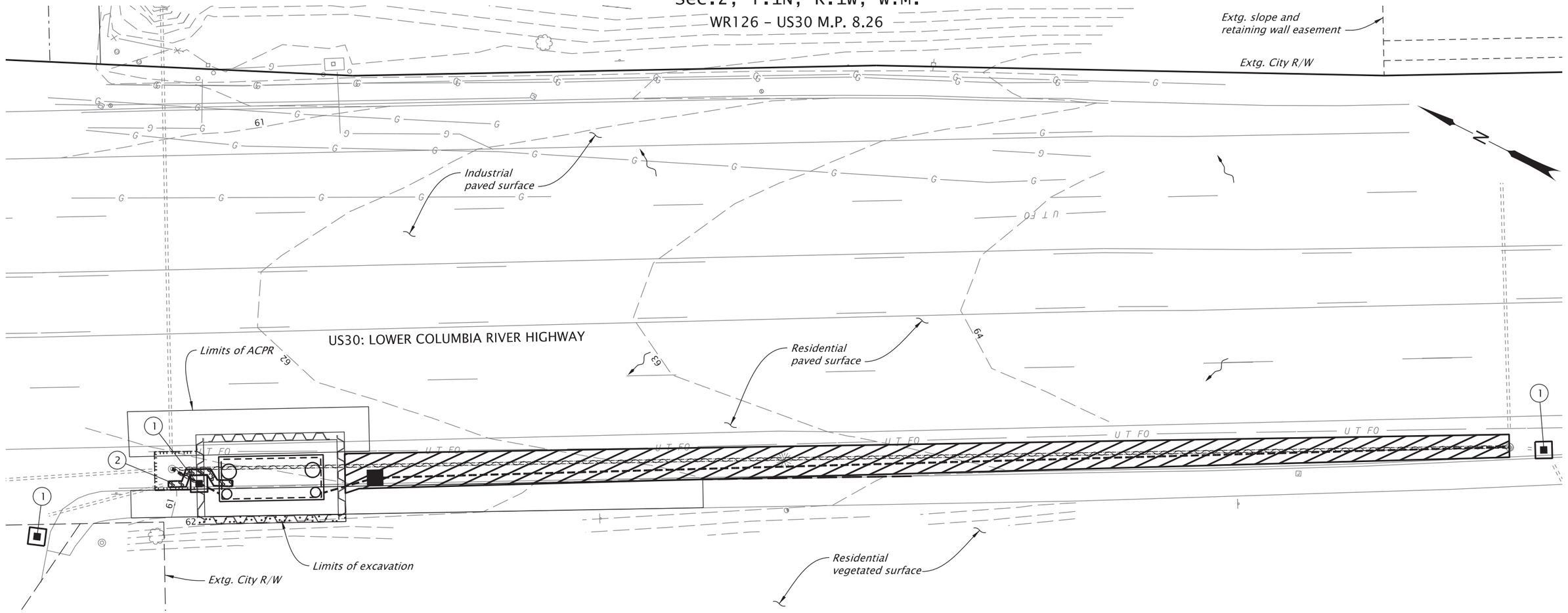
EROSION AND SEDIMENT CONTROL PLAN

SHEET NO. FB583

59V-002

Sec.2, T.1N, R.1W, W.M.

WR126 – US30 M.P. 8.26



CONSTRUCTION NOTES

1. *Const. inlet protection (Type 3)*
   West inlet location estimated
2. *Const. inlet protection (Type 7)*

Notes:
1. *Overhead utilities not shown for clarity.*
2. *Contractor to field verify site conditions prior to installation of shoring.*
3. *See sheets FB592 for limits of 2" ACPR for temporary striping removal.*
4. *Where contour labels are not provided, the contour interval is 1 ft.*

20 10 0 20
FEET

REGISTERED PROFESSIONAL ENGINEER
93931PE
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OREGON
SEPT. 11, 2018
VERONICA B. VONG
RENEWS: 06-30-2026

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OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Alex Junge
Drafter: Grace Harrison
Reviewer: Veronica Vong
Checker: Veronica Vong

EROSION AND SEDIMENT CONTROL PLAN

SHEET NO. FB591

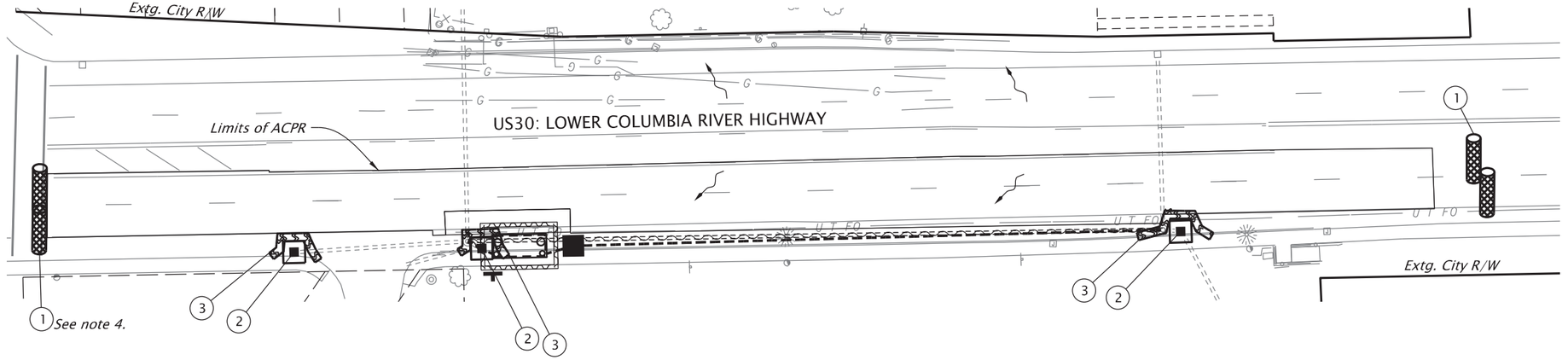
FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

59V-002

Sec.2, T.1N, R.1W, W.M.
WR126 - US30 M.P. 8.26

CONSTRUCTION NOTES

1. *Inst. sediment barrier (Type 2)*
2. *Const. inlet protection (Type 3)*
3. *Const. inlet protection (Type 7)*



50 25 0 50
FEET

Note:
1. *Overhead utilities not shown for clarity.*
2. *Erosion control for water quality installation not shown for clarity, see sheet FB591.*
3. *For surveyed topographic contours, see sheet FB591.*
4. *Sediment barriers not shown to scale, do not place sediment barriers in pedestrian walkway.*

REGISTERED PROFESSIONAL ENGINEER
93931PE
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OREGON
SEPT. 11, 2018
VERONICA B. VONG
RENEWS: 06-30-2026

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Tel: 1 503 274 8772

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

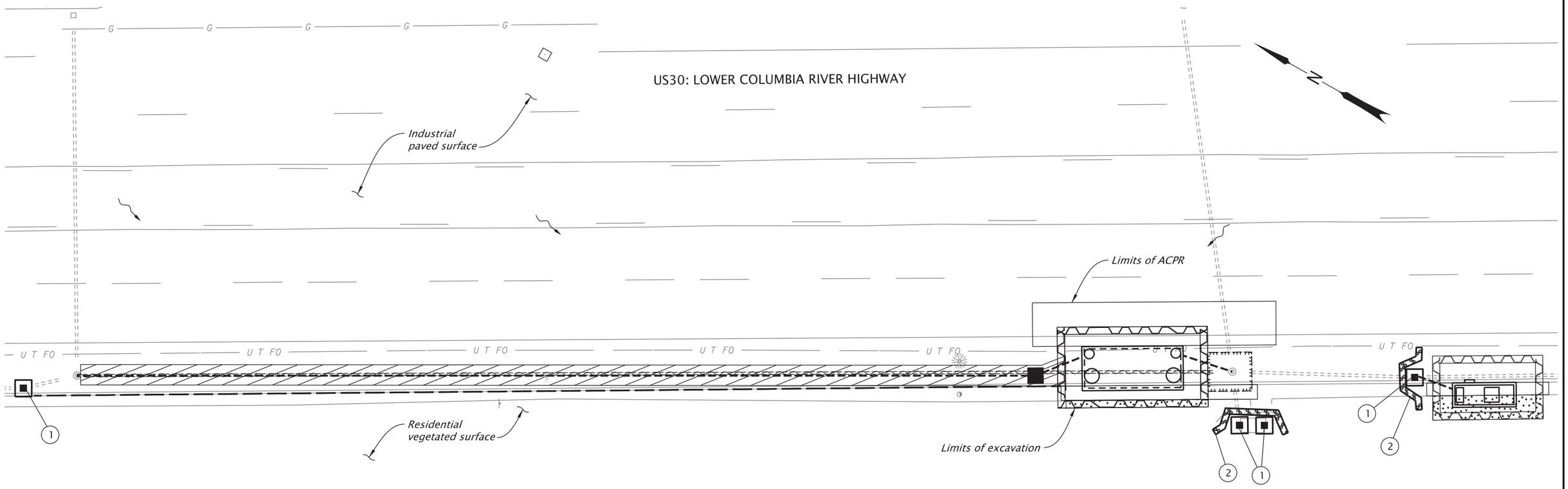
Designer: Alex Junge | Reviewer: Veronica Vong
Drafter: Grace Harrison | Checker: Veronica Vong

EROSION AND SEDIMENT CONTROL PLAN

SHEET NO. FB592

59V-002

Sec.3, T.1N, R.1W, W.M.
WR204 - US30 M.P. 8.65



CONSTRUCTION NOTES

(1) *Const. inlet protection (Type 3)*

(2) *Const. inlet protection (Type 7)*

Notes:
1. *Overhead utilities not shown for clarity.*
2. *Contractor to field verify site conditions prior to installation of shoring.*
3. *See sheets FB602 and FB603 for limits of 2" ACPR for temporary striping removal.*

20 10 0 20
FEET

REGISTERED PROFESSIONAL ENGINEER
93931PE
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SEPT. 11, 2018
VERONICA B. VONG
RENEWS: 06-30-2026

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Tel: 1 503 274 8772

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Alex Junge
Drafter: Grace Harrison
Reviewer: Veronica Vong
Checker: Veronica Vong

EROSION AND SEDIMENT CONTROL PLAN

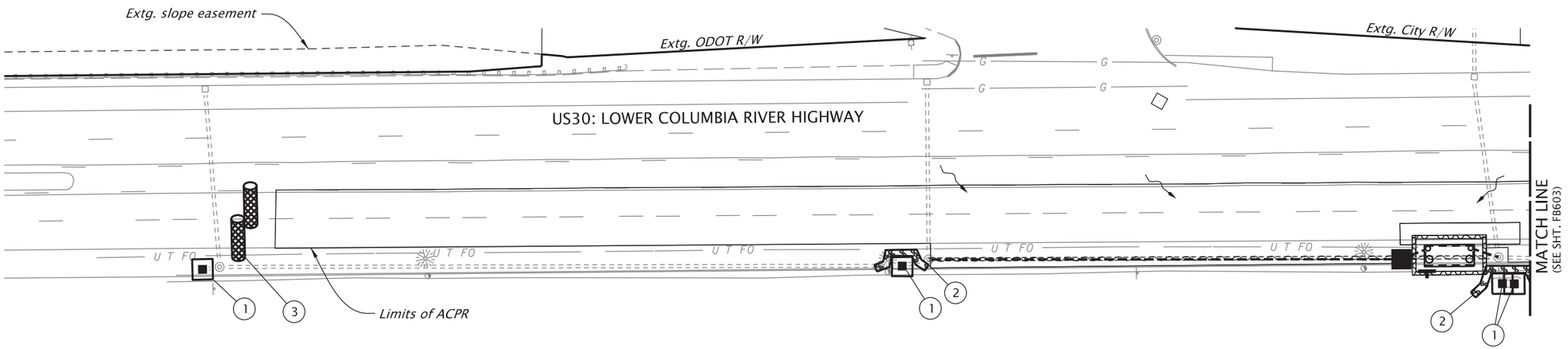
SHEET NO.
FB601

Sec.3, T.1N, R.1W, W.M.

WR204 - US30 M.P. 8.65

CONSTRUCTION NOTES

1. *Const. inlet protection (Type 3)*
2. *Const. inlet protection (Type 7)*
3. *Inst. sediment barrier (Type 2)*



Note:

1. *Overhead utilities not shown for clarity.*
2. *Erosion control for water quality installation not shown for clarity, see sheet FB601.*
3. *For surveyed topographic contours, see sheet FB601.*

Extg. ODOT R/W

50 25 0 50
FEET

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93931PE
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OREGON
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VERONICA B. VONG
RENEWS: 06-30-2026

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WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Alex Junge | Reviewer: Veronica Vong
Drafter: Grace Harrison | Checker: Veronica Vong

EROSION AND SEDIMENT CONTROL PLAN

SHEET NO. FB602

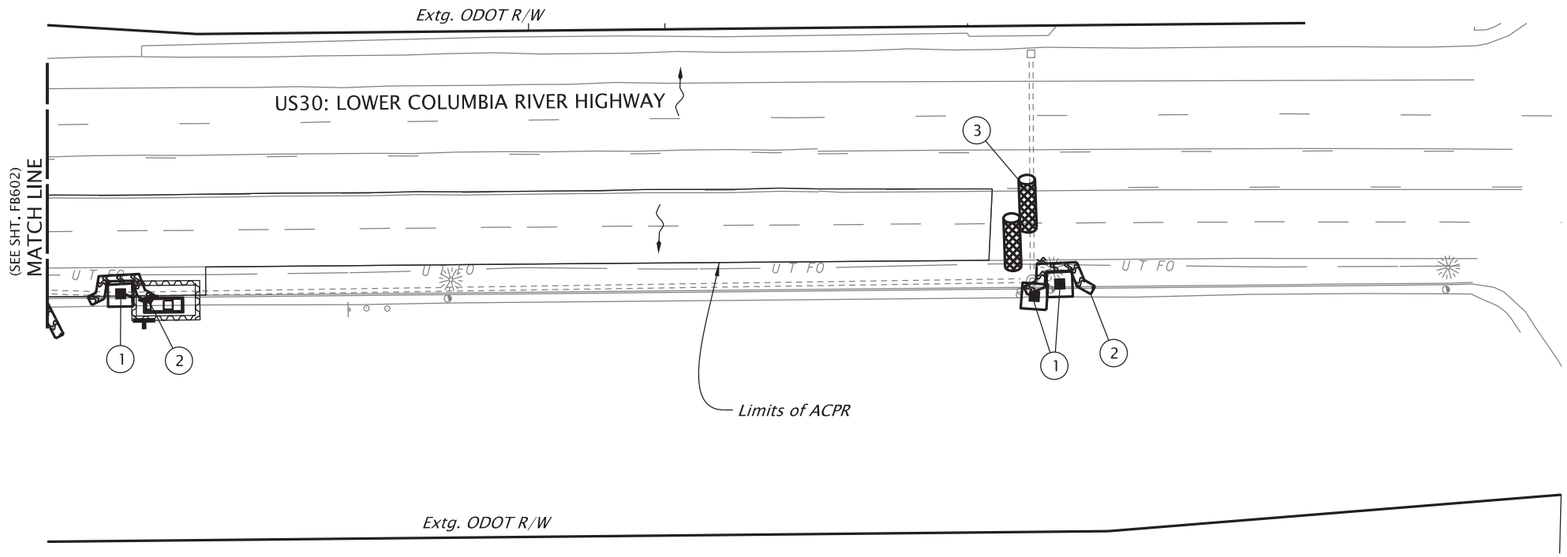
FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

59V-002

Sec.3, T.1N, R.1W, W.M.
WR204 - US30 M.P. 8.65

CONSTRUCTION NOTES

1. *Const. inlet protection (Type 3)*
2. *Const. inlet protection (Type 7)*
3. *Inst. sediment barrier (Type 2)*



50 25 0 50
FEET

Note:
1. Overhead utilities not shown for clarity.
2. Erosion control for water quality installation not shown for clarity, see sheet FB601.
3. For surveyed topographic contours, see sheet FB601.

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93931PE
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OREGON
SEPT. 11, 2018
VERONICA B. VONG
RENEWS: 06-30-2026

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OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Alex Junge | Reviewer: Veronica Vong
Drafter: Grace Harrison | Checker: Veronica Vong

EROSION AND SEDIMENT CONTROL PLAN

SHEET NO. FB603

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

Sec.3, T.1N, R.1W, W.M.

WR79 - US30 M.P. 9.06

US30: LOWER COLUMBIA RIVER HIGHWAY

Industrial paved surface

Residential paved surface

Open space paved surface

Limits of ACPR

Limits of excavation

Open space vegetated surface

Extg. Linnton Fish Monument Sign to remain See sht. FA611 for no work zone

Extg. ODOT R/W

Extg. property line

Extg. subdivision line

CONSTRUCTION NOTES

1. *Const. inlet protection (Type 3)*
2. *Const. inlet protection (Type 7)*
3. *Const. sediment fence*
4. *Inst. sediment barrier (Type 2)*

Notes:

1. *Overhead utilities not shown for clarity.*
2. *Contractor to field verify site conditions prior to installation of shoring.*
3. *See sheets FB612 and FB613 for limits of 2" ACPR for temporary striping removal.*
4. *Where contour labels are not prov ided, the contour interval is 1 ft.*

20 10 0 20

FEET

REGISTERED PROFESSIONAL ENGINEER
93931PE
Digitally Signed 2025.11.12 17:28:33-08'00'
OREGON
SEPT. 11, 2018
VERONICA B. VONG
RENEWS: 06-30-2026

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OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Alex Junge
Reviewer: Veronica Vong
Drafter: Grace Harrison
Checker: Veronica Vong

EROSION AND SEDIMENT CONTROL PLAN

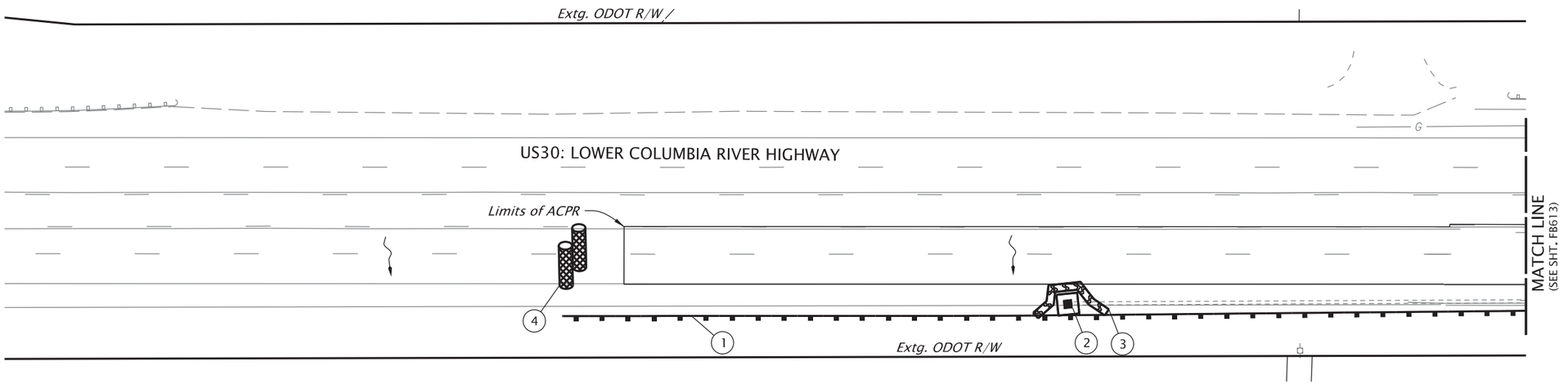
SHEET NO. FB611

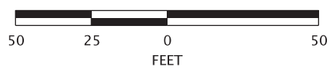
59V-002

Sec.3, T.1N, R.1W, W.M.
WR79 - US30 M.P. 9.06

CONSTRUCTION NOTES

1. *Const. sediment fence*
2. *Const. inlet protection (Type 3)*
3. *Const. inlet protection (Type 7)*
4. *Inst. sediment barrier (Type 2)*





Note:
1. *Overhead utilities not shown for clarity.*
2. *Erosion control for water quality installation not shown for clarity, see sheet FB611.*
3. *Surveyed topographic contours not available this sheet.*

REGISTERED PROFESSIONAL ENGINEER
93931PE
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OREGON
SEPT. 11, 2018
VERONICA B. VONG
RENEWS: 06-30-2026

FINAL ELECTRONIC DOCUMENT
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WSP USA Inc.
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WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Alex Junge
Reviewer: Veronica Vong
Drafter: Grace Harrison
Checker: Veronica Vong

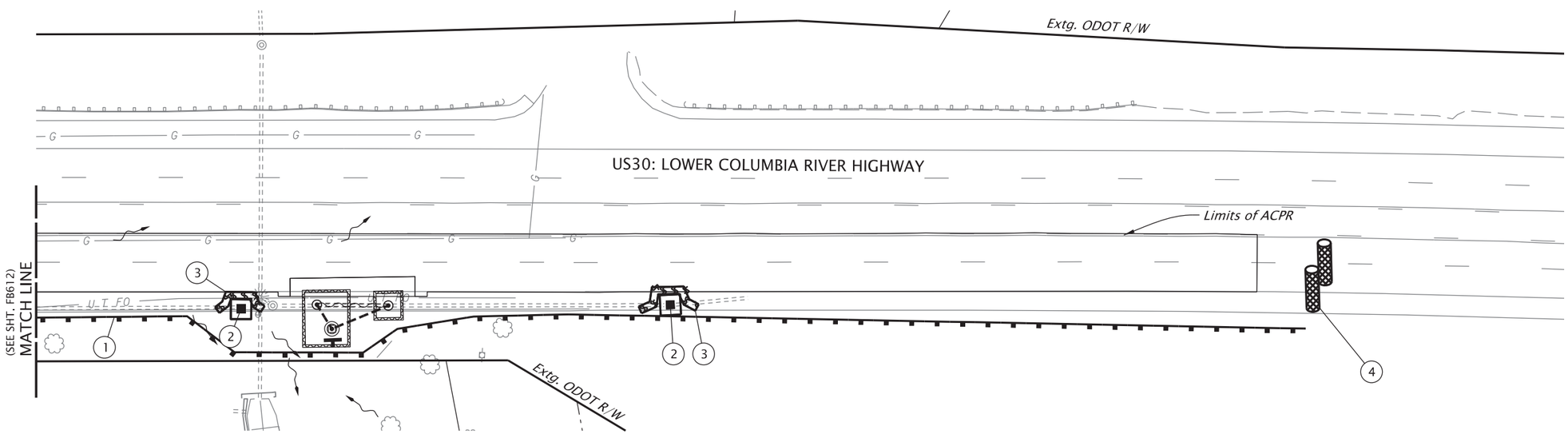
EROSION AND SEDIMENT CONTROL PLAN

SHEET NO.
FB612

Sec.3, T.1N, R.1W, W.M.
WR79 - US30 M.P. 9.06

CONSTRUCTION NOTES

1. *Const. sediment fence*
2. *Const. inlet protection (Type 3)*
3. *Const. inlet protection (Type 7)*
4. *Inst. sediment barrier (Type 2)*



Note:
1. Overhead utilities not shown for clarity.
2. Erosion control for water quality installation not shown for clarity, see sheet FB611.
3. For surveyed topographic contours, see sheet FB611.

REGISTERED PROFESSIONAL ENGINEER
93931PE
Digitally Signed 2025.11.12 17:24:04-08'00'
OREGON
SEPT. 11, 2018
VERONICA B. VONG
RENEWS: 06-30-2026

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WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Alex Junge
Drafter: Grace Harrison
Reviewer: Veronica Vong
Checker: Veronica Vong

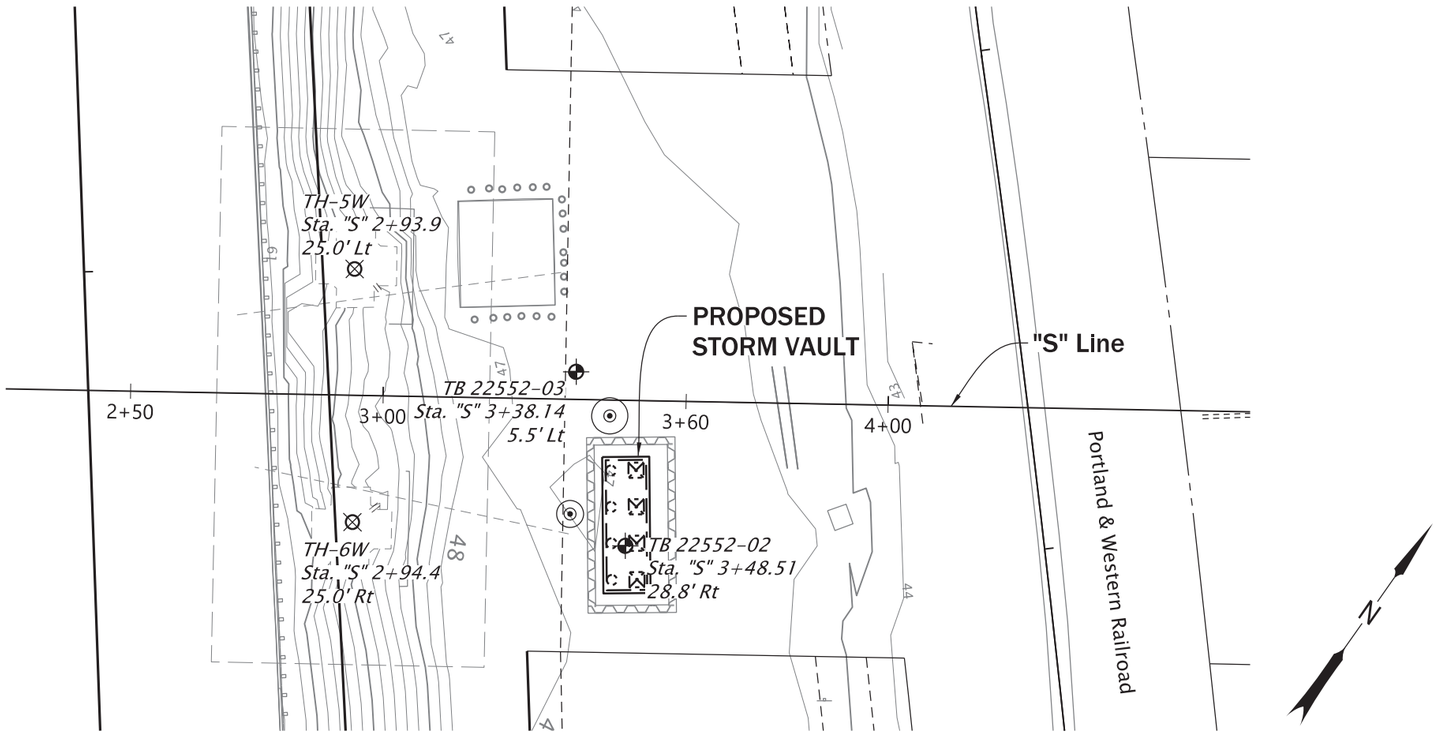
EROSION AND SEDIMENT CONTROL PLAN

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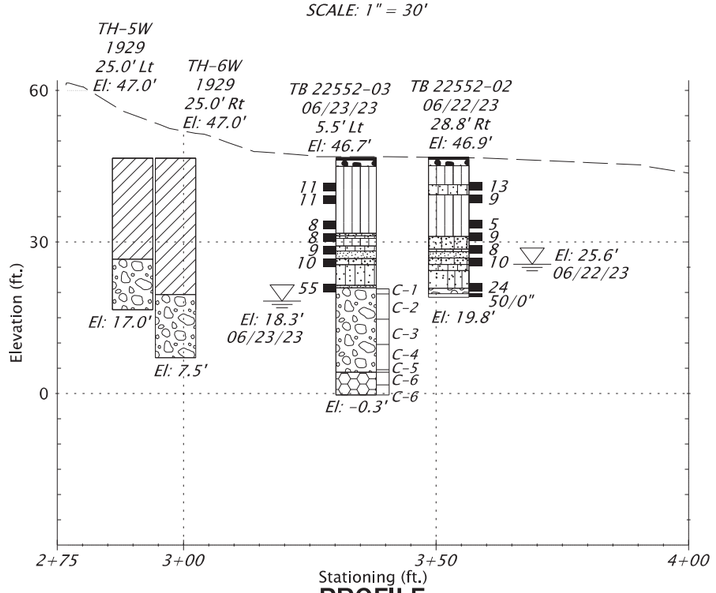
59V-002

Sec.11, T.1N, R.1W, W.M.

ST. JOHNS BRIDGE - WEST END
US30 BYPASS - M.P. 0.61



PLAN
SCALE: 1" = 30'



PROFILE
HORIZ. SCALE: 1"=30'
VERT. SCALE: 1"=30'

TB 22552-03				
Core	% Rec.	Hardness	RQD	qu (psi)
C-1	92	N/A	0	Not tested
C-2	67	N/A	0	Not tested
C-3	60	N/A	0	Not tested
C-4	48	N/A	0	Not tested
C-5	100	N/A	0	Not tested
C-6	87	R4	0	Not tested
C-7	100	R4	0	Not tested

UNIT DESCRIPTIONS

- Chip sealed sandy GRAVEL
- Sandy GRAVEL (Base Rock)
- CLAY; CL
- SILT ; ML; Brown with distinct grey mottling; Low plasticity; Moist; Stiff; Fine sand; (Alluvium)
- Silty SAND; SM; Grey; Non plastic; Damp; Loose to medium dense
- SAND with trace silt; SP; Grey; Non plastic; Damp; Loose; (Alluvium)
- Sandy SILT; ML; Brown; Non plastic; Damp; Medium stiff
- SILT with sand; ML; alternating with SAND; SP; Brown; Moist; Medium stiff to very stiff/loose to medium dense; (Alluvium)
- Silty SAND; SM; Grey; Non plastic; Damp; Loose to medium dense; (Alluvium)
- Coarse GRAVEL, Cobble and Boulder; (Missoula Flood Deposit - Channel Facies)
- BASALT; Grey; Fresh to slightly weathered; Strong (R4); Intensely to slightly fractured; Close joint spacing; [Columbia River Basalt Group]

LEGEND

⊗	=	Approximate boring location for Historic Boring. Boring drilled by Multnomah County, 1929.
⊕	=	Approximate boring location for current project. Boring drilled by Rhino One Geotechnical, 2023. Boring location estimated from field measurements
■ #	=	Standard Penetration Test - N value. Uncorrected (raw) standard penetration resistance in accordance with ASTM D1586 (See note 2.)
50/1st #"	=	Standard Penetration Test refusal length
C-#	=	Core Sample
RQD	=	Rock Quality Designation
▽	=	Groundwater measured in the Bore hole at time of drilling
00.00'		Elevation
MM/DD/YY		Date of measurement

GENERAL NOTES

1. Elevation datum for profiles is North American Vertical Datum (1988). For current project borings, top of boring elevation is estimated from surfaces created from Fremont and St. John's XML point files provided by WSP on 06/14/23.
2. Geotechnical data shown on this drawing are a consolidation of information and/or revision in terminology from the drill logs. More detailed subsurface data is available on the drill logs in the Geotechnical Report, which is available from the Engineer.
3. See Geotechnical Report for drilling method and hammer efficiency for current project borings.
4. Refer to the ODOT GDM Chapter 5 and ODOT Soil and Rock Classification Manual (1987) for a description of the terms used in this sheet.
5. 1' Contour interval.
6. Location and elevations of TH-5W and TH-6W are approximate based on sheet 34401 Drawing number RS 2820-5.

REGISTERED PROFESSIONAL ENGINEER
58591
Digitally Signed 2025.11.12 11:20:03-08'00'
OREGON
JULY 14, 1998
RAJIV ALI

EXPIRES: 12/31/25

RhinoOne GEOTECHNICAL
Rhino One LLC
2614 SE 129th Court
Vancouver, WA 98683
360.258.1738

OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Levi Good
Reviewer: Rajiv Ali
Drafter: Devin Blackshere
Checker: Levi Good

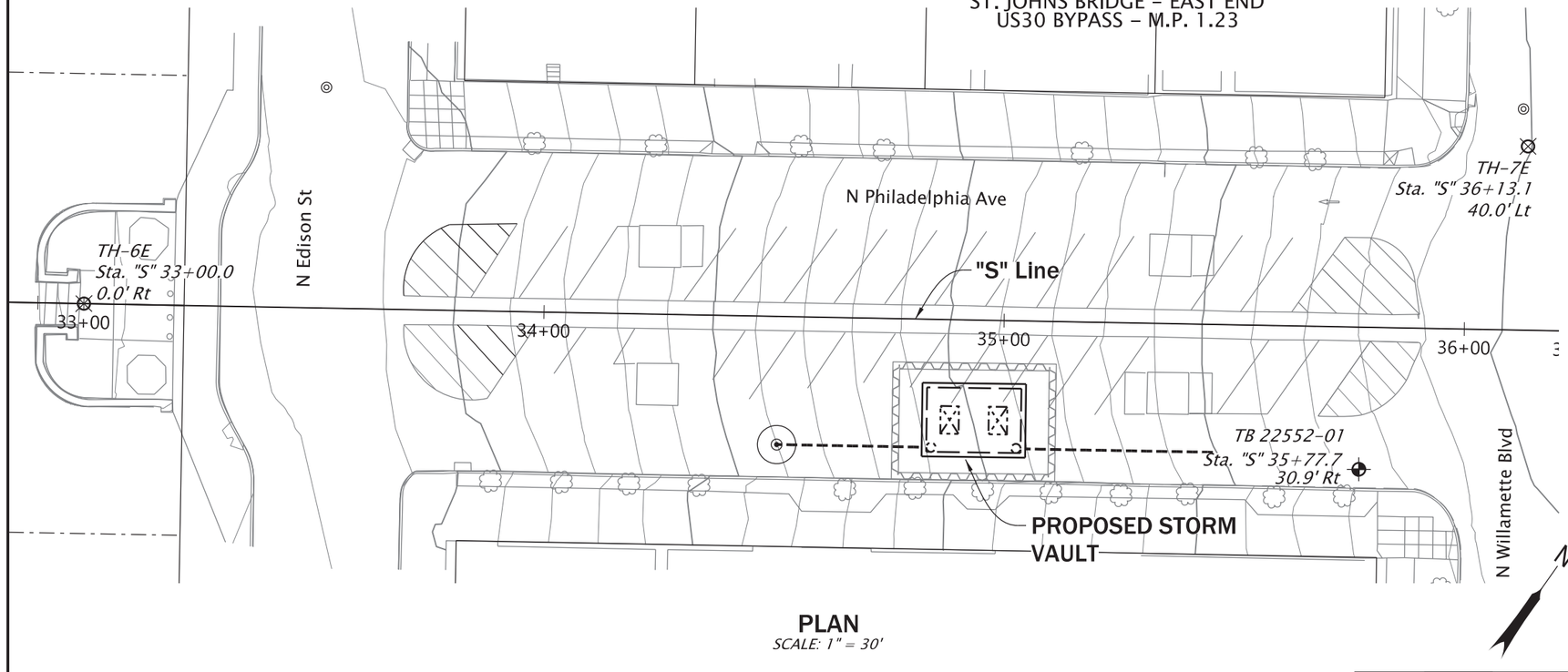
GEOTECHNICAL DATA

SHEET NO. GA001

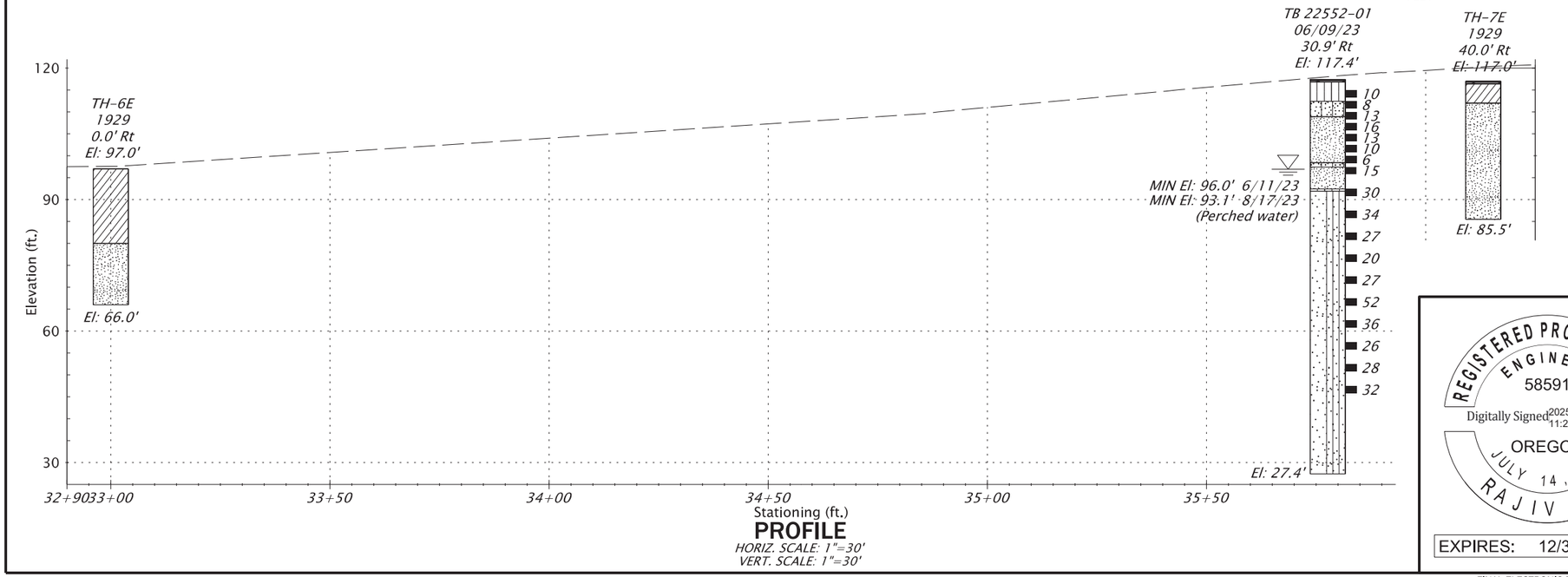
FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

Sec.12, T.1N, R.1W, W.M.

ST. JOHNS BRIDGE – EAST END
US30 BYPASS – M.P. 1.23



PLAN
SCALE: 1" = 30'



PROFILE
HORIZ. SCALE: 1"=30'
VERT. SCALE: 1"=30'

UNIT DESCRIPTIONS

- *Asphalt Concrete*
- *Road Base (Base Rock)*
- *SILT with some sand; ML; Brown; Non plastic; Damp; Stiff; (Alluvium)*
- *CLAY; CL*
- *Silty SAND; SM; Light brown; Dry; Loose; (Alluvium)*
- *SAND with trace silt; SP; Grey; Dry; Medium dense; Fine to medium sand; (Alluvium)*
- *SILT with some sand; ML; Brown; Non plastic; Moist; Soft; (Alluvium)*
- *SAND with some silt; SP-SM; Grey; Damp; Medium dense to dense; Fine to medium sand; (Alluvium)*

LEGEND

⊗	= *Approximate boring location for Historic Boring. Boring drilled by Multnomah County, 1929.*
⊕	= *Approximate boring location for current project. Boring drilled by Rhino One Geotechnical, 2023. Boring location estimated from field measurements*
■ #	= *Standard Penetration Test – N value. Uncorrected (raw) standard penetration resistance in accordance with ASTM D1586 (See note 2.)*
50/1st #"	= *Standard Penetration Test refusal length*
▽	= *Groundwater measured in the Bore hole at time of drilling*
00.00'	*Elevation*
MM/DD/YY	*Date of measurement*

GENERAL NOTES

1. *Elevation datum for profiles is North American Vertical Datum (1988). For current project borings, top of boring elevation is estimated from surfaces created from Fremont and St. John's XML point files provided by WSP on 06/14/23.*
2. *Geotechnical data shown on this drawing are a consolidation of information and/or revision in terminology from the drill logs. More detailed subsurface data is available on the drill logs in the Geotechnical Report, which is available from the Engineer.*
3. *See Geotechnical Report for drilling method and hammer efficiency for current project borings.*
4. *Refer to the ODOT GDM Chapter 5 and ODOT Soil and Rock Classification Manual (1987) for a description of the terms used in this sheet.*
5. *1' Contour interval.*
6. *Location and elevations of TH-6E and TH-7E are approximate based on sheet 34401 Drawing number RS 2820-5.*

REGISTERED PROFESSIONAL ENGINEER
58591
Digitally Signed 2025.11.12 11:20:26-08'00'
OREGON
JULY 14, 1998
RAJIV ALI

EXPIRES: 12/31/25

RhinoOne GEOTECHNICAL
Rhino One LLC
2614 SE 129th Court
Vancouver, WA 98683
360.258.1738

OREGON DEPARTMENT OF TRANSPORTATION

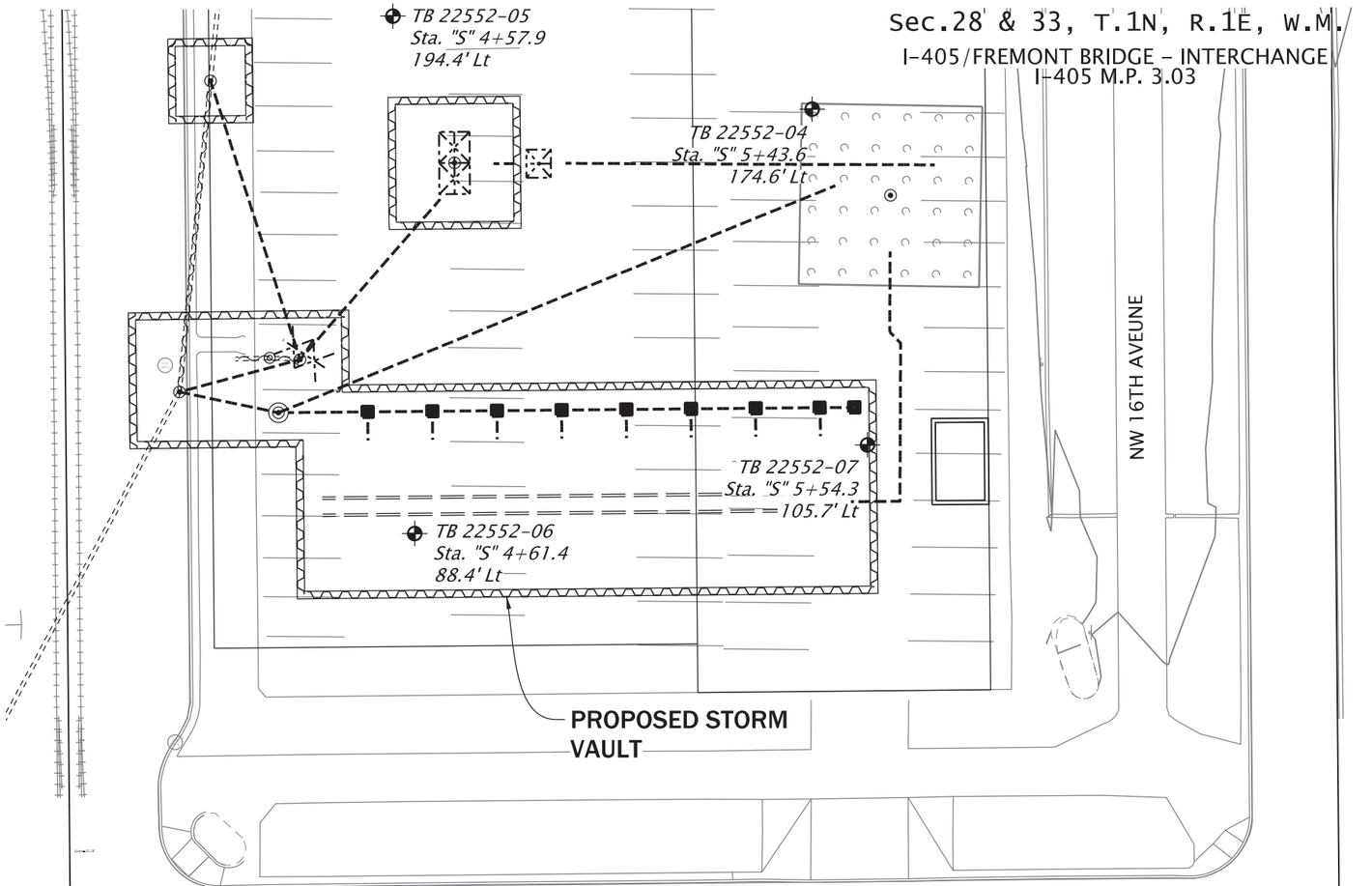
WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Levi Good
Drafter: Devin Blackshere
Reviewer: Rajiv Ali
Checker: Levi Good

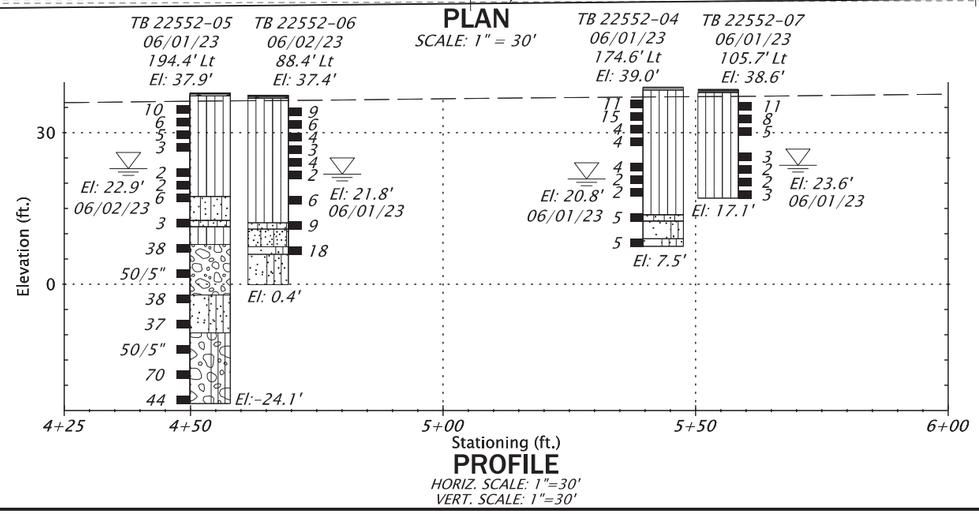
GEOTECHNICAL DATA

SHEET NO. GA101

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST



PLAN
SCALE: 1" = 30'



PROFILE
HORIZ. SCALE: 1"=30'
VERT. SCALE: 1"=30'

UNIT DESCRIPTIONS

- *Asphalt Concrete*
- *Road Base (Base Rock)*
- *SILT ; ML; Brown to gray; Low to medium plasticity; Moist; Soft to stiff; (Alluvium)*
- *Silty SAND; SM; Brown; Low plasticity; Wet; Loose; mostly fine-grained sand; (Alluvium)*
- *Sandy SILT; ML; Brown; Low plasticity; Wet; Very soft to soft; (Alluvium)*
- *Gravel with some sand and trace silt; GP; Gray; Wet; Dense to very dense; subrounded fine-grained to coarse-grained gravel; contains possible cobbles; (Alluvium)*
- *SAND with some silt; SP-SM; Gray; Wet; Dense; Medium-grained sand; (Alluvium)*
- *Sandy GRAVEL with some silt; GP-GM; Gray; Wet; Very dense; fine-grained to coarse-grained gravel; (Alluvium)*

LEGEND

- = *Approximate boring location for current project. Boring drilled by Rhino One Geotechnical 2023. Boring location estimated from field measurements*
- ■ # = *Standard Penetration Test - N value. Uncorrected (raw) standard penetration resistance in accordance with ASTM D1586 (See note 2.)*
- *50/1st #"* = *Standard Penetration Test refusal length*
- = *Groundwater measured in the Bore hole at time of drilling*
- *00.00'* *Elevation*
- *MM/DD/YY* *Date of measurement*

GENERAL NOTES

1. *Elevation datum for profiles is North American Vertical Datum (1988). For current project borings, top of boring elevation is estimated from surfaces created from Fremont and St. John's XML point files provided by WSP on 06/14/23.*
2. *Geotechnical data shown on this drawing are a consolidation of information and/or revision in terminology from the drill logs. More detailed subsurface data is available on the drill logs in the Geotechnical Report, which is available from the Engineer.*
3. *See Geotechnical Report for drilling method and hammer efficiency for current project borings.*
4. *Refer to the ODOT GDM Chapter 5 and ODOT Soil and Rock Classification Manual (1987) for a description of the terms used in this sheet.*
5. *1' Contour interval.*

N

30 15 0 30
FEET

REGISTERED PROFESSIONAL ENGINEER
58591
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OREGON
JULY 14, 1998
RAJIV ALI

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OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT

LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Levi Good
Drafter: Devin Blackshere
Reviewer: Rajiv Ali
Checker: Levi Good

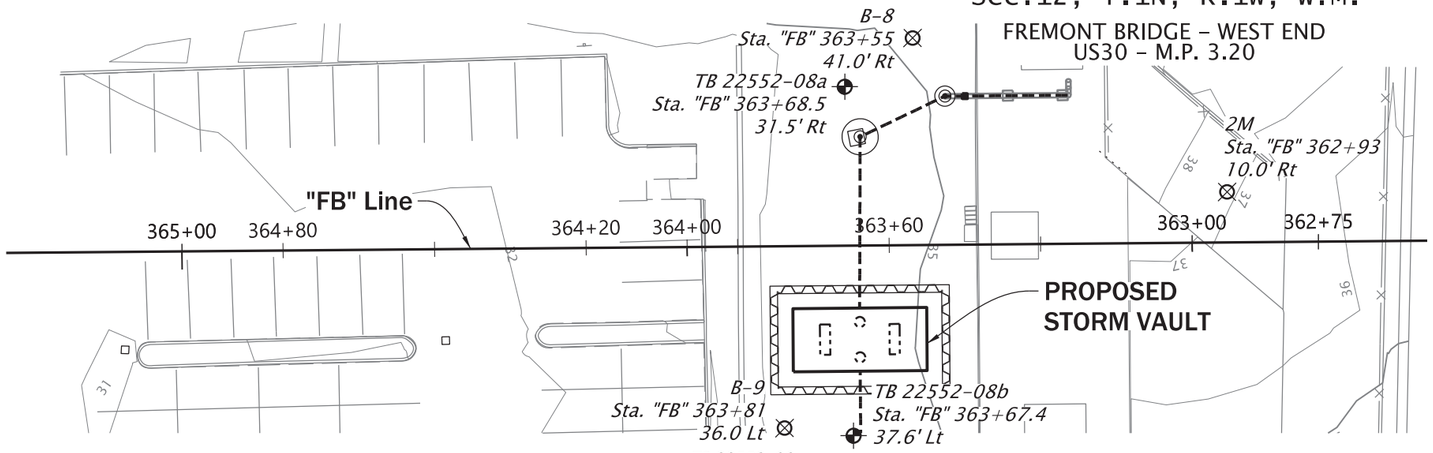
GEOTECHNICAL DATA

SHEET NO. GA201

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

Sec.12, T.1N, R.1W, W.M.

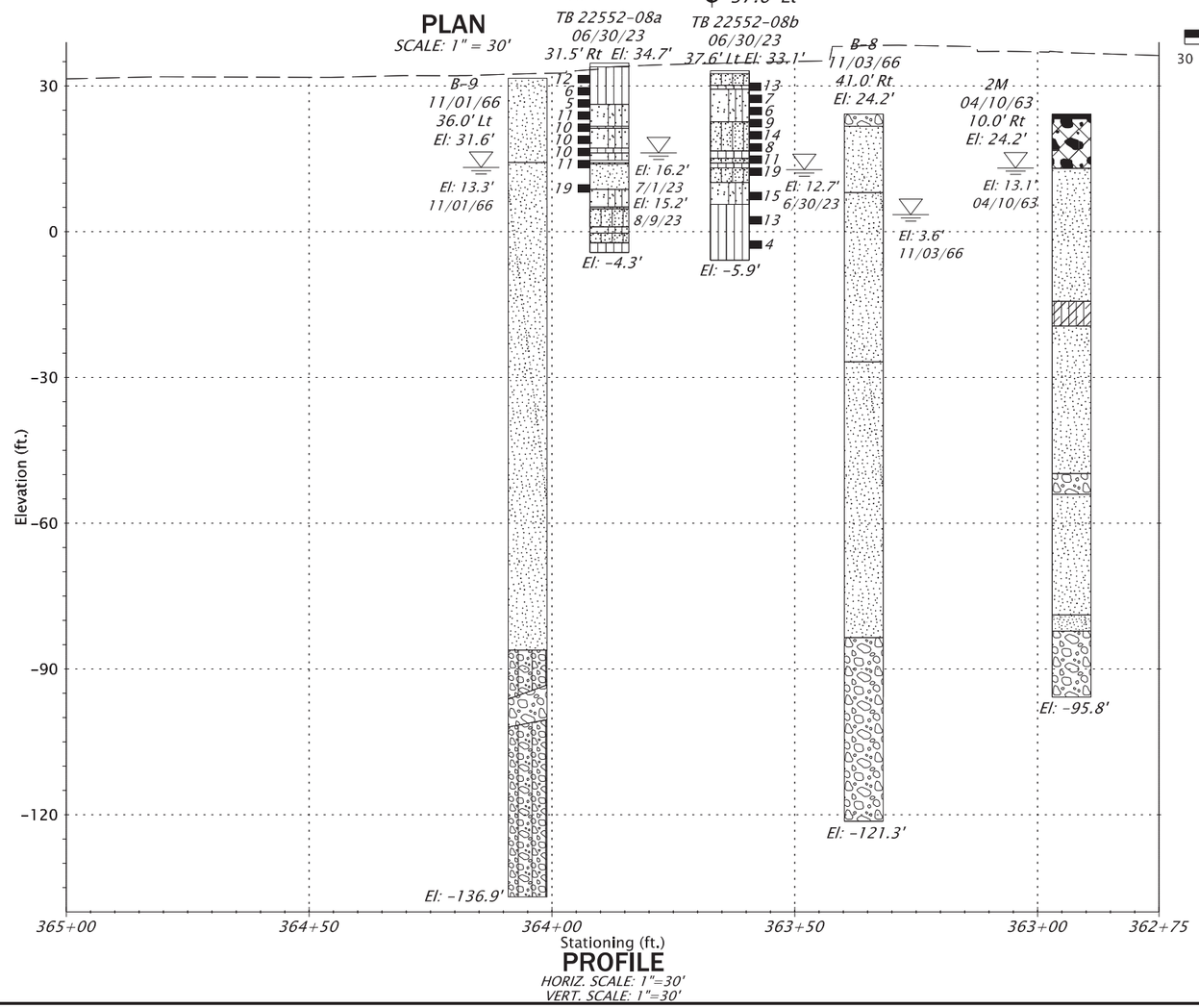
FREMONT BRIDGE - WEST END
US30 - M.P. 3.20





30 15 0 30
FEET

PLAN
SCALE: 1" = 30'



PROFILE
HORIZ. SCALE: 1"=30'
VERT. SCALE: 1"=30'

UNIT DESCRIPTIONS

- Top Soil
- SILT with some sand; ML; Brown; Non plastic; Damp; Medium stiff to stiff; (Fill)
- SAND with some silt; SP-SM; Dark grey; Moist; Loose to medium dense; Fine to coarse sand; odor; (Fill)
- SAND with some gravel; SP; Dark grey; Wet; Medium dense; Mostly fine to medium sand; (Fill)
- Sandy GRAVEL with silt; GP-GM; Dark grey; Wet; Medium dense; (Fill)
- Silty SAND with trace gravel and organics; SM; Dark grey; Wet; (Fill)
- Asphalt Concrete
- Gravel and Cobbles; Sand with gravel; (Fill)
- SP; Poorly-graded sands, Gravelly sands, Little or no fines
- GP; Poorly-graded gravels, Gravel-Sand mixture, Little or no fines
- SILT Loam; Near equal proportions of sand, silt and clay
- GM; Silty gravels, Gravel-Sand-Silt mixtures

LEGEND

- ⊗ = Approximate boring location for Historic Boring based on Foundation Data I through III, Bridge No. 2529 (Drawing No. 23655-23657) dated 12-8-1967 by ODOT
- ⊕ = Approximate boring location for current project. Boring drilled by Rhino One Geotechnical, 2023. Boring location estimated from field measurements
- ■ # = Standard Penetration Test - N value. Uncorrected (raw) standard penetration resistance in accordance with ASTM D1586 (See note 2.)
- 50/1st #" = Standard Penetration Test refusal length
- ▽ = Groundwater measured in the Bore hole at time of drilling
- 00.00' = Elevation
- MM/DD/YY = Date of measurement

GENERAL NOTES

1. Elevation datum for profiles is North American Vertical Datum (1988). For current project borings, top of boring elevation is estimated from surfaces created from Fremont and St. John's XML point files provided by WSP on 06/14/23.
2. Geotechnical data shown on this drawing are a consolidation of information and/or revision in terminology from the drill logs. More detailed subsurface data is available on the drill logs in the Geotechnical Report, which is available from the Engineer.
3. See Geotechnical Report for drilling method and hammer efficiency for current project borings.
4. Refer to the ODOT GDM Chapter 5 and ODOT Soil and Rock Classification Manual (1987) for a description of the terms used in this sheet.
5. 1' Contour interval.
6. Location and elevations of historic borings are based on Foundation Data I through III, Bridge No. 2529 (Drawing No. 23655 - 23657) dated 12-8-1967 by ODOT."

REGISTERED PROFESSIONAL ENGINEER
58591
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OREGON
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EXPIRES: 12/31/25

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OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Levi Good
Reviewer: Rajiv Ali
Drafter: Devin Blackshere
Checker: Levi Good

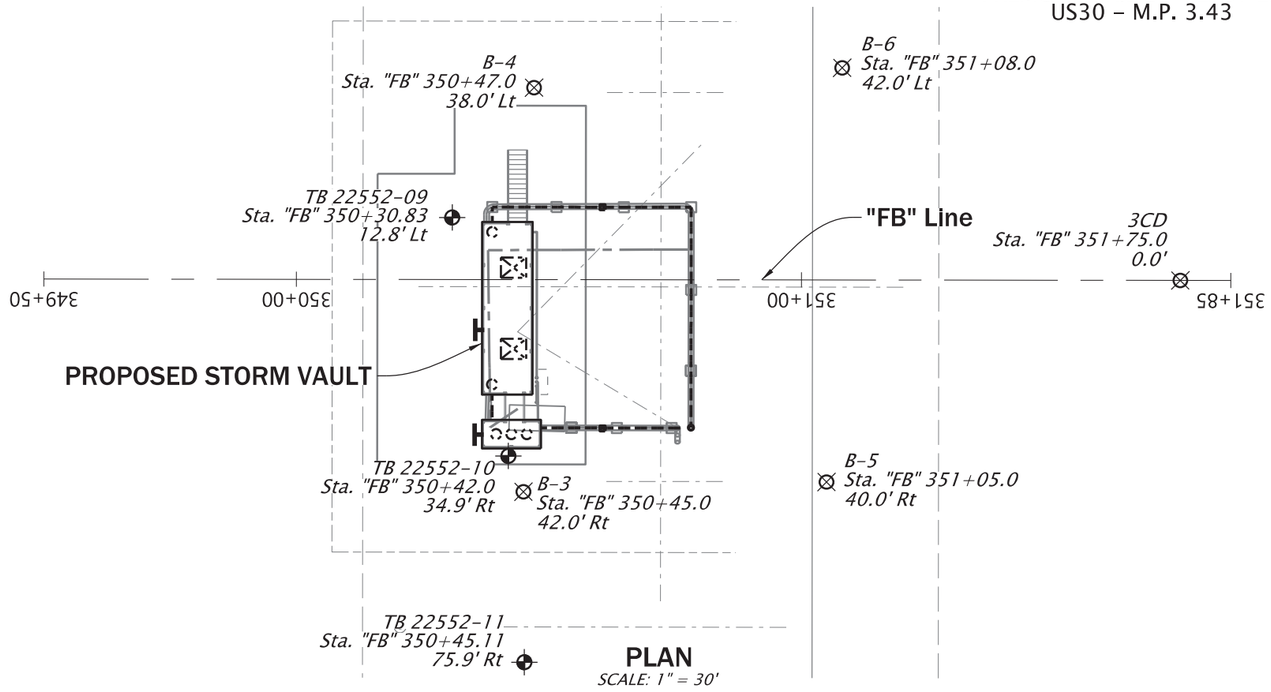
GEOTECHNICAL DATA

SHEET NO. GA301

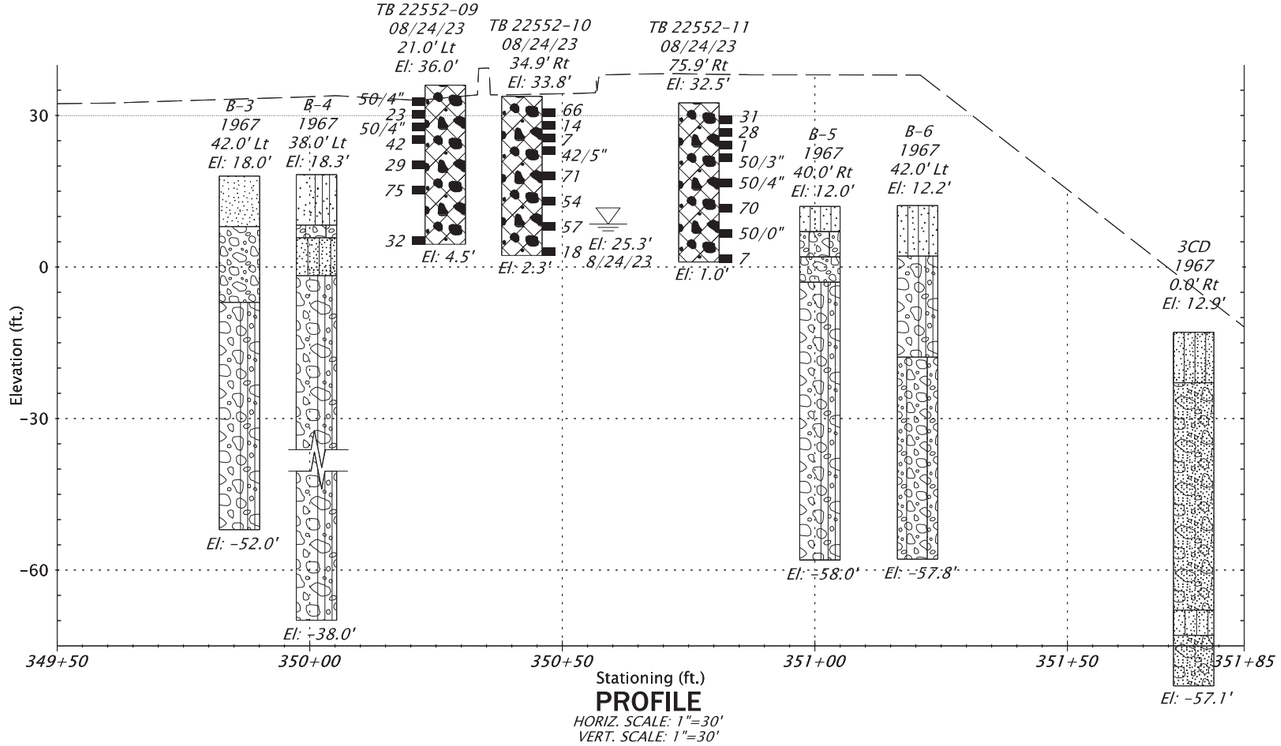
FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

Sec.27, T.1N, R.1E, W.M.

FREMONT BRIDGE - EAST END
US30 - M.P. 3.43



PLAN
SCALE: 1" = 30'



PROFILE
HORIZ. SCALE: 1"=30'
VERT. SCALE: 1"=30'

UNIT DESCRIPTIONS

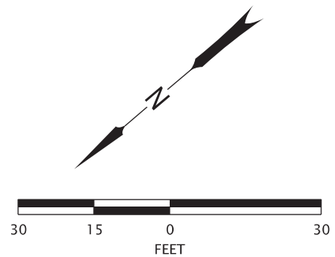
- Asphalt Concrete
- Road Base (Base Rock)
- SILT ; ML; Brown to gray; Low to medium plasticity; Moist; Soft to stiff; (Alluvium)
- Sand, silt, gravel and cobble fill; Medium dense to very dense; (Fill)
- Silty SAND; SM; Brown; Low plasticity; Wet; Loose; mostly fine-grained sand; (Alluvium)
- Sandy SILT; ML; Brown; Low plasticity; Wet; Very soft to soft; (Alluvium)
- Gravel with some sand and trace silt; GP; Gray; Wet; Dense to very dense; subrounded fine-grained to coarse-grained gravel; contains possible cobbles; (Missoula Flood Deposits)
- SAND with some silt; SP-SM; Gray; Wet; Dense; Medium-grained sand; (Alluvium)
- Sandy GRAVEL with some silt; GP-GM; Gray; Wet; Very dense; Fine-grained to coarse-grained gravel; (Missoula Flood Deposits)

LEGEND

- ⊗ = Approximate boring location for Historic Boring. Boring drilled by Multnomah County, 1929.
- ⊕ = Approximate boring location for current project. Boring drilled by Rhino One Geotechnical, 2023. Boring location estimated from field measurements
- ■ # = Standard Penetration Test - N value. Uncorrected (raw) standard penetration resistance in accordance with ASTM D1586 (See note 2.)
- 50/1st #" = Standard Penetration Test refusal length
- ▽ = Groundwater measured in the Bore hole at time of drilling
- 00.00' = Elevation
- MM/DD/YY = Date of measurement

GENERAL NOTES

1. Elevation datum for profiles is North American Vertical Datum (1988). For current project borings, top of boring elevation is estimated from surfaces created from Fremont and St. John's XML point files provided by WSP on 06/14/23.
2. Geotechnical data shown on this drawing are a consolidation of information and/or revision in terminology from the drill logs. More detailed subsurface data is available on the drill logs in the Geotechnical Report, which is available from the Engineer.
3. See Geotechnical Report for drilling method and hammer efficiency for current project borings.
4. Refer to the ODOT GDM Chapter 5 and ODOT Soil and Rock Classification Manual (1987) for a description of the terms used in this sheet.
5. 1' Contour interval.
6. Location and elevations of 3CD, B-3, B-4, B-5 AND B-6 are approximate based on foundation data sheet drawing numbers 23655, 23656 and 23657.



REGISTERED PROFESSIONAL ENGINEER
58591
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JULY 14, 1998
RAJIV ALI
EXPIRES: 12/31/25

Rhino One LLC
2614 SE 129th Court
Vancouver, WA 98683
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WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Levi Good
Reviewer: Rajiv Ali
Drafter: Devin Blackshere
Checker: Levi Good

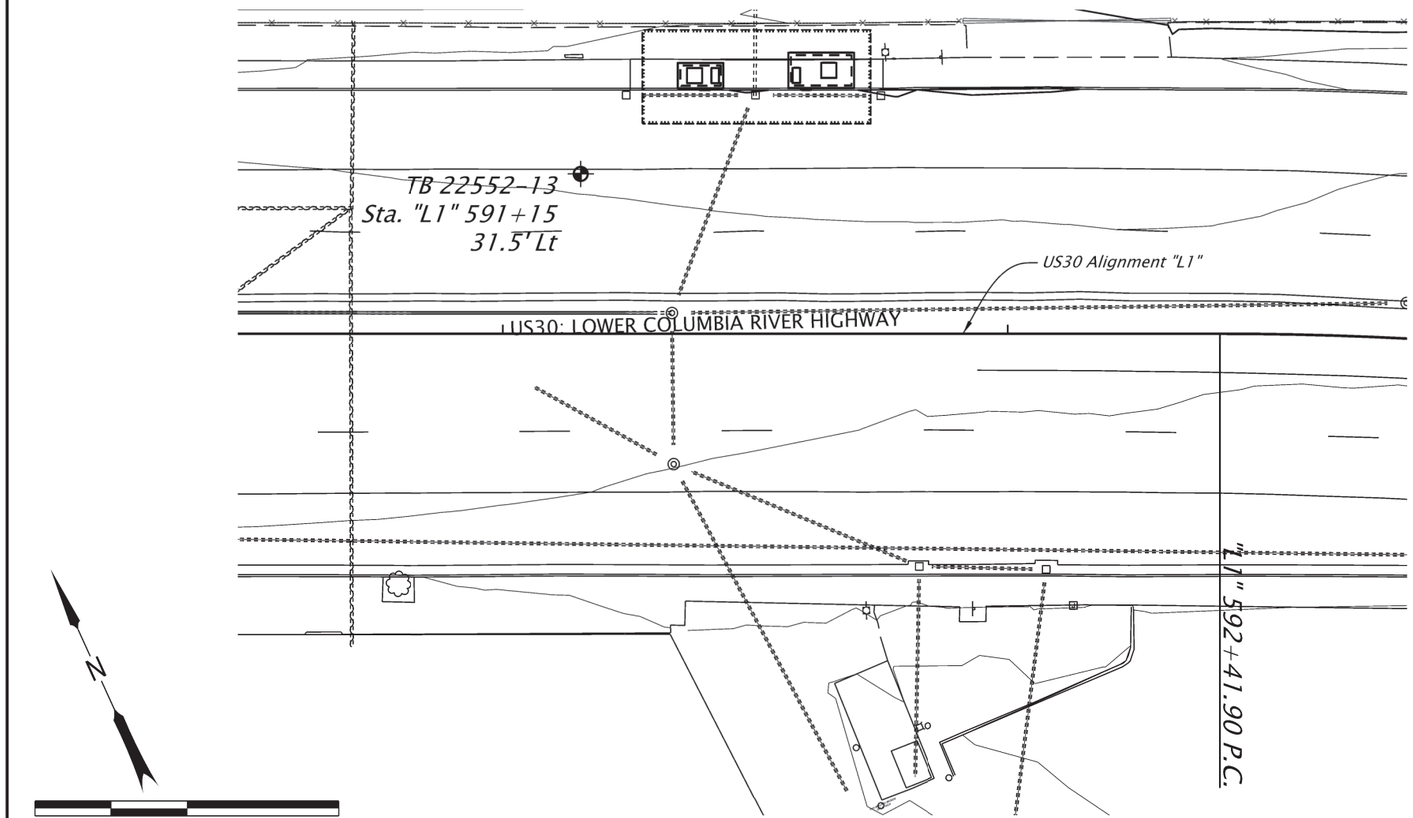
GEOTECHNICAL DATA

SHEET NO. GA401

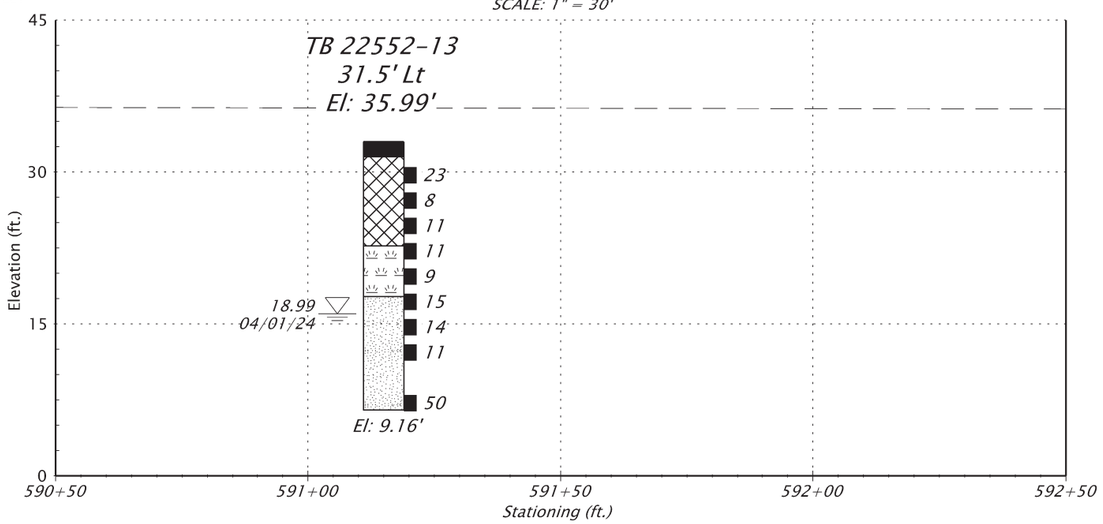
FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

59V-002

Sec.29, T.1N, R.1E, W.M.
OF16-2 - US30 M.P. 2.43



PLAN
SCALE: 1" = 30'



PROFILE "L1" LINE

UNIT DESCRIPTIONS

- *Asphalt Concrete*
- *Poorly-graded SAND; SP; Grey; Moist to wet; Loose to medium dense; Fine to medium sand; (Fill)*
- *Wood Fragments; (Fill)*
- *Poorly-graded SAND; SP; Grey; Wet; Medium dense; Fine to medium sand; (Young Alluvium)*

LEGEND

- ⊕ = *Approximate boring location for current project. Boring drilled by Rhino One Geotechnical, 2024. Boring location estimated from field measurements*
- ■ # = *Standard Penetration Test - N value. Uncorrected (raw) standard penetration resistance in accordance with ASTM D1586 (See note 2.)*
- *50/1st #"* = *Standard Penetration Test refusal length*
- ▽ = *Groundwater measured in the Bore hole at time of drilling*
- *00.00'* *Elevation*
- *MM/DD/YY* *Date of measurement*

GENERAL NOTES

1. *Elevation datum for profiles is North American Vertical Datum (1988). Top of boring elevation is estimated from terrain surface in S_K22552_CIVL_TER_wrk_99.dgn.*
2. *Geotechnical data shown on this drawing are a consolidation of information and/or revision in terminology from the drill logs. More detailed subsurface data is available on the drill logs in the Geotechnical Report, which is available from the Engineer.*
3. *See Geotechnical Report for drilling method and hammer efficiency for current project borings.*
4. *Refer to the ODOT GDM Chapter 5 and ODOT Soil and Rock Classification Manual (2023) for a description of the terms used in this sheet.*
5. *1' Contour interval.*

REGISTERED PROFESSIONAL ENGINEER
58591
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OREGON
JULY 14, 1998
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EXPIRES: 12/31/25

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OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Levi Good | Reviewer: Rajiv Ali
Drafter: Devin Blackshere | Checker: Levi Good

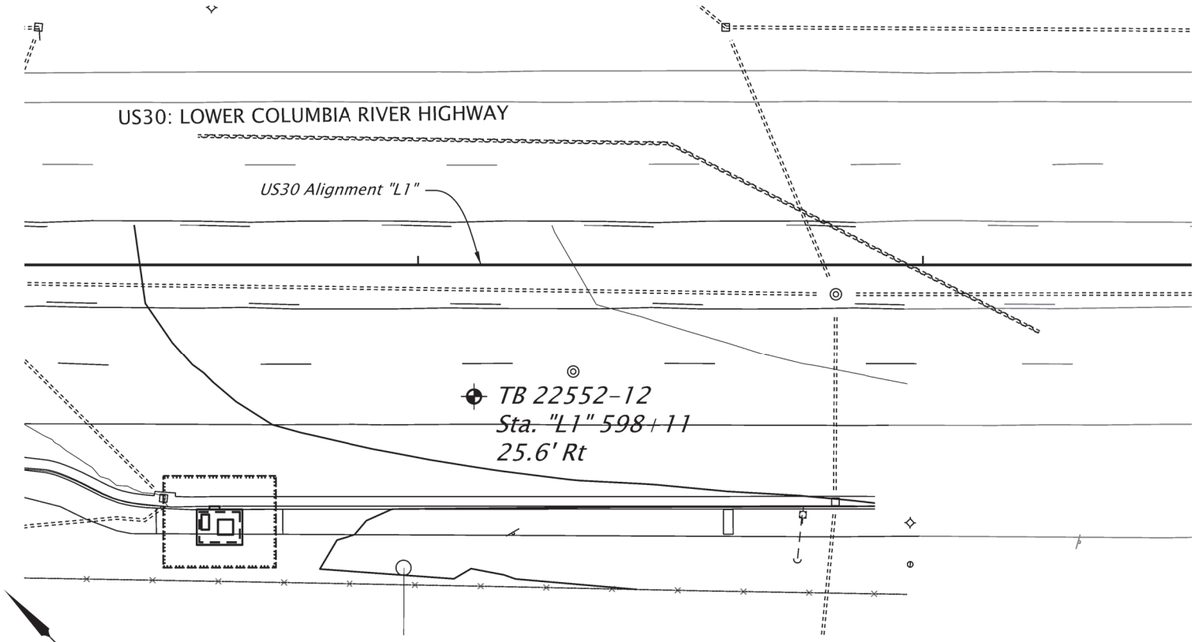
GEOTECHNICAL DATA

SHEET NO. GA502

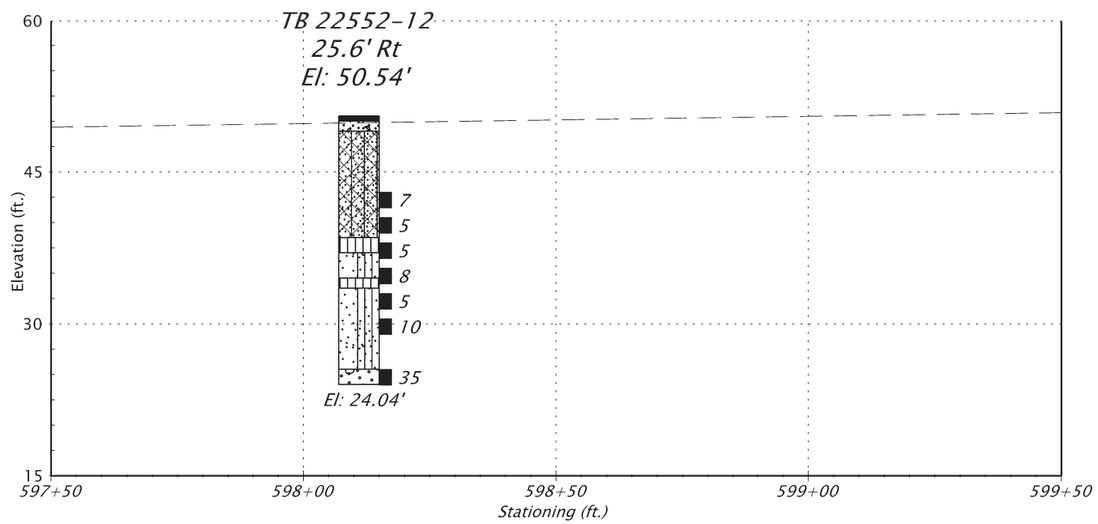
FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

59V-002

Sec.29, T.1N, R.1E, W.M.
OF16-3 - US30 M.P. 2.43



PLAN
SCALE: 1" = 30'



PROFILE "L1" LINE

UNIT DESCRIPTIONS

- *Asphalt Pavement*
- *Concrete*
- *Silty SAND; SM; Brown; Non plastic; moist; Loose; Fine sand; (Fill)*
- *SILT with sand; ML; Brown; Non plastic; moist; Medium stiff; Fine sand; (Young Alluvium)*
- *SAND with some silt; SP-SM; Brown; Moist; Loose; Medium dense to dense; Fine to medium sand; (Young Alluvium)*
- *Poorly-graded SAND with some silt; SP-SM; Brown; Moist; Loose; Fine to medium sand; (Young Alluvium)*
- *Silty SAND with some gravel; SM; Brown; Moist; Dense; Fine to medium sand; Gravel is rounded to subangular; (Young Alluvium)*

LEGEND

⌖	= *Approximate boring location for current project. Boring drilled by Rhino One Geotechnical, 2024. Boring location estimated from field measurements*
▬ #	= *Standard Penetration Test - N value. Uncorrected (raw) standard penetration resistance in accordance with ASTM D1586 (See note 2.)*
50/1st #"	= *Standard Penetration Test refusal length*
▽	= *Groundwater measured in the Bore hole at time of drilling*
00.00'	*Elevation*
MM/DD/YY	*Date of measurement*

GENERAL NOTES

1. *Elevation datum for profiles is North American Vertical Datum (1988). Top of boring elevation is estimated from terrain surface in S_K22552_CIVL_TER_wrk_99.dgn.*
2. *Geotechnical data shown on this drawing are a consolidation of information and/or revision in terminology from the drill logs. More detailed subsurface data is available on the drill logs in the Geotechnical Report, which is available from the Engineer.*
3. *See Geotechnical Report for drilling method and hammer efficiency for current project borings.*
4. *Refer to the ODOT GDM Chapter 5 and ODOT Soil and Rock Classification Manual (2023) for a description of the terms used in this sheet.*
5. *1' Contour interval.*
6. *Groundwater not encountered in Bore hole 22552-12 at time of drilling.*

REGISTERED PROFESSIONAL ENGINEER
58591
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JULY 14, 1998
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EXPIRES: 12/31/25

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Rhino One LLC
2614 SE 129th Court
Vancouver, WA 98683
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OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

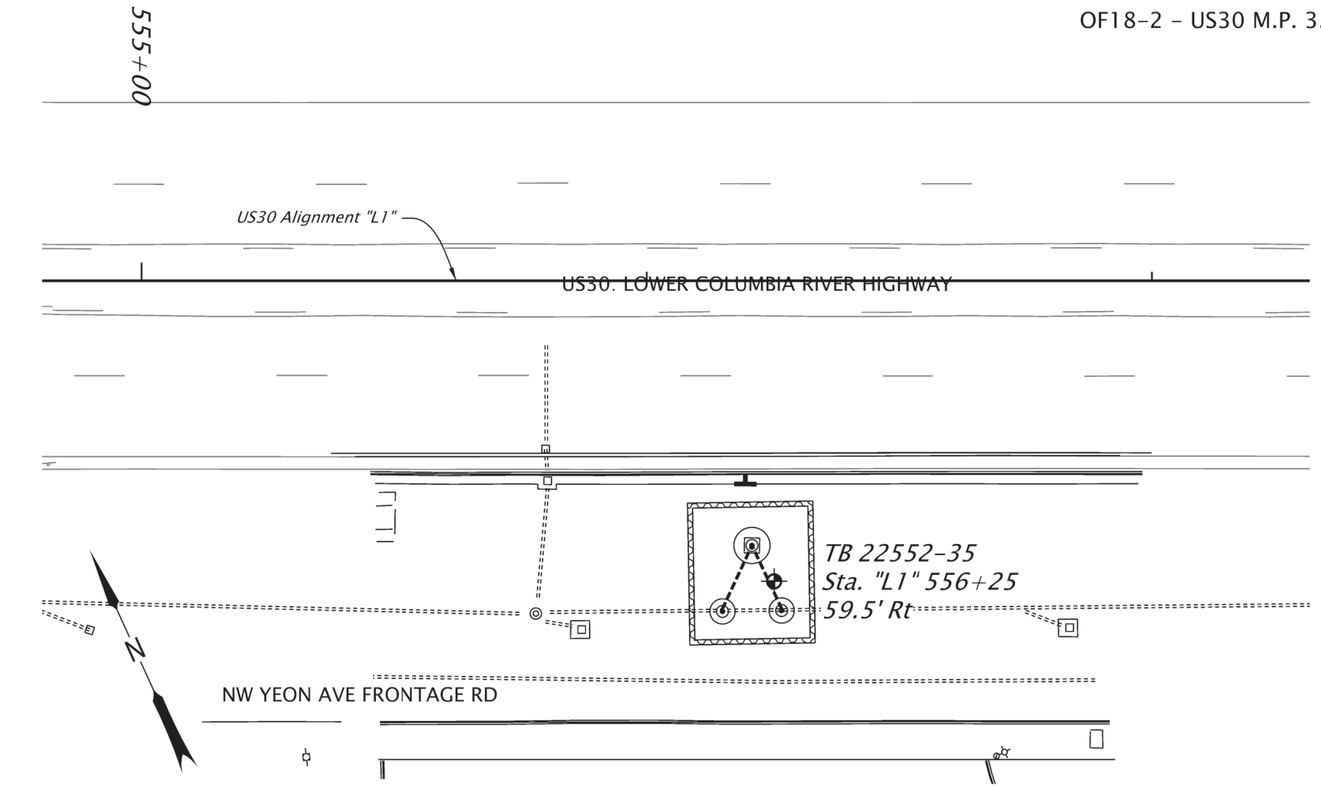
Designer: Levi Good | Reviewer: Rajiv Ali
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GEOTECHNICAL DATA

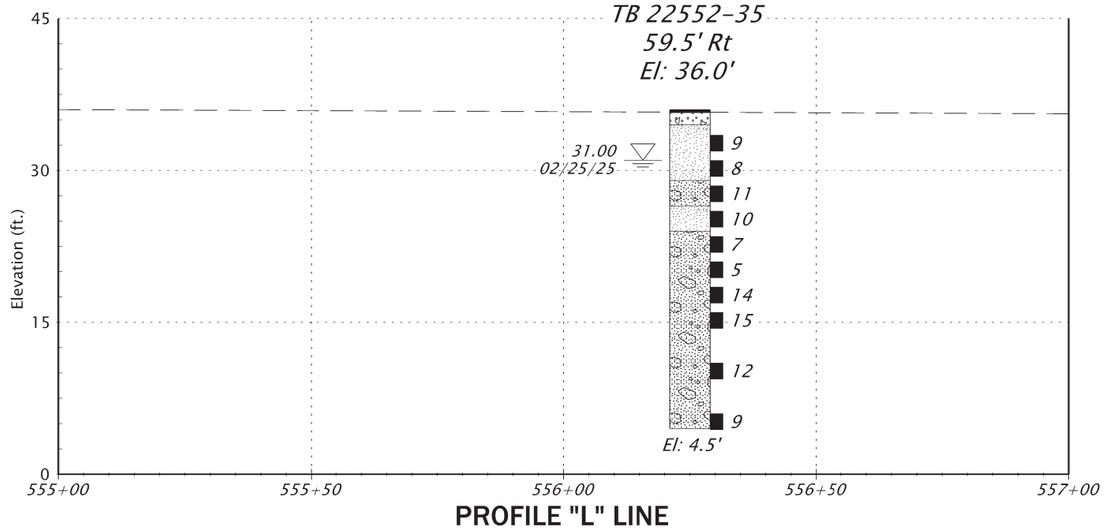
SHEET NO. GA503

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

Sec.20, T.1N, R.1E, W.M.
OF18-2 - US30 M.P. 3.00



PLAN
SCALE: 1" = 30'



PROFILE "L" LINE

UNIT DESCRIPTIONS

Asphalt Pavement

Concrete

Gravelly SAND with some silt (SP); Brown; Moist; Loose; Medium-grained sand; (Young Alluvium)

Poorly-graded SAND with some gravel and silt (SP); Brown; Wet; Loose to medium dense; Medium-grained sand; Fine rounded gravel; (Young Alluvium)

LEGEND

= *Approximate boring location for current project. Boring drilled by Rhino One Geotechnical, 2025. Boring location estimated from field measurements*

= *Standard Penetration Test - N value. Uncorrected (raw) standard penetration resistance in accordance with ASTM D1586 (See note 2.)*

50/1st #" = *Standard Penetration Test refusal length*

00.00' = *Groundwater measured in the Bore hole at time of drilling Elevation*

MM/DD/YY = *Date of measurement*

GENERAL NOTES

1. *Elevation datum for profiles is North American Vertical Datum (1988). Top of boring elevation is estimated from terrain surface in S_K22552_CIVL_TER_wrk_99.dgn.*
2. *Geotechnical data shown on this drawing are a consolidation of information and/or revision in terminology from the drill logs. More detailed subsurface data is available on the drill logs in the Geotechnical Report, which is available from the Engineer.*
3. *See Geotechnical Report for drilling method and hammer efficiency for current project borings.*
4. *Refer to the ODOT GDM Chapter 5 and ODOT Soil and Rock Classification Manual (2023) for a description of the terms used in this sheet.*
5. *1' Contour interval.*

REGISTERED PROFESSIONAL ENGINEER
58591
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JULY 14, 1998
RAJIV ALI
EXPIRES: 12/31/25

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OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Levi Good
Reviewer: Rajiv Ali
Drafter: Devin Blackshere
Checker: Levi Good

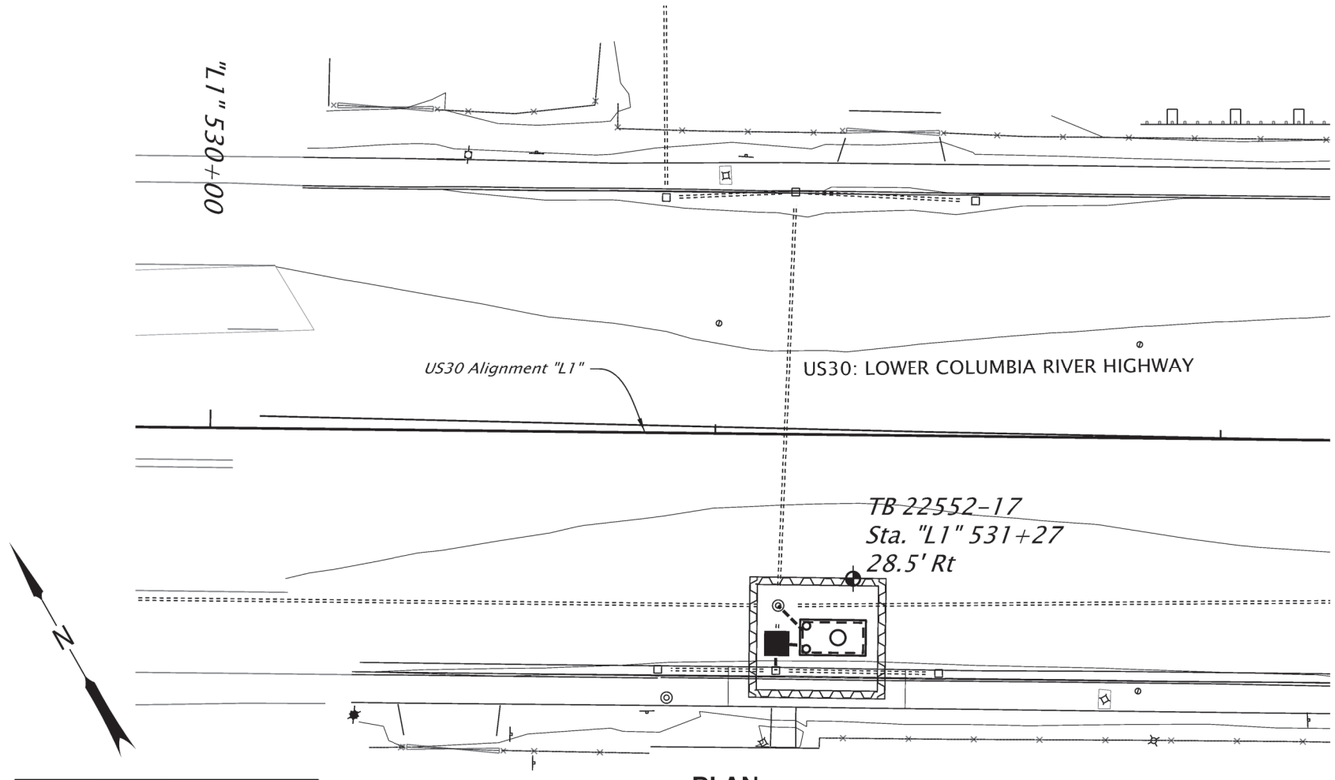
GEOTECHNICAL DATA

SHEET NO. GA521

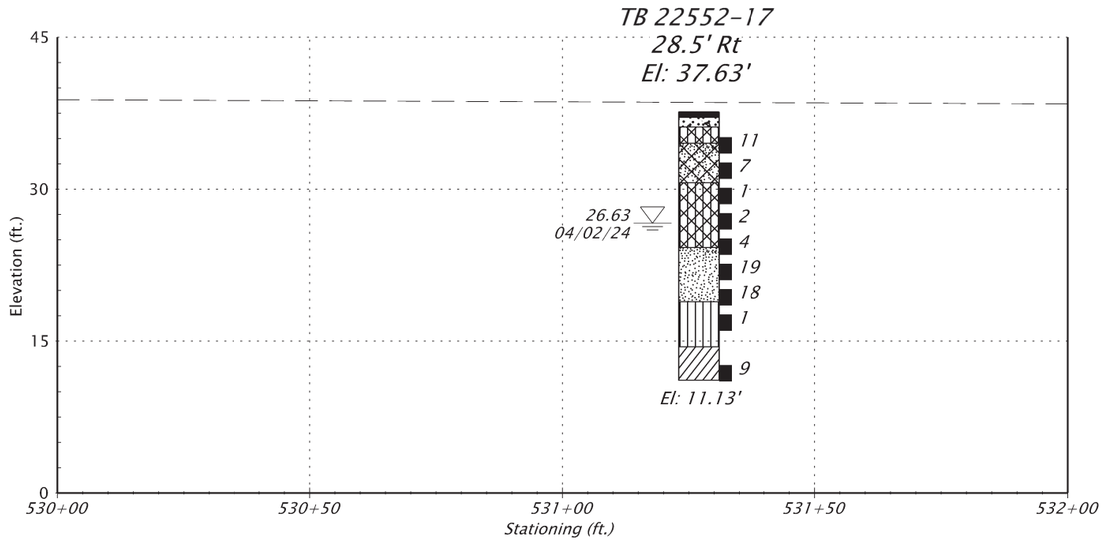
FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

59V-002

Sec.20, T.1N, R.1E, W.M.
OF18-1



PLAN
SCALE: 1" = 30'



PROFILE "L1" LINE

UNIT DESCRIPTIONS

- *Asphalt Pavement*
- *Concrete*
- *SILT; ML; Grey; Low plasticity; Moist; Very soft to stiff; (Fill)*
- *Poorly-graded SAND; SP; Grey; Moist; Medium dense; Fine to medium sand; (Fill)*
- *Poorly-graded SAND; SP; Grey; Wet; Very loose; Fine to medium sand; (Young Alluvium)*
- *SILT with sand; ML; Brown to grey; Low plasticity; Wet; Very soft; Fine to medium sand; (Young Alluvium)*
- *CLAY; CL; Grey and brown; Low to medium plasticity; Wet; Stiff; (Young Alluvium)*

LEGEND

⊕	= *Approximate boring location for current project. Boring drilled by Rhino One Geotechnical, 2024. Boring location estimated from field measurements*
▬ #	= *Standard Penetration Test - N value. Uncorrected (raw) standard penetration resistance in accordance with ASTM D1586 (See note 2.)*
50/1st #"	= *Standard Penetration Test refusal length*
▽	= *Groundwater measured in the Bore hole at time of drilling*
00.00'	*Elevation*
MM/DD/YY	*Date of measurement*

GENERAL NOTES

1. *Elevation datum for profiles is North American Vertical Datum (1988). Top of boring elevation is estimated from terrain surface in S_K22552_CIVL_TER_wrk_99.dgn.*
2. *Geotechnical data shown on this drawing are a consolidation of information and/or revision in terminology from the drill logs. More detailed subsurface data is available on the drill logs in the Geotechnical Report, which is available from the Engineer.*
3. *See Geotechnical Report for drilling method and hammer efficiency for current project borings.*
4. *Refer to the ODOT GDM Chapter 5 and ODOT Soil and Rock Classification Manual (2023) for a description of the terms used in this sheet.*
5. *1' Contour interval.*

REGISTERED PROFESSIONAL ENGINEER
58591
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OREGON
JULY 14, 1998
RAJIV ALI
EXPIRES: 12/31/25

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360.258.1738

OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

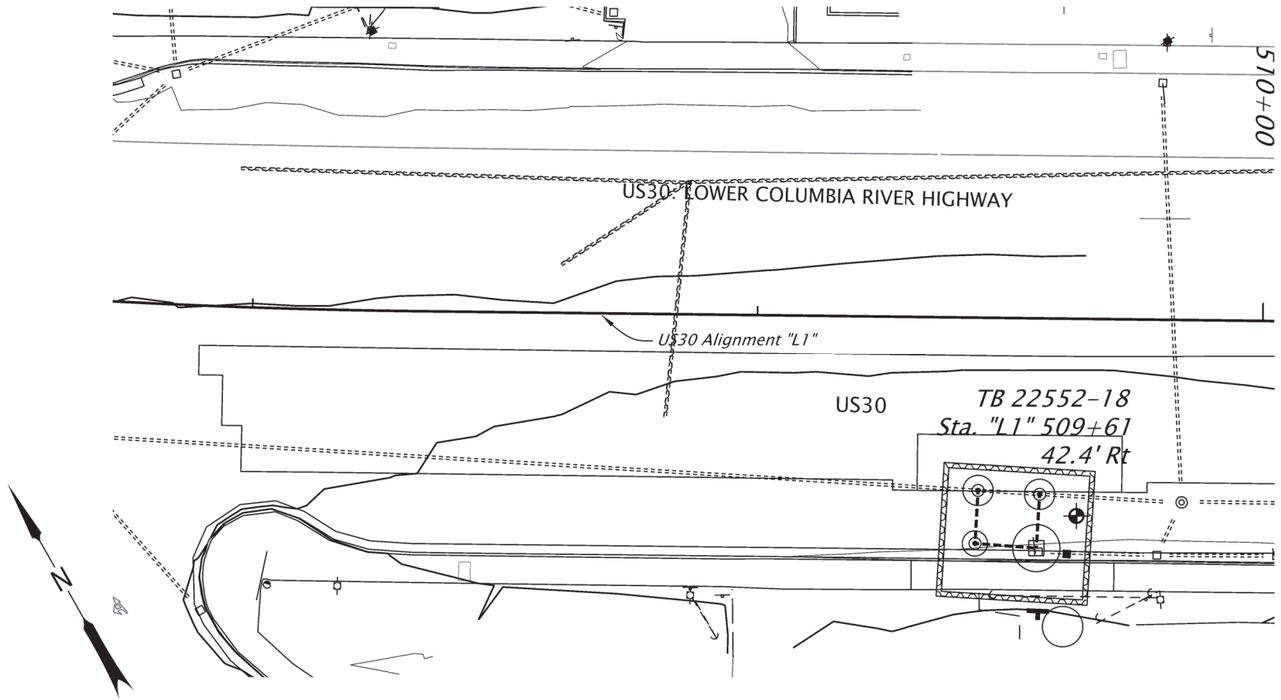
Designer: Levi Good | Reviewer: Rajiv Ali
Drafter: Devin Blackshere | Checker: Levi Good

GEOTECHNICAL DATA

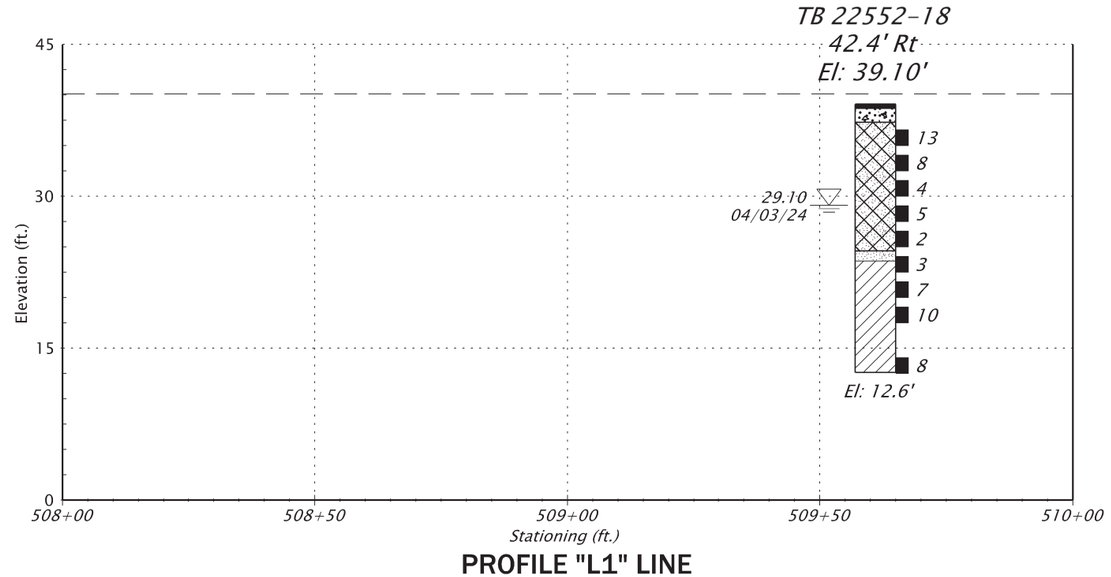
SHEET NO. GA522

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

Sec.19, T.1N, R.1E, W.M.
OF19-2 - US30 M.P. 3.88



PLAN
SCALE: 1" = 30'



PROFILE "L1" LINE

UNIT DESCRIPTIONS

Asphalt Pavement

Concrete

Poorly-graded SAND; SP; Brown to grey; Moist to wet; Medium dense to very loose; Fine to medium sand; (Fill)

Poorly-graded SAND; SP; Grey; Wet; Very loose; Fine sand; (Young Alluvium)

CLAY; CL; Grey to brown with orange mottling; Low plasticity; Wet; Soft to stiff; (Young Alluvium)

LEGEND

	=	*Approximate boring location for current project. Boring drilled by Rhino One Geotechnical, 2024. Boring location estimated from field measurements*
#	=	*Standard Penetration Test - N value. Uncorrected (raw) standard penetration resistance in accordance with ASTM D1586 (See note 2.)*
50/1st #"	=	*Standard Penetration Test refusal length*
	=	*Groundwater measured in the Bore hole at time of drilling*
00.00'		*Elevation*
MM/DD/YY		*Date of measurement*

GENERAL NOTES

1. *Elevation datum for profiles is North American Vertical Datum (1988). Top of boring elevation is estimated from terrain surface in S_K22552_CIVL_TER_wrk_99.dgn.*
2. *Geotechnical data shown on this drawing are a consolidation of information and/or revision in terminology from the drill logs. More detailed subsurface data is available on the drill logs in the Geotechnical Report, which is available from the Engineer.*
3. *See Geotechnical Report for drilling method and hammer efficiency for current project borings.*
4. *Refer to the ODOT GDM Chapter 5 and ODOT Soil and Rock Classification Manual (2023) for a description of the terms used in this sheet.*
5. *1' Contour interval.*

REGISTERED PROFESSIONAL ENGINEER
58591
Digitally Signed 2025.11.12 11:22:59-08'00'
OREGON
JULY 14, 1998
RAJIV ALI
EXPIRES: 12/31/25

RhinoOne GEOTECHNICAL
Rhino One LLC
2614 SE 129th Court
Vancouver, WA 98683
360.258.1738

OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

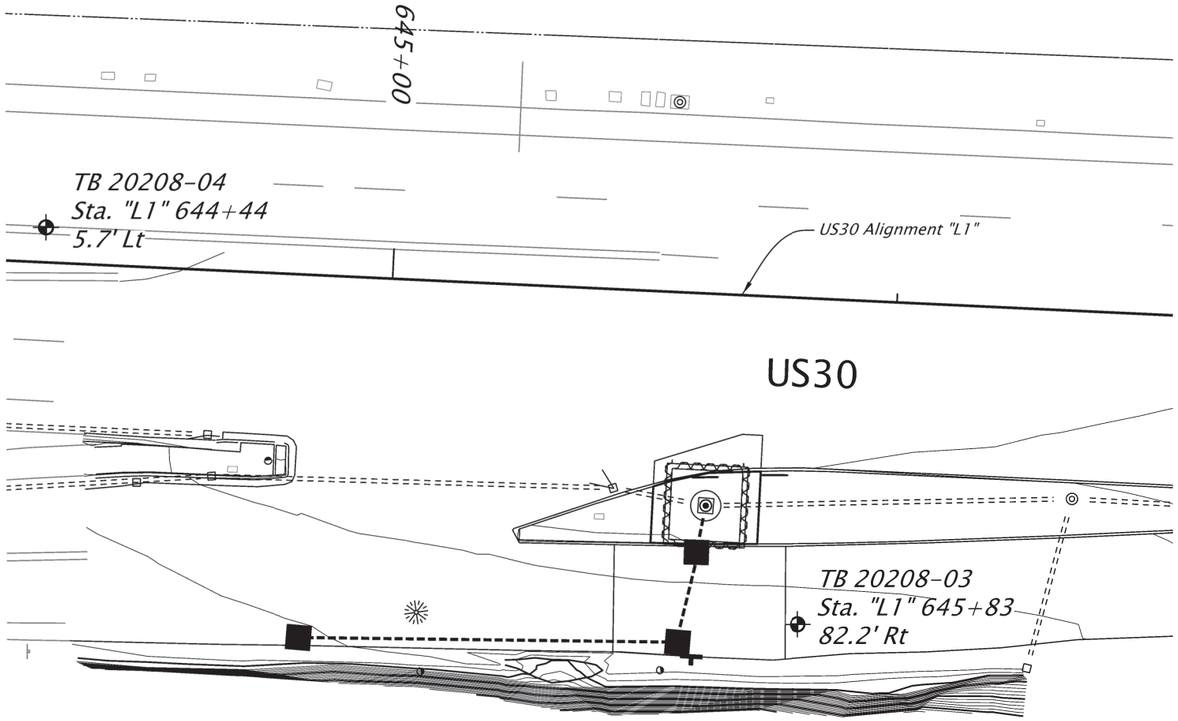
Designer: Levi Good	Reviewer: Rajiv Ali
Drafter: Devin Blackshere	Checker: Levi Good

GEOTECHNICAL DATA

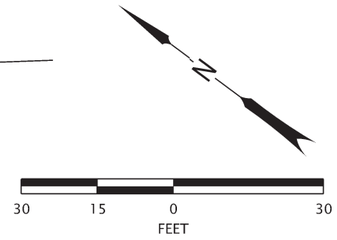
SHEET NO. GA532

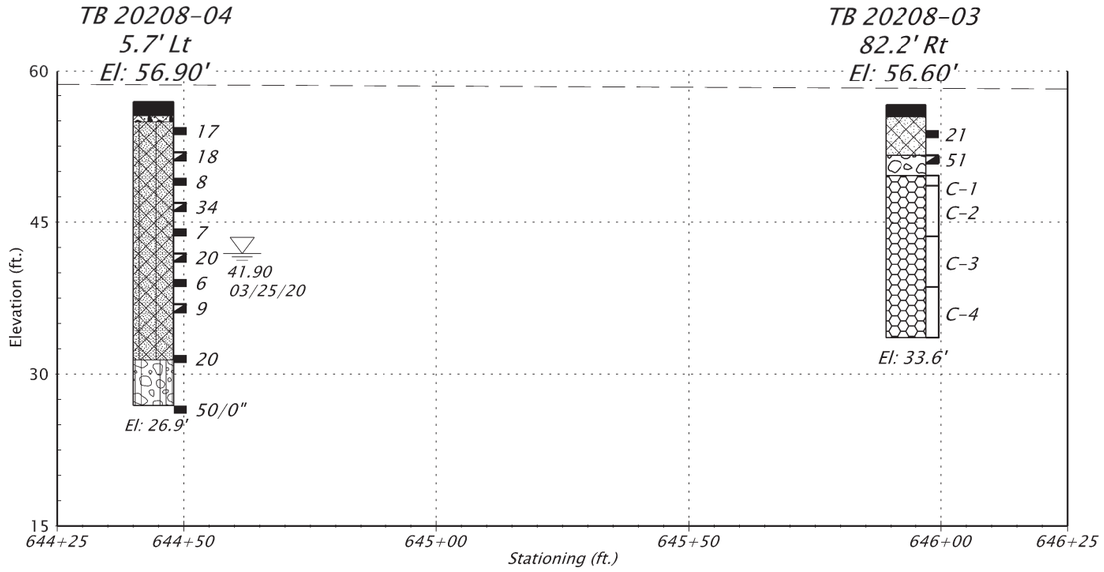
FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

Sec.12, T.1N, R.1W, W.M.
OF22C – US30 M.P. 6.41



PLAN
SCALE: 1" = 30'





PROFILE "L1" LINE

UNIT DESCRIPTIONS

- *Asphalt Pavement*
- *Poorly-graded SAND with gravel (SP); Grey; Moist to wet; Medium dense; Fine to coarse sand; subangular; Fine to coarse gravel; (Artificial Fill)*
- *Well-graded GRAVEL with sand; GW; Grey; (Base Rock)*
- *Inorganic SILT with sand and to silty sand; SM-ML; Green grey to brown to grey; Damp to wet; No to medium plasticity; Medium stiff to very stiff to loose; Trace to some fine sand; Trace to no organics; Some to no gravel; (Fill)*
- *Silty GRAVEL with sand; GP-GM; Brown to grey; Moist to wet; Medium plasticity fines; Medium dense to very dense; Angular to subrounded gravel; (Missoula Flood Deposits)*
- *Poorly-graded GRAVEL with sand (GP); Grey; Moist to wet; Medium dense; Angular fine to coarse gravel; Coarse sand; (Weathered basalt)*
- *BASALT; Grey; Slightly weathered to fresh; Medium strong to stong; Intenseley to moderately fractured; (Columbia River Basalt)*

LEGEND

	=	*Approximate boring location for previous borings. Boring drilled by Rhino One Geotechnical, 2021 for ODOT KN 20208. Boring location estimated from field measurements*
#	=	*Standard Penetration Test - N value. Uncorrected (raw) standard penetration resistance in accordance with ASTM D1586 (See note 2.)*
#	=	*Oversized sampler (3 inch split spoon) Blow count*
50/1st #"	=	*Standard Penetration Test refusal length*
C-#	=	*Core Sample*
RQD	=	*Rock Quality Designation*
	=	*Groundwater measured in the Bore hole at time of drilling*
00.00'		*Elevation*
MM/DD/YY		*Date of measurement*

GENERAL NOTES

1. *Elevation datum for profiles is North American Vertical Datum (1988). Top of boring elevation is estimated from terrain surface in S_K22552_CIVL_TER_wrk_99.dgn.*
2. *Geotechnical data shown on this drawing are a consolidation of information and/or revision in terminology from the drill logs. More detailed subsurface data is available on the drill logs in the Geotechnical Report, which is available from the Engineer.*
3. *See Geotechnical Report for drilling method and hammer efficiency for current project borings.*
4. *Refer to the ODOT GDM Chapter 5 and ODOT Soil and Rock Classification Manual (2023) for a description of the terms used in this sheet.*
5. *1' Contour interval.*
6. *Groundwater not encountered in Bore hole 20208-03 at time of drilling.*

TB 20208-03 (2020)

Core	% Rec.	Hardness	RQD	qu (psi)
C1	25	N/A	0	Not tested
C2	100	R3-R4	70	Not tested
C3	100	R3-R4	76	Not tested
C4	100	R3-R4	67	Not tested

REGISTERED PROFESSIONAL ENGINEER
58591
Digitally Signed 2025.11.12 11:23:20-08'00'
OREGON
JULY 14, 1998
RAJIV ALI
EXPIRES: 12/31/25

RhinoOne GEOTECHNICAL
Rhino One LLC
2614 SE 129th Court
Vancouver, WA 98683
360.258.1738

OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Levi Good
Drafter: Devin Blackshere
Reviewer: Rajiv Ali
Checker: Levi Good

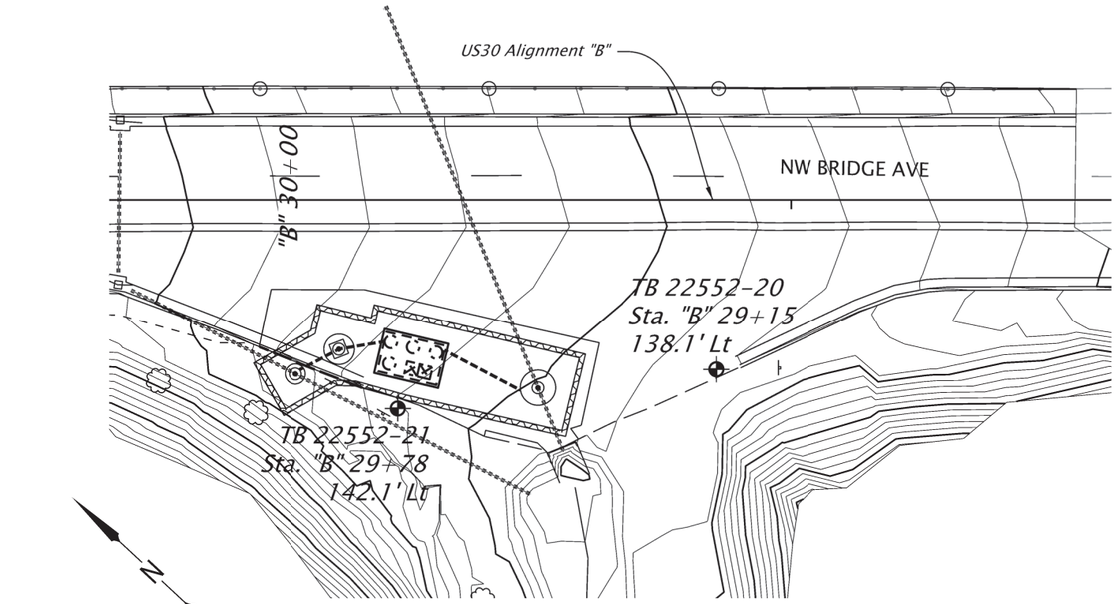
GEOTECHNICAL DATA

SHEET NO. GA541

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

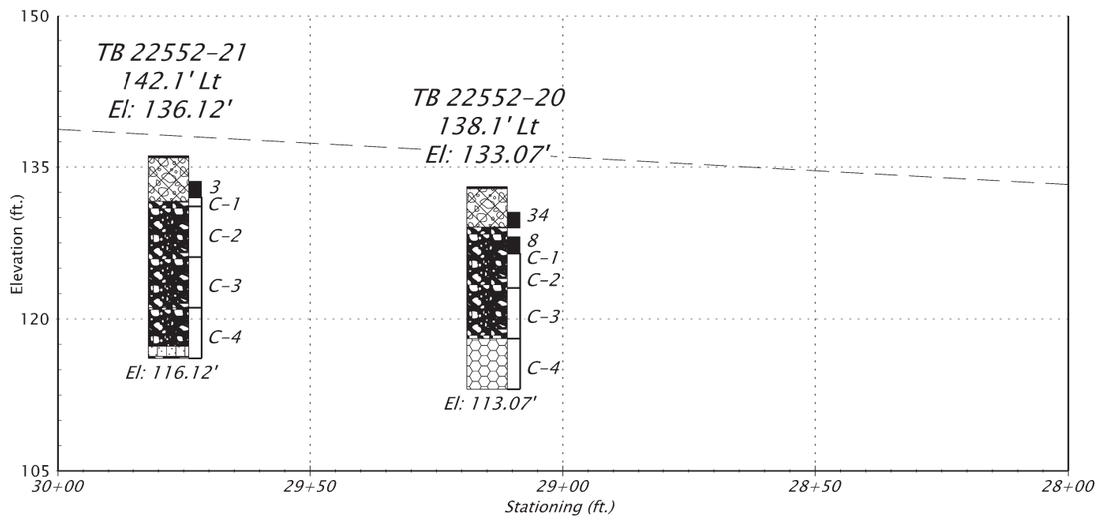
Sec.11, T.1N, R.1W, W.M.

WR206 - US30 BYPASS M.P. 0.33



PLAN

SCALE: 1" = 30'



PROFILE "B" LINE

UNIT DESCRIPTIONS

Asphalt Pavement

Poorly-graded GRAVEL; GP; Grey; Moist; Very loose; Fine to coarse angular gravel; (Fill)

SAND, GRAVEL, COBBLES and BOULDERS; Brown to grey; Very dense; Basalt cobbles and boulders in a sand and gravel matrix; Gravels are angular to rounded; (Channel Facies-Missoula Flood Deposits)

SILT; ML; with gravel layer; (Talus Slope)

BASALT; Brown; Very weak to weak (R1-R2); Highly vesicular; Intensely weathered; Moderately to intensely fractured; (Bedrock); (Columbia River Basalt)

LEGEND

⌖	=	*Approximate boring location for current project. Boring drilled by Rhino One Geotechnical, 2024. Boring location estimated from field measurements*
#	=	*Standard Penetration Test - N value. Uncorrected (raw) standard penetration resistance in accordance with ASTM D1586 (See note 2.)*
50/1st #"	=	*Standard Penetration Test refusal length*
C-#	=	*Core Sample*
RQD	=	*Rock Quality Designation*
▽	=	*Groundwater measured in the Bore hole at time of drilling*
00.00'		*Elevation*
MM/DD/YY		*Date of measurement*

GENERAL NOTES

1. *Elevation datum for profiles is North American Vertical Datum (1988). Top of boring elevation is estimated from terrain surface in S_K22552_CIVL_TER_wrk_99.dgn.*
2. *Geotechnical data shown on this drawing are a consolidation of information and/or revision in terminology from the drill logs. More detailed subsurface data is available on the drill logs in the Geotechnical Report, which is available from the Engineer.*
3. *See Geotechnical Report for drilling method and hammer efficiency for current project borings.*
4. *Refer to the ODOT GDM Chapter 5 and ODOT Soil and Rock Classification Manual (2023) for a description of the terms used in this sheet.*
5. *1' Contour interval.*
6. *Groundwater not encountered in Bore holes 22552-20 or 22552-21 at time of drilling.*

TB 22552-20

Core	% Rec.	Hardness	RQD	qu (psi)
C-1	32	N/A	0	Not tested
C-2	47	N/A	0	Not tested
C-3	35	N/A	0	Not tested
C-4	103	R1-R2	12	Not tested

TB 22552-21

Core	% Rec.	Hardness	RQD	qu (psi)
C-1	25	N/A	0	Not tested
C-2	43	N/A	0	Not tested
C-3	33	N/A	0	Not tested
C-4	33	N/A	0	Not tested

REGISTERED PROFESSIONAL ENGINEER
58591
Digitally Signed 2025.11.12 11:23:40-08'00'
OREGON
JULY 14, 1998
RAJIV ALI

EXPIRES: 12/31/25

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360.258.1738

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT

LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY

MULTNOMAH COUNTY

Designer: Levi Good | Reviewer: Rajiv Ali

Drafter: Devin Blackshere | Checker: Levi Good

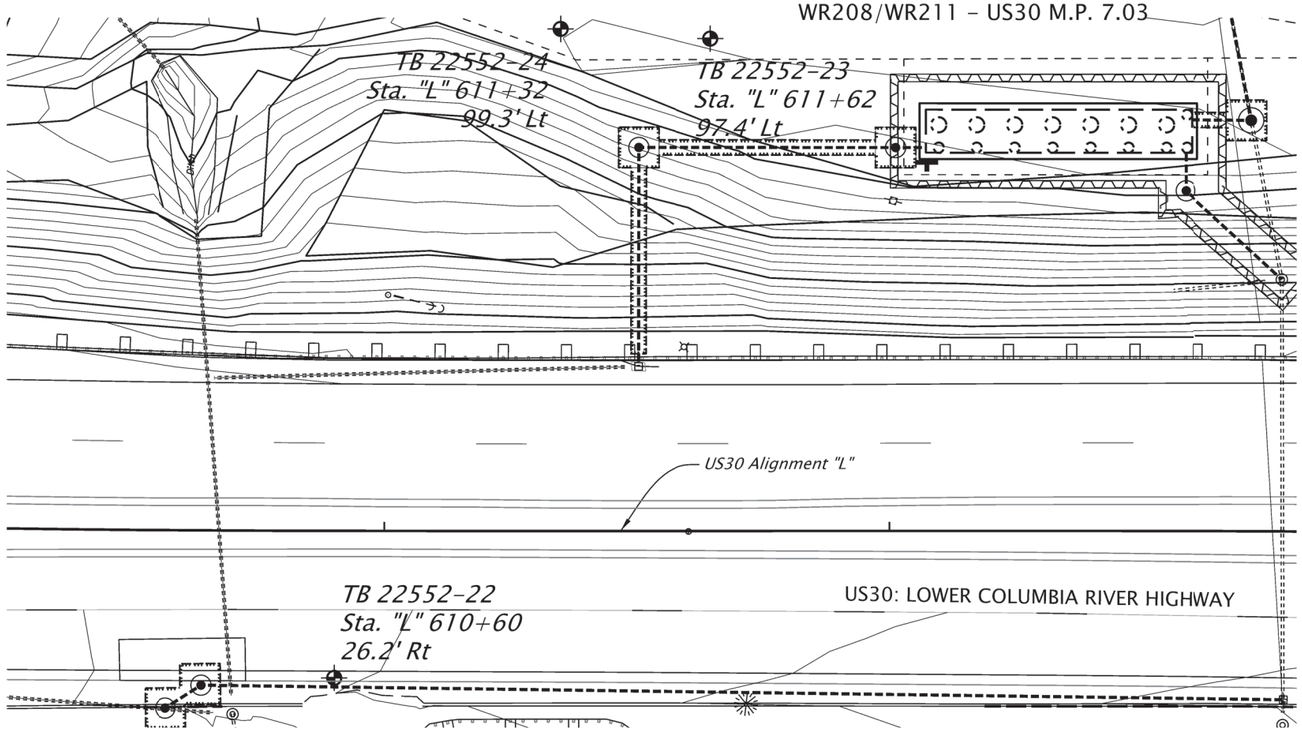
GEOTECHNICAL DATA

SHEET NO. GA551

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

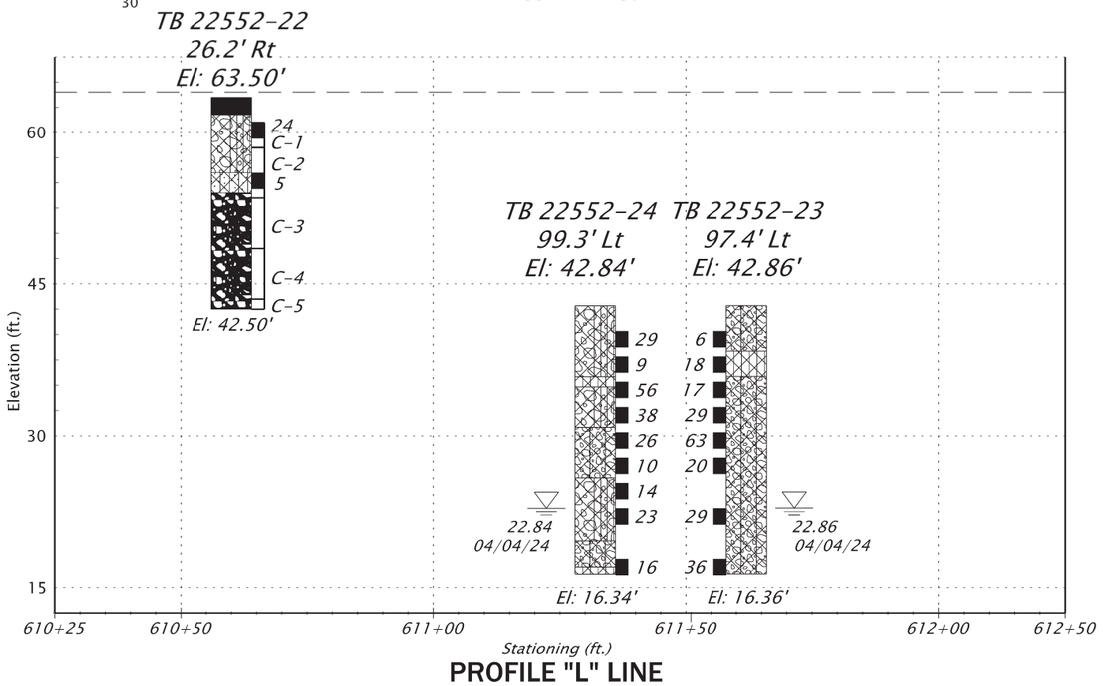
Sec.11, T.1N, R.1W, W.M.

WR208/WR211 - US30 M.P. 7.03



PLAN

SCALE: 1" = 30'



PROFILE "L" LINE

UNIT DESCRIPTIONS

- *Asphalt Pavement*
- *Sandy GRAVEL with silt; GP-GM; Dark grey; Low plasticity fines; Medium dense; Fine to coarse; Subangular to rounded gravel; Coarse sand; Possible cobbles; (Fill)*
- *Sandy SILT; ML; Brown; Low plasticity; Moist; Soft to medium stiff; Fine to medium sand; (Fill)*
- *SAND, GRAVEL, COBBLES and BOULDERS with silt; Brown to grey; Very dense; Basalt cobbles and boulders in a silt, sand and gravel matrix; Gravels are angular to rounded; (Channel Facies-Missoula Flood Deposits)*
- *Silty GRAVEL; GM; Grey gravel and brown silt; Low plasticity fines; Moist; Loose; Coarse angular gravel; (Fill)*
- *Silt with sand; ML; Brown; No to low plasticity; Moist; Very stiff; (Fill)*
- *Silty GRAVEL with sand; GM; Grey gravel and brown silt; Low plasticity fines; Moist; Medium dense; Coarse subangular gravel; (Fill)*

LEGEND

⊕	=	*Approximate boring location for current project. Boring drilled by Rhino One Geotechnical, 2024. Boring location estimated from field measurements*
■ #	=	*Standard Penetration Test - N value. Uncorrected (raw) standard penetration resistance in accordance with ASTM D1586 (See note 2.)*
50/1st #"	=	*Standard Penetration Test refusal length*
C-#	=	*Core Sample*
RQD	=	*Rock Quality Designation*
▽	=	*Groundwater measured in the Bore hole at time of drilling*
00.00'		*Elevation*
MM/DD/YY		*Date of measurement*

GENERAL NOTES

1. *Elevation datum for profiles is North American Vertical Datum (1988). Top of boring elevation is estimated from terrain surface in S_K22552_CIVL_TER_wrk_99.dgn.*
2. *Geotechnical data shown on this drawing are a consolidation of information and/or revision in terminology from the drill logs. More detailed subsurface data is available on the drill logs in the Geotechnical Report, which is available from the Engineer.*
3. *See Geotechnical Report for drilling method and hammer efficiency for current project borings.*
4. *Refer to the ODOT GDM Chapter 5 and ODOT Soil and Rock Classification Manual (2023) for a description of the terms used in this sheet.*
5. *1' Contour interval.*
6. *Groundwater not encountered in Bore hole 22552-22 at time of drilling.*

TB 22552-22

Core	% Rec.	Hardness	RQD	qu (psi)
C-1	43	N/A	0	Not tested
C-2	20	N/A	0	Not tested
C-3	67	N/A	0	Not tested
C-4	65	N/A	0	Not tested
C-5	100	N/A	0	Not tested

REGISTERED PROFESSIONAL ENGINEER
58591
Digitally Signed 2025.11.12 11:24:05-08'00'
OREGON
JULY 14, 1998
RAJIV ALI
EXPIRES: 12/31/25

Rhino One LLC
2614 SE 129th Court
Vancouver, WA 98683
360.258.1738

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Levi Good | Reviewer: Rajiv Ali
Drafter: Devin Blackshere | Checker: Levi Good

GEOTECHNICAL DATA

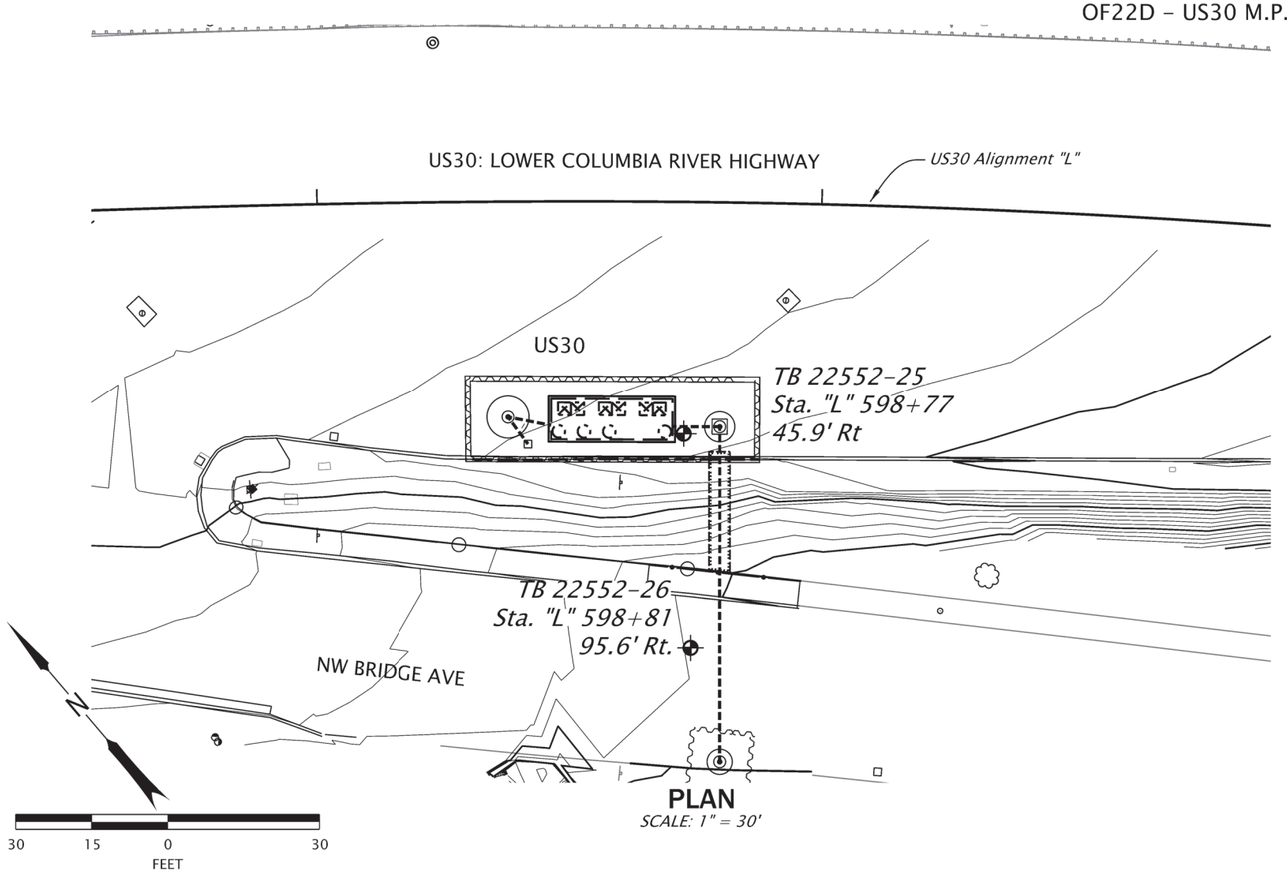
SHEET NO. GA561

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

59V-002

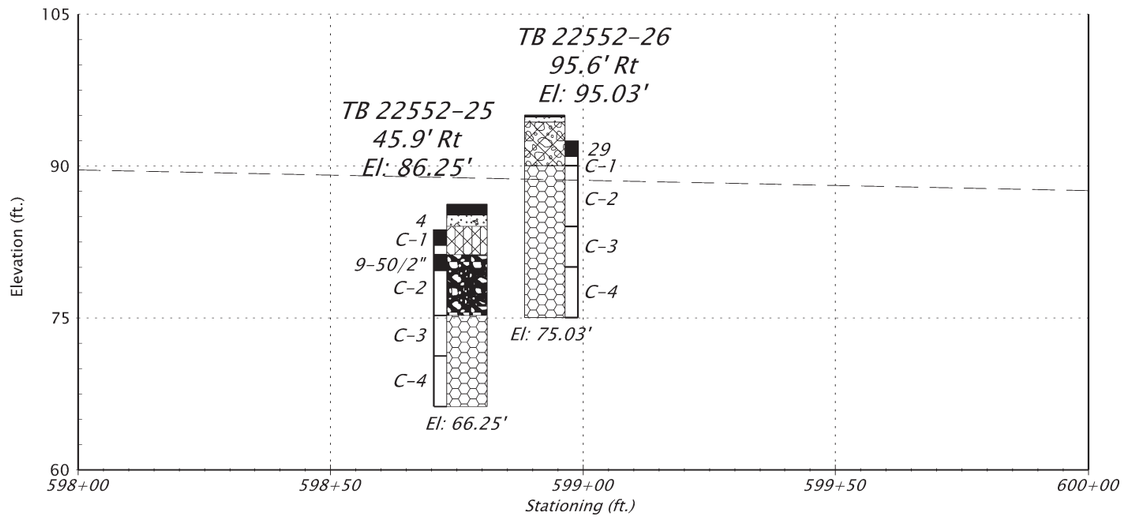
Sec.11, T.1N, R.1W, W.M.

OF22D – US30 M.P. 7.29



PLAN

SCALE: 1" = 30'



PROFILE "L" LINE

UNIT DESCRIPTIONS

Asphalt Pavement

Concrete

SILT with gravel; ML; Brown silt and grey gravel; Low plasticity; Moist; Coarse subangular gravel; (Fill)

SAND, GRAVEL, COBBLES and BOULDERS; Brown to grey; Very dense; Basalt cobbles and boulders in a sand and gravel matrix; Gravels are angular to rounded; (Channel Facies-Missoula Flood Deposits)

Poorly-graded GRAVEL; GP; Grey; Medium dense; Moist; Fine to coarse subangular gravel; Possible cobbles; (Fill)

BASALT; Medium grey; N5(W); Slightly weathered; Medium strong to strong (R3-R4); Intensely fractured to slightly fractured; (Columbia River Basalt)

LEGEND

⊕	=	*Approximate boring location for current project. Boring drilled by Rhino One Geotechnical, 2024. Boring location estimated from field measurements*
▬ #	=	*Standard Penetration Test - N value. Uncorrected (raw) standard penetration resistance in accordance with ASTM D1586 (See note 2.)*
50/1st #"	=	*Standard Penetration Test refusal length*
C-#	=	*Core Sample*
RQD	=	*Rock Quality Designation*
▽	=	*Groundwater measured in the Bore hole at time of drilling*
00.00'		*Elevation*
MM/DD/YY		*Date of measurement*

GENERAL NOTES

1. *Elevation datum for profiles is North American Vertical Datum (1988). Top of boring elevation is estimated from terrain surface in S_K22552_CIVL_TER_wrk_99.dgn.*
2. *Geotechnical data shown on this drawing are a consolidation of information and/or revision in terminology from the drill logs. More detailed subsurface data is available on the drill logs in the Geotechnical Report, which is available from the Engineer.*
3. *See Geotechnical Report for drilling method and hammer efficiency for current project borings.*
4. *Refer to the ODOT GDM Chapter 5 and ODOT Soil and Rock Classification Manual (2023) for a description of the terms used in this sheet.*
5. *1' Contour interval.*
6. *Groundwater not encountered in Bore hole 22552-25 and 22552-26 at time of drilling.*

TB 22552-25

Core	% Rec.	Hardness	RQD	qu (psi)
C-1	60	N/A	0	Not tested
C-2	33	N/A	0	Not tested
C-3	72	R3-R4	17	Not tested
C-4	98	R3-R4	33	Not tested

TB 22552-26

Core	% Rec.	Hardness	RQD	qu (psi)
C-1	47	N/A	0	Not tested
C-2	105	R3-R4	48	Not tested
C-3	88	R3-R4	0	Not tested
C-4	102	R3-R4	72	Not tested

REGISTERED PROFESSIONAL ENGINEER
58591
Digitally Signed 2025.11.12 11:24:27-08'00'
OREGON
JULY 14, 1998
RAJIV ALI

EXPIRES: 12/31/25

RhinoOne GEOTECHNICAL
Rhino One LLC
2614 SE 129th Court
Vancouver, WA 98683
360.258.1738

OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Levi Good | Reviewer: Rajiv Ali
Drafter: Devin Blackshere | Checker: Levi Good

GEOTECHNICAL DATA

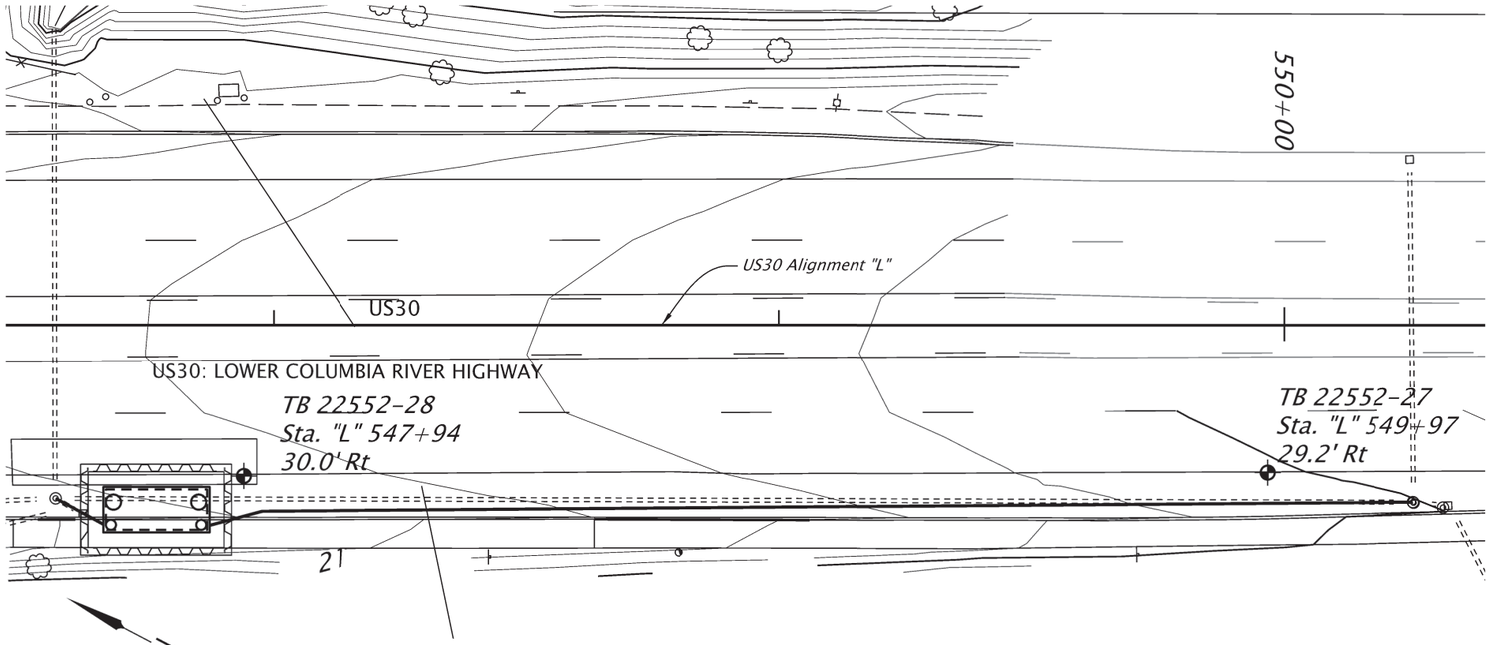
SHEET NO. GA581

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

59V-002

Sec.2, T.1N, R.1W, W.M.

WR126 - US30 M.P. 8.26

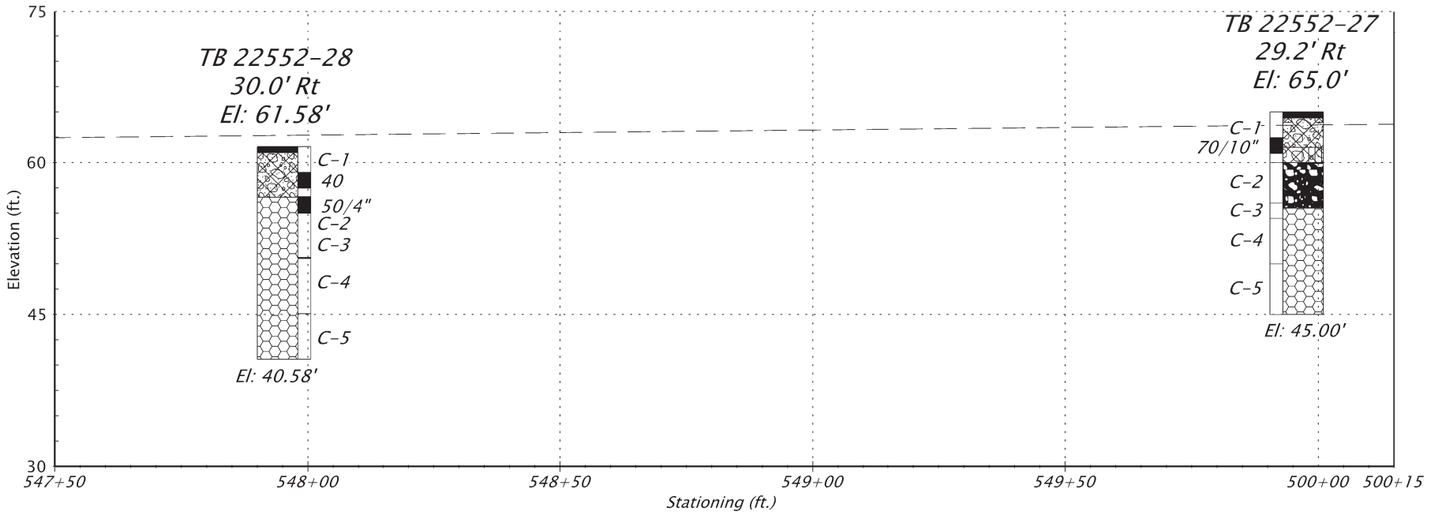


30 15 0 30

FEET

PLAN

SCALE: 1" = 30'



PROFILE "L" LINE

UNIT DESCRIPTIONS

Asphalt Pavement

Poorly-graded SAND with gravel; SP; Dark grey; Damp; Dense to very dense; Coarse sand; Fine angular gravel (Fill)

Silty-sandy GRAVEL; GP-GM; Grey; Moist; Very dense; Coarse angular gravel; Low plasticity in fines; (Fill)

SAND, GRAVEL, COBBLES and BOULDERS; Brown to grey; Very dense; Basalt cobbles and boulders in a sand and gravel matrix; Gravels are angular to rounded; (Channel Facies-Missoula Flood Deposits)

BASALT; Dark grey; N3(W); Some vesicles; Fresh to slightly weathered; Medium strong to strong (R3-R4); Slightly to very intensely fractured; (Columbia River Basalt)

LEGEND

	=	*Approximate boring location for previous borings. Boring drilled by Rhino One Geotechnical, 2021 for ODOT KN 20208. Boring location estimated from field measurements*
#	=	*Standard Penetration Test - N value. Uncorrected (raw) standard penetration resistance in accordance with ASTM D1586 (See note 2.)*
50/1st #"	=	*Standard Penetration Test refusal length*
C-#	=	*Core Sample*
RQD	=	*Rock Quality Designation*
	=	*Groundwater measured in the Bore hole at time of drilling*
00.00'		*Elevation*
MM/DD/YY		*Date of measurement*

GENERAL NOTES

1. *Elevation datum for profiles is North American Vertical Datum (1988). Top of boring elevation is estimated from terrain surface in S_K22552_CIVL_TER_wrk_99.dgn.*
2. *Geotechnical data shown on this drawing are a consolidation of information and/or revision in terminology from the drill logs. More detailed subsurface data is available on the drill logs in the Geotechnical Report, which is available from the Engineer.*
3. *See Geotechnical Report for drilling method and hammer efficiency for current project borings.*
4. *Refer to the ODOT GDM Chapter 5 and ODOT Soil and Rock Classification Manual (2023) for a description of the terms used in this sheet.*
5. *1' Contour interval.*
6. *Groundwater not encountered in Bore hole 22552-27 and 22552-28 at time of drilling.*

TB 22552-27

Core	% Rec.	Hardness	RQD	qu (psi)
C-1	65	N/A	0	Not tested
C-2	71	N/A	38	Not tested
C-3	150	R3-R4	33	Not tested
C-4	90	R3-R4	87	Not tested
C-5	100	R3-R4	58	Not tested

TB 22552-28

Core	% Rec.	Hardness	RQD	qu (psi)
C-1	28	N/A	0	Not tested
C-2	75	R3-R4	0	Not tested
C-3	102	R3-R4	8	Not tested
C-4	67	R3-R4	8	Not tested
C-5	98	R3-R4	70	Not tested

REGISTERED PROFESSIONAL ENGINEER
58591
Digitally Signed 2025.11.12 11:24:46-08'00'
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JULY 14, 1998
RAJIV ALI

EXPIRES: 12/31/25

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OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT

LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY

MULTNOMAH COUNTY

Designer: Levi Good | Reviewer: Rajiv Ali

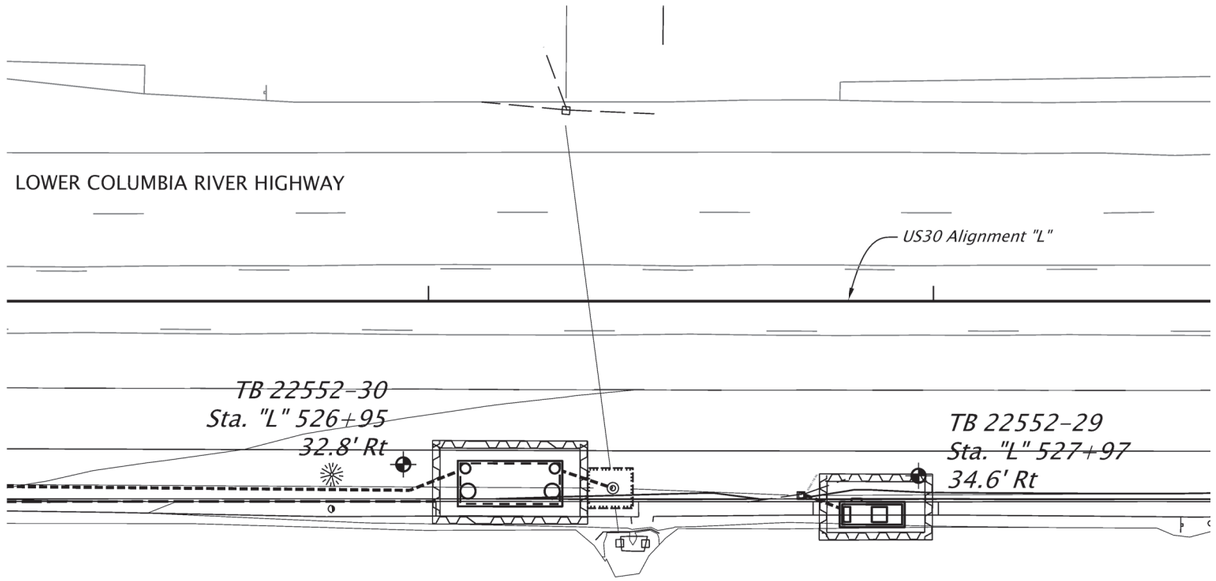
Drafter: Devin Blackshere | Checker: Levi Good

GEOTECHNICAL DATA

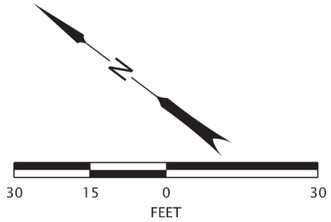
SHEET NO. GA591

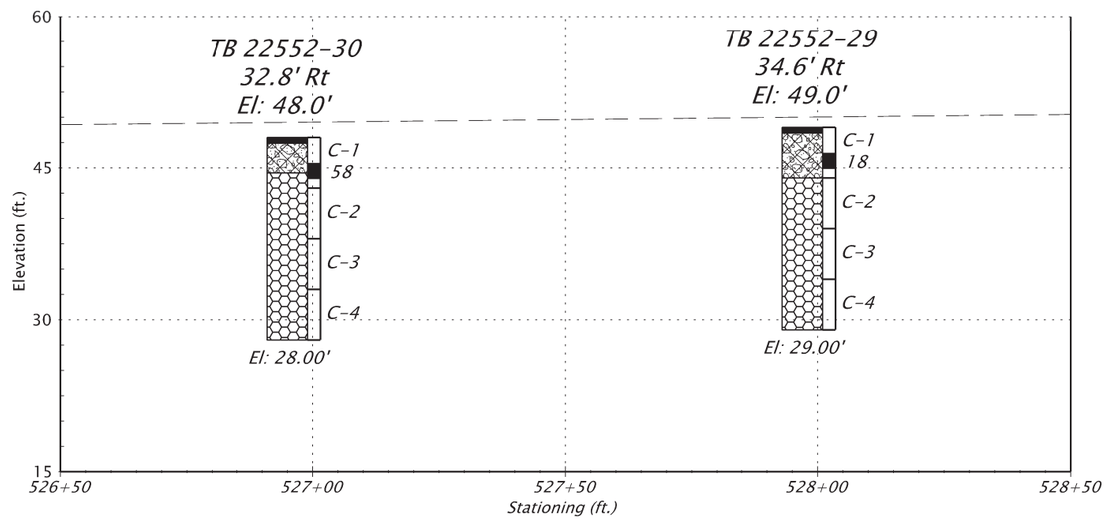
FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

Sec.3, T.1N, R.1W, W.M.
WR204 - US30 M.P. 8.65



PLAN
SCALE: 1" = 30'





PROFILE "L" LINE

UNIT DESCRIPTIONS

Asphalt Pavement

Poorly-graded SAND with gravel; SP; Dark grey; Damp; Medium dense to very dense; Coarse sand; Fine angular gravel; (Fill)

BASALT; Dark grey; N3(W); Some vesicles; Fresh to slightly weathered; Medium strong to strong (R3-R4); Slightly to moderately fractured; (Columbia River Basalt)

LEGEND

⊕	=	*Approximate boring location for current project. Boring drilled by Rhino One Geotechnical, 2024. Boring location estimated from field measurements*
■ #	=	*Standard Penetration Test - N value. Uncorrected (raw) standard penetration resistance in accordance with ASTM D1586 (See note 2.)*
50/1st #"	=	*Standard Penetration Test refusal length*
C-#	=	*Core Sample*
RQD	=	*Rock Quality Designation*
▽	=	*Groundwater measured in the Bore hole at time of drilling*
00.00'		*Elevation*
MM/DD/YY		*Date of measurement*

GENERAL NOTES

1. *Elevation datum for profiles is North American Vertical Datum (1988). Top of boring elevation is estimated from terrain surface in S_K22552_CIVL_TER_wrk_99.dgn.*
2. *Geotechnical data shown on this drawing are a consolidation of information and/or revision in terminology from the drill logs. More detailed subsurface data is available on the drill logs in the Geotechnical Report, which is available from the Engineer.*
3. *See Geotechnical Report for drilling method and hammer efficiency for current project borings.*
4. *Refer to the ODOT GDM Chapter 5 and ODOT Soil and Rock Classification Manual (2023) for a description of the terms used in this sheet.*
5. *1' Contour interval.*
6. *Groundwater not encountered in Bore hole 22552-29 and 22552-30 at time of drilling.*

TB 22552-29				
Core	*% Rec.*	*Hardness*	*RQD*	*qu (psi)*
C-1	*70*	*R3-R4*	*22*	*Not tested*
C-2	*100*	*R3-R4*	*50*	*Not tested*
C-3	*100*	*R3-R4*	*25*	*Not tested*
C-4	*100*	*R3-R4*	*55*	*Not tested*

TB 22552-30				
Core	*% Rec.*	*Hardness*	*RQD*	*qu (psi)*
C-1	*60*	*R3-R4*	*0*	*Not tested*
C-2	*100*	*R3-R4*	*17*	*Not tested*
C-3	*103*	*R3-R4*	*38*	*Not tested*
C-4	*98*	*R3-R4*	*93*	*Not tested*

REGISTERED PROFESSIONAL ENGINEER
58591
Digitally Signed 2025.11.12 11:25:06-08'00'
OREGON
JULY 14, 1998
RAJIV ALI
EXPIRES: 12/31/25

RhinoOne GEOTECHNICAL
Rhino One LLC
2614 SE 129th Court
Vancouver, WA 98683
360.258.1738

OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

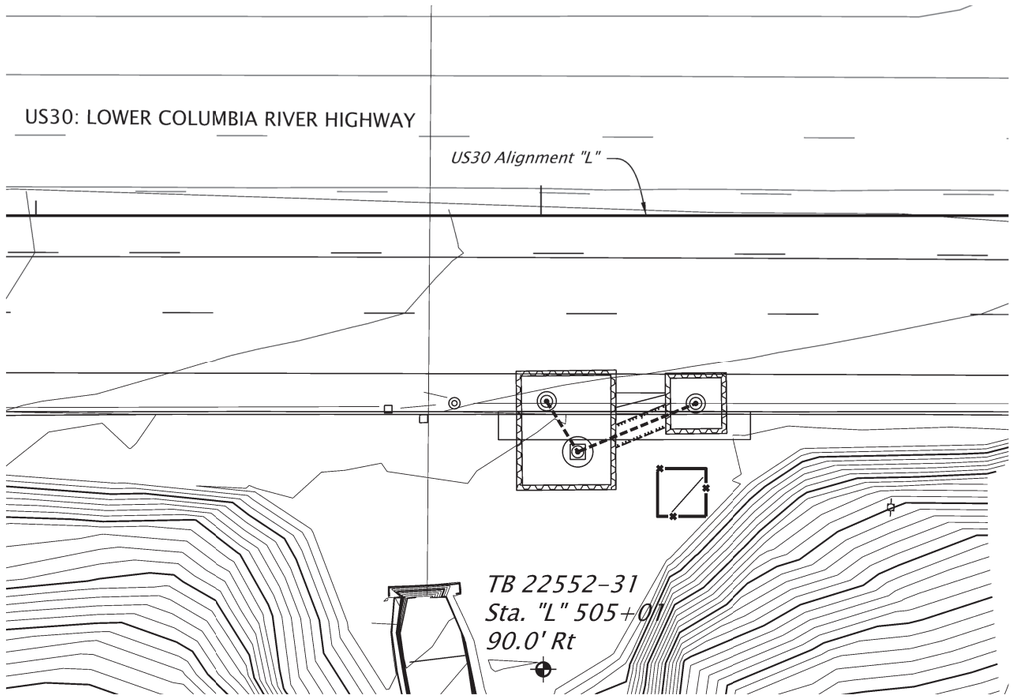
Designer: Levi Good
Drafter: Devin Blackshere
Reviewer: Rajiv Ali
Checker: Levi Good

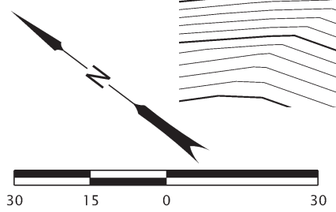
GEOTECHNICAL DATA

SHEET NO. GA601

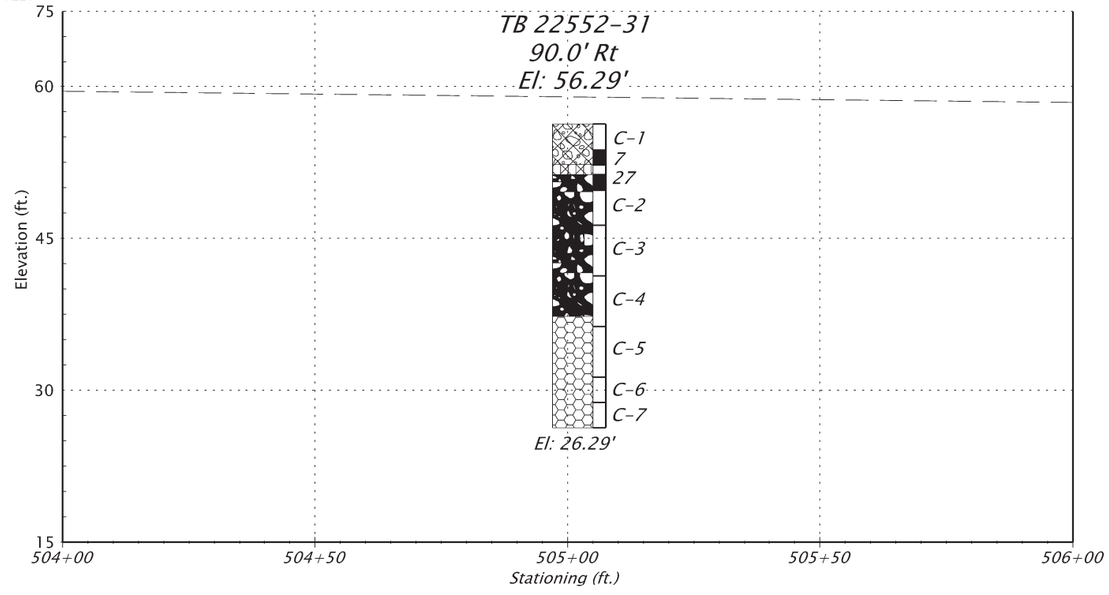
FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

Sec.3, T.1N, R.1W, W.M.
WR79 - US30 M.P. 9.06





PLAN
SCALE: 1" = 30'



PROFILE "L" LINE

UNIT DESCRIPTIONS

Poorly-graded GRAVEL; GP; Grey; Loose; Moist; Fine to coarse angular to rounded gravel; (Fill)

SILT; ML; Brown; Low plasticity; Moist; Medium stiff; (Fill)

SAND, GRAVEL, COBBLES and BOULDERS; Brown to grey; Very dense; Basalt cobbles and boulders in a sand and gravel matrix; Gravels are angular to rounded; (Channel Facies-Missoula Flood Deposits)

BASALT; Grey; Medium strong to strong (R3-R4); Moderately weathered; Intensely fractured; (Columbia River Basalt)

LEGEND

⊕	=	*Approximate boring location for current project. Boring drilled by Rhino One Geotechnical, 2024. Boring location estimated from field measurements*
▬ #	=	*Standard Penetration Test - N value. Uncorrected (raw) standard penetration resistance in accordance with ASTM D1586 (See note 2.)*
50/1st #"	=	*Standard Penetration Test refusal length*
C-#	=	*Core Sample*
RQD	=	*Rock Quality Designation*
▽	=	*Groundwater measured in the Bore hole at time of drilling*
00.00'		*Elevation*
MM/DD/YY		*Date of measurement*

GENERAL NOTES

1. *Elevation datum for profiles is North American Vertical Datum (1988). Top of boring elevation is estimated from terrain surface in S_K22552_CIVL_TER_wrk_99.dgn.*
2. *Geotechnical data shown on this drawing are a consolidation of information and/or revision in terminology from the drill logs. More detailed subsurface data is available on the drill logs in the Geotechnical Report, which is available from the Engineer.*
3. *See Geotechnical Report for drilling method and hammer efficiency for current project borings.*
4. *Refer to the ODOT GDM Chapter 5 and ODOT Soil and Rock Classification Manual (2023) for a description of the terms used in this sheet.*
5. *1' Contour interval.*
6. *Groundwater not encountered in Bore hole 22552-31 at time of drilling.*

TB 22552-31

Core	% Rec.	Hardness	RQD	qu (psi)
C-1	18	N/A	0	Not tested
C-2	50	N/A	0	Not tested
C-3	40	N/A	12	Not tested
C-4	35	R3-R4	18	Not tested
C-5	23	R3-R4	10	Not tested
C-6	71	R3-R4	0	Not tested
C-7	100	R3-R4	47	Not tested

REGISTERED PROFESSIONAL ENGINEER
58591
Digitally Signed 2025.11.12 11:25:27-08'00'
OREGON
JULY 14, 1998
RAJIV ALI
EXPIRES: 12/31/25

RhinoOne GEOTECHNICAL
Rhino One LLC
2614 SE 129th Court
Vancouver, WA 98683
360.258.1738

OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Levi Good
Reviewer: Rajiv Ali
Drafter: Devin Blackshere
Checker: Levi Good

GEOTECHNICAL DATA

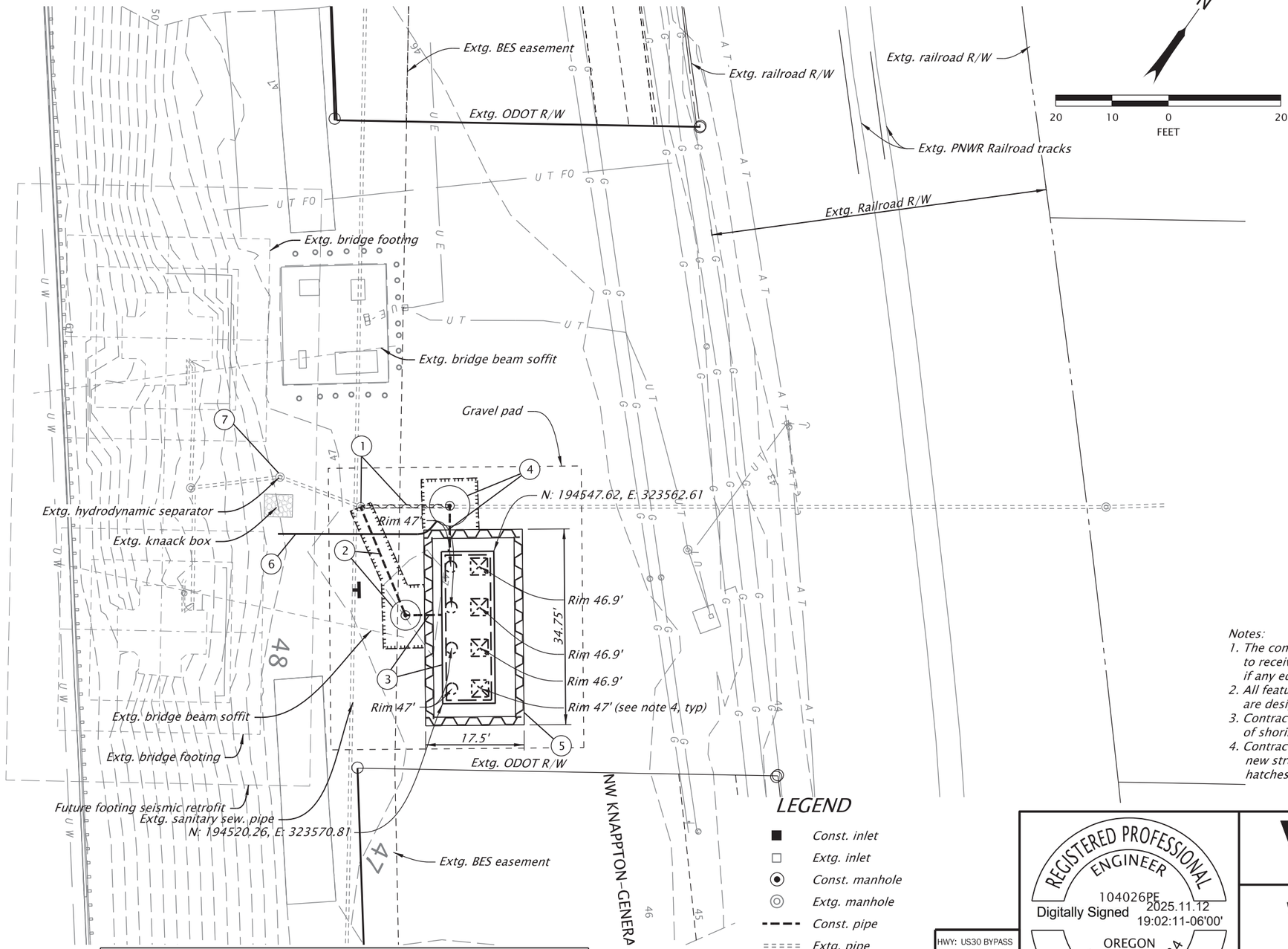
SHEET NO. GA611

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

59V-002

Sec.11, T.1N, R.1W, W.M.

ST. JOHNS BRIDGE - WEST END
US30 BYPASS - M.P. 0.61



CONSTRUCTION NOTES

1. *N: 194547.62, E: 323562.61*
   Connect to extg. structure
   Fill extg. manhole with controlled low-strength material
   (Dia: not available, fill depth: 11.2')
   Construct invert channel
   Abandon extg. pipe from extg. structure to manhole- 16'. (contractor to field verify casing and carrier pipe sizes).
   Plug the pipe from upstream end
   (See dwg. no. RD344)
2. *N: 194529.29, E: 323556.33*
   Const. conc. storm sew. 48" manhole
   Inst. 18" storm sew. pipe - 21'
   10' depth, sl. 2.6%
3. *Inst. Water Quality Structure, D00428*
   See sht. HB003
   Inst. 18" storm sew. pipe -7'
   20' depth, sl. 9.2%
   Inst. facility field marker, type S2 bolted to steel post
   (See dwg. no. RD399)
   Const. 2'-0" aggregate base under Water Quality Structure - 459 SF
4. *N: 194549.69, E: 323551.55*
   Const. conc. storm sew. 72" manhole over extg. 36" casing pipe.
   (See dwg. no. RD346)
   Extra for manholes over existing sewers
   Inst. 18" storm sew. pipe - 9'
   20' depth, sl. 1.0%
5. *Contractor-designed temporary shoring around Water Quality Structure*
6. *3" PVC monitoring conduit - 33' ±*
   Stub up vertically 3' away from the extg. knaack box
7. *Major adjustment of Manholes - 1*
   Remove extg. access lid(s)/riser(s) and replace with contractor-supplied riser(s) as needed and single 36"x36" access hatch (EJ#00821721B02) and corresponding top slab from Contech. Set access hatch flush with extg. grade

Notes:
1. *The contractor must notify the gas line utility owner to receive loading restrictions before commencing work if any equipment is planned to cross gas lines.*
2. *All features not designated for adjustment or removal are designated to remain. See Sections 00170.82 and 00310.02.*
3. *Contractor to field verify site conditions prior to installation of shoring.*
4. *Contractor to adjust rim elevation of existing and/or new structures such that the manhole lids and access hatches are flush with finished ground.*

FACILITY ID MARKER TABLE

FACILITY LOCATION		DFI NUMBER	TYPE S2 MARKER		TYPE S1 MARKER	
NORTHING/EASTING	MP		BEGIN	END	RED	GREEN
N: 194533.94 E: 323566.71	*0.61*	*D00428*	✓			

✓ Check where appropriate
Red = Beginning of facility
Green = End of Facility

LEGEND

- *Const. inlet*
- *Extg. inlet*
- *Const. manhole*
- *Extg. manhole*
- *Const. pipe*
- *Extg. pipe*
- *Type S1 DFI Marker*
- *Type S2 DFI Marker*

(Note: Some items shown in legend may not be shown on this plan sheet)

HWY: US30 BYPASS
M.P.: 0.61
UNIT FILE CODE: N/A
DFI/TSSU NO.: D00428

REGISTERED PROFESSIONAL ENGINEER
104026PE
Digitally Signed 2025.11.12 19:02:11-06'00'
OREGON
JUNE 09, 2024
HSUAN-WEN CHU
RENEWS: 12-31-2025

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

WSP USA Inc.
1300 SW 5th Ave
Suite 3100
Portland, OR 97201
Tel: 1 503 274 8772

OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Shen Chu
Drafter: Grace Harrison
Reviewer: Michael Giseburt
Checker: Angelica Quintero

STORMWATER PLAN

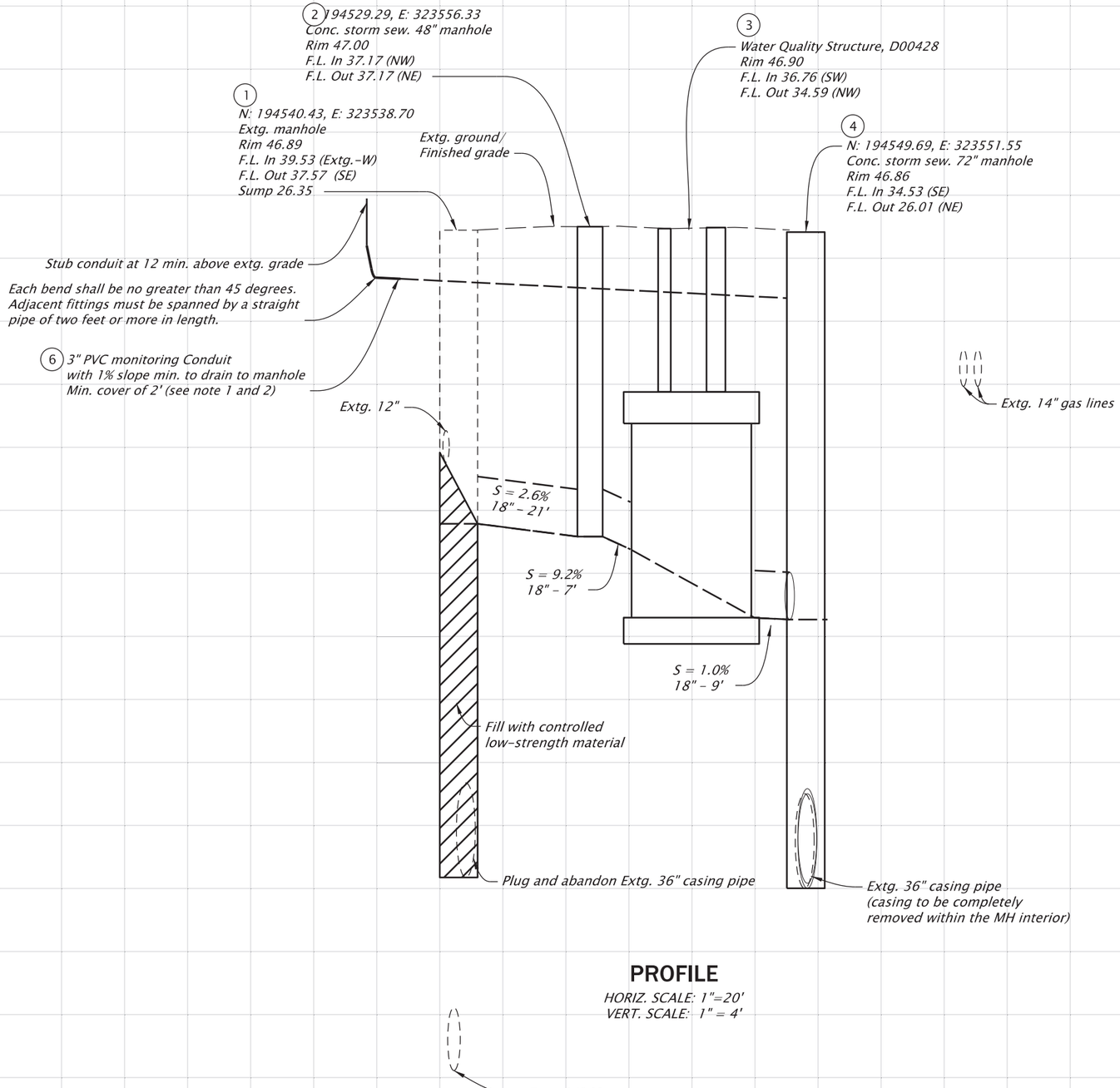
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59V-002

Sec.11, T.1N, R.1W, W.M.

ST. JOHNS BRIDGE – WEST END
US30 BYPASS – M.P. 0.61

NOTES:
1. *Conduits shown are for reference only. Conduit routing to be field-fit by contractor.*
2. *All conduits shall be provided with pull string.*



PROFILE

HORIZ. SCALE: 1"=20'
VERT. SCALE: 1" = 4'

HWY: US30 BYPASS	
M.P.: 0.61	
UNIT FILE CODE	N/A
DFI/TSSU NO.	D00428

REGISTERED PROFESSIONAL ENGINEER
104026PE
Digitally Signed 2025.11.12 19:02:11-06'00'
OREGON
JUNE 09, 2024
HSUAN-WEN CHU
RENEWS: 12-31-2025

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OREGON DEPARTMENT OF TRANSPORTATION

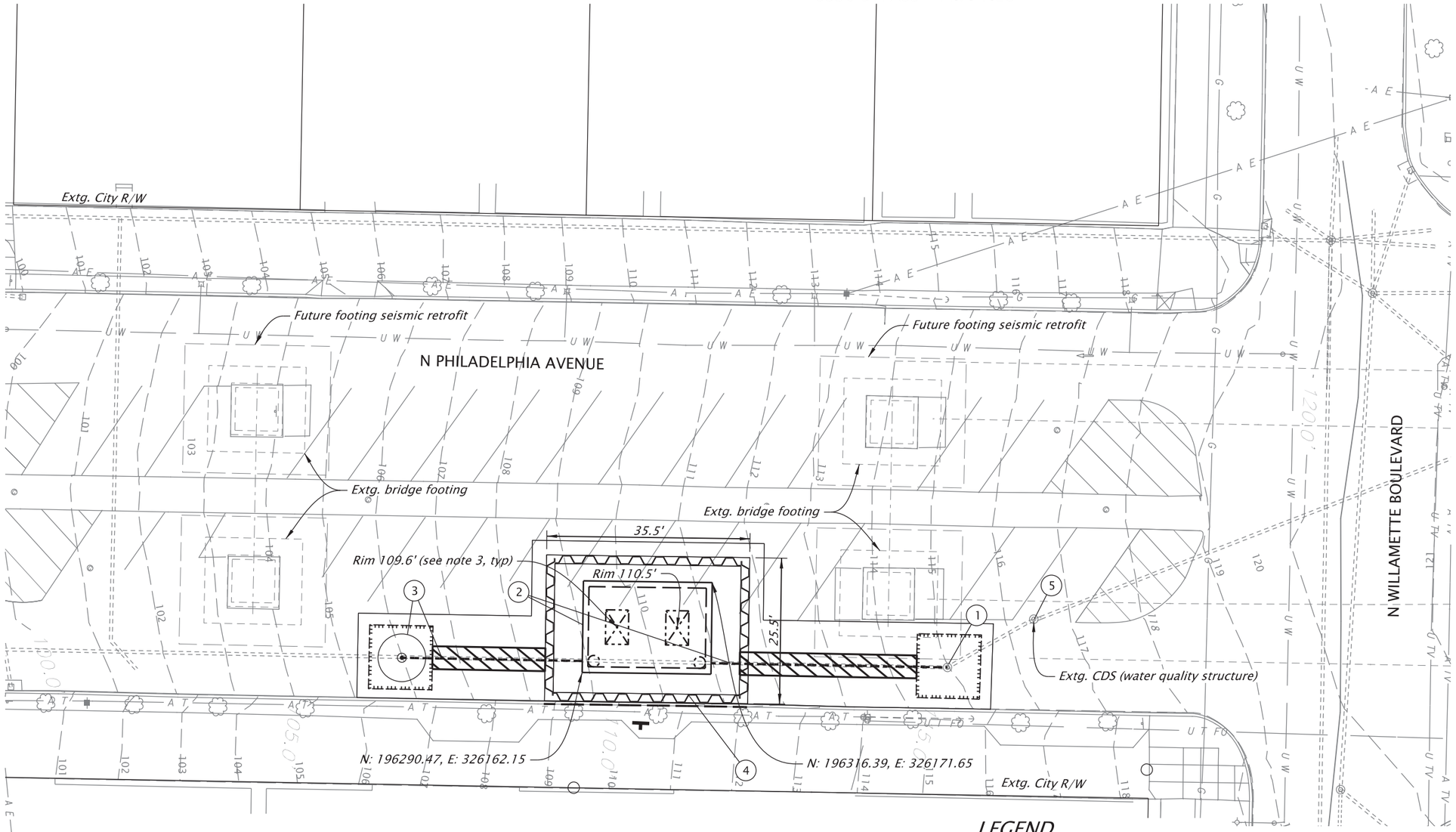
WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND,
STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Shen Chu	Reviewer: Michael Giseburt
Drafter: Grace Harrison	Checker: Angelica Quintero

STORMWATER PROFILE — SHEET NO. HA001A

Sec.12, T.1N, R.1W, W.M.

ST. JOHNS BRIDGE – EAST END
US30 BYPASS – M.P. 1.23



CONSTRUCTION NOTES

1. *N: 196328.01, E: 326213.77*
   Connect to extg. structure

2. *Remove pipe – 95'*
   Inst. Water Quality Structure, D00429
   See sht. no. HB102
   Inst. facility field marker, type S2 bolted to steel post
   Const. 2'-0" aggregate base under Water Quality Structure – 729 SF
   Inst. 12" storm sew. pipe – 43'
   10' depth, sl. 12.6%

3. *N: 196274.39, E: 326134.96*
   Const. conc. storm sew. 48" manhole over extg. 12" pipe (See dwg. no. RD335)
   Extra for manholes over existing sewers
   Inst. 12" storm sew. pipe – 33'
   10' depth, sl. 0.2%

4. *Contractor-designed temporary shoring around Water Quality Structure*

5. *Major adjustment of Manholes – 1*
   Remove extg. access lid(s)/riser(s) and replace with contractor-supplied riser(s) as needed and single 36"x36" access hatch (EJ#00821721B02) and corresponding top slab from Contech. Set access hatch flush with extg. grade

Notes:

1. *All features not designated for adjustment or removal are designated to remain. See Sections 00170.82 and 00310.02.*
2. *Contractor to field verify site conditions prior to installation of shoring.*
3. *Contractor to adjust rim elevation of existing and/or new structures such that the manhole lids and access hatches are flush with finished ground.*

LEGEND

- *Const. inlet*
- *Extg. inlet*
- *Const. manhole*
- *Extg. manhole*
- *Const. pipe*
- *Extg. pipe*
- *Type S1 DFI Marker*
- *Type S2 DFI Marker*

(Note: Some items shown in legend may not be shown on this plan sheet)

FACILITY ID MARKER TABLE

FACILITY LOCATION		DFI NUMBER	TYPE S2 MARKER		TYPE S1 MARKER	
NORTHING/EASTING	MP		BEGIN	END	RED	GREEN
N: 196303.18 E: 326167.08	*1.23*	*D00429*	✓			

✓ Check where appropriate
Red = Beginning of facility
Green = End of Facility

HWY: US30 BYPASS
M.P.: 1.23

UNIT FILE CODE
N/A

DFI/TSSU NO.
D00429

REGISTERED PROFESSIONAL ENGINEER
104026PE
Digitally Signed 2025.11.12 19:02:12-06'00'
OREGON
JUNE 09, 2024
HSUAN-WEN CHU
RENEWS: 12-31-2025

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

WSP USA Inc.
1300 SW 5th Ave
Suite 3100
Portland, OR 97201
Tel: 1 503 274 8772

OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Shen Chu
Drafter: Grace Harrison
Reviewer: Michael Giseburt
Checker: Angelica Quintero

STORMWATER PLAN

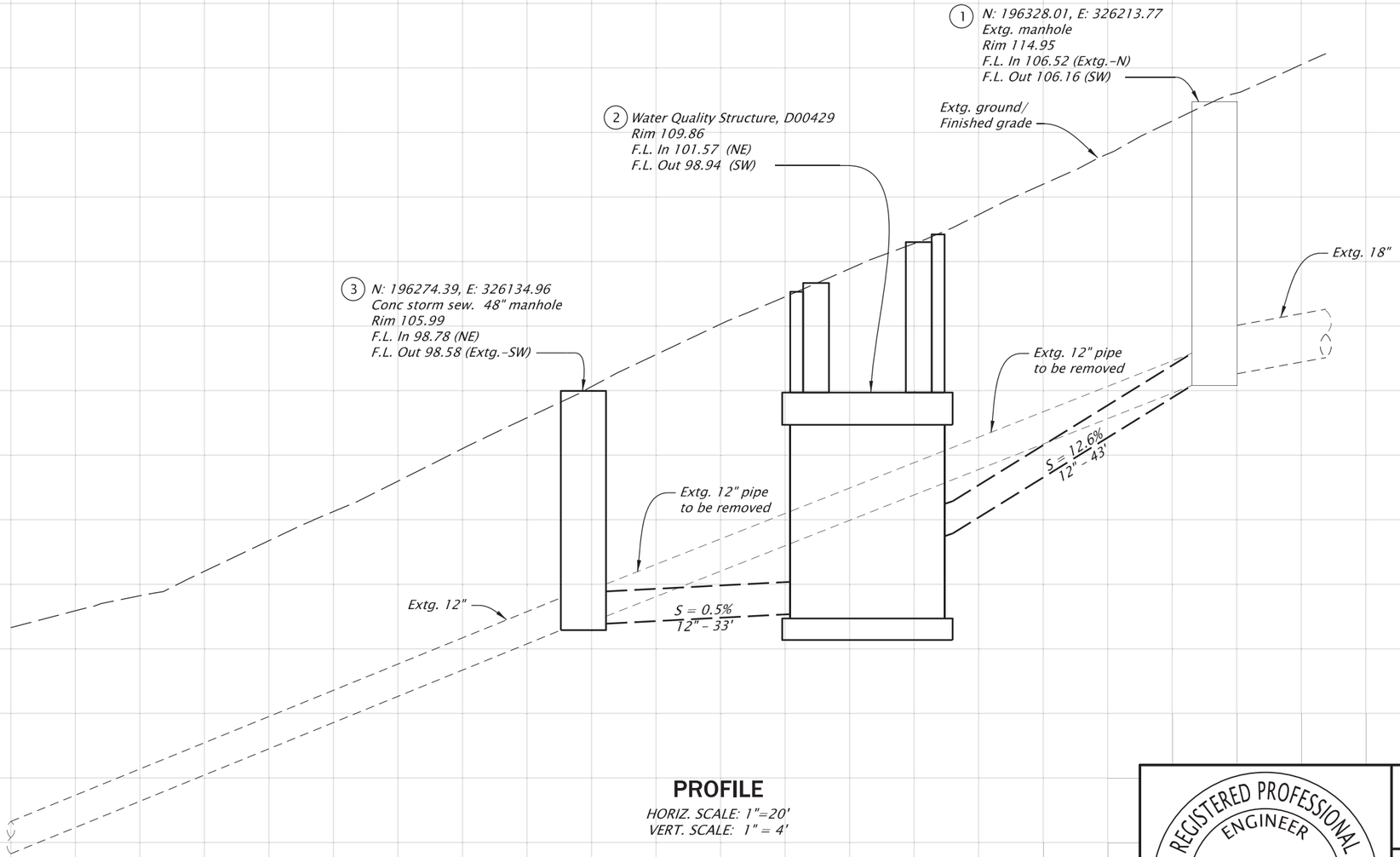
SHEET NO.
HA101

59V-002

Sec.12, T.1N, R.1W, W.M.

ST. JOHNS BRIDGE – EAST END
US30 BYPASS – M.P. 1.23

NOTE
1. See HB101 for bridge soffit clearance.



PROFILE
HORIZ. SCALE: 1"=20'
VERT. SCALE: 1" = 4'

REGISTERED PROFESSIONAL ENGINEER
104026PE
Digitally Signed 2025.11.12 19:02:12-06'00'
OREGON
JUNE 09, 2024
HSUAN-WEN CHU
RENEWS: 12-31-2025

FINAL ELECTRONIC DOCUMENT
AVAILABLE UPON REQUEST

WSP USA Inc.
1300 SW 5th Ave
Suite 3100
Portland, OR 97201
Tel: 1 503 274 8772

HWY: US30 BYPASS	
M.P.: 1.23	
UNIT FILE CODE	N/A
DFI/TSSU NO.	D00429

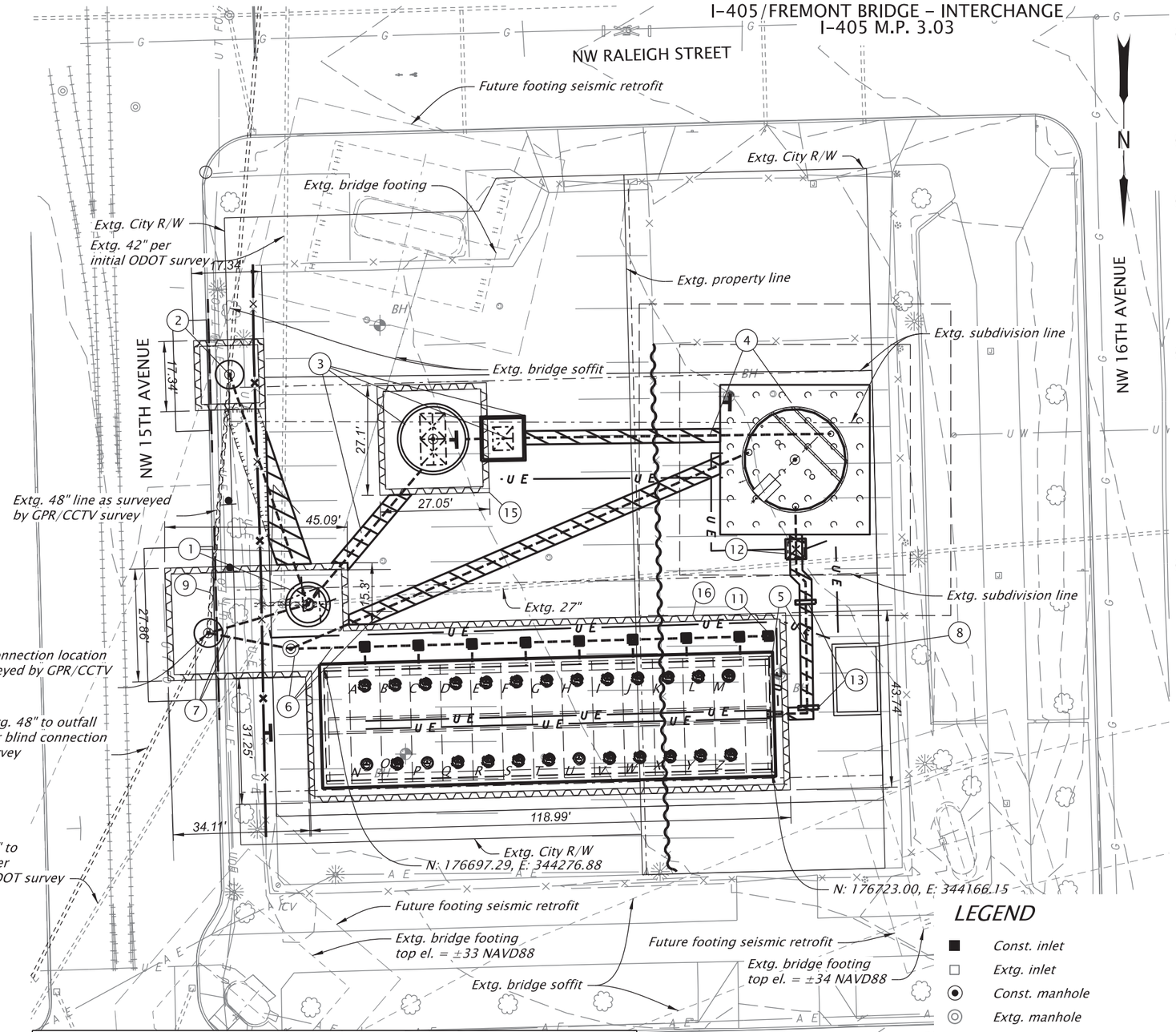
WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Shen Chu	Reviewer: Michael Giseburt
Drafter: Grace Harrison	Checker: Angelica Quintero

STORMWATER PROFILE — SHEET NO. HA101A

Sec.28 & 33, T.1N, R.1E, W.M.

I-405/FREMONT BRIDGE - INTERCHANGE
I-405 M.P. 3.03



CONSTRUCTION NOTES

1. *N: 176685.85, E: 344280.94*
   Inst. flow splitter, type 4
   see sht. no. HB206
   Extra for manholes over existing sewers
   Inst. 48" storm sew. pipe - 60'
   over 20' depth, sl. 0.5%
2. *N: 176629.09, E: 344300.30*
   Const. conc. storm sew. 84" manhole
   Extra for manholes over existing sewers
3. *N: 176667.03, E: 344281.40*
   Inst. pump station wet well
   and valve vault, D00515
   see sht. no. HB212 and HB213
   In st. facility field marker, type S2
   bolted on pump station wet well
   Const. 2'-0" aggregate base under
   pump station wet well - 579 SF
   Inst. 18" storm sew. pipe - 51'
   over 20' depth, sl. 0.5%
4. *N: 176645.78, E: 344160.39*
   Inst. pre-settling tank, D00514
   see sht. no. S204
   Inst. facility field marker, type S2
   bolted on pre-settling tank
   foundation slab
   Inst. 16" ductile iron pipe - 82'
   10' depth, sl. 0.0%
   Inst. 16" ductile iron pipe with
   duckbill check valve on
   pipe outlet - 6'
   16" 90 degree fitting with
   restraint gasket - 1
   10' depth, vertical
5. *Inst. Water Quality Structure, D00431*
   see sht. no. HB204
   Inst. facility field marker, type S2
   bolted on steel post
   Const. 2'-0" aggregate base under
   Water Quality Structure - 4727 SF
   Inst. 18" ductile iron pipe - 11'
   5' depth, sl. vertical
   Inst. 18" ductile iron pipe - 38'
   18" 90 degree fitting with
   restraint gasket - 1
   18" 45 degree fitting with restraint
   gasket (horizontal) - 2
   5' depth, sl. 0.9%
   Inst. 18" ductile iron pipe - 14'
   18" 45 degree fitting with
   restraint gasket - 2
   18" 90 degree fitting with restraint
   gasket (horizontal) - 1
   10' depth, sl. 41.7%
   Inst. 18" ductile iron pipe - 10'
   10' depth, sl. 0.3%
6. *N: 176696.82, E: 344285.18*
   Const. conc. storm sew. 48" manhole
   Inst. 18" storm sew. pipe - 122' (W)
   20' depth, sl. 2.0%
   Inst. 18" ductile iron pipe - 25' (SW)
   10' depth, sl. vertical
   18" 90 degree fitting with restraint
   gasket - 1
   Inst. 18" ductile iron pipe - 122' (SW)
   10' depth, sl. 1.2%
7. *N: 176692.93, E: 344305.55*
   Const. conc. storm sew. 84" manhole
   Extra for manholes over existing sewers
   Inst. 18" storm sew. pipe - 21' (SW)
   20' depth, sl. 1.9%
   Inst. 48" storm sew. pipe - 26' (SW)
   over 20' depth, sl. 0.5%
8. *Pump Control Room Structure*
   see sht. nos. S201 - S203
9. *Abandon extg. 48" storm sew. pipe - 64'*
10. *Not used*
11. *Stormwater Cleanout - 9*
    see sht. no. HB214
12. *Flow meter vault*
    see sht. no. HB210-HB211
13. *Concrete pipe slope anchor - 2*
    (See dwg. no. RD332)
14. *Not used*
15. *Contractor-designed temporary shoring around pump station wet well*
16. *Contractor-designed temporary shoring around Water Quality Structure, Flow Splitter, Type 4, and manholes*

Notes:

1. *All features not designed for adjustment or removal are designated to remain. See Sections 00170.82 and 00310.02.*
2. *Contractor to field verify site conditions priort to installation of shoring.*
3. *Extg. pipe locations are approximated. Verify pipe location prior to any excavation.*
4. *Contractor to submit local topographic survey showing extg. elevations at lid access points prior to any grading in this area. Survey shall be used to establish final grades.*
5. *Contractor to adjust rim elevation of existing and/or new structures such that the manhole lids and access hatches are flush with finished ground.*

30 15 0 30
FEET

FACILITY ID MARKER TABLE

FACILITY LOCATION		DFI NUMBER	TYPE S2 MARKER		TYPE S1 MARKER	
NORTHING/EASTING	MP		BEGIN	END	RED	GREEN
N: 176710.18, E: 344221.51	*3.03*	*D00431*	✓			
N: 176645.78, E: 344160.39	*3.03*	*D00514*	✓			
N: 176667.03, E: 344281.40	*3.03*	*D00515*	✓			

✓ *Check where appropriate*
Red = Beginning of facility
Green = End of Facility

LEGEND

- *Const. inlet*
- *Extg. inlet*
- *Const. manhole*
- *Extg. manhole*
- *Const. pipe*
- *Extg. pipe*
- *Type S1 DFI Marker*
- *Type S2 DFI Marker*

(Note: Some items shown in legend may not be shown on this plan sheet)

HWY: I-405
M.P.: 3.03

UNIT FILE CODE
N/A

DFI/TSSU NO.
SEE TABLE, SHT. HA201

REGISTERED PROFESSIONAL ENGINEER
104026PE
Digitally Signed 2025.11.20 18:27:00-06'00'
OREGON
JUNE 09, 2024
HSUAN-WEN CHU

RENEWS: 12-31-2025

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

WSP USA Inc.
1300 SW 5th Ave
Suite 3100
Portland, OR 97201
Tel: 1 503 274 8772

OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

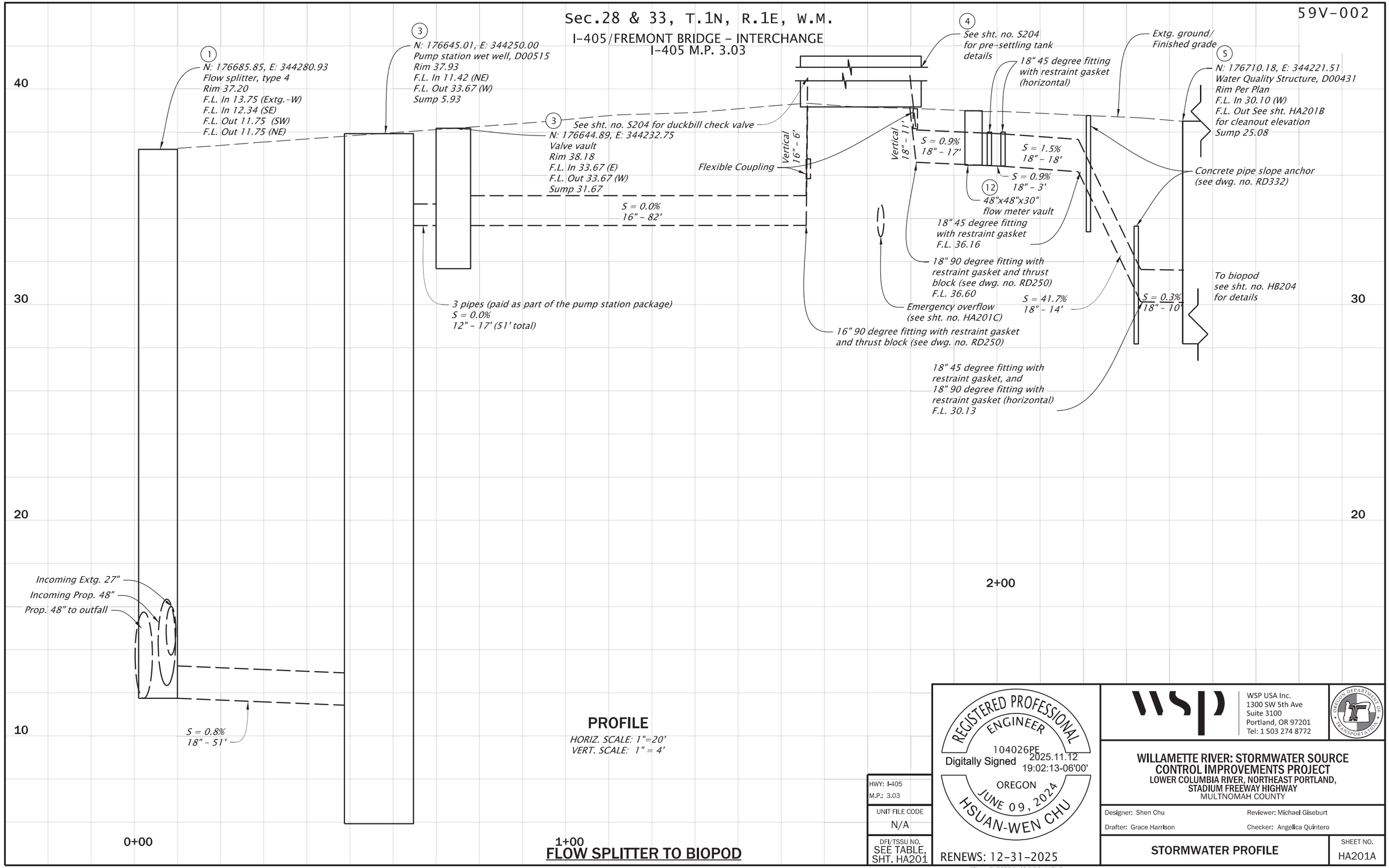
Designer: Shen Chu
Drafter: Grace Harrison
Reviewer: Michael Giseburt
Checker: Angelica Quintero

STORMWATER PLAN

SHEET NO.
HA201

Sec.28 & 33, T.1N, R.1E, W.M.

I-405/FREMONT BRIDGE – INTERCHANGE
I-405 M.P. 3.03



PROFILE

HORIZ. SCALE: 1"=20'
VERT. SCALE: 1" = 4'

FLOW SPLITTER TO BIOPOD

HWY: I-405	
M.P.: 3.03	
UNIT FILE CODE	N/A
DFI/TSSU NO.	SEE TABLE, SHT. HA201

REGISTERED PROFESSIONAL ENGINEER
104026PE
Digitally Signed 2025.11.12 19:02:13-06'00'
OREGON
JUNE 09, 2024
HSUAN-WEN CHU
RENEWS: 12-31-2025

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

WSP USA Inc.
1300 SW 5th Ave
Suite 3100
Portland, OR 97201
Tel: 1 503 274 8772

OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Shen Chu	Reviewer: Michael Giseburt
Drafter: Grace Harrison	Checker: Angelica Quintero

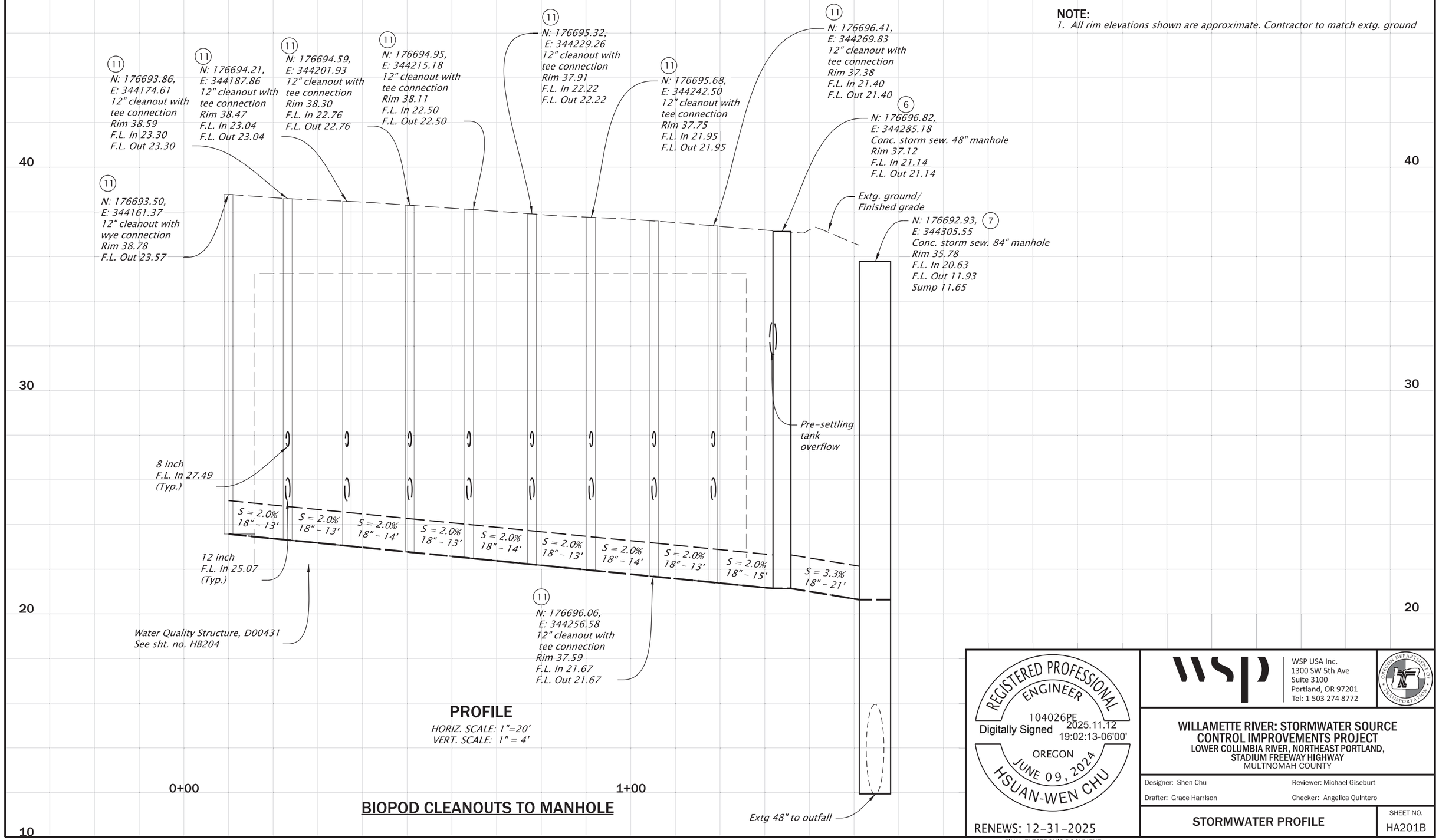
STORMWATER PROFILE — SHEET NO. HA201A

59V-002

Sec.28 & 33, T.1N, R.1E, W.M.

I-405/FREMONT BRIDGE - INTERCHANGE
I-405 M.P. 3.03

NOTE:
1. *All rim elevations shown are approximate. Contractor to match extg. ground*



PROFILE

HORIZ. SCALE: 1"=20'
VERT. SCALE: 1" = 4'

BIOPOD CLEANOUTS TO MANHOLE

REGISTERED PROFESSIONAL ENGINEER
104026PE
Digitally Signed 2025.11.12 19:02:13-06'00'
OREGON
JUNE 09, 2024
HSUAN-WEN CHU
RENEWS: 12-31-2025

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WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

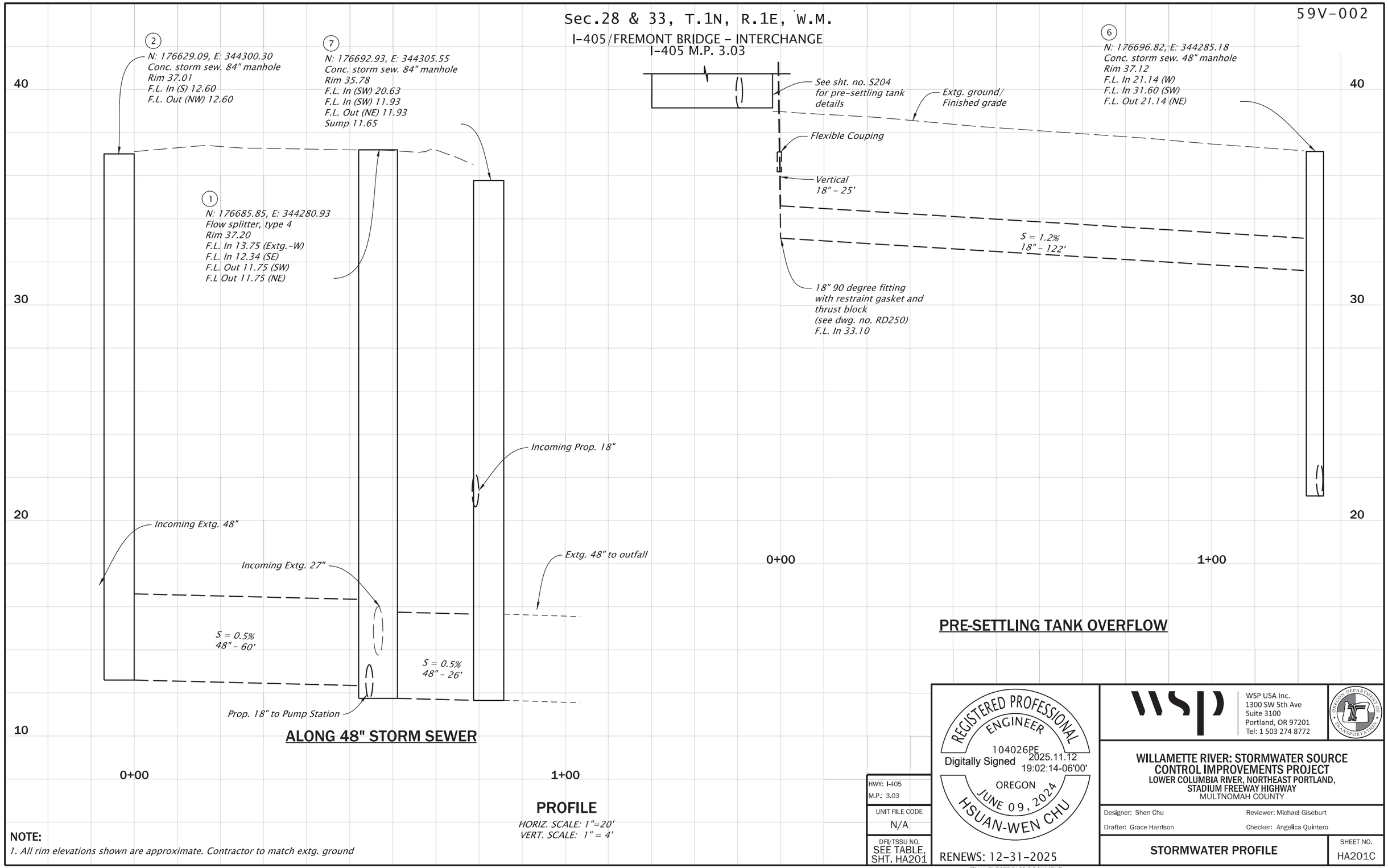
Designer: Shen Chu	Reviewer: Michael Giseburt
Drafter: Grace Harrison	Checker: Angelica Quintero

STORMWATER PROFILE — SHEET NO. HA201B

59V-002

Sec.28 & 33, T.1N, R.1E, W.M.

I-405/FREMONT BRIDGE – INTERCHANGE
I-405 M.P. 3.03



ALONG 48" STORM SEWER

PRE-SETTLING TANK OVERFLOW

PROFILE

HORIZ. SCALE: 1"=20'
VERT. SCALE: 1" = 4'

NOTE:

1. All rim elevations shown are approximate. Contractor to match extg. ground

HWY: I-405	
M.P.: 3.03	
UNIT FILE CODE	N/A
DFI/TSSU NO.	SEE TABLE, SHT. HA201

REGISTERED PROFESSIONAL ENGINEER
104026PE
Digitally Signed 2025.11.12 19:02:14-06'00'
OREGON
JUNE 09, 2024
HSUAN-WEN CHU
RENEWS: 12-31-2025

FINAL ELECTRONIC DOCUMENT
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WSP USA Inc.
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OREGON DEPARTMENT OF TRANSPORTATION

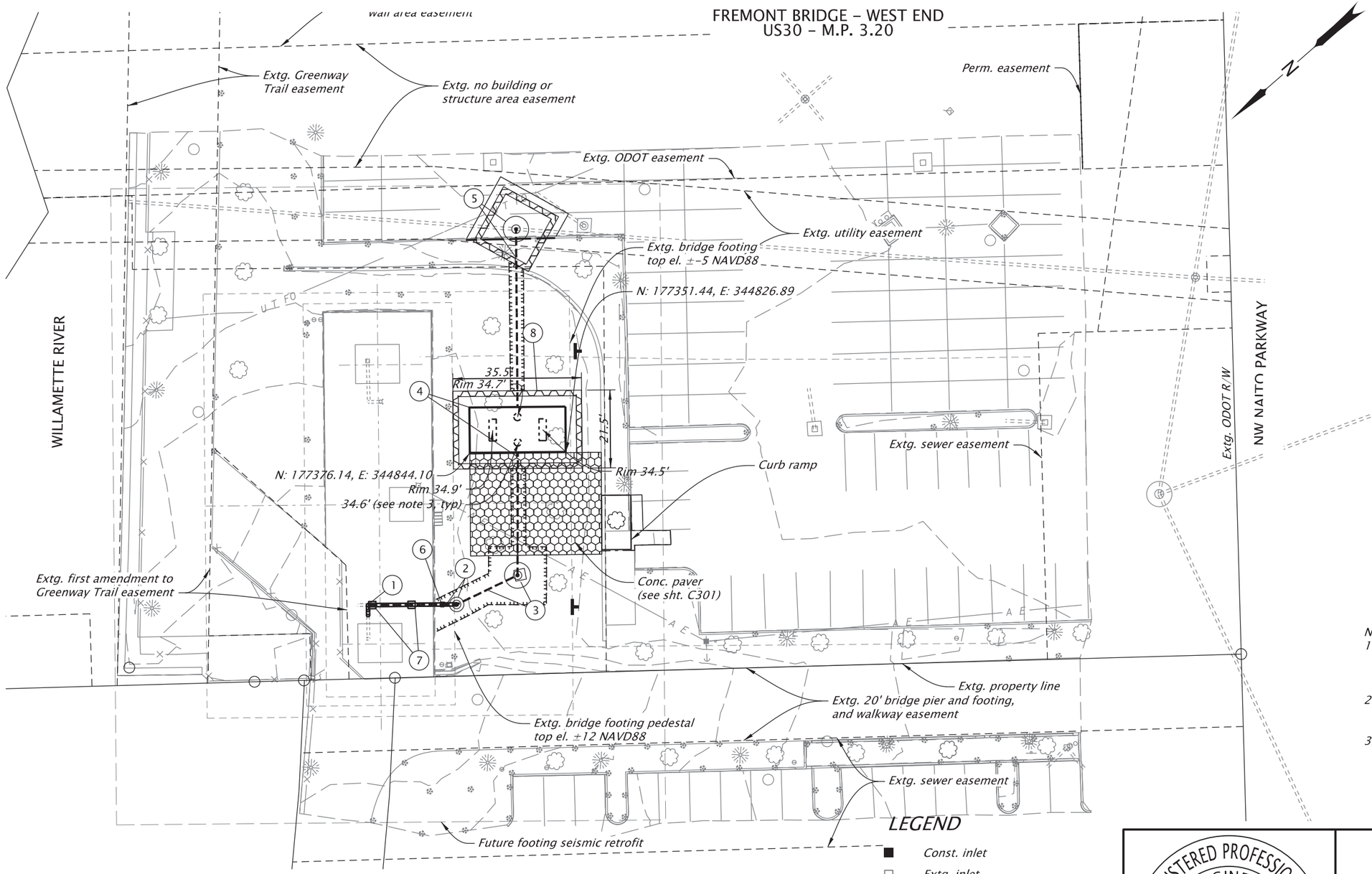
WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Shen Chu	Reviewer: Michael Giseburt
Drafter: Grace Harrison	Checker: Angelica Quintero

STORMWATER PROFILE — SHEET NO. HA201C

Sec.27, T.1N, R.1E, W.M.

FREMONT BRIDGE – WEST END
US30 – M.P. 3.20



CONSTRUCTION NOTES

1. *N: 177424.72, E: 344831.08*
   Connect to extg. 10" steel down spout
   see sht. no. HB306 and J301

2. *N: 177406.09, E: 344815.10*
   Const. conc. storm sew. 48" flat slab top manhole (See dwg. no. RD335)
   Inst. 10" steel storm sew. pipe – 30' 0' depth, sl. various. See sht. no. HB306
   Inst. 10" steel wye with plug – 2
   Inst. 10" steel 45 degree fitting – 1

3. *N: 177388.14, E: 344810.16*
   Inst. Water Quality Structure, D00432 see sht. no. HB302
   Inst. facility field marker, type S2 bolted on steel post
   Const 2'-0" aggregate base under Water Quality Structure – 261 SF
   Inst. 12" storm sew. pipe – 21' 10' depth, sl. 5.3%

4. *Inst. Water Quality Structure, D00507 see sht. no. HB303*
   Inst. facility field marker, type S2 bolted on steel post
   Const 2'-0" aggregate base under Water Quality Structure – 603 SF
   Inst. 12" storm sew. pipe – 35' 10' depth, sl. 6.3%

5. *N: 177325.75, E: 344882.45*
   Const. conc. storm sew. 72" manhole over extg. 42" pipe
   Extra for manholes over existing sewers
   Inst. 12" storm sew. pipe – 50' 10' depth, sl. 5.0%

6. *10" Expansion fitting*

7. *Concrete pipe support pedestal see sht. no. J301*

8. *Contractor-designed temporary shoring around Water Quality Structure*

Notes:

1. *All features not designated for adjustment or removal are designated to remain. See Section 00170.82 and 00310.02.*
2. *Contractor to field verify site conditions prior to installation of shoring.*
3. *Contractor to adjust rim elevation of existing and/or new structures such that the manhole lids and access hatches are flush with finished ground.*

30 15 0 30
FEET

FACILITY ID MARKER TABLE

FACILITY LOCATION		DFI NUMBER	TYPE S2 MARKER		TYPE S1 MARKER	
NORTHING/EASTING	MP		BEGIN	END	RED	GREEN
N: 177388.14 E: 344810.16	*3.20*	*D00432*	✓			
N: 177361.76 E: 344840.44	*3.20*	*D00507*	✓			

✓ Check where appropriate
Red = Beginning of facility
Green = End of Facility

LEGEND

- *Const. inlet*
- *Extg. inlet*
- *Const. manhole*
- *Extg. manhole*
- *Const. pipe*
- *Extg. pipe*
- *Type S1 DFI Marker*
- *Type S2 DFI Marker*

(Note: Some items shown in legend may not be shown on this plan sheet)

HWY: US30
M.P.: 3.20

UNIT FILE CODE
N/A

DFI/TSSU NO.
SEE TABLE, SHT. HA301

REGISTERED PROFESSIONAL ENGINEER
104026PE
Digitally Signed 2025.11.12 19:02:14-06'00'
OREGON
JUNE 09, 2024
HSUAN-WEN CHU
RENEWS: 12-31-2025

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

WSP USA Inc.
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Suite 3100
Portland, OR 97201
Tel: 1 503 274 8772

OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Shen Chu
Drafter: Grace Harrison
Reviewer: Michael Giseburt
Checker: Angelica Quintero

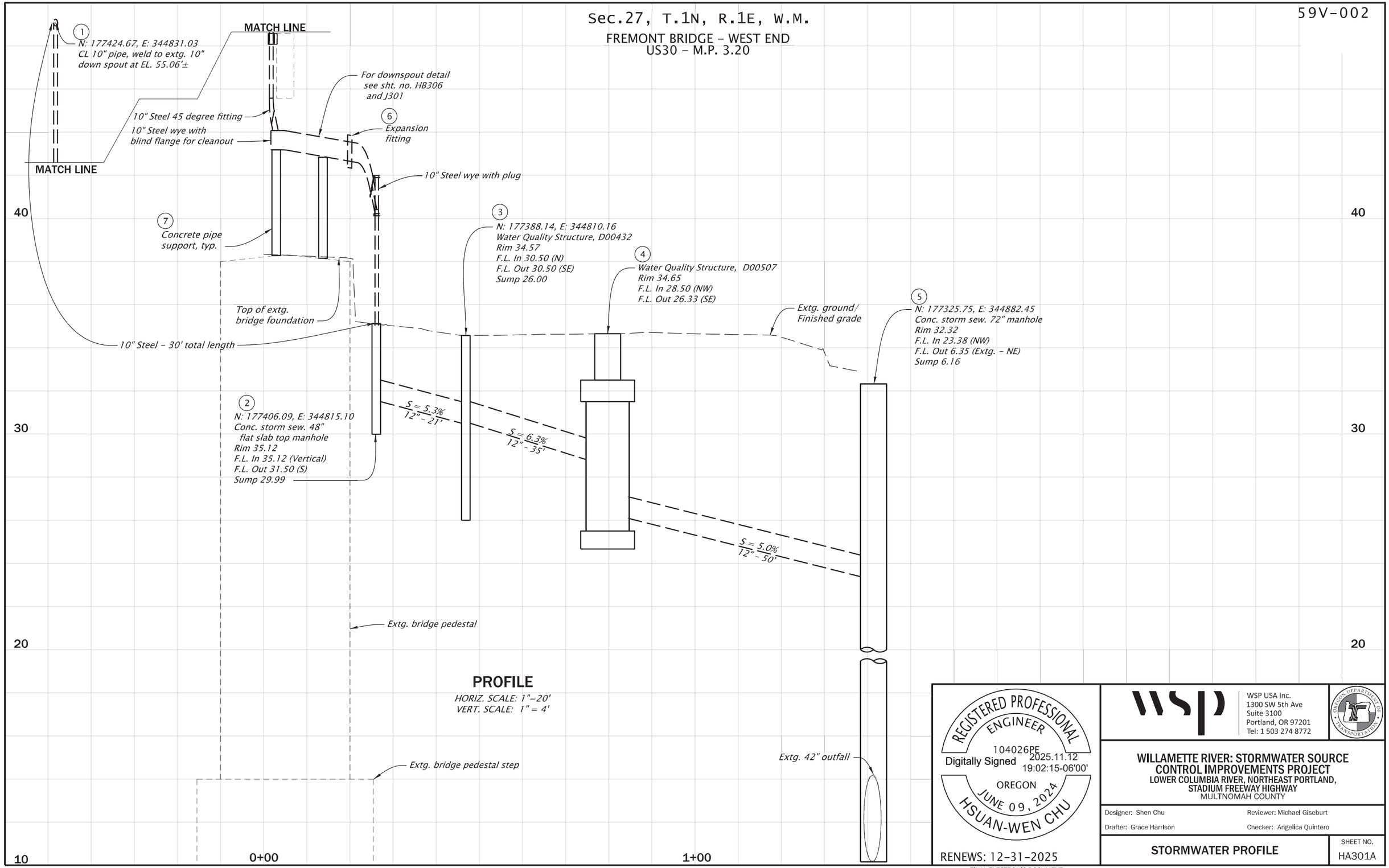
STORMWATER PLAN

SHEET NO.
HA301

59V-002

Sec.27, T.1N, R.1E, W.M.

FREMONT BRIDGE – WEST END
US30 – M.P. 3.20



PROFILE

HORIZ. SCALE: 1"=20'
VERT. SCALE: 1" = 4'

REGISTERED PROFESSIONAL ENGINEER
104026PE
Digitally Signed 2025.11.12 19:02:15-06'00'
OREGON
JUNE 09, 2024
HSUAN-WEN CHU
RENEWS: 12-31-2025

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OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Shen Chu
Reviewer: Michael Giseburt
Drafter: Grace Harrison
Checker: Angelica Quintero

STORMWATER PROFILE

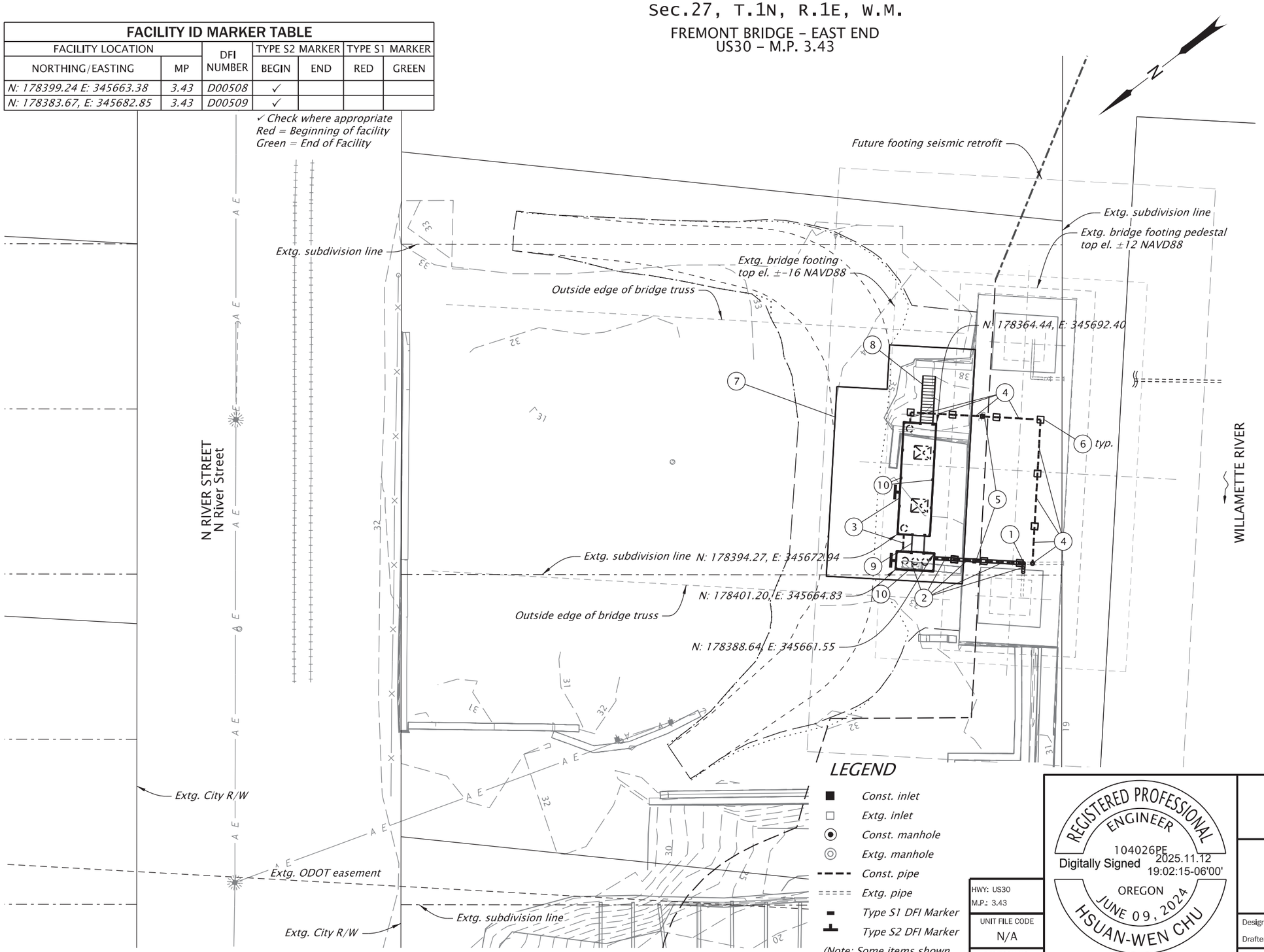
SHEET NO. HA301A

Sec.27, T.1N, R.1E, W.M.

FREMONT BRIDGE – EAST END
US30 – M.P. 3.43

FACILITY ID MARKER TABLE						
FACILITY LOCATION		DFI NUMBER	TYPE S2 MARKER		TYPE S1 MARKER	
NORTHING/EASTING	MP		BEGIN	END	RED	GREEN
N: 178399.24 E: 345663.38	*3.43*	*D00508*	✓			
N: 178383.67, E: 345682.85	*3.43*	*D00509*	✓			

✓ Check where appropriate
Red = Beginning of facility
Green = End of Facility



CONSTRUCTION NOTES

1. *N: 178373.44, E: 345642.95*
   Connect to extg. bridge downspout
   see sht. no. HB404 and J402
2. *Const. Water Quality Structure, D00508*
   see sht. no. HB403
   Inst. facility field marker, type S2
   bolted on side of Water Quality Structure
   Inst. 10" steel storm sewer pipe -36'
   0' depth, sl. various. See sht. no. HB404
   Inst. 10" steel wye with plug - 1
   Inst. 10" steel 45 degree fitting -1
3. *Const. Water Quality Structure, D00509*
   see sht. no. HB402
   Inst. facility field marker, type S2
   bolted on side of Water Quality Structure
   Inst. 10" steel storm sewer pipe -7'
   0' depth, sl. 20%
4. *N: 178371.37, E: 345641.29*
   Connect to extg. structure with floating connection
   see sht. no. HB405 for connection detail
   Inst. 10" steel storm sewer pipe - 87'
   0' depth, sl. 0.6%
5. *10" Expansion fitting - 2*
6. *Concrete pipe support pedestal - 9*
   see sht. no. S401
7. *Concrete slab on grade*
   see sht. no. S401
8. *Inst. maintenance stairs with railing*
   see sht no. S406
9. *Inst. walkway with railing*
   see sht no. S407
10. *Inst. handrail on top of structure, between stairs and walkway, typ*
    see sht no. S407

Notes:
1. All features not designated for adjustment or removal are designated to remain. See Sections 00170.82 and 00310.02.

30 15 0 30
FEET

LEGEND

- *Const. inlet*
- *Extg. inlet*
- *Const. manhole*
- *Extg. manhole*
- *Const. pipe*
- *Extg. pipe*
- *Type S1 DFI Marker*
- *Type S2 DFI Marker*

(Note: Some items shown in legend may not be shown on this plan sheet)

HWY: US30	
M.P.: 3.43	
UNIT FILE CODE	N/A
DFI/TSSU NO.	SEE TABLE, SHT. HA401

REGISTERED PROFESSIONAL ENGINEER
104026PE
Digitally Signed 2025.11.12 19:02:15-06'00'
OREGON
JUNE 09, 2024
HSUAN-WEN CHU
RENEWS: 12-31-2025

WSP USA Inc.
1300 SW 5th Ave
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Portland, OR 97201
Tel: 1 503 274 8772

OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Shen Chu	Reviewer: Michael Giseburt
Drafter: Grace Harrison	Checker: Angelica Quintero

STORMWATER PLAN — SHEET NO. HA401

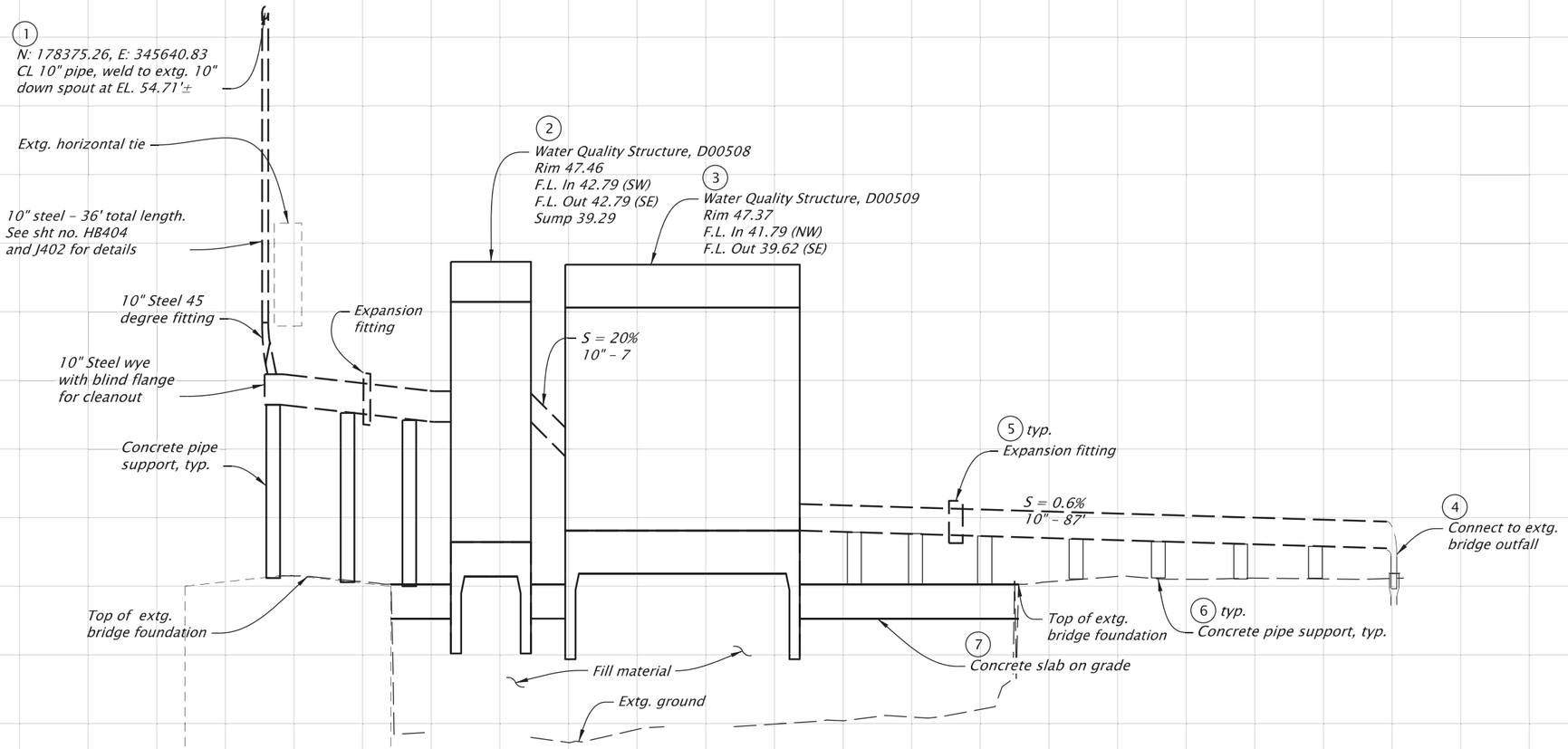
FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

59V-002

Sec.27, T.1N, R.1E, W.M.

FREMONT BRIDGE – EAST END
US30 – M.P. 3.43

NOTE:
1. *Walkway and railing not shown for clarity. See sht. S406 and S407.*



PROFILE

HORIZ. SCALE: 1"=20'
VERT. SCALE: 1" = 4'
10 – 22'

HWY: US30	
M.P.: 3.43	
UNIT FILE CODE	N/A
DFI/TSSU NO.	SEE TABLE, SHT. HA401

REGISTERED PROFESSIONAL ENGINEER
104026PE
Digitally Signed 2025.11.12 19:02:16-06'00'
OREGON
JUNE 09, 2024
HSUAN-WEN CHU
RENEWS: 12-31-2025

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

WSP USA Inc.
1300 SW 5th Ave
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Tel: 1 503 274 8772

OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

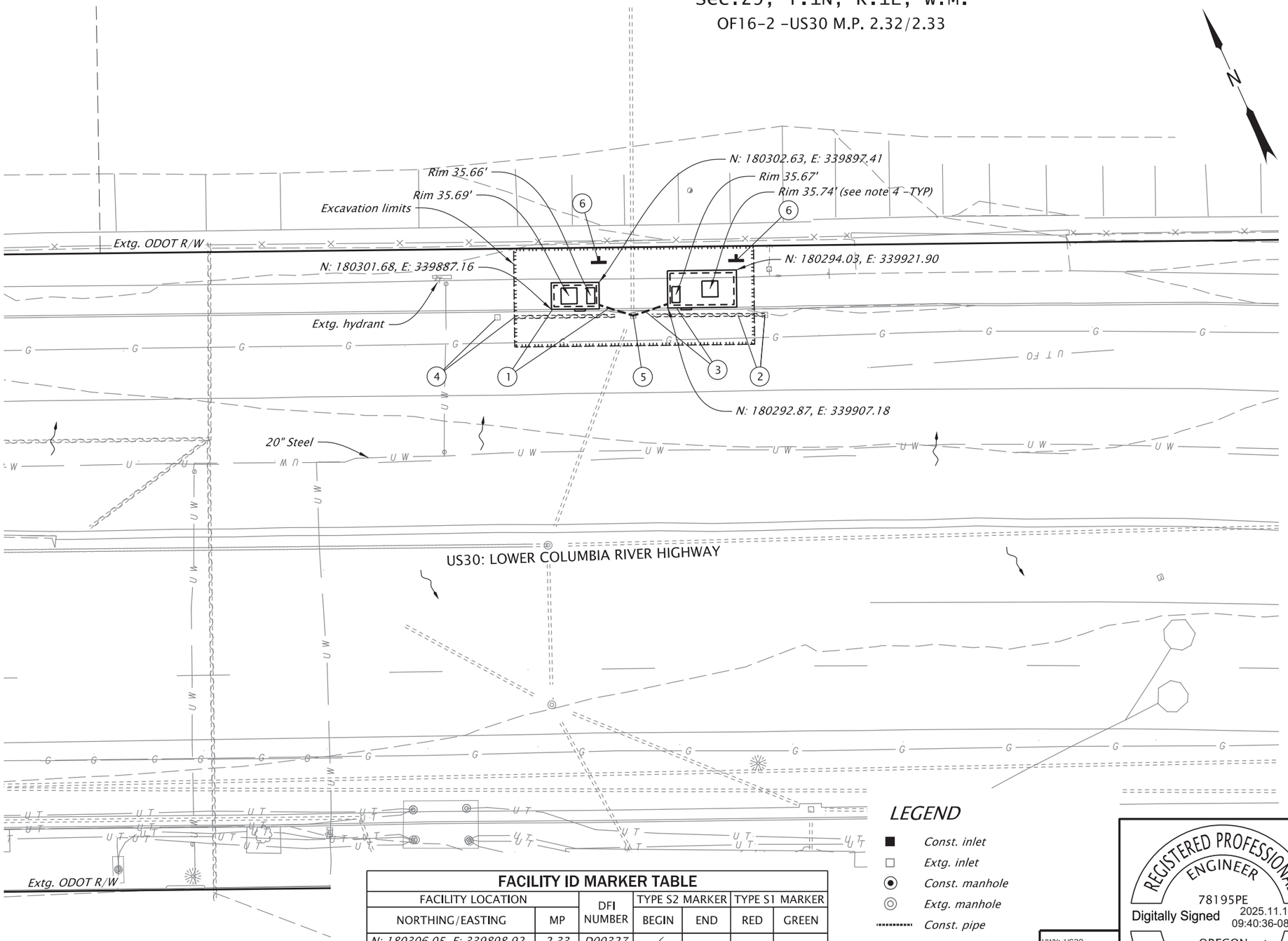
Designer: Shen Chu	Reviewer: Michael Giseburt
Drafter: Grace Harrison	Checker: Angelica Quintero

STORMWATER PROFILE — SHEET NO. HA401A

59V-002

Sec.29, T.1N, R.1E, W.M.

OF16-2 -US30 M.P. 2.32/2.33



CONSTRUCTION NOTES

1. *Inst. Water Quality Structure, D00327*
   see sht. no. HB502
   Const. 2' aggregate base under
   Water Quality Structure - 45 SF
   Inst. 12" ductile iron pipe - 7'
   5' depth, sl. 26.3%
2. *Remove extg. inlet*
   Remove extg. 12" storm sewer pipe - 19'
3. *Inst. Water Quality Structure, D00328*
   see sht. no. HB502A
   Const. 2' aggregate base under
   Water Quality Structure - 63 SF
   Inst. 12" ductile iron pipe - 7'
   5' depth, sl. 24.1%
4. *Remove extg. inlet*
   Remove extg. 12" storm sewer pipe - 19'
5. *Connect to extg. structure - 2*
6. *Inst. facility field marker,*
   type S2 bolted to steel post - 2

FACILITY ID MARKER TABLE

FACILITY LOCATION		DFI NUMBER	TYPE S2 MARKER		TYPE S1 MARKER	
NORTHING/EASTING	MP		BEGIN	END	RED	GREEN
N: 180306.05, E: 339898.92	*2.33*	*D00327*	✓			
N: 180295.66, E: 339922.62	*2.32*	*D00328*	✓			

✓ Check where appropriate
Red = Beginning of facility
Green = End of Facility

LEGEND

- *Const. inlet*
- *Extg. inlet*
- *Const. manhole*
- *Extg. manhole*
- *Const. pipe*
- *Extg. pipe*
- *Type S1 DFI Marker*
- *Type S2 DFI Marker*

(Note: Some items shown in legend may not be shown on this plan sheet)

Note:
1. *Overhead utilities not shown for clarity.*
2. *All features not designated for adjustment or removal are designated to remain. See section 00170.82 and 00310.02.*
3. *Contractor to field verify site conditions prior to installation of shoring.*
4. *Contractor to adjust rim elevation of existing and/or new structures such that the manhole lids and access hatches are flush with finished ground.*

HWY: US30
M.P.: 2.33

UNIT FILE CODE
N/A

DFI/TSSU NO.
SEE TABLE, SHT. HA502

REGISTERED PROFESSIONAL ENGINEER
78195PE
Digitally Signed 2025.11.17 09:40:36-08'00'
OREGON
MAY 16, 2006
CHRISTOPHER J. WEBB
RENEWS: 06-30-2026

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

HERRERA
Herrera Environmental Consultants, Inc.
107 SE Washington Street, Suite 140
Portland, OR 97214
(503) 228-4301
www.herrerainc.com

OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Jimmy Esteban
Drafter: Hector Vela
Reviewer: Joanna Ogintz
Checker: Christopher Webb

STORMWATER PLAN

SHEET NO.
HA502

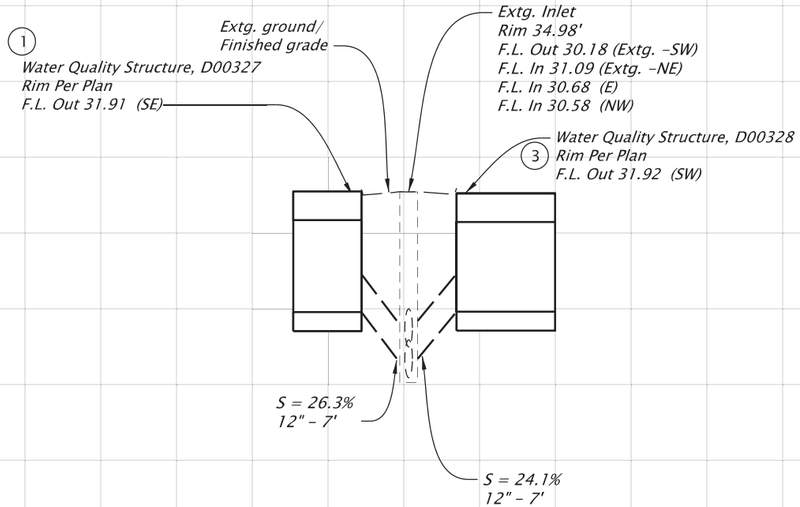
Sec.29, T.1N, R.1E, W.M.
OF16-2 US30 M.P. 2.32/2.33

59V-002

40

30

20



PROFILE
HORIZ. SCALE: 1"=20'
VERT. SCALE: 1" = 4'

0+00

1+00

HWY: US30	
M.P.: 2.33	
UNIT FILE CODE	N/A
DFI/TSSU NO.	SEE TABLE, SHT. HA502

REGISTERED PROFESSIONAL ENGINEER
78195PE
Digitally Signed 2025.11.17 09:40:52-08'00'
OREGON
MAY 16, 2006
CHRISTOPHER J. WEBB
RENEWS: 06-30-2026

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WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

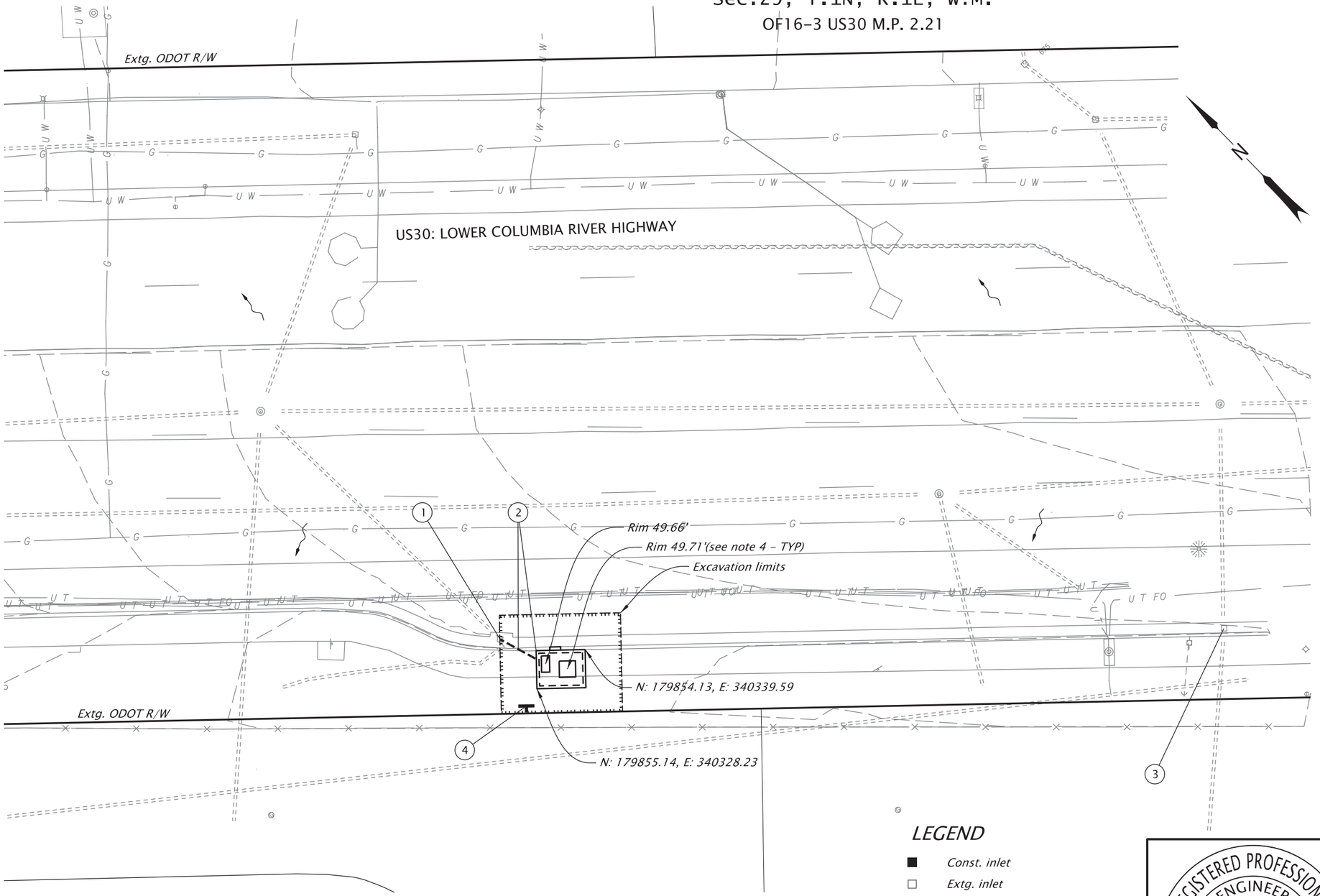
Designer: Jimmy Esteban	Reviewer: Joanna Ogintz
Drafter: Hector Vela	Checker: Christopher Webb

STORMWATER PROFILE — SHEET NO. HA502A

59V-002

Sec.29, T.1N, R.1E, W.M.

OF16-3 US30 M.P. 2.21



CONSTRUCTION NOTES

1. *N: 179866.36, E: 340329.70*
   Connect to extg. structure
2. *Inst. Water Quality Structure, D00329*
   see sht. no. HB503
   Const. 2' aggregate base under
   Water Quality Structure - 63 SF
   Inst. 12" ductile iron pipe - 8'
   5' depth, sl. 3.4%
3. *Remove extg. curb, opening, and grate*
   Inst. solid lid, see sht. no. HB503
4. *Inst. facility field marker, type S2 bolted to steel post*

Note:
1. *Overhead utilities not shown for clarity.*
2. *All features not designated for adjustment or removal are designated to remain. See section 00170.82 and 00310.02.*
3. *Contractor to field verify site conditions prior to installation of shoring.*
4. *Contractor to adjust rim elevation of existing and/or new structures such that the manhole lids and access hatches are flush with finished ground.*

FACILITY ID MARKER TABLE						
FACILITY LOCATION		DFI NUMBER	TYPE S2 MARKER		TYPE S1 MARKER	
NORTHING/EASTING	MP		BEGIN	END	RED	GREEN
N: 179854.21, E: 340324.64	*2.21*	*D00329*	✓			

✓ Check where appropriate
Red = Beginning of facility
Green = End of Facility

20 10 0 20
FEET

LEGEND

- *Const. inlet*
- *Extg. inlet*
- *Const. manhole*
- *Extg. manhole*
- *Const. pipe*
- *Extg. pipe*
- *Type S1 DFI Marker*
- *Type S2 DFI Marker*

(Note: Some items shown in legend may not be shown on this plan sheet)

HWY: US30
M.P.: 2.43

UNIT FILE CODE
N/A

DFI/TSSU NO.
SEE TABLE, SHT. HA503

REGISTERED PROFESSIONAL ENGINEER
78195PE
Digitally Signed 2025.11.17 09:42:13-08'00'
OREGON
MAY 16, 2006
CHRISTOPHER J. WEBB
RENEWS: 06-30-2026

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

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OREGON DEPARTMENT OF TRANSPORTATION

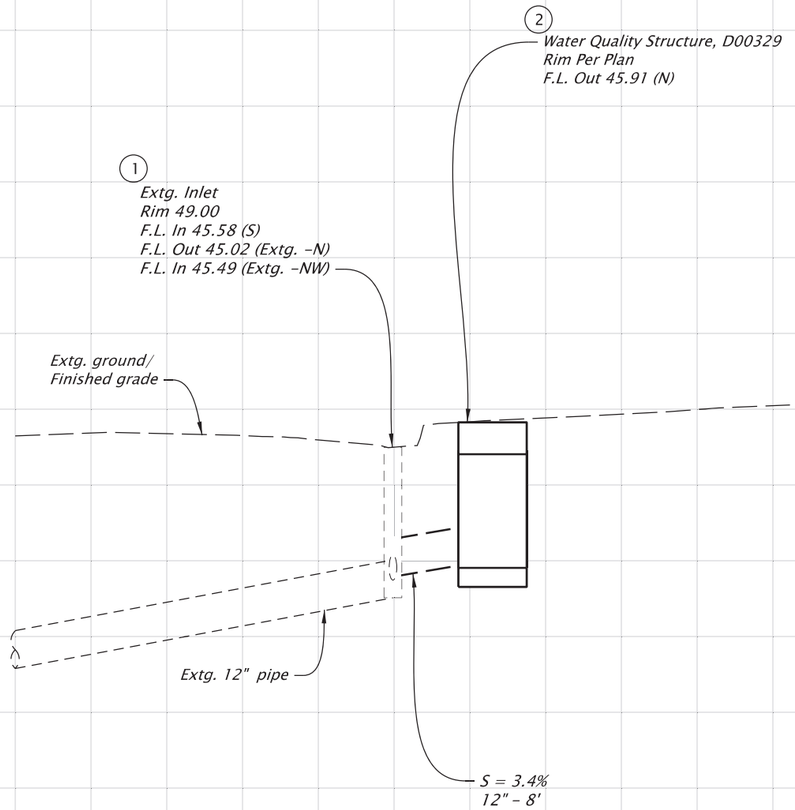
WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Jimmy Esteban
Drafter: Hector Vela
Reviewer: Joanna Ogintz
Checker: Christopher Webb

STORMWATER PLAN

SHEET NO.
HA503

Sec.29, T.1N, R.1E, W.M.
OF16-3 – US30 M.P. 2.21



PROFILE
HORIZ. SCALE: 1"=20'
VERT. SCALE: 1" = 4'

HWY: US30	
M.P.: 2.43	
UNIT FILE CODE	N/A
DFI/TSSU NO.	SEE TABLE, SHT. HA503

REGISTERED PROFESSIONAL ENGINEER
78195PE
Digitally Signed 2025.11.17 09:41:09-08'00'
OREGON
MAY 16, 2006
CHRISTOPHER J. WEBB
RENEWS: 06-30-2026

HERRERA
Herrera Environmental Consultants, Inc.
107 SE Washington Street, Suite 140
Portland, OR 97214
(503) 228-4301
www.herrerainc.com

OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Jimmy Esteban	Reviewer: Joanna Ogintz
Drafter: Hector Vela	Checker: Christopher Webb

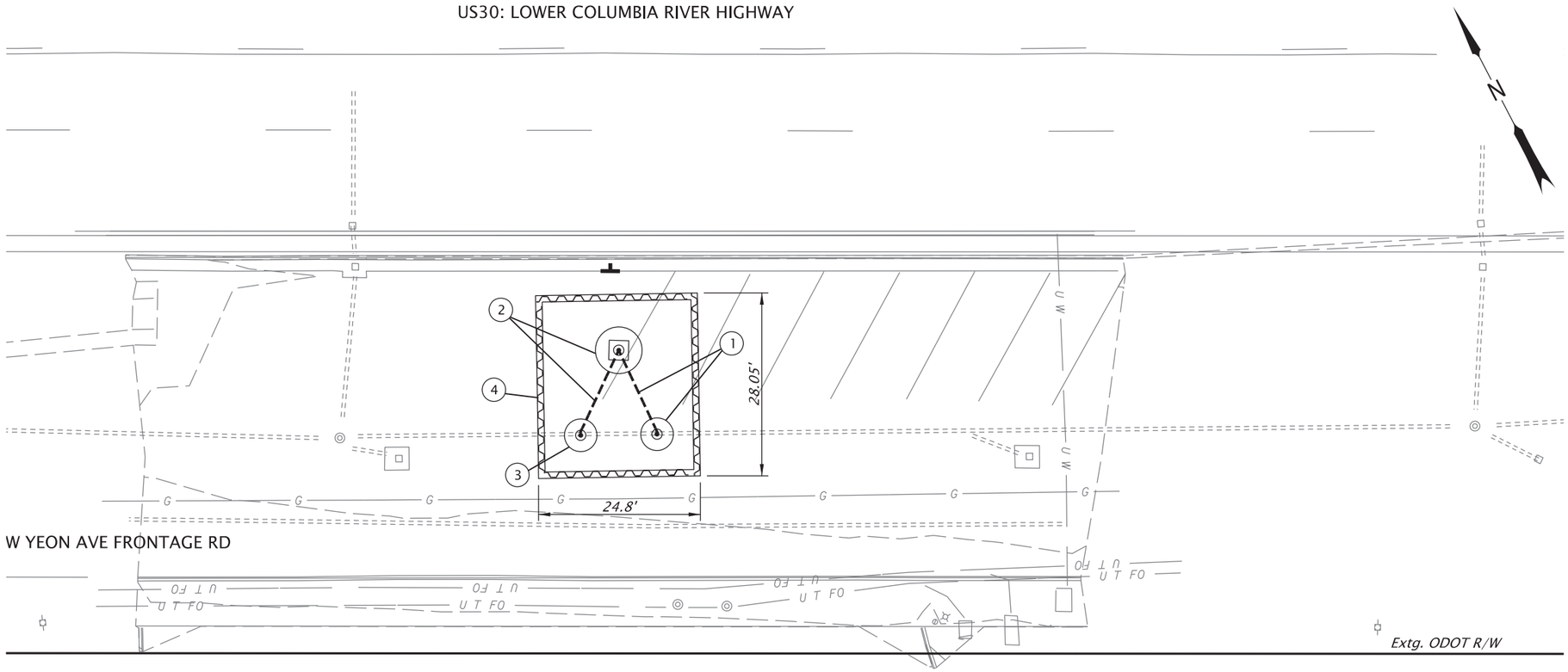
STORMWATER PROFILE — SHEET NO. HA503A

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

59V-002

Sec.20, T.1N, R.1E, W.M.

OF18-2 - US30 M.P. 3.00



CONSTRUCTION NOTES

1. *N: 181667.77, E: 336654.00*
   Inst. Flow Splitter, Type 8
   (See sheet no. HB521A)
   Extra for manholes over existing sewers
   Inst. 12" storm sew. pipe - 14'
   10' depth, sl. 0.20% (see note 5)
2. *N: 181681.88, E: 336654.71*
   Inst. Water Quality Structure, D00430
   see sht. no. HB521
   Inst. facility field marker, type S2
   bolted to steel post
   Inst. 12" storm sew. pipe - 14'
   10' depth, sl. 0.20% (see note 5)
   Const. 2'-0" aggregate base under
   Water Quality Structure - 333 SF
3. *N: 181673.00, E: 336643.52*
   Const. conc. storm sew. 60" manhole
   Extra for manholes over existing sewers
4. *Contractor-designed temporary shoring around Water Quality Structure, flow splitter manhole, and conc. storm sew. manhole.*

Notes:
1. *Overhead utilities not shown for clarity.*
2. *Contractor to field verify site conditions prior to installation of shoring.*
3. *All features not designated for adjustment or removal are designated to remain. See section 00170.82 and 00310.02.*
4. *Contractor to adjust rim elevation of existing and/or new structures such that the manhole lids and access hatches are flush with finished ground.*
5. *Offset pipe within the storm sewer manhole to maintain a minimum 12-inch horizontal clearance between any two pipes.*

20 10 0 20
FEET

FACILITY ID MARKER TABLE						
FACILITY LOCATION		DFI NUMBER	TYPE S2 MARKER		TYPE S1 MARKER	
NORTHING/EASTING	MP		BEGIN	END	RED	GREEN
N: 181681.88, E: 336654.71	*3.00*	*D00430*	✓			

✓ Check where appropriate
Red = Beginning of facility
Green = End of Facility

LEGEND

- *Const. inlet*
- *Extg. inlet*
- *Const. manhole*
- *Extg. manhole*
- *Const. pipe*
- *Extg. pipe*
- *Type S1 DFI Marker*
- *Type S2 DFI Marker*

(Note: Some items shown in legend may not be shown on this plan sheet)

HWY: US30
M.P.: 3.00

UNIT FILE CODE
N/A

DFI/TSSU NO.
DXXXXX

REGISTERED PROFESSIONAL ENGINEER
104026PE
Digitally Signed 2025.11.12 19:02:16-06'00'
OREGON
JUNE 09, 2024
HSUAN-WEN CHU
RENEWS: 12-31-2025

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

WSP USA Inc.
1300 SW 5th Ave
Suite 3100
Portland, OR 97201
Tel: 1 503 274 8772

OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Shen Chu/Eavie Beaty
Reviewer: Michael Giseburt
Drafter: Grace Harrison
Checker: Angelica Quintero

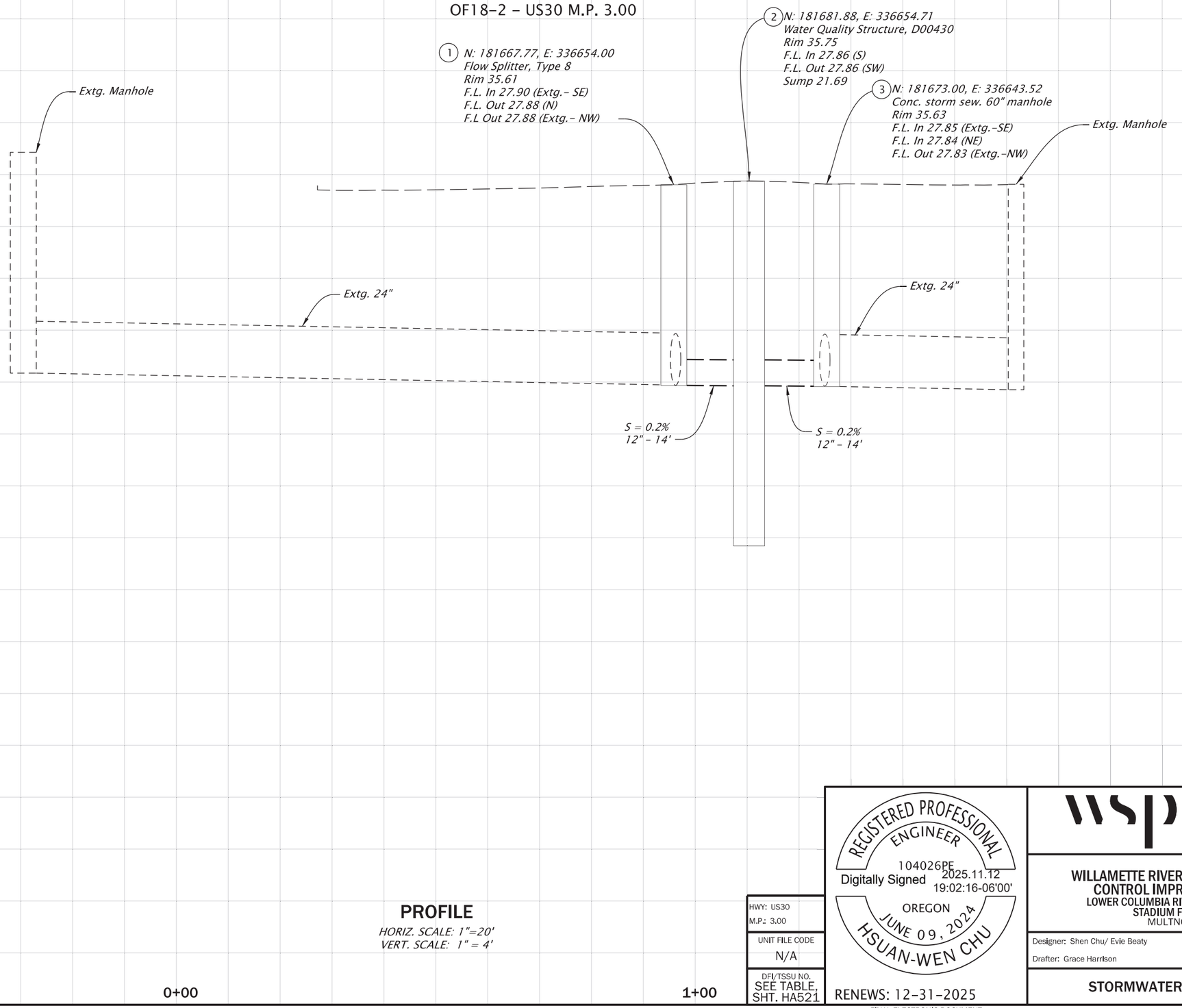
STORMWATER PLAN

SHEET NO.
HA521

59V-002

Sec.29, T.1N, R.1E, W.M.

OF18-2 - US30 M.P. 3.00



PROFILE

HORIZ. SCALE: 1"=20'
VERT. SCALE: 1" = 4'

HWY: US30
M.P.: 3.00

UNIT FILE CODE
N/A

DFI/TSSU NO.
SEE TABLE, SHT. HA521

REGISTERED PROFESSIONAL ENGINEER
104026PE
Digitally Signed 2025.11.12 19:02:16-06'00'
OREGON
JUNE 09, 2024
HSUAN-WEN CHU
RENEWS: 12-31-2025

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WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

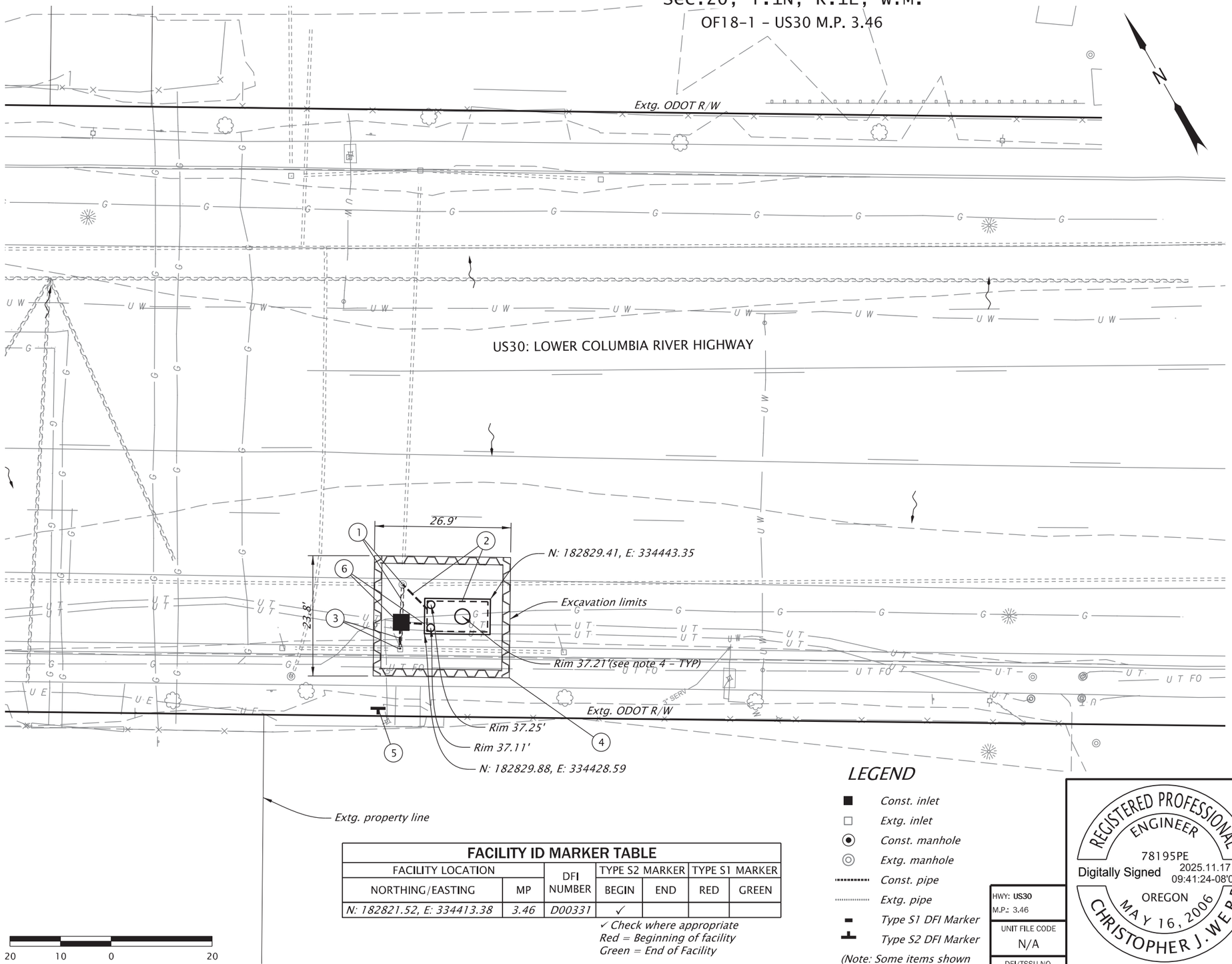
Designer: Shen Chu/ Evie Beaty
Reviewer: Michael Giseburt
Drafter: Grace Harrison
Checker: Angelica Quintero

STORMWATER PROFILE

SHEET NO.
HA521A

59V-002

Sec.20, T.1N, R.1E, W.M.
OF18-1 - US30 M.P. 3.46



CONSTRUCTION NOTES

1. *N: 182840.49, E: 334429.67*
   Remove extg. 12" storm sewer pipe - 19'
   Connect to extg. structure
2. *Inst. Water Quality Structure, D00331*
   see sht. no. HB522
   Const. 2' aggregate base under Water Quality Structure - 91 SF
   Inst. 12" storm sew. pipe - 6'
   10' depth, sl. 2.0%
3. *N: 182829.55, E: 334422.92*
   Connect to extg. structure
   Inst. 12" storm sew. pipe - 8'
   10' depth, sl. 2.6%
4. *Contractor-designed temporary shoring around Water Quality Structure*
5. *Inst. facility field maker, type S2 bolted to steel post*
6. *N: 182834.10, E: 334425.73*
   Const. type G-1 inlet with circular solid lid (see dwg. no. RD364)
   Inst. 12" storm sew. pipe - 6'
   10' depth, sl. 2.3%

FACILITY ID MARKER TABLE						
FACILITY LOCATION		DFI NUMBER	TYPE S2 MARKER		TYPE S1 MARKER	
NORTHING/EASTING	MP		BEGIN	END	RED	GREEN
N: 182821.52, E: 334413.38	*3.46*	*D00331*	✓			

✓ Check where appropriate
Red = Beginning of facility
Green = End of Facility

LEGEND

- *Const. inlet*
- *Extg. inlet*
- *Const. manhole*
- *Extg. manhole*
- *Const. pipe*
- *Extg. pipe*
- *Type S1 DFI Marker*
- *Type S2 DFI Marker*

(Note: Some items shown in legend may not be shown on this plan sheet)

Note:
1. *Overhead utilities not shown for clarity.*
2. *All features not designated for adjustment of removal are designated to remain. See section 00170.82 and 00310.02.*
3. *Contractor to field verify site conditions prior to installation of shoring.*
4. *Contractor to adjust rim elevation of existing and/or new structures such that the manhole lids and access hatches are flush with finished ground.*

HWY: US30
M.P.: 3.46

UNIT FILE CODE
N/A

DFI/TSSU NO.
SEE TABLE, SHT. HA522

REGISTERED PROFESSIONAL ENGINEER
78195PE
Digitally Signed 2025.11.17 09:41:24-08'00'
OREGON
MAY 16, 2006
CHRISTOPHER J. WEBB
RENEWS: 06-30-2026

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WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Jimmy Esteban
Drafter: Hector Vela
Reviewer: Joanna Ogintz
Checker: Christopher Webb

STORMWATER PLAN

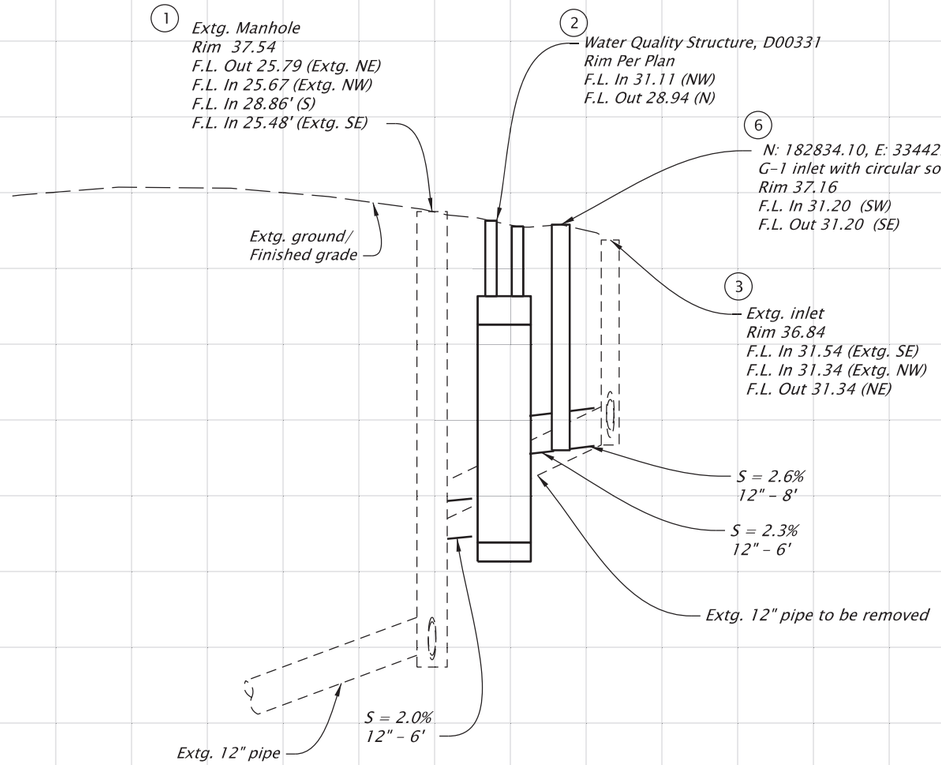
SHEET NO.
HA522

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

59V-002

Sec.20, T.1N, R.1E, W.M.

OF18-1 US30 – M.P. 3.46



PROFILE

HORIZ. SCALE: 1"=20'
VERT. SCALE: 1" = 4'

HWY: US30	
M.P.: 3.46	
UNIT FILE CODE	N/A
DFI/TSSU NO.	SEE TABLE, SHT. HA522

REGISTERED PROFESSIONAL ENGINEER
78195PE
Digitally Signed 2025.11.17 09:41:57-08'00'
OREGON
MAY 16, 2006
CHRISTOPHER J. WEBB
RENEWS: 06-30-2026

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OREGON DEPARTMENT OF TRANSPORTATION

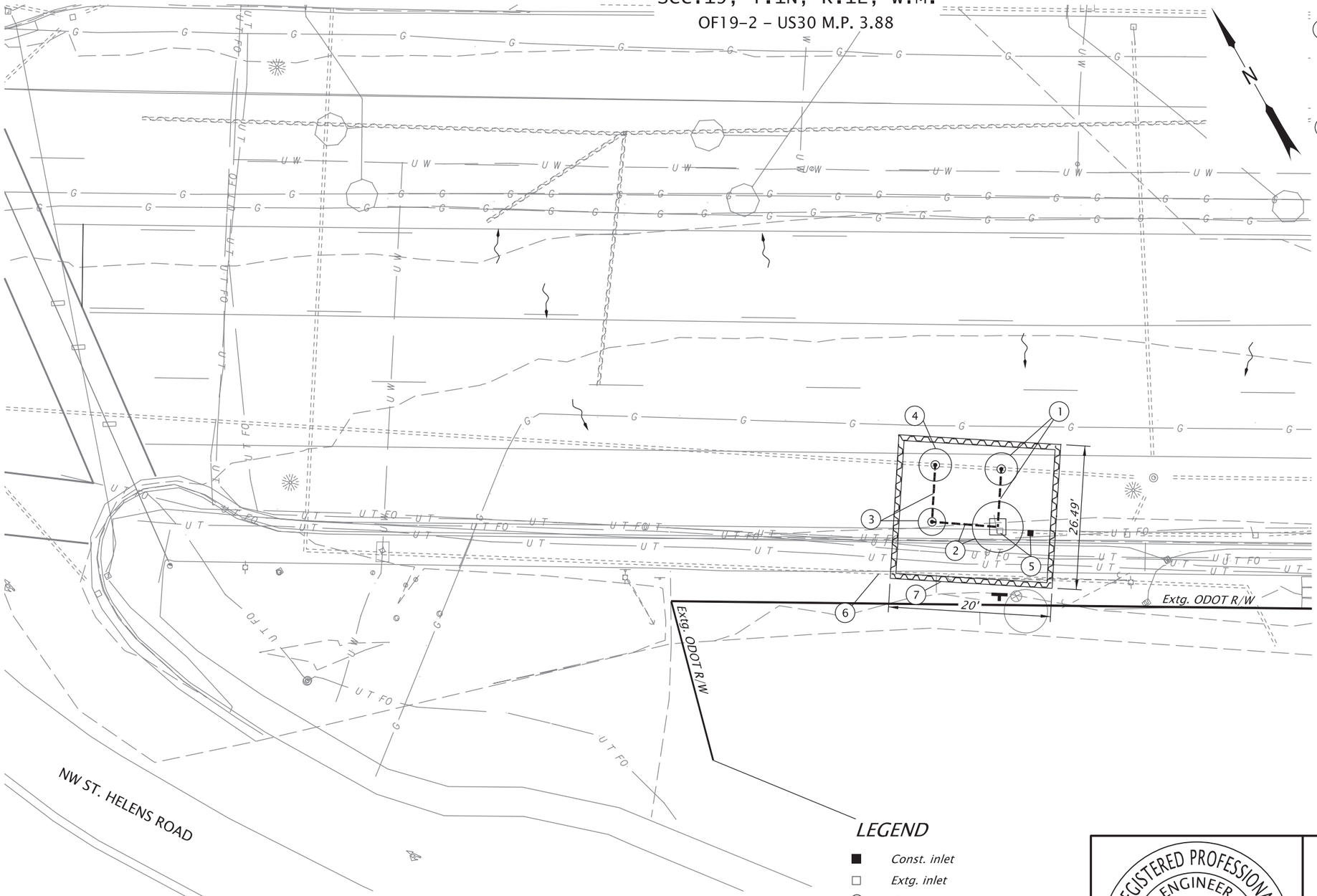
WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Jimmy Esteban	Reviewer: Joanna Ogintz
Drafter: Hector Vela	Checker: Christopher Webb

STORMWATER PROFILE — SHEET NO. HA522A

Sec.19, T.1N, R.1E, W.M.

OF19-2 – US30 M.P. 3.88



CONSTRUCTION NOTES

1. *N: 183921.62, E: 332563.59*
   Inst. Flow Splitter, Type 6,
   see sht. no HB533
   Extra for manhole over existing sewers
   Inst. 18" storm sew. pipe – 11'
   10' depth, sl. 0.00%

2. *N: 183912.76, E: 332558.01*
   Inst. Water Quality Structure, D00333
   see sht. no. HB532
   Inst. facility field marker, type S2
   bolted to steel post
   Inst. 18" storm sew. pipe – 12'
   10' depth, sl. 0.00%
   Const. 2'-0" aggregate base under
   Water Quality Structure – 300 SF
   Fill working area within shoring
   limit with controlled low-strength
   material

3. *N: 183920.20, E: 332548.20*
   Const. conc. storm sew. 48" manhole
   Inst. 18" storm sew. pipe – 10'
   10' depth, sl. 0.00%

4. *N: 183927.45, E: 332553.01*
   Const. conc. storm sew. 60" manhole
   Extra for manhole over existing sewers

5. *N: 183908.79, E: 332562.67*
   Remove extg. inlet (BES ID ANB 382)
   Remove extg. 12" storm sew pipe – 5'
   Const. type CG-2 inlet (See dwg. no. RD366)
   southeast of new Water Quality Structure
   and connect to extg. 12"

6. *Contractor to pothole existing sewer pipe to verify depth and size, and provide pipe protection plan with the shoring plan.*

7. *Contractor-designed temporary shoring around Water Quality Structure and storm sew. manholes*

Notes:
1. *Overhead utilities not shown for clarity.*
2. *Contractor to field verify site conditions prior to installation of shoring.*
3. *All features not designated for adjustment or removal are designated to remain. See section 00170.82 and 00310.02.*
4. *Contractor to adjust rim elevation of existing and/or new structures such that the manhole lids and access hatches are flush with finished ground.*

FACILITY ID MARKER TABLE

FACILITY LOCATION		DFI NUMBER	TYPE S2 MARKER		TYPE S1 MARKER	
NORTHING/EASTING	MP		BEGIN	END	RED	GREEN
N: 183901.76, E: 332552.16	*3.88*	*D00333*	✓			

✓ Check where appropriate
Red = Beginning of facility
Green = End of Facility

LEGEND

- *Const. inlet*
- *Extg. inlet*
- *Const. manhole*
- *Extg. manhole*
- *Const. pipe*
- *Extg. pipe*
- *Type S1 DFI Marker*
- *Type S2 DFI Marker*

(Note: Some items shown in legend may not be shown on this plan sheet)

HWY: US30	
M.P.: 3.88	
UNIT FILE CODE	N/A
DFI/TSSU NO.	D00333

REGISTERED PROFESSIONAL ENGINEER
104026PE
Digitally Signed 2025.11.12 19:02:17-06'00'
OREGON
JUNE 09, 2024
HSUAN-WEN CHU
RENEWS: 12-31-2025

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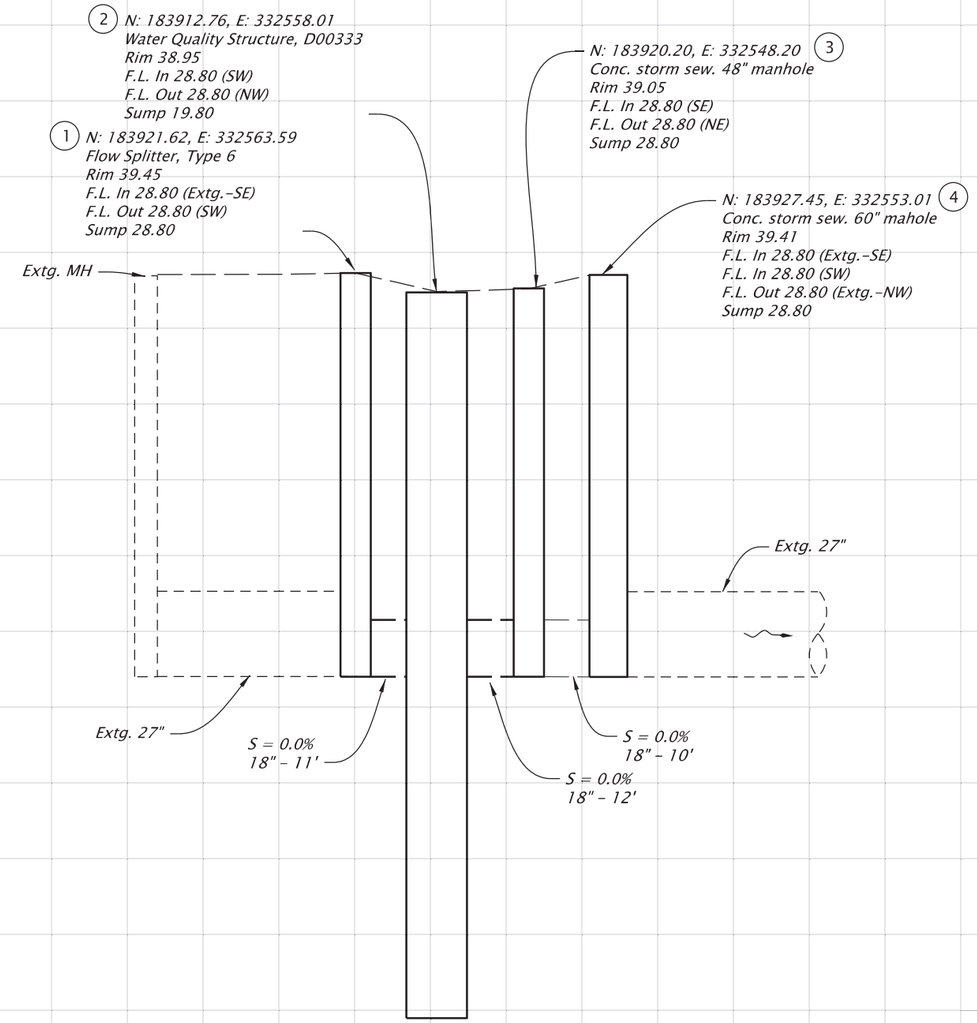
WSP USA Inc.
1300 SW 5th Ave
Suite 3100
Portland, OR 97201
Tel: 1 503 274 8772

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Pranoti Deshmukh	Reviewer: Michael Giseburt
Drafter: Grace Harrison	Checker: Angelica Quintero

STORMWATER PLAN — SHEET NO. HA532

Sec.19, T.1N, R.1E, W.M.
OF19-2 – US30 M.P. 3.88



PROFILE
HORIZ. SCALE: 1"=20'
VERT. SCALE: 1" = 4'

HWY: US30	
M.P.: 3.88	
UNIT FILE CODE	N/A
DFI/TSSU NO.	D00333

REGISTERED PROFESSIONAL ENGINEER
104026PE
Digitally Signed 2025.11.12 19:02:17-06'00'
OREGON
JUNE 09, 2024
HSUAN-WEN CHU
RENEWS: 12-31-2025

FINAL ELECTRONIC DOCUMENT
AVAILABLE UPON REQUEST

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Tel: 1 503 274 8772

OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Pranoti Deshmukh
Drafter: Grace Harrison
Reviewer: Michael Giseburt
Checker: Angelica Quintero

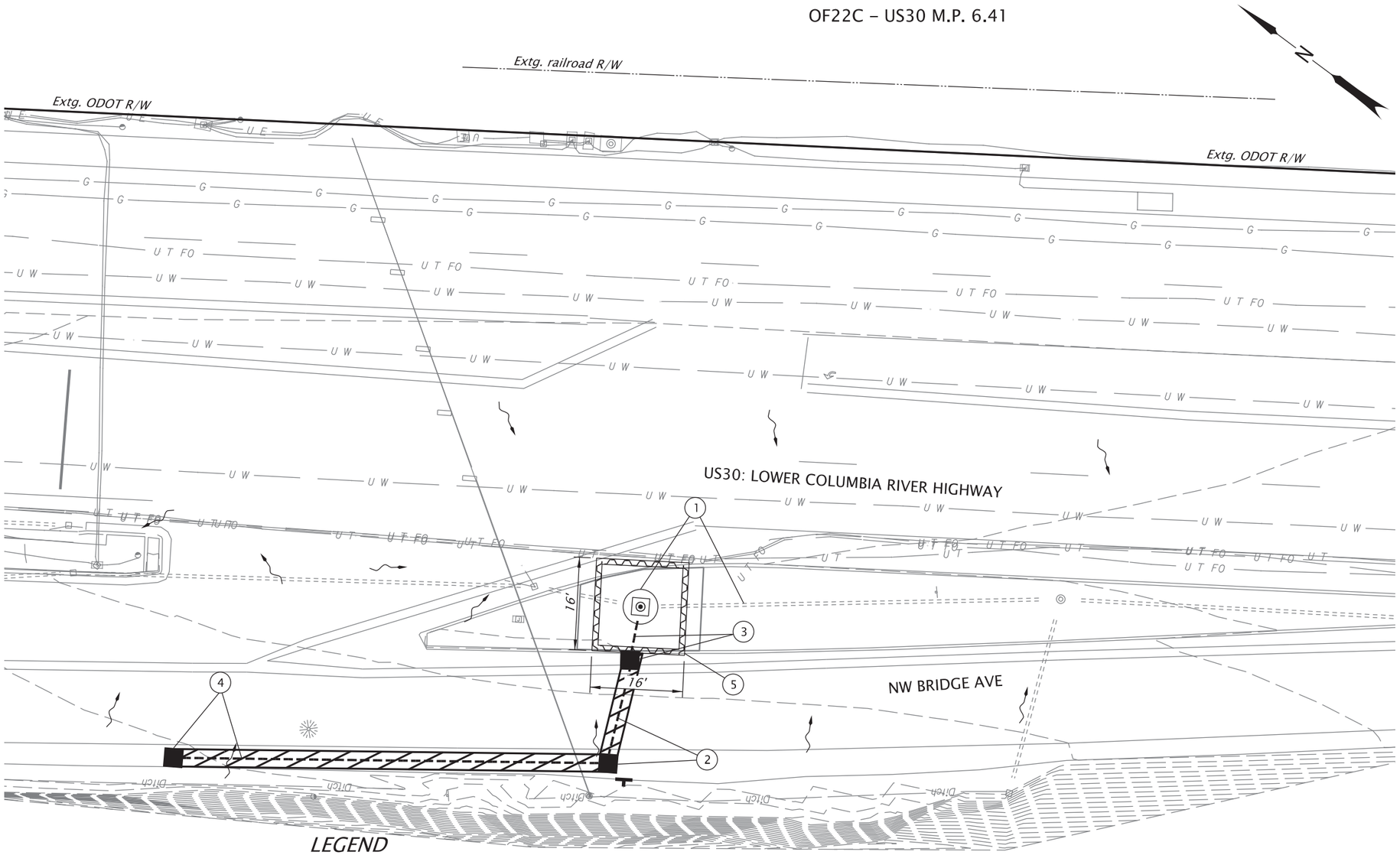
STORMWATER PROFILE

SHEET NO. HA532A

59V-002

Sec.11, T.1N, R.1W, W.M.

OF22C – US30 M.P. 6.41



CONSTRUCTION NOTES

1. *N: 192266.07, E: 325056.84*
   Remove extg. 48" Water Quality Structure
   Inst. Water Quality Structure, D00334
   see sht. no. HB541
   Inst. facility field marker, type S2
   bolted to concrete barrier
   Extra for manhole over existing
   Const. 2'-0" aggregate base under
   Water Quality Structure- 256 SF
   Rock excavation - 1208 CF
2. *N. 192254.40, E: 325031.82*
   Const. type G-1 inlet (see dwg. no. RD364)
   Inst. 12" storm sew. pipe - 19'
   5' depth, 5.0%
3. *N. 192262.04, E: 325048.34*
   Const. type G-1 inlet
   Inst. 12" storm sew. pipe - 9'
   5' depth, 5.0%
4. *N: 192316.08, E: 324987.17*
   Const. type G-1 inlet
   Inst. 12" slotted CMP drain -76'
   (See dwg. no. RD328)
   5' depth, +/- 0.7%
   Confirm exact location with engineer
5. *Contractor-designed temporary shoring around Water Quality Structure*

Notes:
1. Overhead utilities not shown for clarity.
2. All features not designated for adjustment or removal are designated to remain. See Sections 00170.82 and 00310.02.
3. Contractor to field verify site conditions prior to installation of shoring.
4. Contractor to adjust rim elevation of existing and/or new structures such that the manhole lids and access hatches are flush with finished ground.

LEGEND

- Const. inlet
- Extg. inlet
- Const. manhole
- Extg. manhole
- Const. pipe
- Extg. pipe
- Type S1 DFI Marker
- Type S2 DFI Marker

(Note: Some items shown in legend may not be shown on this plan sheet)

20 10 0 20
FEET

FACILITY ID MARKER TABLE

FACILITY LOCATION		DFI NUMBER	TYPE S2 MARKER		TYPE S1 MARKER	
NORTHING/EASTING	MP		BEGIN	END	RED	GREEN
N: 192250.68 E: 325031.26	*6.41*	*D00334*	✓			

✓ Check where appropriate
Red = Beginning of facility
Green = End of Facility

Extg. ODOT R/W

HWY: US30
M.P.: 6.41

UNIT FILE CODE
N/A

DFI/TSSU NO.
D00334

REGISTERED PROFESSIONAL ENGINEER
104026PE
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OREGON
JUNE 09, 2024
HSUAN-WEN CHU

RENEWS: 12-31-2025

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OREGON DEPARTMENT OF TRANSPORTATION

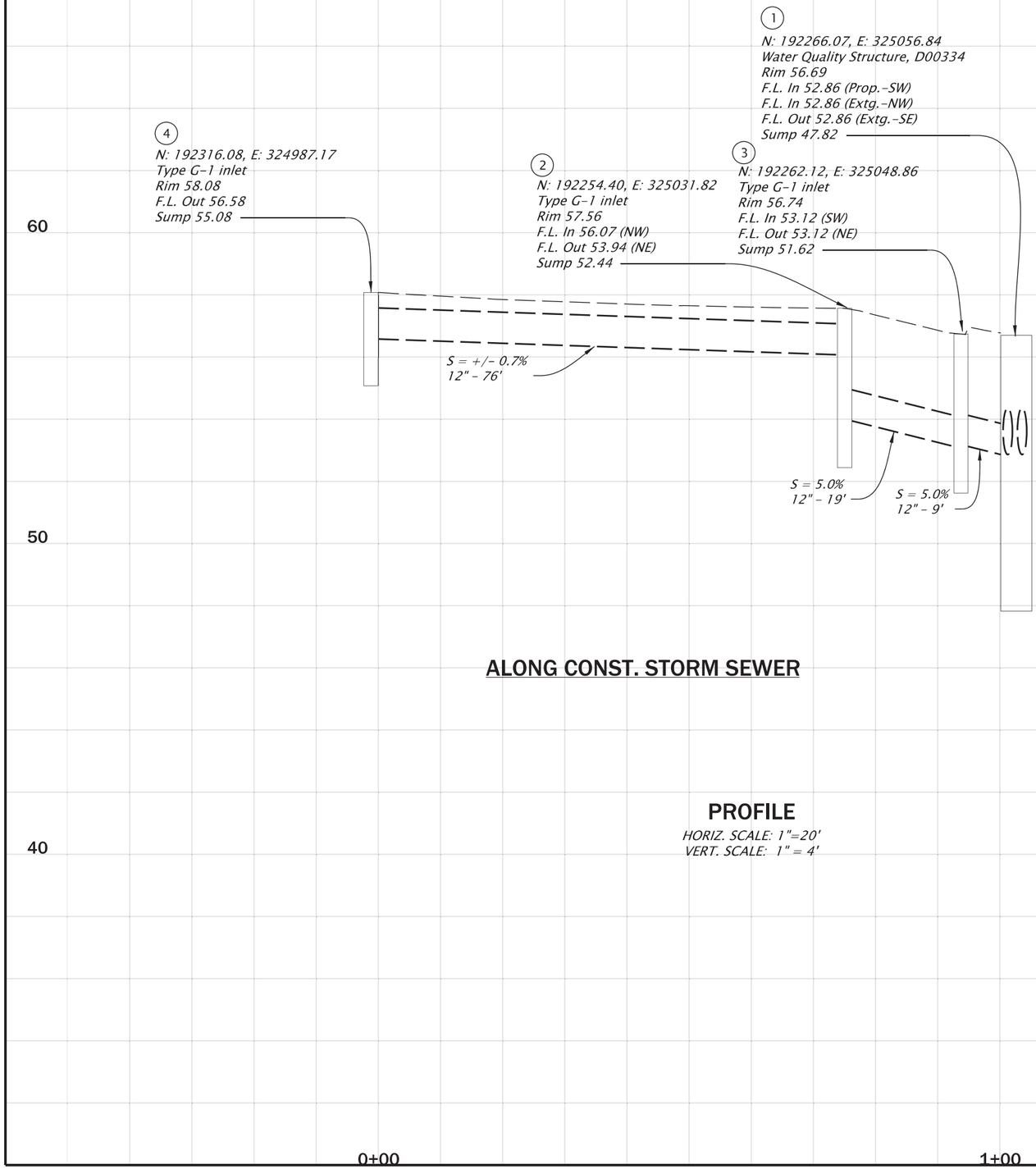
WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Shen Chu/ Evie Beaty
Reviewer: Michael Giseburt
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Checker: Angelica Quintero

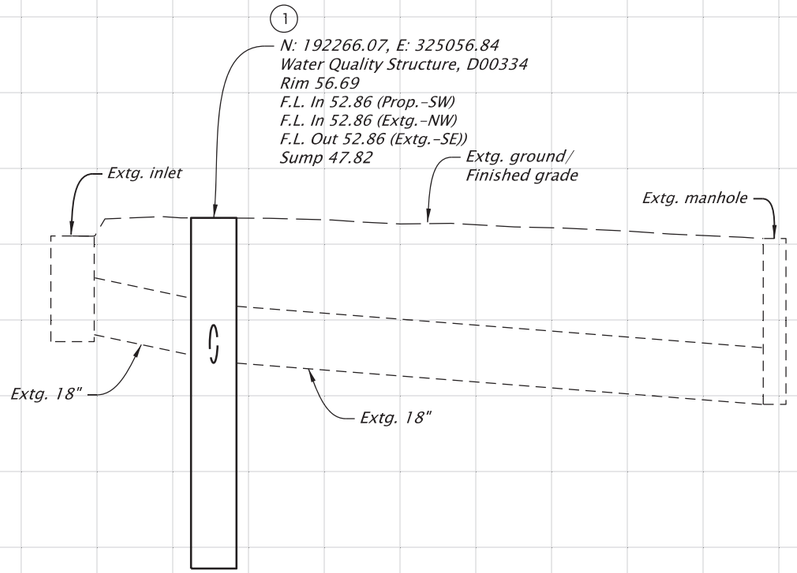
STORMWATER PLAN

SHEET NO.
HA541

Sec.12, T.1N, R.1W, W.M.
OF22C – US30 M.P. 6.41



ALONG CONST. STORM SEWER



ALONG EXTG. STORM SEWER

PROFILE

HORIZ. SCALE: 1"=20'
VERT. SCALE: 1" = 4'

HWY: US30	
M.P.: 6.41	
UNIT FILE CODE	N/A
DFI/TSSU NO.	D00334

REGISTERED PROFESSIONAL ENGINEER
104026PE
Digitally Signed 2025.11.12 19:02:18-06'00'
OREGON
JUNE 09, 2024
HSUAN-WEN CHU
RENEWS: 12-31-2025

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WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Shen Chu/ Evie Beaty	Reviewer: Michael Giseburt
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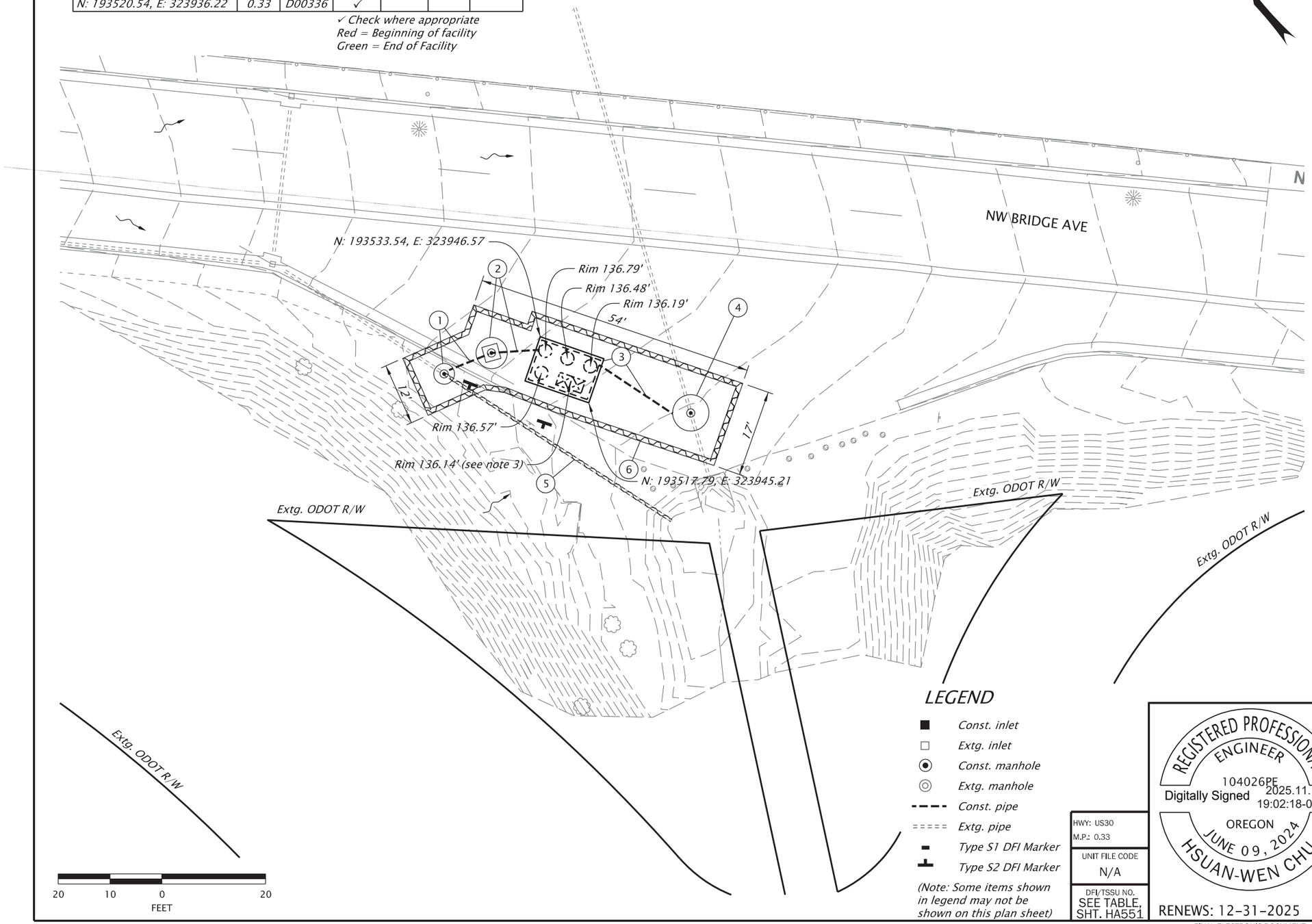
STORMWATER PROFILE — SHEET NO. HA541A

Sec.11, T.1N, R.1W, W.M.

WR206 - US30 BYPASS M.P. 0.33

FACILITY ID MARKER TABLE						
FACILITY LOCATION		DFI NUMBER	TYPE S2 MARKER		TYPE S1 MARKER	
NORTHING/EASTING	MP		BEGIN	END	RED	GREEN
N: 193535.58 E: 323930.49	0.33	D00335	✓			
N: 193520.54, E: 323936.22	0.33	D00336	✓			

✓ Check where appropriate
Red = Beginning of facility
Green = End of Facility



CONSTRUCTION NOTES

1. *N: 193540.38, E: 323927.92*
   Const. conc. storm sew. 48" manhole
   Extra for manhole over existing sewers
   Inst. 18" storm sew. pipe - 11'
   5' depth, sl. 0.5%
   Boulder excavation - 7 CF

2. *N: 193537.40, E: 323937.45*
   Inst. Water Quailty Structure, D00335
   see sht. no. HB551
   Inst. facility field marker, type S2
   bolted to steel post
   Const. 2'-0" aggregate base under
   Water Quality Structure- 142 SF
   Inst. 18" storm sew. pipe - 10'
   5' depth, sl. 0.3%
   Boulder excavation - 1261 CF

3. *Inst. Water Quality Structure, D00336*
   see sht. no. HB552
   Inst. facility field marker, type S2
   bolted to steel post
   Const. 2'-0" aggregate base under
   Water Quality Structure - 400 SF
   Inst. 18" storm sew. pipe - 19'
   5' depth, sl. 0.5% (see note 5)
   Boulder excavation - 877 CF

4. *N: 193503.34, E: 323958.70*
   Const. conc. storm sew. 84" manhole
   Extra for manhole over existing sewers
   Boulder excavation - 1718 CF

5. *Remove extg. 18" storm sew. pipe - 53'*

6. *Contractor-designed temporary shoring around Water Quality Structures.*

Notes:
1. *Contractor to field verify site conditions prior to installation of shoring.*
2. *All features not designated for adjustment or removal are designated to remain. See Sections 00170.82 and 00310.02*
3. *Contractor to adjust rim elevation of existing and/or new structures such that the manhole lids and access hatches are flush with finished ground.*
4. *Offset pipe within the storm sewer manhole to maintain a minimum 12-inch horizontal clearance between any two pipes.*

20 10 0 20
FEET

LEGEND

- Const. inlet
- Extg. inlet
- Const. manhole
- Extg. manhole
- Const. pipe
- Extg. pipe
- Type S1 DFI Marker
- Type S2 DFI Marker

(Note: Some items shown in legend may not be shown on this plan sheet)

HWY: US30	
M.P.: 0.33	
UNIT FILE CODE	N/A
DFI/TSSU NO.	SEE TABLE, SHT. HA551

REGISTERED PROFESSIONAL ENGINEER
104026PE
Digitally Signed 2025.11.12 19:02:18-06'00'
OREGON
JUNE 09, 2024
HSUAN-WEN CHU
RENEWS: 12-31-2025

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LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

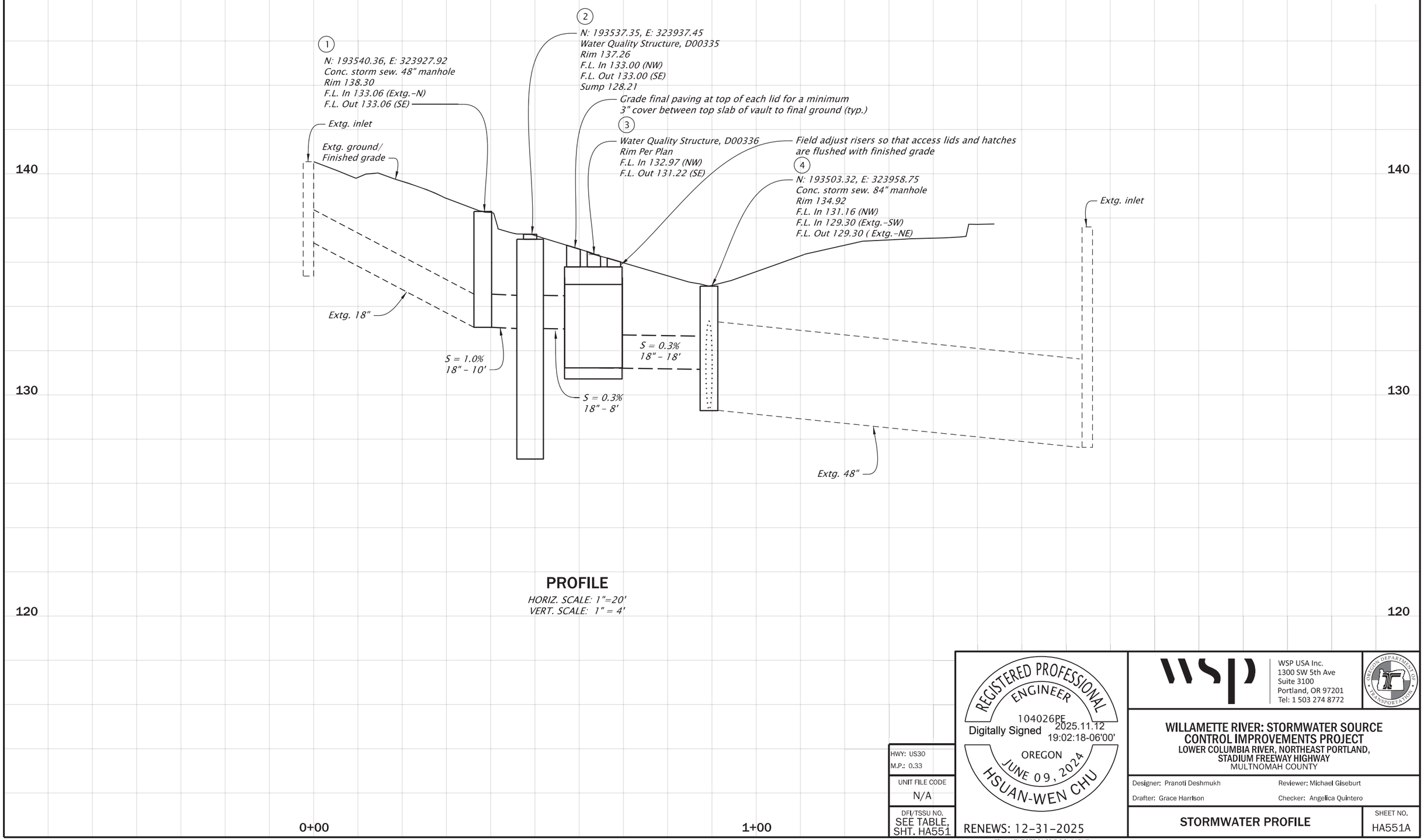
Designer: Pranoti Deshmukh	Reviewer: Michael Giseburt
Drafter: Grace Harrison	Checker: Angelica Quintero

STORMWATER PLAN — SHEET NO. HA551

59V-002

Sec.11, T.1N, R.1W, W.M.

WR206 – US30 BYPASS M.P. 0.33



PROFILE

HORIZ. SCALE: 1"=20'
VERT. SCALE: 1" = 4'

REGISTERED PROFESSIONAL ENGINEER
104026PE
Digitally Signed 2025.11.12 19:02:18-06'00'
OREGON
JUNE 09, 2024
HSUAN-WEN CHU
RENEWS: 12-31-2025

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

WSP USA Inc.
1300 SW 5th Ave
Suite 3100
Portland, OR 97201
Tel: 1 503 274 8772

OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

HWY: US30	
M.P.: 0.33	
UNIT FILE CODE: N/A	
DFI/TSSU NO.: SEE TABLE, SHT. HA551	
Designer: Pranoti Deshmukh	Reviewer: Michael Giseburt
Drafter: Grace Harrison	Checker: Angelica Quintero
STORMWATER PROFILE	SHEET NO.: HA551A

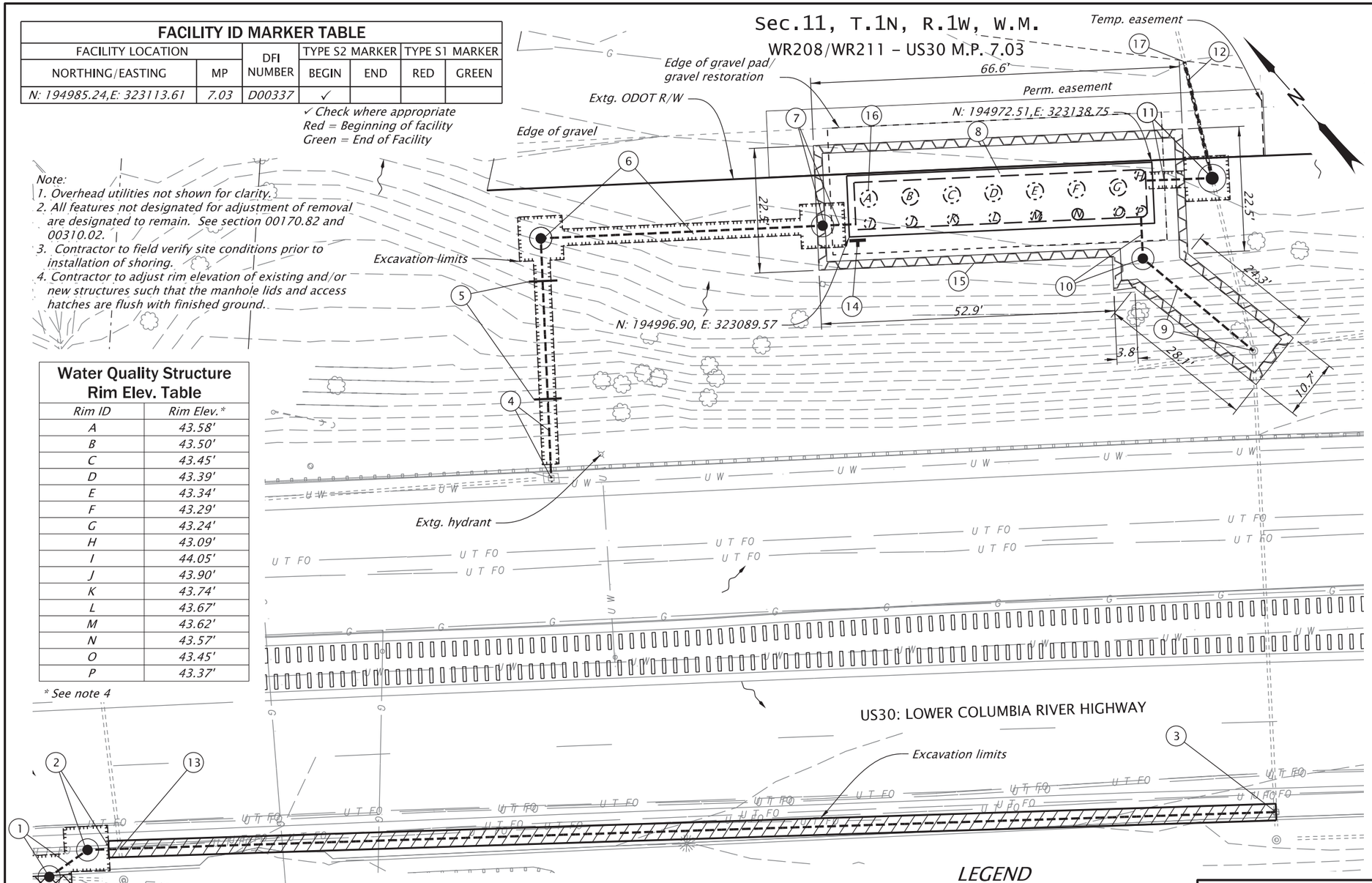
FACILITY ID MARKER TABLE						
FACILITY LOCATION		DFI NUMBER	TYPE S2 MARKER		TYPE S1 MARKER	
NORTHING/EASTING	MP		BEGIN	END	RED	GREEN
N: 194985.24,E: 323113.61	7.03	D00337	✓			

✓ Check where appropriate
Red = Beginning of facility
Green = End of Facility

Note:
1. Overhead utilities not shown for clarity.
2. All features not designated for adjustment of removal are designated to remain. See section 00170.82 and 00310.02.
3. Contractor to field verify site conditions prior to installation of shoring.
4. Contractor to adjust rim elevation of existing and/or new structures such that the manhole lids and access hatches are flush with finished ground.

Water Quality Structure Rim Elev. Table	
Rim ID	Rim Elev.*
A	43.58'
B	43.50'
C	43.45'
D	43.39'
E	43.34'
F	43.29'
G	43.24'
H	43.09'
I	44.05'
J	43.90'
K	43.74'
L	43.67'
M	43.62'
N	43.57'
O	43.45'
P	43.37'

* See note 4



CONSTRUCTION NOTES

1. N: 195006.74, E: 322904.37
   Inst. Flow Splitter, Type 1 see sht. no HB562
   Extra for manholes over existing sewers
   Inst. 12" storm sew. pipe - 9'
   10' depth, sl. 2.0%
2. N: 195005.81, E: 322912.73
   Const. conc. storm sew. 48" manhole
   Inst. 12" storm sew. pipe - 215'
   10' depth, sl. 0.5%
3. Connect to extg. structure
4. N: 195001.11,E: 323019.80
   Connect to extg. structure
   Inst. Flow Splitter, Type 3 see sht. no. HB562
   Inst. 12" storm sew. pipe - 42'
   5' depth, sl. 39.4%
5. Inst. pipe slope anchor, concrete, 12 inch - 2
6. E: 195034.84,N: 323046.87
   Const. shallow conc. storm sew. 48" manhole
   (See dwg. no. RD342)
   Inst. 12" storm sew. pipe - 51'
   5' depth, sl. 5.0%
7. N: 195003.06,E: 323086.58
   Const. conc. storm sew. 48" manhole
   Inst. 12" storm sew. pipe - 5'
   10' depth, sl. 8.9%
8. Inst. Water Quality Structure, D00337
   see sht. no. HB561
   Const. 2' aggregate base under
   Water Quality Structure - 606 SF
9. N: 194934.86,E: 323130.11
   Connect to extg. structure
   Inst. Flow Splitter, Type 2 see sht. no. HB562
   Inst. 12" storm sew. pipe - 25'
   20' depth, sl. 5.3%
10. N: 194960.54,E: 323126.08
    Const. conc. storm sew. 48" manhole
    Inst. 12" storm sew. pipe - 8'
    10' depth, sl. 3.0%

CONSTRUCTION NOTES CONT.

11. N: 194963.19,E: 323145.02
    Inst. 12" storm sew. pipe - 12'
    10' depth, sl. 4.0%
    Const. conc. storm sew. 60" manhole
    Extra for manholes over existing sewer
12. Remove extg. 24" storm sewer pipe - 22'
    Inst. 24" storm sew. pipe - 22'
    10' depth, sl. 1.5%
13. Inst. Pipe Cap, see sht. HB563
14. Inst. facility field marker, type S2 bolted to steel post
15. Contractor-designed temporary shoring around Water Quality Structure
16. Refer to Water Quality Structure Rim Elev. Table, see this sheet
17. Inst. RCP Pipe Bend

LEGEND

- Const. inlet
- Extg. inlet
- Const. manhole
- Extg. manhole
- Const. pipe
- Extg. pipe
- Type S1 DFI Marker
- Type S2 DFI Marker

(Note: Some items shown in legend may not be shown on this plan sheet)

HWY: US30
M.P.: 7.03

UNIT FILE CODE
N/A

DFI/TSSU NO.
SEE TABLE, SHT. HA561

REGISTERED PROFESSIONAL ENGINEER
78195PE
Digitally Signed 2025.12.16 13:19:07-08'00'
OREGON
MAY 16, 2006
CHRISTOPHER J. WEBB
RENEWS: 06-30-2026

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

HERRERA
Herrera Environmental Consultants, Inc.
107 SE Washington Street, Suite 140
Portland, OR 97214
(503) 228-4301
www.herrerainc.com

OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Jimmy Esteban
Drafter: Hector Vela
Reviewer: Joanna Ogintz
Checker: Christopher Webb

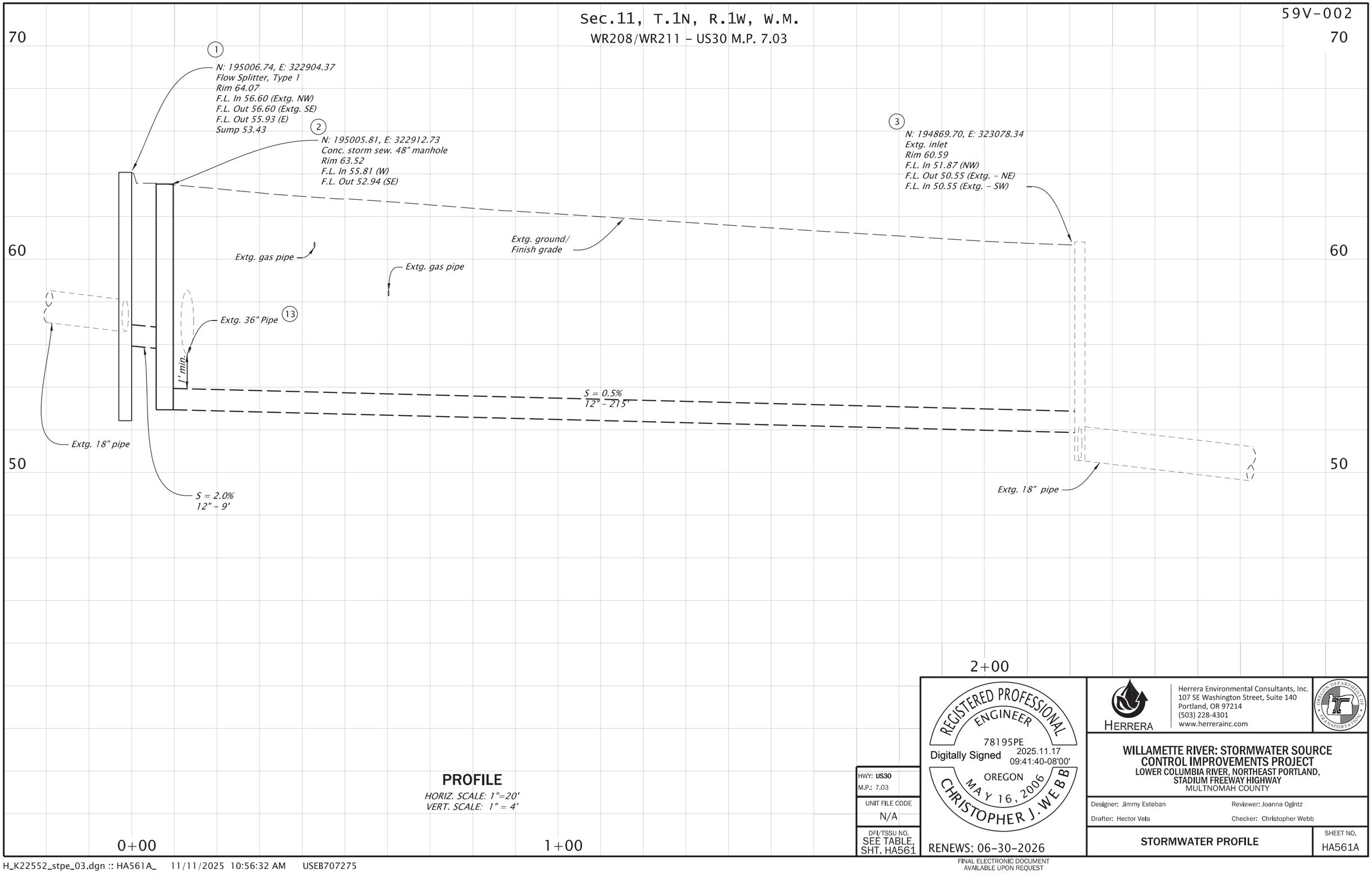
STORMWATER PLAN

SHEET NO.
HA561

59V-002

Sec.11, T.1N, R.1W, W.M.

WR208/WR211 – US30 M.P. 7.03



PROFILE

HORIZ. SCALE: 1"=20'
VERT. SCALE: 1" = 4'

HWY: **US30**	
M.P.: 7.03	
UNIT FILE CODE	N/A
DFI/TSSU NO.	SEE TABLE, SHT. HA561

REGISTERED PROFESSIONAL ENGINEER
78195PE
Digitally Signed 2025.11.17 09:41:40-08'00'
OREGON
MAY 16, 2006
CHRISTOPHER J. WEBB
RENEWS: 06-30-2026

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

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107 SE Washington Street, Suite 140
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(503) 228-4301
www.herrerainc.com

OREGON DEPARTMENT OF TRANSPORTATION

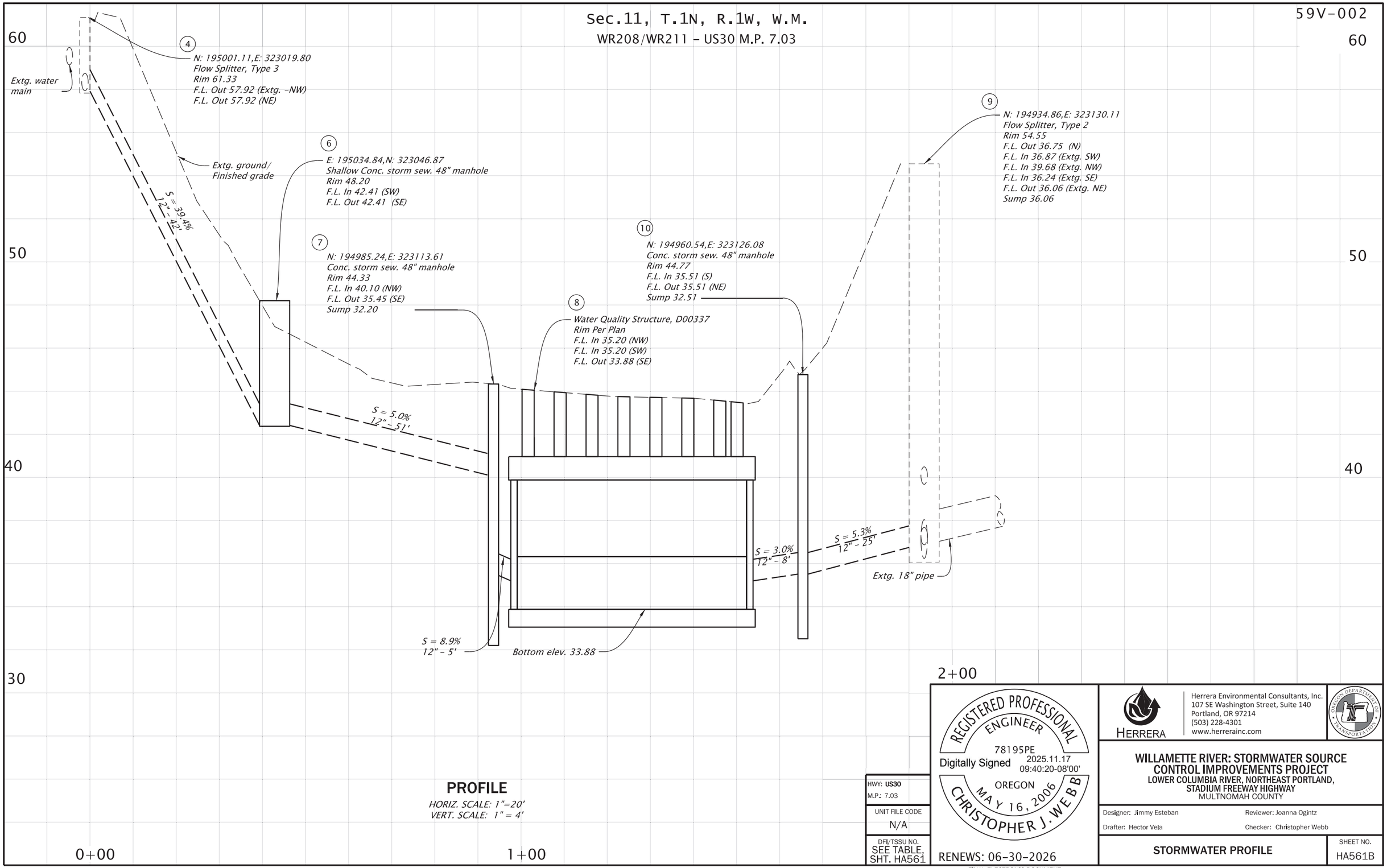
WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Jimmy Esteban | Reviewer: Joanna Ogintz
Drafter: Hector Vela | Checker: Christopher Webb

STORMWATER PROFILE | SHEET NO. HA561A

Sec.11, T.1N, R.1W, W.M.
WR208/WR211 – US30 M.P. 7.03

59V-002



PROFILE
HORIZ. SCALE: 1"=20'
VERT. SCALE: 1" = 4'

HWY: US30
M.P.: 7.03

UNIT FILE CODE
N/A

DFI/TSSU NO.
SEE TABLE, SHT. HA561

REGISTERED PROFESSIONAL ENGINEER
78195PE
Digitally Signed 2025.11.17 09:40:20-08'00'
OREGON
MAY 16, 2006
CHRISTOPHER J. WEBB
RENEWS: 06-30-2026

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(503) 228-4301
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OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

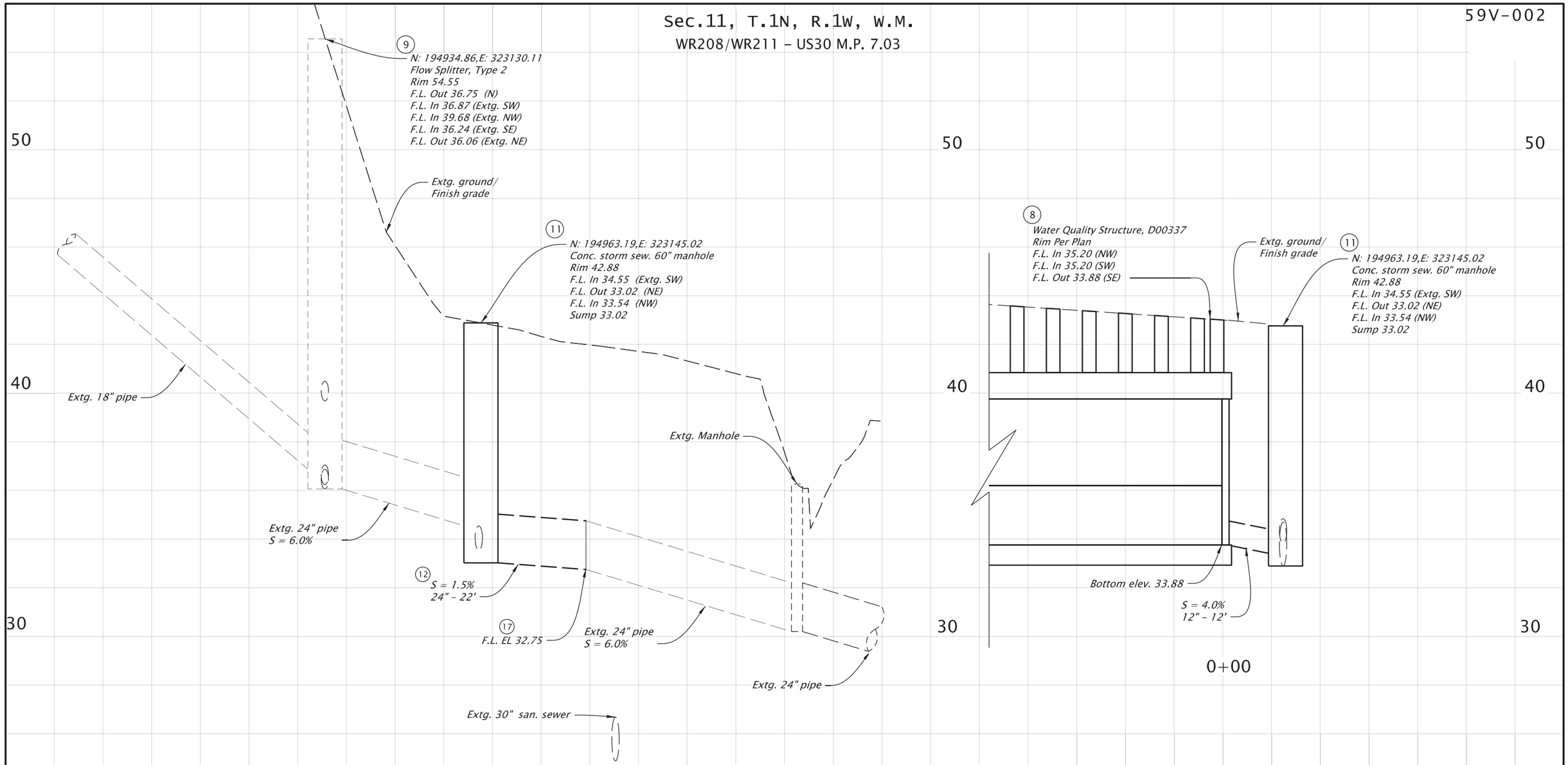
Designer: Jimmy Esteban
Drafter: Hector Vela
Reviewer: Joanna Ogintz
Checker: Christopher Webb

STORMWATER PROFILE

SHEET NO.
HA561B

Sec.11, T.1N, R.1W, W.M.
WR208/WR211 – US30 M.P. 7.03

59V-002



PROFILE

HORIZ. SCALE: 1"=20'
VERT. SCALE: 1" = 4'

HWY: US30	
M.P.: 7.03	
UNIT FILE CODE	N/A
DFI/TSSU NO.	SEE TABLE, SHT. HA561

REGISTERED PROFESSIONAL ENGINEER
78195PE
Digitally Signed 2025.11.17 09:39:45-08'00'
OREGON
MAY 16, 2006
CHRISTOPHER J. WEBB
RENEWS: 06-30-2026

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

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(503) 228-4301
www.herrerainc.com

OREGON DEPARTMENT OF TRANSPORTATION

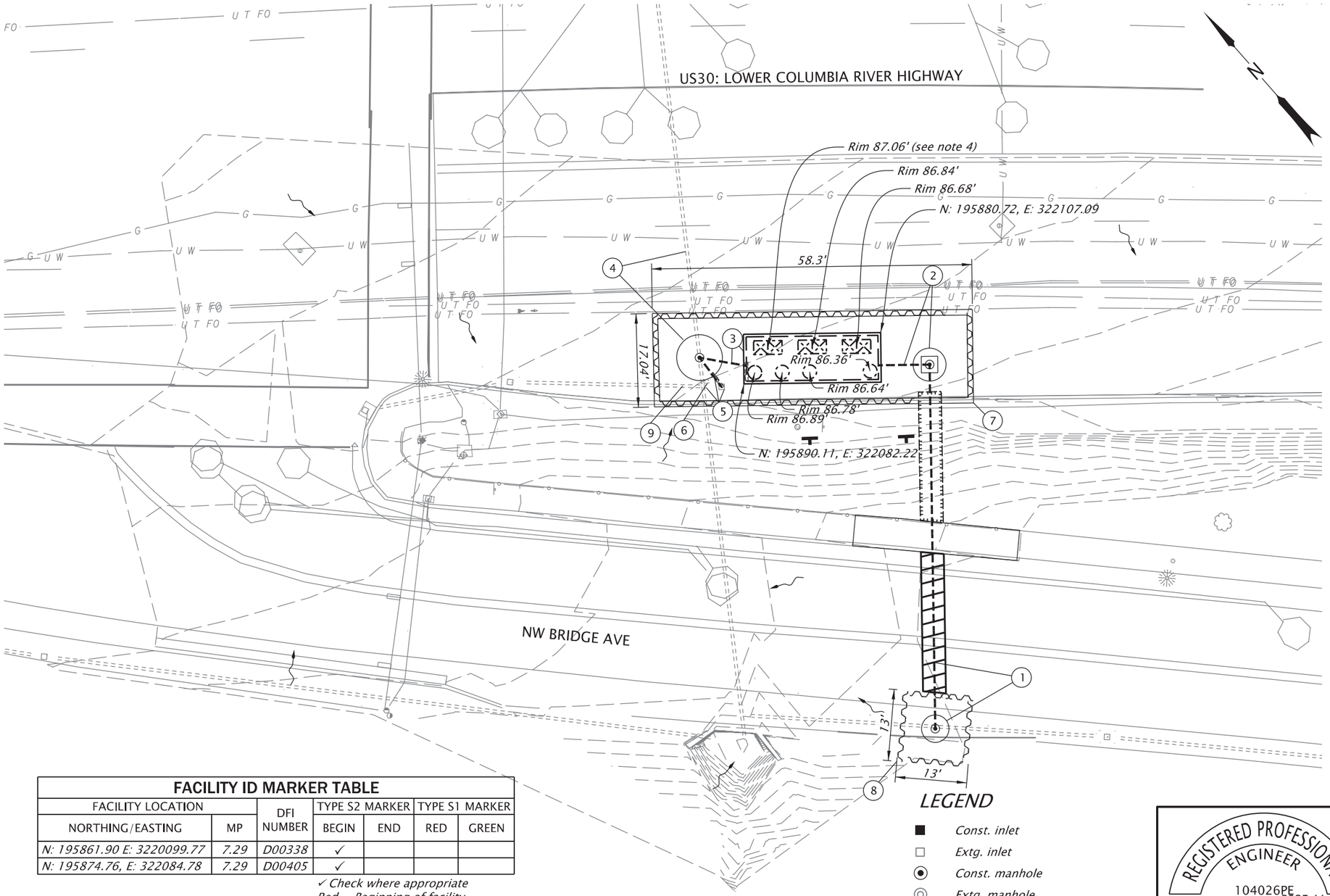
WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Jimmy Esteban	Reviewer: Joanna Ogintz
Drafter: Hector Vela	Checker: Christopher Webb

STORMWATER PROFILE — SHEET NO. HA561C

Sec.11, T.1N, R.1W, W.M.

OF22D – US30 M.P. 7.29



CONSTRUCTION NOTES

1. *N: 195819.94, E: 322067.01*
   Inst. Flow Spiltter, Type 7,
   see sht. no HB583
   Extra for manhole over existing sewers
   Inst. 18" ductile iron pipe – 69'
   10' depth, sl. 10.2%
   Rock excavation – 3099 CF
2. *N: 195870.45, E: 322109.94*
   Inst. Water Quality Structure, D00338
   see sht. no. HB581
   Inst. facility field marker, type S2
   bolted to steel post
   Const. 2'–0" aggregate base under
   Water Quality Structure– 197 SF
   Inst. 18" ductile iron pipe – 10'
   5' depth, sl. 2.0%
   Rock excavation – 15 CF
   Boulder excavation – 1898 CF
3. *Inst. Water Quality Structure, D00405*
   see sht. no. HB582
   Inst. facility field marker, type S2
   bolted to steel post
   Const. 2'–0" aggregate base under
   Water Quality Structure – 480 SF
   Inst. 18" storm sew. pipe – 9'
   10' depth, sl. 10.0%
   Boulder excavation – 3712 CF
4. *N: 195899.13, E: 322079.37*
   Const. conc. storm sew. 84" manhole
   Extra for manholes over existing sewers
   Rock excavation – 1431 CF
   Boulder excavation – 2418 CF
5. *N: 195892.37, E: 322078.80*
   Remove extg. inlet
   Const. type G–2 inlet
   (See dwg. no. RD364)
   Inst. 12" storm sew. pipe – 7'
   5' depth, sl. 0.5%
6. *Remove extg. 10" storm sew pipe – 4'*
   plug connection to extg. 48" pipe where removed
7. *Contractor–designed temporary shoring*
   around Water Quality Structure, and
   storm sew. manhole
8. *Contractor–designed temporary shoring*
   around flow splitter manhole
9. *Contractor to pothole existing storm drain to verify*
   depth, pipe alignment, and pipe connection to
   structures. Provide information to engineer prior
   to construvtion at this site.

Notes:

1. *Overhead utilities not shown for clarity.*
2. *All features not designated for adjustment or removal are designated to remain. See Section 00170.82 and 00310.02.*
3. *Contractor to field verify site conditions prior to installation of shoring.*
4. *Contractor to adjust rim elevation of existing and/or new structures such that the manhole lids and access hatches are flush with finished ground.*

FACILITY ID MARKER TABLE

FACILITY LOCATION		DFI NUMBER	TYPE S2 MARKER		TYPE S1 MARKER	
NORTHING/EASTING	MP		BEGIN	END	RED	GREEN
N: 195861.90 E: 3220099.77	*7.29*	*D00338*	✓			
N: 195874.76, E: 322084.78	*7.29*	*D00405*	✓			

✓ Check where appropriate
Red = Beginning of facility
Green = End of Facility

20 10 0 20
FEET

LEGEND

- *Const. inlet*
- *Extg. inlet*
- *Const. manhole*
- *Extg. manhole*
- *Const. pipe*
- *Extg. pipe*
- *Type S1 DFI Marker*
- *Type S2 DFI Marker*

(Note: Some items shown in legend may not be shown on this plan sheet)

HWY: US30
M.P.: 7.29

UNIT FILE CODE
N/A

DFI/TSSU NO.
SEE TABLE, SHT. HA581

REGISTERED PROFESSIONAL ENGINEER
104026PE
Digitally Signed 2025.11.12 19:02:19-06'00'
OREGON
JUNE 09, 2024
HSUAN-WEN CHU
RENEWS: 12–31–2025

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

WSP USA Inc.
1300 SW 5th Ave
Suite 3100
Portland, OR 97201
Tel: 1 503 274 8772

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

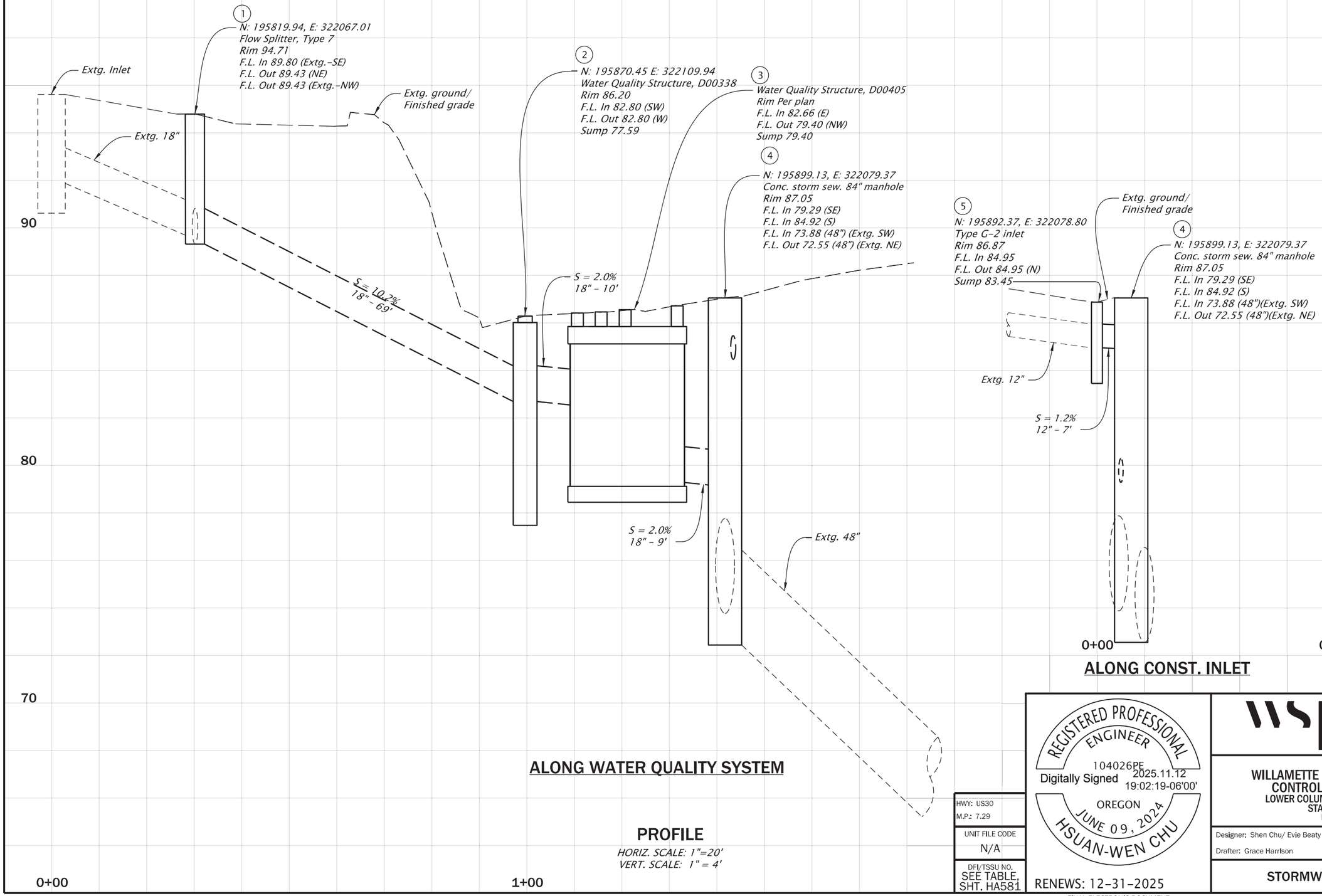
Designer: Shen Chu/ Evie Beaty
Reviewer: Michael Giseburt
Drafter: Grace Harrison
Checker: Angelica Quintero

STORMWATER PLAN

SHEET NO.
HA581

59V-002

Sec.11, T.1N, R.1W, W.M.
OF22D – US30 M.P. 7.29



ALONG WATER QUALITY SYSTEM

PROFILE

HORIZ. SCALE: 1"=20'
VERT. SCALE: 1" = 4'

ALONG CONST. INLET

HWY: US30	
M.P.: 7.29	
UNIT FILE CODE	N/A
DFI/TSSU NO.	SEE TABLE, SHT. HA581

REGISTERED PROFESSIONAL ENGINEER
104026PE
Digitally Signed 2025.11.12 19:02:19-06'00'
OREGON
JUNE 09, 2024
HSUAN-WEN CHU
RENEWS: 12-31-2025

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

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Suite 3100
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Tel: 1 503 274 8772

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

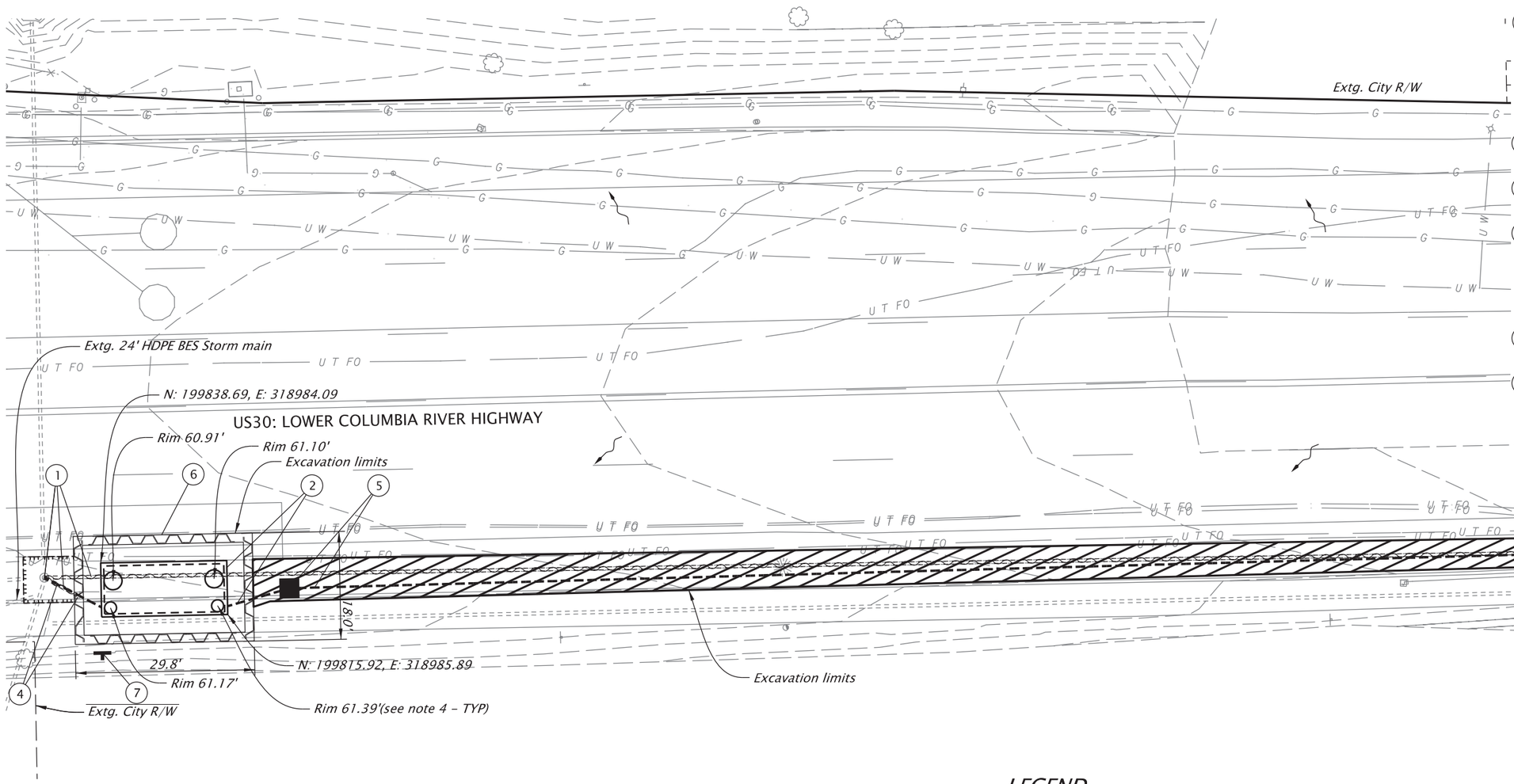
Designer: Shen Chu/ Evie Beaty	Reviewer: Michael Giseburt
Drafter: Grace Harrison	Checker: Angelica Quintero

STORMWATER PROFILE — SHEET NO. HA581A

59V-002

Sec.2, T.1N, R.1W, W.M.

WR126 - US30 M.P. 8.26



CONSTRUCTION NOTES

1. *N: 199845.98, E: 318977.71*
   Remove extg. 15" storm sew. pipe - 275'
   Connect to extg. structure
   Inst. 18" ductile iron pipe - 10'
   10' depth, sl. 1.0%
   Rock excavation - 30 CF
2. *Inst. Water Quality Structure, D00406*
   see sht. no. HB591
   Const. 2' aggregate base under
   Water Quality Structure -189 SF
   Inst. 18" ductile iron pipe - 11'
   5' depth, sl. 6.3%
   Rock excavation - 773 CF
3. *Connect to extg. structure*
4. *Remove extg. structure (BES ID AMV043)*
   Remove extg. 12" storm sew. pipe - 6'
5. *N: 199808.69, E: 318994.41*
   Const. type CG-2 inlet
   (See dwg. no. RD366)
   Inst. 18" storm sew. pipe - 231'
   5' depth, sl. 1.0%
   Rock excavation - 13 CF
6. *Contractor-designed temporary shoring around Water Quality Structure*
7. *Inst. facility field marker, type S2 bolted to steel post*

Note:
1. *Overhead utilities not shown for clarity.*
2. *All features not designated for adjustment of removal are designated to remain. See section 00170.82 and 00310.02.*
3. *Contractor to field verify site conditions prior to installation of shoring.*
4. *Contractor to adjust rim elevation of existing and/or new structures such that the manhole lids and access hatches are flush with finished ground.*

FACILITY ID MARKER TABLE

FACILITY LOCATION		DFI NUMBER	TYPE S2 MARKER		TYPE S1 MARKER	
NORTHING/EASTING	MP		BEGIN	END	RED	GREEN
N: 199831.71, E: 318970.81	*8.26*	*D00406*	✓			

✓ Check where appropriate
Red = Beginning of facility
Green = End of Facility

LEGEND

- *Const. inlet*
- *Extg. inlet*
- *Const. manhole*
- *Extg. manhole*
- *Const. pipe*
- *Extg. pipe*
- *Type S1 DFI Marker*
- *Type S2 DFI Marker*

(Note: Some items shown in legend may not be shown on this plan sheet)

20 10 0 20
FEET

HWY: US30
M.P.: 8.26

UNIT FILE CODE
N/A

DFI/TSSU NO.
D00406

REGISTERED PROFESSIONAL ENGINEER
78195PE
Digitally Signed 2025.11.17 09:40:03-08'00'
OREGON
MAY 16, 2006
CHRISTOPHER J. WEBB
RENEWS: 06-30-2026

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

HERRERA
Herrera Environmental Consultants, Inc.
107 SE Washington Street, Suite 140
Portland, OR 97214
(503) 228-4301
www.herrerainc.com

OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

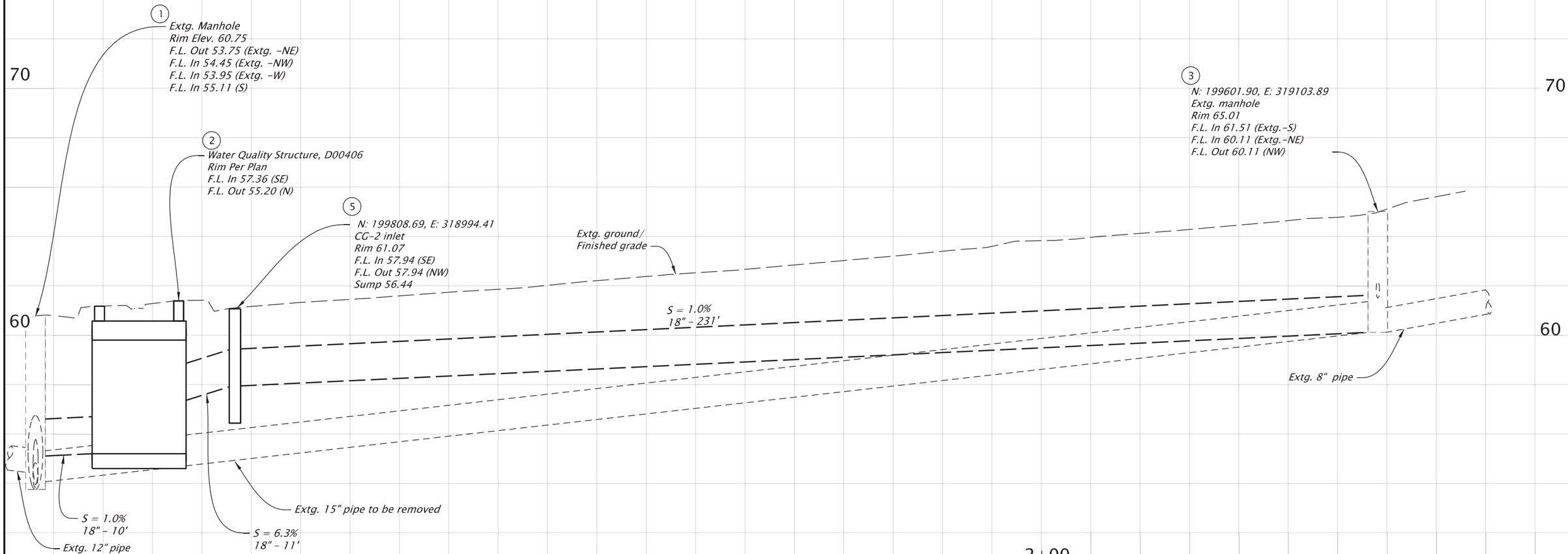
Designer: Jimmy Esteban
Drafter: Hector Vela
Reviewer: Joanna Ogintz
Checker: Christopher Webb

STORMWATER PLAN

SHEET NO.
HA591

59V-002

Sec.2, T.1N, R.1W, W.M.
WR126 - US30 M.P. 8.26



PROFILE
HORIZ. SCALE: 1"=20'
VERT. SCALE: 1" = 4'

HWY: US30	
M.P.: 8.26	
UNIT FILE CODE	N/A
DFI/TSSU NO.	SEE TABLE, SHT. HA591

REGISTERED PROFESSIONAL ENGINEER
78195PE
Digitally Signed 2025.11.17 09:39:27-08'00'
OREGON
MAY 16, 2006
CHRISTOPHER J. WEBB
RENEWS: 06-30-2026

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

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WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Jimmy Esteban	Reviewer: Joanna Ogintz
Drafter: Hector Vela	Checker: Christopher Webb

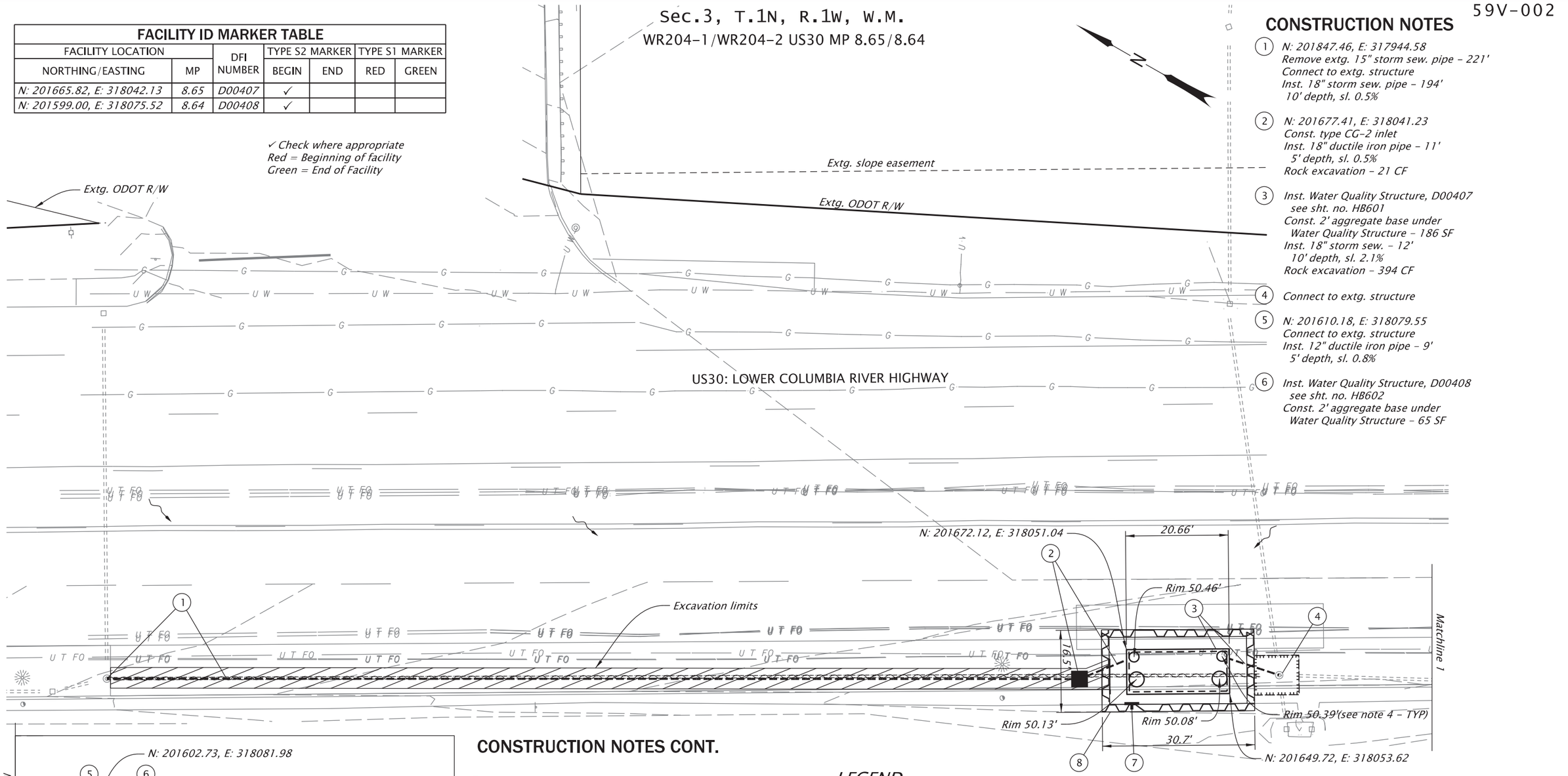
STORMWATER PROFILE — SHEET NO. HA591A

59V-002

FACILITY ID MARKER TABLE						
FACILITY LOCATION		DFI NUMBER	TYPE S2 MARKER		TYPE S1 MARKER	
NORTHING/EASTING	MP		BEGIN	END	RED	GREEN
N: 201665.82, E: 318042.13	*8.65*	*D00407*	✓			
N: 201599.00, E: 318075.52	*8.64*	*D00408*	✓			

✓ Check where appropriate
Red = Beginning of facility
Green = End of Facility

Sec.3, T.1N, R.1W, W.M.
WR204-1/WR204-2 US30 MP 8.65/8.64



CONSTRUCTION NOTES

1. *N: 201847.46, E: 317944.58*
   Remove extg. 15" storm sew. pipe - 221'
   Connect to extg. structure
   Inst. 18" storm sew. pipe - 194'
   10' depth, sl. 0.5%
2. *N: 201677.41, E: 318041.23*
   Const. type CG-2 inlet
   Inst. 18" ductile iron pipe - 11'
   5' depth, sl. 0.5%
   Rock excavation - 21 CF
3. *Inst. Water Quality Structure, D00407*
   see sht. no. HB601
   Const. 2' aggregate base under
   Water Quality Structure - 186 SF
   Inst. 18" storm sew. - 12'
   10' depth, sl. 2.1%
   Rock excavation - 394 CF
4. *Connect to extg. structure*
5. *N: 201610.18, E: 318079.55*
   Connect to extg. structure
   Inst. 12" ductile iron pipe - 9'
   5' depth, sl. 0.8%
6. *Inst. Water Quality Structure, D00408*
   see sht. no. HB602
   Const. 2' aggregate base under
   Water Quality Structure - 65 SF

CONSTRUCTION NOTES CONT.

7. *Inst. facility field marker, type S2 bolted to steel post - 2*
8. *Contractor-designed temporary shoring around Water Quality Structure - 2*

Note:
1. *Overhead utilities not shown for clarity.*
2. *All features not designated for adjustment of removal are designated to remain. See section 00170.82 and 00310.02.*
3. *Contractor to field verify site conditions prior to installation of shoring.*
4. *Contractor to adjust rim elevation of existing and/or new structures such that the manhole lids and access hatches are flush with finished ground.*

LEGEND

- *Const. inlet*
- *Extg. inlet*
- *Const. manhole*
- *Extg. manhole*
- *Const. pipe*
- *Extg. pipe*
- *Type S1 DFI Marker*
- *Type S2 DFI Marker*

(Note: Some items shown in legend may not be shown on this plan sheet)

HWY: US30
M.P.: 8.65/8.64
UNIT FILE CODE: N/A
DFI/TSSU NO.: SEE TABLE, SHT. HA601

REGISTERED PROFESSIONAL ENGINEER
78195PE
Digitally Signed 2025.11.17 09:38:34-08'00'
OREGON
MAY 16, 2006
CHRISTOPHER J. WEBB
RENEWS: 06-30-2026

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

HERRERA
Herrera Environmental Consultants, Inc.
107 SE Washington Street, Suite 140
Portland, OR 97214
(503) 228-4301
www.herrerainc.com

OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Jimmy Esteban
Drafter: Hector Vela
Reviewer: Joanna Ogintz
Checker: Christopher Webb

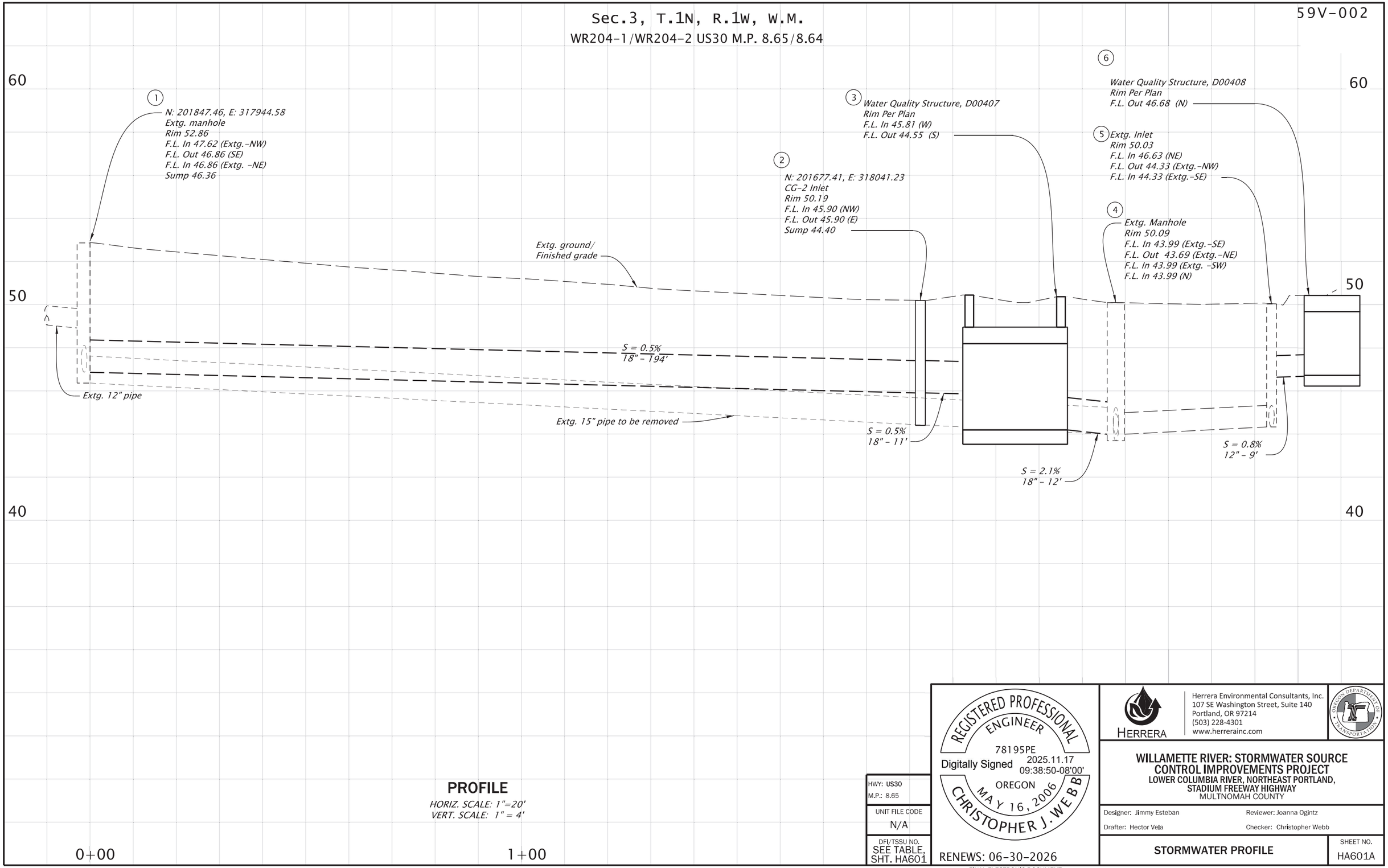
STORMWATER PLAN

SHEET NO.: HA601

59V-002

Sec.3, T.1N, R.1W, W.M.

WR204-1/WR204-2 US30 M.P. 8.65/8.64



PROFILE

HORIZ. SCALE: 1"=20'
VERT. SCALE: 1" = 4'

HWY: US30
M.P.: 8.65

UNIT FILE CODE
N/A

DFI/TSSU NO.
SEE TABLE, SHT. HA601

REGISTERED PROFESSIONAL ENGINEER
78195PE
Digitally Signed 2025.11.17 09:38:50-08'00'
OREGON
MAY 16, 2006
CHRISTOPHER J. WEBB
RENEWS: 06-30-2026

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WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Jimmy Esteban
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Reviewer: Joanna Ogintz
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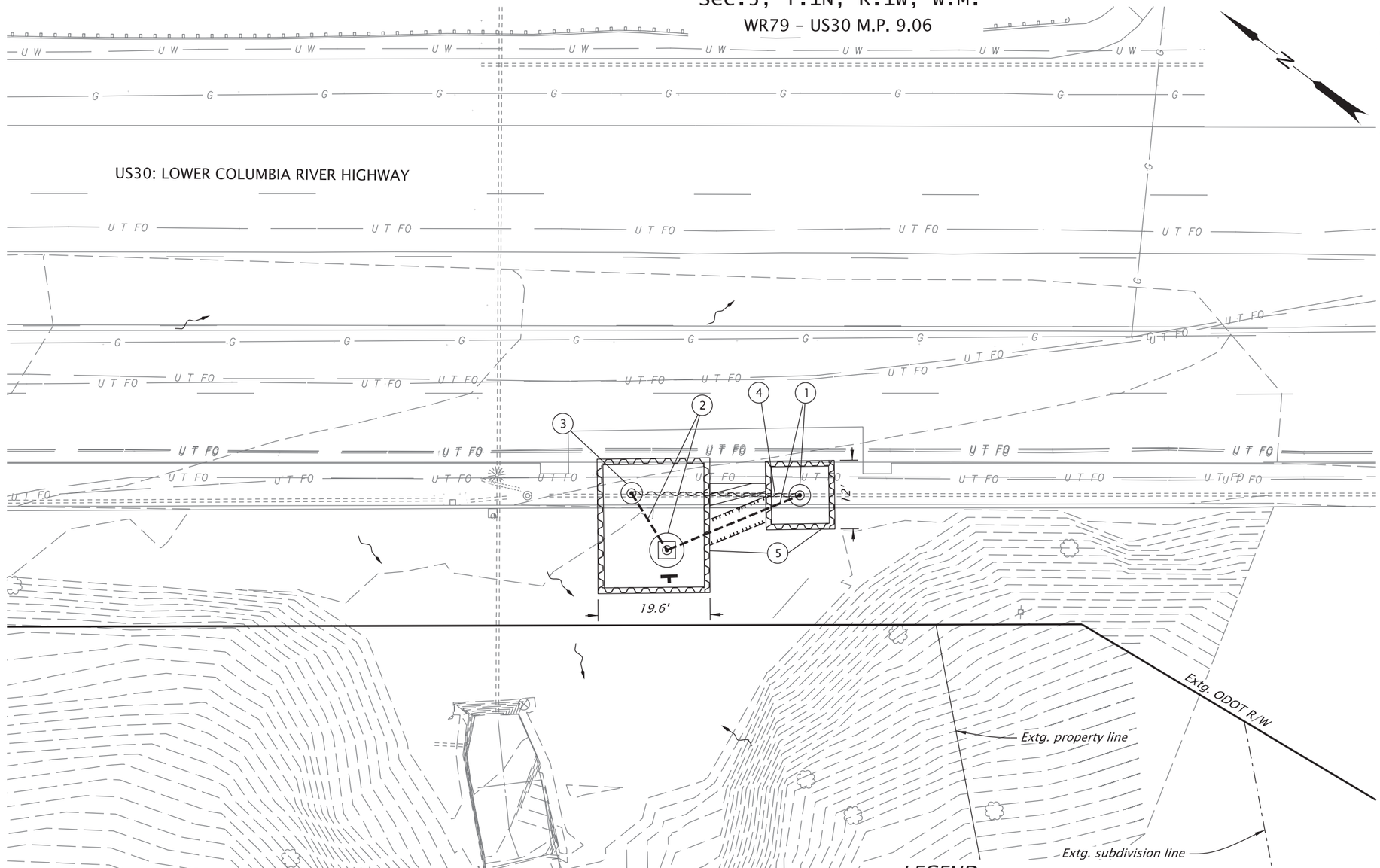
STORMWATER PROFILE

SHEET NO.
HA601A

59V-002

Sec.3, T.1N, R.1W, W.M.

WR79 - US30 M.P. 9.06



CONSTRUCTION NOTES

1. *N: 203501.32, E: 316892.64*
   Const. conc. storm sew. 48" manhole
   Extra for manhole over existing sewers
   Inst. 18" storm sew. pipe - 25'
   10' depth, sl. 0.3%
   Boulder excavation - 449 CF
2. *N: 203514.15, E: 316870.93*
   Inst. Water Quality Structure, D00409
   see sht. no. HB611
   Inst. facility field marker, type S2
   bolted to steel plate
   Const. 2'-0" aggregate base under
   Water Quality Structure - 277 SF
   Inst. 18" storm sew. pipe - 12'
   10' depth, sl. 0.3%
   Boulder excavation - 3872 CF
3. *N: 203525.10, E: 316875.18*
   Const. conc. storm sew. 48" manhole
   Extra for manholes over existing sewers
   Boulder excavation - 576 CF
4. *Remove approx. 6' extg. 18" storm sew. pipe in order to construct new pipe.*
   Abandon extg. pipe to remain- 28.7' +/-
5. *Contractor-designed temporary shoring around Water Quality Structure and storm sew. manhole*

Notes:
1. *Overhead utilities not shown for clarity.*
2. *Contractor to field verify site conditions prior to installation of shoring.*
3. *All features not designated for adjustment or removal are designated to remain. See Section 00170.82 and 00310.02.*
4. *Contractor to adjust rim elevation of existing and/or new structures such that the manhole lids and access hatches are flush with finished ground.*

FACILITY ID MARKER TABLE

FACILITY LOCATION		DFI NUMBER	TYPE S2 MARKER		TYPE S1 MARKER	
NORTHING/EASTING	MP		BEGIN	END	RED	GREEN
N: 203514.15, E: 316870.93	*9.06*	*D00409*	✓			

✓ Check where appropriate
Red = Beginning of facility
Green = End of Facility

20 10 0 20
FEET

LEGEND

- *Const. inlet*
- *Extg. inlet*
- *Const. manhole*
- *Extg. manhole*
- *Const. pipe*
- *Extg. pipe*
- *Type S1 DFI Marker*
- *Type S2 DFI Marker*

(Note: Some items shown in legend may not be shown on this plan sheet)

HWY: US30
M.P.: 9.06
UNIT FILE CODE: N/A
DFI/TSSU NO.: D00409

REGISTERED PROFESSIONAL ENGINEER
104026PE
Digitally Signed 2025.11.12 19:02:20-06'00'
OREGON
JUNE 09, 2024
HSUAN-WEN CHU
RENEWS: 12-31-2025

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

WSP USA Inc.
1300 SW 5th Ave
Suite 3100
Portland, OR 97201
Tel: 1 503 274 8772

OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

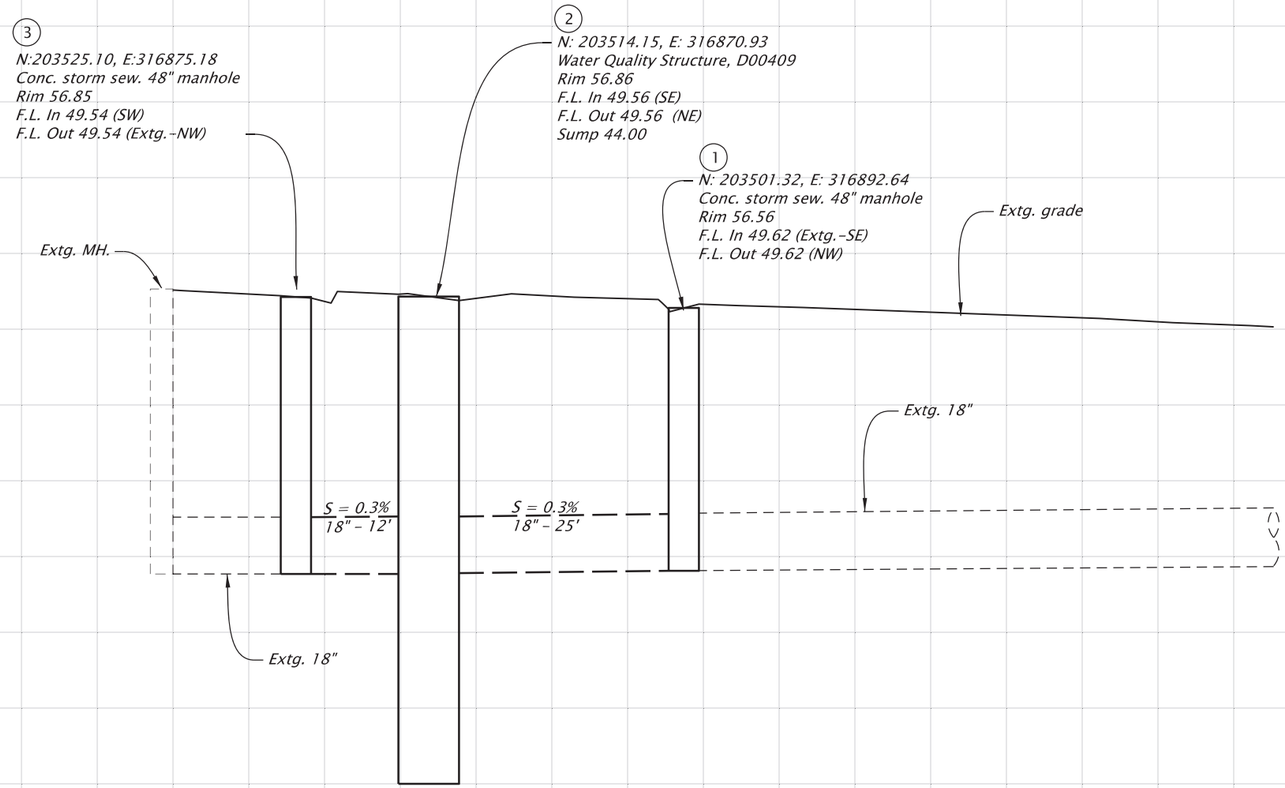
Designer: Pranoti Deshmukh
Drafter: Grace Harrison
Reviewer: Michael Giseburt
Checker: Angelica Quintero

STORMWATER PLAN

SHEET NO. HA611

59V-002

Sec.3, T.1N, R.1W, W.M.
WR79 - US30 M.P. 9.06



PROFILE
HORIZ. SCALE: 1"=20'
VERT. SCALE: 1" = 4'

HWY: US30	
M.P.: 9.06	
UNIT FILE CODE	N/A
DFI/TSSU NO.	D00409

REGISTERED PROFESSIONAL ENGINEER
104026PE
Digitally Signed 2025.11.12 19:02:20-06'00'
OREGON
JUNE 09, 2024
HSUAN-WEN CHU
RENEWS: 12-31-2025

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

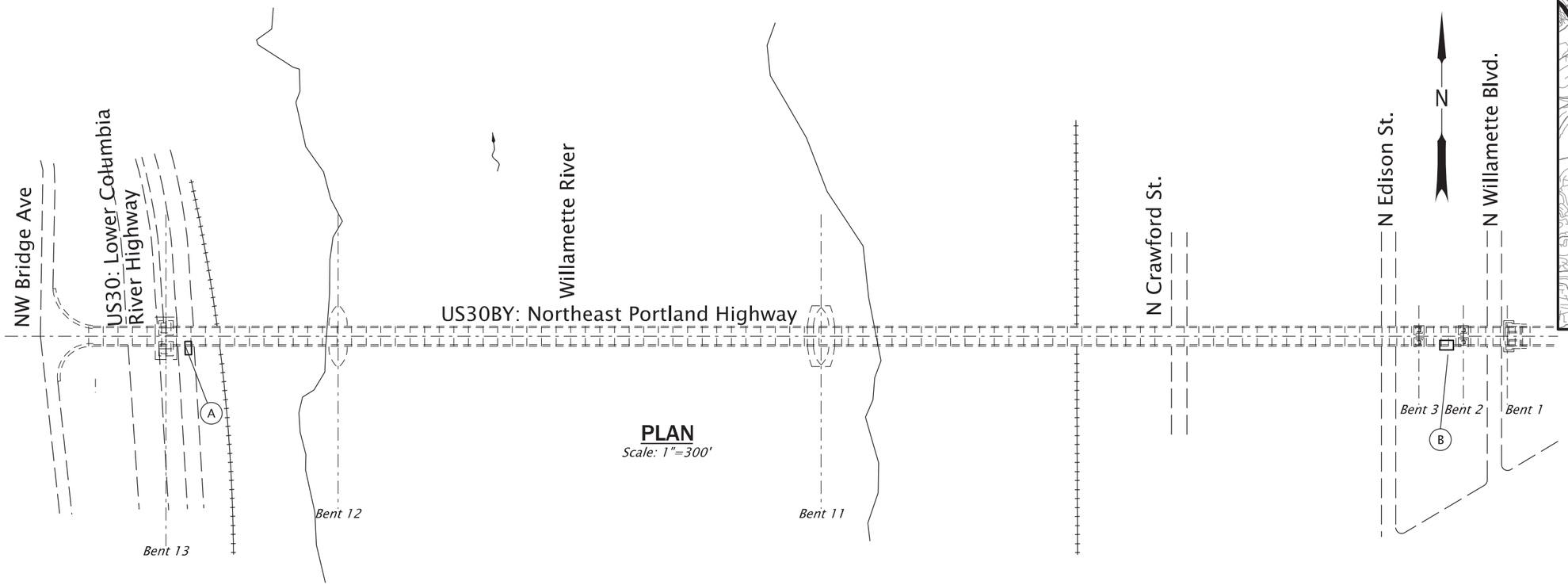
WSP USA Inc.
1300 SW 5th Ave
Suite 3100
Portland, OR 97201
Tel: 1 503 274 8772

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

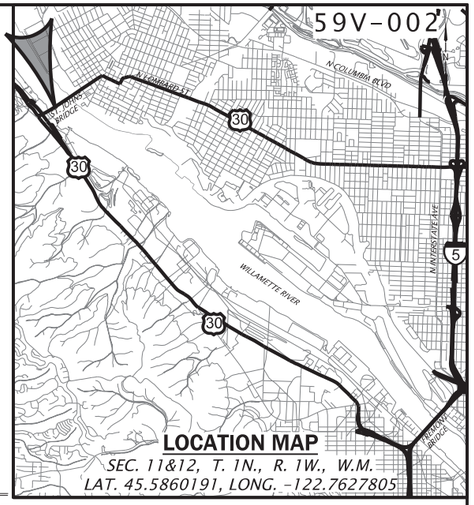
Designer: Pranoti Deshmukh	Reviewer: Michael Giseburt
Drafter: Grace Harrison	Checker: Angelica Quintero

STORMWATER PROFILE — SHEET NO. HA611A

Sec.11 & 12, T.1N, R.1W, W.M.
ST. JOHNS BRIDGE



PLAN
Scale: 1"=300'

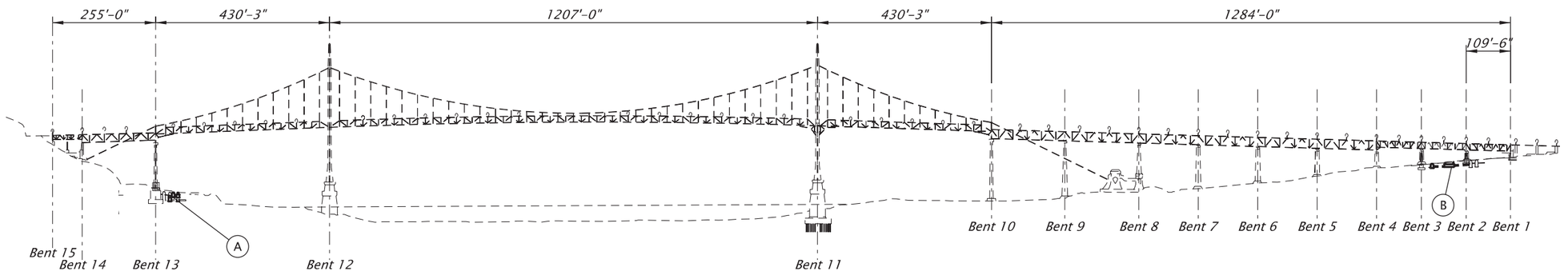


LOCATION MAP
SEC. 11&12, T. 1N., R. 1W., W.M.
LAT. 45.5860191, LONG. -122.7627805

DETAIL REFERENCE NOTES:

(A) *St Johns Bridge – West End*
Construct stormwater treatment structure, see sht. HB002

(B) *St Johns Bridge – East End*
Construct stormwater treatment structure, see sht. HB101



ELEVATION
Scale: 1"=300'

REGISTERED PROFESSIONAL ENGINEER
104026PE
Digitally Signed 2025.11.12 19:02:21-06'00'
OREGON
JUNE 09, 2024
HSUAN-WEN CHU
RENEWS: 12-31-2025

WSP USA Inc.
1300 SW 5th Ave
Suite 3100
Portland, OR 97201
Tel: 1 503 274 8772

OREGON DEPARTMENT OF TRANSPORTATION

Willamette R & Hwy 2W NB & UPRR, Hwy123 (St Johns)

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Fernando Sunago
Drafter: Grace Harrison
Reviewer: Stuart Bennion
Checker: Stuart Bennion

ST. JOHNS BRIDGE - SITE PLAN AND ELEVATION

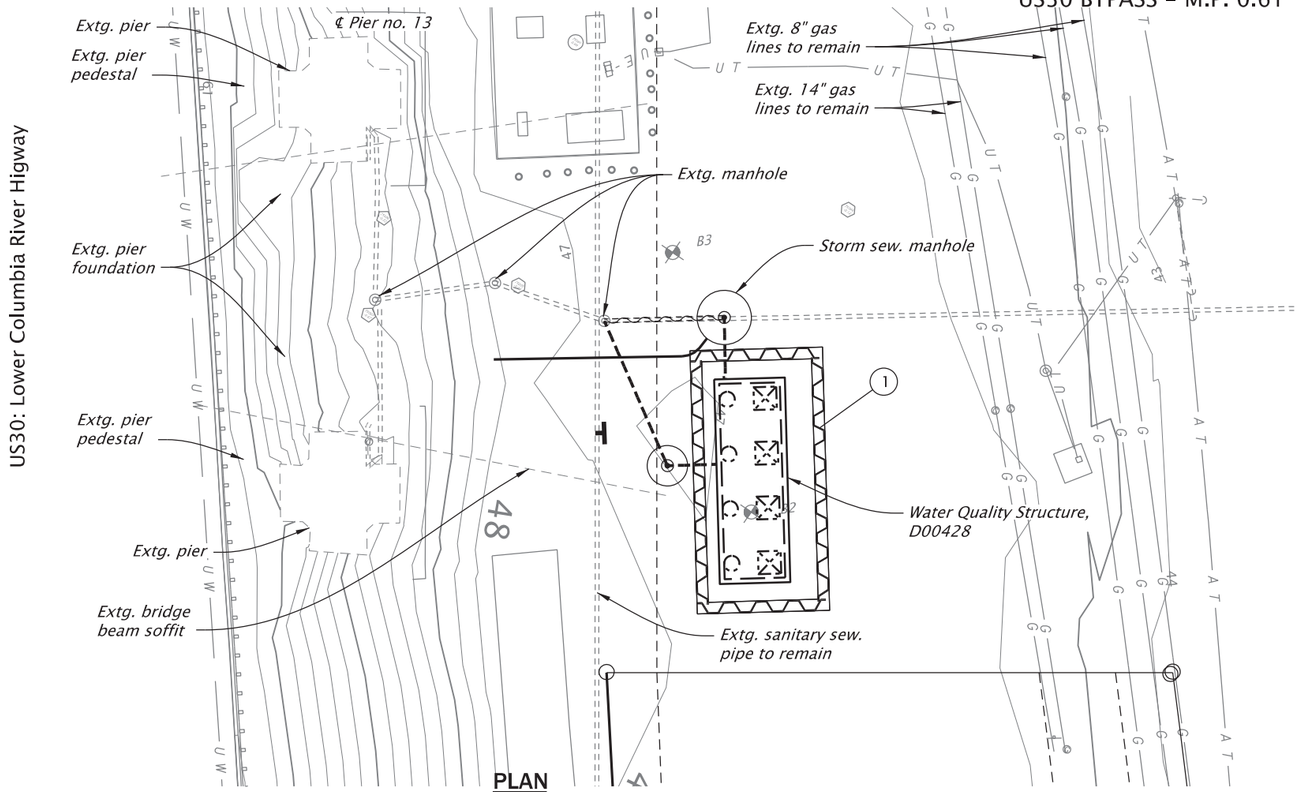
SHEET NO. HB001

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

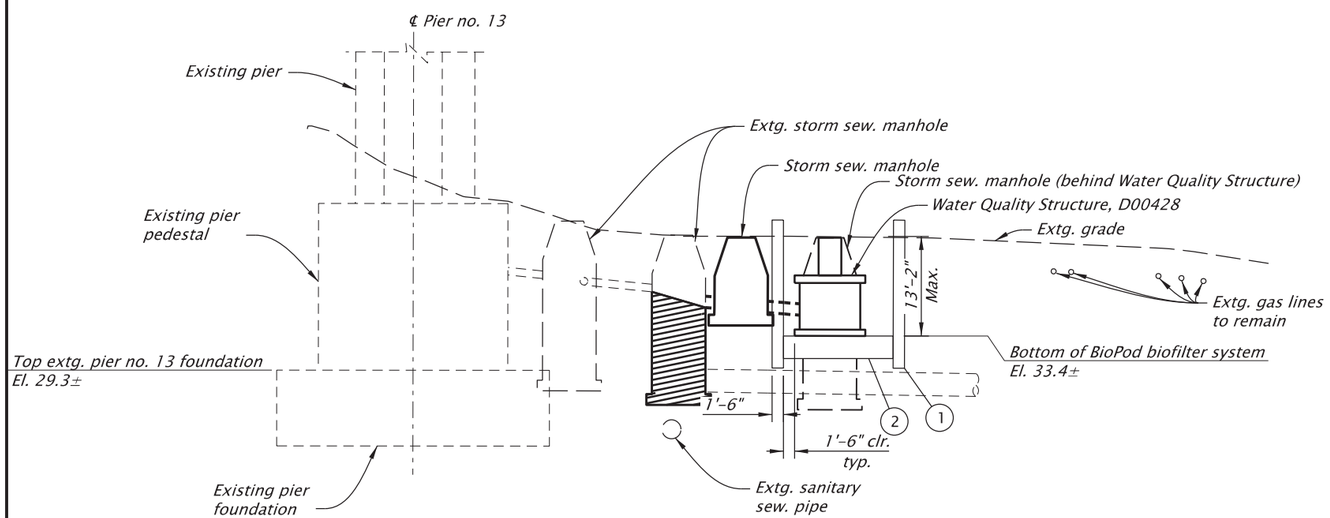
59V-002

Sec.11, T.1N, R.1W, W.M.

ST. JOHNS BRIDGE - WEST END
US30 BYPASS - M.P. 0.61



PLAN
Scale: 1"=20'



ELEVATION
Scale: 1"=20'

NOTES:

1. *Protect existing utilities in place unless otherwise noted.*
2. *For work items not shown on this plan, see sht. no. HA001, HA001A, HB001, HB003.*

WORK ITEMS:

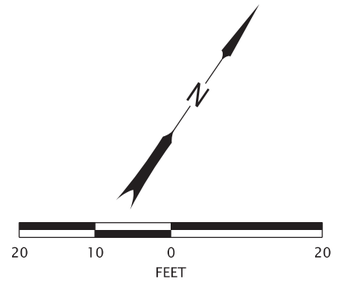
(1) *Temporary shoring around BioPod biofilter system*

(2) *2'-0" Aggregate base under BioPod biofilter system*

LEGEND

- *Const. inlet*
- *Extg. inlet*
- *Const. manhole*
- *Extg. manhole*
- *Const. pipe*
- *Extg. pipe*
- *Type S1 DFI Marker*
- *Type S2 DFI Marker*

(Note: Some items shown in legend may not be shown on this plan sheet)



REGISTERED PROFESSIONAL ENGINEER
104026PE
Digitally Signed 2025.11.12 19:02:21-06'00'
OREGON
JUNE 09, 2024
HSUAN-WEN CHU
RENEWS: 12-31-2025

WSP USA Inc.
1300 SW 5th Ave
Suite 3100
Portland, OR 97201
Tel: 1 503 274 8772

Willamette R & Hwy 2W NB & UPRR, Hwy123 (St Johns)

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

HWY: US30 BYPASS	
M.P.: 0.61	
UNIT FILE CODE: N/A	
DFI/TSSU NO.: D00428	
Designer: Fernando Sunago	Reviewer: Stuart Bennion
Drafter: Grace Harrison	Checker: Stuart Bennion

ST. JOHNS BRIDGE - WEST PLAN & ELEVATION

SHEET NO. HB002

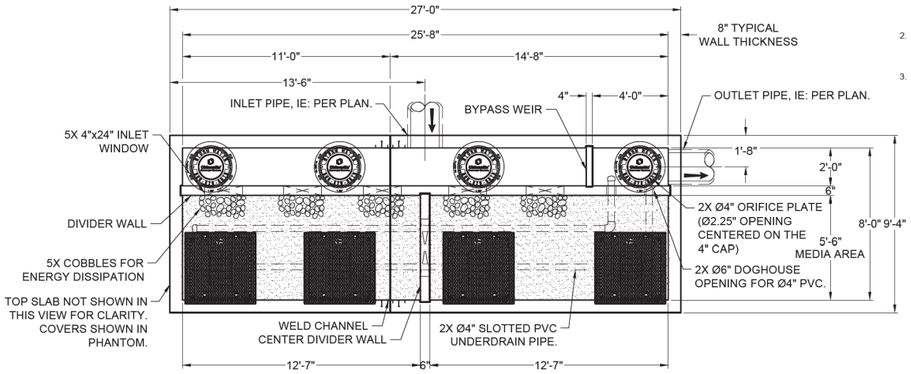
FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

Sec.11, T.1N, R.1W, W.M.

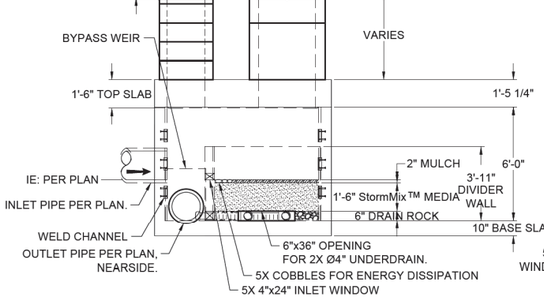
ST. JOHNS BRIDGE - WEST END
US30 BYPASS - M.P. 0.61

SITE SPECIFIC DATA				
Structure ID			ST. JOHNS WEST	
Model Size			8X25.67	
Treatment Flow Rate (cfs)			0.49	
Peak Flow Rate (cfs)			1.32	
Rim Elevation			PER PLAN	
Pipe Data	**Pipe Location**	**Pipe Size**	**Pipe Type**	**Invert Elevation**
Inlet	PER PLAN	PER PLAN	PER PLAN	PER PLAN
Outlet	PER PLAN	PER PLAN	PER PLAN	PER PLAN
Notes:				

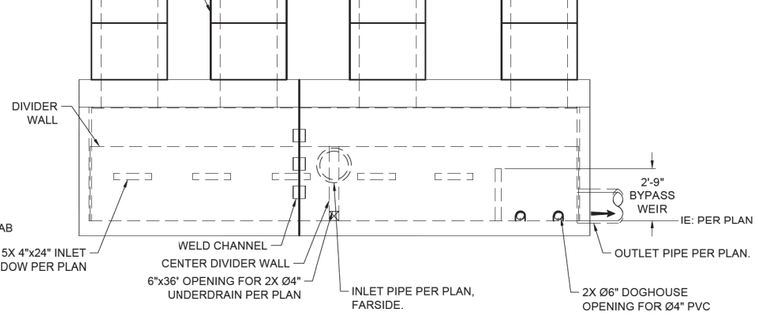
PERFORMANCE SPECIFICATIONS	
Treatment Flow Capacities:	
WA Ecology GULD - Basic, Enhanced & Phosphorus	0.493 cfs
Bypass Capacity	8.6 cfs
*Contact Oldcastle for alternative treatment flow capacities.	



PLAN VIEW
(TOP SLAB NOT SHOWN FOR CLARITY)



LEFT END VIEW
(WALL SLOT LINES NOT SHOWN FOR CLARITY)



ELEVATION VIEW
(WALL SLOT LINES, MEDIA & Ø24" ACCESS COVERS NOT SHOWN FOR CLARITY)

NOTES:

1. DESIGN LOADINGS:
   A. VAULT AND HATCHES SHALL BE ABLE TO SUPPORT A TAYLOR MODEL NO. XH400L HEAVY DUTY FORKLIFT WITH A MINIMUM LOADED FRONT AXLE LOAD OF 90.6 KIPS.
   B. CONTRACTOR TO PROVIDE ANTI-BUOYANCY CALCULATIONS AS REQUIRED. SEE GEOTECH REPORT.
   C. DRY LATERAL EARTH PRESSURE (ERP) = 45 PCF
2. OLDCASTLE SHALL PROVIDE OUTER PRECAST TRENCH, PRECAST INVERTED TRENCH, INTERNAL PIPING, MULCH, STORMIX MEDIA, AND GRAVEL.
3. OVERSIZED HOLES TO ACCOMODATE SPECIFIC PIPE TYPE MUST BE CONCETRIC TO PIPE ID. AFTER PIPES ARE INSTALLED, ALL ANNULAR SPACES SHALL BE GROUTED WITH NON-SHRINK GROUT. PIPES ARE TO BE FLUSH WITH THE INSIDE SURFACE OF THE CONCRETE STRUCTURE.

'Bioretention/ Biofiltration

REV	DESCRIPTION	DATE
-	-	-

Oldcastle Infrastructure
A CRH COMPANY
Ph: 800.579.5819 | www.oldcastleinfrastructure.com/stormwater

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BioPod™ Biofilter System UNDERGROUND VAULT	SYSTEM ID: ST. JOHNS WEST
CUSTOMER: Herrara Environmental Inc.	
JOB NAME: ODOT Regional Basin - Oregon, OR	JOB NUMBER: 23-847151
DATE: 4/1/25 | MFG LOC: 010-AU | DRAWN: PPS | ENGINEER: AFD | CHECKED: AFD	SALES ORDER: -
DRAWING NAME: CONCEPTUAL DRAWING	SHEET: 1 OF 1

WATER QUALITY STRUCTURE, D00428

Notes:

1. *Section heights, slab/wall thicknesses, and other shown are diagrammatic and subject to final design by the vendor.*

HWY: US30
M.P.: 0.61

UNIT FILE CODE
N/A

DFI/TSSU NO.
SEE TABLE, SHT. HA001

REGISTERED PROFESSIONAL ENGINEER
78195PE
Digitally Signed 2025.11.17 09:39:06-08'00'
OREGON
MAY 16, 2006
CHRISTOPHER J. WEBB
RENEWS: 06-30-2026

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OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

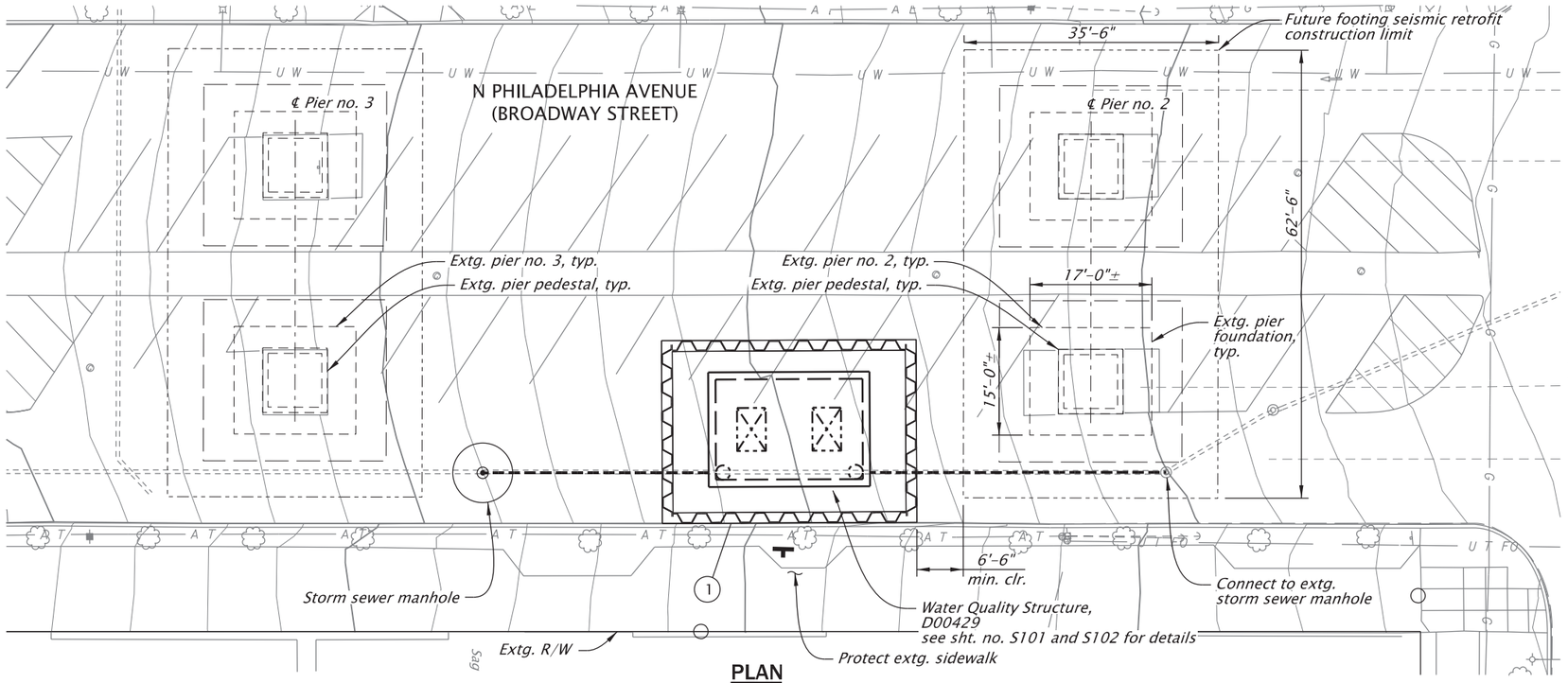
Designer: Jimmy Esteban | Reviewer: Joanna Ogintz
Drafter: Hector Vela | Checker: Christopher Webb

DETAILS | SHEET NO. HB003

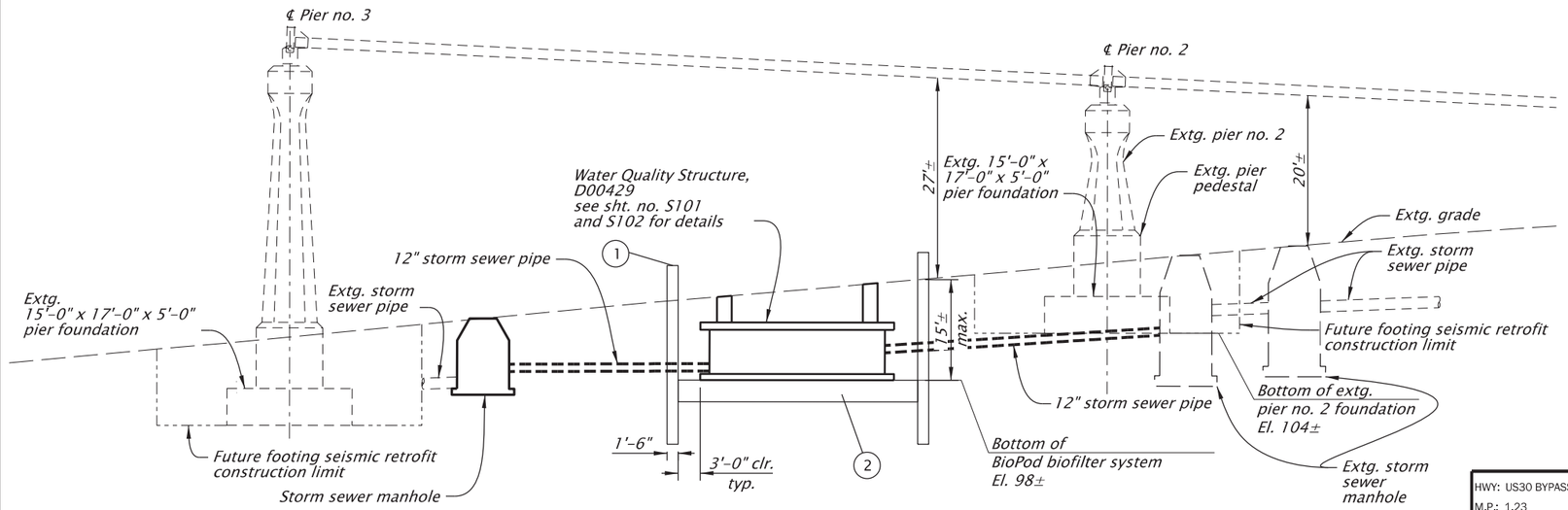
FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

Sec.12, T.1N, R.1W, W.M.

ST. JOHNS BRIDGE - EAST END
US30 BYPASS - M.P. 1.23



PLAN
Scale: 1"=20'



ELEVATION
Scale: 1"=20'

NOTES:

1. *Protect existing utilities in place unless otherwise noted.*
2. *For work items not shown on this plan, see sht. no. HA101, HA101A, and HB102.*

WORK ITEMS:

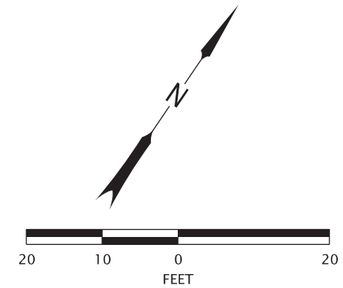
(1) *Temporary shoring around BioPod biofilter system*

(2) *2'-0" Aggregate base under BioPod biofilter system*

LEGEND

- Const. inlet
- Extg. inlet
- Const. manhole
- Extg. manhole
- Const. pipe
- Extg. pipe
- Type S1 DFI Marker
- Type S2 DFI Marker

(Note: Some items shown in legend may not be shown on this plan sheet)



HWY: US30 BYPASS	
M.P.: 1.23	
UNIT FILE CODE	N/A
DFI/TSSU NO.	D00429

REGISTERED PROFESSIONAL ENGINEER
104026PE
Digitally Signed 2025.11.12 19:02:21-06'00'
OREGON
JUNE 09, 2024
HSUAN-WEN CHU
RENEWS: 12-31-2025

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Willamette R & Hwy 2W NB & UPRR, Hwy123 (St Johns)

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Fernando Sunago	Reviewer: Stuart Bennion
Drafter: Grace Harrison	Checker: Stuart Bennion

ST JOHNS BRIDGE - EAST PLAN & ELEVATION

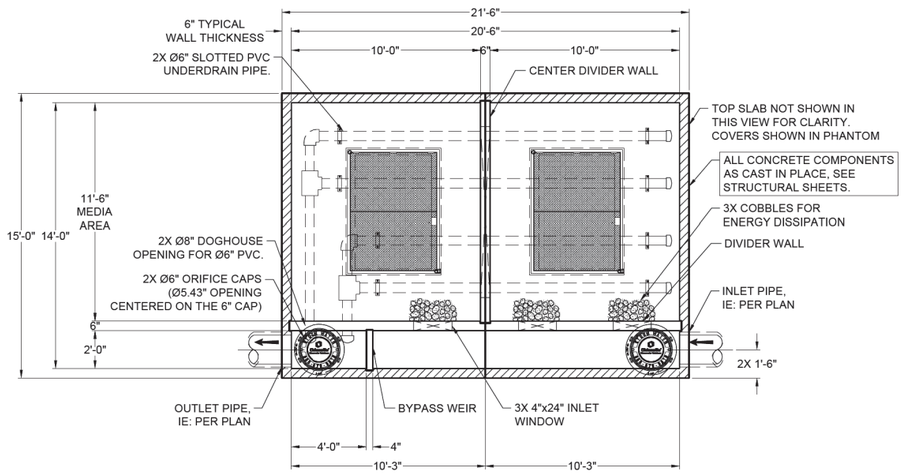
SHEET NO. HB101

Sec.27, T.1N, R.1E, W.M.

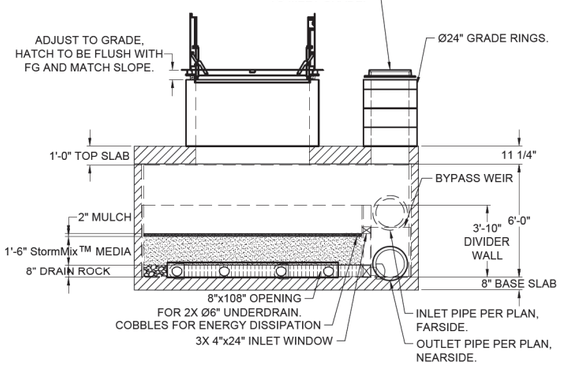
ST. JOHNS BRIDGE - EAST END
US30 BYPASS - M.P. 1.23

SITE SPECIFIC DATA				
Structure ID			ST. JOHNS EAST	
Model Size			14X20.5	
Treatment Flow Rate (cfs)			0.84	
Peak Flow Rate (cfs)			2.27	
Rim Elevation			PER PLAN	
Pipe Data	**Pipe Location**	**Pipe Size**	**Pipe Type**	**Invert Elevation**
Inlet	PER PLAN	PER PLAN	PER PLAN	PER PLAN
Outlet	PER PLAN	PER PLAN	PER PLAN	PER PLAN
Notes:				

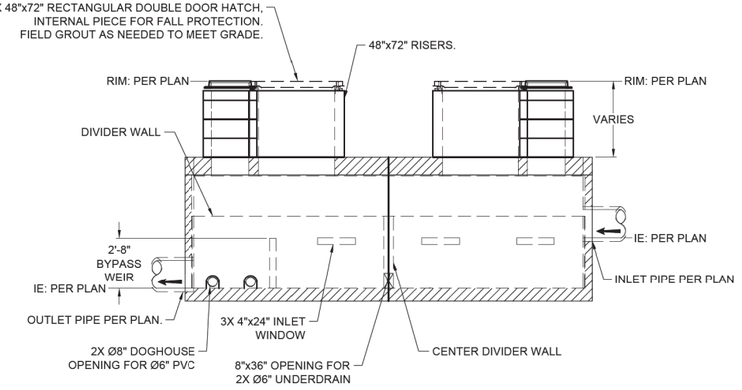
PERFORMANCE SPECIFICATIONS	
Treatment Flow Capacities:	
WA Ecology GULD - Basic, Enhanced & Phosphorus	0.84 cfs
Bypass Capacity	8.58 cfs
*Contact Oldcastle for alternative treatment flow capacities.	



PLAN VIEW
(TOP SLAB NOT SHOWN FOR CLARITY)



LEFT END VIEW
(WALL SLOT LINES NOT SHOWN FOR CLARITY)



ELEVATION VIEW
(WALL SLOT LINES & MEDIA NOT SHOWN FOR CLARITY)

NOTES:

1. OLDCASTLE SHALL PROVIDE INTERNAL PIPING, MULCH, STORMIX MEDIA, AND GRAVEL.
2. OVERSIZED HOLES TO ACCOMODATE SPECIFIC PIPE TYPE MUST BE CONCETRIC TO PIPE ID. AFTER PIPES ARE INSTALLED, ALL ANNULAR SPACES SHALL BE GROUTED WITH NON-SHRINK GROUT. PIPES ARE TO BE FLUSH WITH THE INSIDE SURFACE OF THE CONCRETE STRUCTURE.

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Ph: 800.579.8819 | www.oldcastleinfrastructure.com/stormwater

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BioPod™ Biofilter System
14'x20'-6" Underground Vault with Internal Bypass

CUSTOMER: Herrara Environmental Inc.
JOB NAME: ODOT Regional Basin - Oregon, OR

DATE	MFG	DRAWN	ENGINEER	CHECKED	SALES ORDER
10/11/23	010-AU	PPS	AFD	AFD	-
INTERNAL DRAWING ID				REVISION	SHEET
23-847151-BPU-1420.5IB_ST. JOHNS EAST				3 REV DATE 4/24/25	1 OF 1

REV	DESCRIPTION	BY	DATE

WATER QUALITY STRUCTURE, D00429

Notes:

1. *See dwg. no. S101 and S102 for cast in place details.*

HWY: US30
M.P.: 1.23

UNIT FILE CODE: N/A

DFI/TSSU NO.: SEE TABLE, SHT. HA101

REGISTERED PROFESSIONAL ENGINEER
78195PE
Digitally Signed 2025.11.17 09:38:16-08'00'
OREGON
MAY 16, 2006
CHRISTOPHER J. WEBB
RENEWS: 06-30-2026

HERRERA
Herrera Environmental Consultants, Inc.
107 SE Washington Street, Suite 140
Portland, OR 97214
(503) 228-4301
www.herrerainc.com

OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Jimmy Esteban
Drafter: Hector Vela
Reviewer: Joanna Ogintz
Checker: Christopher Webb

DETAILS

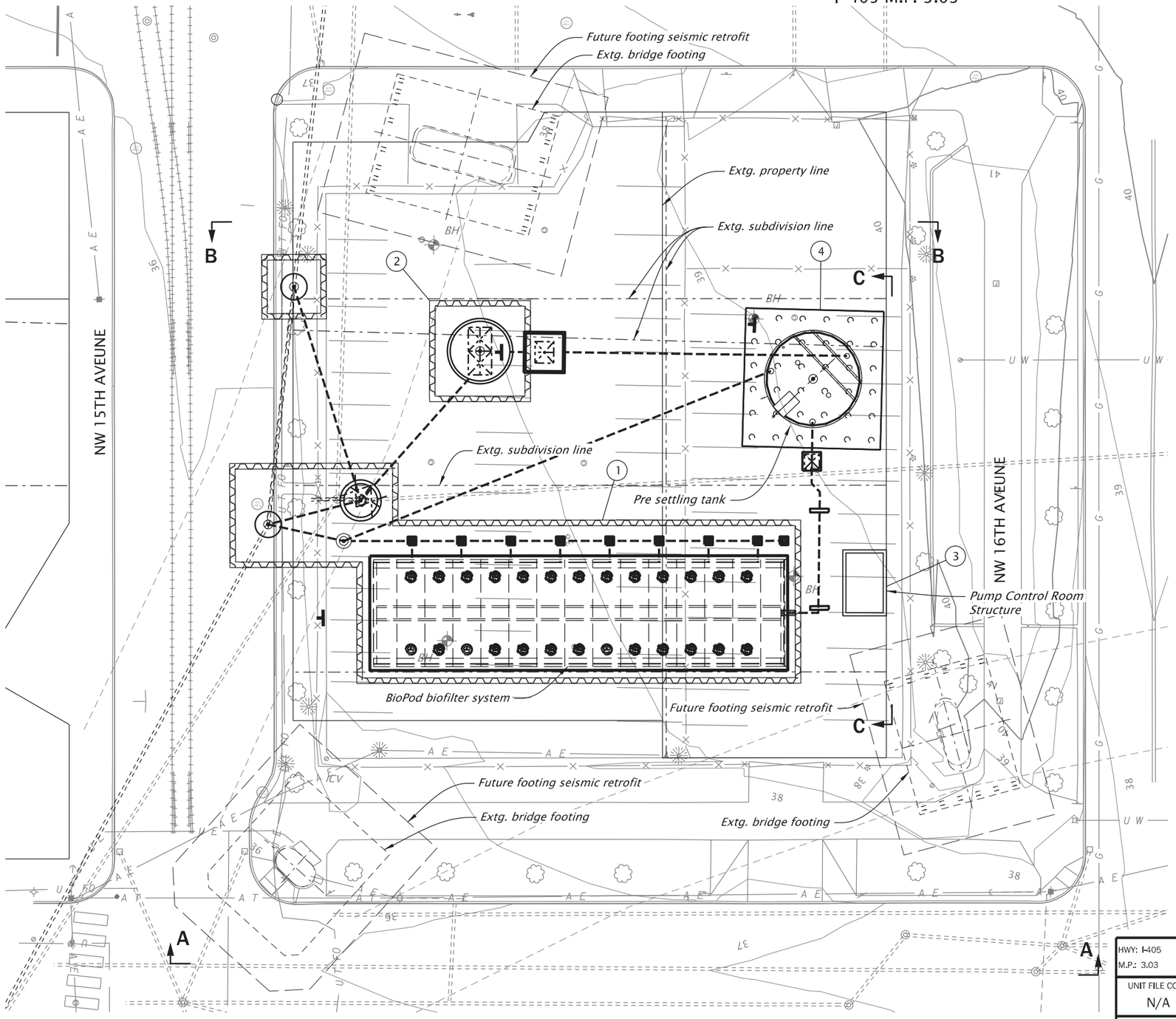
SHEET NO.: HB102

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

59V-002

Sec.28 & 33, T.1N, R.1E, W.M.

I-405/FREMONT BRIDGE - INTERCHANGE
I-405 M.P. 3.03



PLAN
Scale: 1"=30'

NOTES:

1. *Protect existing utilities in place unless otherwise noted.*
2. *For work items not shown on this plan, see sht. no. HA201, HA201A through HA201C, HB203 through HB214.*
3. *See sht. no HB203 for detailed sections*

WORK ITEMS:

1. *Temporary shoring around BioPod biofilter system*
2. *Temporary shoring around drainage structures*
3. *Control room spread footing see sht. nos. S201 - S203 for details*
4. *Pre settling tank spread footing on piles see sht. no. S204 for details*

LEGEND

- *Const. inlet*
- *Extg. inlet*
- *Const. manhole*
- *Extg. manhole*
- *Const. pipe*
- *Extg. pipe*
- *Type S1 DFI Marker*
- *Type S2 DFI Marker*

(Note: Some items shown in legend may not be shown on this plan sheet)

N

30 15 0 30
FEET

HWY: I-405
M.P.: 3.03

UNIT FILE CODE
N/A

DFI/TSSU NO.
SEE TABLE, SHT. HA201

REGISTERED PROFESSIONAL ENGINEER
104026PE
Digitally Signed 2025.11.12 19:02:22-06'00'
OREGON
JUNE 09, 2024
HSUAN-WEN CHU
RENEWS: 12-31-2025

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

WSP USA Inc.
1300 SW 5th Ave
Suite 3100
Portland, OR 97201
Tel: 1 503 274 8772

Willamette River, Hwy 61 (Fremont)

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Fernando Sunago
Drafter: Grace Harrison
Reviewer: Stuart Bennion
Checker: Stuart Bennion

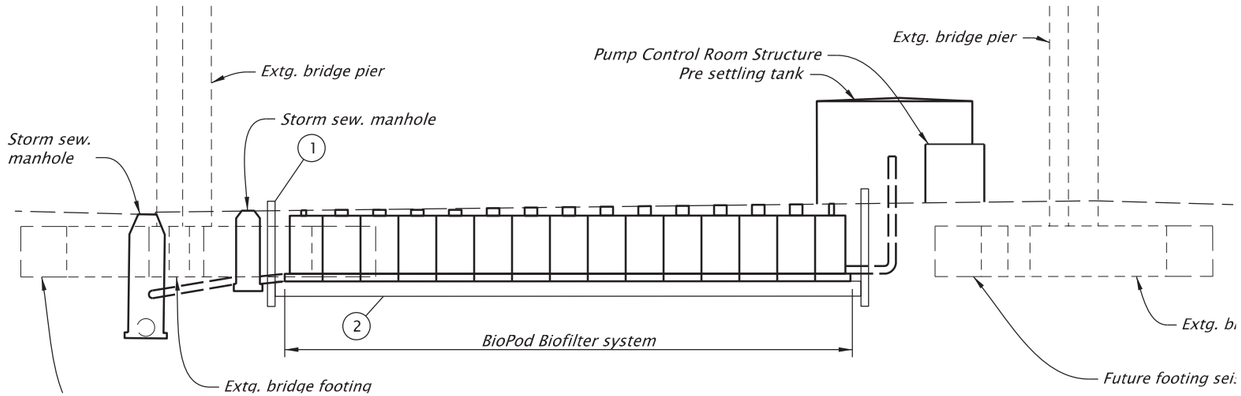
FREMONT BRIDGE - INTERCHANGE PLAN

SHEET NO.
HB202

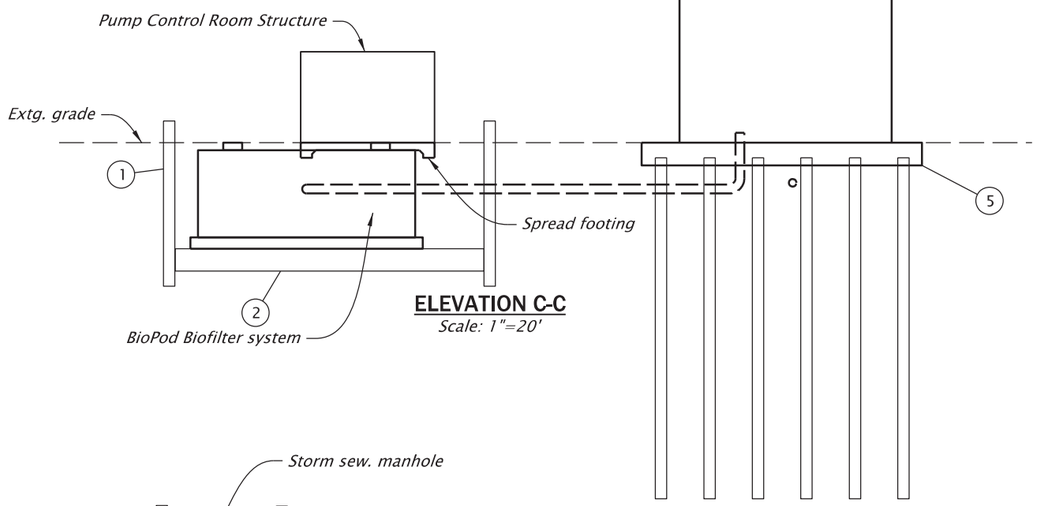
59V-002

Sec.28 & 33, T.1N, R.1E, W.M.

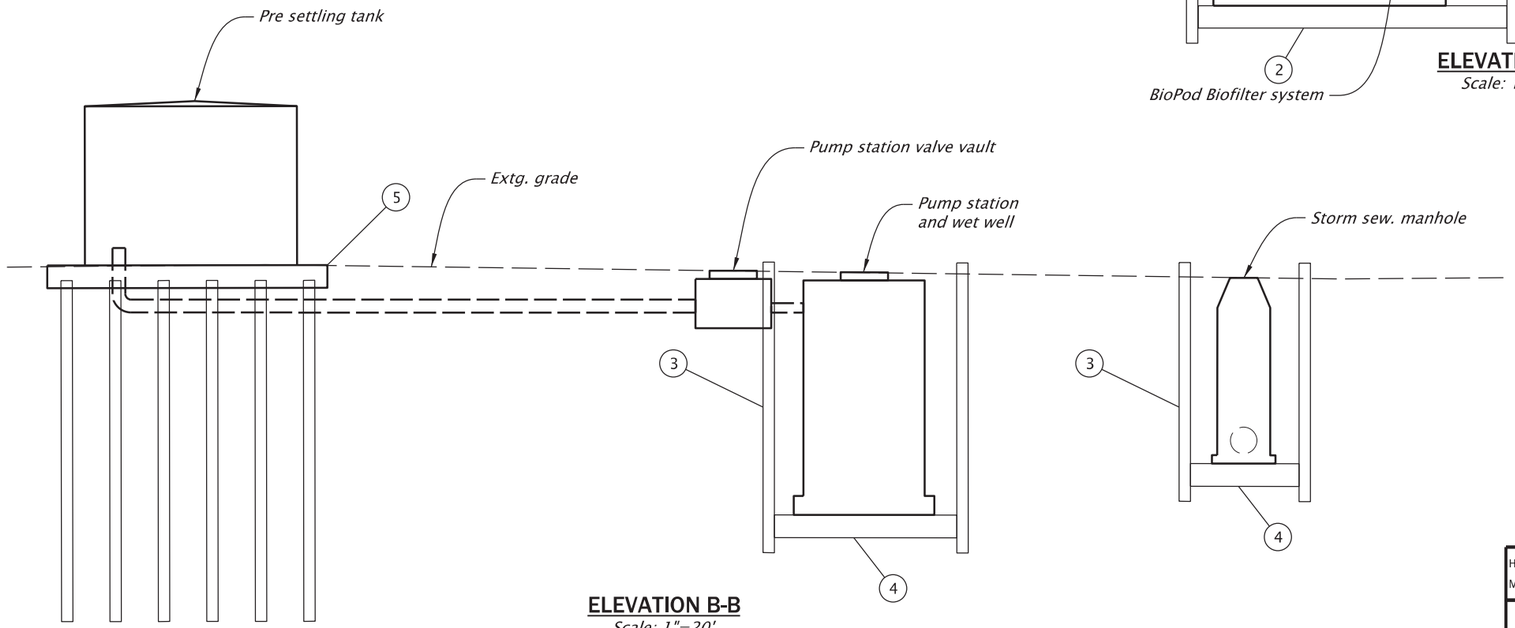
I-405/FREMONT BRIDGE - INTERCHANGE
I-405 M.P. 3.03



ELEVATION A-A
Scale: 1"=30'



ELEVATION C-C
Scale: 1"=20'



ELEVATION B-B
Scale: 1"=20'

NOTES:

1. *Protect existing utilities in place unless otherwise noted.*
2. *For work items not shown on this plan, see sht. no. HA201, HA201A through HA201C, HB201, HB202, HB204 through HB209.*

WORK ITEMS:

1. *Temporary shoring around BioPod biofilter system*
2. *2'-0" Aggregate base under BioPod biofilter system*
3. *Temporary shoring around drainage structures*
4. *Contractor designed temporary seal if required*
5. *Pile supported spread footing*
   For pile requirements, see sht. no. S204

HWY: I-405
M.P.: 3.03

UNIT FILE CODE
N/A

DFI/TSSU NO.
SEE TABLE, SHT. HA201

REGISTERED PROFESSIONAL ENGINEER
104026PE
Digitally Signed 2025.11.12 19:02:22-06'00'
OREGON
JUNE 09, 2024
HSUAN-WEN CHU
RENEWS: 12-31-2025

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

WSP USA Inc.
1300 SW 5th Ave
Suite 3100
Portland, OR 97201
Tel: 1 503 274 8772

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

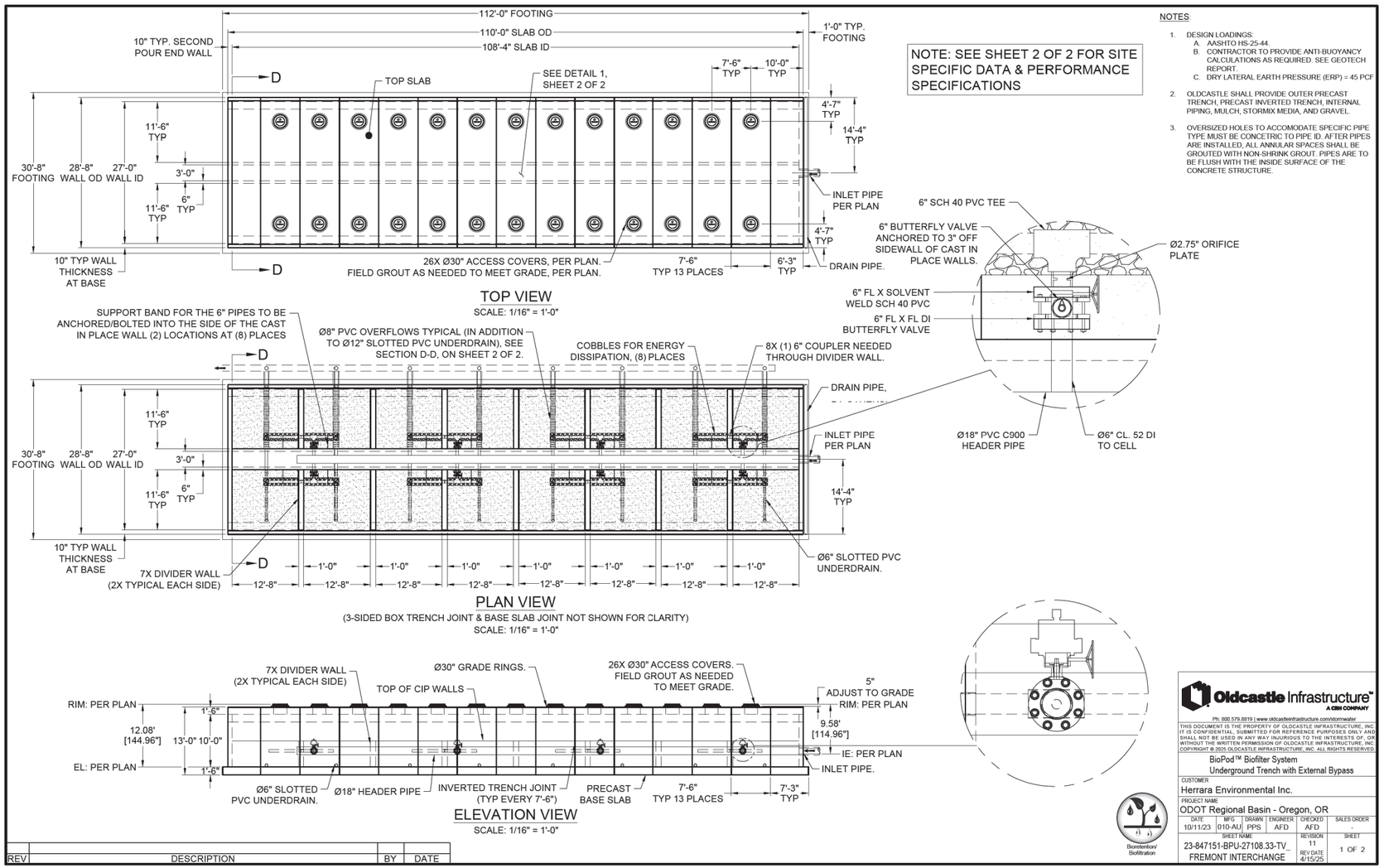
Designer: Fernando Sunago
Drafter: Grace Harrison
Reviewer: Stuart Bennion
Checker: Stuart Bennion

FREMONT BRIDGE - INTERCHANGE ELEVATION

SHEET NO.
HB203

Sec.28 & 33, T.1N, R.1E, W.M.

I-405/FREMONT BRIDGE - INTERCHANGE
I-405 M.P. 3.03



NOTE: SEE SHEET 2 OF 2 FOR SITE SPECIFIC DATA & PERFORMANCE SPECIFICATIONS

NOTES:

1. DESIGN LOADINGS:
   A. AASHTO HS-25-44.
   B. CONTRACTOR TO PROVIDE ANTI-BUOYANCY CALCULATIONS AS REQUIRED. SEE GEOTECH REPORT.
   C. DRY LATERAL EARTH PRESSURE (ERP) = 45 PCF
2. OLDCASTLE SHALL PROVIDE OUTER PRECAST TRENCH, PRECAST INVERTED TRENCH, INTERNAL PIPING, MULCH, STORMIX MEDIA, AND GRAVEL.
3. OVERSIZED HOLES TO ACCOMODATE SPECIFIC PIPE TYPE MUST BE CONCETRIC TO PIPE ID. AFTER PIPES ARE INSTALLED, ALL ANNULAR SPACES SHALL BE GROUTED WITH NON-SHRINK GROUT. PIPES ARE TO BE FLUSH WITH THE INSIDE SURFACE OF THE CONCRETE STRUCTURE.

REV	DESCRIPTION	BY	DATE

Oldcastle Infrastructure
A CRH COMPANY
Ph: 800.579.8819 | www.oldcastleinfrastructure.com/stormwater

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BioPod™ Biofilter System
Underground Trench with External Bypass

CUSTOMER: Herrara Environmental Inc.
PROJECT NAME: ODOT Regional Basin - Oregon, OR

DATE	BPS	DRAWN	ENGINEER	CHECKED	SALES ORDER
10/11/23	010-AU	PPS	AFD	AFD	- -

SHEET NAME: 23-847151-BPU-27108.33-TV_ FREMONT INTERCHANGE
REVISION: 11
REV DATE: 4/15/25
SHEET: 1 OF 2

Bioretention/ Biofiltration

WATER QUALITY STRUCTURE, D00431

Notes:

1. *Section heights, slab/wall thicknesses, and other shown are diagrammatic and subject to final design by the vendor.*
2. *Where referencing sheet 2 of 2 on drawing, refer to sht. no. HB205*

HWY: I-405
M.P.: 3.03

UNIT FILE CODE: N/A

DFI/TSSU NO.: SEE TABLE, SHT. HA201

REGISTERED PROFESSIONAL ENGINEER
78195PE
Digitally Signed 2025.11.17 09:37:58-08'00'
OREGON
MAY 16, 2006
CHRISTOPHER J. WEBB
RENEWS: 06-30-2026

HERRERA
Herrera Environmental Consultants, Inc.
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Portland, OR 97214
(503) 228-4301
www.herrerainc.com

OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Jimmy Esteban
Drafter: Hector Vela
Reviewer: Joanna Ogintz
Checker: Christopher Webb

DETAILS

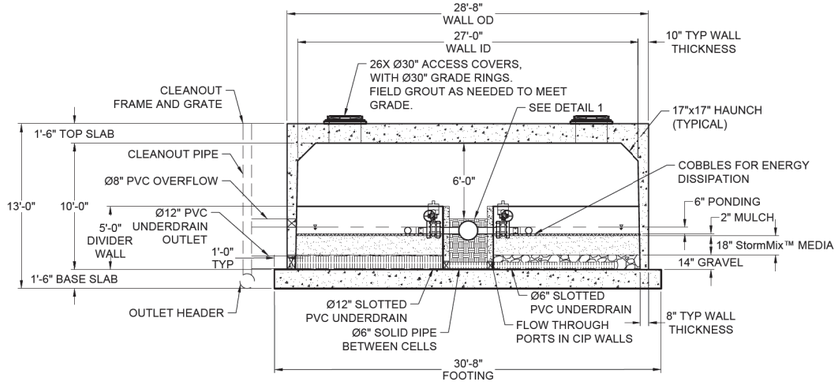
SHEET NO.: HB204

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

59V-002

Sec.28 & 33, T.1N, R.1E, W.M.

I-405/FREMONT BRIDGE - INTERCHANGE
I-405 M.P. 3.03



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

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

SITE SPECIFIC DATA				
Structure ID			FREMONT INTERCHANGE	
Model Size			27X108.33	
Treatment Flow Rate (cfs)			8.00	
Peak Flow Rate (cfs)			8.00	
Rim Elevation			PER PLAN	
Pipe Data	**Pipe Location**	**Pipe Size**	**Pipe Type**	**Invert Elevation**
Inlet	PER PLAN	PER PLAN	PER PLAN	PER PLAN
Outlet	PER PLAN	PER PLAN	PER PLAN	PER PLAN
Notes:				

PERFORMANCE SPECIFICATIONS	
Treatment Flow Capacities:	
WA Ecology GULD - Basic, Enhanced & Phosphorus	8 cfs
Bypass Capacity	N/A
*Contact Oldcastle for alternative treatment flow capacities.	

Bioretention/
Biofiltration

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BioPod™ Biofilter System
Underground Trench with External Bypass

CUSTOMER: Herrara Environmental Inc.

PROJECT NAME: ODOT Regional Basin - Oregon, OR

DATE	MFG	DRAWN	ENGINEER	CHECKED	SALES ORDER
10/11/23	010-AU	PPS	AFD	AFD	-

SHEET NAME: 23-847151-BPU-27108.33-TV_ FREMONT INTERCHANGE
REVISION: 11
REV DATE: 4/15/25
SHEET: 2 OF 2

Notes:

1. *Section heights, slab/wall thicknesses, and other shown are diagrammatic and subject to final design by the vendor.*

WATER QUALITY STRUCTURE, D00431

HWY: I-405
M.P.: 3.03

UNIT FILE CODE
N/A

DFI/TSSU NO.
SEE TABLE, SHT. HA201

REGISTERED PROFESSIONAL ENGINEER
78195PE
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OREGON
MAY 16, 2006
CHRISTOPHER J. WEBB
RENEWS: 06-30-2026

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OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Jimmy Esteban
Drafter: Hector Vela
Reviewer: Joanna Ogintz
Checker: Christopher Webb

DETAILS

SHEET NO.
HB205

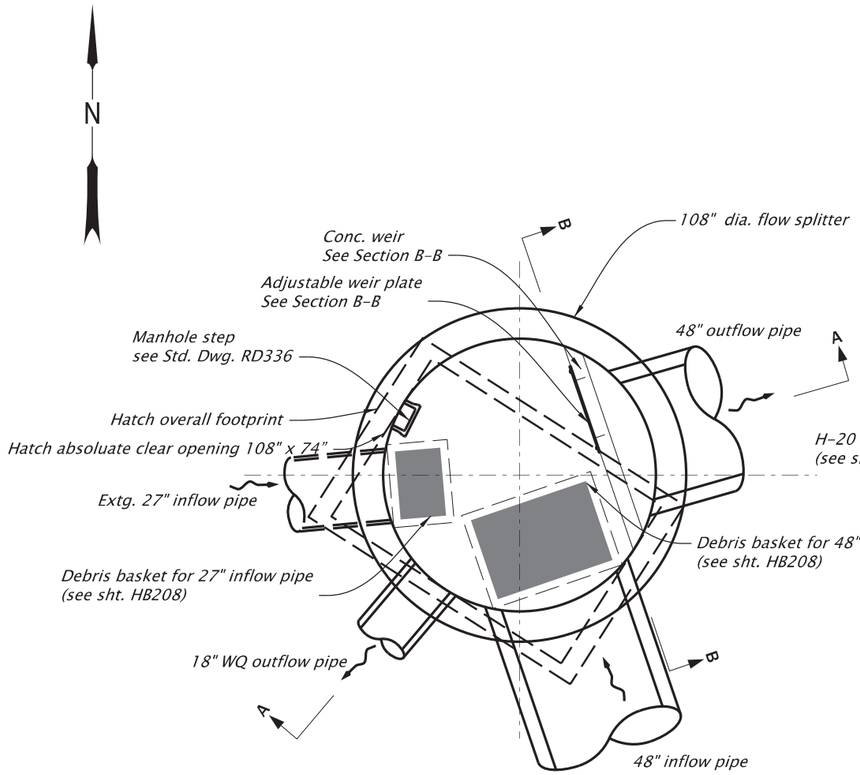
FINAL ELECTRONIC DOCUMENT
AVAILABLE UPON REQUEST

59V-002

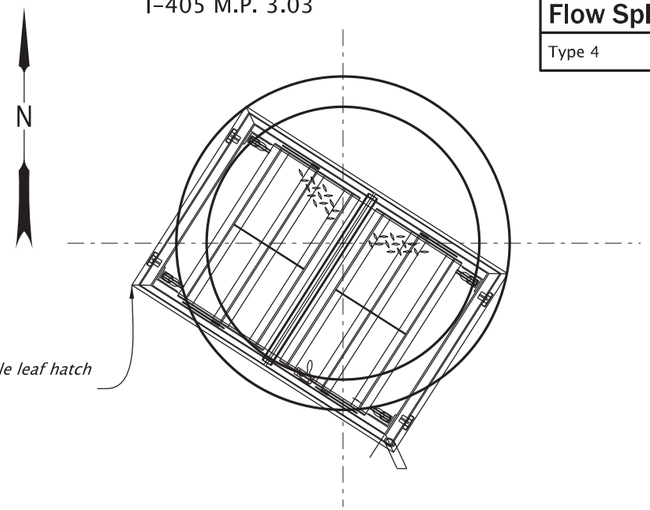
Sec.28 & 33, T.1N, R.1E, W.M.
I-405/FREMONT BRIDGE – INTERCHANGE
I-405 M.P. 3.03

WR-307 Flow Splitter

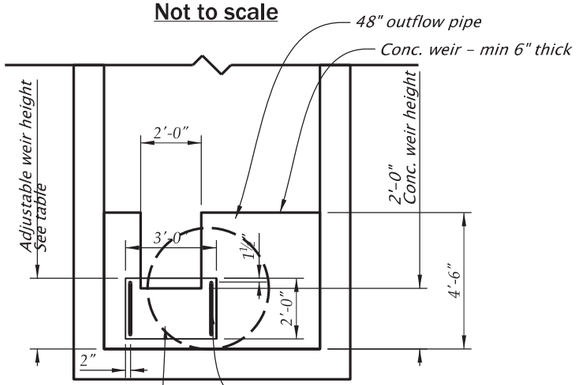
Flow Splitter	Sheet - Construction Note	Adjustable Weir Height (ft)
Type 4	HA201 – 1	2.33'



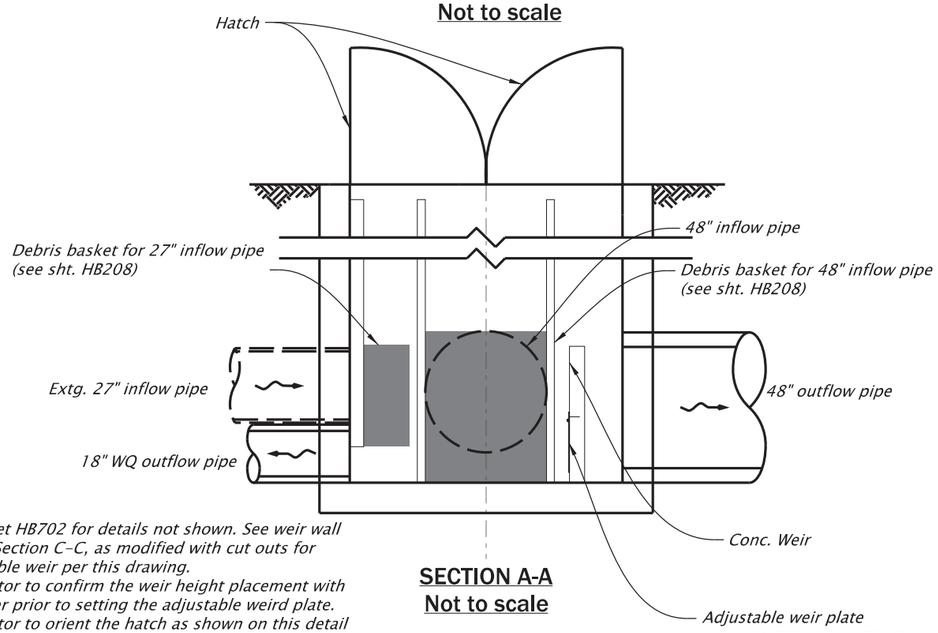
PLAN VIEW - INSIDE STRUCTURE
Not to scale



PLAN VIEW - TOP
Not to scale



SECTION B-B
Not to scale



SECTION A-A
Not to scale

NOTES:
1. *See sheet HB702 for details not shown. See weir wall detail, Section C–C, as modified with cut outs for adjustable weir per this drawing.*
2. *Contractor to confirm the weir height placement with engineer prior to setting the adjustable weird plate.*
3. *Contractor to orient the hatch as shown on this detail to allow debris baskets to be removed via hatch without obstruction.*

DETAIL - FLOW SPLITTER, TYPE 4
Not to scale

HWY: I-405
M.P.: 3.03

UNIT FILE CODE
N/A

DFI/TSSU NO.
SEE TABLE, SHT. HA201

REGISTERED PROFESSIONAL ENGINEER
104026PE
Digitally Signed 2025.12.16 17:34:22-06'00'
OREGON
JUNE 09, 2024
HSUAN-WEN CHU
RENEWS: 12-31-2025

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

WSP USA Inc.
1300 SW 5th Ave
Suite 3100
Portland, OR 97201
Tel: 1 503 274 8772

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Shen Chu
Drafter: Grace Harrison
Reviewer: Michael Giseburt
Checker: Angelica Quintero

DETAILS

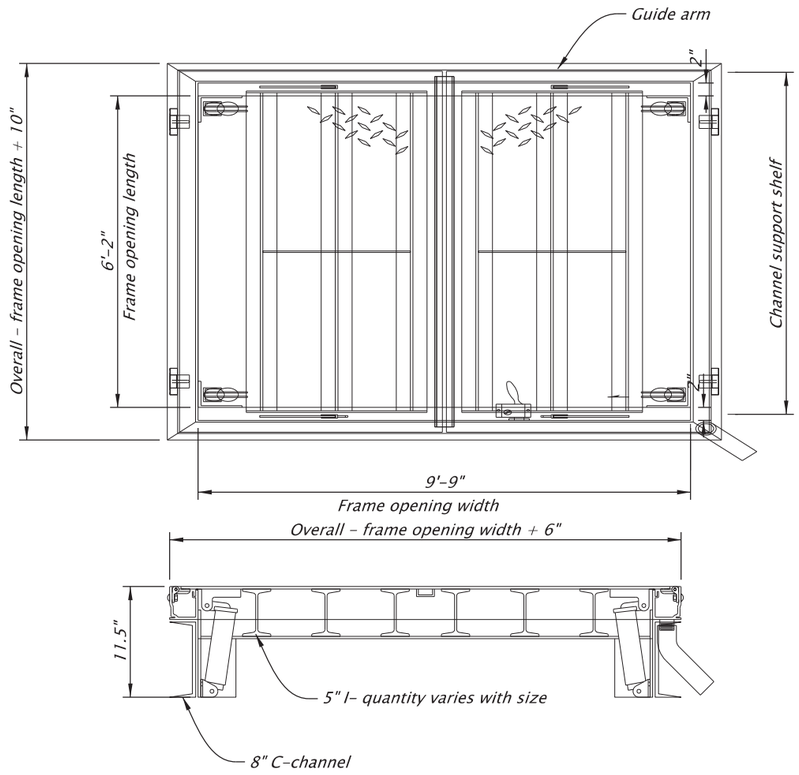
SHEET NO.
HB206

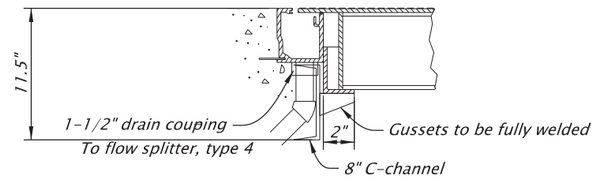
Sec.28 & 33, T.1N, R.1E, W.M.

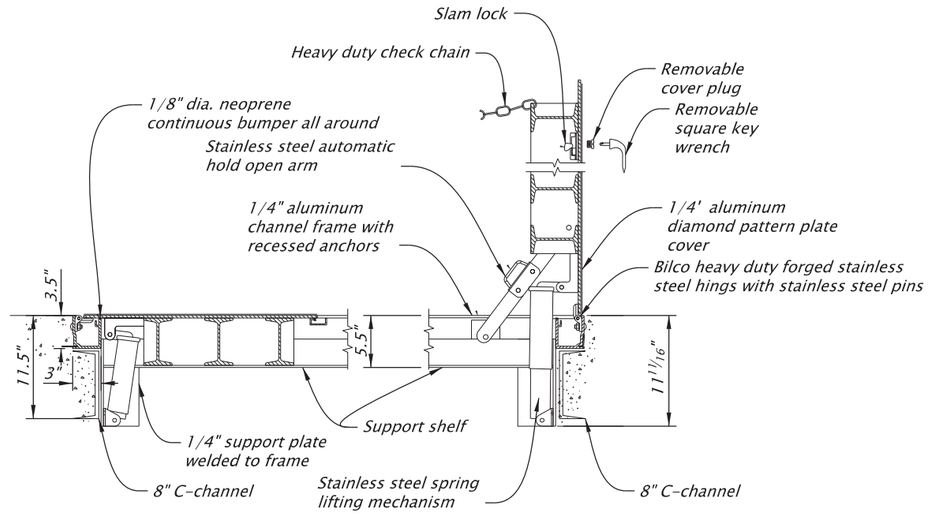
I-405/FREMONT BRIDGE - INTERCHANGE
I-405 M.P. 3.03

NOTES:

1. *Channel support shelf must be supported by concrete or steel to carry H-20 loading.*







FLOW SPLITTER HATCH DETAIL

Not to scale

HWY: I-405	
M.P.: 3.03	
UNIT FILE CODE	N/A
DFI/TSSU NO.	SEE TABLE, SHT. HA201

REGISTERED PROFESSIONAL ENGINEER
104026PE
Digitally Signed 2025.11.12 19:02:23-06'00'
OREGON
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HSUAN-WEN CHU
RENEWS: 12-31-2025

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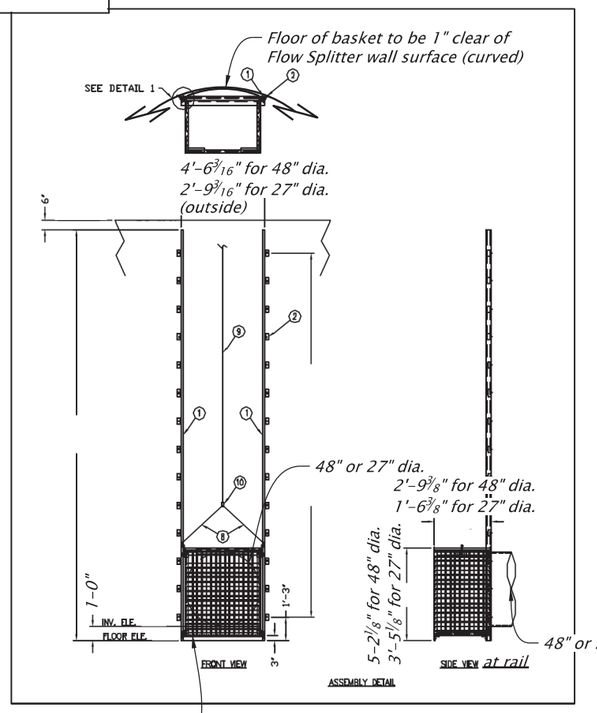
WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

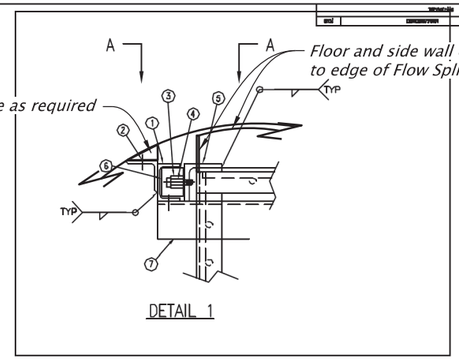
Designer: Shen Chu	Reviewer: Michael Giseburt
Drafter: Grace Harrison	Checker: Angelica Quintero

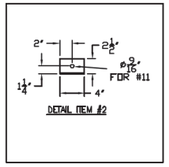
DETAILS — SHEET NO. HB207

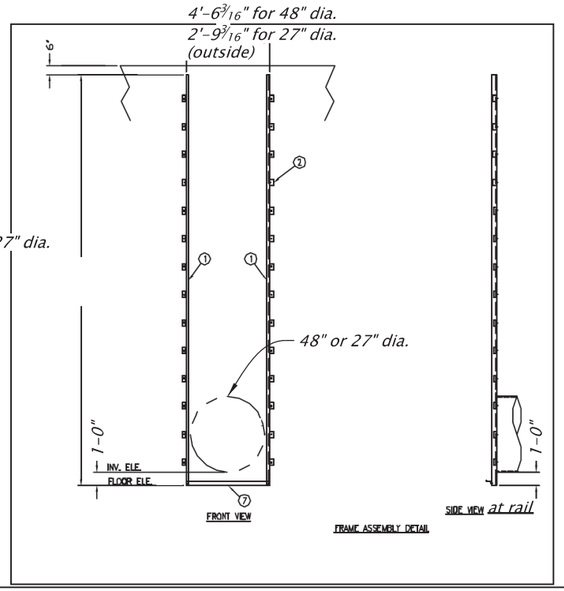
Sec.28 & 33, T.1N, R.1E, W.M.

I-405/FREMONT BRIDGE - INTERCHANGE
I-405 M.P. 3.03









NOTES:
1. ALL DIMENSIONS ARE IN INCHES UNLESS NOTED OTHERWISE.
2. CONTRACTOR TO VERIFY ELEVATION DIMENSIONS.
3. ALL BOLT HOLE LOCATIONS ±1/32" WITH NO ACCUMULATION.
4. ALL WELDING TO BE DONE PER AWS D1.1 OR AWS D1.2.
5. BREAK ALL SHARP EDGES.
6. ALL ALUMINUM IN CONTACT WITH CONCRETE TO RECEIVE ONE SHOP COAT OF BITUMINOUS PAINT.
7. WELDER TO REMOVE ALL WELD SMOKE & BLEMISHES.
8. ALL FABRICATION TO CONFORM TO GOOD WORKMANSHIP PRACTICES.

10. AFTER FINAL ASSEMBLY ALL MATERIAL SHOULD BE GENERALLY CLEAN AND FREE OF MARKINGS AND FINGERPRINTS.

ITEM	QTY	DESCRIPTION	FT.	IN.	MATL	MATL SPEC	REV	STOCK NO.
11	28	EXPANSION BOLT, 1/2" DIA. X	0	5 1/2	SST	304		112075
10	3	ANCHOR SPACKLE	-	-	GALV.	3663751		
9	1	CHAIN 7/32 GALVANIZED	25	8	GALV.	3410795		
8	2	CHAIN 7/32 GALVANIZED	3	0	GALV.	3410795		
7	1	ANGLE, 1/4" X 3" X 3" X	4	6 3/16	ALUM.	6061-T6		
6	4	ROD, PVC TYPE 1, 2 1/4" DIA. X	0	1 3/4	PVS	8749K27		
5	4	ANGLE, 3/8" X 3" X 5" X	0	3	ALUM.	6061-T6		
4	4	SHOULDER BOLT, 1/2" DIA. X	0	1	SST			
3	4	BEARING, 1/2" I.D. X 1" O.D. X	0	1	BRONZE	63B1K525		
2	28	ANGLE, 1/4" X 2 1/2" X 2 1/2" X	0	4	ALUM.	6061-T6		103045
1	2	3" ALUM. ASSOC. CHANNEL X 1.80#	22	0	ALUM.	6061-T6		

LIST OF MATERIALS FOR ONE ASSEMBLY

TOLERANCE UNLESS SPECIFIED:
ANGLES: ± 1°
FRACTIONS: ± 1/16"
DECIMALS: .XX ± .03" .XXX ± .010"

3085 | MOSSER CONSTRUCTION, INC. | 1
JOB NO. | CUSTOMER | REQ'D

DEBRIS BASKET FRAME

DRAWN VIC 07/23/08
CHECKED
APPVD.
DATE
SCALE: NTS WT. SHEET 1 OF 1 REV.

HWY: I-405
M.P.: 3.03

UNIT FILE CODE
N/A

DFI/TSSU NO.
SEE TABLE, SHT. HA201

REGISTERED PROFESSIONAL ENGINEER
104026PE
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OREGON
JUNE 09, 2024
HSUAN-WEN CHU

RENEWS: 12-31-2025

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WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Shen Chu | Reviewer: Michael Giseburt
Drafter: Grace Harrison | Checker: Angelica Quintero

DETAILS

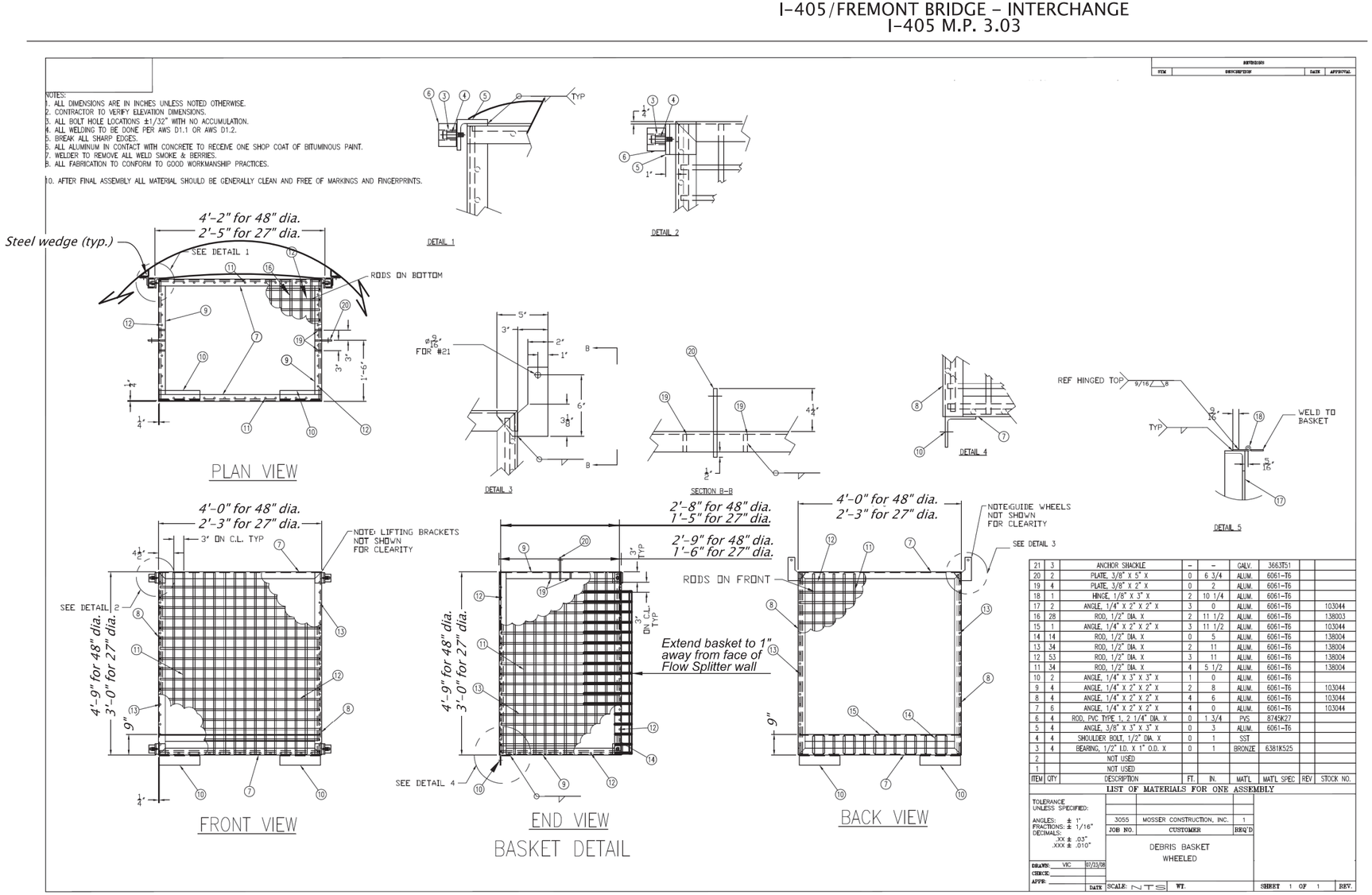
SHEET NO.
HB208

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

Sec.28 & 33, T.1N, R.1E, W.M.

I-405/FREMONT BRIDGE – INTERCHANGE
I-405 M.P. 3.03

NOTES:
1. ALL DIMENSIONS ARE IN INCHES UNLESS NOTED OTHERWISE.
2. CONTRACTOR TO VERIFY ELEVATION DIMENSIONS.
3. ALL BOLT HOLE LOCATIONS ±1/32" WITH NO ACCUMULATION.
4. ALL WELDING TO BE DONE PER AWS D1.1 OR AWS D1.2.
5. BREAK ALL SHARP EDGES.
6. ALL ALUMINUM IN CONTACT WITH CONCRETE TO RECEIVE ONE SHOP COAT OF BITUMINOUS PAINT.
7. WELDER TO REMOVE ALL WELD SMOKE & BERRIES.
8. ALL FABRICATION TO CONFORM TO GOOD WORKMANSHIP PRACTICES.
10. AFTER FINAL ASSEMBLY ALL MATERIAL SHOULD BE GENERALLY CLEAN AND FREE OF MARKINGS AND FINGERPRINTS.



ITEM	QTY	DESCRIPTION	FT.	IN.	MATL	MATL SPEC	REV	STOCK NO.
21	3	ANCHOR SHACKLE	–	–	GALV.	3663T51		
20	2	PLATE, 3/8" X 5" X	0	6 3/4	ALUM.	6061-T6		
19	4	PLATE, 3/8" X 2" X	0	2	ALUM.	6061-T6		
18	1	HINGE, 1/8" X 3" X	2	10 1/4	ALUM.	6061-T6		
17	2	ANGLE, 1/4" X 2" X 2" X	3	0	ALUM.	6061-T6		103044
16	28	ROD, 1/2" DIA. X	2	11 1/2	ALUM.	6061-T6		138003
15	1	ANGLE, 1/4" X 2" X 2" X	3	11 1/2	ALUM.	6061-T6		103044
14	14	ROD, 1/2" DIA. X	0	5	ALUM.	6061-T6		138004
13	34	ROD, 1/2" DIA. X	2	11	ALUM.	6061-T6		138004
12	53	ROD, 1/2" DIA. X	3	11	ALUM.	6061-T6		138004
11	34	ROD, 1/2" DIA. X	4	5 1/2	ALUM.	6061-T6		138004
10	2	ANGLE, 1/4" X 3" X 3" X	1	0	ALUM.	6061-T6		
9	4	ANGLE, 1/4" X 2" X 2" X	2	8	ALUM.	6061-T6		103044
8	4	ANGLE, 1/4" X 2" X 2" X	4	6	ALUM.	6061-T6		103044
7	6	ANGLE, 1/4" X 2" X 2" X	4	0	ALUM.	6061-T6		103044
6	4	ROD, PVC TYPE 1, 2 1/4" DIA X	0	1 3/4	PVC	8745K27		
5	4	ANGLE, 3/8" X 3" X 3" X	0	3	ALUM.	6061-T6		
4	4	SHOULDER BOLT, 1/2" DIA. X	0	1	SST			
3	4	BEARING, 1/2" I.D. X 1" O.D. X	0	1	BRONZE	6381K525		
2		NOT USED						
1		NOT USED						

LIST OF MATERIALS FOR ONE ASSEMBLY

TOLERANCE UNLESS SPECIFIED:
ANGLES: ± 1°
FRACTIONS: ± 1/16"
DECIMALS: .XX ± .03" .XXX ± .010"

3055	MOSSER CONSTRUCTION, INC.	1
JOB NO.	CUSTOMER	REQ'D

DEBRIS BASKET WHEELED

DRAWN: VIC 07/23/08
CHECK:
APPR:
DATE
SCALE: NTS
WT.
SHEET 1 OF 1
REV.

HWY: I-405
M.P.: 3.03

UNIT FILE CODE
N/A

DFI/TSSU NO.
SEE TABLE, SHT. HA201

REGISTERED PROFESSIONAL ENGINEER
104026PE
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OREGON
JUNE 09, 2024
HSUAN-WEN CHU
RENEWS: 12-31-2025

WSP USA Inc.
1300 SW 5th Ave
Suite 3100
Portland, OR 97201
Tel: 1 503 274 8772

OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Shen Chu
Reviewer: Michael Giseburt
Drafter: Grace Harrison
Checker: Angelica Quintero

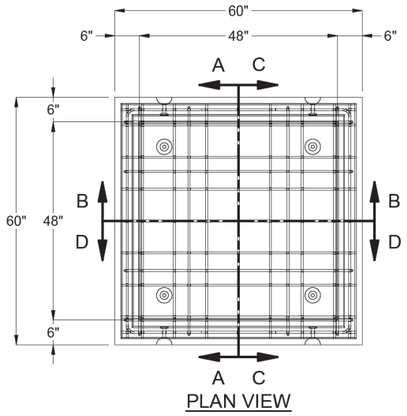
DETAILS

SHEET NO.
HB209

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

Sec.28 & 33, T.1N, R.1E, W.M.

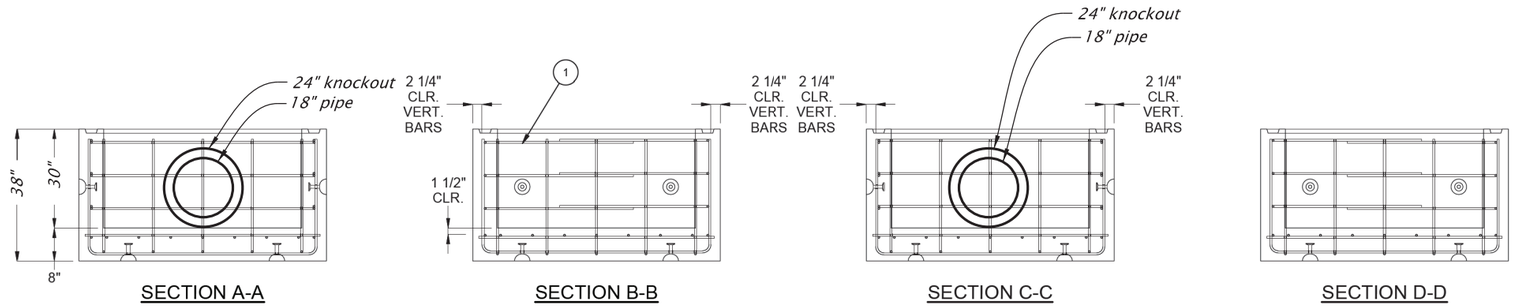
I-405/FREMONT BRIDGE - INTERCHANGE
I-405 M.P. 3.03



PLAN VIEW

- ALL CONCRETE TO HAVE 28 DAY COMPRESSIVE STRENGTH OF 5000 PSI.
- REINFORCING STEEL SHALL COMPLY WITH ASTM A615 GRADE 60 OR ASTM A706 GRADE 60. BAR BENDING AND PLACEMENT SHALL COMPLY WITH THE LATEST ACI STANDARD. EQUIVALENT AREA WELDED WIRE REINFORCEMENT CAGES MAY BE UTILIZED IN LIEU OF GRADE 60 REINFORCING BARS.
- WELDED WIRE REINFORCEMENT SHALL COMPLY With ASTM A1064 GRADE 80 STANDARDS
- LIFTING INSERTS FOR HANDLING SHALL BE INSTALLED PER MANUFACTURER'S REQUIREMENTS.
- BURY DEPTH: 0.0' - 5.4' TO Top
- WATER LEVEL: Below Structure
- DESIGN SPECIFICATION: ACI 318
- LOADING SPECIFICATION: A-16 (AASHTO HS20-44)
- SOIL UNIT WEIGHT - 120 lbs/cu.ft.
- EQUIVALENT LATERAL PRESSURE DRY - 40 lbs/cu.ft.
- EQUIVALENT LATERAL PRESSURE WET - 80 lbs/cu.ft.

400007124.idw



SECTION A-A | SECTION B-B | SECTION C-C | SECTION D-D

BURY DEPTH:	0.0' - 5.4' to Top		
WATER LEVEL:	Below Structure	APPROX. WEIGHT:	5155.86 Lbs
DESIGN SPEC:	ACI 318	LOADING SPEC:	A-16 (AASHTO HS20-44)
REINFORCEMENT TYPE:	Rebar	LIFTING TYPE:	Dogbone

DESCRIPTION: **FLOW METER VAULT**
REINFORCING CAGE REVIEW

PART NUMBER:	400007124	DRAWN BY:	R. Mangoba
CREATED:	4/9/2021	MODIFIED:	4/9/2021

REV: A-3
SHEET: 3 OF 3

NOTE:
1. Knocknouts for 18" pipe to be provided along CL of Flow Meter Vault

2. Place connecting pipe at the required alignment and grade. Set the connecting pipe through the full thickness of the wall flush with the inner face of the wall. Ensure that pipe connections to the Structure are completely watertight. Connect all pipe to Flow Meter Vault according to the manufacturer's recommendations

3. Grout ductile iron pipe connections to manholes so they are watertight, using non-shrink grout according to Section 02440.50.

HWY: I-405
M.P.: 3.03

UNIT FILE CODE
N/A

DFI/TSSU NO.
SEE TABLE, SHT. HA201

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OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

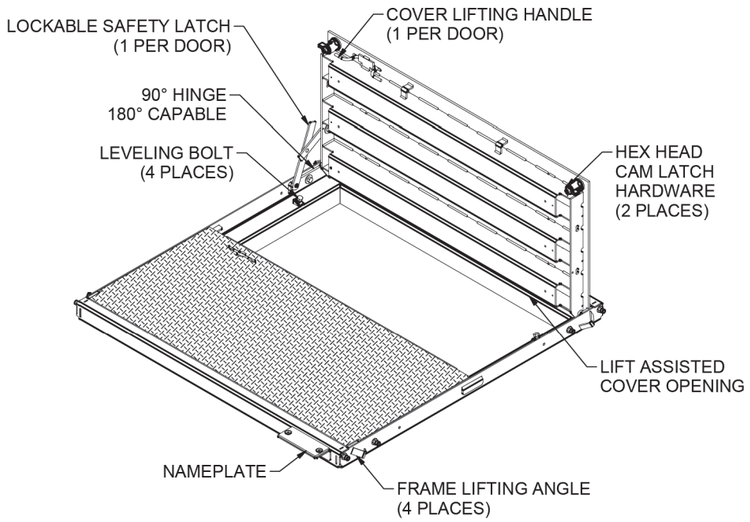
Designer: Shen Chu | Reviewer: Michael Giseburt
Drafter: Grace Harrison | Checker: Angelica Quintero

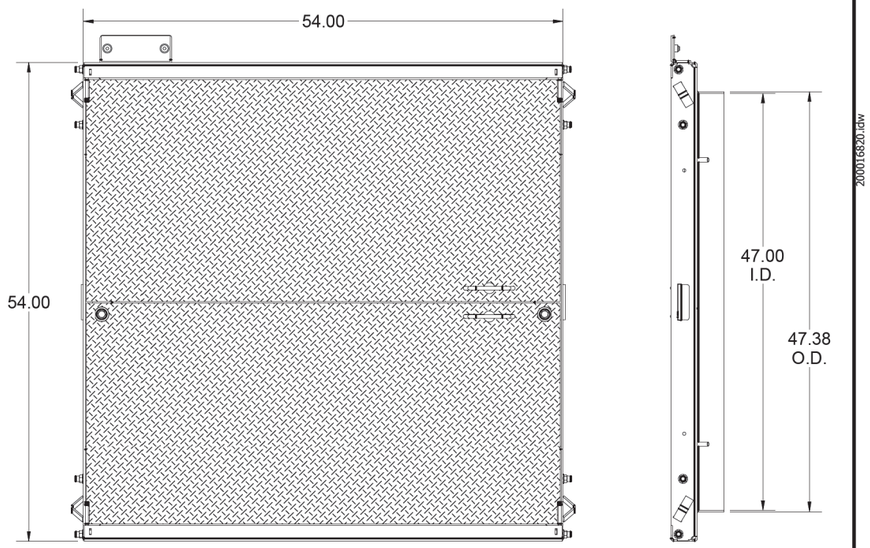
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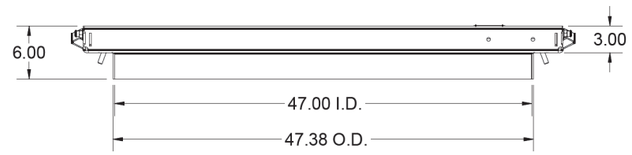
SHEET NO. HB210

Sec.28 & 33, T.1N, R.1E, W.M.

I-405/FREMONT BRIDGE - INTERCHANGE
I-405 M.P. 3.03







LOADING CRITERIA: ASTM C1802 Load Level 05 16,000 lb load on 10" x 20" footprint, with 30% impact restricted to unrestricted parking lanes and alleyways where traffic speed is limited to 15 miles per hour.			
SURFACE: Diamond Plate	FINISH: Galvanized		
WEIGHT: 575.77 lbs	MARKING: None		

FLOW METER VAULT
ACCESS HATCH DETAIL

PART NUMBER:	200016820	DRAWN BY:	R. Dohr
CREATED:	2/26/2019	MODIFIED:	6/24/2024

REV: C-2-1

SHEET: 1

REGISTERED PROFESSIONAL ENGINEER
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LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

HWY: I-405
M.P.: 3.03

UNIT FILE CODE: N/A

DFI/TSSU NO.: SEE TABLE, SHT. HA201

Designer: Shen Chu
Drafter: Grace Harrison
Reviewer: Michael Giseburt
Checker: Angelica Quintero

DETAILS

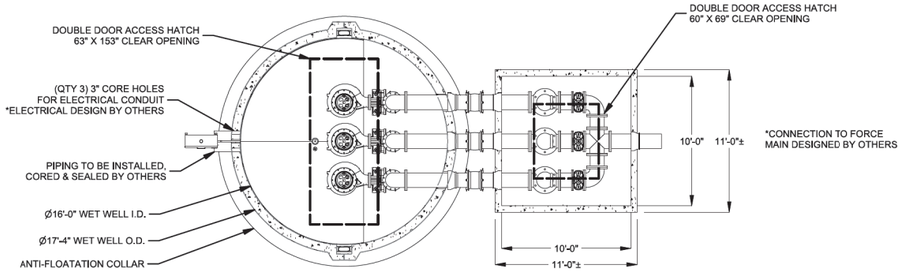
SHEET NO.: HB211

FINAL ELECTRONIC DOCUMENT
AVAILABLE UPON REQUEST

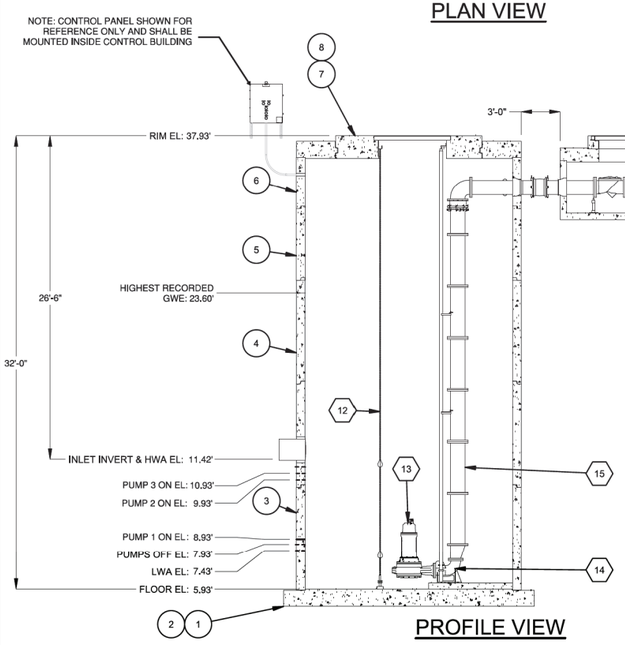
Sec.28 & 33, T.1N, R.1E, W.M.

I-405/FREMONT BRIDGE – INTERCHANGE

I-405 M.P. 3.03



PLAN VIEW



PROFILE VIEW

BILL OF MATERIALS

		DESCRIPTION
		Manhole D192208x15 Rnd. Slab Bottom Groove Half
		Manhole D192208x15 Rnd. Slab Bottom Tongue Half
3	2	Manhole D192208x96 Barrel TU
4	4	Manhole D192208x96 Barrel TU
5	2	Manhole D192208x66 Barrel TU
6	2	Manhole D192208x48 Barrel TU
7	1	Manhole D192208x20 Flat Top Stepped 63x153 E
8	2	Manhole D192208x15 Flat Top Edge Section
9	1	Vault 120120x49 Rect. Bottom Section
10	1	Vault 120120x12 Slab Top
11	1	Vault 6096x12 Rect. Top Section Flat
12	1	CONTROLS PACKAGE
13	1	PUMP PACKAGE
14	1	LIFTOUT PACKAGE
15	1	PIPING PACKAGE

ABBREVIATED SPECIFICATIONS:

1. PROVIDE SITE ASSEMBLED PACKAGED PRECAST PUMPING STATION, INCLUDING SPECIFIED CONTROLS, PUMPS, VALVES, INTERNAL PIPING,AND PRECAST CONCRETE WELL AND VALVE VAULT MANUFACTURED AND FURNISHED BY JENSEN PRECAST, (855) 468-5600, PUMPSTATIONS@JENSENPRECAST.COM, WWW.JENSENPRECAST.COM/WATER-RESOURCES.
2. PRECAST CONCRETE: SIZE INDICATED, WITH PROVISION FOR SEALANT AT JOINTS, MEETING ASTM C913, DESIGNED ACCORDING TO ASTM C890 FOR A-16 (AASHTO HS20-44), HEAVY TRAFFIC, STRUCTURAL LOADING. FOR ROUND PRECAST CONCRETE WELLS: ASTM C478, PRECAST, REINFORCED CONCRETE.
3. MANUFACTURER'S WARRANTY: MANUFACTURER'S STANDARD FORM IN WHICH MANUFACTURER AGREES TO REPAIR OR REPLACE COMPONENTS OF PUMPING STATIONS THAT FAIL IN MATERIALS OR WORKMANSHIP WITHIN SPECIFIED WARRANTY PERIOD.
4. PUMPS: FURNISH AND INSTALL HOMA, BARNES, KSB, OR GRUNDFOS SUBMERSIBLE NON-CLOG, VORTEX, GRINDER, OR CHOPPER TYPE CENTRIFUGAL PUMP WITH A SELF-ENGAGING AUTO COUPLING ASSEMBLY, OR A COMPARABLE PRODUCT APPROVED BY THE ENGINEER PRIOR TO BID.
5. CONTROLS: PROVIDE CALIFORNIA MOTOR CONTROL SYSTEMS, INC., HOMA, ORENCO OR ALDERON INDUSTRIES CONTROL PANEL. THE SYSTEM SHALL UTILIZE NON-MERCURY AND LEAD FREE FLOAT SWITCHES AND/OR A SUBMERSIBLE PRESSURE TRANSDUCER. REDUNDANT HIGH LEVEL AND LOW LEVEL BACK UP FLOATS ARE REQUIRED.
6. PIPING AND FITTINGS: PVC SCHEDULE 80 PIPE AND FITTINGS OR DUCTILE IRON PIPE MEETING AWWA C151/A21.51
7. CHECK VALVES (PVC): PROVIDE Y CHECK VALVES SUITABLE FOR USE IN RAW WASTEWATER OR STORMWATER.
8. CHECK VALVES (DIP): PROVIDE AVK, VAL-MATIC, MILLIKEN, OR FLO-MATIC FLANGED SWING OR BALL CHECK VALVES, SUITABLE FOR USE IN RAW WASTEWATER OR STORMWATER APPLICATIONS
9. ISOLATION VALVES (PVC): PROVIDE ASAHI AMERICA OR SPEARS BALL VALVES WITH TRUE UNION CONNECTIONS, SUITABLE FOR USE IN RAW WASTEWATER OR STORMWATER.
10. ISOLATION VALVES (DIP): PROVIDE AVK, VAL-MATIC, MILLIKEN, FLO-MATIC FLANGED GATE VALVE, OR ECCENTRIC PLUG VALVE, SUITABLE FOR USE IN RAW WASTEWATER OR STORMWATER APPLICATIONS.

GENERAL NOTES & DISCLAIMERS:

1. OTHERS RESPONSIBLE FOR SIZING, DESIGN, SUPPLY AND INSTALLATION OF ELECTRICAL CONDUITS. PURCHASING CONTRACTOR RESPONSIBLE FOR VERIFYING PUMP AND LEVEL DETECTION CABLE LENGTHS ARE ADEQUATE.
2. OTHERS RESPONSIBLE FOR FORCE MAIN AND FORCE MAIN CONNECTION DESIGN.
3. INLET PIPE SHOWN FOR CLARITY ONLY. OTHERS RESPONSIBLE FOR PROVIDING PIPE.
4. FINAL CONTROL PANEL LOCATION TO BE DETERMINED ACCORDING TO PROJECT REQUIREMENTS. CONSULT SUBMITTED PUMP AND LEVEL CONTROL CABLE LENGTHS WHEN DETERMINING THE CONTROL PANEL LOCATION.
5. CONTROL PANEL INSTALLATION, MOUNTING DESIGN & HARDWARE BY OTHERS.
6. ALL FOUNDATION, SUBGRADE & BACKFILL DESIGNED BY OTHERS.

INSTALLATION NOTES:

1. PRECAST CONCRETE JOINTS TO BE SEALED USING BUTYL RUBBER COMPOUND SUPPLIED BY JENSEN PRECAST.
2. CONTRACTOR TO ADJUST ELEVATION OF FRAME AND COVER IN FIELD AS NECESSARY.
3. CONTRACTOR TO PROVIDE ALL PIPE OPENINGS IN FIELD AS NECESSARY. UNLESS SPECIFIED OTHERWISE ON DRAWING.
4. CONTRACTOR TO GROUT AND SEAL ALL PIPE PENETRATIONS IN PRECAST CONCRETE OPENINGS IN FIELD AS NECESSARY.

SYSTEM CHARACTERISTICS	
APPLICATION	SEWAGE [ ] STORMWATER [X]
RIM ELEV. (Ft.)	37.93'
INLET ELEV. (Ft.)	11.42'
FORCE MAIN DISCHARGE ELEV. (Ft.)	49.10'
DESIGN FLOW (gpm)	1667 GPM PER PUMP / 5000 GPM TOTAL FLOW
INTERNAL PIPE SIZE & TYPE	12" DUCTILE IRON PIPE
TOTAL DYNAMIC HEAD (Ft.)	47.6'
PUMP MAKE & MODEL	HOMA AMS644-340ASC/56GUFM
PUMP MOTOR (Std / XP)	Standard [ ] XP/FM [X]
PUMP TYPE	SUBMERSIBLE NON-CLOG W/ CUTTER SYSTEM
PUMP POWER SUPPLY	480V / 3 PHASE
PUMP RATED HP & CURRENT	56.1HP / 66A (PER PUMP)
ACCESS HATCH LOAD LEVEL	HS-25

DISCLAIMERS, INCLUDING BUT NOT LIMITED TO:

1.) All precast concrete materials and manufacturing methods shall conform to all current and applicable ASTM, AASHTO and NPCA standards and specifications.
2.) All precast concrete components to be manufactured in an NPCA certified plant.
3.) All elevations have been provided by others, and have not been verified by Jensen Precast. Contractor to verify all dimensions and elevations prior to installation.
4.) These layout drawings are intended to show overall system design only. All concrete component thicknesses, dimensions, lengths and joint orientations may vary across Jensen Precast's manufacturing facilities and are subject to change pending final design. Contractor to confirm all information prior to installation.
5.) System design criteria has been provided to Jensen Precast. Others are responsible for verification that system meets the intended application.
6.) Foundation, subgrade and backfill to be designed by others.
7.) For complete design and product information, or custom design conditions, please conctact Jensen Precast.

JENSEN WATER RESOURCES

521 DUNN CIRCLE, SPARKS, NV 89431
www.jensenwaterresources.com
(855) 468-5600

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DESCRIPTION: K22552 WILLAMETTE RIVER STORMWATER RETROFIT PUMP STATIONS

REV:

SHEET:

PART NUMBER:

DRAWN BY: C. Cowen

CREATED:

MODIFIED: 09.08.25

040324 K22552 Willamette River Stormwater Retrofit Pump Stations .idw

HWY: I-405
M.P.: 3.03

UNIT FILE CODE
N/A

DFI/TSSU NO.
SEE TABLE, SHT. HA201

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LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Shen Chu
Reviewer: Michael Giseburt
Drafter: Grace Harrison
Checker: Angelica Quintero

DETAILS

SHEET NO.
HB212

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

Sec.28 & 33, T.1N, R.1E, W.M.
I-405/FREMONT BRIDGE - INTERCHANGE
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Performance Curve

AMS644-340ASC/56GUFM

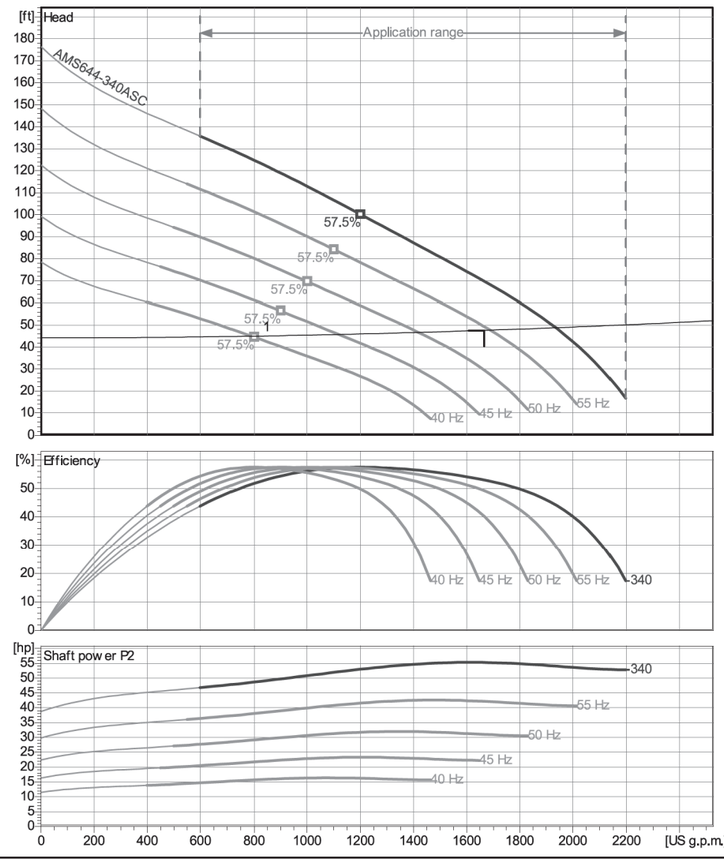
HOMA PUMPEN MIT SYSTEM

Impeller					
Impeller type: Single channel impeller	Solid size Ø: 4 inch	Max. Ø: 14 5/8"	Min. Ø: 13"	Sel. Ø: 13 7/16"	

Operating data				
Speed: **1750 rpm**	Frequency: **60 Hz**	Duty point: **Q =1667 US g.p.m.H =47.6 ft**	Shaft power P2: **54 hp**	Discharge port: **6" ANSI**

Power data referred to:
Water, clean [100%] ; 68°F; 62.322lb/ft³; 1.0775E-5ft²/s

Testnorm: **P2>10kW, HI Standard Grade 2B**
P2<10kW, HI Standard Sect. 11.6.5.4



2.0.1 - 30.11.2021 (Build 147)

Project	Project no.:	Created by:	Page: 2	Date: 2025-05-02

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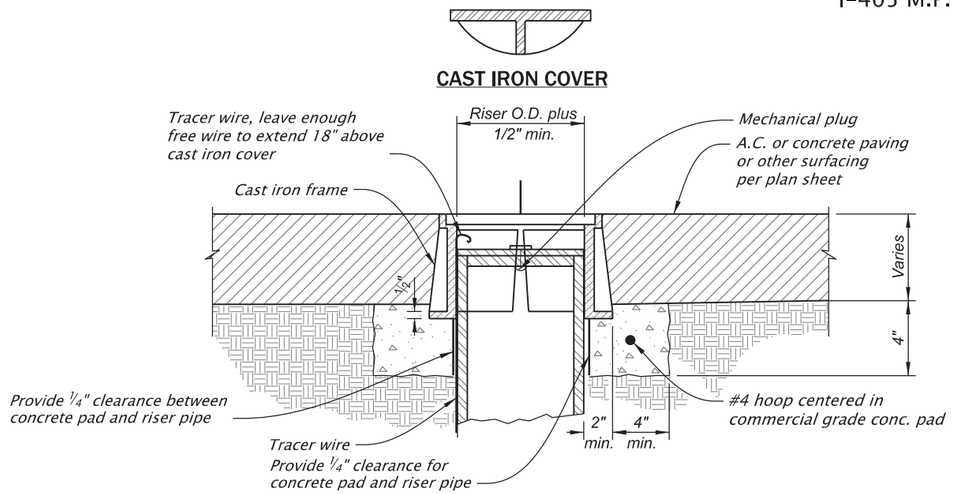
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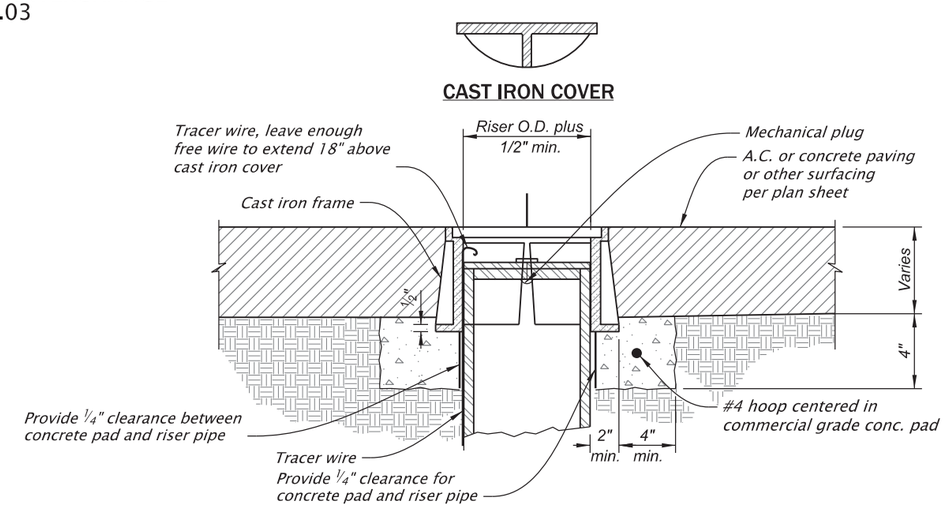
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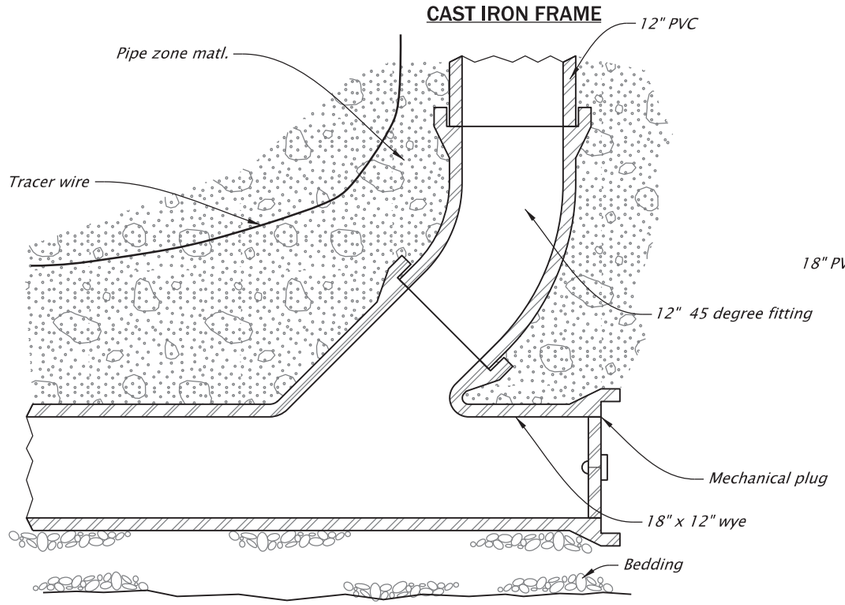
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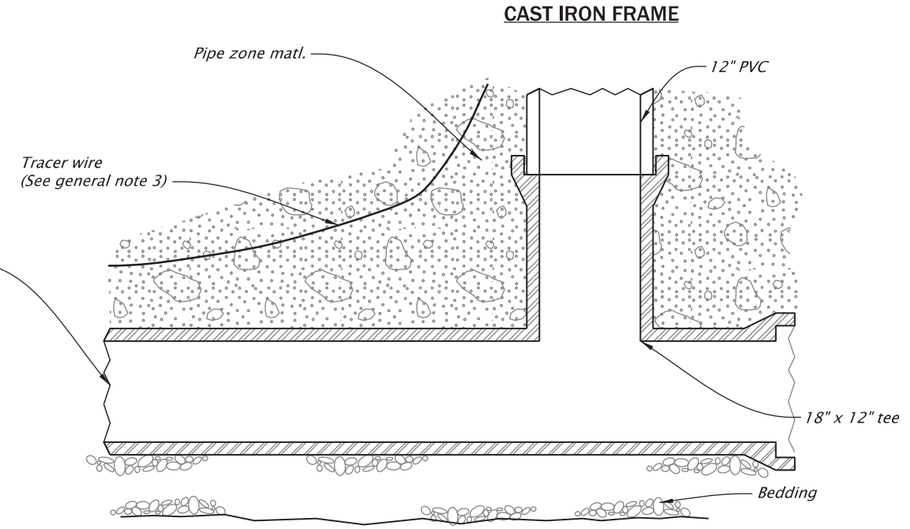
I-405/FREMONT BRIDGE - INTERCHANGE
I-405 M.P. 3.03







STORMWATER CLEANOUT - WYE CONNECTION (USED AT END OF LINE)



STORMWATER CLEANOUT - TEE CONNECTION

HWY: I-405	
M.P.: 3.03	
UNIT FILE CODE	N/A
DFI/TSSU NO.	SEE TABLE, SHT. HA201

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1300 SW 5th Ave
Suite 3100
Portland, OR 97201
Tel: 1 503 274 8772

OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

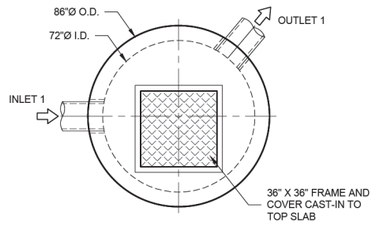
Designer: Shen Chu	Reviewer: Michael Giseburt
Drafter: Grace Harrison	Checker: Angelica Quintero

DETAILS

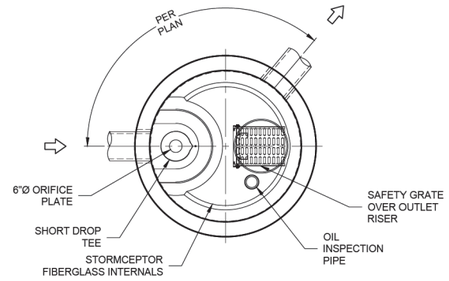
SHEET NO. HB214

Sec.27, T.1N, R.1E, W.M.

FREMONT BRIDGE – WEST END
US30 – M.P. 3.20



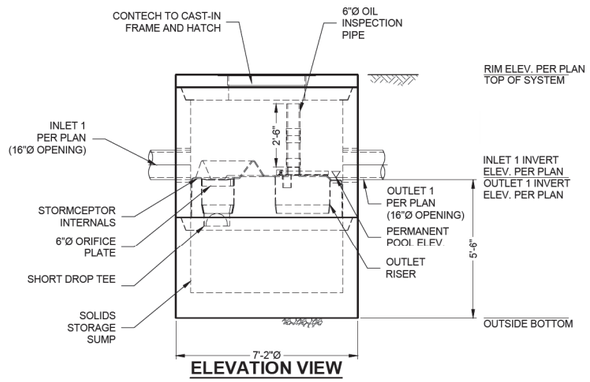
PLAN VIEW
INTERNALS NOT SHOWN



SECTION FOR PIPE ORIENTATION
TOP SLAB NOT SHOWN

SITE SPECIFIC DATA REQUIREMENTS

STRUCTURE ID			FREMONT WEST
WATER QUALITY FLOW RATE (cfs [L/s])			0.63
PEAK FLOW RATE (cfs [L/s])			1.70
RETURN PERIOD OF PEAK FLOW (yrs)			10
RIM ELEVATION			PER PLAN
PIPE DATA:	INVERT	MATERIAL	DIAMETER
INLET PIPE 1	PER PLAN	PER PLAN	PER PLAN
OUTLET PIPE	PER PLAN	PER PLAN	PER PLAN
NOTES / SPECIAL REQUIREMENTS:			



ELEVATION VIEW

GENERAL NOTES

1. CONTECH SHALL PROVIDE ALL MATERIALS UNLESS NOTER OTHERWISE.
2. DESIGN LOADINGS:
   - A. AASHTO HS-25-44
   - B. CONTRACTOR TO PROVIDE ANTI-BUOYANCY CALCULATIONS AS REQUIRED. SEE GEOTECH REPORT.
   - C. DRY LATERAL EARTH PRESSURE (ERP) = 45 PCF
   - D. CASTINGS SHALL MEET AASHTO M306
3. OVERSIZED HOLES TO ACCOMODATE SPECIFIC PIPE TYPE MUST BE CONCENTRIC TO PIPE ID. AFTER PIPES ARE INSTALLED, ALL ANNULAR SPACES SHALL BE GROUTED WITH NON-SHRINK GROUT. PIPES ARE TO BE FLUSH WITH THE INSIDE SURFACE OF THE CONCRETE STRUCTURE.

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MARK	DATE	REVISION DESCRIPTION	BY

STC900 - 758205-15
K22552 WILLAMETTE RIVER (PORTLAND HARBOR SUPERFUND WQ IMPROVEMENTS)
PORTLAND, OR
SITE DESIGNATION: FREMONT WEST

CONTECH ENGINEERED SOLUTIONS LLC
www.ContechES.com
800.338.1122 513.645.7000 513.645.7993 FAX
9025 Centre Pointe Drive, Suite 400, West Chester, OH 45069

Stormceptor®
FOR WATER INFRASTRUCTURE, NOT FOR CONTECH USE

DATE:	3/13/25
DESIGNED: JOB	DRAWN: JOB
CHECKED: JPC	APPROVED: JOB
PROJECT No.: 758205	SEQUENCE No.: 15
SHEET: 1 OF 1	

CASC
LAYOUT 2A

Notes:

1. *Section heights, slab/wall thicknesses, and other shown are diagrammatic and subject to final design by the vendor.*

WATER QUALITY STRUCTURE, D00432

HWY: US30
M.P.: 3.20

UNIT FILE CODE
N/A

DFI/TSSU NO.
SEE TABLE, SHT. HA301

REGISTERED PROFESSIONAL ENGINEER
78195PE
Digitally Signed 2025.11.17 09:37:38-08'00'
OREGON
MAY 16, 2006
CHRISTOPHER J. WEBB
RENEWS: 06-30-2026

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

HERRERA
Herrera Environmental Consultants, Inc.
107 SE Washington Street, Suite 140
Portland, OR 97214
(503) 228-4301
www.herrerainc.com

OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Jimmy Esteban
Drafter: Hector Vela
Reviewer: Joanna Ogintz
Checker: Christopher Webb

DETAILS

SHEET NO.
HB302

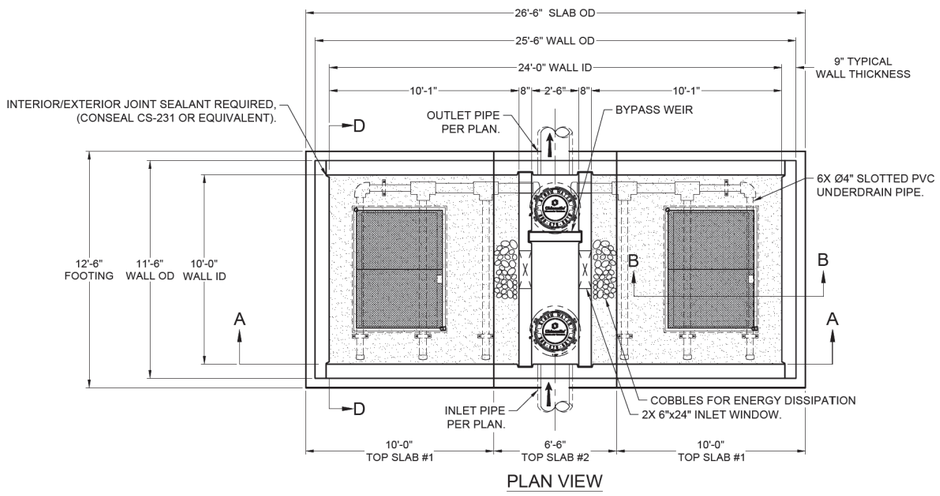
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Sec.27, T.1N, R.1E, W.M.

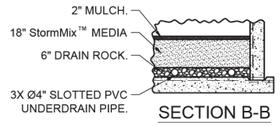
FREMONT BRIDGE – WEST END
US30 – M.P. 3.20

SITE SPECIFIC DATA				
Structure ID	FREMONT WEST			
Model Size	10X24			
Treatment Flow Rate (cfs)	0.63			
Peak Flow Rate (cfs)	1.70			
Rim Elevation	PER PLAN			
Pipe Data	**Pipe Location**	**Pipe Size**	**Pipe Type**	**Invert Elevation**
Inlet	PER PLAN	PER PLAN	PER PLAN	PER PLAN
Outlet	PER PLAN	PER PLAN	PER PLAN	PER PLAN
Notes:				

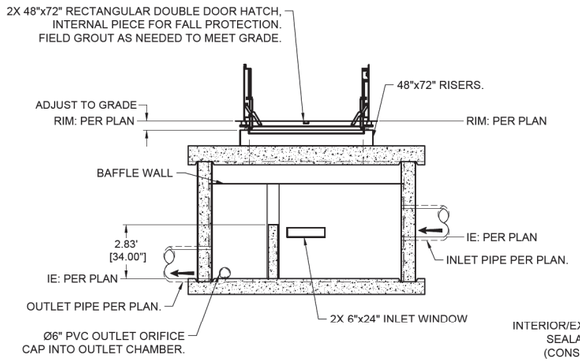
PERFORMANCE SPECIFICATIONS	
Treatment Flow Capacities:	
WA Ecology GULD - Basic, Enhanced & Phosphorus	0.810 cfs
Bypass Capacity	20 cfs
*Contact Oldcastle for alternative treatment flow capacities.	



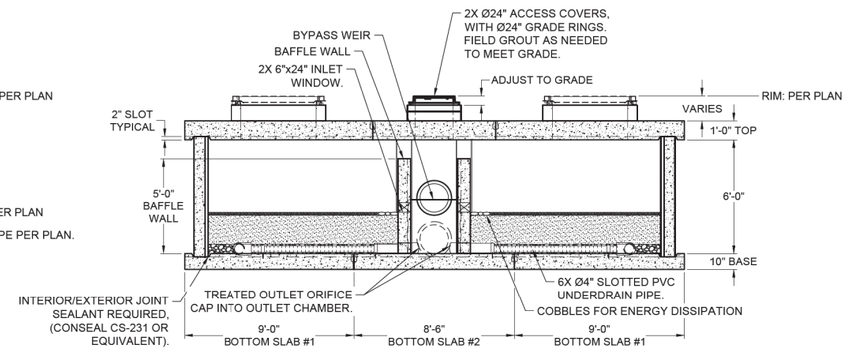
PLAN VIEW



SECTION B-B



SECTION D-D



SECTION A-A

NOTES:

1. DESIGN LOADINGS:
   A. AASHTO HS-25-44.
   B. CONTRACTOR TO PROVIDE ANTI-BUOYANCY CALCULATIONS AS REQUIRED. SEE GEOTECH REPORT.
   C. DRY LATERAL EARTH PRESSURE (ERP) = 45 PCF
2. OLDCASTLE SHALL PROVIDE OUTER PRECAST TRENCH, PRECAST INVERTED TRENCH, INTERNAL PIPING, MULCH, STORMIX MEDIA, AND GRAVEL.
3. OVERSIZED HOLES TO ACCOMODATE SPECIFIC PIPE TYPE MUST BE CONCETRIC TO PIPE ID. AFTER PIPES ARE INSTALLED, ALL ANNULAR SPACES SHALL BE GROUTED WITH NON-SHRINK GROUT. PIPES ARE TO BE FLUSH WITH THE INSIDE SURFACE OF THE CONCRETE STRUCTURE.

REV	DESCRIPTION	BY	DATE

Biorentention/ Biofiltration

Oldcastle Infrastructure™ A CRH COMPANY

Ph: 800.579.8819 | www.oldcastleinfrastructure.com/stormwater

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BioPod™ Biofilter Underground
10'x24' Panel Vault with Internal Bypass

CUSTOMER: Herrara Environmental Inc.

PROJECT NAME: ODOT Regional Basin - Oregon, OR

DATE	MFG	DRAWN	ENGINEER	CHECKED	SALES ORDER
10/11/23	010-AU	PPS	AFD	AFD	-

SHEET NAME: 23-847151-BPU-1024IB-PV_ FREMONT WEST

REVISION: 4 REV DATE 4/1/25

SHEET: 1 OF 3

WATER QUALITY STRUCTURE, D00507

Notes:

1. *Section heights, slab/wall thicknesses, and other shown are diagrammatic and subject to final design by the vendor.*

HWY: US30
M.P.: 3.20

UNIT FILE CODE: N/A

DFI/TSSU NO.: SEE TABLE, SHT. HA301

REGISTERED PROFESSIONAL ENGINEER
78195PE
Digitally Signed 2025.11.17 09:36:50-08'00'
OREGON
MAY 16, 2006
CHRISTOPHER J. WEBB
RENEWS: 06-30-2026

HERRERA
Herrera Environmental Consultants, Inc.
107 SE Washington Street, Suite 140
Portland, OR 97214
(503) 228-4301
www.herrerainc.com

OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

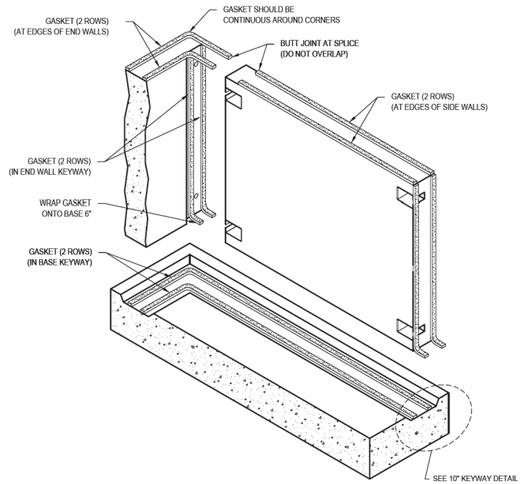
Designer: Jimmy Esteban | Reviewer: Joanna Ogintz
Drafter: Hector Vela | Checker: Christopher Webb

DETAILS | SHEET NO.: HB303

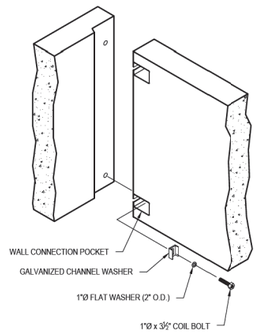
FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

Sec.27, T.1N, R.1E, W.M.

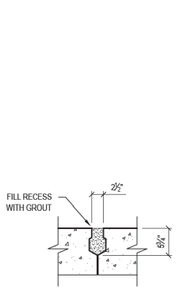
FREMONT BRIDGE – WEST END
US30 – M.P. 3.20



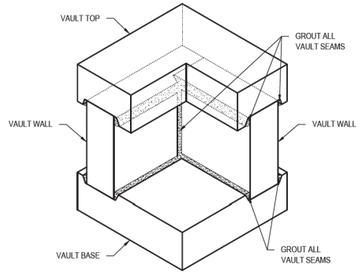
GASKET INSTALLATION DETAIL



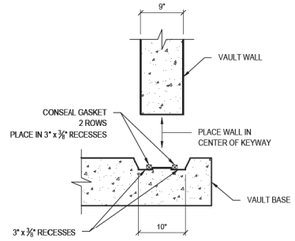
WALL CONNECTION DETAIL
BOLT CONNECTIONS ARE USED TO COMPRESS CONSEAL GASKET AND HOLD WALLS DURING ASSEMBLY;
BOLT CONNECTIONS ARE NOT STRUCTURAL



TOP / BASE SEAM DETAIL



SEAM GROUT DETAIL



10" KEYWAY DETAIL
CONSEAL GASKET LOCATIONS
VAULT WALL LOCATION

NOTE:

1. INFORMATION SHOWN ON THIS SHEET IS FOR GENERAL CONFIGURATION ONLY.

REV	DESCRIPTION	BY	DATE

Oldcastle Infrastructure
A CRH COMPANY

Ph: 800.579.8819 | www.oldcastleinfrastructure.com/stormwater

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BioPod™ Biofilter Underground
10'x24' Panel Vault with Internal Bypass

CUSTOMER: Herrara Environmental Inc.

PROJECT NAME: ODOT Regional Basin - Oregon, OR

DATE	MFG	DRAWN	ENGINEER	CHECKED	SALES ORDER
10/11/23	010-AU	PPS	AFD	AFD	-

SHEET NAME: INSTALLATION DETAILS
REVISION: 4
REV DATE: 4/1/25
SHEET: 2 OF 3

WATER QUALITY STRUCTURE, D00507

HWY: US30
M.P.: 3.20

UNIT FILE CODE: N/A

DFI/TSSU NO.: SEE TABLE, SHT. HA301

REGISTERED PROFESSIONAL ENGINEER
78195PE
Digitally Signed 2025.11.17 09:36:16-08'00'
OREGON
MAY 16, 2006
CHRISTOPHER J. WEBB
RENEWS: 06-30-2026

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

HERRERA
Herrera Environmental Consultants, Inc.
107 SE Washington Street, Suite 140
Portland, OR 97214
(503) 228-4301
www.herrerainc.com

OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Jimmy Esteban
Reviewer: Joanna Ogintz
Drafter: Hector Vela
Checker: Christopher Webb

DETAILS

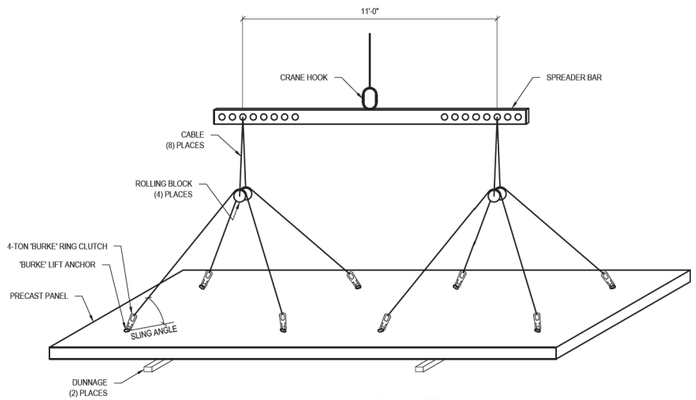
SHEET NO.: HB304

Sec.27, T.1N, R.1E, W.M.

FREMONT BRIDGE – WEST END
US30 – M.P. 3.20

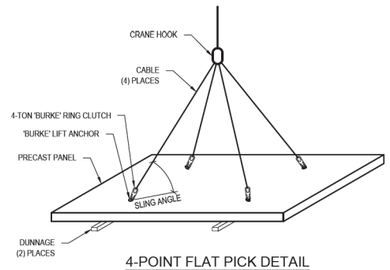
NOTE:

1. INFORMATION SHOWN ON THIS SHEET IS FOR GENERAL CONFIGURATION ONLY.



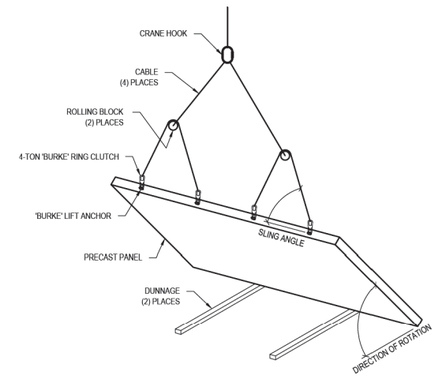
8-POINT FLAT PICK DETAIL

SLING ANGLE MUST BE AT LEAST 60°



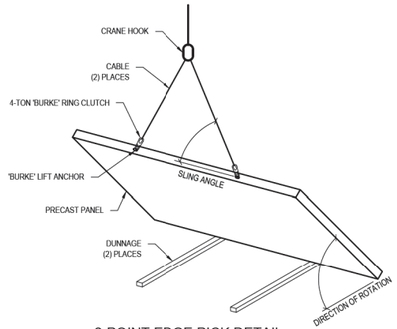
4-POINT FLAT PICK DETAIL

SLING ANGLE MUST BE AT LEAST 60°



4-POINT EDGE PICK DETAIL

SLING ANGLE MUST BE AT LEAST 60°



2-POINT EDGE PICK DETAIL

SLING ANGLE MUST BE AT LEAST 60°

REV	DESCRIPTION	BY	DATE

Oldcastle Infrastructure
A CRH COMPANY

Ph: 800.579.8819 | www.oldcastleinfrastructure.com/stormwater

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BioPod™ Biofilter Underground
10'x24' Panel Vault with Internal Bypass

CUSTOMER: Herrara Environmental Inc.

PROJECT NAME: ODOT Regional Basin - Oregon, OR

DATE	MFG	DRAWN	ENGINEER	CHECKED	SALES ORDER
10/11/23	010-AU	PPS	AFD	AFD	-

SHEET NAME	REVISION	SHEET
LIFT DETAILS	4 REV DATE 4/1/25	3 OF 3

WATER QUALITY STRUCTURE, D00507

HWY: US30
M.P.: 3.20

UNIT FILE CODE
N/A

DFI/TSSU NO.
SEE TABLE, SHT. HA301

REGISTERED PROFESSIONAL ENGINEER
78195PE
Digitally Signed 2025.11.17 09:36:31-08'00'
OREGON
MAY 16, 2006
CHRISTOPHER J. WEBB
RENEWS: 06-30-2026

HERRERA
Herrera Environmental Consultants, Inc.
107 SE Washington Street, Suite 140
Portland, OR 97214
(503) 228-4301
www.herrerainc.com

OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Jimmy Esteban
Drafter: Hector Vela
Reviewer: Joanna Ogintz
Checker: Christopher Webb

DETAILS

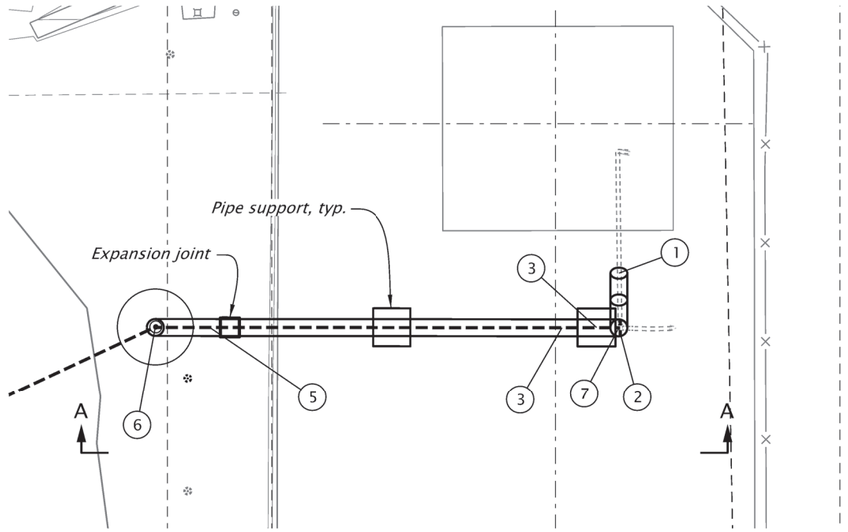
SHEET NO.
HB305

FINAL ELECTRONIC DOCUMENT
AVAILABLE UPON REQUEST

59V-002

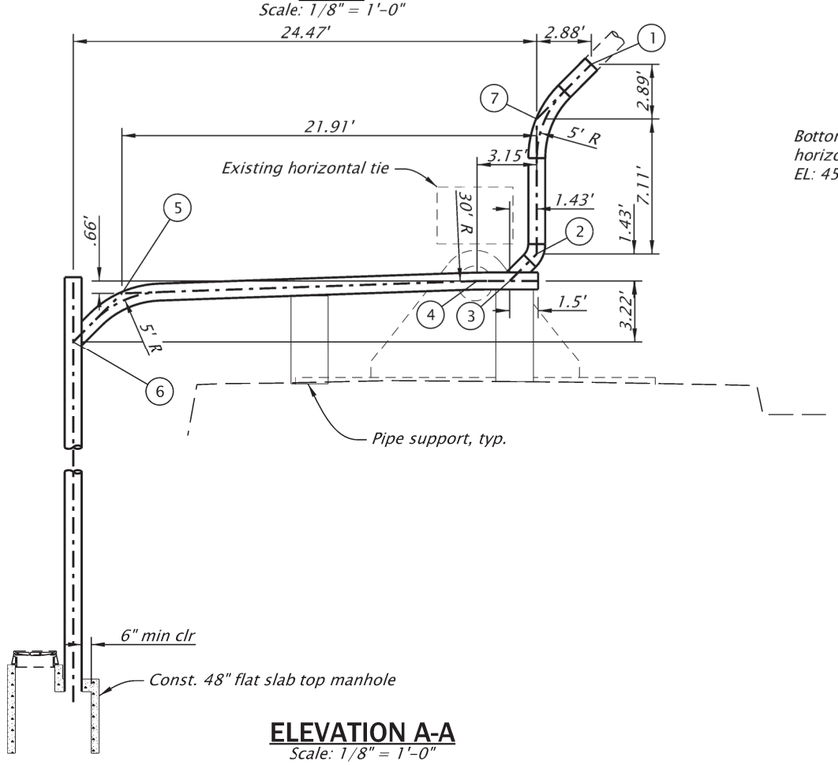
Sec.27, T.1N, R.1E, W.M.

FREMONT BRIDGE – WEST END
US30 – M.P. 3.20



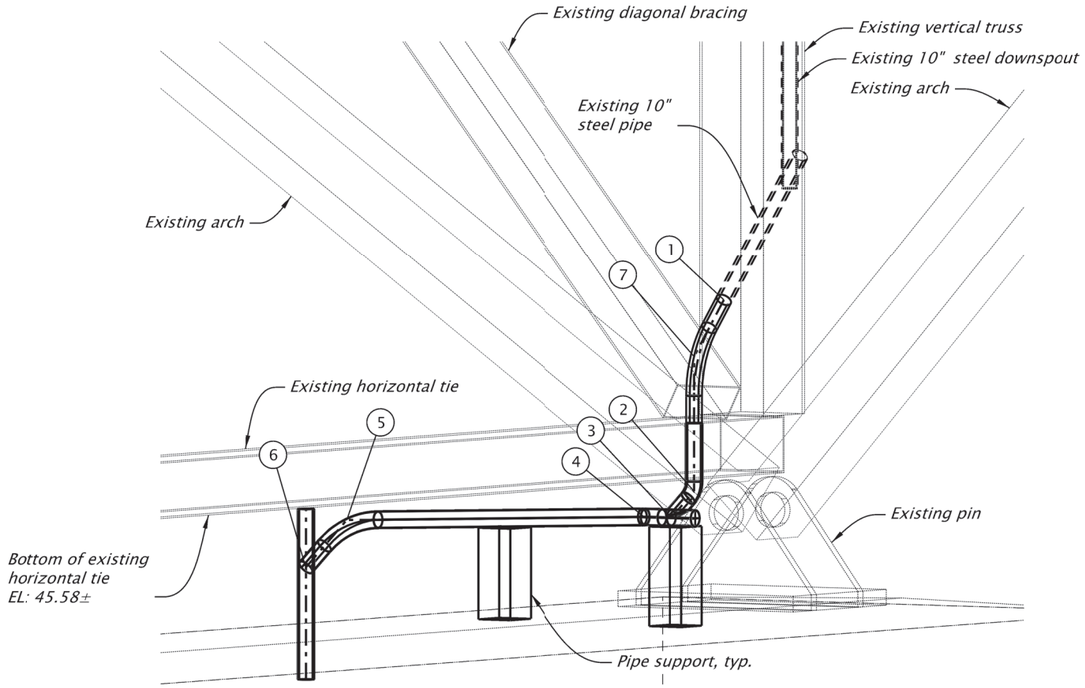
PLAN

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



ELEVATION A-A

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



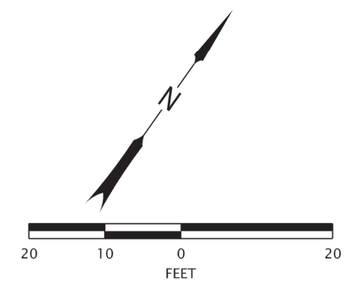
ISOMETRIC VIEW

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

CONSTRUCTION NOTES

1. *N: 177426.54, E: 344828.85, El: 55.06*
   CL connect to extg. 10" steel pipe
2. *N: 177424.67, E: 344831.03, El: 45.06*
   CL point of intersection, 45° Elbow
3. *N: 177422.28, E: 344828.99, El: 43.63*
   CL point of intersection, Wye with plug
4. *N: 177422.28, E: 344828.99, El: 43.63*
   CL point of intersection
5. *N: 177408.02, E: 344816.79, El: 42.98*
   CL point of intersection
6. *N: 177406.06, E: 344815.11, El: 40.39*
   CL Wye connection with plug
7. *N: 177424.67, E: 344831.03, El: 52.18*
   CL point of intersection

Note:
1. Alignment for new storm drain downspout connection to new manhole is preliminary. Contractor is responsible for making minor adjustments as needed to provide smooth transition and alignment from existing downspout through connection with manhole without undue pressure on existing downspout, and ensuring pedestals provide structural support.



HWY: US30
M.P.: 3.20

UNIT FILE CODE
N/A

DFI/TSSU NO.
SEE TABLE, SHT. HA301

REGISTERED PROFESSIONAL ENGINEER
104026PE
Digitally Signed 2025.12.16 17:41:21-06'00'
OREGON
JUNE 09, 2024
HSUAN-WEN CHU
RENEWS: 12-31-2025

FINAL ELECTRONIC DOCUMENT
AVAILABLE UPON REQUEST

WSP USA Inc.
1300 SW 5th Ave
Suite 3100
Portland, OR 97201
Tel: 1 503 274 8772

OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Fernando Sunago
Reviewer: Michael Giseburt
Drafter: Grace Harrison
Checker: Angelica Quintero

STORMWATER PLAN

SHEET NO.
HB306

59V-002

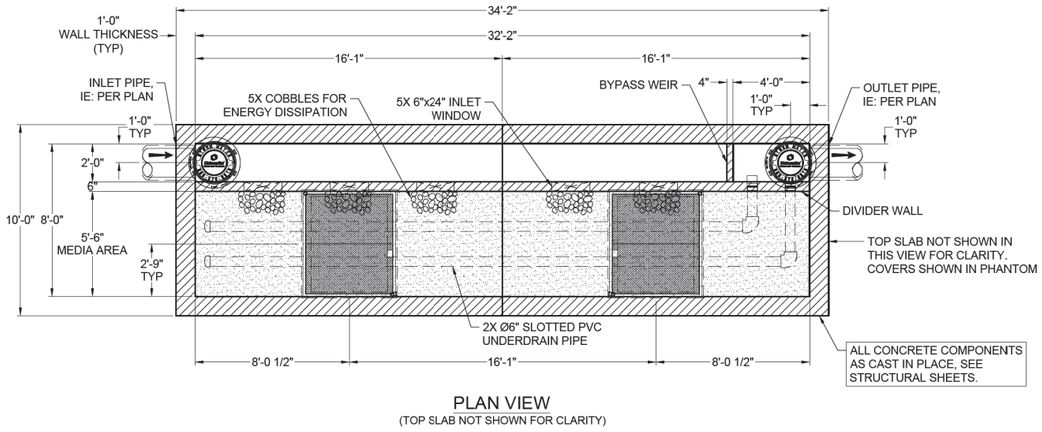
Sec.27, T.1N, R.1E, W.M.

FREMONT BRIDGE - EAST END
US30 - M.P. 3.43

SITE SPECIFIC DATA	
Structure ID	FREMONT EAST
Model Size	8X32.17
Treatment Flow Rate (cfs)	0.63
Peak Flow Rate (cfs)	1.70
Rim Elevation	PER PLAN

Pipe Data	Pipe Location	Pipe Size	Pipe Type	Invert Elevation
Inlet	PER PLAN	PER PLAN	PER PLAN	PER PLAN
Outlet	PER PLAN	PER PLAN	PER PLAN	PER PLAN
Notes:				

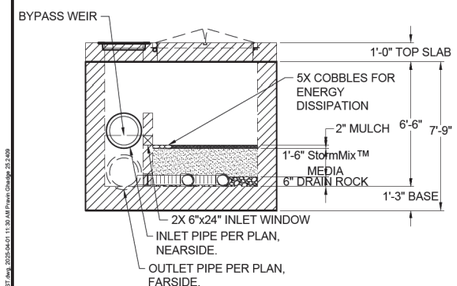
PERFORMANCE SPECIFICATIONS	
Treatment Flow Capacities:	
WA Ecology GULD - Basic, Enhanced & Phosphorus	0.63 cfs
Bypass Capacity	8.6 cfs
*Contact Oldcastle for alternative treatment flow capacities.	



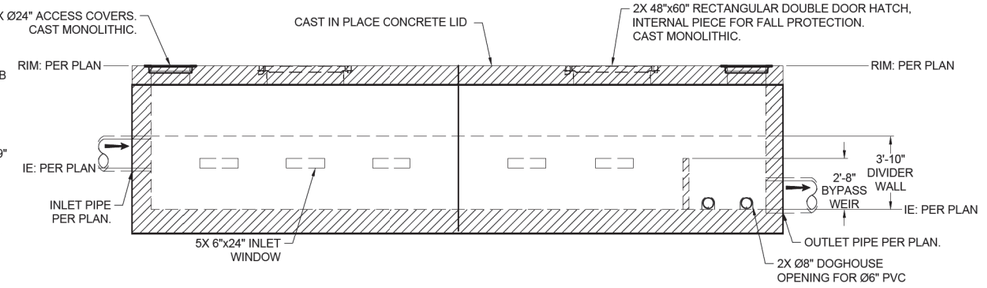
PLAN VIEW
(TOP SLAB NOT SHOWN FOR CLARITY)

NOTES:

1. OLDCASTLE SHALL PROVIDE INTERNAL PIPING, MULCH, STORMIX MEDIA, AND GRAVEL.
2. OVERSIZED HOLES TO ACCOMODATE SPECIFIC PIPE TYPE MUST BE CONCETRIC TO PIPE ID. AFTER PIPES ARE INSTALLED, ALL ANNULAR SPACES SHALL BE GROUTED WITH NON-SHRINK GROUT. PIPES ARE TO BE FLUSH WITH THE INSIDE SURFACE OF THE CONCRETE STRUCTURE.



LEFT END VIEW



ELEVATION VIEW

Bioretention/ Biofiltration

Oldcastle Infrastructure
A CRH COMPANY
Ph: 800.579.8819 | www.oldcastleinfrastructure.com/stormwater

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BioPod™ Biofilter System
8'x32'-2" Underground Vault with Internal Bypass

CUSTOMER: Herrara Environmental Inc.
JOB NAME: ODOT Regional Basin - Oregon, OR

DATE	MFG	DRAWN	ENGINEER	CHECKED	SALES ORDER
10/11/23	010-AU	PPS	AFD	AFD	-

INTERNAL DRAWING ID: 23-847151-BPU-832.17IB_Fremont East
REVISION: 4
REV DATE: 4/1/25
SHEET: 1 OF 1

REV	DESCRIPTION	BY	DATE

23-847151-BPU-832.17IB_FREMONT EAST.dwg, 2025-04-01 11:39 AM Preem Dredge 28.2.x49

WATER QUALITY STRUCTURE, D00509

NOTES

1. *See dwg. no. S401, S402 and S403 for cast in place details.*

REGISTERED PROFESSIONAL ENGINEER
78195PE
Digitally Signed 2025.11.17 09:35:59-08'00'
OREGON
MAY 16, 2006
CHRISTOPHER J. WEBB
RENEWS: 06-30-2026

HERRERA
Herrera Environmental Consultants, Inc.
107 SE Washington Street, Suite 140
Portland, OR 97214
(503) 228-4301
www.herrerainc.com

OREGON DEPARTMENT OF TRANSPORTATION

HWY: US30
M.P.: 3.43

UNIT FILE CODE: N/A

DFI/TSSU NO.: SEE TABLE, SHT. HA401

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Jimmy Esteban
Reviewer: Joanna Ogintz
Drafter: Hector Vela
Checker: Christopher Webb

DETAILS

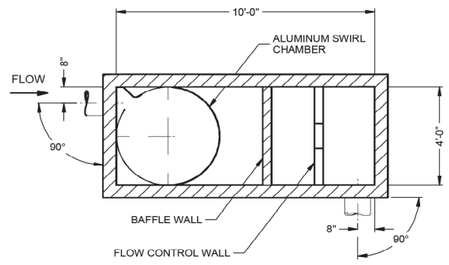
SHEET NO.: HB402

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

59V-002

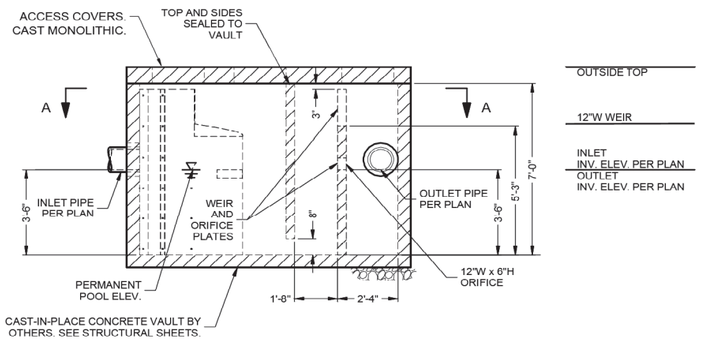
Sec.27, T.1N, R.1E, W.M.

FREMONT BRIDGE - EAST END
US30 - M.P. 3.43



SECTION A-A

VAULT NOT PROVIDED BY CONTECH. ALL CONCRETE COMPONENTS AS CAST-IN-PLACE. SEE STRUCTURAL SHEETS.



ELEVATION VIEW

SITE SPECIFIC DATA REQUIREMENTS

STRUCTURE ID			FREMONT EAST
WATER QUALITY FLOW RATE (cfs [L/s])			0.63
PEAK FLOW RATE (cfs [L/s])			1.70
RETURN PERIOD OF PEAK FLOW (yrs)			10
RIM ELEVATION			PER PLAN
PIPE DATA:	INVERT	MATERIAL	DIAMETER
INLET PIPE 1	PER PLAN	PER PLAN	PER PLAN
OUTLET PIPE	PER PLAN	PER PLAN	PER PLAN
NOTES / SPECIAL REQUIREMENTS:			

GENERAL NOTES

1. CONTECH SHALL PROVIDE SWIRLCHAMBER, SEALANT, WEIR, ORIFICE PLATE, FRAME AND COVER.
2. OVERSIZED HOLES TO ACCOMODATE SPECIFIC PIPE TYPE MUST BE CONCENTRIC TO PIPE ID. AFTER PIPES ARE INSTALLED, ALL ANNULAR SPACES SHALL BE GROUTED WITH NON-SHRINK GROUT. PIPES ARE TO BE FLUSH WITH THE INSIDE SURFACE OF THE CONCRETE STRUCTURE.

WATER QUALITY STRUCTURE, D00508

NOTES

1. *See dwg. no. S404 and S405 for cast in place details.*

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NO.	DATE	REVISION DESCRIPTION	BY

VORTECHS 2000 - 758205-20
K22552 WILLAMETTE RIVER
(PORTLAND HARBOR SUPERFUND
WQ IMPROVEMENTS)
PORTLAND, OR
FOR SYSTEM: FREMONT EAST

CONTECH ENGINEERED SOLUTIONS LLC
11280 SE 6th Avenue, Clackamas, OR 97015
800-548-4667 503-545-1901 888-561-1271 FAX
Vortechs®

DATE: 3/14/25	SCALE:
DESIGNED: JOB	DRAWN: BEP
CHECKED: JPC	APPROVED: JOB
PROJECT NUMBER: 758205	
SHEET: 1 OF 1	

HWY: US30	
M.P.: 3.43	
UNIT FILE CODE	N/A
DFI/TSSU NO.	SEE TABLE, SHT. HA401

REGISTERED PROFESSIONAL ENGINEER
78195PE
Digitally Signed 2025.11.17 09:35:38-08'00'
OREGON
MAY 16, 2006
CHRISTOPHER J. WEBB
RENEWS: 06-30-2026

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

HERRERA
Herrera Environmental Consultants, Inc.
107 SE Washington Street, Suite 140
Portland, OR 97214
(503) 228-4301
www.herrerainc.com

OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Jimmy Esteban	Reviewer: Joanna Ogintz
Drafter: Hector Vela	Checker: Christopher Webb

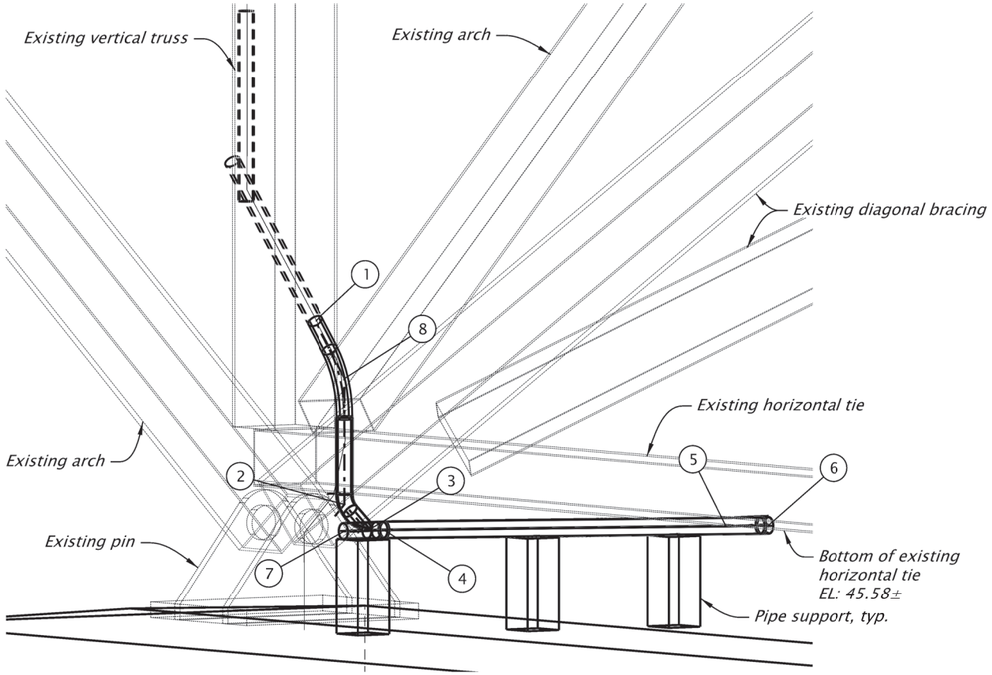
DETAILS — SHEET NO. HB403

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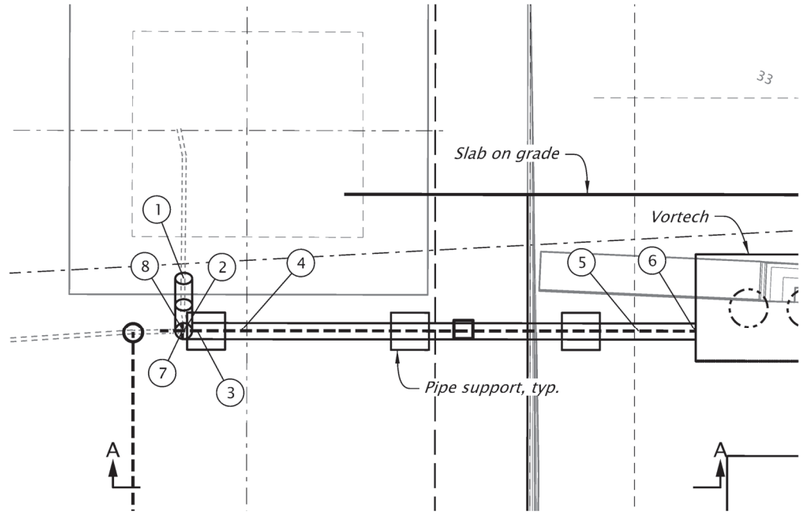
59V-002

Sec.27, T.1N, R.1E, W.M.

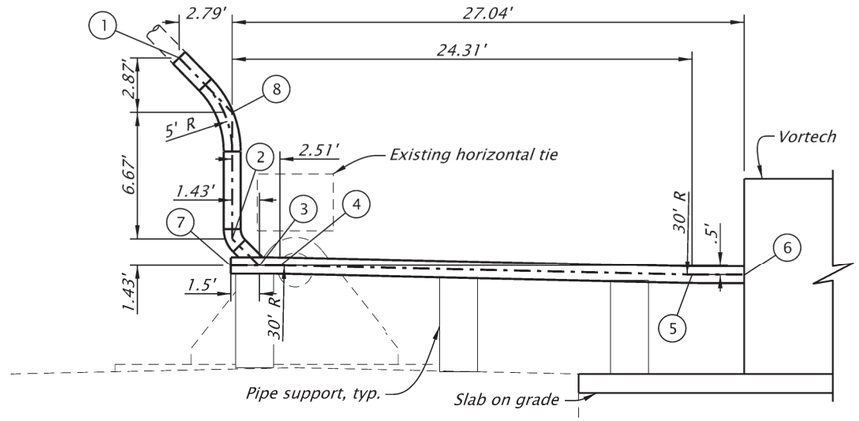
FREMONT BRIDGE – EAST END
US30 – M.P. 3.43



ISOMETRIC VIEW
Scale: 1/8" = 1'-0"



PLAN
Scale: 1/8" = 1'-0"

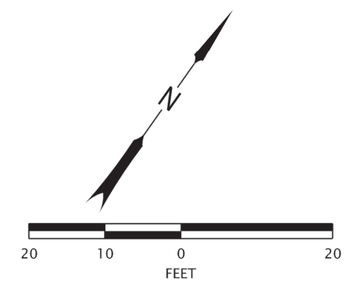


ELEVATION A-A
Scale: 1/8" = 1'-0"

CONSTRUCTION NOTES

1. *N: 178375.26, E: 345640.83, El: 54.71*
   CL connect to extg. structure
2. *N: 178373.44, E: 345642.95, El: 45.16*
   CL point of intersection, 45° Elbow
3. *N: 178374.56, E: 345643.90, El: 43.73*
   CL point of intersection, Wye
4. *N: 178375.35, E: 345644.59, El: 43.73*
   CL point of intersection
5. *N: 178391.91, E: 345658.76, El: 43.24*
   CL point of intersection
6. *N: 178393.99, E: 345660.54, El: 43.22*
   CL connect to Vortech
7. *N: 178373.39, E: 345642.91, El: 43.73*
   CL cleanout
8. *N: 178373.44, E: 345642.95, El: 51.82*
   CL point of intersection

Note:
1. Alignment for new storm drain downspout connection to new manhole is preliminary. Contractor is responsible for making minor adjustments as needed to provide smooth transition and alignment from existing downspout through connection with manhole without undue pressure on existing downspout, and ensuring pedestals provide structural support.



REGISTERED PROFESSIONAL ENGINEER
104026PE
Digitally Signed 2025.12.16 17:42:03-06'00'
OREGON
JUNE 09, 2024
HSUAN-WEN CHU
RENEWS: 12-31-2025

WSP USA Inc.
1300 SW 5th Ave
Suite 3100
Portland, OR 97201
Tel: 1 503 274 8772

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

HWY: US30	
M.P.: 3.20	
UNIT FILE CODE: N/A	
DFI/TSSU NO.: SEE TABLE, SHT. HA301	
Designer: Fernando Sunago	Reviewer: Michael Giseburt
Drafter: Grace Harrison	Checker: Angelica Quintero

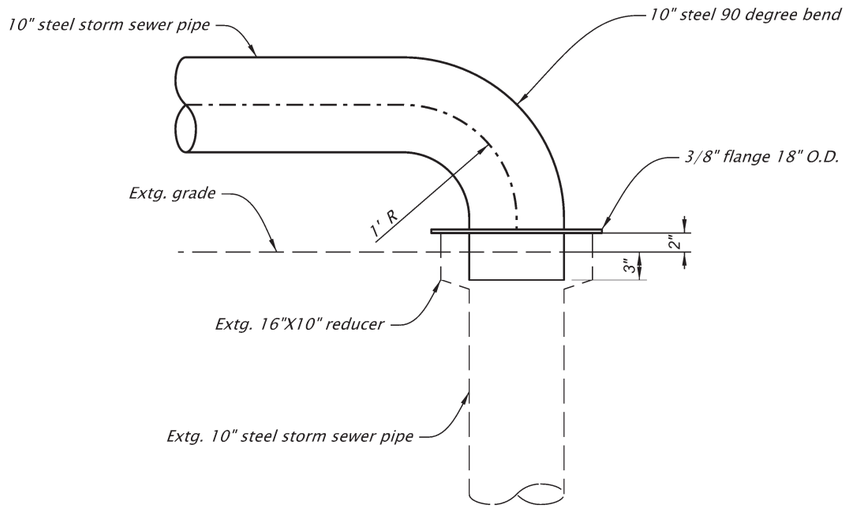
STORMWATER PLAN — SHEET NO. HB404

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

Sec.27, T.1N, R.1E, W.M.

FREMONT BRIDGE - EAST END
US30 - M.P. 3.43

Note:
1. 0" up to ¼" allowable gap tolerance between extg. reducer and flange



TIE IN AT EXISTING CONNECTION
Not to scale

HWY: US30
M.P.: 3.43

UNIT FILE CODE
N/A

DFI/TSSU NO.
SEE TABLE, SHT. HA401

REGISTERED PROFESSIONAL ENGINEER
104026PE
Digitally Signed 2025.12.16 17:38:37-06'00'
OREGON
JUNE 09, 2024
HSUAN-WEN CHU
RENEWS: 12-31-2025

FINAL ELECTRONIC DOCUMENT
AVAILABLE UPON REQUEST

WSP USA Inc.
1300 SW 5th Ave
Suite 3100
Portland, OR 97201
Tel: 1 503 274 8772

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Shen Chu
Drafter: Grace Harrison
Reviewer: Michael Giseburt
Checker: Angelica Quintero

STORMWATER PLAN

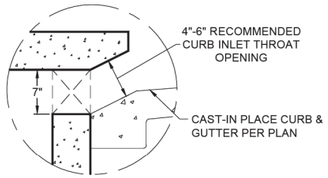
SHEET NO.
HB405

Sec.29, T.1N, R.1E, W.M.

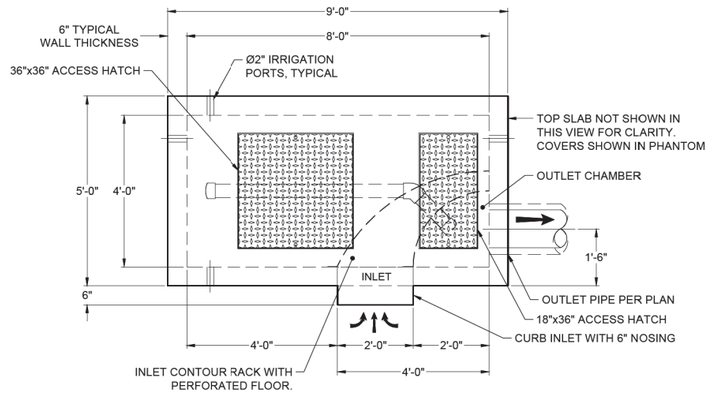
OF16-2 US30 M.P. 2.33

SITE SPECIFIC DATA				
Structure ID				OF16-2A
Model Size				4x8
Treatment Flow Rate (cfs)				0.10
Peak Flow Rate (cfs)				0.50
Rim Elevation				PER PLAN
Pipe Data	**Pipe Location**	**Pipe Size**	**Pipe Type**	**Invert Elevation**
Outlet	PER PLAN	PER PLAN	PER PLAN	PER PLAN
Notes: -				

PERFORMANCE SPECIFICATIONS	
Treatment Flow Capacities:	
NJDEP 80% Removal, 75 micron	0.115 cfs
WA Ecology GULD - Basic, Enhanced & Phosphorus	0.103 cfs
Bypass Capacity	2.0 cfs
*Contact Oldcastle for alternative treatment flow capacities.	



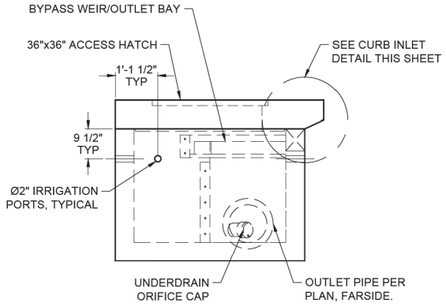
CURB INLET DETAIL



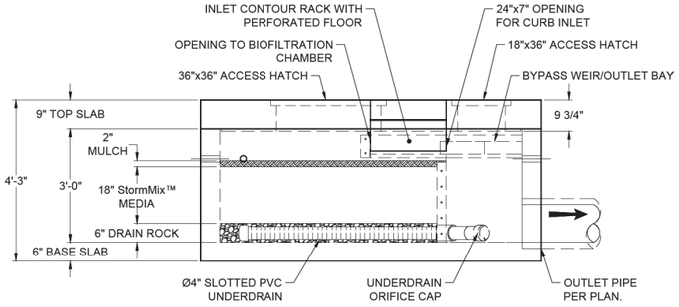
PLAN VIEW

NOTES:

1. DESIGN LOADINGS:
   A. AASHTO HS-20-44.
   B. CONTRACTOR TO PROVIDE ANTI-BUOYANCY CALCULATIONS AS REQUIRED. SEE GEOTECH REPORT.
   C. DRY LATERAL EARTH PRESSURE (ERP) = 45 PCF
2. OLDCASTLE SHALL PROVIDE OUTER PRECAST TRENCH, PRECAST INVERTED TRENCH, INTERNAL PIPING, MULCH, STORMIX MEDIA, AND GRAVEL.
3. OVERSIZED HOLES TO ACCOMODATE SPECIFIC PIPE TYPE MUST BE CONCETRIC TO PIPE ID. AFTER PIPES ARE INSTALLED, ALL ANNULAR SPACES SHALL BE GROUTED WITH NON-SHRINK GROUT. PIPES ARE TO BE FLUSH WITH THE INSIDE SURFACE OF THE CONCRETE STRUCTURE.



LEFT END VIEW



ELEVATION VIEW

REV	DESCRIPTION	BY	DATE

Oldcastle Infrastructure™
A CRH COMPANY

Ph: 800.579.8819 | www.oldcastleinfrastructure.com/stormwater

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BioPod™ Biofilter System
Surface Vault with Internal Bypass

CUSTOMER: Herrara

PROJECT NAME: ODOT Regional Basin - OR

DATE	MFG	DRAWN	ENGINEER	CHECKED	SALES ORDER
3/18/25	010-AU	PPS	AFD	AFD	-

SHEET NAME: 23-847151-BPS-48IB_OF16-2A | REVISION: - | REV DATE: - | SHEET: 1 OF 1

Bioretention/ Biofiltration

WATER QUALITY STRUCTURE, D00327

Notes:

1. *Section heights, slab/wall thicknesses, and other shown are diagrammatic and subject to final design by the vendor.*

REGISTERED PROFESSIONAL ENGINEER
78195PE
Digitally Signed 2025.11.17 09:35:09-08'00'
OREGON
MAY 16, 2006
CHRISTOPHER J. WEBB
RENEWS: 06-30-2026

HERRERA

Herrera Environmental Consultants, Inc.
107 SE Washington Street, Suite 140
Portland, OR 97214
(503) 228-4301
www.herrerainc.com

OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

HWY: US30
M.P.: 2.43

UNIT FILE CODE: N/A

DFI/TSSU NO.: SEE TABLE, SHT. HA502

Designer: Jimmy Esteban | Reviewer: Joanna Ogintz
Drafter: Hector Vela | Checker: Christopher Webb

DETAILS

SHEET NO.: HB502

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

59V-002

Sec.29, T.1N, R.1E, W.M.

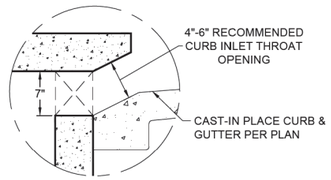
OF16-2 - US30 M.P. 2.32

Notes:

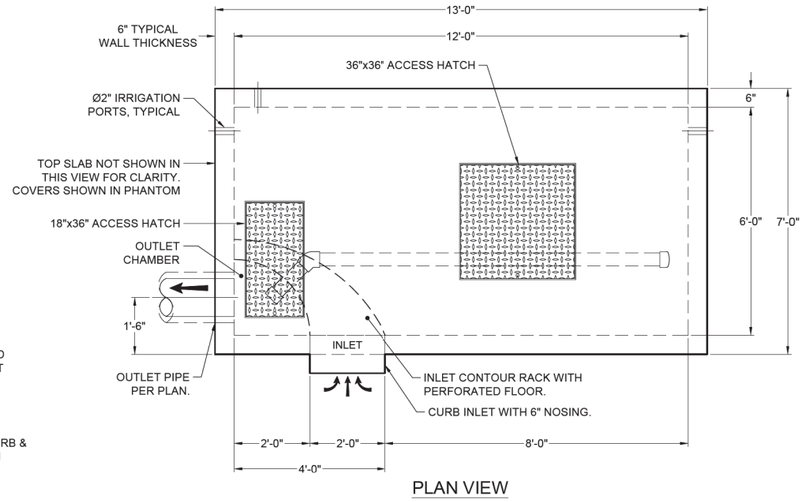
1. *Section heights, slab/wall thicknesses, and other shown are diagrammatic and subject to final design by the vendor.*

SITE SPECIFIC DATA				
Structure ID				OF16-2B
Model Size				6x12
Treatment Flow Rate (cfs)				0.20
Peak Flow Rate (cfs)				1.95
Rim Elevation				PER PLAN
Pipe Data	**Pipe Location**	**Pipe Size**	**Pipe Type**	**Invert Elevation**
Outlet	PER PLAN	PER PLAN	PER PLAN	PER PLAN
Notes: -				

PERFORMANCE SPECIFICATIONS	
Treatment Flow Capacities:	
NJDEP 80% Removal, 75 micron	0.275 cfs
WA Ecology GULD - Basic, Enhanced & Phosphorus	0.245 cfs
Bypass Capacity	2.0 cfs
*Contact Oldcastle for alternative treatment flow capacities.	



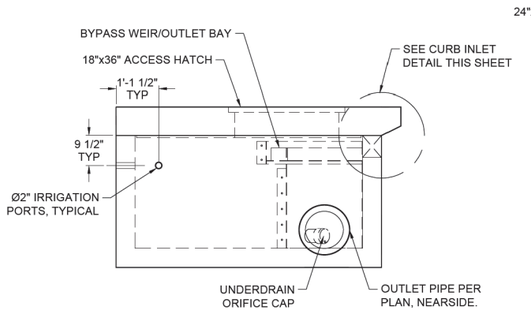
CURB INLET DETAIL



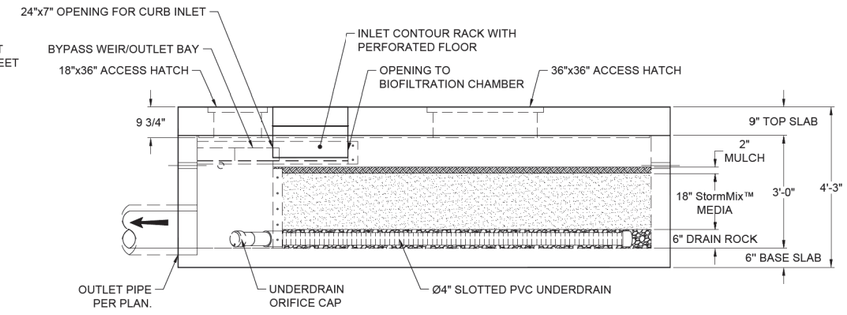
PLAN VIEW

NOTES:

1. DESIGN LOADINGS:
   A. AASHTO HS-20-44.
   B. CONTRACTOR TO PROVIDE ANTI-BUOYANCY CALCULATIONS AS REQUIRED. SEE GEOTECH REPORT.
   C. DRY LATERAL EARTH PRESSURE (ERP) = 45 PCF
2. OLDCASTLE SHALL PROVIDE OUTER PRECAST TRENCH, PRECAST INVERTED TRENCH, INTERNAL PIPING, MULCH, STORMIX MEDIA, AND GRAVEL.
3. OVERSIZED HOLES TO ACCOMODATE SPECIFIC PIPE TYPE MUST BE CONCETRIC TO PIPE ID. AFTER PIPES ARE INSTALLED, ALL ANNULAR SPACES SHALL BE GROUTED WITH NON-SHRINK GROUT. PIPES ARE TO BE FLUSH WITH THE INSIDE SURFACE OF THE CONCRETE STRUCTURE.



LEFT END VIEW



ELEVATION VIEW

Bioretention/ Biofiltration

REV	DESCRIPTION	BY	DATE

Oldcastle Infrastructure™
A CRH COMPANY

Ph: 800.579.8819 | www.oldcastleinfrastructure.com/stormwater

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BioPod™ Biofilter System
Surface Vault with Internal Bypass

CUSTOMER: Herrara

PROJECT NAME: ODOT Regional Basin - OR

DATE	MFG	DRAWN	ENGINEER	CHECKED	SALES ORDER
3/18/25	010-AU	PPS	AFD	AFD	-

SHEET NAME: 23-847151-BPS-612IB-SI_OF16-2B

REVISION: 2 (REV DATE 8/14/25)

SHEET: 1 OF 1

WATER QUALITY STRUCTURE, D00328

HWY: US30
M.P.: 2.43

UNIT FILE CODE: N/A

DFI/TSSU NO.: SEE TABLE, SHT. HA502

REGISTERED PROFESSIONAL ENGINEER
78195PE
Digitally Signed 2025.11.17 09:34:52-08'00'
OREGON
MAY 16, 2006
CHRISTOPHER J. WEBB

RENEWS: 06-30-2026

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

HERRERA
Herrera Environmental Consultants, Inc.
107 SE Washington Street, Suite 140
Portland, OR 97214
(503) 228-4301
www.herrerainc.com

OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Jimmy Esteban | Reviewer: Joanna Ogintz
Drafter: Hector Vela | Checker: Christopher Webb

DETAILS

SHEET NO.: HB502A

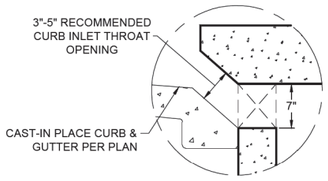
59V-002

Sec.29, T.1N, R.1E, W.M.

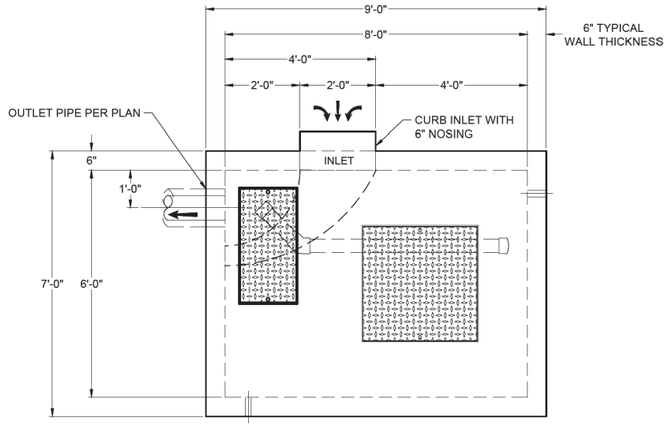
OF16-3 – US30 M.P. 2.21

SITE SPECIFIC DATA				
Structure ID				OF16-3
Model Size				6x8
Treatment Flow Rate (cfs)				0.13
Peak Flow Rate (cfs)				0.59
Rim Elevation				PER PLAN
Pipe Data	**Pipe Location**	**Pipe Size**	**Pipe Type**	**Invert Elevation**
Outlet	PER PLAN	PER PLAN	PER PLAN	PER PLAN
Notes: -				

PERFORMANCE SPECIFICATIONS	
Treatment Flow Capacities:	
NJDEP 80% Removal, 75 micron	0.179 cfs
WA Ecology GULD - Basic, Enhanced & Phosphorus	0.160 cfs
Bypass Capacity	2.0 cfs
*Contact Oldcastle for alternative treatment flow capacities.	



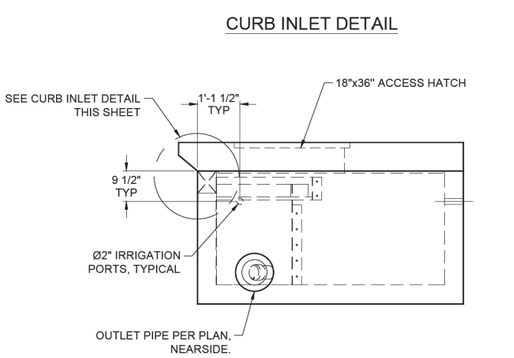
CURB INLET DETAIL



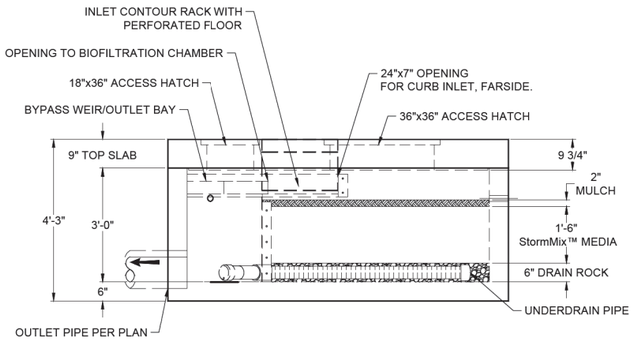
PLAN VIEW

NOTES:

1. DESIGN LOADINGS:
   A. AASHTO HS-20-44.
   B. CONTRACTOR TO PROVIDE ANTI-BUOYANCY CALCULATIONS AS REQUIRED. SEE GEOTECH REPORT.
   C. DRY LATERAL EARTH PRESSURE (ERP) = 45 PCF
2. OLDCASTLE SHALL PROVIDE OUTER PRECAST TRENCH, PRECAST INVERTED TRENCH, INTERNAL PIPING, MULCH, STORMIX MEDIA, AND GRAVEL.
3. OVERSIZED HOLES TO ACCOMODATE SPECIFIC PIPE TYPE MUST BE CONCETRIC TO PIPE ID. AFTER PIPES ARE INSTALLED, ALL ANNULAR SPACES SHALL BE GROUTED WITH NON-SHRINK GROUT. PIPES ARE TO BE FLUSH WITH THE INSIDE SURFACE OF THE CONCRETE STRUCTURE.



LEFT END VIEW



ELEVATION VIEW

Bioretention/ Biofiltration

Oldcastle Infrastructure™
A CRH COMPANY

Ph: 800.579.8819 | www.oldcastleinfrastructure.com/stormwater

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BioPod™ Biofilter System
Surface Vault with Internal Bypass

CUSTOMER: Herrara

PROJECT NAME: ODOT Regional Basin - OR

DATE	MFG	DRAWN	ENGINEER	CHECKED	SALES ORDER
3/18/25	010-AU	PPS	AFD	AFD	-

SHEET NAME: 23-847151-BPS-68IB-SI_OF16-3

REVISION: -

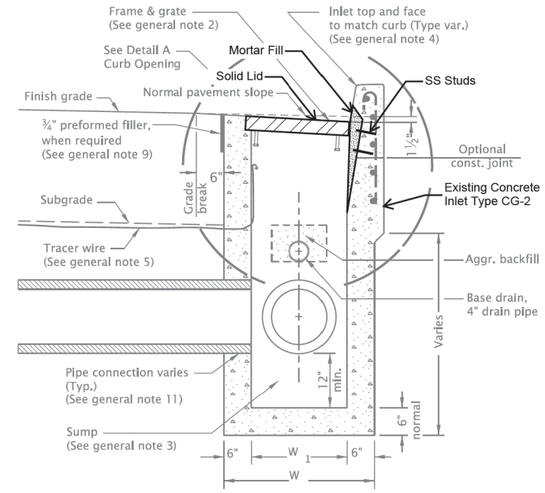
REV DATE: -

SHEET: 1 OF 1

REV	DESCRIPTION	BY	DATE

NOTES:

1. *Section heights, slab/wall thicknesses, and other shown are diagrammatic and subject to final design by the vendor.*



Solid Lid Inlet Modification

SCALE: n.t.s

WATER QUALITY STRUCTURE, D00329

REGISTERED PROFESSIONAL ENGINEER
78195PE
Digitally Signed 2025.11.17 09:33:54-08'00'
OREGON
MAY 16, 2006
CHRISTOPHER J. WEBB
RENEWS: 06-30-2026

HERRERA
Herrera Environmental Consultants, Inc.
107 SE Washington Street, Suite 140
Portland, OR 97214
(503) 228-4301
www.herrerainc.com

OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

HWY: US30
M.P.: 2.43

UNIT FILE CODE: N/A

DFI/TSSU NO.: SEE TABLE, SHT. HA503

Designer: Jimmy Esteban
Drafter: Hector Vela
Reviewer: Joanna Ogintz
Checker: Christopher Webb

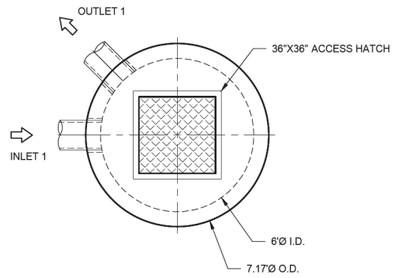
DETAILS

SHEET NO.: HB503

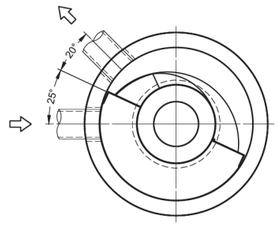
FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

Sec.20, T.1N, R.1E, W.M.

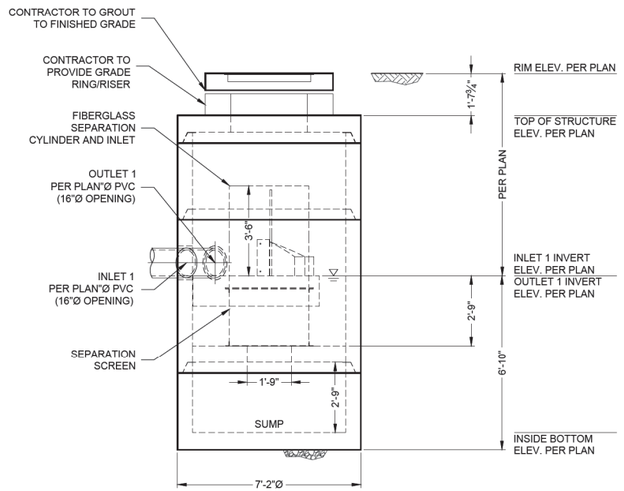
OF18-2 – US30 M.P. 3.00



PLAN VIEW
INTERNALS NOT SHOWN



PLAN VIEW FOR PIPE ORIENTATION
TOP SLAB NOT SHOWN



ELEVATION VIEW

MATERIAL LIST (PROVIDED BY CONTECH)

COUNT	DESCRIPTION	INSTALLED BY
1	3020-6 CONCENTRIC FIBERGLASS INSERT	CONTECH
1	3020, 2400 micron, 3.1' O.D. x 2.25' SCREEN, GREEN FLANGE UP	CONTECH
1	20, 30, 40 SERIES HARDWARE KIT	CONTECH
1	SEALANT FOR JOINTS	CONTRACTOR
1	36"X36" ACCESS HATCH, EJ #00821721B02	CONTRACTOR

SITE SPECIFIC DATA REQUIREMENTS

STRUCTURE ID	OF18-2
WATER QUALITY FLOW RATE (CFS OR L/s)	1.29
PEAK FLOW RATE (CFS OR L/s)	OFFLINE
RETURN PERIOD OF PEAK FLOW (YRS)	10
RIM ELEVATION	PER PLAN

PIPE DATA:	I.E.	MATERIAL	DIAMETER
INLET PIPE 1	PER PLAN	PER PLAN	PER PLAN
INLET PIPE 2	N/A	N/A	N/A
OUTLET PIPE	PER PLAN	PER PLAN	PER PLAN

NOTES/SPECIAL REQUIREMENTS:

GENERAL NOTES
1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. FOR FABRICATION DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHT, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE. www.ContechES.com
3. CDS WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.
4. STRUCTURE SHALL MEET AASHTO HS-25-44 LOAD RATING, ASSUMING EARTH COVER OF 0' - 2', AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M306 AND BE CAST WITH THE CONTECH LOGO.
5. IF REQUIRED, PVC HYDRAULIC SHEAR PLATE IS PLACED ON SHELF AT BOTTOM OF SCREEN CYLINDER. REMOVE AND REPLACE AS NECESSARY DURING MAINTENANCE CLEANING.
6. CDS STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C-478 AND AASHTO LOAD FACTOR DESIGN METHOD.
7. CONTRACTOR TO PROVIDE ANTI-BUOYANCY CALCULATIONS AS REQUIRED. SEE GEOTECH REPORT.
8. DRY LATERAL EARTH PRESSURE (ERP) = 45 PCF
9. OVERSIZED HOLES TO ACCOMODATE SPECIFIC PIPE TYPE MUST BE CONCENTRIC TO PIPE ID. AFTER PIPES ARE INSTALLED, ALL ANNULAR SPACES SHALL BE GROUTED WITH NON-SHRINK GROUT. PIPES ARE TO BE FLUSH WITH THE INSIDE SURFACE OF THE CONCRETE STRUCTURE.

INSTALLATION NOTES
A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE CDS MANHOLE STRUCTURE.
C. CONTRACTOR TO INSTALL JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS AND ASSEMBLE STRUCTURE.
D. CONTRACTOR TO PROVIDE, INSTALL, AND GROUT INLET AND OUTLET PIPE(S). MATCH PIPE INVERTS WITH ELEVATIONS SHOWN. ALL PIPE CENTERLINES TO MATCH PIPE OPENING CENTERLINES.
E. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO ASSURE UNIT IS WATER TIGHT, HOLDING WATER TO FLOWLINE INVERT MINIMUM. IT IS SUGGESTED THAT ALL JOINTS BELOW PIPE INVERTS ARE GROUTED.

STRUCTURE WEIGHT
REFER TO SITE-SPECIFIC DRAWING FOR APPROXIMATE HEAVIEST PICK WEIGHT, MAX FOOTPRINT, AND TOTAL NUMBER OF STRUCTURE PIECES.

H2
LAYOUT 1A

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MARK	DATE	REVISION DESCRIPTION	BY

CDS3020-6-C - 758205-065
K22552 WILLAMETTE RIVER (PORTLAND HARBOR SUPERFUND WQ IMPROVEMENTS)
PORTLAND, OR
SITE DESIGNATION: OF18-2

CONTECH ENGINEERED SOLUTIONS LLC
www.ContechES.com
12001 SE 97th Avenue, Clackamas, OR 97015
800.548.4667 503.258.3333 503.265.3333 800.391.1277 FAX
FOR PATENT INFORMATION, GO TO www.ContechES.com/IP

DATE:	08/06/25
DESIGNED: KMET	DRAWN: KMET
CHECKED: SJ	APPROVED: KMET
PROJECT No.: 758205	SEQUENCE No.: 065
SHEET: 1 OF 1	

WATER QUALITY STRUCTURE D00430

HWY: US30
M.P.: 3.00

UNIT FILE CODE
N/A

DFI/TSSU NO.
SEE TABLE, SHT. HA521

REGISTERED PROFESSIONAL ENGINEER
104026PE
Digitally Signed 2025.11.12 19:02:27-06'00'
OREGON
JUNE 09, 2024
HSUAN-WEN CHU

RENEWS: 12-31-2025

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

WSP USA Inc.
1300 SW 5th Ave
Suite 3100
Portland, OR 97201
Tel: 1 503 274 8772

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Shen Chu
Drafter: Grace Harrison
Reviewer: Michael Giseburt
Checker: Angelica Quintero

DETAILS

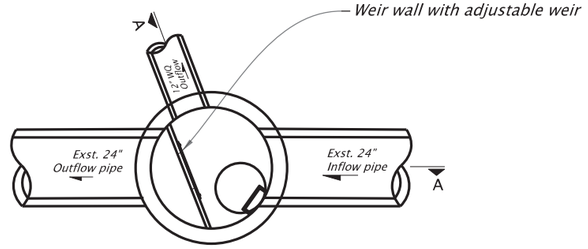
SHEET NO.
HB521

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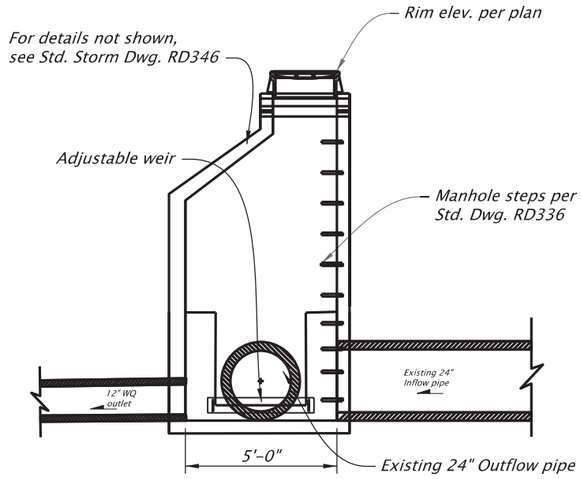
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OF18-2 – US30 M.P. 3.00

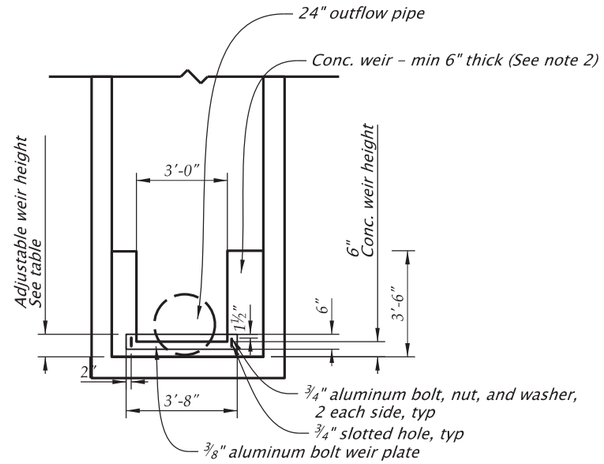
Notes:
1. *See pipe data sheet and plan sheet for manhole size.*
2. *See weir wall detail, detail 2 on HB563, as modified with cutouts for adjustable weir per this drawing.*
3. *Contractor to confirm the weir height placement with engineer prior to setting the adjustable weir plate.*



PLAN VIEW - INSIDE STRUCTURE
Not to scale



SECTION A-A
Not to scale



ADJUSTABLE WEIR DETAIL, TYPE 8
Not to scale

OF 18-2 Flow Splitter		
Flow Splitter	**Sheet - Construction Note**	**Adjustable Weir Height (ft)**
Type 8	HA521 – 1	0.75'

DETAIL - FLOW SPLITTER, TYPE 8
Not to scale

REGISTERED PROFESSIONAL ENGINEER
104026PE
Digitally Signed 2025.11.12 19:02:27-06'00'
OREGON
JUNE 09, 2024
HSUAN-WEN CHU
RENEWS: 12-31-2025

WSP USA Inc.
1300 SW 5th Ave
Suite 3100
Portland, OR 97201
Tel: 1 503 274 8772

OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

HWY: US30	
M.P.: 3.00	
UNIT FILE CODE: N/A	
DFI/TSSU NO.: SEE TABLE, SHT. HA521	
Designer: Shen Chu	Reviewer: Michael Giseburt
Drafter: Grace Harrison	Checker: Angelica Quintero
DETAILS	SHEET NO.: HB521A

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

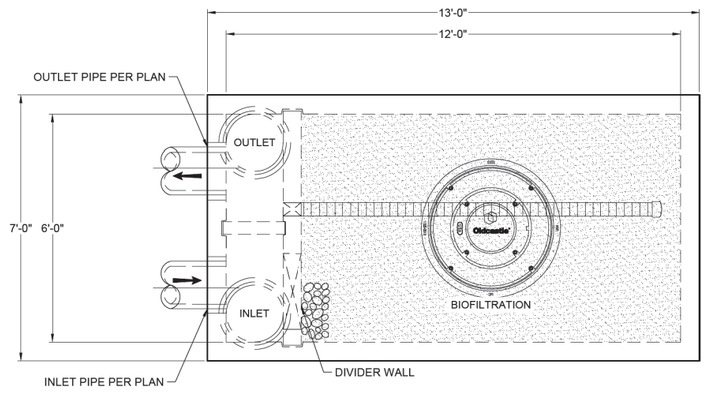
Sec.20, T.1N, R.1E, W.M.

OF18-1 - US30 M.P. 3.46

SITE SPECIFIC DATA				
Structure ID				OF 18-1
Model Size				6X12
Treatment Flow Rate (cfs)				0.17
Peak Flow Rate (cfs)				0.78
Rim Elevation				PER PLAN
Pipe Data	**Pipe Location**	**Pipe Size**	**Pipe Type**	**Invert Elevation**
Inlet	PER PLAN	PER PLAN	PER PLAN	PER PLAN
Outlet	PER PLAN	PER PLAN	PER PLAN	PER PLAN
Notes:				

PERFORMANCE SPECIFICATIONS	
Treatment Flow Capacities:*	
NJDEP 80% Removal, 75 micron	0.240 cfs
WA Ecology GULD - Basic, Enhanced & Phosphorus	0.214 cfs

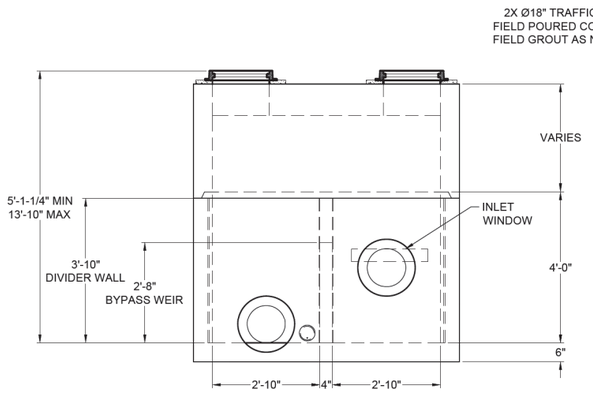
*Contact Oldcastle for alternative treatment flow capacities.



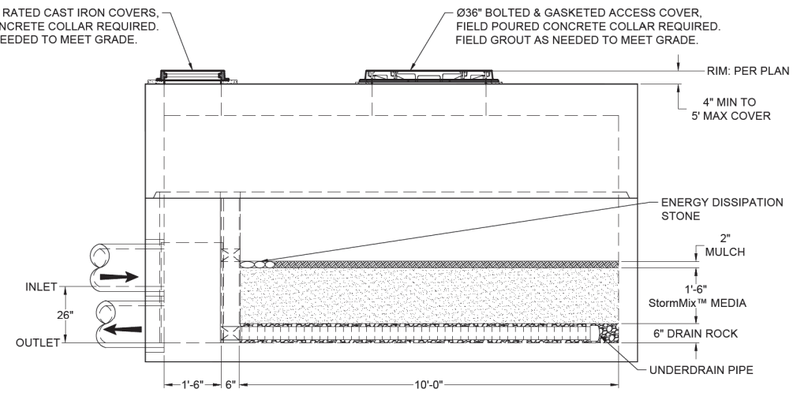
PLAN VIEW

NOTES:

1. DESIGN LOADINGS:
   A. AASHTO HS-25-44
   B. CONTRACTOR TO PROVIDE ANTI-BUOYANCY CALCULATIONS AS REQUIRED. SEE GEOTECH REPORT.
   C. DRY LATERAL EARTH PRESSURE(ERP) : 45 PCF
2. OLDCASTLE SHALL PROVIDE OUTER PRECAST TRENCH, PRECAST INVERTED TRENCH, INTERNAL PIPING, MULCH, STORMIX MEDIA, AND GRAVEL.
3. OVERSIZED HOLES TO ACCOMODATE SPECIFIC PIPE TYPE MUST BE CONCENTRIC TO PIPE ID. AFTER PIPES ARE INSTALLED, ALL ANNULAR SPACES SHALL BE GROUTED WITH NON-SHRINK GROUT. PIPES ARE TO BE FLUSH WITH THE INSIDE SURFACE OF THE CONCRETE STRUCTURE.



LEFT END VIEW



ELEVATION VIEW

Bioretention/ Biofiltration

Oldcastle Infrastructure™
A CRH COMPANY

Ph: 800.579.8819 | www.oldcastleinfrastructure.com/stormwater

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BioPod™ Biofilter System
Underground Vault with Internal Bypass

CUSTOMER: Herrara

PROJECT NAME: ODOT Regional Basin - OR

DATE	MFG	DRAWN	ENGINEER	CHECKED	SALES ORDER
3/18/25	010-AU	PPS	AFD	AFD	-

SHEET NAME: 23-847151-BPU-612_OF18-1

REVISION: 1 REV DATE 4/1/25

SHEET: 1 OF 1

WATER QUALITY STRUCTURE, D00331

HWY: US30
M.P.: 00.00

UNIT FILE CODE: N/A

DFI/TSSU NO.: SEE TABLE, SHT. HA522

REGISTERED PROFESSIONAL ENGINEER
78195PE
Digitally Signed 2025.11.17 09:32:57-08'00'
OREGON
MAY 16, 2006
CHRISTOPHER J. WEBB
RENEWS: 06-30-2026

HERRERA
Herrera Environmental Consultants, Inc.
107 SE Washington Street, Suite 140
Portland, OR 97214
(503) 228-4301
www.herrerainc.com

OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Jimmy Esteban
Reviewer: Joanna Ogintz
Drafter: Hector Vela
Checker: Christopher Webb

DETAILS

SHEET NO.: HB522

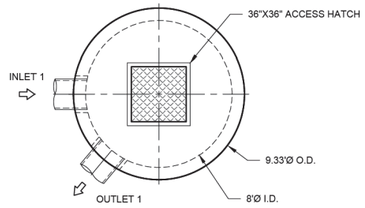
Notes:

1. *Section heights, slab/wall thicknesses, and other shown are diagrammatic and subject to final design by the vendor.*

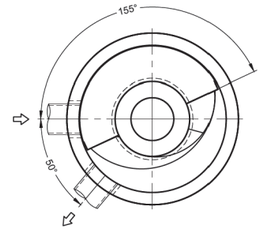
FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

Sec.19, T.1N, R.1E, W.M.
OF19-2 - US30 M.P. 3.88

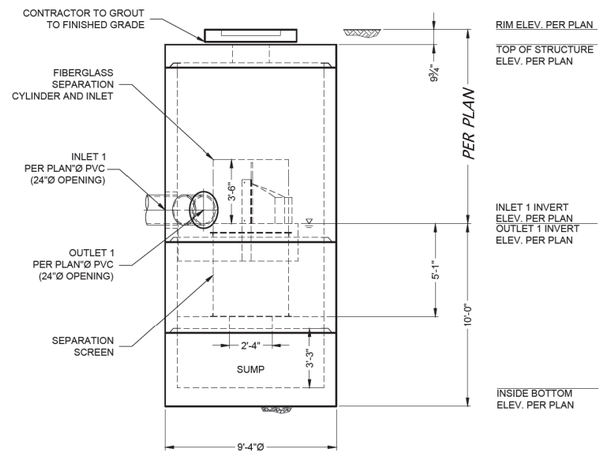
Note:
See sht. HA532 for correct orientation of pipes.



PLAN VIEW
INTERNALS NOT SHOWN



PLAN VIEW FOR PIPE ORIENTATION
TOP SLAB NOT SHOWN



ELEVATION VIEW

MATERIAL LIST (PROVIDED BY CONTECH)

COUNT	DESCRIPTION	INSTALLED BY
1	4045-8 CONCENTRIC FIBERGLASS INSERT	CONTRACTOR
1	4045, 2400 micron, 4.1' O.D. x 4.58' SCREEN, GREEN FLANGE UP	CONTRACTOR
1	20, 30, 40 SERIES HARDWARE KIT	CONTRACTOR
1	SEALANT FOR JOINTS	CONTRACTOR
1	36"X36" ACCESS HATCH, EJ #00821721B02	CONTRACTOR

SITE SPECIFIC DATA REQUIREMENTS *OF19-2*

STRUCTURE ID	OF19-2
WATER QUALITY FLOW RATE (CFS OR L/s)	6.90
PEAK FLOW RATE (CFS OR L/s)	OFFLINE
RETURN PERIOD OF PEAK FLOW (YRS)	10
RIM ELEVATION	PER PLAN

PIPE DATA:	I.E.	MATERIAL	DIAMETER
INLET PIPE 1	PER PLAN	PER PLAN	PER PLAN
INLET PIPE 2	N/A	N/A	N/A
OUTLET PIPE	PER PLAN	PER PLAN	PER PLAN

NOTES/SPECIAL REQUIREMENTS:

GENERAL NOTES
1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. FOR FABRICATION DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHT, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE. www.ContechES.com
3. CDS WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.
4. STRUCTURE SHALL MEET AASHTO HS-25-44 LOAD RATING, ASSUMING EARTH COVER OF 0' - 2', AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M306 AND BE CAST WITH THE CONTECH LOGO.
5. IF REQUIRED, PVC HYDRAULIC SHEAR PLATE IS PLACED ON SHELF AT BOTTOM OF SCREEN CYLINDER. REMOVE AND REPLACE AS NECESSARY DURING MAINTENANCE CLEANING.
6. CDS STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C-478 AND AASHTO LOAD FACTOR DESIGN METHOD.
7. CONTRACTOR TO PROVIDE ANTI-BUOYANCY CALCULATIONS AS REQUIRED. SEE GEOTECH REPORT.
8. DRY LATERAL EARTH PRESSURE (ERP) = 45 PCF
9. OVERSIZED HOLES TO ACCOMODATE SPECIFIC PIPE TYPE MUST BE CONCENTRIC TO PIPE ID. AFTER PIPES ARE INSTALLED, ALL ANNULAR SPACES SHALL BE GROUTED WITH NON-SHRINK GROUT. PIPES ARE TO BE FLUSH WITH THE INSIDE SURFACE OF THE CONCRETE STRUCTURE.

INSTALLATION NOTES
A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE CDS MANHOLE STRUCTURE.
C. CONTRACTOR TO INSTALL JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS AND ASSEMBLE STRUCTURE.
D. CONTRACTOR TO PROVIDE, INSTALL, AND GROUT INLET AND OUTLET PIPE(S). MATCH PIPE INVERTS WITH ELEVATIONS SHOWN. ALL PIPE CENTERLINES TO MATCH PIPE OPENING CENTERLINES.
E. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO A ING WATER TO FLOWLINE INVERT MINIMUM. IT IS SUGGESTED THAT ALL JOINTS BELOW F

STRUCTURE WEIGHT
REFER TO SITE-SPECIFIC DRAWING FOR APPROXIMATE HE NT, AND TOTAL NUMBER OF STRUCTURE PIECES.

CASC LAYOUT 1A

The design and information shown on this drawing is provided as a service to the project owner by CONTECH Construction Products Inc. or its affiliates. CONTECH's responsibility is limited to this drawing, and any part thereof, as specified herein. Review of these drawings must be completed by others qualified in the discipline(s) for which they were prepared. In reviewing these drawings, it is the owner's responsibility to determine suitability for use at the site and to perform all engineering, design and construction functions required for the project in a manner that does not result in any claims against CONTECH other than those claims caused solely by the negligence or willful misconduct of CONTECH. Any use or reliance upon these drawings by owner or others for any purpose other than that for which the drawing is issued and at least conditions specified herein, including but not limited to construction sequencing, is at the sole risk and liability of the user. Unless otherwise agreed to in writing by CONTECH, no modification of these drawings is permitted, and the user shall hold CONTECH harmless from any claims based in whole or part on modifications. Nothing on these drawings is to be interpreted as a representation or warranty by CONTECH except as specifically stated herein.

MARK	DATE	REVISION DESCRIPTION	BY

CDS4045-8-C - 758205-030
K22552 WILLAMETTE RIVER (PORTLAND HARBOR SUPERFUND WQ IMPROVEMENTS)
PORTLAND, OR
SITE DESIGNATION: OF19-2

CONTECH ENGINEERED SOLUTIONS LLC
www.ContechES.com
800.338.1122 | 503.258.3033 | 800.395.6672 | 971.222.3035 | 800.548.4801 | 503.240.0393 | 800.395.1377 FAX
FOR INTERNATIONAL OFFICES, GO TO www.contech-cpi.com/offices

DATE: 09/12/2025
DESIGNED: KMET | DRAWN: KMET
CHECKED: SJ | APPROVED: KMET
PROJECT No.: 758205 | SEQUENCE No.: 030
SHEET: 1 OF 1

WATER QUALITY STRUCTURE, D00333

HWY: US30
M.P.: 3.88
UNIT FILE CODE: N/A
DFI/TSSU NO.: D00333

REGISTERED PROFESSIONAL ENGINEER
104026PE
Digitally Signed 2025.11.12 19:02:27-06'00'
OREGON
JUNE 09, 2024
HSUAN-WEN CHU
RENEWS: 12-31-2025

WSP USA Inc.
1300 SW 5th Ave
Suite 3100
Portland, OR 97201
Tel: 1 503 274 8772

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Pranoti Deshmukh | Reviewer: Michael Giseburt
Drafter: Grace Harrison | Checker: Angelica Quintero

DETAILS | SHEET NO. HB532

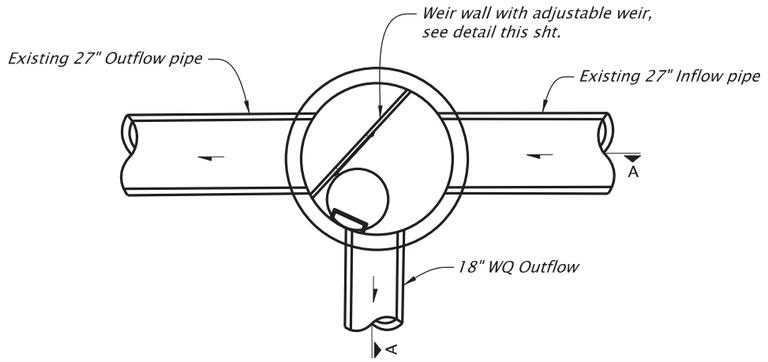
FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

59V-002

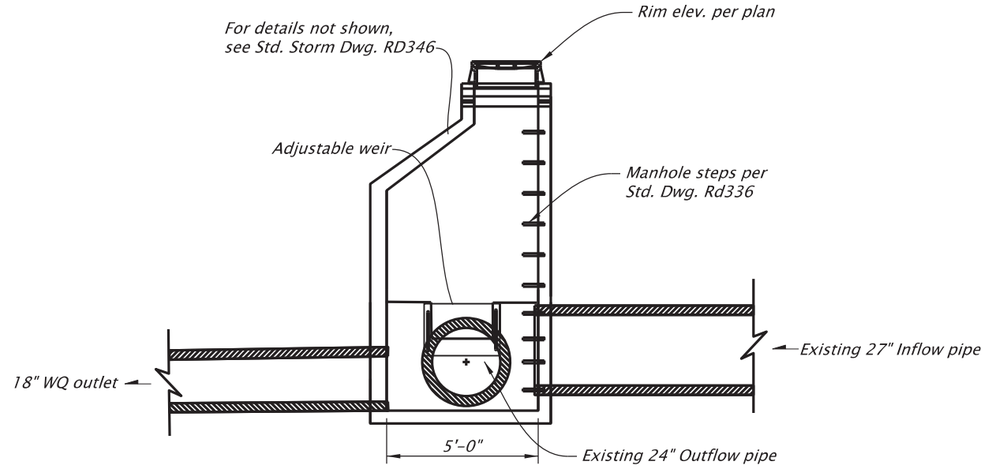
Sec.19, T.1N, R.1E, W.M.

OF19-2 - US30 M.P. 3.88

Note:
1. *Contractor to confirm the weir height placement with engineer prior to setting the adjustable weir plate*
2. *See weir wall detail on HB702 as modified with cut outs for adjustable weir per this drawing.*



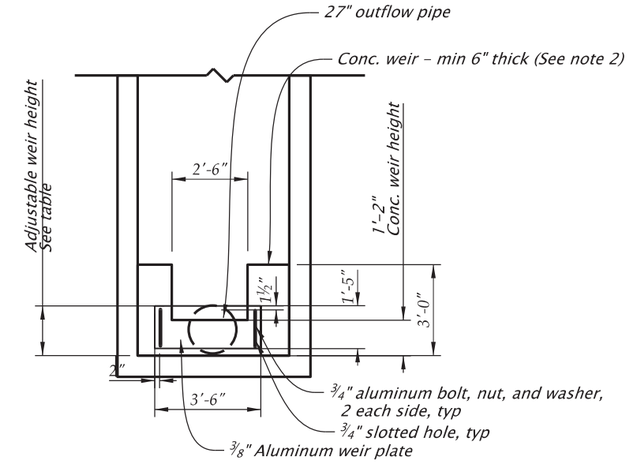
Plan View



SECTION A-A

Flow Splitter, Type 6
Not to scale

Flow Splitter Manholes		
Flow Splitter	**Sheet - Construction note#**	**Adjustable Weir Height (ft)**
Type 6	HA 532 - 1	1.50'



Adjustable Weir Detail -Type 6
Not to scale

HWY: US30
M.P.: 3.88

UNIT FILE CODE
N/A

DFI/TSSU NO.
D00333

REGISTERED PROFESSIONAL ENGINEER
104026PE
Digitally Signed 2025.11.12 19:02:28-06'00'
OREGON
JUNE 09, 2024
HSUAN-WEN CHU

RENEWS: 12-31-2025

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

WSP USA Inc.
1300 SW 5th Ave
Suite 3100
Portland, OR 97201
Tel: 1 503 274 8772

OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

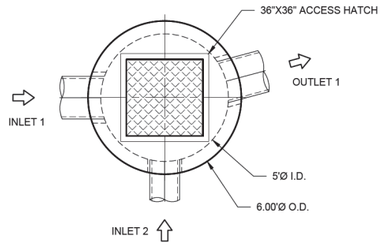
Designer: Pranoti Deshmukh
Drafter: Grace Harrison
Reviewer: Michael Giseburt
Checker: Angelica Quintero

DETAILS

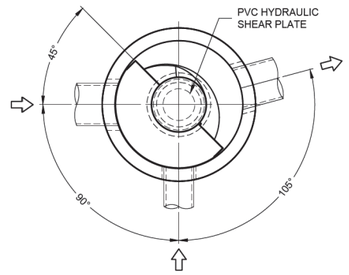
SHEET NO.
HB533

Sec.12, T.1N, R.1W, W.M.

OF22C – US30 M.P. 6.41



PLAN VIEW
INTERNALS NOT SHOWN



PLAN VIEW FOR PIPE ORIENTATION
TOP SLAB NOT SHOWN

MATERIAL LIST (PROVIDED BY CONTECH)

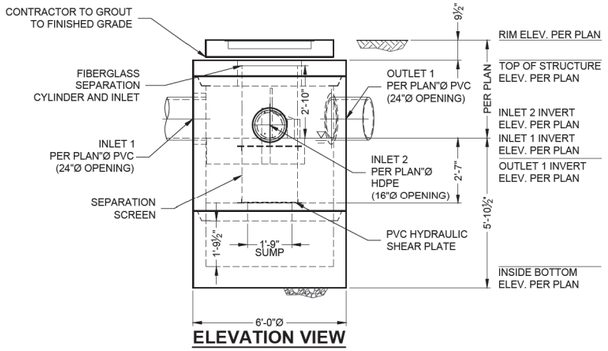
COUNT	DESCRIPTION	INSTALLED BY
1	2020-5 CONCENTRIC FIBERGLASS INSERT	CONTECH
1	2020, 2400 micron, 2.17' O.D. x 2.25' SCREEN, GREEN FLANGE UP	CONTECH
1	20, 30, 40 SERIES HARDWARE KIT	CONTECH
1	SEALANT FOR JOINTS	CONTRACTOR
1	36"X36" ACCESS HATCH, EJ #00821721B02	CONTRACTOR

SITE SPECIFIC DATA REQUIREMENTS

STRUCTURE ID	OF22C
WATER QUALITY FLOW RATE (CFS OR L/s)	0.51
PEAK FLOW RATE (CFS OR L/s)	10.72
RETURN PERIOD OF PEAK FLOW (YRS)	10
RIM ELEVATION	PER PLAN

PIPE DATA:	I.E.	MATERIAL	DIAMETER
INLET PIPE 1	PER PLAN	PER PLAN	PER PLAN
INLET PIPE 2	N/A	N/A	N/A
OUTLET PIPE	PER PLAN	PER PLAN	PER PLAN

NOTES/SPECIAL REQUIREMENTS:



ELEVATION VIEW

GENERAL NOTES
1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. FOR FABRICATION DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHT, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE. www.ContechES.com
3. CDS WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.
4. STRUCTURE SHALL MEET AASHTO HS-25-44 LOAD RATING, ASSUMING EARTH COVER OF 0' - 2', AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M306 AND BE CAST WITH THE CONTECH LOGO.
5. IF REQUIRED, PVC HYDRAULIC SHEAR PLATE IS PLACED ON SHELF AT BOTTOM OF SCREEN CYLINDER. REMOVE AND REPLACE AS NECESSARY DURING MAINTENANCE CLEANING.
6. CDS STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C-478 AND AASHTO LOAD FACTOR DESIGN METHOD.
7. CONTRACTOR TO PROVIDE ANTI-BUOYANCY CALCULATIONS AS REQUIRED. SEE GEOTECH REPORT.
8. DRY LATERAL EARTH PRESSURE (ERP) = 45 PCF
9. OVERSIZED HOLES TO ACCOMODATE SPECIFIC PIPE TYPE MUST BE CONCENTRIC TO PIPE ID. AFTER PIPES ARE INSTALLED, ALL ANNULAR SPACES SHALL BE GROUTED WITH NON-SHRINK GROUT. PIPES ARE TO BE FLUSH WITH THE INSIDE SURFACE OF THE CONCRETE STRUCTURE.

INSTALLATION NOTES
A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE CDS MANHOLE STRUCTURE.
C. CONTRACTOR TO INSTALL JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS AND ASSEMBLE STRUCTURE.
D. CONTRACTOR TO PROVIDE, INSTALL, AND GROUT INLET AND OUTLET PIPE(S). MATCH PIPE INVERTS WITH ELEVATIONS SHOWN. ALL PIPE CENTERLINES TO MATCH PIPE OPENING CENTERLINES.
E. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO ASSURE UNIT IS WATER TIGHT, HOLDING WATER TO FLOWLINE INVERT MINIMUM. IT IS SUGGESTED THAT ALL JOINTS BELOW PIPE INVERTS ARE GROUTED.

STRUCTURE WEIGHT
REFER TO SITE-SPECIFIC DRAWING FOR APPROXIMATE HEAVIEST PICK WEIGHT, MAX FOOTPRINT, AND TOTAL NUMBER OF STRUCTURE PIECES.

CASC LAYOUT 2A

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MARK	DATE	REVISION DESCRIPTION	BY
1	10/09/2025	CUSTOM CONTROL SECTION HEIGHT	KMET

CDS2020-5-C - 758205-035
K22552 WILLAMETTE RIVER (PORTLAND HARBOR SUPERFUND WQ IMPROVEMENTS)
PORTLAND, OR
SITE DESIGNATION: OF22C

CONTECH ENGINEERED SOLUTIONS LLC
www.ContechES.com
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9025 Centre Pointe Drive, Suite 400, West Chester, OH 45069
800-246-4567 | 503-240-3393 | 800-925-1277 FAX
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DATE: 09/12/2025
DESIGNED: KMET | DRAWN: KMET
CHECKED: SJ | APPROVED: KMET
PROJECT No.: 758205 | SEQUENCE No.: 035
SHEET: 1 OF 1

WATER QUALITY STRUCTURE, D00334

HWY: US30
M.P.: 6.41

UNIT FILE CODE
N/A

DFI/TSSU NO.
D00334

REGISTERED PROFESSIONAL ENGINEER
104026PE
Digitally Signed 2025.11.12 19:02:28-06'00'
OREGON
JUNE 09, 2024
HSUAN-WEN CHU
RENEWS: 12-31-2025

WSP USA Inc.
1300 SW 5th Ave
Suite 3100
Portland, OR 97201
Tel: 1 503 274 8772

OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Pranoti Deshmukh | Reviewer: Michael Giseburt
Drafter: Grace Harrison | Checker: Angelica Quintero

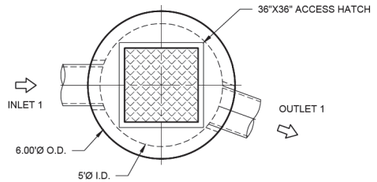
DETAILS | SHEET NO. HB541

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

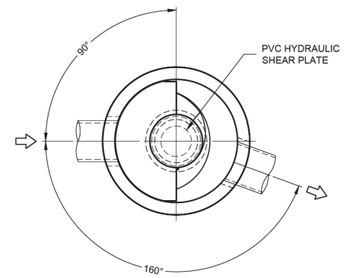
\QUIKNETE.NET\CONTECH\NEW\LIVE\PROJECTS\ACTIVE\758205\758205-35-CDS\DRAWINGS\758205-35-CDS(DRAWING).DWG 10/9/2025 2:13 PM

Sec.11, T.1N, R.1W, W.M.

WR206 – US30 BYPASS M.P. 0.33



PLAN VIEW
INTERNALS NOT SHOWN



PLAN VIEW FOR PIPE ORIENTATION
TOP SLAB NOT SHOWN

MATERIAL LIST (PROVIDED BY CONTECH)

COUNT	DESCRIPTION	INSTALLED BY
1	2015-5 CONCENTRIC FIBERGLASS INSERT	CONTECH
1	2015, 2400 micron, 2.17' O.D. x 1.67' SCREEN, GREEN FLANGE UP	CONTECH
1	20, 30, 40 SERIES HARDWARE KIT	CONTECH
1	SEALANT FOR JOINTS	CONTRACTOR
1	36"X36" ACCESS HATCH, EJ #00821721B02	CONTRACTOR

SITE SPECIFIC DATA REQUIREMENTS

STRUCTURE ID	WR206
WATER QUALITY FLOW RATE (CFS OR L/s)	0.27
PEAK FLOW RATE (CFS OR L/s)	10.51
RETURN PERIOD OF PEAK FLOW (YRS)	10
RIM ELEVATION	PER PLAN

PIPE DATA:	I.E.	MATERIAL	DIAMETER
INLET PIPE 1	PER PLAN	PER PLAN	PER PLAN
INLET PIPE 2	N/A	N/A	N/A
OUTLET PIPE	PER PLAN	PER PLAN	PER PLAN

NOTES/SPECIAL REQUIREMENTS:

ELEVATION VIEW

GENERAL NOTES
1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. FOR FABRICATION DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHT, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE. www.ContechES.com
3. CDS WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.
4. STRUCTURE SHALL MEET AASHTO HS-25-44 LOAD RATING, ASSUMING EARTH COVER OF 0' - 2', AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M306 AND BE CAST WITH THE CONTECH LOGO.
5. IF REQUIRED, PVC HYDRAULIC SHEAR PLATE IS PLACED ON SHELF AT BOTTOM OF SCREEN CYLINDER. REMOVE AND REPLACE AS NECESSARY DURING MAINTENANCE CLEANING.
6. CDS STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C-478 AND AASHTO LOAD FACTOR DESIGN METHOD.
7. CONTRACTOR TO PROVIDE ANTI-BUOYANCY CALCULATIONS AS REQUIRED. SEE GEOTECH REPORT.
8. DRY LATERAL EARTH PRESSURE (ERP) = 45 PCF
9. OVERSIZED HOLES TO ACCOMODATE SPECIFIC PIPE TYPE MUST BE CONCENTRIC TO PIPE ID. AFTER PIPES ARE INSTALLED, ALL ANNULAR SPACES SHALL BE GROUTED WITH NON-SHRINK GROUT. PIPES ARE TO BE FLUSH WITH THE INSIDE SURFACE OF THE CONCRETE STRUCTURE.

INSTALLATION NOTES
A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE CDS MANHOLE STRUCTURE.
C. CONTRACTOR TO INSTALL JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS AND ASSEMBLE STRUCTURE.
D. CONTRACTOR TO PROVIDE, INSTALL, AND GROUT INLET AND OUTLET PIPE(S). MATCH PIPE INVERTS WITH ELEVATIONS SHOWN. ALL PIPE CENTERLINES TO MATCH PIPE OPENING CENTERLINES.
E. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO ASSURE UNIT IS WATER TIGHT, HOLDING WATER TO FLOWLINE INVERT MINIMUM. IT IS SUGGESTED THAT ALL JOINTS BELOW PIPE INVERTS ARE GROUTED.

STRUCTURE WEIGHT
REFER TO SITE-SPECIFIC DRAWING FOR APPROXIMATE HEAVIEST PICK WEIGHT, MAX FOOTPRINT, AND TOTAL NUMBER OF STRUCTURE PIECES.

CASC
LAYOUT 2A

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MARK	DATE	REVISION DESCRIPTION	BY

CDS2015-5-C - 758205-040
K22552 WILLAMETTE RIVER (PORTLAND HARBOR SUPERFUND WQ IMPROVEMENTS)
PORTLAND, OR
SITE DESIGNATION: WR206

CONTECH ENGINEERED SOLUTIONS LLC
www.ContechES.com
12001 SE 57th Avenue, Clackamas, OR 97015
800-338-1667 503-258-3393 800-561-1271 FAX
CDS
FOR PATENT INFORMATION, GO TO www.ContechES.com/IP

DATE: 09/12/2025

DESIGNED:	DRAWN:
KMET	KMET
CHECKED:	APPROVED:
SJ	KMET
PROJECT No.:	SEQUENCE No.:
758205	040

SHEET: 1 OF 1

WATER QUALITY STRUCTURE, D00335

HWY: US30
M.P.: 0.33

UNIT FILE CODE
N/A

DFI/TSSU NO.
SEE TABLE, SHT. HA551

REGISTERED PROFESSIONAL ENGINEER
104026PE
Digitally Signed 2025.11.12 19:02:29-06'00'
OREGON
JUNE 09, 2024
HSUAN-WEN CHU
RENEWS: 12-31-2025

WSP USA Inc.
1300 SW 5th Ave
Suite 3100
Portland, OR 97201
Tel: 1 503 274 8772

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Pranoti Deshmukh
Reviewer: Michael Giseburt
Drafter: Grace Harrison
Checker: Angelica Quintero

DETAILS

SHEET NO.
HB551

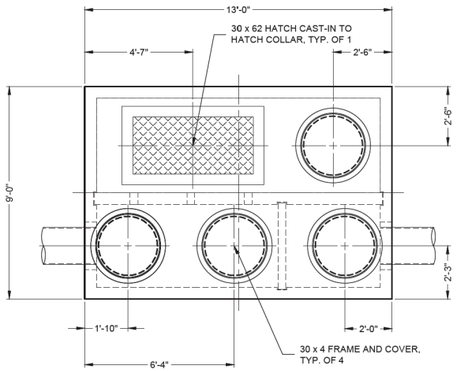
FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

\\JARSETE.NET\CONTECH\MERLIN\PROJECTFACTVOL7\582001\758205\040-CDS2015-5-C-CONFAB.DWG, 9/12/2025 5:41 PM

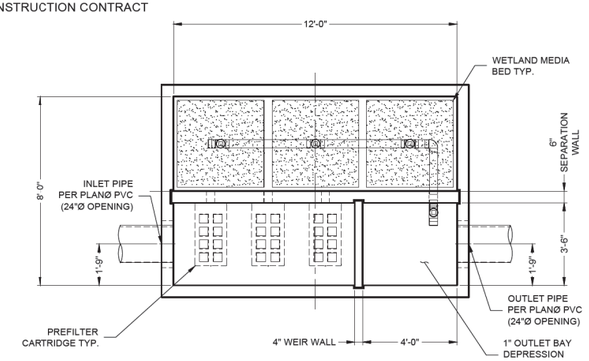
Sec.11, T.1N, R.1W, W.M.

WR206 - US30 BYPASS M.P. 0.33

THIS DOCUMENT IS FOR INFORMATIONAL PURPOSES ONLY AND IS NOT A FINAL CONSTRUCTION CONTRACT



PLAN VIEW



PLAN VIEW
TOP SLAB NOT SHOWN

SITE DESIGN DATA	
WATER QUALITY FLOW (CFS)	0.27
PEAK FLOW RATE (CFS)	10.51
RETURN PERIOD (YRS)	10
MAXIMUM POLLUTANT DENSITY (PREFILTER) (GPM/SF)	2.1
PREFILTER LOADING RATE (GPM/SF)	1.58
WETLAND MEDIA LOADING RATE (GPM/SF)	1.00
MEDIA OPERATING HEAD (FT)	2.65
SURFACE LOADING	HS-25-44
GROUNDWATER ELEVATION*	131.45

*GROUNDWATER ELEVATION IS ASSUMED. EOR TO PROVIDE IF KNOWN

REFER TO SITE-SPECIFIC DRAWING FOR APPROXIMATE HEAVIEST PICK WEIGHT, MAX FOOTPRINT, AND TOTAL NUMBER OF STRUCTURE PIECES.

Note:
See sht. HA551 for correct orientation of hatch and lids

DESIGN LOADINGS

A. AASHTO HS-25-44

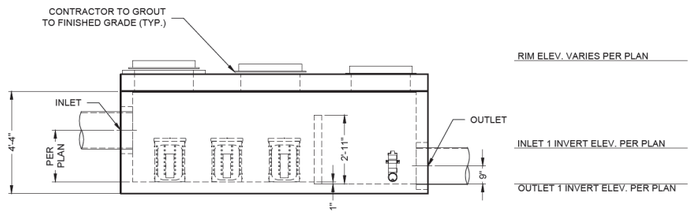
B. CONTRACTOR TO PROVIDE ANTI-BUOYANCY CALCULATIONS AS REQUIRED. SEE GEOTECH REPORT.

C. DRY LATERAL EARTH PRESSURE (ERP) = 45 PCF

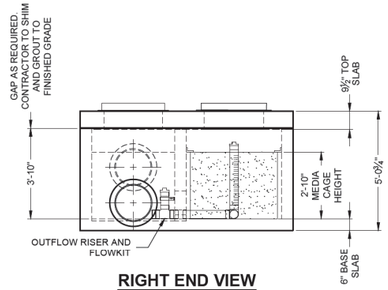
D. CASTINGS SHALL MEET AASHTO M306

2. CONTECH SHALL PROVIDE OUTER PRECAST STRUCTURE, INTERNAL COMPONENTS, FRAME AND COVER.

3. OVERSIZED HOLES TO ACCOMODATE SPECIFIC PIPE TYPE MUST BE CONCETRIC TO PIPE ID. AFTER PIPES ARE INSTALLED, ALL ANNULAR SPACES SHALL BE GROUTED WITH NON-SHRINK GROUT. PIPES ARE TO BE FLUSH WITH THE INSIDE SURFACE OF THE CONCRETE STRUCTURE.



ELEVATION VIEW*



RIGHT END VIEW

*MEDIA CASTINGS, IF REQUIRED, NOT SHOWN

INWP
5946 / 611057
LAYOUT 6
MWS-L-8-12-L
16.15 TS
1.90 TIW

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MARK	DATE	REVISION DESCRIPTION	BY

CONTECH ENGINEERED SOLUTIONS
A QUIKRETE® COMPANY
12901 SE 97th Avenue, Clackamas, OR 97015
800-548-4667 503-240-3393 800-561-1271 FAX

CONTECH PROPOSAL DRAWING

MODULAR WETLANDS MWSL0812UG - 758205-045
K22552 WILLAMETTE RIVER (PORTLAND HARBOR SUPERFUND WQ IMPROVEMENTS)
PORTLAND, OR
SITE DESIGNATION: WR206

PROJECT No.	SEQ. No.	DATE:
758205	045	09/29/2025
DESIGNED: KMET	DRAWN: KMET	
CHECKED: SJ	APPROVED: KMET	
SHEET NO.: 1 OF 1		

WATER QUALITY STRUCTURE, D00336

HWY: US30	
M.P.: 0.33	
UNIT FILE CODE	N/A
DFI/TSSU NO.	SEE TABLE, SHT. HA551

REGISTERED PROFESSIONAL ENGINEER
104026PE
Digitally Signed 2025.11.12 19:02:29-06'00'
OREGON
JUNE 09, 2024
HSUAN-WEN CHU
RENEWS: 12-31-2025

WSP USA Inc.
1300 SW 5th Ave
Suite 3100
Portland, OR 97201
Tel: 1 503 274 8772

OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Pranoti Deshmukh | Reviewer: Michael Giseburt
Drafter: Grace Harrison | Checker: Angelica Quintero

DETAILS | SHEET NO. HB552

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

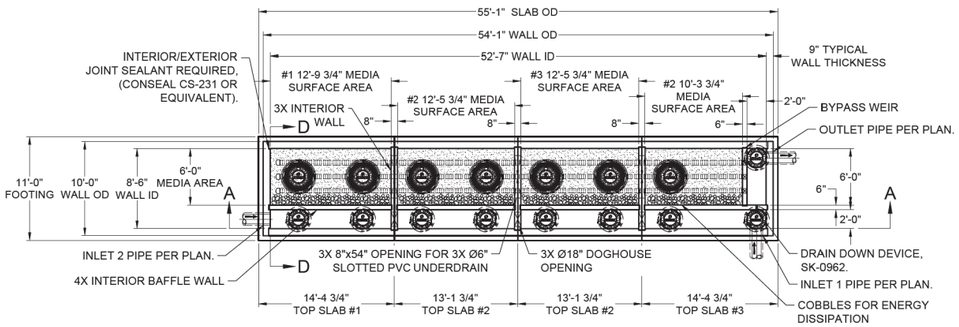
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Sec.11, T.1N, R.1W, W.M.

WR208/WR211 - US30 M.P. 7.03

SITE SPECIFIC DATA				
Structure ID			WR208/211	
Model Size			8.5X52.58	
Treatment Flow Rate (cfs)			1.04	
WQ Flow Rate (cfs)			1.04	
Rim Elevation			PER PLAN	
Pipe Data	**Pipe Location**	**Pipe Size**	**Pipe Type**	**Invert Elevation**
Inlet	PER PLAN	PER PLAN	PER PLAN	PER PLAN
Outlet	PER PLAN	PER PLAN	PER PLAN	PER PLAN
Notes:				

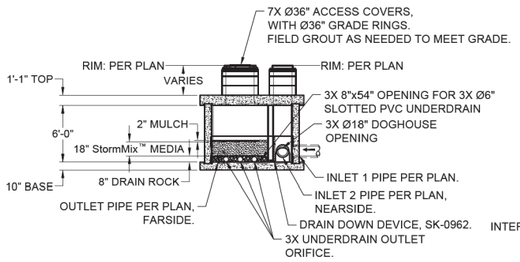
PERFORMANCE SPECIFICATIONS	
Treatment Flow Capacities:	
WA Ecology GULD - Basic, Enhanced & Phosphorus	1.07 cfs
Bypass Capacity	N/A
*Contact Oldcastle for alternative treatment flow capacities.	



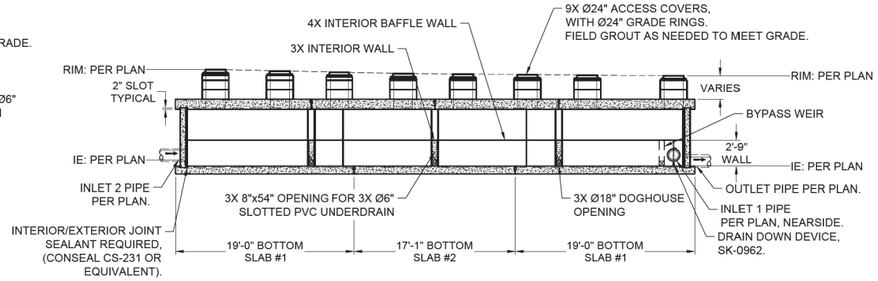
PLAN VIEW

NOTES:

1. DESIGN LOADINGS:
   A. AASHTO HS-25-44.
   B. CONTRACTOR TO PROVIDE ANTI-BUOYANCY CALCULATIONS AS REQUIRED. SEE GEOTECH REPORT.
   C. DRY LATERAL EARTH PRESSURE (ERP) = 45 PCF
2. OLDCASTLE SHALL PROVIDE OUTER PRECAST TRENCH, PRECAST INVERTED TRENCH, INTERNAL PIPING, MULCH, STORMIX MEDIA, AND GRAVEL.
3. OVERSIZED HOLES TO ACCOMODATE SPECIFIC PIPE TYPE MUST BE CONCETRIC TO PIPE ID. AFTER PIPES ARE INSTALLED, ALL ANNULAR SPACES SHALL BE GROUTED WITH NON-SHRINK GROUT. PIPES ARE TO BE FLUSH WITH THE INSIDE SURFACE OF THE CONCRETE STRUCTURE.



SECTION D-D



SECTION A-A

(MEDIA & Ø36" ACCESS COVERS NOT SHOWN FOR CLARITY)

REV	DESCRIPTION	BY	DATE

Bioretention/ Biofiltration

Oldcastle Infrastructure™
A CRH COMPANY

Ph: 800.579.8819 | www.oldcastleinfrastructure.com/stormwater

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BioPod™ Biofilter Underground
8'x52'-7" Panel Vault with Internal Bypass

CUSTOMER: Herrara Inc.

PROJECT NAME: ODOT Regional Basin - Oregon, OR

DATE	M*G	DRAWN	ENGINEER	CHECKED	SALES ORDER
8/5/24	010-AU	PPS	AFD	AFD	-

SHEET NAME: 23-847151-BPU-8.552.58_WR208-211 | REVISION: 3 | REV DATE: 4/24/25 | SHEET: 1 OF 3

WATER QUALITY STRUCTURE, D00337

HWY: US30	
M.P.: 7.03	
UNIT FILE CODE	N/A
DFI/TSSU NO.	SEE TABLE, SHT. HA561

REGISTERED PROFESSIONAL ENGINEER
78195PE
Digitally Signed 2025.11.17 09:32:38-08'00'
OREGON
MAY 16, 2006
CHRISTOPHER J. WEBB

RENEWS: 06-30-2026

HERRERA
Herrara Environmental Consultants, Inc.
107 SE Washington Street, Suite 140
Portland, OR 97214
(503) 228-4301
www.herrerainc.com

OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Jimmy Esteban | Reviewer: Joanna Ogintz
Drafter: Hector Vela | Checker: Christopher Webb

DETAILS | SHEET NO. HB561

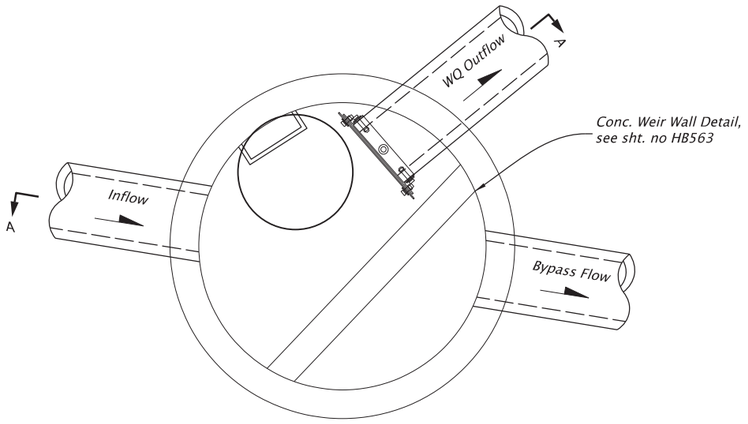
Notes:

1. *Section heights, slab/wall thicknesses, and other shown are diagrammatic and subject to final design by the vendor.*
2. *Refer to sht. no. HB304 and HB305 for panel vault installation and lift details.*

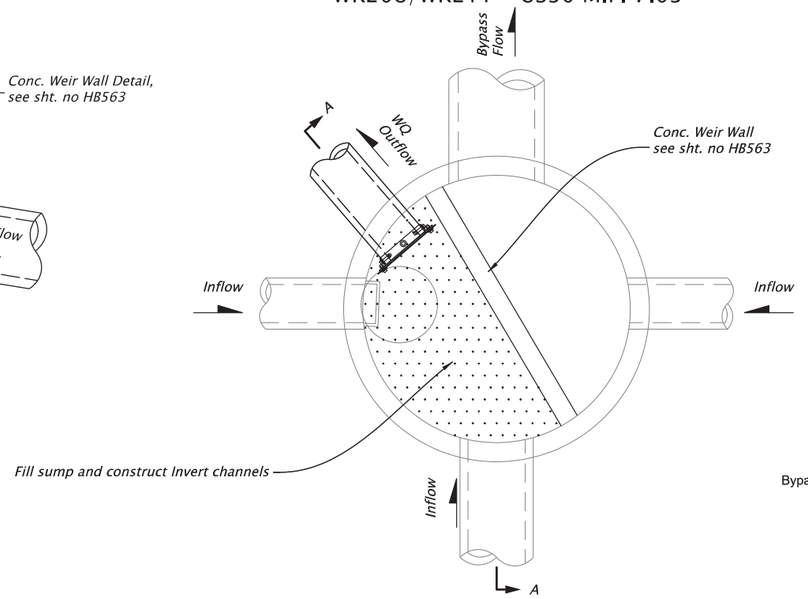
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Sec.11, T.1N, R.1W, W.M.

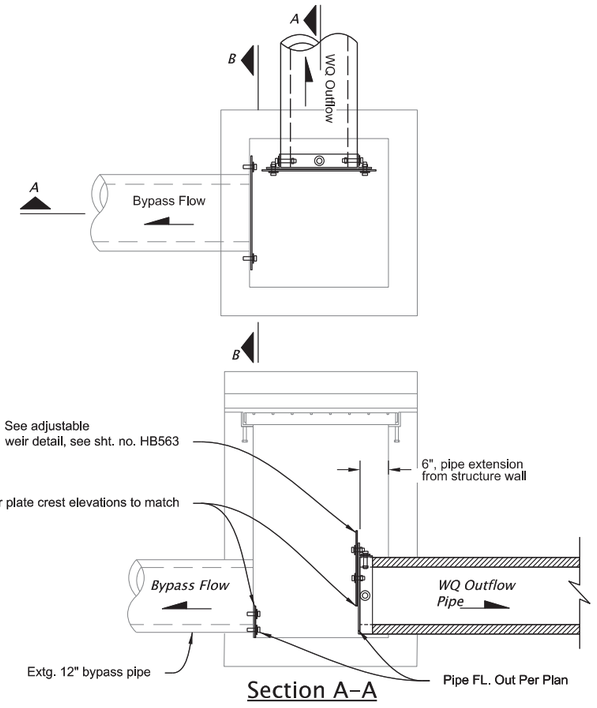
WR208/WR211 – US30 M.P. 7.03



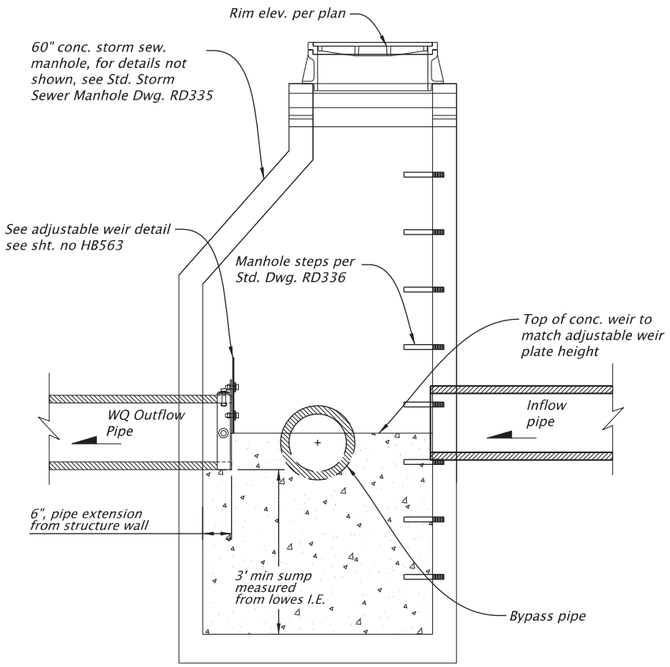
Plan View



Plan View



Section A–A

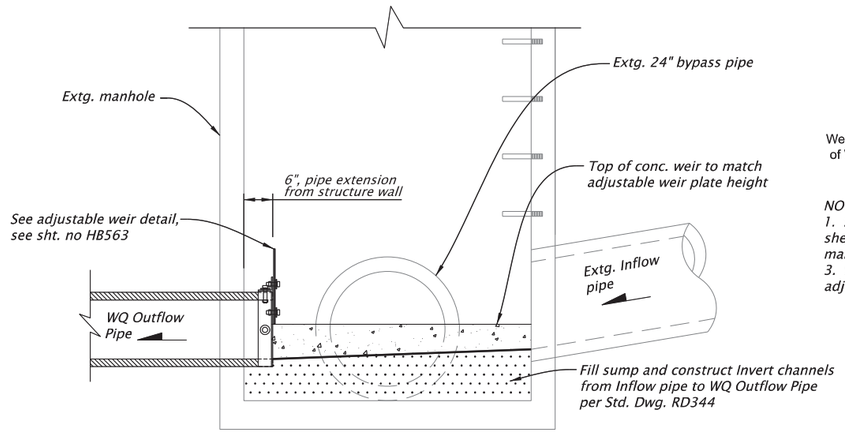


Section A–A

NOTES:
1. See pipe data sheet and plan sheets for pipe size(s) and manhole size(s).
3. See sheet HB563 for adjustable weir plate height(s).

DETAIL–Flow Splitter, Type 1

Not To Scale

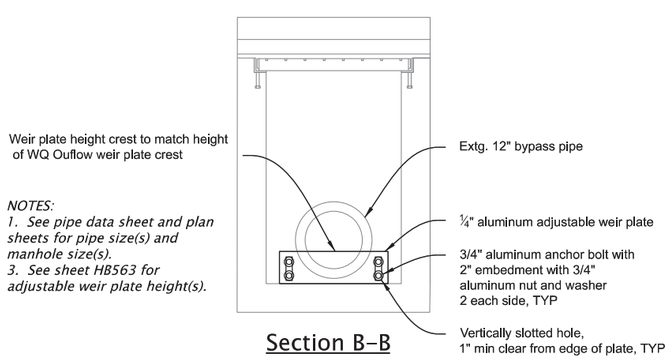


Section A–A

NOTES:
1. See pipe data sheet and plan sheets for pipe size(s) and manhole size(s).
3. See sheet HB563 for adjustable weir plate height(s).

DETAIL–Flow Splitter, Type 2

Not To Scale



NOTES:
1. See pipe data sheet and plan sheets for pipe size(s) and manhole size(s).
3. See sheet HB563 for adjustable weir plate height(s).

Section B–B

DETAIL–Flow Splitter, Type 3

Not To Scale

HWY: US30
M.P.: 7.03

UNIT FILE CODE
N/A

DFI/TSSU NO.
SEE TABLE,
SHT. HA561

REGISTERED PROFESSIONAL ENGINEER
78195PE
Digitally Signed 2025.11.17 09:31:55-08'00'
OREGON
MAY 16, 2006
CHRISTOPHER J. WEBB
RENEWS: 06-30-2026

HERRERA
Herrera Environmental Consultants, Inc.
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(503) 228-4301
www.herrerainc.com

OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Jimmy Esteban
Drafter: Hector Vela
Reviewer: Joanna Ogintz
Checker: Christopher Webb

DETAILS

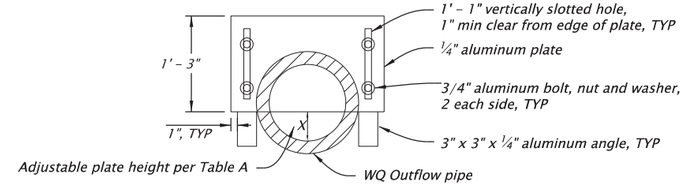
SHEET NO.
HB562

FINAL ELECTRONIC DOCUMENT
AVAILABLE UPON REQUEST

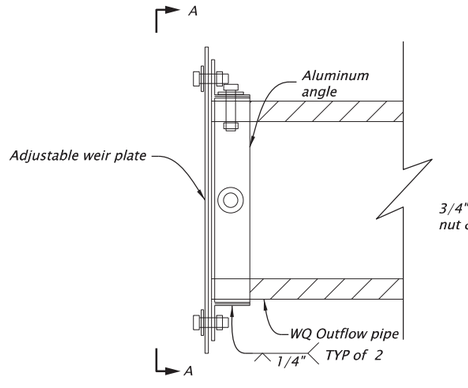
59V-002

Sec.11, T.1N, R.1W, W.M.

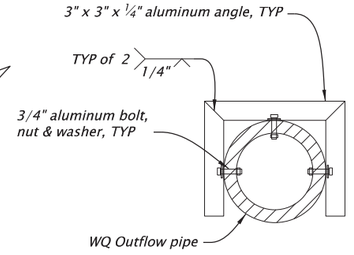
WR208/WR211 - US30 M.P. 7.03



Section A-A: Adjustable Weir Plate



Plan View



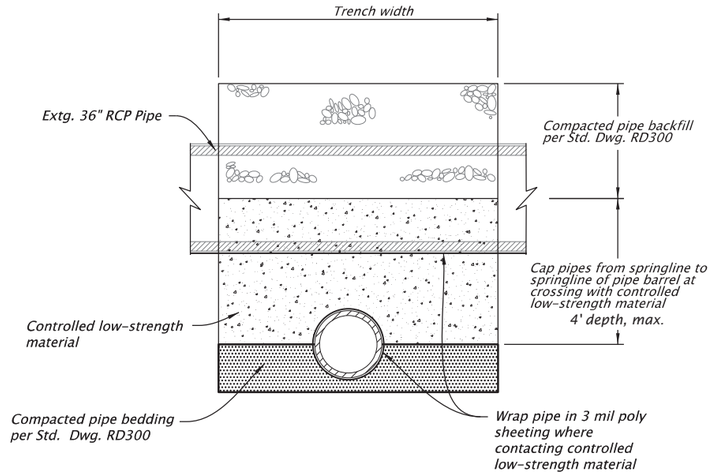
Adjustable Weir Base

Table A		
Flow Splitter	*Sheet - Construction Note*	*Adjustable Weir Plate Height (X)*
Type 1	*HA561 - 1*	*0.42'*
Type 2	*HA561 - 9*	*0.55'*
Type 3	*HA561 - 4*	*0.22'*

NOTES:
1. *Hardware, fasteners and anchors to be aluminum.*
2. *Adjustable weir plate to be flush with aluminum angle.*
3. *See plan sheet(s) for pipe invert elevations.*
4. *Adjustable weir plate to be flat and level.*

DETAIL-Adjustable Weir

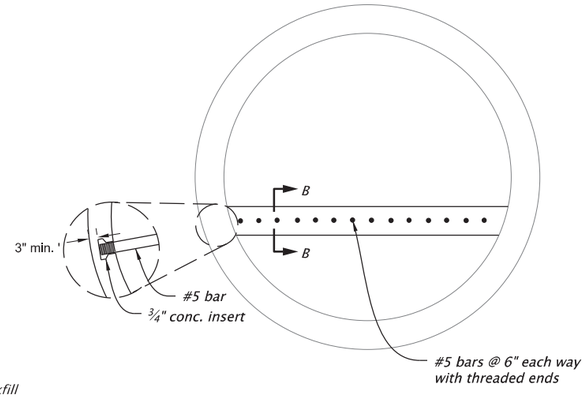
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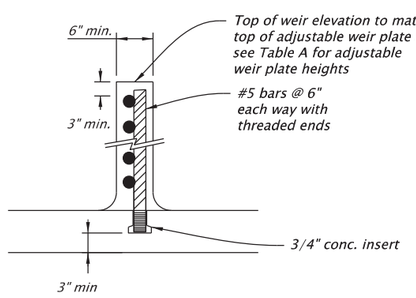


NOTES:
1. *Controlled low-strength material pipe cap to extend the full width of the trench of the new pipe and extend 2 feet along the trench of the new pipe measured from the face of the existing pipe.*

DETAIL-Pipe Cap

Not To Scale





Section B-B

NOTES:
1. *Conc. weir wall shall be constructed in a manner that is watertight.*

DETAIL-Conc. Weir Wall

Not To Scale

HWY: US30
M.P.: 7.03

UNIT FILE CODE
N/A

DFI/TSSU NO.
SEE TABLE, SHT. HA561

REGISTERED PROFESSIONAL ENGINEER
78195PE
Digitally Signed 2025.11.20 12:52:10-08'00'
OREGON
MAY 16, 2006
CHRISTOPHER J. WEBB
RENEWS: 06-30-2026

HERRERA
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OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Jimmy Esteban
Drafter: Hector Vela
Reviewer: Joanna Ogintz
Checker: Christopher Webb

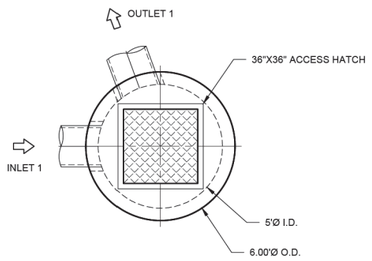
DETAILS

SHEET NO.
HB563

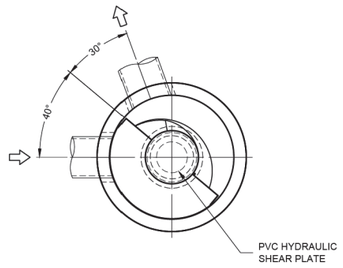
FINAL ELECTRONIC DOCUMENT
AVAILABLE UPON REQUEST

Sec.11, T.1N, R.1W, W.M.

OF22D - US30 M.P. 7.29



PLAN VIEW
INTERNALS NOT SHOWN



PLAN VIEW FOR PIPE ORIENTATION
TOP SLAB NOT SHOWN

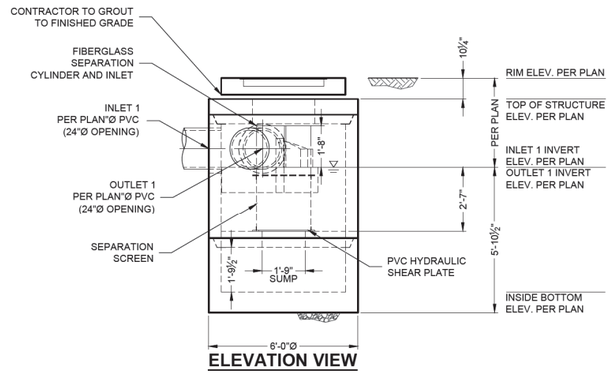
MATERIAL LIST (PROVIDED BY CONTECH)

COUNT	DESCRIPTION	INSTALLED BY
1	2020-5 CONCENTRIC FIBERGLASS INSERT	CONTECH
1	2020, 2400 micron, 2.17' O.D. x 2.25' SCREEN, GREEN FLANGE UP	CONTECH
1	20, 30, 40 SERIES HARDWARE KIT	CONTECH
1	SEALANT FOR JOINTS	CONTRACTOR
1	36"X36" ACCESS HATCH, EJ #00821721B02	CONTRACTOR

SITE SPECIFIC DATA REQUIREMENTS

STRUCTURE ID			OF22D
WATER QUALITY FLOW RATE (CFS OR L/s)			0.71
PEAK FLOW RATE (CFS OR L/s)			OFFLINE
RETURN PERIOD OF PEAK FLOW (YRS)			10
RIM ELEVATION			PER PLAN
PIPE DATA:	I.E.	MATERIAL	DIAMETER
INLET PIPE 1	PER PLAN	PER PLAN	PER PLAN
INLET PIPE 2	N/A	N/A	N/A
OUTLET PIPE	PER PLAN	PER PLAN	PER PLAN

NOTES/SPECIAL REQUIREMENTS:



ELEVATION VIEW

GENERAL NOTES
1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. FOR FABRICATION DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHT, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE. www.ContechES.com
3. CDS WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.
4. STRUCTURE SHALL MEET AASHTO HS-25-44 LOAD RATING, ASSUMING EARTH COVER OF 0' - 2', AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M306 AND BE CAST WITH THE CONTECH LOGO.
5. IF REQUIRED, PVC HYDRAULIC SHEAR PLATE IS PLACED ON SHELF AT BOTTOM OF SCREEN CYLINDER. REMOVE AND REPLACE AS NECESSARY DURING MAINTENANCE CLEANING.
6. CDS STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C-478 AND AASHTO LOAD FACTOR DESIGN METHOD.
7. CONTRACTOR TO PROVIDE ANTI-BUOYANCY CALCULATIONS AS REQUIRED. SEE GEOTECH REPORT.
8. DRY LATERAL EARTH PRESSURE (ERP) = 45 PCF
9. OVERSIZED HOLES TO ACCOMODATE SPECIFIC PIPE TYPE MUST BE CONCENTRIC TO PIPE ID. AFTER PIPES ARE INSTALLED, ALL ANNULAR SPACES SHALL BE GROUTED WITH NON-SHRINK GROUT. PIPES ARE TO BE FLUSH WITH THE INSIDE SURFACE OF THE CONCRETE STRUCTURE.

INSTALLATION NOTES
A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE CDS MANHOLE STRUCTURE.
C. CONTRACTOR TO INSTALL JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS AND ASSEMBLE STRUCTURE.
D. CONTRACTOR TO PROVIDE, INSTALL, AND GROUT INLET AND OUTLET PIPE(S). MATCH PIPE INVERTS WITH ELEVATIONS SHOWN. ALL PIPE CENTERLINES TO MATCH PIPE OPENING CENTERLINES.
E. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO ASSURE UNIT IS WATER TIGHT, HOLDING WATER TO FLOWLINE INVERT MINIMUM. IT IS SUGGESTED THAT ALL JOINTS BELOW PIPE INVERTS ARE GROUTED.

STRUCTURE WEIGHT
REFER TO SITE-SPECIFIC DRAWING FOR APPROXIMATE HEAVIEST PICK WEIGHT, MAX FOOTPRINT, AND TOTAL NUMBER OF STRUCTURE PIECES.

CASC
LAYOUT 2A

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MARK	DATE	REVISION DESCRIPTION	BY

CDS2020-5-C - 758205-050
K22552 WILLAMETTE RIVER (PORTLAND HARBOR SUPERFUND WQ IMPROVEMENTS)
PORTLAND, OR
SITE DESIGNATION: OF22D

CONTECH ENGINEERED SOLUTIONS LLC
12026 SE 57th Street, Clyde Hill, WA 98004
800.548.4667 503.240.0393 800.561.1271 FAX
GDS
FOR PATENT INFORMATION, SEE TDJ www.contechES.com/IP

DATE: 09/26/2025
DESIGNED: KMET | DRAWN: KMET
CHECKED: SJ | APPROVED: KMET
PROJECT No.: 758205 | SEQUENCE No.: 050
SHEET: 1 OF 1

WATER QUALITY STRUCTURE, D00338

HWY: US30
M.P.: 7.29

UNIT FILE CODE
N/A

DFI/TSSU NO.
SEE TABLE, SHT. HA581

REGISTERED PROFESSIONAL ENGINEER
104026PE
Digitally Signed 2025.11.12 19:02:29-06'00'
OREGON
JUNE 09, 2024
HSUAN-WEN CHU
RENEWS: 12-31-2025

WSP USA Inc.
1300 SW 5th Ave
Suite 3100
Portland, OR 97201
Tel: 1 503 274 8772

OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Pranoti Deshmukh | Reviewer: Michael Giseburt
Drafter: Grace Harrison | Checker: Angelica Quintero

DETAILS

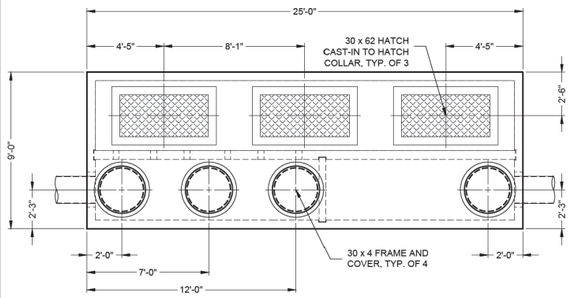
SHEET NO.
HB581

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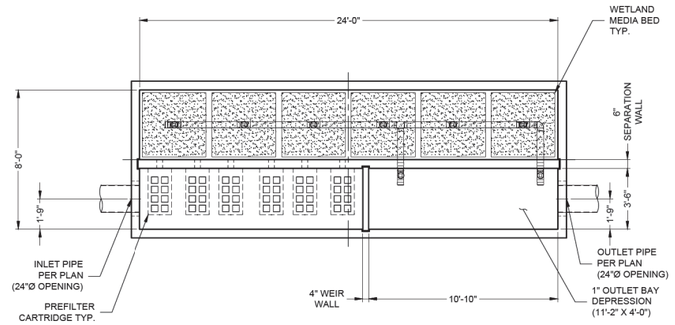
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Sec.11, T.1N, R.1W, W.M.
OF22D – US30 M.P. 7.29

THIS DOCUMENT IS FOR INFORMATIONAL PURPOSES
ONLY AND IS NOT A FINAL CONSTRUCTION CONTRACT



PLAN VIEW



PLAN VIEW
TOP SLAB NOT SHOWN

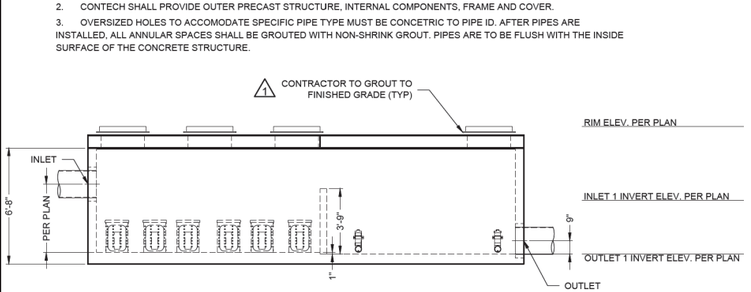
SITE DESIGN DATA	
WATER QUALITY FLOW (CFS)	0.71
PEAK FLOW RATE (CFS)	OFFLINE
RETURN PERIOD (YRS)	10
MAXIMUM POLLUTANT DENSITY (PREFILTER) (GPM/SF)	2.1
PREFILTER LOADING RATE (GPM/SF)	2.07
WETLAND MEDIA LOADING RATE (GPM/SF)	1.00
MEDIA OPERATING HEAD (FT)	3.48
SURFACE LOADING	HS-25-44
GROUNDWATER ELEVATION*	79.4

*GROUNDWATER ELEVATION IS ASSUMED. EOR TO PROVIDE IF KNOWN

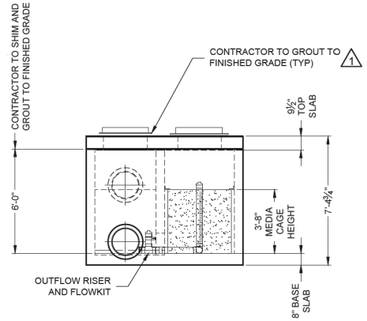
REFER TO SITE-SPECIFIC DRAWING FOR APPROXIMATE HEAVIEST PICK WEIGHT, MAX FOOTPRINT, AND TOTAL NUMBER OF STRUCTURE PIECES.

DESIGN LOADINGS

A. AASHTO HS-25-44
B. CONTRACTOR TO PROVIDE ANTI-BUOYANCY CALCULATIONS AS REQUIRED. SEE GEOTECH REPORT.
C. DRY LATERAL EARTH PRESSURE (ERP) = 45 PCF
D. CASTINGS SHALL MEET AASHTO M306
2. CONTECH SHALL PROVIDE OUTER PRECAST STRUCTURE, INTERNAL COMPONENTS, FRAME AND COVER.
3. OVERSIZED HOLES TO ACCOMODATE SPECIFIC PIPE TYPE MUST BE CONCETRIC TO PIPE ID. AFTER PIPES ARE INSTALLED, ALL ANNULAR SPACES SHALL BE GROUTED WITH NON-SHRINK GROUT. PIPES ARE TO BE FLUSH WITH THE INSIDE SURFACE OF THE CONCRETE STRUCTURE.



ELEVATION VIEW*



RIGHT END VIEW

*MEDIA CASTINGS, IF REQUIRED, NOT SHOWN

INWP
5946 / 611057
LAYOUT 6
MWS-L-8-24-L
38.06 TS
5.55 TIW

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MARK	DATE	REVISION DESCRIPTION	BY
1	08/19/2025	ADDED CONTRACTOR GROUT NOTE	KMET

CONTECH® ENGINEERED SOLUTIONS LLC
A QUIKRETE COMPANY
12901 SE 97th Avenue, Clackamas, OR 97015
800-548-4667 503-240-3393 800-561-1271 FAX

CONTECH PROPOSAL DRAWING

MODULAR WETLANDS MWSL0824UG - 758205-055
K22552 WILLAMETTE RIVER (PORTLAND HARBOR SUPERFUND WQ IMPROVEMENTS)
PORTLAND, OR
SITE DESIGNATION: OF22D

PROJECT No.:	SEQ. No.:	DATE:
758205	055	04/04/25
DESIGNED: JOB	DRAWN: AWW/KMET	
CHECKED: SJ	APPROVED: JOB	
SHEET NO.: 1 OF 1		

WATER QUALITY STRUCTURE, D00405

HWY: US30
M.P.: 7.29

UNIT FILE CODE
N/A

DFI/TSSU NO.
SEE TABLE, SHT. HA581

REGISTERED PROFESSIONAL ENGINEER
104026PE
Digitally Signed 2025.11.12 19:02:30-06'00'
OREGON
JUNE 09, 2024
HSUAN-WEN CHU
RENEWS: 12-31-2025

WSP USA Inc.
1300 SW 5th Ave
Suite 3100
Portland, OR 97201
Tel: 1 503 274 8772

OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Pranoti Deshmukh
Drafter: Grace Harrison
Reviewer: Michael Giseburt
Checker: Angelica Quintero

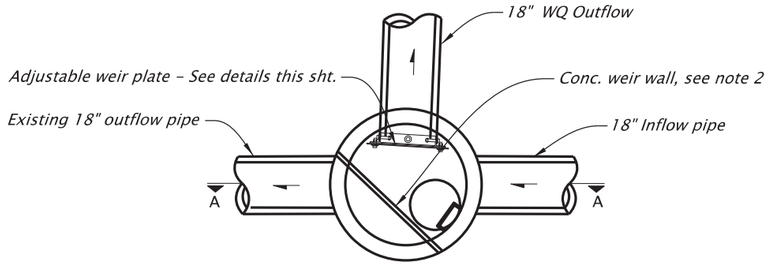
DETAILS

SHEET NO.
HB582

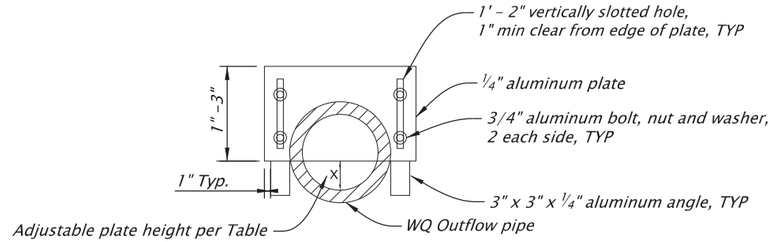
FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

Sec.11, T.1N, R.1W, W.M.
OF22D - US30 M.P. 7.29

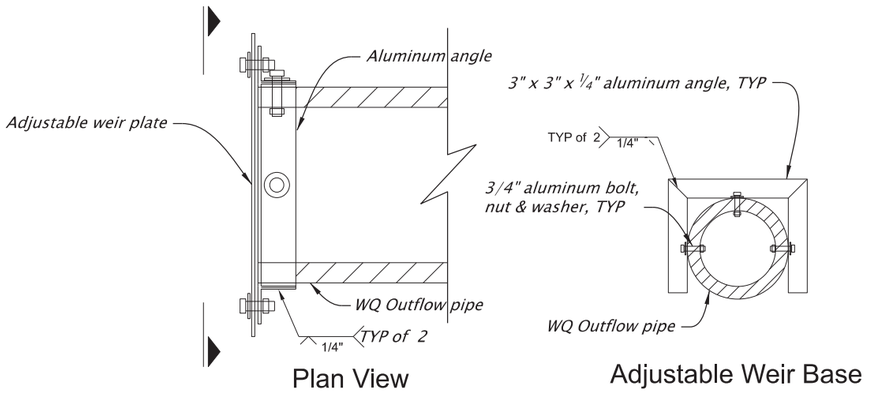
Note:
1. Contractor to confirm the weir height placement with engineer prior to setting the adjustable weir plate
2. See weir wall detail on HB702.



Plan View



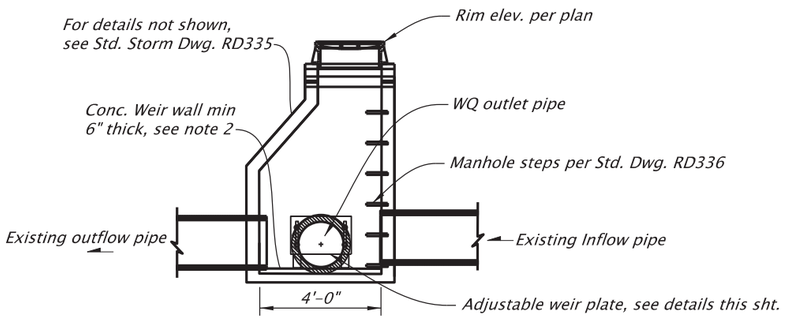
Section A-A: Adjustable Weir Plate



Plan View

Adjustable Weir Base

Adjustable Weir Plate Detail -Type 7
Not to scale



SECTION A-A

Flow Splitter, Type 7
Not to scale

Flow Splitter Manholes

Flow Splitter	Sheet - Construction note#	Adjustable Weir Height (ft)
Type 7	HA 581 - 1	0.20'

HWY: US30
M.P.: 7.29

UNIT FILE CODE
N/A

DFI/TSSU NO.
SEE TABLE, SHT. HA581

REGISTERED PROFESSIONAL ENGINEER
104026PE
Digitally Signed 2025.11.12 19:02:30-06'00'
OREGON
JUNE 09, 2024
HSUAN-WEN CHU
RENEWS: 12-31-2025

FINAL ELECTRONIC DOCUMENT
AVAILABLE UPON REQUEST

WSP USA Inc.
1300 SW 5th Ave
Suite 3100
Portland, OR 97201
Tel: 1 503 274 8772

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Pranoti Deshmukh
Drafter: Grace Harrison
Reviewer: Michael Giseburt
Checker: Angelica Quintero

DETAILS

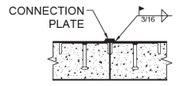
SHEET NO.
HB583

Sec.2, T.1N, R.1W, W.M.

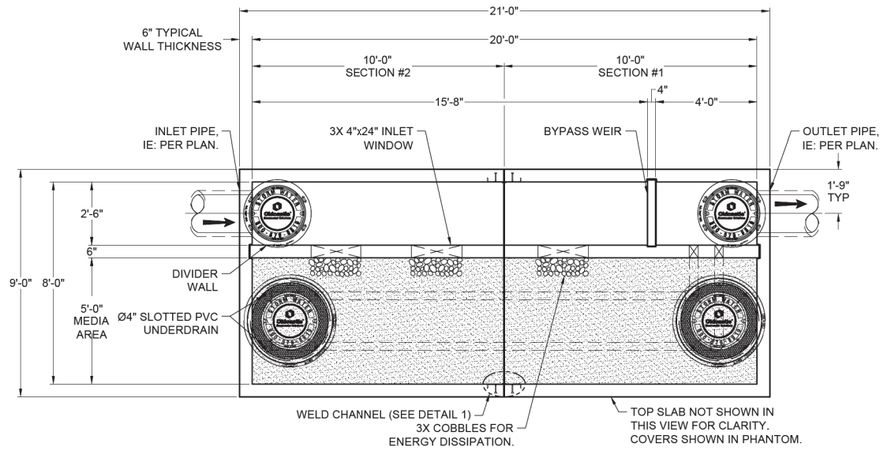
WR126 - US30 M.P. 8.26

SITE SPECIFIC DATA				
Structure ID			WR 126	
Model Size			8X20	
Treatment Flow Rate (cfs)			0.35	
Peak Flow Rate (cfs)			2.07	
Rim Elevation			PER PLAN	
Pipe Data	**Pipe Location**	**Pipe Size**	**Pipe Type**	**Invert Elevation**
Inlet	PER PLAN	PER PLAN	PER PLAN	PER PLAN
Outlet	PER PLAN	PER PLAN	PER PLAN	PER PLAN
Notes:				

PERFORMANCE SPECIFICATIONS	
Treatment Flow Capacities:	
WA Ecology GULD - Basic, Enhanced & Phosphorus	0.353 cfs
Bypass Capacity	6.5 cfs
*Contact Oldcastle for alternative treatment flow capacities.	



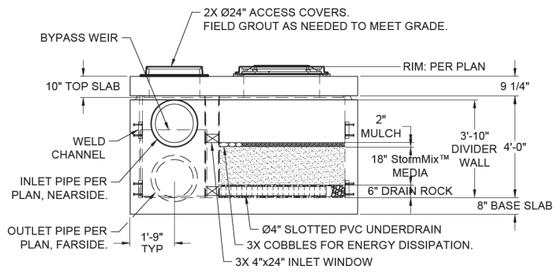
DETAIL 1
(TYPICAL WELD CHANNEL CONNECTION)



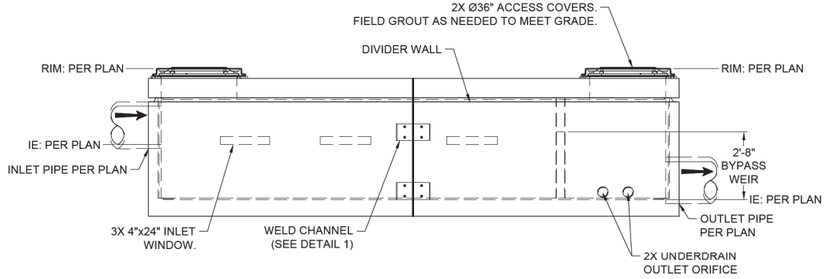
PLAN VIEW

NOTES:

1. DESIGN LOADINGS:
   A. AASHTO HS-25-44.
   B. CONTRACTOR TO PROVIDE ANTI-BUOYANCY CALCULATIONS AS REQUIRED. SEE GEOTECH REPORT.
   C. DRY LATERAL EARTH PRESSURE (ERP) = 45 PCF
2. OLDCASTLE SHALL PROVIDE OUTER PRECAST TRENCH, PRECAST INVERTED TRENCH, INTERNAL PIPING, MULCH, STORMIX MEDIA, AND GRAVEL.
3. OVERSIZED HOLES TO ACCOMODATE SPECIFIC PIPE TYPE MUST BE CONCETRIC TO PIPE ID. AFTER PIPES ARE INSTALLED, ALL ANNULAR SPACES SHALL BE GROUTED WITH NON-SHRINK GROUT. PIPES ARE TO BE FLUSH WITH THE INSIDE SURFACE OF THE CONCRETE STRUCTURE.



LEFT END VIEW



ELEVATION VIEW
(MEDIA & Ø24" ACCESS COVERS NOT SHOWN FOR CLARITY)

Bioretention/ Biofiltration

REV	- DESCRIPTION	- DATE

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BioPod™ Biofilter System UNDERGROUND VAULT	SYSTEM ID: WR 126
CUSTOMER: Herrara	
JOB NAME: ODOT Regional Basin - OR	JOB NUMBER: 23-847151
DATE: 4/1/25 | MFG LOC: 010-AU | DRAWN: PPS | ENGINEER: AFD | CHECKED: AFD	SALES ORDER: -
DRAWING NAME: CONCEPTUAL DRAWING	SHEET: 1 OF 1

WATER QUALITY STRUCTURE, D00406

Notes:

1. *Section heights, slab/wall thicknesses, and other shown are diagrammatic and subject to final design by the vendor.*

REGISTERED PROFESSIONAL ENGINEER
78195PE
Digitally Signed 2025.11.17 09:31:06-08'00'
OREGON
MAY 16, 2006
CHRISTOPHER J. WEBB
RENEWS: 06-30-2026

HERRERA

Herrera Environmental Consultants, Inc.
107 SE Washington Street, Suite 140
Portland, OR 97214
(503) 228-4301
www.herrerainc.com

OREGON DEPARTMENT OF TRANSPORTATION

HWY: US30
M.P.: 8.26

UNIT FILE CODE: N/A

DFI/TSSU NO.: SEE TABLE, SHT. HA591

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Jimmy Esteban | Reviewer: Joanna Ogintz
Drafter: Hector Vela | Checker: Christopher Webb

DETAILS

SHEET NO.: HB591

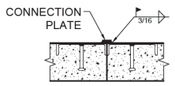
FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

Sec.3, T.1N, R.1W, W.M.

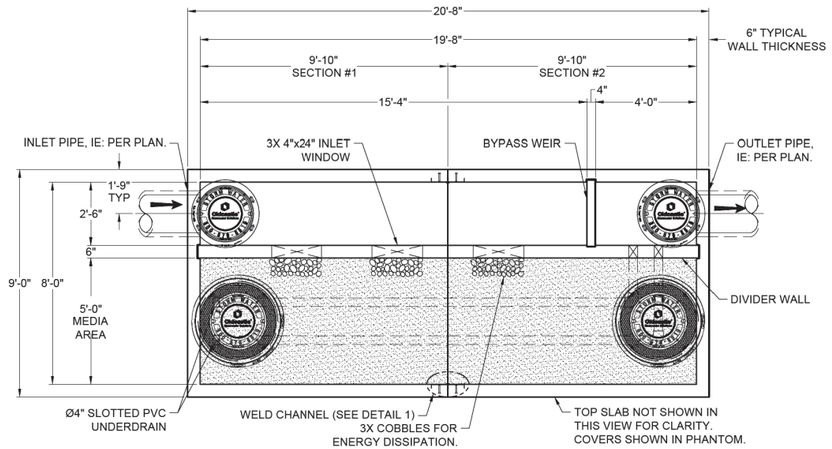
WR204-1 - US30 M.P. 8.65

SITE SPECIFIC DATA				
Structure ID			WR 204-1	
Model Size			8X19.67	
Treatment Flow Rate (cfs)			0.35	
Peak Flow Rate (cfs)			4.48	
Rim Elevation			PER PLAN	
Pipe Data	**Pipe Location**	**Pipe Size**	**Pipe Type**	**Invert Elevation**
Inlet	PER PLAN	PER PLAN	PER PLAN	PER PLAN
Outlet	PER PLAN	PER PLAN	PER PLAN	PER PLAN
Notes:				

PERFORMANCE SPECIFICATIONS	
Treatment Flow Capacities:	
WA Ecology GULD - Basic, Enhanced & Phosphorus	0.384 cfs
Bypass Capacity	6.45 cfs
*Contact Oldcastle for alternative treatment flow capacities.	



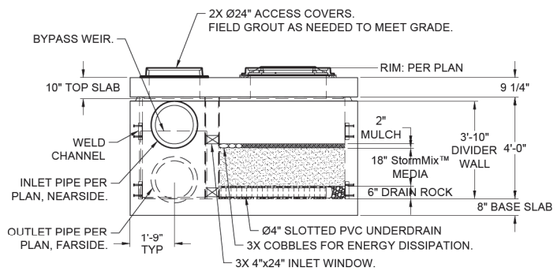
DETAIL 1
(TYPICAL WELD CHANNEL CONNECTION)



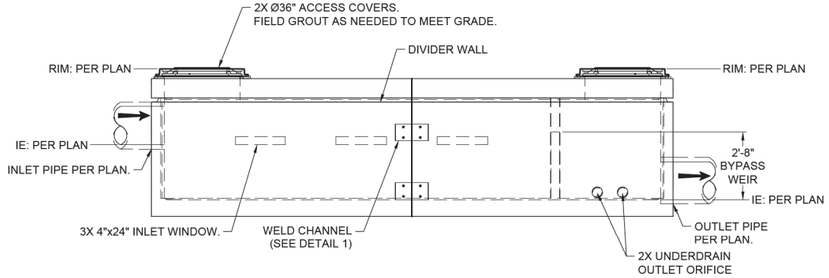
PLAN VIEW

NOTES:

1. DESIGN LOADINGS:
   A. AASHTO HS-25-44.
   B. CONTRACTOR TO PROVIDE ANTI-BUOYANCY CALCULATIONS AS REQUIRED. SEE GEOTECH REPORT.
   C. DRY LATERAL EARTH PRESSURE (ERP) = 45 PCF
2. OLDCASTLE SHALL PROVIDE OUTER PRECAST TRENCH, PRECAST INVERTED TRENCH, INTERNAL PIPING, MULCH, STORMIX MEDIA, AND GRAVEL.
3. OVERSIZED HOLES TO ACCOMODATE SPECIFIC PIPE TYPE MUST BE CONCETRIC TO PIPE ID. AFTER PIPES ARE INSTALLED, ALL ANNULAR SPACES SHALL BE GROUTED WITH NON-SHRINK GROUT. PIPES ARE TO BE FLUSH WITH THE INSIDE SURFACE OF THE CONCRETE STRUCTURE.



LEFT END VIEW



ELEVATION VIEW
(MEDIA & Ø24" ACCESS COVERS NOT SHOWN FOR CLARITY)

Bioretention/ Biofiltration

REV	- DESCRIPTION	- DATE

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BioPod™ Biofilter System UNDERGROUND VAULT	SYSTEM ID: WR 204-1
CUSTOMER: Herrara	
JOB NAME: ODOT Regional Basin - OR	JOB NUMBER: 23-847151
DATE: 4/1/25 · MFG LOC: 010-AU · DRAWN: PPS · ENGINEER: AFD · CHECKED: AFD	SALES ORDER: -
DRAWING NAME: CONCEPTUAL DRAWING	SHEET: 1 OF 1

WATER QUALITY STRUCTURE, D00407

Notes:

1. *Section heights, slab/wall thicknesses, and other shown are diagrammatic and subject to final design by the vendor.*

REGISTERED PROFESSIONAL ENGINEER
78195PE
Digitally Signed 2025.11.17 09:30:28-08'00'
OREGON
MAY 16, 2006
CHRISTOPHER J. WEBB
RENEWS: 06-30-2026

HERRERA
Herrera Environmental Consultants, Inc.
107 SE Washington Street, Suite 140
Portland, OR 97214
(503) 228-4301
www.herrerainc.com

OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

HWY: US30	Designer: Jimmy Esteban · Reviewer: Joanna Ogintz
M.P.: 8.65	Drafter: Hector Vela · Checker: Christopher Webb
UNIT FILE CODE: N/A	**DETAILS** · SHEET NO.: HB601
DFI/TSSU NO.: SEE TABLE, SHT. HA601	

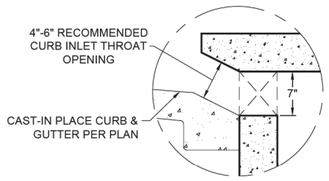
FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

Sec.3, T.1N, R.1W, W.M.

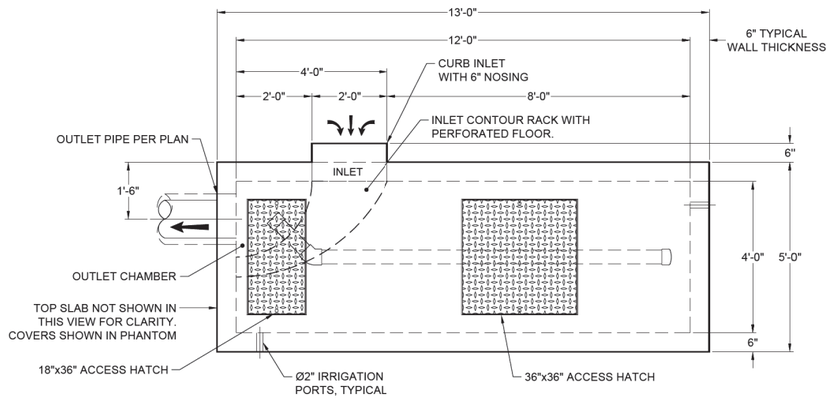
WR204-2 - US30 M.P. 8.64

SITE SPECIFIC DATA				
Structure ID				WR204-2
Model Size				4x12
Treatment Flow Rate (cfs)				0.11
Peak Flow Rate (cfs)				1.41
Rim Elevation				PER PLAN
Pipe Data	**Pipe Location**	**Pipe Size**	**Pipe Type**	**Invert Elevation**
Outlet	PER PLAN	PER PLAN	PER PLAN	PER PLAN
Notes: -				

PERFORMANCE SPECIFICATIONS	
Treatment Flow Capacities:	
NJDEP 80% Removal, 75 micron	0.179 cfs
WA Ecology GULD - Basic, Enhanced & Phosphorus	0.160 cfs
Bypass Capacity	2.0 cfs
*Contact Oldcastle for alternative treatment flow capacities.	



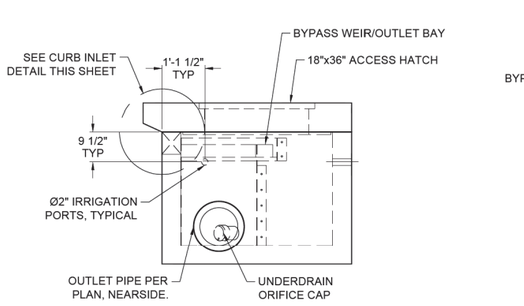
CURB INLET DETAIL



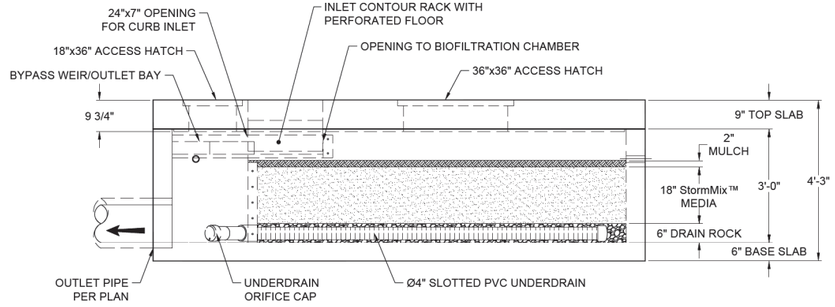
PLAN VIEW

NOTES:

1. DESIGN LOADINGS:
   A. AASHTO HS-20-44.
   B. CONTRACTOR TO PROVIDE ANTI-BUOYANCY CALCULATIONS AS REQUIRED. SEE GEOTECH REPORT.
   C. DRY LATERAL EARTH PRESSURE (ERP) = 45 PCF
2. OLDCASTLE SHALL PROVIDE OUTER PRECAST TRENCH, PRECAST INVERTED TRENCH, INTERNAL PIPING, MULCH, STORMIX MEDIA, AND GRAVEL.
3. OVERSIZED HOLES TO ACCOMODATE SPECIFIC PIPE TYPE MUST BE CONCETRIC TO PIPE ID. AFTER PIPES ARE INSTALLED, ALL ANNULAR SPACES SHALL BE GROUTED WITH NON-SHRINK GROUT. PIPES ARE TO BE FLUSH WITH THE INSIDE SURFACE OF THE CONCRETE STRUCTURE.



LEFT END VIEW



ELEVATION VIEW

Bioretention/ Biofiltration

Oldcastle Infrastructure™
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BioPod™ Biofilter System
Surface Vault with Internal Bypass

CUSTOMER: Herrara

PROJECT NAME: ODOT Regional Basin - OR

DATE	MFG.	DRAWN	ENGINEER	CHECKED	SALES ORDER
3/18/25	010-AU	PPS	AFD	AFD	-

SHEET NAME: 23-847151-BPS-412IB-SI_WR204-2

REVISION: 1

REV DATE: 4/1/25

SHEET: 1 OF 1

REV	DESCRIPTION	BY	DATE

WATER QUALITY STRUCTURE, D00408

Notes:

1. *Section heights, slab/wall thicknesses, and other shown are diagrammatic and subject to final design by the vendor.*

REGISTERED PROFESSIONAL ENGINEER
78195PE
Digitally Signed 2025.11.17 09:28:36-08'00'
OREGON
MAY 16, 2006
CHRISTOPHER J. WEBB
RENEWS: 06-30-2026

HWY: US30
M.P.: 8.65

UNIT FILE CODE: N/A

DFI/TSSU NO.: SEE TABLE, SHT. HA601

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

HERRERA
Herrera Environmental Consultants, Inc.
107 SE Washington Street, Suite 140
Portland, OR 97214
(503) 228-4301
www.herrerainc.com

OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

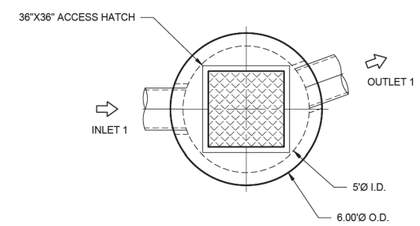
Designer: Jimmy Esteban
Drafter: Hector Vela
Reviewer: Joanna Ogintz
Checker: Christopher Webb

DETAILS

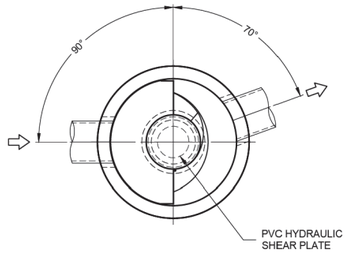
SHEET NO.: HB602

Sec.3, T.1N, R.1W, W.M.

WR79 – US30 M.P. 9.06



PLAN VIEW
INTERNALS NOT SHOWN



PLAN VIEW FOR PIPE ORIENTATION
TOP SLAB NOT SHOWN

MATERIAL LIST (PROVIDED BY CONTECH)

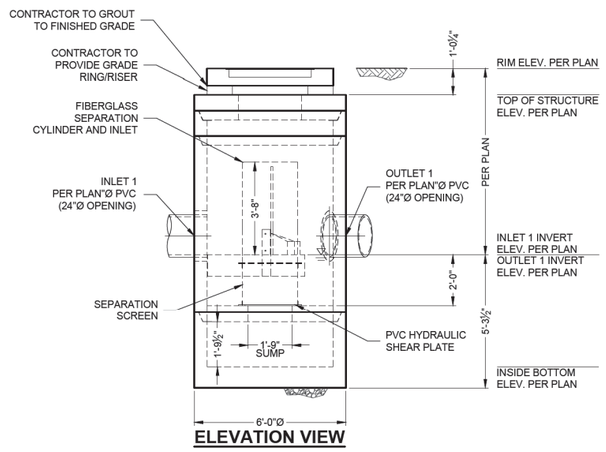
COUNT	DESCRIPTION	INSTALLED BY
1	2015-5 CONCENTRIC FIBERGLASS INSERT	CONTECH
1	2015, 2400 micron, 2.17" O.D. x 1.67" SCREEN, GREEN FLANGE UP	CONTECH
1	20, 30, 40 SERIES HARDWARE KIT	CONTECH
1	SEALANT FOR JOINTS	CONTRACTOR
1	36"X36" ACCESS HATCH, EJ #00821721B02	CONTRACTOR

SITE SPECIFIC DATA REQUIREMENTS

STRUCTURE ID	WR79
WATER QUALITY FLOW RATE (CFS OR L/s)	0.56
PEAK FLOW RATE (CFS OR L/s)	10.45
RETURN PERIOD OF PEAK FLOW (YRS)	10
RIM ELEVATION	PER PLAN

PIPE DATA:	I.E.	MATERIAL	DIAMETER
INLET PIPE 1	PER PLAN	PER PLAN	PER PLAN
INLET PIPE 2	N/A	N/A	N/A
OUTLET PIPE	PER PLAN	PER PLAN	PER PLAN

NOTES/SPECIAL REQUIREMENTS:



ELEVATION VIEW

GENERAL NOTES
1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. FOR FABRICATION DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHT, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE. www.ContechES.com
3. CDS WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.
4. STRUCTURE SHALL MEET AASHTO HS-25-44 LOAD RATING, ASSUMING EARTH COVER OF 0' - 2', AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M306 AND BE CAST WITH THE CONTECH LOGO.
5. IF REQUIRED, PVC HYDRAULIC SHEAR PLATE IS PLACED ON SHELF AT BOTTOM OF SCREEN CYLINDER. REMOVE AND REPLACE AS NECESSARY DURING MAINTENANCE CLEANING.
6. CDS STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C-478 AND AASHTO LOAD FACTOR DESIGN METHOD.
7. CONTRACTOR TO PROVIDE ANTI-BUOYANCY CALCULATIONS AS REQUIRED. SEE GEOTECH REPORT.
8. DRY LATERAL EARTH PRESSURE (ERP) = 45 PCF
9. OVERSIZED HOLES TO ACCOMODATE SPECIFIC PIPE TYPE MUST BE CONCENTRIC TO PIPE ID. AFTER PIPES ARE INSTALLED, ALL ANNULAR SPACES SHALL BE GROUTED WITH NON-SHRINK GROUT. PIPES ARE TO BE FLUSH WITH THE INSIDE SURFACE OF THE CONCRETE STRUCTURE.

INSTALLATION NOTES
A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE CDS MANHOLE STRUCTURE.
C. CONTRACTOR TO INSTALL JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS AND ASSEMBLE STRUCTURE.
D. CONTRACTOR TO PROVIDE, INSTALL, AND GROUT INLET AND OUTLET PIPE(S). MATCH PIPE INVERTS WITH ELEVATIONS SHOWN. ALL PIPE CENTERLINES TO MATCH PIPE OPENING CENTERLINES.
E. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO ASSURE UNIT IS WATER TIGHT, HOLDING WATER TO FLOWLINE INVERT MINIMUM. IT IS SUGGESTED THAT ALL JOINTS BELOW PIPE INVERTS ARE GROUTED.

STRUCTURE WEIGHT
REFER TO SITE-SPECIFIC DRAWING FOR APPROXIMATE HEAVIEST PICK WEIGHT, MAX FOOTPRINT, AND TOTAL NUMBER OF STRUCTURE PIECES.

CASC LAYOUT 2A

The design and information shown on this drawing is provided by a contech to the project owner, engineer and contractor for the exclusive purpose of bidding and construction of a stormwater quality structure. No other use of the information is permitted without the written permission of CONTECH. In addition, the project owner, engineer and contractor shall indemnify CONTECH against damages and liability for any such unauthorized use.

If discrepancies between the supplied information upon which this drawing is based and actual field conditions are encountered, it is the responsibility of the owner to inform contech immediately for re-evaluation of the design. CONTECH is not responsible for inaccuracies caused by errors, omissions, incomplete or inaccurate information supplied by others.

MARK	DATE	REVISION DESCRIPTION	BY

CDS2015-5-C - 758205-060
K22552 WILLAMETTE RIVER (PORTLAND HARBOR SUPERFUND WQ IMPROVEMENTS)
PORTLAND, OR
SITE DESIGNATION: WR79

CONTECH ENGINEERED SOLUTIONS LLC
www.ContechES.com
12001 SE 97th Avenue, Clackamas, OR 97015
800-548-4667 503-258-3333 800-391-1271 FAX

GDS

FOR PATENT INFORMATION, GO TO www.ContechES.com/IP

DATE: 09/26/2025
DESIGNED: KMET | DRAWN: KMET
CHECKED: SJ | APPROVED: KMET
PROJECT No.: 758205 | SEQUENCE No.: 060
SHEET: 1 OF 1

WATER QUALITY STRUCTURE, D00409

HWY: US30
M.P.: 9.06
UNIT FILE CODE: N/A
DFI/TSSU NO.: D00409

REGISTERED PROFESSIONAL ENGINEER
104026PE
Digitally Signed 2025.11.12 19:02:31-06'00'
OREGON
JUNE 09, 2024
HSUAN-WEN CHU
RENEWS: 12-31-2025

WSP USA Inc.
1300 SW 5th Ave
Suite 3100
Portland, OR 97201
Tel: 1 503 274 8772

OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Pranoti Deshmukh | Reviewer: Michael Giseburt
Drafter: Grace Harrison | Checker: Angelica Quintero

DETAILS | SHEET NO. HB611

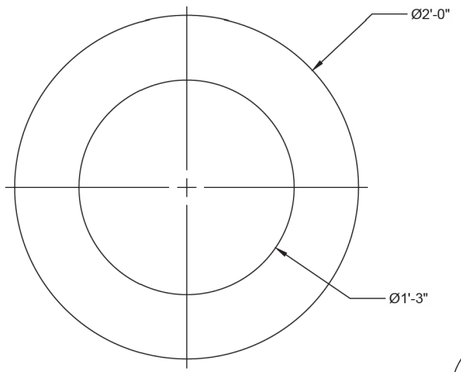
FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

59V-002

VARIES
VARIES

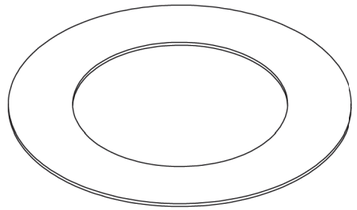
Note:
1. CDS units with inner dia. of 60" or small may require a shear plate as shown. Contractor to confirm with manufacturer for shear plate requirements.

I:\COMMON\CAD\TREATMENT\22 CDS\44 FABRICATION\INTERNALS REFERENCE DETAILS\DWG\CDS 20 SERIES PVC HYDRAULIC SHEAR PLATE REF DETAIL.DWG 1/6/2023 7:52 AM

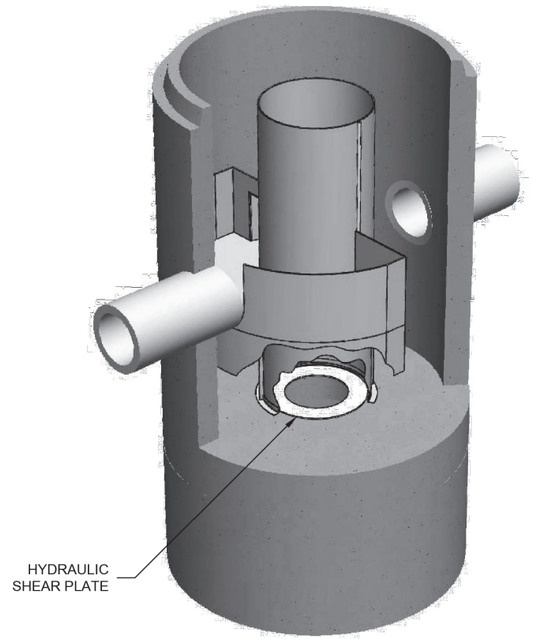


PLAN VIEW

ELEVATION VIEW



ISOMETRIC VIEW



- CONTECH WILL PROVIDE A PVC HYDRAULIC SHEAR PLATE IN ALL CDS UNITS WHICH HAVE A 2' INSIDE DIAMETER SEPARATION SCREEN (20 SERIES)
- THE PRECASTER WILL PLACE THE HYDRAULIC SHEAR PLATE ON THE SEPARATION SLAB INSIDE THE SEPARATION SCREEN PRIOR TO SHIPPING THE CDS UNIT
- IF THE HYDRAULIC SHEAR PLATE SHIFTS DURING DELIVERY AND INSTALLATION, IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ASSURE IT IS CORRECTLY REPOSITIONED PRIOR TO INSTALLING THE TOP SLAB OF THE STRUCTURE
- THE HYDRAULIC SHEAR PLATE MUST REST ON THE SEPARATION SLAB INSIDE THE SEPARATION SCREEN
- THE HYDRAULIC SHEAR PLATE SHOULD LAY FLAT AND BE ABLE TO BE REMOVED FOR SYSTEM MAINTENANCE. DO NOT FASTEN TO SEPARATION SLAB FLOOR.

THIS PRODUCT MAY BE PROTECTED BY ONE OR MORE OF THE FOLLOWING U.S. PATENTS: 5,788,848; 6,641,720; 6,511,595; 6,591,783; RELATED FOREIGN PATENTS, OR OTHER PATENTS PENDING.

CONTECH
ENGINEERED SOLUTIONS LLC
www.ContechES.com
9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

CDS 20 SERIES
PVC HYDRAULIC SHEAR PLATE
REFERENCE DETAIL

DATE: 4/6/16	SCALE: NONE	PROJECT No.: N/A	SEQUENCE No.: N/A	DRAWN: MBB	CHECKED: NDG

HWY: US30
M.P.: VARIES

UNIT FILE CODE
N/A

DFI/TSSU NO.
VARIES

REGISTERED PROFESSIONAL ENGINEER
104026PE
Digitally Signed 2025.11.12 19:02:31-06'00'
OREGON
JUNE 09, 2024
HSUAN-WEN CHU
RENEWS: 12-31-2025

FINAL ELECTRONIC DOCUMENT
AVAILABLE UPON REQUEST

WSP USA Inc.
1300 SW 5th Ave
Suite 3100
Portland, OR 97201
Tel: 1 503 274 8772

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

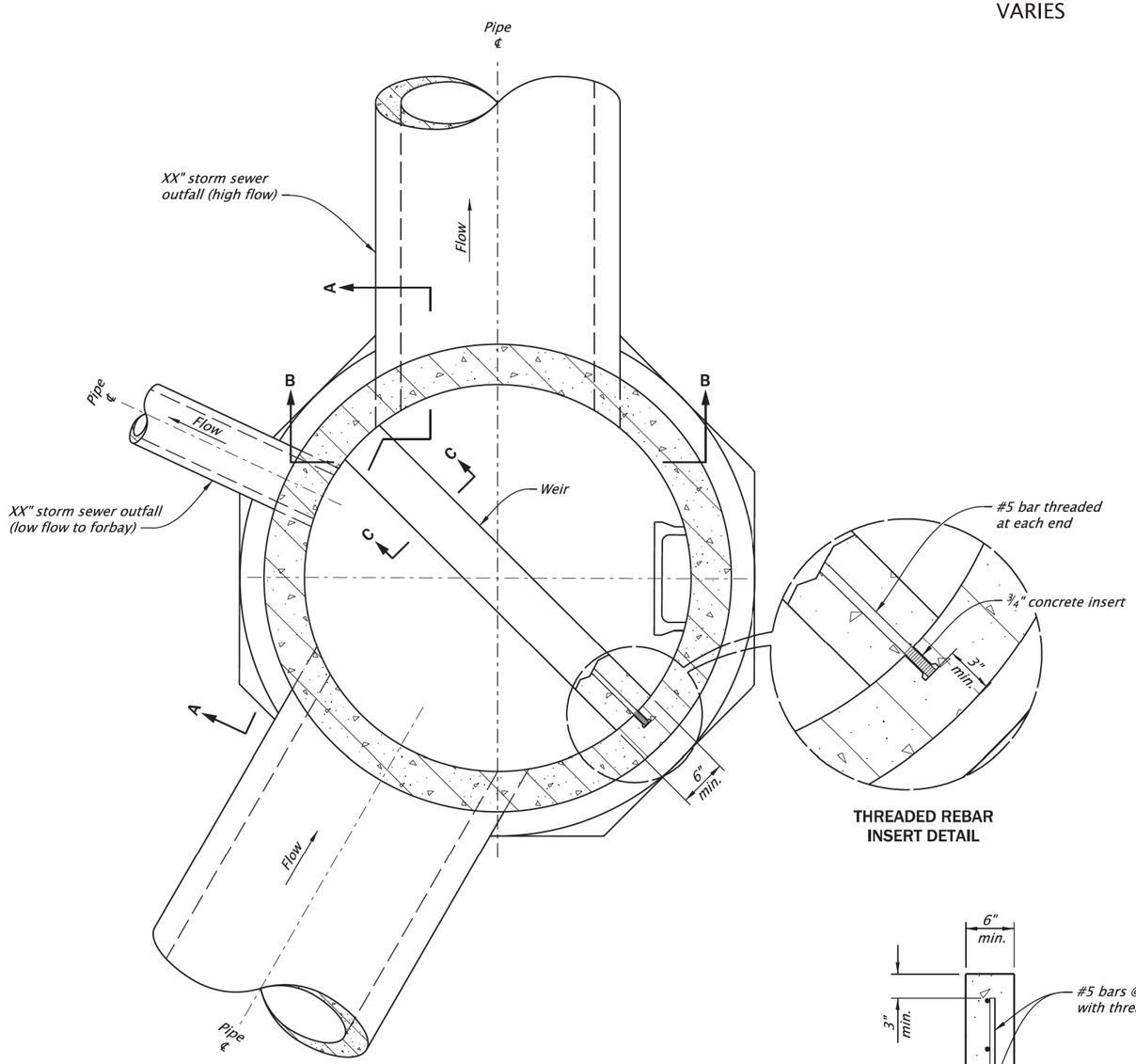
Designer: Pranoti Deshmukh
Drafter: Grace Harrison
Reviewer: Michael Giseburt
Checker: Angelica Quintero

DETAILS

SHEET NO.
HB701

VARIES

VARIES

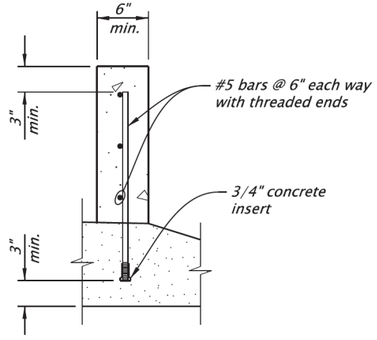


THREADED REBAR INSERT DETAIL

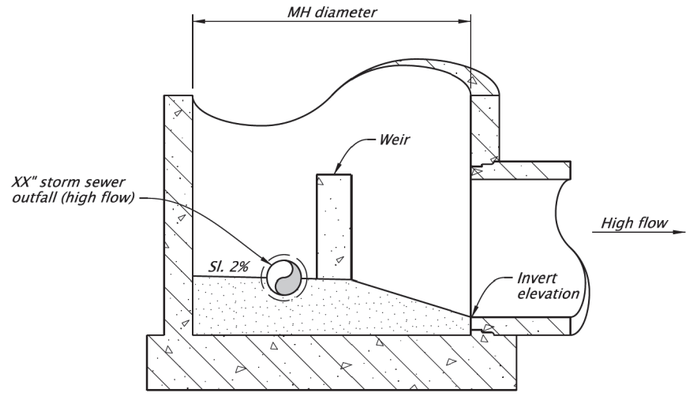
XX" MANHOLE PLAN

SPLIT FLOW MANHOLE

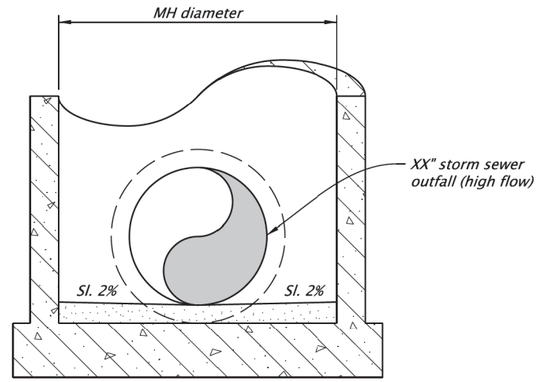
(For details not shown, see Std. Dwgs. RD340 and RD346)



SECTION C-C



SECTION A-A



SECTION B-B

HWY: US30
M.P.: VARIES

UNIT FILE CODE
N/A

DFI/TSSU NO.
VARIES

REGISTERED PROFESSIONAL ENGINEER
104026PE
Digitally Signed 2025.11.12 19:02:31-06'00'
OREGON
JUNE 09, 2024
HSUAN-WEN CHU
RENEWS: 12-31-2025

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Portland, OR 97201
Tel: 1 503 274 8772

OREGON DEPARTMENT OF TRANSPORTATION

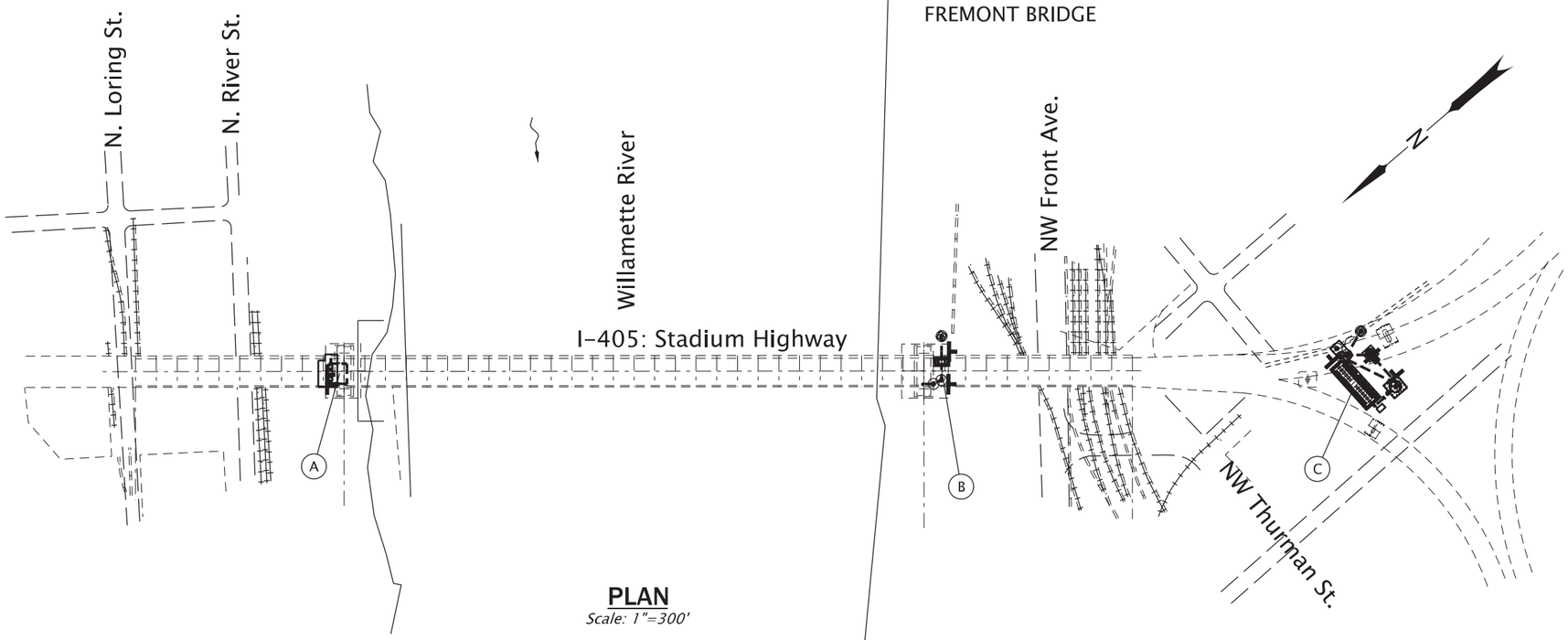
WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Evie Beaty
Drafter: Grace Harrison
Reviewer: Michael Giseburt
Checker: Angelica Quintero

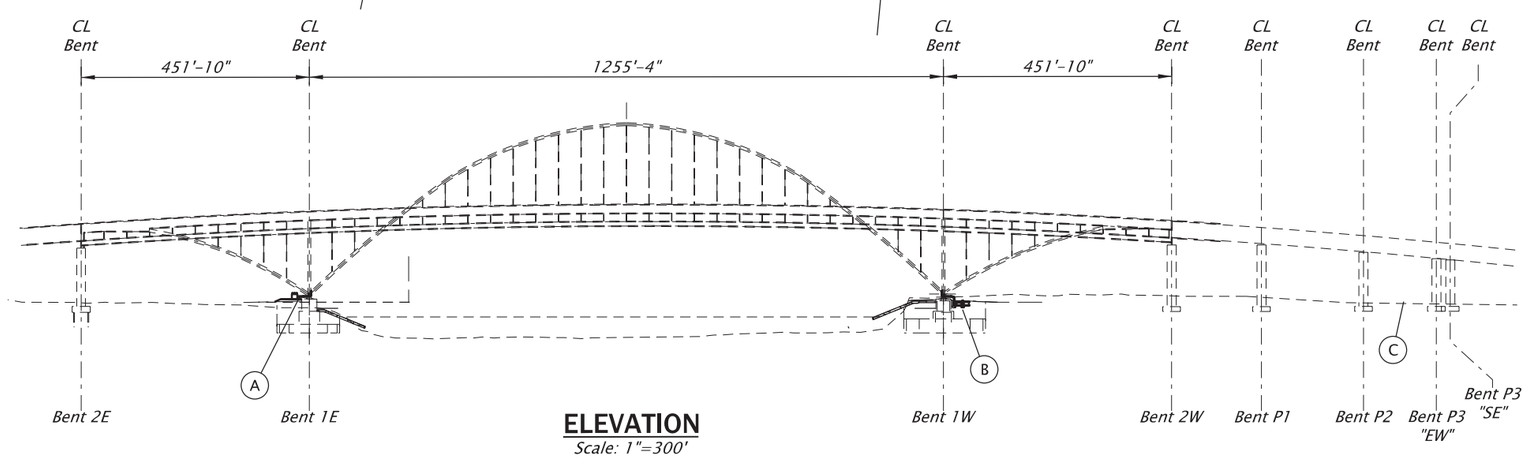
DETAILS

SHEET NO.
HB702

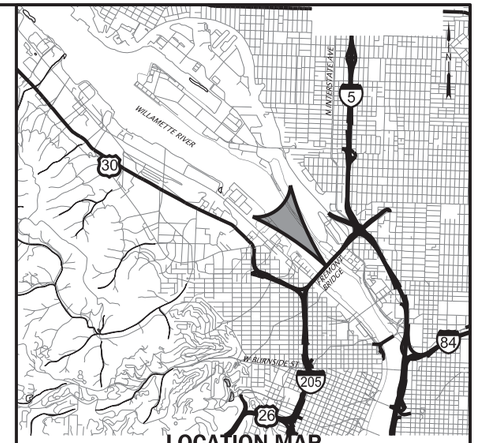
Sec.27, T.1N, R.1E, W.M.



PLAN
Scale: 1"=300'



ELEVATION
Scale: 1"=300'



LOCATION MAP
SEC. 27&28, T. 1N., R. 1E., W.M.
LAT. 45.53814, LONG. -122.68310

DETAIL REFERENCE NOTES:

(A) *Fremont Bridge - East End*
Construct stormwater treatment structure, see sht. HB401

(B) *Fremont Bridge - West End*
Construct stormwater treatment structure, see sht. HB301

(C) *I405/Fremont Bridge - Interchange*
Construct stormwater treatment structure, see sht. HB202

ACCOMPANIED BY DWGS.:
J02-J04, J301-J303, J401-J403

NOT FOR CONSTRUCTION - INFORMATIONAL DWGS.:
23654, 23658-23662, 25227-25229, 25245, 25271-25273,22850, 22971

STRUCTURE NO.
02529
09268

BDS DWG NO.
113434

CALC. BOOK
7990

HWY: 061
M.P.: VARIES

COUNTY
Multnomah

DATE
10/2025

SCALE WARNING
IF THIS SCALE LINE DOES NOT MEASURE ONE INCH, THEN DRAWING IS NOT TO SCALE

STRUCTURAL
REGISTERED PROFESSIONAL ENGINEER
11152PE
Digitally Signed 2025.11.11 12:42:41-08'00'
OREGON
JULY 17, 1981
SYED BABER ALI WAHIDI
RENEWS: 06-30-2026
FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

WSP USA Inc.
1300 SW 5th Ave
Suite 3100
Portland, OR 97201
Tel: 1 503 274 8772

Willamette River, Hwy 61 (Fremont)

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Fernando Sunago
Drafter: Grace Harrison
Reviewer: Stuart Bennion
Checker: Stuart Bennion

STRUCTURE LOCATION AND INDEX

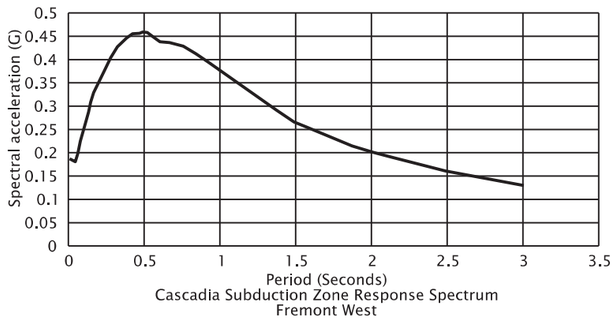
SHEET NO.
J01

GENERAL NOTES:

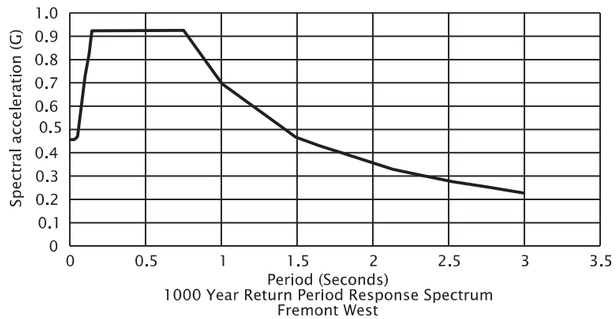
Provide all materials and perform all work according to the "Oregon Standard Specifications for Construction 2024".

Seismic Performance Criteria	Earthquake	Mapped Hazard Values			Site Class	Design Hazard Values			Seismic Design Category
		PGA	Ss	S1		As	SDs	SD1	
Life Safety	Cascadia Subduction Zone	See the design response spectrum plot below							
Operational (St. Johns West)	1000-year return	0.275g	0.599g	0.222g	D	0.364g	0.791g	0.478g	C
Operational (St. Johns East)	1000-year return	0.274g	0.597g	0.221g	D	0.363g	0.789g	0.477g	C
Operational (Fremont West)	1000-year return	0.271g	0.595g	0.216g	E	0.457g	0.921g	0.696g	D
Operational (Fremont East)	1000-year return	0.271g	0.594g	0.216g	D	0.360g	0.787g	0.468g	C

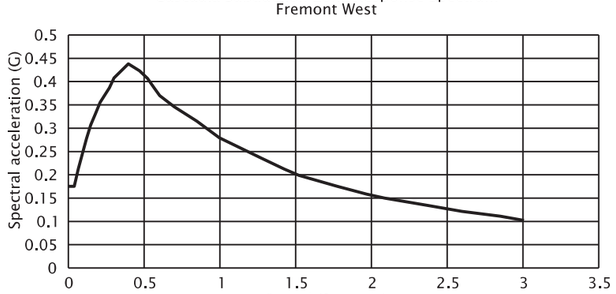
DESIGN RESPONSE SPECTRA GRAPHS:



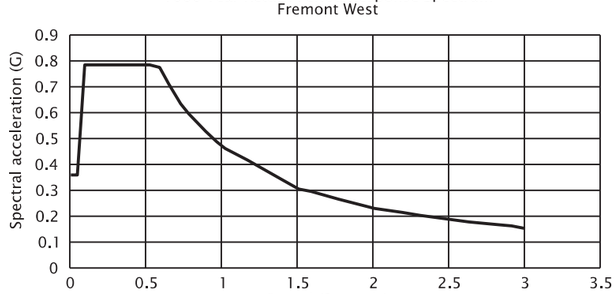
Cascadia Subduction Zone Response Spectrum
Fremont West



1000 Year Return Period Response Spectrum
Fremont West



Cascadia Subduction Zone Response Spectrum
Fremont East



1000 Year Return Period Response Spectrum
Fremont East

STRUCTURAL STEEL NOTES:

All structural steel, including hot rolled shapes, stiffeners, and plates shall conform to ASTM A36 unless notes otherwise.

Preform all structural steel welding in accordance with AWS D1.1 Structural Welding - Steel Code - current edition.

All structural steel, fasteners, and hardware shall be hot-dip galvanized.

RESIN BONDED ANCHOR NOTES:

Provide and install resin bonded anchors as shown with high strength resin from the QPL. Install anchors according to the manufacturer's recommendations and the Special Provisions.

PRECAST CONCRETE - BIOFILTER SYSTEM STRUCTURAL DESIGN CRITERIA

A. AASHTO HS-20-44 w/ impact.
B. Design fill: 5' maximum.
C. Assumed water table = 5' below grade.
D. Dry Lateral Earth Pressure (EFP) = 40 PCF.
E. Lateral Live Load Surcharge = 80 PSF (Applied to 8' below grade)
F. No lateral surcharge from adjacent buildings, walls, piers, or foundations.

CAST-IN-PLACE CONCRETE - BIOFILTER SYSTEM STRUCTURAL DESIGN CRITERIA

A. Dead loads: weight of materials of construction and permanent equipment.
B. Wind loads: 3-second gust wind speed V = 110 mph, Exposure Category = C
C. Seismic loads: See "Design Response Spectra Graphs"

Provide all reinforcing steel according to the ASTM Specification A706, or AASHTO M31 (ASTM A615), Grade 60. (Provide field bent bars according to ASTM Specification A706.) Use the following splice lengths (unless shown otherwise):

REINFORCING SPLICE LENGTHS (CLASS B) GRADE 60 f'c = 4.0 ksi, λRC=0.4, 2in min. concrete clear cover										
Bar Size	#3	#4	#5	#6	#7	#8	#9	#10	#11	#14 & #18
Uncoated	1'-4"	1'-7"	2'-0"	2'-5"	2'-9"	3'-2"	3'-7"	4'-0"	4'-5"	Not Permitted

Increase all splice lengths 30% for horizontal or nearly horizontal bars so placed that more than 12" of fresh concrete is cast below the bar.

splice reinforcing steel at alternate bars, staggered at least one splice length or as far as possible, unless shown otherwise.

Support the bottom mat reinforcing steel from the forms with precast mortar blocks at 24" maximum enters each way. Support the top mat of reinforcing steel from the bottom mat of reinforcing steel with wire bar supports as shown in chapter 3 of the "CRSI Manual of Standard Practice" (SBU, BBU, or CHCU). Place wire bar supports at 24" maximum centers.

Place bars 2" clear of the nearest face of concrete (unless shown otherwise).

Many aspects of this work are dependent upon the geometry of the existing structure. Dimensions and geometry of existing features shown in these plans are based upon information shown in the as-constructed drawings and shall be considered approximate. Contractor shall field verify all dimensions and locations of existing reinforcing prior to ordering or fabricating any materials.

All plan dimensions shown are in english units, unless otherwise noted.

All plan dimensions shown are horizontal and vertical dimensions, unless otherwise noted, and shall be corrected for slopes.

Oregon law requires the rules adopted by the Oregon Utilities Notification center be observed. These rules are set forth in OAR 952-001-0010 through OAR 952-001-0090. Copies of these rules may be obtained from the center or by calling 1-800-322-2344 or 811.

For informational drawings, see sht. J01.
For accompanied by drawings, see sht. J01.

SCALE WARNING
IF THIS SCALE LINE DOES NOT MEASURE ONE INCH, THEN DRAWING IS NOT TO SCALE

STRUCTURE NO. 02529 09268
BDS DWG NO. 113435
CALC. BOOK 7990
HWY: 061
M.P.: VARIES
COUNTY Multnomah
DATE 10/2025

STRUCTURAL REGISTERED PROFESSIONAL ENGINEER
11152PE
Digitally Signed 2025.11.11 12:43:19-08'00'
OREGON
JULY 17, 1981
SYED BABER ALI WAHIDI
RENEWS: 06-30-2026
FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

WSP USA Inc.
1300 SW 5th Ave
Suite 3100
Portland, OR 97201
Tel: 1 503 274 8772

Willamette River, Hwy 61 (Fremont)

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Ali Wahidi
Drafter: Grace Harrison
Reviewer: Stuart Bennion
Checker: Stuart Bennion

GENERAL NOTES
SHEET NO. J02

CODES AND STANDARDS:

1. International Building Code (IBC)
2. ASCE 7-16 Minimum design loads for buildings and other structures
3. ACI 318-14 Building code requirements for structural concrete
4. AISC 360-10 Specification for structural steel buildings
5. AISC 341-16 Seismic provisions for structural steel buildings
6. AWS D1.1, 2010 Structural welding code - steel
7. AWS D1.3, 2008 Structural welding code - sheet steel
8. AWS D1.8, 2009 Structural welding code - seismic supplement
9. Research Council on Structural Connections (RCSC), specification for structural joints using high-strength bolts
10. AWWA D100-11 Welded carbon steel tanks for water storage

GENERAL NOTES:

1. Contractor shall be responsible for means, methods, techniques, sequences, and procedures required to perform the work.
2. Contractor-initiated changes require both designer of record and government approval and shall be submitted in writing to the contracting officer's representative for approval prior to fabrication or construction.
3. Dimensions and details shall be verified by the contractor prior to fabrication and construction. This includes, but is not limited to, coordinating with the contract drawings on the size and location of openings through concrete, verifying size and location of mechanical and electrical openings with the respective subcontractor, as well as coordinating inserts and attachments for the use of other trades.
4. Drawings indicate general and typical details of construction. Typical details and notes shown on drawings shall apply unless noted otherwise. Typical details may not necessarily be indicated on the plans but shall still apply as shown or described in the details. it shall be the contractor's responsibility to choose the appropriate typical detail from those provided. The contractor shall submit proposed alternate details to those provided with related calculations to the engineer for approval prior to detailing or use.
5. Shop drawings review:
   By submitting the shop drawings, the contractor represents that they have determined and verified materials, field measurements, and related field construction criteria (means, methods, techniques, sequences, operations of construction, and safety precautions and programs incidental thereto), and that the contractor has checked and coordinated the information contained within the submittal with the requirements of the work and the contract documents. Review by the engineer shall not relieve the contractor from full responsibility for the accuracy of dimensions and details. Such review shall not constitute acceptance by the engineer of the correctness or adequacy of such submittals, nor a warranty that the submittals satisfy the requirements of the contract.

SHORING:

1. The contractor shall design and install shoring to support new construction (vertically and laterally) until structural components have been connected as shown on the structural drawings.
2. The contractor shall submit shoring drawings and calculations stamped and signed by a registered structural engineer. Drawings shall show size, layout, connections, material designation, method of installation, and accessories of shoring members.

DESIGN LOADS

Dead Loads:
Weight Of Materials Of Construction And Permanent Equipment.

Live Loads	
Roof	See Snow Load
Risk Category	IV
Snow Load	
Snow Load Importance Factor, Is	1.2
Ground Snow Load	11 Psf
Roof Snow Load	25 Psf
Wind Loads	
Basic Wind Speed (3-second Gust), Vult	110 mph
Wind Exposure	C
Seismic Loads	
Seismic Importance Factor, Ie	1.5

Mapped Spectral Response Acceleration Parameters
See Geotechnical Report by RhinoOne Geotechnical.

Design Spectral Response Acceleration Parameters
See Geotechnical Report by RhinoOne Geotechnical.

FOUNDATIONS:

1. Foundation design is based on Geotechnical Report By RhinoOne Geotechnical, dated October 2nd 2023.
2. Footing designs are based on a net allowable bearing pressure as indicated below. Footings shall bear on engineered fill or competent native soils.
3. Special inspection shall be performed during site excavation to confirm that existing conditions comply with conditions in the geotechnical report.
4. Exterior footings shall bear at or below minimum bearing depth. minimum bearing depth is 18 inches below adjacent finished grade.
5. Soil Properties:

Allowable bearing pressure	6000 psf
Modulus of subgrade reaction	60 pci
Coefficient of friction at strength	0.35
Equivalent fluid active soil pressure (unrestrained)	40 psf
Equivalent fluid at rest soil pressure (restrained)	60 psf

NON-SHRINK GROUT:

1. Non-shrink grout shall be cementitious high precision, natural aggregate, non-metallic, non-staining, non-shrinkable grout conforming to ASTM C1107 and CRD-C 621, Corps of Engineers "Specifications for non-shrink grout." grout shall have a specified minimum compressive strength of 8,000 psi at 5 days. Pre-grouting of base plates shall not be permitted.

STRUCTURAL CONCRETE:

1. Concrete work shall conform to requirements of ACI 301, Specifications For Structural Concrete.
2. Design mixes for the following classes of concrete, shall be proportioned to provide the specified compressive strength.

Foundations	4,000 PSI
Slab-on-ground	4,000 PSI

3. Slab-on-grade concrete flexural strength 650 psi at 90 days
4. Steel reinforcement shall conform to the following standards and specified strength.

Deformed bars (A615)	Fy = 60,000 PSI
Deformed bars (A706)	Fy = 60,000 PSI
Welded wire reinf (A1064)	Fu = 60,000 PSI

5. Typical details of reinforcement such as hooks, bend diameters, etc. shall be in accordance with ACI SP-66 - "ACI Detailing Manual".
6. Reinforcement marked "cont" (continuous) shall be spliced by lapping or with mechanical connectors.

LAP LENGTH NOTES:

A. See development and lap splice length schedule for reinforced concrete

B. Lap splices of welded wire reinforcement shall have a length of lap equal to the greater of 1.5x wire development length or one crosswire spacing plus 2 inches.

C. Mechanical connectors shall have a minimum capacity of 1.25 x yield strength of the bar.

D. In members designated as part of the seismic-force-resisting-system, mechanical connectors shall have a minimum capacity equal to the tensile strength of the bar.

7. Mechanical rebar anchors (terminators) shall be threaded devices with a capacity greater than the yield strength of the bar.
8. Refer to architectural, electrical, mechanical, and structural drawings for surface features and inserts, to be cast in concrete and for locations of penetrations for pipes, ducts, conduits, etc.
9. Concrete cover for reinforcement steel in cast-in-place non-prestressed concrete members shall be as follows, uno:

CONCRETE EXPOSURE	MEMBER	REINFORCEMENT	SPECIFIED COVER [INCHES]
Cast Against And Permanently In Contact With Ground	ALL	ALL	3
Exposed To Weather Or In Contact With Ground	ALL	#6 Through #18 bar	3
		#5 Bar, W31 or D31 Wire, and smaller	1 1/2
Not Exposed To Weather Or In Contact With Ground	Slabs, Joists and Walls	#14 Through #18 bar	1 1/2
		#11 Bar and smaller	3/4
	Beams, Columns, Pedestals, and Tension Ties	Primary Reinforcement, Stirrups, Ties, Spirals, and Hoops	1 1/2

For informational drawings, see sht. J01.
For accompanied by drawings, see sht. J01.

SCALE WARNING
IF THIS SCALE LINE DOES NOT MEASURE ONE INCH, THEN DRAWING IS NOT TO SCALE

STRUCTURE NO. 02529 09268
BDS DWG NO. 113436
CALC. BOOK 7990
HWY: 061
M.P.: VARIES
COUNTY Multnomah
DATE 10/2025

STRUCTURAL REGISTERED PROFESSIONAL ENGINEER
11152PE
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OREGON
JULY 17, 1981
SYED BABER ALI WAHIDI
RENEWS: 06-30-2026
FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

WSP USA Inc.
1300 SW 5th Ave
Suite 3100
Portland, OR 97201
Tel: 1 503 274 8772

Willamette River, Hwy 61 (Fremont)

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Ali Wahidi
Drafter: Grace Harrison
Reviewer: Stuart Bennion
Checker: Stuart Bennion

GENERAL NOTES

SHEET NO. J03

STRUCTURAL STEEL:

1. Steel construction shall conform to AISC 360-10 Specification For Structural Steel Buildings and AISC 341-10 Seismic Provisions For Structural Steel Buildings.

2. Steel shall conform to the following:

SHAPE	ASTM SPECIFICATION	YIELD STRENGTH, Fy [KSI]
Wide Flange	A992	50
Angle & Channel (UNO)	A36	36
Plate And Bar Stock	A572 Grade 50	50
Pipe	A53 Grade B	35
Structural Tube (HSS)	A500 Grade B	46
Round Structural Tube (HSS)	A500 Grade B	42
Other Steel UNO	A572	50

3. Work shall be in accordance with AISC 303, as modified per the project specifications.

4. Holes in steel cut in the field shall be drilled, not burned.

5. Camber beams as noted on the framing plans. Where no camber is noted, fabricate beams so that the camber as rolled (within allowable tolerances) is positive. Wind girts with incidental camber shall be installed with camber positive to the building exterior.

6. Steel beams are equally spaced between dimension points uno.

7. Minimum connection shall be a two-bolt connection using 7/8-inch diameter A325 bolts (Type N) in single shear.

8. High-strength bolts shall be installed, tightened, and inspected in accordance with IBC, RCSC, and AISC specification for structural joints using ASTM a352 or A490 bolts. The criteria for snug-tight connections shall apply to connections unless noted otherwise as slip-critical.

9. Headed stud anchors (hsa) for composite and non-composite construction

A. Headed stud anchors shall be $^{3}/_{4}$ inch diameter, Type B, conforming to AWS D1.1, unless noted otherwise.

B. Headed stud anchors shall be automatically end welded in shop or field with equipment recommended by stud manufacturer.

C. Welding, and inspection shall be in accordance with AWS D1.1.

11. Steel anchors, ties and other members embedded in concrete or masonry shall be left unpainted at interior, unexposed conditions.

12. Items embedded in concrete or masonry and exposed to earth or weather shall be hot-dipped galvanized (unless noted otherwise):

A. Concrete & masonry accessories of ferrous material including: inserts, embeds, and brackets.

B. Pipe guards, bollards and hardware for same.

C. Where noted as "galv".

13. Locations of embedded items shall be coordinated with vendor's shop drawings.

14. The contractor shall be responsible for coordinating the selection of optional details shown on the drawings.

15. The contractor shall be responsible for erection aids that include, but are not limited to, erection angles, lift holes, and other aids. Remove erection aids, including erection bolts. plug weld holes and grind smooth.

16. Means and methods of erection are the sole responsibility of the contractor and connections and details do not necessarily show erection aids required.

STRUCTURAL STEEL WELDING:

1. Welding shall be done by certified welders and in accordance with AWS D1.1 and D1.8.

2. Weld sizes shown on the drawings are minimum and effective sizes. Increase weld size to AWS/AISC minimum sizes as required for connection material. The minimum weld size shall be 3/16 inches (effective).

3. Field welding symbols have not necessarily been indicated on the drawings. Where no field welding is detailed on the drawings, it is the contractor's responsibility to coordinate the use of shop and field welds.

4. Partial Joint Penetration (PJP) groove welds shown on the drawings refer to effective throat thickness. Complete Joint Penetration (CJP) welds shall be Ultrasonically Tested (UT) upon completion of the connection, except plate less than or equal to 5/16 inch thick shall be Magnetic Particle Tested (MT).

5. Welds shall be made using low hydrogen electrodes with tensile strength per AWS D1.1 and D1.8 (minimum 70 ksi).

6. Welding shall be performed in strict adherence to a written Welding Procedure Specification (WPS) per AWS D1.1 and D1.8. Welding procedures shall be submitted to the engineer for review before starting fabrication or erection. Copies of the WPS shall be on site and available to welders and the special inspector.

7. Welds that are part of the seismic force-resisting system shall have a minimum Charpy V-notch toughness of 20 foot-pounds at 0 degrees fahrenheit.

ANCHOR RODS:

1. Anchor rods shall be ASTM F1554 Grade 55, unless noted otherwise. furnish anchor rods prefabricated with matching double heavy hex nuts jammed at the end embedded in concrete. Furnish hardened plate washers, double heavy hex nuts for securing the base plate to the anchor rods.

2. Plate washers shall be welded all around where AISC oversized holes are used at base plates.
Engr note: This note applies only where anchor rod are designed to resist shear at the column base.

3. A rigid steel template shall be used to locate anchor rods while placing concrete.

4. Anchor rods shall have sufficient length to provide the minimum embedment shown on the drawings (measured from the face of concrete) with adequate extension as required to receive the grout pad, base plate, and full thread projection for nut installation + 1/2" above the installed nuts.

5. Anchor rod installation shall be coordinated with reinforcing and formwork. After base installation, anchor rod nuts shall be installed to a fully-tight condition unless noted otherwise.

6. No heating or bending of the anchor rods is permitted.

STRUCTURAL SPECIAL INSPECTION & TESTING:

1. Special Inspection items include: Stairs, walkway, railings, and post-installed anchors.

STRUCTURAL STEEL WELDING:

1. Special Inspection shall conform to Specification Section 01 45 35 and Chapter 17 of the IBC.

2. Special Inspections and associated testing shall be performed by an inspection and testing agency meeting the requirements of Specification Section 01 45 35.

3. Structural Observation for seismic resistance is required per IBC Section1704.6.1. Perform Structural Observations per IBC Section 1704.6.

4. Structural Observation for wind resistance is required per IBC Section1704.6.2. Perform Structural Observations per IBC Section 1704.6.

5. Special inspection for wind resistance is required per IBC Section 1705.11. Perform Special Inspection per tables.

6. Special inspection for seismic resistance is required per IBC Section 1705.12. Perform Special Inspection per tables.

For informational drawings, see sht. J01.
For accompanied by drawings, see sht. J01.

SCALE WARNING
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STRUCTURE NO. 02529 09268
BDS DWG NO. 113437
CALC. BOOK 7990
HWY: 061
M.P.: VARIES
COUNTY Multnomah
DATE 10/2025

STRUCTURAL REGISTERED PROFESSIONAL ENGINEER
11152PE
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OREGON
JULY 17, 1981
SYED BABER ALI WAHIDI
RENEWS: 06-30-2026
FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

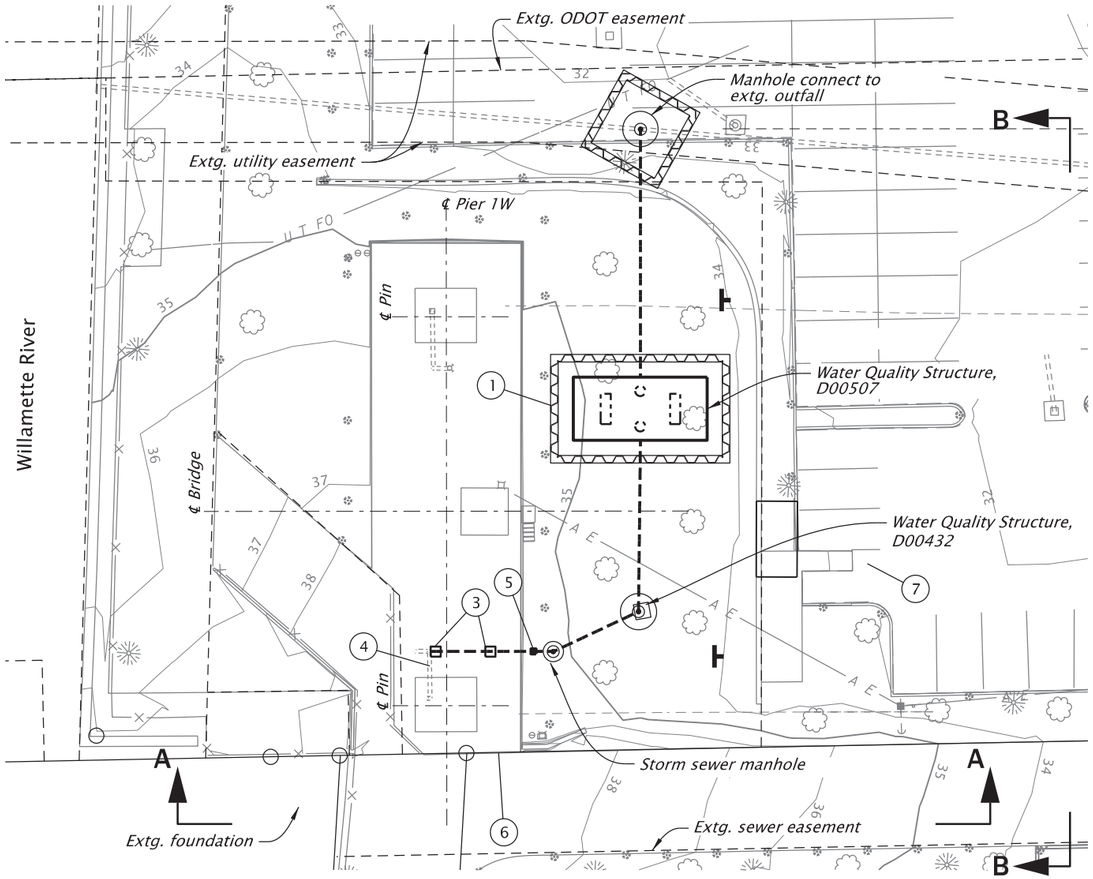
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Tel: 1 503 274 8772

Willamette River, Hwy 61 (Fremont)

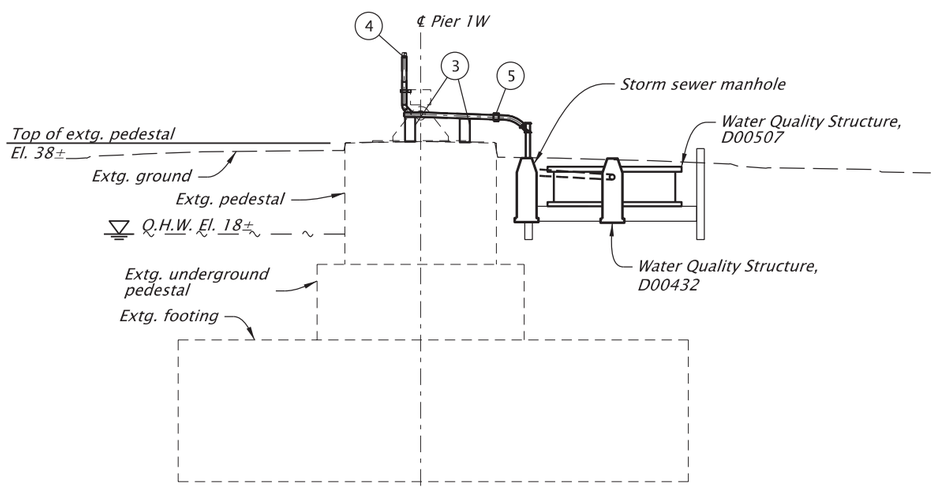
WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND,
STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Ali Wahidi | Reviewer: Stuart Bennion
Drafter: Grace Harrison | Checker: Stuart Bennion

GENERAL NOTES | SHEET NO. J04



PLAN
Scale: 1"=30'



Note:
Work Items 1, 2, & 3 not shown for clarity.

VIEW A-A
Scale: 1"=30'

LEGEND

- Const. inlet
- Extg. inlet
- Const. manhole
- Extg. manhole
- Const. pipe
- Extg. pipe
- Type S1 DFI Marker
- Type S2 DFI Marker

(Note: Some items shown in legend may not be shown on this plan sheet)

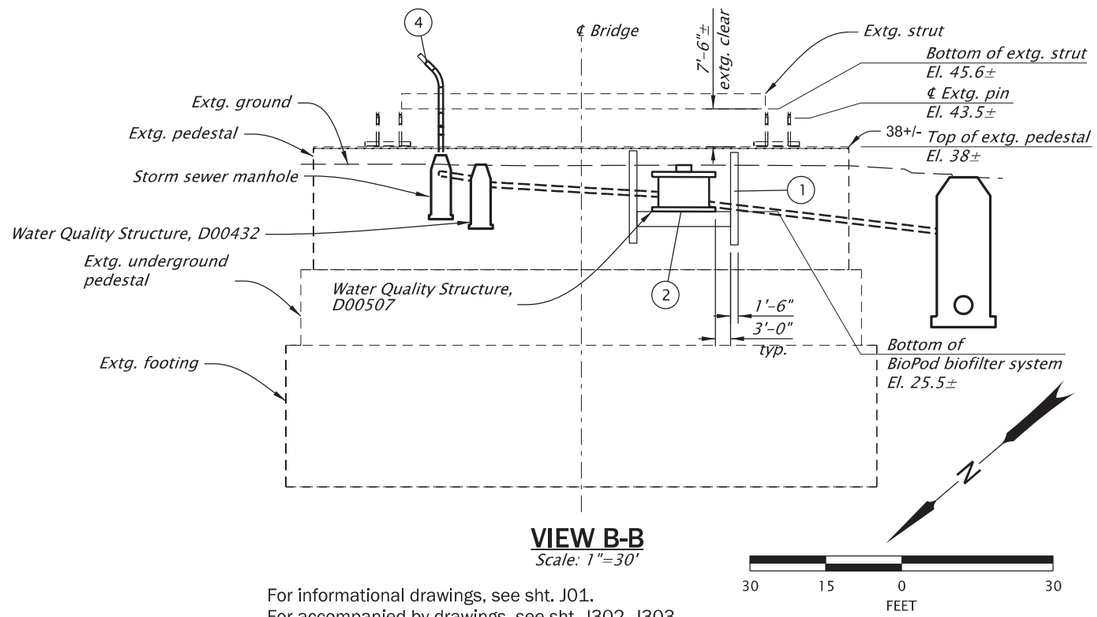
SCALE WARNING
IF THIS SCALE LINE DOES NOT MEASURE ONE INCH, THEN DRAWING IS NOT TO SCALE

Notes:

1. *Protect existing utilities in place unless otherwise noted.*
2. *For work items not shown on this plan, see sht. no. HA301, HA301A, HB302, and HB303 through HB306.*

WORK ITEMS:

1. *Temporary shoring around BioPod biofilter system*
2. *2'-0" Aggregate base under BioPod biofilter system*
3. *2'-0" x 2'-0" Pipe support (concrete pedestal) see detail on sht. no. J302 - 2*
4. *Cut existing deck drain pipe and weld drain pipe*
5. *Pipe expansion fitting - 1*
6. *Inst. handrail - 25'*
7. *Access ramp, see detail on sht. S301*



VIEW B-B
Scale: 1"=30'

For informational drawings, see sht. J01.
For accompanied by drawings, see sht. J302, J303.

STRUCTURE NO.	02529 09268
BDS DWG NO.	113438
CALC. BOOK	7990
HWY: 061 M.P.: VARIES	
COUNTY	Multnomah
DATE	10/2025

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JULY 17, 1981
SYED BABER ALI WAHIDI
RENEWS: 06-30-2026

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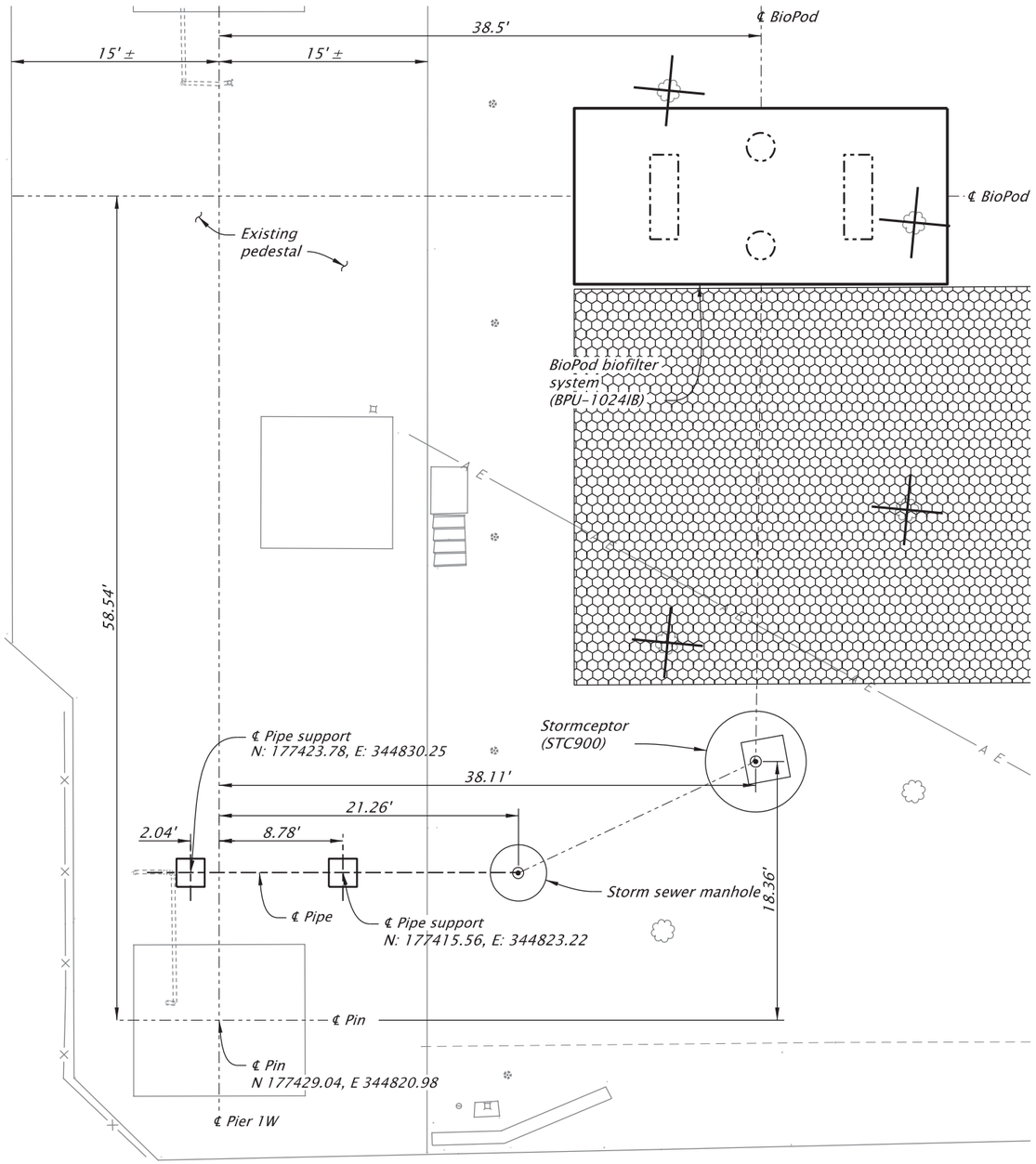
Willamette River, Hwy 61 (Fremont)

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT

LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

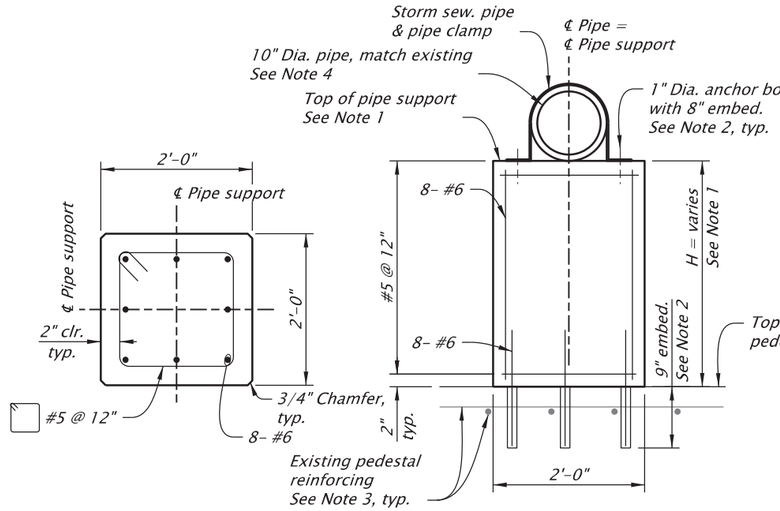
Designer: Fernando Sunago	Reviewer: Michael Giseburt
Drafter: Grace Harrison	Checker: Angelica Quintero

PLAN AND ELEVATION — SHEET NO. J301



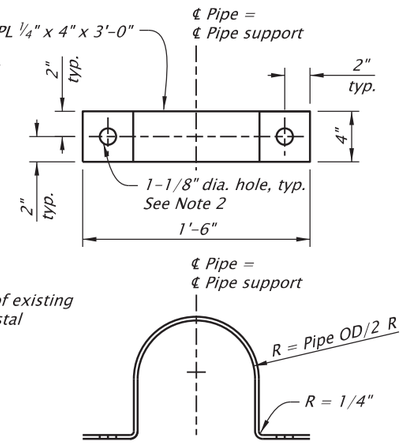
PIPE SUPPORT LOCATION PLAN

Scale: 1" = 10'-0"



PIPE SUPPORT SECTION

Scale: 1" = 2'-0"



PIPE CLAMP DETAIL

Scale: 1" = 1'-0"

Notes:

1. *See HA301A for pipe profile. Adjust height of pipe support as required.*
2. *Provide HILTI HIT-RE 500 V3 EPOXY ANCHOR, SIMPSON SET 3G, RED HEAD C6+or approved equal.*
3. *Contractor shall locate extg. reinforcement in pedestal by GPR or other approved methods prior to construction.*
4. *Contractor shall verify diameter of existing drainpipe prior to fabrication and construction.*

10 5 0 10
FEET

For informational drawings, see sht. J301.
For accompanied by drawings, see sht. J301.

SCALE WARNING
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STRUCTURE NO.	02529 09268
BDS DWG NO.	113439
CALC. BOOK	7990
HWY: 061	
M.P.: VARIES	
COUNTY	Multnomah
DATE	10/2025

REGISTERED PROFESSIONAL ENGINEER
96861PE
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OREGON
JAN. 12, 2021
STUART C. BENNION
RENEWS: 12-31-2025

WSP USA Inc.
1300 SW 5th Ave
Suite 3100
Portland, OR 97201
Tel: 1 503 274 8772

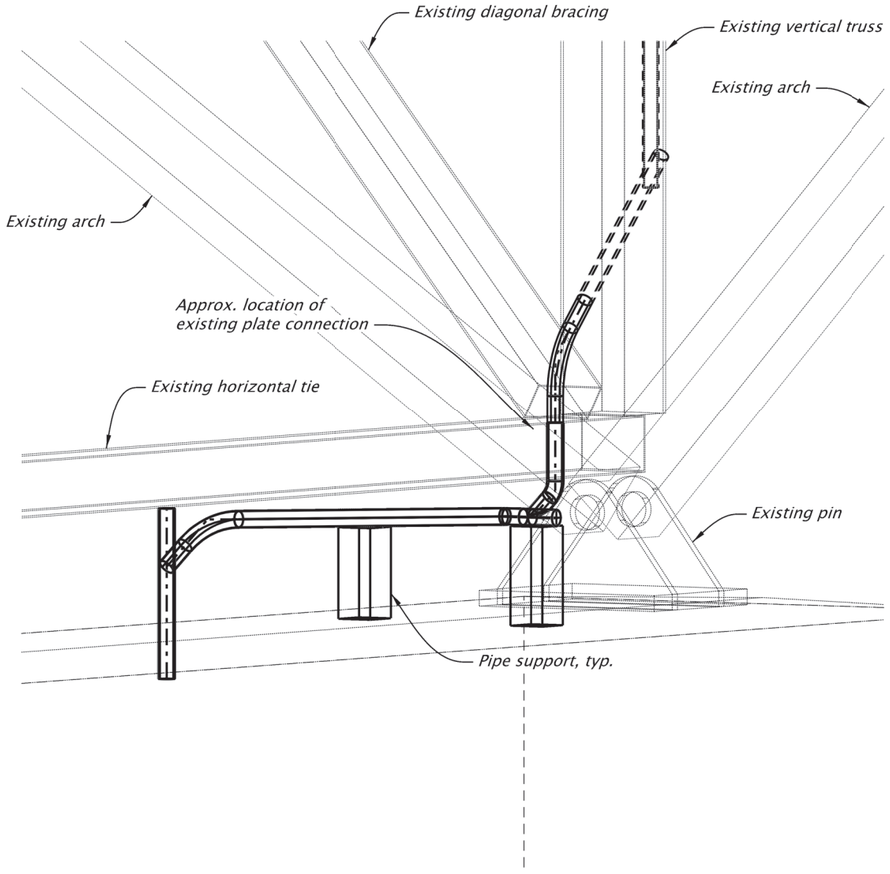
Willamette River, Hwy 61 (Fremont)

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

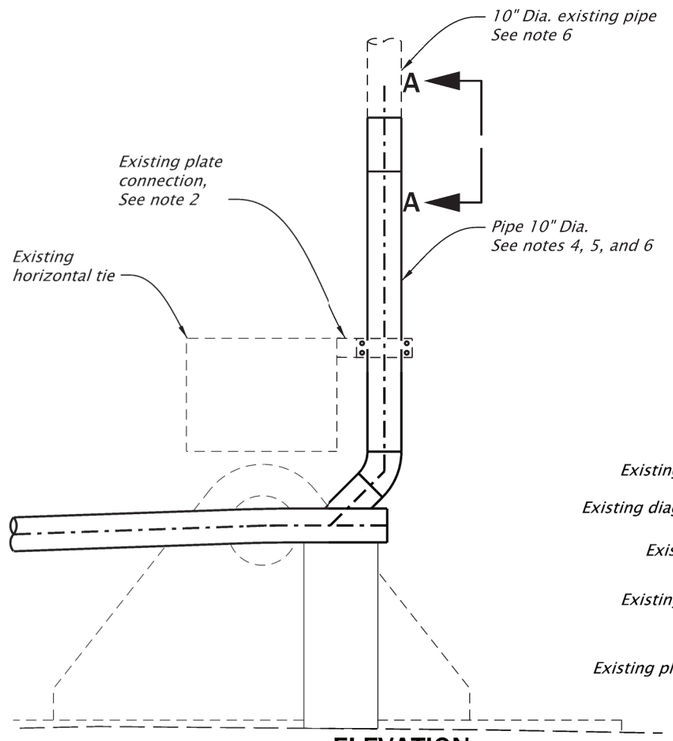
Designer: Fernando Sunago — Reviewer: Stuart Bennion
Drafter: Grace Harrison — Checker: Stuart Bennion

PIPE SUPPORT DETAILS — SHEET NO. J302

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST



VIEW
Scale: 1/8" = 1'-0"



ELEVATION
Scale: 1/4" = 1'-0"

Notes:

1. Protect all existing bridge elements in place unless noted otherwise.
2. For connection plate, see Detail 1. Preserve and reattach all plate and connection elements.
3. Cut and grind prior to welding operation. All elements shall be coated to match existing bridge color.
4. For pipe profile, see sht HA301A.
5. For dimensions realated to proposed pipe see shet HB306.
6. Protect and sheild all existing bridge elements, including, but not limited to existing tie, existing diagonal bracing, and vertical truss from cutting, grinding, and welding process.
7. Contractor shall verify diameter of existing drainpipe prior to fabrication and construction.

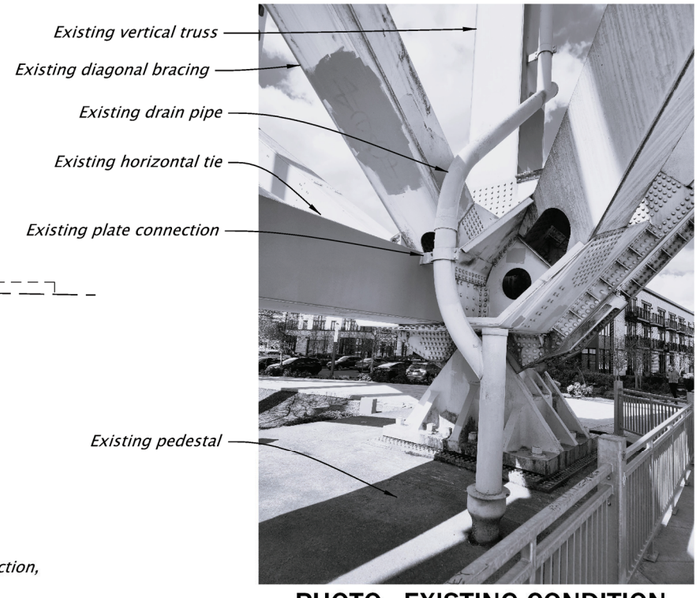
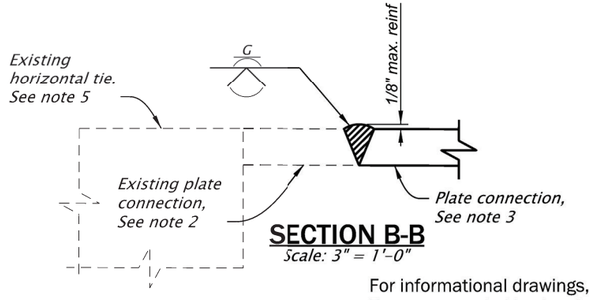
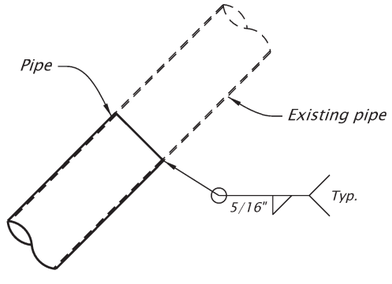


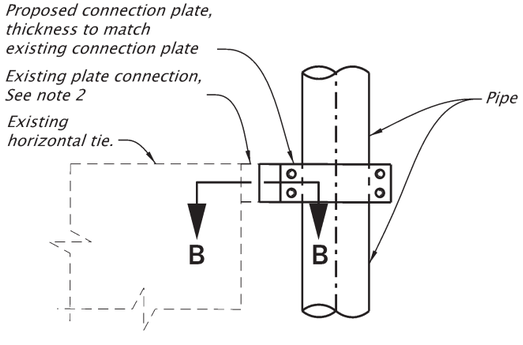
PHOTO - EXISTING CONDITION



SECTION B-B
Scale: 3" = 1'-0"



VIEW A-A
Scale: 1/2" = 1'-0"



DETAIL 1
Scale: 1/2" = 1'-0"

For informational drawings, see sht. J301.
For accompanied by drawings, see sht. J301.

STRUCTURE NO.	02529 09268
BDS DWG NO.	113440
CALC. BOOK	7990
HWY: 061 M.P.: VARIES	
COUNTY	Multnomah
DATE	10/2025

SCALE WARNING
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REGISTERED PROFESSIONAL ENGINEER
96861PE
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OREGON
JAN. 12, 2021
STUART C. BENNION
RENEWS: 12-31-2025

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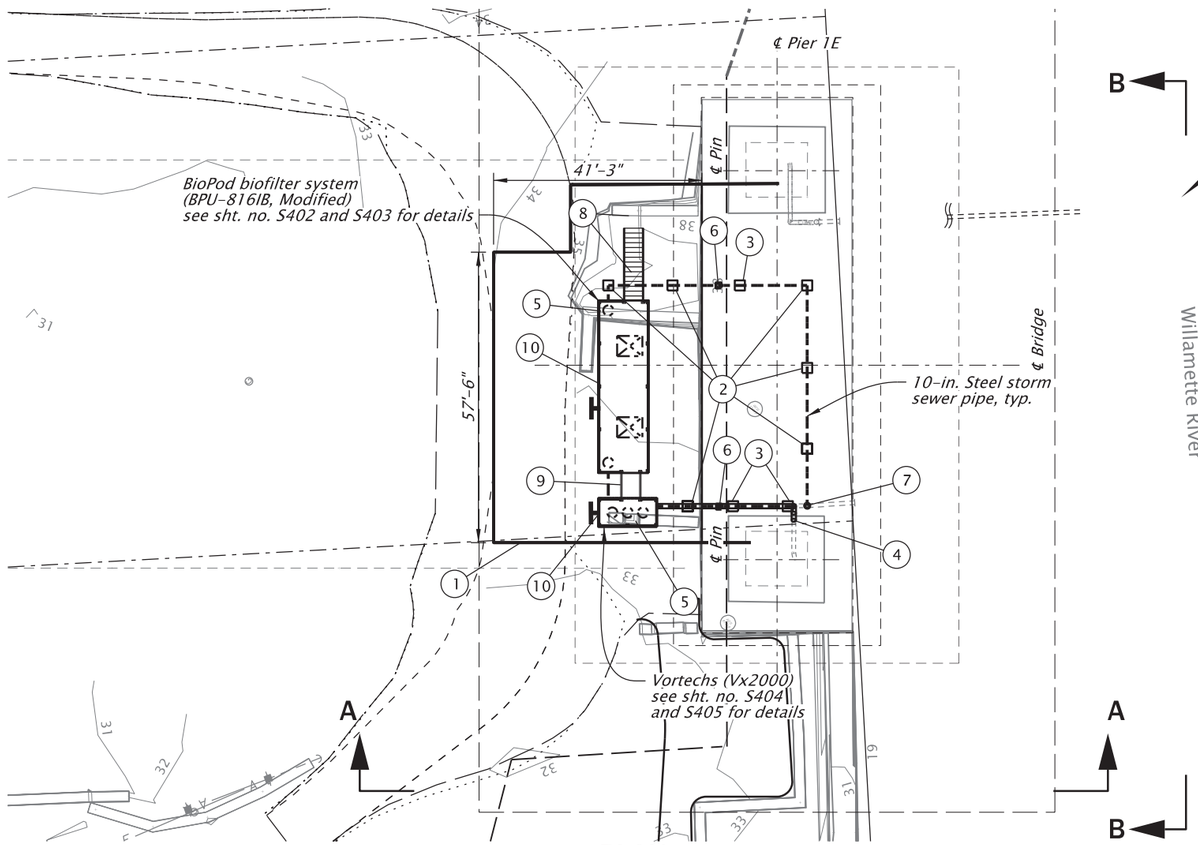
Willamette River, Hwy 61 (Fremont)
WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Fernando Sunago
Drafter: Grace Harrison
Reviewer: Stuart Bennion
Checker: Stuart Bennion

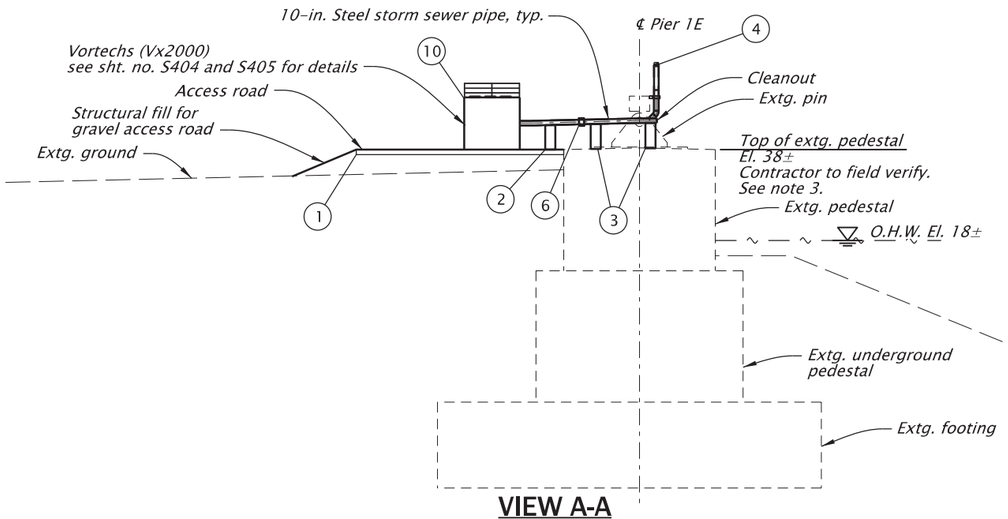
PIPE ATTACHMENT DETAIL

SHEET NO. J303

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST



PLAN
Scale: 1"=30'



VIEW A-A
Scale: 1"=30'

LEGEND
- *Const. inlet*
- *Extg. inlet*
- *Const. manhole*
- *Extg. manhole*
- *Const. pipe*
- *Extg. pipe*
- *Type S1 DFI Marker*
- *Type S2 DFI Marker*

(Note: Some items shown in legend may not be shown on this plan sheet)

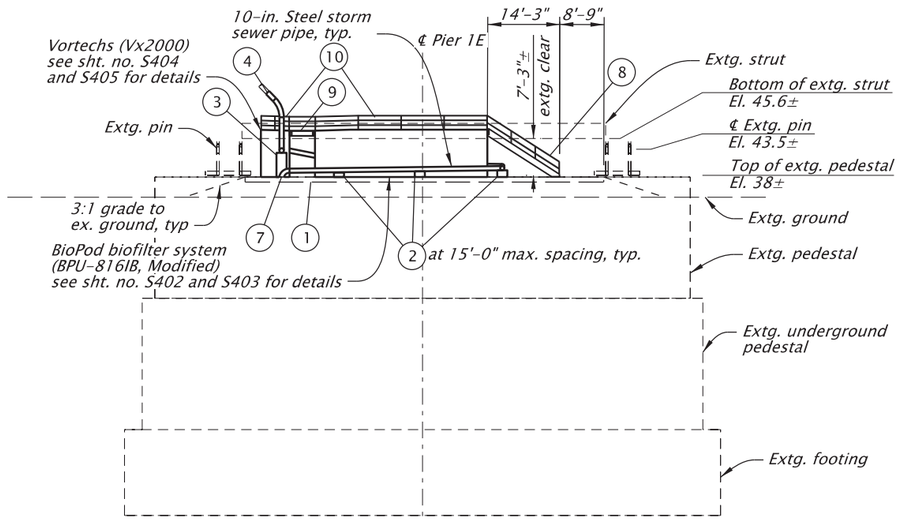
SCALE WARNING
IF THIS SCALE LINE DOES NOT MEASURE ONE INCH, THEN DRAWING IS NOT TO SCALE

Notes:

1. *Protect existing utilities in place unless otherwise noted.*
2. *For work items not shown on this plan, see sht. no. HA401, HA401A, HB402 - HB404.*
3. *Top of extg. bridge pedestal elevation is the control for the elevation of the concrete slab on grade. See sheet C401, C401A, S401.*

WORK ITEMS

1. *12" thick concrete slab-on-grade see sht. no. S401 for details*
2. *2'-0" x 2'-0" Pipe support (concrete pedestal) - 6 see sht. no. J401 for details*
3. *2'-0" x 2'-0" Pipe support (concrete pedestal) - 3 see sht. no. S401 for details*
4. *Cut existing deck drain pipe and weld drain pipe*
5. *Remove existing block walls*
6. *Pipe expansion fitting - 2*
7. *Floating connection with oversized flange to connect existing drainage pipe in foundation see sht no. HB405 for details*
8. *Maintenance stairs to top of BioFilter see sht no. S406 for details*
9. *Maintenance walkway from BioFilter to Vortechs, see sht no. S407 for details*
10. *34" Railing on top of BioFilter, Vortechs, and maintenance walkway (See dwg. no. RD770 and RD771)*



VIEW B-B
Scale: 1"=30'

For informational drawings, see sht. J01.
For accompanied by drawings, see sht. J402, J403.

30 15 0 30
FEET

STRUCTURE NO.	02529 09268
BDS DWG NO.	113441
CALC. BOOK	7990
HWY: 061	
M.P.: VARIES	
COUNTY	Multnomah
DATE	10/2025

STRUCTURAL
REGISTERED PROFESSIONAL ENGINEER
11152PE
Digitally Signed 2025.11.11 12:47:18-08'00'
OREGON
JULY 17, 1981
SYED BABER ALI WAHIDI
RENEWS: 06-30-2026

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1300 SW 5th Ave
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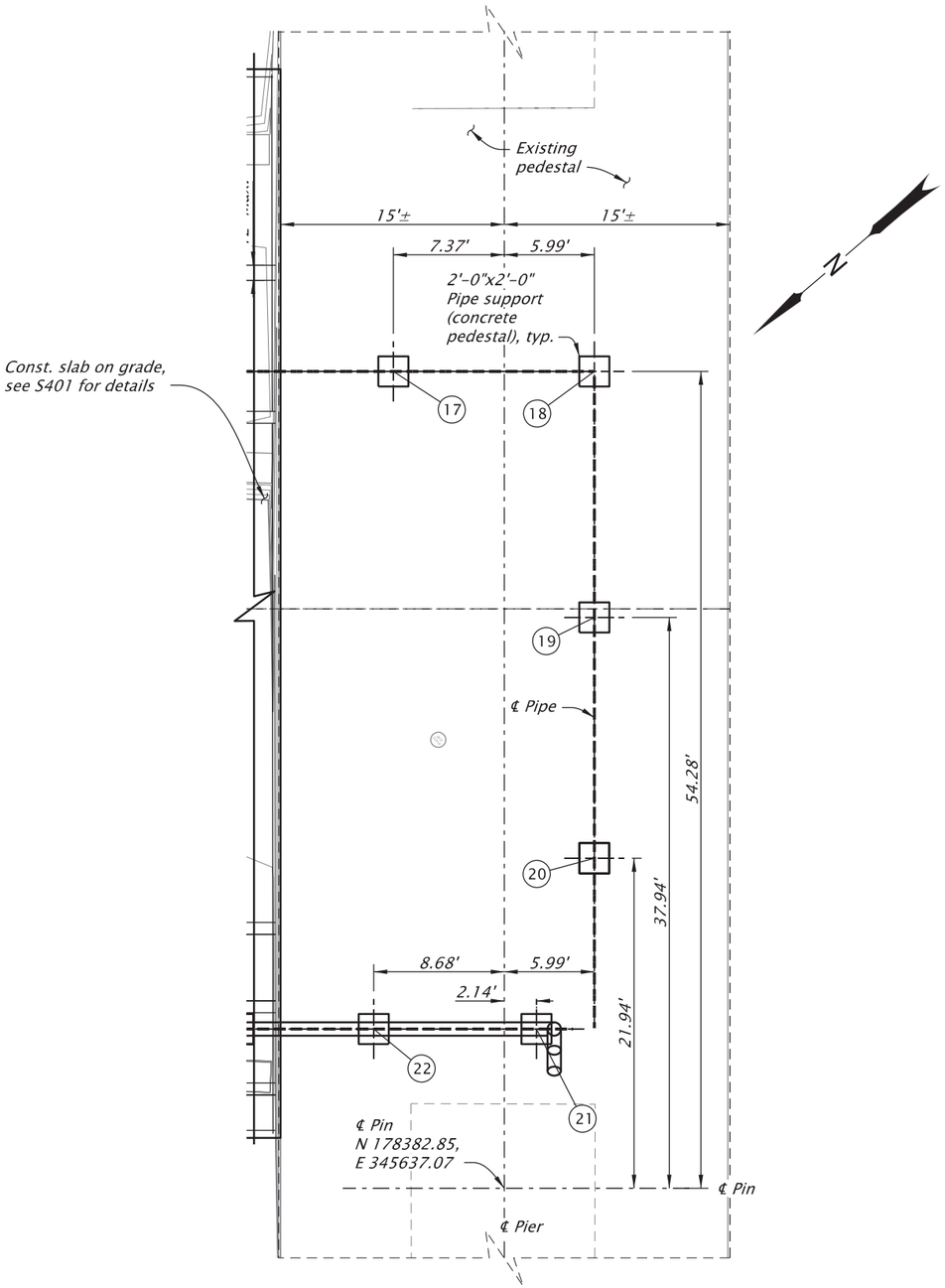
Willamette River, Hwy 61 (Fremont)

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Fernando Sunago | Reviewer: Stuart Bennion
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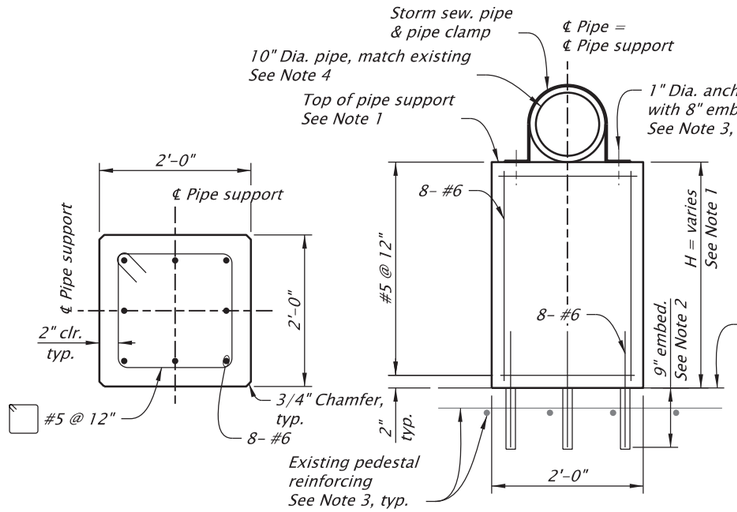
PLAN AND ELEVATION | SHEET NO. J401

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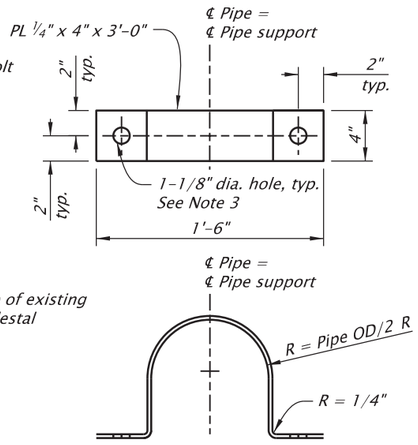
PIPE SUPPORTS ON BRIDGE PEDESTAL PLAN

Scale: 1" = 10'-0"



PIPE SUPPORT SECTION

Scale: 1" = 2'-0"



PIPE CLAMP DETAIL

Scale: 1" = 1'-0"

℄ Pipe support	
15	See S401
16	See S401
17	N: 178353.15, E: 345683.11
18	N: 178343.00, E: 345674.42
19	N: 178353.63, E: 345662.00
20	N: 178364.04, E: 345649.84
21	N: 178374.34, E: 345643.72
22	N: 178382.56, E: 345650.76
23	See S401

Notes:

1. *See HA401A for pipe profile. Adjust height of pipe support as required.*
2. *Provide HILTI HIT-RE 500 V3 EPOXY ANCHOR or approved equal.*
3. *Contractor shall locate extg. reinforcement in pedestal by GPR or other approved methods prior to construction.*
4. *Contractor shall verify diameter of existing drainpipe prior to fabrication and construction.*

10 5 0 10
FEET

For informational drawings, see sht. J401.
For accompanied by drawings, see sht. J401.

SCALE WARNING
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STRUCTURE NO. 02529 09268
BDS DWG NO. 113442
CALC. BOOK 7990
HWY: 061
M.P.: VARIES
COUNTY Multnomah
DATE 10/2025

REGISTERED PROFESSIONAL ENGINEER
96861PE
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OREGON
JAN. 12, 2021
STUART C. BENNION
RENEWS: 12-31-2025

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

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Tel: 1 503 274 8772

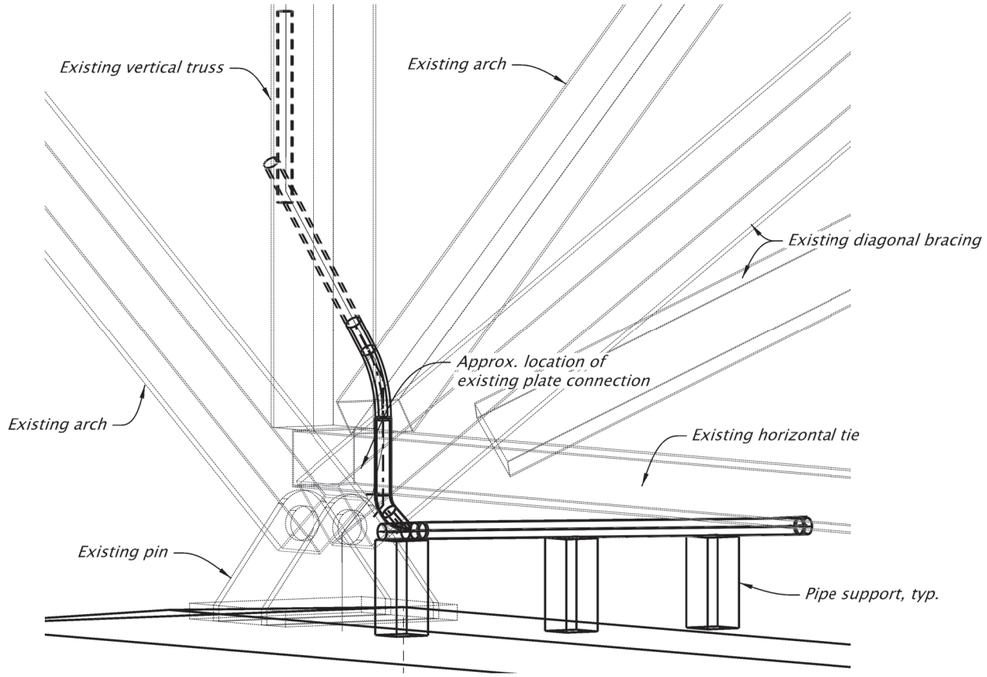
Willamette River, Hwy 61 (Fremont)

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

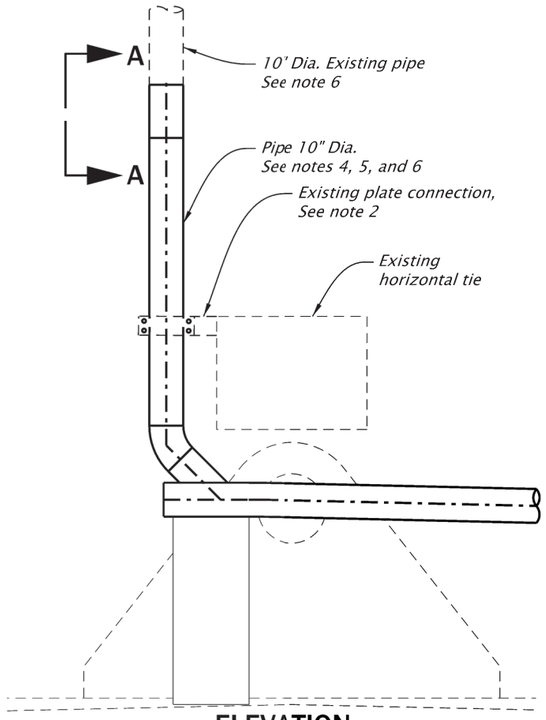
Designer: Fernando Sunago
Drafter: Grace Harrison
Reviewer: Stuart Bennion
Checker: Stuart Bennion

SLAB ON GRADE AND PIPE SUPPORT DETAILS

SHEET NO. J402



ISOMETRIC VIEW
Scale: 1/8" = 1'-0"



ELEVATION
Scale: 1/4" = 1'-0"

Notes:

1. *Protect all existing bridge elements in place unless noted otherwise.*
2. *For connection plate, see Detail 1. Preserve and reattach all plate and connection elements.*
3. *Cut and grind prior to welding operation. All elements shall be coated to match existing bridge color.*
4. *For pipe profile, see sht HA401A.*
5. *For dimensions realated to proposed pipe see shet HB404.*
6. *Protect and sheild all existing bridge elements, including, but not limited to existing tie, existing diagonal bracing, and vertical truss from cutting, grinding, and welding process.*
7. *Contractor shall verify diameter of existing* **drainpipe prior to fabrication and construction.**

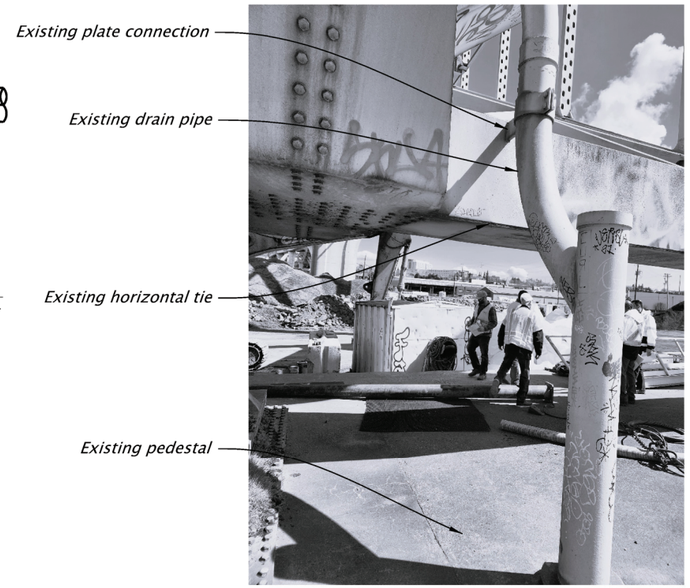
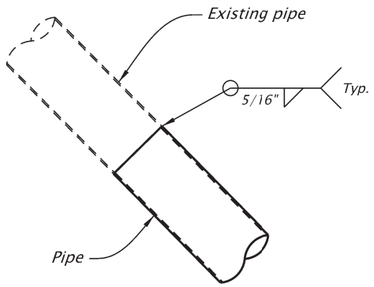
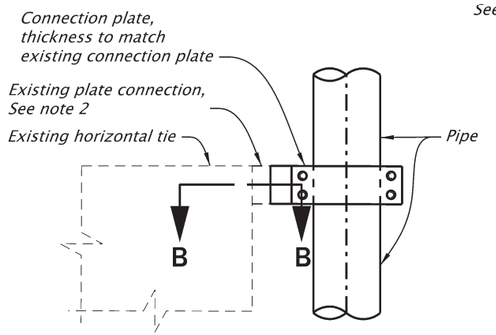


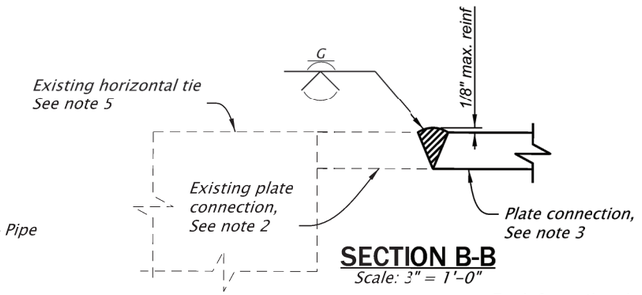
PHOTO - EXISTING CONDITION



ELEVATION A-A
Scale: 1/2" = 1'-0"



DETAIL 1
Scale: 1/2" = 1'-0"



SECTION B-B
Scale: 3" = 1'-0"

For informational drawings, see sht. J401.
For accompanied by drawings, see sht. J401.

STRUCTURE NO.	02529 09268
BDS DWG NO.	113443
CALC. BOOK	7990
HWY: 061 M.P.: VARIES	
COUNTY	Multnomah
DATE	10/2025

SCALE WARNING
IF THIS SCALE LINE DOES NOT MEASURE ONE INCH, THEN DRAWING IS NOT TO SCALE

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LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Fernando Sunago
Drafter: Grace Harrison
Reviewer: Stuart Bennion
Checker: Stuart Bennion

PIPE CONNECTION AT BRIDGE PEDESTAL DETAILS

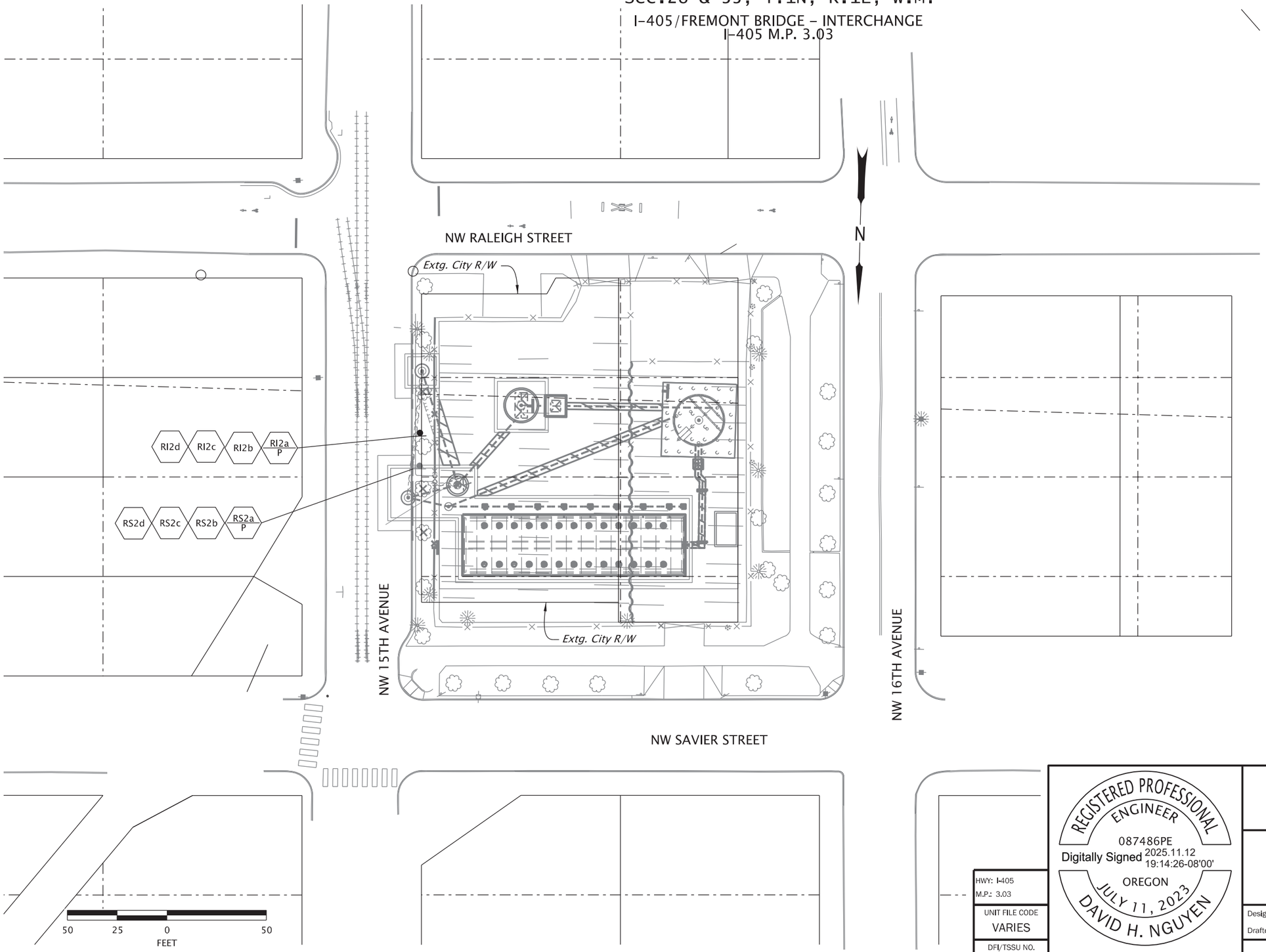
SHEET NO. J403

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59V-002

Sec.28 & 33, T.1N, R.1E, W.M.

I-405/FREMONT BRIDGE - INTERCHANGE
I-405 M.P. 3.03



LEGEND

- RSN — *Remove and save existing sign (N)*
- RSN / M — *Remove and save existing sign (N) and remove (M) sign support*
- RIN — *Reinstall existing sign (N)*
- RIN / M — *Reinstall existing sign (N) on new (M) sign support*

N = Sign Number

M = Material

Material options:

P = Round Pipe Support

GENERAL NOTES

1. *See Sheet LB001 and LC001 for sign details.*

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DAVID H. NGUYEN
RENEWS: 12-31-2026

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OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

HWY: I-405	
M.P.: 3.03	
UNIT FILE CODE: VARIES	Designer: Bishal Dhakal
DFI/TSSU NO.: N/A	Drafter: Grace Harrison
	Reviewer: Edith Lopez
	Checker: Arianne Mizuta

SIGNING PLAN — SHEET NO. LA201

59V-002

Sec.12, T.1N, R.1W, W.M.
OF22C – US30 M.P. 6.41

LEGEND

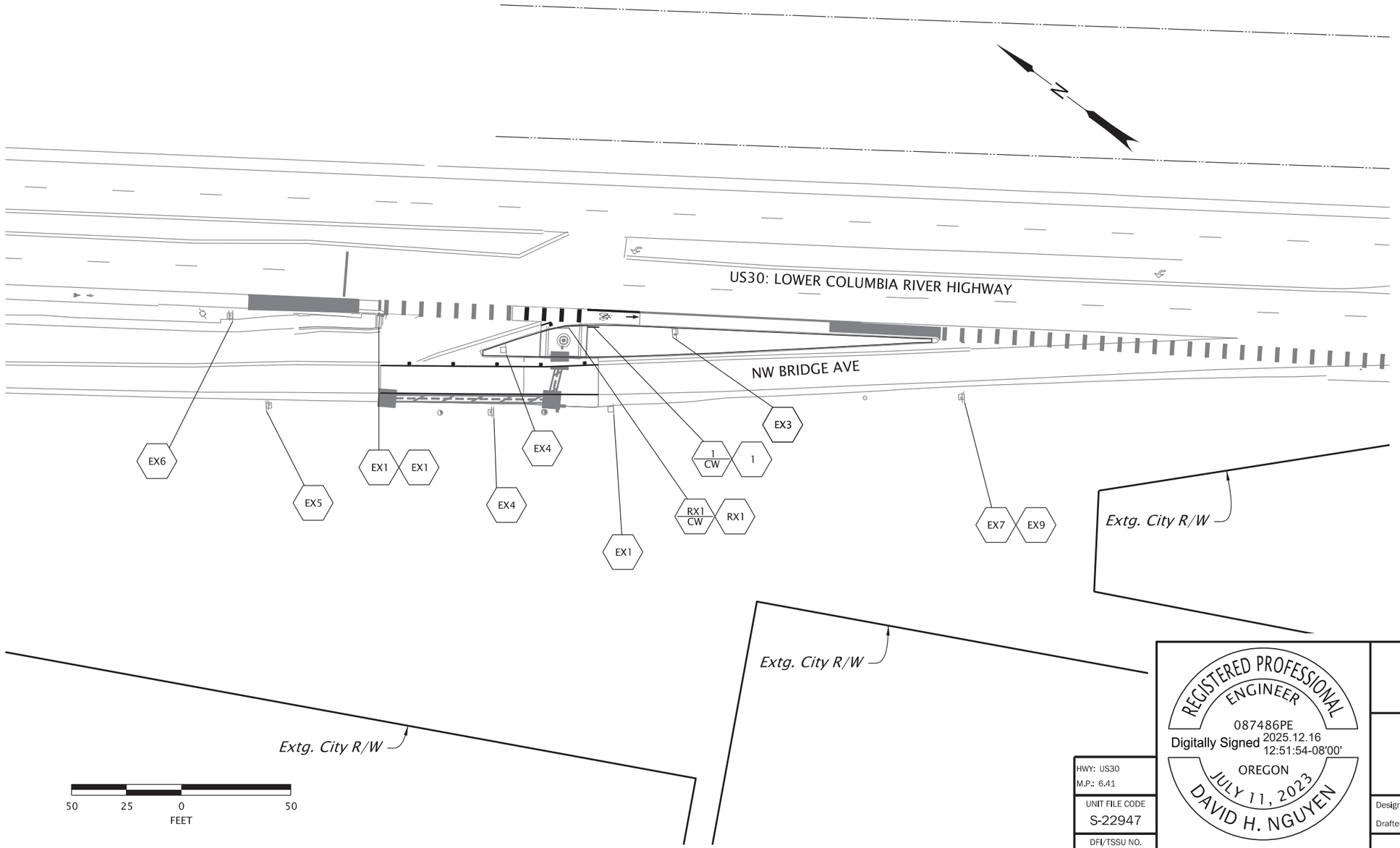
- N — *Install new sign (N)*
- N / M — *Install new sign (N) on new (M) sign support*
- EXN — *Maintain and protect existing sign (N) and support*
- RXN / M — *Remove existing sign (N) and (M) sign support*

Remove existing sign (N)

N = Sign Number
M = Material
Material options:
CW = Crosswalk Closure Barricade

GENERAL NOTES

1. *See Sheet LB001 and LC001 for sign details.*



HWY: US30
M.P.: 6.41

UNIT FILE CODE
S-22947

DFI/TSSU NO.
N/A

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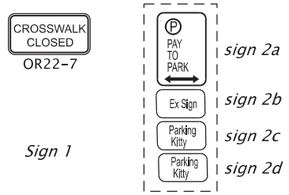
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LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Bishal Dhakal
Drafter: Grace Harrison
Reviewer: Edith Lopez
Checker: Arianne Mizuta

SIGNING PLAN

SHEET NO.
LA541

SIGN DETAILS



Sign 1



W4-1R

Sign 3



R5-1a

Sign 4



R3-2

Sign 5



Sign 6



R5-1

Sign 7

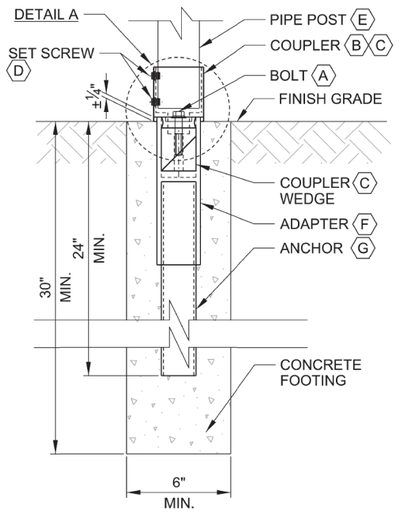


W11-1

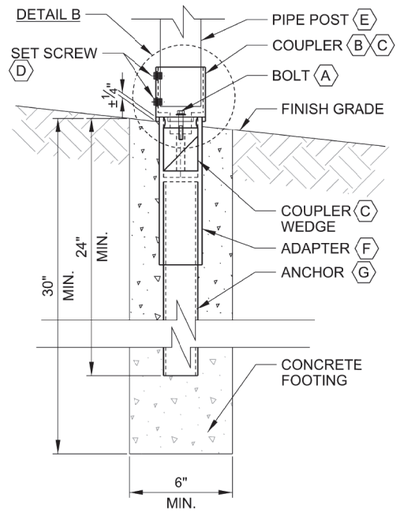
Sign 9

NOTE:
Signs shown with broken borders are existing signs.

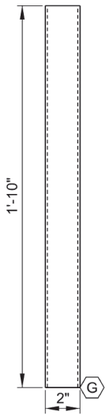
Portland Bureau of Transportation Detail



BREAKAWAY ANCHOR ASSEMBLY
LEVEL GRADE INSTALLATION

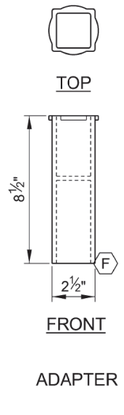


BREAKAWAY ANCHOR ASSEMBLY
SLOPED GRADE INSTALLATION



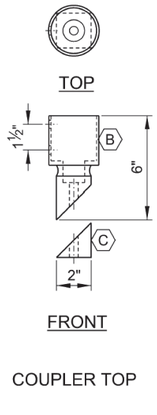
FRONT

ANCHOR



FRONT

ADAPTER



FRONT

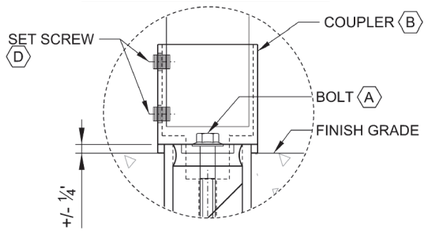
COUPLER TOP



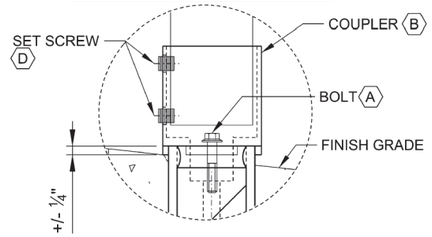
HARDWARE

ITEM NO.	DESCRIPTION	MATERIAL	QTY
A	½" X 2¼" USS HEX HEAD BOLT	GRADE 8 GALV. STEEL	1
B	2⅜" COUPLER TOP (ROUND)	CAST IRON	1
C	COUPLER WEDGE (2")	CAST IRON	1
D	½" USS SET SCREW	STAINLESS STEEL	2
E	ROUND POST 2.375" O.D.	SCHEDULE 40 STEEL	1
F	ADAPTER 2.5" O.D. X 8.5"	CAST IRON	1
G	ANCHOR 2.0" O.D. X 22"	STEEL	1

BREAKAWAY ANCHOR PARTS LIST



DETAIL A



DETAIL B

NOTES:
1. FOR PIPE SIGN POST INSTALLATION IN EARTH.
2. CENTER BOLT 'A' AND SET SCREWS 'D' SHALL BE TIGHTENED SECURELY SUCH THAT THE ENTIRE ASSEMBLY IS TIGHT.
3. FOR LEVEL INSTALLATIONS:
- THE ANCHOR 'G' AND ADAPTER 'F' SHALL BE PLACED SUCH THAT THE BOTTOM OF THE LIP SURROUNDING THE TOP OF ADAPTER IS AT FINISH GRADE.
4. FOR SLOPED INSTALLATIONS:
- THE ANCHOR 'G' SHALL BE PLACED AT TOP OF FINISH GRADE RELATIVE TO THE
UPPER SIDE OF THE SLOPE SUCH THAT NO PART OF THE ANCHOR IS BELOW FINISH GRADE AT ANY POINT.
5. EXTREME CARE SHALL BE TAKEN TO ENSURE THE ANCHOR ASSEMBLY IS PLACED VERTICALLY IN THE GROUND. THE ENTIRE SIGN INSTALLATION SHALL BE PLUMB AND TIGHT WHEN INSTALLATION IS COMPLETE.
6. FOR OTHER INSTALLATION DETAILS FOLLOW MANUFACTURER'S INSTRUCTIONS.

Note:
1. See LA sheets for Site Locations.

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RENEWS: 12-31-2026

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WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

HWY: VARIES
M.P.: VARIES

UNIT FILE CODE
S-22948

DFI/TSSU NO.
N/A

Designer: Bishal Dhakal
Drafter: Grace Harrison
Reviewer: Edith Lopez
Checker: Arianne Mizuta

SIGN DETAILS

SHEET NO.
LB001

SIGN & POST DATA TABLE

SIGN NO.	SIGN LOCATION 4/ (TM200-TM201, TM635)	SIGN DIMENSIONS		SUB-STRATE			COLOR 1/ BACKGROUND	COLOR 1/ LEGEND				LEGEND		SIGN NO. 2/	TYPE OF SUPPORT																		POST		FOOTING		REMARKS
		WIDTH	HEIGHT	PLYWOOD	SHEET ALUMINUM	EXTRUDED ALUM. (TM675)	ASTM TYPE III OR TYPE IV	ASTM TYPE IX	ASTM TYPE III OR TYPE IV	ASTM TYPE IX	NON-REFLECTIVE	PERMANENT	REMOVABLE (TM230 - TM233)		WOOD POST (TM670-TM671, TM676)	SQ. TUBE SIGN SUPPORT (TM671, TM676, TM681, TM687-TM689)	PIPE POST SUPPORT	PBOT STD DWG P-405	H - FRAME	MULTI-POST BREAKAWAY (TM220, TM600-TM601)	STAINLESS STEEL CLAMP (SSC) (TM677)	SIGNAL POLE MOUNT (TM680)	MAST ARM SIGN MOUNT (TM679)	BRIDGE STRUCTURE MOUNT (TM677)	CANTILEVER / BUTTERFLY (TM622-TM627)	SIGN BRIDGE (TM606-TM612, TM614-TM620)	EXIT NUMBER SIGN MOUNT (TM220, TM225)	ROUTE MARKER FRAME (TM678)	MILEPOST MARKER POST (TM221-TM222)	CROSSWALK CLOSURE BARRICADE (TM240)	VERTICAL SIGN MOUNTS ON EXISTING STRUCTURES	CUSTOM VARIABLE SUPPORT SECONDARY SIGN (TM676 & TM678) C 4X5.4	C 4X7.25	LENGTH	SIZE (BASED ON ESTIMATED LENGTH)	LENGTH (MUST BE FIELD VERIFIED)	LOCATION 3/	MIN. DEPTH 5/	
1	N: 192258.73, E: 325069.82	24"	18"		✓		SW				BK	✓		1													✓									3/ Edge of curb back to back with sign 1
1		24"	18"		✓		SW				BK	✓		1																					Mount back to back with 1
2a	N: 176660.21, E: 344300.54	EX	EX											2a			✓															12'	5'	3'	3/Edge of Curb, mount with signs 2b, 2c, and 2d
2b		EX	EX											2b																					mount with signs 2a, 2c, and 2d
2c		EX	EX											2c																					mount with signs 2a, 2b, and 2d
2d		EX	EX											2d																					mount with signs 2a, 2b, and 2c

1/ BK=BLACK
BL=BLUE
BR=BROWN
FY=FLUORESCENT YELLOW
G=GREEN
O=ORANGE
R=RED
RB=RED-BLUE
SW=SILVER-WHITE
W=WHITE
Y=YELLOW
YG=YELLOW-GREEN

2/ NOTE: L,C,R ARE LOCATIONS OF POSTS FACING THE SIGN.

L=LEFT POST
C=CENTER POST
R=RIGHT POST

3/ DISTANCE FROM EDGE OF TRAVEL LANE, FACE OF CURB, GUARDRAIL, OR BARRIER TO THE CENTERLINE OF FOOTING. FOR ADDITIONAL INFORMATION SEE STANDARD DRAWINGS TM601, TM602 AND TM635.

4/ NOTE: THE LOCATIONS SHOWN ARE APPROXIMATE EXCEPT FOR SPEED ZONES, SCHOOL ZONES, OBJECT MARKERS AND MILEPOST MARKERS. EXACT LOCATIONS ARE TO BE DETERMINED BY THE ENGINEER.

5/ MINIMUM DEPTH OF FOOTING FOR TRIANGULAR BASE BREAKAWAY AND MULTI-POST BREAKAWAY INSTALLATIONS IS FOR A 2' DIAMETER FOOTING. FOR ADDITIONAL INFORMATION SEE STANDARD DRAWINGS TM601 AND TM602.

Note:
1. See LA sheets for Site Locations.

HWY: VARIES
M.P.: VARIES

UNIT FILE CODE
S-22949

DFI/TSSU NO.
N/A

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LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Bishal Dhakal
Drafter: Grace Harrison
Reviewer: Edith Lopez
Checker: Arianne Mizuta

SIGN & POST DATA TABLE

SHEET NO.
LC001

GENERAL NOTES

1. *All street lighting work shall be performed in accordance with the 2020 City of Portland Standard Specifications for Construction except as noted on these plans or in the project Special Provisions.*
2. *Contractor shall contact Anastasia Roeszler, City of Portland Signals, Street Lighting, and ITS (503-865-6960, anastasia.roeszler@portlandoregon.gov) prior to construction for information concerning material submittals, and installation of buried materials such as street light conduits.*
3. *Contractor shall contact SSL electrical inspector team at (sslinspector@portlandoregon.gov), a minimum of 2 working days, prior to starting any traffic signals, street lighting, ITS, and communications work and prior to concealing any materials pertaining electrical conduit or pouring any signal pole, light pole, and service panel foundation that will be buried in soil, concrete, or CDF. Any materials or equipment concealed without prior inspection and approval is subject to rejection by the SSL electrical inspector and/or SSL engine.*
4. *Street lighting poles shall be installed behind face of curb as indicated in the street light pole schedules.*
5. *Provide one polyester pull tape rated at 1250 lbs, and one additional yellow #12 AWG wire in a all conduits. This conductor will be used as a "tracer" wire for future locating of the underground system.*
6. *Contractor is responsible for furnishing and installing all lighting materials except as noted on plans.*
7. *Contractor shall obtain an electrical permit from the Bureau of Development Services for new service installation.*
8. *Contractor is responsible for maintaining adequate lighting of work zone.*
9. *City reserves the right to require the contractor to provide additional temporary lighting if additional lighting is determined to be necessary to adequately illuminate the work zone area, or additional areas in which lighting has been affected by the work zone area.*
10. *Poured in place foundations shall be poured against native earth conditions. if the foundation is over excavated, the entire area of over excavation shall be backfilled with concrete when the foundation is poured. Cylindrical type framing will not be accepted unless unstable earth conditions require it, and then only at the discretion of the engineer or inspector. When cylindrical framing is required, the framing shall be constructed from a section of steel culvert or approved equivalent. No paper sonotube products will be accepted for use on foundations for street lighting projects.*
11. *A minimum of 25 ft spacing is to be maintained between street lights and trees unless approved otherwise by the City street lighting section.*
12. *Contractor shall coordinate with design consultant to submit as-built drawings in CAD format (.DWG or .DGN) and hard copy at the completion of the project.*
13. *Location of the existing utilities are approximate. Exact locations shall be verified prior to excavation.*
14. *All street lighting equipment, conduits and foundations shall be located in the street right-of-way.*
15. *All street lighting work must be performed by a licensed electrical contractor.*
16. *Contractor shall be responsible for all coordination with utility company.*
17. *Contractor shall be responsible for cost to repair or replace any existing street lighting equipment lost or damaged as a result of this project.*
18. *See illumination details:*
    PB001: Street Lighting Service Cabinet Details
    PB002: Pull Box Type A & B Details
    PC001: Street Lighting Pole Wiring Diagram

L E G E N D

P O L E S

- EX / UP — *Retain and protect existing utility pole*
- EX / LP — *Retain and protect existing illumination pole and appurtenances*
- RX / LP — *Remove existing illumination pole and appurtenances (See Special Provisions)*
- RX / FN — *Remove existing light pole foundation*
- RI / LP — *Reinstall existing illumination pole on new light pole foundation and appurtenances*
- N — *Illumination pole (N=number). See Light Pole Table on this sheet.*

C A B I N E T S

- PAN / S — *Install Panel (S) Type. See sheet PB001.*
- PS / 2 — *Power source for 120/ 240 volt, single phase (field locate)*

J U N C T I O N B O X E S

- RX / JB — *Remove existing junction box*
- JB / A — *Install PBOT type "A" pull box. See sheet PB002.*
- JB / B — *Install PBOT type "B" pull box. See sheet PB002.*
- JB / IC — *Install new pull box and intercept existing conduit and wiring.*
- UJB / COP — *Install 17" x 30" PGE approved utility junction box with "COP Electric" text on lid.*

C O N D U I T S

- RX / EC — *Remove existing electrical conduit*
- EX / EC — *Retain and protect existing electrical conduit*
- EX / S — *Retain and protect existing conduit size (S=size) inch*
- CJ — *Conduit join*
- S — *Install (S=size) inch conduit*
- HDD — *Install conduit by horizontal directional drilling, open trench not allowed*
- WH — *Install weatherhead*

W I R E S & C A B L E S

- EX / W — *Retain and protect existing wiring*
- EX / OW — *Retain and protect existing overhead wiring*
- RX / OW — *Remove existing overhead wiring*
- RX / W — *Remove existing wiring*
- N | S — *Install (N=number) No. (S=AWG wire size) XHHW wires*
- N | ST — *Install (N=number) No. (S=AWG wire size) triplex aerial wire*
- G / N — *Install one No. (N=AWG wire size) copper ground wire (GREEN in color)*
- SP / W — *Splice new wiring to existing wiring*

LIGHT POLE TABLE

POLE NO.	NORTHING/EASTING	DISTANCE FROM FACE OF CURB	ARM LENGTH (ft.)	BASE TYPE	LUMINAIRE					MOUNTING HEIGHT (ft.)
					LAMP	LINE VOLT	LUMENS	WATTS	TYPE	
Ex. PBOT Pole #32	N: 176616.03; E: 344295.97	10.0	EX	EX	EX	EX	EX	EX	EX	EX
1	N: 177338.16; E: 344884.35	4.0	EX	Fixed	EX	EX	EX	EX	EX	EX

EX = Existing
LED = Light Emitting Diode

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RENEWS: 12-31-2026

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M.P.: VARIES
UNIT FILE CODE: I-03735
DFI/TSSU NO.: N/A

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LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

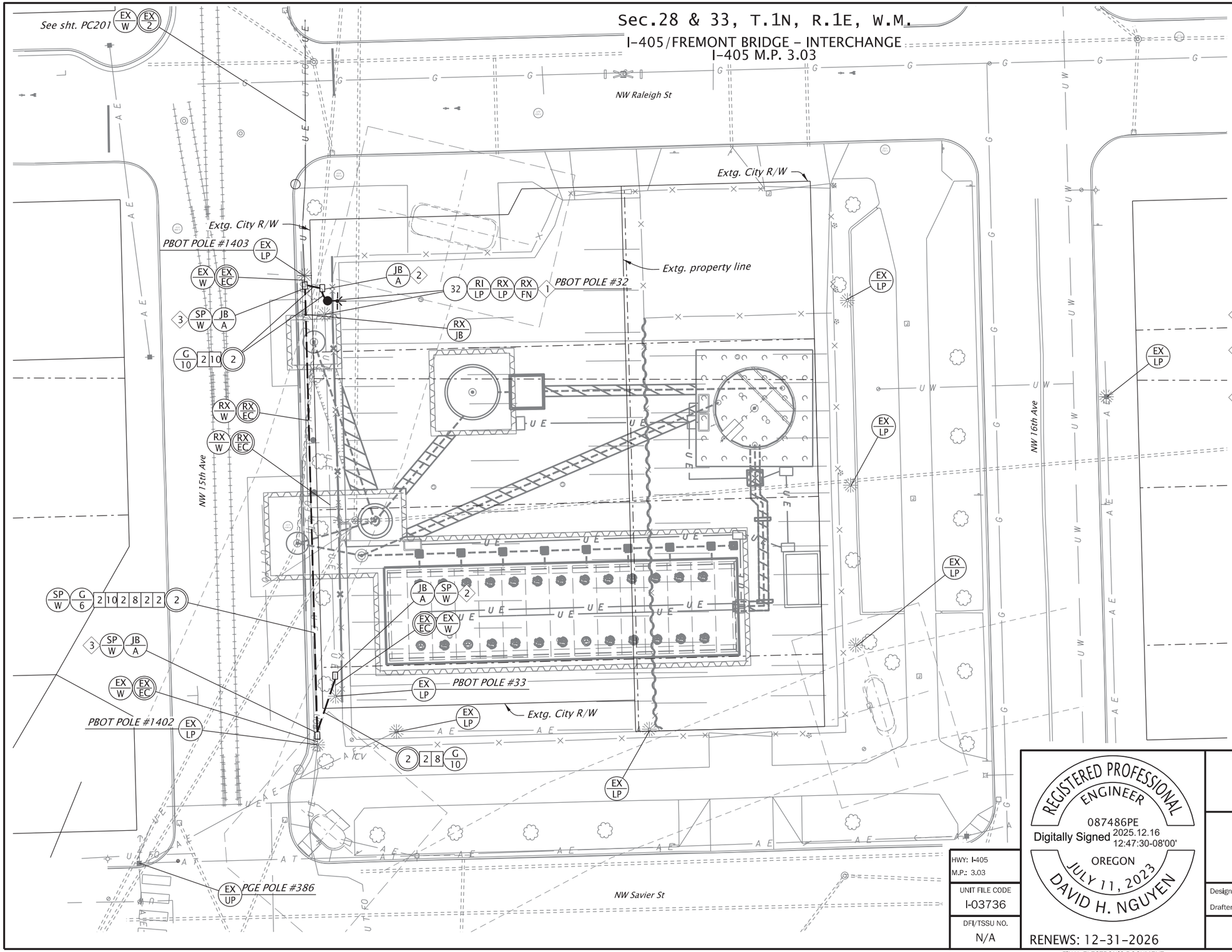
Designer: David Nguyen | Reviewer: Lawrence Guan
Drafter: James Burke | Checker: Lawrence Guan

ILLUMINATION LEGEND AND LIGHT POLE TABLE

SHEET NO. PA001

Sec.28 & 33, T.1N, R.1E, W.M.

I-405/FREMONT BRIDGE - INTERCHANGE
I-405 M.P. 3.03



General Notes:

1. PBOT street light ID numbers provided by City Street Light System GIS , accessed July 8, 2025. PBOT to confirm ID numbers prior to PWP approval.
2. PGE ID numbers provided by PGE, GIS accessed July 17, 2025. See PGE work order M5822500.
3. Contractor to verify street light and power pole ID numbers with PBOT and PGE prior to beginning work.
4. See sheet PA001 for legend.

CONSTRUCTION NOTES

1. *Reinstall pole before stormwater construction impacts.*
2. *Locate and intercept existing parking lot lighting conduit with new junction box.*
3. *Locate and intercept existing illumination conduit with new junction box.*

HWY: I-405
M.P.: 3.03

UNIT FILE CODE
I-03736

DFI/TSSU NO.
N/A

REGISTERED PROFESSIONAL ENGINEER
087486PE
Digitally Signed 2025.12.16 12:47:30-08'00'
OREGON
JULY 11, 2023
DAVID H. NGUYEN
RENEWS: 12-31-2026

WSP USA Inc.
1300 SW 5th Ave
Suite 3100
Portland, OR 97201
Tel: 1 503 274 8772

OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: David Nguyen
Reviewer: Lawrence Guan
Drafter: James Burke
Checker: Lawrence Guan

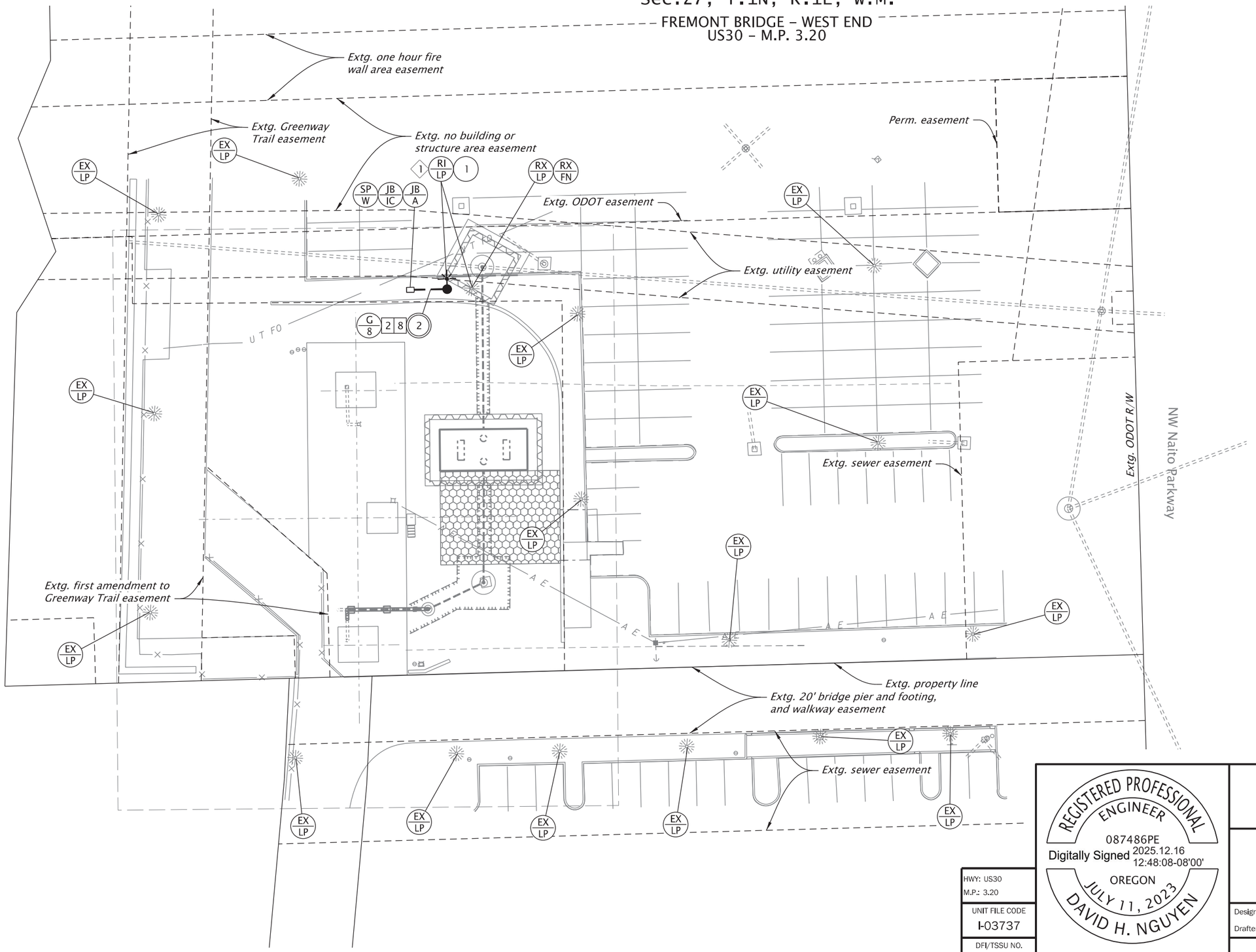
ILLUMINATION PLAN

SHEET NO.
PA201

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

Sec.27, T.1N, R.1E, W.M.

FREMONT BRIDGE – WEST END
US30 – M.P. 3.20



General Notes:

1. Contractor to de-energize and lock-out existing lighting circuit. Work with owner to locate power source.
2. Maintain operation of other parking lot lights during construction.
3. Contractor to verify underground utilities and adjust new light pole foundation shown to avoid conflicting with underground utilities.
4. See sheet PA001 for legend.

CONSTRUCTION NOTES

◇1 *Provide new foundation to match existing including bolt circle dimensions.*

REGISTERED PROFESSIONAL ENGINEER
087486PE
Digitally Signed 2025.12.16 12:48:08-08'00'
OREGON
JULY 11, 2023
DAVID H. NGUYEN
RENEWS: 12-31-2026

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

WSP USA Inc.
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Portland, OR 97201
Tel: 1 503 274 8772

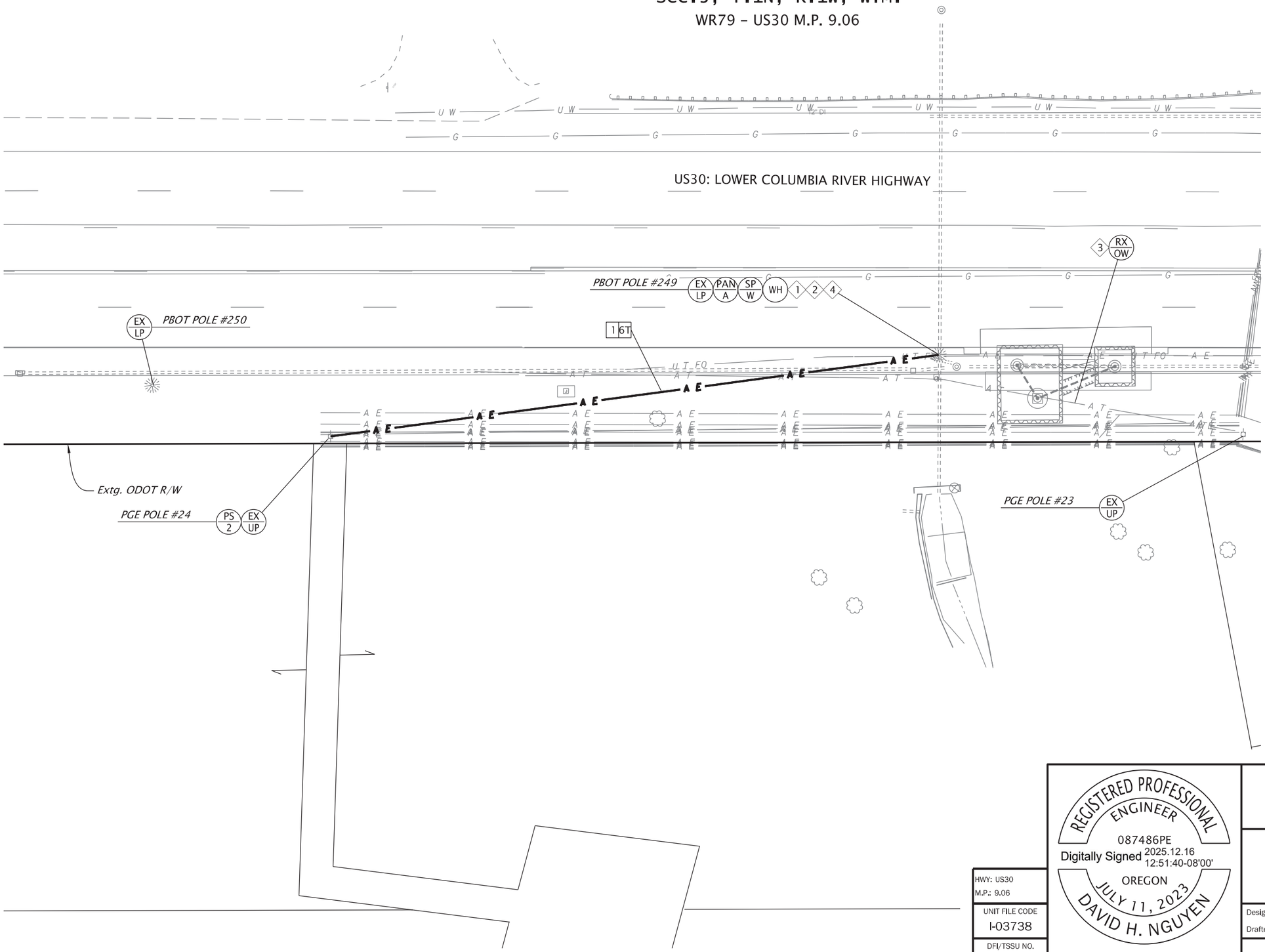
OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

HWY: US30	
M.P.: 3.20	
UNIT FILE CODE	I-03737
DFI/TSSU NO.	N/A
Designer: David Nguyen	Reviewer: Lawrence Guan
Drafter: James Burke	Checker: Lawrence Guan
ILLUMINATION PLAN	SHEET NO. PA301

Sec.3, T.1N, R.1W, W.M.

WR79 - US30 M.P. 9.06



General Notes:

1. PBOT street light ID numbers provided by City Street Light System GIS , accessed July 8, 2025. PBOT to confirm ID numbers prior to PWP approval.
2. PGE ID numbers provided by PGE, GIS accessed July 17, 2025. See PGE work order M5822500.
3. Contractor to verify street light and power pole ID numbers with PBOT and PGE prior to beginning work.
4. See sheet PA001 for legend.

CONSTRUCTION NOTES

1. *Coordinate with Daniel Sapp at PGE at 971-533-6526 for service connection.*
2. *Install new conduit riser on pole.*
3. *Remove overhead electrical wiring to PBOT Pole #249.*
4. *Remove existing pole mounted service panel, conduit riser, wiring, and appurtenances.*

N

30 15 0 30
FEET

HWY: US30
M.P.: 9.06

UNIT FILE CODE
I-03738

DFI/TSSU NO.
N/A

REGISTERED PROFESSIONAL ENGINEER
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DAVID H. NGUYEN
RENEWS: 12-31-2026

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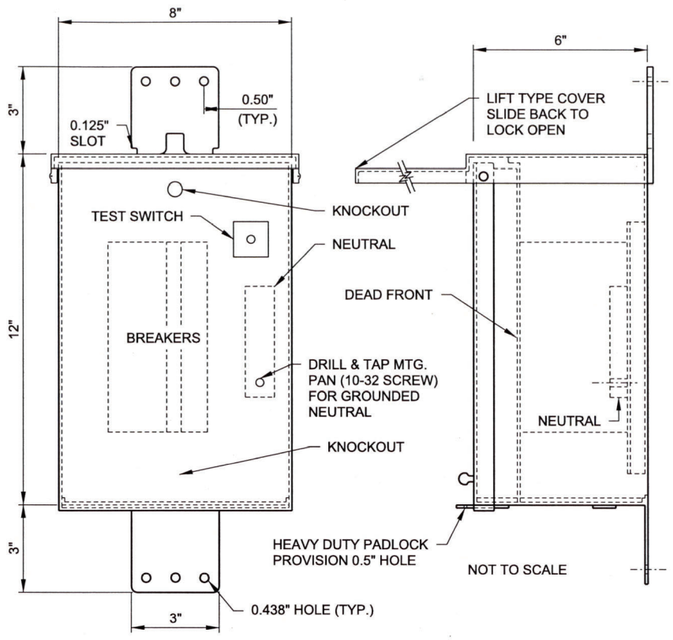
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WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: David Nguyen
Drafter: James Burke
Reviewer: Lawrence Guan
Checker: Lawrence Guan

ILLUMINATION PLAN

SHEET NO.
PA611



NOTES :
1. CABINET SHALL BE FABRICATED FROM 14 GAUGE, 304 STAINLESS STEEL, SPOT-WELDED CONSTRUCTION. #4 FINISH. ALL WELDS SHALL BE THOROUGHLY CLEANED. CABINET SHALL BE DEAD-FRONT CONSTRUCTION. DEAD-FRONT SHALL BE FABRICATED FROM 14 GAUGE STAINLESS STEEL. NO ELECTRICAL EQUIPMENT SHALL BE ATTACHED TO THE DEAD-FRONT PANEL.
2. WHEN SPECIFIED, THE EXTERIOR OF THE CABINET SHALL BE PAINT WITH WASSER PAINT TO MATCH COLOR ON POLES.
3. CABINET SHALL BE U.L. LISTED FOR USE AS SERVICE EQUIPMENT AND SHALL BE RATED 3R. CIRCUIT BREAKERS SHALL BE G.E. TYPE TEB, 240VOLT, 2-POLE OR 120 VOLT, 1-POLE, AS REQUIRED. ALL INTERNAL WIRING, EXCEPT FIELD WIRES, SHALL BE DONE BY A U.L. LISTED FACILITY. ALL SCREWS SHALL BE STAINLESS STEEL.

LIGHTING SERVICE CABINET-TYPE "A"

REGISTERED PROFESSIONAL ENGINEER
087486PE
Digitally Signed 2025.11.12 15:42:40-08'00'
OREGON
JULY 11, 2023
DAVID H. NGUYEN
RENEWS: 12-31-2026

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OREGON DEPARTMENT OF TRANSPORTATION

HWY: VARIES
M.P.: VARIES

UNIT FILE CODE
I-03748

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N/A

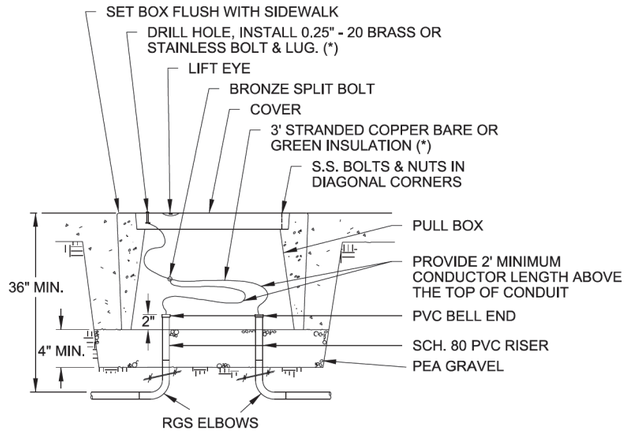
WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: David Nguyen
Reviewer: Lawrence Guan
Drafter: James Burke
Checker: Lawrence Guan

ILLUMINATION DETAILS

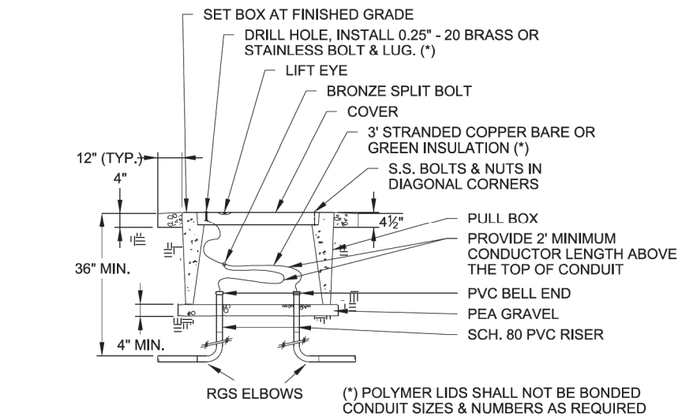
SHEET NO.
PB001

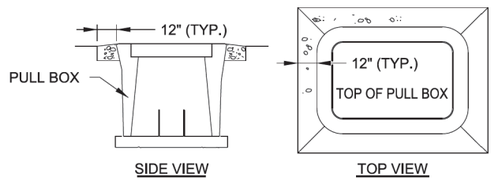
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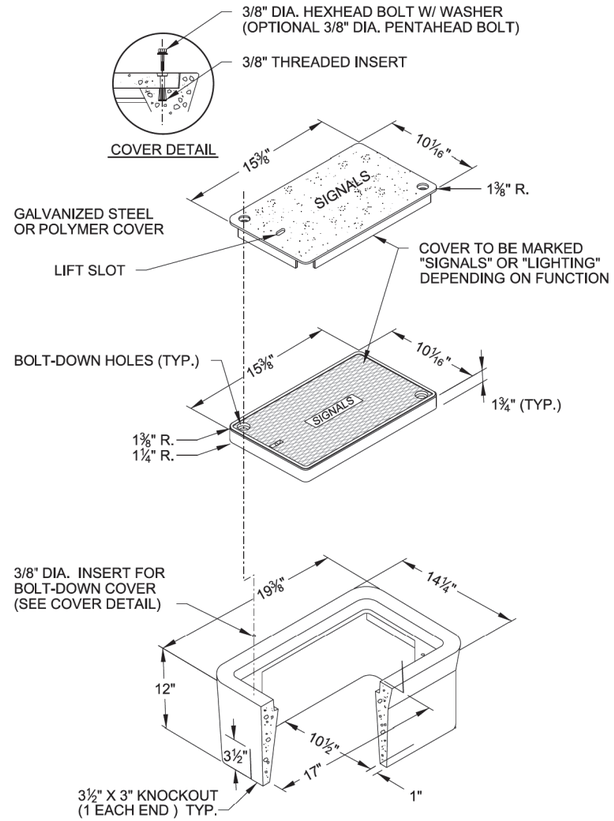
CONDUIT SIZES & NUMBERS AS REQUIRED
(*) POLYMER LIDS SHALL NOT BE BONDED

SIDEWALK PULL-BOX TYPICAL INSTALLATION

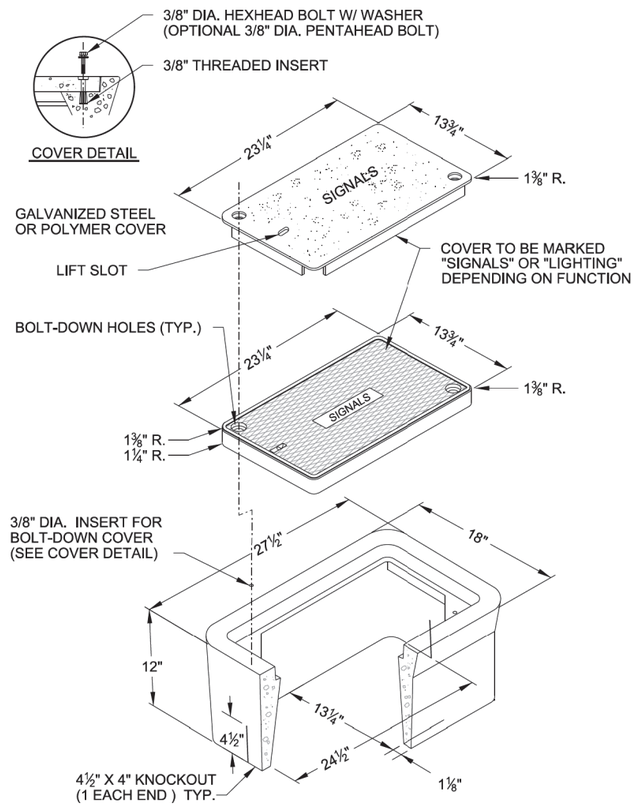




PULL-BOX OUTSIDE OF SIDEWALK TYPICAL INSTALLATION



TYPE "A" PULL BOX



TYPE "B" PULL BOX

NOT TO SCALE

HWY: VARIES	
M.P.: VARIES	
UNIT FILE CODE	I-03749
DFI/TSSU NO.	N/A

REGISTERED PROFESSIONAL ENGINEER
087486PE
Digitally Signed 2025.11.12 15:43:03-08'00'
OREGON
JULY 11, 2023
DAVID H. NGUYEN
RENEWS: 12-31-2026

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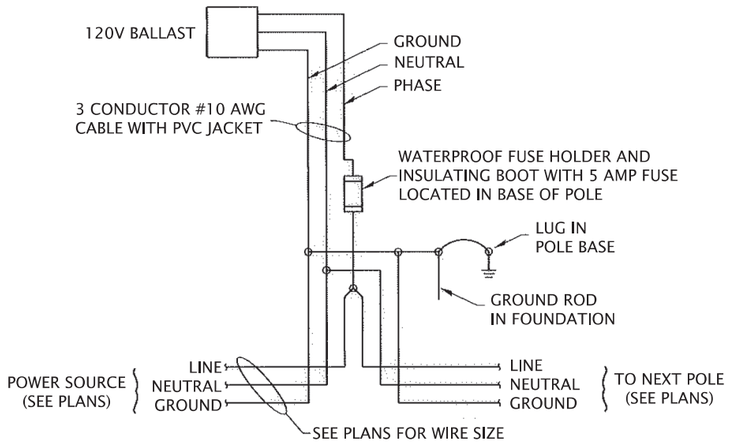
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Portland, OR 97201
Tel: 1 503 274 8772

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

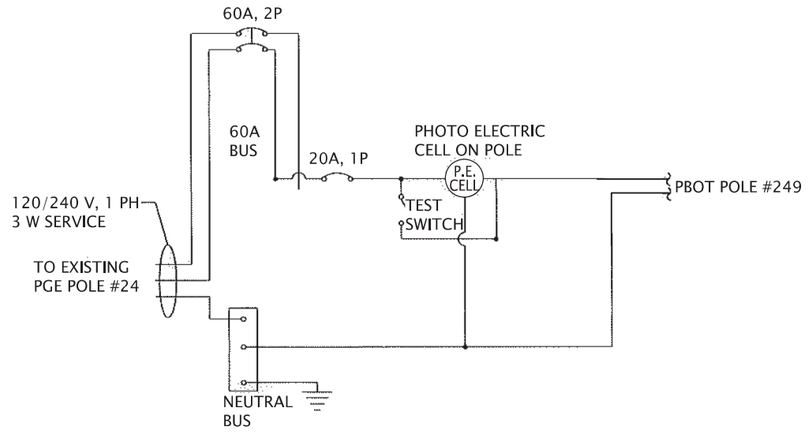
Designer: David Nguyen | Reviewer: Lawrence Guan
Drafter: James Burke | Checker: Lawrence Guan

ILLUMINATION DETAILS

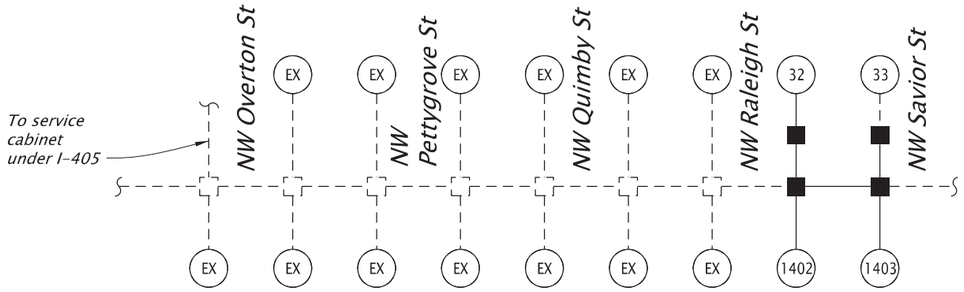
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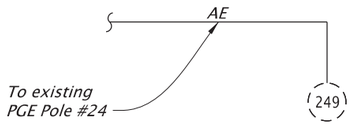
SCHEMATIC - SINGLE 120V LUMINAIRE LIGHT POLE WIRING



SCHEMATIC - TYPE "A" ROADWAY LIGHTING PANEL A US30: LOWER COLUMBIA RIVER HWY, M.P. 9.06



ONE-LINE DIAGRAM NW 15TH AVE AND NW SAVIER ST



ONE-LINE DIAGRAM WR79 - US30 M.P. 9.06

CIRCUIT WIRING DIAGRAM LEGEND

- *Existing pull box*
- *New pull box*
- (#) *Pole number*
- *Existing conduit/wiring*
- *New conduit/wiring*

REGISTERED PROFESSIONAL ENGINEER
087486PE
Digitally Signed 2025.11.12 16:05:45-08'00'
OREGON
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DAVID H. NGUYEN
RENEWS: 12-31-2026

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

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Portland, OR 97201
Tel: 1 503 274 8772

HWY: VARIES
M.P.: VARIES

UNIT FILE CODE
I-03750

DFI/TSSU NO.
N/A

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: David Nguyen
Reviewer: Lawrence Guan
Drafter: James Burke
Checker: Lawrence Guan

WIRING DIAGRAM

SHEET NO.
PC201

LEGEND

EX BS	*Retain and protect extg. bike lane standard stencil (white)*
EX LA	*Retain and protect extg. left turn arrow (white)*
EX LSA	*Retain and protect extg. left turn straight arrow (white)*
EX PAV MARKING	*Retain and protect extg. longitudinal or transverse pavement marking*
EX RA	*Retain and protect extg. right turn arrow (white)*
EX RR	*Retain and protect extg. railroad crossing*
W	*Inst. 4" white line*
W-2	*Inst. 8" white line*
WB	*Inst. 4" white broken line*
E-LA	*Inst. elongated left turn arrow (white)*
D	*Inst. double no-pass two 4" yellow lines*
S	*Inst. stop bar 1' white bar*
S-2	*Inst. stop bar - large 2' white bar*
TWL	*Inst. two-way left turn 4" yellow lines*
W-2 / R-20L	*Inst. channelizing line positioning guide reflectors with 8" white line*
WB / R-40	*Inst. white broken line supplementation reflectors with 4" white broken line*
WD	*Inst. 4" white dotted line*
D / R-20	*Inst. double no-pass positioning guide reflectors with two 4" yellow lines*
ND / R-20	*Inst. narrow double yellow positioning guide reflectors with two 4" yellow lines*
ND / R-40	*Inst. narrow double yellow positioning guide reflectors with two 4" yellow lines*
TWL / R-40	*Inst. two-way left turn positioning guide reflectors with 4" yellow lines*
Y / R-20	*Inst. yellow line positioning guide reflectors with 4" yellow line*
BLE-G	*Inst. green supplemental bicycle lane dotted line extension (green)*
BS	*Inst. bike lane standard stencil (white)*
D	*Inst. double no-pass two 4" yellow lines*
TM	*Inst. transverse median bars 1' yellow bars at 20' spacing*

STANDARD DRAWINGS

■	TM500	Pavement Marking Standard Detail Blocks
■	TM501	Pavement Marking Standard Detail Blocks
■	TM502	Pavement Marking Standard Detail Blocks
■	TM503	Pavement Marking Standard Detail Blocks
■	TM504	Pavement Marking Standard Detail Blocks
□	TM505	Rail Crossing Pavement Markings
■	TM515	Pavement Markers
□	TM516	Raised Pavement Markers: Freeway Median Crossover
□	TM517	Recessed Pavement Markers
■	TM520	Durable Pavement Markings Method 'A' & Method 'D' Surface Installed Profiled
□	TM521	Durable & High Performance Pavement Markings Surface & Groove Installed Non-Profiled
■	TM530	Intersection Pavement Markings (Crosswalk, Stop Bar & Bike Lane Stencil)
■	TM531	Turn Arrow Marking Details
■	TM539	Median And Left Turn Channelization Details
□	TM547	Freeway Entrance Ramp Pavement Markings
□	TM551	Freeway Exit Ramp Pavement Markings
□	TM560	Alignment Layout: General
□	TM561	Alignment Layout: Left Turn Lane, Centerline & Medians
□	TM570	Traffic Delineators
□	TM571	Traffic Delineators Steel Post Details
□	TM575	Traffic Delineator Installation For Freeways
□	TM576	Traffic Delineator Installation For Non-Freeways
□	TM577	Traffic Delineator Installation For Special Applications

General Notes:

1. All pavement markings shall be installed per Section 00850 of the latest version of the ODOT Standard Specifications.

2. Match points to existing striping and northing and easting call-outs are approximate and shall be field verified.

3. Dimensions shown are approximate. contractor to field verify coordinates and dimensions of existing pavement markings shown on the plans, including start and end of existing markings that will be replaced and existing lane widths prior to commencing work that will damage the existing pavement markings. For longitudinal markings along a curved alignment, contractor shall obtain coordinates along the existing markings at 25-foot intervals. Contractor shall use verified coordinates and dimensions to lay out control points for the new pavement marking installation. All pavement markings shall be approved in the field by the Engineer.

4. All legends, bars, and transverse pavement markings shall be Type B-HS: Preformed, Fused Thermoplastic Film High Skid per Section 00867 of the latest version of the ODOT Standard Specifications.

5. Longitudinal pavement marking on US30 shall be Method A: Thermoplastic, Extruded, Surface, Profiled per Section 00865 of the latest version of the ODOT Standard Specifications.

6. Raised pavement markings shall be Mono-Directional White Type 1AR Markers and Bi-Directional Yellow Type 1AR Markers per Section 00855 of the latest version of the ODOT Standard Specifications.

REGISTERED PROFESSIONAL ENGINEER
087486PE
Digitally Signed 2025.11.12 15:43:36-08'00'
OREGON
JULY 11, 2023
DAVID H. NGUYEN
RENEWS: 12-31-2026

WSP USA Inc.
1300 SW 5th Ave
Suite 3100
Portland, OR 97201
Tel: 1 503 274 8772

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: David Nguyen | Reviewer: Edith Lopez
Drafter: Grace Harrison | Checker: Arianne Mizuta

PAVEMENT MARKING LEGEND

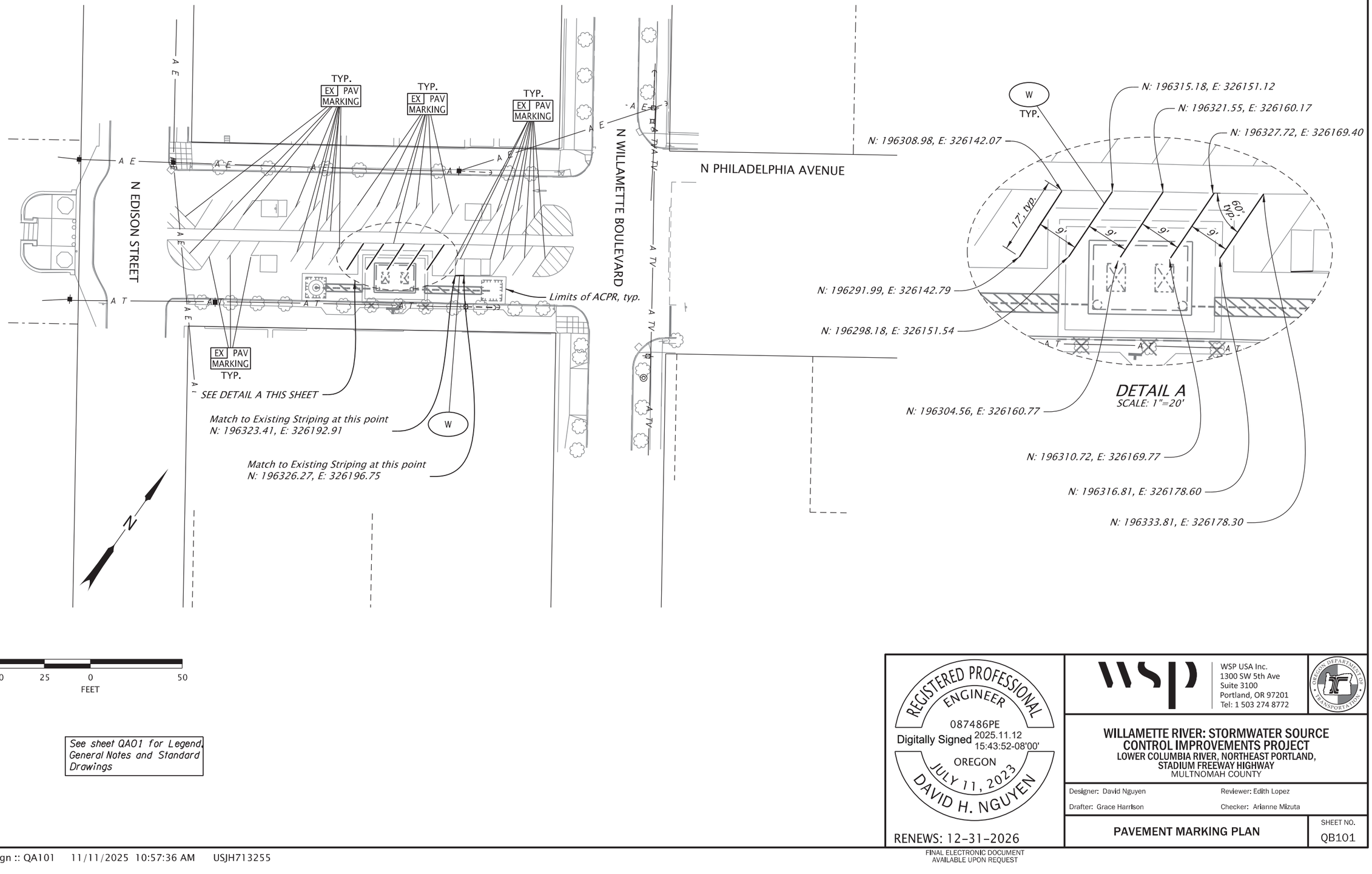
SHEET NO. QA01

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

59V-002

Sec.12, T.1N, R.1W, W.M.

ST. JOHNS BRIDGE – EAST END
US30 BYPASS – M.P. 1.23



See sheet QA01 for Legend, General Notes and Standard Drawings

REGISTERED PROFESSIONAL ENGINEER
087486PE
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OREGON
JULY 11, 2023
DAVID H. NGUYEN
RENEWS: 12-31-2026

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OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: David Nguyen | Reviewer: Edith Lopez
Drafter: Grace Harrison | Checker: Arianne Mizuta

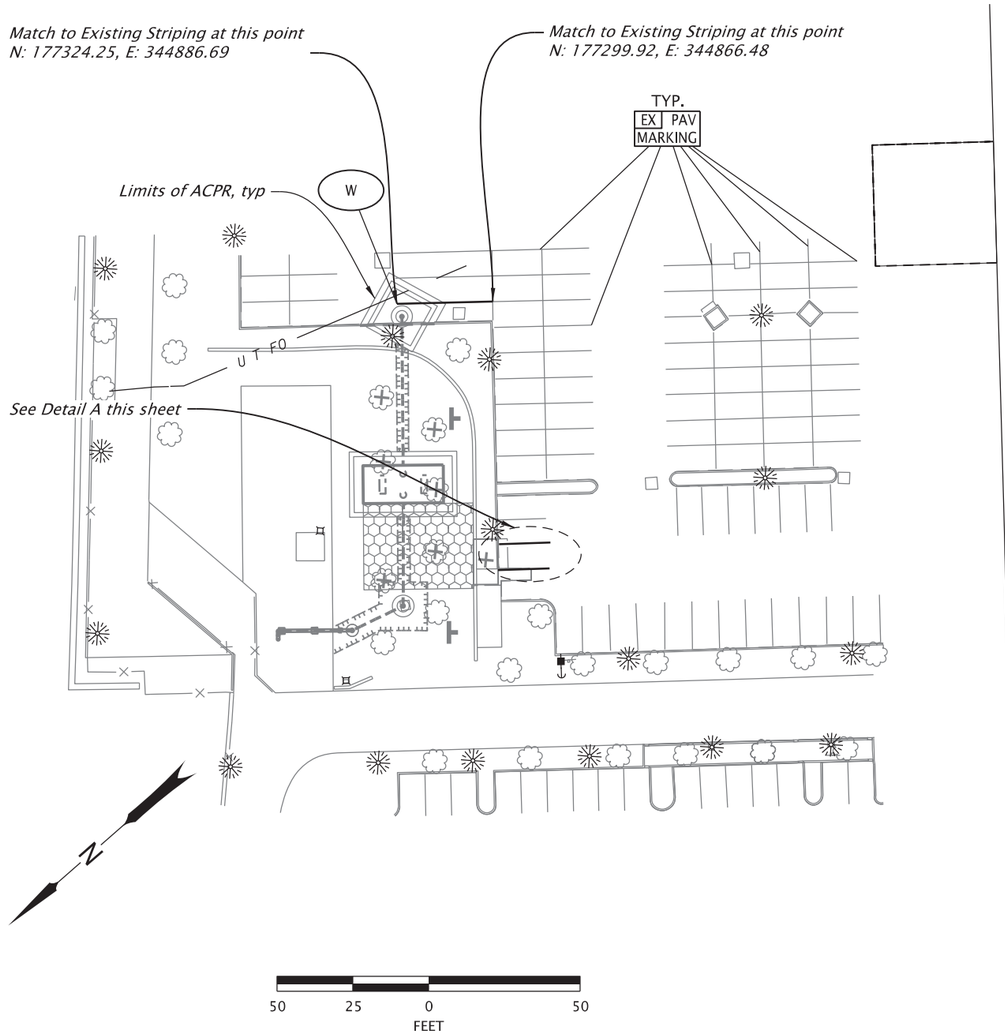
PAVEMENT MARKING PLAN

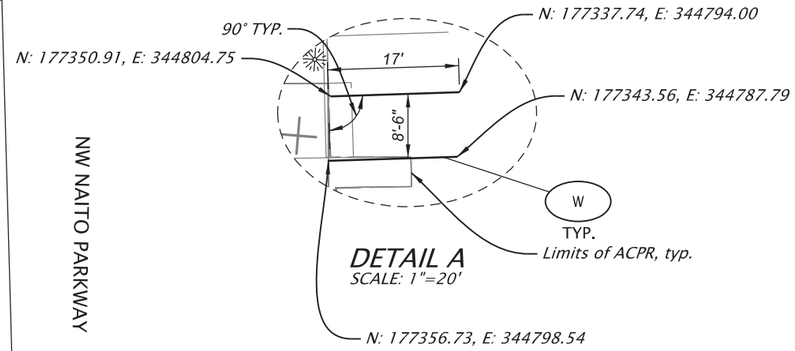
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FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

Sec.27, T.1N, R.1E, W.M.

FREMONT BRIDGE – WEST END
US30 – M.P. 3.20





DETAIL A
SCALE: 1"=20'

See sheet QA01 for Legend, General Notes and Standard Drawings

REGISTERED PROFESSIONAL ENGINEER
087486PE
Digitally Signed 2025.11.12 15:44:10-08'00'
OREGON
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RENEWS: 12-31-2026

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OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: David Nguyen
Reviewer: Edith Lopez
Drafter: Grace Harrison
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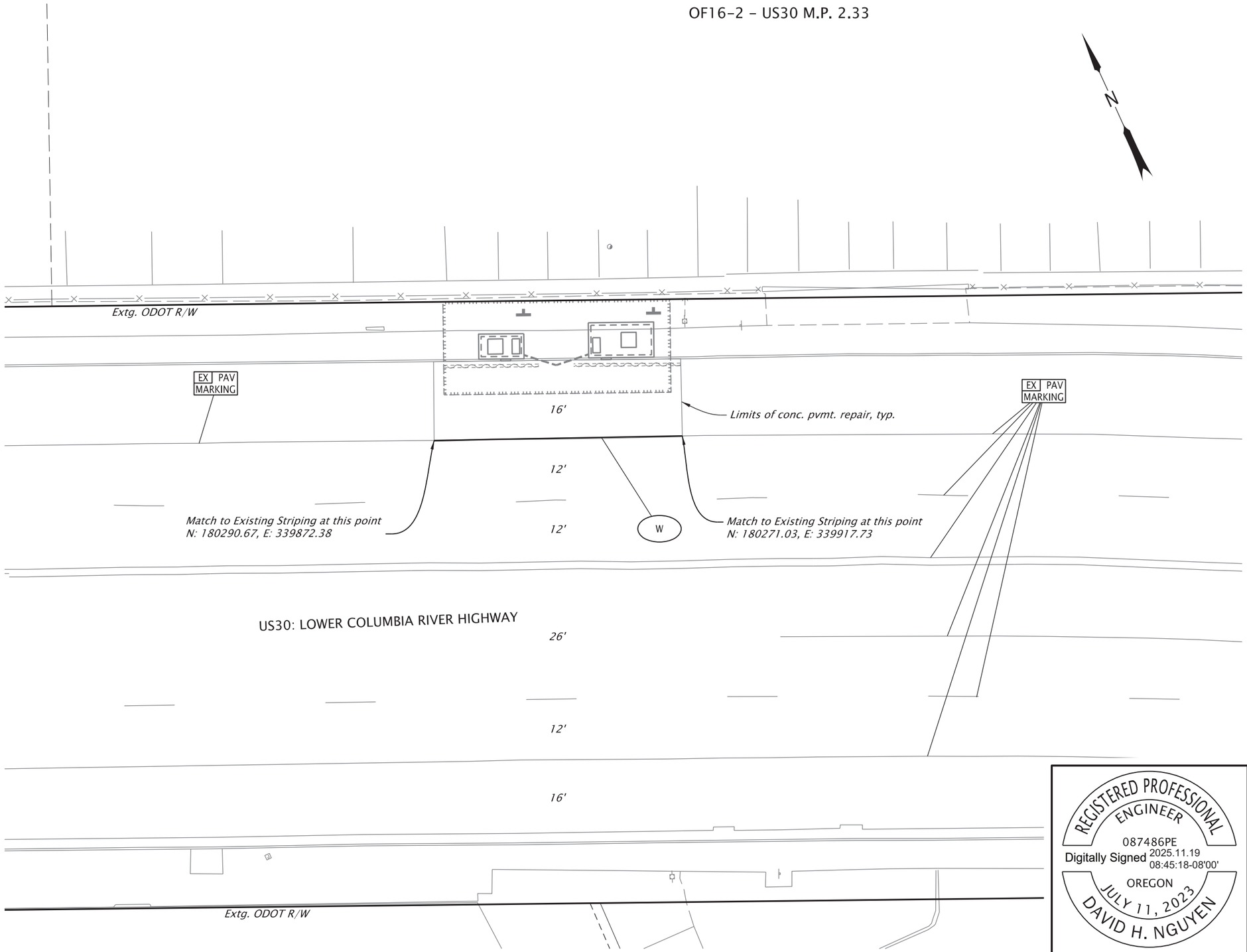
PAVEMENT MARKING PLAN

SHEET NO.
QB301

59V-002

Sec.29, T.1N, R.1E, W.M.

OF16-2 - US30 M.P. 2.33



20 10 0 20

FEET

See sheet QA01 for Legend, General Notes and Standard Drawings

REGISTERED PROFESSIONAL ENGINEER
087486PE
Digitally Signed 2025.11.19 08:45:18-08'00'
OREGON
JULY 11, 2023
DAVID H. NGUYEN

RENEWS: 12-31-2026

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Tel: 1 503 274 8772

OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT

LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY

MULTNOMAH COUNTY

Designer: David Nguyen | Reviewer: Edith Lopez

Drafter: Grace Harrison | Checker: Arianne Mizuta

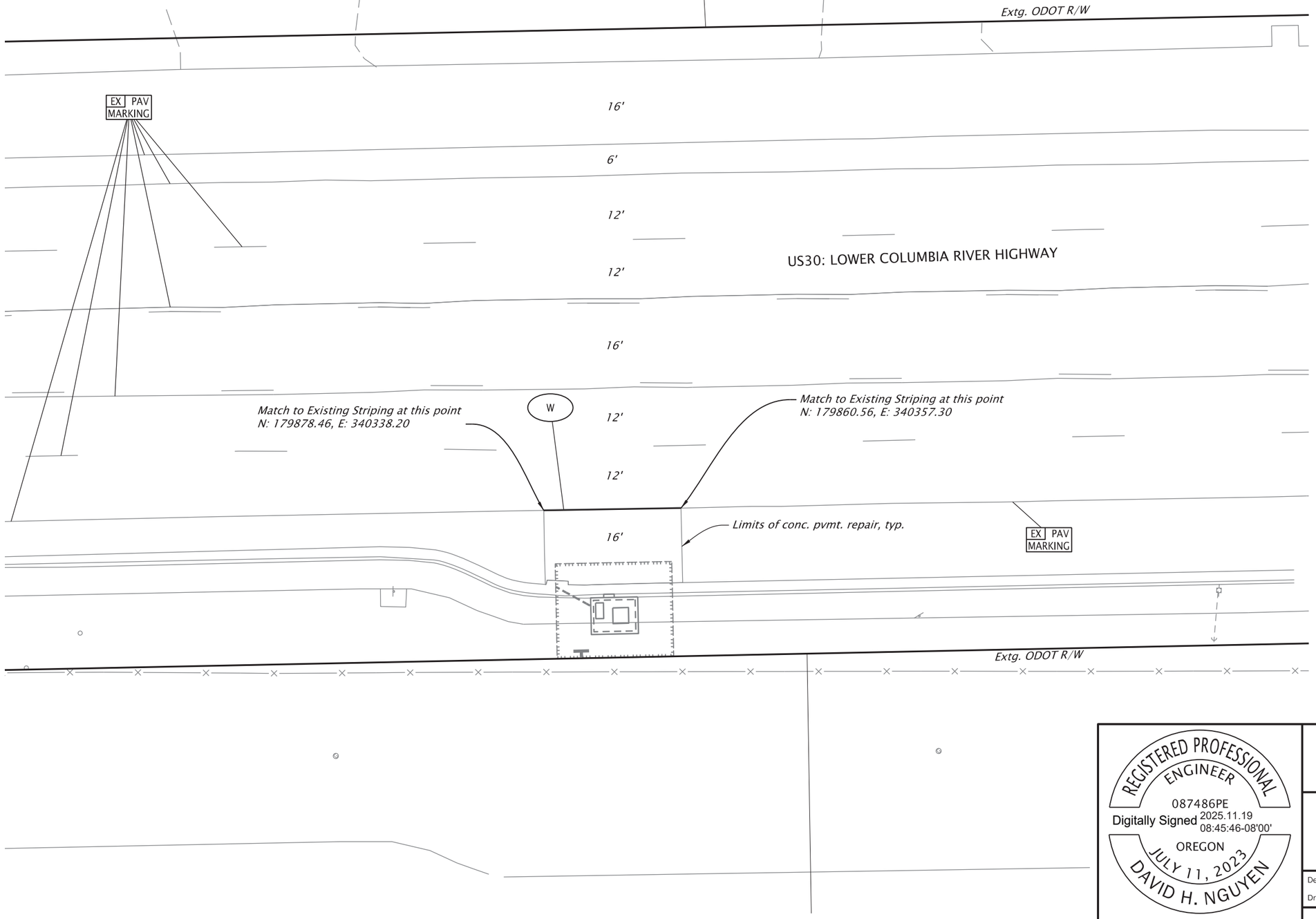
PAVEMENT MARKING PLAN

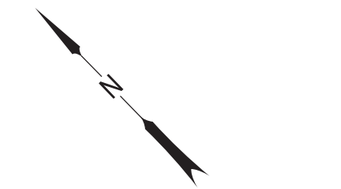
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59V-002

Sec.29, T.1N, R.1E, W.M.

OF16-3 – US30 M.P. 2.21





See sheet QA01 for Legend, General Notes and Standard Drawings

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087486PE
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OREGON
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RENEWS: 12-31-2026

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WSP USA Inc.
1300 SW 5th Ave
Suite 3100
Portland, OR 97201
Tel: 1 503 274 8772

OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT

LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

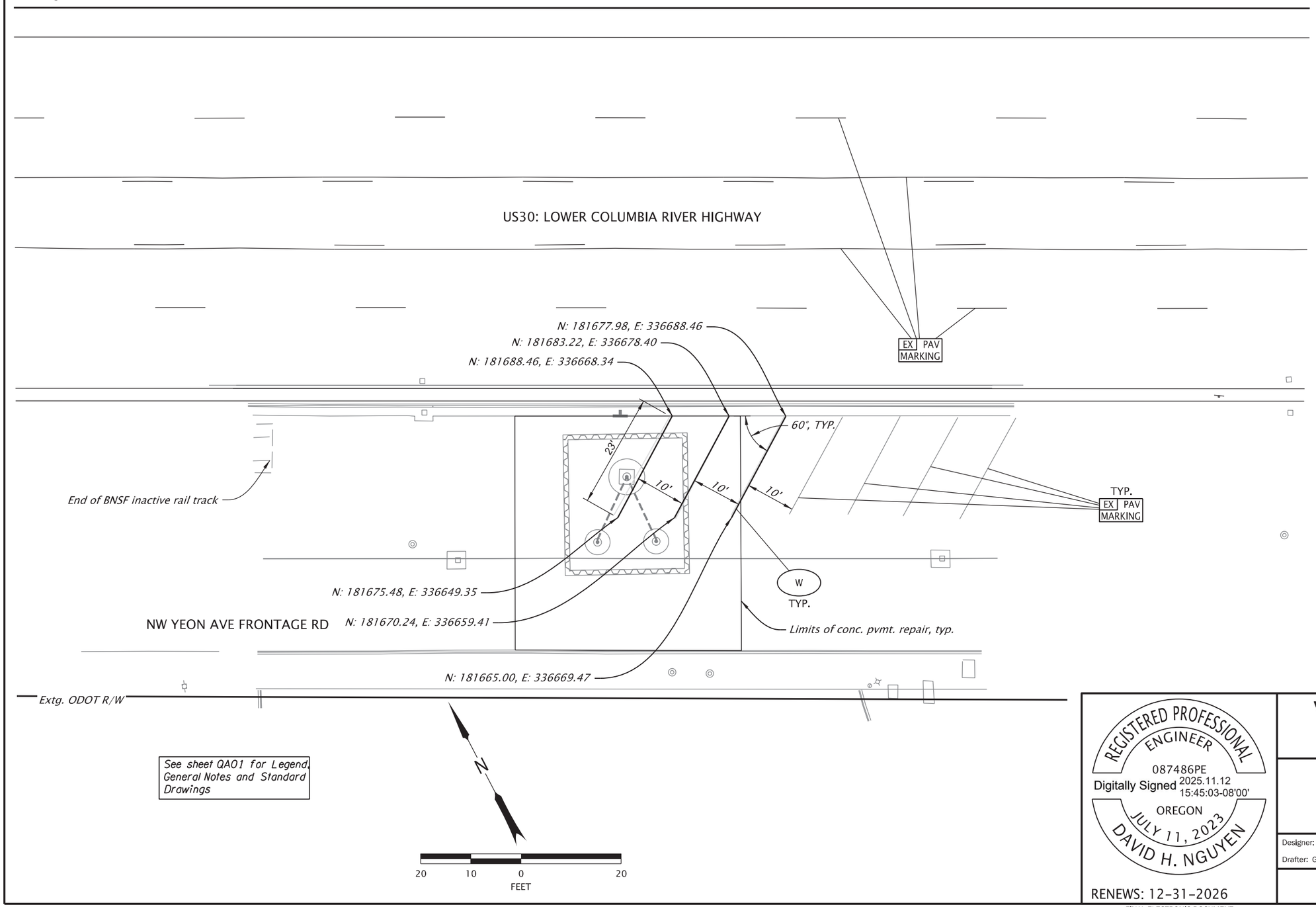
Designer: David Nguyen
Reviewer: Edith Lopez
Drafter: Grace Harrison
Checker: Arianne Mizuta

PAVEMENT MARKING PLAN

SHEET NO. QB503

Sec.20, T.1N, R.1E, W.M.

OF18-2 - US30 M.P. 3.00



REGISTERED PROFESSIONAL ENGINEER
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OREGON
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DAVID H. NGUYEN

RENEWS: 12-31-2026

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OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

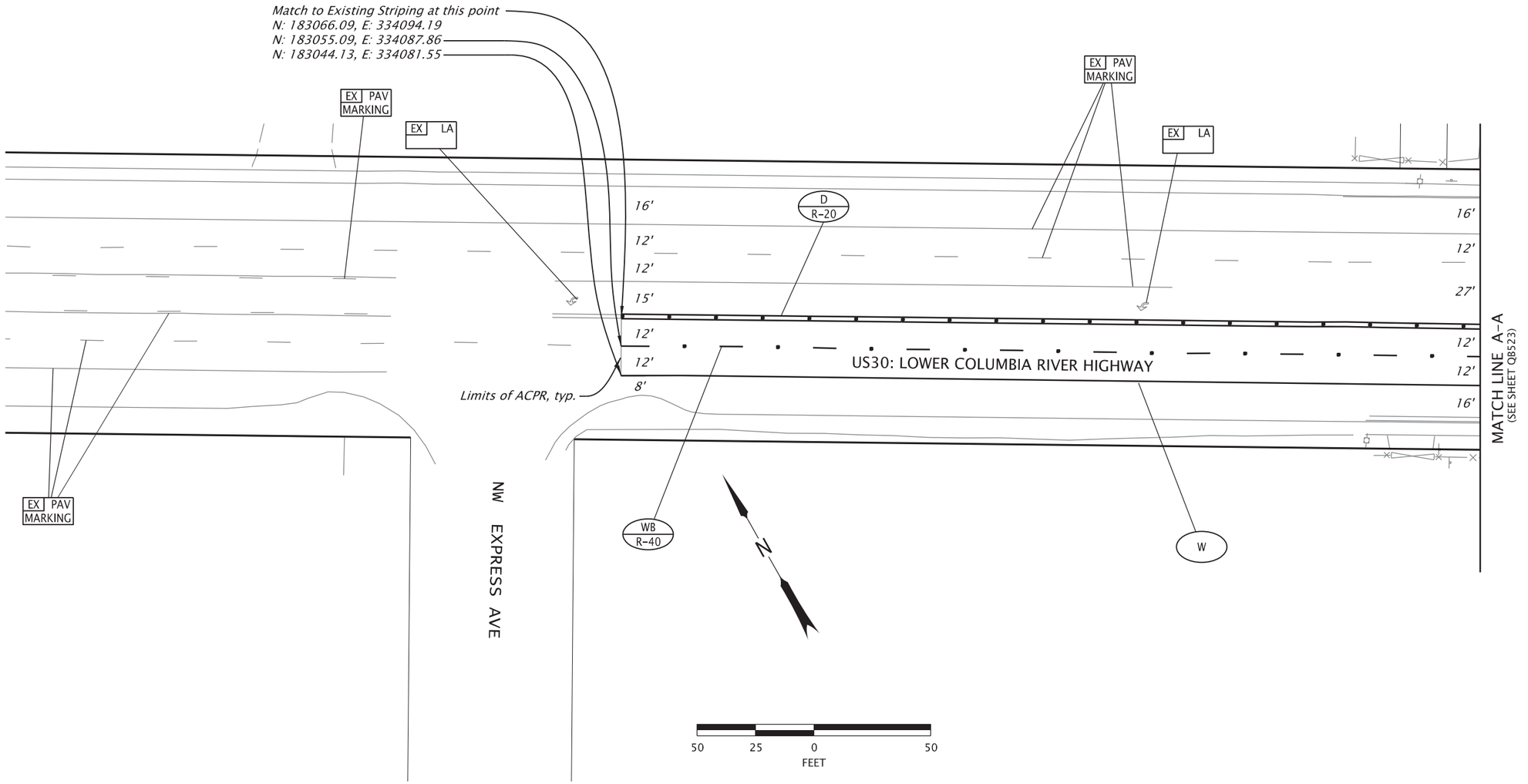
Designer: David Nguyen | Reviewer: Edith Lopez
Drafter: Grace Harrison | Checker: Arianne Mizuta

PAVEMENT MARKING PLAN

SHEET NO. QB521

Sec.20, T.1N, R.1E, W.M.

OF18-1 - US30 M.P. 3.46



See sheet QA01 for Legend, General Notes and Standard Drawings

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RENEWS: 12-31-2026

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WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT

LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY

MULTNOMAH COUNTY

Designer: David Nguyen | Reviewer: Edith Lopez

Drafter: Grace Harrison | Checker: Arianne Mizuta

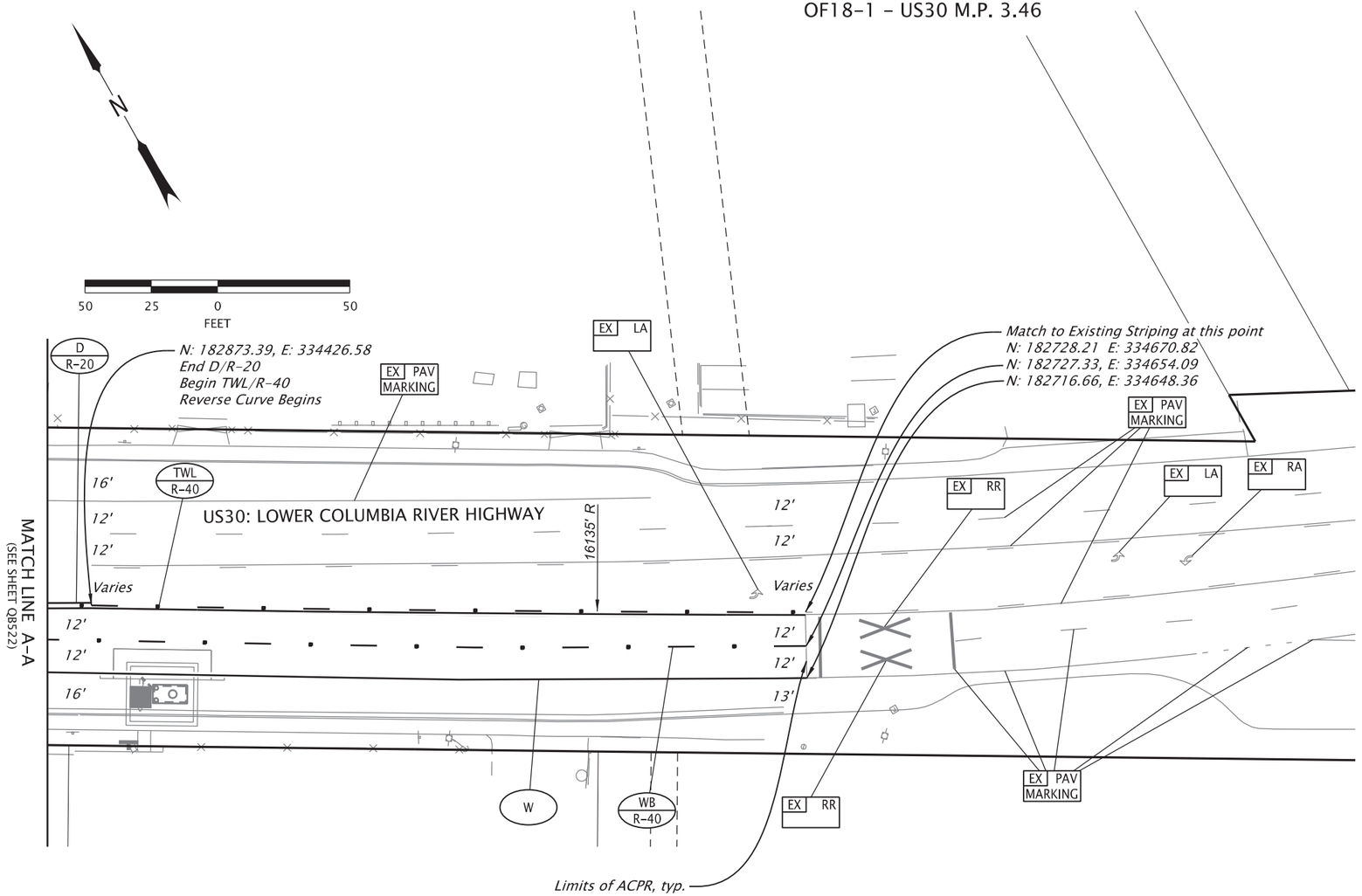
PAVEMENT MARKING PLAN

SHEET NO. QB522

59V-002

Sec.20, T.1N, R.1E, W.M.

OF18-1 - US30 M.P. 3.46



See sheet QA01 for Legend, General Notes and Standard Drawings

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WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT

LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY

MULTNOMAH COUNTY

Designer: David Nguyen | Reviewer: Edith Lopez

Drafter: Grace Harrison | Checker: Arianne Mizuta

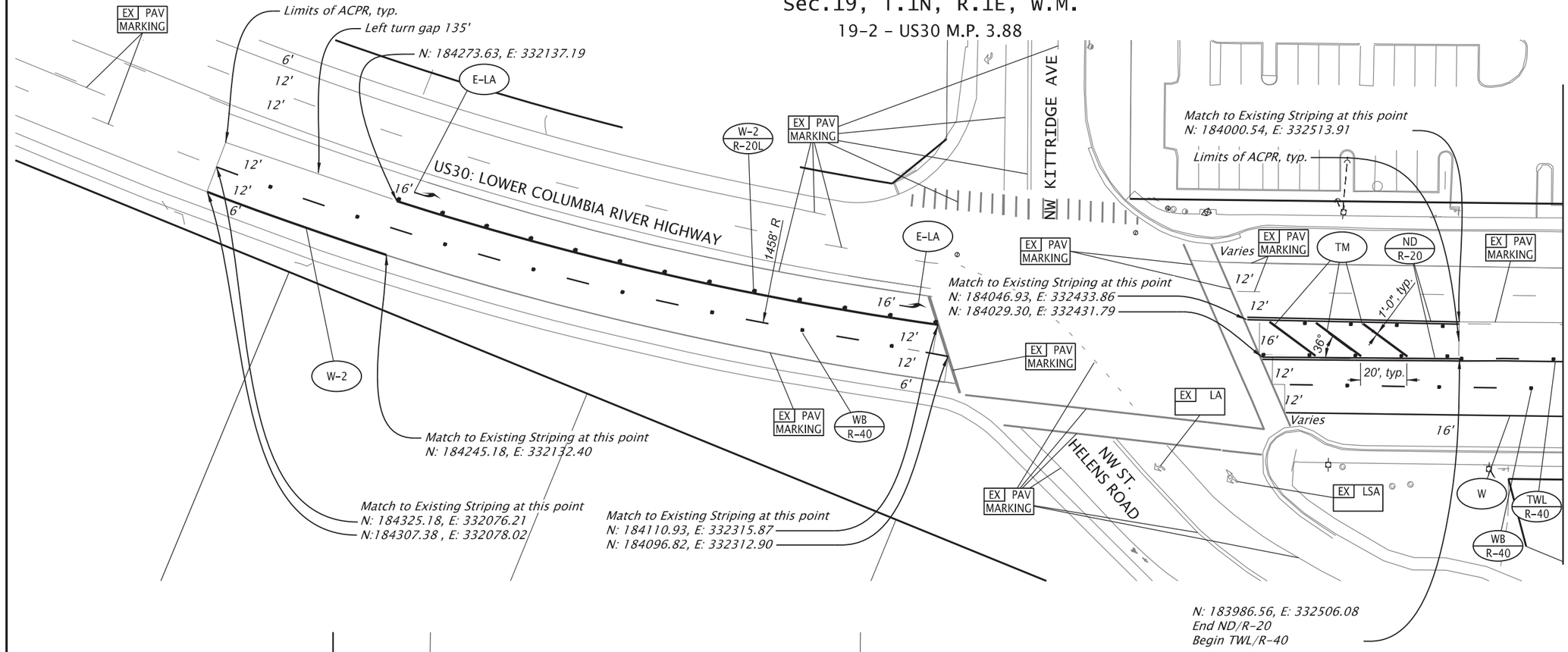
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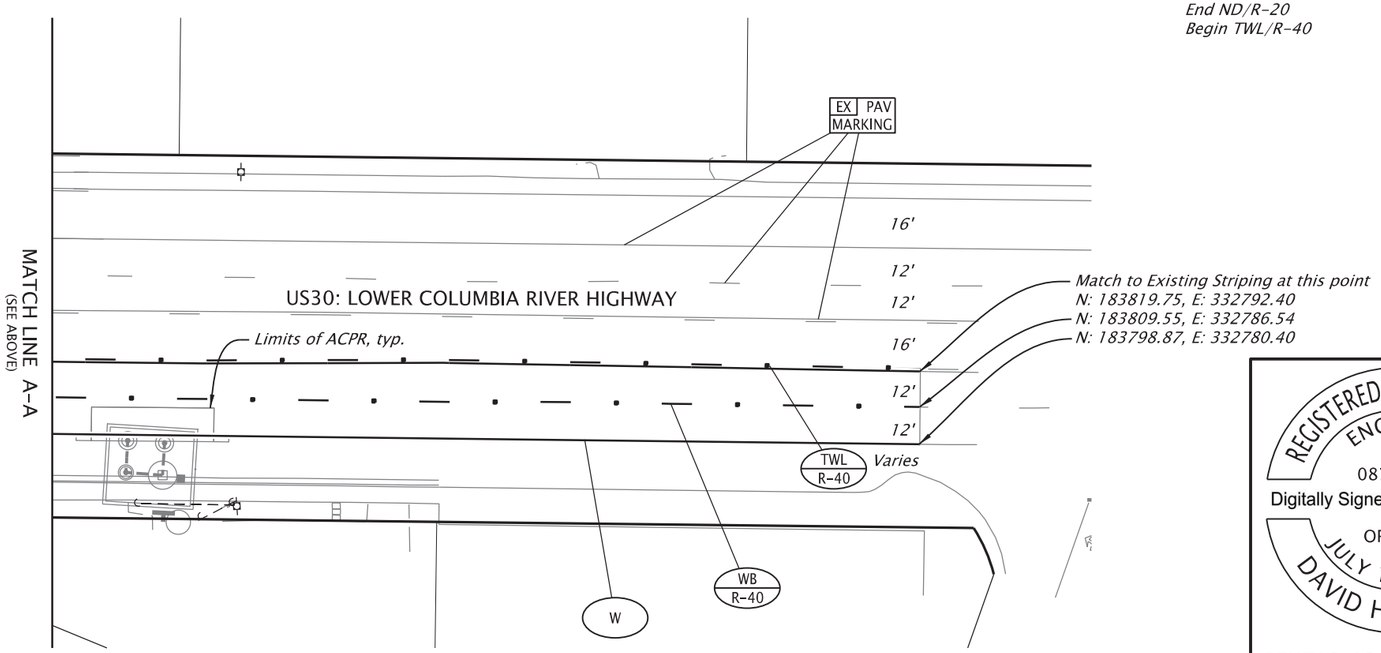
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Sec.19, T.1N, R.1E, W.M.

19-2 - US30 M.P. 3.88





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FEET

See sheet QA01 for Legend, General Notes and Standard Drawings

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WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT

LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

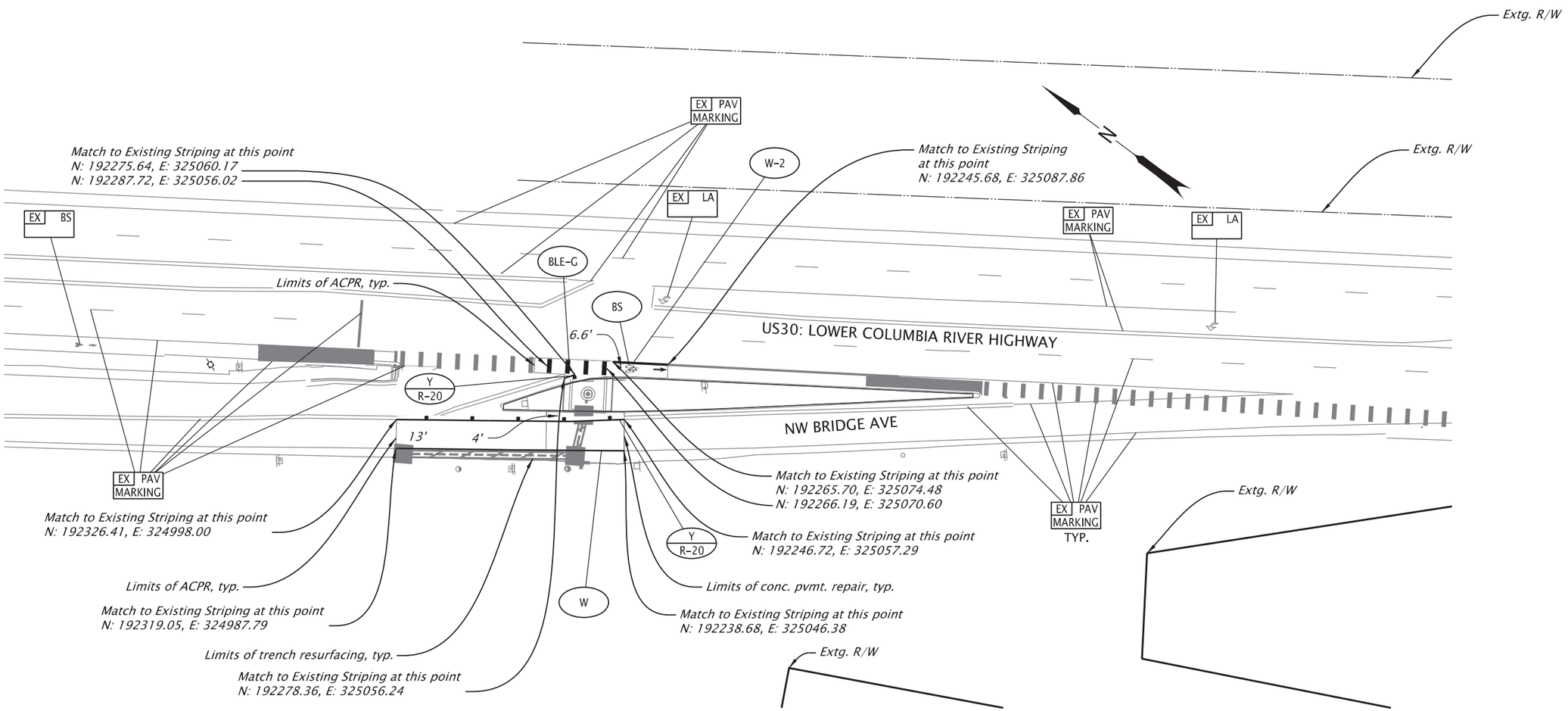
Designer: David Nguyen
Reviewer: Edith Lopez
Drafter: Grace Harrison
Checker: Arianne Mizuta

PAVEMENT MARKING PLAN

SHEET NO. QB532

Sec.12, T.1N, R.1W, W.M.

OF22C – US30 M.P. 6.41



See sheet QA01 for Legend, General Notes and Standard Drawings

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FEET

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RENEWS: 12-31-2026

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WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT

LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY

MULTNOMAH COUNTY

Designer: David Nguyen | Reviewer: Edith Lopez

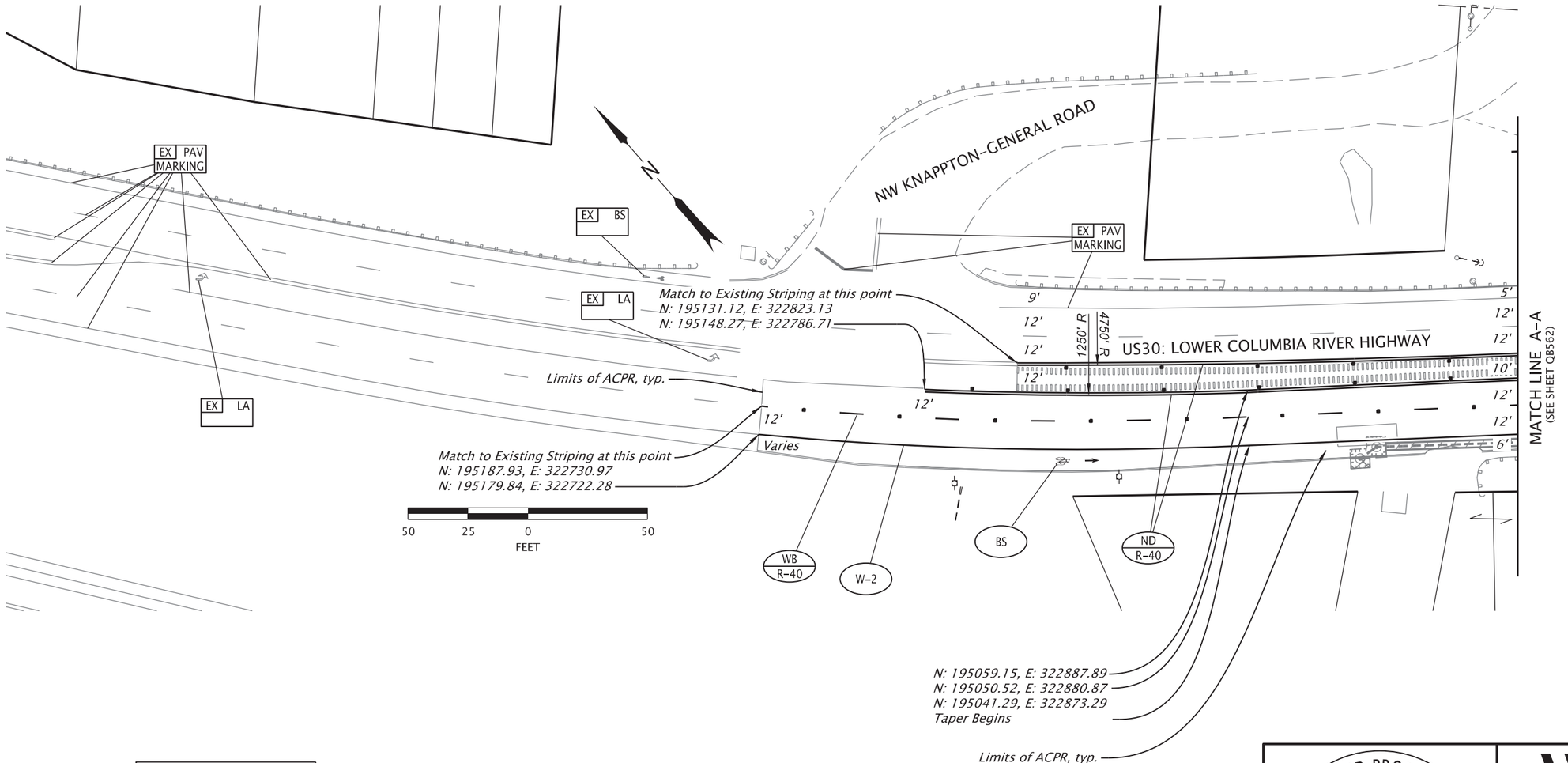
Drafter: Grace Harrison | Checker: Arianne Mizuta

PAVEMENT MARKING PLAN

SHEET NO. QB541

Sec.11, T.1N, R.1W, W.M.

WR208/WR211 – US30 M.P. 7.03



See sheet QA01 for Legend, General Notes and Standard Drawings

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RENEWS: 12-31-2026

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OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT

LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: David Nguyen
Reviewer: Edith Lopez
Drafter: Grace Harrison
Checker: Arianne Mizuta

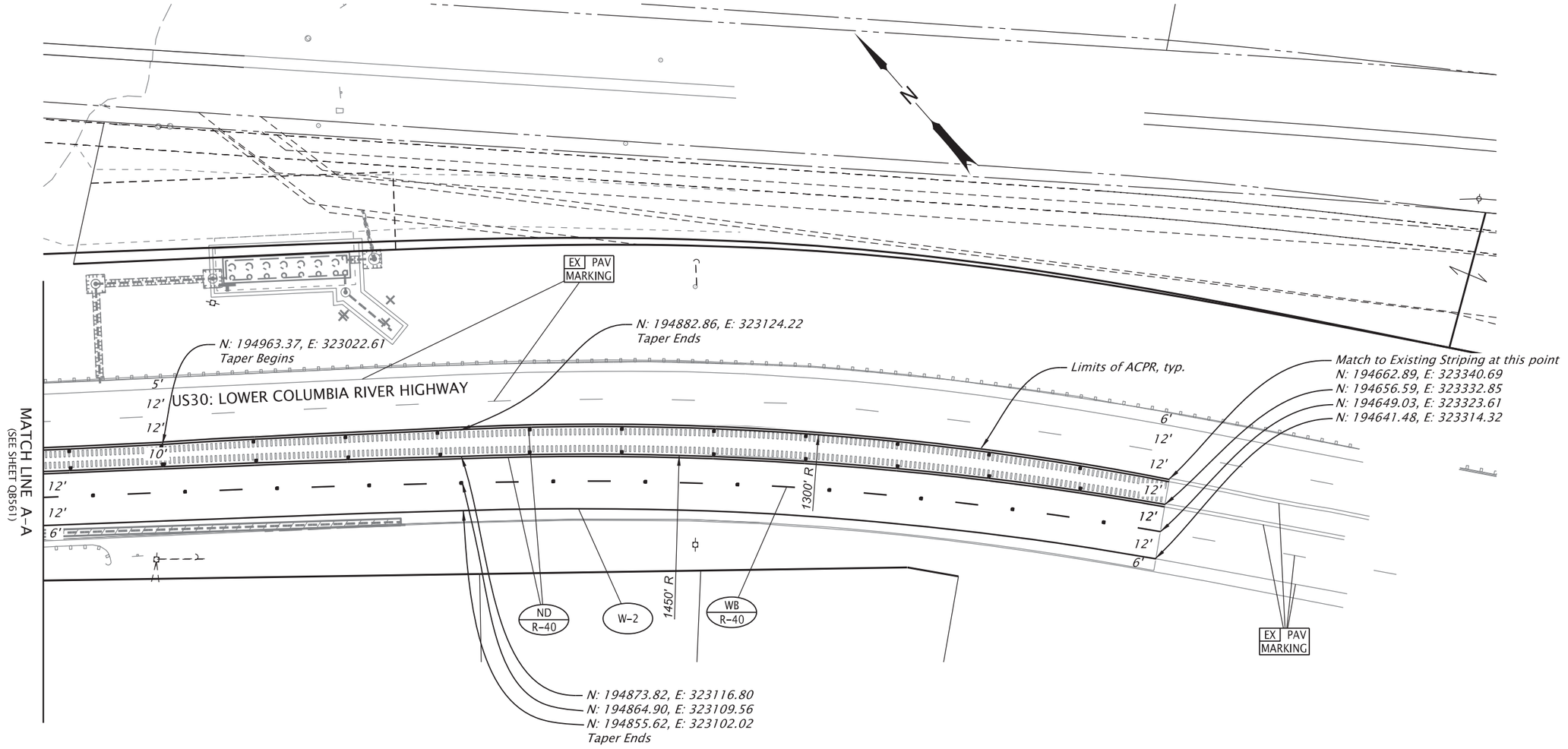
PAVEMENT MARKING PLAN

SHEET NO. QB561

59V-002

Sec.11, T.1N, R.1W, W.M.

WR208/WR211 – US30 M.P. 7.03



See sheet QA01 for Legend, General Notes and Standard Drawings

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WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT

LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY

MULTNOMAH COUNTY

Designer: David Nguyen | Reviewer: Edith Lopez

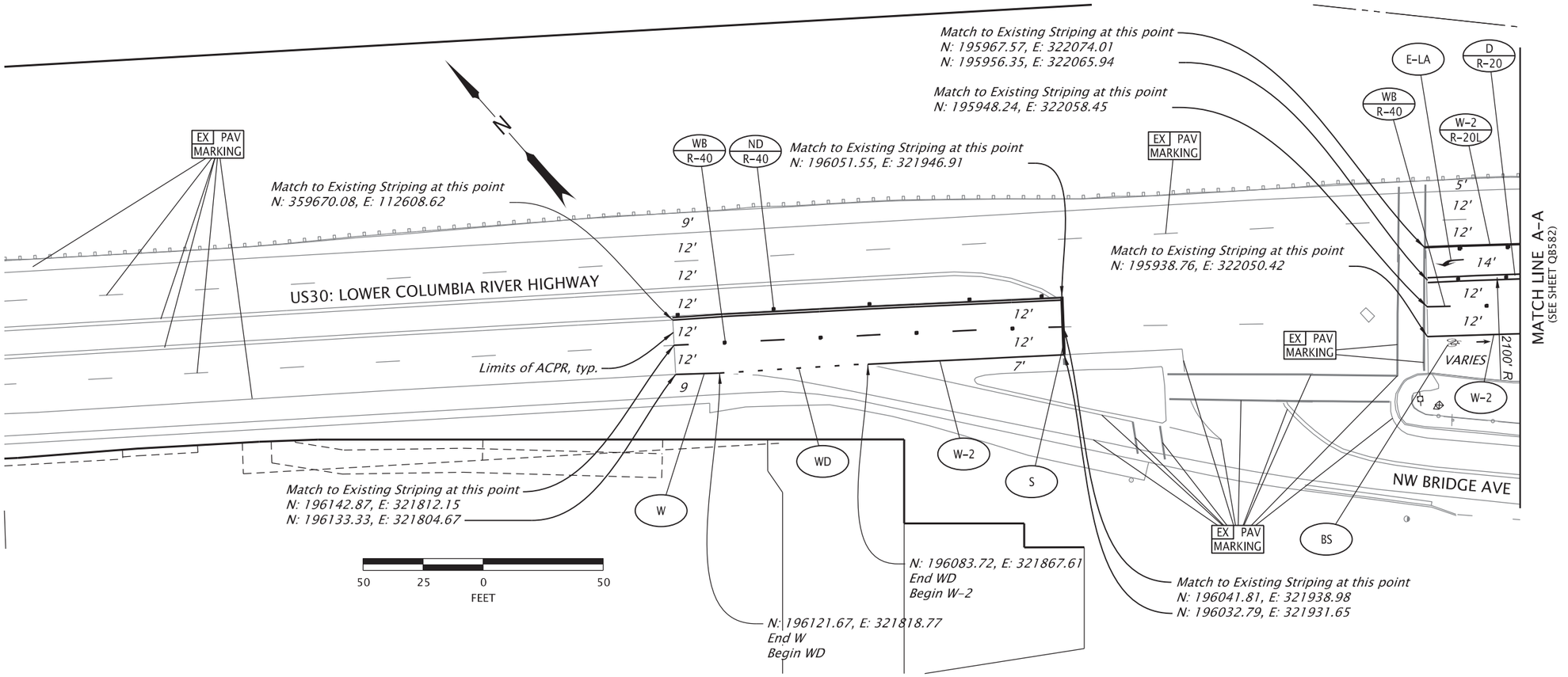
Drafter: Grace Harrison | Checker: Arianne Mizuta

PAVEMENT MARKING PLAN

SHEET NO. QB562

Sec.11, T.1N, R.1W, W.M.

OF22D – US30 M.P. 7.29



MATCH LINE A–A
(SEE SHEET QB582)

See sheet QA01 for Legend, General Notes and Standard Drawings

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WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT

LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY

MULTNOMAH COUNTY

Designer: David Nguyen | Reviewer: Edith Lopez

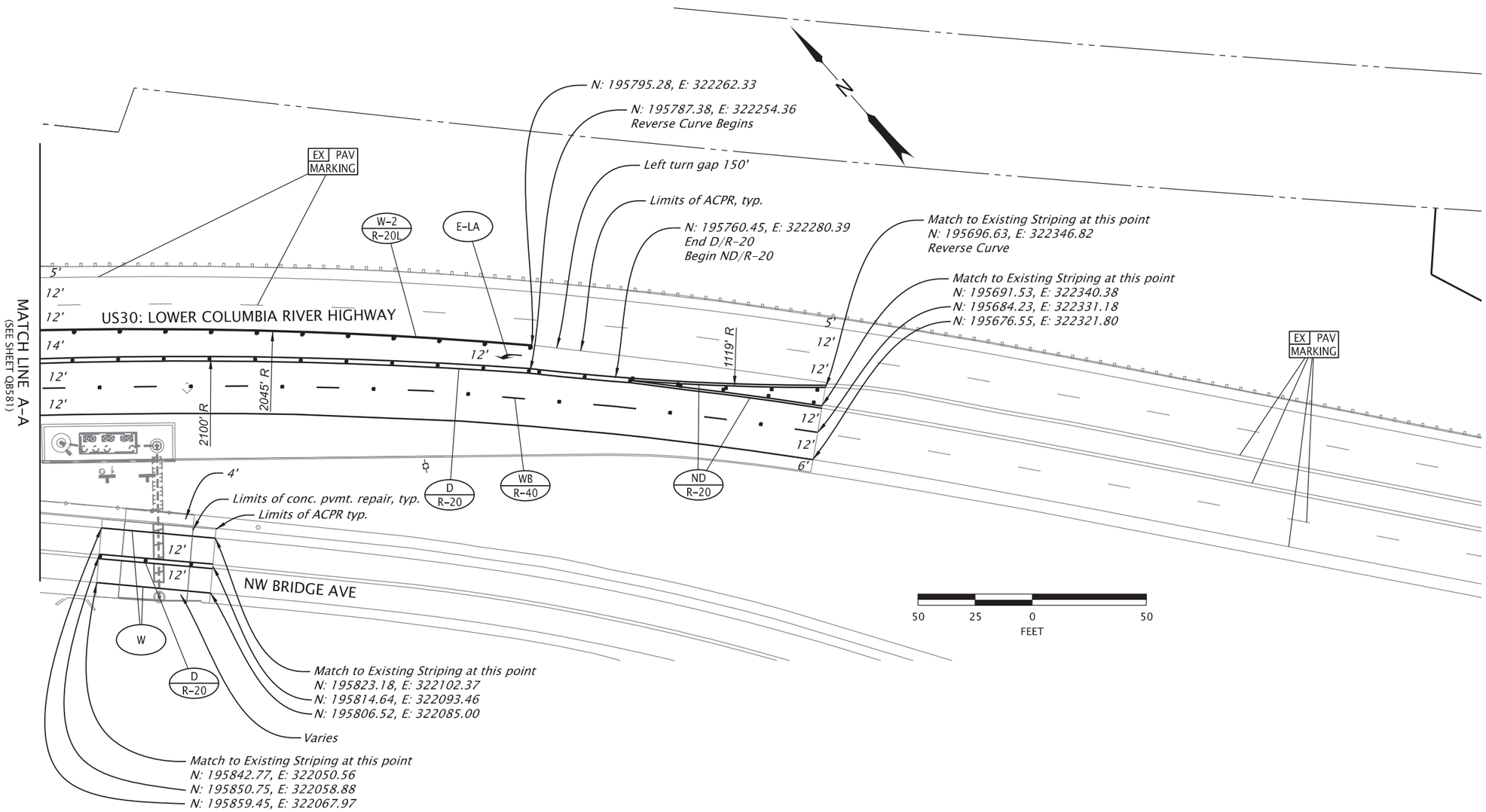
Drafter: Grace Harrison | Checker: Arianne Mizuta

PAVEMENT MARKING PLAN

SHEET NO. QB581

Sec.11, T.1N, R.1W, W.M.

OF22D – US30 M.P. 7.29



See sheet QA01 for Legend, General Notes and Standard Drawings

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WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT

LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY

MULTNOMAH COUNTY

Designer: David Nguyen | Reviewer: Edith Lopez

Drafter: Grace Harrison | Checker: Arianne Mizuta

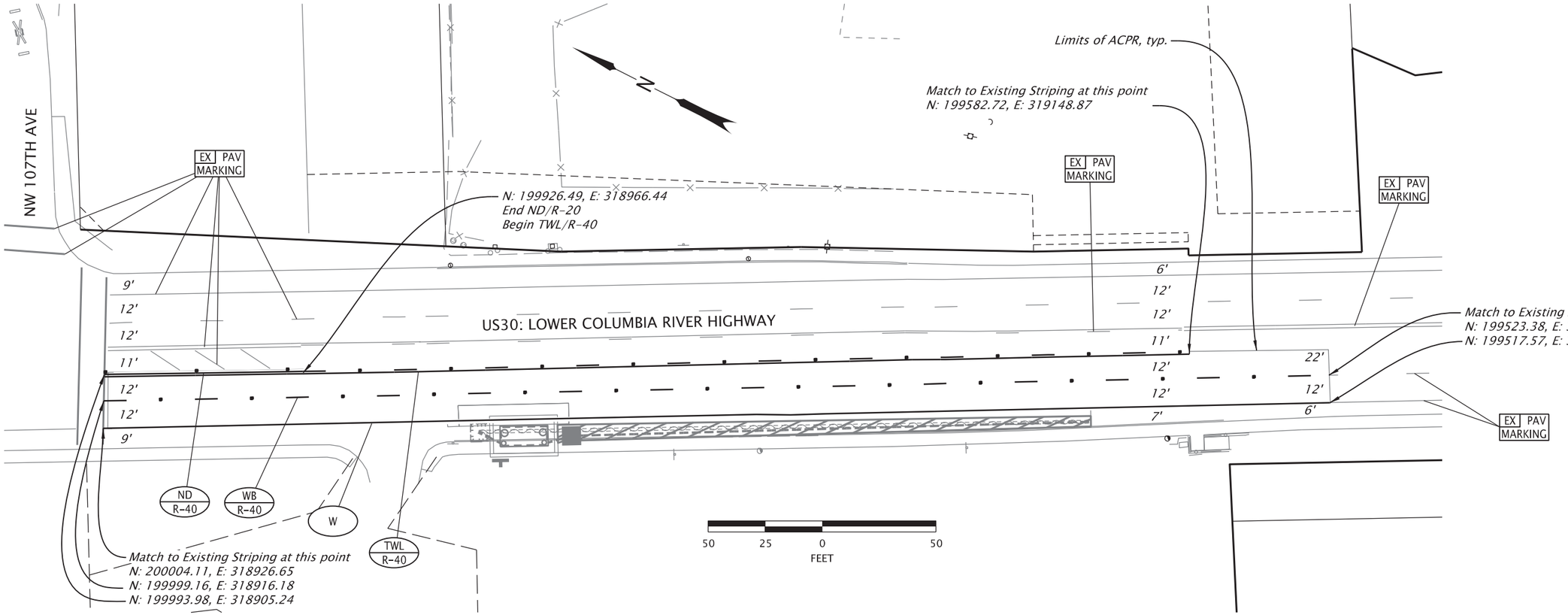
PAVEMENT MARKING PLAN

SHEET NO. QB582

59V-002

Sec.2, T.1N, R.1W, W.M.

WR126 - US30 M.P. 8.26



See sheet QA01 for Legend, General Notes and Standard Drawings

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WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

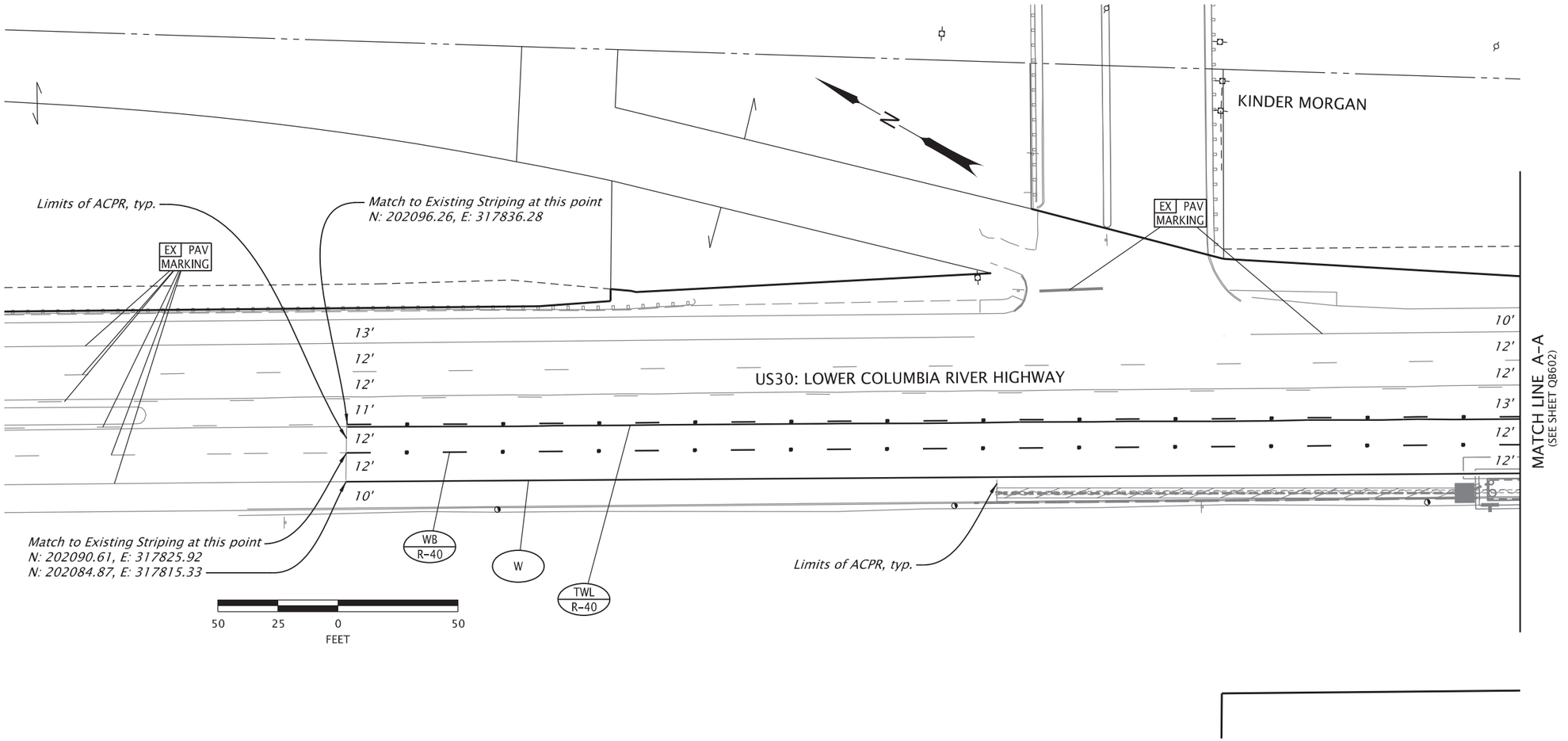
Designer: David Nguyen
Reviewer: Edith Lopez
Drafter: Grace Harrison
Checker: Arianne Mizuta

PAVEMENT MARKING PLAN

SHEET NO. QB591

Sec.3, T.1N, R.1W, W.M.

WR204 - US30 M.P. 8.65



See sheet QA01 for Legend, General Notes and Standard Drawings

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OREGON
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DAVID H. NGUYEN

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WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT

LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY

MULTNOMAH COUNTY

Designer: David Nguyen | Reviewer: Edith Lopez

Drafter: Grace Harrison | Checker: Arianne Mizuta

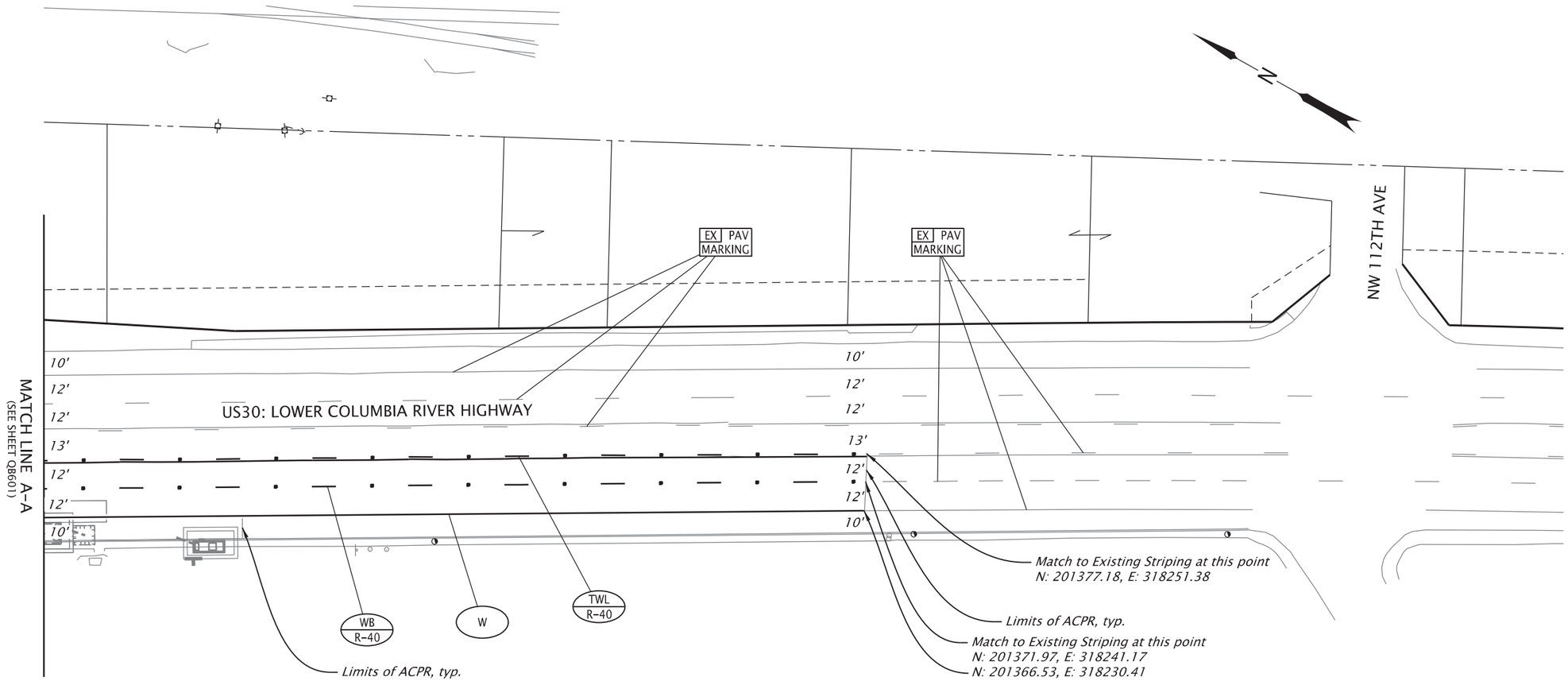
PAVEMENT MARKING PLAN

SHEET NO. QB601

59V-002

Sec.3, T.1N, R.1W, W.M.

WR204 - US30 M.P. 8.65



See sheet QA01 for Legend, General Notes and Standard Drawings

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OREGON
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WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: David Nguyen | Reviewer: Edith Lopez
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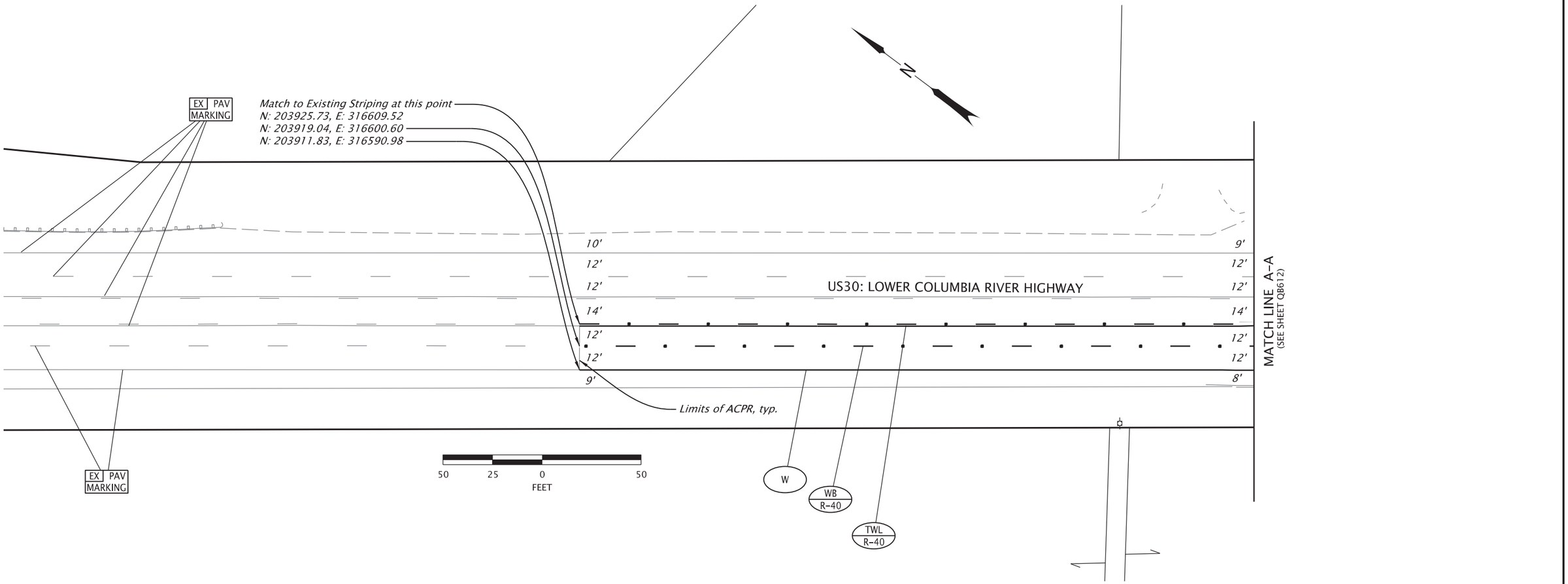
PAVEMENT MARKING PLAN

SHEET NO. QB602

59V-002

Sec.3, T.1N, R.1W, W.M.

WR79 - US30 M.P. 9.06



See sheet QA01 for Legend, General Notes and Standard Drawings

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OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: David Nguyen	Reviewer: Edith Lopez
Drafter: Grace Harrison	Checker: Arianne Mizuta

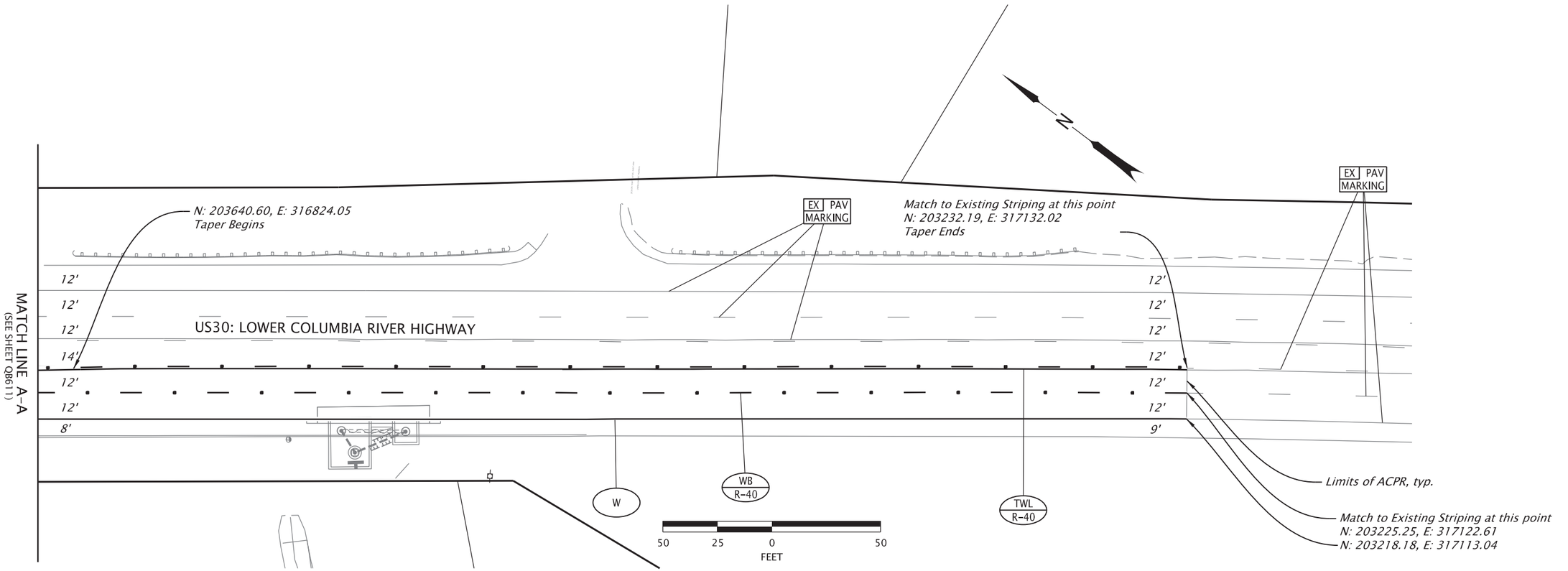
PAVEMENT MARKING PLAN

SHEET NO. QB611

59V-002

Sec.3, T.1N, R.1W, W.M.

WR79 - US30 M.P. 9.06



See sheet QA01 for Legend, General Notes and Standard Drawings

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OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: David Nguyen
Reviewer: Edith Lopez
Drafter: Grace Harrison
Checker: Arianne Mizuta

PAVEMENT MARKING PLAN

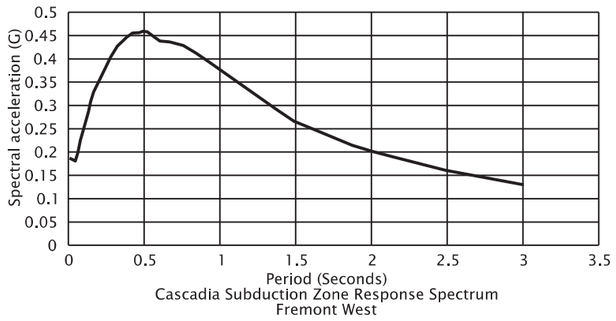
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GENERAL NOTES:

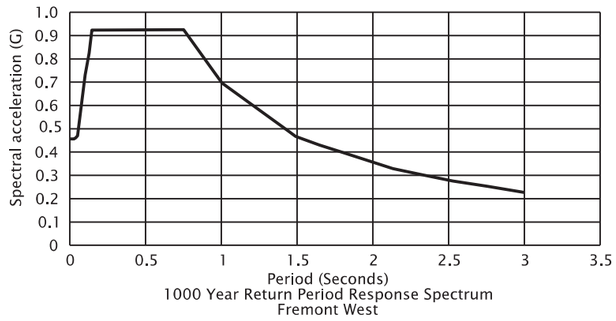
Provide all materials and perform all work according to the "Oregon Standard Specifications for Construction 2024".

Seismic Performance Criteria	Earthquake	Mapped Hazard Values			Site Class	Design Hazard Values			Seismic Design Category
		PGA	Ss	S_1		As	SDs	SD_1	
Life Safety	Cascadia Subduction Zone	See the design response spectrum plot below							
Operational (St. Johns West)	1000-year return	0.275g	0.599g	0.222g	D	0.364g	0.791g	0.478g	C
Operational (St. Johns East)	1000-year return	0.274g	0.597g	0.221g	D	0.363g	0.789g	0.477g	C
Operational (Fremont West)	1000-year return	0.271g	0.595g	0.216g	E	0.457g	0.921g	0.696g	D
Operational (Fremont East)	1000-year return	0.271g	0.594g	0.216g	D	0.360g	0.787g	0.468g	C

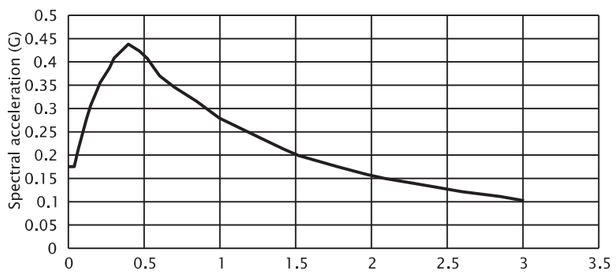
DESIGN RESPONSE SPECTRA GRAPHS:



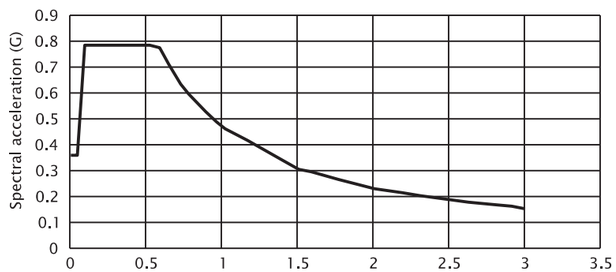
Cascadia Subduction Zone Response Spectrum
Fremont West



1000 Year Return Period Response Spectrum
Fremont West



Cascadia Subduction Zone Response Spectrum
Fremont East



1000 Year Return Period Response Spectrum
Fremont East

STRUCTURAL STEEL NOTES:

All structural steel, including hot rolled shapes, stiffeners, and plates shall conform to ASTM A36 unless notes otherwise.

Preform all structural steel welding in accordance with AWS D1.1 Structural Welding - Steel Code - current edition.

All structural steel, fasteners, and hardware shall be hot-dip galvanized.

RESIN BONDED ANCHOR NOTES:

Provide and install resin bonded anchors as shown with high strength resin from the QPL. Install anchors according to the manufacturer's recommendations and the Special Provisions.

PRECAST CONCRETE - BIOFILTER SYSTEM STRUCTURAL DESIGN CRITERIA

A. AASHTO HS-20-44 w/ impact.
B. Design fill: 5' maximum.
C. Assumed water table = 5' below grade.
D. Dry Lateral Earth Pressure (EFP) = 40 PCF.
E. Lateral Live Load Surcharge = 80 PSF (Applied to 8' below grade)
F. No lateral surcharge from adjacent buildings, walls, piers, or foundations.

CAST-IN-PLACE CONCRETE - BIOFILTER SYSTEM STRUCTURAL DESIGN CRITERIA

A. Dead loads: weight of materials of construction and permanent equipment.
B. Wind loads: 3-second gust wind speed V = 110 mph, Exposure Category = C
C. Seismic loads: See "Design Response Spectra Graphs"

Provide all reinforcing steel according to the ASTM Specification A706, or AASHTO M31 (ASTM A615), Grade 60. (Provide field bent bars according to ASTM Specification A706.) Use the following splice lengths (unless shown otherwise):

REINFORCING SPLICE LENGTHS (CLASS B) GRADE 60 f'c = 4.0 ksi, λRC=0.4, 2in min. concrete clear cover										
Bar Size	#3	#4	#5	#6	#7	#8	#9	#10	#11	#14 & #18
Uncoated	1'-4"	1'-7"	2'-0"	2'-5"	2'-9"	3'-2"	3'-7"	4'-0"	4'-5"	Not Permitted

Increase all splice lengths 30% for horizontal or nearly horizontal bars so placed that more than 12" of fresh concrete is cast below the bar.

splice reinforcing steel at alternate bars, staggered at least one splice length or as far as possible, unless shown otherwise.

Support the bottom mat reinforcing steel from the forms with precast mortar blocks at 24" maximum enters each way. Support the top mat of reinforcing steel from the bottom mat of reinforcing steel with wire bar supports as shown in chapter 3 of the "CRSI Manual of Standard Practice" (SBU, BBU, or CHCU). Place wire bar supports at 24" maximum centers.

Place bars 2" clear of the nearest face of concrete (unless shown otherwise).

Many aspects of this work are dependent upon the geometry of the existing structure. Dimensions and geometry of existing features shown in these plans are based upon information shown in the as-constructed drawings and shall be considered approximate. Contractor shall field verify all dimensions and locations of existing reinforcing prior to ordering or fabricating any materials.

All plan dimensions shown are in english units, unless otherwise noted.

All plan dimensions shown are horizontal and vertical dimensions, unless otherwise noted, and shall be corrected for slopes.

Oregon law requires the rules adopted by the Oregon Utilities Notification center be observed. These rules are set forth in OAR 952-001-0010 through OAR 952-001-0090. Copies of these rules may be obtained from the center or by calling 1-800-322-2344 or 811.



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WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Ali Wahidi | Reviewer: Stuart Bennion
Drafter: Grace Harrison | Checker: Stuart Bennion

STRUCTURAL NOTES

SHEET NO. S01

CODES AND STANDARDS:

1. *International Building Code (IBC) and 2022 Oregon Structural Specialty Code*
2. *ASCE 7-16 Minimum design loads for buildings and other structures*
3. *ACI 318-14 Building code requirements for structural concrete*
4. *AISC 360-10 Specification for structural steel buildings*
5. *AISC 341-16 Seismic provisions for structural steel buildings*
6. *AWS D1.1, 2010 Structural welding code - steel*
7. *AWS D1.3, 2008 Structural welding code - sheet steel*
8. *AWS D1.8, 2009 Structural welding code - seismic supplement*
9. *Research Council on Structural Connections (RCSC), specification for structural joints using high-strength bolts*
10. *AWWA D100-11 Welded carbon steel tanks for water storage*

GENERAL NOTES:

1. *Contractor shall be responsible for means, methods, techniques, sequences, and procedures required to perform the work.*
2. *Contractor-initiated changes require both designer of record and government approval and shall be submitted in writing to the contracting officer's representative for approval prior to fabrication or construction.*
3. *Dimensions and details shall be verified by the contractor prior to fabrication and construction. This includes, but is not limited to, coordinating with the contract drawings on the size and location of openings through concrete, verifying size and location of mechanical and electrical openings with the respective subcontractor, as well as coordinating inserts and attachments for the use of other trades.*
4. *Drawings indicate general and typical details of construction. Typical details and notes shown on drawings shall apply unless noted otherwise. Typical details may not necessarily be indicated on the plans but shall still apply as shown or described in the details. it shall be the contractor's responsibility to choose the appropriate typical detail from those provided. The contractor shall submit proposed alternate details to those provided with related calculations to the engineer for approval prior to detailing or use.*
5. *Shop drawings review:*
   By submitting the shop drawings, the contractor represents that they have determined and verified materials, field measurements, and related field construction criteria (means, methods, techniques, sequences, operations of construction, and safety precautions and programs incidental thereto), and that the contractor has checked and coordinated the information contained within the submittal with the requirements of the work and the contract documents. Review by the engineer shall not relieve the contractor from full responsibility for the accuracy of dimensions and details. Such review shall not constitute acceptance by the engineer of the correctness or adequacy of such submittals, nor a warranty that the submittals satisfy the requirements of the contract.
6. *Building Construction Type: IIB, per Table 601, OSSC*

SHORING:

1. *The contractor shall design and install shoring to support new construction (vertically and laterally) until structural components have been connected as shown on the structural drawings.*
2. *The contractor shall submit shoring drawings and calculations stamped and signed by a registered structural engineer. Drawings shall show size, layout, connections, material designation, method of installation, and accessories of shoring members.*

DESIGN LOADS

Dead Loads:
Weight Of Materials Of Construction And Permanent Equipment.

Live Loads	
Roof	*See Snow Load*
Risk Category	*IV*
Snow Load	
Snow Load Importance Factor, Is	*1.2*
Ground Snow Load	*11 Psf*
Roof Snow Load	*25 Psf*
Wind Loads	
Basic Wind Speed (3-second Gust), Vult	*110 mph*
Wind Exposure	*C*
Seismic Loads	
Seismic Importance Factor, Ie	*1.5*

Mapped Spectral Response Acceleration Parameters
See Geotechnical Report by RhinoOne Geotechnical.

Design Spectral Response Acceleration Parameters
See Geotechnical Report by RhinoOne Geotechnical.

FOUNDATIONS:

1. *Foundation design is based on Geotechnical Report By RhinoOne Geotechnical, dated October 2nd 2023.*
2. *Footing designs are based on a net allowable bearing pressure as indicated below. Footings shall bear on engineered fill or competent native soils.*
3. *Special inspection shall be performed during site excavation to confirm that existing conditions comply with conditions in the geotechnical report.*
4. *Exterior footings shall bear at or below minimum bearing depth. minimum bearing depth is 18 inches below adjacent finished grade.*
5. *Soil Properties:*

Allowable bearing pressure	*6000 psf*
Modulus of subgrade reaction	*60 pci*
Coefficient of friction at strength	*0.35*
Equivalent fluid active soil pressure (unrestrained)	*40 psf*
Equivalent fluid at rest soil pressure (restrained)	*60 psf*

NON-SHRINK GROUT:

1. *Non-shrink grout shall be cementitious high precision, natural aggregate, non-metallic, non-staining, non-shrinkable grout conforming to ASTM C1107 and CRD-C 621, Corps of Engineers "Specifications for non-shrink grout." grout shall have a specified minimum compressive strength of 8,000 psi at 5 days. Pre-grouting of base plates shall not be permitted.*

STRUCTURAL CONCRETE:

1. *Concrete work shall conform to requirements of ACI 301, Specifications For Structural Concrete.*
2. *Design mixes for the following classes of concrete, shall be proportioned to provide the specified compressive strength.*

Foundations	*4,000 PSI*
Slab-on-ground	*4,000 PSI*

3. *Slab-on-grade concrete flexural strength 650 psi at 90 days*
4. *Steel reinforcement shall conform to the following standards and specified strength.*

Deformed bars (A615)	*Fy = 60,000 PSI*
Deformed bars (A706)	*Fy = 60,000 PSI*
Welded wire reinf (A1064)	*Fu = 60,000 PSI*

5. *Typical details of reinforcement such as hooks, bend diameters, etc. shall be in accordance with ACI SP-66 - "ACI Detailing Manual".*
6. *Reinforcement marked "cont" (continuous) shall be spliced by lapping or with mechanical connectors.*

LAP LENGTH NOTES:

   A. *See development and lap splice length schedule for reinforced concrete*
   B. *Lap splices of welded wire reinforcement shall have a length of lap equal to the greater of 1.5x wire development length or one crosswire spacing plus 2 inches.*
   C. *Mechanical connectors shall have a minimum capacity of 1.25 x yield strength of the bar.*
   D. *In members designated as part of the seismic-force-resisting-system, mechanical connectors shall have a minimum capacity equal to the tensile strength of the bar.*

7. *Mechanical rebar anchors (terminators) shall be threaded devices with a capacity greater than the yield strength of the bar.*
8. *Refer to architectural, electrical, mechanical, and structural drawings for surface features and inserts, to be cast in concrete and for locations of penetrations for pipes, ducts, conduits, etc.*
9. *Concrete cover for reinforcement steel in cast-in-place non-prestressed concrete members shall be as follows, uno:*

CONCRETE EXPOSURE	*MEMBER*	*REINFORCEMENT*	*SPECIFIED COVER [INCHES]*
Cast Against And Permanently In Contact With Ground	*ALL*	*ALL*	*3*
Exposed To Weather Or In Contact With Ground	*ALL*	*#6 Through #18 bar*	*3*
		#5 Bar, W31 or D31 Wire, and smaller	*1 1/2*
Not Exposed To Weather Or In Contact With Ground	*Slabs, Joists and Walls*	*#14 Through #18 bar*	*1 1/2*
		#11 Bar and smaller	*3/4*
	Beams, Columns, Pedestals, and Tension Ties	*Primary Reinforcement, Stirrups, Ties, Spirals, and Hoops*	*1 1/2*

STRUCTURAL REGISTERED PROFESSIONAL ENGINEER
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SYED BABER ALI WAHIDI
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OREGON DEPARTMENT OF TRANSPORTATION

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LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Ali Wahidi	Reviewer: Stuart Bennion
Drafter: Grace Harrison	Checker: Stuart Bennion

STRUCTURAL NOTES — SHEET NO. S02

STRUCTURAL STEEL:

1. *Steel construction shall conform to AISC 360-10 Specification For Structural Steel Buildings and AISC 341-10 Seismic Provisions For Structural Steel Buildings.*

2. *Steel shall conform to the following:*

SHAPE	ASTM SPECIFICATION	YIELD STRENGTH, Fy [KSI]
Wide Flange	A992	50
Angle & Channel (UNO)	A36	36
Plate And Bar Stock	A572 Grade 50	50
Pipe	A53 Grade B	35
Structural Tube (HSS)	A500 Grade B	46
Round Structural Tube (HSS)	A500 Grade B	42
Other Steel UNO	A572	50

3. *Work shall be in accordance with AISC 303, as modified per the project specifications.*

4. *Holes in steel cut in the field shall be drilled, not burned.*

5. *Camber beams as noted on the framing plans. Where no camber is noted, fabricate beams so that the camber as rolled (within allowable tolerances) is positive. Wind girts with incidental camber shall be installed with camber positive to the building exterior.*

6. *Steel beams are equally spaced between dimension points uno.*

7. *Minimum connection shall be a two-bolt connection using 7/8-inch diameter A325 bolts (Type N) in single shear.*

8. *High-strength bolts shall be installed, tightened, and inspected in accordance with IBC, RCSC, and AISC specification for structural joints using ASTM a352 or A490 bolts. The criteria for snug-tight connections shall apply to connections unless noted otherwise as slip-critical.*

9. *Headed stud anchors (hsa) for composite and non-composite construction*

A. *Headed stud anchors shall be $^{3}/_{4}$ inch diameter, Type B, conforming to AWS D1.1, unless noted otherwise.*

B. *Headed stud anchors shall be automatically end welded in shop or field with equipment recommended by stud manufacturer.*

C. *Welding, and inspection shall be in accordance with AWS D1.1.*

11. *Steel anchors, ties and other members embedded in concrete or masonry shall be left unpainted at interior, unexposed conditions.*

12. *Items embedded in concrete or masonry and exposed to earth or weather shall be hot-dipped galvanized (unless noted otherwise):*

A. *Concrete & masonry accessories of ferrous material including: inserts, embeds, and brackets.*

B. *Pipe guards, bollards and hardware for same.*

C. *Where noted as "galv".*

13. *Locations of embedded items shall be coordinated with vendor's shop drawings.*

14. *The contractor shall be responsible for coordinating the selection of optional details shown on the drawings.*

15. *The contractor shall be responsible for erection aids that include, but are not limited to, erection angles, lift holes, and other aids. Remove erection aids, including erection bolts. plug weld holes and grind smooth.*

16. *Means and methods of erection are the sole responsibility of the contractor and connections and details do not necessarily show erection aids required.*

STRUCTURAL STEEL WELDING:

1. *Welding shall be done by certified welders and in accordance with AWS D1.1 and D1.8.*

2. *Weld sizes shown on the drawings are minimum and effective sizes. Increase weld size to AWS/AISC minimum sizes as required for connection material. The minimum weld size shall be 3/16 inches (effective).*

3. *Field welding symbols have not necessarily been indicated on the drawings. Where no field welding is detailed on the drawings, it is the contractor's responsibility to coordinate the use of shop and field welds.*

4. *Partial Joint Penetration (PJP) groove welds shown on the drawings refer to effective throat thickness. Complete Joint Penetration (CJP) welds shall be Ultrasonically Tested (UT) upon completion of the connection, except plate less than or equal to 5/16 inch thick shall be Magnetic Particle Tested (MT).*

5. *Welds shall be made using low hydrogen electrodes with tensile strength per AWS D1.1 and D1.8 (minimum 70 ksi).*

6. *Welding shall be performed in strict adherence to a written Welding Procedure Specification (WPS) per AWS D1.1 and D1.8. Welding procedures shall be submitted to the engineer for review before starting fabrication or erection. Copies of the WPS shall be on site and available to welders and the special inspector.*

7. *Welds that are part of the seismic force-resisting system shall have a minimum Charpy V-notch toughness of 20 foot-pounds at 0 degrees fahrenheit.*

ANCHOR RODS:

1. *Anchor rods shall be ASTM F1554 Grade 55, unless noted otherwise. furnish anchor rods prefabricated with matching double heavy hex nuts jammed at the end embedded in concrete. Furnish hardened plate washers, double heavy hex nuts for securing the base plate to the anchor rods.*

2. *Plate washers shall be welded all around where AISC oversized holes are used at base plates.*
Engr note: This note applies only where anchor rod are designed to resist shear at the column base.

3. *A rigid steel template shall be used to locate anchor rods while placing concrete.*

4. *Anchor rods shall have sufficient length to provide the minimum embedment shown on the drawings (measured from the face of concrete) with adequate extension as required to receive the grout pad, base plate, and full thread projection for nut installation + 1/2" above the installed nuts.*

5. *Anchor rod installation shall be coordinated with reinforcing and formwork. After base installation, anchor rod nuts shall be installed to a fully-tight condition unless noted otherwise.*

6. *No heating or bending of the anchor rods is permitted.*

WORKING DOCUMENTS - STEEL TANK:

1. *Refer to special provision 001191.01(a).*

STRUCTURAL SPECIAL INSPECTION & TESTING:

1. *For Special Inspections And Testing Requirements See Sheet S04.*

STRUCTURAL STEEL WELDING:

1. *Special Inspection shall conform to Specification Section 01 45 35 and Chapter 17 of the IBC.*

2. *Special Inspections and associated testing shall be performed by an inspection and testing agency meeting the requirements of Specification Section 01 45 35.*

3. *Structural Observation for seismic resistance is required per IBC Section1704.6.1. Perform Structural Observations per IBC Section 1704.6.*

4. *Structural Observation for wind resistance is required per IBC Section1704.6.2. Perform Structural Observations per IBC Section 1704.6.*

5. *Special inspection for wind resistance is required per IBC Section 1705.11. Perform Special Inspection per tables.*

6. *Special inspection for seismic resistance is required per IBC Section 1705.12. Perform Special Inspection per tables.*

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STRUCTURAL NOTES

SHEET NO. S03

AISC 360-16 CHAPTER N AND AISC 341-16 CHAPTER J - WELDING

QC = Quality Control, to be performed by the fabricator's or erector's quality control inspector
QA = Quality Assurance, to be performed at the fabricators plant or in the field by the quality Assurance Inspector
O = Observe items randomly
P = Perform tasks for each element

TABLE N 5.4-1
INSPECTION TASKS PRIOR TO WELDING

VERIFICATIONS AND INSPECTION	QC	QA	AWS REF.
1. Welder qualification records and continuity records	P	O	
2. WPS available	P	P	6.3
3. Manufacturer certifications for welding consumables available	P	P	6.2
4. Material identification (Type/Grade)	O	O	6.2
5. Welder identification system, See Note 1	O	O	6.4
6. Fit-up of groove welds (including joint geometry)			
A. Joint preparation	P/O SEE NOTE 2	O	6.5.2
B. Dimensions (alignment, root opening, root face, bevel)			5.22
C. Cleanliness (condition of steel surfaces)			5.14
D. Tacking (tack weld quality and location)			5.17
E. Backing type and fit (if applicable)			5.9, 5.21.1.1
7. fit-up of CJP groove welds of HSS T-, Y- & K-joints without backing (including joint geometry)			
A. Joint preparation	P	O	9.11.2
B. Dimensions (alignment, root opening, root face, bevel)			
C. Cleanliness (condition of steel surfaces)			
D. Tacking (tack weld quality and location)			
8. Configuration and finish of access holes	O	O	6.5.2, 5.16
9. Fit-up of fillet welds			
A. Dimensions (alignment, gaps at root)	P/O SEE NOTE 2	O	5.21.1
B. Cleanliness (condition of steel surfaces)			5.14
C. Tacking (tack weld quality and location)			5.17
10. Check welding equipment	O	–	6.2, 5.10

Note 1: The fabricator or erector, as applicable, shall maintain a system by which a welder who has welded a joint or member can be identified. Stamps, if used, shall be the low-stress type.

Note 2: Following performance of this inspection task for ten welds to be made by a given welder, with the welder demonstrating understanding of requirements and possession of skills and tools to verify these items, the 'perform' designation of this task shall be reduced to 'observe', and the welder shall perform this task. Should the inspector determine that the welder has discontinued performance of this task, the task shall be returned to 'perform' until such time as the inspector has re-established adequate assurance that the welder will perform the inspection tasks listed.

TABLE N 5.4-3
INSPECTION TASKS AFTER WELDING

VERIFICATIONS AND INSPECTION	QC	QA	AWS REF.
1. Welds cleaned	O	O	5.29.1
2. Size, length and location of welds	P	P	6.5.1
3. Welds meet visual acceptance criteria			
A. Crack prohibition	P	P	6.5.3
B. Weld/base-metal fusion			Table 6.1 (1)
C. Crater cross section			Table 6.1 (2)
D. Weld profiles			Table 6.1 (3)
E. Weld size			Table 6.1 (4), 5.24
F. Undercut			Table 6.1 (6)
G. Porosity			Table 6.1 (7)
			Table 6.1 (8)
4. Arc strikes	P	P	5.28
5. K-area, See Note 3	P	P	Not addressed
6. Weld access holes in rolled heavy shapes and built-up heavy shapes, See Note 4	P	P	5.16, 6.5.2
7. Backing removed and weld tabs removed (if required)	P	P	5.9, 5.30
8. Repair activities	P	P	6.5.3, 5.25
9. Document acceptance or rejection of welded joint or member	P	P	6.5.4, 6.5.5
10. No prohibited welds have been added without the approval of the EOR	O	O	
11. Placement of reinforcing or contour fillet welds (if required)	P	P	AISC 341-16

Note 3: When welding of doubler plates, continuity plates or stiffeners has been performed in the K-Area, visually inspect the web K-Area for cracks within 3 inches (75mm) of the weld.

Note 4: After rolled heavy shapes (AISC 360-16 SECT. A3.1c) and built-up heavy shapes (AISC 360-16 Sect. A3.1d) are welded, visually inspect the weld access for cracks.

IBC TABLE 1705.3
REQUIRED SPECIAL INSPECTIONS AND TESTS OF CONCRETE CONSTRUCTION

	TYPE	CONTINUOUS	PERIODIC	REFERENCED STANDARD	IBC REFERENCE	REMARK
1.	Inspect reinforcement, including prestressing tendons, and verify placement.	–	X	ACI 318: CH. 20, 25.2, 25.3, 26.6.1-26.6.3	1908.4	
2.	Reinforcing bar welding:					
	a. Verify weldability of reinforcing bars other than ASTM A706;	–	X	AWS D1.4 ACI 318: 26.6.4	–	
	b. Inspect single-pass fillet welds, maximum 5/16"; and		X			
	c. Inspect all other welds.	X				
3.	Inspect anchors cast in concrete.	–	X	ACI 318: 17.8.2	–	
4.	Inspect anchors post-installed in hardened concrete.					
	a. adhesive anchors installed in horizontally or upwardly inclined orientations to resist sustained tension loads.	X		ACI 318: 17.8.2.4	–	
	b. Mechanical anchors and adhesive anchors not defined in 4.a.		X	ACI 318: 17.8.2		
5.	Verify use of required design mix.	–	X	ACI 318: CH. 19, 26.4.3, 26.4.4	1904.1, 1904.2, 1908.2, 1908.3	
6.	Prior to concrete placement, fabricate specimen for strength tests, perform slump and air concrete tests, and determine the temperature of the concrete.	X	–	ASTM C 172, ASTM C 31, ACI 318: 26.5, 26.12	1908.10	
7.	Inspect concrete and shotcrete placement for proper application techniques.	X	–	ACI 318: 26.5	1908.6, 1908.7, 1908.8	
8.	Verify maintenance of specified curing temperature and techniques.	–	X	ACI 318: 26.5.3-26.5.5	1908.9	
9.	Inspect prestressed concrete for					
	a. Application of prestressing forces; and	X	–	ACI 318: 26.10	–	
	b. Grouting of bonded prestressing tendons.	X	–			
10.	Inspect erection of precast concrete members.	–	X	ACI 318: 26.9	–	
11.	Verify in-situ concrete strength, prior to stressing of tendons in post-tensioned concrete and prior to removal of shores and forms from beams and structural slabs.	–	X	ACI 318: 26.11.2	–	
12.	Inspect formwork for shape, location and dimensions of the concrete member being formed.	–	X	ACI 318: 26.11.1.2(b)	–	

TABLE N 5.4-2
INSPECTION TASKS DURING WELDING

VERIFICATIONS AND INSPECTION	QC	QA	AWS REF.
1. Control and handling of welding consumables			6.2
A. Packaging	O	O	5.3.1
B. Exposure control	O	O	5.3.2, 5.3.3
2. No welding over cracked welds	O	O	5.17
3. Environmental conditions			
A. Wind speed within limits	O	O	5.11.1
B. Precipitation and temperature			5.11.2.
4. WPS Followed			
A. Settings on welding equipment	O	O	6.3.3, 6.5.2, 5.5, 5.20
B. Travel speed			
C. Selected welding materials			
D. Shielding gas type/ flow rate			
E. Preheat applied			
F. Interpass temperature maintained (min/max.)			5.6, 5.7
G. Proper position (F, V, H, OH)			
H. Intermix of filler materials avoided unless approved			AISC 341-16
5. Welding techniques			
A. Interpass and final cleaning	O	O	6.5.2, 6.5.3, 5.23, 5.29.1
B. Each pass within profile limitations	O	O	
C. Each Pass Meets Quality Requirements	O	O	
6. Placement and installation of steel headed stud anchors	P	P	
7. Use of qualified welders	O	O	AISC 341-16

2018 IBC 1705.2.1, AISC 360-16: SECTION N5.5
NON-DESTRUCTIVE TESTING OF WELDED JOINTS

	TASK	INSPECTION TYPE	DESCRIPTION
1.	Use of qualified nondestructive testing personnel	Perform	Visual Weld Inspection And Nondestructive Testing (NDT) shall be conducted by personnel qualified in accordance with AWS D1.8 clause 7.2
2.	CJP Groove welds	Observe	Dye Penetrant Testing (DT) and Ultrasonic Testing (UT) shall be performed on 20% of CJP groove welds for materials greater than 5/16" (8mm) thick. testing rate must be increased to 100% if greater than 5% of welds tested have unacceptable defects.
3.	Weld tab removal sites	Observe	At the end of welds where weld tabs have been removed, magnetic particle testing shall be performed on the same beam-to-column joints receiving UT

TABLE 1705.6
REQUIRED SPECIAL INSPECTIONS AND TEST OF SOILS

	TYPE	CONTINUOUS	PERIODIC	REMARKS
1.	Verify materials below shallow foundations are adequate to achieve the design bearing capacity.	–	X	By Geotechnical Engineer
2.	Verify excavations are extended to proper depth and have reached proper material.	–	X	
3.	Perform classification and testing of compacted fill materials.	–	X	
4.	Verify use of proper materials, densities and lift thicknesses during placement and compaction of compacted fill.	X	–	By Geotechnical Engineer
5.	Prior to placement of compacted fill, inspect subgrade and verify that site has been prepared properly.	–	X	

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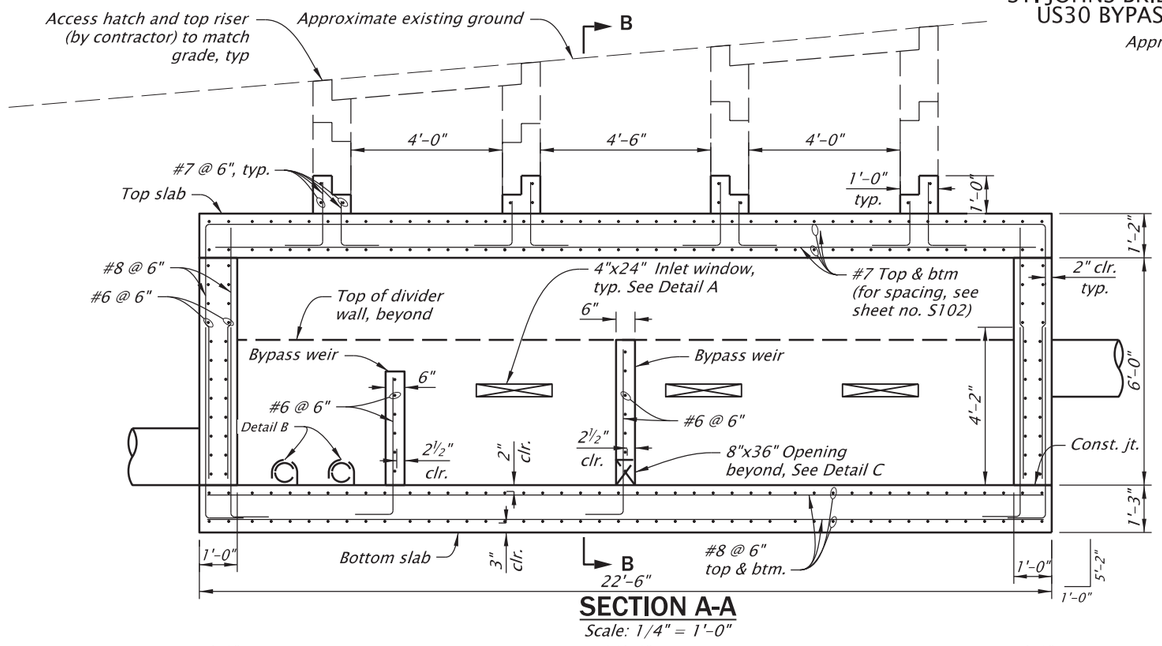
STRUCTURAL NOTES

SHEET NO. S04

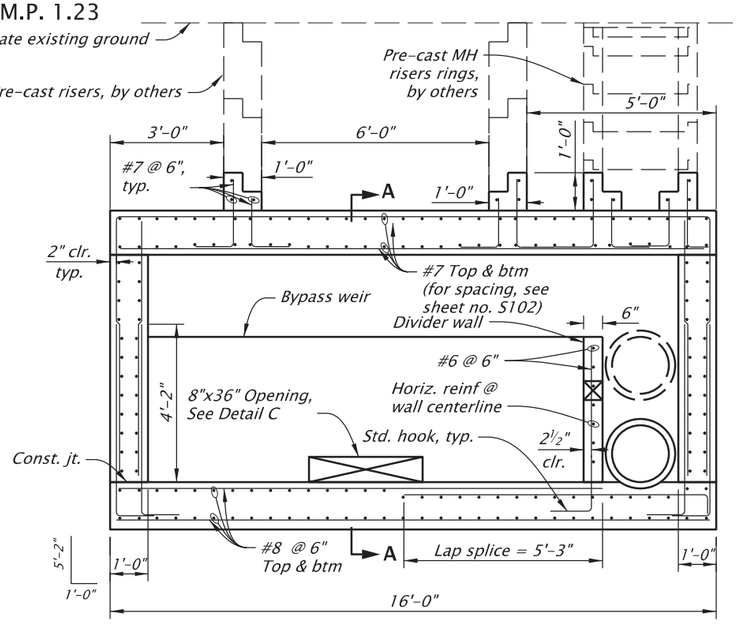
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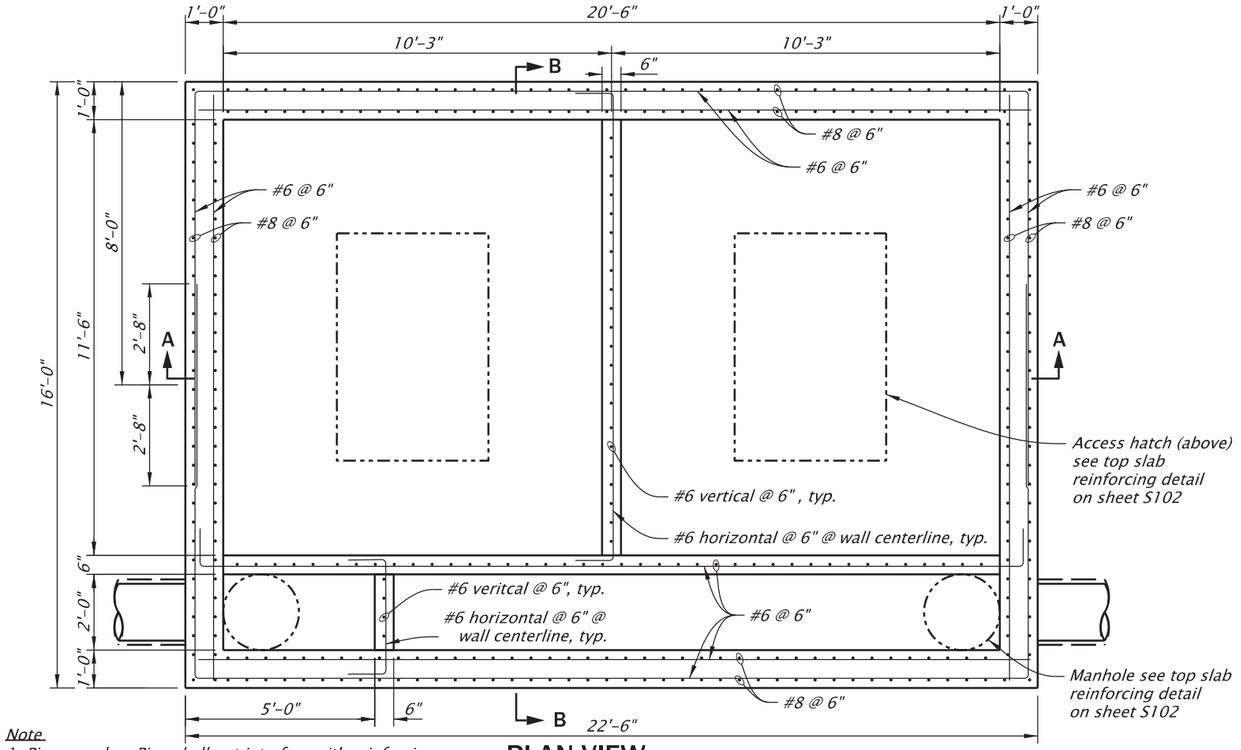
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SECTION A-A
Scale: 1/4" = 1'-0"



SECTION B-B
Scale: 1/4" = 1'-0"



PLAN VIEW
Scale: 1/4" = 1'-0"



Note
1. Pipe per plan. Pipe shall not interfere with reinforcing.
2. Detail views shown on sheet S102.
3. 3/4" chamfer, all exterior concrete corners.

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LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

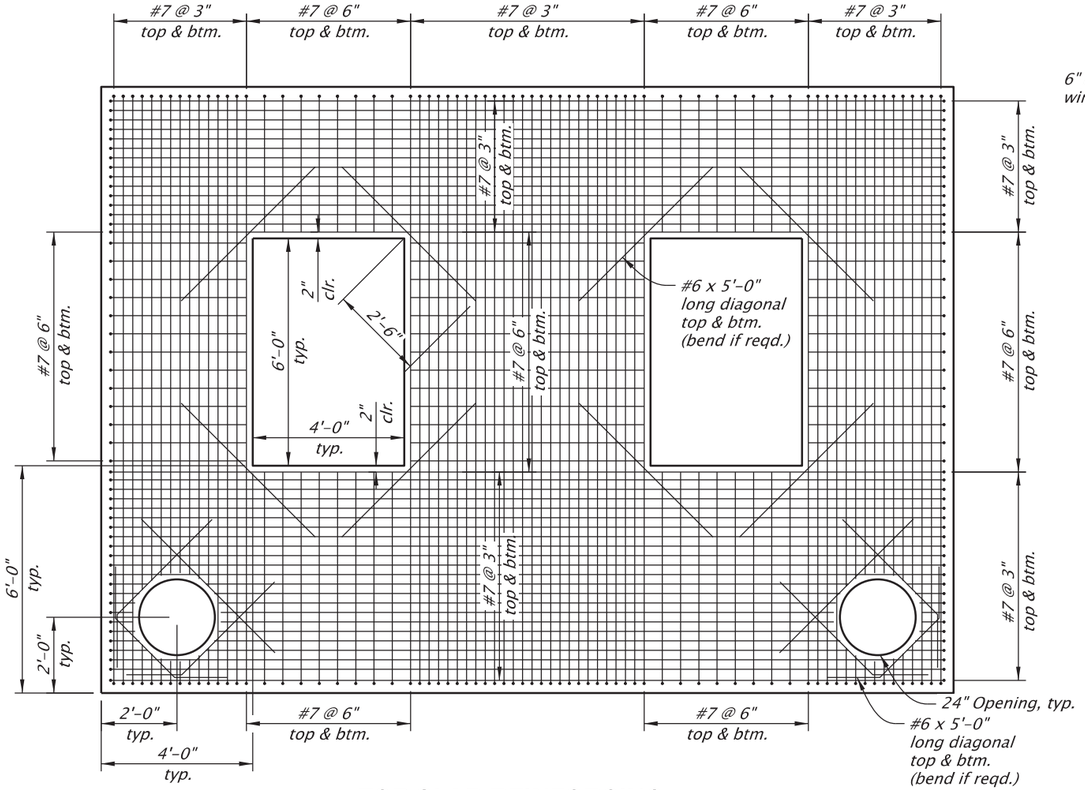
Designer: Ali Wahidi | Reviewer: Stuart Bennion
Drafter: Grace Harrison | Checker: Fernando Sunago

CAST IN PLACE BIOFILTER DETAILS 1

SHEET NO. S101

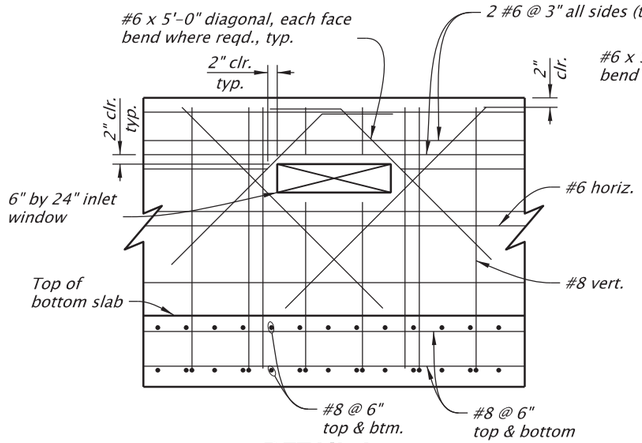
Sec.12, T.1N, R.1W, W.M.

ST. JOHNS BRIDGE – EAST END
US30 BYPASS – M.P. 1.23



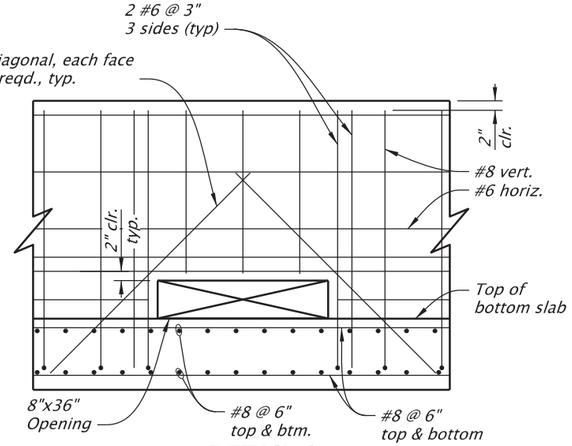
TOP SLAB REINFORCING

Scale: 1/4" = 1'-0"
Riser ring reinforcement not shown for clarity



DETAIL A

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



DETAIL C

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

DETAIL B

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

Note
1. Pipe per plan. Pipe shall not interfere with reinforcing.

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11152PE
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OREGON
JULY 17, 1981
SYED BABER ALI WAHIDI
RENEWS: 06-30-2026

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

WSP USA Inc.
1300 SW 5th Ave
Suite 3100
Portland, OR 97201
Tel: 1 503 274 8772

OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

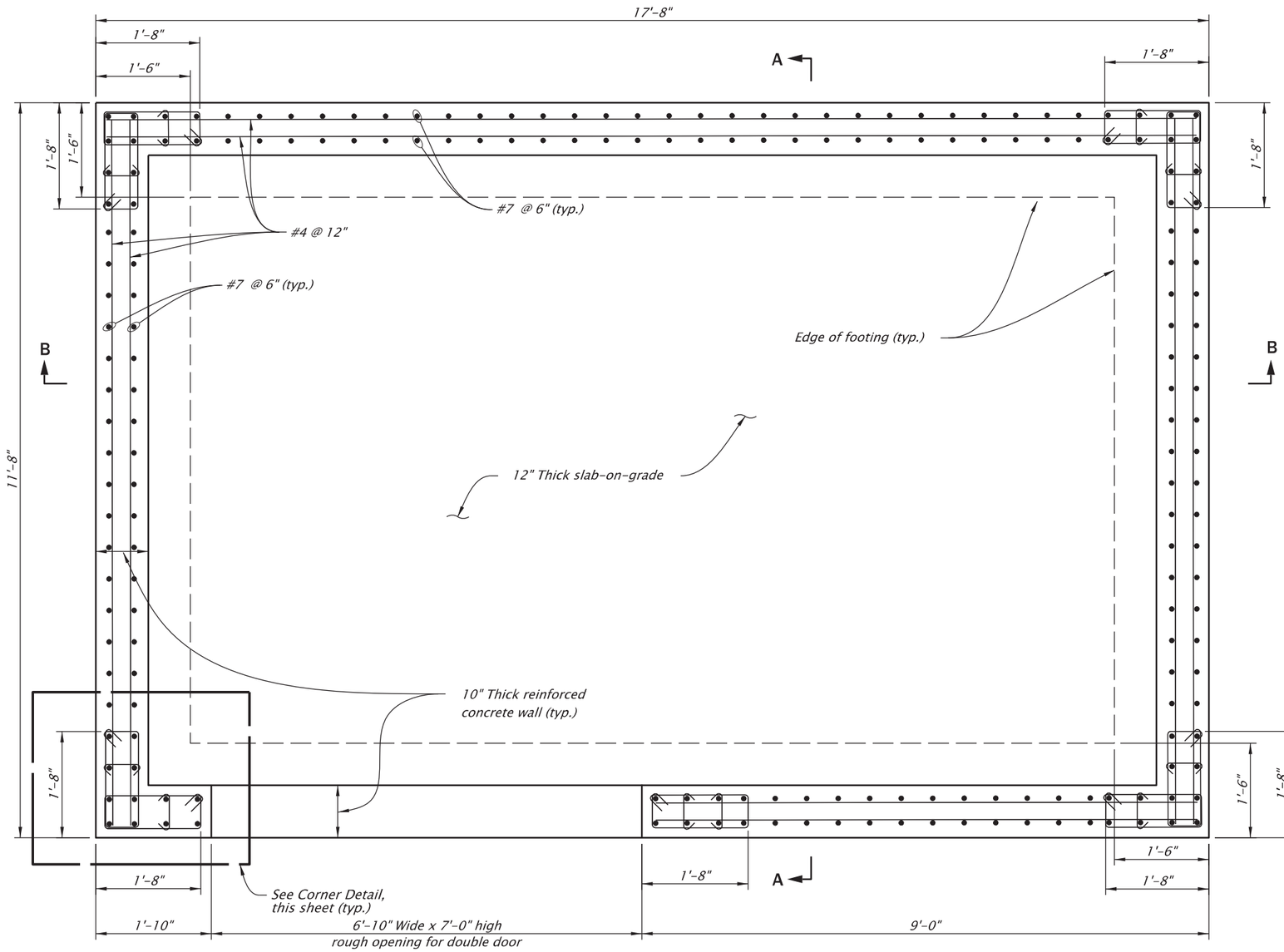
Designer: Ali Wahidi
Reviewer: Stuart Bennion
Drafter: Grace Harrison
Checker: Fernando Sunago

CAST IN PLACE BIOFILTER DETAILS 2

SHEET NO. S102

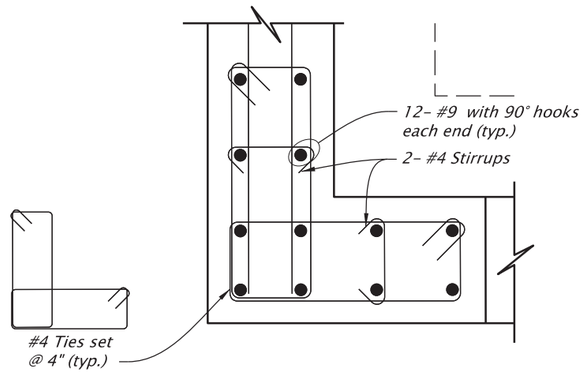
Sec.28 & 33, T.1N, R.1E, W.M.

I-405/FREMONT BRIDGE - INTERCHANGE
I-405 M.P. 3.03



REINFORCED CONCRETE PUMP CONTROL ROOM STRUCTURE FOUNDATION PLAN

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



CORNER DETAIL

Scale: 1"=1'-0"

DOOR HARDWARE NOTES:

1. All hardware interior mounted except lever and hinges
2. All hardware finish: Satin (US26D) / finish
   a. Overhead door stop with integrated hold open bottom door seal with vinyl brushing door threshold
   b. 5" x 1/2" tall ADA top and bottom door pins on LHR door leaf
   c. Weatherproof continuous gaskets
   d. Heavy traffic door closer
   e. Full surface continous geared stainless steel hinges (heavy duty)
   f. Overhead rain drip cap
   g. 10" x door width, interior kick plate (both doors)
   h. Storeroom cylindrical lever lock with keys
   i. All door hardware shall be compliant with mounting to stainless steel door and frame

HOLLOW METAL DOORS AND FRAME NOTES:

1. 16GA stainless steel type 304 HM welded 2" door frame (min 6" throat)
2. 18GA stainless steel type 304 HM insulated 1-3/4" doors (pair)
3. Door leaf: Approx 3'-4" x 6'-10" (pair) VIF
4. Shim and exp anchor frame to concrete wall
5. Grout frame solid
6. Backer rod and sealant all sides (interior & exterior)
7. Door and frame finish: #4 brushed with satin finish
8. All edges and joints are to be fully welded, seam welded, and polished smooth

SHEET NOTES:

1. See sheet S202 for Sections A-A and B-B.
2. 3/4" chamfer, all exterior concrete corners.

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11152PE
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RENEWS: 06-30-2026

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WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

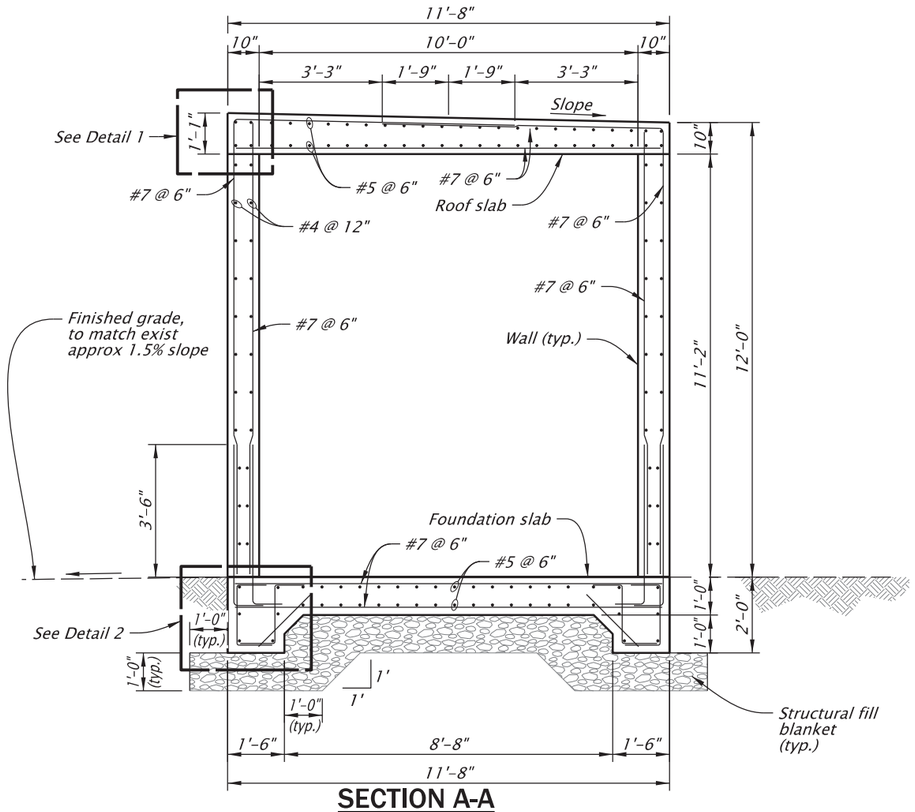
Designer: Ali Wahidi	Reviewer: Stuart Bennion
Drafter: Grace Harrison	Checker: Stuart Bennion

PUMP CONTROL ROOM STRUCTURE — SHEET NO. S201

59V-002

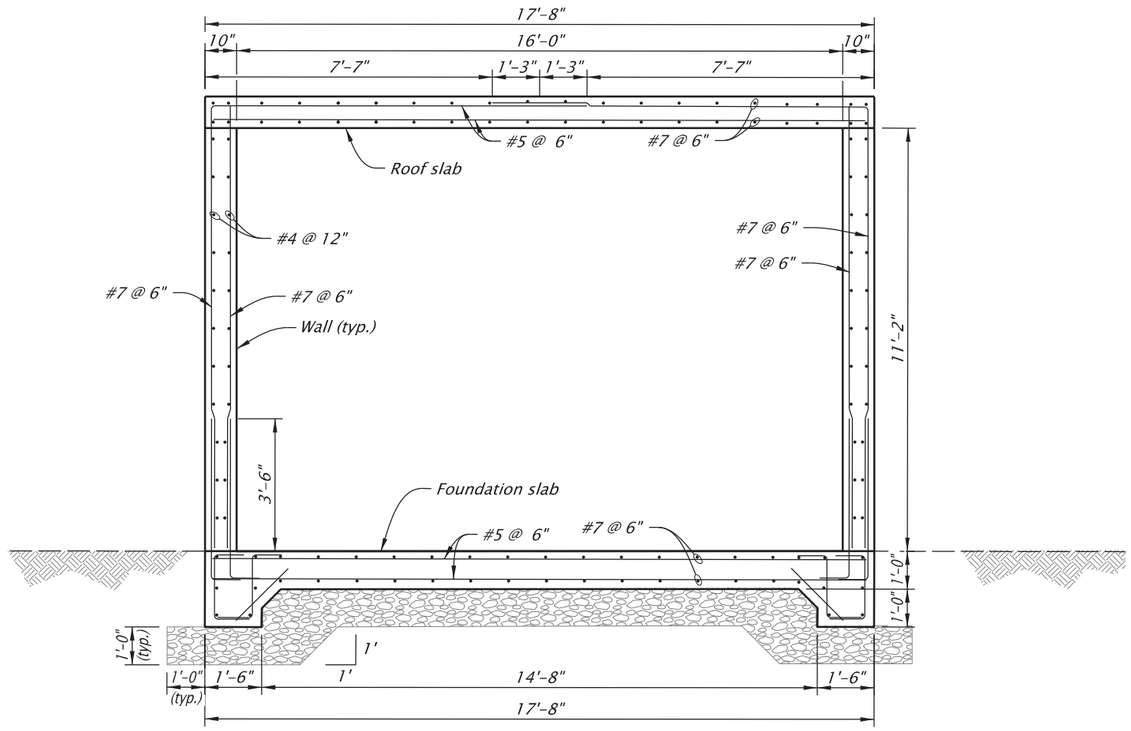
Sec.28 & 33, T.1N, R.1E, W.M.

I-405/FREMONT BRIDGE - INTERCHANGE
I-405 M.P. 3.03



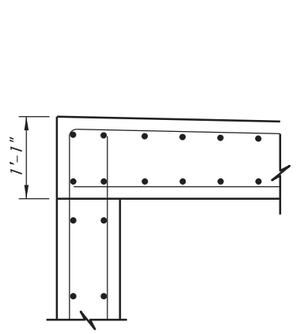
SECTION A-A

Scale: 1/4=1'-0"



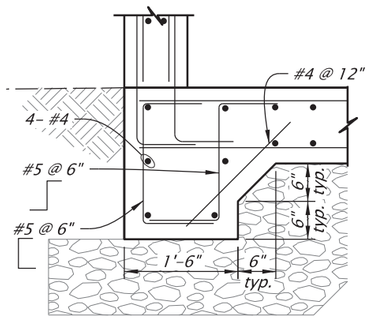
SECTION B-B

Scale: 1/4=1'-0"



DETAIL 1

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



DETAIL 2

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

NOTES:

1. *Reinforced concrete buidling shown but a structural steel building option may be used as the project develops further.*

4 2 0 4
FEET

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11152PE
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OREGON
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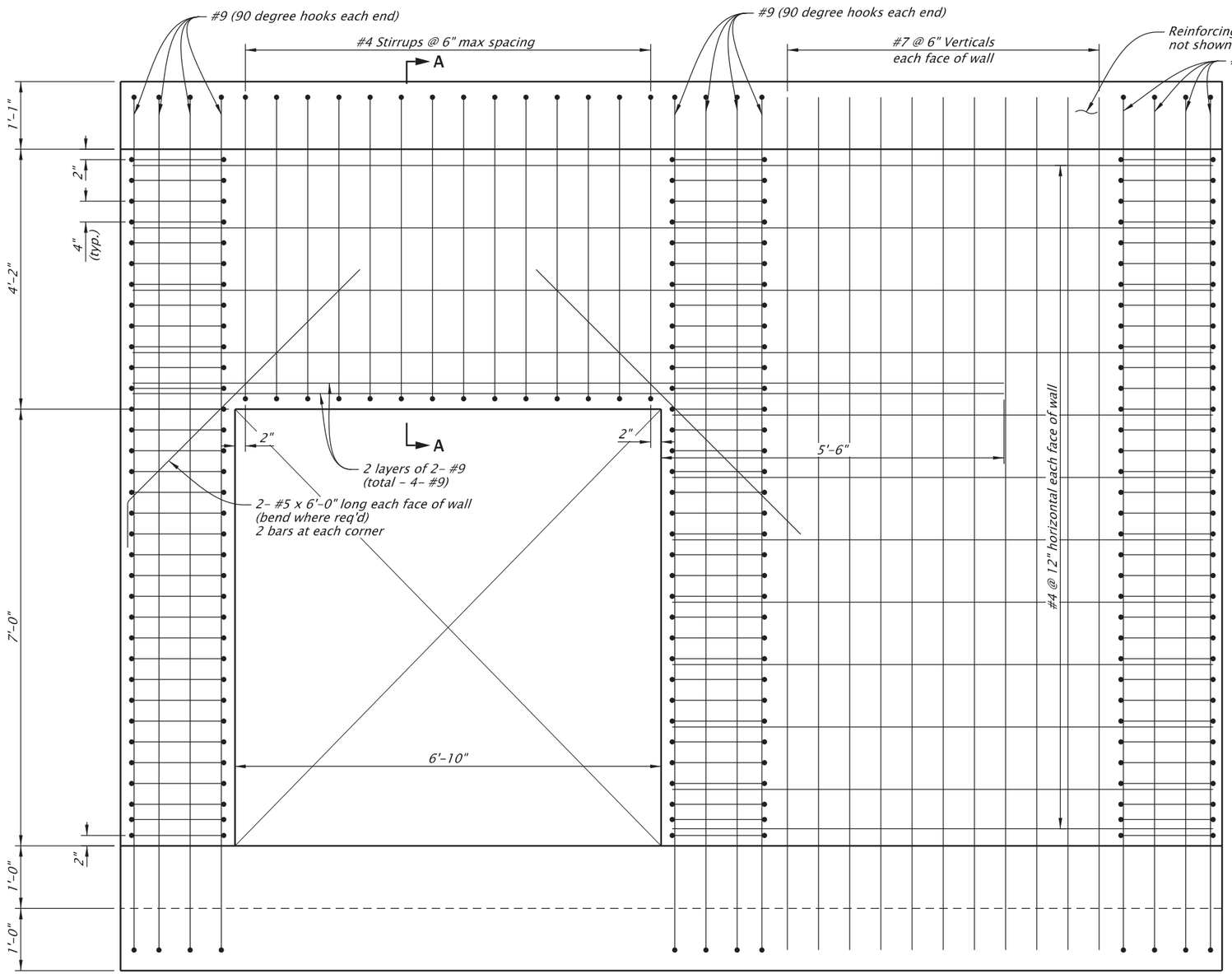
WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Ali Wahidi	Reviewer: Stuart Bennion
Drafter: Grace Harrison	Checker: Stuart Bennion

PUMP CONTROL ROOM STRUCTURE — SHEET NO. S202

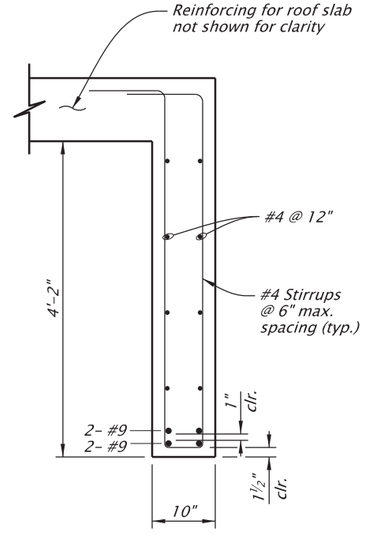
Sec.28 & 33, T.1N, R.1E, W.M.

I-405/FREMONT BRIDGE - INTERCHANGE
I-405 M.P. 3.03



WALL ELEVATION

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



SECTION A-A

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

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WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Ali Wahidi | Reviewer: Stuart Bennion
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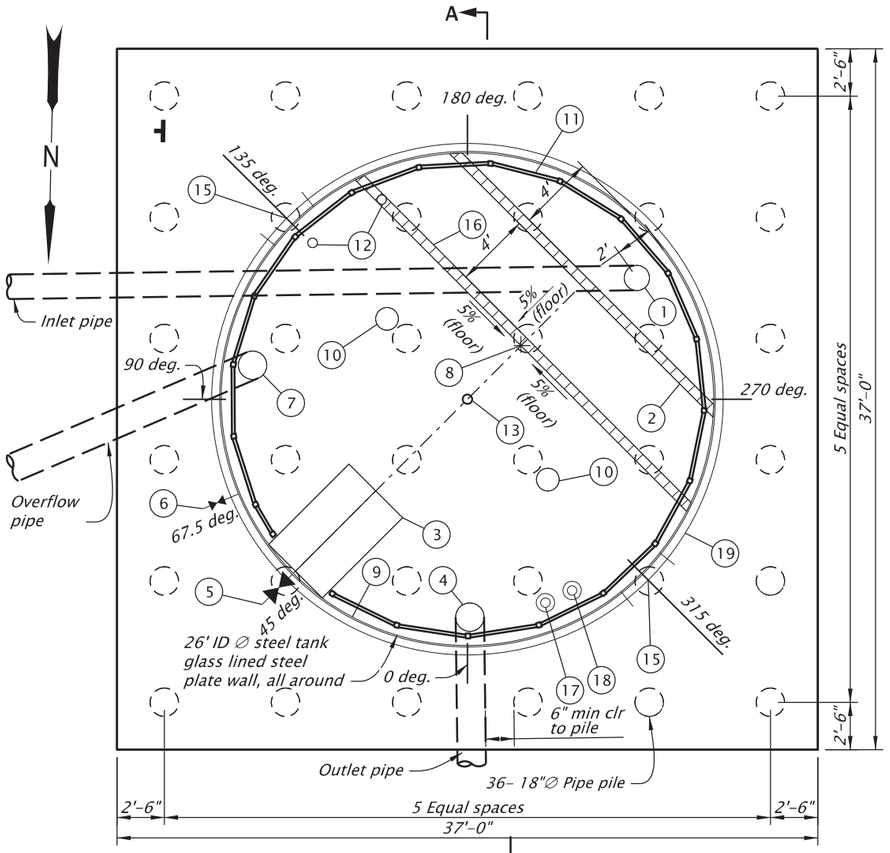
PUMP CONTROL ROOM STRUCTURE

SHEET NO. S203

Sec.28 & 33, T.1N, R.1E, W.M.

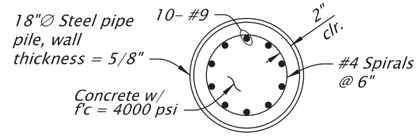
I-405/FREMONT BRIDGE – INTERCHANGE
I-405 M.P. 3.03

59V-002



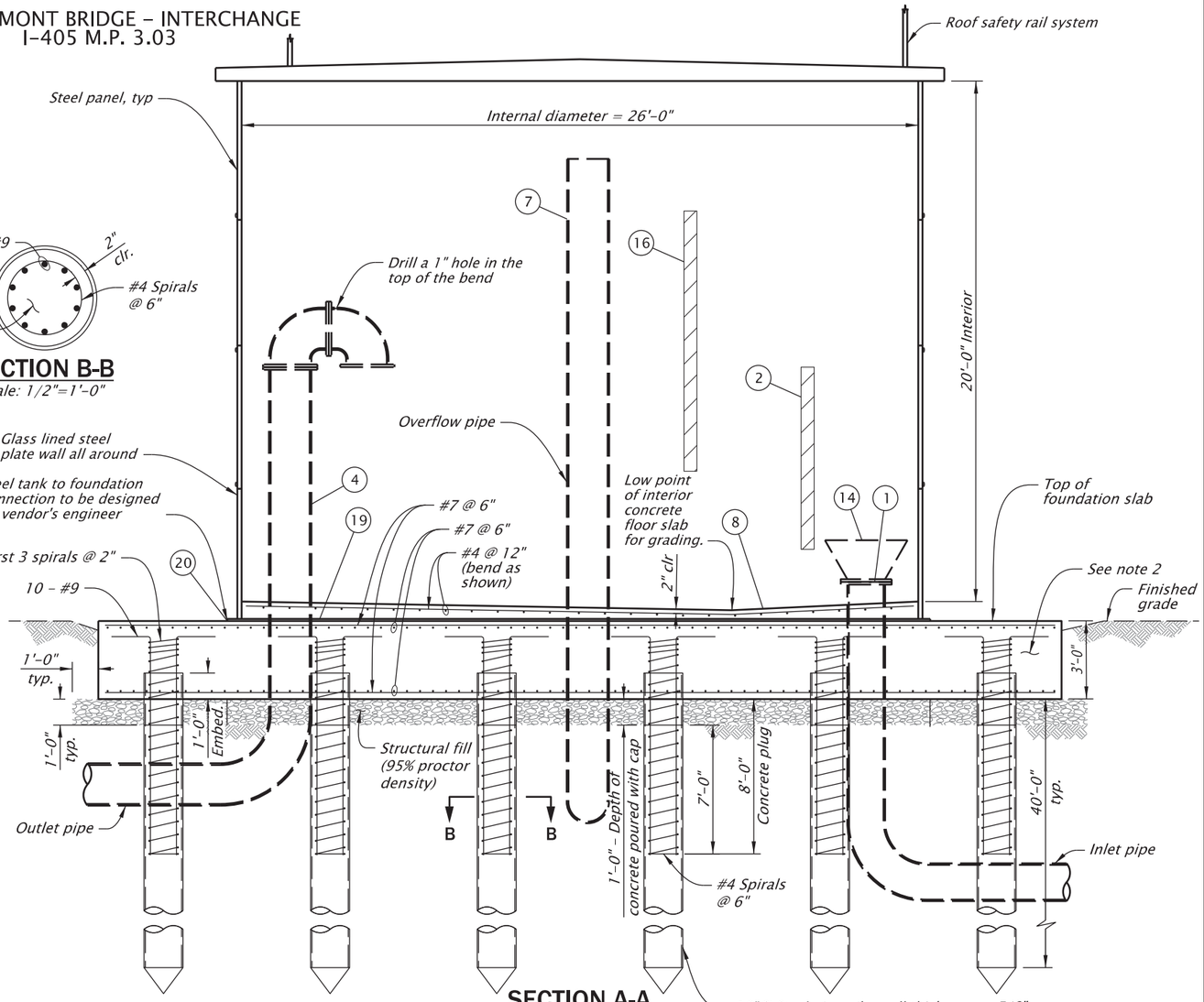
TANK FOUNDATION PLAN

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



SECTION B-B

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



SECTION A-A

Scale: 3/16"=1'-0"

CONSTRUCTION NOTES

1. Inlet pipe
2. Baffle wall 1
   Top of wall = 9' above top of floor slab
   Bottom of wall = 2' above top of floor slab
3. Access hatch in roof of tank
4. Outlet pipe with downturned elbow invert at 9' above top of foundation slab
5. Sediment removal port
   Invert 0.00' above top of floor slab
6. Supernatant removal port
   Invert = 3' above top of foundation slab
7. Tank overflow
   Invert = 19' above top of foundation slab
8. Install steel bottom plate, floor slab, and foundation slab to provide the grades and slopes shown.
9. Invert of floor slab = 4.5" (min.) above top of foundation slab
   Place #4 reinforcement @ 12" max OC each direction with 2" clr from top of floor slab
10. Install vents in the roof of tank
11. Install roof safety rail system, by contractor
12. Roof sleeve for conduit connection
13. Safety anchor point at center of tank
14. Duckbill check valve with flange end
15. Sidewall Access Hatch
    Invert = 0.10' above the Supernatant Removal Port Invert
16. Baffle Wall 2
    Top of wall = 15' above floor slab
    Bottom of wall = 5' above the floor slab
17. 6" Flanged steel pipe spool with a 6" offset for level transmitter
    See electrical details.
18. 6" Flanged steel pipe spool with a 6" offset for floatball
    See electrical details.
19. Steel floor of tank; bottom plate by steel tank vendor
20. All dimensions and connections will be finalized after receiving calculations and details from vendor's engineer

Notes:

1. Preliminary foundation shown – refer to special provision section 01191.01.

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11152PE
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WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

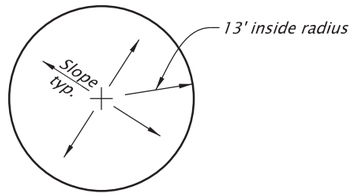
Designer: Ali Wahidi
Drafter: Grace Harrison
Reviewer: Stuart Bennion
Checker: Stuart Bennion

PRE SETTLING TANK

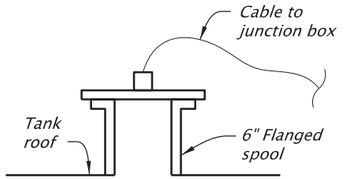
SHEET NO. S204

Sec.28 & 33, T.1N, R.1E, W.M.

I-405/FREMONT BRIDGE - INTERCHANGE
I-405 M.P. 3.03



TANK ROOF PLAN
Scale: NTS



DETAIL - 6" FLANGED SPOOL FOR INSTRUMENTS
Scale: 3/4"=1'-0"

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RENEWS: 06-30-2026

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LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

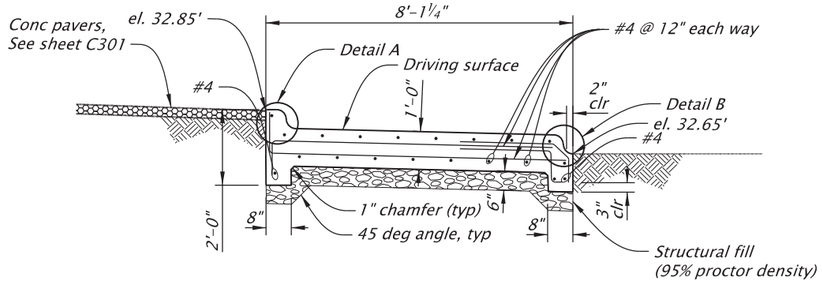
Designer: Ali Wahidi
Drafter: Grace Harrison
Reviewer: Stuart Bennion
Checker: Stuart Bennion

PRE SETTLING TANK DETAILS

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S205

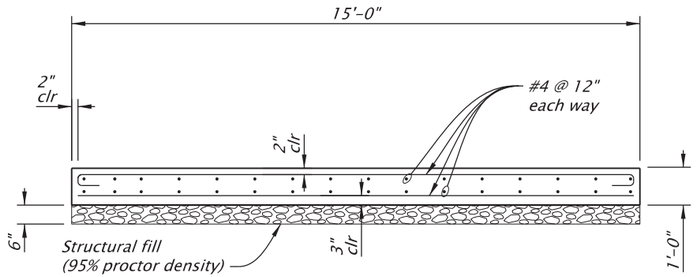
Sec.27, T.1N, R.1E, W.M.

FREMONT BRIDGE – WEST END
US30 – M.P. 3.20



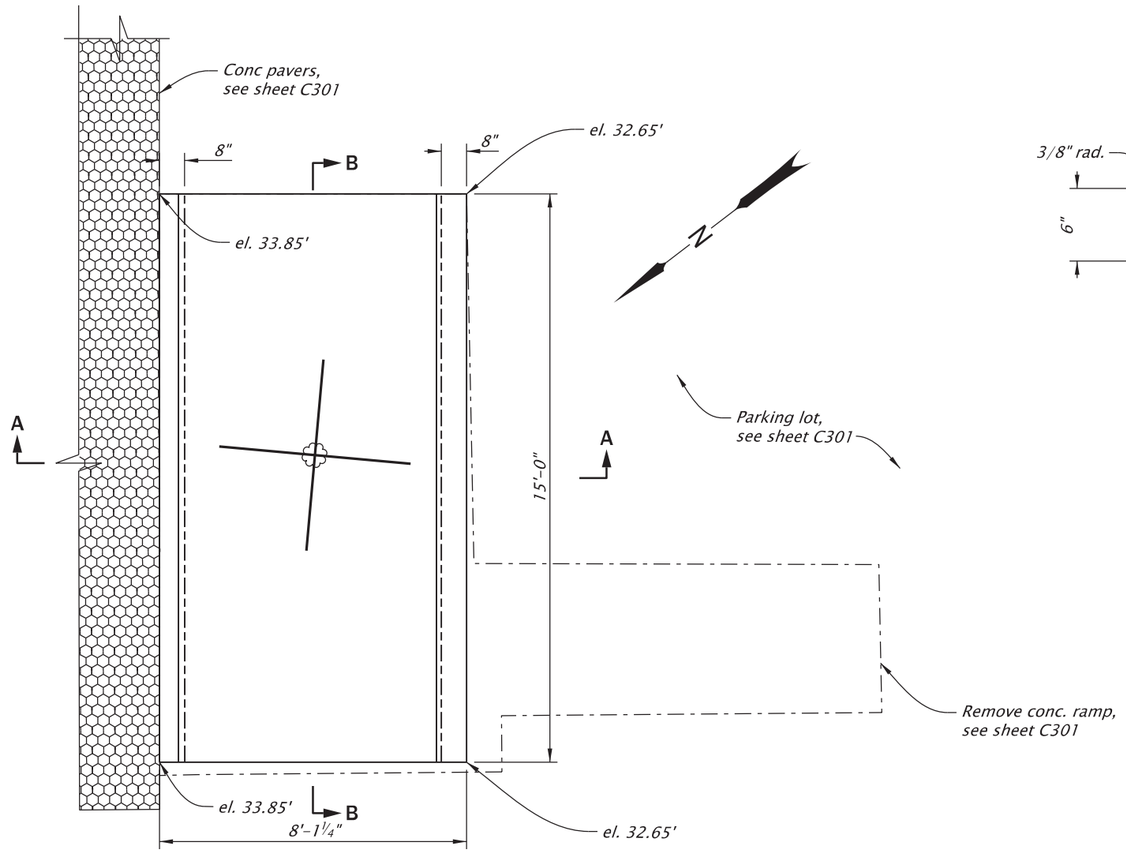
SECTION A-A

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



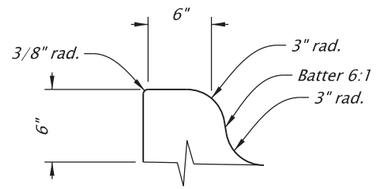
SECTION B-B

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



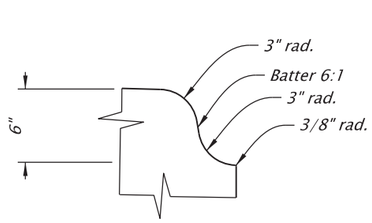
REINFORCED CONCRETE RAMP PLAN

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



Detail A

Scale: 1"=1'-0"



Detail B

Scale: 1"=1'-0"

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11152PE
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OREGON
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OREGON DEPARTMENT OF TRANSPORTATION

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LOWER COLUMBIA RIVER, NORTHEAST PORTLAND,
STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Ali Wahidi | Reviewer: Stuart Bennion
Drafter: Grace Harrison | Checker: Stuart Bennion

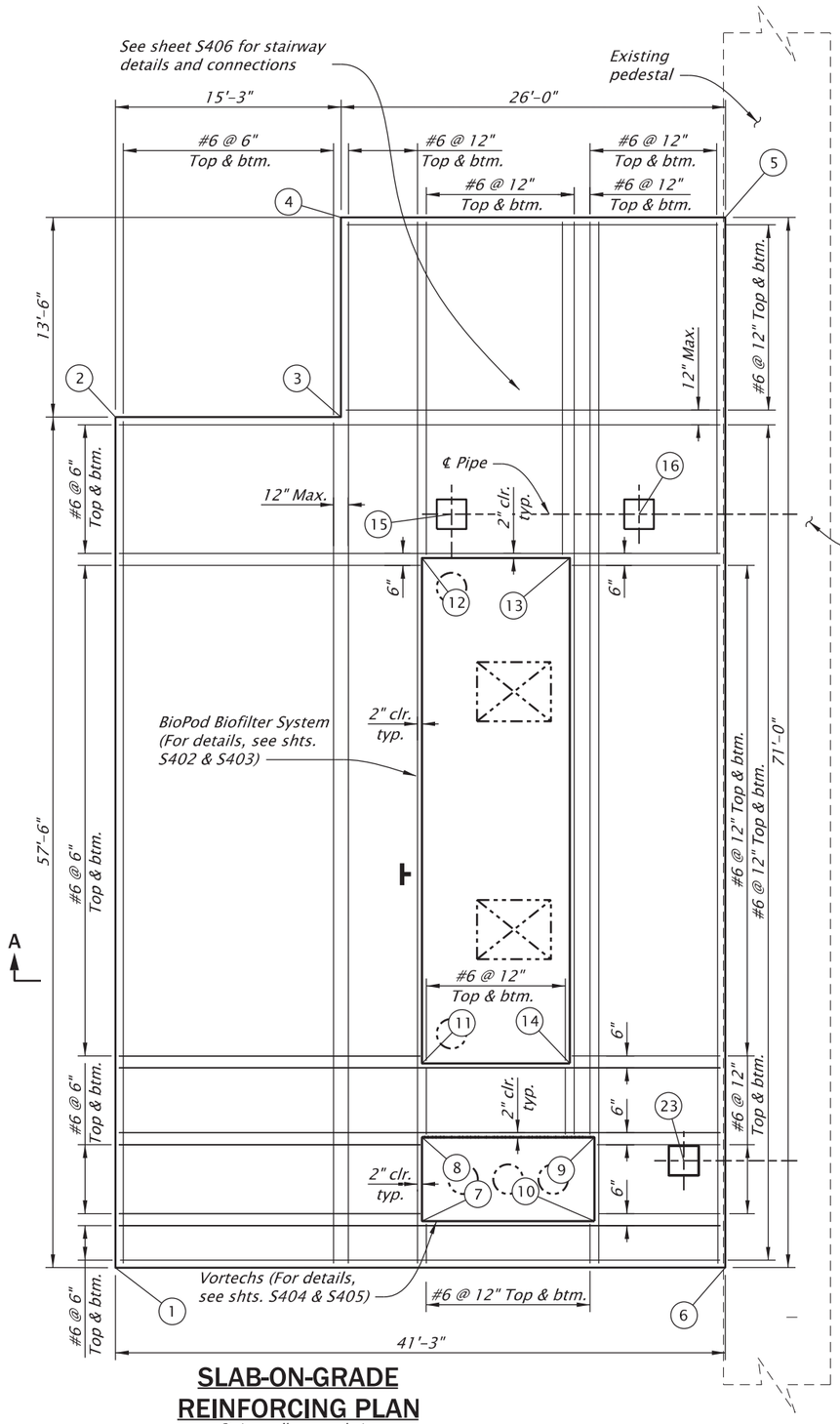
ACCESS RAMP

SHEET NO. S301

59V-002

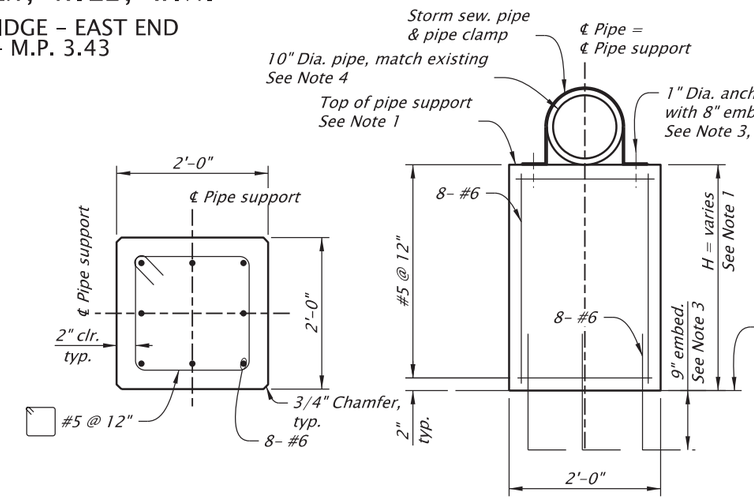
Sec.27, T.1N, R.1E, W.M.

FREMONT BRIDGE – EAST END
US30 – M.P. 3.43

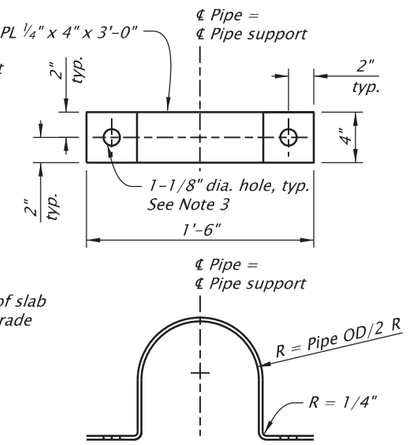


SLAB-ON-GRADE REINFORCING PLAN

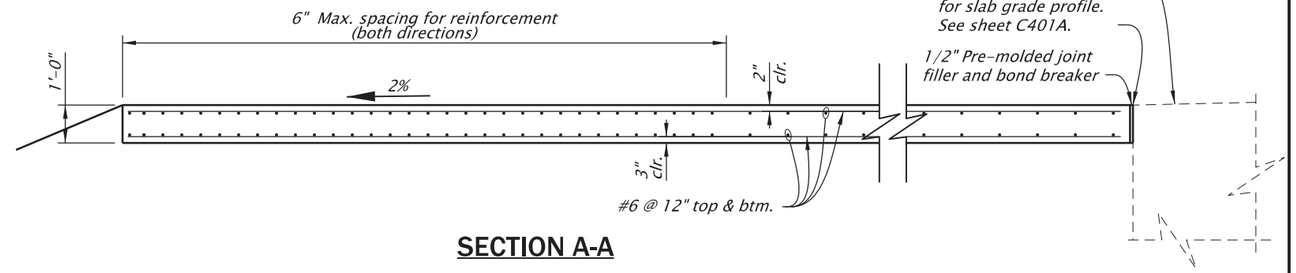
Stairs, walkway, and pipes not shown for clarity



PIPE SUPPORT SECTION



PIPE CLAMP DETAIL



SECTION A-A

Slab points	
1	N: 178423.31, E: 345676.11
2	N: 178385.92, E: 345719.80
3	N: 178374.33, E: 345709.88
4	N: 178365.56, E: 345720.14
5	N: 178345.80, E: 345703.23
6	N: 178391.96, E: 345649.29
7	N: 178405.51, E: 345665.02
8	N: 178401.83, E: 345669.32
9	N: 178392.96, E: 345661.74
10	N: 178396.65, E: 345657.43
11	N: 178398.58, E: 345673.12
12	N: 178376.36, E: 345699.08
13	N: 178368.76, E: 345692.58
14	N: 178390.98, E: 345666.62

℄ Pipe support	
15	N: 178372.92, E: 345700.03
16	N: 178363.28, E: 345691.78
17–22	See J401
23	N: 178389.40, E: 345656.61

Notes:

1. *See HA401A for pipe profile. Adjust height of pipe support as required.*
2. *Stairway connection to slab not shown.*

10 5 0 10
FEET

REGISTERED PROFESSIONAL ENGINEER
96861PE
Digitally Signed 2025.12.17 10:33:09-08'00'
OREGON
JAN. 12, 2021
STUART C. BENNION
RENEWS: 12-31-2025

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OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Fernando Sunago | Reviewer: Stuart Bennion
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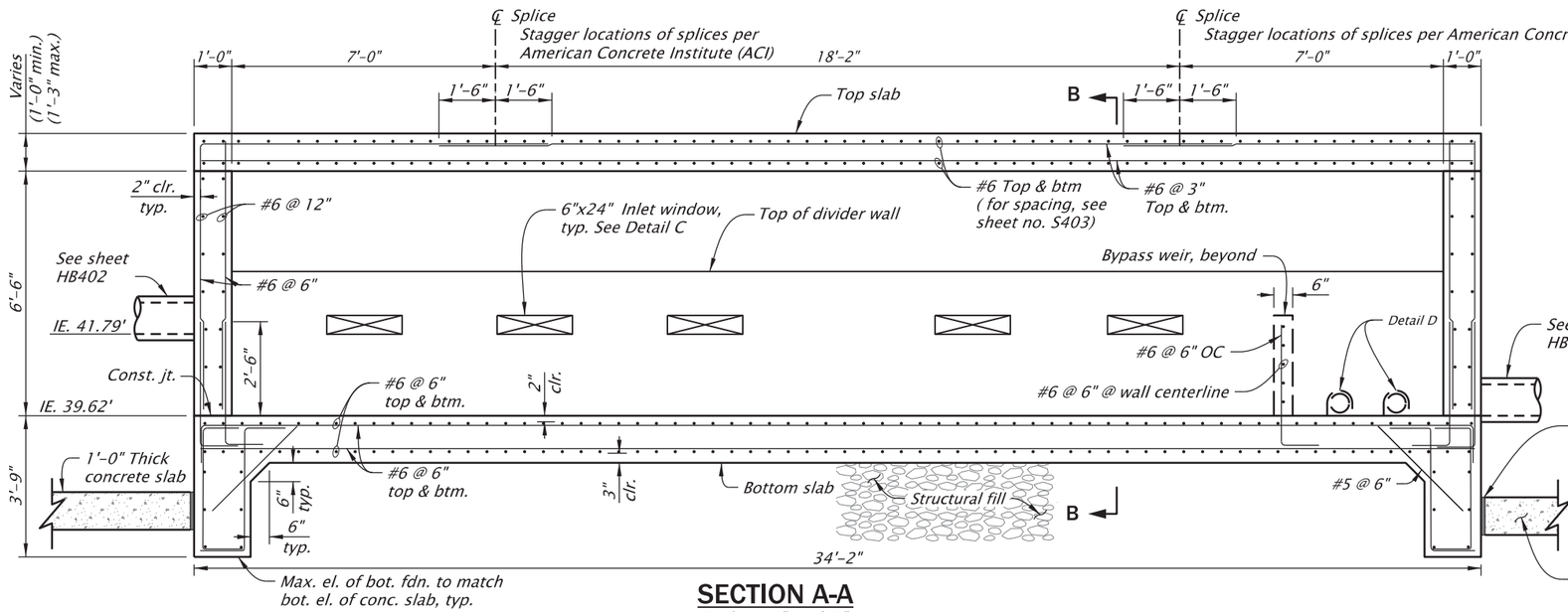
SLAB ON GRADE AND PIPE SUPPORT DETAILS

SHEET NO. S401

59V-002

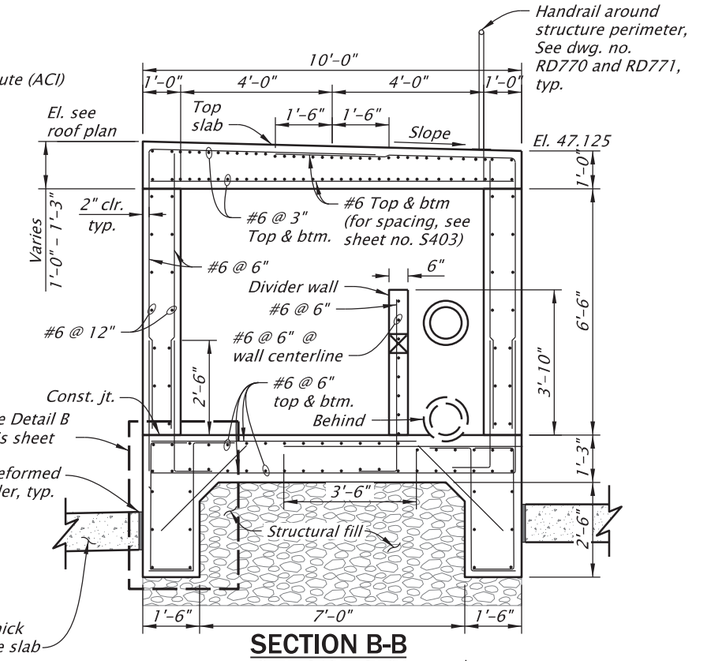
Sec.27, T.1N, R.1E, W.M.

FREMONT BRIDGE - EAST END
US30 - M.P. 3.43



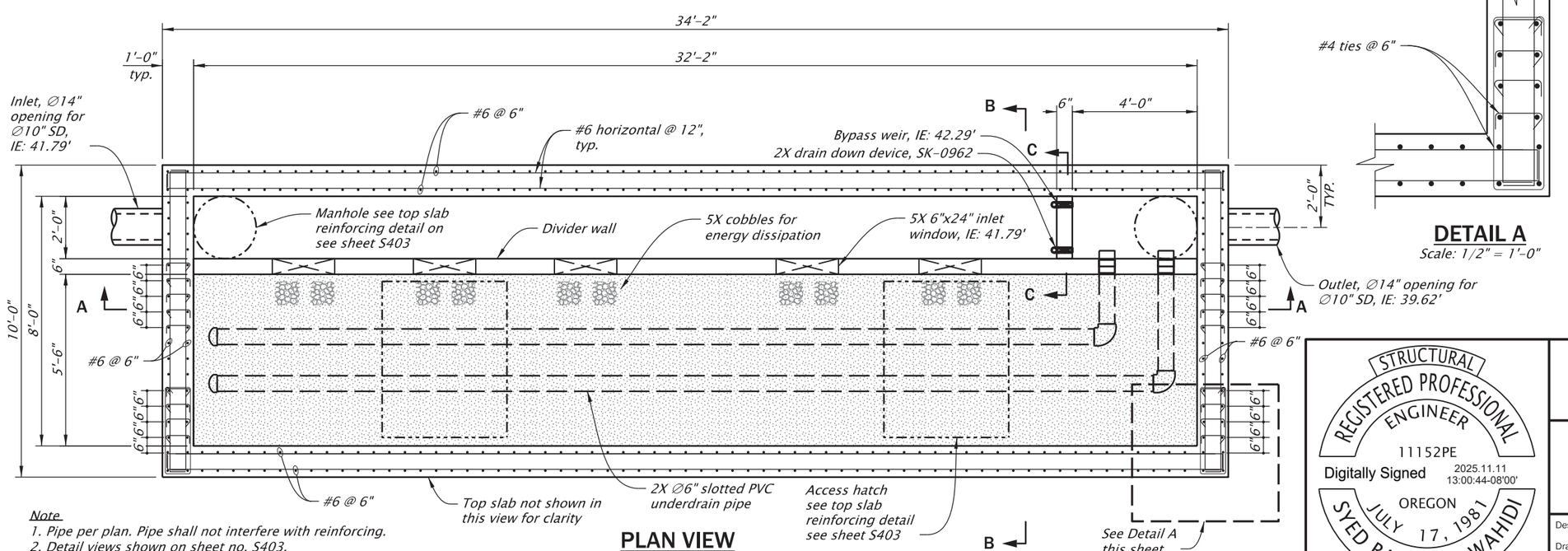
SECTION A-A

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



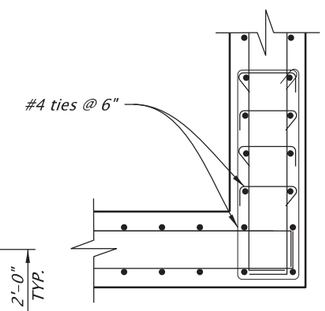
SECTION B-B

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



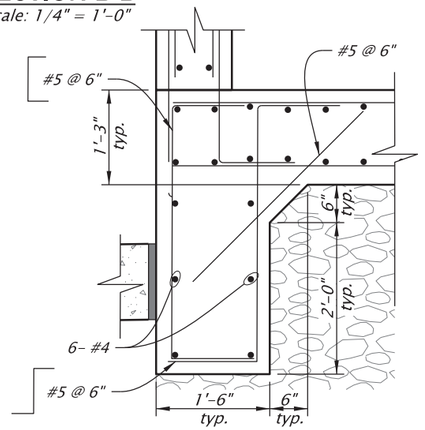
PLAN VIEW

Scale: 1/4" = 1'-0"
(Top slab not shown for clarity)



DETAIL A

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



DETAIL B

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

Note

1. Pipe per plan. Pipe shall not interfere with reinforcing.
2. Detail views shown on sheet no. S403.
3. Stairs, railing, and platform not shown for clarity.
4. 3/4" chamfer, all exterior concrete corners.

STRUCTURAL
REGISTERED PROFESSIONAL ENGINEER
11152PE
Digitally Signed 2025.11.11 13:00:44-08'00'
OREGON
JULY 17, 1981
SYED BABER ALI WAHIDI
RENEWS: 06-30-2026

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

WSP USA Inc.
1300 SW 5th Ave
Suite 3100
Portland, OR 97201
Tel: 1 503 274 8772

OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

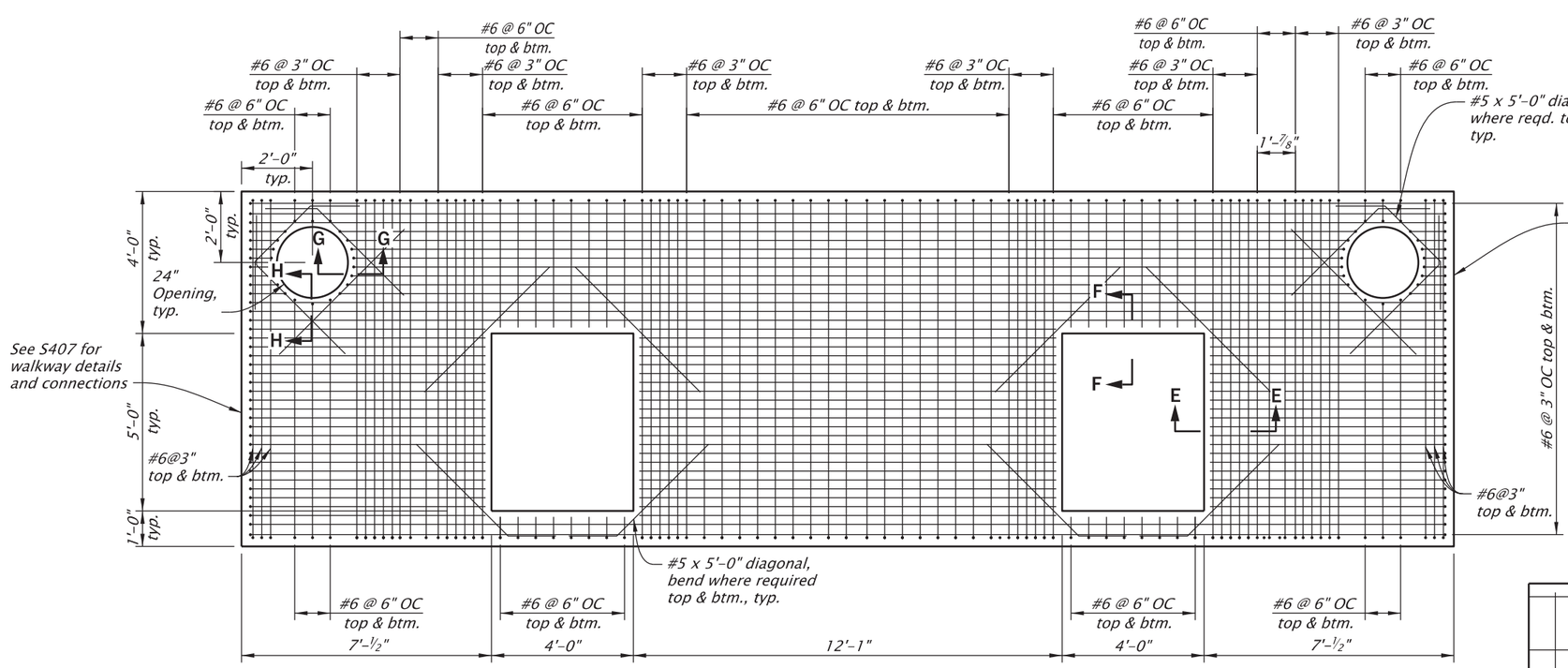
Designer: Ali Wahidi | Reviewer: Stuart Bennion
Drafter: Grace Harrison | Checker: Fernando Sunago

CAST IN PLACE BIOFILTER DETAILS 1

SHEET NO. S402

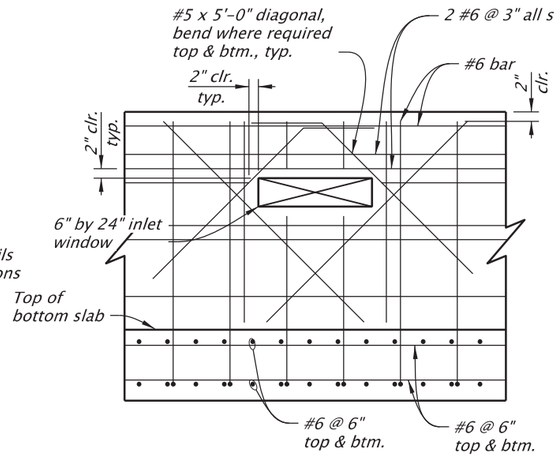
Sec.27, T.1N, R.1E, W.M.

FREMONT BRIDGE – EAST END
US30 – M.P. 3.43



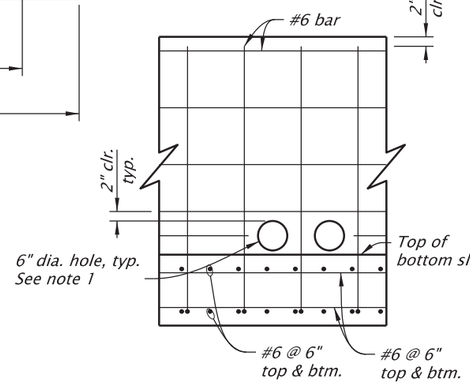
TOP SLAB REINFORCING

Scale: 1/4" = 1'-0"
Riser ring reinforcement not shown for clarity



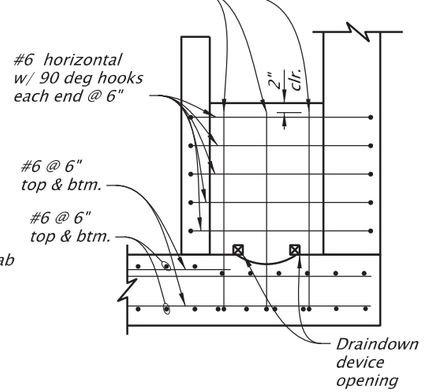
DETAIL C

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



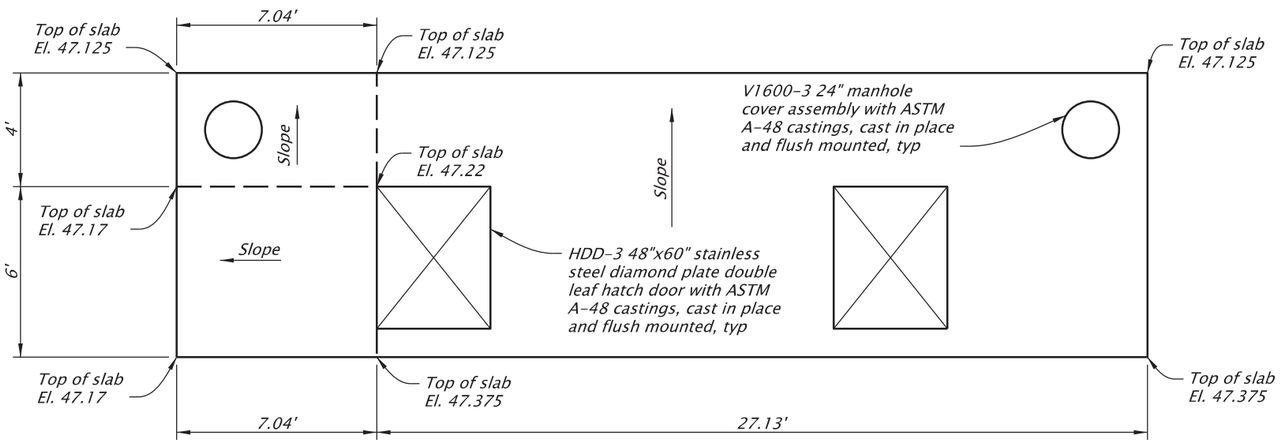
DETAIL D

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



SECTION C-C

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



ROOF PLAN

Scale: 3/16" = 1'-0"

Note
1. Pipe per plan. See pipe penetration detail on sheet S404.
2. See sheet S405 for sections E-E, F-F, G-G, and H-H.

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11152PE
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RENEWS: 06-30-2026
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WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

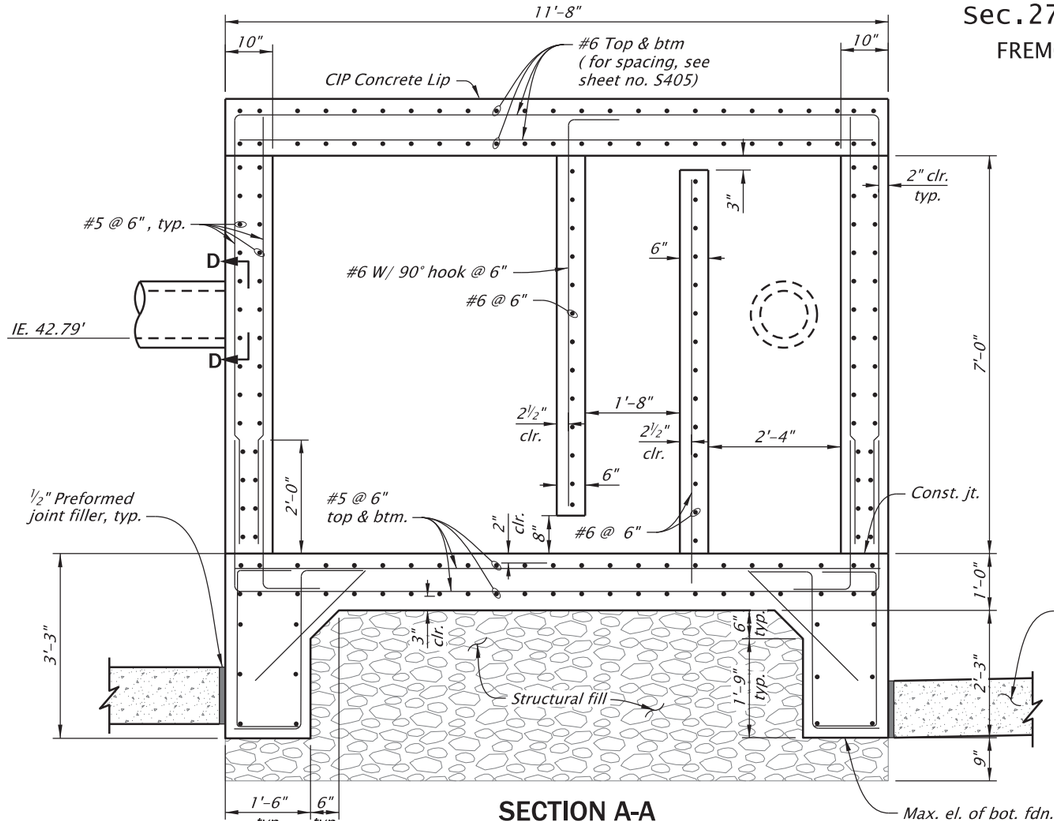
Designer: Ali Wahidi	Reviewer: Stuart Bennion
Drafter: Grace Harrison	Checker: Fernando Sunago

CAST IN PLACE BIOFILTER DETAILS 2

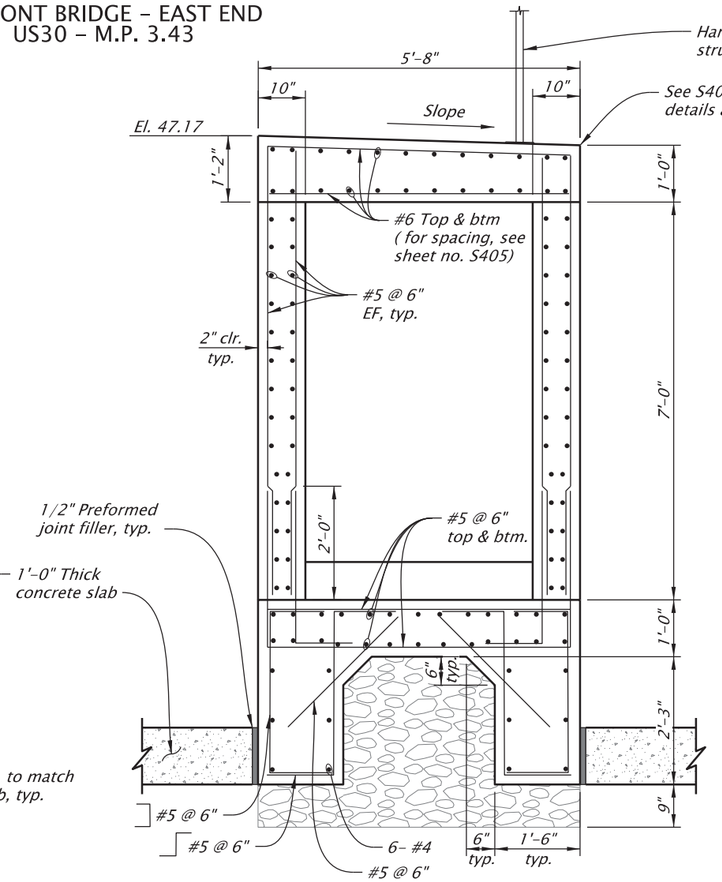
SHEET NO. S403

Sec.27, T.1N, R.1E, W.M.

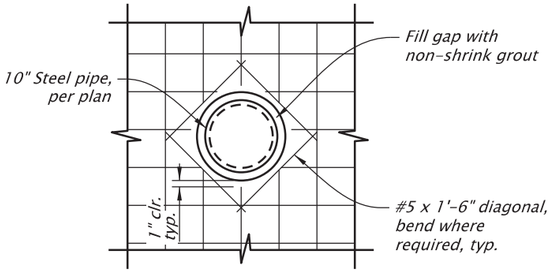
FREMONT BRIDGE - EAST END
US30 - M.P. 3.43



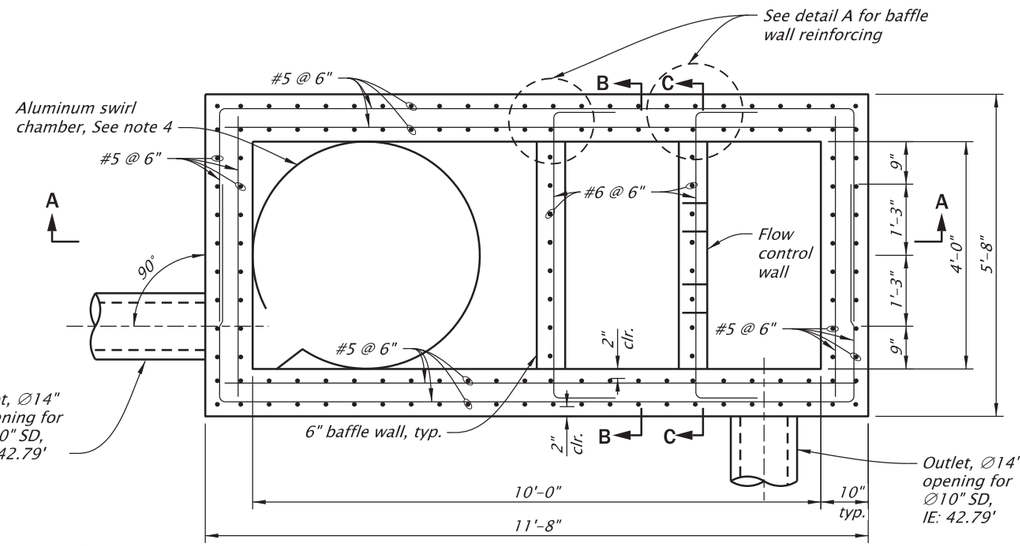
SECTION A-A
Scale: 3/8" = 1'-0"



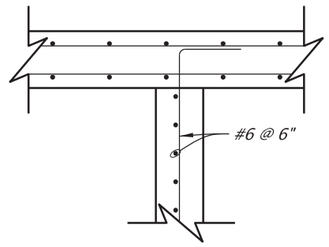
SECTION B-B
Scale: 3/8" = 1'-0"



SECTION D-D
Scale: 1/2" = 1'-0"



PLAN VIEW
Scale: 3/8" = 1'-0"



Note:
See section A-A for exterior wall reinforcing. Reinforcing detail mirrors on opposite end.

DETAIL A
Scale: 3/8" = 1'-0"

Note
1. Pipe per plan. See pipe penetration detail this sheet.
2. Stairs, railing, and platform not shown for clarity.
3. See sheet S405 for Section C-C.
4. Aluminum swirl chamber and connections by contractor.
5. 3/4" chamfer, all exterior concrete corners.

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11152PE
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WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND,
STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

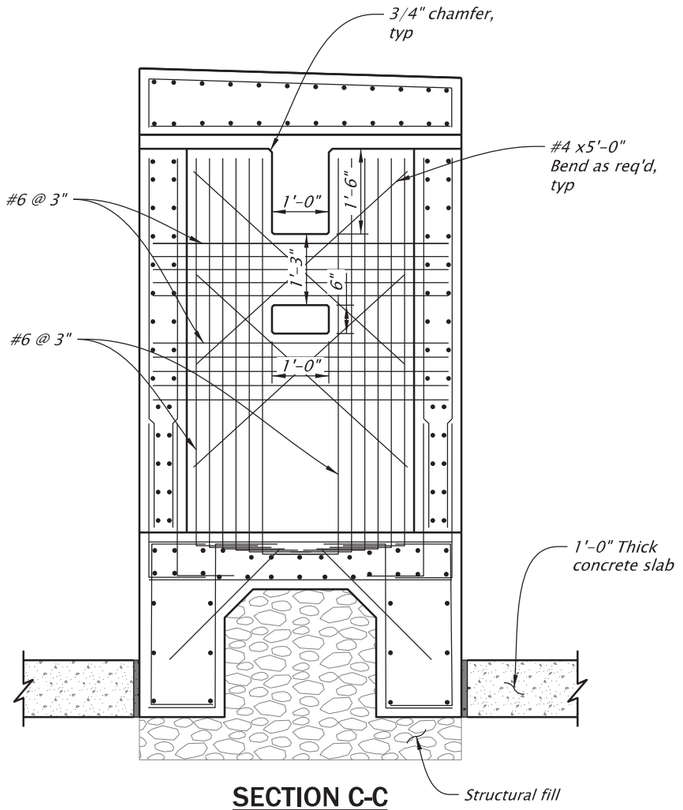
Designer: Ali Wahidi
Drafter: Grace Harrison
Reviewer: Stuart Bennion
Checker: Fernando Sunago

VORTECHS DETAILS 1

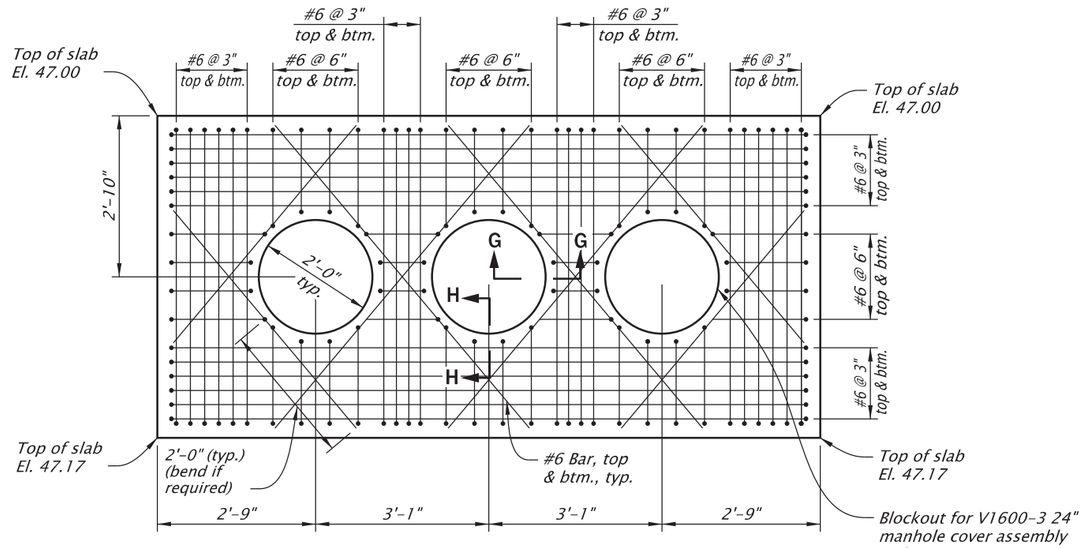
SHEET NO.
S404

Sec.27, T.1N, R.1E, W.M.

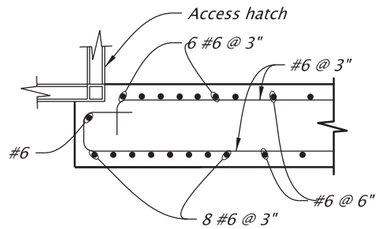
FREMONT BRIDGE - EAST END
US30 - M.P. 3.43



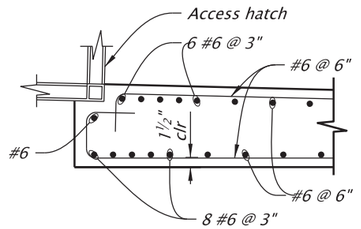
SECTION C-C
Scale: 3/8" = 1'-0"



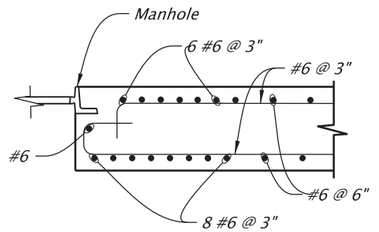
TOP SLAB REINFORCING
Scale: 3/8" = 1'-0"



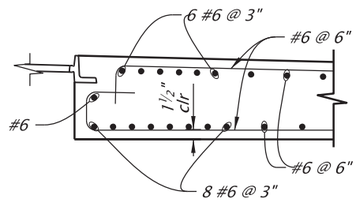
SECTION E-E
Scale: 1/2" = 1'-0"



SECTION F-F
Scale: 1/2" = 1'-0"



SECTION G-G
Scale: 1/2" = 1'-0"



SECTION H-H
Scale: 1/2" = 1'-0"

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11152PE
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OREGON
JULY 17, 1981
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OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

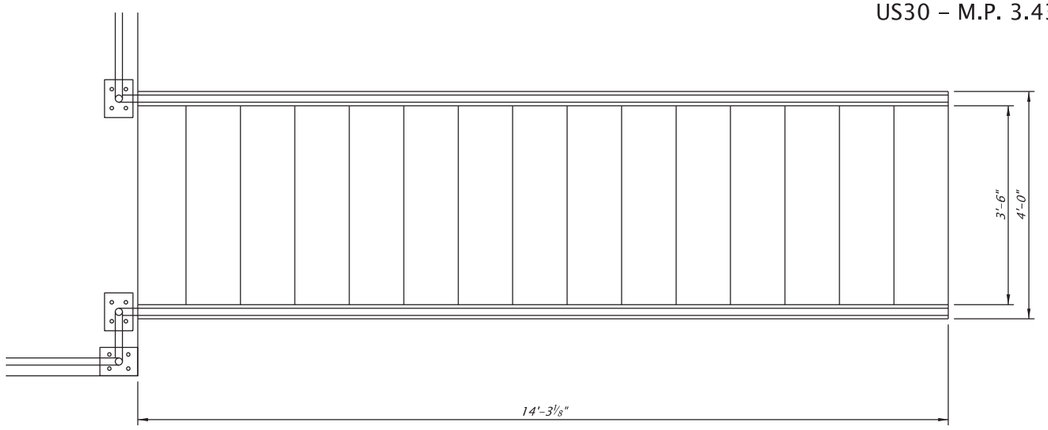
Designer: Ali Wahidi | Reviewer: Stuart Bennion
Drafter: Grace Harrison | Checker: Ali Wahidi

VORTECHS DETAILS 2

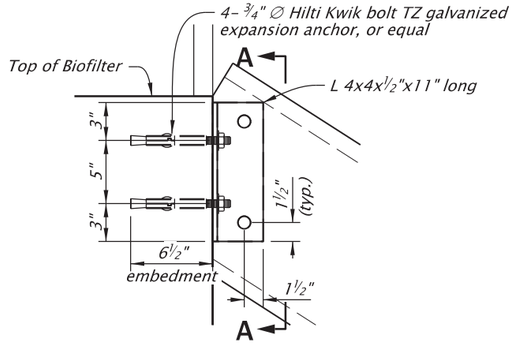
SHEET NO. S405

Sec.27, T.1N, R.1E, W.M.

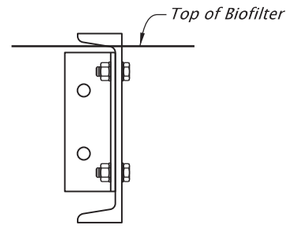
FREMONT BRIDGE – EAST END
US30 – M.P. 3.43



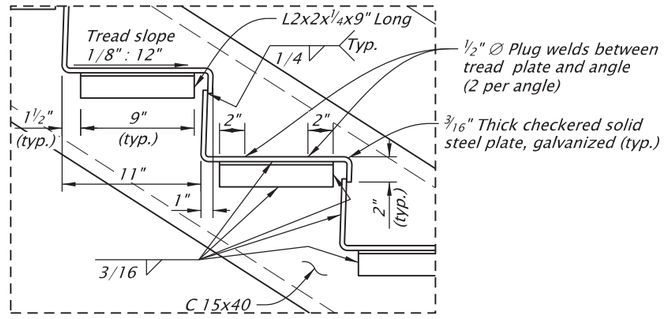
STAIR PLAN
Scale: 3/8" = 1'-0"



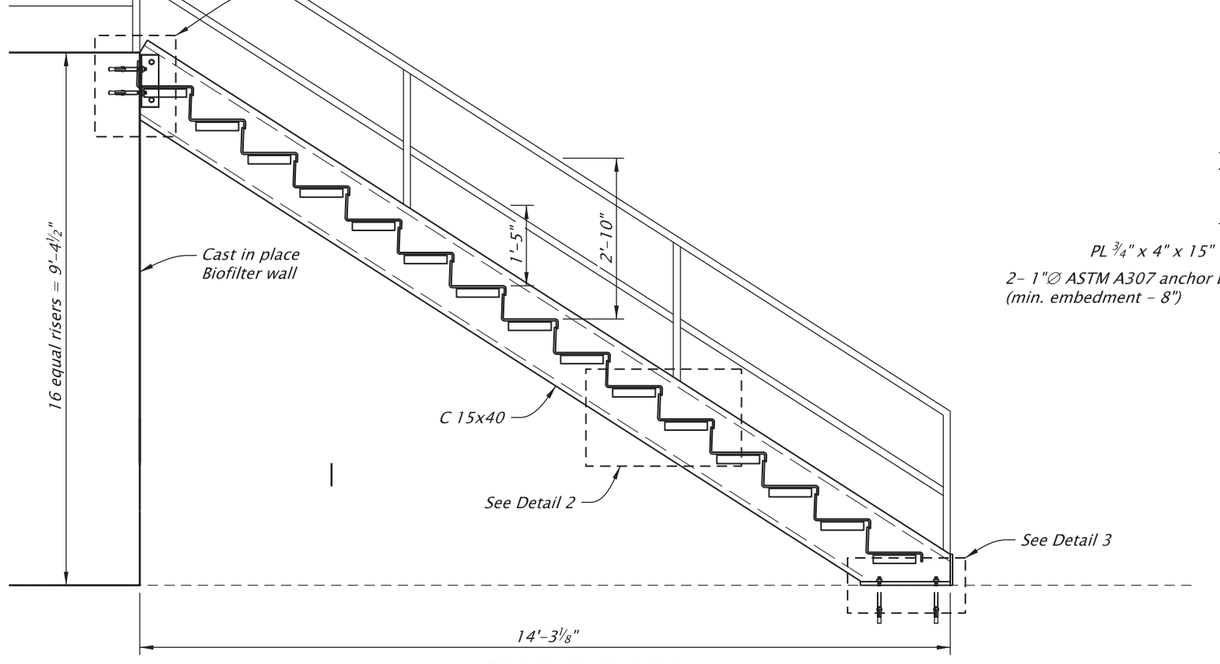
DETAIL 1
Scale: 1" = 1'-0"



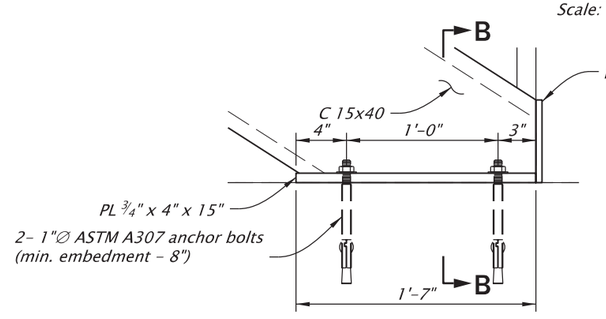
SECTION A-A
Scale: 1" = 1'-0"



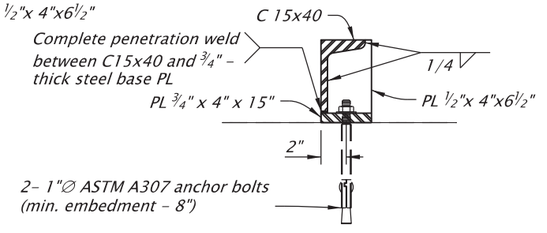
DETAIL 2
Scale: 1" = 1'-0"



STAIR ELEVATION
Scale: 3/8" = 1'-0"



DETAIL 3
Scale: 1" = 1'-0"



SECTION B-B
Scale: 1" = 1'-0"

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11152PE
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OREGON
JULY 17, 1981
SYED BABER ALI WAHIDI
RENEWS: 06-30-2026

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1300 SW 5th Ave
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OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

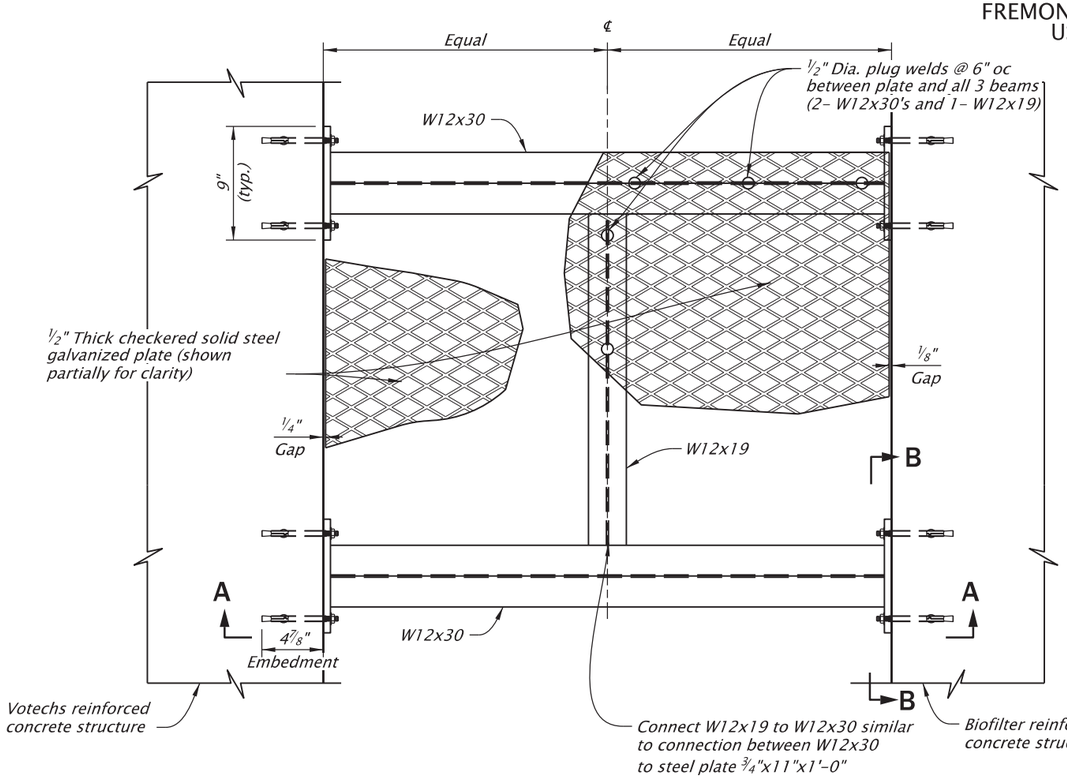
Designer: Ali Wahidi
Drafter: Grace Harrison
Reviewer: Stuart Bennion
Checker: Stuart Bennion

CAST IN PLACE BIOFILTER STAIR DETAILS

SHEET NO. S406

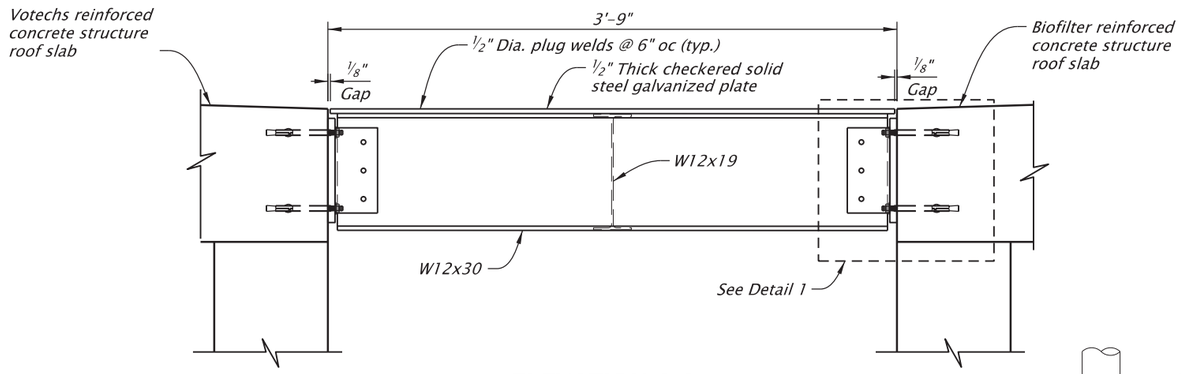
Sec.27, T.1N, R.1E, W.M.

FREMONT BRIDGE - EAST END
US30 - M.P. 3.43



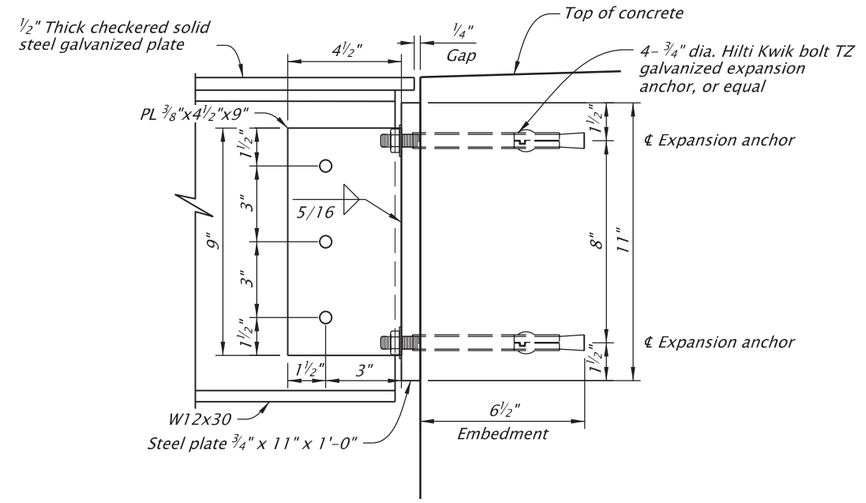
WALKWAY PLAN

Scale: 1" = 1'-0"



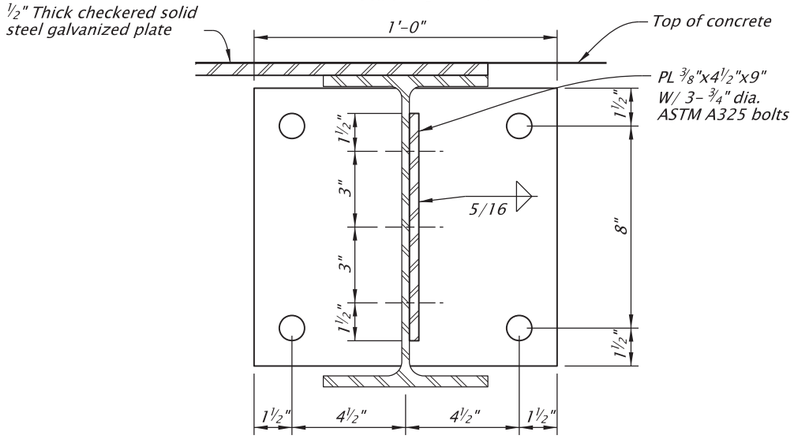
ELEVATION A-A

Scale: 1" = 1'-0"



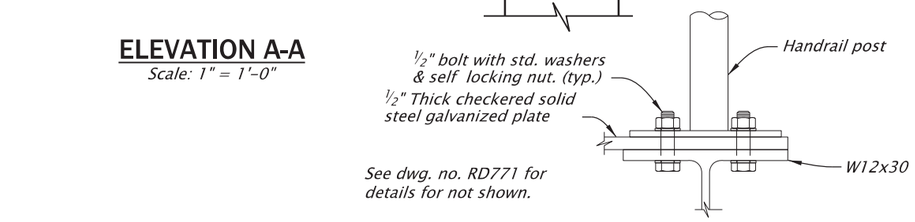
DETAIL 1

Scale: 1½" = 1'-0"



SECTION B-B

Scale: 1½" = 1'-0"



RAIL CONNECTION DETAIL

Scale: 1½" = 1'-0"

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11152PE
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JULY 17, 1981
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WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT

LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

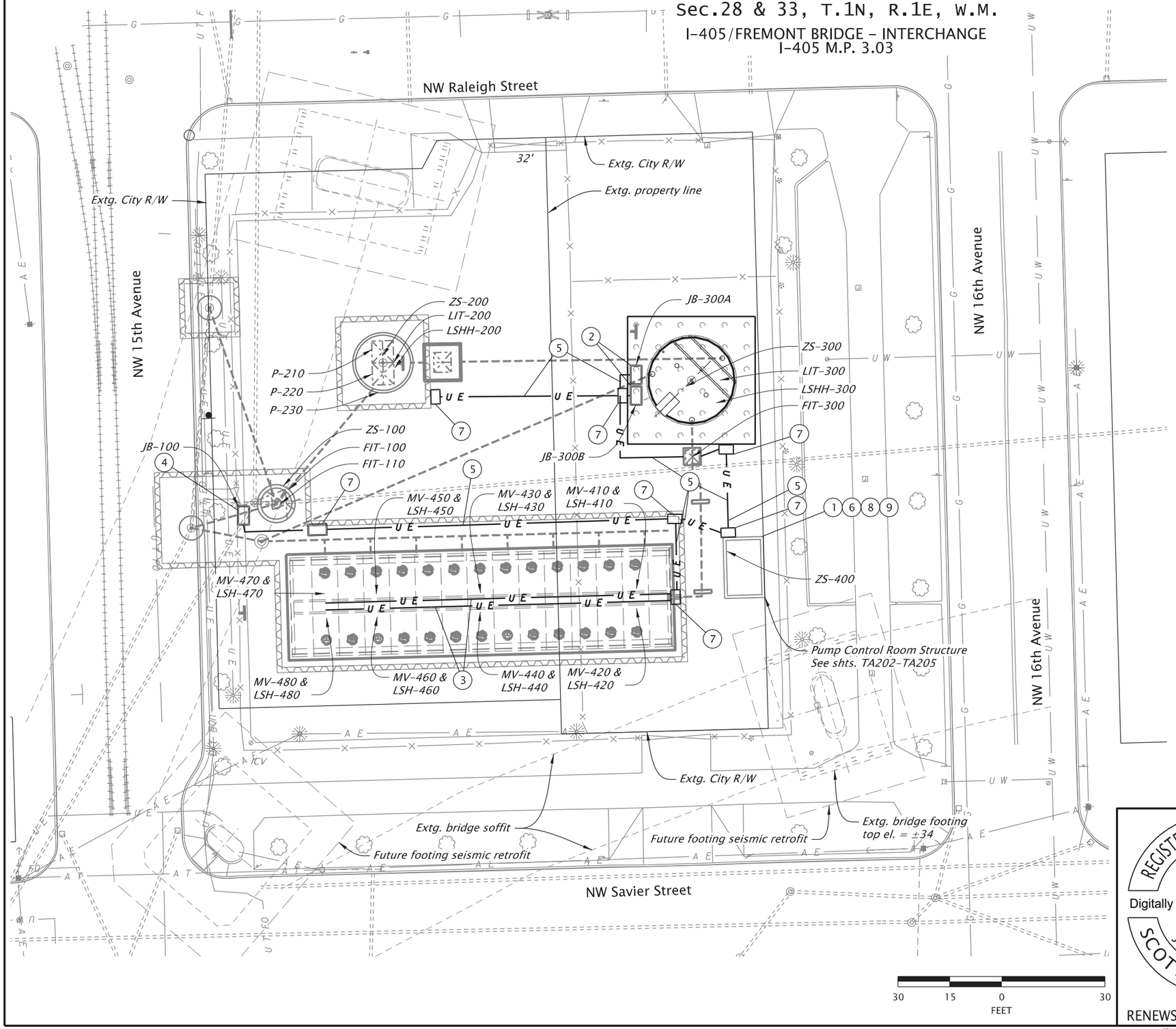
Designer: Ali Wahidi | Reviewer: Stuart Bennion
Drafter: Grace Harrison | Checker: Stuart Bennion

CAST IN PLACE BIOFILTER WALKWAY DETAILS

SHEET NO. S407

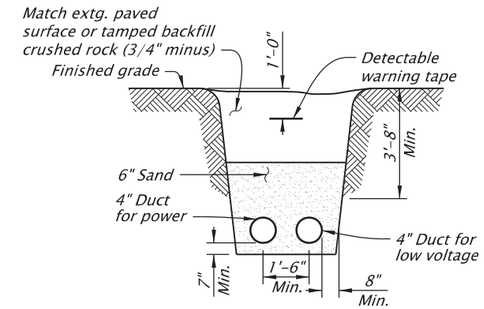
Sec.28 & 33, T.1N, R.1E, W.M.

I-405/FREMONT BRIDGE - INTERCHANGE
I-405 M.P. 3.03



CONSTRUCTION NOTES

1. *PGE scope is from the transformer to the meter base*
2. *Inst. lockable elec. junction box for pre-settling tank instruments, mounted to pre-settling tank or pole - 2*
3. *Inst. 2- 4" elec. conduit in BioPod trench. Field fit - 200'*
4. *Inst. lockable elec. junction box mounted to pole along inside of fence - 1*
5. *Inst. 2- 4" elec. conduit in trench - 272'*
6. *Inst. new meter on building wall. Route cable from meter into building.*
7. *Inst. handhole - 7*
8. *Inst. mast and weatherhead in compliance with PGE's Electrical Service Requirements (ESR). PGE to provide connection to meter.*
9. *Coordinate with Sam Cope at PGE at 503-349-7316 for service connection per workorder #M5781720.*



TYPICAL UNDERGROUND DUCT INSTALLATION

Applies to multiple and single conduit trenches

NOTES

1. *Confirm existing power service location on site.*
2. *Stub up conduits for power and control cables into building.*
3. *Typical underground duct installation detail to be used for single or multiple ducts.*

REGISTERED PROFESSIONAL ENGINEER
104945PE
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OREGON
JULY 09, 2024
SCOTT ALAN HAGER
RENEWS: 06-30-2027

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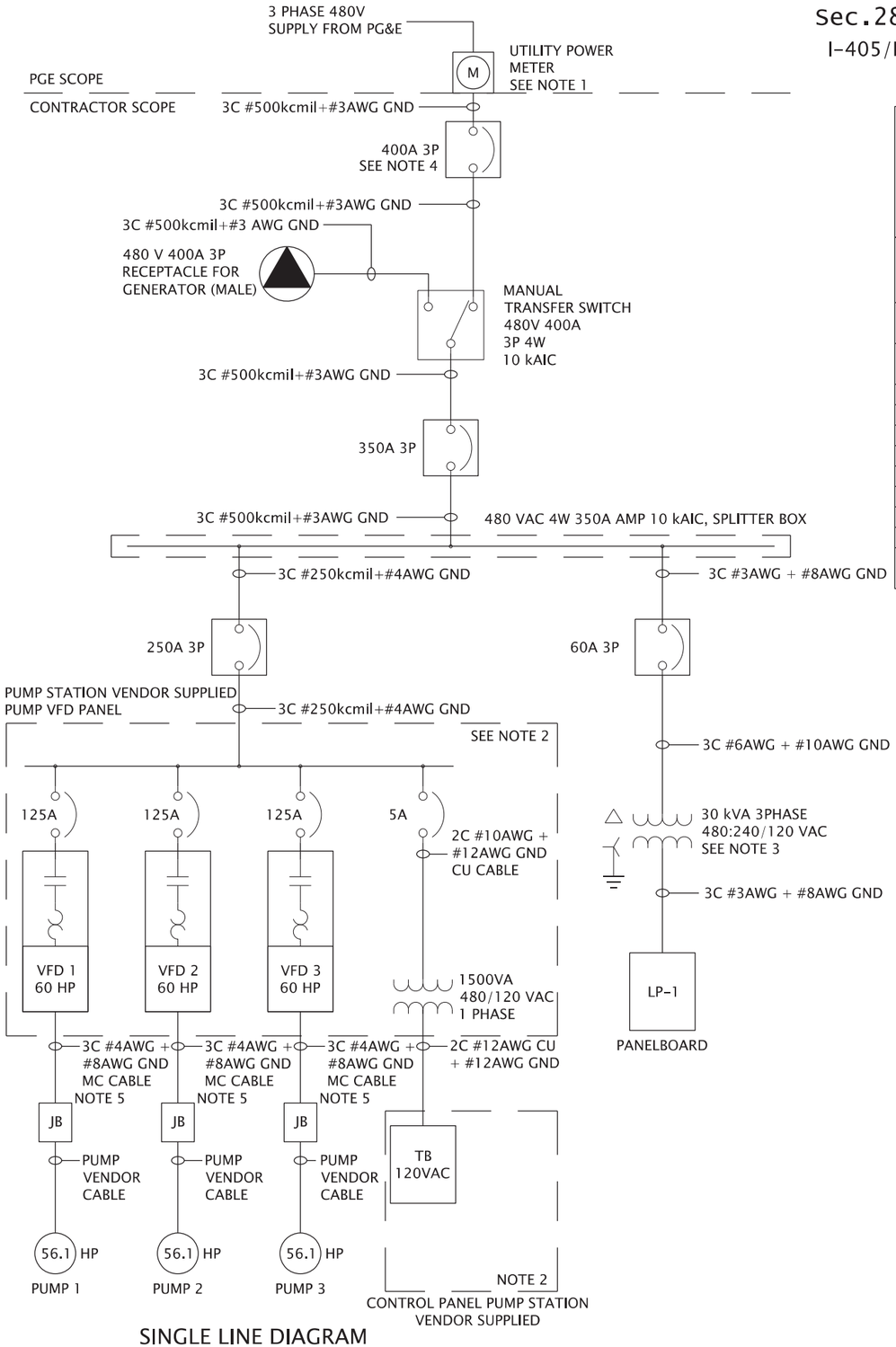
Designer: Mike Rotzien | Reviewer: Scott Alan Hager
Drafter: Roy D'Llma | Checker: Mike Rotzien

ELECTRICAL SITE PLAN | SHEET NO. TA201

59V-002

Sec.28 & 33, T.1N, R.1E, W.M.

I-405/FREMONT BRIDGE – INTERCHANGE
I-405 M.P. 3.03



SINGLE LINE DIAGRAM

LP-1	LOCATION: CONTROL BUILDING STRUCTURE				INTERRUPTING RATING		10,000	AMPS		
	VOLTAGE	120/240V	ENCLOSURE	NEMA 12	MAINS	LUGS				
	PHASE/WIRES	1Ø, 3W	BKR TYPE	BOLT ON	100	BREAKER	AMPS			
	FED FROM UTILITY		MOUNTING	SURFACE		MCS	AMPS	BUS	125	AMPS

DESIGNATION	LOAD (Watt) X1	LOAD (Watt) X2	LOAD (Watt) X3	AWG	CCT #	BKR	X1 X2 X3	BKR	CCT #	AWG	LOAD (Watt) X1	LOAD (Watt) X2	LOAD (Watt) X3	DESIGNATION
BASEBOARD HEATER 1 KW		500		12	1	25A		15A	2	12	100			EXIT LIGHTS
			500	12	3			15A	4	12		100		INTERIOR LIGHTING
UNIT HEATER 5 KW		2500		10	5	30A		15A	6	12	100			EXTERIOR LIGHTING
			2500	10	7			15A	8	12		1000		RECEPTACLE
SPARE					9	15A		15A	10	12	1000			RECEPTACLE
SPARE					11	15A		15A	12	12		1000		RECEPTACLE
SPARE					13	15A		15A	14					SPARE
BLANK					15			15A	16					SPARE
BLANK					17			15A	18					SPARE
BLANK					19				20					BLANK
BLANK					21				22					BLANK
BLANK					23				24					BLANK
						TOTALS	WATTS 8400	AMPS 70						

DISTRIBUTION PANEL LP-1

NOTES:
1. IF REQUIRED, CONTRACTOR TO SUPPLY AND INSTALL PGE APPROVED METER SOCKET AND TERMINAL LUGS.
2. CONTROL PANEL MANUFACTURED BY PUMP STATION PANEL SHOP. INSTALLED BY CONTROL BUILDING STRUCTURE CONTRACTOR.
3. CONTROL BUILDING STRUCTURE CONTRACTOR TO MOUNT THE TRANSFORMER ON THE WALL.
4. MAIN CIRCUIT BREAKER SHALL BE SERVICE RATED.
5. JUNCTION BOX MOUNTED ON RESERVOIR.

LEGEND

CIRCUIT BREAKER

OVERLOAD

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SCOTT ALAN HAGER
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OREGON DEPARTMENT OF TRANSPORTATION

WILLAMETTE RIVER: STORMWATER SOURCE CONTROL IMPROVEMENTS PROJECT
LOWER COLUMBIA RIVER, NORTHEAST PORTLAND, STADIUM FREEWAY HIGHWAY
MULTNOMAH COUNTY

Designer: Mike Rotzien
Reviewer: Scott Alan Hager
Drafter: Roy D'Lima
Checker: Mike Rotzien

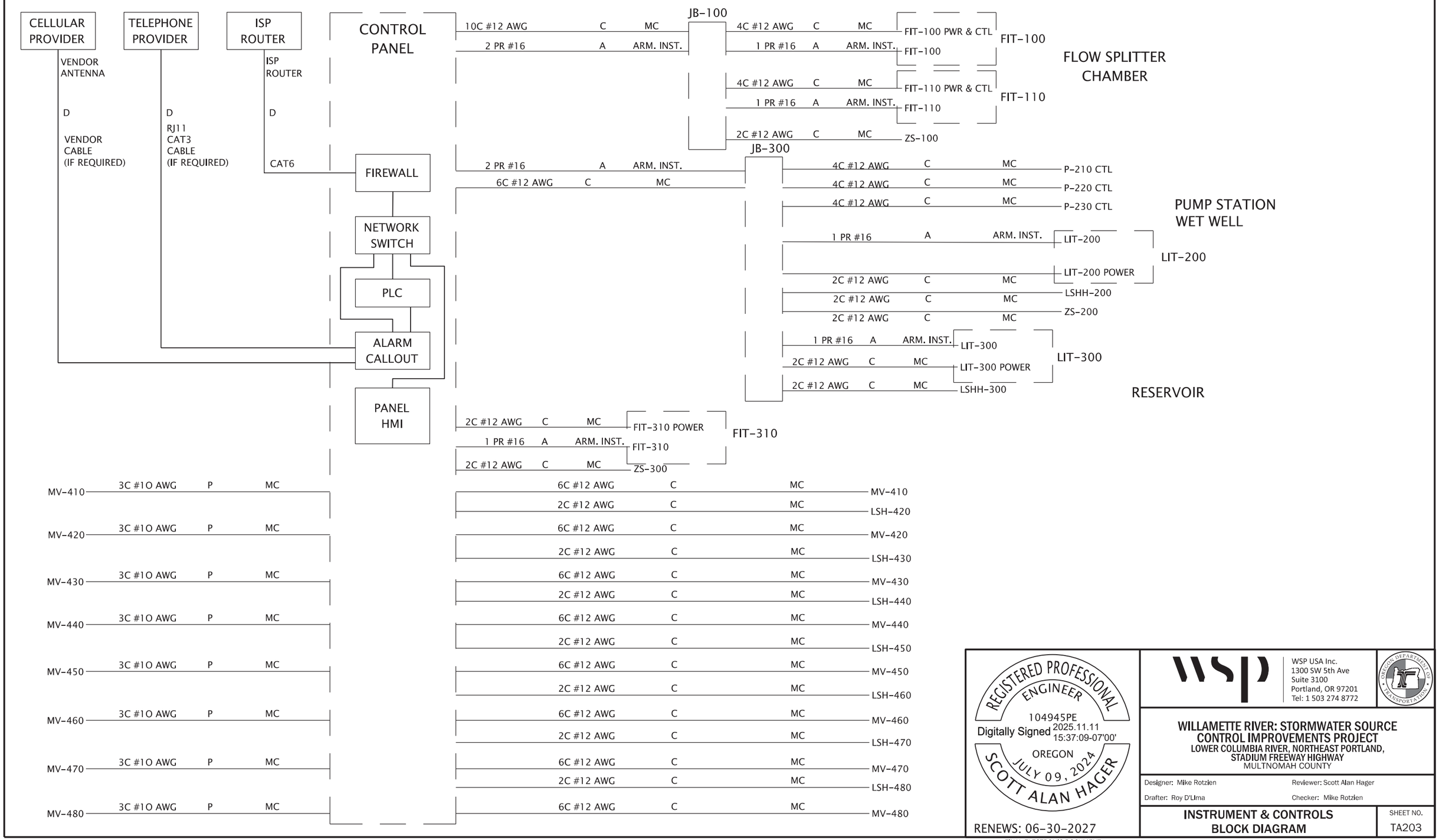
WIRING DIAGRAM

SHEET NO. TA202

59V-002

Sec.28 & 33, T.1N, R.1E, W.M.

I-405/FREMONT BRIDGE - INTERCHANGE
I-405 M.P. 3.03



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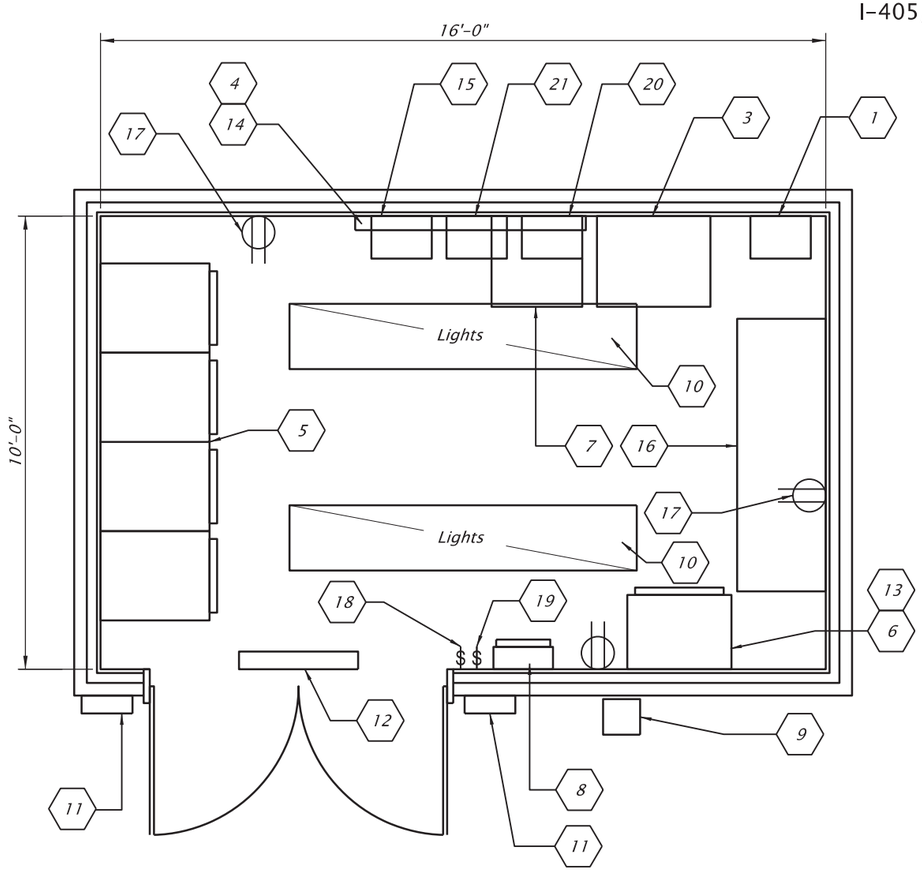
Designer: Mike Rotzien
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INSTRUMENT & CONTROLS BLOCK DIAGRAM

SHEET NO. TA203

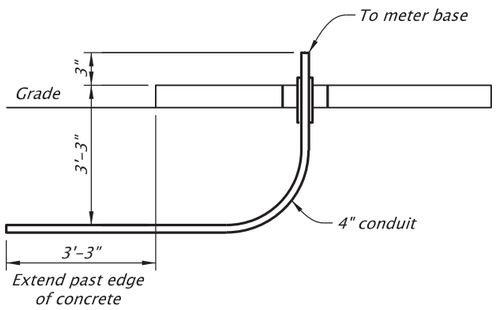
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BILL OF MATERIALS					
ITEM	QTY	DESCRIPTION	REMARKS	MANUFACTURER	MODEL
1	3	400A, 480V, 3P CIRCUIT BREAKER	MAIN CB		
2	1	UTILITY METER C	NOT SHOWN, METER LOCATED ON PROPERTY LINE. SEE DWG TA201.		
3	1	400A, 480V, 3PH 4W MANUAL TRANSFER SWITCH			
4	1	350A, 480V, 3PH 4W SPLITTER BOX			
5	1	MOTOR CONTROL CENTER	HOUSES THREE VFDs AND 150 VA 480/120 VAC 1PH TRANSFORMER	VENDOR SUPPLIED	
6	1	LOCAL CONTROL PANEL	C/W HMI TOUCH SCREEN ON FRONT OF DOOR	VENDOR SUPPLIED	
7	1	TRANSFORMER	30 KVA 480/240-120 VAC 1PH, Z=5%		
8	1	LIGHTING DISTRIBUTION PANEL	120/240 VAC, 1PH, 3W, 24 CCT., NEMA 12 ENCLOSURE		
9	1	480V, 400A 3-POLE (MALE) RECEPTACLE	FOR GENERATOR CONNECTION		
10	2	INTERIOR LIGHTS, 120 VAC			
11	1	EXTERIOR LIGHTS, 120 VAC	EXTERIOR NEMA 3R LED LIGHT		
12	1	LED EXIT LIGHTS, 120 VAC	C/W BATTERY PACK AND REMOTE HEAD		
13	1	UNINTERRUPTIBLE POWER SUPPLY (UPS) 1500 VA, 120/240 VAC	LOCATED INSIDE LOCAL CONTROL PANEL		
14	1	GROUND BUS			
15	1	60A, 480V, 3P 3W CIRCUIT BREAKER	CB-4		
16	1	AIR HANDLING UNIT			
17	2	15A, 125V DUPLEX RECEPTACLE			
18	1	15A, 120V LIGHT SWITCH			
19	1	LIGHT SWITCH WITH EXTERNAL PHOTOCELL, PHOTOCELL C/W MANUAL OVERRIDE			
20	1	350A, 480V, 3P CIRCUIT BREAKER	MTS CB		
21	1	250A, 480V, 3P CIRCUIT BREAKER	MCC CB BREAKER		

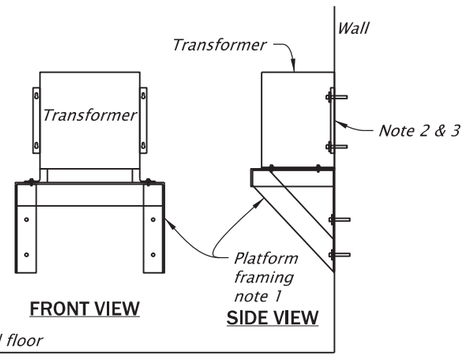
Notes:
1. *Contractor to provide utility connections for internet and telephone to control panel.*
2. *All equipment sizing and spacing is preliminary.*



1 POWER CABLE CONDUIT FLOOR PENETRATION
SCALE: NTS

NOTES:

1. *Dimension to be adjusted per specific transformer manufacturer's recommendation.*
2. *Provide clearance to all surfaces as per manufacturer's recommendation.*
3. *For fastening transformer on base angle to wall, add shim plates as required*



2 TRANSFORMER WALL MOUNT DETAIL
SCALE: NTS

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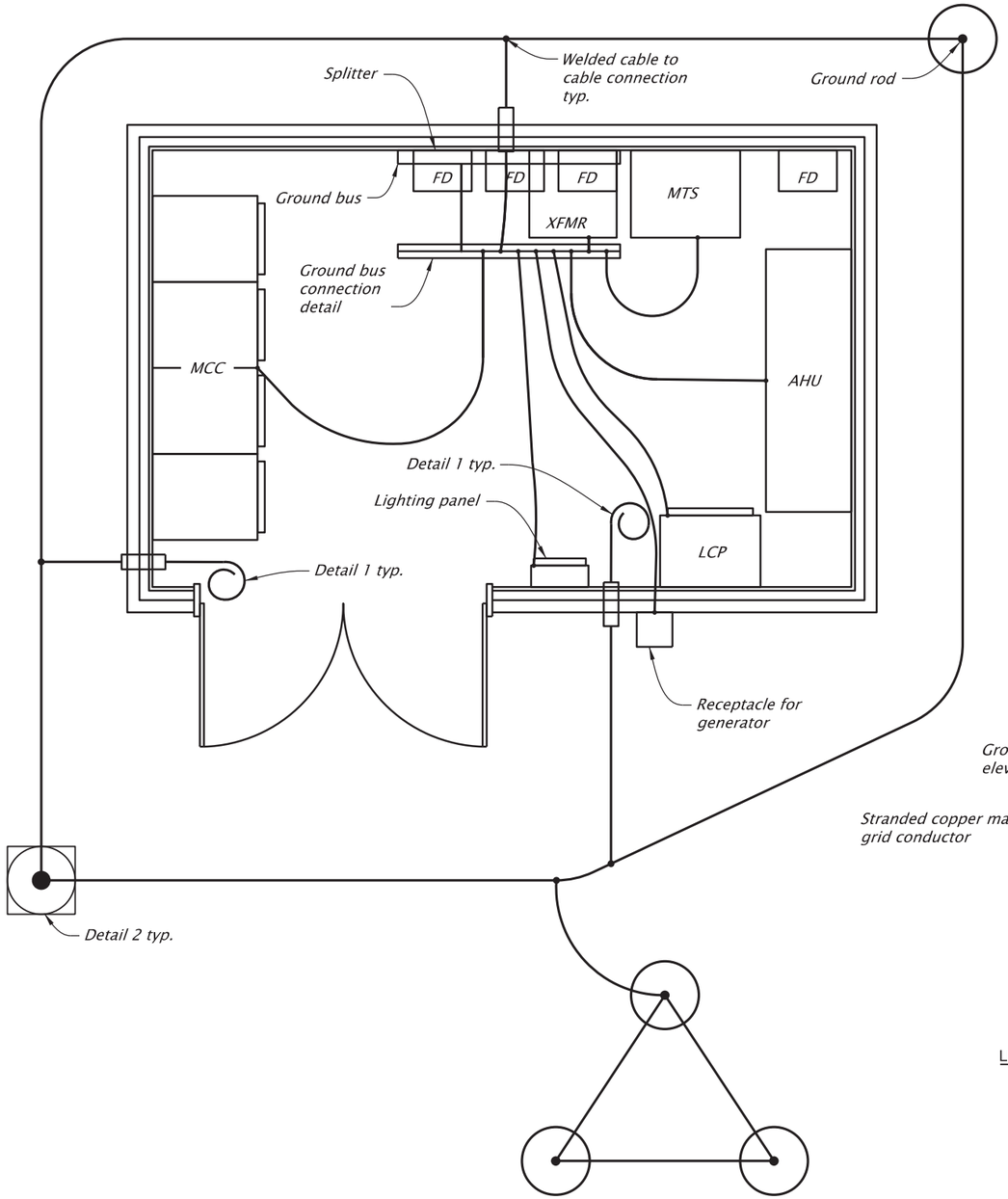
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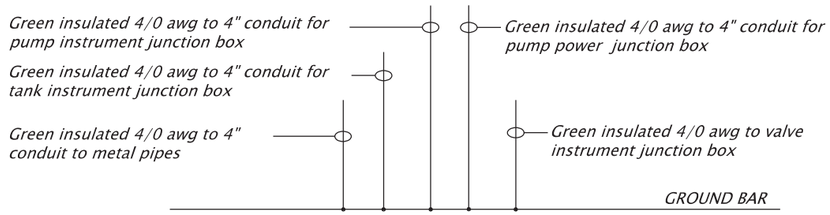
ELECTRICAL EQUIPMENT LAYOUT

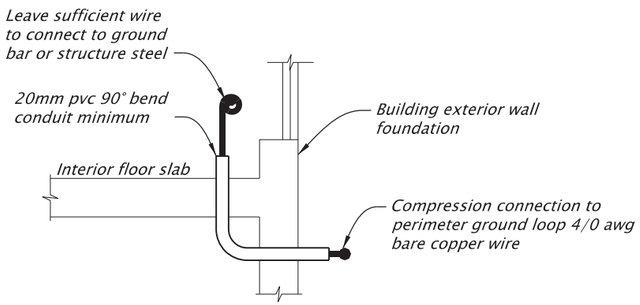
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TA204

Sec.28 & 33, T.1N, R.1E, W.M.

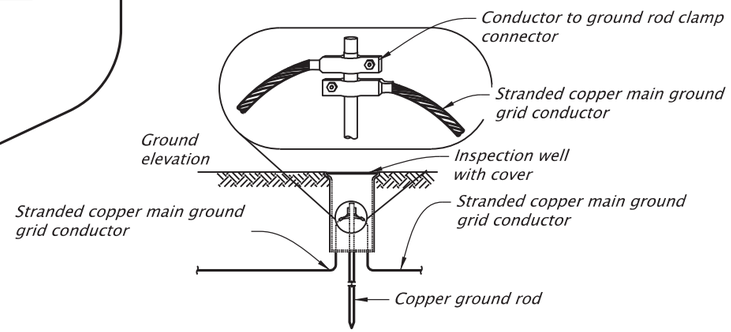
I-405/FREMONT BRIDGE - INTERCHANGE
I-405 M.P. 3.03







1 TYPICAL GROUNDING CONDUIT
SCALE: NTS



2 TYPICAL GROUNDING CONDUIT
SCALE: NTS

NOTES:

1. Run perimeter grounding conductor a minimum 2' below grade and max 2' away from building.
2. Metallic door frames shall be grounded using 6 awg flexible braid green insulated copper pipe.
3. Bond major pipes to nearest ground bar using $\frac{2}{0}$ awg green insulated copper wire.
4. Bury ground wire loop in trench excavated for building footings.
5. All ground wire to be copper, aluminum is not permitted.
6. Copper ground plates may be used if ground conditions are unsuitable for ground rods.

LEGEND:

- 10' x 5/8" copper ground rod
- Grounding inspection well w/ removable cover, 10' x 5/8" copper ground rod and removable ground wire connector for periodic tests
- 4/0 awg bare copper ground wire

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ELECTRICAL EQUIPMENT GROUNDING LAYOUT

SHEET NO. TA205

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