

STATE OF OREGON

OREGON WATER WONDERLAND 2 POA

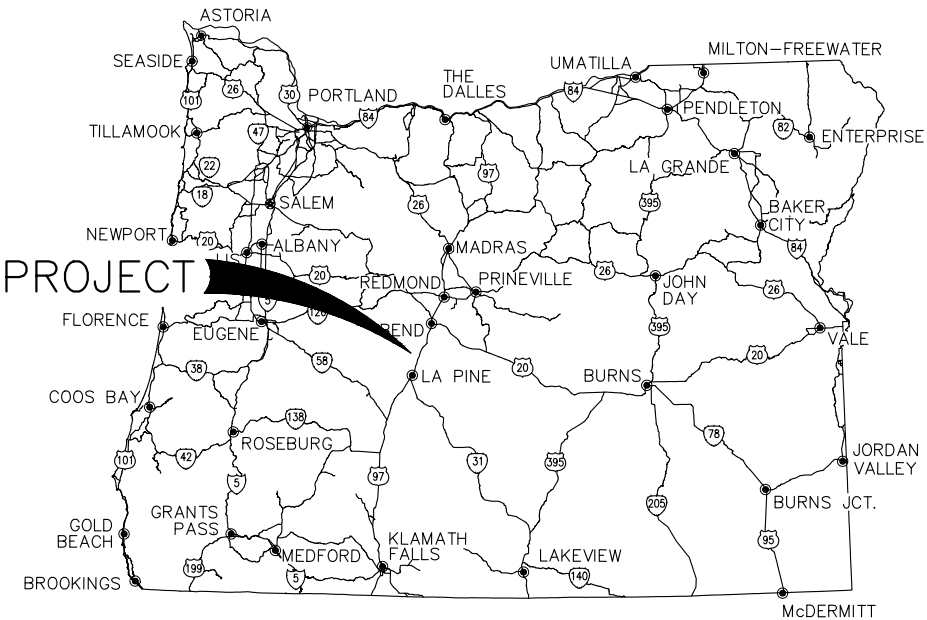
PLANS FOR PROPOSED PROJECT

BRIDGE REPLACEMENT

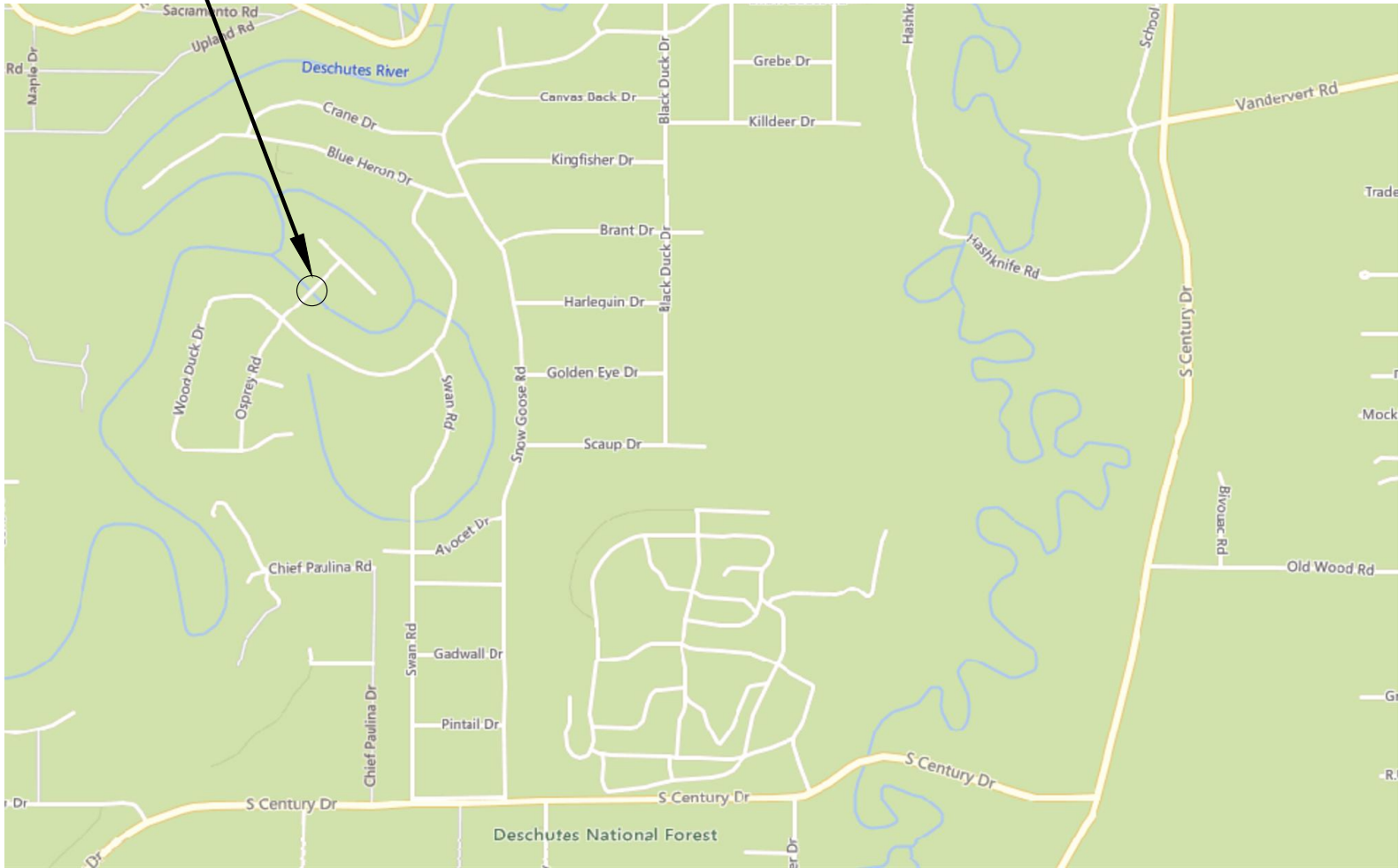
WOOD DUCK CT BRIDGE

DESCHUTES COUNTY

NOVEMBER 2024



PROJECT SITE



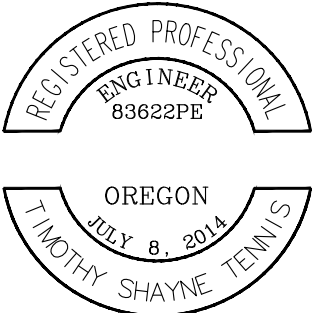
PROJECT LOCATION

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	12/20/2024
REVISION NUMBER	----
REVISION DATE	----
REVISION BY	----
	
Measures 1" On Original	



EXPIRES: 6/30/2026

CASCADE CIVIL CORP	
TENNENG 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

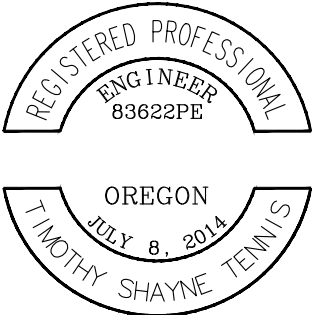
BR226	2-Tube Side Mount Rail
BR230	2-Tube Side Mount Rail Transition
RD402	Midwest Guardrail System Types
RD403	Midwest Guardrail System Wood Post and Block
RD407	Midwest Guardrail System W-Beam
RD410	Thrie Beam Guardrail Transition
RD416	Midwest Guardrail System Standard Hardware
RD417	Midwest Guardrail 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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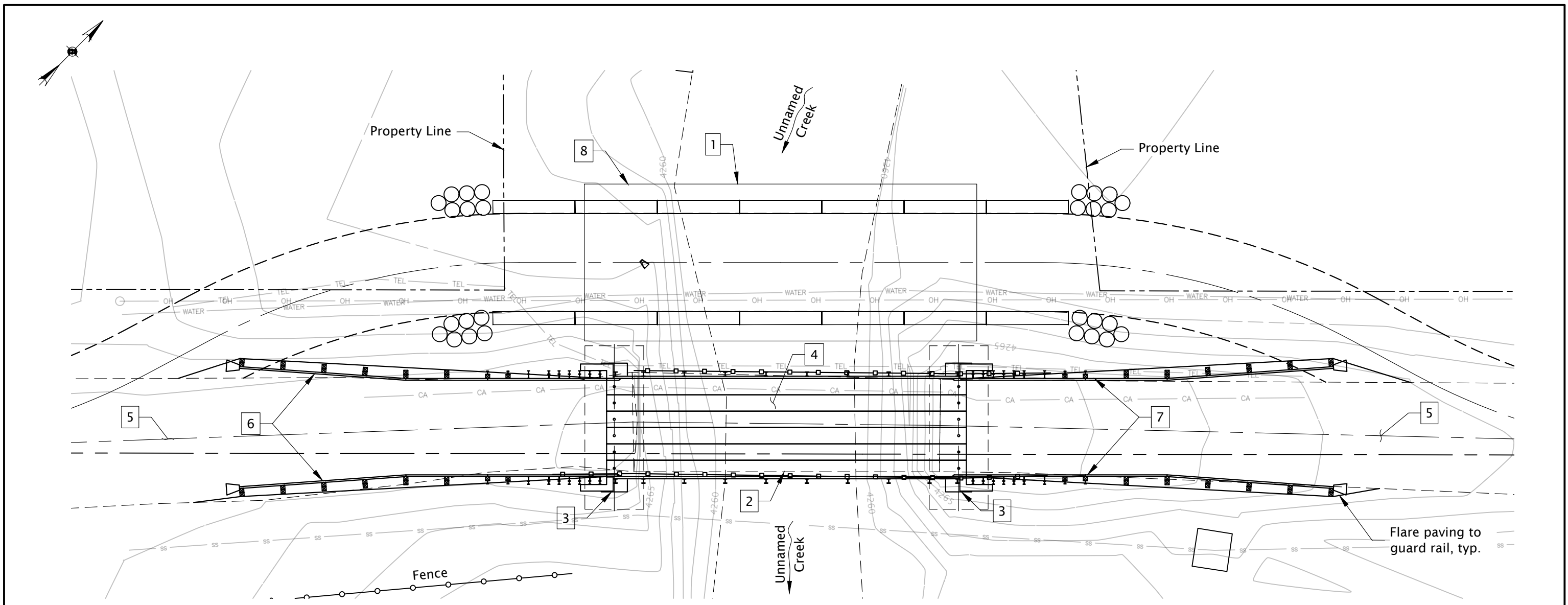
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 TENNIS ENGINEERING COMPANY 62799 Eagle Rd, Bend, OR 97701 Phone: 541-740-6669		
WOOD DUCK CT BRIDGE REPLACEMENT		
NEW BRIDGE		
DESIGNER	DRAFTER	
S. TENNIS	S. TENNIS	
SHEET INDEX		SHEET NO. A02



General Construction Plan

Scale: 1" = 15'

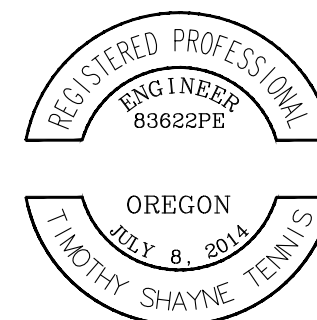
- 1 Install detour bridge.
- 2 Remove existing bridge.
- 3 Install new bridge foundations. See sheets J01 to J05
- 4 Install new bridge superstructure and rails. See sheet J04 to J06.
- 5 Fill and pave approaches to blend in with existing roadway.
- 6 West End of Bridge
Construct guardrail - 12.5' Each 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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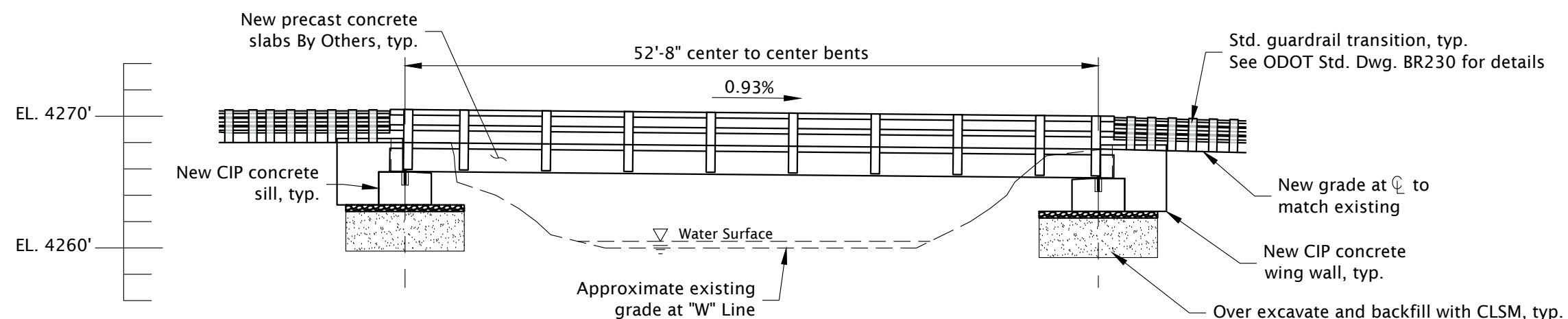
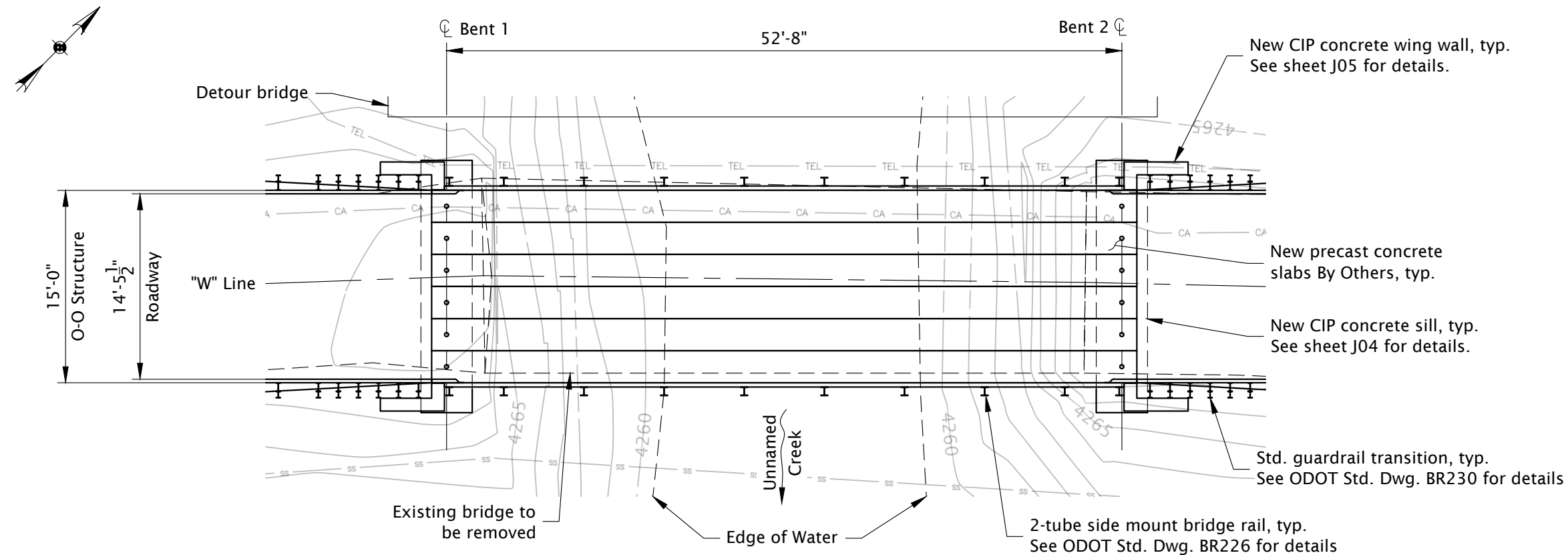
REVISION BY

Measures 1" On Original



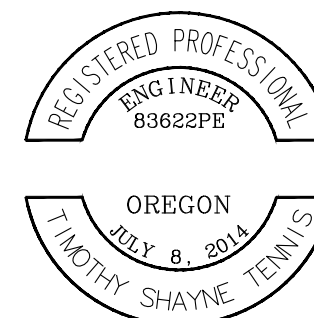
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CASCADE CIVIL CORP	
TENNENG TENNIS ENGINEERING COMPANY 62799 Eagle Rd, Bend, OR 97701 Phone: 541-740-6669	
WOOD DUCK CT BRIDGE REPLACEMENT	
NEW BRIDGE	
DESIGNER S. TENNIS	DRAFTER S. TENNIS
GENERAL CONSTRUCTION	SHEET NO. C01



Note:
Elevations shown are based on North American Vertical Datum 1988 (NAVD88)

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Measures 1" On Original	



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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	
PLAN & ELEVATION		SHEET NO. J01

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

DISCLAIMER
Seismic design has been omitted at the request of the owner. The effects due to seismic loading and settlements are unknown. Excessive settlements, structural damage, or structure collapse have potential to occur during such events. The owner shall have a contingency plan in–place for evacuation and first responder access after a seismic event occurs that renders the structure impassable.
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 ¾” concrete for CIP sills and wingwalls.

Provide a ¾” 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:
Dowels ASTM A36
Plate ASTM A36

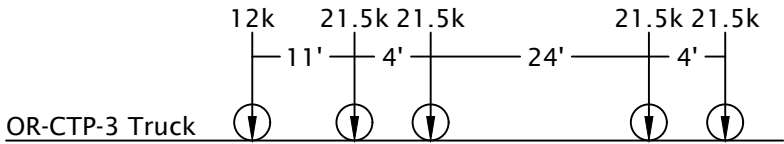
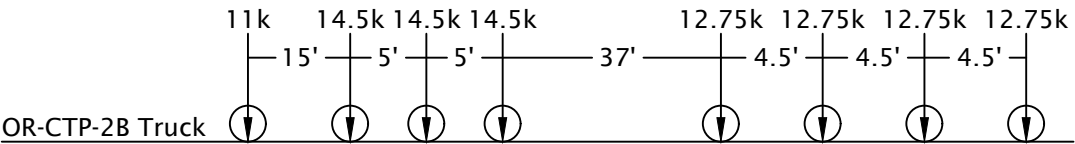
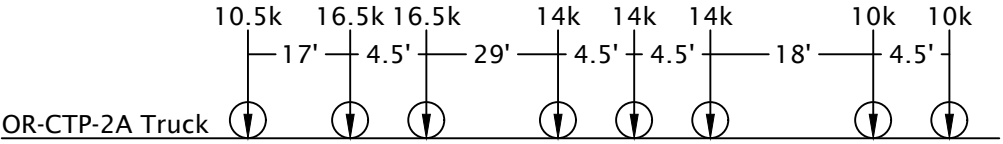
Field verify all dimensions prior to submitting drawings or fabrication materials.

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

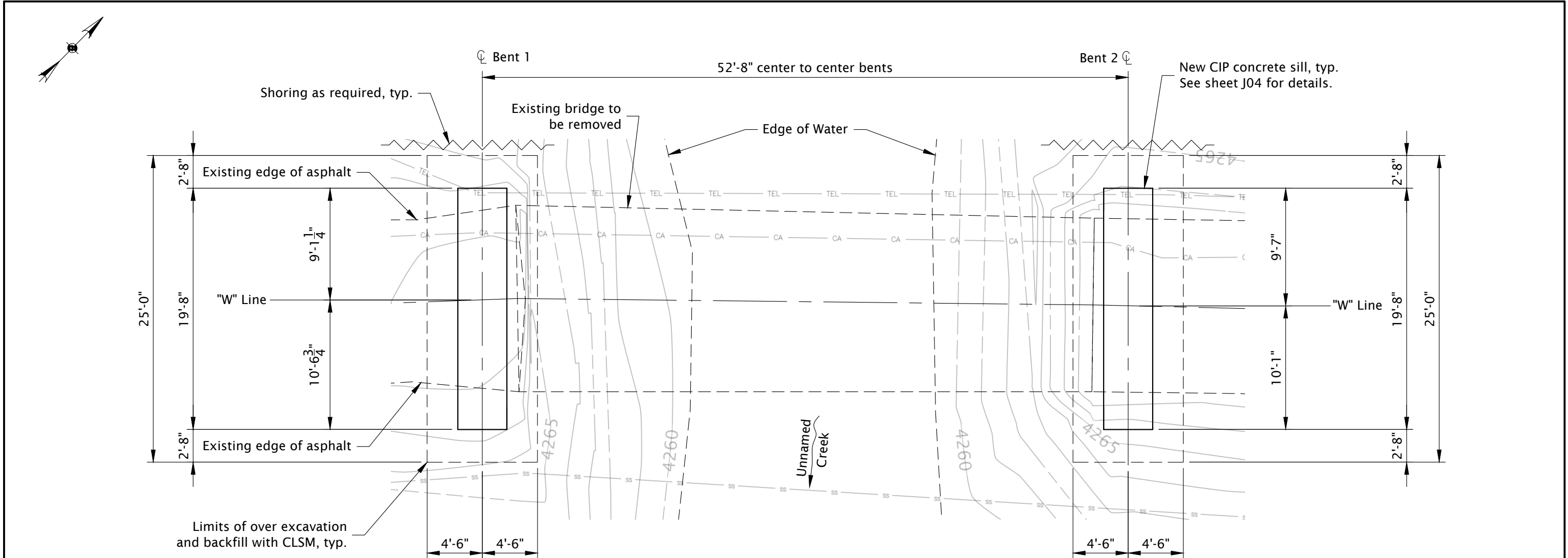
See Foundation Plan for foundation design notes.

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:



CONTRACT NUMBER CCC-00006		REGISTERED PROFESSIONAL ENGINEER 83622PE OREGON JULY 8, 2014 TIMOTHY SHAYNE TENNIS	CASCADE CIVIL CORP	
ORIGINAL DATE 12/20/2024	REVISION NUMBER ----		TENMENG TENNIS ENGINEERING COMPANY 62799 Eagle Rd, Bend, OR 97701 Phone: 541-740-6669	
REVISION DATE ----	REVISION BY ----		WOOD DUCK CT BRIDGE REPLACEMENT	
REVISION BY ----	Measures 1" On Original		NEW BRIDGE	
EXPIRES: 6/30/2026			DESIGNER S. TENNIS	DRAFTER S. TENNIS
		GENERAL NOTES		SHEET NO. J02



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

Ground Improvement Notes:

- Over excavate sills 2'-6" in each direction and 3'-6" deep.
- Backfill the first 3'-0" of the excavation with Controlled Low Strength Material (CLSM) weighing no more than 120pcf and having a minimum compressive strength of 200pci.
- Backfill the remaining 6" with compacted granular structural fill.

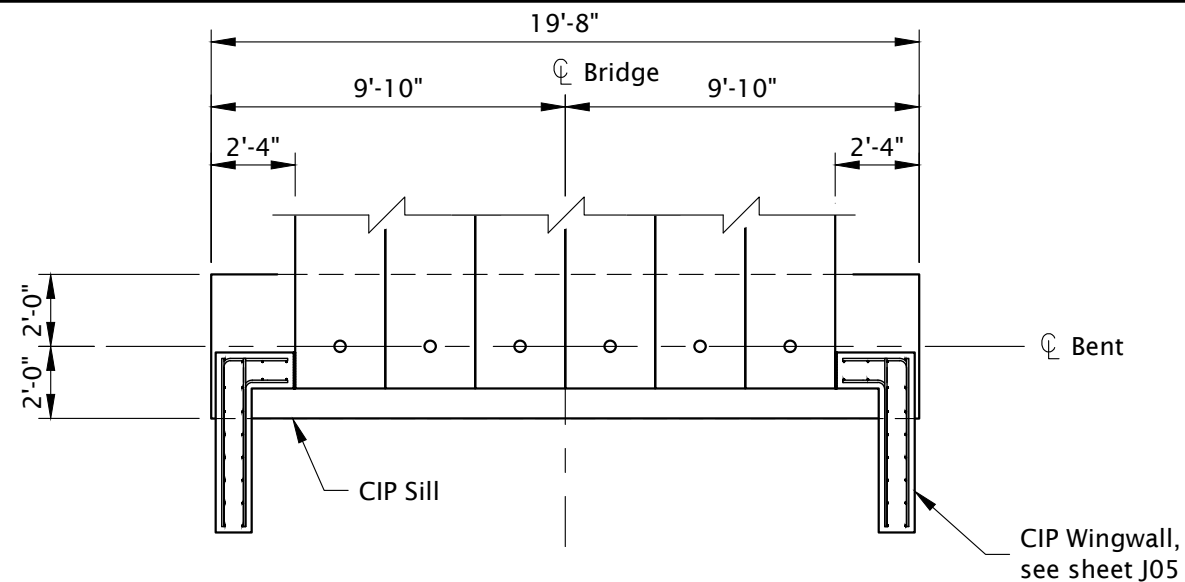
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ORIGINAL DATE	12/20/2024
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REVISION BY	S. TENNIS
Measures 1" On Original	

REGISTERED PROFESSIONAL
ENGINEER
83622PE

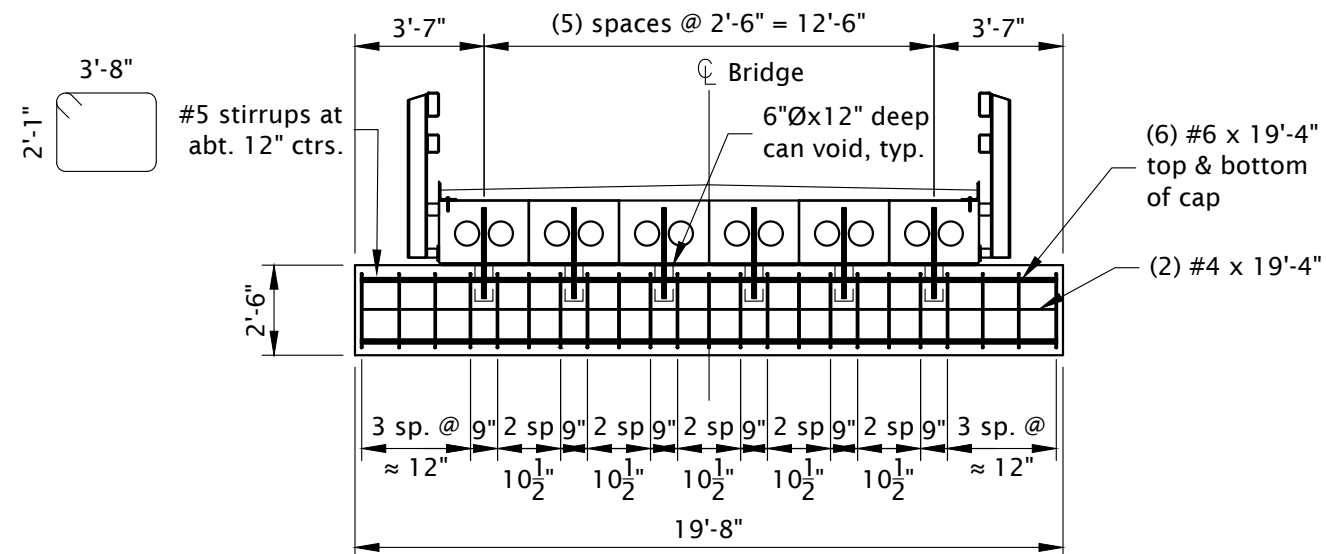
OREGON
JULY 8, 2014
TIMOTHY SHAYNE TENNIS

EXPIRES: 6/30/2026

CASCADE CIVIL CORP	
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WOOD DUCK CT BRIDGE REPLACEMENT	
NEW BRIDGE	
DESIGNER S. TENNIS	DRAFTER S. TENNIS
FOUNDATION PLAN	SHEET NO. J03



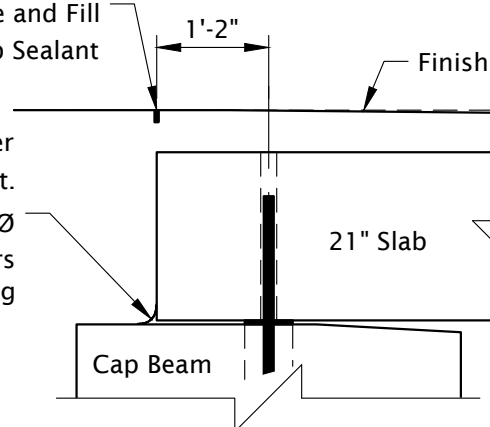
Bent Plan
Scale: 3/16" = 1'-0"



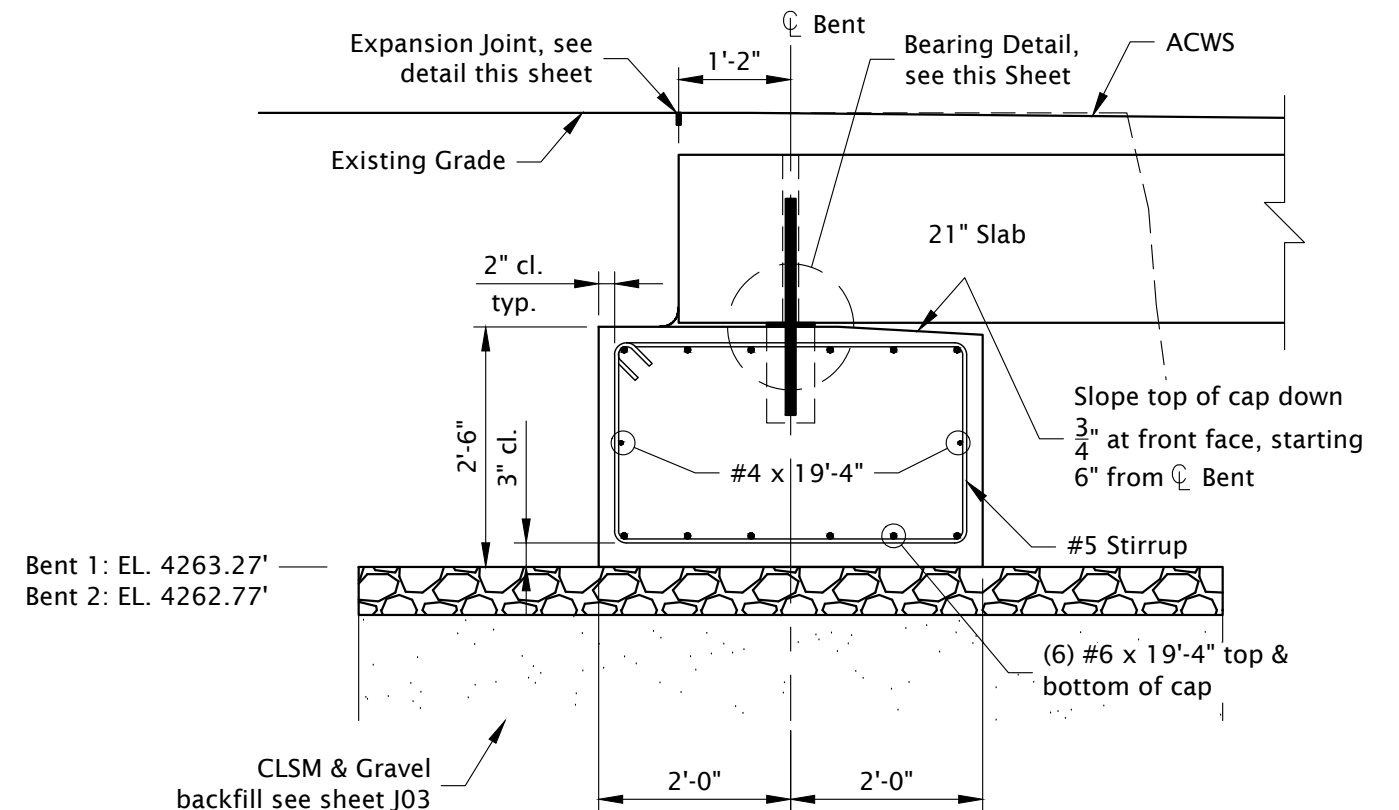
Bent Elevation
Scale: 3/16" = 1'-0"

Sawcut Finished ACWS 1 1/2"
Deep x 1/2" Wide and Fill
with Traffic Loop Sealant

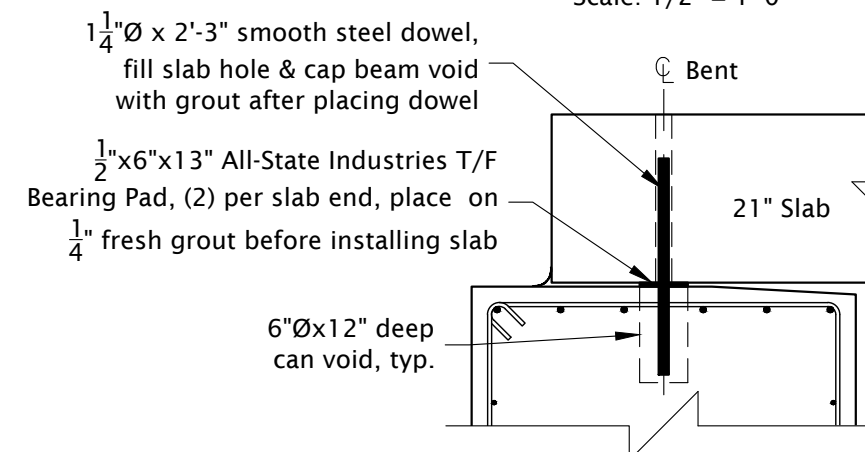
1/8"x6" cont. butyl rubber
sheeting or equivalent.
Fasten to concrete w/ 1/2"Ø
galv. mechanical anchors
w/ washer at 12" spacing



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

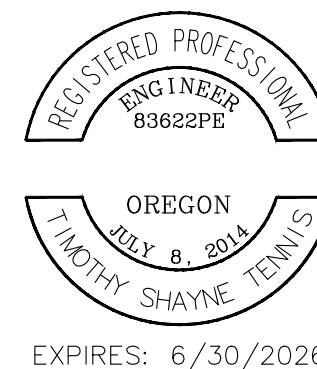


Bent Section
Scale: 1/2" = 1'-0"



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

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REVISION BY	S. TENNIS
MEASURES 1" ON ORIGINAL	



CASCADE CIVIL CORP

TENNIS

TENNIS ENGINEERING COMPANY
62799 Eagle Rd, Bend, OR 97701
Phone: 541-740-6669

WOOD DUCK CT BRIDGE REPLACEMENT

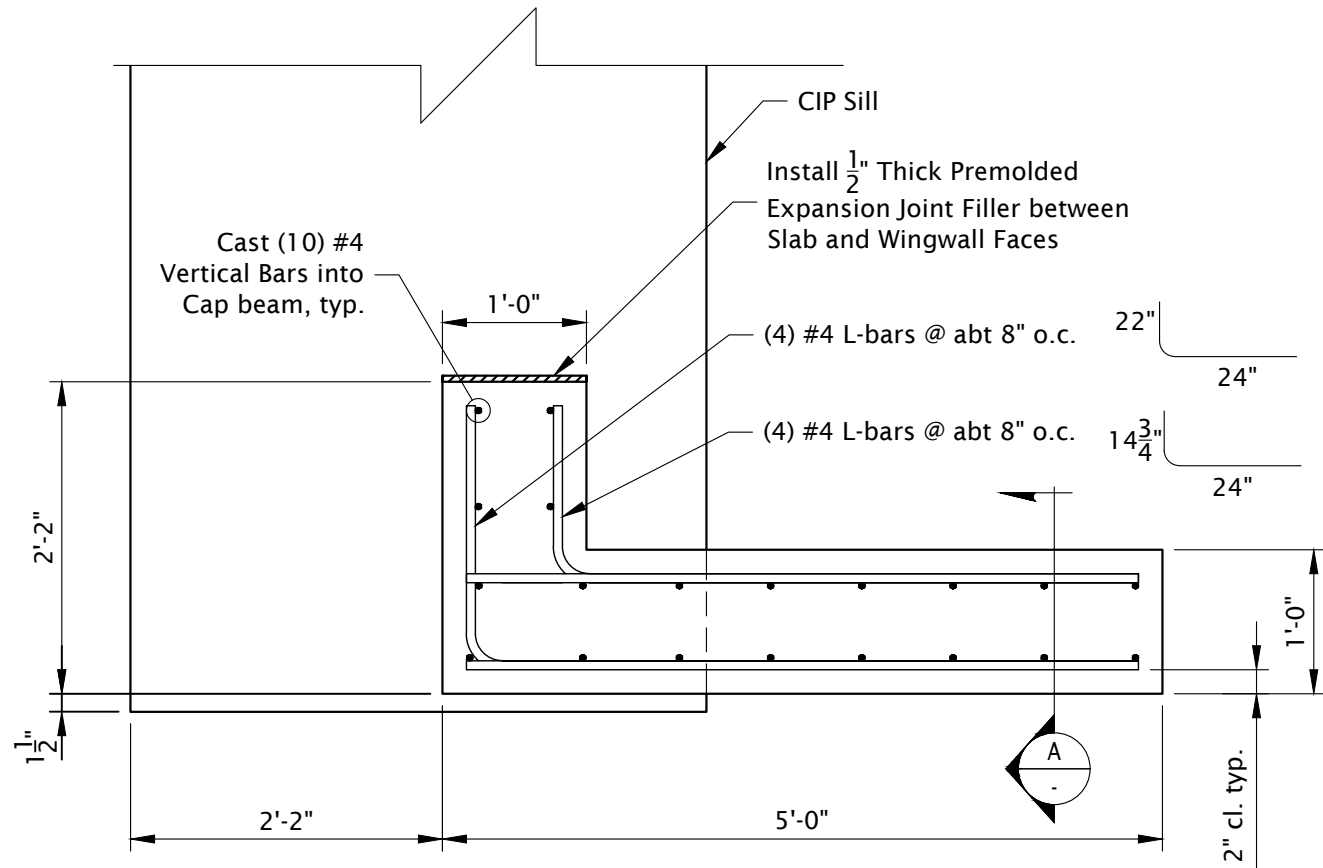
NEW BRIDGE

DESIGNER
S. TENNIS

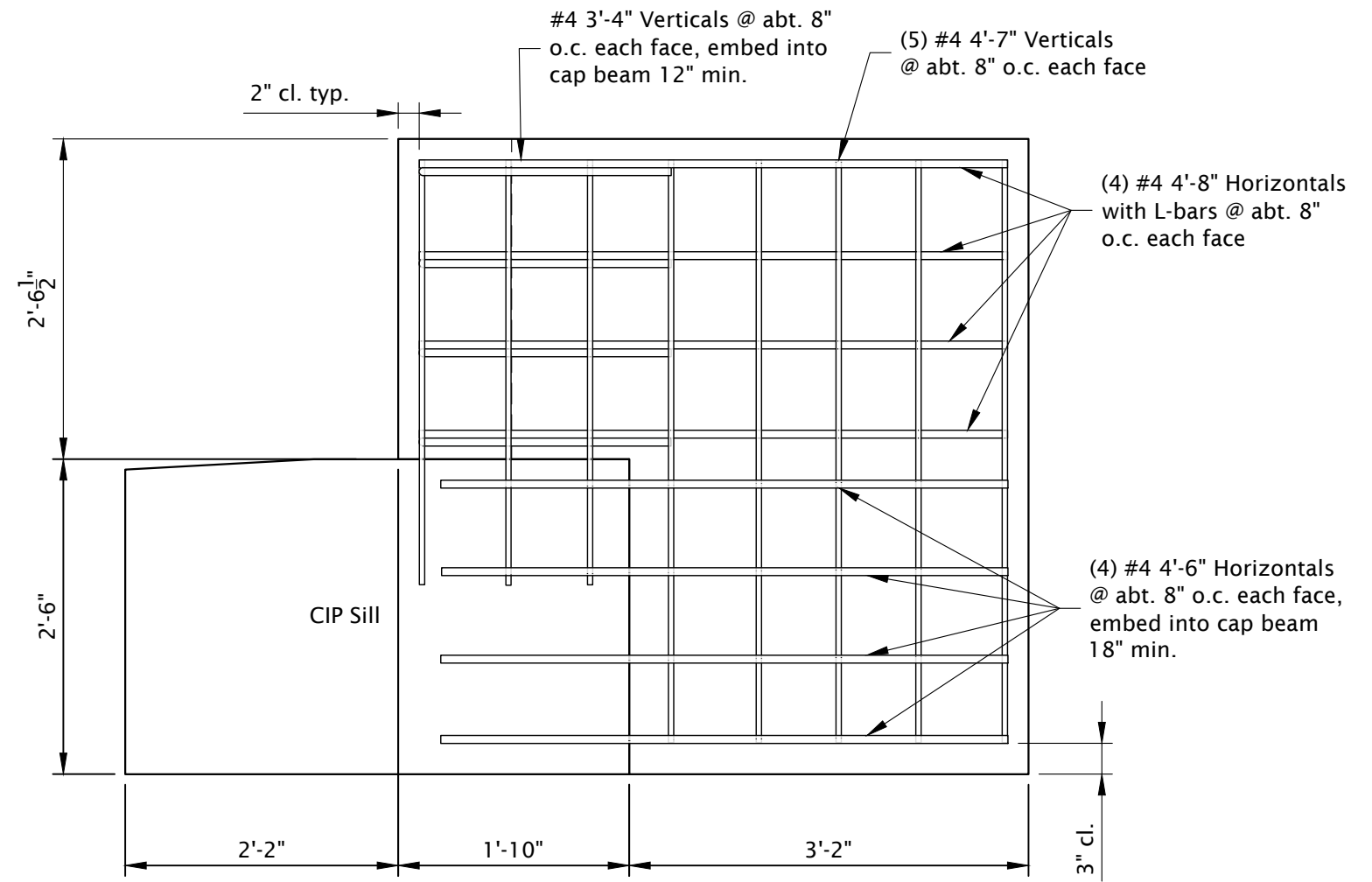
DRAFTER
S. TENNIS

BENT DETAILS

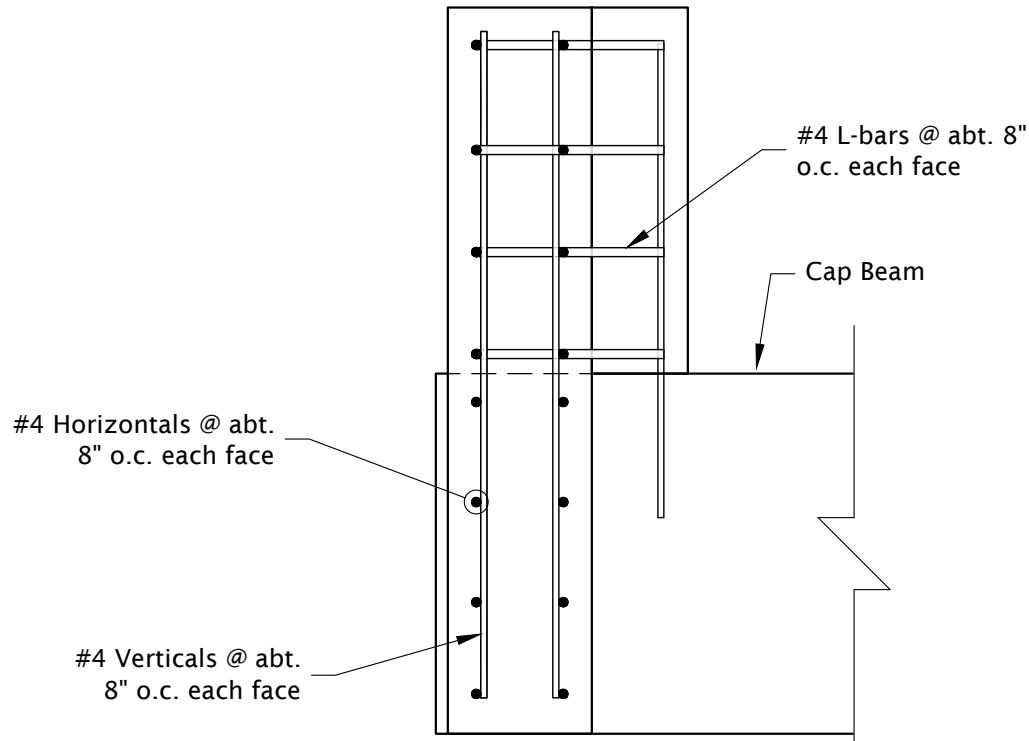
SHEET NO.
J04



Wingwall Plan
Scale: 3/4" = 1'-0"



Wingwall Elevation
Scale: 3/4" = 1'-0"



Wingwall Section
Scale: 3/4" = 1'-0"

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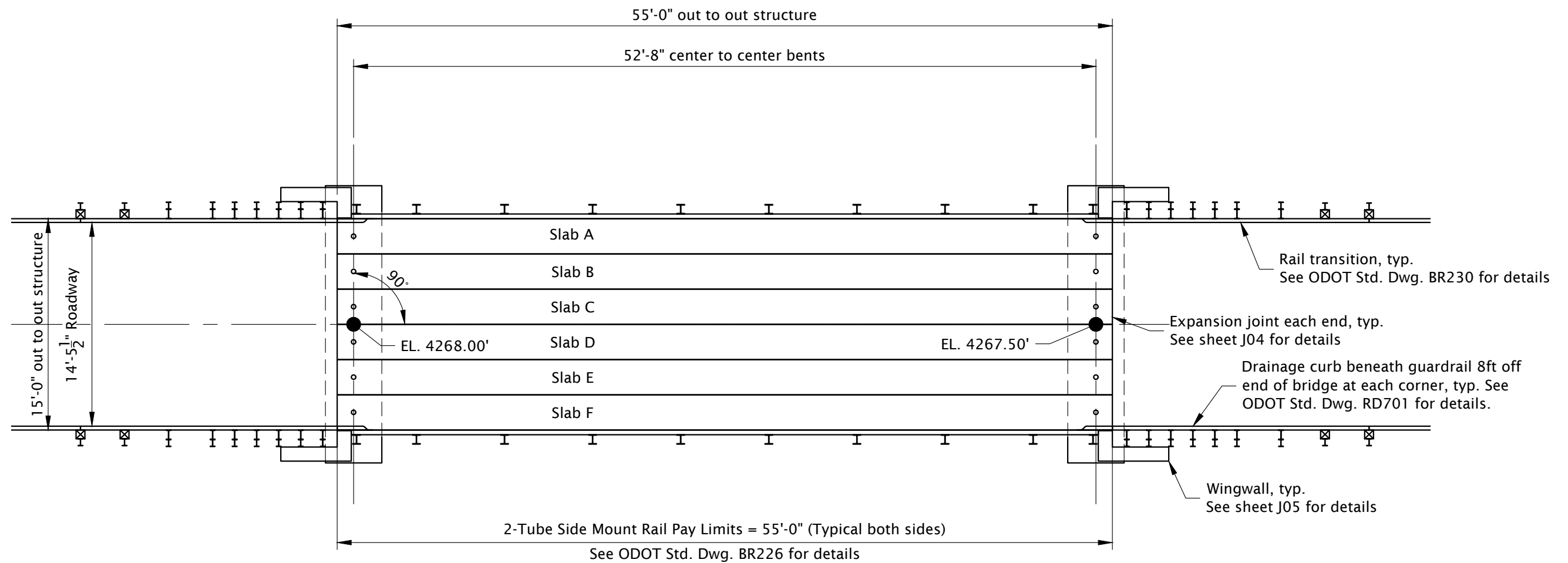
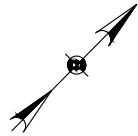
REVISION DATE

REVISION BY
S. TENNIS
Measures 1" On Original



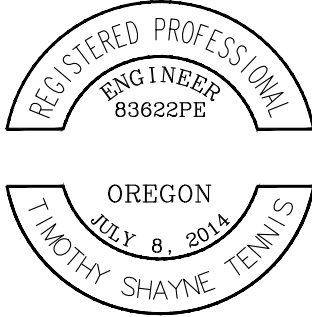
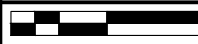
EXPIRES: 6/30/2026

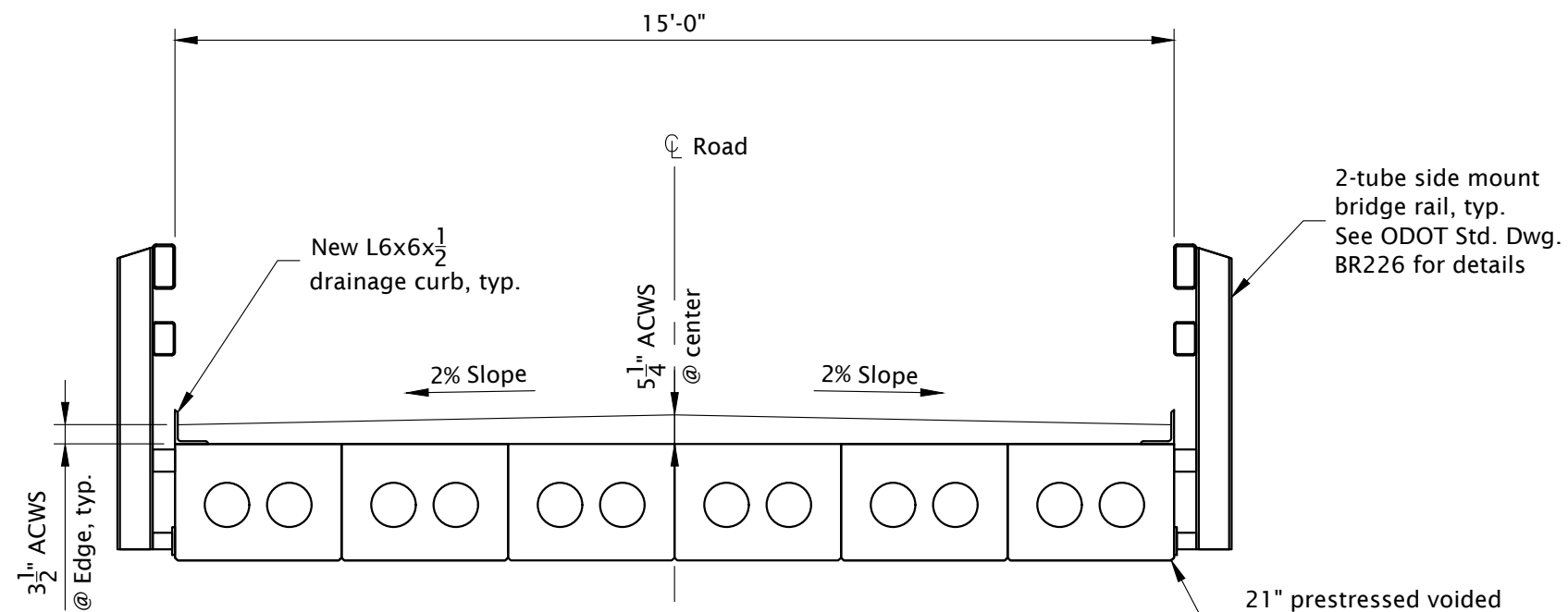
CASCADE CIVIL CORP		
TENMENG TENNIS ENGINEERING COMPANY 62799 Eagle Rd, Bend, OR 97701 Phone: 541-740-6669		
WOOD DUCK CT BRIDGE REPLACEMENT		
NEW BRIDGE		
DESIGNER	DRAFTER	
S. TENNIS	S. TENNIS	
WING WALL DETAILS		SHEET NO. J05



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

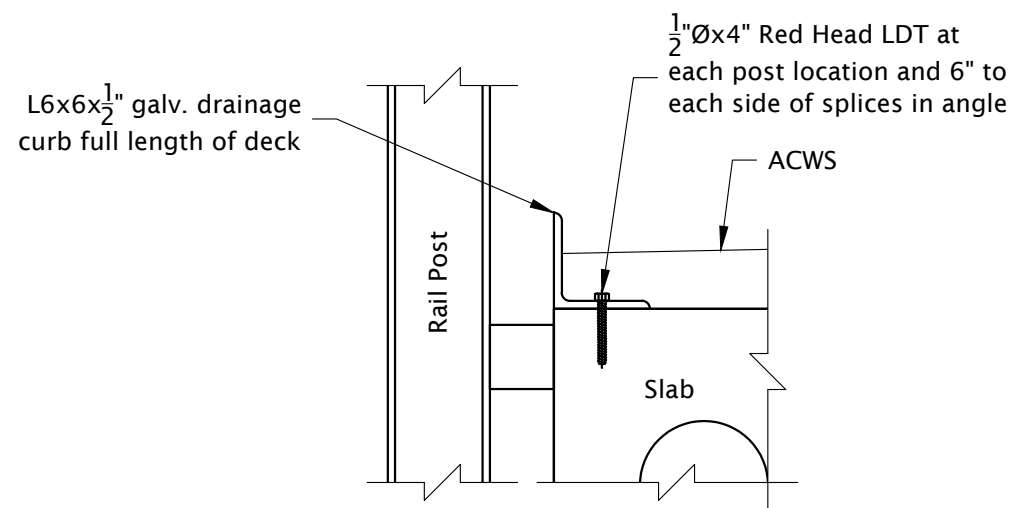
Deck Plan
Scale: 1/8" = 1'-0"

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ORIGINAL DATE 12/20/2024				WOOD DUCK CT BRIDGE REPLACEMENT	
REVISION NUMBER ----				NEW BRIDGE	
REVISION DATE ----				DESIGNER S. TENNIS	
REVISION BY S. TENNIS		DRAFTER S. TENNIS		SHEET NO. J06	
 Measures 1" On Original		EXPIRES: 6/30/2026		DECK PLAN	



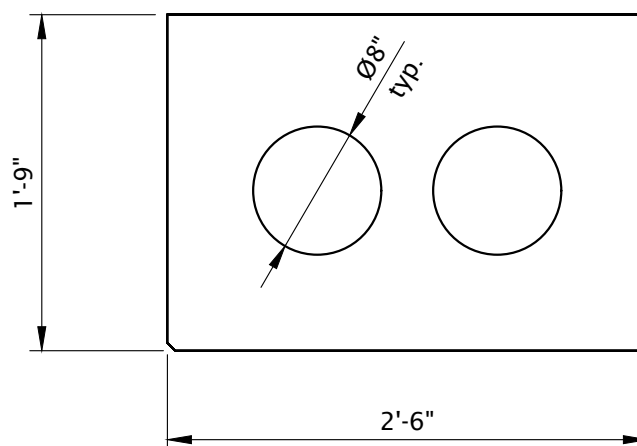
Typical Deck Section

Scale: 3/8" = 1'-0"



Drainage Curb Connection Detail

Scale: 1" = 1'-0"



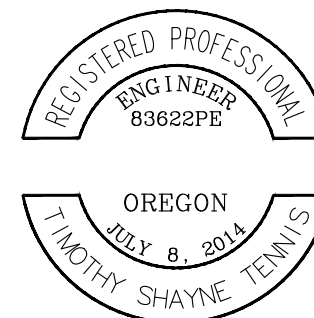
Typical Slab Dimensions

Scale: 1" = 1'-0"

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NEW BRIDGE	
DESIGNER S. TENNIS	DRAFTER S. TENNIS
TYPICAL DECK SECTION	SHEET NO. J07