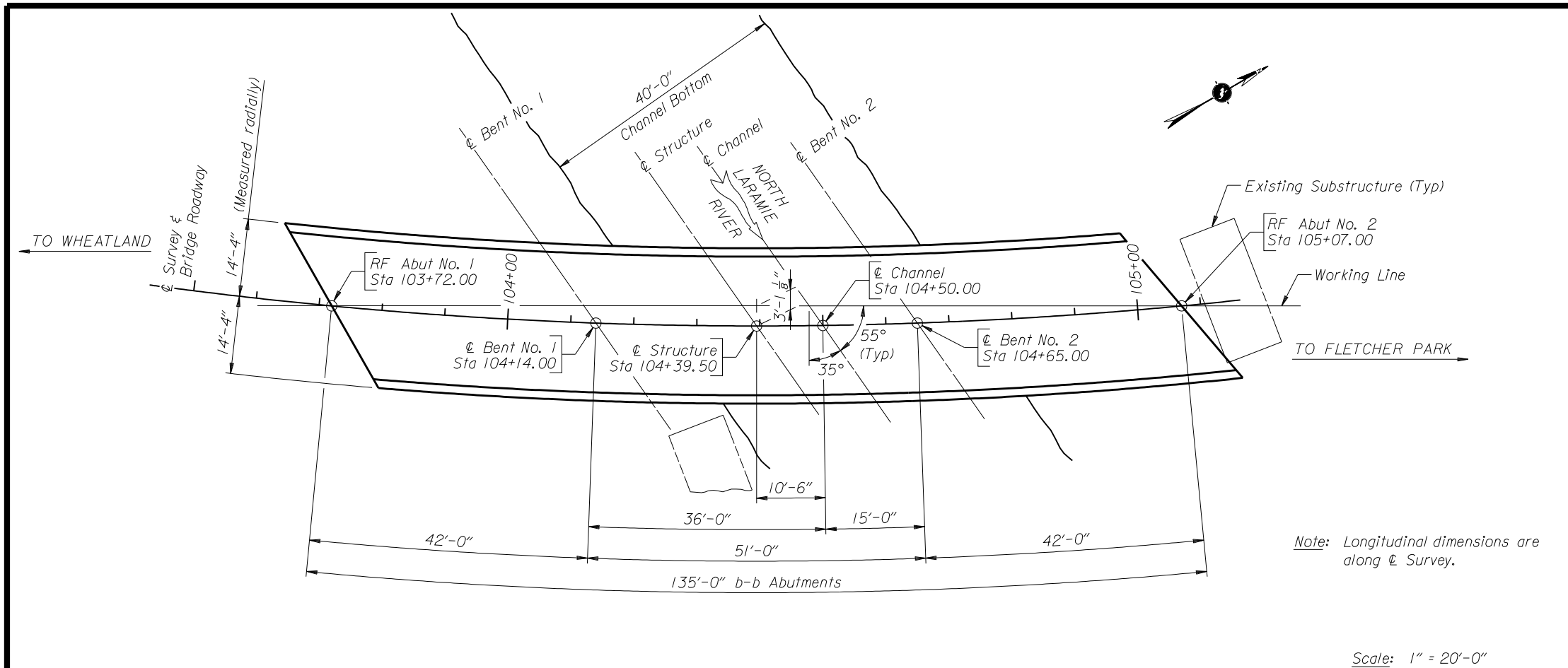


Dec 2008

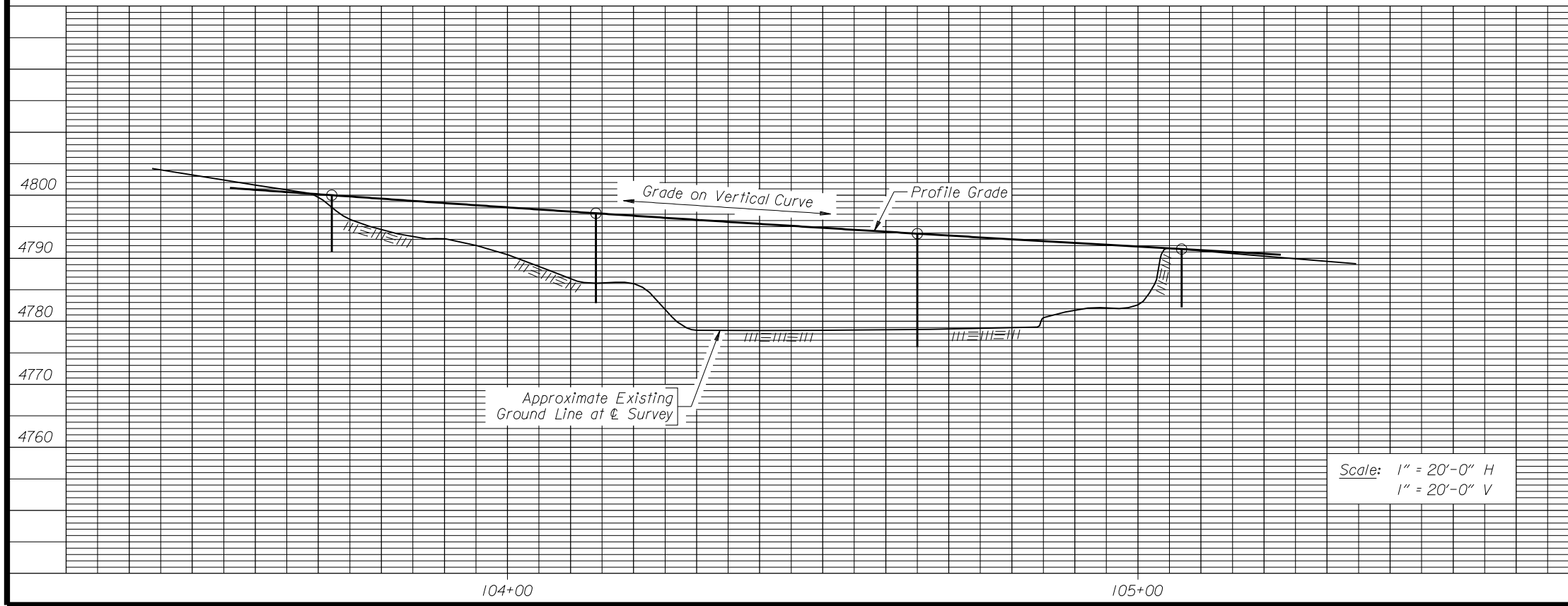


GEOLOGY

Geologist: _____
 Rig: _____
 Project Geologist: _____
 Date Drilled: _____
 Driller: _____

Circulation Medium	
Air	
Water	
Auger	

Remarks: Obtain alkali sample.



LAYOUT APPROVAL

State Bridge Engineer _____ Date _____

WYOMING DEPARTMENT OF TRANSPORTATION
 BRIDGE PROGRAM
 PRELIMINARY GEOLOGY LAYOUT
 BRIDGE OVER NORTH LARAMIE RIVER
 STA 104+50
 Fletcher Park Road
 0800005 PI

DESIGN: _____
 DETAIL: BBB / EEE
 O'S: _____

Design Section L M Nop
 Drwg. No. _____ Sheet 1 of 1

4.01 - Example

Section 4.01 - Preliminary

BRIDGE OVER NORTH LARAMIE RIVER

STA 104 + 44

FLETCHER PARK ROAD

0800005

PLATTE COUNTY

PRELIMINARY

DESIGN DATA

SPECIFICATIONS: AASHTO Standard Specifications for Highway Bridges, 17th Edition

ADT: 50 (Year 2013)

LOADING: HS25. Future wearing surface 18 psf. Stay-in-place forms 15 psf.

REINFORCED CONCRETE: Load Factor Design -
 Class A Concrete $f'_c = 3750$ psi
 Class B Concrete $f'_c = 3250$ psi
 Reinforcing Steel $f_y = 60,000$ psi (Grade 60)
 $f_y = 40,000$ psi (Grade 40)

STRUCTURAL STEEL: Load Factor Design -
 $F_y = 50,000$ psi (Grade 50W)

APPROACH ROADWAY WIDTH: 25'-4"

FOOTING PRESSURE: Allowable Stress -
 Abutment No. 1, X Tsf

PILE LOADS: Allowable Stress -
 Abutment No. 2, X T per pile
 Bents, X T per pile

BEARING LOADS: Bents -
 Service Dead Load = X kips
 Service Live Load = X kips

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Log Boring Sheet -----	6
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Abutment No. 2 Details -----	8
Bent No. 1 Details -----	9
Bent No. 2 Details -----	10
Superstructure Details -----	11-13
Bridge Railing Details -----	14-15
Slab Details -----	16-17
References -----	BX-BX

ESTIMATED QUANTITIES - CODE II-DQQ				
ITEM NO.	ITEM	UNIT	TOTAL QUANTITY	ESTIMATE
202.03210	REMOVAL OF STEEL BRIDGES	EA	X	
212.02100	DRY EXCAVATION	CY	X	
212.03900	PERVIOUS BACKFILL MATERIAL	CY	X	
217.01010	GEOTEXTILE, EROSION CONTROL	SY	X	
501.01000	STRUCTURAL STEEL	LS	LUMP SUM	X LB
503.01000	BRIDGE RAILING	FT	X	
504.04000	PREDRILLED HOLES	FT	X	
504.04010	PILE SPLICES	EA	X	
504.11042	STEEL PILING HP 10 X 42	FT	X	
504.11473	STEEL PILING HP 14 X 73	FT	X	
511.06000	MACHINE-PLACED RIPRAP	CY	X	
513.00005	CLASS A CONCRETE	LS	LUMP SUM	X CY
513.00015	CLASS B CONCRETE	LS	LUMP SUM	X CY
514.00015	REINFORCING STEEL	LS	LUMP SUM	X LB
514.00025	REINFORCING STEEL (COATED)	LS	LUMP SUM	X LB
900.60000	CONTRACTOR QUALITY CONTROL (CONCRETE)	LS	LUMP SUM	

STRUCTURE NO. KEX, RM 1.43
SEC 69, T6N, R25W

WYOMING DEPARTMENT OF TRANSPORTATION			
BRIDGE PROGRAM			
REVISIONS			
APPROVED	DESIGN <input checked="" type="checkbox"/> <input type="checkbox"/>	Design Section L M Nop	
DATE	DETAIL <input checked="" type="checkbox"/> <input type="checkbox"/>	Drwg. No. P-0003	Sheet 1 of 3
	O'S. <input checked="" type="checkbox"/> <input type="checkbox"/>		

GENERAL NOTES

SPECIFICATIONS: WYDOT Standard Specifications for Road and Bridge Construction, 2003 Edition

DIMENSIONS: Longitudinal dimensions for the substructure are horizontal and include no correction for grade. Longitudinal dimensions for the superstructure are along grade unless noted. Slopes are vertical : horizontal.

CONCRETE: Use class A concrete in the deck. Use class B concrete made with Type II Wyoming Modified Cement at all other locations.

REINFORCING STEEL: 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.



STRUCTURAL STEEL: Ensure structural steel conforms to ASTM A 709 (Grade 50W) unless noted. Ensure steel fabricators supplying structural components are certified under the AISC Quality Certification Program, Category Major Steel Bridges (CBR).

STEEL PILING: At Abutment No. 2, use steel piling conforming to ASTM A 709 (Grade 36). At bents, use steel piling conforming to ASTM A 709 (Grade 50W).

WEEP HOLE ASSEMBLIES: Work necessary for the weep hole assemblies is incidental to the contract pay item Class B Concrete.

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

BRIDGE BEARING ANCHOR BOLTS: Use one of the following anchorage systems for setting anchor bolts:

- Epoxy Anchoring Systems as manufactured by Covert Operations
- Epcon System as manufactured by ITW Ramset/Red Head
- Sure Anchor I (J-51) as manufactured by Dayton Superior
- HSE 242I Epoxy Adhesive Anchor as manufactured by Hilti, Inc.
- HIT HY 150 System as manufactured by Hilti, Inc.

Use anchor bolts compatible with the adhesive product. Prepare holes and set anchor bolts as recommended by the manufacturer. Anchor bolts may be swedge bolts or threaded rod. Ensure swedge bolts conform to ASTM A 709 (Grade 36). Ensure the swedges are produced by deforming the steel through application of pressure, and not by any method such as grinding or cutting that removes material. Ensure threaded rod conforms to ASTM F 1554 (Grade 36). Work necessary for the anchorage system is incidental to the contract pay item Structural Steel.

ENVIRONMENTAL RESTRICTIONS: In-stream construction activity is prohibited from April 1 to July 15 and from October 1 to November 30.

HAZARDOUS MATERIALS: The paint system on the steel components of the existing structure contains materials including lead and chromium which are hazardous if ingested, inhaled, or otherwise absorbed.

REMOVAL OF STEEL BRIDGES: Remove the existing simple span 89'-0" x 13'-0" steel girder bridge, Structure No. DQQ.

DRY EXCAVATION: The estimated quantity of dry excavation is calculated below existing ground line at Abutment No. 1.

FOUNDATIONS: Abutment No. 1 is on a footing founded in clayey sandstone and sandy shale. An inspector will make recommendations regarding adequate embedment into bedrock.

Abutment No. 2 and bents are on steel piles driven to refusal in cemented clayey sandstone.

SEISMIC VELOCITY DATA: Excavation into unweathered bedrock will be required at Abutment No. 1. The following seismic velocity data has been included to aid in determining the difficulty of the excavation.

SEISMIC VELOCITY DATA				
Location	Layer	Velocity	Depth to Layer	
			Right	Left
103+72 25.0' Right - 25.0' Left	1	1322 fps	—	—
	2	3959 fps	4.6'	2.7'

PREDRILLED HOLES: If any pile fails to achieve the bottom of pile elevations shown, predrill the remaining piles to the elevations shown. The estimated quantity of predrilled holes is calculated below the bottom of the cap at Abutment No. 2 and below existing ground line at bents.

PILE POINTS: Pile points are not required if predrilled holes are used.

STAY-IN-PLACE FORMS: Stay-in-place slab forms may be used for construction of the deck. Do not exceed 15 psf for the weight of the forms and additional concrete, including form deflection. Do not extend vertical legs of support angles past the bottom of the bottom reinforcing steel mat or use these legs to support the reinforcing steel.

BRIDGE OFFICE NOTIFICATION: The engineer will notify the State Bridge Engineer in writing within 14 calendar days after the existing structure has been removed and again within 14 calendar days after the new structure has been opened to traffic.

STREAM DATA

Drainage Area ----- 376.0 Sq Mi
 Channel Slope ----- 0.30%
 Description of Channel Material ----- Sand and gravel
 Drift Potential ----- Large trees and logs
 Ordinary High Water Elevation ----- 4779.5 ft
 Headwater Elevation Q_{25} ----- 4785.3 ft
 Q_{100} ----- 4786.4 ft
 High Water Elevation Q_{25} ----- 4784.5 ft
 Q_{100} ----- 4786.3 ft
 Constricted Velocity Q_{25} ----- 2.5 fps
 Q_{100} ----- 2.8 fps
 Design Frequency ----- 25 Year
 Design Discharge Q_{25} ----- 5290 cfs
 Review Discharge Q_{100} ----- 10,600 cfs
 Source of Discharge ----- Log Pearson Type III
 Method of Analysis ----- WSPRO
 Flood History ----- 9260 cfs (Year 1951)

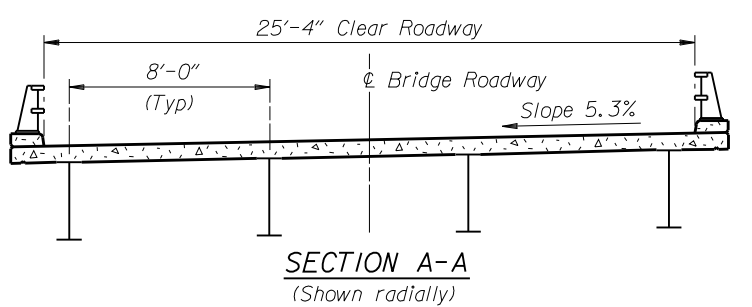
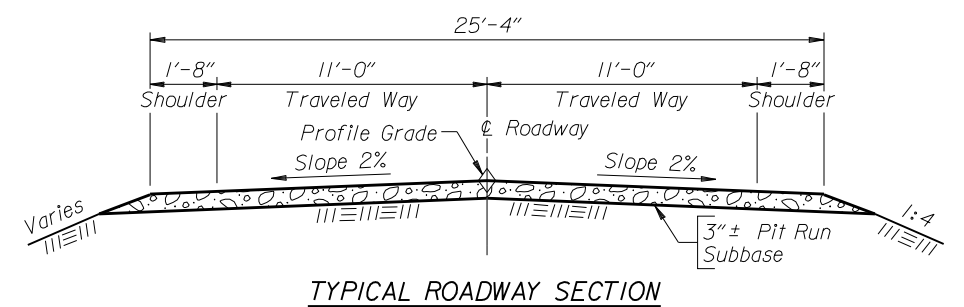
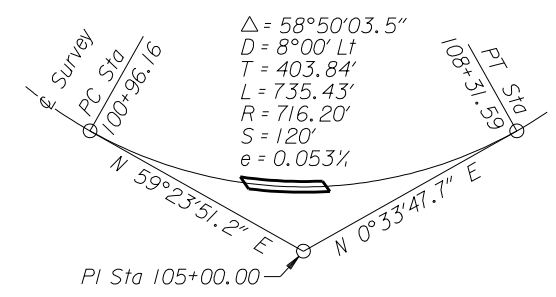
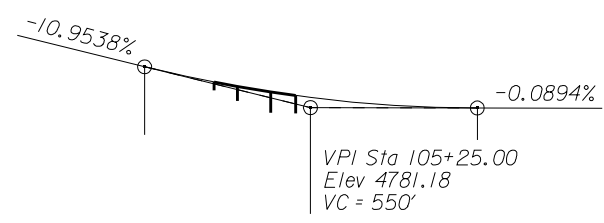
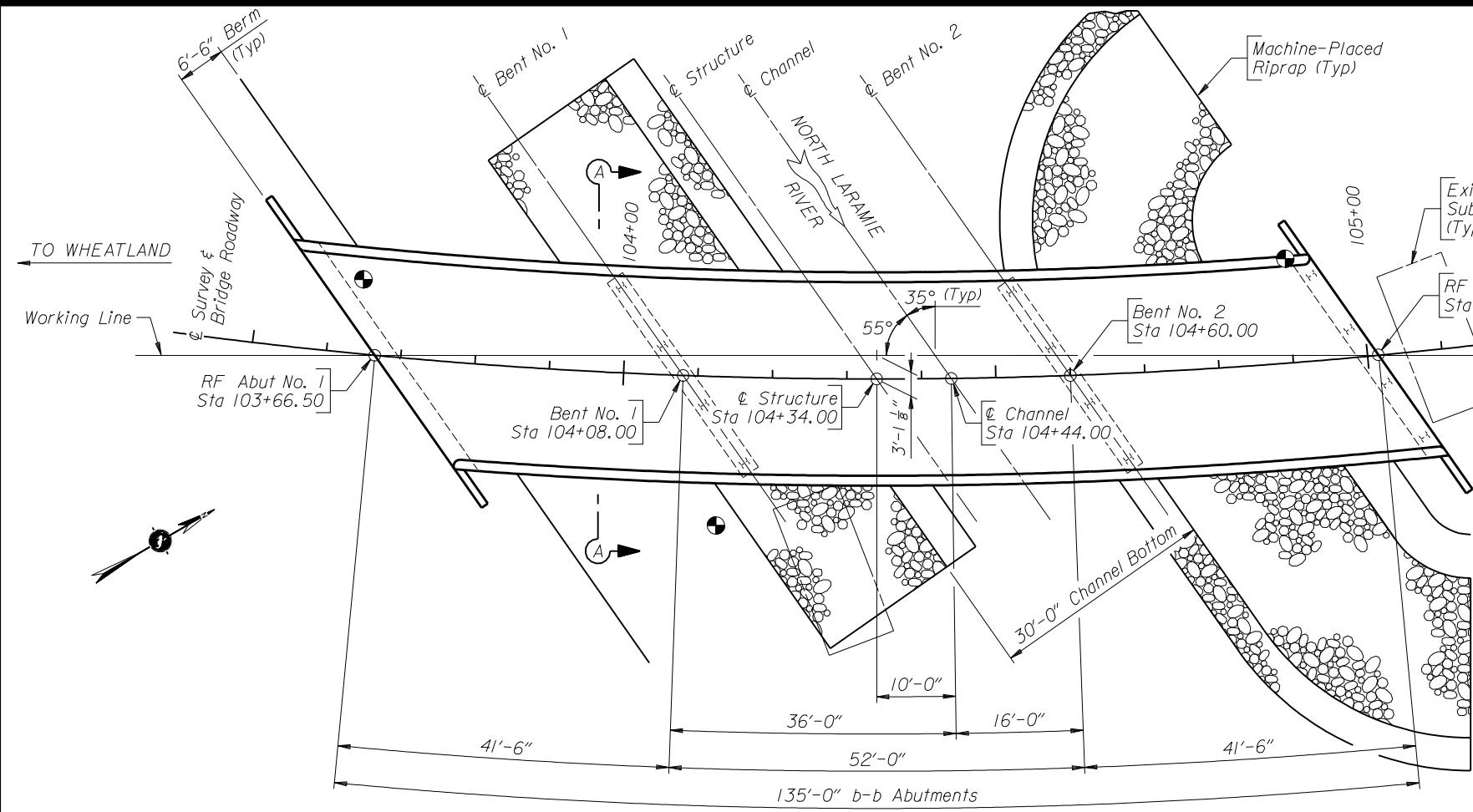
REFERENCES

Supplementary Specifications: Dated
 SS-100K Adjustment for Structural Steel ----- 8-14-08
 SS-500B Welder Qualification ----- Rev 12-7-04
 SS-500E Bridge Bearing Correction ----- Rev 7-9-04
 SS-500G Structural Concrete with Quality Control and Quality Acceptance ----- Rev 5-2-07

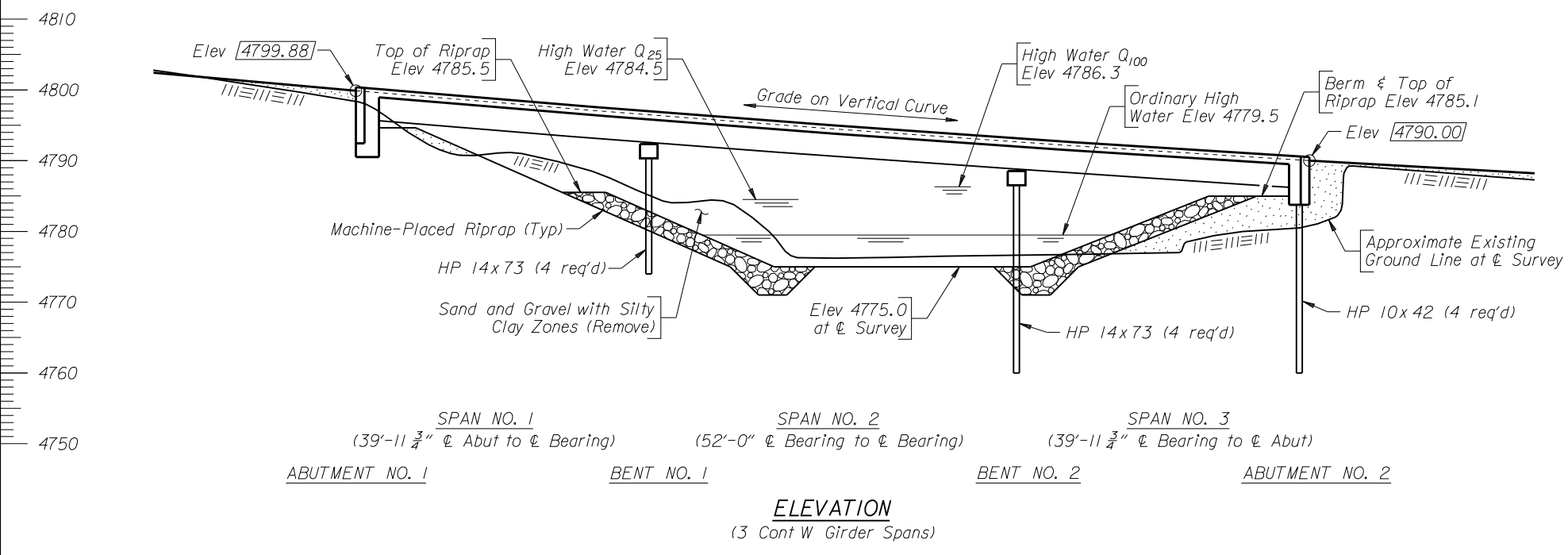
WYDOT Plans: Sheet No.
 Bridge Drwg No. 2498 ----- 1 & 2 of 2

WYOMING DEPARTMENT OF TRANSPORTATION BRIDGE PROGRAM			
REVISIONS	PRELIMINARY GENERAL NOTES		
	BRIDGE OVER NORTH LARAMIE RIVER		
	STA 104+44 Fletcher Park Road 0800005 PI		
APPROVED	DESIGN <input checked="" type="checkbox"/> <input type="checkbox"/>	Design Section L M Nop	
DATE	DETAIL <input checked="" type="checkbox"/> <input type="checkbox"/>	Drwg. No. P-0003 Sheet 2 of 3	
	D'S. <input checked="" type="checkbox"/> <input type="checkbox"/>		

Wyo. Proj. 0800005
 Sheet of Sheets



Note: 1) Elevations shown as [4790.00] indicate finished grade at rear face abutment on ϕ Bridge Roadway.
 2) Berm slopes are 1:2±, measured perpendicular to ϕ Channel.
 3) Replace the existing bridge, Structure No. DQQ, with the new bridge, Structure No. KEX.



WYOMING DEPARTMENT OF TRANSPORTATION BRIDGE PROGRAM	
PRELIMINARY LAYOUT	
BRIDGE OVER NORTH LARAMIE RIVER	
STA 104+44	
Fletcher Park Road	
0800005 PI	
APPROVED	DESIGN <input checked="" type="checkbox"/> GGG
DATE	DETAIL <input checked="" type="checkbox"/> GGG
Design Section L M Nop	
Drwg. No. P-0003 Sheet 3 of 3	

BRIDGE OVER NORTH LARAMIE RIVER

STA 104 + 44

FLETCHER PARK ROAD

0800005

PLATTE COUNTY

DESIGN DATA

SPECIFICATIONS: AASHTO Standard Specifications for Highway Bridges,
17th Edition

ADT: 50 (Year 2013)

LOADING: HS25. Future wearing surface 18 psf. Stay-in-place forms 15 psf.

REINFORCED CONCRETE: Load Factor Design -
Class A Concrete $f'_c = 3750$ psi
Class B Concrete $f'_c = 3250$ psi
Reinforcing Steel $f_y = 60,000$ psi (Grade 60)
 $f_y = 40,000$ psi (Grade 40)

STRUCTURAL STEEL: Load Factor Design -
 $F_y = 50,000$ psi (Grade 50W)

APPROACH ROADWAY WIDTH: 25'-4"

FOOTING PRESSURE: Allowable Stress -
Abutment No. 1, 2.0 Tsf

PILE LOADS: Allowable Stress -
Abutment No. 2, 52.4 T per pile
Bents, 49.3 T per pile

BEARING LOADS: Bents -
Service Dead Load = 102.41 kips
Service Live Load = 97.66 kips

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Abutment No. 2 Details -----	8
Bent No. 1 Details -----	9
Bent No. 2 Details -----	10
Superstructure Details -----	11-13
Bridge Railing Details -----	14-15
Slab Details -----	16-18
References -----	B19-B20

ESTIMATED QUANTITIES - CODE 11-DQQ				
ITEM NO.	ITEM	UNIT	TOTAL QUANTITY	ESTIMATE
202.03210	REMOVAL OF STEEL BRIDGES	EA	1	85,600 LB
212.02100	DRY EXCAVATION	CY	80	
212.03900	PERVIOUS BACKFILL MATERIAL	CY	15	
217.01010	GEOTEXTILE, EROSION CONTROL	SY	2310	
501.01000	STRUCTURAL STEEL	LS	LUMP SUM	
503.01000	BRIDGE RAILING	FT	271	
504.04000	PREDRILLED HOLES	FT	200	
504.04010	PILE SPLICES	EA	1	
504.11042	STEEL PILING HP 10 X 42	FT	96	
504.11473	STEEL PILING HP 14 X 73	FT	208	
511.06000	MACHINE-PLACED RIPRAP	CY	640	100.1 CY
513.00005	CLASS A CONCRETE	LS	LUMP SUM	
513.00015	CLASS B CONCRETE	LS	LUMP SUM	
514.00015	REINFORCING STEEL	LS	LUMP SUM	
514.00025	REINFORCING STEEL (COATED)	LS	LUMP SUM	
900.60000	CONTRACTOR QUALITY CONTROL (CONCRETE)	LS	LUMP SUM	

STRUCTURE NO. KEX, RM 1.43
SEC 69, T6N, R25W

WYOMING DEPARTMENT OF TRANSPORTATION			
BRIDGE PROGRAM			
REVISIONS			
APPROVED	DESIGN <input checked="" type="checkbox"/>	Design Section L M Nop	
DATE	DETAIL <u>AAA</u> <input checked="" type="checkbox"/> <u>GGG</u>	Drwg. No. 0003 Sheet 1 of 18	
	D'S. <input checked="" type="checkbox"/>		

GENERAL NOTES

SPECIFICATIONS: WYDOT Standard Specifications for Road and Bridge Construction, 2003 Edition

DIMENSIONS: Longitudinal dimensions for the substructure are horizontal and include no correction for grade. Longitudinal dimensions for the superstructure are along grade unless noted. Slopes are vertical : horizontal.

CONCRETE: Use class A concrete in the deck. Use class B concrete made with Type II Wyoming Modified Cement at all other locations.

REINFORCING STEEL: 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.



STRUCTURAL STEEL: Ensure structural steel conforms to ASTM A 709 (Grade 50W) unless noted. Ensure steel fabricators supplying structural components are certified under the AISC Quality Certification Program, Category Major Steel Bridges (CBR).

STEEL PILING: At Abutment No. 2, use steel piling conforming to ASTM A 709 (Grade 36). At bents, use steel piling conforming to ASTM A 709 (Grade 50W).

WEEP HOLE ASSEMBLIES: Work necessary for the weep hole assemblies is incidental to the contract pay item Class B Concrete.

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

BRIDGE BEARING ANCHOR BOLTS: Use one of the following anchorage systems for setting anchor bolts:

- Epoxy Anchoring Systems as manufactured by Covert Operations
- Epcon System as manufactured by ITW Ramset/Red Head
- Sure-Anchor I (J-51) as manufactured by Dayton Superior
- HSE 2421 Epoxy Adhesive Anchor as manufactured by Hilti, Inc.
- HIT HY 150 System as manufactured by Hilti, Inc.

Use anchor bolts compatible with the adhesive product. Prepare holes and set anchor bolts as recommended by the manufacturer. Anchor bolts may be swedge bolts or threaded rod. Ensure swedge bolts conform to ASTM A 709 (Grade 36). Ensure the swedges are produced by deforming the steel through application of pressure, and not by any method such as grinding or cutting that removes material. Ensure threaded rod conforms to ASTM F 1554 (Grade 36). Work necessary for the anchorage system is incidental to the contract pay item Structural Steel.

ENVIRONMENTAL RESTRICTIONS: In-stream construction activity is prohibited from April 1 to July 15 and from October 1 to November 30.

HAZARDOUS MATERIALS: The paint system on the steel components of the existing structure contains materials including lead and chromium which are hazardous if ingested, inhaled, or otherwise absorbed.

REMOVAL OF STEEL BRIDGES: Remove the existing simple span 89'-0" x 13'-0" steel girder bridge, Structure No. DQQ.

DRY EXCAVATION: The estimated quantity of dry excavation is calculated below existing ground line at Abutment No. 1.

FOUNDATIONS: Abutment No. 1 is on a footing founded in clayey sandstone and sandy shale. An inspector will make recommendations regarding adequate embedment into bedrock.

Abutment No. 2 and bents are on steel piles driven to refusal in cemented clayey sandstone.

SEISMIC VELOCITY DATA: Excavation into unweathered bedrock will be required at Abutment No. 1. The following seismic velocity data has been included to aid in determining the difficulty of the excavation.

SEISMIC VELOCITY DATA				
Location	Layer	Velocity	Depth to Layer	
			Right	Left
103+72 25.0' Right - 25.0' Left	1	1322 fps	—	—
	2	3959 fps	4.6'	2.7'

PREDRILLED HOLES: If any pile fails to achieve the bottom of pile elevations shown, predrill the remaining piles to the elevations shown. The estimated quantity of predrilled holes is calculated below the bottom of the cap at Abutment No. 2 and below existing ground line at bents.

PILE POINTS: Pile points are not required if predrilled holes are used.

STAY-IN-PLACE FORMS: Stay-in-place slab forms may be used for construction of the deck. Do not exceed 15 psf for the weight of the forms and additional concrete, including form deflection. Do not extend vertical legs of support angles past the bottom of the bottom reinforcing steel mat or use these legs to support the reinforcing steel.

BRIDGE OFFICE NOTIFICATION: The engineer will notify the State Bridge Engineer in writing within 14 calendar days after the existing structure has been removed and again within 14 calendar days after the new structure has been opened to traffic.

STREAM DATA

Drainage Area ----- 376.0 Sq Mi
 Channel Slope ----- 0.30%
 Description of Channel Material ----- Sand and gravel
 Drift Potential ----- Large trees and logs
 Ordinary High Water Elevation ----- 4779.5 ft
 Headwater Elevation Q_{25} ----- 4785.3 ft
 Q_{100} ----- 4786.4 ft
 High Water Elevation Q_{25} ----- 4784.5 ft
 Q_{100} ----- 4786.3 ft
 Constricted Velocity Q_{25} ----- 2.5 fps
 Q_{100} ----- 2.8 fps
 Design Frequency ----- 25 Year
 Design Discharge Q_{25} ----- 5290 cfs
 Review Discharge Q_{100} ----- 10,600 cfs
 Source of Discharge ----- Log Pearson Type III
 Method of Analysis ----- WSPRO
 Flood History ----- 9260 cfs (Year 1951)

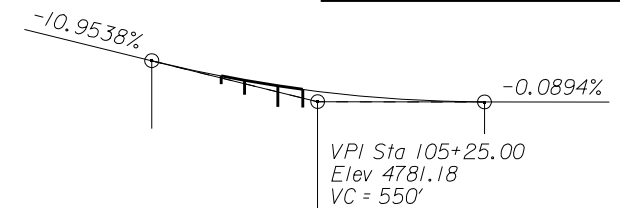
REFERENCES

Supplementary Specifications: Dated
 SS-100K Adjustment for Structural Steel ----- 8-14-08
 SS-500B Welder Qualification ----- Rev 12-7-04
 SS-500E Bridge Bearing Correction ----- Rev 7-9-04
 SS-500G Structural Concrete with Quality Control and Quality Acceptance ----- Rev 5-2-07

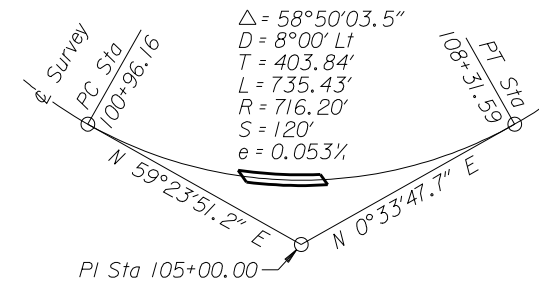
WYDOT Plans: Sheet No.
 Bridge Drwg No. 2498 ----- 1 & 2 of 2

WYOMING DEPARTMENT OF TRANSPORTATION BRIDGE PROGRAM			
REVISIONS	GENERAL NOTES		
	BRIDGE OVER NORTH LARAMIE RIVER		
	STA 104+44		
	Fletcher Park Road		
	0800005	PI	
APPROVED	DESIGN <input checked="" type="checkbox"/> <input type="checkbox"/> DETAIL <input checked="" type="checkbox"/> <input type="checkbox"/> DATE	Design Section L M Nop Drwg. No. 0003	Sheet 2 of 18

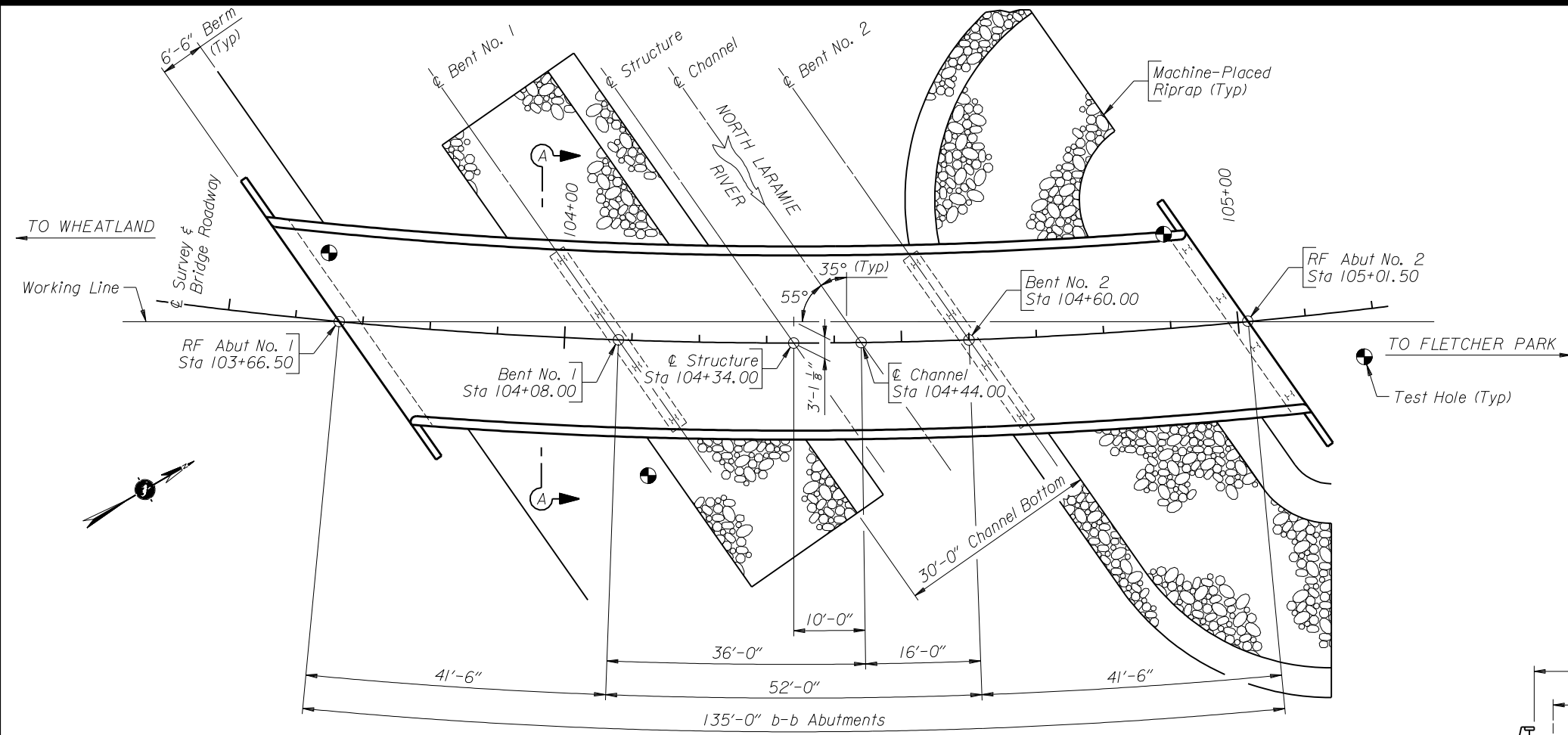
Wyo. Proj. 0800005
 Sheet B3 of B20 Sheets



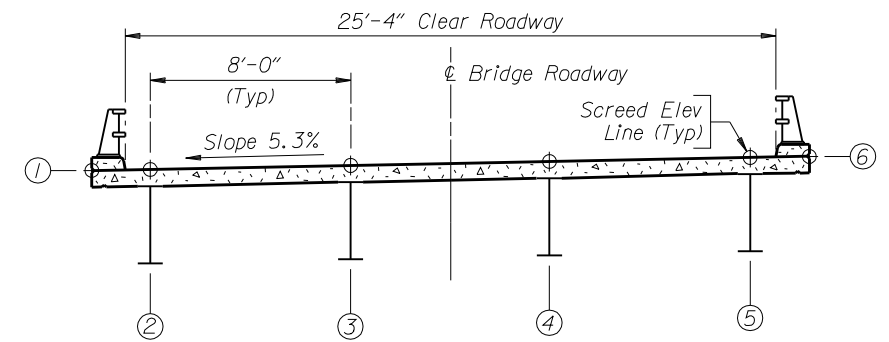
GRADE DATA



HORIZONTAL CURVE DATA

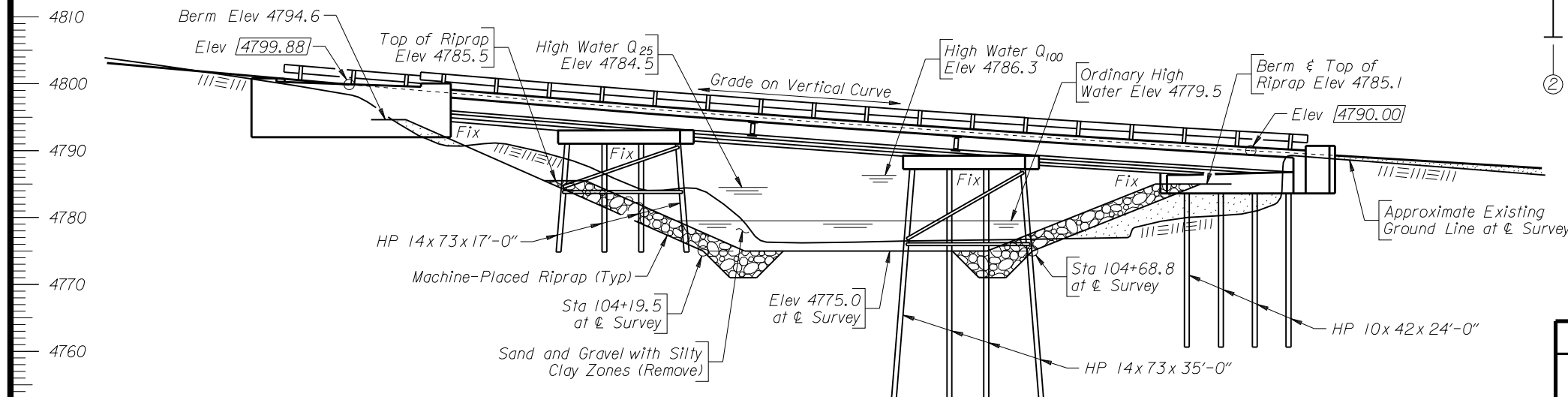


PLAN
 (Longitudinal dimensions are along \varnothing Survey)



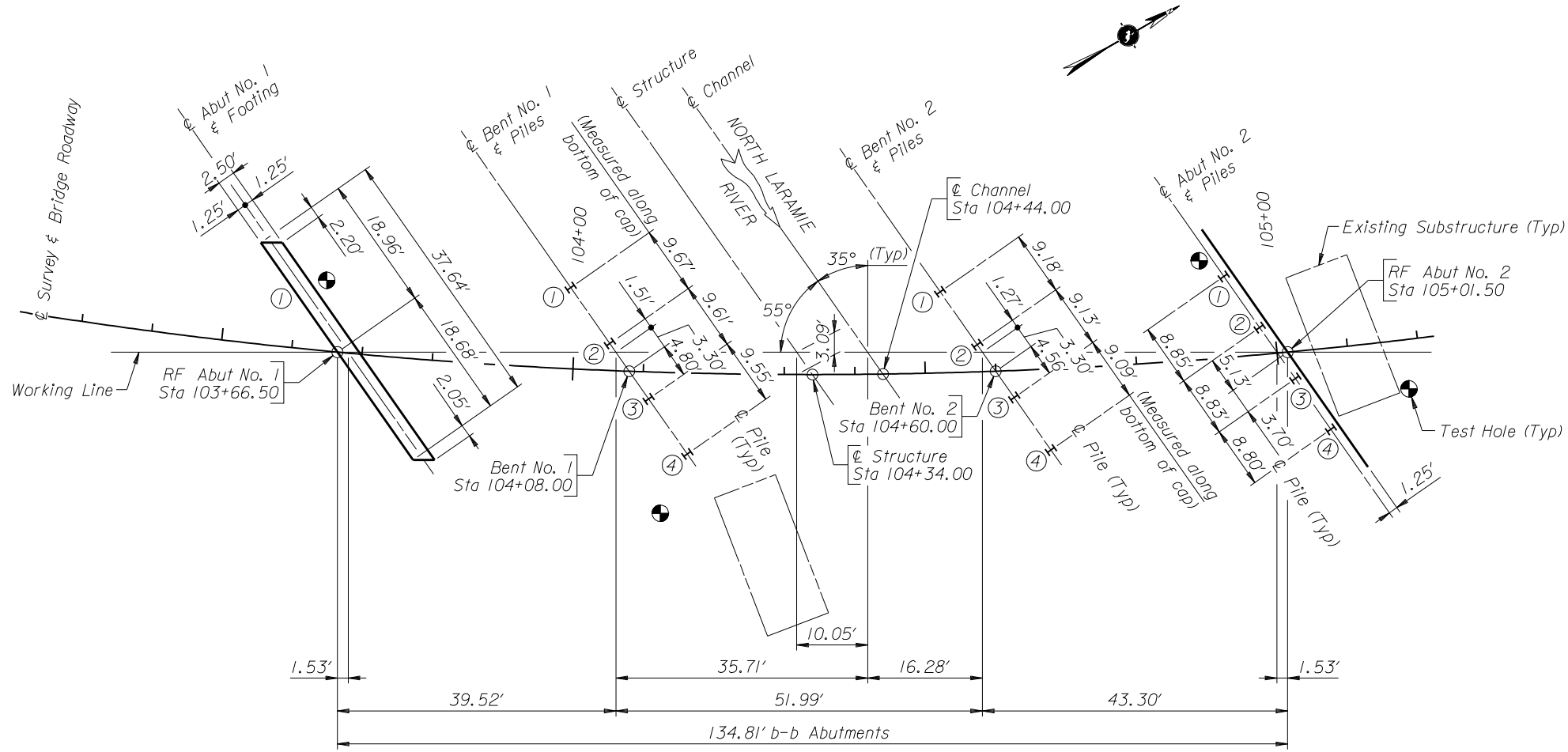
SECTION A-A
 (Shown radially)

Note: 1) Elevations shown as [4790.00] indicate finished grade at rear face abutment on \varnothing Bridge Roadway.
 2) Berm slopes are 1:2±, measured perpendicular to \varnothing Channel.



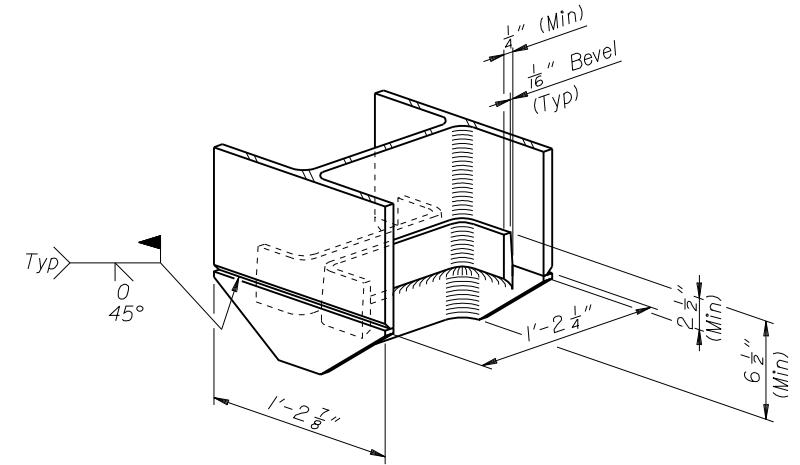
ELEVATION
 (3 Cont W Girder Spans)

WYOMING DEPARTMENT OF TRANSPORTATION BRIDGE PROGRAM	
GENERAL PLAN AND ELEVATION	
BRIDGE OVER NORTH LARAMIE RIVER	
STA 104+44	
Fletcher Park Road	
0800005 PI	
APPROVED	DESIGN <input checked="" type="checkbox"/> <input type="checkbox"/>
DATE	DETAIL AAA <input checked="" type="checkbox"/> GGG <input type="checkbox"/>
Design Section L M Nop	
Drwg. No. 0003 Sheet 3 of 18	



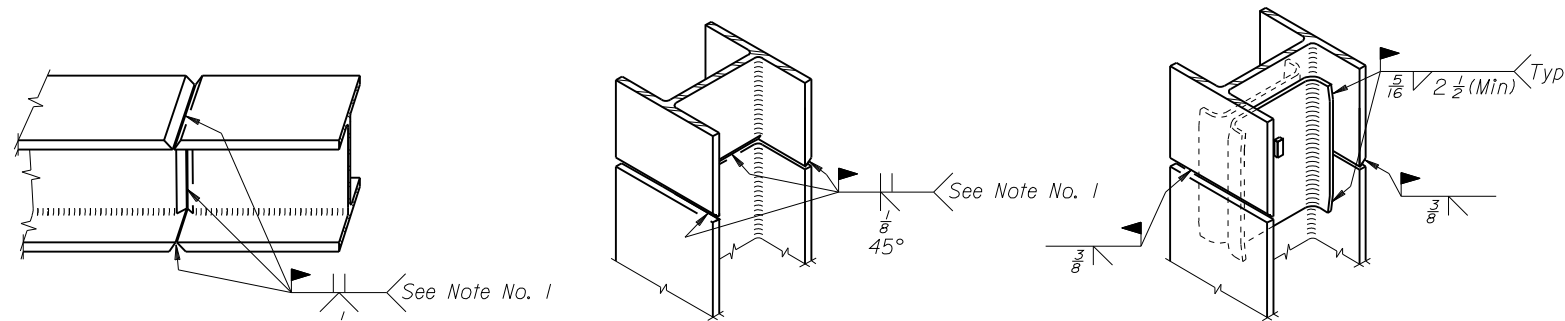
SUBSTRUCTURE LAYOUT
(Longitudinal dimensions are along working line)

SUBSTRUCTURE DATA			
Location	Pile Elevations		Bottom of Footing Elevation
	Piles No. ① - ④		Footing No. ①
	Top	Bottom	
Abut No. 1	—	—	4792.00
Bent No. 1	4791.83	4774.83	—
Bent No. 2	4787.99	4752.99	—
Abut No. 2	4784.62	4760.62	—



PILE POINT DETAIL
(8 req'd for HP 14x73)

- Note: 1) Gauge root to sound metal before welding second side.
2) Piles at Abutment No. 2 are HP 10x42. Piles at bents are HP 14x73.
3) Piles No. ① and ④ at bents are battered.



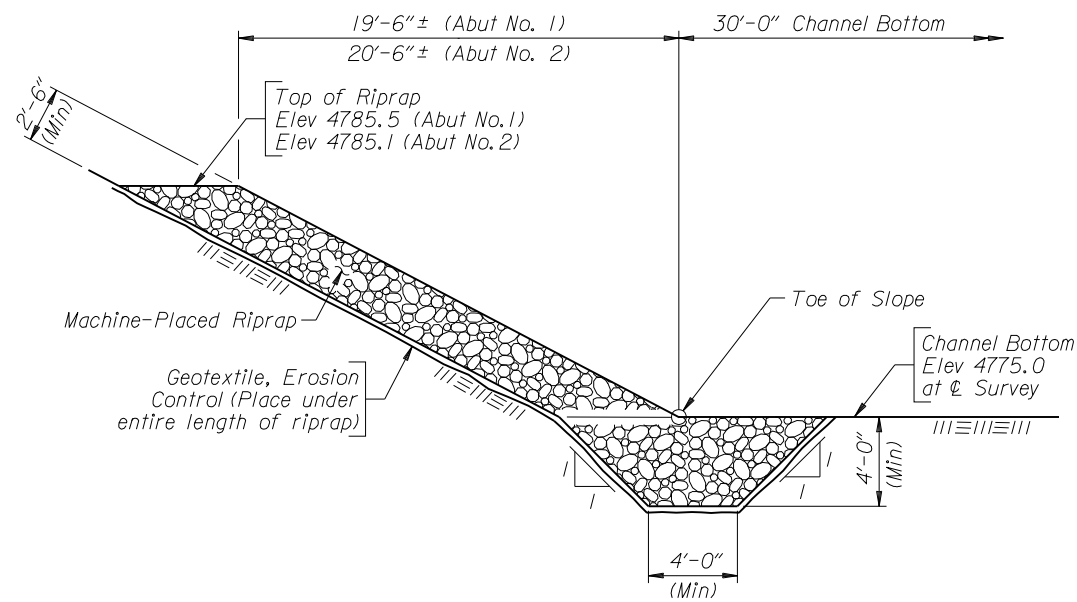
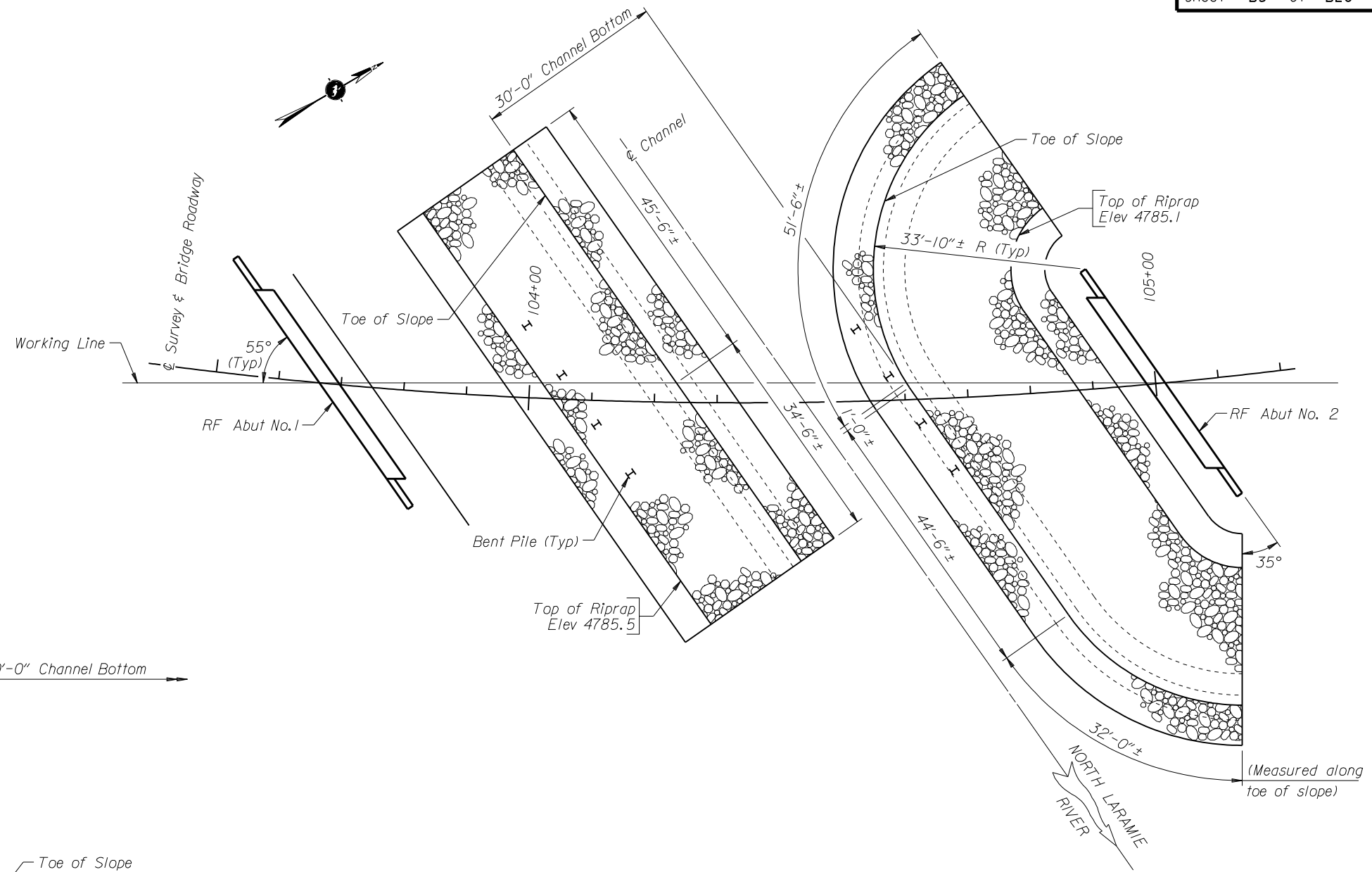
WELDED SPLICE DETAIL
(Piles welded horizontal)

WELDED SPLICE DETAIL
(Piles welded vertical)

PILE SPLICER DETAIL
(Piles vertical or horizontal)

PILE SPLICE DETAILS

WYOMING DEPARTMENT OF TRANSPORTATION BRIDGE PROGRAM			
SUBSTRUCTURE LAYOUT			
BRIDGE OVER NORTH LARAMIE RIVER			
STA 104+44			
Fletcher Park Road			
0800005			PI
APPROVED	DESIGN	Design Section L M Nop	
DATE	DETAIL	Drwg. No. 0003 Sheet 4 of 18	
	O'S.		



TYPICAL SECTION
(Longitudinal dimensions are perpendicular to RF Abut)

PLAN

WYOMING DEPARTMENT OF TRANSPORTATION BRIDGE PROGRAM			
RIPRAP DETAILS			
BRIDGE OVER NORTH LARAMIE RIVER			
STA 104+44			
Fletcher Park Road			
0800005			PI
APPROVED	DESIGN	Design Section L M Nop	
DATE	DETAL	AAA ✓ GGG	Drwg. No. 0003 Sheet 5 of 18
	O/S.	CCC ✓ AAA	

SUMMARY OF LABORATORY TEST DATA

Table with 14 columns: TEST NO., LOCATION (station), ELEVATION, BLOWS Per Ft., SIEVE ANALYSIS - % PASSING (#10, #40, #200), LIQUID LIMIT, PLASTIC INDEX, DENSITY WET PCF, MOIST. % DRY WT., SPECIFIC GRAVITY, SHEAR STRENGTH - PEAK lb./ft.², UNIFIED & AASHTO CLASSIFICATION, UNIT COHESION lb./ft.², φ MAXIMUM, % SATURATION, REMARKS. Rows 1-11 show test results for various soil samples.

UNIFIED SOIL CLASSIFICATION
GW - Well graded gravel
GP - Poorly graded gravel
GM - Silty sandy gravel
GC - Clayey gravel
SW - Well graded sand
SP - Poorly graded sand
SM - Silty sand
SC - Clayey sand
ML - Inorganic silt, slight plasticity
CL - Inorganic clay, medium plasticity
OL - Organic silt and silty clay, low plasticity
MH - Inorganic elastic silt
CH - Inorganic clay, high plasticity
OH - Organic clay, medium to high plasticity
PT - Peat and other highly organic soils

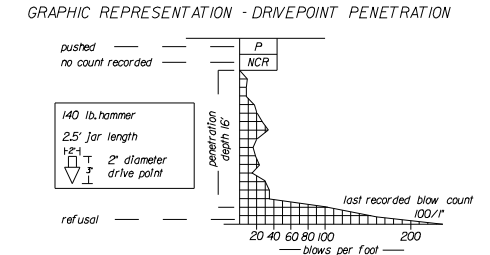
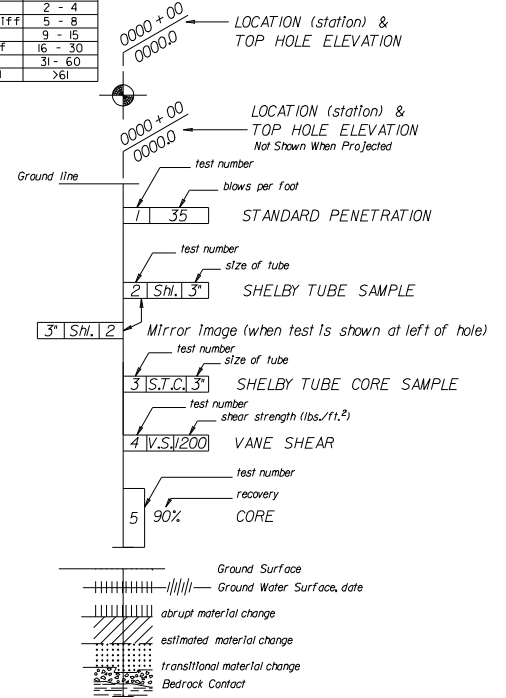
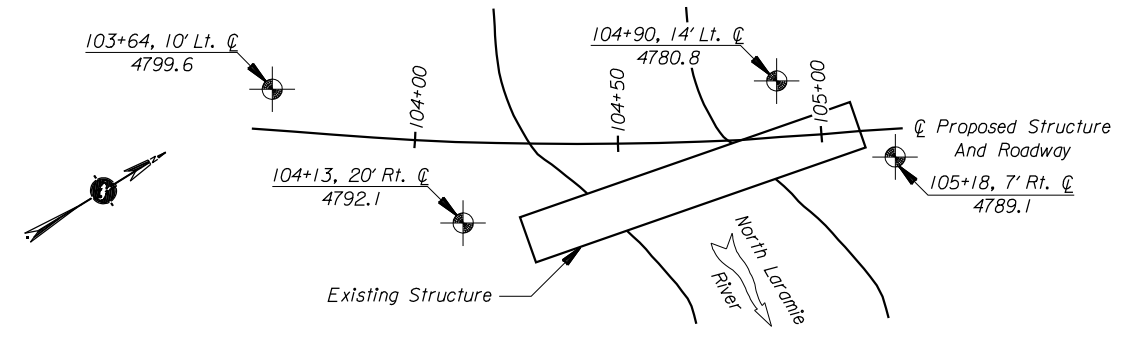
STRENGTH CLASS DEFINITION - BASED ON BLOWS/FT. - STANDARD PENETRATION. Table with 4 columns: CONSISTENCY GRANULAR, BLOWS PER FT., CONSISTENCY COHESIVE, BLOWS PER FT. Categories include Very Loose, Loose, Medium Dense, Dense, Very Dense.

Wyo. Proj. 0800005
Sheet B6 of B20 Sheets

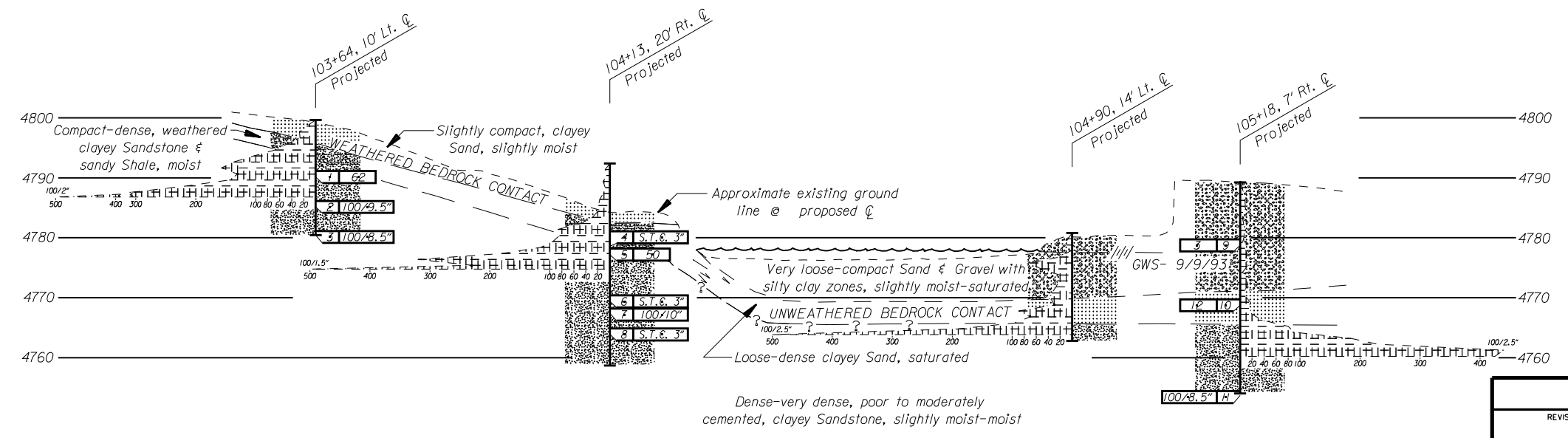
Borings shown made with: Auger Rig [X] 400I [] Air [] Water [] Mud []
Rotary Rig [] circulation medium

Classification of earth material on this sheet is based upon field inspection and is not to be construed to imply mechanical analysis unless otherwise noted.
The data on this sheet is for design purposes only and is not a warranty of subsurface conditions, except at locations actually drilled. Projections between test holes are based on geologic interpretations and exact elevations cannot be guaranteed.
Data contained on this sheet is based on information from the Geology Program of the Wyoming Transportation Department and is beyond the scope of responsibility of other entities approving or sealing these plans.

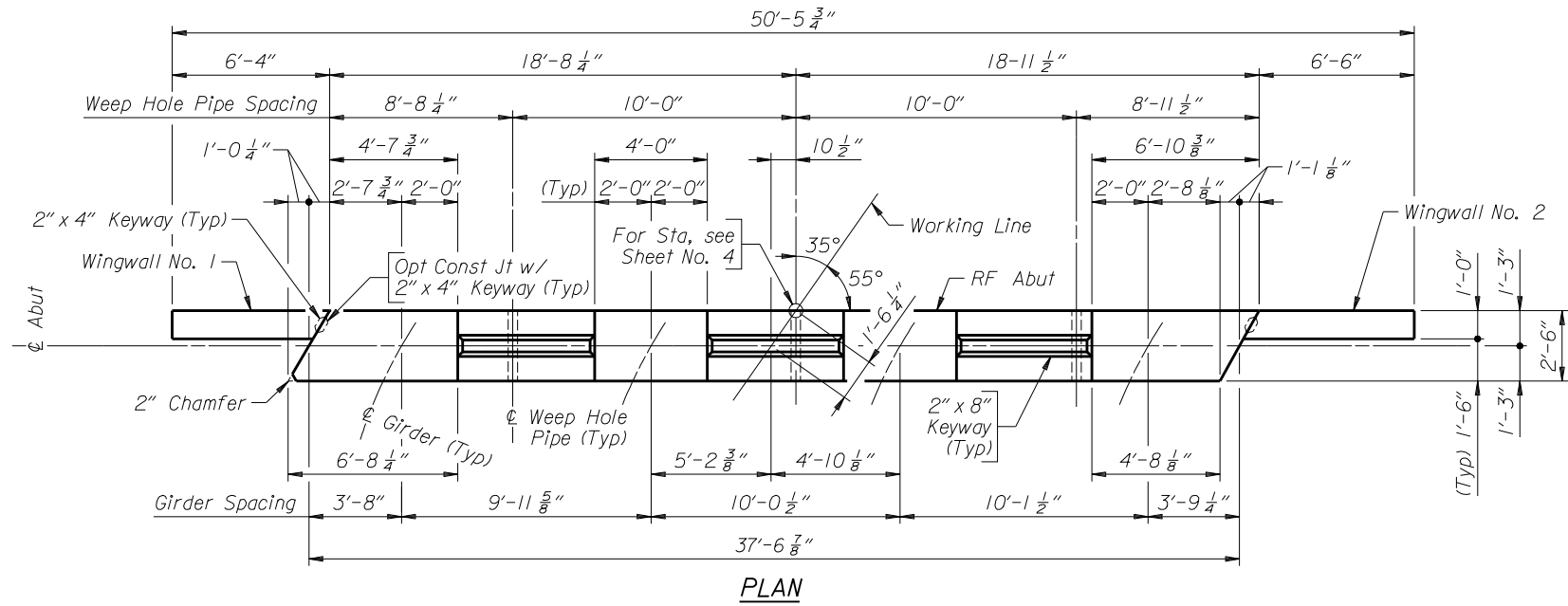
Note: 1) CME Automatic SPT Hammer used for soil testing - Efficiency Rating 110%.
2) Test holes projected to @ at actual elevations and same stations as drilled.



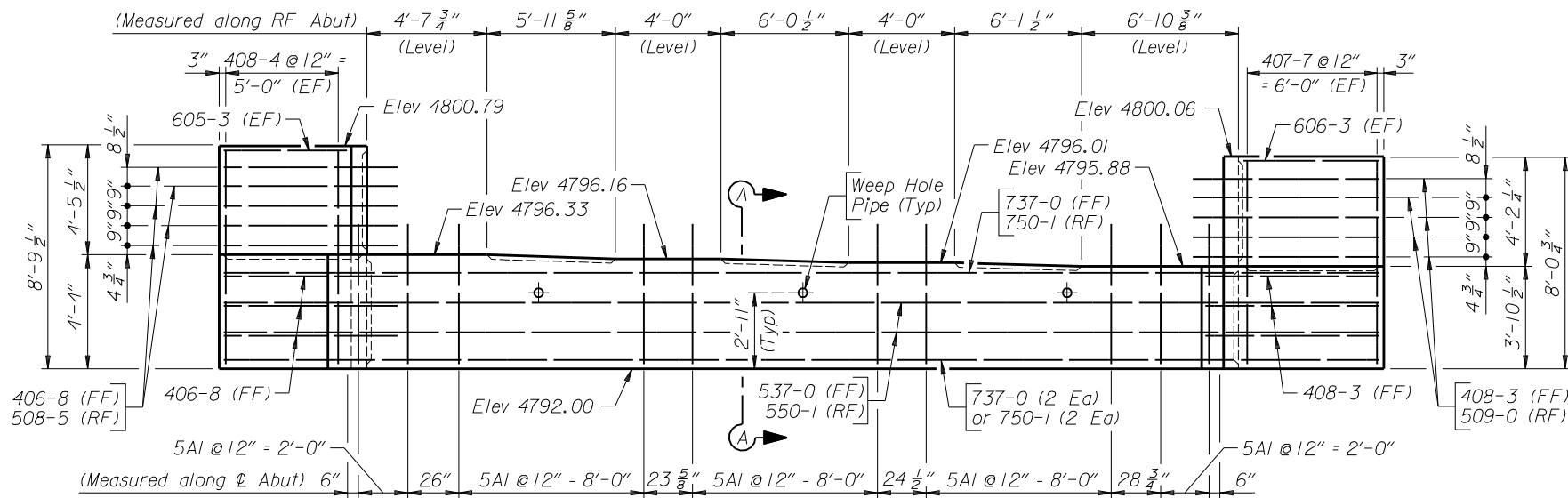
LEGEND OF EARTH MATERIALS. Table listing symbols for soils (LOESS, CLAY, SILT, SAND, GRAVEL, fill) and bedrock (LIMESTONE, SHALE, CLAYSTONE, SILTSTONE, COAL & LIGNITE, SANDSTONE, CONGLOMERATE, all igneous, and Metamorphic rocks).



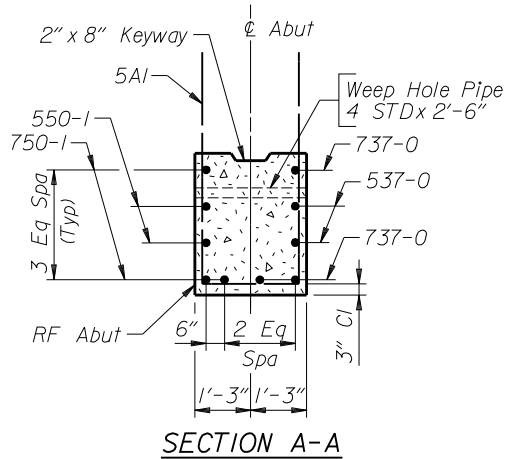
WYOMING DEPARTMENT OF TRANSPORTATION BRIDGE PROGRAM LOG BORING SHEET. BRIDGE OVER NORTH LARAMIE RIVER STA 104+44 Fletcher Park Road 0800005 PI. APPROVED: B. BOUNDY, D4DB, RDK. GEOLOGIST: Design Section L M Nop. DATE: Drwg. No. 0003 Sheet 6 of 18.



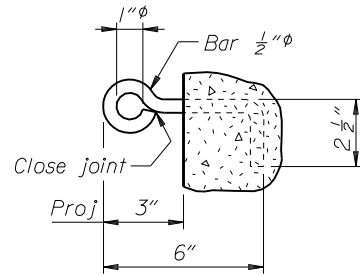
PLAN



ELEVATION
(Looking back station)

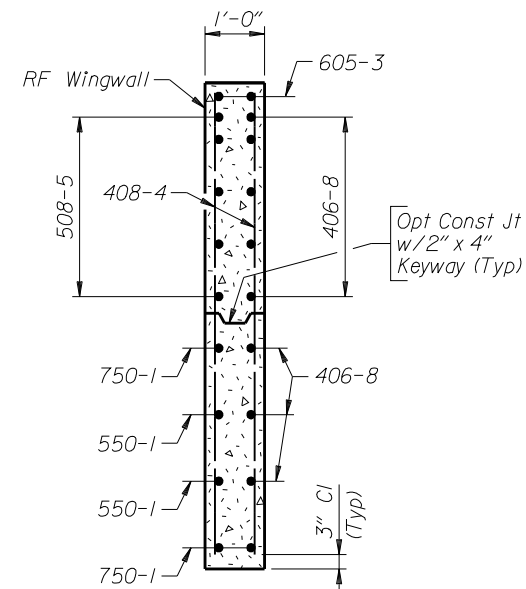


SECTION A-A

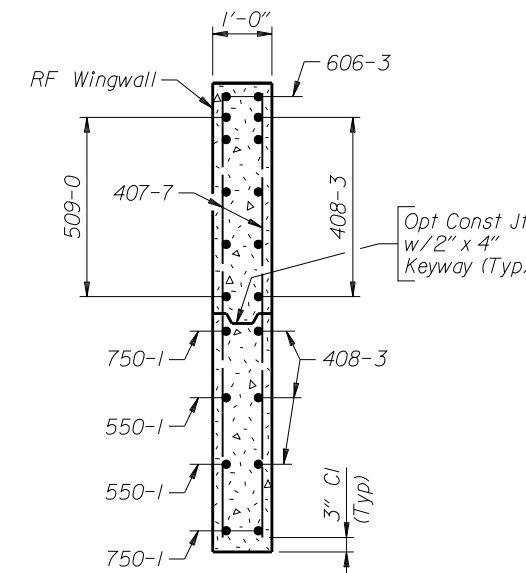


EYEBOLT DETAIL
(8 req'd for securing fence)

Note: 1) Ensure the reinforcing steel fabricator prefixes Abutment No. 1 bar marks with numeral 1.
2) Place 5AI bars parallel with working line.
3) The estimated quantity of class B concrete for Abutment No. 1 is 18.3 CY.



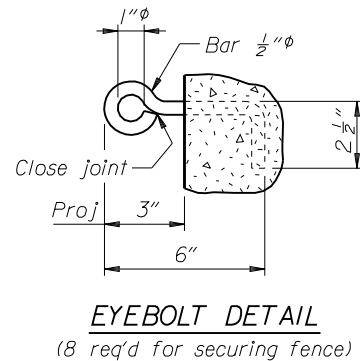
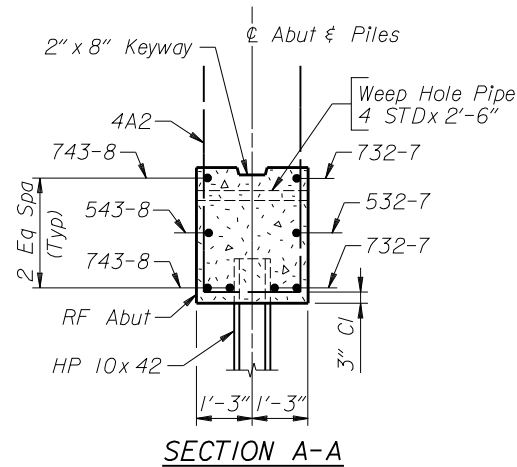
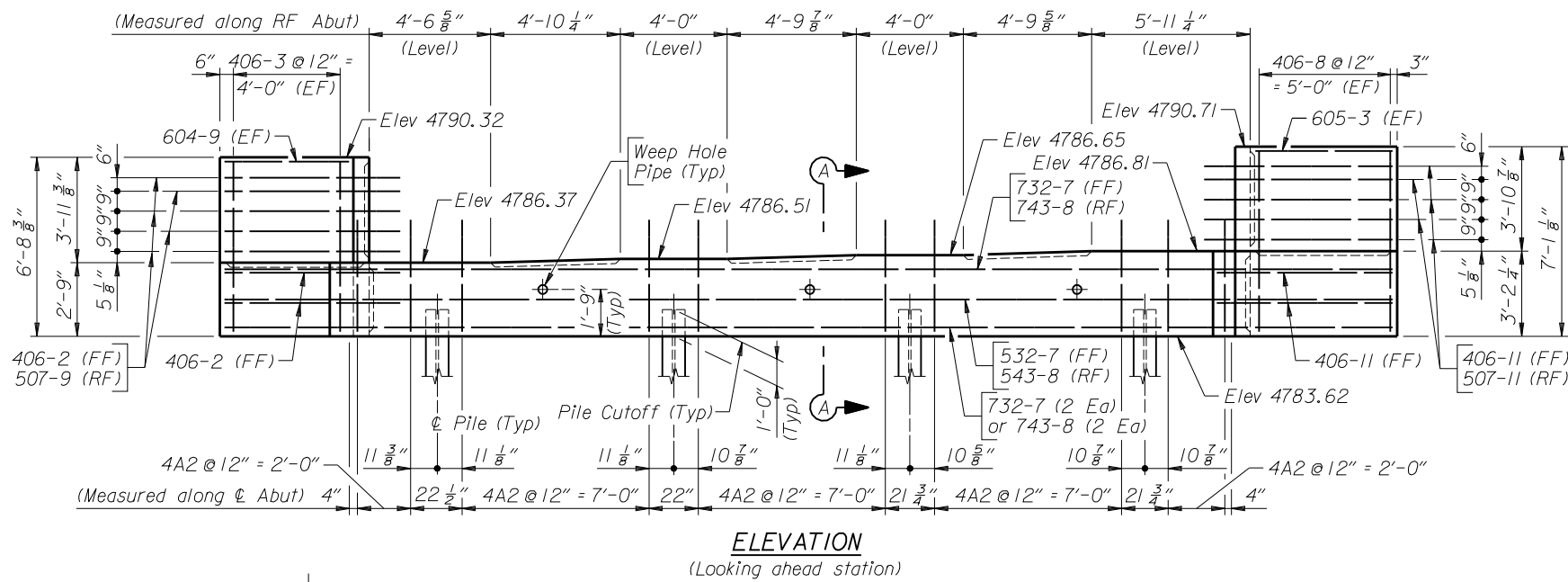
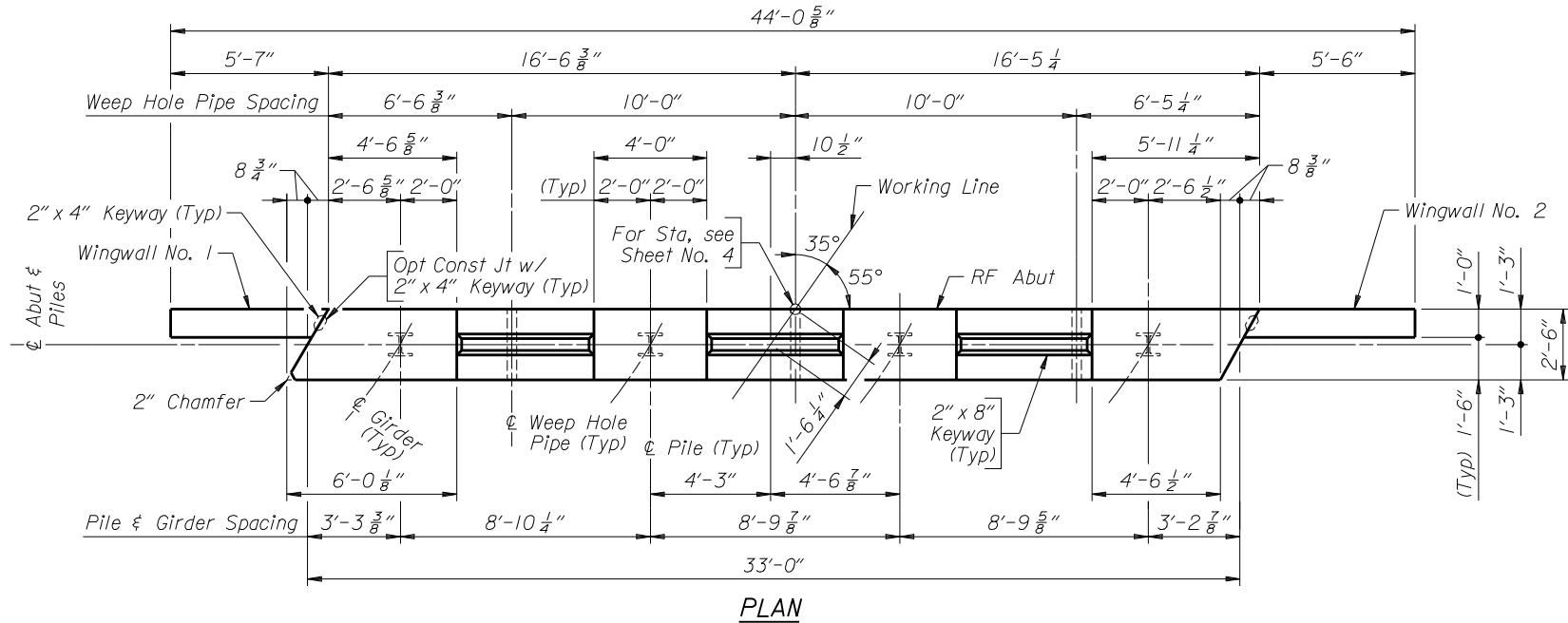
WINGWALL NO. 1 SECTION



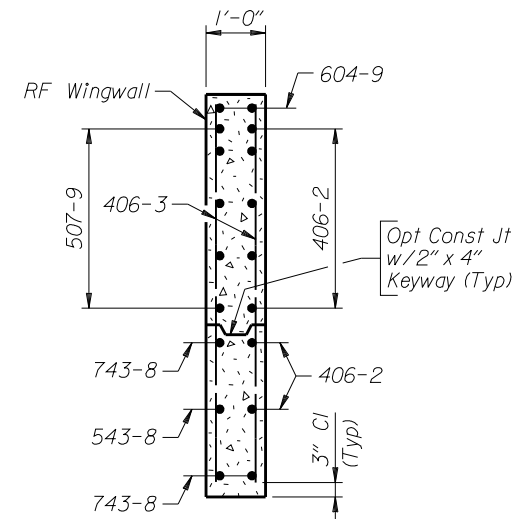
WINGWALL NO. 2 SECTION

BILL OF REINFORCEMENT		
Location	Mark	Number Required
Cap	5AI	33
	537-0	2
	550-1	2
	737-0	3
	750-1	3
Weight		1232 LB
Wingwalls	406-8	8
	407-7	14
	408-3	8
	408-4	12
	508-5	5
	509-0	5
	605-3	2
Weight		344 LB
Bending Diagram		

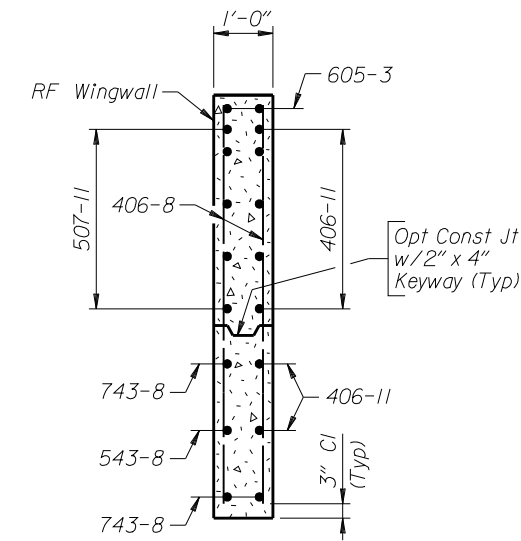
WYOMING DEPARTMENT OF TRANSPORTATION BRIDGE PROGRAM			
ABUTMENT NO. 1 DETAILS			
BRIDGE OVER NORTH LARAMIE RIVER			
STA 104+44			
Fletcher Park Road			
0800005		PI	
APPROVED	DESIGN GGG ✓ EEE	Design Section L M Nop	
DATE	DETAIL AAA ✓ GGG	Drwg. No. 0003 Sheet 7 of 18	
	D.S. CCC ✓ AAA		



Note: 1) Ensure the reinforcing steel fabricator prefixes Abutment No. 2 bar marks with numeral 2.
2) Place 4A2 bars parallel with working line.
3) The estimated quantity of class B concrete for Abutment No. 2 is 11.9 CY.
4) For pile cutoff elevations, see Sheet No. 4.



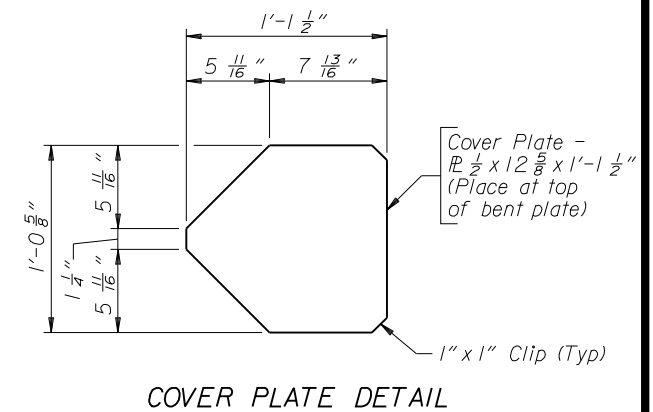
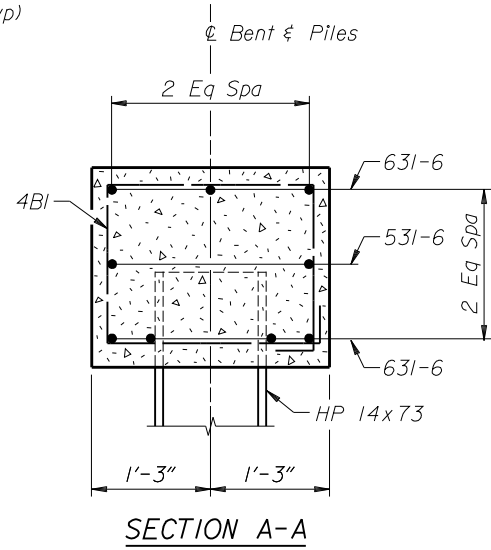
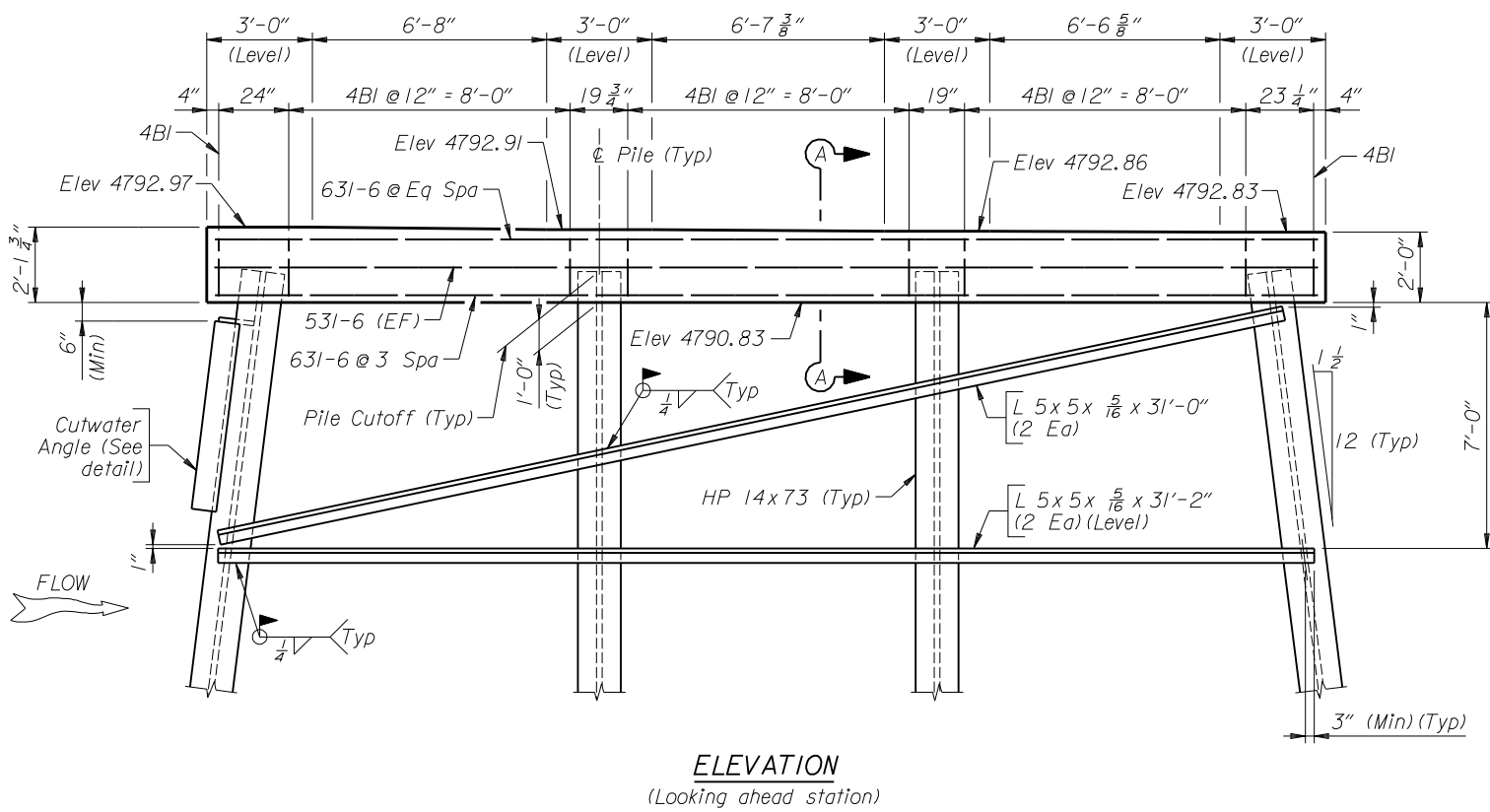
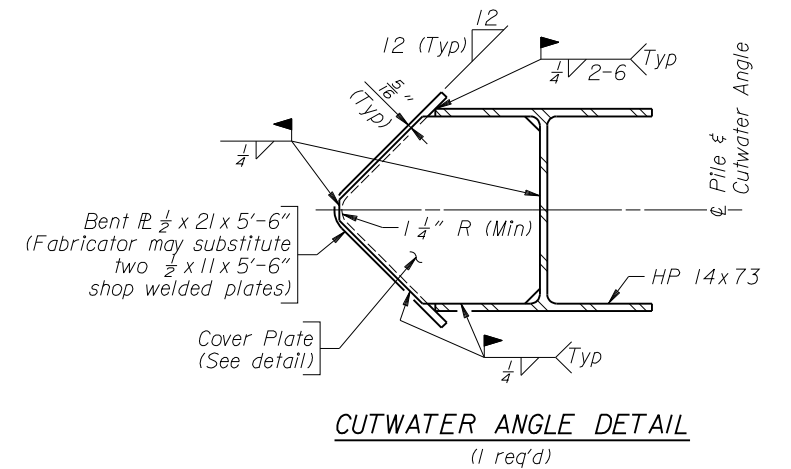
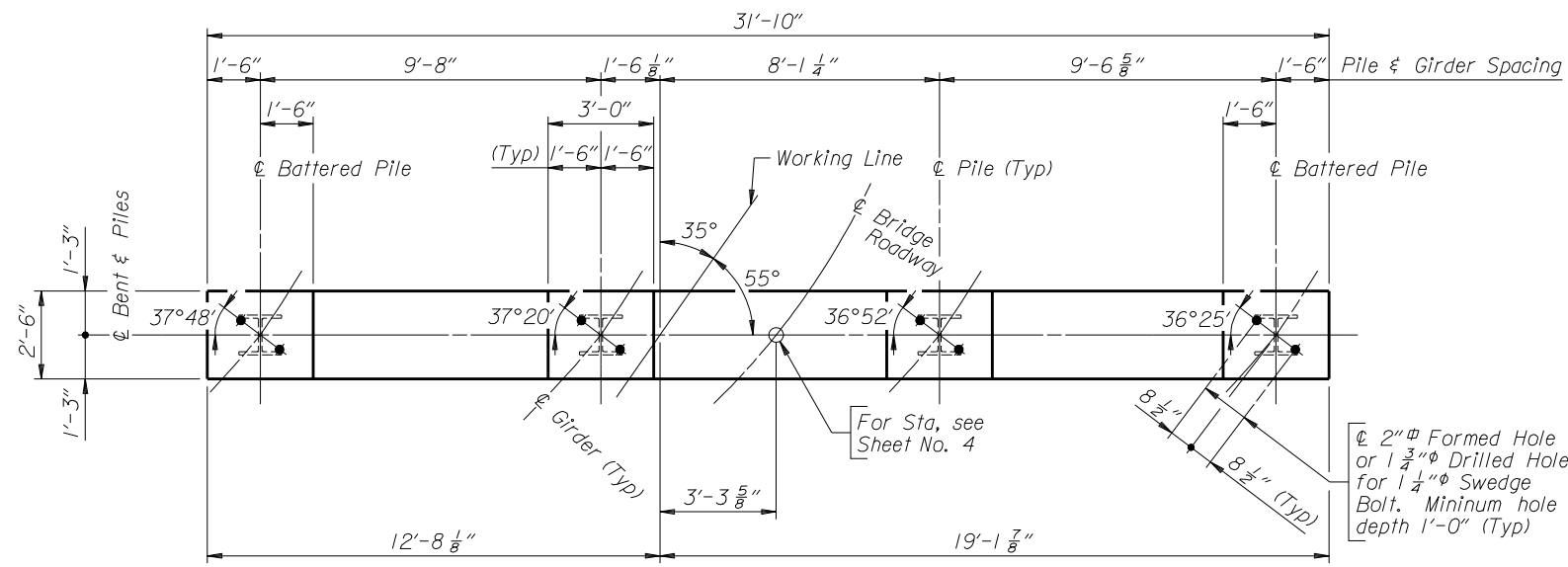
WINGWALL NO. 1 SECTION



WINGWALL NO. 2 SECTION

BILL OF REINFORCEMENT			
Location	Mark	Number Required	
Cap	4A2	30	
	532-7	1	
	543-8	1	
	732-7	3	
	743-8	3	
	Weight	781 LB	
Wingwalls	406-2	7	
	406-3	10	
	406-8	12	
	406-11	7	
	507-9	5	
	507-11	5	
	604-9	2	
	605-3	2	
		Weight	268 LB
	Bending Diagram		

WYOMING DEPARTMENT OF TRANSPORTATION BRIDGE PROGRAM			
ABUTMENT NO. 2 DETAILS			
BRIDGE OVER NORTH LARAMIE RIVER			
STA 104+44			
Fletcher Park Road			
0800005		PI	
APPROVED	DESIGN GGG ✓ EEE	Design Section L M Nop	
DATE	DETAIL AAA ✓ GGG	Drwg. No. 0003 Sheet 8 of 18	
	O.S. CCC ✓ AAA		



BILL OF REINFORCEMENT

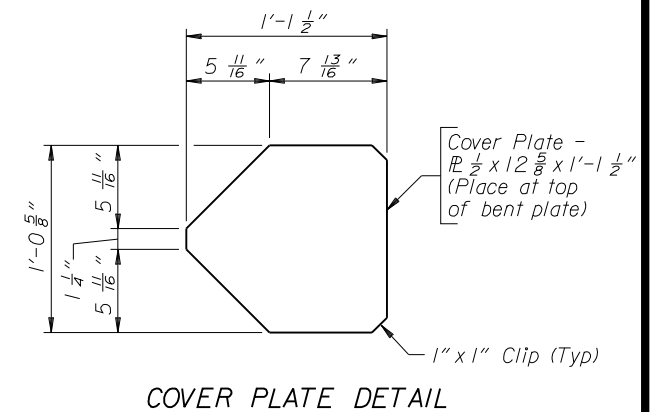
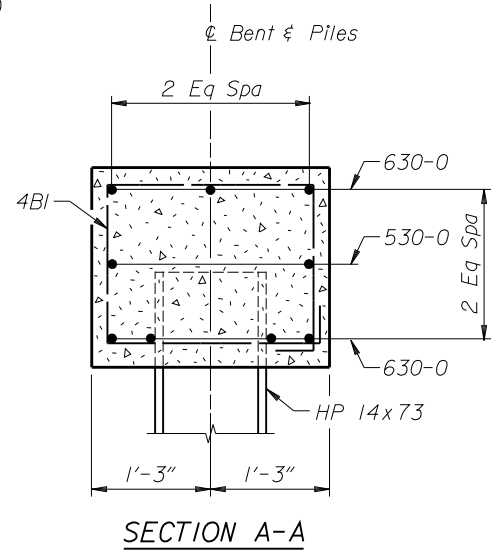
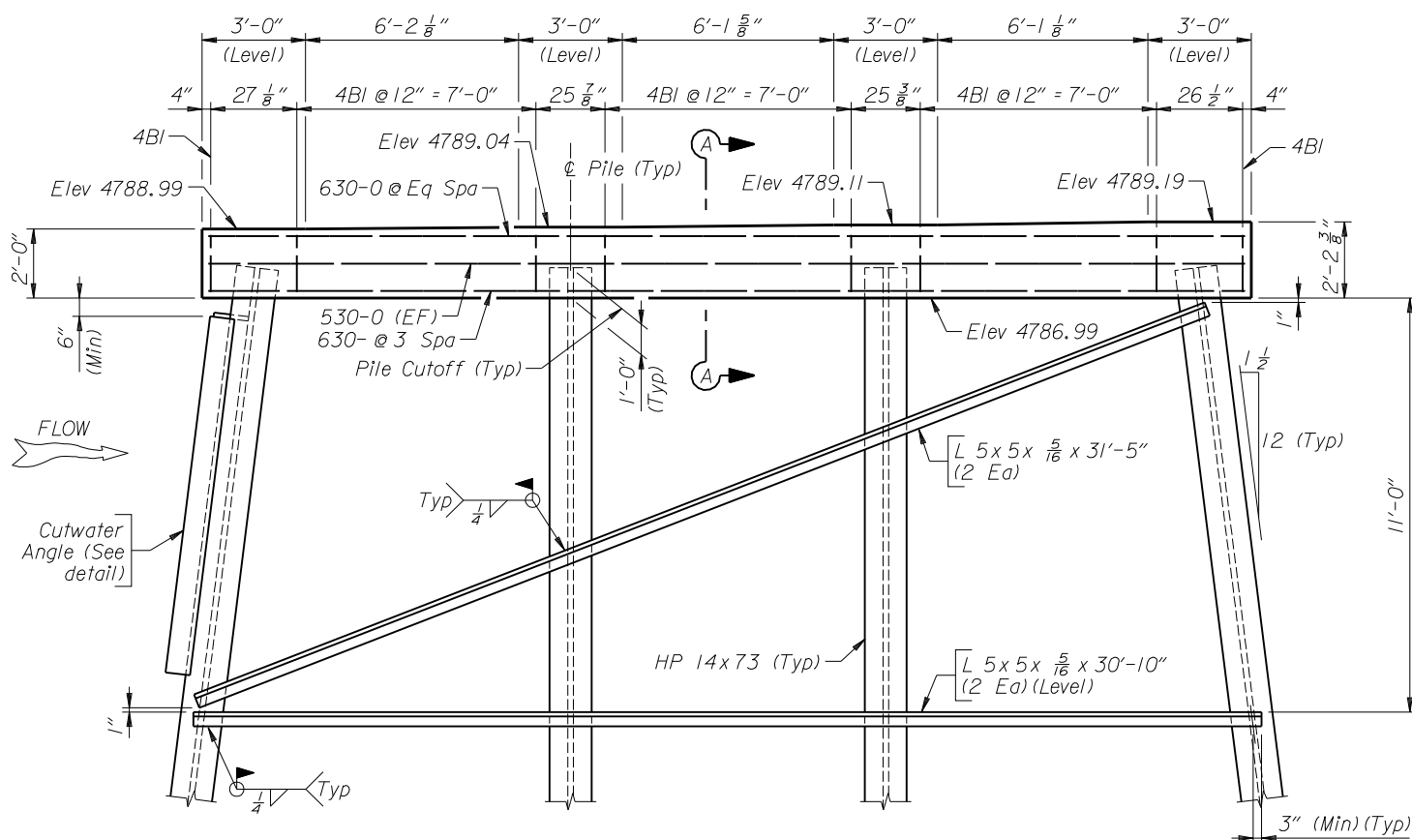
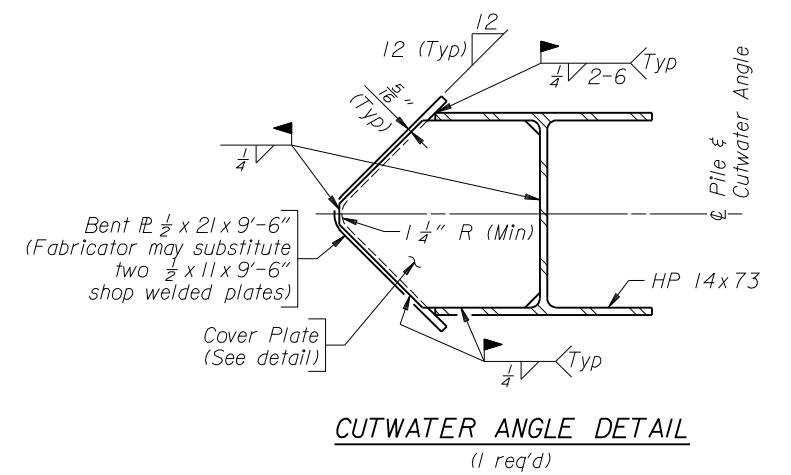
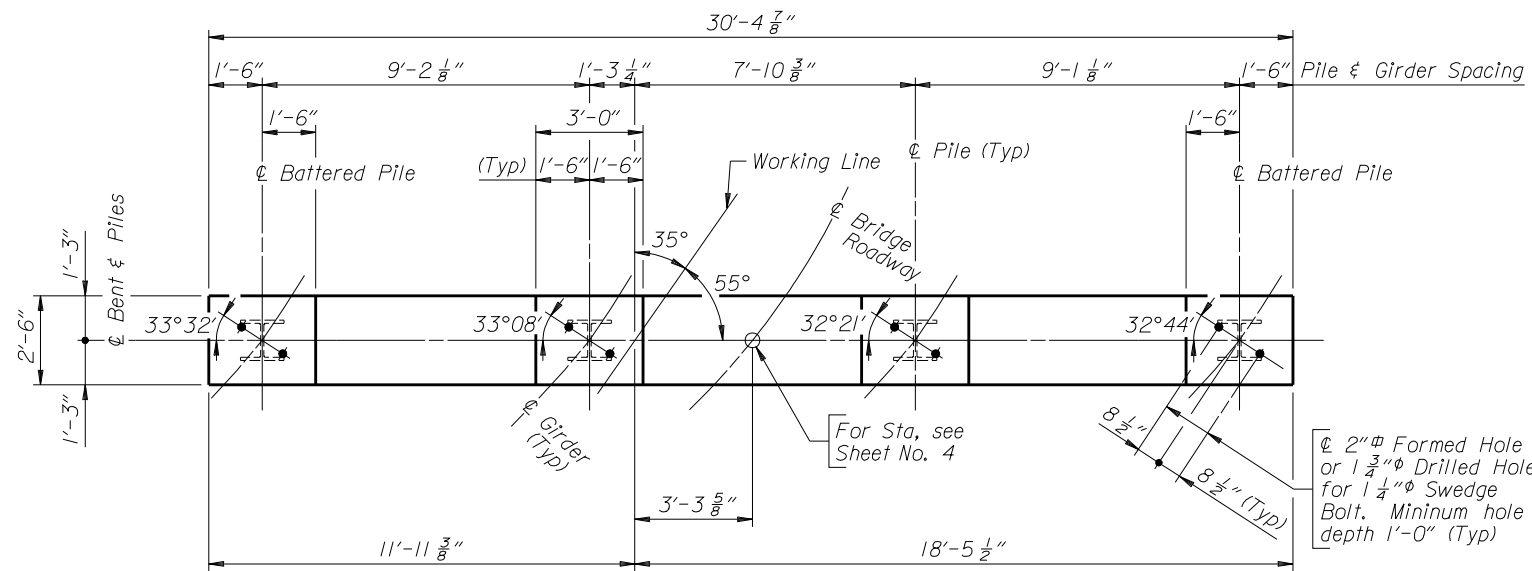
Location	Mark	Number Required
Cap	4BI	29
	531-6	2
	631-6	7
	Weight	560 LB

Bending Diagram

2'-2" 1'-8" 4BI (Tie) (8'-5")

- Note: 1) Ensure the reinforcing steel fabricator prefixes Bent No. 1 bar marks with numeral 3.
2) Pile spacing is along bottom of cap.
3) The estimated quantity of class B concrete for Bent No. 1 is 6.1 CY.
4) For pile cutoff elevations, see Sheet No. 4.

WYOMING DEPARTMENT OF TRANSPORTATION BRIDGE PROGRAM			
REVISIONS		BENT NO. 1 DETAILS	
BRIDGE OVER NORTH LARAMIE RIVER			
STA 104+44			
Fletcher Park Road			
0800005		PI	
APPROVED	DESIGN GGG ✓ EEE	Design Section L M Nop	
DATE	DETAIL AAA ✓ GGG	Drwg. No. 0003 Sheet 9 of 18	
	O.S. CCC ✓ AAA		



BILL OF REINFORCEMENT

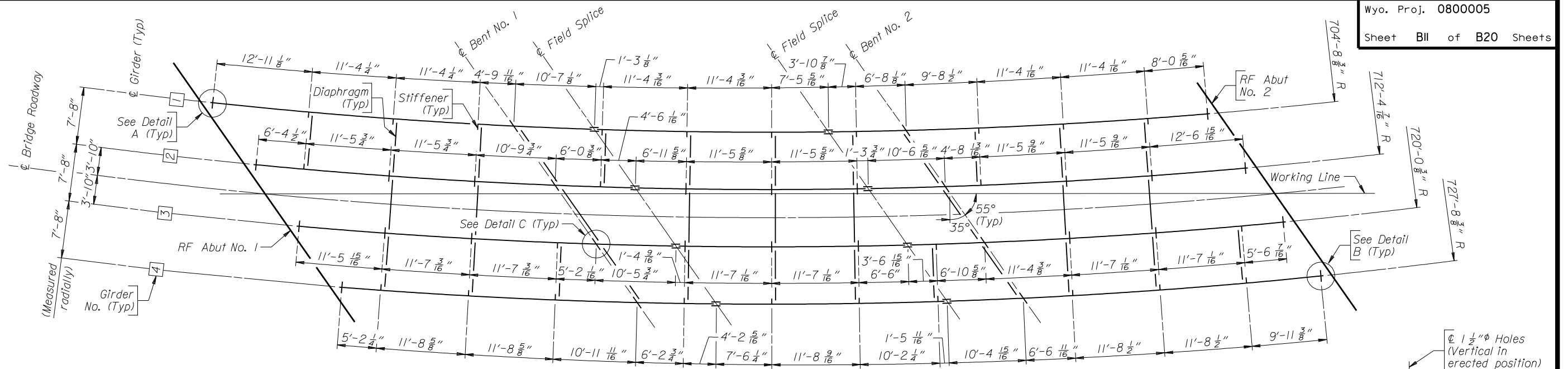
Location	Mark	Number Required
Cap	4BI	26
	530-0	2
	630-0	7
	Weight	525 LB

Bending Diagram

2'-2"
 1'-8"
 4BI (Tie) (8'-5")

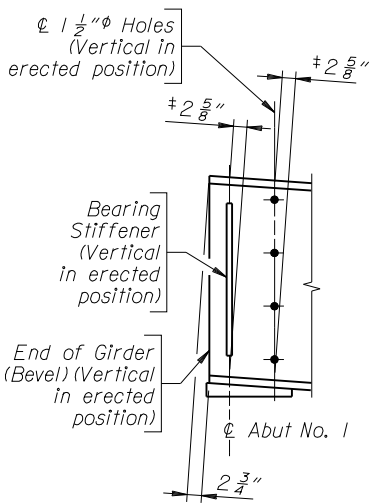
- Note: 1) Ensure the reinforcing steel fabricator prefixes Bent No. 2 bar marks with numeral 4.
 2) Pile spacing is along bottom of cap.
 3) The estimated quantity of class B concrete for Bent No. 2 is 5.9 CY.
 4) For pile cutoff elevations, see Sheet No. 4.

WYOMING DEPARTMENT OF TRANSPORTATION BRIDGE PROGRAM			
BENT NO. 2 DETAILS			
BRIDGE OVER NORTH LARAMIE RIVER			
STA 104+44			
Fletcher Park Road			
0800005		PI	
APPROVED	DESIGN GGG ✓ EEE ✓	Design Section L M Nop	
DATE	DETAIL AAA ✓ GGG ✓	Drwg. No. 0003 Sheet 10 of 18	
	D.S. CCC ✓ AAA ✓		

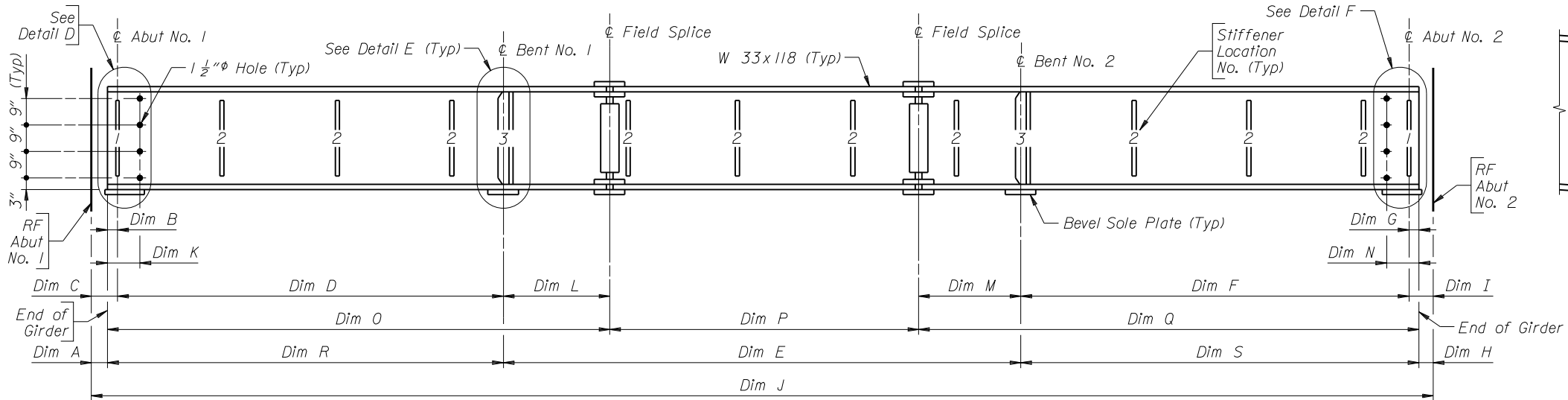


FRAMING PLAN

(Longitudinal dimensions are along bottom of bottom flange)

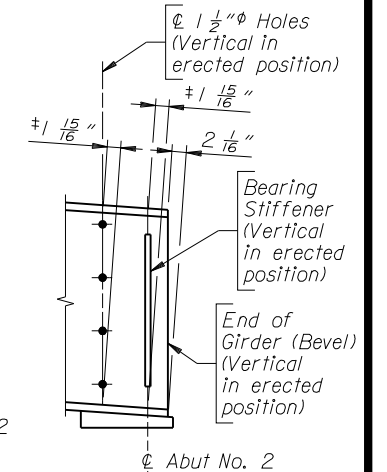


DETAIL D

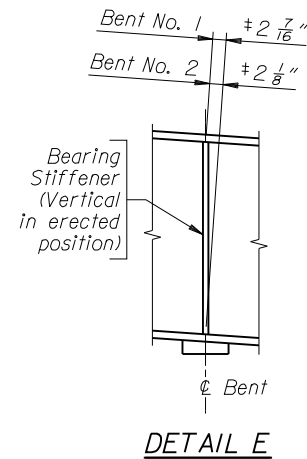


GIRDER ELEVATION

(Longitudinal dimensions are parallel with finished grade)



DETAIL F

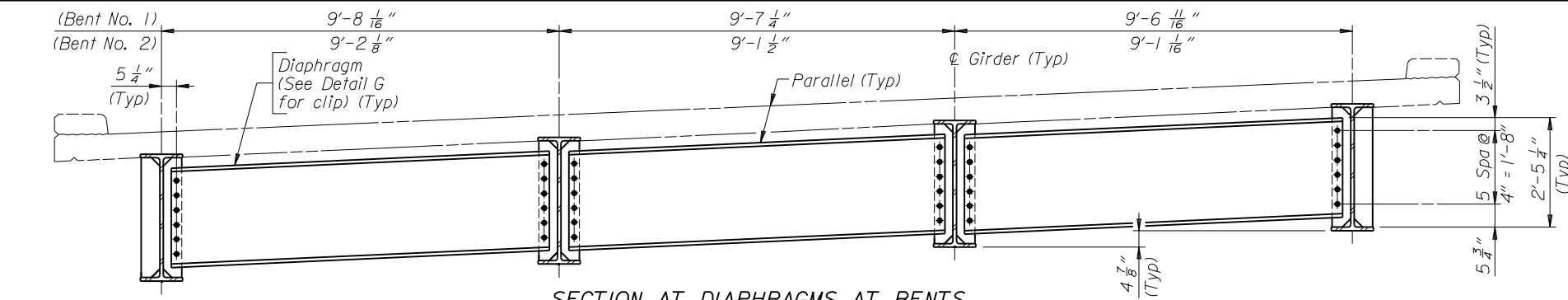


DETAIL E

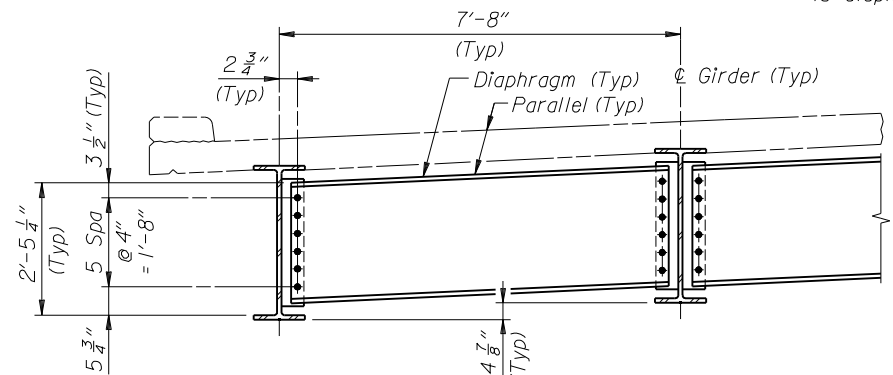
		TABLE OF DIMENSIONS												
		Dimension												
Girder No.		A	B	C	D	E	F	G	H	I	J	K	L	M
1		1'-3"	4 7/8"	1'-7 7/8"	40'-5 5/8"	52'-6 1/8"	40'-4 1/8"	4"	1'-1 3/8"	1'-5 3/8"	136'-6 7/8"	1'-8 7/8"	10'-7 1/8"	10'-7"
2		1'-2 1/8"	4 1/8"	1'-7 3/4"	40'-1 3/4"	52'-3 3/8"	40'-2 7/8"	4"	1'-1 5/8"	1'-5 5/8"	135'-9 1/8"	1'-8 1/8"	10'-6 7/8"	10'-6 5/8"
3		1'-2 1/8"	4 3/4"	1'-7 9/16"	39'-10 3/8"	52'-0"	40'-0 1/8"	4"	1'-1 1/4"	1'-5 1/4"	135'-0 1/8"	1'-8 1/2"	10'-5 3/4"	10'-5 9/16"
4		1'-2 3/4"	4 1/16"	1'-7 7/16"	39'-7 3/8"	51'-8 3/4"	39'-11 1/8"	4"	1'-1 3/8"	1'-5 3/8"	134'-3 5/8"	1'-8 5/8"	10'-5 1/8"	10'-4 1/8"
		Dimension												
Girder No.		N	O	P	Q	R	S	T	U	V	W	X	Y	Z
1		1'-5 1/8"	51'-5 5/8"	31'-4 1/8"	51'-3 1/8"	40'-10 3/8"	40'-8 1/8"	50'-10 5/8"	31'-3 1/8"	50'-10 1/2"	51'-0 7/8"	31'-4 1/8"	50'-11 1/8"	136'-1 3/4"
2		1'-5 7/8"	51'-1"	31'-2 5/8"	51'-1 3/8"	40'-6 9/16"	40'-6 7/8"	50'-6 3/8"	31'-1 3/8"	50'-7 7/8"	50'-8 3/8"	31'-2 5/8"	50'-9 3/8"	135'-4 1/2"
3		1'-5 1/8"	50'-8 7/8"	31'-0 1/8"	50'-10 1/2"	40'-3 3/8"	40'-4 1/8"	50'-2 3/8"	30'-11 1/8"	50'-5 1/4"	50'-4 3/8"	31'-0 1/8"	50'-6 1/2"	134'-7 1/8"
4		1'-5 3/4"	50'-4 1/8"	30'-10 3/4"	50'-8"	39'-11 7/8"	40'-3 1/8"	49'-10 7/8"	30'-9 1/8"	50'-2 1/8"	50'-0 1/4"	30'-10 3/4"	50'-4"	133'-11 1/8"

Note: 1) Dimensions are along ϕ Girder unless noted.
2) Indicated dimensions are between inside of flanges.
3) For Details A, B, and C, see Sheet No. 13.

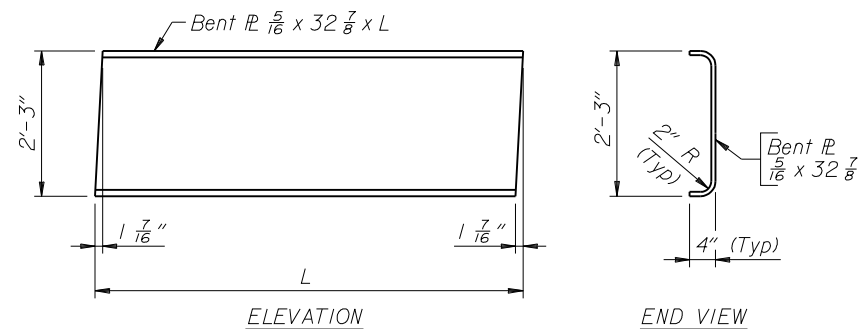
WYOMING DEPARTMENT OF TRANSPORTATION BRIDGE PROGRAM			
SUPERSTRUCTURE DETAILS			
BRIDGE OVER NORTH LARAMIE RIVER			
STA 104+44			
Fletcher Park Road			
0800005		PI	
APPROVED	DESIGN GGG ✓ EEE	Design Section L M Nop	
DATE	DETAIL AAA ✓ GGG	Drwg. No. 0003 Sheet II of 18	
	O.S. CCC ✓ AAA		



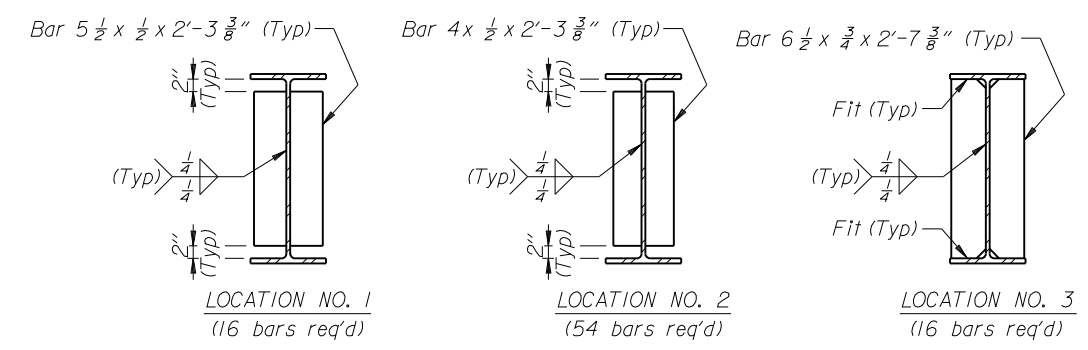
SECTION AT DIAPHRAGMS AT BENTS
(Longitudinal dimensions are parallel with \ominus Bents)
(6 diaphragms req'd)



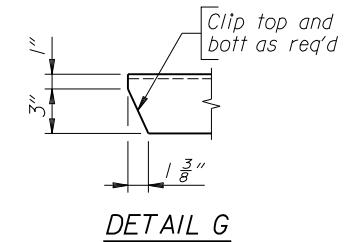
HALF SECTION AT INTERMEDIATE DIAPHRAGMS
(Longitudinal dimensions are radial)
(27 diaphragms req'd)



DIAPHRAGM DETAILS



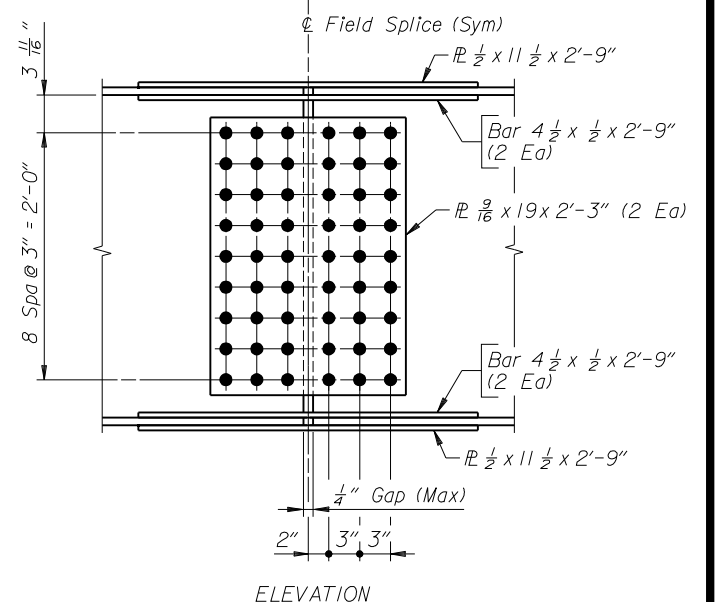
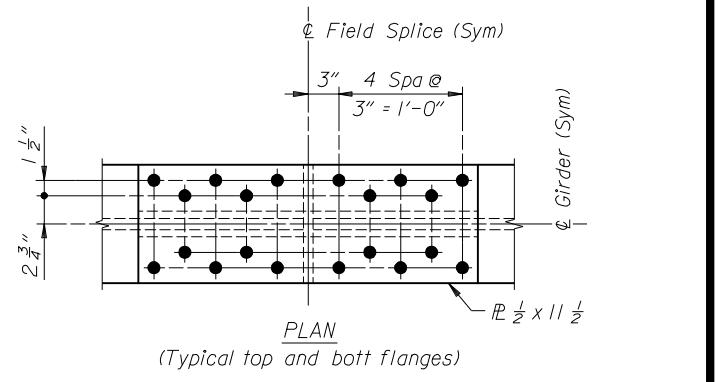
STIFFENER DETAILS



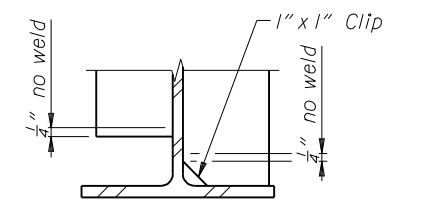
DETAIL G

TABLE OF DIAPHRAGM LENGTHS (L)

Between Girders No.	Bent No. 1	Bent No. 2	Intermediate Locations
1 & 2	9'-0 15/16"	8'-7"	7'-6 15/16"
2 & 3	9'-0 1/4"	8'-6 7/16"	7'-6 15/16"
3 & 4	8'-11 9/16"	8'-6"	7'-6 15/16"

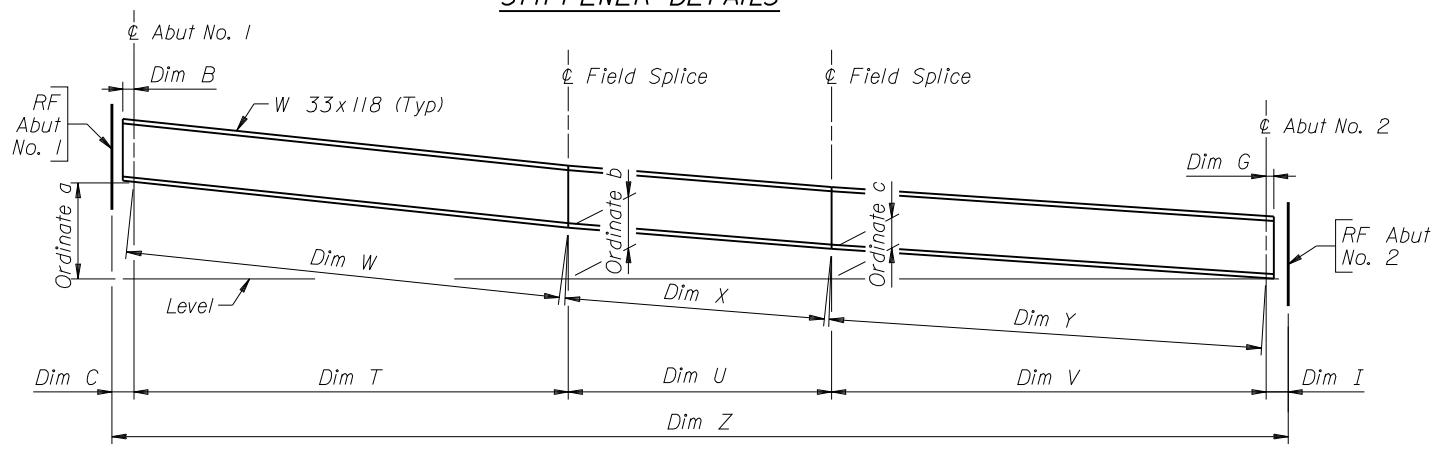


FIELD SPLICE DETAILS
(8 req'd)



STIFFENER CLIP AND WELD DETAIL
(Typ top and bott)

- Note:**
- 1) No camber is required in girders.
 - 2) The distance from center of bolt holes to edges is 1 1/2" unless noted.
 - 3) For locations of girder numbers, see Sheet No. 11.
 - 4) For blocking diagram dimensions, see Table of Dimensions, Sheet No. 11.



BLOCKING DIAGRAM

TABLE OF BLOCKING ORDINATES

Girder No.	Ordinate		
	a	b	c
1	10'-1 3/8"	5'-10 1/16"	3'-5 1/2"
2	9'-9 5/8"	5'-7 7/8"	3'-4 3/8"
3	9'-6 1/8"	5'-5 15/16"	3'-3 1/16"
4	9'-2 1/16"	5'-4"	3'-1 15/16"

WYOMING DEPARTMENT OF TRANSPORTATION
BRIDGE PROGRAM

SUPERSTRUCTURE DETAILS

BRIDGE OVER NORTH LARAMIE RIVER

STA 104+44

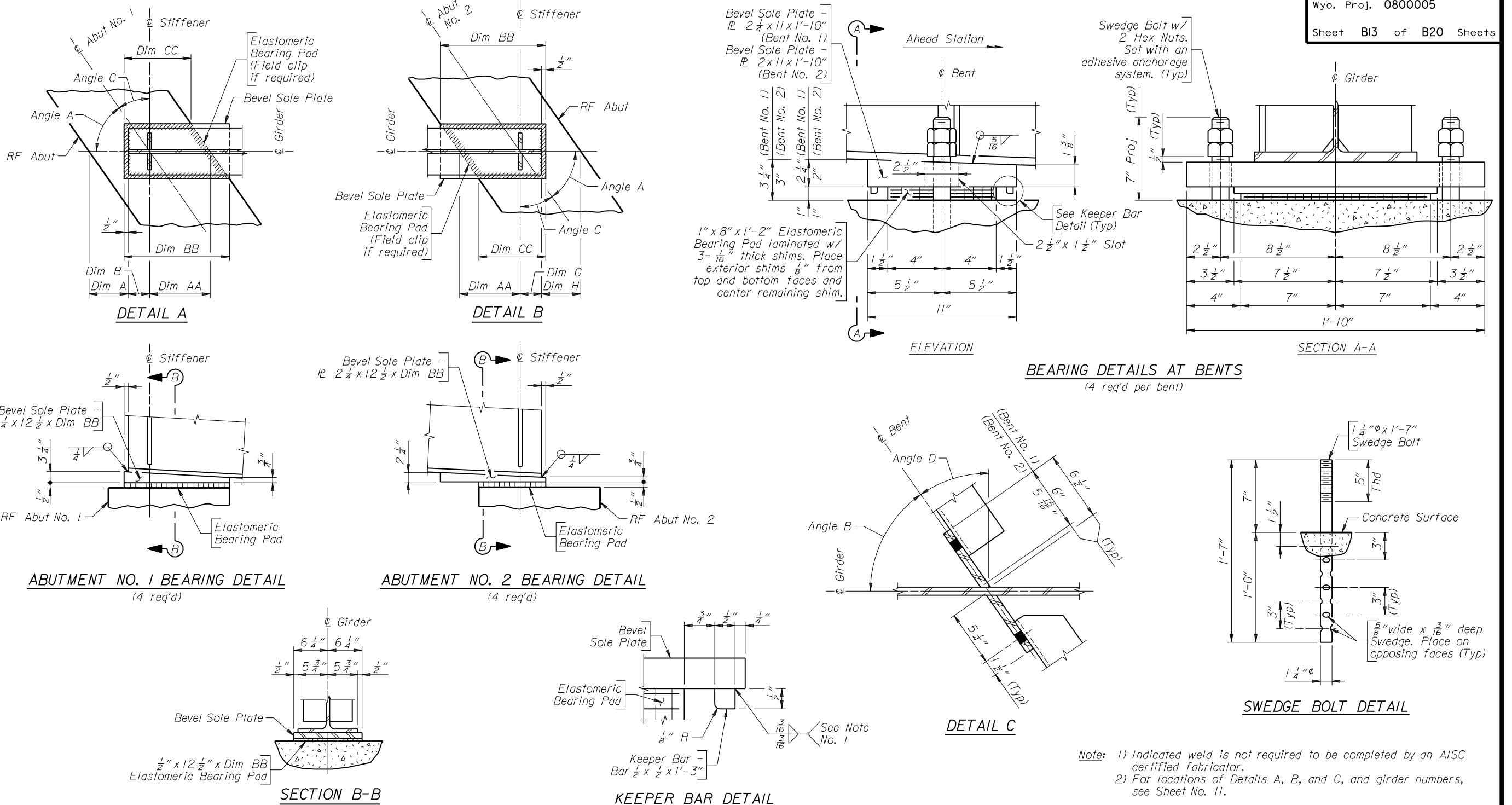
Fletcher Park Road

0800005 PI

APPROVED: GGG ✓ EEE
DESIGN: GGG ✓ EEE
DETAIL: AAA ✓ GGG
DATE: CCC ✓ AAA

Design Section L M Nop
Drwg. No. 0003 Sheet 12 of 18

Wyo. Proj. 0800005
 Sheet B13 of B20 Sheets



BEARING DETAILS AT BENTS
 (4 req'd per bent)

Note: 1) Indicated weld is not required to be completed by an AISC certified fabricator.
 2) For locations of Details A, B, and C, and girder numbers, see Sheet No. 11.

TABLE OF DIMENSIONS AND ANGLES

Girder No.	Dim A	Dim B	Dim G	Dim H	Dim AA		Dim BB		Dim CC		Angle A		Angle B		Angle C		Angle D			
					Abut No. 1	Abut No. 2	Abut No. 1	Abut No. 2	Abut No. 1	Abut No. 2	Abut No. 1	Abut No. 2	Bent No. 1	Bent No. 2	Abut No. 1	Abut No. 2	Bent No. 1	Bent No. 2	Abut No. 1	Abut No. 2
					1	1'-3"	4 7/8"	4"	1'-1 3/8"	1'-7 7/8"	1'-5 3/8"	2'-6 3/4"	2'-1 1/8"	1'-7 7/8"	1'-6 1/4"	48°55'	59°44'	52°12'	56°28'	41°05'
2	1'-2 15/16"	4 1/8"	4"	1'-1 5/16"	1'-7 3/4"	1'-5 1/8"	2'-6 7/16"	2'-1 1/16"	1'-7 3/4"	1'-6 3/8"	49°27'	60°06'	52°40'	56°52'	40°33'	29°54'	37°20'	33°08'		
3	1'-2 13/16"	4 3/4"	4"	1'-1 1/4"	1'-7 9/16"	1'-5 1/4"	2'-6 1/8"	2'-1 5/16"	1'-7 5/8"	1'-6 1/8"	49°58'	60°27'	53°08'	57°16'	40°02'	29°33'	36°52'	32°44'		
4	1'-2 3/4"	4 1/16"	4"	1'-1 3/16"	1'-7 7/16"	1'-5 3/16"	2'-5 1/16"	2'-1 3/16"	1'-7 1/2"	1'-6 1/8"	50°29'	60°47'	53°35'	57°39'	39°31'	29°13'	36°25'	32°21'		

WYOMING DEPARTMENT OF TRANSPORTATION
 BRIDGE PROGRAM

SUPERSTRUCTURE DETAILS

BRIDGE OVER NORTH LARAMIE RIVER

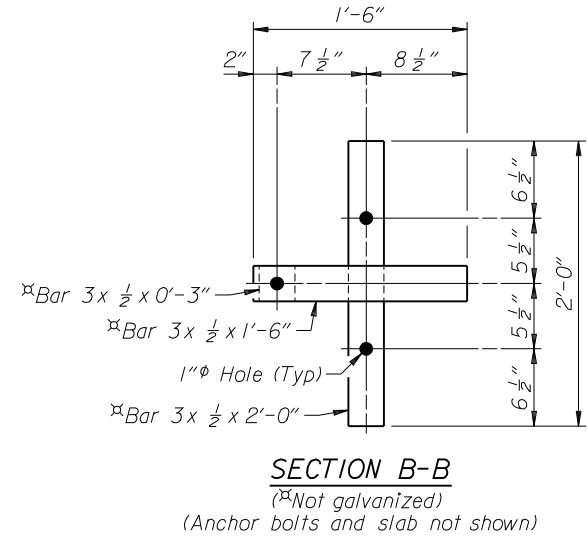
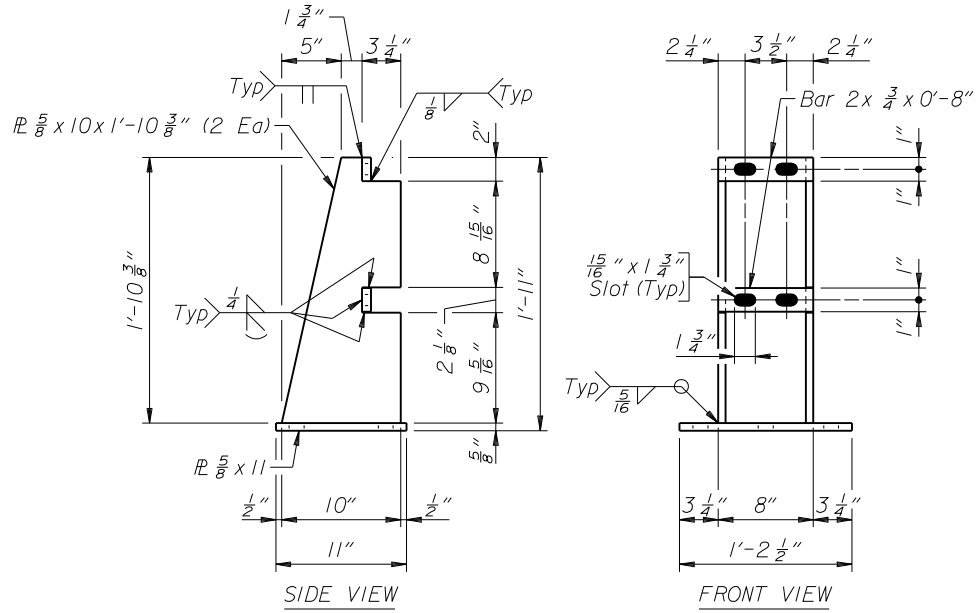
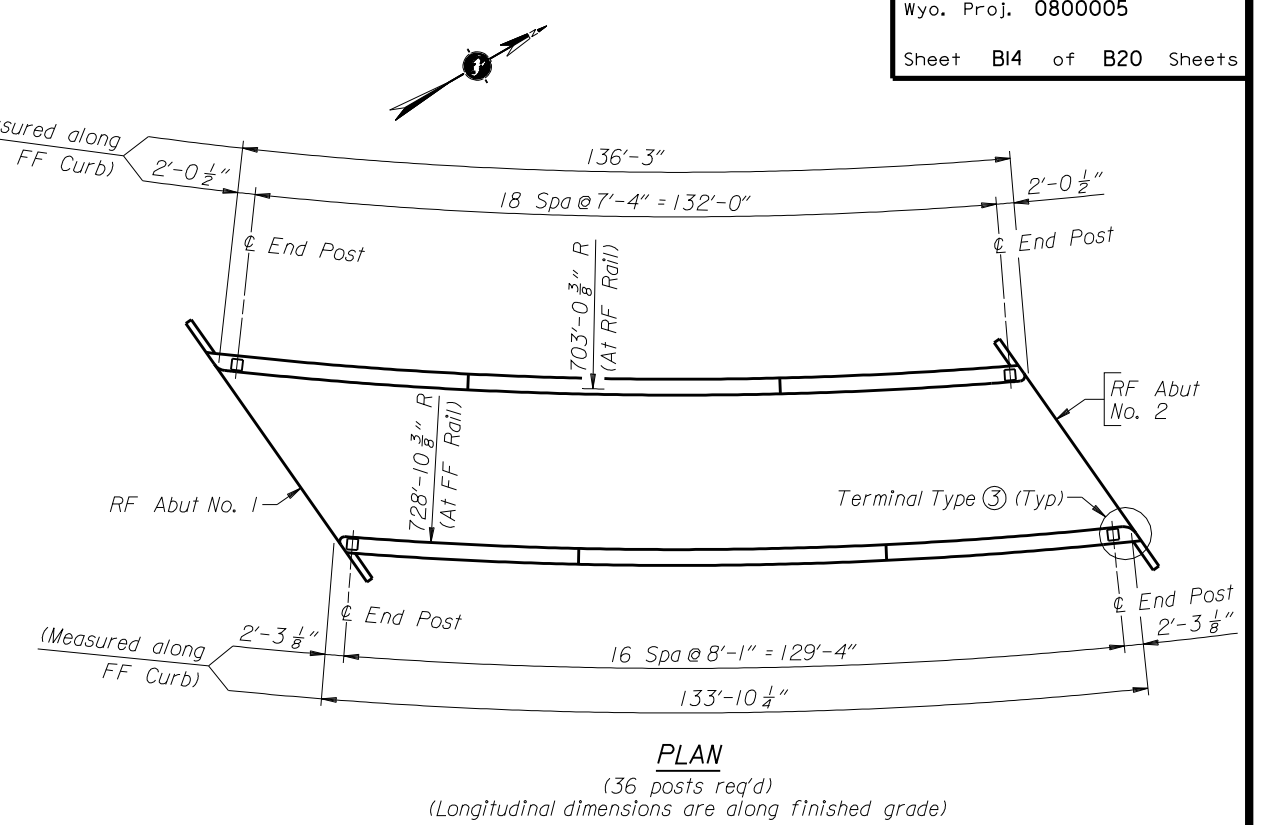
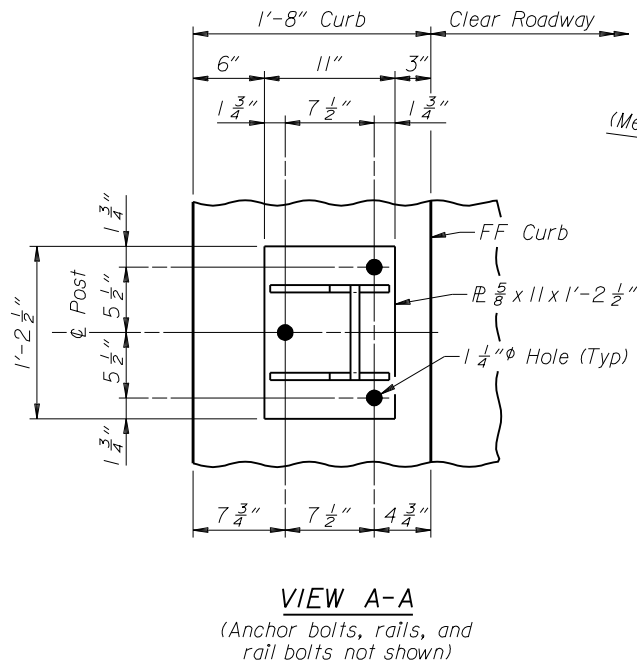
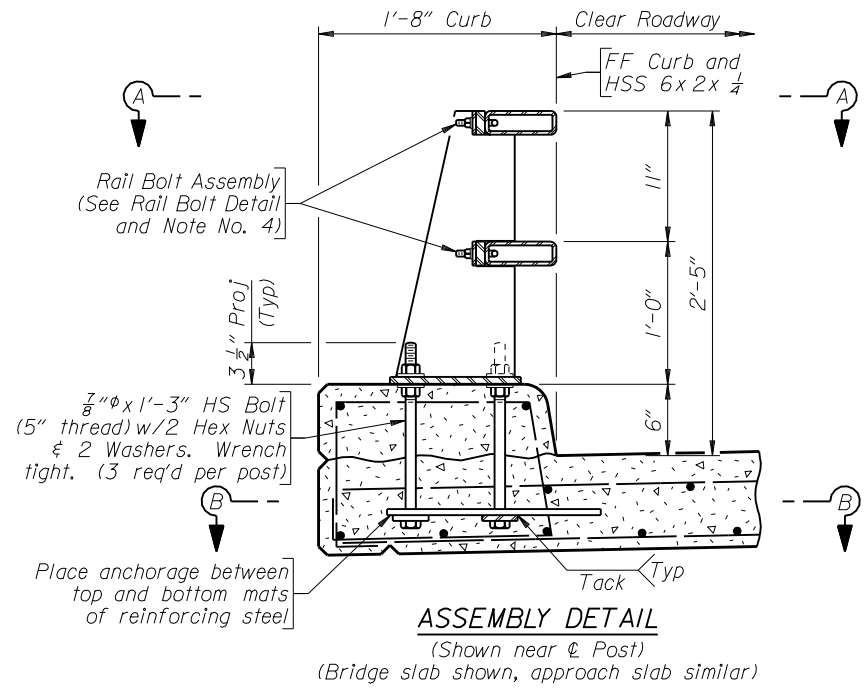
STA 104+44

Fletcher Park Road

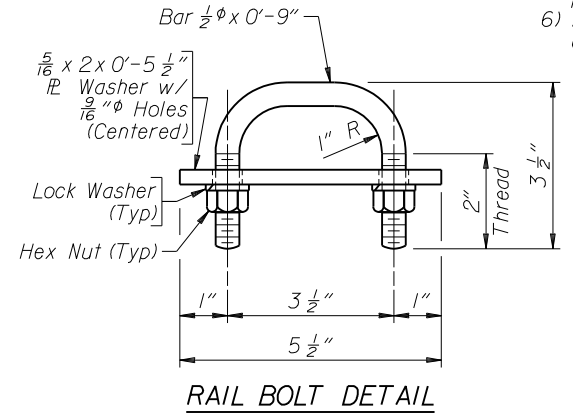
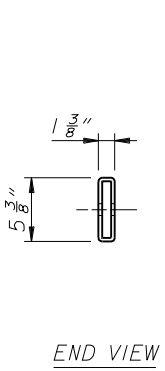
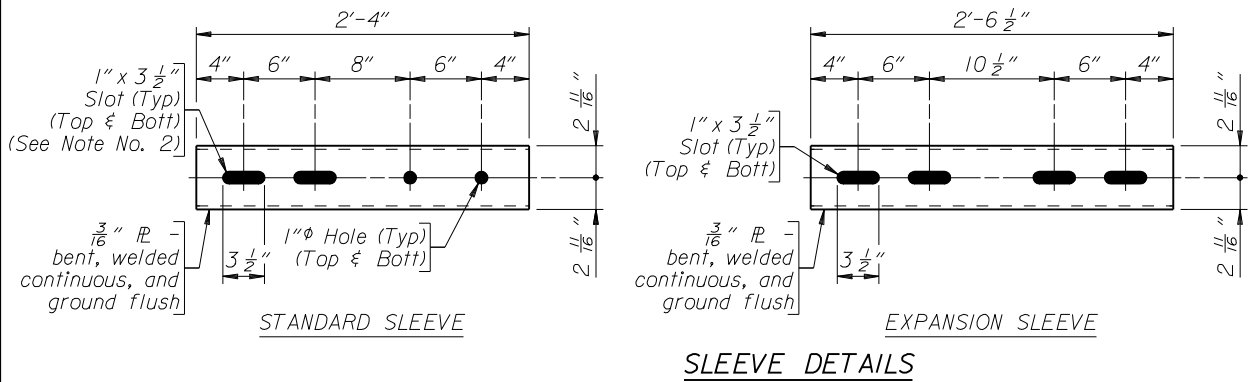
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APPROVED: GGG ✓ EEE
 DESIGN: GGG ✓ EEE
 DETAIL: AAA ✓ GGG
 DATE: CCC ✓ AAA

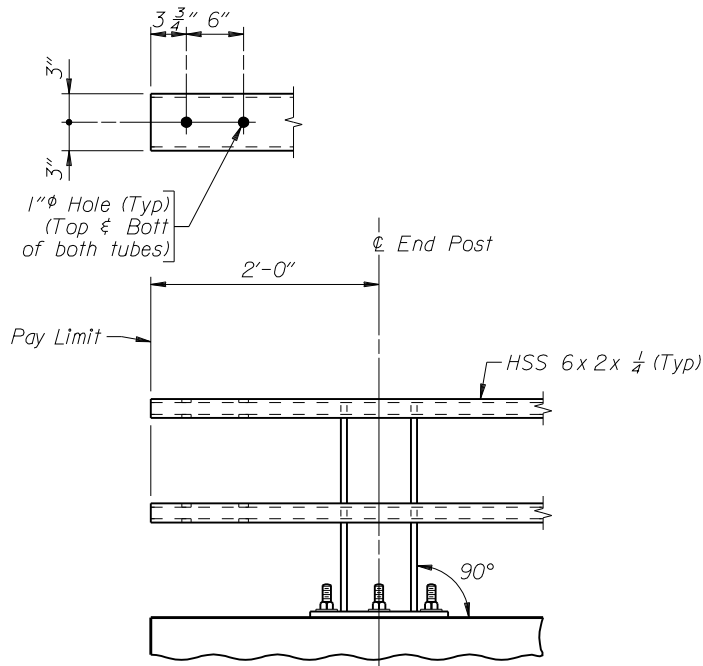
Design Section L M Nop
 Drwg. No. 0003 Sheet 13 of 18



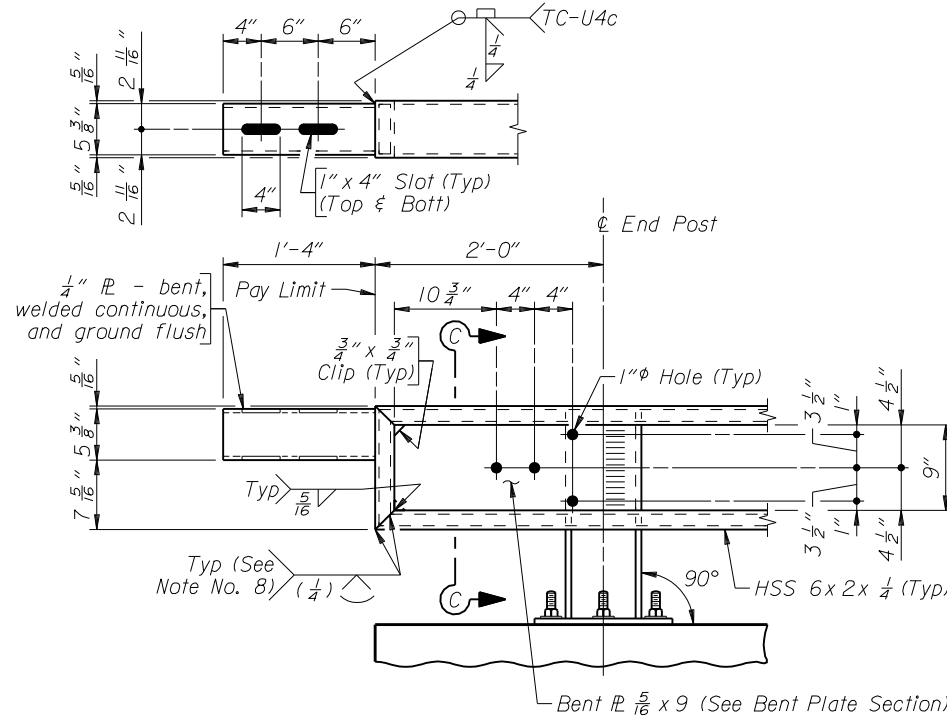
- Note:**
- 1) Ensure the expansion splice is located in the railing panel which passes over the bridge expansion joint as indicated on the plan.
 - 2) Slots may be omitted in standard sleeves where bolts are required on one side of splice only.
 - 3) Anchor bolts may be tack welded to anchorage (Shop or field).
 - 4) At post locations, drill two 1 1/16" ϕ holes in the rails to receive rail bolts (Shop or field). See Post Details for hole spacing.
 - 5) Before installing rails, paint cut, drilled, or otherwise damaged surface areas of the railing components with two coats of zinc rich paint conforming to the requirements of ASTM A 780.
 - 6) After installing the rails, paint exposed bolt threads with two coats of zinc rich paint conforming to the requirements of ASTM A 780.



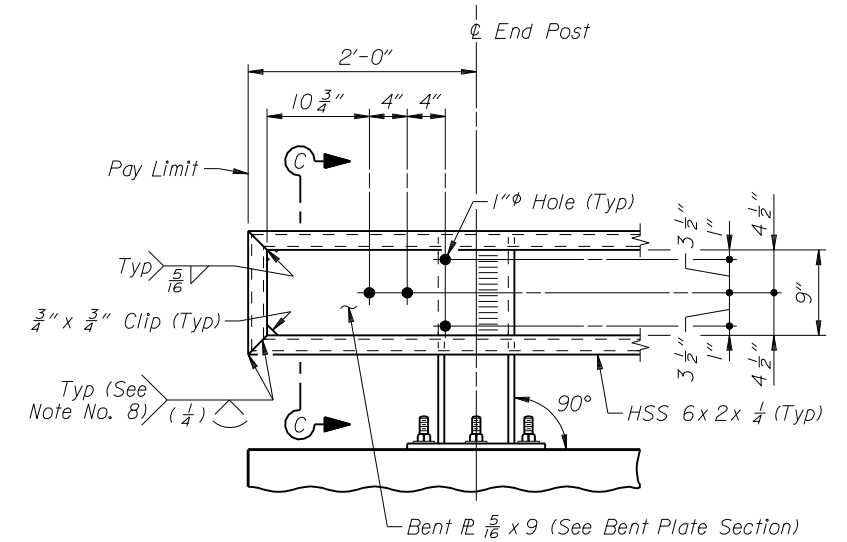
WYOMING DEPARTMENT OF TRANSPORTATION BRIDGE PROGRAM			
BRIDGE RAILING DETAILS			
BRIDGE OVER NORTH LARAMIE RIVER			
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Fletcher Park Road			
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APPROVED	DESIGN	Design Section L M Nop	
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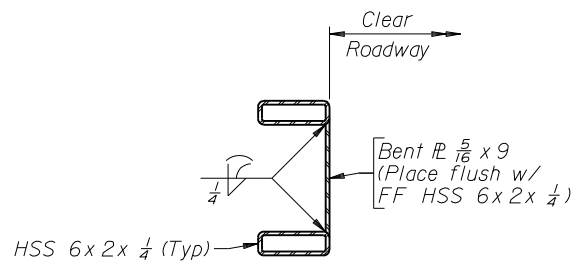
ELEVATION AT TERMINAL TYPE ①
(Box beam guardrail connection)



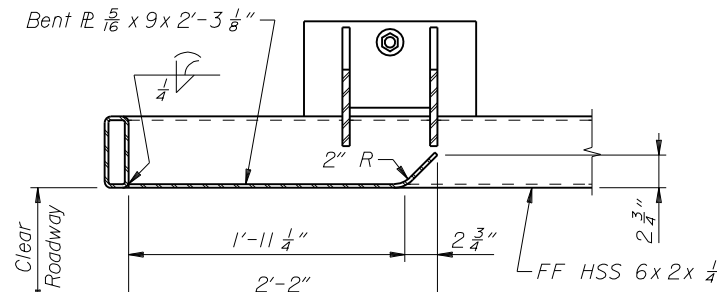
ELEVATION AT TERMINAL TYPE ②
(Box beam guardrail connection, Interstate exit end only)
(With provision for temporary corrugated beam guardrail connection)



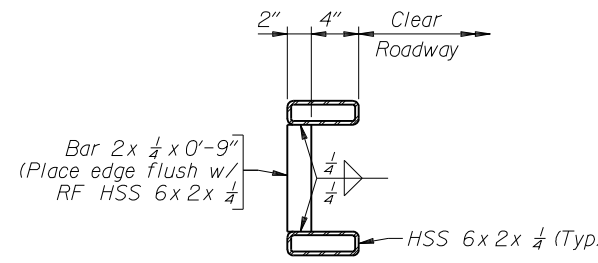
ELEVATION AT TERMINAL TYPE ③
(Corrugated beam guardrail connection or no guardrail connection)



SECTION C-C

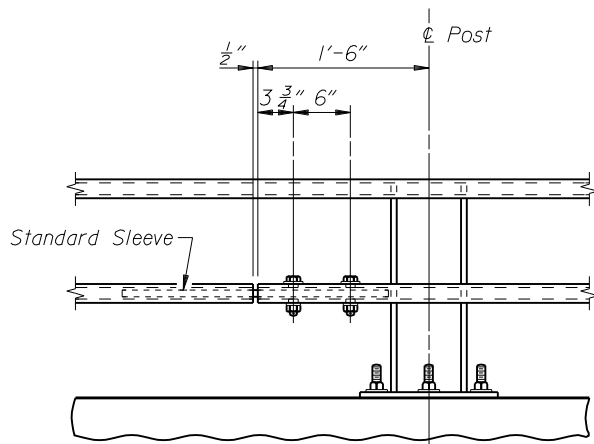


BENT PLATE SECTION
(Top rail not shown)
(Req'd at Type ② and ③ Terminals)

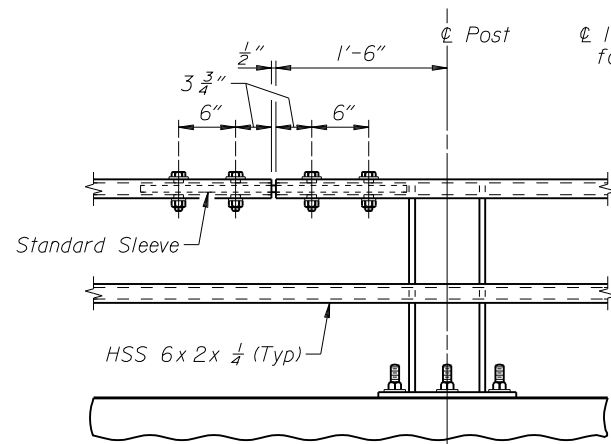


BRACE BAR DETAIL
(See Note No. 7)

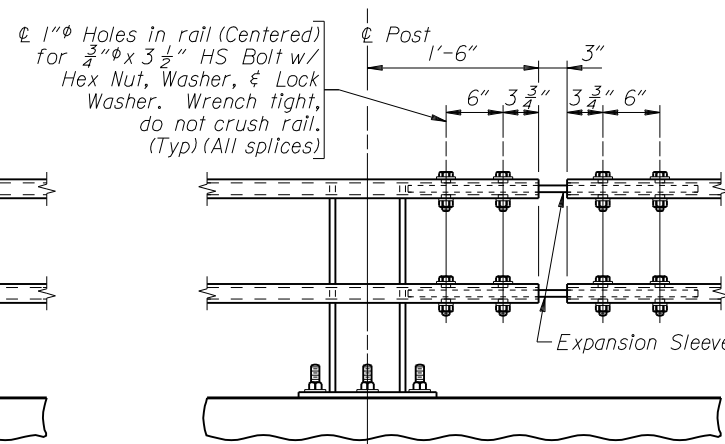
- Note:
- 1) Either top or bottom rail in terminal section may be the longer rail.
 - 2) Ensure each rail length is continuous over a minimum of two posts. Railing that is part of a type ② or ③ terminal is continuous if either the top or bottom rail in the terminal is continuous over a minimum of two posts.
 - 3) In rehabilitation work, ensure railing that cannot feasibly be made continuous over a minimum of two posts has a double-bolted splice.
 - 4) Splices may be located on either side of post.
 - 5) Not more than one splice is permitted per side of post, except at expansion splices.
 - 6) Do not shop splice rails.
 - 7) Ensure a brace bar is placed 2'-0" from the splice end of the shorter tube at type ② and ③ terminals.
 - 8) Ensure the fabricator prepares a sample of the indicated joint and it is macroetched to demonstrate that the required effective throat is achieved.



STANDARD SPLICE
(Top or bottom rail)

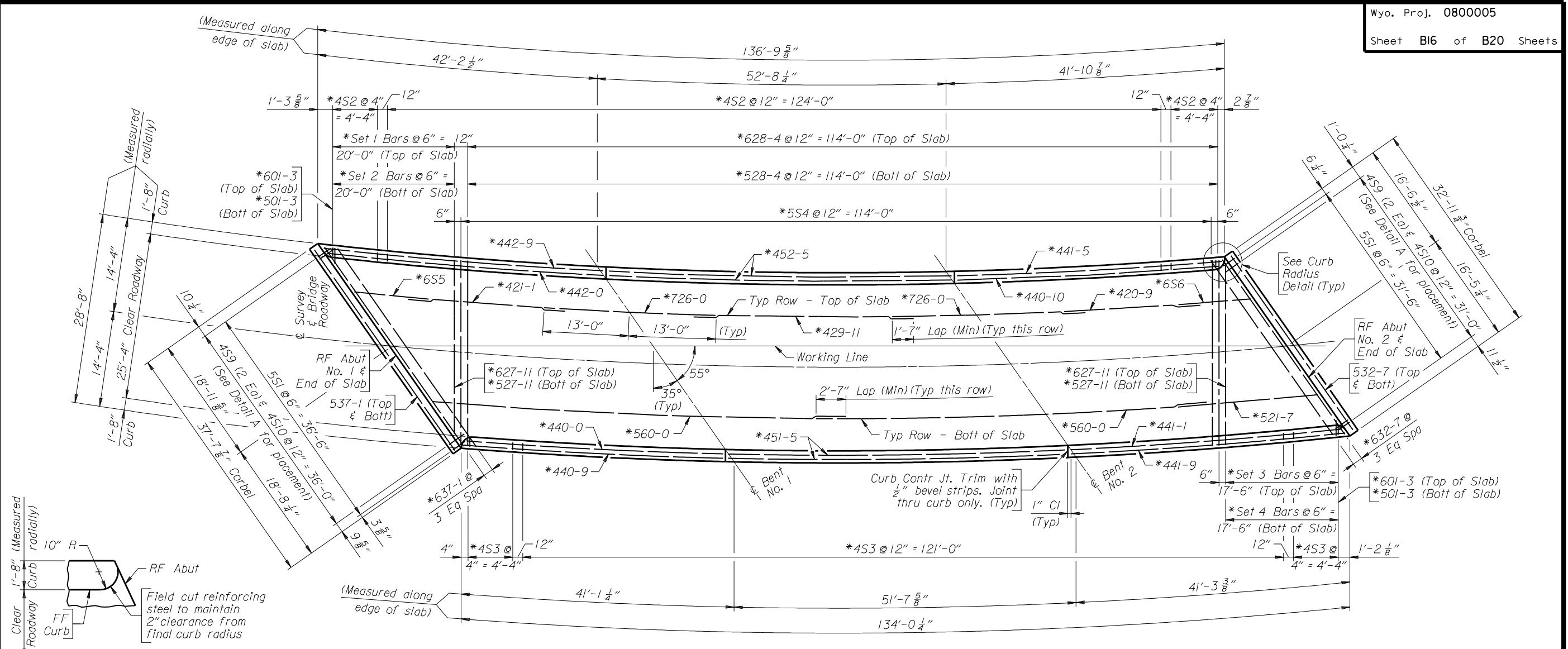


DOUBLE-BOLTED SPLICE
(Top or bottom rail)
SPLICE DETAILS



EXPANSION SPLICE
(Top and bottom rail)

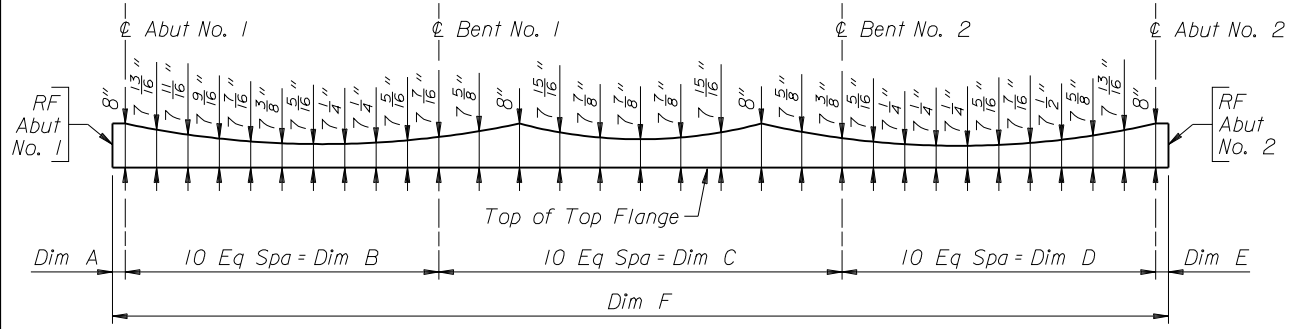
WYOMING DEPARTMENT OF TRANSPORTATION BRIDGE PROGRAM	
BRIDGE RAILING DETAILS	
BRIDGE OVER NORTH LARAMIE RIVER	
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0800005 PI	
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DATE	DETAIL <input checked="" type="checkbox"/> CCC <input checked="" type="checkbox"/> AAA
Design Section L M Nop Drwg. No. 0003 Sheet 15 of 18	



CURB RADIUS DETAIL

PLAN
(Longitudinal dimensions are along finished grade and parallel with working line unless noted)
(Corbel dimensions include slope and grade)

- Note: 1) Place transverse reinforcing steel perpendicular to working line unless otherwise shown.
2) Place concrete in slab in one continuous operation at the minimum rate of 17 feet per hour.
3) For Bridge Railing Details, see Sheets No. 14 and 15.
4) For Detail A, see Sheet No. 18.

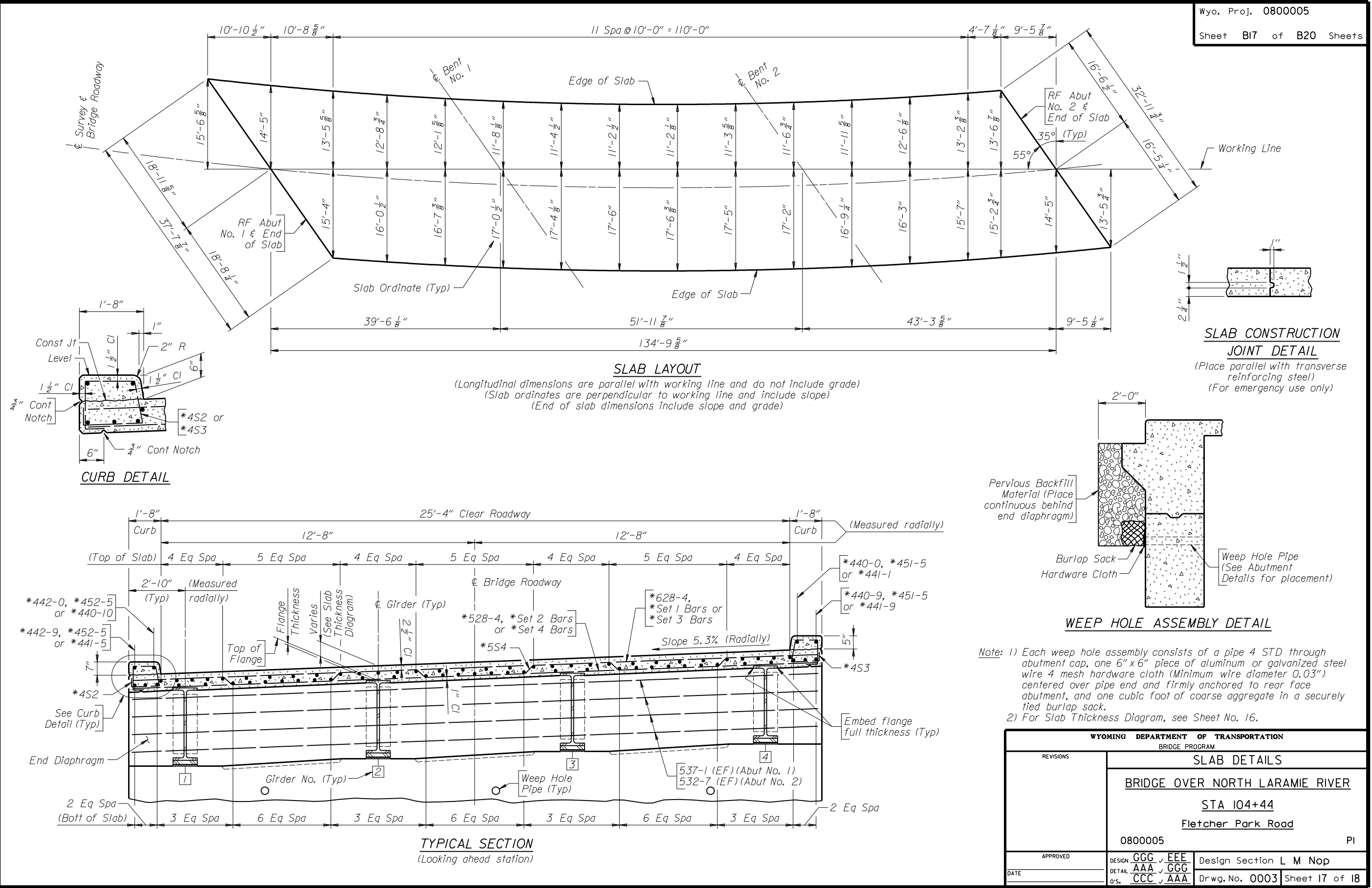


SLAB THICKNESS DIAGRAM

(Dimensions are at @ Girder)
(Longitudinal dimensions are along finished grade)
(Includes correction for dead load deflection)

Girder No.	Dimension					
	A	B	C	D	E	F
1	1'-7 7/8"	40'-5 3/8"	52'-7"	40'-5"	1'-5 3/8"	136'-6 5/8"
2	1'-7 3/4"	40'-1 3/4"	52'-3 3/8"	40'-2 7/8"	1'-5 1/4"	135'-9"
3	1'-7 5/8"	39'-10 5/8"	52'-0"	40'-0 7/8"	1'-5 1/4"	135'-0 3/8"
4	1'-7 1/2"	39'-7 1/8"	51'-8 3/4"	39'-11"	1'-5 1/8"	134'-3 1/2"

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REVISIONS		SLAB DETAILS	
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APPROVED	DESIGN GGG ✓ EEE	Design Section L M Nop	
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Note: 1) Each weep hole assembly consists of a pipe 4 STD through abutment cap, one 6" x 6" piece of aluminum or galvanized steel wire 4 mesh hardware cloth (Minimum wire diameter 0.03") centered over pipe end and firmly anchored to rear face abutment, and one cubic foot of coarse aggregate in a securely tied burlap sack.
2) For Slab Thickness Diagram, see Sheet No. 16.

WYOMING DEPARTMENT OF TRANSPORTATION		BRIDGE PROGRAM	
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APPROVED	DESIGN GGG ✓ EEE	Design Section L M Nop	
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TABLE OF SCREED ELEVATIONS

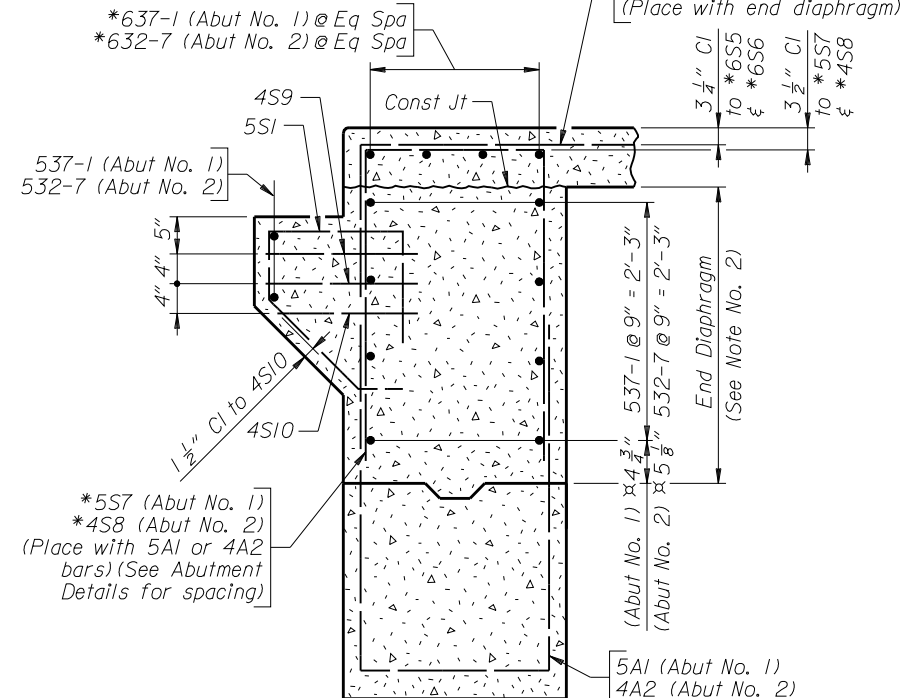
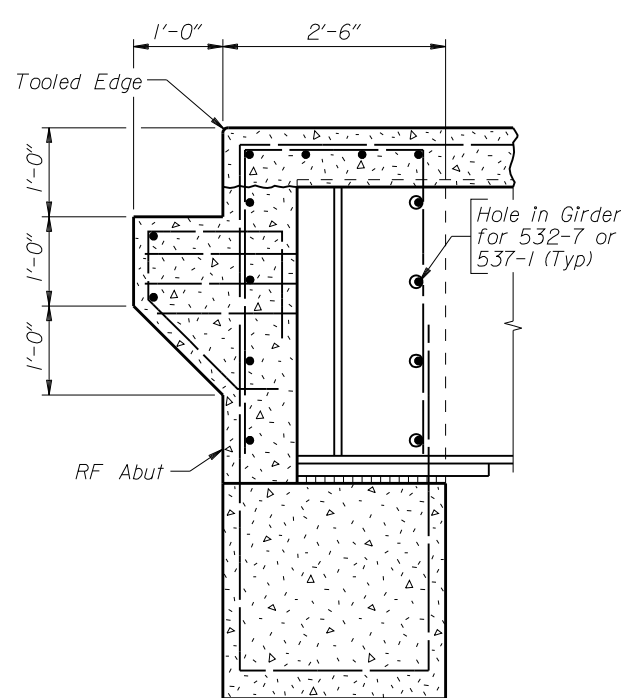
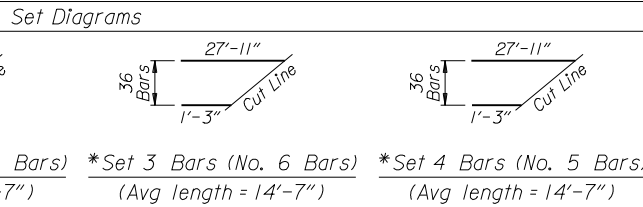
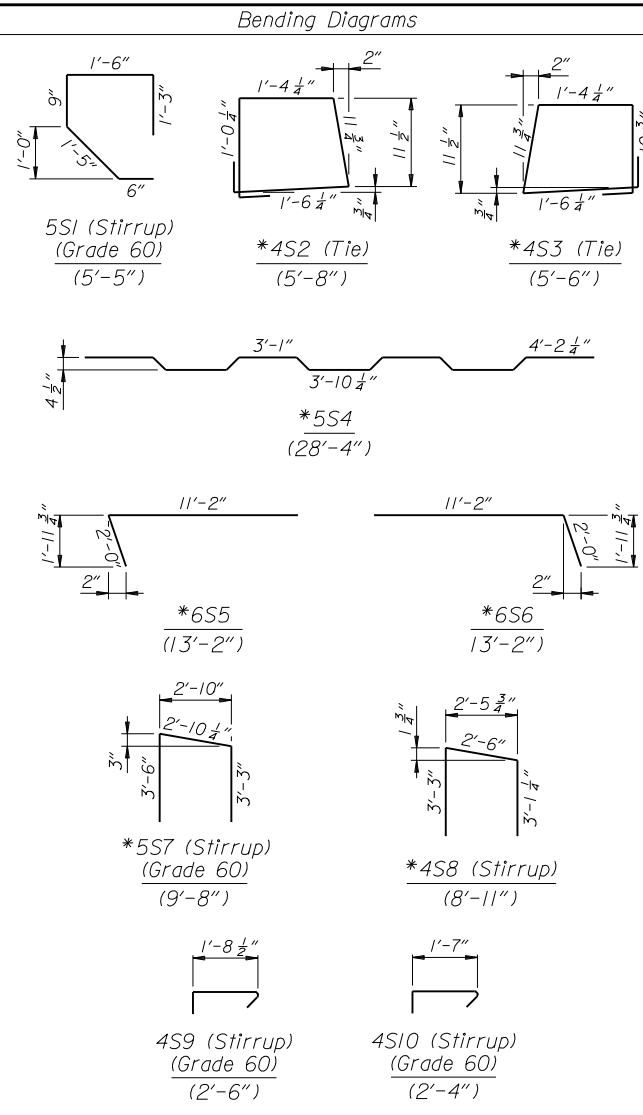
Add base elevation 4700.00 to all elevations listed in table. Elevations include grade, slope, and correction for dead load deflection. For screed line locations, see Sheet No. 3.

Wyo. Proj. 0800005
Sheet B18 of B20 Sheets

Screed Line No.	Tenth Point of Spans																															
	1.0 @ Abut No. 1	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0 @ Bent No. 1	2.1	2.2	2.3	2.4	2.5	2.6	2.7	2.8	2.9	3.0 @ Bent No. 2	3.1	3.2	3.3	3.4	3.5	3.6	3.7	3.8	3.9	4.0 @ Abut No. 2	
①	100.07	99.71	99.36	99.00	98.65	98.30	97.95	97.60	97.26	96.92	96.59	96.16	95.74	95.33	94.92	94.52	94.12	93.72	93.32	92.93	92.55	92.27	91.99	91.71	91.44	91.16	90.89	90.63	90.36	90.10	89.84	
②	100.00	99.65	99.29	98.94	98.59	98.25	97.90	97.56	97.22	96.89	96.56	96.13	95.72	95.31	94.91	94.51	94.11	93.72	93.33	92.95	92.57	92.29	92.01	91.73	91.46	91.20	90.93	90.67	90.40	90.14	89.88	
③	99.82	99.48	99.14	98.80	98.46	98.13	97.79	97.46	97.13	96.81	96.49	96.08	95.68	95.29	94.89	94.51	94.12	93.74	93.36	92.99	92.62	92.35	92.08	91.81	91.55	91.29	91.03	90.78	90.52	90.27	90.02	
④	99.67	99.34	99.01	98.68	98.35	98.03	97.70	97.38	97.06	96.75	96.44	96.04	95.66	95.27	94.90	94.52	94.15	93.78	93.41	93.05	92.69	92.43	92.16	91.91	91.65	91.40	91.15	90.90	90.65	90.40	90.16	
⑤	99.54	99.22	98.90	98.58	98.26	97.95	97.63	97.32	97.02	96.71	96.41	96.03	95.65	95.28	94.91	94.55	94.19	93.83	93.47	93.12	92.77	92.51	92.26	92.01	91.76	91.52	91.27	91.03	90.79	90.55	90.31	
⑥	99.50	99.18	98.86	98.55	98.24	97.92	97.61	97.31	97.00	96.70	96.41	96.03	95.65	95.29	94.92	94.56	94.20	93.85	93.49	93.15	92.81	92.55	92.30	92.05	91.81	91.56	91.32	91.08	90.84	90.61	90.37	

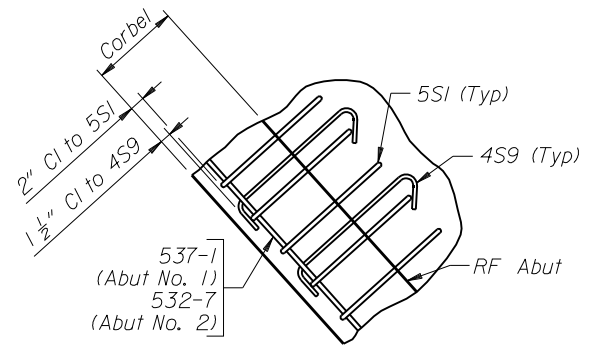
BILL OF REINFORCEMENT

Location	Mark	Number Required
End Diaphragms	*4S8	30
	4S9	138
	4S10	69
	5S1	138
	*5S7	33
	532-7	10
	537-1	10
	*6S5	32
	*6S6	32
	Weight	1845 LB
Slab and Curbs	*Weight	*1584 LB
	*4S2	154
	*4S3	152
	*420-9	32
	*421-1	32
	*429-11	32
	*440-0	1
	*440-9	1
	*440-10	1
	*441-1	1
	*441-5	1
	*441-9	1
	*442-0	1
	*442-9	1
	*451-5	2
	*452-5	2
	*5S4	114
	*521-7	35
	*528-4	116
	*560-0	70
	*Set 2 Bars	1
	*Set 4 Bars	1
	*628-4	116
*632-7	4	
*637-1	4	
*Set 1 Bars	1	
*Set 3 Bars	1	
*726-0	64	
*Weight	*26,478 LB	

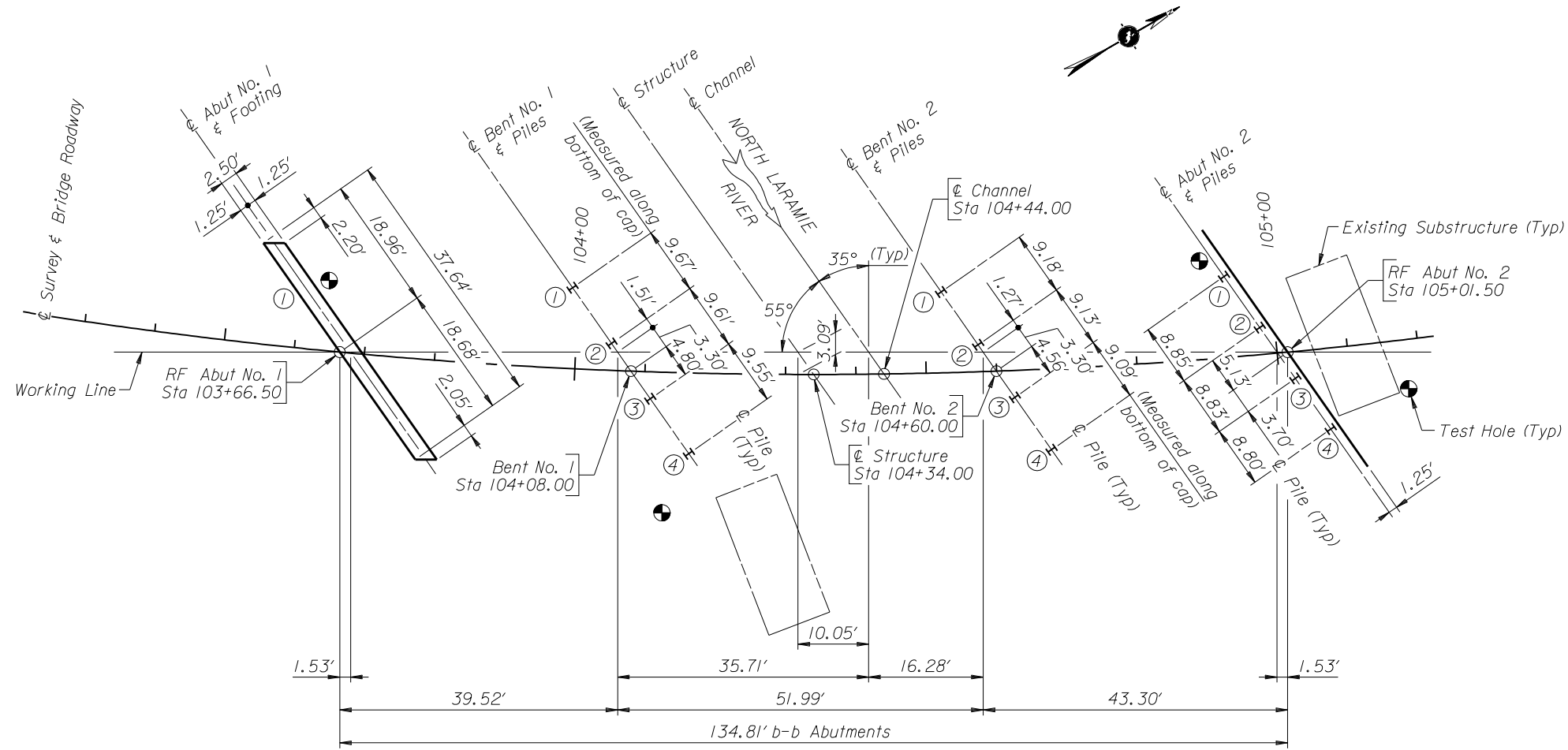


TYPICAL SECTIONS THRU END DIAPHRAGM
(Dimensions are perpendicular to RF Abut)

- Note:
- 1) Ensure the reinforcing steel fabricator prefixes superstructure bar marks with numeral 5.
 - 2) Ensure end diaphragms attain 80% of ultimate design strength (f_c) by cylinder tests before placing slab.
 - 3) Dimension is at edge of end diaphragm.
 - 4) The estimated quantity of class A concrete for slab is 100.1 CY.
 - 5) The estimated quantity of class B concrete for end diaphragms and curbs is 28.4 CY.
 - 6) For location of Detail A, see Sheet No. 16.



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REVISIONS		SLAB DETAILS	
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APPROVED	DESIGN GGG ✓ EEE	Design Section L M Nop	
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	D.S. CCC ✓ AAA		



SUBSTRUCTURE LAYOUT
(Longitudinal dimensions are along working line)

Note: 1) Piles at Abutment No. 2 are HP 10x42. Piles at bents are HP 14x73.
2) Piles No. ① and ④ at bents are battered.

SUBSTRUCTURE DATA			
Location	Pile Elevations		Bottom of Footing Elevation
	Piles No. ① - ④ Top	Bottom	
Abut No. 1	—	—	4792.00
Bent No. 1	4791.83	4774.83	—
Bent No. 2	4787.99	4752.99	—
Abut No. 2	4784.62	4760.62	—

WYOMING DEPARTMENT OF TRANSPORTATION BRIDGE PROGRAM			
FINAL GEOLOGY LAYOUT			
BRIDGE OVER NORTH LARAMIE RIVER			
STA 104+44			
Fletcher Park Road			
0800005			PI
APPROVED	DESIGN	Design Section L M Nop	
DATE	DETAIL	Drwg. No. Sheet 1 of 1	
	D'S.		