ST. HELENS RIVERWALK

St. Helens, Oregon

OWNER

CITY OF ST. HELENS

PROJECT TEAM

CITY OF ST. HELENS
265 STRAND STREET
ST. HELENS, OREGON 97051
503-397-6272

CITY ADMINISTRATOR	JOHN WALSH
PUBLIC WORKS DIRECTOR	MOUHAMAD ZAHER
CITY PLANNER	JACOB GRAICHEN
ASSOCIATE CITY PLANNER	JENNY DIMSHO

MAYER/REED, INC.
319 SW WASHINGTON STREET, SUITE 820
PORTLAND, OREGON 97202
503-223-5953

LANDSCAPE ARCHITECT	SHANNON SIMMS
INTERPRETIVE	KATHY FRY

OTAK, INC
808 SW THIRD AVENUE, SUITE 800
PORTLAND, OREGON 97204
503-218-1500

WATER RESOURCES	KEVIN TIMMINS
CIVIL ENGINEER	KEITH BUISMAN
STRUCTURAL ENGINEER	SEAN CLARK
SURVEYOR	SUE TSOI
CONSTRUCTION MANAGEMENT	MIKE WILLIAMS

NV5
703 BROADWAY STREET, SUITE 650
VANCOUVER, WASHINGTON 98660
360-693-8416

GEOTECHNICAL ENGINEER	JEFF TUCKER
ENVIRONMENTAL ENGINEER	MIKE COENEN

PACIFIC HABITAT SERVICES
9450 SW COMMERCE CIRCLE, SUITE 180
WILSONVILLE, OREGON 97070
503-570-0800

ENVIRONMENTAL PERMITTING	JOHN VAN STAVEREN

PAE
151 SW FIRST STREET, SUITE 300
PORTLAND, OREGON 97204
503-226-2921

LIGHTING/ELECTRICAL	ROBERT SMITH

ACC COST CONSULTANTS. LLC
8060 SW PFATTLE STREET, SUITE 110
TIGARD, OREGON 97223
503-718-0075

COST ESTIMATOR	TERRY WALTON

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GENERAL NOTES

1. SURVEY INFORMATION USED FOR BASE BID PROVIDED BY OTAK, INC. BASED ON COMPILED TOPOGRAPHIC SURVEY INITIALLY COMPLETED MARCH 19. 2021, ELEVATIONS ARE BASED ON CITY OF ST. HELENS VERTICAL DATUM: NAVD88, UNITS: INTERNATIONAL FEET, TAX LOTS: T4N R1W SEC 3 TL 100, 200, T4N R1W SEC 3BA TL 7500, S 1ST STREET, COWLITZ STREET, STRAND STREET R/W, ESTABLISHED PER BENCH MARK SHOWN IN THE PLANS.
2. HORIZONTAL DATUM: REFERENCED TO ORCS COLUMBIA WEST ZONE.
3. SURVEYS MAY NOT BE COMPLETE OR ACCURATE. CONTRACTOR TO VERIFY EXISTING SITE CONDITIONS PRIOR TO CONSTRUCTION. CONTRACTOR SHALL BRING ANY DISCREPANCIES TO THE ATTENTION OF THE OWNER'S REP PRIOR TO BEGINNING CONSTRUCTION.
4. CONSTRUCTION LAYOUT (ALL ACTUAL LINES AND GRADES) SHALL BE STAKED BY A PROFESSIONAL SURVEYOR, REGISTERED IN THE STATE OF OREGON, BASED ON COORDINATES, DIMENSIONS, BEARINGS, AND ELEVATIONS, AS SHOWN IN THE PLANS.
5. PROJECT CONTROL SHALL BE FIELD VERIFIED AND CHECKED FOR RELATIVE HORIZONTAL POSITION PRIOR TO BEGINNING CONSTRUCTION LAYOUT.
6. PROJECT CONTROL SHALL BE FIELD VERIFIED AND CHECKED FOR RELATIVE VERTICAL POSITION BASED ON THE BENCHMARK STATED HEREON, PRIOR TO BEGINNING CONSTRUCTION LAYOUT.
7. THE COMPLETED INSTALLATION SHALL CONFORM TO ALL APPLICABLE FEDERAL, STATE, AND LOCAL CODES, ORDINANCES, AND REGULATIONS. ALL PERMITS, LICENSES, AND INSPECTIONS REQUIRED BY THE GOVERNING AUTHORITIES FOR THE EXECUTION AND COMPLETION OF WORK SHALL BE SECURED BY THE CONTRACTOR PRIOR TO COMMENCING CONSTRUCTION.
8. ATTENTION: OREGON LAW REQUIRES YOU TO FOLLOW RULES ADOPTED BY THE OREGON UTILITY NOTIFICATION CENTER. THOSE RULES ARE SET FORTH IN OAR 952-001-0010 THROUGH OAR 952-001-0090. 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). EXCAVATORS MUST NOTIFY ALL PERTINENT COMPANIES OR AGENCIES WITH UNDERGROUND UTILITIES IN THE PROJECT AREA AT LEAST 48 BUSINESS-DAY HOURS, BUT NOT MORE THAN 10 BUSINESS DAYS PRIOR TO COMMENCING AN EXCAVATION, SO UTILITIES MAY BE ACCURATELY LOCATED.
9. THE LOCATION OF EXISTING UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE FOR INFORMATION ONLY AND ARE NOT GUARANTEED TO BE COMPLETE OR ACCURATE. CONTRACTOR SHALL VERIFY ELEVATIONS, PIPE SIZE, AND MATERIAL TYPES OF ALL UNDERGROUND UTILITIES PRIOR TO COMMENCING WITH CONSTRUCTION AND SHALL BRING ANY DISCREPANCIES TO THE ATTENTION OF LANDSCAPE ARCHITECT, 72 HOURS PRIOR TO START OF CONSTRUCTION TO PREVENT GRADE AND ALIGNMENT CONFLICTS.
10. THE DESIGNER OR OWNER IS NOT RESPONSIBLE FOR THE SAFETY OF THE CONTRACTOR OR THEIR CREW. ALL O.S.H.A. REGULATIONS SHALL BE STRICTLY ADHERED TO IN THE PERFORMANCE OF THE WORK.
11. TEMPORARY AND PERMANENT EROSION CONTROL MEASURES SHALL BE IMPLEMENTED. THE CONTRACTOR SHALL ADHERE OREGON STATE DEQ 1200-C PERMIT EROSION CONTROL FOR MINIMUM EROSION CONTROL MEASURES. THE FACILITIES SHOWN IN THESE PLANS ARE THE MINIMUM REQUIREMENTS FOR ANTICIPATED SITE CONDITIONS. DURING THE CONSTRUCTION PERIOD, FACILITIES SHALL BE UPGRADED AS NEEDED FOR UNEXPECTED STORM EVENTS AND TO ENSURE THAT SEDIMENT AND SEDIMENT LADEN WATER DOES NOT LEAVE THE SITE.
12. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ALL ROADWAYS, KEEPING THEM CLEAN AND FREE OF CONSTRUCTION MATERIALS AND DEBRIS, AND PROVIDING DUST CONTROL AS REQUIRED.
13. TRAFFIC CONTROL SHALL BE PROVIDED BY THE CONTRACTOR THROUGHOUT CONSTRUCTION. CONTRACTOR SHALL PROVIDE A TRAFFIC CONTROL PLAN TO THE CITY OF ST. HELENS FOR REVIEW AND APPROVAL PRIOR TO COMMENCING CONSTRUCTION.
14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING AND SCHEDULING ALL WORK WITH OWNER.
15. NOTIFY THE OWNER'S REPRESENTATIVE 72 HOURS BEFORE STARTING WORK. A PRE-CONSTRUCTION MEETING WITH THE OWNER'S REPRESENTATIVE, THE LANDSCAPE ARCHITECT, CONTRACTOR SHALL BE REQUIRED.
16. SUBGRADE AND TRENCH BACKFILL SHALL BE COMPACTED TO AT LEAST 95% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D-698. FLOODING OR JETTING THE BACKFILLED TRENCHES WITH WATER IS NOT PERMITTED.
17. THE CONTRACTOR SHALL LEAVE ALL AREAS OF PROJECT FREE OF DEBRIS AND UNUSED CONSTRUCTION MATERIAL.
18. CITY STAFF SHALL BE SUPPLIED WITH MATERIAL CERTIFICATION FOR ALL MATERIALS USED ON PUBLIC INFRASTRUCTURE.

ABBREVIATIONS

AGG	AGGREGATE	OD	OUTSIDE DIAMETER
CL	CENTERLINE	O.P.C.I	OWNER PROVIDED, CONTRACTOR INSTALLED
CONC.	CONCRETE		
C.I.P.	CAST IN PLACE	PVMT	PAVEMENT
DIA	DEVELOPMENT IMPACT AREA	R	RADIUS
DIAM	DIAMETER	REQ'D	REQUIRED
DBH	DIAMETER AT BREAST HEIGHT	REF	REFERENCE
E	EASTING	REP	REPRESENTATIVE
ELEV	ELEVATION	SPECS	SPECIFICATIONS
EX.	EXISTING	SS	STAINLESS STEEL
FG	FINISH GRADE	TAN	TANGENT
FS	FINISH SURFACE	TB	TOP OF BASALT
H.P.	HIGH POINT	TC	TOP OF CURB
L.A.	LANDSCAPE ARCHITECT	TEMP	TEMPORARY
LG	LARGE	TS	TOP OF STAIR
L.P.	LOW POINT	TW	TOP OF WALL
MAX.	MAXIMUM	TYP.	TYPICAL
MIN.	MINIMUM	W/	WITH
N	NORTHING	V.I.F.	VERIFY IN FIELD
N.I.C.	NOT IN CONTRACT		

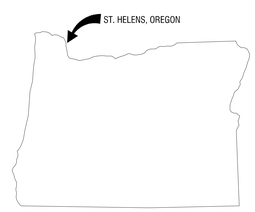
LOCATES

(48 HOUR NOTICE PRIOR TO EXCAVATION)

OREGON LAW REQUIRES YOU TO FOLLOW THE RULES ADOPTED BY THE OREGON UTILITY NOTIFICATION CENTER. THOSE RULES ARE SET FORTH IN OAR 952-001-0010 THROUGH OAR 952-001-0090. YOU MAY OBTAIN COPIES OF THE RULES FROM THE CENTER BY CALLING (503) 246-1987

ONE CALL SYSTEM 1-800-332-2344

PUBLIC WORKS SUPERVISOR, DAVE ELDER (503) 397-3532, MUST BE NOTIFIED 48 HOURS IN ADVANCE TO COORDINATE ANY TAPS OR WATER VALVE OPERATION. THE CONTRACTOR IS NOT ALLOWED TO OPERATE ANY WATER VALVES CONTROLLING FLOW TO NEW PIPING FROM THE CITY'S POTABLE WATER SYSTEM.



VICINITY MAP

SITE LOCATION MAP

CITY PROJECT NUMBER:
P-525 A

Mayer/Reed

Mayer/Reed, Inc.
319 SW Washington St.
Suite 820
Portland, Oregon 97204
503.223.5953

St. Helens Riverwalk
St. Helens, Oregon
Project Number: P-525A

Project Managers: Jennifer Dimsho; John Walsh

REGISTERED LANDSCAPE ARCHITECT
40
Jerame Shane
OREGON
5/8/98

PHASE
FINAL PLANS

DATE
02/02/24

REVISIONS

NO.	DESC.	DATE

DRAWN BY
J. CARLSON

CHECKED BY
S. SIMMS

SHEET TITLE
COVER SHEET

SHEET NUMBER
G0.01

OTAK SYMBOL LEGEND

- SURVEY CONTROL
- SANITARY MANHOLE
- STORM MANHOLE
- DRYWELL
- APPROXIMATE MANHOLE SIZE/LOCATION
- CATCH BASIN
- CURB INLET
- AREA DRAIN
- DITCH INLET
- YARD/AREA DRAIN
- CLEAN OUT
- GAS VALVE
- GAS VENT
- GAS SHUT OFF
- GAS LINE MARKER SIGN
- GAS METER
- GAS VAULT
- WATER MANHOLE
- WATER VALVE
- BLOW OFF VALVE
- FIRE HYDRANT
- FIRE DEPARTMENT CONNECTION
- POST INDICATOR VALVE
- WATER METER
- WATER VAULT
- WELL
- HOSE BIB
- IRRIGATION CONTROL VALVE
- SPRINKLER HEAD
- COMMUNICATION MANHOLE
- COMMUNICATION VAULT
- COMMUNICATION RISER
- COMMUNICATION MARKER SIGN
- ELECTRIC MANHOLE
- ELECTRIC SUBSURFACE JUNCTION BOX
- ELECTRIC SURFACE JUNCTION BOX
- POWER VAULT
- TRANSFORMER
- ELECTRIC METER
- ELECTRIC TOWER
- ELECTRIC MARKER SIGN
- YARD LIGHT
- COBRA LIGHT POLE
- LUMINAIRE
- LIGHT POLE
- TRAFFIC SIGNAL CONTROL CABINET
- TRAFFIC JUNCTION BOX
- TRAFFIC SIGNAL LOOP
- UTILITY POLE
- CATERNARY/GUY POLE
- SIGNAL POLE
- PEDESTRIAN SIGNAL POLE
- GUY ANCHOR
- SIGNAL HEAD
- SIGN
- SIGN POST
- BOLLARD
- PARKING METER
- FLAG POLE
- MAILBOX
- OIL FILL/TANK VENT
- TP TEST PIT
- MW MONITORING WELL
- BH BORE HOLE
- PH POT HOLE
- SP SAMPLE PLOT
- HANDICAPPED PARKING
- BIKE LANE
- H.O.V. LANE
- LINE CONTINUES
- DECIDUOUS TREE
- EVERGREEN TREE
- SHRUB
- STUMP

- SS — SANITARY LINE
- SD — STORM LINE
- G — GAS LINE
- OHL — OVER HEAD UTILITY LINE
- W — WATER LINE
- P — POWER LINE
- COM — COMMUNICATION LINE
- X — FENCE (AS NOTED)
- WETLAND AREAS (AS LOCATED IN FIELD)
- RAMP
- CULVERT PIPE

CONC. = CONCRETE
DEC = DECIDUOUS
EVER = EVERGREEN
D.W.P. = DETECTABLE WARNING PAD

ST. HELENS RIVERWALK
EXISTING CONDITIONS SURVEY & BOUNDARY
1ST IMPORT: 03/19/2021
DRAFTER: DAC

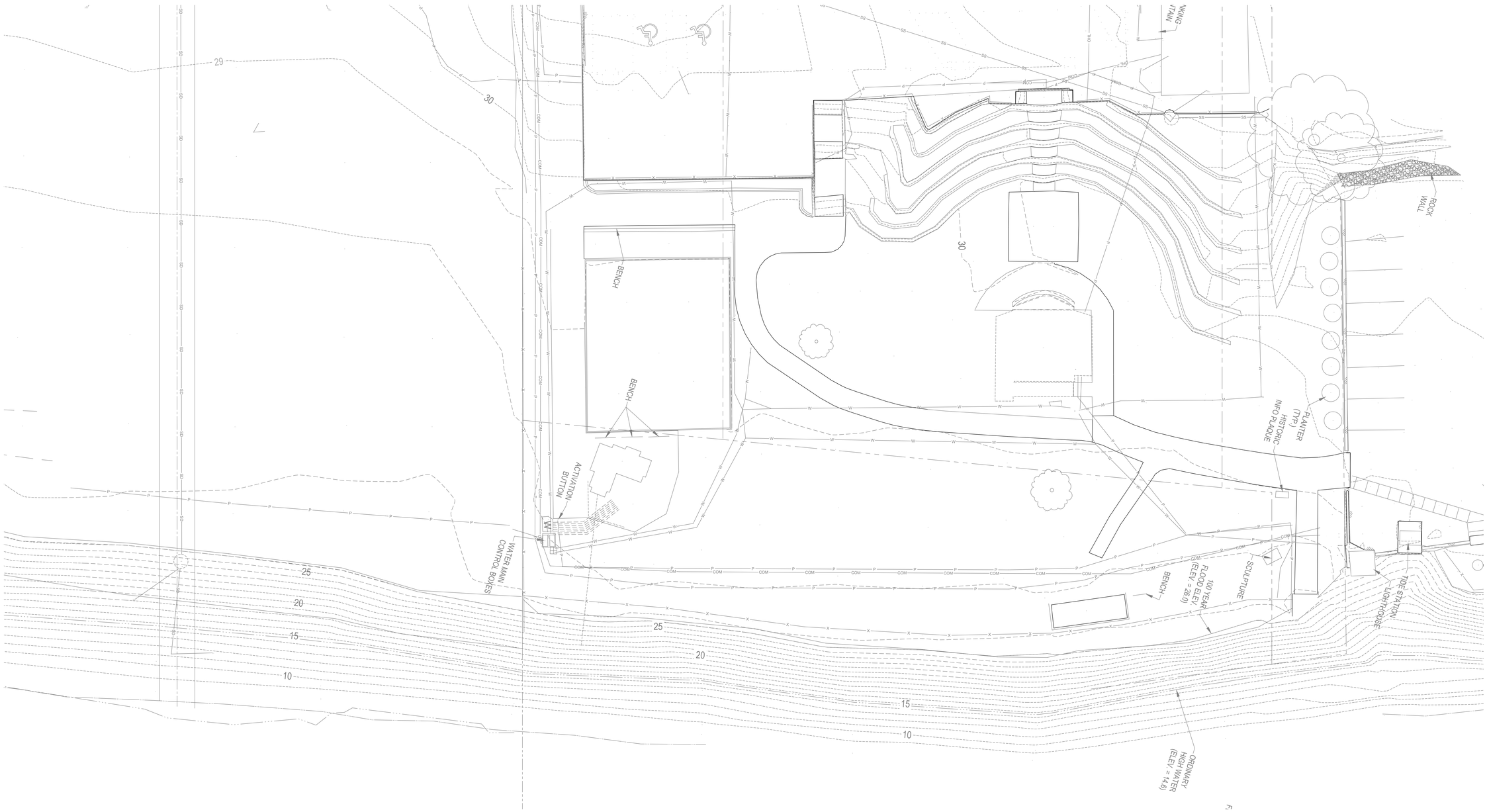
PROJECT COORDINATES AND ELEVATIONS:

COORDINATES ARE ORCS COLUMBIA WEST ZONE

ELEVATIONS ARE NAVD88

UNITS IN INTERNATIONAL FEET

NOTE: CONTOURS SHOWN AT 1' INTERVALS



1 **SITE MATERIALS PLAN**
SCALE: 1"= 10'-0"

0 5' 10' 20'

Mayer/Reed

Mayer/Reed, Inc.
319 SW Washington St.
Suite 820
Portland, Oregon 97204
503.223.5953

St. Helens Riverwalk

St. Helens, Oregon
Project Number: P-525A

Project Managers: Jennifer Dimsho; John Walsh

REGISTERED LANDSCAPE ARCHITECT
Jerome Shane
OREGON
5/8/98

PHASE
FINAL PLANS

DATE
02/02/24

REVISIONS

NO.	DESC.	DATE

DRAWN BY
J. CARLSON

CHECKED BY
S. SIMMS

SHEET TITLE
EXISTING CONDITIONS

SHEET NUMBER
G0.02

GENERAL NOTES

1. ALL WORK SHALL BE IN ACCORDANCE WITH THE CURRENT AND APPLICABLE REGULATIONS, SPECIFICATIONS, CODES, AND REQUIREMENTS OF CITY OF ST. HELENS, THE OREGON STATE PLUMBING SPECIALTY CODE (UPC), THE OREGON STATE STRUCTURAL SPECIALTY CODE (OSSC), AND THE MOST CURRENT VERSION OF THE OREGON STANDARD SPECIFICATION FOR CONSTRUCTION.

2. THE CONTRACTOR SHALL PERFORM ALL WORK NECESSARY TO COMPLETE THIS PROJECT IN ACCORDANCE WITH THE PLANS INCLUDING SUCH INCIDENTALS AS MAY BE NECESSARY TO MEET APPLICABLE AGENCY REQUIREMENTS AND AS NECESSARY TO PROVIDE A COMPLETED PROJECT.

3. THE CONTRACTOR SHALL OBTAIN ALL REQUIRED PERMITS AND LICENSES PRIOR TO COMMENCING WORK ON THIS PROJECT.

4. THE CONTRACTOR SHALL KEEP A COPY OF ALL REQUIRED PERMITS AND AN APPROVED SET OF PLANS WITH ALL APPROVED REVISIONS ON THE PROJECT SITE AT ALL TIMES.

5. THE EXISTING AND APPROXIMATE LOCATION OF KNOWN UNDERGROUND UTILITIES OR STRUCTURES SHOWN ON THESE DRAWINGS WERE DETERMINED BY A SEARCH OF AVAILABLE PUBLIC RECORDS AND AS-BUILTS. THE LOCATIONS AND DEPTHS OF THESE UTILITIES ARE FROM THESE RECORDS AND ARE SHOWN FOR THE CONVENIENCE OF THE CONTRACTOR. NO RESPONSIBILITY IS ASSUMED BY EITHER THE CITY OR THE ENGINEER FOR ACCURACY OR COMPLETENESS OF THESE LOCATIONS.

6. THE CONTRACTOR SHALL PROTECT AND MAINTAIN ALL EXISTING UTILITIES ON THIS SITE AND IN ADJACENT STREETS. ANY DAMAGE TO EXISTING UTILITIES, WHETHER SHOWN OR NOT ON THIS DRAWING, SHALL BE REPAIRED / REPLACED AT THE CONTRACTOR'S EXPENSE AND TO THE SATISFACTION OF THE UTILITY OWNER. EXISTING SURFACE FEATURES AND FENCING DAMAGED BY CONTRACTOR SHALL BE REPLACED IN KIND TO THE SATISFACTION OF THE CITY.

7. THE CONTRACTOR SHALL HAVE ALL EXISTING UTILITIES LOCATED PRIOR TO STARTING ANY WORK.

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8. THE CONTRACTOR SHALL NOTIFY ALL COMPANIES AND AGENCIES WITH UNDERGROUND FACILITIES IN THE PROJECT AREA 24 HOURS BEFORE COMMENCING CONSTRUCTION IN THEIR VICINITY.

9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE RELOCATION OF BURIED AND OVERHEAD UTILITIES. NO SERVICE INTERRUPTIONS SHALL BE PERMITTED WITHOUT PRIOR WRITTEN AGREEMENT WITH THE UTILITY PROVIDER.

10. THE INSTALLATION OF NEW OR RELOCATION OF EXISTING ELECTRICAL, TELEPHONE, GAS, AND CABLE SERVICE SHALL BE COORDINATED BY THE CONTRACTOR WITH THE APPROPRIATE UTILITY COMPANY.

11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLATION OF UTILITY TRENCHES, CONDUIT, VAULTS, PADS, PEDESTALS, AND UTILITY TRENCH BACKFILL IN ACCORDANCE WITH STANDARD SPECIFICATIONS AND PLANS OF SERVICING UTILITIES (ELECTRICAL, TELEPHONE, GAS, AND CABLE).

12. ALL EXISTING SITE CONDITIONS AND ELEVATIONS SHOWN ON THESE DRAWINGS ARE FROM A TOPOGRAPHIC SURVEY. THE CONTRACTOR SHALL VISIT THE SITE AND VERIFY ALL EXISTING CONDITIONS AND ELEVATIONS. CONTRACTOR SHALL CONFIRM BENCHMARK LOCATION AND ELEVATION WITH SURVEYOR.

13. PROPERTY AND RIGHT-OF-WAY LINES SHOWN ARE FOR REFERENCE ONLY. THESE PLANS ARE NOT MEANT TO SERVE BOUNDARY SURVEY PURPOSES.

14. ANY ALTERATION OR VARIANCE FROM THESE PLANS, EXCEPT MINOR FIELD ADJUSTMENTS NEEDED TO MEET EXISTING FIELD CONDITIONS, SHALL BE APPROVED BY THE ENGINEER AND APPLICABLE REGULATORY AGENCY REPRESENTATIVE.

15. ANY CONSTRUCTION OBSERVATION BY CITY OF ST. HELENS, OR THE ENGINEER, SHALL NOT, IN ANY WAY, RELIEVE THE CONTRACTOR FROM ANY OBLIGATION TO PERFORM THE WORK IN STRICT COMPLIANCE WITH THE APPLICABLE CODES AND REGULATORY AGENCY REQUIREMENTS.

16. APPROVED EROSION CONTROL MEASURES SHALL BE IMPLEMENTED IN ACCORDANCE WITH REGULATORY AGENCY REQUIREMENTS. THE CONTRACTOR SHALL PROVIDE ALL MATERIAL, EQUIPMENT, AND PERSONNEL NECESSARY TO MAINTAIN SUCH EROSION PROTECTION MEASURES. ANY DAMAGE CAUSED BY EROSION SHALL BE CORRECTED BY THE CONTRACTOR AT ONCE.

17. THE CONTRACTOR SHALL MAINTAIN AND COORDINATE ACCESS TO ALL AFFECTED PROPERTIES.

18. ALL OPEN CUTTING OF EXISTING STREETS SHALL BE PATCHED WITH A.C., COLD (TEMPORARY) OR HOT MIX, AT THE CLOSE OF EACH WORK DAY. TRENCHES SHALL NOT BE LEFT OPEN OVERNIGHT.

19. DEMOLITION WORK SHALL INCLUDE REMOVAL OF ALL STUMPS AND VEGETATION DEBRIS. CONFORMANCE WITH ALL REGULATIONS AND PERMITTING REQUIREMENTS FOR SUCH WORK SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

20. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE AND COORDINATE THE REMOVAL AND/OR ABANDONMENT OF EXISTING UTILITIES OR PROPER FILLING OF THE UTILITIES (SEPTIC TANKS, LINES, ETC.) IF THEY ARE TO REMAIN. IT SHALL ALSO BE THE RESPONSIBILITY OF THE CONTRACTOR TO CONTACT THE STATE OF OREGON WATER MASTER 503-681-7018 TO APPROVE THE FILLING OF ANY SEPTIC TANKS AND REMOVAL OF ANY EXISTING WATER WELLS.

21. ALL SURVEY MONUMENTS ON THE SUBJECT SITE, OR THAT MAY BE SUBJECT TO DISTURBANCE WITHIN THE CONSTRUCTION AREA, OR THE CONSTRUCTION OF ANY OFF-SITE IMPROVEMENTS SHALL BE ADEQUATELY REFERENCED AND PROTECTED PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION ACTIVITY. IF THE SURVEY MONUMENTS ARE DISTURBED, MOVED, RELOCATED, OR DESTROYED AS A RESULT OF ANY CONSTRUCTION, THE CONTRACTOR SHALL, AT IT'S COST, RETAIN THE SERVICES OF A REGISTERED PROFESSIONAL LAND SURVEYOR IN THE STATE OF OREGON TO RESTORE THE MONUMENT TO ITS ORIGINAL CONDITION AND FILE THE NECESSARY SURVEYS AS REQUIRED BY OREGON STATE LAW. A COPY OF ANY RECORDED SURVEY SHALL BE SUBMITTED TO STAFF.

22. CITY ENGINEERING STAFF SHALL BE SUPPLIED WITH MATERIAL CERTIFICATIONS FOR ALL MATERIALS USED IN PUBLIC INFRASTRUCTURE.

23. MANHOLES 6 FEET DEEP OR SHALLOWER SHALL BE FLAT TOP MANHOLES.

24. NO UNDERGROUND WORK SHALL BE BURIED UNTIL INSPECTED AND APPROVED BY THE CITY CONSTRUCTION INSPECTOR.

25. ONE SET OF PLANS SHALL BE KEPT ON SITE DURING ALL PHASES OF CONSTRUCTION. ANY CHANGES OR MODIFICATIONS SHALL BE NOTED AND KEPT AS REDLINE DRAWINGS TO BE SUBMITTED TO THE CITY WHEN THE PROJECT IS COMPLETED.

26. NO ADDITIONAL PAYMENT SHALL BE MADE FOR UTILITY RELOCATION OR DELAYS CAUSED BY UTILITY CONFLICTS. ALL COSTS RELATED TO UTILITY COORDINATION AND RELOCATION, INCLUDING ADDITIONAL POTHOLING, SHALL BE CONSIDERED INCIDENTAL TO CONSTRUCTION AND INCLUDED IN THE UNIT PRICES OF THE BID.

GENERAL UTILITY NOTES

1. ABANDONED STORM AND SANITARY SEWERS 6-INCH DIAMETER OR LARGER SHALL BE FULLY GROUTED WITH CLSM UNTIL REFUSAL. ABANDONMENT OF PIPES LESS THAN 6-INCH DIAMETER CAN BE THROUGH THE USE OF THE CUT AND CAP METHOD. INSPECTION IS REQUIRED.

2. THE DEQ IS OPPOSED TO ANY OIL, GREASE, GASOLINE, ETC. DRAINED INTO ANY SANITARY SEWER OR STORM SEWER. DEQ WANTS ALL OIL, GASOLINE, GREASE, ETC. TO BE TREATED AS ANY OTHER HAZARDOUS WASTE WITH ON-SITE CONTAINMENT AND REMOVAL BY LICENSED HAZARDOUS WASTE DISPOSAL PROFESSIONALS. THE DEQ MAY ISSUE CITATIONS FOR INTRODUCING OIL, GAS, ETC. INTO A DRAINAGE SYSTEM THAT CONNECTS TO THE SANITARY SEWER OR THE STORM SEWER. THE FACT THAT AN OIL/WATER SEPARATOR IS INSTALLED INLINE WOULD NOT MAKE A DIFFERENCE. IT IS RECOMMENDED THAT THE DRAINS TO THE OIL/WATER SEPARATOR NOT BE INSTALLED.

3. THE UTILITY TAPS TO SERVE THIS PROJECT WILL BE INSPECTED UNDER THE ASSOCIATED PUBLIC IMPROVEMENT WORK.

4. THE EXCAVATION CONTRACTOR SHALL CALL THE OREGON UTILITY NOTIFICATION CENTER AT 503-246-1987 AT LEAST 48 HOURS, BUT NOT MORE THAN 10 BUSINESS DAYS BEFORE BEGINNING EXCAVATION. OREGON LAW REQUIRES YOU TO FOLLOW RULES ADOPTED BY THE OREGON UTILITY NOTIFICATION CENTER. THOSE RULES ARE SET FORTH IN OAR 952-001-0010 THROUGH OAR 952-001-0090. YOU MAY OBTAIN COPIES OF THE RULES BY CALLING THE ADMINISTRATIVE CENTER.

5. SANITARY SEWER LINES SHALL BE SEPARATED FROM WATERLINES BY 10 FEET LATERALLY. SANITARY SEWER CROSSINGS WITH WATERLINES SHALL BE SEPARATED VERTICALLY BY A MINIMUM 18 INCHES. CROSSINGS SHALL BE MADE AT APPROXIMATELY 90 DEGREES.

6. NO PVC PIPE TO BE USED FOR THE PUBLIC STORM DRAINAGE SYSTEM.

7. ALL FLANGE CONNECTIONS SHALL HAVE FULL-FACE GASKETS.

8. EACH HYDRANT TO HAVE 5'X5' CONCRETE PAD INSTALLED AROUND HYDRANT.

9. ALL FLEXIBLE PUBLIC SANITARY SEWER AND STORM DRAINS SHALL BE VIDEO INSPECTED AND SHALL PASS A DEFLECTION (MANDREL) TEST IN THE PRESENCE OF AN AUTHORIZED CITY REPRESENTATIVE. MANDREL SHALL BE AT NO LESS THAN 95% OF INTERIOR PIPE DIAMETER. COPIES OF THE CCTV INSPECTIONS SHALL BE PROVIDED TO THE CITY.

10. NO VALVES SHALL BE OPENED OR CLOSED WITHOUT APPROVAL OF THE CITY WATER DEPT. VALVES TO BE EXERCISED ONLY BY CITY PERSONNEL. PUBLIC WORKS SUPERVISOR, DAVE ELDER (503) 397-3532, MUST BE NOTIFIED 48 HOURS IN ADVANCE TO COORDINATE ANY TAPS OR WATER VALVE OPERATION. THE CONTRACTOR IS NOT ALLOWED TO OPERATE ANY WATER VALVES CONTROLLING FLOW TO NEW PIPING FROM THE CITY'S POTABLE WATER SYSTEM.

11. WATERLINES AND FITTINGS ARE TO BE CEMENT LINED DUCTILE IRON PIPE, CLASS 50 (SECTION 18.28.010) OR DUCTILE IRON CLASS 52 WITH TYTON JOINTS OR APPROVED EQUAL.

12. WATER SERVICE LINE TUBING TO BE 1" COPPER TYPE K.

13. WATERLINES SHALL BE PRESSURE TESTED FOLLOWING COMPLETION. TEST PRESSURE SHALL BE 150 PSI (AT LOWEST POINT IN TEST SECTION) TO BE HELD FOR A PERIOD OF 1 HOUR AND SHALL NOT VARY BY MORE THAN 5 PSI. SAID TEST SHALL BE WITNESSED BY THE INSPECTING ENGINEER AND/OR CITY'S DESIGNATE.

14. MINIMUM COVER OVER STORM DRAIN PIPE IS 36" FOR NON-RIGID PIPE (HDPE) AND 18" FOR RIGID PIPE (DUCTILE IRON).

15. CONTRACTOR SHALL SUPPLY THE OWNER WITH OPERATIONS AND MAINTENANCE MANUALS FOR THE WATER QUALITY CARTRIDGES AS REQUIRED IN THE SPECIFICATIONS.

GRADING

1. PROJECT GRADING LIMITS SHALL BE ALL PROPERTY LINES AND STREET RIGHT-OF-WAY, UNLESS OTHERWISE SHOWN ON THE GRADING PLANS.

2. STRAIGHT GRADES SHALL BE CONSTRUCTED BETWEEN ALL FINISH GRADE ELEVATIONS AND/OR FINISH CONTOUR LINES SHOWN, UNLESS OTHERWISE NOTED.

3. ALL PROPOSED ELEVATIONS SHOWN SHALL BE CONSIDERED TO BE FINISH SURFACE ELEVATIONS UNLESS OTHERWISE NOTED. ALL SURFACES SHALL BE GRADED SMOOTH AND FREE OF IRREGULARITIES THAT MIGHT ACCUMULATE SURFACE WATER.

4. DUST ABATEMENT SHALL BE MAINTAINED BY ADEQUATE WATERING OF THE SITE OR OTHER APPROVED METHODS.

5. CONTRACTOR TO REMOVE ALL UNSUITABLE MATERIAL, DEBRIS, AND ORGANIC MATERIAL WITHIN GRADING AND FILL LIMITS PRIOR TO FILL PLACEMENT. NEW FILL MATERIAL SHALL BE BENCHED INTO EXISTING GROUND IN ACCORDANCE WITH RECOMMENDATIONS IN THE GEOTECHNICAL REPORT.

6. THE REMOVAL OF UNSUITABLE MATERIAL SHALL BE DONE IN CONSULTATION WITH THE GEOTECHNICAL ENGINEER. UNSUITABLE MATERIAL SHALL BE DISPOSED OF AS DETERMINED BY THE GEOTECHNICAL ENGINEER. IF SUCH MATERIAL IS REMOVED FROM THE SITE IT SHALL BE REMOVED AT THE CONTRACTOR'S SOLE EXPENSE.

7. ALL CUT OR FILL SLOPES SHALL BE CONSTRUCTED AT NO STEEPER THAN TWO (2) HORIZONTAL TO ONE (1) VERTICAL UNLESS OTHERWISE SHOWN ON THE PLANS OR SPECIFIED IN THE GEOTECHNICAL REPORT.

8. IF SPRINGS OR GROUND WATER ARE ENCOUNTERED DURING CONSTRUCTION, THE CONTRACTOR SHALL ADVISE THE GEOTECHNICAL ENGINEER AND THE CIVIL ENGINEER OF THE CONDITION FOUND AND COORDINATE CONSTRUCTION ACTIVITIES IN A MANNER THAT WILL ALLOW THE ENGINEERS TIME TO REVIEW THE SITUATION AND PREPARE A PLAN TO PROPERLY DISPOSE OF THE WATER ENCOUNTERED.

9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADJUSTING ALL CATCH BASINS, CLEANOUTS, MANHOLES, VAULTS, ETC., THAT ARE AFFECTED BY CONSTRUCTION AND/OR FILL TO FINISH GRADE. STORM DRAIN INLET STRUCTURES SHALL BE ADJUSTED SO WATER FLOWS INTO THE STRUCTURE WITHOUT PONDING.

10. ORGANIC MATERIAL (TREES, BRUSH, ROOTS, STUMPS, ETC.) SHALL BE REMOVED FROM THE SITE. STRIPPING SHALL GENERALLY BE 2 TO 5 INCHES, BUT MAY BE DEEPER IN WOODED AREAS. UNSUITABLE EXCESS STRIPPINGS SHALL BE DISPOSED OF BY THE CONTRACTOR. REMOVAL OF TOPSOIL WILL BE IN THE ORDER OF 12 TO 24 INCHES THICK. SEE GEOTECH REPORT FOR STRIPPING AND TOPSOIL REMOVALS.

SURVEY

1. SURVEY INFORMATION BASED ON COMPILED TOPOGRAPHIC SURVEY INITIALLY COMPLETED MARCH 19, 2021.

2. HORIZONTAL DATUM: COORDINATES ARE ORCS COLUMBIA WEST ZONE

3. VERTICAL DATUM: NAVD88

4. UNITS: INTERNATIONAL FEET

5. TAX LOTS: T4N R1W SEC 3 TL 100, 200, T4N R1W SEC 3BA TL 7500, S 1ST STREET, COWLITZ STREET, STRAND STREET R/W

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St. Helens Riverwalk

St. Helens, Oregon
Project Number: P-525A

Project Managers: Jennifer Dimsho; John Walsh

REGISTERED PROFESSIONAL ENGINEER 72,629 DIGITALLY SIGNED OREGON JUNE 11, 2008 KEITH BUISMAN

EXPIRES: 12/31/2025

PHASE
FINAL PLANS

DATE
02/02/2024

REVISIONS

NO.	DESC.	DATE

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CJB/EAO

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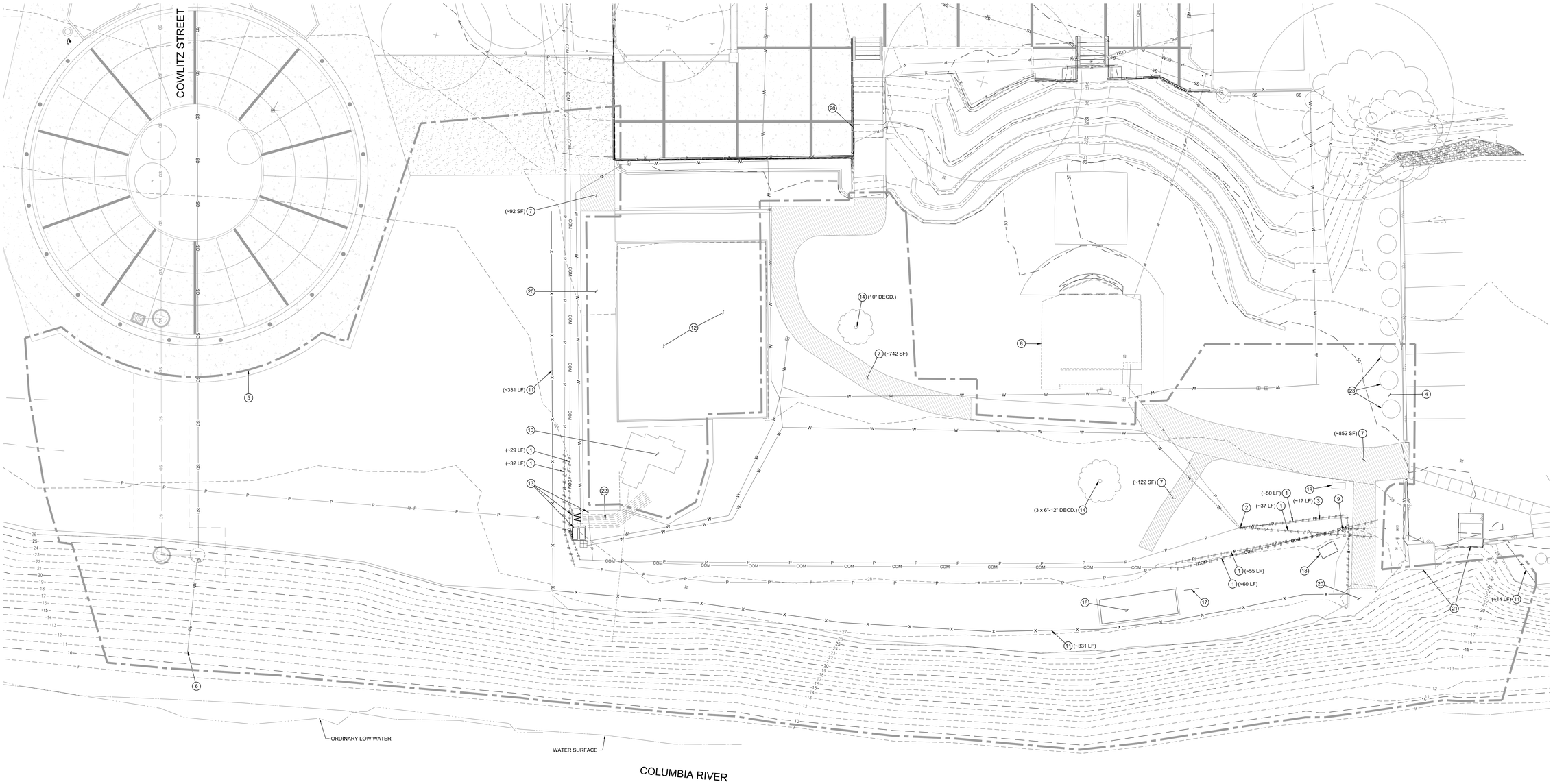
KJB

SHEET TITLE
GENERAL NOTES

SHEET NUMBER
C0.1



LEGEND

	REMOVAL OF CONCRETE WALKWAY
	SPLASH PAD TO BE PROTECTED
	ORDINARY HIGH WATER
W	WATER
COM	COMMUNICATIONS
SD	STORM
P	POWER
	SPLASH PAD PIPING
-25-	EXISTING MAJOR CONTOUR (5')
-21-	EXISTING MINOR CONTOUR (1')
	DECIDUOUS TREE

DEMOLITION KEY NOTES

1. RELOCATE EXISTING POWER AND COMMUNICATION LINES. COORDINATE WITH COLUMBIA RIVER PUD AND COMCAST.
2. PROTECT EXISTING POWER JUNCTION BOX.
3. REMOVE EXISTING 1.5" WATER SERVICES IN PARK.
4. LOCATE AND PRESERVE EXISTING IRRIGATION TO PLANTERS.
5. STREET IMPROVEMENTS BY OTHERS. REF. S. 1ST AND STRAND STREET EXTENSION PROJECT.
6. EXISTING 24" CMP STORMWATER OUTFALL.
7. REMOVE EXISTING CONCRETE WALKWAY.
8. PROTECT EXISTING STAGE.
9. RELOCATE EXISTING COMM BOX. COORDINATE WITH COMCAST.
10. PROTECT SPLASH PAD SURFACING IN PLACE.
11. REMOVE EXISTING FENCE.
12. PROTECT EXISTING PLAY AREA.
13. SALVAGE EXISTING WATER VAULT. PRESERVE AND PROTECT EXISTING ACTIVATION BUTTON IN ITS CURRENT LOCATION.
14. REMOVE EXISTING TREE.
15. --NOT USED--
16. REMOVE EXISTING VAULT.
17. SALVAGE EXISTING CONCRETE BENCH.
18. SALVAGE EXISTING SCULPTURE.
19. SALVAGE EXISTING SIGN.
20. PROTECT EXISTING CONCRETE.
21. PROTECT EXISTING STRUCTURES.
22. PROTECT EXISTING SPLASH PAD 3/4" PEX WATER PIPING IN PLACE WITHIN SPLASH PAD AREA. RECONNECT TO RELOCATED VAULT.
23. REMOVE AND REINSTALL EXISTING LANDSCAPE PLANTERS.

0 10 20
SCALE IN FEET

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St. Helens Riverwalk

St. Helens, Oregon
Project Number: P-525A

Project Managers: Jennifer Dimsho; John Walsh

REGISTERED PROFESSIONAL ENGINEER 72,629 DIGITALLY SIGNED OREGON NOVEMBER 11, 2024 KEITH BUISMAN
EXPIRES: 12/31/2025

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DATE
02/02/2024

REVISIONS

NO.	DESC.	DATE

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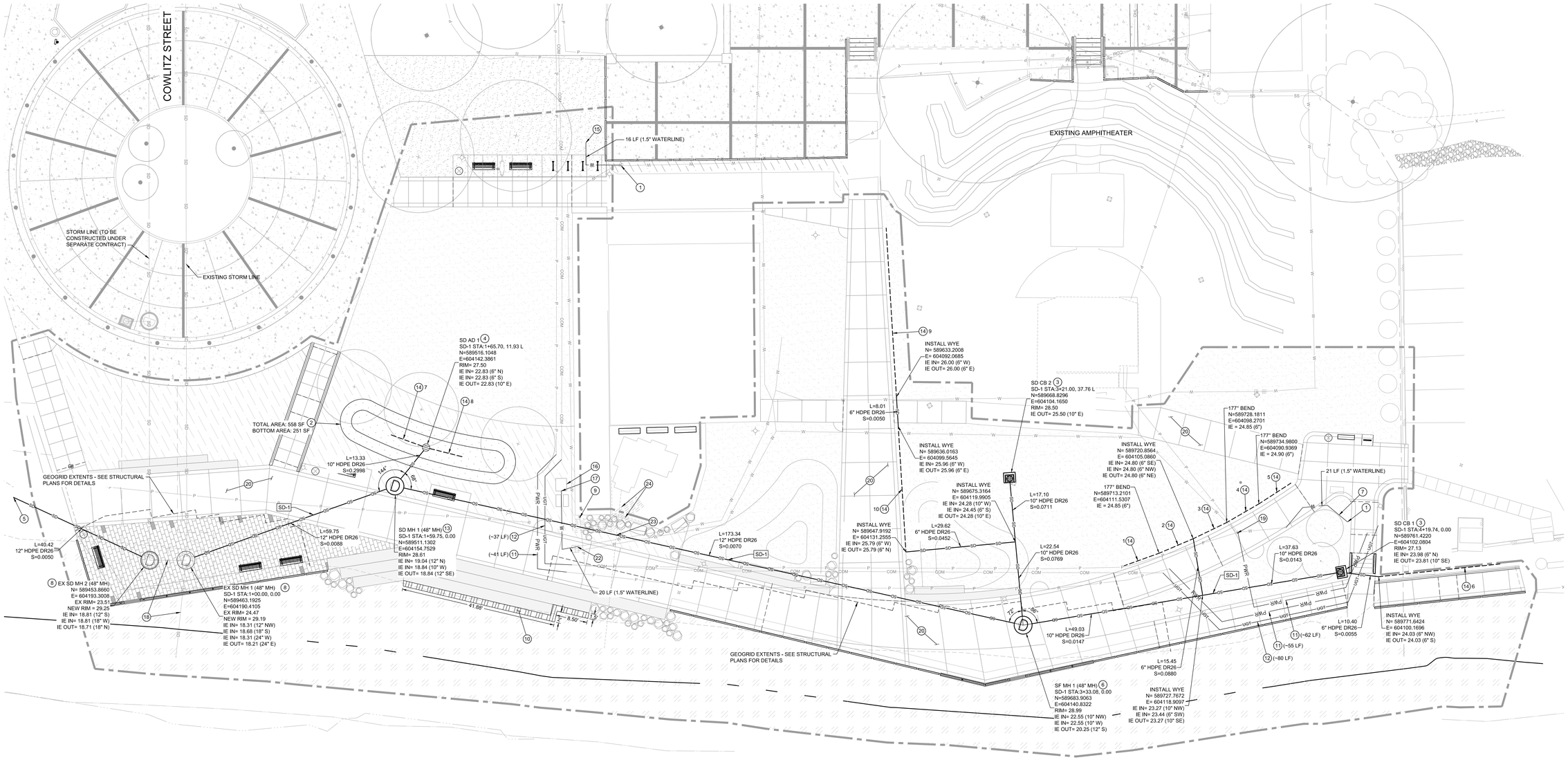
KJB

SHEET TITLE
SITE DEMO, GRADING & GRUBBING

SHEET NUMBER
C1.0



PERFORATED PIPE INSTALLATION CHART					
NAME	LENGTH	SIZE	UPSTREAM IE	DOWNSTREAM IE	SLOPE
1	10'	6"	24.90	24.85	0.005
2	10'	6"	24.85	24.80	0.005
3	10'	6"	24.85	24.80	0.005
4	10'	6"	24.90	24.85	0.005
5	10'	6"	24.95	24.90	0.005
6	33'	6"	24.20	24.03	0.005
7	10'	6"	22.83	22.88	0.005
8	10'	6"	22.83	22.88	0.005
9	46'	6"	26.23	26.00	0.005
10	34'	6"	25.96	25.79	0.005

CONSTRUCTION NOTE:

1. CONNECT TO EXISTING 1.5" WATER SERVICE. CONTRACTOR TO VERIFY SIZING OF CONNECTION.

UTILITY CONTACTS

COLUMBIA RIVER PUD
CONTACT: KARL WEBSTER
PHONE: (503) 397-8154
EMAIL: KWEBSTER@CRPUD.ORG

COMCAST
CONTACT: RYAN HENNESSEY
PHONE: (360) 846-8734
EMAIL: RYAN_HENNESSEY@CABLE.COMCAST.COM

LEGEND

- WATER
- COMMUNICATIONS
- POWER
- STORM
- PERFORATED STORM
- LIMITS OF WORK
- MANHOLE
- LANDSCAPE AREA DRAIN
- STORMWATER FACILITY BEEHIVE OVERFLOW

CONSTRUCTION KEY NOTES

1. CONNECT TO EXISTING 1.5" WATER SERVICE. CONTRACTOR TO VERIFY SIZING OF CONNECTION.
2. CONSTRUCT FLOW THROUGH PLANTER PER DETAIL 735, SHEET C3.0 AND DETAIL 1, SHEET C2.1.
3. CONSTRUCT LANDSCAPE AREA DRAIN (AREA DRAINAGE BASIN) PER DETAIL RD374, SHEET C3.0.
4. CONSTRUCT STORMWATER FACILITY BEEHIVE DRAIN PER DETAILS 758 AND 760, SHEET C3.0.
5. STUB STORMWATER LINE FOR FUTURE CONNECTION.
6. CONSTRUCT 48" STORMFILTER MANHOLE PER SFMH48 DETAIL ON SHEET C3.0. DECORATIVE MANHOLE LID PER NOTE ON SHEET C3.1.
7. RECONSTRUCT 1.5" WATER SERVICES IN PARK. SEE SHEET L-401 FOR IRRIGATION PLANS.
8. CONNECT TO EXISTING STORM MANHOLE. MAJOR ADJUSTMENT TO MANHOLE (ADJUST RIM ELEVATION TO GRADE AND REPLACE RIM PER DECORATIVE RIM NOTE ON SHEET C3.1).
9. ADJUST SPLASH PAD ACTIVATION BUTTON TO GRADE. SEE LANDSCAPE PLAN FOR DETAILS.
10. INSTALL VEGETATED FILTER STRIP PER DETAIL 2, SHEET C3.1. DIMENSIONS PER PLAN.
11. CONSTRUCT UNDERGROUND POWER LINE. COORDINATE WITH COLUMBIA RIVER PUD.
12. CONSTRUCT UNDERGROUND COMMUNICATIONS LINE. COORDINATE WITH COMCAST.
13. CONSTRUCT 48" STORM MANHOLE PER DETAIL 350 ON SHEET C3.0. DECORATIVE MANHOLE LID PER NOTE ON SHEET C3.1.
14. INSTALL FRENCH DRAIN PER DETAIL 1, SHEET C3.1. SEE PLAN FOR NAME AND TABLE FOR INVERT INFORMATION.
15. IRRIGATION POINT OF CONNECTION. SEE LANDSCAPE PLANS FOR DETAILS.
16. REINSTALL SPLASH PAD VAULT AND CONTROL SALVAGED FROM EXISTING FACILITY.
17. CONNECT 1.5" WATER SERVICE TO RELOCATED SPLASH PAD CONTROL.
18. CONTRACTOR SHALL PERFORM A CCTV VIDEO INSPECTION OF THE EXISTING STORM DRAIN AND SUBMIT TO CITY ENGINEERING DIVISION FOR REVIEW AND APPROVAL AT THE BEGINNING OF THE PROJECT.
19. ADJUST EXISTING POWER JUNCTION BOX TO GRADE.
20. INSTALL CONCRETE SIDEWALK. SEE LANDSCAPE PLANS FOR DETAILS.
21. INSTALL WALL DRAIN PER DETAIL 10, SHEET L6.02. SEE PLAN FOR NAME AND TABLE FOR INVERT INFORMATION.
22. TIE INTO 1.5" WATER LINE AND EXTEND FOR WATER SERVICE. CONTRACTOR TO CONFIRM THE EXISTING LINE AT THE TIE-IN POINT IS FOR POTABLE WATER USE.
23. POTHOLE EXISTING DRAIN LINE FROM SPLASH PAD TO VERIFY ELEVATION PRIOR TO STORM DRAIN AND WATERLINE CONSTRUCTION.
24. RECONNECT EXISTING 3/4" PEX WATERLINES FROM SPLASH PAD TO REVISED VAULT LOCATION.

0 10 20
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PHASE
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REVISIONS

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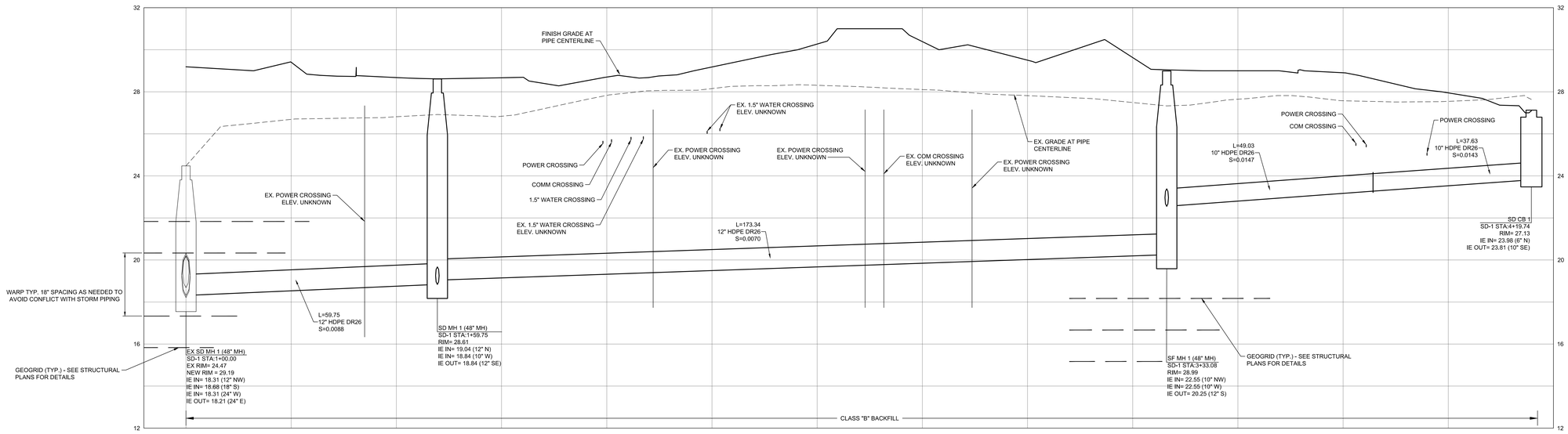
SHEET TITLE
CIVIL SITE UTILITIES & STORM

SHEET NUMBER
C2.0



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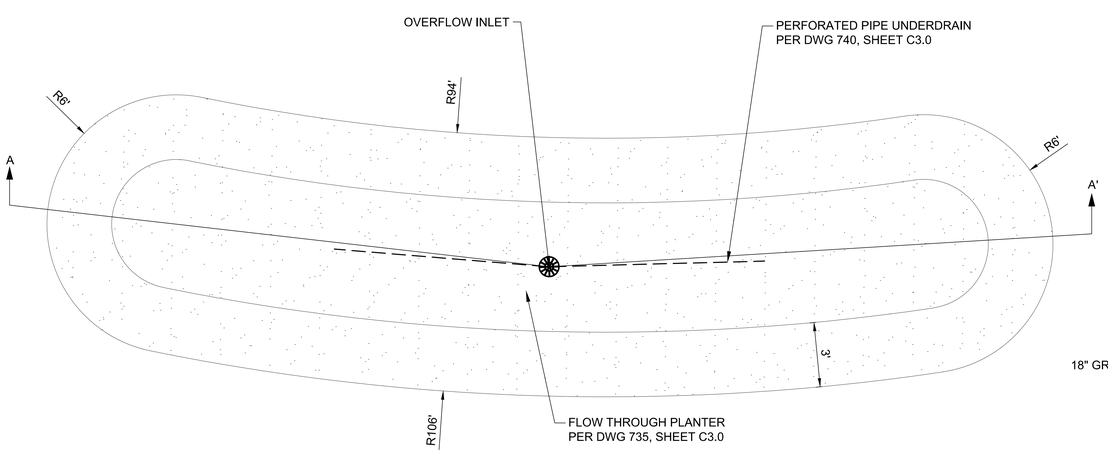
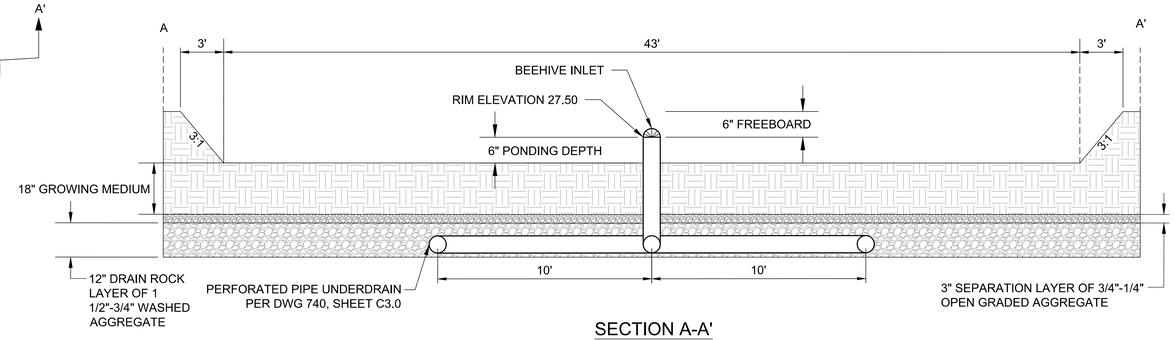


FLOW THROUGH PLANTER PLAN VIEW (TYP.)



SECTION A-A'

FLOW THROUGH PLANTER DETAIL
N.T.S.
1
C2.1

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REGISTERED PROFESSIONAL ENGINEER 72,629 OREGON JUNE 11, 2008 KEITH BUSMAN
DIGITALLY SIGNED
EXPIRES: 12/31/2025

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DATE
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REVISIONS

NO.	DESC.	DATE

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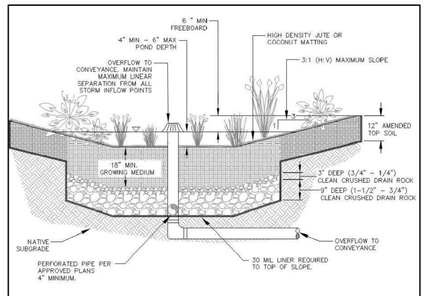
SHEET TITLE
STORM PROFILE AND PLANTER DETAIL

SHEET NUMBER
C2.1



NOTES:

1. PROVIDE OVERFLOW CONVEYANCE SYSTEM. OVERFLOW CONVEYANCE HEIGHT TO ALLOW 4" MINIMUM – 6" MAXIMUM PONDING, PIPING TO A MINIMUM OF THE PLUMBING CODE OR CONVEY THE 25 YEAR STORM.
2. FLOW DISSIPATERS SHOULD BE USED IF ENTRY SLOPE TO THE BASIN IS GREATER THAN 3:1. FLOW DISSIPATERS SHALL BE CONSTRUCTED OUT OF ROCK OR GRAVEL PER DESIGN FLOW VELOCITY AT ENTRY OF THE FACILITY.
3. TREATMENT AREA SHALL HAVE HIGH DENSITY JUTE OR COCONUT MATTING OVER 18" MINIMUM OF GROWING MEDIUM OR BARE STABILIZATION METHOD AS APPROVED BY THE DISTRICT.
4. VEGETATION TO BE USED IN WET AREAS OF THE BASIN IS PER APPENDIX "A" FOR THE WET MOISTURE CONDITIONS.
5. VEGETATION TO BE USED IN OTHER AREAS OF BASIN CONFORMS TO PLANT LIST OF THIS HANDBOOK AS APPROVED BY DISTRICT.

NON-STRUCTURAL FLOW THROUGH PLANTER/SWALE

DRAWING NO. 735 REVISED 10-31-19

CleanWater Services

STORMWATER FACILITY GROWING MEDIUM

FURNISH IMPORTED BLENDED SOIL FOR ALL VEGETATED LIDA FACILITIES CONFORMING TO THE FOLLOWING:

- GENERAL COMPOSITION – USE MATERIAL THAT IS ANY BLEND OF LOAMY SOIL, SAND, AND COMPOST THAT IS 30–40% COMPOST (BY VOLUME) AND MEETS THE OTHER CRITERIA IN THIS SPECIFICATION.
- ANALYSIS REQUIREMENTS FOR THE BLENDED MATERIAL:
  PARTICLE GRADATION – A SIEVE ANALYSIS OF THE BLENDED MATERIAL, NOT INCLUDING COMPOST, SHALL BE CONDUCTED IN CONFORMANCE WITH ASTM C117/C136, AASHTO T11/T27, ASTM D422/D1140, OR ASTM D6913. THE ANALYSIS SHALL INCLUDE THE FOLLOWING SIEVE SIZES: 1 INCH, 3/8 INCH, #4, #10, #20, #40, #60, #100, #200. THE GRADATION OF THE BLEND SHALL MEET THE FOLLOWING GRADATION CRITERIA.

SIEVE SIZE	PERCENT PASSING
1 INCH	100
# 4	80 –100
# 10	50–100
# 40	20–60
# 100	10–40
# 200	10–20

- THE MATERIAL SHALL BE LOOSE AND EASILY BROKEN INTO SMALL PIECES
- IT SHALL BE WELL MIXED AND HOMOGENOUS.
- IT SHALL BE FREE OF WOOD PIECES, PLASTIC, AND OTHER FOREIGN MATTER.
- IT SHALL HAVE NO VISIBLE FREE WATER.
- THE PH (POWER OF HYDROGEN) OF THE BLENDED MATERIAL SHALL BE TESTED AND BE BETWEEN 6 TO 8.

COMPOST

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

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

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

CONSTRUCTION

STORMWATER FACILITY GROWING MEDIUM:

- PROTECTION OF THE SOIL – THE MATERIAL SHALL BE PROTECTED FROM ALL SOURCES OF CONTAMINATION, INCLUDING WEED SEEDS, WHILE AT THE SUPPLIER, IN CONVEYANCE, AND AT THE PROJECT SITE.
- WET AND WINTER CONDITIONS – HAULING AND PLACEMENT OF THE MATERIAL WILL NOT BE ALLOWED WHEN THE WEATHER IS TOO WET OR THE GROUND IS FROZEN OR SATURATED AS DETERMINED BY THE OWNERS REPRESENTATIVE.
- PLACEMENT OF THE SOIL – PLACE THE MATERIAL IN LOOSE LIFTS, NOT TO EXCEED 8 INCHES EACH AND EACH LIFT SHALL BE COMPACTED WITH A WATER–FILLED LANDSCAPE ROLLER. DO NOT OTHERWISE MECHANICALLY COMPACT THE MATERIAL.
- TIMING OF PLANT BASE STABILIZATION – WEATHER PERMITTING AND AS APPROVED, INSTALL PLANTS AS SOON AS POSSIBLE AFTER PLACING AND GRADING THE SOIL IN ORDER TO MINIMIZE EROSION AND FURTHER COMPACTION.
- EROSION CONTROL – TEMPORARY EROSION CONTROL MEASURES ARE REQUIRED UNTIL PERMANENT STABILIZATION MEASURES ARE FUNCTIONAL.
- PROTECTION OF THE INSTALLED SOIL – IN ALL CASES, THE PROTECT INSTALLED MATERIAL FROM FOOT OR EQUIPMENT TRAFFIC AND SURFACE WATER RUNOFF. INSTALL TEMPORARY FENCING OR WALKWAYS AS NEEDED TO KEEP WORKERS, PEDESTRIANS, AND EQUIPMENT OUT OF THE AREA. UNDER NO CIRCUMSTANCES SHOULD MATERIALS AND EQUIPMENT BE STORED ON TOP OF THE INSTALLATION AREA.

GROWING MEDIUM SPECIFICATION FOR VEGETATED FACILITIES

DRAWING NO. 742 REVISED 10-31-19

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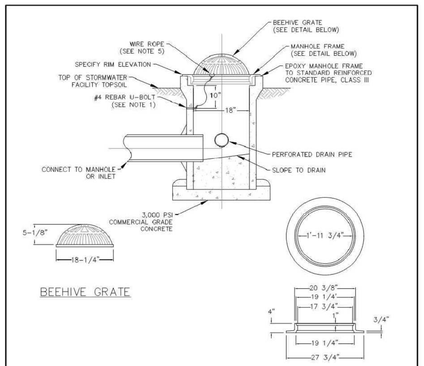

NOTES:

1. SECURE GRATE IN PLACE WITH 54" OF WIRE ROPE. LOOP ENDS OF WIRE ROPE AROUND U-BOLT AND GRATE. CRIMP EACH END OF WIRE ROPE WITH 3" OVERLAP.
2. DRILL 2" DEEP HOLES INTO PIPE AND EPOXY #4 REBAR U-BOLT (2"X 4") IN HOLES.
3. GRATE TO BE CAST IRON, ASTM A48 CL30.
4. SIZE INLET BASED ON CALCULATED FLOWS AND MANUFACTURERS RECOMMENDATIONS.
5. WIRE ROPE BETWEEN 1/8"–3/16" DIAMETER, STAINLESS STEEL, 7 STRANDS OF 19 WIRES.

BEEHIVE INLET

DRAWING NO. 758 REVISED 10-31-19

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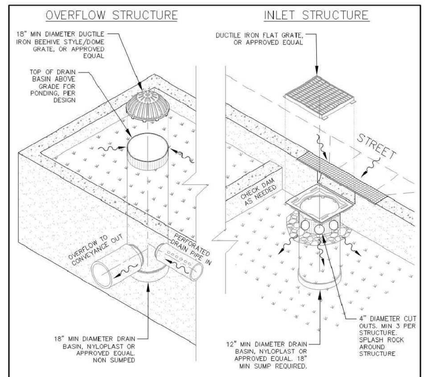


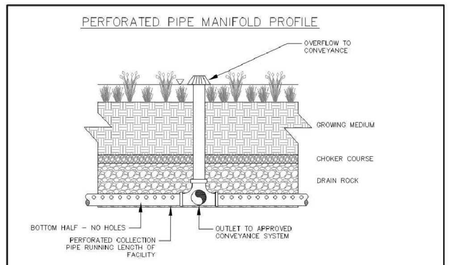
NOTE:

1. PLACE STRUCTURE ON 3/4" TO 0" BASE ROCK PLACED OVER NATIVE SUBGRADE.

OVERFLOW/INLET STRUCTURE

DRAWING NO. 760 REVISED 10-31-19

CleanWater Services



PIPING NOTES:

FOR PRIVATE PROPERTY, PIPING MUST BE CAST IRON, ABS SCH40, OR PVC SCH40. THREE–INCH PIPE IS REQUIRED FOR FACILITIES DRAINING UP TO 1,500 SQUARE FEET OF IMPERVIOUS AREA; OTHERWISE 4–INCH PIPE MINIMUM IS REQUIRED. PIPING INSTALLATION AND SIZING MUST FOLLOW CURRENT UNIFORM PLUMBING CODE.

FOR PUBLIC FACILITIES, 6–INCH OR 8–INCH ASTM 3034 SDR 35 PVC PIPE AND PERFORATED PIPE ARE REQUIRED.

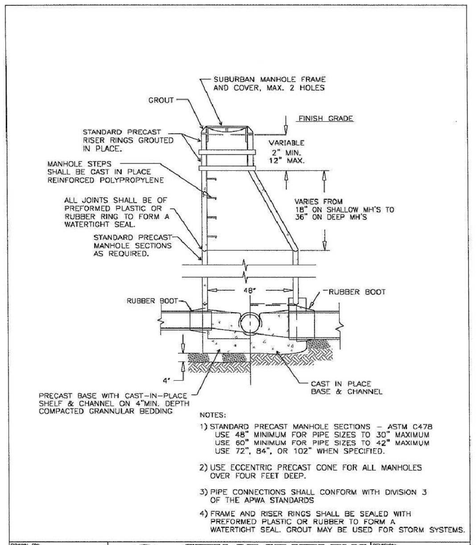
NOTES:

1. BRANCH SPACING AND NUMBER OF BRANCHES TO BE CALCULATED BASED ON STORM FLOWS FROM IMPERVIOUS AREA BEING TREATED.
2. NO TREES OR DEEP ROOTED VEGETATION OVER PIPING.
3. GRADE SUBGRADE TO PROVIDE MANIFOLD WITH POSITIVE DRAINAGE.
4. CONVEYANCE SIZED AT MINIMUM FOR 25 YEAR EVENT STORM FLOWS.
5. DETENTION (IF REQUIRED) VOLUME BASED ON DEPTH OF DRAIN ROCK RESERVOIR LAYER AND POSITION OF MANIFOLD WITHIN THE DRAIN ROCK LAYER.
6. FITTINGS TO BE SAME MATERIAL AS PERFORATED PIPE.
7. PIPE SECTIONS EXPOSED TO SUNLIGHT SHALL BE OF MATERIAL NOT SUBJECT TO DEGRADATION FROM THE EFFECTS OF SUNLIGHT.

PERFORATED PIPE DETAILS

DRAWING NO. 740 REVISED 10-31-19

CleanWater Services

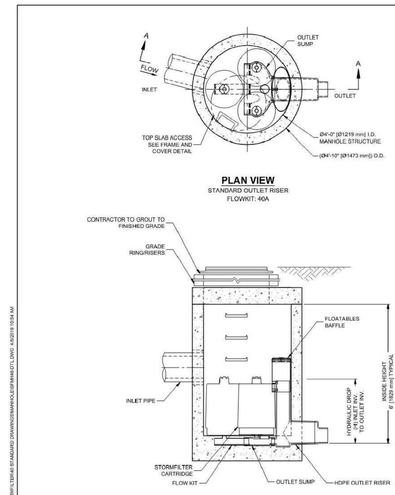


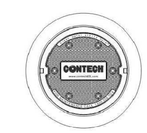
NOTES:

1) STANDARD PRECAST MANHOLE SECTIONS – ASTM C478
   USE 48" MINIMUM FOR PIPE SIZES TO 30" MAXIMUM
   USE 60" MINIMUM FOR PIPE SIZES TO 42" MAXIMUM
   USE 72", 84", OR 102" WHEN SPECIFIED.
2) USE ECCENTRIC PRECAST CONE FOR ALL MANHOLES OVER FOUR FEET DEEP.
3) PIPE CONNECTIONS SHALL CONFORM WITH DIVISION 3 OF THE APWA STANDARDS
4) FRAME AND RISER RINGS SHALL BE SEALED WITH PREFORMED PLASTIC OR RUBBER TO FORM A WATERTIGHT SEAL. GROUT MAY BE USED FOR STORM SYSTEMS.

DRAWN BY: T. KOLLN	CITY OF ST.HELENS 265 THE STRAND, ST.HELENS, OR 97051 PH (503)397–6272 FAX (503)397–4016	REVISION: NC
CHECKED BY: -		
DATE: -	TITLE: TYPICAL MANHOLE DETAIL	DRAWING NO: 350
SCALE: -		

Ordinance No. 2875 / April 4, 2003 / Appendix





FRAME AND COVER
(DIAMETER VARIES)
N.T.S.

STORMFILTER DESIGN NOTES

STORMFILTER TREATMENT CAPACITY IS A FUNCTION OF THE CARTRIDGE SELECTION AND THE NUMBER OF CARTRIDGES. THE STANDARD MANHOLE STYLE IS SHOWN WITH THE MAXIMUM NUMBER OF CARTRIDGES (3). VOLUME SYSTEM IS ALSO AVAILABLE WITH MAXIMUM 3 CARTRIDGES. Ø4 [1219 mm] MANHOLE STORMFILTER PEAK HYDRAULIC CAPACITY IS 1.0 CFS [28.3 L/s]. IF THE SITE CONDITIONS EXCEED 1.0 CFS [28.3 L/s] AN UPSTREAM BYPASS STRUCTURE IS REQUIRED.

CARTRIDGE SELECTION

CARTRIDGE HEIGHT	27" [686 mm]		18" [458 mm]		LOW DROP	
RECOMMENDED HYDRAULIC DROP (IH)	3.05' [930 mm]		2.3' [700 mm]		1.8' [550 mm]	
SPECIFIC FLOW RATE (gpm/sf) [L/s/m²]	2 [1.36]	1.40* [1.08]	1 [0.68]	2 [1.36]	1.60* [1.08]	1 [0.68]
CARTRIDGE FLOW RATE (gpm) [L/s]	22.5 [1.42]	18.75 [1.18]	11.25 [0.71]	15 [0.95]	12.05 [0.76]	7.5 [0.44]
				19 [0.63]	8.35 [0.54]	5 [0.32]

* 1.67 gpm/sf [1.08 L/s/m²] SPECIFIC FLOW RATE IS APPROVED WITH PHOSPHOSORB® (PSORB) MEDIA ONLY.

SITE SPECIFIC DATA REQUIREMENTS

STRUCTURE ID	SFMH 1
WATER QUALITY FLOW RATE (cfs) [L/s]	0.04
PEAK FLOW RATE (cfs) [L/s]	-
RETURN PERIOD OF PEAK FLOW (yrs)	-
CARTRIDGE HEIGHT (SEE TABLE ABOVE)	18"
NUMBER OF CARTRIDGES REQUIRED	2
CARTRIDGE FLOW RATE	15 GPM
MEDIA TYPE (PERLITE, ZPG, PSORB)	ZPG

PIPE DATA:	I.E.	MATERIAL	DIAMETER
INLET PIPE #1	22.55	HDPE	12"
INLET PIPE #2	22.55	HDPE	10"
OUTLET PIPE	20.25	HDPE	12"
RIM ELEVATION			28.00

ANTI-FLOTATION BALLAST	WIDTH	HEIGHT
	*	*

NOTES/SPECIAL REQUIREMENTS:

* PER ENGINEER OF RECORD

GENERAL NOTES

1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. DIMENSIONS MARKED WITH ( ) ARE REFERENCE DIMENSIONS. ACTUAL DIMENSIONS MAY VARY.
3. FOR SITE SPECIFIC DRAWINGS WITH DETAILED VAULT DIMENSIONS AND WEIGHTS, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE. www.ContechES.com
4. STORMFILTER WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING.
5. STRUCTURE SHALL MEET AASHTO HS-20 LOAD RATING, ASSUMING EARTH COVER OF 2' - 5' [1524 mm] 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.
6. FILTER CARTRIDGES SHALL BE MEDIA-FILLED, PASSIVE, SIPHON ACTUATED, RADIAL FLOW, AND SELF CLEANING. RADIAL MEDIA DEPTH SHALL BE 7-INCHES [178 mm]. FILTER MEDIA CONTACT TIME SHALL BE AT LEAST 38 SECONDS.
7. SPECIFIC FLOW RATE IS EQUAL TO THE FILTER TREATMENT CAPACITY (gpm) [L/s] DIVIDED BY THE FILTER CONTACT SURFACE AREA (sq ft)[m²].
8. STORMFILTER STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C-478 AND AASHTO LOAD FACTOR DESIGN METHOD.

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 STORMFILTER STRUCTURE.
C. CONTRACTOR TO INSTALL JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS AND ASSEMBLE STRUCTURE.
D. CONTRACTOR TO PROVIDE, INSTALL, AND GROUT INLET PIPE(S).
E. CONTRACTOR TO PROVIDE AND INSTALL CONNECTOR TO THE OUTLET RISER STUB. STORMFILTER EQUIPPED WITH A DUAL DIAMETER HDPE OUTLET STUB AND SAND COLLAR. IF OUTLET PIPE IS LARGER THAN 8 INCHES [200 mm], CONTRACTOR TO REMOVE THE 8 INCH [200 mm] OUTLET STUB AT MOLDED-IN CUT LINE. COUPLING BY FERNCO OR EQUAL AND PROVIDED BY CONTRACTOR.
F. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO PROTECT CARTRIDGES FROM CONSTRUCTION-RELATED EROSION RUNOFF.

The Stormwater Management StormFilter®
www.contechES.com
THIS PRODUCT IS ELIGIBLE FOR USE IN PARTS OF THE FOLLOWING: U.S. PATENTS: 5,498,326; 5,607,601; 5,723,051; 5,725,757; 5,817,242; 5,846,406; 6,027,643; 6,277,283; 6,332,538; 6,512,194; 6,530,493; 6,540,917; 6,547,977; 6,562,136; 6,571,441; 6,574,846; 6,578,241; 6,584,678; 6,605,201; 6,607,643; 6,611,817; 6,622,351; 6,625,157; 6,631,353; 6,640,335; 6,651,134; 6,654,720; 6,658,388; 6,662,332; 6,662,336; 6,665,388; 6,665,389; 6,665,390; 6,665,391; 6,668,332; 6,669,016; 6,669,017; 6,669,018; 6,669,019; 6,669,020; 6,669,021; 6,669,022; 6,669,023; 6,669,024; 6,669,025; 6,669,026; 6,669,027; 6,669,028; 6,669,029; 6,669,030; 6,669,031; 6,669,032; 6,669,033; 6,669,034; 6,669,035; 6,669,036; 6,669,037; 6,669,038; 6,669,039; 6,669,040; 6,669,041; 6,669,042; 6,669,043; 6,669,044; 6,669,045; 6,669,046; 6,669,047; 6,669,048; 6,669,049; 6,669,050; 6,669,051; 6,669,052; 6,669,053; 6,669,054; 6,669,055; 6,669,056; 6,669,057; 6,669,058; 6,669,059; 6,669,060; 6,669,061; 6,669,062; 6,669,063; 6,669,064; 6,669,065; 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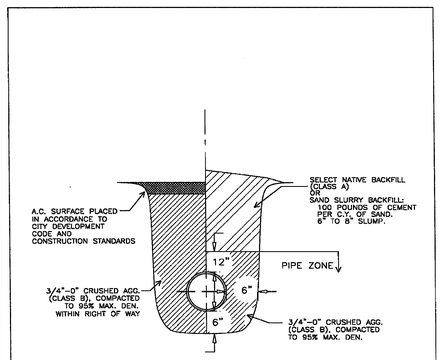
NOTE: ALL STORM MANHOLE LIDS WITHIN PROJECT LIMITS TO BE URBAN ACCESSORIES DESIGNS ("MODERN" OR "DANDELION") TO BE DETERMINED. FINISHES TO BE DETERMINED, BUT LIKELY TO BE RUST CONVERTER, RUST CONDITIONER, AND/OR RAW.



NOTES:

1. MINIMUM TRENCH WIDTH IS 24--INCHES (SEE APWA SEC 301.3)

DRAWN BY:
CHECKED BY:
DATE:
SCALE:

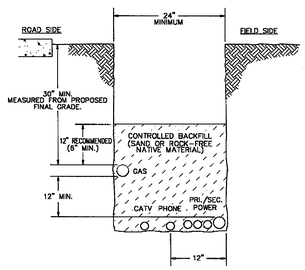
CITY OF ST.HELENS
265 THE STRAND, ST.HELENS, OR 97051
PH (503)397-6272 FAX (503)397-4016

TITLE: TYPICAL TRENCH DETAIL

REVISION:

DRAWING NO: 300

Ordinance No. 2875 / April 4, 2003 / Appendix



TRENCH REQUIREMENTS FOR JOINT UTILITY USE

MAIN EXTENSION

OREGON

DRAWN BY:
CHECKED BY:
DATE:
SCALE:

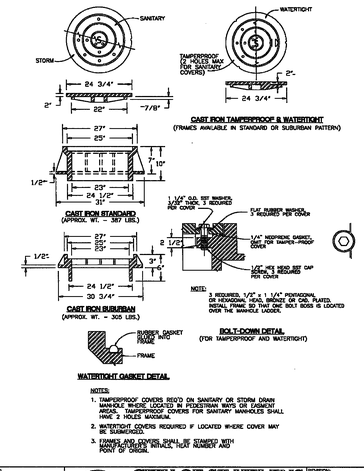
CITY OF ST.HELENS
265 THE STRAND, ST.HELENS, OR 97051
PH (503)397-6272 FAX (503)397-4016

TITLE: JOINT UTILITY TRENCH

REVISION:

DRAWING NO: 301

Ordinance No. 2875 / April 4, 2003 / Appendix



NOTES:

1. TAMPERPROOF COVERS REQ'D ON SANITARY OR STORM DRAIN MANHOLE WHERE LOCATED IN PEDESTRIAN WAYS OR EASEMENT AREAS. TAMPERPROOF COVERS FOR SANITARY MANHOLES SHALL HAVE 2 HOLES MAXIMUM.
2. WATERTIGHT COVERS REQUIRED IF LOCATED WHERE COVER MAY BE SUBMERGED.
3. FRAMES AND COVERS SHALL BE STAMPED WITH MANUFACTURER'S INITIALS, FOUR NUMBER AND POINT OF ORIGIN.

DRAWN BY: T. KOLLN
CHECKED BY:
DATE:
SCALE:

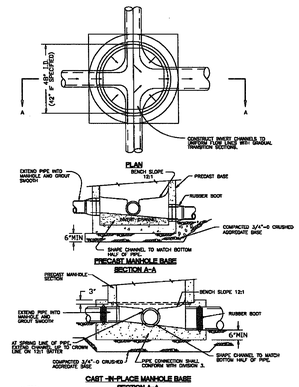
CITY OF ST.HELENS
265 THE STRAND, ST.HELENS, OR 97051
PH (503)397-6272 FAX (503)397-4016

TITLE: MANHOLE COVER & FRAME DETAILS

REVISION: NC

DRAWING NO: 346

Ordinance No. 2875 / April 4, 2003 / Appendix



NOTES:

1. CONCRETE SHALL BE 3300 PSI AT 28 DAYS.
2. CHANNELS SHALL BE CONSTRUCTED TO PROVIDE SMOOTH SLOPES AND RADII TO OUTLET PIPE.
3. BASES MAY BE PRECAST OR POURED IN PLACE.
4. THIS MANHOLE BASE SECTION SHALL BE USED FOR PIPE SIZES UP TO 24".
5. USE RUBBER BOOTS IF PIPE IS FLEXIBLE. BOOTS MAY BE KOR-N-SEAL OR EQUIVALENT.

DRAWN BY: T. KOLLN
CHECKED BY:
DATE:
SCALE:

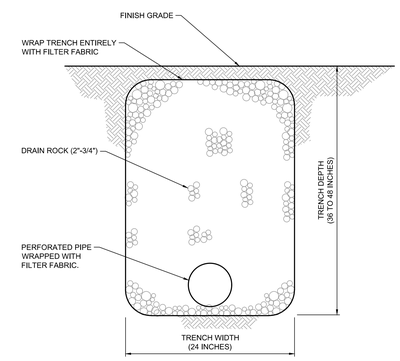
CITY OF ST.HELENS
265 THE STRAND, ST.HELENS, OR 97051
PH (503)397-6272 FAX (503)397-4016

TITLE: MANHOLE BASE SECTION

REVISION: NC

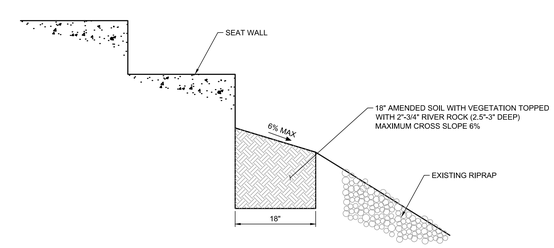
DRAWING NO: 360

Ordinance No. 2875 / April 4, 2003 / Appendix



1 FRENCH DRAIN DETAIL

N.T.S.



2 VEGETATED FILTER STRIP DETAIL

N.T.S.

Mayer/Reed

Mayer/Reed, Inc.
319 SW Washington St.
Suite 820
Portland, Oregon 97204
503.223.5953

Otak

Otak, Inc.
808 SW Third Avenue, Ste. 800
Portland, OR 97204
503. 287. 6825
www.otak.com

St. Helens Riverwalk

St. Helens, Oregon
Project Number: P-525A

Project Managers: Jennifer Dimsho; John Walsh

REGISTERED PROFESSIONAL ENGINEER 72,629 OREGON JUNE 11, 2008 KEITH BUISMAN
DIGITALLY SIGNED
EXPIRES: 12/31/2025

PHASE
FINAL PLANS

DATE
02/02/2024

REVISIONS

NO.	DESC.	DATE

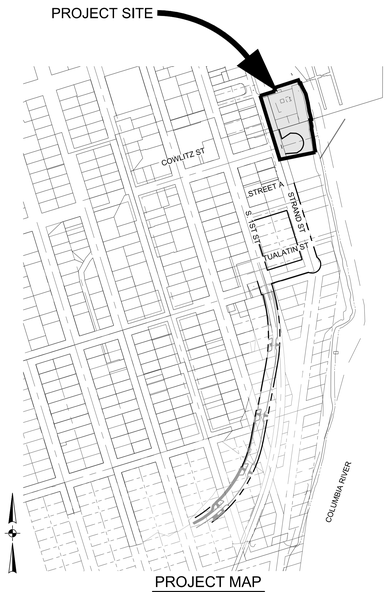
DRAWN BY
CJB/EAO

CHECKED BY
KJB

SHEET TITLE
UTILITIES & STORM DETAILS

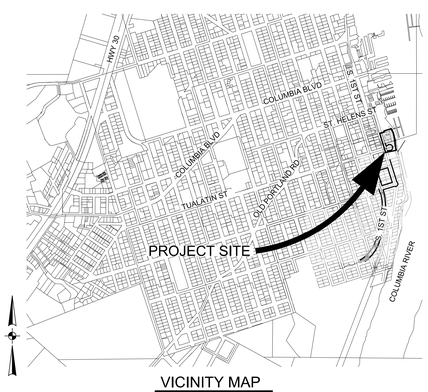
SHEET NUMBER
C3.1

EROSION AND SEDIMENT CONTROL PLANS



PROJECT MAP

N.T.S.



VICINITY MAP

N.T.S.

PROJECT LOCATION:

NEAR S. 1ST STREET AND COWLITZ STREET
ST. HELENS, OREGON
LATITUDE =45°51'47"N,
LONGITUDE =122°47'47"W

PROPERTY DESCRIPTION:

WILLAMETTE MERIDIAN, COLUMBIA COUNTY, OREGON
T4N R1W SEC 3 TL 100
T4N R1W SEC 3BA TL 7500,

ATTENTION EXCAVATORS:

OREGON LAW REQUIRES YOU TO FOLLOW RULES ADOPTED BY THE OREGON UTILITY NOTIFICATION CENTER. THOSE RULES ARE SET FORTH IN OAR 952-001-0010 THROUGH OAR 952-001-0090. YOU MAY OBTAIN COPIES OF THESE RULES FROM THE CENTER BY CALLING 503-232-1987. IF YOU HAVE ANY QUESTIONS ABOUT THE RULES, YOU MAY CONTACT THE CENTER. YOU MUST NOTIFY THE CENTER AT LEAST TWO BUSINESS DAYS, BEFORE COMMENCING AN EXCAVATION. CALL 503-246-6699.

OWNER

NAME:	CITY OF ST. HELENS
CONTACT:	MOUHAMAD ZAHER
ADDRESS:	265 STRAND STREET ST. HELENS, OR 97051
PHONE:	(503) 366-8223
FAX:	

ENGINEERING FIRM

NAME:	OTAK INC.
ENGINEER:	KEITH BUISMAN, P.E.
ADDRESS:	808 SW THIRD AVENUE, SUITE 800 PORTLAND, OR 97204
PHONE:	(503) 287-6825
FAX:	503-415-2304

NARRATIVE DESCRIPTIONS

EXISTING SITE CONDITIONS
* EXISTING PLAYGROUND AND PARK

DEVELOPED CONDITIONS
- NEW PARK, TRAIL, AND PLAYGROUND EQUIPMENT

NATURE OF CONSTRUCTION ACTIVITY AND ESTIMATED TIME TABLE
- CLEARING (MAY 2024)
- MASS GRADING (MAY - JULY 2024)
- UTILITY INSTALLATION (AUGUST 2024)
- STREET CONSTRUCTION (SEPTEMBER - OCTOBER 2024)
- FINAL STABILIZATION (NOVEMBER 2024)

TOTAL SITE AREA = 1.05 ACRES
TOTAL DISTURBED AREA = 0.80 ACRES

SITE SOIL CLASSIFICATION:
45 - ROCK OUTCROP-XERUMBREPTS COMPLEX, UNDULATING
46 - SAUVIE SILT LOAM

ON-SITE SOILS HAVE A SLIGHT EROSION POTENTIAL. ALL FILL MATERIAL SHALL BE GENERATED ON-SITE FROM GRADING EXCAVATION AND UTILITY TRENCH SPOILS.

RECEIVING WATER BODIES:
COLUMBIA RIVER

WATER BODIES WITHIN 1 MILE OF PROJECT SITE:
COLUMBIA RIVER

THE COLUMBIA RIVER (FROGMORE SLOUGH TO TIDE CREEK) IS 303(D) LISTED FOR ARSENIC, DDE 4.4, PCBS, AND TEMPERATURE, THIS SECTION OF THE COLUMBIA RIVER ALSO HAS A TMDL FOR DIOXINS AND TOTAL DISSOLVED GAS. THIS PROJECT IS NOT EXPECTED TO INCREASE LEVELS OF THESE LISTED POLLUTANTS.

PERMITTEE'S SITE INSPECTOR:

NAME: ALEX BIRD
COMPANY/AGENCY: CITY OF ST. HELENS
PHONE: 503-366-8223
FAX: 503-415-2304
E-MAIL: abird@sthelensoregon.gov
CERTIFICATION ID: CESCL ID# - #ECO-3-1242216 (Exp. 01/24/2025)

INSPECTION FREQUENCY:

SITE CONDITION	MINIMUM FREQUENCY
1. ACTIVE PERIOD	-ON THE INITIAL DATE THAT LAND DISTURBANCE ACTIVITIES COMMENCE. -WITHIN 24 HOURS OF ANY STORM EVENT, INCLUDING RUNOFF FROM SNOW MELT, THAT RESULTS IN DISCHARGE FROM THE SITE. -AT LEAST ONCE EVERY 14 DAYS, REGARDLESS OF WHETHER STROMWATER RUNOFF IS OCCURRING.
2. INACTIVE PERIODS GREATER THAN 14 CONSECUTIVE CALENDAR DAYS.	THE INSPECTOR MAY REDUCE THE FREQUENCY OF INSPECTIONS IN ANY AREA OF THE SITE WHERE THE STABILIZATION STEPS IN SECTION 2.2.20 HAVE BEEN COMPLETED TO TWICE PER MONTH FOR THE FIRST MONTH, NO LESS THAN 14 CALENDAR DAYS APART, THEN ONCE PER MONTH
3. PERIODS DURING WHICH THE SITE IS INACCESSIBLE DUE TO INCLEMENT WEATHER.	IF SAFE, ACCESSIBLE AND PRACTICAL, INSPECTIONS MUST OCCUR DAILY AT A RELEVANT DISCHARGE POINT OR DOWNSTREAM LOCATION OF THE RECEIVING WATERBODY.
4. PERIODS DURING WHICH CONSTRUCTION ACTIVITIES ARE SUSPENDED AND RUNOFF IS UNLIKELY DUE TO FROZEN CONDITIONS.	VISUAL MONITORING INSPECTIONS MAY BE TEMPORARILY SUSPENDED. IMMEDIATELY RESUME MONITORING UPON THAWING, OR WHEN WEATHER CONDITIONS MAKE DISCHARGES LIKELY.
5. PERIODS DURING WHICH CONSTRUCTION ACTIVITIES ARE CONDUCTED AND RUNOFF IS UNLIKELY DURING FROZEN CONDITIONS.	VISUAL MONITORING INSPECTIONS MAY BE REDUCED TO ONCE A MONTH. IMMEDIATELY RESUME MONITORING UPON THAWING, OR WHEN WEATHER CONDITIONS MAKE DISCHARGES LIKELY.

STANDARD EROSION AND SEDIMENT CONTROL PLAN DRAWING NOTES:

1. ONCE KNOWN, INCLUDE A LIST OF ALL CONTRACTORS THAT WILL ENGAGE IN CONSTRUCTION ACTIVITIES ON SITE, AND THE AREAS OF THE SITE WHERE THE CONTRACTOR(S) WILL ENGAGE IN CONSTRUCTION ACTIVITIES. REVISE THE LIST AS APPROPRIATE UNTIL PERMIT COVERAGE IS TERMINATED (SECTION 4.4.C.I). IN ADDITION, INCLUDE A LIST OF ALL PERSONNEL (BY NAME AND POSITION) THAT ARE RESPONSIBLE FOR THE DESIGN, INSTALLATION AND MAINTENANCE OF STORMWATER CONTROL MEASURES (E.G. ESCP DEVELOPER, BMP INSTALLER (SEE SECTION 4.10), AS WELL AS THEIR INDIVIDUAL RESPONSIBILITIES. (SECTION 4.4.C.II)
2. VISUAL MONITORING INSPECTION REPORTS MUST BE MADE IN ACCORDANCE WITH DEQ 1200-C PERMIT REQUIREMENTS. (SECTION 6.5)
3. INSPECTION LOGS MUST BE KEPT IN ACCORDANCE WITH DEQ'S 1200-C PERMIT REQUIREMENTS. (SECTION 6.5.Q)
4. RETAIN A COPY OF THE ESCP AND ALL REVISIONS ON SITE AND MAKE IT AVAILABLE ON REQUEST TO DEQ, AGENT, OR THE LOCAL MUNICIPALITY. (SECTION 4.7)
5. THE PERMIT REGISTRANT MUST IMPLEMENT THE ESCP. FAILURE TO IMPLEMENT ANY OF THE CONTROL MEASURES OR PRACTICES DESCRIBED IN THE ESCP IS A VIOLATION OF THE PERMIT. (SECTIONS 4 AND 4.11)
6. THE ESCP MUST BE ACCURATE AND REFLECT SITE CONDITIONS. (SECTION 4.8)
7. SUBMISSION OF ALL ESCP REVISIONS IS NOT REQUIRED. SUBMITTAL OF THE ESCP REVISIONS IS ONLY UNDER SPECIFIC CONDITIONS. SUBMIT ALL NECESSARY REVISION TO DEQ OR AGENT WITHIN 10 DAYS. (SECTION 4.9)
8. SEQUENCE CLEARING AND GRADING TO THE MAXIMUM EXTENT PRACTICAL TO PREVENT EXPOSED INACTIVE AREAS FROM BECOMING A SOURCE OF EROSION. (SECTION 2.2.2)
9. CREATE SMOOTH SURFACES BETWEEN SOIL SURFACE AND EROSION AND SEDIMENT CONTROLS TO PREVENT STORMWATER FROM BYPASSING CONTROLS AND PONDING. (SECTION 2.2.3)
10. IDENTIFY, MARK, AND PROTECT (BY CONSTRUCTION FENCING OR OTHER MEANS) CRITICAL RIPARIAN AREAS AND VEGETATION INCLUDING IMPORTANT TREES AND ASSOCIATED ROOTING ZONES, AND VEGETATION AREAS TO BE PRESERVED. IDENTIFY VEGETATIVE BUFFER ZONES BETWEEN THE SITE AND SENSITIVE AREAS (E.G., WETLANDS), AND OTHER AREAS TO BE PRESERVED, ESPECIALLY IN PERIMETER AREAS . (SECTION 2.2.1)
11. PRESERVE EXISTING VEGETATION WHEN PRACTICAL AND RE-VEGETATE OPEN AREAS. RE-VEGETATE OPEN AREAS WHEN PRACTICABLE BEFORE AND AFTER GRADING OR CONSTRUCTION. IDENTIFY THE TYPE OF VEGETATIVE SEED MIX USED. (SECTION 2.2.5)
12. MAINTAIN AND DELINEATE ANY EXISTING NATURAL BUFFER WITHIN THE 50-FEET OF WATERS OF THE STATE. (SECTION 2.2.4)
13. INSTALL PERIMETER SEDIMENT CONTROL, INCLUDING STORM DRAIN INLET PROTECTION AS WELL AS ALL SEDIMENT BASINS, TRAPS, AND BARRIERS PRIOR TO LAND DISTURBANCE, (SECTIONS 2.1.3)
14. CONTROL BOTH PEAK FLOW RATES AND TOTAL STORMWATER VOLUME, TO MINIMIZE EROSION AT OUTLETS AND DOWNSTREAM CHANNELS AND STREAMBANKS. (SECTIONS 2.1.1, AND 2.2.16)
15. CONTROL SEDIMENT AS NEEDED ALONG THE SITE PERIMETER AND AT ALL OPERATIONAL INTERNAL STORM DRAIN INLETS AT ALL TIMES DURING CONSTRUCTION, BOTH INTERNALLY AND AT THE SITE BOUNDARY. (SECTIONS 2.2.6 AND 2.2.13)
16. ESTABLISH CONCRETE TRUCK AND OTHER CONCRETE EQUIPMENT WASHOUT AREAS BEFORE BEGINNING CONCRETE WORK. (SECTION 2.2.14)
17. APPLY TEMPORARY AND/OR PERMANENT SOIL STABILIZATION MEASURES IMMEDIATELY ON ALL DISTURBED AREAS AS GRADING PROGRESSES. TEMPORARY OR PERMANENT STABILIZATIONS MEASURES ARE NOT REQUIRED FOR AREAS THAT ARE INTENDED TO BE LEFT UNVEGETATED, SUCH AS DIRT ACCESS ROADS OR UTILITY POLE PADS.(SECTIONS 2.2.20 AND 2.2.21)
18. ESTABLISH MATERIAL AND WASTE STORAGE AREAS, AND OTHER NON-STORMWATER CONTROLS. (SECTION 2.3.7)
19. KEEP WASTE CONTAINER LIDS CLOSED WHEN NOT IN USE AND CLOSE LIDS AT THE END OF THE BUSINESS DAY FOR THOSE CONTAINERS THAT ARE ACTIVELY USED THROUGHOUT THE DAY. FOR WASTE CONTAINERS THAT DO NOT HAVE LIDS, PROVIDE EITHER (1) COVER (E.G., A TARP, PLASTIC SHEETING, TEMPORARY ROOF) TO PREVENT EXPOSURE OF WASTES TO PRECIPITATION, OR (2) A SIMILARLY EFFECTIVE MEANS DESIGNED TO PREVENT THE DISCHARGE OF POLLUTANTS (E.G., SECONDARY CONTAINMENT). (SECTION 2.3.7)
20. PREVENT TRACKING OF SEDIMENT ONTO PUBLIC OR PRIVATE ROADS USING BMPS SUCH AS: CONSTRUCTION ENTRANCE, GRAVELED (OR PAVED) EXITS AND PARKING AREAS, GRAVEL ALL UNPAVED ROADS LOCATED ONSITE, OR USE AN EXIT TIRE WASH. THESE BMPS MUST BE IN PLACE PRIOR TO LAND- DISTURBING ACTIVITIES. (SECTION 2.2.7)
21. WHEN TRUCKING SATURATED SOILS FROM THE SITE, EITHER USE WATER-TIGHT TRUCKS OR DRAIN LOADS ON SITE. (SECTION 2.2.7.F)
22. CONTROL PROHIBITED DISCHARGES FROM LEAVING THE CONSTRUCTION SITE, I.E., CONCRETE WASH-OUT, WASTEWATER FROM CLEANOUT OF STUCCO, PAINT AND CURING COMPOUNDS. (SECTIONS 1.5 AND 2.3.9)
23. ENSURE THAT STEEP SLOPE AREAS WHERE CONSTRUCTION ACTIVITIES ARE NOT OCCURRING ARE NOT DISTURBED. (SECTION 2.2.10)
24. PREVENT SOIL COMPACTION IN AREAS WHERE POST-CONSTRUCTION INFILTRATION FACILITIES ARE TO BE INSTALLED. (SECTION 2.2.12)
25. USE BMPS TO PREVENT OR MINIMIZE STORMWATER EXPOSURE TO POLLUTANTS FROM SPILLS; VEHICLE AND EQUIPMENT FUELING, MAINTENANCE, AND STORAGE; OTHER CLEANING AND MAINTENANCE ACTIVITIES; AND WASTE HANDLING ACTIVITIES. THESE POLLUTANTS INCLUDE FUEL, HYDRAULIC FLUID, AND OTHER OILS FROM VEHICLES AND MACHINERY, AS WELL AS DEBRIS, FERTILIZER, PESTICIDES AND HERBICIDES, PAINTS, SOLVENTS, CURING COMPOUNDS AND ADHESIVES FROM CONSTRUCTION OPERATIONS. (SECTIONS 2.2.15 AND 2.3)
26. PROVIDE PLANS FOR SEDIMENTATION BASINS THAT HAVE BEEN DESIGNED PER SECTION 2.2.17 AND STAMPED BY AN OREGON PROFESSIONAL ENGINEER. (SEE SECTION 2.2.17.A)
27. IF ENGINEERED SOILS ARE USED ON SITE, A SEDIMENTATION BASIN/IMPOUNDMENT MUST BE INSTALLED. (SEE SECTIONS 2.2.17 AND 2.2.18)
28. PROVIDE A DEWATERING PLAN FOR ACCUMULATED WATER FROM PRECIPITATION AND UNCONTAMINATED GROUNDWATER SEEPAGE DUE TO SHALLOW EXCAVATION ACTIVITIES. (SEE SECTION 2.4)
29. IMPLEMENT THE FOLLOWING BMPS WHEN APPLICABLE: WRITTEN SPILL PREVENTION AND RESPONSE PROCEDURES, EMPLOYEE TRAINING ON SPILL PREVENTION AND PROPER DISPOSAL PROCEDURES, SPILL KITS IN ALL VEHICLES, REGULAR MAINTENANCE SCHEDULE FOR VEHICLES AND MACHINERY, MATERIAL DELIVERY AND STORAGE CONTROLS, TRAINING AND SIGNAGE, AND COVERED STORAGE AREAS FOR WASTE AND SUPPLIES. (SECTION 2.3)
30. USE WATER, SOIL-BINDING AGENT OR OTHER DUST CONTROL TECHNIQUE AS NEEDED TO AVOID WIND-BLOWN SOIL. (SECTION 2.2.9)
31. THE APPLICATION RATE OF FERTILIZERS USED TO REESTABLISH VEGETATION MUST FOLLOW MANUFACTURER'S RECOMMENDATIONS TO MINIMIZE NUTRIENT RELEASES TO SURFACE WATERS. EXERCISE CAUTION WHEN USING TIME-RELEASE FERTILIZERS WITHIN ANY WATERWAY RIPARIAN ZONE. (SECTION 2.3.5)
32. IF AN ACTIVE TREATMENT SYSTEM (FOR EXAMPLE, ELECTRO-COAGULATION, FLOCCULATION, FILTRATION, ETC.) FOR SEDIMENT OR OTHER POLLUTANT REMOVAL IS EMPLOYED, SUBMIT AN OPERATION AND MAINTENANCE PLAN (INCLUDING SYSTEM SCHEMATIC, LOCATION OF SYSTEM, LOCATION OF INLET, LOCATION OF DISCHARGE, DISCHARGE DISPERSION DEVICE DESIGN, AND A SAMPLING PLAN AND FREQUENCY) BEFORE OPERATING THE TREATMENT SYSTEM. OBTAIN ENVIRONMENTAL MANAGEMENT PLAN APPROVAL FROM DEQ BEFORE OPERATING THE TREATMENT SYSTEM. OPERATE AND MAINTAIN THE TREATMENT SYSTEM ACCORDING TO MANUFACTURER'S SPECIFICATIONS. (SECTION 1.2.9)
33. TEMPORARILY STABILIZE SOILS AT THE END OF THE SHIFT BEFORE HOLIDAYS AND WEEKENDS, IF NEEDED. THE REGISTRANT IS RESPONSIBLE FOR ENSURING THAT SOILS ARE STABLE DURING RAIN EVENTS AT ALL TIMES OF THE YEAR. (SECTION 2.2)
34. AS NEEDED BASED ON WEATHER CONDITIONS, AT THE END OF EACH WORKDAY SOIL STOCKPILES MUST BE STABILIZED OR COVERED, OR OTHER BMPS MUST BE IMPLEMENTED TO PREVENT DISCHARGES TO SURFACE WATERS OR CONVEYANCE SYSTEMS LEADING TO SURFACE WATERS. (SECTION 2.2.8)
35. SEDIMENT FENCE: REMOVE TRAPPED SEDIMENT BEFORE IT REACHES ONE THIRD OF THE ABOVE GROUND FENCE HEIGHT AND BEFORE FENCE REMOVAL. (SECTION 2.1.5.B)
36. OTHER SEDIMENT BARRIERS (SUCH AS BIOBAGS): REMOVE SEDIMENT BEFORE IT REACHES TWO INCHES DEPTH ABOVE GROUND HEIGHT AND BEFORE BMP REMOVAL. (SECTION 2.1.5.C)
37. CATCH BASINS: CLEAN BEFORE RETENTION CAPACITY HAS BEEN REDUCED BY FIFTY PERCENT. SEDIMENT BASINS AND SEDIMENT TRAPS: REMOVE TRAPPED SEDIMENTS BEFORE DESIGN CAPACITY HAS BEEN REDUCED BY FIFTY PERCENT AND AT COMPLETION OF PROJECT. (SECTION 2.1.5.D)
38. WITHIN 24 HOURS, SIGNIFICANT SEDIMENT THAT HAS LEFT THE CONSTRUCTION SITE, MUST BE REMEDIATED. INVESTIGATE THE CAUSE OF THE SEDIMENT RELEASE AND IMPLEMENT STEPS TO PREVENT A RECURRENCE OF THE DISCHARGE WITHIN THE SAME 24 HOURS. ANY IN-STREAM CLEAN-UP OF SEDIMENT SHALL BE PERFORMED ACCORDING TO THE OREGON DEPARTMENT OF STATE LANDS REQUIRED TIMEFRAME. (SECTION 2.2.19.A)
39. THE INTENTIONAL WASHING OF SEDIMENT INTO STORM SEWERS OR DRAINAGE WAYS MUST NOT OCCUR. VACUUMING OR DRY SWEEPING AND MATERIAL PICKUP MUST BE USED TO CLEANUP RELEASED SEDIMENTS. (SECTION 2.2.19)
40. DOCUMENT ANY PORTION(S) OF THE SITE WHERE LAND DISTURBING ACTIVITIES HAVE PERMANENTLY CEASED OR WILL BE TEMPORARILY INACTIVE FOR 14 OR MORE CALENDAR DAYS, (SECTION 6.5.F.)
41. PROVIDE TEMPORARY STABILIZATION FOR THAT PORTION OF THE SITE WHERE CONSTRUCTION ACTIVITIES CEASE FOR 14 DAYS OR MORE WITH A COVERING OF BLOWN STRAW AND A TACKIFIER, LOOSE STRAW, OR AN ADEQUATE COVERING OF COMPOST MULCH UNTIL WORK RESUMES ON THAT PORTION OF THE SITE. (SECTION 2.2.20)
42. DO NOT REMOVE TEMPORARY SEDIMENT CONTROL PRACTICES UNTIL PERMANENT VEGETATION OR OTHER COVER OF EXPOSED AREAS IS ESTABLISHED. ONCE CONSTRUCTION IS COMPLETE AND THE SITE IS STABILIZED, ALL TEMPORARY EROSION CONTROLS AND RETAINED SOILS MUST BE REMOVED AND DISPOSED OF PROPERLY, UNLESS NEEDED FOR LONG TERM USE FOLLOWING TERMINATION OF PERMIT COVERAGE. (SECTION 2.2.21)

BMP MATRIX FOR CONSTRUCTION PHASES

REFER TO DEQ GUIDANCE MANUAL FOR A COMPREHENSIVE LIST OF AVAILABLE BMP'S.

	CLEARING	MASS GRADING	STREET/UTILITY CONSTRUCTION	FINAL STABILIZATION
EROSION PREVENTION				
PRESERVE NATURAL VEGETATION	** X	X	X	X
GROUND COVER		X	X	X
HYDRAULIC APPLICATIONS				
PLASTIC SHEETING		X	X	X
MATTING	X	X	X	X
DUST CONTROL	X	X	X	X
TEMPORARY / PERMANENT SEEDING		X	X	X
BUFFER ZONE				
OTHER: COMPOST BLANKET				
OTHER: ORANGE CONSTRUCT FENCE		X	X	X
SEDIMENT CONTROL				
SEDIMENT FENCE (PERIMETER)	** X	X	X	X
SEDIMENT FENCE (INTERIOR)		X	X	X
INLET PROTECTION	** X	X	X	X
DEWATERING				
SEDIMENT BASIN				
STRAW WATTLES				
OTHER:				
RUN OFF CONTROL				
CONSTRUCTION ENTRANCE	** X	X	X	X
PIPE SLOPE DRAIN				
OUTLET PROTECTION				
SURFACE ROUGHENING				
CHECK DAMS				
OTHER:				
POLLUTION PREVENTION				
PROPER SIGNAGE	X	X	X	X
HAZ WASTE MGMT	X	X	X	X
SPILL KIT ON-SITE	X	X	X	X
CONCRETE WASHOUT AREA		X	X	X
OTHER:				

** SIGNIFIES BMP THAT WILL BE INSTALLED PRIOR TO ANY GROUND DISTURBING ACTIVITY.

THE PERMITTEE IS REQUIRED TO MEET ALL THE CONDITIONS OF THE 1200-C PERMIT. THIS ESCP AND GENERAL CONDITIONS HAVE BEEN DEVELOPED TO FACILITATE COMPLIANCE WITH THE 1200-C PERMIT REQUIREMENTS. IN CASES OF DISCREPANCIES OR OMISSIONS, THE 1200-C PERMIT REQUIREMENTS SUPERCEDE REQUIREMENTS OF THIS PLAN.

USE ONLINE WEATHER SOURCE FOR LOCALIZED RAINFALL AMOUNTS.
SEE URL:
https://www.wunderground.com/weather/us/or/st-helens/KORSTHEL35

STATION: KORSTHEL35

SHEET INDEX

SHEET NUMBER	SHEET TITLE
EROSION AND SEDIMENT CONTROL PLANS	
EC-00	COVER SHEET AND GENERAL NOTES
EC-10	EXISTING CONDITIONS AND DEMOLITION
EC-20	GRADING CONSTRUCTION
EC-21	STREET AND UTILITY CONSTRUCTION
EC-22	FINAL STABILIZATION
EC-30	DETAILS

RATIONALE STATEMENT

A COMPREHENSIVE LIST OF AVAILABLE BEST MANAGEMENT PRACTICES (BMP) OPTIONS BASED ON DEQ's GUIDANCE MANUAL HAS BEEN REVIEWED TO COMPLETE THIS EROSION AND SEDIMENT CONTROL PLAN. SOME OF THE ABOVE LISTED BMP's WERE NOT CHOSEN BECAUSE THEY WERE DETERMINED TO NOT EFFECTIVELY MANAGE EROSION PREVENTION AND SEDIMENT CONTROL FOR THIS PROJECT BASED ON SPECIFIC SITE CONDITIONS, INCLUDING SOIL CONDITIONS TOPOGRAPHIC CONSTRAINTS, ACCESSIBILITY TO THE SITE, AND OTHER RELATED CONDITIONS, AS THE PROJECT PROGRESSES AND THERE IS A NEED TO REVISE THE ESC PLAN, AN ACTION PLAN WILL BE SUBMITTED.

KJB
INITIAL

USE ONLINE WEATHER SOURCE FOR LOCALIZED RAINFALL AMOUNTS.
SEE URL:
https://www.wunderground.com/weather/us/or/st-helens/KORSTHEL35

STATION: KORSTHEL35

Mayer/Reed

Mayer/Reed, Inc.
319 SW Washington St.
Suite 820
Portland, Oregon 97204
503.223.5953

Otak

Otak, Inc.
808 SW Third Avenue, Ste. 800
Portland, OR 97204
503. 287. 6825
www.otak.com

St. Helens Riverwalk

St. Helens, Oregon
Project Number: P-525A

Project Managers: Jennifer Dimsho; John Walsh

REGISTERED PROFESSIONAL ENGINEER
72,629
DIGITALLY SIGNED
OREGON
JULY 11, 2006
KEITH BUISMAN
EXPIRES: 12/31/2025

PHASE
FINAL PLANS

DATE
02/02/2024

REVISIONS

NO.	DESC.	DATE

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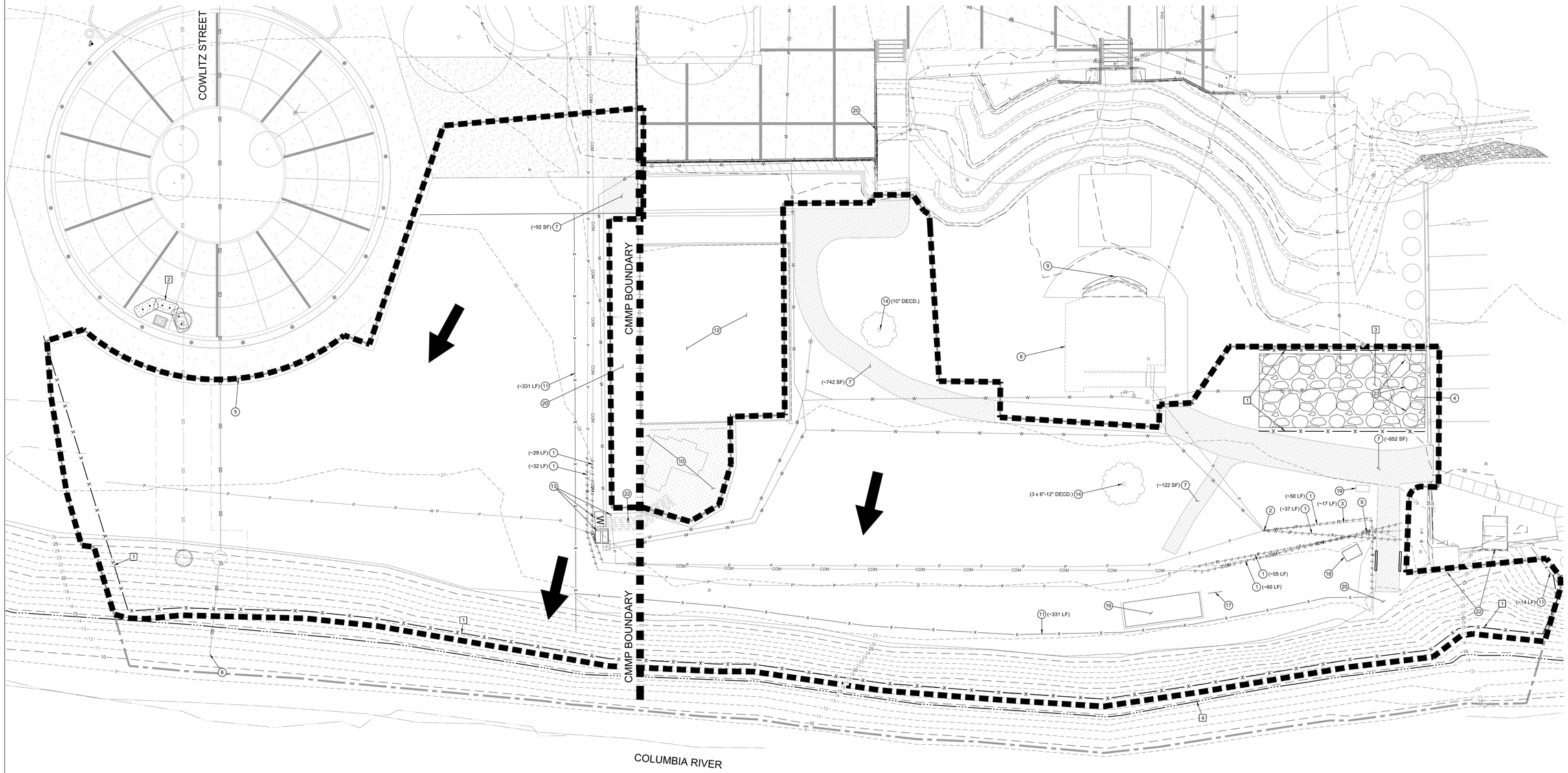
KJB

SHEET TITLE
EROSION CONTROL COVER SHEET AND GENERAL NOTES

SHEET NUMBER
EC-00



LEGEND

- REMOVAL OF CONCRETE WALKWAY
- SPLASH PAD TO BE PROTECTED
- ORDINARY HIGH WATER
- WATER
- COMMUNICATIONS
- STORM
- POWER
- EXISTING MAJOR CONTOUR (5')
- EXISTING MINOR CONTOUR (1')
- LIMITS OF DISTURBANCE
- LIMITS OF WORK
- DECIDUOUS TREE
- CONSTRUCTION ENTRANCE
- FLOW ARROW
- SEDIMENT FENCE
- INLET PROTECTION
- ORDINARY HIGH WATER LINE

DEMOLITION KEY NOTES

1. RELOCATE EXISTING POWER AND COMMUNICATION LINES. COORDINATE WITH COLUMBIA RIVER PUD AND COMCAST.
2. PROTECT EXISTING POWER JUNCTION BOX.
3. REMOVE EXISTING 1.5" WATER SERVICES IN PARK.
4. LOCATE AND PRESERVE EXISTING IRRIGATION TO PLANTERS.
5. STREET IMPROVEMENTS BY OTHERS. REF. S. 1ST AND STRAND STREET EXTENSION PROJECT.
6. EXISTING 24" CMP STORMWATER OUTFALL.
7. REMOVE EXISTING CONCRETE WALKWAY.
8. PROTECT EXISTING STAGE.
9. RELOCATE EX. COMM BOX. COORDINATE WITH COMCAST.
10. PROTECT SPLASH PAD SURFACING IN PLACE.
11. REMOVE EXISTING FENCE.
12. PROTECT EXISTING PLAY AREA.
13. SALVAGE EXISTING WATER VAULT. PRESERVE AND PROTECT EXISTING ACTIVATION BUTTON IN ITS CURRENT LOCATION.
14. REMOVE EXISTING TREE.
15. --NOT USED--
16. REMOVE EXISTING VAULT.
17. SALVAGE EXISTING CONCRETE BENCH.
18. SALVAGE EXISTING SCULPTURE.
19. SALVAGE EXISTING SIGN.
20. PROTECT EXISTING CONCRETE.
21. PROTECT EXISTING STRUCTURES.
22. PROTECT EXISTING SPLASH PAD 3/4" PEX WATER PIPING IN PLACE WITHIN SPLASH PAD AREA. RECONNECT TO RELOCATED VAULT.
23. REMOVE AND REINSTALL EXISTING LANDSCAPE PLANTERS.

CONSTRUCTION KEY NOTES

1. INSTALL SEDIMENT FENCE PER DETAIL 4-16, SHEET EC-30.
2. INSTALL INLET PROTECTION TYPE 4 CATCH BASIN PER DETAIL 4-24, SHEET EC-30.
3. INSTALL CONSTRUCTION ENTRANCE PER DETAIL 4-5, SHEET EC-30.
4. ORDINARY HIGH WATER ELEVATION 14.6'

PRE-CONSTRUCTION, CLEARING, AND DEMOLITION EROSION AND SEDMIMENT CONTROL NOTES:

1. ALL BASE ESC MEASURES (INLET PROTECTION, PERIMETER SEDIMENT CONTROL, GRAVEL CONSTRUCTION ENTRANCES, ETC.) MUST BE IN PLACE, FUNCTIONAL, AND APPROVED IN AN INITIAL INSPECTION, PRIOR TO COMMENCEMENT OF CONSTRUCTION ACTIVITIES.

2. SEDIMENT BARRIERS APPROVED FOR USE INCLUDE SEDIMENT FENCE, BERMS CONSTRUCTED OUT OF MULCH, CHIPPINGS, OR OTHER SUITABLE MATERIAL, STRAW WATTLES, OR OTHER APPROVED MATERIALS.

3. SENSITIVE RESOURCES INCLUDING, BUT NOT LIMITED TO, TREES, WETLANDS, AND RIPARIAN PROTECTION AREAS SHALL BE CLEARLY DELINEATED WITH ORANGE CONSTRUCTION FENCING OR CHAIN LINK FENCING IN A MANNER THAT IS CLEARLY VISIBLE TO ANYONE IN THE AREA. NO ACTIVITIES ARE PERMITTED TO OCCUR BEYOND THE CONSTRUCTION BARRIER.

4. CONSTRUCTION ENTRANCES SHALL BE INSTALLED AT THE BEGINNING OF CONSTRUCTION AND MAINTAINED FOR THE DURATION OF THE PROJECT. ADDITIONAL MEASURES INCLUDING, BUT NOT LIMITED TO, TIRE WASHES, STREET SWEEPING, AND VACUUMING, MAY BE REQUIRED TO INSURE THAT ALL PAVED AREAS ARE KEPT CLEAN FOR THE DURATION OF THE PROJECT.

5. RUN-ON AND RUN-OFF CONTROLS SHALL BE IN PLACE AND FUNCTIONING PRIOR TO BEGINNING SUBSTANTIAL CONSTRUCTION ACTIVITIES. RUN-ON AND RUN-OFF CONTROL MEASURES INCLUDE: SLOPE DRAINS (WITH OUTLET PROTECTION), CHECK DAMS, SURFACE ROUGHENING, AND BANK STABILIZATION.

6. CONTRACTOR TO VERIFY LOCATION AND ABANDON SEPTIC AND DRAIN FIELDS PER APPLICABLE LOCAL, STATE AND FEDERAL REQUIREMENTS. SEPTIC AND DRAIN FIELDS ARE NOT ANTICIPATED TO BE ENCOUNTERED IN THIS PHASE OF WORK).

7. CLEARING LIMITS ARE DEFINED BY LIMITS OF DISTURBANCE.

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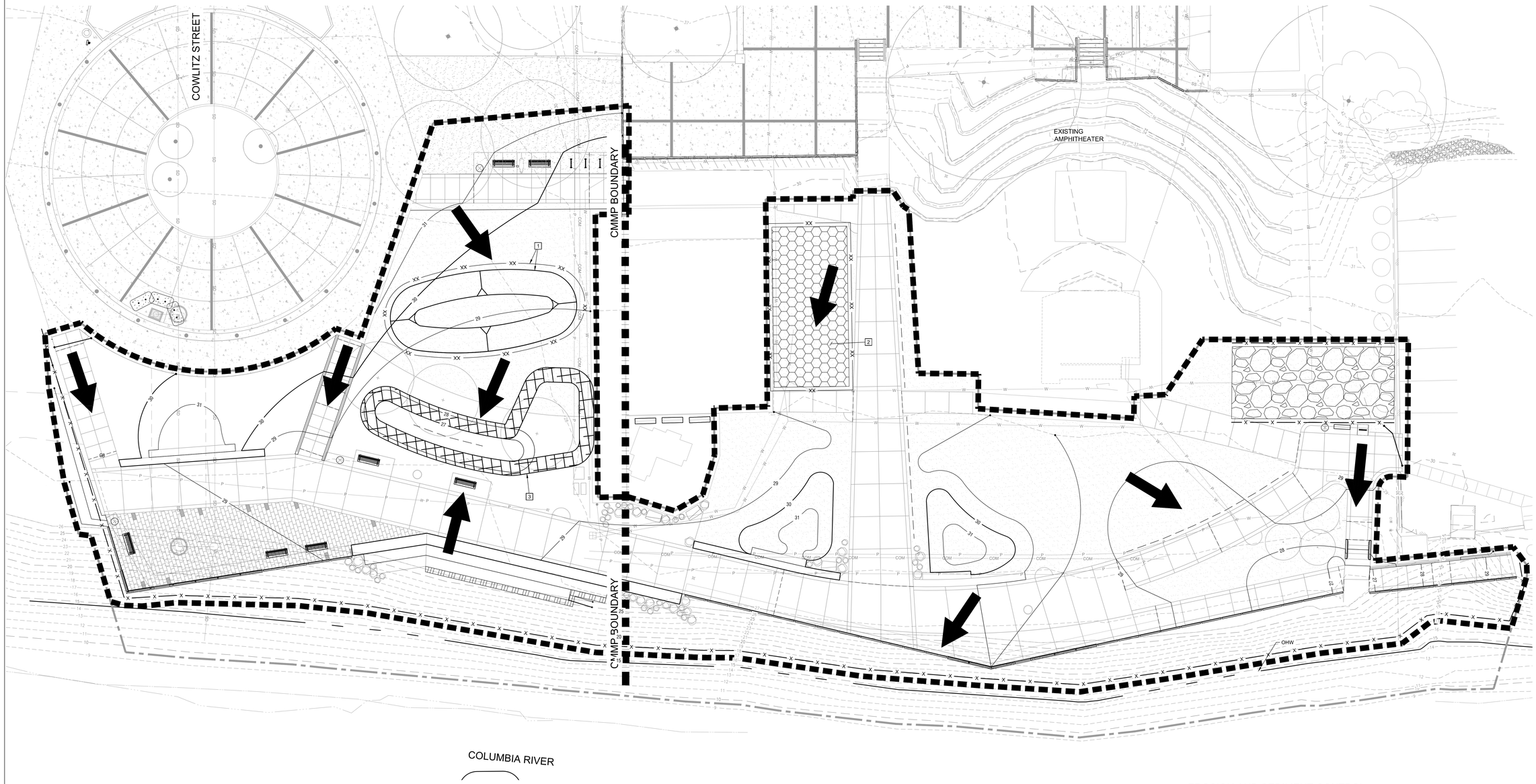
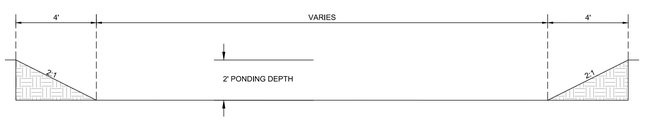
SHEET TITLE
EXISTING CONDITIONS AND DEMOLITION

SHEET NUMBER
EC-10



CONSTRUCTION KEY NOTES

1. PROPOSED STOCKPILE. CONTRACTOR TO INSTALL PLASTIC COVER PER DETAIL 4-4, SHEET EC-30.
2. INSTALL CONSTRUCTION STAGING AREA (CLEAN ROCK PAD FOR SOLID AND HAZARDOUS WASTE AND FUEL STORAGE).
3. INSTALL CONSTRUCTION STORMWATER POND. SEE CONSTRUCTION STORMWATER POND DETAIL THIS SHEET FOR SECTION DEPTHS.
   CONTRIBUTING BASIN AREA: 20,457 SF
   BASIN VOLUME REQUIRED: 20,457 SF x 3,600 CF/AC = 1,691 CF
   BASIN VOLUME PROVIDED: 1,701 CF
   INSTALL CHANNEL MATTING ALONG SIDESLOPES OF CONSTRUCTION POND.



CONSTRUCTION STORMWATER POND DETAIL

LEGEND

- LIMITS OF WORK
- LIMITS OF DISTURBANCE
- SEDIMENT FENCE (TO BE INSTALLED PRIOR TO GRADING)
- SEDIMENT FENCE (TO BE INSTALLED AFTER GRADING)
- ORANGE CONST. FENCING
- DIVERSION DITCH
- EXISTING 1' CONTOUR
- EXISTING 5' CONTOUR
- PROPOSED 1' CONTOUR
- PROPOSED 5' CONTOUR
- ORDINARY HIGH WATER LINE
- DRAINAGE FLOW DIRECTION
- CHANNEL MATTING
- CONSTRUCTION ENTRANCE
- CONSTRUCTION STAGING AREA (CLEAN ROCK PAD FOR SOLID & HAZARDOUS WASTE AND FUEL STORAGE)
- STOCKPILE

GRADING AND EROSION CONTROL NOTES:

1. SEED USED FOR TEMPORARY OR PERMANENT SEEDING SHALL BE COMPOSED OF ONE OF THE FOLLOWING MIXTURES, UNLESS OTHERWISE AUTHORIZED:
   A. DWARF GRASS MIX (MIN. 100 LB./AC.) 1. DWARF PERENNIAL RYEGRASS (80% BY WEIGHT) 2. CREEPING RED FESCUE (20% BY WEIGHT)
   B. STANDARD HEIGHT GRASS MIX (MIN. 100LB./AC.) 1. ANNUAL RYEGRASS (40% BY WEIGHT) 2. TURF-TYPE FESCUE (60% BY WEIGHT)
   C. SEEDING MUST TAKE PLACE NO LATER THAN SEPTEMBER 1 TO ENSURE VEGETATION ESTABLISHMENT.

2. SLOPE TO RECEIVE TEMPORARY OR PERMANENT SEEDING SHALL HAVE THE SURFACE ROUGHENED BY MEANS OF TRACK-WALKING OR THE USE OF OTHER APPROVED IMPLEMENTS. SURFACE ROUGHENING IMPROVES SEED BEDDING AND REDUCES RUN-OFF VELOCITY.

3. LONG TERM SLOPE STABILIZATION MEASURES SHALL INCLUDE THE ESTABLISHMENT OF PERMANENT VEGETATIVE COVER VIA SEEDING WITH APPROVED MIX AND APPLICATION RATE.

4. TEMPORARY SLOPE STABILIZATION MEASURES SHALL INCLUDE: COVERING EXPOSED SOIL WITH PLASTIC SHEETING, STRAW MULCHING, WOOD CHIPS, OR OTHER APPROVED MEASURES.

5. STOCKPILED SOIL OR STRIPPINGS SHALL BE PLACED IN A STABLE LOCATION AND CONFIGURATION. STOCKPILES SHALL BE COVERED WITH PLASTIC SHEETING OR STRAW MULCH. SEDIMENT FENCE IS REQUIRED AROUND THE PERIMETER OF THE STOCKPILE.

6. EXPOSED CUT OR FILL AREAS SHALL BE STABILIZED THROUGH THE USE OF TEMPORARY SEEDING AND MULCHING, EROSION CONTROL BLANKETS OR MATS, MID-SLOPE SEDIMENT FENCES OR WATTLES, OR OTHER APPROPRIATE MEASURES. SLOPES EXCEEDING 4:1 MAY REQUIRE ADDITIONAL EROSION CONTROL MEASURES.

7. AREAS SUBJECT TO WIND EROSION SHALL USE APPROPRIATE DUST CONTROL MEASURES INCLUDING THE APPLICATION OF A FINE SPRAY OF WATER, PLASTIC SHEETING, STRAW MULCHING, OR OTHER APPROVED MEASURES.

8. CONSTRUCTION ENTRANCES SHALL BE INSTALLED AT THE BEGINNING OF CONSTRUCTION AND MAINTAINED FOR THE DURATION OF THE PROJECT. ADDITIONAL MEASURES INCLUDING, BUT NOT LIMITED TO, TIRE WASHES, STREET SWEEPING, AND VACUUMING MAY BE BE REQUIRED TO INSURE THAT ALL PAVED AREAS ARE KEPT CLEAN FOR THE DURATION OF THE PROJECT.

9. ACTIVE INLETS TO STORM WATER SYSTEMS SHALL BE PROTECTED THROUGH THE USE OF APPROVED INLET PROTECTION MEASURES. ALL INLET PROTECTION MEASURES ARE TO BE REGULARLY INSPECTED AND MAINTAINED AS NEEDED.

10. SATURATED MATERIALS THAT ARE HAULED OFF-SITE MUST BE TRANSPORTED IN WATER-TIGHT TRUCKS TO ELIMINATE SPILLAGE OF SEDIMENT AND SEDIMENT-LADEN WATER.

11. USE BMPS SUCH AS CHECK-DAMS, BERMS, AND INLET PROTECTION TO PREVENT RUN-OFF FROM REACHING DISCHARGE POINTS.

EROSION AND SEDIMENT CONTROL BMP IMPLEMENTATION:

1. ALL BASE ESC MEASURES (INLET PROTECTION, PERIMETER SEDIMENT CONTROL, GRAVEL CONSTRUCTION ENTRANCES, ETC.) MUST BE IN PLACE, FUNCTIONAL, AND APPROVED IN AN INITIAL INSPECTION, PRIOR TO COMMENCEMENT OF CONSTRUCTION ACTIVITIES.

2. ALL "SEDIMENT BARRIERS (TO BE INSTALLED AFTER GRADING)" SHALL BE INSTALLED IMMEDIATELY FOLLOWING ESTABLISHMENT OF FINISHED GRADE AS SHOWN ON THESEPLANS.

3. LONG TERM SLOPE STABILIZATION MEASURES "INCLUDING MATTING" SHALL BE IN PLACE OVER ALL EXPOSED SOILS AT ALL TIMES.

4. THE STORM WATER FACILITY SHALL BE CONSTRUCTED AND LANDSCAPED PRIOR TO THE STORM WATER SYSTEM FUNCTIONING AND SITE PAVING.

5. INLET PROTECTION SHALL BE IN-PLACE IMMEDIATELY FOLLOWING PAVING ACTIVITIES.

GRADING PHASE INFORMATION:

1. ONSITE SOIL TYPES:
   45 - ROCK OUTCROP - XERUMBREPTS COMPLEX, UNDULATING
   46 - SAUVIE SILT LOAM
2. EXISTING VEGETATION CONSISTS OF A MIX OF GRASSES AND SHRUBS.
3. ONSITE FILL MATERIALS:
   NATIVE SOIL
   CRUSHED ROCK
4. PHASE SCHEDULE:
   START: MAY 2024
   FINISH: JULY 2024

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St. Helens Riverwalk

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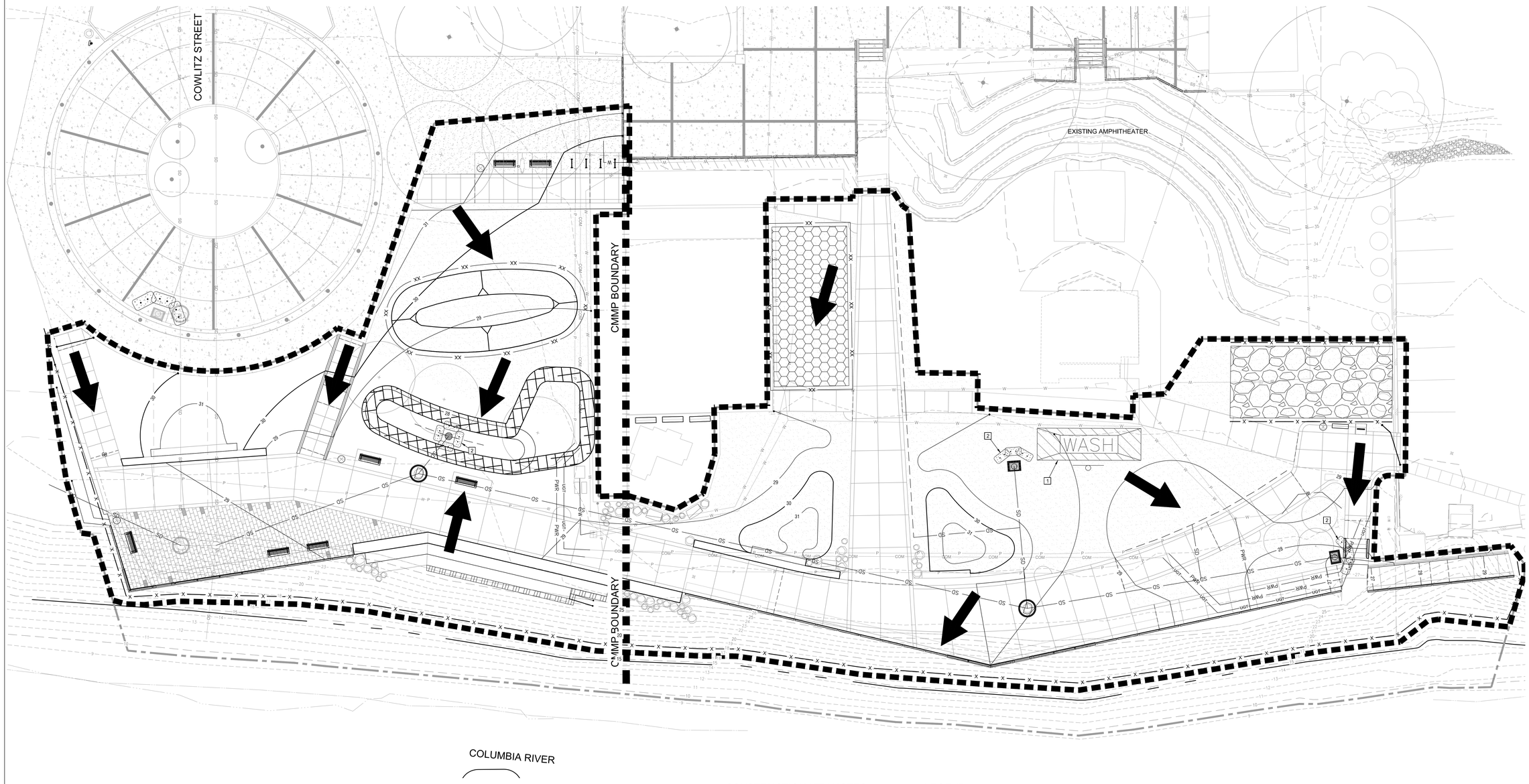
SHEET TITLE
GRADING CONSTRUCTION

SHEET NUMBER
EC-20



CONSTRUCTION KEY NOTES

1. INSTALL CONCRETE WASHOUT PER DETAIL 1, SHEET EC-30.
2. INSTALL INLET PROTECTION TYPE 4 CATCH BASIN PER DETAIL 4-24, SHEET EC-30.

LEGEND

- LIMITS OF WORK
- LIMITS OF DISTURBANCE
- SEDIMENT FENCE (TO BE INSTALLED PRIOR TO GRADING)
- SEDIMENT FENCE (TO BE INSTALLED AFTER GRADING)
- ORANGE CONST. FENCING
- DIVERSION DITCH
- EXISTING 1' CONTOUR
- EXISTING 5' CONTOUR
- PROPOSED 1' CONTOUR
- PROPOSED 5' CONTOUR
- ORDINARY HIGH WATER LINE
- DRAINAGE FLOW DIRECTION
- CHANNEL MATTING
- CONSTRUCTION ENTRANCE
- CONCRETE TRUCK WASHOUT
- CONSTRUCTION STAGING AREA (CLEAN ROCK PAD FOR SOLID & HAZARDOUS WASTE AND FUEL STORAGE)
- STOCKPILE

STREET, UTILITY CONSTRUCTION NOTES:

1. ACTIVE INLETS TO STORM WATER SYSTEMS SHALL BE PROTECTED THROUGH THE USE OF APPROVED INLET PROTECTION MEASURES. ALL INLET PROTECTION MEASURES ARE TO BE REGULARLY INSPECTED AND MAINTAINED AS NEEDED.
2. AN AREA SHALL BE PROVIDED FOR THE WASHING OUT OF CONCRETE TRUCKS IN A LOCATION THAT DOES NOT PROVIDE RUN-OFF THAT CAN ENTER THE STORM WATER SYSTEM. IF THE CONCRETE WASH-OUT AREA CAN NOT BE CONSTRUCTED GREATER THAN 50' FROM ANY DISCHARGE POINT, SECONDARY MEASURES SUCH AS BERMS OR TEMPORARY SETTLING PITS MAY BE REQUIRED. THE WASH-OUT SHALL BE LOCATED WITHIN SIX FEET OF TRUCK ACCESS AND BE CLEANED WHEN IT REACHES 50% OF THE CAPACITY.
3. SWEEPINGS FROM EXPOSED AGGREGATE CONCRETE SHALL NOT BE TRANSFERRED TO THE STORM WATER SYSTEM. SWEEPINGS SHALL BE PICKED UP AND DISPOSED IN THE TRASH.
4. AVOID PAVING IN WET WEATHER WHEN PAVING CHEMICALS CAN RUN-OFF INTO THE STORM WATER SYSTEM.
5. USE BMPS SUCH AS CHECK-DAMS, BERMS, AND INLET PROTECTION TO PREVENT RUN-OFF FROM REACHING DISCHARGE POINTS.
6. COVER CATCH BASINS, MANHOLES, AND OTHER DISCHARGE POINTS WHEN APPLYING SEAL COAT, TACK COAT, ETC. TO PREVENT INTRODUCING THESE MATERIALS TO THE STORM WATER SYSTEM.
7. STORMWATER FACILITIES WILL BE PROTECTED FROM FOOT OR EQUIPMENT TRAFFIC THAT IS UNRELATED TO THE CONSTRUCTION OF THE FACILITY. TEMPORARY ORANGE CONSTRUCTION FENCING WILL BE INSTALLED TO KEEP WORKERS, PEDESTRIANS, AND EQUIPMENT OUT OF THE FACILITY.
8. STORMWATER FACILITIES SHOULD BE KEPT CLEAN AND SHALL NOT BE USED AS EROSION AND SEDIMENT CONTROL STRUCTURES DURING CONSTRUCTION.
9. NO AMENDED SOILS SHALL BE USED DURING CONSTRUCTION.
10. POLLUTANT GENERATING MATERIALS INCLUDE MATERIALS TYPICALLY FOUND IN STORMWATER RUNOFF FROM PEDESTRIAN AND NON-MOTORIZED VEHICLE USE. THESE INCLUDE SEDIMENT, AS WELL AS PESTICIDES AND OTHER NUTRIENTS.
11. ANTICIPATED AUTHORIZED NON-STORMWATER DISCHARGES INCLUDE THE FOLLOWING: FIRE HYDRANT FLUSHING; WATER USED TO CONTROL DUST; POTABLE WATER INCLUDED UNCONTAMINATED WATER LINE FLUSHINGS; UNCONTAMINATED, NON-TURBID DISCHARGES OF GROUNDWATER.

EROSION AND SEDIMENT CONTROL BMP IMPLEMENTATION:

1. ALL BASE ESC MEASURES (INLET PROTECTION, PERIMETER SEDIMENT CONTROL, GRAVEL CONSTRUCTION ENTRANCES, ETC.) MUST BE IN PLACE, FUNCTIONAL, AND APPROVED IN AN INITIAL INSPECTION, PRIOR TO COMMENCEMENT OF CONSTRUCTION ACTIVITIES.

2. ALL "SEDIMENT BARRIERS (TO BE INSTALLED AFTER GRADING)" SHALL BE INSTALLED IMMEDIATELY FOLLOWING ESTABLISHMENT OF FINISHED GRADE AS SHOWN ON THESEPLANS.

3. LONG TERM SLOPE STABILIZATION MEASURES "INCLUDING MATTING" SHALL BE IN PLACE OVER ALL EXPOSED SOILS AT ALL TIMES.

4. THE STORM WATER FACILITY SHALL BE CONSTRUCTED AND LANDSCAPED PRIOR TO THE STORM WATER SYSTEM FUNCTIONING AND SITE PAVING.

5. INLET PROTECTION SHALL BE IN-PLACE IMMEDIATELY FOLLOWING PAVING ACTIVITIES.

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DIGITALLY SIGNED
EXPIRES: 12/31/2025

PHASE
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DATE
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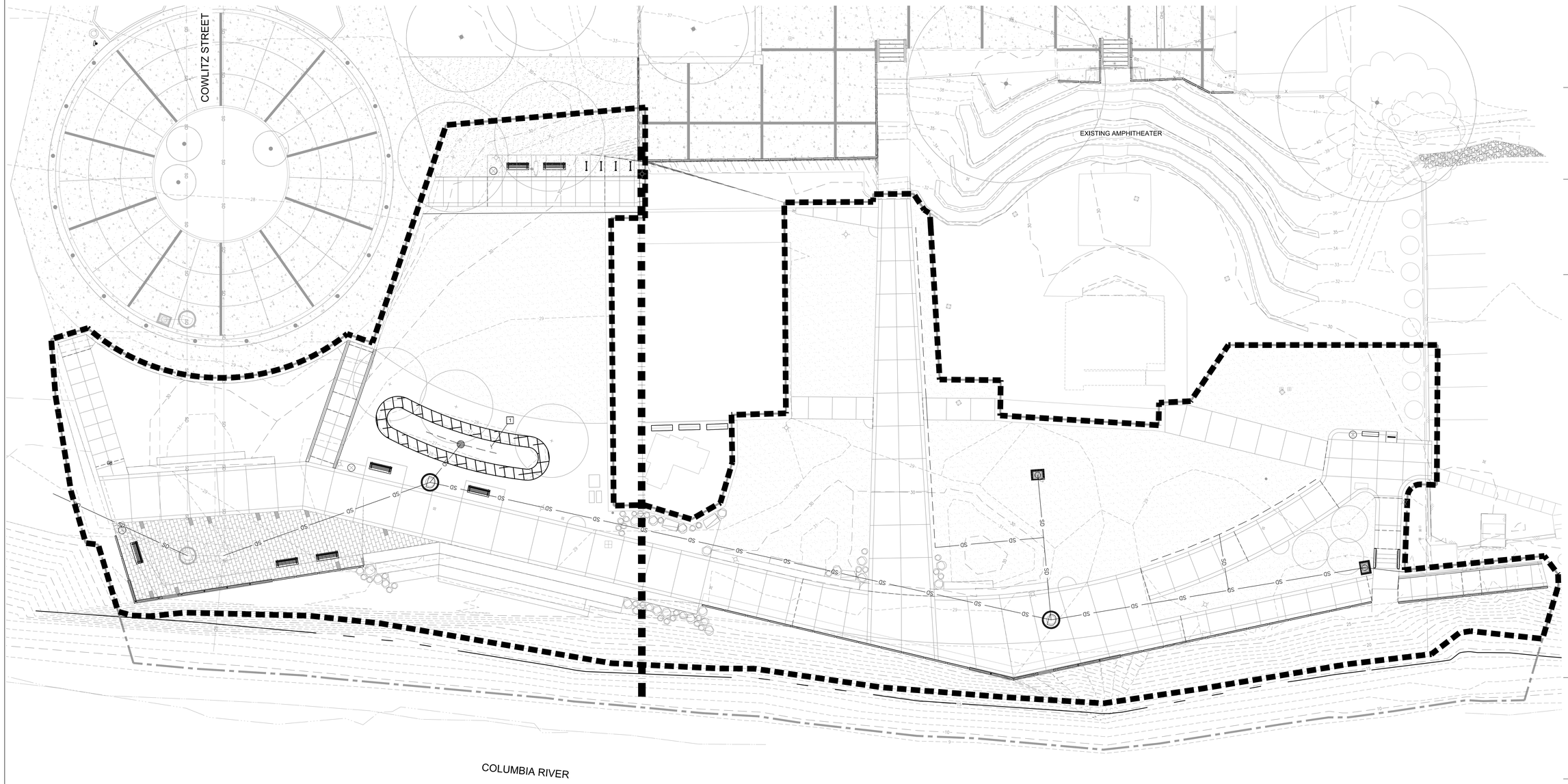
SHEET TITLE
STREET AND UTILITY CONSTRUCTION

SHEET NUMBER
EC-21



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NO.	DESC.	DATE

FINAL STABILIZATION KEYNOTES:

1. STORMWATER FACILITY.

FINAL STABILIZATION PHASE INFORMATION:

1. PHASE SCHEDULE:

   START: NOVEMBER 2024
   FINISH: NOVEMBER 2024

2. ALL PERIMETER SEDIMENT FENCING AND CATCH BASIN FILTER INSERTS TO BE REMOVED UPON COMPLETION OF THIS PHASE.

STORMWATER FACILITY NOTES:

1. STORMWATER FACILITY TO BE RESTORED AFTER CONSTRUCTION ACTIVITIES CEASE. REMOVE TOP 18" OF SOIL AFTER FINAL STABILIZATION. TOP LAYER MUST BE RECONSTRUCTED AND FACILITY VEGETATED.
2. SEE FINAL LANDSCAPE PLANS FOR PLANTING OF FACILITIES.

LEGEND:

LIMITS OF WORK
LIMITS OF DISTURBANCE
CONTOUR (1 FT) — 231
CONTOUR (5 FT) — 235
ORDINARY HIGH WATER LINE

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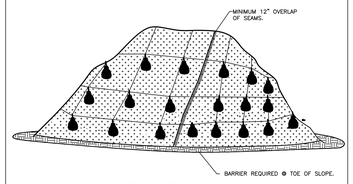
SHEET TITLE
FINAL STABILIZATION

SHEET NUMBER
EC-22

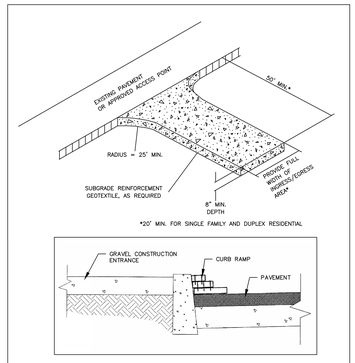


PLASTIC SHEETING

NOTES:
1. MINIMUM 12" OVERLAP OF ALL SEAMS REQUIRED.
2. BARRIER REQUIRED @ TOE OF STOCK PILE.
3. COVERING MAINTAINED TIGHTLY IN PLACE BY USING SANDBAGS OR TIRES ON ROPES WITH A MAXIMUM 10' GRID SPACING IN ALL DIRECTIONS.

PLASTIC SHEETING	Detail Drawing 4–4

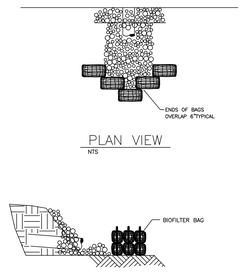
Page 4–36



NOTES:
DIMENSIONS
SINGLE FAMILY
20' LONG BY 20' WIDE
8" DEEP OF ¾" MINUS CLEAN ROCK.
COMMERCIAL
50' LONG BY 20' WIDE
3–6" CLEAN ROCK.
GOVERNING AUTHORITY MAY REQUIRE GEOTEXTILE FABRIC TO PREVENT SUB-SOIL PUMPING.

CONSTRUCTION ENTRANCE	Detail Drawing 4–5

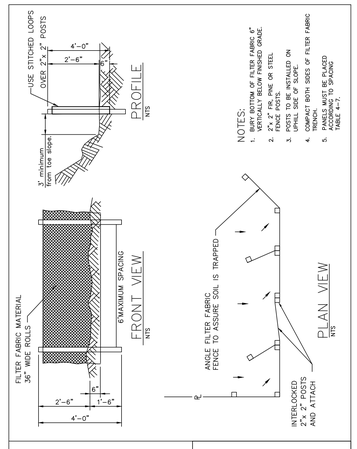
Page 4–43



NOTE:
1. BIO BAGS ONLY REQUIRED WHEN DISCHARGING SEDIMENT LADEN WATER.
2. STAKING OF BAGS REQUIRED WITH EITHER METHOD USING (2) 1"x 2" WOOD STAKES OR APPROVED EQUAL PER BAG.

OUTLET PROTECTION RIP RAP	Detail Drawing 4–9

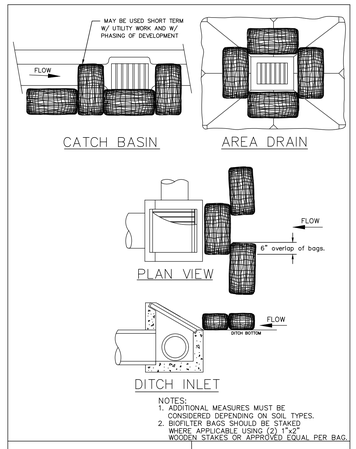
Page 4–58



NOTES:
1. BURY BOTTOM OF FILTER FABRIC 6" VERTICALLY BELOW FINISHED GRADE.
2. 2"x 2" POSTS OR STEEL FENCE POSTS.
3. POSTS TO BE INSTALLED ON 6' MAXIMUM SPACING.
4. COMPACT BOTH SIDES OF FILTER FABRIC TRENCH.
5. MANUFACTURER MUST BE PLACED ACCORDING TO SPACING.

SEDIMENT FENCE	Detail Drawing 4–16

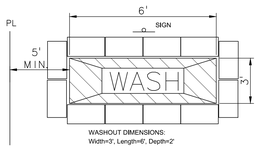
Page 4–82



NOTES:
1. ADDITIONAL MEASURES MUST BE CONSIDERED DEPENDING ON SOIL TYPES.
2. BIOFILTER BAGS SHOULD BE STAKED WHERE APPLICABLE USING (2) 1"x2" WOODEN STAKES OR APPROVED EQUAL PER BAG.

INLET PROTECTION TYPE 4	Detail Drawing 4–24

Page 4–111



WASHOUT DIMENSIONS:
Width=3', Length=6', Depth=2'

NOTES:

1. CONSTRUCT CONCRETE WASHOUT STATION USING STRAW BALES STAKED TOGETHER AND DRAPED WITH PLASTIC SHEETING.

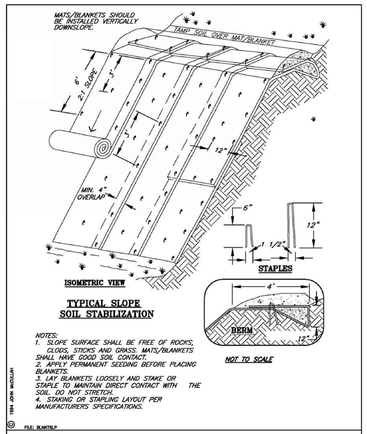
PROVIDE SIGNAGE CLEARLY IDENTIFYING STATION AS A CONCRETE WASHOUT AREA.

CAUTION SHALL BE USED TO NOT OVERFILL WASHOUT. EMPTY WASHOUT BEFORE REACHING 2/3 OF CAPACITY.

WASHOUT WATER SHALL NOT BE RELEASED INTO STORM DRAIN SYSTEM, SURFACE WATERS, OR RETENTION POND.

ALL WASH DOWN LIQUIDS AND SURREY SHALL BE NEUTRALIZED TO A PH OF 6.5 TO 7.5 WITH "DRY ICE" IN ACCORDANCE WITH DEQ REQUIREMENTS BEFORE OFFSITE DISPOSAL. NO LIQUIDS WILL BE ALLOWED TO SPILL OR LEAK FROM THE WASH DOWN PROCESS OR FACILITY. HARDENED CONCRETE MATERIALS WILL BE REMOVED FROM THE SITE AND DISPOSED OF AT AN APPROVED LANDFILL SITE.

DETAIL NUMBER 1



MATTING - SLOPE INSTALLATION

DETAIL DRAWING 4–1 REVISED 01–09

Mayer/Reed

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319 SW Washington St.
Suite 820
Portland, Oregon 97204
503.223.5953

Otak

Otak, Inc.
808 SW Third Avenue, Ste. 800
Portland, OR 97204
503. 287. 6825
www.otak.com

St. Helens Riverwalk

St. Helens, Oregon
Project Number: P-525A

Project Managers: Jennifer Dimsho; John Walsh

REGISTERED PROFESSIONAL ENGINEER 72,629 DIGITALLY SIGNED OREGON JUNE 11, 2019 KEITH BUISMAN
EXPIRES: 12/31/2025

PHASE
FINAL PLANS

DATE
02/02/2024

REVISIONS

NO.	DESC.	DATE

DRAWN BY
CJB/EAO

CHECKED BY
KJB

SHEET TITLE
EROSION CONTROL DETAILS

SHEET NUMBER
EC-30

MATERIAL LEGEND

TAG#	DETAIL TITLE	DETAIL #	SHEET #
1	HARDSCAPE, WALLS, & STAIRS		
1A	CONCRETE PAVING	1	L6.01
1B	CIP CONCRETE THICKENED EDGE	2	L6.01
1C	STONE PAVERS	3	L6.01
1D	CIP CONCRETE WALLS AT RIVERBANK	6	L6.01
1E	CIP CONCRETE WALLS AT BERM	7	L6.01
1F	CONCRETE STAIRS	8	L6.01
1G	CHEEK WALL AT STAIRS	10	L6.01
1H	ORNAMENTAL JOINT	11	L6.01
1J	DOWELED JOINT	12	L6.01

NOTE: CONCRETE JOINTS SHOWN ON PLAN ASSUMED TO BE CONTROL JOINTS UNLESS LABELED OTHERWISE. CONTRACTOR TO ALIGN COLID JOINTS WITH JOINT PATTERN SHOWN ON PLAN AS NEEDED. SEE SHEET L6.01 FOR ALL CONCRETE JOINT DETAILS.

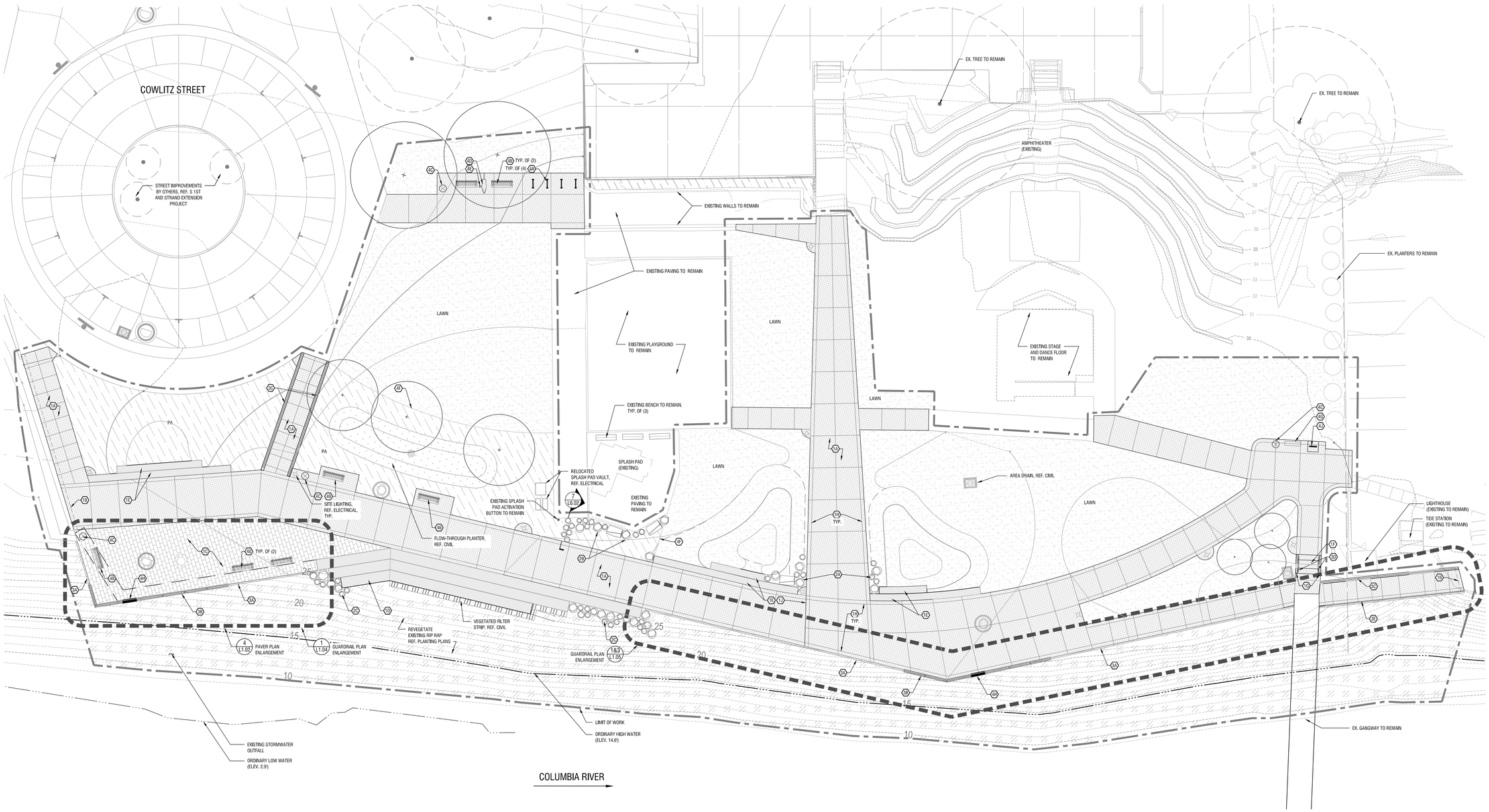
TAG#	DETAIL TITLE	DETAIL #	SHEET #
2	BASALT		
2A	BASALT COLUMN AT BERM	1	L6.02
2B	BASALT COLUMN	3	L6.02
2C	BASALT COLUMN AT RIVERBANK	2	L6.02
2D	BASALT COLUMN HORIZONTAL	4	L6.02

TAG#	DETAIL TITLE	DETAIL #	SHEET #
3	RAILINGS		
3A	GUARDRAIL	1	L6.03
3B	GUARDRAIL WOOD TOP RAIL	2	L6.03
3C	HANDRAIL AT RAMP	3	L6.03
3D	HANDRAIL AT STAIR	4	L6.03
3E	GUARDRAIL WITH HANDRAIL	5	L6.03

TAG#	DETAIL TITLE	DETAIL #	SHEET #
4	FURNISHINGS & SIGNAGE		
4A	BIKE RACK	1	L6.04
4B	BENCH	2	L6.04
4C	LITTER RECEPTACLE	3	L6.04
4D	RELOCATED DOG STATUE (OPCI)	10	L6.04
4E	DOG STATUE PLAQUE	5	L6.05
4F	METAL EDGE RESTRAINT	5	L6.04
4G	RELOCATED CONCRETE BENCH (OPCI)	4	L6.04
4H	INTERPRETIVE SIGN AT GUARDRAIL	1	L6.05
4J	INTERPRETIVE PYLON AT STONE VENEER BASE	6	L6.05

GENERAL LEGEND

- PROPERTY LINE
- LIMIT OF WORK
- ORDINARY HIGH WATER (OHW)
- PROPOSED MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- RIPARIAN AREA
- LAWN AREA
- STORMWATER AREA
- PLANTING AREA
- PAVERS
- CONCRETE PAVING
- BASALT BOULDER/COLUMN
- INTERPRETIVE SIGN
- LIGHT POLE, REF. ELEC.
- TRASH CAN
- BIKE RACK
- AREA DRAIN, REF. CIVIL
- PROPOSED TREE
- TREE TO REMAIN



1 **SITE MATERIALS PLAN**
SCALE: 1"= 10'-0"

0 5' 10' 20'

Mayer/Reed

Mayer/Reed, Inc.
319 SW Washington St.
Suite 820
Portland, Oregon 97204
503.223.5953

St. Helens Riverwalk

St. Helens, Oregon
Project Number: P-525A

Project Managers: Jennifer Dimsho; John Walsh

REGISTERED LANDSCAPE ARCHITECT
Jerame Shane
OREGON
5/8/98

PHASE
FINAL PLANS

DATE
02/02/24

REVISIONS

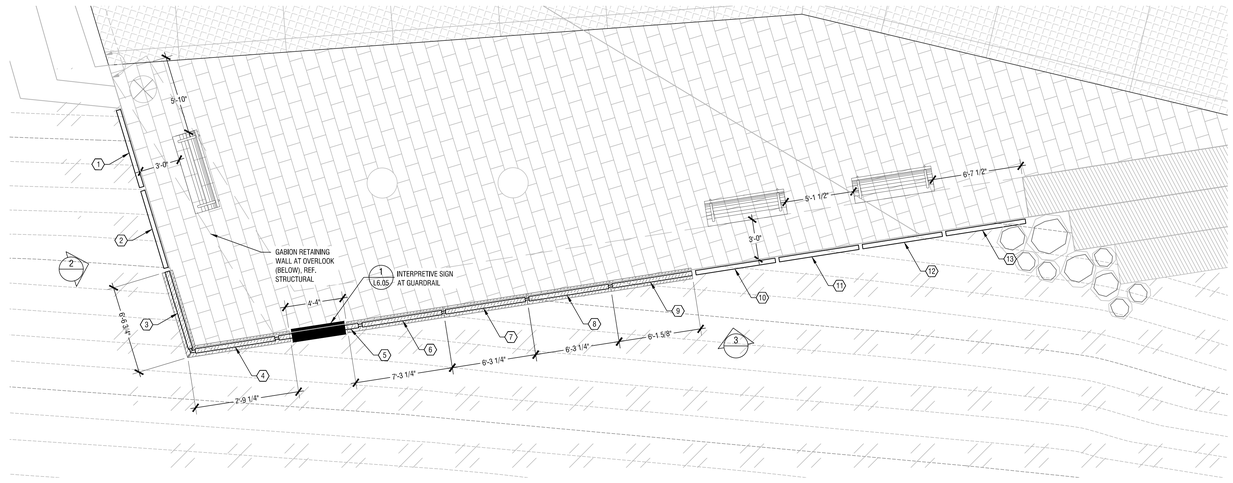
NO.	DESC.	DATE

DRAWN BY
J. CARLSON

CHECKED BY
S. SIMMS

SHEET TITLE
SITE MATERIALS PLAN

SHEET NUMBER
L1.01



1 **GUARDRAIL PLAN ENLARGEMENT**
SCALE: 1/4"=1'-0"

0' 2' 4' 8' N

RAILING SCHEDULE

PANEL #	WIDTH	STYLE	ANGLE
1	6'-0"	B	90.5 x 89.5
2	6'-0"	B	90.5 x 89.5
3	6'-0"	A	90.5 x 89.5
4	6'-0"	A	90.5 x 89.5
5	6'-0"	A	90.5 x 89.5
6	6'-0"	A	90.5 x 89.5
7	6'-0"	A	90.5 x 89.5
8	6'-0"	A	90.5 x 89.5
9	6'-0"	A	90.5 x 89.5
10	6'-0"	B	90.5 x 89.5
11	6'-0"	B	90.5 x 89.5
12	6'-0"	B	90.5 x 89.5
13	6'-0"	B	90.5 x 89.5

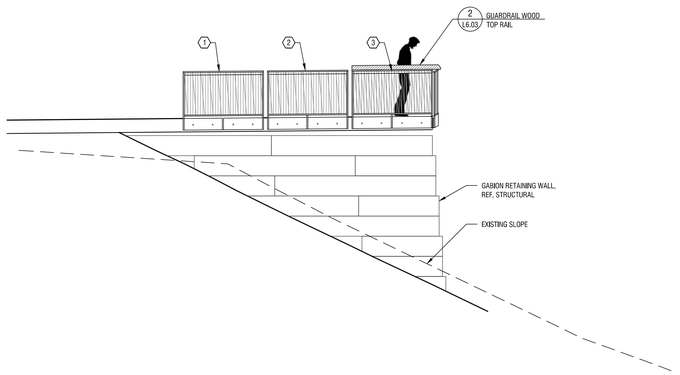
AS VIEWED FROM RIVERFRONT

RAILING LAYOUT NOTES

1. RAILING DIMENSIONS SHOWN FOR REFERENCE ONLY. RAILINGS TO BE BUILT TO FIT AS-BUILT CONDITIONS, DETAILS AND BUILDING CODE.
2. LOCATE POSTS AT GRADE BREAKS WHERE SHOWN.
3. REFERENCE CIVIL PLANS FOR HORIZONTAL LAYOUT OF DRAINAGE STRUCTURES, UTILITIES AND VEHICULAR AREAS INCLUDING: DRIVEWAYS, PARKING LOTS, AND PARKING STORMWATER TREATMENT FACILITIES.
4. RAILING JOINTS NOT SHOWN. RAILING JOINTS TO BE PROVIDED IN SHOP DRAWINGS. REF. 6/L6.04.

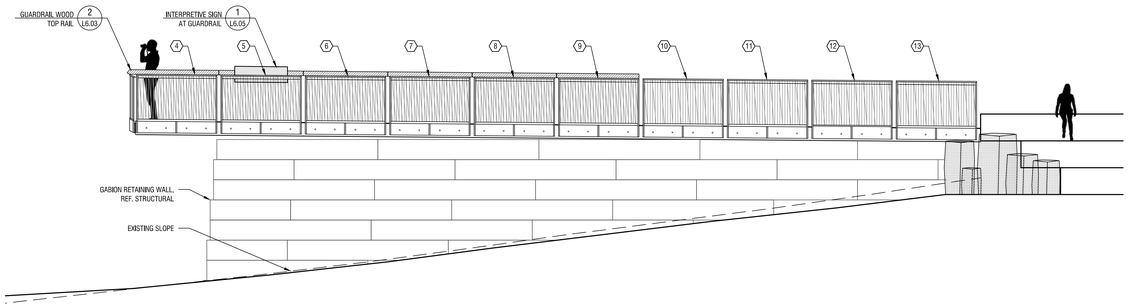
GENERAL LEGEND

- PROPERTY LINE
- LIMIT OF WORK
- ORDINARY HIGH WATER (OHW)
- PROPOSED MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- RIPARIAN AREA
- LAWN AREA
- STORMWATER AREA
- PLANTING AREA
- PAVERS
- CONCRETE PAVING
- BASALT BOULDER/COLUMN
- INTERPRETIVE SIGN
- LIGHT POLE, REF. ELEC.
- TRASH CAN
- BIKE RACK
- AREA DRAIN, REF. CIVIL
- PROPOSED TREE
- TREE TO REMAIN



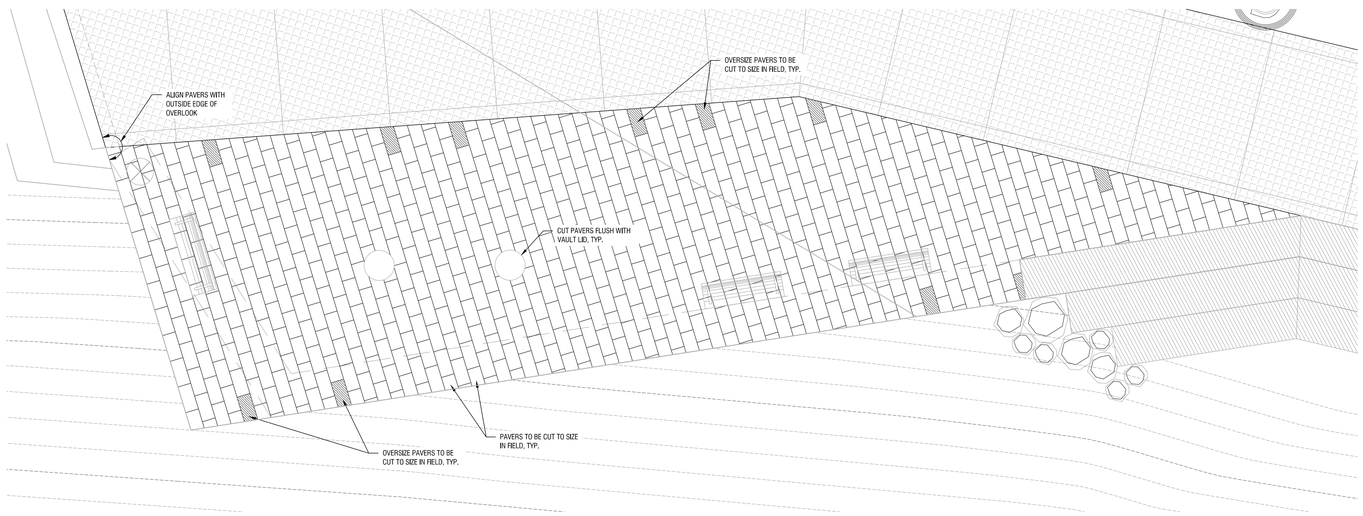
2 **WALL A - ELEVATION**
SCALE: 1/4"=1'-0"

0' 2' 4' 8'



3 **WALL B - ELEVATION**
SCALE: 1/4"=1'-0"

0' 2' 4' 8'



4 **PAVER PLAN ENLARGEMENT**
SCALE: 1/4"=1'-0"

0' 2' 4' 8' N

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St. Helens Riverwalk

St. Helens, Oregon
Project Number: P-525A

Project Managers: Jennifer Dimsho; John Walsh

REGISTERED LANDSCAPE ARCHITECT
Jesse Shane
OREGON
5/8/98

PHASE
FINAL PLANS

DATE
02/02/24

REVISIONS

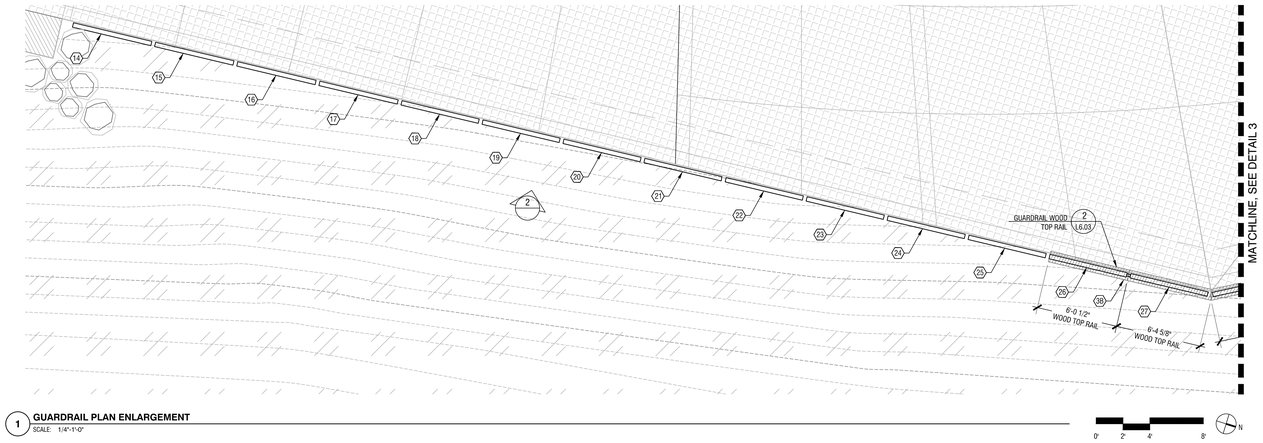
NO.	DESC.	DATE

DRAWN BY
J. CARLSON

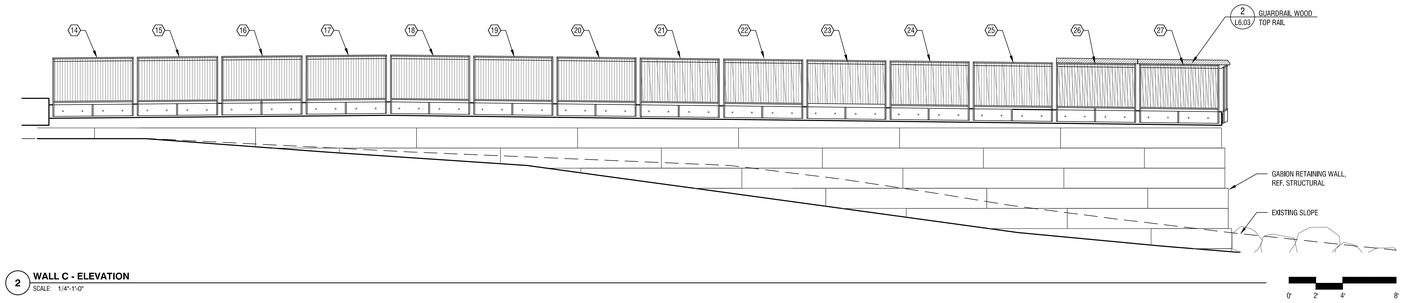
CHECKED BY
S. SIMMS

SHEET TITLE
ENLARGED PLANS & ELEVATIONS

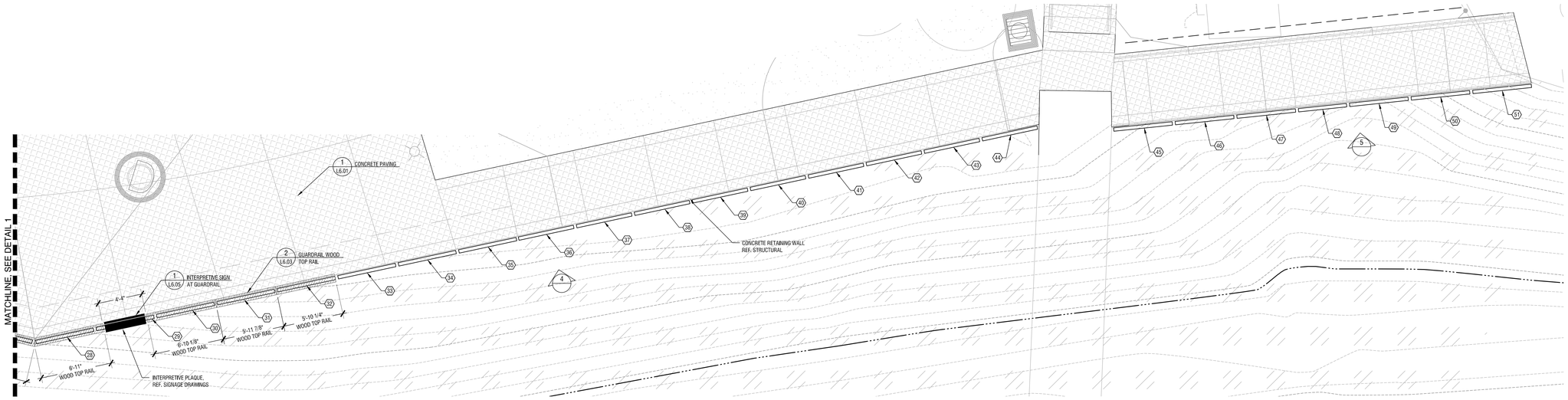
SHEET NUMBER
L1.02



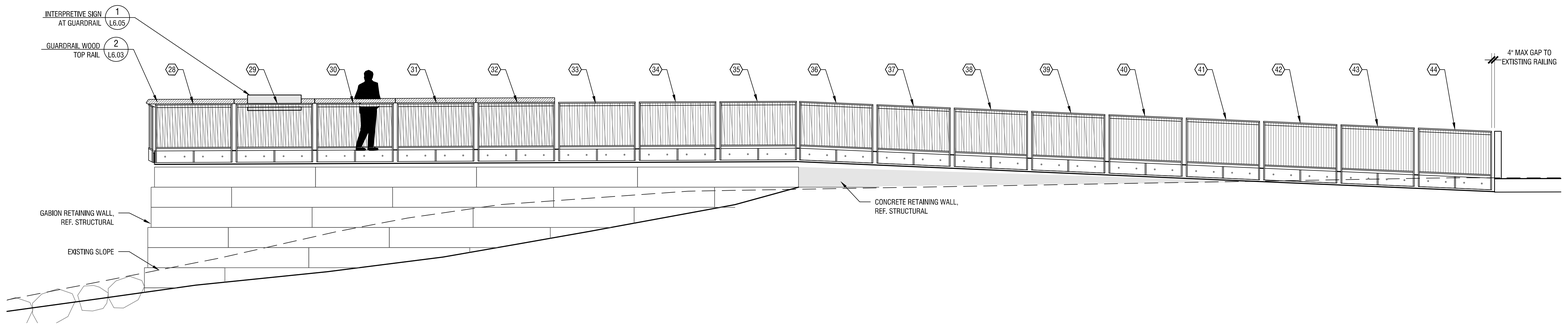
1 **GUARDRAIL PLAN ENLARGEMENT**
SCALE: 1/4"-1'-0"



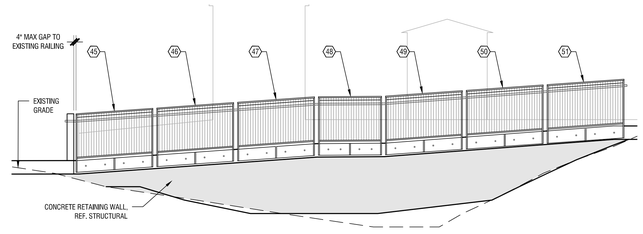
2 **WALL C - ELEVATION**
SCALE: 1/4"-1'-0"



3 **GUARDRAIL PLAN ENLARGEMENT**
SCALE: 1/4"-1'-0"



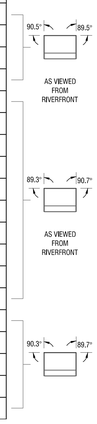
4 **WALL D - ELEVATION**
SCALE: 1/4"-1'-0"



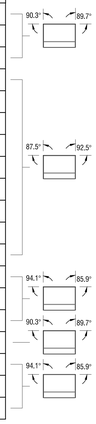
5 **WALL E - ELEVATION**
SCALE: 1/4"-1'-0"

RAILING SCHEDULE

PANEL #	WIDTH	STYLE	ANGLE
14	6'-0"	C	90.5 x 89.5
15	6'-0"	C	90.5 x 89.5
16	6'-0"	C	90.5 x 89.5
17	6'-0"	C	90.5 x 89.5
18	5'-10 7/8"	C	89.3 x 90.7
19	5'-10 7/8"	C	89.3 x 90.7
20	5'-10 7/8"	C	89.3 x 90.7
21	5'-10 7/8"	B	89.3 x 90.7
22	5'-10 7/8"	B	89.3 x 90.7
23	5'-10 7/8"	B	89.3 x 90.7
24	5'-10 7/8"	B	89.3 x 90.7
25	5'-10 7/8"	B	89.3 x 90.7
26	5'-10 7/8"	A	89.3 x 90.7
27	5'-10 7/8"	A	89.3 x 90.7
28	5'-8 5/8"	A	90.3 x 89.7
29	5'-8 5/8"	A	90.3 x 89.7
30	5'-8 5/8"	A	90.3 x 89.7
31	5'-8 5/8"	A	90.3 x 89.7
32	5'-8 5/8"	A	90.3 x 89.7



PANEL #	WIDTH	STYLE	ANGLE
33	5'-8 5/8"	B	90.3 x 89.7
34	5'-8 5/8"	B	90.3 x 89.7
35	5'-8 5/8"	B	90.3 x 89.7
36	5'-8 5/8"	B	87.5 x 92.5
37	5'-8 5/8"	B	87.5 x 92.5
38	5'-8 5/8"	B	87.5 x 92.5
39	5'-8 5/8"	B	87.5 x 92.5
40	5'-8 5/8"	C	87.5 x 92.5
41	5'-8 5/8"	C	87.5 x 92.5
42	5'-8 5/8"	C	87.5 x 92.5
43	5'-8 5/8"	C	87.5 x 92.5
44	5'-8 5/8"	C	87.5 x 92.5
45	5'-8 3/4"	C	94.1 x 85.9
46	5'-8 3/4"	C	94.1 x 85.9
47	5'-8 3/4"	C	94.1 x 85.9
48	4'-8 1/2"	C	90.3 x 89.7
49	5'-8 3/4"	C	94.1 x 85.9
50	5'-8 3/4"	C	94.1 x 85.9
51	5'-8 3/4"	C	94.1 x 85.9



GENERAL LEGEND

- PROPERTY LINE
- LIMIT OF WORK
- ORDINARY HIGH WATER (OHW)
- PROPOSED MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- RIPARIAN AREA
- LAWN AREA
- STORMWATER AREA
- PLANTING AREA
- PAVERS
- CONCRETE PAVING
- BASALT BOULDER/COLUMN
- INTERPRETIVE SIGN
- LIGHT POLE, REF. ELEC.
- TRASH CAN
- BIKE RACK
- AREA DRAIN, REF. CIVIL
- PROPOSED TREE
- TREE TO REMAIN

RAILING LAYOUT NOTES

1. RAILING DIMENSIONS SHOWN FOR REFERENCE ONLY. RAILINGS TO BE BUILT TO FIT AS-BUILT CONDITIONS, DETAILS AND BUILDING CODE.
2. LOCATE POSTS AT GRADE BREAKS WHERE SHOWN.
3. REFERENCE CIVIL PLANS FOR HORIZONTAL LAYOUT OF DRAINAGE STRUCTURES, UTILITIES AND VEHICULAR AREAS INCLUDING: DRIVEWAYS, PARKING LOTS, AND PARKING STORMWATER TREATMENT FACILITIES.
4. RAILING JOINTS NOT SHOWN. RAILING JOINTS TO BE PROVIDED IN SHOP DRAWINGS. REF. 6/L6.04.

Mayer/Reed

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St. Helens Riverwalk

St. Helens, Oregon
Project Number: P-525A

Project Managers: Jennifer Dimsho; John Walsh

REGISTERED LANDSCAPE ARCHITECT
Jerome Shane
OREGON
5/8/98

PHASE
FINAL PLANS

DATE
02/02/24

REVISIONS
NO. DESC. DATE

DRAWN BY
J. CARLSON

CHECKED BY
S. SIMMS

SHEET TITLE
ENLARGED PLANS & ELEVATIONS

SHEET NUMBER
L1.03

LAYOUT NOTES

1. REFERENCE CIVIL PLANS FOR HORIZONTAL LAYOUT OF UTILITIES AND VEHICULAR AREAS INCLUDING: DRIVEWAYS, PARKING LOTS, AND PARKING STORMWATER TREATMENT FACILITIES.
2. SCORING TO CONNECT WITH CORNERS WHERE SHOWN.
3. ALIGN SCORING WITH GRADE BREAKS WHERE SHOWN.
4. RAILINGS AND FENCES TO BE PERPENDICULAR AND PARALLEL TO WALLS, CURBS, WALKS AND BUILDING.
5. LOCATE CENTER OF RAILINGS 6" FROM EDGE OF PAVING AND WALLS.

RAILING LAYOUT NOTES

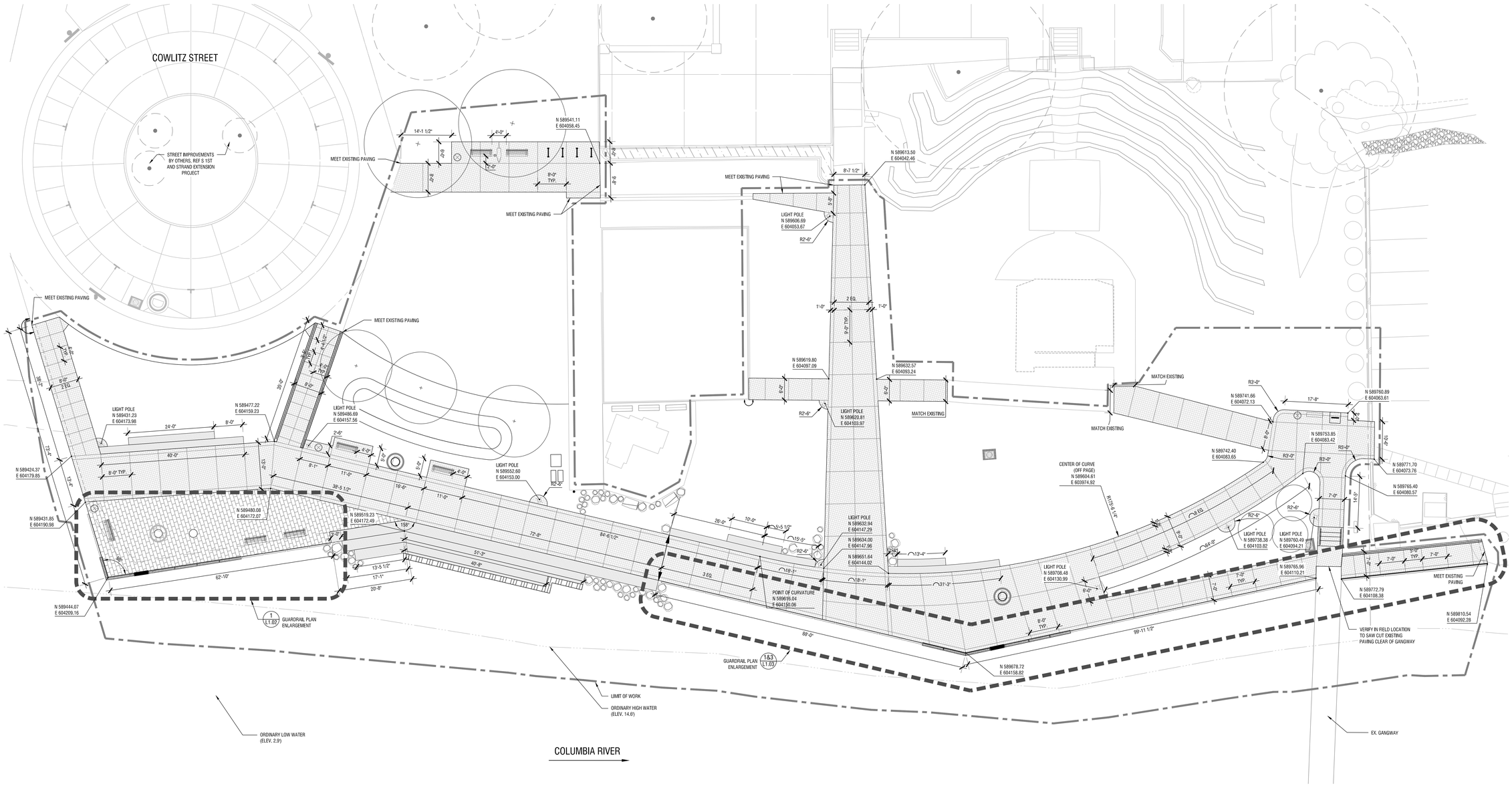
1. RAILING DIMENSIONS SHOWN FOR REFERENCE ONLY. RAILINGS TO BE BUILT TO FIT AS-BUILT CONDITIONS, DETAILS AND BUILDING CODE.
2. LOCATE POSTS AT GRADE BREAKS WHERE SHOWN.
3. REFERENCE CIVIL PLANS FOR HORIZONTAL LAYOUT OF DRAINAGE STRUCTURES, UTILITIES AND VEHICULAR AREAS INCLUDING: DRIVEWAYS, PARKING LOTS, AND PARKING STORMWATER TREATMENT FACILITIES.
4. RAILING JOINTS NOT SHOWN. RAILING JOINTS TO BE PROVIDED IN SHOP DRAWINGS. REF. 6/L6.04.

LAYOUT LEGEND

- CENTER LINE
- ALIGN - ACROSS
- ALIGN - FACES
- ALIGN - CORNER
- RAIL
- POST
- POINT OF TANGENCY
- POINT OF BEGINNING

GENERAL LEGEND

- PROPERTY LINE
- LIMIT OF WORK
- ORDINARY HIGH WATER (OHW)
- RIPARIAN AREA
- LAWN AREA
- STORMWATER AREA
- PLANTING AREA
- PAVERS
- CONCRETE PAVING
- BASALT BOULDER/COLUMN
- INTERPRETIVE SIGN
- LIGHT POLE, REF. ELEC.
- TRASH CAN
- BIKE RACK
- AREA DRAIN, REF. CIVIL
- PROPOSED TREE
- TREE TO REMAIN



1 **LAYOUT PLAN**
SCALE 1" = 10'-0"

0 5' 10' 20'

Mayer/Reed

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St. Helens Riverwalk

St. Helens, Oregon
Project Number: P-525A

Project Managers: Jennifer Dimsho; John Walsh

REGISTERED LANDSCAPE ARCHITECT
Jerome Shane
OREGON
5/8/98

PHASE
FINAL PLANS

DATE
02/02/24

REVISIONS

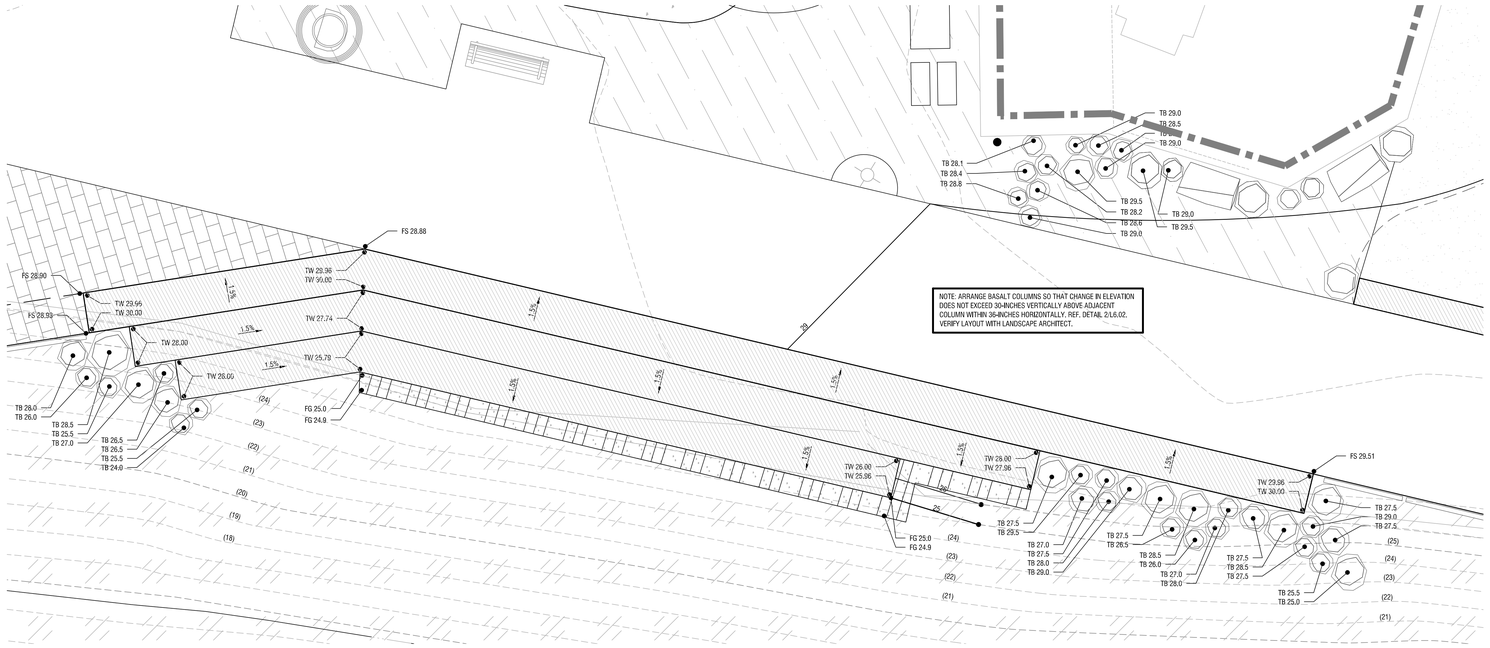
NO.	DESC.	DATE

DRAWN BY
J. CARLSON

CHECKED BY
S. SIMMS

SHEET TITLE
LAYOUT PLAN

SHEET NUMBER
L2.01



2 **GRADING PLAN - ENLARGED WALL PLAN**
SCALE: 3"= 1'-0"

GRADING LEGEND

(100)	EXISTING CONTOUR - 1 FT INTERVAL
100	PROPOSED MAJOR CONTOUR - 5 FT INTERVAL
99	PROPOSED MINOR CONTOUR -1 FT INTERVAL
GB	GRADE BREAK
(FS XXX.XX)	EXISTING SPOT ELEVATION
[FS XXX.XX]	CIVIL SPOT ELEVATION, REF. CIVIL
FS XXX.XX	SPOT ELEVATION
XX%	SLOPE PERCENT, FOR REFERENCE ONLY
3:1	SLOPE RATIO (RUN:RISE), FOR REFERENCE ONLY
FFE	FINISH FLOOR ELEVATION
FS FG	FINISH SURFACE ELEVATION (HARDSCAPE) FINISH GRADE ELEVATION (SOFTSCAPE)
FS.V	FINISH SURFACE ELEVATION - UTILITY VAULT LID
TW TWB	TOP OF WALL ELEVATION TOP OF WALL ELEVATION AT BREAK
TS BS	TOP OF STAIR ELEVATION BOTTOM OF STAIR ELEVATION
TC	TOP OF CURB ELEVATION
[TP]	TOP OF PAVEMENT, REF. CIVIL
TB	TOP OF BASALT
ME	MATCH EXISTING

GRADING NOTES

1. CROSS SLOPES IN PEDESTRIAN AREAS TO BE 2% MAX. LONGITUDINAL SLOPES ON WALKWAYS TO BE 5% MAX. LONGITUDINAL SLOPES ON PEDESTRIAN RAMPS TO BE 8% MAX. ANY PAVING EXCEEDING THESE SLOPES IS TO BE REMOVED AND REPLACED AT THE CONTRACTOR'S EXPENSE.
2. SLOPES PROVIDED BY SLOPE ARROW ARE FOR REFERENCE ONLY.
3. ADJUST ALL INCIDENTAL STRUCTURES, MANHOLE LIDS, VALVE BOXES, ETC. TO FINISH GRADE.
4. ALL PLANTED AREAS TO SLOPE AWAY FROM BUILDINGS AT 2% MIN.

GENERAL LEGEND

- PROPERTY LINE
- LIMIT OF WORK
- ORDINARY HIGH WATER (OHW)
- RIPARIAN AREA
- LAWN AREA
- STORMWATER AREA
- PLANTING AREA
- PAVERS
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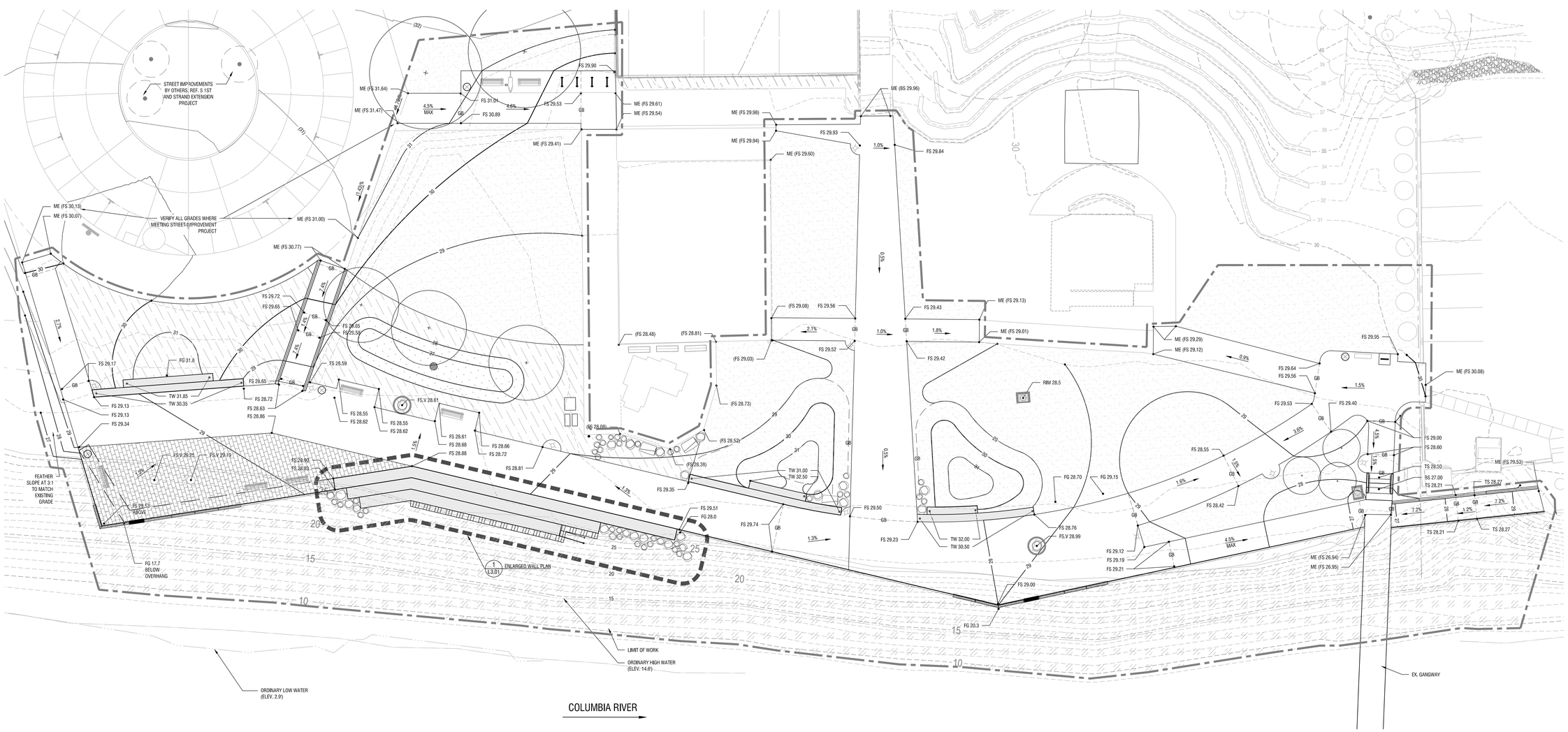

1 **GRADING PLAN**
SCALE: 1"= 10'-0"

St. Helens Riverwalk

St. Helens, Oregon
Project Number: P-525A

Project Managers: Jennifer Dimsho; John Walsh

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J. CARLSON

CHECKED BY
S. SIMMS

SHEET TITLE
GRADING PLAN

SHEET NUMBER
L3.01

IRRIGATION NOTES

1. IT IS THE IRRIGATION CONTRACTOR'S RESPONSIBILITY TO COORDINATE ANY REQUIRED IRRIGATION SLEEVING WITH RESPECTIVE SUBCONTRACTORS BEFORE CONSTRUCTION BEGINS.
2. CONTRACTOR TO VERIFY AVAILABLE P.S.I. AT THE POINT OF CONNECTION BEFORE COMMENCEMENT OF INSTALLATION.
3. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE A FULLY FUNCTIONAL AUTOMATIC IRRIGATION SYSTEM PROVIDING FULL COVERAGE TO ALL PLANTING AREAS AND TREE WELLS AS DESCRIBED ON THE DRAWINGS AND IN THE SPECIFICATIONS. CONTRACTOR TO COORDINATE WITH UNIVERSITY MAINTENANCE STAFF AS TO EXISTING CONDITIONS AND SYSTEM REQUIREMENTS INCLUDING, QUICK COUPLER LOCATIONS, CONTROL VALVES, ETC..
4. THE LAYOUT OF THE IRRIGATION SYSTEM IS DIAGRAMMATIC ONLY. MODIFY LAYOUT AS REQUIRED TO ACCOMMODATE PLANT PLACEMENT, UTILITIES, AND UNDERGROUND OBSTRUCTIONS. REVIEW MODIFICATIONS WITH THE LANDSCAPE ARCHITECT PRIOR TO PROCEEDING.
5. SLEEVES SHALL BE INSTALLED 24 INCHES (MIN.) BELOW FINISHED PAVED SURFACE. ADJUST HEIGHT AS NEEDED TO ROUTE AROUND UTILITIES. EXTEND SLEEVES AT LEAST 12 INCHES INTO LAWN AND PLANTING AREAS, TYP.
6. INSTALL TRACE WIRE OVER ALL MAINLINE PIPE AND OVER CONTROL WIRE WHICH IS NOT INSTALLED IN TRENCH WITH PIPE. ROUTE FROM CONTROLLER TO ENDS OF PIPE. MAKE ALL CONNECTIONS WATER TIGHT.
7. CONTRACTOR TO SET FLAGS TO IDENTIFY PROPOSED VALVE AND VALVE BOX, QUICK COUPLER, ISOLATION VALVE, SPRINKLER LOCATIONS AND GENERAL LAYOUT OF MAIN LINES. OBTAIN LANDSCAPE ARCHITECT'S APPROVAL BEFORE EXCAVATION. PROVIDE 5 BUSINESS DAYS NOTICE TO L.A. PRIOR TO ANTICIPATED LAYOUT REVIEWS.
8. REFERENCE L301 FOR GRADING INFORMATION
9. LOCATE VALVE BOXES SO AS TO BE HIDDEN FROM PEDESTRIAN VIEW. BROWN OR BLACK LIDS IN MULCH (PLANTING AREAS), GREEN LIDS IN LAWN AREAS.

IRRIGATION LEGEND

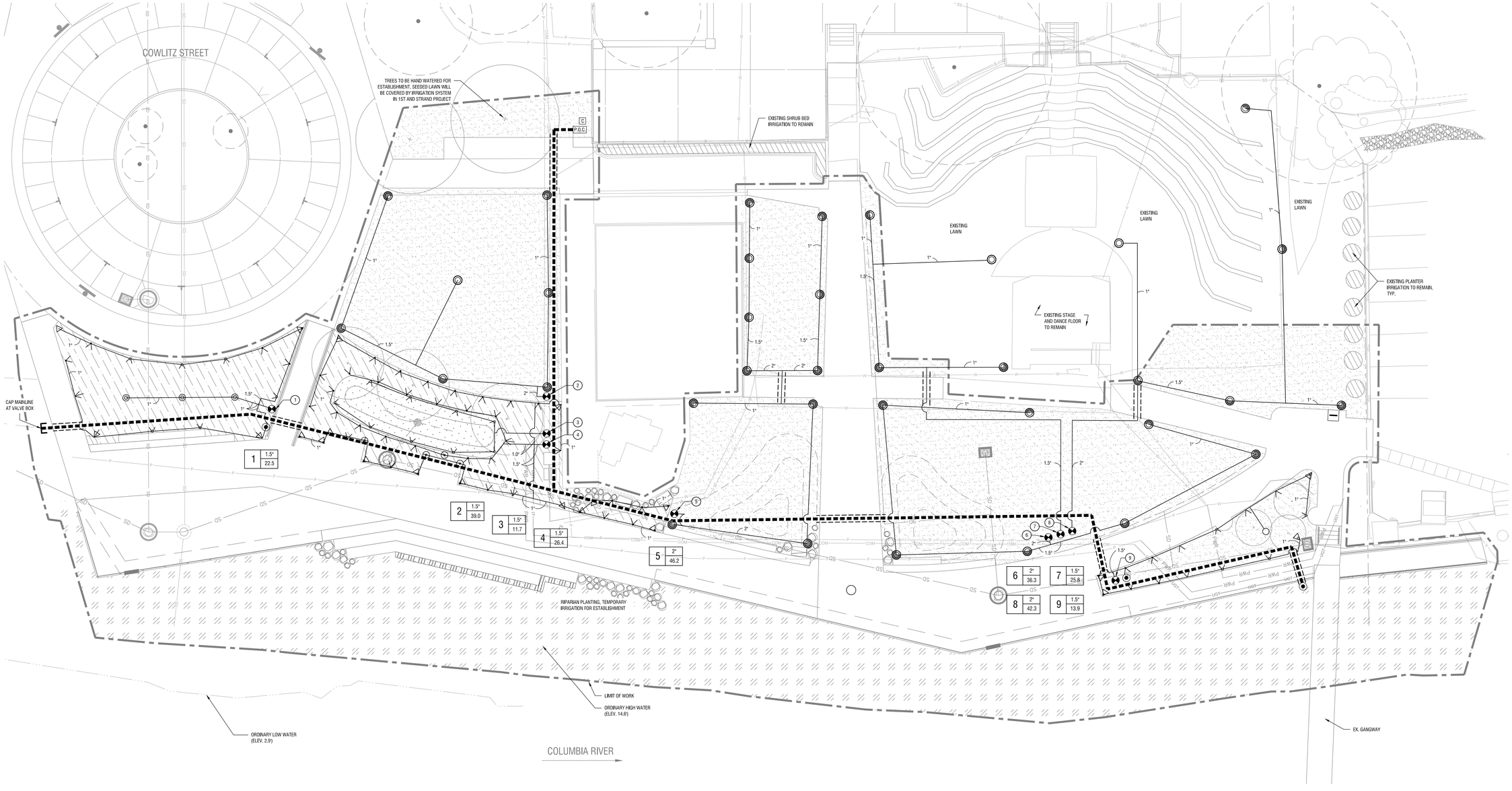
SYMBOL	DESCRIPTION	PSI	RADIUS	PATTERN	GPM
	RAINBIRD 1806-PRS-5	30	5'	Q, H, F	.10, .20, .41
	RAINBIRD 1806-PRS-8	30	8'	Q, H, F	.26, .52, 1.05
	RAINBIRD 1806-PRS-10	30	10'	Q, T, F	.39, .79, 1.58
	RAINBIRD 1806-PRS-12	30	12'	Q, T, F	.65, 1.30, 2.60
	RAINBIRD 1806-PRS-15	30	15'	Q, H, F	.92, 1.85, 3.7
	RAINBIRD F4-FC/PC-6-P	40	41'	F, TQ, H, Q	12.6, 9.7, 6.6, 3.3

P.O.C. — POINT OF CONNECTION
C — CONTROLLER
REMOTE CONTROL VALVE
ISOLATION VALVE
QUICK COUPLER

X 1" 18.0 — VALVE SIZE; ZONE GPM; VALVE NO.
MAINLINE: 3" SCHEDULE 40 PVC
LATERAL: SCHEDULE 40 PVC
LINE SIZE
SCHEDULE 40 PVC SLEEVES SIZE PER PLAN , 12" PAST PAVING EDGE

GENERAL LEGEND

PROPERTY LINE
LIMIT OF WORK
ORDINARY HIGH WATER (OHW)
RIPARIAN AREA
LAWN AREA
STORMWATER AREA
PLANTING AREA
BASALT BOULDER/COLUMN
AREA DRAIN, REF. CIVIL
PROPOSED TREE
TREE TO REMAIN



1 **IRRIGATION PLAN**
SCALE: 1"= 10'-0"

0 5' 10' 20'

Mayer/Reed

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319 SW Washington St.
Suite 820
Portland, Oregon 97204
503.223.5953

St. Helens Riverwalk

St. Helens, Oregon
Project Number: P-525A

Project Managers: Jennifer Dimsho; John Walsh

REGISTERED LANDSCAPE ARCHITECT
Jerome Shane
OREGON
5/8/98

PHASE
FINAL PLANS

DATE
02/02/24

REVISIONS
NO. DESC. DATE

DRAWN BY
J. CARLSON

CHECKED BY
S. SIMMS

SHEET TITLE
IRRIGATION PLAN

SHEET NUMBER
L4.01

PLANT SCHEDULE

TREES	CODE	BOTANICAL NAME	COMMON NAME	SIZE
	QC	Quercus coccinea	Scarlett Oak	2" Cal. B&B
	AR	Alnus rubra	Red Alder	2" Cal. B&B
	AC	Acer circinatum	Vine Maple	2" Cal. B&B

SHRUBS	CODE	BOTANICAL NAME	COMMON NAME	SIZE	SPACING
	ARS	Arctostaphylos x 'Sunset'	Sunset Manzanita	5 gal.	60" o.c.
	RIS	Ribes sanguineum	Red Flowering Currant	5 gal.	96" o.c.
	RON	Rosa nutkana	Nootka Rose	2 gal.	48" o.c.
	VAO	Vaccinium ovatum	Evergreen Huckleberry	2 gal.	36" o.c.

SHRUB AREAS	CODE	BOTANICAL NAME	COMMON NAME	SIZE	SPACING
	SPB	Spiraea betulifolia	Birchleaf Spirea	2 gal.	24" o.c.

GRASSES	CODE	BOTANICAL NAME	COMMON NAME	SIZE	SPACING
	CAOB	Carex obnupta	Slough Sedge	1 gal.	12" o.c.
	JUPA	Juncus patens	Common Rush	1 gal.	24" o.c.
	PEAL	Pennisetum alopecuroides `Hameln`	Hameln Fountain Grass	2 gal.	24" o.c.

PERENNIALS	CODE	BOTANICAL NAME	COMMON NAME	SIZE	SPACING
	SEAJ	Sedum x 'Autumn Joy'	Autumn Joy Sedum	1 gal.	24" o.c.

GROUND COVERS	CODE	BOTANICAL NAME	COMMON NAME	SIZE	SPACING
	RUCA	Rubus calycinoides 'Emerald Carpet'	Emerald Carpet Creeping Bramble	1 gal.	12" o.c.

SEEDING

LAWN SEED, REF SPECS.

NOTES:
1. PLANTS LISTS ARE PRELIMINARY AND MAY CHANGE THROUGH DESIGN DEVELOPMENT AND ARE DEPENDENT ON AVAILABILITY AT THE TIME OF CONSTRUCTION.
2. RE-SEED AND RESTORE ALL AREAS DISTURBED BY CONSTRUCTION.

RIPARIAN AREAS	AREA TYPE	CODE	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	NOTES
17.5' + 4,075 sf	AREA A	CSK	Cornus sericea 'Kelseyi'	Dwarf Redtwig Dogwood	1 gal.	Grps of 3, 24" o.c.	Plant shrub groupings at 12' o.c within zone and groundcover throughout.
		FRCH	Fragaria chiloensis	Coast Strawberry	4" pot	24" o.c. throughout	
		MAR	Mahona repens	Creeping Oregon Grape	1 gal.	Grps of 5, 36" o.c.	
		SYA	Symphoricarpos albus	Common Snowberry	1 gal.	Grps of 3, 48" o.c.	
13.0' T0 17.5' 2,440 sf	AREA B	ACC	Acer circinatum	Vine Maple	1 gal.	10' o.c., LA field locate	Plant shrub groupings at 16' o.c and stake groups in lower third of zone at 12' o.c.
		PHC	Physocarpus capitatus	Pacific Ninebark	1 gal.	Grps of 3, 60" o.c.	
		RUS	Rubus spectabilis	Salmonberry	1 gal.	Grps of 5, 48" o.c.	
		SPD	Spirea douglasii	Douglas' Spirea	Live Stake	Grps of 5, 48" o.c.	
9.5' T0 13.5' 3,395 sf	AREA C	COS	Cornus sericea	Red Twig Dogwood	Live Stake	Grps of 3, 48" o.c.	Plant Dogwood & Spirea groups at 16' o.c within zone and willows at 12' o.c.
		SAC	Salix fluviatilis	Columbia River Willow	Live Stake	Grps of 2, 24" o.c.	
		SPD	Spirea douglasii	Douglas' Spirea	Live Stake	Grps of 5, 48" o.c.	

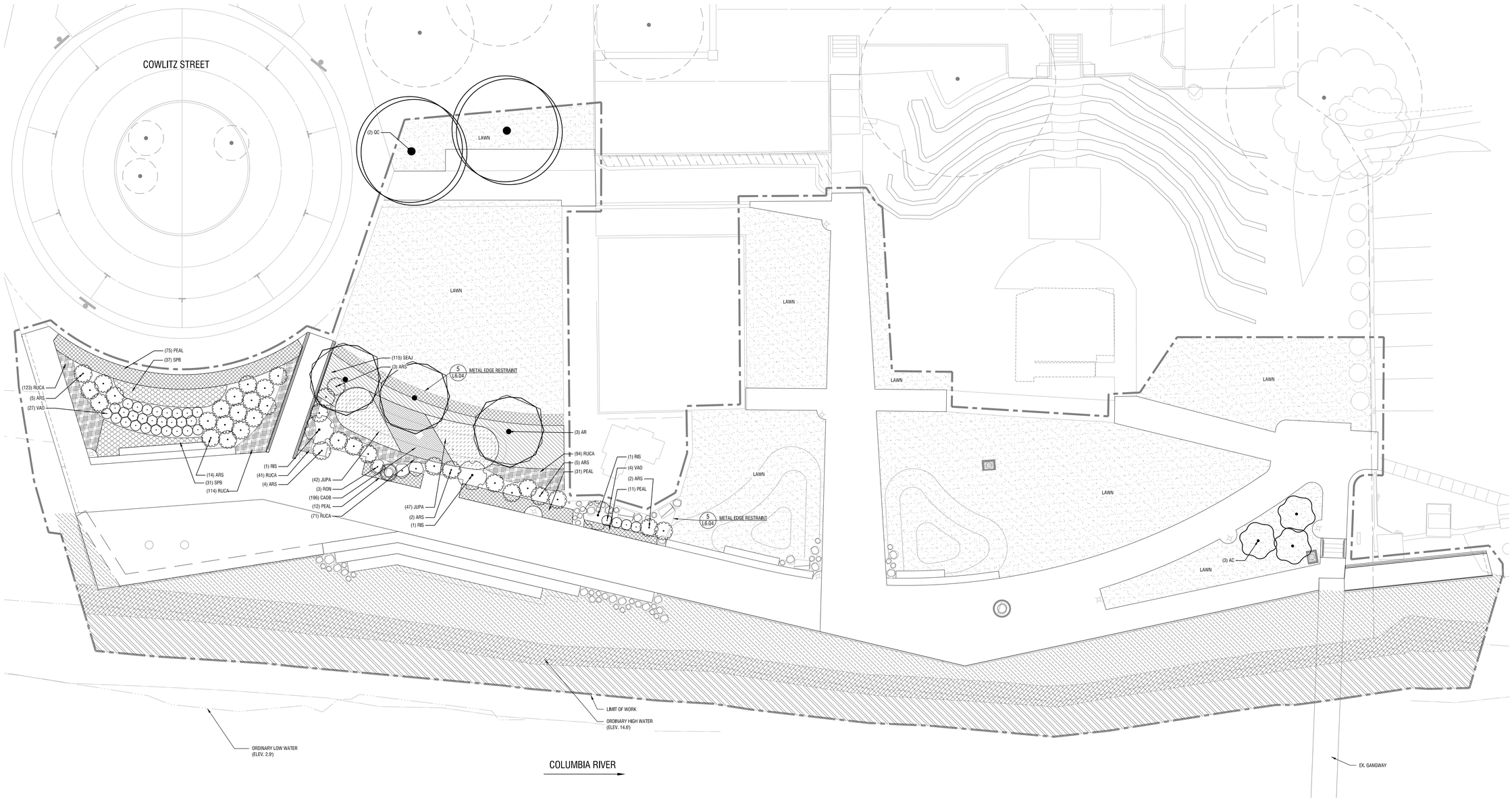
PLANTING NOTES

1. DO NOT BEGIN PLANTING UNTIL IRRIGATION SYSTEM IS INSTALLED, TESTED AND APPROVED.
2. DO NOT BEGIN PLANTING UNTIL SOIL PREPARATION IS COMPLETE AND APPROVED. TOPSOIL DEPTH WITHIN SHRUB AREAS IS 12 INCHES DEPTH WITH 2 INCHES MULCH TOP DRESSING. PLANTING SOIL WITHIN LAWN AREAS IS 6 INCHES.
3. LOCATE PLANTS AS DIMENSIONED ON THE PLANS AND AS SHOWN IN THE PLANT SCHEDULE. PLANT SPACING IS MEASURED CENTER TO CENTER. PLANT LOCATIONS MAY BE ADJUSTED BY THE LANDSCAPE ARCHITECT TO MEET FIELD CONDITIONS.
4. VERIFY ALL QUANTITIES AND VARIETIES SHOWN ON THE DRAWINGS PRIOR TO ORDERING. OWNER MUST APPROVE ANY NECESSARY SUBSTITUTIONS DURING SUBMITTALS PROCESS. REVIEW PROCESS TO BE ESTABLISHED AT PRE-CONSTRUCTION MEETING.
5. THOROUGHLY WATER IN ALL PLANTS WITHIN 6 HOURS OF PLANTING.
6. APPLY SPECIRED MULCH OVER PLANTING AREAS WITHIN TWO DAYS OF INSTALLING PLANTS, UNLESS OTHERWISE NOTED.
7. ALL PLANTS ARE REQUIRED TO MEET AMERICAN STANDARD FOR NURSERY STOCK, ANSI Z60.1-2014.
8. TO CALCULATE THE QUANTITY OF PLANTS PER AREA, USE THE FOLLOWING SPACING MULTIPLIERS:

TRIANGULAR SPACING	9"	12"	15"	18"	24"	30"	36"	48"
SQUARE FT MULTIPLIER	2.053	1.155	0.739	0.513	0.289	0.185	0.128	0.072

GENERAL LEGEND

- PROPERTY LINE
- LIMIT OF WORK
- ORDINARY HIGH WATER (OHW)
- RIPARIAN AREA
- LAWN AREA
- STORMWATER AREA
- PLANTING AREA
- PAVERS
- BASALT BOULDER/COLUMN
- LIGHT POLE, REF. ELEC.
- AREA DRAIN, REF. CIVIL
- TREE TO REMAIN



1 **PLANTING PLAN**
SCALE: 1"= 10'-0"

Mayer/Reed

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St. Helens Riverwalk

St. Helens, Oregon
Project Number: P-525A

Project Managers: Jennifer Dimsho; John Walsh

REGISTERED LANDSCAPE ARCHITECT
Jerome Shane
OREGON
5/8/98

PHASE
FINAL PLANS

DATE
02/02/24

REVISIONS

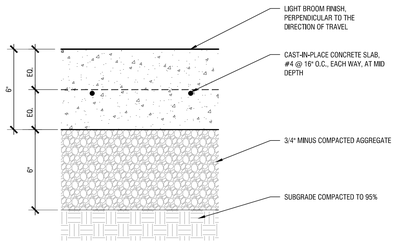
NO.	DESC.	DATE

DRAWN BY
J. CARLSON

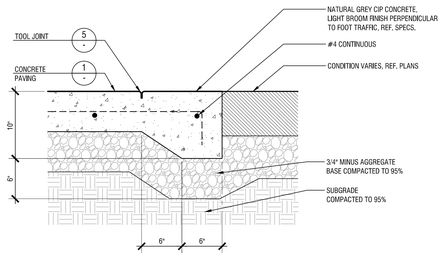
CHECKED BY
S. SIMMS

SHEET TITLE
PLANTING PLAN

SHEET NUMBER
L5.01

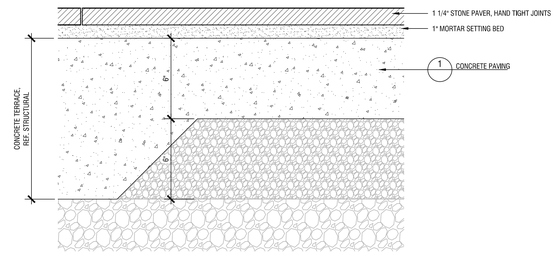


1 CONCRETE PAVING - SECTION
SCALE: 3"= 1'-0"

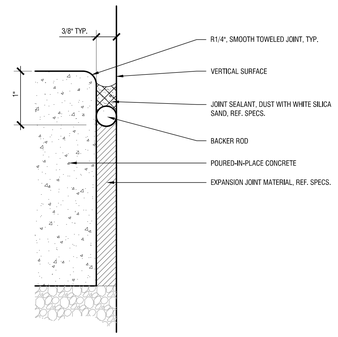


NOTE:
INSTALL THICKENED EDGE AT INTERFACE OF ALL 6" DEPTH CONCRETE PAVING.

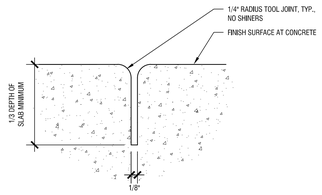
2 CIP CONCRETE THICKENED EDGE - SECTION
SCALE: 1 1/2"= 1'-0"
Proj-cont-thickened-edge.DWG



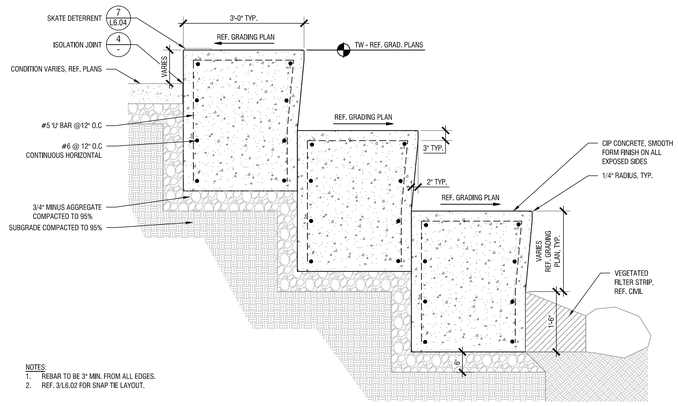
3 STONE PAVERS - SECTION
SCALE: 3"= 1'-0"
Proj-stone-vertic-mortar.dwg



4 ISOLATION JOINT - SECTION
SCALE: 1"= 1"
JNT-EXPTSH-BLDNG.DWG

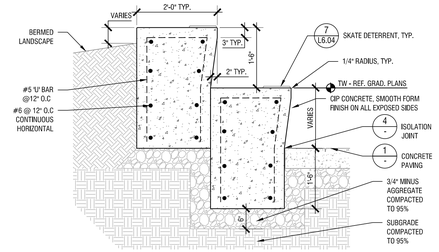


5 TOOLED CONTROL JOINT - SECTION
SCALE: 1"= 1"
L6.01 SITE DETAILS.DWG



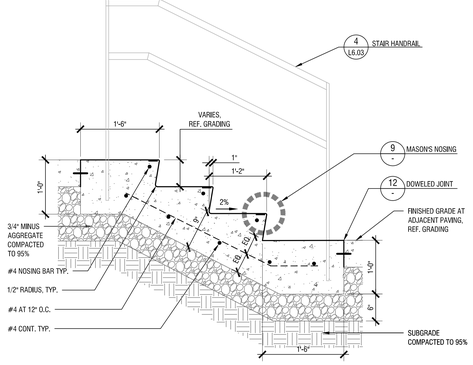
NOTES:
1. REBAR TO BE 3" MIN. FROM ALL EDGES.
2. REF. 3/L6.02 FOR SNAP TIE LAYOUT.

6 CIP CONCRETE WALLS AT RIVERBANK
SCALE: 3/4"= 1'-0"



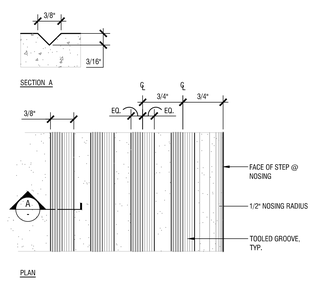
NOTES:
1. REBAR TO BE 3" MIN. FROM ALL EDGES.
2. REF. 3/L6.02 FOR SNAP TIE LAYOUT.

7 CIP CONCRETE WALLS AT BERM
SCALE: 3/4"= 1'-0"

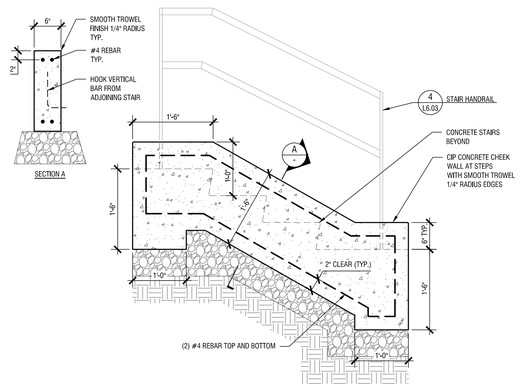


NOTES:
1. PROVIDE BROOM FINISH ON ALL STAIR CONCRETE WORK, UNLESS OTHERWISE SPECIFIED.
2. REBAR TO BE 3" MIN. CLEAR FROM FACE OF CONCRETE.
3. VERIFY ALL ELEVATIONS AND GRADIENTS PRIOR TO COMMENCING INSTALLATION.
4. FOR ADDITIONAL LAYOUT INFORMATION, REF. LANDSCAPE LAYOUT DRAWINGS.

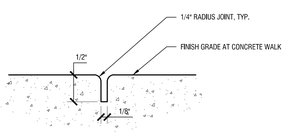
8 CONCRETE STAIRS - SECTION
SCALE: 1"= 1'-0"



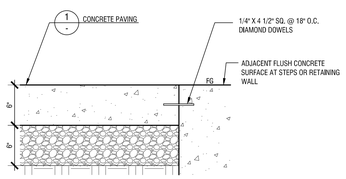
9 MASON'S NOSING
SCALE: NTS



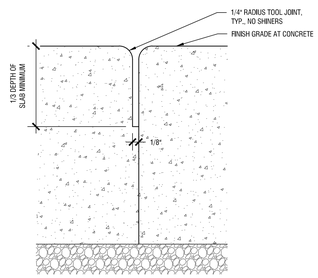
10 CHEEKWALL AT STAIRS - SECTION
SCALE: 1"= 1'-0"



11 ORNAMENTAL JOINT - SECTION
SCALE: 1"= 0'-1"
JNT-ORNAMENTAL.DWG



12 DOWELED JOINT - SECTION
SCALE: 1 1/2"= 1'-0"
JNT-DOWEL.DWG



13 COLD JOINT - SECTION
SCALE: 1"= 0'-1"
JNT-COLD.DWG

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St. Helens Riverwalk
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Project Number: P-525A

Project Managers: Jennifer Dimsho; John Walsh

REGISTERED LANDSCAPE ARCHITECT
Jesse Shane Shane
OREGON
5/8/98

PHASE
FINAL PLANS

DATE
02/02/24

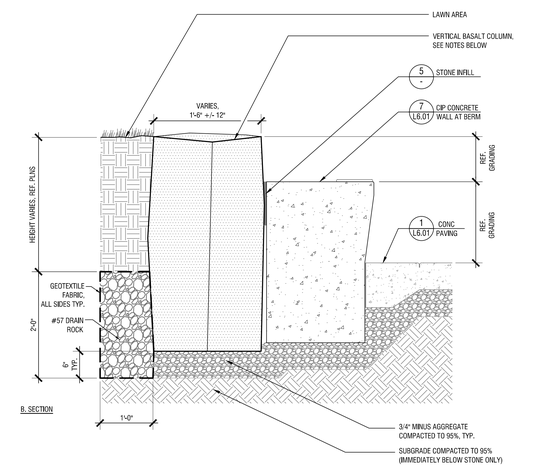
REVISIONS
NO. DESC. DATE

DRAWN BY
J. CARLSON

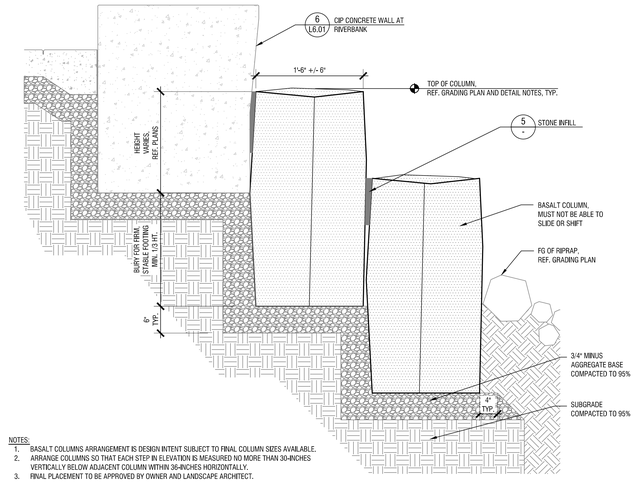
CHECKED BY
S. SIMMS

SHEET TITLE
SITE DETAILS - HARDSCAPE, WALLS, & STAIRS

SHEET NUMBER
L6.01

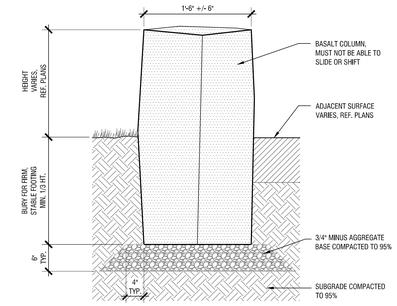


1 BASALT COLUMN AT BERM
SCALE: 1"= 1'-0"
BOULDER_BASALT COLUMN.DWG

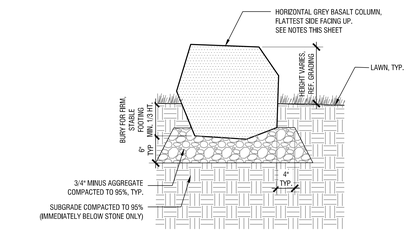


NOTES:
1. BASALT COLUMNS ARRANGEMENT IS DESIGN INTENT SUBJECT TO FINAL COLUMN SIZES AVAILABLE.
2. ARRANGE COLUMNS SO THAT EACH STEP IN ELEVATION IS MEASURED NO MORE THAN 30-INCHES VERTICALLY BELOW ADJACENT COLUMN WITHIN 36-INCHES HORIZONTALLY.
3. FINAL PLACEMENT TO BE APPROVED BY OWNER AND LANDSCAPE ARCHITECT.

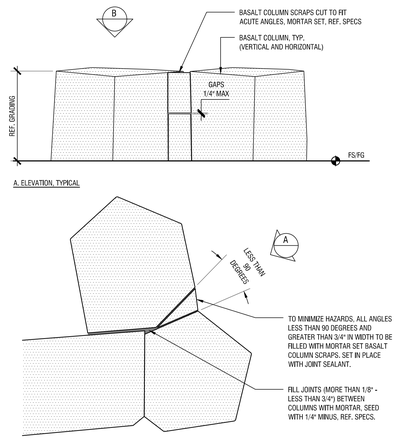
2 BASALT COLUMN AT RIVERBANK
SCALE: 1"= 1'-0"
BOULDER_BASALT COLUMN.DWG



3 BASALT COLUMN
SCALE: 1"= 1'-0"
BOULDER_BASALT COLUMN.DWG



4 BASALT COLUMN, HORIZONTAL - SECTION
SCALE: 1"= 1'-0"

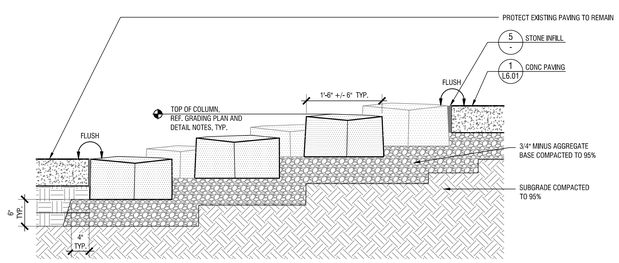


NOTE:
REF. ASTM F1487-17 AND THE CPSC HANDBOOK FOR PUBLIC PLAYGROUND SAFETY.

5 STONE INFILL, TYPICAL
SCALE: 1"= 1'-0"

NOTES:
1. ARRANGE BASALT COLUMNS AS INDICATED IN DRAWINGS.
2. INSTALL BASALT COLUMNS SO THAT THEY ARE SET FIRMLY IN THE GROUND AND DO NOT TIP, WIGGLE, NOR SHIFT IN ANY MANNER.
3. INSTALL BASALT COLUMNS SO THAT THEY CANNOT BE MOVED.
4. PERFORM NECESSARY FIELD CUTTING AND TRIMMING SO THAT COLUMNS FIT TIGHTLY AND SECURELY TOGETHER (3/4" MAX GAPS).
5. TO MINIMIZE PROTRUSION HAZARDS ALL ANGLES LESS THAN 90 DEGREES TO BE FILLED WITH STONE, REF. DETAIL 6/L6.03.
6. CUT EDGES TO BE PLACED OUT OF VIEW UNLESS APPROVED BY THE OWNER.
7. REMOVE ALL SHARP EDGES AND POINTS, 1/2" MIN. RADIUS, TO THE SATISFACTION OF THE OWNER'S REP.
8. FILL JOINTS (MORE THAN 1/8" - LESS THAN 3/4") BETWEEN COLUMNS WITH MORTAR, REF. SPECS.

6 BASALT COLUMN NOTES
SCALE: 1"= 1'-0"
BOULDER_BASALT COLUMN_NOTES.DWG



7 BASALT COLUMN FEATURE - SECTION
SCALE: 1"= 1'-0"

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PHASE
FINAL PLANS

DATE
02/02/24

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NO.	DESC.	DATE

DRAWN BY
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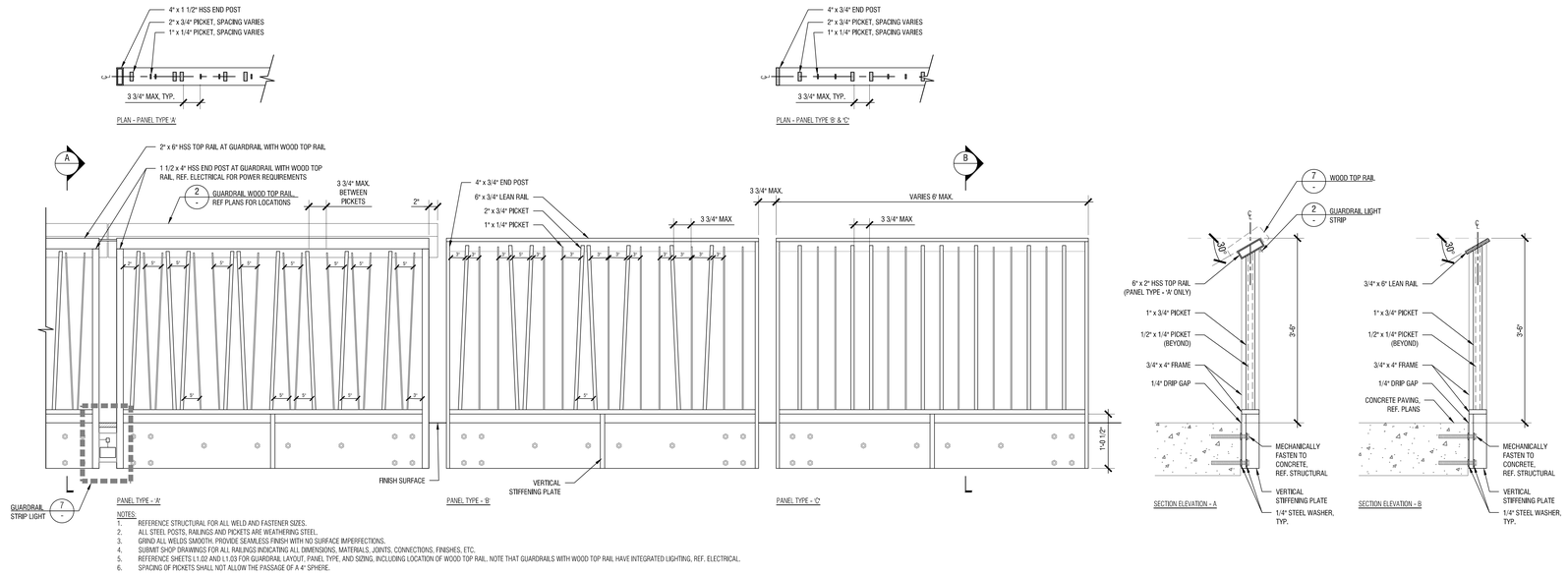
CHECKED BY
S. SIMMS

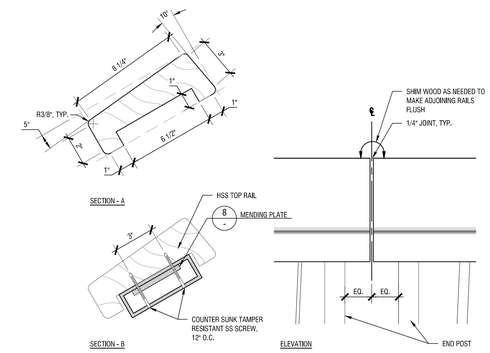
SHEET TITLE
SITE DETAILS - BASALT

SHEET NUMBER
L6.02

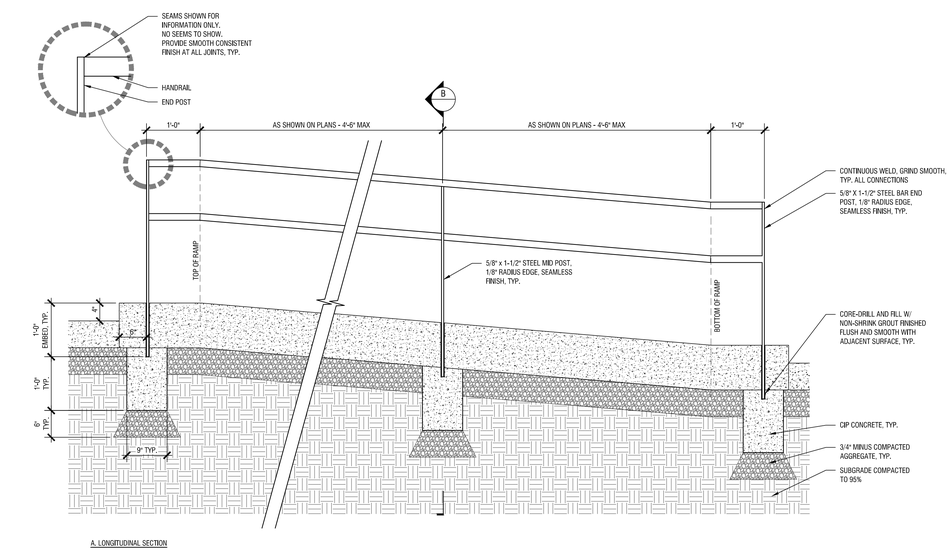


NOTES:
1. REFERENCE STRUCTURAL FOR ALL WELD AND FASTENER SIZES.
2. ALL STEEL POSTS, RAILINGS AND PICKETS ARE WEATHERING STEEL.
3. GRIND ALL WELDS SMOOTH. PROVIDE SEAMLESS FINISH WITH NO SURFACE IMPERFECTIONS.
4. SUBMIT SHOP DRAWINGS FOR ALL RAILINGS INDICATING ALL DIMENSIONS, MATERIALS, JOINTS, CONNECTIONS, FINISHES, ETC.
5. REFERENCE SHEETS L1.02 AND L1.03 FOR GUARDRAIL LAYOUT, PANEL TYPE, AND SIZING, INCLUDING LOCATION OF WOOD TOP RAIL. NOTE THAT GUARDRAILS WITH WOOD TOP RAIL HAVE INTEGRATED LIGHTING, REF. ELECTRICAL.
6. SPACING OF PICKETS SHALL NOT ALLOW THE PASSAGE OF A 4" SPHERE.

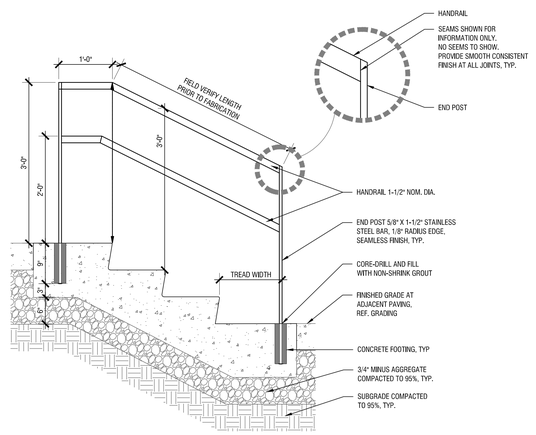
1 GUARDRAIL
SCALE: 1"= 1'-0"



2 GUARDRAIL WOOD TOP RAIL
SCALE: 3"= 1'-0"



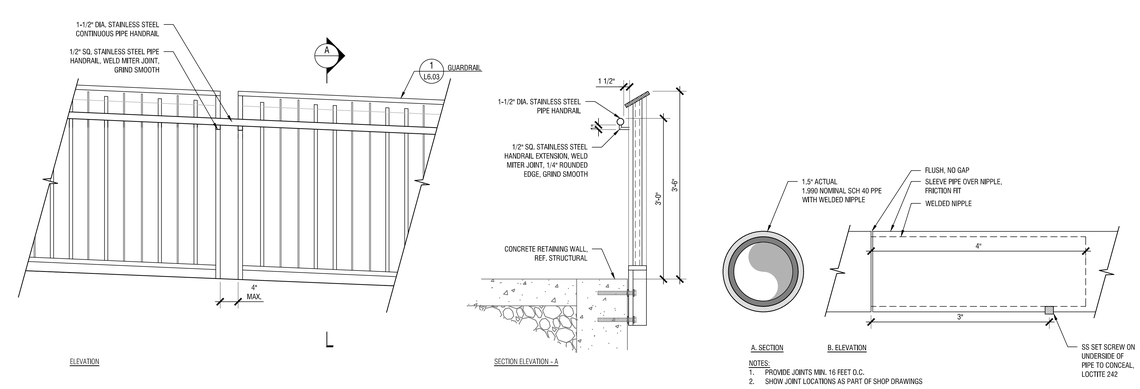
3 HANDRAIL AT RAMP - SECTION
SCALE: 1"= 1'-0"



NOTES:
1. SHOP WELD COMPLETE PENETRATIONS, GRIND ALL WELDS SMOOTH. PROVIDE SEAMLESS FINISH W/ NO SURFACE IMPERFECTIONS.
2. ALL MORTAR/SEALANTS SHALL BE CLEANED FROM STEEL TUBING AND ADJACENT SURFACES.
3. PROVIDE SHOP DRAWINGS SHOWING ALL DIMENSIONS, MATERIALS, JOINTS, CONNECTIONS, FINISHES, ETC. TO BE SUBMITTED FOR APPROVAL, REF. SPECS.
4. FOR MORTAR TYPE AND COLOR, REF. SPECS.
5. HANDRAILS TO MEET ALL FEDERAL, STATE, AND LOCAL CODES.

4 HANDRAIL AT STAIR - SECTION
SCALE: 1"= 1'-0"

L6.01 SITE DETAILS.DWG

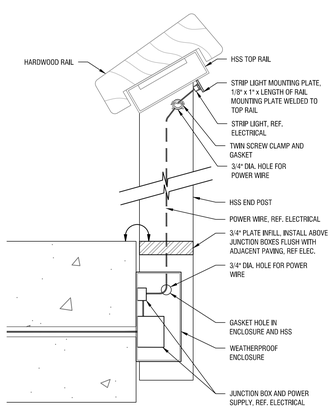


NOTES:
1. PROVIDE JOINTS MIN. 16 FEET O.C.
2. SHOW JOINT LOCATIONS AS PART OF SHOP DRAWINGS

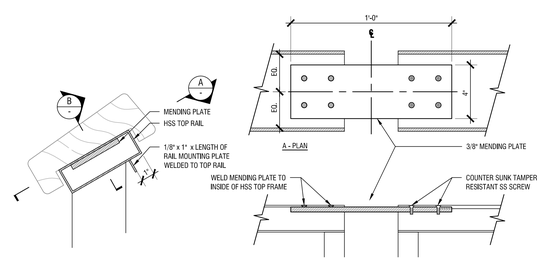
5 GUARDRAIL WITH HANDRAIL
SCALE: 1"= 1'-0"

6 TYPICAL HANDRAIL JOINT
SCALE: 1"= 0'-1"

RAILING - TYPICAL RAILING.DWG



7 GUARDRAIL STRIP LIGHT
SCALE: 3"= 1'-0"



8 GUARDRAIL MENDING PLATE
SCALE: 3"= 1'-0"

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503.223.5953

St. Helens Riverwalk

St. Helens, Oregon
Project Number: P-525A

Project Managers: Jennifer Dimsho; John Walsh

REGISTERED LANDSCAPE ARCHITECT
40
Jerame Shane
OREGON
5/8/98

PHASE
FINAL PLANS

DATE
02/02/24

REVISIONS

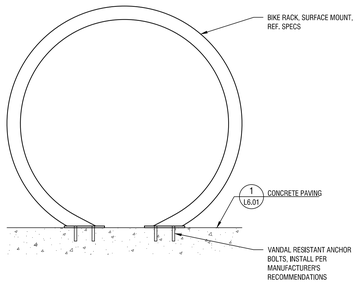
NO.	DESC.	DATE

DRAWN BY
J. CARLSON

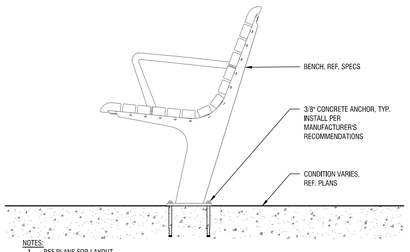
CHECKED BY
S. SIMMS

SHEET TITLE
SITE DETAILS - GUARDRAILS & HANDRAILS

SHEET NUMBER
L6.03

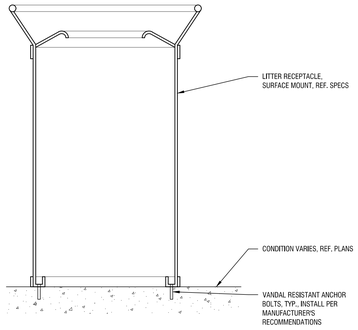


1 BIKE RACK - SECTION
SCALE: 1 1/2"= 1'-0"

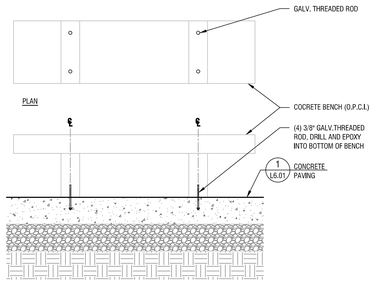


NOTES:
1. REF PLANS FOR LAYOUT.
2. IN AREAS WITH PAVERS, CONC. ANCHOR MUST EXTEND 3" INTO CONC. PAVING

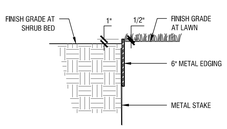
2 BENCH - SECTION
SCALE: N.T.S.
L6.01 SITE DETAILS.DWG



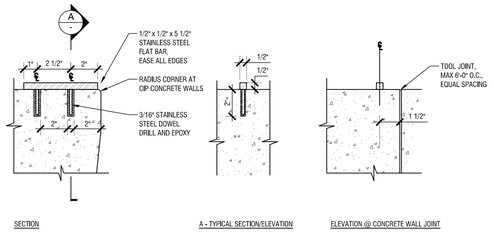
3 LITTER RECEPTACLE - SECTION
SCALE: 1 1/2"= 1'-0"



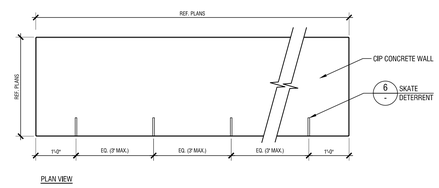
4 CONCRETE BENCH (O.P.C.I.)
SCALE: 1"= 1'-0"
BENCH-EXISTING.DWG



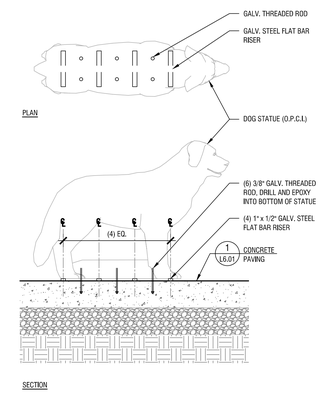
5 METAL EDGE RESTAINT - SECTION
SCALE: 1"= 1'-0"
METAL EDGER.DWG



6 SKATE DETERRENT - SECTION / ELEVATIONS
SCALE: 3"= 1'-0"



7 SKATE DETERRENT AT CIP CONCRETE WALL
SCALE: 3/4"= 1'-0"



10 DOG STATUE (O.P.C.I.)
SCALE: 1"= 1'-0"
DOG STATUE.DWG

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St. Helens Riverwalk

St. Helens, Oregon
Project Number: P-525A

Project Managers: Jennifer Dimsho; John Walsh

REGISTERED LANDSCAPE ARCHITECT
Terando Shane
OREGON
5/8/98

PHASE
FINAL PLANS

DATE
02/02/24

REVISIONS

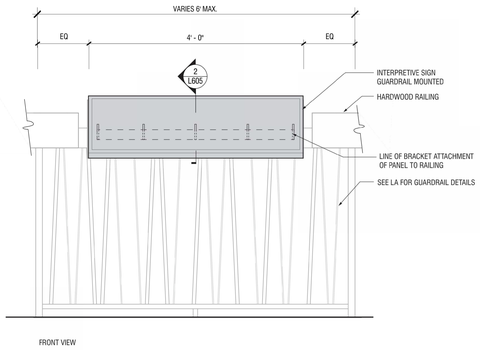
NO.	DESC.	DATE

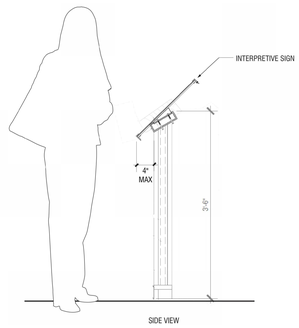
DRAWN BY
J. CARLSON

CHECKED BY
S. SIMMS

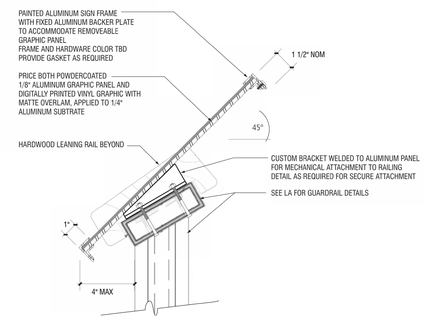
SHEET TITLE
SITE DETAILS - SITE FURNISHINGS

SHEET NUMBER
L6.04

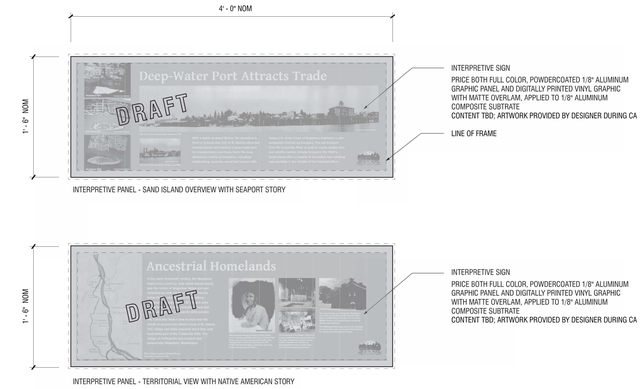




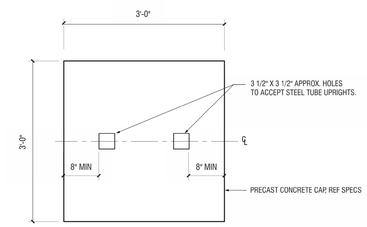
1 INTERPETIVE SIGN AT GUARDRAIL - ELEVATION
SCALE: 1"= 1'- 0"



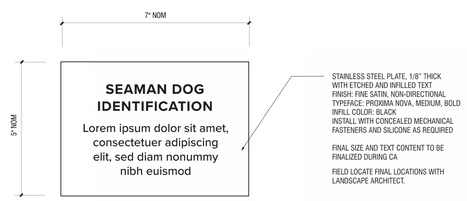
2 INTERPETIVE SIGN AT GUARDRAIL - SECTION
SCALE: 3"= 1'- 0"



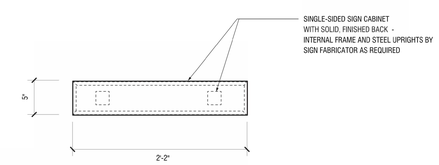
3 INTERPETIVE SIGNS AT GUARDRAIL - LAYOUTS
SCALE: 1 1/2" = 1'- 0"



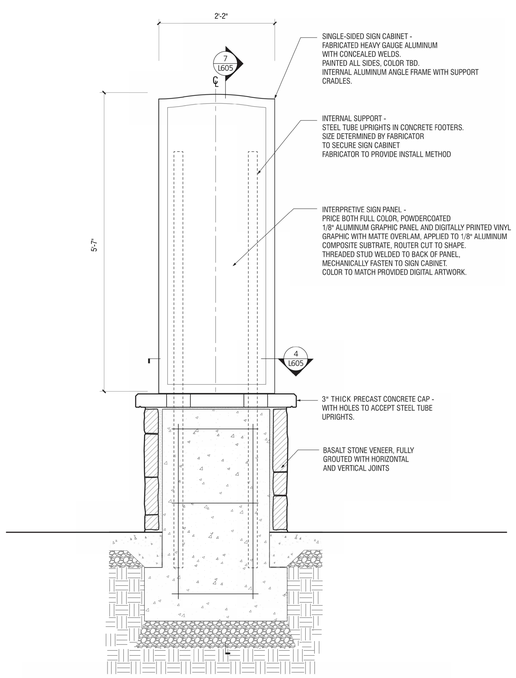
4 PRECAST CONCRETE CAP HOLE LOCATION DETAIL - PLAN VIEW
SCALE: 1"= 1'-0"



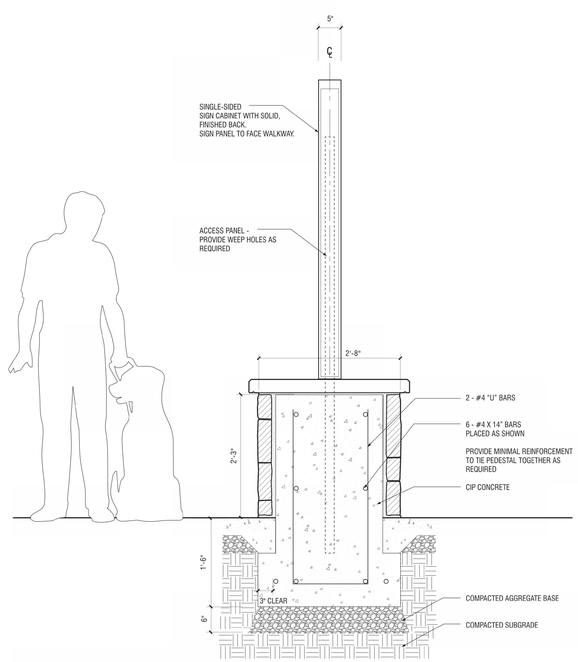
5 DOG PLAQUE - LAYOUT
SCALE: 1 1/2"= 1'- 0"



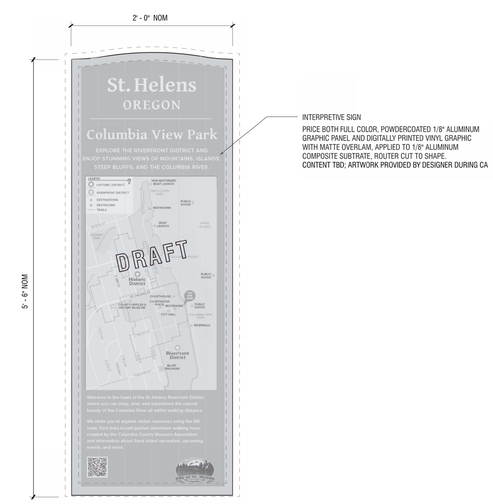
8 SIGN CABINET DETAIL - PLAN VIEW
SCALE: 1 1/2"= 1'-0"



6 INTERPRETIVE PYLON AT STONE VENEER BASE - FRONT, BACK ELEVATION
SCALE: 1"= 1'-0"



7 INTERPRETIVE PYLON AT STONE VENEER BASE - SIDE VIEW
SCALE: 1"= 1'-0"



9 INTERPETIVE PYLON AT STONE BASE - LAYOUT
SCALE: 1 1/2" = 1'- 0"

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St. Helens Riverwalk

St. Helens, Oregon
Project Number: P-525A

Project Managers: Jennifer Dimsho; John Walsh

REGISTERED LANDSCAPE ARCHITECT
Jessamyn Shane
OREGON
5/8/98

PHASE
FINAL PLANS

DATE
02/02/24

REVISIONS

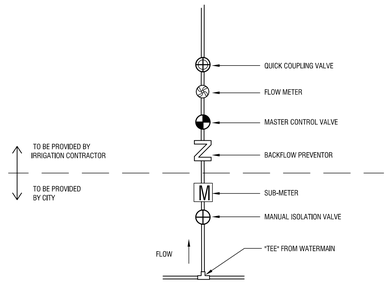
NO.	DESC.	DATE

DRAWN BY
J. CARLSON

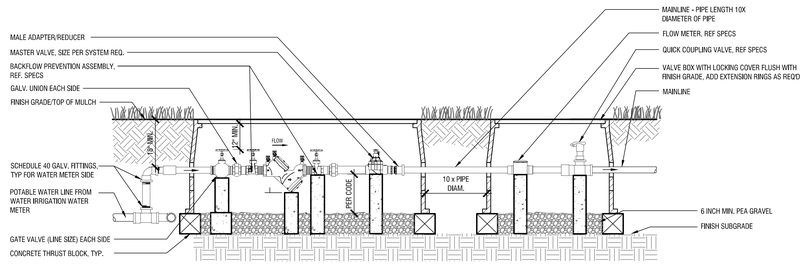
CHECKED BY
S. SIMMS

SHEET TITLE
SITE DETAILS - SIGNAGE

SHEET NUMBER
L6.05

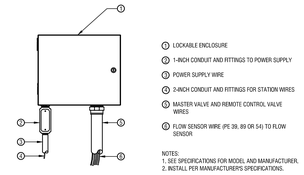


1 POINT OF CONNECTION - PLAN SCHEMATIC
SCALE: N.T.S.



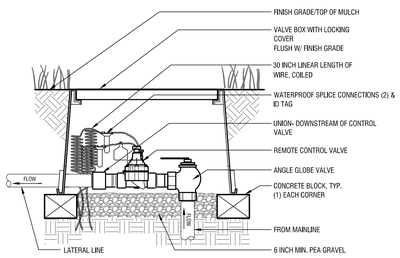
NOTE:
INSTALL BACKFLOW PREVENTION PER LOCAL CODE AND TO MEET REQUIREMENTS OF PREVAILING JURISDICTIONS.

2 POINT OF CONNECTON ASSEMBLY - ELEVATION
SCALE: N.T.S.
L7.01 IRRIGATION AND PLANTING DETAILS.DWG

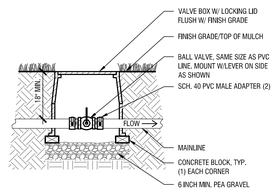


NOTES:
1. SEE SPECIFICATIONS FOR MODEL AND MANUFACTURER.
2. INSTALL PER MANUFACTURER'S SPECIFICATIONS.

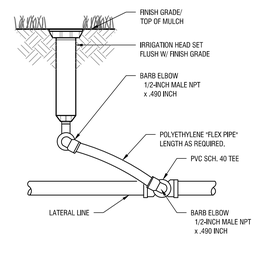
3 WALL MOUNTED CONTROLLER
SCALE: N.T.S



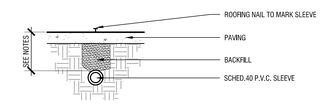
4 REMOTE CONTROL VALVE
SCALE: N.T.S.
L7.01 IRRIGATION AND PLANTING DETAILS.DWG



5 ISOLATION VALVE - SECTION
SCALE: N.T.S.
L7.01 IRRIGATION AND PLANTING DETAILS.DWG



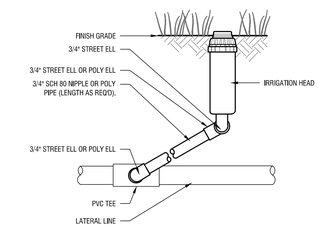
6 POP-UP SPRAY HEAD
SCALE: 1"= 1'-0"



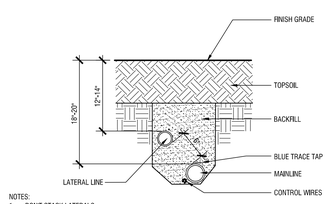
SECTION AT PAVING

NOTES:
1. EXTEND IRRIGATION SLEEVE 6 INCHES BEYOND EDGE OF PAVING.
2. DEPTH OF MAINLINE = 18 INCHES
3. DEPTH OF LATERAL LINE @ PAVING = 14 INCHES
4. DEPTH OF LINES UNDER PAVING SURFACE = 24 INCHES MIN.
5. SLEEVES ARE TO BE TWICE THE DIAMETER OF THE LINE OR LINES PASSING THROUGH THEM.

7 IRRIGATION SLEEVES
SCALE: N.T.S.
L7.01 IRRIGATION AND PLANTING DETAILS.DWG

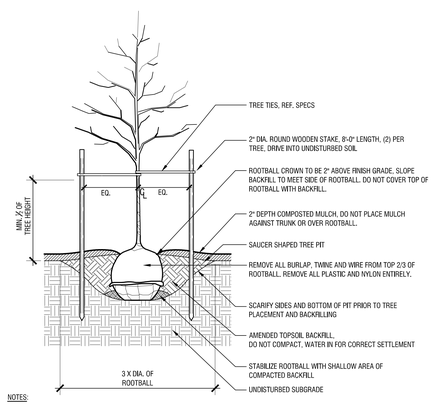


8 ROTOR - ELEVATION
SCALE: N.T.S.
L7.01 IRRIGATION AND PLANTING DETAILS.DWG



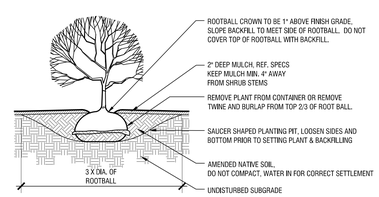
NOTES:
1. DON'T STACK LATERALS.
2. SNAKE ALL PIPING IN TRENCHING.
3. TIE LOOSE 3' LOOP IN ALL IRRIGATION
4. WIRING AT CHANGES IN DIRECTION GREATER THAN 30 DEG. UNTIE AFTER ALL CONNECTIONS HAVE BEEN MADE.
5. WHERE ELECTRICAL WIRING DOES NOT SHARE COMMON TRENCH, OVER-EXCAVATE TRENCH 2" MIN. AND BACKFILL WITH SPECIFIED BEDDING MATERIAL.

9 TRENCHING - SECTION
SCALE: 1"= 1'-0"
DETAIL.DWG



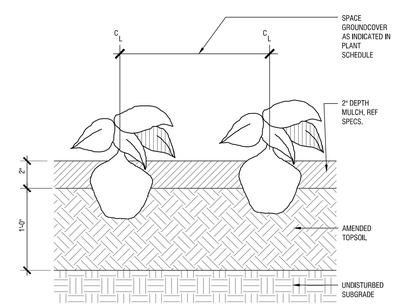
NOTES:
1. CHECK ROOTBALL FOR PRESENCE OF ROOT FLARE AT BASE OF TRUNK. REMOVE EXCESS SOIL OVER ROOT FLARE AND ADJUST DEPTH OF PLANTING HOLE TO ACCOMODATE REDUCED ROOTBALL DEPTH IF NEEDED. ROOT FLARE MUST BE VISIBLE ABOVE MULCH/SOIL/ROOTBALL.
2. MARK SOUTH SIDE OF TRUNK IN NURSERY. PLANT WITH SAME ORIENTATION IN THE FIELD.

10 DECIDUOUS TREE PLANTING - SECTION
SCALE: N.T.S.
Fdc-tree-dec.dwg

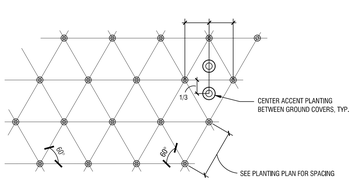


NOTE: CHECK ROOTBALL FOR PRESENCE OF ROOT FLARE AT BASE OF TRUNK. REMOVE EXCESS SOIL OVER ROOT FLARE AND ADJUST DEPTH OF PLANTING HOLE TO ACCOMODATE REDUCED ROOTBALL DEPTH IF NEEDED. ROOT FLARE MUST BE VISIBLE ABOVE MULCH/SOIL/ROOTBALL.

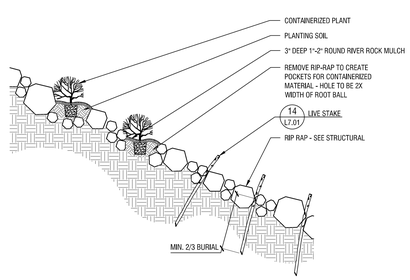
11 SHRUB PLANTING
SCALE: 1/2"= 1'-0"



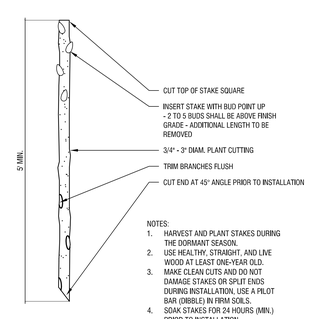
12 SECTION - GROUND COVER PLANTING
SCALE: 1 1/2"= 1'-0"



13 PLAN - TRIANGULAR GROUNDCOVER SPACING DETAIL
SCALE: 1"= 0'-1"
Fdc-groundplan.dwg



14 PLANTING AT RIP-RAP
SCALE: N.T.S.



NOTES:
1. HARVEST AND PLANT STAKES DURING THE DORMANT SEASON.
2. USE HEALTHY, STRAIGHT, AND LIVE WOOD AT LEAST ONE-YEAR OLD.
3. MAKE CLEAN CUTS AND DO NOT DAMAGE STAKES OR SPLIT ENDS DURING INSTALLATION. USE A PILOT BAR (DIBBLE) IN FIRM SOILS.
4. SOAK STAKES FOR 24 HOURS (MIN.) PRIOR TO INSTALLATION.
5. ENSURE MIN. 50-70% OF STAKE IS IN NATIVE SOIL.
6. TAMP THE SOIL AROUND THE STAKE.

15 LIVE STAKE
SCALE: N.T.S.
L7.01 IRRIGATION AND PLANTING DETAILS.DWG

Mayer/Reed

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319 SW Washington St.
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St. Helens Riverwalk

St. Helens, Oregon
Project Number: P-525A

Project Managers: Jennifer Dimsho; John Walsh

REGISTERED LANDSCAPE ARCHITECT
Jerome Shane
OREGON
5/8/98

PHASE
FINAL PLANS

DATE
02/02/24

REVISIONS
NO. DESC. DATE

DRAWN BY
J. CARLSON

CHECKED BY
S. SIMMS

SHEET TITLE
IRRIGATION & PLANTING DETAILS

SHEET NUMBER
L7.01

GENERAL REQUIREMENTS

GOVERNING CODE
THE DESIGN AND CONSTRUCTION OF THIS PROJECT IS GOVERNED BY THE THE 2021 INTERNATIONAL BUILDING CODE AS AMENDED BY THE STATE OF OREGON, 2022 OREGON STRUCTURAL SPECIALTY CODE (2022 OSSC).

THE STRUCTURAL DRAWINGS ARE INTENDED TO SHOW THE GENERAL CHARACTER AND EXTENT OF THE PROJECT ARE NOT INTENDED TO SHOW ALL DETAILS OF THE WORK USE DETAILS MARKED ''TYPICAL'' WHEREVER THEY APPLY.

THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING DETAILS AND ACCURACY OF THE WORK; FOR CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS; FOR SELECTING FABRICATION PROCESSES; FOR TECHNIQUES OF ASSEMBLY; AND FOR PERFORMING WORK IN A SAFE AND SECURE MANNER.

THE CONTRACTOR IS RESPONSIBLE FOR THE MEANS AND METHODS OF CONSTRUCTION AND ALL JOB RELATED SAFETY STANDARDS SUCH AS OSHA.

THE CONTRACTOR IS RESPONSIBLE FOR THE STRENGTH AND STABILITY OF THE STRUCTURE DURING CONSTRUCTION AND SHALL PROVIDE TEMPORARY SHORING, BRACING, AND OTHER ELEMENTS REQUIRED TO MAINTAIN STABILITY UNTIL THE STRUCTURE IS COMPLETE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO BE FAMILIAR WITH WORK REQUIRED IN THE CONSTRUCTION DOCUMENTS AND REQUIREMENTS FOR EXECUTING IT PROPERLY. THE STRUCTURE SHOWN ON THE PLANS HAS BEEN DESIGNED FOR STABILITY UNDER THE FINAL CONFIGURATION ONLY.

THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS AT THE SITE. CONFLICTS BETWEEN THE DRAWINGS AND THE ACTUAL SITE CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT.

DESIGN LOADS

FOUNDATION	ALLOWABLE BEARING 2,000PSF
WIND	130MPH, Vult, RISK CAT. II
	EXPOSURE D
SEISMIC	Ss=0.829g Sds=0.664g
	SITE CLASS D
	DESIGN CATEGORY D
	RISK CATEGORY II
	EQUIVALENT LATERAL FORCE PROCEDURE USED
	LATERAL SYSTEM: RETAINING WALLS
SNOW LOAD	25 PSF (MIN.)
DEAD LOAD	SELF-WEIGHT
LIVE LOAD	100 PSF (TERRACE/PEDESTRIAN)

SPECIAL INSPECTIONS
SPECIAL INSPECTIONS SHALL BE PERFORMED IN ACCORDANCE WITH IBC CHAPTER 17 AND THE STANDARDS REFERENCED THEREIN. FOUNDATIONS, FOOTINGS, UNDER SLAB SYSTEMS AND FRAMING ARE SUBJECT TO INSPECTION BY THE BUILDING OFFICIAL IN ACCORDANCE WITH IBC 110.3. CONTRACTOR SHALL COORDINATE ALL REQUIRED INSPECTIONS WITH THE ARCHITECT.

SPECIAL INSPECTORS SHALL BE EMPLOYED BY THE OWNER TO PROVIDE SPECIAL INSPECTIONS FOR THE PROJECT.

SPECIAL INSPECTIONS SHALL CONFORM TO PROJECT STATEMENT OF STRUCTURAL TESTS & INSPECTIONS FORM.

SUBMITTALS
SHOP DRAWINGS SHALL BE SUBMITTED TO THE ARCHITECT PRIOR TO FABRICATION AND CONSTRUCTION REGARDING ALL STRUCTURAL ITEMS, INCLUDING THE FOLLOWING:

CONCRETE MIX DESIGNS, CONCRETE REINFORCEMENT, EMBEDDED STEEL ITEMS, AND STRUCTURAL STEEL ASSEMBLIES.

IF THE SHOP DRAWINGS DIFFER FROM, OR ADD TO THE DESIGN OF THE STRUCTURAL DRAWINGS, THEY SHALL BEAR THE SEAL AND SIGNATURE OF A STRUCTURAL ENGINEER REGISTERED IN THE STATE OF OREGON. ANY CHANGES TO THE STRUCTURAL DRAWINGS SHALL BE SUBMITTED TO, AND ARE SUBJECT TO REVIEW AND ACCEPTANCE OF, THE ARCHITECT & ENGINEER OF RECORD.

DESIGN DRAWINGS, SHOP DRAWINGS, AND CALCULATIONS FOR THE DESIGN AND FABRICATION OF ITEMS THAT ARE DESIGNED BY OTHERS, INCLUDING THE HELICAL ANCHORS, SHALL BEAR THE SEAL AND SIGNATURE OF A STRUCTURAL ENGINEER REGISTERED IN THE STATE OF OREGON, AND SHALL BE SUBMITTED TO THE BUILDING OFFICIAL PRIOR TO FABRICATION. CALCULATIONS SHALL BE INCLUDED FOR ALL CONNECTIONS TO THE STRUCTURE, CONSIDERING LOCALIZED EFFECTS ON STRUCTURAL ELEMENTS INDUCED BY THE CONNECTION LOADS. DESIGN SHALL BE BASED ON THE REQUIREMENTS OF THE CODES LISTED ABOVE AND THE LOADS OUTLINED ABOVE.

THE CONTRACTOR SHALL COORDINATE SEISMIC RESTRAINTS OF MECHANICAL, PLUMBING, AND ELECTRICAL EQUIPMENT, MACHINERY, AND ASSOCIATED PIPING WITH THE STRUCTURE. ANY CONNECTIONS TO STRUCTURE NOT CONFORMING TO SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION (SMACNA), OR SPECIFICALLY DETAILED ON THE MECHANICAL ENGINEER'S DRAWINGS, SHALL BE DESIGNED BY AN ENGINEER REGISTERED IN THE STATE OF OREGON, AND SHALL BE SUBMITTED TO THE ARCHITECT PRIOR TO FABRICATION.

FIELD ENGINEERED DETAILS DEVELOPED BY THE CONTRACTOR THAT DIFFER FROM, OR ADD TO, THE STRUCTURAL DRAWINGS SHALL BEAR THE SEAL AND SIGNATURE OF A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF OREGON AND SHALL BE SUBMITTED TO THE BUILDING OFFICIAL PRIOR TO CONSTRUCTION.

CAST-IN-PLACE CONCRETE
CONCRETE WORK SHALL CONFORM TO ACI 301 ''SPECIFICATIONS FOR STRUCTURAL CONCRETE''.

CONTRACTOR TO SUBMIT ALL MIX DESIGNS REQUIRED BY ACI 301 SECTIONS 4.2.1.
CONTRACTOR TO VERIFY CONCRETE STRENGTHS BY STANDARD 28-DAY CYLINDER TESTS PER ASTM C39. CONTRACTOR TO USE THE FOLLOWING MIX DESIGN REQUIREMENTS

FOOTINGS, FLOOR SLABS, AND WALLS
F'C = 4000 PSI, 28 DAY STRENGTH
1 INCH MAXIMUM AGGREGATE
0.48 MAXIMUM WATER/CEMENT RATIO

HIGHER WATER/CEMENT RATIOS THAN SHOWN ABOVE MAY BE USED IF SUBSTANTIATED IN ACCORDANCE WITH ACI 318-14, CHAPTER 19.

FLY ASH CONFORMING TO ASTM C845 MAY BE USED TO REPLACE UP TO 20% OF THE CEMENT CONTENT, PROVIDED THAT THE MIX STRENGTH IS SUBSTANTIATED BY TEST DATA.

THE CONTRACTOR SHALL SUBMIT CONCRETE MIX DESIGNS AS OUTLINED ABOVE, ALONG WITH TEST DATA AS REQUIRED, A MINIMUM OF TWO WEEKS PRIOR TO PLACING CONCRETE.

SLEEVES, OPENINGS, CONDUIT, AND OTHER EMBEDDED ITEMS NOT SHOWN ON THE STRUCTURAL DRAWINGS SHALL BE APPROVED BY THE ARCHITECT BEFORE POURING. CONDUITS EMBEDDED IN SLABS SHALL NOT BE LARGER IN OUTSIDE DIMENSION THAN ONE THIRD OF THE THICKNESS OF THE SLAB AND SHALL NOT BE SPACED CLOSER THAN THREE DIAMETERS ON CENTER. PROVIDE 3/4" CHAMFERS ON ALL EXPOSED CONCRETE EDGES UNLESS NOTED OTHERWISE.

CONCRETE REINFORCING
CONCRETE REINFORCING SHALL CONFORM TO ACI 301 ''STANDARD SPECIFICATIONS FOR STRUCTURAL CONCRETE''.

CONTRACTOR SHALL SUBMIT PLACING DRAWINGS SHOW FABRICATION DIMENSIONS AND LOCATIONS FOR PLACEMENT OF REINFORCEMENT AND REINFORCEMENT SUPPORTS.

MATERIALS
REINFORCING BARS SHALL CONFORM TO ASTM A615, GRADE 60, DEFORMED BARS AND ASTM A185 FOR SMOOTH WELDED WIRE FABRIC (WWF), UNLESS OTHERWISE NOTED. REINFORCING STEEL TO BE WELDED SHALL CONFORM TO ASTM A706. COLUMN SPIRALS SHALL BE PLAIN OR DEFORMED BARS CONFORMING TO ASTM A615, GRADE 60. REINFORCING STEEL SHALL BE SECURELY TIED IN PLACE WITH #16 ANNEALED IRON WIRE.

BARS IN SLABS SHALL BE SUPPORTED ON WELL-CURED CONCRETE BLOCKS OR APPROVED METAL CHAIRS, AS SPECIFIED BY THE CRSI MANUAL OF STANDARD PRACTICE, MSP-1. REINFORCING STEEL SHALL BE DETAILED IN ACCORDANCE WITH THE "ACI MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES," ACI 315.
WELDING OF REINFORCING STEEL IS NOT PERMITTED.
UNLESS OTHERWISE NOTED ON PLANS, CONCRETE COVER SHALL BE:

USE	COVER
SLAB BARS	1" TOP COVER
WALL BARS:	
INTERIOR FACES	3/4"
EXPOSED TO EARTH OR WEATHER	1-1/2" (#5 AND SMALLER) 2" (#6 AND LARGER)
FOOTING BARS	3" BOTTOM COVER
ALL OTHER LOCATIONS	1-1/2"

SPLICES
SPLICES SHALL CONFORM TO ACI 301, SECTION 3.3.2.7 ''SPLICES''. LAP SPLICES SHALL CONFORM TO THE TABLE BELOW:

REINFORCING SPLICE LENGTHS (CLASS B) GRADE 60					f'c = 4.0 ksi	
BAR SIZE	#3	#4	#5	#6	#7	#8
UNCOATED	2'-0"	2'-6"	3'-6"	4'-0"	5'-0"	5'-6"

CONCRETE ACCESSORIES:
PERMANENTLY EXPOSED EMBEDDED PLATES AND ANGLES SHALL BE HOT-DIPPED, GALVANIZED AFTER FABRICATION, UNLESS OTHERWISE NOTED. NO LOADS OR WELDS SHALL BE PLACED ON EMBEDDED PLATES OR ANGLES FOR A MINIMUM OF 7 DAYS AFTER PAINTING.

EPOXY ADHESIVE: EPOXY ADHESIVE SHALL CONFORM TO ASTM C881 AND SHALL BE A TWO-COMPONENT, LIQUID EPOXY WITH NON-SAG CONSISTENCY AND A LONG POT LIFE, AND SHALL BE SUITABLE FOR USE ON DRY OR DAMP SURFACES. MINIMUM SLANT SHEAR STRENGTH SHALL BE 5,000 PSI, AND MINIMUM TENSILE STRENGTH SHALL BE 4,000 PSI. HOLES FOR GROUTED RODS AND REBAR SHALL BE 1/4" LARGER THAN THE BAR DIAMETER. INSTALLATION SHALL BE IN STRICT ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. EPOXY TO BE RATED FOR CRACKED CONCRETE.

STRUCTURAL STEEL
STRUCTURAL STEEL IS DESIGNED IN ACCORDANCE WITH THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) SPECIFICATIONS. CONSTRUCTIONS SHALL CONFORM TO CHAPTER 22 OF THE IBC. ALL STRUCTURAL STEEL EXPOSED TO WEATHER OR IN CONTACT WITH MOISTURE OR PARTIALLY BURIED SHOULD BE HOT DIP GALVANIZED.

MATERIALS
STRUCTURAL STEEL SHALL BE THE TYPES AND STRENGTHS LISTED BELOW:

STRUCTURAL BARS AND PLATES (PL)	ASTM A36	FY=36KSI
HSS	ASTM A500 GRADE C	FY=50KSI
WELDING ELECTRODES	E70XX UNLESS OTHERWISE NOTED	
PIPE:	ASTM A53	
BOLTS:	ASTM A307	
RODS:	ASTM F1554 GR 36 U.N.O.	
NUTS:	ASTM A563 B, HEX	
WASHERS:	ASTM F436	

STRUCTURAL STEEL CONTINUED
WELDING SHALL CONFORM TO AWS D1.1 AND VISUALLY CONFORM TO AWS SECTION 6 AND TABLE 6.1. WELDERS SHALL BE QUALIFIED FOR THE SPECIFIC PREQUALIFIED JOINTS REQUIRED BY THE DESIGN AND CERTIFIED IN ACCORDANCE WITH AWS REQUIREMENTS. WELDING SHALL BE DONE IN ACCORDANCE WITH APPROPRIATE WELD PROCEDURE SPECIFICATIONS (WPSS); WELDERS SHALL BE FAMILIAR WITH THE APPLICABLE WSPSS. WELDING SHALL BE DONE WITH AWS PREQUALIFIED WELDING PROCESSES UNLESS OTHERWISE APPROVED. WELDER QUALIFICATIONS AND WPSS SHALL BE MAINTAINED AT THE SITE OF THE WORK AND SHALL BE READILY AVAILABLE FOR INSPECTION UPON REQUEST, BOTH IN THE SHOP AND IN THE FIELD.

ABBREVIATIONS

O.C.	- ON CENTER SPACING	FDN.	-FOUNDATION
EL.	- ELEVATION	FTG.	-FOOTING
U.N.O.	- UNLESS NOTED OTHERWISE	E.C.	-EACH SIDE
T.O.C.S.	- TOP OF CONCRETE SUBFLOOR	CONT.	-CONTINUOUS
T.O.F.	- TOP OF FOOTING	A.B.	-ANCHOR BOLT
T.O.S.	- TOP OF SLAB	T.O.B.	-TOP OF BEAM
REF.	- REFER		

STRUCTURAL TESTS & SPECIAL INSPECTIONS

NOTE: ALL PERIODIC TESTS & INSPECTIONS ARE PERFORMED EITHER 33% OF EACH MATERIAL TYPE/GRADE OR 33% OF EACH ACTIVITY/ ACTIVITY TIME OR 33% OF AREA/LENGTH THAT SUITS THE TESTINSPECTION.

TABLE 1705.2 - STEEL				
VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC	REFERENCE STANDARD	IBC REFERENCE
1. MATERIAL VERIFICATION OF STRUCTURAL STEEL:				
A. FOR STRUCTURAL STEEL, IDENTIFICATION MARKINGS TO CONFORM TO AISC 360.	-	X	AISC 360, SECTION N2.1	
B. FOR OTHER STEEL, IDENTIFICATION MARKINGS TO CONFORM TO ASTM STANDARDS SPECIFIED IN THE APPROVED CONSTRUCTION DOCUMENTS.	-	X	APPLICABLE ASTM MATERIAL STANDARDS	
C. MANUFACTURER'S CERTIFIED TEST REPORTS.	-	X		
2. MATERIAL VERIFICATION OF WELD FILLER MATERIALS:				
A. IDENTIFICATION MARKINGS TO CONFORM TO AWS SPECIFICATION IN THE APPROVED CONSTRUCTION DOCUMENTS.	-	X	AISC 360, SECTION A3.5 AND APPLICABLE AWS A5 DOCUMENTS	
B. MANUFACTURER'S CERTIFICATE OF COMPLIANCE REQUIRED.	-	X		
3. INSPECTION OF WELDING:				
A. STRUCTURAL STEEL:				
1) COMPLETE AND PARTIAL JOINT PENETRATION GROOVE WELDS.	X	-	AWS D1.1	
2) MULTI-PASS WELDS	X	-		
3) SINGLE-PASS FILLET WELDS > 5/ 16"	X	-		
4) SINGLE-PASS FILLET WELDS < 5/ 16"	-	X		
B.REINFORCING STEEL:				
1) REINFORCING STEEL (A706)	-	X	AWS D1.4	

TABLE 1705.3 - CONCRETE				
VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC	REFERENCE STANDARD	IBC REFERENCE
1. INSPECTION OF REINFORCING STEEL AND PLACEMENT.	-	X	ACI 318: CH. 20, 25.2, 25.3, 26.6.1-26.6.3	1908.4
2. INSPECTION OF ANCHORS CAST IN CONCRETE	X	-	ACI 318: 17.8.2	-
3. VERIFYING USE OF REQUIRED DESIGN MIX.	X	-	ACI 318: CH. 19, 26.4.3, 26.4.4	1904.1, 1904.2, 1908.2, 1908.3
4. AT THE TIME FRESH CONCRETE IS SAMPLED TO FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE.	X	-	ASTM C 172 ASTM C 31 ACI 318: 26.5, 26.12	1908.10
5. INSPECTION OF CONCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES.	X	-	ACI 318: 26.5	1908.6, 1908.7, 1908.8
6. INSPECTION FOR MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES.	-	X	ACI 318: 26.5.3-26.5.5	1908.9
7. INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED.	-	X	ACI 318: 26.11.1.2(b)	-
8. INSPECT ANCHORS POST-INSTALLED IN HARDENED CONCRETE MEMBERS				
A. ADHESIVE ANCHORS INSTALLED IN HORIZONTALLY OR UPWARDLY INCLINED ORIENTATIONS TO RESIST SUSTAINED TENSION LOADS	X	-	ACI 318: 17.8.2.4	-
B. MECHANICAL AND ADHESIVE ANCHORS NOT DEFINED IN 8A	-	X	ACI 318: 17.8.2	-

TABLE 1705.6 - SOILS		
VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC
1. VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY.	-	X
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	-
5. PRIOR TO PLACEMENT OF COMPACTED FILL, OBSERVE SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY.	-	X

The City of St. Helens
FOUNDED 1850

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Otak

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St. Helens Riverwalk

St. Helens, Oregon
Project Number: P-525A

Project Manager: Jennifer Dimsho; John Walsh

STRUCTURAL REGISTERED PROFESSIONAL ENGINEER
79,372PE
Sean Clark 2024.01.25 12:14:46-08'00'
OREGON
JAN. 13, 2011
SEAN M. CLARK
RENEWS: 12-31-2025

PHASE
FINAL PLANS

DATE
2/2/2024

REVISIONS

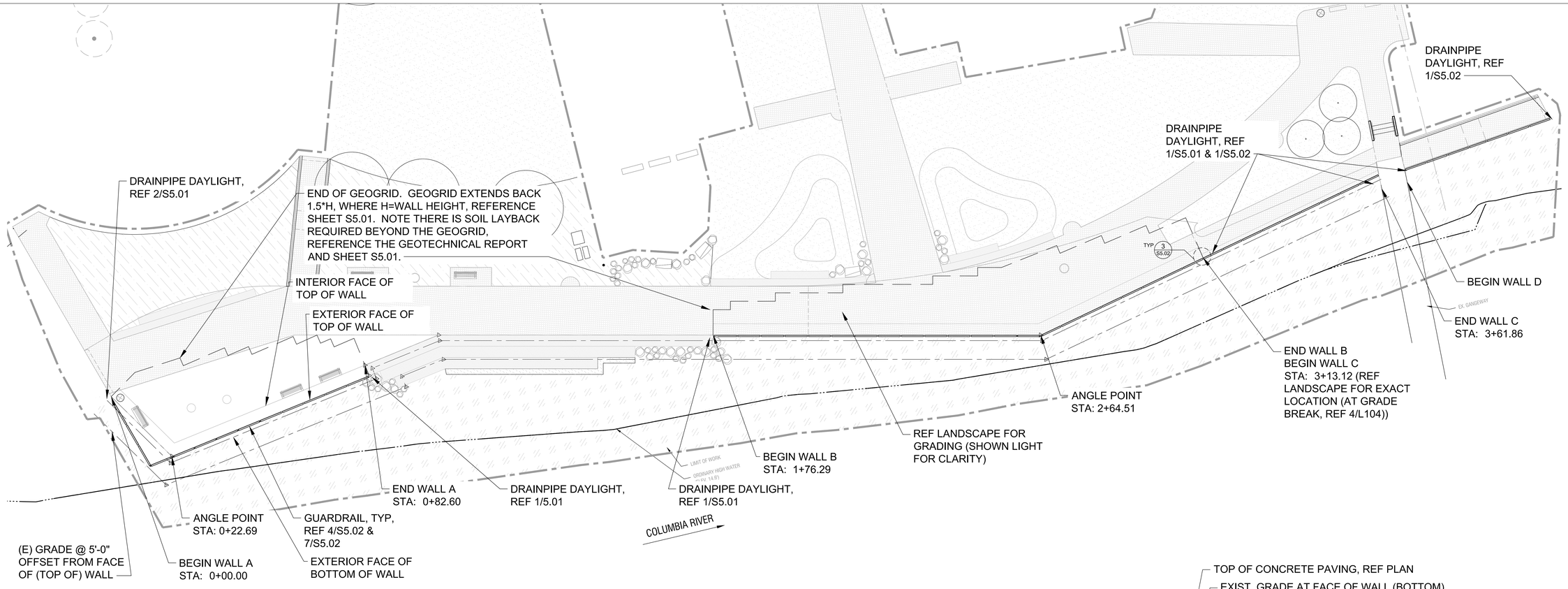
NO.	DESC.	DATE

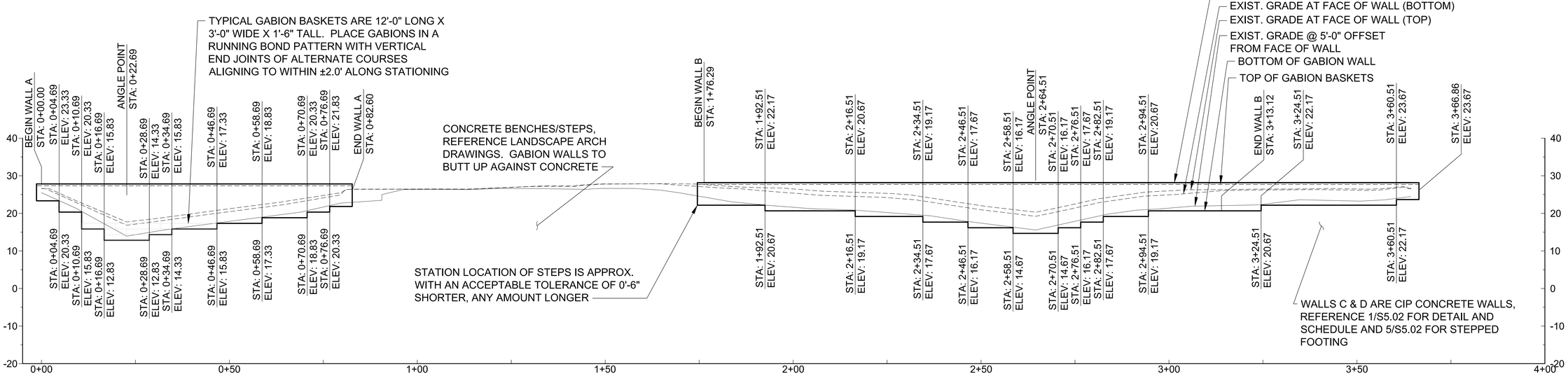
DRAWN BY
MJB

CHECKED BY
SC

SHEET TITLE
GENERAL STRUCTURAL NOTES

SHEET NUMBER
S0.01





GENERAL CONSTRUCTION PROCEDURES:

SURVEY WALL BASE AND ALIGNMENT LOCATIONS AS NECESSARY THROUGHOUT CONSTRUCTION. EXCAVATE TO BASE OF WALL. NOTIFY PROJECT GEOTECHNICAL ENGINEER TO CONFIRM SOIL SUITABILITY AND METHODS OF BASE SOIL PREPARATION. PREPARE BASE SOILS AS DIRECTED AND SPECIFIED. INSTALL DRAINAGE PIPES AND HEEL UNDERDRAIN.

INSTALL GABION COURSE TO LINE AND GRADE, FILL WITH ROCK AND CLOSE. PLACE CONSTRUCTION GEOTEXTILE AGAINST GABIONS AND LEVEL WITH THE TOP OF THE GABION COURSES, REFERENCE SHEET S5.01. PLACE GEOGRID IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND DETAILS AND THE APPLICABLE PROVISIONS OF SPECIFICATION SECTIONS 313600 & 323234. GEOGRID SHALL BE PLACED TO OVERLAP THE WIDTH OF THE TOP OF THE GABION FACING TO WITHIN 3" TO 6" OF THE FRONT (EXPOSED FACE). PLACE AND FILL THE NEXT COURSE OF GABIONS. REPEAT WITH INSTALLATION OF GABIONS AND/OR GEOGRID.

GEOGRID INSTALLATION SPECIFICS:

DO NOT OVERLAP LAYERS OF GEOGRID. ADJACENT SECTIONS OF GEOGRID MUST BE PLACED TO ASSURE THE HORIZONTAL COVERAGE SHOWN ON THE PLANS. GEOGRID MUST BE LAID IN ONE CONTINUOUS SECTION TO ACHIEVE THE SPECIFIED EMBEDMENT LENGTH, GEOGRID CANNOT BE SPLICED TO ACHIEVE EMBEDMENT LENGTH. PULL GEOGRID TAUT TO REMOVE SLACK AND WRINKLES PRIOR TO PLACEMENT OF BACKFILL. STAKING MAY BE REQUIRED TO KEEP THE GEOGRID TAUT DURING PLACEMENT OF BACKFILL. AFTER BACKFILLING THE STAKES MAY BE REMOVED.

DURING INSTALLATION PERIODICALLY MONITOR AND VERIFY: CONFORMANCE WITH CONSTRUCTION PLANS; HORIZONTAL ALIGNMENTS OF WALL AND GABIONS; BATTER AND SETBACK OF GABIONS; ELEVATIONS OF FOOTING AND TOP OF WALL; ELEVATIONS OF LAYERS; MATERIAL CONFORMANCE OF GABION FILL ROCK, DRAINAGE STONE AND REINFORCED BACKFILL.

1 GABION WALL PLAN AND PROFILE
SCALE: 1:10

The City of St. Helens
FOUNDED 1850

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St. Helens Riverwalk

St. Helens, Oregon
Project Number: P-525A

Project Manager: Jennifer Dimsho; John Walsh

STRUCTURAL REGISTERED PROFESSIONAL ENGINEER
79,377PE
Sean Clark 2024.01.25 10:16:50-08'00'
OREGON
SEAN M. CLARK
RENEWS: 12-31-2025

PHASE
FINAL PLANS

DATE
2/2/2024

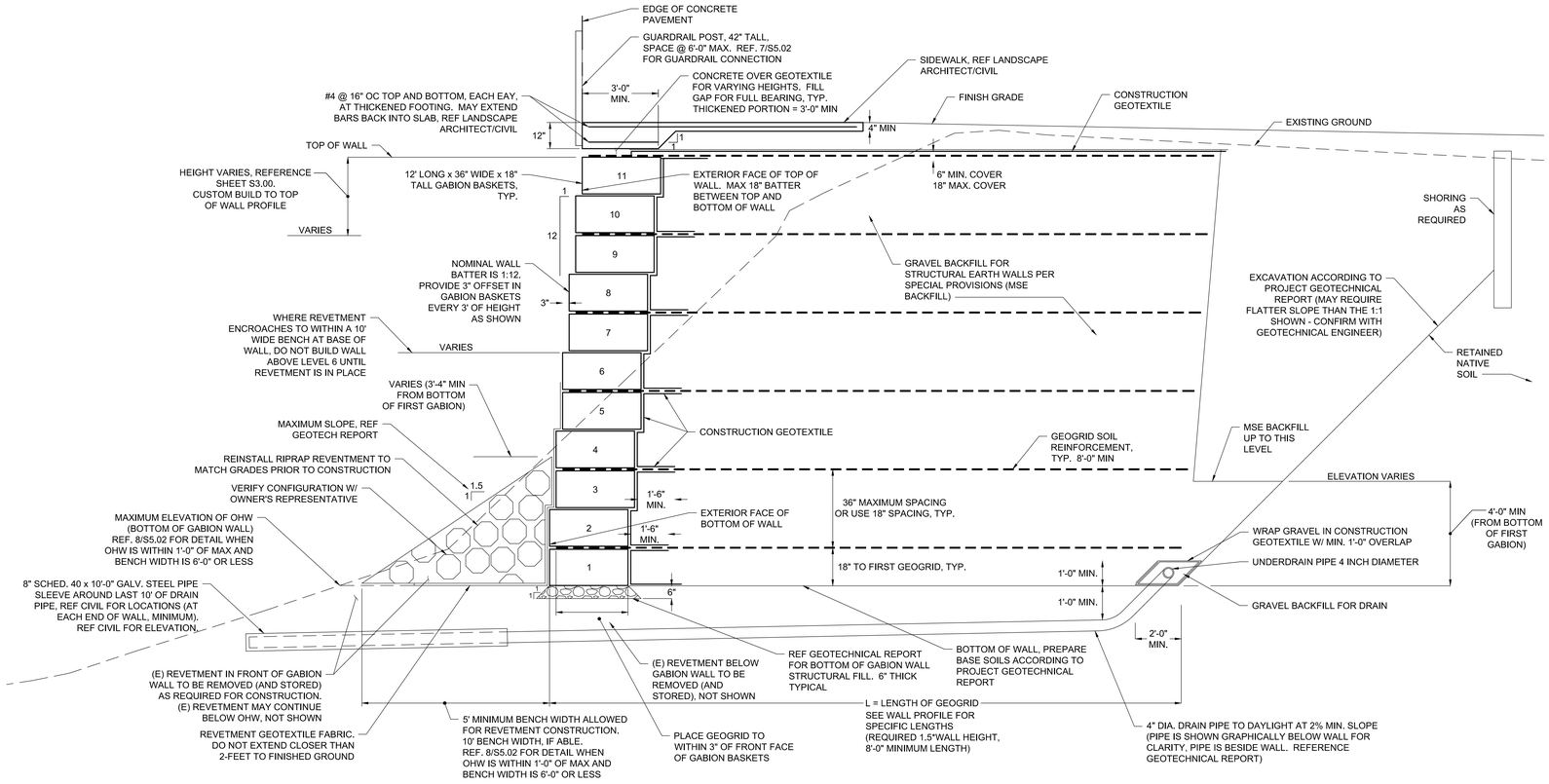
REVISIONS
NO. DESC. DATE

DRAWN BY
MJB

CHECKED BY
SC

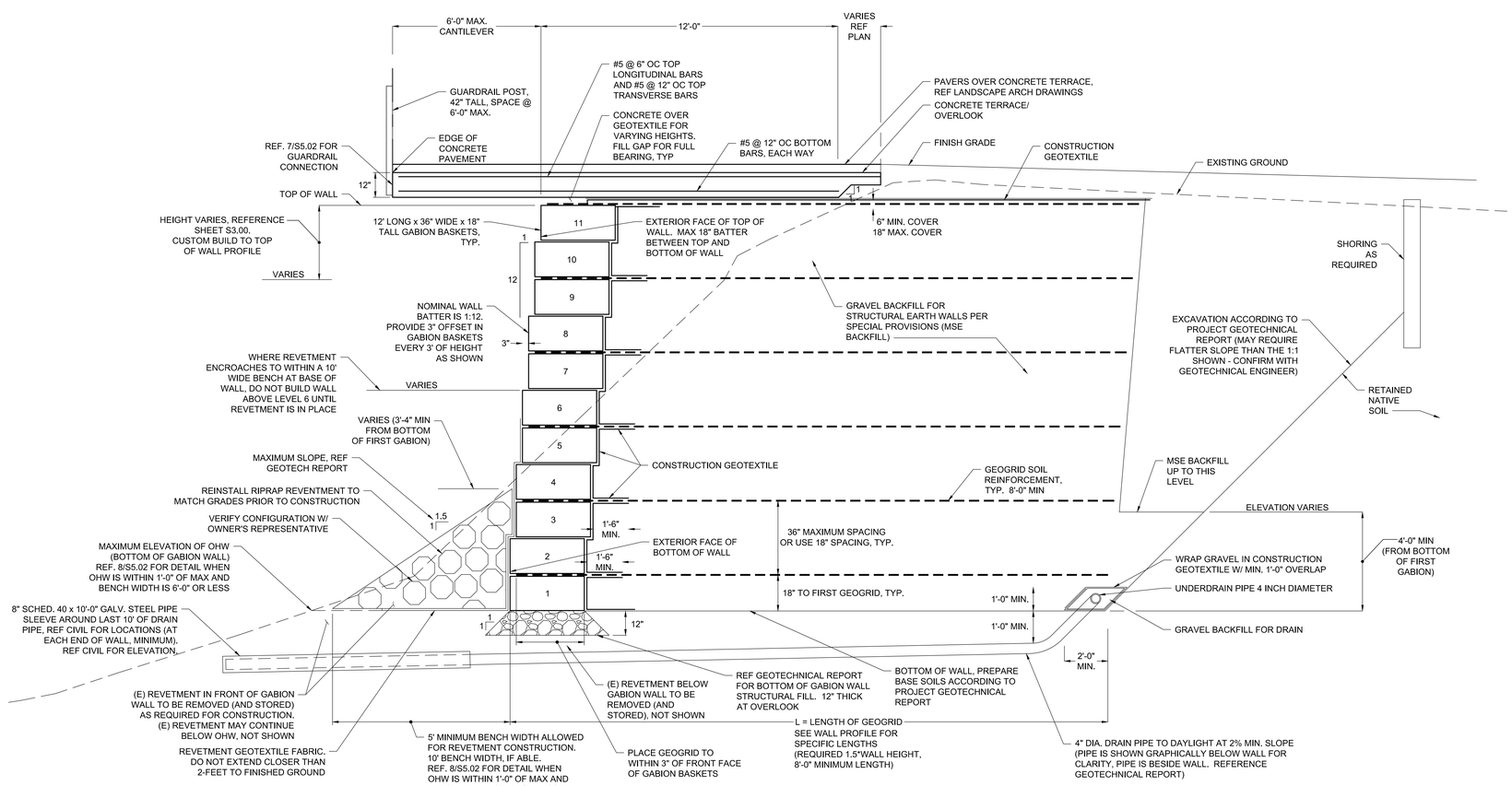
SHEET TITLE
GABION WALL & CONC. RET. WALL

SHEET NUMBER
S3.00



1 TYPICAL GABION RETAINING WALL SECTION

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



2 GABION RETAINING WALL SECTION AT OVERLOOK

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

Mayer/Reed

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St. Helens Riverwalk

St. Helens, Oregon
Project Number: P-525A

Project Manager: Jennifer Dimsho; John Walsh

STRUCTURAL REGISTERED PROFESSIONAL ENGINEER
79,377PE
Sean Clark 2024-01-26 10:16:12-08'00'
OREGON
FEB 13, 2011
SEAN M. CLARK
RENEWS: 12-31-2025

PHASE
FINAL PLANS

DATE
2/2/2024

REVISIONS

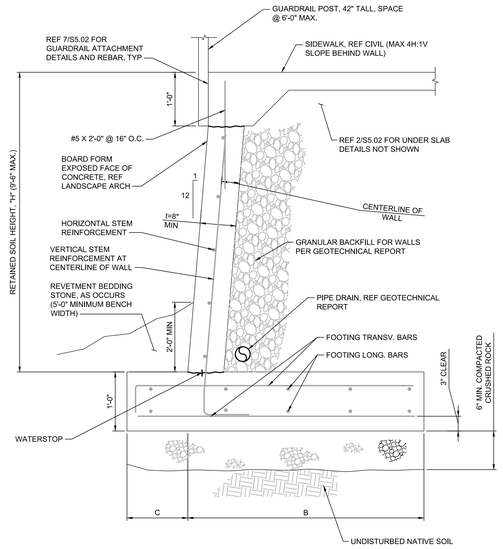
NO.	DESC.	DATE

DRAWN BY
MJB

CHECKED BY
SC

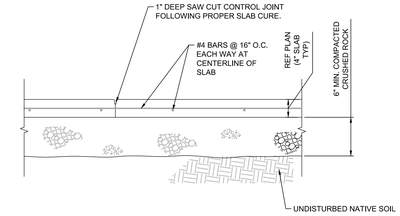
SHEET TITLE
FOUNDATION DETAILS

SHEET NUMBER
S5.01



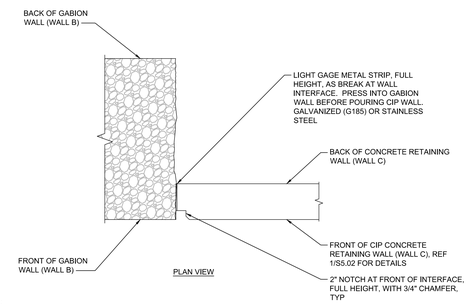
WALL SCHEDULE						
H_{MAX}	B	C	FTG. REINF. TRANSV.	FTG. REINF. LONG.	STEM REINF. VERT.	STEM REINF. HORZ.
4'–0"	2'–8"	1'–0"	#5 @ 16" O.C.	#4 @ 18" O.C.	#5 @ 16" O.C.	#4 @ 12" O.C.
6'–0"	3'–0"	1'–0"	#5 @ 12" O.C.	#4 @ 18" O.C.	#5 @ 12" O.C.	#4 @ 12" O.C.
7'–6"	4'–8"	1'–0"	#5 @ 10" O.C.	#4 @ 18" O.C.	#5 @ 8" O.C.	#4 @ 12" O.C.
9'–6"	5'–4"	1'–0"	#5 @ 6" O.C.	#4 @ 18" O.C.	#5 @ 4" O.C.	#4 @ 12" O.C.

1 CIP CONCRETE RETAINING WALL DETAIL AND SCHEDULE
SCALE: N.T.S



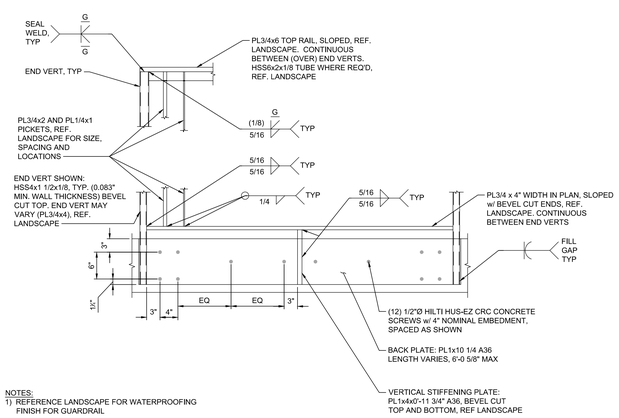
NOTES:
1) REFERENCE CIVIL DRAWINGS FOR UNREINFORCED SLAB ON GRADE DETAILS NOT SHOWN

2 TYPICAL SLAB ON GRADE
SCALE: 1" = 1'-0"



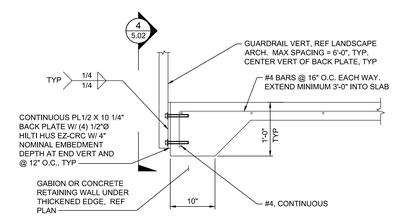
NOTES:
1) WALLS ARE SLOPED/STEPPED/BATTERED, NOT SHOWN IN PLAN VIEW. REFERENCE 1/S5.01 FOR GABION WALL DETAILS (WALL B) AND 1/S5.02 FOR CIP CONCRETE WALL DETAILS.
2) CIP = CAST IN PLACE

3 GABION TO CONCRETE WALL INTERFACE
SCALE: 1" = 1'-0"



NOTES:
1) REFERENCE LANDSCAPE FOR WATERPROOFING FINISH FOR GUARDRAIL

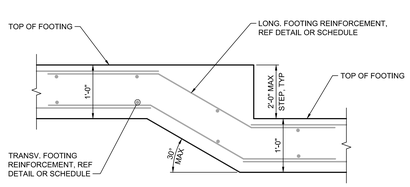
4 TYPICAL SECTION GUARDRAIL - ELEVATION VIEW
SCALE: 1" = 1'-0"



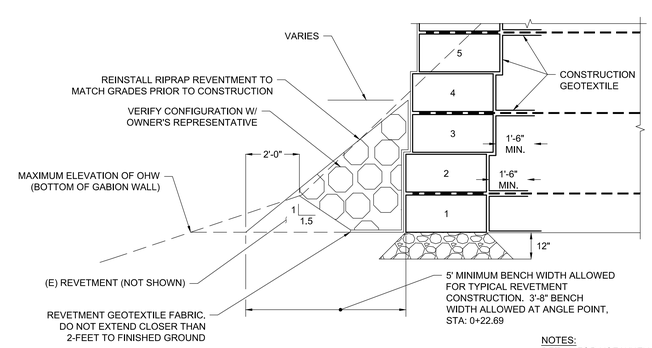
NOTES:
1) REFERENCE LANDSCAPE FOR WATERPROOFING FINISH. TYP. BACKPLATE TO BE WEATHERING STEEL TO MATCH GUARDRAIL.

7 GUARDRAIL CONNECTION AT WALKWAY EDGE
SCALE: 1" = 1'-0"

6 NOT USED
SCALE: 1" = 1'-0"



5 TYPICAL STEPPED FOOTING DETAIL
SCALE: 1" = 1'-0"



NOTES:
DETAIL FOR USE WHEN OHW IS WITHIN 1'-4" OF MAX AND BENCH WIDTH IS 6'-0" OR LESS. REFERENCE 1/S5.01 & 2/S5.01 FOR ALL DETAILS NOT SHOWN

8 GABION RETAINING WALL TOE
SCALE: 1/2" = 1'-0"

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St. Helens Riverwalk
St. Helens, Oregon
Project Number: P-525A

Project Manager: Jennifer Dimsho; John Walsh

STRUCTURAL REGISTERED PROFESSIONAL ENGINEER
79,377PE
Sean Clark
Sean Clark 2024.01.26 12:36:49 -08'00'
OREGON
SEAN M. CLARK
RENEWS: 12–31–2025

PHASE
FINAL PLANS

DATE
2/2/2024

REVISIONS

NO.	DESC.	DATE

DRAWN BY
MJB

CHECKED BY
SC

SHEET TITLE
FOUNDATION DETAILS

SHEET NUMBER
S5.02

ELECTRICAL EQUIPMENT DESIGNATION

E 4 L - 1 - 1A - A

POWER TYPE:
- BLANK - NORMAL POWER
- E - EMERGENCY POWER
- U - UNINTERRUPTIBLE POWER

VOLTAGE:
- 2 - 208Y/120V
- 4 - 480Y/277V
- 5 - 4160Y/2400V
- 15 - 12470Y/7200V

EQUIPMENT:
- D - MAIN DISTRIBUTION PANEL
- S - SUB DISTRIBUTION PANEL
- B - BUSWAY
- M - MOTOR CONTROL CENTER
- A - AUTOMATIC TRANSFER SWITCH
- P - POWER PANEL
- L - LIGHTING PANEL
- T - TRANSFORMER
- U - UPS
- LRC - LIGHTING RELAY CONTROL PANEL

BUILDING LEVEL:
- 0 - BASEMENT
- 1 - FIRST LEVEL
- 2 - SECOND LEVEL
- 3 - THIRD LEVEL
- 4 - FOURTH LEVEL
- ETC.

GRID LOCATION:
- 1A - NEAR INTERSECTION OF GRID LINES 1 AND A

IDENTIFIER:
- A - FIRST IN SERIES OF EQUIPMENT
- B - SECOND IN SERIES OF EQUIPMENT
- ETC.

DESIGNATION SYMBOLS

--- 123	EQUIPMENT DESIGNATOR SEE SCHEDULE.
E X	EXISTING TO REMAIN, EXISTING TO BE REMOVED
R F	EXISTING TO BE RELOCATED, FUTURE
N C	NEW, CONNECT TO
1	NOTE

POWER - SINGLE LINE DIAGRAM & RISER

- CIRCUIT BREAKER, WITH GROUND FAULT PROTECTION, DRAW OUT
- DISTRIBUTION SWITCHBOARD / PANELBOARD, WITH INTERNAL BUS
- PANELBOARD: PANEL INCOMING DESIGNATOR: MLO UNLESS MARKED MCB; AMPACITY (AMPS)
- TRANSFORMER
- SERVICE TRANSFORMER, WITH VAULT
- GENERATOR, AUTOMATIC TRANSFER SWITCH
- METER: UTILITY, BASIC, ADVANCED, POWER QUALITY
- TRANSDUCER: CURRENT, POTENTIAL (VOLTAGE), COMBINED
- SPD — SURGE PROTECTIVE DEVICE, PUSH BUTTON
- ELECTRICAL BUSWAY, BUSWAY PLUG-IN CIRCUIT BREAKER
- XX SH# — XXXX — FEEDER CONTINUATION CALLOUT, FEEDER TAG
- XX.XXX — CALCULATED AVAILABLE SHORT-CIRCUIT CURRENT
- FEEDER: DROP, RISE, CAP, BREAK, CONTINUATION
- DISCONNECT, FUSED DISCONNECT
- MOTOR, MOTOR WITH CONTROLLER, MOTOR WITH STARTER

POWER - PLANS

- WALL RECEPTACLE: DUPLEX, QUADPLEX
- SINGLE WALL RECEPTACLE, FACELESS GFCI REMOTE TEST BUTTON
- G — DENOTES GFCI
- W — DENOTES GFCI AND WEATHER PROOF
- DENOTES RECEPTACLE ABOVE COUNTER
- SPECIAL PURPOSE RECEPTACLE.
- CEILING RECEPTACLE: DUPLEX, QUADPLEX
- FB1 — FLUSH FLOORBOX RECEPTACLE. REFER TO SCHEDULE FOR TYPES OF DEVICES.
- DENOTES SPLIT-WIRED, HALF SWITCHED / CONTROLLED VIA MANUAL CONTROL, MOTION CONTROL OR TIME-BASED CONTROL. SEE SPECIFICATIONS & PLANS.
- DENOTES FULL SWITCHED / CONTROLLED VIA MANUAL CONTROL, MOTION CONTROL OR TIME-BASED CONTROL. SEE SPECIFICATIONS & PLANS.
- X — LETTER DESIGNATOR:
  - E = EMERGENCY
  - U = UPS
  - S = STANDBY
  - C = CRITICAL
  - IG = ISOLATED GROUND
  - P = SURGE PROTECTIVE DEVICE
  - A = AFCI
  - B = WITH USB OUTLETS
- 2NP1:42. — DENOTES PANELBOARD AND CIRCUIT NUMBER.
- 42. — DENOTES CIRCUIT NUMBER. REFER TO SHEET GENERAL NOTES FOR PANELBOARD.
- PEDESTAL OUTLET: POWER & SIGNAL COMBINATION
- SURFACE OUTLET STRIP: DIMENSION AS SHOWN. SEE SPECIFICATIONS.
- L: 4, P: 3 — CIRCUITING FOR LIGHTING WITH INTEGRAL RECEPTACLE.
- JUNCTION BOX
- H 1,3,5 — JUNCTION BOX HOME RUN. CIRCUITS AS INDICATED.
- F 1,3,5 — JUNCTION BOX HOME RUN & FURNITURE FEED. CIRCUITS AS INDICATED.
- CONNECTION TO EQUIPMENT PROVIDED BY OTHERS
- PUSH BUTTON STATION: SINGLE, DOUBLE
- ELECTRICAL EQUIPMENT
- PANELBOARD: SURFACE, RECESSED
- ENCLOSURE: SURFACE, RECESSED
- T — TRANSFORMER
- GROUND ROD, IN TEST WELL
- GROUND PAD

GENERAL NOTE

THIS IS A STANDARD LEGEND SHEET, THEREFORE, SOME SYMBOLS MAY APPEAR ON THIS SHEET THAT DO NOT APPEAR ON THE DRAWINGS.

LIGHTING

EMERGENCY / NORMAL

- TRACK: WITH CURRENT LIMITER, WITHOUT CURRENT LIMITER
- RECESSED DOWNLIGHT:: SQUARE, ROUND
- RECESSED WALLWASHER: SQUARE, ROUND
- RECESSED ADJUSTABLE ACCENT: SQUARE, ROUND
- DOWNLIGHT: SURFACE: SQUARE, ROUND
- WALL WASHER: SURFACE SQUARE, ROUND
- ADJUSTABLE ACCENT: SURFACE: SQUARE, ROUND
- ADJUSTABLE ACCENT: MULTILAMP
- LINEAR: RECESSED
- LINEAR: RECESSED ASYMMETRIC
- LINEAR: SURFACE
- LINEAR: SURFACE ASYMMETRIC
- LINEAR: SUSPENDED
- LINEAR: SUSPENDED ASYMMETRIC
- LINEAR: WALL MOUNTED
- LINEAR: WALL MOUNTED ASYMMETRIC
- STRIP LIGHT
- LINEAR: UNDERCABINET
- LINEAR ACCENT: ARCHITECTURE INTEGRATED
- PENDANT: SQUARE, ROUND
- EXIT SIGN: TOP SURFACE OR TOP RECESSED: SINGLE , DOUBLE
- EXIT SIGN: SIDE OR FLAG MOUNT: SINGLE , DOUBLE
- EXIT SIGN: BACK SURFACE MOUNT
- WALL MOUNTED: RECESSED: SQUARE, ROUND
- WALL MOUNTED: SURFACE: SQUARE, ROUND
- POLE-MOUNTED: AREA: SQUARE, ROUND
- POLE-MOUNTED: STREET: RECTANGULAR, OVAL
- POLE-MOUNTED: PEDESTRIAN: SQUARE, ROUND
- BOLLARD 360: SQUARE, ROUND
- BOLLARD 180: SQUARE, ROUND
- INGRADE SQUARE, ROUND
- INGRADE ADJUSTABLE SQUARE, ROUND
- FLOOD LIGHT
- CONTROL STATION. REFER TO SCHEDULE.
- WALL SWITCH: 1 POLE, 2 POLE
- WALL SWITCH: 3 WAY, 4 WAY
- WALL SWITCH: KEY LOCK, MOMENTARY
- WALL SWITCH: LOW VOLTAGE, PILOT
- WALL SWITCH: TIMER, MANUAL DIMMER
- WALL COMBINATION OCCUPANCY SWITCH, OCCUPANCY DIMMER
- WALL COMBINATION VACANCY SWITCH, VACANCY DIMMER
- PHOTOELECTRIC CELL: WALL MOUNTED, CEILING MOUNTED
- OCCUPANCY SENSOR: CEILING OR WALL MOUNTED
- VACANCY SENSOR: CEILING OR WALL MOUNTED
  "X" DESIGNATES DEVICE TYPE:
  U: ULTRASONIC R: INFRARED DT: DUAL TECHNOLOGY
- L# — DESIGNATES LUMINAIRE TYPE (SEE LUMINAIRE SCHEDULE)
- EM — DESIGNATES EMERGENCY FIXTURE
- a,b,c,d,e...etc — DESIGNATES STANDALONE CONTROL ZONE.
- 42. PNL:42. — DESIGNATES LIGHTING CIRCUIT, PANEL:CIRCUIT.
- Z### — DESIGNATES NETWORK CONTROL ZONE, REFER TO SCHEDULE REFER TO ZONE SCHEDULE FOR CIRCUITING OF NETWORKED LIGHTING.

ELECTRICAL DRAWING LIST

SHEET #	SHEET NAME
E0.01	SYMBOLS, LEGEND AND ABBREVIATIONS
E0.10	LUMINAIRE SCHEDULE - ELECTRICAL
E1.01	SITE PLAN - ELECTRICAL
E5.01	DETAILS - ELECTRICAL
E8.01	ONE LINE DIAGRAM - ELECTRICAL

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St. Helens Riverwalk

St. Helens, Oregon
Project Number: P-525A

Project Managers: Jennifer Dimsho; John Walsh

REGISTERED PROFESSIONAL ENGINEER 82643PE OREGON SEPT. 12, 2017 ROBERT L. SMITH 01/26/2024

EXPIRES: 06/30/2024

PHASE:
FINAL PLANS

DATE:
02/02/24

REVISIONS:

NO.	REVISION	DATE

DRAWN BY:
MK

CHECKED BY:
RS

SHEET TITLE:
SYMBOLS, LEGEND AND ABBREVIATIONS

SHEET NUMBER:
E0.01

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LUMINAIRE SCHEDULE

FIXTURE TYPE	PRODUCT DESCRIPTION	BASIS OF DESIGN MANUFACTURER	INPUT WATTS	LAMP SOURCE	POWER SUPPLY	INPUT VOLTAGE	MOUNTING	NOTES
S1	PEDESTRIAN SCALE POLE	BEGA 84305 POLE	101W	LED 3500K	INTEGRAL ELECTRONIC NON-DIMMING	120	POLE BASE	1. PROVIDE INTEGRAL RECEPTACLE LOCATED IN POLE BASE AT 12" AFF. PROVIDE LOCKABLE WEATHERPROOF WHILE IN-USE COVER. FULL ASSEMBLY TO MATCH FIXTURE FINISH. 2. BOD LUMINAIRE IS BUY AMERICA COMPLIANT. 3. POLE HEIGHT TO BE 12'-0" FOR EACH FIXTURE.
S2	LED STRIP ASSEMBLY CONSISTING OF LED TAPE, LENSED EXTRUSION AND REMOTE DRIVER(S), WITH UL WET LOCATION LISTING.	ATOM-ENCAPSULATED MICRO 5 SERIES	4W/FT	LED 3500K	REMOTE ELECTRONIC 0-10V TO 10%	24	HANDRAIL	1. BOD LUMINAIRE IS BUY AMERICA COMPLIANT.

LIGHTING CONTROL SCHEDULE

CONTROL STATION		CONTROL AREA			ZONE CONTROL INPUTS				CIRCUITING INFORMATION			NOTES
MASTER	LOCAL	GROUP	ZONE	DESCRIPTION	OCCUPANCY SENSOR	PHOTOCELL	DIMMING	EMERGENCY SOURCE	PANEL	CIRCUIT	LOAD (VA)	
CS1-100	CS1-100-1	1	Z101	SITE - S1	N	Y	Y	N	2P1	2	154	
		2	Z102	SITE - S2	N	N	N	N	2P1	4	1180	1

GENERAL NOTES:

A. ALL ZONES ARE CONNECTED TO BUILDING TIMECLOCK UNLESS OTHERWISE NOTED.
B. REFER TO DRAWINGS FOR LOCATIONS OF CONTROL STATIONS, GROUP BOUNDARIES AND ZONE DESIGNATIONS (AS NEEDED).
C. ALL LIKE CONTROL STATIONS CONTROLLING THE SAME ZONES SHALL BE DESIGNATED WITH THE SAME CONTROL STATION ID. QUANTITY OF DEVICES SHALL BE AS INDICATED IN PLAN
D. CONTRACTOR TO COORDINATE ALL CONTROL INPUTS TO BE COMPATIBLE WITH DIMMING PROTOCOL DEFINED IN LUMINAIRE SCHEDULE AND SEQUENCE OF OPERATIONS.

NOTES:
1. HANDRAIL LIGHTING TO BE CONTROLLED VIA TIMECLOCK. COORDINATE TIME SETTINGS FOR LIGHTS-ON AND LIGHTS-OFF WITH OWNER.

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St. Helens Riverwalk

St. Helens, Oregon
Project Number: P-525A

Project Managers: Jennifer Dimsho; John Walsh

REGISTERED PROFESSIONAL ENGINEER
82643PE
OREGON
SEPT. 12, 2017
ROBERT L. SMITH
01/26/2024
EXPIRES: 06/30/2024

PHASE:
FINAL PLANS

DATE:
02/02/24

REVISIONS:
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RS

SHEET TITLE:
LUMINAIRE SCHEDULE - ELECTRICAL

SHEET NUMBER:
E0.10

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NOTES:

1. PROVIDE NEW UNDERGROUND CONDUIT AND FEEDER FROM EXISTING DOCK DISTRIBUTION BOARD TO NEW PANEL 2P1. REFER TO SHEET E801 FOR ADDITIONAL DETAILS.
2. GUARDRAIL LIGHTING TO BE INTEGRAL WITH GUARDRAIL. COORDINATE GUARDRAIL LIGHTING WITH LANDSCAPE ARCHITECT. REFER TO SHEET L603 FOR ADDITIONAL DETAILS.
3. STREET LIGHT FROM STREETS PROJECT SHOWN FOR REFERENCE ONLY.
4. EXISTING SPLASH PAD VAULT TO BE RELOCATED AND NEW BRANCH CIRCUIT TO SERVE. DISCONNECT ELECTRICAL BRANCH CIRCUIT FROM EXISTING LOCATION AND REMOVE WIRE BACK TO SERVING PANEL/SOURCE. CAP, BURY, AND ABANDON EXISTING CONDUIT IN PLACE.
5. RELOCATED SPLASH PAD VAULT AND INTERNAL EQUIPMENT TO BE MOVED TO NEW LOCATION AS SHOWN, REUSE AND RECONNECT TO PANEL 2P1. PROVIDE NEW WEATHER RATED LOCKABLE COVER.
6. PAD-MOUNT PANEL ENCLOSURE. SEE DETAIL 5/E5.01 FOR ELEVATION, EQUIPMENT, DETAILS, AND SPARE CONDUIT PROVISIONS.

GENERAL NOTES:

A. REFERENCE LANDSCAPE DRAWINGS FOR EXACT LOCATIONS OF EXTERIOR LUMINAIRES AND EQUIPMENT.

B. UNDERGROUND CONDUIT ALIGNMENTS SHOWN ARE DIAGRAMMATIC, COORDINATE FINAL RACEWAY LOCATIONS WITH CIVIL CONTRACTOR. RECORD INSTALLED ROUTES ON AS-BUILT DOCUMENTS.

C. ALL DEVICES CIRCUITED TO PANEL 2P1.

D. REFER TO LIGHTING CONTROL SCHEDULE FOR ADDITIONAL INFORMATION ON ZONE NUMBER.

E. PROVIDE LOCKABLE COVERS FOR ALL SITE RECEPTACLES.

F. ALL SITE CONDUIT SIZE TO BE NO LESS THEN 1" SCHEDULE 40 PVC. BRANCH CIRCUIT WIRING CONDUCTORS TO BE NO SMALLER THAN #10 AWG.

G. PROVIDE NO MORE THAN (6) CURRENT CARRYING CONDUCTORS PER HOMERUN.

H. CONTRACTOR TO CALCULATE VOLTAGE-DROP REQUIREMENTS FOR 0-10V LIGHTING CONTROL WIRES. CONTRACTOR TO PROVIDE SEPARATE 1" C. WITH (2) #12 CU CONDUCTORS FOR 0-10V POLE LIGHTING CONTROL FROM LCP TO POLE LIGHTS.

I. FOR ALL RECEPTACLES LOCATED WITHIN THE POLE BASE, CONTRACTOR TO TAP AND EXTEND LIGHTING BRANCH CIRCUIT POWER TO RECEPTACLE.

1 SITE PLAN - ELECTRICAL
1" = 10'-0"

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St. Helens, Oregon
Project Number: P-525A

Project Managers: Jennifer Dimsho; John Walsh

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JAN. 12, 2024
ROBERT L. SMITH
2/1/2024
EXPIRES: 06/30/2024

PHASE:
FINAL PLANS

DATE:
02/02/24

REVISIONS:

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SHEET TITLE:
SITE PLAN - ELECTRICAL

SHEET NUMBER:
E1.01

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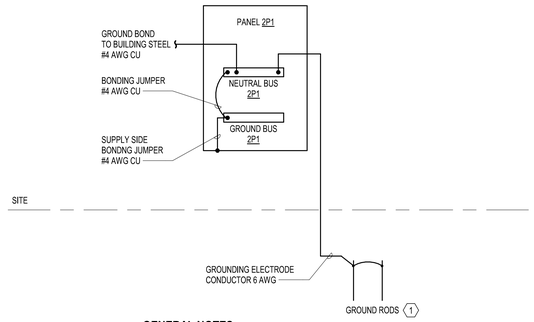


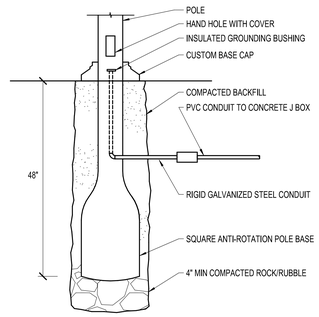
GENERAL NOTES:

A. ALL GROUNDING CONDUCTORS SHALL BE BARE COPPER CONDUCTORS, PROVIDE PVC RACEWAY AS NEEDED FOR PROTECTION.

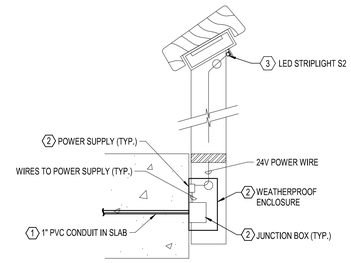
NOTES:

1. PROVIDE TWO 5/8" GROUND RODS, 10' APART.

1 GROUNDING RISER - ELECTRICAL
NONE



2 LIGHTING POLE BASE DIRECT BURY - S1
NONE



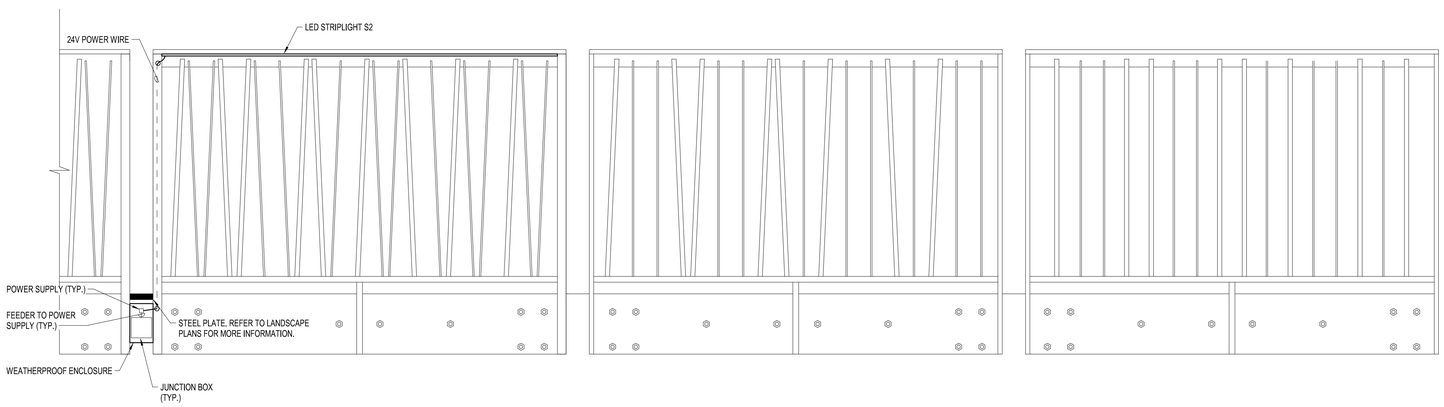
GENERAL NOTES:

A. REFER TO LANDSCAPE PLANS FOR ADDITIONAL INFORMATION.

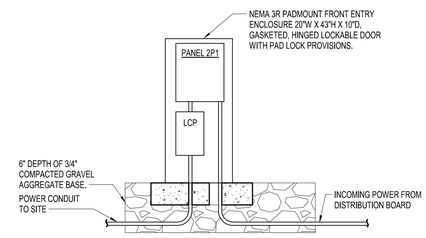
NOTES:

1. RUN PVC CONDUIT THE LENGTH OF THE SLAB. TRANSITION TO DIRECT BURY FROM PANEL TO OVERLOOK CONCRETE SLAB.
2. FASTEN TO CONCRETE SLAB.
3. LED STRIPLIGHT TO BE MOUNTED TO MOUNTING PLATE ATTACHED TO BOTTOM OF HANDRAIL PER MANUFACTURE SPECIFICATIONS. COODINATE MOUNTING WITH LANDSCAPE ARCHITECT.

3 GUARD RAIL LIGHT - SECTION VIEW
1 1/2" = 1'-0"



4 GUARD RAIL LIGHT - FRONT VIEW
NONE



5 SITE POWER PEDESTAL
NONE

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St. Helens Riverwalk

St. Helens, Oregon
Project Number: P-525A

Project Managers: Jennifer Dimsho; John Walsh

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ROBERT L. SMITH
02/06/2024
EXPIRES: 06/30/2024

PHASE:
FINAL PLANS

DATE:
02/02/24

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NO.	REVISION	DATE

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RS

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DETAILS - ELECTRICAL

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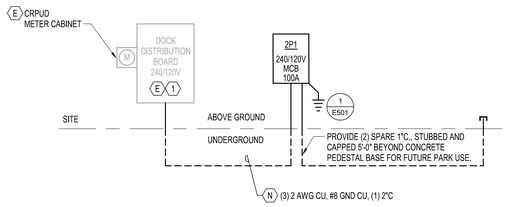

NOTES:

1. PROVIDE NEW 100A/2P BREAKER IN PREPARED SPACE WITHIN EXISTING SITE DISTRIBUTION BOARD. MATCH EXISTING BREAKER MANUFACTURER AND AIC RATING. PROVIDE NEW CUTOUT IN EXISTING BREAKER COVER PANEL FOR NEW BREAKER.

1 SINGLE LINE DIAGRAM
NONE

PANEL SCHEDULE

PANEL: 2P1 | LOCATION: EAST ELECTRICAL PEDESTAL SITE | VOLTS: 240 Y/ 120 P 2 | W: 4
AMP: 100 | MLO [ ] | MCB [X] | AIC RATING: 22KAIC | MOUNT: [X] SURFACE [ ] FLUSH
TYPE: | EXISTING [ ] | NEW [X] | STYLE: NEMA 3R | NEUTRAL: 100% | FED FROM: DOCK DISTRIBUTION BOARD

CIRCUIT DESCRIPTION	LOAD TYPE	LOAD KVA	CKT BKR	P H	CIR #	P H	CIR #	P	CKT BKR	LOAD KVA	LOAD TYPE	CIRCUIT DESCRIPTION
SPARE			20	1	1	A	2	1	20	0.81	LTG	Z101 - POLE LIGHTING
SPARE			20	1	3	B	4	1	20	0.34	LTG	Z102 - HANDRAIL LIGHTING
SPARE			20	1	5	A	6	1	20			SPARE
IRRIGATION CONTROLLER	EQ	0.50	20	1	7	B	8	1	20			SPARE
LIGHTING CONTROL POWER SUPPLY	EQ	0.20	20	1	9	A	10	1	20			SPARE
LIGHTING CONTROL CABINET	EQ	0.50	20	1	11	B	12	1	20			SPARE
DIMMING PANEL	EQ	0.50	20	1	13	A	14	1	20			SPARE
SPLASH PAD CONTROLLER/EQUIPMENT	MISC	0.50	20	1	15	B	16	1	20			SPARE
SPARE			20	1	17	A	18	1	20			SPARE
SPARE			20	1	19	B	20	1	20			SPARE

LOAD SUMMARY:	LOAD TYPE	CONNECTED		NEC DEMAND	
LIGHTING	LTG	1.15	KVA	1.44	KVA (125%)
RESIDENT.LTG/RECPT	RES	0.00	KVA	0.00	KVA (100/35/25 %)
SMALL APPLIANCE	RES	0.00	KVA	0.00	KVA (100/35/25 %)
LARGEST MOTOR	MTR	0.00	KVA	0.00	KVA (125%)
REMAINING MOTORS	MTR	0.00	KVA	0.00	KVA (100%)
GEN PURPOSE RECPT.	REC	0.00	KVA	0.00	KVA (50% > 10KVA)
COMPUTER RECPT	MISC	0.00	KVA	0.00	KVA (100%)
EQUIP/OTHER	MISC	2.20	KVA	2.20	KVA (100%)
HEATING	MISC	0.00	KVA	0.00	KVA (100%)
ELEC VEHICLE	EV	0.00	KVA	0.00	KVA (125%)
TOTALS		3.35	KVA	3.64	KVA
		9.87	AMPS	10.72	AMPS

CONNECTED PHASE LOADING
PHASE A: 1.51 KVA
PHASE B: 1.84 KVA

"COMB" = COMBINATION LOAD TYPES ON INDICATED CIRCUIT
"RES" = RESIDENTIAL LTG/RECPT OR SMALL APPLIANCE LOAD TAKEN AT INDICATED DEMAND
"MISC" = EQUIP, COMPUTER REC OR HTG LOAD ON INDICATED CIRCUIT AT 100%

GENERAL NOTES:

The City of St. Helens
FOUNDED 1850

Mayer / Reed

Mayer / Reed, Inc.
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503.223.5953

PAE
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St. Helens Riverwalk

St. Helens, Oregon
Project Number: P-525A

Project Managers: Jennifer Dimsho; John Walsh

REGISTERED PROFESSIONAL ENGINEER
82643PE
OREGON
SEPT. 12, 2017
ROBERT L. SMITH
01/26/2024
EXPIRES: 06/30/2024

PHASE:
FINAL PLANS

DATE:
02/02/24

REVISIONS:

NO.	REVISION	DATE

DRAWN BY:
MK

CHECKED BY:
RS

SHEET TITLE:
ONE LINE DIAGRAM - ELECTRICAL

SHEET NUMBER:
E8.01

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