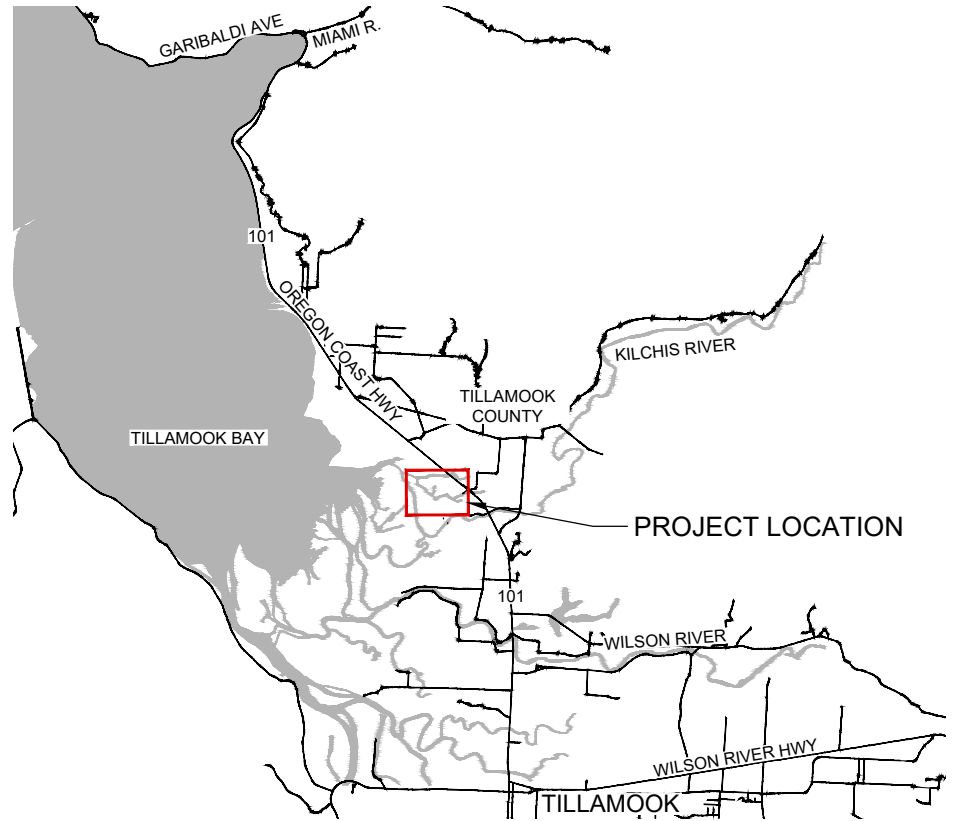
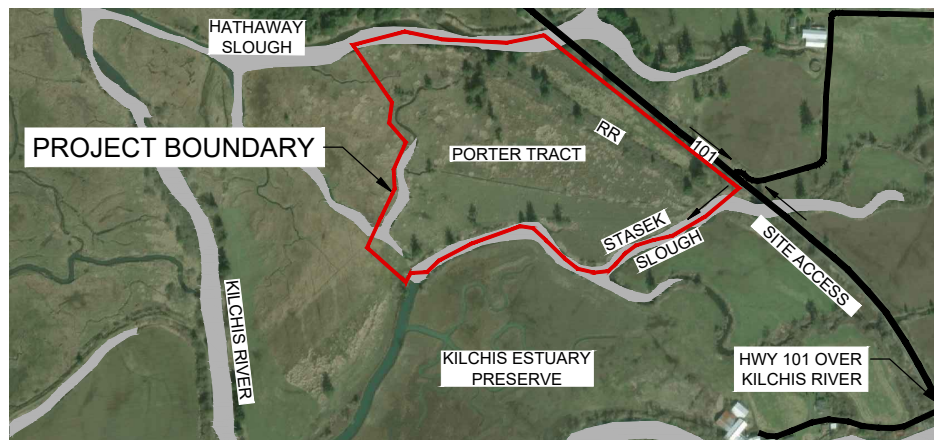


PORTER TRACT ESTUARY RESTORATION

TILLAMOOK COUNTY, OREGON
THE NATURE CONSERVANCY
2019



PROJECT LOCATION MAP
SCALE: 1" = 5000' (FOR 22" x 34" SHEETS)



VICINITY MAP
1" = 500' (FOR 22" x 34" SHEETS)



SHEET INDEX

- G1.0 COVER
- G1.1 NOTES & ABBREVIATIONS

- C1.1 SITE PLAN & OVERVIEW

- C2.1 CH LAYOUT & GRADING PLAN 1
- C2.2 CH LAYOUT & GRADING PLAN 2
- C2.3 CH LAYOUT & GRADING PLAN 3
- C2.4 CH LAYOUT & GRADING PLAN 4
- C2.5 CONNECTOR CHANNEL SECTIONS

- C3.1 CHANNEL PROFILES 1
- C3.2 CHANNEL PROFILES 2
- C3.3 CHANNEL GEOMETRY

- C4.1 BRIDGE 1 PLAN & ELEVATION
- C4.2 BRIDGE 2 PLAN & ELEVATION
- C4.3 BRIDGE STRUCTURAL NOTES

- C5.1 GRADING DETAILS
- C5.2 HABITAT DETAILS 1
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- ESC1.1 EROSION & SEDIMENT CONTROL PLAN
- ESC1.2 EROSION & SEDIMENT CONTROL DETAILS
- ESC1.3 EROSION & SEDIMENT CONTROL NOTES

- L1.1 RESTORATION & SEEDING PLAN

PROJECT OWNER



THE NATURE CONSERVANCY
DICK VANDER SCHAAF
821 SE 14TH AVENUE
PORTLAND, OR 97214
(503) 802-8100

PROJECT ENGINEERS



WOLF WATER RESOURCES
CURTIS LOEB, PE
AMANDA JONES, PE
JOE RULDOPH, ECOLOGIST
1001 SE WATER AVE., SUITE 180
PORTLAND, OR 97214
(503) 207-6688

GEOTECHNICAL ENGINEER



GEOTECHNICS LLC
ANDRE MARE, PE, GE
7629 SE HARRISON STREET
PORTLAND, OR 97215
(503) 730-2469



| DESIGNED BY | DRAWN BY | CHECKED BY | APPROVED BY | NO. | DATE | DESCRIPTION | REVISION |
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| AJ | AJ/JR | CL | CL/AJ | | 2/15/2019 | FINAL DESIGN | |

FINAL DESIGN

THE NATURE CONSERVANCY
PORTER TRACT
COVER
TILLAMOOK, OR

JOB NO.
20170002

SHEET NO.
G1.0

ODFW IN-WATER WORK WINDOW
JUL 1 TO SEP 30

ABBREVIATIONS

| | | | | | |
|-----------|-------------------------------------|--------|-----------------------------------|------|-------------------------|
| APPROX | APPROXIMATE | EL | ELEVATION | RCG | REED CANARYGRASS |
| AVG | AVERAGE | ESC | EROSION & SEDIMENT CONTROL | ROW | RIGHT-OF-WAY |
| BMP | BEST MANAGEMENT PRACTICE | FG | FINISHED GRADE | SS | SIDE SLOPE |
| BOT | BOTTOM | FT | FOOT, FEET | SHT | SHEET |
| CAR | CONTRACTING AGENCY'S REPRESENTATIVE | GS | GROUND SPOT | SPEC | SPECIFICATION |
| | | IE | INVERT ELEVATION | STA | STATION |
| CH | CHANNEL | IR | IRON ROD | STD | STANDARD |
| CL | CENTERLINE | JURISD | JURISDICTIONAL | TEMP | TEMPORARY |
| CLC | CENTERLINE OF CHANNEL | MAX | MAXIMUM | TOB | TOP OF BANK |
| CP | CONTROL POINT | MGMT | MANAGMENT | TOE | TOE OF CHANNEL |
| CY | CUBIC YARD | MHW | MEAN HIGH WATER | TYP | TYPICAL |
| DEMO | DEMOLISH | MHHW | MEAN HIGHER HIGH WATER | UN | UNLESS OTHERWISE NOTED |
| DIA | DIAMETER | MIN | MINIMUM | WCS | WATER CONTROL STRUCTURE |
| DTL | DETAIL | MTL | MATERIAL | WHS | WOOD HABITAT STRUCTURE |
| DWG | DRAWING | N | NORTHING | W/ | WITH |
| E | EASTING | NAVD88 | NORTH AMERICA VERTICAL DATUM 1988 | WSE | WATER SURFACE ELEVATION |
| (E) EXIST | EXISTING | NTS | NOT TO SCALE | YPC | YELLOW PLASTIC CAP |
| EG | EXISTING GRADE | N-S | NORTH TO SOUTH | | |
| | | OHW | ORDINARY HIGH WATER | | |

CHANNEL NAME ABBREVIATIONS

| | |
|----|-----------|
| DU | DUNLIN |
| PL | PLOVER |
| SA | SANDPIPER |
| SN | SNIPE |
| TU | TURNSTONE |
| HE | HERON |

GENERAL NOTES

1. IN-WATER WORK WINDOW: JULY 1 - SEPTEMBER 30. NO IN WATER WORK OUTSIDE OF THIS TIME FRAME WITHOUT SPECIAL WRITTEN APPROVAL.
2. GROUND CONTROL SURVEY PROVIDED BY STATEWIDE LAND SURVEYING, 2012 TO 2017. HORIZONTAL DATUM: STATE PLANE, OREGON NORTH ZONE, NAD83, US INTERNATIONAL FEET VERTICAL DATUM: NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88)
3. TOPOGRAPHY CONTOURS BASED ON LIDAR.
4. CONTRACTORS WORKING IN PUBLIC ROW SHALL BE LICENSED FOR THEIR WORK AND MAINTAIN LIABILITY INSURANCE REQUIREMENTS CONSISTENT WITH TILLAMOOK COUNTY'S UTILITIES ORDINANCE. EVIDENCE OF INSURANCE SHALL BE PROVIDED TO THE TILLAMOOK COUNTY ROAD DEPARTMENT.
5. CONTRACTOR IS RESPONSIBLE FOR MEETING ALL STATE & COUNTY TRAFFIC SIGNAGE AND/OR FLAGGING REQUIREMENTS.
6. CONTRACTOR IS RESPONSIBLE FOR MEETING ALL PERMIT REQUIREMENTS. ANY FINES INCURRED DUE TO PERMIT VIOLATIONS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
7. THE CONTRACTOR IS RESPONSIBLE FOR VISITING THE SITE AND OBSERVING SITE CONDITION IN ALL WORK AREAS PRIOR TO BIDDING.
8. LAND SURFACE ELEVATIONS WITHIN THE WORK AREA RANGE FROM 6 FT TO 15 FT NAVD88. WORK AREA IS PROTECTED BY DIKE W/ LOW POINT OF APPROX 10 FT NAVD88.
9. PREDICTED TIDE ELEVATIONS DURING CONSTRUCTION ARE BETWEEN 3 FT AND 9 FT NAVD88. BETWEEN JULY AND OCTOBER, THE HIGHEST PREDICTED TIDE IS 9 FT NAVD88.
10. ALL QUANTITY ESTIMATES ARE APPROXIMATE.
11. PROPERTY BOUNDARY PER C. WAYNE COOK LAND SURVEYING PARTITION SURVEY ("REBOB SURVEY") SEP 2010 VIA TNC.

SURVEY CONTROL POINTS

| POINT # | NORTHING | EASTING | ELEVATION | DESCRIPTION |
|---------|-----------|------------|-----------|---------------------------------|
| 1 | 686162.42 | 7341923.80 | 14.81 | SET HUB AND MAG |
| 2 | 685500.47 | 7340454.41 | 9.77 | SET MAG NAIL |
| 3 | 685545.47 | 7340513.24 | 11.19 | SET NAIL SPIKE RPC |
| 4 | 685546.88 | 7340386.05 | 9.53 | SET NAIL SPIKE RPC |
| 5 | 685143.31 | 7340293.08 | 9.61 | FD 5/8" IRON ROD YPCTERRY JONES |
| 6 | 685039.97 | 7340255.53 | 9.64 | FD 5/8" IRON ROD YPCTERRY JONES |
| 7 | 685058.01 | 7340205.66 | 9.51 | FD 5/8" IRON ROD YPCTERRY JONES |
| 8 | 685161.41 | 7340243.34 | 9.54 | FD 5/8" IRON ROD YPCTERRY JONES |
| 9 | 685628.87 | 7340269.87 | 9.46 | SET NAIL SPIKE RPC |
| 10 | 685632.48 | 7340563.96 | 9.18 | SET NAIL SPIKE RPC |
| 11 | 685880.40 | 7342192.61 | 16.63 | SET 5/8 IR LGCAP |
| 12 | 685854.70 | 7341996.47 | 15.62 | SET 5/8 IR LGCAP |

| FLOOD / TIDAL WATER LEVELS | ELEV (FT NAVD88) |
|----------------------------|------------------|
| 100 - YR BASE FLOOD | 12.0 |
| 10 - YR | 11.5 |
| JURISD OHW | 11.4 |
| 5 - YR | 10.8 |
| MHHW | 7.8 |
| MHW | 7.0 |
| MTL | 3.9 |
| NAVD88 DATUM | 0.0 |
| MLLW | -0.3 |

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
 DIAL 811 or 1-800-332-2344



RENEWS: 6/30/2019



| | | | |
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| DESIGNED BY | AJ | | |
| DRAWN BY | AJ/JR | | |
| CHECKED BY | CL | | |
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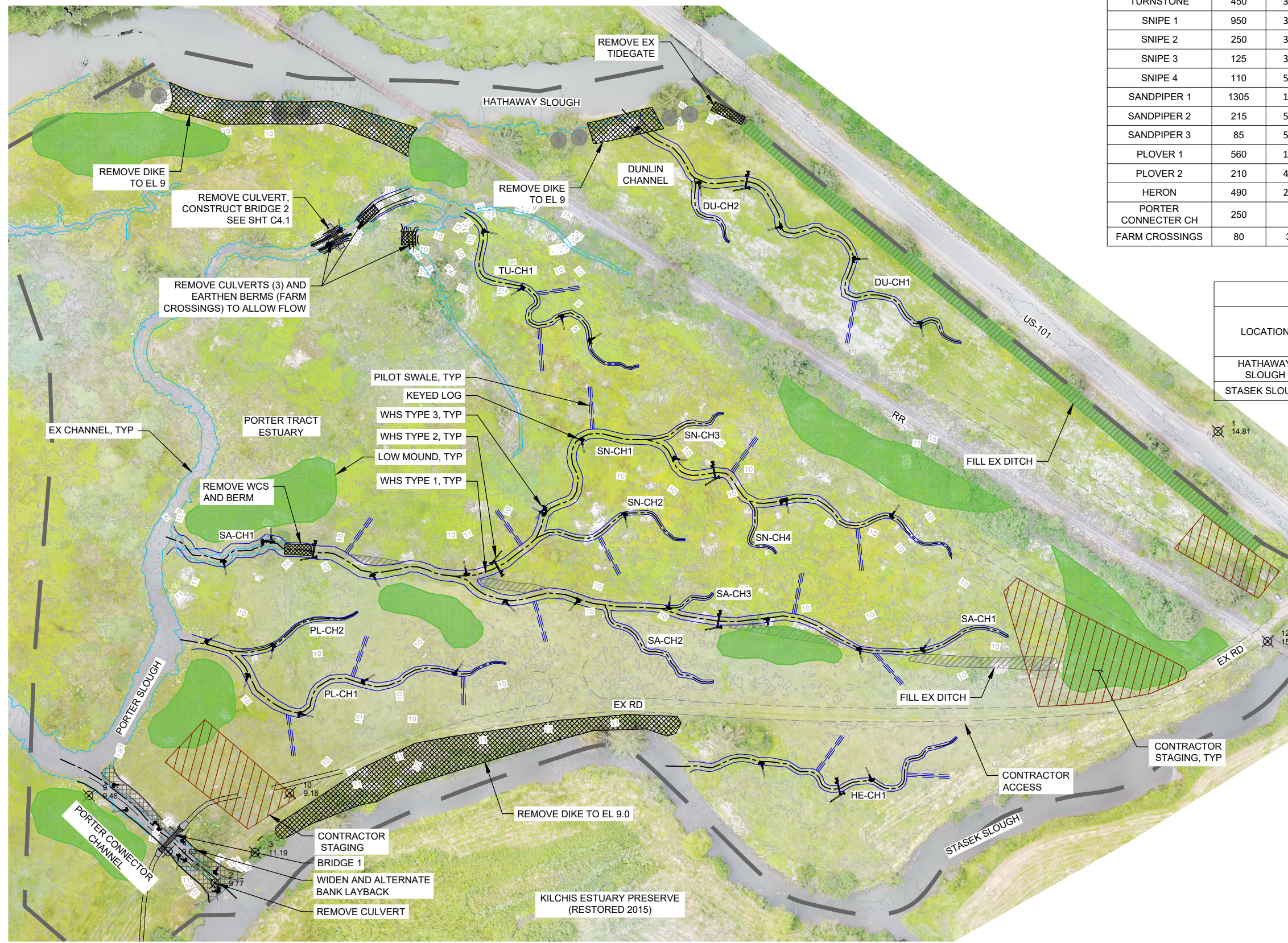
FINAL DESIGN

THE NATURE CONSERVANCY
 PORTER TRACT
NOTES & ABBREVIATIONS
 TILLAMOOK, OR

JOB NO.
20170002

SHEET NO.
G1.1

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| CHANNEL EXCAVATION - SUMMARY TABLE | | | | | | |
|------------------------------------|--------------------|------------------------------|--------------------------|-----------------------|--------------------------|------------------------------------|
| CHANNEL SEGMENT | APPROX LENGTH (FT) | BOTTOM ELEVATION (FT NAVD88) | APPROX BOTTOM WIDTH (FT) | APPROX TOP WIDTH (FT) | APPROX CHANNEL AREA (SF) | APPROXIMATE EXCAVATION VOLUME (CY) |
| DUNLIN 1 | 710 | 1.0 - 7.0 | 2 - 8 | 3 - 16 | 8,485 | 1,150 |
| DUNLIN 2 | 125 | 4.0 - 7.0 | 2 - 6 | 3 - 11 | 575 | 150 |
| TURNSTONE | 450 | 3.0 - 7.0 | 2 - 6 | 3 - 13 | 2,850 | 555 |
| SNIPE 1 | 950 | 3.0 - 8.0 | 2 - 8 | 3 - 15 | 11,050 | 1,300 |
| SNIPE 2 | 250 | 3.0 - 8.0 | 2 - 4 | 3 - 10 | 1,615 | 195 |
| SNIPE 3 | 125 | 3.0 - 8.0 | 2 - 4 | 3 - 9 | 585 | 150 |
| SNIPE 4 | 110 | 5.0 - 8.0 | 2 | 3 - 7 | 575 | 150 |
| SANDPIPER 1 | 1305 | 1.0 - 8.0 | 2 - 12 | 3 - 20 | 17,985 | 2,910 |
| SANDPIPER 2 | 215 | 5.0 - 8.0 | 2 - 4 | 3 - 10 | 1,530 | 150 |
| SANDPIPER 3 | 85 | 5.0 - 8.0 | 2 - 4 | 3 - 7 | 500 | 150 |
| PLOVER 1 | 560 | 1.0 - 8.0 | 2 - 8 | 3 - 20 | 6,010 | 1,055 |
| PLOVER 2 | 210 | 4.0 - 8.0 | 2 - 6 | 3 - 12 | 1,340 | 180 |
| HERON | 490 | 2.0 - 8.0 | 2 - 6 | 3 - 12 | 4,035 | 605 |
| PORTER CONNECTOR CH | 250 | 0.0 | 12 | 30-40 | 5,035 | 1,430 |
| FARM CROSSINGS | 80 | 3.0-4.0 | 5 | 15 | 1,200 | 180 |
| TOTAL | | | | | | 10,320 |

| DIKE REMOVAL - SUMMARY TABLE | | | | | |
|------------------------------|--------------------|-----------------------|-------------------|--------------------------|------------------------------------|
| LOCATION | APPROX LENGTH (FT) | APPROX TOP WIDTH (FT) | APPROX DEPTH (FT) | APPROX REMOVAL AREA (SF) | APPROXIMATE EXCAVATION VOLUME (CY) |
| HATHAWAY SLOUGH | 450 | 22 | 3.0 | 9,900 | 1,300 |
| STASEK SLOUGH | 620 | 45 | 2.0 | 22,500 | 1,670 |
| TOTAL | | | | | 2,970 |

PLAN - SITE OVERVIEW



NOTES:

1. ENTER SITE AT DESIGNATED ENTRANCE POINT UNLESS APPROVED BY ENGINEER.
2. USE APPROPRIATE TRAFFIC CONTROL MEASURES WHEN ENTERING PUBLIC ROADWAY, SEE SPECIFICATIONS.
3. ALL ACCESS ROUTES AND SITE ENTRANCES SHALL BE RESTORED ACCORDING TO SPECIFICATIONS AND SEEDING PLAN.
4. CONSTRUCT CHANNELS HERE ON AND PER CHANNEL LAYOUT SHEETS. KEEP EXISTING DIKES AND CHANNEL CONNECTION IN PLACE UNTIL GRADING IN THE CENTER OF THE SITE IS FINISHED. DO NOT REMOVE THE BERM AND CULTVERT AT THE PORTER CONNECTION CHANNEL UNTIL THE CHANNEL GRADING AND BRIDGE HAS BEEN FINISHED.
5. SEE ESC.1.1 FOR EROSION CONTROL.



| | | | | | | | |
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| DESIGNED BY | AJ | DRAWN BY | AJ/JR | CHECKED BY | CL | APPROVED BY | CL/AJ |
| NO. | 1 | DATE | 2/15/2019 | DESCRIPTION | REVISION | | |
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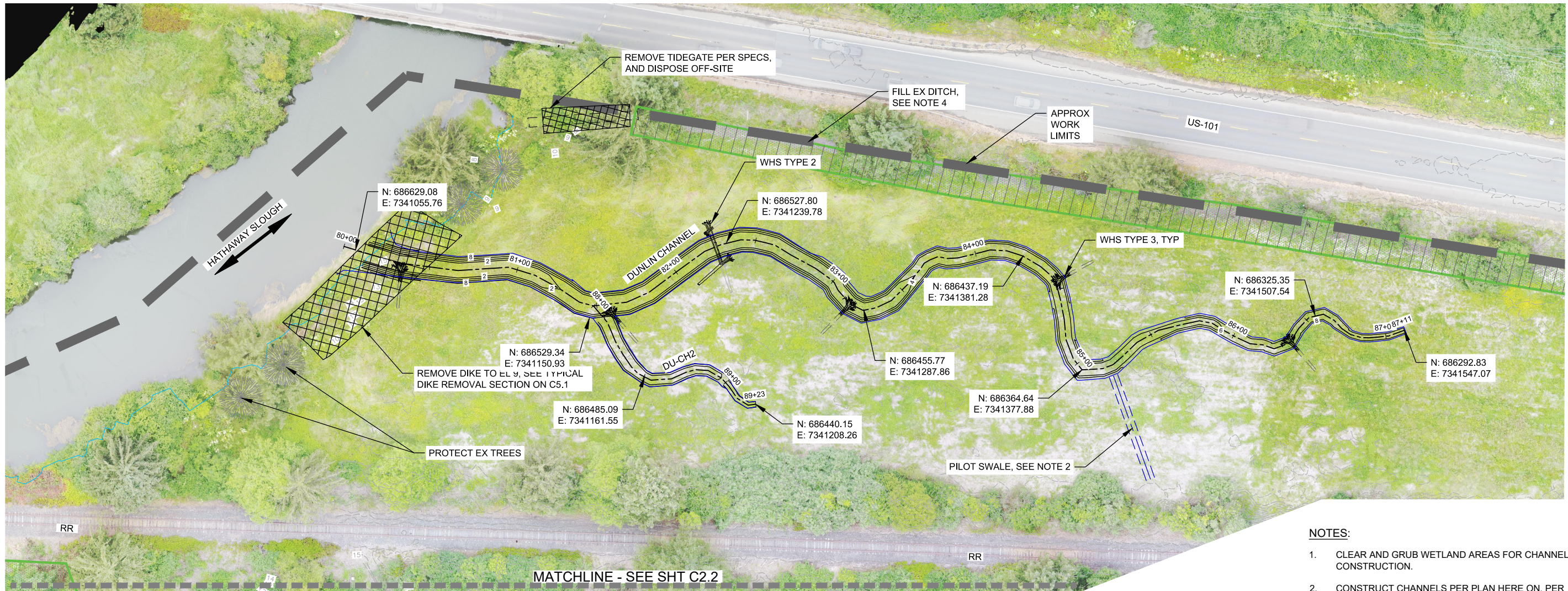
FINAL DESIGN

THE NATURE CONSERVANCY
PORTER TRACT

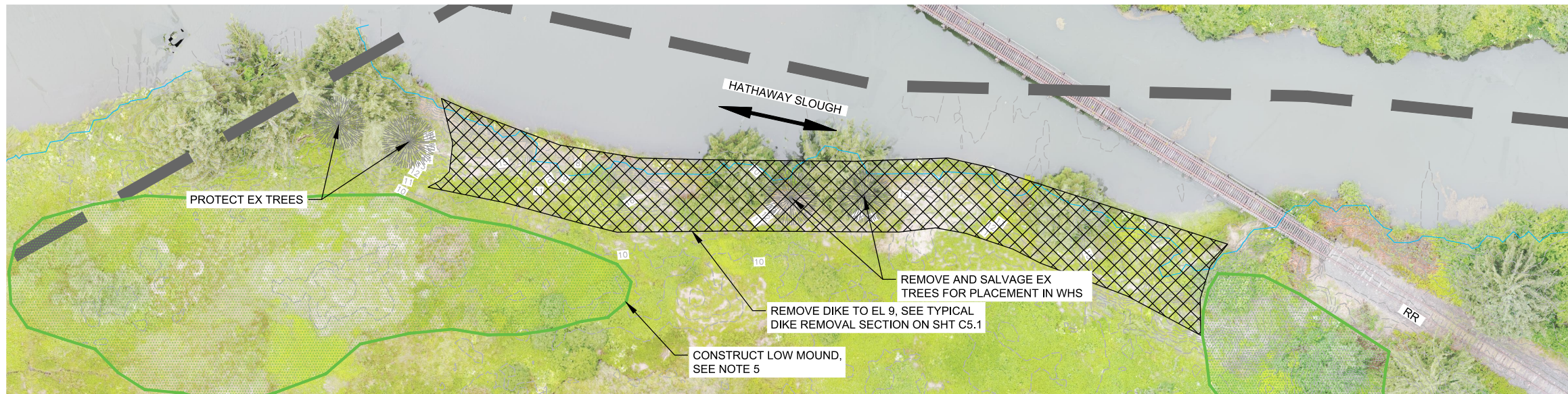
SITE OVERVIEW

TILLAMOOK, OR

JOB NO. 20170002
SHEET NO. C1.1



PLAN - NORTHERN CHANNELS



PLAN - HATHAWAY SLOUGH BERM REMOVAL



NOTES:

- CLEAR AND GRUB WETLAND AREAS FOR CHANNEL CONSTRUCTION.
- CONSTRUCT CHANNELS PER PLAN HERE ON, PER PROFILES ON C3.1 AND C3.2, CHANNEL GEOMETRY TABLES ON C3.3, AND THE TYPICAL CHANNEL SECTION ON C5.1. CONSTRUCT PILOT SWALES AS SHOWN ON THIS SHT AND PER TYPICAL PLAN AND SECTION ON C5.3.
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- CONSTRUCT WHS PER PLAN HERE ON AND PER HABITAT DETAILS ON C5.2 AND C5.3 AND AS SPECIFIED.
- REVEGETATE WETLAND AREAS BETWEEN CHANNELS PER SEEDING PLAN ON L1.1.



WOLF WATER RESOURCES, INC.
1001 SE WATER AVE, SUITE #180
PORTLAND, OR 97214
503.207.6688

The Nature Conservancy
1821 SE 14TH AVE
PORTLAND, OR 97214

| | | | |
|-------------|-----------|--------------|----------|
| DESIGNED BY | AJ | | |
| DRAWN BY | AJJJR | | |
| CHECKED BY | CL | | |
| APPROVED BY | CL/AJ | | |
| NO. | DATE | DESCRIPTION | REVISION |
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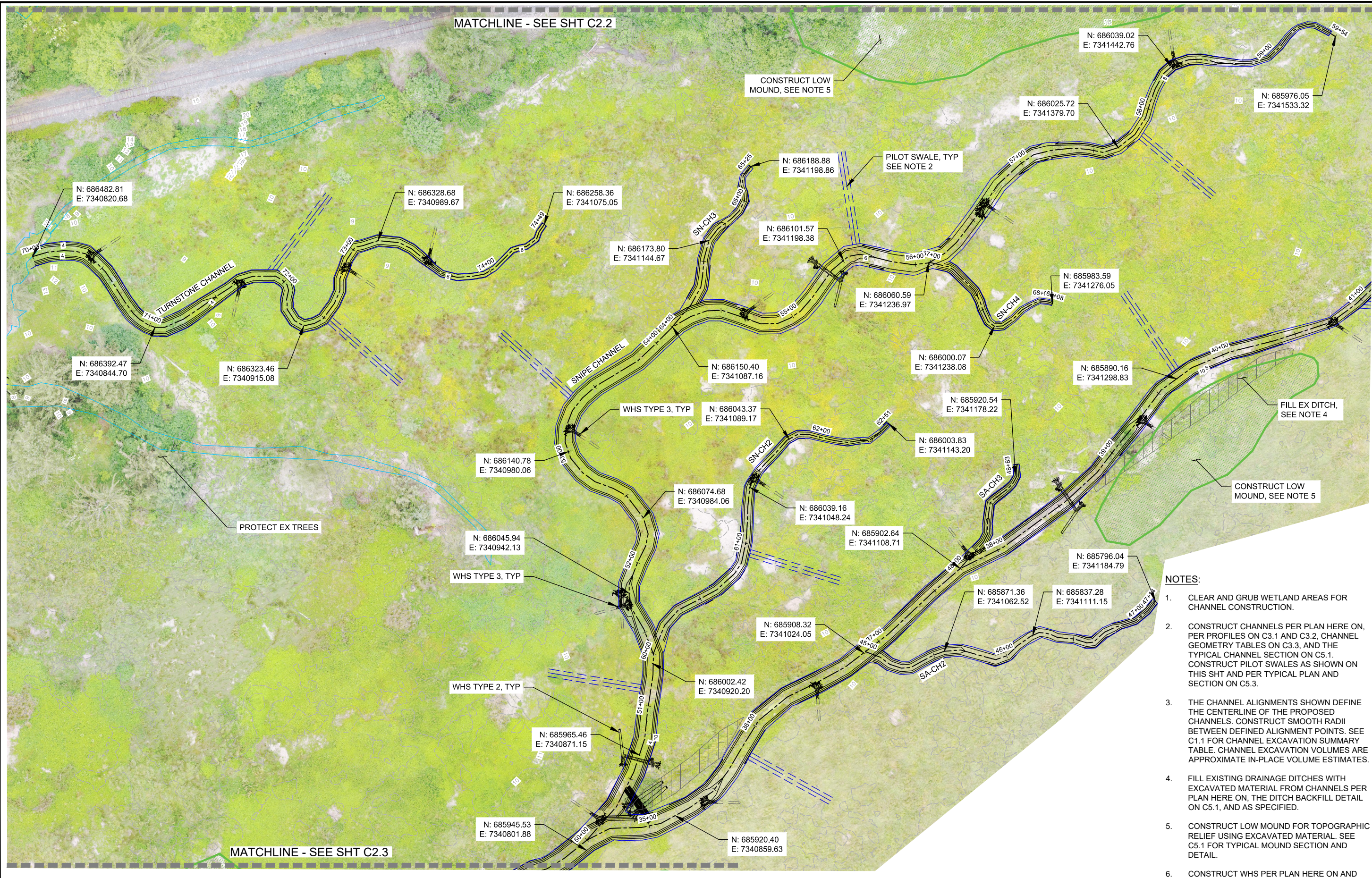
FINAL DESIGN

THE NATURE CONSERVANCY
PORTER TRACT
CH LAYOUT & GRADING PLAN 1
TILLAMOOK, OR

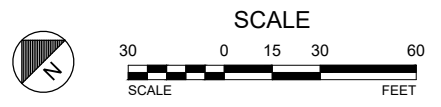
JOB NO.
20170002
SHEET NO.
C2.1

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PLAN - CENTRAL CHANNELS



- NOTES:**
- CLEAR AND GRUB WETLAND AREAS FOR CHANNEL CONSTRUCTION.
 - CONSTRUCT CHANNELS PER PLAN HERE ON, PER PROFILES ON C3.1 AND C3.2. CHANNEL GEOMETRY TABLES ON C3.3, AND THE TYPICAL CHANNEL SECTION ON C5.1. CONSTRUCT PILOT SWALES AS SHOWN ON THIS SHT AND PER TYPICAL PLAN AND SECTION ON C5.3.
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 - CONSTRUCT LOW MOUND FOR TOPOGRAPHIC RELIEF USING EXCAVATED MATERIAL. SEE C5.1 FOR TYPICAL MOUND SECTION AND DETAIL.
 - CONSTRUCT WHS PER PLAN HERE ON AND PER HABITAT DETAILS ON C5.2 AND C5.3 AND AS SPECIFIED.
 - REVEGETATE WETLAND AREAS BETWEEN CHANNELS PER SEEDING PLAN ON L1.1.

REGISTERED PROFESSIONAL ENGINEER
 84779PE
 DIGITAL SIGNATURE
 OREGON
 MAR 8 2019
 AMANDA L. JONES
 RENEWS: 6/30/2019

WOLF WATER RESOURCES, INC.
 1001 SE WATER AVE, SUITE #180
 PORTLAND, OR 97214
 503.207.6688

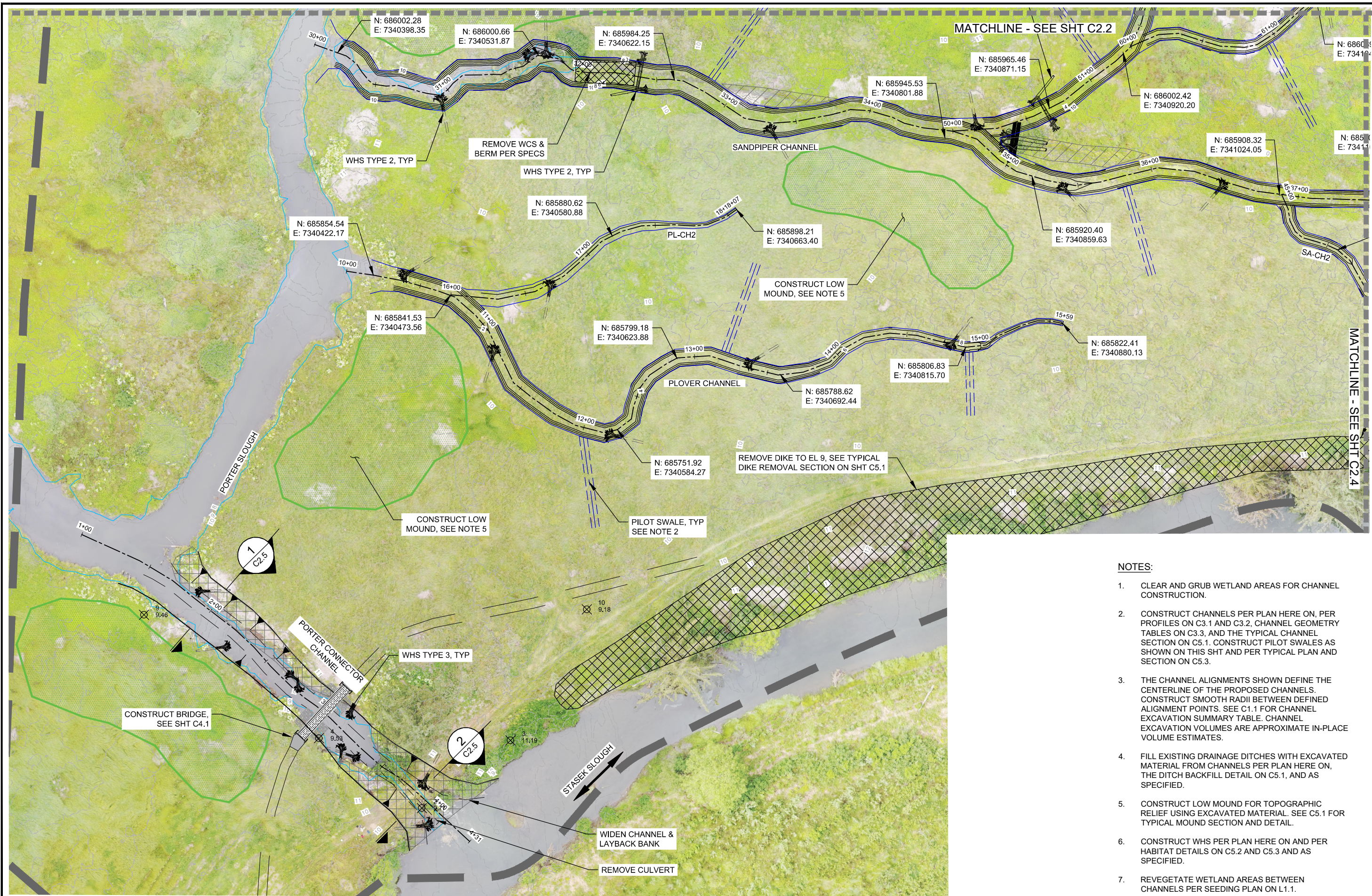
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| DRAWN BY | AJJR | | |
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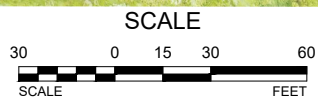
THE NATURE CONSERVANCY
 PORTER TRACT
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 CH LAYOUT & GRADING PLAN 2
 TILLAMOOK, OR

JOB NO. 20170002
 SHEET NO. C2.2

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PLAN - CENTRAL CHANNELS



NOTES:

1. CLEAR AND GRUB WETLAND AREAS FOR CHANNEL CONSTRUCTION.
2. CONSTRUCT CHANNELS PER PLAN HERE ON, PER PROFILES ON C3.1 AND C3.2, CHANNEL GEOMETRY TABLES ON C3.3, AND THE TYPICAL CHANNEL SECTION ON C5.1. CONSTRUCT PILOT SWALES AS SHOWN ON THIS SHT AND PER TYPICAL PLAN AND SECTION ON C5.3.
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5. CONSTRUCT LOW MOUND FOR TOPOGRAPHIC RELIEF USING EXCAVATED MATERIAL. SEE C5.1 FOR TYPICAL MOUND SECTION AND DETAIL.
6. CONSTRUCT WHS PER PLAN HERE ON AND PER HABITAT DETAILS ON C5.2 AND C5.3 AND AS SPECIFIED.
7. REVEGETATE WETLAND AREAS BETWEEN CHANNELS PER SEEDING PLAN ON L1.1.



WOLF WATER RESOURCES, INC.
 1001 SE WATER AVE, SUITE #180
 PORTLAND, OR 97214
 503.207.6888



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THE NATURE CONSERVANCY
 PORTER TRACT
CH LAYOUT & GRADING PLAN 3
 TILLAMOOK, OR

FINAL DESIGN

JOB NO. 20170002
 SHEET NO. C2.3

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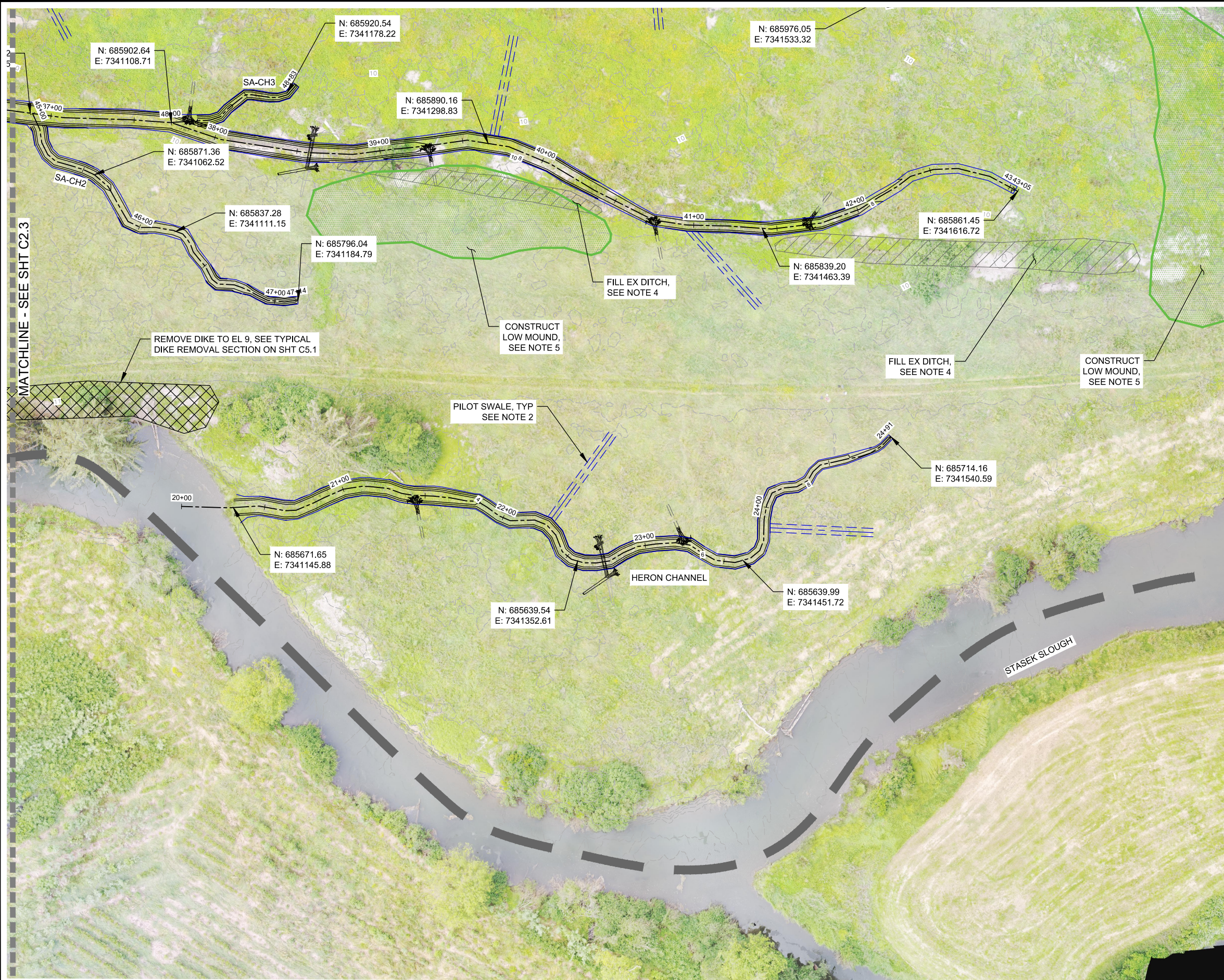
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 DATE: Feb 18, 2019 1:25pm XREFS: X:TB-2X34-TNC PORTER-AERIAL BASE PORTER-BASE PORTER-EG SURFACE



PLAN - SOUTHERN CHANNELS



NOTES:

1. CLEAR AND GRUB WETLAND AREAS FOR CHANNEL CONSTRUCTION.
2. CONSTRUCT CHANNELS PER PLAN HERE ON, PER PROFILES ON C3.1 AND C3.2, CHANNEL GEOMETRY TABLES ON C3.3, AND THE TYPICAL CHANNEL SECTION ON C5.1. CONSTRUCT PILOT SWALES AS SHOWN ON THIS SHT AND PER TYPICAL PLAN AND SECTION ON C5.3.
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7. REVEGETATE WETLAND AREAS BETWEEN CHANNELS PER SEEDING PLAN ON L1.1.



RENEWS: 6/30/2019



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 DRAWN BY: AJ/JR
 CHECKED BY: CL
 APPROVED BY: CL/AJ

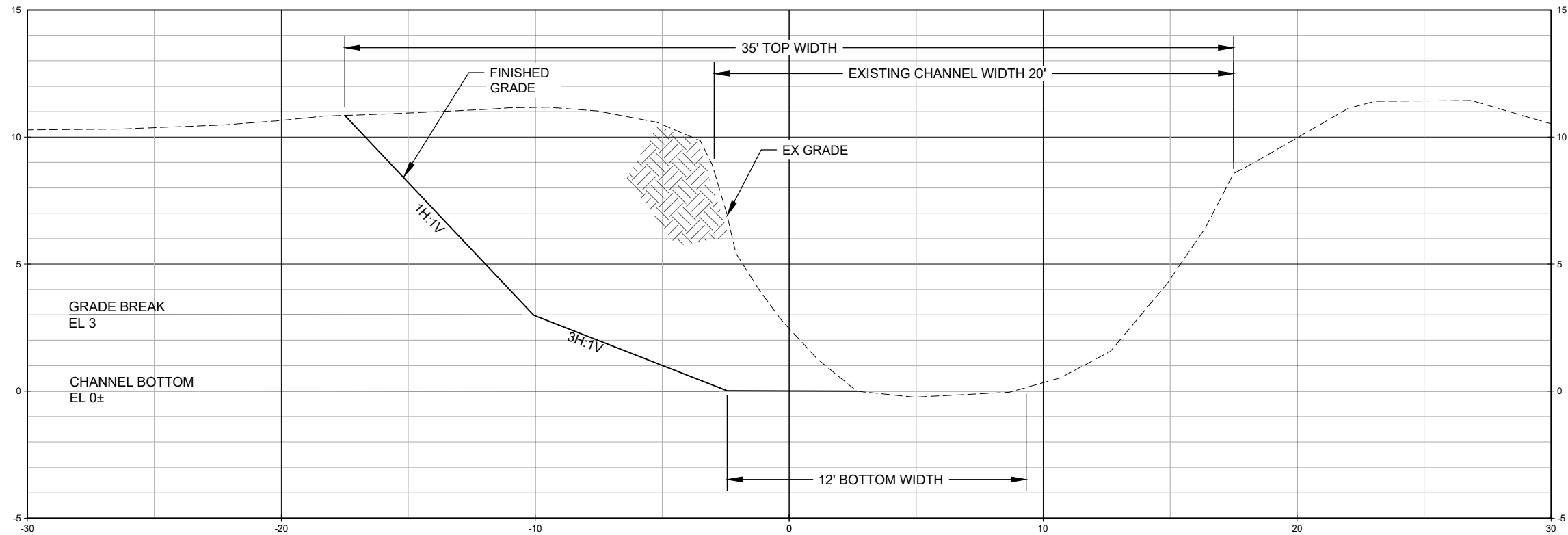
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FINAL DESIGN

THE NATURE CONSERVANCY
 PORTER TRACT
CH LAYOUT & GRADING PLAN 4
 TILLAMOOK, OR

JOB NO.
20170002

SHEET NO.
C2.4



NOTES:

1. SECTIONS ARE SHOWN LOOKING EAST (UPSTREAM).
2. SECTIONS ARE 1H:1V.
3. VERTICAL DATUM IS NAVD88 IN FEET.

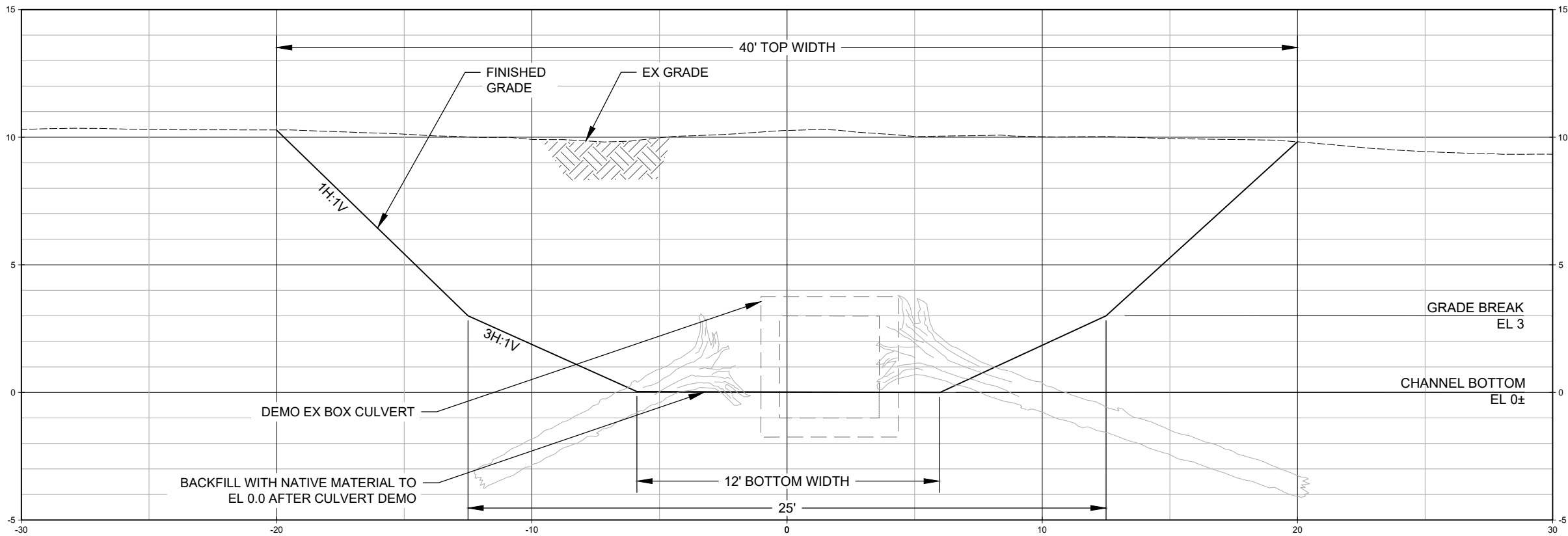


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1001 SE WATER AVE, SUITE #180
PORTLAND, OR 97214
503.207.6888

The Nature Conservancy
1821 SE 14TH AVE.
PORTLAND, OR 97214

SECTION 1 - PORTER CROSSING DOWNSTREAM OF BRIDGE

SCALE: 1" = 3'



SECTION 2 - PORTER CROSSING UPSTREAM OF BRIDGE

SCALE: 1" = 3'

| DESIGNED BY | DRAWN BY | CHECKED BY | APPROVED BY |
|-------------|----------|------------|-------------|
| AJ | AJ/JR | CL | CL/AJ |

| NO. | DATE | DESCRIPTION | REVISION |
|-----|-----------|--------------|----------|
| 1 | 2/15/2019 | FINAL DESIGN | |

FINAL DESIGN

THE NATURE CONSERVANCY
PORTER TRACT
CONNECTOR CHANNEL SECTIONS
TILLAMOOK, OR

JOB NO. 20170002
SHEET NO. C2.5