TILLAMOOK ESTUARIES PARTNERSHIP

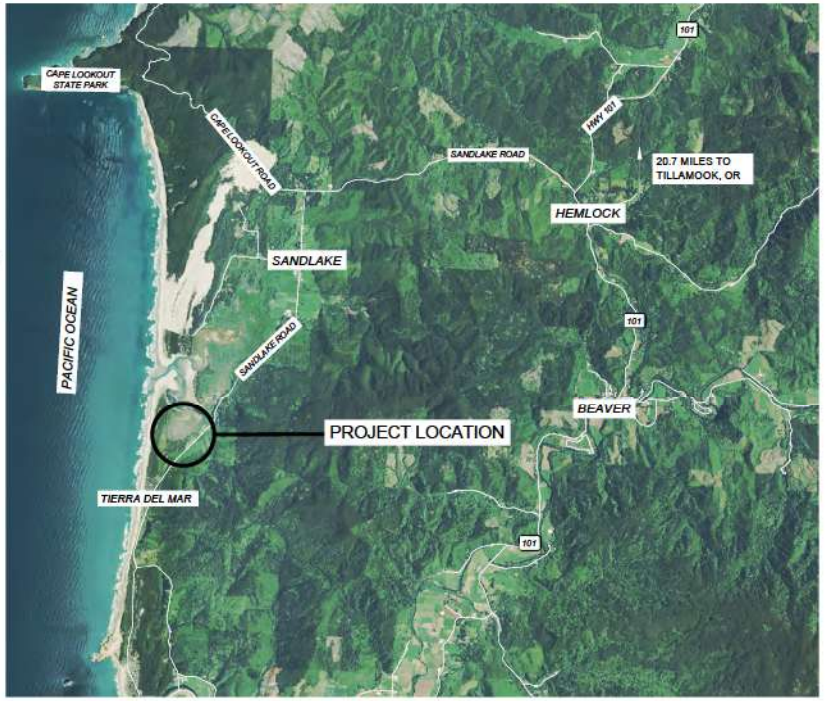
SITKA SEDGE TIDAL WETLAND RESTORATION

DRAFT 90% DESIGN - PRELIMINARY- NOT FOR CONSTRUCTION

PROJECT LOCATION: TIERRA DEL MAR, OREGON

SHEET LIST

Sheet Number	Sheet Title
G1.0	COVER
G1.1	GENERAL NOTES, LEGENDS, AND ABBREVIATIONS
G2.0	EXISTING CONDITIONS AND SURVEY CONTROL
G2.1	SITE PLAN AND OVERVIEW
G2.2	ACCESS, STAGING, DEMO, AND PROTECTION
G3.0	RENEKE CREEK EXSTING CONDITIONS & SURVEY CONTROL
G4.1	CONSTRUCTION LOGISTICS - PEDESTRIAN BRIDGE
G4.2	CONSTRUCTION LOGISTICS - SETBACK DIKE
G4.3	CONSTRUCTION LOGISTICS - RENEKE CREEK
C1.1	DIKE BREACH PLAN AND SECTION
C1.2	DIKE BREACH CHANNEL PROFILE
C1.3	CHANNEL AND DITCH GRADING ENLARGEMENT - 1
C1.4	CHANNEL AND DITCH GRADING ENLARGEMENT - 2
C2.1	CHANNEL GRADING SECTIONS AND DETAILS
C3.1	RENEKE CREEK GRADING PLAN
C3.2	RENEKE CREEK CHANNEL PROFILES
C3.3	RENEKE CREEK GRADING SECTIONS
C4.1	HABITAT DETAILS
B01	RENEKE BRIDGE PLAN AND ELEVATION
B02	RENEKE BRIDGE NOTES AND TYPICAL SECTIONS
B03	RENEKE BRIDGE CONSTRUCTION STAGING
B04	RENEKE BRIDGE CONSTRUCTION STAGING DETAILS - 1
B05	RENEKE BRIDGE CONSTRUCTION STAGING DETAILS - 2
B07	RENEKE PRECAST SLAB DETAILS
B08	RENEKE BENT DETAILS
B09	RENEKE WINGWALL DETAILS
B10	RENEKE BRIDGE MISCELLANEOUS DETAILS
BA-01	TYPICAL SECTION
C-01	PLAN AND PROFILE
T-01	TRAFFIC CONTROL PLAN
T-02	TRAFFIC CONTROL PLAN
T-03	TRAFFIC CONTROL PLAN
BR01	PEDESTRIAN BRIDGE PLAN AND ELEVATION
BR02	PEDESTRIAN BRIDGE GENERAL NOTES
BR03	PEDESTRIAN BRIDGE FOUNDATION PLAN
BR04	PEDESTRIAN BRIDGE BENT DETAILS
BR05	PEDESTRIAN BRIDGE WINGWALL DETAILS
D1.0	SETBACK DIKE TYPICAL SECTION
D1.1	SETBACK DIKE PLAN & PROFILE
D1.2	SETBACK DIKE TIE-IN ENLARGEMENTS
D2.1	SETBACK DIKE SECTIONS
D3.1	TIDE GATE STRUCTURE PLAN AND PROFILE
D3.2	TIDEGATE DETAIL
D3.3	CULVERT DETAIL
D4.1	BEAVER EXCLUSION SYSTEM DETAILS
EC1.1	1200-C ESC COVER
EC1.2	EROSION & SEDIMENT CONTROL PLAN OVERVIEW
EC1.3	EROSION CONTROL DETAILS - 1
EC1.4	EROSION CONTROL DETAILS - 2
L1.0	REVEGETATION NOTES
L2.0	REVEGETATION SHEET OVERVIEW
L2.1	REVEGETATION AREA 1
L2.2	REVEGETATION AREA 2
L2.3	REVEGETATION AREA 3
L3.0	PLANTING SCHEDULES
L3.1	PLANTING SCHEDULES
L3.2	PLANTING SCHEDULES
L4.0	TYPICAL PLANTING PROFILES
L5.0	PLANTING DETAILS
L5.1	PLANTING DETAILS
S1.0	GENERAL STRUCTURAL NOTES
S2.0	CULVERT FOUNDATION PLAN
S2.1	CULVERT CROSS SECTIONS & DETAILS
S2.2	WING WALL DETAILS



VICINITY MAP

PLAN SCALE: NTS

N

PROJECT TEAM

PROJECT SPONSOR:

CHRISTER LABRECQUE
TILLAMOOK ESTUARIES PARTNERSHIP
P.O. BOX 493
613 COMMERCIAL STREET
GARIBALDI, OREGON
OFFICE: (503) 322-2222

PROJECT ENGINEER:

HUNTER WHITE, PE
ENVIRONMENTAL SCIENCE ASSOCIATES
1615 SE 3RD AVE, SUITE 400
PORTLAND, OR 97214
OFFICE: (503) 274-2010

PROPERTY OWNER:

JASON ELKINS
CAPE LOOKOUT STATE PARK
13000 WHISKEY CREEK ROAD
TILLAMOOK, OR 97141
OFFICE: (503) 842-3182 EXT 222

ROADWAY / RIGHT-OF-WAY OWNER:

CHRIS LAITY, PE
TILLAMOOK COUNTY PUBLIC WORKS
503 MAROLF LOOP ROAD
TILLAMOOK, OR 97141
OFFICE: (503) 842-3419

STRUCTURAL ENGINEERING:

JOSH GOODALL, PE
DAVID EVANS AND ASSOCIATES, INC.
5121 SKYLINE VILLAGE LOOP S, SUITE 200
SALEM, OR 97306
OFFICE: (541) 788-5830

GEOTECHNICAL ENGINEERING:

TRAVIS NGUYEN, PE, GE
SHANNON & WILSON
3990 COLLINS WAY, SUITE 100
LAKE OSWEGO, OR 97035
OFFICE: (503) 210-475030

NOTICE TO EXCAVATORS:
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).

POTENTIAL UNDERGROUND FACILITY OWNERS

Dig Safely.

Call the Oregon One-Call Center
1-800-332-2344

ESA
1615 SE 3RD AVENUE, SUITE 400
PORTLAND, OR 97214
OFFICE - 503.274.2010
WWW.ESASSOC.COM

STAMP

REGISTERED PROFESSIONAL ENGINEER — PRELIMINARY — OREGON — NOT FOR CONSTRUCTION

RENEWAL DATE: 06-30-26

CLIENT

TILLAMOOK ESTUARIES PARTNERSHIP

PROJECT NAME

SITKA SEDGE TIDAL WETLAND RESTORATION

TIERRA DEL MAR, OREGON

REVISIONS

#	DATE	DESCRIPTION

DESIGNED	HLW
DRAWN	KCN
CHECKED	HLW
IN CHARGE	HLW 83882
PROJECT NUMBER	202200434
ISSUE DATE	09/11/2025

SCALE IS AS SHOWN WHEN PLOTTED TO FULL SIZE (22"x34")

PHASE
DRAFT 90% DESIGN

SHEET TITLE
COVER

SHEET NUMBER
G1.0

SHEET — OF ###

FILE P:\01 CA\2022\pw\02022043400 - TEP Sitka Sedge Tidal Wetland Restoration\DWG\G1.0 COVER.dwg PLOT DATE: 9/9/2025 5:20:58 PM PLOTTED BY: OLIVIA PERREYRA

GENERAL CONSTRUCTION

1. ALL WORK SHALL CONFORM TO THE CURRENT VERSION OF TILLAMOOK COUNTY CONSTRUCTION STANDARDS, THE OREGON DEPARTMENT OF TRANSPORTATION (ODOT) STANDARD SPECIFICATIONS, AND ALL OTHER APPLICABLE CODES AND STANDARDS UNLESS SPECIFICALLY INDICATED OTHERWISE BY THESE PLANS. IN CASE OF A CONFLICT BETWEEN THE REGULATORY STANDARDS OR SPECIFICATIONS, THE MORE STRINGENT REQUIREMENT SHALL PREVAIL.
2. A COPY OF THE APPROVED PLANS SHALL BE ONSITE DURING CONSTRUCTION AT ALL TIMES.
3. THE CONTRACTOR SHALL NOT COMMENCE WORK UNTIL WRITTEN AUTHORIZATION TO PROCEED HAS BEEN PROVIDED BY CONTRACTING AGENCY.
4. THE CONTRACTOR SHALL OBTAIN ANY AND ALL REQUIRED CONSTRUCTION EASEMENTS AND PERMITS PRIOR TO STARTING CONSTRUCTION.
5. APPROVAL OF THESE PLANS DOES NOT CONSTITUTE AN APPROVAL OF ANY OTHER CONSTRUCTION NOT SPECIFICALLY SHOWN. THESE PLANS ARE FOR STANDARD ROAD, BRIDGE, STREAM CHANNEL, DRAINAGE, AND UTILITY IMPROVEMENTS ONLY.
6. CONSTRUCTION NOISE SHALL BE LIMITED IN ACCORDANCE WITH LOCAL CODE.
7. ATTENTION EXCAVATORS: OREGON LAW REQUIREMENTS 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 CALL CENTER. YOU MUST NOTIFY THE CENTER AT LEAST 2 BUSINESS DAYS, BUT NOT MORE THAN 10 BUSINESS DAYS, BEFORE COMMENCING AN EXCAVATION. CALL 1.800.332.2344.
8. CONTACT THE OWNER IMMEDIATELY IF UNANTICIPATED CONTAMINATION IS ENCOUNTERED DURING CONSTRUCTION. THE CONTRACTOR OR IT'S AGENT SHALL PROVIDE THE OWNER WITH COPIES OF ALL DISPOSAL PERMITS FROM THE PERMITTED DISPOSAL FACILITY, ANALYTICAL RESULTS USED TO GAIN ACCEPTANCE OF THE CONTAMINATED MEDIA, AND DISPOSAL RECEIPTS/DAILY WEIGHT SLIPS. DAILY WEIGH SLIP AMOUNTS AHALL BE CHECKED AGAINST INSPECTOR'S DAILY REPORTS. THE CONTRACTOR MUST USE AN OREGON FACILTY FOR DISPOSAL OF THE CONTAMINATED MEDIA.
9. ALL UTILITIES SHOWN ARE APPROXIMATE AND SHOWN FOR REFERENCE ONLY. CONTRACTOR IS RESPONSIBLE FOR LOCATING AND PROTECTING ALL UTILITIES.
10. REMOVE ALL OTHERWISE UNUSED MATERIALS EXCAVATED FROM WORK IN THE RIGHT-OF-WAY AND DISPOSE OF IN A LEGAL MANNER.

SITE WORK

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ADEQUATE SAFEGUARDS, SAFETY DEVICES,PROTECTIVE EQUIPMENT, FLAGGERS, AND ANY OTHER NEEDED ACTIONS TO PROTECT THE LIFE, HEALTH, AND SAFETY OF THE PUBLIC, AND TO PROTECT PROPERTY IN CONNECTION WITH THE PERFORMANCE OF WORK COVERED BY THE CONTRACTOR.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SITE SECURITY INCLUDING PROTECTION OF WORK AND SITE AGAINST VANDALISM, THEFT, AND UNAUTHORIZED ACCESS.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE INTEGRITY OF ADJACENT UTILITIES WHICH MAY INCLUDE, BUT ARE NOT LIMITED TO, WATER, POWER, COMMUNICATIONS.
4. THE CONTRACTOR SHALL NOTIFY RESIDENTS AND BUSINESSES 48 HOURS IN ADVANCE OF ANY WORK AFFECTING ACCESS OR SERVICE AND SHALL MINIMIZE INTERRUPTIONS TO DRIVEWAYS FOR RESIDENTS AND BUSINESSES ADJACENT TO THE PROJECT.
5. ALL LAWN AND VEGETATED AREAS DISTURBED WILL BE RESTORED TO ORIGINAL CONDITION.
6. DISTURBANCE OR DAMAGE TO OTHER PROPERTY ON ADJACENT PARCELS OR IN THE PUBLIC RIGHT OF WAY SHALL ALSO BE REPAIRED OR RESTORED TO ORIGINAL CONDITION.
7. THE CONTRACTOR SHALL PERFORM, PROTECT, AND REPLACE (IF NECESSARY) ALL NECESSARY CONSTRUCTION STAKING.
8. TRENCH EXCAVATIONS SHALL NOT BE LEFT OPEN OVERNIGHT.
9. CONNECT NEW CONSTRUCTION TO EXISTING AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
10. PROTECT ALL TREES WITHIN THE WORK AREA THAT ARE NOT SHOWN AS BEING REMOVED ON THE PLANS.
11. MAXIMUM DENSITY AND OPTIMUM MOISTURE FOR ALL GRANULAR MATERIALS SHALL BE DETERMINED BY ASTM D-1557 TEST METHOD.

TIMING FOR IN-WATER WORK

1. THE CONTRACTOR SHALL MAINTAIN COMPLIANCE WITH PROJECT PERMITS AND THE PUBLISHED ODFW IN-WATER WORK WINDOW FOR SAND LAKE - ITS ESTUARY, AND ITS TRIBUTARIES:

   SAND LAKE ESTUARY: NOVEMBER 1ST - FEBRUARY 15TH

   SAND LAKE TRIBUTARIES: JULY 1ST - SEPTEMBER 15TH

   IN-WATER WORK OUTSIDE OF THESE PERIODS SHALL BE IN ACCORDANCE WITH AN IN-WATER WORK WINDOW VARIANCE APPROVED BY ODFW AND OTHER NECESSARY PERMITTING AGENCIES.

ABBREVIATIONS

APPROX.	APPROXIMATE
ACW	ACTIVE CHANNEL WIDTH
AVE	AVENUE
BMP	BEST MANAGEMENT PRACTICE
COMM	COMMUNICATIONS
CONC	CONCRETE
CP	CONTROL POINT
DBH	DIAMETER AT BREAST HEIGHT
DEQ	DEPARTMENT OF ENVIRONMENTAL QUALITY
D/S	DOWNSTREAM
EX	EXISTING
ESC	EROSION & SEDIMENT CONTROL
ESM	ENGINEERED STREAMBED MATERIAL/MIX
EG	EXISTING GRADE
EL	ELEVATION
FG	FINISHED GRADE
FT	FEET
NAVD88	NORTH AMERICAN VERTICAL DATUM OF 1988
TYP	TYPICAL
IE	INVERT ELEVATION
IN	INCHES
MHHW	MEAN HIGHER HIGH WATER
MIN	MINIMUM
MLLW	MEAN LOWER LOW WATER
NE	NORTH EAST
ODFW	OREGON DEPARTMENT OF FISH AND WILDLIFE
OPRD	OREGON PARKS AND RECREATION DEPARTMENT
PCMS	PORTABLE CHANGEABLE MESSAGE SIGN
RCP	REINFORCED CONCRETE PIPE
RD	ROAD
SHT	SHEET
SHPO	STATE HISTORIC PRESERVATION OFFICER
SIDL	SUPERIMPOSED DEAD LOAD
SNA	STATE NATURAL AREA
SSTW	SITKA SEDGE TIDAL WETLAND
SSSNA	SITKA SEDGE STATE NATURAL AREA
STA	STATION
TBD	TO BE DETERMINED
TCPW	TILLAMOOK COUNTY PUBLIC WORKS
TEP	TILLAMOOK ESTUARIES PARTNERSHIP
TOB	TOP OF BANK
TWMP	TEMPORARY WATER MANAGEMENT PLAN
UG	UNDERGROUND
U/S	UPSTREAM
VIF	VERIFY IN FIELD
W	WATER

ELEVATIONS (FT, NAVD88)	GARIBALDI	SOUTH BEACH	SAND LAKE (MOUTH)	SAND LAKE AT DIKE
HIGHEST OBSERVED WATER LEVEL (HMT)	11.75	11.66	11.7	11.7
MEAN HIGHER HIGH WATER (MHHW)	7.99	7.57	7.9	7.9
MEAN HIGH WATER (MHW)	7.28	6.87	7.2	5.5*
MEAN SEA LEVEL (MSL)	4.17	3.68	4.0	5.5*
MEAN TIDE LEVEL (MTL)	4.16	3.74	4.0	5.5*
MEAN LOW WATER (MLW)	1.04	0.61	0.9	5.5*
MEAN LOWER LOW WATER (MLLW)	-0.33	-0.77	-0.5	5.5*
LOWEST OBSERVED WATER LEVEL	-3.80	-4.11	-3.9	5.5*
*WATER LEVEL IN SAND LAKE AT THE EXISTING DIKE NEVER FALLS BELOW 5.5' DUE TO SAND BED FEATURES IMPOUNDING WATER AND PREVENTING FULL DRAIN OUT.				

ESA
1615 SE 3RD AVENUE,
SUITE. 400
PORTLAND, OR 97214
OFFICE - 503.274.2010
WWW.ESASSOC.COM

STAMP

REGISTERED PROFESSIONAL ENGINEER
OREGON
PRELIMINARY
NOT FOR CONSTRUCTION
RENEWAL DATE: 06-30-26

CLIENT

TILLAMOOK ESTUARIES PARTNERSHIP

PROJECT NAME

SITKA SEDGE TIDAL WETLAND RESTORATION

TIERRA DEL MAR, OREGON

REVISIONS

#	DATE	DESCRIPTION

DESIGNED	KCN
DRAWN	KCN
CHECKED	HLW
IN CHARGE	HLW 83882
PROJECT NUMBER	202200434
ISSUE DATE	09/11/2025

SCALE IS AS SHOWN WHEN PLOTTED TO FULL SIZE (22"x34")

PHASE
DRAFT 90% DESIGN

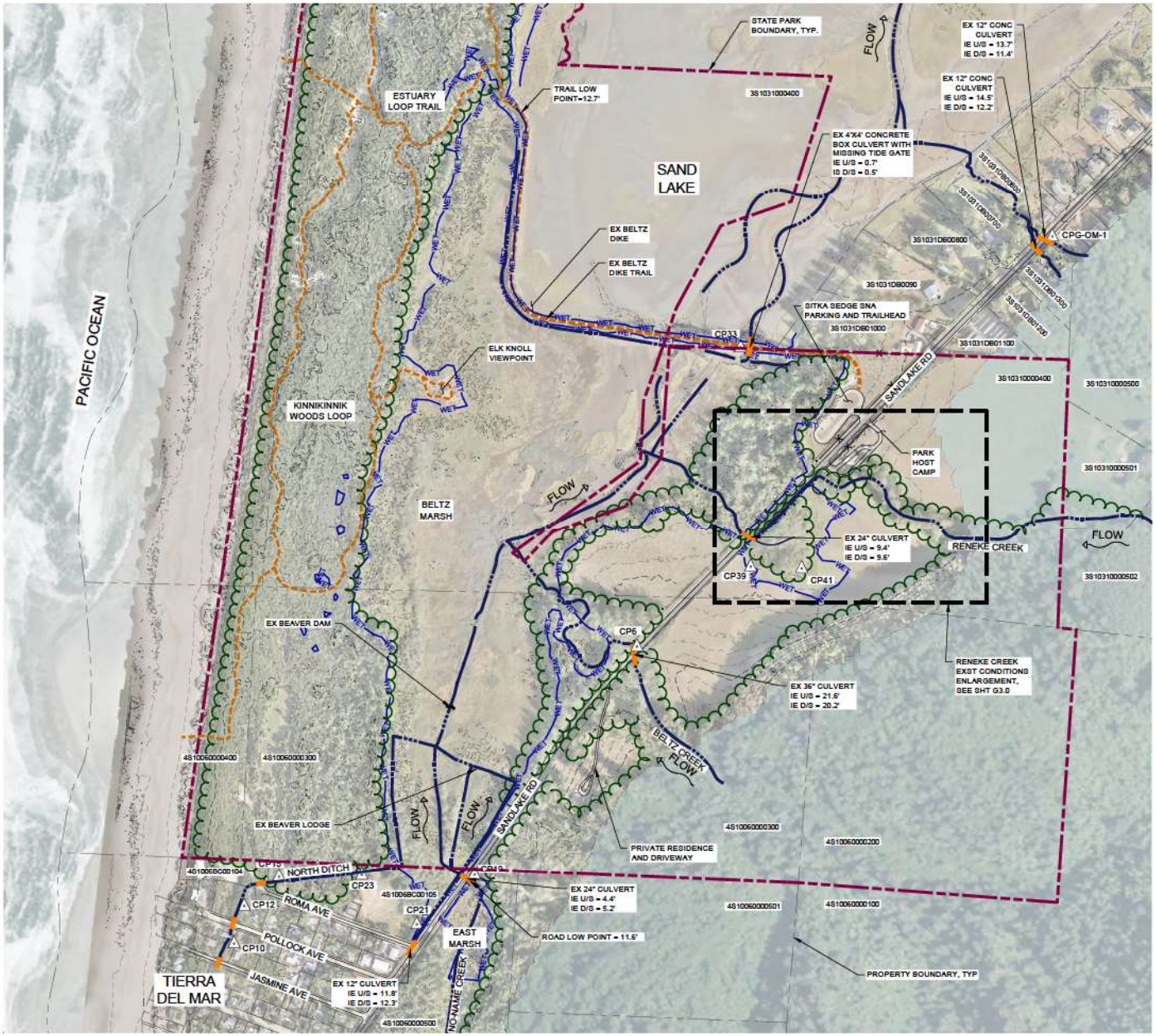
SHEET TITLE

GENERAL NOTES, LEGENDS, AND ABBREVIATIONS

SHEET NUMBER
G1.1

SHEET — OF ###

FILE P:\01 CA\2022\pcs\202202043A.00 - TEP Sitka Sedge Tidal Wetland Restoration\DWG\G1.1 GENERAL NOTES, LEGENDS, AND ABBREVIATIONS.dwg PLOT DATE: 10/9/2025 5:21:02 PM PLOTTED BY: OLIVIA PEREYRA



EXISTING CONDITIONS AND SURVEY CONTROL

PLAN SCALE: 1"= 250'

NOTES

1. EXISTING CONDITIONS MAPPING IS BASED ON SURVEYS BY STATEWIDE LAND SURVEYING 2025. AREAS OUTSIDE OF SWLS SURVEY EXTENTS ARE SUPPLEMENTED WITH A 2017 PHODAR SURFACE, DERIVED FROM 2016 NOAA LIDAR AND ADJUSTED TO CORRECT VEGETATION BIAS, PROVIDED BY OPRD IN 2017.
2. UTILITY LOCATIONS ALONG SANDLAKE ROAD ARE APPROXIMATE.
3. ESTUARY CONDITIONS CHANGE FREQUENTLY. THE BATHYMETRIC AND TOPOGRAPHIC SURVEY IS REPRESENTATIVE OF CONDITIONS AS THEY EXISTED AT THE TIME OF THE SURVEY ONLY. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY CHANGED CONDITIONS THAT IMPACT THE WORK SHOWN IN THESE PLANS.
4. THE CONTRACTOR IS RESPONSIBLE FOR PROTECTION, COORDINATION FOR TEMPORARY RELOCATION OF OVERHEAD POWER AS REQUIRED FOR SITE WORK.
5. THE VERTICAL DATUM FOR THIS PROJECT IS NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
6. THE HORIZONTAL DATUM FOR THIS PROJECT IS OREGON STATE PLANE (NORTH ZONE) INTERNATIONAL FOOT.
7. AERIAL PHOTO IS PROVIDED BY NS CONSULTING, 2022.
8. PROPERTY LINES ARE APPROXIMATE BASED ON TILLAMOOK COUNTY GIS ONLINE MAP SERVICES.
9. SITE CONTROL WAS ESTABLISHED BY STATEWIDE LAND SURVEYING INC. IN JANUARY 2023 AND MARCH 2025.
10. WETLAND BOUNDARIES DELINEATED BY ESA AND SUBMITTED TO DSL IN AUGUST 2025, PENDING CONCURRENCE.

CONTROL POINT TABLE

POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
CP5	599823.946	7311952.049	32.510	NAIL SPIKE
CP10	598384.918	7309997.976	17.601	NAIL SPIKE
CP12	598566.655	7310048.142	17.850	NAIL SPIKE
CP15	598709.520	7310216.248	16.130	NAIL SPIKE
CP19	598709.575	7311148.941	10.670	NAIL SPIKE
CP21	598477.681	7310855.029	14.809	NAIL SPIKE
CP23	598718.668	7310617.735	17.358	NAIL SPIKE
CP33	601273.106	7312480.436	14.303	NAIL SPIKE
CP39	600217.427	7312510.679	13.817	NAIL SPIKE
CP41	600202.026	7312751.086	17.491	NAIL SPIKE
CPG_OM_1	601811.547	7313966.389	21.929	NAIL SPIKE

LEGEND

EXISTING FEATURES

- EX TREE CANOPY
- CP## — SURVEY CONTROL POINT
- STATE PARK BOUNDARY
- EX TRAIL
- WET — EX WETLAND BOUNDARY (ESA, 2025)
- EX CULVERT
- EX THALWEG (APPROX.)
- EX FENCE
- EX ROAD
- EX PROPERTY BOUNDARY
- EX BEAVER STRUCTURE
- 25 — EX MAJOR CONTOUR
- 5 — EX MINOR CONTOUR

1"=250' SCALE: 250 125 0 250 500 FEET

N

ESA
1615 SE 3RD AVENUE, SUITE 400
PORTLAND, OR 97214
OFFICE - 503.274.2010
WWW.ESASSOC.COM

STAMP: REGISTERED PROFESSIONAL ENGINEER — OREGON — PRELIMINARY — NOT FOR CONSTRUCTION — RENEWAL DATE: 06-30-26

CLIENT: TILLAMOOK ESTUARIES PARTNERSHIP

PROJECT NAME: SITKA SEDGE TIDAL WETLAND RESTORATION — TIERRA DEL MAR, OREGON

REVISIONS

#	DATE	DESCRIPTION

DESIGNED	HLW
DRAWN	KCN
CHECKED	HLW
IN CHARGE	HLW 83862
PROJECT NUMBER	202200434
ISSUE DATE	09/11/2025

SCALE IS AS SHOWN WHEN PLOTTED TO FULL SIZE (22"x34") — 1"

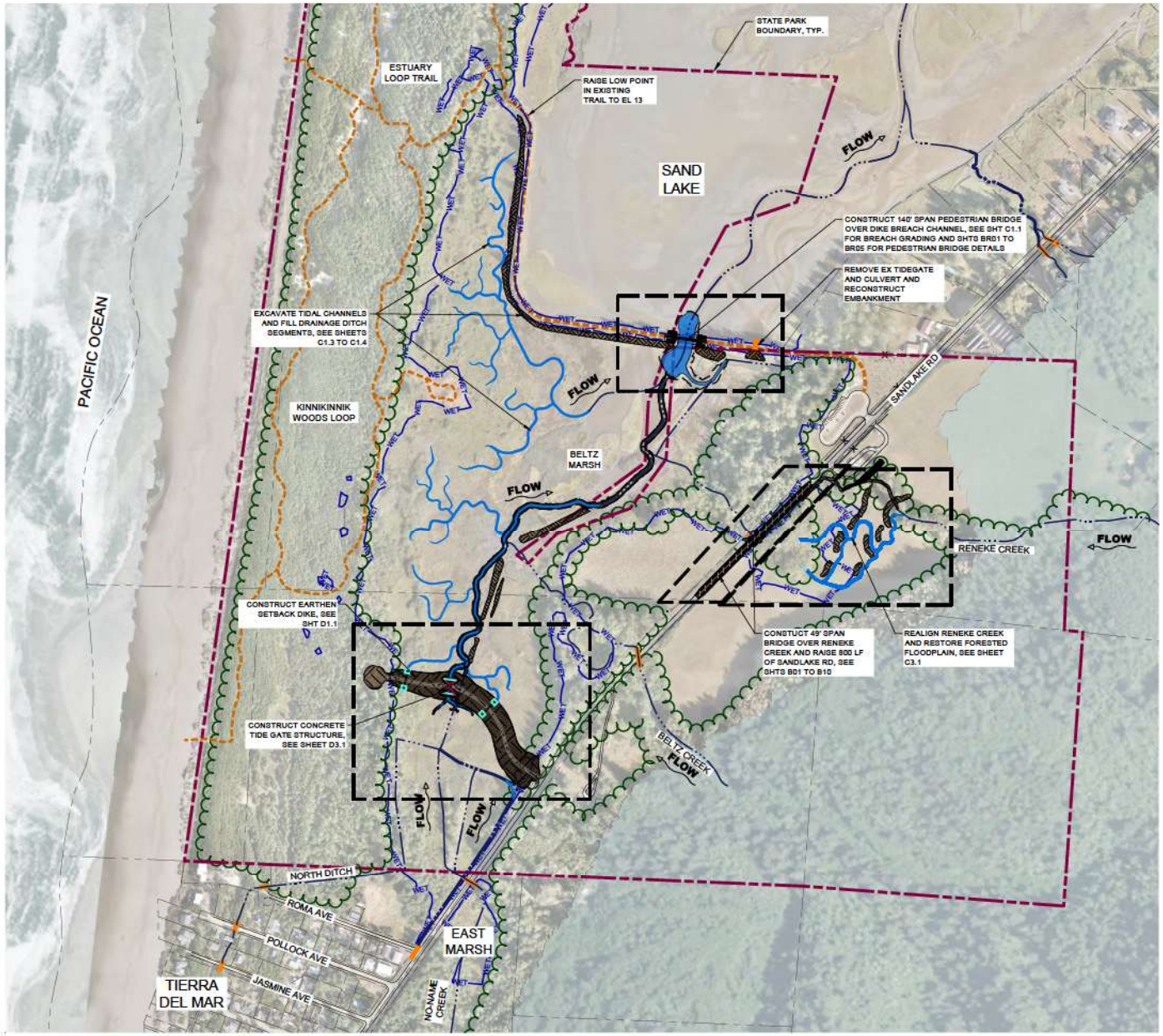
PHASE: DRAFT 90% DESIGN

SHEET TITLE: EXISTING CONDITIONS AND SURVEY CONTROL

SHEET NUMBER: G2.0

SHEET — OF ###

FILE P:\01 CA\2022\p-xx\202202200434.00 - TBP Sitka Sedge Tidal Wetland Restoration\DWG\G2.0 EXISTING CONDITIONS AND SURVEY CONTROL.dwg PLOT DATE: 9/09/2025 5:21:38 PM PLOTTED BY: OLIVIA PERRYRA



SITE PLAN AND OVERVIEW
PLAN SCALE: 1" = 250'

NOTES

1. THIS SHEET DEPICTS AN OVERVIEW OF PROPOSED SITE WORK. REFER TO ADDITIONAL SHEETS AS NOTED FOR MORE DETAIL IN EACH LOCATION.

LEGEND

EXISTING FEATURES
- EX TREE CANOPY
- STATE PARK BOUNDARY
- EX TRAIL
- EX WETLAND BOUNDARY (ESA, 2025)
- EX CULVERT
- EX THALWEG (APPROX.)
- EX FENCE
- EX ROAD
- EX PROPERTY BOUNDARY
- EX BEAVER STRUCTURE

PROPOSED FEATURES
- PROPOSED TIDAL CHANNELS
- TRAIL REGRADE
- PEDESTRIAN BRIDGE
- EXCAVATE CHANNEL
- PROPOSED FILL AREA
- ROADWAY IMPACT

1"=250' SCALE: 250 125 0 250 500 FEET

N

ESA
1615 SE 3RD AVENUE, SUITE. 400
PORTLAND, OR 97214
OFFICE - 503.274.2010
WWW.ESASSOC.COM

STAMP
REGISTERED PROFESSIONAL ENGINEER
PRELIMINARY
OREGON
NOT FOR CONSTRUCTION
RENEWAL DATE: 06-30-26

CLIENT
TILLAMOOK ESTUARIES PARTNERSHIP

PROJECT NAME
SITKA SEDGE TIDAL WETLAND RESTORATION
TIERRA DEL MAR, OREGON

REVISIONS
#	DATE	DESCRIPTION

DESIGNED	KCN
DRAWN	KCN
CHECKED	HLW
IN CHARGE	HLW 83862
PROJECT NUMBER	202200434
ISSUE DATE	09/11/2025

SCALE IS AS SHOWN WHEN PLOTTED TO FULL SIZE (22"x34")
1"

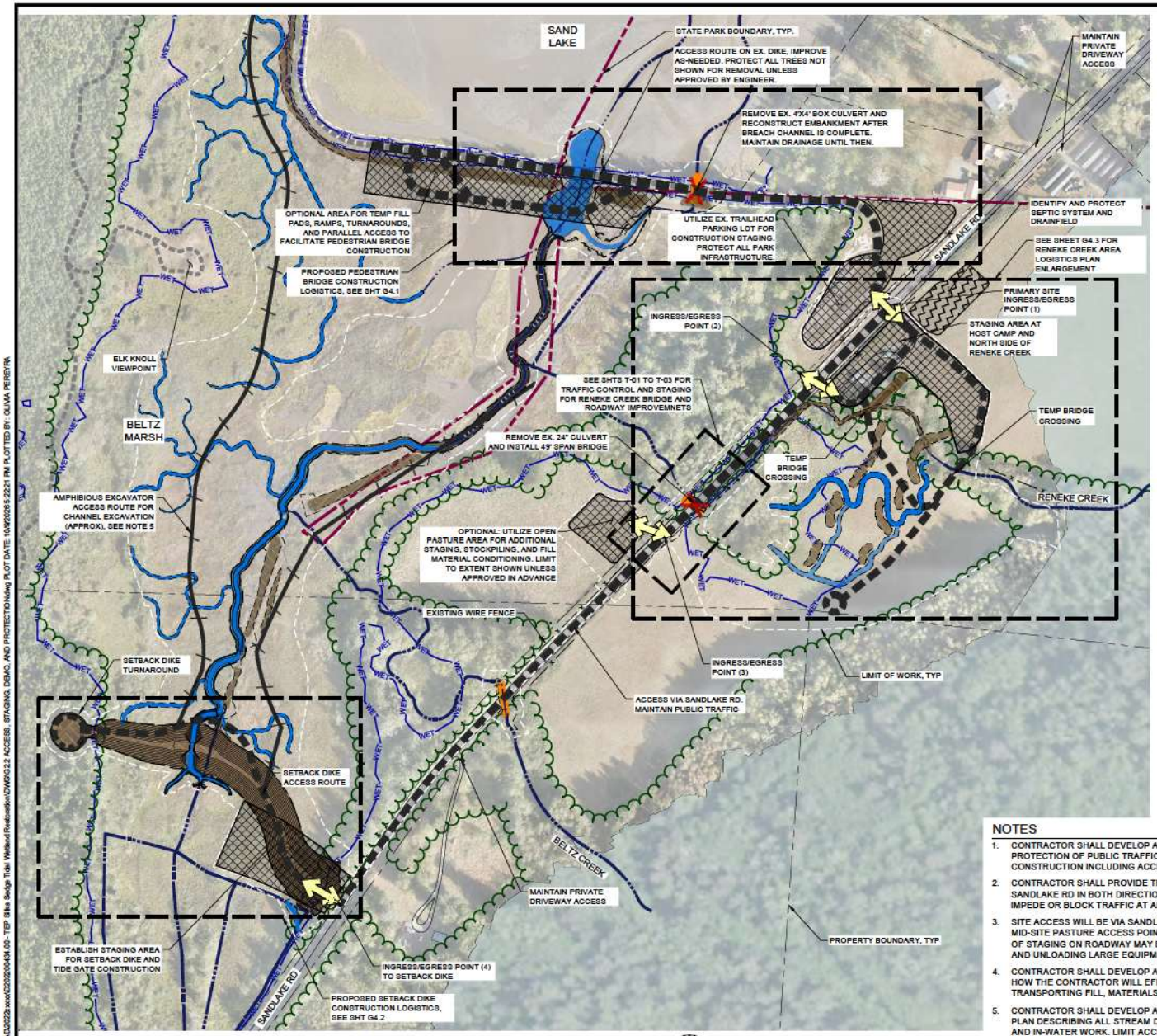
PHASE
DRAFT 90% DESIGN

SHEET TITLE
SITE PLAN AND OVERVIEW

SHEET NUMBER
G2.1

SHEET — OF ###

FILE P:\01 CA\2022\202200434.00 - TBP Sitka Sedge Tidal Wetland Restoration\DWG\G2.1 SITE PLAN AND OVERVIEW.dwg PLOT DATE: 10/6/2026 5:22:06 PM PLOTTED BY: OLIVIA PERREYRA

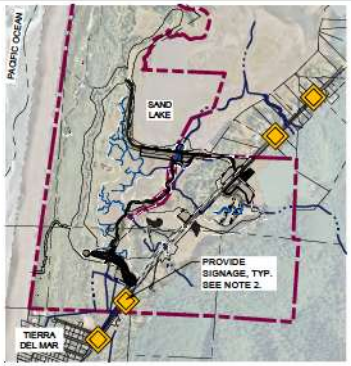


ACCESS, STAGING, DEMO, AND PROTECTION
PLAN SCALE: 1" = 150'

N

1"=150' 150 75 0 150 300
SCALE FEET

TEMPORARY WORK ZONE TRAFFIC CONTROL PLAN



1"=1000' 1000 500 0 1000 2000
SCALE FEET

N

LEGEND

EXISTING FEATURES
- EX TREE CANOPY
- STATE PARK BOUNDARY
- EX TRAIL
- EX WETLAND BOUNDARY (ESA, 2025)
- EX CULVERT
- EX THALWEG (APPROX.)
- EX FENCE
- EX ROAD
- EX PROPERTY BOUNDARY
- EX SEPTIC SYSTEM AND DRAIN FIELD

CONSTRUCTION/DEMO FEATURES
- POINT OF INGRESS/EGRESS
- ACCESS ROUTE
- AMPHIBIOUS EXCAVATOR ACCESS ROUTE
- LIMIT OF WORK
- STAGING AREA
- FILL AREAS
- DEMOLISH STRUCTURE
- SIGNAGE

NOTES

1. CONTRACTOR SHALL DEVELOP AND SUBMIT A TRAFFIC CONTROL PLAN (TCP) FOR MANAGING MAINTENANCE AND PROTECTION OF PUBLIC TRAFFIC FOR APPROVAL BY ENGINEER, TCPW, AND OPRD. COVER ALL STAGES/YEARS OF CONSTRUCTION INCLUDING ACCESS POINTS, STAGING AREAS, AND IMPACTS TO TRAFFIC DURING EACH STAGE.
2. CONTRACTOR SHALL PROVIDE TRAFFIC CONTROL SIGNAGE FOR 'TRUCKS ENTERING AND LEAVING ROADWAY' ON SANDLAKE RD IN BOTH DIRECTIONS AT SPACING PER ODOT STANDARDS. CONTRACTOR MAY NOT OTHERWISE IMPEDE OR BLOCK TRAFFIC AT ANY TIME EXCEPT AS APPROVED BY TCPW IN APPROVED TCP.
3. SITE ACCESS WILL BE VIA SANDLAKE ROAD IN MULTIPLE LOCATIONS INCLUDING THE SSSNA EXISTING DRIVEWAYS, MID-SITE PASTURE ACCESS POINTS, AND AT THE PROPOSED SETBACK DIKE CONNECTION. LIMITED DURATION USE OF STAGING ON ROADWAY MAY BE ALLOWED DURING INITIAL ESTABLISHMENT OF ACCESS POINTS OR LOADING AND UNLOADING LARGE EQUIPMENT AND MATERIALS.
4. CONTRACTOR SHALL DEVELOP AND SUBMIT A TEMPORARY WORK ACCESS AND CONTAINMENT PLAN DESCRIBING HOW THE CONTRACTOR WILL EFFECTIVELY MANAGE SITE INGRESS/EGRESS, CIRCULATION, AND WORKFLOW OF TRANSPORTING FILL, MATERIALS, AND EQUIPMENT IN AND OUT OF THE WORK AREAS.
5. CONTRACTOR SHALL DEVELOP AND SUBMIT A WORK AREA ISOLATION AND TEMPORARY WATER MANAGEMENT PLAN DESCRIBING ALL STREAM DIVERSIONS, COFFER DAMS, CHANNEL CROSSINGS, DEWATERING OPERATIONS, AND IN-WATER WORK. LIMIT ACCESS IN THE WETTEST AREAS OF THE SITE AND UTILIZE LOW-GROUND PRESSURE AND/OR AMPHIBIOUS CONSTRUCTION EQUIPMENT AND WORK MATS TO MINIMIZE IMPACT TO MARSH SURFACE.
6. SEE SHTS T-01 TO T-03 FOR TRAFFIC CONTROL, TRAFFIC BYPASS, AND STAGING/PHASING FOR RENEKE CREEK BRIDGE AND ROADWAY IMPROVEMENTS.

ESA
1615 SE 3RD AVENUE, SUITE. 400
PORTLAND, OR 97214
OFFICE - 503.274.2010
WWW.ESASSOC.COM

STAMP
REGISTERED PROFESSIONAL ENGINEER
PRELIMINARY
NOT FOR CONSTRUCTION
RENEWAL DATE: 06-30-26

CLIENT
TILLAMOOK ESTUARIES PARTNERSHIP

PROJECT NAME
SITKA SEDGE TIDAL WETLAND RESTORATION
TIERRA DEL MAR, OREGON

REVISIONS

#	DATE	DESCRIPTION

DESIGNED	KCN
DRAWN	KCN
CHECKED	HLW
IN CHARGE	HLW 83682
PROJECT NUMBER	202200434
ISSUE DATE	09/11/2025

SCALE IS AS SHOWN WHEN PLOTTED TO FULL SIZE (22"x34")
1"

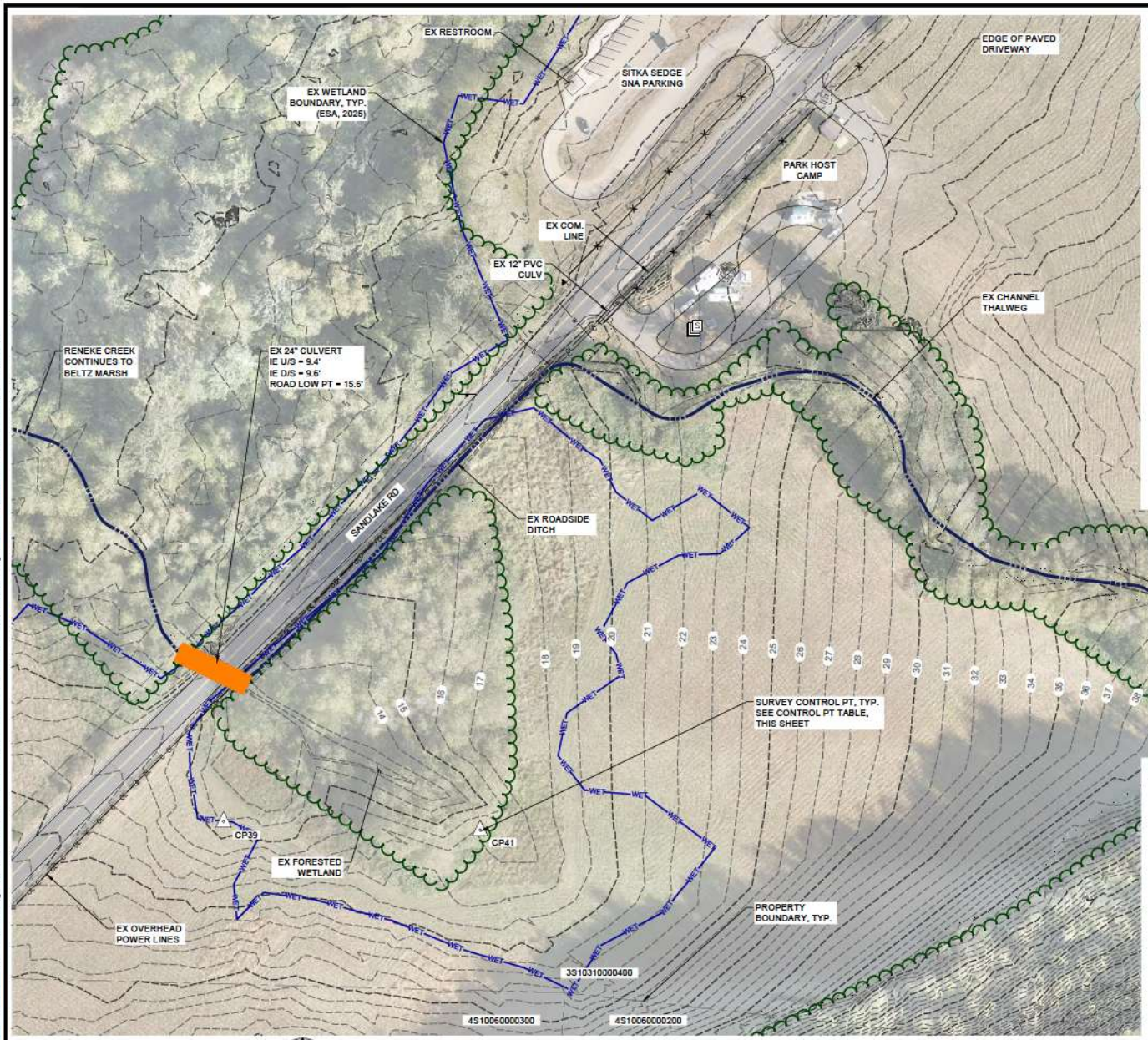
PHASE
DRAFT 90% DESIGN

SHEET TITLE
ACCESS, STAGING, DEMO, AND PROTECTION

SHEET NUMBER
G2.2

SHEET — OF ###

FILE P:\01 CA\3222p.xx\02022004\4.00 - TSP Sitka Sedge Tidal Wetland Restoration\DWG\G2.2 ACCESS, STAGING, DEMO, AND PROTECTION.dwg PLOT DATE: 10/9/2025 2:22:21 PM PLOTTED BY: OLIVIA PEREYRA



50 25 0 50 100
1"=50' SCALE FEET

N

EXISTING CONDITIONS AND SURVEY CONTROL PLAN
PLAN SCALE: 1" = 50'

NOTES

1. EXISTING CONDITIONS MAPPING IS BASED ON SURVEYS BY STATEWIDE LAND SURVEYING 2025. AREAS OUTSIDE OF SWLS SURVEY EXTENTS ARE SUPPLEMENTED WITH A 2017 PHODAR SURFACE, DERIVED FROM 2016 NOAA LIDAR AND ADJUSTED TO CORRECT VEGETATION BIAS, PROVIDED BY OPRD IN 2017.
2. UTILITY LOCATIONS ALONG SANDLAKE ROAD ARE APPROXIMATE.
3. THE BATHYMETRIC AND TOPOGRAPHIC SURVEY IS REPRESENTATIVE OF CONDITIONS AS THEY EXISTED AT THE TIME OF THE SURVEY ONLY.THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY CHANGED CONDITIONS THAT IMPACT THE WORK SHOWN IN THESE PLANS.
4. THE CONTRACTOR IS RESPONSIBLE FOR PROTECTION, COORDINATION AND TEMPORARY RELOCATION OF OVERHEAD POWER AS REQUIRED FOR SITE WORK.
5. THE VERTICAL DATUM FOR THIS PROJECT IS NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
6. THE HORIZONTAL DATUM FOR THIS PROJECT IS OREGON STATE PLANE (NORTH ZONE 3601) INTERNATIONAL FOOT.
7. AERIAL PHOTO IS PROVIDED BY NS CONSULTING, 2022.
8. PROPERTY LINES ARE APPROXIMATE BASED ON TILLAMOOK COUNTY GIS ONLINE MAP SERVICES.
9. SITE CONTROL WAS ESTABLISHED BY STATEWIDE LAND SURVEYING INC. IN JANUARY 2023.

CONTROL POINT TABLE

POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
CP39	600217.427	7312510.679	13.817	NAIL SPIKE
CP41	600202.026	7312751.086	17.491	NAIL SPIKE

LEGEND

- EX TREE CANOPY
- EX WETLAND BOUNDARY (ESA, 2025)
- CP## SURVEY CONTROL POINT
- EX CULVERT
- EX THALWEG (APPROX.)
- EX FENCE
- EX ROAD
- EX PROPERTY BOUNDARY
- EX SEPTIC TANK
- EX SIGN
- OVERHEAD UTILITY
- UNDERGROUND UTILITY - COMMUNICATION
- UNDERGROUND UTILITY - STORM LINE
- UNDERGROUND UTILITY - WATER
- WATER IRRIGATION
- UTILITY POLE
- EX MAJOR CONTOUR
- EX MINOR CONTOUR

ESA
819 SE MORRISON STREET, STE. 310
PORTLAND, OR 97214
OFFICE - 503.274.2010
WWW.ESASSOC.COM

STAMP
REGISTERED PROFESSIONAL ENGINEER
OREGON
RENEWAL DATE: 06-30-26

CLIENT
TILLAMOOK COUNTY

PROJECT NAME
RENEKE CREEK BRIDGE AND STREAM RESTORATION
SANDLAKE ROAD, CLOVERDALE OREGON 97112

REVISIONS

#	DATE	DESCRIPTION

DESIGNED	HLW
DRAWN	KCN
CHECKED	HLW
IN CHARGE	HLW 83662
PROJECT NUMBER	D202200434
ISSUE DATE	08/29/2025

SCALE IS AS SHOWN WHEN PLOTTED TO FULL SIZE (22"x34")
1"

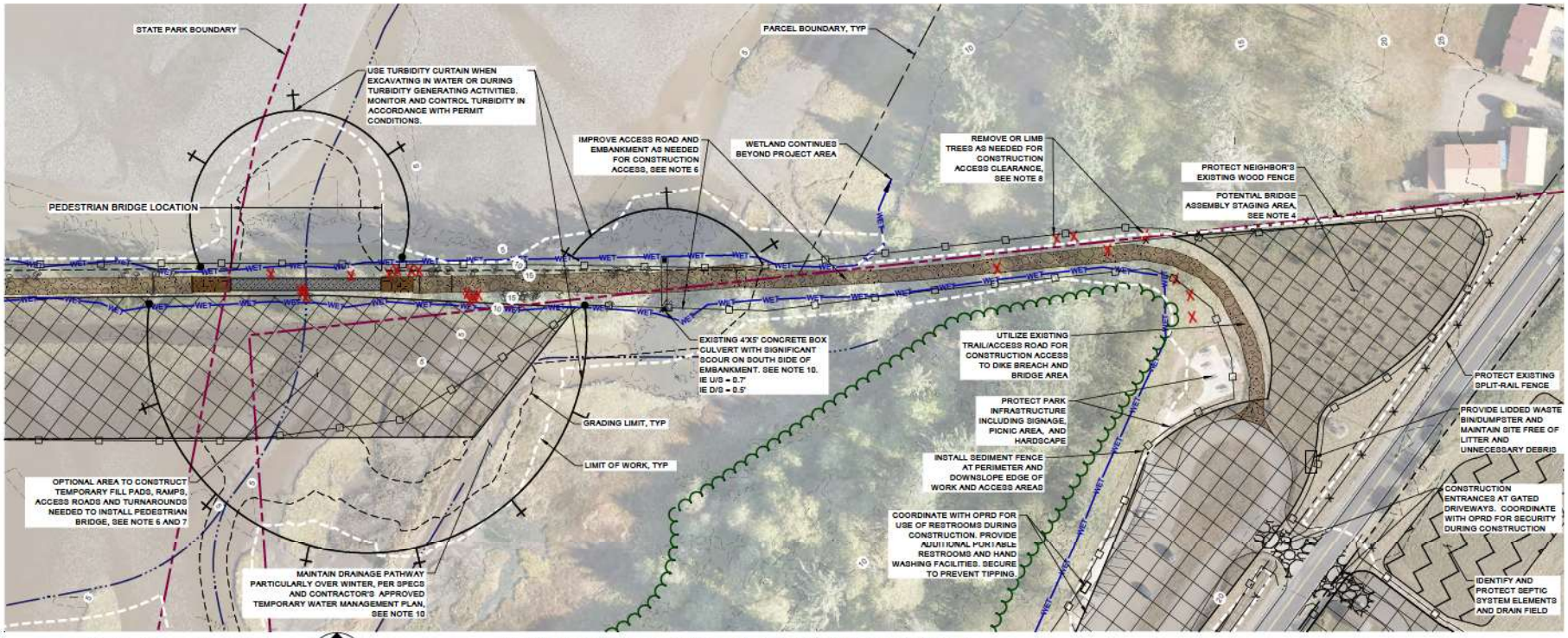
PHASE
60% DESIGN

SHEET TITLE
RENEKE CREEK EXSTING CONDITIONS & SURVEY CONTROL

SHEET NUMBER
G3.0

SHEET — OF ###

FILE P:\01 CA\3222p.xx\02022004\4.00 - TBP Site Setup Trail\ Wetland Restoration\DWG\RENEKEG3.0 RENEKE EXST COND AND SURVEY CONTROL.dwg PLOT DATE: 9/9/2025 5:23:04 PM PLOTTED BY: OLIVIA PEREYRA



1"=50' SCALE: 50 25 0 50 100 FEET

N

CONSTRUCTION SEQUENCING AND LOGISTICS - PEDESTRIAN BRIDGE

PLAN

SCALE: 1" = 50'

TREE DEMO		TREE DEMO		TREE DEMO		TREE DEMO	
TYPE	DIA (IN)	TYPE	DIA (IN)	TYPE	DIA (IN)	TYPE	DIA (IN)
EVERGREEN	14	EVERGREEN	9	EVERGREEN	12	DECIDUOUS	24
EVERGREEN	12	EVERGREEN	4	DECIDUOUS	10	DECIDUOUS	14
EVERGREEN	12	EVERGREEN	5	DECIDUOUS	10	DECIDUOUS	10
EVERGREEN	14	DECIDUOUS	8	DECIDUOUS	30	DECIDUOUS	12
EVERGREEN	14	DECIDUOUS	10	EVERGREEN	14	DECIDUOUS	12
EVERGREEN	12	DECIDUOUS	9	EVERGREEN	16	EVERGREEN	10
EVERGREEN	12	DECIDUOUS	10	EVERGREEN	20	DECIDUOUS	12
EVERGREEN	12	DECIDUOUS	10	EVERGREEN	18	DECIDUOUS	18
EVERGREEN	12	DECIDUOUS	12	DECIDUOUS	12	DECIDUOUS	9
EVERGREEN	9	DECIDUOUS	12	DECIDUOUS	24	DECIDUOUS	9
EVERGREEN	18	DECIDUOUS	16	DECIDUOUS	18	DECIDUOUS	16
EVERGREEN	10	EVERGREEN	30	DECIDUOUS	14	EVERGREEN	30
EVERGREEN	10	EVERGREEN	30	DECIDUOUS	18	EVERGREEN	18
EVERGREEN	10	EVERGREEN	12	DECIDUOUS	18	DECIDUOUS	10
EVERGREEN	9	EVERGREEN	12	DECIDUOUS	24	DECIDUOUS	16
EVERGREEN	10	EVERGREEN	14	DECIDUOUS	24	DECIDUOUS	10
EVERGREEN	10	EVERGREEN	10	DECIDUOUS	12	DECIDUOUS	12
EVERGREEN	12	EVERGREEN	14	DECIDUOUS	24	DECIDUOUS	12
EVERGREEN	18	EVERGREEN	6	DECIDUOUS	18	EVERGREEN	26
EVERGREEN	14	EVERGREEN	20	EVERGREEN	36	DECIDUOUS	18
EVERGREEN	12	EVERGREEN	40	DECIDUOUS	24	EVERGREEN	36
EVERGREEN	14	EVERGREEN	14	EVERGREEN	30	DECIDUOUS	9
EVERGREEN	14	EVERGREEN	8	DECIDUOUS	8	DECIDUOUS	12
EVERGREEN	14	EVERGREEN	8	DECIDUOUS	8	EVERGREEN	16
EVERGREEN	14	EVERGREEN	7	DECIDUOUS	7	DECIDUOUS	14
EVERGREEN	12	EVERGREEN	12	DECIDUOUS	6	DECIDUOUS	10
DECIDUOUS	12	EVERGREEN	18	DECIDUOUS	6	DECIDUOUS	16
DECIDUOUS	6	DECIDUOUS	9	EVERGREEN	12	EVERGREEN	12

NOTES

1. SEE SHEET C1.1 FOR DIKE BREACH CHANNEL GRADING AND SHEET BR01-BR05 FOR PEDESTRIAN BRIDGE INFORMATION. THIS SHEET FOCUSES ON CONSTRUCTION STAGING, ACCESS, SEQUENCING, AND LOGISTICS ASSOCIATED WITH DIKE BREACH AND PEDESTRIAN BRIDGE AREA. THIS AREA MAY ALSO BE UTILIZED DURING OTHER PHASES OF THE CONSTRUCTION PROJECT IN YEAR 1 AS APPROVED IN CONTRACTOR'S TEMPORARY WORK ACCESS AND CONTAINMENT PLAN, TEMPORARY WATER MANAGEMENT PLAN, CONSTRUCTION SCHEDULE AND SEQUENCING PLAN, AND CONTRACTOR'S TRAFFIC CONTROL PLAN.
2. CONTRACTOR SHALL EVALUATE THE SITE CONDITIONS AND DEVELOP A PLAN AND PROPOSED IMPROVEMENTS TO ACCOMMODATE THEIR WORK APPROACH AND ASSOCIATED EQUIPMENT. THE DIKE EMBANKMENT AND TRAIL SURFACING SHALL BE RESTORED AT THE END OF THE PROJECT TO EQUAL OR BETTER CONDITION IN ACCORDANCE WITH SPECS AND REVEGETATION PLAN.
3. ACCESS SITE VIA THE SSSNA TRAILHEAD PARKING LOT AND EXISTING BELTZ DIKE TRAIL. INSTALL GRAVEL CONSTRUCTION ENTRANCE OR TRACKOUT MAT TO PREVENT SEDIMENT FROM EXISTING THE SITE, AND SWEEP ROADWAY IF NEEDED TO CLEAN SEDIMENT TRACKING FROM ROAD. PROTECT ALL PARK INFRASTRUCTURE INCLUDING SIGNAGE, HARDSCAPE, AND LANDSCAPING UNLESS APPROVED IN ADVANCE. REPAIR OR REPLACE ANY DAMAGE TO PARK INFRASTRUCTURE AND SURFACES BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
4. CONTRACTOR MAY UTILIZE THE AREA NORTH OF THE PARKING LOT AND EAST OF THE DIKE ENTRANCE FOR STAGING AND ASSEMBLY OF THE PEDESTRIAN BRIDGE. COORDINATE WITH OWNER FOR SALVAGING SHRUBS AND TREES IN THIS AREA (PLANTED IN 2020). TRANSPLANT SALVAGABLE TREES AND SHRUBS AS DIRECTED AND RESTORE THIS STAGING AREA AT THE END OF CONSTRUCTION IN ACCORDANCE WITH REVEGETATION PLAN AND SPECS TO OWNER'S SATISFACTION AND ENGINEER APPROVAL.
5. CONTRACTOR MAY ELECT TO ASSEMBLE THE PEDESTRIAN BRIDGE AT THE STAGING AREA AND TRANSPORT THE ASSEMBLED BRIDGE TO THE BRIDGE SITE VIA THE DIKE-TOP TRAIL, OR TRANSPORT BRIDGE PARTS ALONG THE TRAIL, OR BY OTHER APPROVED METHODS, AND ASSEMBLE AT THE BRIDGE SITE. THE CONTRACTOR MAY CONSTRUCT TEMPORARY FILL PADS, CRANE PADS, RAMPS, TURNAROUNDS, AND PARALLEL ACCESS ROADS ALONG THE EXISTING DIKE EMBANKMENT TO FACILITATE ACCESS AND BRIDGE CONSTRUCTION.
6. DEPENDING ON CONTRACTOR'S PROPOSED METHODS AND EQUIPMENT, IT MAY BE NECESSARY TO WIDEN THE DIKE TOP SURFACE, ENHANCE OR STABILIZE SIDE SLOPES, PROVIDE TEMPORARY BRIDGING OR REINFORCING OVER THE EXISTING DRAINAGE CULVERT, REMOVE OR LIMB TREES FOR HORIZONTAL AND VERTICAL CLEARANCE. CONTRACTOR IS RESPONSIBLE DETERMINING THE NECESSARY IMPROVEMENTS AND FOR COMPLETING ANY IMPROVEMENTS TO THE EXISTING TRAIL AND DIKE EMBANKMENT TO SUPPORT CONSTRUCTION EQUIPMENT AND MATERIALS. CONTRACTOR SHALL RESTORE THE TRAIL AND SURFACING TO THE MINIMUM WIDTHS AND ELEVATIONS OF THE EXISTING TRAIL, REPAIRING ANY DAMAGE TO THE EMBANKMENT, TRAIL, TRAIL HEAD INFRASTRUCTURE, OR PARKING LOT CAUSED BY CONSTRUCTION ACCESS AND STAGING.
7. CONTRACTOR MAY IMPORT FILL FOR USE IN BUILDING THESE TEMPORARY ACCOMMODATIONS, OR SEQUENCE WORK INCLUDING DESIGNED CHANNEL EXCAVATION AND DITCH FILL TO UTILIZE ONSITE EXCAVATED SOILS FOR TEMPORARY ACCESS IMPROVEMENTS.
8. THESE PLANS AND ASSOCIATED PERMITTING IS INTENDED TO PROVIDE THE CONTRACTOR WITH MAXIMUM FLEXIBILITY IN THE APPROACH TO ASSEMBLING AND INSTALLING THE PEDESTRIAN BRIDGE. NOT ALL WORK AREAS IDENTIFIED MAY BE NEEDED, AND NOT ALL TREES SHOWN FOR REMOVAL MAY BE NECESSARY. CONTRACTOR SHALL MAKE REASONABLE ATTEMPTS TO MINIMIZE IMPACTS TO EXISTING TREES AND NATIVE VEGETATION ALONG THE TRAIL AND FLAG ALL TREES FOR APPROVAL PRIOR TO REMOVAL. SALVAGE REMOVED TREES AND USE IN WHS.
9. THE PEDESTRIAN BRIDGE SHALL BE INSTALLED DURING YEAR 2 OF CONSTRUCTION. DO NOT EXCAVATE DIKE BREACH CHANNEL CONNECTION TO SAND LAKE UNTIL SETBACK DIKE IS COMPLETED AND TIDE GATE STRUCTURE IS OPERATIONAL. IN YEAR TWO, THE CONTRACTOR MAY LOWER THE DIKE EMBANKMENT WITHIN THE PED BRIDGE AREA TO FACILITATE BRIDGE INSTALLATION, WHILE MAINTAINING HEIGHT SUFFICIENT TO PREVENT OVER TOPPING DURING HIGH TIDES ANTICIPATED DURING CONSTRUCTION WINDOW.
10. MAINTAIN EXISTING DRAINAGE CULVERT AND FLOW PATHS FOR DRAINAGE AND EGRESS FISH PASSAGE DURING CONSTRUCTION. ISOLATE AND DEWATER WORK AREAS AS NEEDED TO COMPLETE WORK IN ACCORDANCE WITH PERMIT CONDITIONS AND APPROVED TWMP. ONCE BREACH CHANNEL IS CONNECTED, REMOVE EXISTING CULVERT AND RECONSTRUCT EMBANKMENT PER PLANS AND SPECS.

LEGEND

EXISTING FEATURES
- EX TREE CANOPY
- EX WETLAND BOUNDARY (ESA, 2025)
- EX THALWEG (APPROX.)
- EX CULVERT
- EX ROAD
- EX PROPERTY BOUNDARY
- EX FENCE
- EX TRAIL
- EX MAJOR CONTOUR
- EX MINOR CONTOUR
- EX DECIDUOUS TREES
- EX EVERGREEN TREES
- PROTECT SEPTIC SYSTEM

PROPOSED FEATURES
- TREE REMOVAL
- TRAIL REGRADE
- PEDESTRIAN BRIDGE
- STAGING AREA
- CONSTRUCTION ENTRANCES

ESA
1615 SE 3RD AVENUE, SUITE. 400
PORTLAND, OR 97214
OFFICE - 503.274.2010
WWW.ESASSOC.COM

STAMP
REGISTERED PROFESSIONAL ENGINEER
PRELIMINARY
OREGON
NOT FOR CONSTRUCTION
RENEWAL DATE: 06-30-26

CLIENT
TILLAMOOK ESTUARIES PARTNERSHIP

PROJECT NAME
SITKA SEDGE TIDAL WETLAND RESTORATION
TIERRA DEL MAR, OREGON

REVISIONS

#	DATE	DESCRIPTION

DESIGNED	HLW
DRAWN	KCN
CHECKED	HLW
IN CHARGE	HLW 83662
PROJECT NUMBER	202200434
ISSUE DATE	09/11/2025

SCALE IS AS SHOWN WHEN PLOTTED TO FULL SIZE (22"x34")
1"

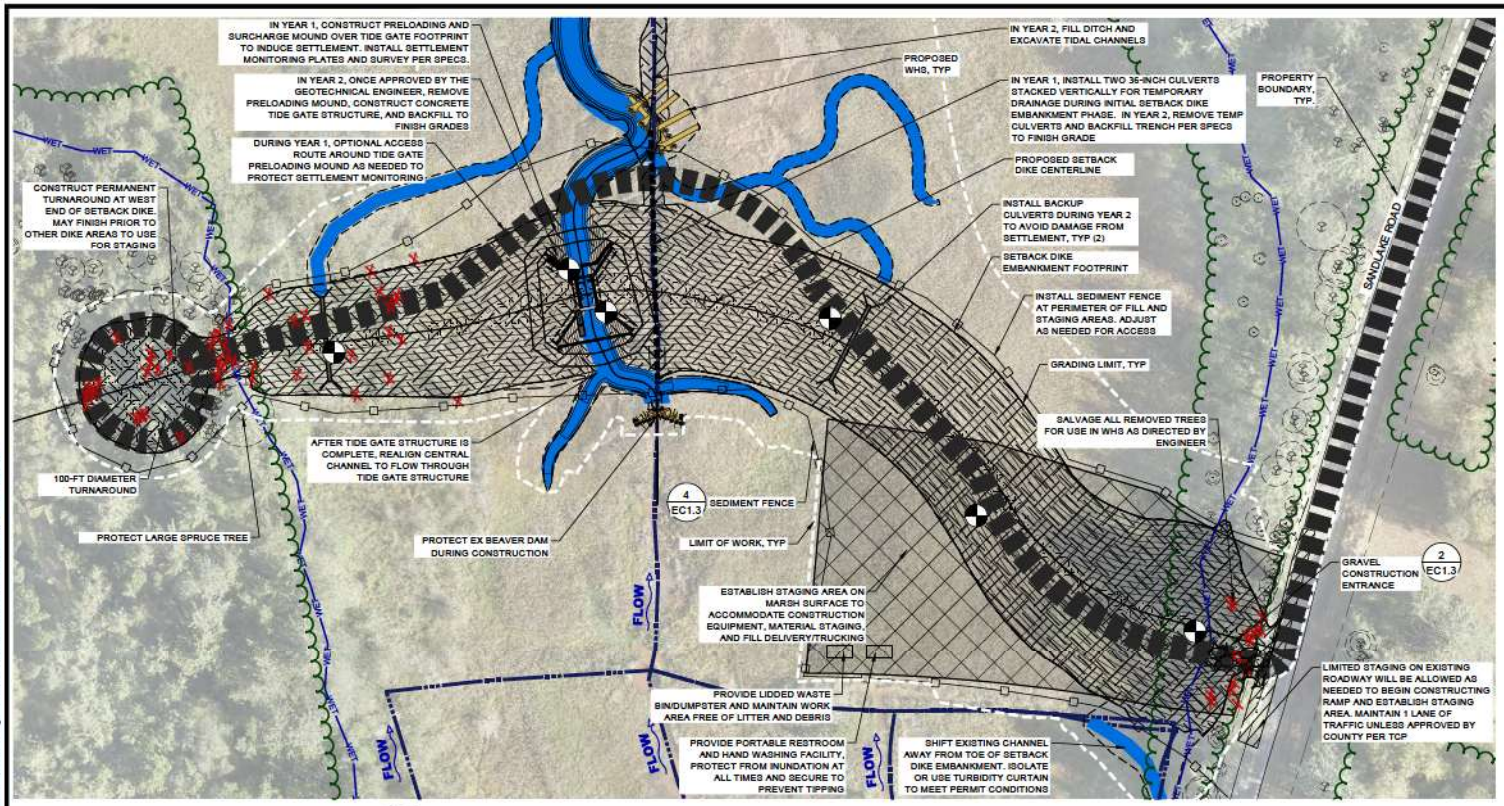
PHASE
DRAFT 90% DESIGN

SHEET TITLE
CONSTRUCTION LOGISTICS - PEDESTRIAN BRIDGE

SHEET NUMBER
G4.1

SHEET — OF ###

FILE P:\01 CA\2022\202200434.00 - TBP Sitka Sedge Tidal Wetland Restoration\DWG\04.1 CONSTRUCTION\BSEQUENCING - PED BRIDGE.dwg PLOT DATE: 9/9/2026 5:23:43 PM PLOTTED BY: OLIVIA PEREYRA



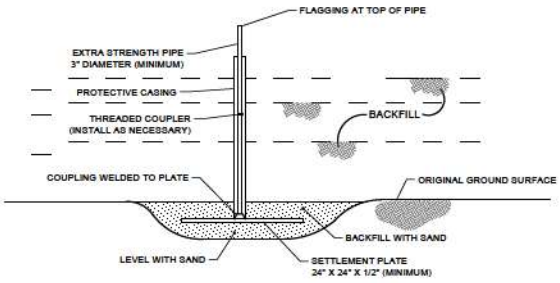
1"=50' SCALE 50 25 0 50 100 FEET

CONSTRUCTION SEQUENCING AND LOGISTICS - SETBACK DIKE

PLAN SCALE: 1" = 50'

NOTES

1. SEE SHT D1.2 FOR SETBACK DIKE GRADING TIE-IN ENLARGEMENTS.
2. SEE SHT D2.1 FOR SETBACK DIKE SECTIONS.
3. THIS SHEET DEPICT CONSTRUCTION LOGISTICS AND SEQUENCING INFORMATION ASSOCIATE WITH THE PROPOSED SETBACK DIKE AND TIDE GATE STRUCTURE.
4. THE SETBACK DIKE WILL BE CONSTRUCTED OVER A MINIMUM OF TWO CONSTRUCTION SEASONS DUE TO ANTICIPATED SETTLEMENT OF THE SETBACK DIKE EMBANKMENT AND UNDERLYING SOILS, PER GEOTECH REPORT.
5. AT START OF CONSTRUCTION, ESTABLISH A STAGING AREA ON THE MARSH SURFACE TO ACCOMMODATE ACCESS, STAGING, AND DELIVERY OF FILL MATERIAL. LIMITED STAGING ON THE EXISTING ROADWAY (SANDLAKE RD) WILL BE ALLOWED AS NEEDED TO BEGIN CONSTRUCTING RAMP OFF OF ROADWAY AND ESTABLISH STAGING AREA. MAINTAIN 1 LANE OF TRAFFIC AT ALL TIMES WITH FLAGGERS OR SIGNAL, TO BE APPROVED BY TCPW IN CONTRACTORS TRAFFIC CONTROL PLAN.
6. IN YEAR 1, INSTALL TEMPORARY DRAINAGE CULVERTS IN EXISTING DRAINAGE DITCH TO MAINTAIN DRAINAGE CONVEYANCE DURING CONSTRUCTION AND DURING WINTER BETWEEN CONSTRUCTION SEASONS. STACK TWO 36" DIA CULVERTS VERTICALLY IN DITCH, SO THAT UNDER SEVERAL FEET OF SETTLEMENT, THE BOTTOM CULVERT WILL LIKELY SINK BELOW GRADE AND THE TOP CULVERT WILL REMAIN FUNCTIONAL. INSTALL FLAP GATES (OPTIONAL) PER CONTRACTOR'S TEMPORARY WATER MANAGEMENT PLAN.
7. IN YEAR 1, CONSTRUCT SETBACK DIKE EMBANKMENT TO INITIAL BUILD HEIGHT AND GRADES. IN YEAR 2, COMPLETE SETBACK DIKE TO FINAL ELEVATIONS AND SIDE SLOPES, REPAIRING ANY DAMAGE CAUSED BY SETTLEMENT. PLACE GRAVEL ACCESS ROAD ON TOP AFTER HAULING OPERATIONS ARE COMPLETE.
8. IN YEAR 1, CONSTRUCT A PRELOADING/SURCHARGE MOUND OVER THE FUTURE TIDE GATE FOOTPRINT TO INDUCE SETTLEMENT. INSTALL SETTLEMENT MONITORING PLATES AND SURVEY PER SPECIFICATIONS. PROVIDE SURVEY DATA TO ENGINEER TO ANALYZE SETTLEMENT. ROUTE CONSTRUCTION TRAFFIC AROUND PRELOADING MOUND OR PROTECT SETTLEMENT PLATES PER GEOTECHS APPROVAL.
9. IN YEAR 2, REMOVE TIDE GATE PRELOADING MOUND AND CONSTRUCT CONCRETE TIDE GATE STRUCTURE.COORDINATE WITH NEHALEM MARINE MANUFACTURING FOR THEIR INSTALLATION OF THE TIDE GATE AND MTR SYSTEM.
10. ONCE TIDEGATE STRUCTURE IS COMPLETE, EXCAVATE CHANNELS TO REROUTE DRAINAGE THROUGH NEW TIDEGATE STRUCTURE, REMOVE TEMPORARY DRAINAGE CULVERTS AND BACKFILL TRENCH TO FINISH GRADE PER SPECS.
11. CONSTRUCT BACKUP CULVERTS IN YEAR 2 TO PREVENT DAMAGE DUE TO SETTLEMENT AND BACKFILL TRENCH PER SPECS.



2 SETTLEMENT MONITORING PLATE DETAIL SCALE: NTS

LEGEND

EXISTING FEATURES	PROPOSED FEATURES
EX TREE CANOPY	ACCESS ROUTE
EX WETLAND BOUNDARY (ESA, 2025)	SEDIMENT FENCE
EX THALWEG (APPROX.)	CULVERT AND TIDE GATE
EX ROAD	PROPOSED TIDAL CHANNELS
EX PROPERTY BOUNDARY	TREE REMOVAL
EX EVERGREEN TREES	WOOD HABITAT STRUCTURES
EX DECIDUOUS TREES	STAGING AREA
EX BEAVER STRUCTURES	FILL PLACEMENT
	GRAVEL CONSTRUCTION ENTRANCE

SETTLEMENT MONITORING LEGEND

SETTLEMENT PLATE AT EG WITH RISER PIPE EXTENSION TO FG FOR MEASUREMENT

SETTLEMENT MONITORING PROTECTION ZONE - TAPE OFF AND DO NOT CROSS W EQUIPMENT ONCE SETTLEMENT ONCE GRADING IS COMPLETE.

ESA
1615 SE 3RD AVENUE, SUITE. 400
PORTLAND, OR 97214
OFFICE - 503.274.2010
WWW.ESASSOC.COM

STAMP
REGISTERED PROFESSIONAL ENGINEER
PRELIMINARY
NOT FOR CONSTRUCTION
RENEWAL DATE: 06-30-26

CLIENT
TILLAMOOK ESTUARIES PARTNERSHIP

PROJECT NAME
SITKA SEDGE TIDAL WETLAND RESTORATION
TIERRA DEL MAR, OREGON

REVISIONS

#	DATE	DESCRIPTION

DESIGNED	KCN
DRAWN	KCN
CHECKED	HLW
IN CHARGE	HLW 83882
PROJECT NUMBER	202200434
ISSUE DATE	09/11/2025

SCALE IS AS SHOWN WHEN PLOTTED TO FULL SIZE (22"x34")
1"

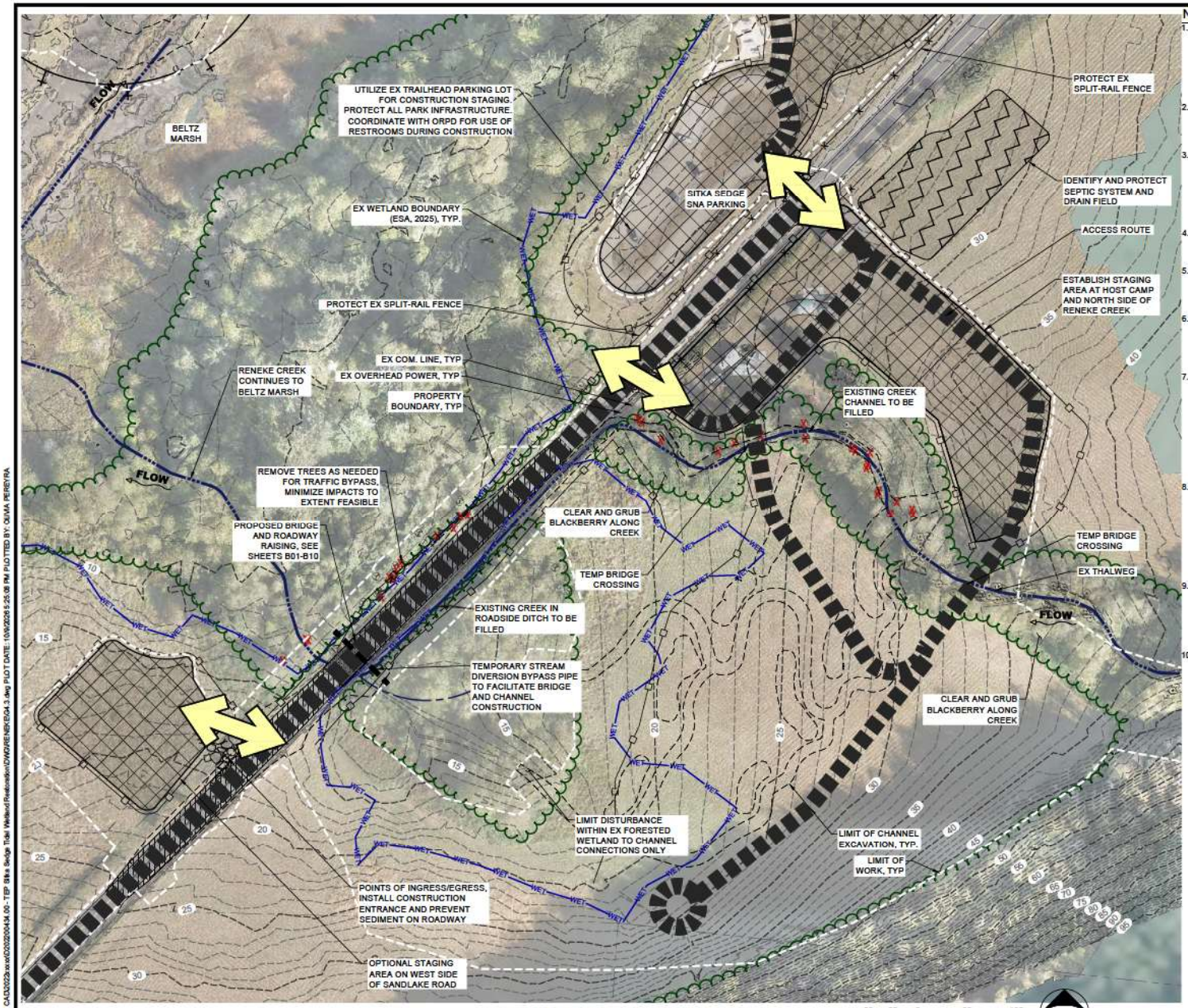
PHASE
DRAFT 90% DESIGN

SHEET TITLE
CONSTRUCTION LOGISTICS - SETBACK DIKE

SHEET NUMBER
G4.2

SHEET — OF ###

FILE P:\01 CA\2022\xxx\202202043A.00 - TBP Sitka Sedge Tidal Wetland Restoration\DWG\G4.2 CONSTRUCTION&SEQUENCING - SETBACK.dwg PLOT DATE: 10/9/2025 2:43:30 PM PLOTTED BY: OLIVIA PEREYRA



CONSTRUCTION LOGISTICS - RENEKE CREEK
PLAN
SCALE: 1" = 60'

1"=60' SCALE 60 30 0 60 120 FEET

NOTES

1. THIS SHEET FOCUSES ON CONSTRUCTION STAGING, ACCESS, SEQUENCING, AND LOGISTICS ASSOCIATED WITH THE RENEKE CREEK CULVERT REPLACEMENT AND STREAM RESTORATION AREA. SEE SHEET C3.1 TO C3.3 FOR RENEKE CREEK STREAM REALIGNMENT GRADING PLANS AND SHEETS B01 TO B10 FOR RENEKE CREEK BRIDGE AND ROADWAY IMPROVEMENTS.
2. PENDING AVAILABLE FUNDING AND APPROVAL OF THE CONTRACTOR'S PROPOSED CONSTRUCTION SCHEDULE, CONSTRUCT RENEKE CREEK AREA IMPROVEMENTS DURING YEAR 1 OF CONSTRUCTION.
3. ENTER WORK AREA VIA EXISTING DRIVEWAY ENTRANCES FROM SANDLAKE ROAD TO THE PARK HOST CAMP AREA. AN ALTERNATE ACCESS POINT FROM SANDLAKE ROAD SOUTH OF THE CULVERT CROSSING MAY BE USED IF APPROVED BY SHPO AND ARCHAEOLOGICAL SITE PROTECTION AND MONITORING IS PERFORMED IN ACCORDANCE WITH PERMIT CONDITIONS.
4. UTILIZE EXISTING PARK HOST CAMP AREA, TRAILHEAD PARKING LOT, AND ADDITIONAL STAGING AREAS SHOWN HERE AS NEEDED AND APPROVED BY OPRD.
5. IDENTIFY EXISTING SEPTIC SYSTEM AND DRAINFIELD COMPONENTS IN VICINITY OF PARK HOST AREA AND PROTECT FROM DAMAGE DURING CONSTRUCTION. ANY DAMAGE TO BE REPAIRED AT NO COST TO OWNER.
6. CROSS RENEKE CREEK WITH TEMPORARY BRIDGES, OR IN ACCORDANCE WITH THE CONTRACTOR'S APPROVED TEMPORARY WORK ACCESS AND CONTAINMENT PLAN AND TEMPORARY WATER MANAGEMENT AND WORK AREA ISOLATION PLAN.
7. MAINTAIN STREAMFLOW AND DOWNSTREAM FISH PASSAGE DURING CONSTRUCTION WHILE COMPLETING THE WORK SHOWN BY UTILIZING COFFER DAMS, BYPASS PIPING, TEMPORARY OPEN CHANNELS, OR OTHER APPROVED MEANS FOR STREAM DIVERSION. ONCE NEW RENEKE CREEK MAIN CHANNEL IS COMPLETE, STREAM FLOWS MAY BE RELEASED INTO THE NEW CHANNEL. COORDINATE WITH TEP TO CONDUCT FISH SALVAGE OPERATIONS AND ASSIST BY UTILIZING PUMPING AND ISOLATION MEASURES TO FACILITATE FISH SALVAGE.
8. CONTRACTOR MAY SALVAGE USABLE STREAMBED MATERIAL FROM EXISTING RENEKE CREEK CHANNEL FOR USE IN NEW CHANNELS IF DONE IN ACCORDANCE WITH WORK AREA ISOLATION PLAN AND PERMIT CONDITIONS. IMPORTED STREAMBED MATERIAL WILL BE REQUIRED TO SUPPLEMENT EXISTING ONSITE SOURCE, OR IF CONTRACTOR'S PREFERRED SEQUENCING IS FACILITATED BY UTILIZING MORE IMPORTED COBBLES AND GRAVELS FOR ESM. NO SEPARATE PAYMENT FOR IMPORTING VS. USING SALVAGED STREAMBED MATERIAL.
9. REMOVE TREES AS NECESSARY ALONG CREEK CHANNEL TO BE FILLED AND ALONG SAND LAKE ROAD TO CONSTRUCT TEMPORARY TRAFFIC BYPASS MEASURES. CONTRACTOR SHALL MINIMIZE TREE IMPACTS TO THE EXTENT FEASIBLE AND UTILIZE ALL REMOVED TREES IN WHS AS SHOWN OR DIRECTED BY ENGINEER.
10. INSTALL SEDIMENT FENCE AT THE PERIMETER OF ALL STAGING AREAS AND ACCESS ROADS, ESPECIALLY WHERE WATER OR WETLAND IS PRESENT DOWNSLOPE. RELOCATE BMPS TO FACILITATE ACCESS INTO STREAM AND WETLAND WORK AREAS AND AS STREAM SEGMENTS ARE DEWATERED.

LEGEND

EXISTING FEATURES

- EX TREE CANOPY
- STATE PARK BOUNDARY
- EX WETLAND BOUNDARY (ESA, 2025)
- EX CULVERT
- EX THALWEG (APPROX.)
- EX EVERGREEN TREES
- EX DECIDUOUS TREES
- EX SEPTIC SYSTEM AND DRAIN FIELD

CONSTRUCTION/DEMO FEATURES

- POINT OF INGRESS/EGRESS
- ACCESS ROUTE
- STAGING AREA
- TREE REMOVAL
- BRIDGE

ESA
819 SE MORRISON STREET, STE. 310
PORTLAND, OR 97214
OFFICE - 503.274.2010
WWW.ESASSOC.COM

STAMP

REGISTERED PROFESSIONAL ENGINEER
OREGON
RENEWAL DATE: 06-30-26

CLIENT
TILLAMOOK COUNTY

PROJECT NAME
RENEKE CREEK BRIDGE AND STREAM RESTORATION
SANDLAKE ROAD, CLOVERDALE OREGON 97112

REVISIONS

#	DATE	DESCRIPTION

DESIGNED	HLW
DRAWN	KCN
CHECKED	HLW
IN CHARGE	HLW 83682
PROJECT NUMBER	D202200434
ISSUE DATE	08/29/2025

SCALE IS AS SHOWN WHEN PLOTTED TO FULL SIZE (22"x34")
1"

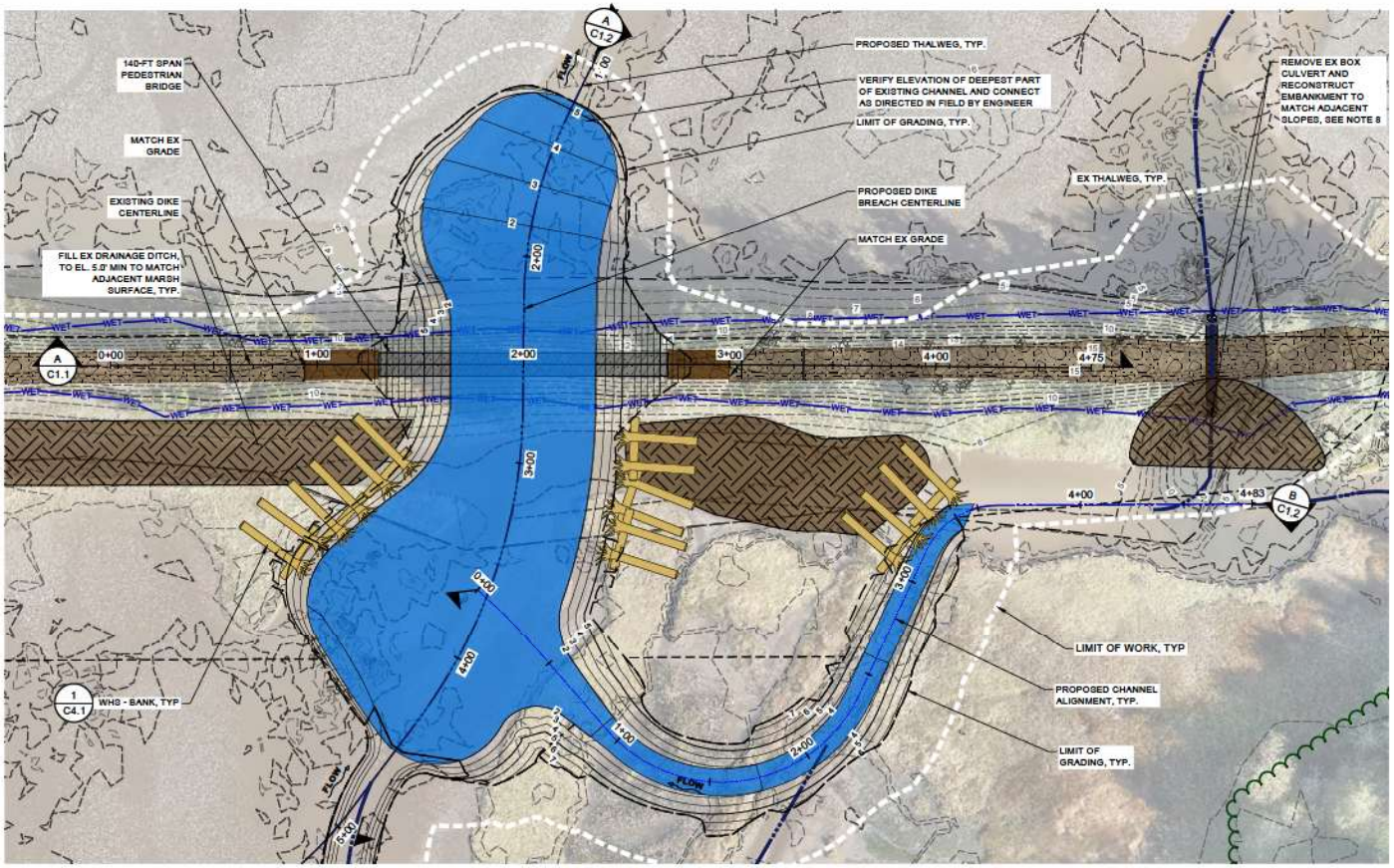
PHASE
60% DESIGN

SHEET TITLE
CONSTRUCTION LOGISTICS - RENEKE CREEK

SHEET NUMBER
G4.3

SHEET — OF ###

FILE P:\01 CA\2022\xrefs\D202200434.00 - TEP Elks Sedge Tide\ Wetland Restoration\DWG\RENEKE\G4.3.dwg PLOT DATE: 10/9/2026 5:25:08 PM PLOTTED BY: OLIVIA PEREYRA

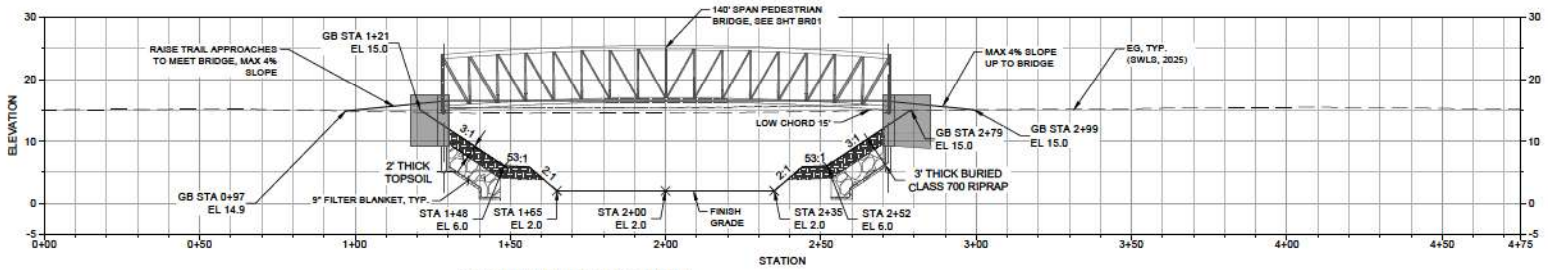


DIKE BREACH PLAN

PLAN SCALE: 1" = 30'

1"=30' SCALE 30 15 0 30 60 FEET

N



A C1.1 DIKE BREACH SECTION

PROFILE HORIZONTAL SCALE: 1" = 20'
VERTICAL SCALE: 1" = 10'

NOTES

1. THIS SHEET SHOWS THE PROPOSED DIKE BREACH CHANNEL GRADING AND PROPOSED PEDESTRIAN BRIDGE TO MAINTAIN TRAIL ACCESS OVER THE BREACH CHANNEL.
2. SEE SHEETS BR01 TO BR05 FOR PEDESTRIAN BRIDGE DETAILS DESIGNED BY DEA, SPECS, AND GEOTECH REPORT BY SHANNON & WILSON FOR ADDITIONAL RELEVANT INFO.
3. SEE SHEET G4.1 FOR CONSTRUCTION LOGISTICS CONSIDERATIONS FOR ASSEMBLING AND INSTALLING THE PEDESTRIAN BRIDGE.
4. CONSTRUCT PEDESTRIAN BRIDGE IN YEAR 2 OF CONSTRUCTION AND DO NOT BREACH DIKE UNTIL SETBACK DIKE AND TIDE GATE STRUCTURE ARE COMPLETE AND READY FOR SERVICE.
5. SEE SHEETS C1.3 TO C1.4 FOR ADDITIONAL CHANNEL AND DITCH GRADING AND WOOD HABITAT STRUCTURES.
6. RAISE TRAIL APPROACHES TO MEET THE ENDS OF THE NEW PEDESTRIAN BRIDGE, MAX 4% LONGITUDINAL SLOPE.
7. REPAIR DAMAGE TO EXISTING TRAIL AND EMBANKMENT CAUSED BY CONSTRUCTION INCLUDING TRAIL SURFACING AT END OF PROJECT.
8. MAINTAIN EXISTING DRAINAGE CULVERT FOR DRAINAGE THROUGH CONSTRUCTION UNTIL PEDESTRIAN BRIDGE AND BREACH GRADING IS COMPLETE. THEN REMOVE BOX CULVERT AND RECONSTRUCT EMBANKMENT TO MATCH ADJACENT SIDE SLOPES PER SPECS. FILL UPSTREAM SCOUR HOLE AND GRADE TO MATCH MARSHPLAIN BENCH.

LEGEND

EXISTING FEATURES
- EX TRAIL
- EX CULVERT
- EX THALWEG (APPROX.)
- EX WETLAND BOUNDARY (ESA, 2025)
- EX MAJOR CONTOUR
- EX MINOR CONTOUR
- EX EVERGREEN TREES
- EX DECIDUOUS TREES

PROPOSED FEATURES
- PROPOSED CHANNEL ALIGNMENT
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- WOOD HABITAT STRUCTURES
- TRAIL REGRADE
- PEDESTRIAN BRIDGE
- EXCAVATE CHANNEL
- PROPOSED FILL AREA

ESA
1615 SE 3RD AVENUE, SUITE. 400
PORTLAND, OR 97214
OFFICE - 503.274.2010
WWW.ESASSOC.COM

STAMP
REGISTERED PROFESSIONAL ENGINEER
PRELIMINARY
NOT FOR CONSTRUCTION
RENEWAL DATE: 06-30-26

CLIENT
TILLAMOOK ESTUARIES PARTNERSHIP

PROJECT NAME
SITKA SEDGE TIDAL WETLAND RESTORATION
TIERRA DEL MAR, OREGON

REVISIONS

#	DATE	DESCRIPTION

DESIGNED	KCN
DRAWN	KCN
CHECKED	HLW
IN CHARGE	HLW 83862
PROJECT NUMBER	202200434
ISSUE DATE	09/11/2025

SCALE IS AS SHOWN WHEN PLOTTED TO FULL SIZE (22"x34")
1"

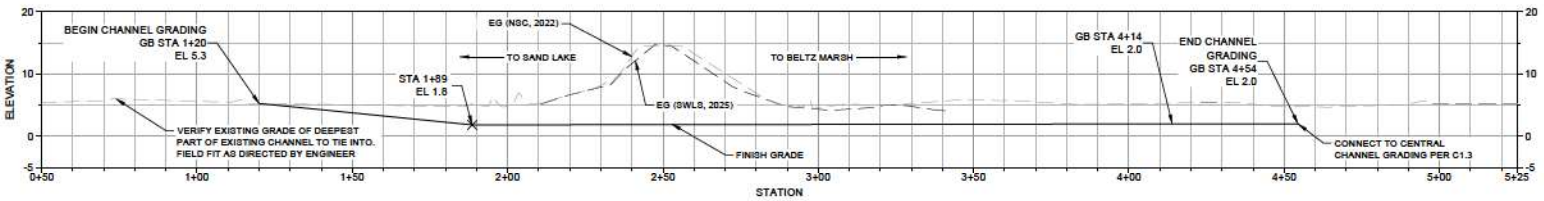
PHASE
DRAFT 90% DESIGN

SHEET TITLE
DIKE BREACH PLAN AND SECTION

SHEET NUMBER
C1.1

SHEET — OF ###

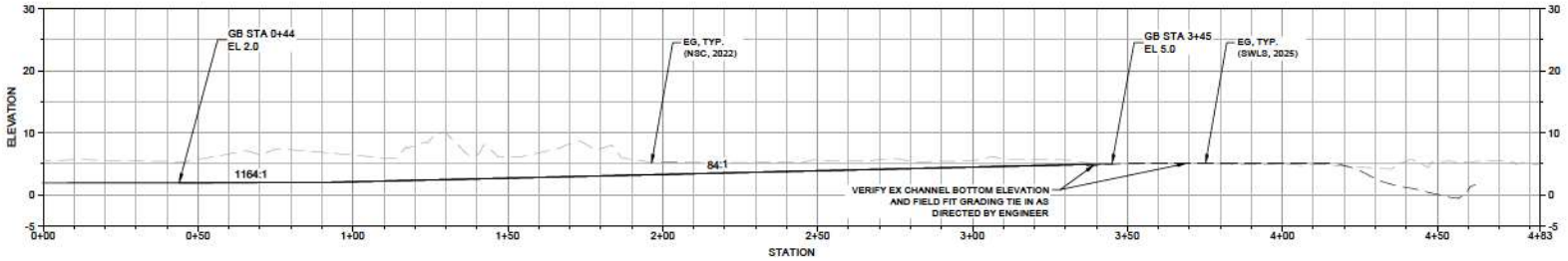
FILE P:\01 CA\2022\pw\202202200434.00 - TBP Sitka Sedge Tidal Wetland Restoration\DWG\C1.1 DIKE BREACH PLAN AND SECTION.dwg PLOT DATE: 10/9/2026 5:25:57 PM PLOTTED BY: OLIVIA PEREYRA



A — SECTION

DIKE BREACH CHANNEL PROFILE

HORIZONTAL SCALE: 1" = 20'
VERTICAL SCALE: 1" = 10'



B — SECTION

SIDE CHANNEL PROFILE

HORIZONTAL SCALE: 1" = 20'
VERTICAL SCALE: 1" = 10'

NOTES

1. THIS SHEET SHOWS PROPOSED DIKE BREACH GRADING TO CONNECT AN EXISTING CHANNEL INSIDE BELTZ MARSH TO A PROMINENT EXISTING CHANNEL IN SAND LAKE.

ESA
1615 SE 3RD AVENUE, SUITE. 400
PORTLAND, OR 97214
OFFICE - 503.274.2010
WWW.ESASSOC.COM

STAMP
REGISTERED PROFESSIONAL ENGINEER
OREGON
PRELIMINARY
NOT FOR CONSTRUCTION
RENEWAL DATE: 06-30-26

CLIENT
TILLAMOOK ESTUARIES PARTNERSHIP

PROJECT NAME
SITKA SEDGE TIDAL WETLAND RESTORATION
TIERRA DEL MAR, OREGON

REVISIONS

#	DATE	DESCRIPTION

DESIGNED	KCN
DRAWN	KCN
CHECKED	HLW
IN CHARGE	HLW 83882
PROJECT NUMBER	202200434
ISSUE DATE	09/11/2025

SCALE IS AS SHOWN WHEN PLOTTED TO FULL SIZE (22"x34")
1"

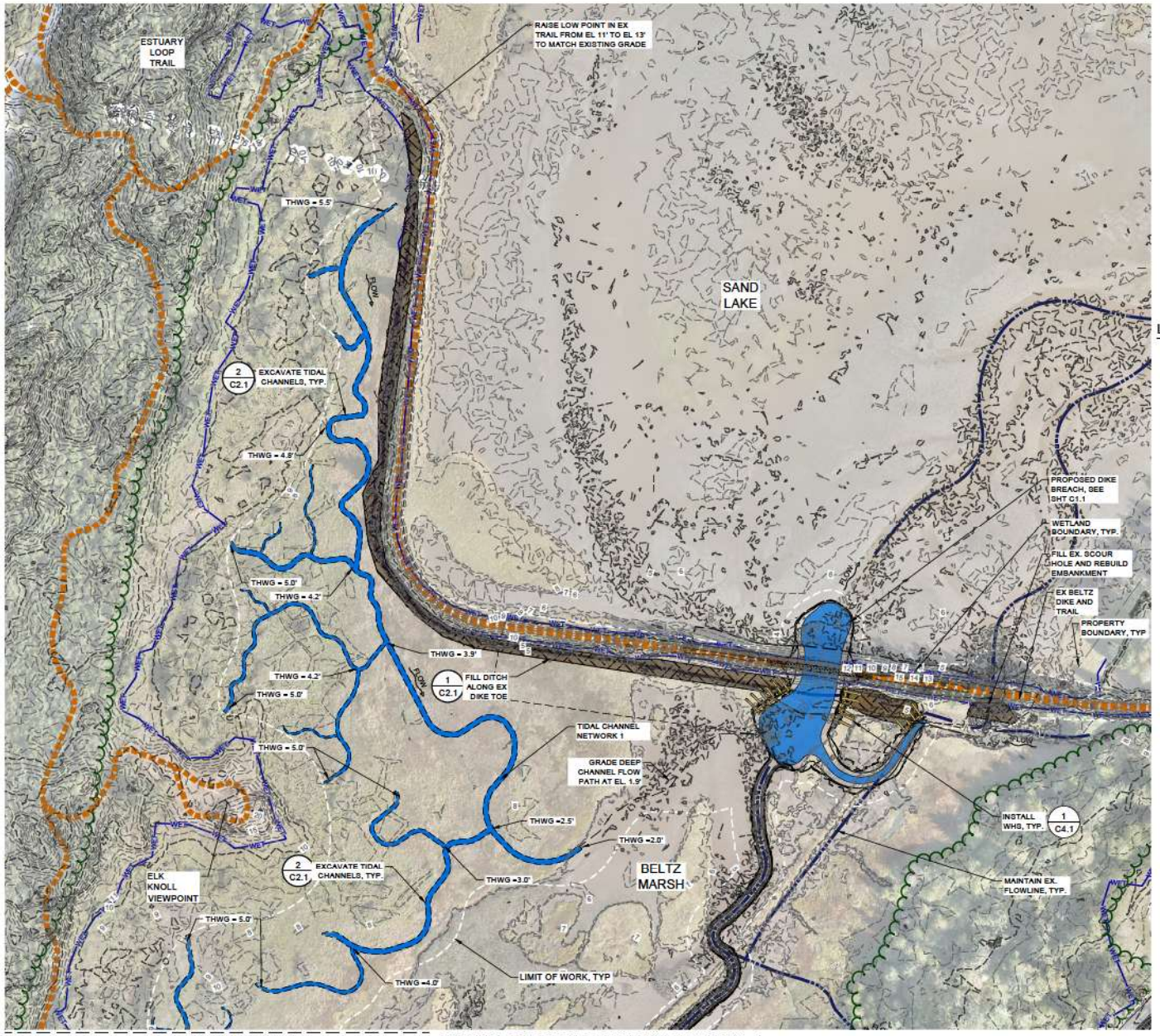
PHASE
DRAFT 90% DESIGN

SHEET TITLE
DIKE BREACH CHANNEL PROFILE

SHEET NUMBER
C1.2

SHEET — OF ###

FILE P:\01 CA\2022\202200434.00 - TBP Sitka Sedge Tidal Wetland Restoration\DWG\C1.1 DIKE BREACH PLAN AND SECTION.dwg PLOT DATE: 10/9/2025 5:26:07 PM PLOTTED BY: OLIVIA PEREYRA



CHANNEL AND DITCH GRADING ENLARGEMENT - 1
PLAN SCALE: 1" = 50'

NOTES

1. THIS SHEET PROVIDES CHANNEL IDENTIFICATION AND THALWEG (CHANNEL BOTTOM) ELEVATIONS ALONG THE PROPOSED CENTRAL CHANNEL REALIGNMENT AND TIDAL CHANNEL NETWORKS. GRADING SURFACES/CHANNEL PROFILES WILL BE PROVIDED TO THE CONTRACTOR FOR CONSTRUCTION GRADE VERIFICATIONS/GPS SYSTEMS.
2. SEE SHEET C1.2 FOR TIDAL CHANNEL AND DITCH FILL TYPICAL DETAILS. SEE SHEET C1.1 FOR DETAILED CHANNEL GRADING IN THE DIKE BREACH AREA AND D3.1 FOR DETAILED CHANNEL GRADING IN THE TIDE GATE AREA.

LEGEND

EXISTING FEATURES
- EX TREE CANOPY
- EX TRAIL
- EX WETLAND BOUNDARY (ESA, 2025)
- EX THALWEG (APPROX.)
- EX PROPERTY BOUNDARY
- EX MAJOR CONTOUR
- EX MINOR CONTOUR
- EX EVERGREEN TREES
- EX DECIDUOUS TREES

PROPOSED FEATURES
- EXCAVATE CHANNEL
- PROPOSED FILL AREA
- WOOD HABITAT STRUCTURES
- PROPOSED TIDAL CHANNELS

1"=100' SCALE 100 50 0 100 200 FEET

N

ESA
1615 SE 3RD AVENUE, SUITE. 400
PORTLAND, OR 97214
OFFICE - 503.274.2010
WWW.ESASSOC.COM

STAMP
REGISTERED PROFESSIONAL ENGINEER
OREGON
PRELIMINARY NOT FOR CONSTRUCTION
RENEWAL DATE: 06-30-26

CLIENT
TILLAMOOK ESTUARIES PARTNERSHIP

PROJECT NAME
SITKA SEDGE TIDAL WETLAND RESTORATION
TIERRA DEL MAR, OREGON

REVISIONS

#	DATE	DESCRIPTION

DESIGNED	KCN
DRAWN	KCN
CHECKED	HLW
IN CHARGE	HLW 83882
PROJECT NUMBER	202200434
ISSUE DATE	09/11/2025

SCALE IS AS SHOWN WHEN PLOTTED TO FULL SIZE (22"x34")
1"

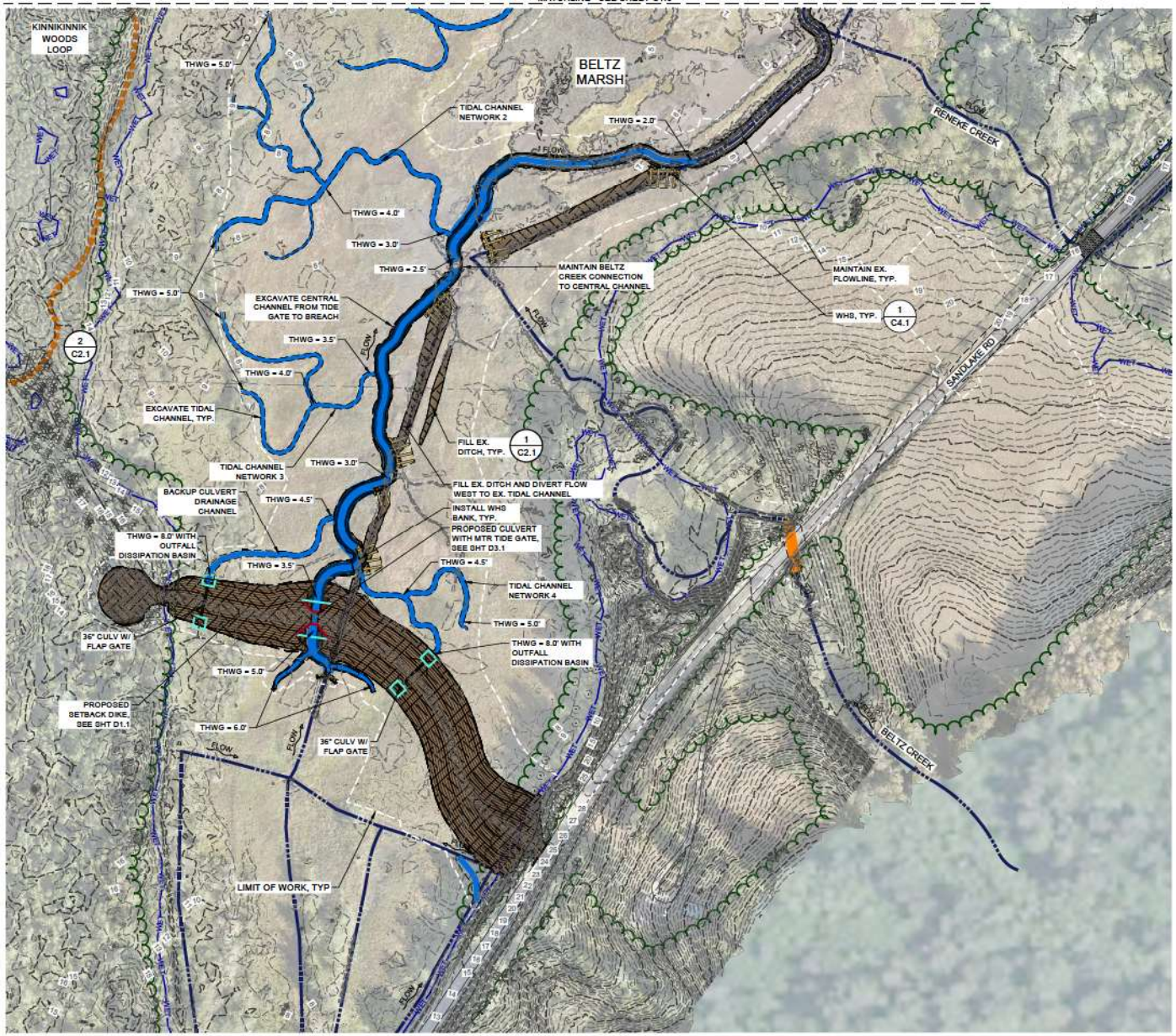
PHASE
DRAFT 90% DESIGN

SHEET TITLE
CHANNEL AND DITCH GRADING ENLARGEMENT - 1

SHEET NUMBER
C1.3

SHEET — OF ###

FILE P:\01 CA\2022\pca\202200434.00 - TBP Sitka Sedge Tidal Wetland Restoration\DWG\C1.3 CHANNEL AND DITCH GRADING PLAN.dwg PLOT DATE: 9/9/2025 5:26:55 PM PLOTTED BY: OLIVIA PEREYRA



CHANNEL AND DITCH GRADING ENLARGEMENT - 2

PLAN SCALE: 1" = 50'

NOTES

1. THIS SHEET PROVIDES CHANNEL IDENTIFICATION AND THALWEG (CHANNEL BOTTOM) ELEVATIONS ALONG THE PROPOSED CENTRAL CHANNEL REALIGNMENT AND TIDAL CHANNEL NETWORKS. GRADING SURFACES/CHANNEL PROFILES WILL BE PROVIDED TO THE CONTRACTOR FOR CONSTRUCTION GRADE VERIFICATIONS/GPS SYSTEMS.
2. SEE SHEET C1.2 FOR TIDAL CHANNEL AND DITCH FILL TYPICAL DETAILS. SEE SHEET C1.1 FOR DETAILED CHANNEL GRADING IN THE DIKE BREACH AREA AND D3.1 FOR DETAILED CHANNEL GRADING IN THE TIDE GATE AREA.

LEGEND

EXISTING FEATURES
- EX TREE CANOPY
- EX TRAIL
- EX WETLAND BOUNDARY (ESA, 2025)
- EX CULVERT
- EX THALWEG (APPROX.)
- EX ROAD
- EX PROPERTY BOUNDARY
- EX EVERGREEN TREES
- EX DECIDUOUS TREES
- EX BEAVER STRUCTURES
- EX MAJOR CONTOUR
- EX MINOR CONTOUR

PROPOSED FEATURES
- CULVERT AND TIDE GATE
- PROPOSED TIDAL CHANNELS
- WOOD HABITAT STRUCTURES
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- PROPOSED BEAVER EXCLUSION FENCE
- GRAVEL ACCESS ROAD
- BRIDGE
- PROPOSED FILL AREA

1"=50' SCALE: 50 25 0 50 100 FEET

N

ESA
1615 SE 3RD AVENUE, SUITE. 400
PORTLAND, OR 97214
OFFICE - 503.274.2010
WWW.ESASSOC.COM

STAMP: REGISTERED PROFESSIONAL ENGINEER, OREGON, PRELIMINARY, NOT FOR CONSTRUCTION, RENEWAL DATE: 06-30-26

CLIENT: TILLAMOOK ESTUARIES PARTNERSHIP

PROJECT NAME: SITKA SEDGE TIDAL WETLAND RESTORATION
TIERRA DEL MAR, OREGON

REVISIONS

#	DATE	DESCRIPTION

DESIGNED	KCN
DRAWN	KCN
CHECKED	HLW
IN CHARGE	HLW 83882
PROJECT NUMBER	202200434
ISSUE DATE	09/11/2025

SCALE IS AS SHOWN WHEN PLOTTED TO FULL SIZE (22"x34")

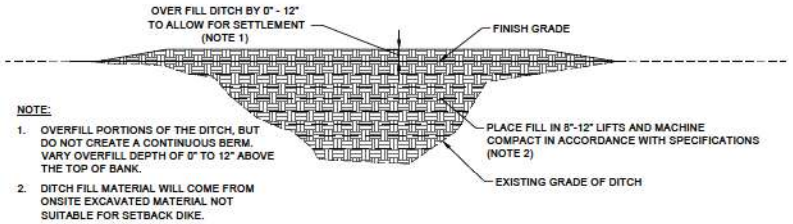
PHASE: DRAFT 90% DESIGN

SHEET TITLE: CHANNEL AND DITCH GRADING ENLARGEMENT - 2

SHEET NUMBER: C1.4

SHEET — OF ###

FILE: P:\01 CA\2022\p-xx\202200434.00 - TBP Sitka Sedge Tidal Wetland Restoration\DWG\C1.3 CHANNEL AND DITCH GRADING PLAN.dwg PLOT DATE: 9/9/2025 5:27:13 PM PLOTTED BY: OLIVIA PEREYRA

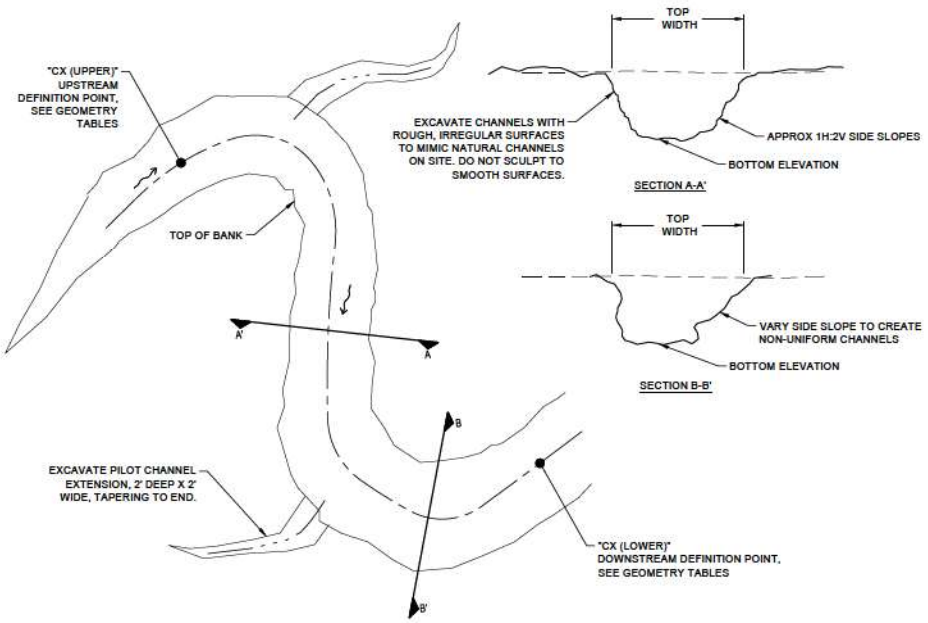


NOTE:

1. OVERFILL PORTIONS OF THE DITCH, BUT DO NOT CREATE A CONTINUOUS BERM. VARY OVERFILL DEPTH OF 0" TO 12" ABOVE THE TOP OF BANK.
2. DITCH FILL MATERIAL WILL COME FROM ONSITE EXCAVATED MATERIAL NOT SUITABLE FOR SETBACK DIKE.

TYPICAL DITCH FILL SECTION

DETAIL SCALE: NTS



TYPICAL NEW CHANNEL PLAN AND CROSS-SECTION

DETAIL SCALE: NTS

ESA
1615 SE 3RD AVENUE,
SUITE. 400
PORTLAND, OR 97214
OFFICE - 503.274.2010
WWW.ESASSOC.COM

STAMP

REGISTERED PROFESSIONAL ENGINEER
OREGON
PRELIMINARY
NOT FOR CONSTRUCTION
RENEWAL DATE: 06-30-26

CLIENT

TILLAMOOK ESTUARIES PARTNERSHIP

PROJECT NAME

SITKA SEDGE TIDAL WETLAND RESTORATION

TIERRA DEL MAR, OREGON

REVISIONS

#	DATE	DESCRIPTION

DESIGNED	KCN
DRAWN	KCN
CHECKED	HLW
IN CHARGE	HLW 83882
PROJECT NUMBER	202200434
ISSUE DATE	09/11/2025

SCALE IS AS SHOWN WHEN PLOTTED TO FULL SIZE (22"x34")

1"

PHASE

DRAFT 90% DESIGN

SHEET TITLE

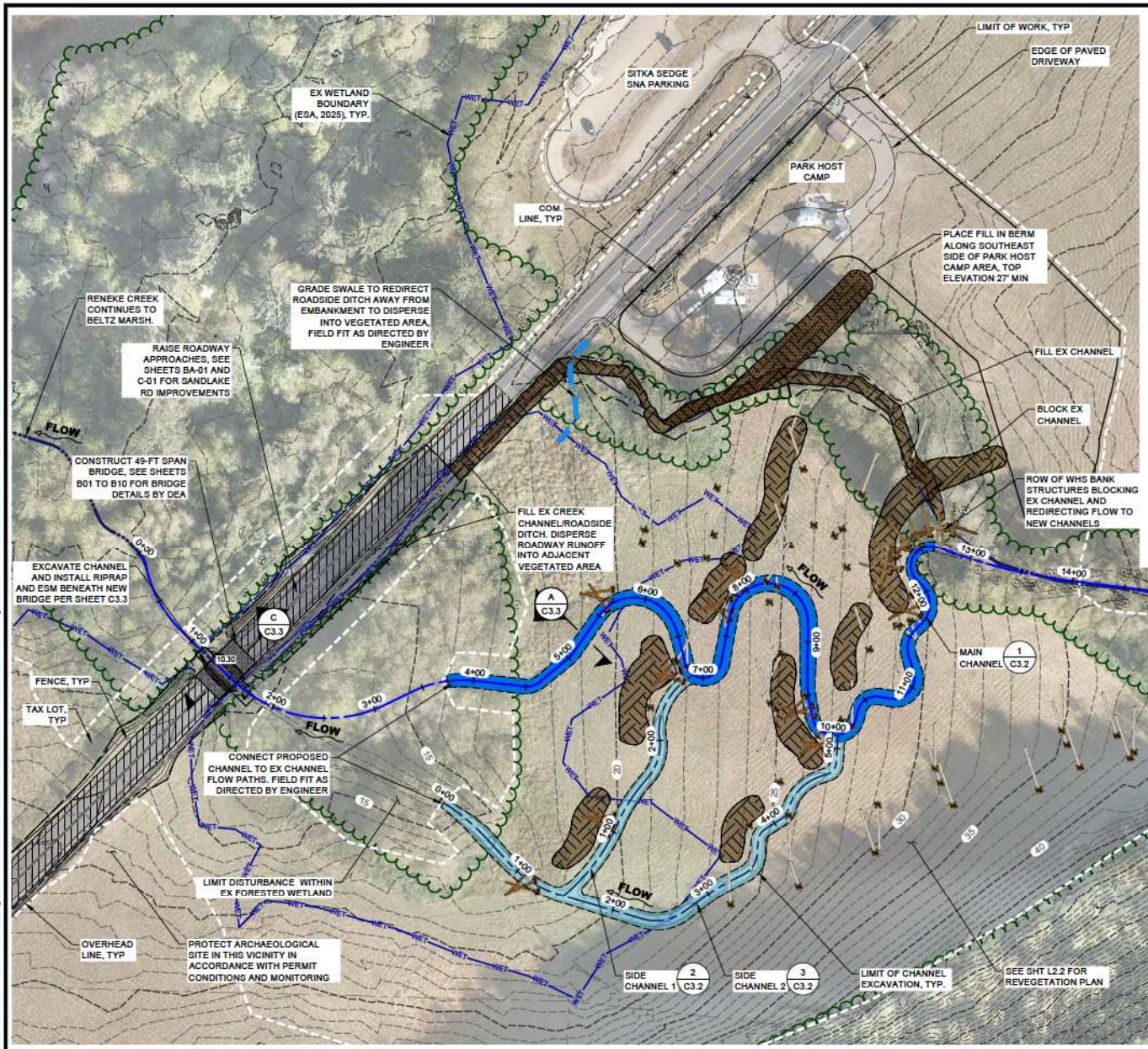
CHANNEL GRADING SECTIONS AND DETAILS

SHEET NUMBER

C2.1

SHEET — OF ###

FILE P:\01 CA\2022\proj\202202200434.00 - TEP Sitka Sedge Tidal Wetland Restoration\DWG\C2.1 CHANNEL GRADING SECTIONS AND DETAILS.dwg PLOT DATE: 09/2025 5:27:20 PM PLOTTED BY: OLIVIA PEREYRA



RENEKE CREEK GRADING PLAN
PLAN SCALE: 1" = 50'

1"=50' 50 25 0 50 100 SCALE FEET

N

NOTES

1. REALIGN RENEKE CREEK AWAY FROM ROADSIDE DITCH AND INTO NEWLY EXCAVATED CHANNEL AND FLOODPLAIN RESTORATION AREA. FILL EXISTING CHANNEL AND ROADSIDE DITCH USING SOILS EXCAVATED FROM ONSITE. SEE SHEET G4.3 FOR LOGISTICS AND SEQUENCING CONSIDERATIONS.
2. COMPLETE WORK IN ACCORDANCE WITH CONTRACTOR'S APPROVED TEMPORARY WORK ACCESS AND CONTAINMENT PLAN, TEMPORARY WATER MANAGEMENT PLAN, TRAFFIC CONTROL PLAN, CONSTRUCTION SCHEDULE AND SEQUENCING PLAN, AND ALL PERMIT CONDITIONS.
3. INSTALL WHS AS SHOWN, PER DETAILS ON C4.1, AND AS DIRECTED BY ENGINEER.

LEGEND

EXISTING FEATURES
- EX TREE CANOPY
- EX WETLAND BOUNDARY (ESA, 2025)
- EX THALWEG (APPROX.)
- EX FENCE
- EX ROAD
- EX MAJOR CONTOUR
- EX MINOR CONTOUR
- EX EVERGREEN TREES
- EX DECIDUOUS TREES

PROPOSED FEATURES
- EXCAVATE MAIN CHANNEL
- EXCAVATE SIDE CHANNEL
- CHANNEL BREAKLINE
- FILL DITCH/CHANNEL
- SWALE
- CONSTRUCT BERM
- WOOD HABITAT STRUCTURES
- BRIDGE
- ROADWAY IMPROVEMENTS

ESA
819 SE MORRISON STREET, STE. 310
PORTLAND, OR 97214
OFFICE - 503.274.2010
WWW.ESASSOC.COM

STAMP
REGISTERED PROFESSIONAL ENGINEER
OREGON
RENEWAL DATE 06-30-26

CLIENT
TILLAMOOK COUNTY

PROJECT NAME
RENEKE CREEK BRIDGE AND STREAM RESTORATION
SANDLAKE ROAD, CLOVERDALE OREGON 97112

REVISIONS

#	DATE	DESCRIPTION

DESIGNED	HLW
DRAWN	KCN
CHECKED	HLW
IN CHARGE	HLW 83882
PROJECT NUMBER	D202200434
ISSUE DATE	08/29/2025

SCALE IS AS SHOWN WHEN PLOTTED TO FULL SIZE (22"x34")
1"

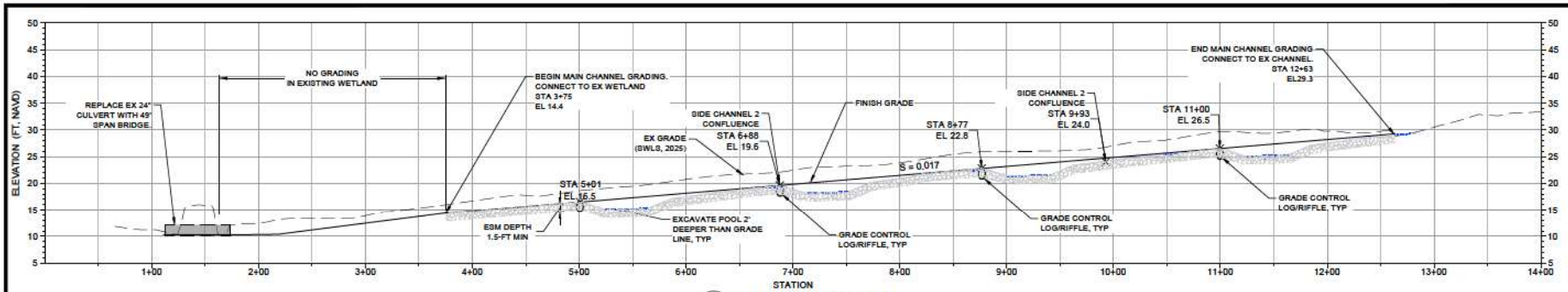
PHASE
60% DESIGN

SHEET TITLE
RENEKE CREEK GRADING PLAN

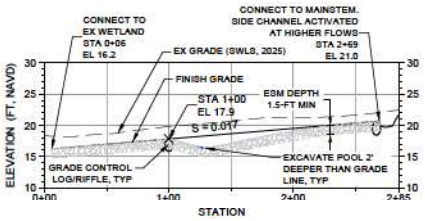
SHEET NUMBER
C3.1

SHEET — OF ###

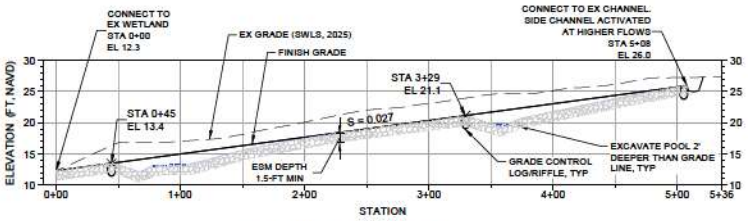
FILE P:\01 CA\3222p.xx\02\202200434.00 - TBP Elk Sedge Tidal Wetland Restoration\DWG\RENEKE\C3.1 RENEKE CREEK GRADING PLAN.dwg PLOT DATE: 10/9/2025 2:26:05 PM PLOTTED BY: OLIVIA PEREYRA



1 C3.1 MAIN CHANNEL PROFILE
PROFILE HORIZONTAL SCALE: 1" = 50'
VERTICAL SCALE: 1" = 5'



2 C3.1 SIDE CHANNEL 1 PROFILE
PROFILE HORIZONTAL SCALE: 1" = 50'
VERTICAL SCALE: 1" = 5'



3 C3.1 SIDE CHANNEL 2 PROFILE
PROFILE HORIZONTAL SCALE: 1" = 50'
VERTICAL SCALE: 1" = 5'

ESA
819 SE MORRISON STREET, STE. 310
PORTLAND, OR 97214
OFFICE - 503.274.2010
WWW.ESASSOC.COM

STAMP
REGISTERED PROFESSIONAL ENGINEER
OREGON
RENEWAL DATE 06-30-24
NOT FOR CONSTRUCTION

CLIENT
TILLAMOOK COUNTY

PROJECT NAME
RENEKE CREEK BRIDGE AND STREAM RESTORATION
SANDLAKE ROAD, CLOVERDALE OREGON 97112

REVISIONS

#	DATE	DESCRIPTION

DESIGNED	HLW
DRAWN	KCN
CHECKED	HLW
IN CHARGE	HLW 83882
PROJECT NUMBER	D202200434
ISSUE DATE	08/29/2025

SCALE IS AS SHOWN WHEN PLOTTED TO FULL SIZE (22"x34")
1"

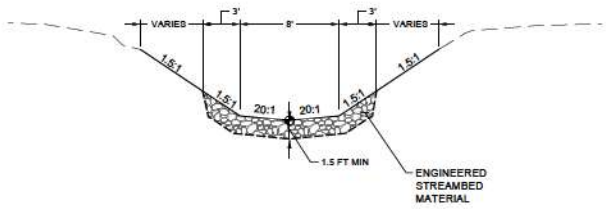
PHASE
60% DESIGN

SHEET TITLE
RENEKE CREEK CHANNEL PROFILES

SHEET NUMBER
C3.2

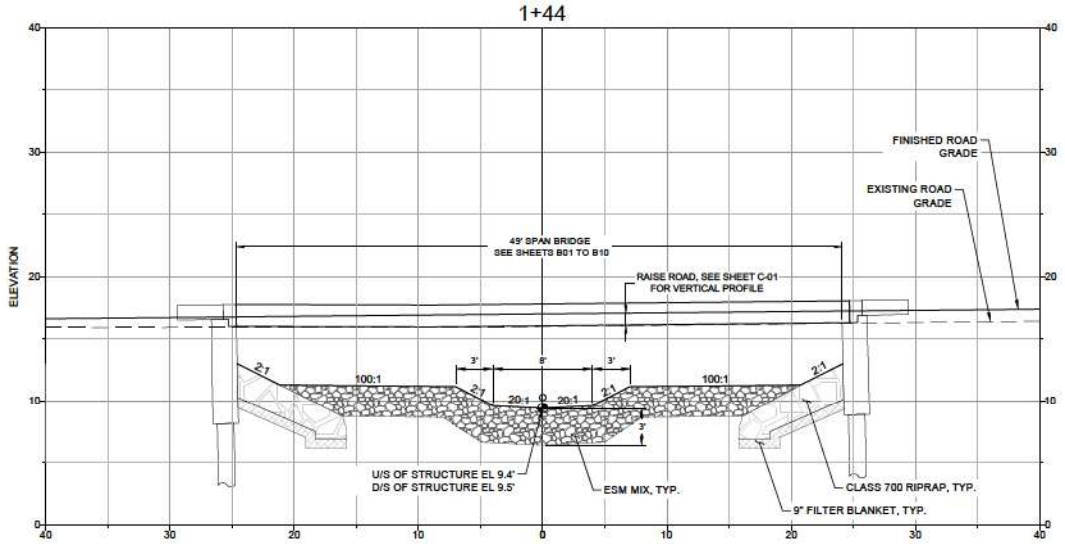
SHEET — OF ###

FILE P:\01 CA\2022\d202200434.00 - TBP Bike Bridge Tidal Wetland Restoration\DWG\RENEKE\C3.2 RENEKE CREEK CHANNEL PROFILES.dwg PLOT DATE: 10/9/2025 5:28:16 PM PLOTTED BY: OLIVIA PEREYRA



A / C3.1 RENEKE CREEK CHANNEL TYPICAL SECTION

HORIZONTAL SCALE: 1" = 5'
VERTICAL SCALE: 1" = 1'



C / C3.1 PROPOSED 49-FT SPAN BRIDGE

SECTION

SCALE: NTS

ESA
819 SE MORRISON STREET,
STE. 310
PORTLAND, OR 97214
OFFICE - 503.274.2010
WWW.ESASSOC.COM

STAMP

REGISTERED PROFESSIONAL ENGINEER
OREGON
NOT FOR CONSTRUCTION
RENEWAL DATE 06-30-24

CLIENT

TILLAMOOK COUNTY
Land of Ocean, Trees and Scenic Beauty

PROJECT NAME

RENEKE CREEK BRIDGE AND STREAM RESTORATION

SANDLAKE ROAD, CLOVERDALE OREGON 97112

REVISIONS

#	DATE	DESCRIPTION

DESIGNED	KCN
DRAWN	KCN
CHECKED	HLW
IN CHARGE	HLW 83882
PROJECT NUMBER	D202200434
ISSUE DATE	08/29/2025

SCALE IS AS SHOWN WHEN PLOTTED TO FULL SIZE (22"x34")

PHASE

60% DESIGN

SHEET TITLE

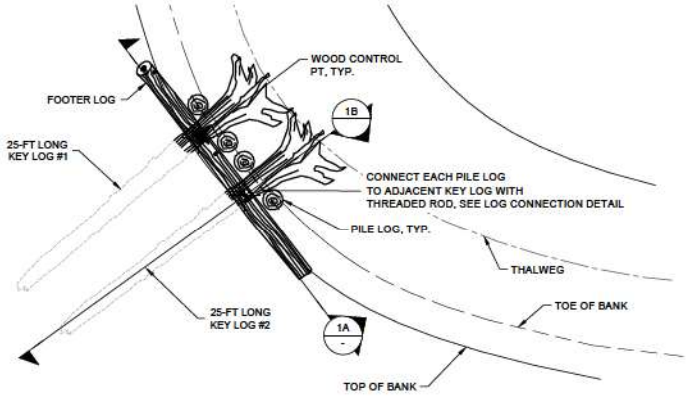
RENEKE CREEK GRADING SECTIONS

SHEET NUMBER

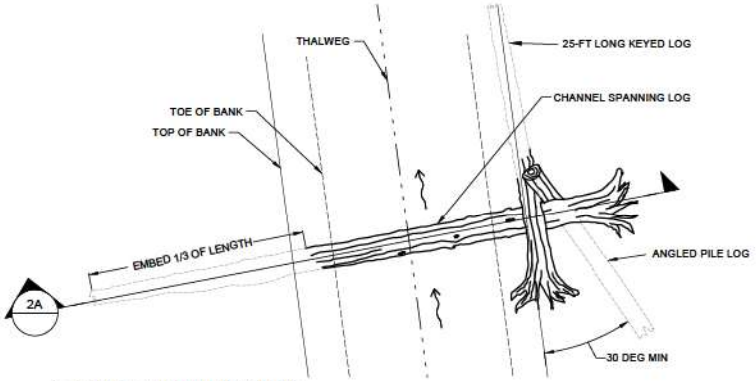
C3.3

SHEET — OF ###

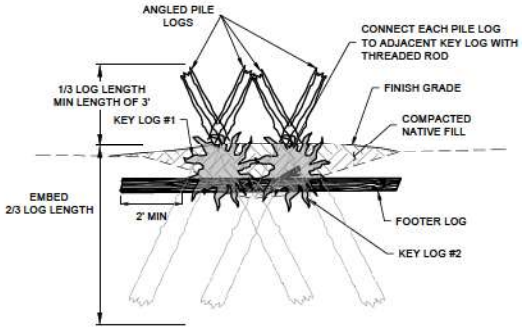
FILE P:\01 CA\2022\d202200434.00 - TBP Bks Sedge Tidal Wetland Restoration\DWG\RENEKE\C3.3 RENEKE GRADING SECTIONS.dwg PLOT DATE: 10/9/2025 5:26:25 PM PLOTTED BY: OLIVIA PEREYRA



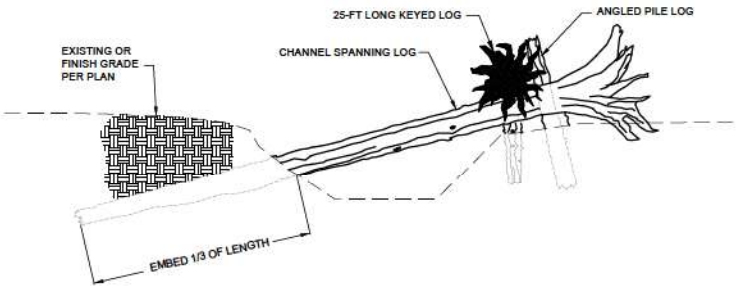
1 - WHS - BANK
DETAIL
SCALE: NTS



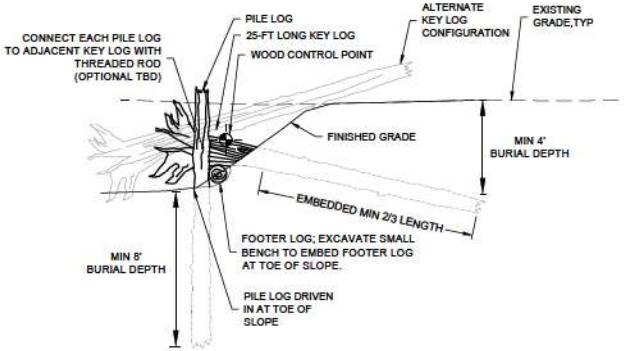
2 - WHS - CHANNEL SPANNING
DETAIL
SCALE: NTS



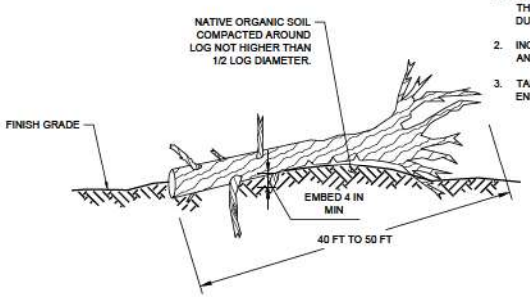
SECTION 1A



SECTION 2A



SECTION 1B



3 - FIELD-FIT LOG
DETAIL
SCALE: NTS

NOTES:

1. FIELD-FIT LOGS SHALL BE PLACED AT THE DISCRETION OF THE ENGINEER DURING CONSTRUCTION.
2. INCLUDE MAJOR BRANCHES, BARK, AND ROOT WAD.
3. TAMP LOG WITH MACHINERY TO ENSURE SECURE PLACEMENT.

NOTES

1. CONSTRUCT WOOD HABITAT STRUCTURE (WHS) CONFIGURATIONS AS SHOWN HERE OR AS DIRECTED IN THE FIELD BY THE ENGINEER. ENGINEER SHALL APPROVE ALL LOG PLACEMENT AND MAY DIRECT ADJUSTMENTS TO MEET DESIGN INTENT.

ESA
1615 SE 3RD AVENUE, SUITE. 400
PORTLAND, OR 97214
OFFICE - 503.274.2010
WWW.ESASSOC.COM

STAMP
REGISTERED PROFESSIONAL ENGINEER
PRELIMINARY
NOT FOR CONSTRUCTION
RENEWAL DATE: 06-30-26

CLIENT
TILLAMOOK ESTUARIES PARTNERSHIP

PROJECT NAME
SITKA SEDGE TIDAL WETLAND RESTORATION
TIERRA DEL MAR, OREGON

REVISIONS

#	DATE	DESCRIPTION

DESIGNED	KCN
DRAWN	KCN
CHECKED	HLW
IN CHARGE	HLW 83862
PROJECT NUMBER	202200434
ISSUE DATE	09/11/2025

SCALE IS AS SHOWN WHEN PLOTTED TO FULL SIZE (22"x34")
1"

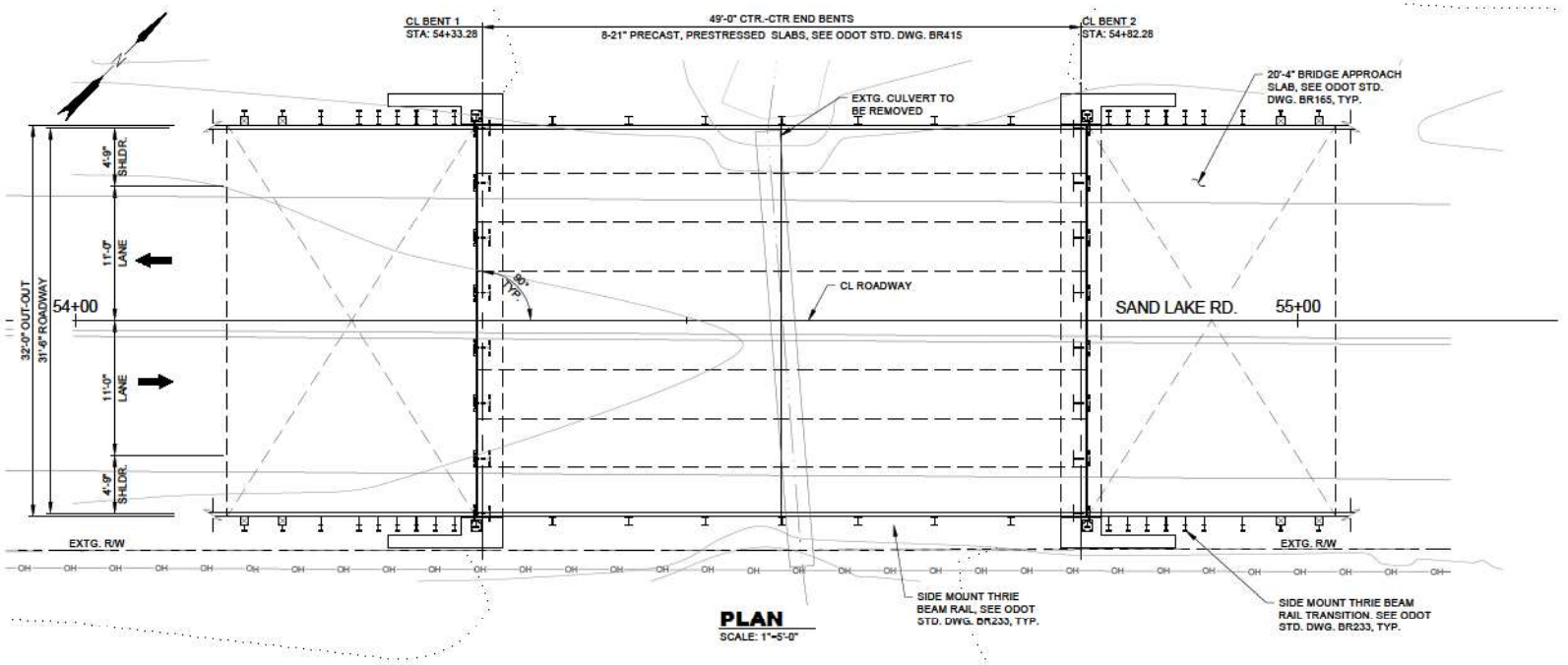
PHASE
DRAFT 90% DESIGN

SHEET TITLE
HABITAT DETAILS

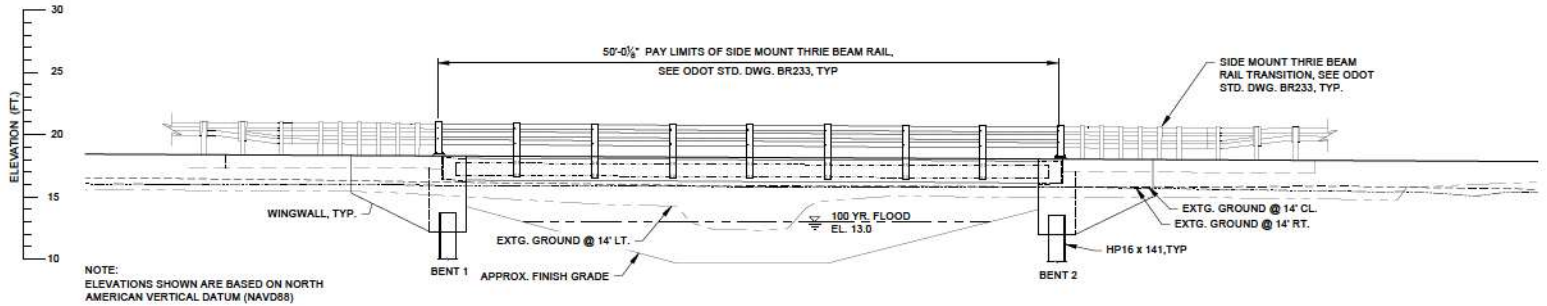
SHEET NUMBER
C4.1

SHEET — OF ###

FILE P:\01 CA\2022\202200434.00 - TBP Sitka Sedge Tidal Wetland Restoration\DWG\C4.1 HABITAT DETAILS.dwg PLOT DATE: 10/9/2025 5:28:32 PM PLOTTED BY: OLIVIA PERREYRA



PLAN
SCALE: 1"=5'-0"



NOTE:
ELEVATIONS SHOWN ARE BASED ON NORTH AMERICAN VERTICAL DATUM (NAVD88)

ELEVATION
SCALE: 1"=5'-0"

DAVID EVANS AND ASSOCIATES Inc.
5101 Skyline Village Loop S, Suite 200
Salem Oregon 97306
Phone: 503.361.8655

STAMP
PRELIMINARY
-
NOT FOR CONSTRUCTION

CLIENT
TILLAMOOK COUNTY

PROJECT NAME
RENEKE CREEK REALIGNMENT AND BRIDGE REPLACEMENT
SAND LAKE ROAD, CLOVERDALE OREGON 97112

REVISIONS

#	DATE	DESCRIPTION

DESIGNED	N. Peek
DRAWN	D. Allenburg
CHECKED	J. Goodall
IN CHARGE	J. Goodall
PROJECT NUMBER	ESCI0000005
ISSUE DATE	06/05/26

SCALE IS AS SHOWN WHEN PLOTTED TO FULL SIZE (22"x34")
1"

PHASE
90% PS&E SUBMITTAL

SHEET TITLE
PLAN AND ELEVATION

SHEET NUMBER
B01

SHEET OF

GENERAL NOTES

PROVIDE ALL MATERIALS AND PERFORM ALL WORK ACCORDING TO THE "OREGON STANDARD SPECIFICATIONS FOR CONSTRUCTION 2024".

BRIDGE IS DESIGNED IN ACCORDANCE WITH THE 9TH EDITION OF THE "AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS (INCLUDING INTERIM REVISIONS)", WITH AN ALLOWANCE OF 25PSF FOR PRESENT WEARING SURFACE AND 40 PSF FOR FUTURE WEARING SURFACE AND ALL OF THE FOLLOWING LIVE LOADS:

SERVICE AND STRENGTH-I LIMIT STATES:
HL-93: DESIGN TRUCK (OR TRUCKS PER LRFD 3.6.1.3) OR THE DESIGN TANDEMS AND THE DESIGN LANE LOAD.

STRENGTH-II LIMIT STATE:
ODOT TYPE EV3 PERMIT TRUCK
ODOT TYPE STP-5BW PERMIT TRUCK
ODOT TYPE STP-4E PERMIT TRUCK

SEISMIC DESIGN IS PERFORMED IN ACCORDANCE WITH THE "AASHTO GUIDE SPECIFICATIONS FOR LRFD SEISMIC BRIDGE DESIGN" ("AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS") AS MODIFIED BY THE MAY 2021 EDITION OF THE "ODOT BRIDGE DESIGN MANUAL". THE HORIZONTAL PEAK GROUND ACCELERATION COEFFICIENTS (PGA) FOR 1000-YEAR RETURN (LIFE SAFETY) AND CASCADIA SUBDUCTION ZONE EARTHQUAKE (OPERATIONAL) ARE 0.487G AND 0.335G RESPECTIVELY, BASED ON 2014 USGS SEISMIC HAZARD MAPS. THE BRIDGE SITE IS DEFINED AS A SITE CLASS D WITH SITE FACTOR (FPGA) OF 1.20.

PROVIDE ALL REINFORCING STEEL ACCORDING TO ASTM SPECIFICATION A706, OR AASHTO 31 (ASTM A615) GRADE 60. PROVIDE FIELD BENT BARS ACCORDING TO ASTM SPECIFICATION A706. USE THE FOLLOWING SPLICE LENGTHS (UNLESS SHOWN OTHERWISE).

REINFORCING SPLICE LENGTHS (CLASS B) GRADE 60 F'C = 4.0 KSI, Δ_{RC} = 0.4, 2" MIN. CL. COVER											
BAR SIZE	#3	#4	#5	#6	#7	#8	#9	#10	#11	#14	#18
UNCOATED	1'-4"	1'-7"	2'-0"	2'-5"	2'-9"	3'-2"	3'-7"	4'-0"	4'-5"	NOT PERMITTED	

INCREASE ALL SPLICE LENGTHS 30% FOR HORIZONTAL OR NEARLY HORIZONTAL BARS SO PLACED THAT MORE THAN 12" OF FRESH CONCRETE IS CAST BELOW THE BAR.

SPLICE REINFORCING STEEL AT ALTERNATE BARS, STAGGERED AT LEAST ONE SPLICE LENGTH OR AS FAR AS POSSIBLE, UNLESS SHOWN OTHERWISE.

ALL REINFORCING SHALL HAVE 2" OF CONCRETE COVER UNLESS SHOWN OTHERWISE.

ALL REINFORCING SPACING IS INTENDED TO BE MAXIMUM UNLESS SHOWN OTHERWISE.

PROVIDE CONCRETE AND PRESTRESSING STEEL IN PRECAST PRESTRESSED UNITS ACCORDING TO DETAIL PLANS.

PROVIDE A ¾" CHAMFER ON ALL EXPOSED CONCRETE EDGES UNLESS NOTED OTHERWISE.

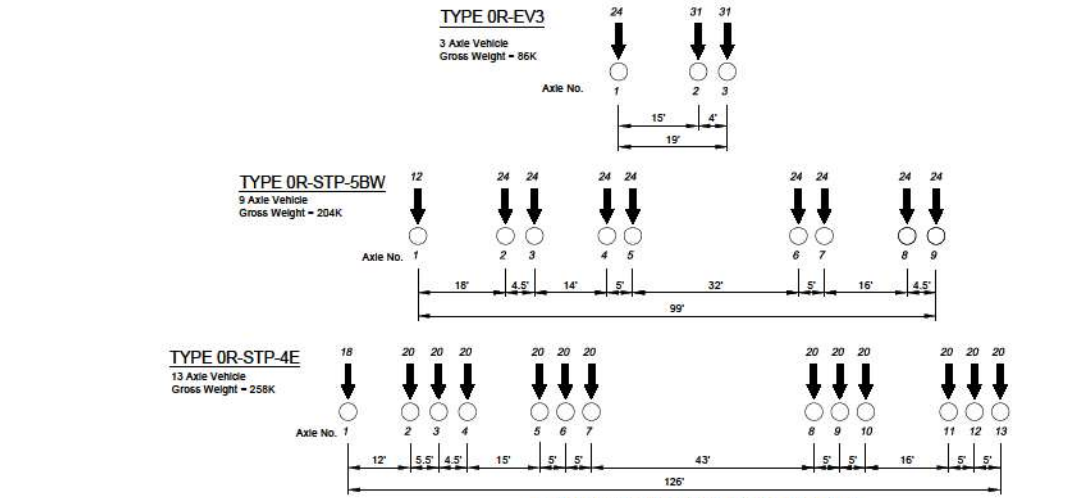
PROVIDE CLASS 4000 - 1½", 1", OR ¾" CONCRETE FOR ALL CONCRETE.

SEE FOUNDATION PLAN FOR FOUNDATION DESIGN NOTES.

CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS AND ELEVATIONS PRIOR TO BEGINNING WORK.

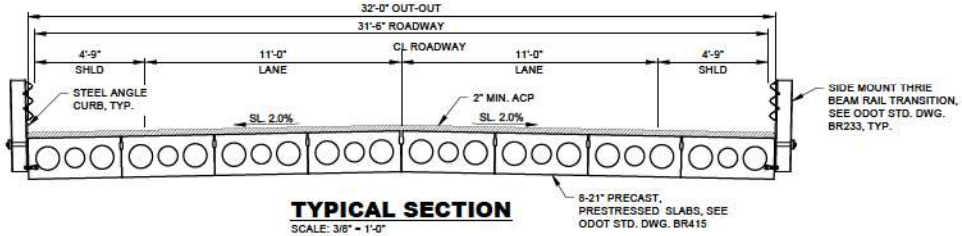
REMOVE ENTIRE EXISTING CULVERT.

LEGEND
ACP = ASPHALTIC CONCRETE PAVEMENT
EF = EACH FACE
EW = EACH WAY



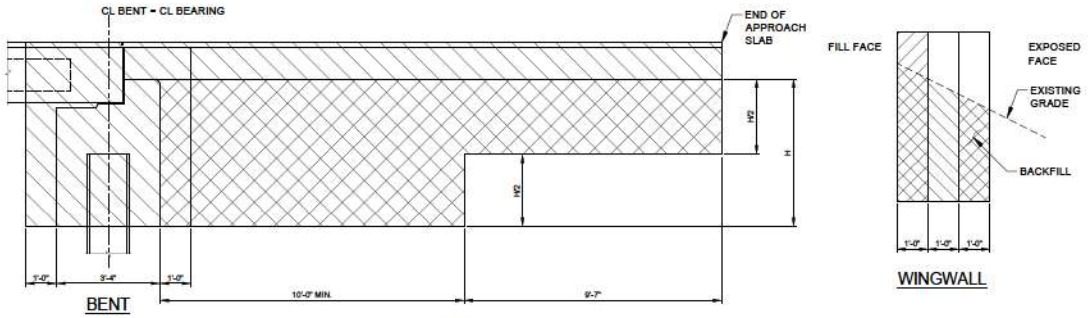
PERMIT TRUCK DIAGRAMS

NO SCALE



TYPICAL SECTION

SCALE: 3/8" = 1'-0"



EXCAVATION/BACKFILL DIAGRAM

NO SCALE

DAVID EVANS AND ASSOCIATES INC.
5021 Skyline Village Loop S, Suite 200
Salem Oregon 97306
Phone: 503.361.8665

STAMP

PRELIMINARY
-
NOT FOR CONSTRUCTION

CLIENT

TILLAMOOK COUNTY

PROJECT NAME

RENEKE CREEK REALIGNMENT AND BRIDGE REPLACEMENT

SANDLAKE ROAD, CLOVERDALE OREGON 97112

REVISIONS

#	DATE	DESCRIPTION

DESIGNED	N. Peek
DRAWN	D. Altenburg
CHECKED	J. Goodall
IN CHARGE	J. Goodall
PROJECT NUMBER	ESCI0000005
ISSUE DATE	06/05/26

SCALE IS AS SHOWN WHEN PLOTTED TO FULL SIZE (22"x34")
1"

PHASE

90% PS&E SUBMITTAL

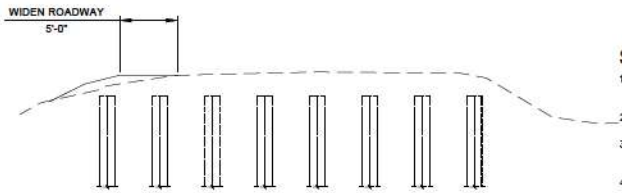
SHEET TITLE

GENERAL NOTES AND TYPICAL SECTION

SHEET NUMBER

B02

SHEET OF



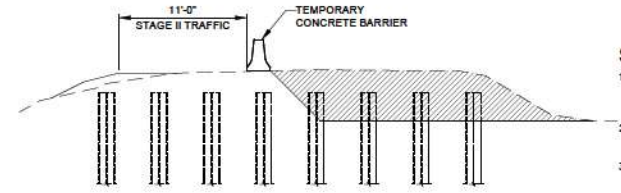
SINGLE LANE CLOSURES UNDER FLAGGING

STAGE I

NO SCALE

STAGE I NOTES

1. DRIVE PILES 1'-0" BELOW FINISH GRADE.
2. SURVEY PILE POSITIONS.
3. PLACE TEMPORARY PAVEMENT OVER PILES.
4. PLACE CULVERT WIDENING MIN LENGTH 12'-0" DOWNSTREAM.
5. WIDEN SOUTH BOUND LANE 5'-0"



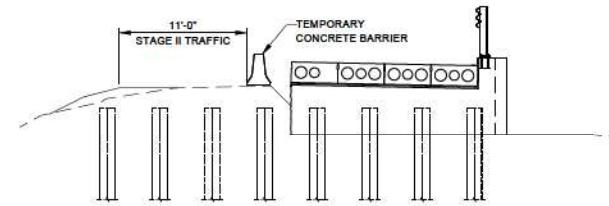
WEST BOUND LANE CLOSURE

STAGE II

NO SCALE

STAGE II NOTES

1. PLACE TEMPORARY CONCRETE BARRIER AND INSTALL TRAFFIC CONTROL DEVICES.
2. SHIFT TRAFFIC TO SINGLE LANE ON WIDENED SOUTH BOUND LANE.
3. EXCAVATE EAST OF TEMPORARY CONCRETE BARRIER (NORTH BOUND LANE AND SHOULDER)

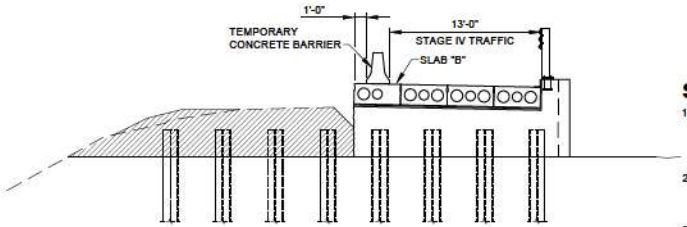


STAGE III

NO SCALE

STAGE III NOTES

1. BUILD STAGE III BENT CAPS
2. PLACE PC/PS CONCRETE SLABS, POST TENSION TRANSVERSE TIE RODS, AND PLACE KEYWAY GROUT. EXTEND TIE RODS FROM EXTERIOR SLAB "B" AS NECESSARY TO ATTACH A MECHANICAL COUPLER.
3. PLACE BRIDGE APPROACH SLABS AT EACH BENT.



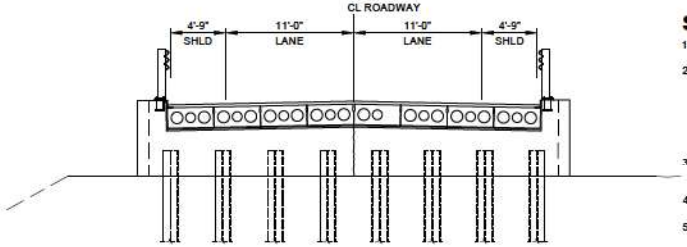
SOUTH BOND LANE CLOSURE

STAGE IV

NO SCALE

STAGE IV NOTES

1. PLACE AND SECURE TEMPORARY CONCRETE BARRIER TO EXTERIOR SLAB B AND INSTALL TRAFFIC CONTROL DEVICES.
2. REMOVE TEMPORARY CONCRETE BARRIER FROM EXISTING ROADWAY.
3. SHIFT TRAFFIC TO A SINGLE LANE ON COMPLETED PC/PS CONCRETE SLAB PORTION OF BRIDGE.
4. REMOVE REMAINDER OF EXISTING ROADWAY (WEST BOUND LANE AND SHOULDER).



STAGE V

NO SCALE

STAGE V NOTES

1. BUILD STAGE V BENT CAPS.
2. PLACE PC/PS CONCRETE SLABS, POST TENSION TRANSVERSE TIE RODS (INCLUDING RODS BETWEEN STAGE III AND STAGE V SLABS), AND PLACE KEYWAY GROUT.
3. PLACE BRIDGE APPROACH SLABS AT EACH BENT.
4. CAST TYPE "F" RAIL.
5. REMOVE TEMPORARY CONCRETE BARRIER FROM EXTERIOR SLAB B.
6. PLACE ACP ON THE BRIDGE AND APPROACH SLABS.

DAVID EVANS AND ASSOCIATES INC.
5021 Skyline Village Loop S, Suite 200
Salem Oregon 97306
Phone: 503.361.8665

STAMP

PRELIMINARY
-
NOT FOR CONSTRUCTION

CLIENT

TILLAMOOK COUNTY

PROJECT NAME

RENEKE CREEK
REALIGNMENT AND
BRIDGE REPLACEMENT

SANDLAKE ROAD, CLOVERDALE OREGON 97112

REVISIONS

#	DATE	DESCRIPTION

DESIGNED	N. Peek
DRAWN	D. Altenburg
CHECKED	J. Goodall
IN CHARGE	J. Goodall
PROJECT NUMBER	ESCI0000005
ISSUE DATE	06/05/26

SCALE IS AS SHOWN WHEN PLOTTED TO FULL SIZE (22"x34")

1"

PHASE

90% PS&E SUBMITTAL

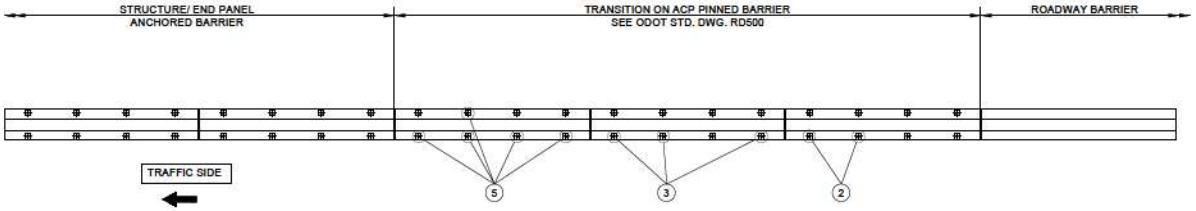
SHEET TITLE

CONSTRUCTION STAGING

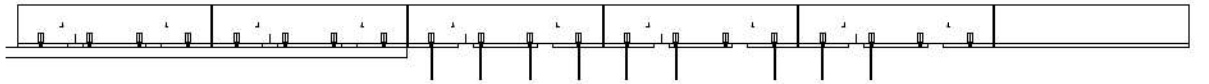
SHEET NUMBER

B03

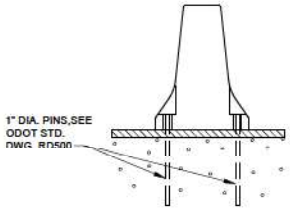
SHEET OF



RAIL PLAN
NO SCALE



RAIL ELEVATION
NO SCALE



PINNED BARRIER SECTION
NO SCALE

GENERAL NOTES:

PROVIDE ALL MATERIALS AND PERFORM ALL WORK ACCORDING TO THE OREGON STANDARD SPECIFICATIONS FOR CONSTRUCTION 2024.

TEMPORARY BARRIER IS DESIGNED FOR NCHRP350 TL-3 LOADS IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS 4TH EDITION 2007 WITH 2009 INTERIM REVISIONS, SECTION 13.

ALL BARRIER IS PRECAST PIN AND LOOP TYPE. SEE DWG. DET3296.

PROVIDE ALL REINFORCING STEEL ACCORDING TO ASTM A706, OR AASHTO M31 (ASTM A615) GRADE 60.

PROVIDE CLASS 5000- 1½, 1 OR ¾ CONCRETE IN PRECAST BARRIER SEGMENTS.

PROVIDE 1" DIAMETER GRADE 36 ANCHOR BOLTS, NUTS AND WASHERS ACCORDING TO ODOT SPECIFICATION 02560.30.

PROVIDE PLATE WASHERS ACCORDING TO AASHTO M270 (ASTM A709) GRADE 36.

PROVIDE AND INSTALL 1" DIAMETER GRADE 36 RESIN BONDED ANCHORS ACCORDING TO ODOT SPECIFICATION 00535.

PROVIDE THE FOLLOWING MINIMUM DESIGN RESISTANCES FOR 1" DIAMETER RESIN BONDED ANCHORS:
TENSION 22,600 LB., SHEAR 14,000 LB.

BOLT-DOWN BARRIER SHOULD NOT BE INSTALLED ON AC WEARING SURFACE, DUE TO EXCESSIVE BOLT BENDING IN AN IMPACT.

REMOVAL OF ANCHOR BOLTS:
UPON REMOVAL OR RELOCATION OF BARRIER UNITS, REMOVE ALL ANCHOR BOLTS AND COMPLETELY FILL THE REMAINING HOLES IN BRIDGE DECKS AND APPROACH SLABS WITH AN APPROVED PATCHING MATERIAL FROM THE QPL. IF ACP OVERLAY IS PRESENT AND IS TO REMAIN, COMPLETELY FILL THE REMAINING HOLES WITH HOT OR COLD PATCH ASPHALT MATERIAL.

ANCHOR REQUIREMENTS

ON STRUCTURE:
ANCHORED BARRIER:
4 ANCHORS PER BARRIER SEGMENT ON TRAFFIC SIDE, THROUGH BOLTED OR RESIN BONDED.

ON AC SURFACING:
THREE BARRIER SEGMENTS, 1" DIA. VERTICAL PINS PER STD. DWG. RD500, NUMBERS AND LOCATIONS AS SHOWN.

(N) "N" = NUMBER OF ANCHORS OR PINS PER BARRIER SEGMENT, AT LOCATIONS SHOWN.

DAVID EVANS AND ASSOCIATES Inc.
5101 Skyline Village Loop S, Suite 200
Salem Oregon 97306
Phone: 503.361.8655

STAMP
PRELIMINARY
-
NOT FOR CONSTRUCTION

CLIENT
TILLAMOOK COUNTY

PROJECT NAME
RENEKE CREEK REALIGNMENT AND BRIDGE REPLACEMENT
SANDLAKE ROAD, CLOVERDALE OREGON 97112

REVISIONS

#	DATE	DESCRIPTION

DESIGNED	N. Peek
DRAWN	D. Allenburg
CHECKED	J. Goodall
IN CHARGE	J. Goodall
PROJECT NUMBER	ESCI0000005
ISSUE DATE	06/05/26

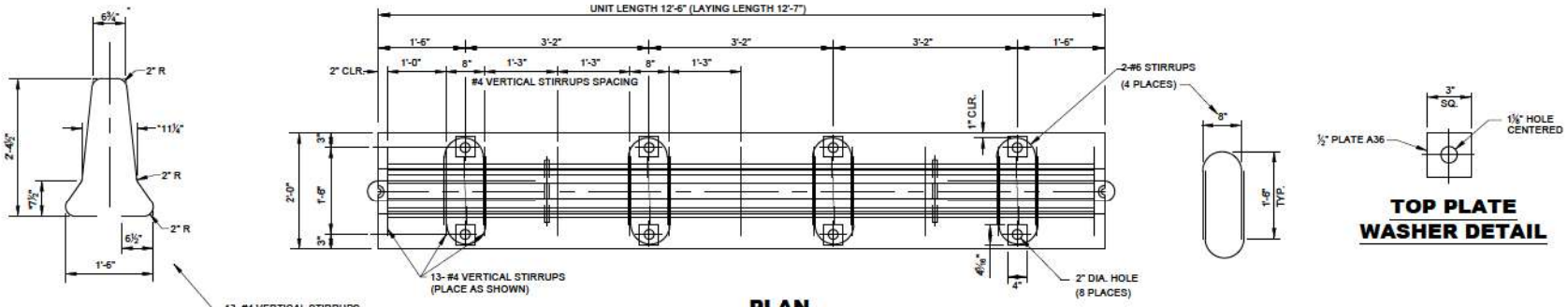
SCALE IS AS SHOWN WHEN PLOTTED TO FULL SIZE (22"x34")
1"

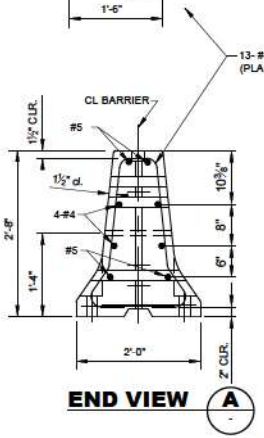
PHASE
90% PS&E SUBMITTAL

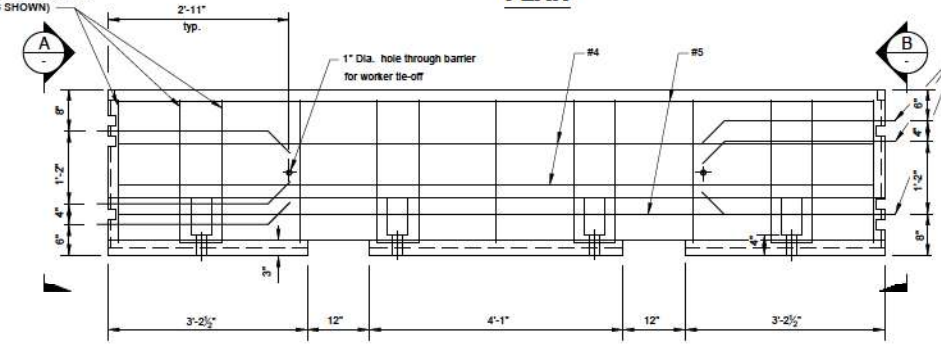
SHEET TITLE
CONSTRUCTION STAGING DETAILS

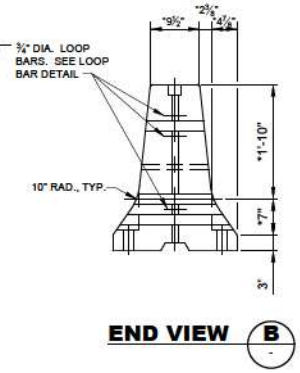
SHEET NUMBER
B04

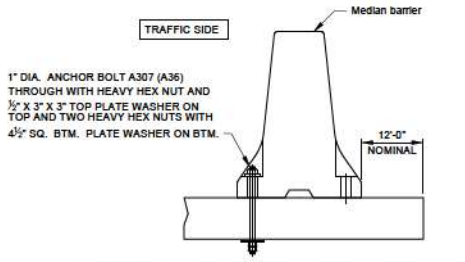
SHEET OF

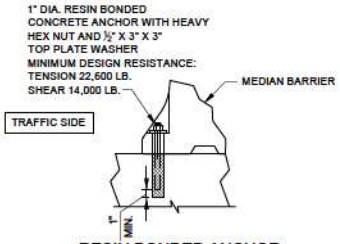


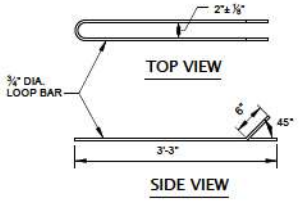












TYPICAL SECTION

NOTES:

SEE ODOT. DWG. RD500 FOR FORMING DETAILS NOT SHOWN.

* DIMENSION TO THE INTERSECTION POINT OF THE BARRIER SLOPES. CONSTRUCT THE 10" RADIUS TO PROVIDE A SMOOTH TRANSITION BETWEEN THE SLOPES.

DAVID EVANS AND ASSOCIATES INC.
5021 Skyline Village Loop S, Suite 200
Salem Oregon 97306
Phone: 503.361.8665

STAMP

PRELIMINARY - NOT FOR CONSTRUCTION

CLIENT

TILLAMOOK COUNTY

PROJECT NAME

RENEKE CREEK REALIGNMENT AND BRIDGE REPLACEMENT

SANDLAKE ROAD, CLOVERDALE OREGON 97112

REVISIONS

#	DATE	DESCRIPTION

DESIGNED	N. Peek
DRAWN	D. Altenburg
CHECKED	J. Goodall
IN CHARGE	J. Goodall
PROJECT NUMBER	ESCI0000005
ISSUE DATE	06/05/26

SCALE IS AS SHOWN WHEN PLOTTED TO FULL SIZE (22"x34")

1"

PHASE

90% PS&E SUBMITTAL

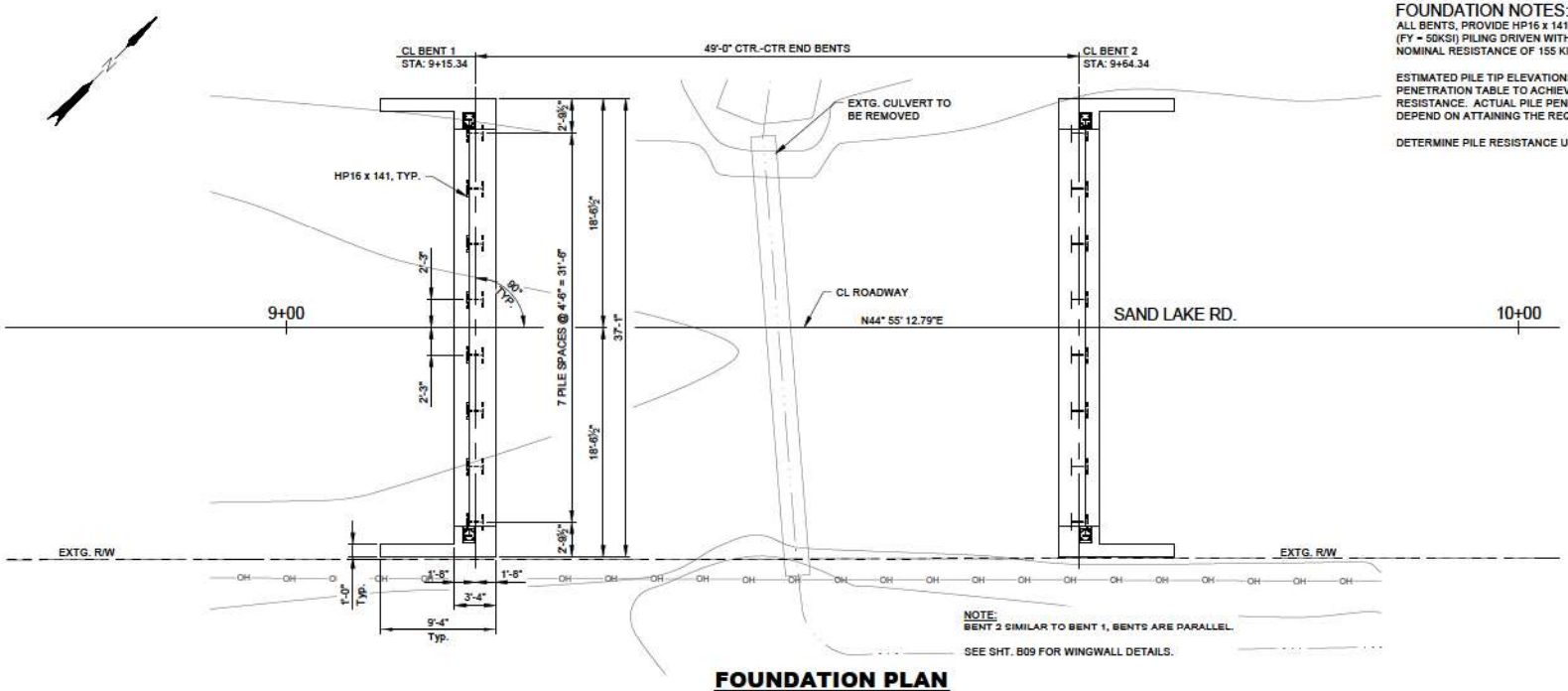
SHEET TITLE

CONSTRUCTION STAGING DETAILS

SHEET NUMBER

B05

SHEET OF



FOUNDATION PLAN

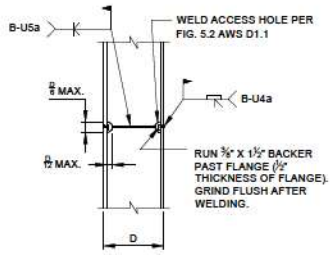
SCALE: 1"=5'-0"

FOUNDATION NOTES:

ALL BENTS, PROVIDE HP16 x 141, ASTM A572, GRADE (FY = 50KSI) PILING DRIVEN WITH REINFORCED PILE TIPS, TO A NOMINAL RESISTANCE OF 155 KIPS PER PILE.

ESTIMATED PILE TIP ELEVATIONS ARE PROVIDED IN PILE PENETRATION TABLE TO ACHIEVE THE REQUIRED NOMINAL RESISTANCE. ACTUAL PILE PENETRATION MAY VARY AND WILL DEPEND ON ATTAINING THE REQUIRED DRIVING RESISTANCE.

DETERMINE PILE RESISTANCE USING THE FHWA GATES EQUATION.



H-PILE SPLICE DETAIL

NO SCALE

PILE PENETRATION TABLE					
BENT	TYPE	MINIMUM TIP ELEVATION (FT.)	ESTIMATED TIP ELEVATION (FT.)	AS-CONST. TIP EL. (FT.)	AVERAGE CUT-OFF ELEVATION (FT.)
1	HP16 x 141	-49.0	-51.0	-	14.52
2	HP16 x 141	-49.0	-51.0	-	14.03

DAVID EVANS AND ASSOCIATES INC.
5021 Skyline Village Loop S, Suite 200
Salem Oregon 97306
Phone: 503.361.8665

STAMP

PRELIMINARY
-
NOT FOR CONSTRUCTION

CLIENT

TILLAMOOK COUNTY

PROJECT NAME

RENEKE CREEK REALIGNMENT AND BRIDGE REPLACEMENT

SAND LAKE ROAD, CLOVERDALE OREGON 97112

REVISIONS

#	DATE	DESCRIPTION

DESIGNED	N. Peek
DRAWN	D. Altenburg
CHECKED	J. Goodall
IN CHARGE	J. Goodall
PROJECT NUMBER	ESCI0000005
ISSUE DATE	06/05/26

SCALE IS AS SHOWN WHEN PLOTTED TO FULL SIZE (22"x34")

1"

PHASE

90% PS&E SUBMITTAL

SHEET TITLE

FOUNDATION PLAN

SHEET NUMBER

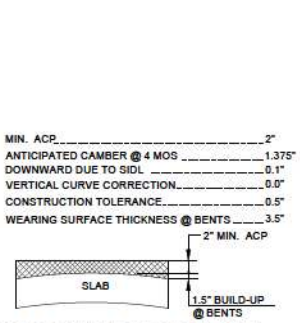
B06

SHEET OF

21" STANDARD PRECAST PRESTRESSED SLABS

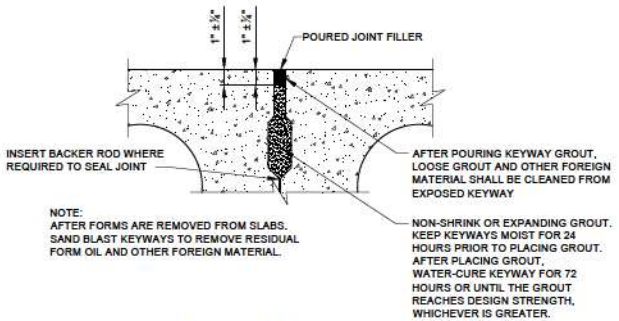
SLAB TYPE	NO. SLABS REQUIRED	SPAN NO.	HORIZONTAL LENGTH O-O AT SLAB, FT. (AFTER SHORTENING)	SKEW ANGLE		TOTAL STRAND	DEBONDED STRANDS	DISTANCE "Y" TO C.G. STRAND AT MIDSPAN, IN.	DISTANCE "Y" TO C.G.S. AT MIDSPAN SUBTRACTING TOP STRAND, IN.	CONCRETE STRENGTH @ 28 DAY, KSI	CONCRETE STRENGTH @ RELEASE 28 DAY, KSI	INITIAL TENSION PER STRAND, KSI	ESTIMATED MIDSPAN DEFLECTION					ESTIMATED SHORTENING 2 WEEKS AFTER RELEASE, IN.
				BACK	AHEAD								UPWARD AT RELEASE	UPWARD 3 MONTHS AFTER RELEASE	UPWARD 5 YEARS AFTER RELEASE	DOWNWARD DUE TO SIDL	DOWNWARD DUE TO SIDL 5 YRS. AFTER LOADING	
A	7	1	49'-10¼"	0	0	28	2	4.31	3.26	6.0	4.2	31.0	13/16"	1 3/8"	-	3/8"	1/8"	5/16"
B	1	1	49'-10¼"	0	0	28	2	4.31	3.26	6.0	4.2	31.0	13/16"	1 3/8"	-	3/8"	1/8"	5/16"

FOR GENERAL NOTES AND DETAILS NOT SHOWN, SEE ODOT STD. DWGS. BR415 & BR445.



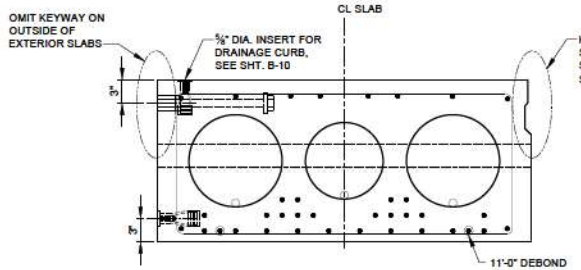
ACP BUILD-UP DETAIL

NO SCALE



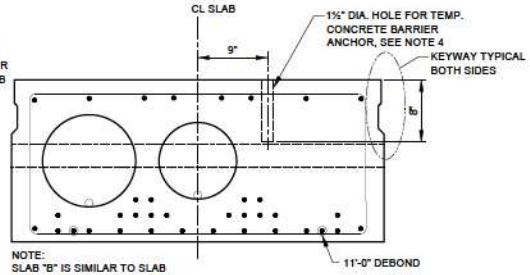
SLAB SHEAR KEY DETAIL

NO SCALE



TYPICAL 21" SLAB "A" SECTION

NO SCALE

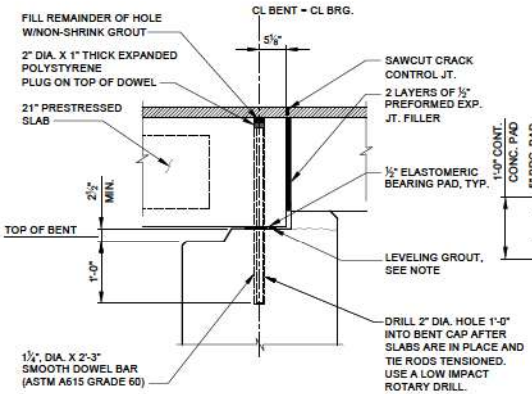


TYPICAL 21" SLAB "B" SECTION

NO SCALE

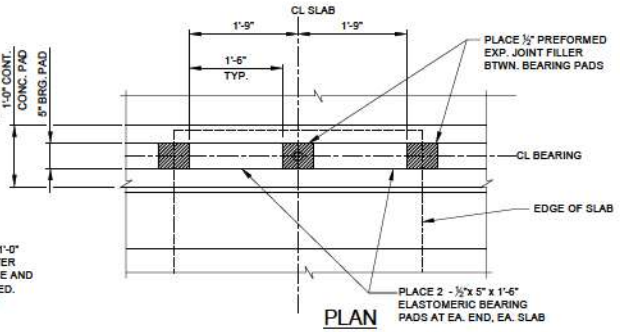
NOTES:

1. SHOP PLANS SHALL SHOW THE SIZE AND LOCATION OF ALL CAST-IN-HOLES. TO PREVENT DAMAGE TO PRESTRESSING STRAND AND PREFORMED VOIDS, ONLY THE 1½" DIA. HOLE FOR TEMP. CONCRETE BARRIER ANCHOR MAY BE FIELD DRILLED. NO OTHER FIELD DRILLED HOLES ARE PERMITTED IN THE PRESTRESSED SLABS.
2. NO VEHICULAR TRAFFIC SHALL BE ALLOWED ON THE STRUCTURE UNTIL THE KEYWAY GROUT HAS ATTEND A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI.
3. SEE ODOT STD. DWG. BR233 FOR ANCHOR DEVICE GEOMETRY AND HARDWARE. INSTALL AT EACH RAIL POST.
4. TO FACILITATE INSTALLATION OF TEMPORARY CONCRETE BARRIER AS SHOWN ON SHT. B-04 & B-05, PROVIDE HOLE FOR CONCRETE ANCHORS IN SLAB "B" ONLY. SPACE HOLES TO AVOID CONFLICT WITH DOWELS AND DIAPHRAGMS.
5. CLEARLY MARK EACH END OF SLAB "B". IF 1½" DIA. HOLE FOR TEMP. CONCRETE BARRIER IS FIELD DRILLED, CONFIRM CORRECT SLAB ORIENTATION PRIOR TO DRILLING.



CONCRETE PAD DETAIL

SCALE: 1"=1'-0"



BEARING DETAIL

SCALE: 1"=1'-0"

NOTE:
FORM 1½" CONCRETE PAD INTEGRALLY WITH BENT. ALLOW CONCRETE TO CURE 3 DAYS OR UNTIL CONCRETE OBTAINS DESIGN STRENGTH. PLACE ½" GROUT LAYER IMMEDIATELY BEFORE PLACING SLABS. PLACE ELASTOMERIC BEARING PADS, PREFORMED EXPANSION JOINT FILLER AND PRESTRESSED SLABS BEFORE GROUT IS SET TO ENSURE UNIFORM BEARING ACROSS FULL WIDTH OF SLAB. IF UNIFORM BEARING IS NOT ACHIEVED, LIFT SLAB AND REPEAT PROCEDURE. ANY EXCESS GROUT PROTRUDING ABOVE BOTTOM OF BEARING PADS SHALL BE REMOVED IMMEDIATELY AFTER PLACING SLABS.

ODOT B.D.S. NUMBER 7

DAVID EVANS AND ASSOCIATES INC.
5121 Skyline Village Loop S, Suite 200
Salem Oregon 97306
Phone: 503.361.8665

STAMP

PRELIMINARY
-
NOT FOR CONSTRUCTION

CLIENT

TILLAMOOK COUNTY

PROJECT NAME

RENEKE CREEK REALIGNMENT AND BRIDGE REPLACEMENT

SANDLAKE ROAD, CLOVERDALE OREGON 97112

REVISIONS

#	DATE	DESCRIPTION

DESIGNED
DRAWN
CHECKED
IN CHARGE

PROJECT NUMBER ESCI0000005

ISSUE DATE 06/05/26

SCALE IS AS SHOWN WHEN PLOTTED TO FULL SIZE (22"X34")

1"

PHASE

90% PS&E SUBMITTAL

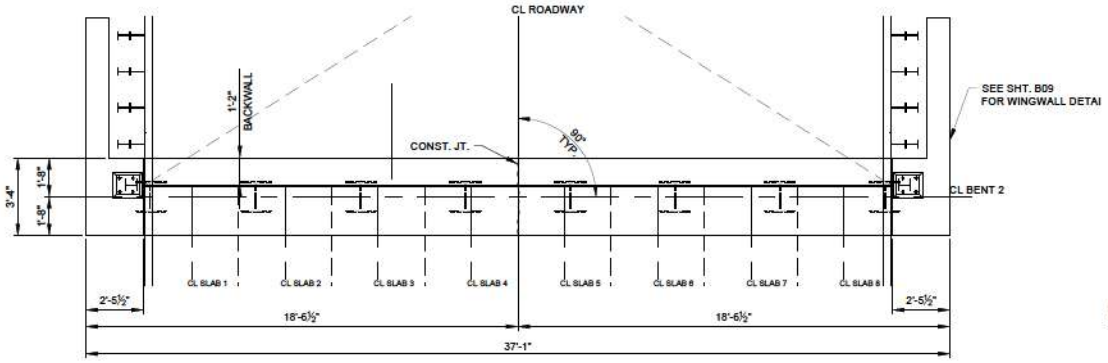
SHEET TITLE

PRECAST SLAB DETAILS

SHEET NUMBER

B07

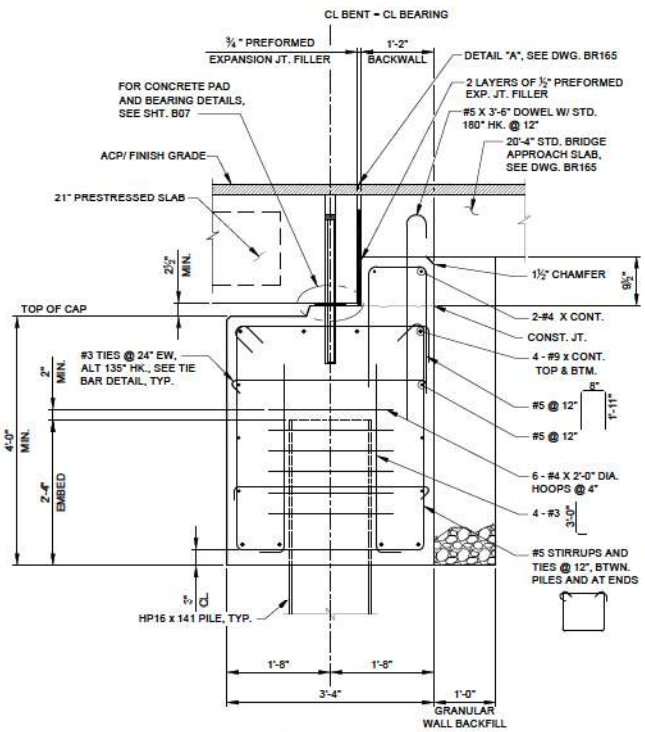
SHEET OF



NOTE:
END PANEL, SLABS, AND RAIL NOT SHOWN FOR CLARITY.

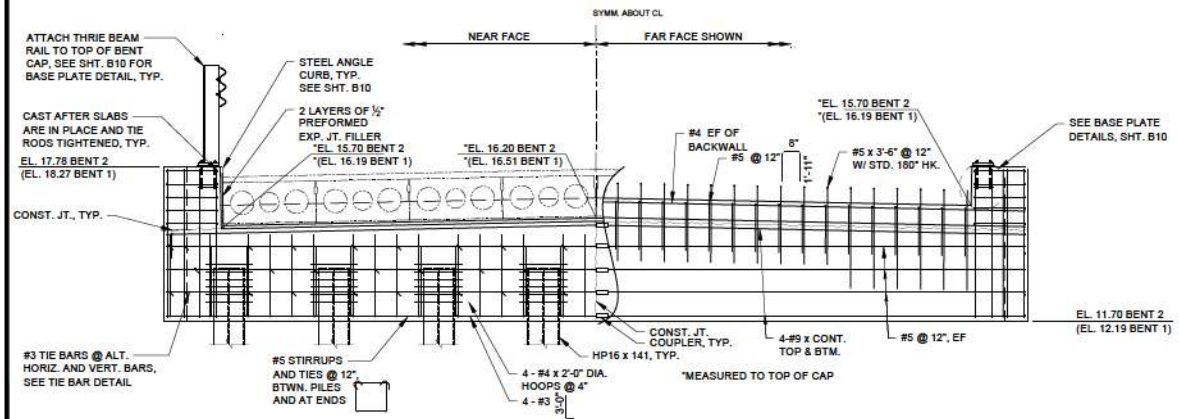
BENT 2 PLAN

SCALE: 3/8"=1'-0"
(BENT 1 SIMILAR, OPPOSITE HAND)



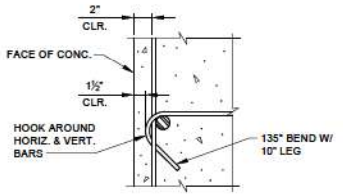
TYPICAL BENT SECTION

SCALE: 1"=1'-0"



BENT 2 ELEVATION

SCALE: 3/8" = 1'-0"
(BENT 1 SIMILAR, OPPOSITE HAND)



TIE BAR DETAIL

NO SCALE

ODOT B.D.S. NUMBER 8

DAVID EVANS AND ASSOCIATES, INC.
5121 Skyline Village Loop S, Suite 200
Salem Oregon 97306
Phone: 503.361.8665

STAMP
PRELIMINARY - NOT FOR CONSTRUCTION

CLIENT
TILLAMOOK COUNTY

PROJECT NAME
RENEKE CREEK REALIGNMENT AND BRIDGE REPLACEMENT
SANDLAKE ROAD, CLOVERDALE OREGON 97112

REVISIONS

#	DATE	DESCRIPTION

DESIGNED
DRAWN
CHECKED
IN CHARGE

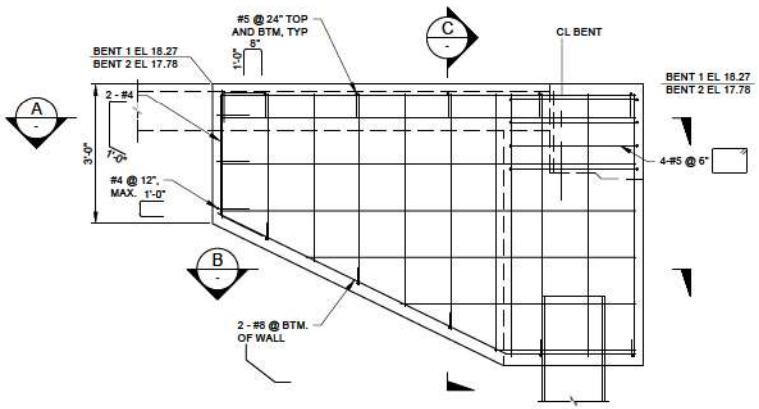
PROJECT NUMBER ESCI0000005
ISSUE DATE 06/05/26
SCALE IS AS SHOWN WHEN PLOTTED TO FULL SIZE (22"x34")

PHASE
90% PS&E SUBMITTAL

SHEET TITLE
BENT DETAILS

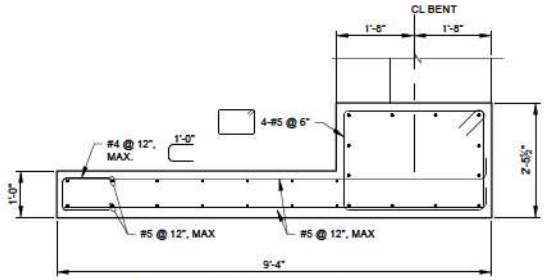
SHEET NUMBER
B08

SHEET OF



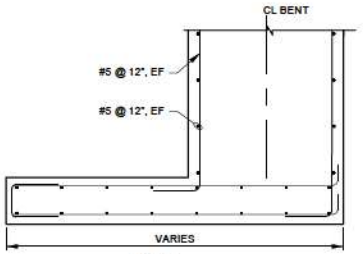
TYPICAL WINGWALL ELEVATION

SCALE: 3/4"=1'-0"



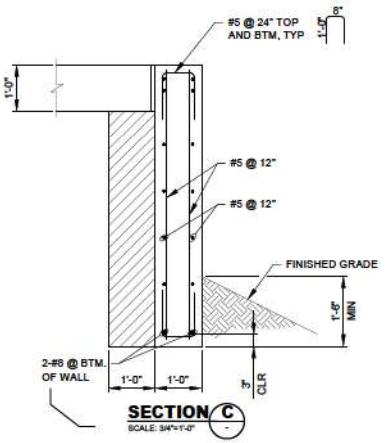
SECTION A
SCALE: 3/4"=1'-0"

NOTE:
PILE CAP REINFORCING NOT SHOWN FOR CLARITY.



NOTE:
SEE SECTION A FOR DETAILS NOT SHOWN

SECTION B
SCALE: 3/4"=1'-0"



SECTION C
SCALE: 3/4"=1'-0"

ODOT B.D.S. NUMBER 9

DAVID EVANS AND ASSOCIATES, INC.
5121 Skyline Village Loop S, Suite 200
Salem, Oregon 97306
Phone: 503.361.8665

STAMP
PRELIMINARY
-
NOT FOR CONSTRUCTION

CLIENT
TILLAMOOK COUNTY

PROJECT NAME
RENEKE CREEK
REALIGNMENT AND
BRIDGE REPLACEMENT
SAND LAKE ROAD, CLOVERDALE OREGON 97112

REVISIONS

#	DATE	DESCRIPTION

DESIGNED
DRAWN
CHECKED
IN CHARGE

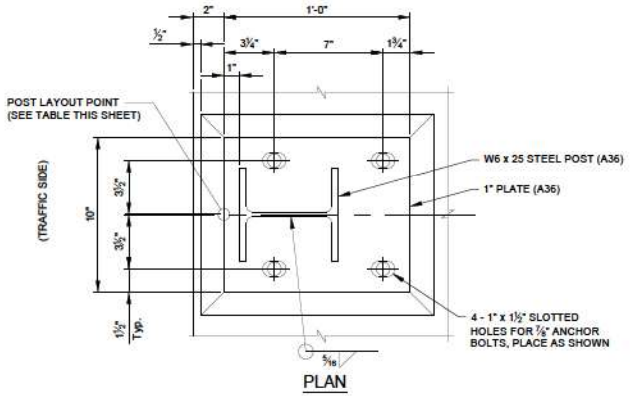
PROJECT NUMBER ESCI0000005
ISSUE DATE 06/05/26
SCALE IS AS SHOWN WHEN PLOTTED TO FULL SIZE (22"x34")

PHASE
90% PS&E SUBMITTAL

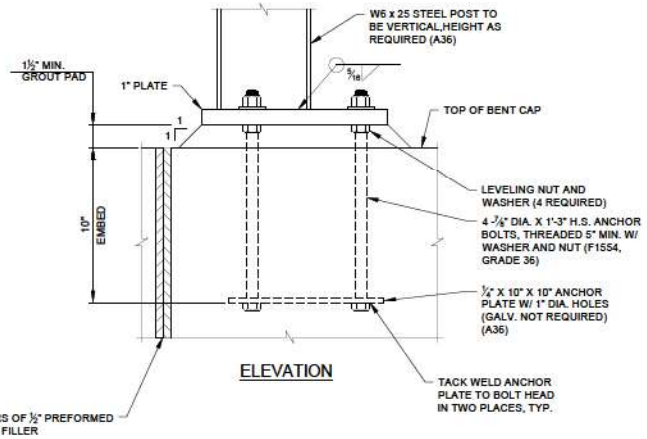
SHEET TITLE
WINGWALL DETAILS

SHEET NUMBER
B09

SHEET OF



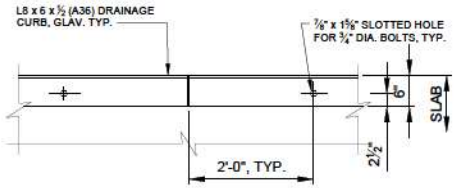
PLAN



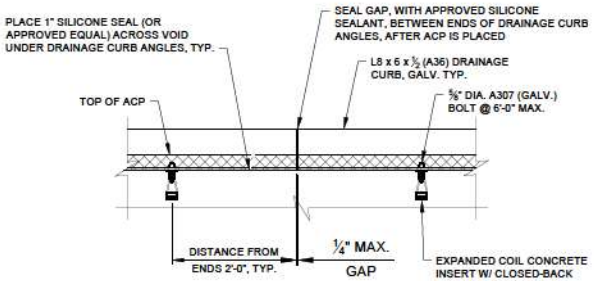
ELEVATION

RAIL POST BASE PLATE DETAILS

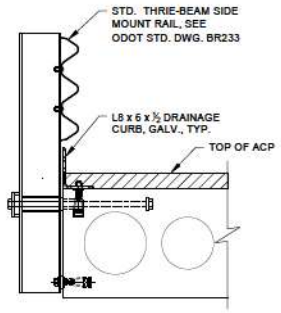
SCALE: 3"=1'-0"



PLAN



ELEVATION



SECTION

DRAINAGE CURB DETAIL

SCALE: 1"=1'-0"

DAVID EVANS AND ASSOCIATES INC.
5021 Skyline Village Loop S, Suite 200
Salem Oregon 97306
Phone: 503.361.8665

STAMP

PRELIMINARY
-
NOT FOR CONSTRUCTION

CLIENT

TILLAMOOK COUNTY

PROJECT NAME

RENEKE CREEK
REALIGNMENT AND
BRIDGE REPLACEMENT

SANDLAKE ROAD, CLOVERDALE OREGON 97112

REVISIONS

#	DATE	DESCRIPTION

DESIGNED	N. Peek
DRAWN	D. Altenburg
CHECKED	J. Goodall
IN CHARGE	J. Goodall
PROJECT NUMBER	ESCI0000005
ISSUE DATE	06/05/26

SCALE IS AS SHOWN WHEN PLOTTED TO FULL SIZE (22"x34")

1"

PHASE

90% PS&E SUBMITTAL

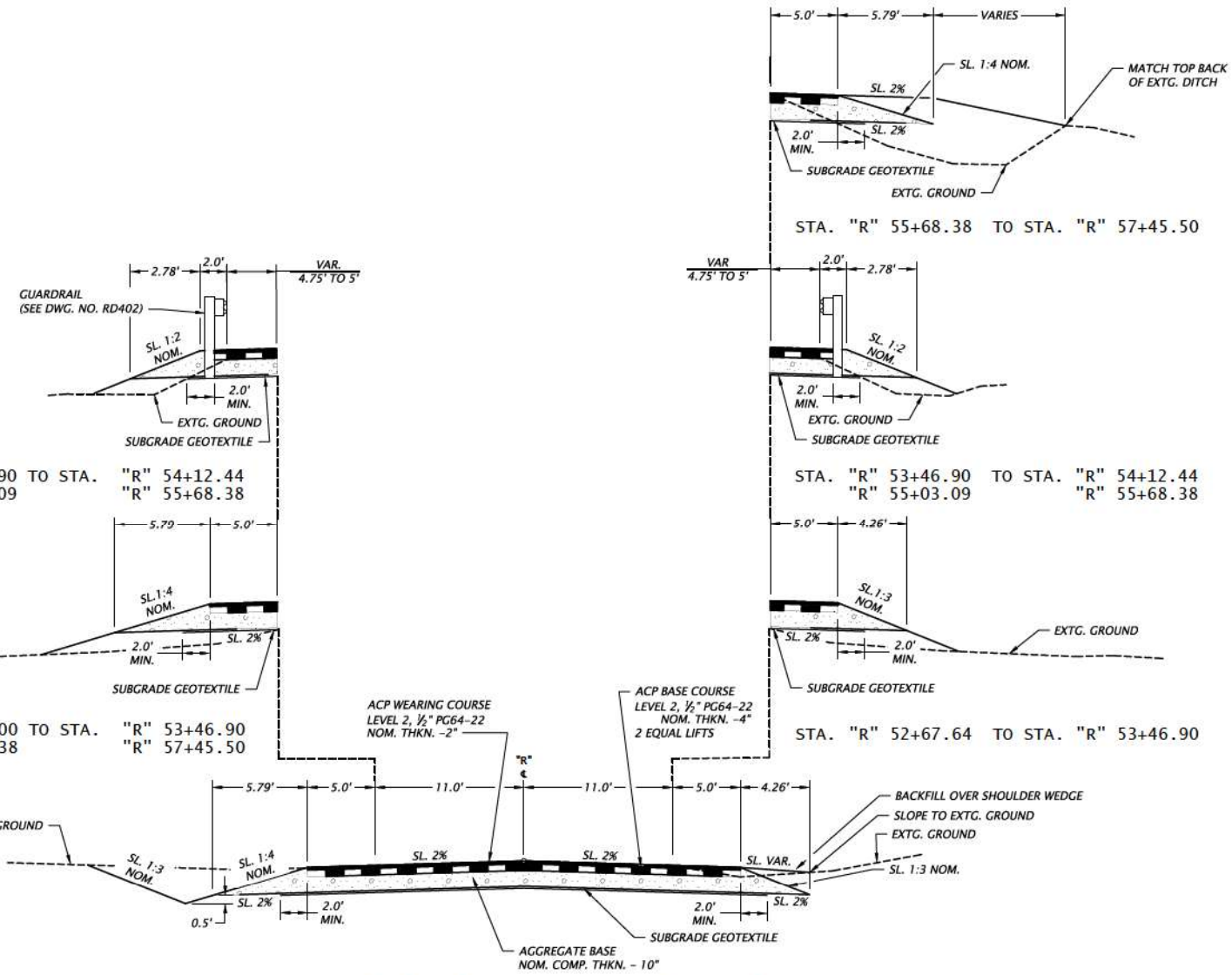
SHEET TITLE

MISCELLANEOUS DETAILS

SHEET NUMBER

B10

SHEET OF



STA. "R" 55+68.38 TO STA. "R" 57+45.50

STA. "R" 53+46.90 TO STA. "R" 54+12.44
"R" 55+03.09 "R" 55+68.38

STA. "R" 53+46.90 TO STA. "R" 54+12.44
"R" 55+03.09 "R" 55+68.38

STA. "R" 53+29.00 TO STA. "R" 53+46.90
"R" 55+68.38 "R" 57+45.50

STA. "R" 52+67.64 TO STA. "R" 53+46.90

STA. "R" 51+00.00 TO STA. "R" 54+12.44
"R" 54+12.44 "R" 55+03.09 (STRUCTURE)
"R" 55+03.09 "R" 57+45.50

DAVID EVANS AND ASSOCIATES Inc.
5101 Skyline Village Loop S, Suite 200
Salem Oregon 97306
Phone: 503.361.8655

STAMP

PRELIMINARY
-
NOT FOR CONSTRUCTION

CLIENT

TILLAMOOK COUNTY

PROJECT NAME

RENEKE CREEK REALIGNMENT AND CULVERT REPLACEMENT

SANDLAKE ROAD, CLOVERDALE OREGON 97112

REVISIONS

#	DATE	DESCRIPTION

DESIGNED	T. DeFord
DRAWN	T. DeFord
CHECKED	S. Sinclair
IN CHARGE	J. Goodall

PROJECT NUMBER ESCI0000005

ISSUE DATE

SCALE IS AS SHOWN WHEN PLOTTED TO FULL SIZE (22"x34")

PHASE

90% PS&E SUBMITTAL

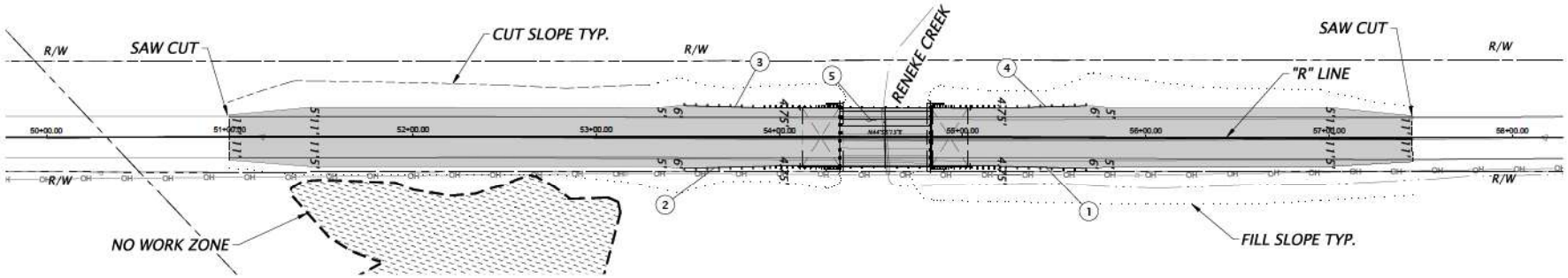
SHEET TITLE

TYPICAL SECTION

SHEET NUMBER

BA-01

SHEET OF



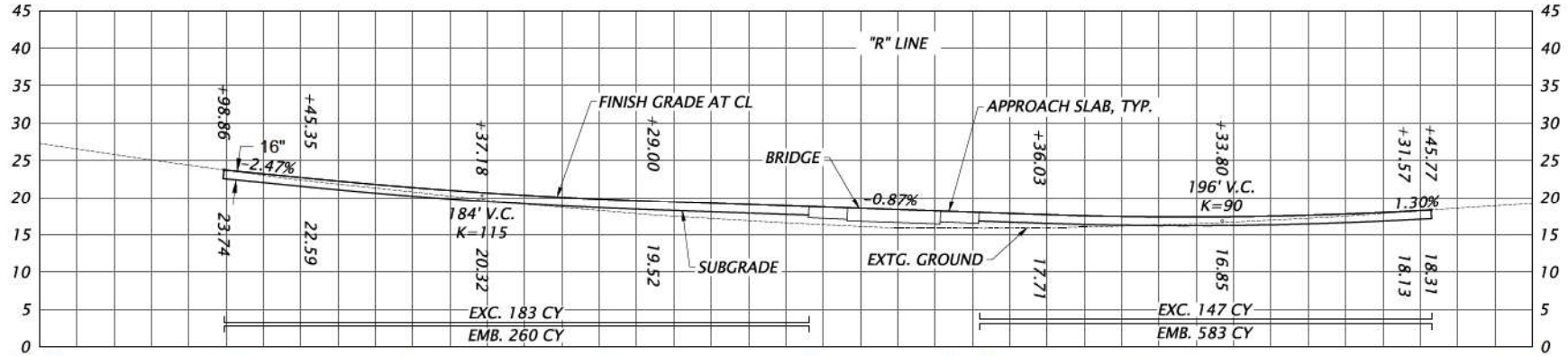
(1) CONST. GUARDRAIL - 12.5' (TYPE 3)
CONST. GUARDRAIL TO BRIDGE RAIL TRANSITION
CONST. GUARDRAIL TERMINAL, NON-FLARED
TEST LEVEL - 3
W=1, E=0
(SEE DWG. NOS. BR203, RD402, RD407, RD410, RD416, RD419, RD420, RD442A, RD442B & RD482)

(2) CONST. GUARDRAIL - 12.5' (TYPE 3)
CONST. GUARDRAIL TO BRIDGE RAIL TRANSITION
CONST. GUARDRAIL TERMINAL, NON-FLARED
TEST LEVEL - 3
W=1, E=0

(3) CONST. GUARDRAIL - 12.5' (TYPE 3)
CONST. GUARDRAIL TO BRIDGE RAIL TRANSITION
CONST. GUARDRAIL TERMINAL, NON-FLARED
TEST LEVEL - 3
W=1, E=0

(4) CONST. GUARDRAIL - 12.5' (TYPE 3)
CONST. GUARDRAIL TO BRIDGE RAIL TRANSITION
CONST. GUARDRAIL TERMINAL, NON-FLARED
TEST LEVEL - 3
W=1, E=0

(5) REMOVE EXTG. CULVERT
CONST. STRUCTURE - 49'
RDWY. WIDTH - 32'
STRUCTURE NO. ----
(FOR DETAILS, SEE SHT B-01)



PROFILE VIEW
SCALE: H. 1" = 30', V. 1" = 7.5'

DAVID EVANS AND ASSOCIATES Inc.
5101 Skyline Village Loop S, Suite 200
Salem Oregon 97306
Phone: 503.361.8655

STAMP
PRELIMINARY
-
NOT FOR CONSTRUCTION

CLIENT
TILLAMOOK COUNTY

PROJECT NAME
RENEKE CREEK
REALIGNMENT AND
CULVERT REPLACEMENT
SANDLAKE ROAD, CLOVERDALE OREGON 97112

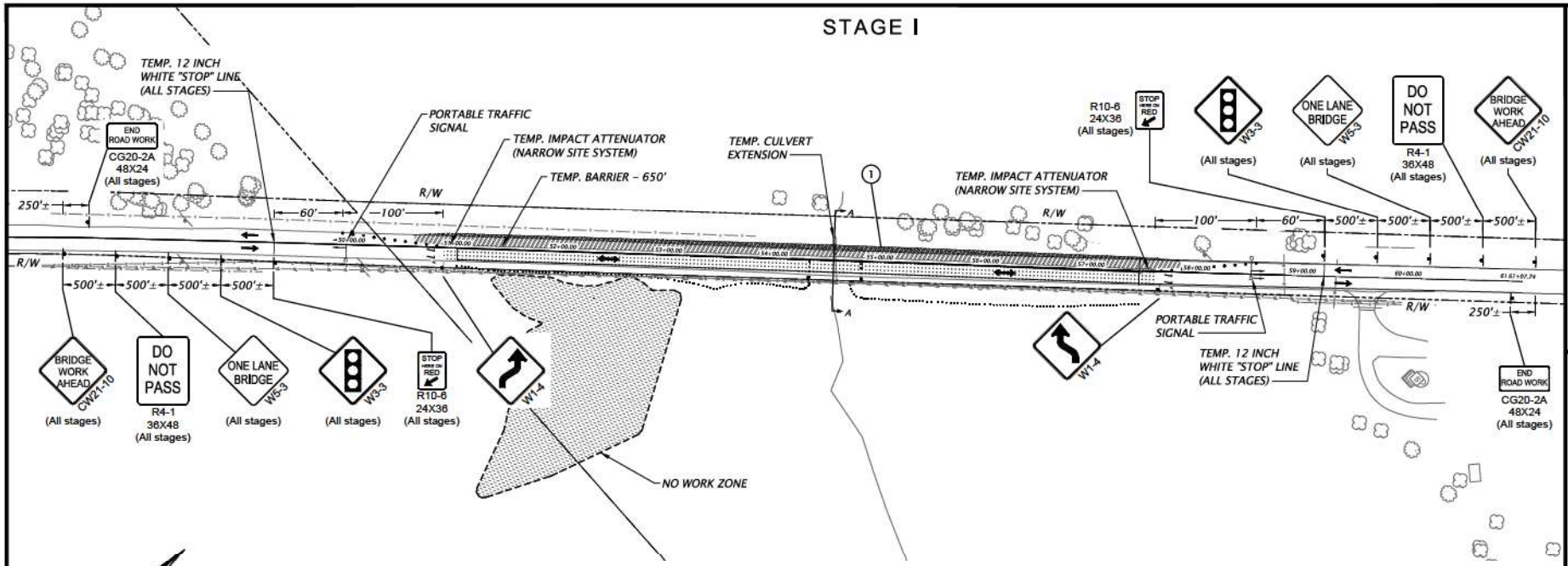
REVISIONS

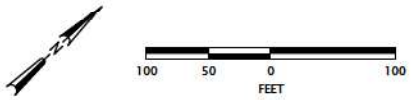
#	DATE	DESCRIPTION

DESIGNED	T. DeFord
DRAWN	T. DeFord
CHECKED	S. Sinclair
IN CHARGE	J. Goodall

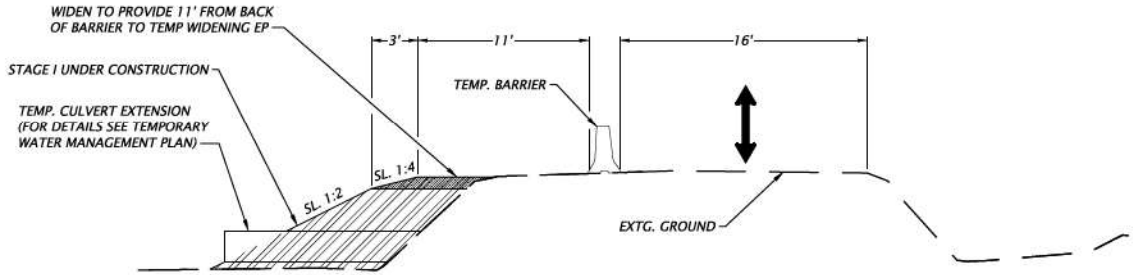
PROJECT NUMBER ESCI0000005
ISSUE DATE
SCALE IS AS SHOWN WHEN PLOTTED TO FULL SIZE (22"x34")
PHASE
90% PS&E SUBMITTAL
SHEET TITLE
PLAN AND PROFILE
SHEET NUMBER
C-01
SHEET OF

STAGE I





① CONST. TEMP. PAVEMENT WIDENING – 2457 SQ. FT.
TEMP ACP – NOM. THKN. – 3"
TEMP AGGREGATE BASE – NOM. COMP. THKN. – 6"



SECTION A–A

LEGEND

- No work zone
- Under traffic
- Under construction
- Temp. pavement
- Temp. sign on post
- 2-way traffic (single lane)
- 2-way traffic (two lane)

DAVID EVANS AND ASSOCIATES INC.
5121 Skyline Village Loop S, Suite 200
Salem Oregon 97306
Phone: 503.361.8665

STAMP
PRELIMINARY
-
NOT FOR CONSTRUCTION

CLIENT
TILLAMOOK COUNTY

PROJECT NAME
RENEKE CREEK REALIGNMENT AND CULVERT REPLACEMENT
SANDLAKE ROAD, CLOVERDALE OREGON 97112

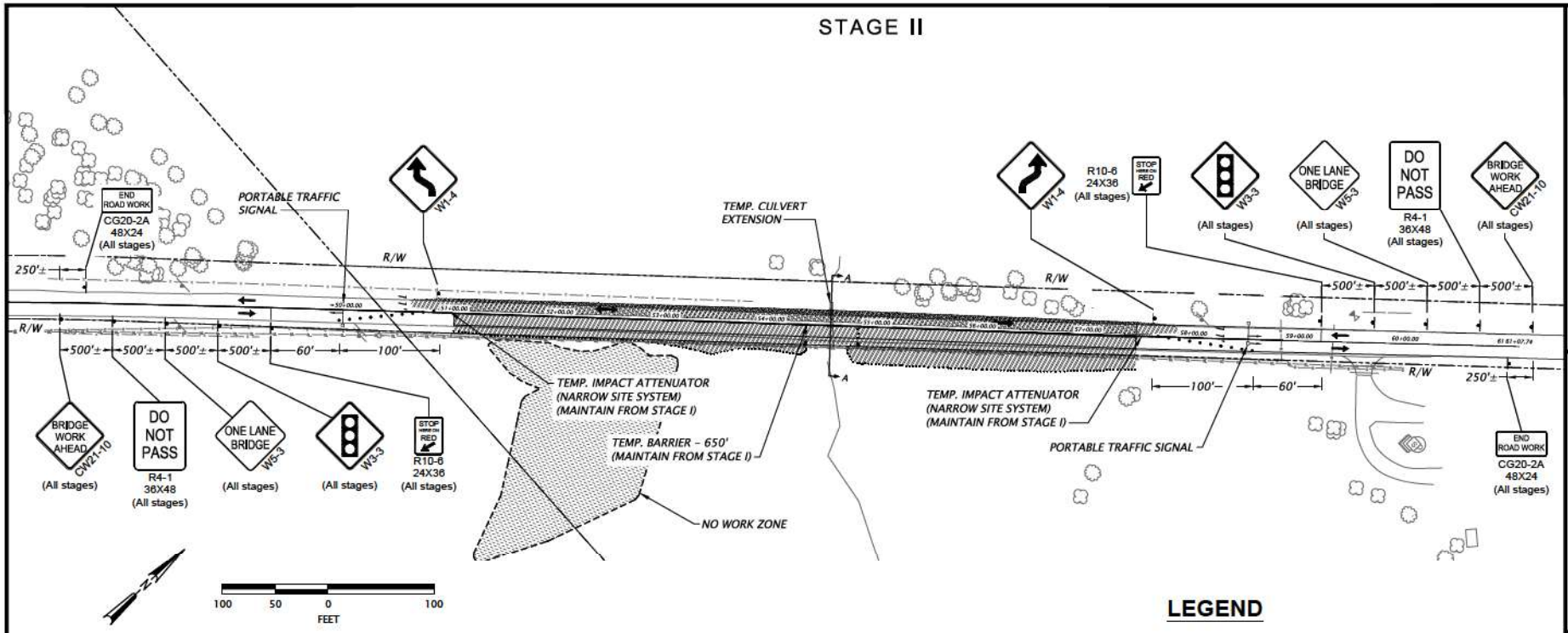
REVISIONS

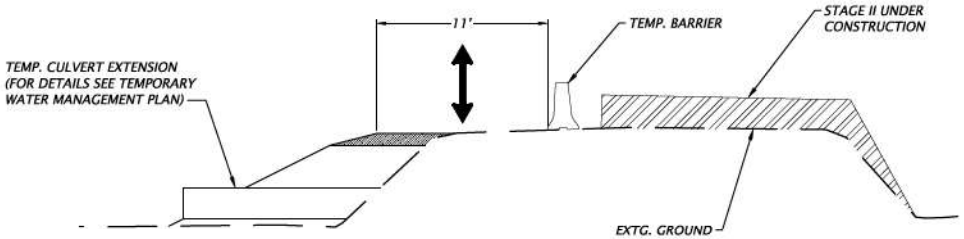
#	DATE	DESCRIPTION

DESIGNED	T. DeFord
DRAWN	T. DeFord
CHECKED	S. Sinclair
IN CHARGE	J. Goodall

PROJECT NUMBER ESCI0000005
ISSUE DATE
SCALE IS AS SHOWN WHEN PLOTTED TO FULL SIZE (22"x34")
PHASE
90% PS&E SUBMITTAL
SHEET TITLE
TRAFFIC CONTROL PLAN
SHEET NUMBER
T-01
SHEET OF

STAGE II





SECTION A–A

LEGEND

- No work zone
- Under traffic
- Under construction
- Temp. pavement
- Temp. sign on post
- 2-way traffic (single lane)
- 2-way traffic (two lane)

DAVID EVANS AND ASSOCIATES INC.
5121 Skyline Village Loop S, Suite 200
Salem Oregon 97306
Phone: 503.361.8665

STAMP
PRELIMINARY
-
NOT FOR CONSTRUCTION

CLIENT
TILLAMOOK COUNTY

PROJECT NAME
RENEKE CREEK REALIGNMENT AND CULVERT REPLACEMENT
SANDLAKE ROAD, CLOVERDALE OREGON 97112

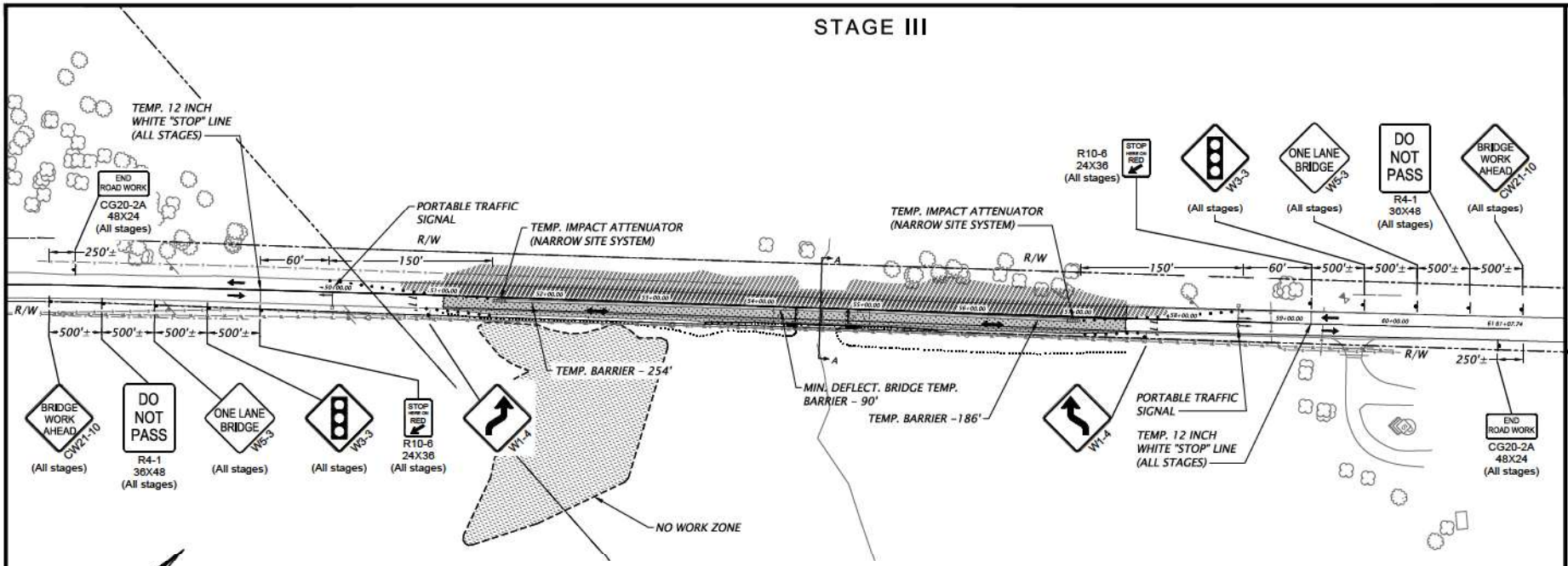
REVISIONS

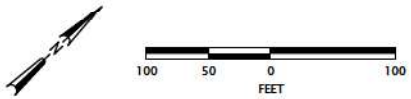
#	DATE	DESCRIPTION

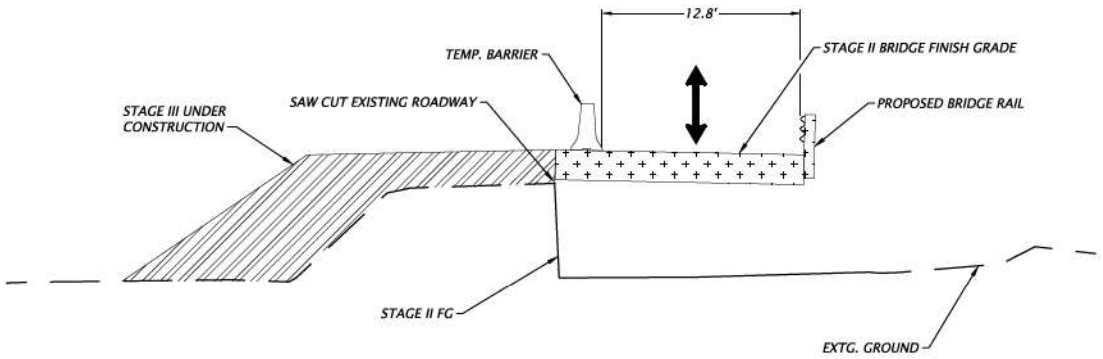
DESIGNED	T. DeFord
DRAWN	T. DeFord
CHECKED	S. Sinclair
IN CHARGE	J. Goodall

PROJECT NUMBER ESCI0000005
ISSUE DATE
SCALE IS AS SHOWN WHEN PLOTTED TO FULL SIZE (22"x34")
PHASE
90% PS&E SUBMITTAL
SHEET TITLE
TRAFFIC CONTROL PLAN
SHEET NUMBER
T-02
SHEET OF

STAGE III







SECTION A–A

LEGEND

- No work zone
- Under traffic
- Under construction
- Temp. pavement
- Temp. sign on post
- 2-way traffic (single lane)
- 2-way traffic (two lane)

DAVID EVANS AND ASSOCIATES INC.
5121 Skyline Village Loop S, Suite 200
Salem Oregon 97306
Phone: 503.361.8665

STAMP
PRELIMINARY
-
NOT FOR CONSTRUCTION

CLIENT
TILLAMOOK COUNTY

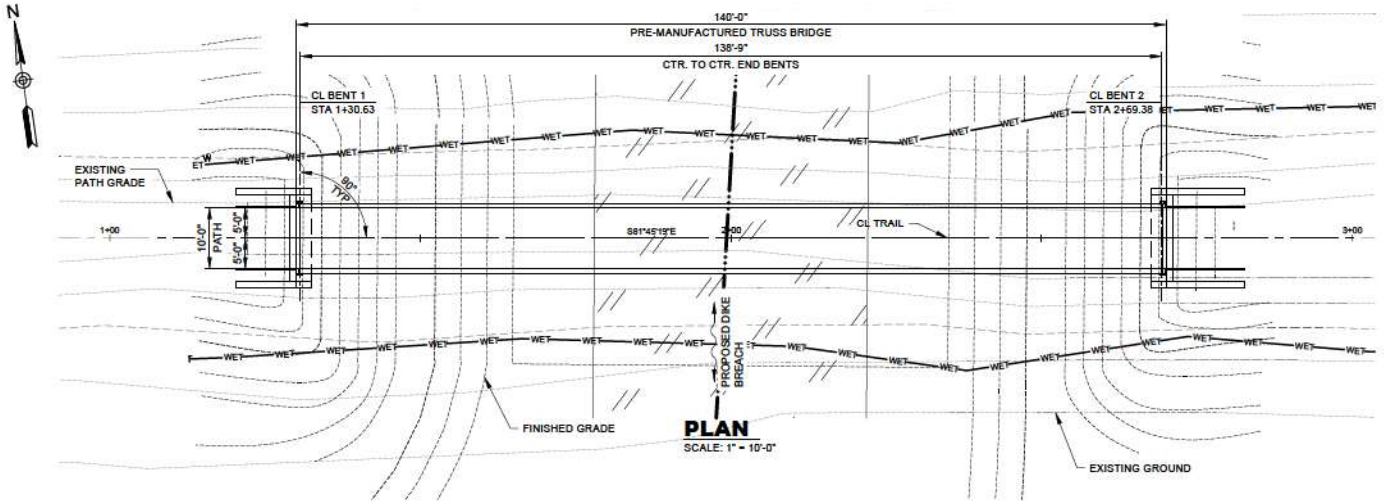
PROJECT NAME
RENEKE CREEK REALIGNMENT AND CULVERT REPLACEMENT
SANDLAKE ROAD, CLOVERDALE OREGON 97112

REVISIONS

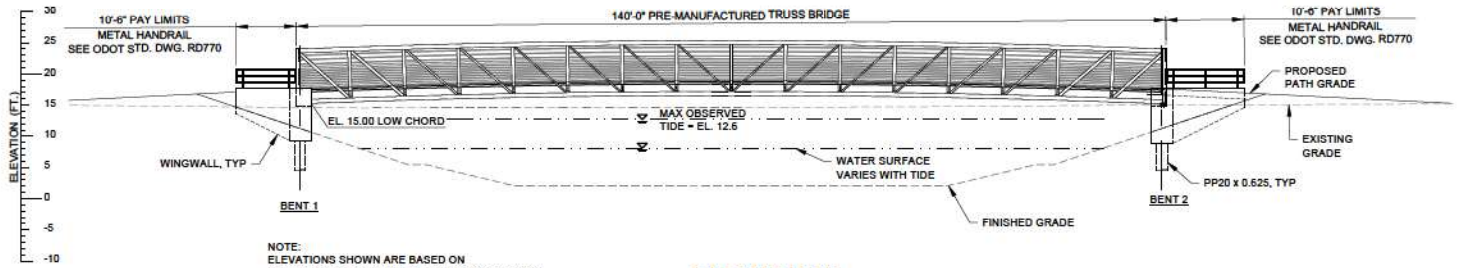
#	DATE	DESCRIPTION

DESIGNED	T. DeFord
DRAWN	T. DeFord
CHECKED	S. Sinclair
IN CHARGE	J. Goodall

PROJECT NUMBER ESCI0000005
ISSUE DATE
SCALE IS AS SHOWN WHEN PLOTTED TO FULL SIZE (22"x34")
PHASE
90% PS&E SUBMITTAL
SHEET TITLE
TRAFFIC CONTROL PLAN
SHEET NUMBER
T-03
SHEET OF



PLAN
SCALE: 1" = 10'-0"



NOTE:
ELEVATIONS SHOWN ARE BASED ON
NORTH AMERICAN VERTICAL DATUM 1988 (NAVD88).

ELEVATION
SCALE: 1" = 10'-0"

DAVID EVANS AND ASSOCIATES INC.
5121 Skyline Village Loop S, Suite 200
Salem Oregon 97306
Phone: 503.361.8665

STAMP
PRELIMINARY
-
NOT FOR
CONSTRUCTION

CLIENT
TILLAMOOK COUNTY
Land of Rivers, Trees and Ocean Breeze

PROJECT NAME
SITKA SEDGE
PEDESTRIAN BRIDGE
SANDLAKE ROAD, CLOVERDALE OREGON 97112

REVISIONS

#	DATE	DESCRIPTION

DESIGNED	C. DIEHL
DRAWN	D. ALTENBURG
CHECKED	J. GOODALL
IN CHARGE	J. GOODALL
PROJECT NUMBER	ESCI0000005
ISSUE DATE	06/05/26

SCALE IS AS SHOWN WHEN PLOTTED TO FULL SIZE (22"x34")
1"

PHASE
90% PS&E
SUBMITTAL

SHEET TITLE
PLAN AND ELEVATION

SHEET NUMBER
BR01

SHEET OF

GENERAL NOTES:

PROVIDE ALL MATERIALS AND PERFORM ALL WORK ACCORDING TO THE "OREGON STANDARD SPECIFICATIONS FOR CONSTRUCTION 2024".

BRIDGE IS DESIGNED IN ACCORDANCE WITH THE 9TH EDITION OF THE "AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS (INCLUDING INTERIM REVISIONS)".

SERVICE AND STRENGTH-I LIMIT STATES:
THE GREATER OF H10 LOAD OR 90PSF PEDESTRIAN LOAD

SEISMIC DESIGN IS PERFORMED IN ACCORDANCE WITH THE "AASHTO GUIDE SPECIFICATIONS FOR LRFD SEISMIC BRIDGE DESIGN" ("AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS"). THE HORIZONTAL PEAK GROUND ACCELERATION COEFFICIENTS (PGA) FOR 1000-YEAR RETURN (NO COLLAPSE) EARTHQUAKE IS 0.755G, BASED ON 2023 USGS SEISMIC HAZARD MAPS. THE BRIDGE SITE IS DEFINED AS A SITE CLASS E WITH SITE FACTOR (FPGA) OF 1.10.

PROVIDE GFRP REINFORCING ACCORDING TO ASTM SPECIFICATIONS D7957 AND D8505. MINIMUM GUARANTEED ULTIMATE TENSILE STRENGTH OF 110KSI. PROVIDE GFRP REINFORCING CONFORMING TO THE MINIMUM STANDARDS SHOWN IN THE TABLE BELOW.

FIBER MASS CONTENT	MOISTURE ABSORPTION IN 24 H AT 50°C [122°F]	MOISTURE ABSORPTION TO SATURATION 50°C [122°F]	ELASTIC MODULUS		MEAN GLASS TRANSITION TEMPERATURE (DSC)		MEAN APPARENT HORIZONTAL SHEAR		MEAN TRANSVERSE SHEAR STRENGTH	
%	%	%	GPa	ksi	°F	°C	psi	MPa	ksi	MPa
≥75	≤0.1	<0.5	60	8700	≥212	≥100	≥6525	≥45	≥26.1	≥180

ALL REINFORCING SPACING IS INTENDED TO BE MAXIMUM UNLESS SHOWN OTHERWISE.

PROVIDE A ¾" CHAMFER ON ALL EXPOSED CONCRETE EDGES UNLESS NOTED OTHERWISE.

PROVIDE CLASS 4000 - 1½", 1", OR ¾" CONCRETE FOR ALL CONCRETE.

SEE FOUNDATION PLAN FOR FOUNDATION DESIGN NOTES.

CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS AND ELEVATIONS PRIOR TO BEGINNING WORK.

WELDING NOTES:

PRODUCE WELDS ACCORDING TO THE LATEST EDITION OF "AWS D 1.5 BRIDGE WELDING CODE".

BOLTING NOTES:

PROVIDE ⅞" DIAMETER TYPE 3 WEATHERING HIGH-STRENGTH BOLTS AT STRUCTURAL CONNECTIONS ACCORDING TO ASTM SPECIFICATION F3125 GR A325 UNLESS SHOWN OTHERWISE.

ALL STRUCTURAL STEEL CONNECTIONS ARE SLIP CRITICAL CONNECTIONS WITH CLASS B FAYING SURFACES UNLESS SHOWN OTHERWISE. (BOLT THREADS SHALL BE EXCLUDED FROM SHEAR PLANE.)

TIGHTEN ALL HIGH-STRENGTH BOLTS USING THE "TURN-OF-NUT TIGHTENING" METHOD.

RESIN BONDED ANCHOR NOTES:

PROVIDE AND INSTALL 1¼ " DIAMETER GRADE 105 RESIN BONDED ANCHORS WITH HIGH STRENGTH RESIN FROM THE QPL. THE MINIMUM PULLOUT STRENGTH IS 55,000 LBS WITH A MINIMUM EMBEDMENT OF 12IN. INSTALL ANCHORS ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS AND THE SPECIAL PROVISIONS.

PLASTIC LUMBER NOTES:

PROVIDE 2" X 12" OR 2" X 10" PLASTIC LUMBER WITH WOOD GRAIN TEXTURE.

STRUCTURAL STEEL NOTES:

PROVIDE ASTM A572 GRADE 50 STRUCTURAL STEEL PLATES AND SHAPES UNLESS OTHERWISE NOTED.

ALTERNATE MATERIAL DESIGNATIONS ACCEPTABLE UPON APPROVAL BY ENGINEER.

STEEL DIMENSIONS SHOWN ON THE PLANS ARE FOR NET STRUCTURAL STEEL DIMENSIONS. CONTRACTOR SHALL ADJUST GAPS AND SPACINGS AS NECESSARY TO ALLOW FOR THICKNESS OF COATINGS.

STEEL COATING NOTES:

PAINT AND GALVANIZE PREFABRICATED BRIDGE STRUCTURAL STEEL ACCORDING TO SPECIFICATION 00594.

PRODUCE FINISH COAT ON BRIDGE AND RAIL ACCORDING TO FEDERAL COLOR STANDARDS XXX.

COAT PEDESTRIAN RAIL AND ATTACHED STEEL WITH 3-COAT SYSTEM PER SPECIFICATION 00594.

CONSTRUCTION SEQUENCE:

1. CONSTRUCT NEW BRIDGE BENTS AND WINGWALLS.
2. ERECT NEW BRIDGE.
3. INSTALL BRIDGE DECK.

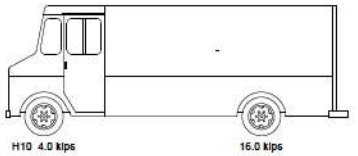
PRE-MANUFACTURED TRUSS BRIDGE NOTES:

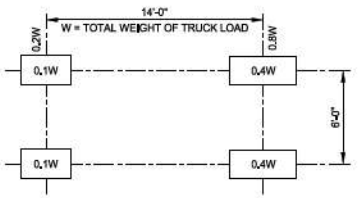
PROVIDE A PRE-MANUFACTURED TRUSS BRIDGE MEETING THE FOLLOWING LOAD REQUIREMENTS:

DEAD LOAD (MAX): 42.8 KIP STRENGTH I LIMIT STATE
WIND LOAD (MAX): 29.2 KIP STRENGTH III LIMIT STATE

LOADS ARE PER BENT AND INCLUDE ALL FORCES DUE TO LOADS FROM OR ON THE BRIDGE TRUSS MEMBERS, FLOORBEAMS, STRINGERS, RAILING, DECKING, AND ANY OTHER ELEMENTS DESCRIBED IN THE TYPICAL SECTION SHOWN ON THIS PAGE.

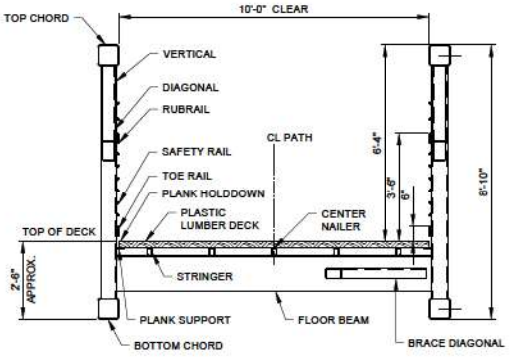
REFER TO THE PROJECT SPECIAL PROVISIONS SECTION 00590 FOR ADDITIONAL REQUIREMENTS AND MATERIAL STANDARDS.





H10 TRUCK LOADING

2 Axle Vehicle
Gross Weight = 20K



TYPICAL SECTION

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

DAVID EVANS AND ASSOCIATES INC.
5121 Skyline Village Loop S, Suite 200
Salem Oregon 97306
Phone: 503.361.8665

STAMP

PRELIMINARY
-
NOT FOR CONSTRUCTION

CLIENT

TILLAMOOK COUNTY

PROJECT NAME

SITKA SEDGE PEDESTRIAN BRIDGE

SANDLAKE ROAD, CLOVERDALE OREGON 97112

REVISIONS

#	DATE	DESCRIPTION

DESIGNED	C. DIEHL
DRAWN	D. ALTENBURG
CHECKED	J. GOODALL
IN CHARGE	J. GOODALL
PROJECT NUMBER	ESCI0000005
ISSUE DATE	06/05/26

SCALE IS AS SHOWN WHEN PLOTTED TO FULL SIZE (22"x34")
1"

PHASE

90% PS&E SUBMITTAL

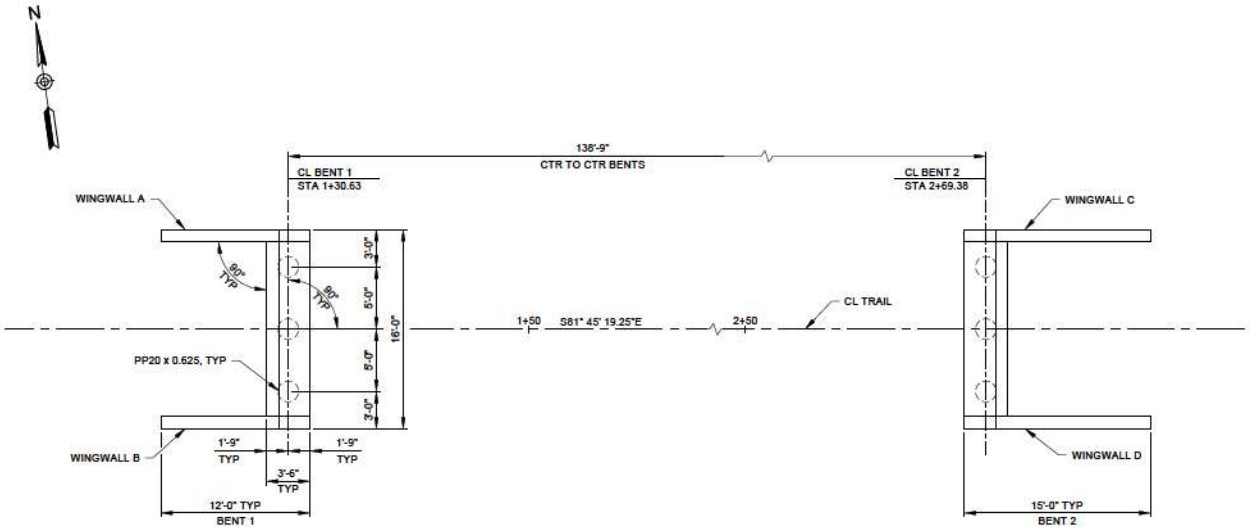
SHEET TITLE

GENERAL NOTES

SHEET NUMBER

BR02

SHEET OF



FOUNDATION PLAN

SCALE: 1"=5'-0"

NOTE:
FOR WINGWALL DETAILS, SEE SHEET BR05.

FOUNDATION NOTES

ALL BENTS, PROVIDE PP20 X 0.5, ASTM A252, GRADE 3. PILING DRIVEN WITH REINFORCED PILE TIPS. DRIVE TO NOMINAL RESISTANCE OF 170 KIPS PER PILE.

ESTIMATED PILE TIP ELEVATIONS ARE PROVIDED IN PILE PENETRATION TABLE TO ACHIEVE THE REQUIRED NOMINAL RESISTANCE. ACTUAL PILE PENETRATION MAY VARY AND WILL DEPEND ON ATTAINING THE REQUIRED DRIVING RESISTANCE.

DETERMINE PILE RESISTANCE USING THE GATES ANALYSIS.

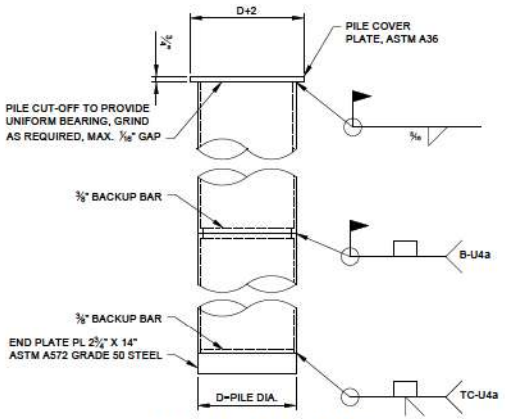
PREBORE HOLES TO MINIMUM ELEVATION OF -45 FEET PRIOR TO DRIVING PILE.

PILE PENETRATION TABLE

LOCATION	TYPE	MINIMUM TIP ELEVATION (FT.)	ESTIMATED TIP ELEVATION (FT.)	AS CONST. TIP ELEVATION	CUT-OFF ELEVATION
BENT 1	PP20 x 0.5	-60.0	-60.0	-	11.0
BENT 2	PP20 x 0.5	-60.0	-60.0	-	11.0

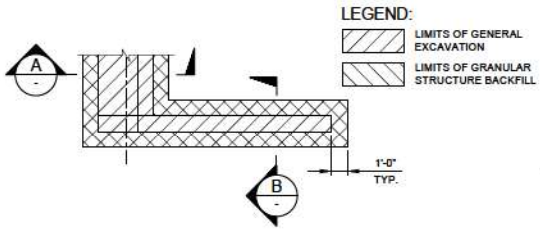
COAT TOP 15'-0" OF PILES WITH 3-COAT SYSTEM PER SPECIFICATION 00594.

PILE COATING MUST EXTEND TO OR BELOW ELEVATION -2.00.



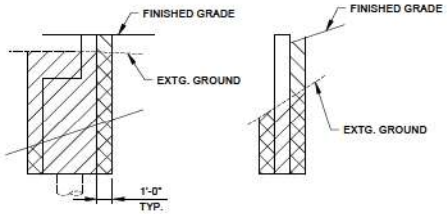
PIPE PILE DETAIL

NO SCALE



EXCAVATION AND BACKFILL DEAGRAM

NO SCALE



SECTION A

NO SCALE

SECTION B

NO SCALE

DAVID EVANS AND ASSOCIATES Inc.
5121 Skyline Village Loop S, Suite 200
Salem Oregon 97306
Phone: 503.361.8665

STAMP

PRELIMINARY
-
NOT FOR CONSTRUCTION

CLIENT

TILLAMOOK COUNTY
Land of Cheese, Trees and Ocean Breeze

PROJECT NAME

SITKA SEDGE PEDESTRIAN BRIDGE

SANDLAKE ROAD, CLOVERDALE OREGON 97112

REVISIONS

#	DATE	DESCRIPTION

DESIGNED	C. DIEHL
DRAWN	D. ALTENBURG
CHECKED	J. GOODALL
IN CHARGE	J. GOODALL
PROJECT NUMBER	ESCI0000005
ISSUE DATE	06/05/26

SCALE IS AS SHOWN WHEN PLOTTED TO FULL SIZE (22"x34")

1"

PHASE

90% PS&E SUBMITTAL

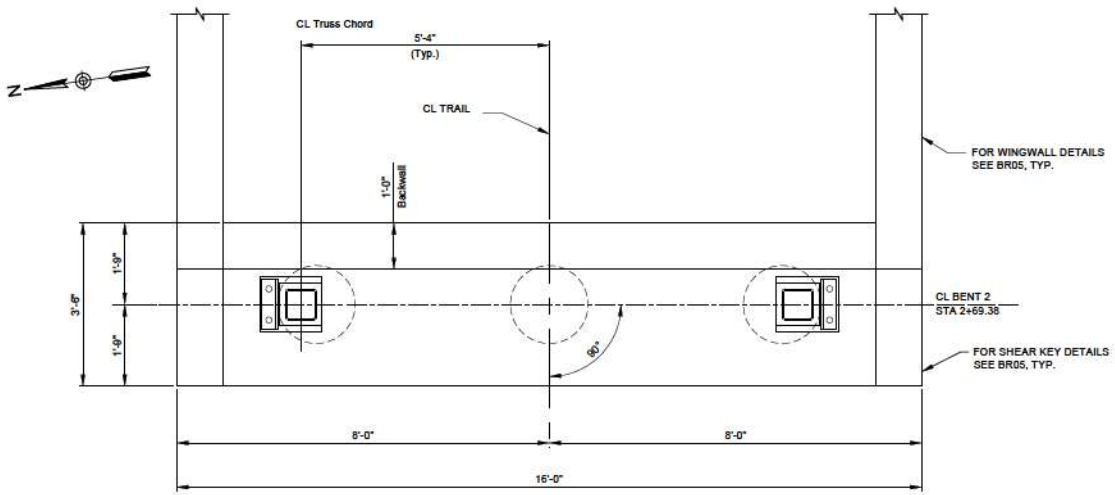
SHEET TITLE

FOUNDATION PLAN

SHEET NUMBER

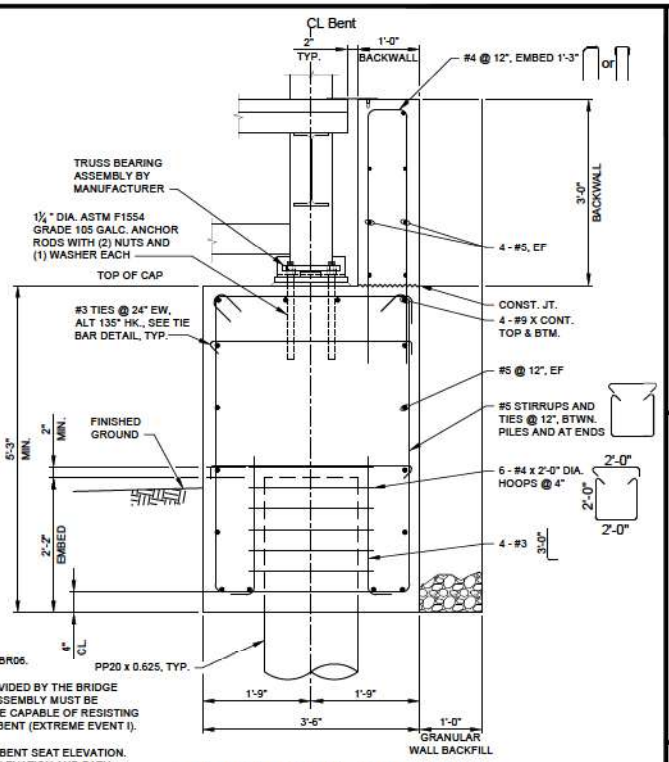
BR03

SHEET OF



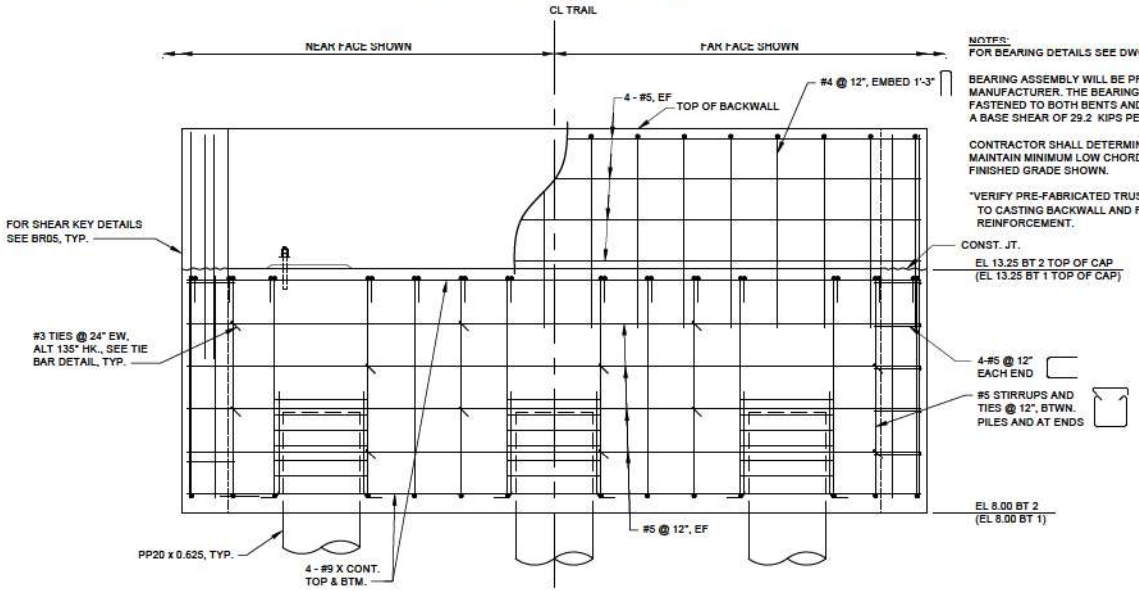
BENT 2 PLAN

SCALE: 3/4"=1'-0"
(BENT 1 SIMILAR LOOKING BACK ON STATION)



TYPICAL BENT SECTION

SCALE: 1"=1'-0"



NOTES:
FOR BEARING DETAILS SEE DWG. BR06.

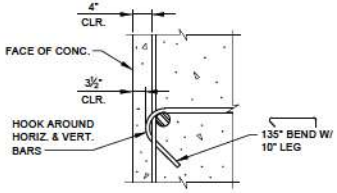
BEARING ASSEMBLY WILL BE PROVIDED BY THE BRIDGE MANUFACTURER. THE BEARING ASSEMBLY MUST BE FASTENED TO BOTH BENTS AND BE CAPABLE OF RESISTING A BASE SHEAR OF 29.2 KIPS PER BENT (EXTREME EVENT I).

CONTRACTOR SHALL DETERMINE BENT SEAT ELEVATION. MAINTAIN MINIMUM LOW CHORD ELEVATION AND PATH FINISHED GRADE SHOWN.

*VERIFY PRE-FABRICATED TRUSS CONFIGURATION PRIOR TO CASTING BACKWALL AND FABRICATING REINFORCEMENT.

BENT 2 ELEVATION

SCALE: 3/4"=1'-0"
(BENT 1 SIMILAR LOOKING BACK ON STATION)



TIE BAR DETAIL

NO SCALE

DAVID EVANS AND ASSOCIATES, INC.
5121 Skyline Village Loop S, Suite 200
Salem Oregon 97306
Phone: 503.361.8665

STAMP
PRELIMINARY
-
NOT FOR CONSTRUCTION

CLIENT
TILLAMOOK COUNTY

PROJECT NAME
SITKA SEDGE
PEDESTRIAN BRIDGE
SANDLAKE ROAD, CLOVERDALE OREGON 97112

REVISIONS

#	DATE	DESCRIPTION

DESIGNED	C. DIEHL
DRAWN	D. ALTENBURG
CHECKED	J. GOODALL
IN CHARGE	J. GOODALL
PROJECT NUMBER	ESCI0000005
ISSUE DATE	06/05/26

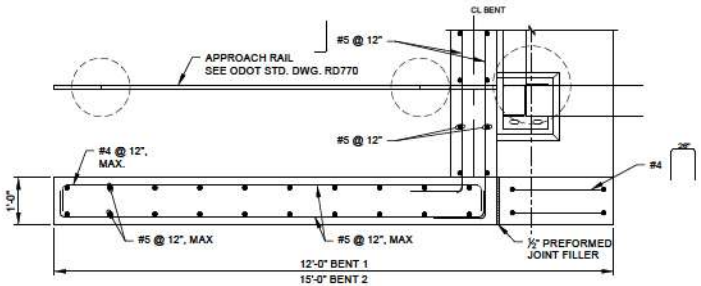
SCALE IS AS SHOWN WHEN PLOTTED TO FULL SIZE (22"x34")

PHASE
90% PS&E SUBMITTAL

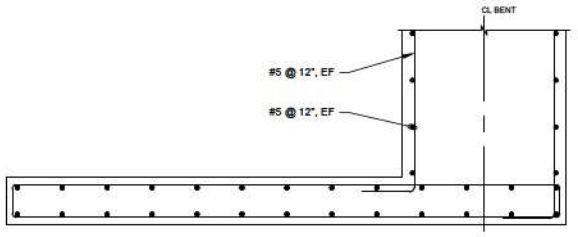
SHEET TITLE
BENT DETAILS

SHEET NUMBER
BR04

SHEET OF

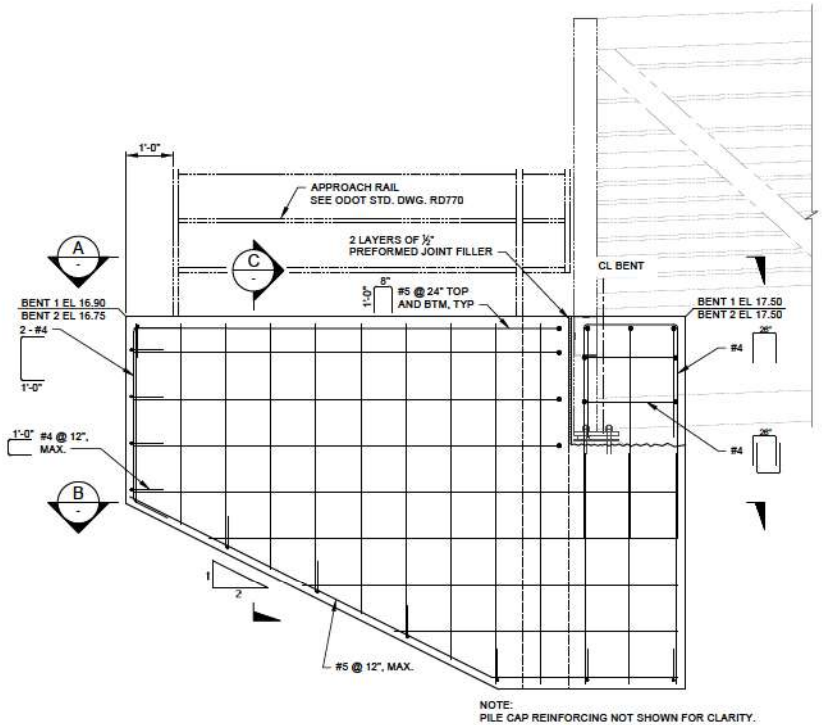


VIEW A
SCALE: 3/4"=1'-0"



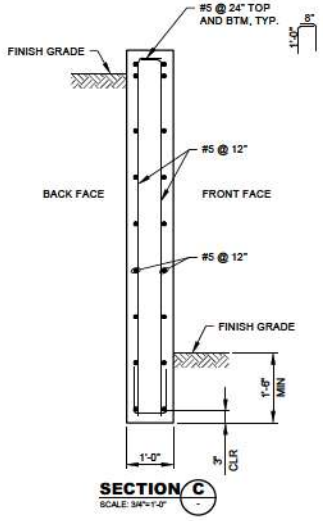
NOTE:.
SEE SECTION A FOR DETAILS NOT SHOWN

SECTION B
SCALE: 3/4"=1'-0"



NOTE:
PILE CAP REINFORCING NOT SHOWN FOR CLARITY.

WINGWALL ELEVATION
SCALE: 3/4"=1'-0"



SECTION C
SCALE: 3/4"=1'-0"

DAVID EVANS AND ASSOCIATES INC.
5121 Skyline Village Loop S, Suite 200
Salem Oregon 97306
Phone: 503.361.8665

STAMP
PRELIMINARY
-
NOT FOR CONSTRUCTION

CLIENT
TILLAMOOK COUNTY

PROJECT NAME
SITKA SEDGE
PEDESTRIAN BRIDGE
SANDLAKE ROAD, CLOVERDALE OREGON 97112

REVISIONS

#	DATE	DESCRIPTION

DESIGNED	C. DIEHL
DRAWN	D. ALTENBURG
CHECKED	J. GOODALL
IN CHARGE	J. GOODALL
PROJECT NUMBER	ESCI0000005
ISSUE DATE	06/05/26

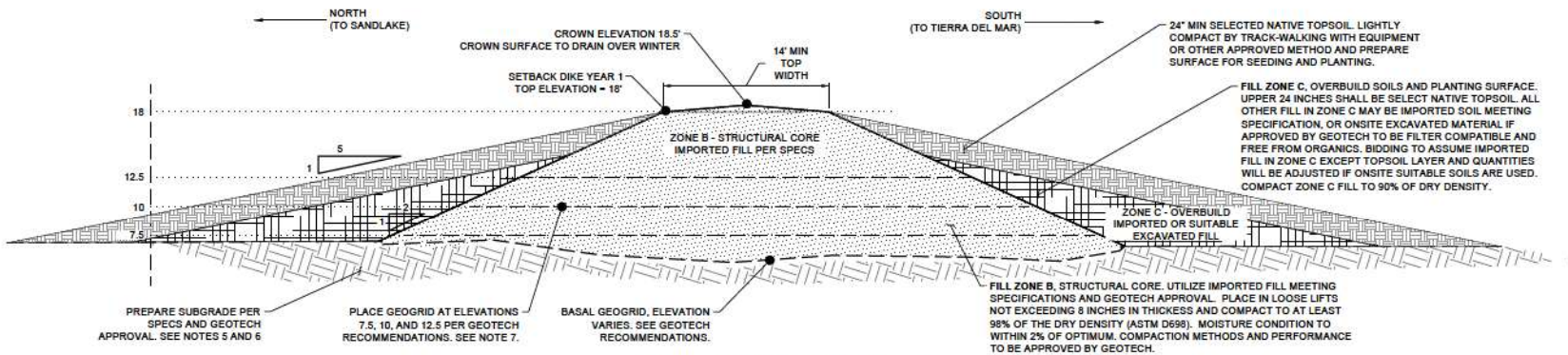
SCALE IS AS SHOWN WHEN PLOTTED TO FULL SIZE (22"x34")

PHASE
90% PS&E SUBMITTAL

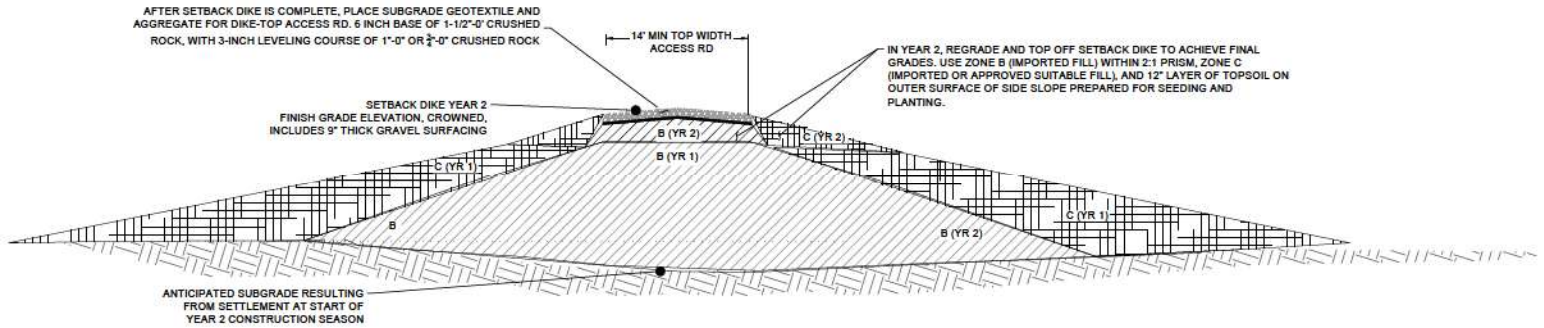
SHEET TITLE
WINGWALL DETAILS

SHEET NUMBER
BR05

SHEET OF



A - SECTION — YEAR 1 - SETBACK DIKE FILL MATERIAL ZONES — SCALE: 1"= 5'



B - SECTION — YEAR 2 - SETBACK DIKE FILL MATERIAL ZONES — NOT TO SCALE

SETBACK DIKE CONSTRUCTION NOTES:

1. CONSTRUCT SETBACK DIKE USING IMPORTED FILL AND NATIVE SOIL FROM ONSITE EXCAVATIONS. BIDDING QUANTITIES ASSUME ALL OF ZONE B WILL BE IMPORTED FILL, AND ALL OF ZONE C WILL BE IMPORTED FILL EXCEPT THE 12" LAYER OF TOPSOIL ON OUTER SURFACE OF SIDE SLOPES. IF ONSITE EXCAVATED MATERIAL IS SUITABLE FOR USE IN ZONE C, QUANTITIES WILL BE ADJUSTED ACCORDINGLY.
2. SETBACK DIKE CONSTRUCTION WILL OCCUR OVER TWO YEARS DUE TO ANTICIPATED SETTLEMENT. IN AREAS OF THICK FILL PLACEMENT, SETTLEMENT OF UP TO 2 FEET MAY OCCUR WITHIN THE FIRST 6 MONTHS. GEOTECHNICAL INVESTIGATION REPORTS BY FOUNDATION ENGINEERING ARE AVAILABLE.
3. CONTRACTOR SHALL PROVIDE OPPORTUNITY FOR GEOTECHNICAL ENGINEER TO REVIEW SUBGRADE CONDITIONS, APPROVE SUBGRADE AND SUBGRADE STABILIZATION MEASURES, EVALUATE EXCAVATED SOILS AND IMPORTED FILL SOURCES TO CHARACTERIZE OR VERIFY SOIL CHARACTERISTICS, OBSERVE COMPACTION METHODS AND RESULTS, ANALYZE SETTLEMENT MONITORING DATA, AND UPDATE GEOTECHNICAL RECOMMENDATIONS FOR YEAR 2 OF CONSTRUCTION BASED ON SETTLEMENT DATA AND CONDITIONS.
4. CONTRACTOR SHOULD EXAMINE GROUND CONDITIONS AND TEST ITS ABILITY TO SUPPORT CONSTRUCTION EQUIPMENT PRIOR TO MOBILIZING EQUIPMENT TO THE SITE. LOW-GROUND PRESSURE EQUIPMENT MAY BE REQUIRED IN WET AND SOFT AREAS OF THE SITE, INCLUDING WITHIN THE SETBACK DIKE FOOTPRINT. GEOTECHNICAL RECOMMENDATIONS SUGGEST COMPLETING EARTHWORK DURING DRY SUMMER AND EARLY FALL MONTHS (TYPICALLY JULY-OCTOBER) TO ENCOUNTER DRIER SOILS AND FACILITATE AERATING AND MOISTURE CONDITIONING OF FILL MATERIALS.
5. CLEARING, GRUBBING, AND STRIPPING: AREAS TO RECEIVE FILL SHALL BE STRIPPED TO A DEPTH THAT IS SUFFICIENT TO REMOVE EXISTING SURFACE VEGETATION AND ORGANIC SOIL, TRUCK, STUMP, ROOT BALL, ROOTS GREATER THAN ½ INCH DIAMETER AND ANY OTHER DELETERIOUS MATERIALS. THE RESULTING VOIDS SHOULD BE BACKFILLED WITH DIKE EMBANKMENT MATERIALS AND COMPACTED TO A DENSITY EQUAL TO THE SURROUNDING SOIL. PRIOR TO BACKFILL AREAS SHOULD BE FREE OF STANDING WATER. STRIPPING DEPTHS OF UP TO 12 INCHES ARE ANTICIPATED IN HEAVILY VEGETATED AREAS. STRIPPED ORGANIC SOILS WILL NOT BE SUITABLE FOR DIKE EMBANKMENT, BUT MAY BE REUSED AS TOPSOIL WHERE SHOWN.
6. SUBGRADE PREPARATION: AFTER CLEARING, GRUBBING, AND STRIPPING, THE SUBGRADE WITHIN THE SETBACK DIKE FOOTPRINT SHOULD BE ROLLED AND COMPACTED USING A TAMPING FOOT ROLLER TO BREAK UP SEEPAGE PATHWAYS. HAVE SUBGRADE EVALUATED BY GEOTECH. AREAS THAT PUMP, HEAVE, OR APPEAR SOFT OR MUDDY SHOULD BE SCARIFIED, DRIED, AND COMPACTED, OR ELSE OVER-EXCAVATED TO AN ENGINEER APPROVED SUBGRADE AND BACKFILLED WITH DIKE EMBANKMENT MATERIALS. LIMIT OVER-EXCAVATION TO A DEPTH OF 2 FEET BELOW THE SURFACE OF STRIPPED SUBGRADE.
7. INSTALL MULTIPLE LAYERS OF GEOGRID (MIRAGRID 5XT OR EQUIVALENT) IN SETBACK DIKE EMBANKMENT INCLUDING A BASAL LAYER ON THE PREPARED SUBGRADE SURFACE, OR BOTTOM OF OVEREXCAVATION (IF PERFORMED), AS WELL AS AT ELEVATIONS 7.5', 10', AND 12.5' IN THE DIKE PRISM. THE BASAL LAYER OF GEOGRID SHOULD COVER THE ENTIRE DIKE FOOTPRINT (ZONES B AND C) AND WILL VARY IN ELEVATION DEPENDING ON THE ELEVATION OF PREPARED SUBGRADE. ADDITIONAL LAYERS OF GEOGRID CAN BE LIMITED TO THE EXTENT OF ZONE B (2:1 INTERNAL PRISM). IN AREAS WHERE THE BASAL GEOGRID IS WITHIN 6 INCHES VERTICALLY OF THE NEXT HORIZONTAL GEOGRID, THE HORIZONTAL GEOGRID MAY BE OMITTED. SEE SPECS AND GEOTECH REPORT FOR ADDITIONAL CRITERIA FOR GEOGRID PLACEMENT.
8. UTILIZE FILL MATERIAL SOURCES BASED ON SOIL TYPE AND CHARACTERISTICS, IN THE CROSS-SECTIONAL FILL ZONES IDENTIFIED ON THIS PLAN.
   - 8.1. **FILL ZONE B**, STRUCTURAL CORE (2:1 SLOPE PRISM). UTILIZE IMPORTED FILL MEETING SPECIFICATIONS AND GEOTECH APPROVAL. PLACE IN LOOSE LIFTS NOT EXCEEDING 8 INCHES IN THICKNESS AND COMPACT TO AT LEAST 98% OF THE DRY DENSITY (ASTM D698). MOISTURE CONDITION TO WITHIN 2% OF OPTIMUM. COMPACTION METHODS AND PERFORMANCE TO BE APPROVED BY GEOTECH.
   - 8.2. **FILL ZONE C**, OVERBUILD SOILS AND PLANTING SURFACE. UPPER 12 INCHES SHALL BE SELECT NATIVE TOPSOIL GENERATED FROM ONSITE EXCAVATIONS. ALL OTHER FILL IN ZONE C MAY BE IMPORTED SOIL MEETING SPECIFICATION, OR ONSITE EXCAVATED MATERIAL IF APPROVED BY GEOTECH TO BE FILTER COMPATIBLE AND FREE FROM ORGANICS. BIDDING TO ASSUME IMPORTED FILL IN ZONE C EXCEPT TOPSOIL LAYER AND QUANTITIES WILL BE ADJUSTED IF ONSITE SUITABLE SOILS ARE USED.
9. DURING YEAR 1, BUILD SETBACK DIKE EMBANKMENT TO INITIAL HEIGHT, INCLUDING MINIMUM DIMENSIONS OF TIDE GATE PRELOADING FILL MOUND. INCORPORATE SETTLEMENT MONITORING PLATES AND SURVEY PER SPECS. APPROXIMATELY 2 FEET OF SETTLEMENT MAY BE ANTICIPATED IN AREAS OF DEEP FILL. PROVIDE SETTLEMENT MONITORING DATA TO ENGINEER FOR GEOTECH REVIEW AND USE IN UPDATING LONG-TERM SETTLEMENT PREDICTIONS
10. AT THE START OF YEAR 2, REMOVE TIDE GATE PRELOADING MOUND FILL AND CONSTRUCT CONCRETE STRUCTURE. ONCE COMPLETE, BACKFILL TIDE GATE STRUCTURE TO FINISH GRADE PER SPECS. REGRADE AND TOP OFF SETBACK DIKE EMBANKMENT TO FINISH GRADES AS SHOWN. ONCE THE MAJORITY OF TRUCK HAULING IS COMPLETE, INSTALL GRAVEL ACCESS ROAD ON TOP OF SETBACK DIKE AND OVER TIDE GATE STRUCTURE. (SUBGRADE GEOTEXTILE, 6-INCH OF 1-1/2" MINUS, AND 3-INCH LEVELING COURSE OF 1" OR ¾" MINUS CRUSHED ROCK.

1"=5' SCALE — 5 2.5 0 5 10 FEET

ESA
1615 SE 3RD AVENUE, SUITE. 400
PORTLAND, OR 97214
OFFICE - 503.274.2010
WWW.ESASSOC.COM

STAMP
REGISTERED PROFESSIONAL ENGINEER
OREGON
JULY 31, 2007
KEVIN C. HIBBERT
83882PE
PRELIMINARY
NOT FOR CONSTRUCTION
RENEWAL DATE: 06-30-28

CLIENT
TILLAMOOK ESTUARIES PARTNERSHIP

PROJECT NAME
SITKA SEDGE TIDAL WETLAND RESTORATION
TIERRA DEL MAR, OREGON

REVISIONS

#	DATE	DESCRIPTION

DESIGNED	HLW
DRAWN	KCN
CHECKED	HLW
IN CHARGE	HLW 83882
PROJECT NUMBER	202200434
ISSUE DATE	09/11/2025

SCALE IS AS SHOWN WHEN PLOTTED TO FULL SIZE (22"x34")
1"

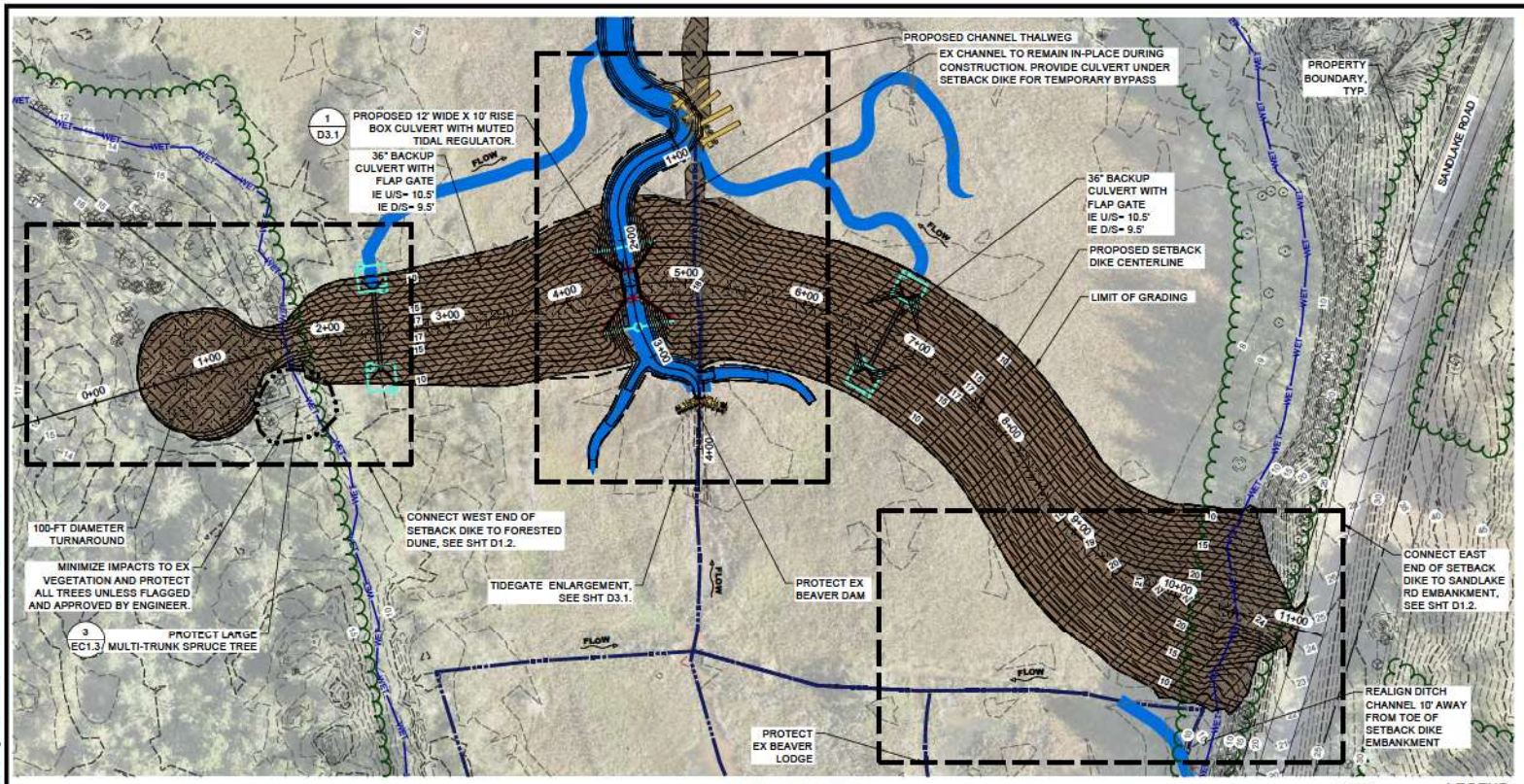
PHASE
DRAFT 90% DESIGN

SHEET TITLE
SETBACK DIKE TYPICAL SECTION

SHEET NUMBER
D1.0

SHEET — OF ###

FILE P:\01 CA\2022\pdx\202200434.00 - TBP Sitka Sedge Tidal Wetland Restoration\DWG\D1.0 SETBACK DIKE TYPICAL SECTION.dwg PLOT DATE: 10/9/2025 5:28:38 PM PLOTTED BY: OLIVIA PERREYRA

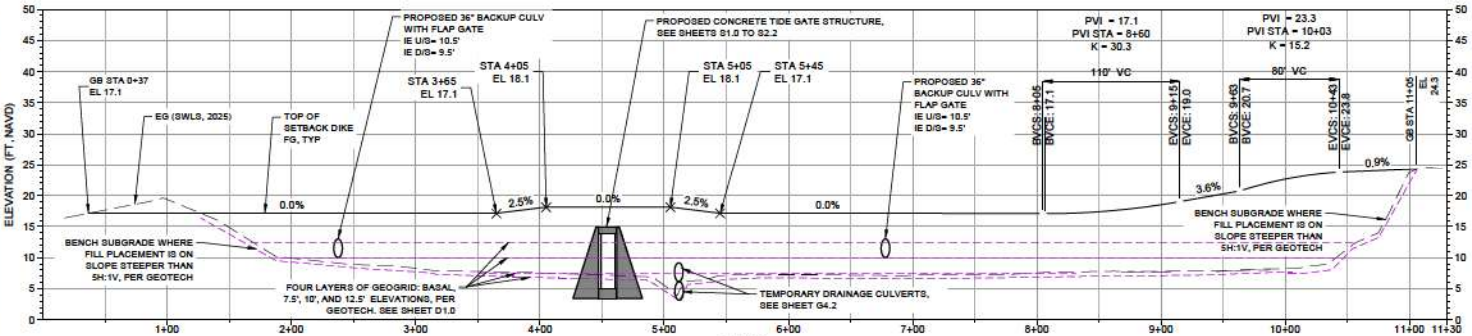


SETBACK DIKE PLAN

PLAN SCALE: 1" = 50'

1"=50' SCALE 50 25 0 50 100 FEET

N



SETBACK DIKE PROFILE

PROFILE HORIZONTAL SCALE: 1" = 50' VERTICAL SCALE: 1" = 10'

NOTES

1. SEE SHT D1.2 FOR SETBACK DIKE GRADING TIE-IN ENLARGEMENTS.
2. SEE SHT D2.1 FOR SETBACK DIKE SECTIONS.
3. THIS SHEET DEPICTS THE PRELIMINARY DESIGN FOR THE SETBACK DIKE AND ASSOCIATED DRAINAGE STRUCTURE AND TIDE GATE SYSTEM. THIS DESIGN WILL BE REFINED AT 90% DESIGN FOLLOWING A SUBSURFACE INVESTIGATION AND GEOTECHNICAL ENGINEERING RECOMMENDATIONS.
4. ESA WILL COORDINATE WITH ODFW ON BEAVER EXCLUSION MEASURES.

LEGEND

EXISTING FEATURES
- EX TREE CANOPY
- EX WETLAND BOUNDARY (ESA, 2025)
- EX THALWEG (APPROX.)
- EX BEAVER STRUCTURE
- EX EVERGREEN TREES
- EX DECIDUOUS TREES
- EX ROAD
- PROPERTY BOUNDARY
- EX MAJOR CONTOUR
- EX MINOR CONTOUR

PROPOSED FEATURES
- TREE PROTECTION FENCE
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- PROPOSED BEAVER EXCLUSION FENC
- CULVERT AND TIDE GATE
- PROPOSED TIDAL CHANNELS
- PROPOSED FILL AREA
- GRAVEL ACCESS ROAD
- WOOD HABITAT STRUCTURES

ESA
1615 SE 3RD AVENUE, SUITE. 400
PORTLAND, OR 97214
OFFICE - 503.274.2010
WWW.ESASOC.COM

STAMP
REGISTERED PROFESSIONAL ENGINEER
OREGON
PRELIMINARY NOT FOR CONSTRUCTION
RENEWAL DATE: 06-30-26

CLIENT
TILLAMOOK ESTUARIES PARTNERSHIP

PROJECT NAME
SITKA SEDGE TIDAL WETLAND RESTORATION
TIERRA DEL MAR, OREGON

REVISIONS

#	DATE	DESCRIPTION

DESIGNED	KCN
DRAWN	KCN
CHECKED	HLW
IN CHARGE	HLW 83862
PROJECT NUMBER	202200434
ISSUE DATE	09/11/2025

SCALE IS AS SHOWN WHEN PLOTTED TO FULL SIZE (22"x34")

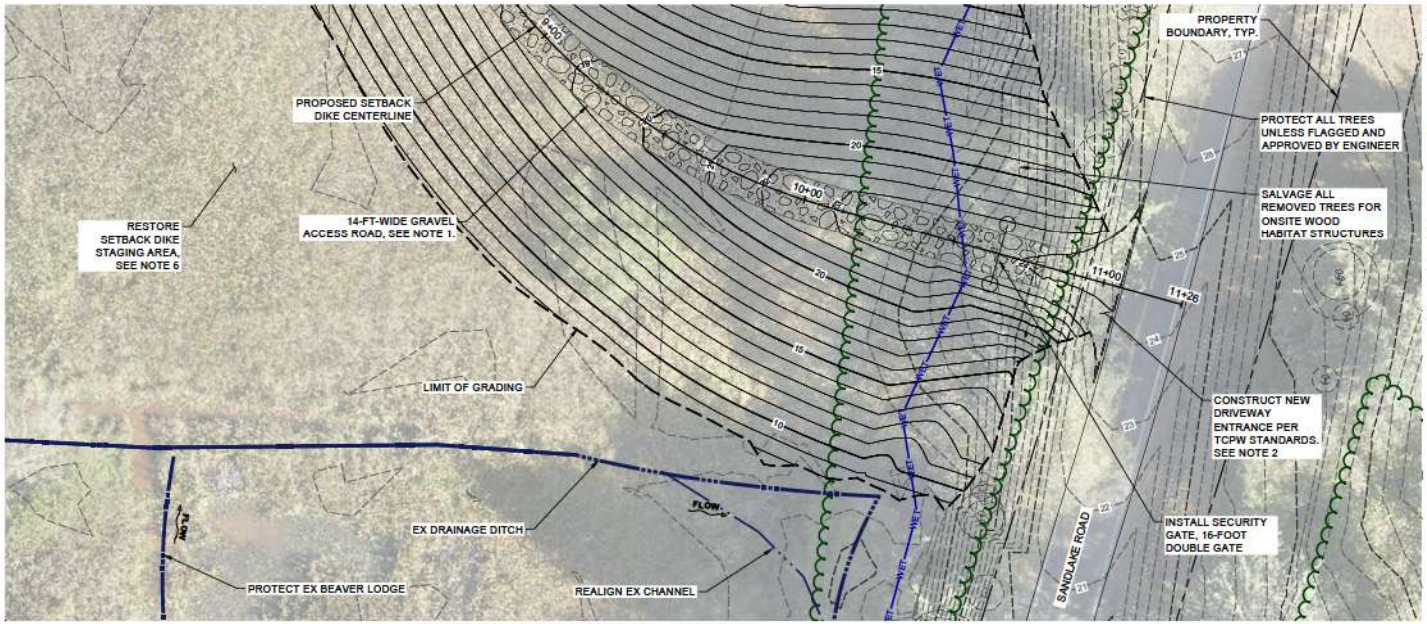
PHASE
DRAFT 90% DESIGN

SHEET TITLE
SETBACK DIKE PLAN & PROFILE

SHEET NUMBER
D1.1

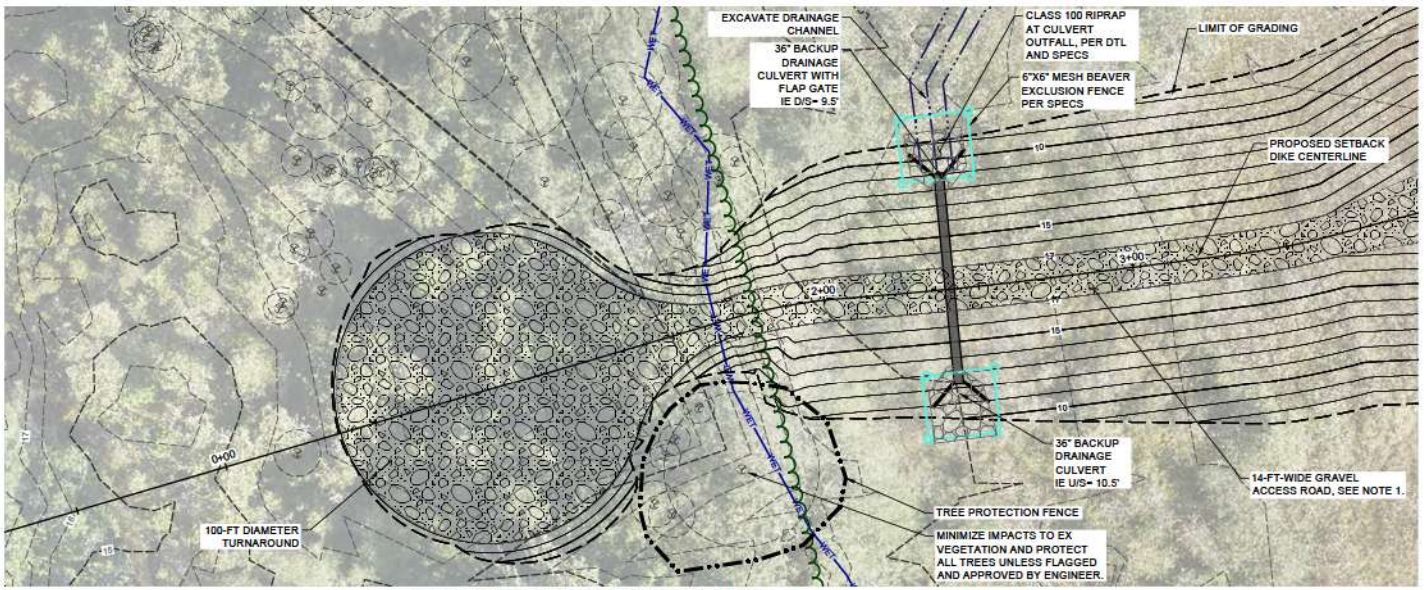
SHEET — OF ###

FILE P:\01 CA\2022\x-xx\202200434.00 - TBP Sitka Sedge Tidal Wetland Restoration\DWG\D1.1 SETBACK DIKE PLAN & PROFILE.dwg PLOT DATE: 10/9/2025 2:26:35 PM PLOTTED BY: OLIVIA PEREYRA



SETBACK DIKE GRADING PLAN EAST TIE IN

PLAN SCALE: 1" = 20'



SETBACK DIKE GRADING PLAN - WEST TIE-IN

PLAN SCALE: 1" = 20'

NOTES

1. ONCE SETBACK DIKE IS FULLY CONSTRUCTED AND APPROVED AND THE MAJORITY OF TRUCKING AND HEAVY EQUIPMENT TRAFFIC IS COMPLETE, INSTALL GRAVEL ACCESS ROAD SURFACING ON TOP OF SETBACK DIKE FOR FULL LENGTH OF DIKE (SUBGRADE GEOTEXTILE, 6-INCH OF 1-1/2" MINUS, AND A 3 INCH LEVELING COURSE OF 1" OR 3/4" MINUS CRUSHED ROCK).
2. CONNECT EARTHEN SETBACK DIKE TO ROADWAY EMBANKMENT PER GEOTECHNICAL ENGINEERING REPORT. FILL PLACEMENT ON EXISTING SLOPES STEEPER THAN 5H:1V SHALL BE KEYED INTO EXISTING SLOPE BY BENCHING SLOPE. CUT BENCHES BETWEEN 1 FOOT AND 2 FEET HIGH, OF SUFFICIENT WIDTH TO ACCOMODATE COMPACTION EQUIPMENT (PENETRATING EX SLOPE AT LEAST 3 FEET).
3. CONSTRUCT NEW DRIVEWAY ENTRANCE PER TCPW STANDARDS.
4. EXCAVATE TO SHIFT EXISTING DITCH AWAY FROM SETBACK DIKE TOE. ISOLATE WORK AREA AND CONTROL TURBIDITY IN ACCORDANCE WITH PERMIT CONDITIONS.
5. RESTORE SETBACK DIKE STAGING AREA BY REMOVING TEMPORARY FILL, GEOTEXTILE, AND GRAVEL, DECOMPACTING SOIL, AND SEEDING PER REVEG PLAN.

LEGEND

EXISTING FEATURES
- EX TREE CANOPY
- EX WETLAND BOUNDARY (ESA, 2025)
- EX THALWEG (APPROX.)
- EX EVERGREEN TREES
- EX DECIDUOUS TREES
- EX ROAD
- PROPERTY BOUNDARY
- EX MAJOR CONTOUR
- EX MINOR CONTOUR

PROPOSED FEATURES
- TREE PROTECTION FENCE
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- PROPOSED BEAVER EXCLUSION FENCE
- CULVERT AND TIDE GATE
- GRAVEL ACCESS ROAD

1"=20' SCALE 20 10 0 20 40 FEET

N

ESA
1615 SE 3RD AVENUE, SUITE 400
PORTLAND, OR 97214
OFFICE - 503.274.2010
WWW.ESASSOC.COM

STAMP
REGISTERED PROFESSIONAL ENGINEER
OREGON
PRELIMINARY
NOT FOR CONSTRUCTION
RENEWAL DATE: 06-30-26

CLIENT
TILLAMOOK ESTUARIES PARTNERSHIP

PROJECT NAME
SITKA SEDGE TIDAL WETLAND RESTORATION
TIERRA DEL MAR, OREGON

REVISIONS

#	DATE	DESCRIPTION

DESIGNED	KCN
DRAWN	KCN
CHECKED	HLW
IN CHARGE	HLW 83862
PROJECT NUMBER	202200434
ISSUE DATE	09/11/2025

SCALE IS AS SHOWN WHEN PLOTTED TO FULL SIZE (22"x34")
1"

PHASE
DRAFT 90% DESIGN

SHEET TITLE
SETBACK DIKE TIE-IN ENLARGEMENTS

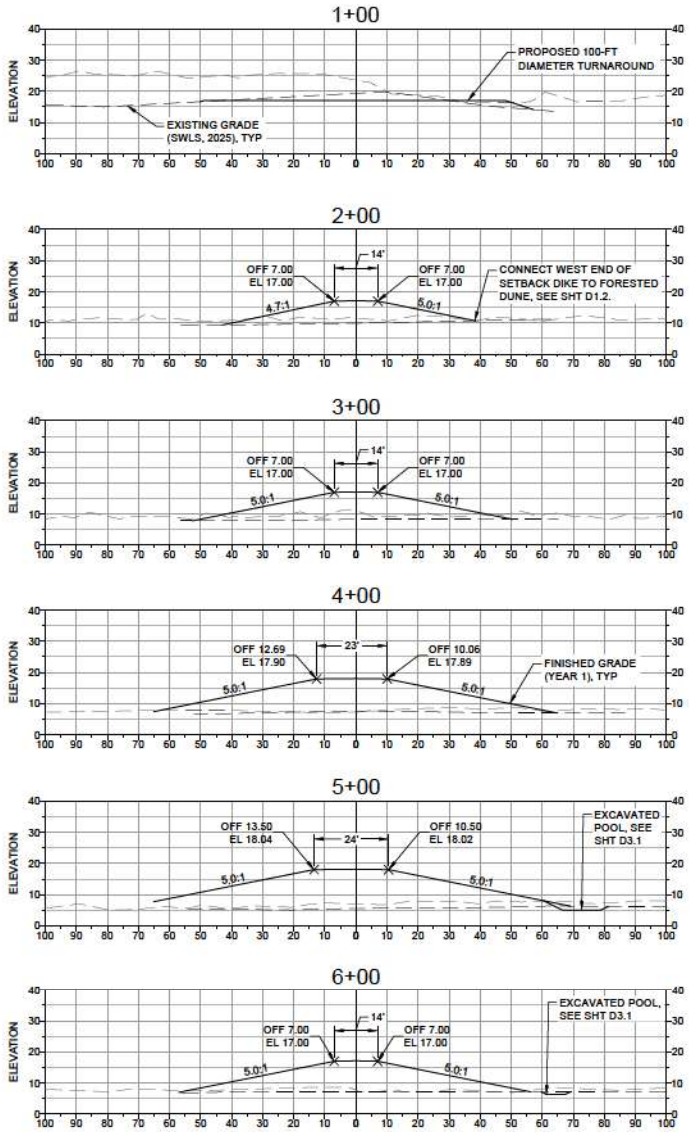
SHEET NUMBER
D1.2

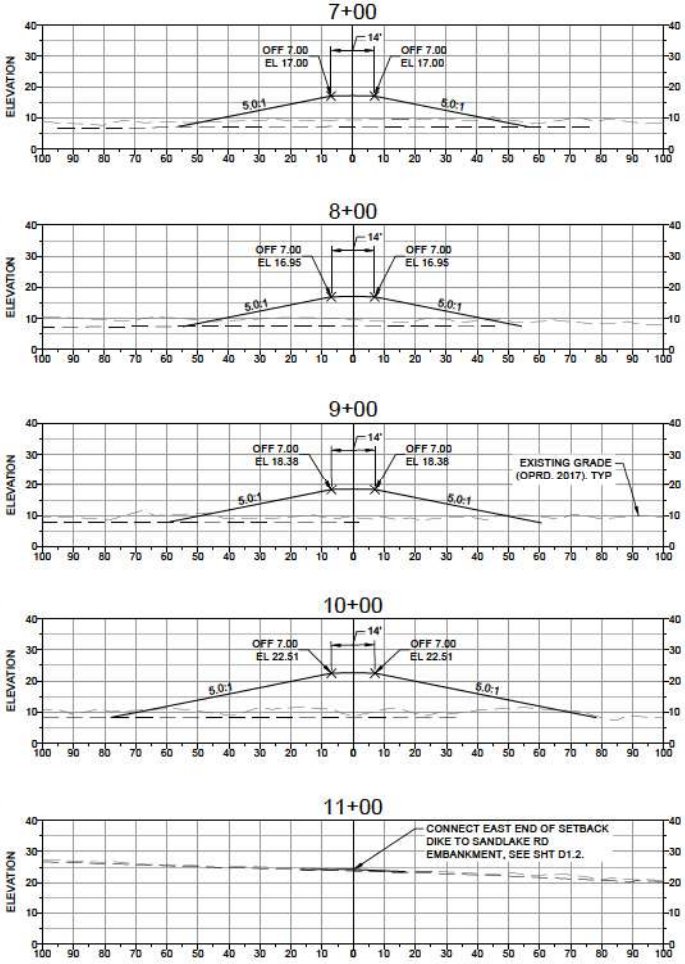
SHEET — OF ###

FILE P:\01 CA\2022\proj\202202043A 00 - TBP Sitka Sedge Tidal Wetland Restoration\DWG\D1.2 SETBACK DIKE TIE-IN ENLARGEMENTS.dwg PLOT DATE: 10/8/2026 5:30:30 PM PLOTTED BY: OLIVIA PEREYRA

NOTES

1. SEE SHT D1.1 FOR SETBACK DIKE PLAN & PROFILE.





PROPOSED SETBACK DIKE
SECTIONS SCALE: 1" = 10'

ESA
1615 SE 3RD AVENUE, SUITE. 400
PORTLAND, OR 97214
OFFICE - 503.274.2010
WWW.ESASSOC.COM

STAMP
REGISTERED PROFESSIONAL ENGINEER
OREGON
PRELIMINARY
NOT FOR CONSTRUCTION
RENEWAL DATE: 06-30-26

CLIENT
TILLAMOOK ESTUARIES PARTNERSHIP

PROJECT NAME
SITKA SEDGE TIDAL WETLAND RESTORATION
TIERRA DEL MAR, OREGON

REVISIONS

#	DATE	DESCRIPTION

DESIGNED	KCN
DRAWN	KCN
CHECKED	HLW
IN CHARGE	HLW 83862
PROJECT NUMBER	202200434
ISSUE DATE	09/11/2025

SCALE IS AS SHOWN WHEN PLOTTED TO FULL SIZE (22"x34")

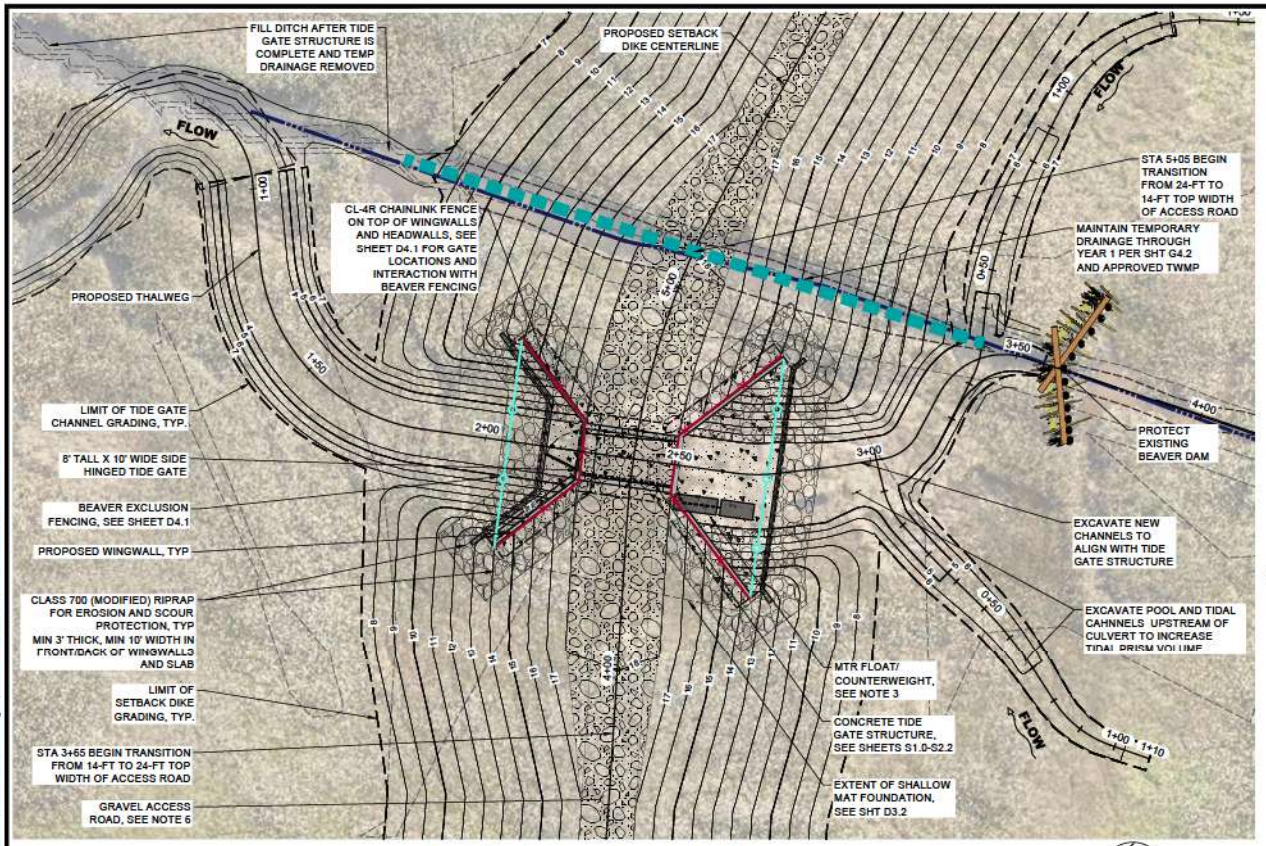
PHASE
DRAFT 90% DESIGN

SHEET TITLE
SETBACK DIKE SECTIONS

SHEET NUMBER
D2.1

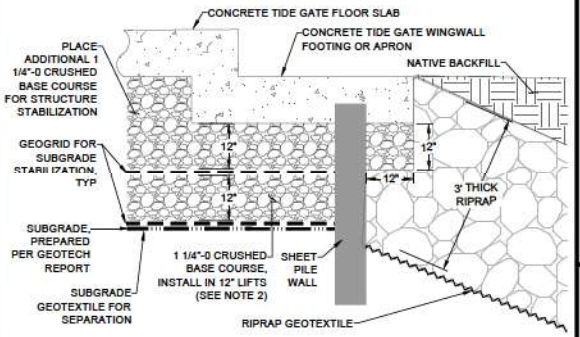
SHEET — OF ###

FILE P:\01 CA\2022\202200434.00 - TBP Sitka Sedge Tidal Wetland Restoration\DWG\D2.1 SETBACK DIKE SECTIONS.dwg PLOT DATE: 10/9/2025 5:39:42 PM PLOTTED BY: OLIVIA PEREYRA



NOTES

1. SEE SHEET G4.2 FOR SEQUENCING, TIDE GATE STRUCTURE PRELOADING AND SETTLEMENT MONITORING, TEMPORARY DRAINAGE REQUIREMENTS.
2. IN YEAR 2, CONSTRUCT TIDE GATE STRUCTURE PER SHEETS S1.0 TO S2.2 BY PSE CONSULTING ENGINEERS. SEE SHEET D3.2 FOR SHALLOW MAT FOUNDATION EXTENTS.
3. THE TIDE GATE AND MUTED TIDAL REGULATOR (MTR) SYSTEM ARE SHOWN HERE DIAGRAMMATICALLY FOR INFORMATIONAL PURPOSED ONLY. THE MTR SYSTEM DETAILS WILL BE DESIGNED, FABRICATED, AND INSTALLED BY THE MANUFACTURER, NEHALEM MARINE MANUFACTURING AND WILL CONSIST OF ONE 8' TALL X10' WIDE SIDE-HINGED TIDE GATE CONTROLLED BY A PROPRIETARY MUTED TIDAL REGULATOR CONTROL SYSTEM. CONTRACTOR TO FACILITATE INSTALLATION OF TIDE GATE AND MTR SYSTEM BY MANUFACTURER PROVIDING ACCESS AND WATER MANAGEMENT AS NEEDED.
4. BEAVER MANAGEMENT SYSTEM INCLUDING EXCLUSION FENCING AND FLOW DEVICE ARE DESIGNED THROUGH COORDINATION WITH BEAVER DECEIVERS INTERNATIONAL (BDI) AND ODFW. SEE SHEET D4.1. CONTRACTOR TO INSTALL CHAINLINK FENCE ON TOP OF CONCRETE WALLS AND 6'X6" MESH FENCING (RECEIVER FENCE AND DOWNSTREAM BEAVER EXCLUSION FENCE). BDI TO INSTALL SQUARE FENCE FLOW DEVICE AND CONNECTION PIPE, PER SPECS.
5. INSTALL WHEN TIDE GATE STRUCTURE IS COMPLETE AND READY FOR SERVICE, INCLUDING MTR SYSTEM AND BEAVER MANAGEMENT SYSTEM, CONNECT TO NEW DRAINAGE CHANNELS, REMOVE TEMPORARY DRAINAGE ACCOMMODATIONS, AND FINISH SETBACK DIKE OVER STRUCTURE. CONFIRM SEQUENCING AND TIMING WITH ENGINEER FOR APPROVAL.
6. ONCE SETBACK DIKE IS FULLY CONSTRUCTED AND THE MAJORITY OF HAULING AND HEAVY EQUIPMENT TRAFFIC IS COMPLETE, INSTALL GRAVEL ACCESS ROAD SURFACING ON TOP OF SETBACK DIKE FOR FULL LENGTH OF DIKE (SUBGRADE GEOTEXTILE, 6-INCH OF 1-1/2" MINUS, AND A 3 INCH LEVELING COURSE OF 1" OR 3/4" MINUS CRUSHED ROCK). WIDTH VARIES FROM 14-FT TO 24-FT AS SHOWN TO PROVIDE MAINTENANCE ACCESS.



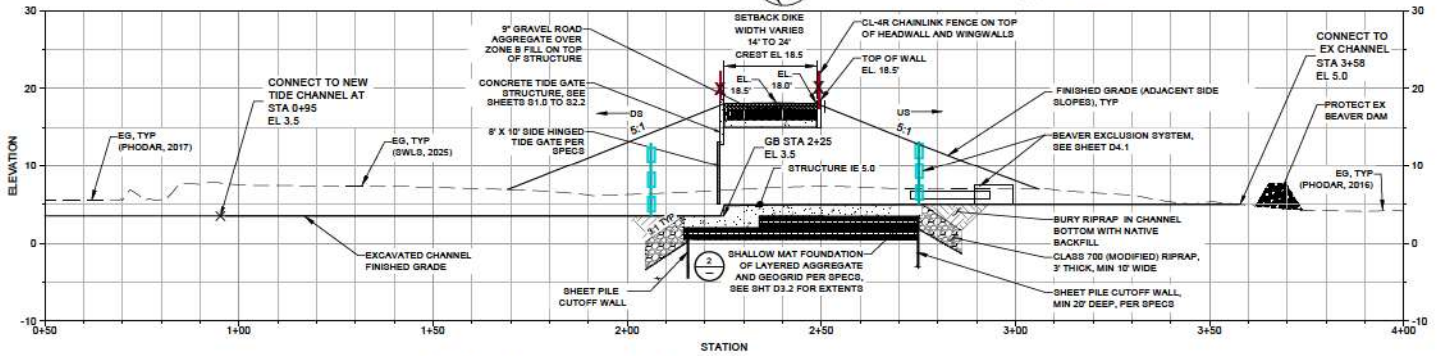
TIDE GATE GRADING PLAN ENLARGEMENT

PLAN — SCALE: 1" = 16'

1"=16' SCALE: 16 8 0 16 32 FEET

2 GEOGRID REINFORCED GRANULAR BUILDING PAD

SECTION — SCALE: NTS



1 TIDE GATE CONNECTION CHANNEL PROFILE

PROFILE — HORIZONTAL SCALE: 1" = 16' VERTICAL SCALE: 1" = 8'

ESA
1615 SE 3RD AVENUE, SUITE. 400
PORTLAND, OR 97214
OFFICE - 503.274.3010
WWW.ESASSOC.COM

STAMP

REGISTERED PROFESSIONAL ENGINEER — OREGON — PRELIMINARY — NOT FOR CONSTRUCTION — RENEWAL DATE: 06-30-26

CLIENT

TILLAMOOK ESTUARIES PARTNERSHIP

PROJECT NAME

SITKA SEDGE TIDAL WETLAND RESTORATION

TIERRA DEL MAR, OREGON

REVISIONS

#	DATE	DESCRIPTION

DESIGNED	KCN
DRAWN	KCN
CHECKED	HLW
IN CHARGE	HLW 83862
PROJECT NUMBER	202200434
ISSUE DATE	09/11/2025

SCALE IS AS SHOWN WHEN PLOTTED TO FULL SIZE (22"x34")

PHASE: DRAFT 90% DESIGN

SHEET TITLE: TIDE GATE STRUCTURE PLAN AND PROFILE

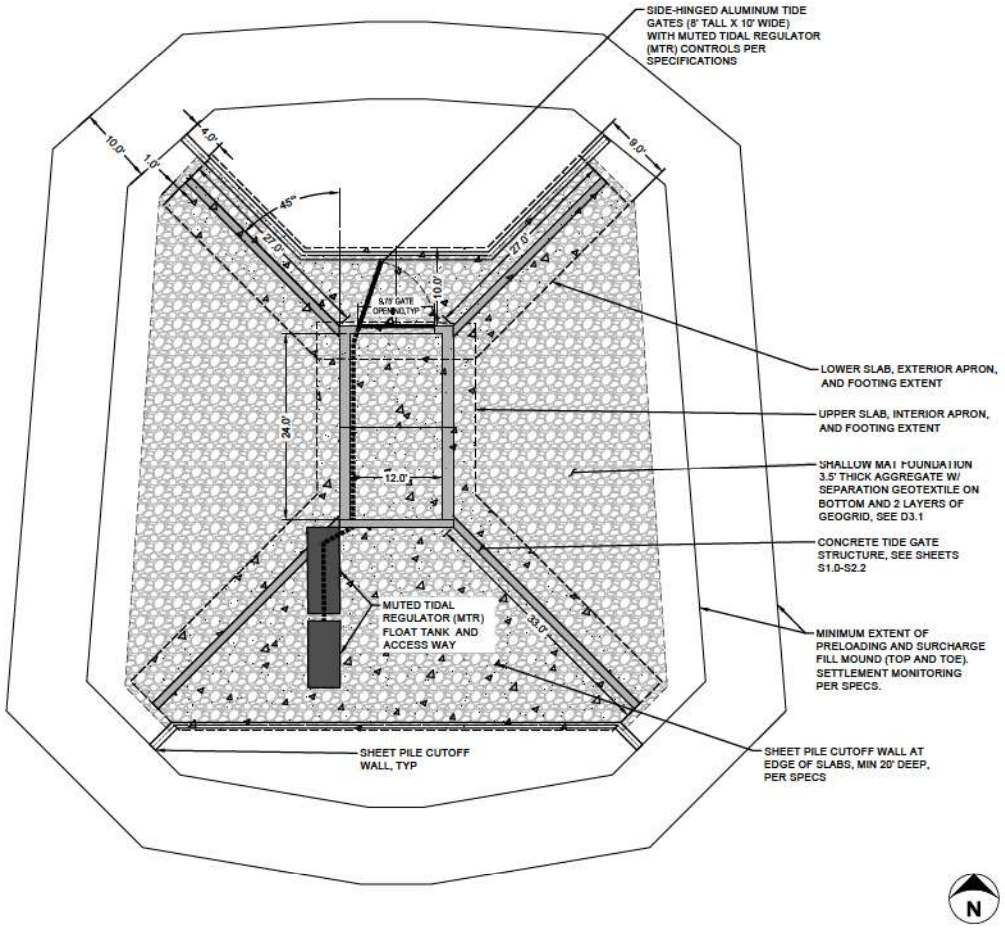
SHEET NUMBER: D3.1

SHEET — OF ###

FILE P:\01 CA\2022\proj\202202000434.00 - TBP Sitka Sedge Tidal Wetland Restoration\DWG\D3.1 TIDE GATE STRUCTURE PLAN AND PROFILE.dwg PLOT DATE: 11/6/2025 5:31:21 PM PLOTTED BY: OLIVIA PERRYRA

NOTES

1. REFER TO STRUCTURAL SHEETS S1.0 TO S2.2 PREPARED BY PSE CONSULTING ENGINEERS FOR TIDE GATE STRUCTURE DETAILS.
2. THIS SHEET PROVIDES STRUCTURE LAYOUT AND EXTENTS OF SHALLOW MAT FOUNDATION GEOGRID AND AGGREGATE AND SHEET PILE.



ESA
1615 SE 3RD AVENUE, SUITE. 400
PORTLAND, OR 97214
OFFICE - 503.274.2010
WWW.ESASSOC.COM

STAMP

REGISTERED PROFESSIONAL ENGINEER
OREGON
PRELIMINARY
NOT FOR CONSTRUCTION
RENEWAL DATE: 06-30-26

CLIENT

TILLAMOOK ESTUARIES PARTNERSHIP

PROJECT NAME

SITKA SEDGE TIDAL WETLAND RESTORATION

TIERRA DEL MAR, OREGON

REVISIONS

#	DATE	DESCRIPTION

DESIGNED	HLW
DRAWN	KCN
CHECKED	HLW
IN CHARGE	HLW 83882
PROJECT NUMBER	202200434
ISSUE DATE	09/11/2025

SCALE IS AS SHOWN WHEN PLOTTED TO FULL SIZE (22"x34")

1"

PHASE

DRAFT 90% DESIGN

SHEET TITLE

TIDEGATE DETAIL

SHEET NUMBER

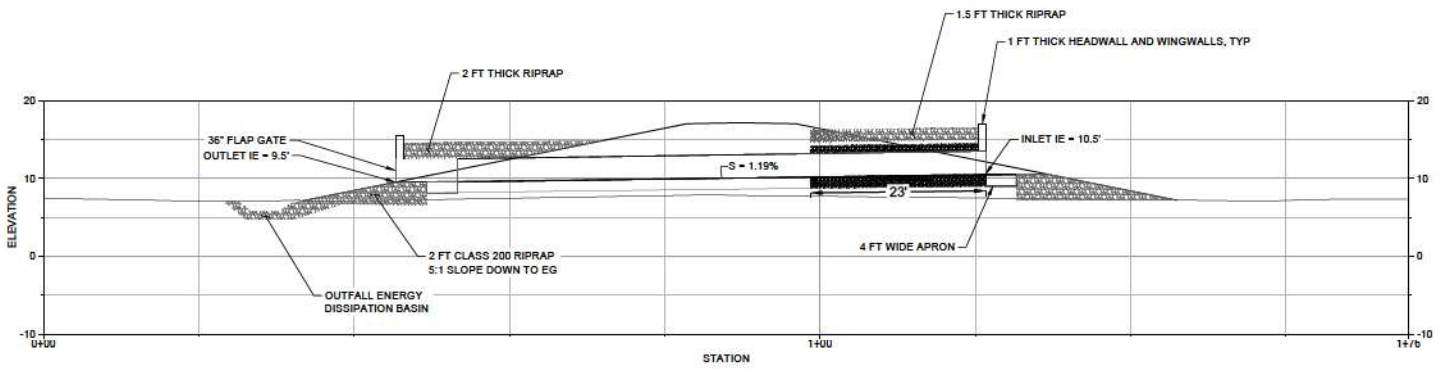
D3.2

SHEET — OF ###

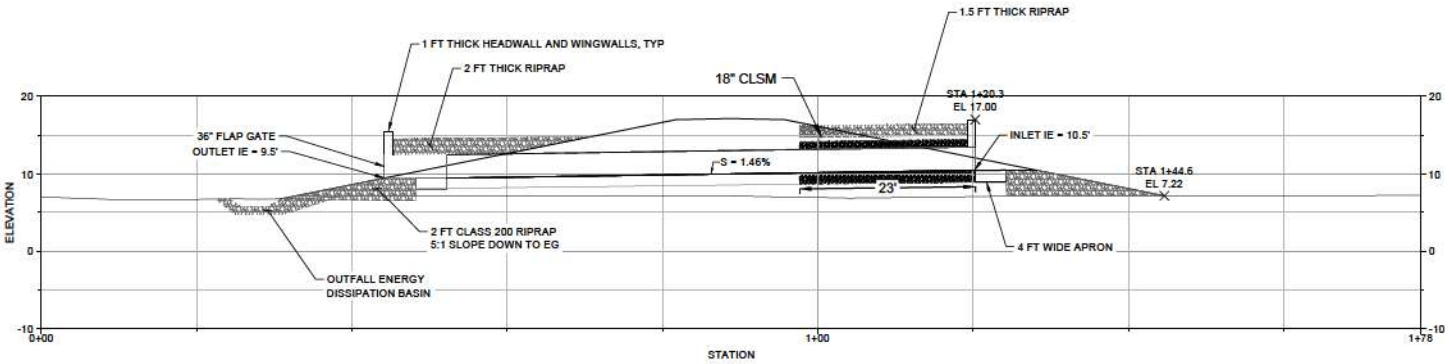
FILE: P:\01 CA\202200434.00 - TBP Sitka Sedge Tidal Wetland Restoration\DWG\D3.2 TIDE GATE DETAIL.dwg PLOT DATE: 10/9/2025 5:31:27 PM PLOTTED BY: OLIVIA PERREYRA

NOTES

1. THIS SHEET DEPICTS PROFILE VIEWS OF THE SETBACK DIKE BACKUP OVERFLOW CULVERTS. THE 36" DIAMETER CULVERTS ARE BEING DESIGNED IN ACCORDANCE WITH USACE EM 1110-2-1913 DESIGN AND CONSTRUCTION OF LEVEES, INCLUDING APPROPRIATE BEDDING AND BACKFILL. THE UPSTREAM AND DOWNSTREAM ENDS OF THE CULVERT PIPES WILL INCLUDE CONCRETE HEADWALLS WITH RIPRAP ARMORING AROUND THE HEADWALLS AND AT THE PIPE OUTFALLS. BOTH ENDS OF THE BACKUP CULVERTS WILL BE PROTECTED WITH BEAVER EXCLUSION CAGES MADE FROM 6"X6" MESH FENCE PANELS TO EXCLUDE BEAVERS AND ACT AS TRASH RACKS.
2. THE DOWNSTREAM/OUTFALL END OF THE CULVERT PIPES WILL INCLUDE 36" TOP-HINGED FLAP GATES TO PREVENT TIDE WATER FROM ENTERING WHILE ALLOWING WATER TO DRAIN OUT.



CULVERT WEST
SECTION SCALE: 1" = 8'



CULVERT EAST
SECTION SCALE: 1" = 8'

1"=8' 8 4 0 8 16
SCALE FEET

ESA
1615 SE 3RD AVENUE,
SUITE. 400
PORTLAND, OR 97214
OFFICE - 503.274.2010
WWW.ESASSOC.COM

STAMP
REGISTERED PROFESSIONAL ENGINEER
OREGON
PRELIMINARY
NOT FOR CONSTRUCTION
RENEWAL DATE: 06-30-26

CLIENT
TILLAMOOK ESTUARIES PARTNERSHIP

PROJECT NAME
SITKA SEDGE TIDAL WETLAND RESTORATION
TIERRA DEL MAR, OREGON

REVISIONS

#	DATE	DESCRIPTION

DESIGNED	HLW
DRAWN	KCN
CHECKED	HLW
IN CHARGE	HLW 83882
PROJECT NUMBER	202200434
ISSUE DATE	09/11/2025

SCALE IS AS SHOWN WHEN PLOTTED TO FULL SIZE (22"x34")
1"

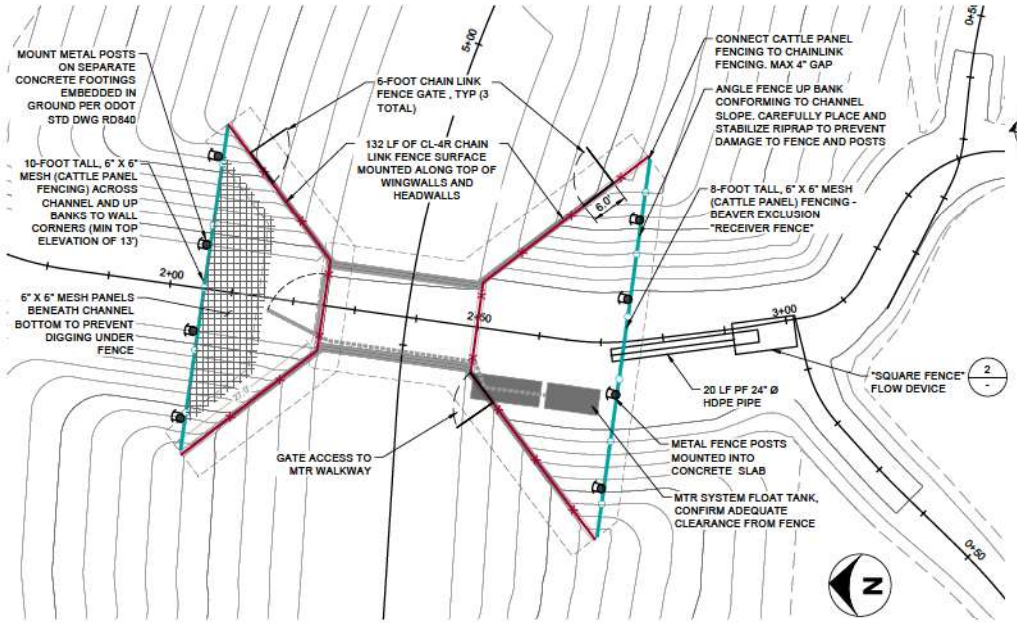
PHASE
DRAFT 90% DESIGN

SHEET TITLE
CULVERT DETAIL

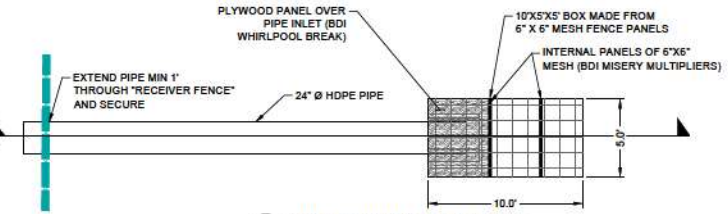
SHEET NUMBER
D3.3

SHEET — OF ###

FILE P:\01 CA\202202\acad\202202000434.00 - TBP Sitka Sedge Tidal Wetland Restoration\DWG\D3.3 CULVERT DETAIL.dwg PLOT DATE: 10/9/2025 5:33:04 PM PLOTTED BY: OLIVIA PEREYRA

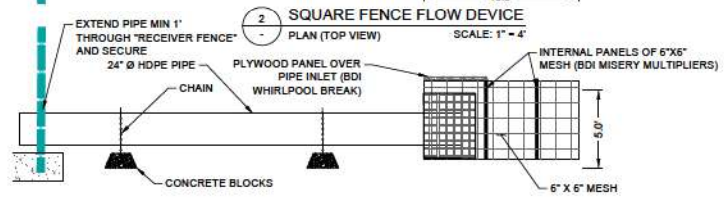


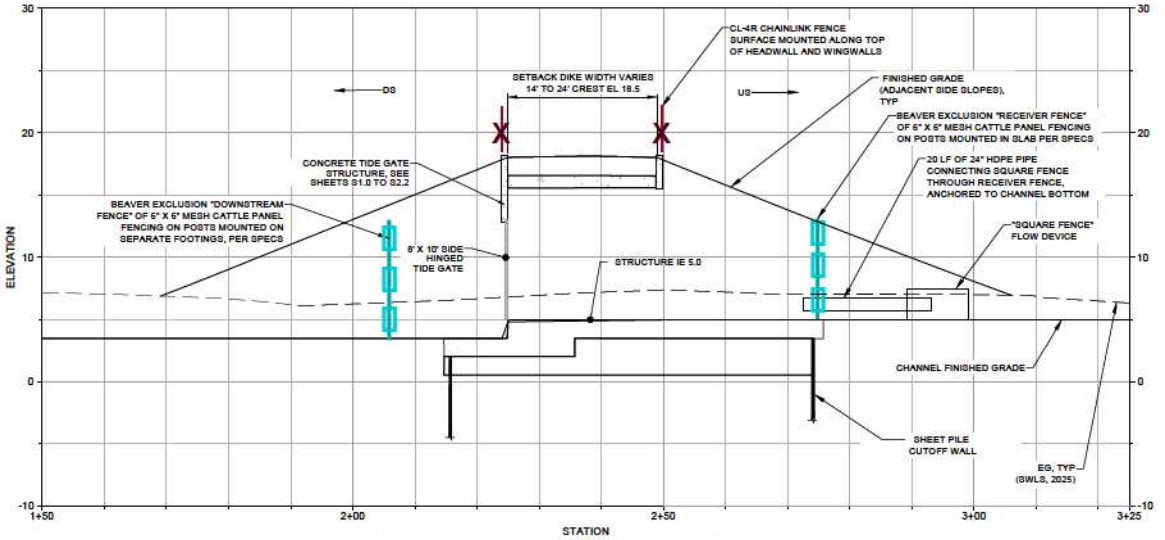
BEAVER EXCLUSION SYSTEM
PLAN SCALE: 1" = 10'



3 — SQUARE FENCE FLOW DEVICE
PROFILE (SIDE VIEW) SCALE = 1" =4'

2 — SQUARE FENCE FLOW DEVICE
PLAN (TOP VIEW) SCALE: 1" = 4'





1 — BEAVER EXCLUSION SYSTEM
PROFILE HORIZONTAL SCALE: 1" = 10'
VERTICAL SCALE: 1" = 5'

1"=10' SCALE 10 5 0 10 20 FEET

NOTES

1. BEAVER MANAGEMENT SYSTEM INCLUDING EXCLUSION FENCING AND FLOW DEVICE ARE DESIGNED THROUGH COORDINATION WITH BEAVER DECEIVERS INTERNATIONAL (BDI) AND ODFW.
2. **THE BEAVER EXCLUSION FENCING SYSTEM INCLUDES:**
   - 2.1. 4' TALL CHAIN LINK FENCE (CL-4R, BROWN VINYL COATED) ALONG THE TOP OF THE CONCRETE HEADWALLS AND WING WALLS, WITH THREE 6' WIDE GATES TO PROVIDE ACCESS TO THE MTR AND INTO THE FENCED AREA.
   - 2.2. 8' TO 10' TALL, 6" X 6" MESH WELDED WIRE FENCING (AKA.CATTLE PANEL FENCING OR MODIFIED WILDLIFE FENCE) PER SPECS, ACROSS THE CHANNEL UPSTREAM AND DOWNSTREAM OF THE TIDE GATE STRUCTURE, WITH A MINIMUM TOP ELEVATION OF 13'.
   - 2.3. A "SQUARE FENCE" FLOW DEVICE BOX MADE FROM 6"X6" MESH PANELS, INCLUDING THREE INTERNAL 6"X6" MESH BAFFLES (BDI MISERY MULTIPLIERS) TO PREVENT BLOCKAGE OF THE BYPASS PIPE.
   - 2.4. A 24" DIA HDPE PIPE THAT CONVEY'S WATER FROM THE "SQUARE FENCE" THROUGH THE "RECEIVER FENCE" TO MAINTAIN FLOW IF RECEIVER FENCE IS BLOCKED BY BEAVER DAMMING OR DEBRIS.
3. THE 6"X"6 MESH SPACING OF ALL INSTREAM FENCING IS SELECTED TO MEET ODFW FISH PASSAGE DESIGN CRITERIA FOR STREAMS THAT SUPPORT CUTTHROAT TROUT ONLY STREAMS (NOT EXPECTED TO SUPPORT ADULT SALMON USE).
4. CONTRACTOR TO INSTALL CHAIN LINK FENCE AND GATES, SURFACE MOUNTED ALONG THE TOP OF CONCRETE WALLS PER SPECS. CONTRACTOR TO INSTALL 6"X6" MESH WELDED WIRE FENCING (RECEIVER FENCE AND DOWNSTREAM BEAVER EXCLUSION FENCE). BDI TO FABRICATE AND INSTALL SQUARE FENCE FLOW DEVICE AND CONNECTION PIPE, PER SPECS. CONTRACTOR TO FACILITATE BDI'S INSTALLATION OF THESE ELEMENTS WITH ACCESS, WORK AREA ISOLATION, AND DEWATERING AS NEEDED.
5. THE UPSTREAM FENCE ACROSS THE CHANNEL (RECEIVER FENCE) SHALL BE MOUNTED ON METAL POSTS DESIGNED TO WITHSTAND DEBRIS LOADING, ON FOOTINGS INTEGRATED INTO THE CONCRETE SLAB AND MEETING MINIMUM REQUIREMENTS OF ODOT STANDARD DETAILS AND SPECS FOR WILDLIFE FENCING. DOWNSTREAM BEAVER EXCLUSION FENCE SHALL BE ON METAL POSTS WITH INDIVIDUAL CONCRETE FOOTINGS PER ODOT STANDARD DETAIL DR840. EXTEND ADDITIONAL 6"X6" MESH FENCE PANEL BENEATH THE CHANNEL BOTTOM IN THE AREA BETWEEN THE FENCE AND THE SLAB (TO PREVENT BEAVER DIGGING BENEATH THE FENCE).
6. ANCHOR SQUARE FENCE FLOW DEVICE AND 24" DIA HDPE BYPASS PIPE IN PLACE, SECURED TO CHANNEL BOTTOM USING CONCRETE BLOCKS AND CHAIN PER SPECS, OR OTHERWISE APPROVED BY ENGINEER.
7. WHEN TIDE GATE STRUCTURE IS COMPLETE AND READY FOR SERVICE, INCLUDING MTR SYSTEM AND BEAVER MANAGEMENT SYSTEM, CONNECT TO NEW DRAINAGE CHANNELS, REMOVE TEMPORARY DRAINAGE ACCOMMODATIONS, AND FINISH SETBACK DIKE OVER STRUCTURE. CONFIRM SEQUENCING AND TIMING WITH ENGINEER FOR APPROVAL.
8. MUTED TIDAL REGULATOR (MTR) ARE SHOWN HERE DIAGRAMMATICALLY FOR INFORMATIONAL PURPOSED ONLY. PRIOR TO FENCING AND MTR SYSTEM INSTALLATION, CONTRACTOR TO VERIFY COMPATIBILITY AND CLEARANCES REQUIRED BETWEEN FENCE AND MTR ELEMENTS INCLUDING FLOAT/WEIGHT TANK.

ESA
1615 SE 3RD AVENUE, SUITE. 400
PORTLAND, OR 97214
OFFICE - 503.274.2010
WWW.ESASSOC.COM

STAMP
REGISTERED PROFESSIONAL ENGINEER
OREGON
PRELIMINARY
NOT FOR CONSTRUCTION
RENEWAL DATE: 06-30-26

CLIENT
TILLAMOOK ESTUARIES PARTNERSHIP

PROJECT NAME
SITKA SEDGE TIDAL WETLAND RESTORATION
TIERRA DEL MAR, OREGON

REVISIONS

#	DATE	DESCRIPTION

DESIGNED	HLW
DRAWN	OMP
CHECKED	HLW
IN CHARGE	HLW 83862
PROJECT NUMBER	202200434
ISSUE DATE	09/11/2025

SCALE IS AS SHOWN WHEN PLOTTED TO FULL SIZE (22"x34")
1"

PHASE
DRAFT 90% DESIGN

SHEET TITLE
BEAVER EXCLUSION SYSTEM DETAILS

SHEET NUMBER
D4.1

SHEET — OF ###

FILE P:\01 CA\2022\pro\s\202200434.00 - TBP Sitka Sedge Tidal Wetland Restoration\DWG\04.1 BEAVER EXCLUSION SYSTEM DETAILS.dwg PLOT DATE: 10/9/2026 5:33:33 PM PLOTTED BY: OLIVIA PEREYRA

SITKA SEDGE
TIDAL WETLAND RESTORATION
1200-C PERMIT

SHEET LIST

G4.1	CONSTRUCTION LOGISTICS - PEDESTRIAN BRIDGE
G4.2	CONSTRUCTION LOGISTICS - SETBACK DIKE
G4.3	CONSTRUCTION LOGISTICS - RENEKE CREEK
EC1.1	1200-C ESC COVER
EC1.2	EROSION & SEDIMENT CONTROL PLAN OVERVIEW
EC1.3	EROSION CONTROL DETAILS - 1
EC1.4	EROSION CONTROL DETAILS - 2

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.

PROJECT ADMINISTRATOR

CHRISTER LABRECQUE
TILLAMOOK ESTUARIES PARTNERSHIP
P.O.BOX 493
613 COMMERCIAL STREET
GARIBALDI, OREGON
OFFICE: (503) 322-222

ENGINEERING FIRM

ENVIRONMENTAL SCIENCE ASSOCIATES
CONTACT: HUNTER WHITE, PE.
1615 SE 3RD AVENUE, SUITE 400
PORTLAND, OR 97214
PHONE: (503) 274-2010

NARRATIVE DESCRIPTIONS

EXISTING SITE CONDITIONS
*EXISTING GRASSLAND. DIKE, EXISTING DITCHES, AND HISTORIC TIDAL CHANNELS.

DEVELOPED CONDITIONS
*TIDAL RECONNECTION OF MARSH BY BREACHING EXISTING DIKE, DITCH FILL, CHANNEL EXCAVATION, SETBACK DIKE AND TIDEGATE STRUCTURE, ROADWAY AND BRIDGE IMPROVEMENTS.

SITE SOIL CLASSIFICATION:
102A - FLUVAQUENTS-HISTOSOLS COMPLEX, 0 TO 1 PERCENT SLOPES, DIKED
10C - WALDPORT FINE SAND, THIN SURFACE, 3 TO 12 PERCENT SLOPES
10E - WALDPORT FINE SAND, THIN SURFACE, 15 TO 60 PERCENT SLOPES
11E - NETARTS FINE SANDY LOAM, 30 TO 60 PERCENT SLOPES
14A - HECETA FINE SAND, 0 TO 3 PERCENT SLOPES
20E - KLOOTCHIE-NECANICUM COMPLEX, 30 TO 60 PERCENT SLOPES
2A - FLUVAQUENTS-HISTOSOLS COMPLEX, 0 TO 1 PERCENT SLOPES
45B - HEBO SILTY CLAY LOAM, 0 TO 5 PERCENT SLOPES
57C - CONDORBRIDGE GRAVELLY MEDIAL LOAM, 3 TO 15 PERCENT SLOPES
59B - CHITWOOD-KNAPPA MEDIAL SILT LOAMS, 0 TO 7 PERCENT SLOPES
9B - WALDPORT FINE SAND, 0 TO 5 PERCENT SLOPES

ON-SITE SOILS HAVE MODERATE TO HIGH EROSION POTENTIAL.

PERMITTEE'S SITE INSPECTOR: DAVID GOLTZ, CESCL
COMPANY/AGENCY: ESA
PHONE: (218) 348-5061
FAX: (503) 274 2024
E-MAIL: DGOLTZ@ESASSOC.COM
DESCRIPTION OF EXPERIENCE:
CERTIFIED EROSION AND SEDIMENT CONTROL LEAD
CESCL #: CTWA - 171773808

INSPECTION FREQUENCY:

SITE CONDITION	MINIMUM FREQUENCY
1. ACTIVE PERIOD	ON 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 STORMWATER RUNOFF IS OCCURRING.
3. INACTIVE PERIODS GREATER THAN FOURTEEN (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 WATERSBODY.
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.



VICINITY MAP
NOT TO SCALE

RAIN GAUGE INFORMATION:
OR01 - CLVO3, 00351682
N45°12'18", W123°53'33", NEAR THE CLOVERDALE WATER DISTRICT
CLOVERDALE, OREGON

AUTHORIZED DISCHARGES
1. TEMPORARY STREAM BYPASS

LIST OF POLLUTANT GENERATING MATERIALS
1. FUEL
2. CONCRETE
3. CURING COMPOUNDS
4. ASPHALT

DEPARTMENT OF ENVIRONMENTAL QUALITY 303(d) RECEIVING WATER BODIES LIST OF IMPAIRMENTS:

Sand Lake - 303(d) listed (Category 5) for Enterococci.
The impaired beneficial use is Water Contact Recreation.

WATER BODIES:
WATER BODIES WITHIN 1 MILE RADIUS OF PROJECT SITE:
RECEIVING WATER BODIES:
- NO NAME CREEK
- BELTZ CREEK
- RENEKE CREEK
- SAND LAKE

SITE OVERVIEW

TOTAL SITE AREA = 16,937,719 SF = 389 ACRES

TOTAL DISTURBED AREA = 2,466,784 SF = 53 ACRES

PROJECT TEAM

PROJECT SPONSOR:
CHRISTER LABREQUE
TILLAMOOK ESTUARIES PARTNERSHIP
P.O. BOX 493
613 COMMERCIAL STREET
GARIBALDI, OREGON
OFFICE: (503) 322-222

PROPERTY OWNER:
JASON ELKINS
CAPE LOOKOUT STATE PARK
13000 WHISKEY CREEK ROAD
TILLAMOOK, OR 97141
OFFICE: (503) 842-3182 EXT 222

PROJECT ENGINEER:
HUNTER WHITE, PE
ENVIRONMENTAL SCIENCE ASSOCIATES
1615 SE 3RD AVENUE, SUITE 400
PORTLAND, OR 97214
OFFICE: (503) 274-2010

ROADWAY / RIGHT-OF-WAY OWNER:
CHRIS LAITY, PE
TILLAMOOK COUNTY PUBLIC WORKS
503 MAROLF LOOP ROAD
TILLAMOOK, OR 97141
OFFICE: (503) 842-3419

STRUCTURAL ENGINEERING:
JOSH GOODALL, PE
DAVID EVANS AND ASSOCIATES, INC.
5121 SKYLINE VILLAGE LOOP S, SUITE 200
SALEM, OR 97306
OFFICE: (541) 788-5830

GEOTECHNICAL ENGINEERING:
TRAVIS NGUYEN, PE, GE
SHANNON & WILSON
3990 COLLINS WAY, SUITE 100
LAKE OSWEGO, OR 97035
OFFICE: (503) 210-475030

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

BMP MATRIX FOR CONSTRUCTION PHASES

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

YEAR:	2027					2028				
BMPs / MONTH #:	JUNE	JULY	AUG	SEPT	OCT	JUNE	JULY	AUG	SEPT	OCT
PIPE SLOPE DRAINS										
ENERGY DISSIPATERS										
TEMPORARY DIVERSION DIKES										
CHECK DAMS	X	X	X	X	X					
TEMPORARY SEEDING AND PLANTING										
PERMANENT SEEDING AND PLANTING								X	X	X
MYCORRHIZAE / BIOFERTILIZERS										
MULCHES (SPECIFY TYPE)										
CONSTRUCTION ENTRANCE	X	X	X	X	X	X	X	X	X	X
COMPOST BLANKETS										
COMPOST SOCKS	X	X	X	X	X	X	X	X	X	X
COMPOST BERM										
SOIL TACKIFIERS										
SODDING VEGETATIVE BUFFER STRIPS										
PLASTIC SHEETING										
SEDIMENT FENCING	X	X	X	X	X	X	X	X	X	X
EROSION CONTROL BLANKETS & MATS (SPECIFY TYPE)										
EARTH DIKES (STABILIZED)										
DRAINAGE SWALES										
ROCK OUTLET PROTECTION										
SEDIMENT TRAP	X	X	X	X	X	X	X	X	X	X
STRAW WATTLES (LOOSE COMPACTION RICE STRAW)	X	X	X	X	X	X	X	X	X	X
STORM DRAIN INLET PROTECTION										
TEMPORARY OR PERMANENT SEDIMENTATION BASINS										
UNPAVED ROADS GRAVELED OR OTHER BMP ON THE ROAD	X	X	X	X	X	X	X	X	X	X
DEWATERING (TREATMENT LOCATION, SCHEMATIC, & SAMPLING PLAN REQUIRED)	X	X	X	X	X	X	X	X	X	X
PAVING OPERATIONS CONTROLS										
CONCRETE TRUCK WASHOUT										

*DEWATERING PUMP DISCHARGE HOSE SHALL BE DIRECTED TO A SEDIMENT BAG, OR OTHER APPROVED PUMP DISCHARGE SEDIMENT CENTRAL SYSTEM AS SHOWN ON SHT EC1.2 OR IN ANOTHER PLANNED LOCATION TO PERFORM TUBIDITY MONITORING IN ACCORDANCE WITH PERMIT CONDITIONS.

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 5.5)
3. INSPECTION LOGS MUST BE KEPT IN ACCORDANCE WITH DEQ'S 1200-C PERMIT REQUIREMENTS. (SECTION 5.5.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 SECTIONS2.2.17 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)

ESA
1615 SE 3RD AVENUE, SUITE 400
PORTLAND, OR 97214
OFFICE - 503.274.2010
WWW.ESASSOC.COM

STAMP
REGISTERED PROFESSIONAL ENGINEER
PRELIMINARY
NOT FOR CONSTRUCTION
OREGON
RENEWAL DATE: 06-30-26

CLIENT
TILLAMOOK ESTUARIES PARTNERSHIP

PROJECT NAME
SITKA SEDGE TIDAL WETLAND RESTORATION
TIERRA DEL MAR, OREGON

REVISIONS

#	DATE	DESCRIPTION

DESIGNED	AMF
DRAWN	KCN
CHECKED	HLW
IN CHARGE	HLW 83862
PROJECT NUMBER	202200434
ISSUE DATE	09/11/2025

SCALE IS AS SHOWN WHEN PLOTTED TO FULL SIZE (22"x34")
1"

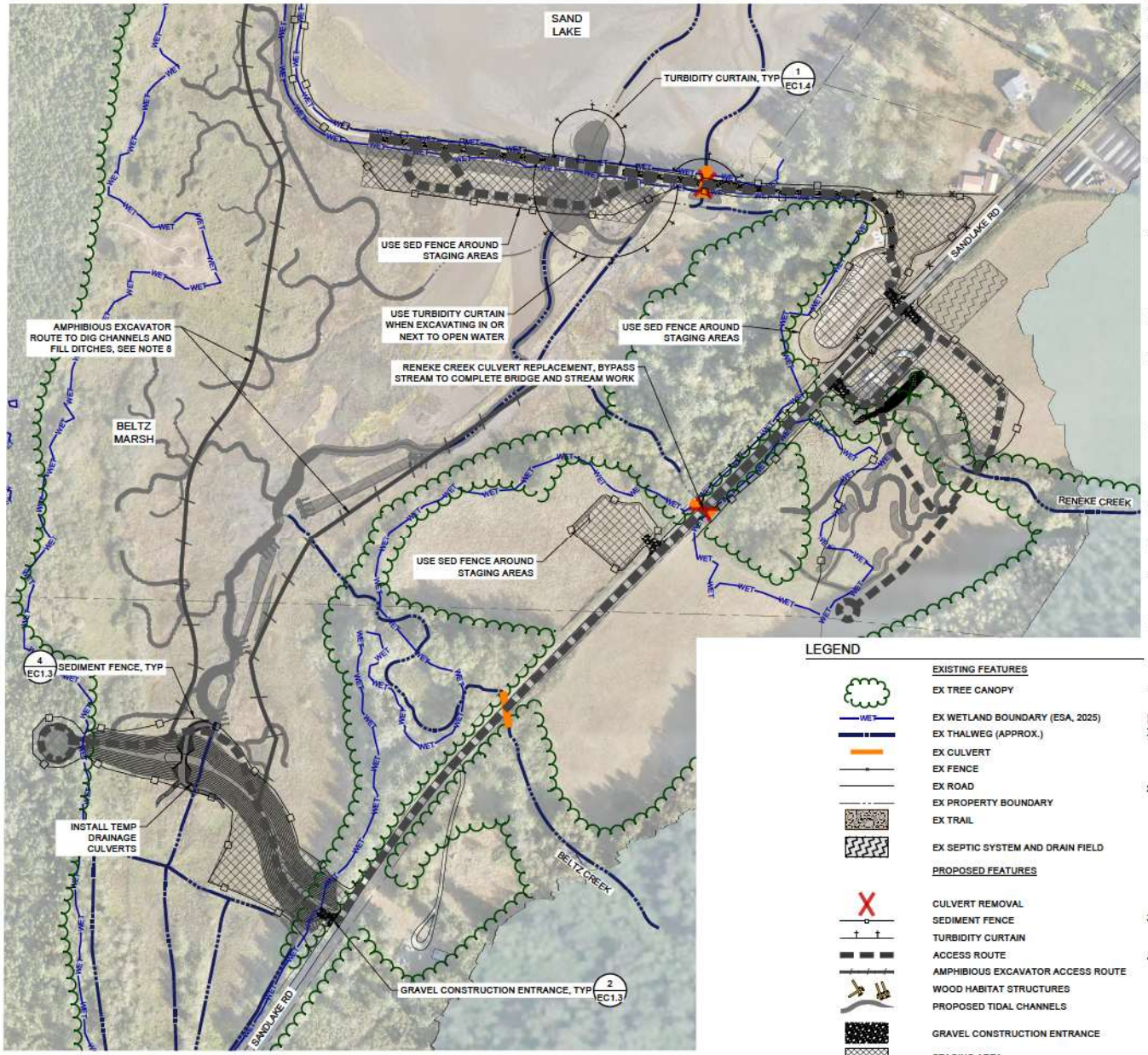
PHASE
DRAFT 90% DESIGN

SHEET TITLE
1200-C ESC COVER

SHEET NUMBER
EC1.1

SHEET — OF ###

FILE P:\01 CA\3202\gis\mxd\202202043A.00 - TSP Sitka Sedge Tidal Wetland Restoration\DWG\EC1.1 1200-C ESC COVER.dwg PLOT DATE: 10/9/2025 5:53:41 PM PLOTTED BY: OLIVIA PEREYRA



EROSION & SEDIMENT CONTROL PLAN OVERVIEW

PLAN SCALE: 1" = 250'

LEGEND

EXISTING FEATURES

- EX TREE CANOPY
- EX WETLAND BOUNDARY (ESA, 2025)
- EX THALWEG (APPROX.)
- EX CULVERT
- EX FENCE
- EX ROAD
- EX PROPERTY BOUNDARY
- EX TRAIL
- EX SEPTIC SYSTEM AND DRAIN FIELD

PROPOSED FEATURES

- CULVERT REMOVAL
- SEDIMENT FENCE
- TURBIDITY CURTAIN
- ACCESS ROUTE
- AMPHIBIOUS EXCAVATOR ACCESS ROUTE
- WOOD HABITAT STRUCTURES
- PROPOSED TIDAL CHANNELS
- GRAVEL CONSTRUCTION ENTRANCE
- STAGING AREA
- FILL DITCH/CHANNEL

ESCP NARRATIVE / SITE SPECIFIC ESC NOTES:

1. SEE SHEETS EC1.3 AND EC1.4 FOR EROSION AND SEDIMENT CONTROL DETAILS.
2. SEE SHEETS G4.1 TO G4.3 FOR ENLARGEMENTS OF EACH WORK AREA SHOWING CONSTRUCTION SEQUENCING , LOGISTICS, AND ESC BMPS IN MORE DETAIL. SEE CHANNEL GRADING PLANS ON SHEETS C1.1 TO C3.3 AND SETBACK DIKE GRADING ON SHEETS D1.0 TO D3.1.
3. LAND BASED ACCESS TO THE SITE IS VIA SANDLAKE RD. ESC MEASURES ARE REQUIRED IN THESE UPLAND AREAS IN ACCORDANCE WITH DEQ 1200-C PERMIT REQUIREMENTS. MANY WORK AREAS OF THE SITE ARE WITHIN A WETLAND OR BELOW MHHW AND SHALL BE MANAGED IN ACCORDANCE WITH REMOVAL/FILL PERMIT. THIS PROJECT WILL RECEIVE BOTH CWA SECTION 404 PERMIT AND A SECTION 401 WATER QUALITY CERTIFICATE.
4. IN ALL STAGING AREAS, PREVENT SEDIMENT FROM ENTERING WETLANDS AND WATERWAYS BY INSTALLING PERIMETER BMPS INCLUDING SEDIMENT FENCE AND STRAW WATTLES. ADJUST AS NEEDED FOR ACCESS TO ADJACENT PERMITTING WORK AREAS. PRESERVE AND PROTECT EX NATIVE VEGETATION AND RETAIN STRIPS OF VEGETATION BETWEEN DISTURBANCE AREAS AND WATERWAYS TO TRAP SEDIMENT.
5. THE MAJORITY OF PROJECT SITE IS SEPARATED FROM SAND LAKE BY AN EXISTING DIKE WITH A SINGLE DRAINAGE OUTLET THROUGH A 4'X4' CONCRETE BOX CULVERT WITH A BROKEN TIDE GATE. THREE CREEK CHANNELS DRAIN INTO THE AREA BEHIND THE EXISTING DIKE AND WILL REQUIRE INDIVIDUAL TEMPORARY STREAM DIVERSIONS TO MAINTAIN CONVEYANCE AND DOWNSTREAM FISH PASSAGE THROUGH ALL PHASES OF THE PROJECT AND DURING THE WINTER BETWEEN CONSTRUCTION SEASONS.
6. USE BMPS INCLUDING SEDIMENT FENCE, STRAW WATTLES, TURBIDITY CURTAINS, TO PREVENT SEDIMENT FROM LEAVING SITE OR ENTERING WATERS AND WETLANDS. CONTROL SEDIMENT AND TURBIDITY PER PERMIT CONDITIONS.
7. CONTRACTOR SHALL WORK AROUND TIDES AND IMPLEMENT WORK AREA ISOLATION MEASURES TO PROTECT WORK FROM INUNDATION, PREVENT SEDIMENT FROM ENTERING WATERWAYS, AND CONTROL TURBIDITY WITHIN PERMIT CONDITIONS. DEWATER WORK AREAS AND DIVERT STREAM FLOWS AS NEEDED TO COMPLETE THE WORK IN ACCORDANCE WITH AN APPROVED TEMPORARY WATER MANAGEMENT PLAN AND FISH SALVAGE PERMIT.
8. WORK WITHIN THE LOWEST LYING AREAS OF THE SITE WILL REQUIRE THE USE OF LOW GROUND PRESSURE (LGP) AND/OR AMPHIBIOUS EXCAVATION EQUIPMENT OR THE USE OF WORK MATS TO SAFELY COMPLETE WORK AND MINIMIZE DISTURBANCE AND COMPACTION OF THE MARSH SURFACE. CONTRACTOR TO OBSERVE WORK AREAS PRIOR TO BIDDING TO UNDERSTAND THE EQUIPMENT REQUIRED TO COMPLETE SPECIALIZED IN-WATER WORK.
9. PROVIDE TREE PROTECTION AT THE PERIMETER OF WORK AREAS AND WHERE SHOWN TO PROTECT TREES. SEED ALL DISTURBED AREAS ABOVE MHHW PER REVEG PLAN AND SPECS.
10. INSTALL SEDIMENT FENCE AT DOWNSLOPE EDGE OF WORK AREAS AND STAGING AREAS THAT ARE WITHIN 50 FEET OF A WETLAND OR WATERWAY.
11. USE TURBIDITY CURTAIN WHEN WORKING IN WATER, INCLUDING EXCAVATING DIKE BREACH CHANNEL, REMOVING EXISTING BOX CULVERT AND RECONSTRUCTING EMBANKMENT, AND CONNECTING EXCAVATED CHANNELS OR DITCH FILLS TO OPEN WATER AREAS.
12. INSTALL GRAVEL CONSTRUCTION ENTRANCES OR APPROVED TRACKOUT MATS AT ALL ENTRANCES TO SANDLAKE ROAD AS NEEDED TO PREVENT TRACKING SEDIMENT ON ROADWAY. CONTRACTOR SHALL BE PREPARED TO REMOVE SEDIMENT TRACKING FROM ROADWAY AND IMPLEMENT WHEEL WASH IF ENTRANCE BMPS ARE NOT EFFECTIVE.
13. CONTROL DUST BY WATER TRUCK OR OTHER APPROVED MEANS.

DEWATERING PLAN:

1. SOME ACTIVITIES WILL REQUIRE IN-WATER WORK AREA ISOLATION AND DEWATERING, INCLUDING SETBACK DIKE AND TIDE GATE STRUCTURE SUBGRADE EXCAVATIONS, DIKE BREACH AND CHANNEL EXCAVATION, FOUNDATION EXCAVATIONS, AND DITCH FILLS.
2. CONTRACTOR IS RESPONSIBLE FOR DEVELOPING A TEMPORARY WATER MANAGEMENT PLAN INCLUDING PROPOSED DEWATERING AND WORK AREA ISOLATION FOR ALL IN-WATER WORK ACTIVITIES AND STREAM DIVERSIONS. INCLUDING HOW TO MANAGE PUMP DISCHARGE WATER AND MEET PERMIT REQUIREMENTS FOR TURBIDITY MONITORING. THESE METHODS MAY INCLUDE COFFER DAMS, PUMPS WITH APPROPRIATE FISH SCREENS, DISCHARGE HOSES, PUMP DISCHARGE SEDIMENT CONTROL SYSTEM (PDSCS) OR EQUIVALENT METHOD OF REMOVING SEDIMENT FROM TURBID DISCHARGE WATER. DISCHARGE WATER TO DENSELY VEGETATED UPLAND AREAS OR PROVIDE A TREATMENT SYSTEM TO REMOVE SEDIMENT PRIOR TO DISCHARGING TO VEGETATED WETLANDS. MANAGE OUTLET AREA TO PREVENT EROSION.
3. FINAL METHODS OF THE WORK AREA ISOLATION AND DEWATERING SYSTEMS ARE THE CONTRACTOR'S RESPONSIBILITY TO DESIGN AND IMPLEMENT TO COMPLY WITH PERMIT CONDITIONS.
4. CONTRACTOR SHALL MONITOR AREAS DOWNSTREAM OR DOWNSLOPE OF TURBIDITY GENERATING ACTIVITIES, AND ADJUST DEWATERING SYSTEM, DISCHARGE METHOD, AND TREATMENT TECHNIQUES AS NECESSARY TO MINIMIZE SEDIMENT ENTERING WETLANDS AND WATERS AND COMPLY WITH TURBIDITY MONITORING REQUIREMENTS.

1"=250' SCALE: 250 125 0 250 500 FEET

N

ESA
1615 SE 3RD AVENUE, SUITE. 400
PORTLAND, OR 97214
OFFICE - 503.274.2010
WWW.ESASSOC.COM

STAMP

REGISTERED PROFESSIONAL ENGINEER
OREGON
PRELIMINARY
NOT FOR CONSTRUCTION
RENEWAL DATE: 06-30-26

CLIENT

TILLAMOOK ESTUARIES PARTNERSHIP

PROJECT NAME

SITKA SEDGE TIDAL WETLAND RESTORATION

TIERRA DEL MAR, OREGON

REVISIONS

#	DATE	DESCRIPTION

DESIGNED	HLW
DRAWN	KCN
CHECKED	HLW
IN CHARGE	HLW 83862
PROJECT NUMBER	202200434
ISSUE DATE	09/11/2025

SCALE IS AS SHOWN WHEN PLOTTED TO FULL SIZE (22"x34")

1"

PHASE

DRAFT 90% DESIGN

SHEET TITLE

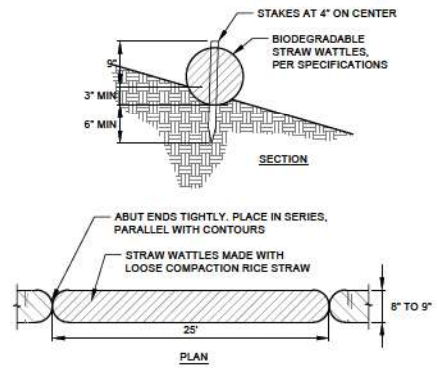
EROSION & SEDIMENT CONTROL PLAN OVERVIEW

SHEET NUMBER

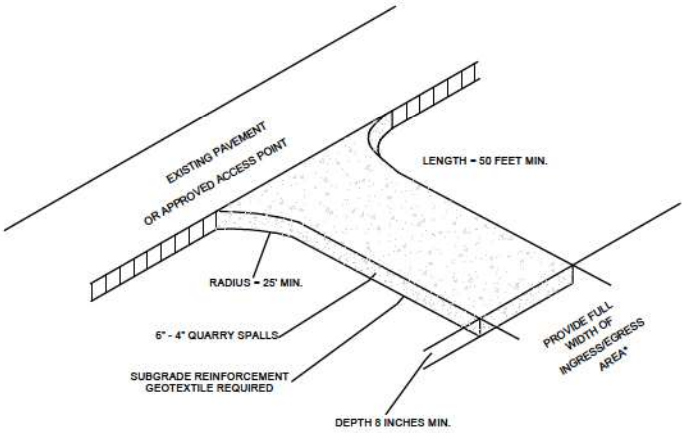
EC1.2

SHEET — OF ###

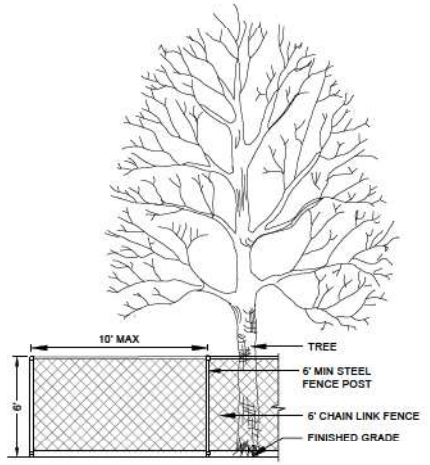
FILE P:\01 CA\2022\p.xx\202200434.00 - TBP Sitka Sedge Tidal Wetland Restoration\DWG\EC1.2 EROSION & SEDIMENT CONTROL PLAN.dwg PLOT DATE: 10/9/2026 5:34:11 PM PLOTTED BY: OLIVIA PERREYRA



1 / X.X STRAW WATTLES DETAIL — SCALE: NTS



2 / X.X CONSTRUCTION ENTRANCE DETAIL — SCALE: NTS



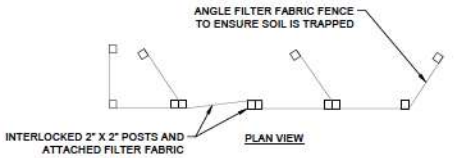
NOTES:

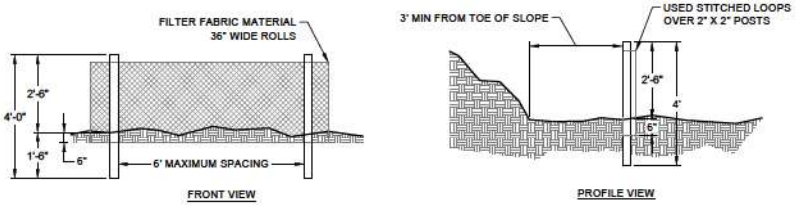
1. INSTALL FENCING IN LOCATIONS AS SHOWN ON PLANS.
2. LOCATE POSTS TO AVOID SEVERING OR DAMAGING LARGE ROOTS.
3. CONTRACTOR IS RESPONSIBLE TO MAINTAIN TREE PROTECTION FENCING THROUGH DURATION OF CONSTRUCTION AND MAKE NECESSARY REPAIRS AS NEEDED.

3 / X.X TREE PROTECTION FENCE DETAIL — SCALE: NTS

NOTES:

1. BURY BOTTOM OF FILTER FABRIC 6" VERTICALLY BELOW FINISHED GRADE.
2. 2"X2" FIR, PINE OR STEEL FENCE POSTS.
3. POSTS TO BE INSTALLED ON UPHILL SIDE OF SLOPE.
4. COMPACT BOTH SIDES OF FILTER FABRIC TRENCH.
5. WHEN JOINING TWO OR MORE SEDIMENT FENCES TOGETHER, JOIN THE TWO END STAKES BY WRAPPING THE TWO ENDS AT LEAST ONE AND ONE HALF TURNS AND DRIVING THE JOINED STAKES INTO THE GROUND TOGETHER.





4 / X.X SEDIMENT FENCE DETAIL — SCALE: NTS

ESA
1615 SE 3RD AVENUE, SUITE. 400
PORTLAND, OR 97214
OFFICE - 503.274.2010
WWW.ESASSOC.COM

STAMP

REGISTERED PROFESSIONAL ENGINEER — PRELIMINARY — NOT FOR CONSTRUCTION — OREGON — RENEWAL DATE: 06-30-26

CLIENT

TILLAMOOK ESTUARIES PARTNERSHIP

PROJECT NAME

SITKA SEDGE TIDAL WETLAND RESTORATION

TIERRA DEL MAR, OREGON

REVISIONS

#	DATE	DESCRIPTION

DESIGNED	AMF
DRAWN	KCN
CHECKED	HLW
IN CHARGE	HLW 83882
PROJECT NUMBER	202200434
ISSUE DATE	09/11/2025

SCALE IS AS SHOWN WHEN PLOTTED TO FULL SIZE (22"x34")

PHASE

DRAFT 90% DESIGN

SHEET TITLE

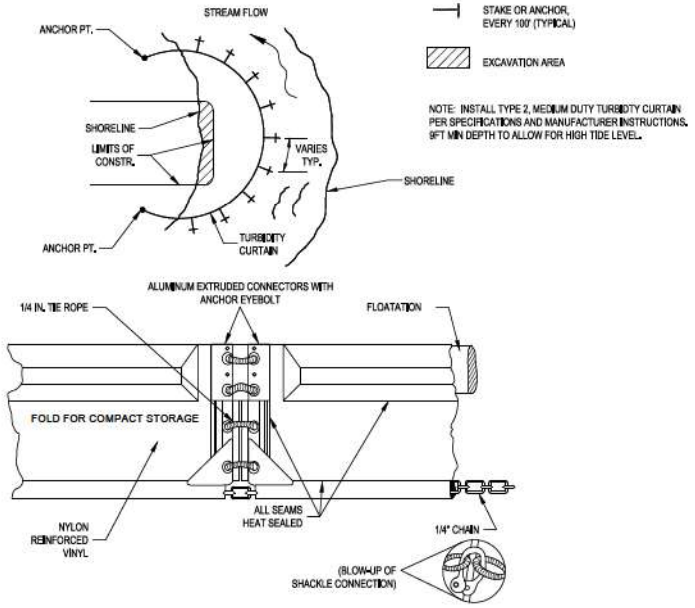
EROSION CONTROL DETAILS - 1

SHEET NUMBER

EC1.3

SHEET — OF ###

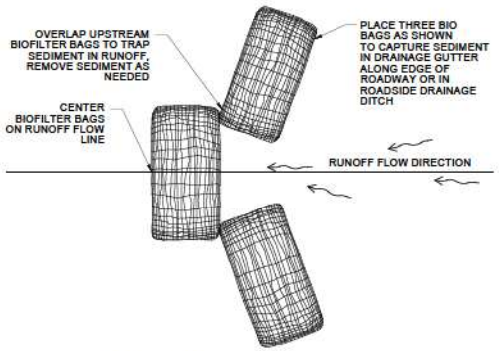
FILE P:\01 CA\2022\xrefs\202202043X.00 - TBP Sitka Sedge Tidal Wetland Restoration\DWG\EC1.3 EROSION CONTROL DETAILS - 1.dwg PLOT DATE: 10/9/2026 5:14:19 PM PLOTTED BY: OLIVIA PEREYRA



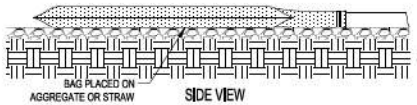
1 / X.X TURBIDITY CURTAIN DETAIL — SCALE: NTS

NOTES:

1. BIO FILTER BAGS SHALL BE 18"X6"10" (MIN. SIZE) PLASTIC MESH BAGS WITH 1/2-INCH OPENINGS FILLED WITH APPROXIMATELY 45 POUNDS OF CLEAN, NON-TOXIC 100 PERCENT RECYCLED WOOD PRODUCT WASTE CONTAINING NO FINE MATERIALS OR SEDIMENTS.
2. CONTRACTOR SHALL MAINTAIN BIOFILTER BAGS., REMOVING SEDIMENT AS NECESSARY, AND RELOCATING BIOFILTER BAGS TO MAXIMIZE SEDIMENT CAPTURE OR AS DIRECTED BY THE OWNER.

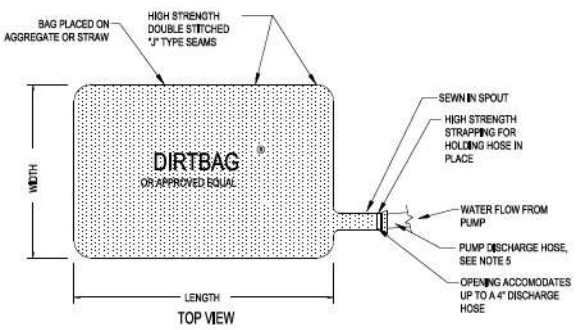


3 / X.X BIO FILTER BAG DETAIL — SCALE: NTS



NOTES

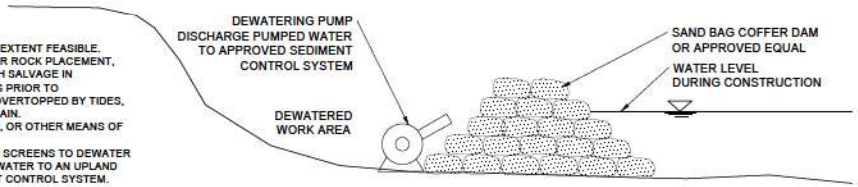
1. THE GEOTEXTILE BAG SHALL BE ATTACHED TO THE EFFLUENT PIPE FROM THE DEWATERING PUMP. THE PLACEMENT OF THE GEOTEXTILE BAG SHALL BE INCLUDED IN THE CONTRACTOR'S DEWATERING PLAN.
2. AVOID PLACEMENT OF THE GEOTEXTILE BAG ABOVE STEEP SLOPES OR WHERE SATURATED SOIL CONDITIONS MAY CAUSE SOIL INSTABILITY.
3. INSTALL THE GEOTEXTILE BAG ON A MILD SLOPE SO INCOMING WATER FLOWS DOWNHILL THROUGH THE BAG. DISPOSE OF CAPTURED SEDIMENT IN FILL MOUNDS.
4. THE GEOTEXTILE BAG IS FULL WHEN IT NO LONGER CAN EFFICIENTLY FILTER SEDIMENT OR PASS WATER AT A REASONABLE RATE. DISPOSE OF THE GEOTEXTILE BAG AS DIRECTED BY THE ENGINEER.
5. THE GEOTEXTILE BAG AND OUTLET SHALL NOT BE LOCATED IN THE EXCLUSION ZONE. HOWEVER THE CONTRACTOR MAY ENTER THE EXCLUSION ZONE ON FOOT IN ORDER TO ROUTE THE DEWATERING DISCHARGE HOSE THROUGH THE EXCLUDED AREA. THE FINAL DISCHARGE LOCATION MUST BE SUBMITTED FOR REVIEW BY THE ENGINEER AS PART OF THE WORK CONTAINMENT AND DEWATERING PLAN.



4 / X.X PUMP DISCHARGE SEDIMENT CONTROL SYSTEM DETAIL — SCALE: NTS

NOTES:

1. WORK AROUND TIDES TO THE MAXIMUM EXTENT FEASIBLE.
2. WHEN NECESSARY TO COMPLETE FILL OR ROCK PLACEMENT, ISOLATE WORK AREA AND PERFORM FISH SALVAGE IN ACCORDANCE WITH PERMIT CONDITIONS PRIOR TO DEWATERING. IF ISOLATION SYSTEM IS OVERTOPPED BY TIDES, FISH SALVAGE MUST BE PERFORMED AGAIN.
3. USE SANDBAG COFFER DAM, PORTADAM, OR OTHER MEANS OF ISOLATION.
4. UTILIZE PUMPS WITH APPROPRIATE FISH SCREENS TO DEWATER WORK AREA, AND DISCHARGE PUMPED WATER TO AN UPLAND LOCATION AND/OR APPROVED SEDIMENT CONTROL SYSTEM.



5 / X.X DEWATERING SYSTEM DETAIL — SCALE: NTS

ESA
1615 SE 3RD AVENUE, SUITE. 400
PORTLAND, OR 97214
OFFICE – 503.274.2010
WWW.ESASSOC.COM

STAMP

REGISTERED PROFESSIONAL ENGINEER — PRELIMINARY — NOT FOR CONSTRUCTION — OREGON — RENEWAL DATE: 06-30-26

CLIENT

TILLAMOOK ESTUARIES PARTNERSHIP

PROJECT NAME

SITKA SEDGE TIDAL WETLAND RESTORATION

TIERRA DEL MAR, OREGON

REVISIONS

#	DATE	DESCRIPTION

DESIGNED	AMF
DRAWN	KCN
CHECKED	HLW
IN CHARGE	HLW 83862
PROJECT NUMBER	202200434
ISSUE DATE	09/11/2025

SCALE IS AS SHOWN WHEN PLOTTED TO FULL SIZE (22"x34")

1"

PHASE

DRAFT 90% DESIGN

SHEET TITLE

EROSION CONTROL DETAILS - 2

SHEET NUMBER

EC1.4

SHEET — OF ###

FILE P:\01 CA\2022\pw\02022200434.00 - TBP Sitka Sedge Tidal Wetland Restoration\DWG\EC1.4 EROSION CONTROL DETAILS - 2.dwg PLOT DATE: 10/9/2026 5:14:28 PM PLOTTED BY: OLIVIA PEREYRA

NOTES

GENERAL NOTES:

1. ANY DISCREPANCY BETWEEN PERMITS AND DESIGN DRAWINGS SHALL BE IMMEDIATELY REPORTED TO OWNER'S REPRESENTATIVE FOR RESOLUTION PRIOR TO AFFECTED WORK BEING PREFORMED. CONTRACTOR SHALL REVIEW DESIGN DRAWINGS PRIOR TO MOBILIZATION AND SHALL ALLOW ENOUGH TIME FOR ANY IDENTIFIED POTENTIAL PERMIT ISSUES TO BE RESOLVED WITHOUT IMPACTING CONSTRUCTION SCHEDULE.
2. PRIOR TO ANY GROUND DISTURBANCE, CONTRACTOR SHALL LOCATE ALL CASTINGS AND UNDERGROUND AND OVERHEAD UTILITIES IN ACCORDANCE WITH SPECIFICATIONS AND STATE LAW SHALL CONTACT THE UNDERGROUND UTILITIES LOCATOR SERVICE (1-800-424-5555) AT LEAST 72 HOURS PRIOR TO CONSTRUCTION. UPON LEARNING OF THE EXISTENCE AND/OR LOCATIONS OF ANY UNDERGROUND UTILITIES NOT SHOWN OR SHOWN INACCURATELY ON THE PLANS OR NOT PROPERLY MARKED BY THE UTILITY OWNER, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE UTILITY OWNER BY TELEPHONE OR IN WRITING.
3. CONTRACTOR SHALL HAVE COPIES OF THE APPROVED PLANS AND SPECIFICATIONS ON SITE AND READILY AVAILABLE AT ALL TIMES.
4. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR ALL CLEARING AND GRUBBING, SOIL PREPARATION, AND SEEDING. THE LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR ALL PLANTING, MULCHING, BROWSE PROTECTION, AND PLANT ESTABLISHMENT / MAINTENANCE.

INVASIVES MANAGEMENT:

5. INVASIVES REMOVAL AND MANAGEMENT ACTIVITIES SHALL:
   a. COMPLY WITH ALL APPLICABLE OREGON PARKS AND RECREATION (OPRD) STANDARDS AND POLICIES.
   b. FOLLOW APPLICABLE OREGON STATE REGULATIONS, INCLUDING THE REQUIREMENTS OF THE OREGON INVASIVE SPECIES COUNCIL AND OREGON DEPARTMENT OF AGRICULTURE.
   c. WHERE APPLICABLE, COORDINATE WITH TILLAMOOK COUNTY REGULATIONS, PROVIDED THEY DO NOT CONFLICT WITH STATE OR OPRD GUIDELINES.
5. THE CONTRACTOR SHALL SUBMIT AN INVASIVES MANAGEMENT PLAN INDICATING ALL PROPOSED ACTIVITIES AND OBTAIN APPROVAL BY THE OPRD REPRESENTATIVE PRIOR TO COMMENCEMENT OF ANY INVASIVE SPECIES REMOVAL. INVASIVE SPECIES REMOVAL SHALL INCLUDE, BUT NOT BE LIMITED TO, ANY AREAS OF PHALARIS ARUNDINACEA, REED CANARYGRASS (RCG) AND RUBUS ARMENICACUS, HIMALAYAN BLACKBERRY WITHIN REVEGETATION AREAS.
6. INVASIVE SPECIES REMOVAL METHODS MAY INCLUDE MANUAL, MECHANICAL, OR SELECT AQUATIC APPROVED HERBICIDE APPLICATION AS APPROVED BY THE OPRD REPRESENTATIVE.
   a. AQUATIC HERBICIDE USE MUST BE PRE-APPROVED BY THE OPRD REPRESENTATIVE AND APPLIED ONLY BY LICENSED APPLICATORS IN COMPLIANCE WITH STATE AND FEDERAL REGULATIONS.
   b. RCG IN AREAS THAT WILL RECEIVE A MINIMUM OF 5 FEET OF CLEAN FILL AND REMAIN UNDISTURBED FOR AT LEAST 5 YEARS MAY BE LEFT IN PLACE, SUBJECT TO OPRD APPROVAL.
   c. ALL METHODS MUST MINIMIZE DISTURBANCE TO NATIVE VEGETATION AND SENSITIVE HABITAT AREAS.
7. ALL EQUIPMENT, TOOLS, CLOTHING AND FOOTWEAR MUST BE CLEANED BEFORE ENTERING AND AFTER LEAVING SITE AREAS TO PREVENT THE INTRODUCTION OR SPREAD OF INVASIVE SPECIES TO OTHER ON- OR OFF-SITE AREAS.
   a. CLEANING SHALL INCLUDE THOROUGH REMOVAL OF SEEDS, SOIL, AND PLANT MATERIAL.
8. ALL REMOVED INVASIVE MATERIAL SHALL BE BAGGED OR SECURED AND TRANSPORTED OFF-SITE TO AN APPROVED DISPOSAL FACILITY.
   a. ON-SITE COMPOSTING OF INVASIVE MATERIAL IS NOT PERMITTED UNLESS SPECIFICALLY APPROVED BY OPRD.
9. THE CONTRACTOR SHALL AVOID DISTURBANCE TO NATIVE PLANT COMMUNITIES, WETLANDS, AND WILDLIFE HABITATS.
10. EROSION CONTROL AND SEDIMENT MANAGEMENT MUST BE IMPLEMENTED AS SPECIFIED AND AS NECESSARY TO PROTECT WATER QUALITY.
11. THE CONTRACTOR SHALL DOCUMENT ALL INVASIVE SPECIES REMOVAL ACTIVITIES INCLUDING, BUT NOT LIMITED TO, DATES, METHODS USED, APPROXIMATE QUANTITIES REMOVED, AND DISPOSAL METHOD.

BEAVER RESILIENCE PLANTING STRATEGY:

12. INSTALL TEMPORARY PROTECTION CAGES OR FENCING AROUND NEW AND EXISTING VEGETATION AS DIRECTED BY THE OPRD REPRESENTATIVE OR PROJECT BIOLOGIST OR LANDSCAPE ARCHITECT IN HIGH BEAVER BROWSE REVEGETATION AREAS.
   a. PRIOR TO COMMENCEMENT OF CONSTRUCTION ACTIVITIES, OPRD STAFF WILL CONDUCT AN ON-SITE ASSESSMENT TO FIELD VERIFY AND IDENTIFY INDIVIDUAL TREES AND/OR VEGETATIVE GROUPINGS TO RECEIVE PROTECTION CAGES OR FENCING WITHIN EXISTING NATIVE TREE AND SHRUB STANDS IN AREAS OF HIGH ANTICIPATED BEAVER ACTIVITY.

PLANTING NOTES:

14. PROTECT ALL EXISTING NATIVE VEGETATION AND WILDLIFE HABITAT FEATURES UNLESS FLAGGED FOR REMOVAL.
15. TREE AND OTHER VEGETATION REMOVAL ALONG THE EXISTING PUBLIC TRAIL SHALL BE COMPLETED AS APPROVED BY OPRD. A TREE RISK ASSESSMENT QUALIFIED (TRAQ) CERTIFIED ARBORIST SHALL PERFORM AN ON-SITE ASSESSMENT OF ALL TREES TO REMAIN THAT ARE WITHIN FALL DISTANCE OF PUBLIC TRAILS. RECOMMENDATIONS FOR PRUNING, MITIGATION, OR ADDITIONAL REMOVAL SHALL BE IMPLEMENTED BASED ON THIS ASSESSMENT FOR PUBLIC SAFETY AND TO PRESERVE HEALTHY VEGETATION.
16. CONTRACTOR SHALL USE IDENTIFIED, APPROVED ACCESS ROUTES AND MINIMIZE GROUND DISTURBANCE OUTSIDE THE LIMIT OF WORK AREA.
17. EXCAVATE, PERFORM WEED MANAGEMENT, AND PREPARE PLANTING SOIL AS COORDINATED IN THE INVASIVES MANAGEMENT PLAN AND PER PLANT SCHEDULES AND SPECIFICATIONS (PROVIDED IN LATER DESIGN PHASES). SOIL AMENDMENTS TO BE COORDINATED AND DETERMINED DURING LATER DESIGN PHASES.
18. DO NOT COMPACT SOIL IN PLANTING ZONES. LOOSEN EXISTING SOILS PER SOIL PREPARATION NOTES/SPECIFICATIONS PRIOR TO PLANTING, ESPECIALLY IN MECHANICALLY GRADED AREAS. NO SOIL PREPARATION WORK SHALL BE COMPLETED WITHIN DOCUMENTED ARCHAEOLOGICAL SITE BOUNDARY.
19. IN AREAS RECEIVING SELECT NATIVE SOIL, INSTALL IN LIFTS AS SPECIFIED BY THE GEOTECHNICAL ENGINEER.
20. PLANTING SHALL OCCUR BETWEEN OCTOBER 1 AND MARCH 15 UNLESS OTHERWISE APPROVED BY OPRD OR THE PROJECT LANDSCAPE ARCHITECT OR BIOLOGIST.
21. EXACT LOCATIONS OF PLANTS MAY BE MODIFIED IN THE FIELD AS APPROVED BY OPRD OR THE PROJECT LANDSCAPE ARCHITECT OR BIOLOGIST.
22. IN THE TIAL MARSH ZONE, THE OWNER WILL FLAG PLANTING SUBZONES AHEAD OF PLANTING INSTALLATION.
23. PLANTS SHALL BE INSTALLED PER DETAILS AND AS SPECIFIED. PLANTS SHALL BE BACKFILLED AND WATER-SETTLED. NO COMPACTION IS PERMITTED AROUND THE PLANT.
24. ALL PLANTS SHALL BE WATERED THOROUGHLY IMMEDIATELY FOLLOWING INSTALLATION.
25. NO TREES OR SHRUBS SHALL BE PLANTED IN STANDING WATER UNLESS EXPLICITLY SPECIFIED OTHERWISE.
26. ALL GROUND DISTURBED AREAS SHALL BE PLANTED OR SEEDED WITH THE SPECIFIED SPECIES OR SEED MIX, WITHIN THE LIMIT OF WORK AREA UNLESS NOTED OTHERWISE. REFER TO APPLICABLE PLANT OR SEED SCHEDULES.
27. DO NOT DISTURB EXISTING BEAVER DAMS OR LODGES UNLESS AUTHORIZED OR DIRECTED OTHERWISE BY OPRD. WORK WITHIN BEAVER DAM OR LODGE LOCATIONS SHALL BE COMPLETED UNDER SUPERVISION BY AN OPRD REPRESENTATIVE OR PROJECT BIOLOGIST.
28. NO SOIL PREPARATION WORK SHALL BE COMPLETED WITHIN DOCUMENTED ARCHAEOLOGICAL SITE BOUNDARY.
29. COORDINATE WILLOW STAKE HARVESTING WITH OWNERS REPRESENTATIVE. OBTAIN APPROVAL IN WRITING OF PROPOSED HARVESTING LOCATIONS PRIOR TO PROCEEDING WITH WORK.
30. TARGET MONITORING WILL STRIVE TO MAINTAIN THE FOLLOWING SURVIVORSHIP PERCENTAGES:

VEGETATION COMMUNITY	PARAMETER	PERCENTAGES
UPPER RIPARIAN FOREST	PERCENT SURVIVAL	70%
SWAMP FOREST	PERCENT SURVIVAL	75%
EXISTING SETBACK DIKE / TIDAL MARSH	PERCENT SURVIVAL	60%
UPPER (NEW) SETBACK DIKE	PERCENT SURVIVAL	50%
LOWER (NEW) SETBACK DIKE	PERCENT SURVIVAL	50%

ESA
1615 SE 3RD AVENUE, SUITE. 400
PORTLAND, OR 97214
OFFICE - 503.274.2010
WWW.ESASSOC.COM

STAMP
PRELIMINARY
-
NOT FOR CONSTRUCTION

CLIENT
TILLAMOOK ESTUARIES PARTNERSHIP

PROJECT NAME
SITKA SEDGE TIDAL WETLAND RESTORATION
TIERRA DEL MAR, OREGON

REVISIONS

#	DATE	DESCRIPTION

DESIGNED	T.F
DRAWN	OP
CHECKED	T.F
IN CHARGE	HLW 83862
PROJECT NUMBER	202200434
ISSUE DATE	09/11/2025

SCALE IS AS SHOWN WHEN PLOTTED TO FULL SIZE (22"x34")
1"

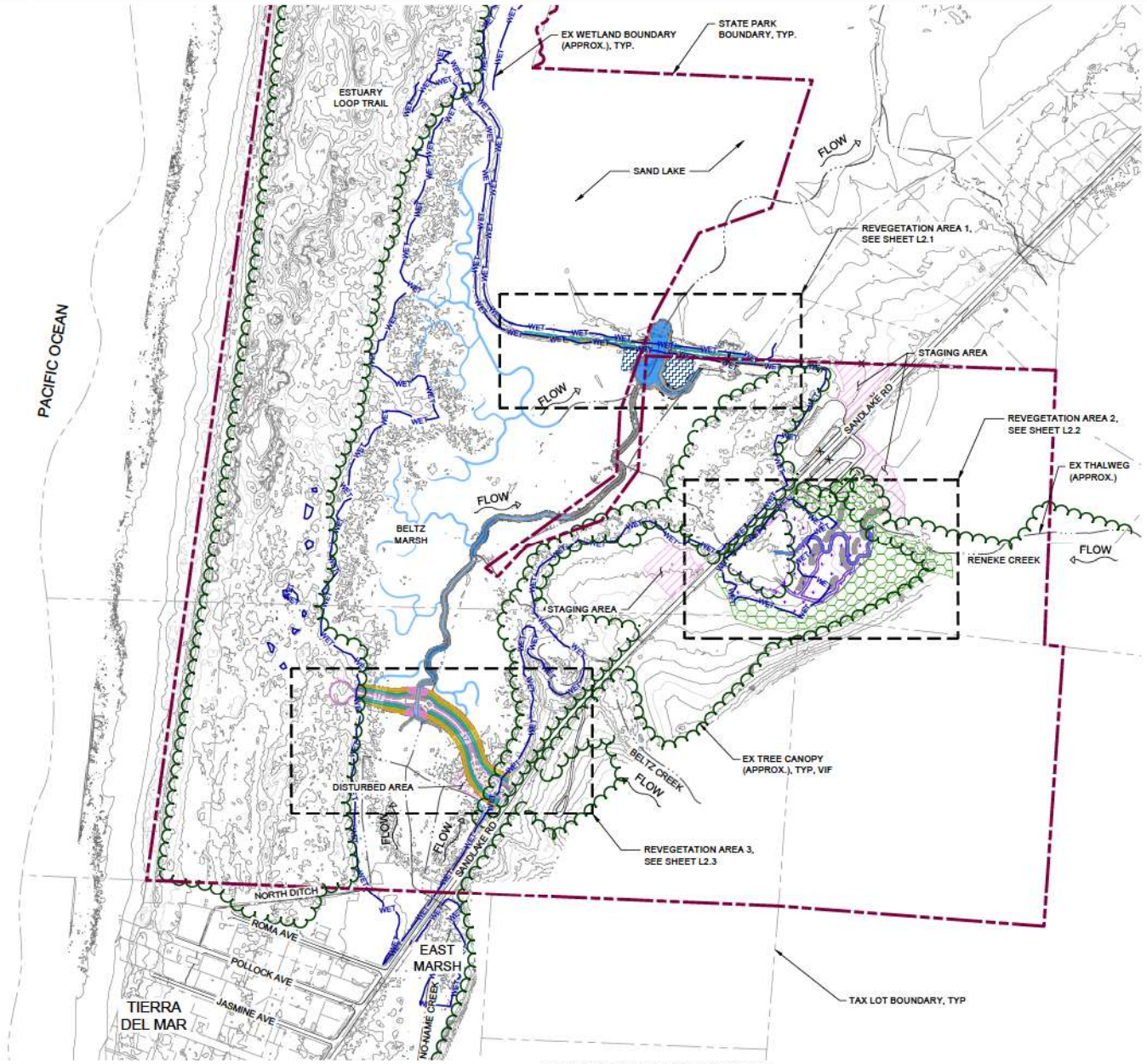
PHASE
DRAFT 90% DESIGN

SHEET TITLE
REVEGETATION NOTES

SHEET NUMBER
L1.0

SHEET — OF ###

FILE P:\01 CA\202200434.00 - TBP Sitka Sedge Tidal Wetland Restoration\DWG\L1.0 REVEGETATION NOTES.dwg PLOT DATE: 10/9/2025 5:34:46 PM PLOTTED BY: OLIMA PEREVRA



REVEGETATION SHEET OVERVIEW
PLAN SCALE: 1" = 250'

LEGEND

EXISTING FEATURES
- EX TREE CANOPY
- STATE PARK BOUNDARY
- EX WETLAND BOUNDARY (ESA, 2025)
- EX THALWEG (APPROX.)
- EX FENCE
- EX ROAD
- EX PROPERTY BOUNDARY
- EX MAJOR CONTOUR
- EX MINOR CONTOUR

PROPOSED FEATURES
- SETBACK DIKE SHRUBS - LOWER
- SETBACK DIKE SHRUBS - UPPER
- TIDAL MARSH
- RENEKE - SWAMP FOREST
- RENEKE - UPLAND RIPARIAN FOREST
- HABITAT BERM
- UPPER SEED MIX
- LOWER SEED MIX
- PROPOSED TIDAL CHANNELS

1"=250' SCALE: 250 125 0 250 500 FEET

N

ESA
1615 SE 3RD AVENUE, SUITE. 400
PORTLAND, OR 97214
OFFICE - 503.274.2010
WWW.ESASSOC.COM

STAMP
PRELIMINARY
NOT FOR CONSTRUCTION

CLIENT
TILLAMOOK ESTUARIES PARTNERSHIP

PROJECT NAME
SITKA SEDGE TIDAL WETLAND RESTORATION
TIERRA DEL MAR, OREGON

REVISIONS

#	DATE	DESCRIPTION

DESIGNED	T.F
DRAWN	OP
CHECKED	T.F
IN CHARGE	HLW 83862
PROJECT NUMBER	202200434
ISSUE DATE	09/11/2025

SCALE IS AS SHOWN WHEN PLOTTED TO FULL SIZE (22"x34")
1"

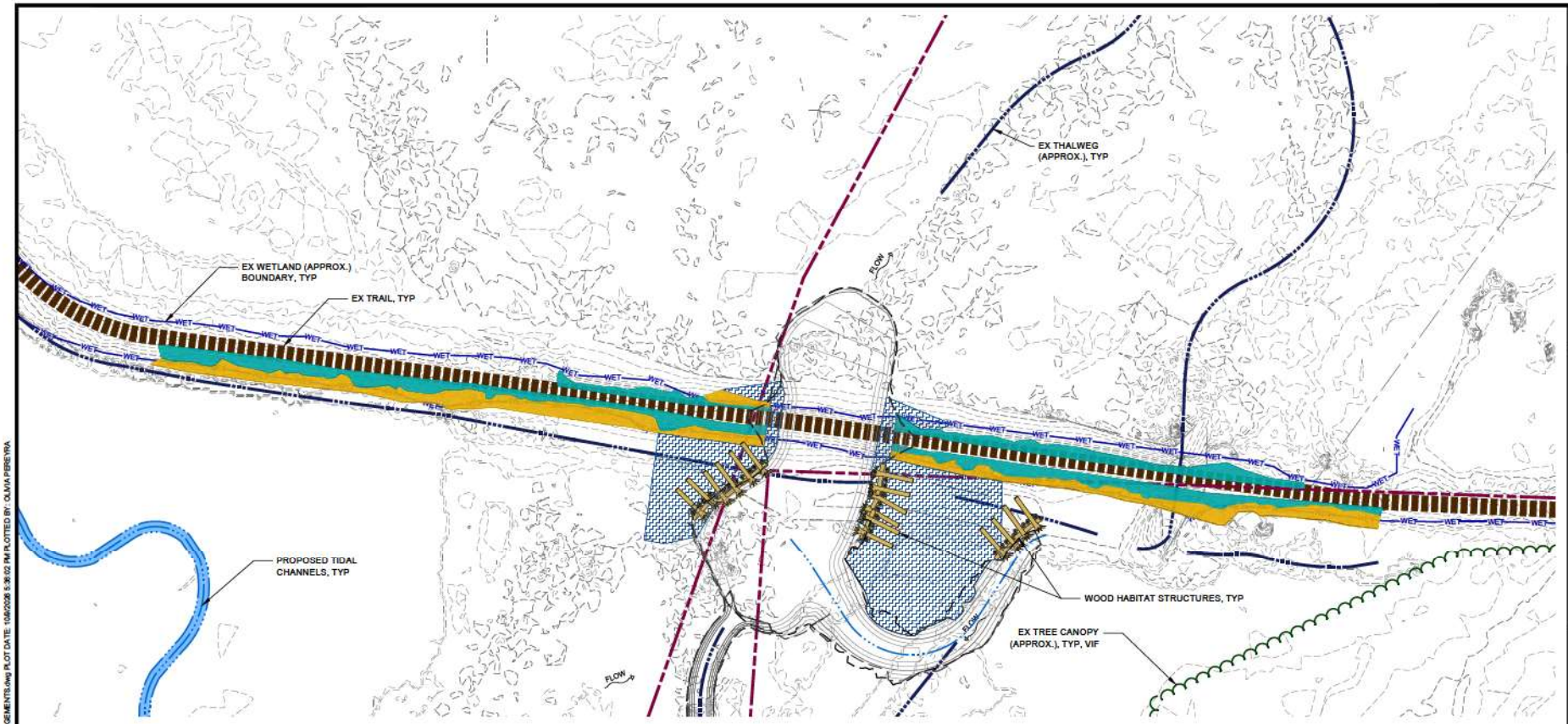
PHASE
DRAFT 90% DESIGN

SHEET TITLE
REVEGETATION SHEET OVERVIEW

SHEET NUMBER
L2.0

SHEET — OF ###

FILE P:\01 CA\2022\p-sx\202202000434.00 - TBP Sitka Sedge Tidal Wetland Restoration\DWG\L1.1 OVERVIEW.dwg PLOT DATE: 9/9/2025 5:35:22 PM PLOTTED BY: JULIA PEREYRA



NOTES

1. SEE SHEET L1.0 FOR REVEGETATION NOTES
2. PLANTING AREAS MEASURED IN ACRES FOR SEED ONLY APPLICATIONS AND IN SQUARE FEET FOR MIXED VEGETATION PLANTINGS.

REVEGETATION AREA 1

SCALE: 1" = 50'

PLANTING LEGEND

- SETBACK DIKE SHRUBS - LOWER
- SETBACK DIKE SHRUBS - UPPER
- TIDAL MARSH

1"=50' SCALE 50 25 0 50 100 FEET

N

ESA
1615 SE 3RD AVENUE, SUITE. 400
PORTLAND, OR 97214
OFFICE - 503.274.2010
WWW.ESASSOC.COM

STAMP

PRELIMINARY

NOT FOR CONSTRUCTION

CLIENT

TILLAMOOK ESTUARIES PARTNERSHIP

PROJECT NAME

SITKA SEDGE TIDAL WETLAND RESTORATION

TIERRA DEL MAR, OREGON

REVISIONS

#	DATE	DESCRIPTION

DESIGNED	T.F
DRAWN	OP
CHECKED	T.F
IN CHARGE	HLW 83662
PROJECT NUMBER	202200434
ISSUE DATE	09/11/2025

SCALE IS AS SHOWN WHEN PLOTTED TO FULL SIZE (22"x34")

1"

PHASE

DRAFT 90% DESIGN

SHEET TITLE

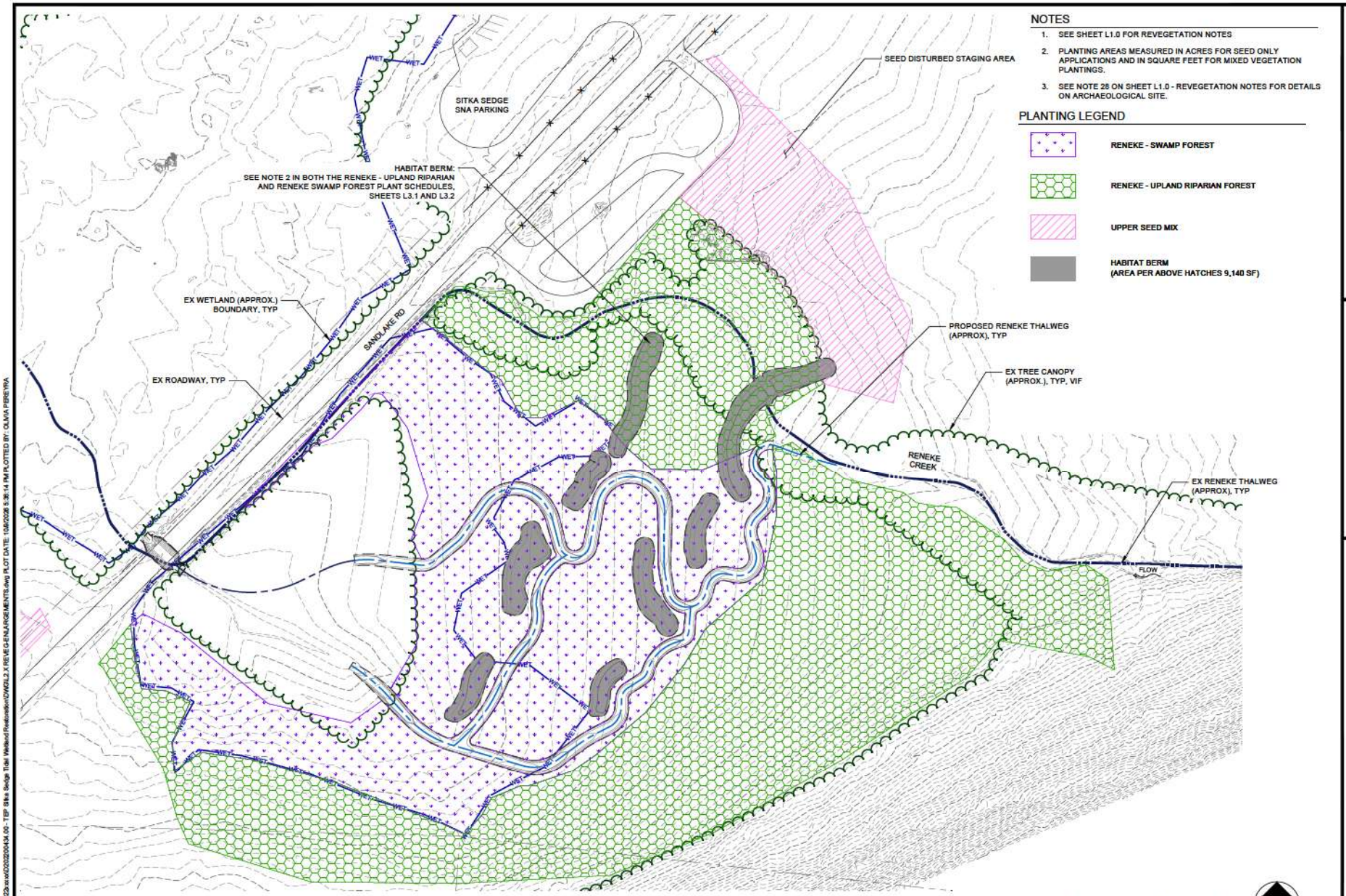
REVEGETATION AREA 1

SHEET NUMBER

L2.1

SHEET — OF ###

FILE P:\01 CA\2022\xxxx\202200434.00 - TBP Sitka Sedge Tidal Wetland Restoration\DWG\L2.X REVEG-ENLARGEMENTS.dwg PLOT DATE: 10/8/2026 5:36:02 PM PLOTTED BY: OLIVIA PEREYRA



REVEGETATION AREA 2
SCALE: 1" = 50'

1"=50' SCALE 50 25 0 50 100 FEET

NOTES

1. SEE SHEET L1.0 FOR REVEGETATION NOTES
2. PLANTING AREAS MEASURED IN ACRES FOR SEED ONLY APPLICATIONS AND IN SQUARE FEET FOR MIXED VEGETATION PLANTINGS.
3. SEE NOTE 28 ON SHEET L1.0 - REVEGETATION NOTES FOR DETAILS ON ARCHAEOLOGICAL SITE.

PLANTING LEGEND

- RENEKE - SWAMP FOREST
- RENEKE - UPLAND RIPARIAN FOREST
- UPPER SEED MIX
- HABITAT BERM (AREA PER ABOVE HATCHES 9,140 SF)

ESA
1615 SE 3RD AVENUE,
SUITE. 400
PORTLAND, OR 97214
OFFICE - 503.274.2010
WWW.ESASSOC.COM

STAMP
PRELIMINARY
-
NOT FOR CONSTRUCTION

CLIENT
TILLAMOOK ESTUARIES PARTNERSHIP

PROJECT NAME
SITKA SEDGE TIDAL WETLAND RESTORATION
TIERRA DEL MAR, OREGON

REVISIONS

#	DATE	DESCRIPTION

DESIGNED	T.F
DRAWN	OP
CHECKED	T.F
IN CHARGE	HLW 83862
PROJECT NUMBER	202200434
ISSUE DATE	09/11/2025

SCALE IS AS SHOWN WHEN PLOTTED TO FULL SIZE (22"x34")
1"

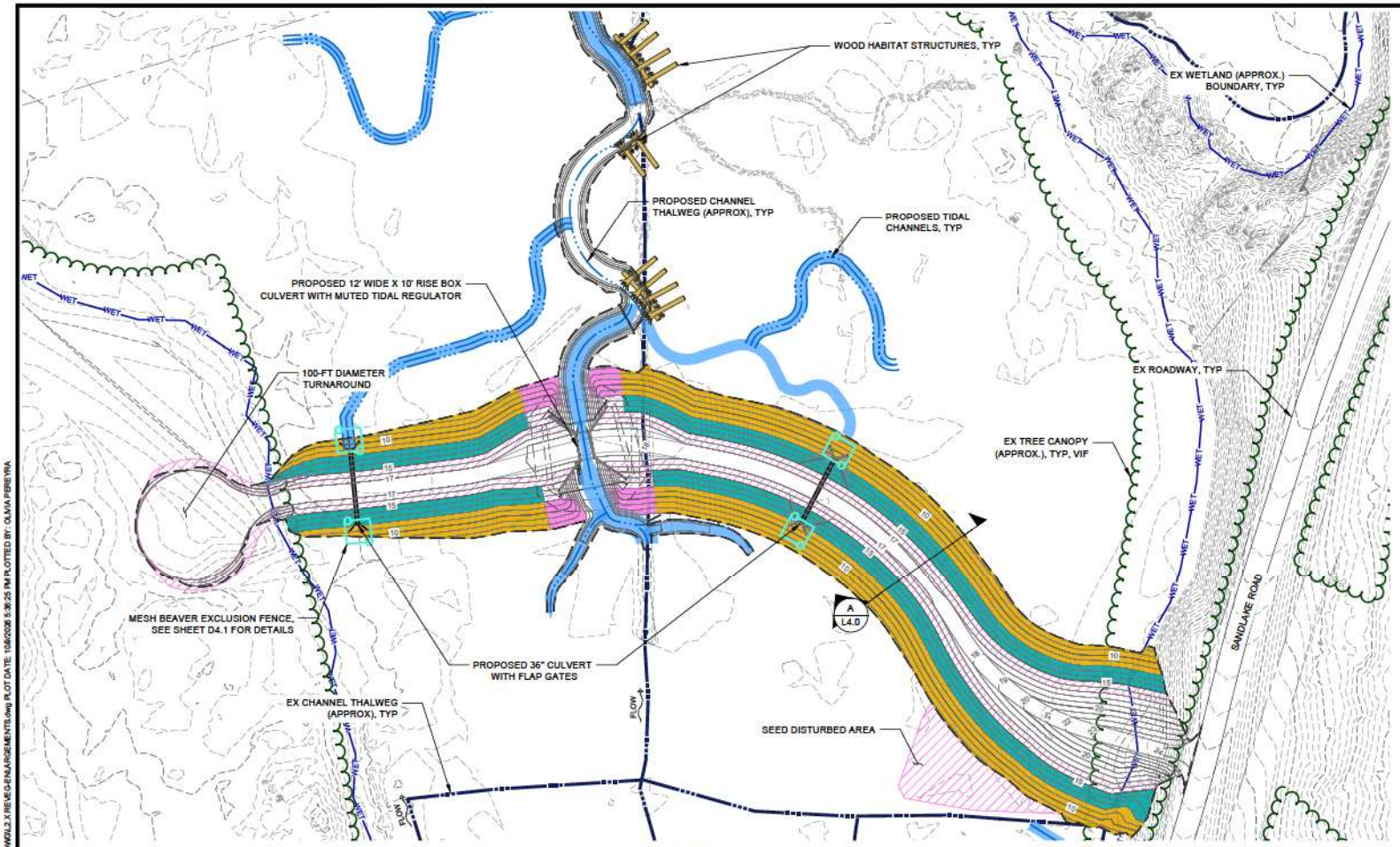
PHASE
DRAFT 90% DESIGN

SHEET TITLE
REVEGETATION AREA 2

SHEET NUMBER
L2.2

SHEET — OF ###

FILE P:\01 CA\2022\pr\pr2022020434.00 - TBP Sitka Sedge Tidal Wetland Restoration\DWG\L2.X REVEGENARGEMENTS.dwg PLOT DATE: 10/8/2026 5:36:14 PM PLOTTED BY: OLIVIA PEREYRA



REVEGETATION AREA 3

SCALE: 1" = 50'

NOTES

1. SEE SHEET L1.0 FOR REVEGETATION NOTES
2. PLANTING AREAS MEASURED IN ACRES FOR SEED ONLY APPLICATIONS AND IN SQUARE FEET FOR MIXED VEGETATION PLANTINGS.

PLANT LEGEND

- UPPER SEED MIX
- LOWER SEED MIX
- SETBACK DIKE SHRUBS - UPPER
- SETBACK DIKE SHRUBS - LOWER

1"=50' SCALE 50 25 0 50 100 FEET

N

ESA
1615 SE 3RD AVENUE, SUITE. 400
PORTLAND, OR 97214
OFFICE - 503.274.2010
WWW.ESASSOC.COM

STAMP

PRELIMINARY - NOT FOR CONSTRUCTION

CLIENT

TILLAMOOK ESTUARIES PARTNERSHIP

PROJECT NAME

SITKA SEDGE TIDAL WETLAND RESTORATION

TIERRA DEL MAR, OREGON

REVISIONS

#	DATE	DESCRIPTION

DESIGNED	T.F
DRAWN	OP
CHECKED	T.F
IN CHARGE	HLW 83862
PROJECT NUMBER	202200434
ISSUE DATE	09/11/2025

SCALE IS AS SHOWN WHEN PLOTTED TO FULL SIZE (22"x34")

1"

PHASE

DRAFT 90% DESIGN

SHEET TITLE

REVEGETATION AREA 3

SHEET NUMBER

L2.3

SHEET — OF ###

FILE P:\01 CA\2022\xrsx\202202043X.00 - TBP Sitka Sedge Tidal Wetland Restoration\DWG\L2.X REVEGENAREAS.dwg PLOT DATE: 10/8/2026 5:36:25 PM PLOTTED BY: OLIVIA PEREYRA

SETBACK DIKE SHRUBS - UPPER (12.0'-15.0' NAVD88) — AREA (SF) = 38,713

SYMBOL	TYPE	BOTANICAL NAME	COMMON NAME	STOCK TYPE	SIZE	SPACING OC	WETLAND	SALINITY TOLERANCE	DISTRIBUTION	QUANTITY
	SHRUBS	BACCHARIS PILULARIS	COYOTE BRUSH	CONTAINER	1-GAL	6' O.C.	FACU	NONE	10%	124
		GAULTHERIA SHALLON	SALAL	CONTAINER	1-GAL	6' O.C.	FACU	NONE	10%	124
		HOLODISCUS DISCOLOR	OCEANSPRAY	CONTAINER	1-GAL	6' O.C.	FACU	LOW	5%	62
		LONICERA INVOLUCRATA	TWINBERRY HONEYSUCKLE	CONTAINER	D-60	6' O.C.	FAC	MODERATE	10%	124
		POLYSTICHUM MUNITUM	SWORD FERN	CONTAINER	1-GAL	6' O.C.	FACU	NONE	10%	124
		ROSA NUTKANA	NOOTKA ROSE	CONTAINER	1-GAL	6' O.C.	FAC	LOW	10%	124
		RUBUS SPECTABILIS	SALMONBERRY	CONTAINER	D-60	6' O.C.	FAC	MODERATE	10%	124
		RUBUS URSINUS	TRAILING BLACKBERRY	CONTAINER	1-GAL	6' O.C.	FACU	NONE	10%	124
		SALIX SCOULERIANA	SCOULER'S WILLOW	STAKE		12' O.C.	FAC	LOW	15%	47
		SAMBUCUS RACEMOSA	RED ELDERBERRY	CONTAINER	1-GAL	6' O.C.	FACU	LOW	10%	124
		PLANTING AREA PREPARATION:	REMOVE TEMPORARY FILL TO -24" BELOW FG, DECOMPACT EXISTING SUBGRADE, IMPORT 18" SELECT NATIVE TOPSOIL + 6" COMPOST, THOROUGHLY MIX COMPOST INTO TOP 12"							
		SOIL:	SELECT NATIVE TOPSOIL							
		MULCH:	WOOD CHIP MULCH RINGS, SEE DETAIL							
		SEED:	UPPER SEED MIX							
		NOTES:	1. SEED MIX ONLY, NO SHRUBS, IN UPPER 10 FOOT HORIZONTAL CLEAR ZONE.							

SETBACK DIKE SHRUBS - LOWER (8.0'-12.0' NAVD88) — AREA (SF) = 45,594

SYMBOL	TYPE	BOTANICAL NAME	COMMON NAME	STOCK TYPE	SIZE	SPACING OC	WETLAND	SALINITY TOLERANCE	DISTRIBUTION	QUANTITY
	LRG SHRUBS	SALIX HOOKERIANA	HOOKER'S WILLOW	STAKE		12' O.C.	OBL	MODERATE TO HIGH	30%	110
		SALIX SITCHENSIS	SITKA WILLOW	STAKE		12' O.C.	FACW	MODERATE TO HIGH	25%	91
	SML SHRUBS	LONICERA INVOLUCRATA	TWINBERRY HONEYSUCKLE	CONTAINER	D-60	6' O.C.	FAC	MODERATE	20%	292
		ROSA PISOCARPA	SWAMP ROSE	CONTAINER	1-GAL	6' O.C.	FAC	LOW TO MODERATE	5%	73
		ROSA NUTKANA	NOOTKA ROSE	CONTAINER	1-GAL	6' O.C.	FAC	LOW	10%	146
		RUBUS SPECTABILIS	SALMONBERRY	CONTAINER	D-60	6' O.C.	FAC	MODERATE TO HIGH	10%	146
		PLANTING AREA PREPARATION:	REMOVE TEMPORARY FILL TO -24" BELOW FG, DECOMPACT EXISTING SUBGRADE, IMPORT 24" SELECT NATIVE TOPSOIL							
		SOIL:	SELECT NATIVE TOPSOIL							
		MULCH:	NONE							
		SEED:	LOWER SEED MIX, SEE SCHEDULE THIS SHEET							
		NOTES:	1. THIS PLANT PALETTE APPLIES TO THE MARSH TRANSITION ZONE, AT THE VEGETATION SHIFT BETWEEN TIDAL MARSH TO UPLAND. 2. INSTALL ROSA, LONICERA, AND RUBUS SPECIES IN THE 10-12' ELEVATION BAND ONLY, NOT AT LOWER ELEVATIONS.							

UPPER SEED MIX (12.0'-17.0' NAVD88) — AREA (AC) = 3

SYMBOL	TYPE	BOTANICAL NAME	COMMON NAME	WETLAND	DISTRIBUTION BY SEED COUNT	APPLICATION RATE
	SEED	ACHILLEA MILLEFOLIUM	COMMON YARROW	FACU	TBD	TBD
		AGROSTIS EXARATA	SPIKE BENTGRASS	FAC	TBD	TBD
		DELPHINIUM TROLLIIFOLIUM	COLUMBIAN LARKSPUR	FACU	TBD	TBD
		DESCHAMPSIA ELONGATA	SLENDER HAIRGRASS	FACW	TBD	TBD
		ELYMUS GLAUCUS	BLUE WILDRYE	FACU	TBD	TBD
		EPILOBIUM ANGUSTIFOLIUM	FIREWEED	FACU	TBD	TBD
		FESTUCA ROEMERI	ROEMER'S FESCUE	UPL	TBD	TBD
		LUPINUS RIVULARIS	STREAMBANK LUPINE	FAC	TBD	TBD
		SOLIDAGO CANADENSIS	CANADA GOLDENROD	FACU	TBD	TBD
		SYMPHYOTRICHUM SUBSPICATUM	DOUGLAS ASTER	FACU	TBD	TBD
		PLANTING AREA PREPARATION:	PER SETBACK DIKE SHRUB - UPPER SCHEDULE			
		SOIL:	SELECT NATIVE TOPSOIL			
		MULCH:	STRAW - CERTIFIED WEED-FREE			

LOWER SEED MIX (8.0'-12.0' NAVD88) — AREA (AC) = 0.08

SYMBOL	TYPE	BOTANICAL NAME	COMMON NAME	WETLAND	AT-RISK	SALINITY TOLERANCE	DISTRIBUTION BY SEED COUNT	APPLICATION RATE
	SEED	BOLBOSCHOENUS MARITIMUS	SEA CLUBRUSH	OBL		HIGH	TBD	TBD
		CAREX LYNGBYEI	LYNGBY'S SEDGE	OBL		MODERATE	TBD	TBD
		CAREX OBNUPTA	SLOUGH SEDGE	OBL		MODERATE	TBD	TBD
		DESCHAMPSIA CESPITOSA	TUFTED HAIRGRASS	FACW		LOW	TBD	TBD
		GRINDELIA INTEGRIFOLIA	OREGON GUMWEED	FACW		HIGH	TBD	TBD
		HORDEUM BRACHYANTHERUM	MEADOW BARLEY	FACW		LOW	TBD	TBD
		JUNCUS BALTICUS***	BALTIC RUSH	FACW		HIGH	TBD	TBD
		POTENTILLA ANSERINA ("S")	PACIFIC SILVERWEED	FACW		MODERATE	TBD	TBD
		STELLARIA HUMIFUSA	SALTMARSH STARWORT	OBL	YES	LOW	TBD	TBD
		PLANTING AREA PREPARATION:	TBD					
		SOIL:	NATIVE					
		MULCH:	NONE					
		NOTES:	*** COLLECT JUNCUS BALTICUS (BALTIC RUSH) SEED ON-SITE AND DELIVER TO THE SEED SUPPLIER FOR INCORPORATION INTO THE SEED MIX. THE SUPPLIER SHALL THOROUGHLY BLEND THE COLLECTED SEED INTO THE MIX TO ENSURE UNIFORM DISTRIBUTION PRIOR TO DELIVERY TO SITE FOR SEEDING.					
			("S") = SALVAGED ON-SITE AND INTERSPERSED AS DIRECTED BY OWNER'S REPRESENTATIVE.					

NOTES

1. THE PLANT PALETTES PRESENTED INCLUDE A BROAD RANGE OF SPECIES INTENDED FOR PRELIMINARY DISCUSSION. FINAL SPECIES SELECTION WILL BE REFINED FOLLOWING COORDINATION WITH THE OPRD REVIEW TEAM.
2. PLANTING AREAS AND ASSOCIATED PLANT QUANTITIES ARE SCHEMATIC AND PROVIDED FOR INITIAL PRICING PURPOSES ONLY, AND ARE SUBJECT TO REVISION DURING LATER DESIGN PHASES BASED ON FEEDBACK FROM THE OPRD REVIEW TEAM.
3. TBD = PLANT STOCK TYPES AND SIZES ARE DEPENDENT ON PREFERRED SUPPLIER AVAILABILITY. FURTHER COORDINATION WITH THE OPRD TEAM IS NEEDED TO DETERMINE PREFERRED SOURCING STRATEGIES. SEED DISTRIBUTION BY WEIGHT AND APPLICATION RATE TO BE DEVELOPED UPON FINALIZING SEED MIX.
4. AT RISK COLUMN RELATES TO THE SPECIES OUTLINED IN THE VEGETATION INVENTORY AND BOTANICAL RESOURCE ASSESSMENT FOR SITKA SEDGE STATE NATURAL AREA REPORT (SEPTEMBER 2016).

ESA
1615 SE 3RD AVENUE, SUITE. 400
PORTLAND, OR 97214
OFFICE - 503.274.2010
WWW.ESASSOC.COM

STAMP
REGISTERED PROFESSIONAL ENGINEER
OREGON
PRELIMINARY
NOT FOR CONSTRUCTION
RENEWAL DATE: 06-30-28

CLIENT
TILLAMOOK ESTUARIES PARTNERSHIP

PROJECT NAME
SITKA SEDGE TIDAL WETLAND RESTORATION
TIERRA DEL MAR, OREGON

REVISIONS

#	DATE	DESCRIPTION

DESIGNED	T.F
DRAWN	OP
CHECKED	T.F
IN CHARGE	HLW 83862
PROJECT NUMBER	202200434
ISSUE DATE	09/11/2025

SCALE IS AS SHOWN WHEN PLOTTED TO FULL SIZE (22"x34")
1"

PHASE
DRAFT 90% DESIGN

SHEET TITLE
PLANTING SCHEDULES

SHEET NUMBER
L3.0

SHEET — OF ###

FILE P:\01 CA\2022\p-xx\202202043X.00 - TBP Sitka Sedge Tidal Wetland Restoration\DWG\L2.X REVEG-SCHED.dwg PLOT DATE: 10/9/2026 5:36:37 PM PLOTTED BY: OLIVIA PEREYRA

TIDAL MARSH (6.0'-8.0' NAVD88, SUBZONES AS NOTED)										AREA (SF) = 27,944	
SYMBOL	TYPE	BOTANICAL NAME	COMMON NAME	STOCK TYPE	SPACING OC	SUBZONE	WETLAND	SALINITY TOLERANCE	AT-RISK	DISTRIBUTION	QUANTITY
	PLUGS	CAREX LYNGBYEI	LYNGBYE'S SEDGE	PLUG	1.5' O.C.	6.8-7.5'	OBL	HIGH		20%	2,868
		DESCHAMPSIA CESPITOSA	TUFTED HAIRGRASS	PLUG	1.5' O.C.	7.5-9'	FACW	HIGH		12%	1,721
		DISTICHLIS SPICATA	SALTGRASS	PLUG	1.5' O.C.	6.8-7.5'	FACW	HIGH		10%	1,434
		GRINDELIA STRICTA	OREGON GUMWEED	PLUG	1.5' O.C.	7.5-9'	FACW	MODERATE		3%	430
		HORDEUM BRACHYANTHERUM	MEADOW BARLEY	PLUG	1.5' O.C.	7.5-9'	FAC	MODERATE		3%	430
		JUNCUS BALTICUS	BALTIC RUSH	PLUG	1.5' O.C.	7.5-9'	FACW	MODERATE TO HIGH		12%	1,721
		SCHOENOPLECTUS PUNGENS	COMMON THREESQUARE	PLUG	1.5' O.C.	<6-8'	OBL	MODERATE		30%	4,302
		TRIGLOCHIN MARITIMA	SEASIDE ARROWGRASS	PLUG	1.5' O.C.	6.8-7.5'	OBL	HIGH		10%	1,434
		PLANTING AREA PREPARATION:	REMOVE TEMPORARY FILL TO -12" BELOW FG, DECOMPACT EXISTING SUBGRADE, IMPORT SELECT NATIVE TOPSOIL TO FINISH GRADE								
		SOIL:	SELECT NATIVE TOPSOIL								
		MULCH:	NONE								
		SEED:	NONE								
		NOTES:	1. SALVAGE AND INTERSPERSE TRIGLOCHIN STRIATA (STREAKED ARROWGRASS) AS DIRECTED BY THE OWNER'S REPRESENTATIVE IN SUBZONE 6.8-7.5'								

RENEKE - UPLAND RIPARIAN FOREST								AREA (SF) = 241,333	
SYMBOL	TYPE	BOTANICAL NAME	COMMON NAME	STOCK TYPE	SIZE	SPACING OC	WETLAND	DISTRIBUTION	QUANTITY
	TREES	ACER MACROPHYLLUM	BIGLEAF MAPLE	CONTAINER	1-GAL	24' O.C.	FACU	10%	55
		ALNUS RUBRA	RED ALDER	CONTAINER	1-GAL	24' O.C.	FAC	20%	111
		FRANGULA PURSHIANA	CASCARA	CONTAINER	1-GAL	24' O.C.	FAC	20%	111
		PICEA SITCHENSIS	SITKA SPRUCE	BR		24' O.C.	FAC	30%	166
		TSUGA HETEROPHYLLA	WESTERN HEMLOCK	CONTAINER	1-GAL	24' O.C.	FACU	20%	111
	LRG SHRUBS	ACER CIRCINATUM	VINE MAPLE	CONTAINER	1-GAL	12' O.C.	FAC	10%	138
		HOLODISCUS DISCOLOR	OCEANSPRAY	CONTAINER	1-GAL	12' O.C.	FACU	5%	69
		SALIX SCOULERIANA	SCOULER'S WILLOW	STAKE		12' O.C.	FAC	5%	69
		SAMBUCUS RACEMOSA	RED ELDERBERRY	CONTAINER	1-GAL	12' O.C.	FACU	10%	138
	SML SHRUBS	GAULTHERIA SHALLON	SALAL	CONTAINER	1-GAL	6' O.C.	FACU	10%	719
		LONICERA INVOLUCRATA	TWINBERRY HONEYSUCKLE	CONTAINER	D-60	6' O.C.	FAC	10%	719
		OEMLERIA CERASIFORMIS	OSOBERRY	CONTAINER	1-GAL	6' O.C.	FACU	5%	359
		RIBES LACUSTRE	PRICKLY CURRANT	CONTAINER	1-GAL	6' O.C.	FAC	10%	719
		RUBUS SPECTABILIS	SALMONBERRY	CONTAINER	D-60	6' O.C.	FAC	10%	719
		SPIRAEA DOUGLASII	DOUGLAS SPIREA	CONTAINER	1-GAL	6' O.C.	FACW	5%	359
		SYMPHORICARPOS ALBUS	COMMON SNOWBERRY	CONTAINER	D-60	6' O.C.	FACU	10%	719
		VACCINIUM OVATUM	EVERGREEN HUCKLEBERRY	CONTAINER	1-GAL	6' O.C.	FACU	5%	359
		VACCINIUM OVALIFOLIUM	OVAL-LEAF BLUEBERRY	CONTAINER	1-GAL	6' O.C.	UPL	5%	359
	TYPE	BOTANICAL NAME	COMMON NAME	WETLAND	DISTRIBUTION BY SEED COUNT		APPLICATION RATE		
	SEED	ACHILLEA MILLEFOLIUM	COMMON YARROW	FACU	TBD		TBD		
		BROMUS SITCHENSIS	ALASKA BROME	FACU	TBD		TBD		
		CLAYTONIA PERFOLIATA	MINER'S LETTUCE	FAC	TBD		TBD		
		DELPHINIUM TROLLIIFOLIUM	COLUMBIAN LARKSPUR	FACU	TBD		TBD		
		ELYMUS GLAUCUS	BLUE WILDRYE	FACU	TBD		TBD		
		FESTUCA SUBULATA	BEARDED FESCUE	FACU	TBD		TBD		
		LUPINUS RIVULARIS	STREAMBANK LUPINE	FAC	TBD		TBD		
		PLANTING AREA PREPARATION:	DISC TO 6-12" DEPTH AS FEASIBLE PER OREGON ARCHEOLOGICAL PERMIT						
		SOIL:	SELECT NATIVE TOPSOIL						
		MULCH:	WOOD CHIP MULCH RINGS, SEE DETAIL						
		SEED:	NONE						
		NOTES:	1. PLANTING AREA IS BASED ON WETLAND BOUNDARY DELINEATION AND ANTICIPATED RESTORATION AREA, ~ 16-20' NAVD88. 2. INSTALL A SELECTION OF THE ABOVE RENEKE UPLAND RIPARIAN FOREST SPECIES (FAC AND FACU) IN THE PROPOSED HABITAT BERM AREAS THAT OVERLAP THIS HATCH AREA. INSTALL FULL SUN SPECIES AT THE FRINGE. OTHER AREAS INSTALL A MIX OF SHRUBS SPECIES. OVERSEED THE ENTIRE AREA WITH SPECIFIED SEED MIX.						

NOTES

1. THE PLANT PALETTES PRESENTED INCLUDE A BROAD RANGE OF SPECIES INTENDED FOR PRELIMINARY DISCUSSION. FINAL SPECIES SELECTION WILL BE REFINED FOLLOWING COORDINATION WITH THE OPRD REVIEW TEAM.
2. PLANTING AREAS AND ASSOCIATED PLANT QUANTITIES ARE SCHEMATIC AND PROVIDED FOR INITIAL PRICING PURPOSES ONLY, AND ARE SUBJECT TO REVISION DURING LATER DESIGN PHASES BASED ON FEEDBACK FROM THE OPRD REVIEW TEAM.
3. TBD = PLANT STOCK TYPES AND SIZES ARE DEPENDENT ON PREFERRED SUPPLIER AVAILABILITY. FURTHER COORDINATION WITH THE OPRD TEAM IS NEEDED TO DETERMINE PREFERRED SOURCING STRATEGIES. SEED DISTRIBUTION BY WEIGHT AND APPLICATION RATE TO BE DEVELOPED UPON FINALIZING SEED MIX.
4. AT RISK COLUMN RELATES TO THE SPECIES OUTLINED IN THE VEGETATION INVENTORY AND BOTANICAL RESOURCE ASSESSMENT FOR SITKA SEDGE STATE NATURAL AREA REPORT (SEPTEMBER 2016).

ESA
1615 SE 3RD AVENUE, SUITE. 400
PORTLAND, OR 97214
OFFICE - 503.274.2010
WWW.ESASSOC.COM

STAMP
REGISTERED PROFESSIONAL LANDSCAPE ARCHITECT
OREGON
PRELIMINARY - NOT FOR CONSTRUCTION
RENEWAL DATE: 06-30-26

CLIENT
TILLAMOOK ESTUARIES PARTNERSHIP

PROJECT NAME
SITKA SEDGE TIDAL WETLAND RESTORATION
TIERRA DEL MAR, OREGON

REVISIONS

#	DATE	DESCRIPTION

DESIGNED	T.F
DRAWN	OP
CHECKED	T.F
IN CHARGE	HLW 83862
PROJECT NUMBER	202200434
ISSUE DATE	09/11/2025

SCALE IS AS SHOWN WHEN PLOTTED TO FULL SIZE (22"x34")
1" —

PHASE
DRAFT 90% DESIGN

SHEET TITLE
PLANTING SCHEDULES

SHEET NUMBER
L3.1

SHEET — OF ###

FILE P:\01 CA\2022\202200434.00 - TBP Sitka Sedge Tidal Wetland Restoration\DWG\L2.X REVEG-SCHED.dwg PLOT DATE: 10/9/2026 5:36:38 PM PLOTTED BY: OLIVIA PEREYRA

RENEKE - SWAMP FOREST — AREA (SF) = 150,916

SYMBOL	TYPE	BOTANICAL NAME	COMMON NAME	STOCK TYPE	SIZE	SPACING OC	WETLAND	DISTRIBUTION	QUANTITY
	TREES	ALNUS RUBRA	RED ALDER	CONTAINER	1-GAL	24' O.C.	FAC	30%	104
		FRANGULA PURSHIANA	CASCARA	CONTAINER	1-GAL	24' O.C.	FAC	15%	52
		MALUS FUSCA	OREGON CRABAPPLE	CONTAINER	1-GAL	24' O.C.	FACW	20%	69
		PICEA SITCHENSIS	SITKA SPRUCE	BR		24' O.C.	FAC	30%	104
		THUJA PLICATA	WESTERN REDCEDAR	CONTAINER	1-GAL	24' O.C.	FAC	5%	17
	LRG SHRUBS	PHYSOCARPUS CAPITATUS	PACIFIC NINEBARK	CONTAINER	D-60	12' O.C.	FAC	15%	130
		SALIX HOOKERIANA	HOOKER'S WILLOW	STAKE		12' O.C.	OBL	13%	112
		SALIX SITCHENSIS	SITKA WILLOW	STAKE		12' O.C.	FACW	12%	104
	SM. SHRUBS	CORNUS SERICEA	REDOSIER DOGWOOD	CONTAINER	D-60	6' O.C.	FACW	20%	899
		LONICERA INVOLUCRATA	TWINBERRY HONEYSUCKLE	CONTAINER	D-60	6' O.C.	FAC	20%	899
		RUBUS SPECTABILIS	SALMONBERRY	CONTAINER	D-60	6' O.C.	FAC	20%	899
	TYPE	**BOTANICAL NAME**	**COMMON NAME**	**WETLAND**	**DISTRIBUTION BY SEED COUNT**		**APPLICATION RATE**		
	SEED	CAREX OBNUPTA	SLOUGH SEDGE	OBL	TBD		TBD		
		DESCHAMPSIA CESPITOSA	TUFTED HAIRGRASS	FACW	TBD		TBD		
		GLYCERIA STRIATA	FOWL MANNAGRASS	OBL	TBD		TBD		
		JUNCUS ENSIFOLIUS	SWORDLEAF RUSH	FACW	TBD		TBD		
		HORDEUM BRACHYANTHERUM	MEADOW BARLEY	FACW	TBD		TBD		
		POTENTILLA ANSERINA	PACIFIC SILVERWEED	FACW	TBD		TBD		
		SCIRPUS MICROCARPUS	PANICLED BULRUSH	OBL	TBD		TBD		
		SYMPHYOTRICHUM SUBSPICATUM	DOUGLAS ASTER	FACW	TBD		TBD		

PLANTING AREA PREPARATION:	DISC TO 6-12" DEPTH AS FEASIBLE PER OREGON ARCHEOLOGICAL PERMIT
SOIL:	SELECT NATIVE TOPSOIL
MULCH:	NONE
SEED:	NONE
NOTES:	1. PLANTING AREA IS BASED ON WETLAND BOUNDARY DELINEATION AND ANTICIPATED RESTORATION AREA. 2. INSTALL A SELECTION OF THE ABOVE RENEKE SWAMP FOREST SPECIES (FAC AND FACW) IN THE PROPOSED HABITAT BERM AREAS THAT OVERLAP THIS HATCH AREA. INSTALL A MIX OF HERBACEOUS AND SHRUBS SPECIES AND OVERSEED THE ENTIRE AREA.

NOTES

1. THE PLANT PALETTES PRESENTED INCLUDE A BROAD RANGE OF SPECIES INTENDED FOR PRELIMINARY DISCUSSION. FINAL SPECIES SELECTION WILL BE REFINED FOLLOWING COORDINATION WITH THE OPRD REVIEW TEAM.
2. PLANTING AREAS AND ASSOCIATED PLANT QUANTITIES ARE SCHEMATIC AND PROVIDED FOR INITIAL PRICING PURPOSES ONLY, AND ARE SUBJECT TO REVISION DURING LATER DESIGN PHASES BASED ON FEEDBACK FROM THE OPRD REVIEW TEAM.
3. TBD = PLANT STOCK TYPES AND SIZES ARE DEPENDENT ON PREFERRED SUPPLIER AVAILABILITY. FURTHER COORDINATION WITH THE OPRD TEAM IS NEEDED TO DETERMINE PREFERRED SOURCING STRATEGIES. SEED DISTRIBUTION BY WEIGHT AND APPLICATION RATE TO BE DEVELOPED UPON FINALIZING SEED MIX.

ESA
1615 SE 3RD AVENUE, SUITE. 400
PORTLAND, OR 97214
OFFICE - 503.274.2010
WWW.ESASSOC.COM

STAMP
REGISTERED PROFESSIONAL LANDSCAPE ARCHITECT
OREGON
PRELIMINARY
NOT FOR CONSTRUCTION
RENEWAL DATE: 06-30-28

CLIENT
TILLAMOOK ESTUARIES PARTNERSHIP

PROJECT NAME
SITKA SEDGE TIDAL WETLAND RESTORATION
TIERRA DEL MAR, OREGON

REVISIONS

#	DATE	DESCRIPTION

DESIGNED	T.F
DRAWN	OP
CHECKED	T.F
IN CHARGE	HLW 83862
PROJECT NUMBER	202200434
ISSUE DATE	09/11/2025

SCALE IS AS SHOWN WHEN PLOTTED TO FULL SIZE (22"x34")
1"

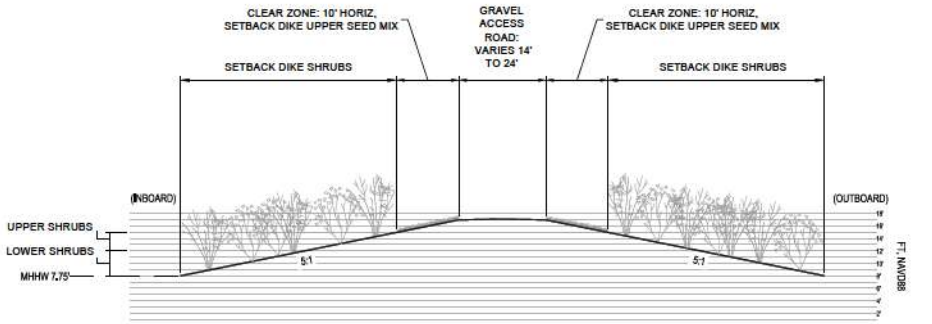
PHASE
DRAFT 90% DESIGN

SHEET TITLE
PLANTING SCHEDULES

SHEET NUMBER
L3.2

SHEET — OF ###

FILE P:\01 CA\2022\pw\02022200434.00 - TEP Sitka Sedge Tidal Wetland Restoration\DWG\L2.X REVEG-SCHED.dwg PLOT DATE: 10/9/2026 5:36:39 PM PLOTTED BY: OLIVIA PEREYRA



A / L2.3 SETBACK DIKE TYPICAL CROSS SECTION - PLANTING

SECTION

SCALE: 1"= 10'

NOTES

1. SEE SHEET L1.0 FOR REVEGETATION NOTES
2. SETBACK DIKE SEED UPPER: EL12-17'
3. SETBACK DIKE SEED LOWER: EL BELOW 12'

ESA
1615 SE 3RD AVENUE, SUITE. 400
PORTLAND, OR 97214
OFFICE - 503.274.2010
WWW.ESASSOC.COM

STAMP

PRELIMINARY
-
NOT FOR CONSTRUCTION

CLIENT

TILLAMOOK ESTUARIES PARTNERSHIP

PROJECT NAME

SITKA SEDGE TIDAL WETLAND RESTORATION

TIERRA DEL MAR, OREGON

REVISIONS

#	DATE	DESCRIPTION

DESIGNED	T.F
DRAWN	OP
CHECKED	T.F
IN CHARGE	HLW 83882
PROJECT NUMBER	202200434
ISSUE DATE	09/11/2025

SCALE IS AS SHOWN WHEN PLOTTED TO FULL SIZE (22"x34")

1"

PHASE

DRAFT 90% DESIGN

SHEET TITLE

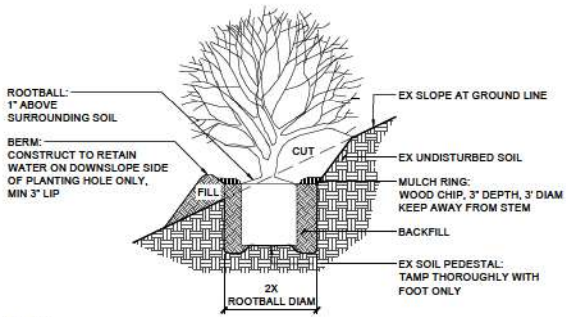
TYPICAL PLANTING PROFILES

SHEET NUMBER

L4.0

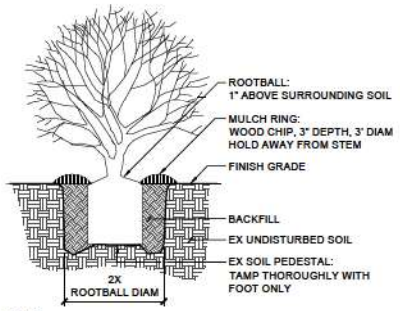
SHEET — OF ###

FILE P:\01 CA\2022\x-xx\202200434.00 - TBP Sitka Sedge Tidal Wetland Restoration\DWG\LX\PLANTING SECTIONS.dwg PLOT DATE: 10/9/2026 5:26:48 PM PLOTTED BY: OLIVIA PEREYRA



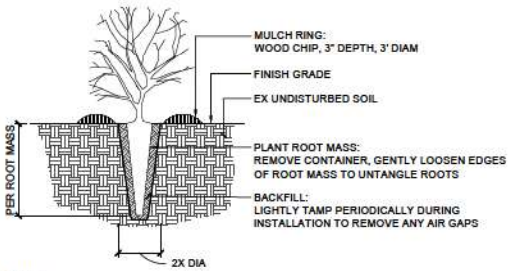
NOTES:
1. REMOVE CONTAINER, GENTLY LOOSEN TIGHT ROOT MASS AND UNTANGLE ROOTS.
2. SCARIFY SOIL ON OUTER INCH OF ROOTBALL AND SPREAD ROOTS.
3. BACKFILL SOIL AS INDICATED IN PLANT SCHEDULE.
4. WOOD CHIP MULCH TO ONLY BE ADDED ABOVE MHHW, 7.75'.

1 / - CONTAINER PLANTING - ON SLOPE
SCALE: NTS



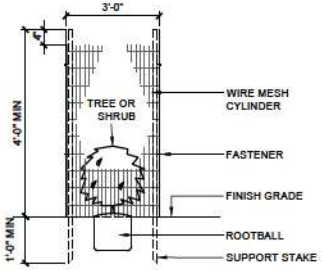
NOTES:
1. REMOVE CONTAINER, GENTLY LOOSEN TIGHT ROOT MASS AND UNTANGLE ROOTS.
2. SCARIFY SOIL ON OUTER INCH OF ROOTBALL AND SPREAD ROOTS.
3. BACKFILL SOIL AS INDICATED IN PLANT SCHEDULE.
4. WOOD CHIP MULCH TO ONLY BE ADDED ABOVE MHHW, 7.75'.

2 / - CONTAINER PLANTING - STANDARD
DETAIL NTS

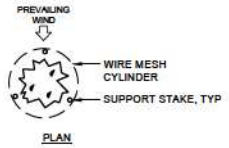


NOTES:
1. BACKFILL SOIL AS INDICATED IN PLANT SCHEDULE.
2. PLANTING HOLE TO BE SIZED PER CONTAINER SIZE AS NOTED.
3. WOOD CHIP MULCH TO ONLY BE ADDED ABOVE MHHW, 7.75'.

3 / - D-40/TB4/TP4 PLANTING
DETAIL NTS



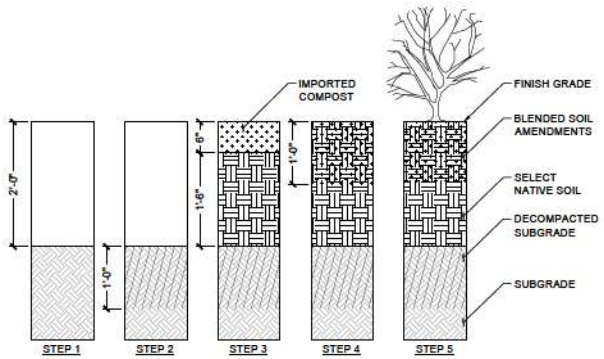
ELEVATION



PLAN

NOTES:
1. PROVIDE WEED FREE ZONE AROUND PLANTING SITE.
2. WIRE MESH CYLINDER FABRICATED FROM 14-GAUGE WWM, 2X4-INCH OPENING. WRAP SHOULD FORM A CYLINDRICAL OR OVAL ENCLOSURE. DO NOT STAPLE OR ATTACH WIRE DIRECTLY TO TRUNK OR PLANT. OVERLAP MESH JOINTS A MIN OF 6-INCHES TO ALLOW FOR ADJUST AS NEEDED DURING ESTABLISHMENT PERIOD.
3. WIRE EDGE AT TOP OF CYLINDER SHALL BE THE MANUFACTURED FINISHED EDGE. OTHER WIRE EDGES THAT ARE CUT MUST BE FREE OF SHARP POINTS.
4. SUPPORT STAKES SHALL BE METAL T-POST A MINIMUM OF 6 FEET LONG WITH MIN EMBEDMENT INTO GROUND AS SHOWN.
5. FASTENERS SHALL BE UV-RESISTANT HEAVY-DUTY ZIP TIES. TRIM ALL EXCESS ZIP TIE TRAILS FLUSH AFTER INSTALLATION.

4 / - PROTECTION CAGE
DETAIL NTS



PLANTING AREA PREPARATION SEQUENCE

STEP 1: REMOVE TEMPORARY FILL TO 24" BELOW FINISH GRADE.

STEP 2: DECOMPACT THE SUBGRADE TO DEPTH OF 12".

STEP 3: PLACE 18" OF SELECT NATIVE SOIL AND 6" OF IMPORTED COMPOST.

STEP 4: BLEND THE COMPOST UNIFORMLY ON-SITE INTO THE UPPER 12" OF SELECT NATIVE SOIL.

STEP 5: PLANT AND SEED.

5 / - SETBACK DIKE SOIL PREPARATION
DETAIL NTS

ESA
1615 SE 3RD AVENUE,
SUITE. 400
PORTLAND, OR 97214
OFFICE - 503.274.2010
WWW.ESASSOC.COM

STAMP
PRELIMINARY
-
NOT FOR
CONSTRUCTION

CLIENT
TILLAMOOK ESTUARIES
PARTNERSHIP

PROJECT NAME
SITKA SEDGE TIDAL
WETLAND RESTORATION
TIERRA DEL MAR, OREGON

REVISIONS

#	DATE	DESCRIPTION

DESIGNED	T.F
DRAWN	OP
CHECKED	T.F
IN CHARGE	HLW 83862
PROJECT NUMBER	202200434
ISSUE DATE	09/11/2025

SCALE IS AS SHOWN WHEN PLOTTED TO FULL SIZE (22"x34")
1"

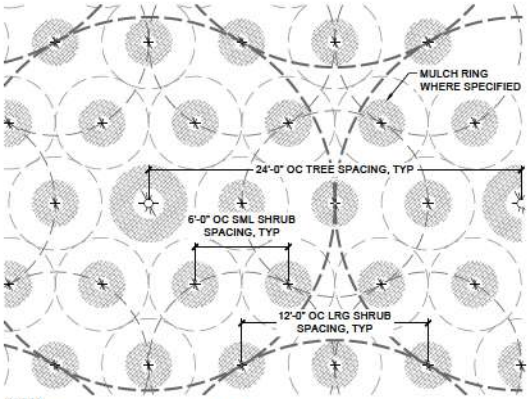
PHASE
DRAFT 90% DESIGN

SHEET TITLE
PLANTING DETAILS

SHEET NUMBER
L5.0

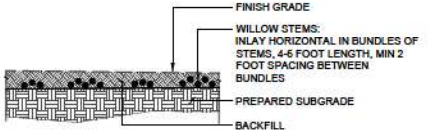
SHEET — OF ###

FILE P:\01 CA\2022\xrefs\202202043X.00 - TEP Sitka Sedge Tidal Wetland Restoration\DWG\L5.0 PLANTING DETAILS.dwg PLOT DATE: 10/9/2025 3:59:59 PM PLOTTED BY: OLIVIA PEREYRA



NOTES:
1. PLANTING LAYOUT IS CONCEPTUAL AND INTENDED TO SHOW GROUPINGS OF SIMILAR SPECIES OF PLANTS. SPACING PER PLANT SCHEDULE.
2. GROUP EACH SPECIES IN ODD-NUMBERED CLUSTERS OF 3 TO 9 EXCEPT WHERE NOTED OTHERWISE.
3. PLANT LAYOUT AND TRIANGULAR SPACING MAY BE ADJUSTED TO MEET FIELD CONDITIONS WITH THE ACCEPTANCE OF THE PROJECT LANDSCAPE ARCHITECT OR BIOLOGIST.
4. INFILL AROUND EACH TREE WITH UNDERSTORY SHRUB PLANTINGS.

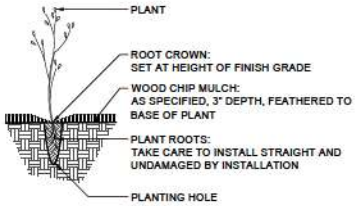
1 - TRIANGULAR PLANT SPACING
SCALE: NTS



SECTION

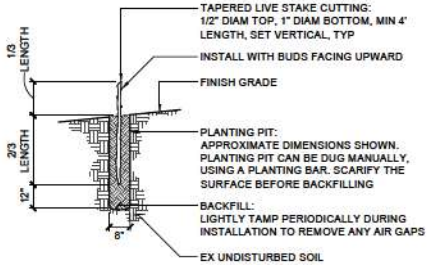
NOTES:
1. SEE PLANT SCHEDULES FOR BACKFILL SOIL MIX.
2. EACH STEM SHALL HAVE A MIN OF 3 NODES BURIED FOR ROOTING.
3. COVER WITH 2-4 INCHES OF SOIL WITH SUFFICIENT SOIL CONTACT AT EACH STEM FOR ROOT ESTABLISHMENT.
3. LIGHTLY HAND TAMP BACKFILL TO ENSURE ADEQUATE SOIL CONTACT AROUND BURIED STEMS.
4. TIE BUNDLES LOOSELY TOGETHER WITH BIODEGRADABLE TWINE IN SLOPE AREAS STEEPER THAN 8:1 GRADIENT OR IN AREAS SUBJECT TO EROSION OR WATER MOVEMENT.
5. ALIGN BUNDLES PERPENDICULAR TO THE CONTOUR WHERE LOCATED ALONG THE BANKS OF DEEP PONDS AND WATER CHANNELS.
6. INSTALL COIR FABRIC AND STAKING OVERLAY AT SURFACE IN AREAS STEEPER THAN 8:1 GRADIENT. DETAIL TO BE DEVELOPED IN LATER DESIGN PHASES.

2 - HORIZONTAL PLANTING
DETAIL NTS



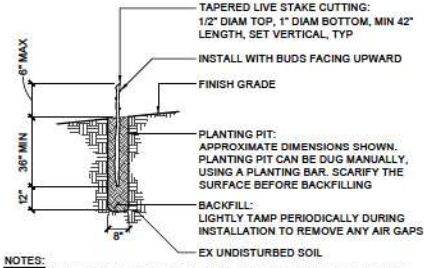
NOTES:
1. OPEN PLANTING HOLE LARGE ENOUGH TO ACCOMMODATE ROOTS. COVER ROOTS LIGHTLY WITH BACKFILL SOIL MIX, LIGHTLY TAMP PERIODICALLY DURING INSTALLATION TO REMOVE ANY AIR GAPS.
2. WOOD CHIP MULCH TO ONLY BE ADDED ABOVE MHHW, 7.75'.

3 - PLUG OR BAREROOT PLANTING
DETAIL SCALE: NTS



NOTES:
1. BACKFILL SOIL PER PLANT SCHEDULE, PRE-MIXED PRIOR TO BACKFILL.

4 - LIVE STAKE PLANTING - STANDARD
DETAIL NTS



NOTES:
1. BACKFILL SOIL PER PLANT SCHEDULE, PRE-MIXED PRIOR TO BACKFILL.

5 - LIVE STAKE PLANTING - SHORT
DETAIL NTS

ESA
1615 SE 3RD AVENUE,
SUITE. 400
PORTLAND, OR 97214
OFFICE - 503.274.2010
WWW.ESASSOC.COM

STAMP
PRELIMINARY
-
NOT FOR CONSTRUCTION

CLIENT
TILLAMOOK ESTUARIES PARTNERSHIP

PROJECT NAME
SITKA SEDGE TIDAL WETLAND RESTORATION
TIERRA DEL MAR, OREGON

REVISIONS

#	DATE	DESCRIPTION

DESIGNED	T.F
DRAWN	OP
CHECKED	T.F
IN CHARGE	HLW 83862
PROJECT NUMBER	202200434
ISSUE DATE	09/11/2025

SCALE IS AS SHOWN WHEN PLOTTED TO FULL SIZE (22"x34")
1"

PHASE
DRAFT 90% DESIGN

SHEET TITLE
PLANTING DETAILS

SHEET NUMBER
L5.1

SHEET — OF ###

FILE P:\01 CA\2022\x-xx\202202043A.00 - TBP Sitka Sedge Tidal Wetland Restoration\DWG\L5.0 PLANTING DETAILS.dwg PLOT DATE: 10/9/2025 3:37:02 PM PLOTTED BY: OLIVIA PEREYRA

STRUCTURAL GENERAL NOTES – APPLICABLE TO ALL CONSTRUCTION UNLESS OTHERWISE NOTED ON THE PLANS

A. DESIGN SCOPE BY PRECISION STRUCTURAL ENGINEERING (PSE)

1. Design Shown on drawings by PSE is for the following items.
   a. Concrete culvert and foundation for new flood control gates.
2. Design Shown on PSE drawings does not include: finishes, architectural items, windows, doors, moisture barriers, water proofing, mechanical units, plumbing, or electrical items.

B. GENERAL REQUIREMENT:

1. Furnish all labor, materials, and equipment necessary to complete the work shown or inferred by these drawings.
2. Where construction details are not shown or noted for any part of the work, such details shall be the same as for similar work shown on the drawings.
3. Notes and details on the drawings take precedence over the general notes and typical details in case of conflict.
4. Provide manufacturer's approved product evaluation reports (ICC reports) and a list of all proposed substitutions to the Engineer for review and written approval before fabrication.
5. Pipes, ducts, sleeves, chases, etc. shall not be placed in slabs, beams, or walls unless specifically shown or noted nor shall any structural member be cut for pipe, ducts, etc., unless specifically shown. Obtain prior written approval for installation of any additional holes, ducts, etc.
6. Locate and protect underground or concealed conduit, plumbing or other utilities where new work is being performed.
7. The contract drawings and specifications represent the finished structure and do not indicate methods, procedures or sequence of construction. The contractor shall take necessary precautions to maintain and insure the integrity of the new and any existing structures during construction. The design stresses shall not be exceeded during construction based on the age of each element. Neither the owner nor Architect/Engineer will enforce safety measure regulations. Contractor shall design, construct and maintain all safety devices, including shoring and bracing for the new and any existing structures and shall be solely responsible for conforming to all local, state and federal safety and health standards, laws and regulations.
8. Obtain prior written approval for any changes to the drawings.
9. The contractor shall review and compare the structural drawings with all other Construction Documents, such as Architectural, Mechanical and Electrical drawings, specifications, etc. Do not scale drawings. The contractor shall verify dimensions, elevations and all information. Report, in writing, any inconsistencies, errors, or omissions to the Architect/Engineer of record before proceeding with the work.
10. All existing constructions are shown schematic only. Contractor is responsible to verify actual conditions and allow for them in his bid. Notify the Architect/Engineer, in writing, in case of any discrepancy between actual conditions and what is shown on the structural drawings before proceeding with the work.
11. See Architectural, Mechanical, Electrical and other drawings for embedded items.
12. Shop drawings:
    a. Three copies, minimum, of the shop drawings shall be submitted.
    b. Shop drawings shall be drawn to scale and be stamped and signed by a licensed engineer hired by the contractor.
    c. Prior to submittals, the general contractor shall review all submittals for conformance with the Construction Documents and shall stamp submittals as being "Reviewed for Conformance".
    d. Any detail on the shop drawing that deviates from the Construction Documents shall be marked with the note "This is a change"
    e. Shop drawing submittals processed by the Structural Engineer are not Change Orders.
    f. Shop drawings shall be submitted to the Architect/Engineer prior to fabrication and construction regarding all structural items including:
       - Concrete and masonry reinforcement, drawings shall conform to ACI 315 and ACI 318, the latest edition used by the Local Building Department.
       - Structural steel, drawings to conform to AISC.
    g. Shop drawings or calculations submitted for review that require re-sub-mittal for re-review, as determined by the Structural Engineer, shall be billed hourly to the general contractor. Re-review will not proceed without written approval from the general contractor for additional engineering services.
13. Submit seismic anchorage calculations stamped by a licensed Professional Engineer for all equipment and components weighing more than 400 lb.
14. Contractor shall provide an allowance equal to 2% of the bid for wood connections, structural steel, and reinforcing steel for field use as directed by the Structural Engineer (Labor for placing and fabrication to be included). Unused amount to revert to the owner upon completion of the project.
15. Submit structural drawings signed and sealed by a professional Engineer licensed in the State where the project is located for any structural member needed for this project that is not designed by P.S.E.
16. Any substitutions for structural members, hardware or details shall be reviewed by the Architect and Structural Engineer. Such review will be billed on a time and materials basis to the General Contractor with no guarantee that the substitution will be allowed.
17. All communication shall be in writing. No verbal communications, decisions, instructions or approvals shall be valid.

C. CODE AND LOADS:

1. All design, material, and construction work for this project shall conform to the 2022 Oregon Structural Specialty Code (OSSC) based on the 2021 International Building Code (IBC).
2. Design parameters.
   a. Floor Live Load = 250 psf.
   b. Floor Dead Load = 15 psf.
   c. Roof Live Load = n/a.
   d. Roof dead load 15 psf.
   e. Ground Snow Load, Pg = n/a.
   f. Flat Roof snow load = n/a.
   g. Snow Exposure Factor, Ce = n/a.
   h. Snow Load Importance Factor, I = n/a.
   i. Thermal Factor, Ct = n/a.
   j. Basic Wind Speed (3 second gust) = n/a.
   k. Risk Category = II
   l. Wind Exposure = n/a.
   m. Internal Pressure Coefficient = n/a.
   n. Components and Cladding studs = n/a.
   o. Seismic Importance Factor, Ie = 1.0
   p. Ss = 1.337
   q. S1 = 0.707
   r. Site Class = E
   s. Sms = 1.604
   t. Sm1 = 1.202
   u. Sds = 1.070
   v. Sd1 = 0.801
   w. Seismic Design Category = D
   x. Basic Seismic Force Resisting System = Special reinforced concrete shear walls
   y. Design Base Shear = 0.214 * W
   z. Approximate Fundamental Period, T = 0.306
   aa. Response Modification Factor, R = 5
   bb. Analysis Procedure Used = Equivalent Lateral Force Procedure

D. TESTING:

The owner/contractor shall retain an independent testing laboratory to test the quality of:
   a. Soil or fill material supporting footings and slab-on-grade.
   b. Concrete.
   c. All other material used in this project as required by the Engineer.
   d. A copy of test results shall be sent to the Engineer of Record.

E. INSPECTION:

The owner shall employ one or more qualified inspectors to provide inspections during construction in according with section 1701 of the above code. The inspector shall be certified by the building official to perform the type of inspection specified. Inspection shall be provided for:
   a. Foundation excavation.
   b. Reinforcement placement, prior to closing the forms and delivery of concrete.
   c. Concrete placement.
   d. Epoxy filled anchor bolts and/or rebar.
   e. Field welding.
   f. During preparation and taking of test specimens.
   g. See other sections of these notes for more required inspections.

Note: All discrepancies shall be brought to the immediate attention of the contractor for correction; then if not corrected, to the building official and to the Engineer in writing. The inspector shall furnish an inspection report to the building official and to the Engineer/Architect of Record.

G. CONTROL AND EXPANSION JOINTS:

1. All joints in walls and slab-on-grade shall be located as shown on drawing or as approved by the Architect/Engineer. Sealant shall be installed in accordance with specifications and approved by the Architect/Engineer.

H. FOUNDATION

1. A Geotechnical Report was prepared by Shannon & Wilson, 3990 Collins Way, Suite 100, Lake Oswego, OR 97035. The contractor shall read and follow the recommendations in this report. Contractor shall keep a copy of this report on site at all times during construction.
2. Foundation are designed based on a net allowable bearing capacity of 2000 psf. If the stated bearing capacity, as recommended by the geotechnical engineer, is not encountered, the contractor shall notify the Engineer, in writing.
3. Footing/slab shall bear on a new granular stabilization pad capable of supporting the above or the required bearing capacity as described in the Geotechnical report.
4. Soft soil shall be removed and replaced with lean concrete or competent material approved by the Geotechnical Engineer.
5. All excavation, soil removal, proof rolling and/or compaction shall be observed and tested by the Geotechnical Engineer. Observation and compaction reports shall be sent to the Engineer and building official.
6. Excavation shall be properly backfilled. Back fill for walls shall be pervious material acceptable to the Geotechnical Engineer. Do not place back fill behind walls before they have attained their design strength.
7. Reference the specifications for additional requirements.

F. CONCRETE:

1. All concrete work shall conform to the American Concrete Institute's Standard Building Code Requirements for Structural Concrete, ACI 318, the current edition specified in the IBC and used by the local building department. Place concrete in accordance with ACI 301, the latest edition used by the Local Building Department.
2. Materials shall comply with:
   a) Cement, ASTM C150 Type I or II.
   b) Aggregate, ASTM C33.
   c) Water, Potable.
   d) Anchor bolts ASTM A—307 headed machine bolts.
3. Concrete shall develop 28—days minimum compressive strengths of 4000 PSI.
4. All exposed exterior concrete shall contain the proper admixtures to obtain 5% to 7% Air Entrainment.
5. Contractor shall submit three copies of the mix design for review. Concrete mixes shall be designed and tested by a testing laboratory. The mix design shall establish the quantity of all ingredients including water to produce concrete of the required strengths, slump and durability.
6. Reinforcing Steel:
   a. All reinforcing steel shall be ASTM A615 Grade 60.
   b. Where welding of rebar is required by these drawings, steel shall be pre-heated or steel grade 60—W, ASTMA706 shall be used.
   c. All welded wire mesh reinforcing shall be ASTM A185 cold drawn wire. Lap 1 mesh spacing minimum at all splices.
   d. Bars marked continuous and all vertical steel shall be lapped 48 bar diameters at splices UON on the drawings.
   e. Vertical bars shall be doweled to supporting members with the same size and spacing of reinforcement shown in the drawing or general notes.
   f. All reinforcing in grade beams shall be continuous. Lap top steel at mid-span. Lap bottom steel at supports.
   g. Splices shall be 48 bar diameters or 30 inches whichever is greater UON. Stagger bottom splices at least 5'—0" from splices in other bottom reinforcement, stagger splices for top reinforcement similarly.
   h. Clear distance between parallel reinforcement in a layer shall not be less than 1—1/2 times the diameter of the reinforcement, or 1—1/3 times maximum size aggregate, nor less than 1—1/2".
   i. Tack welding, welding, heating or cutting of bars is not permitted UON.
   j. All reinforcing bars shall be in the correct place, tied and secured prior to concrete placement. Use chairs, spacers and sand plates as required.
7. Execution:
   a. All concrete is reinforced concrete unless specifically called out as "Unreinforced". Reinforce all concrete not otherwise shown with same steel as in similar sections or areas.
   b. At all openings in concrete walls and slabs, add 2—# 5 bars (opening dimension plus 60 bar diameters long) at each of the four sides and 2 — #5 X 5'—0" long diagonally at each of the four corners.
8. Standard concrete cover of bars unless otherwise noted shall be:
   a. Where earth formed: 3 inches.
   b. Board formed that permanently exposed to earth or weather: 2 inches.
   c. Slabs not exposed to earth or weather: 1 inch.
   d. Beams and columns not exposed to earth or weather: 1—1/2 inches.
   e. Others: 2 inches.
9. Apply sealant to concrete surfaces exposed to repeated wet/dry conditions, i.e. culvert floor and walls.
10. Water/Cement ratio shall not exceed 0.4
11. All concrete shall be consolidated with mechanical vibrators.
12. The unit of pour for foundation walls and footings shall not exceed 80 linear feet in any one direction. Construction joints shall be doweled and keyed.
13. Construction joints in beams, slabs, and grade beams shall occur at middle one third of the span. Provide (1) 2X4 inch horizontal key per foot of depth at construction joint. Location of joints to be reviewed by the Engineer. Wait 48 hours between placements.
14. Location of control, expansion and construction joints shall be approved by the Architect/Engineer.
15. Coordinate concrete work with architectural drawings and specifications for any architectural finished concrete, recessed area, embedded items, or special control joint patterns.
16. No Aluminum or galvanized steel items shall be embedded in concrete.
17. All exposed edges not in contact with masonry mortar shall be beveled 3/4 inch.
18. All concrete work shall be cured and maintained above 50 degrees Fahrenheit for at least seven days according to the Standard Practice for Curing Concrete, ACI 318 and ACI 308R—01 Guide to Curing Concrete —latest edition, and as approved by the Engineer. Contractor shall submit for approval to the engineer of record method of curing for each concrete element before construction.
19. When air temperature is above 80 degrees Fahrenheit, Hot Weather Concreting, ACI 305R shall apply. When the average air temperature is below 40 degree Fahrenheit, Cold Weather Concreting, ACI 306R shall apply.
20. Reference the specifications for additional requirements.
21. Use concrete additives to:
   a. Reduce water to cementitious material ratio to 0.4 or less
   b. Reduce permeability of concrete by use of crystalline cementitious material such as BASF Rheomac 300D or equivalent by manufacturer recommendation
   c. Inhibit permeability
   d. Maintain slump of 5" +/— 2" by use of high range water reducer or super plasticizer.

Submit manufacturer data for approval. Concrete supplier to submit trial batch plastic and hard properties at minimum 7 day compressive strength.

22. Supplementary Cementitious Materials
   a. Fly ash or slag cement shall be used at 20% of cementitious materials
   b. Silica Fume shall be used at a minimum of 4% by cementitious or 25lb per cubic yards, whichever is greater

I. ABBREVIATIONS:

AB	ANCHOR BOLT	EQ	EQUAL	LL	LIVE LOAD	REF	RAFTERS
ADDL	ADDITIONAL	ES	EACH SIDE	MATL	MATERIAL	SGN	STRUCTURAL GENERAL NOTES
ALT	ALTERNATE	EW	EACH WAY	MAX	MAXIMUM	SEP	SEPARATION
APA	AMERICAN PLYWOOD ASSOCIATION	FA	FRAMING ANCHOR	MB	MACHINE BOLT	SIM	SIMILAR
ARCH	ARCHITECTURAL	FD	FROST DEPTH	MFR	MANUFACTURER	SN	SHEAR NAIL
B	BOTTOM	FEN	FLOOR EDGE NAILING	MIN.	MINIMUM	SNL	SNOW LOAD
BLKG	BLOCKING	FF	FINISHED FLOOR	MTL	METAL	SPEC	SPECIFICATION
BN	BOUNDARY NAIL	FN	FIELD/INTERMEDIATE NAILING	NO.	NUMBER	STD	STANDARD
BOF	BOTTOM OF FOOTING	FS	FAR SIDE	NS	NEAR SIDE	STGR	STAGGER
CBC	CALIFORNIA BUILDING CODE	FTG	FOOTING	NTS	NOT TO SCALE	STIFF	STIFFENERS
CJ	CONSTRUCTION JOINT OR CONTROL JOINT	GALV	GALVANIZED	OC	ON CENTER	T	TOP
		GC	GENERAL CONTRACTOR	OD	OUTSIDE DIAMETER	TB	TOP & BOTTOM
CL	CENTER LINE	GIR	GEOTECHNICAL INVESTIGATION REPORT	ODOT	OREGON DEPT. OF TRANSP.	TD	TYPICAL DETAILS
CLR	CLEAR			OH	OPPOSITE HAND	TG	TONGUE & GROOVE
CONN	CONNECTION	GLB	GLUED LAMINATED BEAM	OSB	ORIENTED STRAND BOARD	THK	THICKNESS/THICK
CONT	CONTINUOUS	GR	GRADE	OSSC	OREGON STRUCTURAL SPECIALTY CODE	TN	TOENAIL
DBL	DOUBLE	HDR	HEADER			TOB	TOP OF BEAM
DIM	DIMENSION	HGR	HANGER	OSV	ON SITE VERIFY	TOF	TOP OF FOOTING
DL	DEAD LOAD	HORIZ	HORIZONTAL	OTOB	OUT TO OUT OF BEARING	TOW	TOP OF WALL
DO	DITTO (REPEAT)	HSH	HORIZONTALLY SLOTTED HOLES	PERP	PERPENDICULAR	TYP	TYPICAL
DWG	DRAWING	ICBO	INTERNATIONAL CONFERENCE OF BUILDING OFFICIALS	PL	PLATE	UBC	UNIFORM BUILDING CODE
DWL	DOWEL			PLF	POUND PER LINEAR FOOT	UON	UNLESS OTHERWISE NOTED
E	EXISTING	ID	INSIDE DIAMETER	PSE	PRECISION STRUCTURAL ENGINEERING	VERT	VERTICAL
EA	EACH	INT	INTERIOR			VSH	VERTICAL SLOTTED HOLES
EF	EACH FACE	JT	JOINT	PT	PRESSURE TREATED	WD	WOOD
EL.	ELEVATION	LDGR	LEDGER	PW	PLATE WASHER	WEN	WALL EDGE NAILING
EMBED	EMBEDMENT	LGST	LIGHT GAUGE STEEL, COLD-FORMED STEEL	REF	REFERENCE	WWF	WELDED WIRE FABRIC
EN	EDGE NAIL			REN	ROOF EDGE NAILING	W/	WITH
EOR	ENGINEER OF RECORD			REINF	REINFORCEMENT	W/O	WITHOUT

SHEET INDEX:		REV.
S1.0	GENERAL STRUCTURAL NOTES	
S1.1	SCHEDULE OF OBSERVATION & SPECIAL INSPECTION	
S2.0	CULVERT FOUNDATION PLAN	
S2.1	CULVERT CROSS SECTIONS & DETAILS	
S2.2	WING WALL DETAILS	

Structural details for this project are for illustration only. They are not drawn to scale unless noted otherwise. Contractor must verify all dimensions before fabrication or construction. Do not scale drawings.

PSE CONSULTING ENGINEERS, INC.
250 Main St. Suite A
Klamath Falls, OR 97601
www.structure1.com
Phone: (541) 850-6300
Info@structure1.com

Project:
Sitka Sedge Tidal Wetland Restoration
Tierra Del Mar, OR

Owner:
Tillamook Estuaries Partnership

Client:
ESA Environmental Science Assoc.

Stamp:
PRELIMINARY PROGRESS SET NOT FOR BID OR CONSTRUCTION

REVISION TABLE		
MARK	DESCRIPTION	DATE

DRAWN BY: R.H.
DESIGNED BY: R.H.
CHECKED BY: R.H.
Date: 09-21-2026

Project #:
ESA Env. 224-001

Title:
GENERAL STRUCTURAL NOTES

Page:
S1.0

THIS DOCUMENTS, IDEAS AND DESIGNS INCORPORATED HEREIN, IS THE PROPERTY OF PSE CONSULTING ENGINEERS, INC. AND IS NOT TO BE USED IN WHOLE OR PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN PERMISSION OF PSE CONSULTING ENGINEERS, INC.

STRUCTURAL GENERAL NOTES – APPLICABLE TO ALL CONSTRUCTION UNLESS OTHERWISE NOTED ON THE PLANS

J. STRUCTURAL OBSERVATION:

1. Structural observation is required for the structural system in accordance with IBC Chapter 17 . Structural observation is the visual observation of the elements and connections of the structural system at significant construction stages and the completed structure for general conformance to the approved plans and specifications. Structural observation does not waive the responsibility for the special inspection or the inspections required of building inspector or the deputy inspector.
2. The owner shall employ a civil or structural engineer to perform the structural observation. the engineer shall be registered or licensed in the state where the building is located, called structural observer. The building department recommends the use of the engineer or architect responsible for the structural design when they are independent of the contractor.
3. The structural observer shall provide evidence of employment by the owner. A letter from the owner or a copy of the agreement for service shall be sent to the building inspector before the first site visit. The structural observer shall also inform the owner of the requirements for a pre–construction meeting.
4. The owner or owner's representative shall coordinate and call for a meeting between the engineer responsible for the finestructural design, structural observer, contractor, affected subcontractors and deputy inspectors. The purpose of the meeting shall be identify the major structural elements and connections that affect the vertical and lateral load systems of the structure and to review scheduling of the required observations. A record of the meeting shall be included in the first observation report submitted to the building inspector.
5. The structural observer shall perform site visits at those steps in the progress of the work that allow for the correction of deficiencies without substantial effort or uncovering the work involved. At minimum the following significant construction stages require a site visit and an observation report from the structural observer:

Structural Observation (only checked items are required)		
Firm or individual to be responsible for the Structural Observation Company Name:..... Phone:(...) ...–....	Licensed Engineer Name: ..... Registration:.....	
Construction Activity	Significant Construction Stage	Date Completed
– Soil/ Excavation	As many time as needed by the Geotechnical Engineer	
– Foundation		
☒ Mat Foundation	As many times as need by the Structural observer, min 5 times	
☒ Sheet Piles	As needed by the geotechnical engineer and structural observer	
☒ Stepping/ Retaining foundation,	One time for each retaining wall	
☐ Others:		
– Wall		
☒ Concrete	One time for each wat	
– Diaphragm		
☒ Concrete	As many times as need by the structural observer, min 5 times	

Notification: 48 hours before observation, delinquent notification may require demolition of covering material to facilitate observation.

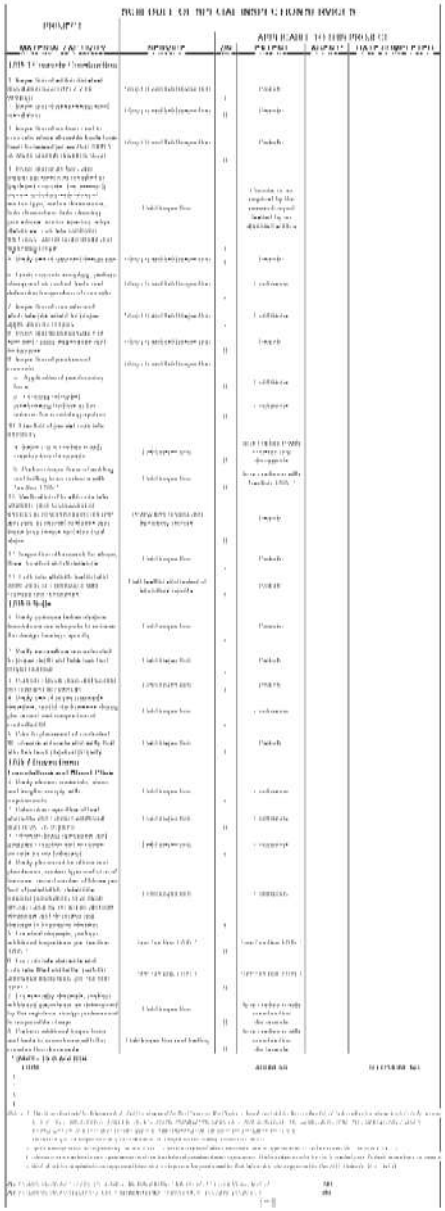
Declaration by the owner:
I, the owner of the project, declare that the above listed firm or individual is hired by me to be the structural observer.

6. The structural observer shall prepare a report on the building department approved form for each significant stage of construction observed. The original of the observation report shall be sent to the building inspector's office and shall be signed and sealed (seal stamp) by the responsible structural observer.
7. A final observation report must be submitted which shows that all observed deficiencies were resolved and the structural system generally conforms with the approved plans and specifications. The department of building and safety will not accept the structural work without this final observation report and the correction of specified deficiencies noted during normal building and deputy inspection.
8. All copies of observation reports shall be sent to:
   a. Engineer of Record,
   b. Architect of Record.
9. When the owner elects to change the structural observer of record, the owner shall:
   a. Notify the building inspector in writing before the next inspection,
   b. Cot at additional Pre–construction meeting, and,
   c. Furnish the replacement structural observer with a copy of all previous observation reports.

The replacement structural observer shall approve the correction of the original observed deficiencies unless otherwise approved by plan check supervisor. The policy of the department shall be to correct any properly noted deficiencies without consideration of their source.

10. The engineer or architect of record shall develop all changes relating to the structural system. The building department shall review and approve all changes to the approved plans and specifications.

Note:
More site visits, for structural observation, than shown above may be needed by the structural observer or when deficiencies are observed.



Structural details for this project are for illustration only. They are not drawn to scale unless noted otherwise. Contractor must verify all dimensions before fabrication or construction. Do not scale drawings.

ralph.hall 9/21/2026 2:07 PM Sitka Sedge Tidegate - 2026-09-21.dwg

PSE CONSULTING ENGINEERS, INC.
250 Main St. Suite A
Klamath Falls, OR 97601
www.structure1.com
Phone: (541) 850-6300
info@structure1.com

Project:
Sitka Sedge Tidal Wetland Restoration
Tierra Del Mar, OR

Owner:
Tillamook Estuaries Partnership

Client:
ESA Environmental Science Assoc.

Stamp:
PRELIMINARY PROGRESS SET NOT FOR BID OR CONSTRUCTION

MARK	REVISION TABLE DESCRIPTION	DATE

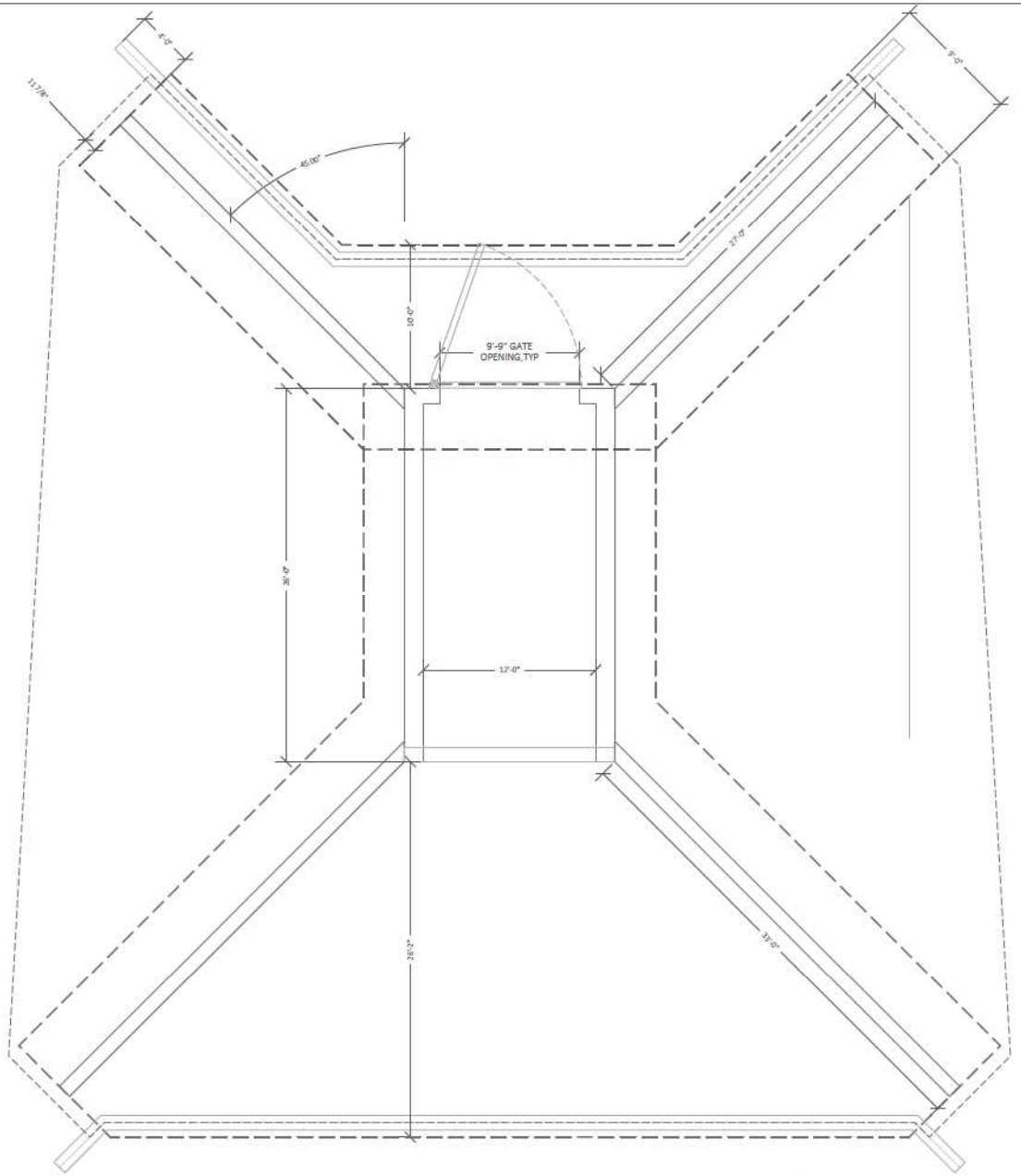
DRAWN BY: R.H.
DESIGNED BY: R.H.
CHECKED BY: R.H.
Date: 09-21-2026

Project #:
ESA Env. 224-001

Title:
SCHEDULE OF OBSERVATION & SPECIAL INSPECTION

Page:
S1.1

THIS DOCUMENTS, IDEAS AND DESIGNS INCORPORATED HEREIN, IS THE PROPERTY OF PSE CONSULTING ENGINEERS, INC. AND IS NOT TO BE USED IN WHOLE OR PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN PERMISSION OF PSE CONSULTING ENGINEERS, INC.



Structural details for this project are for illustration only. They are not drawn to scale unless noted otherwise. Contractor must verify all dimensions before fabrication or construction. Do not scale drawings.

PSE CONSULTING ENGINEERS, INC.
250 Main St. Suite A
Klamath Falls, OR 97601
www.structure1.com
Phone: (541) 850-6300
info@structure1.com

Project:
Sitka Sedge Tidal Wetland Restoration
Tierra Del Mar, OR

Owner:
Tillamook Estuaries Partnership

Client:
ESA Environmental Science Assoc.

Stamp:
PRELIMINARY PROGRESS SET NOT FOR BID OR CONSTRUCTION

MARK	DESCRIPTION	DATE

REVISION TABLE

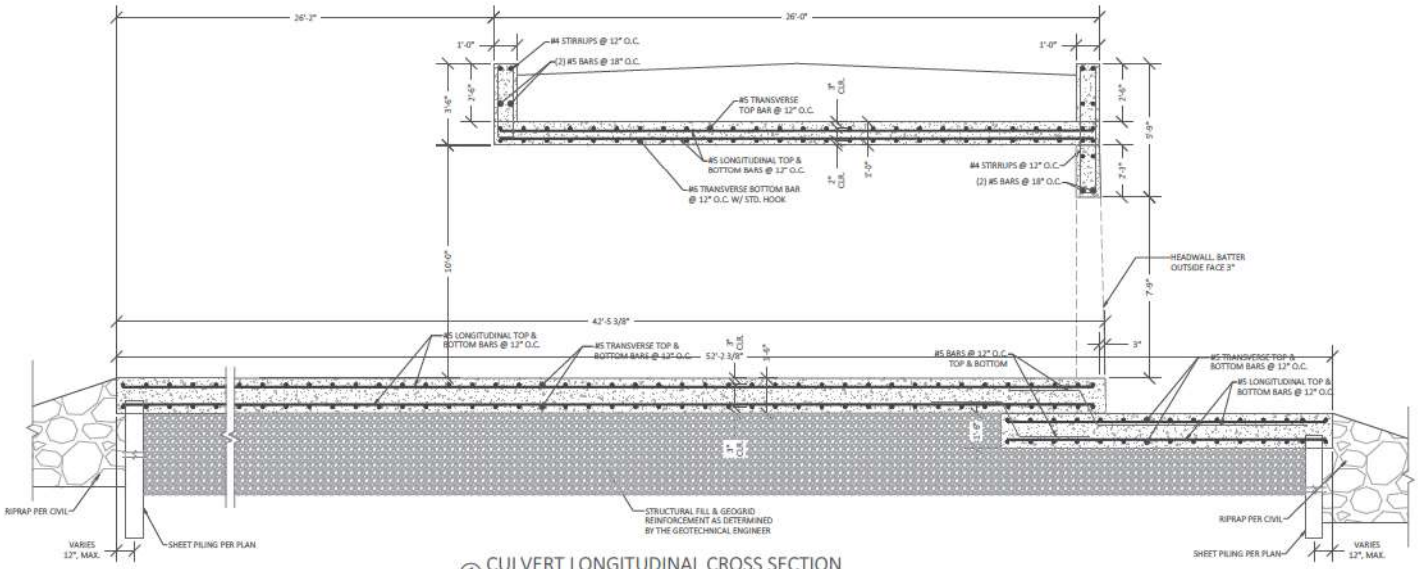
DRAWN BY: R.H.
DESIGNED BY: R.H.
CHECKED BY: R.H.
Date: 09-21-2026

Project #:
ESA Env. 224-001

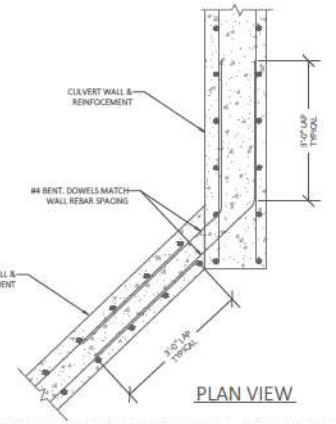
Title:
FOUNDATION PLAN

Page:
S2.0

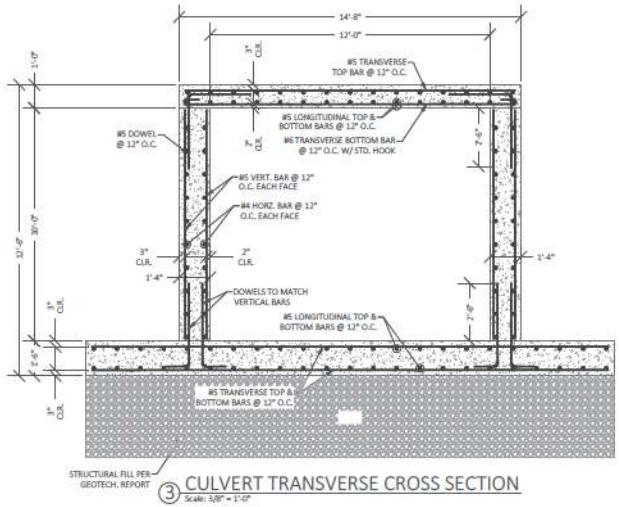
THIS DOCUMENT, IDEAS AND DESIGNS INCORPORATED HEREIN, IS THE PROPERTY OF PSE CONSULTING ENGINEERS, INC. AND IS NOT TO BE USED IN WHOLE OR PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN PERMISSION OF PSE CONSULTING ENGINEERS, INC.



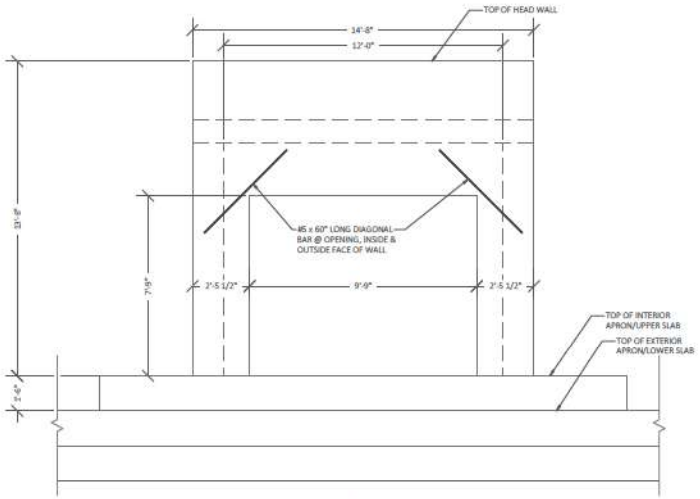
① CULVERT LONGITUDINAL CROSS SECTION
Scale: 3/8" = 1'-0"



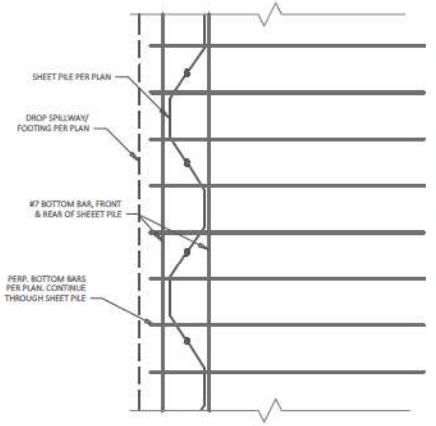
② WING WALL TO CULVERT WALL CONNECTION
Scale: 3/4" = 1'-0"



③ CULVERT TRANSVERSE CROSS SECTION
Scale: 3/8" = 1'-0"



④ HEAD GATE ELEVATION VIEW
Scale: 3/8" = 1'-0"



⑤ END SHEET PILE TO FOUNDATION DETAIL
Scale: 3/4" = 1'-0"

Structural details for this project are for illustration only. They are not drawn to scale unless noted otherwise. Contractor must verify all dimensions before fabrication or construction. Do not scale drawings.

ralph.hall 9/21/2026 2:07 PM Sitka Sedge Tidegate - 2026-09-21.dwg

PSE CONSULTING ENGINEERS, INC.
250 Main St. Suite A
Klamath Falls, OR 97601
www.structure1.com
Phone: (541) 850-6300
info@structure1.com

Project:
Sitka Sedge Tidal Wetland Restoration
Tierra Del Mar, OR

Owner:
Tillamook Estuaries Partnership

Client:
ESA Environmental Science Assoc.

Stamp:
PRELIMINARY PROGRESS SET NOT FOR BID OR CONSTRUCTION

MARK	REVISION TABLE DESCRIPTION	DATE

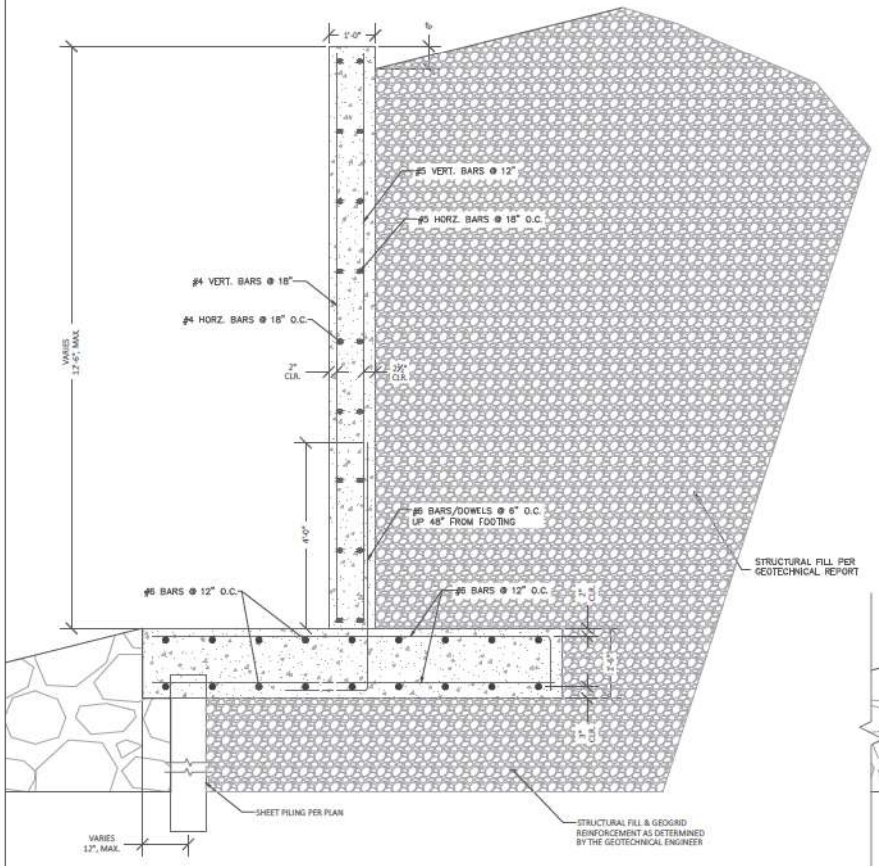
DRAWN BY: R.H.
DESIGNED BY: R.H.
CHECKED BY: R.H.
Date: 09-21-2026

Project #:
ESA Env. 224-001

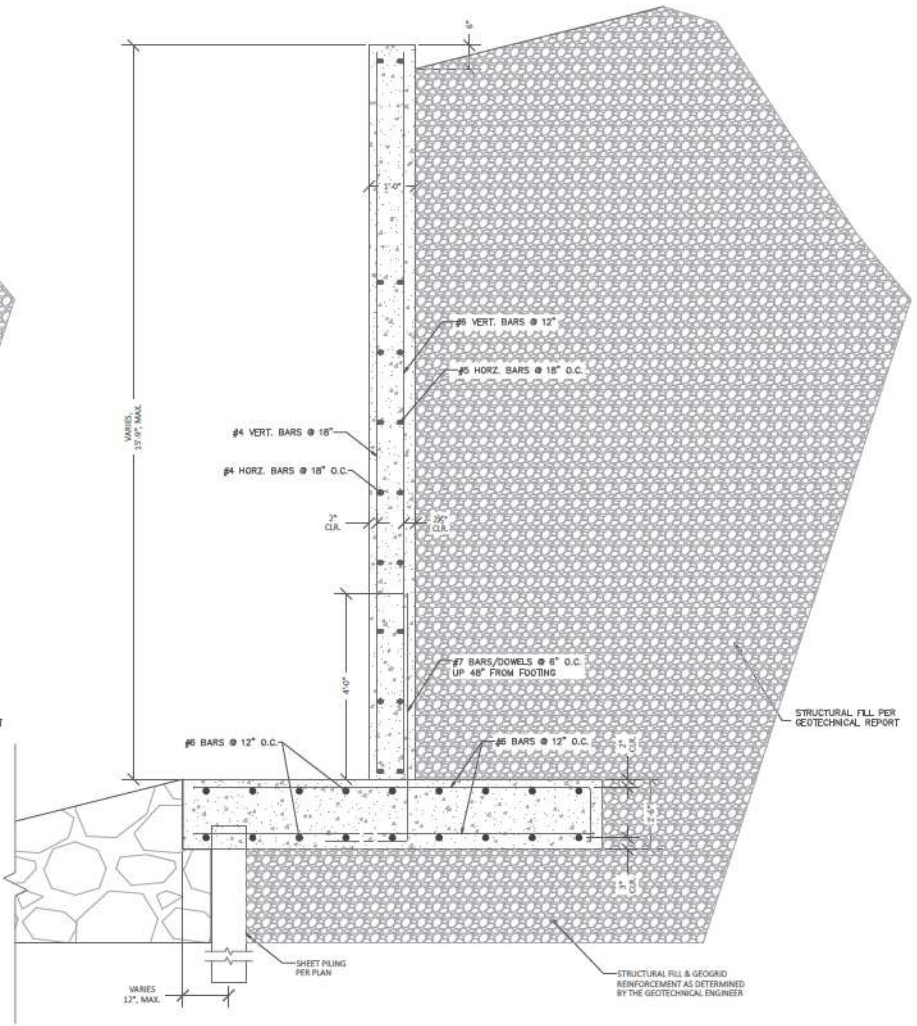
Title:
FOUNDATION DETAILS

Page:
S2.1

THIS DOCUMENT, ITS IDEAS AND DESIGNS INCORPORATED HEREIN, IS THE PROPERTY OF PSE CONSULTING ENGINEERS, INC., AND IS NOT TO BE USED IN WHOLE OR PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN PERMISSION OF PSE CONSULTING ENGINEERS, INC.



① WING RETAINING WALL @ LOW SIDE
Scale: 3/4" = 1'-0"



② WING RETAINING WALL @ HIGH SIDE
Scale: 3/4" = 1'-0"

Structural details for this project are for illustration only. They are not drawn to scale unless noted otherwise. Contractor must verify all dimensions before fabrication or construction. Do not scale drawings.

ralph.hall 9/21/2026 2:07 PM Sitka Sedge Tidegate - 2026-09-21.dwg

PSE CONSULTING ENGINEERS, INC.
250 Main St. Suite A
Klamath Falls, OR 97601
www.structure1.com
Phone: (541) 850-6300
info@structure1.com

Project:
Sitka Sedge Tidal Wetland Restoration
Tierra Del Mar, OR

Owner:
Tillamook Estuaries Partnership

Client:
ESA Environmental Science Assoc.

Stamp:
PRELIMINARY PROGRESS SET NOT FOR BID OR CONSTRUCTION

MARK	DESCRIPTION	DATE
	REVISION TABLE	

DRAWN BY: R.H.
DESIGNED BY: R.H.
CHECKED BY: R.H.
Date: 09-21-2026

Project #:
ESA Env. 224-001

Title:
FOUNDATION DETAILS

Page:
S2.2

THIS DOCUMENT, ITS IDEAS AND DESIGNS INCORPORATED HEREIN, IS THE PROPERTY OF PSE CONSULTING ENGINEERS, INC., AND IS NOT TO BE USED, IN WHOLE OR PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN PERMISSION OF PSE CONSULTING ENGINEERS, INC.