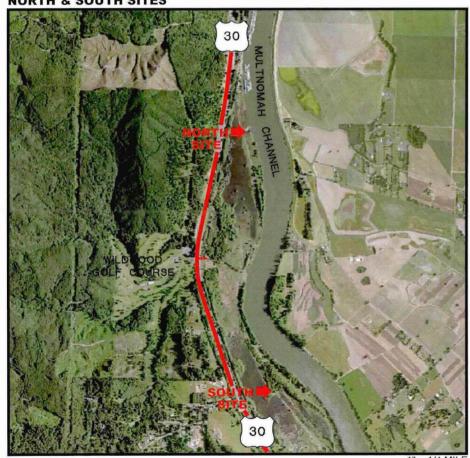
DUCKS UNLIMITED

US-OR-32-8 METRO: MULTNOMAH CHANNEL & SMITH BYBEE WATER CONTROL STRUCTURES FACILITY IMPROVEMENTS



17700 S. E. MILL PLAIN BLVD. SUITE 100 VANCOUVER, WA. 98683 PH. (360) 885-2011

MULTNOMAH CHANNEL NORTH & SOUTH SITES



SMITH BYBEE SITE



VICINITY MAP



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- 1 Cover Sheet 2 Drawing Information
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100% DESIGN

	REVISIONS				PROJECT NO. US-OR-32-8 DATE: 8/4/2016	DESIGNED BY:	GW
REV. NO.	DESCRIPTION	DATE	APPROVED	13	METRO: MULTNOMAH CHANNEL	DRAWN BY:	DMC
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/3\			-	DUCKS	MATERIA SONTHOLOUROUS TONE TIME STEINERS	SHEET NO.	
(2)			+	UNLIMITED	LOCATION MAP	1 OF	18

Unauthorized Changes & Uses

The engineer preparing these plans will not be responsible for, or liable for, unauthorized changes to or uses of these plans. All changes must be in writing and must be approved by the preparer of these plans.



GENERAL NOTES:

- 1. Ducks unlimited makes no representations as to the existence or nonexistence of utilities. It is the responsibility of the contractor to comply with the provisions of all applicable utility notification regulations. The contractor will be liable for any damage to utilities caused by construction
- 2. The engineer does not represent that the location of utilities shown on the plans are exact or complete. It shall be the responsibility of the contractor to determine the presence of, actual locations of and make provisions for all watercourses and utilities. The contractor shall verify location, depth and height. Their verification shall be coordinated by the contractor with the appropriate utility company.
- 3. The contractor shall exercise extreme caution when working in the vicinity of overhead power lines. Verify location in the field and protect in place.
- 4. The contractor shall comply with all local and state requirements relative to the notificatciton of the applicable unerground service alert.
- At least 2 working days prior to beginning any digging or excavation work, the contractor shall notify underground service alert of Southern California (a.k.a. DigAlert) at www.digalert.org or by phone at 811, to determine locations of existing utilities.
- In accordance with generally accepted construction practices, the contractor will be solely and completely responsible for the conditions on the job site including safety of all persons and property during performance of the work. The contractor shall ensure that all work is performed in accordance with occupational safety laws, including the design and construction of proper shoring of trenches. The duties of the project engineer do not include review of the adequacy of the contractor's safety in, on, or

Noticed this still 7. It is the responsibility of the permits. All work shall be says Southern shall have copies of the mo during all work operations. California

ne project specifications and t documents. The contractor and permit conditions on site

- 8. The project site and adjacent areas contain sensitive habitat areas for protected wildlife, and may include endangered species. The contractor shall protect wildlife and water quality, and minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects.
- 9. Should it appear that the work to be done, or any matter relative thereto, is not sufficiently detailed or explained on these plans or in the specifications, the contractor shall contact the construction manager for such further explanations as may be necessary.
- 10. Should the contractor find any discrepancies between the conditions existing in the field and the information shown on the drawings, he shall notify the construction manager before proceeding

SURVEY POINT DESCRIPTORS

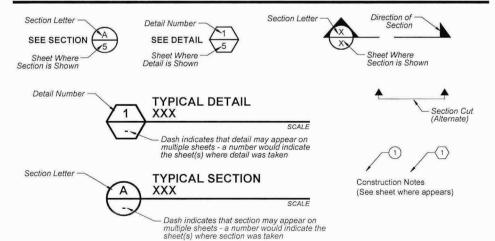
СТВМ	Bench Mark (permanent)	RDSH	Road Shoulder
CTBT	Bench Mark (temporary)	RDSN	Road Sign
CTCP	Survey Control Point (permanent)	RDTO	Road, Toe of Slope
CTCT	Survey Control Point (temporary)	RDTP	Road, Top of Slope
DIFL	Ditch Flowline	SDMH	Storm Drain, Manhole
DIGB	Ditch Grade Break	SDPI	Storm Drain, Pipe Invert
DITO	Ditch Toe	SDPT	Storm Drain, Pipe Top
DITP	Ditch Top	SSMH	Sanitary Sewer, Manhole
ELBX	Electric, Box or Pullbox	SWFL	Swale Flowline
ELGY	Electric, Guy Wire	SWGB	Swale Grade Break
ELPP	Electric, Power Pole	SWTO	Swale Toe
ELSN	Electric, Warning Sign	SWTP	Swale Top
ELTR	Electric, Transformer	TFBL	Topo Feature, Building
ELTW	Electric, Tower	TFBR	Topo Feature, Brush
ELVT	Electric, Vault	TFCO	Topo Feature, Concrete (pad, slab, etc.)
FNAP	Fence Angle Point	TFFL	Topo Feature, Flowline
FNCR	Fence Corner	TFGB	Topo Feature, Grade Break
FNGT	Fence Gate	TFGS	Topo Feature, Ground Shot
FNLN	Fence Line	TFRK	Topo Feature, Rock Or Rocky Area Boundary
IRCO	Irrigation Concrete Pad	TFTL	Topo Feature, Tree line
IRCP	Irrigation Control Panel	TFTO	Topo Feature, Grade Break at Toe
IRPI	Irrigation Pipe Invert	TFTP	Topo Feature, Grade Break at Top
IRPM	Irrigation Pump	TFTR	Topo Feature, Tree
IRPT	Irrigation Pipe Top	WAEW	Edge of Water
IRVL	Irrigation Valve	WAHW	High Water Mark
IRWL	Irrigation Well	WAUW	Under Water Ground Shot
LVCL	Levee Centerline	WAWS	Water Surface
LVGB	Levee Grade Break	WCFL	Water Control Structure, Flowline/Invert at Structure
LVTO	Levee Toe of Slope	WCFR	Water Control Structure, Frame Top
LVTP	Levee Top of Slope	WCHW	Water Control Structure, Headwall
RDCL	Road, Centerline	WCPI	Water Control Structure, Pipe Invert at Outlet
RDED	Road, Edge of Dirt Road	WCPT	Water Control Structure, Pipe Top at Outlet
RDEG	Road, Edge of Gravel Road	WCST	Water Control Structure, Top of Structure
RDEP	Road, Edge of Paved Road	wcww	Water Control Structure, Wing Wall
RDGB	Road Grade Break		

ABBREVIATIONS

AC	Acre	N	North
APPROX	Approximate	NIC	Not In Contract
BM	Benchmark	NTS	Not To Scale
CAP	Corrugated Aluminum Pipe	OC	On Center
CC	Center to Center	OD	Outside Diameter
CF	Cubic Foot	PIP	Pressure Irrigation Pipe
CFS	Cubic Foot Per Second	PP	Power Pole
CL	Centerline	PSI	Pounds per Square Inch
CMP	Corrugated Metal Pipe	PVC	Polyvinyl Chloride
CMPA	Corrugated Metal Arch Pipe	QTY	Quantity
CONC	Concrete	R	Right
CP	Control Point	RCB	Reinforced Concrete Box
CY	Cubic Yard	RD	Road
DEMO	Demolish	REF	Reference Dimension
DIA	Diameter	REQD	Required
Dp	Pipe Diameter	ROW	Right Of Way
Dr	Riser Diameter	S	South
DU	Ducks Unlimited, Inc.	SCH	Schedule
D/S	Downstream	SS	Stainless Steel
E	East	SDR	Standard Dimension Ratio
EG	Existing Ground	SF	Square Feet
EL	Elevation	SHT	Sheet
EX, EXIST	Existing	SP	Special
FRG	Final Rough Grade	SPECS	Specifications
FG	Finished Grade	SY	Square Yard
FL	Flowline	STA	Station
FT	Foot, Feet	STD	Standard
FTG	Fitting, Footing	TBD	To Be Determined by Engineer
GA	Gauge	TBM	Temporary Benchmark
GB	Grade Break	TE	Top Elevation
H	Height	TEMP	Temporary
HDPE	High-Density Polyethylene	TOL	Top of Levee
ID	Inside Diameter	TOB	Top of Berm
IE	Invert Elevation	TYP	Typical
IN	Inch, Inches	USA	Underground Service Alert
INV	Invert	U/S	Upstream
IPS	Iron Pipe Size	VLV	Valve
L	Length, Left	W	Width, West (where applicable)
LBF	Pounds-Force	W/	With
LF	Linear Feet	WCS	Water Control Structure
MAINT	Maintenance	WS	Water Surface
MAX	Maximum	WSEL	Water Surface Elevation
MIN	Minimum	WWF	Welded Wire Fabric
MISC	Miscellaneous	X:1	Slope, Horizontal:Vertical

DETAILING CONVENTIONS

LEGEND & STANDARD SYMBOLS

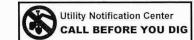


100% DESIGN

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Unauthorized Changes & Uses

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(N) New AB Aggregate Base



NORTH STRUCTURE SITE 1 NORTH STRUCTURE SITE 1 EXISTING SITE PLAN SOUTH STRUCTURE SITE 2 EXISTING SITE PLAN 100% DESIGN

DUCKS UNLIMITED

SCALE

PROJECT NO. US-OR-32-8 DATE: 8/2/2016 DESIGNED BY:

METRO: MULTNOMAH CHANNEL
NORTH & SOUTH SITES

WATER CONTROL STRUCTURE IMPOVEMENTS
CHECKED BY:

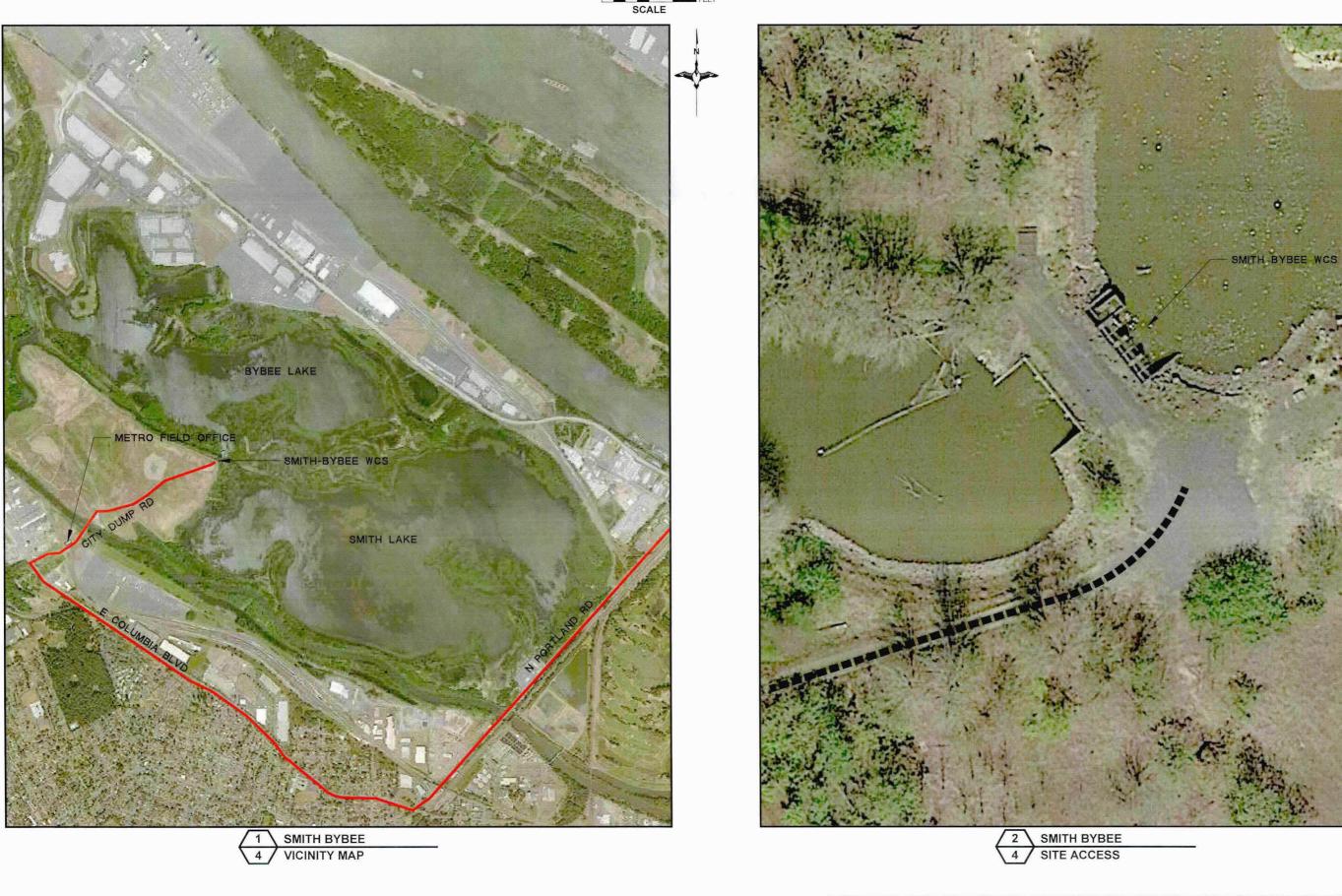
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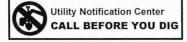
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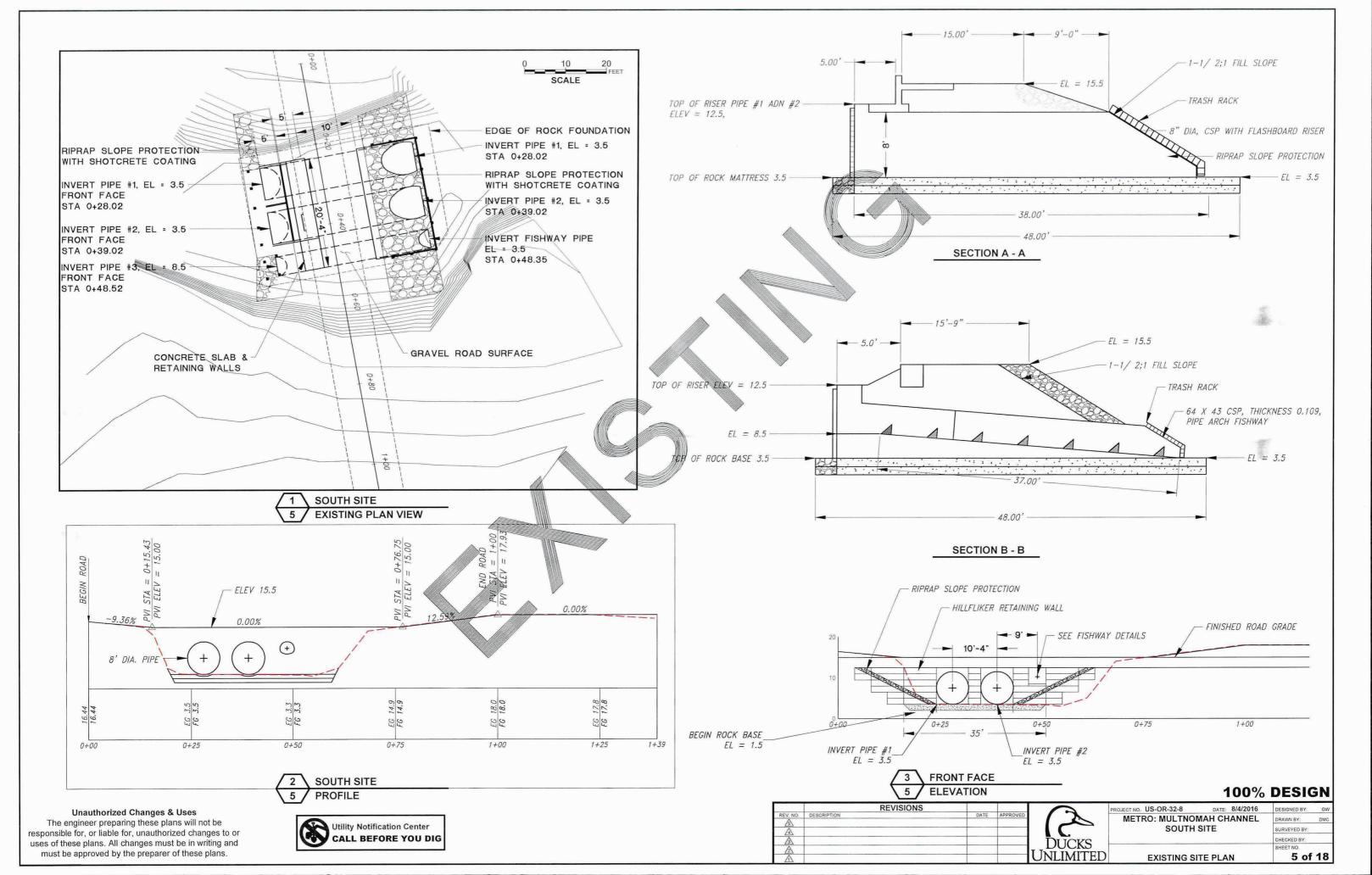


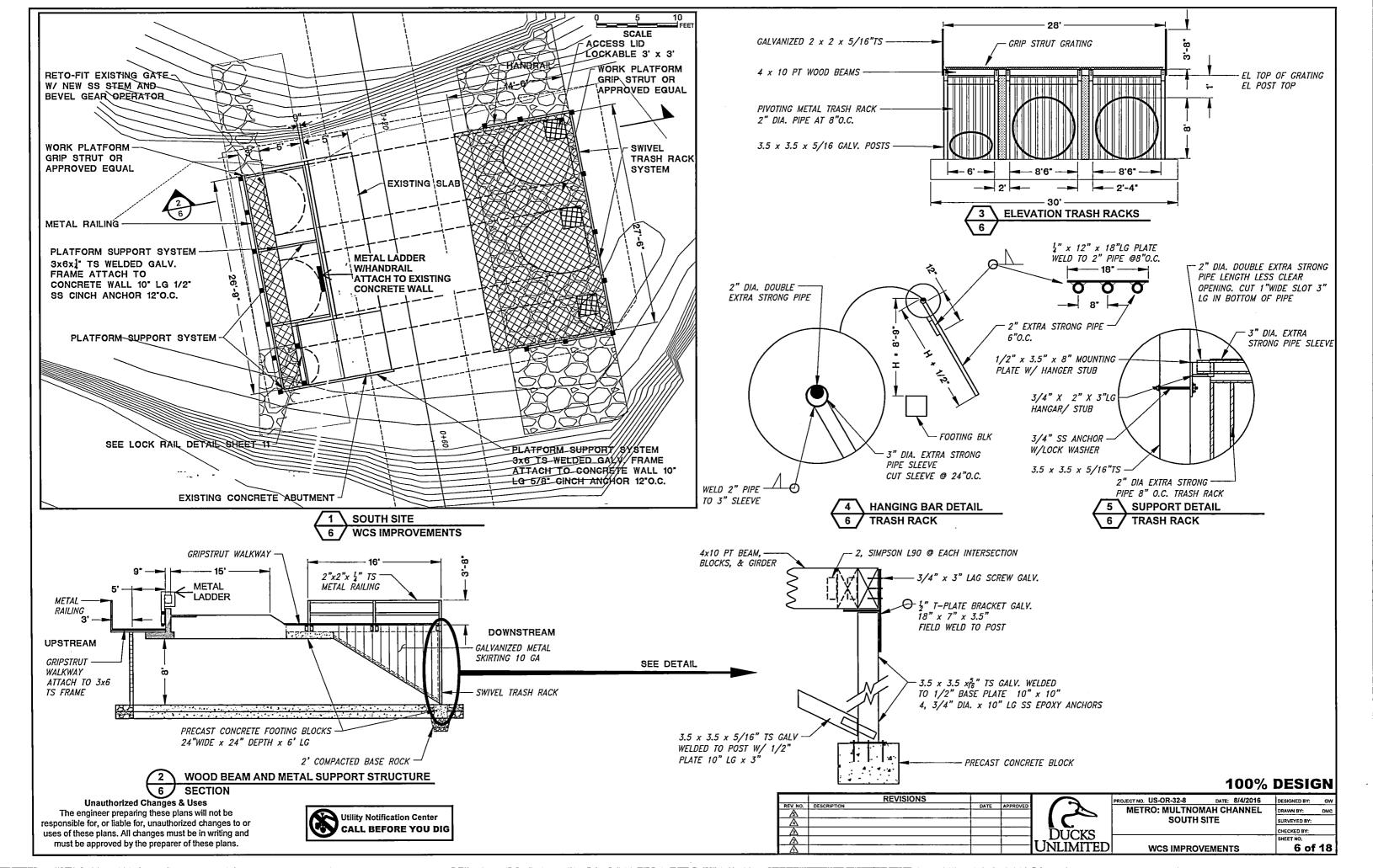
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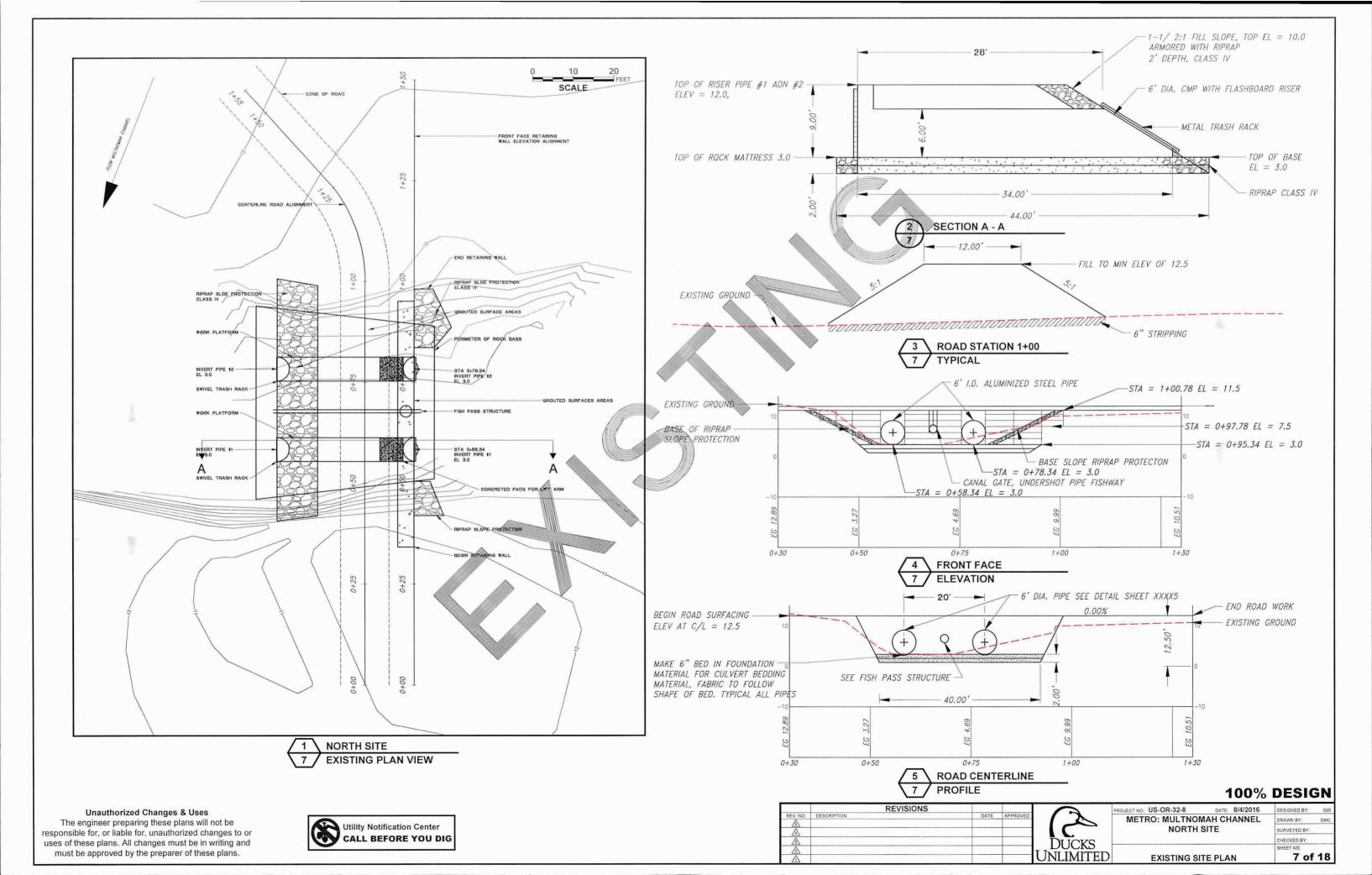


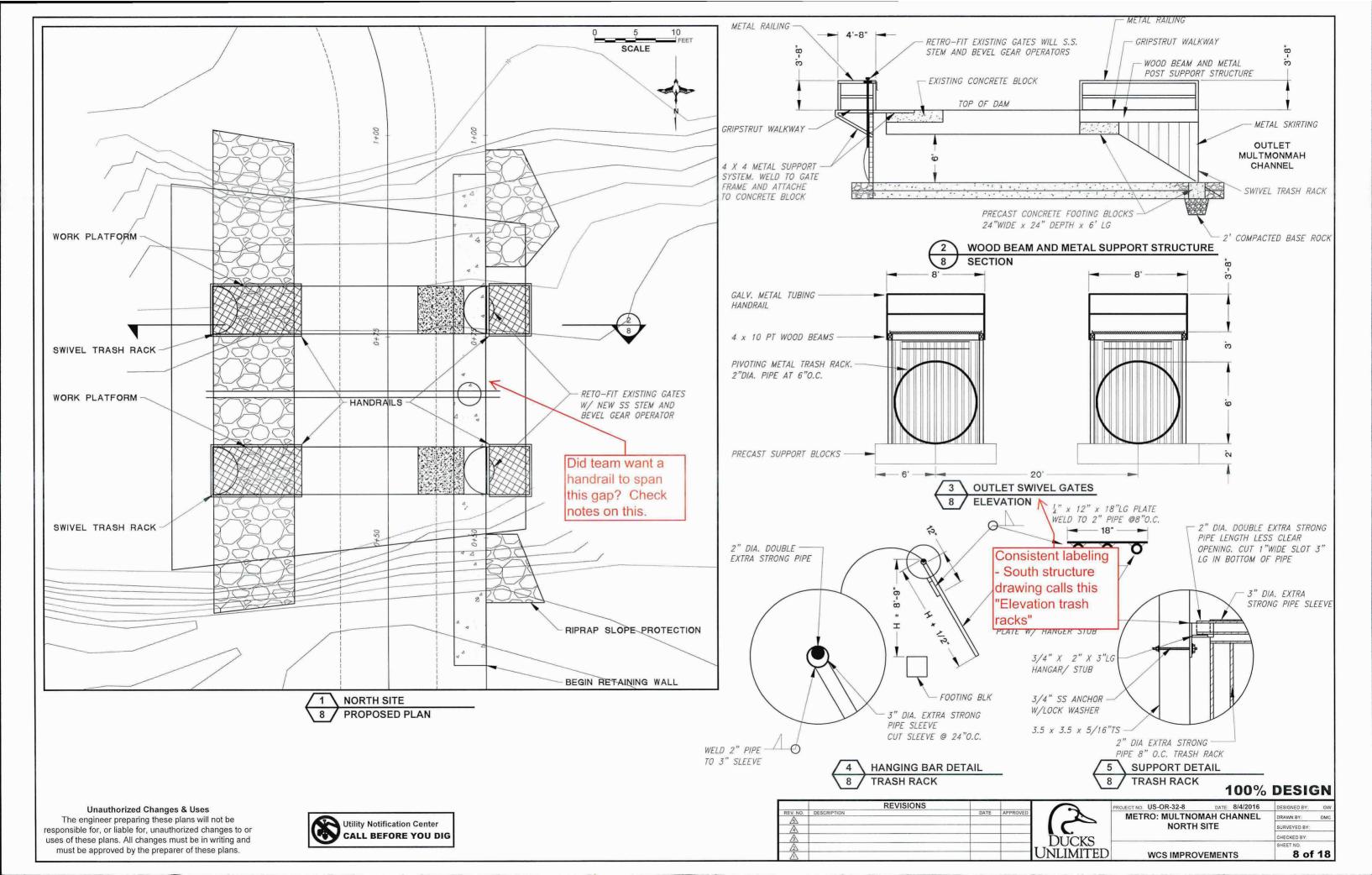
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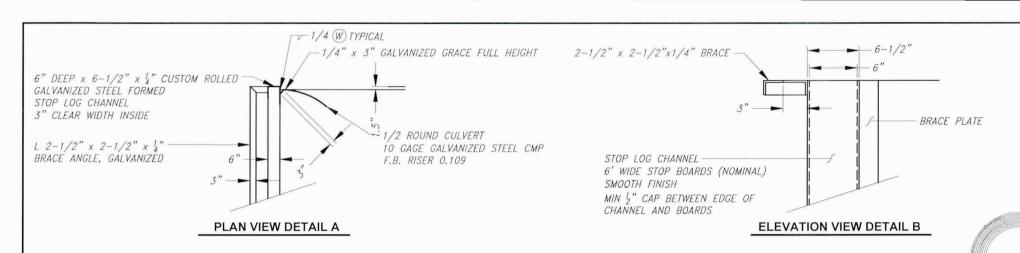
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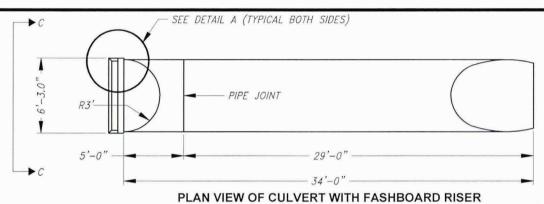




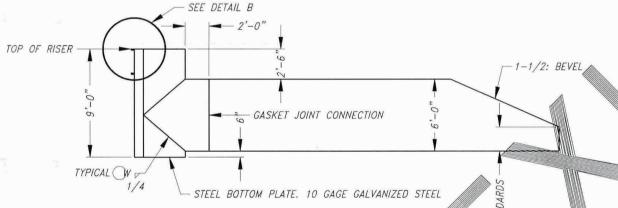




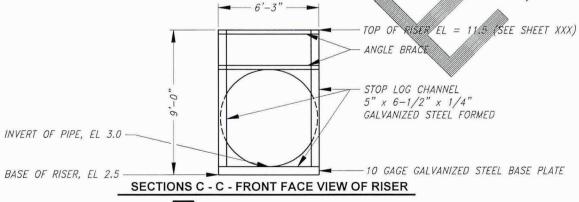




RISER AND CULVERT ARE BOTH 10 GAGE, RISER MAY BE GALVANIZED. CULVERT TO BE ALUMINUM STEEL



ELEVATION VIEW OF CULVERT WITH FLASHBOARD RISER



1 EXISTING DETAILS
9 NORTH SITE

Unauthorized Changes & Uses

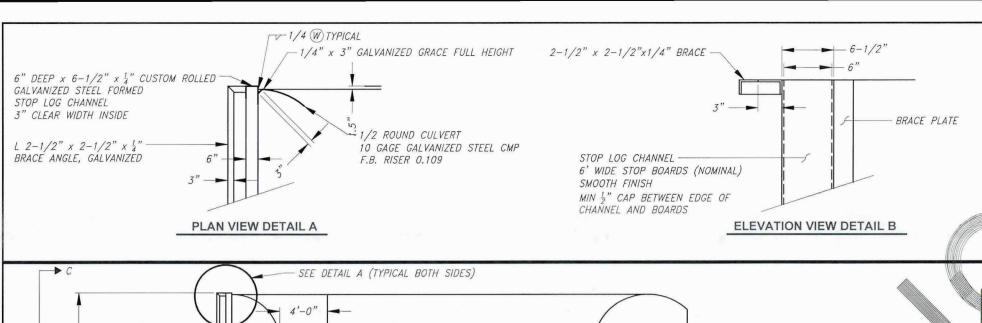
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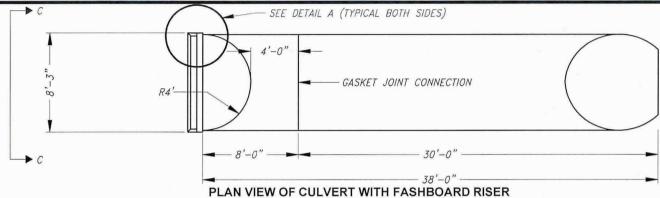




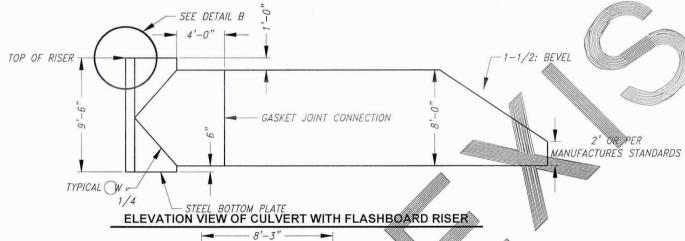
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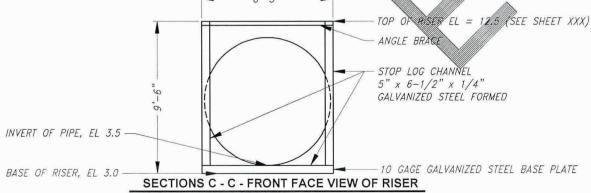
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RISER AND CULVERT ARE BOTH 10 GAGE, RISER MAY BE GALVANIZED. CULVERT TO BE ALUMINUM STEEL

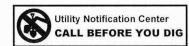


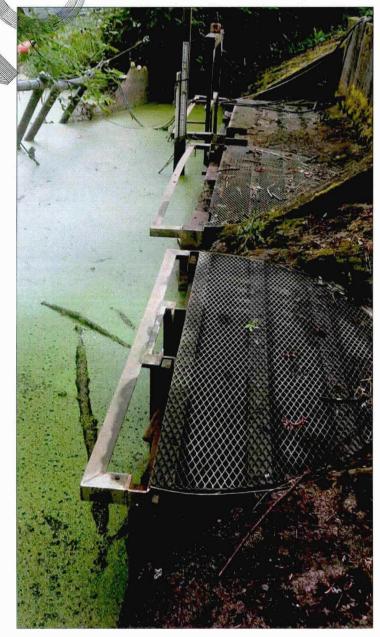


1 EXISTING DETAILS
10 SOUTH SITE

Unauthorized Changes & Uses

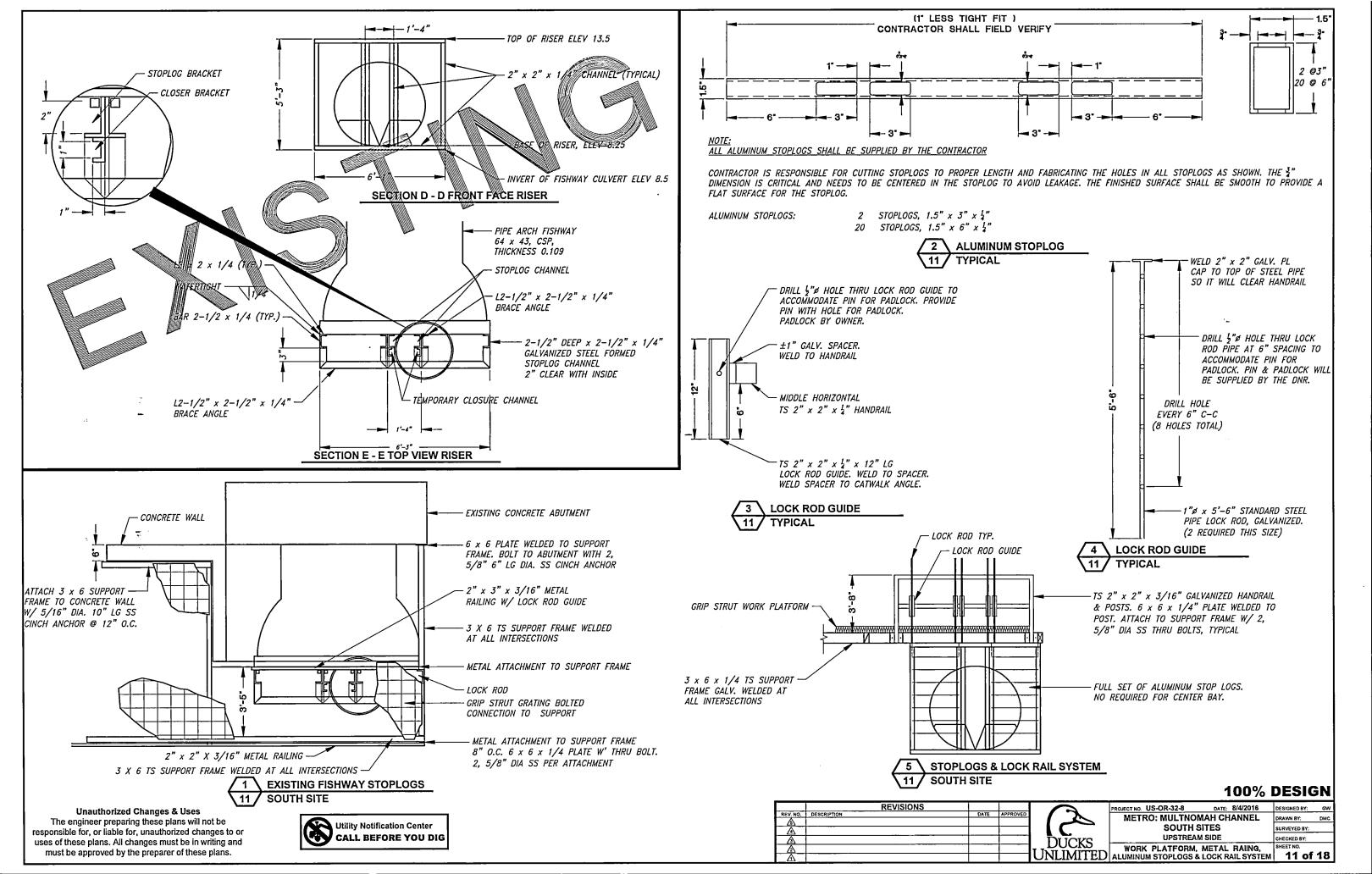
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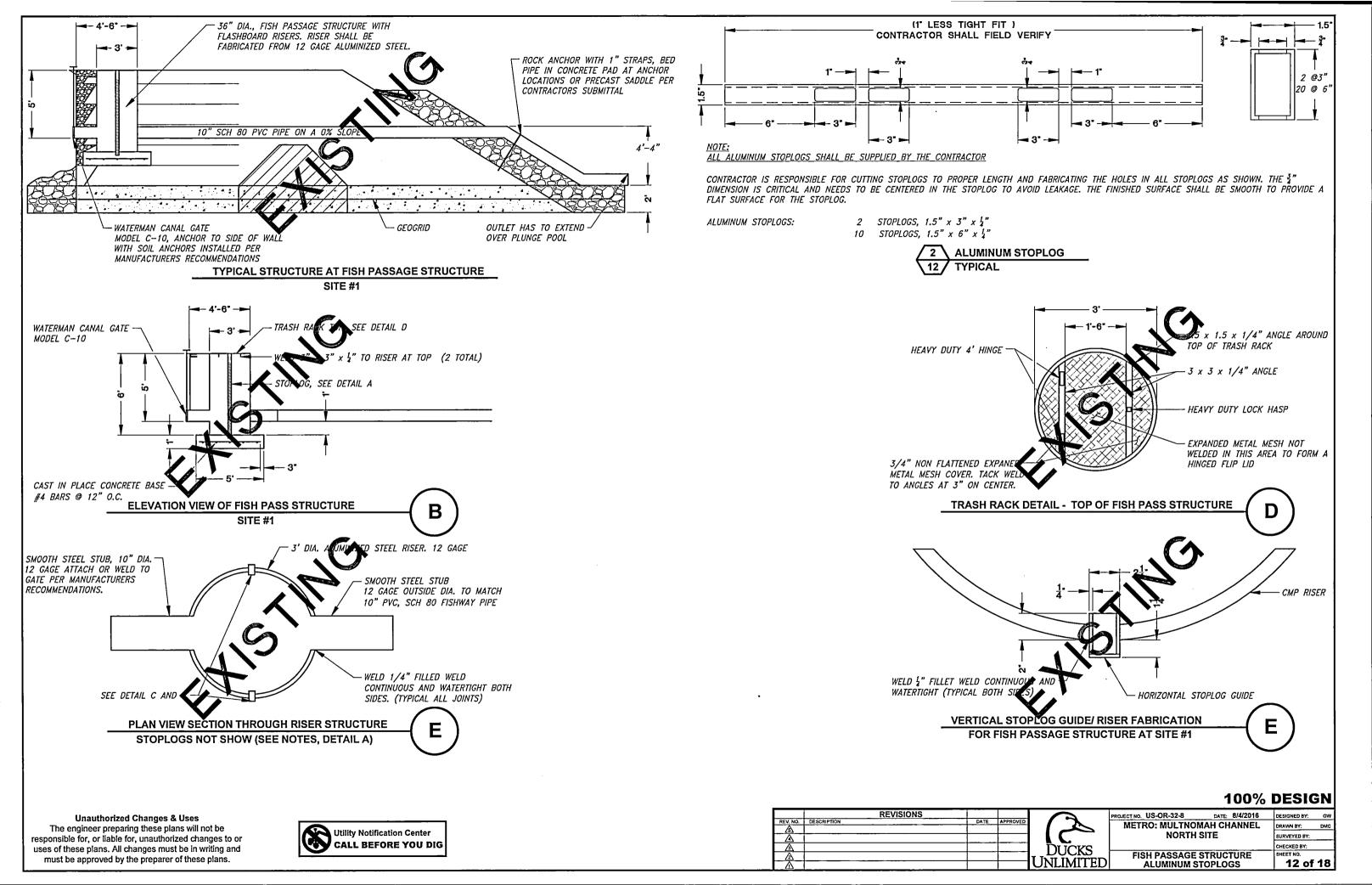


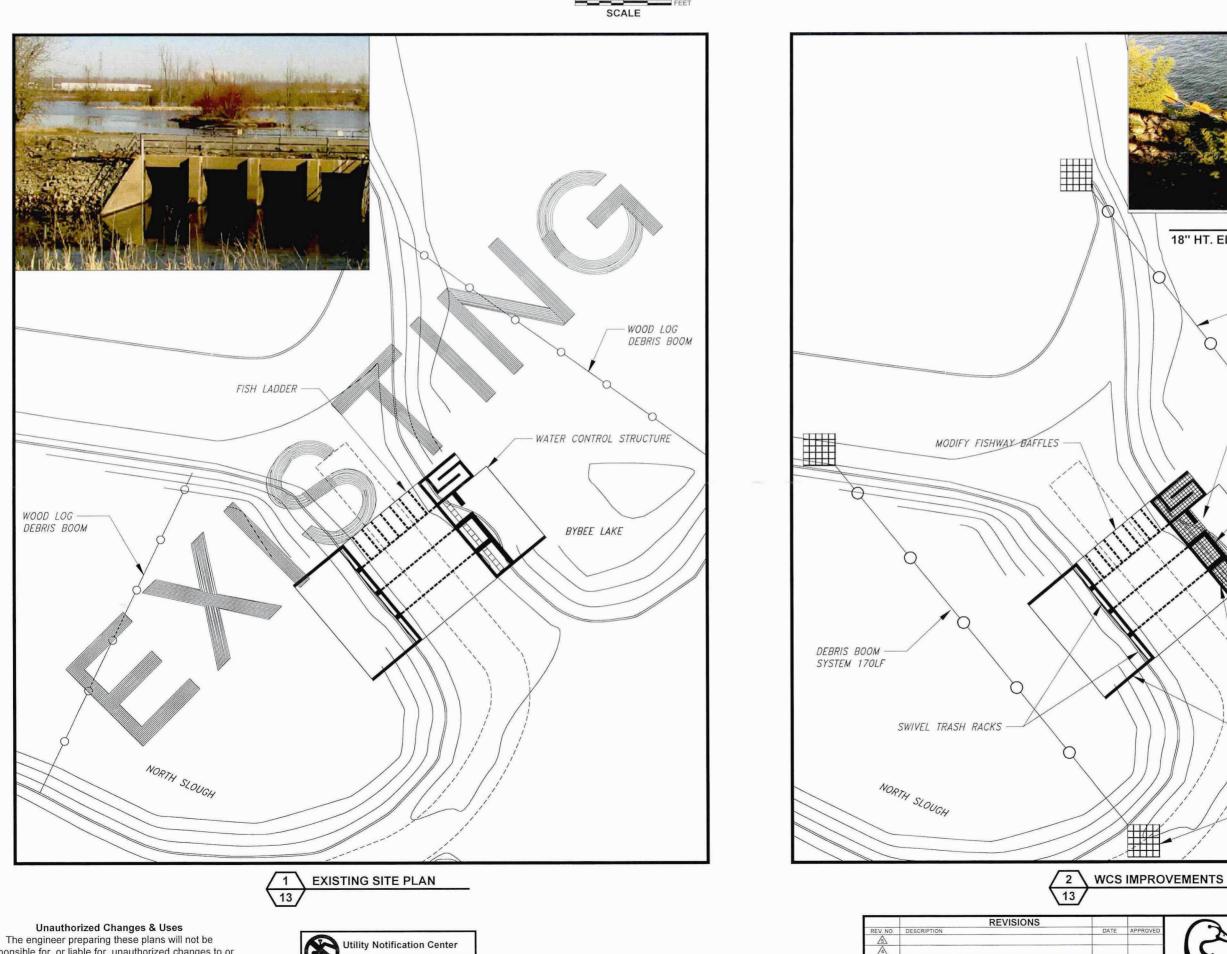


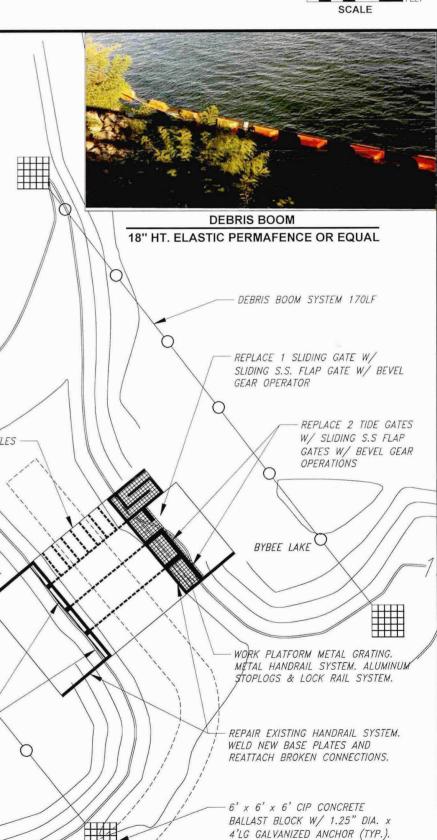
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OJECT NO. US-OR-32-8 DATE: 8/4/2016 METRO: SMITH-BYBEE PLAN SURVEYED BY:

DUCKS
UNLIMITED

WATER CONTROL STRUCTURE (WCS)

EXISTING AND IMPROVEMENTS

CHECKED BY:
CHE

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