INDEX OF SHEETS	
SHEET NO	DESCRIPTION
1	TITLE SHEET
2	TOTAL OWNERSHIP MAP
3	PROJECT CONTROL
4	PROJECT CLEARANCE SUMMARY
5-6	TYPICAL SECTIONS
7	ROADWAY SUMMARY
8	BRIDGE SUMMARY
9-10	PLAN & PROFILE
11-12	PATH PLAN & PROFILE
13-15	RETAINING WALL PLAN & PROFILE
16	RETAINING WALL TYPICAL SECTION
17	PEDESTRIAN/BICYCLE RAILING
18	PEDESTRIAN/ BICYLCE RAILING DETAILS
19	POLLUTION PREVENTION PLAN
20	SIGNING SUMMARY
21	SIGNING & UTILITY
22	TRAFFIC SIGN SUMMARY
23	TEMPORARY TRAFFIC CONTROL PLAN
1-17	BRIDGE PLANS
1-9	ITD STANDARD DRAWINGS

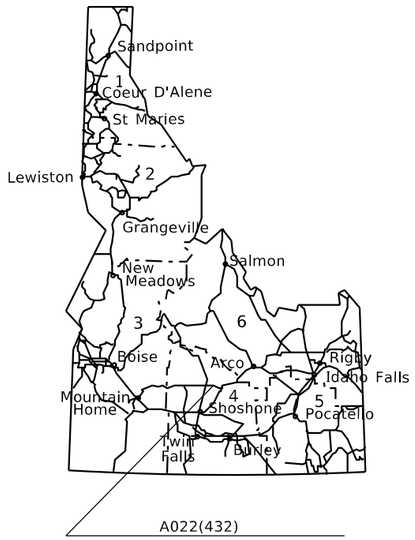
IDAHO
TRANSPORTATION DEPARTMENT

PLAN AND PROFILE OF PROPOSED
KILPATRICK BR, BLAINE COUNTY
FEDERAL AID PROJECT NO. A022(432)
KEY NO. 22432
BLAINE COUNTY

DECEMBER 2025

HORIZONTAL 20 0 20 40 FEET
VERTICAL 5 0 5 10 FEET

VICINITY MAP SCALE
¼ 0 ¼ ½
MILES



A022(432)
KILPATRICK BR, BLAINE CO
M.P. 105.358 TO M.P. 105.465
STA 12+70.00 TO 18+35.00
SEGMENT CODE 000767

DESIGN DESIGNATION

ADT 2021	60
ADT 2047	60
DHV 2021	10
DHV 2047	10
D	60/40%
V	25 MPH
TRUCKS:	
ADT 2021	
ADT 2047	
DHV 2021	
DHV 2047	

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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 222097, titl_001.dgn

DRAWING DATE: MARCH 2025

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

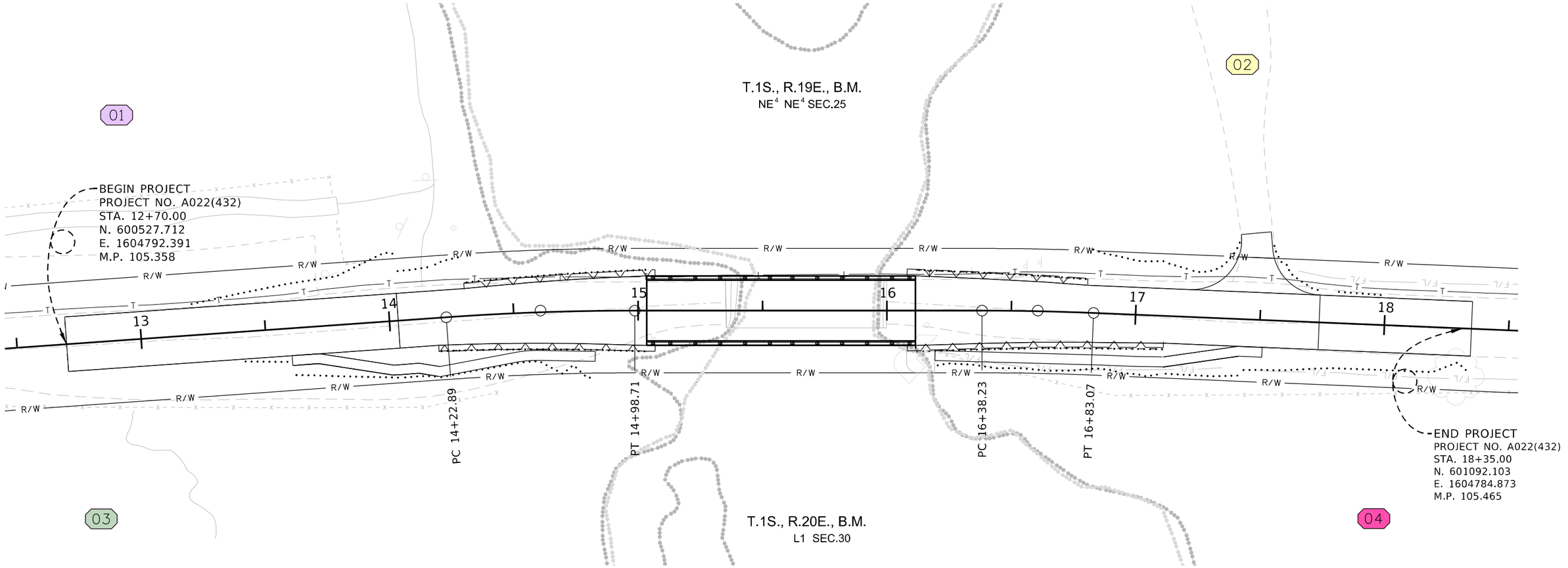
PROJECT NO. A022(432)

TITLE SHEET
KILPATRICK BR
BLAINE COUNTY

ENGLISH
COUNTY BLAINE
KEY NUMBER 22432
SHEET 1 OF 23

Laila Kral
Approved for Advertising
02/17/2026
Date Approved

PARCEL NO.	PARCEL I.D. NO.	RECORD OWNER	TOTAL OWNERSHIP ASSESSED ACREAGE	R/W Req'd. Ac.	Existing R/W Ac.	Left Ac.	Right Ac.	Perm. Ac.	Temp. Ac.
1	RP01S190241670	THE NATURE CONSERVANCY	407.62	0	0	0	0	0	0
2	RP01S190251680	THE NATURE CONSERVANCY	0.9	0	0	0	0	0	0
3	RP01S200302190	GREEN, CHRISTOPER M TRUSTEE, EL SULLIVAN FAMILY TRUST A	1	0	0	0	0	0	0
4	RP01S200302180	PICABO LIVESTOCK COMPANY, INC	198.80	0	0	0	0	0	0



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REVISIONS			
NO.	DATE	BY	DESCRIPTION

DESIGNED C. KOON	SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY	IDAHO TRANSPORTATION DEPARTMENT YOUR Safety→YOUR Mobility→YOUR Economic Opportunity KELLER ASSOCIATES
DESIGN CHECKED E. HULSLANDER		
DETAILED K. JACKSON	CADD FILE NAME 222097, omap_001.dgn	
DRAWING CHECKED B. KELLER	DRAWING DATE: MARCH 2025	

PROJECT NO.	TOTAL OWNERSHIP MAP	ENGLISH
A022(432)	KILPATRICK BR BLAINE COUNTY	COUNTY BLAINE KEY NUMBER 22432 SHEET 2 OF 23

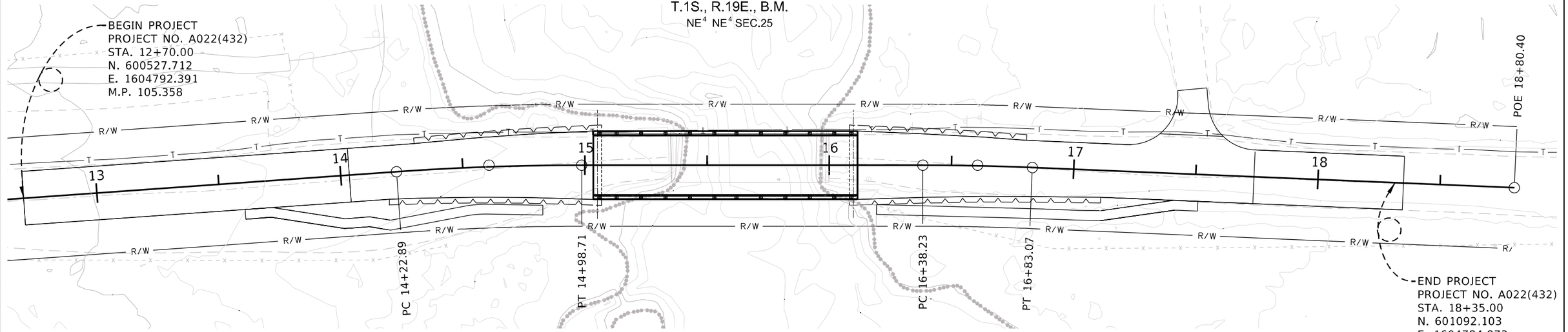
PROFESSIONAL ENGINEER
LICENSED
Docusigned by:
B273EB73AC7D47A...
17544
7/18/2025
STATE OF IDAHO
CLIFTON KOON

PROJECT CONTROL

PT. NO.	STATION	OFFSET	PROJECT COORDINATES		ELEVATION	DESCRIPTION	NOTES
			NORTHING	EASTING			
1			602590.96	1604717.01	4859.08	BENCHMARK SET 1/2" REBAR W/ KELLER CAP	OUTSIDE OF PROJECT LIMITS
2			606675.61	1594160.63	4893.18	FOUND BRASS CAP BLAINE CO. CONTROL PUNKIN	OUTSIDE OF PROJECT LIMITS
3			602106.71	1611345.62	4847.85	FOUND NGS BRASS CAP V-13	OUTSIDE OF PROJECT LIMITS

THE HORIZONTAL DATUM FOR THIS PROJECT IS BASED ON BLAINE COUNTY CONTROL, POINTS USED WERE PUNKIN AND BMV13 MODIFIED TO AN AVERAGE PROJECT ELEVATION USING A COMBINED ADJUSTMENT FACTOR OF 1.000281589. CALCULATED AT KELLER POINT NO.1.

VERTICAL DATUM IS NAVD 88 AT KELLER POINT NUMBER 1 DERIVED FROM AN NGS OPUS SOLUTION.



20 0 20 40 FEET
SCALE: 1" = 40'

REVISIONS			
NO.	DATE	BY	DESCRIPTION

DESIGNED	C. KOON
DESIGN CHECKED	E. HULSLANDER
DETAILED	K. JACKSON
DRAWING CHECKED	B. KELLER

SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY

CADD FILE NAME: 222097, monp_001.dgn

DRAWING DATE: MARCH 2025

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

KELLER ASSOCIATES

PROJECT NO.	PROJECT CONTROL
A022(432)	KILPATRICK BR BLAINE COUNTY

ENGLISH

COUNTY: BLAINE

KEY NUMBER: 22432

SHEET 3 OF 23

PROFESSIONAL LAND SURVEYOR
REGISTERED
DocuSigned by:
74178E81B0824BC...
10786
5/18/2025
STATE OF IDAHO
BARRY GLEN WHITSON

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CLEARANCES

	+ CLEARED UNDER PROJECT NO.	+ APPROVAL DATE
PROJECT STANDARDS		
CHARTER APPROVAL ☐ AASHTO ☐ 3R ☐ 1R ■ STATE	A022(432)	2023-01-24
☐ PP ☐ OTHER	N/A	N/A
DESIGN EXCEPTIONS:	N/A	N/A
		N/A
PUBLIC HEARING WAIVER	A022(432)	2024-02-07
PUBLIC HEARING DATE (Latest hearing date held or scheduled for opportunity)	N/A	N/A
DESIGN APPROVAL	A022(432)	2025-01-24
RECLAMATION PLAN APPROVAL NO(S)	N/A	N/A
AIRPORT	N/A	N/A
Land Survey Monument Search and Documentation (I.C.55-1613)	A022(432)	2022-05-03
R/W CERTIFICATE: Issued by ■ HQ ☐ DISTRICT	A022(432)	2025-06-03
TRIBAL LANDS: ☐ AGREEMENT REQUIRED ☐ SPECIAL PROVISIONS FOR CONTRACT PROPOSAL	N/A	N/A
BRIDGE PS & E	A022(432)	2024-07-23
ENVIRONMENTAL DECISION: TYPE ■ CAT-EX ☐ FONSI ☐ ROD	A022(432)	2025-01-13
ENVIRONMENTAL RE-EVALUATION	A022(432)	2026-02-03

PERMITS

			+ EXPIRATION DATE
IDAHO DEPARTMENT OF WATER RESOURCES PERMIT NO(S)	A022(432)	2025-06-10	2027-12-31
US ARMY CORPS OF ENGINEERS 404 PERMIT NO(S)	A022(432)	2025-07-17	2026-03-14
OTHER	N/A	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)

		+ APPROVAL DATES	
		UTILITY HEARING WAIVER	AGREEMENT
LOCAL: CITY		N/A	N/A
COUNTY		N/A	N/A
HIGHWAY DISTRICT		N/A	N/A
ROAD CLOSURE AND MAINTENANCE		N/A	N/A
STATE/LOCAL CONSTRUCTION	BLAINE COUNTY	A022(432)	2025-08-18

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		+ AGREEMENT NO.
			UTILITY HEARING WAIVER	AGREEMENT	
Co.		☐			
Co.	LUMEN	☐	2025-04-17		
Co.		☐			
Co.		☐			
Co.		☐			
Co.		☐			
Co.		☐			

RAILROAD List all Railroads encroached upon

	+ AGREEMENT	
+ AGREEMENT FOR	EFFECTIVE DATE	NO.
Co.		
Co.		

ESTIMATING BASIS

AGGREGATE BASE:
AGGREGATE FOR UNTREATED BASE 3/4" TYPE B WILL BE PROVIDED FROM APPROVED CONTRACTOR FURNISHED SOURCE.
ESTIMATE AT 145 LB/CF, INCLUDING 7% WATER.

SUPERPAVE HOT MIX ASPHALT:
HMA WILL USE 1/2" SUPERPAVE CLASS SP-2 WITH 5.6 PERCENT PG 58-28 ASPHALT CEMENT BY TOTAL WEIGHT OF MIX, AND ANTI-STRIPPING AGENT AT 0.5 PERCENT BY WEIGHT OF MIX. ESTIMATE AT 147 LBS/CF.

TACK COAT:
TACK COAT WILL BE CSS-1 DIL EMUL ASPHALT FOR TACK COAT AT 0.12 GAL/SY. APPLY TACK COAT PRIOR TO PAVEMENT LIFTS.

GRANULAR SUBBASE:
AGGREGATE FOR GRANULAR SUBBASE WILL BE PROVIDED FROM APPROVED CONTRACTOR FURNISHED SOURCE. ESTIMATE AT 135 LB/CF, INCLUDING 7% WATER.

+ ENTER "N/A" WHEN NOT APPLICABLE

++ LPA PROJECTS - DATE ENTERED BY ROADWAY DESIGN WHEN PROJECT SENT TO PS&E.

REVISIONS			
NO.	DATE	BY	DESCRIPTION

DESIGNED C. KOON
DESIGN CHECKED E. HULSLANDER
DETAILED K. JACKSON
DRAWING CHECKED B. KELLER

SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY
CADD FILE NAME 222097, prcs_001.dgn
DRAWING DATE: JUNE 2025

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

PROJECT NO.
A022(432)

PROJECT CLEARANCE SUMMARY
KILPATRICK BR
BLAINE COUNTY

ENGLISH
COUNTY BLAINE
KEY NUMBER 22432
SHEET 4 OF 23

PROFESSIONAL ENGINEER LICENSED 17544 5/18/2025 STATE OF IDAHO CLIFTON KOON
Declined by: B272EB72AC7D47A...

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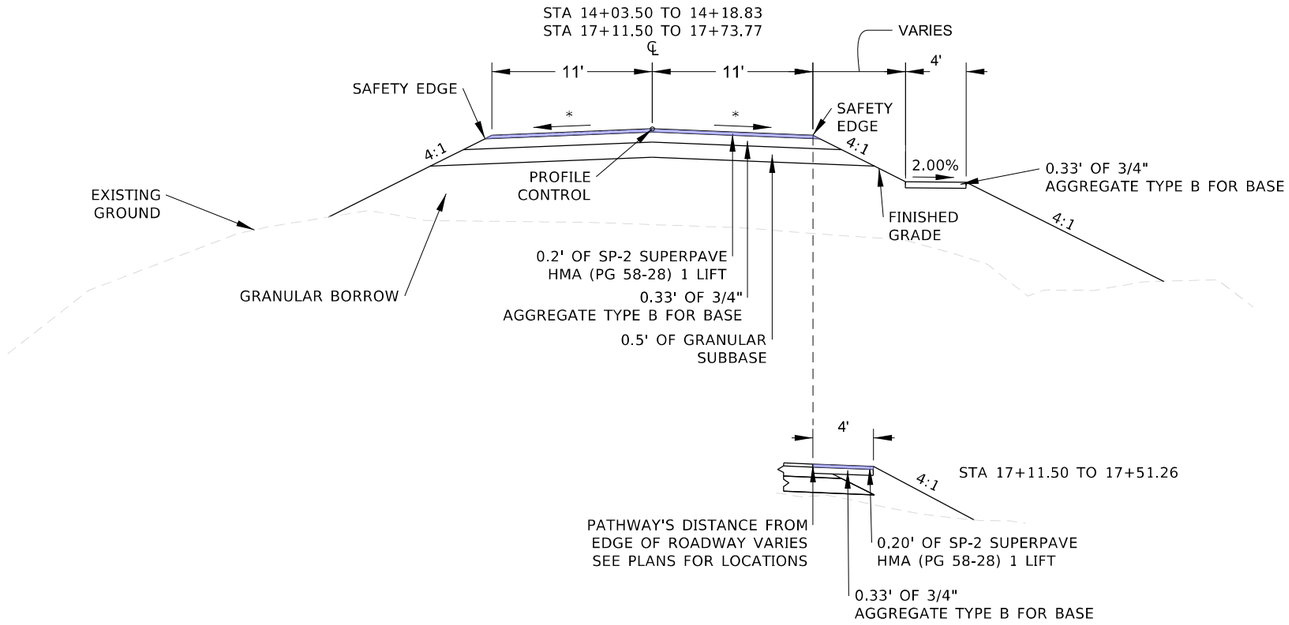
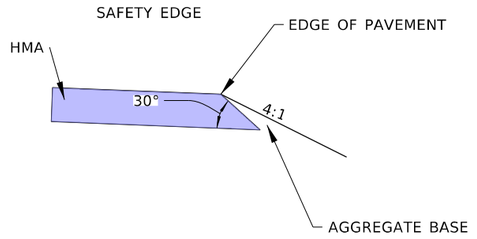
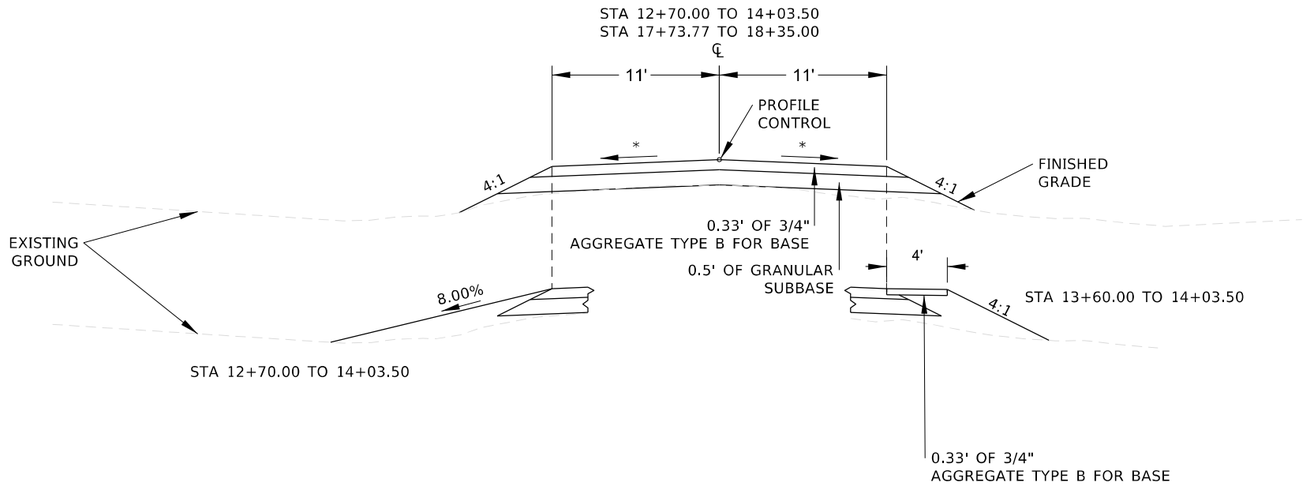
* SLOPE VARIES, SEE SUPERELEVATION DIAGRAM ON PLAN & PROFILE SHEETS







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DESIGN CHECKED E. HULSLANDER	
DETAILED K. JACKSON	CADD FILE NAME 22432, typ_001.dgn
DRAWING CHECKED B. KELLER	DRAWING DATE: JUNE 2025

IDAHO TRANSPORTATION DEPARTMENT
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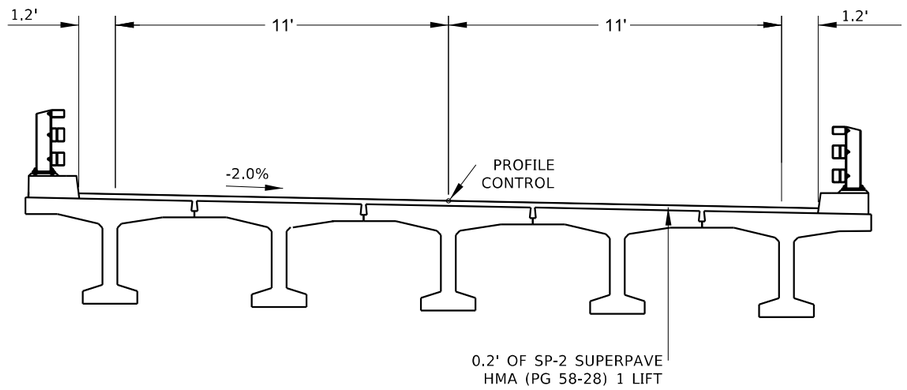
KELLER ASSOCIATES

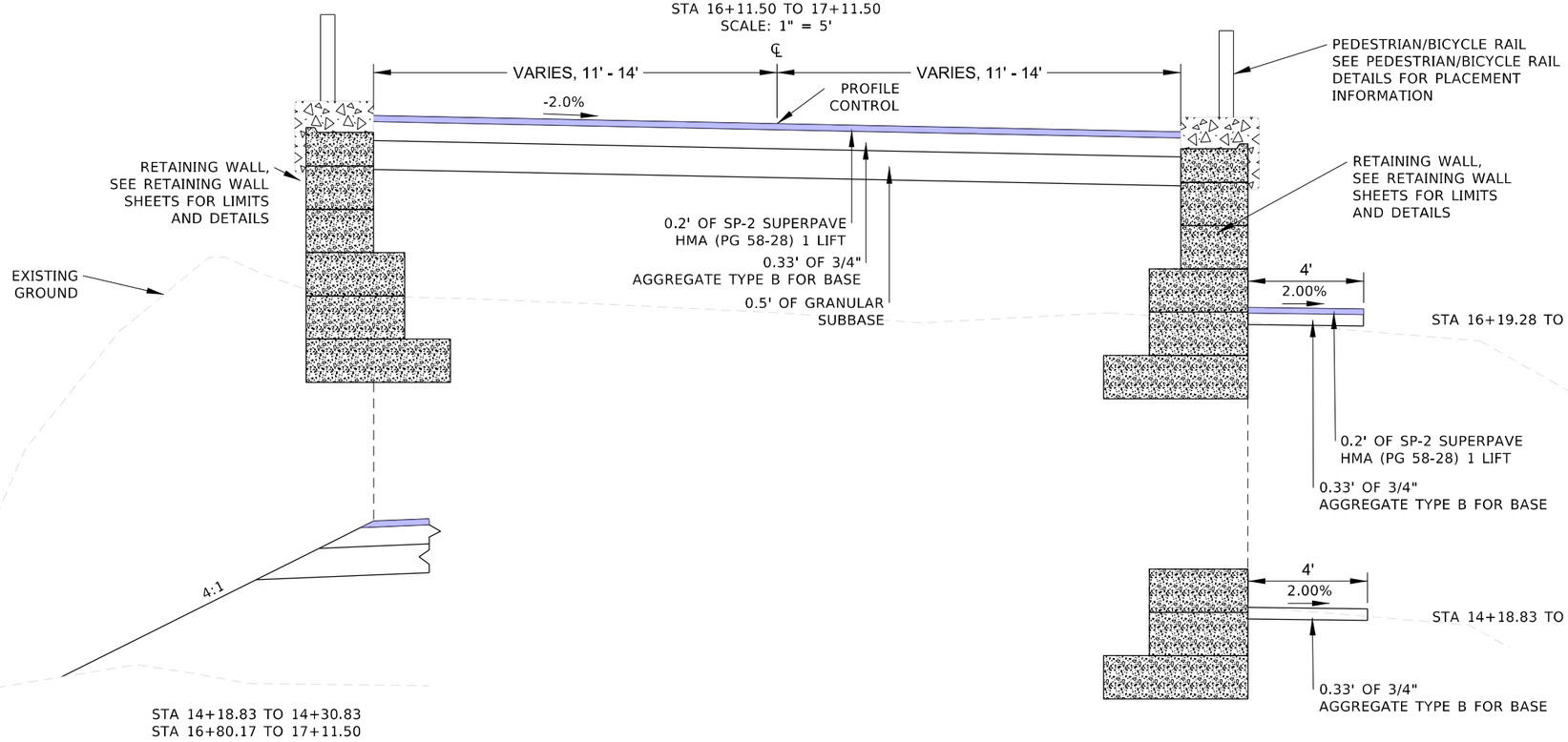
PROJECT NO.	TYPICAL SECTIONS	ENGLISH
A022(432)	KILPATRICK BR BLAINE COUNTY	COUNTY BLAINE KEY NUMBER 22432 SHEET 5 OF 23

PROFESSIONAL ENGINEER
LICENSED
Docusigned by:
B273EB73AC7D47A...
17544
7/18/2025
STATE OF IDAHO
CLIFTON KOON

STA. 15+03.50 TO 16+11.50
SCALE: 1" = 5'



STA 14+18.83 TO 15+03.50
STA 16+11.50 TO 17+11.50
SCALE: 1" = 5'



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DRAWING CHECKED	B. KELLER

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

PROJECT NO.
A022(432)

TYPICAL SECTIONS
KILPATRICK BR
BLAINE COUNTY

ENGLISH

COUNTY BLAINE

KEY NUMBER 22432

SHEET 6 OF 23

PROFESSIONAL ENGINEER
LICENSED
Docusigned by:
B273EB73AC7D47A...
17544
5/18/2025
STATE OF IDAHO
CLIFTON KOON

SHEET NUMBER				9	10	13	14	15	19	21	23				
STATION - STATION				12+70.00 17+00.00	17+00.00 18+35.00	13+60.00 15+61.00	15+61.00 17+20.00	14+30.23 16+80.46	12+70.00 18+35.00	12+70.00 18+35.00					
ITEM NO.	ITEM	UNIT	TOTAL												
107-019A	Survey Monument Preservation	CA	5000												
201-010A	Clearing & Grubbing	LS	1												
203-006A	Removal of Sign	EACH	5	5											
205-005A	Excavation	CY	645	491	154										
205-040A	Granular Borrow	CY	850	645	205										
205-060A	Water For Dust Abatement	MG	42												
205-071A	Excavation And Repair Of Soft Spots	CY	100												
212-011A	Fiber Wattle	FT	795						795						
212-060A	Stabilized Construction Entrance	EACH	2						2						
212-105A	Water And Pollution	CA	5000												
301-005A	Granular Subbase	TON	865	598	267										
303-022A	3/4" Aggregate Type B for Base	TON	460	320	140										
401-020A	CSS-1 Diluted Emulsified Asphalt for Tack Coat	GAL	135	105	30										
405-245A	Approach	EACH	1		1										
405-425A	Superpave HMA Pavement Including Asphalt Additives Class SP-2	TON	160	125	35										
504-035A	Pedestrian/Bicycle Railing	FT	350			90	105	155							
616-010A	Sign Type B-1	SF	14							14					
616-040J	Steel Sign Post Type E-1	FT	60							60					
621-025A	Mulch Anchoring (Tackifier Temporary)	ACRE	0.23						0.23						
626-010A	Temporary Traffic Control Signs	SF	272								272				
626-040A	Barricade Type 3	EACH	6								6				
626-100A	Miscellaneous Temporary Traffic Control Items	CA	1000												
626-105A	Temporary Traffic Control Maintenance	HR	400												
675-005A	Survey	LS	1												
677-005A	Record Drawings	LS	1												
S501-15A	Retaining Wall - Gravity Concrete Block	SF	2675			670	810	1195							
S900-50A	Contingency Amount - Miscellaneous Work	CA	10000												
S913-05A	SP Rock Mulch	CY	160						160						
Z629-05A	Mobilization	LS	1												

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DRAWING CHECKED B. KELLER

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

PROJECT NO.
A022(432)

ROADWAY SUMMARY
KILPATRICK BR
BLAINE COUNTY

ENGLISH
COUNTY BLAINE
KEY NUMBER 22432
SHEET 7 OF 23

PROFESSIONAL ENGINEER
LICENSED
DocuSigned by:
B273EB73AC7D47A...
17544
7/18/2025
STATE OF IDAHO
CLIFTON KOON

SHEET NUMBER															
STATION - STATION															
ITEM NO.	ITEM	UNIT	TOTAL												
203-020A	REMOVAL OF BRIDGE - FULL	EACH	1												
210-005A	STRUCTURAL EXCAVATION SCHEDULE NO. 1	CY	89												
210-015A	COMPACTING BACKFILL	CY	3												
215-005A	GEOSYNTHETIC REINFORCED ABUTMENT BACKFILL	CY	197												
502-140A	CONCRETE CLASS 40-A SCHEDULE NO. 1	CY	29												
502-310A	CONCRETE CLASS 40AF SCHEDULE NO. 2	CY	21												
502-385A	PRESTRESS DECK BULB-TEE GIRDER, 67" TOP FLANGE, 43" DEPTH	FT	530												
503-010A	METAL REINFORCEMENT SCHEDULE NO. 1	LB	7438												
503-015A	METAL REINFORCEMENT SCHEDULE NO. 2	LB	1410												
503-020A	EPOXY-COATED METAL REINFORCEMENT	LB	722												
504-050A	3-TUBE CURB MOUNT RAIL	FT	216												
505-045A	PROVIDE & DRIVE STEEL H PILES (14X117)	FT	444												
505-205C	PROVIDE & INSTALL PILE SHOES OR TIPS (HP-14x117)	EACH	8												
505-215A	SPLICE STEEL PILE BEFORE DRIVING	EACH	4												
505-215B	SPLICE STEEL PILE DURING DRIVING	EACH	4												
507-005A	ELASTOMERIC BEARINGS - PLAIN (GR.4) (24x12x0.5)	EACH	10												
511-005A	CONCRETE WATERPROOF SYSTEM (TYPE E)	SY	293												
560-005A	DEWATERING FOUNDATION	LS	1												
584-005A	TEMPORARY SHORING	LS	1												
586-005A	UTILITY CONDUIT	LS	1												
624-005A	LOOSE RIPRAP	CY	192												
640-010A	RIPRAP / EROSION CONTROL GEOTEXTILE	SY	448												

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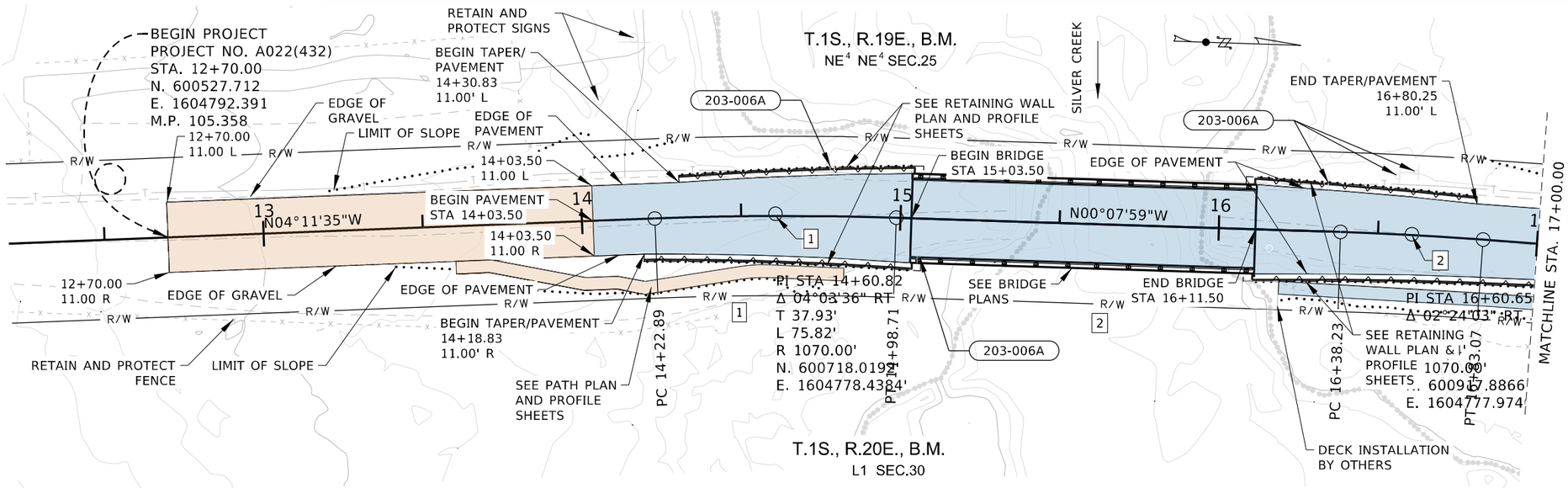
IDAHO TRANSPORTATION DEPARTMENT
YOUR Safety→YOUR Mobility→YOUR Economic Opportunity
KELLER ASSOCIATES

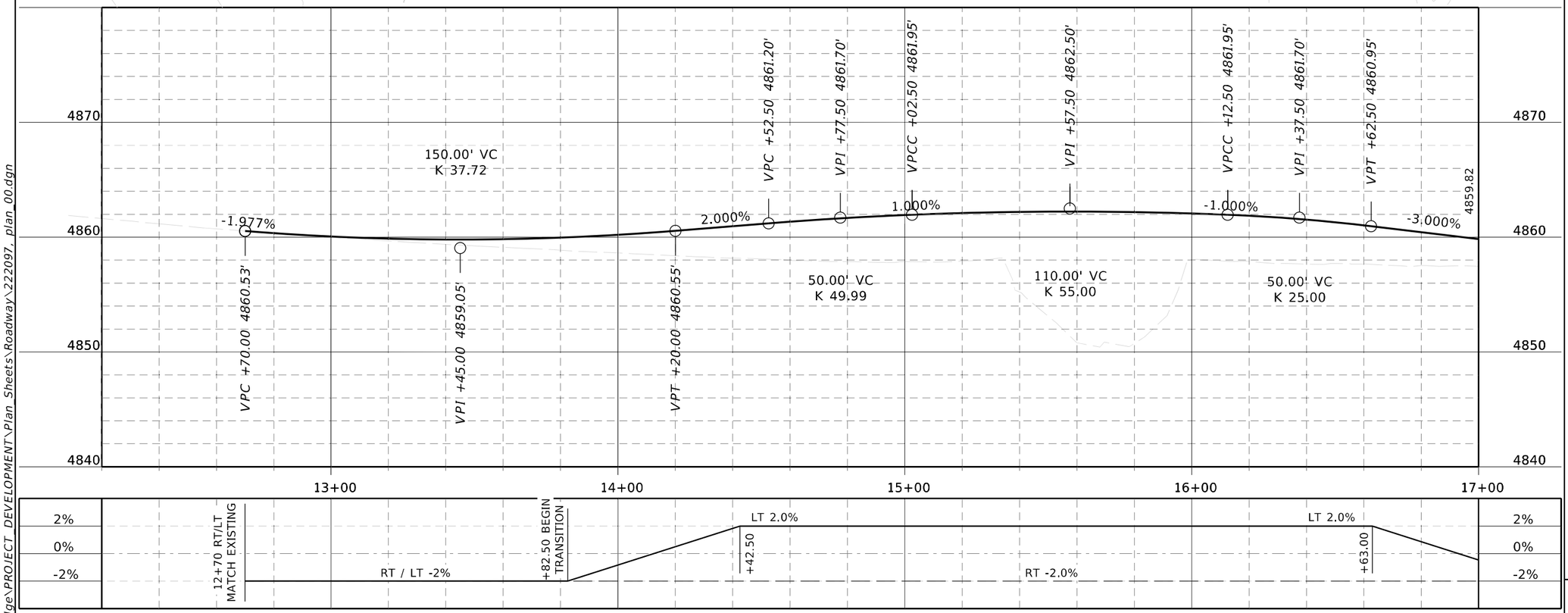
PROJECT NO.
A022(432)

BRIDGE SUMMARY
KILPATRICK BR
BLAINE COUNTY

ENGLISH
COUNTY BLAINE
KEY NUMBER 22432
SHEET 8 OF 23

PROFESSIONAL ENGINEER LICENSED
DocuSigned by:
B273EB73AC7D47A...
17544
5/18/2025
STATE OF IDAHO
CLIFTON KOON





203-006A	REMOVAL OF SIGNS	
1	EACH	15+06.24 (11.35' R)
1	EACH	14+78.43 (15.01' L)
1	EACH	16+33.30 (15.16' L)
1	EACH	16+55.35 (18.05' L)
1	EACH	16+61.08 (19.71' L)

NOTE:
1. VERIFY UTILITIES PRIOR TO EXCAVATION AND CONSTRUCTION.
2. RETAIN AND PROTECT ALL UTILITIES NOT BEING RELOCATED.

LEGEND

PAVEMENT
GRAVEL

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REVISIONS			
NO.	DATE	BY	DESCRIPTION

DESIGNED	C. KOON
DESIGN CHECKED	E. HULSLANDER
DETAILED	K. JACKSON
DRAWING CHECKED	B. KELLER

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CADD FILE NAME 222097, plan_00.dgn

DRAWING DATE: JUNE 2025

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

KELLER ASSOCIATES

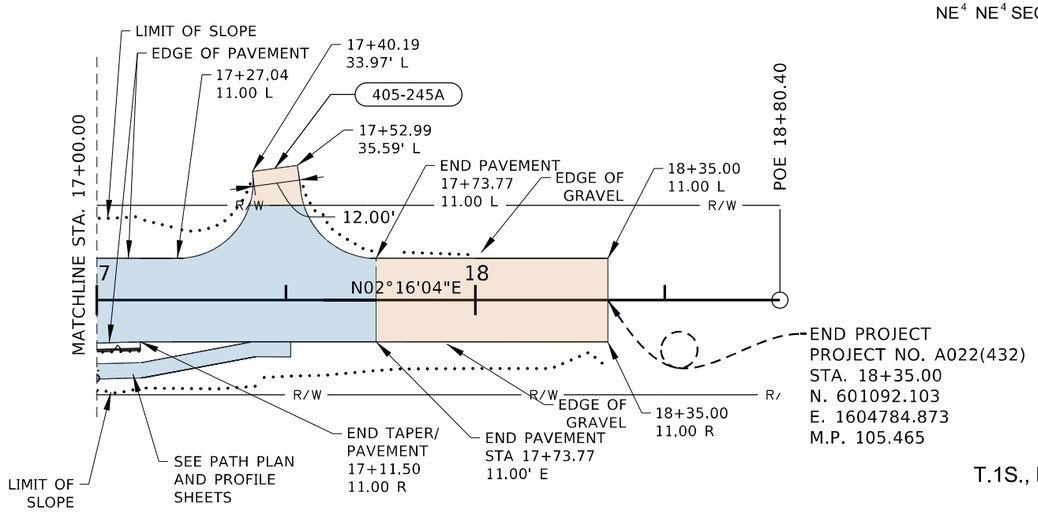
PROJECT NO.	PLAN & PROFILE
A022(432)	KILPATRICK BR BLAINE COUNTY

ENGLISH

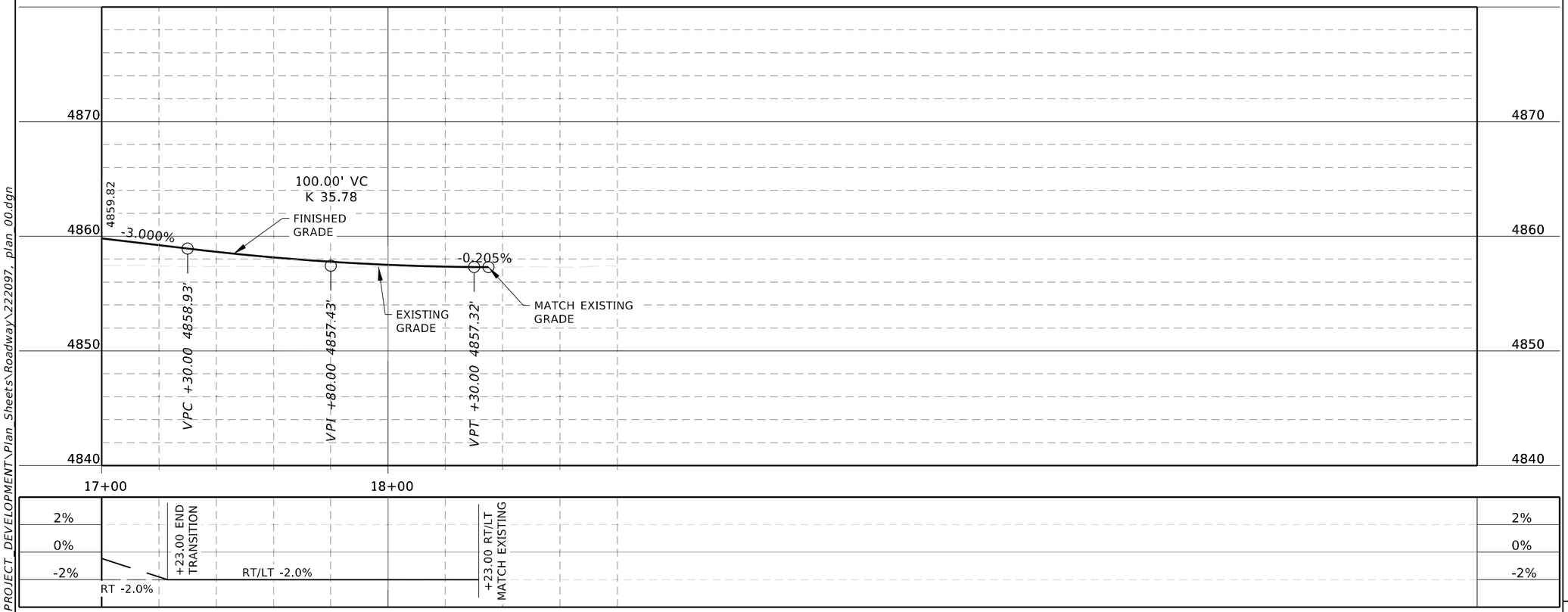
COUNTY	BLAINE
KEY NUMBER	22432
SHEET	9 OF 23

PROFESSIONAL ENGINEER
LICENSED
17544
7/18/2025
STATE OF IDAHO
CLIFTON KOON
Digitally Signed by:
B273EB73AC7D47A...

T.1S., R.19E., B.M.
NE^4 NE^4 SEC.25



T.1S., R.20E., B.M.
L1 SEC.30



405-245A APPROACH
1 EACH 09+58.02 L

NOTE:
1. VERIFY UTILITIES PRIOR TO EXCAVATION AND CONSTRUCTION.
2. RETAIN AND PROTECT ALL UTILITIES NOT BEING RELOCATED.

LEGEND
PAVEMENT
GRAVEL

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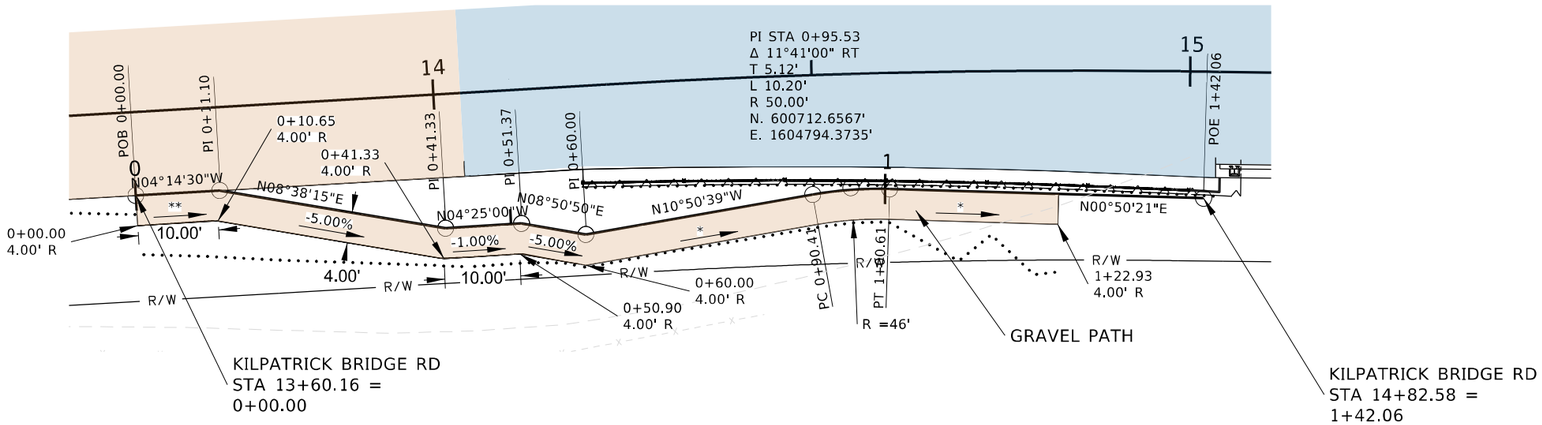
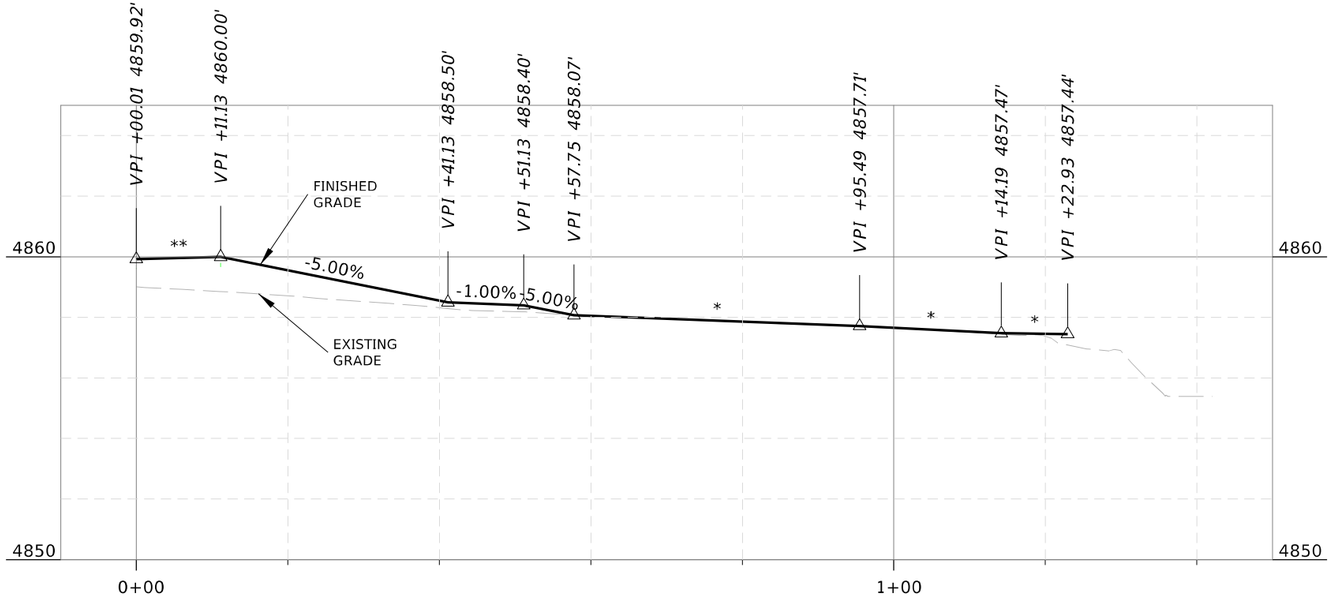
REVISIONS			
NO.	DATE	BY	DESCRIPTION

DESIGNED C. KOON	SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY	IDAHO TRANSPORTATION DEPARTMENT YOUR Safety→YOUR Mobility→YOUR Economic Opportunity	PROJECT NO. A022(432)
DESIGN CHECKED E. HULSLANDER			PLAN & PROFILE KILPATRICK BR BLAINE COUNTY
DETAILED K. JACKSON	CADD FILE NAME 222097_plan_00.dgn	KELLER ASSOCIATES	ENGLISH
DRAWING CHECKED B. KELLER	DRAWING DATE: JUNE 2025		COUNTY BLAINE
			KEY NUMBER 22432
			SHEET 10 OF 23

PROFESSIONAL ENGINEER LICENSED
DocuSigned by: B273EB73AC7D47A...
17544
7/18/2025
STATE OF IDAHO
CLIFTON KOON



* MATCH EXISTING GRADE,
KEEP 2% CROSS SLOPE
** MATCH ROADWAY SLOPE



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REVISIONS			
NO.	DATE	BY	DESCRIPTION

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DESIGN CHECKED E. HULSLANDER		YOUR Safety→YOUR Mobility→YOUR Economic Opportunity
DETAILED K. JACKSON	CADD FILE NAME 22097, pathplpr_001.dgn	KELLER ASSOCIATES
DRAWING CHECKED B. KELLER	DRAWING DATE: JUNE 2025	

PROJECT NO.	PATH PLAN & PROFILE	ENGLISH
A022(432)	KILPATRICK BR BLAINE COUNTY	COUNTY BLAINE KEY NUMBER 22432 SHEET 11 OF 23

PROFESSIONAL ENGINEER
LICENSED
DocuSigned by:
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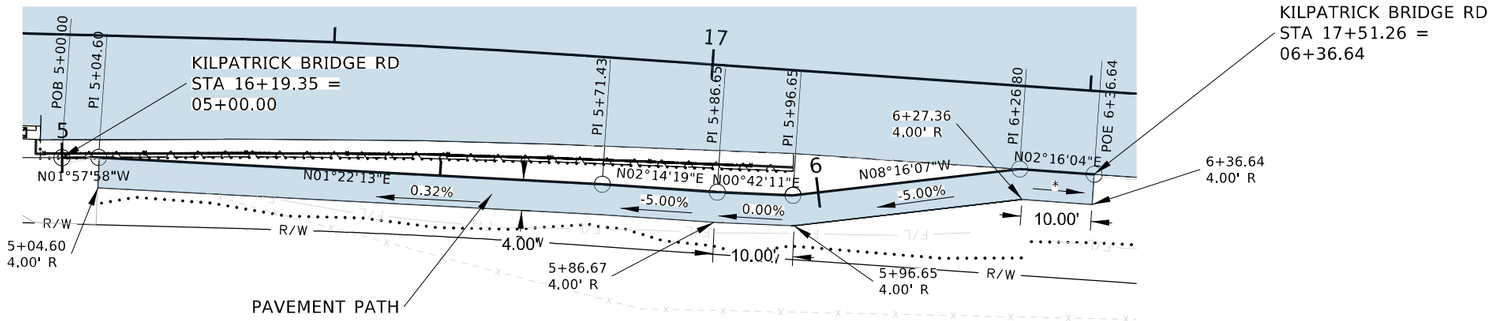
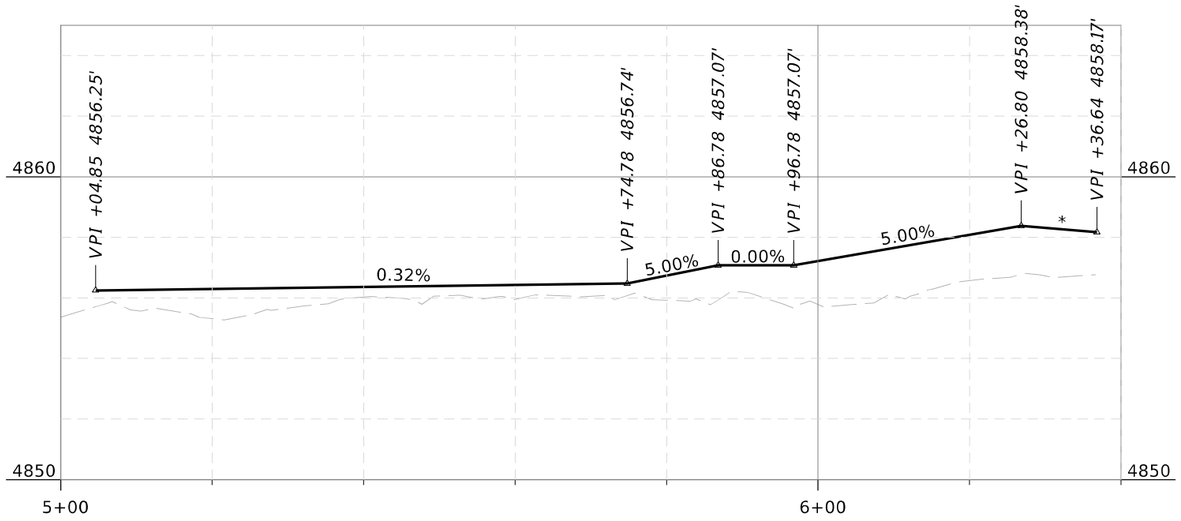
17544
7/18/2025
STATE OF IDAHO
CLIFTON KOON



* MATCH ROADWAY SLOPE



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LEGEND

PAVEMENT
GRAVEL

REVISIONS			
NO.	DATE	BY	DESCRIPTION

DESIGNED	C. KOON
DESIGN CHECKED	E. HULSLANDER
DETAILED	K. JACKSON
DRAWING CHECKED	B. KELLER

SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY

CADD FILE NAME: 222097, pathplpr_001.dgn

DRAWING DATE: JUNE 2025

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PROJECT NO.	PATH PLAN & PROFILE
A022(432)	KILPATRICK BR BLAINE COUNTY

ENGLISH

COUNTY: BLAINE
KEY NUMBER: 22432
SHEET 12 OF 23

PROFESSIONAL ENGINEER
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STATE OF IDAHO
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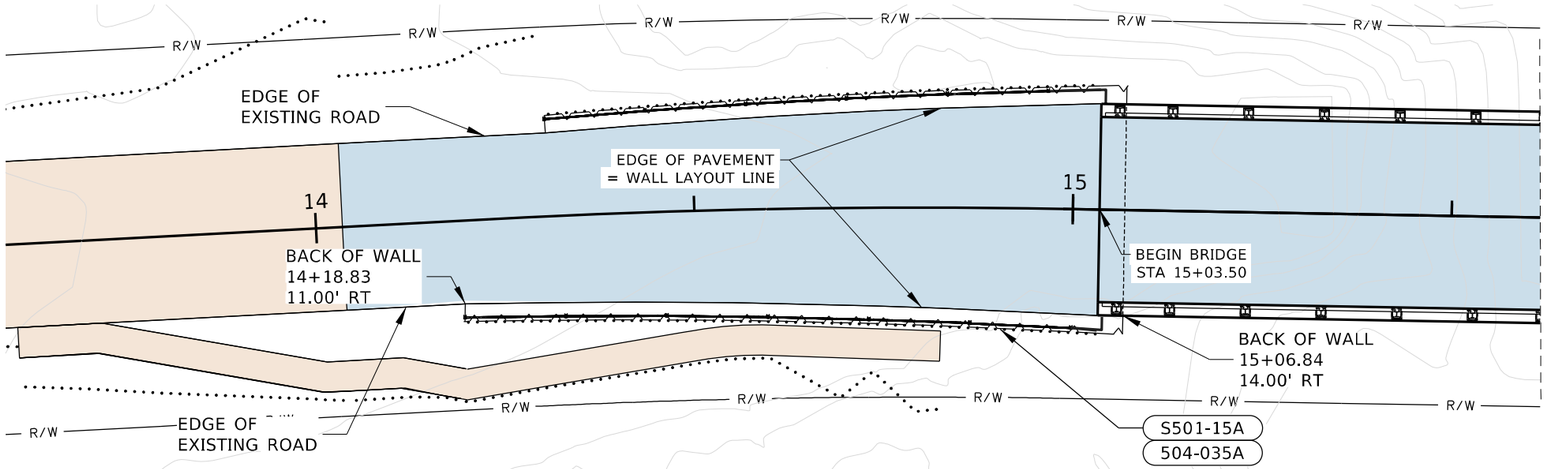

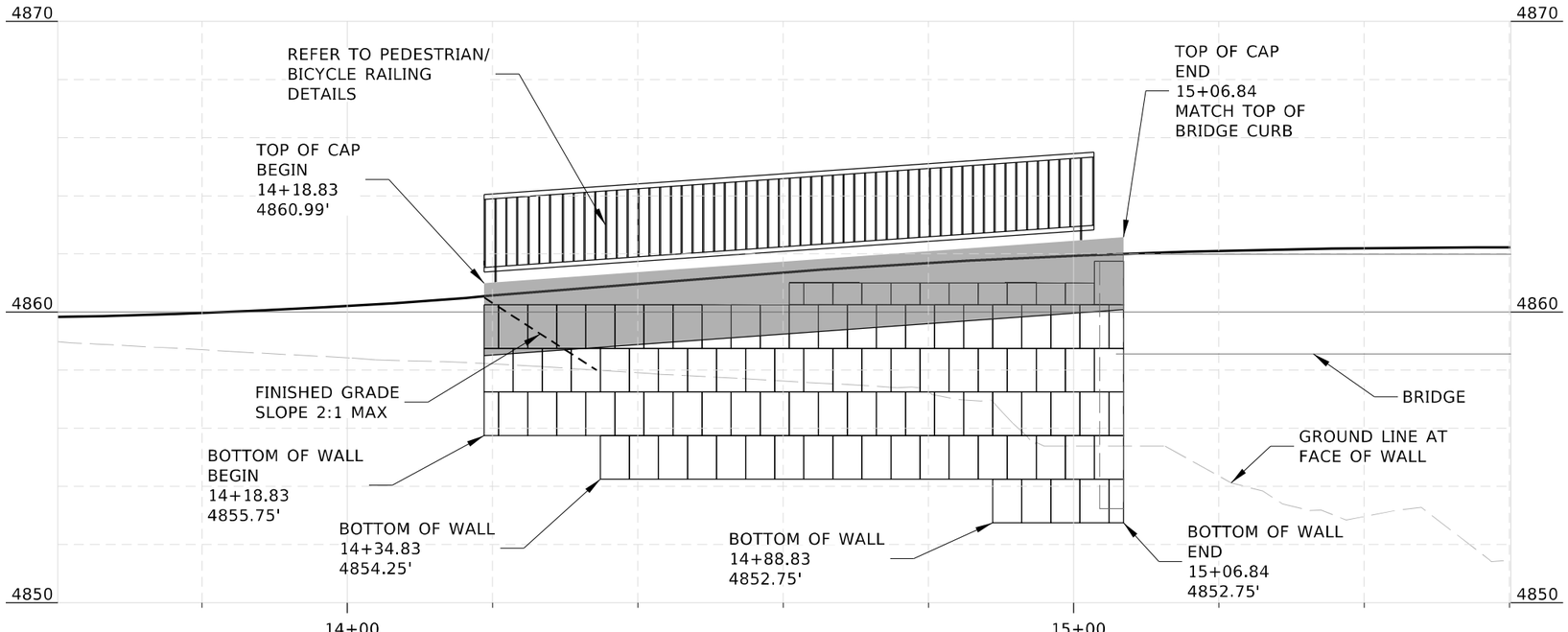

504-035A		**PEDESTRIAN/BICYCLE RAILING**	
90	FT	14+18.83 (12.80' R)	
		15+04.00 (15.80' R)	
S501-15A		**RETAINING WALL - GRAVITY CONCRETE BLOCK**	
670	SF	14+18.83 (11.00' R) TO	
		15+06.84 (14.00' R)	

NOTE:
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LEGEND
PAVEMENT
GRAVEL

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REVISIONS			
NO.	DATE	BY	DESCRIPTION

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DESIGN CHECKED	E. HULSLANDER		
DETAILED	K. JACKSON	CADD FILE NAME	222097, wallplpr_001.dgn
DRAWING CHECKED	B. KELLER	DRAWING DATE:	JUNE 2025

IDAHO TRANSPORTATION DEPARTMENT
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KELLER ASSOCIATES

PROJECT NO.	RETAINING WALL PLAN & PROFILE	ENGLISH	
A022(432)	KILPATRICK BR BLAINE COUNTY	COUNTY	BLAINE
		KEY NUMBER	22432
		SHEET 13	OF 23

PROFESSIONAL ENGINEER
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Designed by:
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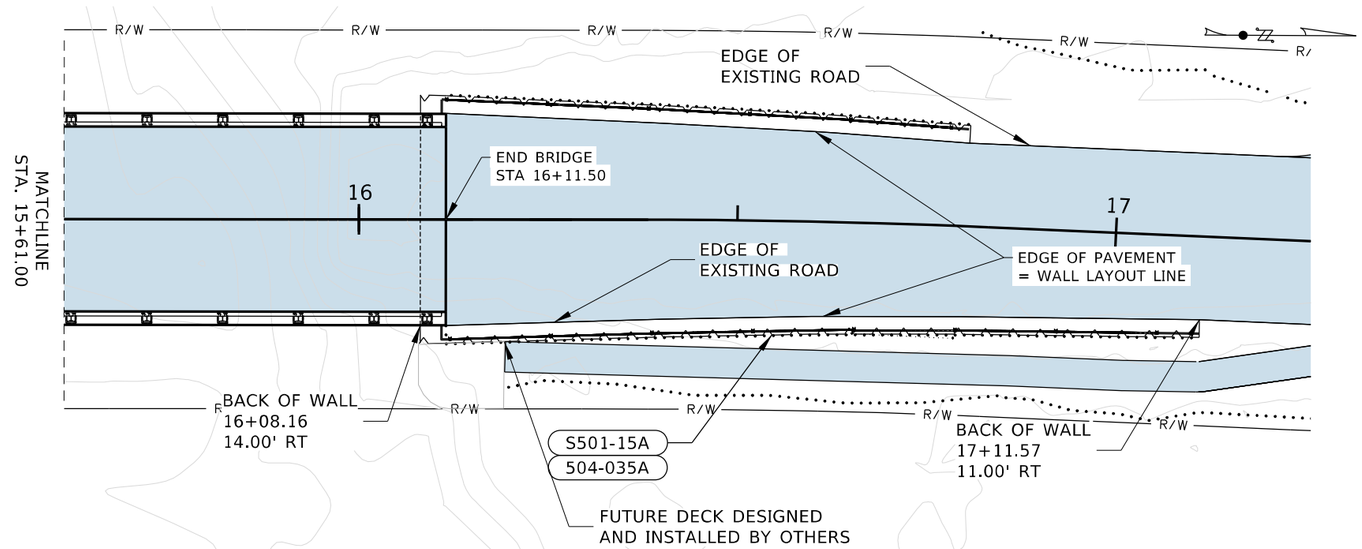
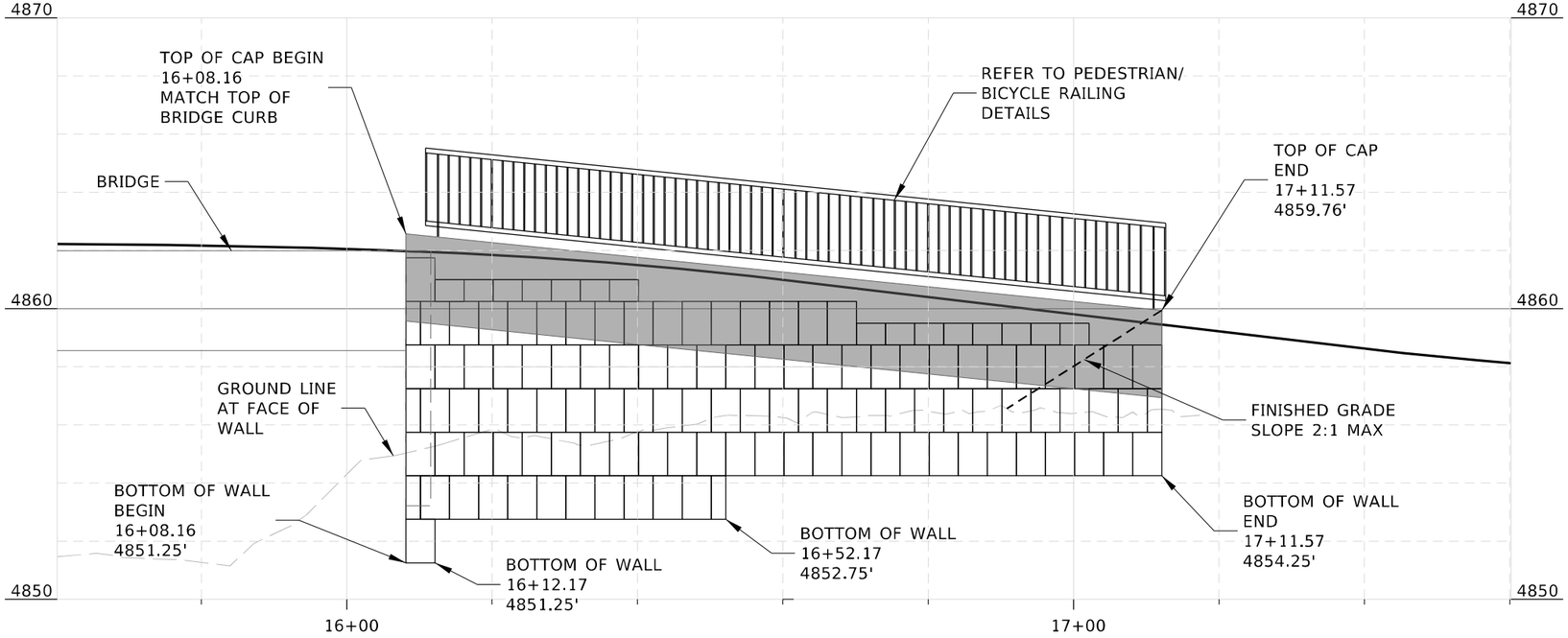
17544
7/18/2025
STATE OF IDAHO
CLIFTON KOON





504-035A		PEDESTRIAN/BICYCLE RAILING
105	FT	16+11.00 (15.80' R) 17+11.57 (12.80' R)

S501-15A		RETAINING WALL - GRAVITY CONCRETE BLOCK
810	SF	16+08.16 (14.00' R) TO 17+11.57 (11.00' R)

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LEGEND

PAVEMENT
GRAVEL

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REVISIONS			
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DETAILED	K. JACKSON
DRAWING CHECKED	B. KELLER

SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY

CADD FILE NAME
222097, wallplpr_001.dgn

DRAWING DATE:
JUNE 2025

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

KELLER ASSOCIATES

PROJECT NO.
A022(432)

RETAINING WALL PLAN & PROFILE

KILPATRICK BR
BLAINE COUNTY

ENGLISH

COUNTY
BLAINE

KEY NUMBER
22432

SHEET 14 OF 23

PROFESSIONAL ENGINEER
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DocuSigned by:
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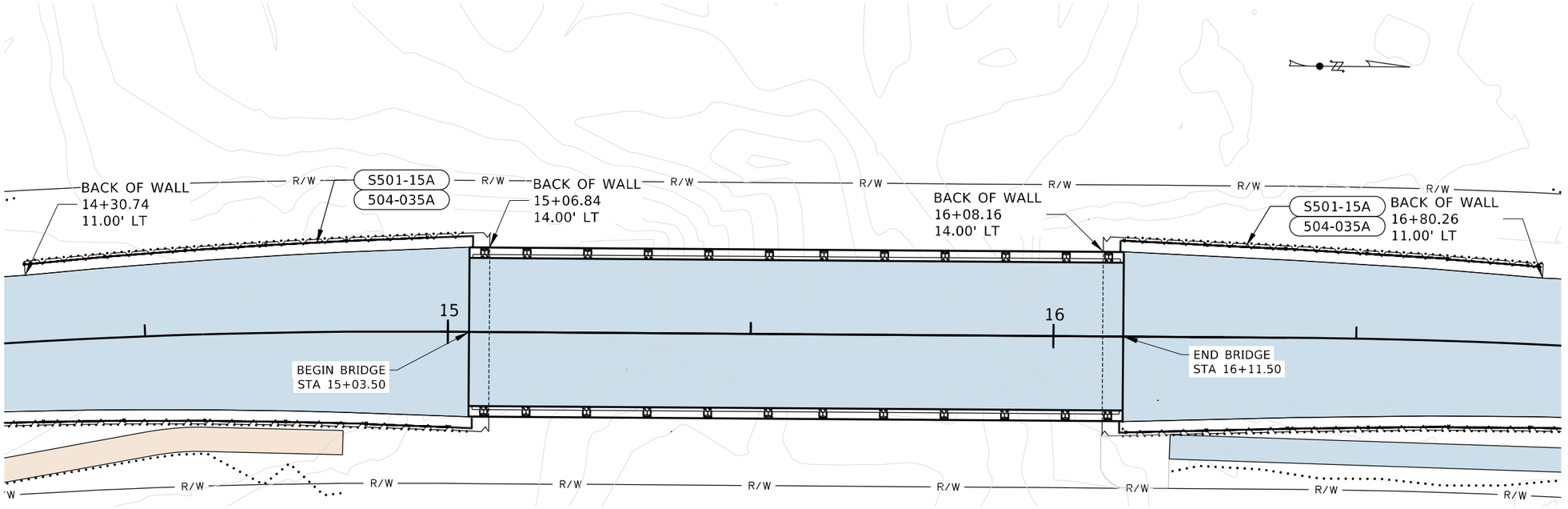
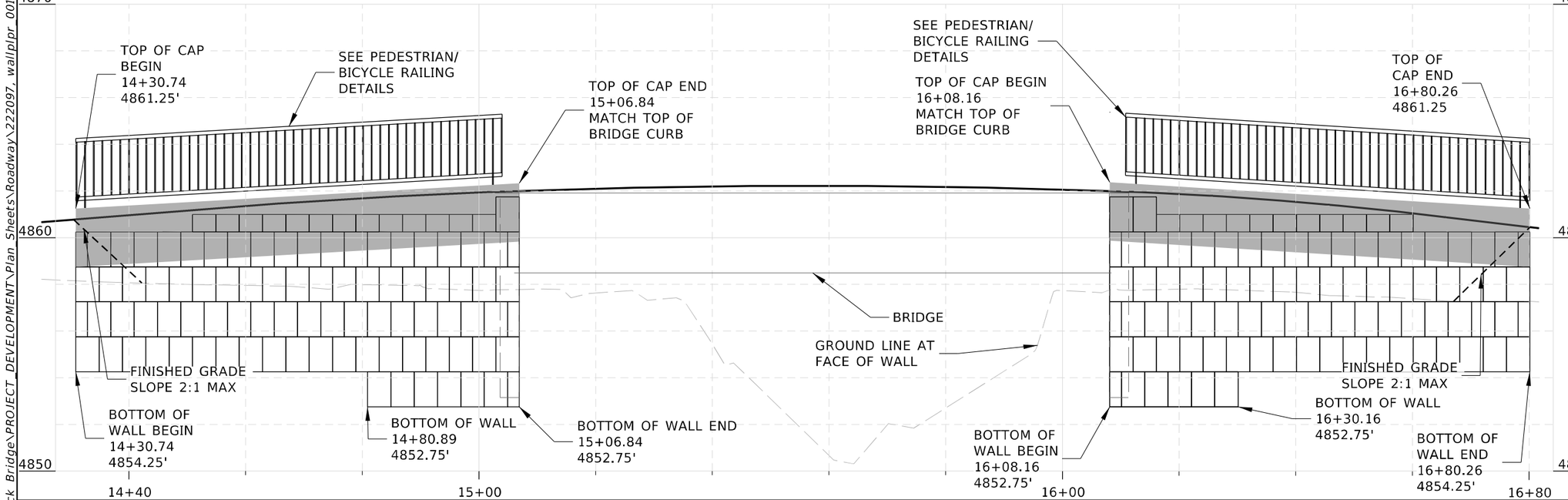
17544
5/18/2025
STATE OF IDAHO
CLIFTON KOON





504-035A		PEDESTRIAN/BICYCLE RAILING
80	FT	14+30.74 (12.80' L) TO 15+04.00 (15.80' L)
75	FT	16+11.00 (15.80' L) TO 16+80.08 (12.80' L)

S501-15A		RETAINING WALL - GRAVITY CONCRETE BLOCK
615	SF	14+30.74 (11.00' L) TO 15+06.84 (14.00' L)
580	SF	16+08.16 (14.00' L) TO 16+80.26 (11.00' L)

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LEGEND

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REVISIONS			
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SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY
CADD FILE NAME 222097, wallplpr_001.dgn
DRAWING DATE: JUNE 2025

IDAHO TRANSPORTATION DEPARTMENT
YOUR Safety→YOUR Mobility→YOUR Economic Opportunity
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PROJECT NO. A022(432)

RETAINING WALL PLAN & PROFILE
KILPATRICK BR
BLAINE COUNTY

ENGLISH
COUNTY BLAINE
KEY NUMBER 22432
SHEET 15 OF 23

PROFESSIONAL ENGINEER
LICENSED
17544
5/18/2025
STATE OF IDAHO
CLIFTON KOON
DocuSigned by:
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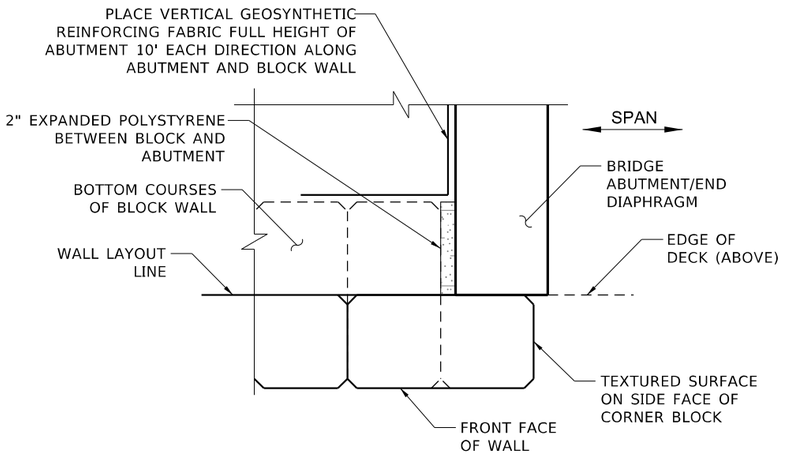
NOTES

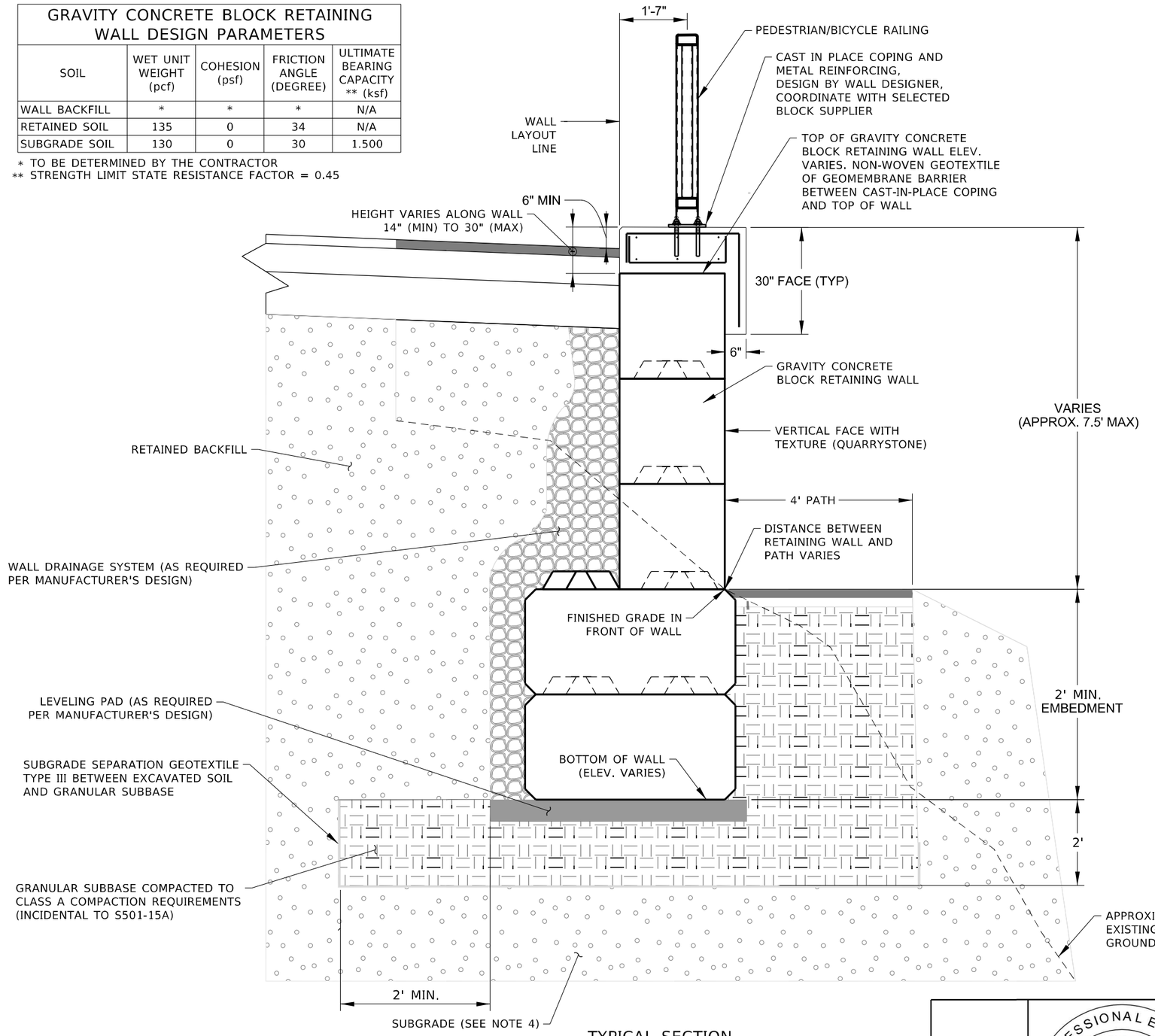
1. STATION, OFFSETS, AND DIMENSIONS SHOWN ALONG WALL LAYOUT LINE.
2. TOP AND BOTTOM OF GRAVITY CONCRETE BLOCK RETAINING WALL, LAYOUT, AND ELEVATIONS AS SHOWN FOR ESTIMATING PURPOSES AND MAY BE ADJUSTED AS REQUIRED BY THE MANUFACTURER AND AS APPROVED BY THE ENGINEER AT NO ADDITIONAL COST TO THE STATE.
3. SEE SPECIAL PROVISION S501-15A FOR WALL FINISHING REQUIREMENTS ON EXPOSED FACE.
4. EXCAVATE THE SOILS SUPPORTING THE GRAVITY RETAINING WALLS A MINIMUM OF 2 FEET BELOW THE REQUIRED GRAVITY RETAINING WALL BOTTOM. PROOF-ROLL THE SUBGRADE WITH A 5-TON, SMOOTH-DRUM ROLLER OPERATED IN STATIC MODE WITH A MINIMUM OF 5 OVERLAPPING PASSES. IF SOFT OR LOOSE SOILS ARE ENCOUNTERED DURING PROOF-ROLLING, PERFORM REMEDIATION AS OUTLINED IN 205.03.E.
5. LENGTH OF CAST-IN-PLACE COPING SECTIONS VARY, PROVIDE EXPANSION JOINTS AND EXPANSION JOINT MATERIALS AT A MAXIMUM 20' O.C.
6. PROVIDE COPING CONCRETE THAT MEETS CLASS 40AF IN ACCORDANCE WITH SECTION 502.
7. PROVIDE ASTM A615 GRADE 60 TYPE S EPOXY COATED METAL REINFORCEMENT.
8. PAYMENT FOR "GRAVITY CONCRETE BLOCK RETAINING WALL" IS PAY ITEM S501-15A. COPING CONCRETE AND EPOXY-COATED REINFORCEMENT IS INCIDENTAL TO PAY ITEM S501-15A.
9. REFER TO BRIDGE DRAWINGS FOR DESIGN PARAMETERS.

GRAVITY CONCRETE BLOCK RETAINING WALL DESIGN PARAMETERS				
SOIL	WET UNIT WEIGHT (pcf)	COHESION (psf)	FRICTION ANGLE (DEGREE)	ULTIMATE BEARING CAPACITY ** (ksf)
WALL BACKFILL	*	*	*	N/A
RETAINED SOIL	135	0	34	N/A
SUBGRADE SOIL	130	0	30	1.500

* TO BE DETERMINED BY THE CONTRACTOR
** STRENGTH LIMIT STATE RESISTANCE FACTOR = 0.45



END OF WALL @ ABUTMENT DETAIL
(TYPICAL AT ALL CORNERS OF BRIDGE)
N.T.S.



TYPICAL SECTION
3/8" = 1'-0"

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REVISIONS			
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DESIGN CHECKED E. HULSLANDER		
DETAILED K. JACKSON	CADD FILE NAME 22432, rwtyp_001.dgn	
DRAWING CHECKED B. KELLER	DRAWING DATE: JUNE 2025	

PROJECT NO.	RETAINING WALL TYPICAL SECTION	ENGLISH
A022(432)	KILPATRICK BR BLAINE COUNTY	COUNTY BLAINE KEY NUMBER 22432 SHEET 16 OF 23

PROFESSIONAL ENGINEER LICENSED
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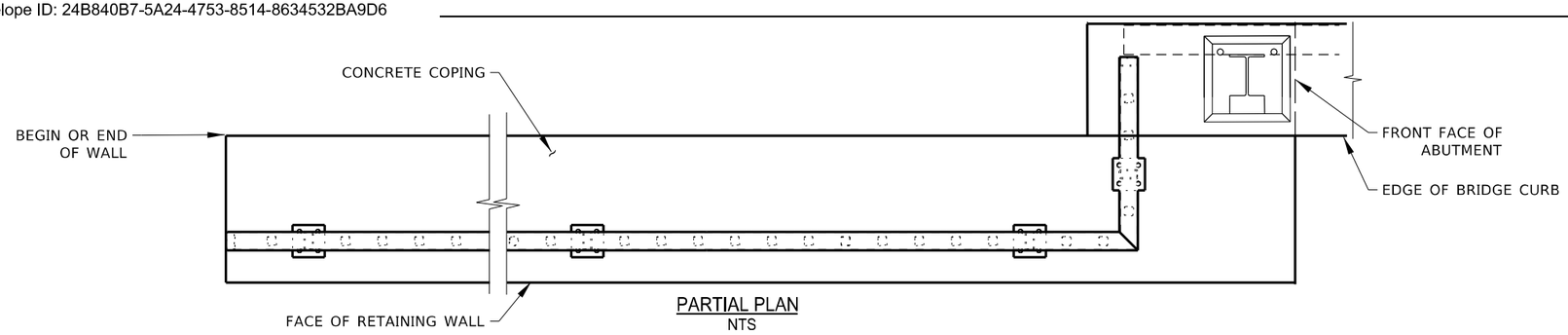
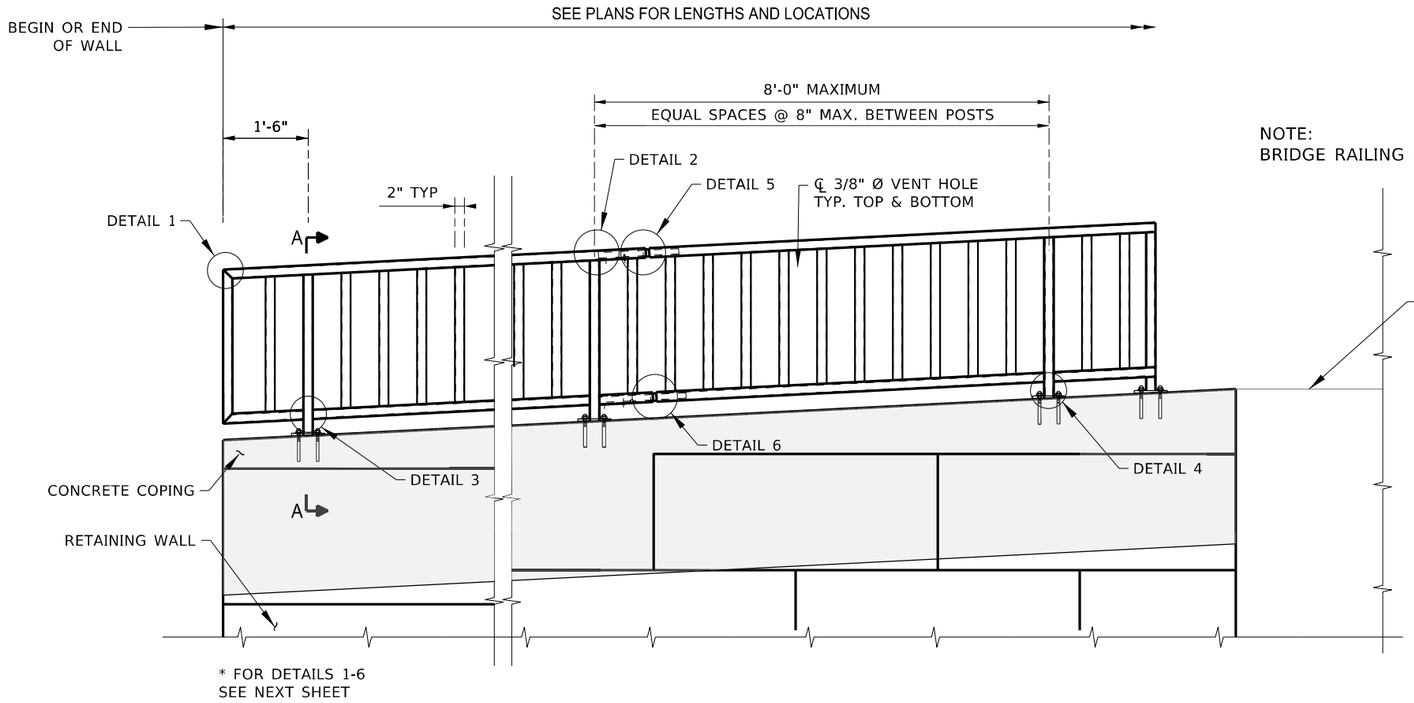
17544
7/18/2025
STATE OF IDAHO
CLIFTON KOON

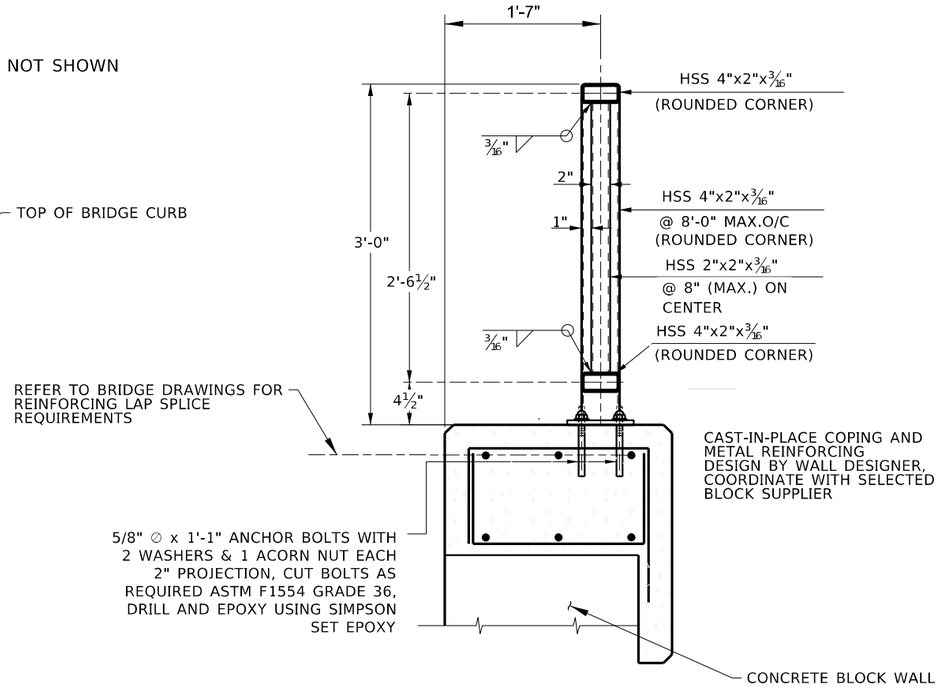


PARTIAL PLAN
NTS

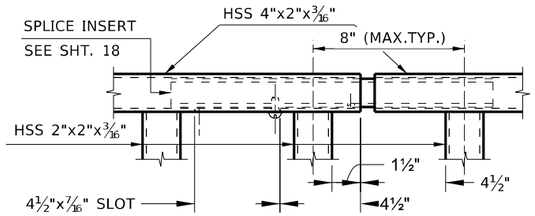


PARTIAL ELEVATION
NTS

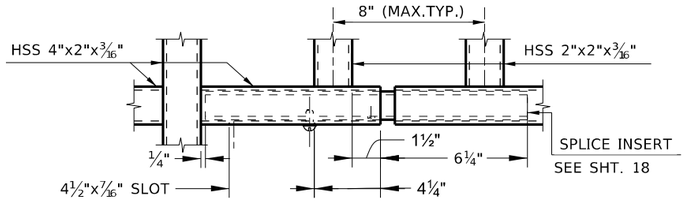
NOTE:
BRIDGE RAILING NOT SHOWN



SECTION A-A
NTS



UPPER SPLICE CONNECTION ELEVATION
NTS



LOWER SPLICE CONNECTION ELEVATION
NTS

REVISIONS				DESIGNED	SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY	IDAHO TRANSPORTATION DEPARTMENT	PROJECT NO.	PEDESTRIAN/BICYCLE RAILING	ENGLISH
NO.	DATE	BY	DESCRIPTION	C. KOON		YOUR Safety→YOUR Mobility→YOUR Economic Opportunity	A022(432)	KILPATRICK BR BLAINE COUNTY	COUNTY BLAINE
				DESIGN CHECKED E. HULSLANDER					KEY NUMBER 22432
				DETAILED K. JACKSON	CADD FILE NAME 22432, rwtyp_001.dgn	KELLER ASSOCIATES			SHEET 17 OF 23
				DRAWING CHECKED B. KELLER	DRAWING DATE: JUNE 2025				

PROFESSIONAL ENGINEER LICENSED 17544 7/18/2025 STATE OF IDAHO CLIFTON KOON
Docusigned by: B273EB73AC7D47A...

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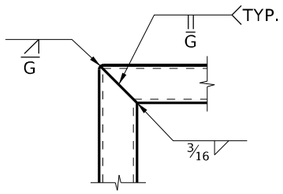
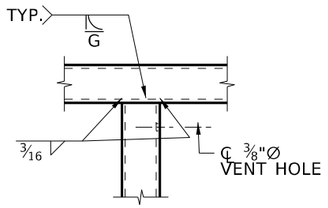


DETAIL 1
1½"=1'-0"



DETAIL 2
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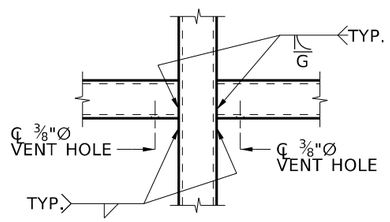

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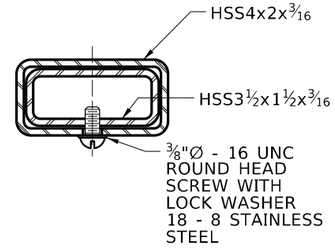
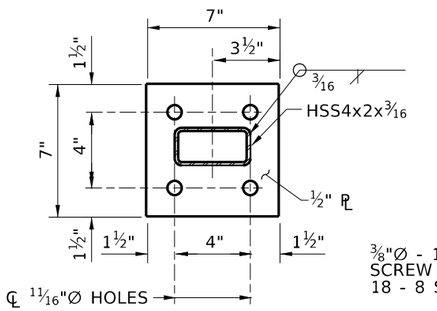


SECTION A-A
3"=1'-0"



DETAIL 4
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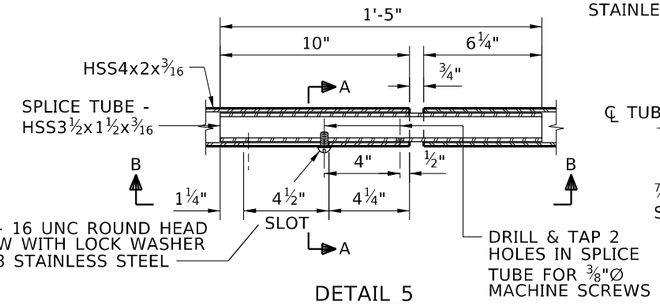

DETAIL 5
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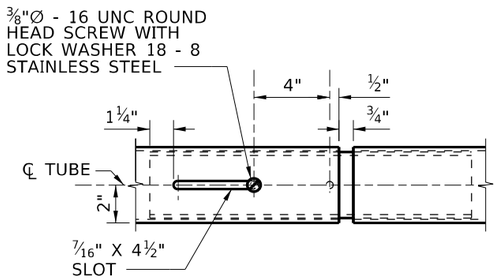
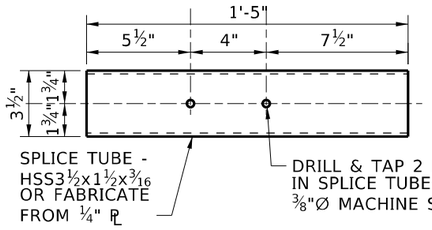
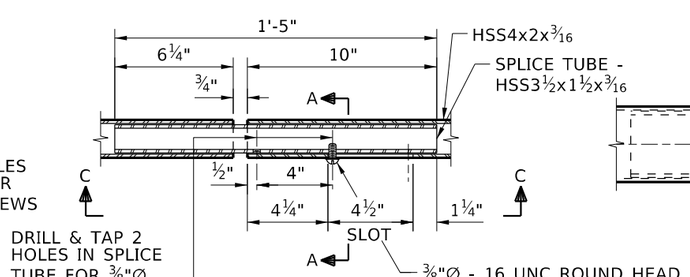


VIEW B-B
1½"=1'-0"



SPLICE INSERT DETAILS
1½"=1'-0"



DETAIL 6
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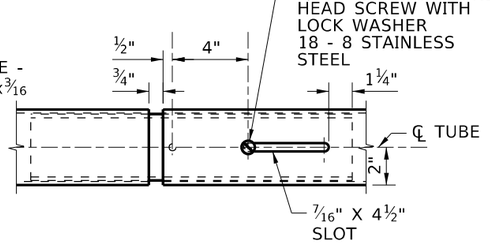

VIEW C-C
1½"=1'-0"

NOTES

MATERIALS

1. PROVIDE STRUCTURAL STEEL PLATES & SLEEVES IN ACCORDANCE WITH ASTM A709 GRADE 36.
2. PROVIDE STRUCTURAL STEEL TUBING IN ACCORDANCE WITH ASTM A500 GRADE B OR ASTM A501.
3. PROVIDE BOLT, ACORN NUTS, AND WASHER IN ACCORDANCE WITH ASTM A307.
4. PROVIDE HEXAGONAL BOLTS AND NUTS IN ACCORDANCE WITH ANSI B18.2.1 AND B18.2.2.
5. PROVIDE ROUND HEAD MACHINE SCREWS IN ACCORDANCE WITH ANSI B18.6.3.
6. PROVIDE EPOXY COATED GRADE 60 TYPE S METAL REINFORCEMENT IN ACCORDANCE WITH 708.02.

GALVANIZING/POWDER COATING

7. GALVANIZE STEEL PARTS AFTER FABRICATION IN ACCORDANCE WITH ASTM A123 AND ASTM A153.
8. GALVANIZE ANCHOR BOLTS, NUTS, AND WASHERS IN ACCORDANCE WITH ASTM A153.
9. THOROUGHLY CLEAN WELDED AREAS BEFORE GALVANIZING TO REMOVE SLAG OR OTHER MATERIAL THAT WOULD INTERFERE WITH THE ADHERENCE OF THE ZINC. REPAIR DAMAGED COATINGS IN ACCORDANCE WITH ASTM A780 AND ASTM A123.
10. PROVIDE GALVANIZED SURFACES FREE OF FINS, ABRASIONS, ROUGH OR SHARP EDGES, AND OTHER SURFACE DEFECTS.
11. POWDER COAT THE RAILING SYSTEM AFTER GALVANIZING WITH A MINIMUM THICKNESS OF 3 MILS. COAT WITH AMS-STD-595 #10076 (BROWN). SUBMIT A COLOR SAMPLE FOR APPROVAL.
12. PREPARE THE GALVANIZED SURFACES FOR POWDER COATING IN ACCORDANCE WITH ASTM D7803. SUBMIT POWDER COATING SHOP PROCEDURES FOR PREPARATION OF THE GALVANIZED SURFACES AND APPLICATION PROCESS OF THE POWDER COATING FOR APPROVAL.
13. REPAIR SCRATCHES, PITS, AND OTHER DEFECTS IN ACCORDANCE WITH THE POWDER COATING MANUFACTURER'S WRITTEN INSTRUCTIONS.

FABRICATION AND ERECTION

14. FABRICATE AND ERECT THE RAILING IN ACCORDANCE WITH THE CURRENT EDITION OF AASHTO SPECIFICATIONS FOR HIGHWAY BRIDGES AND ITD STANDARD SPECIFICATIONS.
15. SUBMIT SHOP DRAWINGS IN ACCORDANCE WITH 504.01 F AND 105.02.
16. CONSTRUCT RAILING CONFORMING TO THE HORIZONTAL AND VERTICAL ALIGNMENT OF THE STRUCTURE. INSTALL POSTS NORMAL TO GRADE IN LONGITUDINAL DIRECTION AND VERTICAL IN TRANSVERSE DIRECTION.
17. SAW OR MILL ENDS OF TUBE SECTIONS AT SPLICES. PROVIDE CUT ENDS THAT ARE TRUE, SMOOTH AND FREE FROM BURRS OR RAGGED EDGES.
18. PROVIDE VENT HOLES FOR GALVANIZING AS REQUIRED AND SHOWN ON THE SHOP DRAWINGS. DRILL VENT HOLES AWAY FROM TRAFFIC FACE AND NOT ON THE TOP SURFACE OF THE HORIZONTAL TUBE.
19. ATTACH EACH RAIL SECTION TO A MINIMUM OF TWO POSTS, BUT PREFERABLY THREE OR MORE. PROVIDE RAILING SYSTEM THAT IS CONTINUOUS. LOCATE EACH JOINT IN A RAIL LENGTH AT THE SAME POSITION IN THE SECTION AND SPLICE AS DETAILED.
20. SUBMIT ALTERNATE SPLICE DETAILS FOR APPROVAL ON THE SHOP DRAWINGS.

METHOD OF MEASUREMENT

21. PAYMENT FOR "PEDESTRIAN/BICYCLE RAILING" IS PAY ITEM 504-035A.

APPROXIMATE QUANTITIES

RAILING (RAILS, POSTS, BALUSTERS, PLATE) ..... 240 LBS. PER 8' SECTION

REVISIONS			
NO.	DATE	BY	DESCRIPTION

DESIGNED C. KOON
DESIGN CHECKED E. HULSLANDER
DETAILED K. JACKSON
DRAWING CHECKED B. KELLER

SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY
CADD FILE NAME 22432, rwtyp_001.dgn
DRAWING DATE: JUNE 2025

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

PROJECT NO. A022(432)

PEDESTRIAN/BICYCLE RAILING DETAILS
KILPATRICK BR
BLAINE COUNTY

ENGLISH
COUNTY BLAINE
KEY NUMBER 22432
SHEET 18 OF 23

PROFESSIONAL ENGINEER LICENSED
DocuSigned by:
B273EB73AC7D47A...
17544
7/18/2025
STATE OF IDAHO
CLIFTON KOON

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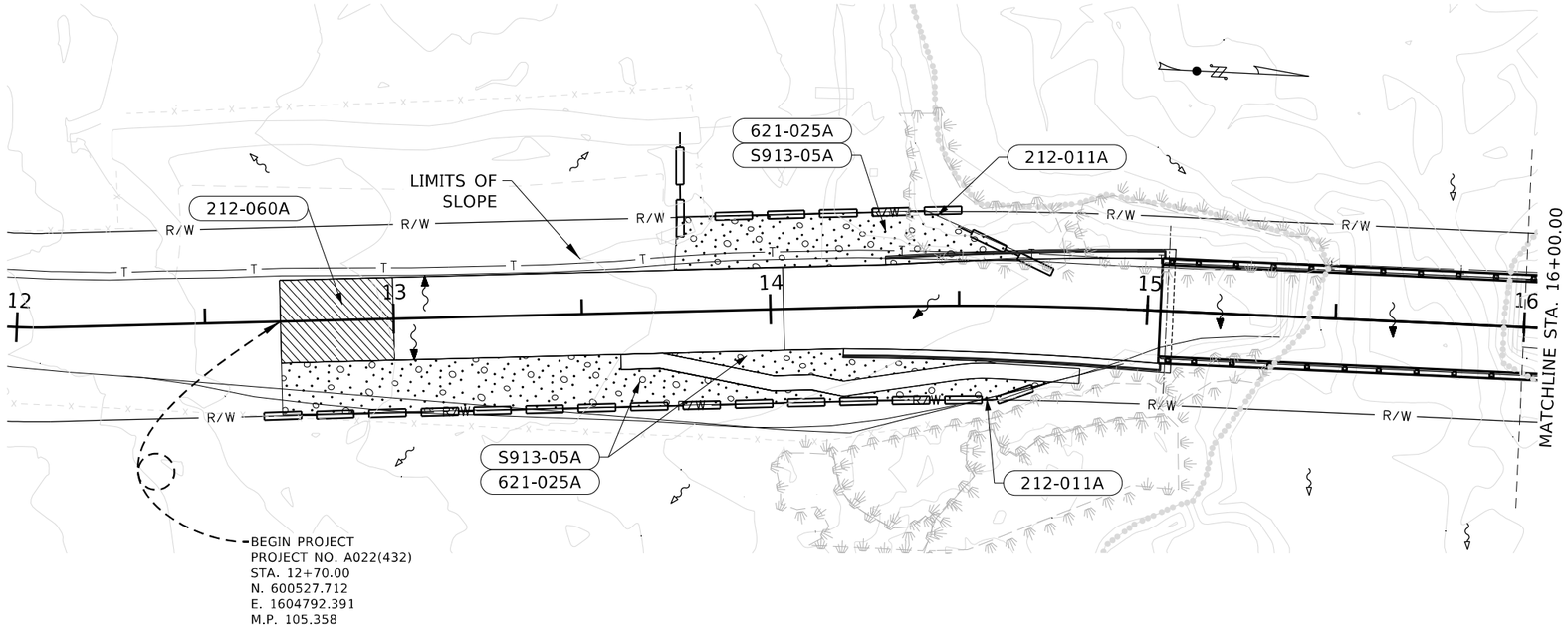

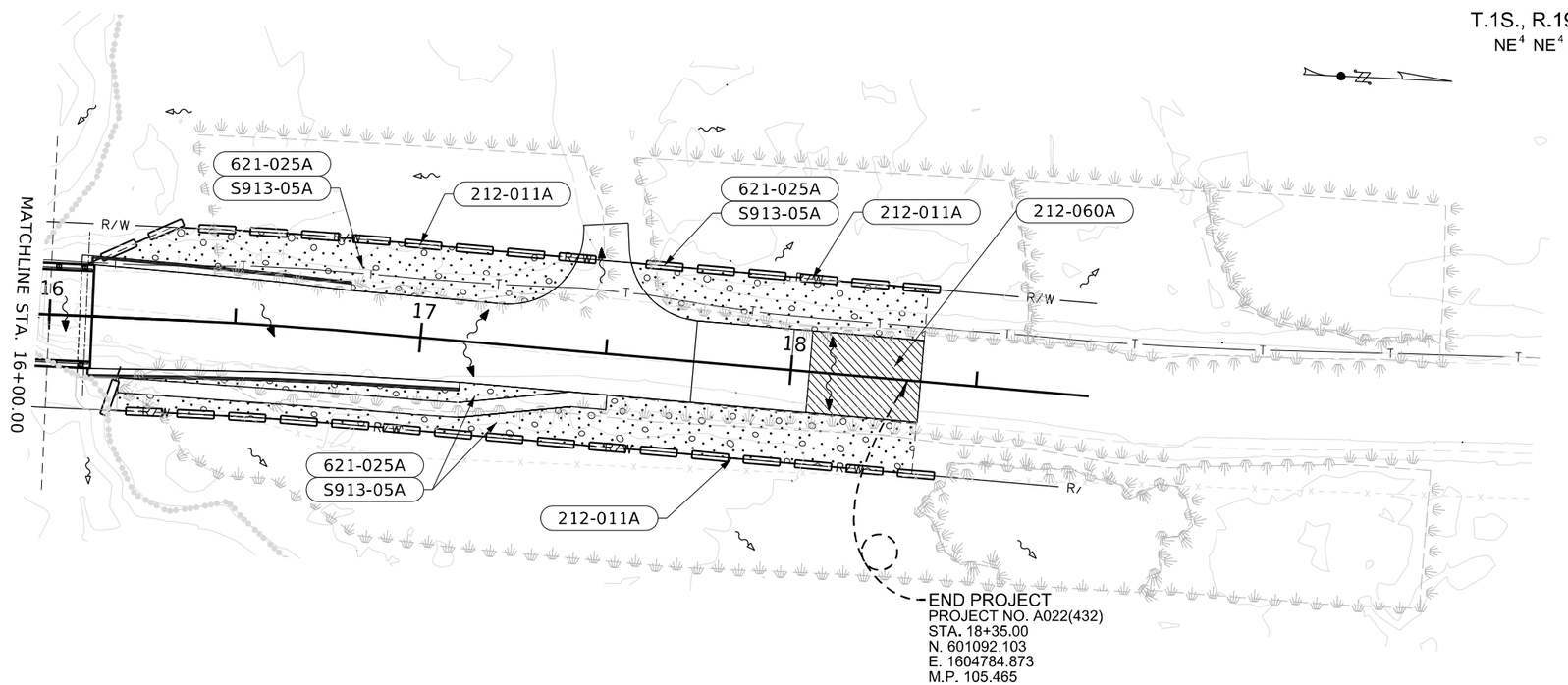

212-011A		FIBER WATTLE
205	FT	12+69.82 (25.08' R) - 14+66.68 (12.75' R)
120	FT	13+77.12 (47.51' L)- 14+67.20 (12.49' L)
140	FT	16+09.84 (14.18' L)- 17+39.77 (25.00' L)
240	FT	16+16.22 (25.00' R)- 18+35.00 (25.00' R)
90	FT	17+54.95 (25.00' L)- 18+35.00 (25.00' L)

212-060A		STABILIZE CONSTRUCTION ENTRANCE
1	EACH	12+70.00 (11.00'R & 11.00'L) 13+00.00 (11.00'R & 11.00'L)
1	EACH	18+05.00 (11.00'R & 11.00'L) 18+35.00 (11.00'R & 11.00'L)

621-025A		MULCH ANCHORING (TACKIFIER TEMPORARY)
0.052	ACRE	12+69.82 R TO 14+74.92 R
0.033	ACRE	13+74.79 L TO 14+68.84 L
0.011	ACRE	13+71.10 R TO 14+59.94 R
0.040	ACRE	16+09.84 L TO 17+39.77 L
0.054	ACRE	16+16.22 R TO18+35.00 R
0.008	ACRE	16+19.39 R TO17+41.25 R
0.031	ACRE	17+54.95 L TO18+35.00 L

S913-05A		SP ROCK MULCH
35	CY	12+69.82 R TO 14+74.92 R
25	CY	13+74.79 L TO 14+68.84 L
10	CY	13+71.10 R TO 14+59.94 R
30	CY	16+09.84 L TO 17+39.77 L
35	CY	16+16.22 R TO18+35.00 R
5	CY	16+19.39 R TO17+41.25 R
20	CY	17+54.95 L TO18+35.00 L

LEGEND
- FIBER WATTLE
- DESIGN FLOW
- EXISTING FLOW
- SP ROCK MULCH
- PAVED ROADWAY
- GRAVEL ROADWAY/ APPROACH
- WETLANDS
- STABILIZE CONSTRUCTION ENTRANCE

See ITD BMP Manual Chapter 2, SC-2, SC-6, and SC-8 for Fiber Wattle (Fiber Roll) Installations.

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REVISIONS			
NO.	DATE	BY	DESCRIPTION

DESIGNED	C. KOON
DESIGN CHECKED	E. HULSLANDER
DETAILED	K. JACKSON
DRAWING CHECKED	B. KELLER

SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY

CADD FILE NAME 222097, swppp_00.dgn

DRAWING DATE: JUNE 2025

IDAHO TRANSPORTATION DEPARTMENT
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KELLER ASSOCIATES

PROJECT NO. A022(432)

POLLUTION PREVENTION PLAN
KILPATRICK BR
BLAINE COUNTY

ENGLISH

COUNTY BLAINE

KEY NUMBER 22432

SHEET 19 OF 23

PROFESSIONAL ENGINEER LICENSED
Docusigned by: B273EB73AC7D47A...
17544
7/18/2025
STATE OF IDAHO
CLIFTON KOON

SIGN ASSEMBLY NO.	STATION LT. OR RT.	RAMP NO.	FOUNDATION SIZE	POST TYPE	NO. OF POSTS	POST SPACING	APPROX. LENGTH OF 1st POST	APPROX. LENGTH OF 2nd POST	C (EOP TO POST)	E (HEIGHT FROM THE SHOULDER)	SIGN TYPE	SIGN DETAIL NUMBERS	SIGN SIZE W" x H"	APPROX. SQ. FT. OF SIGN	SIGN BACKGROUND COLOR	SIGN BRACKETS & BRACE ANGLES WEIGHT (LBS)	BRACKET NO.	REMARKS
1	STA 14+89 RT.		8" X 8" X 36"	E-1	1		8' - 6"		1' - 0"	4' - 0"	B	OM3-R	12 x 36	3	YELLOW			OBJECT MARKER
2	STA 14+89 LT.		8" X 8" X 36"	E-1	1		8' - 6"		1' - 0"	4' - 0"	B	OM3-L	12 x 36	3	YELLOW			OBJECT MARKER
3	STA 16+23 RT.		8" X 8" X 36"	E-1	1		6' - 6"		0' - 9"	4' - 0"	B	OM2-1V	6 x 12	0.5	WHITE			OBJECT MARKER
4	STA 16+23 LT.		8" X 8" X 36"	E-1	1		6' - 6"		0' - 9"	4' - 0"	B	OM2-1V	6 x 12	0.5	WHITE			OBJECT MARKER
5	STA 16+23 RT.		8" X 8" X 36"	E-1	1		6' - 6"		0' - 9"	4' - 0"	B	OM2-1V	6 x 12	0.5	WHITE			OBJECT MARKER
6	STA 16+23 LT.		8" X 8" X 36"	E-1	1		6' - 6"		0' - 9"	4' - 0"	B	OM2-1V	6 x 12	0.5	WHITE			OBJECT MARKER
7	STA 16+23 LT.		8" X 8" X 36"	E-1	1		8' - 6"		1' - 0"	4' - 0"	B	OM3-L	12 x 36	3	YELLOW			OBJECT MARKER
8	STA 16+23 LT.		8" X 8" X 36"	E-1	1		8' - 6"		1' - 0"	4' - 0"	B	OM3-R	12 x 36	3	YELLOW			OBJECT MARKER

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REVISIONS			
NO.	DATE	BY	DESCRIPTION

DESIGNED C. KOON
DESIGN CHECKED E. HULSLANDER
DETAILED K. JACKSON
DRAWING CHECKED B. KELLER

SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY
CADD FILE NAME 222097, ssum_001.dgn
DRAWING DATE: JUNE 2025

IDAHO TRANSPORTATION DEPARTMENT
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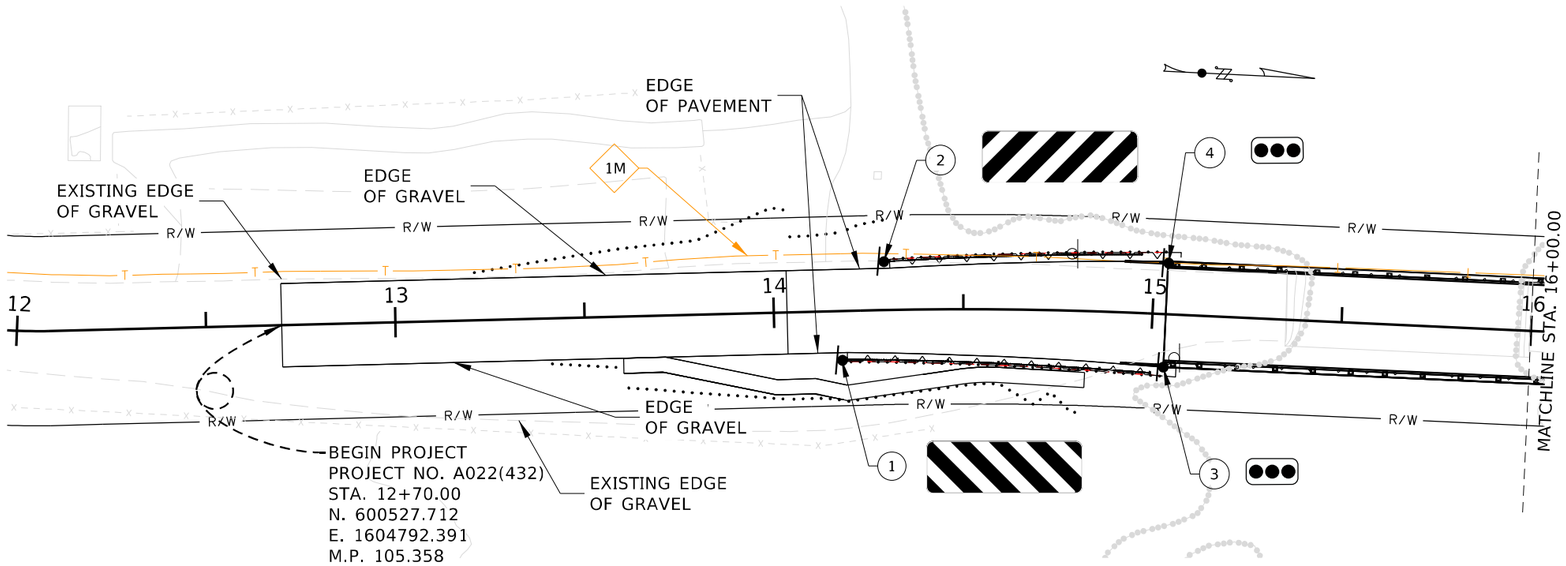
KELLER ASSOCIATES

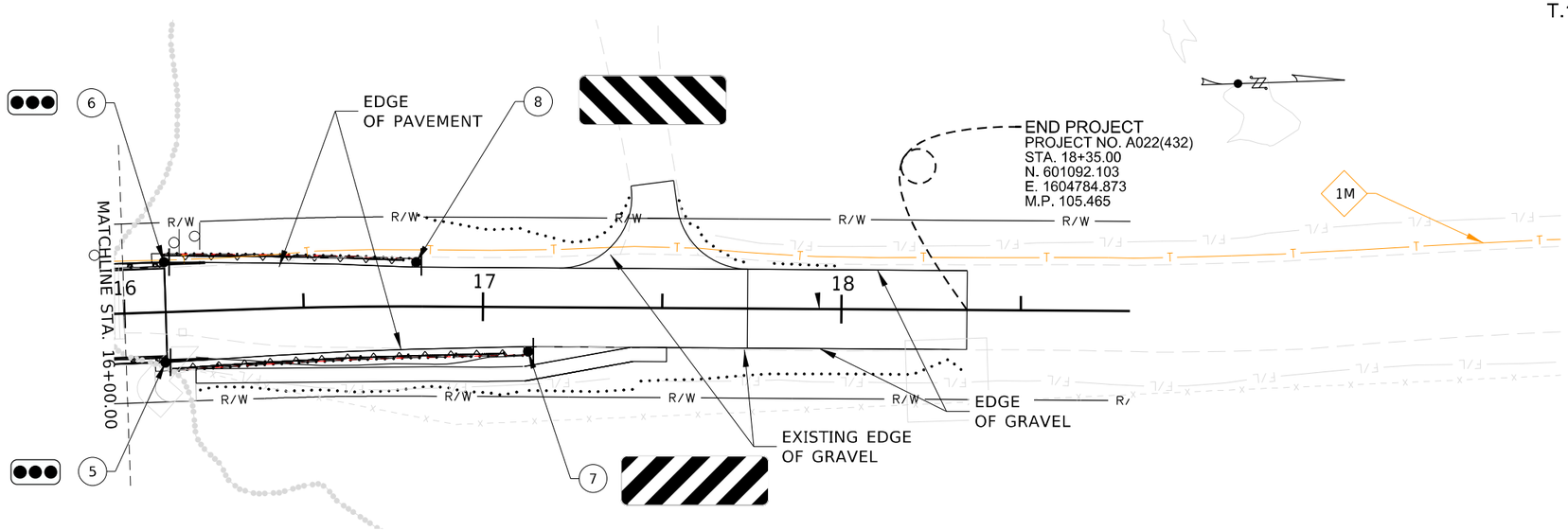
PROJECT NO.
A022(432)

SIGNING SUMMARY
KILPATRICK BR
BLAINE COUNTY

ENGLISH
COUNTY BLAINE
KEY NUMBER 22432
SHEET 20 OF 23

PROFESSIONAL ENGINEER LICENSED
Docusigned by: B273EB73AC7D47A...
17544
7/18/2025
STATE OF IDAHO
CLIFTON KOON





1 LUMEN

R RETAIN AND PROTECT EXISTING UTILITY

M RELOCATE AND MOVE AT COMPANY EXPENSE

REVISIONS			
NO.	DATE	BY	DESCRIPTION

DESIGNED C. KOON	SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY
DESIGN CHECKED E. HULSLANDER	
DETAILED K. JACKSON	CADD FILE NAME 222097, sns_00.dgn
DRAWING CHECKED B. KELLER	DRAWING DATE: JUNE 2025

IDAHO TRANSPORTATION DEPARTMENT
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KELLER ASSOCIATES

PROJECT NO.	SIGNING & UTILITY
A022(432)	KILPATRICK BR BLAINE COUNTY

ENGLISH

COUNTY BLAINE
KEY NUMBER 22432
SHEET 21 OF 23

PROFESSIONAL ENGINEER
LICENSED
Checked by:
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7/18/2025
STATE OF IDAHO
CLIFTON KOON

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SIGN SUMMARY

CLASS "B" SIGNING

TYPE	LEGEND	WIDTH (IN.)	HEIGHT (IN.)	SQ. FT.	QUANT. REQ'D.	TOTAL SQ. FT.
W20-2	ROAD CLOSED AHEAD	48	48	16	3	48
W20-3	DETOUR AHEAD	48	48	16	3	48
W20-3 (MOD)	RIVER CLOSED AHEAD	48	48	16	2	32
R11-2	ROAD CLOSED	48	30	10	2	20
R11-2 (MOD)	BRIDGE OUT	48	30	10	2	20
M4-8a	END DETOUR	24	18	3	1	3
R11-4	ROAD CLOSED TO THRU TRAFFIC	60	30	12.5	2	25
M4-9R	DETOUR	30	24	5	1	5
M4-9L	DETOUR	30	24	5	1	5
M4-10R	DETOUR	48	18	6	1	6
M4-10L	DETOUR	48	18	6	1	6
W16-8P(0)	KILPATRICK BRIDGE ROAD	27	8	1.5	6	9
					SUBTOTAL SQ. FT.	227
					20% CONTINGENCY	45
					TOTAL SQ. FT.	**272**

SUMMARY OF TRAFFIC CONTROL ITEMS

ITEM NUMBER	DESCRIPTION	QUANTITY	UNIT
626-010A	TEMPORARY TRAFFIC CONTROL SIGNS	272	SF
626-040A	BARRICADE TY 3	6	EACH
626-100A	MISC TEMPORARY TRAF CONT ITEMS	1000	CA
626-105A	TEMPORARY TRAFFIC CONTROL MAINTENANCE	400	HR

GENERAL NOTES:

1. MEET OR EXCEED THE REQUIREMENTS OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), AS ADOPTED BY THE STATE.
2. SUBMIT A TRAFFIC CONTROL PLAN FOR APPROVAL IF THE TRAFFIC CONTROL PLAN AS SHOWN DOES NOT CONFORM TO THE CONTRACTOR'S METHOD OF OPERATION.
3. REMOVE CONFLICTING SIGNS DURING CONSTRUCTION OR COVER USING AN APPROVED METHOD. BLACK PLASTIC WILL NOT BE ACCEPTED. SIGNS DAMAGED BY THE CONTRACTOR WILL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
4. ALL DISTANCES SHOWN BETWEEN SIGNS ARE MINIMUMS. ADJUST SIGN SPACINGS IN THE FIELD DEPENDING ON PREVAILING CONDITIONS AND/OR CONFLICTS WITH EXISTING SIGNS.
5. REMOVE OR LAY DOWN INACTIVE/UNUSED SIGNS AND SIGN STANDS AT LEAST 15 FEET FROM THE TRAVELED WAY.
6. SIGNS IN PLACE MORE THAN 3 DAYS MUST BE INSTALLED ON WOOD/METAL POSTS.

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REVISIONS			
NO.	DATE	BY	DESCRIPTION

DESIGNED C. KOON
DESIGN CHECKED E. HULSLANDER
DETAILED K. JACKSON
DRAWING CHECKED B. KELLER

SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY
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IDAHO TRANSPORTATION DEPARTMENT
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KELLER ASSOCIATES

PROJECT NO. A022(432)

TRAFFIC SIGN SUMMARY
KILPATRICK BR
BLAINE COUNTY

ENGLISH
COUNTY BLAINE
KEY NUMBER 22432
SHEET 22 OF 23

PROFESSIONAL ENGINEER LICENSED
Docusigned by: B273EB73AC7D47A...
17544
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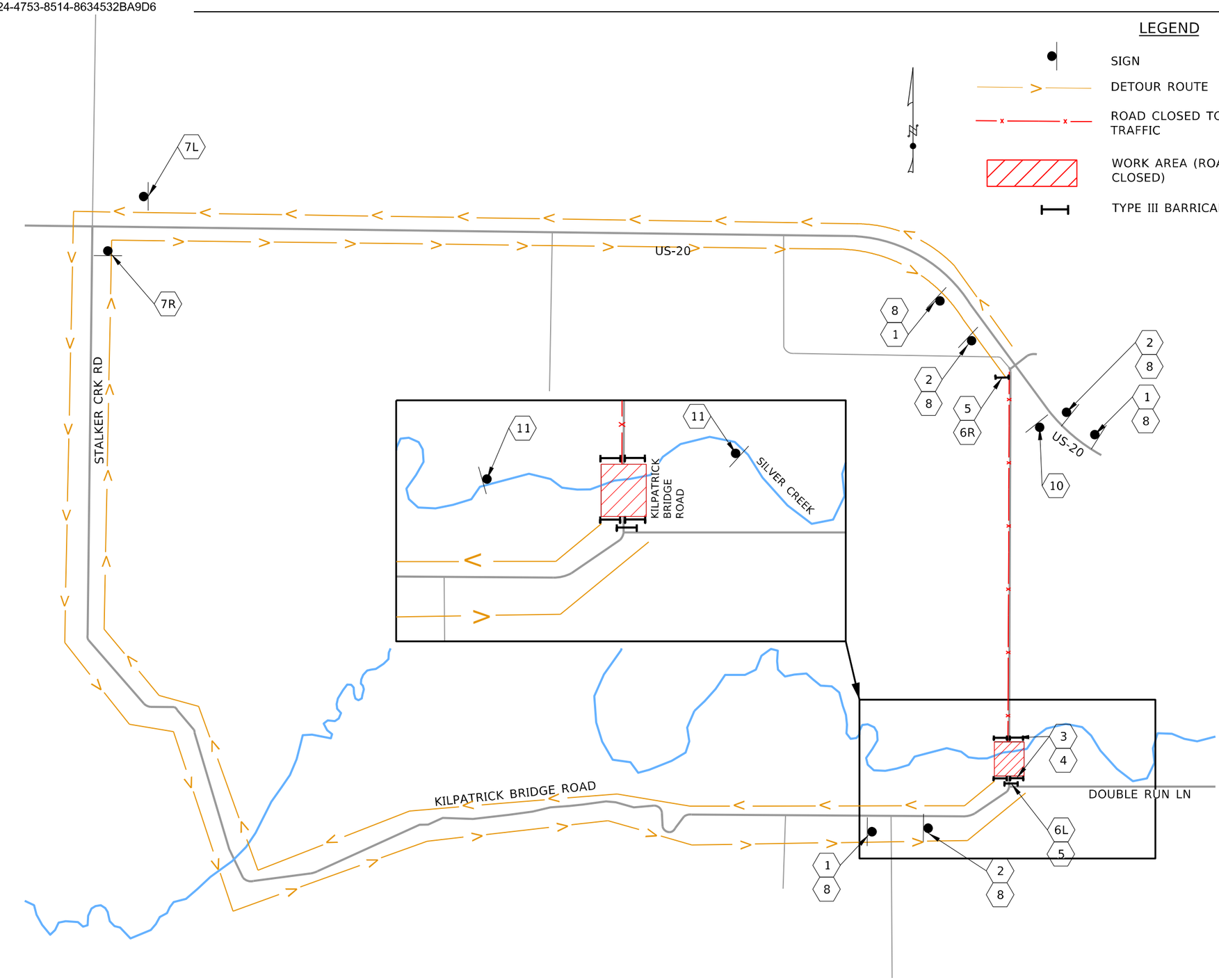
STATE OF IDAHO
CLIFTON KOON



LEGEND

- SIGN
- DETOUR ROUTE
- ROAD CLOSED TO THRU TRAFFIC
- WORK AREA (ROAD CLOSED)
- TYPE III BARRICADE

CONSTRUCTION SIGNAGE

1	ROAD CLOSED AHEAD	W20-2 48"x48"
2	DETOUR AHEAD	W20-3 48"x48"
3	ROAD CLOSED	R11-2 48"x30" ON TYPE III BARRICADE
4	BRIDGE OUT	R11-2 (MOD) 48"x30" ON TYPE III BARRICADE
5	ROAD CLOSED TO THRU TRAFFIC	R11-4 60"x30" ON TYPE III BARRICADE
6R	DETOUR	M4-10R 48"x18"
6L	DETOUR	M4-10L 48"x18"
7R	DETOUR	M4-9R 30"x24"
7L	DETOUR	M4-9L 30"x24"
8	KILPATRICK BRIDGE RD	W16-8P(0) 27"x8"
10	END DETOUR	M4-8a 24"x18"
11	RIVER CLOSED AHEAD	W20-3 (MOD) 48"x48"

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REVISIONS			
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DETAILED K. JACKSON
DRAWING CHECKED B. KELLER

SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY
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DRAWING DATE: JUNE 2025

IDAHO TRANSPORTATION DEPARTMENT
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KELLER ASSOCIATES

PROJECT NO. A022(432)

TEMPORARY TRAFFIC CONTROL PLAN
KILPATRICK BR
BLAINE COUNTY

ENGLISH
COUNTY BLAINE
KEY NUMBER 22432
SHEET 23 OF 23

PROFESSIONAL ENGINEER
LICENSED
Docusigned by:
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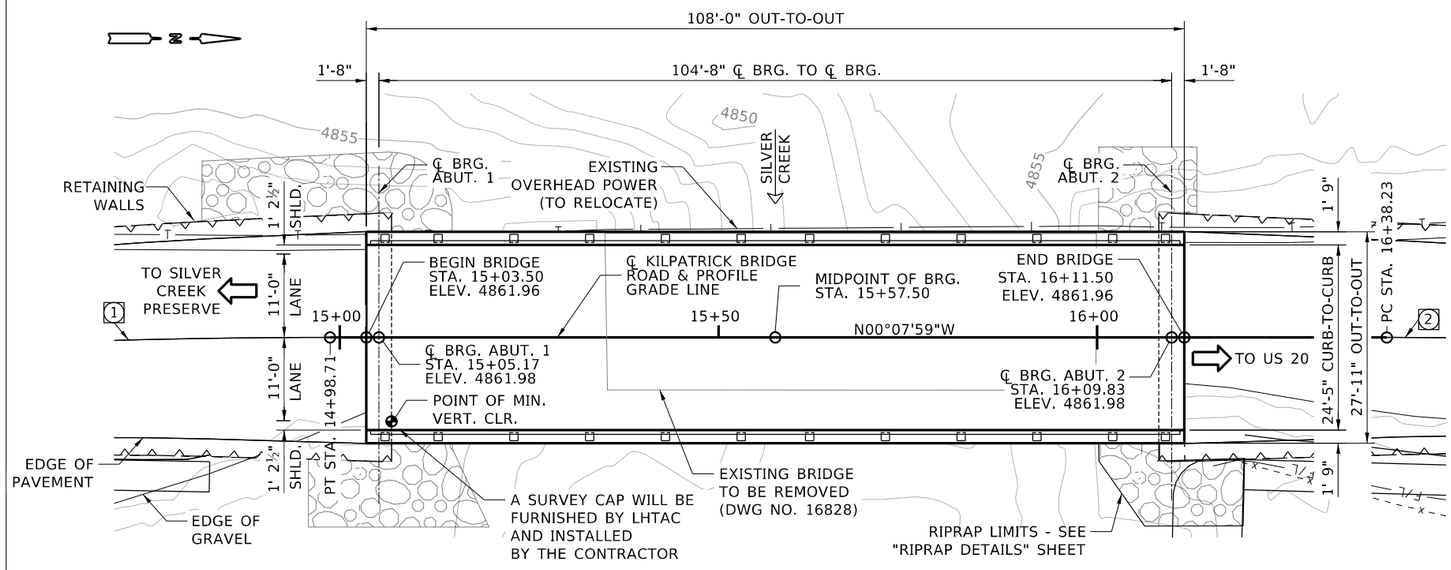
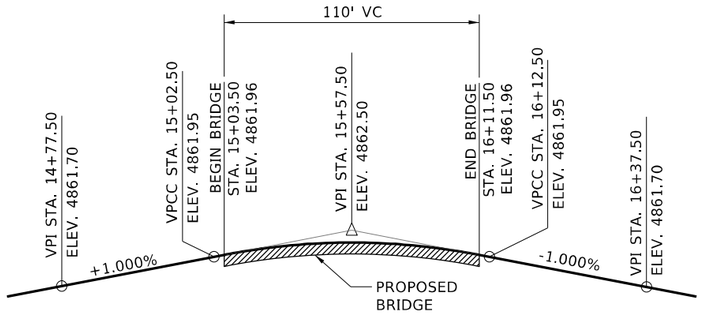
17544
5/7/18/2025
STATE OF IDAHO
CLIFTON KOON



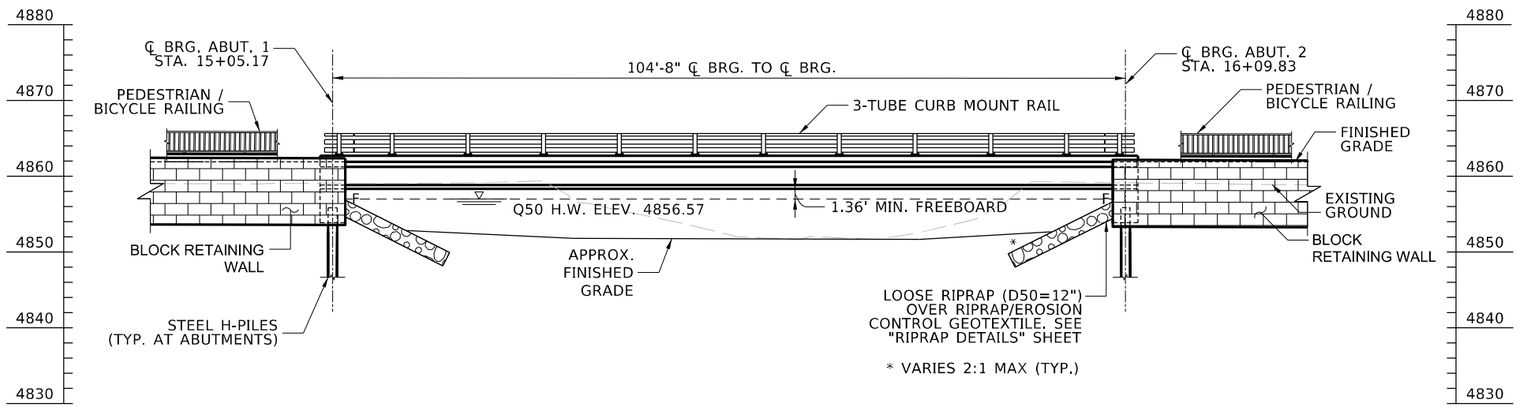
PLAN
1" = 20'



PROFILE GRADE
N.T.S.
* PROFILE GRADE MEASURED BASED ON TOP OF OVERLAY.

HORIZONTAL CURVE DATA

1		2	
Δ	= 04°03'36" RT	Δ	= 02°24'03" RT
T	= 37.93'	T	= 22.42'
L	= 75.82'	L	= 44.84'
R	= 1070.00'	R	= 1070.00'
PC	= 14+22.89	PC	= 16+38.23
PI	= 14+60.82	PI	= 16+60.65
PT	= 14+98.71	PT	= 16+83.07



ELEVATION
1" = 20'

HYDRAULIC DATA

FLOW PROFILE	DISCHARGE	H.W. ELEV.	VELOCITY
DESIGN [Q_{50}]	569 CFS	4856.57 FT	1.62 FT/S
BASE [Q_{100}]	624 CFS	4856.67 FT	1.71 FT/S
SCOUR [Q_{scour}]	749 CFS	4856.86 FT	1.94 FT/S

NOTES:
1. RESTORE AREAS AFFECTED BY CONSTRUCTION WITHIN SILVER CREEK USING NATIVE SEDIMENTS AND FINES EXCAVATED FROM WITHIN THE CREEK BED.
2. SEE ROADWAY PLANS FOR CONCRETE BLOCK WALL LAYOUTS AND DETAILS, AND PED/BIKE RAILING DETAILS.

REVISIONS			
NO.	DATE	BY	DESCRIPTION

DESIGNED P. BLACKHAM
DESIGN CHECKED M. SLEGERS
DETAILED M. OKSTEN
DWG. CHECKED M. SLEGERS
CORRECTIONS

SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY
CADD FILE NAME 22097\Proj\Dev\Plan_Sheets\Bridge 22432_a_SITL.DGN
DRAWING DATE: MARCH 2025

IDAHO TRANSPORTATION DEPARTMENT
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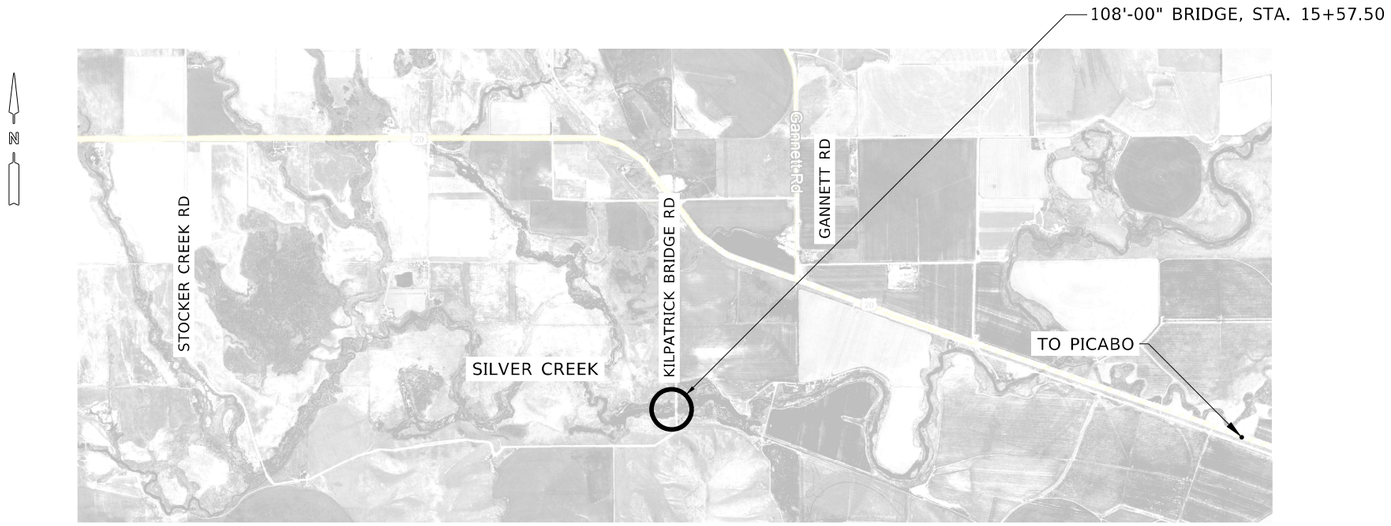
KELLER ASSOCIATES

ENGLISH
PROJECT NO.
A022 (432)

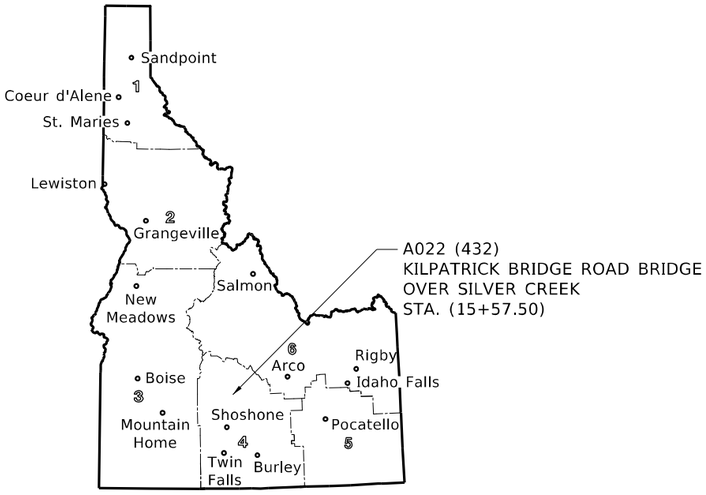
SITUATION & LAYOUT
108' PRESTRESSED CONCRETE GIRDER BRIDGE
KILPATRICK BRIDGE ROAD OVER SILVER CREEK
STATION 15+57.50 M.P. 105.41

BRIDGE PLANS
BRIDGE KEY NO. 23781
COUNTY BLAINE
KEY NO. 22432
BRIDGE DWG. NO. 18451
SHEET 1 OF 17

PROFESSIONAL ENGINEER
REGISTERED
9615
5/1/2025
STATE OF IDAHO
PAUL B. BLACKHAM
DocuSigned by: P.B.
68C64A401170453...



VICINITY MAP
N.T.S.



SHEET INDEX

ONE DIRECTIONAL TRAFFIC DATA

CONSTRUCTION YEAR - 2025

AADT..... 60

CAADT..... 10

11.0%

FUTURE YEAR (CONSTRUCTION + 20 YRS)

AADT..... 60

CAADT..... 10

11.0%

QUANTITIES

	203-020A	REMOVAL OF BRIDGE - FULL	1	EACH
*	210-005A	STRUCTURE EXCAVATION SCHEDULE NO. 1	89	CY
*	210-015A	COMPACTING BACKFILL	3	CY
	215-005A	GEOSYNTHETIC REINFORCED ABUTMENT BACKFILL	197	CY
*	502-140A	CONCRETE CLASS 40-A SCHEDULE NO. 1	29.2	CY
*	502-310A	CONCRETE CLASS 40AF SCHEDULE NO. 2	21.4	CY
*	502-385A	PRESTRESSED DECK BULB TEE GIRDER, 67" TOP FLANGE, 43" DEPTH	530.0	FT
	503-010A	METAL REINFORCEMENT SCHEDULE NO. 1	7438	LB
	503-015A	METAL REINFORCEMENT SCHEDULE NO. 2	1410	LB
	503-020A	EPOXY COATED METAL REINFORCEMENT	722	LB
*	504-050A	3-TUBE CURB MOUNTED RAIL	216.0	FT
	505-045A	PROVIDE & DRIVE STEEL H PILE (14 X 117)	444	FT
	505-205C	PROVIDE & INSTALL PILE SHOES OR TIPS (HP-14X117)	8	EACH
	505-215A	SPLICE STEEL PILE BEFORE DRIVING	4	EACH
	505-215B	SPLICE STEEL PILE DURING DRIVING	4	EACH
	507-005A	ELASTOMERIC BEARINGS PLAIN (GR.4) 24x12x0.5	10	EA
*	511-005A	CONCRETE WATERPROOF SYSTEM - TYPE E	293	SY
	560-005A	DEWATERING FOUNDATION	1	LS
	584-005A	TEMPORARY SHORING	1	LS
	586-005A	UTILITY CONDUIT	1	LS
	624-005A	LOOSE RIPRAP	192	CY
	640-010A	RIPRAP/EROSION CONTROL GEOTEXTILE	448	SY

* PAID BY PLAN QUANTITY

REVISIONS			
NO.	DATE	BY	DESCRIPTION
1			
2			
3			
4			
5			

DESIGNED: P. BLACKHAM
DESIGN CHECKED: M. SLEGERS
DETAILED: M. OKSTEN
DWG. CHECKED: M. SLEGERS
CORRECTIONS:

SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY

CADD FILE NAME: 222097\Proj\Dev\Plan_Sheets\Bridge 22432_b_NOTE_01.dgn

DRAWING DATE: MARCH 2025

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

ENGLISH

PROJECT NO. A022 (432)

SHEET INDEX, QUANTITIES, & VICINITY MAP

108' PRESTRESSED CONCRETE GIRDER BRIDGE
KILPATRICK BRIDGE ROAD OVER SILVER CREEK
STATION 15+57.50 M.P. 105.41

BRIDGE PLANS

BRIDGE KEY NO. 23781
COUNTY: BLAINE
KEY NO. 22432
BRIDGE DWG. NO. 18451
SHEET 2 OF 17

PROFESSIONAL ENGINEER
REGISTERED
9615
5/1/2025
STATE OF IDAHO
PAUL B. BLACKHAM
DocuSigned by: P Blackham 68C64A101170453...

DESIGN NOTES

DESIGN SPECIFICATIONS

"AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS" 9TH EDITION AND DECEMBER 2024 ITD BRIDGE DESIGN LRFD MANUAL.

DESIGN PROCEDURES

GIRDERS DESIGNED AS SIMPLE SPANS

RAILING IN ACCORDANCE WITH MASH TL-4. DESIGN SPEED IS 35 MPH.

PROPRIETARY COMPUTER SOFTWARE PROGRAMS USED TO FACILITATE DESIGN:

NAME	VERSION	RELEASE DATE	
PGSUPER	8.0.6.0	01/17/2024	

DESIGN LOADS

PERMANENT LOADS

DC	UNIT WEIGHT OF REINFORCED CONCRETE	0.150 kcf
DW	INITIAL WEARING SURFACE	0.029 ksf
	FUTURE WEARING SURFACE	0.028 ksf
EV	UNIT WEIGHT OF SOIL	0.135 kcf
EH	ACTIVE PRESSURE ABOVE HIGH WATER ELEVATION	0.038 kcf
	ACTIVE PRESSURE BELOW HIGH WATER ELEVATION	0.083 kcf
	AT REST PRESSURE ABOVE HIGH WATER ELEVATION	0.058 kcf
	AT REST PRESSURE BELOW HIGH WATER ELEVATION	0.093 kcf

TRANSIENT LOADS

LL	HL-93 IN ACCORDANCE WITH "AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS" ARTICLE 3.6.1.3	
IM	DYNAMIC ALLOWANCE APPLIED TO TRUCK & TANDEM	2.77 ft
LS	LIVE LOAD SURCHARGE AT ABUTMENT	3.16 ft
TU	UNIFORM TEMPERATURE RANGE	0°F TO 80°F
	BASE SETTING TEMPERATURE	60°F

EXTREME EVENT LOADS

EQ	SITE CLASS	D
	ACCELERATION COEFFICIENT S_{D1}	0.170 g
	SEISMIC PERFORMANCE ZONE	2

PILE DESIGN LOADS FOR INTEGRAL ABUTMENT

STRENGTH LIMIT STATE

	ABUTMENT 1	ABUTMENT 2
NOMINAL AXIAL RESISTANCE R_n =	800 kips	800 kips
AXIAL RESISTANCE FACTOR Φ =	0.5	0.5
FACTORED AXIAL RESISTANCE ΦR_n =	400 kips	400 kips
MAX. APPLIED AXIAL LOAD Q =	378 kips	378 kips
MIN. APPLIED AXIAL LOAD Q =	191 kips	191 kips

PILE DESIGN DATA FOR SCOUR

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

ABUTMENT = 3.22 ft

GENERAL NOTES

MATERIALS, CONSTRUCTION AND WORKMANSHIP IN ACCORDANCE WITH THE STATE OF IDAHO TRANSPORTATION DEPARTMENT, "STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION", 2023 EDITION, 2024 SUPPLEMENTALS TO THE STANDARD SPECIFICATIONS, THE PROJECT PLANS, AND SPECIAL PROVISIONS.

MATERIALS

CONCRETE: CURB - CLASS 40AF. . . . f'c = 4.00 ksi

ABUTMENTS AND WINGWALLS - CLASS 40A . . . . f'c = 4.00 ksi

PRESTRESS GIRDERS . . . . SEE GIRDER SHEETS

METAL REINFORCEMENT: AASHTO M31, GRADE 60 TYPE S . . . . fy = 60.00 ksi

PRESTRESSING REINFORCEMENT: AASHTO M203, GRADE 270 LOW RELAXATION . . . . fpu = 270.00 ksi

PLAN DIMENSIONS AND ELEVATIONS

BEVEL EXPOSED EDGES OF CONCRETE $\frac{3}{4}$" UNLESS NOTED OTHERWISE.

DIMENSIONS TO REINFORCING STEEL ARE TO CENTERLINE OF BAR UNLESS NOTED OTHERWISE.

PROVIDE 2" CONCRETE COVER MEASURING 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. GLASS FIBER REINFORCED POLYMER REINFORCEMENT IS DESIGNATED BY A (G) AFTER THE BAR MARK.

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 4 (60) DUROMETER POLYCHLOROPRENE
DESIGN LOADS: (SERVICE 1)
ABUTMENT. . . . 57.46 kips

MINIMUM LAP SPLICES

LAP SPLICES ARE PERMITTED ONLY AT THE LOCATIONS SPECIFIED ON THE PLANS. WHERE SPECIFIED BAR LENGTHS EXCEED STANDARD FABRICATION LENGTHS, MINIMUM SPLICES MAY BE PROVIDED AS FOLLOWS:

MINIMUM LAP SPLICE LENGTHS

BAR TYPE	#3	#4	#5	#6	#7	#8	#9	#10	#11
UNCOATED	2'-0"	2'-0"	2'-0"	2'-5"	2'-9"	3'-3"	3'-7"	4'-0"	4'-3"
UNCOATED (TOP)*	2'-0"	2'-1"	2'-7"	3'-1"	3'-8"	4'-1"	4'-7"	5'-2"	5'-9"
EPOXY COATED	2'-0"	2'-5"	2'-11"	3'-7"	4'-2"	4'-9"	5'-4"	5'-11"	6'-8"
EPOXY COATED (TOP)*	2'-0"	2'-8"	3'-4"	4'-0"	4'-8"	5'-4"	5'-11"	6'-9"	7'-6"

*TOP BARS ARE HORIZONTAL BARS WITH 12" OR MORE OF WET CONCRETE PLACED BELOW.

REVISIONS			
NO.	DATE	BY	DESCRIPTION

DESIGNED: P. BLACKHAM
DESIGN CHECKED: M. SLEGERS
DETAILED: M. OKSTEN
DWG. CHECKED: M. SLEGERS
CORRECTIONS:

SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY

CADD FILE NAME: 222097\Proj\Dev\Plan_Sheets\Bridge 22432_b_NOTE_02.DGN

DRAWING DATE: MARCH 2025

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

ENGLISH

PROJECT NO. A022 (432)

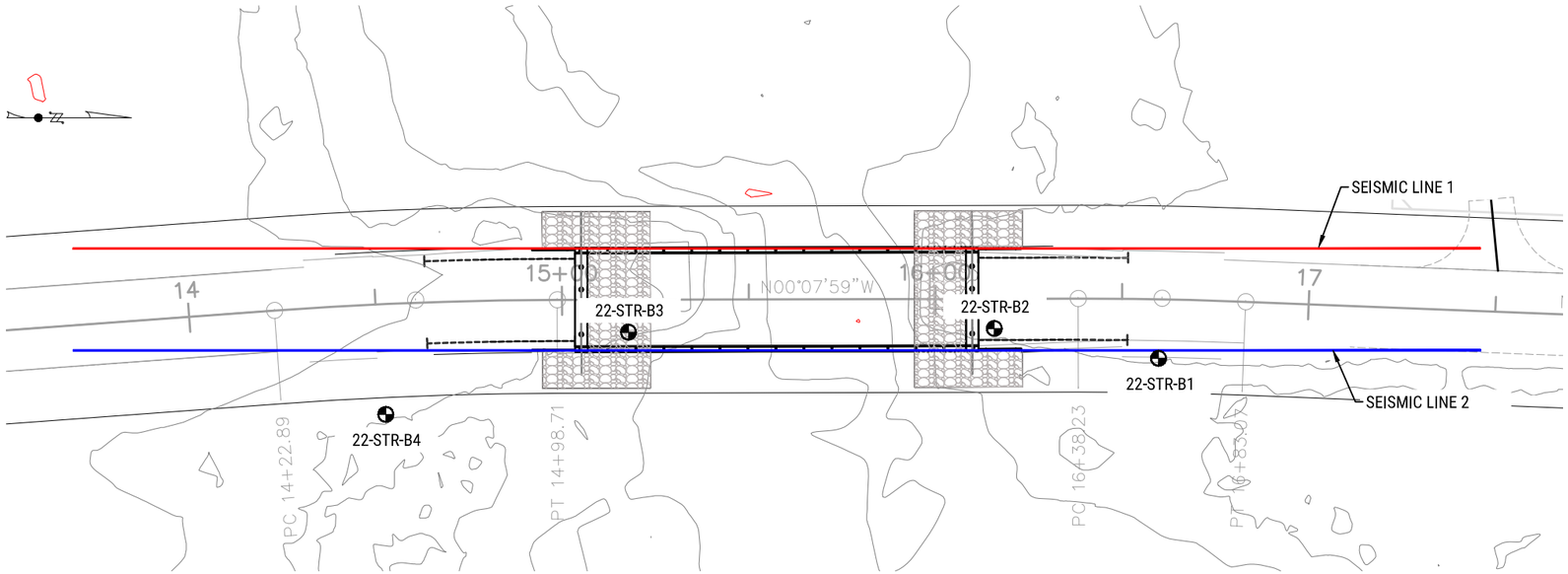
DESIGN AND GENERAL NOTES

108' PRESTRESSED CONCRETE GIRDER BRIDGE
KILPATRICK BRIDGE ROAD OVER SILVER CREEK
STATION 15+57.50 M.P. 105.41

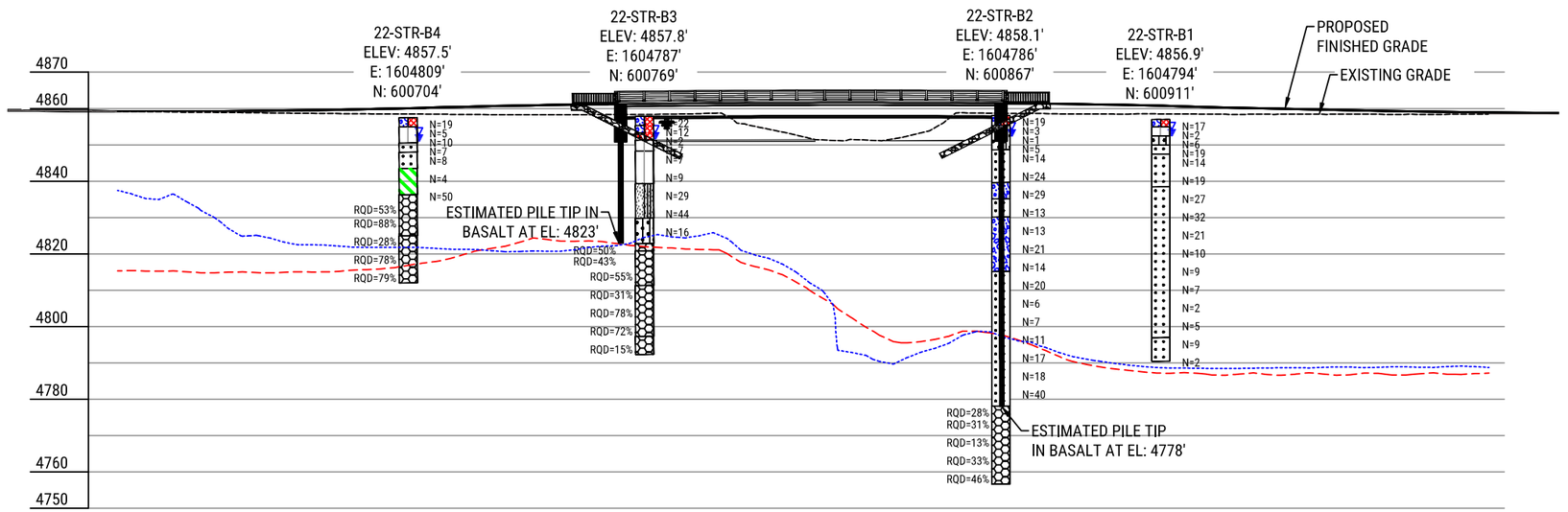
BRIDGE PLANS

BRIDGE KEY NO. 23781
COUNTY: BLAINE
KEY NO. 22432
BRIDGE DWG. NO. 18451
SHEET 3 OF 17

PROFESSIONAL ENGINEER
REGISTERED
9615
5/1/2025
STATE OF IDAHO
PAUL B. BLACKHAM
DocuSigned by: P Blackham
68C64A191170453...



PLAN VIEW



PROFILE VIEW

STRATA SYMBOLS

SYMBOL	DESCRIPTION
	LAYER 1 POORLY GRADED GRAVEL WITH SAND (GP)
	LAYER 2 SANDY SILT (ML) SILT WITH SAND (ML)
	LAYER 3 SILTY SAND (SM)
	LAYER 4 POORLY GRADED SAND (SP) POORLY GRADED SAND WITH GRAVEL (SP)
	LAYER 5 CLAYEY GRAVEL WITH SAND (GC)
	LAYER 6 POORLY GRADED SAND WITH SILT AND GRAVEL (SP-SM)
	LAYER 7 LEAN CLAY (CL)
	LAYER 8 BASALT ROCK

LEGEND

22-STR-B1	STRATA BORING DESIGNATION
ELEV	COLLAR ELEVATION (FT)
N	N-BLOWS OF 140 LB HAMMER FALLING 30" REQUIRED TO DRIVE A 2" OD SPLIT-SPOON SAMPLER A DISTANCE OF 12" (ASTM D1586)
RQD	ROCK QUALITY DESIGNATION
	SEISMIC LINE 1: V_c= 9,000 ft/s
	SEISMIC LINE 2: V_c= 9,000 ft/s
	RETAINING WALL

NOTES

1. INTERFACES BETWEEN SOIL TYPES ARE APPROXIMATE AND TRANSITIONS MAY BE GRADUAL.
2. THE BORING LOGS SHOW SUBSURFACE CONDITIONS ONLY AT THE LOCATION AND TIME THE BORINGS WERE DRILLED. THEY MAY NOT BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS OR TIMES.
3. CLASSIFICATION OF INTERVALS BETWEEN SAMPLES WAS INFERRED BASED ON DRILLING ACTION AND/OR OBSERVATIONS OF CUTTINGS
4. GROUNDWATER LEVELS SHOWN WERE ENCOUNTERED WHILE DRILLING AND ARE ANTICIPATED TO FLUCTUATE WITH TIME.

SCALE
VERTICAL: 1"=40'
HORIZONTAL: 1"=40'
0' 40'
SCALE: 1" = 40'

PROFESSIONAL ENGINEER LICENSED 18689 6/17/2025 STATE OF IDAHO ZACH LOOTENS

REVISIONS			
NO.	DATE	BY	DESCRIPTION

DRAWN BY: B. Pogson
DESIGN CHECKED: Z. Lootens
DETAILED: ----------
DWG. CHECKED: Z. Lootens
CORRECTIONS:

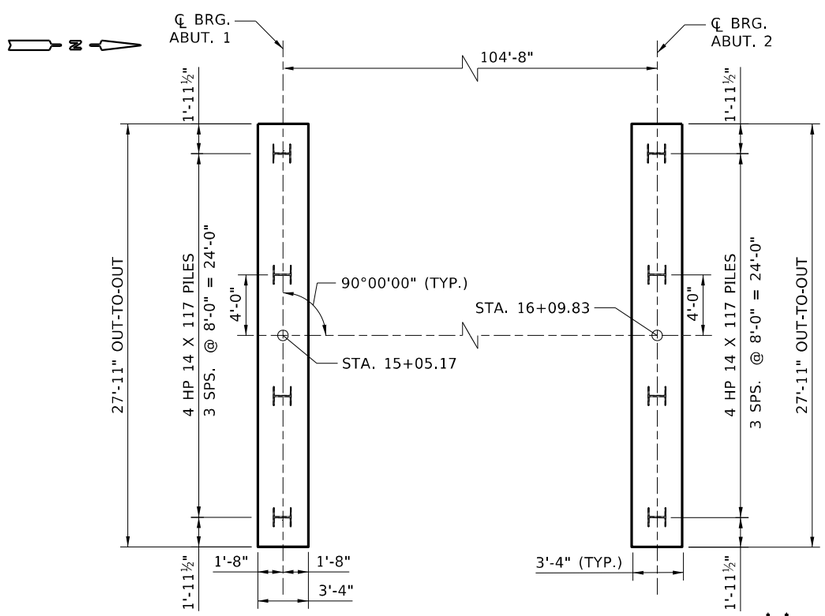
SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY
CADD FILE NAME:
DRAWING DATE:

IDAHO TRANSPORTATION DEPARTMENT
YOUR Safety - YOUR Mobility - YOUR Economic Opportunity
STRATA

ENGLISH
PROJECT NO.
A022 (432)

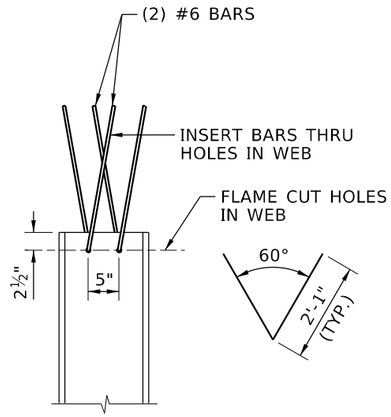
FOUNDATION INVESTIGATION PLAT
KILPATRICK BRIDGE ROAD OVER SILVER CREEK

BRIDGE PLANS
BRIDGE KEY NO. 23781
COUNTY: Blaine
KEY NO.: 22432
BRIDGE DWG. NO.: 18451
SHEET: 4 OF 17



FOOTING AND PILE LAYOUT

1" = 10'-0"



H-PILE TENSION CONNECTION

NTS

H DENOTES VERTICAL PILE

NOTES

MATERIAL SPECIFICATIONS

1. PROVIDE HP 14 X 117 STEEL H-PILES THAT CONFORM TO ASTM A572 GRADE 50.
2. PROVIDE SPLICE PLATES OF THE SAME MATERIAL AS THE STEEL H-PILES.
3. DRIVE PILES WITH H-PILE COMMON POINT HARDENED STEEL DRIVE SHOES WITH TEETH FOR ROCK AND GRAVEL WITH BOULDERS ACCORDING TO ITD'S QUALIFIED PRODUCTS LIST FOR CATEGORY 505 PILING AND SUB-CATEGORY (505.03D.)
4. 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

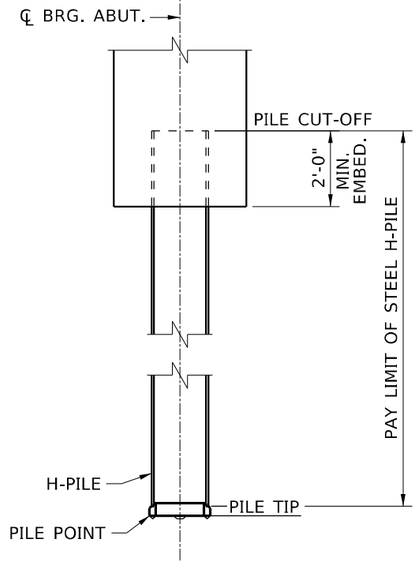
5. QUALIFICATION OF WELDERS, MATERIALS, INSPECTION, AND PROCEDURES FOR WELDING H-PILE MUST CONFORM TO THE CURRENT EDITION OF AWS D1.1.
6. PROVIDE WELDING QUALIFICATION TESTS TO DEMONSTRATE THE WELDABILITY OF SHELL PILES UNDER FIELD CONDITIONS FOR WELDS TO BE MADE ON THE PILES.
7. ATTACH PILE POINTS AND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

DRIVING DATA

8. SUBMIT THE TYPE AND OPERATION SPECIFICATIONS OF THE HAMMER 15 CALENDAR DAYS BEFORE PILE DRIVING BEGINS.
9. DRIVE PILES TO NOMINAL AXIAL RESISTANCE OF 800 KIPS AS DETERMINED BY A WAVE EQUATION ANALYSIS IN ACCORDANCE WITH 505.03 PART G.
10. THE RATED ENERGY FOR THE HAMMER USED FOR DRIVING PILES IS RECOMMENDED TO BE BETWEEN 50,000 AND 90,000 FOOT-POUNDS. THE RATED ENERGY RANGE MAY BE CHANGED IF APPROVED.
11. NOTIFY THE ENGINEER BEFORE FURTHER PILE DRIVING IF THE HIGHEST PILE TIP ELEVATION IS NOT OBTAINED.

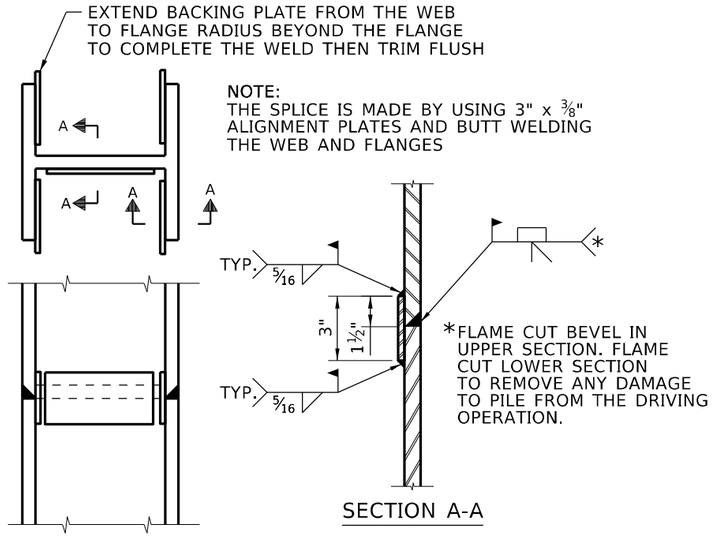
MISCELLANEOUS

12. PILE TIP ELEVATIONS ARE SHOWN FOR ESTIMATING PURPOSES ONLY.
13. ESTIMATED PILE LENGTHS ARE COMPUTED FROM PILE CUT-OFF AND ESTIMATED PILE TIP ELEVATIONS.



SECTION THROUGH ABUTMENT

NTS



SECTION A-A

H-PILE BUTT WELDED SPLICE DETAIL

NTS

PILE SCHEDULE					
LOCATION	NO.	ELEVATION			ESTIMATED PILE LENGTH (FT)
		PILE CUT-OFF	ESTIMATED PILE TIP	HIGHEST PILE TIP	
ABUT. NO. 1	ALL	4856	4823	4823.5	33
ABUT. NO. 2	ALL	4856	4778	4825.5	78

REVISIONS			
NO.	DATE	BY	DESCRIPTION
△			
△			
△			
△			
△			

DESIGNED P. BLACKHAM
DESIGN CHECKED M. SLEGERS
DETAILED M. OKSTEN
DWG. CHECKED M. SLEGERS
CORRECTIONS

SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY

CADD FILE NAME
222097\Proj\Dev\Plan_Sheets\Bridge 22432_d_FDPL_01.DGN

DRAWING DATE: MARCH 2025

IDAHO TRANSPORTATION DEPARTMENT
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KELLER ASSOCIATES

ENGLISH

PROJECT NO.
A022 (432)

PILE PLAN AND DETAILS

108' PRESTRESSED CONCRETE GIRDER BRIDGE
KILPATRICK BRIDGE ROAD OVER SILVER CREEK
STATION 15+57.50 M.P. 105.41

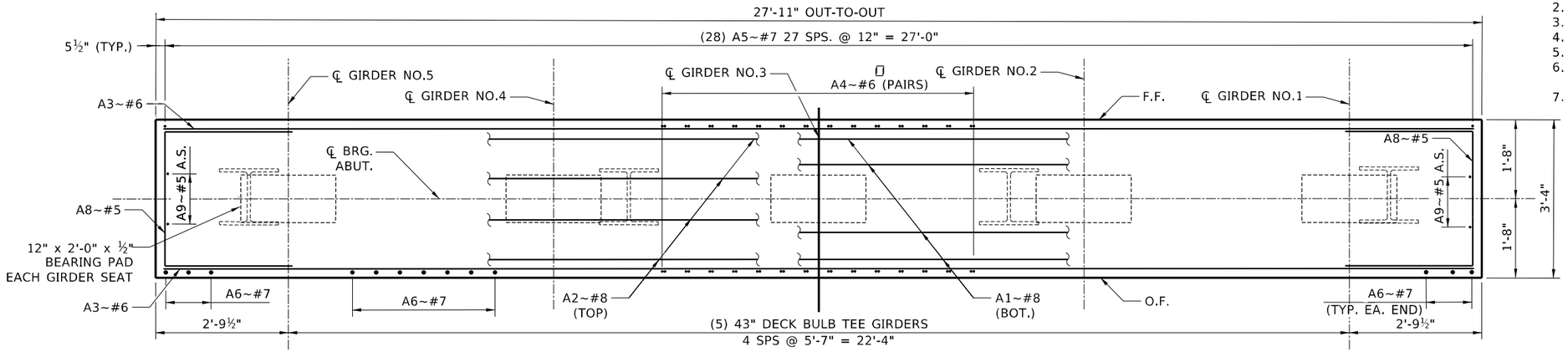
BRIDGE PLANS

BRIDGE KEY NO. 23781
COUNTY BLAINE
KEY NO. 22432
BRIDGE DWG. NO. 18451
SHEET 5 OF 17

PROFESSIONAL ENGINEER
REGISTERED
9615
5/1/2025
STATE OF IDAHO
PAUL B. BLACKHAM
DocuSigned by: PBlackham
68C64A101170453...

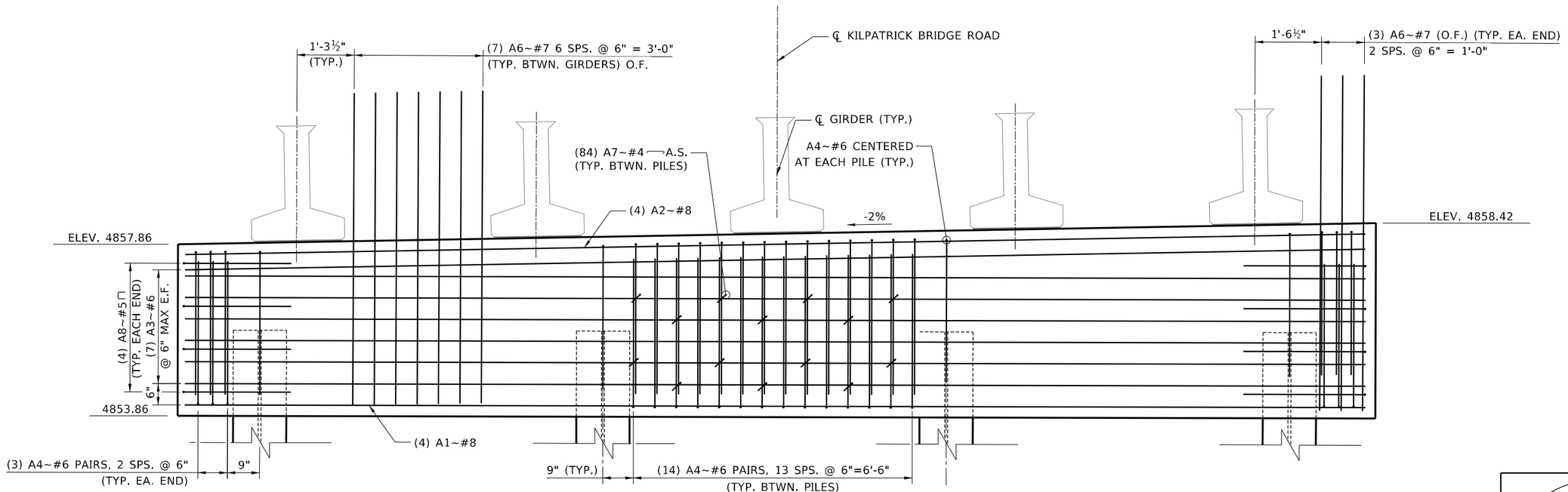
NOTES:

1. O.F. = OPEN FACE
2. F.F. = FILL FACE
3. E.F. = EACH FACE
4. A.S. - AS SHOWN
5. BTWN = BETWEEN
6. SEE "ABUTMENT DETAILS (SHEET 2 OF 4) FOR TYPICAL SECTION.
7. REPOSITION A5~#5 AND A6~#7 BARS UP TO 2" PARALLEL TO THE CL BRG. TO ALLOW PLACEMENT OF A4~#5 BAR SETS.



ABUTMENT PLAN

⅜" = 1'



ABUTMENT 1 ELEVATION

(ABUTMENT 1 SHOWN LOOKING BACK ON STATION; ABUTMENT 2 SIMILAR)

⅜" = 1'

REVISIONS			
NO.	DATE	BY	DESCRIPTION
△			
△			
△			
△			
△			

DESIGNED: P. BLACKHAM
DESIGN CHECKED: M. SLEGERS
DETAILED: M. OKSTEN
DWG. CHECKED: M. SLEGERS
CORRECTIONS:

SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY

CADD FILE NAME
222097\Proj\Dev\Plan_Sheets\Bridge 22432_e_DABT_01.DGN

DRAWING DATE: MARCH 2025

IDAHO TRANSPORTATION DEPARTMENT
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KELLER ASSOCIATES

ENGLISH

PROJECT NO.
A022 (432)

ABUTMENT DETAILS (1 OF 3)

108' PRESTRESSED CONCRETE GIRDER BRIDGE
KILPATRICK BRIDGE ROAD OVER SILVER CREEK
STATION 15+57.50 M.P. 105.41

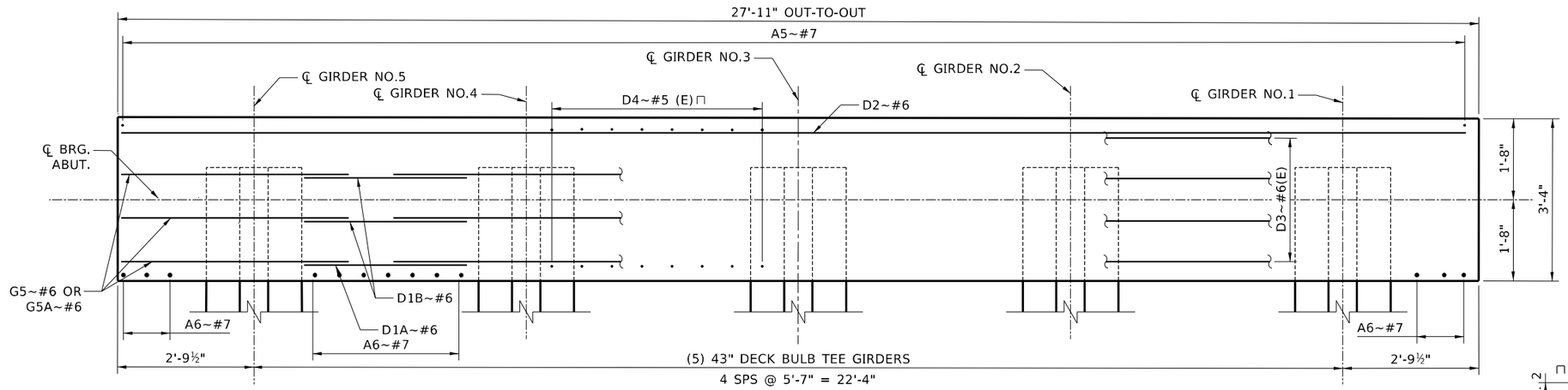
BRIDGE PLANS

BRIDGE KEY NO.	
23781	
COUNTY: BLAINE	KEY NO.: 22432
BRIDGE DWG. NO.: 18451	SHEET: 6 OF 17

PROFESSIONAL ENGINEER
REGISTERED
DocuSigned by: P Blackham
68C64A101170453...
9615
5/1/2025
STATE OF IDAHO
PAUL B. BLACKHAM

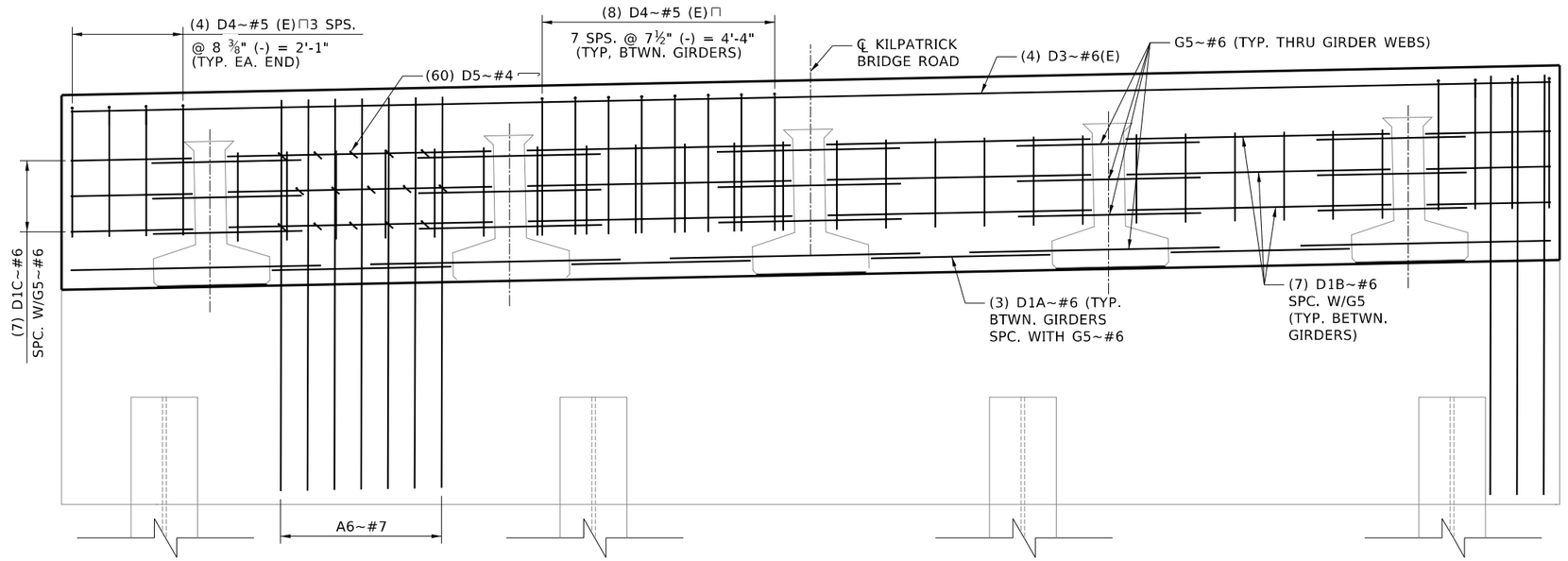
NOTE:

SEE NOTES ON "ABUTMENT DETAILS (1 OF 3)" SHEET.



ABUTMENT PLAN

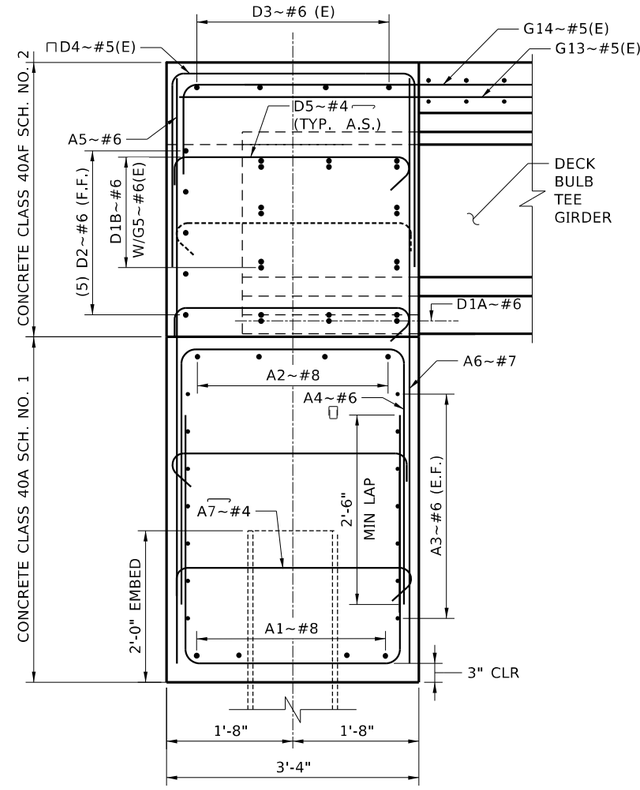
⅜" = 1'



ABUTMENT END DIAPHRAGM 1 ELEVATION

(ABUTMENT END DIAPHRAGM 1 SHOWN LOOKING BACK ON STATION; ABUTMENT 2 SIMILAR)

⅜" = 1'



TYPICAL SECTION

½" = 1'

REVISIONS			
NO.	DATE	BY	DESCRIPTION
△			
△			
△			
△			
△			

DESIGNED: P. BLACKHAM
DESIGN CHECKED: M. SLEGERS
DETAILED: M. OKSTEN
DWG. CHECKED: M. SLEGERS
CORRECTIONS:

SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY

CADD FILE NAME: 222097\Proj\Dev\Plan_Sheets\Bridge 22432_e_DABT_02.DGN

DRAWING DATE: MARCH 2025

IDAHO TRANSPORTATION DEPARTMENT
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KELLER ASSOCIATES

ENGLISH

PROJECT NO.
A022 (432)

ABUTMENT DETAILS (2 OF 3)

108' PRESTRESSED CONCRETE GIRDER BRIDGE
KILPATRICK BRIDGE ROAD OVER SILVER CREEK
STATION 15+57.50 M.P. 105.41

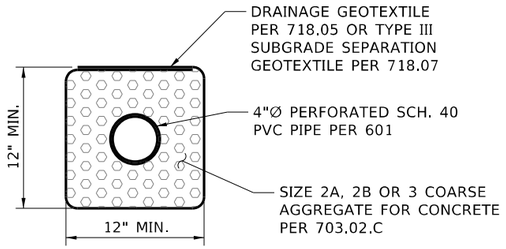
BRIDGE PLANS

BRIDGE KEY NO.	
23781	
COUNTY: BLAINE	KEY NO.: 22432
BRIDGE DWG. NO.: 18451	SHEET: 7 OF 17

PROFESSIONAL ENGINEER
REGISTERED
DocuSigned by: P Blackham
68C64A401170453...
9615
5/1/2025
STATE OF IDAHO
PAUL B. BLACKHAM

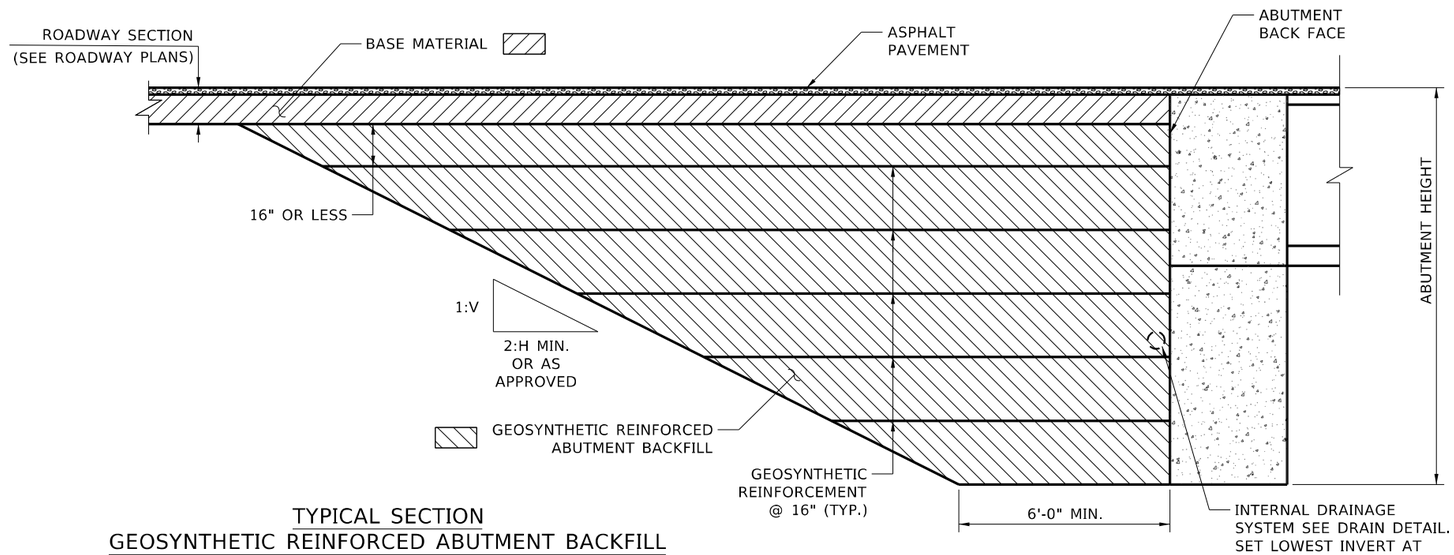
NOTES:

1. PROVIDE GEOSYNTHETIC REINFORCED ABUTMENT BACKFILL CONSISTING OF GRANULAR SUBBASE IN ACCORDANCE WITH 703.11.



TYPICAL DRAIN DETAIL

NTS



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

REVISIONS			
NO.	DATE	BY	DESCRIPTION

DESIGNED: P. BLACKHAM
DESIGN CHECKED: M. SLEGERS
DETAILED: M. OKSTEN
DWG. CHECKED: M. SLEGERS
CORRECTIONS:

SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY

CADD FILE NAME: 222097\Proj\Dev\Plan_Sheets\Bridge 22432_e_DABT_03.DGN

DRAWING DATE: MARCH 2025

IDAHO TRANSPORTATION DEPARTMENT
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KELLER ASSOCIATES

ENGLISH

PROJECT NO.
A022 (432)

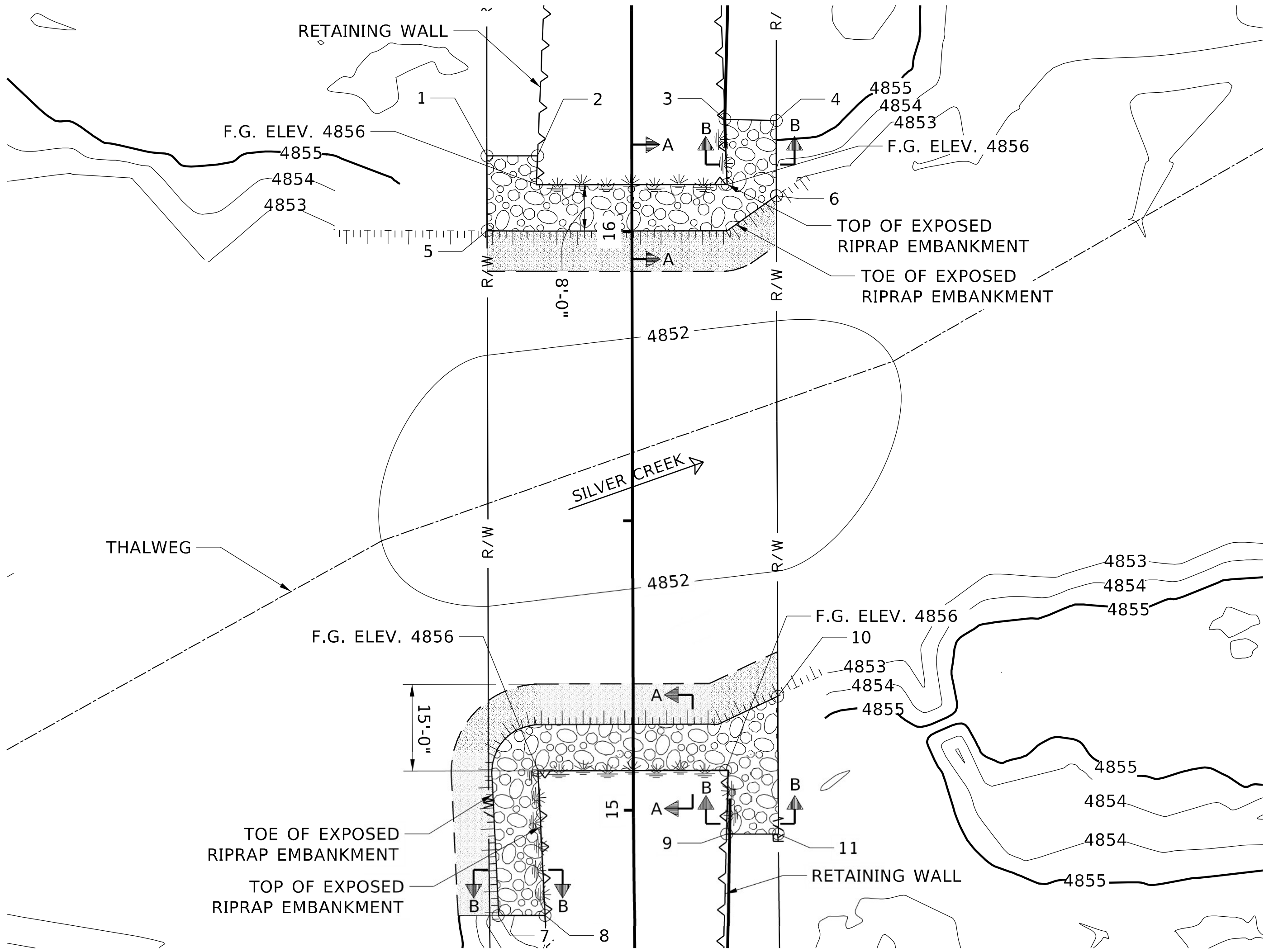
ABUTMENT DETAILS (3 OF 3)

108' PRESTRESSED CONCRETE GIRDER BRIDGE
KILPATRICK BRIDGE ROAD OVER SILVER CREEK
STATION 15+57.50 M.P. 105.41

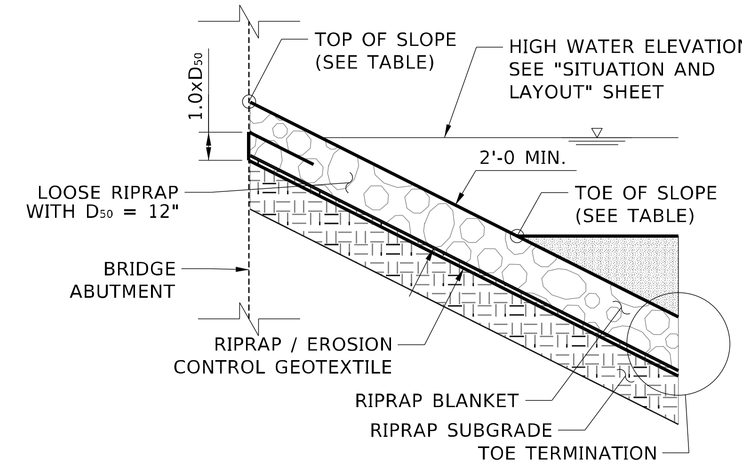
BRIDGE PLANS

BRIDGE KEY NO.	
23781	
COUNTY: BLAINE	KEY NO.: 22432
BRIDGE DWG. NO.: 18451	SHEET: 8 OF 17

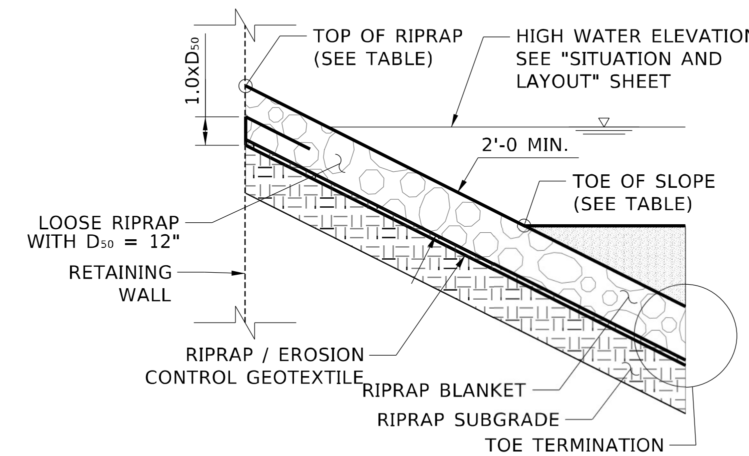
PROFESSIONAL ENGINEER
REGISTERED
DocuSigned by:
68C64A491170453...
9615
5/1/2025
STATE OF IDAHO
PAUL B. BLACKHAM



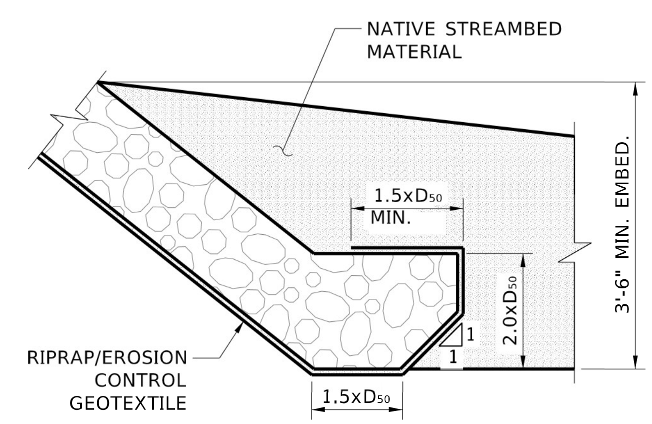
PLAN
1" = 30'



SECTION A-A
N.T.S.



SECTION B-B
N.T.S.



TOE TERMINATION DETAIL
N.T.S.

LEGEND:

- RIPRAP
- BURIED RIPRAP UNDER NATIVE STREAMBED MATERIAL
- EMBEDDED TOE OF RIPRAP
- TOE OF EMBANKMENT
- TOP OF EMBANKMENT
- THALWEG

CHANNEL ELEVATIONS

NO.	STATION	OFFSET	ELEVATION
1	16+13.13	25.00 LT	MATCH EXISTING
2	16+13.13	16.25 LT	4857.00
3	16+19.39	16.10 RT	4857.00
4	16+19.15	25.00 RT	MATCH EXISTING
5	16+00.19	25.00 LT	4853.00
6	16+06.14	25.00 RT	4853.00
7	14+82.20	23.45 LT	4853.00
8	14+82.20	15.45 LT	4857.00
9	14+95.79	16.07 RT	4857.00
10	15+19.65	25.00 RT	4853.00
11	14+95.75	25.00 RT	MATCH EXISTING

NOTES:

1. RESTORE DISTURBED STREAMBED REGIONS WITH NATIVE SUBSTRATE AND OTHER MATERIALS EXCAVATED FOR BRIDGE AND RIPRAP CONSTRUCTION.
2. PROVIDE AND INSTALL CLASS [III] RIPRAP IN ACCORDANCE WITH 624.
3. PROVIDE RIPRAP/EROSION CONTROL GEOTEXTILE IN ACCORDANCE WITH 640.03G THAT CONFORMS TO THE REQUIREMENTS OF 718.06.
4. FOR RIPRAP PLACED EXCEEDING THE MAXIMUM DROP CRITERIA PER 640.03, PROVIDE AN AGGREGATE CUSHION OF APPROPRIATE THICKNESS AND ADJUST PLAN ELEVATIONS FOR BOTTOM OF RIPRAP BY THE THICKNESS OF THE AGGREGATE CUSHION.
5. EXCAVATION REQUIRED FOR CONSTRUCTION OF THE RIPRAP NOT PAID FOR AS PART OF THE BRIDGE STRUCTURE EXCAVATION IS INCIDENTAL TO PAY ITEM 624-005A AND WILL BE MEASURED AND PAID FOR IN ACCORDANCE WITH 210.
6. ANCHOR GEOTEXTILE AT THE UPSTREAM/DOWNSTREAM TERMINATION LIMITS BY TURNING DOWNWARD A MINIMUM OF 12" AND PLACING RIPRAP ALONG THE LEADING EDGE OR EDGES.

REVISIONS			
NO.	DATE	BY	DESCRIPTION

DESIGNED G. THOMPSON
DESIGN CHECKED B. DAVIS
DETAILED G. THOMPSON
DWG. CHECKED B. DAVIS
CORRECTIONS

SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY
CADD FILE NAME 222097\ProjDev\Plan_Sheets\Bridge 22432_f_RIPR_01.dgn
DRAWING DATE: MARCH 2025

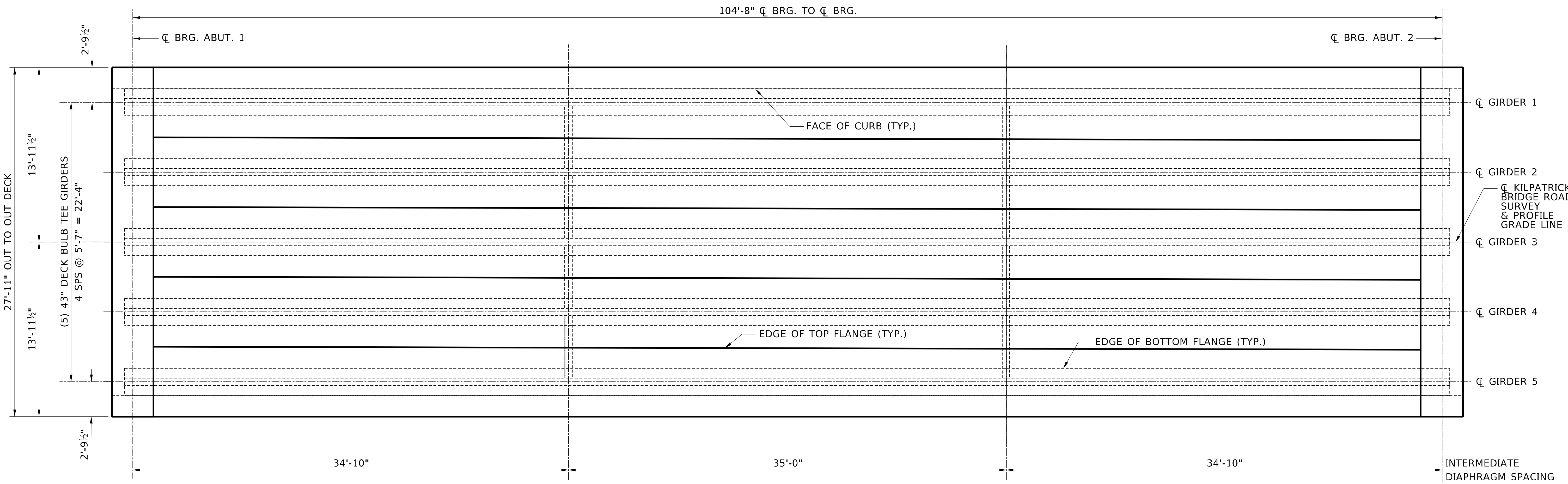
IDAHO TRANSPORTATION DEPARTMENT
YOUR Safety→YOUR Mobility→YOUR Economic Opportunity
KELLER ASSOCIATES

ENGLISH
PROJECT NO. A022 (432)

RIPRAP DETAILS
108' PRESTRESSED CONCRETE GIRDER BRIDGE
KILPATRICK BRIDGE ROAD OVER SILVER CREEK
STATION 15+57.50 M.P. 105.41

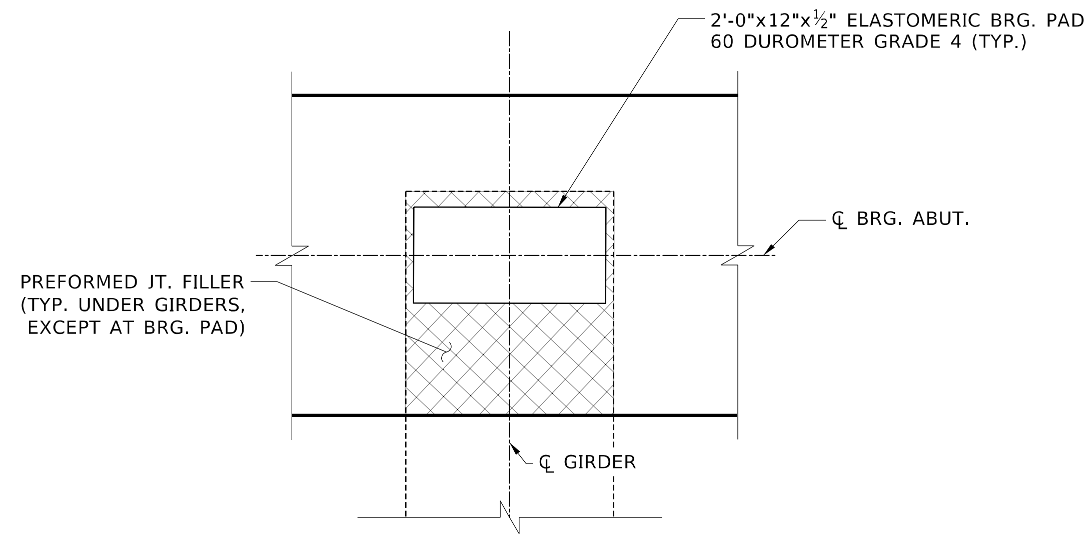
BRIDGE PLANS
BRIDGE KEY NO. 23781
COUNTY BLAINE
KEY NO. 22432
BRIDGE DWG. NO. 18451
SHEET 9 OF 17

PROFESSIONAL ENGINEER LICENSED 17638 7/18/2025 STATE OF IDAHO BEN DAVIS
DocuSigned by: FFC3E17BA...



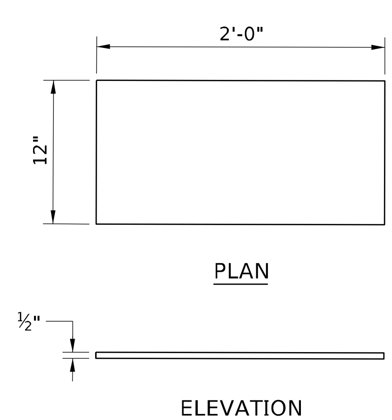
GIRDER FRAMING PLAN

⅛" = 1'-0"



BEARING DETAIL

½" = 1'-0"



BEARING PAD DETAIL

¾" = 1'-0"

REVISIONS			
NO.	DATE	BY	DESCRIPTION
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△			
△			
△			

DESIGNED: P. BLACKHAM
DESIGN CHECKED: M. SLEGERS
DETAILED: M. OKSTEN
DWG. CHECKED: M. SLEGERS
CORRECTIONS

SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY

CADD FILE NAME
222097\Proj\Dev\Plan_Sheets\Bridge
22432_o_FRPL.DGN

DRAWING DATE: MARCH 2025

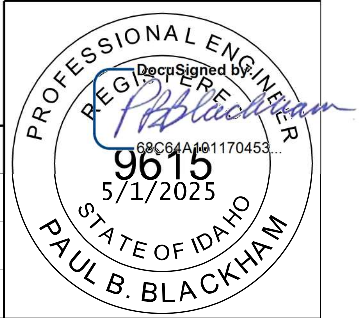
IDAHO TRANSPORTATION DEPARTMENT
YOUR Safety→YOUR Mobility→YOUR Economic Opportunity
KELLER ASSOCIATES

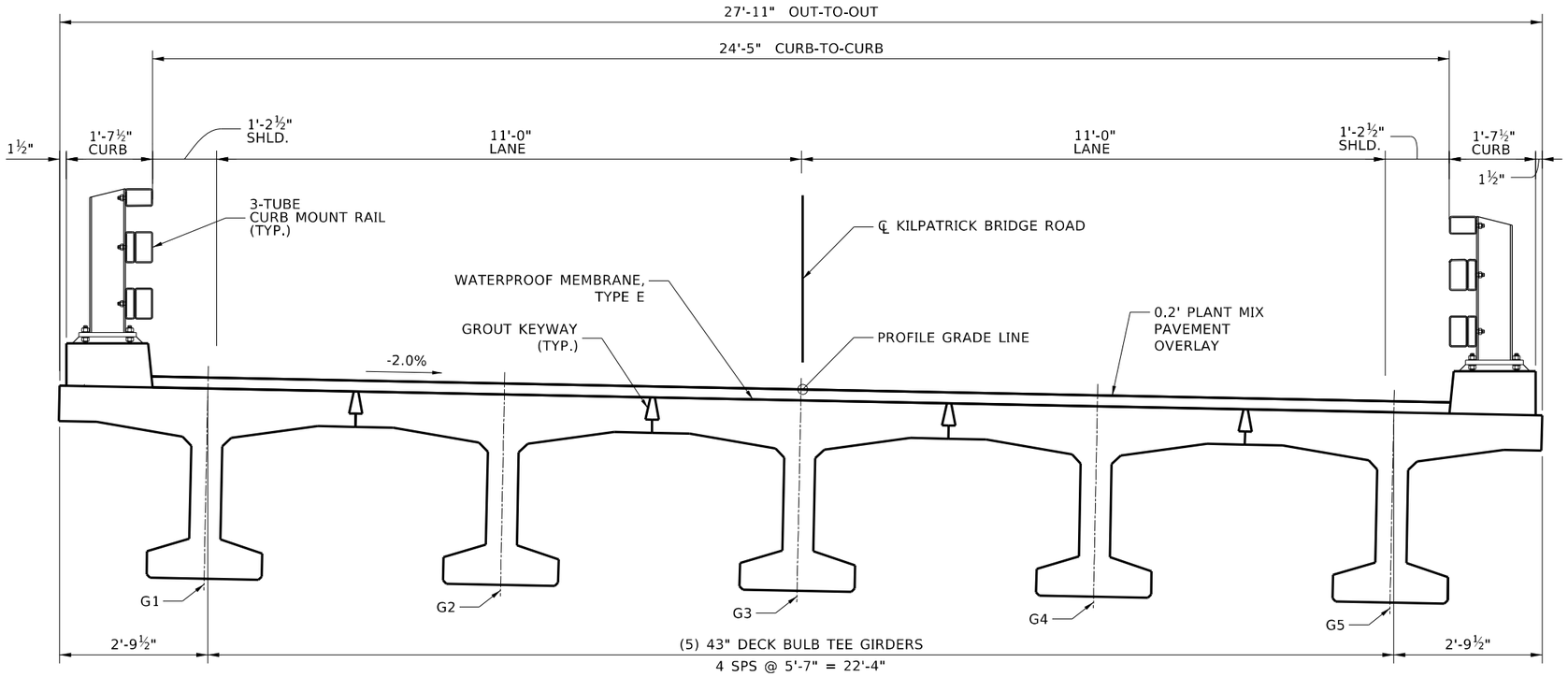
ENGLISH
PROJECT NO.
A022 (432)

FRAMING PLAN

108' PRESTRESSED CONCRETE GIRDER BRIDGE
KILPATRICK BRIDGE ROAD OVER SILVER CREEK
STATION 15+57.50 M.P. 105.41

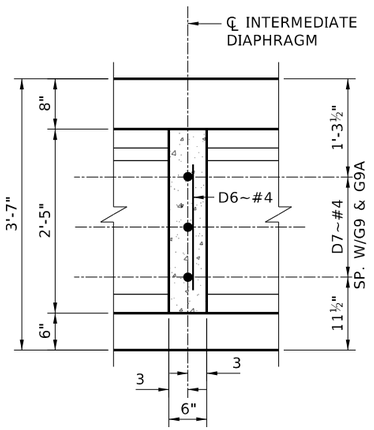
BRIDGE PLANS
BRIDGE KEY NO. 23781
COUNTY: BLAINE
KEY NO. 22432
BRIDGE DWG. NO. 18451
SHEET 10 OF 17





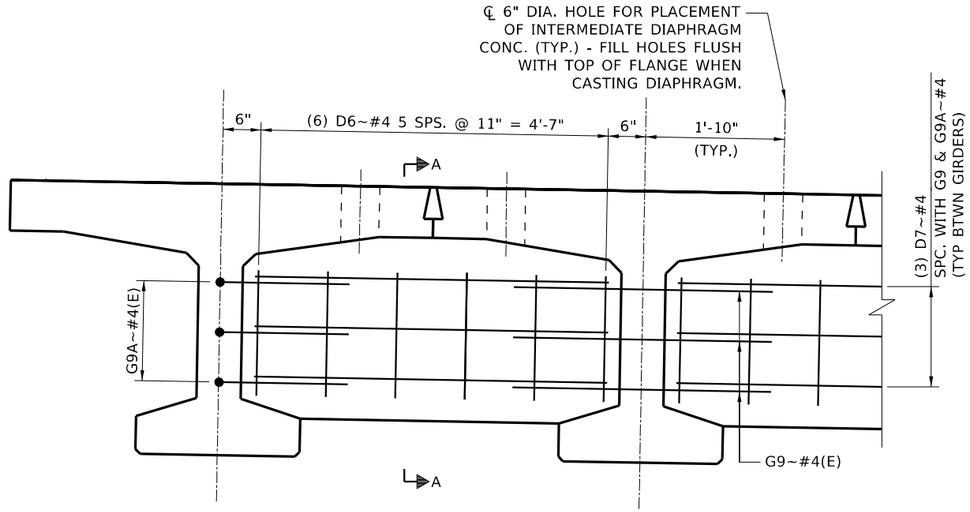
TYPICAL SECTION

⅜" = 1'-0"



SECTION A-A

½" = 1'-0"



INTERMEDIATE DIAPHRAGM DETAIL

½" = 1'-0"

GIRDER NOTES:

1. 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.
2. PROVIDE A SCREED OR FLOAT FINISH TO THE TOP SURFACE OF THE GIRDER IN ACCORDANCE WITH 502.03.
3. SHOW THE SIZE AND LOCATION OF CAST-IN HOLES AND ANCHORS ON THE SHOP PLANS. FIELD-DRILLED HOLES ARE NOT PERMITTED.
4. 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.
5. SUBMIT A METHOD OF EQUALIZING THE DECK BULB TEE 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 CAMBER DIFFERENCE 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.
6. SANDBLAST, CLEAN, AND GROUT KEYWAYS LEVEL WITH SURROUNDING GIRDER SURFACES AFTER WELD TIE CONNECTIONS HAVE BEEN NSTALLED.
7. PROVIDE GROUT TYPE "B", CLASS I NON-METALLIC, NON-SHRINK IN ACCORDANCE WITH 705.02.
8. NO VEHICULAR TRAFFIC IS ALLOWED ON THE STRUCTURE UNTIL THE KEYWAY GROUT HAS ATTAINED A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI.
9. 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.
10. PLACE PLANT MIX PAVEMENT OVERLAY CURB TO CURB FROM BEGIN BRIDGE TO END BRIDGE AND APPROACH SLABS. SEE ROADWAY PLANS FOR QUANTITIES.
11. 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.
12. SUBMIT PRECAST GIRDER SHOP DRAWINGS AT THE SAME TIME AS THE CURB MOUNT RAIL SHOP DRAWINGS.
13. PLACE GIRDERS PERPENDICULAR TO THE CROSS-SLOPE.
14. WELDED WIRE REINFORCEMENT STIRRUPS MAY BE PROVIDED IN ACCORDANCE WITH THE DETAILS SHOWN ON THE OPTIONAL PRESTRESSED GIRDER WWR DETAILS SHEET.

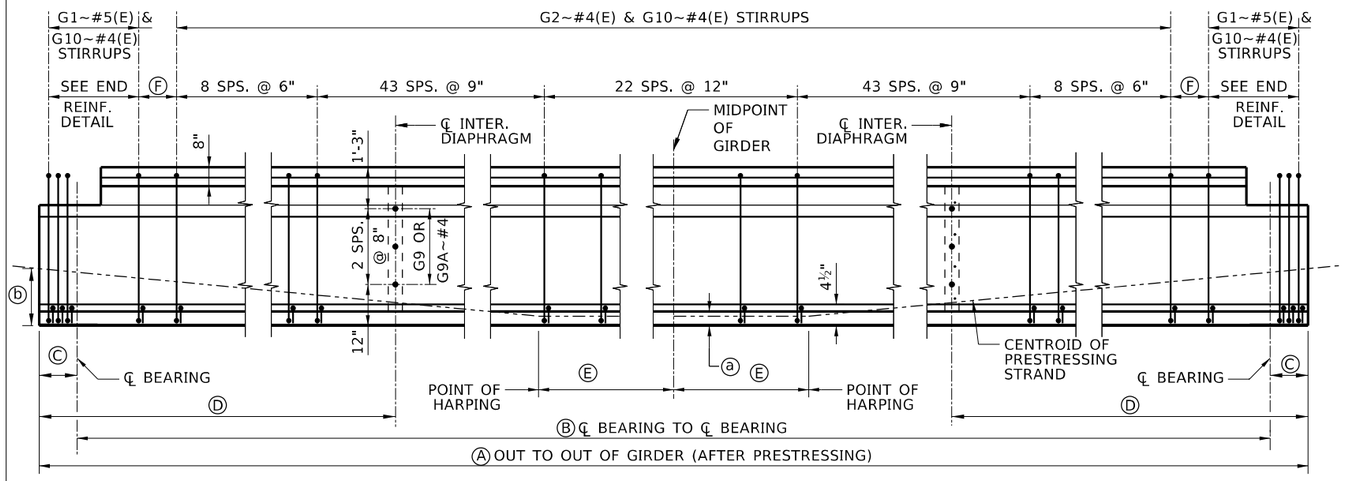
REVISIONS				DESIGNED	SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY	IDAHO TRANSPORTATION DEPARTMENT	ENGLISH	TYPICAL DECK BULB TEE SECTION AND DETAILS	BRIDGE PLANS	
NO.	DATE	BY	DESCRIPTION	P. BLACKHAM					BRIDGE KEY NO. 23781	
				DESIGN CHECKED M. SLEGERS	CADD FILE NAME 222097\Proj\Dev\Plan_Sheets\Bridge 22432_g_FRPT.DGN	YOUR Safety→YOUR Mobility→YOUR Economic Opportunity	PROJECT NO. A022 (432)	108' PRESTRESSED CONCRETE GIRDER BRIDGE KILPATRICK BRIDGE ROAD OVER SILVER CREEK STATION 15+57.50 M.P. 105.41	COUNTY BLAINE	KEY NO. 22432
				DETAILED M. OKSTEN		KELLER ASSOCIATES			BRIDGE DWG. NO. 18451	SHEET 11 OF 17
				DWG. CHECKED M. SLEGERS	DRAWING DATE: MARCH 2025					
				CORRECTIONS						

PROFESSIONAL ENGINEER REGISTERED 9615 5/1/2025 STATE OF IDAHO PAUL B. BLACKHAM

DocuSigned by: P Blackham 68C64A101170453...

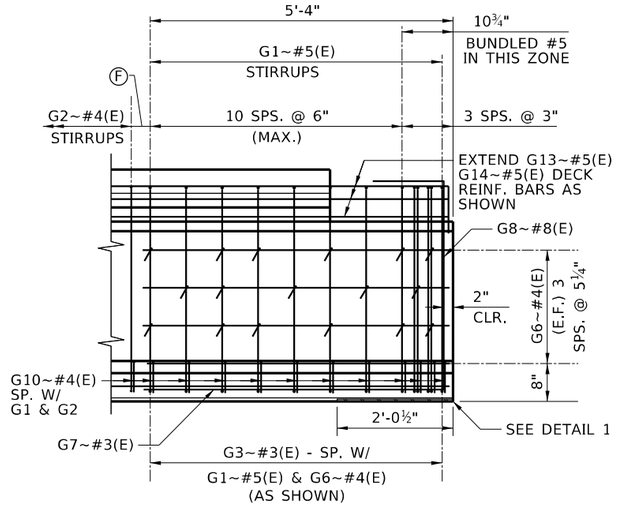
INTERIOR

GIRDERS		PRESTRESS FORCE ~ KIPS		PRESTRESS LOSSES ~ KSI		CONCRETE STRENGTH ~ KSI		GIRDER DIMENSIONS								END DETAIL		CENTROID 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
1,5	EXTERIOR	1846	1431	19.71	45.46	7.000	8.800	106'-0"	104'-8"	8"	8"	35'-6"	35'-6"	10'-6"	5"	B	B	15.48	6.48
2-4	INTERIOR	1846	1433	19.71	45.27	7.000	8.800	106'-0"	104'-8"	8"	8"	35'-6"	35'-6"	10'-6"	5"	B	B	15.48	6.48



GIRDER ELEVATION AND STIRRUP LAYOUT

N.T.S

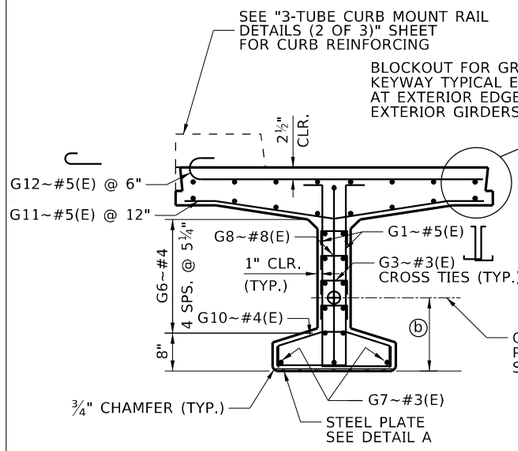


END REINFORCEMENT DETAIL

⅜"=1'-0"

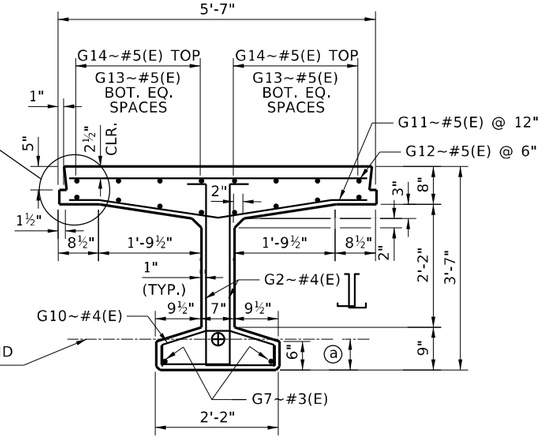
REINFORCEMENT DIAGRAM

MARK	SIZE	GRADE	SKETCH
G1*	#5(E)	60	3'-1", 1'-2½", 4¼"
G2*	#4(E)	60	
G3*	#3(E)	60	5"
G5	#6(E)	60	INT GIRDER 4'-8"
G5A	#6(E)	60	EXT GIRDER 4'-8"
G6	#4(E)	60	5'-4"
G7	#3(E)	60	107'-8" (MINIMUM LAP LENGTH=1'-4")
G8*	#8(E)	60	3'-1", 3'-6", 1'-3"
G9	#4(E)	60	4'-8"
G9A	#4(E)	60	1'-6", 9"
G10	#4(E)	60	10", 5", 3, 9½", 4½"
G11	#5(E)	60	3¾", 7'-½", 2'-0", 2'-0", 7'-½"
G12	#5(E)	60	5'-1"
G12A*	#5(E)	60	5'-1", ***
G13	#5(E)	60	107'-8" (MINIMUM LAP LENGTH=1'-8")
G14**	#5(E)	60	107'-8", 10", 10" (MINIMUM LAP LENGTH=2'-2")



SECTION AT END OF GIRDER

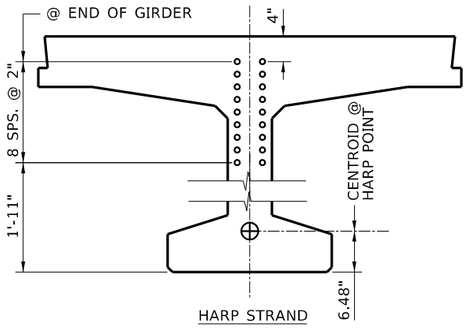
⅜"=1'-0"

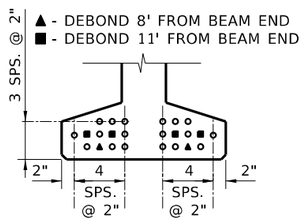


SECTION AT ℄ SPAN

⅜"=1'-0"

**** EXACT WIDTH WILL BE SLIGHTLY LESS THAN NOMINAL WIDTH DUE TO GAP BETWEEN TOP FLANGES

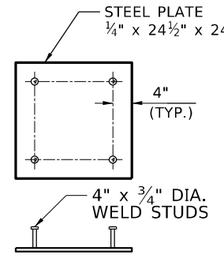




STRAIGHT STRAND

DETAIL B

½"=1'-0"



DETAIL A

⅜"=1'-0"

NOTES

1. DIMENSIONS TO STIRRUPS AND DOWEL BARS ARE GIVEN AT ℄ OF GIRDER.
2. SEE TYPICAL BULB TEE SECTION AND DETAILS SHEET FOR ADDITIONAL GIRDER NOTES AND DETAILS.
3. BEND DETAILS IN ACCORDANCE WITH LATEST ACI STANDARD PRACTICE.
4. CAST ANCHOR BOLTS INTO EXTERIOR GIRDERS. SUBMIT RAIL SHOP DRAWINGS FOR APPROVAL PRIOR TO PREPARATION OF GIRDER SHOP DRAWINGS.
5. SEE "3-TUBE CURB MOUNT DETAILS (1 OF 2)" AND "3-TUBE CURB MOUNT DETAILS (2 OF 2)" SHEETS FOR CURB REINFORCEMENT.

* 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 #4(E) WITH THE G12A~#5(E) BARS FOR A DISTANCE EQUAL TO 8' FROM THE JOINT/DISCONTINUITY

GIRDER WEIGHT..... 1040 LB/FT

REVISIONS			
NO.	DATE	BY	DESCRIPTION
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△			

DESIGNED P. BLACKHAM
DESIGN CHECKED M. SLEGERS
DETAILED M. OKSTEN
DWG. CHECKED M. SLEGERS
CORRECTIONS

SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY

CADD FILE NAME
222097\Proj\Dev\Plan_Sheets\Bridge 22432_g_GIRD_01.dgn

DRAWING DATE: MARCH 2025

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

ENGLISH

PROJECT NO. A022 (432)

PRESTRESSED DECK BULB TEE GIRDER

108' PRESTRESSED CONCRETE GIRDER BRIDGE
KILPATRICK BRIDGE ROAD OVER SILVER CREEK
STATION 15+57.50 M.P. 105.41

BRIDGE PLANS

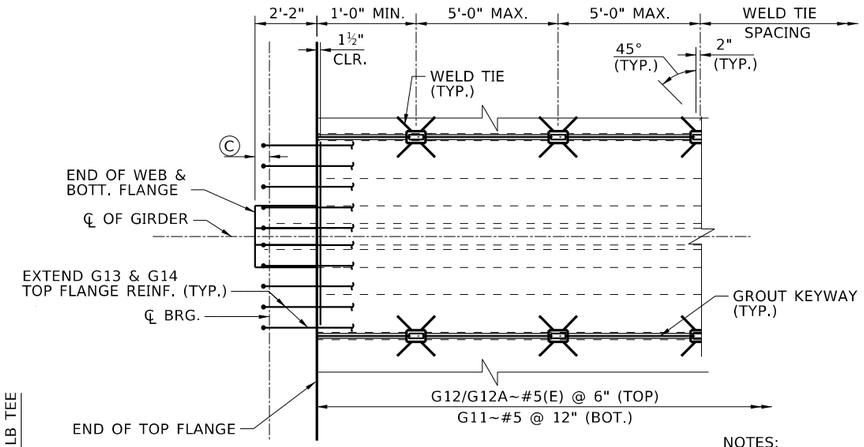
BRIDGE KEY NO. 23781
COUNTY BLAINE
KEY NO. 22432
BRIDGE DWG. NO. 18451
SHEET 12 OF 17

PROFESSIONAL ENGINEER REGISTERED 9615 5/1/2025 STATE OF IDAHO PAUL B. BLACKHAM

DocuSigned by: PBlackham 68C64A491170453...

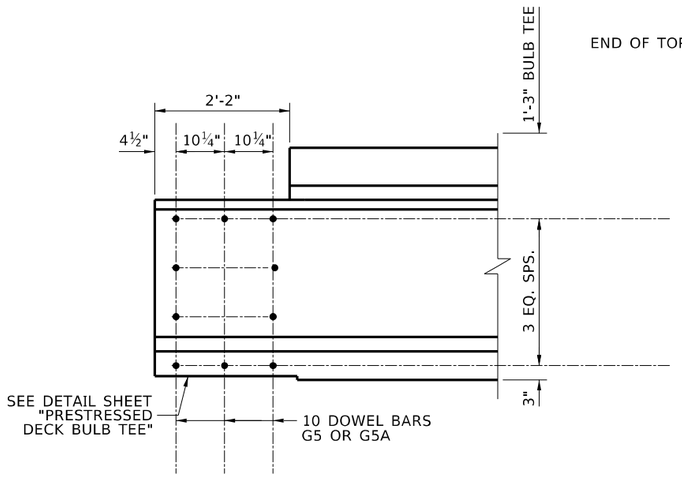
DEFLECTION DATA ~ INCHES						
LOCATION	ΔP PRESTRESS	ΔG GIRDER	Σ Δ * ΔP + ΔG	Δ1 ** 1.55 ΔP + 1.65(ΔG)	ΔD	Δ2 ΔD + ΔWS
EXTERIOR	6.83↑	3.29↓	3.54↑	5.16↑	0.51↓	0.75↓
INTERIOR	6.83↑	3.29↓	3.54↑	5.16↑	0.40↓	0.85↓

* 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



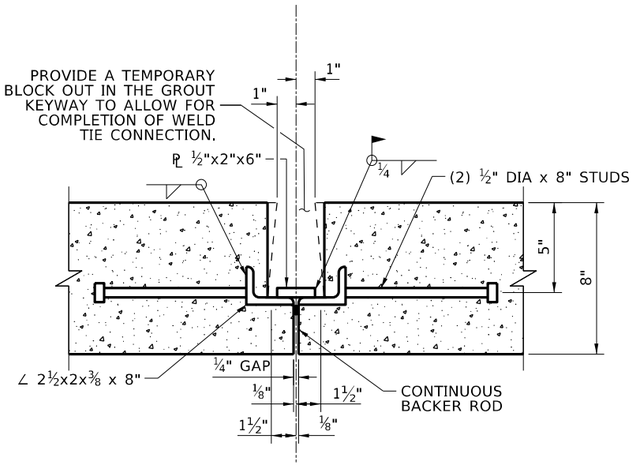
GIRDER PLAN
3/16"=1'-0"

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



ELEVATION
(TYPE B)

GIRDER END DETAILS
3/8"=1'-0"



TYPICAL WELD TIE
1½"=1'-0"

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" DIAMETER 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.

MISCELLANEOUS GIRDER DETAILS

6. PROVIDE GIRDERS WITH ENDS THAT ARE PLUMB WHEN SET TO GRADE.
7. 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.
8. BLOCK OUT TOP FLANGE OF BULB TEE GIRDERS TO ALLOW PLACEMENT OF CONCRETE FOR THE END DIAPHRAGMS.
9. 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.
10. FABRICATE IN ACCORDANCE WITH 506.

CONCRETE

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

STRAND

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

DEFLECTION DATA

13. ΔD INCLUDES OTHER NON-COMPOSITE LOADS; INTER. DIAPH., AND METAL RAILING.

GIRDER SHIPPING

14. 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

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

REVISIONS			
NO.	DATE	BY	DESCRIPTION
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DESIGNED: P. BLACKHAM
DESIGN CHECKED: M. SLEGERS
DETAILED: M. OKSTEN
DWG. CHECKED: M. SLEGERS
CORRECTIONS:

SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY

CADD FILE NAME
222097\Proj\Dev\Plan_Sheets\Bridge 22432_g_GIRD_02.dgn

DRAWING DATE: MARCH 2025

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

ENGLISH

PROJECT NO.
A022 (432)

PRESTRESSED DECK BULB TEE GIRDER DETAILS

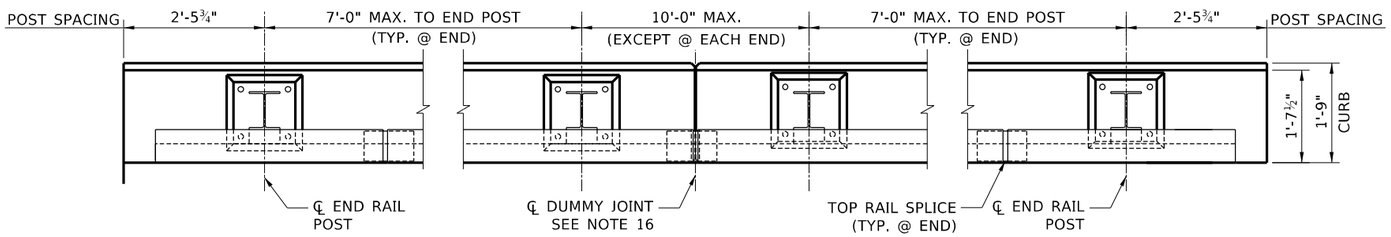
108' PRESTRESSED CONCRETE GIRDER BRIDGE
KILPATRICK BRIDGE ROAD OVER SILVER CREEK
STATION 15+57.50 M.P. 105.41

BRIDGE PLANS

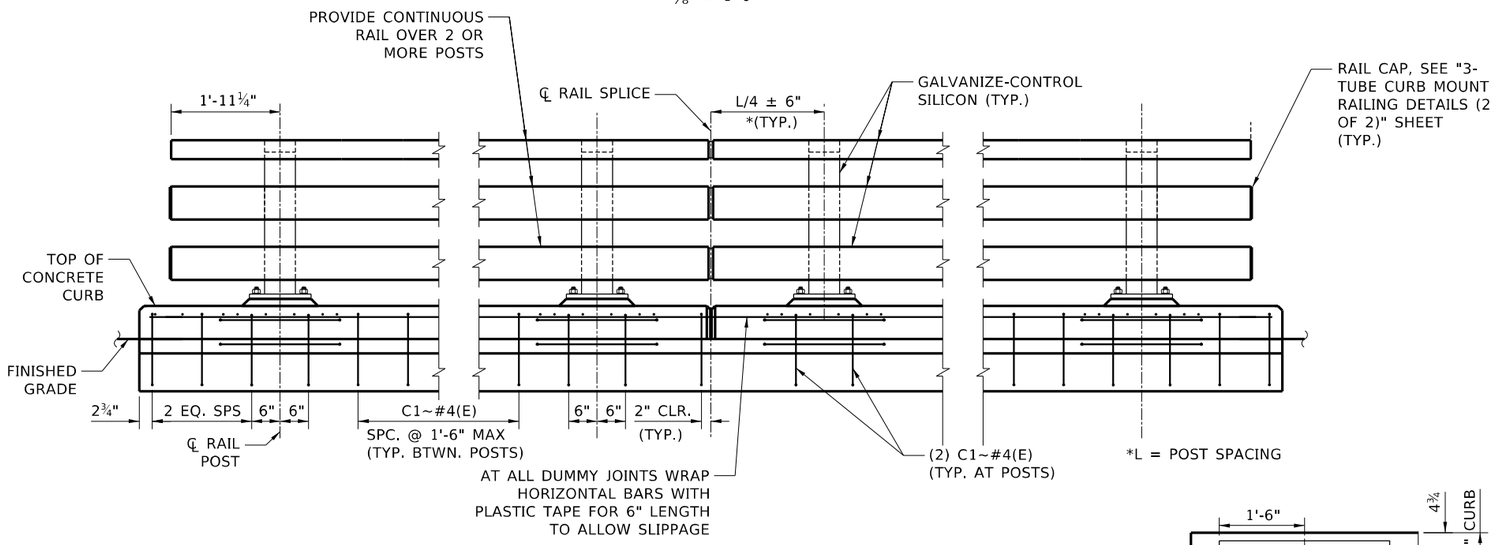
BRIDGE KEY NO.	
23781	
COUNTY: BLAINE	KEY NO.: 22432
BRIDGE DWG. NO.: 18451	SHEET: 13 OF 17

PROFESSIONAL ENGINEER
REGISTERED
9615
5/1/2025
STATE OF IDAHO
PAUL B. BLACKHAM

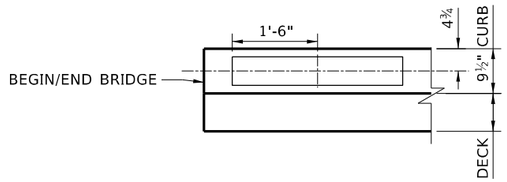
DocuSigned by:
P Blackham
68C64A491170453...



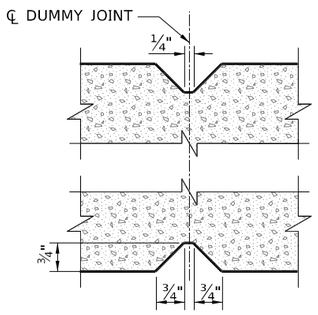
PLAN VIEW
⅜" = 1'-0"



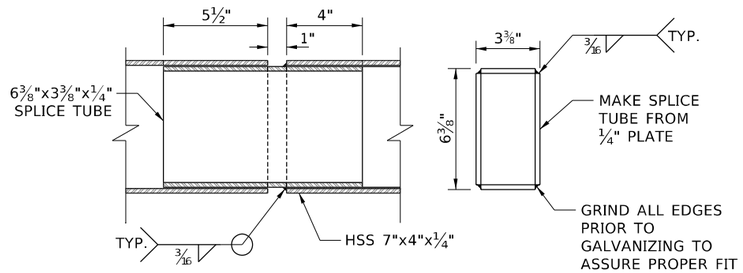
ELEVATION VIEW
⅜" = 1'-0"



DATE PANEL ELEVATION
⅜" = 1'-0"



DUMMY JOINT
N.T.S.



RAIL SPLICE DETAILS
1½" = 1'-0"

NOTES:

MATERIALS

1. PROVIDE STRUCTURAL STEEL TUBING THAT CONFORMS WITH ASTM A500 GRADE B, ASTM A618, OR ASTM A501 STEEL.
2. PROVIDE STRUCTURAL STEEL POSTS, PLATES, ANGLES, AND SLEEVES IN ACCORDANCE WITH ASTM A709 GRADE 36.
3. PROVIDE ANCHOR BOLTS, NUTS, AND WASHERS IN ACCORDANCE WITH ASTM F1154 GRADE 105. PROVIDE H.S. BOLTS IN ACCORDANCE WITH ASTM F3125 GRADE A325.
4. PROVIDE CLASS 40AF CONCRETE.
5. PROVIDE EPOXY COATED GRADE 60 REINFORCEMENT IN ACCORDANCE WITH SUBSECTION 708.02.
6. PROVIDE TYPE B CLASS 1 GROUT IN ACCORDANCE WITH SUBSECTION 705.02.

GALVANIZING/POWDER COATING

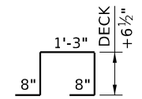
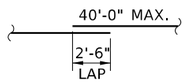
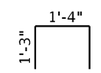
7. GALVANIZE STEEL PARTS AFTER FABRICATION IN ACCORDANCE WITH ASTM A123 AND ASTM A153.
8. GALVANIZE ANCHOR BOLTS, NUTS, AND WASHERS IN ACCORDANCE WITH ASTM A153.
9. THOROUGHLY CLEAN WELDED AREAS BEFORE GALVANIZING TO REMOVE SLAG OR OTHER MATERIAL THAT WOULD INTERFERE WITH THE ADHERENCE OF THE ZINC. REPAIR DAMAGED COATINGS IN ACCORDANCE WITH ASTM A780 AND ASTM A123.
10. PROVIDE GALVANIZED SURFACES FREE OF FINS, ABRASIONS, ROUGH OR SHARP EDGES, AND OTHER SURFACE DEFECTS.
11. POWDER COAT THE RAILING SYSTEM AFTER GALVANIZING WITH A MINIMUM THICKNESS OF 3 MILS. COAT WITH AMS-STD-595 #10076 (BROWN). SUBMIT A COLOR SAMPLE FOR APPROVAL.
12. PREPARE THE GALVANIZED SURFACES FOR POWDER COATING IN ACCORDANCE WITH ASTM D7803. SUBMIT POWDER COATING SHOP PROCEDURES FOR PREPARATION OF THE GALVANIZED SURFACES AND APPLICATION PROCESS OF THE POWDER COATING FOR APPROVAL.
13. REPAIR SCRATCHES, PITS, AND OTHER DEFECTS IN ACCORDANCE WITH THE POWDER COATING MANUFACTURER'S WRITTEN INSTRUCTIONS.

FABRICATION AND ERECTION

14. FABRICATE AND ERECT THE RAILING IN ACCORDANCE WITH THE CURRENT EDITION OF AASHTO SPECIFICATIONS FOR HIGHWAY BRIDGES AND ITD STANDARD SPECIFICATIONS.
15. CONSTRUCT RAILING WITH TOP OF POST 3'-6" ABOVE FINISHED GRADE.
16. PLACE CURB DUMMY JOINTS AT ALL RAIL SPLICE LOCATIONS SPACE INTERMEDIATE CURB DUMMY JOINTS UNIFORMLY THE LENGTH OF THE BRIDGE WITH SPACING NOT LESS THAN 6' NOR GREATER THAN 12'.
17. SUBMIT SHOP DRAWINGS IN ACCORDANCE WITH 504.01F AND 105.02.
18. CONSTRUCT RAILING CONFORMING TO THE HORIZONTAL AND VERTICAL ALIGNMENT OF THE STRUCTURE, INSTALL POSTS NORMAL TO GRADE IN LONGITUINAL DIRECTION AND VERTICAL IN TRANSVERSE DIRECTION.
19. 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.
20. PROVIDE VENT HOLES FOR GALVANIZING AS REQUIRED AND SHOWN ON THE SHOP DRAWINGS. DRILL VENT HOLES AWAY FROM TRAFFIC FACE AND NOT ON THE TOP SURFACE OF THE HORIZONTAL TUBES.
21. PROVIDE EXPANSION JOINT OR SPLICE JOINT IN RAIL AS REQUIRED.
22. ROUND OR CHAMFER EXPOSED EDGES OF STEEL COMPONENTS 1/16" BY GRINDING PRIOR TO GALVANIZING.

METHOD OF MEASUREMENT

23. 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		
		
C1~#4(E)	C2~#4(E)	C3~#5(E)

APPROXIMATE QUANTITIES (10' POST SPACING)	
CONCRETE	1.25 CY/LF
STRUCTURAL STEEL	66 LB/LF
EPOXY REINFORCMENT	17 LB/LF

REVISIONS			
NO.	DATE	BY	DESCRIPTION
△			
△			
△			
△			
△			

DESIGNED P. BLACKHAM
DESIGN CHECKED M. SLEGERS
DETAILED M. OKSTEN
DWG. CHECKED M. SLEGERS
CORRECTIONS

SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY
CADD FILE NAME 222097\Proj\Dev\Plan_Sheets\Bridge 22432_I_RAIL_01.dgn
DRAWING DATE: MARCH 2025

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

ENGLISH

PROJECT NO. A022 (432)

3-TUBE CURB MOUNT RAIL DETAILS (1 OF 2)

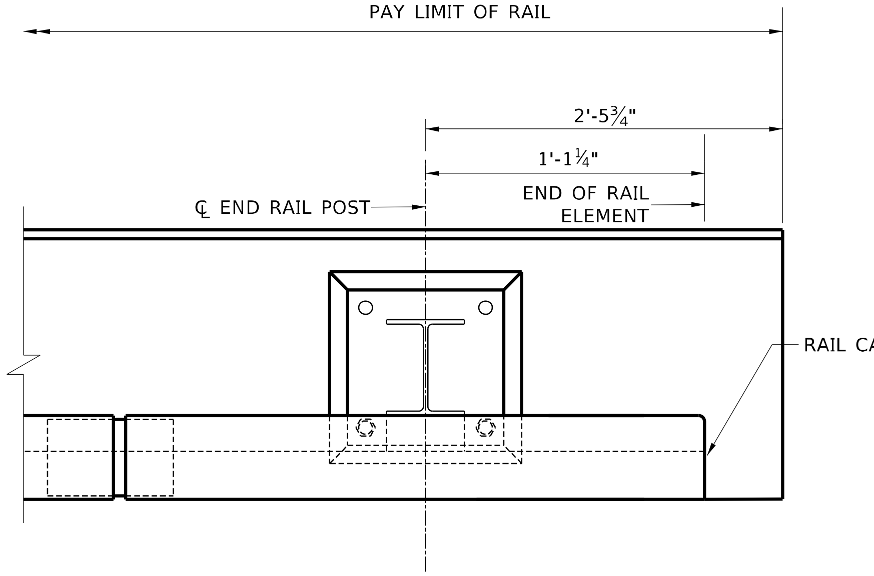
108' PRESTRESSED CONCRETE GIRDER BRIDGE
KILPATRICK BRIDGE ROAD OVER SILVER CREEK
STATION 15+57.50 M.P. 105.41

BRIDGE PLANS

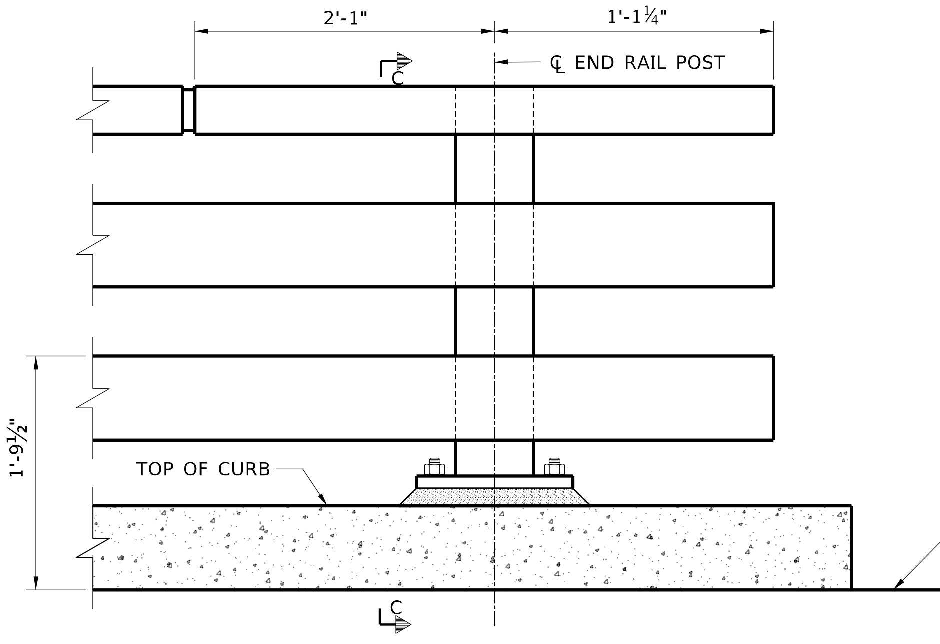
BRIDGE KEY NO.	
23781	
COUNTY	KEY NO.
BLAINE	22432
BRIDGE DWG. NO.	SHEET
18451	14 OF 17

PROFESSIONAL ENGINEER
REGISTERED
9615
5/1/2025
STATE OF IDAHO
PAUL B. BLACKHAM

DocuSigned by: PBlackham 68C64A101170453...



PLAN
3/4" = 1'-0"



ELEVATION
3/4" = 1'-0"

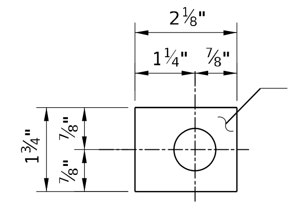
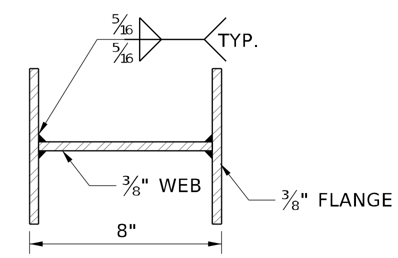
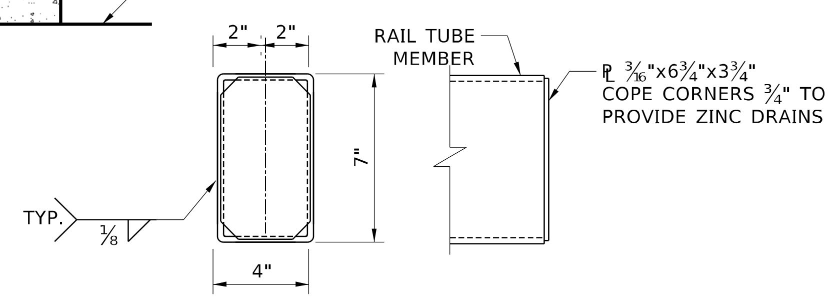


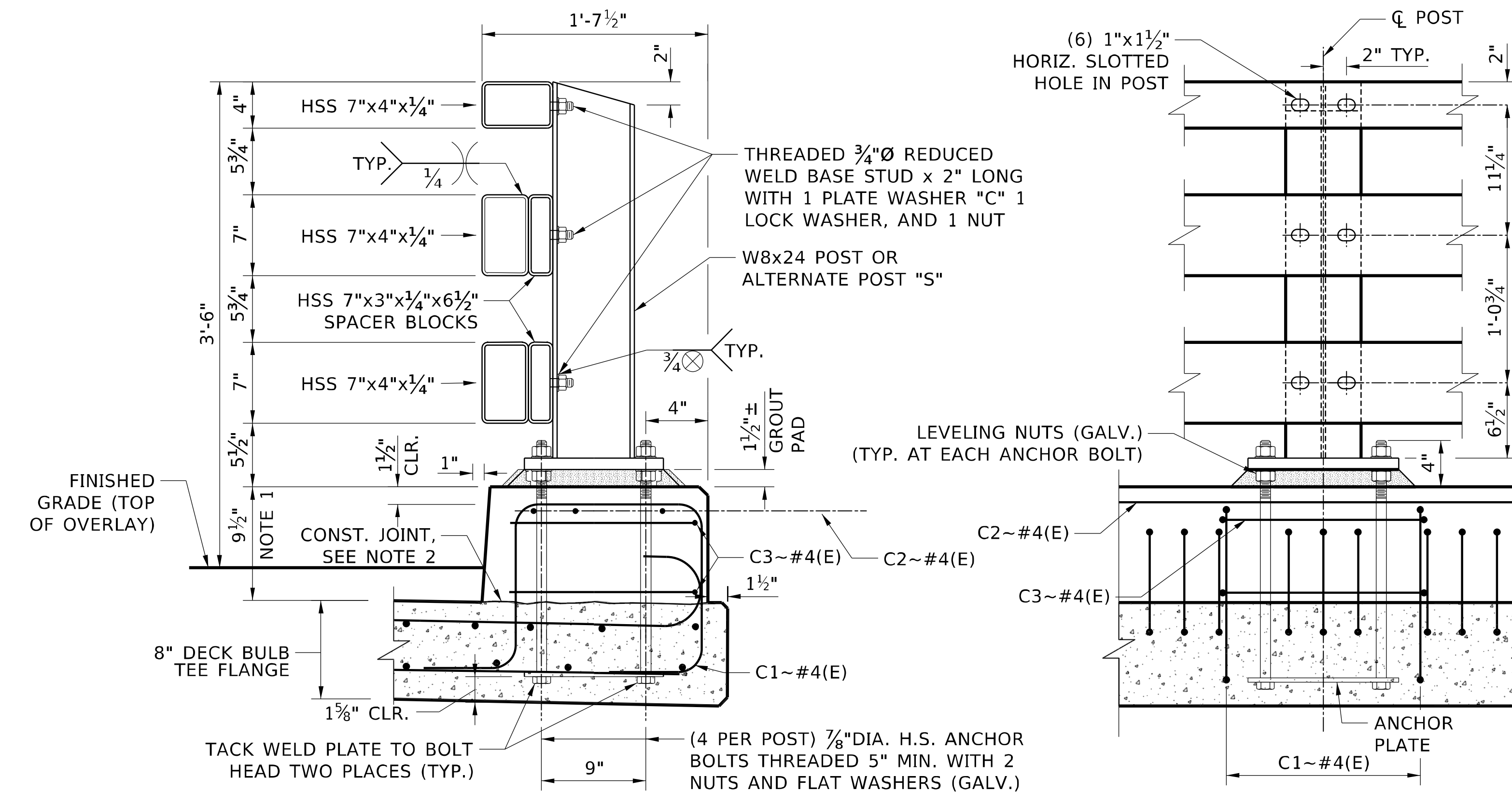
PLATE WASHER "C"
3" = 1'-0"



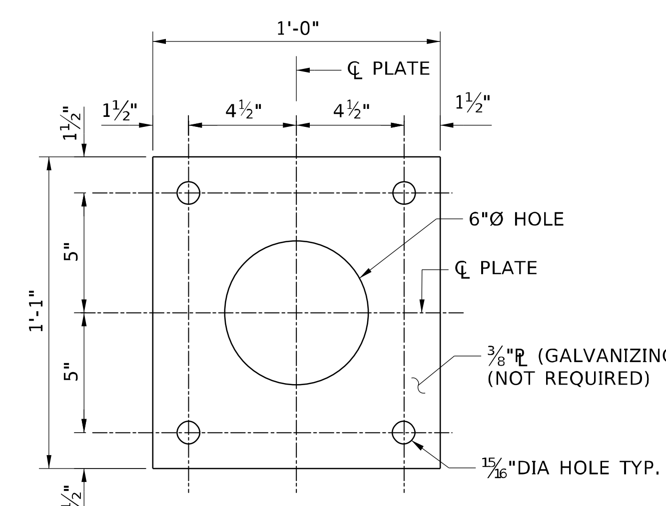
ALTERNATE POST "S"
1 1/2" = 1'-0"



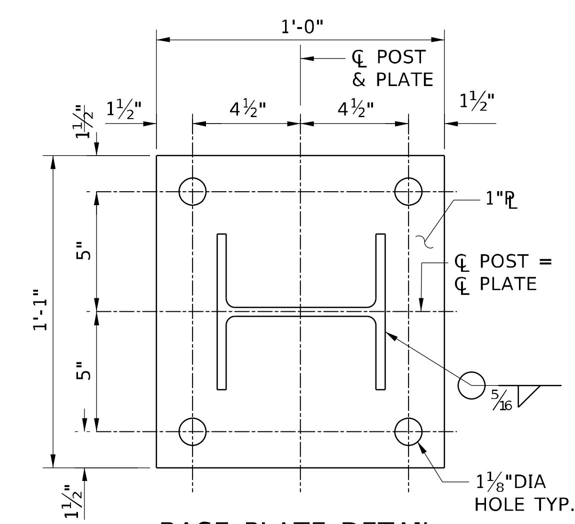
RAIL CAP DETAILS
1 1/2" = 1'-0"



POST DETAILS
3/4" = 1'-0"



ANCHOR PLATE DETAIL
1 1/2" = 1'-0"



BASE PLATE DETAIL
1 1/2" = 1'-0"

NOTES:

1. FOR THE WEARING SURFACE APPLIED DURING THE INITIAL BRIDGE CONSTRUCTION, ADJUST THE HEIGHT OF THE CURB AND THE LENGTH OF THE REINFORCEMENT TO ACCOUNT FOR THE INITIAL OVERLAY THICKNESS.
2. PROVIDE 1'-7" WIDE, 1/4" AMPLITUDE ROUGHENED SURFACE BETWEEN THE CURB AND THE SURFACE OF THE DECK BULB TEE WITH 1" SMOOTH STRIPS AT THE EDGES OF THE CURB.
3. WHERE SPECIFIED, PROVIDE MAXIMUM OF 2-2" ASTM A500 SCH. 40 CONDUITS IN THE CURB LOCATED AS SHOWN. ADJUST THE TOP C3 BAR DOWNWARD AS NEEDED FOR THE CONDUITS. MAINTAIN 1" MINIMUM CLEAR TO POST ANCHOR BOLTS AND BETWEEN CONDUITS FOR CONCRETE PLACEMENT.

REVISIONS			
NO.	DATE	BY	DESCRIPTION

DESIGNED P. BLACKHAM
DESIGN CHECKED M. SLEGERS
DETAILED M. OKSTEN
DWG. CHECKED M. SLEGERS
CORRECTIONS

SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY

CADD FILE NAME 222097\ProjDev\Plan_Sheets\Bridge 22432_J_RAIL_02.dgn

DRAWING DATE: MARCH 2025

IDAHO TRANSPORTATION DEPARTMENT
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KELLER ASSOCIATES

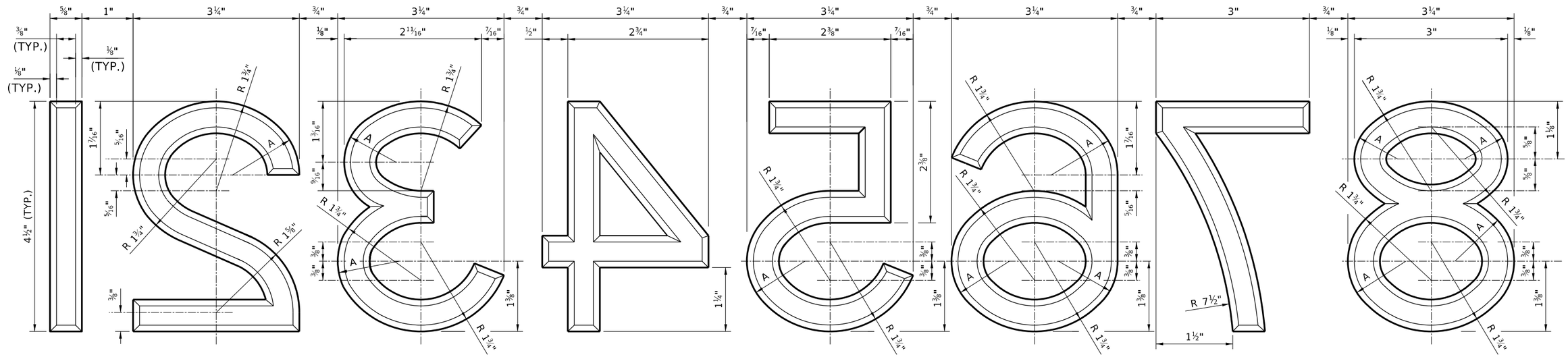
ENGLISH
PROJECT NO.
A022 (432)

3-TUBE CURB MOUNT RAIL DETAILS (2 OF 2)

108' PRESTRESSED CONCRETE GIRDER BRIDGE
KILPATRICK BRIDGE ROAD OVER SILVER CREEK
STATION 15+57.50 M.P. 105.41

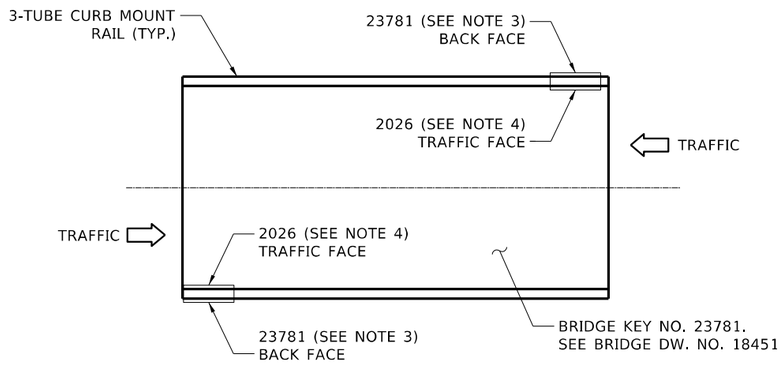
BRIDGE PLANS
BRIDGE KEY NO. 23781
COUNTY BLAINE | KEY NO. 22432
BRIDGE DWG. NO. 18451 | SHEET 15 OF 17

PROFESSIONAL ENGINEER
REGISTERED
9615
5/1/2025
STATE OF IDAHO
PAUL B. BLACKHAM
DocuSigned by: 69C64A401170453...

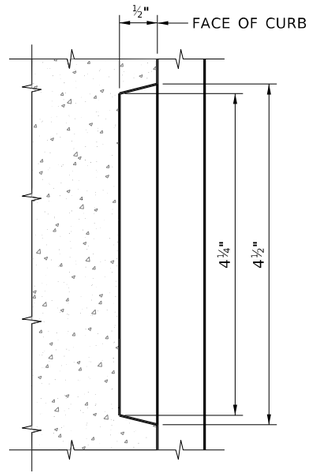


THE NUMBER "9" IS NOT SHOWN, BUT IS SIMILAR TO NUMBER "6".

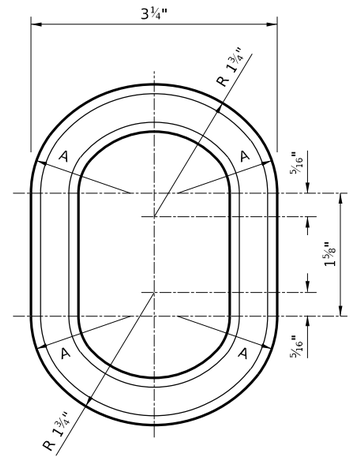
A = RADIUS TO SUIT



DATE PANEL LOCATION - CURB
N.T.S.
(SEE 3-TUBE CURB MOUNT RAIL DETAILS)



END VIEW OF NUMERALS
SHOWING ATTACHMENT TO FORMS
N.T.S.



GENERAL NOTES

1. RECESS NUMBERS INTO THE DATE PANEL.
2. DATE PANEL IS INCIDENTAL TO THE FOLLOWING PAY ITEM: 504-05A 3-TUBE CURB MOUNT RAIL
3. PLACE THE 5 DIGIT BRIDGE KEY NUMBER ON BACK FACE.
4. PLACE THE 4 DIGIT YEAR CONSTRUCTION COMPLETED ON TRAFFIC FACE.

REVISIONS			
NO.	DATE	BY	DESCRIPTION

DESIGNED P. BLACKHAM
DESIGN CHECKED M. SLEGERS
DETAILED M. OKSTEN
DWG. CHECKED M. SLEGERS
CORRECTIONS

SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY

CADD FILE NAME
222097\Proj\Dev\Plan_Sheets\Bridge 22432_J_RAIL_03.DGN

DRAWING DATE: MARCH 2025

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KELLER ASSOCIATES

ENGLISH

PROJECT NO.
A022 (432)

DATE PANEL

108' PRESTRESSED CONCRETE GIRDER BRIDGE
KILPATRICK BRIDGE ROAD OVER SILVER CREEK
STATION 15+57.50 M.P. 105.41

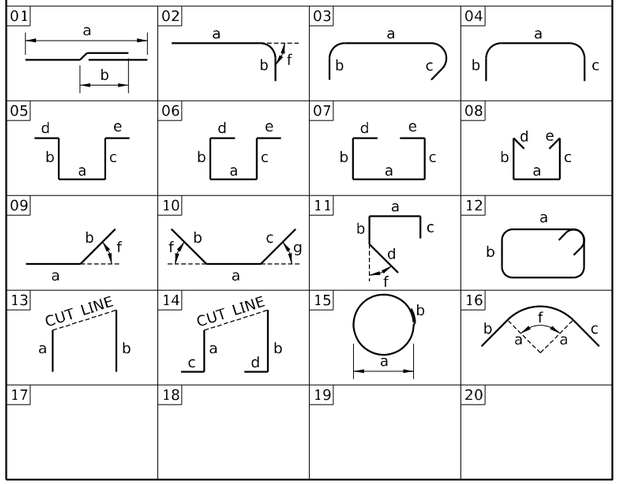
BRIDGE PLANS

BRIDGE KEY NO.	
23781	
COUNTY	KEY NO.
BLAINE	22432
BRIDGE DWG. NO.	SHEET
18451	16 OF 17

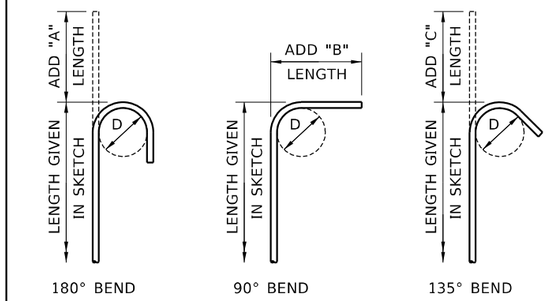
PROFESSIONAL ENGINEER
REGISTERED
9615
5/1/2025
STATE OF IDAHO
PAUL B. BLACKHAM
DocuSigned by: PBlackham
68C64A491170453...

MARK	LOCATION	BAR SIZE	COAT	NO. OF BARS	BAR TYPE	BARS/ SET	LENGTH "a"	LENGTH "b"	LENGTH "c"	LENGTH "d"	LENGTH "e"	ANGLE "f"	ANGLE "g"	TOTAL LENGTH
SUBSTRUCTURE														
A1	ABUTMENT	#8		8	1		27'-7''	0'-0''						220'-8''
A2	ABUTMENT	#8		8	1		27'-7''	0'-0''						220'-8''
A3	ABUTMENT	#6		28	1		27'-7''	0'-0''						772'-4''
A4	ABUTMENT	#6		200	4		3'-0''	3'-4''	3'-4''					1933'-4''
A5	ABUTMENT	#7		56	1		6'-11''	0'-0''						387'-4''
A6	ABUTMENT	#7		68	1		6'-11''	0'-0''						470'-4''
*A7	ABUTMENT	#4		84	3		3'-1''	0'-8''	0'-8''					371'-0''
A8	ABUTMENT	#5		16	4		2'-10''	2'-6''	2'-6''					125'-4''
A9	ABUTMENT	#5		8	1		6'-11''	0'-0''						55'-4''
SUPERSTRUCTURE														
D1A	END DIAPHRAGM	#6		24	1		3'-3''	0'-0''						78'-0''
D1B	END DIAPHRAGM	#6		56	1		4'-10''	0'-0''						270'-8''
D1C	END DIAPHRAGM	#6		28	1		2'-3''	0'-0''						63'-0''
D2	END DIAPHRAGM	#6		10	1		27'-7''	0'-0''						275'-10''
D3	END DIAPHRAGM	#6	E	8	1		27'-7''	0'-0''						220'-8''
D4	END DIAPHRAGM	#5	E	80	4		3'-0''	0'-10''	0'-10''					373'-4''
*D5	END DIAPHRAGM	#4		120	3		3'-1''	0'-0''	0'-0''					370'-0''
D6	INT. DIAPHRAGM	#4		48	1		1'-9''	0'-0''						84'-0''
D7	INT. DIAPHRAGM	#4		24	1		4'-7''	0'-0''						110'-0''

BAR BEND DIAGRAMS



BEND DETAILS AND STANDARD DIMENSIONS



180° BEND 90° BEND 135° BEND

"L" = LENGTH GIVEN IN SKETCH

DIMENSIONS SHOWN IN THE 'BAR BEND DIAGRAMS" ARE OUT-TO-OUT OF BEND POINTS OR HOOKS AND/OR END OF BARS UNLESS NOTED OTHERWISE. PIN DIAMETER "D" IS THE SAME FOR ALL BENDS AND HOOKS ON A BAR.

SUBSTRUCTURE BARS (503-010A)

BAR SIZE	TOT. LENGTH (LINEAR FT.)	UNIT WT. (LBF/FT.)	TOT. WEIGHT (LBF)
#3	0'-0''	0.376	0
#4	371'-0''	0.668	248
#5	180'-8''	1.044	189
#6	2705'-8''	1.503	4067
#7	857'-8''	2.046	1755
#8	441'-4''	2.673	1179
#9	0'-0''	3.400	0
#10	0'-0''	4.311	0
#11	0'-0''	5.313	0
#14	0'-0''	7.660	0
#18	0'-0''	13.614	0
TOTAL WEIGHT (ALL BARS, LBF):			7438

SUPERSTRUCTURE BARS (503-015A)

BAR SIZE	TOT. LENGTH (LINEAR FT.)	UNIT WT. (LBF/FT.)	TOT. WEIGHT (LBF)
#4	564'-0''	0.668	377
#5	0'-0''	1.044	0
#6	687'-6''	1.503	1034
#7	0'-0''	2.046	0
TOTAL WEIGHT (ALL BARS, LBF):			1410

EPOXY-COATED BARS (503-020A)

BAR SIZE	TOT. LENGTH (LINEAR FT.)	UNIT WT. (LBF/FT.)	TOT. WEIGHT (LBF)
#4	0'-0''	0.668	0
#5	373'-4''	1.044	390
#6	220'-8''	1.503	332
#7	0'-0''	2.046	0
TOTAL WEIGHT (ALL BARS, LBF):			722

STD. END HOOK DIMENSIONS

BAR SIZE	ALL GRADES		
	"D" DIM.	"A" DIM.	"B" DIM.
#3	2¼"	5"	6"
#4	3"	6"	8"
#5	3¾"	7"	10"
#6	4½"	8"	12"
#7	5¼"	10"	14"
#8	6"	11"	16"
#9	9½"	15"	19"
#10	10¾"	17"	22"
#11	12"	19"	24"
#14	18¼"	27"	31"
#18	24"	36"	41"

STIRRUP/TIE HOOK DIMENSIONS

BAR SIZE	ALL GRADES		
	"D" DIM.	"B" DIM.	"C" DIM.
#3	1½"	4"	4"
#4	2"	4½"	4½"
#5	2½"	6"	5½"
#6	4½"	12"	8"
#7	5¼"	14"	9"
#8	6"	16"	10½"

BAR LIST DENOTES STIRRUP/TIE BARS BY "*"

NOTES:

1. ALL BEND DETAILS TO BE IN ACCORDANCE WITH THE LATEST ACI STANDARD PRACTICE AND AASHTO SPECIFICATIONS.
2. NO DEDUCTIONS FOR CURVATURE AT BENDS ARE MADE EXCEPT FOR THE ADJUSTMENTS INCLUDED IN THE ABOVE "ADD LENGTH" DIMENSIONS.
3. PROVIDE REINFORCING BARS THAT CONFORM TO AASHTO M31 (GRADE 60, TYPE S).
4. PROVIDE EPOXY-COATED REINFORCING BARS FOR ALL BARS DESIGNATED "E" UNDER THE "COAT" COLUMN.
5. ONLY REINFORCING STEEL WEIGHTS TO BE PAID UNDER BID ITEMS 503-005A, 503-010A, 503-015A, AND 503-020A ARE SHOWN ON THIS SHEET. SEE OTHER SHEETS FOR REINFORCING STEEL INCIDENTAL WITHIN OTHER PAY ITEMS.
6. * INDICATES STIRRUP OR TIE BAR.

PROFESSIONAL ENGINEER REGISTERED 9615 5/1/2025 STATE OF IDAHO PAUL B. BLACKHAM
DocuSigned by: PBlackham 68C64A191170453...

REVISIONS			
NO.	DATE	BY	DESCRIPTION
1			
2			
3			
4			
5			

DESIGNED P. BLACKHAM
DESIGN CHECKED M. SLEGERS
DETAILED M. OKSTEN
DWG. CHECKED M. SLEGERS
CORRECTIONS

SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY
CADD FILE NAME 222097\Proj\Dev\Plan_Sheets\Bridge 22432_n_RSCH_01.DGN
DRAWING DATE: MARCH 2025

IDAHO TRANSPORTATION DEPARTMENT
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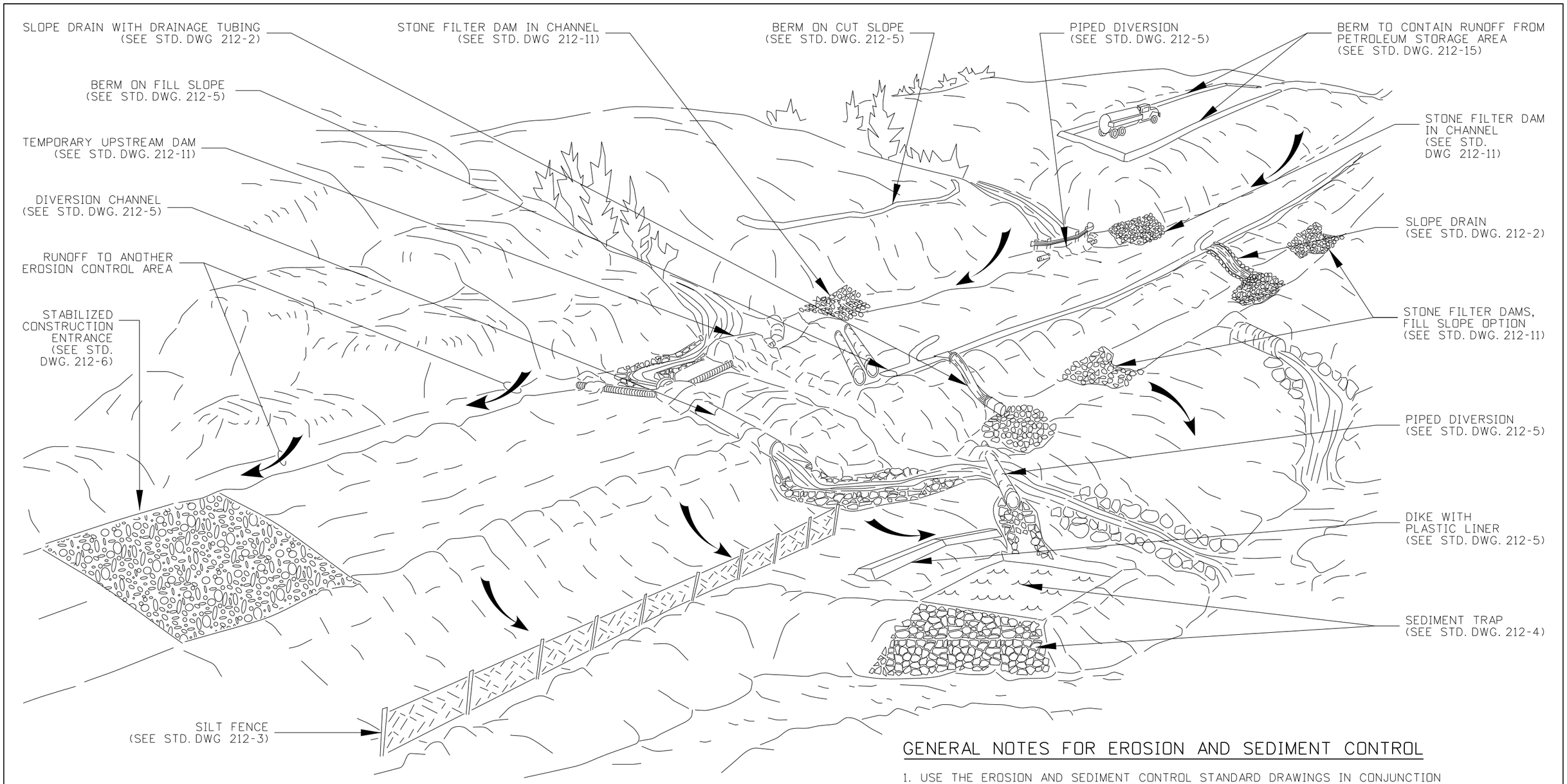
KELLER ASSOCIATES

ENGLISH
PROJECT NO. A022 (432)

METAL REINFORCEMENT
108' PRESTRESSED CONCRETE GIRDER BRIDGE
KILPATRICK BRIDGE ROAD OVER SILVER CREEK
STATION 15+57.50 M.P. 105.41

BRIDGE PLANS
BRIDGE KEY NO. 23781
COUNTY BLAINE
KEY NO. 22432
BRIDGE DWG. NO. 18451
SHEET 17 OF 17



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 ORIGINAL SIGNED DATE OF ORIGINAL SIGNATURE MARCH 18, 2021 13683 STATE OF IDAHO 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

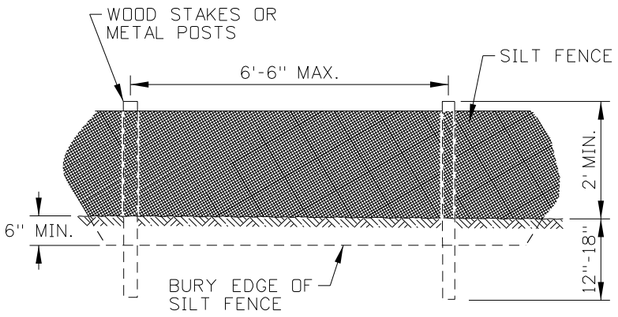
STANDARD DRAWING

EROSION AND SEDIMENT CONTROL EXAMPLE APPLICATIONS

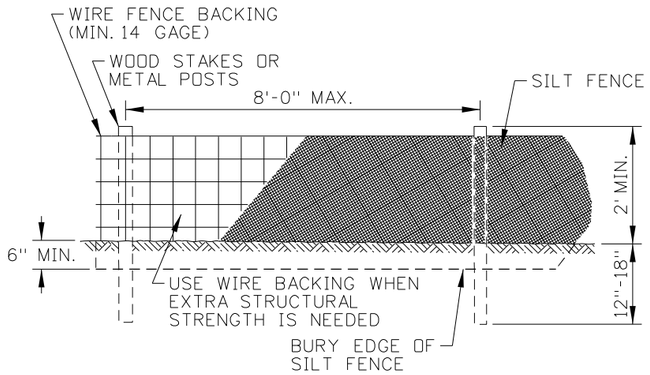
English

STANDARD DRAWING NO. 212-1

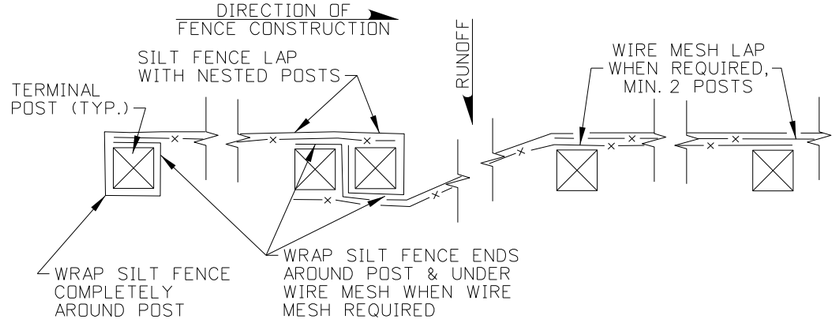
SHEET 1 OF 1



SILT FENCE (NO WIRE BACKING)



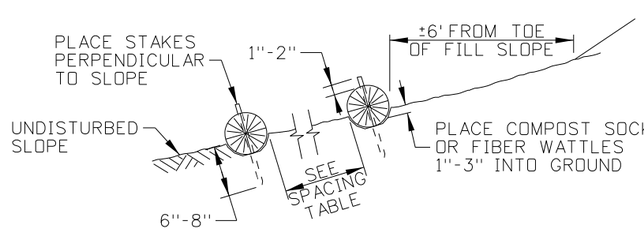
SILT FENCE (WIRE BACKING)



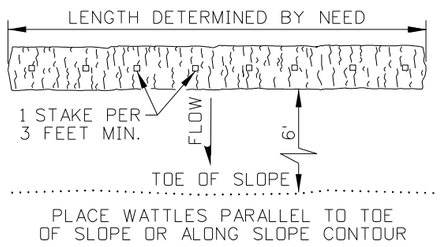
SILT FENCE LAP DETAIL

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

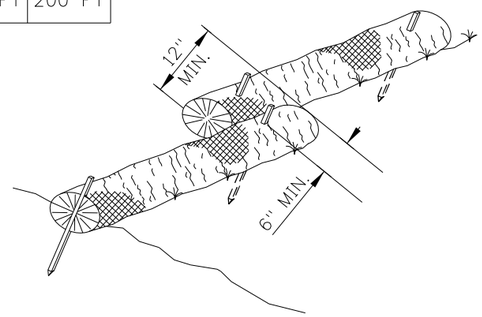
SILT FENCE SPACING TABLE			
SLOPE	SOIL TYPE		
	SILTY	CLAYS	SANDY
1:1	50 FT	75 FT	100 FT
2:1	75 FT	100 FT	125 FT
4:1	100 FT	125 FT	150 FT
10:1 OR FLATTER	125 FT	150 FT	200 FT



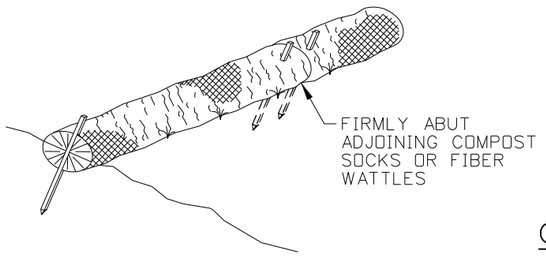
COMPOST SOCK AND FIBER WATTLE
SIDE VIEW



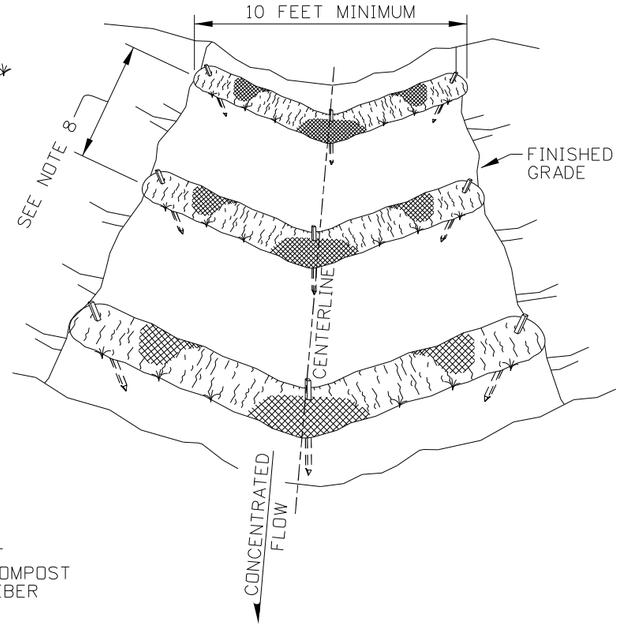
COMPOST SOCK AND FIBER WATTLE
PLAN VIEW



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 1/2 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 ORIGINAL SIGNED RYAN D. LANCASTER STATE OF IDAHO MARCH 18, 2021 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

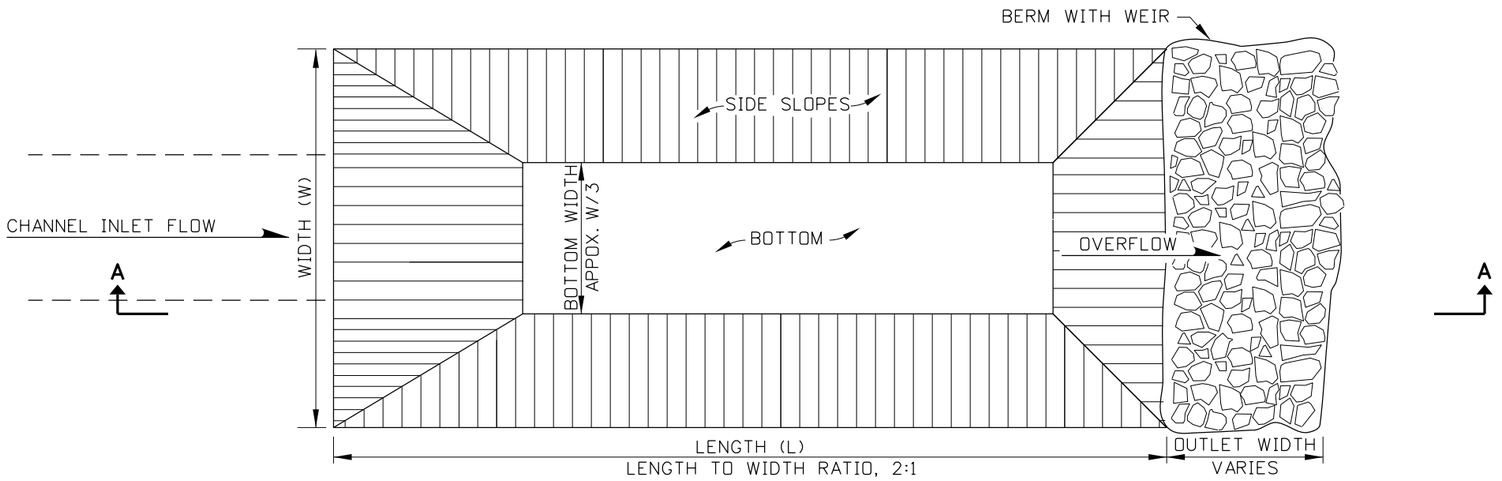
REQUIRES STD. DWG. 212-1

English

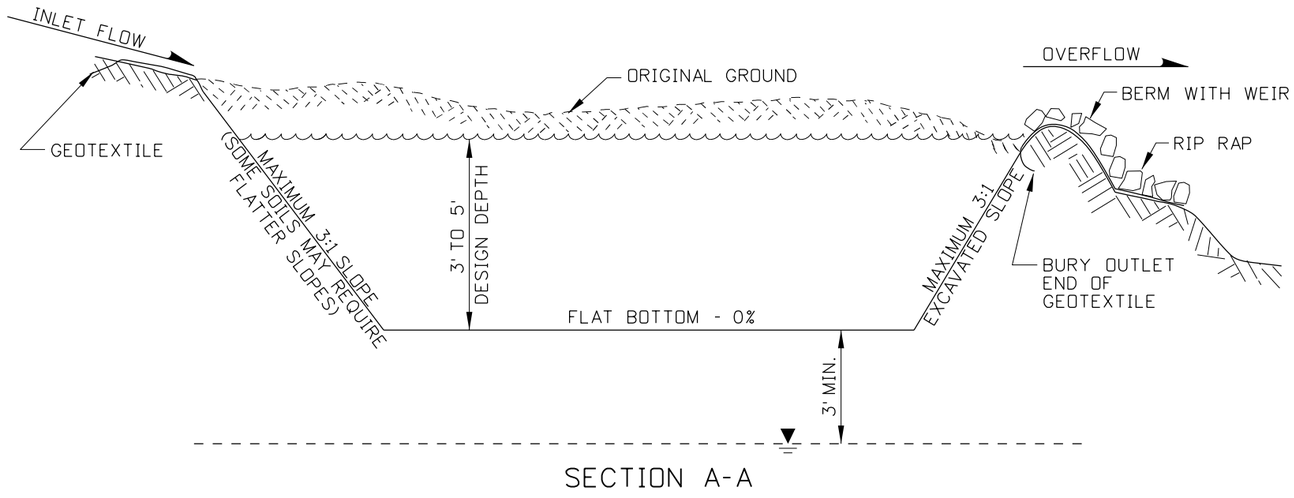
STANDARD DRAWING NO.

212-3

SHEET 1 OF 1



SEDIMENT TRAP BASIN



SECTION A-A

NOTES

1. SEE THE GENERAL NOTES FOR TEMPORARY EROSION CONTROL STANDARD DRAWINGS ON 212-1.
2. DETERMINE SEDIMENT TRAP SIZE ON A 2-YEAR 24-HOUR STORM DESIGN OR 3,600 CU. FT./ACRE. THE MAXIMUM DRAINAGE AREA PER SEDIMENT TRAP IS 5 ACRES.
3. LOCATE SEDIMENT TRAP OUTSIDE OF THE SLOPE STAKE LIMITS AND CONSTRUCT PRIOR TO THE START OF EXCAVATION OR REMOVAL OF EXISTING VEGETATION.
4. ENSURE THAT RIPRAP MATERIAL IS IN ACCORDANCE WITH 711.04 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.
5. PROVIDE TYPE II RIPRAP/EROSION CONTROL GEOTEXTILE IN ACCORDANCE WITH SUBSECTION 718.06 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.
6. ENTIRE TRAP MAY BE ROCK LINED IF NECESSARY.
7. NOT TO SCALE.

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

PROFESSIONAL ENGINEER LICENSED ORIGINAL SIGNED BY: J. CALEB LAKEY DATE ORIGINAL SIGNED: NOVEMBER 20, 2013 15116 STATE OF IDAHO J. CALEB LAKEY

REVISIONS

NO.	DATE	BY	NO.	DATE	BY	NO.	DATE	BY
1	09-93	MSM						
2	02-96	MSM						
3	10-10	KEH						
4	10-11	KEH						
5	11-13	RDL						

SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY

CADD FILE NAME: 212-4_1113.dgn

DRAWING DATE: APRIL, 1993

IDAHO TRANSPORTATION DEPARTMENT

BOISE IDAHO

ORIGINAL SIGNED BY: TOM COLE *for*
HIGHWAYS PROGRAM OVERSIGHT ENGINEER

ORIGINAL SIGNED BY: TOM COLE
CHIEF ENGINEER

STANDARD DRAWING

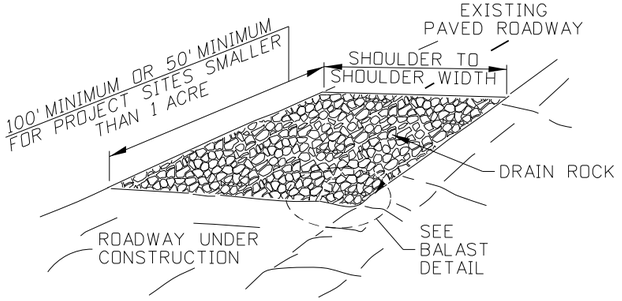
TEMPORARY EROSION AND SEDIMENT CONTROL SEDIMENT TRAP

REQUIRES STD. DWG. 212-1

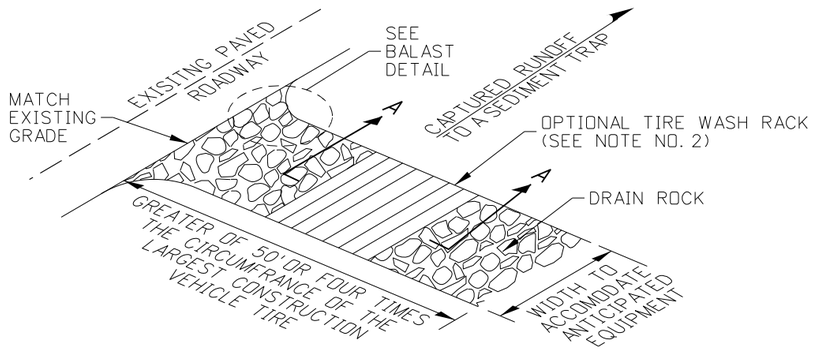
English

STANDARD DRAWING NO. 212-4

SHEET 1 OF 1

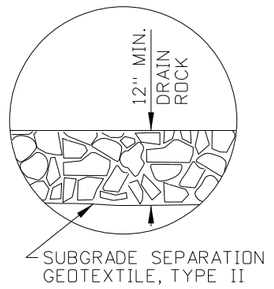


IN-LINE WITH HIGHWAY

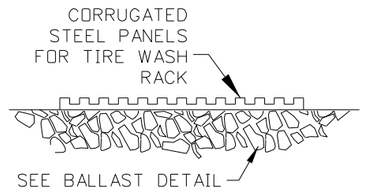


PERPENDICULAR TO HIGHWAY

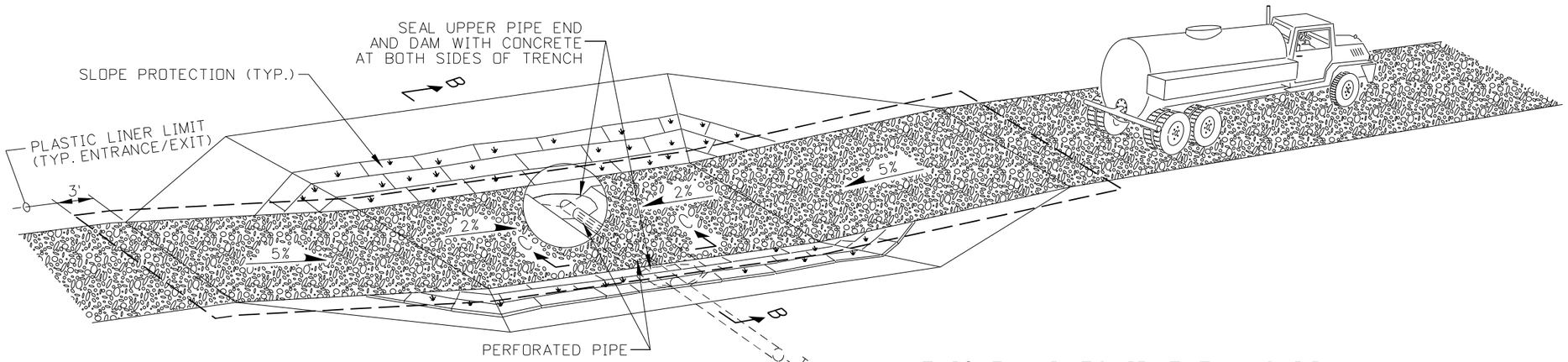
STABILIZED CONSTRUCTION ENTRANCE



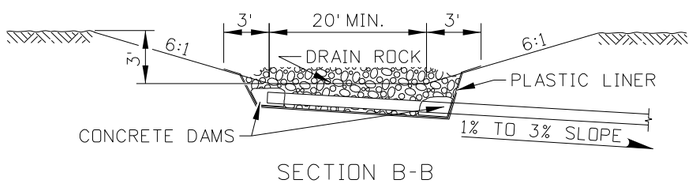
BALLAST DETAIL



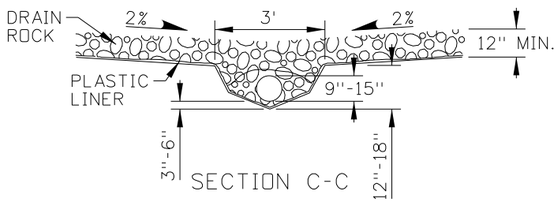
SECTION A-A



VEHICLE AND EQUIPMENT WASHDOWN



SECTION B-B



SECTION C-C

NOTES

1. SEE THE GENERAL NOTES FOR EROSION CONTROL STANDARD DRAWINGS ON 212-1.
2. DRAWING NOT TO SCALE.

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

PROFESSIONAL ENGINEER LICENSED RYAN D. LANCASTER 13683 ORIGINAL SIGNED BY RYAN D. LANCASTER MARCH 18, 2021 STATE OF IDAHO

REVISIONS									
NO.	DATE	BY	NO.	DATE	BY	NO.	DATE	BY
1	03-21	TWF						

SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY

CADD FILE NAME: 212-06_0421.dgn

DRAWING DATE: NOVEMBER, 2016

IDAHO TRANSPORTATION DEPARTMENT

BOISE IDAHO

ORIGINAL SIGNED BY: KEVIN SABLAN

DESIGN/TRAFFIC SERVICES ENGINEER

STANDARD DRAWING

TEMPORARY EROSION AND SEDIMENT CONTROL

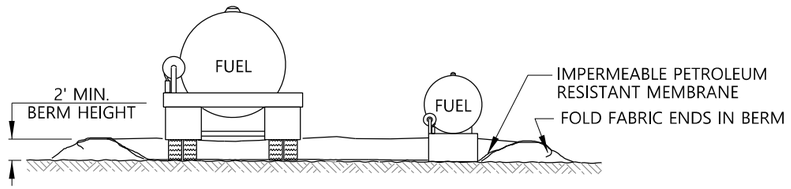
STABILIZED CONSTRUCTION ENTRANCE AND VEHICLE WASHDOWN

REQUIRES STD. DWG. 212-1

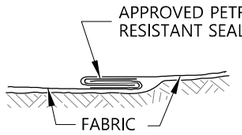
English

STANDARD DRAWING NO. 212-6

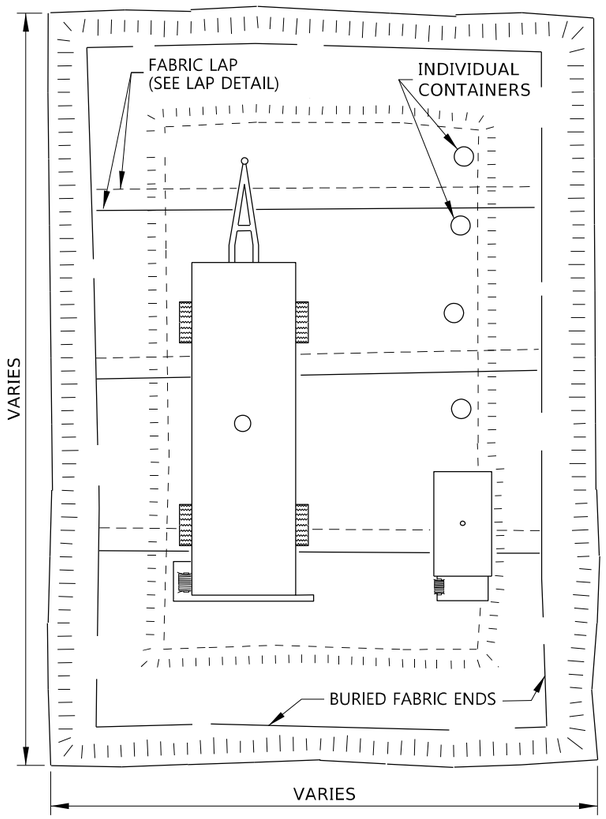
SHEET 1 OF 1



ELEVATION

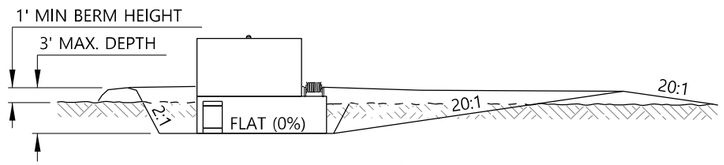


LAP DETAIL

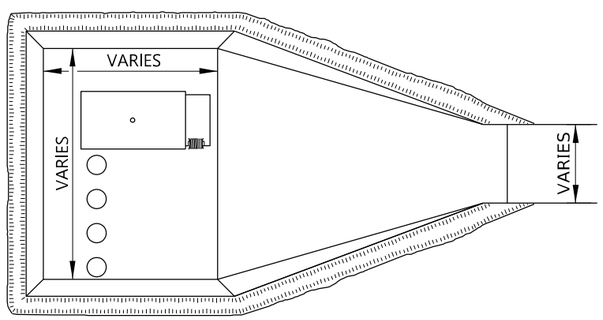


PLAN

PETROLEUM STORAGE AREA - TYPE 1



ELEVATION



PLAN

PETROLEUM STORAGE AREA - TYPE 2

NOTES

1. USE THIS DRAWING IN CONJUNCTION WITH THE ITD BEST MANAGEMENT PRACITCES MANUAL.
2. PROVIDE THE PETROLEUM STORAGE AREA FOR THE DURATION OF THE PROJECT.
3. PROVIDE A TYPE 1 OR TYPE 2 PETROLEUM STORAGE AREA WITH AN IMPERMEABLE PETROLEUM RESISTANT MEMBRANE IF PETROLEUM PRODUCTS ARE STORED ONSITE.
4. ENSURE THE TOTAL VOLUME OF THE BERMED AREA IS 110 PERCENT OF THE TOTAL CAPACITY OF THE STORAGE CONTAINERS INSIDE THE BERM.
5. NOTIFY THE ENGINEER AND THE HAZARDOUS MATERIALS COORDINATOR OF SOIL CONTAMINATION RESULTING FROM PETROLEUM SPILLS. COORDINATE REMOVAL PROCEDURES WITH THE ENGINEER AND HAZARDOUS MATERIAL COORDINATOR BEFORE PERFORMING THE WORK.
6. ENSURE RUNOFF AT THE EQUIPMENT STAGING AREA ENTRANCE IS RETAINED IN THE STAGING AREA.
7. REMOVE UNCONTAMINATED STORMWATER FROM INSIDE THE STORAGE AREA. TREAT CONTAMINATED STORMWATER AS A HAZARDOUS WASTE.
8. STORE INCOMPATIBLE MATERIALS IN SEPARATE STORAGE AREAS.
9. STORE MATERIALS IN THEIR ORIGINAL PACKAGING AND ON PALLETS.
10. DRAWING NOT TO SCALE.

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

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

REVISIONS									
NO.	DATE	BY	NO.	DATE	BY	NO.	DATE	BY
1	09-98	MSM						
2	10-10	KEH						
3	11-13	RDL						
4	01-23	RDL						

SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY

CADD FILE NAME: 212-15_0423.dgn

DRAWING DATE: DECEMBER, 1995

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

BOISE IDAHO

ORIGINAL SIGNED BY: MONICA CRIDER
HIGHWAY DESIGN ENGINEER

STANDARD DRAWING

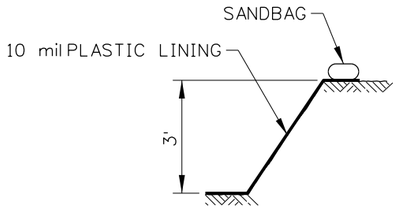
PETROLEUM STORAGE AREA

REQUIRES STD. DWG. 212-5

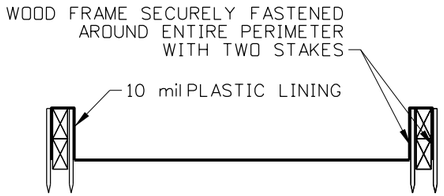
ENGLISH

STANDARD DRAWING NO.
212-15

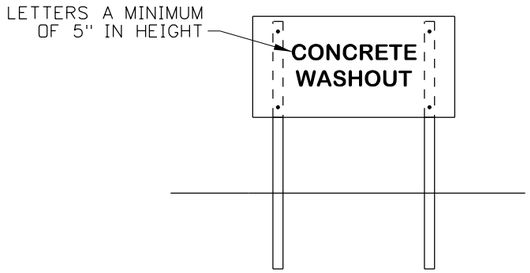
SHEET 1 OF 1



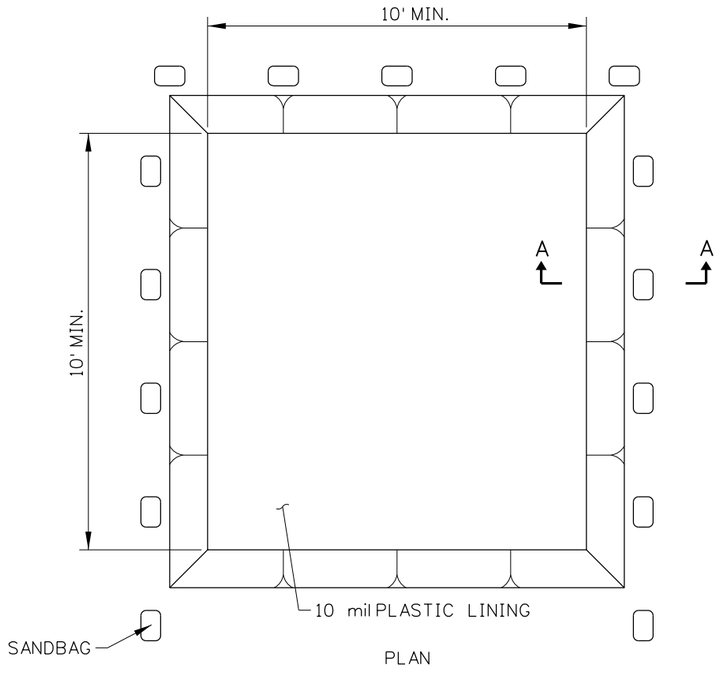
SECTION A-A



SECTION B-B

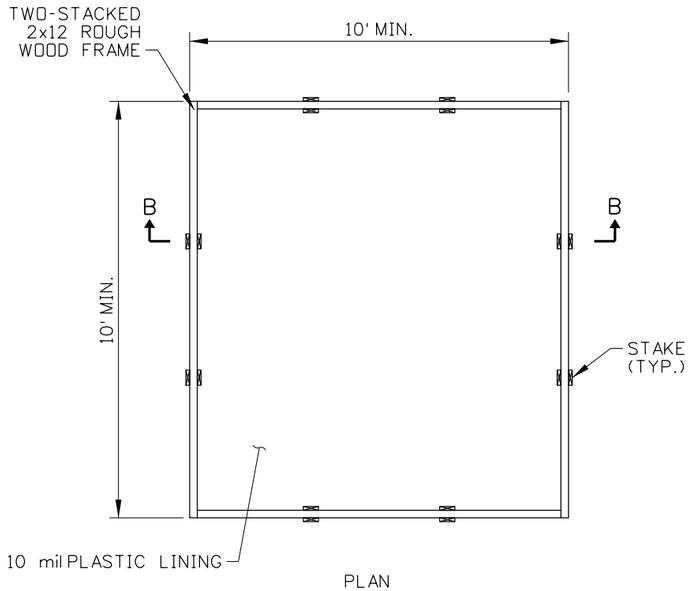


CONCRETE WASHOUT SIGN DETAIL
(SEE NOTE NO. 2)



PLAN

TYPE BELOW GRADE



PLAN

TYPE ABOVE GRADE

NOTES

1. USE THIS DRAWING IN CONJUNCTION WITH THE ITD BEST MANAGEMENT PRACTICES (BMP) MANUAL.
2. ACTUAL LAYOUT DETERMINED IN THE FIELD
3. INSTALL THE CONCRETE WASHOUT SIGN WITHIN 30 FEET OF THE TEMPORARY CONCRETE WASHOUT FACILITY.
4. USE OF PREFABRICATED TEMPORARY WASHOUT MAY ONLY BE USED ON APPROVAL BY THE ENGINEER.
5. NOT TO SCALE.

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

PROFESSIONAL ENGINEER LICENSED J. CALEB LAKEY ORIGINAL SIGNED DATE OF ORIGINAL SIGNATURE NOVEMBER 20, 2013 15116 STATE OF IDAHO J. CALEB LAKEY

REVISIONS									
NO.	DATE	BY	NO.	DATE	BY	NO.	DATE	BY
1	11-13	RDL						

SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY

CADD FILE NAME: 212-16_1113.dgn

DRAWING DATE: OCTOBER, 2010

IDAHO TRANSPORTATION DEPARTMENT

BOISE IDAHO

ORIGINAL SIGNED BY: TOM COLE *for*
HIGHWAYS PROGRAM OVERSIGHT ENGINEER
ORIGINAL SIGNED BY: TOM COLE
CHIEF ENGINEER

STANDARD DRAWING

TEMPORARY CONCRETE WASHOUT

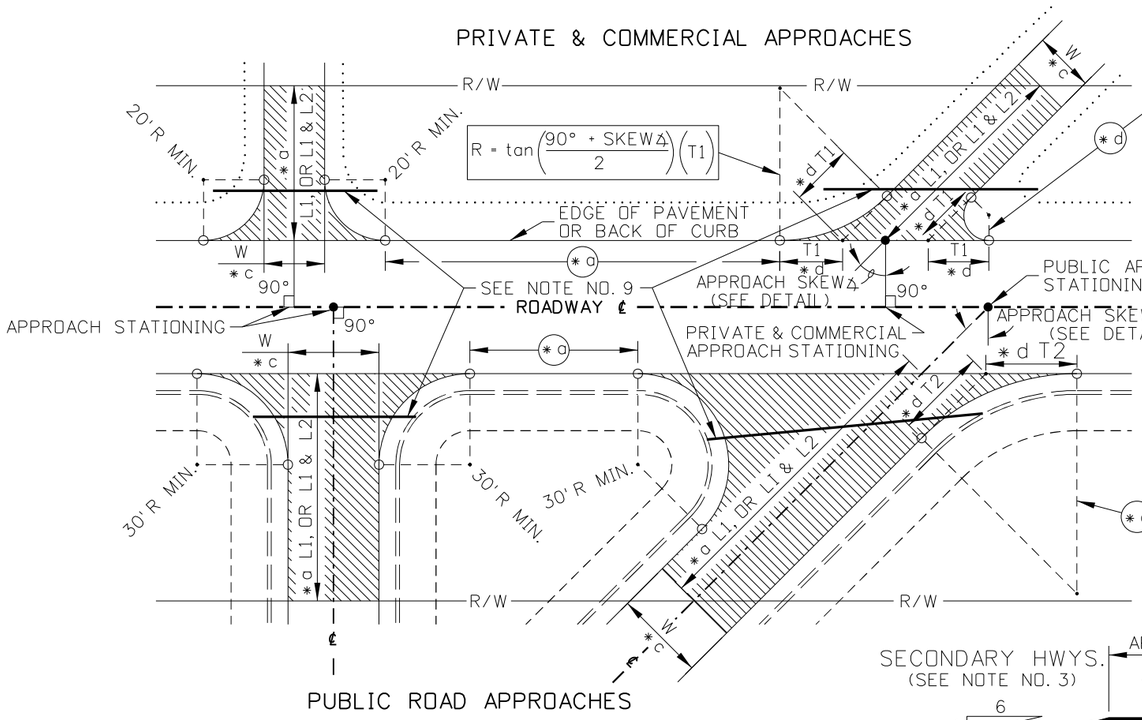
English

STANDARD DRAWING NO.

212-16

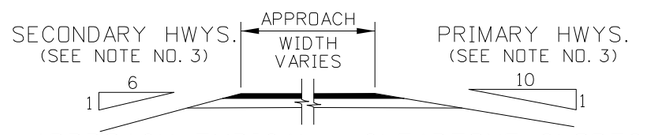
SHEET 1 OF 1

PRIVATE & COMMERCIAL APPROACHES



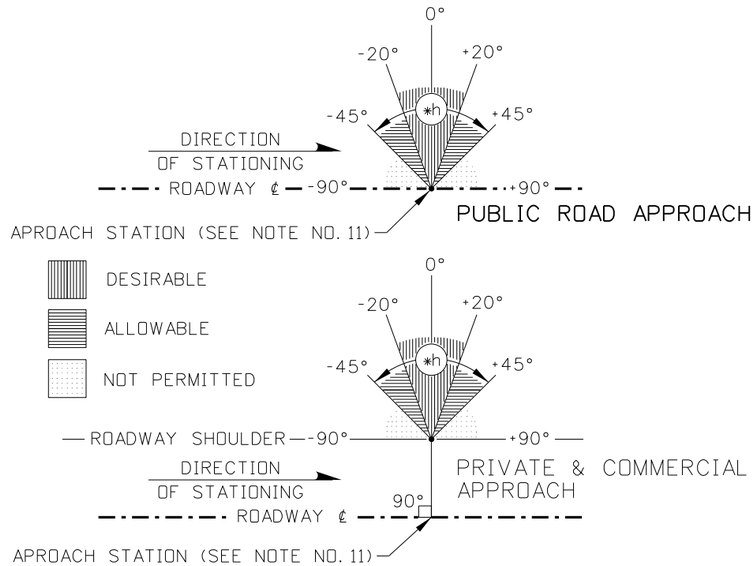
APPROACH PLAN TYPICALS

APPROACH PLAN LEGEND & APPROACH NOMENCLATURE	
CUT	
FILL	
PROPOSED DITCH	
PROPOSED CULVERT	
SKEW Δ	SEE NOTE NO. 10
R	RADIUS OF SHD. CURVE
T1 & T2	TANGENT OF SHD. CURVE
W	APPROACH WIDTH
G1 & G2	APPR. GRADES 1 & 2 (%)
C	CHANGE IN GRADE (%)
L1 & L2	HORZ. LENGTH OF GRADE



APPROACH TYPICAL - CLEARZONE SLOPES

(PUBLIC & PRIVATE)



APPROACH SKEW ANGLE

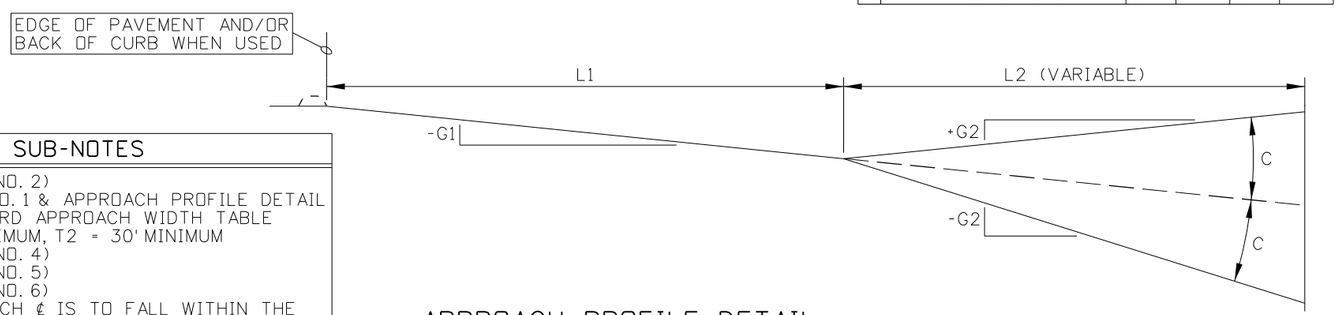
(SEE NOTE NO. 10)

APPROACH GRADE TABLE

TRAFFIC TYPE	GRADE PARAMETER G1 (RANGE)	GRADE PARAMETER G2 (MAX.)	MAX. CHANGE IN GRADE C (* e)	MINIMUM LENGTH L1
HIGH VOLUME (COMMERCIAL, INDUSTRIAL)	-2% TO -3%	±5%	±3%	40'
LOW VOLUME (COMMERCIAL, INDUSTRIAL)	-2% TO -5%	±8%	±6%	40'
SINGLE RESIDENTIAL, FARMYARD, FIELD	-2% TO -8%	±15% * g	VEHICLE CLEARANCE	10'
MULTIPLE RESIDENTIAL	-2% TO -8%	±15% * g	±6%	20'
PUBLIC ROAD	-2%	* f	±2%	20'

(* a) STANDARD APPROACH WIDTH TABLE

	POSTED SPEED (mph)	≤35		>35	
	MIN./MAX. WIDTH	MIN.	MAX.	MIN.	MAX.
APPR. TYPE	MULTIPLE RESIDENTIAL	28'	40'	28'	40'
	SINGLE RESIDENTIAL, FARMYARD, FIELD	12'	40'	20'	40'
	COMMERCIAL (ONE-WAY)	15'	30'	20'	30'
	COMMERCIAL (TWO-WAY)	25'	40'	25'	40'
	PUBLIC ROAD	28'	N/A	28'	N/A



APPROACH PROFILE DETAIL

SUB-NOTES

* a (SEE NOTE NO. 2)
* b SEE NOTE NO. 1 & APPROACH PROFILE DETAIL
* c SEE STANDARD APPROACH WIDTH TABLE
* d T1 = 20' MINIMUM, T2 = 30' MINIMUM
* e (SEE NOTE NO. 4)
* f (SEE NOTE NO. 5)
* g (SEE NOTE NO. 6)
* h THE APPROACH ℄ IS TO FALL WITHIN THE ALLOWABLE OR DESIRABLE LIMITS. THE DESIRABLE LIMIT IS CONSIDERED THE "SAFEST OPTION."

NOTES

1. RURAL PRIVATE, COMMERCIAL, AND PUBLIC APPROACHES SHALL BE PAVED TO THE RIGHT-OF-WAY LINE OR TO THE BACK OF THE SHOULDER CURVE (APPROACH RADIUS). FARMYARD AND FIELD APPROACHES THAT ARE OCCASIONALLY USED MAY BE PAVED A MINIMUM OF 5' FROM THE SHOULDER LINE. APPROACHES ON EXISTING UNPAVED HIGHWAYS ARE EXEMPT.
2. REFER TO THE ITD ADMINISTRATIVE POLICY 5005 FOR ADDITIONAL INFORMATION ON LOCATION OF APPROACHES.
3. WITHIN THE CLEARZONE THE SIDE SLOPES OF APPROACHES SHALL BE A MINIMUM OF 6:1 OF SECONDARY HIGHWAYS AND A MINIMUM OF 10:1 ON PRIMARY HIGHWAYS.
4. WHEN THE "MAXIMUM CHANGE IN GRADE" (APPROACH GRADE TABLE) "C" IS EXCEEDED, A MINIMUM 10' VERTICAL CURVE SHALL BE USED IN THE APPROACH PROFILE.
5. THE % GRADE OF "G2" SHALL BE A MAXIMUM OF 7% FOR FLAT TERRAIN, 11% FOR ROLLING TERRAIN, OR 15% FOR MOUNTAINOUS.
6. APPROACH GRADES EXCEEDING 10% ARE NOT RECOMMENDED BECAUSE EMERGENCY VEHICLES MAY BE IMPEDED.
7. THE BALLAST REQUIREMENTS OF RURAL APPROACHES SHALL BE AS SHOWN ON THE PLANS.
8. WHEN A MAILBOX TURNOUT IS INSTALLED WITH A RURAL APPROACH, STD. DWG. 405-2 IS REQUIRED.
9. ALL RURAL PRIVATE AND COMMERCIAL APPROACHES SHALL BE DESIGNED AND CONSTRUCTED IN A MANNER THAT THE APPROACH DRAINAGE IS INDEPENDENT AND DOES NOT CONTRIBUTE TO EXISTING HIGHWAY DRAINAGE. ALL RURAL PUBLIC APPROACHES SHALL BE DESIGNED AND CONSTRUCTED TO ADDRESS BOTH THE MAIN HIGHWAY AND APPROACH DRAINAGE.
10. THE APPROACH SKEW ANGLE IS THE DEFLECTION ANGLE BETWEEN A LINE PERPENDICULAR TO THE HIGHWAY CENTERLINE AND THE APPROACH CENTERLINE.
11. RURAL PRIVATE AND COMMERCIAL APPROACHES ARE REFERENCED LEFT OR RIGHT OF THE HIGHWAY CENTERLINE STATION TO THE CENTER OF THE APPROACH OPENING WHICH IS AT THE EDGE OF PAVEMENT OR BACK OF CURB. A PUBLIC APPROACH STATION OCCURS WHERE THE PUBLIC APPROACH CENTERLINE INTERSECTS THE HIGHWAY CENTERLINE.
12. NOT TO SCALE.

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

REVISIONS									
NO.	DATE	BY	NO.	DATE	BY	NO.	DATE	BY
1	01-00	MSM	6	12-05	MSM			
2	01-02	MSM	7	06-07	MSM			
3	07-02	MSM						
4	10-02	MSM						
5	08-04	MSM						

SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY

CADD FILE NAME: 405-1_0607.dgn

DRAWING DATE: SEPTEMBER, 1993

IDAHO TRANSPORTATION DEPARTMENT

BOISE IDAHO

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

STANDARD DRAWING

RURAL APPROACHES

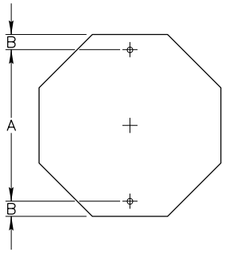
English

STANDARD DRAWING NO. 405-1

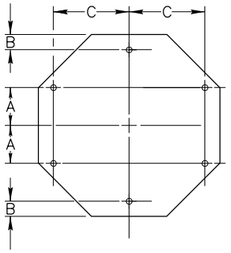
SHEET 1 OF 1

PROFESSIONAL ENGINEER * LAND SURVEYOR REGISTERED ORIGINAL SIGNED MILFORD MILLER JUNE 19, 2007 STATE OF IDAHO

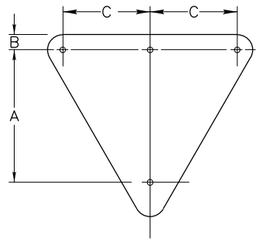
2240



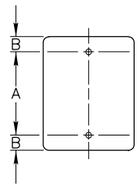
SIGN SIZE	A	B
30"X30"	24"	3"



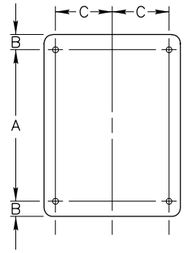
SIGN SIZE	A	B	C
36"X36"	8"	3"	12"
48"X48"	10"	—	20"



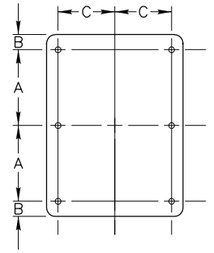
SIGN SIZE	A	B	C
30"X30"	18"	3"	—
36"X36"	23"	3"	—
48"X48"	25"	3"	17"
60"X60"	35"	4"	23"



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"



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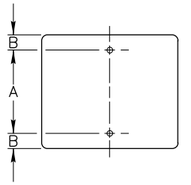
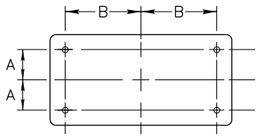


SIGN SIZE	A	B
12"X6"	3"	1½"
18"X9"	6"	1½"
18"X12"	9"	1½"
18"X18"	15"	1½"
21"X15"	12"	1½"
24"X6"	3"	1½"
24"X10"	7"	1½"
24"X12"	9"	1½"
24"X18"	15"	1½"
24"X24"	18"	3"
30"X18"	12"	3"
30"X24"	18"	3"
30"X30"	24"	3"
36"X24"	18"	3"
36"X30"	24"	3"
42"X24"	18"	3"
42"X30"	24"	3"
42"X36"	30"	3"

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"



SIGN SIZE	A	B
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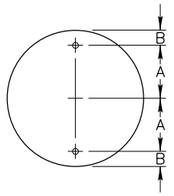
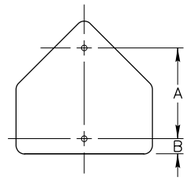


SIGN SIZE	A	B
36"	15"	3"
48"	21"	3"



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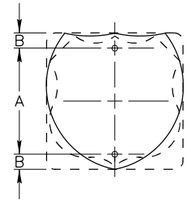
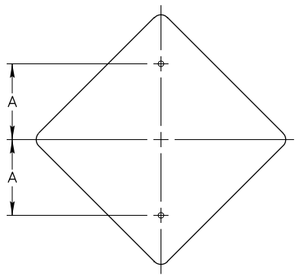
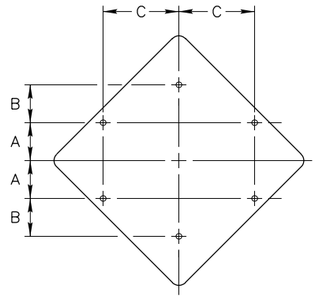
36"X36"	24"	3"



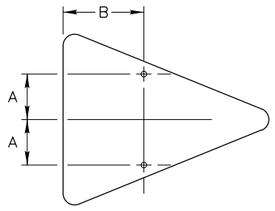
SIGN SIZE	A	B
24"X24"	18"	3"
30"X24"	18"	3"



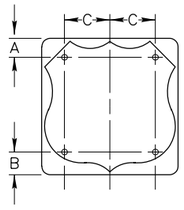
SIGN SIZE	A
18"X18"	10"
24"X24"	12"
30"X30"	15"



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



SIGN SIZE	A	B
36"X48"	9"	16"



SIGN SIZE	A	B	C
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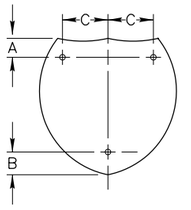


SIGN SIZE	A	B	C
36"X36"	5"	6"	12"
45"X36"	5"	6"	16"

NOTES:

1. ALL MOUNTING HOLES SHALL BE ⅜" DIAMETER.

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

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

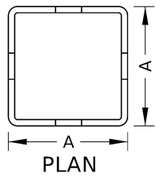
STANDARD DRAWING

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

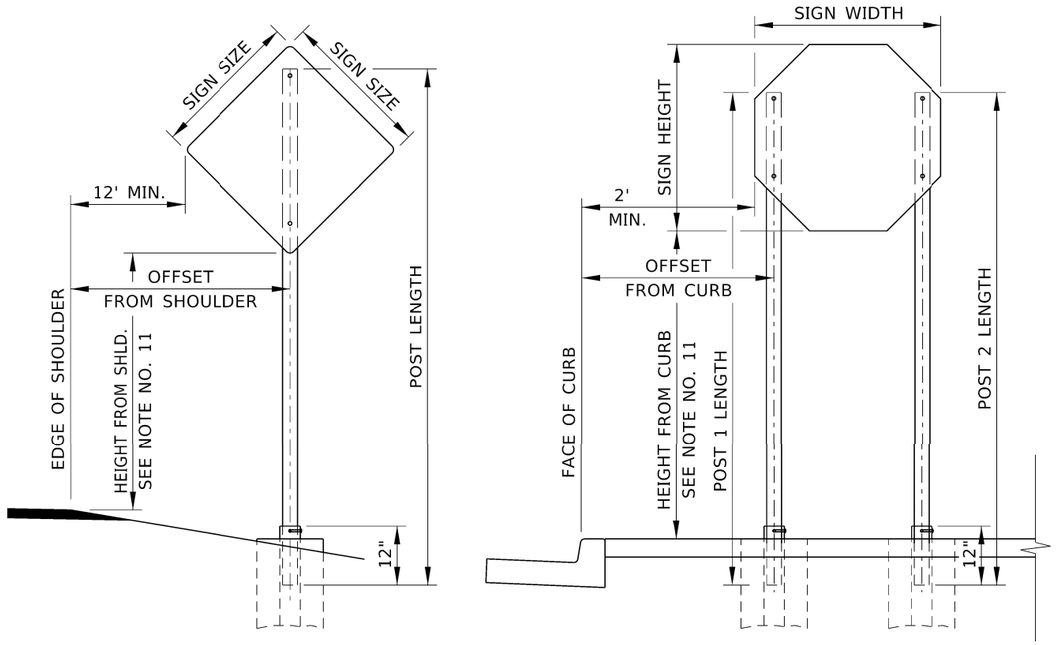
English

STANDARD DRAWING NO. 616-1

SHEET 1 OF 1

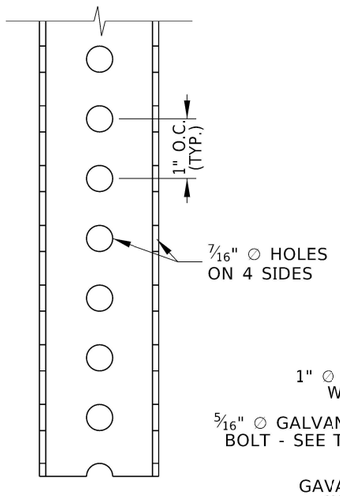


PLAN

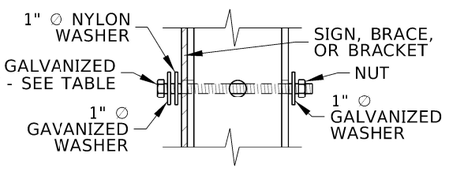


ONE POST TWO POSTS

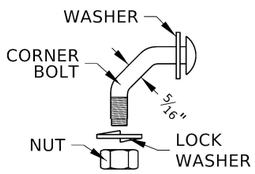
SIGN ASSEMBLY MEASUREMENTS



ELEVATION



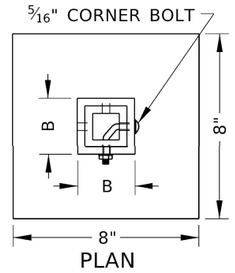
SIGN BOLT



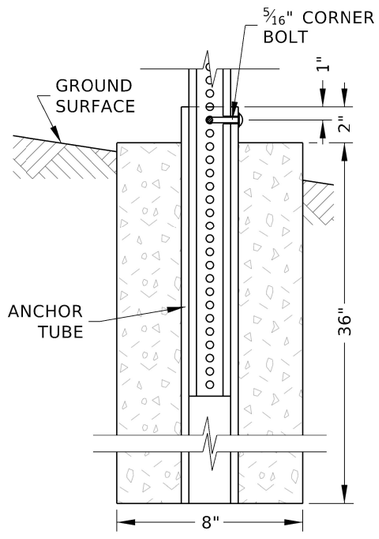
CORNER BOLT

FASTENER DETAILS

SEE NOTE NO. 10



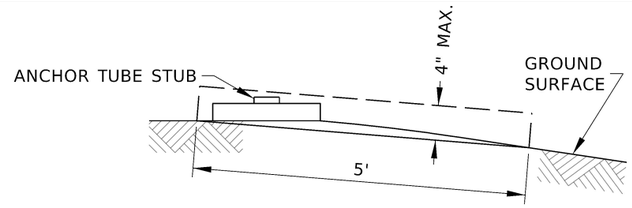
PLAN



ELEVATION

FOUNDATION

SEE NOTE NOS. 12 & 13



FOUNDATION AND STUB HEIGHT DETAIL

SEE NOTE NO. 15

NOTES

1. USE TYPE E - PERFORATED STEEL TUBE POSTS - WITH TYPE B - SHEET ALUMINUM 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 E - PERFORATED STEEL TUBE POST. DO NOT MIX E-1 AND E-2 POSTS ON THE SAME SIGN ASSEMBLY.
5. POST 1 IS CLOSEST TO THE HIGHWAY, WHETHER INSTALLED ON THE RIGHT OR LEFT SIDE.
6. A BREAKAWAY DEVICE MUST BE INSTALLED IF THREE POSTS ARE USED. REFER TO THE ITD QUALIFIED PRODUCTS LIST FOR BREAKAWAY DEVICES.
7. TYPE E - PERFORATED STEEL TUBE POSTS - DO NOT NEED TO BE SHIELDED BY GUARDRAIL OR BARRIER. WHEN PERFORATED STEEL POSTS ARE INSTALLED BEHIND GUARDRAIL OR BARRIER, ENSURE THE POSTS ARE OUTSIDE OF THE GUARDRAIL OR BARRIER WORKING WIDTH.
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 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.
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. PRECAST FOUNDATION OR CAST FOUNDATION IN PLACE. ENSURE THE BOTTOM OF THE FOUNDATION IS KEPT OPEN TO DRAIN. IF THE ANCHOR TUBE IS PERFORATED, ENSURE THE INSIDE OF THE ANCHOR REMAINS OPEN.
13. IF SOLID BEDROCK IS ENCOUNTERED WITHIN THE FOUNDATION DEPTH, DRILL A 4.5 INCH VERTICAL HOLE AND SOCKET THE ANCHOR TUBE. FILL DRILLED HOLES WITH GROUT, TYPE B, CLASS 1. ENSURE THE INSIDE OF THE ANCHOR TUBE REMAINS OPEN. WHEN INSTALLED IN BEDROCK, ENSURE THE E-1 POST IS EMBEDDED 18 INCHES DEEP AND THE E-2 POST IS EMBEDDED 24 INCHES.
14. WHEN THE SIGN IS INSTALLED ON A BACKSLOPE, ENSURE THE SIGN POST IS AT LEAST 5' HIGHER THAN THE GROUND SURFACE.
15. ENSURE NO PART OF THE FOUNDATION OR SIGN POST STUB PROJECTS MORE THAN 4 IN. ABOVE ANY 5 FT. CHORD ALIGNED PERPENDICULARLY TO THE EDGE OF THE HIGHWAY BETWEEN A POINT ON THE GROUND SURFACE ON ONE SIDE OF THE SUPPORT TO A POINT ON THE GROUND SURFACE ON THE OTHER SIDE OF THE SUPPORT.
16. DRAWING NOT TO SCALE.

SIGN POST AND FOUNDATION TABLE

TYPE E PERFORATED STEEL TUBE POST					FOUNDATION		ANCHOR TUBE			FASTENERS
POST TYPE	PERFORATED STEEL TUBE POST SIZE		POST WEIGHT (LB/FT)	MAXIMUM SIGN LOAD (SFxFT)	SIZE (INxINxIN)	CONCRETE (CY)	B (IN)	GAUGE	POST WEIGHT (LB/FT)	SIGN BOLT LENGTH (IN)
	A (IN)	GAUGE								
E-1	2	12	2.42	43	8x8x36	0.05	2½x2½	7	5.59	2½
E-2	2½	10	4.01	91	8x8x36	0.05	3x3	7	6.87	3

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

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

REVISIONS									
NO.	DATE	BY	NO.	DATE	BY	NO.	DATE	BY
1	02-92	JEC	6	05-15	HEB			
2	12-94	HEB	7	12-16	HEB			
3	06-99	HEB	8	02-23	RDL			
4	12-01	NQB						
5	12-13	HEB						

SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY

CADD FILE NAME: 616-7_0423.dgn

DRAWING DATE: JULY, 1991

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

ORIGINAL SIGNED BY: MONICA CRIDER
HIGHWAY DESIGN ENGINEER

STANDARD DRAWING
STEEL SIGN POST AND FOUNDATION TYPE E - PERFORATED STEEL TUBE POST

ENGLISH
STANDARD DRAWING NO.
616-7
SHEET 1 OF 1