



OURAY NATIONAL WILDLIFE REFUGE NATIONAL FISH HATCHERY (60% DESIGN)



— BUREAU OF —
RECLAMATION

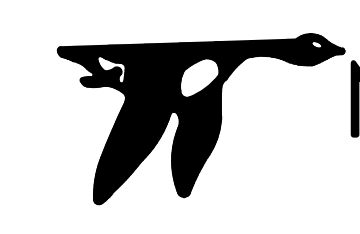
United States Department of the Interior

PROVO AREA OFFICE

302 East Lakeview Parkway Provo, Utah 84606 / (801) 379-1000



OURAY
NATIONAL FISH HATCHERY
FISH RACEWAY PROJECT



FOR ALWAYS THINK SAFETY

U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION
OURAY NATIONAL WILDLIFE REFUGE
NATIONAL FISH HATCHERY

OURAY NATIONAL FISH HATCHERY
2022 FISH RACEWAY &
SEDIMENTATION BASIN PROJECT

Bryan Schmutz, P.E.
DESIGNED
Bryan Schmutz, P.E.
DRAWN
Ashley Hilton, P.E.
CHECKED
Ben Kirk, P.E.
TECH. APPR.
APPROVED
ADMIN APPROVAL
STATION NAME (OURAY, UT) YYYY-MM-DD

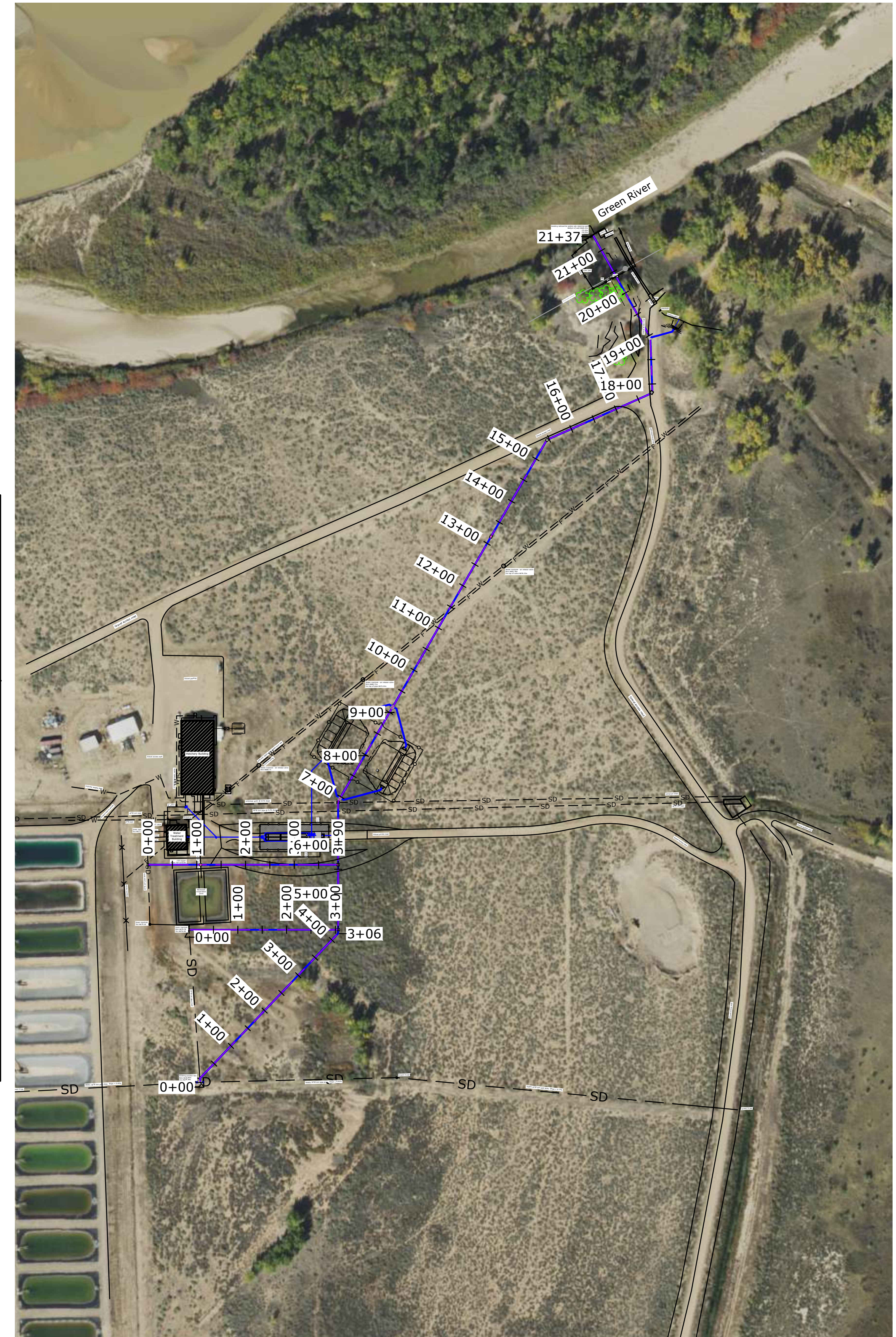
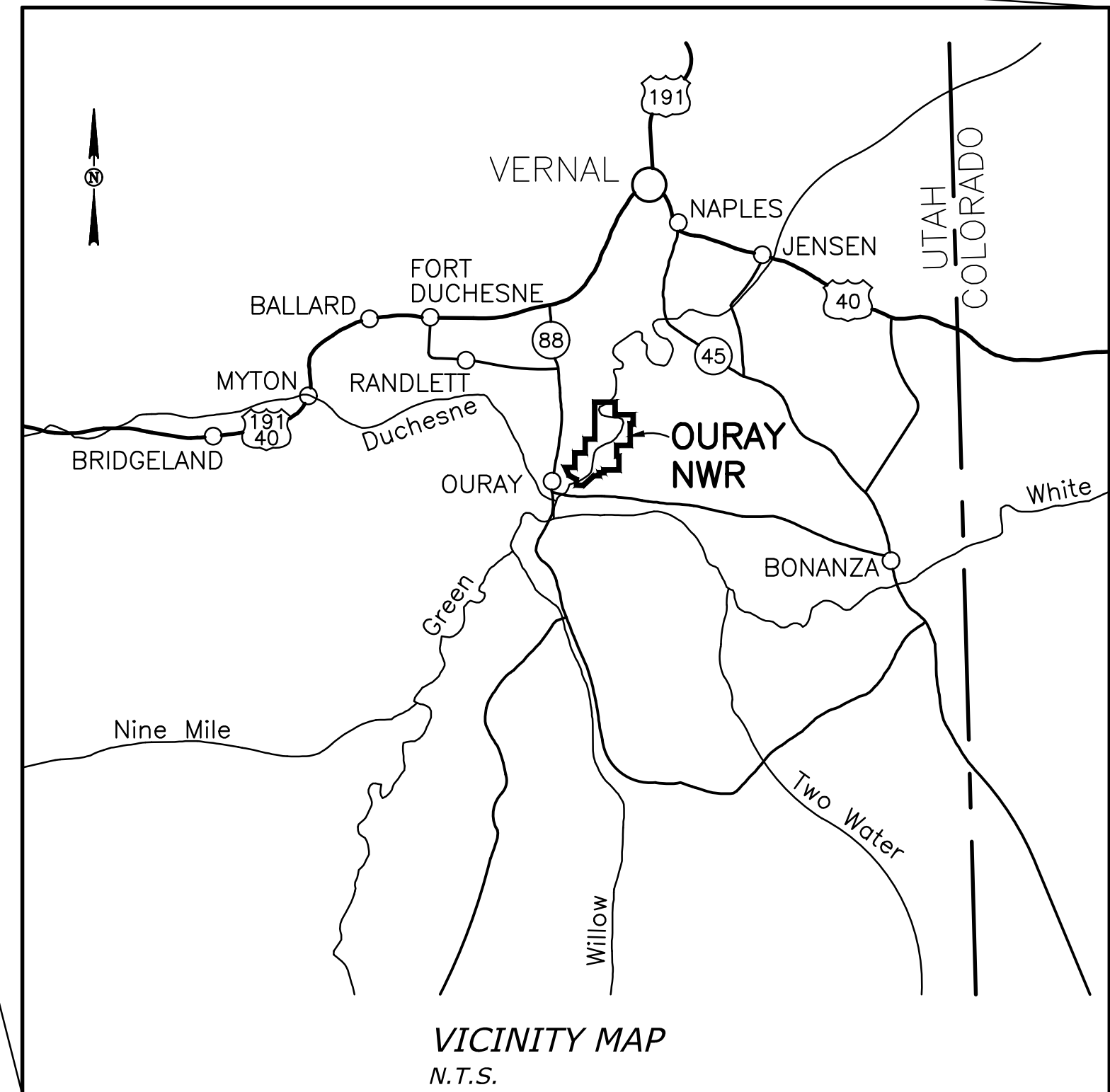
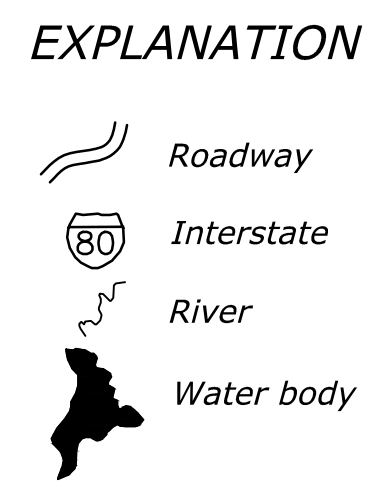
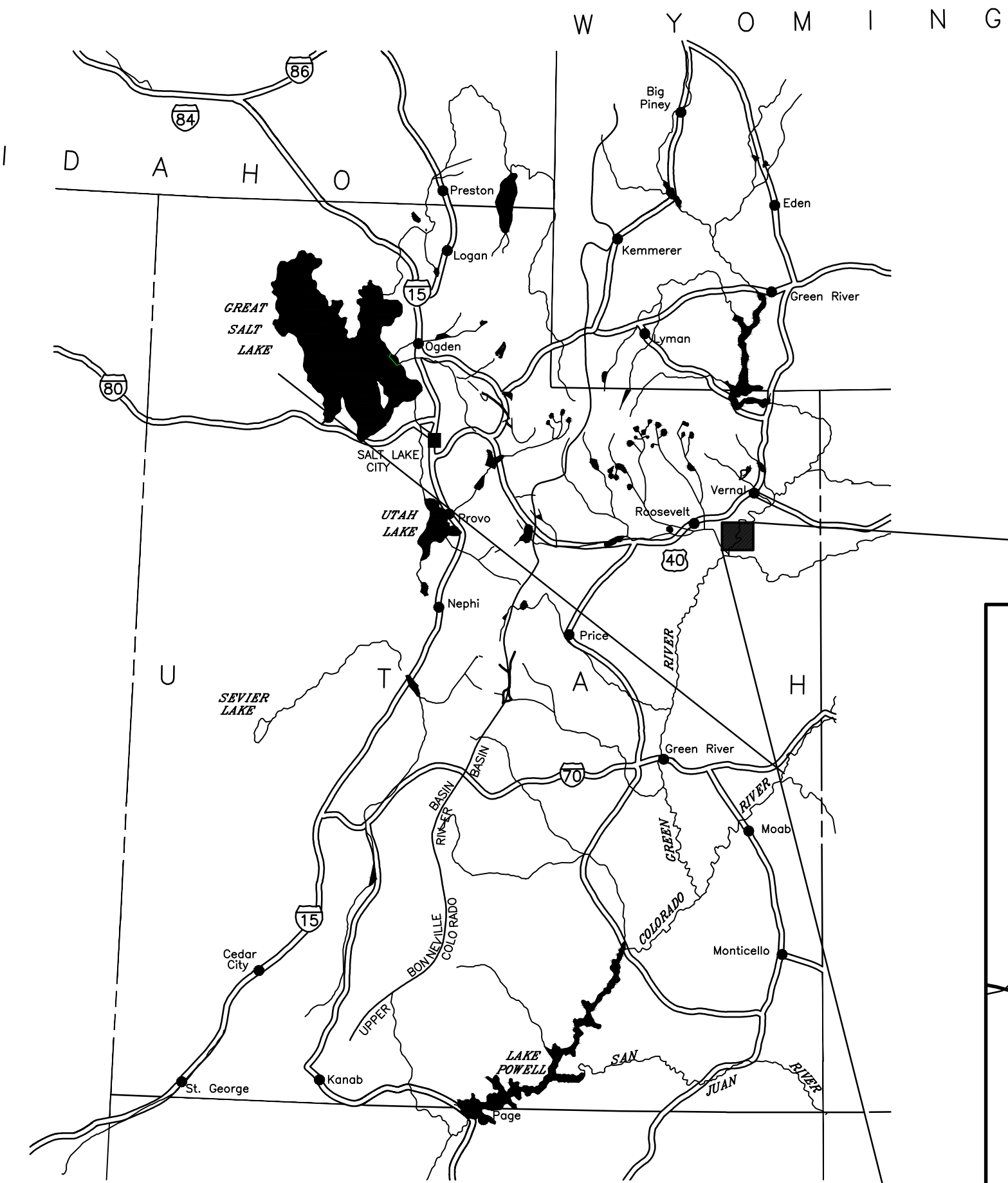
COVER SHEET

3152-418-60000

SHEET 1

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CAD SYSTEM
AutoCAD 2d/3d (LMS TECH)
2023-12-21 OURAY FISH HATCHERY.DWG



Project address: 21000 E Wildlife Refuge Rd, Randlett, UT 84063

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CAD SYSTEM
AutoCAD 2d/3d (LMS TECH)
2023-12-21 OURAY FISH HATCHERY BUILDING

PROJECT PERSONNEL		
NAME	NUMBER	ROLE
ASHLEY HILTON, P.E.	801-379-1105	BOR PROJECT MANAGER
BEN KIRK, P.E.	801-379-1109	BOR APPROVER
BRYAN SCHMUTZ, P.E.	801-379-1245	BOR DESIGNER
ZANE OLSEN	435-828-3492	HATCHERY MANAGER
ROB BUNDY	435-545-2522X3	REFUGE MANAGER

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KEY, VICINITY, AND AREA MAP

PROJECT PERSONNEL

3152-418-60001

SHEET 1

DESIGN DRAWINGS
SEQUENCE INDEX

SHEET NUMBER	DRAWING NUMBER	DESCRIPTION
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G3	3152-418-60002	SHEET INDEX
C1	3152-418-60003	OVERALL SITE PLAN
C2	3152-418-60004	FISH RACEWAY & SEDIMENT BASIN SITE PLAN
C3	3152-418-60005	FISH RACEWAY PIPING PLAN & SECTIONS
C4	3152-418-60006	BUILDING & PUMP STRUCTURE PLAN & SECTIONS
C5	3152-418-60007	SEDIMENT BASIN PLAN & SECTIONS
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C14	3152-418-60016	Erosion Control Plan



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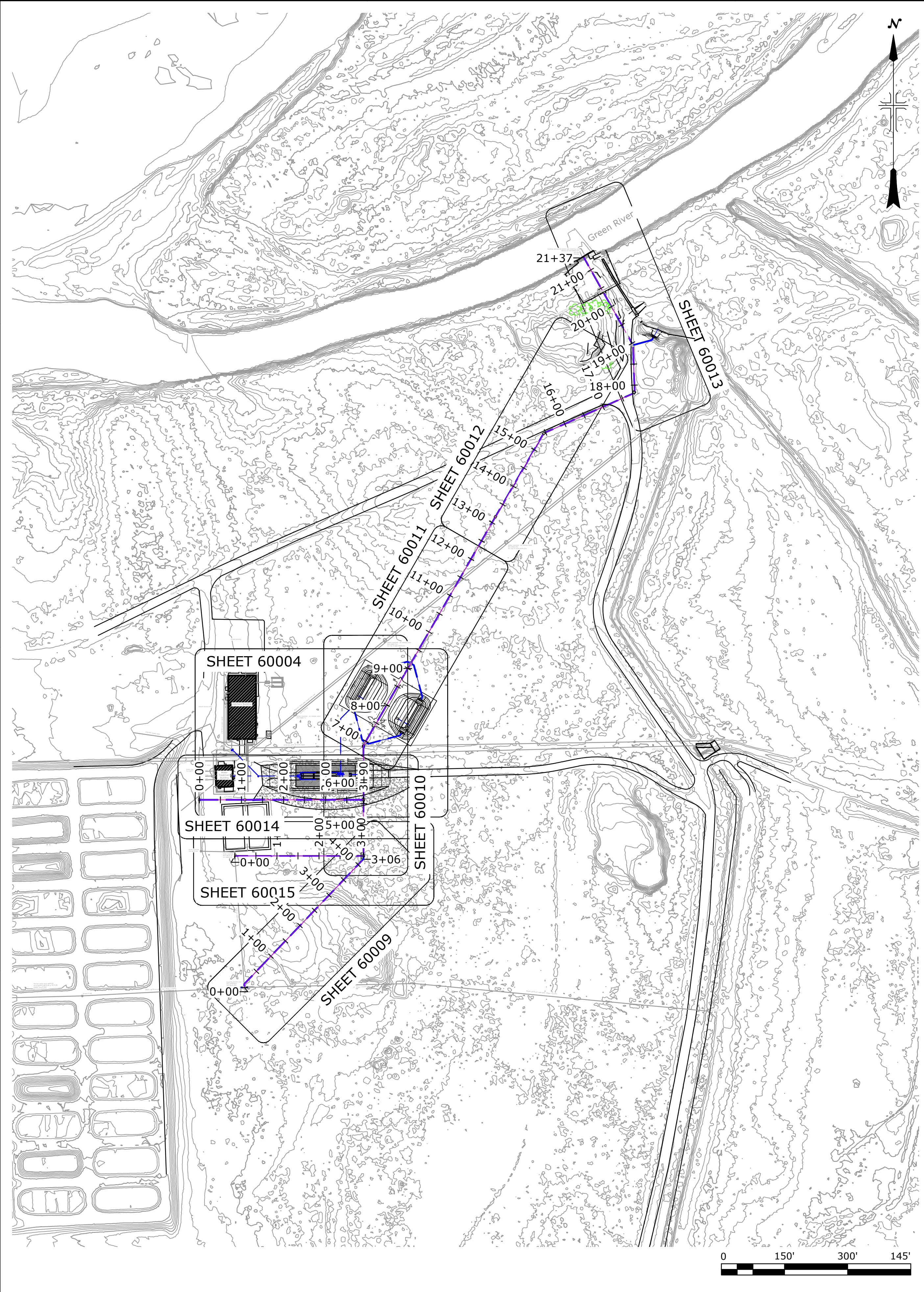
SHEET INDEX

3152-418-60002

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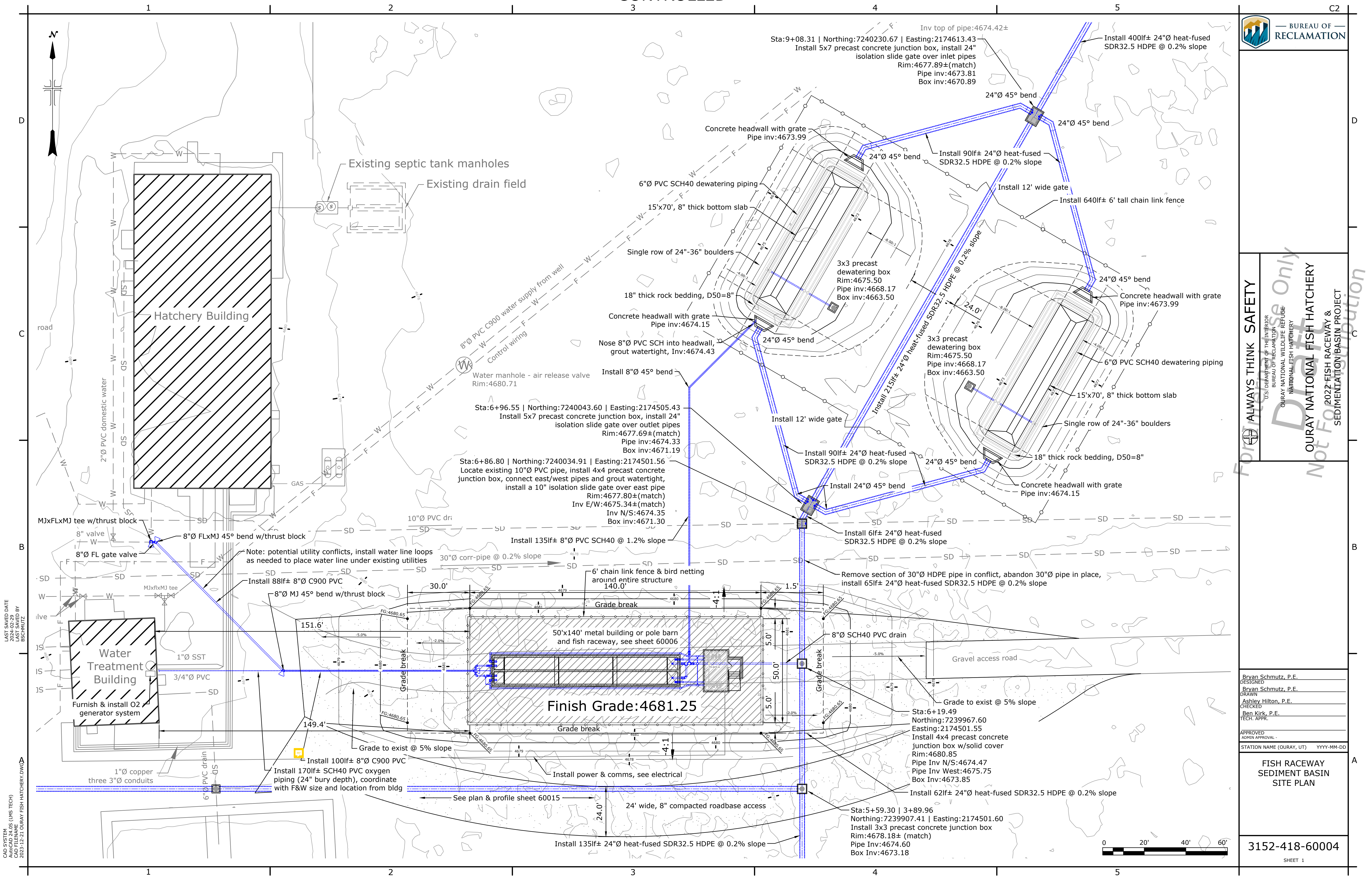
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OVERALL SITE PLAN

3152-418-60003

SHEET 1



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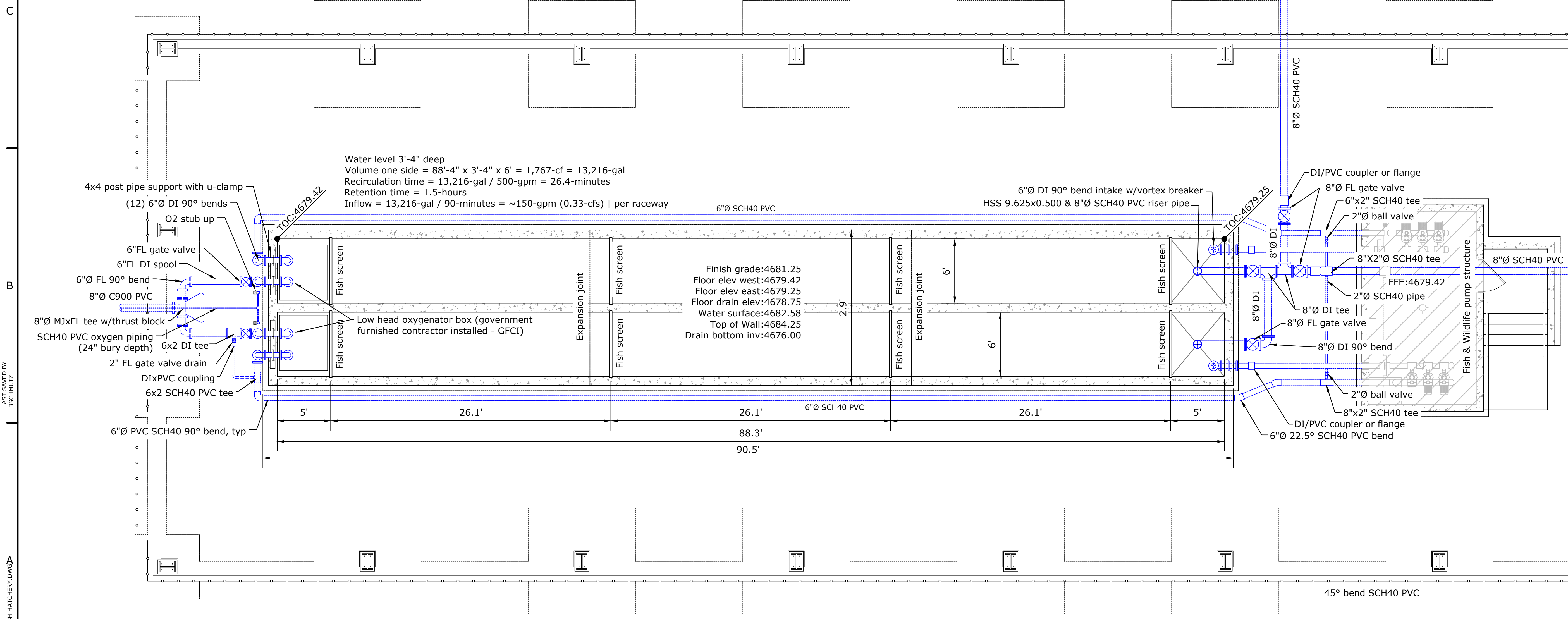
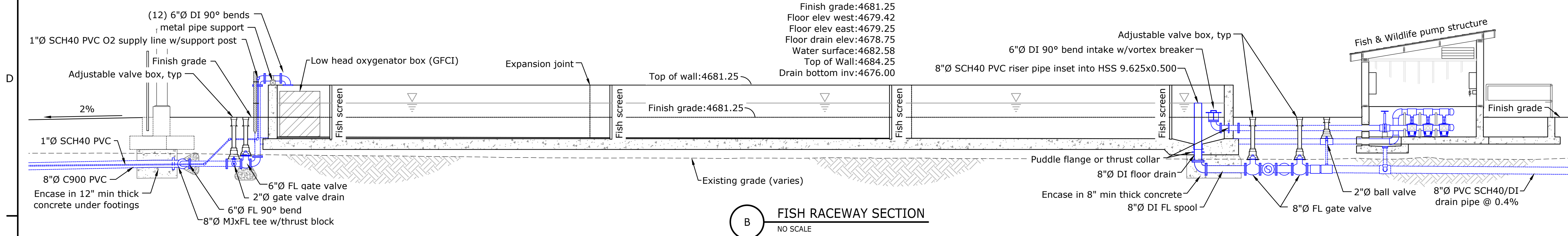
FISH RACEWAY
 SEDIMENT BASIN
 SITE PLAN

3152-418-60004
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Note: coordinate trenching of O2 and water pipe in advance, avoid low points in O2 pipe (may require condensate drain), and high points in water line (may require air release valve)



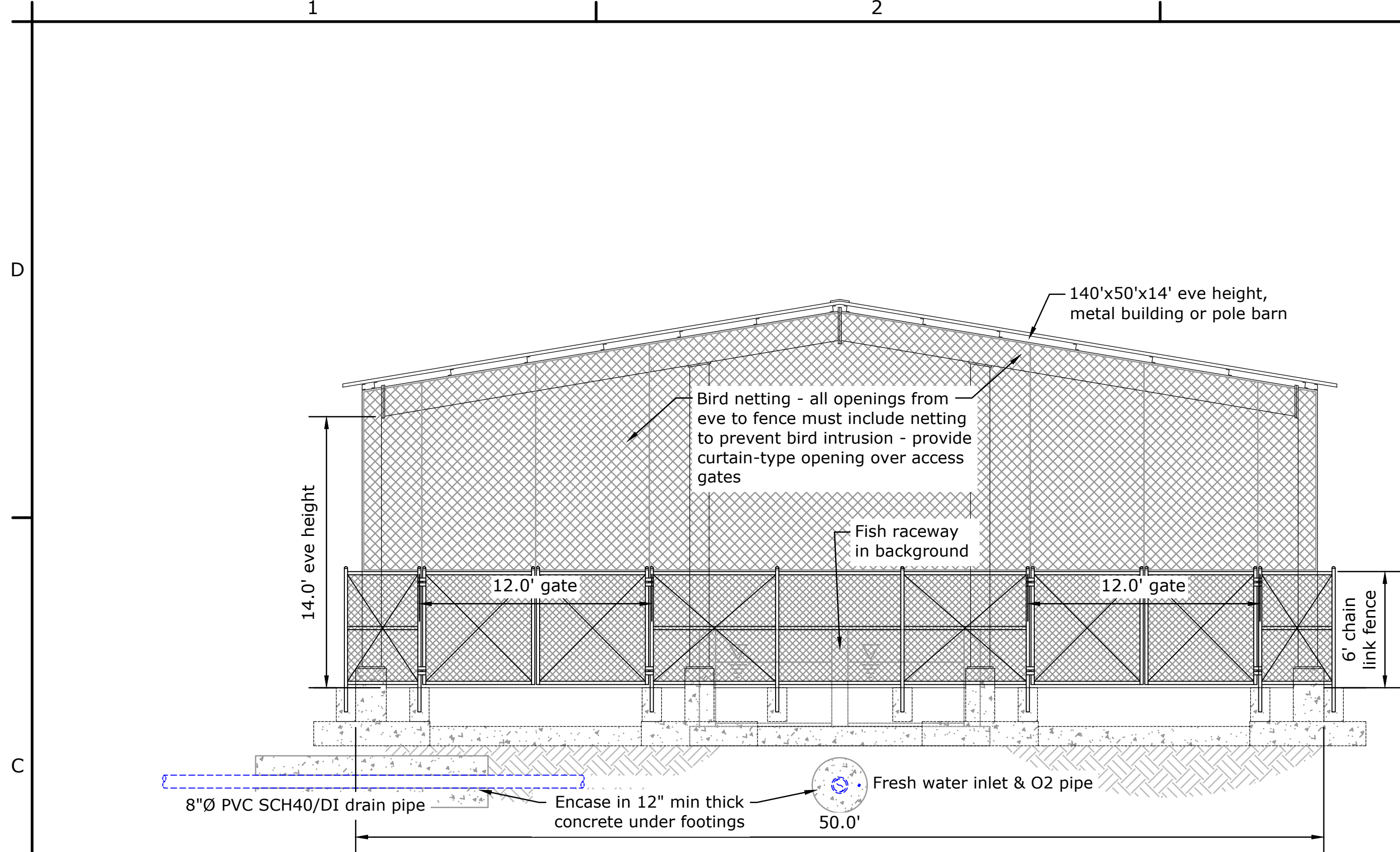
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DRAWN: 2023-12-21 OURAY FISH HATCHERY.DWG

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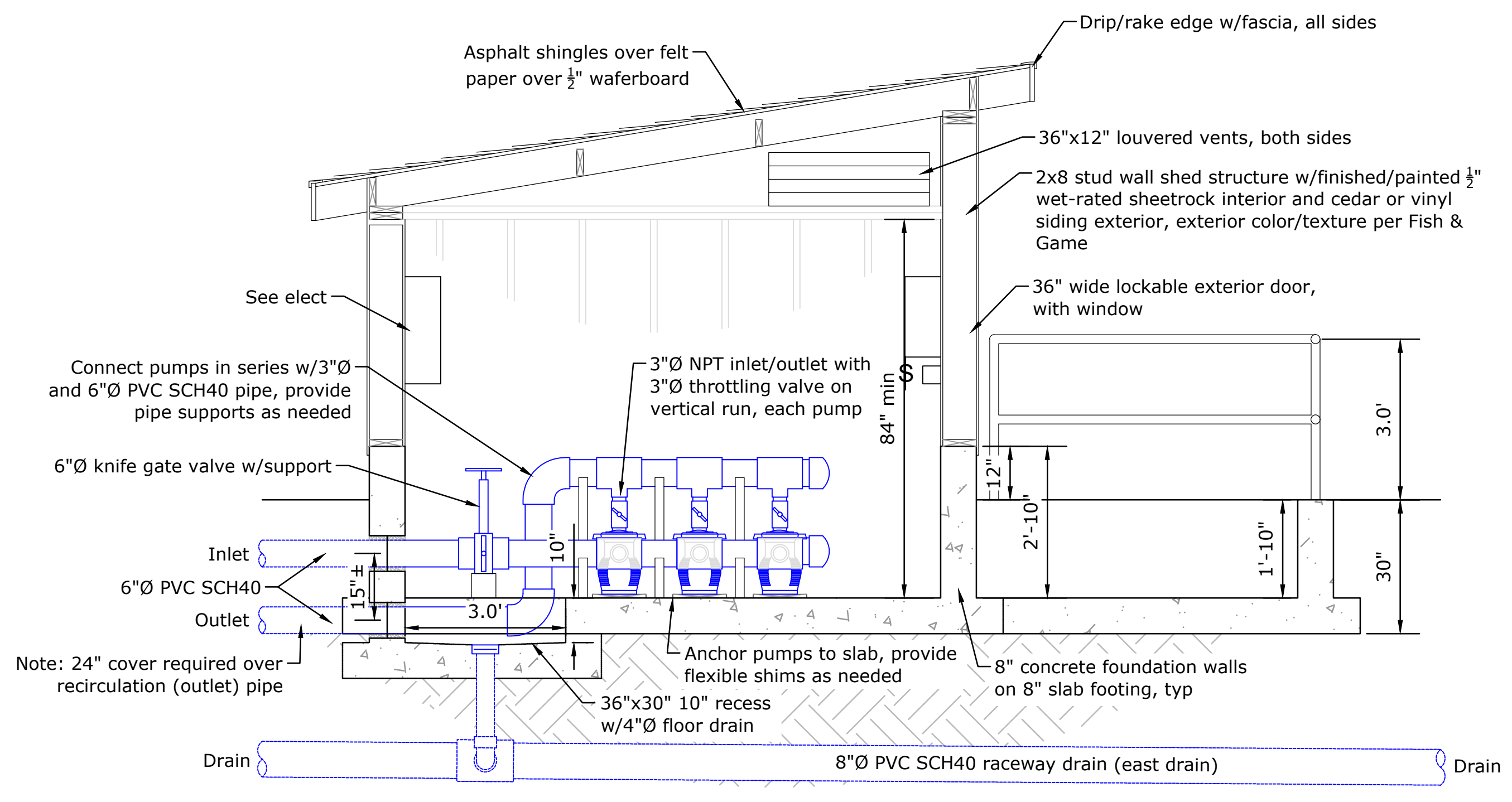
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FISH RACEWAY & PIPING PLAN
RACEWAY PLAN & SECTIONS

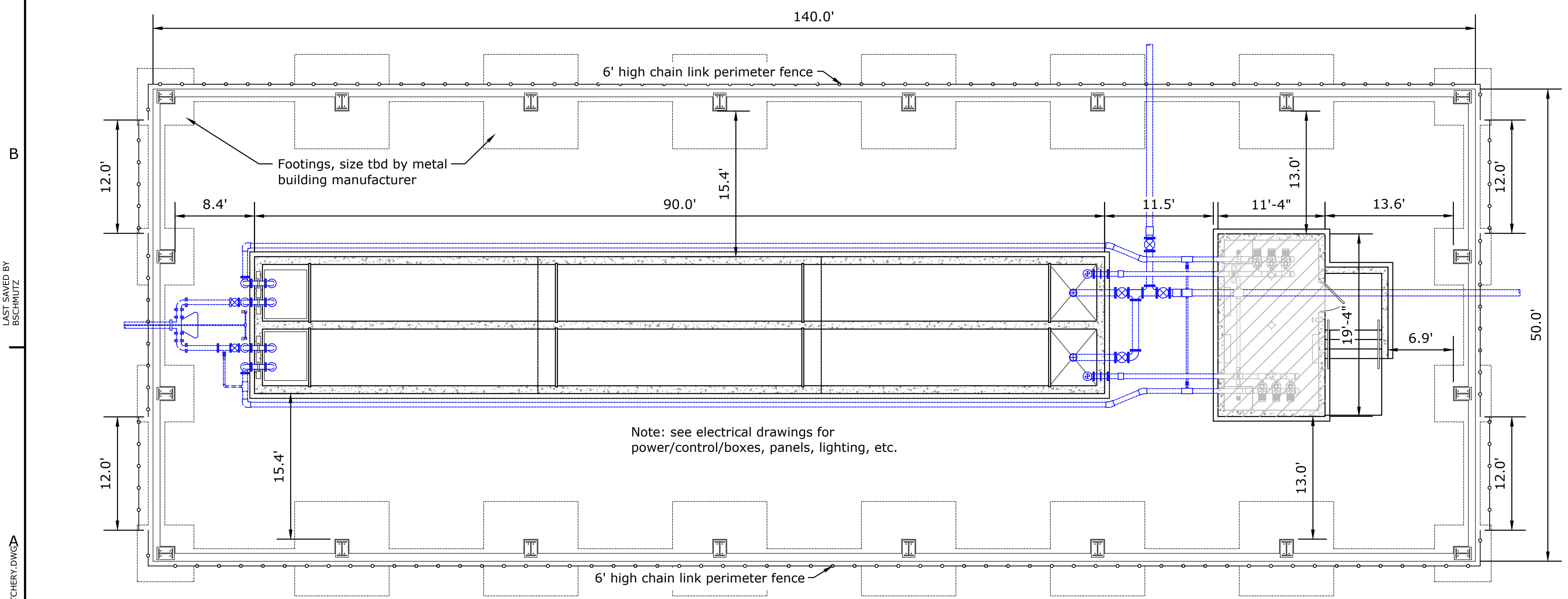
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SHEET 1



B BUILDING SECTION
NO SCALE

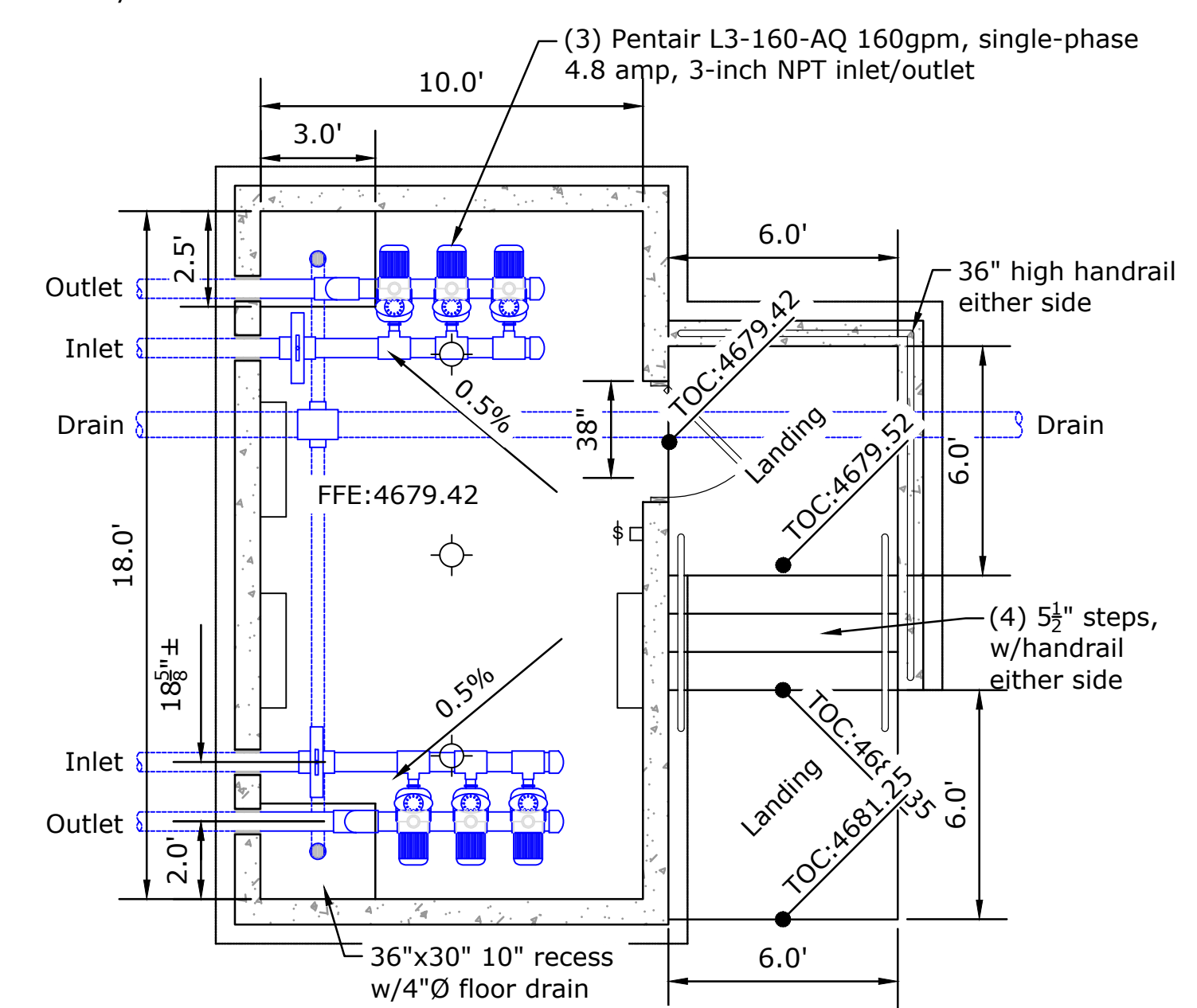


C PUMP STRUCTURE SECTION
NO SCALE



A BUILDING PLAN
NO SCALE

Pump Specifications:
 Flow rate: 500-gpm (1.34-cfs)
 Pipe: 6-inch PVC SCH40
 Velocity: 6.8-fps
 90° Bends: 10 (equiv length = 160')
 Length of Pipe: 125-ft (+160-ft)
 Total Dynamic Head = ~7-feet



D PUMP STRUCTURE PLAN
NO SCALE

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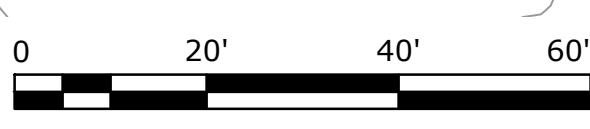
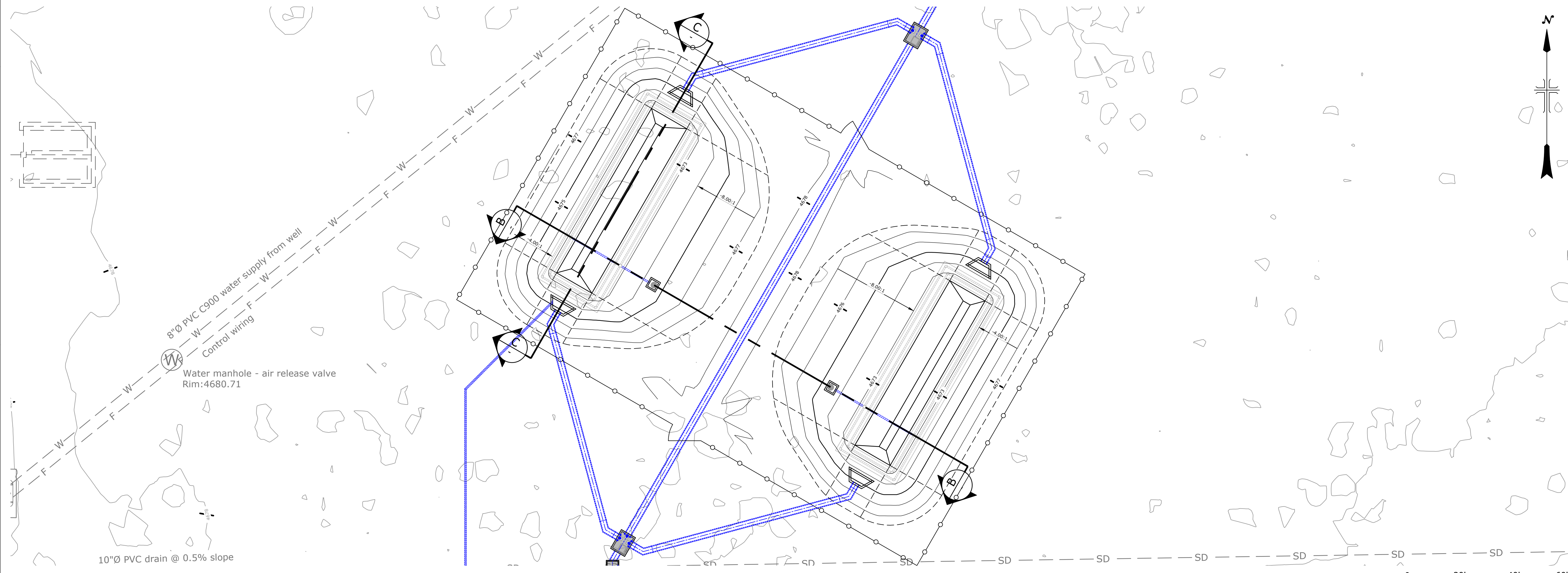
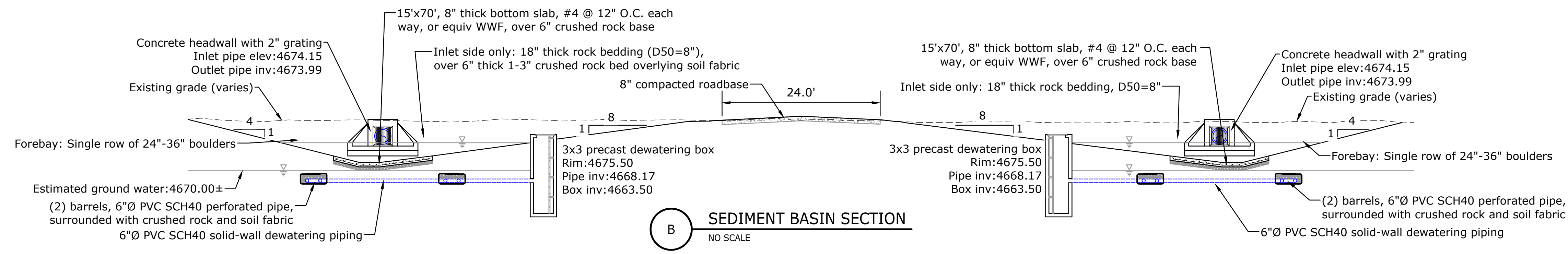
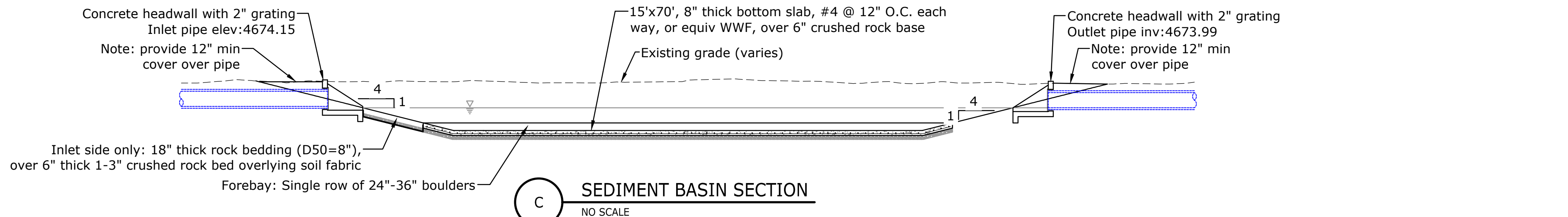
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BUILDING & PUMP STRUCTURE PLANS & SECTIONS

3152-418-60006

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SEDIMENT BASIN PLAN & SECTIONS

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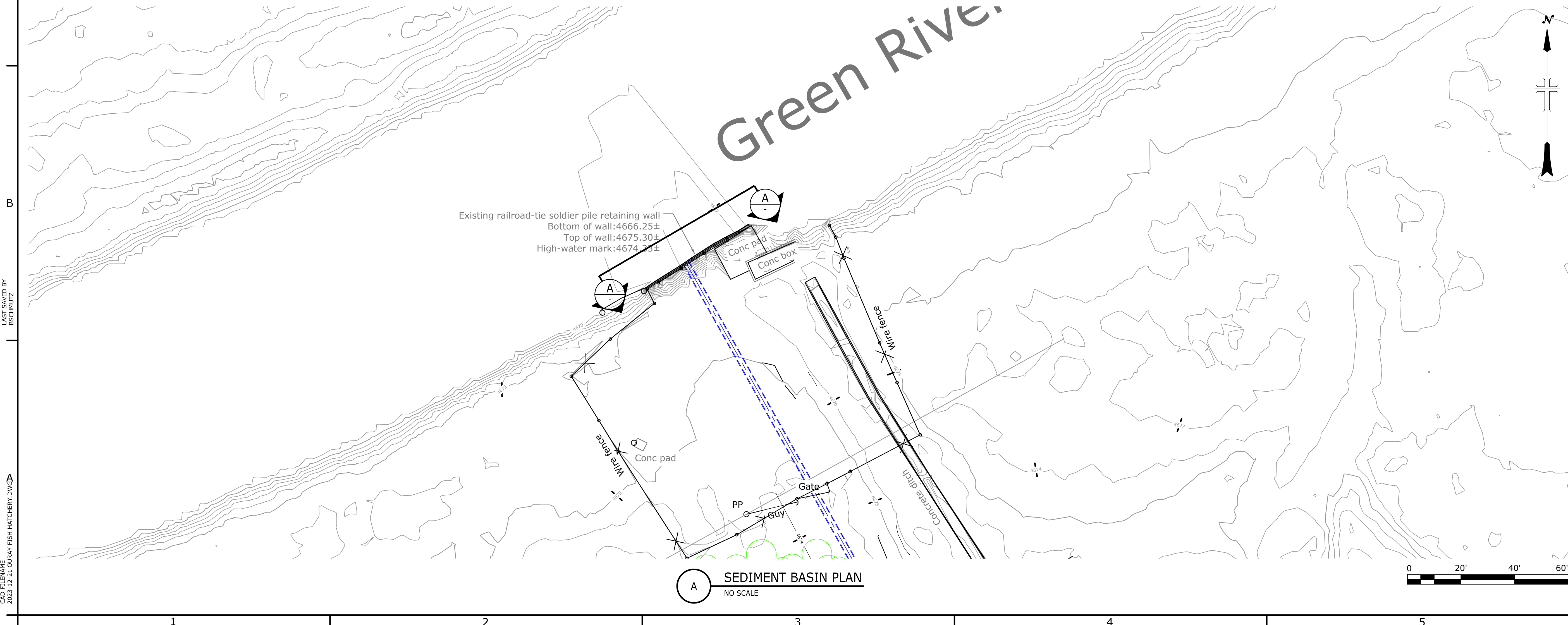
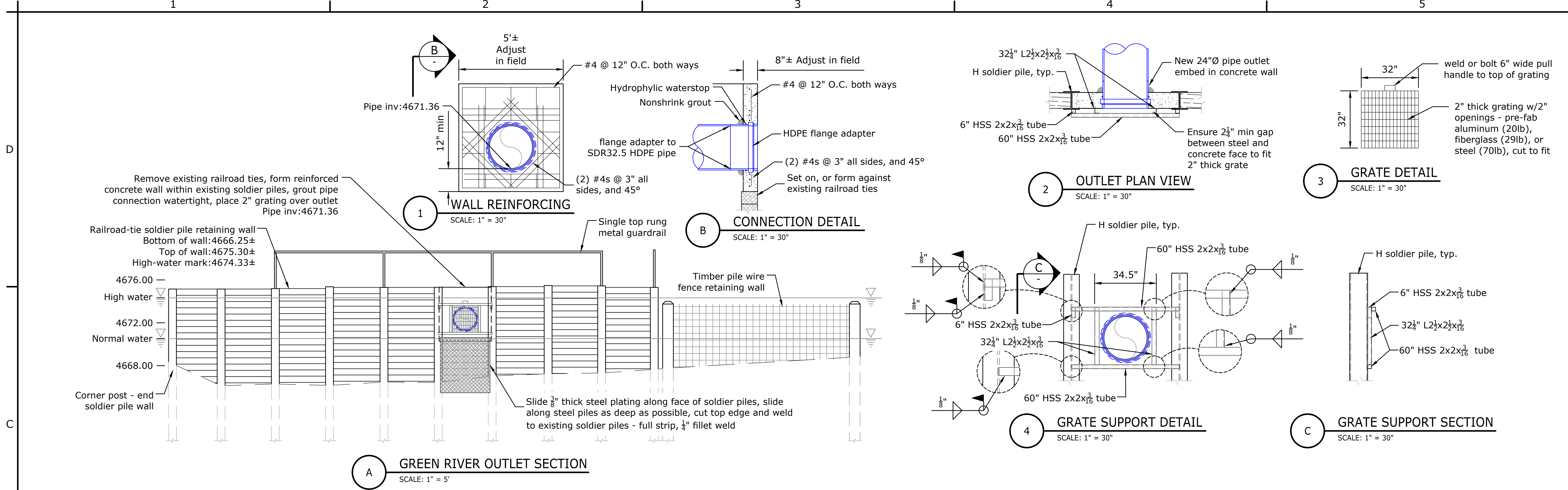
1 2 3 4 5

D

C

B

A



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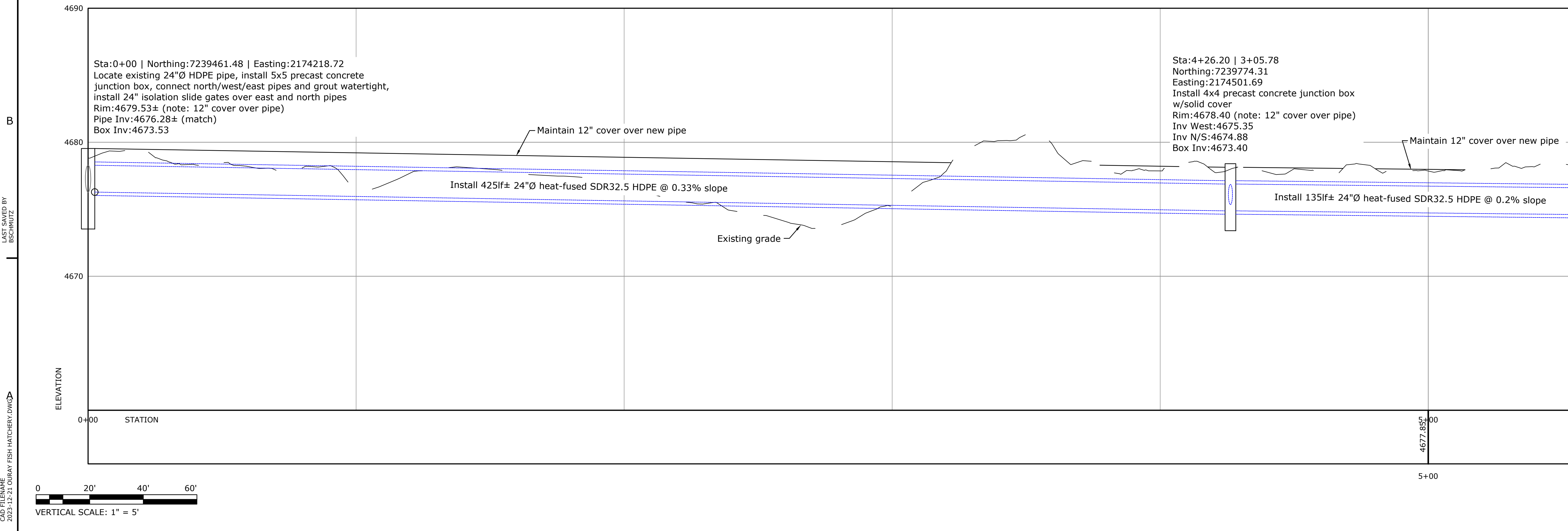
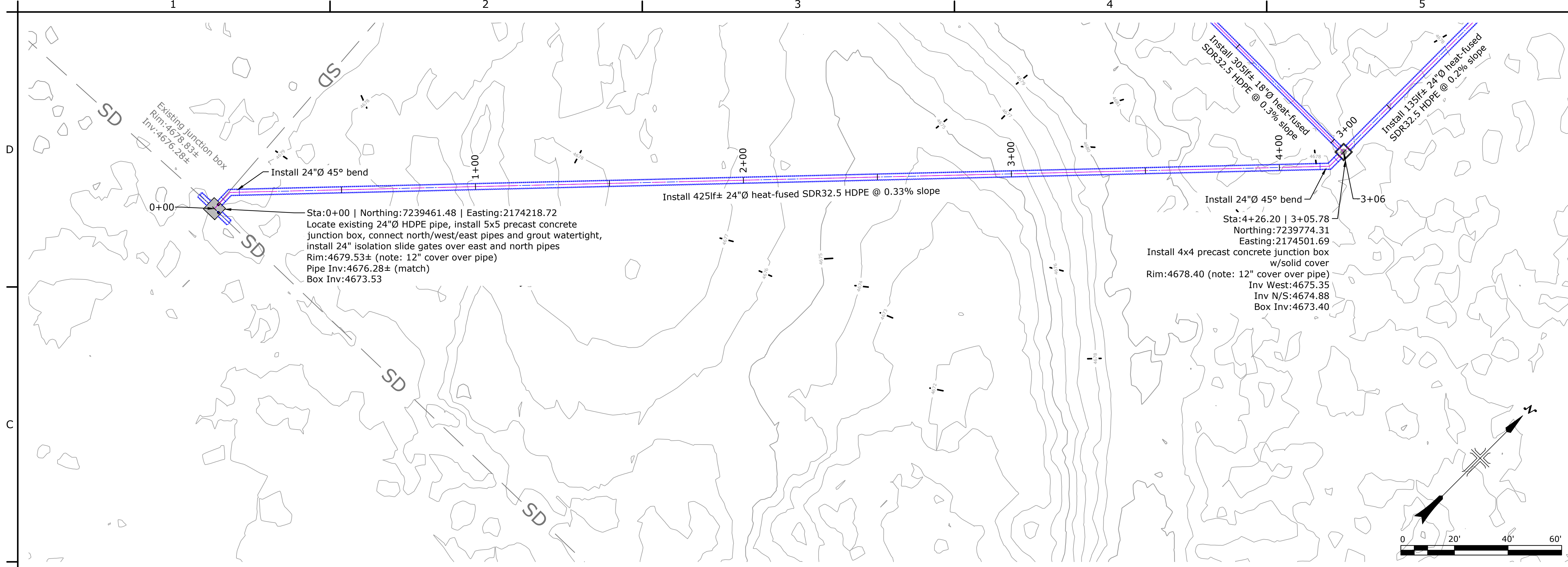
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OUTLET SECTION & DETAILS

3152-418-60008

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PLAN & PROFILE

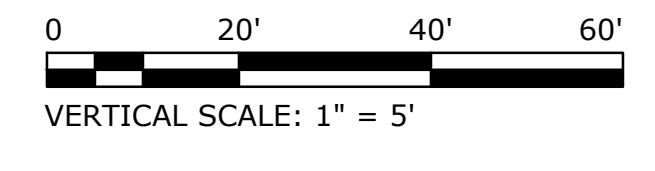
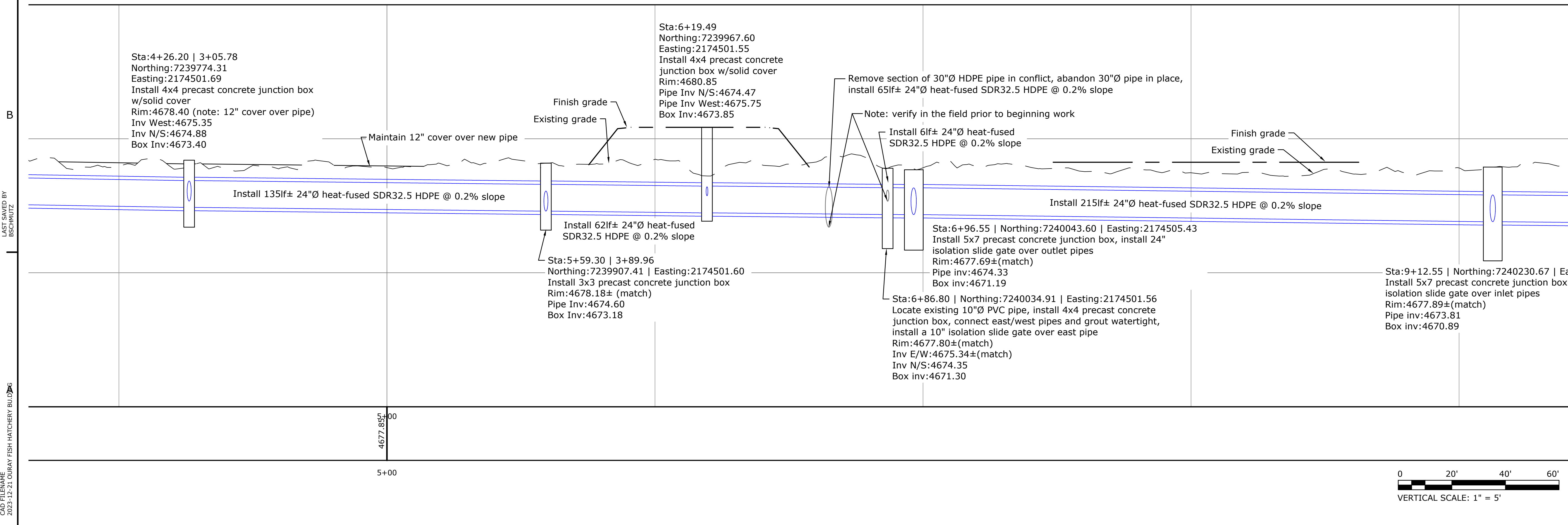
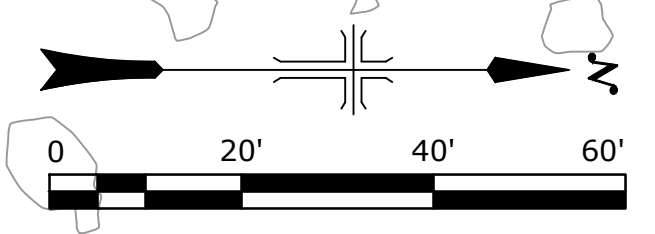
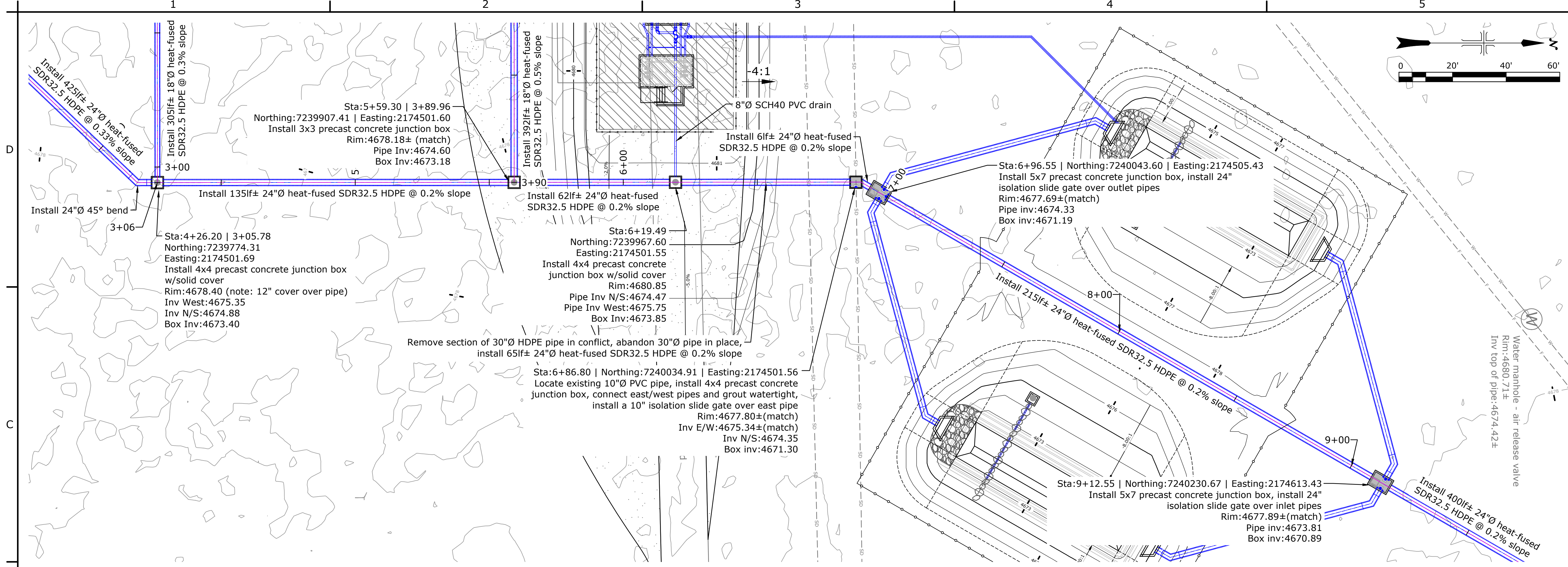
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PLAN & PROFILE

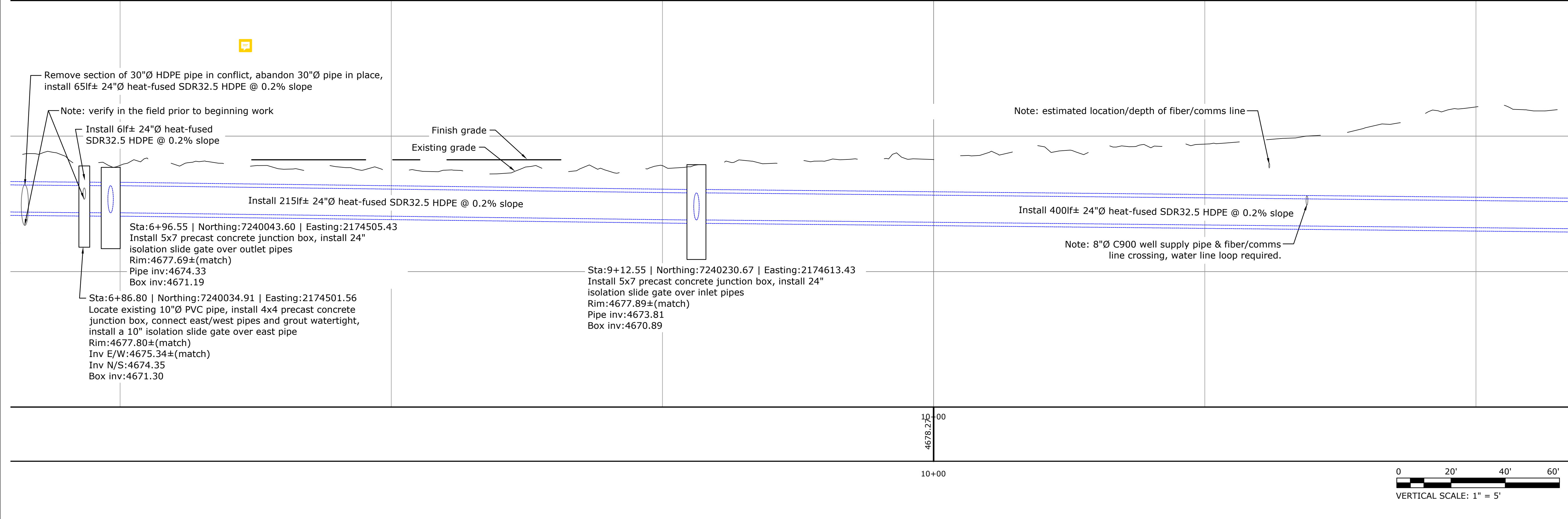
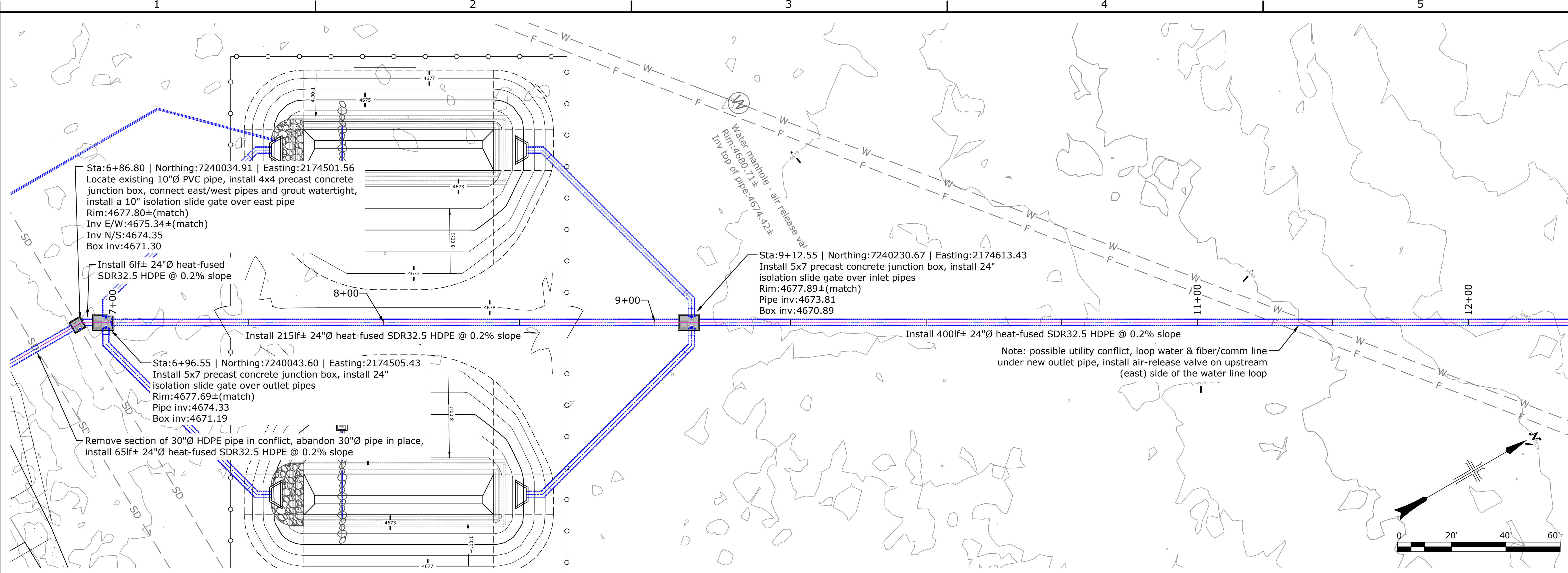
SHEET 2/7

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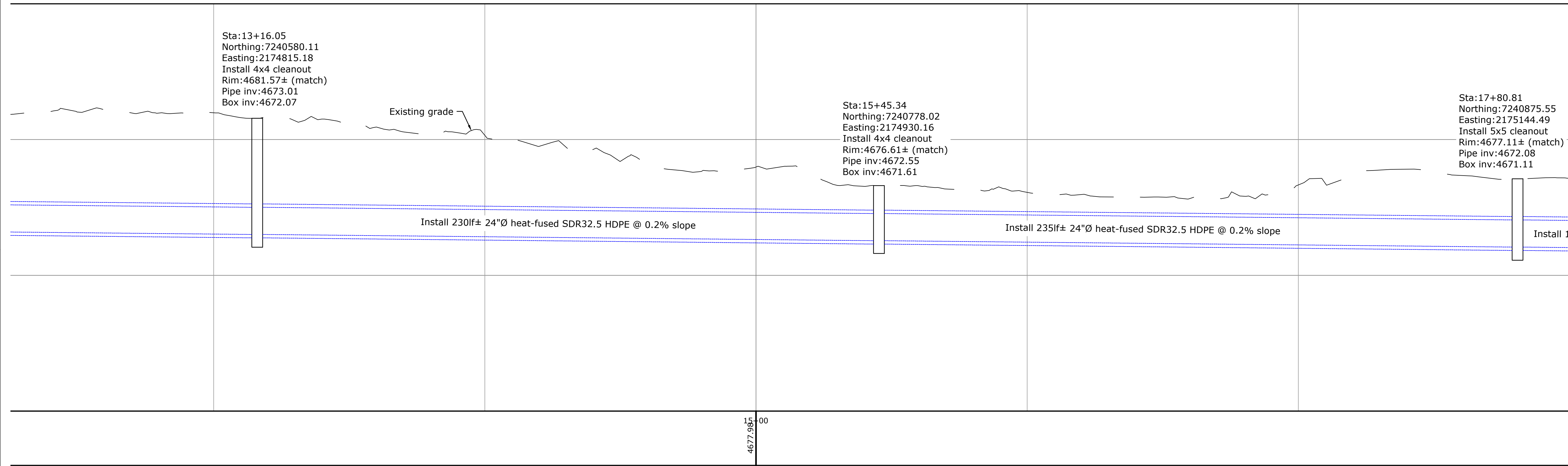
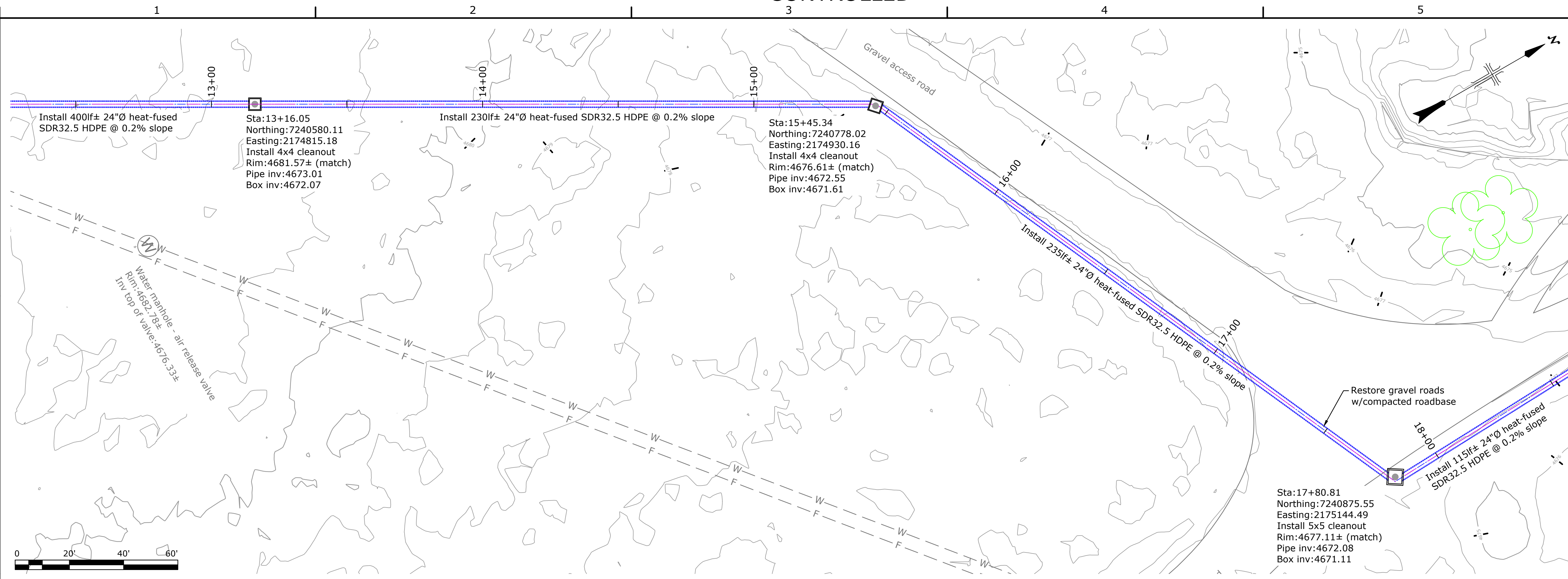
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PLAN & PROFILE

SHEET 3/7

3152-418-60011

SHEET 1



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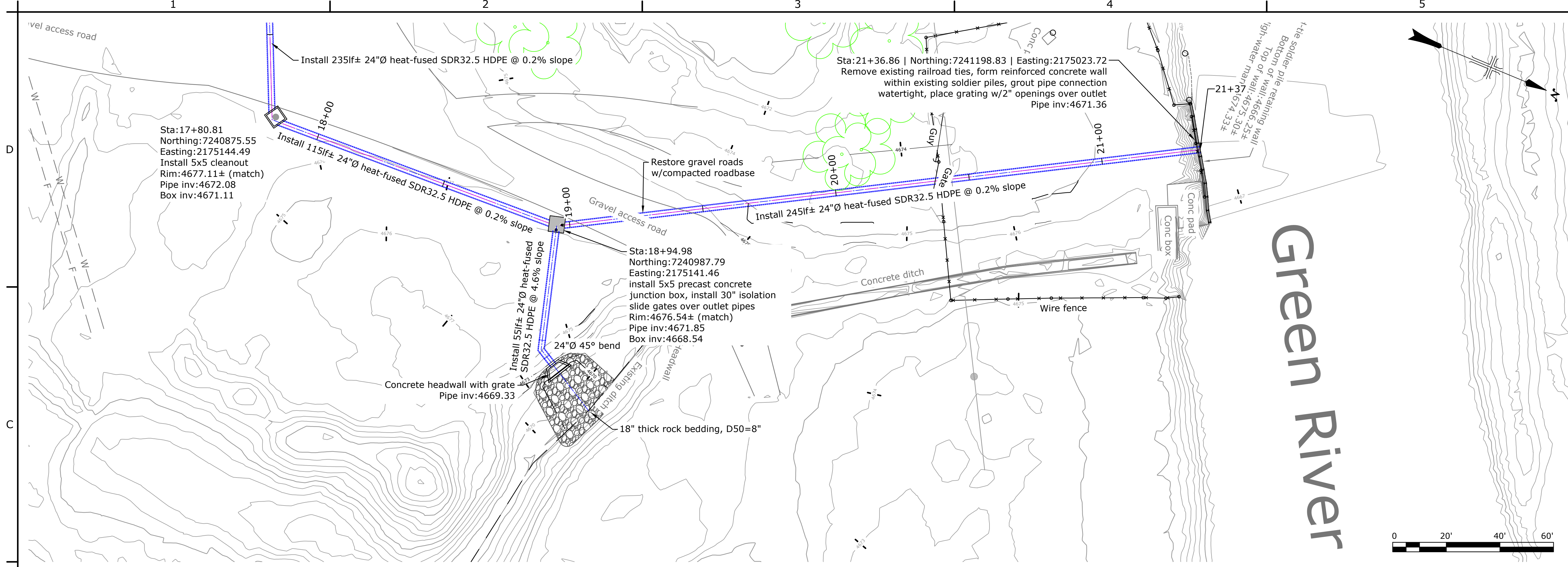
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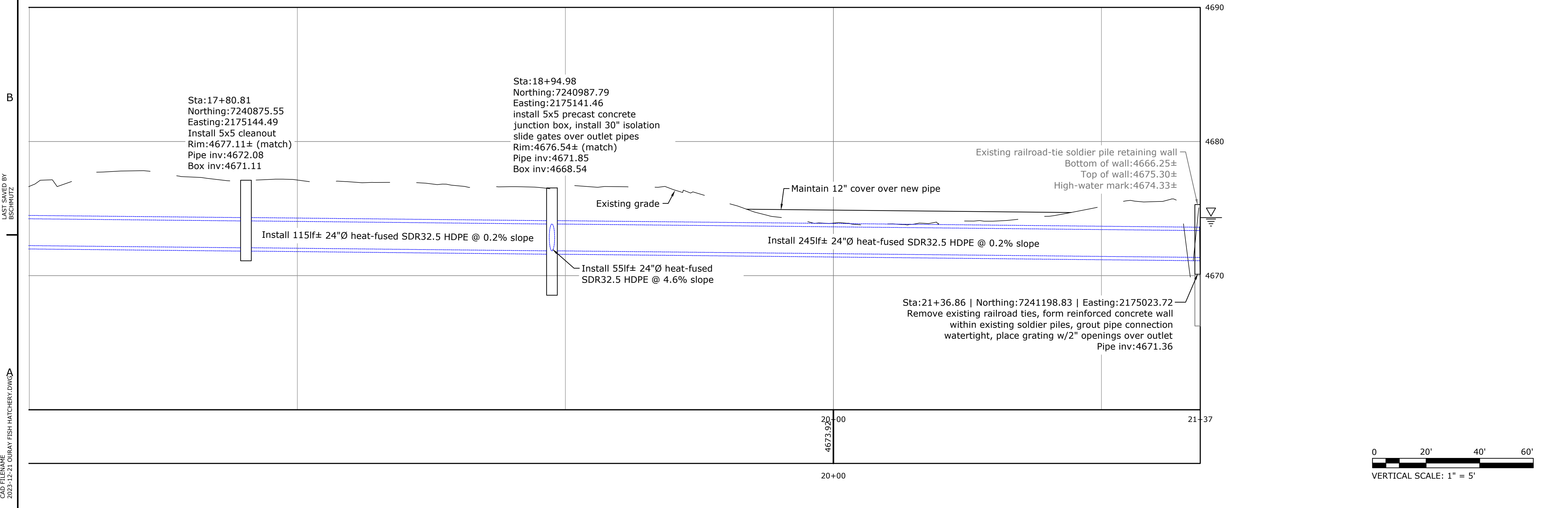
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Green River



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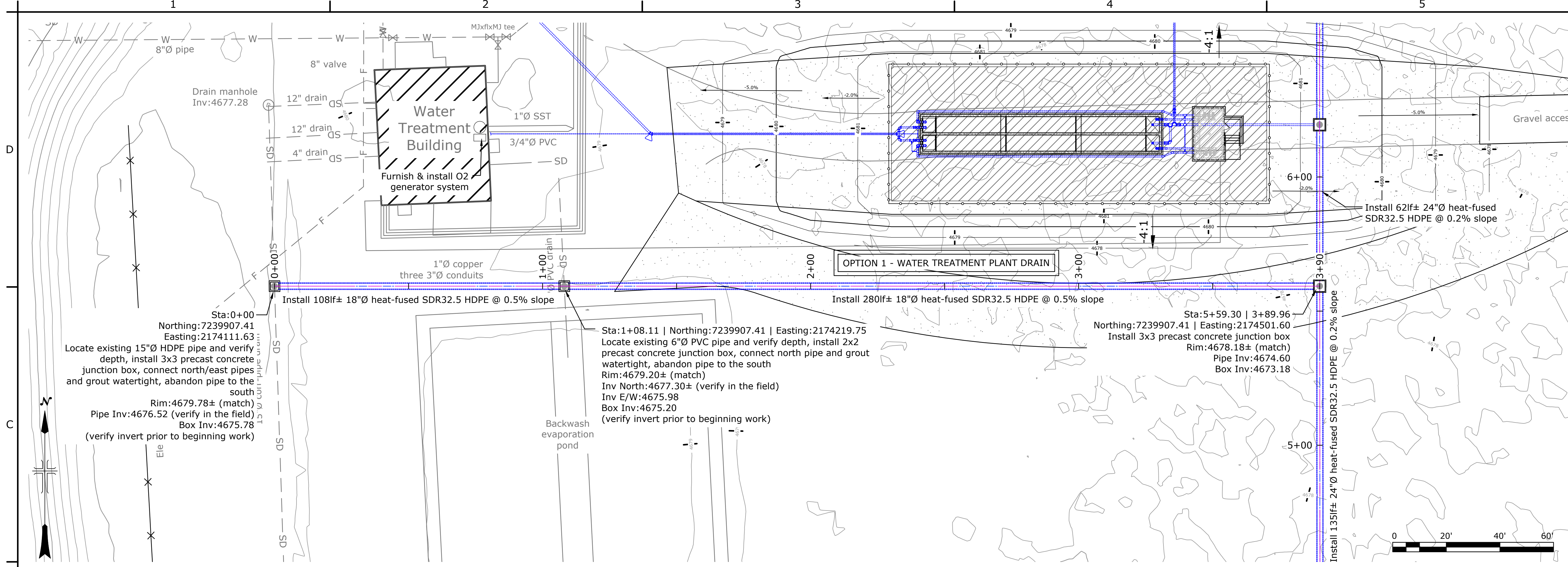
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PLAN & PROFILE

SHEET 5/7

3152-418-60013

SHEET 1



Sta:0+00
 Northing:7239907.41
 Easting:2174111.63
 Locate existing 15"Ø HDPE pipe and verify depth, install 3x3 precast concrete junction box, connect north/east pipes and grout watertight, abandon pipe to the south
 Rim:4679.78± (match)
 Pipe Inv:4676.52 (verify in the field)
 Box Inv:4675.78
 (verify invert prior to beginning work)

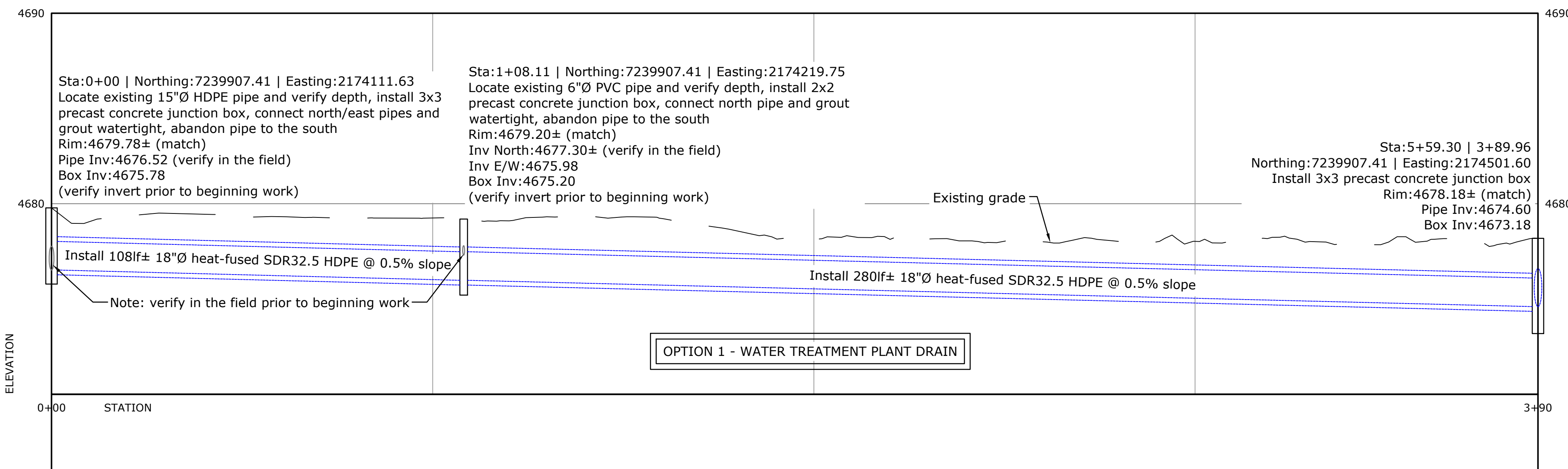
Sta:1+08.11 | Northing:7239907.41 | Easting:2174219.75
 Locate existing 6"Ø PVC pipe and verify depth, install 2x2 precast concrete junction box, connect north pipe and grout watertight, abandon pipe to the south
 Rim:4679.20± (match)
 Inv North:4677.30± (verify in the field)
 Inv E/W:4675.98
 Box Inv:4675.20
 (verify invert prior to beginning work)

Sta:5+59.30 | 3+89.96
 Northing:7239907.41 | Easting:2174501.60
 Install 3x3 precast concrete junction box
 Rim:4678.18± (match)
 Pipe Inv:4674.60
 Box Inv:4673.18



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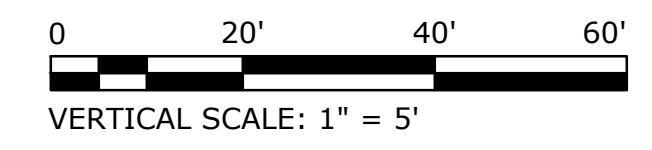
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Sta:0+00 | Northing:7239907.41 | Easting:2174111.63
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 Rim:4679.78± (match)
 Pipe Inv:4676.52 (verify in the field)
 Box Inv:4675.78
 (verify invert prior to beginning work)

Sta:1+08.11 | Northing:7239907.41 | Easting:2174219.75
 Locate existing 6"Ø PVC pipe and verify depth, install 2x2 precast concrete junction box, connect north pipe and grout watertight, abandon pipe to the south
 Rim:4679.20± (match)
 Inv North:4677.30± (verify in the field)
 Inv E/W:4675.98
 Box Inv:4675.20
 (verify invert prior to beginning work)

Sta:5+59.30 | 3+89.96
 Northing:7239907.41 | Easting:2174501.60
 Install 3x3 precast concrete junction box
 Rim:4678.18± (match)
 Pipe Inv:4674.60
 Box Inv:4673.18



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 OURAY NATIONAL FISH HATCHERY
 2022 FISH RACEWAY & SEDIMENTATION BASIN PROJECT

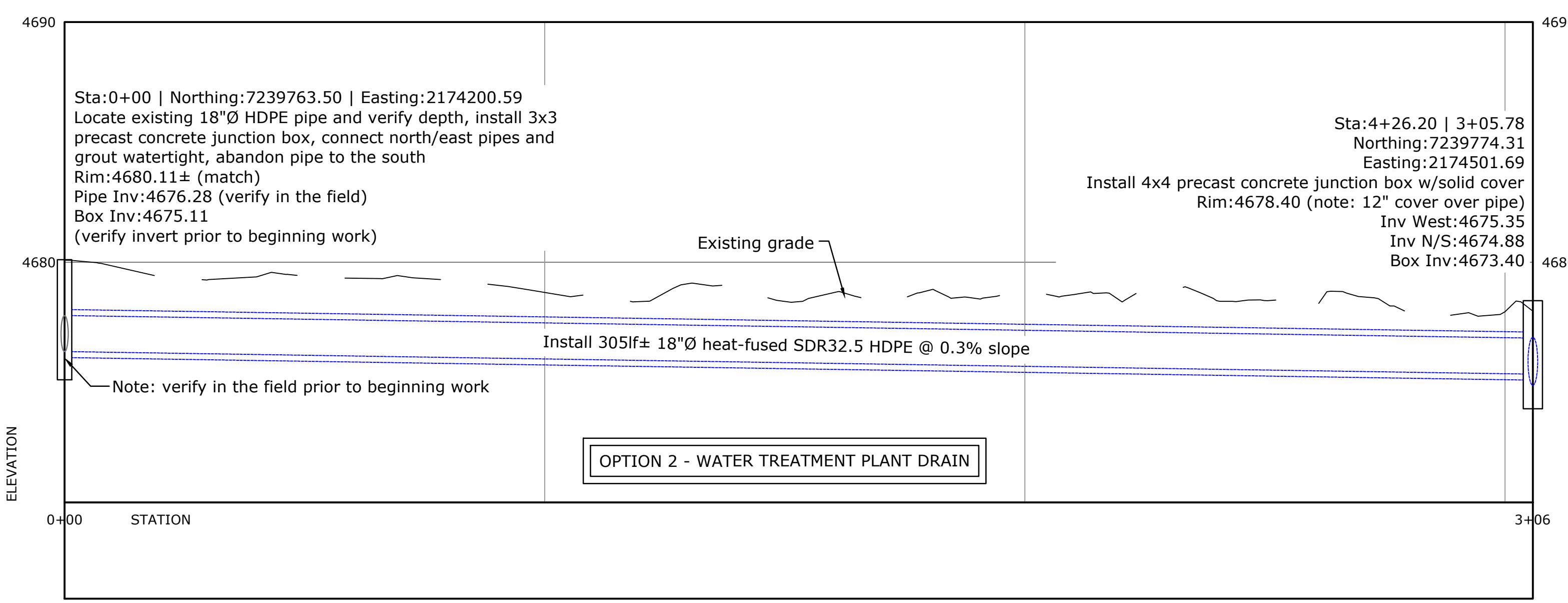
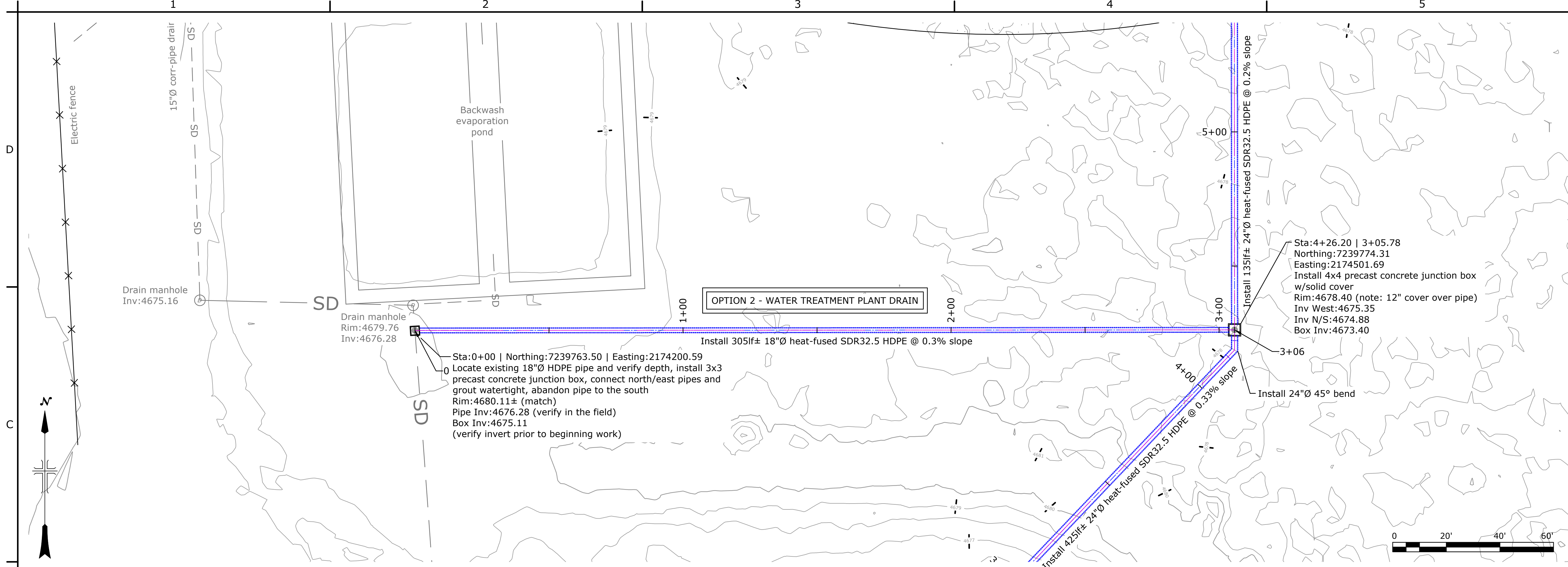
Bryan Schmutz, P.E.
 DESIGNED
 Bryan Schmutz, P.E.
 DRAWN
 Ashley Hilton, P.E.
 CHECKED
 Ben Kirk, P.E.
 TECH. APPR.
 APPROVED
 ADMIN APPROVAL
 STATION NAME (OURAY, UT) YYYY-MM-DD

PLAN & PROFILE

SHEET 6/7

3152-418-60014

SHEET 1



LAST SAVED DATE
2024-02-29
LAST SAVED BY
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CAD SYSTEM
AutoCAD 2d/3d (LMS TECH)
2023-12-21 OURAY FISH HATCHERY.DWG

ALWAYS THINK SAFETY

U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION
OURAY NATIONAL WILDLIFE REFUGE
NATIONAL FISH HATCHERY

OURAY NATIONAL FISH HATCHERY
2022 FISH RACEWAY &
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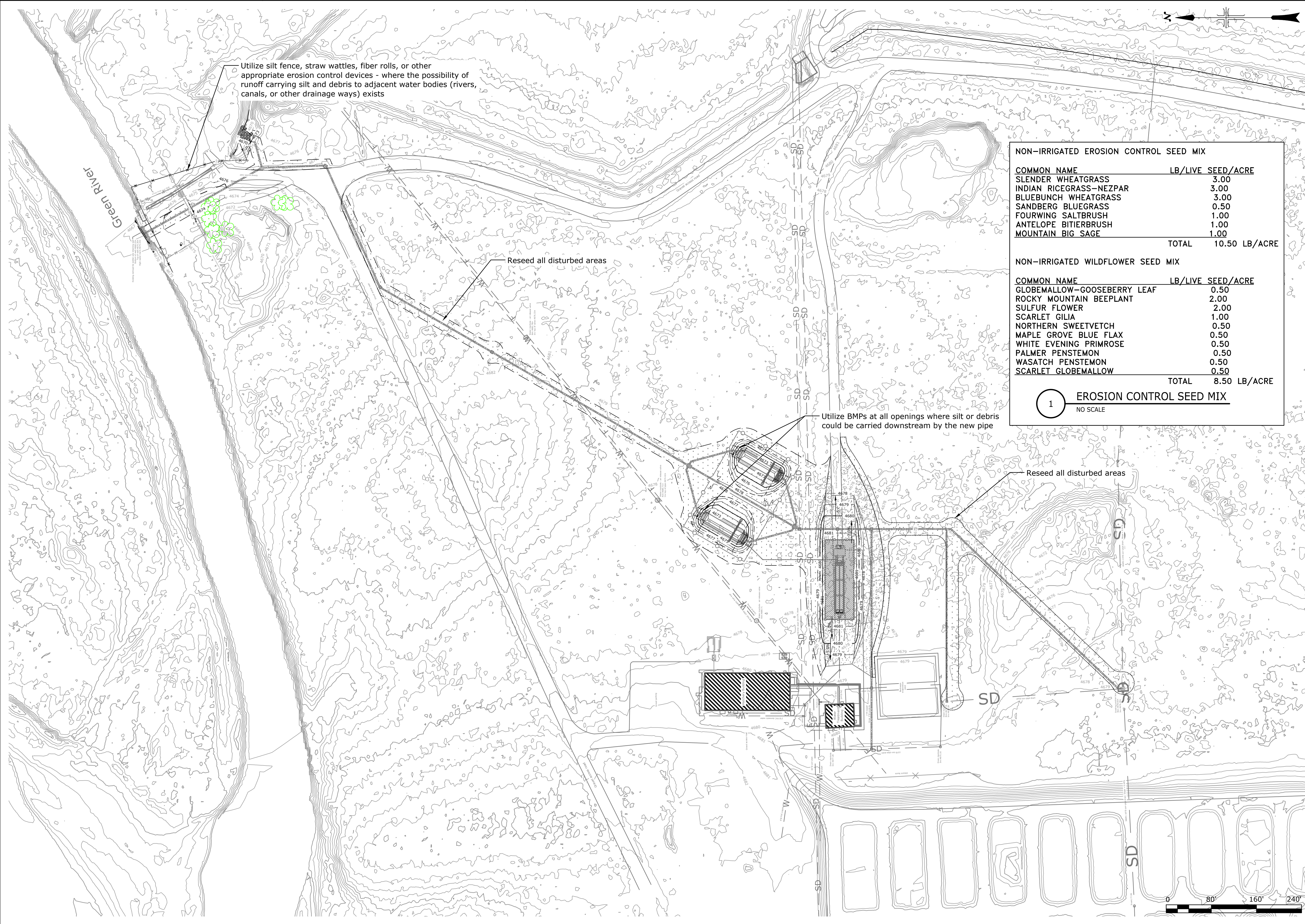
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PLAN & PROFILE

SHEET 7/7

3152-418-60015

SHEET 1



Utilize silt fence, straw wattles, fiber rolls, or other appropriate erosion control devices - where the possibility of runoff carrying silt and debris to adjacent water bodies (rivers, canals, or other drainage ways) exists

Reseed all disturbed areas

Utilize BMPs at all openings where silt or debris could be carried downstream by the new pipe

Reseed all disturbed areas

NON-IRRIGATED EROSION CONTROL SEED MIX	
COMMON NAME	LB/LIVE SEED/ACRE
SLENDER WHEATGRASS	3.00
INDIAN RICEGRASS-NEZPAR	3.00
BLUEBUNCH WHEATGRASS	3.00
SANDBERG BLUEGRASS	0.50
FOURWING SALTBRUSH	1.00
ANTELOPE BITTBRUSH	1.00
MOUNTAIN BIG SAGE	1.00
TOTAL	10.50 LB/ACRE

NON-IRRIGATED WILDFLOWER SEED MIX	
COMMON NAME	LB/LIVE SEED/ACRE
GLOBEMALLOW-GOOSEBERRY LEAF	0.50
ROCKY MOUNTAIN BEEPLANT	2.00
SULFUR FLOWER	2.00
SCARLET GILIA	1.00
NORTHERN SWEETVETCH	0.50
MAPLE GROVE BLUE FLAX	0.50
WHITE EVENING PRIMROSE	0.50
PALMER PENSTEMON	0.50
WASATCH PENSTEMON	0.50
SCARLET GLOBEMALLOW	0.50
TOTAL	8.50 LB/ACRE

1 EROSION CONTROL SEED MIX	
NO SCALE	

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EROSION CONTROL PLAN



3152-418-60016

SHEET 1