

STATE OF OREGON

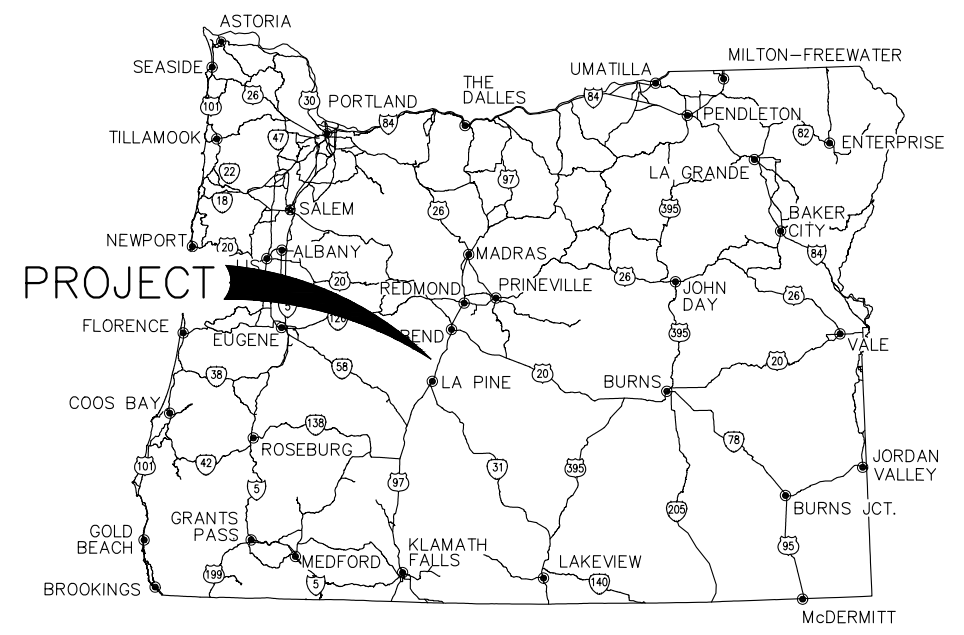
OREGON WATER WONDERLAND 2 POA

PLANS FOR PROPOSED PROJECT

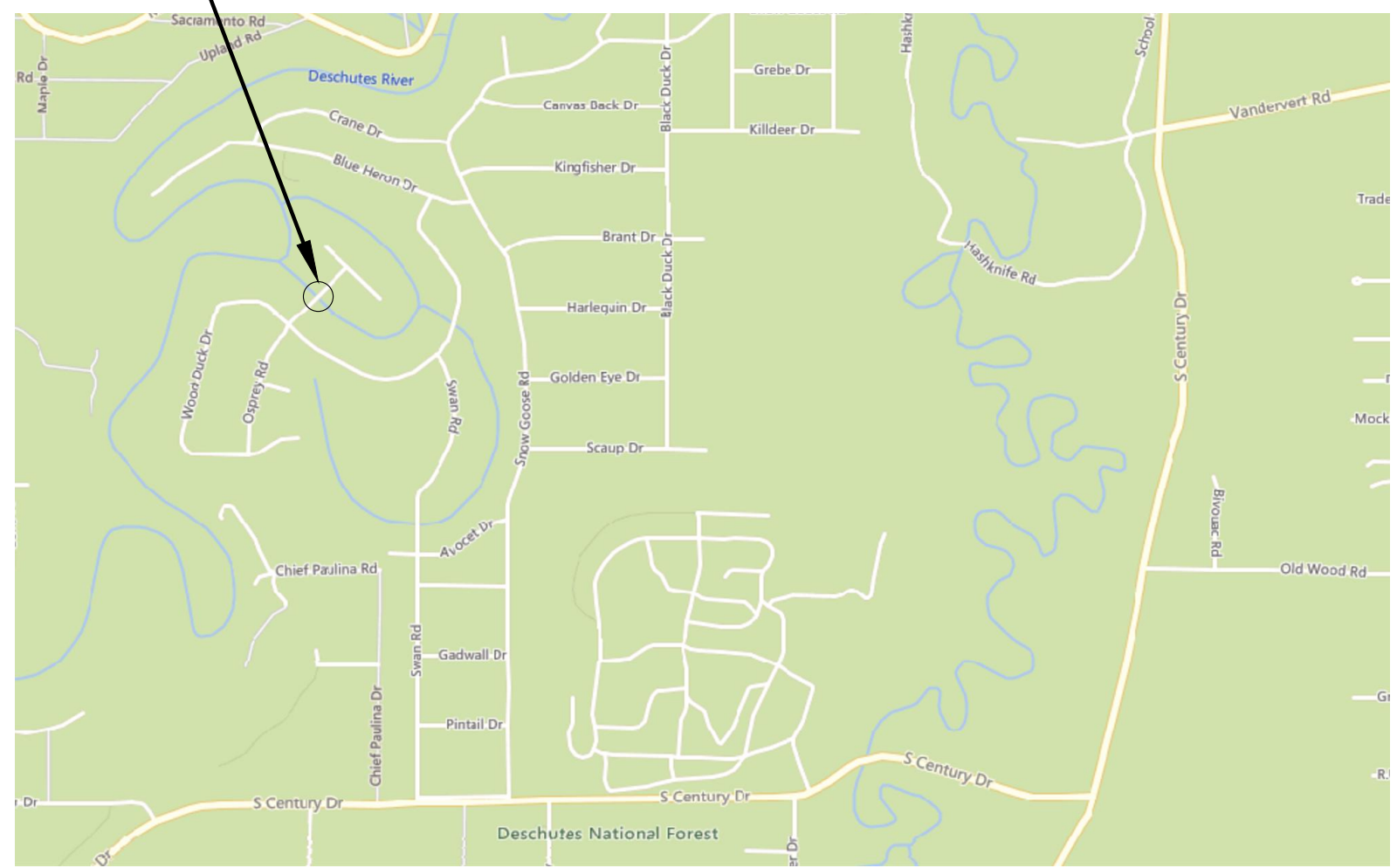
BRIDGE REPLACEMENT

WOOD DUCK CT BRIDGE

DESCHUTES COUNTY
NOVEMBER 2024

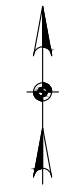


PROJECT SITE



PROJECT LOCATION

ROAD	Wood Duck Ct
MILEPOST	0.06
CROSSING	Unnamed Creek
LATTITUDE	N 43° 49.856'
LONGITUDE	W 121° 28.124'



NE, NE, SECT 24, T20S, R10E

CONTRACT NUMBER	CCC-00006
ORIGINAL DATE	11/8/2024
REVISION NUMBER	----
REVISION DATE	----
REVISION BY	----
<p>Measures 1" On Original</p>	


REGISTERED PROFESSIONAL ENGINEER
83622PE
TIMOTHY S. TENNIS
11/08/2024 1:40:46 AM
Preliminary
SHAYNE TENNIS
EXPIRES: 6/30/2026

CASCADE CIVIL CORP	
TENNENGEN TENNIS ENGINEERING COMPANY 62799 Eagle Rd, Bend, OR 97701 Phone: 541-740-6669	
WOOD DUCK CT BRIDGE REPLACEMENT	
NEW BRIDGE	
DESIGNER S. TENNIS	DRAFTER S. TENNIS
TITLE SHEET	SHEET NO. A01

INDEX OF SHEETS	
SHEET NUMBER	SHEET TITLE
A01	Title Sheet
A02	Sheet Index
C01	General Construction
J01	Plan & Elevation
J02	General Notes
J03	Foundation Plan
J04	Bent Details
J05	Wing Wall Details
J06	Deck Plan
J07	Typical Deck Section

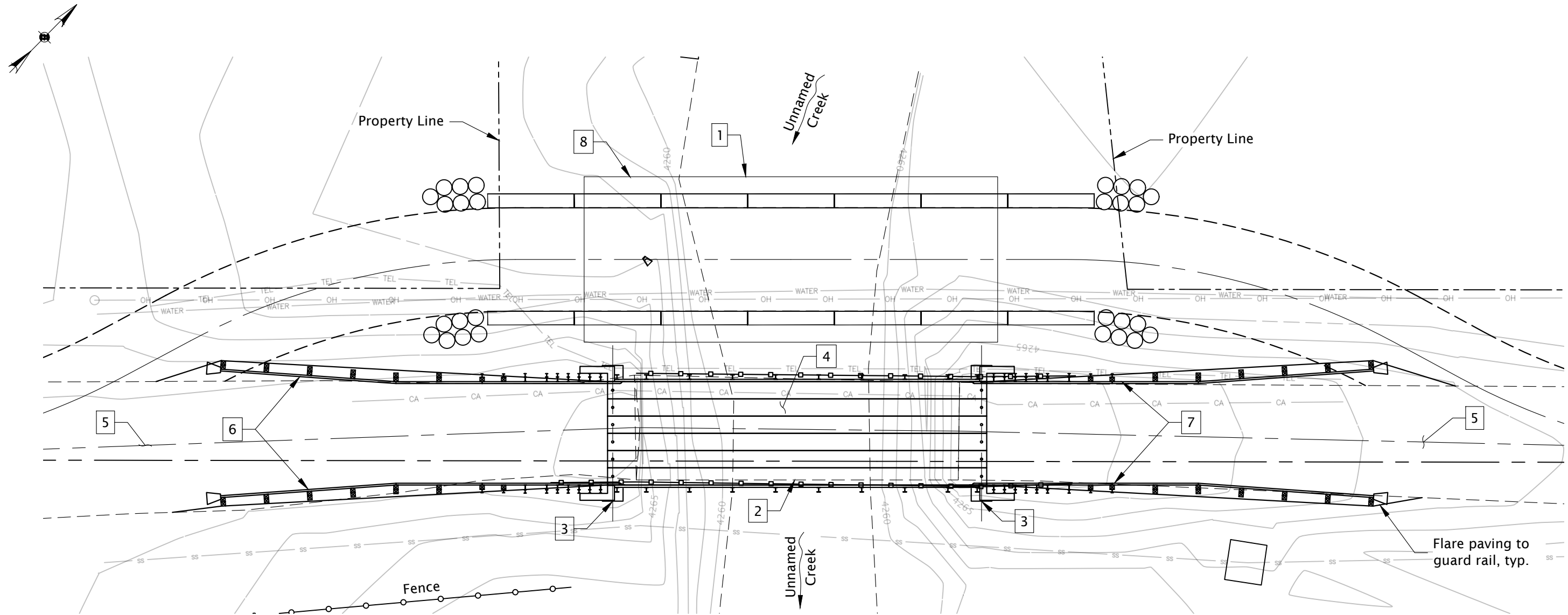
REFERENCED ODOT STANDARD DRAWINGS & DETAILS

BR226	2-Tube Side Mount Rail
BR230	2-Tube Side Mount Rail Transition
RD402	Midwest Guardrail System Types
RD403	Midwest Guardrail System Wood Post and Block
RD407	Midwest Guardrail System W-Beam
RD410	Thrie Beam Guardrail Transition
RD416	Midwest Guardrail System Standard Hardware
RD417	Midwest Guardrail System End Sections
RD419	Midwest Guardrail System Grading for Terminals
RD442	Midwest Guardrail System Typical Layout at Bridge Ends
RD701	Drainage Curbs

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NEW BRIDGE	
DESIGNER S. TENNIS	DRAFTER S. TENNIS
SHEET INDEX	SHEET NO. A02



General Construction Plan

Scale: 1" = 15'

- 1 Install detour bridge.
- 2 Remove existing bridge.
- 3 Install new bridge foundations. See sheets J01 to J05
- 4 Install new bridge superstructure and rails. See sheet J04 to J06.
- 5 Fill and pave approaches to blend in with existing roadway.
- 6 West End of Bridge
Construct guardrail - 12.5' Each Side (Type 2A) - 12.5' Each Side (Type 3). See ODOT Std. Dwg. RD442.
Construct guardrail terminal flare (TL-2) from ODOT QPL = 38.29' Both Sides
Construct guardrail to bridge rail transition (See ODOT Std. Dwg. BR230)
- 7 East End of Bridge
Construct guardrail - 12.5' Each Side (Type 2A) - 12.5' Each Side (Type 3). See ODOT Std. Dwg. RD442
Construct guardrail terminal flare (TL-2) from ODOT QPL = 38.29' Both Sides
Construct guardrail to bridge rail transition (See ODOT Std. Dwg. BR230)
- 8 Remove detour bridge.

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NEW BRIDGE	
DESIGNER S. TENNIS	DRAFTER S. TENNIS
GENERAL CONSTRUCTION	SHEET NO. C01

General Notes:

Provide all materials and perform all work according to the 2021 Oregon Standard Specifications for Construction.

Bridge is designed in accordance with the 2020 9th edition of the AASHTO LRFD Bridge Design Specifications (including interim revisions through 2021) with an additional allowance of 25 psf for future wearing surface and all of the following Live Loads.

Service and Strength-I Limit States:

HL-93: Design truck (or trucks per LRFD 3.6.1.3) or the design tandems and the design lane load

Strength-II Limit State:

ODOT Type OR-CTP-2A Permit Truck

ODOT Type OR-CTP-2B Permit Truck

ODOT Type OR-CTP-3 Permit Truck

U80 Overload Vehicle

Seismic design is performed in accordance with the 2011 2nd edition of the AASHTO Guide Specifications for LRFD Seismic Bridge Design (including interim revisions through 2015) as modified by the ODOT Bridge Design and Drafting Manual. The ODOT ARS spreadsheet was used to collect the Seismic Hazard Values for the bridge site with Latitude 43.83096 and Longitude -121.46874:

Seismic Performance Criteria	Earthquake Return Period (yrs.)	Mapped Hazard Values			Site Class	Design Hazard Values			Seismic Design Category
		PGA	S _s	S ₁		A _g	S _{DS}	S _{D1}	
Life Safety	1000	0.12g	0.26g	0.11g	D	0.19g	0.41g	0.25g	B
Operational	500	0.08g	0.17g	0.07g	D	0.13g	0.27g	0.16g	B

All reinforcement steel welding shall conform to ASW D1.4 Structural Reinforcing Steel

Provide all other reinforcing steel according to ASTM Specification A706 Grade 60, or AASHTO M31 (ASTM A615) Grade 60. Provide field bent and welded reinforcing according to ASTM Specification A706. Use the following splice lengths (unless shown otherwise).

Reinforcing Splice Lengths (Class B) Grade 60 f'c=4.0 ksi										
Bar Size	#3	#4	#5	#6	#7	#8	#9	#10	#11	#14 & #18
Uncoated	1'-0"	1'-4"	1'-8"	2'-0"	2'-6"	3'-3"	4'-1"	5'-2"	6'-4"	Not Permitted

Increase all splice lengths 40% for horizontal or nearly horizontal bars so placed that more than 12" of fresh concrete is cast below the bar. Splice reinforcing steel at alternate bars staggered at least one splice length or as far as possible unless shown otherwise.

Place bars 2" clear of the nearest face of concrete unless otherwise noted.

All reinforcement spacing is intended to be maximum unless noted otherwise.

Provide Class 4000-1 or 3/4" concrete for CIP cap beams and wingwalls.

Provide a 3/4" chamfer on all exposed concrete edges unless otherwise noted.

Contractor to provide 21" prestressed voided slabs designed By Others that meet the design criteria listed above. Fabricator to provide load rating for the slabs per ODOT guidelines.

Provide structural steel meeting the following material requirements:

PP-Shapes ASTM A252 Grade 3
Dowels ASTM A36
Plate ASTM A36

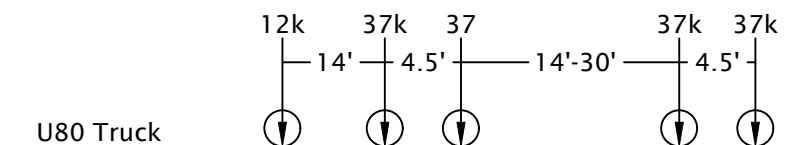
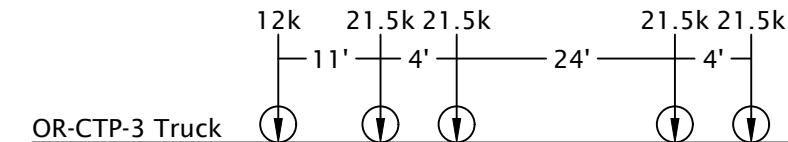
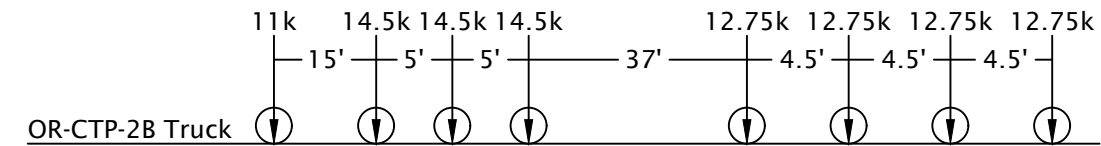
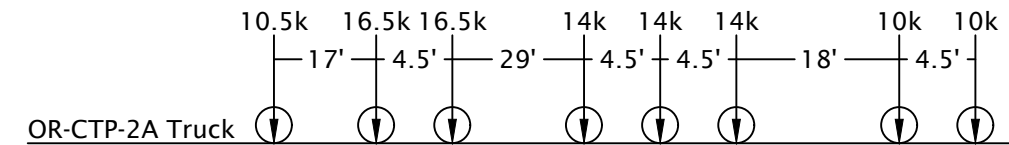
Field verify all dimensions prior to submitting drawings or fabrication materials.

Produce welds according to the latest edition of AWS D1.5 Bridge Welding Code.

See Foundation Plan for foundation design notes.

Non-shrink grout shall be selected from the ODOT QPL. Grout shall be mixed, applied, and cured strictly in accordance with the manufacturer's printed instructions.

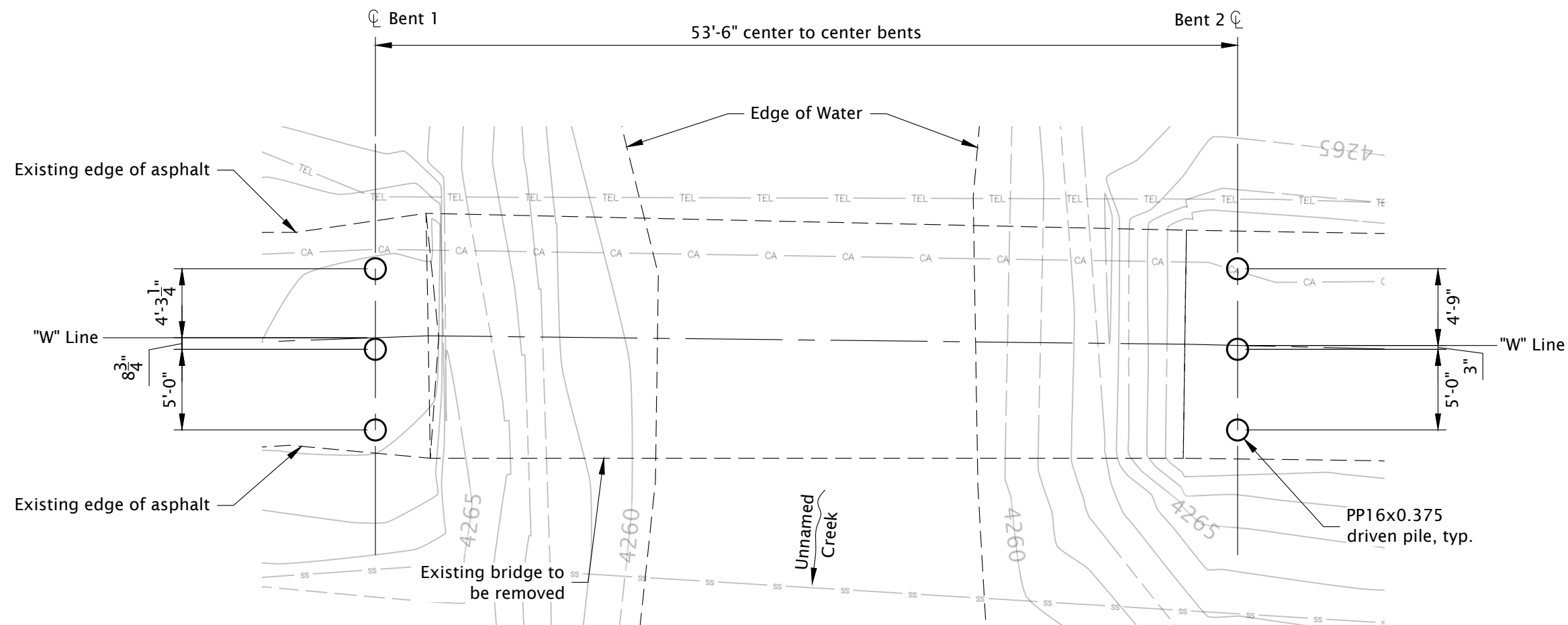
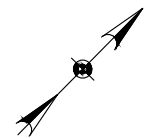
Permit Truck Diagrams:



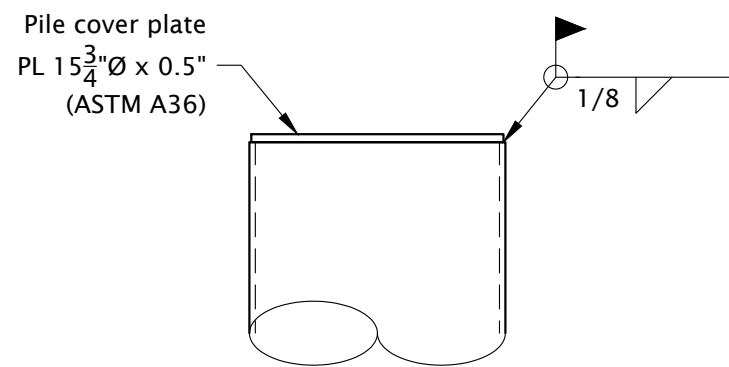
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WOOD DUCK CT BRIDGE REPLACEMENT	
NEW BRIDGE	
DESIGNER S. TENNIS	DRAFTER S. TENNIS
GENERAL NOTES	SHEET NO. J02



Foundation Plan
Scale: 1/8" = 1'-0"



Pile Cover Plate Detail
Scale: 1" = 1'-0"

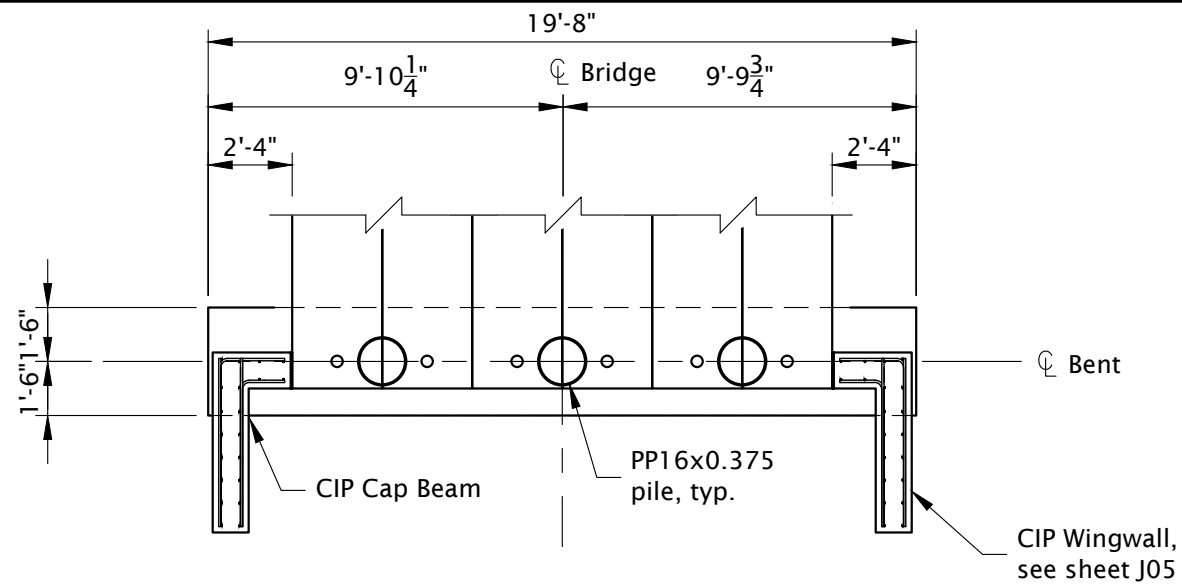
Foundation Notes:

- Piling shall be PP16x0.375 conforming to ASTM A252 Grade 3 or better (Fy = 45ksi).
- Pile shall be driven to XXX kips ultimate capacity using the FHWA Gates Equation.
- All Bents are parallel.

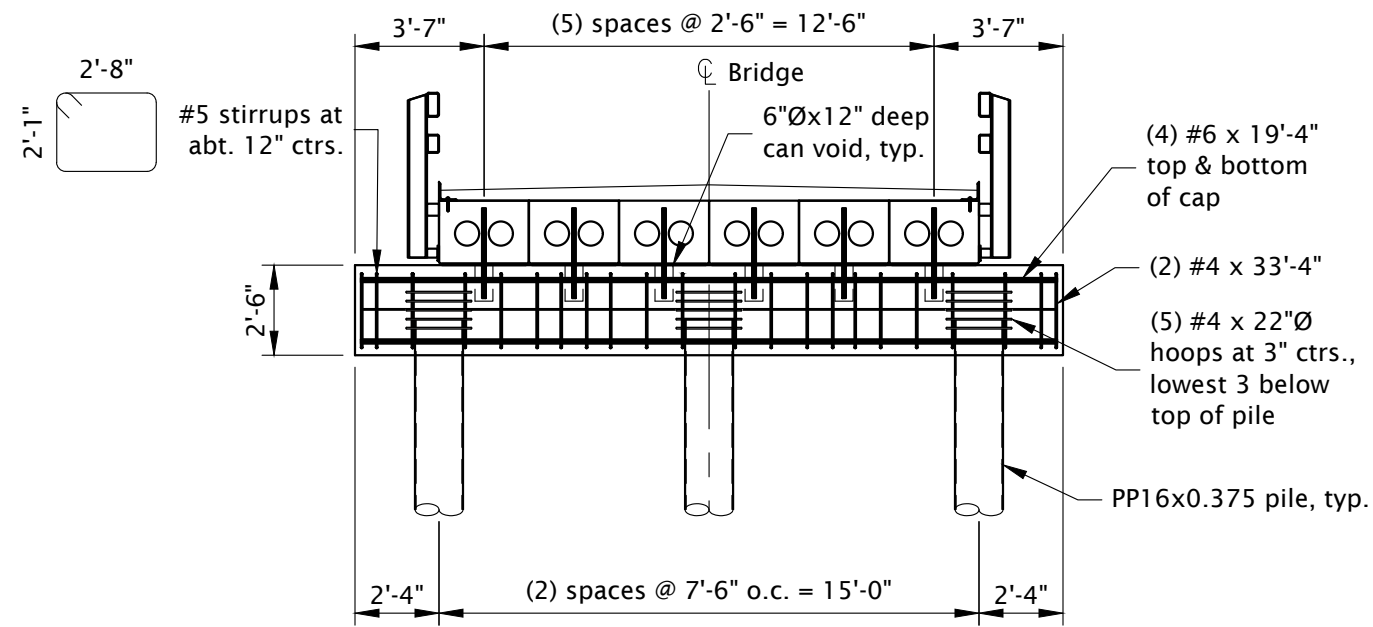
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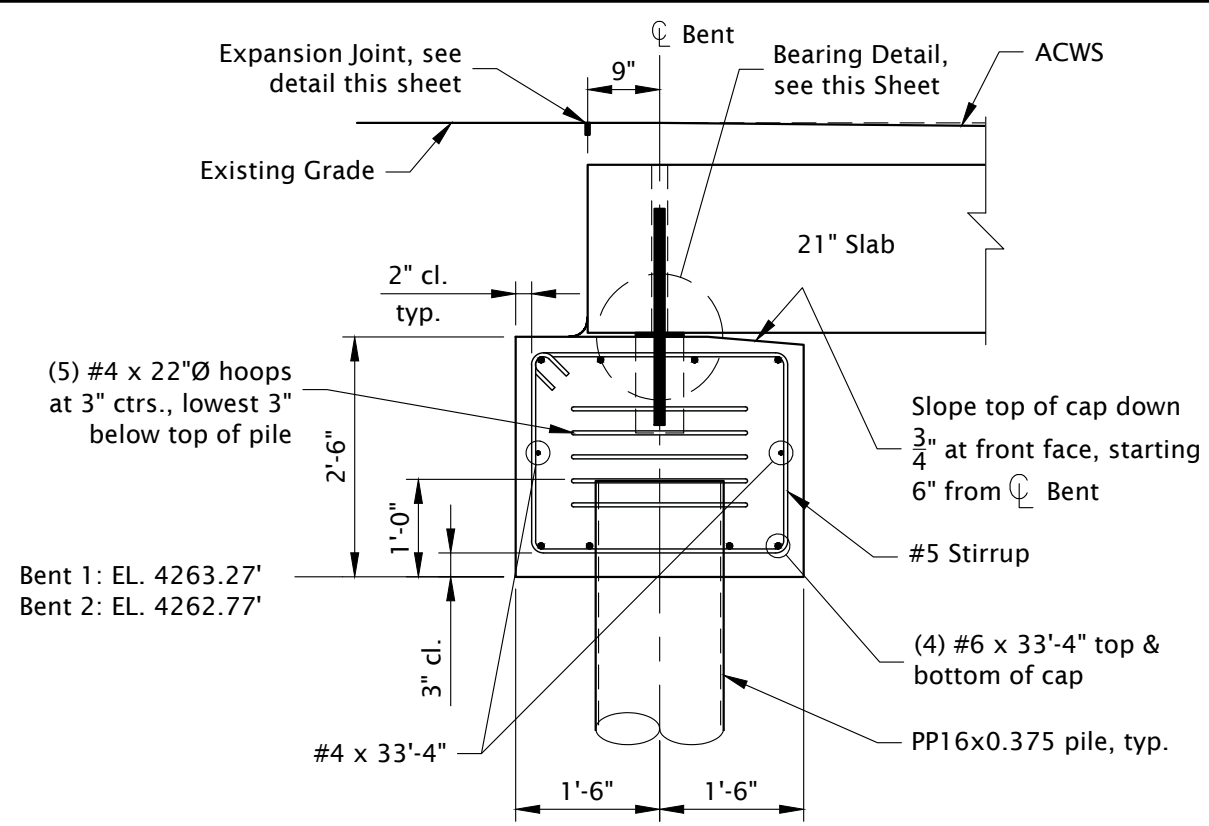
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DESIGNER S. TENNIS	DRAFTER S. TENNIS
FOUNDATION PLAN	
SHEET NO. J03	



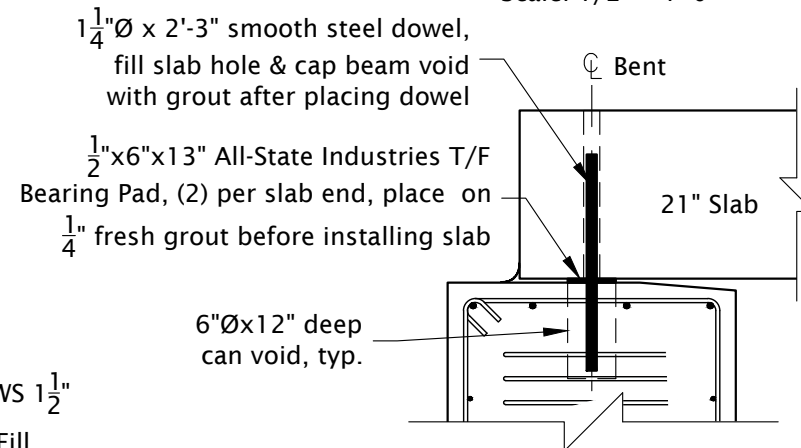
Bent Plan
Scale: 3/16" = 1'-0"



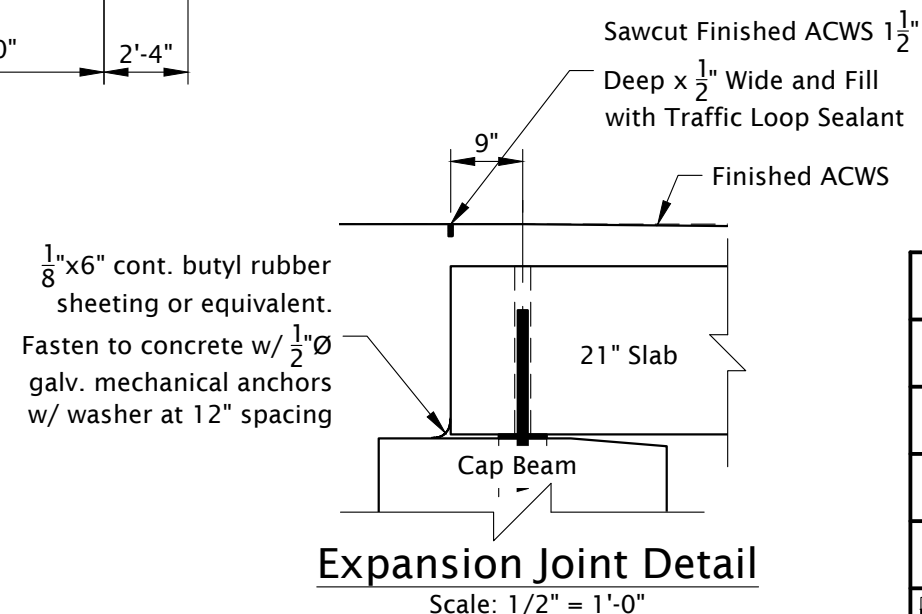
Bent Elevation
Scale: 3/16" = 1'-0"



Bent Section
Scale: 1/2" = 1'-0"



Bearing Detail
Scale: 1/2" = 1'-0"



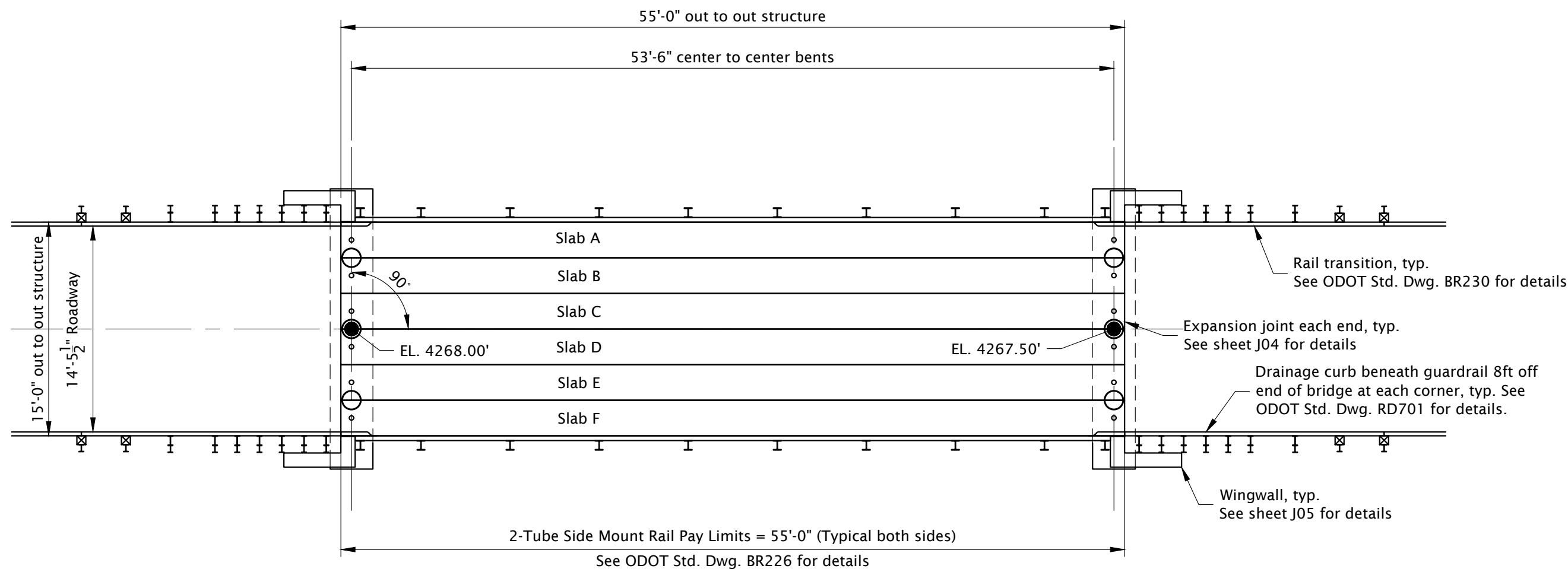
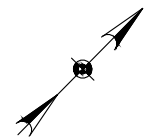
Expansion Joint Detail
Scale: 1/2" = 1'-0"

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DESIGNER	DRAFTER
S. TENNIS	S. TENNIS
BENT DETAILS	
SHEET NO. J04	



Note:
Elevations shown are based on North American Vertical Datum 1988 (NAVD88) and given for the top of ACWS.

Deck Plan
Scale: 1/8" = 1'-0"

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WOOD DUCK CT BRIDGE REPLACEMENT	
NEW BRIDGE	
DESIGNER S. TENNIS	DRAFTER S. TENNIS
DECK PLAN	SHEET NO. J06

