

Winter Lake Phase III: Vicinity Map

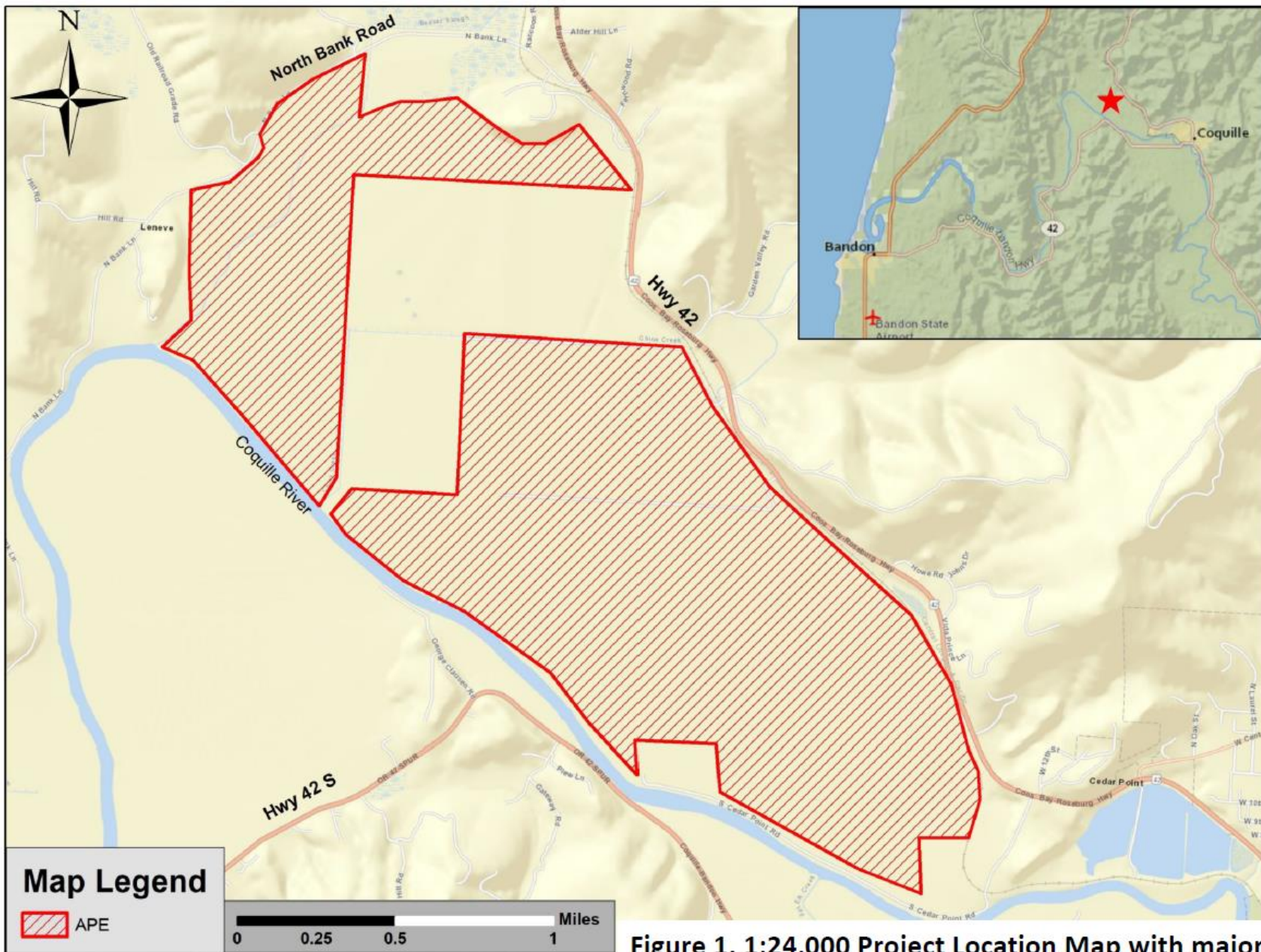


Figure 1. 1:24,000 Project Location Map with major roads/highways identified

Winter Lake Phase III: USGS Topographic Map and Area of Potential Effect (APE)

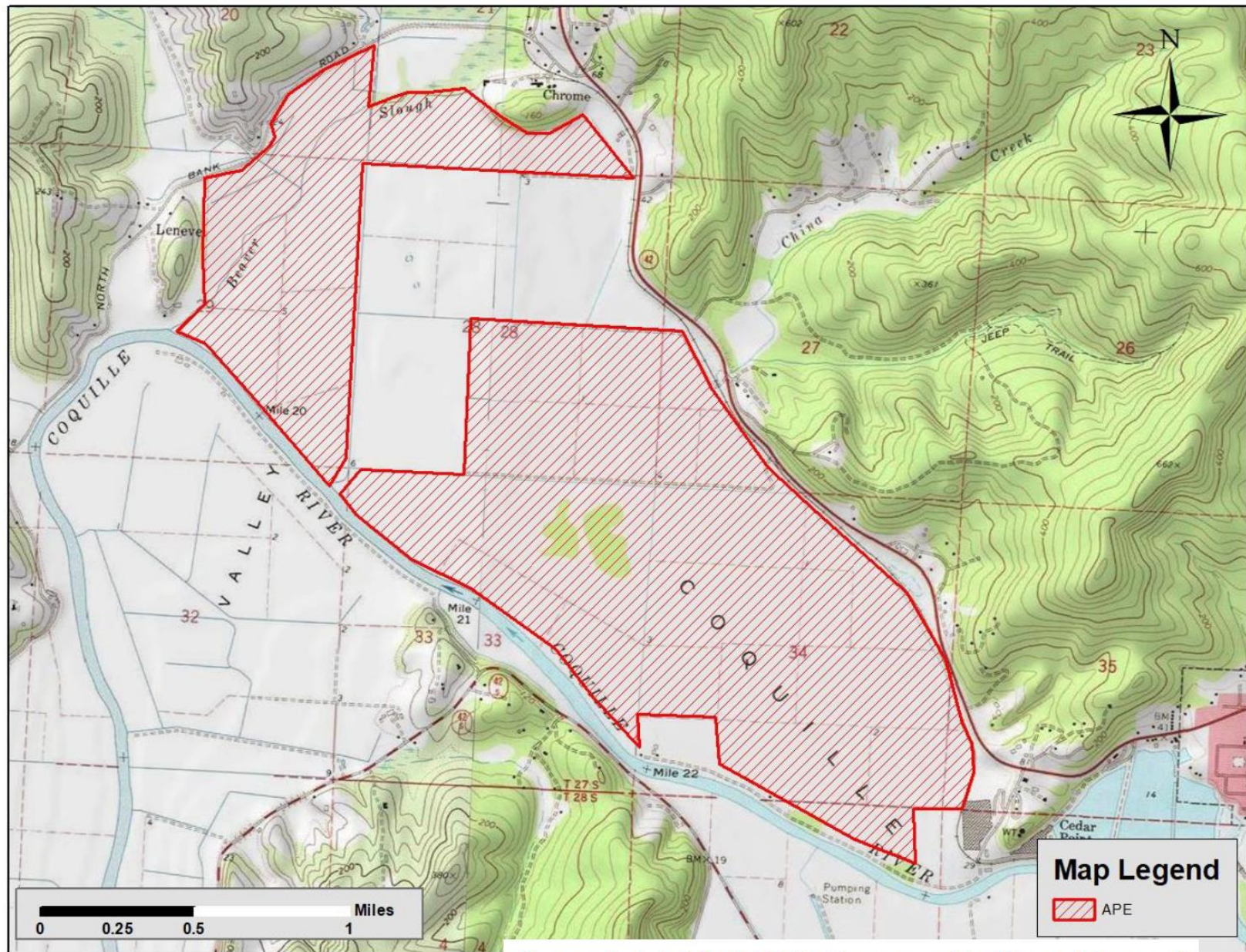
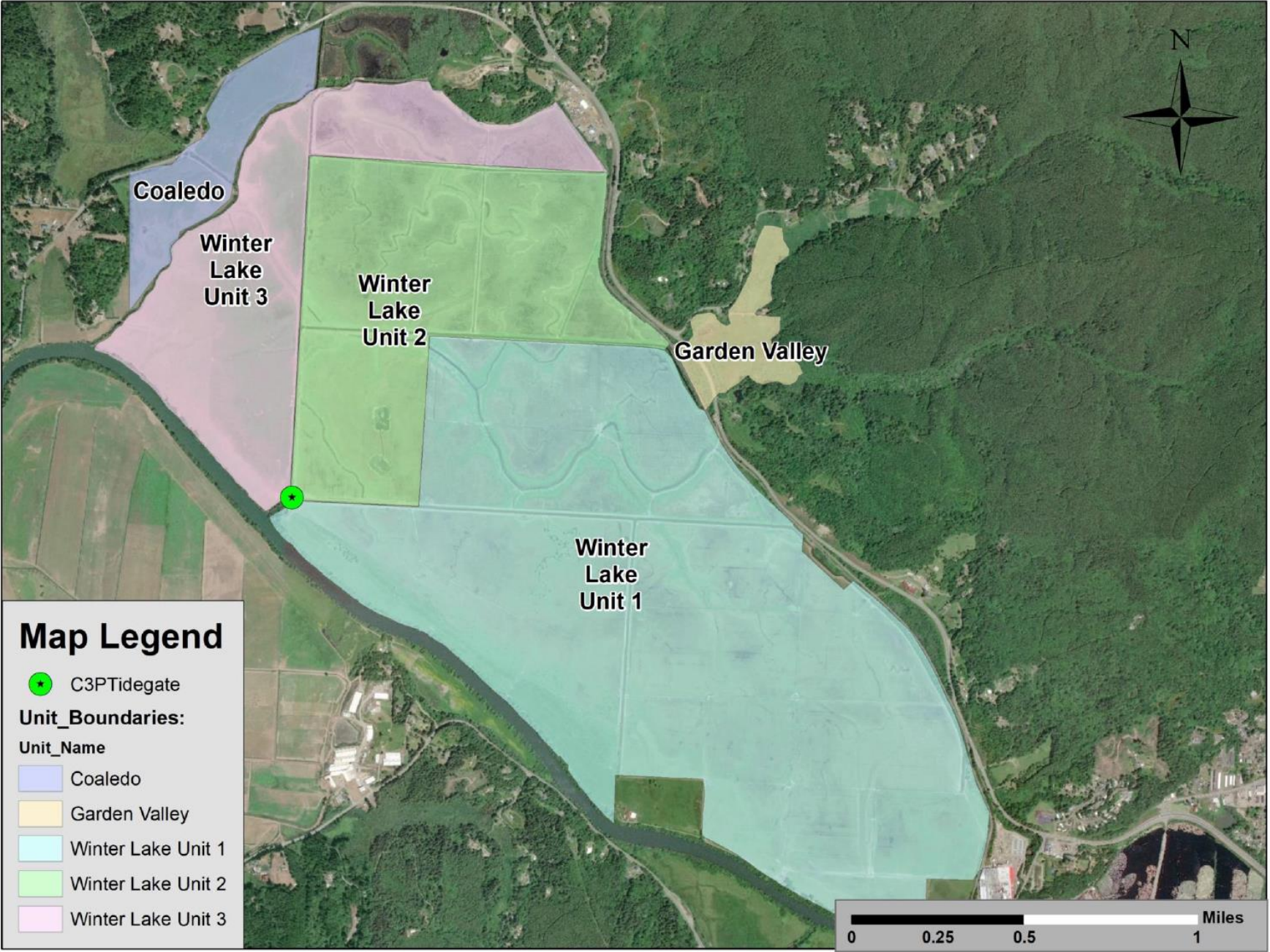
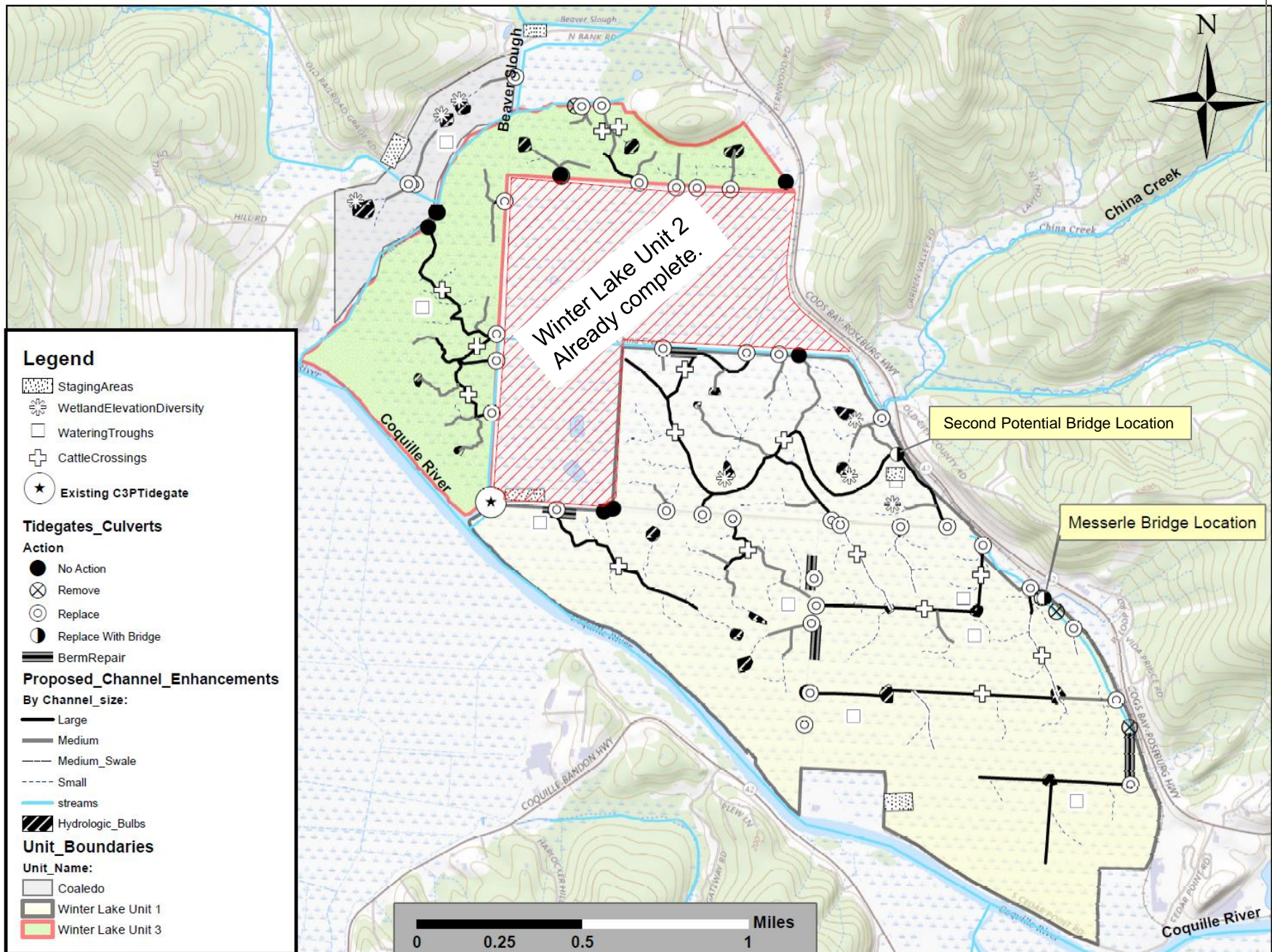


Figure 2. 1:24,000 USGS Topographic Map of Area of Project Effect (APE)

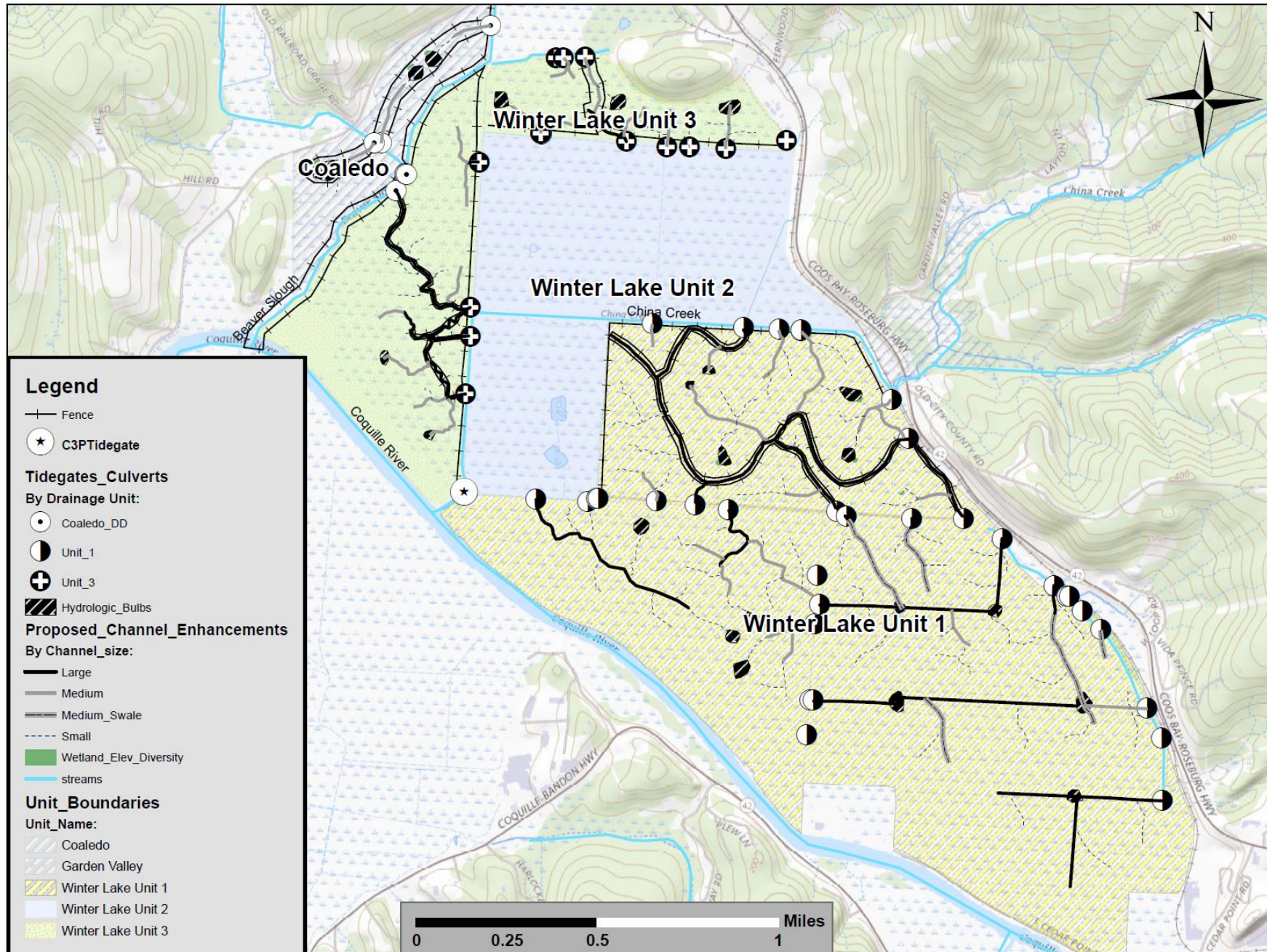
Winter Lake Phase III: Unit Map



Winter Lake Phase II: Overview



Winter Lake Phase III: Proposed Culverts with Tidegates, Channel Sizes, and Hydrologic Bulbs (depressions for fishes)

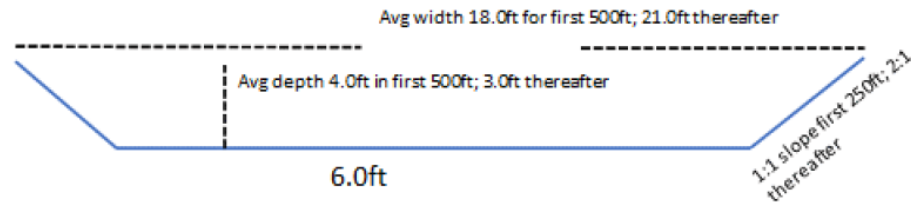


Winter Lake Phase III: Proposed Channel Enhancement Dimensions

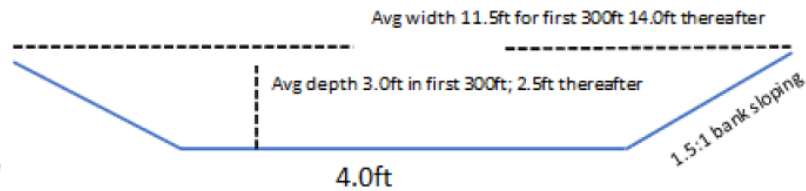


Pasture Channel Cross-Sections

Large Channel



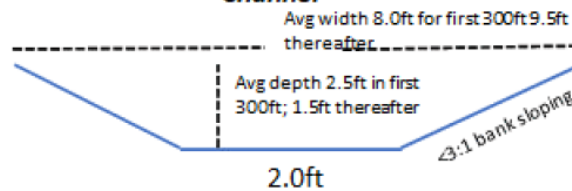
Medium Channel



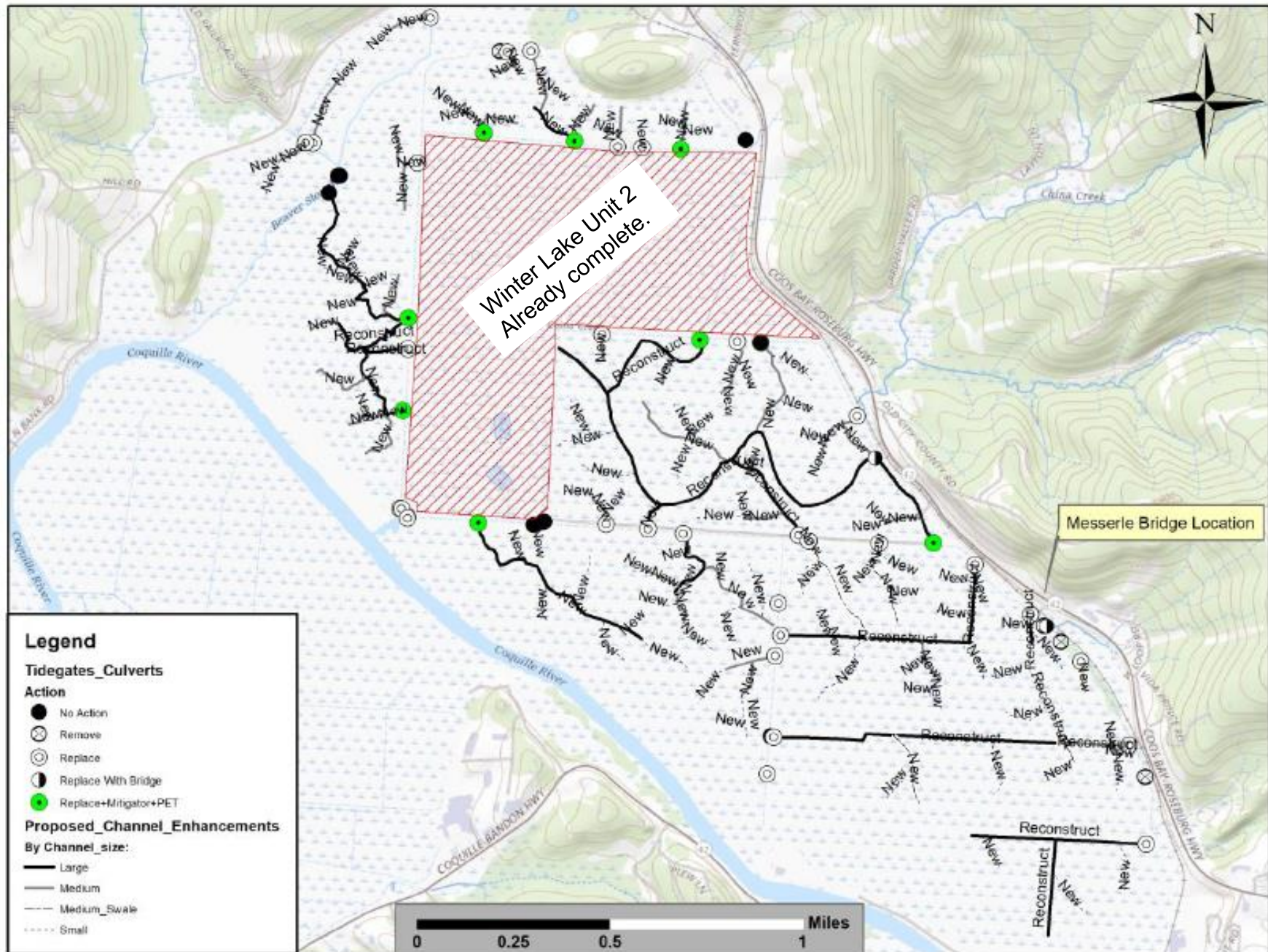
Note: For large channels first 500ft and For medium channels the first 300ft of selected channels that connect to main canals will have a invert grade that is steeper.

Note: Channel drawings not to scale.

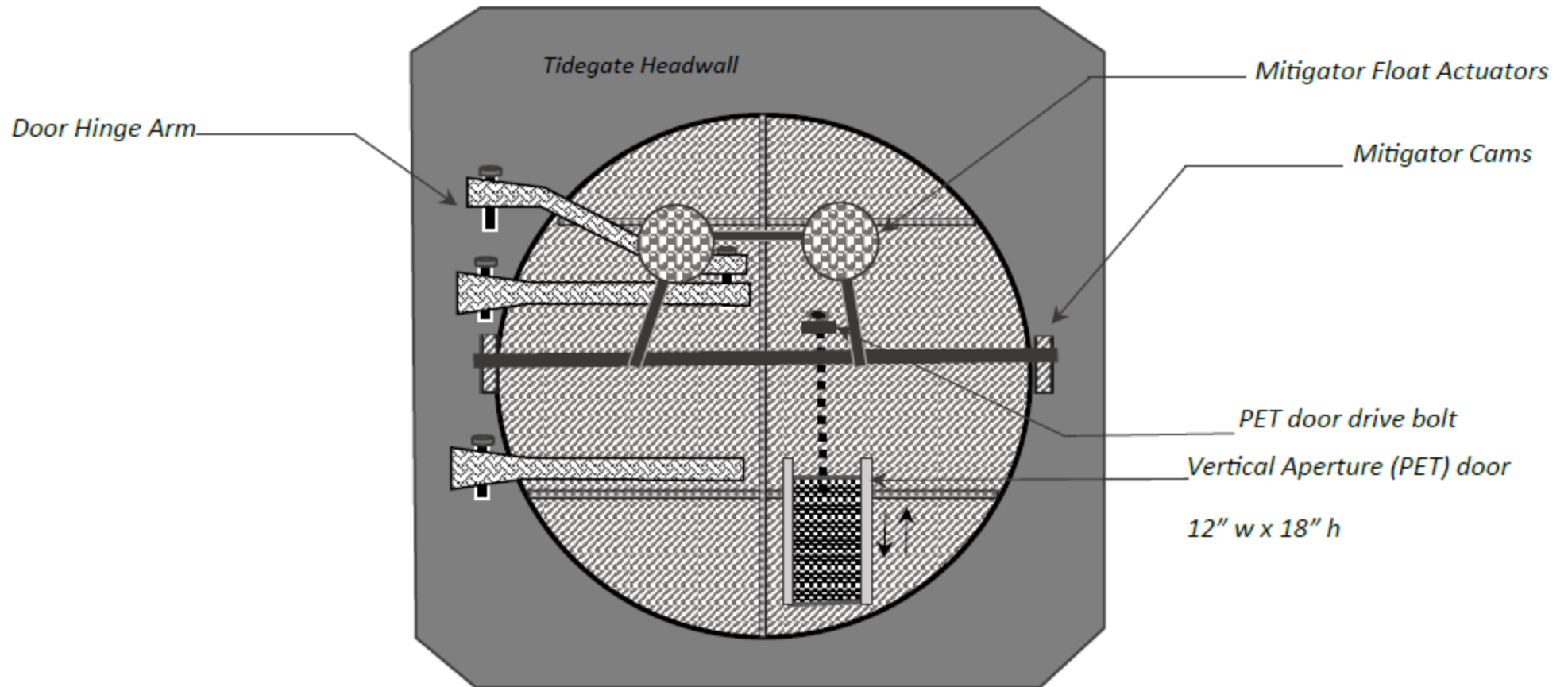
Small Channel



Winter Lake Phase III: Tidegates, Culverts, and New Channel Enhancements



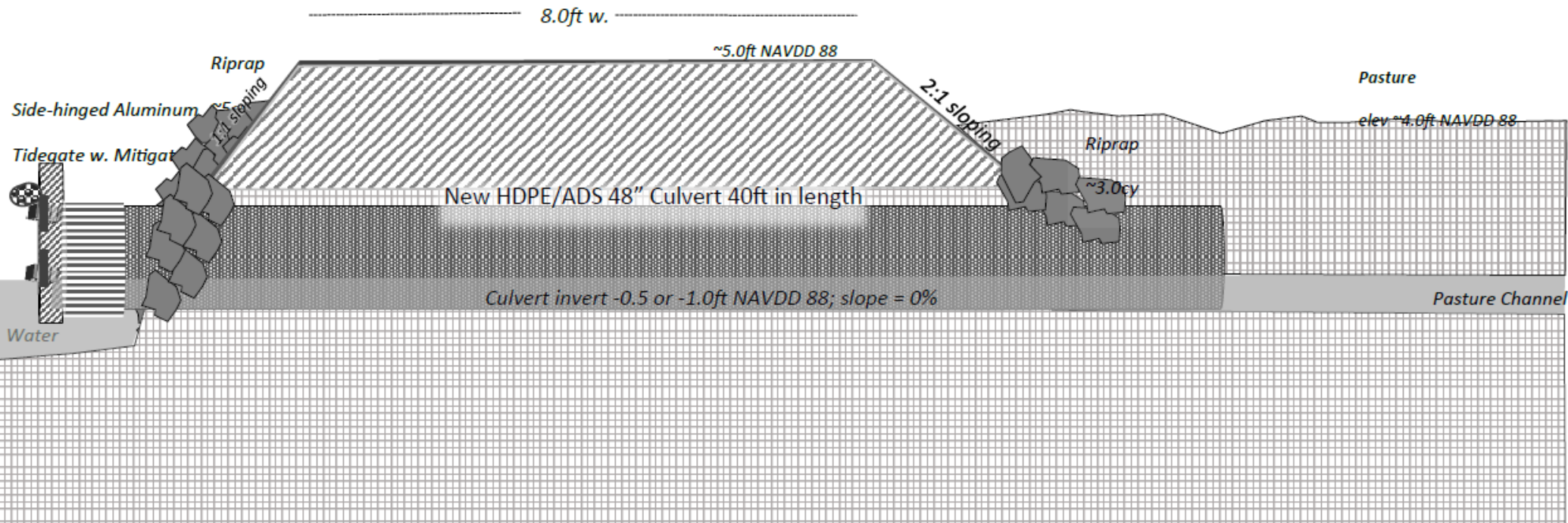
Winter Lake Phase III: Side-hinged Aluminum Tidegate with Mitigator and Vertical Aperture Door



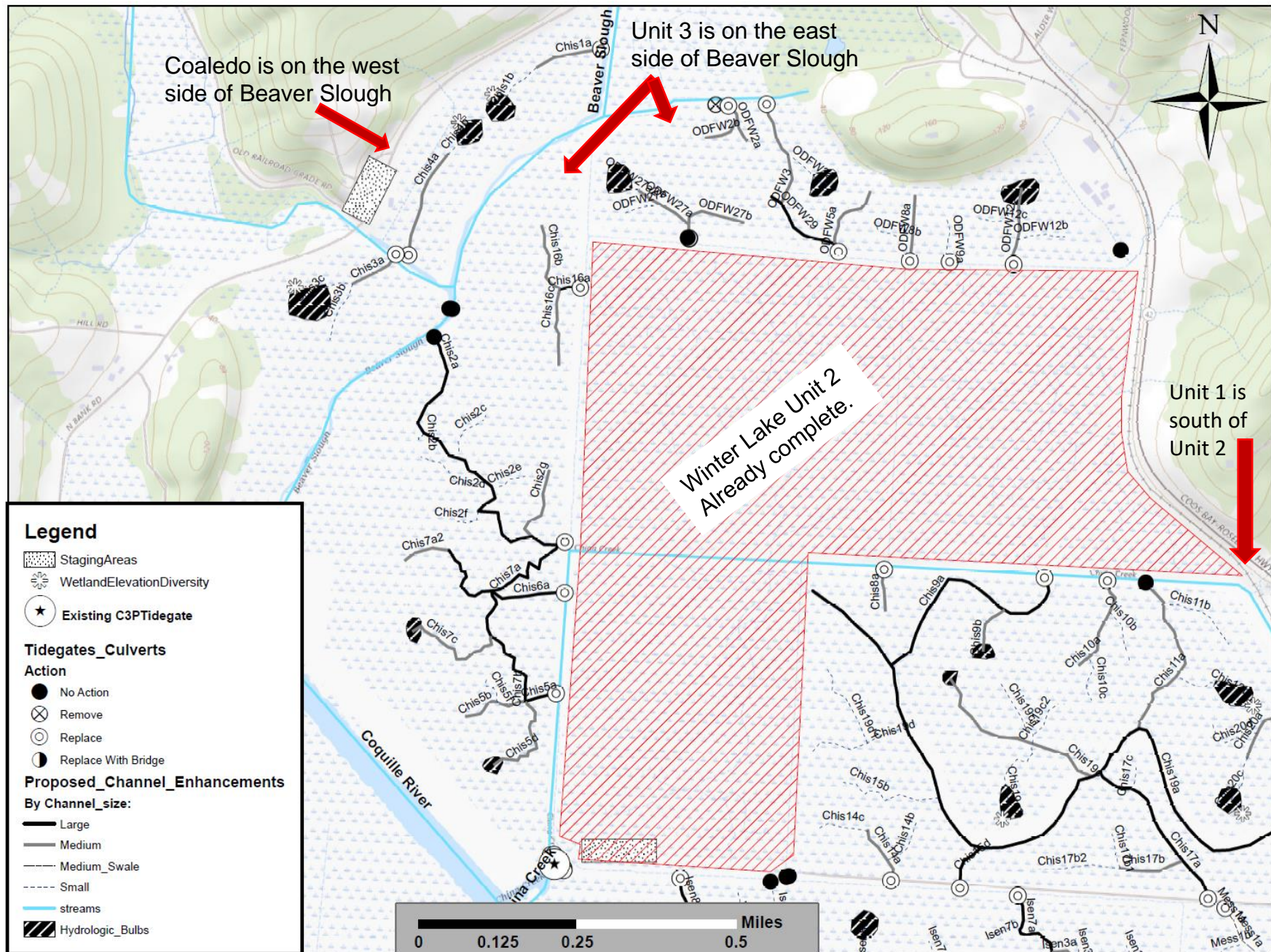
Winter Lake Phase III: Culvert/Tidegate Design

Phase III Culvert/Tidegate Cross-Sectional Depiction

Note: Drawing not to scale

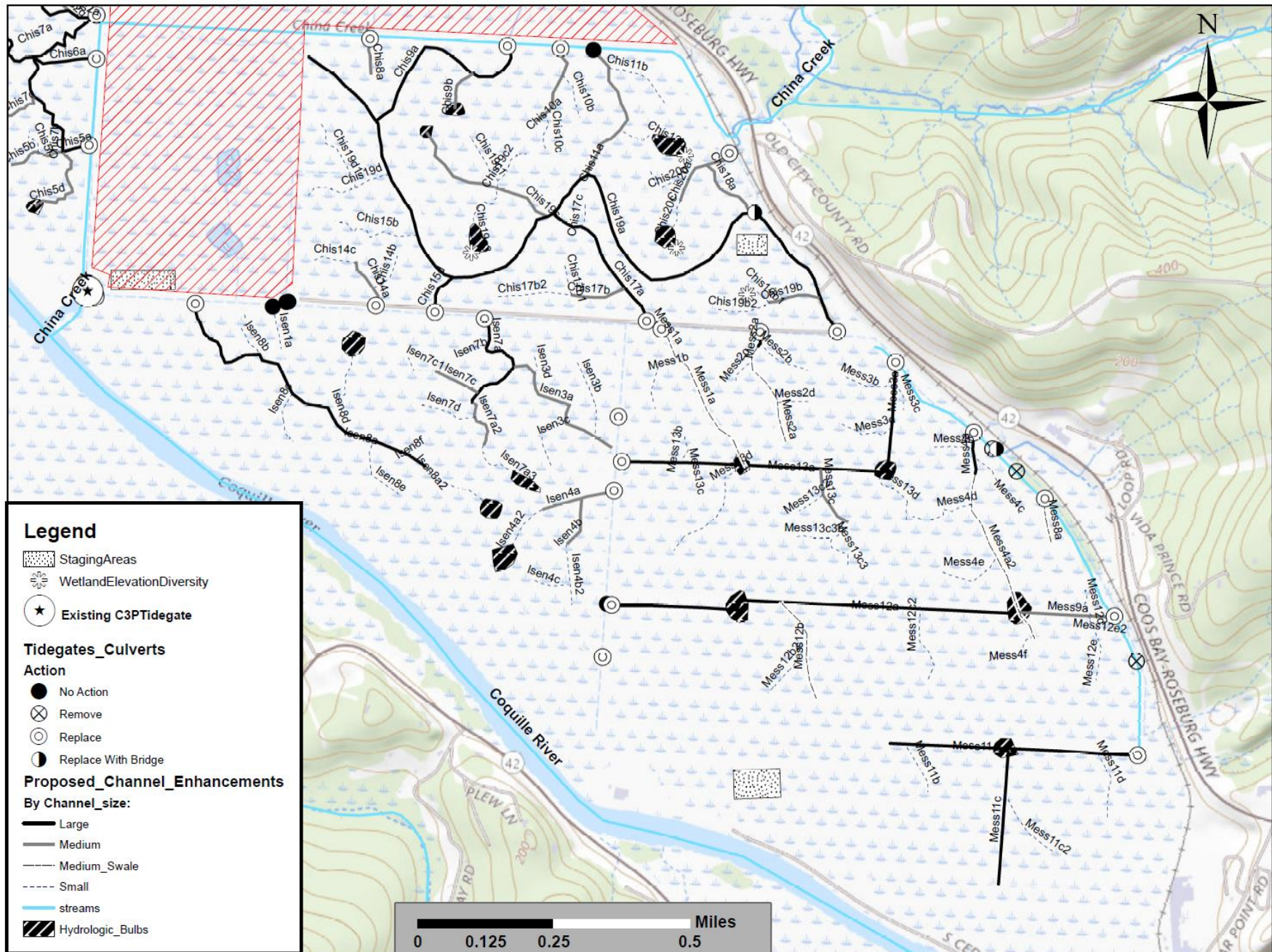


Winter Lake Phase III: Coaledo & Unit 3 Staging Areas, Tidegates, and Proposed Channel Enhancements with Hydrologic Bulbs (depressions for fishes)



Winter Lake Phase III: Unit 1

Proposed Channel Enhancements with Hydrologic Bulbs (depressions for fishes)

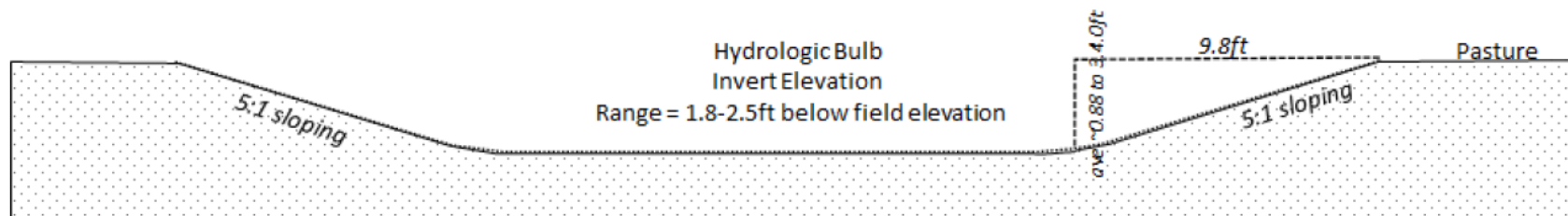


Winter Lake Phase III: Hydrologic Bulbs (depressions for fishes)



Hydrologic Bulb Layout Cross-Section

| Hydro Bulb I.D. | Channel Connect Size | Distance frm Connect Chan (ft) | NAVDD88 Invert (ft) | Field Elevation (ft) | Excavate Depth (ft) | | | Excavate Volume CY |
|--------------------|-------------------------|-----------------------------------|------------------------|-------------------------|------------------------|-------|---------|-----------------------|
| Isen8a2 | Small | 3,995 | 2.5 | 3.85 | 1.35 | 0.73 | 31,799 | 1,827 |
| Mess1a2 | Medium-S | 1,571 | 1.8 | 4.35 | 2.55 | 0.7 | 30,492 | 3,112 |
| Mess11d | Large | 1,250 | 2.5 | 4.67 | 2.17 | 0.74 | 32,234 | 2,841 |
| Mess1c2 | Large | 1,075 | 2.5 | 3.84 | 1.34 | 1.19 | 51,836 | 2,883 |
| Isen7a3 | Small | 2,137 | 2.0 | 4.27 | 2.27 | 0.61 | 26,572 | 2,511 |
| Mess2a | Large | 1,215 | 1.8 | 2.99 | 1.19 | 0.46 | 20,038 | 1,081 |
| Chis5b | Medium | 837 | 2.1 | 3.74 | 1.64 | 0.43 | 18,731 | 1,331 |
| Chis19c3 | Small | 688 | 1.8 | 2.88 | 1.12 | 0.8 | 34,848 | 1,686 |
| Chis20c | Small | 1,130 | 1.8 | 2.91 | 1.11 | 0.76 | 33,106 | 1,604 |
| Chis5d | Medium | 895 | 2.0 | 5.39 | 3.39 | 0.39 | 16,988 | 2,311 |
| Chis19c | Small | 1,500 | 2.3 | 4.33 | 2.03 | 0.28 | 12,197 | 1,071 |
| Chis7c | Medium | 902 | 3.5 | 4.79 | 1.28 | 0.47 | 20,473 | 1,172 |
| Chis12b | Small | 550 | 1.8 | 3.14 | 1.34 | 1.12 | 48,787 | 2,675 |
| Mess1e | Small | 880 | 2.5 | 3.96 | 1.46 | 1.14 | 49,658 | 2,990 |
| Isen4a2 | Small | 1,333 | 2.0 | 4.62 | 2.62 | 1.05 | 45,738 | 4,631 |
| Isen8d | Small | 732 | 2.5 | 3.65 | 1.15 | 0.92 | 40,075 | 1,972 |
| ODFW12a | Medium | 655 | 1.0 | 2.71 | 1.71 | 1.2 | 52,272 | 3,627 |
| ODFW3a | Small | 422 | 1.0 | 2.89 | 1.89 | 0.94 | 40,946 | 2,866 |
| ODFW27a | Small | 230 | 1.0 | 3.23 | 2.23 | 0.941 | 40,990 | 3,666 |
| Chis1b | Small | 377 | 1.5 | 3.82 | 2.32 | 0.94 | 40,946 | 3,790 |
| Chis4b | Small | 338 | 1.5 | 4.18 | 2.68 | 0.85 | 37,026 | 3,939 |
| Chis3c | Small | 516 | 1.5 | 4.94 | 3.44 | 1.9 | 82,764 | 10,921 |
| Totals | | | | | | 18.56 | 808,517 | 64,505 |

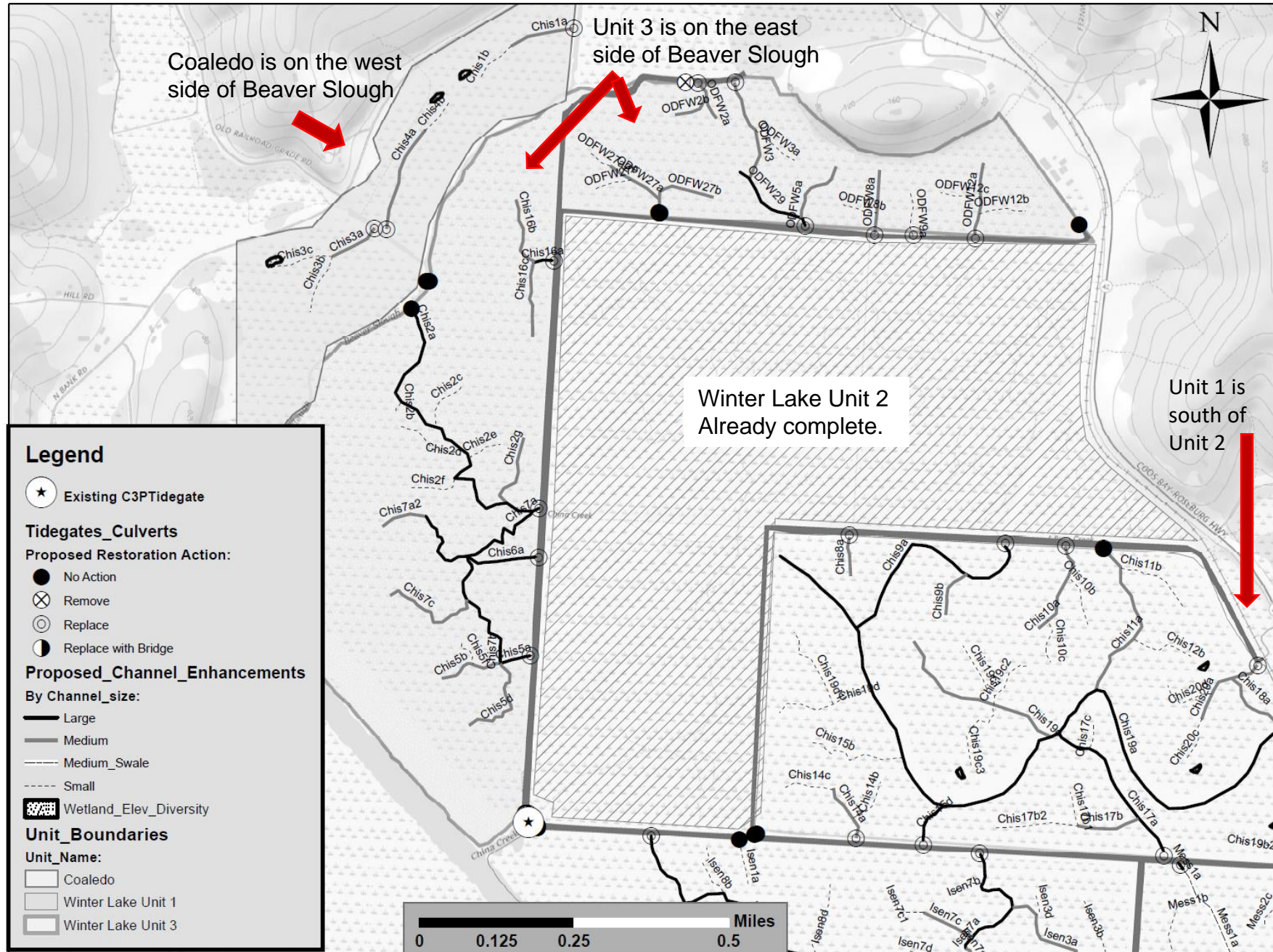


Prepared by Winter Lake Phase III Team
ODFW, BSDD, and Coos SWCD

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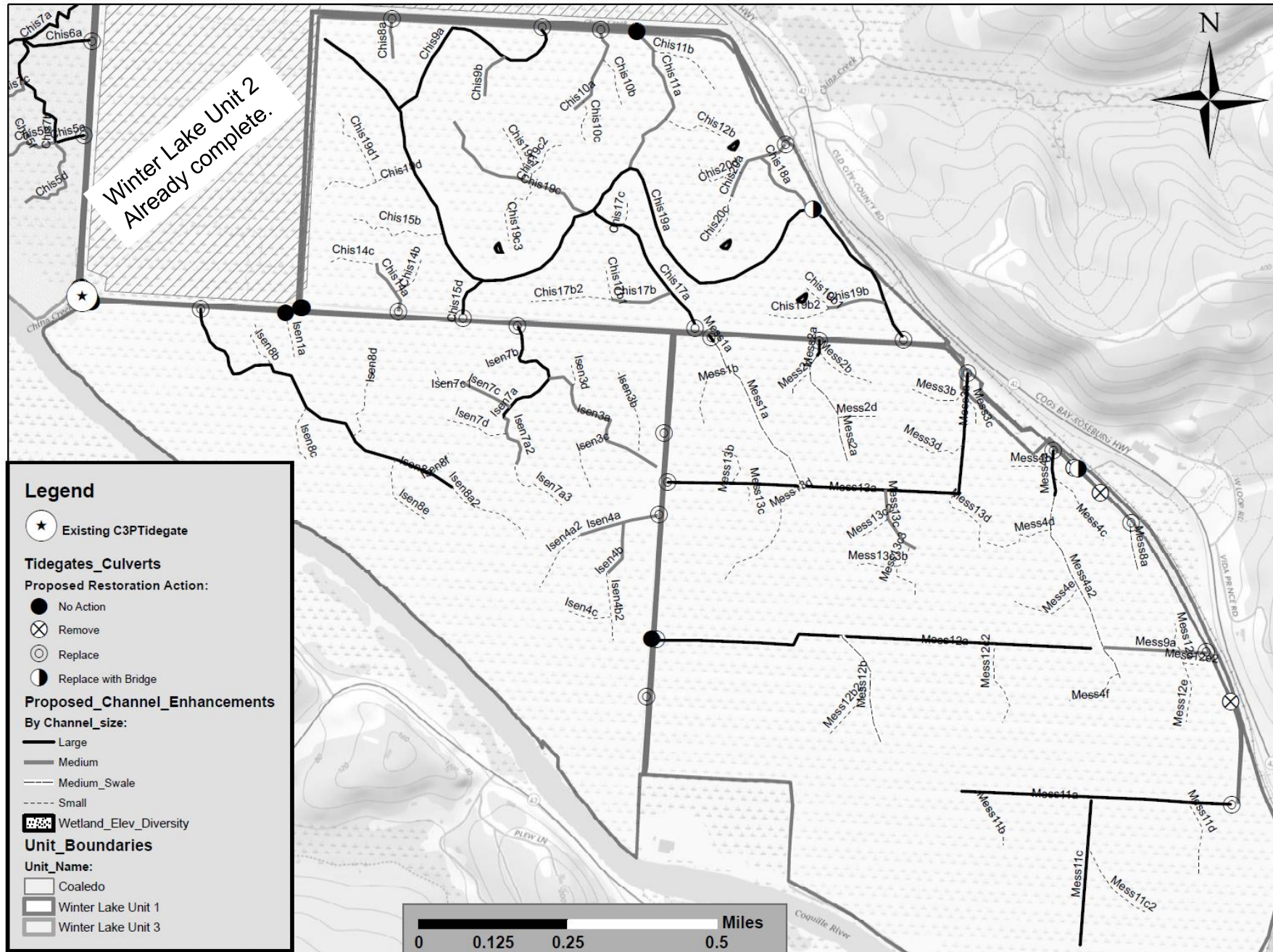
Winter Lake Phase III: Coaledo & Unit 1

Proposed Channel Enhancements & Proposed Culvert-Tidegate Restoration Actions

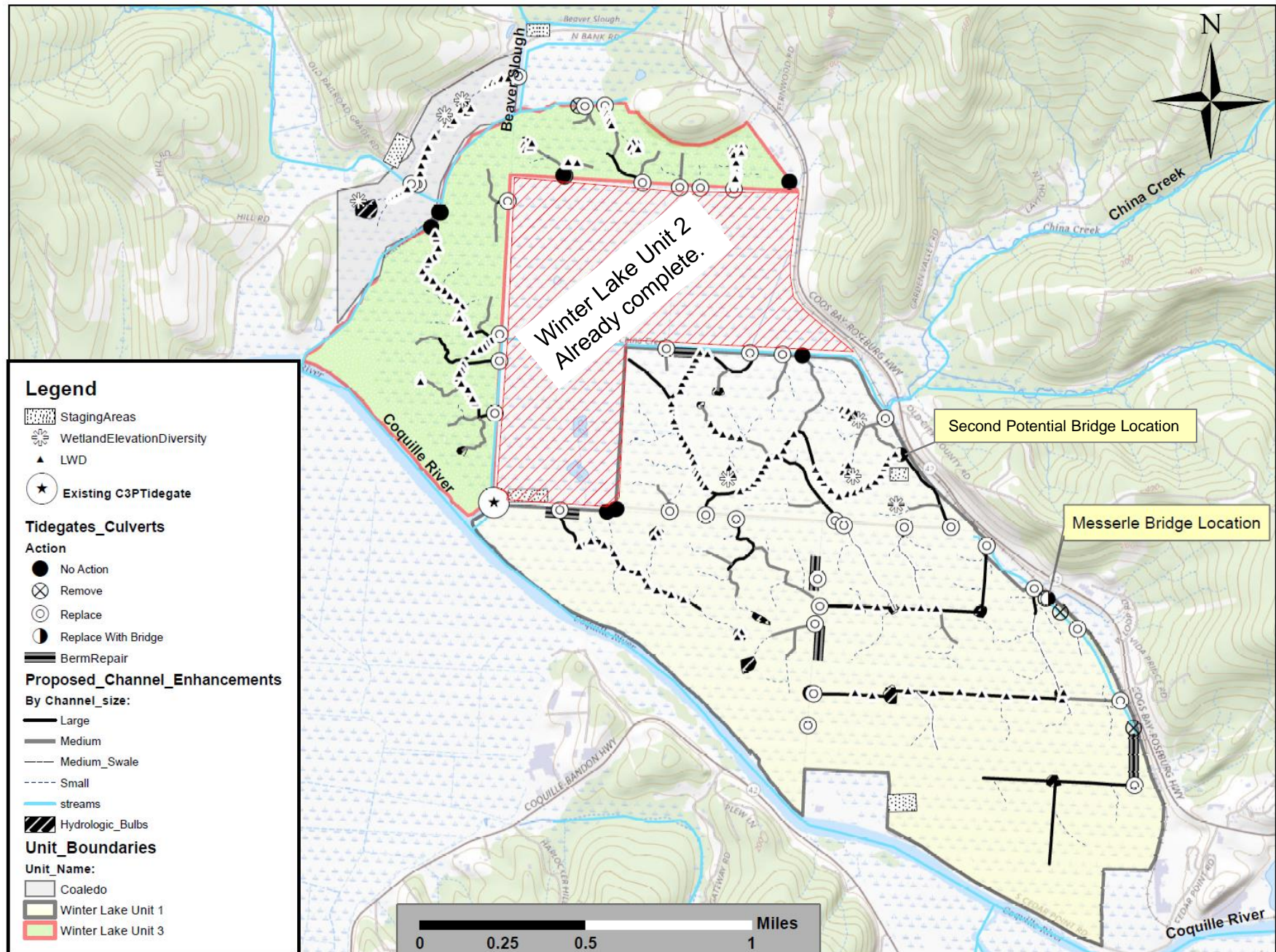


Winter Lake Phase III: Unit 1

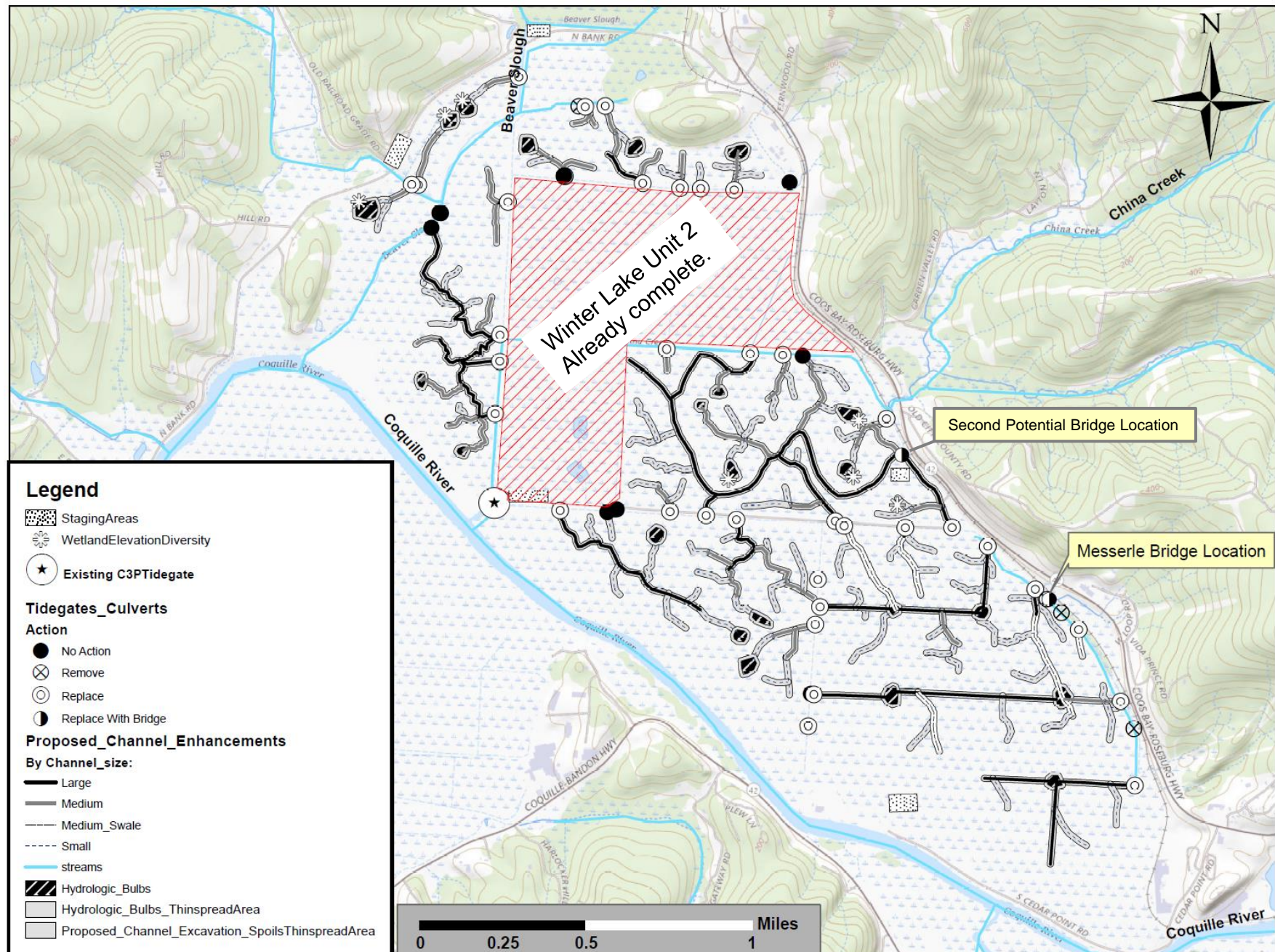
Proposed Channel Enhancements & Proposed Culvert-Tidegate Restoration Actions



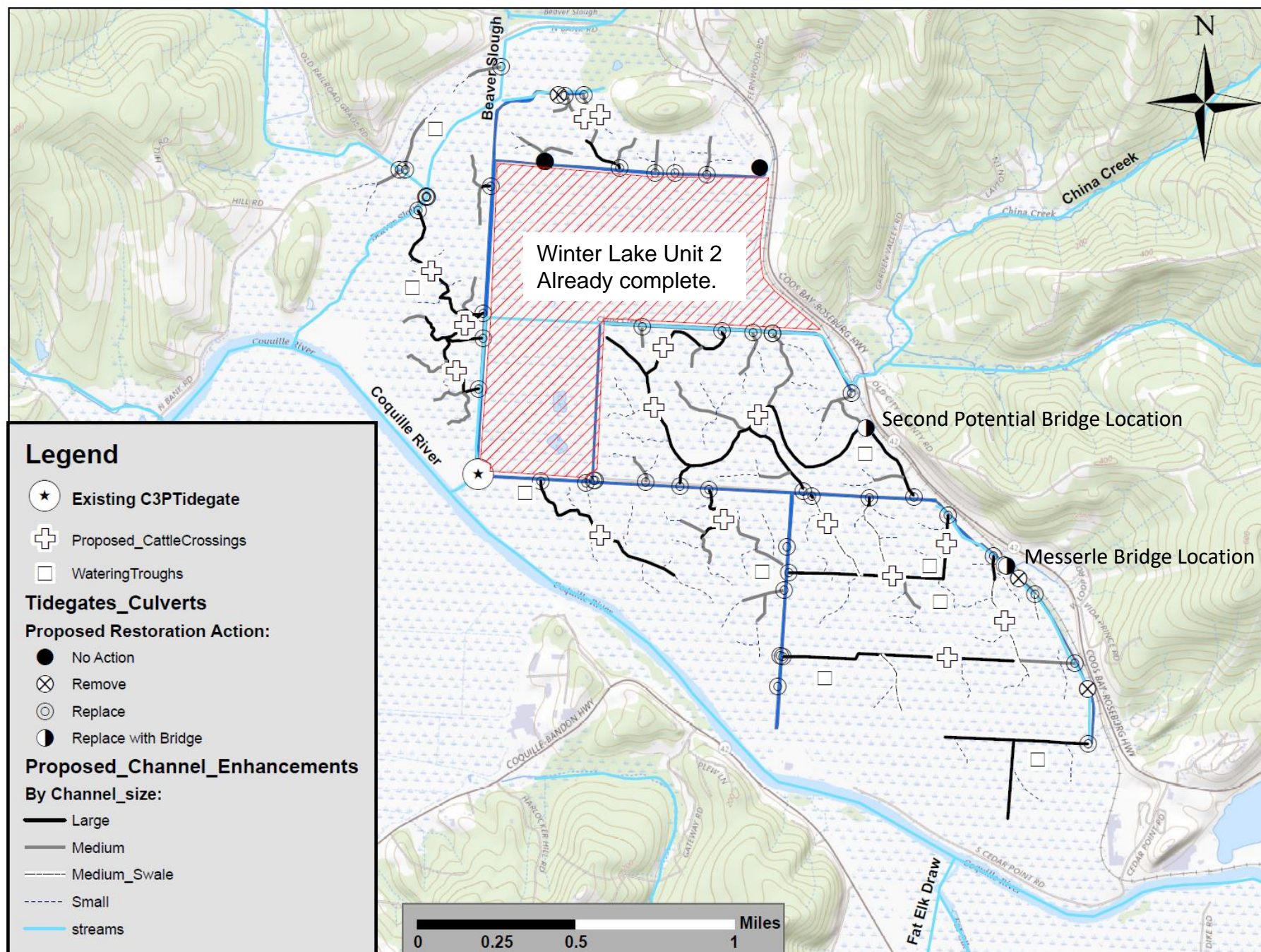
Winter Lake Phase III: Proposed Large Woody Debris Placement Locations



Excavated sediments would be thinspread at the time of excavation



Winter Lake Phase III: Proposed Watering Troughs and Cattle Crossings (Culverts) Locations



Winter Lake Phase III: Messerle Bridge Design Drawing

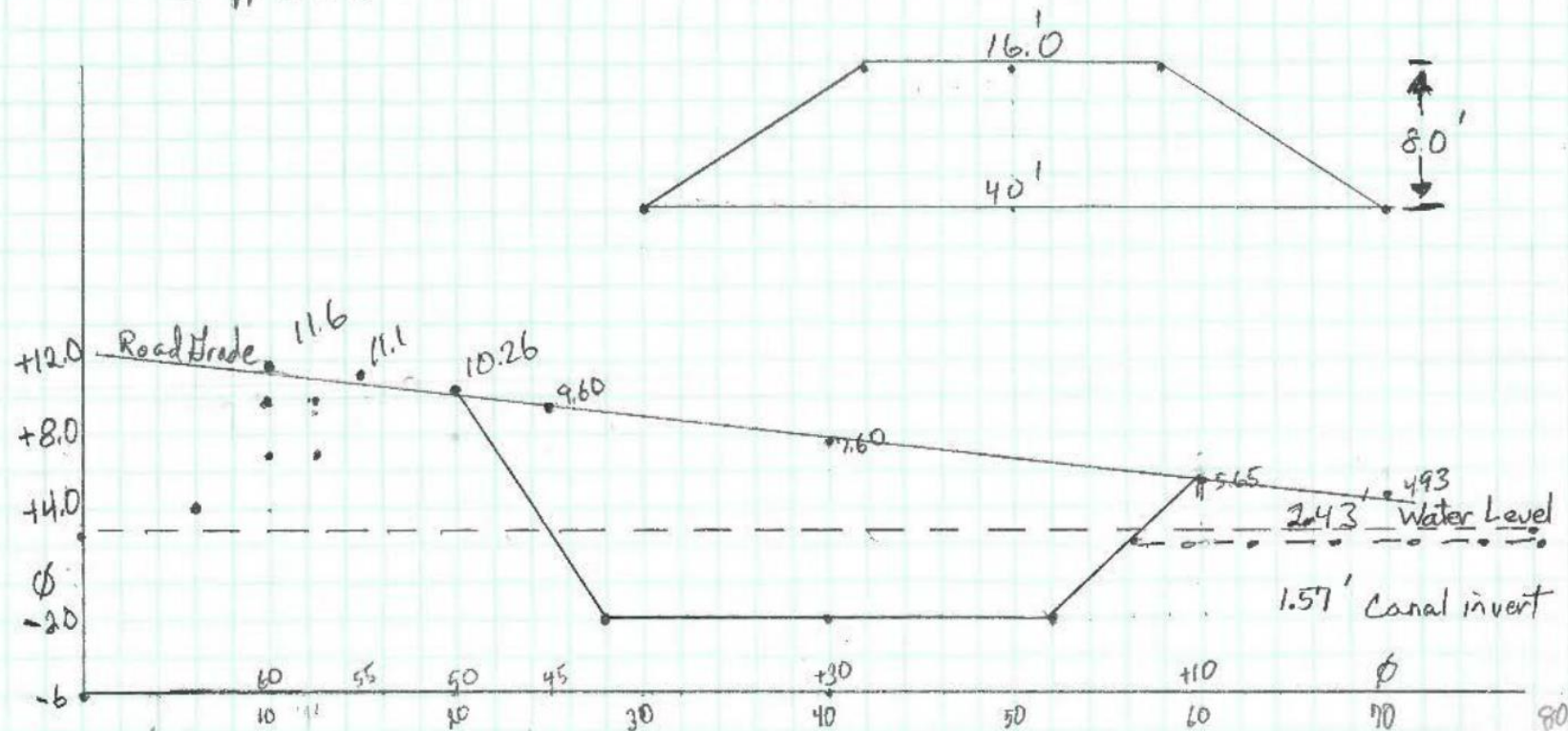
4.18.2020 - Water level = 2.43'
Canal Invert = -2.0

Excavations:

Hill
Middle
field

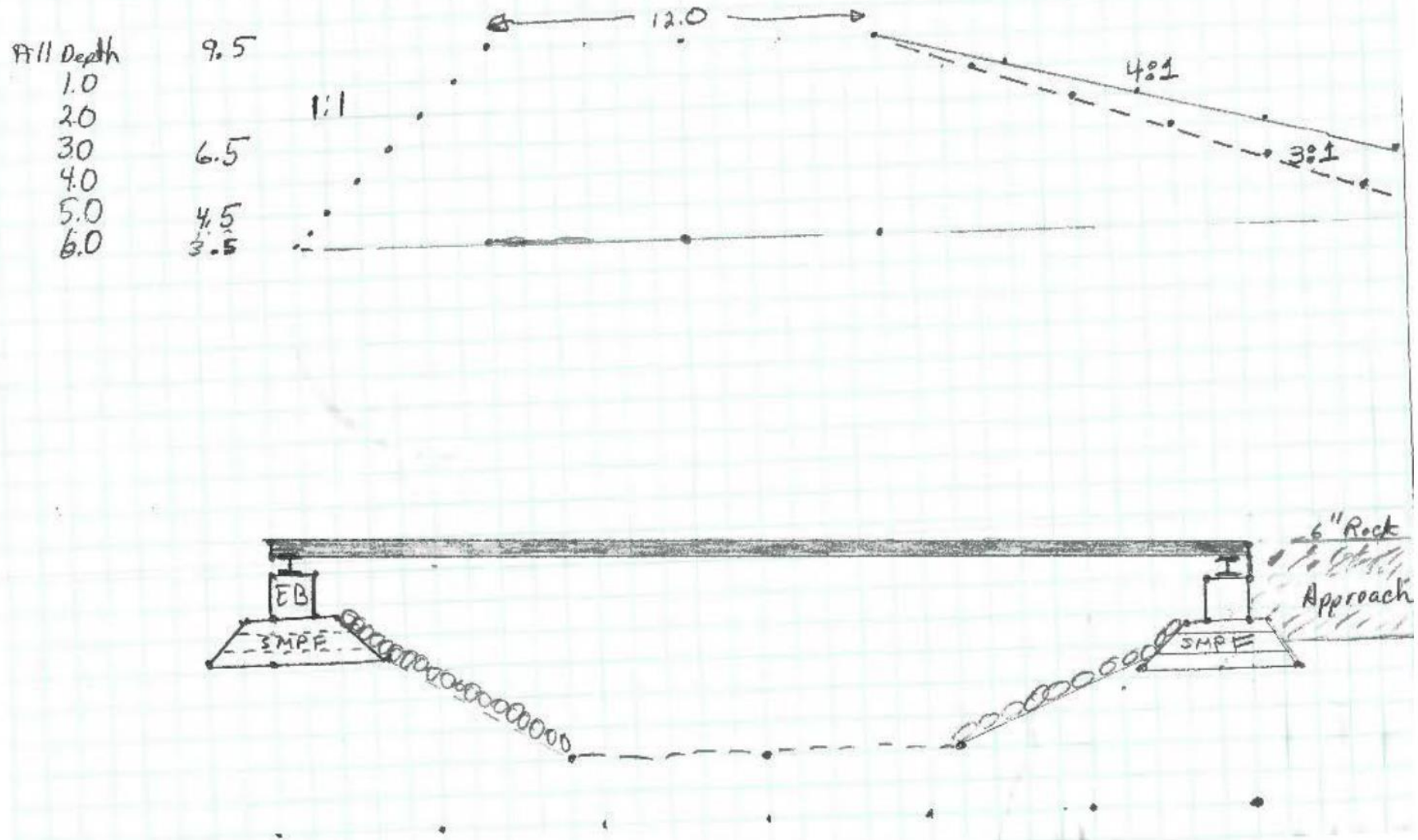
Fill:
Field Approach

Road Profile



Winter Lake Phase III: Messerle Bridge Design Drawing

M+S Bridge - Unit 1 East Canal
 60' RR Bridge with 10' wide Deck.
 12" I Beam Header
 3 - Eco Blocks
 3" shallow Mat Pad Foundation
 with 12" 3" ϕ fabric Burrito Waps

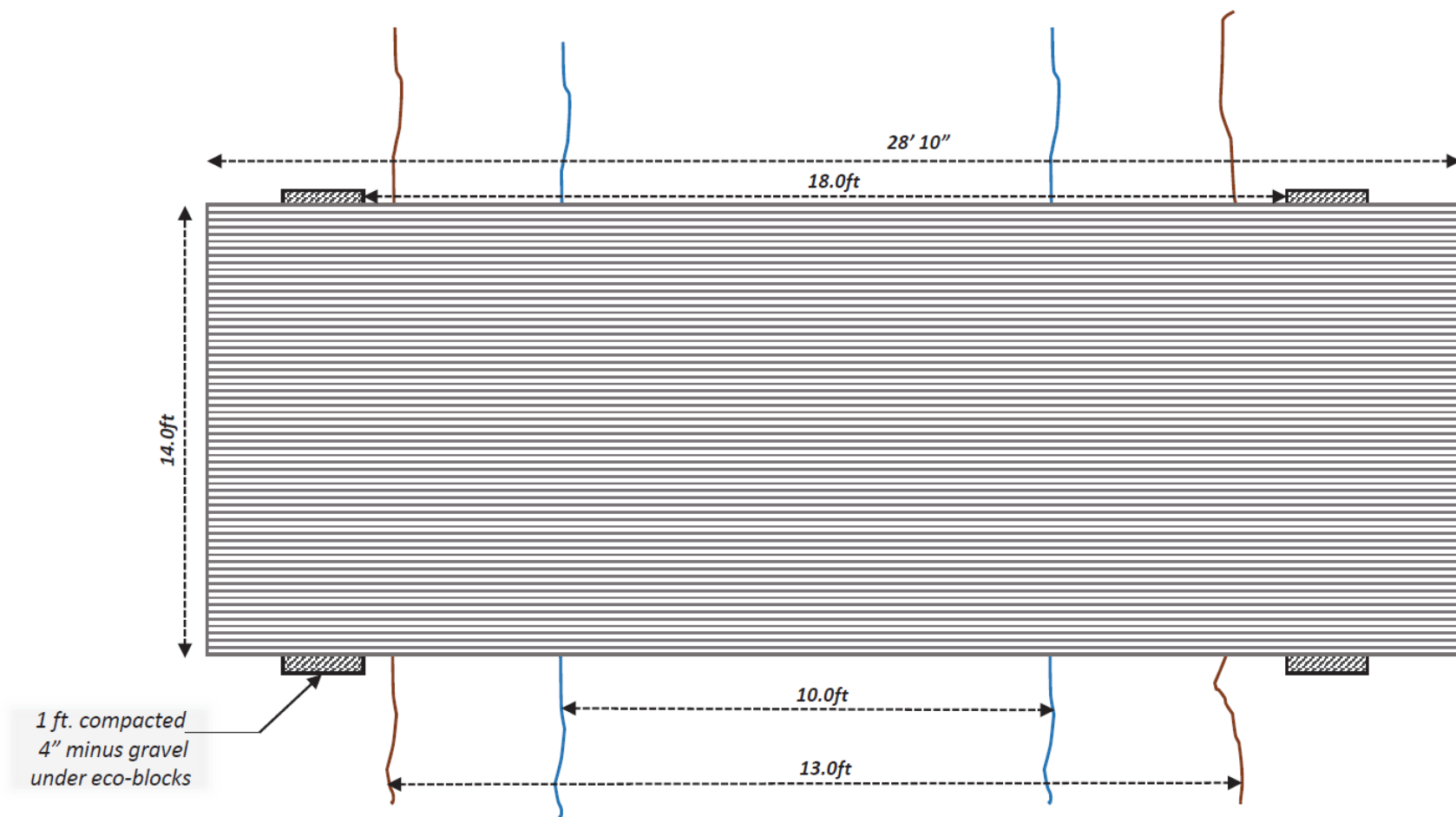


(side view)

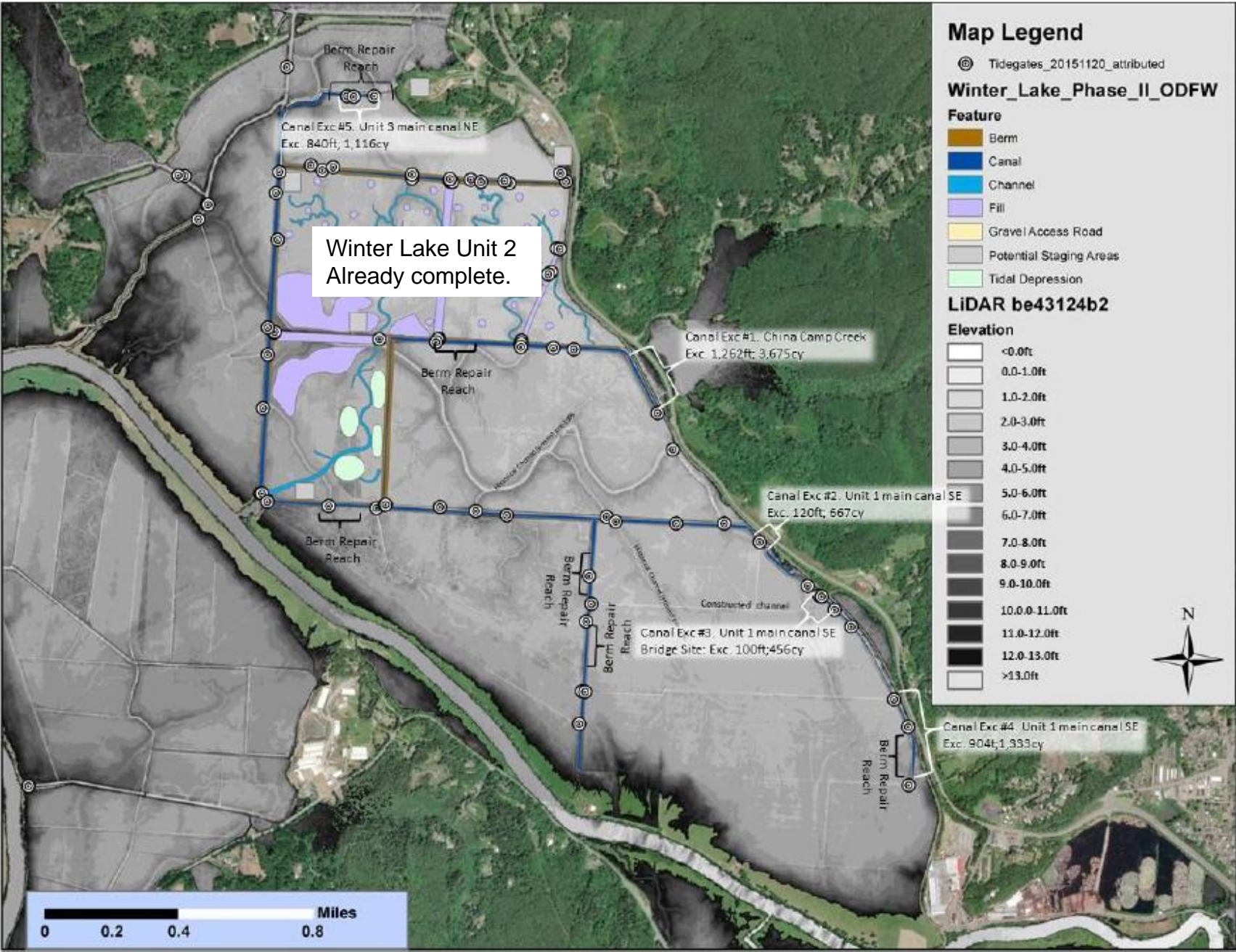


Winter Lake Phase III: Second Potential Bridge Design Drawing

Agricultural Farm Bridge Construction Design Depiction (top view)



Winter Lake Phase III: Canal Excavation and Berm Repair Locations

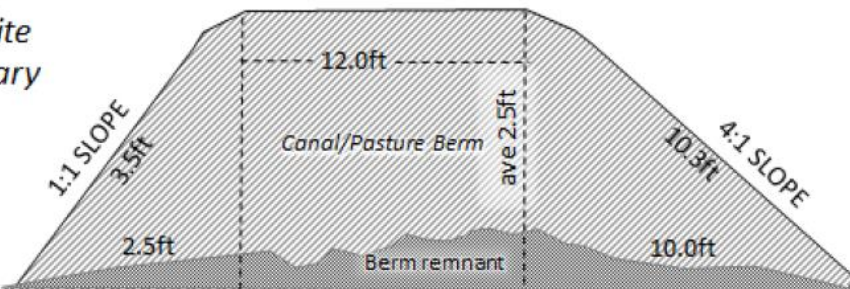


Winter Lake Phase III: Berm Repair/Reconstruction Design



TYPICAL INTERIOR PASTURE/CANAL BERM REPAIR DESIGN

Note: Not Drawn
to scale. Specific site
depths of repair vary



Canal

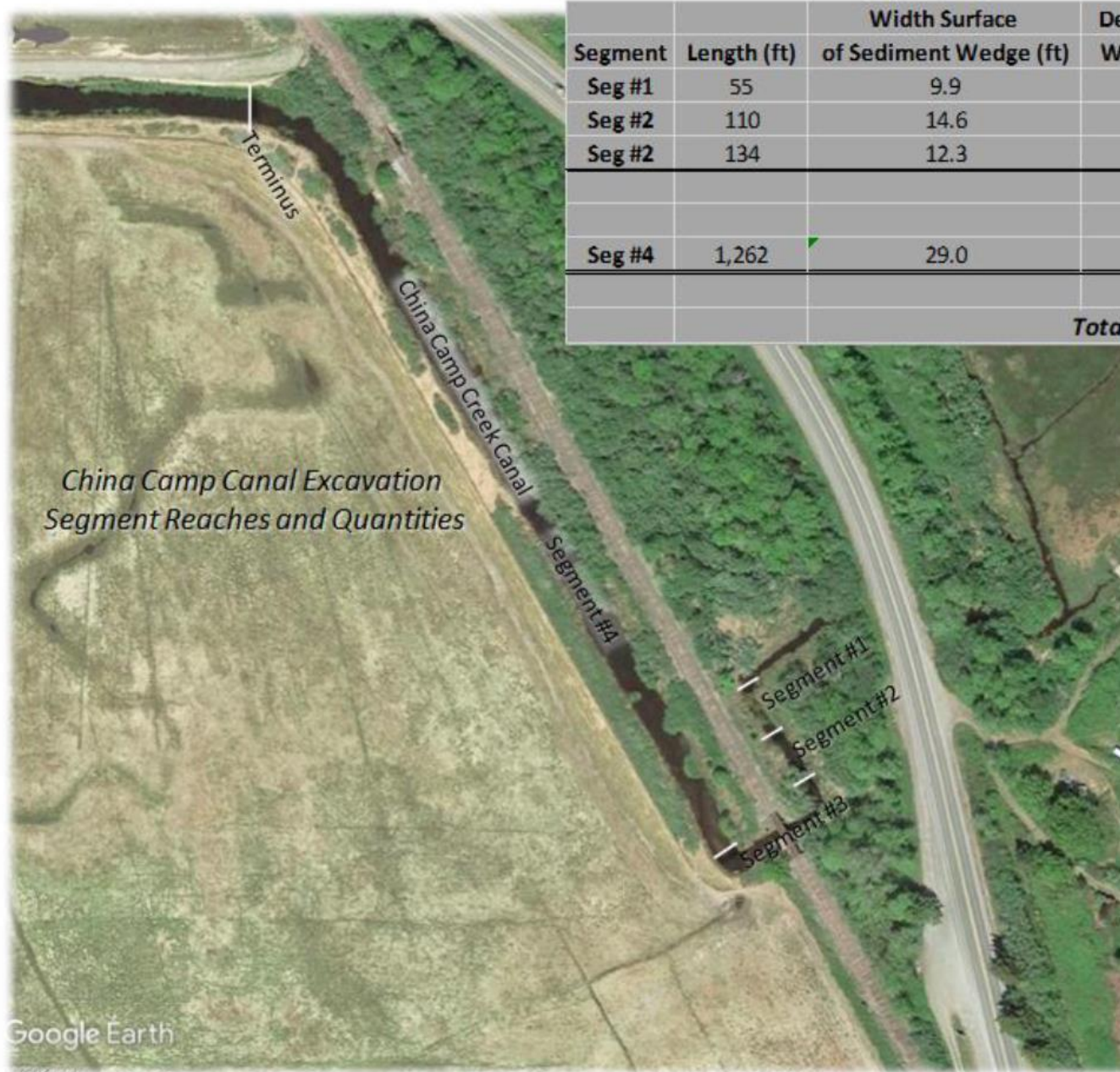
| Location I.D. | Work to be Completed | Length of Repair (ft) | Width of base of Repair (ft) | Ave Depth (ft) | Cubic Yards/ft | Total Cubicyds | Comments |
|-----------------------|----------------------|-----------------------|------------------------------|----------------|----------------|----------------|-------------------------|
| Berm Unit-1 China 1 | Repair/Rebuild | 272 | 20 | 2.5 | 1.70 | 462.4 | |
| Berm Unit-1 China 2 | Repair/Rebuild | 120 | 20 | 2.5 | 1.70 | 204.0 | |
| Berm Unit-1 China 3 | Repair/Rebuild | 120 | 20 | 2.5 | 1.70 | 204.0 | |
| Berm Unit-1 China 4 | Repair/Rebuild | 75 | 20 | 2.5 | 1.70 | 127.5 | |
| Berm Unit-1 East 1 | Repair/Rebuild | 149 | 20 | 2.5 | 1.70 | 253.3 | |
| Berm Unit-1 East 2 | Repair/Rebuild | 381 | 20 | 2.5 | 1.70 | 647.7 | |
| Berm Unit-1 South 1 | Repair/Rebuild | 135 | 20 | 3.5 | 2.20 | 297.0 | |
| Berm Unit-1 South 2 | Repair/Rebuild | 220 | 20 | 2.5 | 1.70 | 374.0 | |
| Berm Unit-1 South 3 | Repair/Rebuild | 75 | 20 | 3.5 | 2.20 | 165.0 | |
| Berm Unit-1 S. East 1 | Repair/Rebuild | 305 | 20 | 3.0 | 2.17 | 731.9 | Rock cap of 67cy in tot |
| Berm Unit-3 South 1 | Repair/Rebuild | 121 | 20 | 2.5 | 1.70 | 205.7 | |
| Berm Unit-3 North 1 | Repair/Rebuild | 600 | 15 | 1.5 | 0.85 | 510.0 | |
| Berm Unit-3 Mid 1 | Repair/Rebuild | 100 | 20 | 2.5 | 1.70 | 170.0 | |
| Berm Unit-1 South 4 | Repair/Rebuild | 250 | 15 | 1.5 | 0.85 | 212.5 | |
| Berm Unit-1 E. Bridge | New Bridge | 175 | 15 | 2.5 | 1.70 | 357.5 | Rock Cap of 60cy in tot |
| Berm Unit-3 NE 1 | Repair/Rebuild | 400 | 15 | 1.5 | 0.85 | 400.0 | |
| Total | | | | | | 5,322.5 | |

*Note: No new wetland area fill; = zero as the existing
berm is being raised; already berm base at all locations*

Prepared by Winter Lake Phase III Team
ODFW, BSDD, and Coos SWCD

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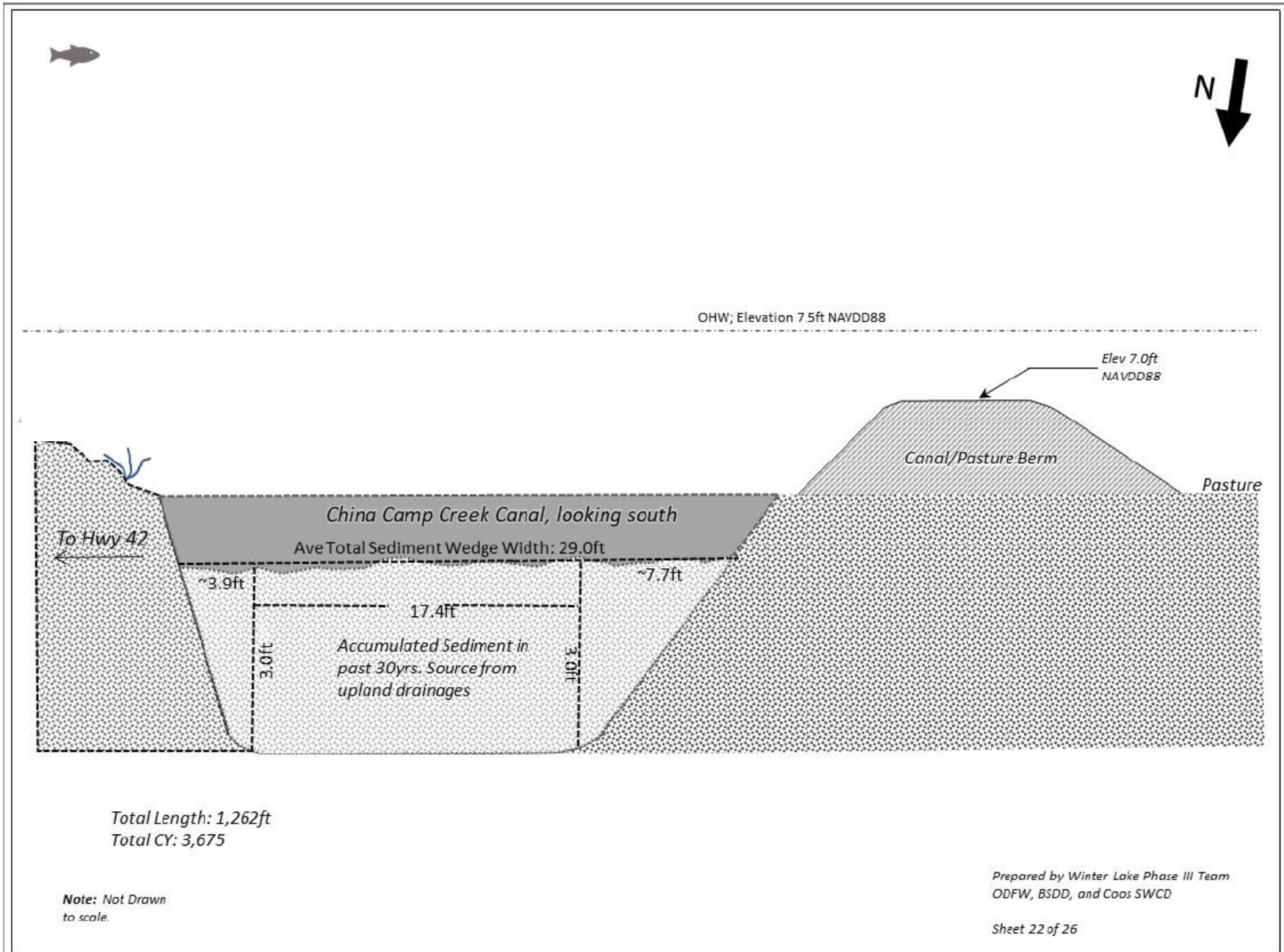
Winter Lake Phase III: Channel Maintenance Sediment Excavation China Camp Canal Segments and Specifications



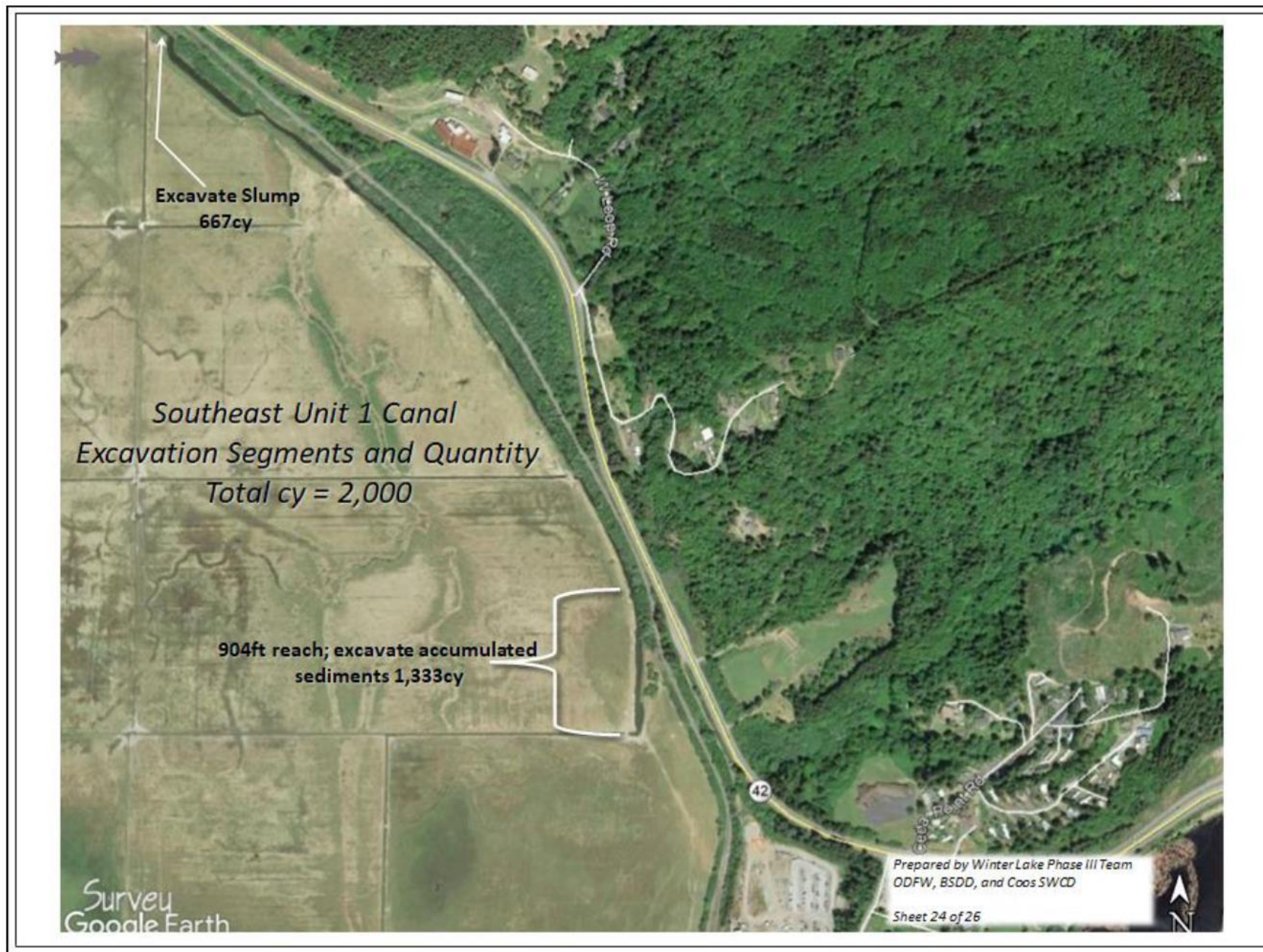
| Segment | Length (ft) | Width Surface of Sediment Wedge (ft) | Depth Sediment Wedge; Ave (ft) | Total Cubic Yards |
|---------------------------|-------------|---|-----------------------------------|-------------------|
| Seg #1 | 55 | 9.9 | 3.0 | 60.2 |
| Seg #2 | 110 | 14.6 | 3.0 | 178.8 |
| Seg #2 | 134 | 12.3 | 3.0 | 183.1 |
| SubTotal | | | | 422.1 |
| Seg #4 | 1,262 | 29.0 | 4.0 | 3,253.0 |
| Total all Segments | | | | 3675.1 |

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ODFW, BSDD, and Coos SWCD

Winter Lake Phase III: Canal Excavation Location #1, China Camp Creek Canal

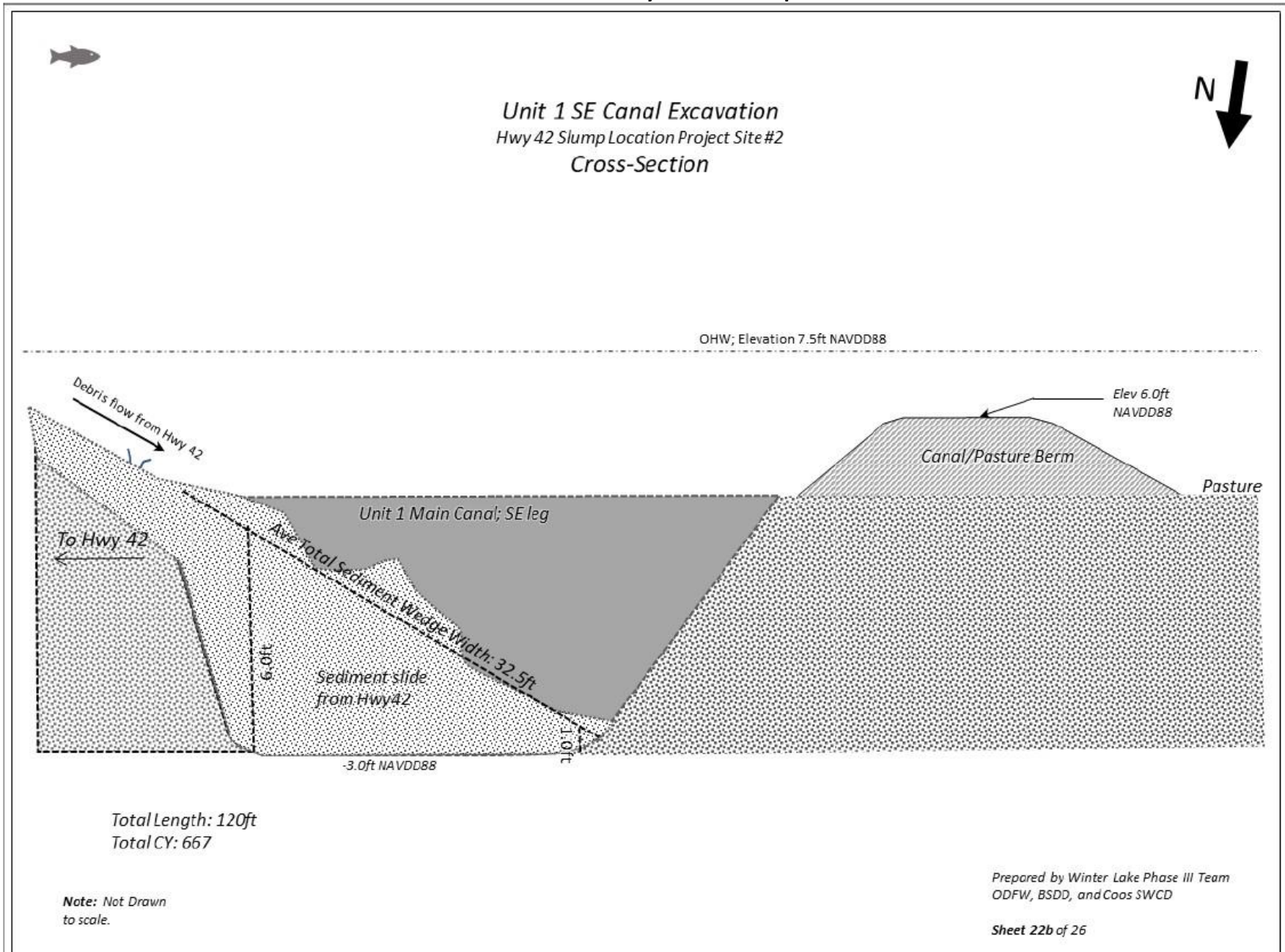


Winter Lake Phase III: Channel Maintenance Sediment Excavation Southeast Unit I Canal Location and Specifications

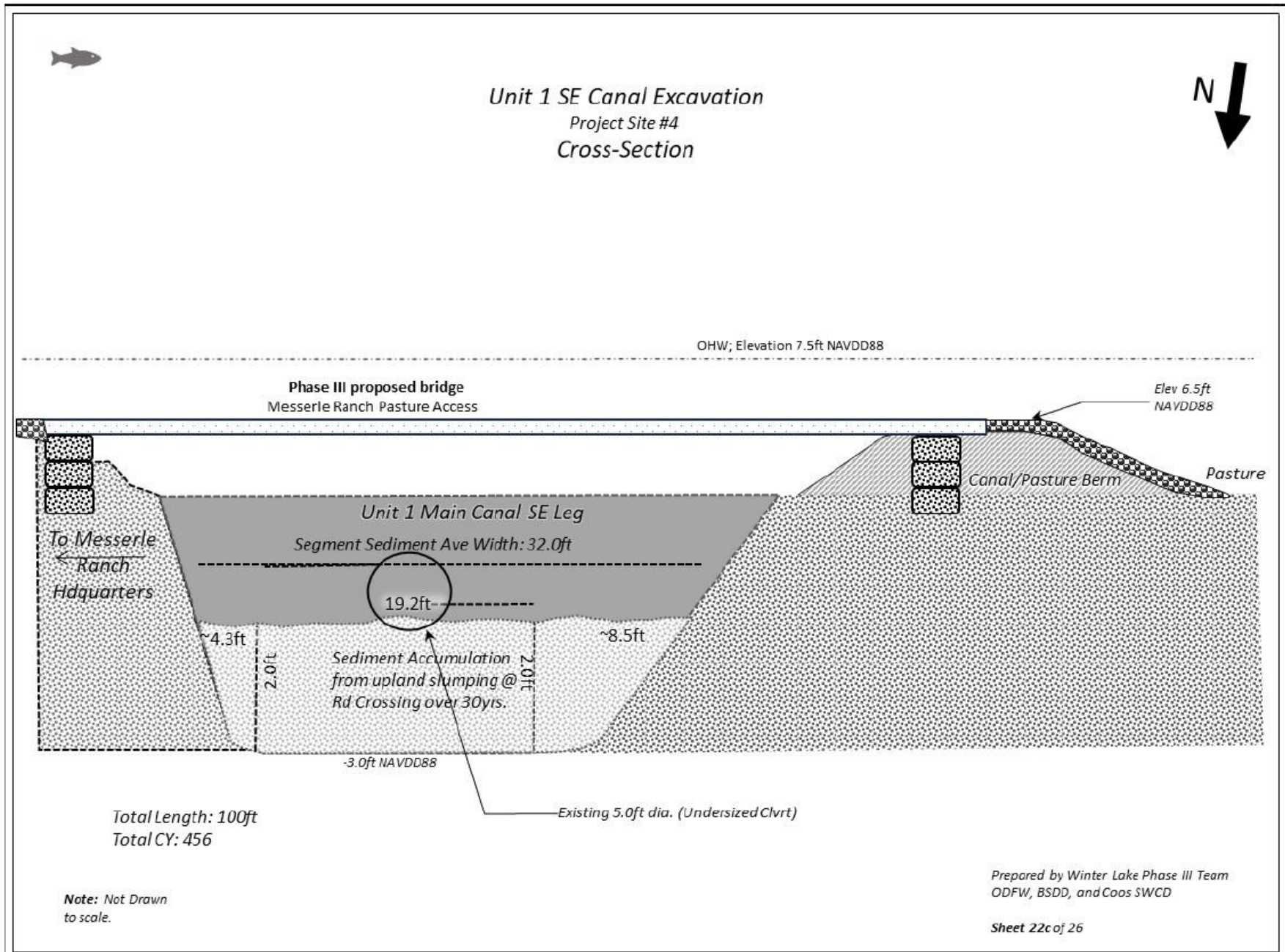


Winter Lake Phase III: Canal Excavation Location #2

Unit 1, SE Canal, Hwy 42 Slump Removal

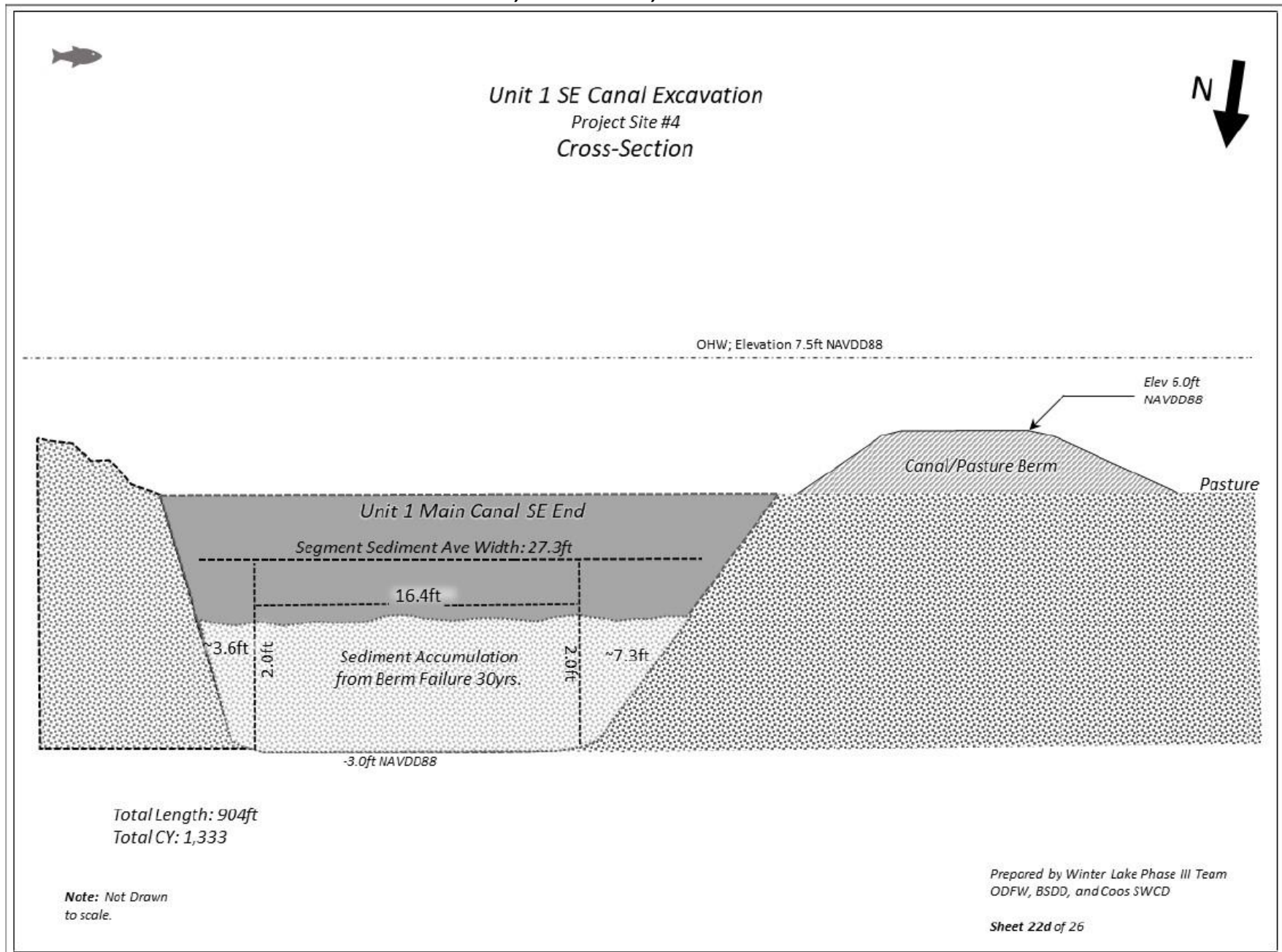


Winter Lake Phase III: Canal Excavation Location #3 Unit 1, SE Canal, Messerle Ranch pasture access, undersized culvert location



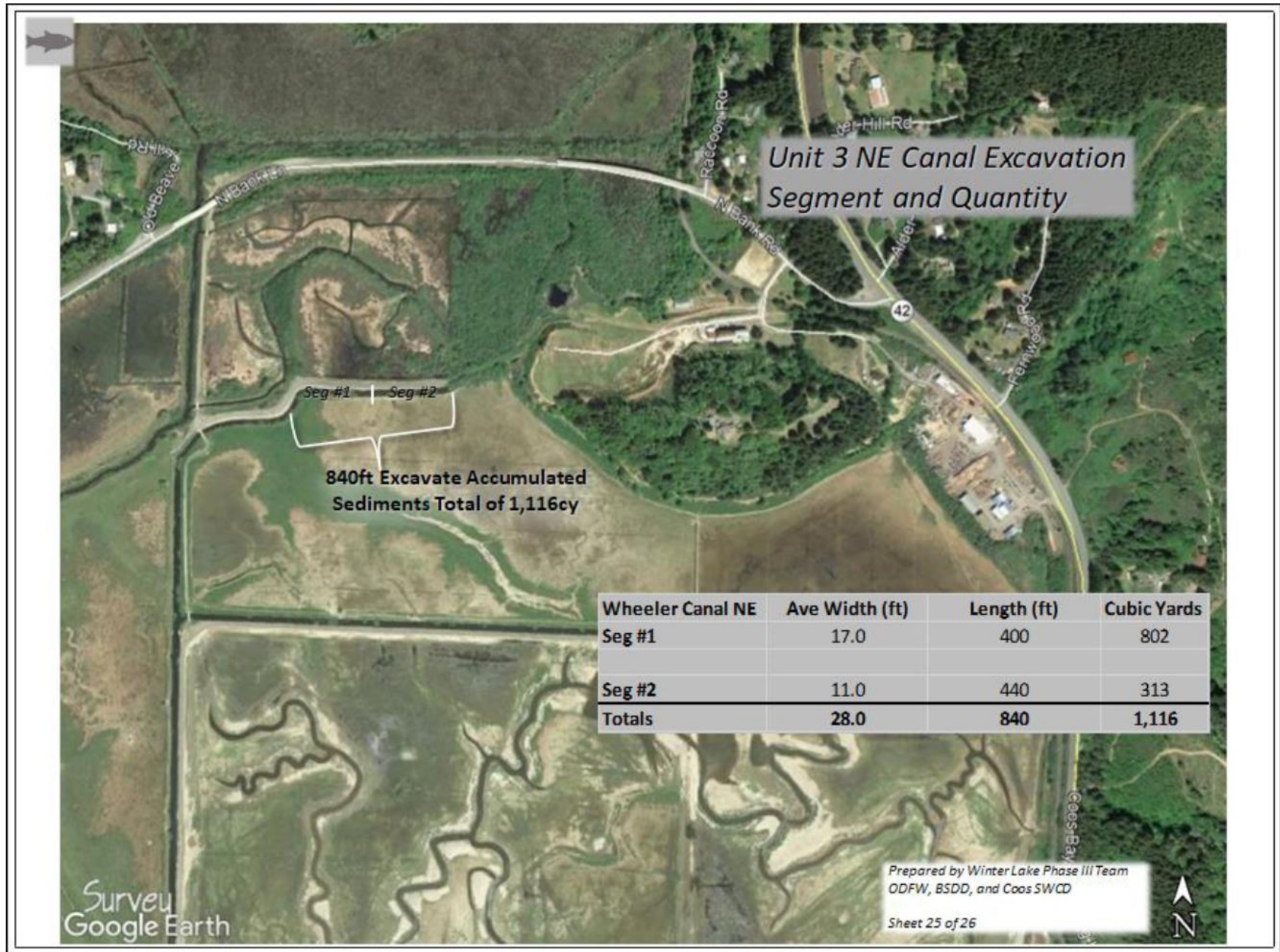
Winter Lake Phase III: Canal Excavation Location #4

Unit 1, SE Canal, Final 940 feet



Winter Lake Phase III: Channel Maintenance Sediment Excavation

Unit 3 NE Canal Location and Specifications



Winter Lake Phase III: Canal Excavation Location #5

Unit 3 NE, Final 840 feet

