Wyo. Proj. **N202050**

Sheet of Sheets

DOUBLE BARREL 9'-0" X 9'-0" CONCRETE BOX CULVERT EXTENSION

STA 112+54

LANDER - HUDSON ROAD

P-20 (WY 789)

N202050

FREMONT COUNTY

PRELIMINARY

	ESTIMATED QUANTITIES - CODE 13					
ITEM NO.	ITEM	UNIT	TOTAL QUANTITY	ESTIMATE		
206.03300	CULVERT SUBEXCAVATION	CY	X			
212.03900	PERVIOUS BACKFILL MATERIAL	CY	X			
217.01010	GEOTEXTILE, EROSION CONTROL	SY	Х			
217.01020	GEOTEXTILE, MATERIAL SEPARATION (WOVEN)	SY	X			
301.01020	CRUSHER RUN SUBBASE	TON	X			
511.02000	GABIONS	SY	Х			
513.00005	CLASS A CONCRETE	LS	LUMP SUM	X CY		
514.00015	REINFORCING STEEL	LS	LUMP SUM	X LB		
900.60000	CONTRACTOR QUALITY CONTROL (CONCRETE)	LS	LUMP SUM			

DESIGN DATA

SPECIFICATIONS: AASHTO LRFD Bridge Design Specifications,

8th Edition.

ADT: 3500 (Year 2005)

LOADING:

Live Load: HL93

Lateral live load surcharge: 2 ft earth or 72 psf

Dead Load: Design fill: 7.0 ft

Vertical earth pressure: 120 pcf Lateral earth pressure: 72 pcf

REINFORCED CONCRETE: Load and Resistance Factor Design -

Class A Concrete $f'_c = 4000 \text{ psi}$

Reinforcing Steel $f_y = 60,000 \text{ psi (Grade 60)}$

APPROACH ROADWAY WIDTH: 72'-0"

STRUCTURE NO. M-OTT-C ML20B, RM 83.22

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	BRID	GE PROGRAM	1			
	F	REVISIONS				
REVIEW	DESIGN	Des	sign Section (R Stuv		
APPROVAL	QTY'S		wg No. P-000 8	Sheet	1 of	3

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Preliminary

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Wyo. Proj. N202050

Sheet of Sheets

REFERENCES

WYDOT Plans: Sheet No. Bridge Drwg No. 2579 ----- 1 & 2 of 2

Supplementary Specifications:

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

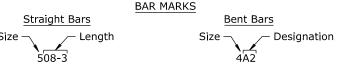
Standard Plans:

206-1A Culvert and Trench Excavation 511-1A Wire Enclosed Riprap and Gabions $\underline{\sf SPECIFICATIONS} :$ WYDOT Standard Specifications for Road and Bridge Construction, 2010 Edition.

<u>DIMENSIONS</u>: Longitudinal dimensions are along flow line. Slopes are vertical: horizontal.

<u>LINE STYLE DESIGNATION</u>: Phantom lines indicate existing structure, solid lines indicate new construction, hatched areas indicate removal.

<u>REINFORCING STEEL</u>: 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.



<u>EYEBOLTS</u>: Use galvanized bar conforming to ASTM A 709 (Grade 36). Work necessary for the eyebolts is incidental to the contract pay item Class A Concrete.

<u>WEEP HOLE ASSEMBLIES</u>: Work necessary for the weep hole assemblies is incidental to the contract pay item Class A Concrete.

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

REMOVAL OF CONCRETE: Thoroughly clean concrete from reinforcing steel to remain in place and straighten as required. Remove and replace damaged reinforcing steel with the same size bar and weld-splice or mechanically splice where necessary at no additional cost to the department. Work necessary for removal of concrete is incidental to the contract pay item Class A Concrete.

<u>CULVERT EXCAVATION</u>: The estimated quantity of culvert excavation is 40 CY and is incidental to the contract pay item, Class A Concrete.

GENERAL NOTES

<u>CULVERT SUBEXCAVATION</u>: The bottom limits of culvert subexcavation is 3'-0" below the bottom of the culvert. Line the bottom of the culvert subexcavation with geotextile material separation. Backfill with crusher run subbase conforming to grading J. The estimated quantity of culvert subexcavation is calculated in accordance with Stanard Plan 206-1, Culvert and Trench Excavation.

ADHESIVE ANCHORAGE SYSTEM: Use one of the following products:

CIA-GEL 6000-GP as manufactured by MiTek USA, Inc.

Red Head C6+ as manufactured by ITW Commercial Construction

Sure Anchor I J-51 as manufactured by Dayton Superior

HIT-RE 500 V3 as manufactured by Hilti, Inc.

Drill and prepare holes and install the reinforcing steel in accordance with the adhesive system manufacturer's recommendations to provide a pullout strength of equal or greater capacity to the reinfoecing steel. Work necessary for the adhesive anchorage system is incidental to the contract pay item Reinforcing Steel.

EPOXY RESIN BONDING COMPOUND: Clean the roughened surfaces of the existing concrete and coat with epoxy resin bonding compound. If the bonding compound gels before concrete placement, remove by sandblasting and reapply. Use bonding compound conforming to Subsection 810.6, Epoxy Resin. Mix and apply in accordance with the manufacturer's recommendations. Work necessary for the epoxy resin bonding compound is incidental to the contract pay item Class A Concrete.

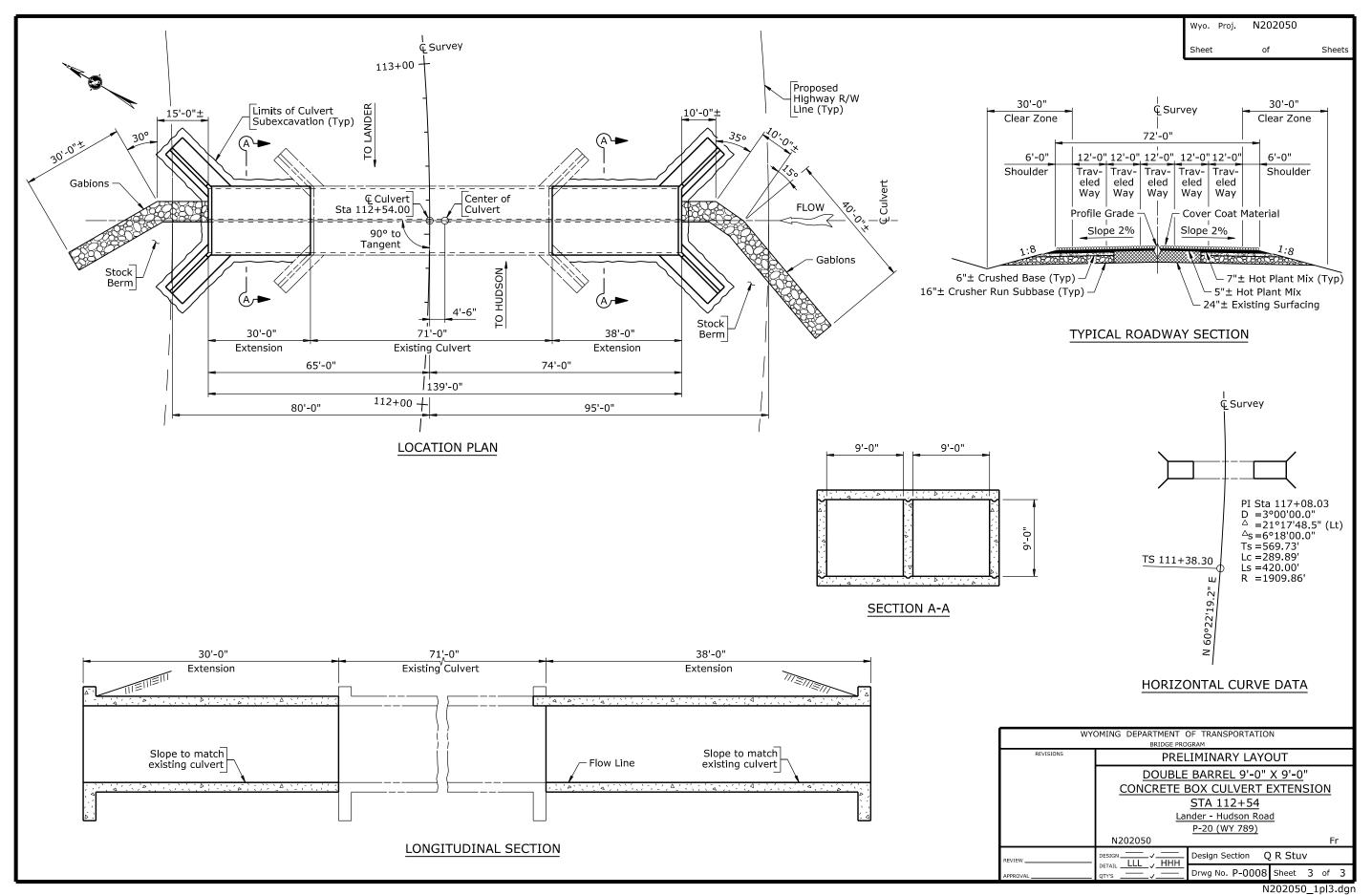
<u>CULVERT CLEANING</u>: Clean the east barrel of the existing culvert in accordance with the road plans.

CULVERT BOTTOM BACKFILL: Backfill the bottom of the west barrel, along with the inlet and outlet areas behind the gabions, with 1'-0"± of excavated material from the adjacent highway embankment. Work necessary for backfilling is incidental to the contract pay item Class A Concrete.

WYOMING DEPARTMENT OF TRANSPORTATION BRIDGE PROGRAM						
REVISIONS	PRELIMINARY GENERAL NOTES					
	DOUBLE	BARREL 9'-0"	X 9'-0"			
CONCRETE BOX CULVERT EXTENSION						
	STA 112+54					
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		P-20 (WY 789)				
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REVIEW	DESIGN	Design Section C	R Stuv			
APPROVAL	OTY'S — / —	Drwg No. P-0008	Sheet 2	of 3		

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Example



Wyo Proj N202050

Sheet B1 of B25 Sheets

DOUBLE BARREL 9'-0" X 9'-0" CONCRETE BOX CULVERT EXTENSION

STA 112+54

LANDER - HUDSON ROAD

P-20 (WY 789)

N202050

FREMONT COUNTY

ESTIMATED QUANTITIES - CODE 13					
ITEM NO.	ITEM	UNIT	TOTAL QUANTITY	ESTIMATE	
206.03300	CULVERT SUBEXCAVATION	CY	360		
212.03900	PERVIOUS BACKFILL MATERIAL	CY	10		
217.01010	GEOTEXTILE, EROSION CONTROL	SY	80		
217.01020	GEOTEXTILE, MATERIAL SEPARATION (WOVEN)	SY	350		
301.01020	CRUSHER RUN SUBBASE	TON	713		
511.02000	GABIONS	SY	70		
513.00005	CLASS A CONCRETE	LS	LUMP SUM	172.8 CY	
514.00015	REINFORCING STEEL	LS	LUMP SUM	20,630 LB	
900.60000	CONTRACTOR QUALITY CONTROL (CONCRETE)	LS	LUMP SUM		

DESIGN DATA

SPECIFICATIONS: AASHTO LRFD Bridge Design Specifications,

8th Edition.

ADT: 3500 (Year 2005)

LOADING:

Live Load: HL93

Lateral live load surcharge: 2 ft earth or 72 psf

Dead Load: Design fill: 7.0 ft

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Reinforcing Steel $f_v = 60,000 \text{ psi (Grade 60)}$

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STRUCTURE NO. M-OTT-C ML20B, RM 83.22

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		BRIDGE PRO	OGRAM			
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REVIEW	DESIGN	 	Design Section (R Stuv		
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APPROVAL	QTY'S		Drwg No. 0008	Sheet 1	of	ь

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General Note

Wyo. Proj. N202050
Sheet B2 of B25 Sheets

REFERENCES

WYDOT Plans: Sheet No. Bridge Drwg No. 2579 ----- 1 & 2 of 2

Supplementary Specifications:

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<u>WEEP HOLE ASSEMBLIES</u>: Work necessary for the weep hole assemblies is incidental to the contract pay item Class A Concrete.

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

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<u>CULVERT EXCAVATION</u>: The estimated quantity of culvert excavation is 40 CY and is incidental to the contract pay item, Class A Concrete.

GENERAL NOTES

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<u>CULVERT CLEANING</u>: Clean the east barrel of the existing culvert in accordance with the road plans.

CULVERT BOTTOM BACKFILL: Backfill the bottom of the west barrel, along with the inlet and outlet areas behind the gabions, with 1'-0"± of excavated material from the adjacent highway embankment. Work necessary for backfilling is incidental to the contract pay item Class A Concrete.

WYOMING DEPARTMENT OF TRANSPORTATION BRIDGE PROGRAM						
	BRIDGE PRO	GRAM				
REVISIONS	GENERAL NOTES					
	DOUBLE	BARREL 9'-0"	X 9'-0"			
	CONCRETE BOX CULVERT EXTENSION					
	STA 112+54					
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	P-20 (WY 789)					
	N202050					
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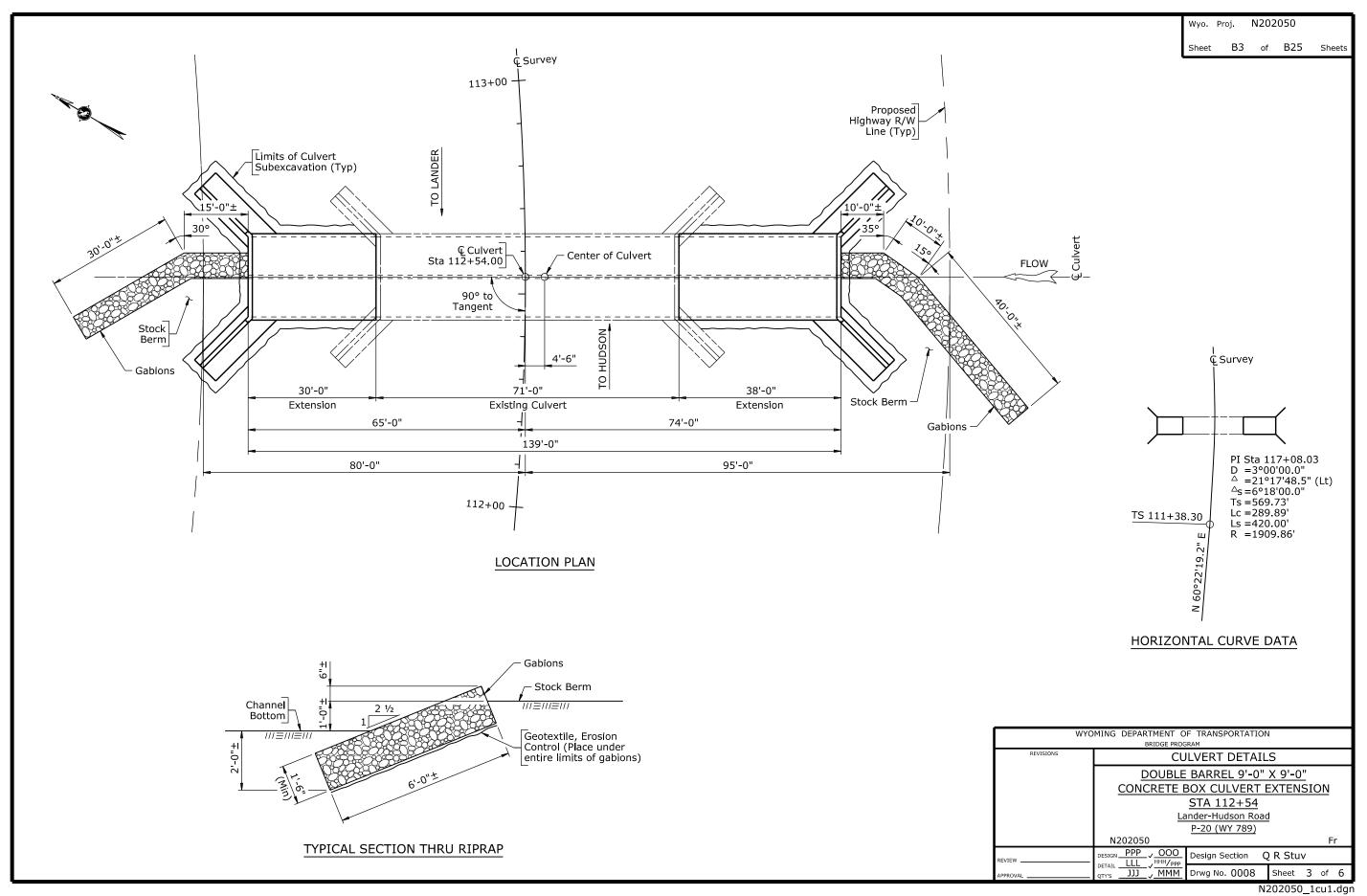
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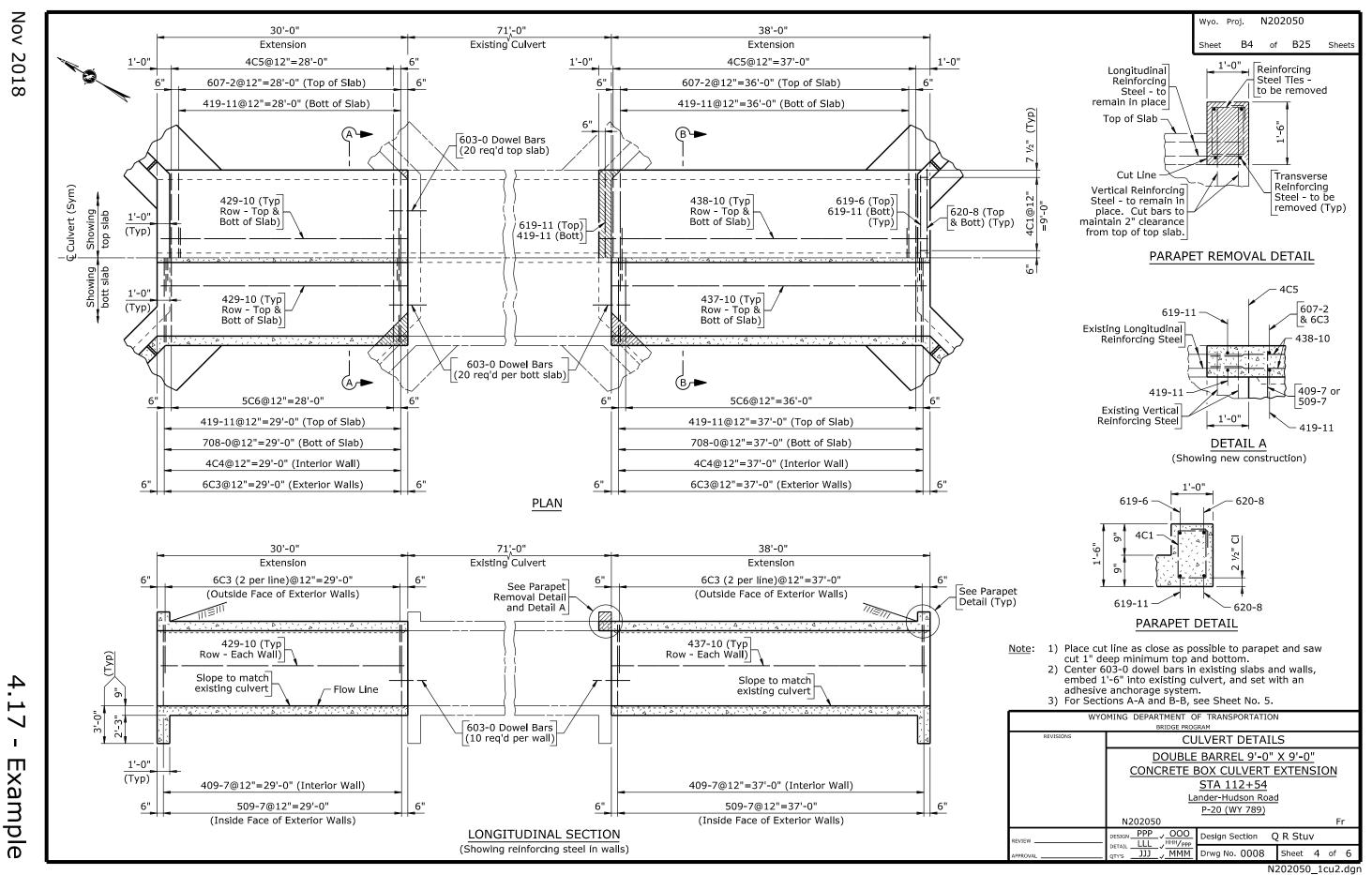
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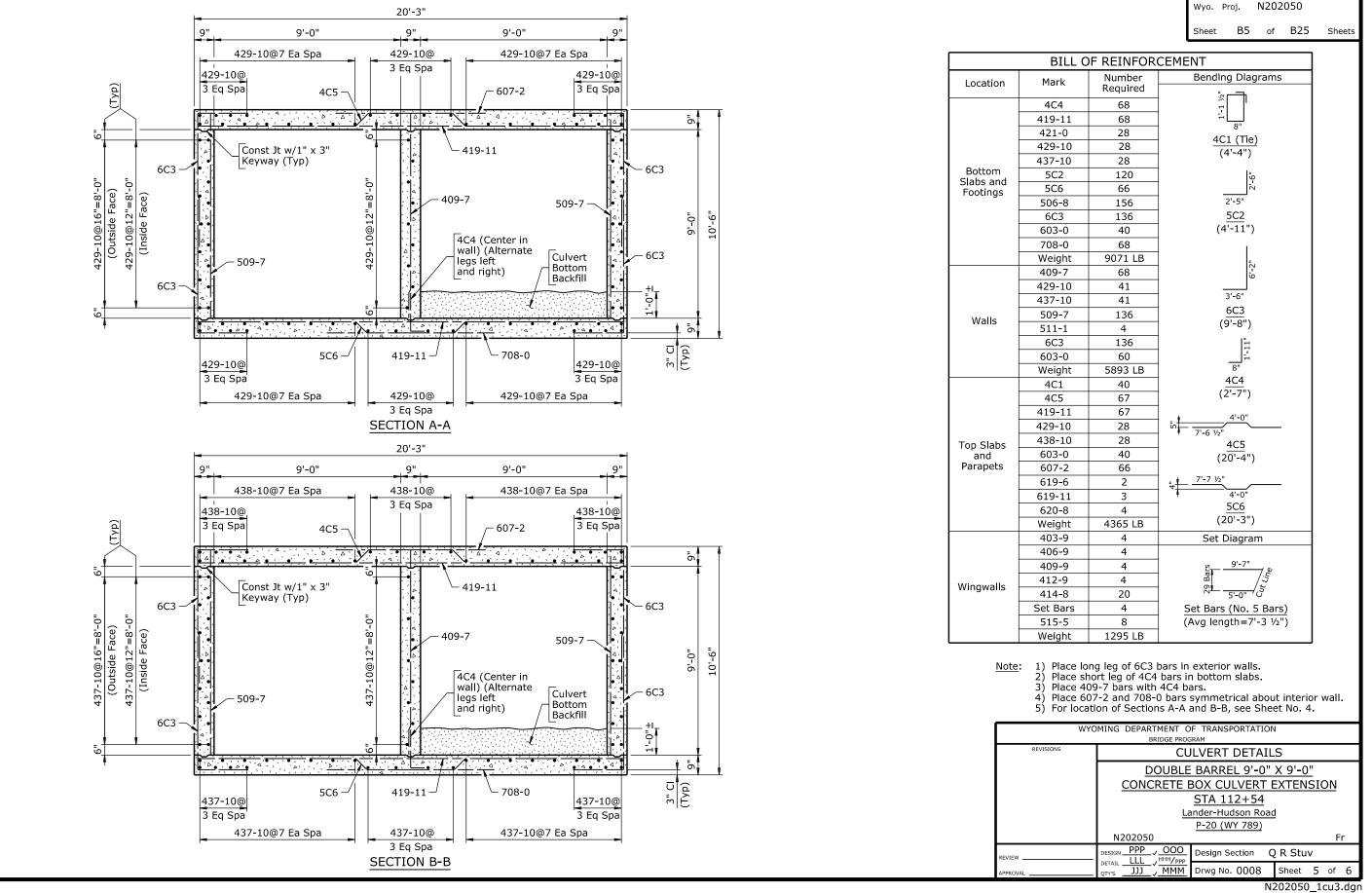
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