

Figure C1.1. Affected Resource Area 1









Figure C1.2. Affected Resource Area 3









Figure C1.3. Affected Resource Area 5







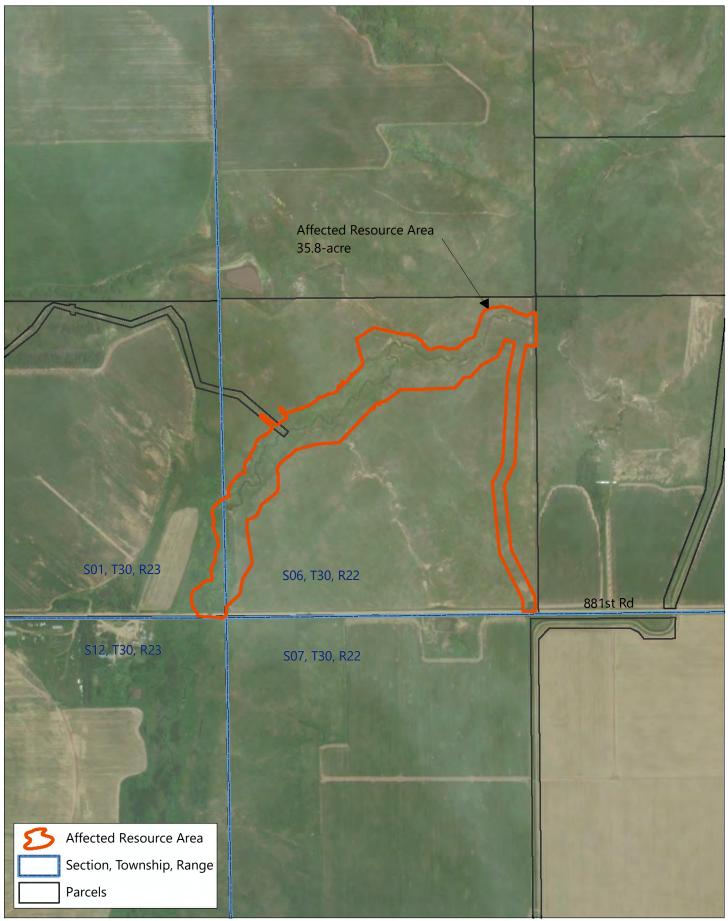


Figure C1.4. Affected Resource Area 6







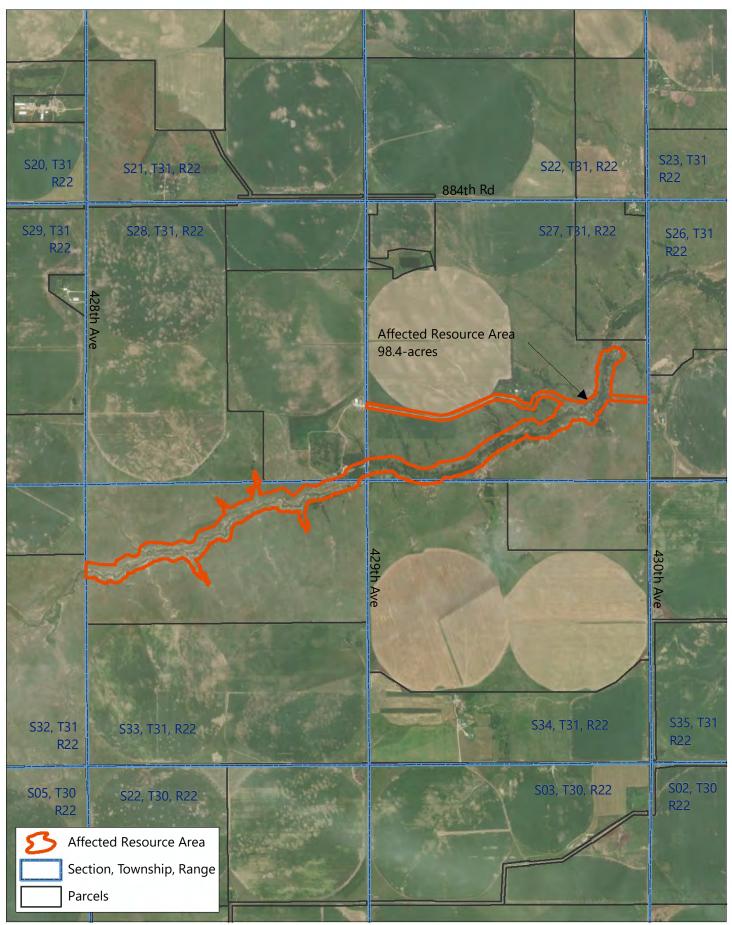


Figure C1. 5. Affected Resource Area 7









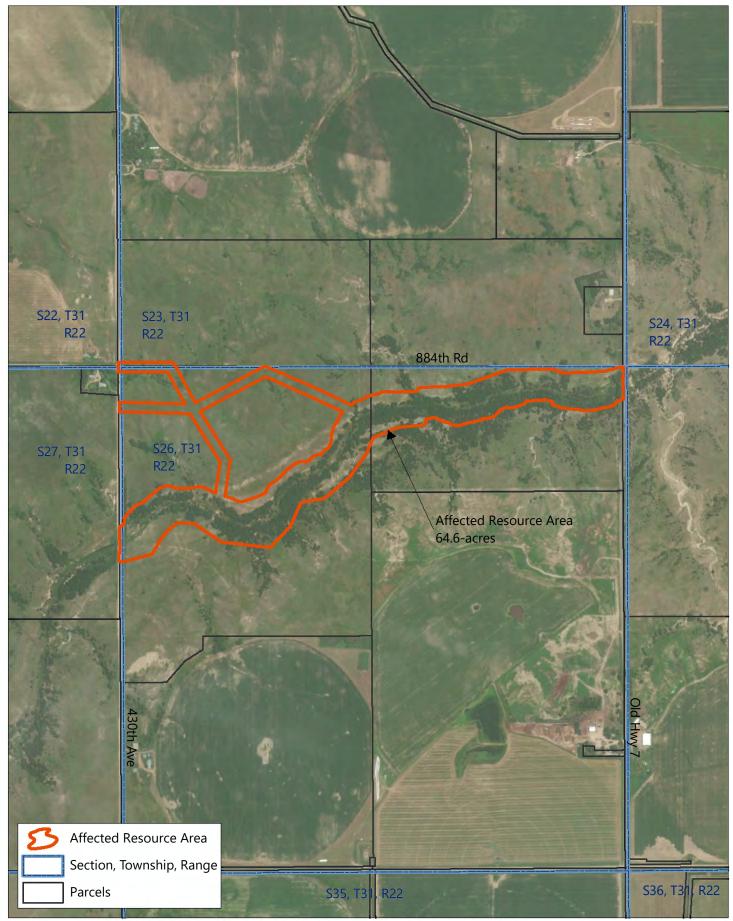
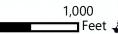


Figure C1.6. Affected Resource Area 8









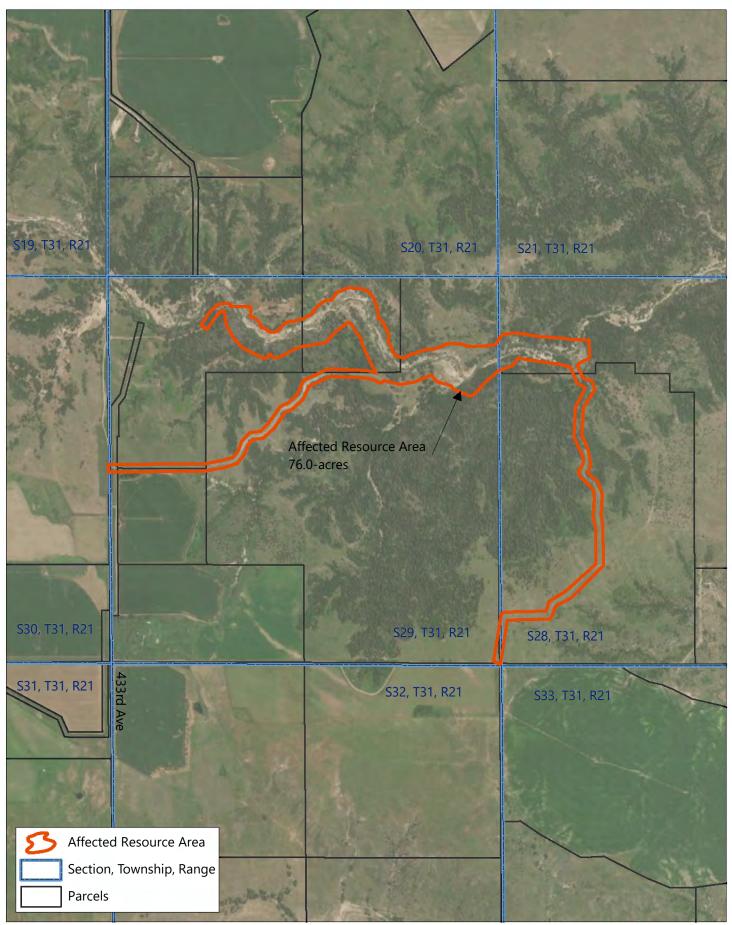


Figure C1.7. Affected Resource Area 9







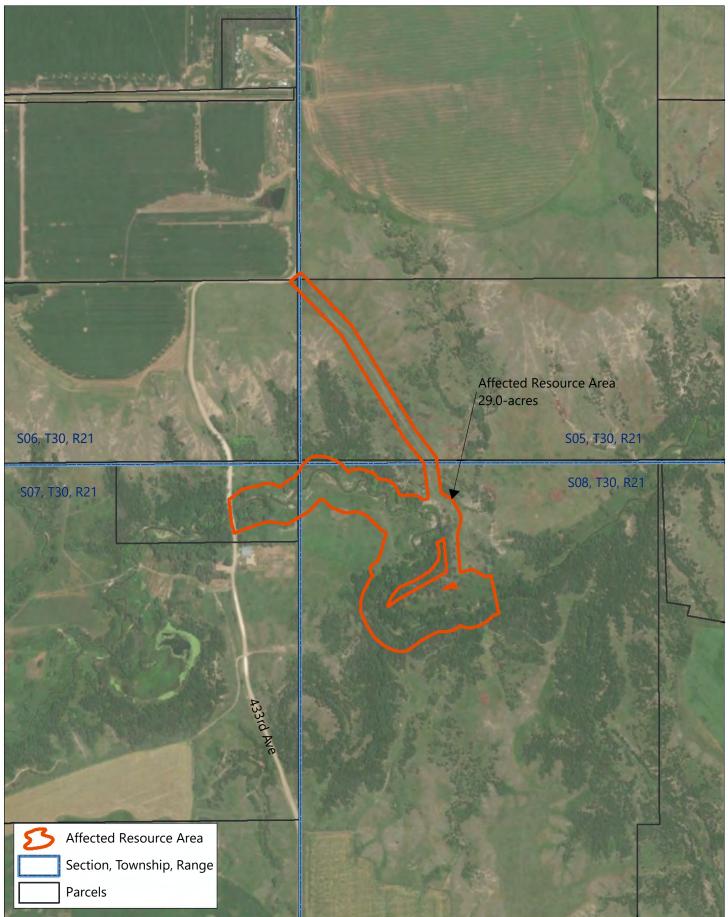


Figure C1.8. Affected Resource Area 10







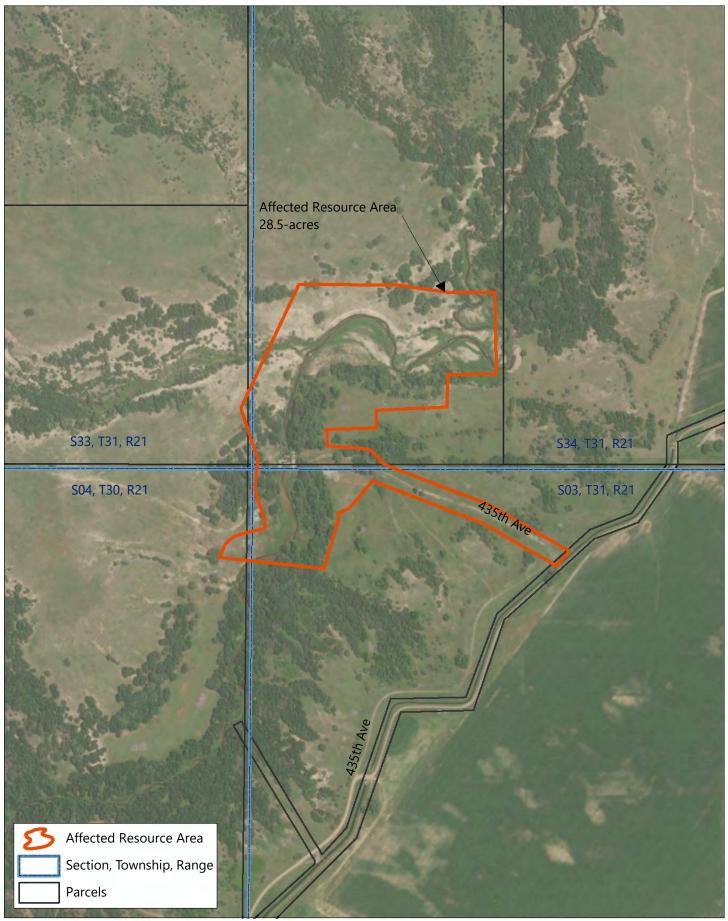


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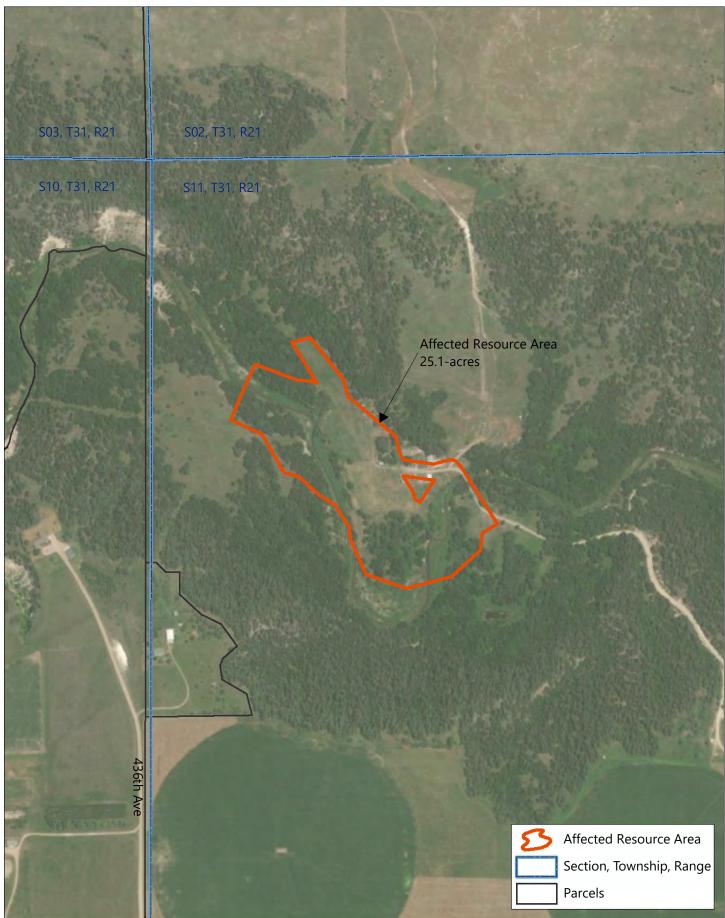


Figure C1.10. Affected Resource Area 12







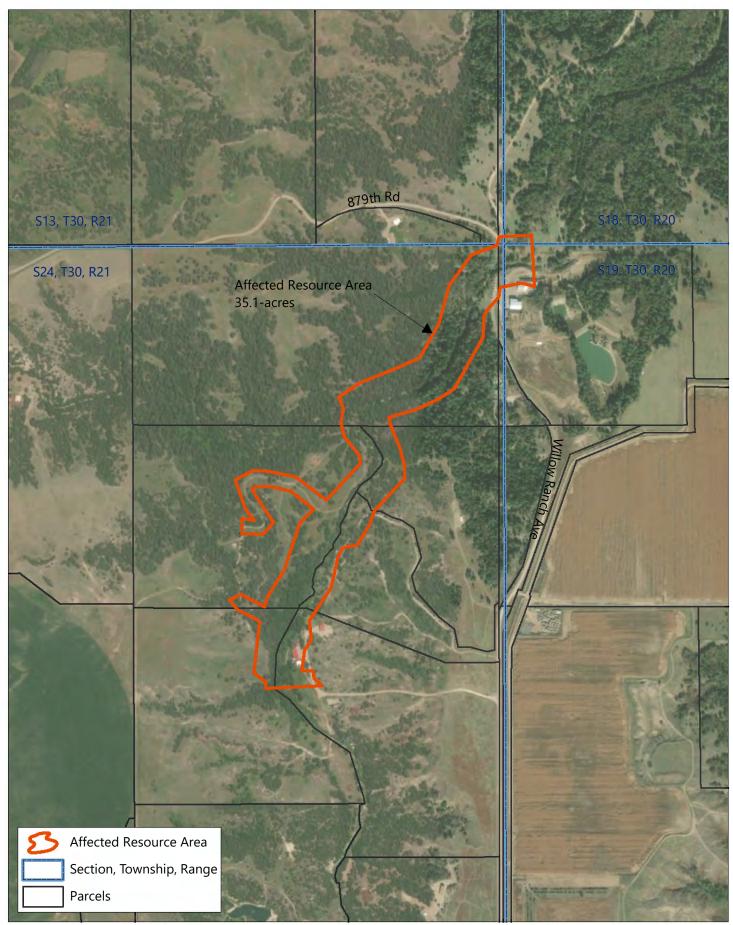


Figure C1.11. Affected Resource Area 13



700





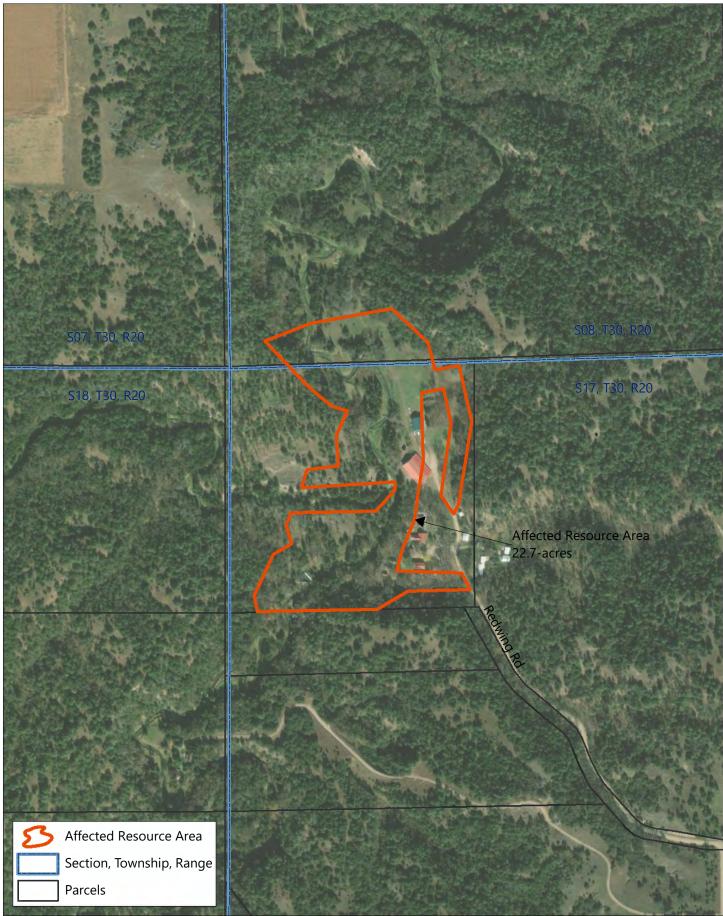


Figure C1.12. Affected Resource Area 14







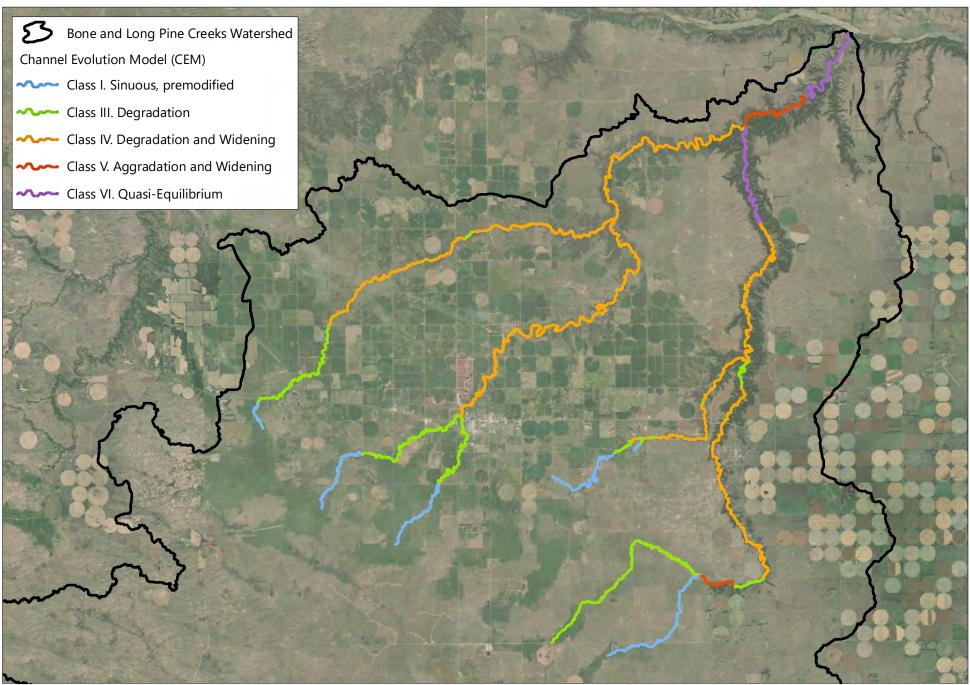


Figure C-2. Channel Evolution Models









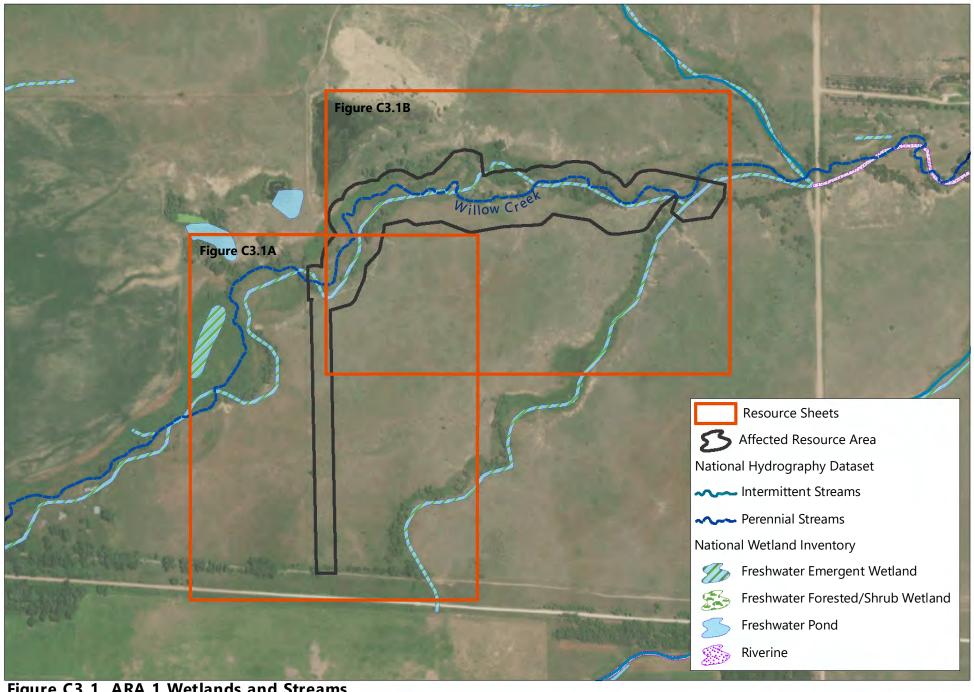


Figure C3.1. ARA 1 Wetlands and Streams Index Sheet



500 Feet





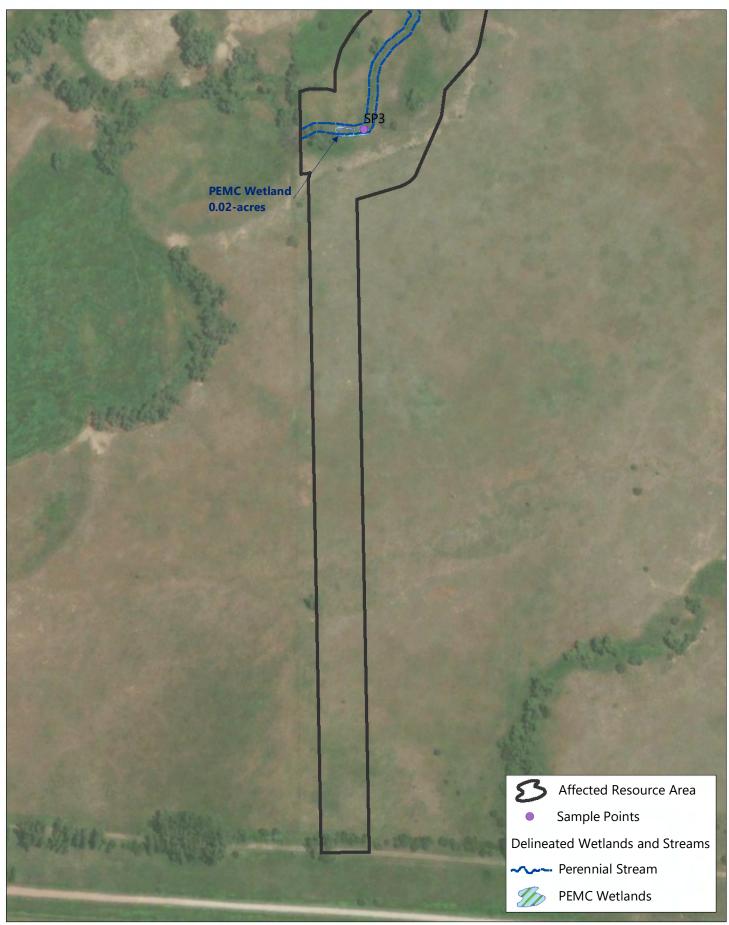


Figure C3.1A. ARA 1 Wetlands and Streams









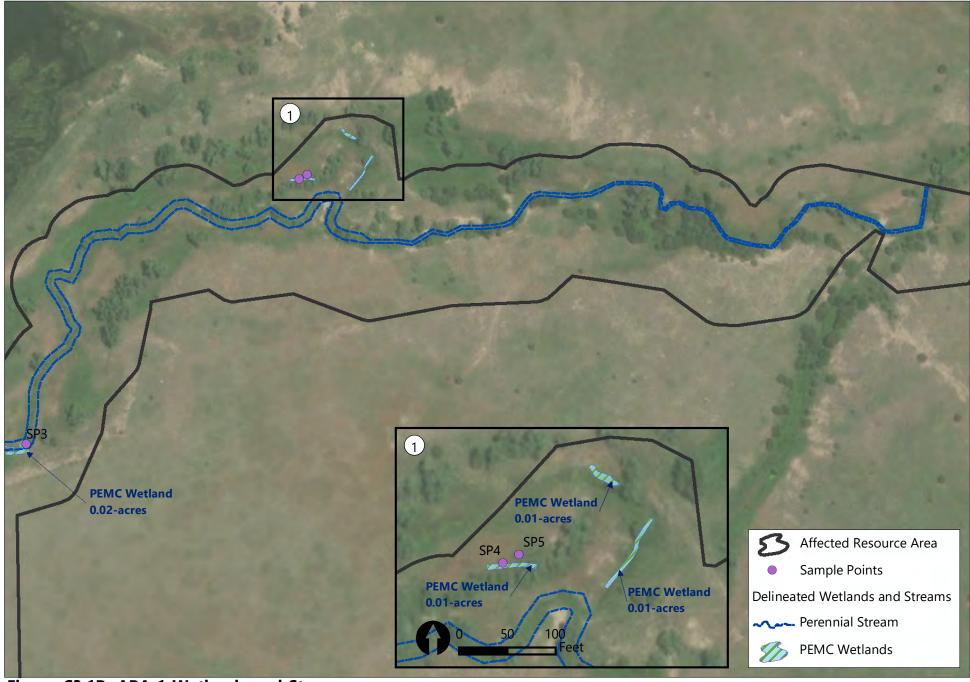


Figure C3.1B. ARA 1 Wetlands and Streams



0 200 Feet





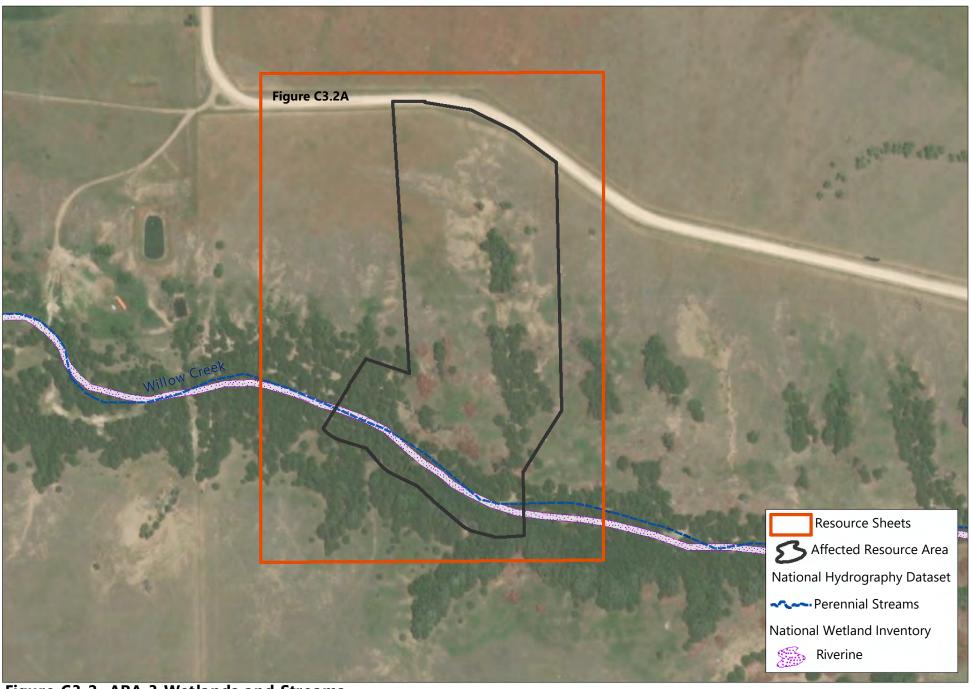


Figure C3.2. ARA 3 Wetlands and Streams Index Sheet









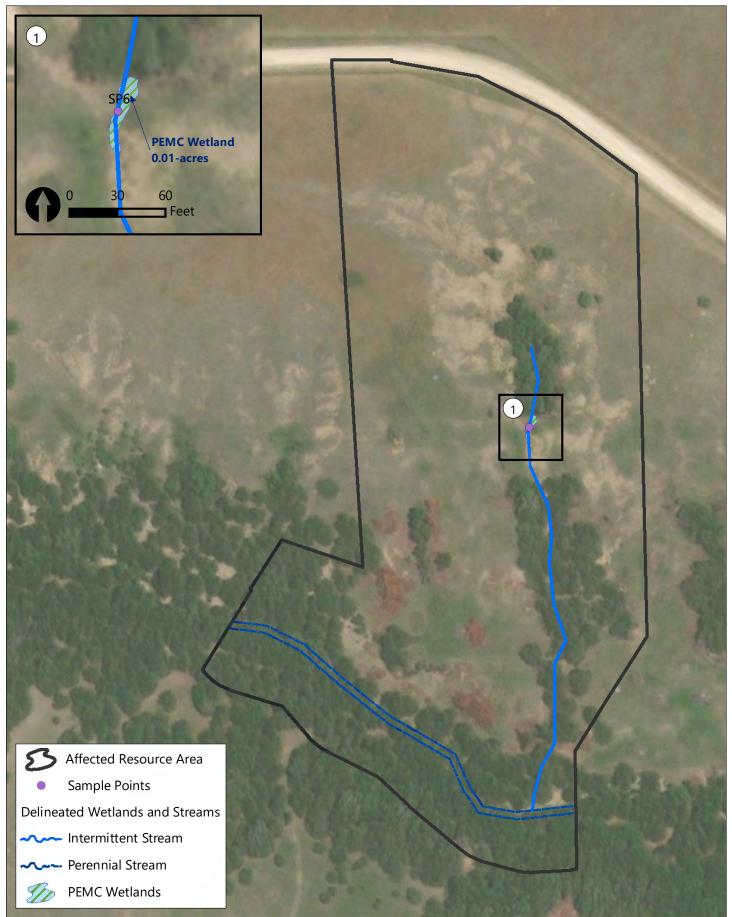


Figure C3.2A. ARA 3 Wetlands and Streams







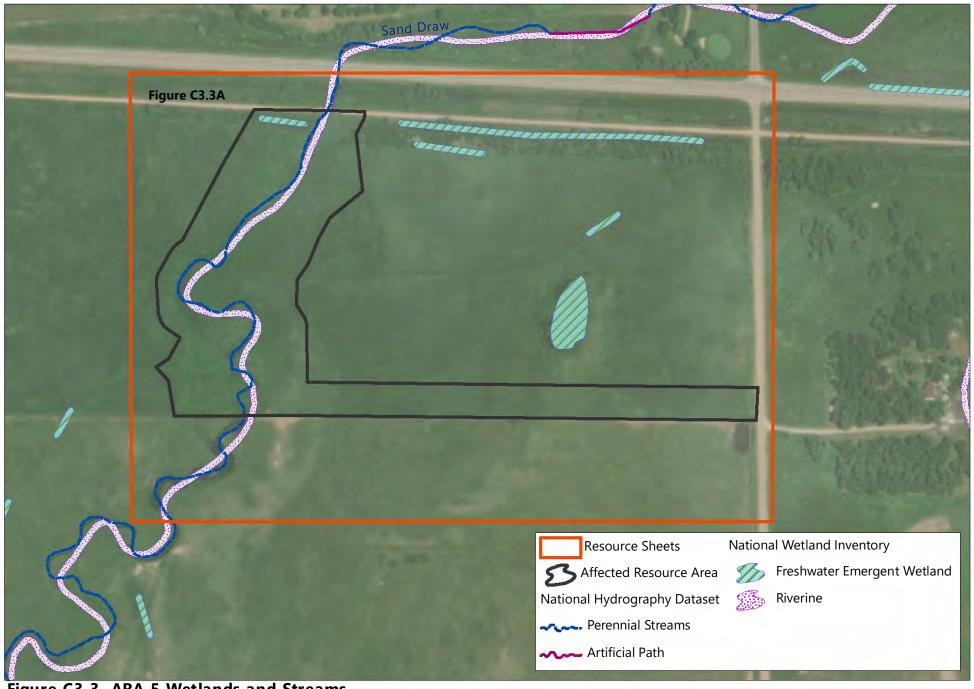


Figure C3.3. ARA 5 Wetlands and Streams Index Sheet









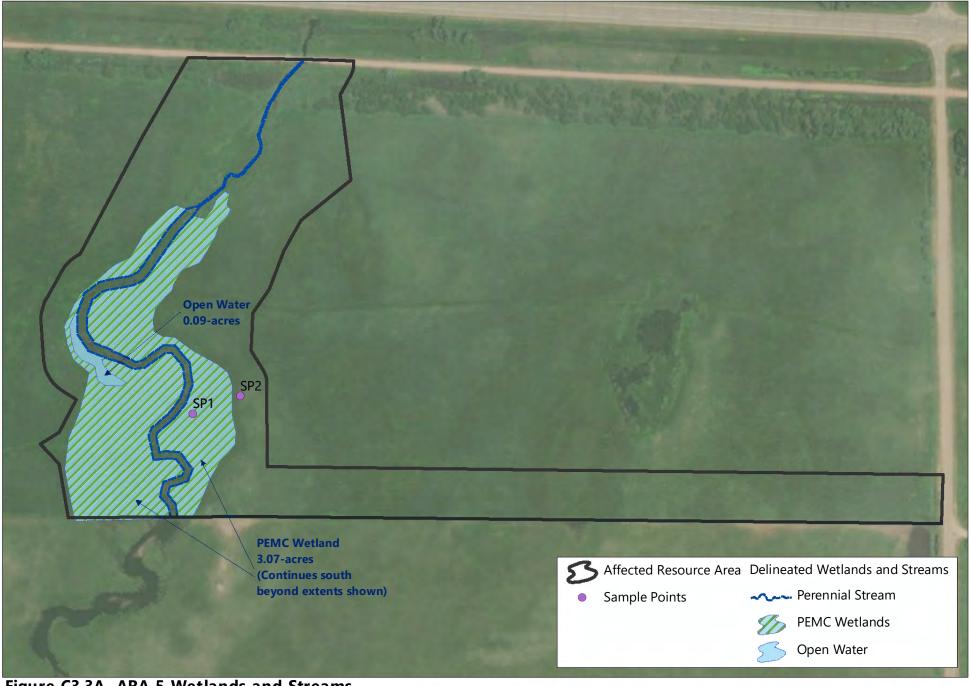


Figure C3.3A. ARA 5 Wetlands and Streams









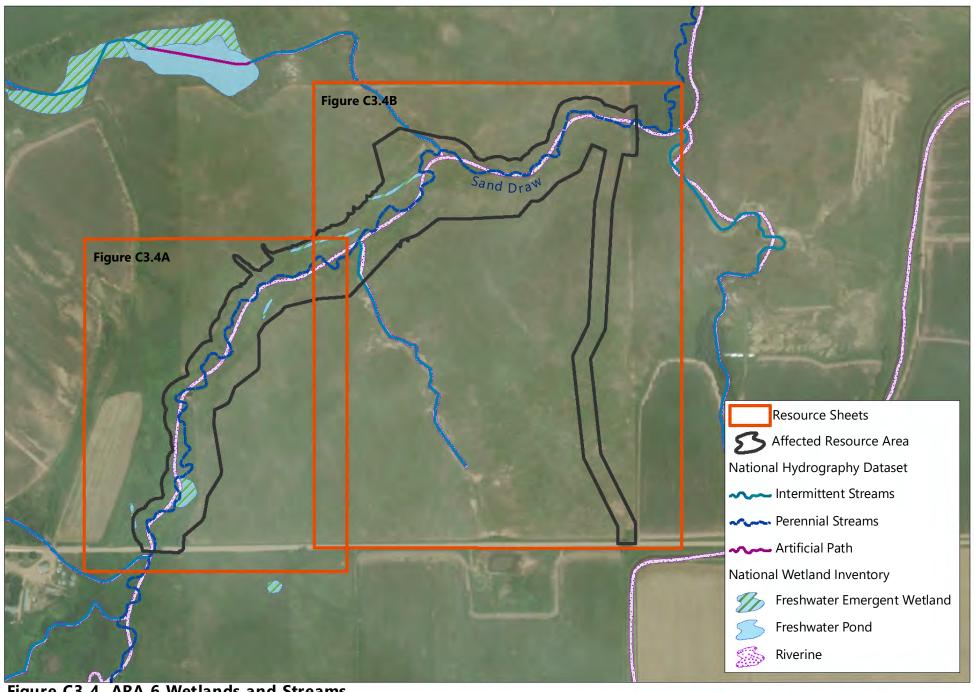


Figure C3.4. ARA 6 Wetlands and Streams Index Sheet









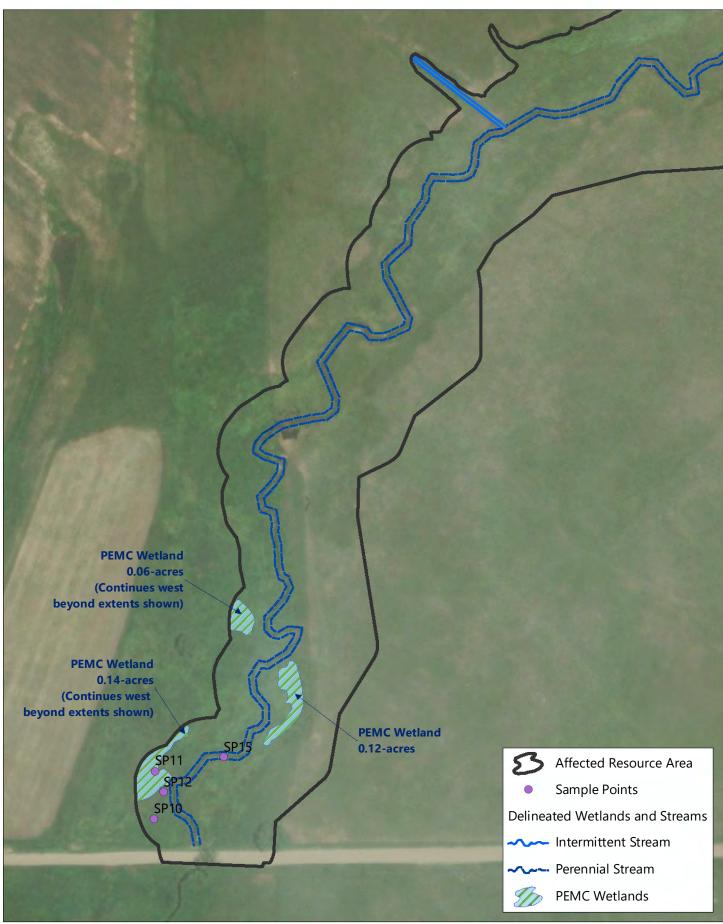


Figure C3.4A. ARA 6 Wetlands and Streams







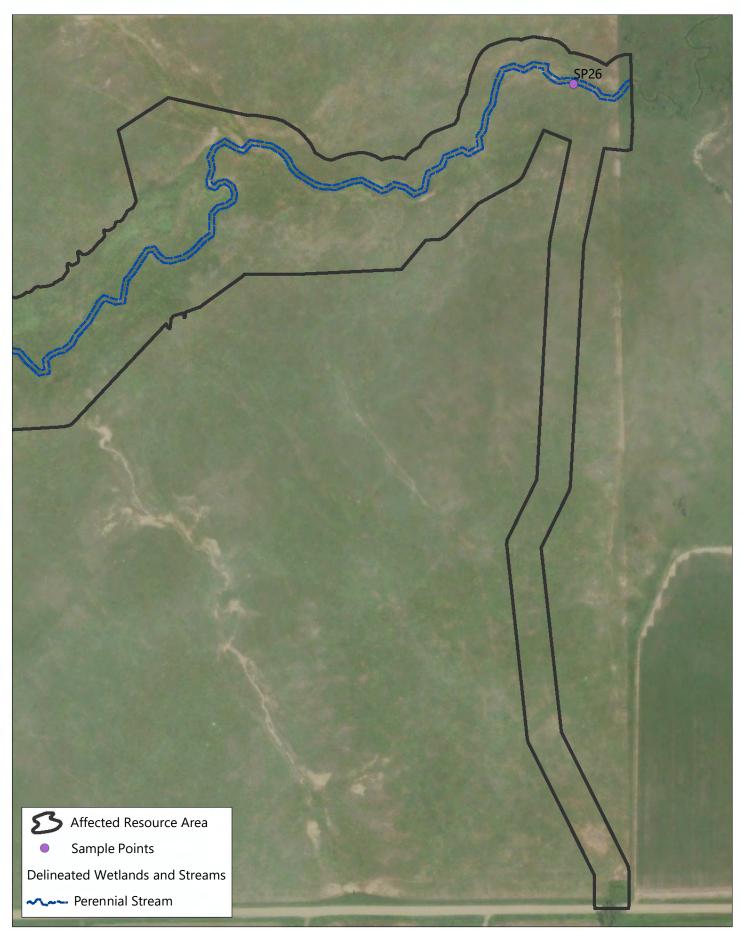


Figure C3.4B. ARA 6 Wetlands and Streams







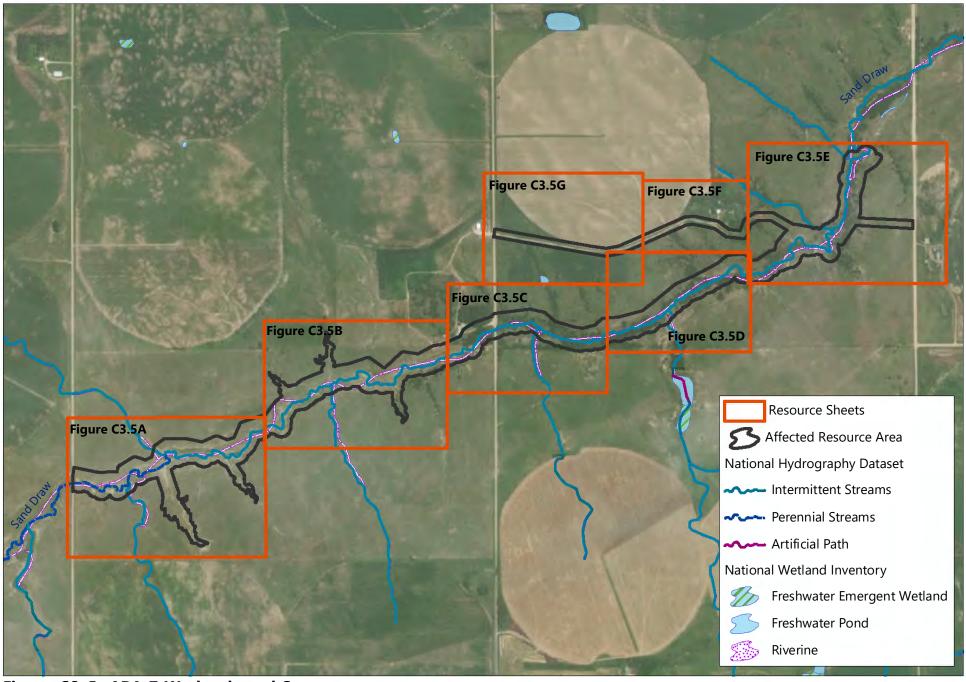


Figure C3.5. ARA 7 Wetlands and Streams Index Sheet









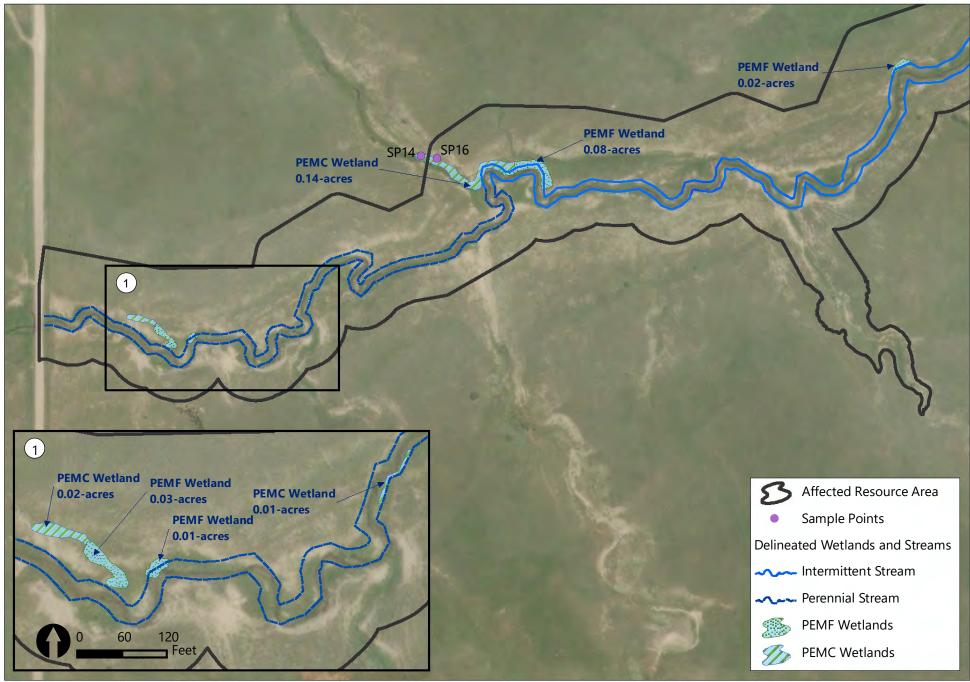


Figure C3.5A. ARA 7 Wetlands and Streams









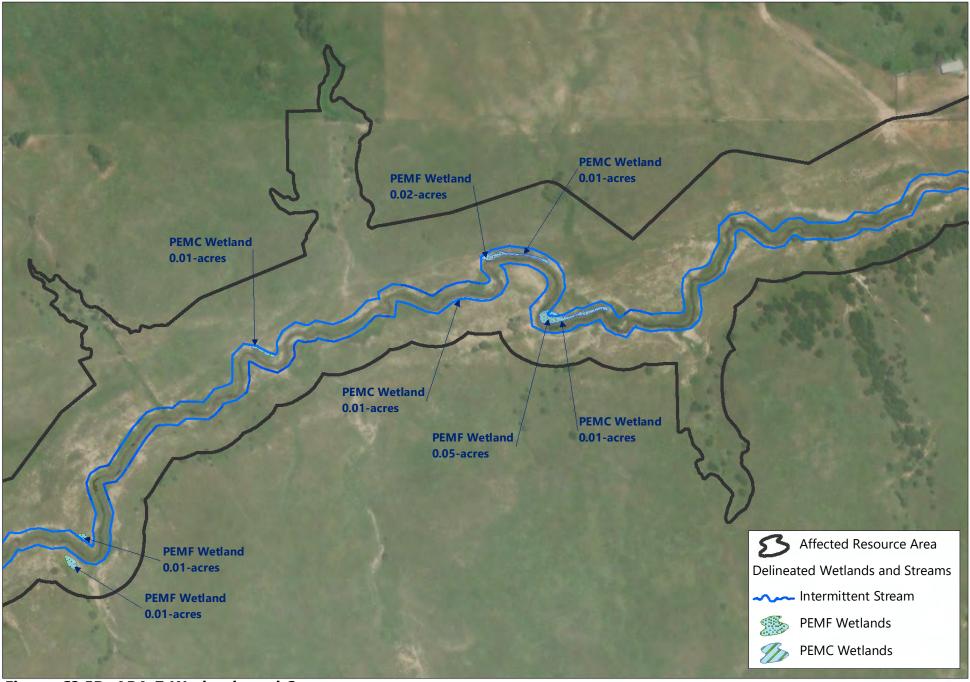


Figure C3.5B. ARA 7 Wetlands and Streams









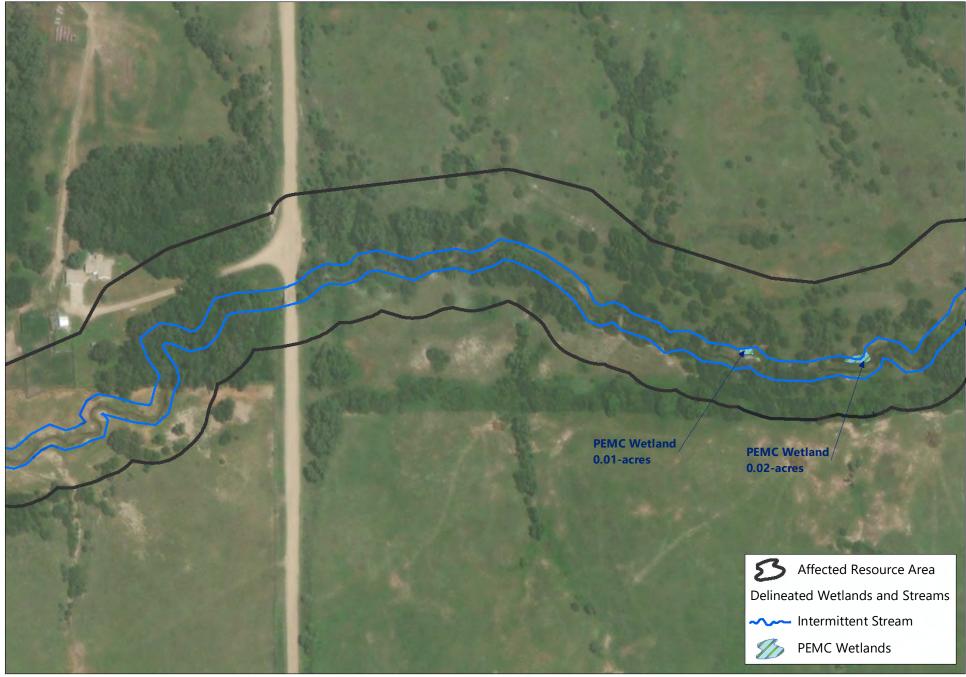


Figure C3.5C. ARA 7 Wetlands and Streams









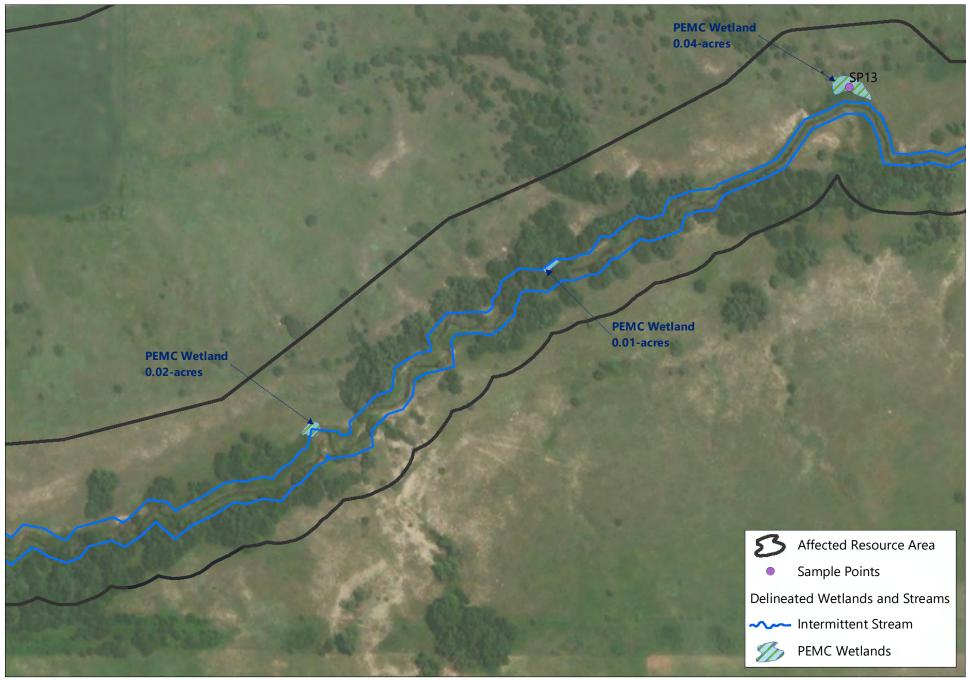


Figure C3.5D. ARA 7 Wetlands and Streams











Figure C3.5E. ARA 7 Wetlands and Streams









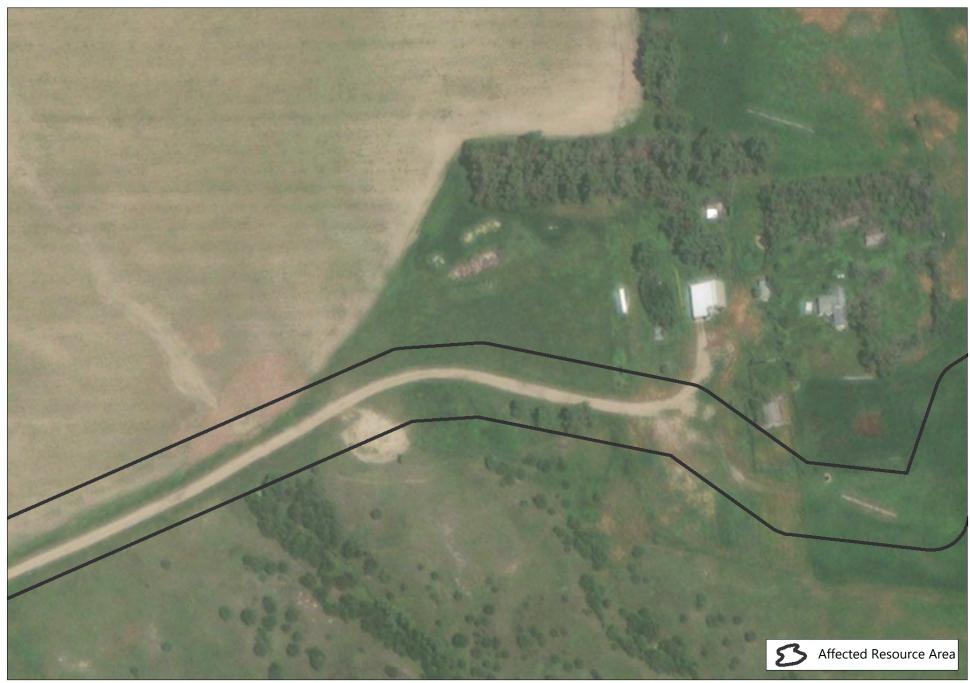


Figure C3.5F. ARA 7 Wetlands and Streams











Figure C3.5G. ARA 7 Wetlands and Streams









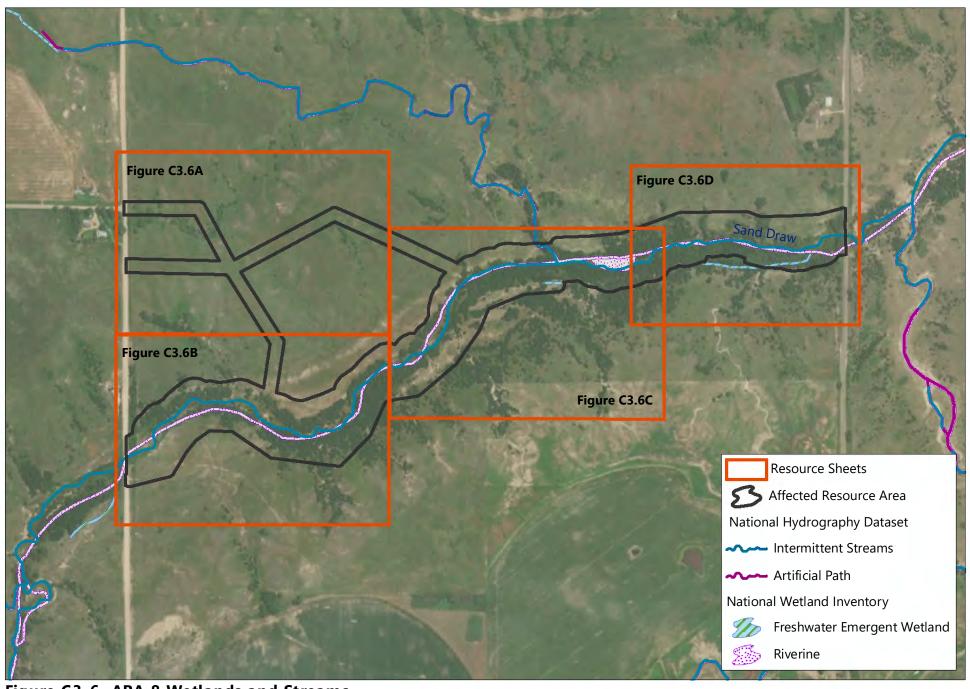


Figure C3.6. ARA 8 Wetlands and Streams Index Sheet









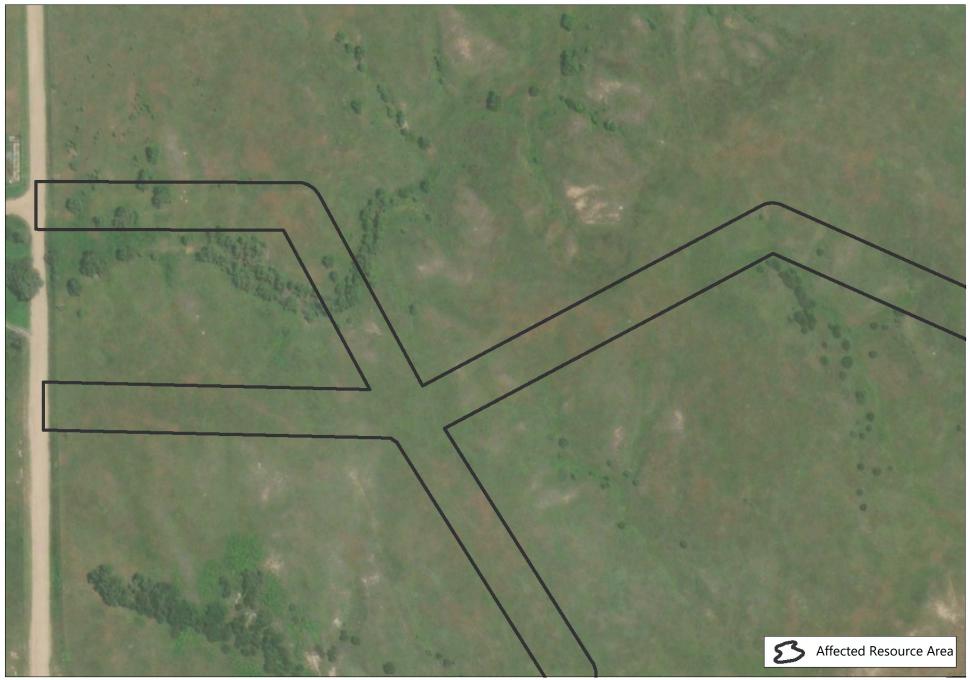


Figure C3.6A. ARA 8 Wetlands and Streams









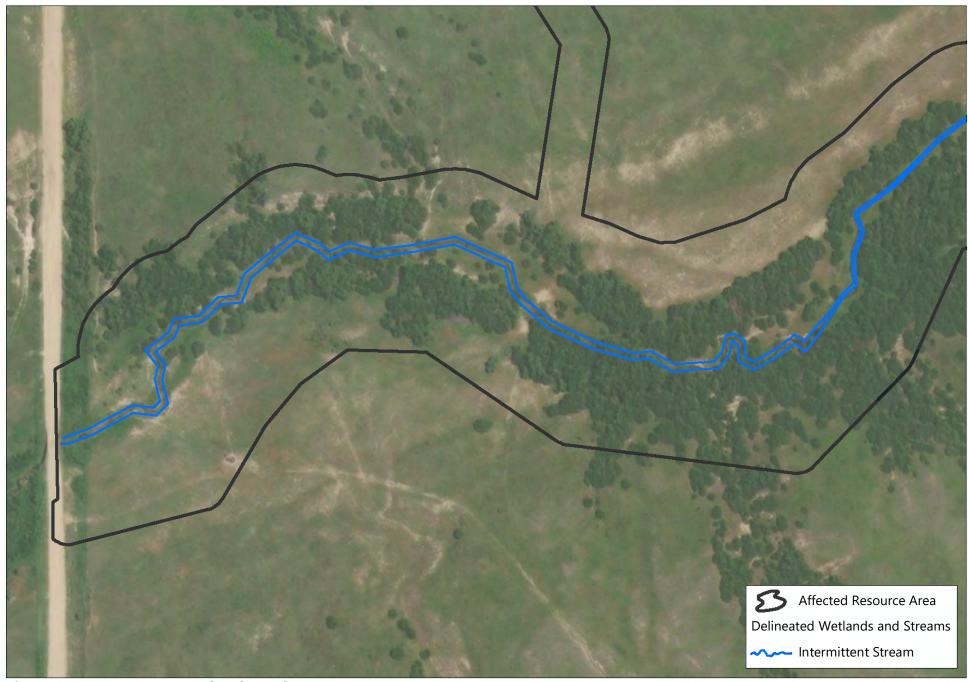


Figure C3.6B. ARA 8 Wetlands and Streams









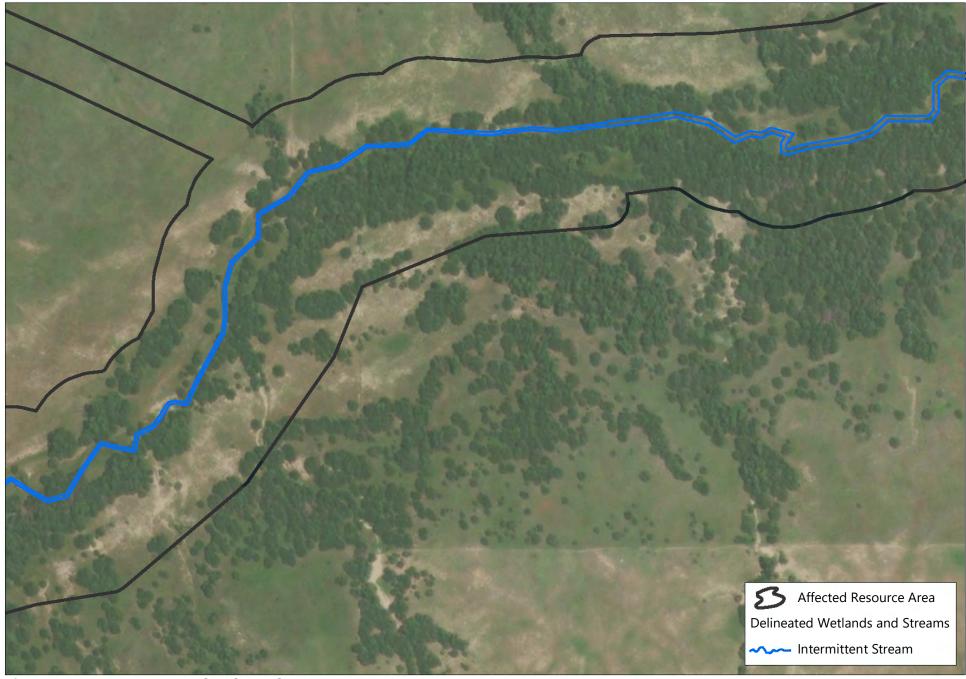


Figure C3.6C. ARA 8 Wetlands and Streams









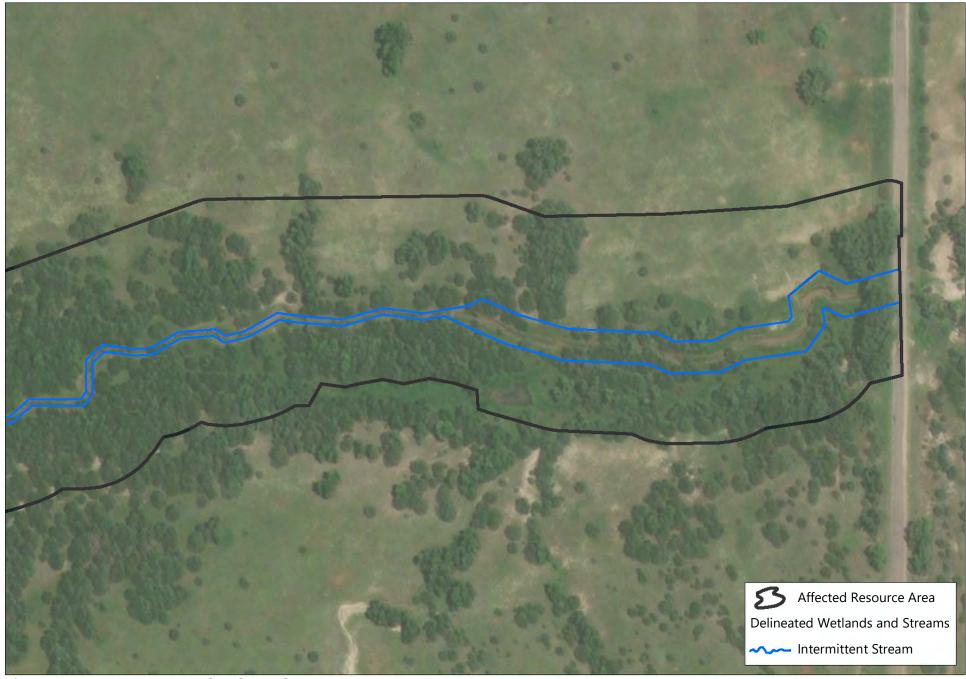
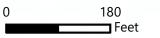


Figure C3.6D. ARA 8 Wetlands and Streams









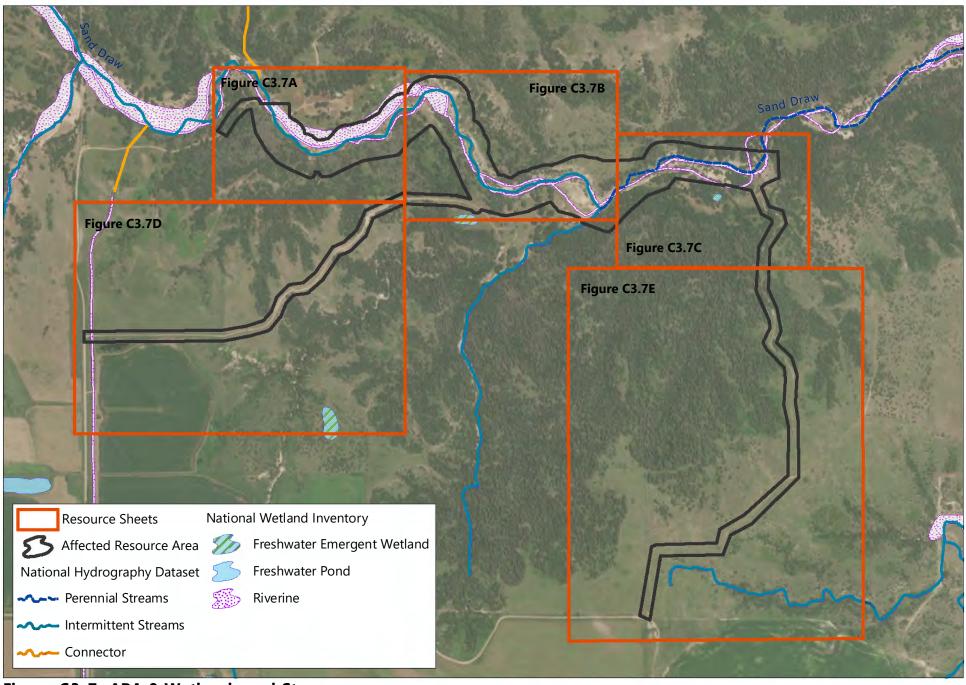


Figure C3.7. ARA 9 Wetlands and Streams Index Sheet









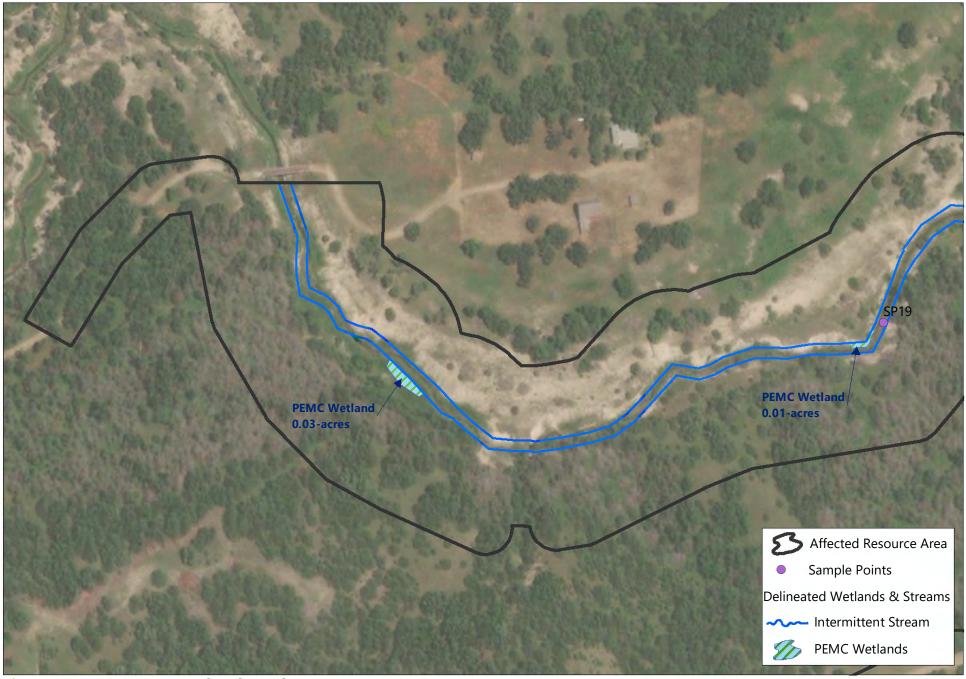


Figure C3.7A. ARA 9 Wetlands and Streams









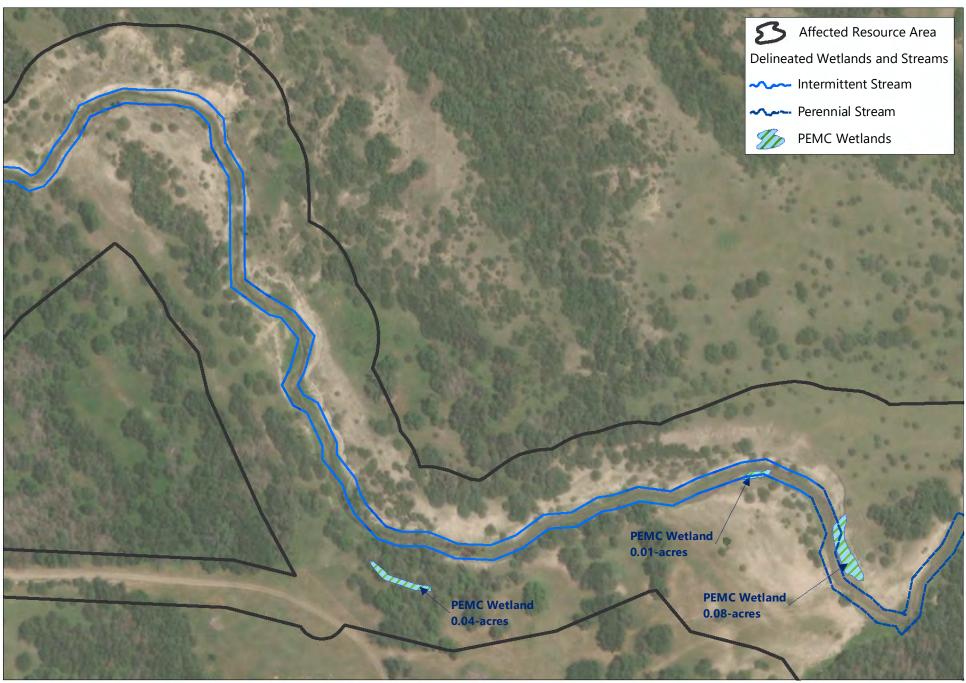


Figure C3.7B. ARA 9 Wetlands and Streams









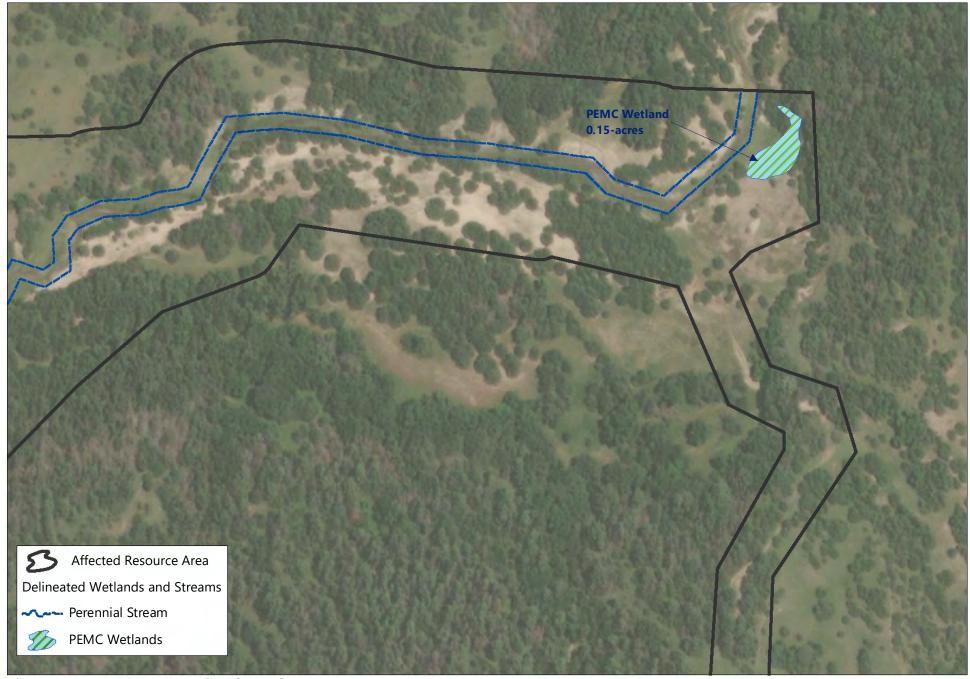


Figure C3.7C. ARA 9 Wetlands and Streams









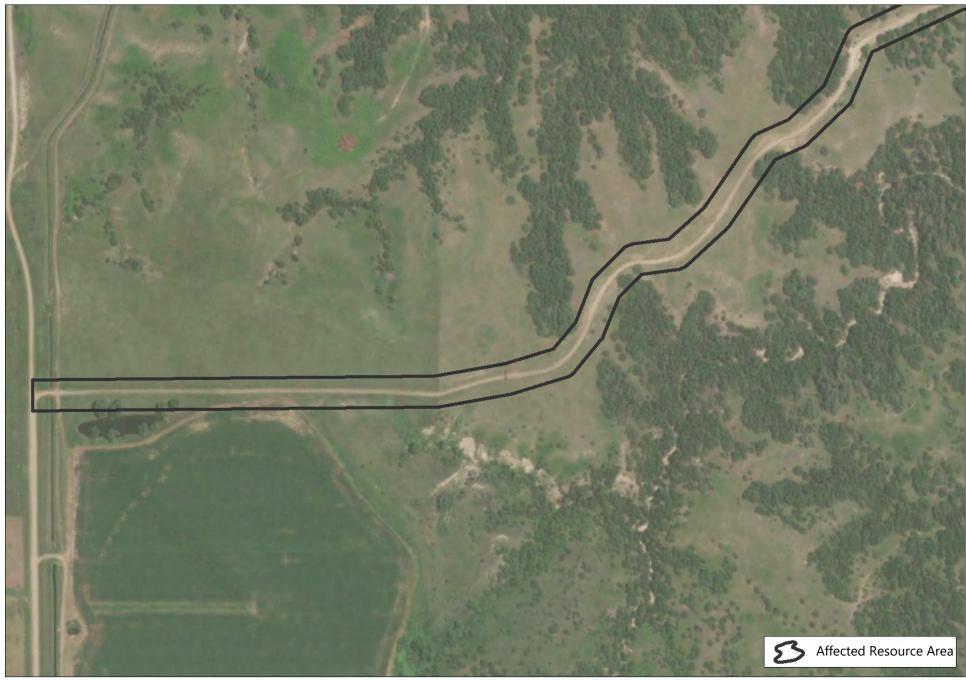


Figure C3.7D. ARA 9 Wetlands and Streams











Figure C3.7E. ARA 9 Wetlands and Streams









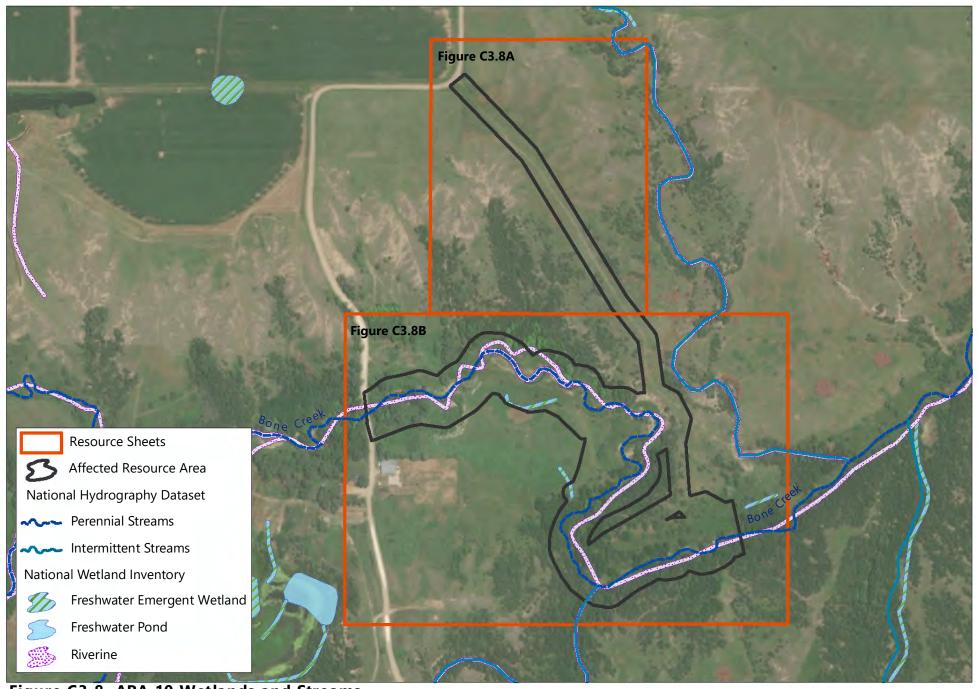


Figure C3.8. ARA 10 Wetlands and Streams Index Sheet



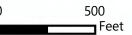








Figure C3.8A. ARA 10 Wetlands and Streams







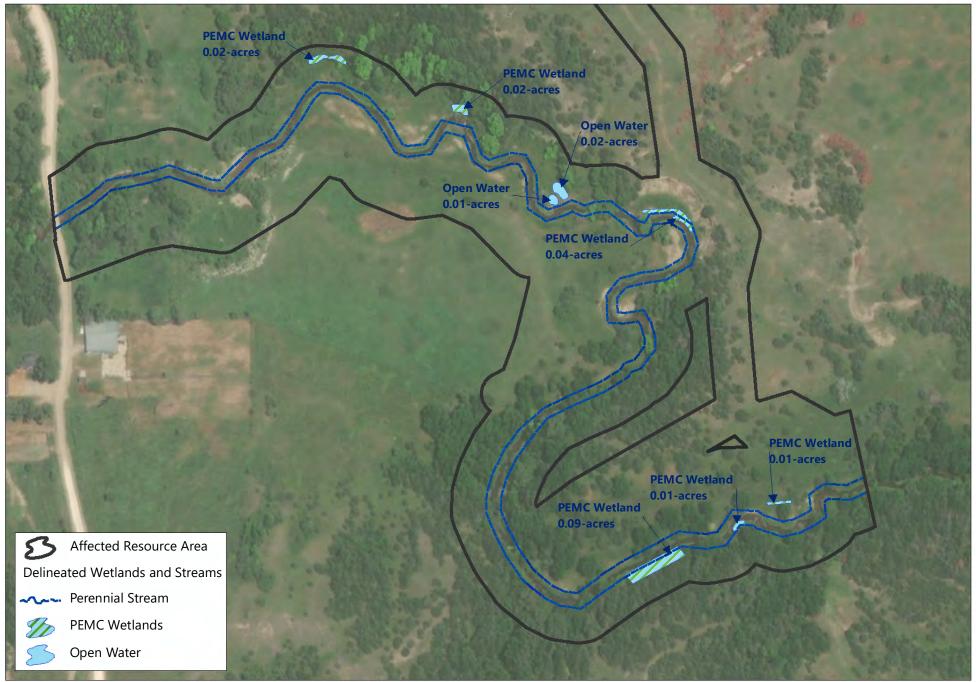


Figure C3.8B. ARA 10 Wetlands and Streams









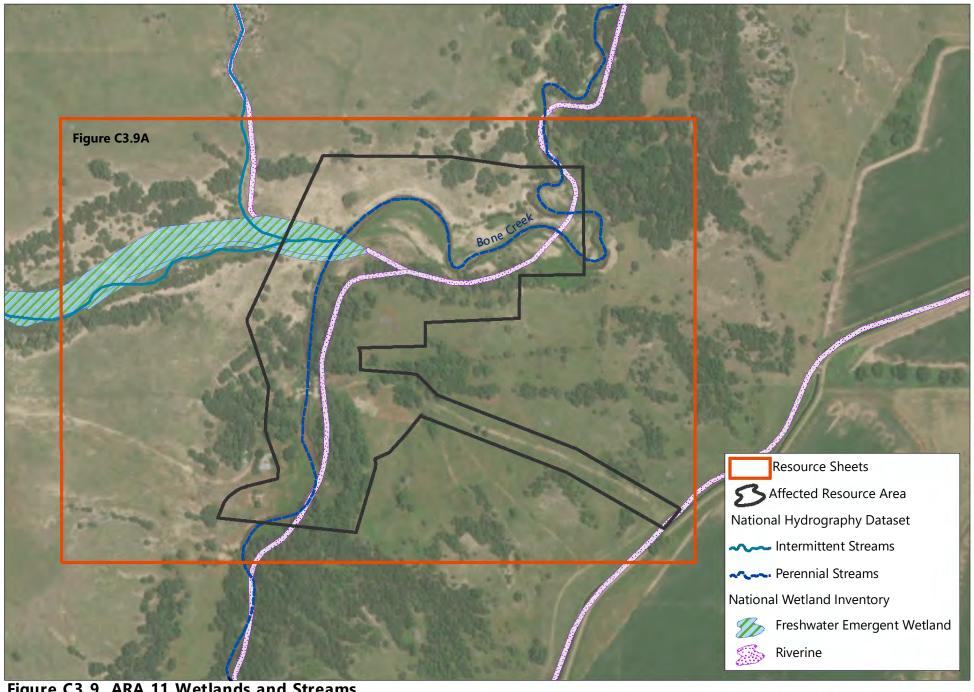


Figure C3.9. ARA 11 Wetlands and Streams Index Sheet









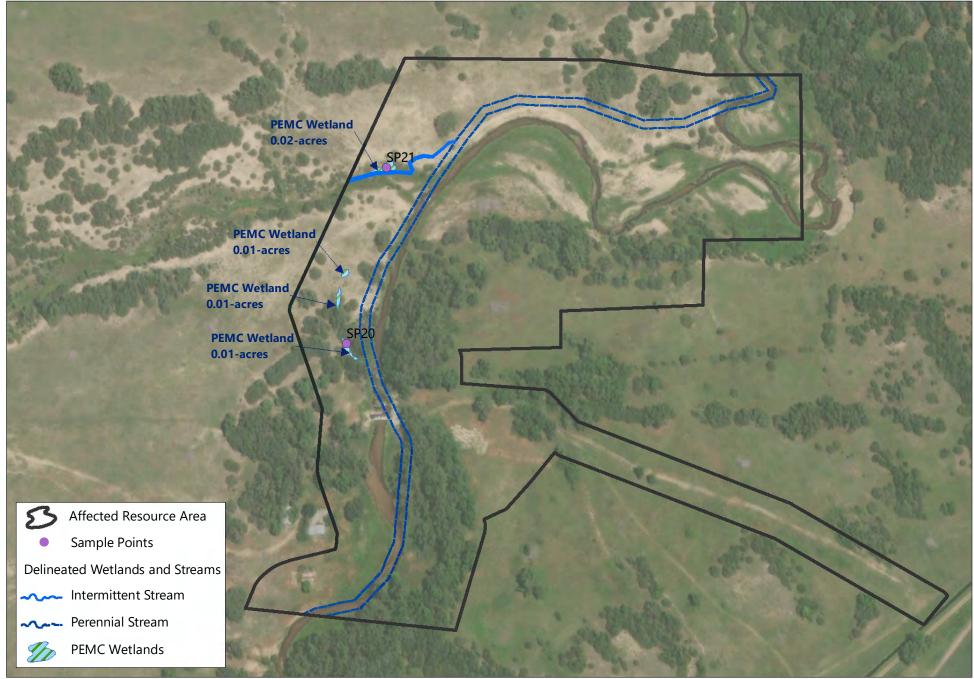


Figure C3.9A. ARA 11 Wetlands and Streams









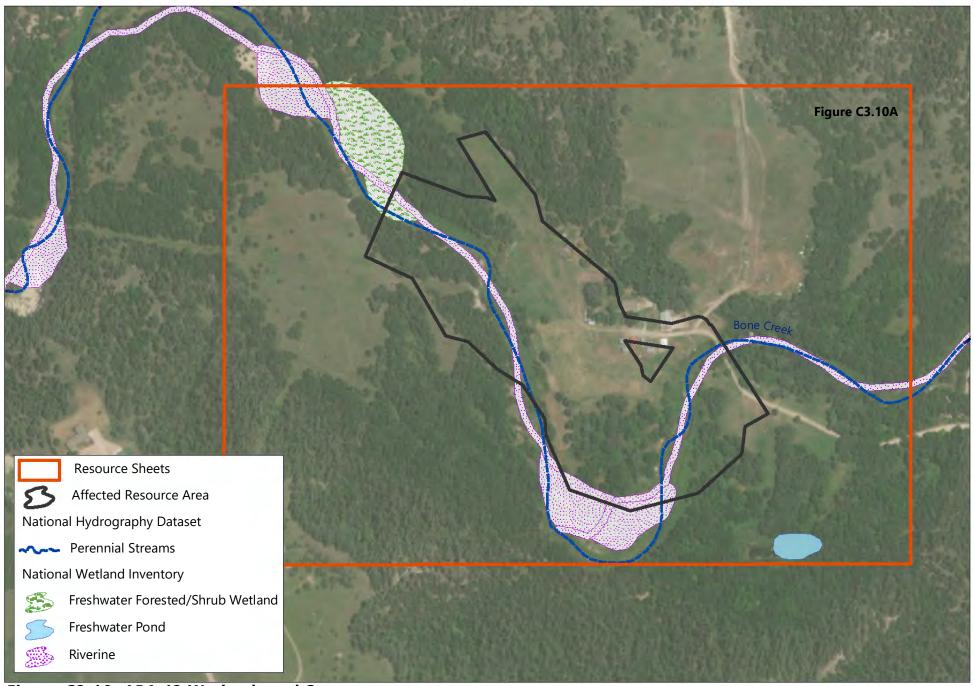
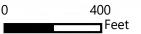


Figure C3.10. ARA 12 Wetlands and Streams Index Sheet









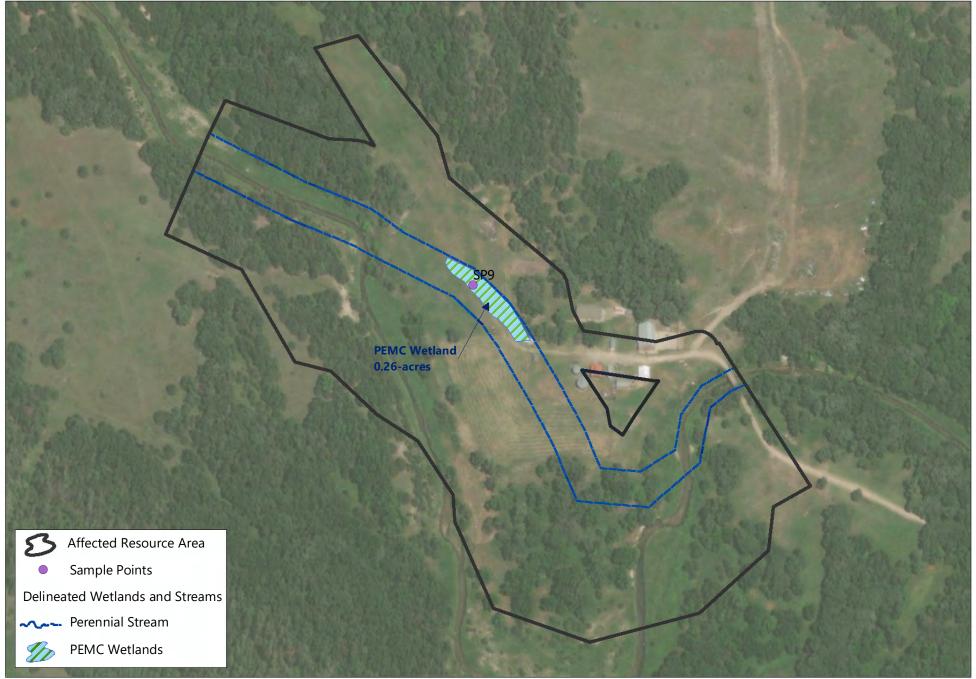


Figure C3.10A. ARA 12 Wetlands and Streams









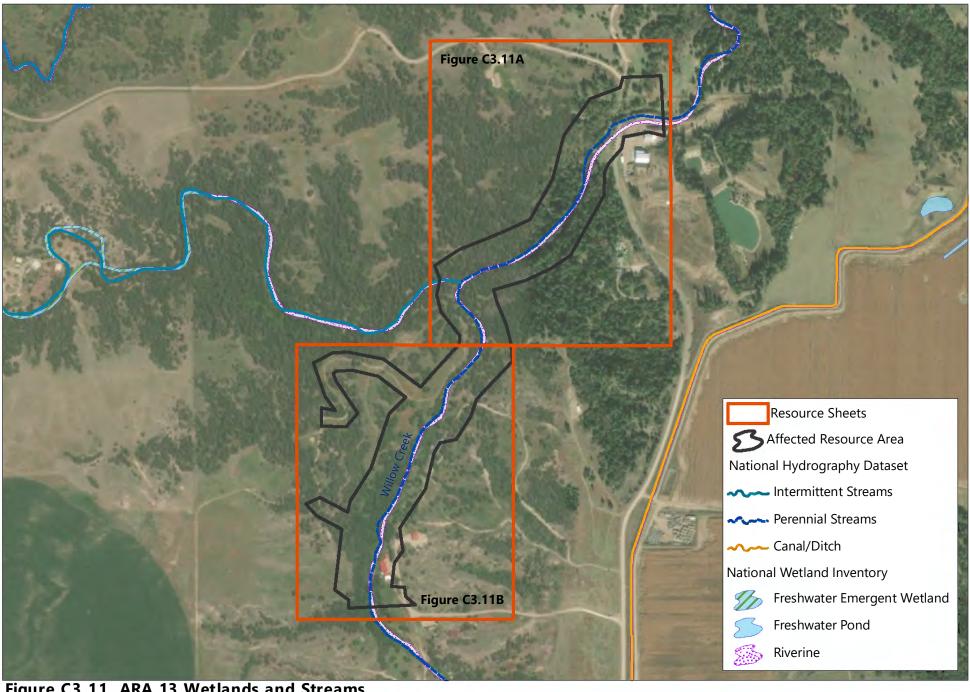
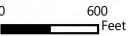


Figure C3.11. ARA 13 Wetlands and Streams Index Sheet









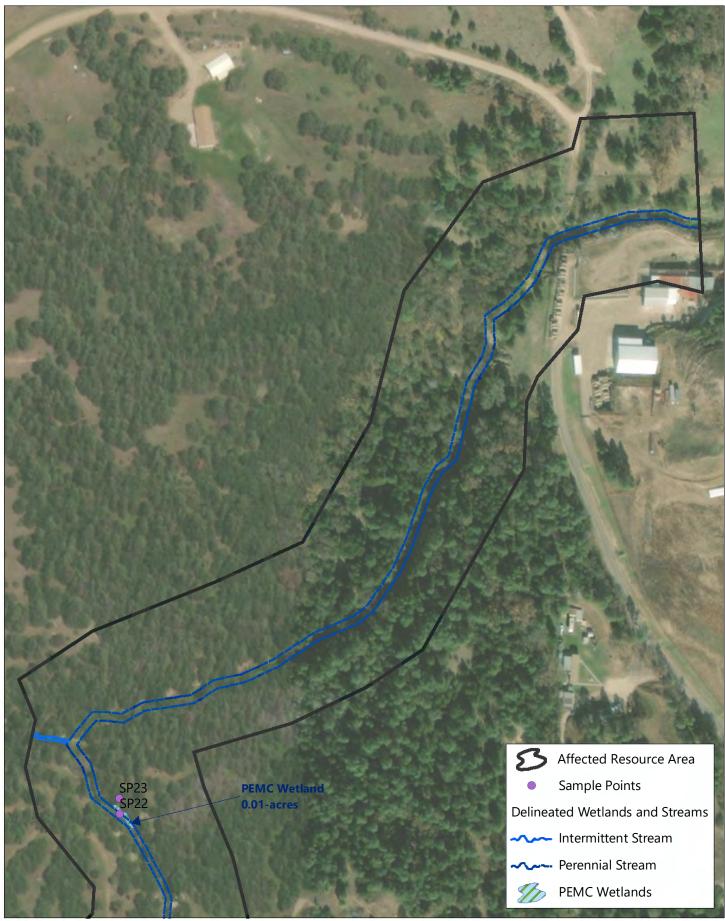


Figure C3.11A. ARA13 Wetlands and Streams







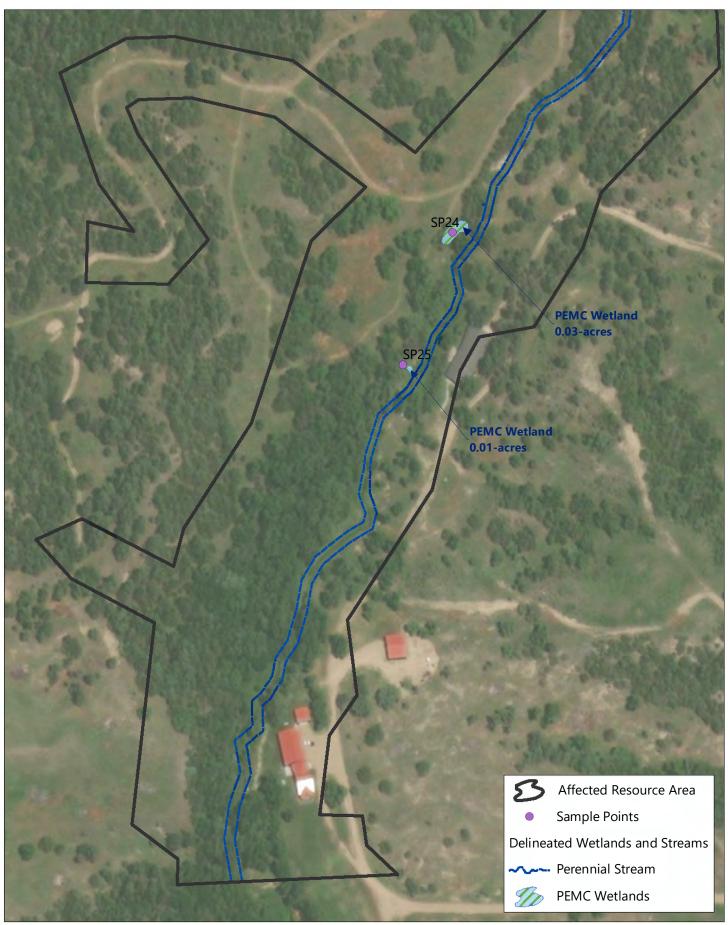


Figure C3.11B. ARA 13 Wetlands and Streams







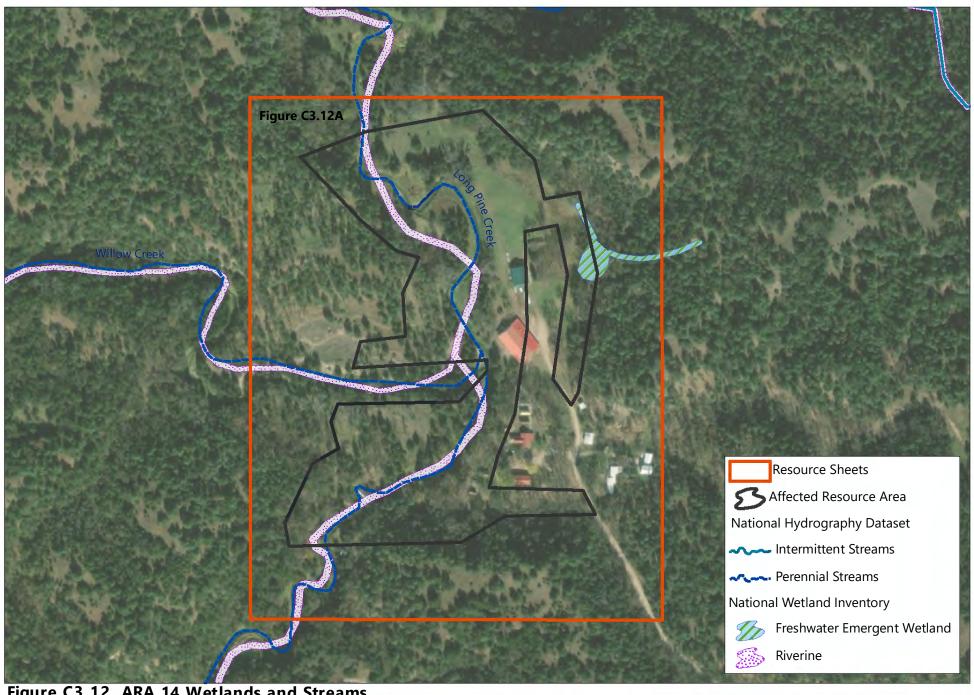


Figure C3.12. ARA 14 Wetlands and Streams Index Sheet



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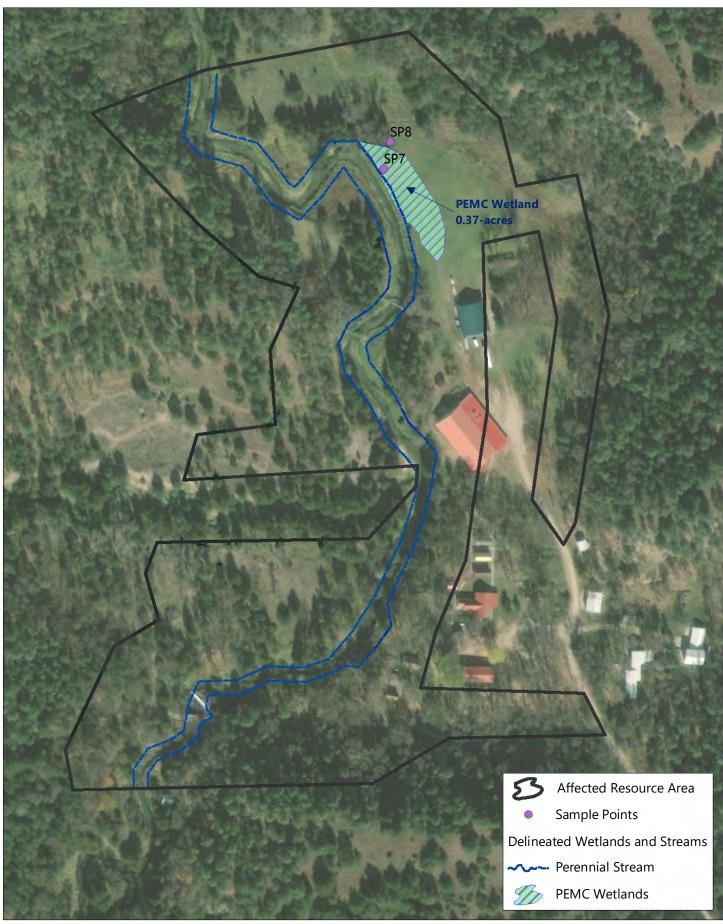
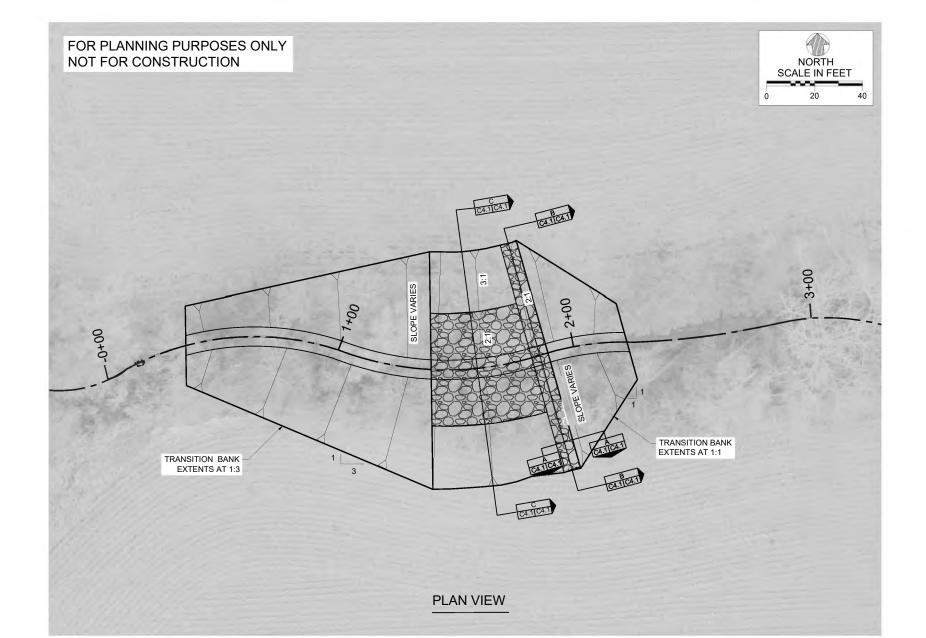


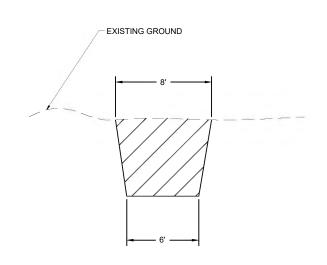
Figure C3.12A. ARA 14 Wetlands and Streams



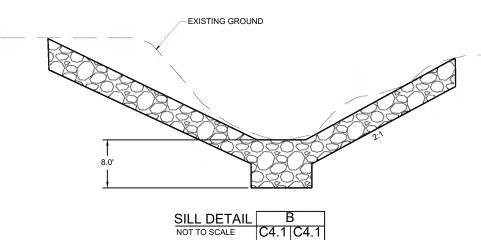


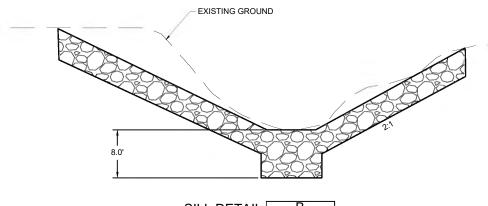


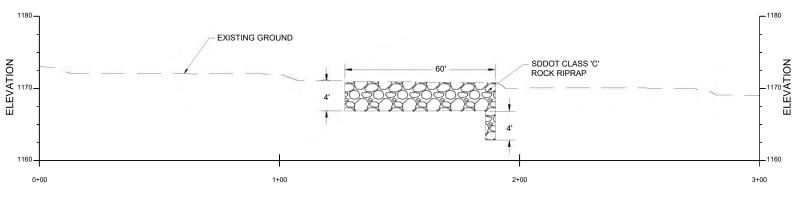




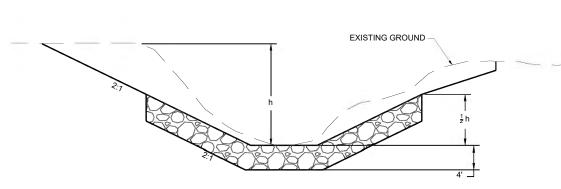
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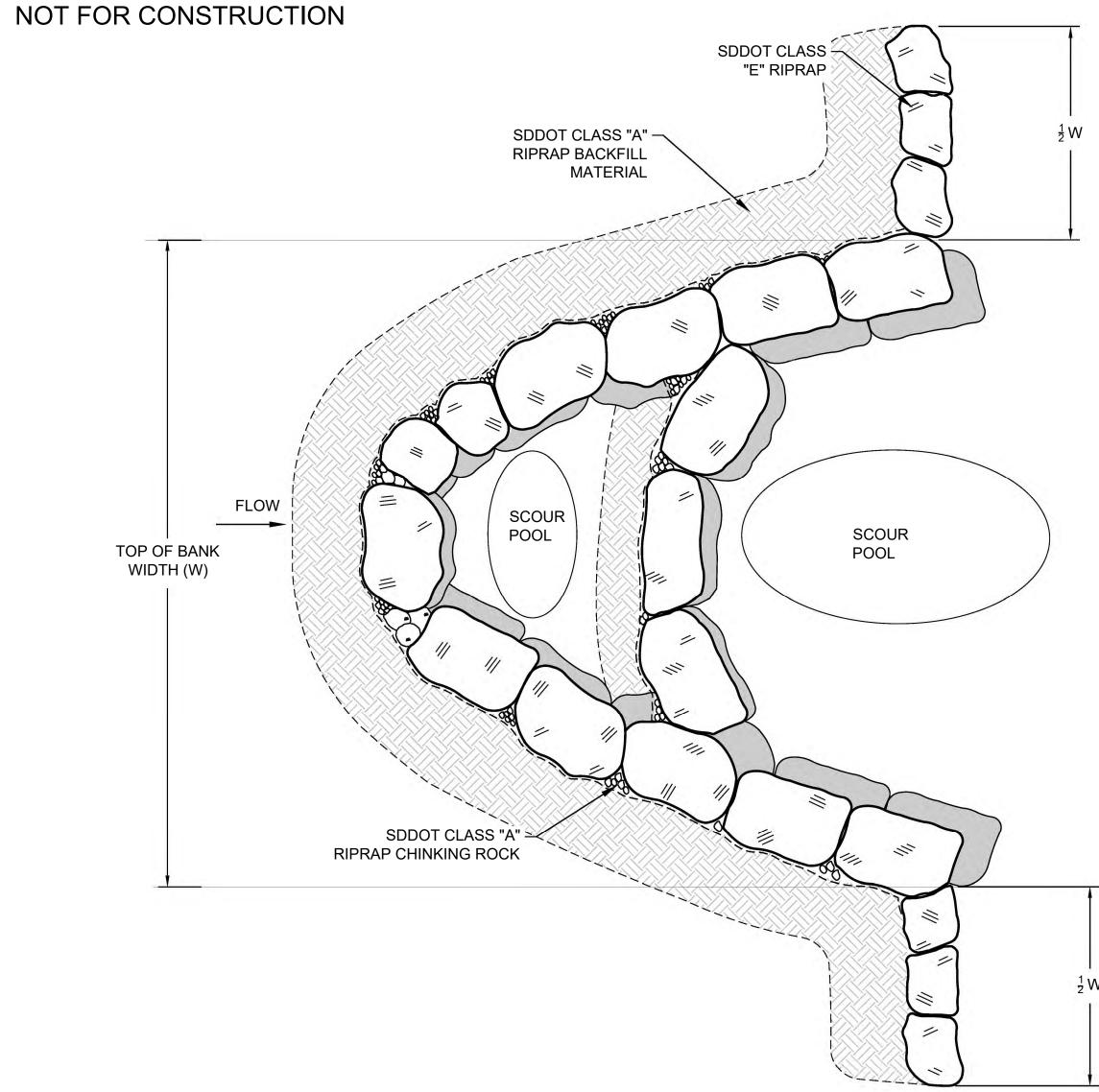


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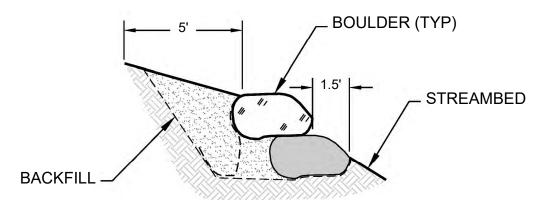
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TITLE

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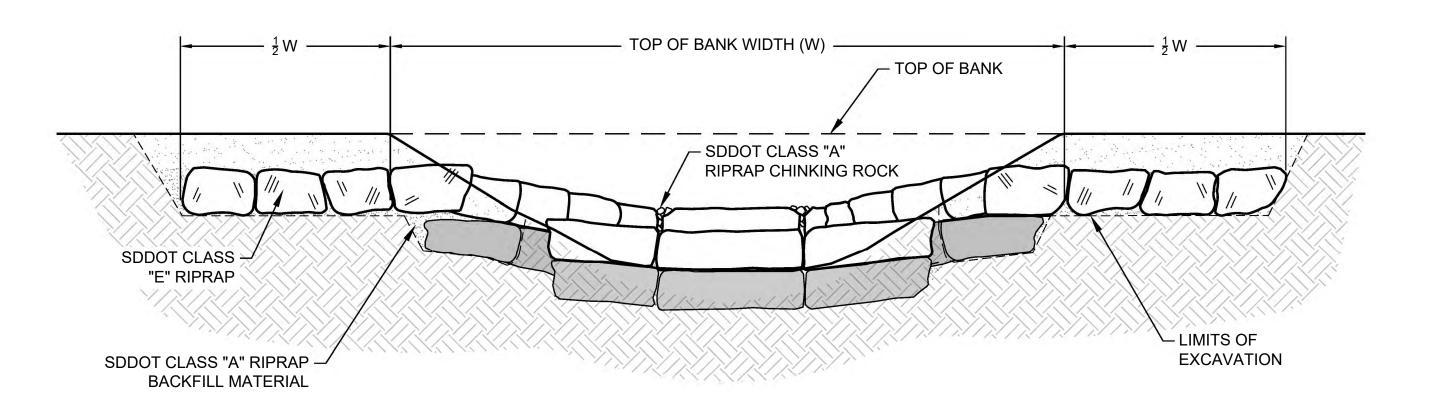


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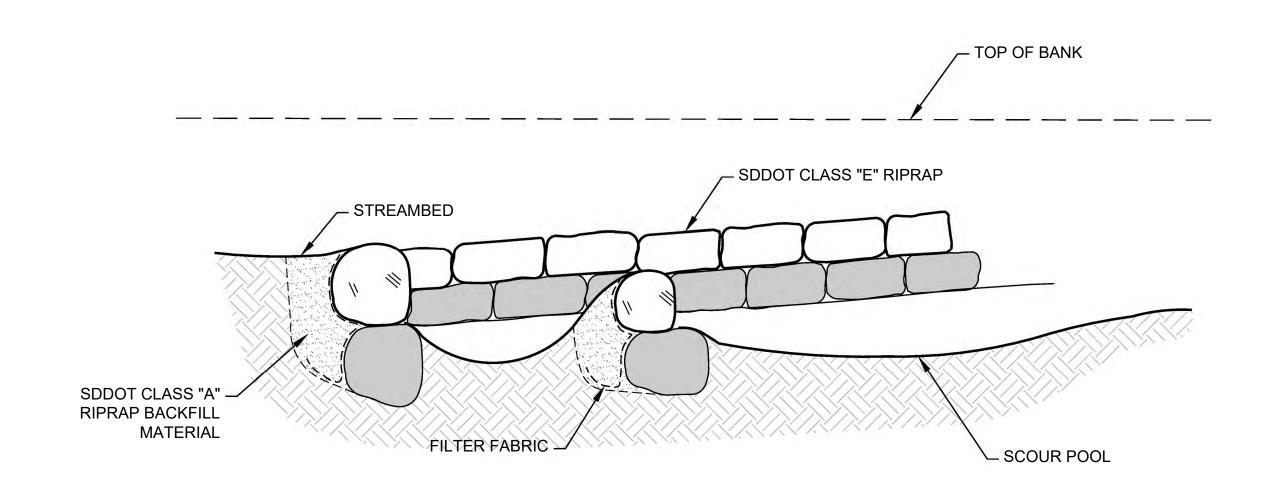
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CROSS VANE PROFILE DETAIL

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CROSS VANE CROSS SECTION

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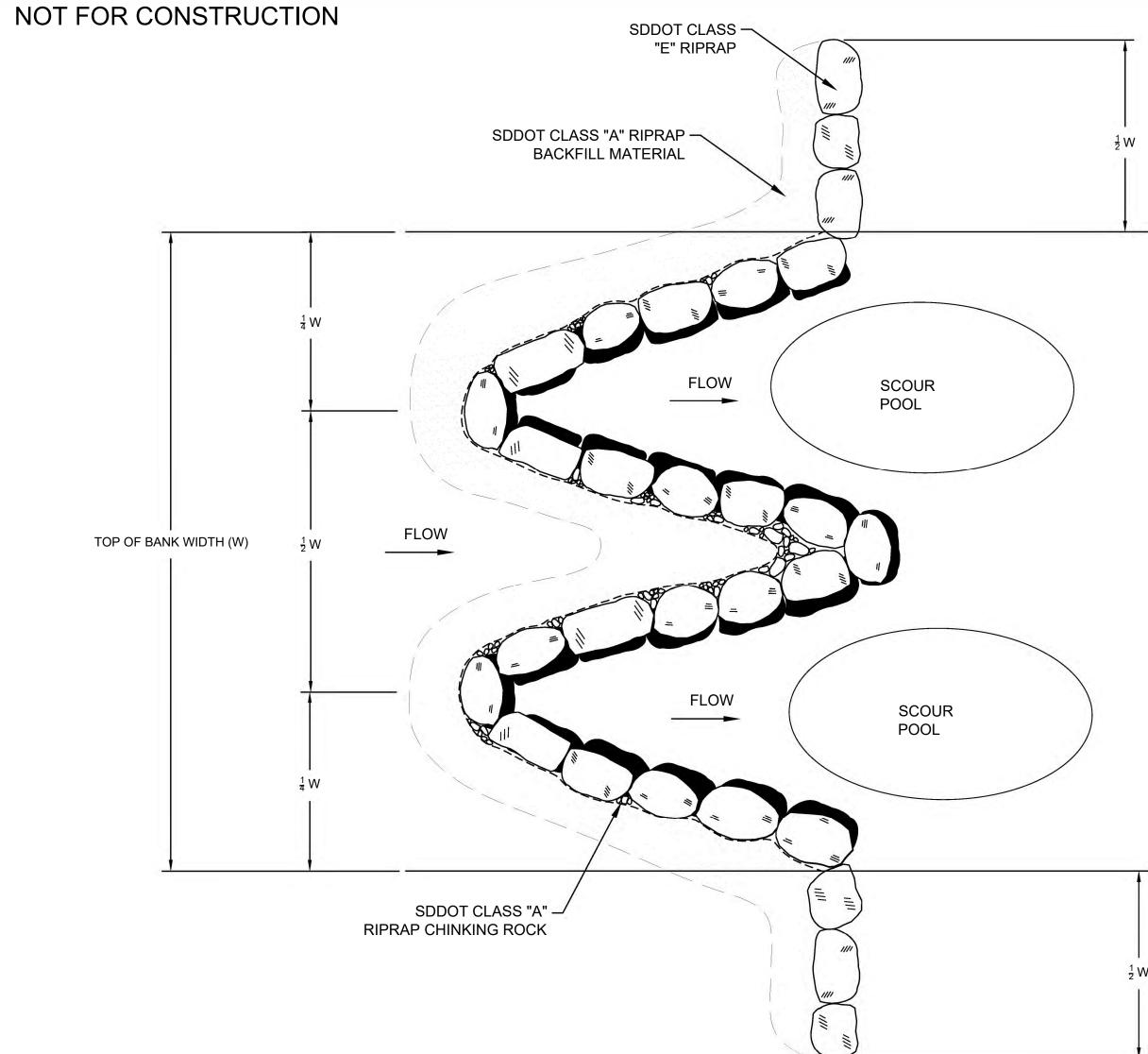


BONE AND LONG PINE CREEKS WATERSHED PLAN-EA MIDDLE NIOBRARA NATURAL RESOURCES DISTRICT BONE, CHERRY, AND ROCK COUNTIES

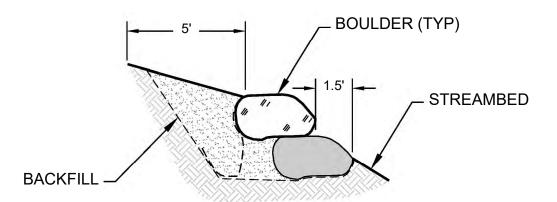
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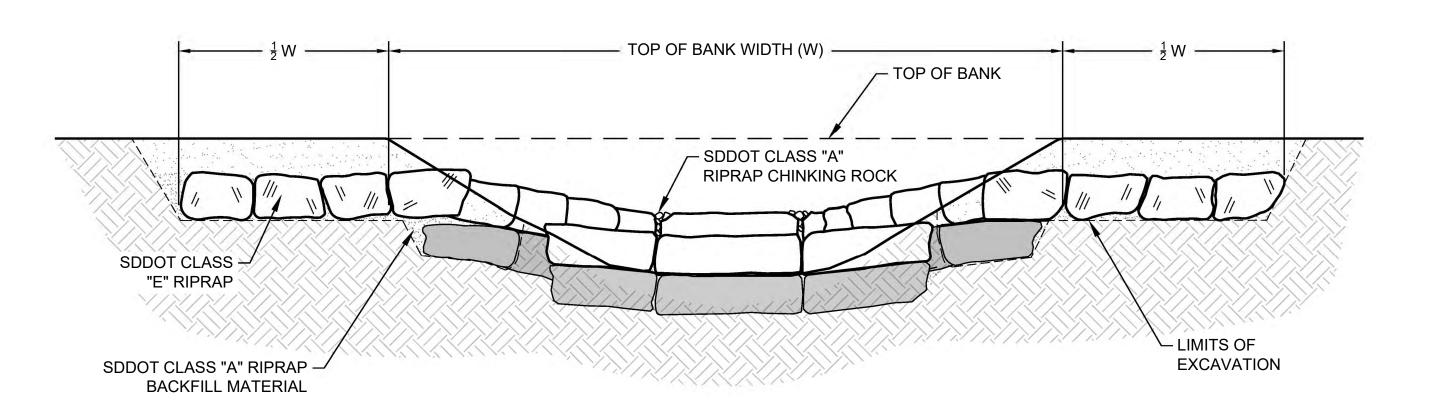
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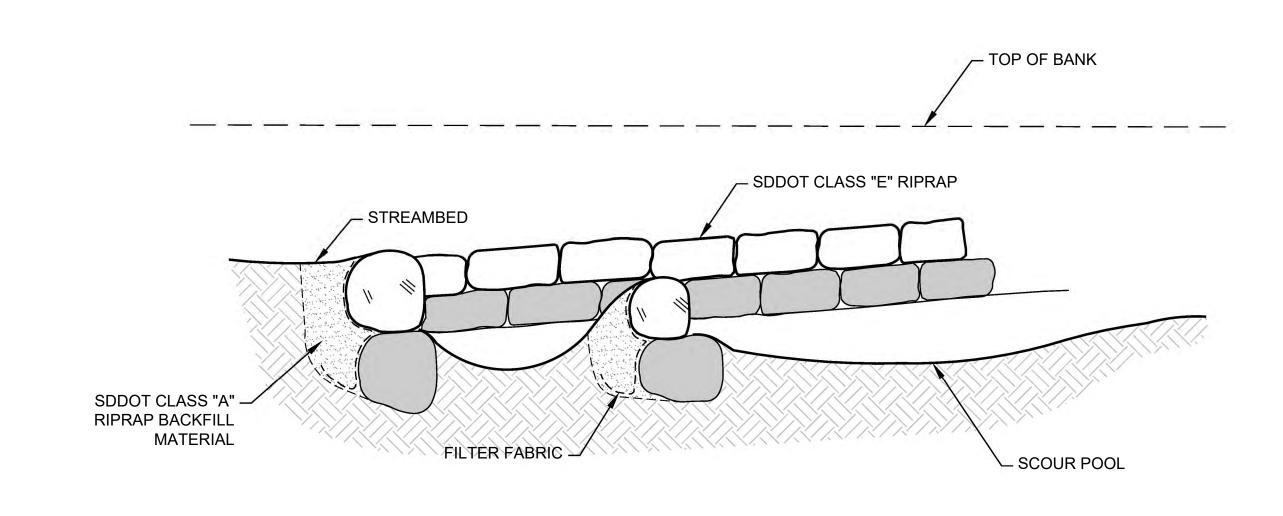


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W-WEIR PROFILE DETAIL

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W-WEIR CROSS SECTION
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BONE AND LONG PINE CREEKS WATERSHED PLAN-EA
MIDDLE NIOBRARA NATURAL RESOURCES DISTRICT

TITLE

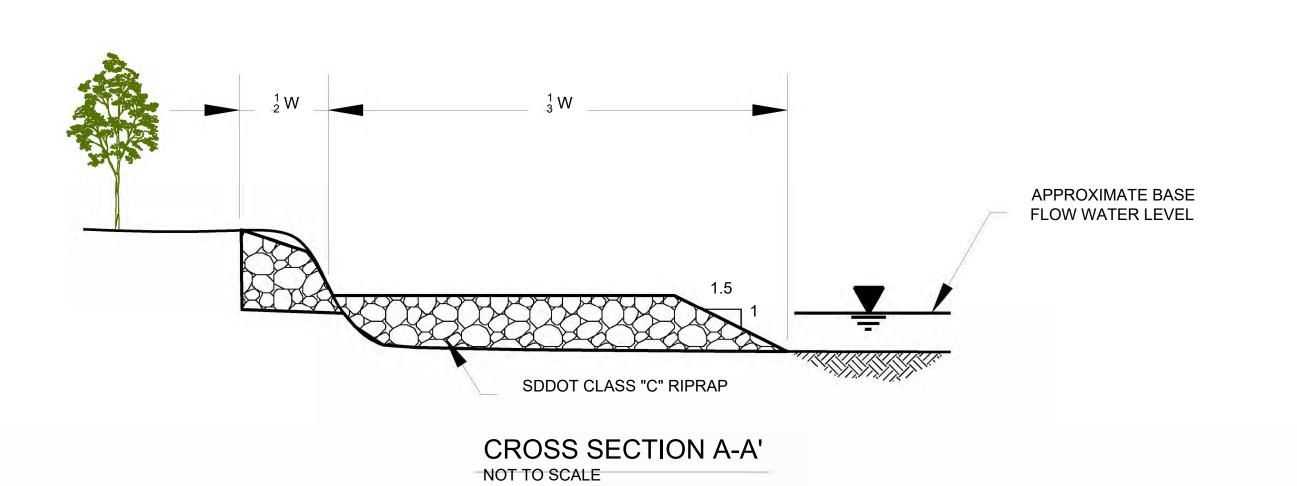
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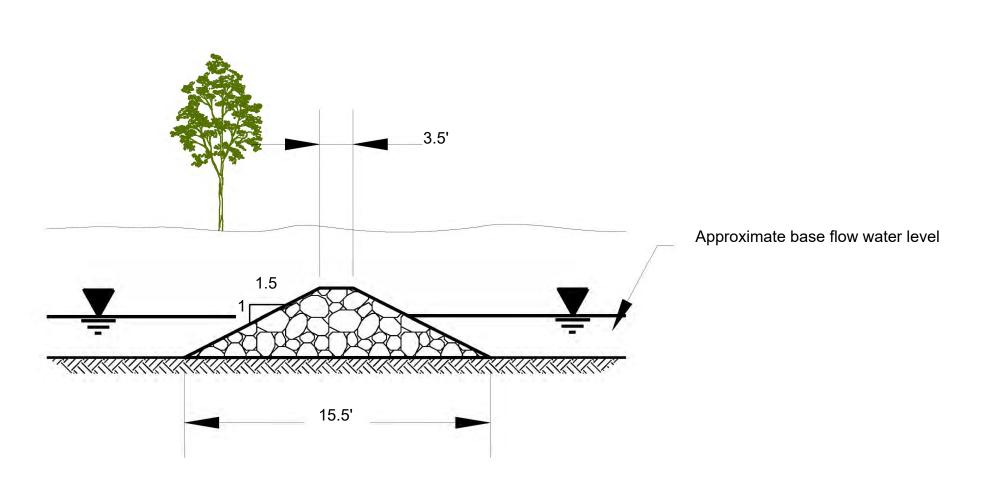
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BONE AND LONG PINE CREEKS WATERSHED PLAN-EA
MIDDLE NIOBRARA NATURAL RESOURCES DISTRICT
BONE, CHERRY, AND ROCK COUNTIES
2021

TOP OF BANK WIDTH (W) BENDWAY WEIR PLAN VIEW NOT TO SCALE



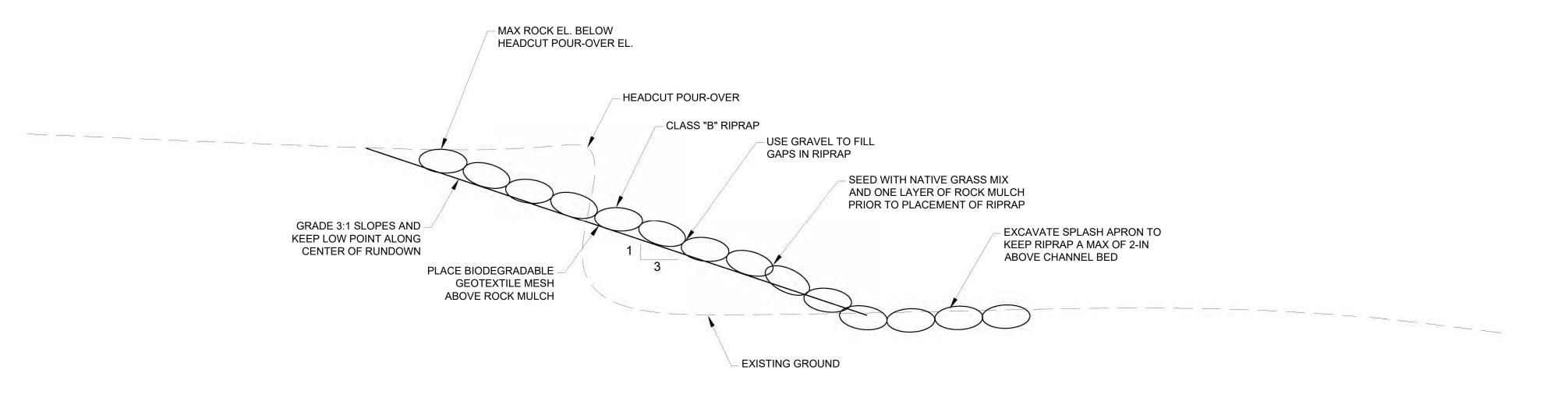


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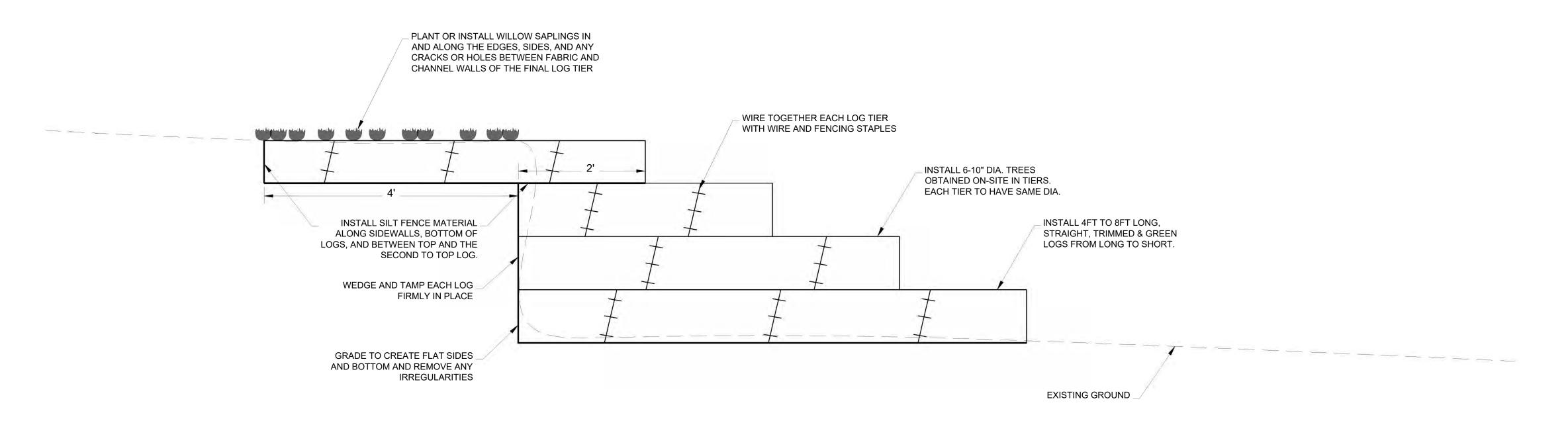
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TYPICAL BENDWAY WEIR

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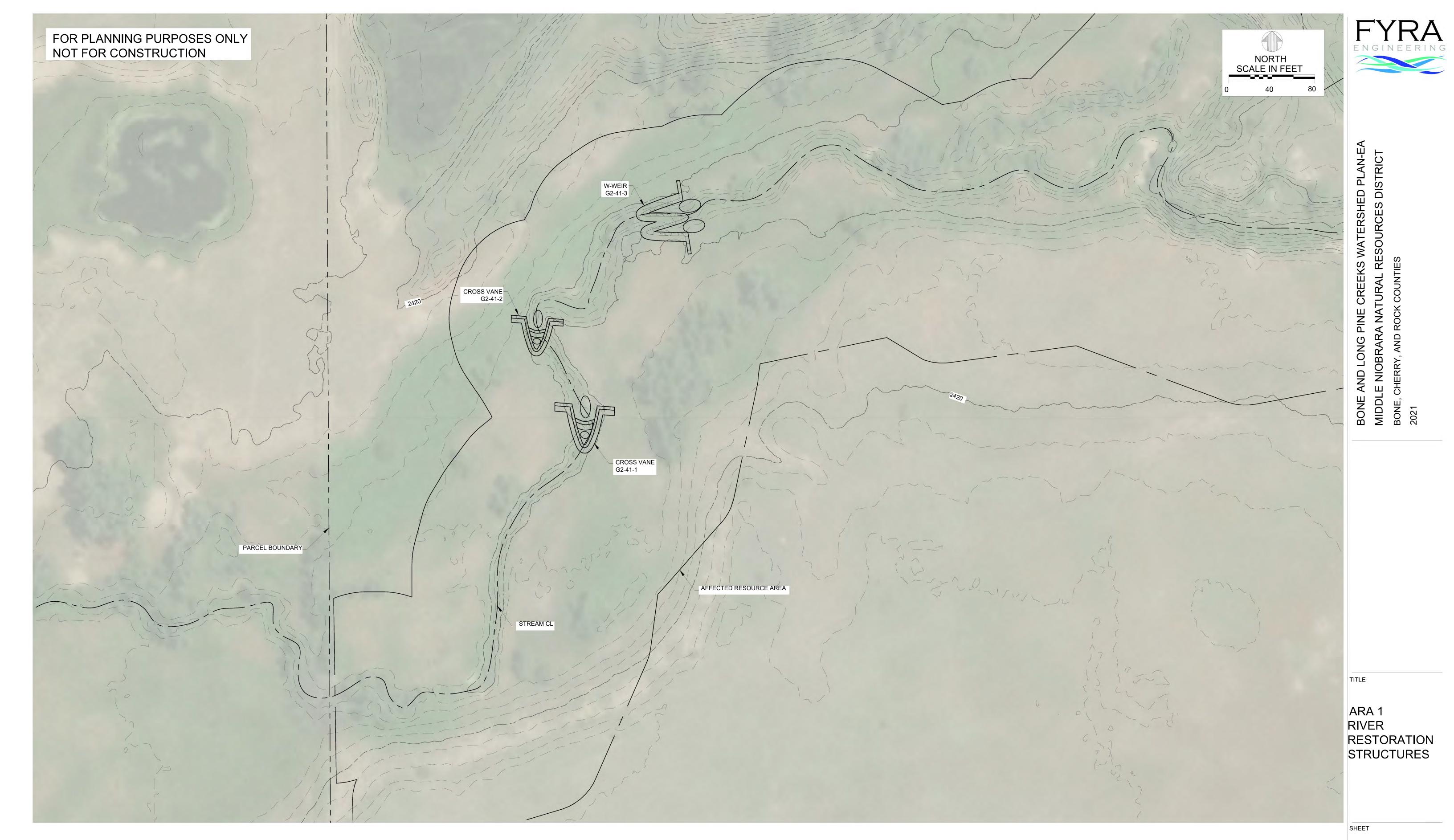


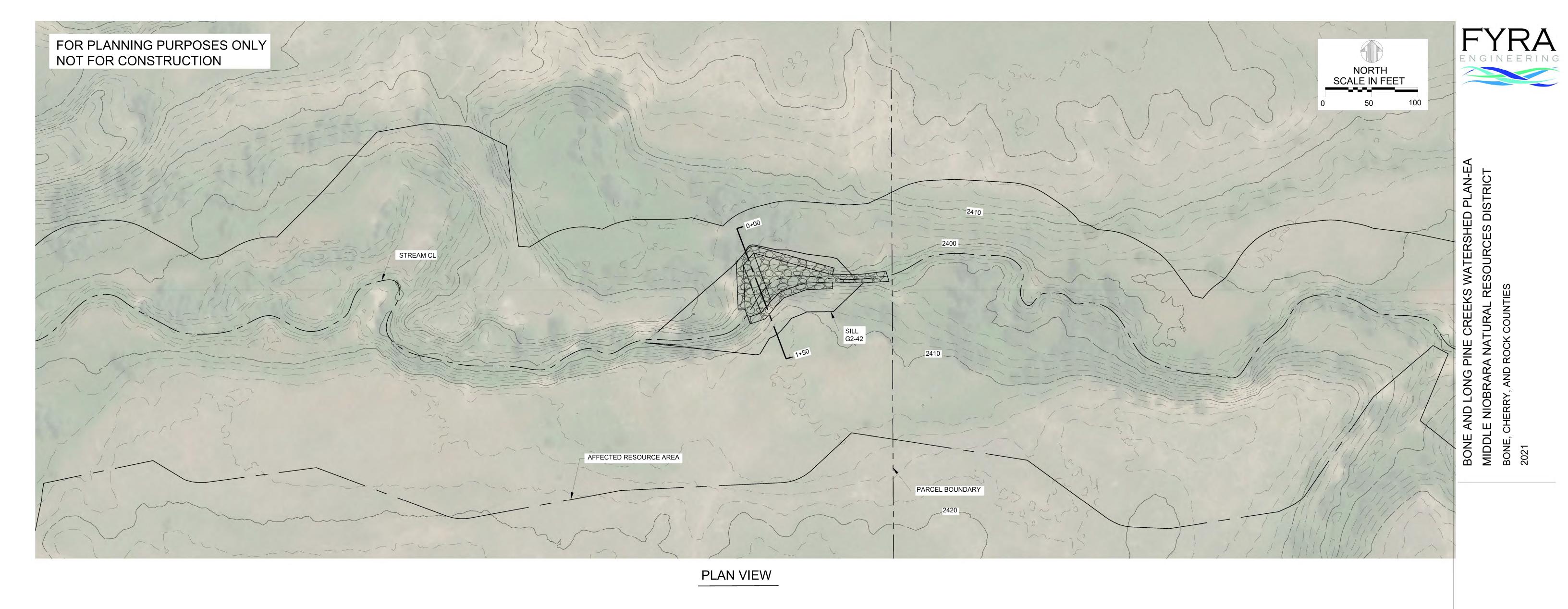
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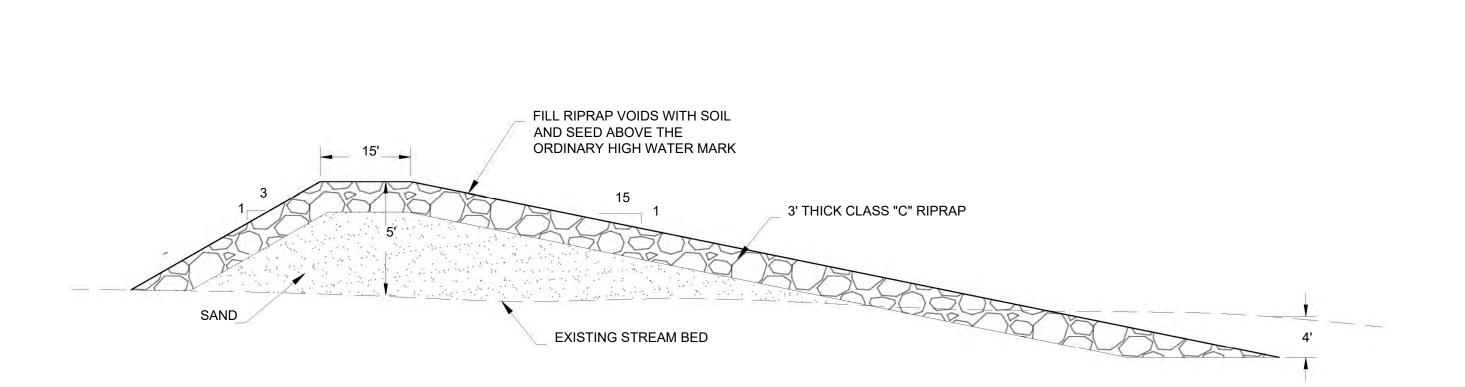
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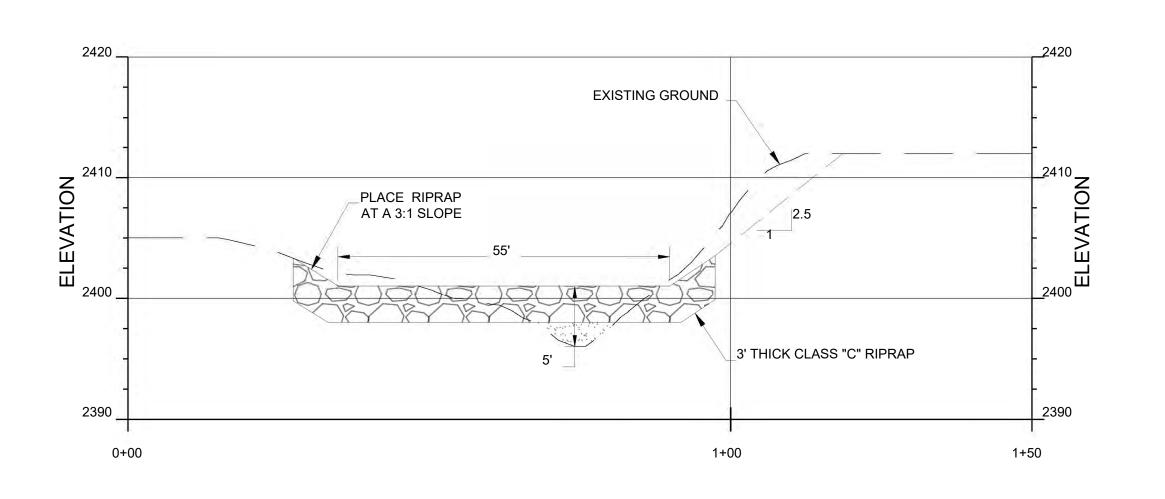
TYPICAL ZEEDYKE STRUCTURES

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NOT TO SCALE

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TITLE

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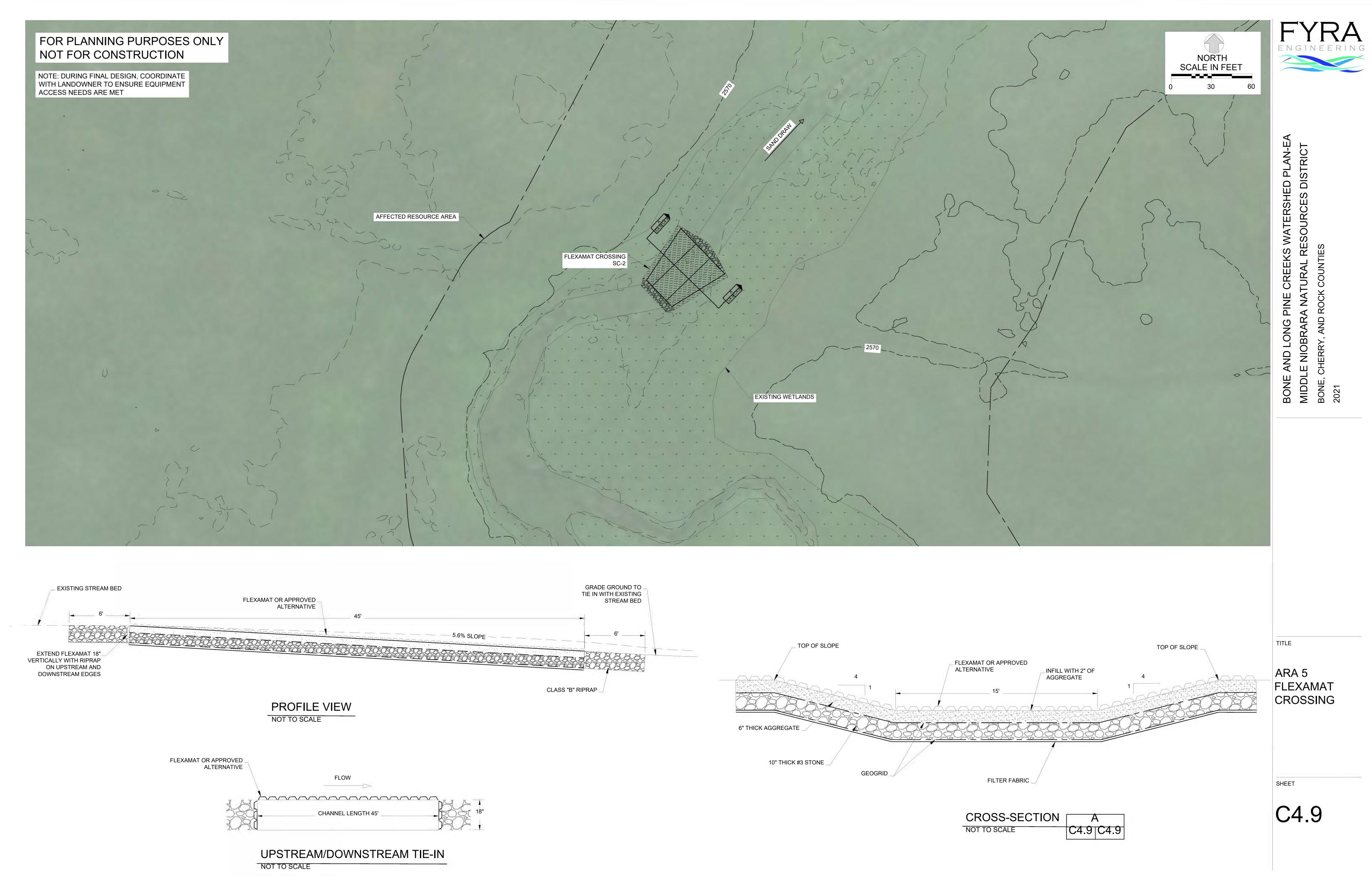


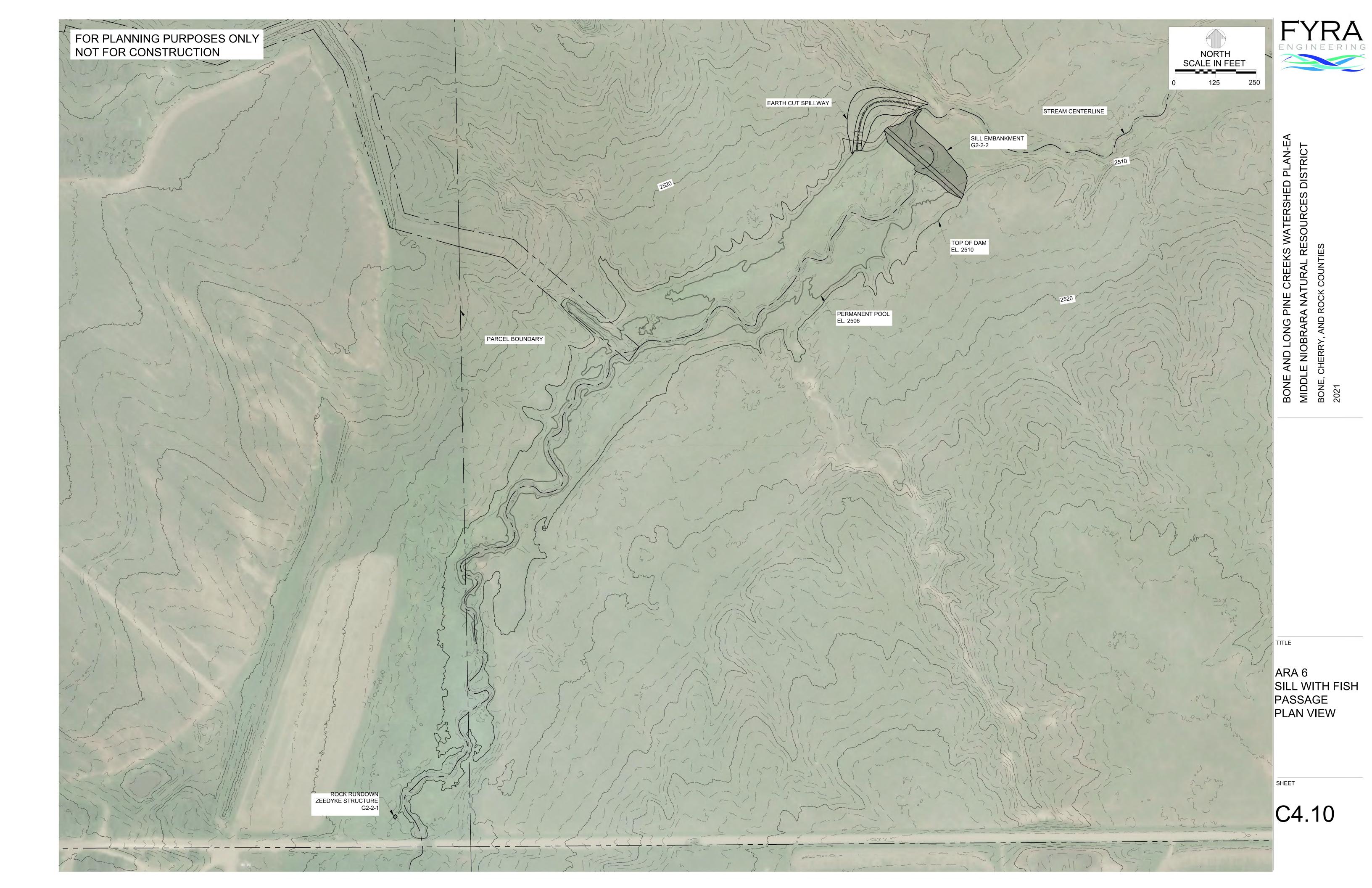
BONE AND LONG PINE CREEKS WATERSHED PLAN-EA MIDDLE NIOBRARA NATURAL RESOURCES DISTRICT

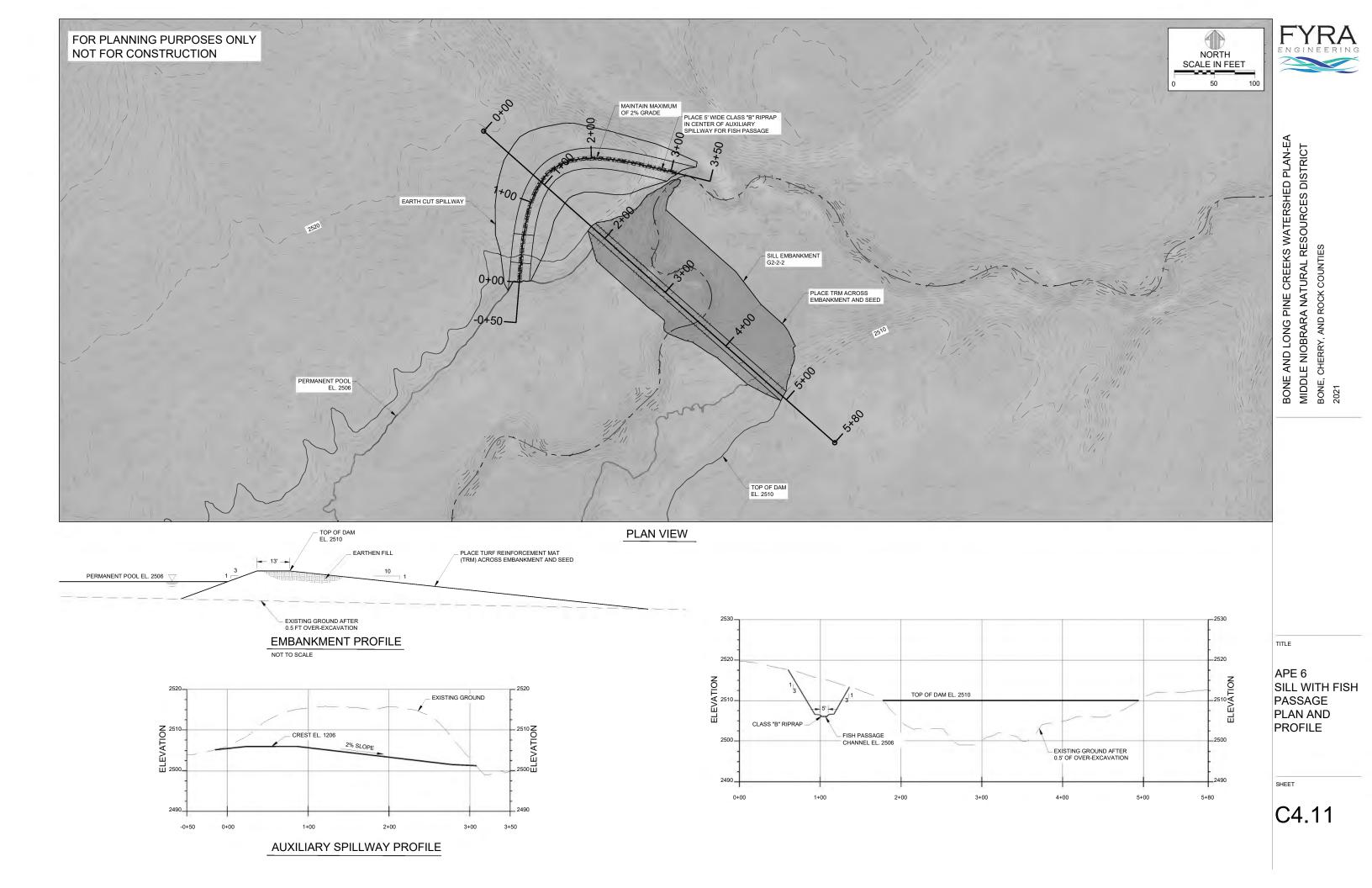
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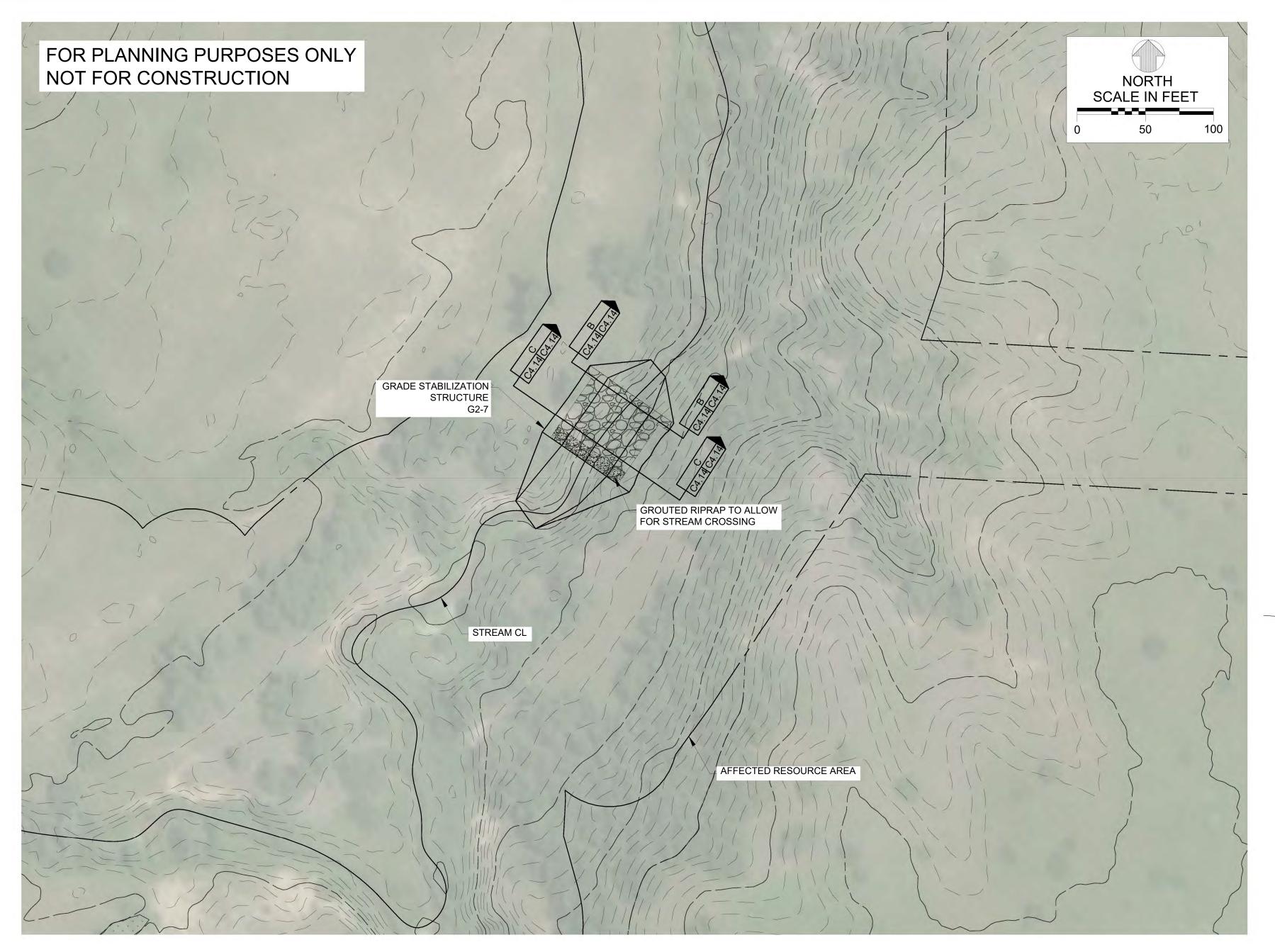




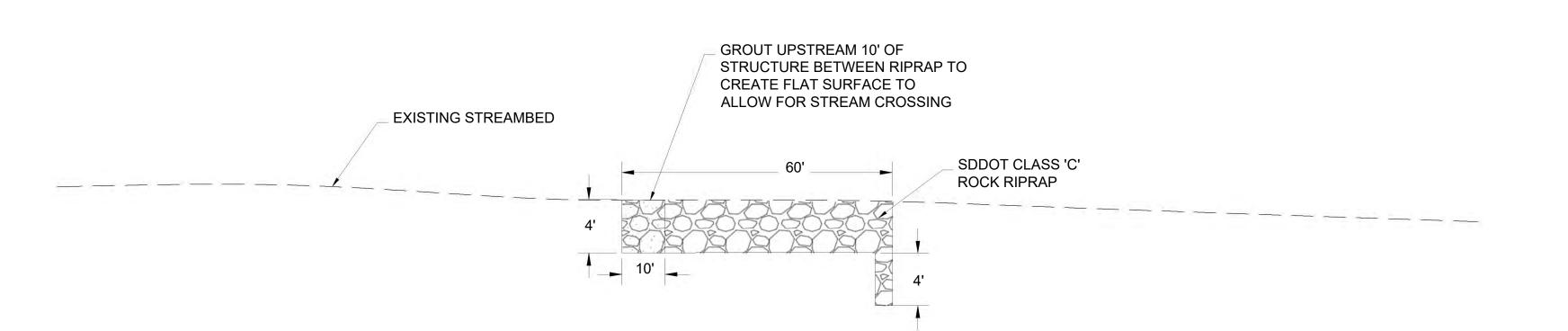






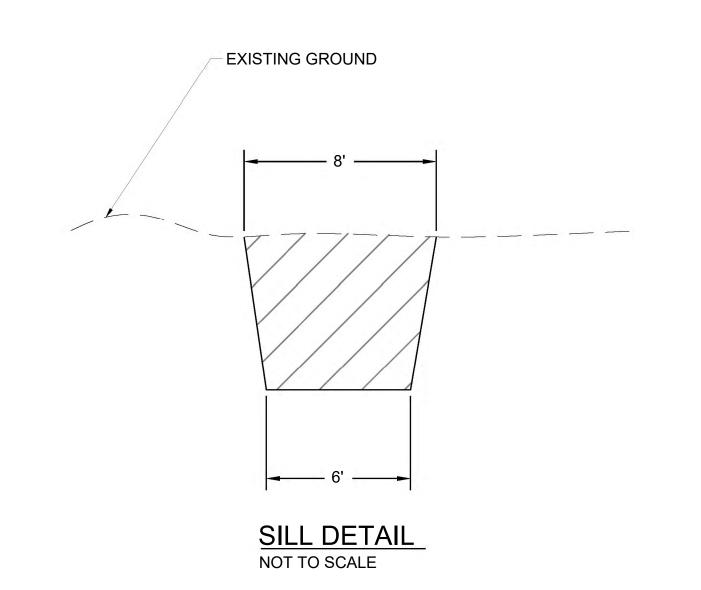


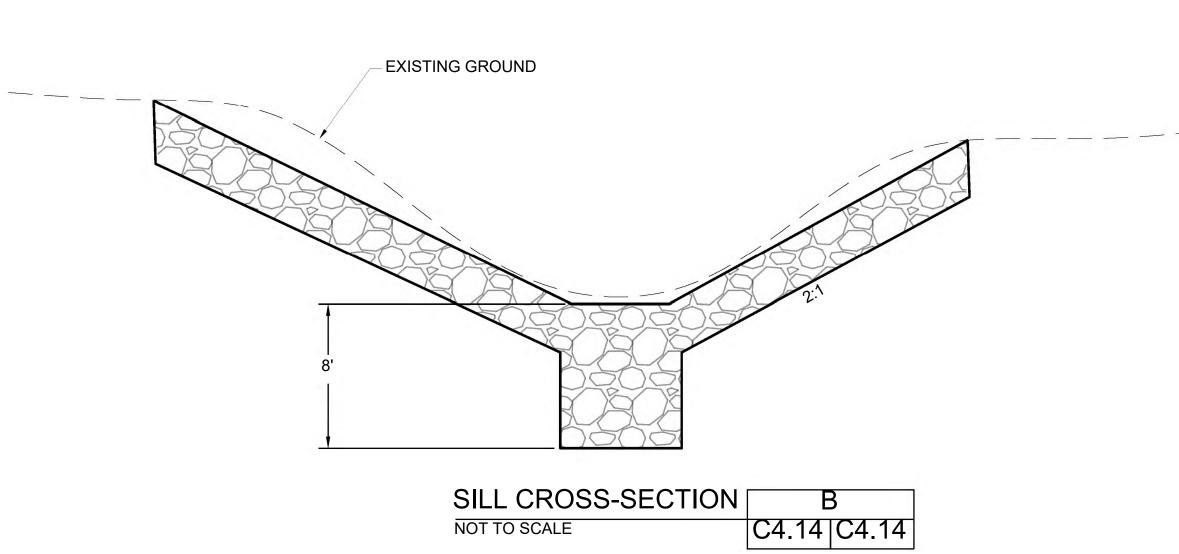
PLAN VIEW

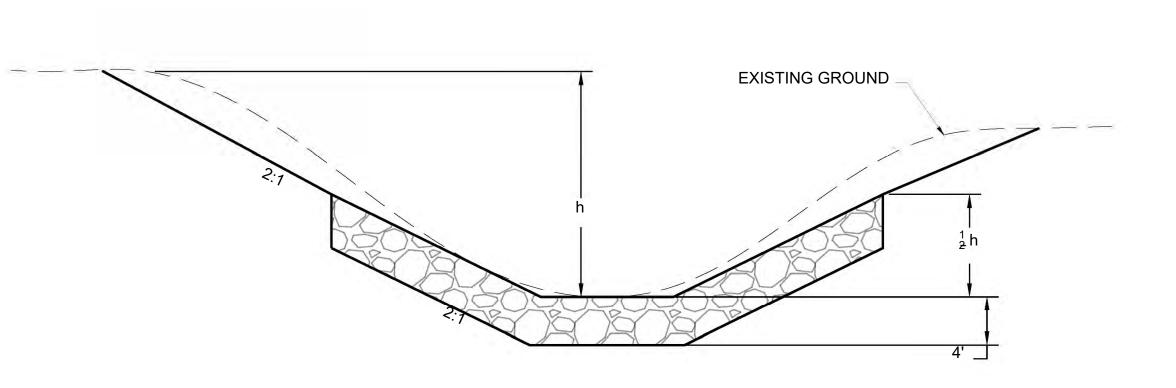


PROFILE VIEW

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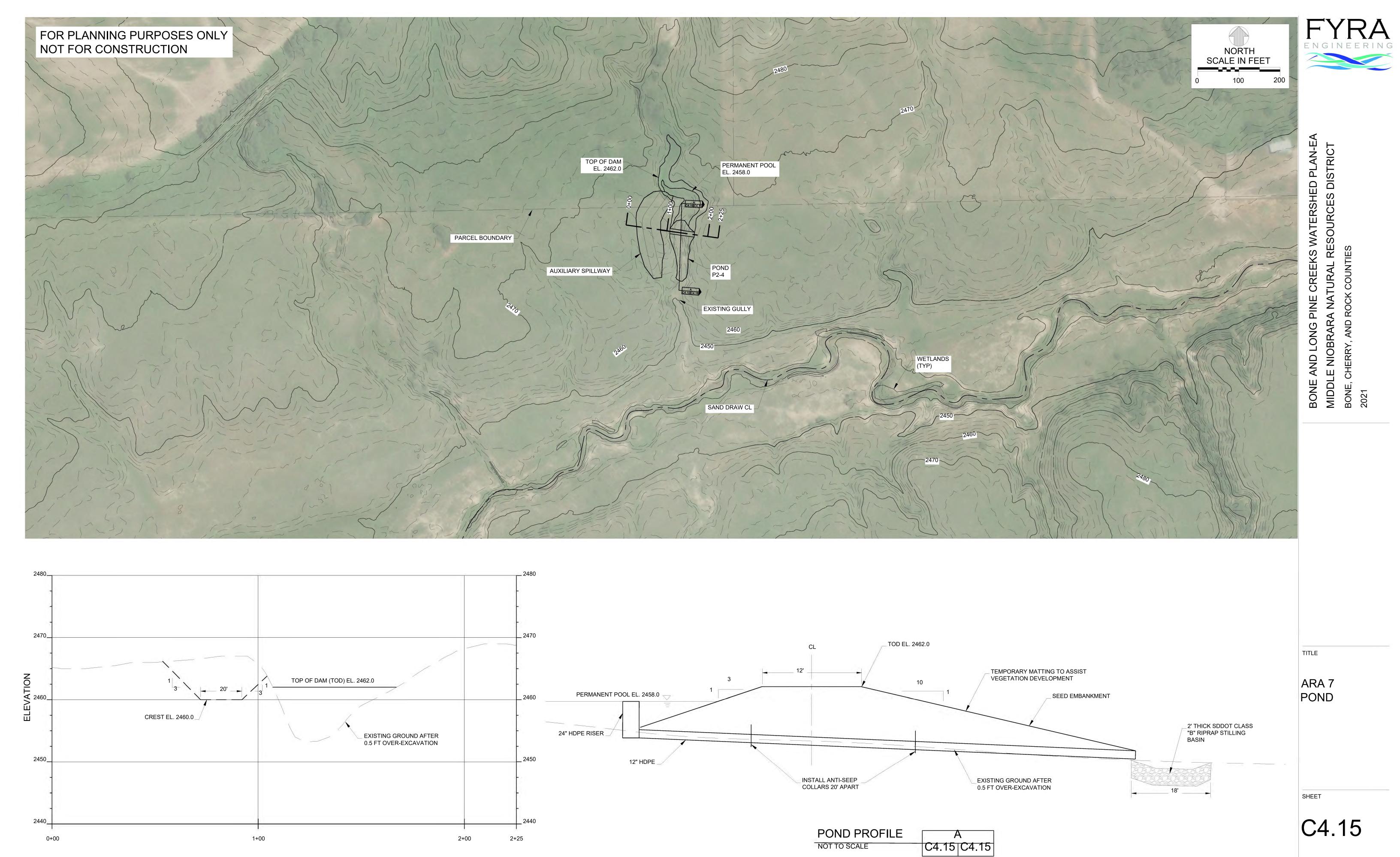
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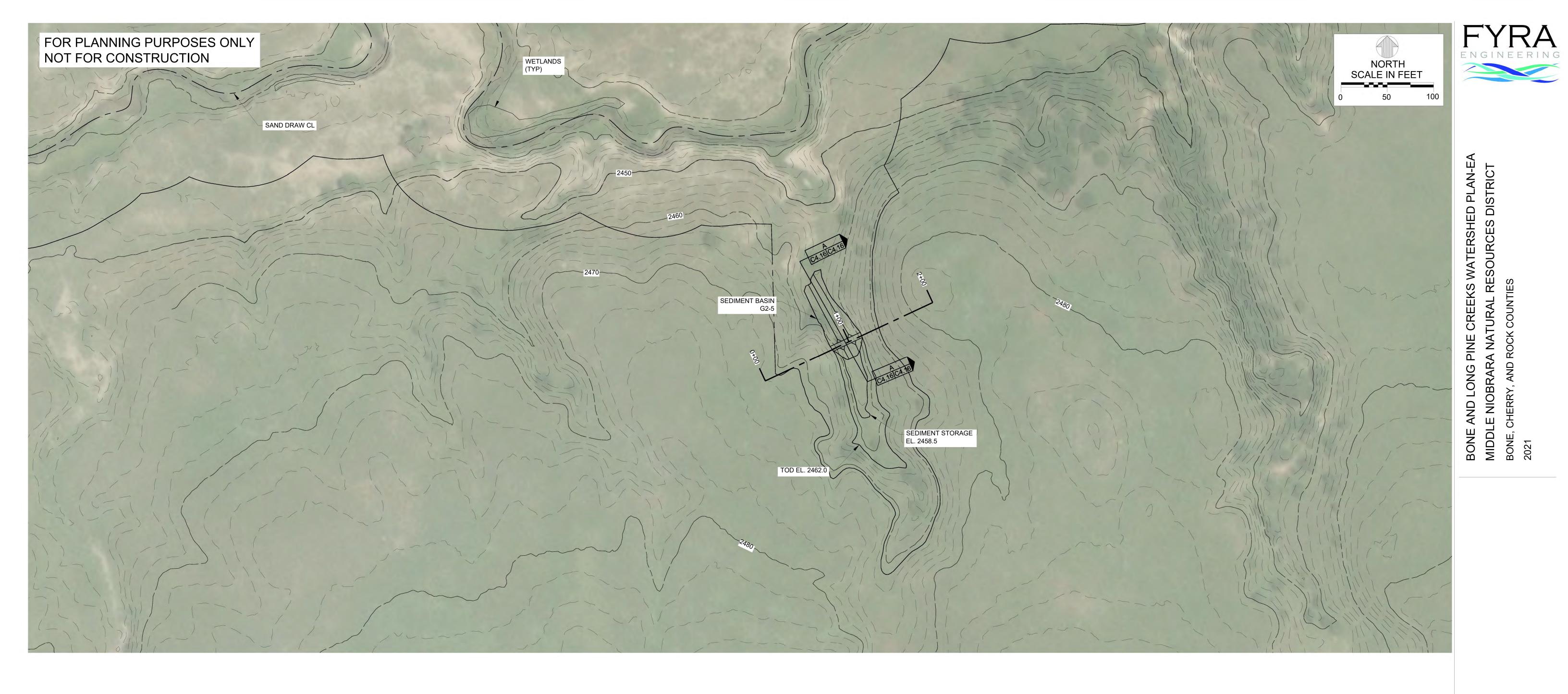
ARA 7
GRADE
CONTROL
STRUCTURE
AND CROSSING

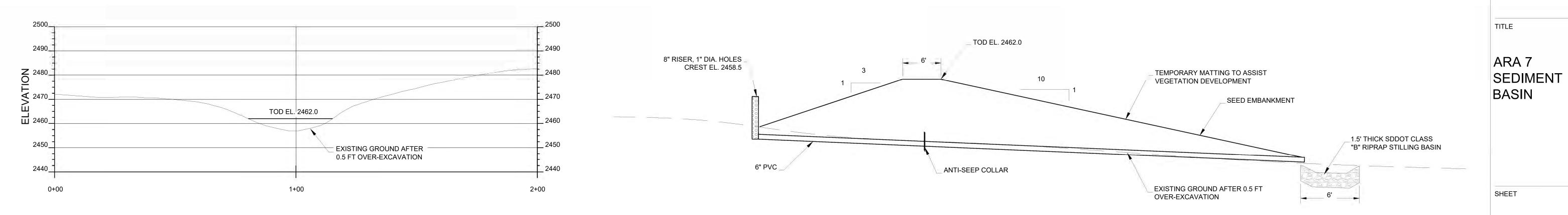
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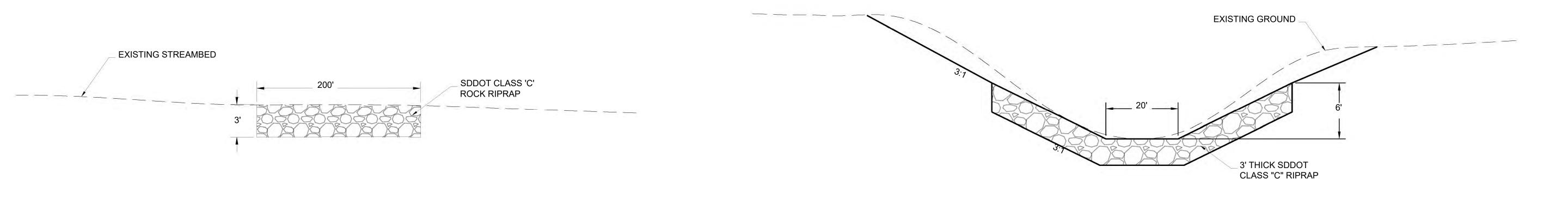




C4.16

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ROCK RAMP PROFILE VIEW

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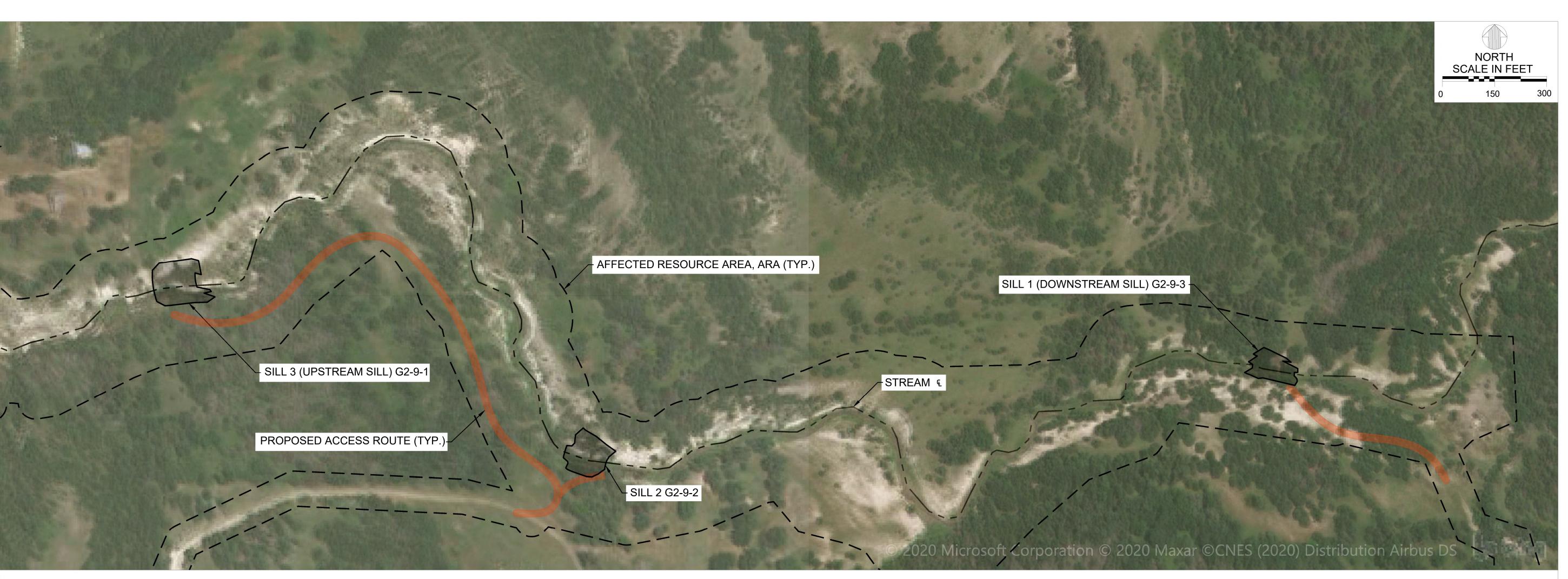
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ARA 8

ROCK RAMPS

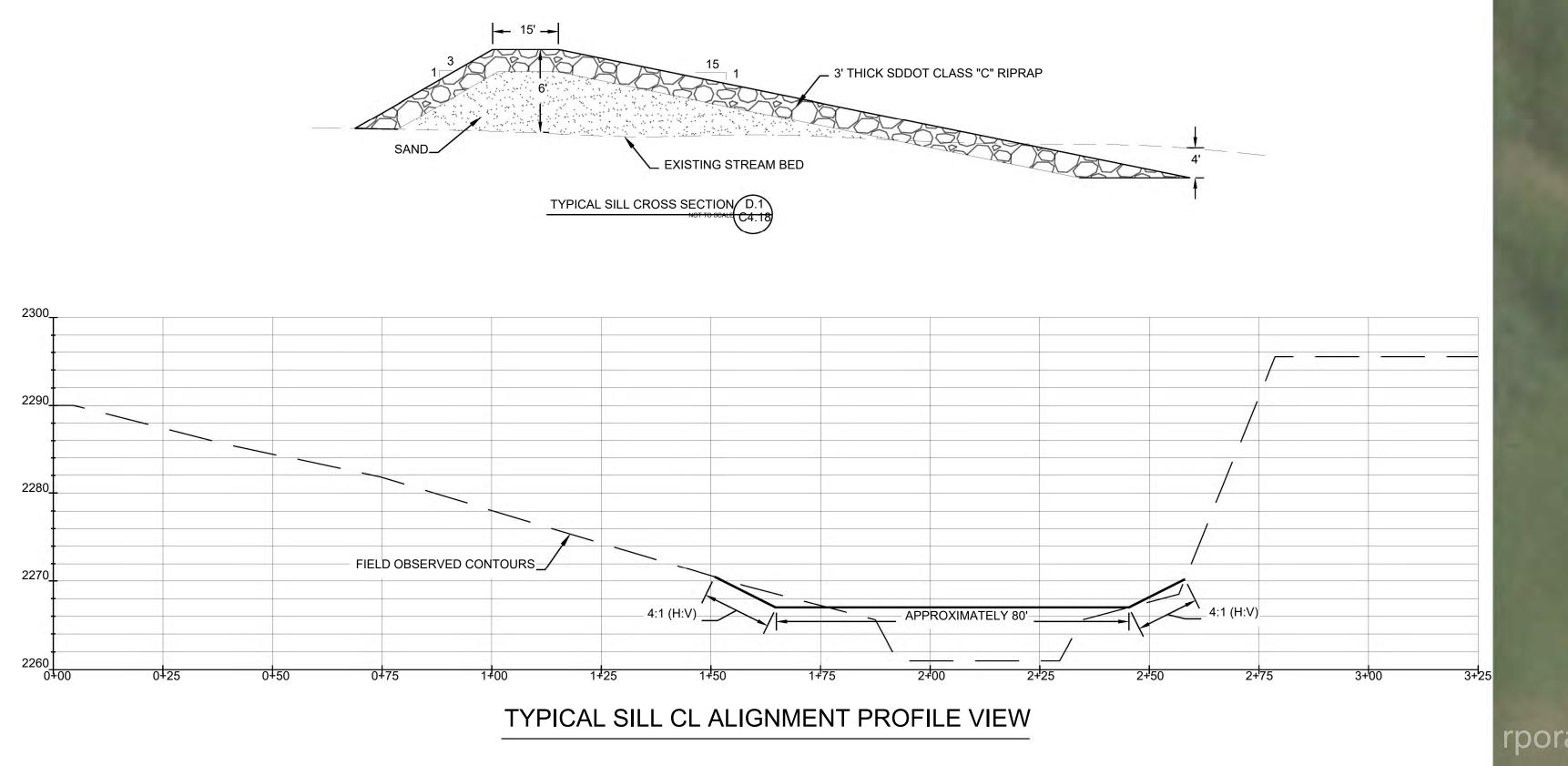
SHEET

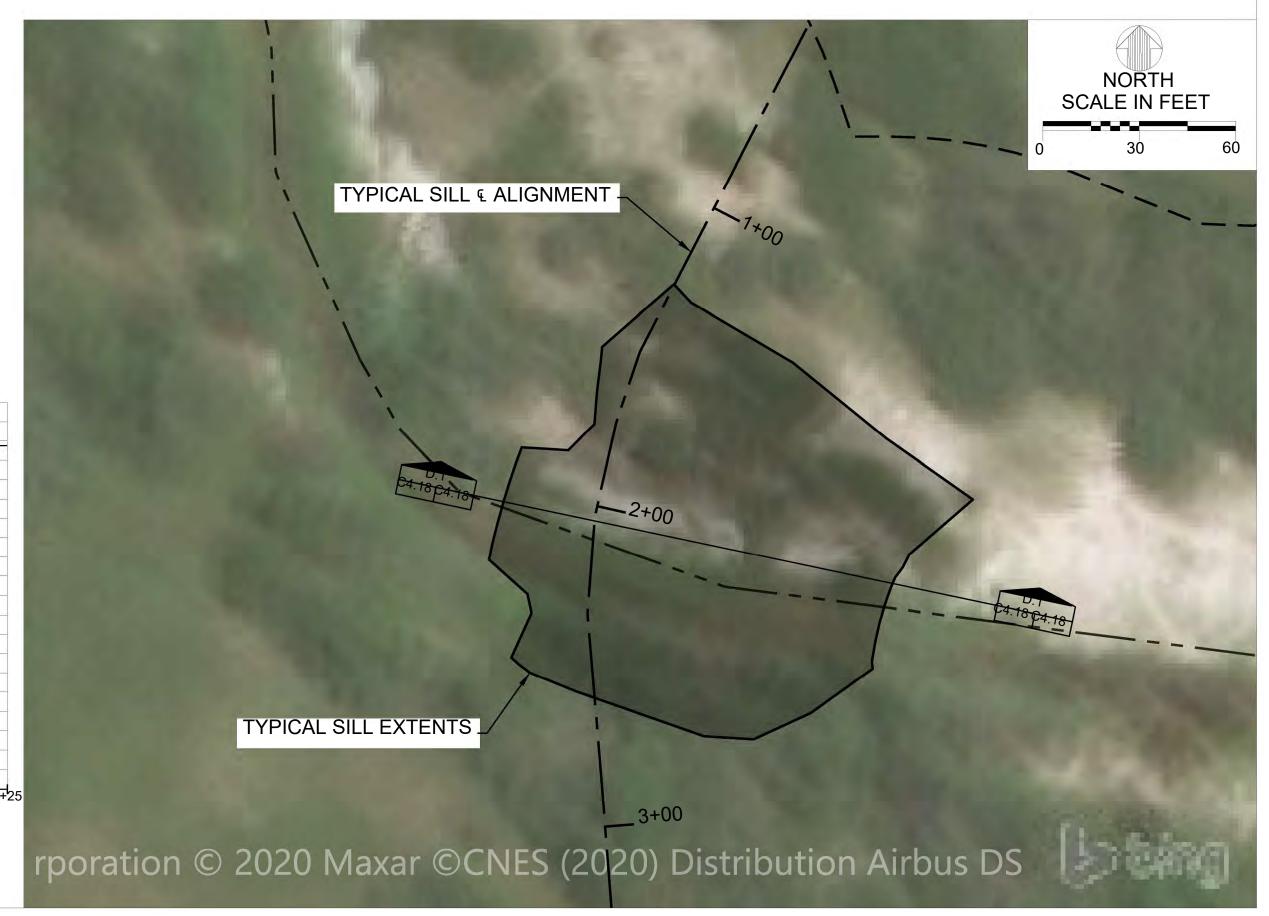




BONE AND LONG PINE CREEKS WATERSHED PLAN-EA MIDDLE NIOBRARA NATURAL RESOURCES DISTRICT BONE, CHERRY, AND ROCK COUNTIES

PLAN VIEW





TITLE

ARA 9 SILL STRUCTURES

SHEET



WIRE TREES TOGETHER
WITH STEEL CABLE

FLOW DIRECTION

TREE LENGTH (L)

NOT TO SCALE

CEDAR TREE REVETMENT

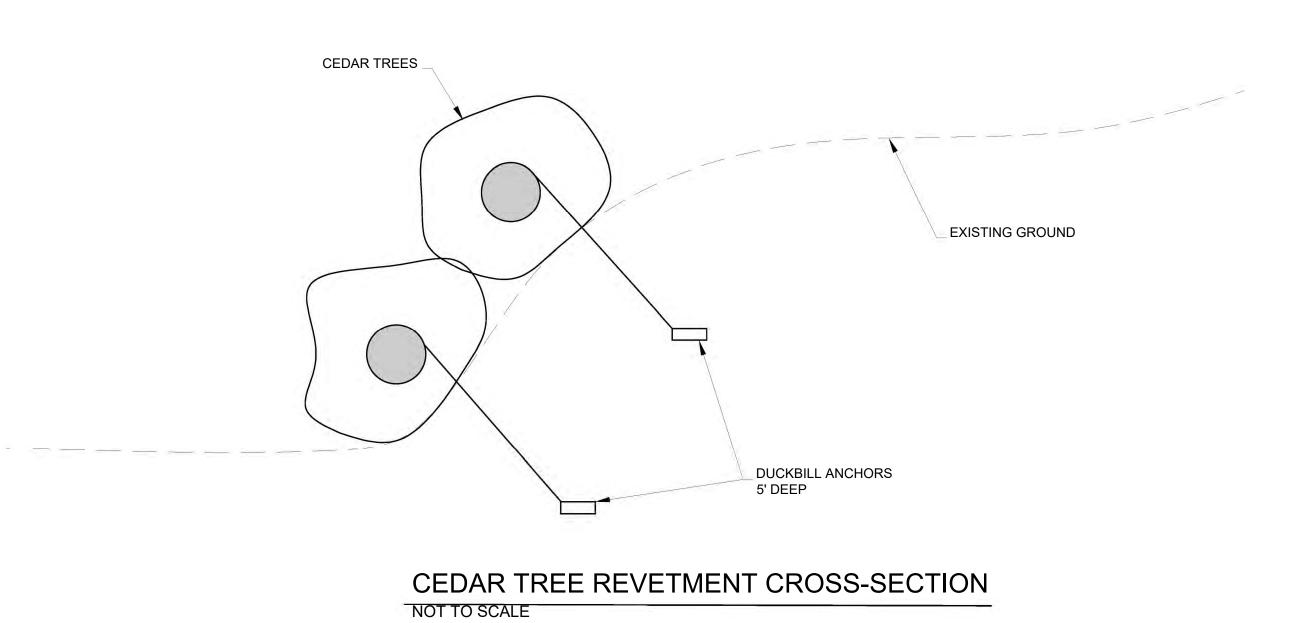
ARA 10 GRADE

STABILIZATION

STRUCTURE

AND CEDAR

REVETMENT

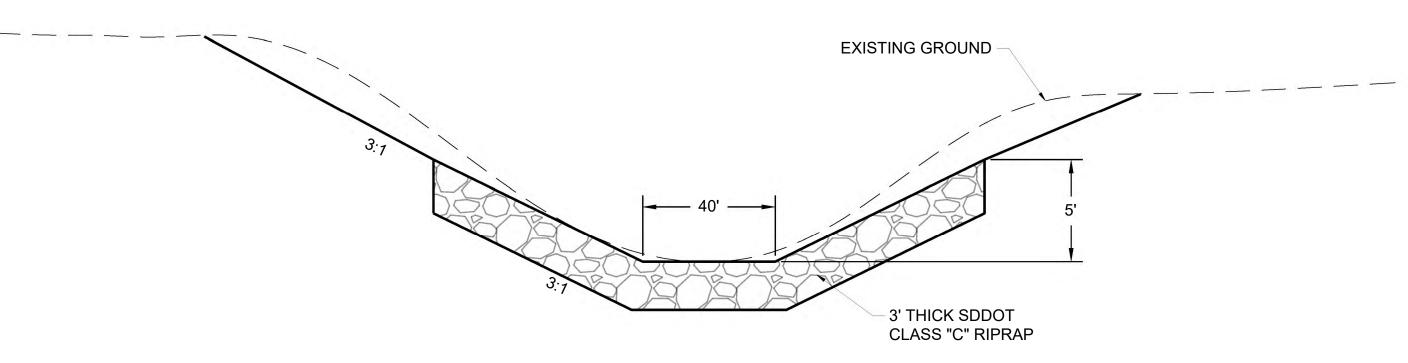


C4.19

SHEET

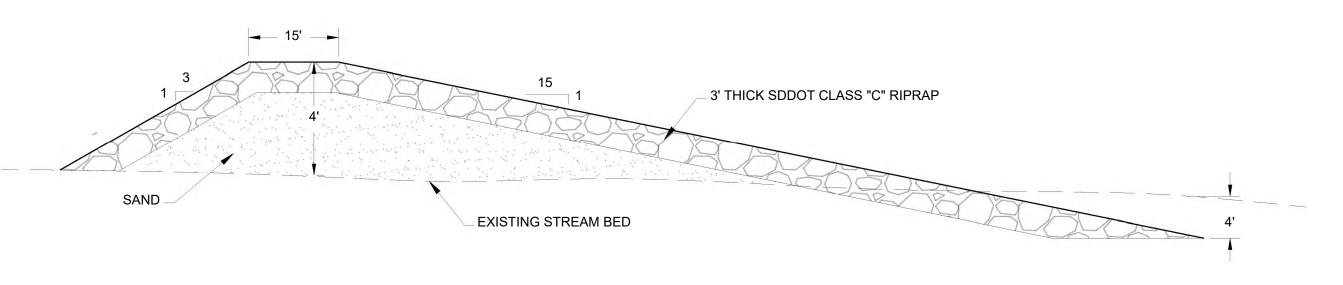
PLAN VIEW





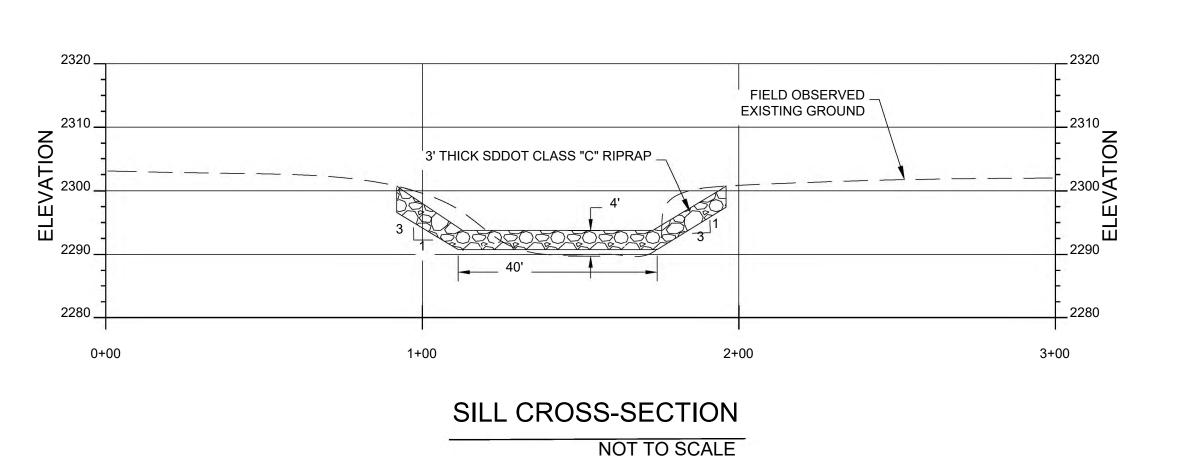
ROCK RAMP CROSS-SECTION

NOT TO SCALE



SILL PROFILE

NOT TO SCALE



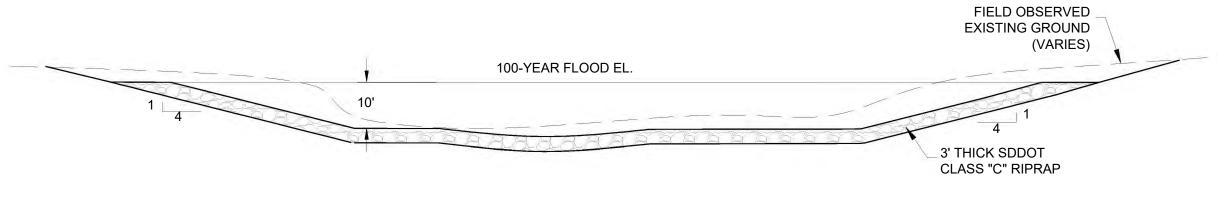
TITLE

ARA 11 ROCK RAMP AND SILL

SHEET

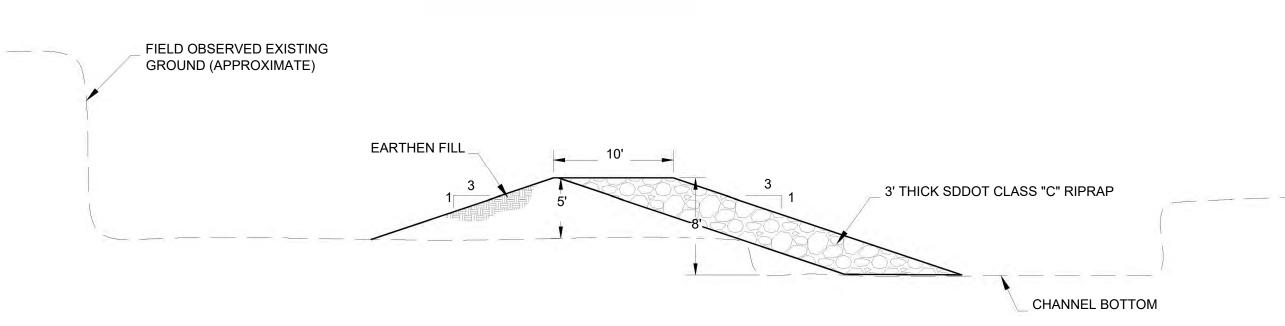


CREEKS WATERSHED PLAN-EA



GRADE STABILIZATION STRUCTURE CROSS-SECTION GRADE STABILIZATION STRUCTURE PROFILE NOT TO SCALE

_ 3' THICK SDDOT CLASS "C" RIPRAP



NOT TO SCALE

EXISTING STREAMBED

_EXISTING GROUND SDDOT CLASS "C" RIPRAP

STREAMBANK PROTECTION CROSS-SECTION NOT TO SCALE

BURIED FLANK PROTECTION CROSS-SECTION

NOT TO SCALE

TITLE

ARA 12 GRADE STABILIZATION, STREAMBANK PROTECTION, AND BURIED FLANK PROTECTION

SHEET

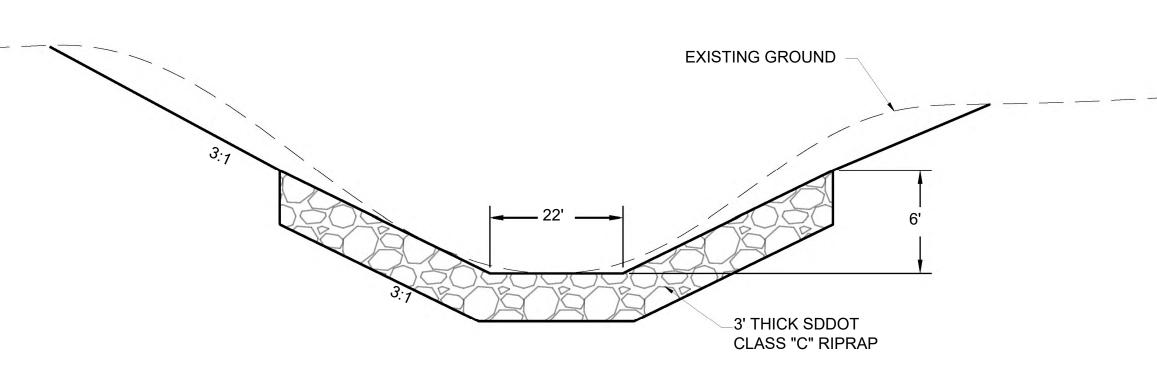




EXISTING STREAMBED -SDDOT CLASS 'C' ROCK RIPRAP

ROCK CHUTE PROFILE VIEW

NOT TO SCALE

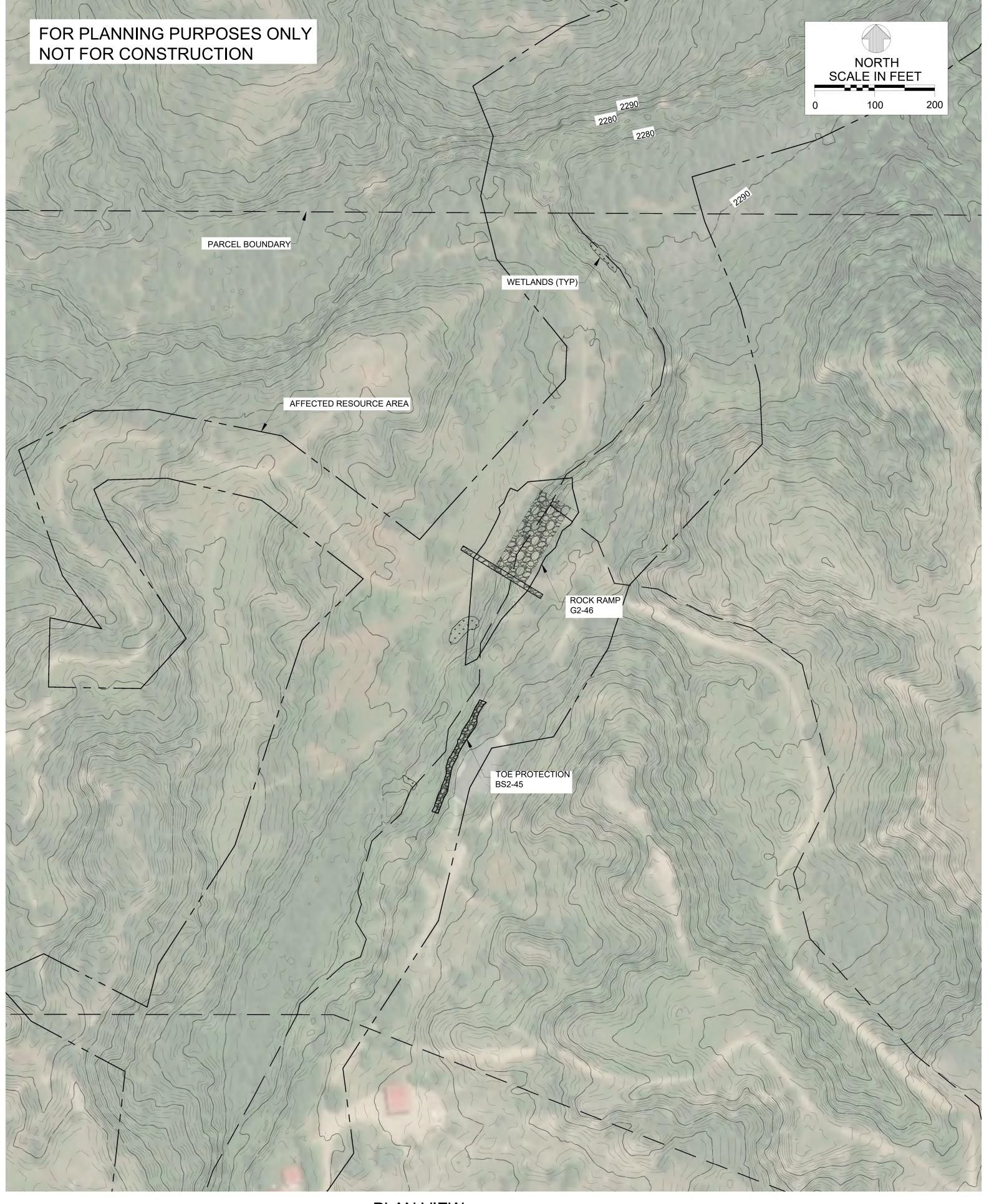


ROCK CHUTE CROSS-SECTION NOT TO SCALE

EXISTING GROUND 2.5' THICK SDDOT CLASS "C" RIPRAP ORDINARY HIGH WATER MARK EL.

TOE PROTECTION CROSS-SECTION

NOT TO SCALE



PLAN VIEW

C4.22

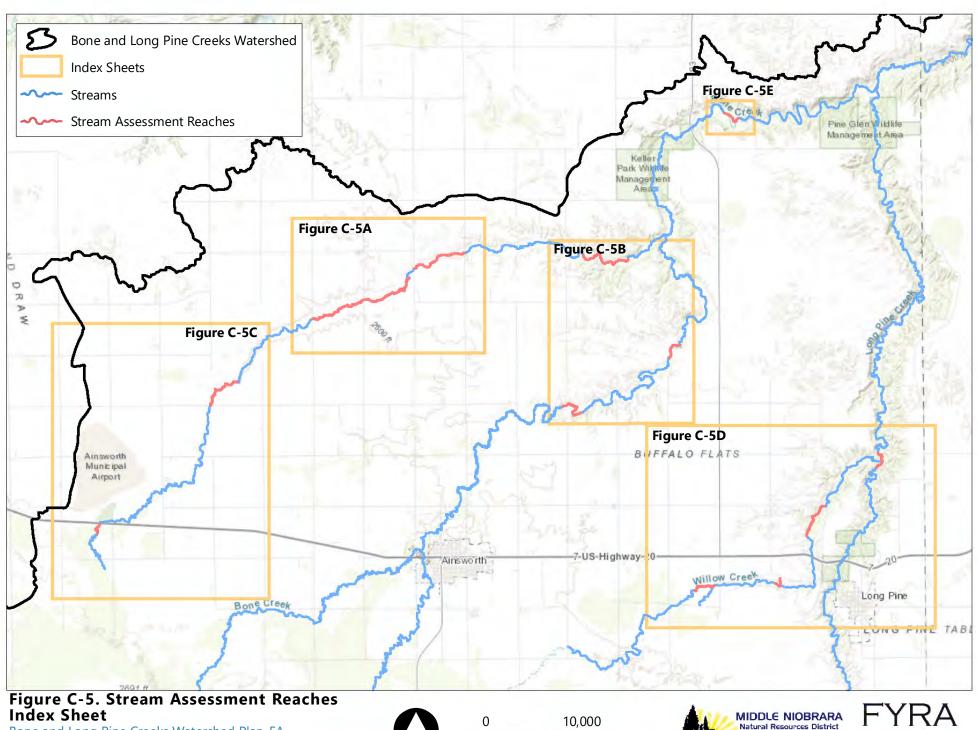
TITLE

ARA 13

AND TOE

ROCK RAMP

PROTECTION











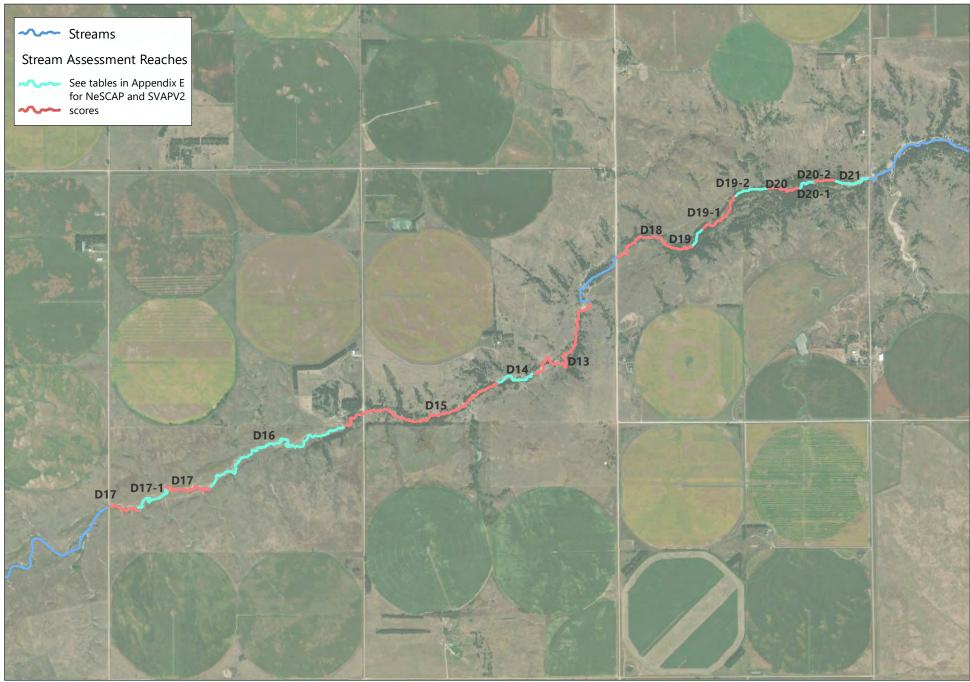


Figure C-5A. Stream Assessment Reaches









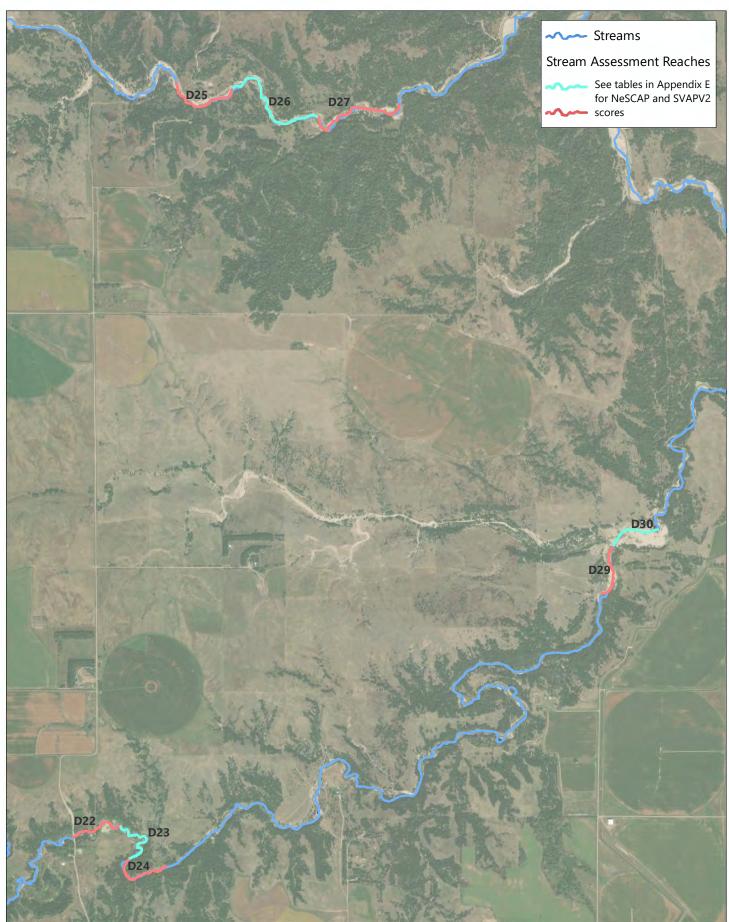


Figure C-5B. Stream Assessment Reaches









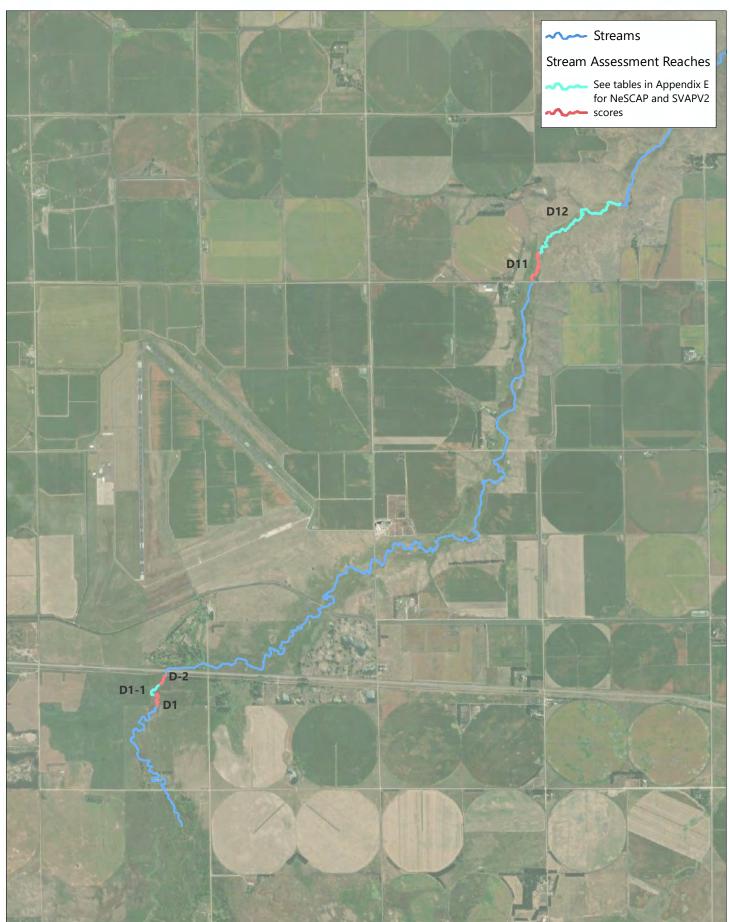


Figure C-5C. Stream Assessment Reaches











Figure C-5D. Stream Assessment Reaches











Figure C-5E. Stream Assessment Reaches







