

CONCRETE RETAINING WALL
STA 40+50 - 43+60
WORLAND STREETS
WEST RIVER ROAD & BIG HORN CANAL

2202016

WASHAKIE COUNTY

ESTIMATED QUANTITIES				
ITEM NO.	ITEM	UNIT	TOTAL QUANTITY	ESTIMATE
209.01000	WATER	MG	125	610.8 CY 65,230 LB
212.02100	DRY EXCAVATION	CY	6550	
212.02200	WET EXCAVATION	CY	490	
301.01020	CRUSHER RUN SUBBASE	TON	8032	
513.00005	CLASS A CONCRETE	LS	LUMP SUM	
514.00015	REINFORCING STEEL	LS	LUMP SUM	
900.60000	CONTRACTOR QUALITY CONTROL (CONCRETE)	LS	LUMP SUM	

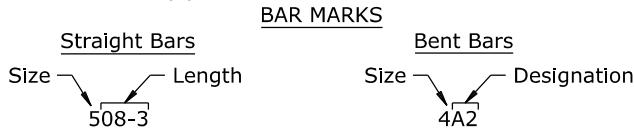
DESIGN DATA

SPECIFICATIONS: AASHTO LRFD Bridge Design Specifications, 8th Edition.
REINFORCED CONCRETE: Load and Resistance Factor Design -
Class A Concrete $f'_c = 4000$ psi
Reinforcing Steel $f_y = 60,000$ psi (Grade 60)

RETAINING WALL DESIGN DATA							
Foundation Material					Retained Soil		
ϕ	μ	γ	q_R	q_{max}	ϕ	γ	c
39°	0.81	120 pcf	0.0 tsf	0.0 tsf	26°	85 pcf	0 pcf

GENERAL NOTES

SPECIFICATIONS: WYDOT Standard Specifications for Road and Bridge Construction, 2010 Edition.
DIMENSIONS: Longitudinal dimensions are horizontal and include no correction for grade. Slopes are vertical : horizontal.
REINFORCING STEEL: Ensure reinforcing steel conforms to ASTM A 615 (Grade 60) for all bars, including ties and stirrups. Concrete cover to face of reinforcing steel is 2" unless noted. Dimensions for bent bars are out to out. Ensure bars marked with an asterisk (*) are coated.



PREFORMED EXPANSION JOINT FILLER: Work necessary for the preformed expansion joint filler is incidental to the contract pay item Class A Concrete.
WATERSTOP: Work necessary for the waterstop is incidental to the contract pay item Class A Concrete.

CRUSHER RUN SUBBASE: Use crusher run subbase conforming to grading J from a contractor furnished source. Compact the crushed base in accordance with Subsection 301.4.2.3, Placing.
WATER: The estimated quantity of water for compaction of crushed base is 0.014 MG per ton.
DRY EXCAVATION: The estimated quantity of dry excavation is calculated below existing ground line to Elev 4072.0. Dry excavation will be paid to actual ground water elevation.
WET EXCAVATION: The estimated quantity of wet excavation is calculated below Elev 4072.0. Wet excavation will be paid below actual ground water elevation.
FOUNDATIONS: The retaining wall is on a footing founded on dense sand and gravel.
TEMPORARY SHORING: Use a temporary excavation or shoring system located outside the neat lines of excavation shown to prevent sloughing or sliding of material. Submit excavation and shoring details to the engineer before beginning excavation. Work necessary for temporary shoring is incidental to the contract pay items Dry Excavation and Wet Excavation.

REFERENCES

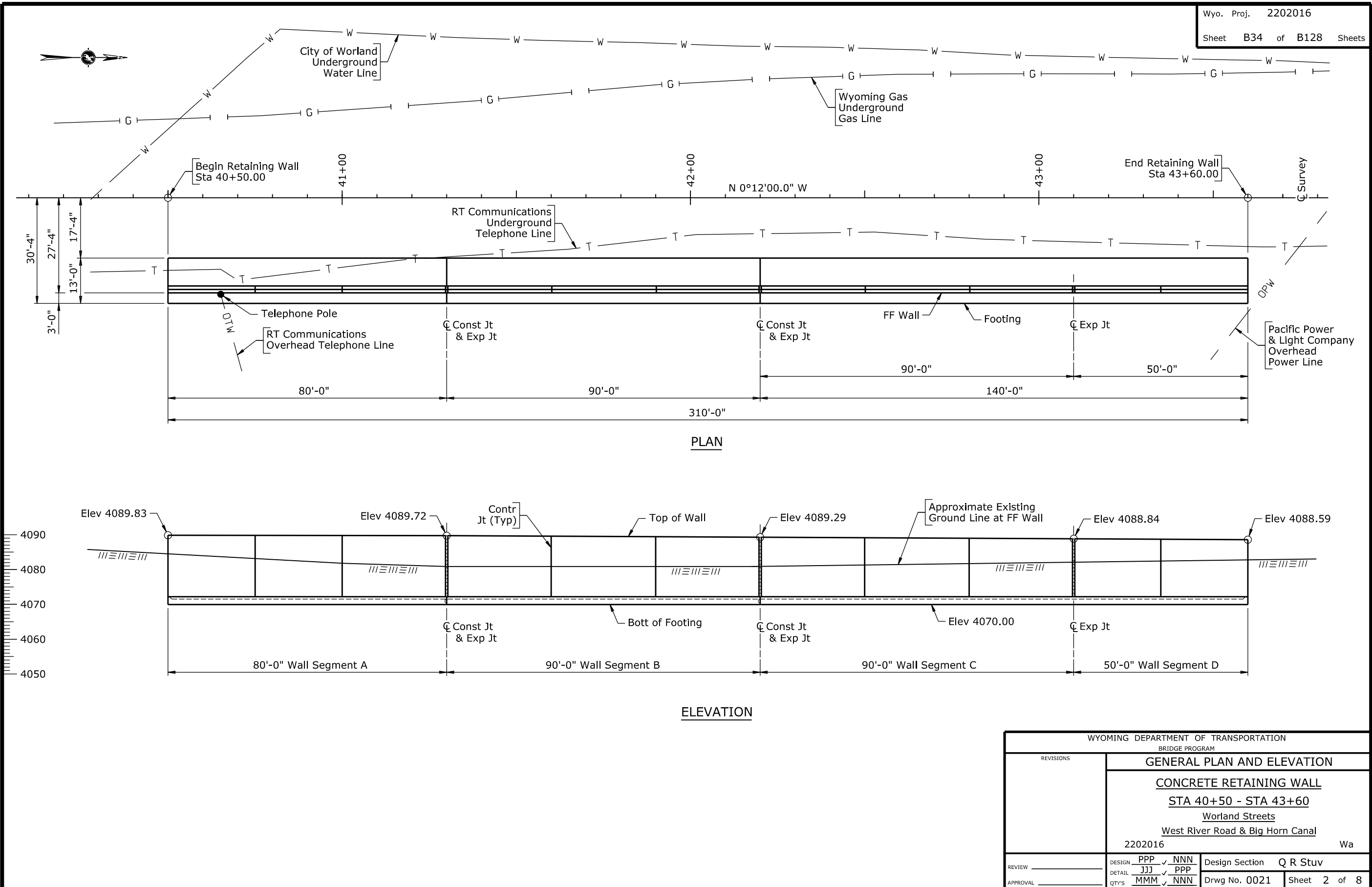
Supplementary Specifications:
SS-100K Adjustment for Structural Steel
SS-500G Structural Concrete with Quality Control and Quality Acceptance

STRUCTURE NO. M-LVH-W
ML2202B, RM 0.61
SEC 26, T47N, R93W

WYOMING DEPARTMENT OF TRANSPORTATION			
BRIDGE PROGRAM			
REVISIONS			
REVIEW _____	DESIGN _____	Design Section Q R Stuv	
DETAIL _____	DETAIL JJJ ✓	PPP	
APPROVAL _____	QTY'S _____	Drwg No. 0021	Sheet 1 of 8

Nov 2018

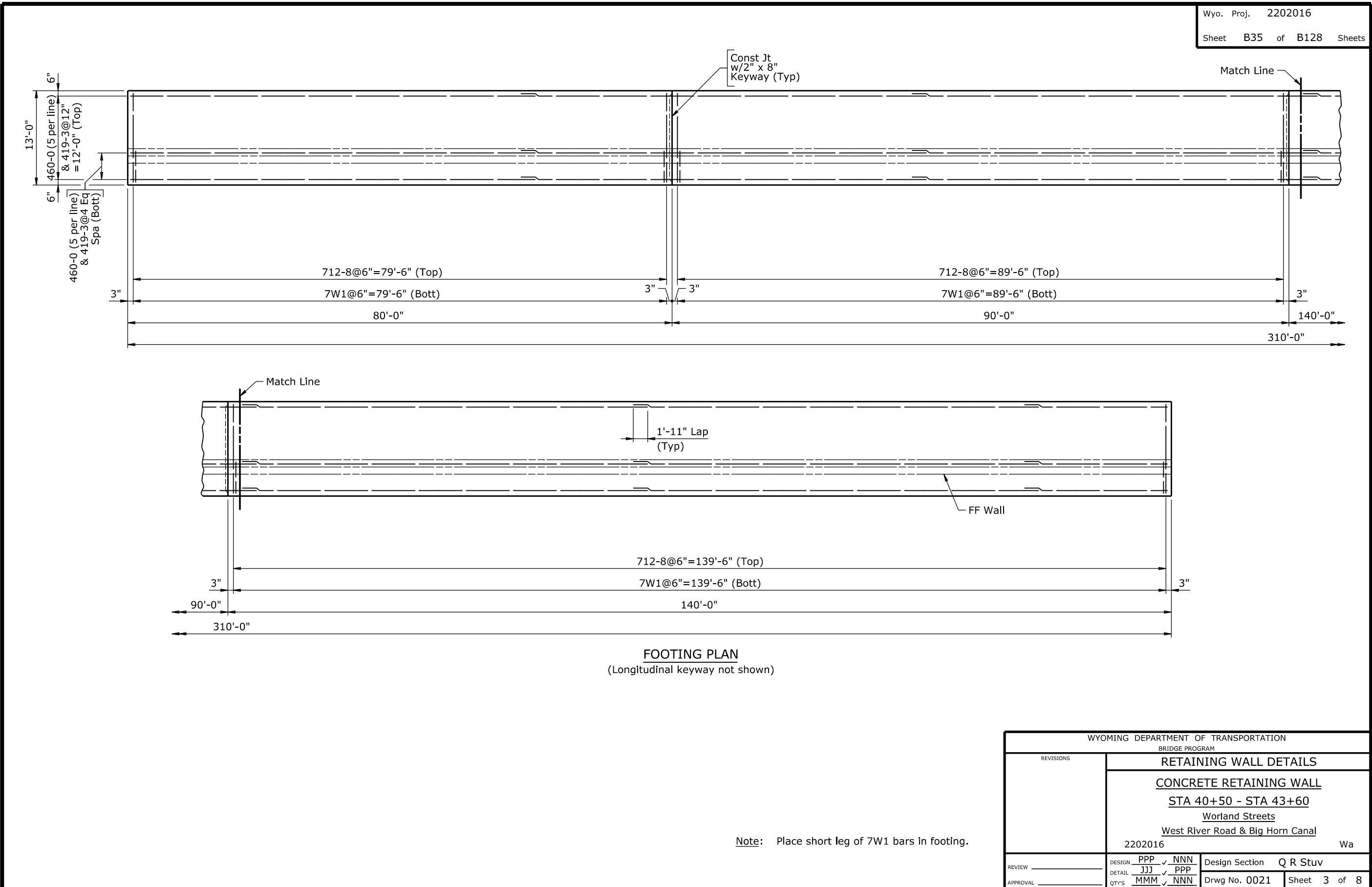
4.21 - Example



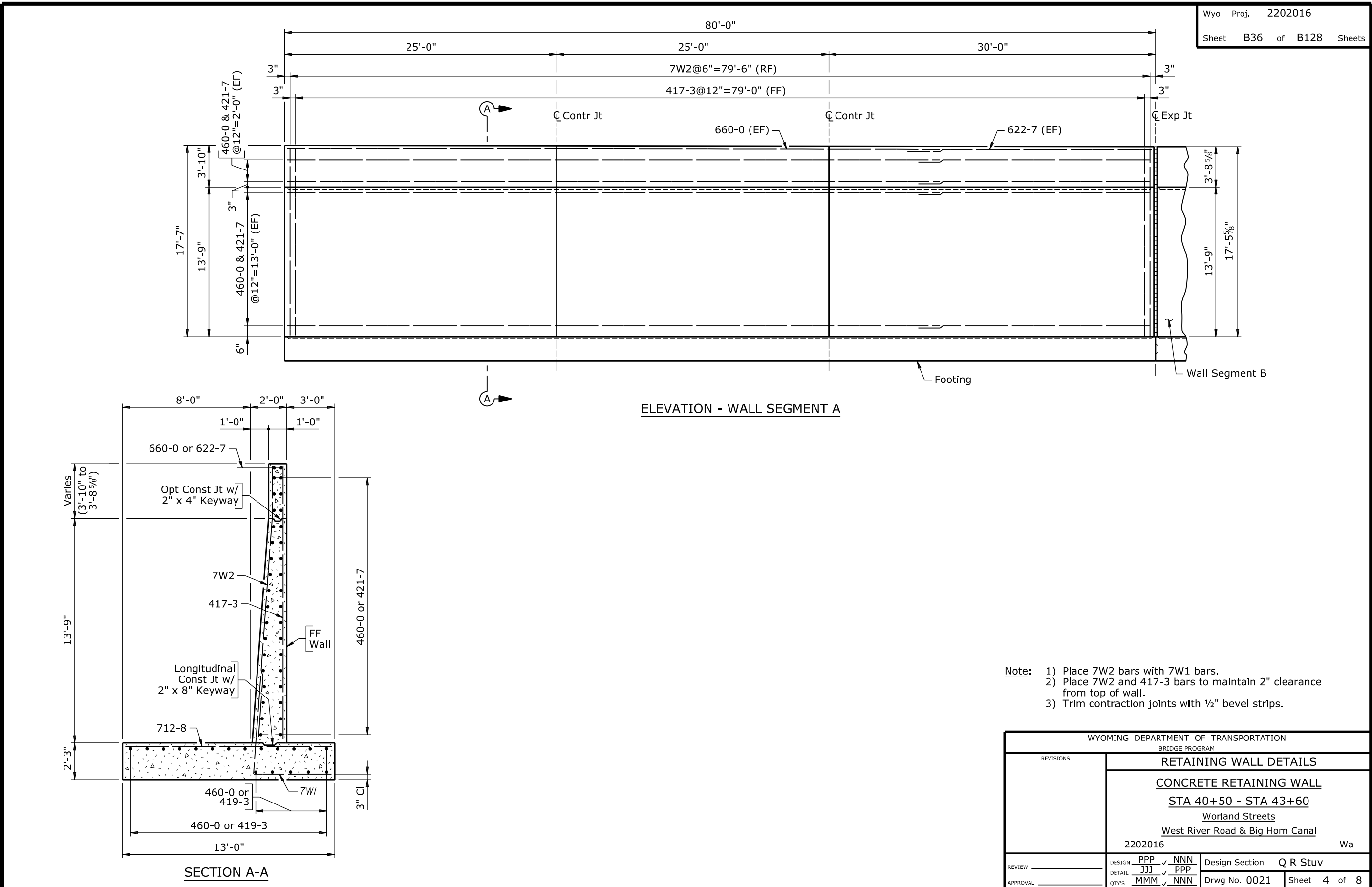
Section 4.21 - Earth Retaining Structures

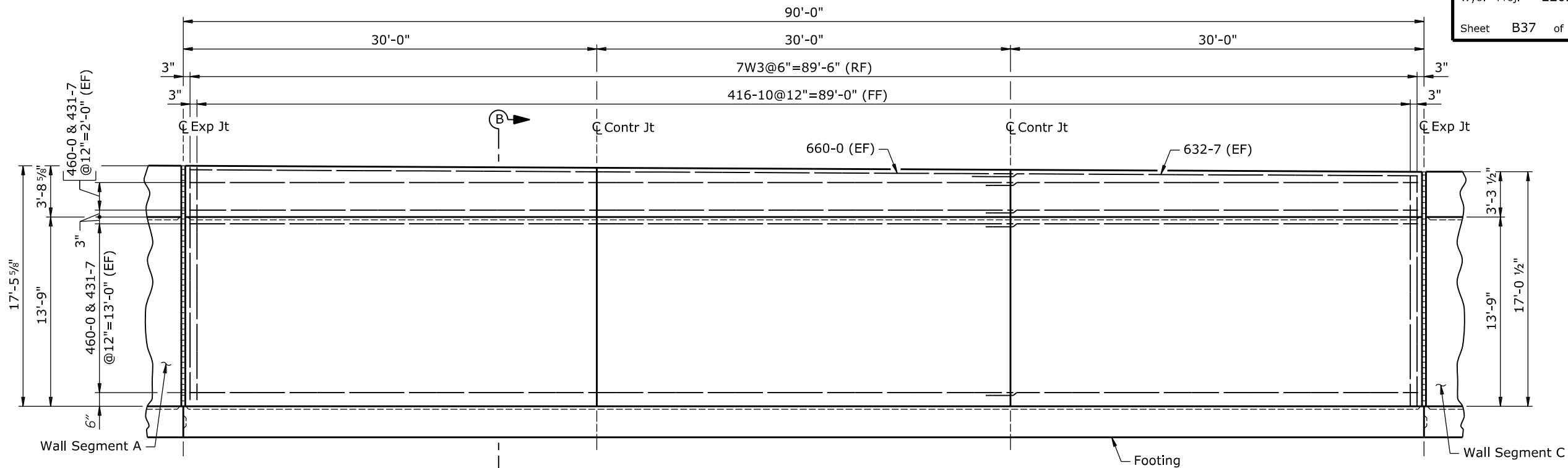
Nov 2018

4.21 - Example

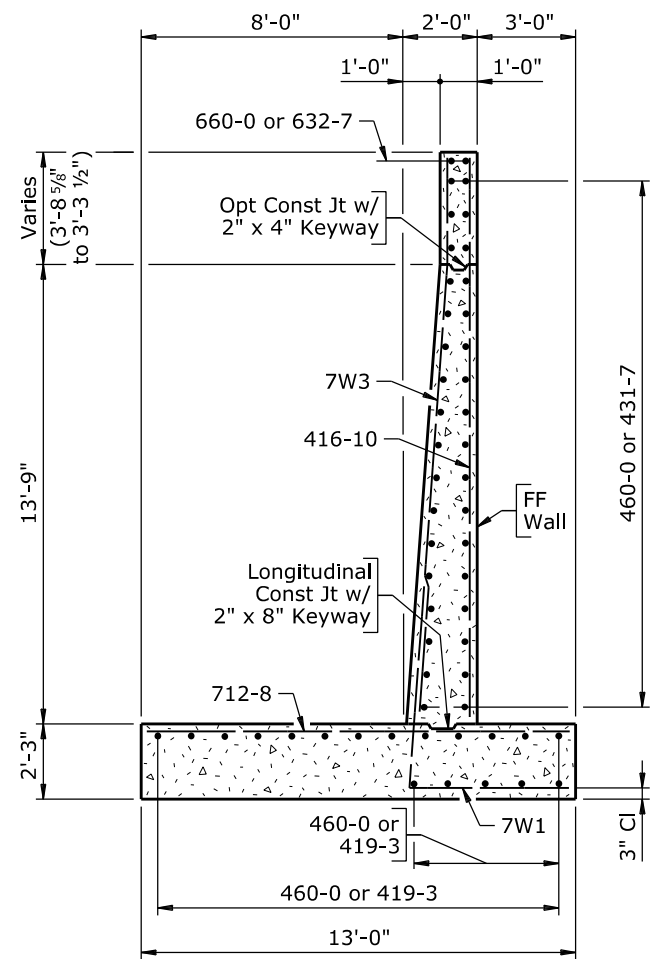


Section 4.21 - Earth Retaining Structures





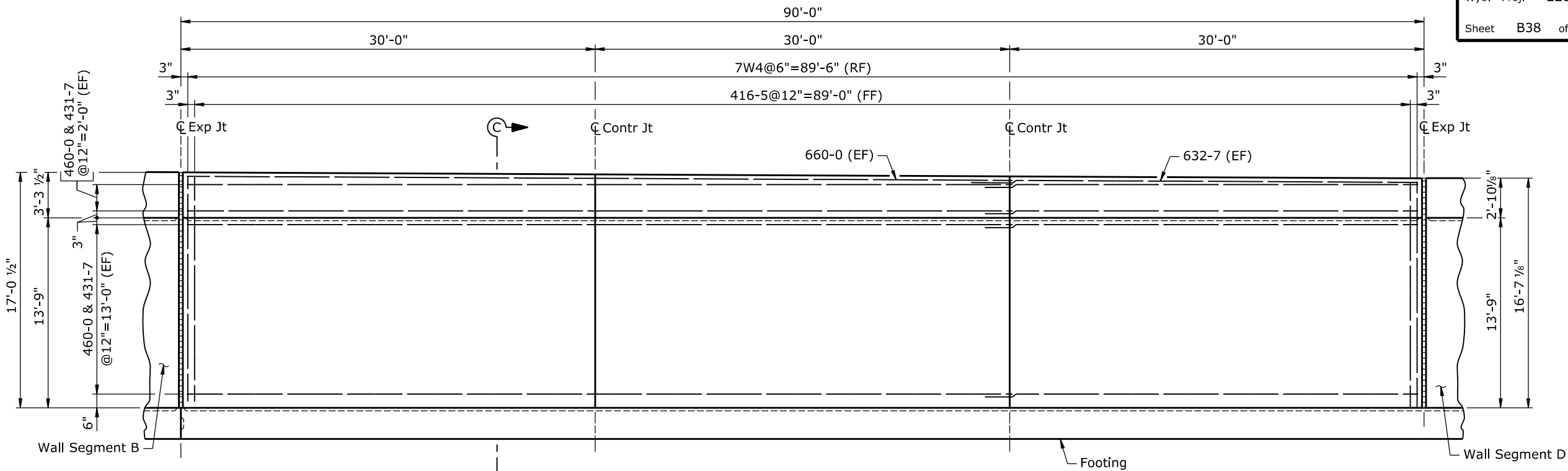
ELEVATION - WALL SEGMENT B



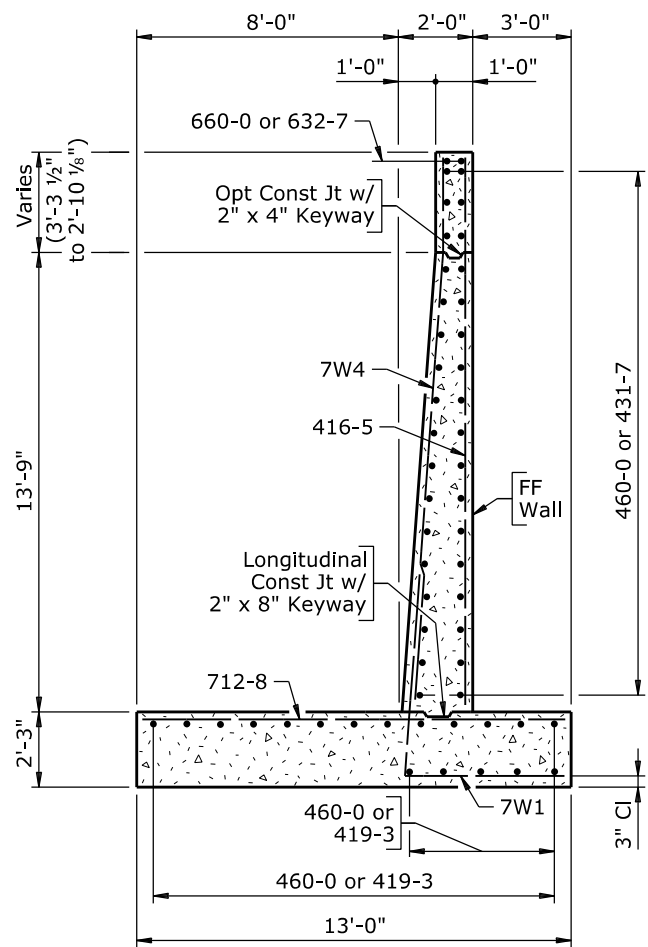
SECTION B-B

- Note:
- 1) Place 7W3 bars with 7W1 bars.
 - 2) Place 7W3 and 416-10 bars to maintain 2" clearance from top of wall.
 - 3) Trim contraction joints with 1/2" bevel strips.

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BRIDGE PROGRAM			
REVISIONS		RETAINING WALL DETAILS	
		CONCRETE RETAINING WALL	
		STA 40+50 - STA 43+60	
		Worland Streets	
		West River Road & Big Horn Canal	
		2202016	
		Wa	
REVIEW	DESIGN	PPP	NNN
DETAIL	PPP	PPP	PPP
QTY'S	MMM	NNN	NNN
		Design Section	Q R Stuv
		Drwg No. 0021	Sheet 5 of 8



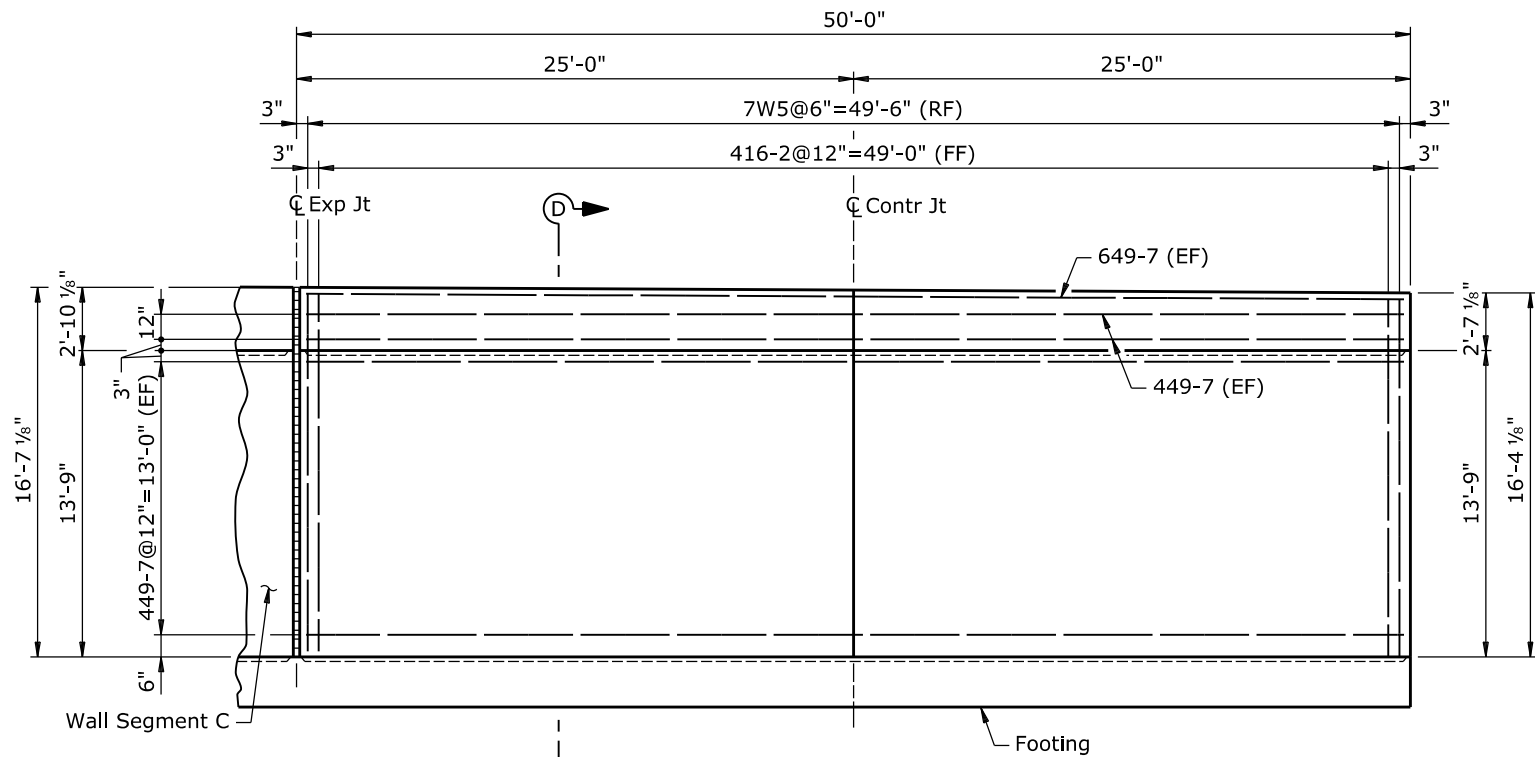
ELEVATION - WALL SEGMENT C



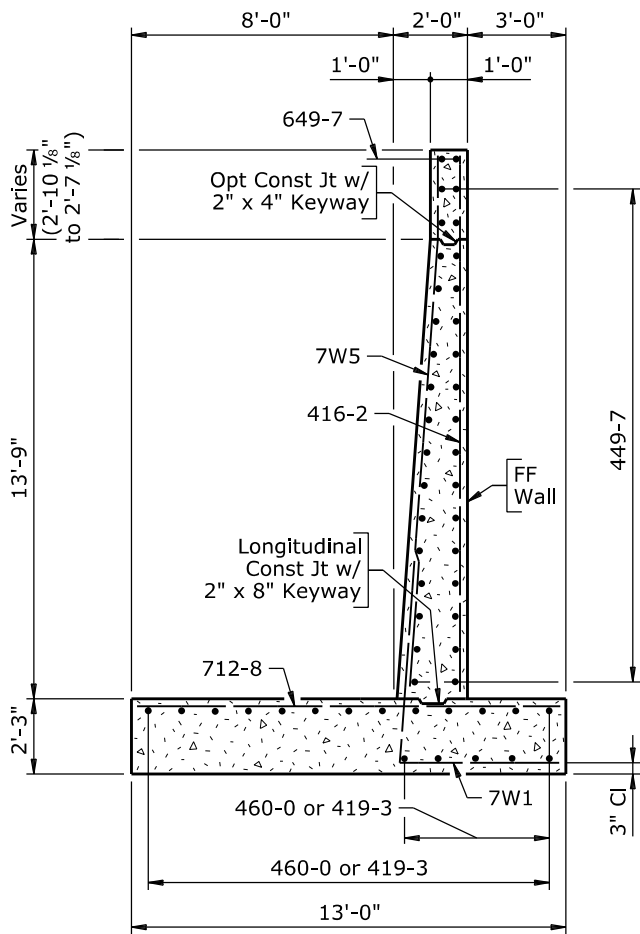
SECTION C-C

- Note:
- 1) Place 7W4 bars with 7W1 bars.
 - 2) Place 7W4 and 416-5 bars to maintain 2" clearance from top of wall.
 - 3) Trim contraction joints with 1/2" bevel strips.

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	<u>West River Road & Big Horn Canal</u>			
	2202016			Wa
REVIEW _____	DESIGN	PPP ✓	NNN	Design Section Q R Stuv
	DETAIL	JJJ ✓	PPP	
APPROVAL _____	QTY'S	MMM	NNN	
		Drwg No. 0021		Sheet 6 of 8



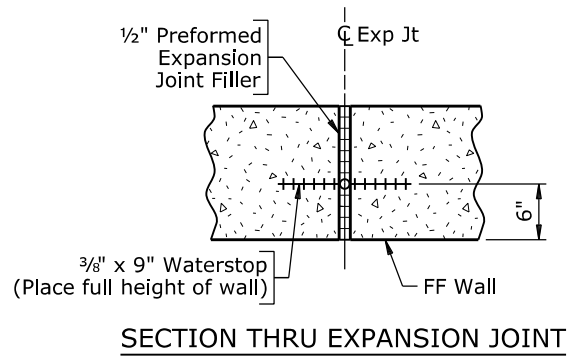
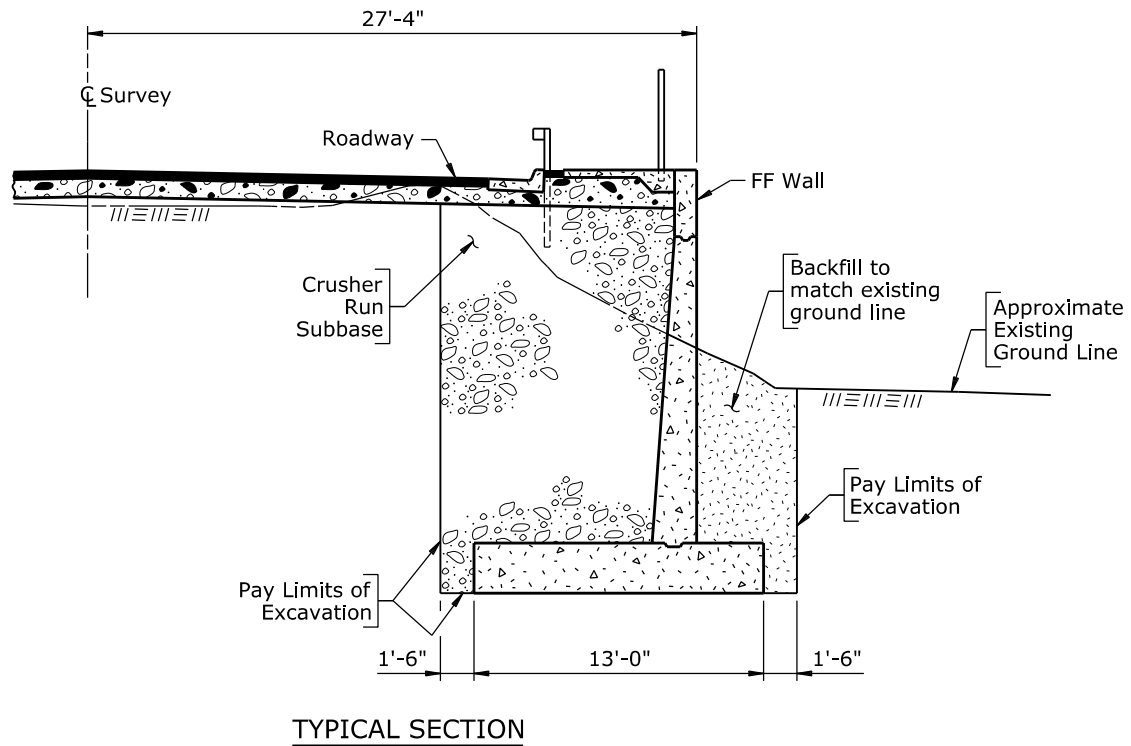
ELEVATION - WALL SEGMENT D



SECTION D-D

- Note:
- 1) Place 7W5 bars with 7W1 bars.
 - 2) Place 7W5 and 416-2 bars to maintain 2" clearance from top of wall.
 - 3) Trim contraction joints with 1/2" bevel strips.

WYOMING DEPARTMENT OF TRANSPORTATION BRIDGE PROGRAM			
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		Worland Streets	
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		2202016	Wa
DESIGN	PPP ✓ NNN	Design Section	Q R Stuv
DETAIL	JJJ ✓ PPP	Drwg No. 0021	Sheet 7 of 8
APPROVAL	MMM ✓ NNN		



BILL OF REINFORCEMENT			
Location	Mark	Number Required	Bending Diagrams
Footing	419-3	18	
	460-0	90	
	7W1	620	
	712-8	620	
	Weight	32,458 LB	
Wall	416-2	50	
	416-5	90	
	416-10	90	
	417-3	80	
	421-7	34	
	431-7	68	
	449-7	32	
	460-0	102	
	622-7	2	
	632-7	4	
	649-7	2	
	660-0	6	
	7W2	160	
	7W3	180	
	7W4	100	
	Weight	32,772 LB	

Note: The estimated quantity of class A concrete for footing is 335.8 CY. The estimated quantity of class A concrete for wall is 275.0 CY.

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REVIEW _____	DESIGN	PPP ✓	NNN ✓	Design Section Q R Stuv
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APPROVAL _____	QTY'S	MMM ✓	NNN ✓	Drwg No. 0021 Sheet 8 of 8