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9	BRIDGE SUMMARY
10	CRASH CUSHION SUMMARY
11	STORM DRAIN PIPE SUMMARY
12-13	ROADWAY PLAN AND PROFILE
14-15	ROADWAY GRADING DETAIL
16	STORM DRAIN PLAN AND PROFILE
17-18	SCOUR COUNTERMEASURE
19	POLLUTION PREVENTION PLAN
20	SIGN SUMMARY
21	SIGNING AND PAVEMENT MARKING PLAN
22	SIGN DETAIL
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LEADING IDAHO LOCAL BRIDGE PROGRAM

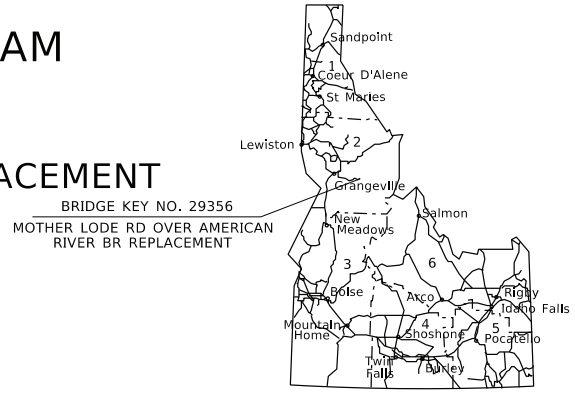
PLAN AND PROFILE OF PROPOSED

MOTHER LODE RD OVER AMERICAN RIVER BR REPLACEMENT

BRIDGE KEY NO. 29356

IDAHO COUNTY

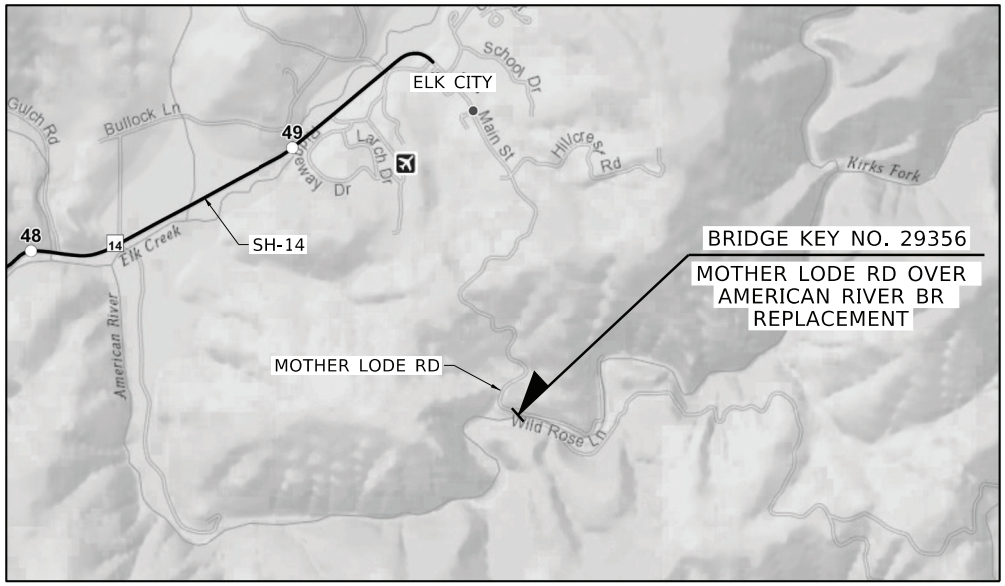
MARCH, 2026



SCALES IN FEET

HORIZONTAL 0 20 40 FEET

VERTICAL 0 5 10 FEET



VICINITY MAP SCALE

3/8 0 3/8 3/4

MILES

REVISIONS			
NO.	DATE	BY	DESCRIPTION

THE DIMENSIONS SHOWN ON THE PLANS SHALL BE ATTAINED WITHIN LIMITS OF PRECISION THAT GOOD CONSTRUCTION PRACTICES WILL PERMIT

SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY

CADD FILE NAME 29356 TITL D01.dgn

DRAWING DATE: 3/26/2026

DAVID EVANS AND ASSOCIATES INC.

PROJECT NO.

TITLE SHEET

MOTHER LODE RD OVER AMERICAN RIVER BR REPLACEMENT

ENGLISH

COUNTY IDAHO

KEY NUMBER 29356

SHEET 1 OF 24

Approved for Advertising

Date Approved

March 24, 2026 12:59:00 PM
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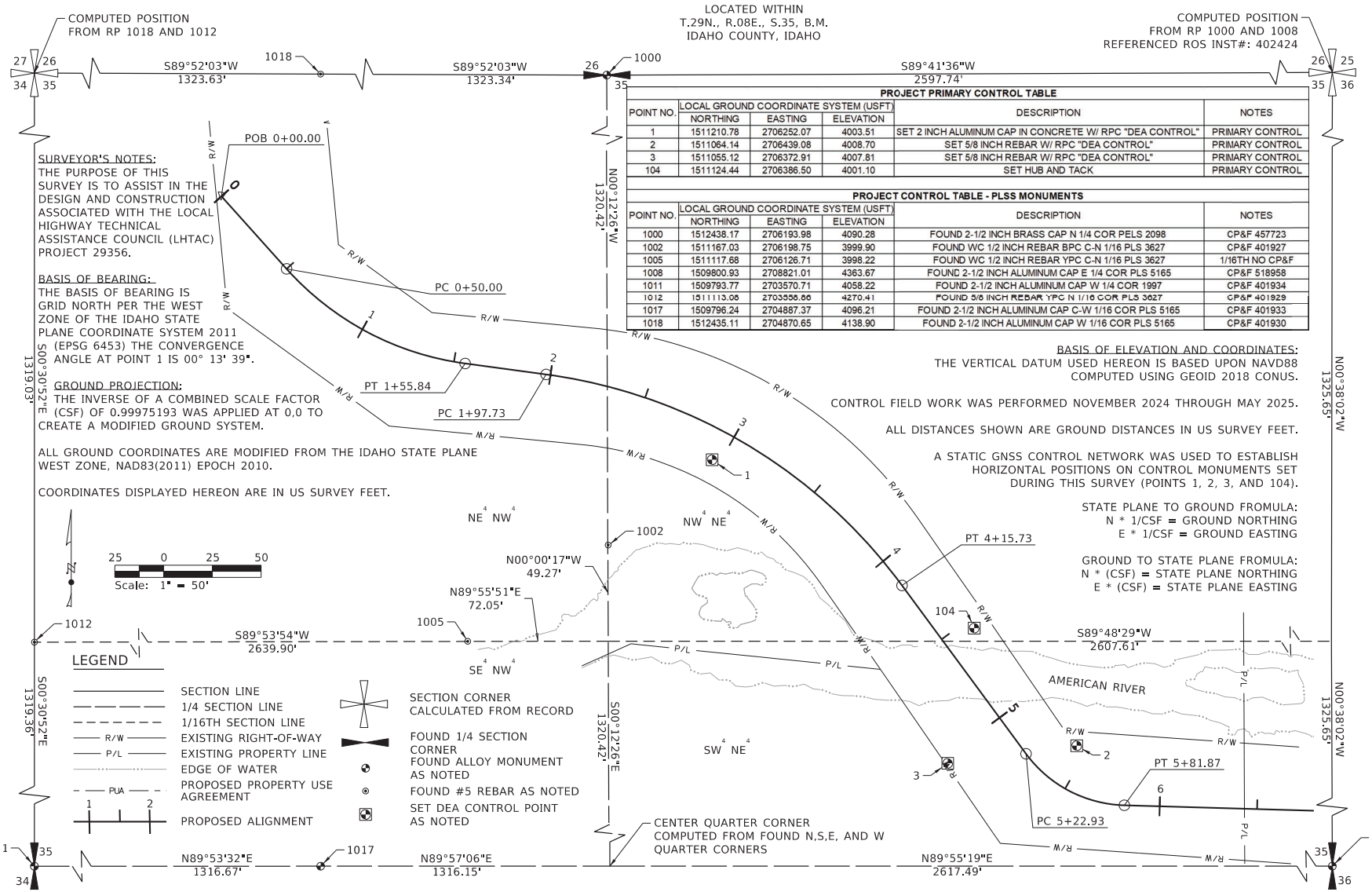

SURVEYOR'S NOTES:
THE PURPOSE OF THIS SURVEY IS TO ASSIST IN THE DESIGN AND CONSTRUCTION ASSOCIATED WITH THE LOCAL HIGHWAY TECHNICAL ASSISTANCE COUNCIL (LHTAC) PROJECT 29356.

BASIS OF BEARING:
THE BASIS OF BEARING IS GRID NORTH PER THE WEST ZONE OF THE IDAHO STATE PLANE COORDINATE SYSTEM 2011 (EPSG 6453) THE CONVERGENCE ANGLE AT POINT 1 IS 00° 13' 39".

GROUND PROJECTION:
THE INVERSE OF A COMBINED SCALE FACTOR (CSF) OF 0.99975193 WAS APPLIED AT 0,0 TO CREATE A MODIFIED GROUND SYSTEM.

ALL GROUND COORDINATES ARE MODIFIED FROM THE IDAHO STATE PLANE WEST ZONE, NAD83(2011) EPOCH 2010.

COORDINATES DISPLAYED HEREON ARE IN US SURVEY FEET.

PROJECT PRIMARY CONTROL TABLE

POINT NO.	LOCAL GROUND COORDINATE SYSTEM (USFT) NORTHING	EASTING	ELEVATION	DESCRIPTION	NOTES
1	1511210.78	2706252.07	4003.51	SET 2 INCH ALUMINUM CAP IN CONCRETE W/ RPC "DEA CONTROL"	PRIMARY CONTROL
2	1511064.14	2706439.08	4008.70	SET 5/8 INCH REBAR W/ RPC "DEA CONTROL"	PRIMARY CONTROL
3	1511055.12	2706372.91	4007.81	SET 5/8 INCH REBAR W/ RPC "DEA CONTROL"	PRIMARY CONTROL
104	1511124.44	2706386.50	4001.10	SET HUB AND TACK	PRIMARY CONTROL

PROJECT CONTROL TABLE - PLSS MONUMENTS

POINT NO.	LOCAL GROUND COORDINATE SYSTEM (USFT) NORTHING	EASTING	ELEVATION	DESCRIPTION	NOTES
1000	1512438.17	2706193.98	4090.28	FOUND 2-1/2 INCH BRASS CAP N 1/4 COR PELS 2098	CP&F 457723
1002	1511167.03	2706198.75	3999.90	FOUND WC 1/2 INCH REBAR BPC C-N 1/16 PLS 3627	CP&F 401927
1005	1511117.68	2706126.71	3998.22	FOUND WC 1/2 INCH REBAR YPC C-N 1/16 PLS 3627	1/16TH NO CP&F
1008	1509800.93	2708821.01	4363.67	FOUND 2-1/2 INCH ALUMINUM CAP E 1/4 COR PLS 5165	CP&F 518958
1011	1509793.77	2703570.71	4058.22	FOUND 2-1/2 INCH ALUMINUM CAP W 1/4 COR 1997	CP&F 401934
1012	1511113.06	2703556.66	4270.41	FOUND 5/8 INCH REBAR YPC N 1/16 COR PLS 3627	CP&F 401929
1017	1509796.24	2704887.37	4096.21	FOUND 2-1/2 INCH ALUMINUM CAP C-W 1/16 COR PLS 5165	CP&F 401933
1018	1512435.11	2704870.65	4138.90	FOUND 2-1/2 INCH ALUMINUM CAP W 1/16 COR PLS 5165	CP&F 401930

BASIS OF ELEVATION AND COORDINATES:
THE VERTICAL DATUM USED HEREON IS BASED UPON NAVD88 COMPUTED USING GEOID 2018 CONUS.

CONTROL FIELD WORK WAS PERFORMED NOVEMBER 2024 THROUGH MAY 2025.

ALL DISTANCES SHOWN ARE GROUND DISTANCES IN US SURVEY FEET.

A STATIC GNSS CONTROL NETWORK WAS USED TO ESTABLISH HORIZONTAL POSITIONS ON CONTROL MONUMENTS SET DURING THIS SURVEY (POINTS 1, 2, 3, AND 104).

STATE PLANE TO GROUND FROMULA:
N * 1/CSF = GROUND NORTHING
E * 1/CSF = GROUND EASTING

GROUND TO STATE PLANE FROMULA:
N * (CSF) = STATE PLANE NORTHING
E * (CSF) = STATE PLANE EASTING

LEGEND

- SECTION LINE
- 1/4 SECTION LINE
- 1/16TH SECTION LINE
- R/W — EXISTING RIGHT-OF-WAY
- P/L — EXISTING PROPERTY LINE
- EDGE OF WATER
- PUA — PROPOSED PROPERTY USE AGREEMENT
- 1 2 — PROPOSED ALIGNMENT
- SECTION CORNER CALCULATED FROM RECORD
- FOUND 1/4 SECTION CORNER
- FOUND ALLOY MONUMENT AS NOTED
- FOUND #5 REBAR AS NOTED
- SET DEA CONTROL POINT AS NOTED
- CENTER QUARTER CORNER COMPUTED FROM FOUND N,S,E, AND W QUARTER CORNERS

REVISIONS NO.	DATE	BY	DESCRIPTION

DESIGNED J.GILLEY	SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY	PROJECT NO.	SURVEY CONTROL MAP MOTHER LODE RD OVER AMERICAN RIVER BR REPLACEMENT
DESIGN CHECKED D. GOWER			
DETAILED D. GOWER	CADD FILE NAME 29356 SCM D01.dgn		
DRAWING CHECKED J.GILLEY	DRAWING DATE: 3/26/2026		

DAVID EVANS AND ASSOCIATES INC.

ENGLISH
COUNTY IDAHO
KEY NUMBER 29356
SHEET 2 OF 24

PROFESSIONAL LAND SURVEYOR LICENSED 22135 03/23/2026 STATE OF IDAHO JENNIFER R. GILLEY

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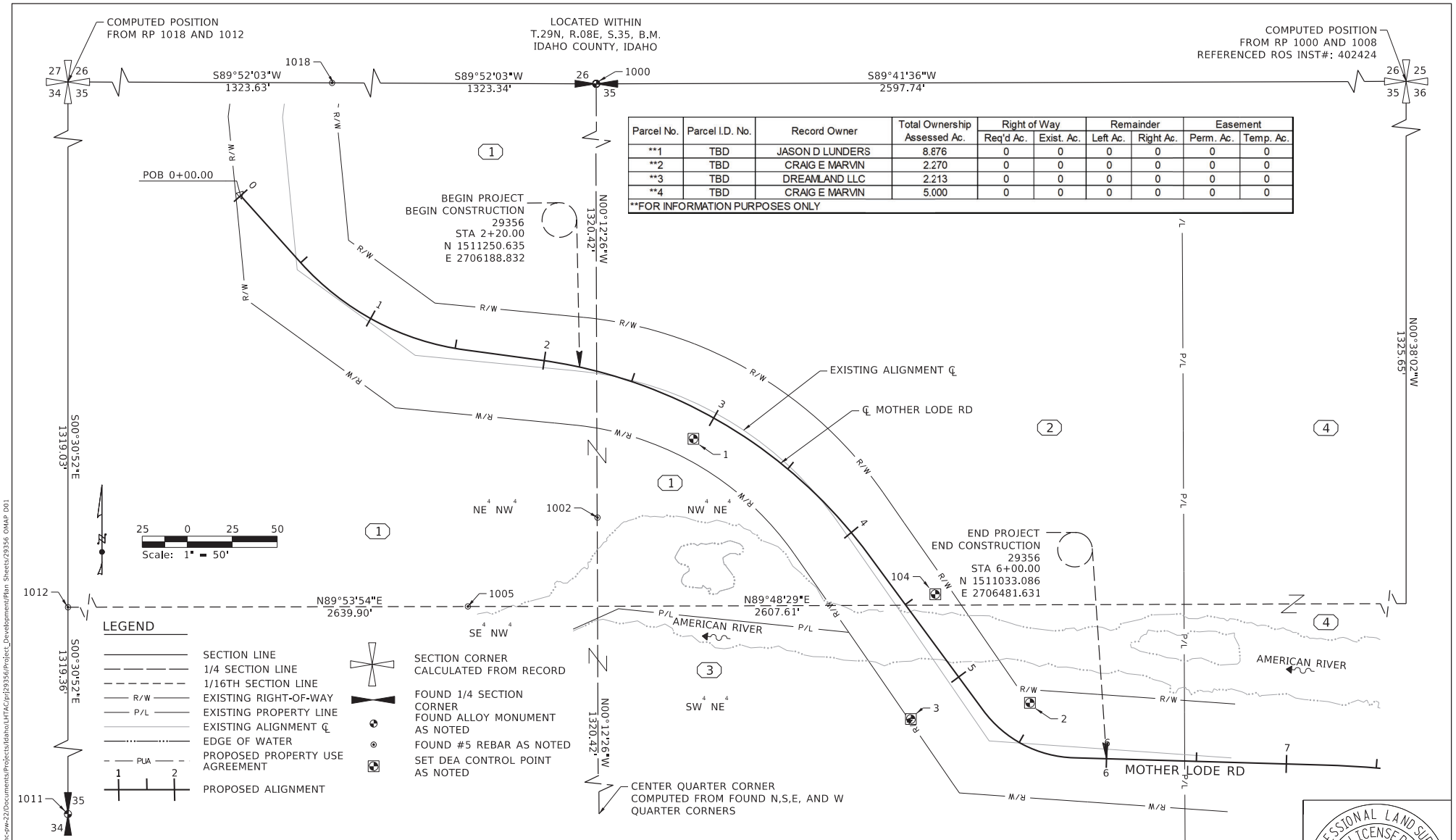

Parcel No.	Parcel I.D. No.	Record Owner	Total Ownership Assessed Ac.	Right of Way		Remainder		Easement	
				Req'd Ac.	Exist. Ac.	Left Ac.	Right Ac.	Perm. Ac.	Temp. Ac.
**1	TBD	JASON D LUNDERS	8.876	0	0	0	0	0	0
**2	TBD	CRAIG E MARVIN	2.270	0	0	0	0	0	0
**3	TBD	DREAMLAND LLC	2.213	0	0	0	0	0	0
**4	TBD	CRAIG E MARVIN	5.000	0	0	0	0	0	0

**FOR INFORMATION PURPOSES ONLY

REVISIONS			
NO.	DATE	BY	DESCRIPTION

DESIGNED J.GILLEY	SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY	
DESIGN CHECKED D. GOWER		
DETAILED D. GOWER	CADD FILE NAME 29356 OMAP D01.dgn	
DRAWING CHECKED J.GILLEY	DRAWING DATE: 3/26/2026	

DAVID EVANS AND ASSOCIATES INC.

PROJECT NO.

TOTAL OWNERSHIP MAP
MOTHER LODE RD OVER AMERICAN RIVER BR REPLACEMENT

ENGLISH

COUNTY IDAHO
KEY NUMBER 29356
SHEET 3 OF 24

PROFESSIONAL LAND SURVEYOR LICENSED 22135 03/23/2026 STATE OF IDAHO JENNIFER R. GILLEY

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CLEARANCES

	CLEARED UNDER PROJECT NO.	APPROVAL DATE
PROJECT STANDARDS		
CHARTER APPROVAL ☐ AASHTO ☐ 3R ☐ 1R ☐ STATE ☐ PP ■ OTHER PRELIMINARY DESIGN REPORT	29356	5/28/2025
DESIGN EXCEPTIONS:		
PUBLIC HEARING WAIVER	N/A	
PUBLIC HEARING DATE (Latest hearing date held or scheduled for opportunity)	N/A	
DESIGN APPROVAL	29356	6/18/2025
RECLAMATION PLAN APPROVAL NO(S)	N/A	
AIRPORT	N/A	
Land Survey Monument Search and Documentation (I.C.55-1613)	29356	TBD
R/W CERTIFICATE: Issued by ☐ HQ ☐ DISTRICT	29356	TBD
TRIBAL LANDS: ☐ AGREEMENT REQUIRED ☐ SPECIAL PROVISIONS FOR CONTRACT PROPOSAL	N/A	
BRIDGE PS & E	N/A	
ENVIRONMENTAL DECISION: TYPE ■ CAT-EX ☐ FONSI ☐ ROD	29356	
ENVIRONMENTAL RE-EVALUATION	N/A	

PERMITS

			EXPIRATION DATE
IDAHO DEPARTMENT OF WATER RESOURCES PERMIT NO(S) TBD	29356	TBD	TBD
US ARMY CORPS OF ENGINEERS IDWR PERMIT NO(S) TBD	29356	TBD	TBD
OTHER	N/A		

DEQ SECTION 401 WATER QUALITY CERTIFICATION ☐ YES ■ NO

NPDES GENERAL PERMIT/SWPPP REQUIRED ☐ YES ■ NO

POLLUTION PREVENTION PLAN REQUIRED ■ YES ☐ NO

AGREEMENTS (List Appropriate Name)

LOCAL: CITY	NA	
COUNTY	NA	
HIGHWAY DISTRICT	NA	
ROAD CLOSURE AND MAINTENANCE	NA	
STATE/LOCAL CONSTRUCTION	NA	

IRRIGATION DISTRICT(S): Crossing Agreement Required ☐ YES ■ NO
(Signatures Required on either Structure Drawing or Bridge Sheet)

UTILITIES: List all Utilities shown on plans	RETAIN & PROTECT	APPROVAL DATES: UTILITY HEARING WAIVER	APPROVAL DATES: AGREEMENT	AGREEMENT NO.
Co. AVISTA UTILITIES	■	11/10/2025		
Co. ZIPLY FIBER	■	SENT 11/7/2025		
Co.	☐			
Co.	☐			
Co.	☐			
Co.	☐			
Co.	☐			
Co.	☐			
Co.	☐			
Co.	☐			

ESTIMATING BASIS

CONCRETE:

PORTLAND CEMENT CONCRETE USING COURSE AGGREGATE SIZE NO. 4.

TACK COAT:

NEW CONSTRUCTION CSS-1 DILUTED EMULSIFIED ASPHALT FOR TACK COAT AT 0.12 GALLONS/SY.

EXISTING SURFACES CSS-1 DILUTED EMULSIFIED ASPHALT FOR TACK COAT AT 0.18 GALLONS/SY.

AGGREGATE:

3/4-INCH TYPE B AGGREGATE BASE, WET DENSITY ESTIMATED AT 140 PCF @ 7% MOISTURE CONTENT.

SUBGRADE:

SAND WITH SILT AND GRAVEL SUBGRADE, WET DENSITY ESTIMATED AT 130 PCF @ 5% MOISTURE CONTENT.

WATER FOR DUST ABATEMENT:

0.5 GAL. PER SY OF EXPOSED SUBGRADE.

SMOOTHNESS:

PAVEMENT SMOOTHNESS TEST WILL BE WITH A 10 FT STRAIGHTEDGE.

NOTES

1. GRANULAR SUBBASE AND STRUCTURAL BACKFILL IN THE PLANS ARE UNFACTORED AND ASSUMED 100% WASTE OF EXISTING PAVEMENT, BASE, AND SUBGRADE SOILS.
2. EXCAVATION QUANTITIES SHOWN IN THE PLANS ARE UNFACTORED.
3. MATERIAL REPORTS ARE AVAILABLE FOR CONTRACTORS USE.

PROFESSIONAL ENGINEER LICENSED Alan McCall 21208 3/23/2026 STATE OF IDAHO ALAN MCCALL

REVISIONS				DESIGNED	SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY	PROJECT NO.	PROJECT CLEARANCE SUMMARY	ENGLISH
NO.	DATE	BY	DESCRIPTION	B. CARVER			MOTHER LODE RD OVER AMERICAN RIVER BR REPLACEMENT	COUNTY IDAHO
				DESIGN CHECKED A. MCCALL	CADD FILE NAME 29356 PCSM D01.dgn			KEY NUMBER 29356
				DETAILED B. CARVER				
				DRAWING CHECKED A. MCCALL	DRAWING DATE: 3/26/2026			SHEET 4 OF 24

DAVID EVANS AND ASSOCIATES INC.

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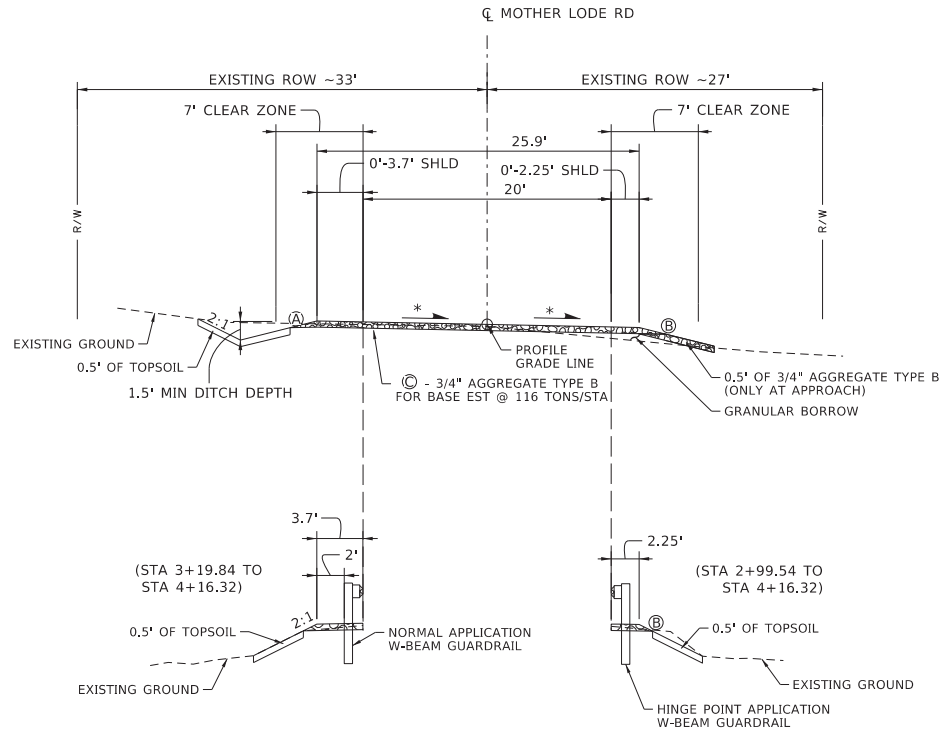
MOTHER LODE RD TYPICAL SECTION

(STA 2+20.00 TO STA 4+16.32)
N.T.S.



NOTES
* SEE SUPERELEVATION DIAGRAM

FORESLOPES	
STATION RANGE	Ⓐ
2+20 TO 2+46.04	4:1
2+46.04 TO 3+09	~8:1
3+09 TO 3+19.84	4:1
3+19.84 TO 3+20	4:1 - 2:1

FORESLOPES	
STATION RANGE	Ⓑ
2+20 TO 2+83	15%
2+83 TO 2+89	15% - 2:1
2+89 TO 4+16.32	2:1

BASE DEPTH	
STATION RANGE	Ⓒ
2+20 TO 3+60	0.5'
3+60 TO 3+90	0.5' - 1.0'
3+90 TO 4+16.32	1.0'

MOTHER LODE RD BRIDGE TYPICAL SECTION

(STA 4+16.32 TO STA 5+20.32)
(SEE BRIDGE PLANS)

REVISIONS			
NO.	DATE	BY	DESCRIPTION

DESIGNED B. CARVER	SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY	
DESIGN CHECKED A. MCCALL		
DETAILED B. CARVER	CADD FILE NAME 29356 TYPI D01.dgn	
DRAWING CHECKED A. MCCALL	DRAWING DATE: 3/26/2026	DAVID EVANS AND ASSOCIATES INC.

PROJECT NO.	TYPICAL SECTIONS	ENGLISH
	MOTHER LODE RD OVER AMERICAN RIVER BR REPLACEMENT	COUNTY IDAHO
		KEY NUMBER 29356
		SHEET 5 OF 24

PROFESSIONAL ENGINEER LICENSED Alan McCall 21208 3/23/2026 STATE OF IDAHO ALAN MCCALL

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MOTHER LODE RD TYPICAL SECTION

(STA 5+20.32 TO STA 6+00.00)
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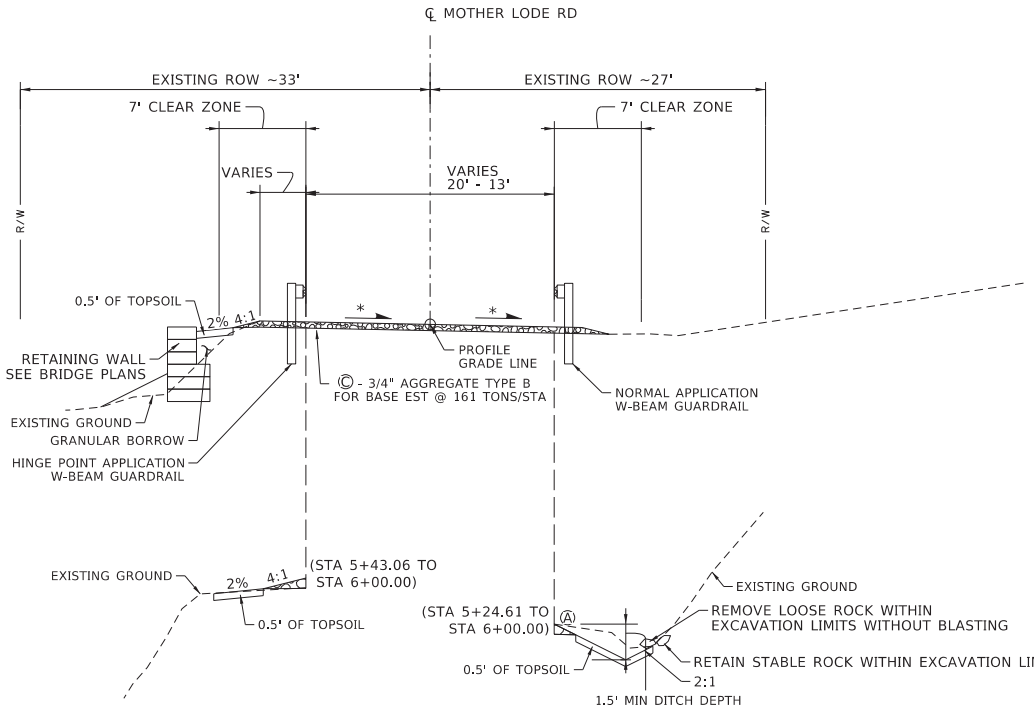

NOTES
* SEE SUPERELEVATION DIAGRAM

FORESLOPES	
STATION RANGE	Ⓐ
5+24.61 TO 5+85	2:1
5+85 TO 5+87	2:1 - 4:1
5+87 TO 6+00	4:1

BASE DEPTH	
STATION RANGE	Ⓒ
5+20.32 TO 5+51	1.0'
5+51 TO 5+81	1.0' - 0.5'
5+81 TO 6+00	0.5'

REVISIONS			
NO.	DATE	BY	DESCRIPTION

DESIGNED B. CARVER	SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY	
DESIGN CHECKED A. MCCALL		
DETAILED B. CARVER	CADD FILE NAME 29356 TYPI D02.dgn	
DRAWING CHECKED A. MCCALL	DRAWING DATE: 3/26/2026	DAVID EVANS AND ASSOCIATES INC.

PROJECT NO.	TYPICAL SECTIONS	ENGLISH
	MOTHER LODE RD OVER AMERICAN RIVER BR REPLACEMENT	COUNTY IDAHO
		KEY NUMBER 29356
		SHEET 6 OF 24

PROFESSIONAL ENGINEER LICENSED
21208
3/23/2026
STATE OF IDAHO
ALAN MCCALL

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SHEET NUMBER				12	18	19	21	23								
SECTION				ROADWAY	HYDR	PPP	PMP	TTC								
ITEM NO.	ITEM	UNIT	TOTAL													
107-019A	SURVEY MONUMENT PRESERVATION	CA	5000													
201-010A	CLEARING & GRUBBING	LS	1													
203-006A	REMOVAL OF SIGN	EACH	15				15									
203-080A	REMOVAL OF GUARDRAIL	FT	164	164												
205-005A	EXCAVATION	CY	1350													
205-040A	GRANULAR BORROW	CY	421		341											
205-060A	WATER FOR DUST ABATEMENT	MG	1.0													
205-100A	GUARDRAIL TERMINAL GRADING	EACH	4	4												
212-020A	SILT FENCE	FT	231			231										
212-105A	WATER AND POLLUTION	CA	10000													
212-110A	WATER POLLUTION CONTROL MANAGER	LS	1													
213-005A	TOPSOIL (6")	CY	152			152										
251-005A	MIGRATORY BIRD TREATY ACT COMPLIANCE	CA	7000													
303-022A	3/4" AGGREGATE TYPE B FOR BASE	TON	360													
605-035A	18" STORM SEWER PIPE	FT	55	55												
608-035A	18" APRON FOR PIPE	EACH	2	2												
612-005A	W-BEAM GUARDRAIL	FT	285	285												
612-110A	GUARDRAIL ANCHOR	EACH	1	1												
612-115C	GUARDRAIL TERMINAL, TANGENT	EACH	3	3												
616-010A	SIGN TYPE B-1	SF	45				45									
616-055A	WOOD SIGN POST TYPE D-1	FT	18				18									
616-055B	WOOD SIGN POST TYPE D-2	FT	53				53									
621-005A	SEED BED PREPARATION	ACRE	0.200			0.200										
621-010A	SEEDING (PERMANENT)	ACRE	0.200			0.200										
621-035A	FERTILIZING	ACRE	0.200			0.200										
621-065A	HYDRAULICALLY APPLIED EROSION CONTROL PRODUCTS	ACRE	0.200			0.200										
624-005A	LOOSE RIPRAP (CLASS III)	CY	368		368											
624-005B	LOOSE RIPRAP (CLASS I)	CY	3			3										
626-010A	TEMPORARY TRAFFIC CONTROL SIGNS	SF	173					173								
626-040A	BARRICADE TYPE 3	EACH	8					8								
626-100A	MISCELLANEOUS TEMPORARY TRAFFIC CONTROL ITEMS	CA	3000					3000								
626-105A	TEMPORARY TRAFFIC CONTROL MAINTENANCE	HR	160													
640-010A	RIPRAP/EROSION CONTROL GEOTEXTILE (HIGH STRENGTH)	SY	516		516											
675-005A	SURVEY	LS	1													
675-010A	DIRECTED SURVEYING	CA	3000													
677-005A	RECORD DRAWINGS	LS	1													
S900-50A	CONTINGENCY AMOUNT - MISC WORK	CA	10000													
S900-50B	CONTINGENCY AMOUNT - REMOVAL OF LEAD-BASED PAINT	CA	10000													
S904-05A	SP TEMPORARY DIVERSION	LS	1													
S913-05A	SP STREAMBED MATERIAL	CY	31		31											

REVISIONS			
NO.	DATE	BY	DESCRIPTION

DESIGNED	B. CARVER
DESIGN CHECKED	A. MCCALL
DETAILED	B. CARVER
DRAWING CHECKED	A. MCCALL

SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY

CADD FILE NAME: 29356 RSUM D01.dgn

DRAWING DATE: 3/26/2026

DAVID EVANS AND ASSOCIATES INC.

PROJECT NO.

ROADWAY SUMMARY

MOTHER LODE RD OVER AMERICAN RIVER BR REPLACEMENT

ENGLISH

COUNTY: IDAHO

KEY NUMBER: 29356

SHEET 7 OF 24

PROFESSIONAL ENGINEER LICENSED
Alan McCall
21208
3/23/2026
STATE OF IDAHO
ALAN MCCALL

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SHEET NUMBER				12	18	19	21	23								
SECTION				ROADWAY	HYDR	PPP	PMP	TTC								
ITEM NO.	ITEM	UNIT	TOTAL													
Z629-05A	MOBILIZATION	LS	1													

REVISIONS			
NO.	DATE	BY	DESCRIPTION

DESIGNED	B. CARVER
DESIGN CHECKED	A. MCCALL
DETAILED	B. CARVER
DRAWING CHECKED	A. MCCALL

SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY

CADD FILE NAME: 29356 RSUM D02.dgn

DRAWING DATE: 3/26/2026

DAVID EVANS AND ASSOCIATES INC.

PROJECT NO.

ROADWAY SUMMARY

MOTHER LODE RD OVER AMERICAN RIVER BR REPLACEMENT

ENGLISH

COUNTY: IDAHO

KEY NUMBER: 29356

SHEET 8 OF 24

PROFESSIONAL ENGINEER LICENSED 21208 3/23/2026 STATE OF IDAHO ALAN MCCALL

March 23, 2026 4:11:17 PM
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SHEET NUMBER				BRIDGE
STATION - STATION				4+16.32 TO 5+20.32
ITEM NO.	ITEM	UNIT	TOTAL	
203-020A	REMOVAL OF BRIDGE - FULL (MOTHER LODE ROAD)	EACH	1	1
210-005A	STRUCTURE EXCAVATION SCHEDULE NO. 1	CY	279	279
210-015A	COMPACTING BACKFILL	CY	2	2
215-005A	GEOSYNTHETIC REINFORCED ABUTMENT BACKFILL	CY	360	360
405-435A	SUPERPAVE HMA PAVEMENT INCLUDING ASPHALT & ADDITIVES CLASS SP-3	TON	51.6	51.6
502-140A	CONCRETE CLASS 40-A SCHEDULE NO. 1	CY	58.4	58.4
502-310A	CONCRETE CLASS 40 AF SCHEDULE NO. 2	CY	24.6	24.6
502-425A	PRESTRESSED WF DECK TEE GIRDER (70.25" TOP FLANGE 47" DEPTH)	FT	407	407
503-010A	METAL REINFORCEMENT SCHEDULE NO. 1	LB	11232	11232
503-015A	METAL REINFORCEMENT SCHEDULE NO. 2	LB	552	552
503-020A	EPOXY COATED METAL REINFORCEMENT	LB	1024	1024
504-050A	3-TUBE CURB MOUNT RAIL	FT	208	208
507-005A	ELASTOMERIC BEARINGS PLAIN (1/2 x 10 x 3'-0")	EA	8	8
511-005A	CONCRETE WATERPROOF SYSTEM (TYPE E)	SY	232	232
519-005A	CONCRETED PILES	FT	176	176
520-005A	PREDRILLING FOR PILING IN SOIL	FT	90	90
520-010A	PREDRILLING FOR PILING IN ROCK	FT	70	70
560-005A	DEWATERING FOUNDATION	LS	1	1
586-005A	UTILITY CONDUIT (MOTHER LODE ROAD)	LS	1	1
S501-15A	RETAINING WALL	SF	257	257

REVISIONS			
NO.	DATE	BY	DESCRIPTION

DESIGNED J. LEMASTER
DESIGN CHECKED T. ZANONI
DETAILED D. FOSTER
DRAWING CHECKED A. RIGEB

SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY
CADD FILE NAME 29356 BSUM D01.dgn
DRAWING DATE: 3/26/2026

DAVID EVANS AND ASSOCIATES INC.

PROJECT NO.

BRIDGE SUMMARY
MOTHER LODE RD OVER AMERICAN RIVER BR REPLACEMENT

ENGLISH
COUNTY IDAHO
KEY NUMBER 29356
SHEET 9 OF 24

PROFESSIONAL ENGINEER LICENSED 21316 3/23/2026 STATE OF IDAHO TIMOTHY R. ZANONI

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PERMANENT

STATION	OFFSET			MAINTENANCE CHARACTERISTIC				PERFORMANCE CHARACTERISTICS			TEST LEVEL		DIMENSIONS			LOCATION			CONNECTION			REMARKS
	DISTANCE	RIGHT	LEFT	SACRIFICIAL - SAND	SACRIFICIAL - METAL	PARTIALLY REUSABLE	LOW MAINTENANCE	NON-REDIRECTIVE, GATING	REDIRECTIVE, GATING	REDIRECTIVE, NON-GATING	TL-2 (SPEED LESS THAN 44 MPH)	TL-3 (SPEED GREATER THAN 44 MPH)	WIDTH OF OBSTACLE	MAXIMUM LENGTH	MAXIMUM HEIGHT	SHOULDER	GORE	MEDIAN	W-BEAM GUARDRAIL	CONCRETE BARRIER OR PARAPET	OTHER (INDICATE IN REMARKS)	
	FT.	X	X	X	X	X	X	X	X	X	X	X	IN.	FT.	IN.	X	X	X	X	X	X	
2+99.54	10.00	X			X				X		X			112.5	31	X			X			INCLUDE CHEVRONS
3+19.84	10.00		X		X				X		X			100	31	X			X			INCLUDE CHEVRONS
5+14.48	27.13	X			X			X			X			25	31	X			X			INCLUDE CHEVRONS
5+66.23	23.64		X		X				X		X			37.5	31	X			X			INCLUDE CHEVRONS

TEMPORARY

STATION	OFFSET			MAINTENANCE CHARACTERISTIC					PERFORMANCE CHARACTERISTICS			TEST LEVEL		DIMENSIONS			LOCATION			CONNECTION			REMARKS
	DISTANCE	RIGHT	LEFT	SACRIFICIAL - SAND	SACRIFICIAL - WATER FILLED	SACRIFICIAL - METAL	PARTIALLY REUSABLE	LOW MAINTENANCE	NON-REDIRECTIVE, GATING	REDIRECTIVE, GATING	REDIRECTIVE, NON-GATING	TL-2 (SPEED LESS THAN 44 MPH)	TL-3 (SPEED GREATER THAN 44 MPH)	WIDTH OF OBSTACLE	MAXIMUM LENGTH	MAXIMUM HEIGHT	SHOULDER	GORE	MEDIAN	W-BEAM GUARDRAIL	CONCRETE BARRIER OR PARAPET	OTHER (INDICATE IN REMARKS)	
	FT.	X	X	X	X	X	X	X	X	X	X	X	X	IN.	FT.	IN.	X	X	X	X	X	X	

REVISIONS			
NO.	DATE	BY	DESCRIPTION

DESIGNED B. CARVER	SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY	
DESIGN CHECKED A. MCCALL		
DETAILED B. CARVER	CADD FILE NAME 29356 CCSM D01.dgn	
DRAWING CHECKED A. MCCALL	DRAWING DATE: 3/26/2026	

DAVID EVANS AND ASSOCIATES INC.

PROJECT NO.	CRASH CUSHION SUMMARY	ENGLISH
	MOTHER LODE RD OVER AMERICAN RIVER BR REPLACEMENT	COUNTY IDAHO
		KEY NUMBER 29356
		SHEET 10 OF 24

PROFESSIONAL ENGINEER LICENSED 21208 3/23/2026 STATE OF IDAHO ALAN MCCALL

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STATION TO STATION	SANITARY/STORM SEWER PIPE (LENGTH IN FEET)	PLASTIC PIPE						METAL PIPE + COATING IS REQUIRED IF CHECKED					CONCRETE PIPE		MAN-HOLES		CATCH BASINS			INLETS			REMARKS
	PIPE SIZE (INCHES)	POLYPROPYLENE (PP)	CORRUGATED POLYETHYLENE (PE)	RIBBED POLYETHYLENE (PE)	RIBBED POLYVINYL CHLORIDE (PVC)	SOLID WALL POLYVINYL CHLORIDE (PVC)	ABS COMPOSITE	STEEL 1/2" CORR. DEPTH	STEEL 2-2/3" CORR. LENGTH	ALUM. 1/2" CORR. DEPTH	ALUM. 2-2/3" CORR. LENGTH	BITUMINOUS OR POLYMER COATING +	REINFORCED CLASS	NON-REINFORCED CLASS	TYPE___	TYPE___	TYPE___	TYPE___	TYPE___	TYPE___	TYPE___	TYPE___	
	18	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	
		X	X	X	X	X	X	THICKNESS (INCHES)				X	II-V	X									
5+43.94, 18.06' RT TO 5+55.53, 36.20' LT	55	X	X	X	X	X	X	0.064	0.064	0.060	0.060		III										2:1 PIPE APRON BOTH ENDS
SHEET TOTAL	55																						
PROJECT TOTAL	55																						

REVISIONS			
NO.	DATE	BY	DESCRIPTION

DESIGNED	B. CARVER
DESIGN CHECKED	A. MCCALL
DETAILED	B. CARVER
DRAWING CHECKED	A. MCCALL

SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY

CADD FILE NAME: 29356 SDSM D01.dgn

DRAWING DATE: 3/26/2026

DAVID EVANS AND ASSOCIATES INC.

PROJECT NO.

STORM DRAIN PIPE SUMMARY

MOTHER LODE RD OVER AMERICAN RIVER BR REPLACEMENT

ENGLISH

COUNTY: IDAHO

KEY NUMBER: 29356

SHEET 11 OF 24

PROFESSIONAL ENGINEER LICENSED Alan McCall 21208 3/23/2026 STATE OF IDAHO ALAN MCCALL

March 23, 2026 4:11:36 PM
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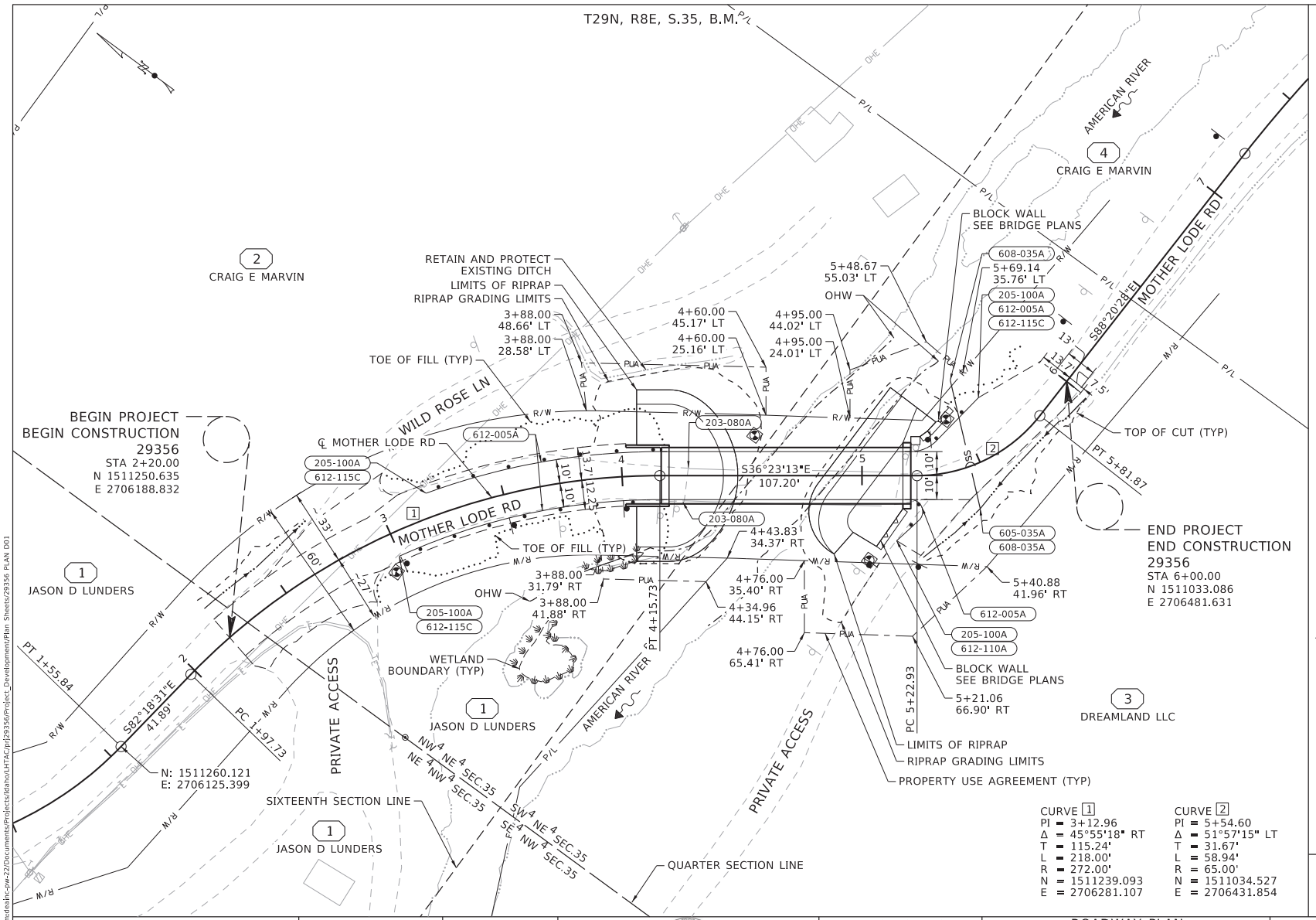

CURVE 1	CURVE 2
PI = 3+12.96	PI = 5+54.60
Δ = 45°55'18" RT	Δ = 51°57'15" LT
T = 115.24'	T = 31.67'
L = 218.00'	L = 58.94'
R = 272.00'	R = 65.00'
N = 1511239.093	N = 1511034.527
E = 2706281.107	E = 2706431.854

203-080A REMOVAL OF GUARDRAIL
83 FT STA 4+25.34, 11.05' RT TO STA 5+08.17, 12.59' RT
81 FT STA 4+27.65, 3.33' LT TO STA 5+08.49, 1.53' LT

205-100A GUARDRAIL TERMINAL GRADING
1 EA STA 2+99.54, 10.00' RT
1 EA STA 3+19.84, 10.00' LT
1 EA STA 5+14.48, 27.13' RT
1 EA STA 5+66.23, 23.64' LT

605-035A 18" STORM SEWER PIPE
55 FT STA 5+43.94, 18.06' RT TO STA 5+55.53, 36.20' LT

608-035A 18" APRON FOR PIPE
1 EA STA 5+43.94, 18.06' RT
1 EA STA 5+55.53, 36.20' LT

612-005A W-BEAM GUARDRAIL
115 FT STA 2+99.54, 10.00' RT TO STA 4+18.82, 10.00' RT
103 FT STA 3+19.84, 10.00' LT TO STA 4+18.82, 10.00' LT
27 FT STA 5+14.48, 27.13' RT TO STA 5+17.82, 10.00' RT
40 FT STA 5+17.82, 10.00' LT TO STA 5+66.23, 23.64' LT

612-110A GUARDRAIL ANCHOR
1 EA STA 5+14.48, 27.13' RT

612-115C GUARDRAIL TERMINAL, TANGENT
1 EA STA 2+99.54, 10.00' RT
1 EA STA 3+19.84, 10.00' LT
1 EA STA 5+66.23, 23.64' LT

NOTES:
1. ENSURE GUARDRAIL POSTS DO NOT CONFLICT WITH STORM PIPE BEFORE INSTALLING. A SINGLE POST CAN BE OMITTED IF NEEDED WITH ENGINEER APPROVAL.
2. SEE ROADWAY DETAIL SHEETS FOR GRADING DETAILS.
3. RETAIN AND PROTECT SURVEY MONUMENTS ACCORDING TO ITD 107.19.
4. INSTALL SLEEVES FOR GUARDRAIL POST INSTALL TO AVOID GRAB FABRIC.
5. INSTALLING GUARDRAIL TO BRIDGE IS INCIDENTAL TO 612-005A.

REVISIONS			
NO.	DATE	BY	DESCRIPTION

DESIGNED B. CARVER
DESIGN CHECKED A. MCCALL
DETAILED B. CARVER
DRAWING CHECKED A. MCCALL

SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY
CADD FILE NAME 29356 PLAN D01.dgn
DRAWING DATE: 3/26/2026

DAVID EVANS AND ASSOCIATES INC.

PROJECT NO.

ROADWAY PLAN
MOTHER LODE RD OVER AMERICAN RIVER BR REPLACEMENT

ENGLISH
COUNTY IDAHO
KEY NUMBER 29356
SHEET 12 OF 24

PROFESSIONAL ENGINEER LICENSED 21208 3/23/2026 STATE OF IDAHO ALAN MCCALL

March 23, 2026 4:13:41 PM
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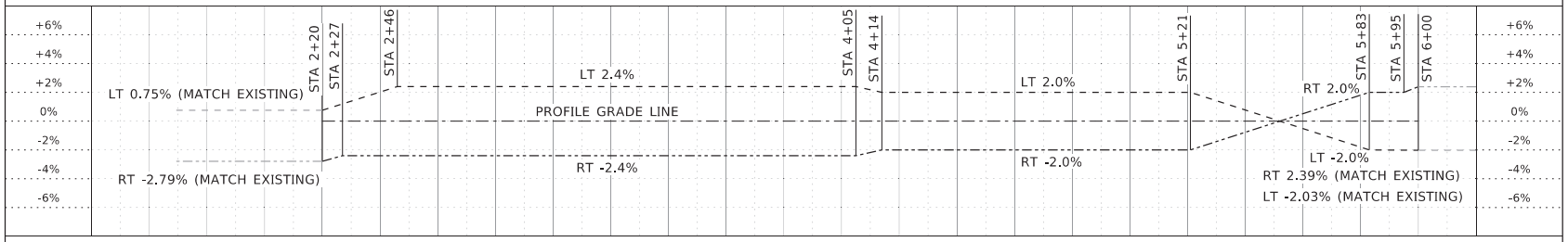
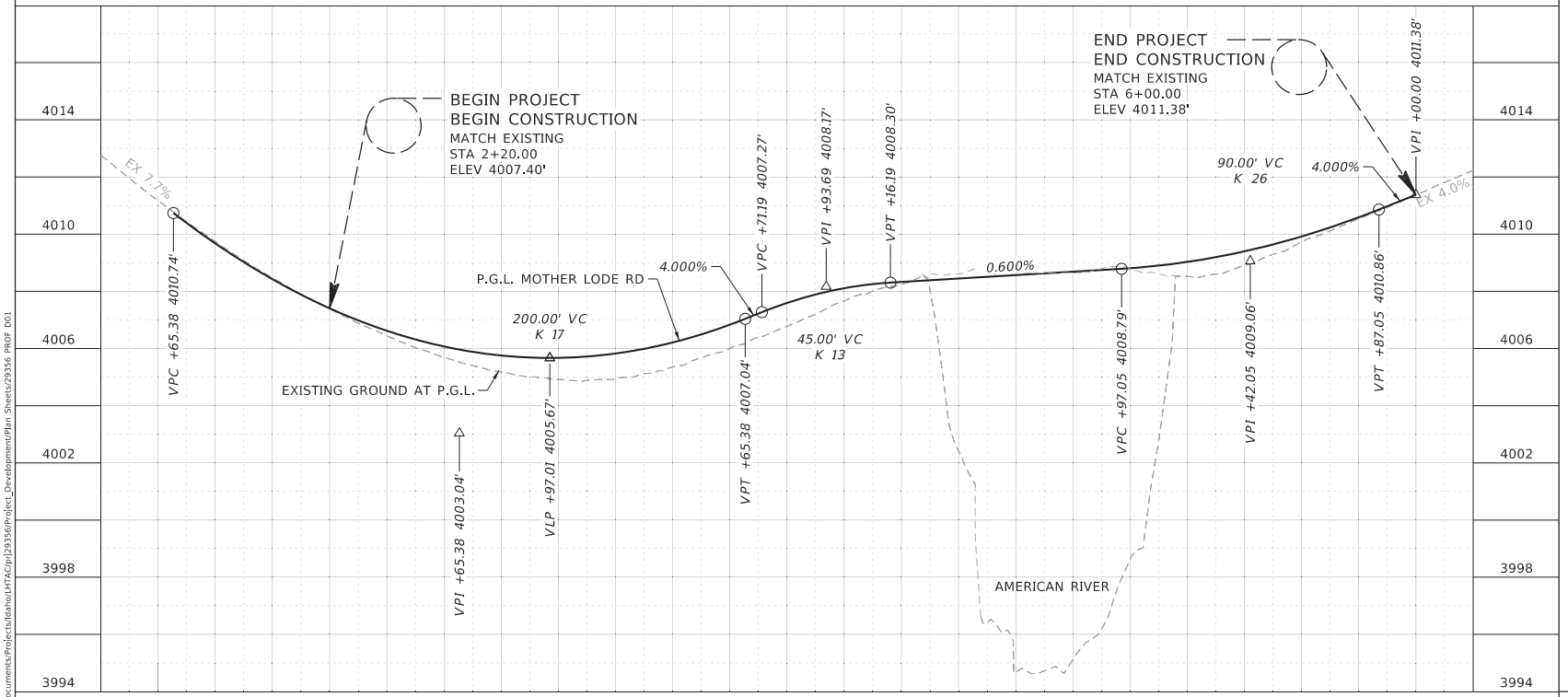


MOTHER LODE RD SUPERELEVATION



REVISIONS				DESIGNED	SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY	PROJECT NO.	ROADWAY PROFILE	ENGLISH
NO.	DATE	BY	DESCRIPTION	B. CARVER			MOTHER LODE RD OVER AMERICAN RIVER BR REPLACEMENT	COUNTY IDAHO
				DESIGN CHECKED A. MCCALL				KEY NUMBER 29356
				DETAILED B. CARVER	CADD FILE NAME 29356 PROF D01.dgn			
				DRAWING CHECKED A. MCCALL	DRAWING DATE: 3/26/2026			SHEET 13 OF 24

DAVID EVANS AND ASSOCIATES INC.

PROFESSIONAL ENGINEER LICENSED Alan McCall 21208 3/23/2026 STATE OF IDAHO ALAN MCCALL

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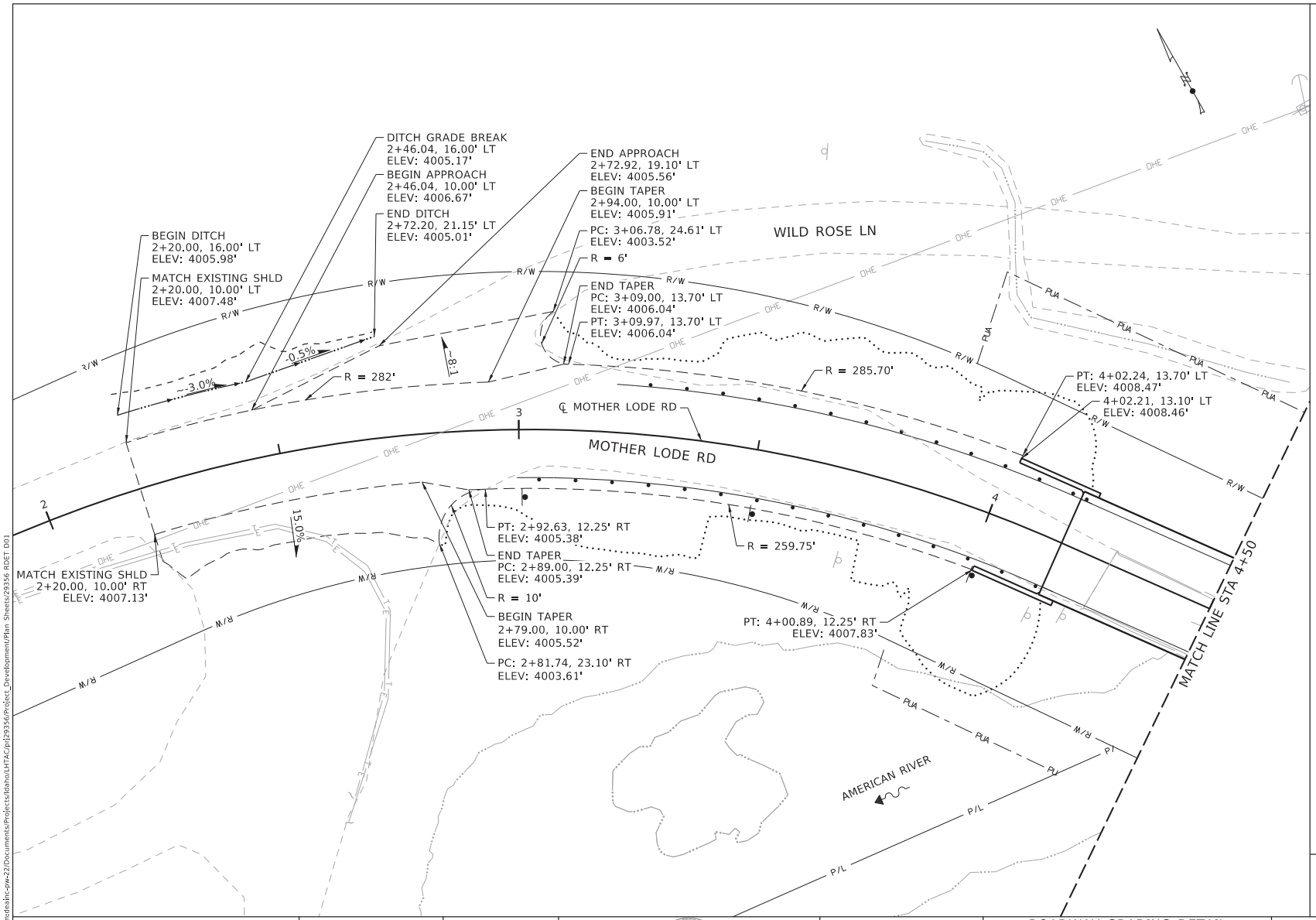

REVISIONS				DESIGNED	SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY	PROJECT NO.	ROADWAY GRADING DETAIL	ENGLISH
NO.	DATE	BY	DESCRIPTION	B. CARVER			MOTHER LODE RD OVER AMERICAN RIVER BR REPLACEMENT	COUNTY IDAHO
				DESIGN CHECKED A. MCCALL	CADD FILE NAME 29356 RDET D01.dgn			KEY NUMBER 29356
				DETAILED B. CARVER				SHEET 14 OF 24
				DRAWING CHECKED A. MCCALL	DRAWING DATE: 3/26/2026			

DAVID EVANS AND ASSOCIATES INC.

PROFESSIONAL ENGINEER LICENSED Alan McCall 21208 3/23/2026 STATE OF IDAHO ALAN MCCALL

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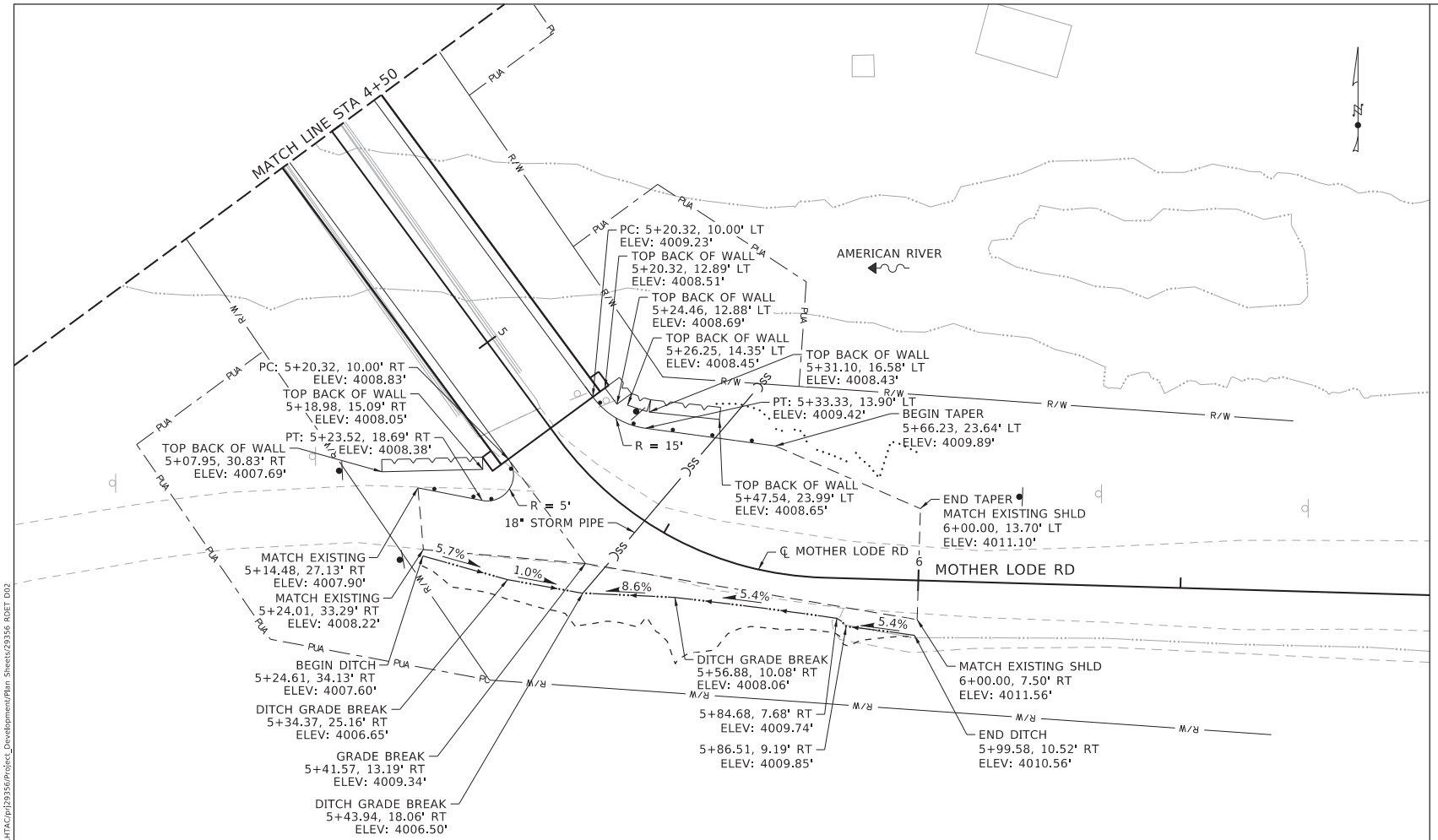

10 0 10 20
Scale: 1" = 20'

REVISIONS				DESIGNED	SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY	PROJECT NO.	ROADWAY GRADING DETAIL	ENGLISH
NO.	DATE	BY	DESCRIPTION	B. CARVER			MOTHER LODE RD OVER AMERICAN RIVER BR REPLACEMENT	COUNTY IDAHO
				DESIGN CHECKED A. MCCALL				KEY NUMBER 29356
				DETAILED B. CARVER	CADD FILE NAME 29356 RDET D02.dgn			SHEET 15 OF 24
				DRAWING CHECKED A. MCCALL	DRAWING DATE: 3/26/2026			

DAVID EVANS AND ASSOCIATES INC.

PROFESSIONAL ENGINEER LICENSED Alan McCall 21208 3/23/2026 STATE OF IDAHO ALAN MCCALL

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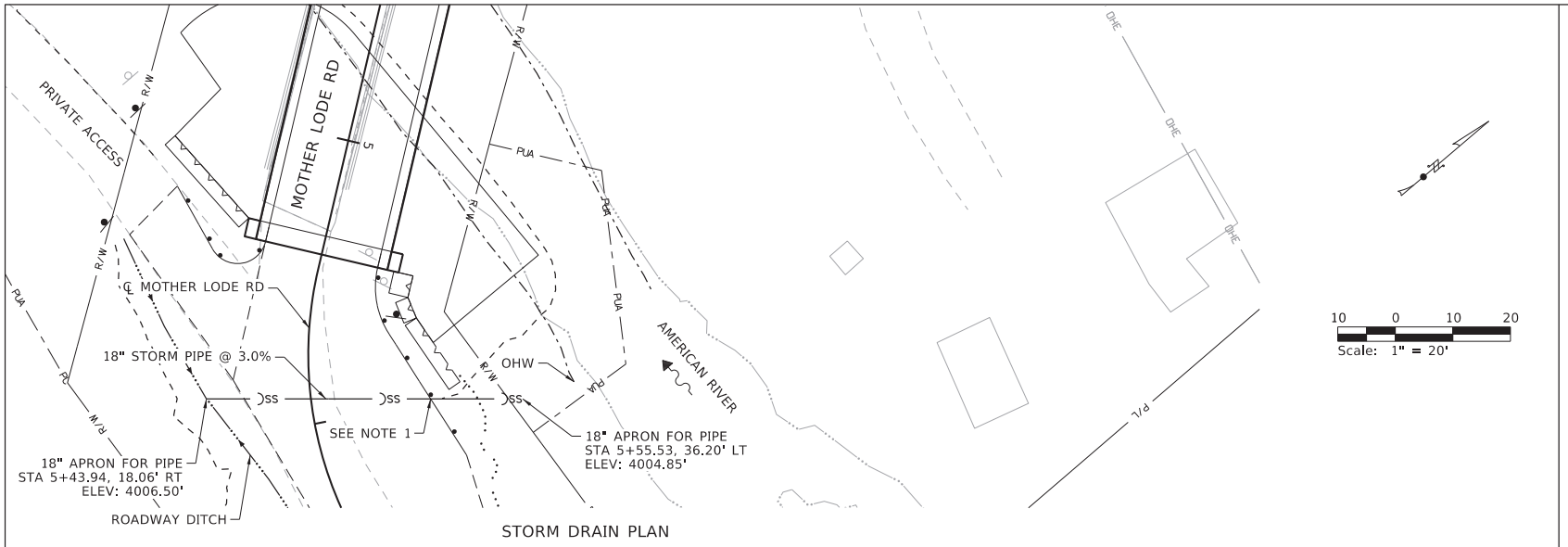
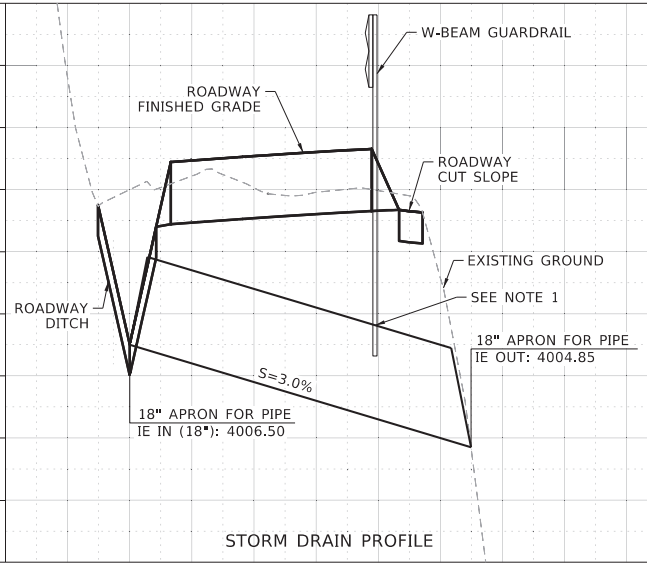


STORM DRAIN PLAN



STORM DRAIN PROFILE

1. ENSURE GUARDRAIL POSTS DO NOT CONFLICT WITH STORM PIPE BEFORE INSTALLING. A SINGLE POST CAN BE OMITTED IF NEEDED WITH ENGINEER APPROVAL.

REVISIONS			
NO.	DATE	BY	DESCRIPTION

DESIGNED B. CARVER	SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY
DESIGN CHECKED A. MCCALL	
DETAILED B. CARVER	CADD FILE NAME 29356 SDPP D01.dgn
DRAWING CHECKED A. MCCALL	DRAWING DATE: 3/26/2026

DAVID EVANS AND ASSOCIATES INC.

PROJECT NO.	DRAINAGE PLAN AND PROFILE
	MOTHER LODE RD OVER AMERICAN RIVER BR REPLACEMENT

ENGLISH

COUNTY	IDAHO
KEY NUMBER	29356
SHEET	16 OF 24

PROFESSIONAL ENGINEER LICENSED
21208
3/23/2026
STATE OF IDAHO
ALAN MCCALL

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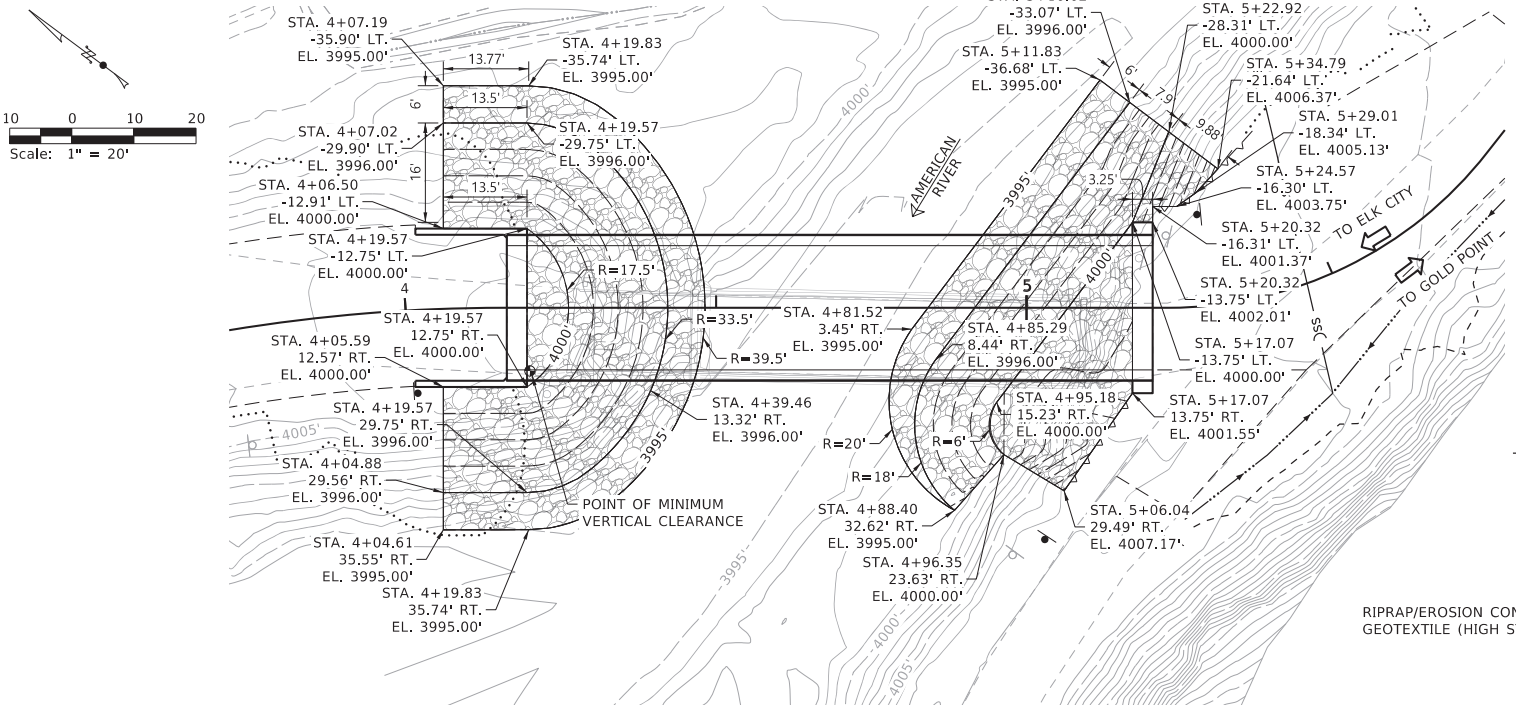
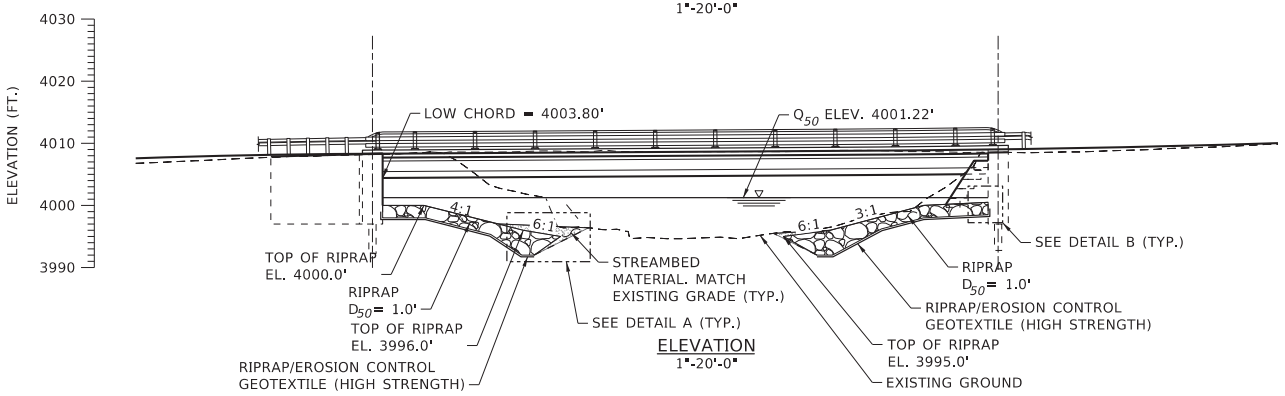
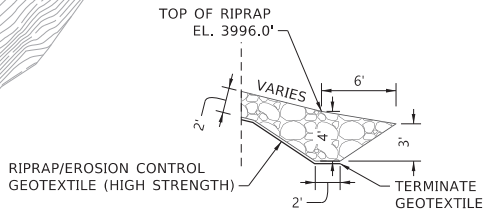


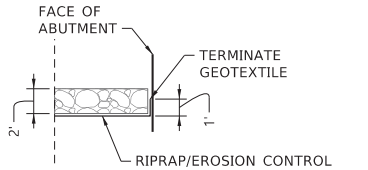
PLAN
1"-20'-0"



ELEVATION
1"-20'-0"



DETAIL A
1"=10'-0"



DETAIL B
1"=10'-0"

REVISIONS				DESIGNED	SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY		PROJECT NO.	SCOUR COUNTERMEASURE	ENGLISH
NO.	DATE	BY	DESCRIPTION	P. JONES		DAVID EVANS AND ASSOCIATES INC.		MOTHER LODE RD OVER AMERICAN RIVER BR REPLACEMENT	COUNTY IDAHO
				DESIGN CHECKED S. SAVAGE					KEY NUMBER 29356
				DETAILED P. JONES	CADD FILE NAME 29356 HYDR D01.dgn			CHANNEL RIPRAP DETAIL	SHEET 17 OF 24
				DRAWING CHECKED A. MCCALL	DRAWING DATE: 3/26/2026				

PROFESSIONAL ENGINEER LICENSED 7061579 3/23/2026 STATE OF IDAHO PARKER JONES

March 23, 2026 4:12:06 PM
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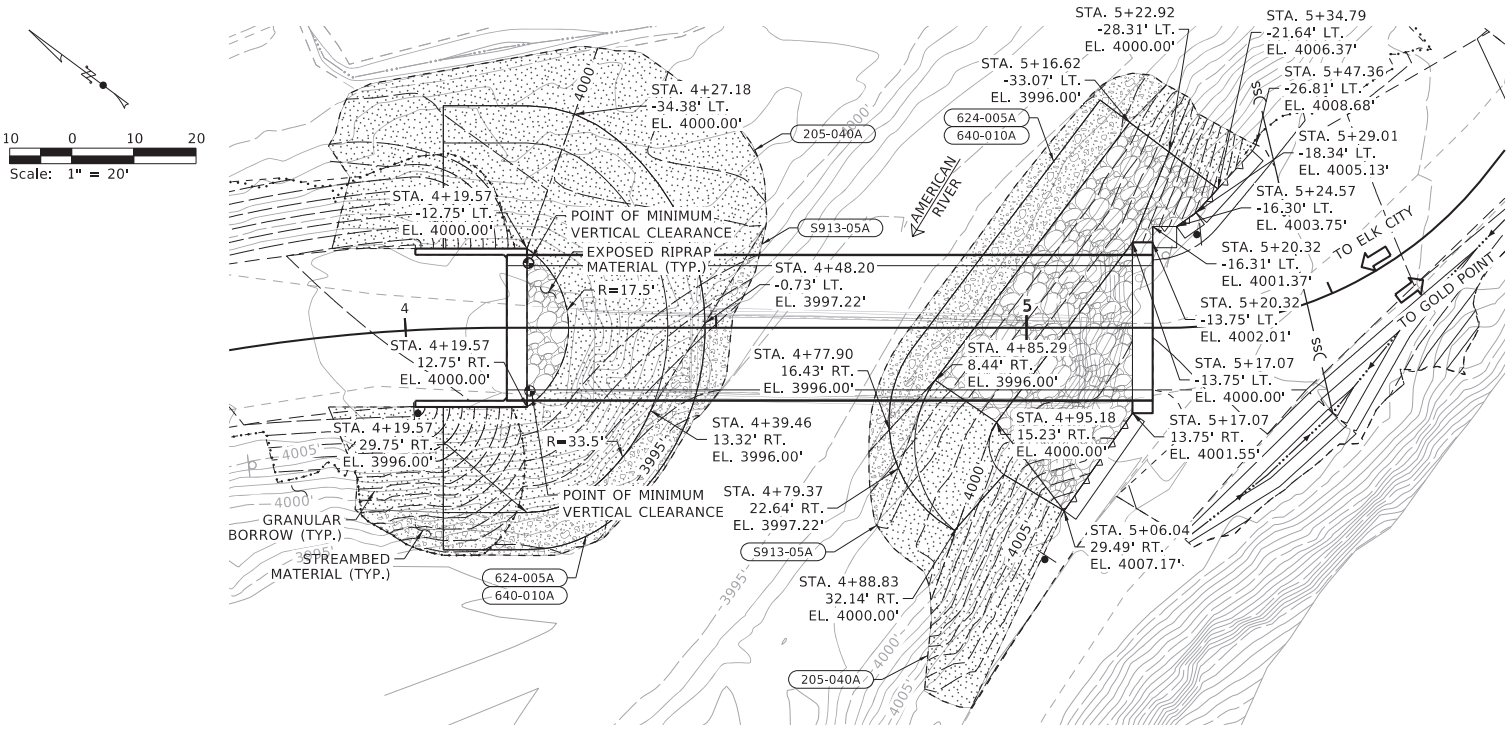
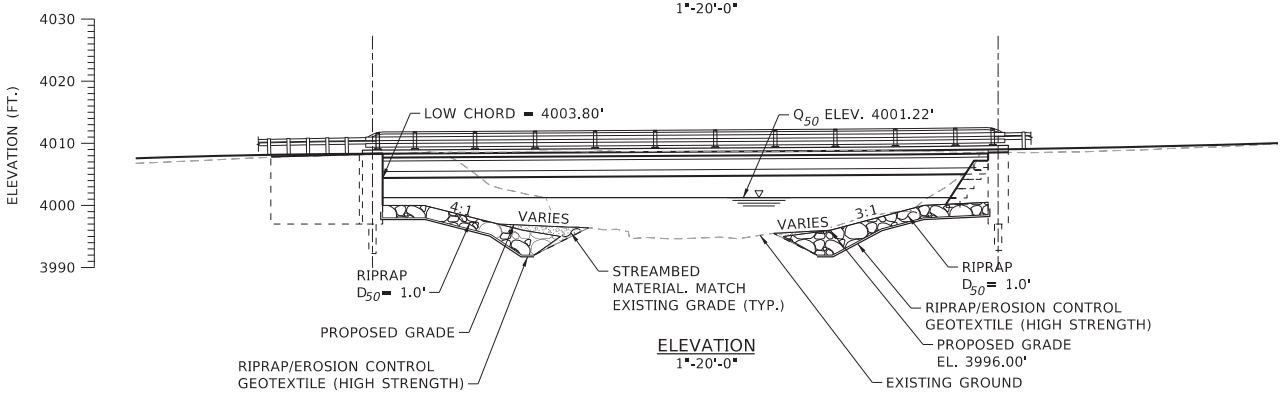


PLAN
1"-20'-0"



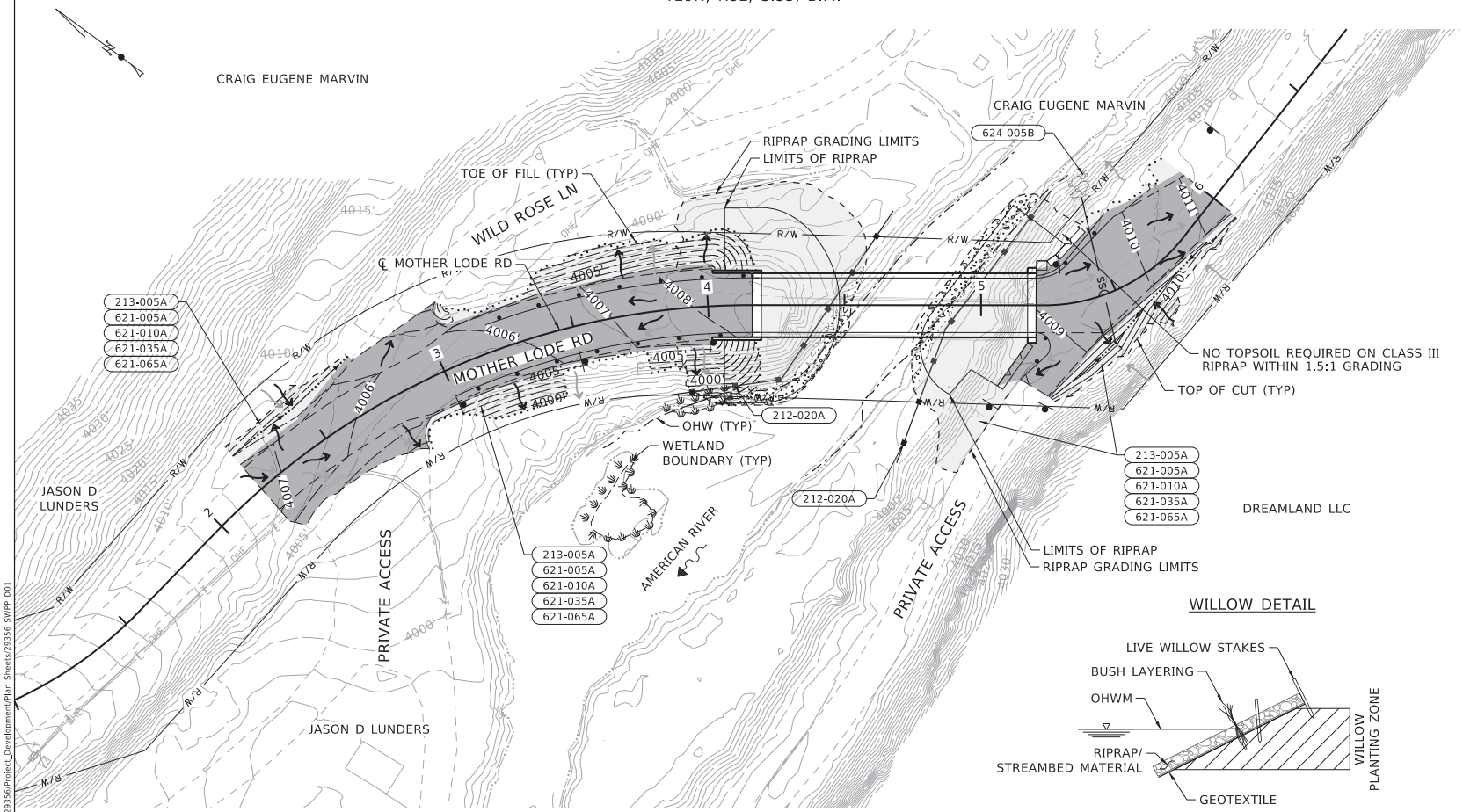
ELEVATION
1"-20'-0"

205-040A	**GRANULAR BORROW**	
263 CY	STA 3+89.09, 28.08' RT TO	
	STA 4+58.17, 17.20' LT	
78 CY	STA 4+75.91, 31.86' RT TO	
	STA 5+47.36, 26.81' LT	
624-005A	**LOOSE RIPRAP (CLASS III)**	
195 CY	STA 4+04.61, 35.55' RT TO	
	STA 4+07.19, 35.90' LT	
173 CY	STA 4+88.40, 32.62' RT TO	
	STA 5+34.79, 21.64' LT	
640-010A	**RIPRAP/EROSION CONTROL GEOTEXTILE (HIGH STRENGTH)**	
272 SY	STA 4+04.61, 35.55' RT TO	
	STA 4+07.19, 35.90' LT	
244 SY	STA 4+88.40, 32.62' RT TO	
	STA 5+34.79, 21.64' LT	
S913-05A	**SP STREAMBED MATERIAL**	
13 CY	STA 3+89.09, 28.08' RT TO	
	STA 4+58.04, 16.54' LT	
18 CY	STA 4+75.91, 31.86' RT TO	
	STA 5+22.50, 39.13' LT	

PROFESSIONAL ENGINEER
LICENSED
7061579
3/23/2026
STATE OF IDAHO
PARKER JONES

REVISIONS				DESIGNED	SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY	DAVID EVANS AND ASSOCIATES INC.	PROJECT NO.	SCOUR COUNTERMEASURE MOTHER LODE RD OVER AMERICAN RIVER BR REPLACEMENT	ENGLISH	
NO.	DATE	BY	DESCRIPTION	P. JONES					COUNTY IDAHO	
				DESIGN CHECKED S. SAVAGE					KEY NUMBER 29356	
				DETAILED P. JONES	CADD FILE NAME 29356 HYDR D02.dgn					
				DRAWING CHECKED A. MCCALL	DRAWING DATE: 3/26/2026			CHANNEL PLAN AND SECTION	SHEET 18 OF 24	

T29N, R8E, S.35, B.M.



212-020A		**SILT FENCE**
115	FT	STA 3+82.53, 31.11' RT TO STA 4+67.83, 34.62' LT
116	FT	STA 4+69.13, 57.76' RT TO STA 5+30.51, 41.91' LT
213-005A		**TOPSOIL (6")**
8	CY	STA 2+20.00, 11.94' LT TO STA 2+71.85, 22.15' LT
87	CY	STA 2+81.73, 23.11' RT TO STA 4+58.17, 17.20' LT
44	CY	STA 4+75.91, 31.86' RT TO STA 6+00.00, 23.98' LT
13	CY	STA 5+24.51, 33.99' RT TO STA 5+99.87, 8.45' RT
621-005A		**SEED BED PREPARATION**
0.010	AC	STA 2+20.00, 11.94' LT TO STA 2+71.85, 22.15' LT
0.110	AC	STA 2+81.73, 23.11' RT TO STA 4+58.17, 17.20' LT
0.060	AC	STA 4+75.91, 31.86' RT TO STA 6+00.00, 23.98' LT
0.020	AC	STA 5+24.51, 33.99' RT TO STA 5+99.87, 8.45' RT
621-010A		**SEEDING (PERMANENT)**
0.010	AC	STA 2+20.00, 11.94' LT TO STA 2+71.85, 22.15' LT
0.110	AC	STA 2+81.73, 23.11' RT TO STA 4+58.17, 17.20' LT
0.060	AC	STA 4+75.91, 31.86' RT TO STA 6+00.00, 23.98' LT
0.020	AC	STA 5+24.51, 33.99' RT TO STA 5+99.87, 8.45' RT
621-035A		**FERTILIZING**
0.010	AC	STA 2+20.00, 11.94' LT TO STA 2+71.85, 22.15' LT
0.110	AC	STA 2+81.73, 23.11' RT TO STA 4+58.17, 17.20' LT
0.060	AC	STA 4+75.91, 31.86' RT TO STA 6+00.00, 23.98' LT
0.020	AC	STA 5+24.51, 33.99' RT TO STA 5+99.87, 8.45' RT
621-065A		**HYDRAULICALLY APPLIED EROSION CONTROL PRODUCTS**
0.010	AC	STA 2+20.00, 11.94' LT TO STA 2+71.85, 22.15' LT
0.110	AC	STA 2+81.73, 23.11' RT TO STA 4+58.17, 17.20' LT
0.060	AC	STA 4+75.91, 31.86' RT TO STA 6+00.00, 23.98' LT
0.020	AC	STA 5+24.51, 33.99' RT TO STA 5+99.87, 8.45' RT
624-005B		**RIPRAP (CLASS I)**
3	CY	STA 5+46.55, 37.01' LT TO STA 5+77.49, 44.52' LT

NOTES:
1. SOAK CUTTINGS 24 HOURS (MIN) PRIOR TO INSTALLATION.
2. INSTALL BRUSH LAYERING DURING BANK GRADING AND RIPRAP PLACEMENT.
3. BRUSH LAYERS TILT DOWN INTO SLOPE 10 TO 20 DEGREES.
4. BRUSH LAYERS SHOULD PROTRUDE 8 TO 18 INCHES BEYOND THE STONE LAYER.
5. PLACE SOIL FILL AROUND CUTTINGS.
6. PLACE RIPRAP CAREFULLY, DO NOT END DUMP.

NOTES:
1. MAINTAIN EROSION AND SEDIMENT CONTROL MEASURES FOR THE DURATION OF THE PROJECT.
2. NO TOPSOIL, SEED BED PREPARATION, SEEDING, FERTILIZER, OR HYDRAUILICALLY APPLIED EROSION CONTROL PRODUCTS ON STREAMBED MATERIAL OR 3/4" AGG TYPE B FOR BASE.
3. RIPRAP DEWATERING WILL BE PAID FOR UNDER S904-05A SP TEMPORARY DIVERSION.
4. COMPLY WITH ALL SPECIAL CONDITIONS TO IDWR'S PERMIT.

LEGEND

- TOPSOIL, SEED BED PREPARATION, SEEDING (PERMANENT), FERTILIZING, HYDRAULICALLY APPLIED EROSION CONTROL PRODUCTS (SEE NOTES FOR EXCEPTIONS)
- NATIVE STREAMBED MATERIAL
- 3/4" AGG TYP B FOR BASE
- RIPRAP CLASS I
- SILT FENCE
- EXISTING PERVIOUS FLOW ARROW
- PROPOSED PERVIOUS FLOW ARROW

REVISIONS				DESIGNED	SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY	PROJECT NO.	POLLUTION PREVENTION PLAN	ENGLISH
NO.	DATE	BY	DESCRIPTION	B. CARVER			MOTHER LODE RD OVER AMERICAN RIVER BR REPLACEMENT	COUNTY IDAHO
				DESIGN CHECKED A. MCCALL				KEY NUMBER 29356
				DETAILED B. CARVER	CADD FILE NAME 29356 SWPP D01.dgn			SHEET 19 OF 24
				DRAWING CHECKED A. MCCALL	DRAWING DATE: 3/26/2026			

DAVID EVANS AND ASSOCIATES INC.

PROFESSIONAL ENGINEER LICENSED Alan McCall 21208 3/23/2026 STATE OF IDAHO ALAN MCCALL

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SIGN ASSEMBLY	STATION, OFFSET (XXX+XX.XX, RT/LT, SHLD. OR MEDIAN IF ON DIVIDED HWY)	RAMP NUMBER OR LOCAL STREET	FOUNDATION SIZE (INxIN OR INxINxIN)	POST TYPE (A-X, B-X, D-X, E-X)	OFFSET FROM SHLD. OR FACE OF CURB TO POST 1 CENTER (FT)	DISTANCE BETWEEN POSTS (IF USING 2 OR 3 POSTS, FT)	POST 1 LENGTH * (FT)	POST 2 LENGTH * (IF USING 2 OR 3 POSTS, FT)	POST 3 LENGTH * (IF USING 3 POSTS, FT)	DISTANCE FROM SHOULDER OR TOP OF CURB TO SIGN BOTTOM (FT)	SIGN TYPE (B-X, C-X, E)	SIGN DESIGNATION	SIGN SIZE † (IN x IN)			SIGN AREA (SF)	SIGN BACKGROUND † COLOR	MAIN SIGN LEGEND † COLOR	SIGN BRACE WEIGHT (LBS)	SIGN BRACKET WEIGHT (LBS)	BRACKET NUMBER	NOTES (SIGN LEGEND, SIGN DESCRIPTION, ETC.)
1-1	3+00 RT			D-2	4.0		13			7	B-1	GS-1	30	x	30	6.3	YELLOW	BLACK				ROAD NOT MAINTAINED
												R2-1	24	x	30	5.0	WHITE	BLACK				SPEED LIMIT 15
1-2	3+50 RT			D-2	3.4		10			7	B-1	W5-3	30	x	30	6.3	YELLOW	BLACK				ONE LANE BRIDGE
1-3	4+00 RT			D-2	3.4		10			7	B-1	W1-2L	30	x	30	6.3	YELLOW	BLACK				LEFT CURVE
1-4	5+03.59 RT			D-1	3.1		5			3		GS-2	9.25	x	14	0.9	BLACK	ORANGE				PRIVATE PROPERTY NO TRESPASSING (PLACE AT ROW)
	5+23.61 RT			D-1	2.4		5			3		GS-2	9.25	x	14	0.9	BLACK	ORANGE				PRIVATE PROPERTY NO TRESPASSING (PLACE AT ROW)
1-5	5+30 LT			D-1	2.7		8			7	B-1	GS-3	12	x	36	6.0	BROWN	WHITE				AMERICAN RIVER (2 SIGNS BACK TO BACK)
1-6	6+20 LT			D-2	16.5		9			7	B-1	W5-3	30	x	30	6.3	YELLOW	BLACK				ONE LANE BRIDGE
1-7	7+20 LT			D-2	3.8		11			7	B-1	W1-2R	30	x	30	6.3	YELLOW	BLACK				RIGHT CURVE

* POST LENGTHS ARE APPROXIMATE. FINALIZE POST LENGTHS IN THE FIELD BEFORE ASSEMBLY.
† FABRICATE SIGNS IN ACCORDANCE WITH THE FHWA STANDARD HIGHWAY SIGNS AND MARKINGS (SHSM) BOOK, FHWA SHSM SUPPLEMENT, ITD SHSM SUPPLEMENT, OR AS SPECIFIED.

REVISIONS			
NO.	DATE	BY	DESCRIPTION

DESIGNED	B. CARVER
DESIGN CHECKED	A. MCCALL
DETAILED	B. CARVER
DRAWING CHECKED	A. MCCALL

SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY

CADD FILE NAME: 29356 SSUM D01.dgn

DRAWING DATE: 3/26/2026

DAVID EVANS AND ASSOCIATES INC.

PROJECT NO.

SIGN SUMMARY

MOTHER LODE RD OVER AMERICAN RIVER BR REPLACEMENT

ENGLISH

COUNTY: IDAHO

KEY NUMBER: 29356

SHEET 20 OF 24

PROFESSIONAL ENGINEER LICENSED 21208 3/23/2026 STATE OF IDAHO ALAN MCCALL

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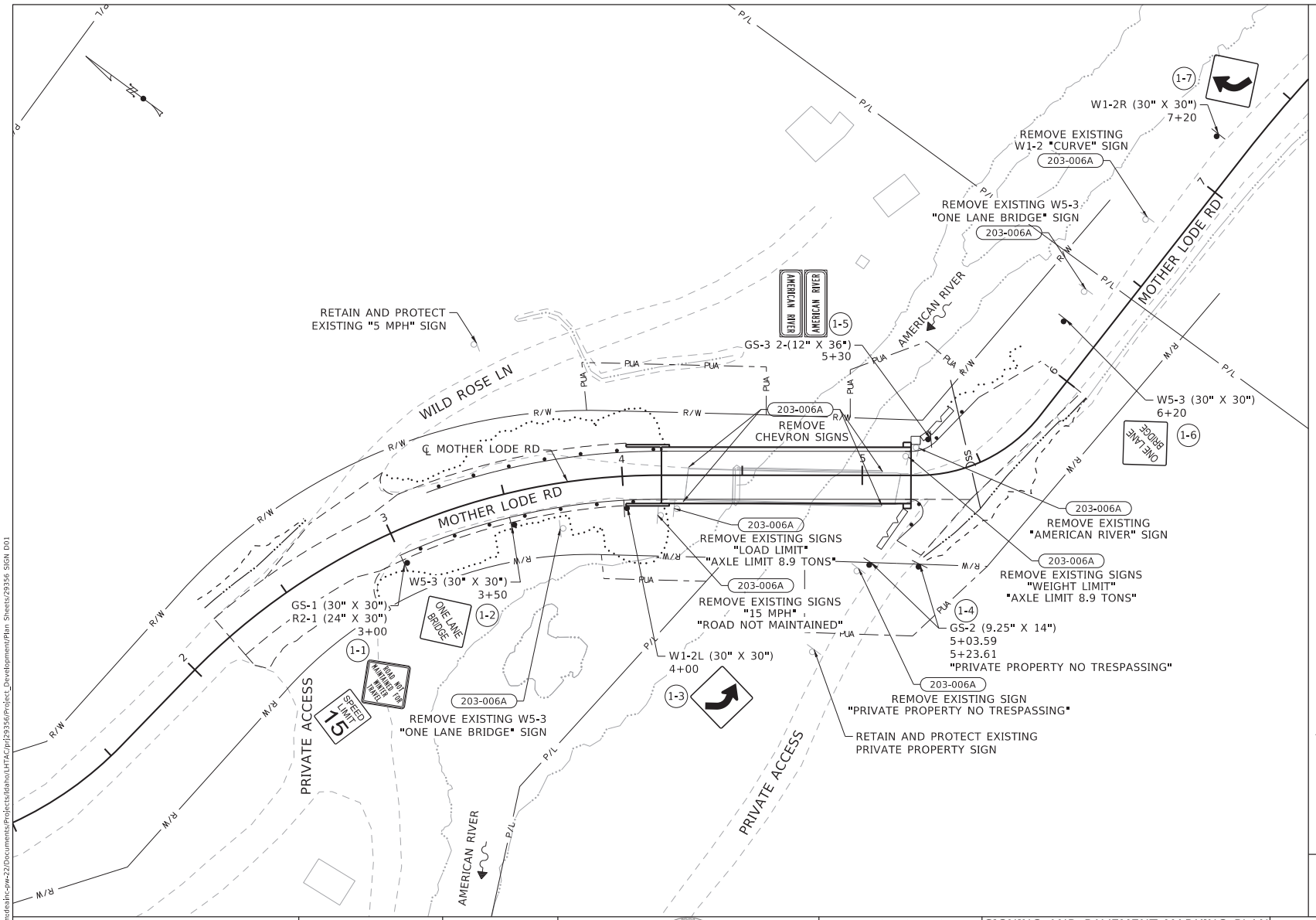

203-006A	REMOVAL OF SIGN	
1	EA	STA 3+70.84, 18.83' RT
2	EA	STA 4+14.70, 16.61' RT
2	EA	STA 4+21.56, 13.80' RT
1	EA	STA 4+25.34, 11.05' RT
1	EA	STA 4+27.65, 3.33' LT
1	EA	STA 4+98.47, 38.83' RT
1	EA	STA 5+08.17, 12.59' RT
1	EA	STA 5+08.49, 1.53' LT
2	EA	STA 5+19.26, 7.68' LT
1	EA	STA 5+23.72, 11.33' LT
1	EA	STA 6+35.07, 17.48' LT
1	EA	STA 6+74.52, 15.83' LT

NOTES:
1. REPLACE "PRIVATE PROPERTY NO TRESPASSING" SIGN WITH NEW OF SIMILIAR SIZE AND TYPE; TO BE APPROVED BY ENGINEER.

REVISIONS			
NO.	DATE	BY	DESCRIPTION

DESIGNED B. CARVER	SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY	
DESIGN CHECKED A. MCCALL	CADD FILE NAME 29356 SIGN D01.dgn	
DETAILED B. CARVER		
DRAWING CHECKED A. MCCALL	DRAWING DATE: 3/26/2026	

DAVID EVANS AND ASSOCIATES INC.

PROJECT NO.	SIGNING AND PAVEMENT MARKING PLAN	ENGLISH
	MOTHER LODE RD OVER AMERICAN RIVER BR REPLACEMENT	COUNTY IDAHO
		KEY NUMBER 29356
		SHEET 21 OF 24

PROFESSIONAL ENGINEER LICENSED 21208 3/23/2026 STATE OF IDAHO ALAN MCCALL

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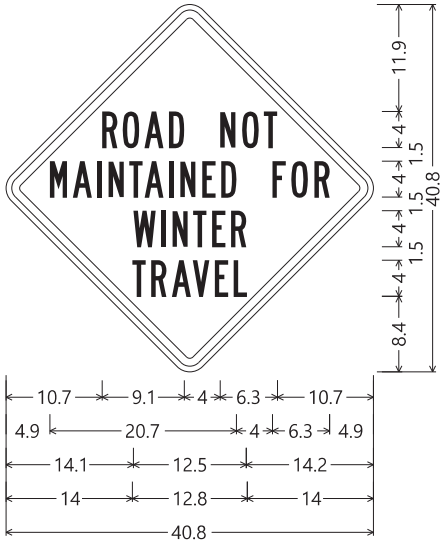
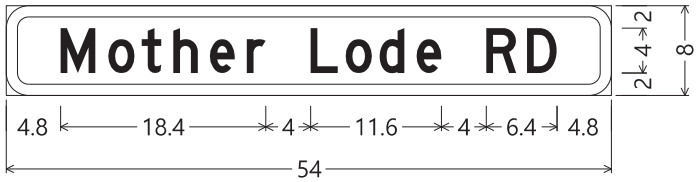
3.0" Radius, 1.0" Border, White on Brown;
"AMERICAN RIVER", B;



30.0" across sides 2.0" Radius, 0.9" Border, 0.6" Indent, Black on Yellow;
"ROAD NOT", B;
"MAINTAINED FOR", B;
"WINTER", B; "TRAVEL", B;



2.0" Radius, 1.0" Border, Black on White;
"Mother Lode RD", D;

REVISIONS				DESIGNED	SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY	PROJECT NO.	SIGN DETAIL	ENGLISH
NO.	DATE	BY	DESCRIPTION	B. CARVER			MOTHER LODE RD OVER AMERICAN RIVER BR REPLACEMENT	COUNTY IDAHO
				DESIGN CHECKED A. MCCALL				KEY NUMBER 29356
				DETAILED B. CARVER	CADD FILE NAME 29356 SDET D01.dgn			SHEET 22 OF 24
				DRAWING CHECKED A. MCCALL	DRAWING DATE: 3/26/2026			

DAVID EVANS AND ASSOCIATES INC.

PROFESSIONAL ENGINEER LICENSED 21208 3/23/2026 STATE OF IDAHO ALAN MCCALL

GENERAL NOTES:

1. THE CONTRACTOR SHALL MAINTAIN A MINIMUM OF 2' TO TEMPORARY BARRIER ON THE INSIDE AND OUTSIDE SHOULDER DURING ALL STAGES OF CONSTRUCTION.
2. THE CONTRACTOR SHALL REMOVE ANY UNUSED TEMPORARY TRAFFIC CONTROL DEVICES FROM THE EDGE OF TRAVELED WAY AND PUT OUTSIDE OF THE CLEAR ZONE OR BEHIND GUARDRAIL.
3. BLUNT ENDS WILL HAVE TEMPORARY CRASH CUSHIONS MEETING AASHTO MASH (TL-3) STANDARDS INSTALLED BEFORE TRAFFIC IS ALLOWED TO PROCEED IN THE ADJACENT LANE.
4. TEMPORARY CRASH CUSHION ELEMENTS TO BE WATER FILLED AND NOT SAND FILLED. CHEMICAL ADDITIVES MUST BE USED TO PREVENT FREEZING IN COLD SEASONS.
5. PLACE TEMPORARY CONCRETE BARRIER AT A MINIMUM OF 30 DEGREES TO THE ONCOMING LANE.
6. FABRICATE AND INSTALL TEMPORARY TRAFFIC CONTROL DEVICES TO CONFORM TO ALL APPLICABLE PROVISIONS OF THE FHWA'S MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AS ADOPTED BY THE STATE.
7. THE ENGINEER WILL VERIFY, DIRECT, OR APPROVE ANY CHANGES TO MOUNTING CONFIGURATION, NUMBER OF SIGNS, AND MINOR ADJUSTMENTS NEEDED FOR TRAFFIC CONTROL DEVICES. FOR THE DURATION OF THIS PROJECT, MONITOR THE OVERALL EFFECTIVENESS UNDER BOTH NIGHT AND DAYTIME CONDITIONS AND THE PLACEMENT OF THESE INSTALLATIONS. ADJUST AND CLEAN THE TRAFFIC CONTROL DEVICES TO PROVIDE THE OPTIMUM PERFORMANCE OF THESE DEVICES. PAYMENT FOR THIS ACTIVITY IS MADE UNDER BID ITEM 626-105A TEMPORARY TRAFFIC CONTROL MAINTENANCE.
8. THE CONTRACTOR SHALL VERIFY THAT ALL TEMPORARY TRAFFIC CONTROL SIGNS CONFORM TO STANDARD SPECIFICATION 712.02. MOUNT ALL SIGNS IN A HIGH PROFILE MANNER WITH 2 STANDARD FLAGS AND TYPE B FLASHING WARNING LIGHTS. PLACE ALL SIGNS REMAINING UP FOR MORE THAN 3 CALENDAR DAYS ON GROUND-MOUNTED WOOD POSTS.
9. THE CONTRACTOR SHALL COVER UP OR REMOVE ALL EXISTING SIGNING THAT CONFLICTS WITH THE TEMPORARY TRAFFIC CONTROL. IF ANY OF THE SIGNS ARE REMOVED BY THE CONTRACTOR, IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RESET THE SIGNS AND/OR REPLACE ANY SIGNS THAT ARE DAMAGED AT THEIR OWN EXPENSE OR AS DIRECTED BY THE ENGINEER.
10. ALL PORTABLE SIGN STANDS, SIGN POSTS, RADIOS, FLAGS, AND FLASHERS ARE PAID UNDER BID ITEM 626-100A MISCELLANEOUS TEMPORARY TRAFFIC CONTROL ITEMS.
11. INITIAL SIGN INSTALLATION AND TAKE-DOWN ARE INCIDENTAL TO BID ITEM 626-010A TEMPORARY TRAFFIC CONTROL SIGNS.
12. PLACE ALL SIGNS AT 100' INTERVALS UNLESS OTHERWISE NOTED.

ESTIMATED TTC CONSTRUCTION QUANTITIES

PAY ITEM	DESCRIPTION	QTY	UNIT
626-010A	TEMPORARY TRAFFIC CONTROL SIGNS	173	SF
626-040A	BARRICADE TYPE 3	8	EA
626-100A	MISC TEMPORARY TRAFFIC CONTROL ITEMS	3000	CA
626-105A	TEMPORARY TRAFFIC CONTROL MAINTENANCE	160	HR

ESTIMATED DETOUR SIGNING QUANTITIES

SIGN	CLASS	LEGEND	SIZE	QTY	SQ FT	TOTAL SQ FT
M4-9	B	DETOUR ARROW	30" X 24"	3	5.00	15.0
R11-2	B	ROAD CLOSED	48" X 30"	2	10.0	20.0
R11-3a	B	ROAD CLOSE * MILES AHEAD	60" X 30"	1	12.5	12.5
R11-3b	B	BRIDGE OUT * MILES AHEAD	60" X 30"	3	12.5	37.5
R11-4	B	ROAD CLOSED TO THRU TRAFFIC	60" X 30"	4	12.5	50.0
W16-8P	B	MOTHER LODE RD	54" X 8"	3	3.00	9.00
		20% CONTINGENCY = 29		TOTAL		173

REVISIONS

NO.	DATE	BY	DESCRIPTION

DESIGNED B. CARVER
DESIGN CHECKED A. MCCALL
DETAILED B. CARVER
DRAWING CHECKED A. MCCALL

SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY
CADD FILE NAME 29356 TRAF D01.dgn
DRAWING DATE: 3/26/2026

DAVID EVANS AND ASSOCIATES INC.

PROJECT NO.

TEMPORARY TRAFFIC CONTROL PLAN
MOTHER LODE RD OVER AMERICAN RIVER BR REPLACEMENT

ENGLISH

COUNTY IDAHO
KEY NUMBER 29356
SHEET 23 OF 24

PROFESSIONAL ENGINEER LICENSED
21208
3/23/2026
STATE OF IDAHO
ALAN MCCALL

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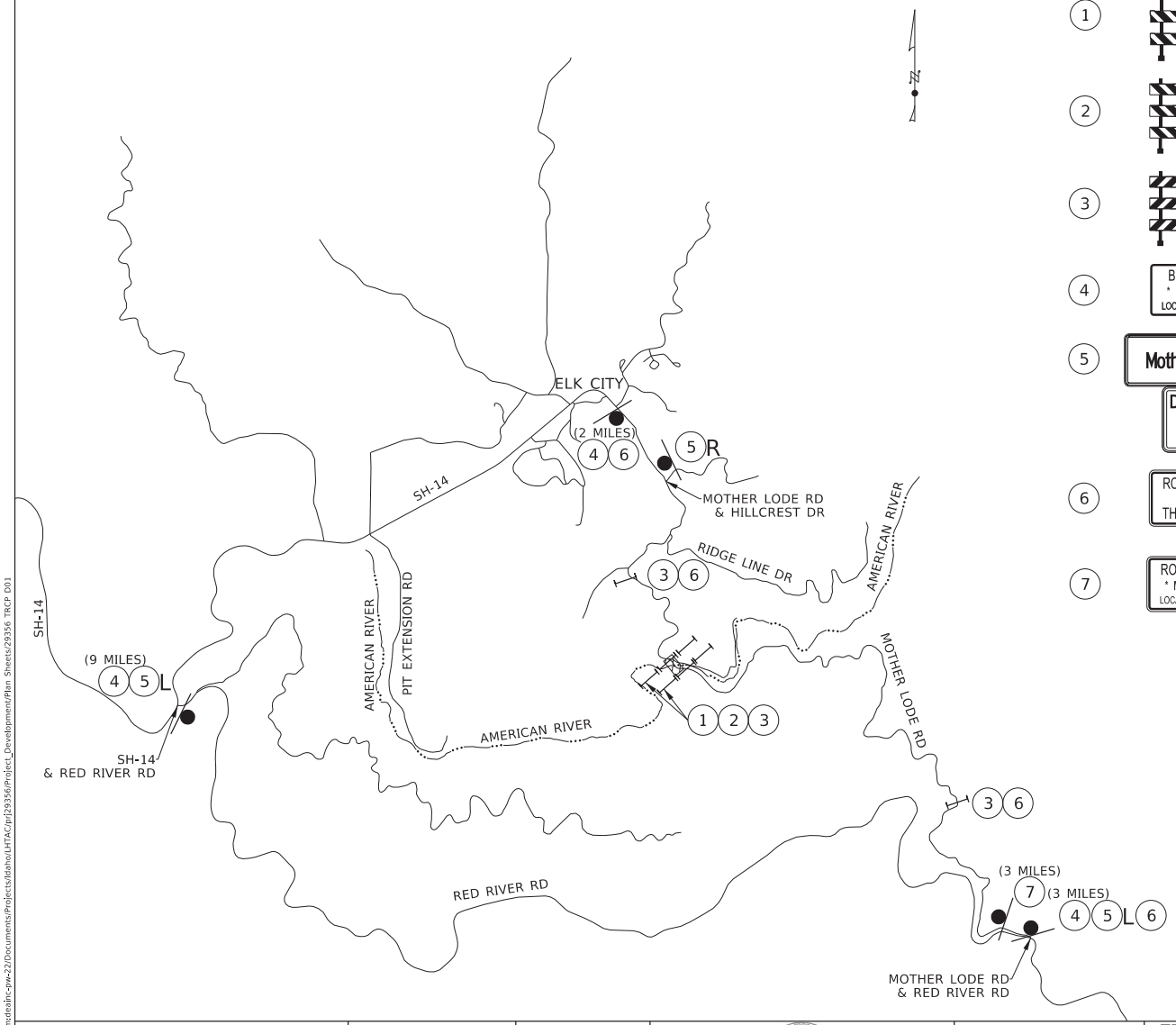
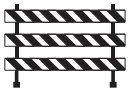
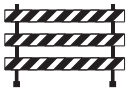
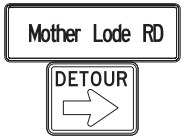


1		R11-2 (48" x 30") MOUNT TO TYPE 3 BARRICADE (CENTER)
2		TYPE 3 BARRICADE (RIGHT)
3		TYPE 3 BARRICADE (LEFT)
4		R11-3b (60" x 30")
5		W16-8P (54" x 8") M4-9 (30" x 24")
6		R11-4 (60"x30")
7		R11-3a (60" x 30")

LEGEND

- ROAD CLOSURE
- SINGLE POST SIGN
- TYPE 3 BARRICADE

REVISIONS			
NO.	DATE	BY	DESCRIPTION

DESIGNED B. CARVER	SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY
DESIGN CHECKED A. MCCALL	
DETAILED B. CARVER	CADD FILE NAME 29356 TRCP D01.dgn
DRAWING CHECKED A. MCCALL	DRAWING DATE: 3/26/2026

DAVID EVANS AND ASSOCIATES INC.

PROJECT NO.

TEMPORARY TRAFFIC CONTROL PLAN
MOTHER LODE RD OVER AMERICAN RIVER BR REPLACEMENT

DETOUR PLAN

ENGLISH

COUNTY	IDAHO
KEY NUMBER	29356
SHEET	24 OF 24

PROFESSIONAL ENGINEER LICENSED
21208
3/23/2026
STATE OF IDAHO
ALAN MCCALL

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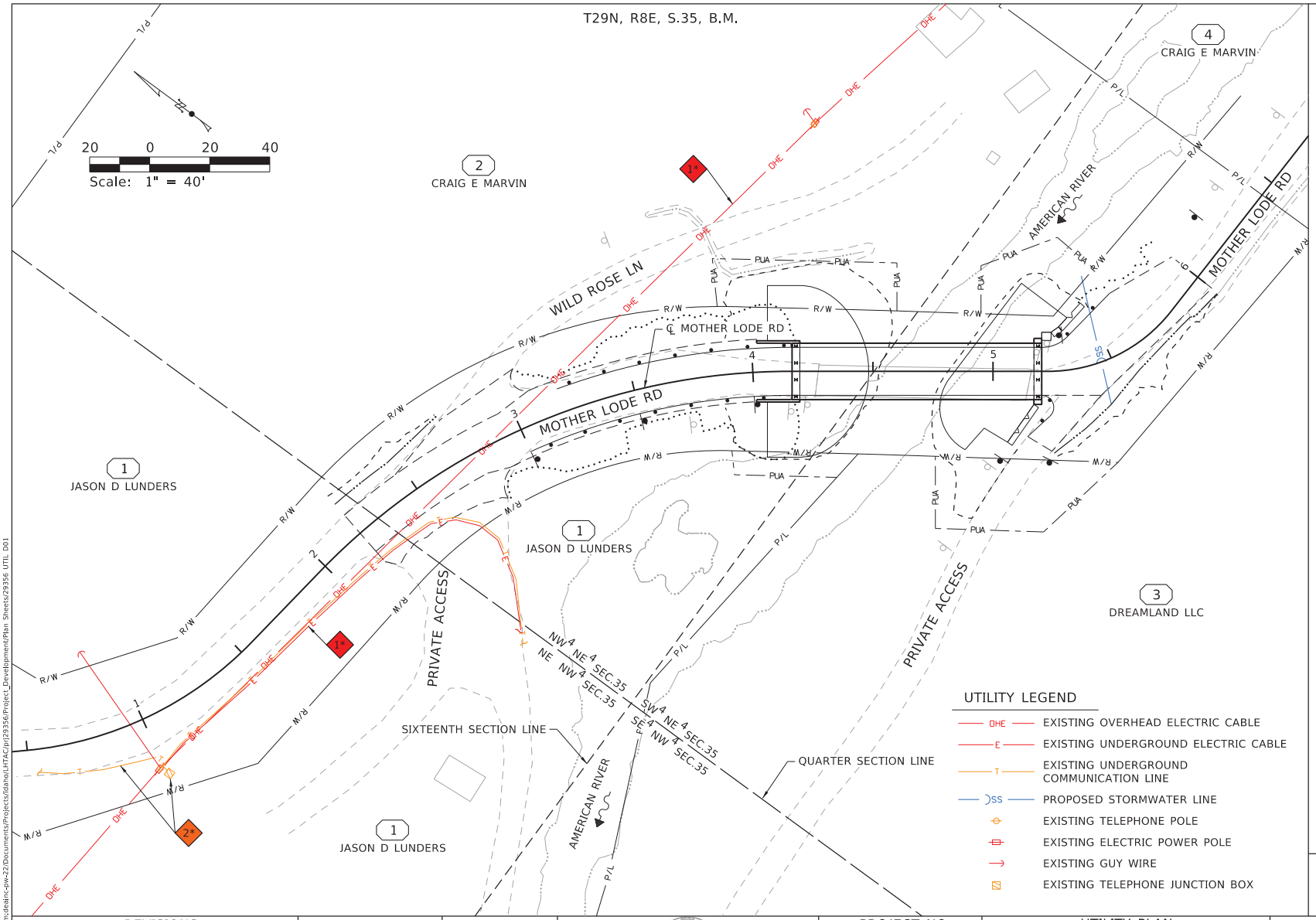

1 AVISTA UTILITIES ELECTRIC LINE / POLE

2 ZIPLY FIBER LINE / POLE

KEY

UTILITY COMPANY
RESPONSIBLE PARTY
P = REMOVE / RELOCATE AT PROJECT EXPENSE
C = REMOVE / RELOCATE AT COMPANY EXPENSE
* = RETAIN & PROTECT

EXISTING OHE — RELOCATED FROM EXISTING TO PROPOSED LOCATION — OHE PROPOSED

UTILITY COMPANIES

1 = AVISTA ELECTRIC
2 = ZIPLY FIBER

UTILITY LEGEND

- OHE — EXISTING OVERHEAD ELECTRIC CABLE
- E — EXISTING UNDERGROUND ELECTRIC CABLE
- T — EXISTING UNDERGROUND COMMUNICATION LINE
- SS — PROPOSED STORMWATER LINE
- EXISTING TELEPHONE POLE
- EXISTING ELECTRIC POWER POLE
- EXISTING GUY WIRE
- EXISTING TELEPHONE JUNCTION BOX

REVISIONS			
NO.	DATE	BY	DESCRIPTION

DESIGNED B. CARVER	SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY	
DESIGN CHECKED A. MCCALL		
DETAILED B. CARVER	CADD FILE NAME 29356 UTIL D01.dgn	
DRAWING CHECKED A. MCCALL	DRAWING DATE: 3/26/2026	

DAVID EVANS AND ASSOCIATES INC.

PROJECT NO.

UTILITY PLAN
MOTHER LODE RD OVER AMERICAN RIVER BR REPLACEMENT

ENGLISH

COUNTY IDAHO
KEY NUMBER 29356
SHEET 1 OF 1

PROFESSIONAL ENGINEER LICENSED Alan McCall 21208 3/23/2026 STATE OF IDAHO ALAN MCCALL

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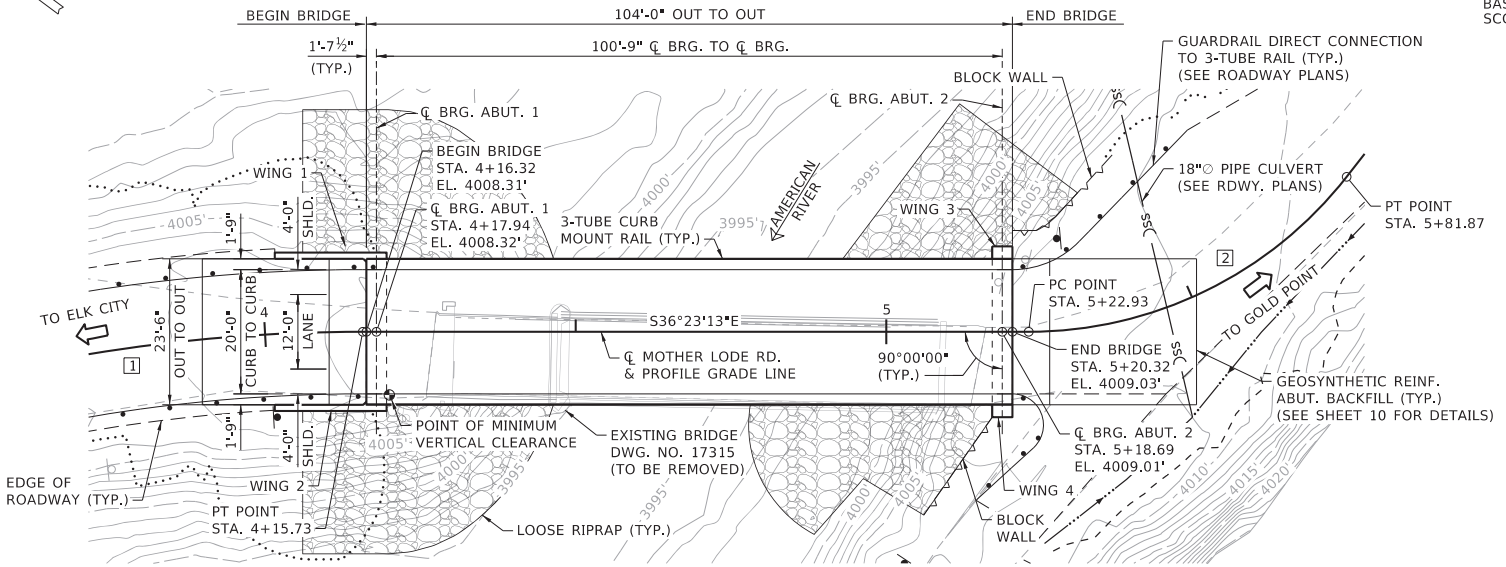
HYDRAULIC DATA

FLOOD	DISCHARGE	H.W. ELEVATION	VELOCITY
DESIGN (Q_{50})	980 cfs	4001.22'	4.35 fps
BASE (Q_{100})	1,100 cfs	4001.50'	4.60 fps
SCOUR (Q_{500})	1,380 cfs	4002.07'	5.15 fps

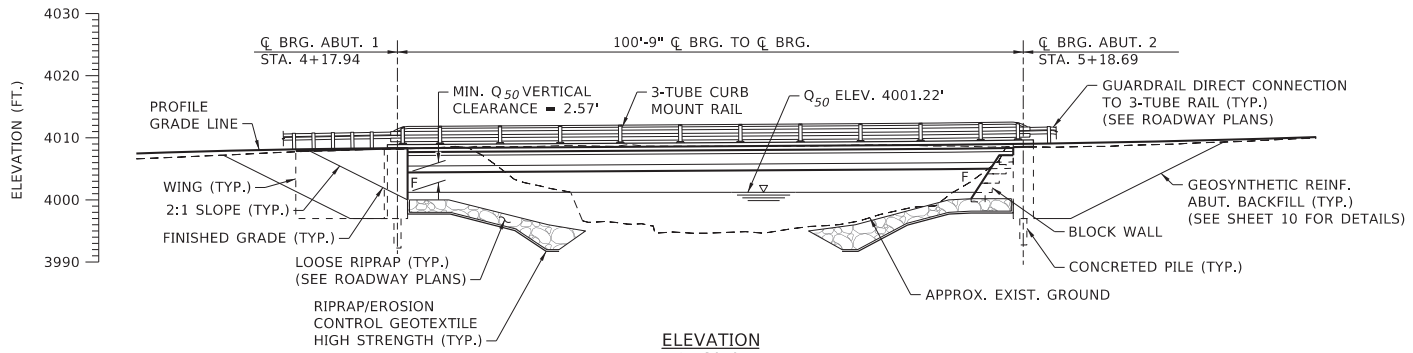
HORIZONTAL ALIGNMENT DATA

CURVE 1
PI = 3+12.96
Δ = 45°55'18" RT
T = 115.24'
L = 218.00'
R = 272.00'
N = 1511239.093
E = 2706281.107

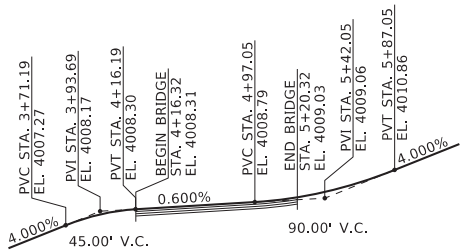
CURVE 2
PI = 5+54.60
Δ = 51°57'15" LT
T = 31.67'
L = 58.94'
R = 65.00'
N = 1511034.527
E = 2706431.854



PLAN
1"=20'-0"



ELEVATION
1"=20'-0"



PROFILE DATA
MOTHER LODE RD.
NTS

REVISIONS				DESIGNED	SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY		ENGLISH	SITUATION AND LAYOUT	BRIDGE PLANS	
NO.	DATE	BY	DESCRIPTION	J. LeMASTER					BRIDGE KEY NO. 29356	
				DESIGN CHECKED T. ZANONI	CADD FILE NAME		PROJECT NO.	104' PRESTRESSED CONCRETE BRIDGE MOTHER LODE ROAD OVER AMERICAN RIVER STA. 4+68.32	COUNTY IDAHO	KEY NO.
				DETAILED A. MITCHELL	29356 bdtl D01.dgn				BRIDGE DWG. NO. 18485	SHEET 1 OF 24
				DWG. CHECKED T. ZANONI	DRAWING DATE: MARCH 2026	DAVID EVANS AND ASSOCIATES INC.				
				CORRECTIONS						

PROFESSIONAL ENGINEER LICENSED 21316 3/23/2026 STATE OF IDAHO TIMOTHY R. ZANONI

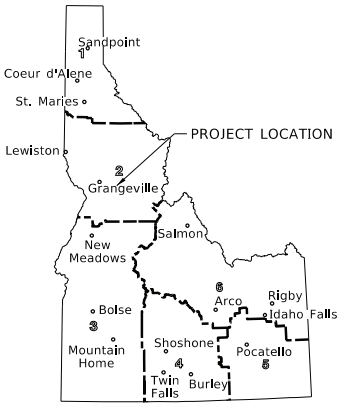
VICINITY MAP

NTS

ONE DIRECTIONAL TRAFFIC DATA

CONSTRUCTION YEAR 2026
AADT.....N/A
CAADT%.....N/A

FUTURE YEAR 2046
AADT.....N/A
CAADT%.....N/A



IDAHO MAP

NTS

SHEET INDEX

QUANTITIES

	203-020A	REMOVAL OF BRIDGE - FULL (MOTHER LODE ROAD)	1	EA
+	210-005A	STRUCTURE EXCAVATION SCHEDULE NO. 1	279	CY
+	210-015A	COMPACTING BACKFILL	2	CY
+	215-005A	GEOSYNTHETIC REINFORCED ABUTMENT BACKFILL	360	CY
	405-435A	SUPERPAVE HMA PAVEMENT INCLUDING ASPHALT & ADDITIVES CLASS SP-3	51.6	TON
	502-140A	CONCRETE CLASS 40-A SCHEDULE NO. 1	58.4	CY
+	502-310A	CONCRETE CLASS 40 AF SCHEDULE NO. 2	24.6	CY
+	502-425A	PRESTRESSED WF DECK TEE GIRDER (70.25" TOP FLANGE 47" DEPTH)	407.0	FT
+	503-010A	METAL REINFORCEMENT SCHEDULE NO. 1	11,232	LB
+	503-015A	METAL REINFORCEMENT SCHEDULE NO. 2	552	LB
+	503-020A	EPOXY COATED METAL REINFORCEMENT	1024	LB
+	504-050A	3-TUBE CURB MOUNT RAIL	208.0	FT
	507-005A	ELASTOMERIC BEARINGS PLAIN (½" x 10" x 3'-0")	8	EA
	511-005A	CONCRETE WATERPROOFING SYSTEM (TYPE E)	232	SY
	519-005A	CONCRETED PILES	176	FT
	520-005A	PREDRILLING FOR PILING IN SOIL	90	FT
	520-010A	PREDRILLING FOR PILING IN ROCK	70	FT
	560-005A	DEWATERING FOUNDATION	1	LS
	586-005A	UTILITY CONDUIT (MOTHER LODE ROAD)	1	LS
	S501-15A	RETAINING WALL	257	SF

+ PAID BY PLAN QUANTITY

REVISIONS				DESIGNED	SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY		ENGLISH	SHEET INDEX, QUANTITIES, & VICINITY MAP	BRIDGE PLANS	
NO.	DATE	BY	DESCRIPTION	J. LeMASTER					BRIDGE KEY NO. 29356	
				DESIGN CHECKED T. ZANONI	CADD FILE NAME		PROJECT NO.	104' PRESTRESSED CONCRETE BRIDGE MOTHER LODE ROAD OVER AMERICAN RIVER STA. 4+68.32	COUNTY IDAHO	KEY NO.
				DETAILED A. MITCHELL	29356 bdtl D02.dgn				BRIDGE DWG. NO. 18485	SHEET 2 OF 24
				DWG. CHECKED T. ZANONI	DRAWING DATE: MARCH 2026	DAVID EVANS AND ASSOCIATES INC.				
				CORRECTIONS						

PROFESSIONAL ENGINEER LICENSED 21316 3/23/2026 STATE OF IDAHO TIMOTHY R. ZANONI

DESIGN

DESIGN SPECIFICATIONS

"AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS" 10th EDITION AND DECEMBER 2024 ITD BRIDGE DESIGN LRFD MANUAL.

DESIGN PROCEDURES

RAILING IN ACCORDANCE WITH MASH TL-4. DESIGN SPEED IS 25 MPH.
PROPRIETARY COMPUTER SOFTWARE PROGRAMS USED TO FACILITATE THE DESIGN:

NAME	VERSION	RELEASE DATE		NAME	VERSION	RELEASE DATE
LPILE	2019.11.02	2019				
PGSUPER	8.0.5.0	2024				

DESIGN LOADS

PERMANENT LOADS

DC	UNIT WEIGHT OF REINFORCED CONCRETE	0.150 kcf
	UNIT WEIGHT OF PRESTRESSED CONCRETE	0.153 kcf
	3-TUBE CURB MOUNT RAIL	0.232 klf/SIDE
DW	INITIAL WEARING SURFACE	0.047 ksf
	FUTURE WEARING SURFACE	0.028 ksf
	FUTURE UTILITIES	0.050 klf/GIRDER
EV	UNIT WEIGHT OF SOIL	0.135 kcf
EH	ACTIVE PRESSURE	0.032 kcf
	AT REST PRESSURE	0.052 kcf

TRANSIENT LOADS

LL	HL-93	
IM	DYNAMIC ALLOWANCE APPLIED TO TRUCK & TANDEM	
LS	LIVE LOAD SURCHARGE AT ABUTMENT	3.00 ft
	LIVE LOAD SURCHARGE AT WINGWALL	2.00 ft
TU	UNIFORM TEMPERATURE RANGE	0°F TO 80°F
	BASE SETTING TEMPERATURE	60°F

EXTREME EVENT LOADS

EQ	SITE CLASS	B
	ACCELERATION COEFFICIENT S_{D1}	0.054 g
	SEISMIC PERFORMANCE ZONE	1

PILE DESIGN LOADS FOR INTEGRAL ABUTMENT

STRENGTH LIMIT STATE

NOMINAL AXIAL RESISTANCE R_n	=	652 kips
AXIAL RESISTANCE FACTOR Φ	=	0.5
FACTORED AXIAL RESISTANCE ΦR_n	=	326 kips
MAX. APPLIED AXIAL LOAD Q	=	252 kips
MIN. APPLIED AXIAL LOAD Q	=	97 kips

PILE DESIGN DATA FOR SCOUR

FOUNDATIONS DESIGNED FOR THE FOLLOWING SCOUR DEPTHS BELOW THE BOTTOM OF THE PILE CAP.

ABUTMENT = 0.0 ft

GENERAL NOTES

MATERIALS, CONSTRUCTION AND WORKMANSHIP IN ACCORDANCE WITH THE STATE OF IDAHO TRANSPORTATION DEPARTMENT: 2023 STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, 2025 SUPPLEMENTAL SPECIFICATIONS, SPECIAL PROVISIONS, AND THE PROJECT PLANS.

MATERIALS

CONCRETE:	DIAPHRAGMS AND RAILING CURB - CLASS 40AF	f'c = 4.0 ksi
	ABUTMENTS AND WINGS - CLASS 40A	f'c = 4.0 ksi
	PRESTRESS GIRDERS	f'c = 8.0 ksi
METAL REINFORCEMENT: AASHTO M31, GRADE 60		fy = 60 ksi
PRESTRESSING REINFORCEMENT: AASHTO M203, GRADE 270 LOW RELAXATION		fpu = 270 ksi

PLAN DIMENSIONS AND ELEVATIONS

BEVEL EXPOSED EDGES OF CONCRETE ¾" UNLESS NOTED OTHERWISE.
DIMENSIONS TO REINFORCING STEEL ARE TO CENTERLINE OF BAR UNLESS NOTED OTHERWISE.
PROVIDE 2" CONCRETE COVER MEASURED FROM THE FACE OF THE CONCRETE TO THE FACE OF ANY REINFORCING BAR, UNLESS SHOWN OTHERWISE ON THE DRAWINGS.
PROVIDE REINFORCING STEEL SPLICE LENGTHS IN ACCORDANCE WITH AASHTO SPECIFICATIONS.

CONSTRUCTION

EPOXY-COATED REINFORCEMENT IS DESIGNATED BY AN (E) AFTER THE BAR MARK.
PROVIDE ROUGHENED CONSTRUCTION JOINTS TO ¼" AMPLITUDE UNLESS NOTED OTHERWISE.
PROVIDE CONSTRUCTION JOINTS ONLY AT THE LOCATIONS SHOWN ON THE PLANS OR AS APPROVED.
SET THE ROLLER IN THE STATIC MODE FOR COMPACTING THE ASPHALT WEARING SURFACE ON THE BRIDGE.
ELEVATIONS BASED ON NAVD 88 DATUM.

INCIDENTAL ITEMS

WORK NECESSARY TO FULFILL THE CONTRACT THAT IS NOT MEASURED OR PAID FOR SEPARATELY.

ELASTOMERIC BEARINGS

DESIGN PROCEDURE: METHOD A
GRADE 3 60 DUROMETER POLYCHLOROPRENE
DESIGN LOAD (SERVICE 1)
ABUTMENT ..... 210 kips

ABBREVIATIONS

E.F. = EACH FACE
F.F. = FILL FACE
N.F. = NEAR FACE
UNO = UNLESS NOTED OTHERWISE
SPS. = SPACES
T&B = TOP AND BOTTOM

BLOCK WALLS

THE FOLLOWING TABLE SUMMARIZES THE SOIL INFORMATION TO BE USED IN THE WALL DESIGN. OTHER INFORMATION NEEDED FOR THE WALL DESIGN CAN BE FOUND IN THE GEOTECHNICAL ENGINEERING REPORT.

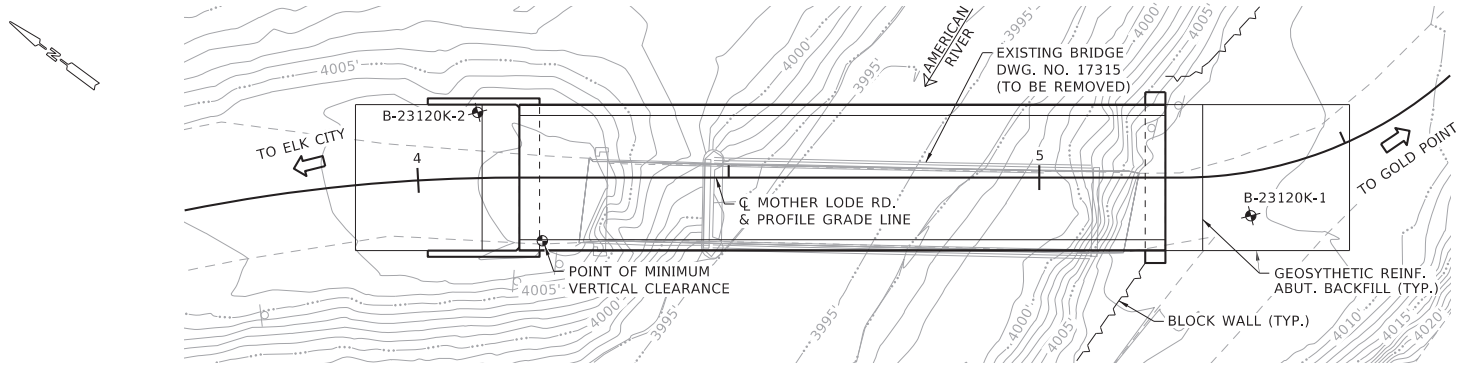
BLOCK WALL DESIGN PARAMETERS

SOIL	WET UNIT WEIGHT (pcf)	COHESION (psf)	FRICTION ANGLE (DEGREE)	ALLOWABLE BEARING CAPACITY (ksf)	ULTIMATE BEARING CAPACITY ** (ksf)
WALL BACKFILL	*	*	*	N/A	N/A
RETAINED SOIL	135	0	38°	N/A	N/A
FOUNDATION SOIL	120	0	32°	*	*

* - TO BE DETERMINED BY THE CONTRACTOR
** - RESISTANCE FACTOR = 0.65 (STRENGTH)

REVISIONS				DESIGNED	SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY		ENGLISH	DESIGN AND GENERAL NOTES	BRIDGE PLANS	
NO.	DATE	BY	DESCRIPTION	J. LeMASTER		GREAT SEAL OF IDAHO COUNTY "Mountain Prairie River"			BRIDGE KEY NO. 29356	
				DESIGN CHECKED T. ZANONI	CADD FILE NAME 29356 bdtl D03.dgn		PROJECT NO.	104' PRESTRESSED CONCRETE BRIDGE MOTHER LODE ROAD OVER AMERICAN RIVER STA. 4+68.32	COUNTY IDAHO	KEY NO.
				DETAILED A. MITCHELL					BRIDGE DWG. NO. 18485	SHEET 3 OF 24
				DWG. CHECKED T. ZANONI	DRAWING DATE: MARCH 2026	DAVID EVANS AND ASSOCIATES INC.				
				CORRECTIONS						

PROFESSIONAL ENGINEER LICENSED 21316 3/23/2026 STATE OF IDAHO TIMOTHY R. ZANONI



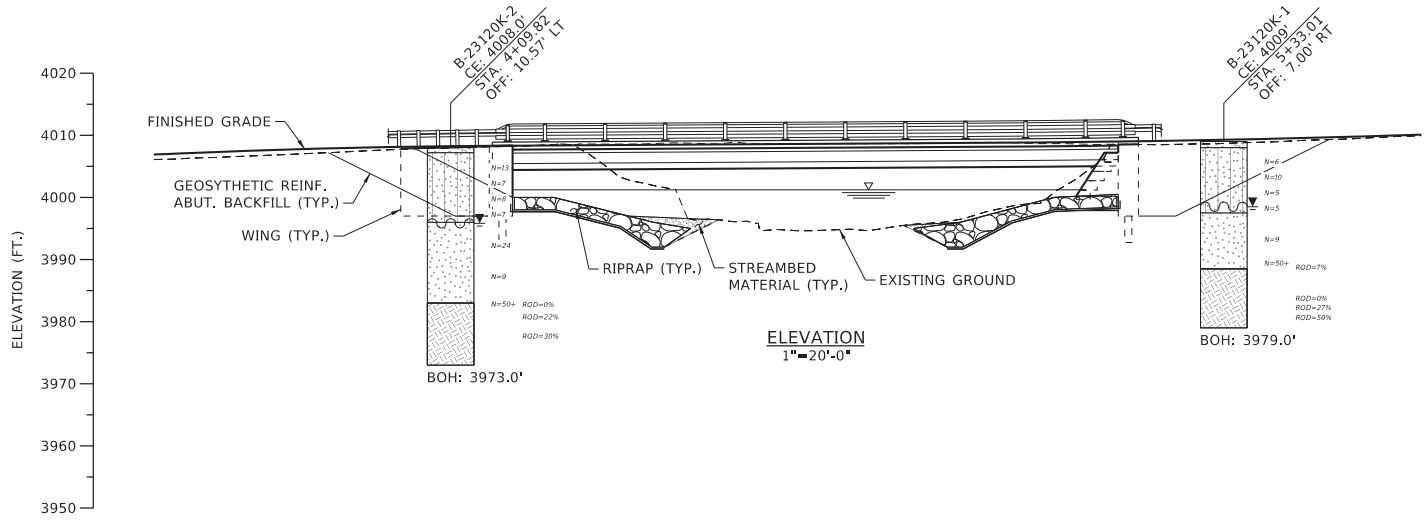
PLAN
1"=20'-0"

LEGEND:

OFF	OFFSET FROM CENTERLINE (FEET)
CE	COLLAR ELEVATION (FEET)
N	BLOWS OF A 140 LB HAMMER FALLING 30" REQUIRED TO DRIVE A 2" OD SPLIT-SPOON SAMPLE A DISTANCE OF 12 INCHES
RQD	ROCK QUALITY DESIGNATION
▽	APPROXIMATE GROUNDWATER ELEVATION ENCOUNTERED DURING DRILLING

NOTES:

1. THE SUBSURFACE CONDITIONS SHOWN REPRESENTS THE APPROXIMATE DEPTHS OF CHANGES IN SOIL TYPE. THE TRANSITION BETWEEN MATERIALS MAY BE GRADUAL OR ABRUPT.
2. THIS PROFILE SHOWS SUBSURFACE CONDITIONS ENCOUNTERED AT THE SPECIFIC BORING LOCATIONS AT THE TIME THE BORINGS WERE DRILLED. THEY MAY NOT BE REPRESENATIVE OF SUBSURFACE SOIL, ROCK AND GROUNDWATER CONDITIONS AT OTHER LOCATIONS AND TIMES.
3. COBBLES AND BOULDERS PRESENT AND ANTICIPATED TO BE ENCOUNTERED AT THE SITE. PREDRILLING FOR THE HP14x89 PILES IS REQUIRED.
4. GROUNDWATER ELEVATIONS SHOWN ARE BASED ON WATER LEVELS AT THE TIME OF DRILLING GROUNDWATER LEVELS ARE APPROXIMATE AND SHOULD BE EXPECTED TO FLUCTUATE.



ELEVATION
1"=20'-0"

(GP) BASE COURSE - GRADED GRAVEL WITH SAND

(SM) EMBANKMENT FILL - SILTY SAND GRAVEL

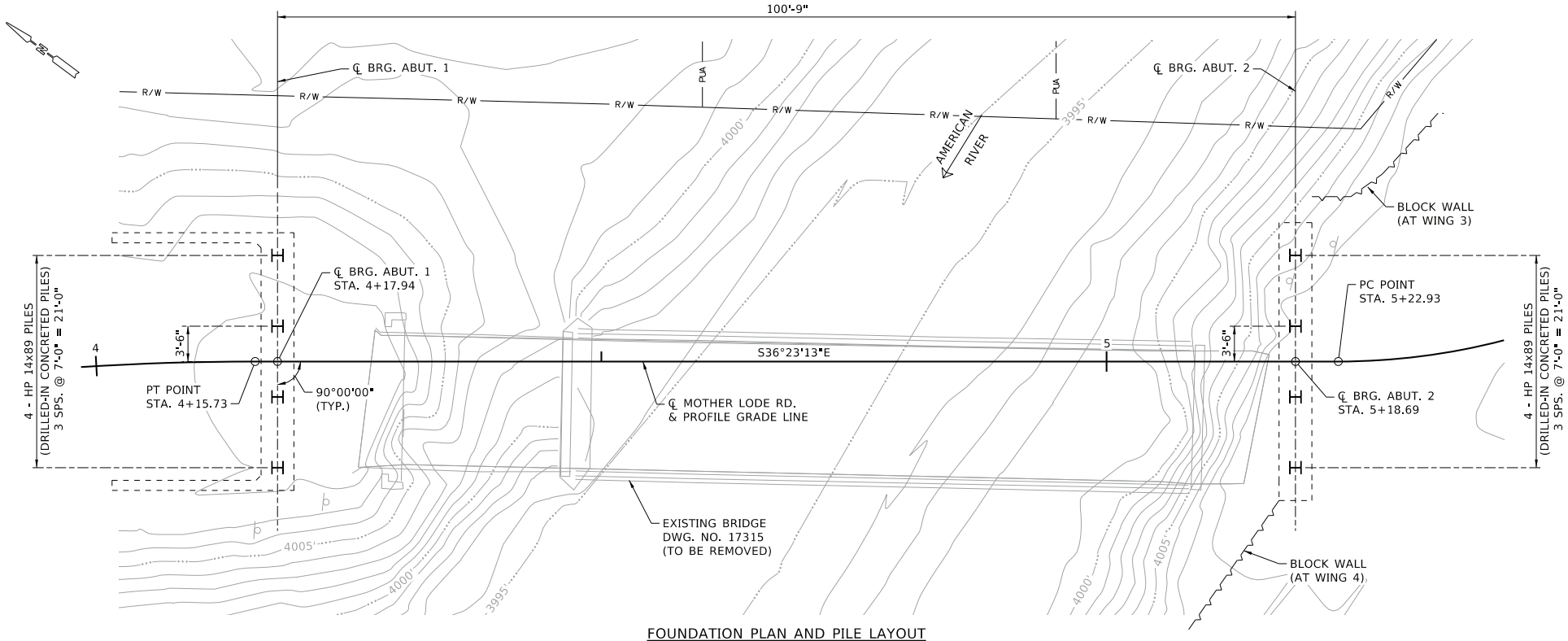
(SP) ALLUVIUM - POORLY-GRADED SAND WITH GRAVEL

(RX) BEDROCK - GNEISS

REVISIONS				DESIGNED	SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY		ENGLISH	FOUNDATION INVESTINGATION PLAT	BRIDGE PLANS	
NO.	DATE	BY	DESCRIPTION	T. WAMBEKE					BRIDGE KEY NO. 29356	
				DESIGN CHECKED S. LARSON	CADD FILE NAME		PROJECT NO.	104' PRESTRESSED CONCRETE BRIDGE MOTHER LODE ROAD OVER AMERICAN RIVER STA. 4+68.32	COUNTY IDAHO	KEY NO.
				DETAILED A. MITCHELL	29356 bdtl D04.dgn				BRIDGE DWG. NO. 18485	SHEET 4 OF 24
				DWG. CHECKED T. WAMBEKE	DRAWING DATE: MARCH 2026					
				CORRECTIONS						

GeoProfessional Innovation

PROFESSIONAL ENGINEER LICENSED P-8863 3/23/2026 STATE OF IDAHO TRAVIS JAMES WAMBEKE



FOUNDATION PLAN AND PILE LAYOUT
1"=10'-0"

LEGEND:

H DENOTES VERTICAL PILING

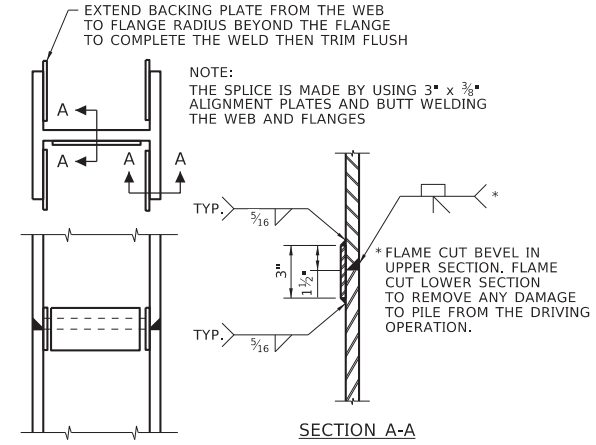
NOTES:

1. SEE SHEET 6 FOR PILE NOTES, PILE DETAILS, AND PILE SCHEDULE.

REVISIONS				DESIGNED	SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY		ENGLISH	FOUNDATION PLAN	BRIDGE PLANS	
NO.	DATE	BY	DESCRIPTION	J. JOHNSON					BRIDGE KEY NO. 29356	
				DESIGN CHECKED T. ZANONI	CADD FILE NAME		PROJECT NO.	104' PRESTRESSED CONCRETE BRIDGE MOTHER LODE ROAD OVER AMERICAN RIVER STA. 4+68.32	COUNTY IDAHO	KEY NO.
				DETAILED A. MITCHELL	29356 bdtl D05.dgn				BRIDGE DWG. NO. 18485	SHEET 5 OF 24
				DWG. CHECKED T. ZANONI	DRAWING DATE: MARCH 2026					
				CORRECTIONS						

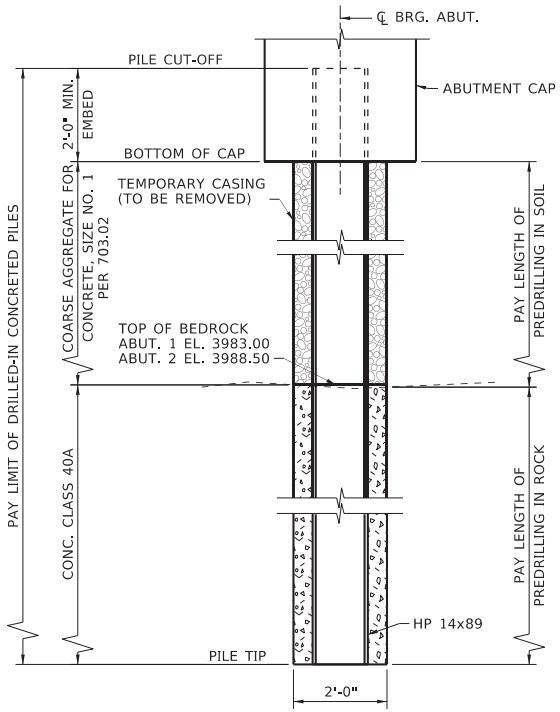
DAVID EVANS AND ASSOCIATES INC.

PROFESSIONAL ENGINEER LICENSED 21316 3/23/2026 STATE OF IDAHO TIMOTHY R. ZANONI



OPTIONAL H-PILE BUTT WELDED SPLICE DETAIL

NTS



DRILLED-IN CONCRETED PILE DETAIL

3/8" = 1'-0"

NOTES

MATERIAL SPECIFICATIONS

1. PROVIDE HP14x89 STEEL H-PILES THAT CONFORM TO ASTM A572 GRADE 50.
2. PROVIDE SPLICE PLATES OF THE SAME MATERIAL AS THE STEEL H-PILES.
3. SPLICE PILE ACCORDING TO THE PILE SPLICE DETAIL OR PROVIDE PREFABRICATED SPLICERS ACCORDING TO ITD'S QUALIFIED PRODUCTS LIST FOR CATEGORY 505 PILING AND SUB-CATEGORY "SPLICING FOR STEEL H-PILES".

WELDING

4. QUALIFICATION OF WELDERS, MATERIALS, INSPECTION, AND PROCEDURES FOR WELDING H-PILES MUST CONFORM TO THE CURRENT EDITION OF AWS D1.1.
5. PROVIDE WELDING QUALIFICATION TESTS TO DEMONSTRATE THE WELDABILITY OF H-PILES UNDER FIELD CONDITIONS FOR ALL TYPES OF WELDS TO BE MADE ON THE PILES.
6. ATTACH PREFABRICATED SPLICERS BY WELDING IN ACCORDANCE WITH THE CURRENT EDITION OF AWS D1.1. SUBMIT WELDING DETAILS AND PROCEDURES FOR APPROVAL.

MISCELLANEOUS

7. PILE TIP ELEVATIONS ARE SHOWN FOR ESTIMATING PURPOSES ONLY.
8. ESTIMATED PILE LENGTHS ARE COMPUTED FROM PILE CUT-OFF AND ESTIMATED PILE TIP ELEVATIONS.
9. CONTRACTOR SHOULD EXPECT SIGNIFICANT COBBLES AND BOULDERS AS WELL AS LARGE BURIED LOGS.
10. SEE SECTION 230.08 OF PROJECT GEOTECHNICAL REPORT FOR ADDITIONAL REQUIREMENTS AND SPECIFICATIONS ON DRILLED PILE EXCAVATION, TEMPORARY CASING AND CONSTRUCTION.

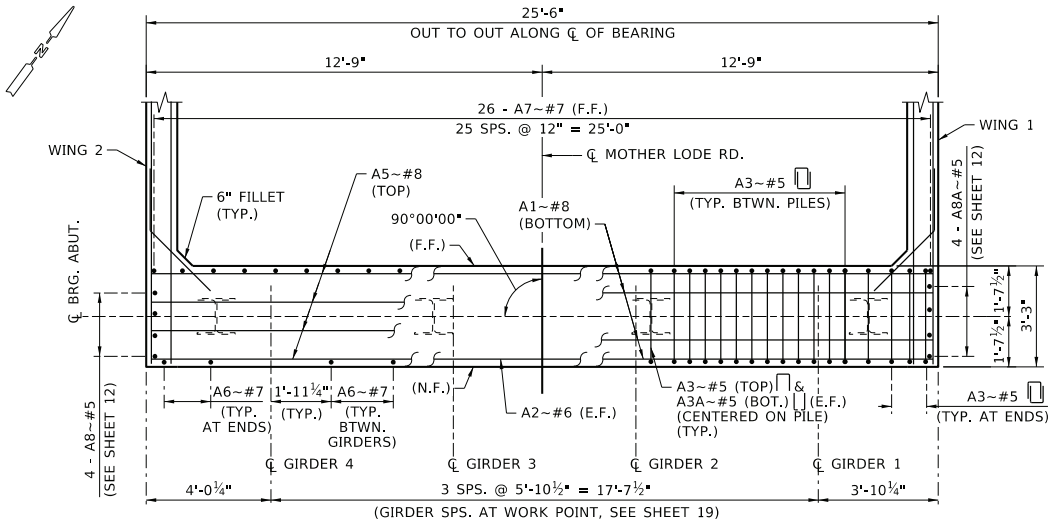
PILE SCHEDULE

LOCATION	NO.	ELEVATION			ESTIMATED PILE LENGTH (FT)
		PILE CUT-OFF	ESTIMATED PILE TIP	HIGHEST PILE TIP	
ABUT. 1	4	3999.00	3977.00	3977.00	22.0
ABUT. 2	4	3999.00	3977.00	3977.00	22.0

REVISIONS				DESIGNED	SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY		ENGLISH	FOUNDATION DETAILS	BRIDGE PLANS
NO.	DATE	BY	DESCRIPTION	J. JOHNSON		GREAT SEAL OF IDAHO COUNTY			
				DESIGN CHECKED J. WARREN	CADD FILE NAME		PROJECT NO.	104' PRESTRESSED CONCRETE BRIDGE MOTHER LODE ROAD OVER AMERICAN RIVER STA. 4+68.32	BRIDGE KEY NO. 29356
				DETAILED A. MITCHELL	29356 bdtl D06.dgn				COUNTY IDAHO / KEY NO.
				DWG. CHECKED J. WARREN	DRAWING DATE: MARCH 2026	DAVID EVANS AND ASSOCIATES INC.			BRIDGE DWG. NO. 18485 / SHEET 6 OF 24
				CORRECTIONS					

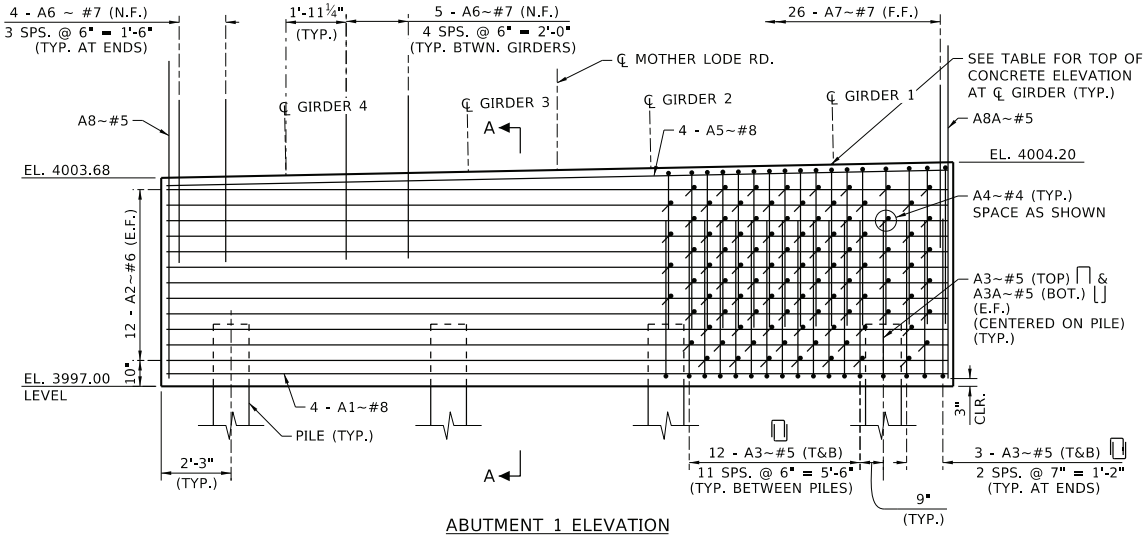
PROFESSIONAL ENGINEER LICENSED 15104 03/23/2026 STATE OF IDAHO JOSH D. WARREN

ABUT. 1 TOP OF CONCRETE ELEVATION TABLE	
GIRDER NO.	EL.
1	4004.12
2	4004.00
3	4003.88
4	4003.76



ABUTMENT 1 PLAN

¼"=1'-0"



ABUTMENT 1 ELEVATION

(LOOKING BACK ON STATION)

¼"=1'-0"

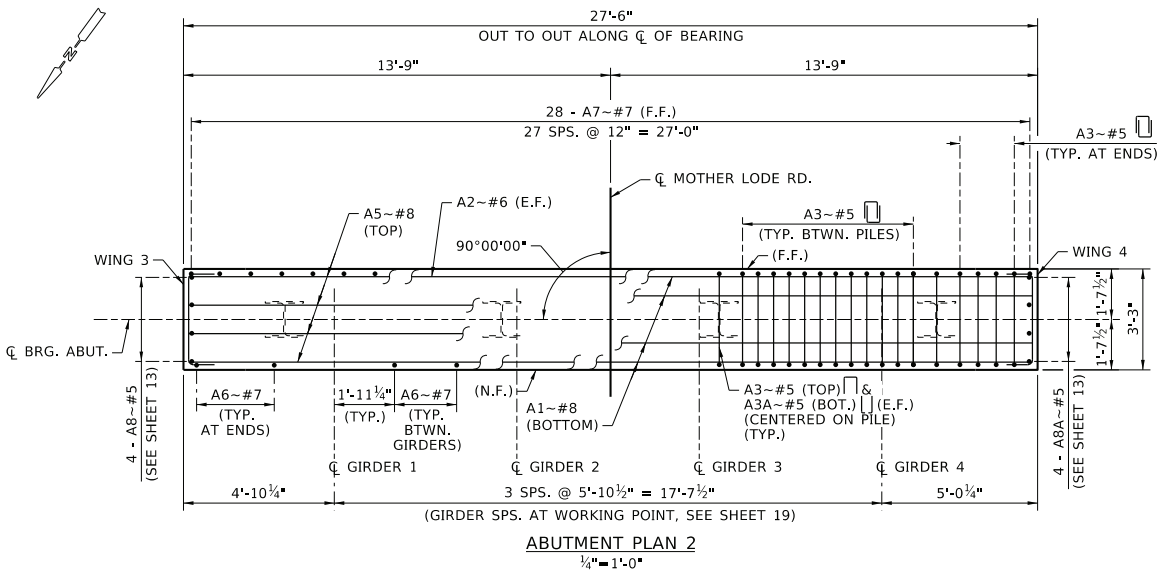
NOTES

1. SEE SHEET 9 FOR SECTION A-A AND ABUTMENT DETAILS.
2. ALL ELEVATIONS ARE AT ℄ BEARING.

REVISIONS				DESIGNED	SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY		ENGLISH	ABUTMENT 1 PLAN & ELEVATION	BRIDGE PLANS	
NO.	DATE	BY	DESCRIPTION	J. JOHNSON					BRIDGE KEY NO. 29356	
				DESIGN CHECKED J. WARREN	CADD FILE NAME		PROJECT NO.	104' PRESTRESSED CONCRETE BRIDGE MOTHER LODE ROAD OVER AMERICAN RIVER STA. 4+68.32	COUNTY IDAHO	KEY NO.
				DETAILED A. MITCHELL	29356 bdtl D07.dgn				BRIDGE DWG. NO. 18485	SHEET 7 OF 24
				DWG. CHECKED J. WARREN	DRAWING DATE: MARCH 2026	DAVID EVANS AND ASSOCIATES INC.				
				CORRECTIONS						

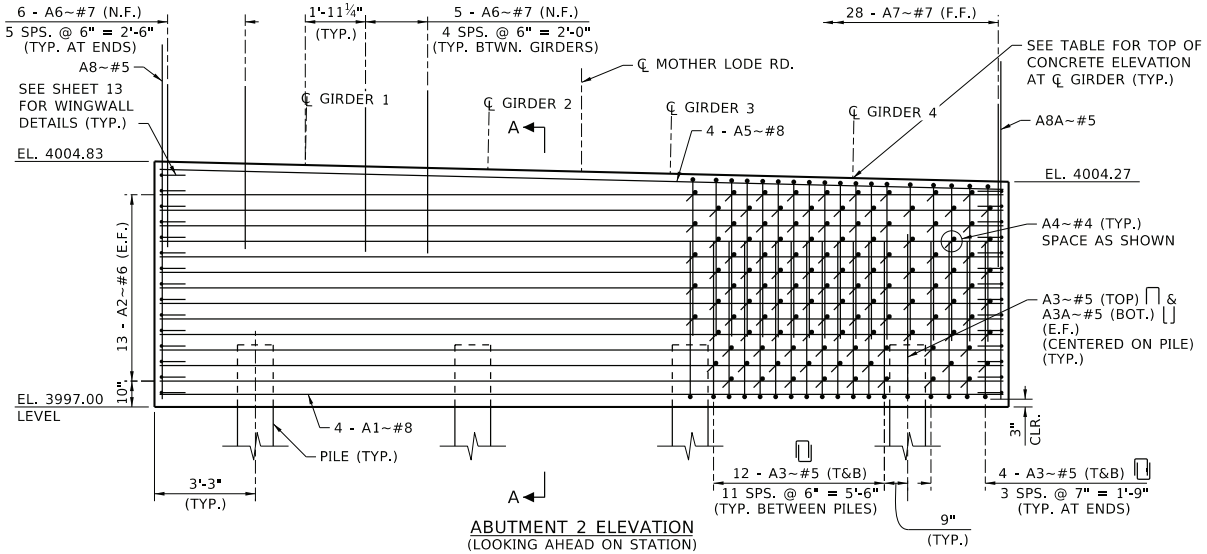
PROFESSIONAL ENGINEER LICENSED 15104 03/23/2026 STATE OF IDAHO JOSH D. WARREN

ABUT. 2 TOP OF CONCRETE ELEVATION TABLE	
GIRDER NO.	EL.
1	4004.73
2	4004.61
3	4004.49
4	4004.37



ABUTMENT PLAN 2

¼"=1'-0"



ABUTMENT 2 ELEVATION

(LOOKING AHEAD ON STATION)

¼"=1'-0"

NOTES

1. SEE SHEET 9 FOR SECTION A-A AND ABUTMENT DETAILS.
2. ALL ELEVATIONS ARE AT ℄ BEARING.

REVISIONS			
NO.	DATE	BY	DESCRIPTION

DESIGNED J. JOHNSON
DESIGN CHECKED J. WARREN
DETAILED A. MITCHELL
DWG. CHECKED J. WARREN
CORRECTIONS

SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY

CADD FILE NAME

29356 bdtl D08.dgn

DRAWING DATE: MARCH 2026

DAVID EVANS AND ASSOCIATES INC.

ENGLISH

PROJECT NO.

ABUTMENT 2 PLAN & ELEVATION

104' PRESTRESSED CONCRETE BRIDGE
MOTHER LODE ROAD OVER AMERICAN RIVER
STA. 4+68.32

BRIDGE PLANS

BRIDGE KEY NO. 29356

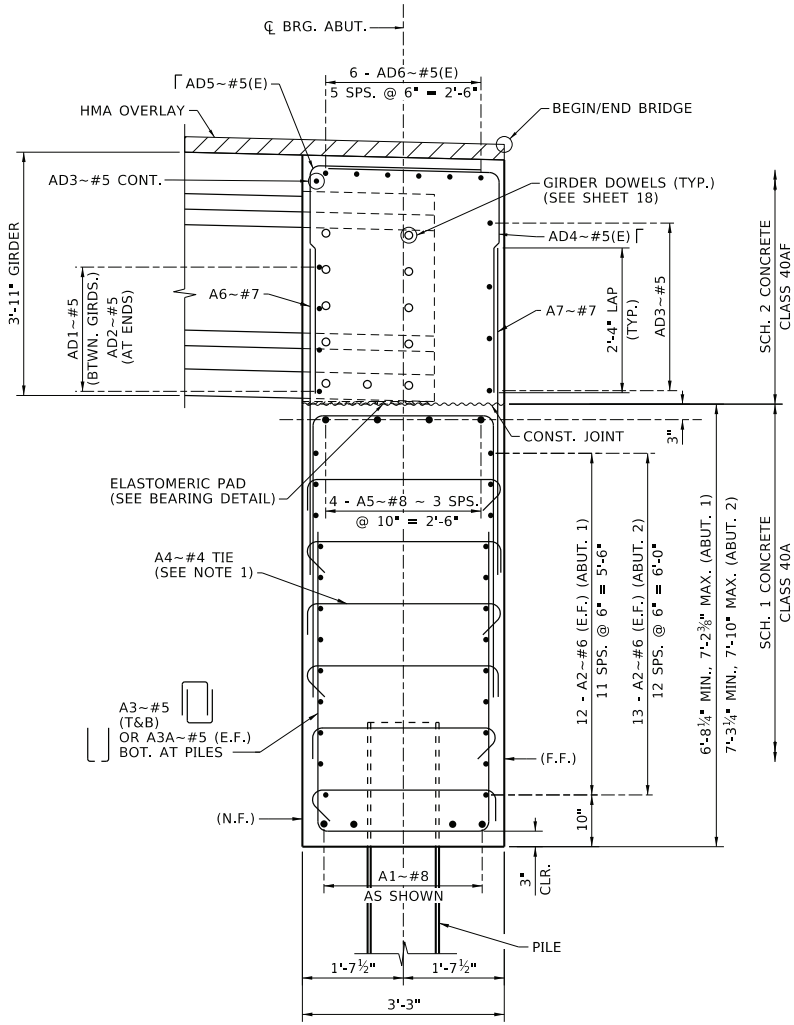
COUNTY IDAHO | KEY NO.

BRIDGE DWG. NO. 18485 | SHEET 8 OF 24

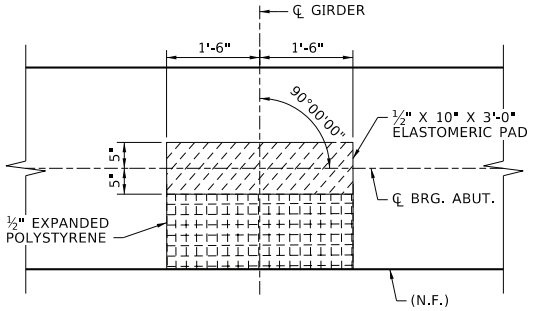
PROFESSIONAL ENGINEER LICENSED 15104 03/23/2026 STATE OF IDAHO JOSH D. WARREN

NOTES

1. HOOK TIES AROUND HORIZONTAL AND VERTICAL BARS. ALTERNATE 135° HOOKS ON ADJACENT BARS.



SECTION A-A
½"=1'-0"



BEARING DETAIL
½"=1'-0"

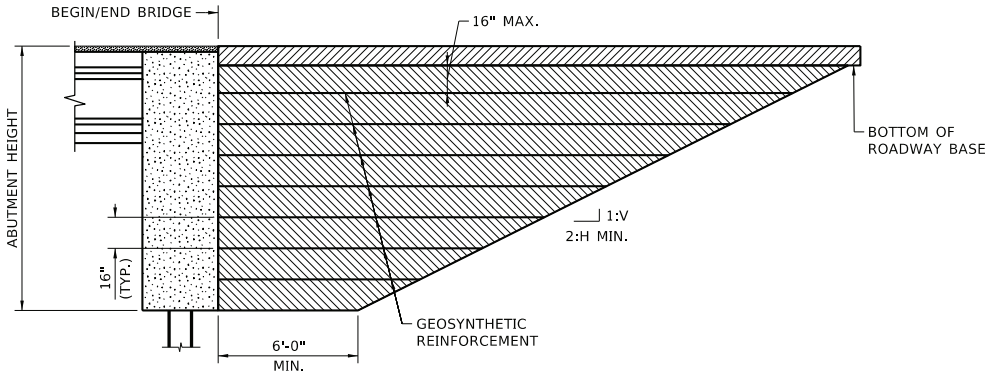
REVISIONS				DESIGNED	SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY		ENGLISH	ABUTMENT DETAILS (1 OF 2)	BRIDGE PLANS	
NO.	DATE	BY	DESCRIPTION	J. JOHNSON					BRIDGE KEY NO. 29356	
				DESIGN CHECKED J. WARREN	CADD FILE NAME		PROJECT NO.	104' PRESTRESSED CONCRETE BRIDGE MOTHER LODE ROAD OVER AMERICAN RIVER STA. 4+68.32	COUNTY IDAHO	KEY NO.
				DETAILED A. MITCHELL	29356 bdtl D09.dgn				BRIDGE DWG. NO. 18485	SHEET 9 OF 24
				DWG. CHECKED J. WARREN	DRAWING DATE: MARCH 2026					
				CORRECTIONS						

DAVID EVANS AND ASSOCIATES INC.

PROFESSIONAL ENGINEER LICENSED 15104 03/23/2026 STATE OF IDAHO JOSH D. WARREN

NOTES

1. PROVIDE GEOSYNTHETIC REINFORCED ABUTMENT BACKFILL IN ACCORDANCE WITH 215.
2. PROVIDE 2' DIAMETER REINFORCED CARDBOARD TUBE TO INSTALL ROADWAY GUARDRAIL POSTS. DO NOT DRIVE POSTS THROUGH GEOSYNTHETIC REINFORCEMENT.



TYPICAL SECTION GEOSYNTHETIC REINFORCED ABUTMENT BACKFILL
(TYPICAL BOTH ABUTMENTS)
(ABUTMENT SHOWN, SIMILAR PLACEMENT AT WINGS)
NTS

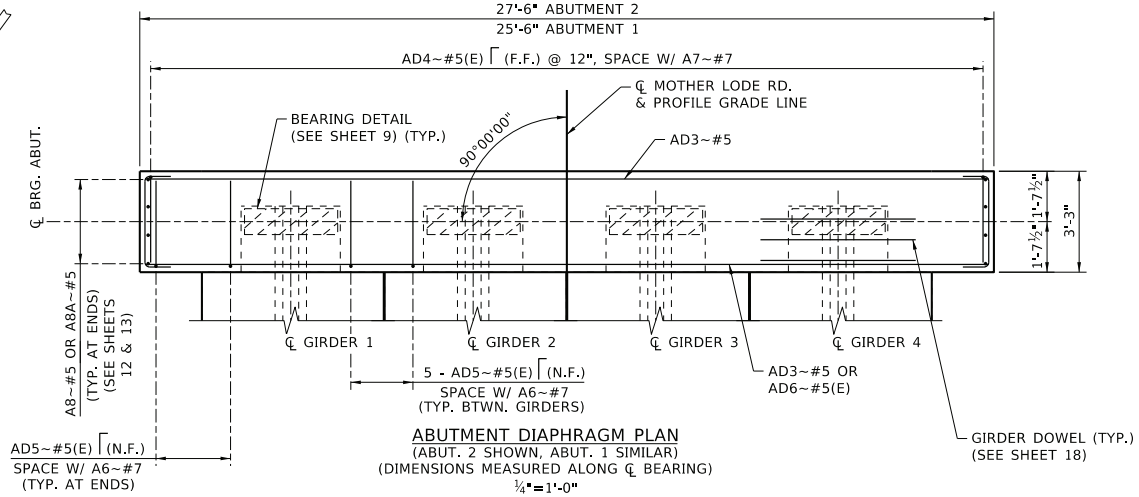
LEGEND

- ROADWAY BASE (SEE RDWY. PLANS)
- GEOSYNTHETIC REINFORCED ABUTMENT BACKFILL

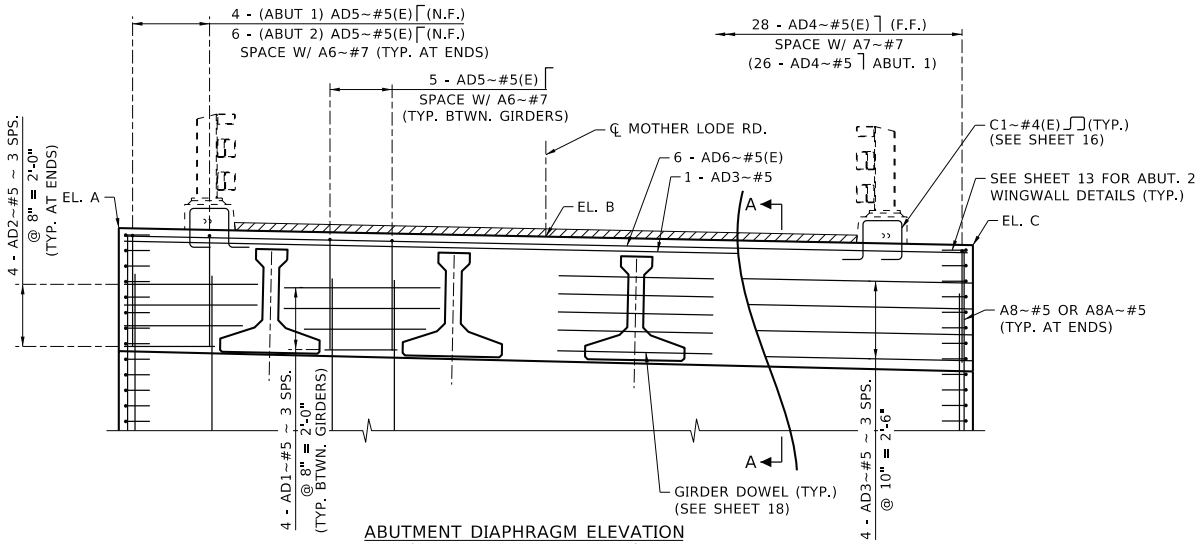
REVISIONS				DESIGNED	SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY		ENGLISH	ABUTMENT DETAILS (2 OF 2)	BRIDGE PLANS	
NO.	DATE	BY	DESCRIPTION	J. LeMASTER					BRIDGE KEY NO. 29356	
				DESIGN CHECKED T. ZANONI	CADD FILE NAME		PROJECT NO.	104' PRESTRESSED CONCRETE BRIDGE MOTHER LODE ROAD OVER AMERICAN RIVER STA. 4+68.32	COUNTY IDAHO	KEY NO.
				DETAILED A. MITCHELL	29356 bdtl D10.dgn				BRIDGE DWG. NO. 18485	SHEET 10 OF 24
				DWG. CHECKED T. ZANONI	DRAWING DATE: MARCH 2026	DAVID EVANS AND ASSOCIATES INC.				
				CORRECTIONS						

PROFESSIONAL ENGINEER LICENSED 21316 3/23/2026 STATE OF IDAHO TIMOTHY R. ZANONI

TOP OF CONC. ELEVATIONS ALONG ℄ BRG.			
LOCATION	EL. A	EL. B	EL. C
ABUT. 1	4008.15	4007.90	4007.64
ABUT. 2	4008.78	4008.51	4008.23



ABUTMENT DIAPHRAGM PLAN
(ABUT. 2 SHOWN, ABUT. 1 SIMILAR)
(DIMENSIONS MEASURED ALONG ℄ BEARING)
¼"=1'-0"



ABUTMENT DIAPHRAGM ELEVATION
(LOOKING AHEAD ON STATION)
(ABUT. 2 SHOWN, ABUT. 1 SIMILAR)
(DIMENSIONS MEASURED ALONG ℄ BEARING)
¼"=1'-0"

NEAR FACE REINFORCEMENT

FILL FACE REINFORCEMENT

NOTES
1. SEE SHEET 9 FOR SECTION A-A AND ABUTMENT DETAILS.

REVISIONS			
NO.	DATE	BY	DESCRIPTION

DESIGNED J. LeMASTER
DESIGN CHECKED T. ZANONI
DETAILED A. MITCHELL
DWG. CHECKED T. ZANONI
CORRECTIONS

SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY
CADD FILE NAME
29356 bdtl D11.dgn
DRAWING DATE: MARCH 2026

DAVID EVANS AND ASSOCIATES INC.

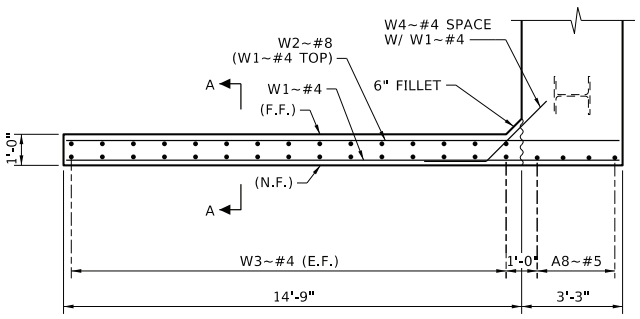
ENGLISH
PROJECT NO.

ABUTMENT END DIAPHRAGM DETAILS
104' PRESTRESSED CONCRETE BRIDGE
MOTHER LODE ROAD OVER AMERICAN RIVER
STA. 4+68.32

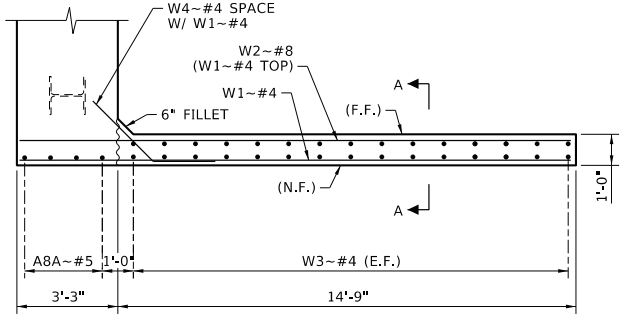
BRIDGE PLANS
BRIDGE KEY NO. 29356
COUNTY IDAHO | KEY NO.
BRIDGE DWG. NO. 18485 | SHEET 11 OF 24

PROFESSIONAL ENGINEER LICENSED 21316 3/23/2026 STATE OF IDAHO TIMOTHY R. ZANONI

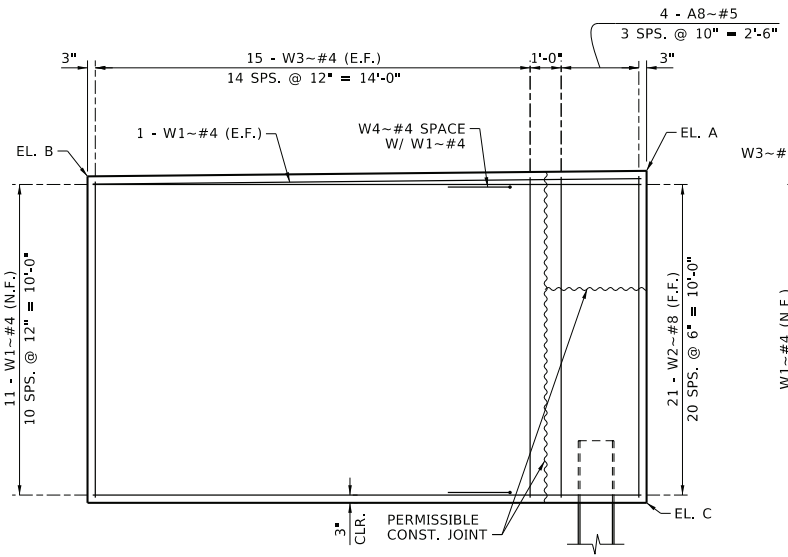
WING ELEVATION SCHEDULE			
LOCATION	EL. A	EL. B	EL. C
WING 1	4008.16	4008.03	3997.00
WING 2	4007.65	4007.41	3997.00



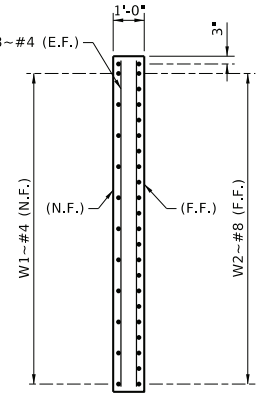
WING 2 PLAN
¼"=1'-0"



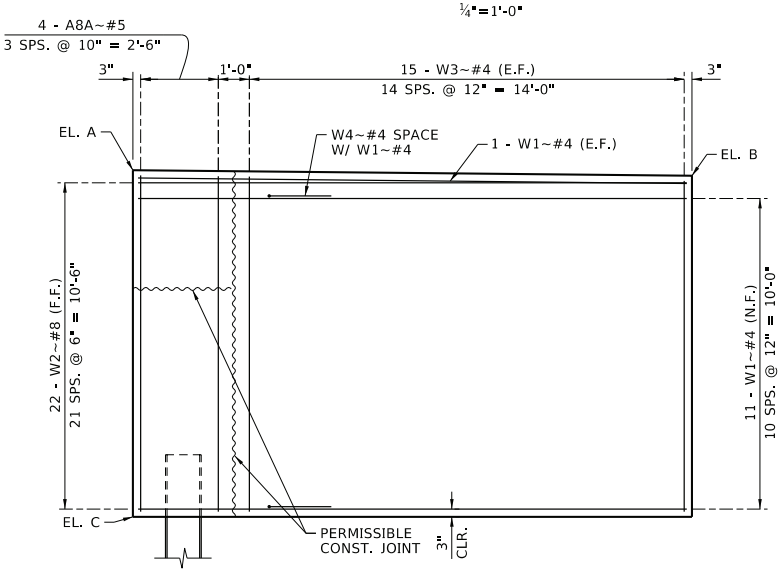
WING 1 PLAN
¼"=1'-0"



WING 2 ELEVATION
¼"=1'-0"



SECTION A-A
(WING 2 SHOWN, WING 1 SIMILAR)
¼"=1'-0"

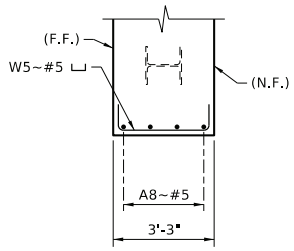


WING 1 ELEVATION
¼"=1'-0"

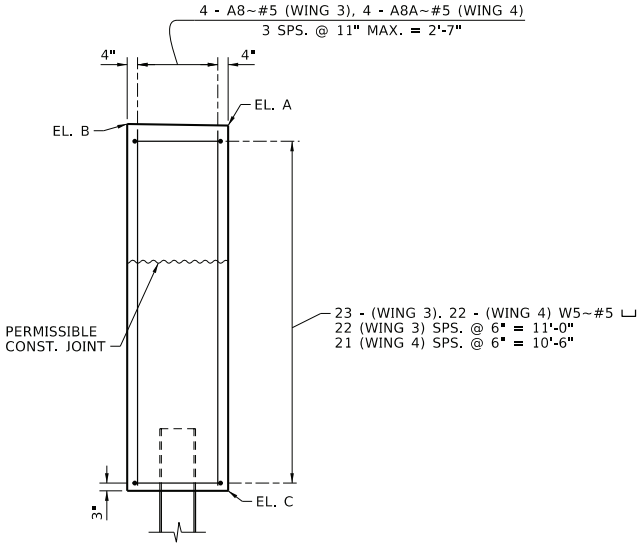
REVISIONS				DESIGNED	SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY		ENGLISH	WINGWALL DETAILS (1 OF 2)	BRIDGE PLANS	
NO.	DATE	BY	DESCRIPTION	J. JOHNSON					BRIDGE KEY NO. 29356	
				DESIGN CHECKED J. WARREN	CADD FILE NAME		PROJECT NO.	104' PRESTRESSED CONCRETE BRIDGE MOTHER LODE ROAD OVER AMERICAN RIVER STA. 4+68.32	COUNTY IDAHO	KEY NO.
				DETAILED A. MITCHELL	29356 bdtl D12.dgn				BRIDGE DWG. NO. 18485	SHEET 12 OF 24
				DWG. CHECKED J. WARREN	DRAWING DATE: MARCH 2026	DAVID EVANS AND ASSOCIATES INC.				
				CORRECTIONS						

PROFESSIONAL ENGINEER
LICENSED
15104
03/23/2026
STATE OF IDAHO
JOSH D. WARREN

WING ELEVATION SCHEDULE			
LOCATION	EL. A	EL. B	EL. C
WING 3	4008.76	4008.81	3997.00
WING 4	4008.21	4008.26	3997.00



WING 3 & 4 PLAN
(WING 3 SHOWN, WING 4 SIMILAR)
¼"=1'-0"



WING 3 & 4 ELEVATION
(WING 3 SHOWN, WING 4 SIMILAR)
¼"=1'-0"

REVISIONS			
NO.	DATE	BY	DESCRIPTION

DESIGNED J. JOHNSON
DESIGN CHECKED J. WARREN
DETAILED A. MITCHELL
DWG. CHECKED J. WARREN
CORRECTIONS

SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY
CADD FILE NAME
29356 bdtl D13.dgn
DRAWING DATE: MARCH 2026

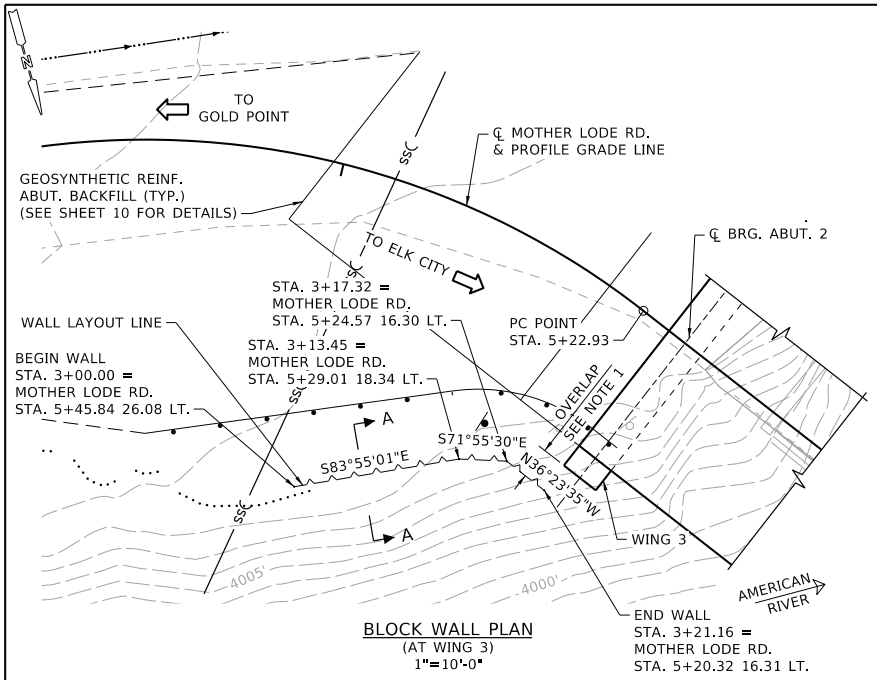
DAVID EVANS AND ASSOCIATES INC.

ENGLISH
PROJECT NO.

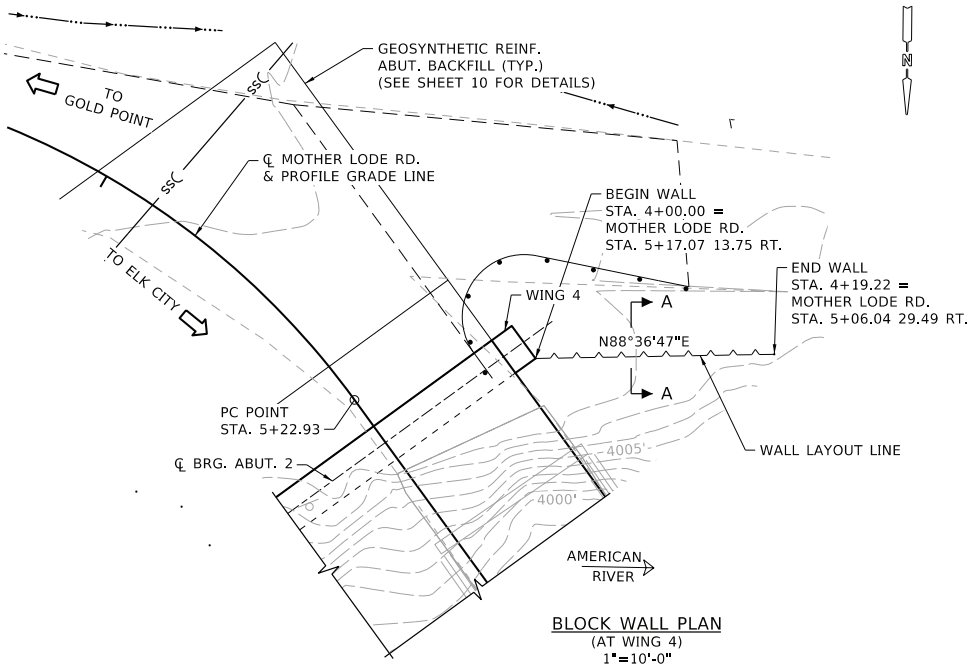
WINGWALL DETAILS (2 OF 2)
104' PRESTRESSED CONCRETE BRIDGE
MOTHER LODE ROAD OVER AMERICAN RIVER
STA. 4+68.32

BRIDGE PLANS
BRIDGE KEY NO. 29356
COUNTY IDAHO | KEY NO.
BRIDGE DWG. NO. 18485 | SHEET 13 OF 24

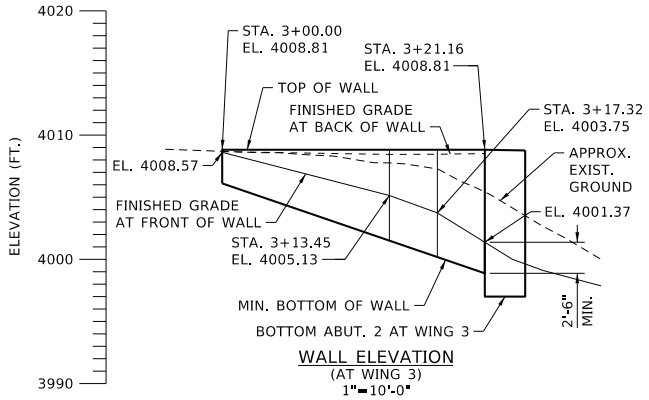
PROFESSIONAL ENGINEER LICENSED
15104
03/23/2026
STATE OF IDAHO
JOSH D. WARREN



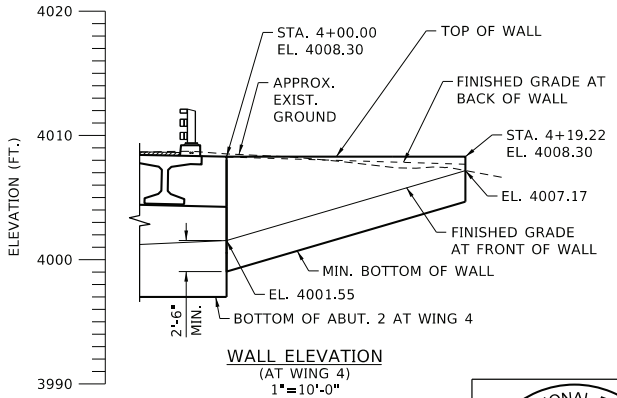
BLOCK WALL PLAN
(AT WING 3)
1"=10'-0"



BLOCK WALL PLAN
(AT WING 4)
1"=10'-0"



WALL ELEVATION
(AT WING 3)
1"=10'-0"



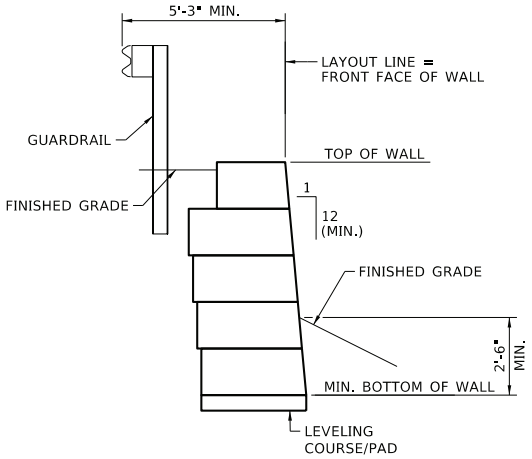
WALL ELEVATION
(AT WING 4)
1"=10'-0"

NOTES
1. SEE SHEET 15 FOR SECTION A-A AND OVERLAP DETAIL.
2. SEE ROADWAY PLANS FOR RIPRAP AND CHANNEL GRADING.

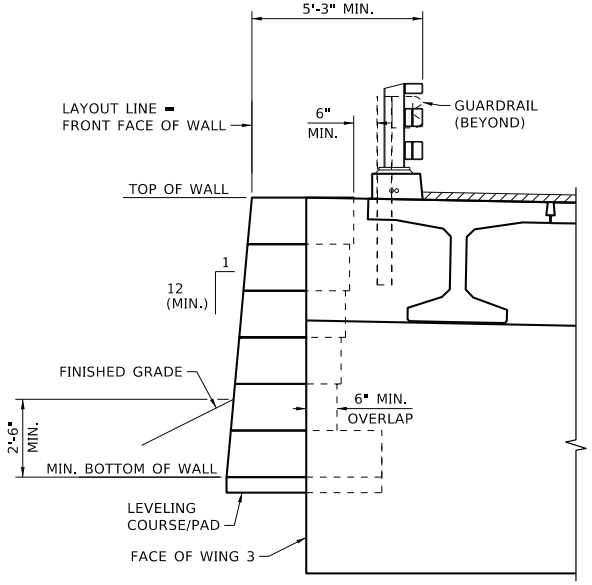
REVISIONS				DESIGNED	SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY		ENGLISH	BLOCK WALL LAYOUT	BRIDGE PLANS	
NO.	DATE	BY	DESCRIPTION	J. LeMASTER					BRIDGE KEY NO. 29356	
				DESIGN CHECKED M. PETERSEN	CADD FILE NAME		PROJECT NO.	104' PRESTRESSED CONCRETE BRIDGE MOTHER LODE ROAD OVER AMERICAN RIVER STA. 4+68.32	COUNTY IDAHO	KEY NO.
				DETAILED A. MITCHELL	29356 bdtl D14.dgn				BRIDGE DWG. NO. 18485	SHEET 14 OF 24
				DWG. CHECKED T. ZANONI	DRAWING DATE: MARCH 2026					
				CORRECTIONS						

DAVID EVANS AND ASSOCIATES INC.

PROFESSIONAL ENGINEER LICENSED 21316 3/23/2026 STATE OF IDAHO TIMOTHY R. ZANONI



SECTION A-A
(AT WINGS 3 & 4)
¼"=1'-0"

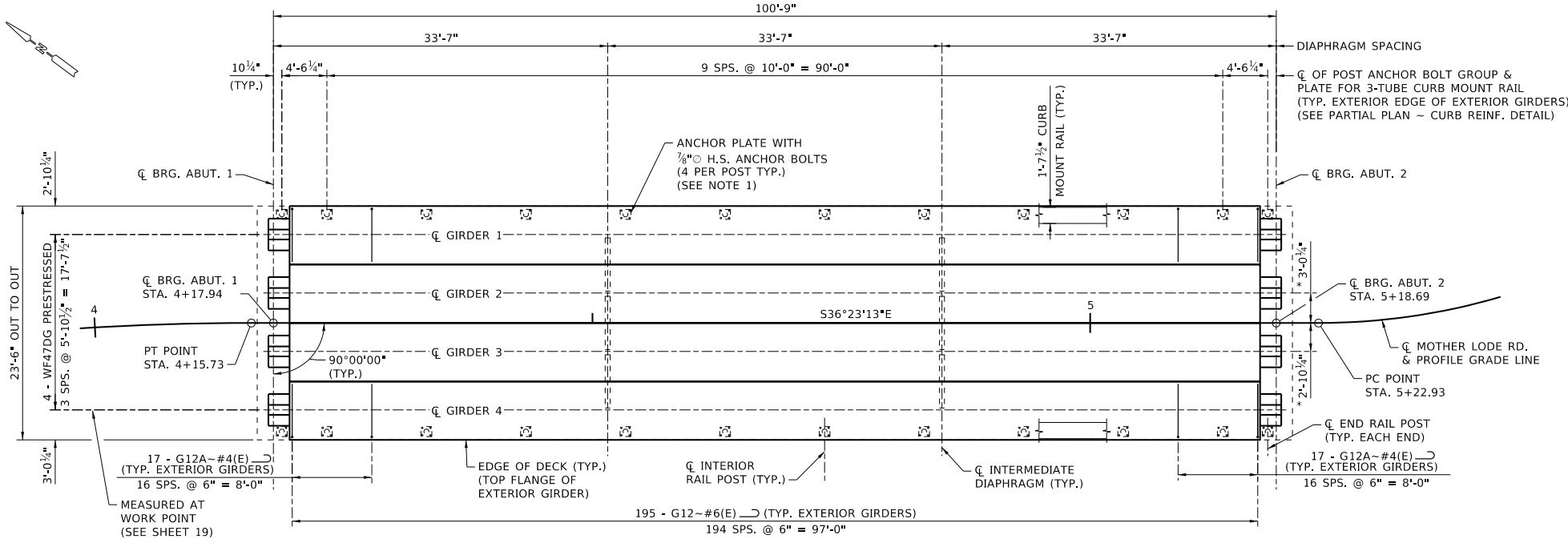


OVERLAP DETAIL
SHOWN AT WING 3 (ABUT. 2 ELEVATION VIEW)
¼"=1'-0"

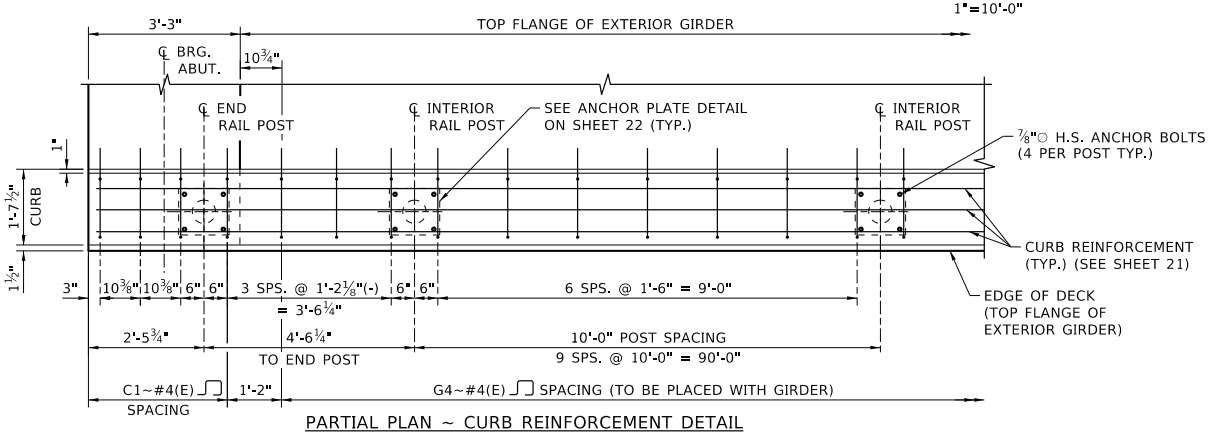
REVISIONS				DESIGNED	SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY		ENGLISH	BLOCK WALL DETAILS	BRIDGE PLANS	
NO.	DATE	BY	DESCRIPTION	J. LeMASTER					BRIDGE KEY NO. 29356	
				DESIGN CHECKED M. PETERSEN	CADD FILE NAME		PROJECT NO.	104' PRESTRESSED CONCRETE BRIDGE MOTHER LODE ROAD OVER AMERICAN RIVER STA. 4+68.32	COUNTY IDAHO	KEY NO.
				DETAILED A. MITCHELL	29356 bdtl D15.dgn				BRIDGE DWG. NO. 18485	SHEET 15 OF 24
				DWG. CHECKED T. ZANONI	DRAWING DATE: MARCH 2026					
				CORRECTIONS						

DAVID EVANS AND ASSOCIATES INC.

PROFESSIONAL ENGINEER
LICENSED
21316
3/23/2026
STATE OF IDAHO
TIMOTHY R. ZANONI



PLAN
1"=10'-0"



PARTIAL PLAN ~ CURB REINFORCEMENT DETAIL
(TYPICAL EACH END, AND EXTERIOR EDGE OF EXTERIOR GIRDERS)
⅜"=1'-0"

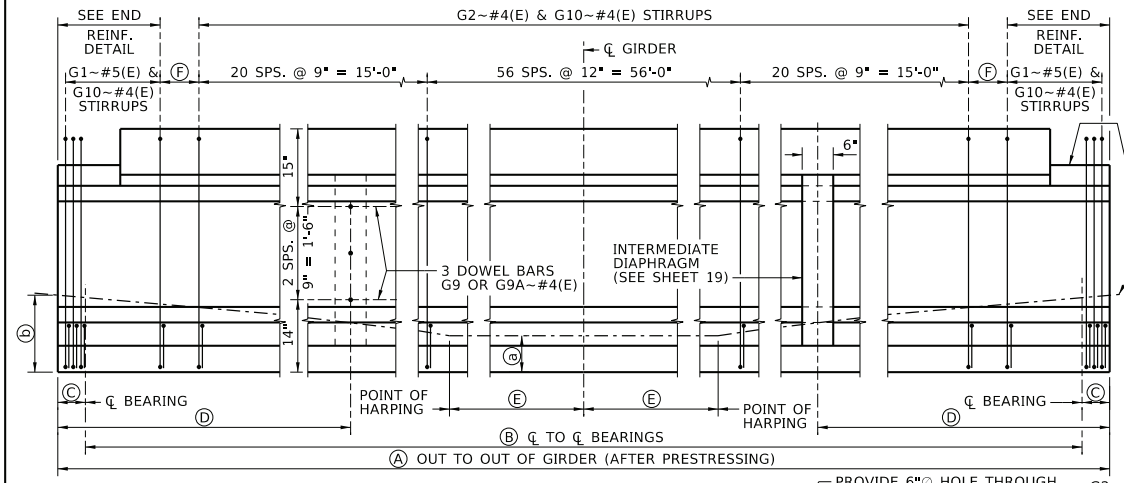
NOTES
1. CONCRETE CURB REINFORCEMENT TO BE PLACED WITH GIRDER REINFORCEMENT. CURB REINFORCEMENT NOT SHOWN.
* MEASURED AT WORK POINT SEE SHEET 19.

REVISIONS				DESIGNED	SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY		ENGLISH	FRAMING PLAN	BRIDGE PLANS
NO.	DATE	BY	DESCRIPTION	J. LeMASTER					BRIDGE KEY NO. 29356
				DESIGN CHECKED T. ZANONI	CADD FILE NAME		PROJECT NO.	104' PRESTRESSED CONCRETE BRIDGE MOTHER LODE ROAD OVER AMERICAN RIVER STA. 4+68.32	COUNTY IDAHO / KEY NO.
				DETAILED A. MITCHELL	29356 bdtl D16.dgn				BRIDGE DWG. NO. 18485 / SHEET 16 OF 24
				DWG. CHECKED T. ZANONI	DRAWING DATE: MARCH 2026	DAVID EVANS AND ASSOCIATES INC.			
				CORRECTIONS					

PROFESSIONAL ENGINEER LICENSED 21316 3/23/2026 STATE OF IDAHO TIMOTHY R. ZANONI

PRESTRESSED GIRDER SCHEDULE

GIRDERS		PRESTRESS FORCE ~ KIPS		PRESTRESS LOSSES ~ KSI		CONCRETE STRENGTH ~ KSI		GIRDER DIMENSIONS								END DETAIL		C.G. OF STRAND	
NO.	LOCATION	INITIAL BEFORE LOSSES	FINAL AFTER LOSSES	IMMEDIATE LOSSES	FINAL TOTAL LOSSES	AT RELEASE f'ci	AT 28 DAYS f'c	(A)	(B)	(C) LEFT	(C) RIGHT	(D) LEFT	(D) RIGHT	(E)	(F)	LEFT	RIGHT	(b) GIRDER END	(a) MID SPAN
ALL	SPAN 1	1494	1247	11.65	33.46	7.0	8.0	101'-9"	100'-9"	6"	6"	34'-1"	34'-1"	10'-2"	7.5"	TYPE B	TYPE B	14.88"	7.06"

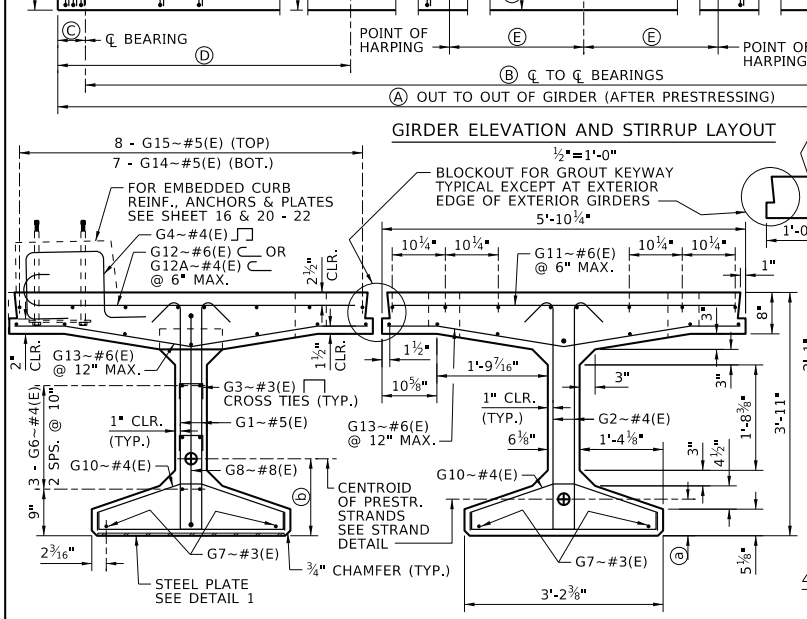


GIRDER ELEVATION AND STIRRUP LAYOUT

½"=1'-0"

* STIRRUP AND TIE HOOK BEND DIMENSIONS. STIRRUPS AND TIES MUST HAVE A MINIMUM 1" COVER OUTSIDE OF BARS.
** HOOKS AT ABUTMENT ENDS ONLY.
*** FOR JOINTS OR DISCONTINUITIES IN THE PARAPET, BUNDLE A G12A WITH THE G12 BARS FOR A DISTANCE EQUAL TO 8'-0" FROM THE JOINT/DISCONTINUITY.

DETAIL 1
NTS

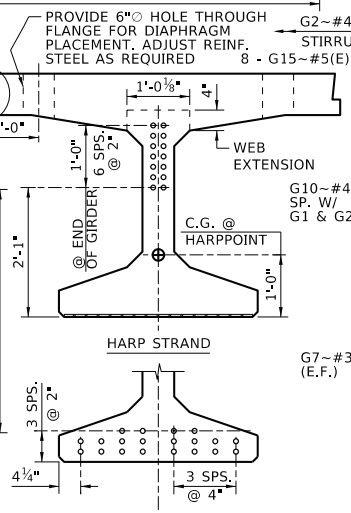


SECTION AT END OF GIRDER

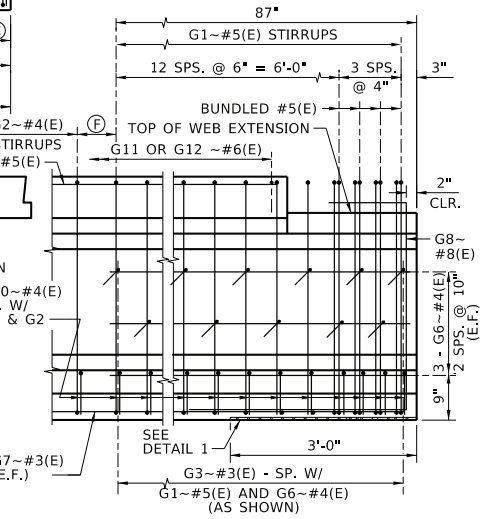
½"=1'-0"

SECTION AT ℄ SPAN

½"=1'-0"



STRAND DETAIL



END REINFORCEMENT DETAIL

½"=1'-0"

NOTES

1. DIMENSIONS TO STIRRUPS AND DOWEL BARS ARE GIVEN AT ℄ OF GIRDER.
2. SEE PRESTRESSED GIRDER DETAILS SHEET FOR NOTES, DIAPHRAGM DOWEL DETAILS, END DETAILS AND DEFLECTION DATA.
3. SEE TYPICAL SECTION & GIRDER DETAILS SHEETS FOR GIRDER NOTES.
4. BEND DETAILS IN ACCORDANCE WITH LATEST ACI STANDARD PRACTICE.
5. SEE FRAMING PLAN FOR OTHER GIRDER DETAILS.

REINFORCEMENT DIAGRAM

AASHTO M31 GRADE 60 TYPE S

MARK	SIZE	GRADE	SKETCH
G1*	#5(E)	60	3'-5", 45°, 1'-8½", 3½"
G2*	#4(E)	60	
G3*	#3(E)	60	4⅛"
G4	#4(E)	60	1'-3", 8" (TYP.), 1'-3"
G5	#6(E)	60	5'-0"
G6	#4(E)	60	7'-3"
G7	#3(E)	60	Ⓐ - 4"
G8*	#8(E)	60	3'-5", 3'-6", 1'-3"
G9	#4(E)	60	4'-0"
G9A	#4(E)	60	2'-0", 10"
G10*	#4(E)	60	3½", 17", 4", 4½", 13⅛"
G11	#6(E)	60	5'-4"
G12*	#6(E)	60	5'-4", ***
G12A*	#4(E)	60	5'-4", ***
G13	#6(E)	60	3¾", 9½", 2'-0", 2'-0", 9½"
G14	#5(E)	60	Ⓐ - 4" (MINIMUM LAP LENGTH=1'-8")
G15**	#5(E)	60	Ⓐ - 4", 10", 10" (MINIMUM LAP LENGTH=2'-2")

GIRDER WEIGHT.....1,230 LB/FT

REVISIONS			
NO.	DATE	BY	DESCRIPTION

DESIGNED J. LeMASTER
DESIGN CHECKED T. ZANONI
DETAILED A. MITCHELL
DWG. CHECKED T. ZANONI
CORRECTIONS

SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY
CADD FILE NAME 29356 bdtl D17.dgn
DRAWING DATE: MARCH 2026

DAVID EVANS AND ASSOCIATES INC.

ENGLISH

PROJECT NO.

WF47DG PRESTRESSED GIRDER

104' PRESTRESSED CONCRETE BRIDGE
MOTHER LODE ROAD OVER AMERICAN RIVER
STA. 4+68.32

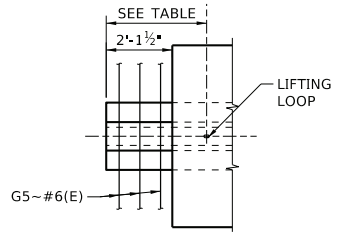
BRIDGE PLANS

BRIDGE KEY NO. 29356
COUNTY IDAHO | KEY NO.
BRIDGE DWG. NO. 18485 | SHEET 17 OF 24

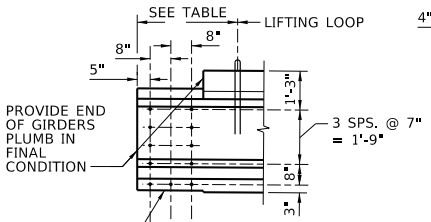
PROFESSIONAL ENGINEER LICENSED 21316 3/23/2026 STATE OF IDAHO TIMOTHY R. ZANONI

	MIN.	MAX.
RELEASE	4'-0"	5'-0"
ERECTION	4'-0"	5'-0"

LIFT LOOP LOCATION

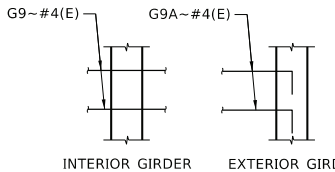


PLAN

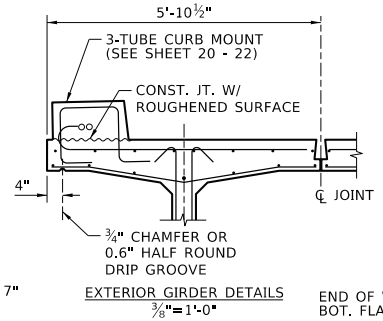


ELEVATION
(DIM. SHOWN ARE ALONG ℄ GIRDER)

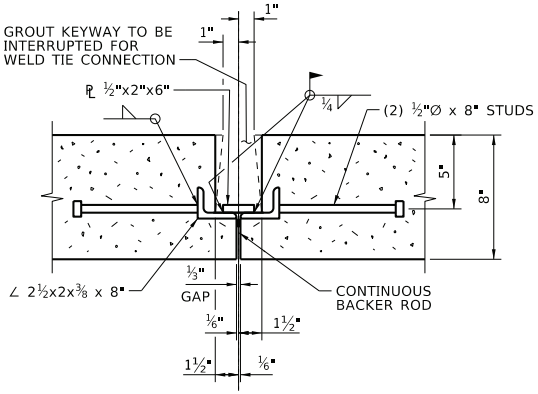
TYPE B (FIXED) GIRDER END DETAILS
¼"=1'-0"



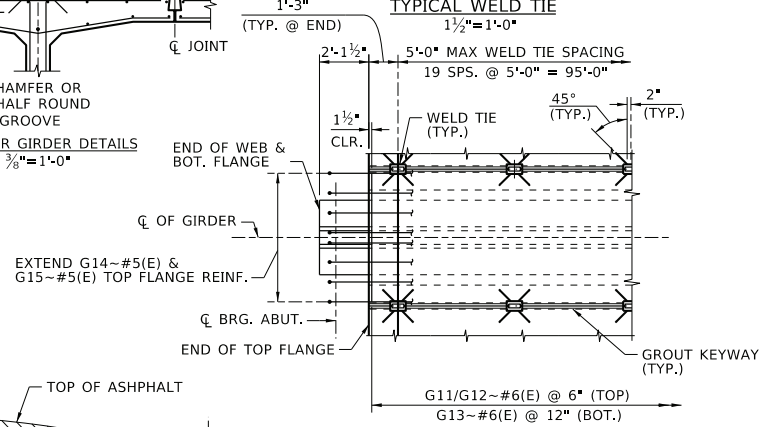
INTERMEDIATE DIAPHRAGM DOWEL DETAILS
¼"=1'-0"



EXTERIOR GIRDER DETAILS
⅜"=1'-0"

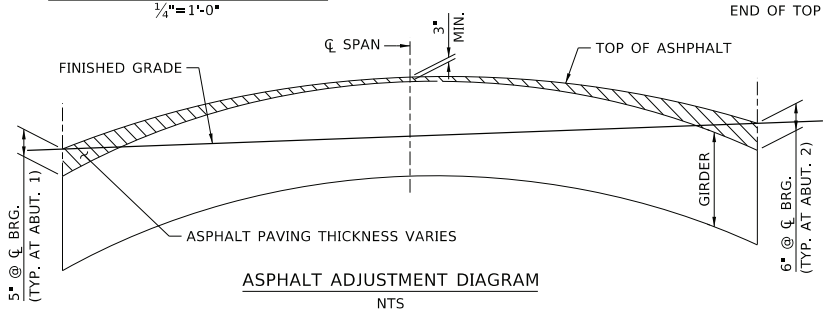


TYPICAL WELD TIE
1½"=1'-0"



GIRDER PLAN
3/16"=1'-0"

NOTES:
1. OMIT WELD TIES ON EXTERIOR EDGE OF EXTERIOR GIRDER.
2. STRANDS NOT SHOWN.



ASPHALT ADJUSTMENT DIAGRAM
NTS

ASPHALT THICKNESS AT ℄ OF GIRDERS												
LOCATION	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	SPAN (TENTH POINTS)
ALL GIRDERS	5	4⅛	3½	3⅜	3	3	3	3⅛	3½	4⅜	6	ASPHALT THICKNESS - INCHES

NOTES

DOWELS

1. PROVIDE DOWELS BY ANY OF THE FOLLOWING METHODS:
   a. PROVIDE COIL ROD INSERTS AND THREADED DOWELS, IF THE ULTIMATE STRENGTH OF THE INSERT IS IN ACCORDANCE WITH THE FOLLOWING:

BAR SIZE	MINIMUM ULTIMATE TENSION CAPACITY (LBS.)
#4	12,000
#5	18,600
#6	26,400

   b. 1½"Ø HOLES MAY BE PROVIDED DURING FABRICATION AND DOWELS GROUTED IN PLACE AFTER DELIVERY TO THE JOB SITE.
2. PLACE DOWELS PARALLEL TO ℄ BEARING.

SHOP DRAWINGS

3. PROVIDE SHOP DRAWING DETAILS THAT CONFORM TO CURRENT AASHTO SPECIFICATIONS. SHOW DETENSIONING SEQUENCE AND LIFT POINTS ON THE SHOP DRAWINGS.
4. SUBMIT SHOP DRAWINGS IN ACCORDANCE WITH 506.03 AND 105.02.
5. LATERALLY RESTRAIN THE GIRDER IN AN UPRIGHT POSITION DURING TRANSPORTATION AND ERECTION. SHOW THE METHOD OF LATERAL RESTRAINT ON THE SHOP DRAWINGS.
6. PROVIDE DESIGN CALCULATIONS AND SHOW THE DETAILS ON THE SHOP DRAWINGS IF TEMPORARY STRANDS ARE ADDED IN THE TOP FLANGE FOR HANDLING, TRANSPORTATION, OR ERECTION. PROVIDE A REVISED DEFLECTION DATA TABLE AND SCREED ADJUSTMENT TABLE. APPROVED CHANGES AT THE CONTRACTOR'S EXPENSE.

MISCELLANEOUS GIRDER DETAILS

7. PROVIDE GIRDERS WITH ENDS THAT ARE PLUMB WHEN SET TO GRADE.
8. DIMENSION Ⓐ IN THE PRESTRESSED GIRDERS SCHEDULE TABLE IS A HORIZONTAL DIMENSION. CORRECT THE FINISHED GIRDER LENGTH FOR GRADE AND PROVIDE AN ALLOWANCE FOR BEAM SHORTENING.
9. BLOCK OUT TOP FLANGE OF WF DECK GIRDERS TO ALLOW PLACEMENT OF CONCRETE FOR THE END DIAPHRAGMS.
10. IF THE TOP FLANGE OVERHANG IS USED FOR SUPPORT OF CURB FORMS, APPROVAL OF THE METHOD TO BE USED IS REQUIRED BEFORE CASTING OF THE GIRDERS. SHOW THE METHOD OF CURB FORM SUPPORT ON SHOP DRAWINGS.
11. FABRICATE IN ACCORDANCE WITH 506.

CONCRETE

12. PROVIDE CONCRETE THAT CONFORMS TO 502 EXCEPT THAT ENTRAINED AIR WILL BE 5% ± 1%.

STRAND

13. DESIGN BASED UPON 0.6" DIA. AASHTO M203 LOW RELAXATION STRAND.

DEFLECTION DATA

14. ΔDC INCLUDES INTERIOR DIAPHRAGM, METAL RAILING & CURB.
15. ΔDW INCLUDES ASPHALT OVERLAY, FUTURE WEARING SURFACE, AND UTILITIES.

GIRDER SHIPPING

16. DO NOT SHIP PRESTRESSED CONCRETE MEMBERS UNTIL TESTS ON CONCRETE CYLINDERS MANUFACTURED FROM THE SAME CONCRETE AND CURED UNDER THE SAME CONDITIONS AS THE GIRDERS INDICATE THAT THE CONCRETE OF THE PARTICULAR MEMBER HAS ATTAINED A COMPRESSIVE STRENGTH EQUAL TO THE SPECIFIED DESIGN 28 DAY COMPRESSIVE STRENGTH.

BASIS OF PAYMENT

17. PRESTRESSING CONCRETE MEMBERS IS INCIDENTAL TO THE PRECAST AND PRESTRESSED PAY ITEMS IN 502.

DEFLECTION DATA ~ INCHES							
LOCATION	ΔP PRESTRESS	ΔG GIRDER	∑Δ * ΔP + ΔG	Δ1 ** 1.8 ΔP + 1.65 ΔG	ΔDC	ΔDW	Δ2 = ΔDC + ΔDW
ALL GIRDERS	3⅛ ↑	1¾ ↑	1⅜ ↑	2¾ ↑	⅜ ↓	⅝ ↓	1 ↓

* ESTIMATED DEFLECTION OF PRESTRESSED GIRDER AT RELEASE
** ESTIMATED DEFLECTION OF PRESTRESSED GIRDER AT ERECTION. GIRDER ERECTION ASSUMED TO OCCUR WITHIN 60 TO 90 DAYS AFTER GIRDER FABRICATION

REVISIONS			
NO.	DATE	BY	DESCRIPTION
1			
2			
3			
4			
5			

DESIGNED J. LeMASTER
DESIGN CHECKED T. ZANONI
DETAILED A. MITCHELL
DWG. CHECKED T. ZANONI
CORRECTIONS

SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY
CADD FILE NAME 29356 bdtl D18.dgn
DRAWING DATE: MARCH 2026

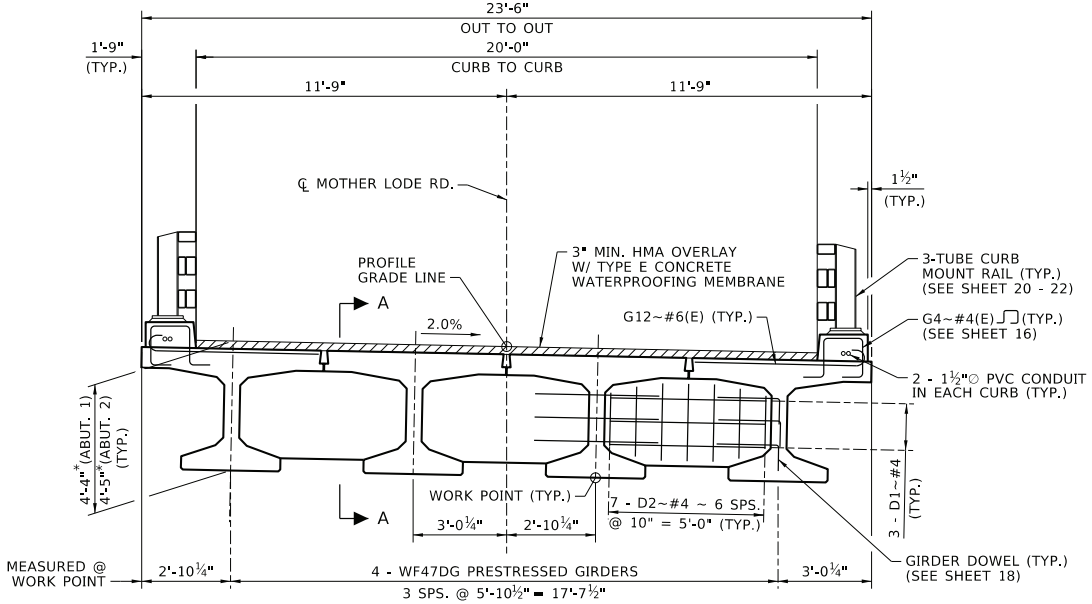
DAVID EVANS AND ASSOCIATES INC.

ENGLISH
PROJECT NO.

PRESTRESSED GIRDER DETAILS
104' PRESTRESSED CONCRETE BRIDGE
MOTHER LODE ROAD OVER AMERICAN RIVER
STA. 4+68.32

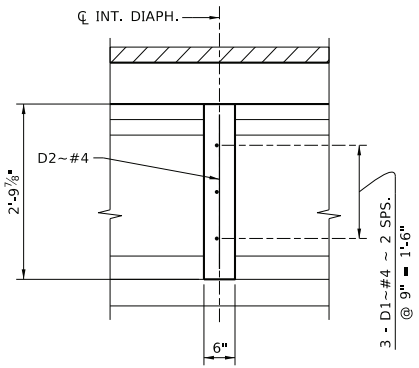
BRIDGE PLANS
BRIDGE KEY NO. 29356
COUNTY IDAHO | KEY NO.
BRIDGE DWG. NO. 18485 | SHEET 18 OF 24

PROFESSIONAL ENGINEER LICENSED 21316 3/23/2026 STATE OF IDAHO TIMOTHY R. ZANONI



* MEASURED AT ℄
BRG. ABUTMENT

DECK TYPICAL SECTION
¼"=1'-0"



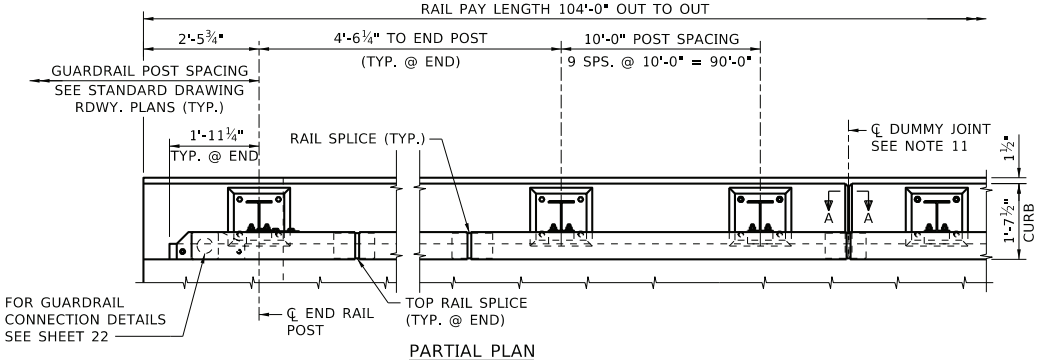
SECTION A-A
INTERMEDIATE DIAPHRAGM
½"=1'-0"

GIRDER NOTES

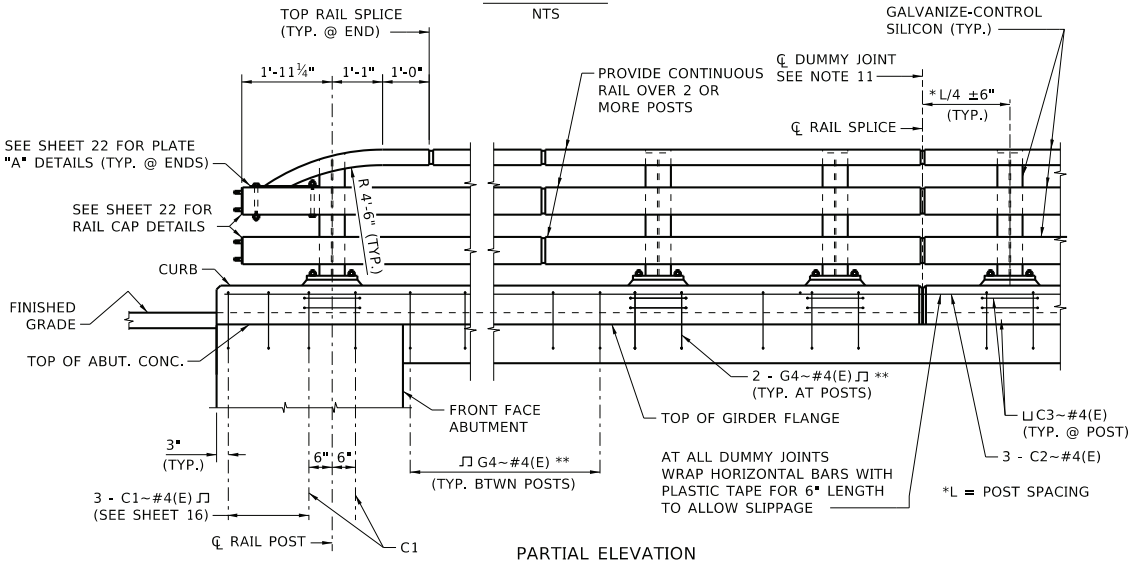
1. REFER TO SPECIAL PROVISIONS FOR REQUIREMENTS FOR ALTERNATE PRECAST PRESTRESSED GIRDER SECTIONS.
2. THE CURB MAY BE CAST DIRECTLY ONTO THE EXTERIOR GIRDERS IN THE PRECAST YARD BEFORE SHIPPING TO JOB SITE. THE CURB MUST BE A SECONDARY CAST. THIS METHOD REQUIRES APPROVAL BEFORE CASTING THE GIRDERS. SHOW DETAILS ON THE SHOP DRAWINGS.
3. PROVIDE A SCREED OR FLOAT FINISH TO THE TOP SURFACE OF THE GIRDER IN ACCORDANCE WITH 502.03.
4. SHOW THE SIZE AND LOCATION OF CAST-IN HOLES AND ANCHORS ON THE SHOP PLANS. FIELD-DRILLED HOLES ARE NOT PERMITTED.
5. PROVIDE TEMPORARY BRACING AT EACH END OF THE GIRDER TO MAINTAIN GIRDER STABILITY. PLACE TEMPORARY BRACING BEFORE RELEASING THE GIRDER FROM THE ERECTION EQUIPMENT. REMOVE TEMPORARY BRACING AS NOTED IN THE CONSTRUCTION SEQUENCE. SUBMIT TEMPORARY BRACING LOCATIONS, BRACING AND CONNECTION DETAILS AND ANY REQUIRED ADDITIONAL GIRDER REINFORCEMENT ON THE SHOP PLANS. PROVIDE TEMPORARY BRACING DESIGN AND DETAILS THAT ARE SIGNED AND SEALED BY AN IDAHO LICENSED PROFESSIONAL ENGINEER.
6. SUBMIT A METHOD OF EQUALIZING THE WIDE FLANGE DECK GIRDER CAMBERS FOR REVIEW AND APPROVAL. EQUALIZE GIRDER CAMBERS UTILIZING THE APPROVED METHOD WHEN THE DIFFERENCE IN GIRDER CAMBERS BETWEEN ADJACENT GIRDERS MEASURED AT MID-SPAN EXCEEDS ¼ INCH. NOTIFY THE ENGINEER BEFORE GIRDER EQUALIZATION WHEN CAMBERS BETWEEN ADJACENT GIRDERS EXCEEDS 1.5 INCHES. GIRDER CAMBER EQUALIZATION IS A PROGRESSIVE OPERATION THAT REQUIRES STARTING AT THE LOCATION OF MAXIMUM CAMBER DIFFERENCE AND PROGRESSING TO THE LOCATION OF MINIMUM CAMBER DIFFERENCE.
7. SANDBLAST, CLEAN, AND GROUT KEYWAYS LEVEL WITH SURROUNDING GIRDER SURFACES AFTER WELD TIE CONNECTIONS HAVE BEEN INSTALLED.
8. PROVIDE GROUT TYPE "B", CLASS I NON-METALLIC, NON-SHRINK IN ACCORDANCE WITH 705.02.
9. NO VEHICULAR TRAFFIC IS ALLOWED ON THE STRUCTURE UNTIL THE KEYWAY GROUT HAS ATTAINED A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI.
10. APPLY TYPE E SPRAY-APPLIED CONCRETE WATERPROOFING SYSTEM ON TOP FLANGES OF GIRDERS IN ACCORDANCE WITH 511-005A. APPLY CURB TO CURB FROM BEGIN BRIDGE TO END BRIDGE.
11. PLACE ASPHALT OVERLAY CURB TO CURB BEGIN BRIDGE TO END BRIDGE. SEE ROADWAY PLANS FOR QUANTITIES.
12. CONSTRUCTION SEQUENCE:
    A. ERECT GIRDERS AND INSTALL TEMPORARY BRACING.
    B. EQUALIZE GIRDER CAMBER, INSTALL WELD TIE CONNECTIONS (MINIMUM OF 3, SEE NOTE 6), RELEASE EQUALIZING EQUIPMENT, MOVE EQUALIZING EQUIPMENT TO NEXT LOCATIONS, AND REPEAT THIS STEP AS NEEDED.
    C. INSTALL REMAINING WELD TIE CONNECTIONS.
    D. GROUT SHEAR KEY, CAST INTERMEDIATE DIAPHRAGMS, AND CAST END DIAPHRAGMS AFTER WELD TIE CONNECTIONS HAVE BEEN INSTALLED.
    E. REMOVE TEMPORARY BRACING.
13. SUBMIT PRECAST GIRDER SHOP DRAWINGS AT THE SAME TIME AS THE CURB MOUNT RAIL SHOP DRAWINGS.

REVISIONS				DESIGNED	SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY		ENGLISH	DECK TYPICAL SECTION & DETAILS	BRIDGE PLANS	
NO.	DATE	BY	DESCRIPTION	J. LeMASTER					BRIDGE KEY NO. 29356	
				DESIGN CHECKED T. ZANONI	CADD FILE NAME		PROJECT NO.	104' PRESTRESSED CONCRETE BRIDGE MOTHER LODE ROAD OVER AMERICAN RIVER STA. 4+68.32	COUNTY IDAHO	KEY NO.
				DETAILED A. MITCHELL	29356 bdtl D19.dgn				BRIDGE DWG. NO. 18485	SHEET 19 OF 24
				DWG. CHECKED T. ZANONI	DRAWING DATE: MARCH 2026	DAVID EVANS AND ASSOCIATES INC.				
				CORRECTIONS						

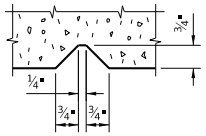
PROFESSIONAL ENGINEER LICENSED 21316 3/23/2026 STATE OF IDAHO TIMOTHY R. ZANONI



PARTIAL PLAN
NTS



PARTIAL ELEVATION
** (FOR G4 BARS SEE SHEETS 16 & 17)
NTS



SECTION A-A ~ DUMMY JOINT
(TYP. @ BOTH SIDES AND TOP OF CURB)
3"=1'-0"

NOTES

MATERIALS

1. PROVIDE STRUCTURAL STEEL TUBING IN ACCORDANCE WITH ASTM A500 GRADE B, OR ASTM A501 STEEL.
2. PROVIDE STRUCTURAL STEEL POSTS, RAIL SPLICES, AND BASE PLATES IN ACCORDANCE WITH ASTM A709 GRADE 50.
3. PROVIDE ANCHOR BOLTS, NUTS, AND WASHERS IN ACCORDANCE WITH ASTM F1554 GRADE 105. PROVIDE H.S. BOLTS IN ACCORDANCE WITH ASTM F3125 GRADE A325.
4. PROVIDE CLASS 40AF CONCRETE.
5. PROVIDE EPOXY-COATED GRADE 60 TYPE S REINFORCEMENT IN ACCORDANCE WITH 708.02.
6. PROVIDE TYPE B CLASS 1 GROUT IN ACCORDANCE WITH 705.02.

GALVANIZING

7. GALVANIZE STRUCTURAL STEEL PARTS, RAILING, AND SLEEVES AFTER FABRICATION IN ACCORDANCE WITH ASTM A123 AND ASTM A153. THOROUGHLY CLEAN WELDED AREAS BEFORE GALVANIZING TO REMOVE SLAG OR OTHER MATERIAL THAT WOULD INTERFERE WITH THE ADHERENCE OF THE ZINC. PROVIDE GALVANIZED SURFACES FREE OF FINS, ABRASIONS, ROUGH OR SHARP EDGES, OR OTHER SURFACE DEFECTS. REPAIR DAMAGED COATINGS IN ACCORDANCE WITH ASTM A780 AND ASTM A123.
8. GALVANIZE-CONTROL SILICON MEANS SILICON CONTENT OF THE BASE METAL WILL BE IN THE RANGE OF 0% TO 0.06% (PREFERABLY 0% TO 0.04%) OR 0.15% TO 0.28% (PREFERABLY 0.15% TO 0.25%)

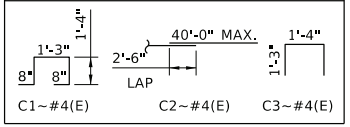
FABRICATION AND ERECTION

9. FABRICATE AND ERECT THE RAILING IN ACCORDANCE WITH THE CURRENT EDITION OF AASHTO SPECIFICATIONS FOR HIGHWAY BRIDGES AND ITD STANDARD SPECIFICATIONS.
10. CONSTRUCT RAILING WITH TOP OF POST 3'-6" ABOVE FINISHED GRADE. ADJUST HEIGHT OF CURB TO COMPENSATE FOR THE CAMBER AND LOAD DEFLECTION OF THE SUPERSTRUCTURE. CALCULATE THE AMOUNT OF ADJUSTMENT FOR APPROVAL.
11. SPACE CURB DUMMY JOINTS AT ALL RAIL SPLICE LOCATIONS, EXPANSION JOINTS, AND AT THE ABUTMENT/APPROACH SLAB NOTCH ON INTEGRAL ABUTMENTS. SPACE INTERMEDIATE CURB DUMMY JOINTS UNIFORMLY THE LENGTH OF THE BRIDGE WITH SPACING NOT LESS THAN 6'-0" NOR GREATER THAN 12'-0".
12. SUBMIT SHOP DRAWINGS IN ACCORDANCE WITH 504.01 F AND 105.02.
13. CONSTRUCT RAILING CONFORMING TO THE HORIZONTAL AND VERTICAL ALIGNMENT OF THE STRUCTURE. INSTALL POSTS NORMAL TO GRADE IN THE LONGITUDINAL DIRECTION AND VERTICAL IN THE TRANSVERSE DIRECTION.
14. SAW OR MILL BASE PLATES AND END TUBE SECTIONS AT SPLICES. PROVIDE CUT ENDS THAT ARE TRUE, SMOOTH AND FREE FROM BURRS OR RAGGED EDGES.
15. PROVIDE VENT HOLES FOR GALVANIZING AS REQUIRED AND SHOW ON THE SHOP DRAWINGS. DRILL VENT HOLES AWAY FROM TRAFFIC FACE AND NOT ON THE TOP SURFACE OF THE HORIZONTAL TUBES.
16. PROVIDE EXPANSION JOINT OR SPLICE JOINT IN RAIL AS REQUIRED.
17. ROUND OR CHAMFER EXPOSED EDGES OF STEEL COMPONENTS 1/16" BY GRINDING BEFORE GALVANIZING.

METHOD OF MEASUREMENT

18. PAYMENT FOR "3-TUBE CURB MOUNT RAIL" IS PAY ITEM 504-050A. THE COST OF CONCRETE AND EPOXY-COATED REINFORCEMENT IS INCIDENTAL TO PAY ITEM 504-050A.

EPOXY COATED REINFORCEMENT

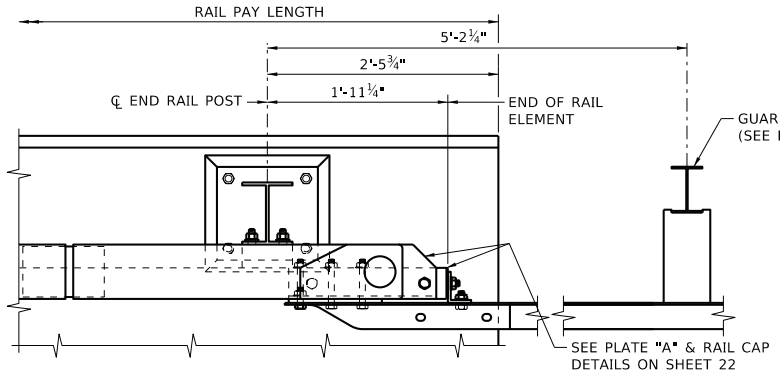


APPROXIMATE QUANTITIES (10' POSTS SPACING)

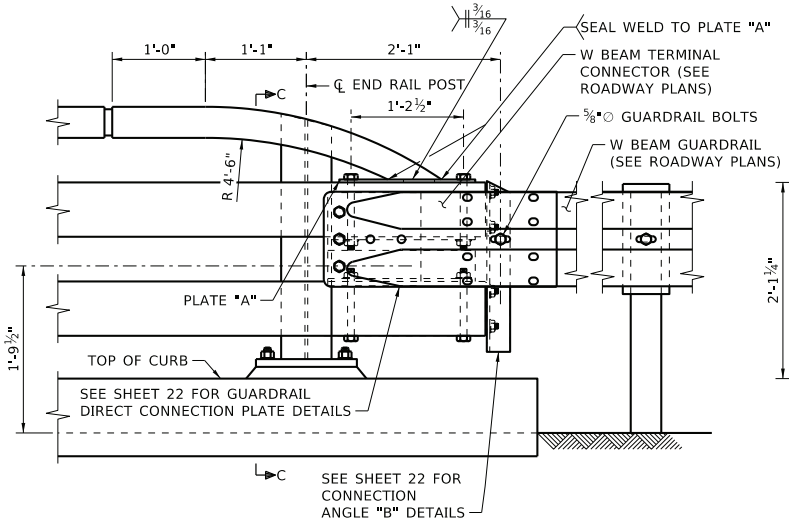
CONCRETE	0.92 CF/LF
STRUCTURAL STEEL	66 LB/LF
EPOXY REINFORCEMENT	.5 LB/LF

REVISIONS				DESIGNED	SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY		ENGLISH	3-TUBE CURB MOUNT RAIL (1 OF 3)	BRIDGE PLANS	
NO.	DATE	BY	DESCRIPTION	J. LeMASTER					BRIDGE KEY NO. 29356	
				DESIGN CHECKED T. ZANONI	CADD FILE NAME		PROJECT NO.	104' PRESTRESSED CONCRETE BRIDGE MOTHER LODE ROAD OVER AMERICAN RIVER STA. 4+68.32	COUNTY IDAHO	KEY NO.
				DETAILED A. MITCHELL	29356 bdtl D20.dgn				BRIDGE DWG. NO. 18485	SHEET 20 OF 24
				DWG. CHECKED T. ZANONI	DRAWING DATE: MARCH 2026	DAVID EVANS AND ASSOCIATES INC.				
				CORRECTIONS						

PROFESSIONAL ENGINEER LICENSED 21316 3/23/2026 STATE OF IDAHO TIMOTHY R. ZANONI

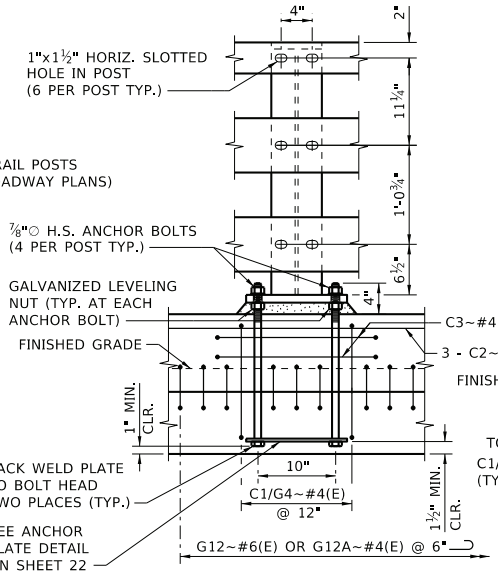


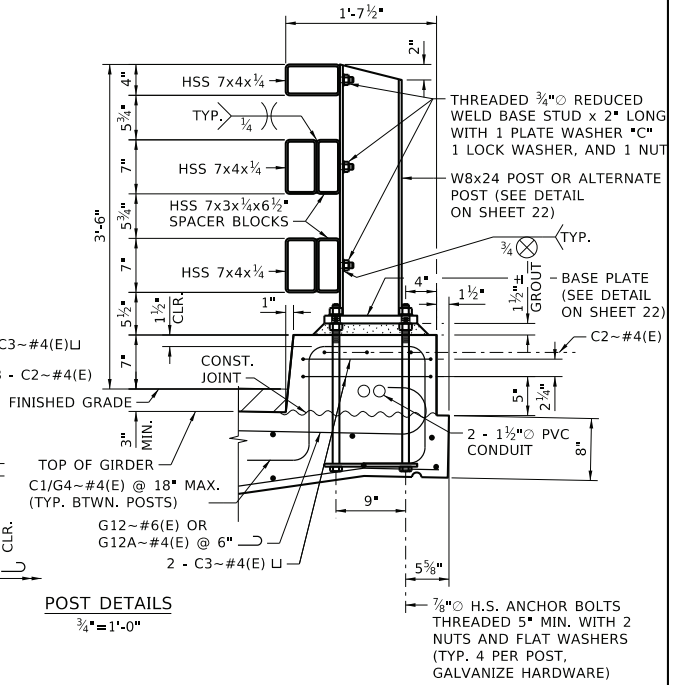
PLAN
¾"=1'-0"



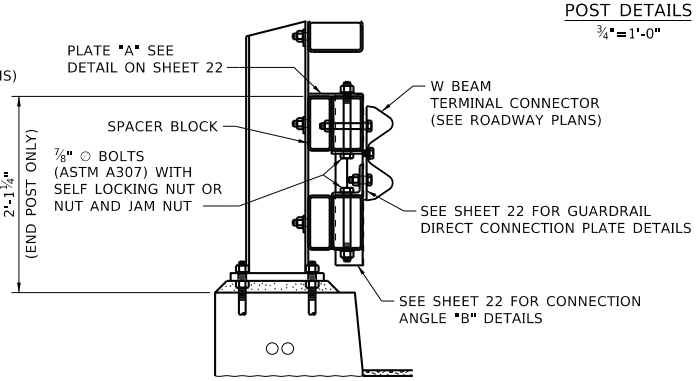
ELEVATION
¾"=1'-0"

DIRECT CONNECTION





POST DETAILS
¾"=1'-0"



SECTION C-C
¾"=1'-0"

REVISIONS			
NO.	DATE	BY	DESCRIPTION

DESIGNED J. LeMASTER
DESIGN CHECKED T. ZANONI
DETAILED A. MITCHELL
DWG. CHECKED T. ZANONI
CORRECTIONS

SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY
CADD FILE NAME
29356 bdtl D21.dgn
DRAWING DATE: MARCH 2026

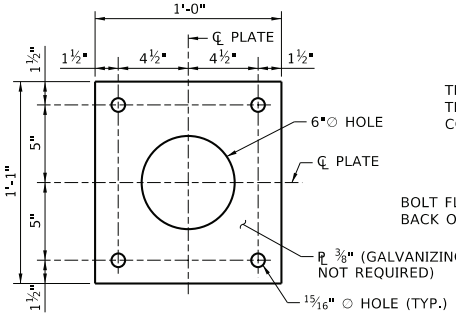
DAVID EVANS AND ASSOCIATES INC.

ENGLISH
PROJECT NO.

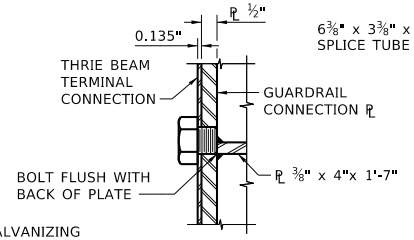
3-TUBE CURB MOUNT RAIL (2 OF 3)
104' PRESTRESSED CONCRETE BRIDGE
MOTHER LODE ROAD OVER AMERICAN RIVER
STA. 4+68.32

BRIDGE PLANS
BRIDGE KEY NO. 29356
COUNTY IDAHO | KEY NO.
BRIDGE DWG. NO. 18485 | SHEET 21 OF 24

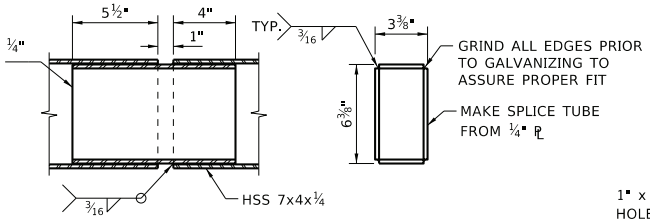
PROFESSIONAL ENGINEER LICENSED 21316 3/23/2026 STATE OF IDAHO TIMOTHY R. ZANONI



ANCHOR PLATE DETAIL
(ASTM A709 GRADE 36)
1½"=1'-0"



DETAIL 1
3"=1'-0"



RAIL SPLICE DETAILS
1½"=1'-0"

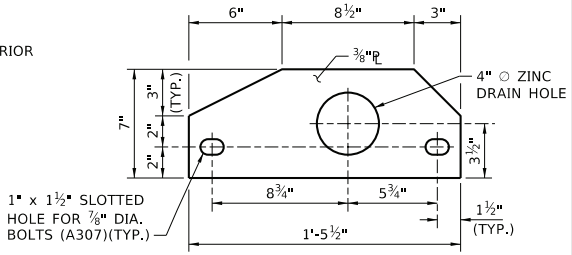
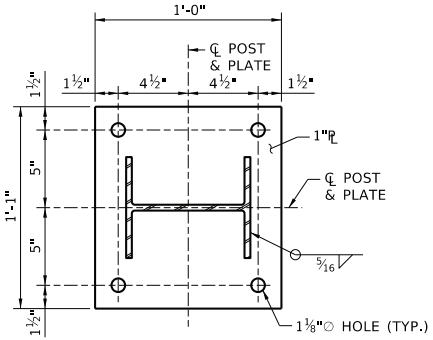


PLATE "A"
(ASTM A709 GRADE 36)
1½"=1'-0"



BASE PLATE DETAIL
1½"=1'-0"

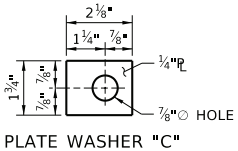
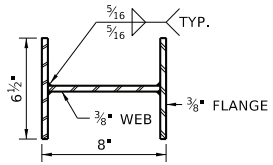
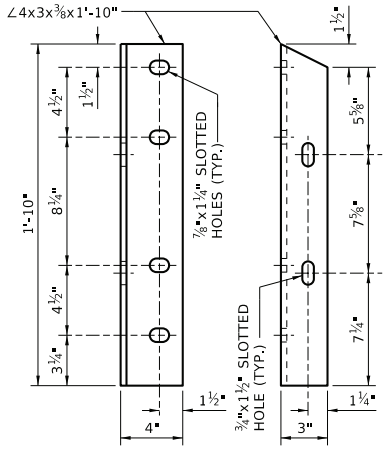


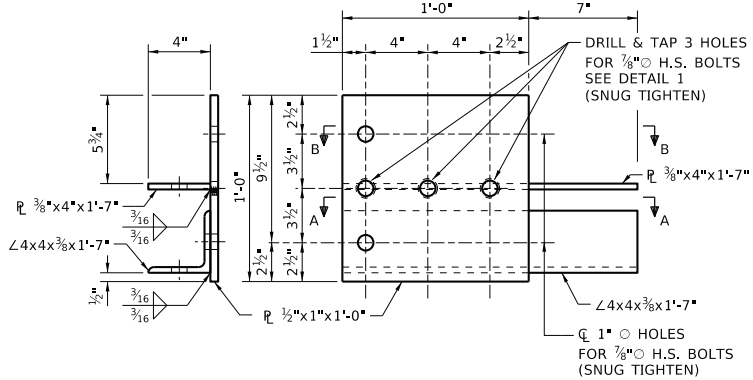
PLATE WASHER "C"
(ASTM A709 GRADE 36)
3"=1'-0"



ALTERNATE POST
1½"=1'-0"

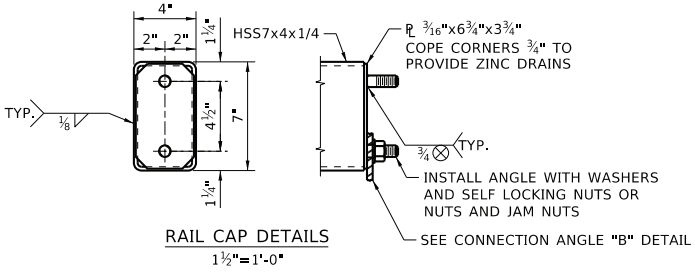


CONNECTION ANGLE "B"
(ASTM A709 GRADE 36)
1½"=1'-0"

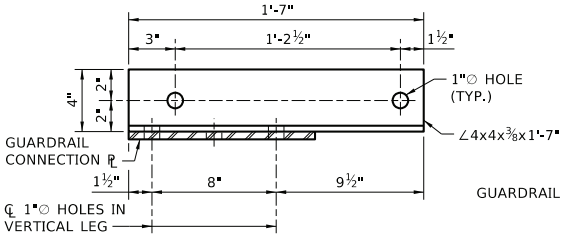


GUARDRAIL DIRECT CONNECTION PLATE
(ASTM A709 GRADE 36)
1½"=1'-0"

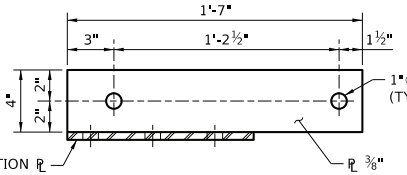
NOTE:
VERIFY ALL BOLT HOLE LOCATIONS MATCH W BEAM TERMINAL CONNECTOR



RAIL CAP DETAILS
1½"=1'-0"



SECTION A-A
1½"=1'-0"



SECTION B-B
1½"=1'-0"

REVISIONS				DESIGNED	SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY		ENGLISH	3-TUBE CURB MOUNT RAIL (3 OF 3)	BRIDGE PLANS	
NO.	DATE	BY	DESCRIPTION	J. LeMASTER					BRIDGE KEY NO. 29356	
				DESIGN CHECKED T. ZANONI	CADD FILE NAME		PROJECT NO.	104' PRESTRESSED CONCRETE BRIDGE MOTHER LODE ROAD OVER AMERICAN RIVER STA. 4+68.32	COUNTY IDAHO	KEY NO.
				DETAILED A. MITCHELL	29356 bdtl D22.dgn				BRIDGE DWG. NO. 18485	SHEET 22 OF 24
				DWG. CHECKED T. ZANONI	DRAWING DATE: MARCH 2026					
				CORRECTIONS						

GREAT SEAL OF IDAHO COUNTY

DAVID EVANS AND ASSOCIATES INC.

PROFESSIONAL ENGINEER LICENSED 21316 3/23/2026 STATE OF IDAHO TIMOTHY R. ZANONI

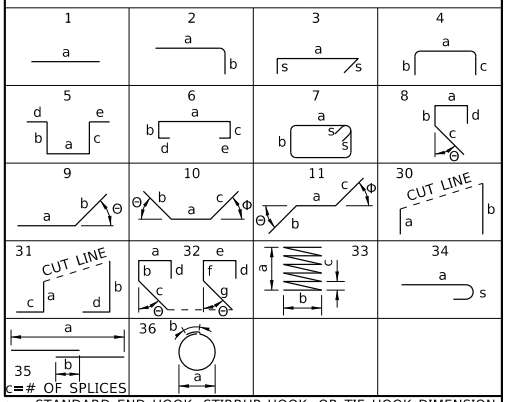
SUBSTRUCTURE

MARK	LOCATION	BAR SIZE	COAT	NO. OF BARS	BAR TYPE	BEND TYPE	BARS/ SET	LENGTH a	LENGTH b	LENGTH c	LENGTH d	LENGTH e	ANGLE θ	ANGLE Φ	TOTAL LENGTH
A1	ABUT. 1	8		4	S	1		25'-2"							100'-8"
A2	ABUT. 1	6		24	S	1		25'-2"							604'-0"
* A3	ABUT. 1	5		88	S	4		2'-8"	5'-0"	5'-0"					1114'-8"
*A3A	ABUT. 1	5		8	S	2		5'-0"	7"						44'-8"
* A4	ABUT. 1	4		258	S	3		2'-11"							946'-0"
A5	ABUT. 1	8		4	S	1		25'-2"							100'-8"
A6	ABUT. 1	7		23	S	1		5'-3"							120'-9"
A7	ABUT. 1	7		26	S	1		5'-3"							136'-6"
A8	ABUT1/WING2	5		4	S	1		10'-2"							40'-8"
A8A	ABUT1/WING1	5		4	S	1		10'-9"							43'-0"
A1	ABUT. 2	8		4	S	1		27'-2"							108'-8"
* A2	ABUT. 2	6		26	S	1		27'-2"							706'-4"
* A3	ABUT. 2	5		92	S	4		2'-8"	5'-0"	5'-0"					1165'-4"
*A3A	ABUT. 2	5		8	S	2		5'-0"	7"						44'-8"
A4	ABUT. 2	4		306	S	3		2'-11"							1122'-0"
A5	ABUT. 2	8		4	S	1		27'-2"							108'-8"
A6	ABUT. 2	7		27	S	1		5'-3"							141'-9"
A7	ABUT. 2	7		28	S	1		5'-3"							147'-0"
A8	ABUT2/WING3	5		4	S	1		11'-4"							45'-4"
A8A	ABUT2/WING4	5		4	S	1		10'-9"							43'-0"
W1	WING 1	4		13	S	1		17'-8"							229'-8"
W2	WING 1	8		22	S	1		17'-8"							388'-8"
W3	WING 1	4		30	S	30		10'-7"	10'-9"						320'-0"
W4	WING 1	4		11	S	9		2'-9"	2'-0"				45°		52'-3"
W1	WING 2	4		13	S	1		17'-8"							229'-8"
W2	WING 2	8		21	S	1		17'-8"							371'-0"
W3	WING 2	4		30	S	30		10'-1"	10'-3"						305'-0"
W4	WING 2	4		11	S	9		2'-9"	2'-0"				45°		52'-3"
* W5	WING 3	5		23	S	4		2'-9"	6"	6"					86'-3"
* W5	WING 4	5		22	S	4		2'-9"	6"	6"					82'-6"

SUBSTRUCTURE BAR WEIGHT

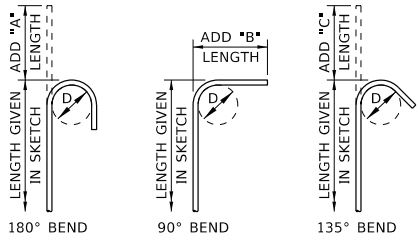
BAR SIZE	LINEAR FEET	POUNDS PER FOOT	TOTAL WEIGHT
#3		0.376	
#4	3256'-10"	0.668	2,176
#5	2710'-1"	1.043	2,827
#6	1310'-4"	1.502	1,968
#7	546'-0"	2.044	1,116
#8	1178'-4"	2.670	3,146
#9		3.400	
#10		4.303	
#11		5.313	
#14		7.650	
#18		13.600	
TOTAL WEIGHT			11,232

BAR BEND DIAGRAMS



s = STANDARD END HOOK, STIRRUP HOOK, OR TIE HOOK DIMENSION

BEND DETAILS



"L" = LENGTH GIVEN IN SKETCH

BAR SIZE	STANDARD END HOOK DIMENSIONS ALL GRADES D	A	B	STIRRUP AND TIE HOOK DIMENSIONS ALL GRADES D	B	C
#3	2¼"	5"	6"	1½"	4"	4"
#4	3"	6"	8"	2"	4½"	4½"
#5	3¾"	7"	10"	2½"	6"	5½"
#6	4½"	8"	1'-0"	4½"	1'-0"	8"
#7	5¼"	10"	1'-2"	5¼"	1'-2"	9"
#8	6"	11"	1'-4"	6"	1'-4"	10½"
#9	9½"	1'-3"	1'-7"			
#10	10¾"	1'-5"	1'-10"			
#11	1'-0"	1'-7"	2'-0"			
#14	1'-6¼"	2'-3"	2'-7"			
#18	2'-0"	3'-0"	3'-5"			

REVISIONS NO.	DATE	BY	DESCRIPTION
1			
2			
3			
4			
5			

DESIGNED J. JOHNSON
DESIGN CHECKED M. PETERSEN
DETAILED A. MITCHELL
DWG. CHECKED M. PETERSEN
CORRECTIONS

SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY
CADD FILE NAME
29356 bdtl D23.dgn
DRAWING DATE: MARCH 2026

DAVID EVANS AND ASSOCIATES INC.

ENGLISH
PROJECT NO.

METAL REINFORCEMENT (1 OF 2)
104' PRESTRESSED CONCRETE BRIDGE
MOTHER LODE ROAD OVER AMERICAN RIVER
STA. 4+68.32

BRIDGE PLANS
BRIDGE KEY NO. 29356
COUNTY IDAHO | KEY NO.
BRIDGE DWG. NO. 18485 | SHEET 23 OF 24

PROFESSIONAL ENGINEER LICENSED 21316 3/23/2026 STATE OF IDAHO TIMOTHY R. ZANONI

SUPERSTRUCTURE

MARK	LOCATION	BAR SIZE	COAT	NO. OF BARS	BAR TYPE	BEND TYPE	BARS/ SET	LENGTH a	LENGTH b	LENGTH c	LENGTH d	LENGTH e	ANGLE θ	ANGLE Φ	TOTAL LENGTH
AD1	ABUT 1 DIAPH	5		12	S	30		2'-4"	5'-0"						48'-9"
AD2	ABUT 1 DIAPH	5		8	S	30		2'-0"	3'-4"						23'-7"
AD3	ABUT 1 DIAPH	5		5	S	1		25'-2"							125'-10"
AD4	ABUT 1 DIAPH	5	E	26	S	2		3'-8"	2'-9"						166'-10"
AD5	ABUT 1 DIAPH	5	E	23	S	2		3'-8"	2'-9"						147'-7"
AD6	ABUT 1 DIAPH	5	E	6	S	1		25'-2"							151'-0"
AD1	ABUT 2 DIAPH	5		12	S	30		2'-4"	5'-0"						48'-9"
AD2	ABUT 2 DIAPH	5		8	S	30		3'-0"	4'-4"						31'-7"
AD3	ABUT 2 DIAPH	5		5	S	1		27'-2"							135'-10"
AD4	ABUT 2 DIAPH	5	E	28	S	2		3'-8"	2'-9"						179'-8"
AD5	ABUT 2 DIAPH	5	E	27	S	2		3'-8"	2'-9"						173'-3"
AD6	ABUT 2 DIAPH	5	E	6	S	1		27'-2"							163'-0"
D1	INT. DIAPH.	4		18	S	1		5'-0"							90'-0"
D2	INT. DIAPH.	4		42	S	30		1'-9"	2'-6"						89'-3"

SUPERSTRUCTURE BAR WEIGHT

BAR SIZE	LINEAR FEET	POUNDS PER FOOT	TOTAL WEIGHT
#4	179'-3"	0.668	120
#5	414'-4"	1.043	432
#6		1.502	
#7		2.044	
	TOTAL WEIGHT		552

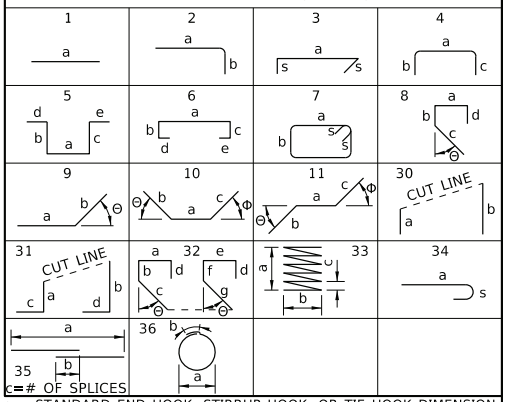
EPOXY COATED BAR WEIGHT

BAR SIZE	LINEAR FEET	POUNDS PER FOOT	TOTAL WEIGHT
#4		0.668	
#5	981'-4"	1.043	1024
#6		1.502	
#8		2.670	
	TOTAL WEIGHT		1024

REINFORCEMENT NOTES

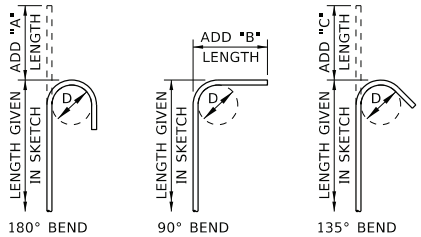
1. PROVIDE BEND DETAILS IN ACCORDANCE WITH THE LATEST ACI STANDARD PRACTICE AND AASHTO SPECIFICATIONS.
2. DIMENSIONS SHOWN IN THE "BAR BEND DIAGRAMS" ARE OUT TO OUT OF BEND POINTS, HOOKS, OR BAR ENDS, UNLESS NOTED OTHERWISE. PIN DIAMETER "D" IS THE SAME FOR BENDS AND HOOK ON A BAR.
3. NO DEDUCTIONS FOR CURVATURE AT BENDS ARE MADE EXCEPT FOR THE ADJUSTMENTS INCLUDED IN THE ABOVE "ADD LENGTH" DIMENSIONS.
4. * INDICATES STIRRUP OR TIE BAR.
5. PROVIDE BARS THAT CONFORM TO AASHTO M31, GRADE 60.
6. A. PROVIDE EPOXY COATED BARS DESIGNATED "E" IN THE "COAT" COLUMN.
   B. PROVIDE BAR TYPE S OR W DESIGNATED IN THE "BAR TYPE" COLUMN.
7. BAR WEIGHTS ONLY INCLUDE REINFORCING STEEL PAID FOR UNDER THE PAY ITEMS 503-010A, 503-015A & 503-020A. OTHER REINFORCING STEEL NOT LISTED IS INCIDENTAL TO OTHER PAY ITEMS.

BAR BEND DIAGRAMS



s = STANDARD END HOOK, STIRRUP HOOK, OR TIE HOOK DIMENSION

BEND DETAILS



"L" = LENGTH GIVEN IN SKETCH

BAR SIZE	STANDARD END HOOK DIMENSIONS ALL GRADES D	A	B	STIRRUP AND TIE HOOK DIMENSIONS ALL GRADES D	B	C
#3	2¼"	5"	6"	1½"	4"	4"
#4	3"	6"	8"	2"	4½"	4½"
#5	3¾"	7"	10"	2½"	6"	5½"
#6	4½"	8"	1'-0"	4½"	1'-0"	8"
#7	5¼"	10"	1'-2"	5¼"	1'-2"	9"
#8	6"	11"	1'-4"	6"	1'-4"	10½"
#9	9½"	1'-3"	1'-7"			
#10	10¾"	1'-5"	1'-10"			
#11	1'-0"	1'-7"	2'-0"			
#14	1'-6¼"	2'-3"	2'-7"			
#18	2'-0"	3'-0"	3'-5"			

REVISIONS NO.	DATE	BY	DESCRIPTION
1			
2			
3			
4			
5			

DESIGNED J. LeMASTER
DESIGN CHECKED M. PETERSEN
DETAILED A. MITCHELL
DWG. CHECKED M. PETERSEN
CORRECTIONS

SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY
CADD FILE NAME
29356 bdtl D24.dgn
DRAWING DATE: MARCH 2026

GREAT SEAL OF IDAHO COUNTY

DAVID EVANS AND ASSOCIATES INC.

ENGLISH

PROJECT NO.

METAL REINFORCEMENT (2 OF 2)

104' PRESTRESSED CONCRETE BRIDGE
MOTHER LODE ROAD OVER AMERICAN RIVER
STA. 4+68.32

BRIDGE PLANS

BRIDGE KEY NO. 29356
COUNTY IDAHO | KEY NO.
BRIDGE DWG. NO. 18485 | SHEET 24 OF 24

PROFESSIONAL ENGINEER LICENSED 21316 3/23/2026 STATE OF IDAHO TIMOTHY R. ZANONI

IDAHO
TRANSPORTATION DEPARTMENT

STANDARD DRAWINGS

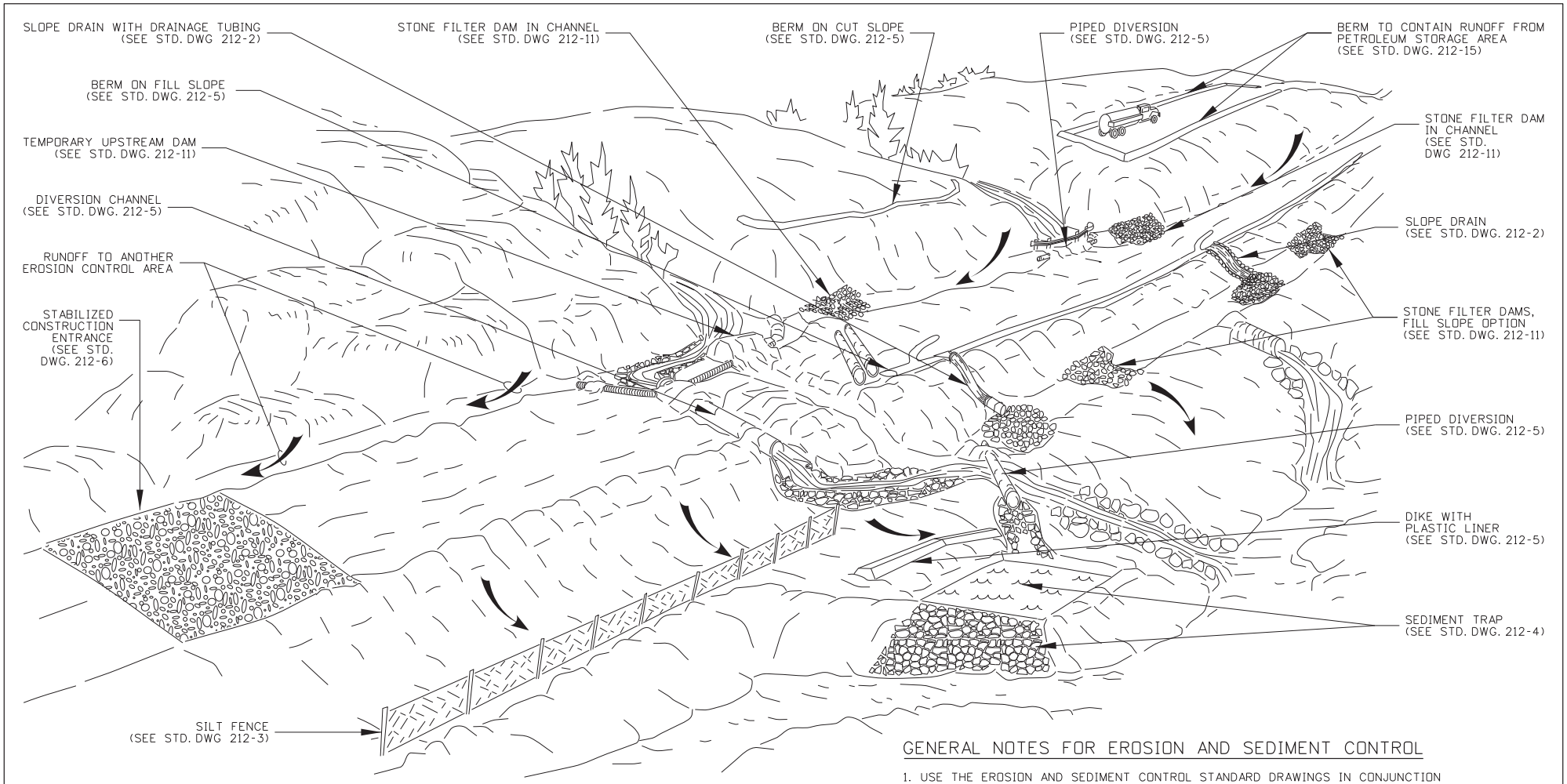
APRIL 2024

STANDARD DRAWINGS
APRIL 2024

DRAWING NUMBER	DRAWING NAME
212-1	Erosion and Sediment Control - Example Applications
212-2	Temporary Erosion and Sediment Control - Slope Drains
212-3	Temporary Erosion and Sediment Control - Silt Fence, Fiber Wattle, and Compost Sock
212-4	Temporary Erosion and Sediment Control - Sediment Trap
212-5	Temporary Erosion and Sediment Control - Diversion Channel, Ditch, Swale, Dike, Berm, Waterbar, and Rolling Dip
212-6	Temporary Erosion and Sediment Control - Stabilized Construction Entrance and Vehicle Washdown
212-7	Temporary Erosion and Sediment Control - Inlet Protection
212-10	Permanent Erosion Control and Sediment Control - Gabion and Revet Mattress
212-11	Permanent Erosion Control and Sediment Control - Stone Filter Berms, Dams and Weirs
212-12	Permanent Erosion Control and Sediment Control - Slope and Channel Protection
212-15	Petroleum Storage Area
212-16	Temporary Concrete Washout
405-1	Rural Approaches
405-2	Mailbox Turnout
409-1	Portland Cement Concrete Pavement
409-2	Portland Cement Concrete Pavement Ramp Gore Details
411-1	Urban Concrete Pavement
411-2	Urban Concrete Pavement Manhole Collars
601-1	Pipe and Conduit Installation
605-1	Storm Sewer Pipe, 12" Thru 30" Slotted Drain
605-10	Manhole Type A
605-11	Manhole Type B
605-12	Manhole Types C & D
605-13	Manhole Frame, Cover, & Concrete Collar
605-20	Inlets & Catch Basins, Types 1, 2, & 3
605-21	Inlets & Catch Basins, Types 1A, 2A, & 3A
605-22	Inlets & Catch Basins, Types 4 & 5
605-23	Catch Basin, Type 6
605-24	Catch Basin, Type 7
605-25	Inlet, Type 8
605-26	Inlet Median Drain, Type 9
605-27	Catch Basin, Type 10
605-28	VANE GRATE INLET
605-30	Sediment Control Catch Basin
605-31	Sediment and Oil Trap Manhole
605-32	Sediment and Oil Trap Manhole (In Street)
605-35	Drywell
606-2	Edge Drain
607-1	Embankment Protector
607-2	Embankment Protector with Slotted Drain
608-1	Galvanized Steel Aprons for Pipe Culverts
608-2	Concrete Aprons for Pipe Culverts
608-3	Metal Safety Slope Apron
609-1	Culvert Inlet Headwall
609-2	Concrete Headwall for Single Pipe Culvert
609-3	Concrete Headwall for Twin Pipe Culvert
609-4	Concrete Headwall for Arch Pipe Culvert
609-5	Concrete Headwall for Siphons
609-6	Precast Concrete Headgate
610-1	Fences
610-2	Gates
610-3	Fence Braces
611-1	Cattle Guard Type A
611-2	Cattle Guard, Pavement Markings

DRAWING NUMBER	DRAWING NAME
612-1	31" W-Beam Guardrail
612-3	Short Radius W-Beam Guardrail System
612-5	Guardrail Anchor
612-6	Guardrail Terminal, Buried-in-Backslope
612-7	Guardrail Terminal, Flared
612-8	Guardrail Terminal, Tangent
612-10	Guardrail Transition, Low Speed
612-11	Guardrail Transition, High Speed
612-18	Precast Concrete Barrier
612-20	Precast Concrete Barrier Terminals
612-24	F-Shape to New Jersey Shape Transition
612-25	F-Shape to Single Slope Transition
613-1	Bullnose Crash Cushion
614-1	Sidewalks
614-2	Driveways
614-3	Curb Ramps
615-1	Curb and Gutter
616-1	Punching Schedule for Type "B" or Type "E" Signs
616-2	Extruded Aluminum Signs
616-5	Breakaway Steel Sign Post Installation, Type A - Wide Flange
616-6	Breakaway Steel Sign Post Installation, Type B
616-7	Breakaway Steel Sign Post Installation, Type E
616-10	Breakaway Sign Posts, Type D
616-15	Route Marker Bracket Details
616-16	B Post and Brace Angle Detail
616-17	Route Sign
617-1	Delineators
617-2	Milepost Assemblies
618-1	Marker Post, Witness Posts, and Street Monuments
619-1	Light Pole Foundation Detail
628-1	Snow Poles
630-1	Pavement Markings
631-1	Rumble Strips
634-1	Mailboxes
634-2	Mailbox Snow Shield
656-1	Mast Arm Traffic Signal Poles
656-2	Frangible Cast Base Traffic Signal Poles
656-3	Mast Arm Signal Pole Foundation Detail
656-5	Signal Cabinet & Service Pedestral Foundation Details
656-6	Signal Cabinet Foundation Detail
656-10	Loop Detectors, 10 ft/sec^2 Deceleration Rate
656-15	Pedestrian Pushbutton Placement
657-1	Flashing Beacons
706-6	Corrugated Metal Pipe Watertight Coupling Bands

INDIVIDUAL STANDARD DRAWINGS AND AN ELECTRONIC BOOK OF ALL STANDARD DRAWINGS ARE AVAILABLE ON THE ITD WEBSITE



GENERAL NOTES FOR EROSION AND SEDIMENT CONTROL

1. USE THE EROSION AND SEDIMENT CONTROL STANDARD DRAWINGS IN CONJUNCTION WITH THE ITD BEST MANAGEMENT PRACTICES MANUAL.
2. THE PLACEMENT OF EROSION CONTROL MEASURES IS SITE SPECIFIC. OBTAIN THE ENGINEER'S APPROVAL OF THE EROSION AND SEDIMENT CONTROL MEASURES PRIOR TO INSTALLATION.
3. EROSION AND SEDIMENT CONTROL MEASURES PLACEMENT AND INSTALLATION MAY BE CONTROLLED BY THE NPDES, 404 PERMIT OR CONTRACT SPECIFICATIONS.
4. DRAWING NOT TO SCALE

ORIGINAL STORED AT: ITD, Headquarters 3311 West State Boise, Idaho

PROFESSIONAL ENGINEER LICENSED RYAN D. LANCASTER STATE OF IDAHO ORIGINAL SIGNED MARCH 18, 2010 13683 RYAN D. LANCASTER

REVISIONS									
NO.	DATE	BY	NO.	DATE	BY	NO.	DATE	BY
1	9-93	MSM	6	12-16	RDL			
2	6-96	MSM	7	02-21	TWF			
3	10-10	KEH						
4	10-11	KEH						
5	12-12	RDL						

SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY

CADD FILE NAME: 212-01_0421.dgn

DRAWING DATE: APRIL, 1993

IDAHO TRANSPORTATION DEPARTMENT

BOISE IDAHO

ORIGINAL SIGNED BY: KEVIN SABLAN

DESIGN/TRAFFIC SERVICES ENGINEER

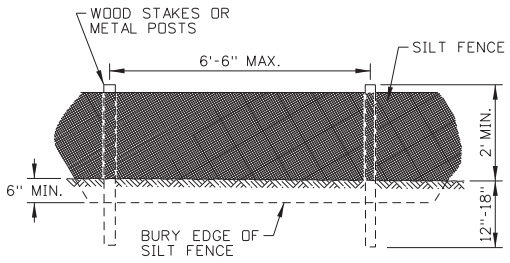
STANDARD DRAWING

EROSION AND SEDIMENT CONTROL EXAMPLE APPLICATIONS

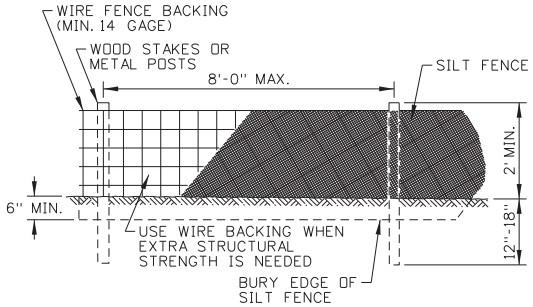
English

STANDARD DRAWING NO. 212-1

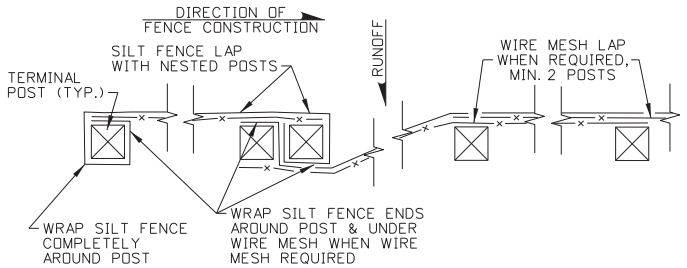
SHEET 1 OF 1



SILT FENCE (NO WIRE BACKING)



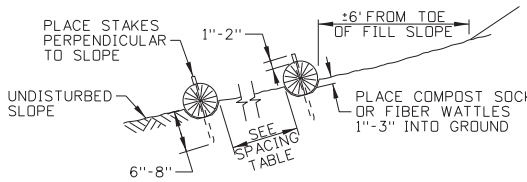
SILT FENCE (WIRE BACKING)



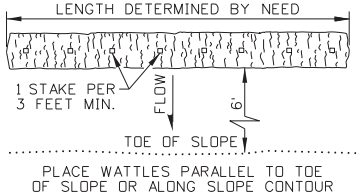
SILT FENCE LAP DETAIL

FIBER WATTLE & COMPOST SOCK SPACING TABLE				
SLOPE	WATTLE SIZE			
	6"	9"	12"	20"
1:1	5 FT	10 FT	15 FT	20 FT
2:1	10 FT	20 FT	30 FT	40 FT
3:1	15 FT	30 FT	45 FT	60 FT
4:1 OR FLATTER	20 FT	40 FT	60 FT	80 FT

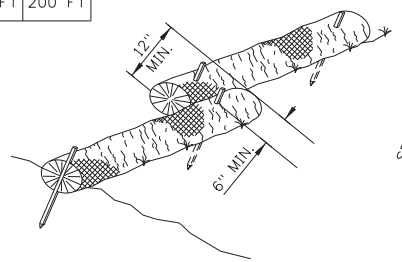
SILT FENCE SPACING TABLE			
SLOPE	SOIL TYPE		
	SILTY	CLAYS	SANDY
1:1	50 FT	75 FT	100 FT
2:1	75 FT	100 FT	125 FT
4:1	100 FT	125 FT	150 FT
10:1 OR FLATTER	125 FT	150 FT	200 FT



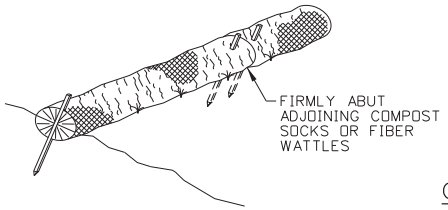
COMPOST SOCK AND FIBER WATTLE
SIDE VIEW



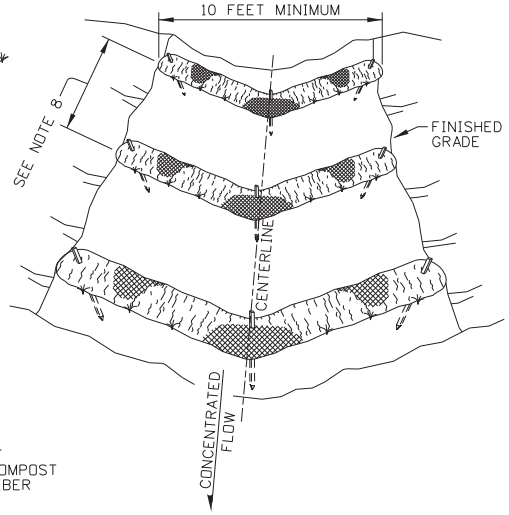
COMPOST SOCK AND FIBER WATTLE
PLAN VIEW



COMPOST SOCK AND FIBER WATTLE
OVERLAPPING DETAIL



COMPOST SOCK AND FIBER WATTLE
ABUTTING DETAIL



COMPOST SOCK AND FIBER WATTLE
TEMPORARY CHECK DAM DETAIL

NOTES

1. SEE THE GENERAL NOTES FOR EROSION CONTROL STANDARD DRAWINGS ON 212-1.
2. THE NEED FOR TEMPORARY SEDIMENT CONTROL DEVICES ARE DETERMINED BY SITE DESIGN. SPACE SILT FENCES, COMPOST SOCKS, AND FIBER WATTLES IN ACCORDANCE WITH THE SILT FENCE SPACING TABLE AND FIBER WATTLE & COMPOST SOCK SPACING TABLE.
3. INSTALL TEMPORARY SEDIMENT CONTROL BARRIERS IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS AND SPECIFICATIONS. THE DIMENSIONS SHOWN ARE GENERAL GUIDELINES.
4. PLACE SEDIMENT BARRIERS TO FOLLOW THE SLOPE CONTOURS. USE EITHER METAL POSTS OR WOOD STAKES.
5. ENSURE RUNOFF PASSES THROUGH THE SILT FENCE AND NOT AROUND THE FENCE.
6. GROUND SILT FENCES WITH WIRE MESH IN ACCORDANCE WITH THE GROUNDING DETAIL SHOWN ON STANDARD DRAWING 610-1.
7. EXTEND OR JOIN SILT FENCE USING SILT FENCE LAP WITH NESTED POSTS.
8. SPACE CHECK DAMS ACCORDING TO THE HEIGHT OF THE DAM AND THE SLOPE OF THE CHANNEL SO THE BACKWATER FROM THE DOWNSTREAM DAM REACHES THE TOE OF THE UPSTREAM DAM.
9. ON SLOPES, TURN THE ENDS OF EACH ROW OF COMPOST SOCKS AND FIBER WATTLES UPSLOPE TO PREVENT RUNOFF FROM FLOWING AROUND THE SOCK OR WATTLE.
10. REMOVE SEDIMENT FROM THE UPSLOPE SIDE OF SILT FENCES, COMPOST SOCKS, AND FIBER WATTLES WHEN ACCUMULATION HAS REACHED ½ OF THE EFFECTIVE HEIGHT OF THE BARRIER.
11. DRAWING NOT TO SCALE.

ORIGINAL STORED AT: ITD, Headquarters 3311 West State Boise, Idaho

PROFESSIONAL ENGINEER LICENSED RYAN D. LANCASTER STATE OF IDAHO ORIGINAL SIGNED MARCH 18, 2010 13683 RYAN D. LANCASTER

REVISIONS									
NO.	DATE	BY	NO.	DATE	BY	NO.	DATE	BY
1	09-93	MSM	6	01-13	RDL			
2	12-94	MSM	7	03-21	TWF			
3	06-96	GFK						
4	10-10	KEH						
5	10-11	KEH						

SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY

CADD FILE NAME: 212-03_0421.dgn

DRAWING DATE: APRIL, 1993

IDAHO TRANSPORTATION DEPARTMENT

BOISE IDAHO

ORIGINAL SIGNED BY: KEVIN SABLAN

DESIGN/TRAFFIC SERVICES ENGINEER

STANDARD DRAWING

TEMPORARY EROSION AND SEDIMENT CONTROL

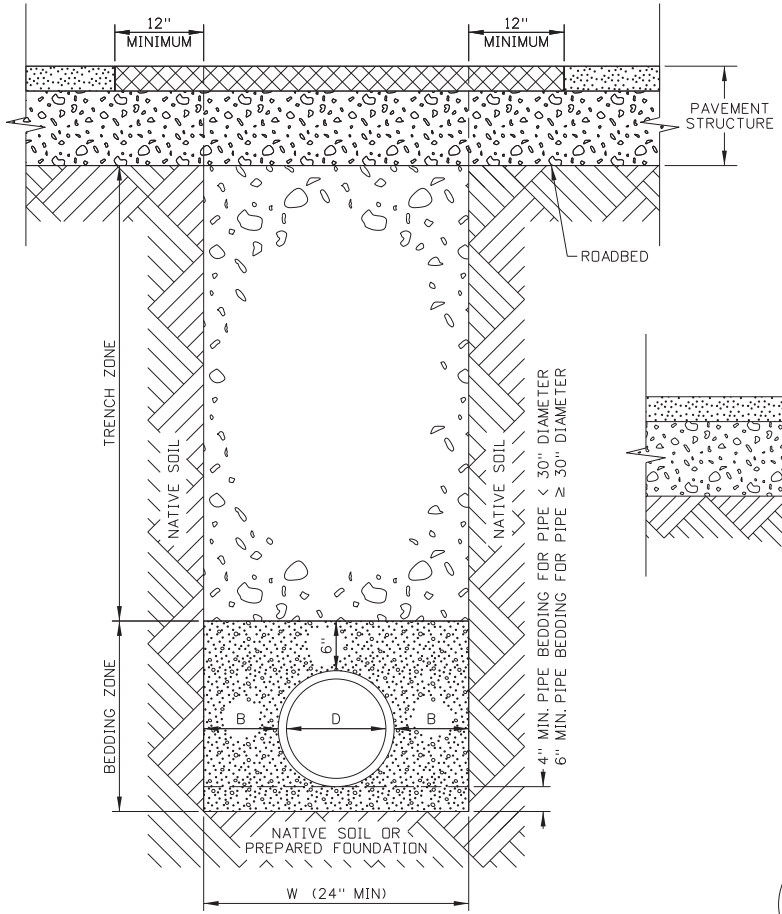
SILT FENCE, FIBER WATTLE, AND COMPOST SOCK

REQUIRES STD. DWG. 212-1

English

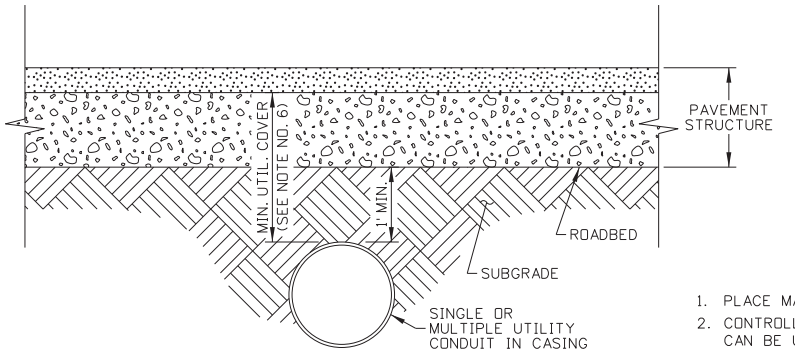
STANDARD DRAWING NO. 212-3

SHEET 1 OF 1



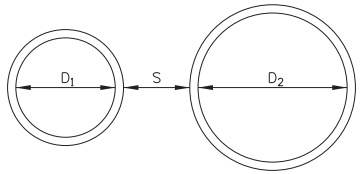
TRENCHING

MATERIALS AND COMPACTION TABLE				
PIPE LOCATION	BEDDING ZONE		TRENCH ZONE	
	MATERIAL REQUIREMENT	COMPACTION REQUIREMENT	MATERIAL REQUIREMENT	COMPACTION REQUIREMENT
INSIDE ROADWAY PRISM	COARSE AGGREGATE FOR CONCRETE SIZE NO. 1, NO. 2A, OR NO. 2B (SUBSECTION 703.02)	ENGINEER ACCEPTANCE	3/4" AGGREGATE FOR BASE (SUBSECTION 703.04) (SEE NOTE NO. 1)	CLASS A COMPACTION (SECTION 205) OR 95% OF IT-74
OUTSIDE ROADWAY PRISM	COARSE AGGREGATE FOR CONCRETE SIZE NO. 1, NO. 2A, OR NO. 2B (SUBSECTION 703.02)	ENGINEER ACCEPTANCE	GRANULAR BORROW OR NATIVE MATERIALS WITH MAXIMUM SIZE OF 6" AND FREE FROM WOOD WASTE OR DELETERIOUS MATERIALS. (SEE NOTE NO. 1)	CLASS D COMPACTION (SECTION 205)



JACKING, DRIVING, OR BORING

MINIMUM DIMENSION TABLE (SEE NOTE NOS. 3 AND 4)		
D (INCHES)	B (INCHES)	S (INCHES)
≤ 6	10	24
7 TO 15	12	24
16 TO 30	18	24
> 30	24	GREATER OF 24 OR D/2



MULTIPLE PIPE INSTALLATION DETAIL
(SEE NOTE NO. 4)

NOTES

1. PLACE MATERIAL IN ACCORDANCE WITH SECTION 210.
2. CONTROLLED DENSITY FILL (CDF) IN ACCORDANCE WITH SECTION 522 CAN BE USED IF APPROVED BY THE ENGINEER.
3. LOOSE LIFT THICKNESS DIRECTLY ON TOP OF PIPE MAY BE INCREASED WITH APPROVAL TO PREVENT DAMAGE TO PIPE DURING COMPACTION.
4. WHEN TWO DIFFERENT DIAMETER PIPES ARE INSTALLED, USE THE LARGER D DIMENSION TO DETERMINE THE S DIMENSION.
5. WHEN THE PIPE DIAMETER IS 36 INCHES OR GREATER AND THE PIPE IS INSTALLED DURING EMBANKEMENT CONSTRUCTION, USE B DIMENSION EQUAL TO THE PIPE DIAMETER.
6. PROVIDE THE FOLLOWING MINIMUM COVER DEPTHS:
   WATER: 4'
   LIQUID OR GAS PETROLEUM: 4'
   ELECTRICAL MAIN LINE: 4'
   COMMUNICATIONS OR ELECTRONICS: 2'
   UTILITY OWNERS AND LOCAL PUBLIC AGENCIES MAY HAVE DIFFERENT MINIMUM COVER DEPTHS. CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE REQUIRED COVER DEPTHS.
7. PERFORM TRENCHING PER OSHA REQUIREMENTS.
8. DO NOT DISTURB THE INSTALLED PIPE OR CONDUIT, OR LEAVE VOIDS WHEN USING TRENCH BOXES OR SHIELDS.
9. DRAWINGS NOT TO SCALE.

ORIGINAL STORED AT: ITD, Headquarters 3311 West State Boise, Idaho

PROFESSIONAL ENGINEER REGISTERED JOHN W. INGRAM III STATE OF IDAHO 6715 ORIGINAL SIGNED BY: JOHN W. INGRAM MARCH 18, 2015

REVISIONS									
NO.	DATE	BY	NO.	DATE	BY	NO.	DATE	BY
1	12-15	RDL	6	03-21	TWF			
2	03-16	RDL						
3	06-17	RDL						
4	06-18	HEB						
5	11-18	TWF						

SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY

CADD FILE NAME: 601-1_0421.dgn

DRAWING DATE: MAY 2014

IDAHO TRANSPORTATION DEPARTMENT

BOISE IDAHO

ORIGINAL SIGNED BY: KEVIN SABLAN

DESIGN/TRAFFIC SERVICES ENGINEER

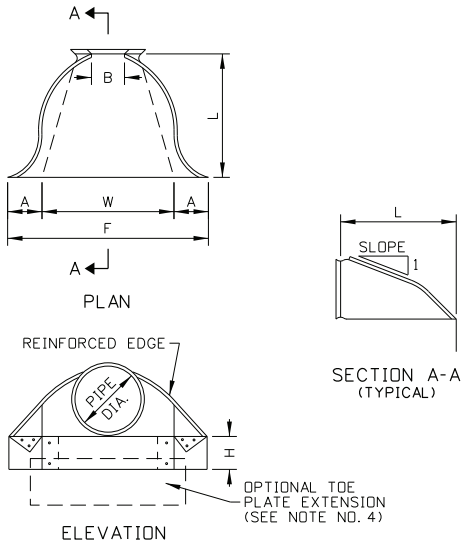
STANDARD DRAWING

PIPE AND CONDUIT INSTALLATION

English

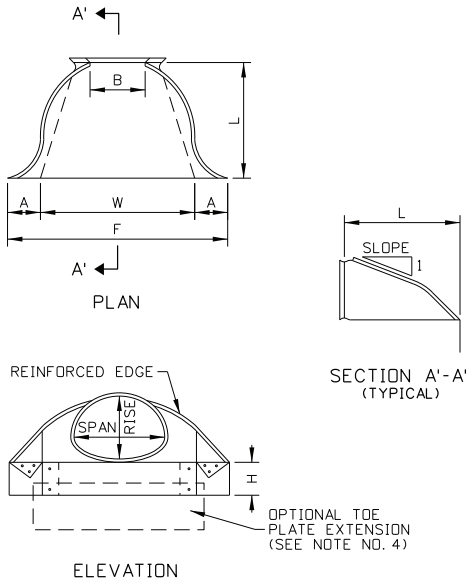
STANDARD DRAWING NO. 601-1

SHEET 1 OF 1



APRON FOR ROUND METAL PIPE

(GALVANIZED STEEL)



APRON FOR METAL ARCH PIPE

(GALVANIZED STEEL)

DIMENSIONS TABLE									
PIPE DIA.	THICK-NESS (1000'S)	ALL DIMENSIONS ARE IN INCHES						APPROX. SLOPE	BODY
		A	B	H	F	L	W		
		(MIN.)		(MIN.)	(MIN.)	±2"	(MAX.)		
12	0.064	5	7	6	22	21	24	2½:1	1 PC.
15	0.064	7	8	6	28	26	30	2½:1	1 PC.
18	0.064	7	10	6	34	31	36	2½:1	1 PC.
21	0.064	8	12	6	40	36	42	2½:1	1 PC.
24	0.064	9	13	6	46	41	48	2½:1	1 PC.
30	0.079	13	16	8	55	51	60	2½:1	1 PC.
36	0.079	11	19	9	70	60	72	2½:1	2 PC.
42	0.109	15	25	10	82	69	84	2½:1	2 PC.
48	0.109	17	29	12	88	78	90	2½:1	2 PC.
54	0.109	17	33	12	100	84	102	2:1	2 PC.
60	0.109	17	36	12	112	87	114	2½:1	3 PC.
66	0.109	17	39	12	118	87	120	2½:1	3 PC.
72	0.109	17	44	12	120	87	126	2½:1	3 PC.
78	0.109	17	48	12	130	87	132	2½:1	3 PC.
84	0.109	17	52	12	136	87	138	2½:1	3 PC.

DIMENSIONS TABLE										
PIPE-ARCH		THICK-NESS (1000'S)	ALL DIMENSIONS ARE IN INCHES						APPROX. SLOPE	BODY
SPAN IN.	RISE IN.		A	B	H	F	L	W		
			(MIN.)		(MIN.)	(MIN.)	±2"	(MAX.)		
17	13	0.064	5	9	6	28	20	50	2½:1	1 PC.
21	15	0.064	6	11	6	34	24	58	2½:1	1 PC.
24	18	0.064	7	12	6	40	28	63	2½:1	1 PC.
28	20	0.064	7	16	6	46	32	70	2½:1	1 PC.
35	24	0.079	9	16	6	58	39	85	2½:1	1 PC.
42	29	0.079	11	18	8	73	46	104	2½:1	1 PC.
49	33	0.109	12	21	9	82	53	117	2½:1	2 PC.
57	38	0.109	16	26	10	88	62	130	2½:1	2 PC.
64	43	0.109	17	30	12	100	79	142	2¼:1	2 PC.
71	47	0.109	17	36	12	112	77	156	2¼:1	2 PC.
77	52	0.109	17	36	12	124	77	167	2:1	3 PC.
83	57	0.109	17	44	12	130	77	179	2:1	3 PC.

NOTES

1. ALL 3-PIECE BODIES (APRONS WITH PIPE DIA. 60 IN. & LARGER) TO HAVE 0.109 IN. SIDES AND 0.138 IN. CENTER PANELS. MULTIPLE PANEL BODIES TO HAVE LAP SEAMS WHICH ARE TO BE TIGHTLY JOINED BY GALVANIZED RIVETS OR BOLTS.
2. THE REINFORCED EDGES OF GALVANIZED STEEL APRONS, FOR ROUND METAL PIPE SIZES 60 IN. THROUGH 84 IN. AND FOR ARCH METAL PIPE SIZES 77x62 IN. THROUGH 83x57 IN., ARE TO BE SUPPLEMENTED BY GALVANIZED STIFFENER ANGLES. THE ANGLES ARE TO BE ATTACHED BY GALVANIZED BOLTS AND NUTS.
3. ANGLE REINFORCEMENT WILL BE PLACED UNDER THE CENTER PANEL SEAMS ON ARCH PIPE SIZES 77x52 IN. THROUGH 83x57 IN.
4. A GALVANIZED TOE PLATE IS AVAILABLE AS AN ACCESSORY. WHEN SPECIFIED IT SHALL BE THE SAME GAGE AS THE APRON.
5. THE APRON SHALL BE CONNECTED TO PIPE BY USING EITHER CONNECTING BANDS, RODS, OR STRAPS.
5. NOT TO SCALE.

ORIGINAL STORED AT: ITD, Headquarters 3311 West State Boise, Idaho

PROFESSIONAL ENGINEER * LAND SURVEYOR * REGISTERED ORIGINAL SIGNED MILFORD MILLER STATE OF IDAHO MARCH 4, 2005 ORIGINAL SIGNED MILFORD MILLER

REVISIONS									
NO.	DATE	BY	NO.	DATE	BY	NO.	DATE	BY
1	09-64		6	06-84				
2	06-68		7	07-92	MSM			
3	04-70		8	11-01	MSM			
4	10-76		9	03-05	MSM			
5	07-78							

SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY

CADD FILE NAME: 608-1_0305.dgn

DRAWING DATE: APRIL, 1961

IDAHO TRANSPORTATION DEPARTMENT

BOISE IDAHO

ORIGINAL SIGNED BY: LOREN THOMAS
ASSISTANT CHIEF ENGINEER (DEVELOPMENT)
ORIGINAL SIGNED BY: STEVEN HUTCHINSON
CHIEF ENGINEER

STANDARD DRAWING

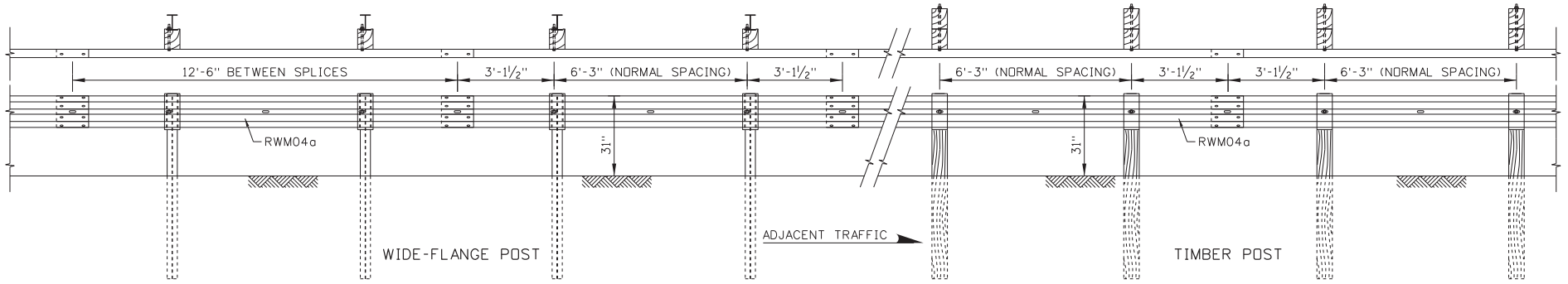
GALVANIZED STEEL APRONS FOR PIPE CULVERTS

English

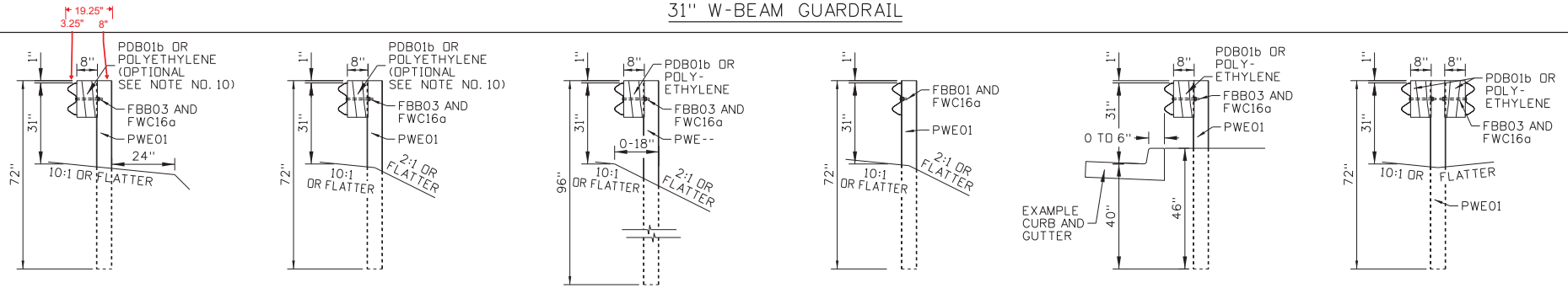
STANDARD DRAWING NO. 608-1

SHEET 1 OF 1

2240

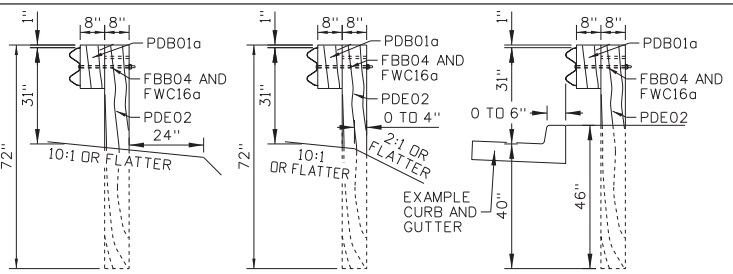


31" W-BEAM GUARDRAIL



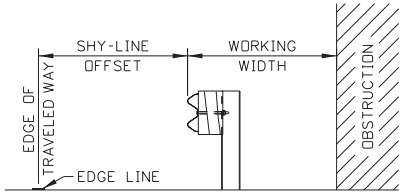
WIDE-FLANGE POST APPLICATIONS

SEE NOTE NOS. 3 AND 11



TIMBER POST APPLICATIONS

SEE NOTE NOS. 3 AND 11



PLACEMENT DETAIL

SEE NOTE NOS. 4 THROUGH 7

SHY-LINE OFFSET AND FLARE RATE TABLE

DESIGN SPEED (MPH)	SHY-LINE OFFSET (FT)	BARRIER FLARE RATE	
		INSIDE SHY LINE	AT OR BEYOND SHY LINE
80	12	30:1	15:1
70	9	30:1	15:1
60	8	26:1	14:1
55	7	24:1	12:1
50	6.5	21:1	11:1
45	6	18:1	10:1
40	5	16:1	8:1
30	4	13:1	7:1

DEFLECTION TABLE

APPLICATION	POST SPACING	WORKING WIDTH
NORMAL SPACING	6'-3"	54"
½ SPACING	3'-1½"	46"
¼ SPACING	1'-6¾"	38"
STEEP SLOPE	6'-3"	56"
HINGE POINT	6'-3"	78"
LONG SPAN	≤ 25'	96"

ORIGINAL STORED AT: ITD, Headquarters 3311 West State Boise, Idaho

PROFESSIONAL ENGINEER LICENSED RYAN D. LANCASTER STATE OF IDAHO ORIGINAL SIGNED BY MARCH 10, 2020 13683 RYAN D. LANCASTER

REVISIONS

NO.	DATE	BY	NO.	DATE	BY	NO.	DATE	BY
1	08-18	RDL						
2	03-19	RDL						
3	03-20	RDL						

SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY

CADD FILE NAME: 612-1_0420.dgn

DRAWING DATE: JUNE, 2017

IDAHO TRANSPORTATION DEPARTMENT

BOISE IDAHO

ORIGINAL SIGNED BY: KEVIN SABLAN

DESIGN/TRAFFIC SERVICES ENGINEER

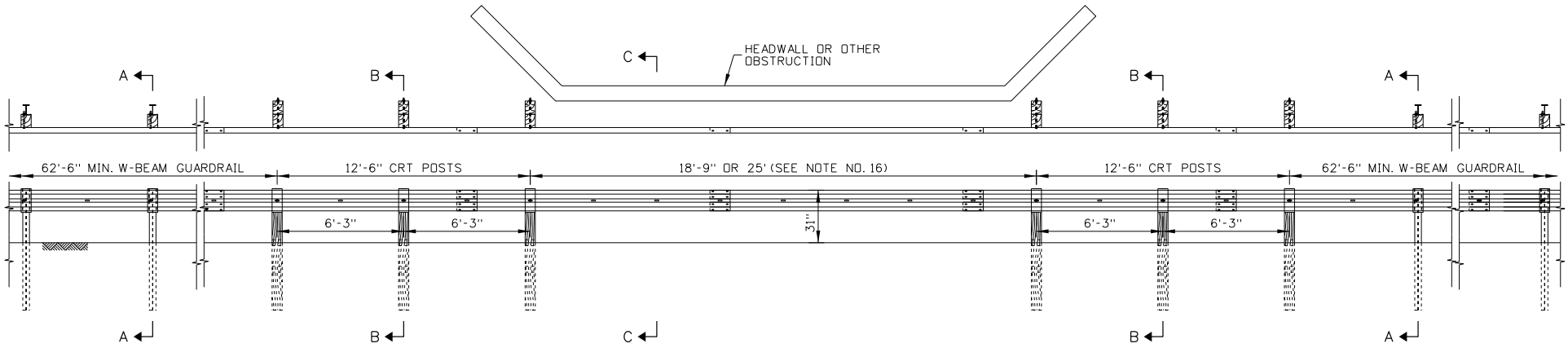
STANDARD DRAWING

31" W-BEAM GUARDRAIL

English

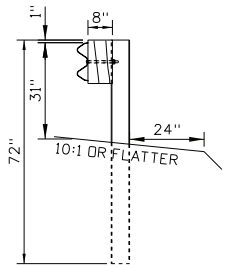
STANDARD DRAWING NO. 612-1

SHEET 1 OF 5

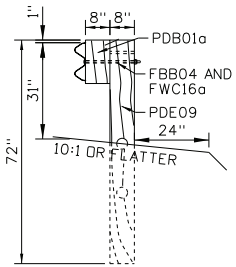


31" LONG-SPAN APPLICATION

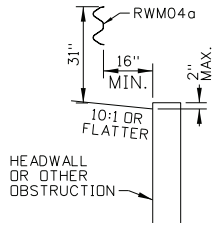
SEE NOTE NOS. 17 AND 18



SECTION A-A
WIDE-FLANGE OR TIMBER POST



SECTION B-B



SECTION C-C

ORIGINAL STORED AT: ITD, Headquarters 3311 West State Boise, Idaho

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REVISIONS								
NO.	DATE	BY	NO.	DATE	BY	NO.	DATE	BY
1	08-18	RDL						
2	03-19	RDL						
3	03-20	RDL						

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CADD FILE NAME: 612-1_0420.dgn

DRAWING DATE: JUNE, 2017

IDAHO TRANSPORTATION DEPARTMENT

BOISE IDAHO

ORIGINAL SIGNED BY: KEVIN SABLAN

DESIGN/TRAFFIC SERVICES ENGINEER

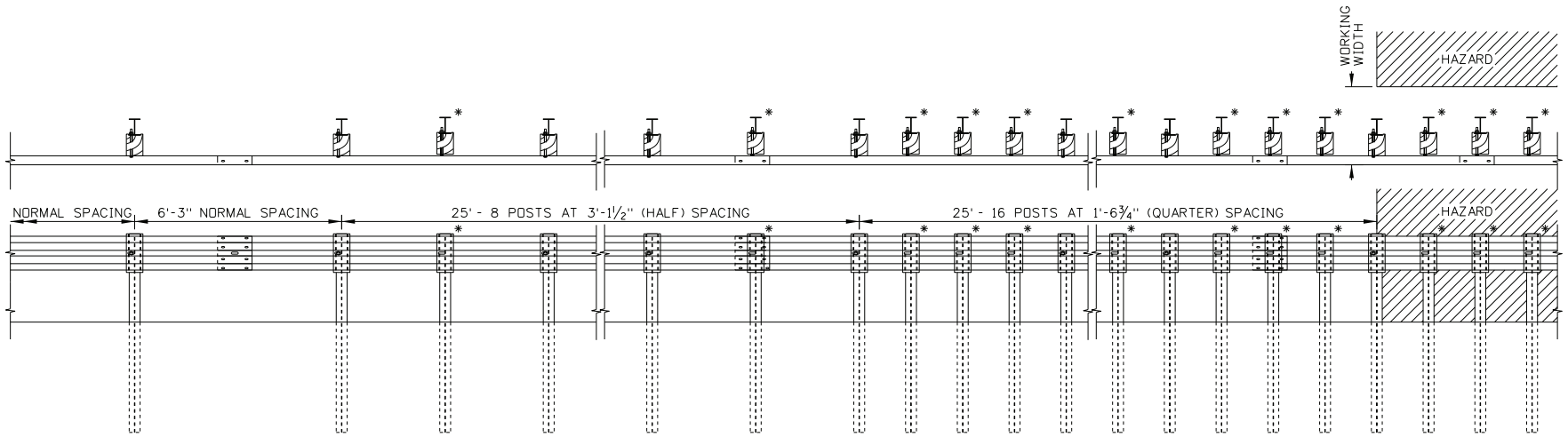
STANDARD DRAWING

31" W-BEAM GUARDRAIL

English

STANDARD DRAWING NO. 612-1

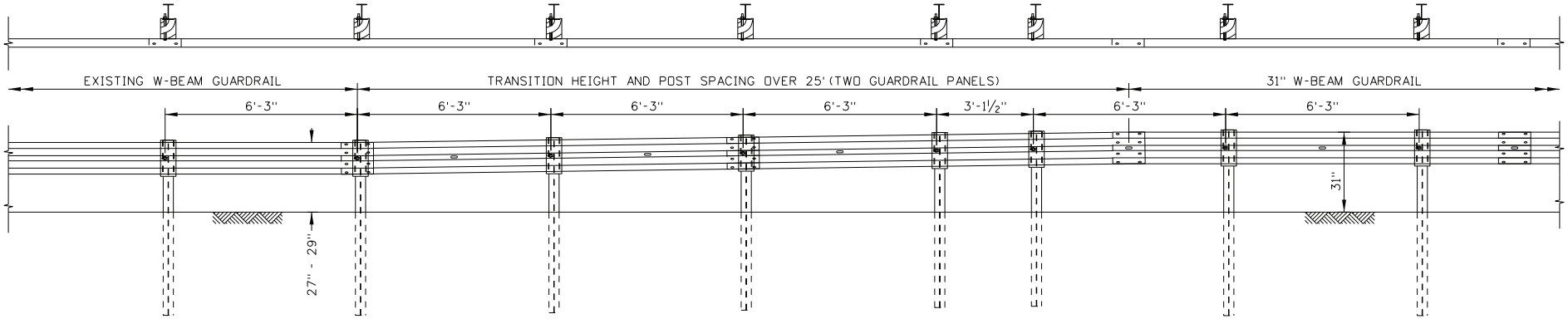
SHEET 2 OF 5



REDUCED POST SPACING

SEE NOTE NO. 7

LEGEND:
* EXTRA POSTS. BOLT BLOCKOUT TO POST, BUT DO NOT BOLT TO GUARDRAIL



TRANSITION TO 31" W-BEAM GUARDRAIL

SEE NOTE NO. 19

ORIGINAL STORED AT: ITD, Headquarters 3311 West State Boise, Idaho

PROFESSIONAL ENGINEER LICENSED RYAN D. LANCASTER STATE OF IDAHO 13683 ORIGINAL SIGNED BY RYAN D. LANCASTER MARCH 10, 2020 RYAN D. LANCASTER

REVISIONS									
NO.	DATE	BY	NO.	DATE	BY	NO.	DATE	BY
1	08-18	RDL						
2	03-19	RDL						
3	03-20	RDL						

SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY

CADD FILE NAME: 612-1_0420.dgn

DRAWING DATE: JUNE, 2017

IDAHO TRANSPORTATION DEPARTMENT

BOISE IDAHO

ORIGINAL SIGNED BY: KEVIN SABLAN

DESIGN/TRAFFIC SERVICES ENGINEER

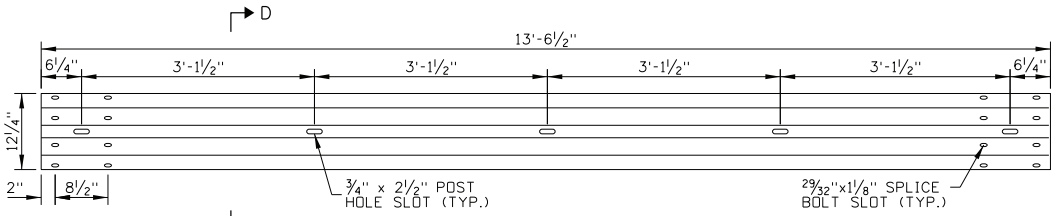
STANDARD DRAWING

31" W-BEAM GUARDRAIL

English

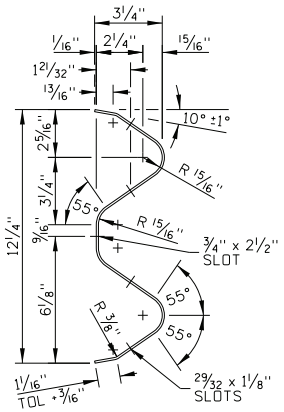
STANDARD DRAWING NO. 612-1

SHEET 3 OF 5



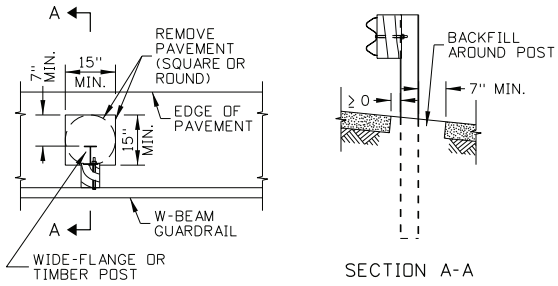
4-SPACE W-BEAM GUARDRAIL

RWM04a



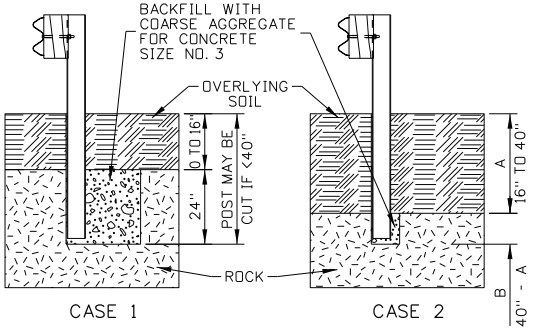
SECTION D-D

31" W-BEAM GUARDRAIL HARDWARE COMPONENTS TABLE		
COMPONENT DESCRIPTION	WIDE-FLANGE POST	TIMBER POST
4-SPACE W-BEAM GUARDRAIL	RWM04a	RWM04a
WIDE-FLANGE GUARDRAIL POSTS	PWE01, PWE--	-
TIMBER GUARDRAIL POSTS	-	PDE02
CRT TIMBER GUARDRAIL POST	-	PDE09
W-BEAM BLOCKOUT	PDB01b OR POLYETHYLENE	PDB01a
⅝" GUARDRAIL SPLICE BOLT AND RECESSED NUT	FBB01	FBB01
⅝" GUARDRAIL BOLT AND RECESSED NUT	FBB03	FBB04
⅝" PLAIN ROUND WASHER	FWC16a	FWC16a
16D GALVANIZED NAIL	-	N/A



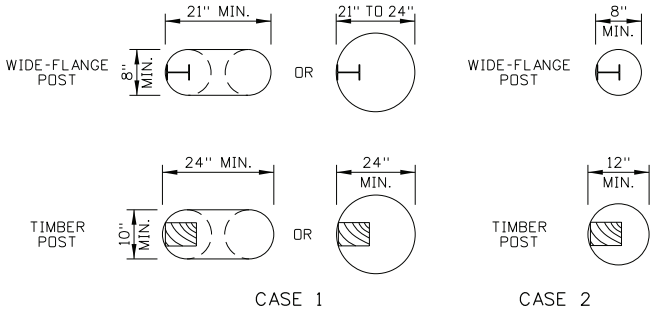
GUARDRAIL POST IN PAVEMENT

SEE NOTE NO. 9



GUARDRAIL POST IN ROCK FORMATION

SEE NOTE NO. 9



REVISIONS									
NO.	DATE	BY	NO.	DATE	BY	NO.	DATE	BY
1	08-18	RDL						
2	03-19	RDL						
3	03-20	RDL						

SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY

CADD FILE NAME: 612-1_0420.dgn

DRAWING DATE: JUNE, 2017

IDAHO TRANSPORTATION DEPARTMENT

BOISE IDAHO

ORIGINAL SIGNED BY: KEVIN SABLAN

DESIGN/TRAFFIC SERVICES ENGINEER

STANDARD DRAWING

31" W-BEAM GUARDRAIL

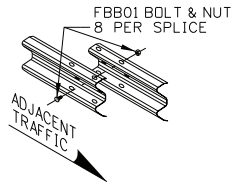
English

STANDARD DRAWING NO. 612-1

SHEET 4 OF 5

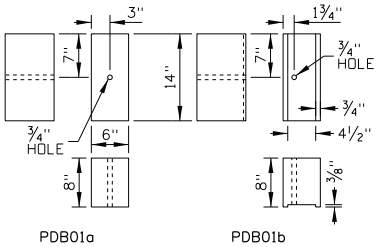
ORIGINAL STORED AT: ITD, Headquarters 3311 West State Boise, Idaho

PROFESSIONAL ENGINEER LICENSED RYAN D. LANCASTER STATE OF IDAHO ORIGINAL SIGNED BY RYAN D. LANCASTER MARCH 10, 2020 13683



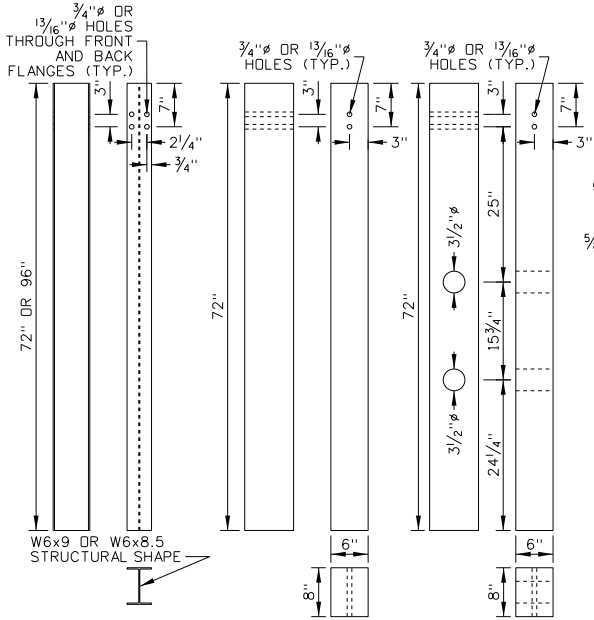
W-BEAM SPLICE DETAIL

SEE NOTE NO. 14



PDB01a PDB01b

W-BEAM TIMBER BLOCKOUTS

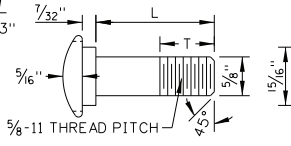


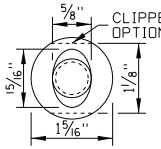
WIDE-FLANGE PWE01, PWE--

TIMBER PDE02, PDE--

CRT TIMBER POST PDE09

GUARDRAIL POSTS

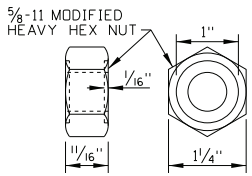




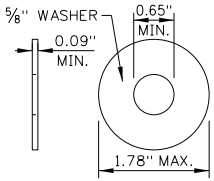
BOLT DIMENSION TABLE		
DESIGNATOR	L	T
FBB01	1¼"	1⅛"
FBB03	10"	1¾"
FBB04	18"	4"

GUARDRAIL BOLT (BUTTON-HEADED)

FBB01, FBB03, FBB04



RECESSED NUT



PLAIN ROUND WASHER

FWC16a

NOTES

1. THE 31" W-BEAM GUARDRAIL SYSTEM SHOWN IS A MASH TEST LEVEL 3 BARRIER SYSTEM.
2. PROVIDE BARRIER HARDWARE AS SHOWN AND AS SPECIFIED IN THE PUBLICATION "A GUIDE TO STANDARDIZED HIGHWAY BARRIER HARDWARE." WHERE THE GUIDE AND PLANS CONFLICT, PROVIDE HARDWARE COMPONENTS AS SHOWN ON THE PLANS.
3. INSTALL GUARDRAIL AS SHOWN IN THE NORMAL APPLICATION UNLESS OTHERWISE INDICATED ON THE PROJECT PLANS. THE CURB APPLICATIONS CAN BE USED WITH ANY OF THE CURB AND GUTTER OR CURB TYPES SHOWN ON THE CURB AND GUTTER STANDARD DRAWING.
4. PLACE 31" W-BEAM GUARDRAIL AS FAR FROM THE TRAVELED WAY AS PRACTICAL. WHERE PRACTICAL PROVIDE THE SHY-LINE OFFSET DISTANCE SHOWN IN THE SHY-LINE OFFSET TABLE.
5. WHERE PRACTICAL, FLARE THE 31" W-BEAM GUARDRAIL AWAY FROM THE TRAVELED WAY. SEE THE SHY-LINE OFFSET AND FLARE RATE TABLE.
6. PROVIDE ADEQUATE DEFLECTION DISTANCE TO OBSTRUCTIONS BEHIND THE GUARDRAIL BY PROVIDING THE WORKING WIDTH SHOWN ON THE PLACEMENT DETAIL AND IN THE DEFLECTION TABLE.
7. DECREASE DEFLECTION BY REDUCING POST SPACING. INTRODUCE EACH REDUCTION IN POST SPACING OVER 25' OR MORE. DO NOT BOLT THE GUARDRAIL TO THE EXTRA POSTS.
8. WIDE-FLANGE OR TIMBER POSTS MAY BE USED UNLESS OTHERWISE INDICATED ON THE PROJECT PLANS. USE THE SAME POST MATERIAL FOR THE PROJECT LENGTH (EXCEPT IN THE 31" LONG-SPAN APPLICATION).
9. REMOVE PAVEMENT AND ROCK AROUND GUARDRAIL POSTS.
10. USE TIMBER OR POLYETHYLENE BLOCKOUTS WITH WIDE-FLANGE POSTS. USE TIMBER BLOCKOUTS WITH TIMBER POSTS. USE THE SAME BLOCKOUT MATERIAL FOR THE PROJECT LENGTH (EXCEPT IN THE 31" LONG-SPAN APPLICATION). THE WIDE-FLANGE POST NORMAL APPLICATON CAN BE CONSTRUCTED WITHOUT BLOCKOUTS IF INDICATED ON THE PROJECT PLANS OR IF APPROVED BY THE ENGINEER.
11. INSTALL THE BLOCKOUT AND W-BEAM GUARDRAIL USING THE HOLE 7" FROM THE TOP OF THE POST. THE HIGHER HOLE IS RESERVED FOR FUTURE GUARDRAIL HEIGHT ADJUSTMENT.
12. NAIL TIMBER BLOCKOUTS TO TIMBER POSTS TO RESTRICT BLOCK ROTATION. NAIL THROUGH THE SIDES OF THE BLOCKOUT AND POST.
13. WHEN WIDE-FLANGE POSTS ARE USED AND WHEN PRACTICAL, INSTALL THE BOLT (FBB03) ON THE UPSTREAM SIDE OF THE POST IN RELATION TO THE ADJACENT TRAFFIC.
14. SPLICE 31" W-BEAM GUARDRAIL BETWEEN POSTS. OVERLAP SPLICES SO THAT THE EXPOSED W-BEAM EDGE IS DOWNSTREAM OF THE ADJACENT TRAFFIC.
15. BEGIN AND END 31" W-BEAM GUARDRAIL WITH A TERMINAL, ANCHOR, OR TRANSITION. CONSTRUCT TERMINALS OR TRANSITIONS USING THE SAME POST MATERIAL AS THE GUARDRAIL WHEN PRACTICAL. SOME ANCHORS AND TERMINALS ARE ONLY AVAILABLE WITH TIMBER OR WIDE-FLANGE POSTS.
16. DELINEATE GUARDRAILS WITH TYPE 9 DELINEATORS. SEE THE DELINEATOR STANDARD DRAWING FOR DELINEATOR SPACING.
17. ONE POST CAN BE OMITTED WITHOUT OTHER MODIFICATION IF APPROVED BY THE ENGINEER. THE LONG-SPAN APPLICATION CAN BE USED WHERE TWO POSTS (18'-9" SPAN) OR THREE POSTS (25' SPAN) ARE OMITTED.
18. WHEN THE LONG-SPAN APPLICATION (18'-9", OR 25') IS USED, INSTALL THREE CRT TIMBER POSTS (PDE09) WITH TIMBER BLOCKOUTS ADJACENT TO THE UPSTREAM AND DOWNSTREAM ENDS OF THE UNSUPPORTED SECTION. DO NOT NEST THE 4-SPACE W-BEAM GUARDRAIL IN THE UNSUPPORTED SECTION. INSTALL AT LEAST 62'-6" OF 31" W-BEAM GUARDRAIL UPSTREAM AND DOWNSTREAM OF THE CRT POSTS.
19. WHEN CONNECTING TO EXISTING GUARDRAIL, TRANSITION THE GUARDRAIL HEIGHT TO 31". REPLACE THE EXISTING W-BEAM GUARDRAIL IF THE TOP OF GUARDRAIL HEIGHT IS LESS THAN 27".
20. DRAWING NOT TO SCALE.

ORIGINAL STORED AT: ITD, Headquarters 3311 West State Boise, Idaho

PROFESSIONAL ENGINEER LICENSED RYAN D. LANCASTER STATE OF IDAHO 13683 MARCH 10, 2020 PROFESSIONAL SEAL RYAN D. LANCASTER

REVISIONS									
NO.	DATE	BY	NO.	DATE	BY	NO.	DATE	BY
1	08-18	RDL						
2	03-19	RDL						
3	03-20	RDL						

SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY

CADD FILE NAME: 612-1_0420.dgn

DRAWING DATE: JUNE, 2017

IDAHO TRANSPORTATION DEPARTMENT

BOISE IDAHO

ORIGINAL SIGNED BY: KEVIN SABLAN

DESIGN/TRAFFIC SERVICES ENGINEER

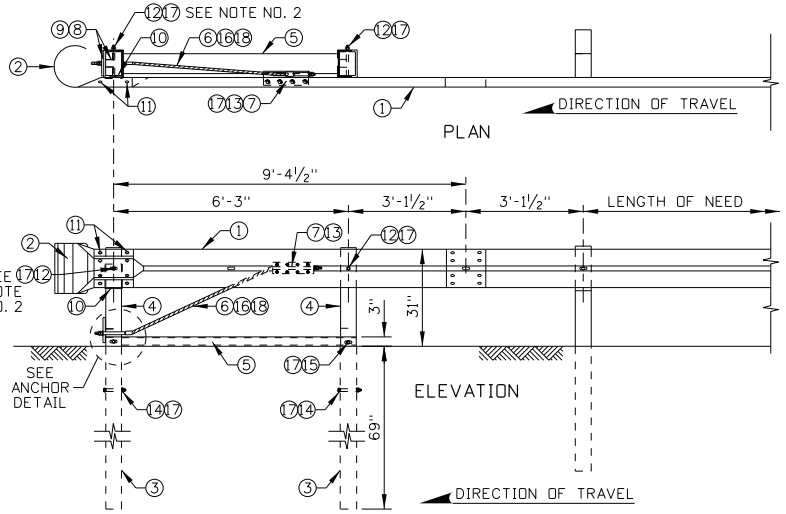
STANDARD DRAWING

31" W-BEAM GUARDRAIL

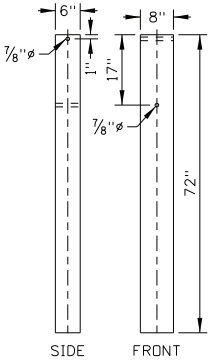
English

STANDARD DRAWING NO. 612-1

SHEET 5 OF 5

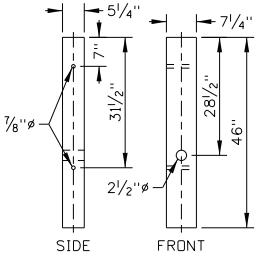


GUARDRAIL ANCHOR



③ FOUNDATION TUBE DETAIL

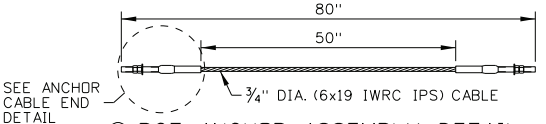
PTE06



④ BCT TIMBER POST DETAIL

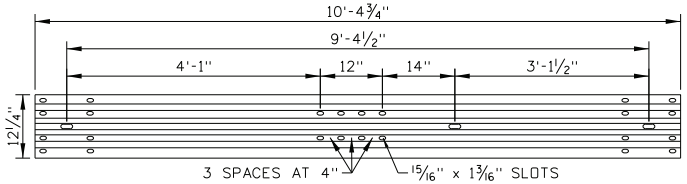
PDF--

ANCHOR HARDWARE COMPONENTS TABLE			
ITEM NO.	COMPONENT DESCRIPTION	QTY.	TF-13 NAME
①	W-BEAM ANCHOR GUARDRAIL	1	RWM14a (MOD)
②	W-BEAM END SECTION (ROUNDED)	1	RWE03a
③	FOUNDATION TUBE	2	PTE06
④	BCT TIMBER POST	2	PDF--
⑤	STRUT AND YOKE ASSEMBLY	1	PFP02
⑥	BCT CABLE ANCHOR ASSEMBLY	1	FCA01
⑦	GUARDRAIL ANCHOR BRACKET	1	FPA01
⑧	BCT POST SLEEVE	1	FMM02
⑨	BCT BEARING PLATE	1	FPB01
⑩	SHELF ANGLE BRACKET	1	FPP02
⑪	⅝" GUARDRAIL SPLICE BOLT AND RECESSED NUT	4	FBB01
⑫	10" GUARDRAIL BOLT & RECESSED NUT	2	FBB03
⑬	⅝" X 2" HEX HEAD BOLT & NUT	8	FBX16a
⑭	⅝" X 8" HEX HEAD BOLT & NUT	2	FBX16a
⑮	⅝" X 10" HEX HEAD BOLT & NUT	2	FBX16a
⑯	1" HEX NUTS	4	FNX24a
⑰	⅝" FLAT WASHER	22	FWC16a
⑱	1" FLAT WASHER	2	FWC24a
⑲	16D GALVANIZED NAIL	2	N/A



⑥ BCT ANCHOR ASSEMBLY DETAIL

FCA01

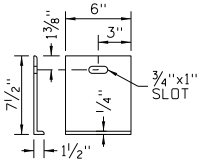


① W-BEAM ANCHOR GUARDRAIL

RWM14a (MODIFIED)

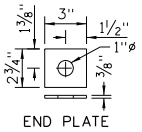
⑨ BCT BEARING PLATE DETAIL

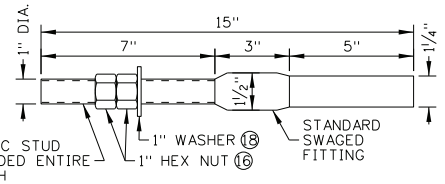
FPB01



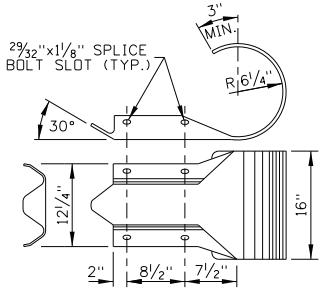
⑩ SHELF ANGLE BRACKET DETAIL

FPP02



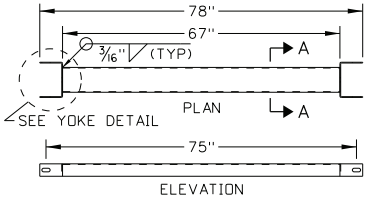


ANCHOR CABLE END DETAIL



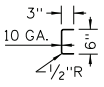
② W-BEAM END SECTION DETAIL

RWE03a

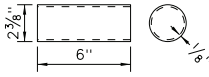


STRUT AND YOKE ⑤ ASSEMBLY DETAIL

PFP02

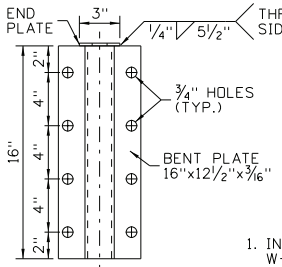


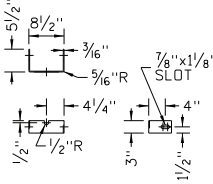
SEC A-A



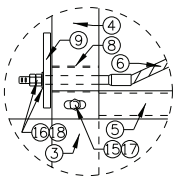
⑧ BCT POST SLEEVE DETAIL

FMM02

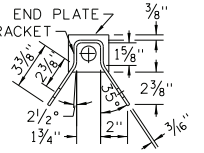




YOKE DETAIL



ANCHOR DETAIL



⑦ GUARDRAIL ANCHOR BRACKET DETAIL

FPA01

NOTES

1. INSTALL THE ANCHOR SYSTEM ON THE TRAILING END OF 31" W-BEAM GUARDRAIL, OUTSIDE OF THE CLEAR ZONE FOR APPROACHING TRAFFIC, OR BOTH.
2. SUPPORT THE W-BEAM ANCHOR GUARDRAIL AT THE END POST WITH THE SHELF ANGLE BRACKET. DO NOT BOLT THE W-BEAM GUARDRAIL TO THE POST.
3. ENSURE THAT THE FOUNDATION TUBES DO NOT EXTEND MORE THAN 3¾" ABOVE THE FINISHED GRADE.
4. INSTALL AN EXTRA HEX NUT ON EACH END OF THE BCT CABLE ANCHOR ASSEMBLY.
5. AFFIX A TYPE 3 OBJECT MARKER TO THE W-BEAM END SECTION WHEN THE ANCHOR IS USED ON AN UNDIVIDED HIGHWAY.
6. DRAWING NOT TO SCALE.

ORIGINAL STORED AT: ITD, Headquarters 3311 West State Boise, Idaho

PROFESSIONAL ENGINEER LICENSED RYAN D. LANCASTER STATE OF IDAHO ORIGINAL SIGNED JUNE 25, 2017 13683 RYAN D. LANCASTER

REVISIONS								
NO.	DATE	BY	NO.	DATE	BY	NO.	DATE	BY

SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY

CADD FILE NAME: 612-5_0617.dgn

DRAWING DATE: JUNE, 2017

IDAHO TRANSPORTATION DEPARTMENT

BOISE IDAHO

ORIGINAL SIGNED BY: KEVIN SABLAN

DESIGN/TRAFFIC SERVICES ENGINEER

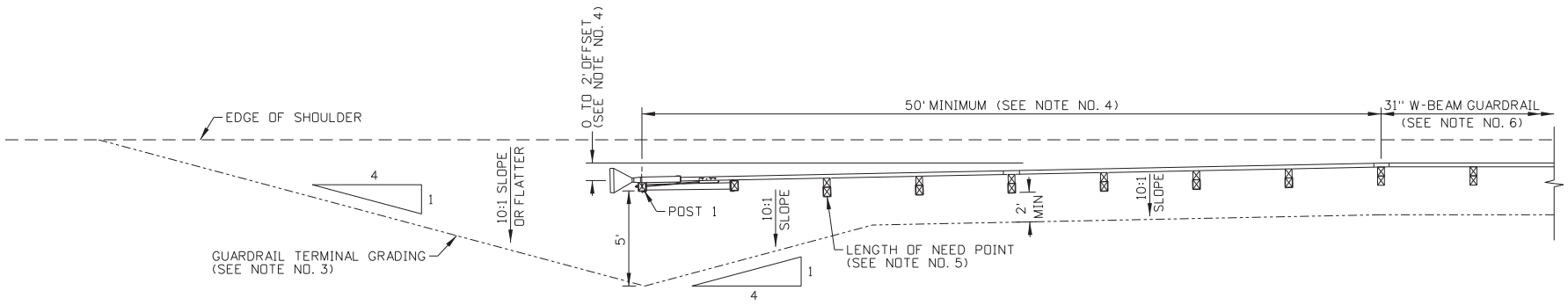
STANDARD DRAWING

GUARDRAIL ANCHOR

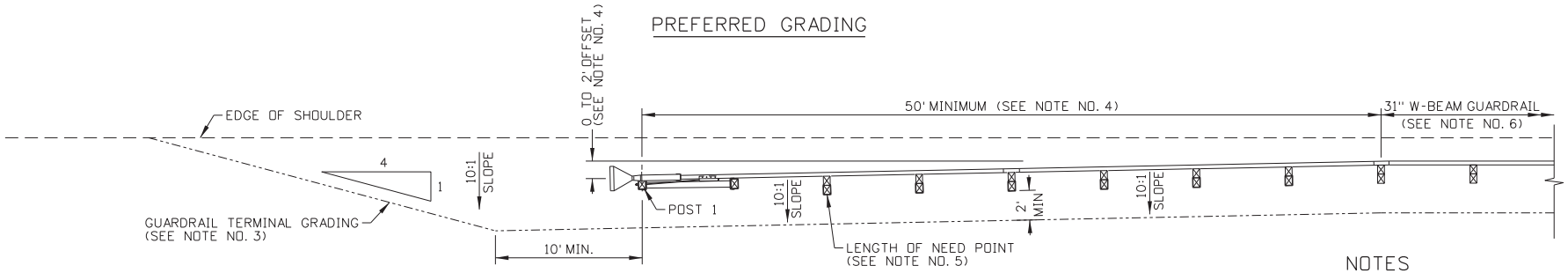
English

STANDARD DRAWING NO. 612-5

SHEET 1 OF 1



PREFERRED GRADING



ALTERNATIVE GRADING

NOTES

1. THE TANGENT TERMINAL SHOWN IS AN EXAMPLE ONLY. TANGENT TERMINAL DESIGNS VARY BY PRODUCT AND MANUFACTURER.
2. USE THE PREFERRED GRADING LAYOUT WHEN PRACTICAL. THE ALTERNATIVE GRADING LAYOUT MAY BE USED WHEN UPGRADING AN EXISTING TERMINAL WITH SITE LIMITATIONS. DISTANCES SHOWN FROM THE TERMINAL POSTS TO THE GRADING EXTENTS ARE MEASURED FROM THE BACK OF THE POST.
3. PROVIDE A 4:1 OR FLATTER SLOPE OUTSIDE OF THE GUARDRAIL TERMINAL GRADING EXTENTS WHERE PRACTICAL.
4. INSTALL THE TERMINAL IN ACCORDANCE WITH THE MANUFACTURERS INSTALLATION INSTRUCTIONS. REFER TO THE INSTRUCTIONS FOR SYSTEM LENGTH, OFFSET, NUMBER OF POSTS, POST SPACING, AND WHEN A TANGENT TERMINAL IS TO BE INSTALLED ON A HORIZONTAL CURVE.
5. VERIFY THE LENGTH OF NEED POINT WITH MANUFACTURER INSTRUCTIONS FOR A SPECIFIC PRODUCT. ELEMENTS OF THE GUARDRAIL TERMINAL DOWNSTREAM OF THE LENGTH OF NEED POINT CAN BE INCLUDED AS PART OF THE LENGTH OF NEED.
6. PROVIDE A MINIMUM OF 12'-6" OF 31" W-BEAM GUARDRAIL BETWEEN THE GUARDRAIL TERMINAL AND A GUARDRAIL TRANSITION.
7. IF THE TANGENT TERMINAL DESIGN USES AN ANCHOR CABLE, INSTALL AN EXTRA HEX NUT ON EACH END OF THE CABLE.
8. AFFIX A TYPE 3 OBJECT MARKER TO THE TERMINAL END SECTION.
9. DRAWING NOT TO SCALE.

ORIGINAL STORED AT: ITD, Headquarters 3311 West State Boise, Idaho

PROFESSIONAL ENGINEER LICENSED RYAN D. LANCASTER STATE OF IDAHO 13683 PROFESSIONAL SEAL CASTED MARCH 18, 2019 RYAN D. LANCASTER

REVISIONS								
NO.	DATE	BY	NO.	DATE	BY	NO.	DATE	BY
1	08-18	RDL						
2	03-21	PBH						

SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY

CADD FILE NAME: 612-8_0421.dgn

DRAWING DATE: JUNE, 2017

IDAHO TRANSPORTATION DEPARTMENT

BOISE IDAHO

ORIGINAL SIGNED BY: KEVIN SABLAN

DESIGN/TRAFFIC SERVICES ENGINEER

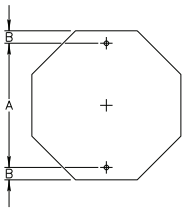
STANDARD DRAWING

GUARDRAIL TERMINAL TANGENT

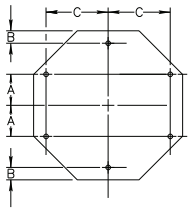
English

STANDARD DRAWING NO. 612-8

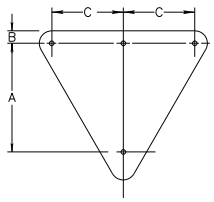
SHEET 1 OF 1



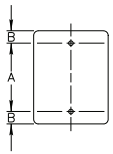
SIGN SIZE	A	B
30"X30"	24"	3"



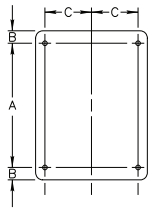
SIGN SIZE	A	B	C
36"X36"	8"	3"	12"
48"X48"	10"	—	20"



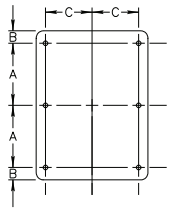
SIGN SIZE	A	B	C
30"X30"	18"	3"	—
36"X36"	23"	3"	—
48"X48"	25"	3"	17"
60"X60"	35"	4"	23"



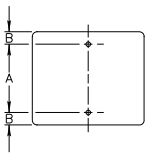
SIGN SIZE	A	B
6"X12"	9"	1½"
6"X18"	15"	1½"
9"X12"	9"	1½"
12"X18"	15"	1½"
12"X30"	24"	3"
12"X36"	32"	2"
18"X24"	18"	3"
24"X30"	24"	3"
24"X36"	30"	3"
30"X36"	30"	3"



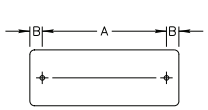
SIGN SIZE	A	B	C
36"X36"	30"	3"	15"
36"X48"	42"	3"	15"
48"X30"	24"	3"	15"
48"X36"	30"	3"	15"
60"X36"	30"	3"	21"



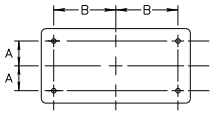
SIGN SIZE	A	B	C
48"X60"	27"	3"	15"



SIGN SIZE	A	B
12"X6"	3"	1½"
18"X9"	6"	1½"
18"X12"	9"	1½"
18"X18"	15"	1½"
21"X15"	12"	1½"
24"X6"	3"	1½"
24"X10"	7"	1½"
24"X12"	9"	1½"
24"X18"	15"	1½"
24"X24"	18"	3"
30"X18"	12"	3"
30"X24"	18"	3"
30"X30"	24"	3"
36"X24"	18"	3"
36"X30"	24"	3"
42"X24"	18"	3"
42"X30"	24"	3"
42"X36"	30"	3"



SIGN SIZE	A	B
30"X15"	24"	3"
36"X12"	30"	3"
36"X18"	24"	6"
48"X12"	42"	3"
48"X18"	42"	3"
54"X18"	48"	3"



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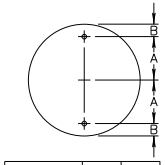

SIGN SIZE	A	B
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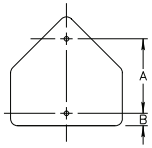
48"	21"	3"



SIGN SIZE	A	B
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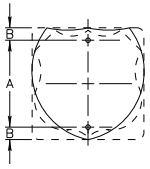
36"X36"	24"	3"



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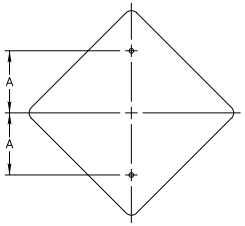
30"X24"	18"	3"



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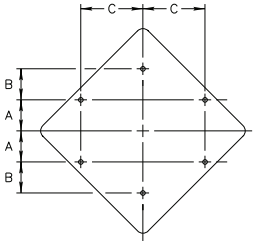
24"X24"	12"
30"X30"	15"



SIGN SIZE	A	B	C
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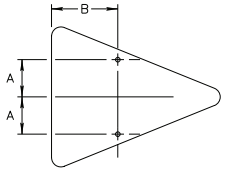
48"X48"	10"	—	20"



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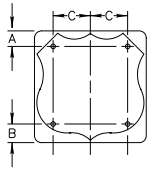

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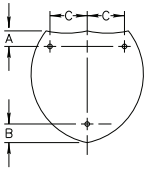


SIGN SIZE	A	B	C
36"X36"	5"	6"	12"
45"X36"	5"	6"	16"

NOTES:

1. ALL MOUNTING HOLES SHALL BE ⅜" DIAMETER.

ORIGINAL STORED AT: ITD, Headquarters 3311 West State Boise, Idaho

PROFESSIONAL ENGINEER LICENSED RYAN D. LANCASTER STATE OF IDAHO ORIGINAL SIGNED MAY 1, 2017 13683 RYAN D. LANCASTER

REVISIONS									
NO.	DATE	BY	NO.	DATE	BY	NO.	DATE	BY
1	12-01	NQB						
2	06-07	HEB						
3	07-14	HEB						
4	05-17	HEB						

SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY

CADD FILE NAME: 616-1_0517.dgn

DRAWING DATE: DECEMBER, 1994

IDAHO TRANSPORTATION DEPARTMENT

BOISE IDAHO

ORIGINAL SIGNED BY: KEVIN SABLAN

DESIGN/TRAFFIC SERVICES ENGINEER

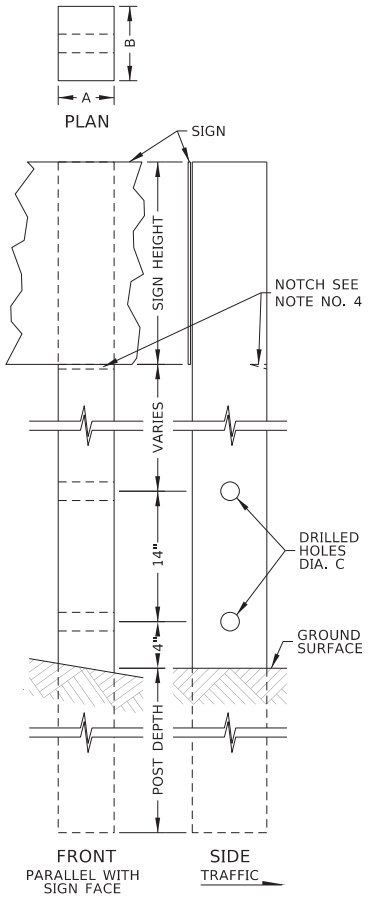
STANDARD DRAWING

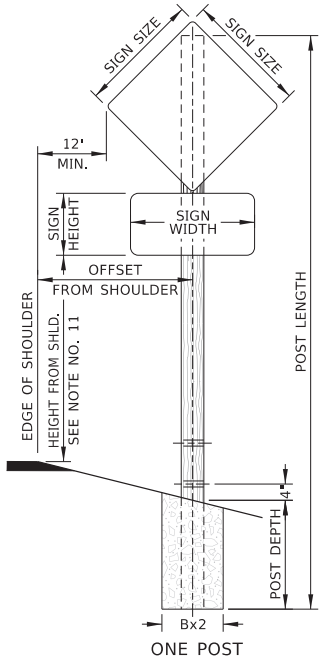
PUNCHING SCHEDULE FOR TYPE "B" OR TYPE "E" SIGNS

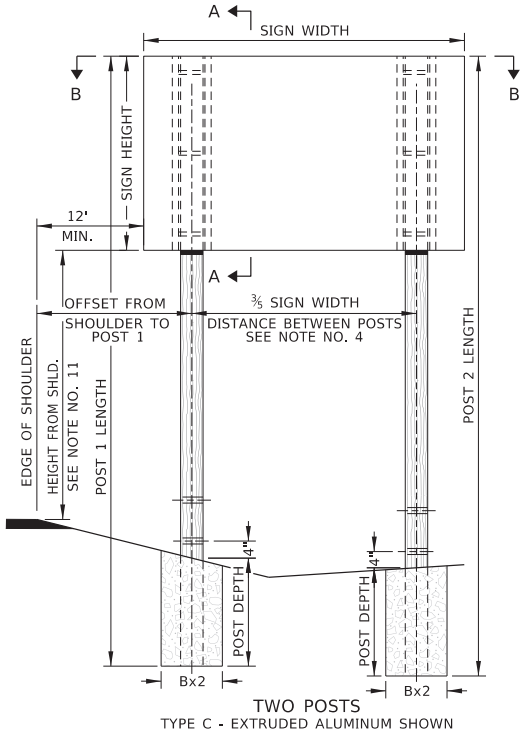
English

STANDARD DRAWING NO. 616-1

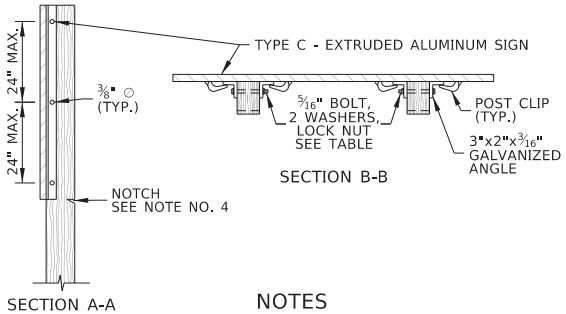
SHEET 1 OF 1







SIGN ASSEMBLY MEASUREMENTS

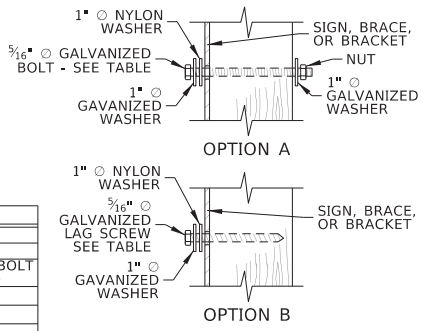


NOTES

1. USE TYPE D - WOOD POSTS - WITH TYPE B - SHEET ALUMINUM, TYPE C - EXTRUDED ALUMINUM PANEL, AND TYPE E - HDO PLYWOOD SIGNS.
2. SEE THE TRAFFIC MANUAL TO CALCULATE SIGN LOAD PER POST.
3. SEE PROJECT SIGN SUMMARY FOR SIGN ASSEMBLY DIMENSIONS.
4. USE ONE OR MORE TYPE D - WOOD POST. DO NOT MIX POST SIZES ON THE SAME SIGN ASSEMBLY. WHEN MULTIPLE POSTS ARE INSTALLED:
   A. NOTCH THE BACK SIDE OF THE POSTS.
   B. PROVIDE MORE THAN ⅗ SPACING BETWEEN POSTS FOR SIGNS THAT ARE NARROWER THAN 6'.
   C. PROVIDE A MINIMUM 7' DISTANCE BETWEEN POST TYPES D-3 AND D-4.
5. POST 1 IS CLOSEST TO THE HIGHWAY, WHETHER INSTALLED ON THE RIGHT OR LEFT SIDE.
6. ALIGN POST SO DIMENSION B IS PARALLEL TO THE TRAFFIC DIRECTION. ENSURE DRILLED HOLES ARE PERPENDICULAR TO TRAFFIC DIRECTION.
7. PRE-DRILL OR FIELD DRILL D-2, D-3, AND D-4 POSTS. ENSURE THE BOTTOM DRILLED HOLE IS ABOVE AND WITHIN 4" OF THE GROUND SURFACE.
8. SIGNS CAN BE MOUNTED BACK-TO-BACK IF THE SHAPE OF STOP, YIELD, OR WARNING SIGNS ARE NOT SHIELDED.
9. SIGNS ARE INSTALLED WITH OR WITHOUT BRACES OR BRACKETS DEPENDENT ON SIGN SIZE AND APPLICATION.
10. TYPE B - SHEET ALUMINUM - OR TYPE E - HDO PLYWOOD - SIGNS CAN BE AFFIXED TO THE POST OR THROUGH BRACES OR BRACKETS. FOR TYPE C - EXTRUDED ALUMINUM SIGNS, AFFIX GALVANIZED ANGLE TO POST AND CLIP SIGN TO ANGLE.
11. INSTALL SIGNS AT THE FOLLOWING HEIGHTS:
    A. IF INSTALLED IN A RURAL AREA, 5 FEET ABOVE THE PAVEMENT ELEVATION OR 4 FEET IF A SUPPLEMENTARY PLAQUE IS INSTALLED BELOW THE SIGN.
    B. IF INSTALLED IN THE VICINITY OF A CURB OR IN A BUSINESS, COMMERCIAL, OR RESIDENTIAL AREA WHERE PARKING OR PEDESTRIAN MOVEMENTS ARE LIKELY, 7 FEET ABOVE THE PAVEMENT ELEVATION OR 6 FEET IF A SUPPLEMENTARY PLAQUE IS INSTALLED BELOW THE SIGN. IF INSTALLED LOWER THAN 7 FEET, ENSURE SIGNS DO NOT PROJECT MORE THAN 4 INCHES INTO THE PEDESTRIAN FACILITY.
12. EXCAVATE POST HOLE TWICE AS LARGE AS DIMENSION B. BACKFILL AROUND POST IN ACCORDANCE WITH SECTION 210.
13. TYPE D - WOOD POSTS DO NOT NEED TO BE SHIELDED BY GUARDRAIL OR BARRIER. WHEN WOOD POSTS ARE INSTALLED BEHIND GUARDRAIL OR BARRIER, ENSURE THE POSTS ARE OUTSIDE OF THE GUARDRAIL OR BARRIER WORKING WIDTH.
14. WHEN THE SIGN IS INSTALLED ON A BACKSLOPE, ENSURE THE SIGN POST IS AT LEAST 5' HIGHER THAN THE GROUND SURFACE.
15. DRAWING NOT TO SCALE.

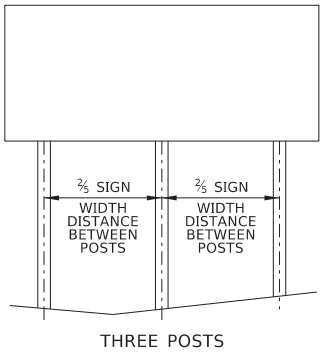
SIGN POST AND FOUNDATION TABLE

POST TYPE	TYPE D WOOD POST								
	WOOD POST SIZE			MAXIMUM SIGN LOAD (SFxFT)	NOTCH DEPTH (IN)	POST DEPTH (FT)	FASTENERS		
	A (IN)	B (IN)	C (IN)				OPT. A (IN)	OPT. B (IN)	ANGLE BOLT (IN)
D-1	4	4	-	47	-	3.5	4.5	3	4.5
D-2	4	6	1½	111	1¾	4	6.5	4	4.5
D-3	6	6	2	162	1¾	5	6.5	4	6.5
D-4	6	8	3	302	2½	6	8.5	4	6.5



FASTENER DETAIL

SEE NOTE NO. 10



ORIGINAL STORED AT: ITD, Headquarters 3311 West State Boise, Idaho

PROFESSIONAL ENGINEER LICENSED ORIGINAL SIGNED BY Ryan D. Lancaster STATE OF IDAHO MARCH 1, 2023 ORIGINAL SIGNED STATE OF IDAHO 13683 RYAN D. LANCASTER

REVISIONS									
NO.	DATE	BY	NO.	DATE	BY	NO.	DATE	BY
1	08-96	HEB						
2	12-13	HEB						
3	02-23	RDL						

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CADD FILE NAME: 616-10 0423.dgn

DRAWING DATE: NOVEMBER, 1991

IDAHO TRANSPORTATION DEPARTMENT
YOUR Safety→YOUR Mobility→YOUR Economic Opportunity

BOISE IDAHO

ORIGINAL SIGNED BY: MONICA CRIDER
HIGHWAY DESIGN ENGINEER

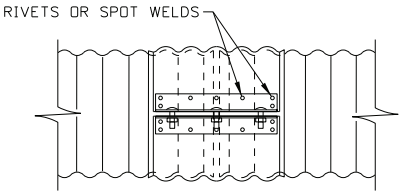
STANDARD DRAWING

WOOD SIGN POST
TYPE D - WOOD POST

ENGLISH

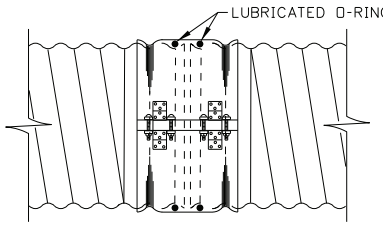
STANDARD DRAWING NO. 616-10

SHEET 1 OF 1



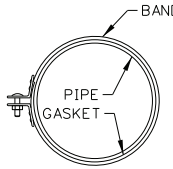
TYPES 1-A & 2-A

ANNULAR COUPLING BAND



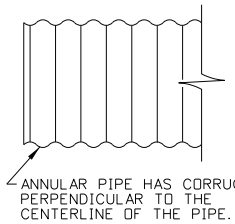
DOUBLE BAR AND STRAP-TYPE 3

HUGGER COUPLING BAND

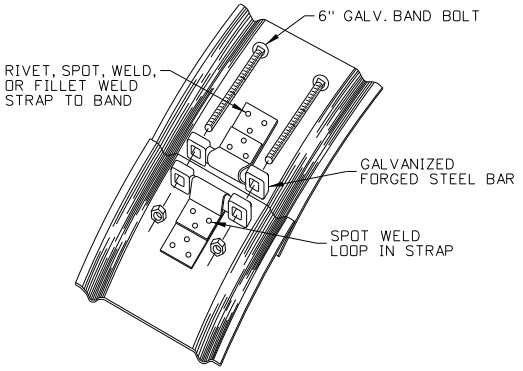


TYPE 1

SINGLE PIECE BAND



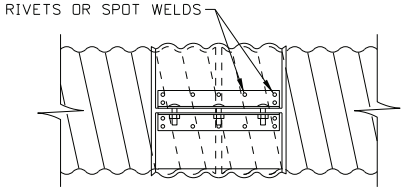
ANNULAR CMP



BAND TYPE 3

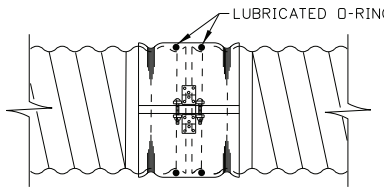
BAR & STRAP COUPLING

(SINGLE STRAP)



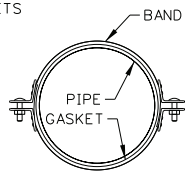
TYPES 1-B & 2-B

HELICAL COUPLING BAND



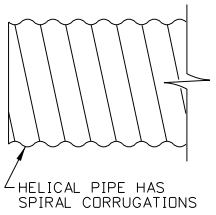
SINGLE BAR AND STRAP-TYPE 3

HUGGERL COUPLING BAND



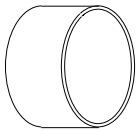
TYPE 2

TWO PIECE BAND

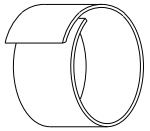


HELICAL CMP

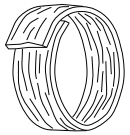
O-RING GASKET



SLEEVE GASKET

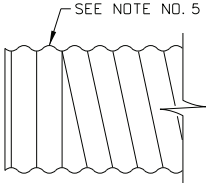


STRIP GASKET



MASTIC SEALANT GASKET

STANDARD CORRUGATED STEEL PIPE GASKET TYPES



REFORMED HELICAL CMP

NOTES

1. THE REFORMED ENDS OF HELICAL CORRUGATED METAL PIPE MADE TO ACCEPT ANNULAR COUPLING BANDS SHALL BE UNIFORM AND SMOOTH IN APPEARANCE. PIPE WITH IRREGULAR REFORMED ENDS ARE NOT ACCEPTABLE.
2. SLEEVE AND STRIP GASKETS FOR COUPLING BANDS TYPE 1-A AND 1-B SHALL EXCEED THE WIDTH OF THE BAND BY A MINIMUM OF 1/4" ON BOTH EDGES. THE GASKETS SHALL FIT SNUGGLY AROUND THE PIPES PRIOR TO INSTALLATION OF THE BAND.
3. ALL WELDS AND/OR EXPOSED FERROUS METAL ON COUPLING BANDS AND BAND CONNECTING HARDWARE SHALL BE REPAIRED IN ACCORDANCE WITH AASHTO M 36.
4. STEEL BAND THICKNESS SHALL BE AT LEAST 1/2 THE THICKNESS OR GAUGE OF THE PIPE. ALUMINUM BANDS SHALL BE THE SAME THICKNESS AS THE PIPE.
5. THE JOINTS FOR SIPHONS AND SEWERS SHALL BE WATERTIGHT AND PRESSURE TESTED PRIOR TO ACCEPTANCE, AS REQUIRED IN THE STANDARD SPECIFICATIONS.
6. TO PREVENT GALVANIC ACTION WHEN BANDS AND PIPES ARE OF AN UNLIKE METAL, THE BANDS SHALL BE ASPHALT COATED.
7. GASKET MATERIALS ARE NOT TO BE ALTERED, SEWN, OR PATCHED. THE USE OF SEALANTS AND/OR LUBRICANTS WITH BAND GASKETS MUST BE AS THE MANUFACTURER SPECIFIES. THE QUALITY AND CHEMICAL COMPOSITION OF SEAL ANTS AND LUBRICANTS WILL BE AS THE MANUFACTURER REQUIRES. CONTACT THE MANUFACTURER FOR DETAILS.
8. SPOT WELDED OR FILLET WELDED STRAPS ON BANDS SHALL BE OF EQUAL STRENGTH TO RIVETED STRAPS.
9. ALL RECOMMENDATIONS IN THE PIPE COUPLING BAND TABLE ARE TO BE CONSIDERED MINIMAL.
10. NOT TO SCALE.

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MILFORD MILLER
STATE OF IDAHO
MARCH 4, 2005
ORIGINAL SIGNED
MILFORD MILLER

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3	09-93	MSM						
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SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY

CADD FILE NAME: 706-6_0305.dgn

DRAWING DATE: APRIL, 1961

IDAHO TRANSPORTATION DEPARTMENT

BOISE IDAHO

ORIGINAL SIGNED BY: LOREN THOMAS
ASSISTANT CHIEF ENGINEER (DEVELOPMENT)
ORIGINAL SIGNED BY: STEVEN HUTCHINSON
CHIEF ENGINEER

STANDARD DRAWING

CORRUGATED METAL PIPE WATERTIGHT COUPLING BANDS

English

STANDARD DRAWING NO. 706-6

SHEET 1 OF 2

PIPE COUPLING BAND TABLE						PIPE CORRUGATION STYLE							
COUPLING TYPE	CORRUGATIONS	PIPE SIZE	COUPLING WIDTH	COUPLING BOLTS (NO.) DIA.	GASKET TYPE	ANNULAR PIPE	REFORMED HELICAL	HELICAL PIPE	SIPHON	* CULVERT	IRRIGATION	SEWER	UNDERDRAIN
TYPE 1-A ANNULAR COUPLING BAND	1½" x ¼" & 2⅜" x ½"	6"-10"	7" (1 PIECE)	(3) ⅜"	SLEEVE	X	X		X	X	X	X	X
	2⅜" x ½" & 3" x 1"	12"-15"	7" (1 PIECE)	(3) ½"	SLEEVE	X	X		X	X	X	X	X
	2⅜" x ½" & 3" x 1"	18"-24"	12" (1 PIECE)	(3) ½"	SLEEVE	X	X		X	X	X	X	X
	2⅜" x ½" & 3" x 1"	30"-42"	24" (1 PIECE)	(5) ⅝"	SLEEVE	X	X			X	X		X
TYPE 1-B HELICAL COUPLING BAND	1½" x ¼" & 2⅜" x ½"	6"-10"	7" (1 PIECE)	(3) ⅜"	SLEEVE OR STRIP			X		X	X		X
	2⅜" x ½" & 3" x 1"	12"-15"	7" (1 PIECE)	(3) ½"	SLEEVE OR STRIP			X		X	X		X
	2⅜" x ½" & 3" x 1"	18"-24"	12" (1 PIECE)	(3) ½"	SLEEVE OR STRIP			X		X	X		X
	2⅜" x ½" & 3" x 1"	30"-42"	24" (1 PIECE)	(5) ⅝"	SLEEVE OR STRIP			X		X	X		X
TYPE 2-A ANNULAR COUPLING BAND	1½" x ¼" & 2⅜" x ½"	6"-10"	7" (1 PIECE)	(4) ⅜"	SLEEVE, STRIP OR MASTIC	X	X		X	X	X	X	X
	2⅜" x ½" & 3" x 1"	12"-15"	7" (1 PIECE)	(4) ⅜"	SLEEVE, STRIP OR MASTIC	X	X		X	X	X	X	X
	2⅜" x ½" & 3" x 1"	18"-24"	12" (1 PIECE)	(6) ½"	SLEEVE, STRIP OR MASTIC	X	X		X	X	X	X	X
	2⅜" x ½" & 3" x 1"	30"-42"	24" (1 PIECE)	(8) ½"	SLEEVE, STRIP OR MASTIC	X	X		X	X	X	X	X
TYPE 2-B HELICAL COUPLING BAND	1½" x ¼" & 2⅜" x ½"	6"-10"	7" (1 PIECE)	(4) ⅜"	SLEEVE, STRIP OR MASTIC			X		X	X		X
	2⅜" x ½" & 3" x 1"	12"-15"	7" (1 PIECE)	(4) ⅜"	SLEEVE, STRIP OR MASTIC			X		X	X		X
	2⅜" x ½" & 3" x 1"	18"-24"	12" (1 PIECE)	(6) ½"	SLEEVE, STRIP OR MASTIC			X		X	X		X
	2⅜" x ½" & 3" x 1"	30"-42"	24" (1 PIECE)	(8) ½"	SLEEVE, STRIP OR MASTIC			X		X	X		X
TYPE 3 HUGGER COUPLING BAND	2⅜" x ½" & 3" x 1"	12"-48" (GALV.)	7½" (STRAP)	(2) 6" x ½"	O-RING	X	X			X	X	X	X
	2⅜" x ½" & 3" x 1"	54"-96" (GALV.)	10½" (2 STRAP)	(4) 6" x ⅝"	O-RING	X	X			X	X	X	X
	2⅜" x ½" & 3" x 1"	102"-144" (GALV.)	12" (3 STRAP)	(6) 6" x ⅞"	O-RING	X	X			X	X	X	X

* WATERTIGHT BANDS ARE NOT REQUIRED ON CULVERT INSTALLATIONS UNLESS SPECIFIED BY THE PLANS OR SPECIAL PROVISIONS

ORIGINAL STORED AT: ITD, Headquarters 3311 West State Boise, Idaho

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STANDARD DRAWING

CORRUGATED METAL PIPE WATERTIGHT COUPLING BANDS

English

STANDARD DRAWING NO. 706-6

SHEET 2 OF 2

2400