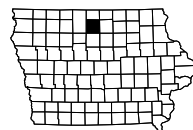


HANCOCK COUNTY

Bridge - Unspecified
BRFN-069-8(030)--39-41

LETTING DATE
10/17/2028



No.	DESCRIPTION
A Sheets	Title Sheets
A.1	Title Sheet
A.2	Location Map Sheet
B Sheets	Typical Cross Sections and Details
B.1 - 3	Typical Cross Sections and Details
B.4 - 8	Existing Cross Sections and Details
D Sheets	Mainline Plan and Profile Sheets
D.1	Plan & Profile Legend & Symbol Information Sheet
D.2	US Highway 69
G Sheets	Survey Sheets
G.1 - 3	Survey Information
G.4 - 5	Alignment Plan Views
G.6	Horizontal Control Tabulation
H Sheets	Right-of-Way Sheets
H.1	US Highway 69
J Sheets	Traffic Control and Staging Sheets
J.1	Traffic Control Plan
J.2	511 Travel Restrictions
J.3 - 4	Detour Route
V Sheets	Bridge and Culvert Situation Plans
V.1 - 3	Bridge and Culvert Situation Plans
W Sheets	Mainline Cross Sections
W.1 - 7	Mainline Cross Sections



PLANS OF PROPOSED IMPROVEMENT ON THE
PRIMARY ROAD SYSTEM
HANCOCK COUNTY
 Bridge - Unspecified

US 69 over Galls Creek
 2.7 mi S of US 18

SCALES: As Noted

Refer to the Proposal Form for list of applicable specifications.

Value Engineering Saves. Refer to Article 1105.14 of the Specifications.



MILEAGE SUMMARY			
		105-1	
		09-27-94	
Div.	Location	Lin. Ft.	Miles
1	US 69 ML Sta. 569+70.00 to 576+70.00	700.00	0.133

DESIGN DATA RURAL

20 22 AADT _____ 2,450 V.P.D.
 20 49 AADT _____ 2,600 V.P.D.
 20 -- DHV _____ - V.P.H.
 TRUCKS _____ 19 %
 Total
 Design ESALs _____ -

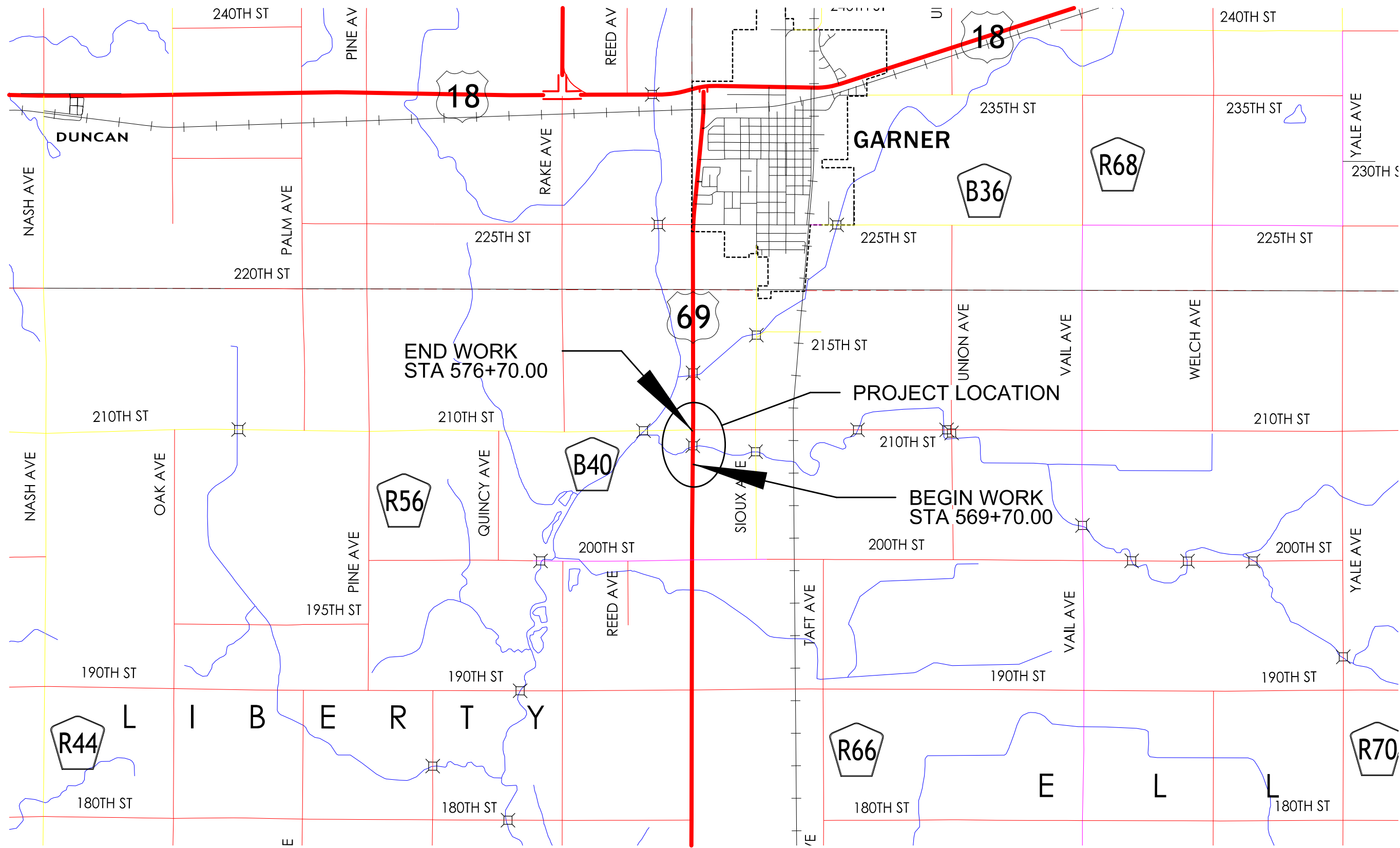
REVISIONS

TOTAL
..
PROJECT IDENTIFICATION NUMBER
24-41-069-010
PROJECT NUMBER
BRFN-069-8(030)--39-41
R.O.W. PROJECT NUMBER
STPN-069-8(031)--2J-41

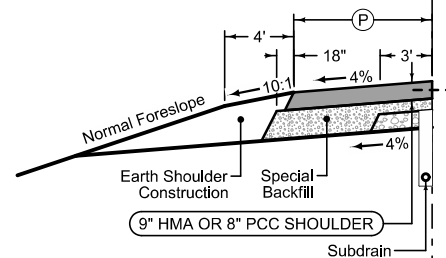
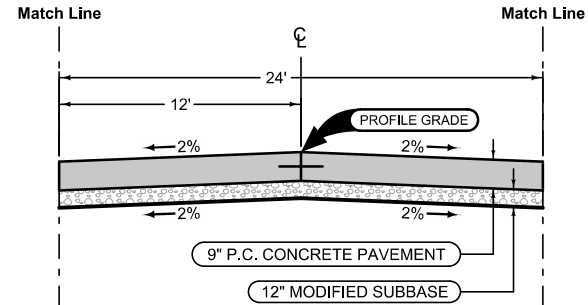
PRELIMINARY PLANS

Subject to change by final design.

D5 PLAN - Date: 12/18/2025

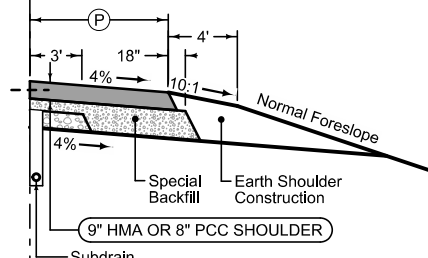


US 69 Mainline



Mainline Jointing:
 Transverse joints: CD at 17' spacing
 Longitudinal joint: L-2

2P_04-21-20	
STATION TO STATION	
569+70.00	572+33.50
574+46.61	576+70.00



Paved Shoulder at Guardrail

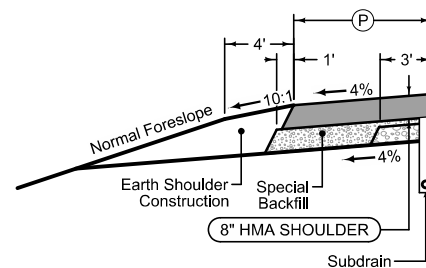
PCC Shoulder Jointing:
 Longitudinal joint: BT-1 or BT-5
 Transverse joints: C at mainline spacing
 HMA Shoulder Jointing:
 Longitudinal joint: B

2_P_Guard_L 04-21-20		
STATION TO STATION		(P) Feet
571+74.98	572+33.50	Var.
574+46.50	575+30.02	Var.

Paved Shoulder at Guardrail

PCC Shoulder Jointing:
 Longitudinal joint: BT-1 or BT-5
 Transverse joints: C at mainline spacing
 HMA Shoulder Jointing:
 Longitudinal joint: B

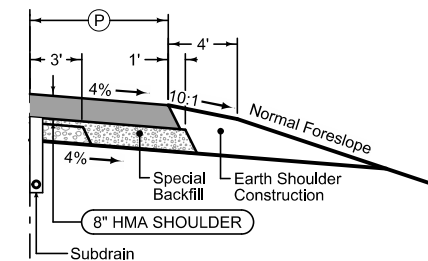
2_P_Guard_R 04-21-20		
STATION TO STATION		(P) Feet
571+49.98	572+33.50	Var.
574+46.50	575+05.02	Var.



HMA Shoulder

Shoulder Jointing:
 Longitudinal joint: B

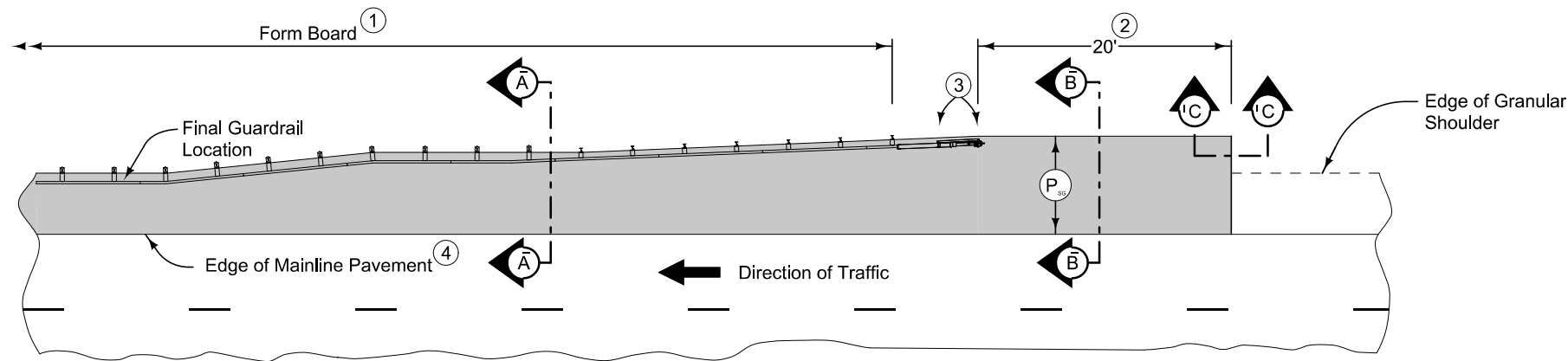
2_P_HMA_L 04-21-20		
STATION TO STATION		(P) Feet
569+70.00	571+74.98	5'
575+30.20	576+70.00	5'



HMA Shoulder

Shoulder Jointing:
 Longitudinal joint: B

2_P_HMA_R 04-21-20		
STATION TO STATION		(P) Feet
569+70.00	571+49.98	5'
575+05.02	576+70.00	5'



PLAN VIEW

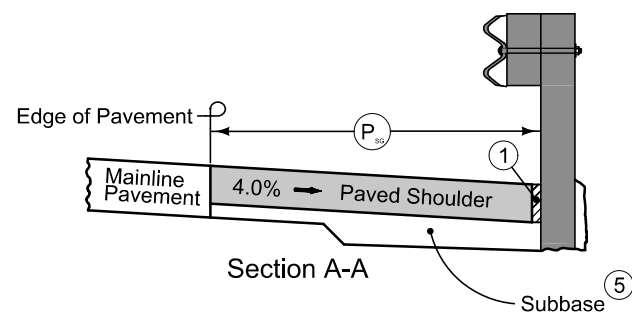
9" HMA Paved Shoulder at guardrail. 8" PCC may be substituted with the following jointing layout:

Match mainline pavement joint spacing. When mainline pavement is 8" or greater in thickness, place additional transverse 'C' joints in shoulder at mid-panel of the mainline pavement. Place longitudinal 'C' joint at P/2 from edge of mainline pavement when P is greater than 10' wide. Terminate longitudinal joint at transverse joint less than 10' in length.

Compaction of HMA is required to face of guardrail post. Hand compaction will be allowed under guardrail. Removal and reinstallation of guardrail will be allowed with no additional payment.

Refer to Tabulation 112-9 for shoulder quantities.

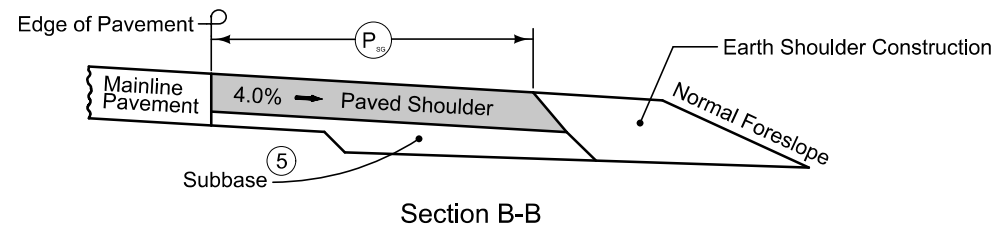
- ① PCC option only: When guardrail posts are installed prior to construction of PCC paved shoulder, fasten form board to the face of guardrail posts for the length shown.
- ② Continue paved shoulder 20 feet beyond the center of the first post.
- ③ Shoulder may be notched for first 2 posts or post sleeves may be installed through pavement. Do not drive posts through pavement.
- ④ 'BT' joint (per PV-101) for PCC shoulder. 'B' joint (per PV-101) for HMA shoulder.
- ⑤ Refer to other details in the plan.



Section A-A

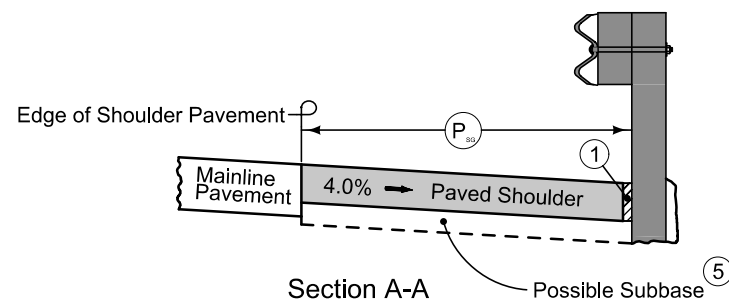
Subbase ⑤

NEW CONSTRUCTION



Section B-B

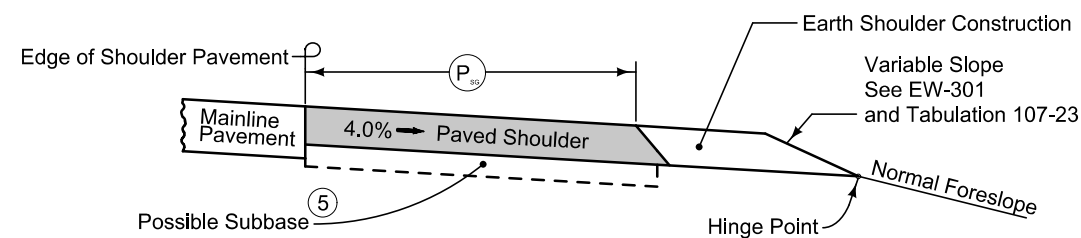
NEW CONSTRUCTION



Section A-A

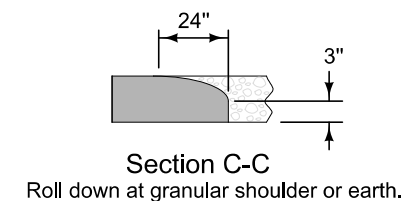
Possible Subbase ⑤

EXISTING SHOULDER



Section B-B

EXISTING SHOULDER

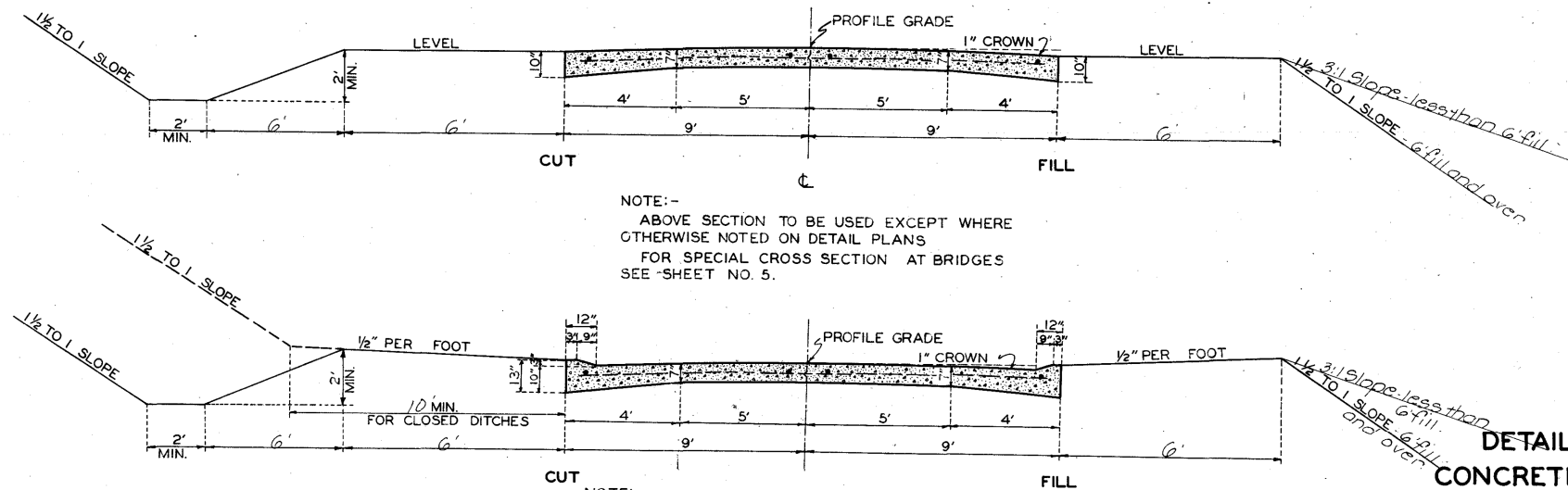


PAVED SHOULDER AT GUARDRAIL
(GRANULAR SHOULDER ADJACENT TO MAINLINE)

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IOWA	137		3	28

1930 PAVING

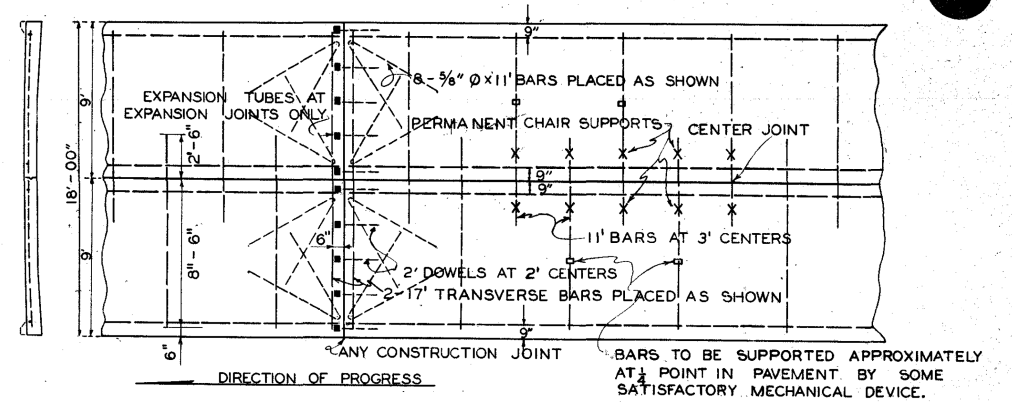
TYPICAL CROSS SECTIONS



NOTE:-
ABOVE SECTION TO BE USED EXCEPT WHERE OTHERWISE NOTED ON DETAIL PLANS
FOR SPECIAL CROSS SECTION AT BRIDGES SEE SHEET NO. 5.

NOTE:-
CURB SECTION TO BE USED WHERE NOTED ON DETAIL PLANS.
CLOSED DITCHES TO BE USED WHERE NOTED ON DETAIL PLANS.

PAVEMENT REINFORCING PLAN



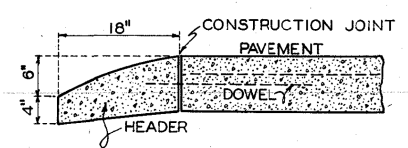
ALL REINFORCING STEEL TO BE PLAIN 5/8" Ø BARS. FOUR LONGITUDINAL BARS TO BE PLACED AS SHOWN, 2 1/2" BELOW TOP SURFACE, 2" LAP TO BE USED AT ALL SPLICES. ALL DOWEL BARS TO BE PLACED IN CENTER OF SECTION. DOWELS AT TRANSVERSE JOINTS TO PROJECT 6" INTO NEW WORK, AND TO BE FITTED WITH EXPANSION TUBES AT EXPANSION JOINTS. LONGITUDINAL REINFORCING STEEL TO END 2" FROM TRANSVERSE JOINTS.

ALL REINFORCING STEEL, INCLUDING DOWELS AT TRANSVERSE JOINTS, TO BE HELD RIGIDLY IN CORRECT POSITION.

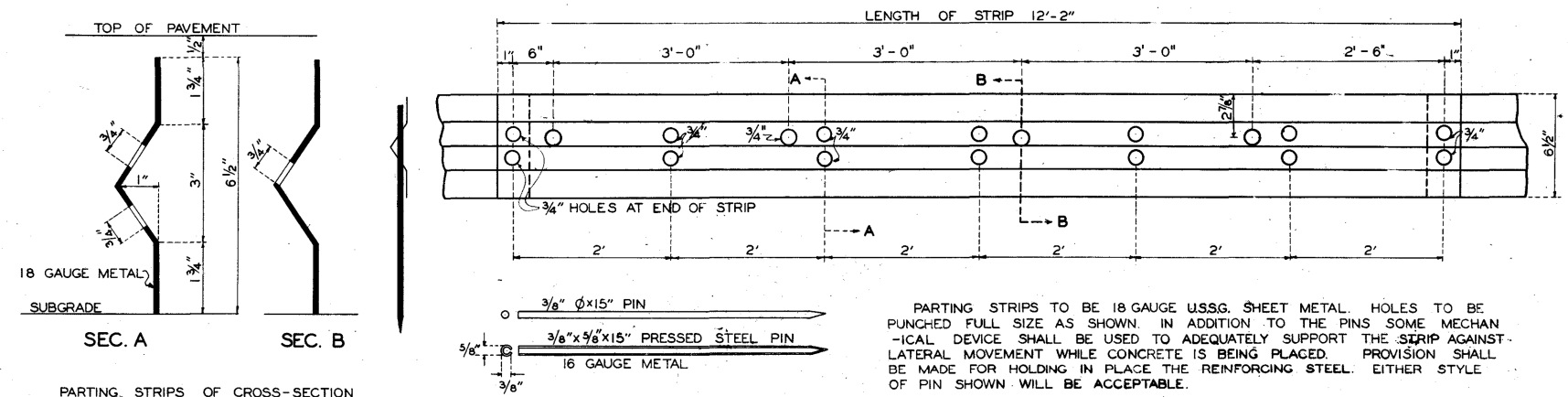
MINIMUM CONSTRUCTION REQUIREMENTS AS FOLLOWS:-

1. ALL TRANSVERSE BARS TO BE PLACED UNDER LONGITUDINAL BARS, AND TO BE SUPPORTED BY TWO PERMANENT CHAIRS AND ONE REMOVABLE DEVICE AT QUARTER POINT. (SEE PLAN ABOVE. ALSO SEE NOTE NO. 5 BELOW.)
2. SIDE LONGITUDINAL BARS TO BE SUPPORTED BY REMOVABLE BRACKETS FROM SIDE FORMS.
3. ALL LAPS AND INTERSECTIONS OF BARS TO BE SECURELY WIRED EXCEPT AS NOTED BELOW.
4. EIGHT BENT BARS TO BE PLACED 2 1/2 INCHES BELOW TOP SURFACE, ADJACENT TO ALL TRANSVERSE JOINTS. (SEE PLAN ABOVE.) (NO WIRES REQUIRED FOR BENT BARS.)
5. PERMANENT CHAIRS TO BE U-SHAPED PRESSED METAL PINS, WITH NOT LESS THAN 4" PENETRATION INTO SUBGRADE, DISTANCE FROM SUBGRADE LUG TO BOTTOM OF DOWEL HOLE TO BE 3 1/4". METAL TO BE 18 GAUGE.

DETAILS OF CONCRETE HEADER



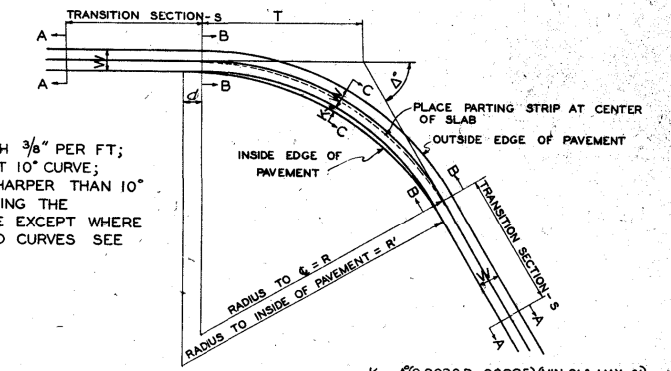
DETAILS FOR CENTER PARTING STRIP



PARTING STRIPS TO BE 18 GAUGE USSG. SHEET METAL. HOLES TO BE PUNCHED FULL SIZE AS SHOWN. IN ADDITION TO THE PINS SOME MECHANICAL DEVICE SHALL BE USED TO ADEQUATELY SUPPORT THE STRIP AGAINST LATERAL MOVEMENT WHILE CONCRETE IS BEING PLACED. PROVISION SHALL BE MADE FOR HOLDING IN PLACE THE REINFORCING STEEL. EITHER STYLE OF PIN SHOWN WILL BE ACCEPTABLE.

DETAILS FOR SUPERELEVATION

SUPERELEVATION BEGINS AT 2° CURVE WITH 3/8" PER FT.; AND INCREASES UNIFORMLY TO 1" PER FT. AT 10° CURVE; REMAINS AT 1" PER FT. FOR ALL CURVES SHARPER THAN 10°. SUPERELEVATION IS ACCOMPLISHED BY ROTATING THE STANDARD SECTION ABOUT THE CENTER LINE EXCEPT WHERE CURVES ARE TO BE WIDENED. FOR WIDENED CURVES SEE TYPICAL CROSS SECTIONS BELOW.

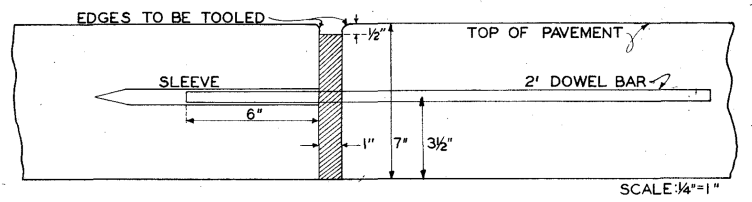


$$K = \Delta(0.0036D - 0.0225) \text{ (MIN. } 2' \text{ \& MAX. } 6' \text{)}$$

$$R' = R \frac{E + K}{E} \quad T = \frac{K}{E}$$

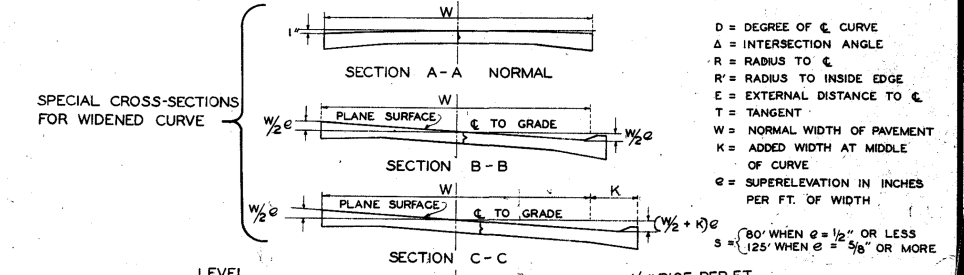
AREA OF ADDED WIDTH (SHADED PORTION)
 $(R' - R + \frac{W}{2})(R' + R - \frac{W}{2}) (\tan \frac{\Delta}{2} - 0.0087267 \Delta^2) \text{ SQ. FT.}$
 (CARRY TO 3 PLACES) (CARRY TO 5 PLACES)

DETAILS OF EXPANSION JOINTS



1" Expansion Joints at 100' Intervals

JOINTS TO BE SPACED APPROXIMATELY 100' APART. ACTUAL DISTANCE MAY VARY DEPENDING ON LENGTH OF LONGITUDINAL STEEL.
 JOINTS MAY BE EITHER POURED OR PREMOULDED. IN EITHER CASE INSTALLATION DEVICES ARE TO BE APPROVED BEFORE BEING USED. SUGGESTED DESIGNS FOR INSTALLATION DEVICES WILL BE FURNISHED ON APPLICATION.

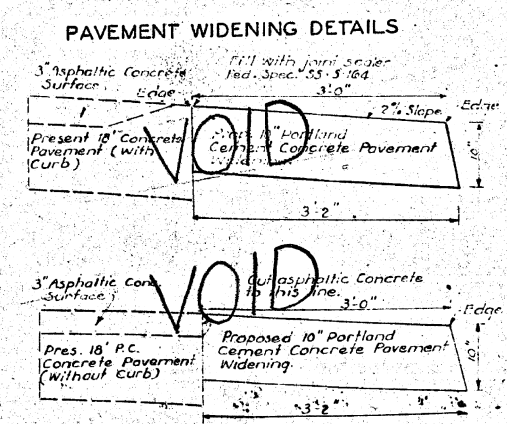
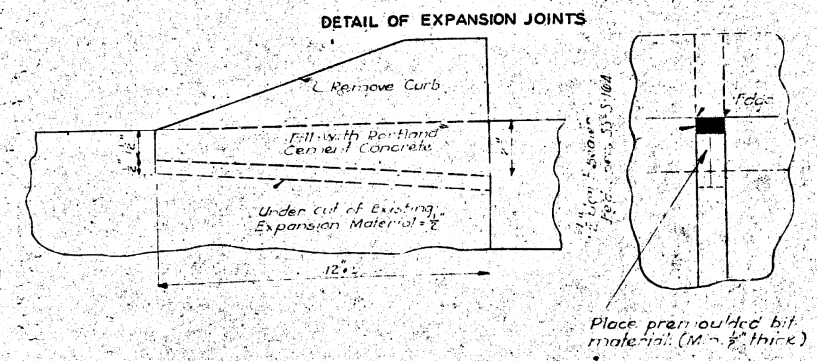
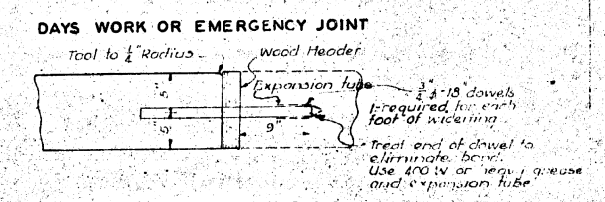
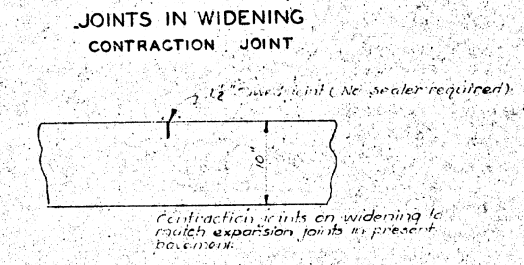
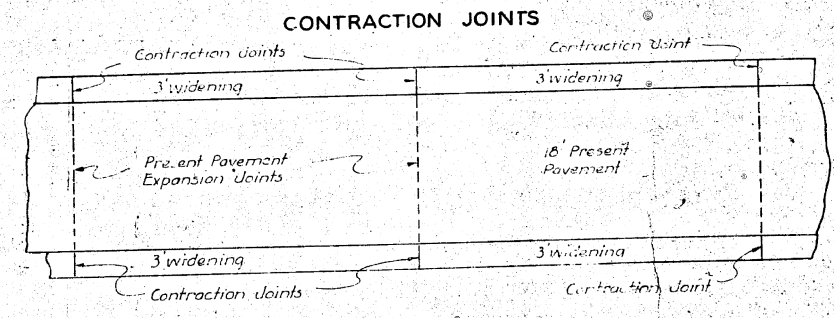
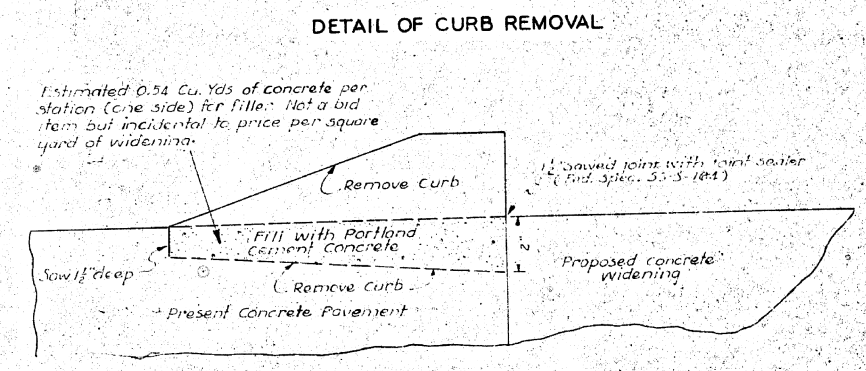
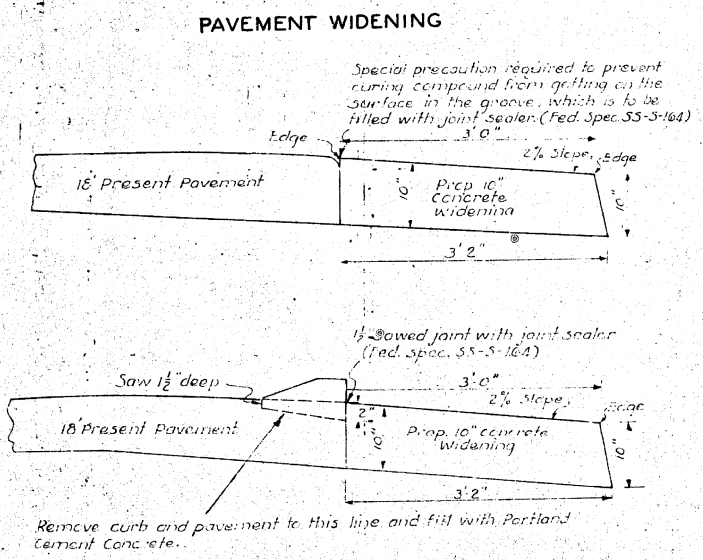
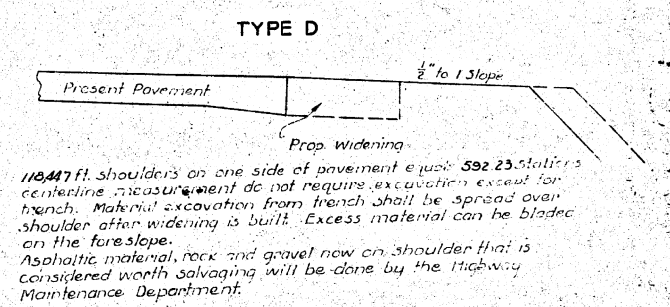
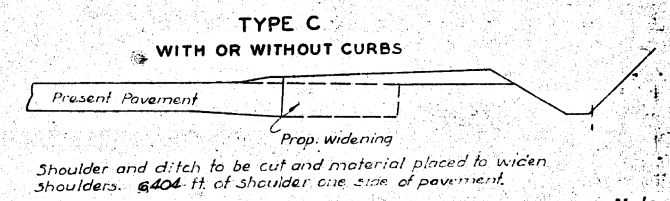
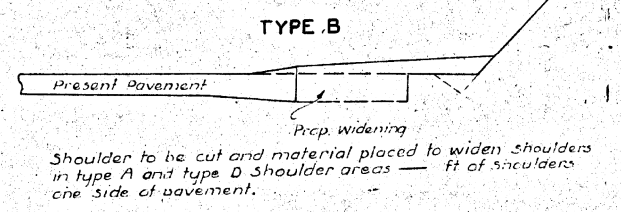
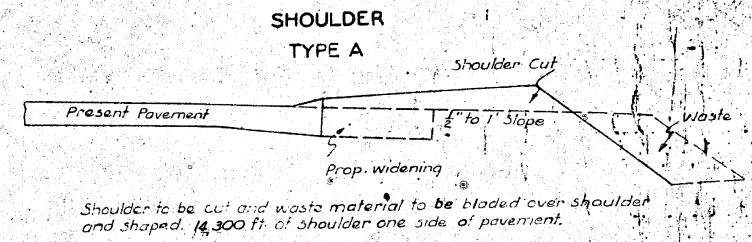


SPECIAL CROSS-SECTION FOR CURVE WITHOUT WIDENING

For Information Only

* REVISED JUNE 1-1930

MAY 1929 Hancock Co. Sh. #3
 EA 137 1230

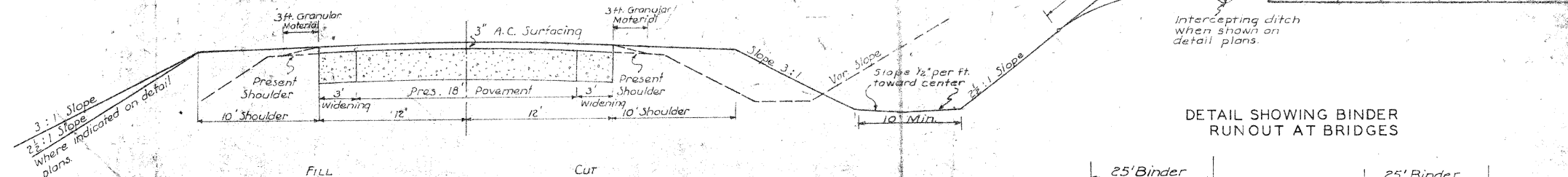


Revised July 6, 1955
 Revised June 3, 1955
 Revised May 2, 1955
 Revised April 11, 1955
 Revised March 21, 1955
 Revised March 9, 1955
 Revised April 31, 1955

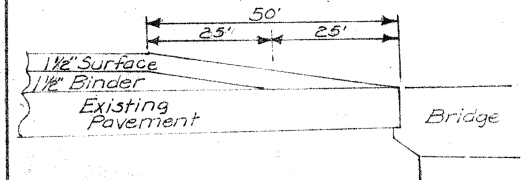
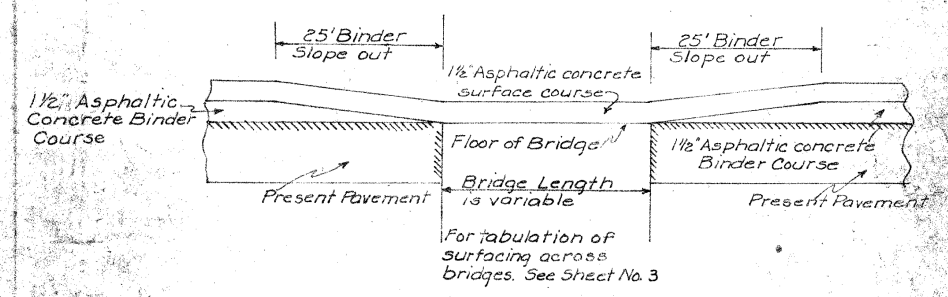
For Information Only

FED. ROAD DIST. NO.	STATE	F.N. PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IOWA	139		2	30

TYPICAL CROSS SECTION (ULTIMATE)



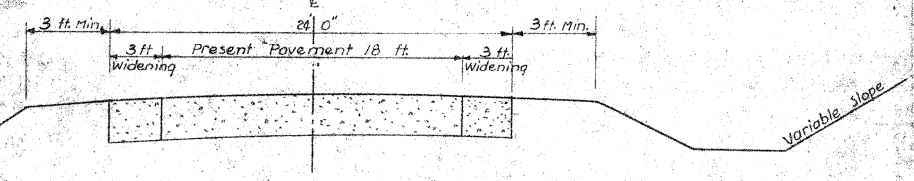
DETAIL SHOWING BINDER RUNOUT AT BRIDGES



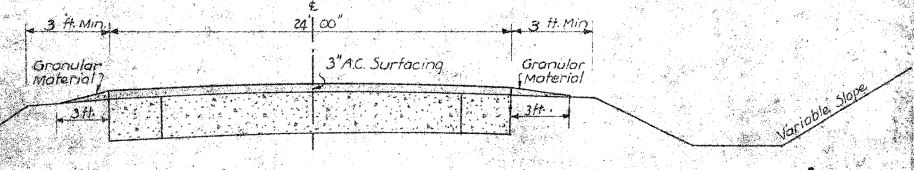
DETAILS OF RUNOUTS FOR BRIDGE AT STA. 344 + 49.8

Note: Improvement is being made by stage construction. Ultimate improvement is represented by typical section above.

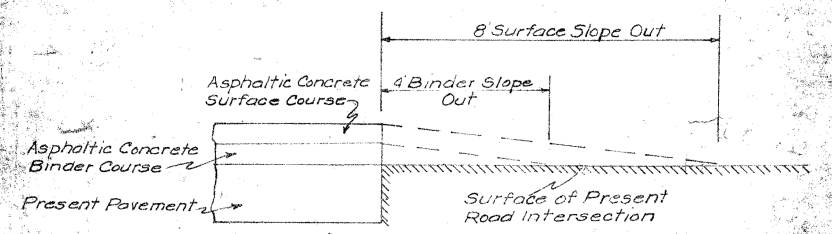
TYPICAL SECTION AFTER WIDENING (EXISTING)



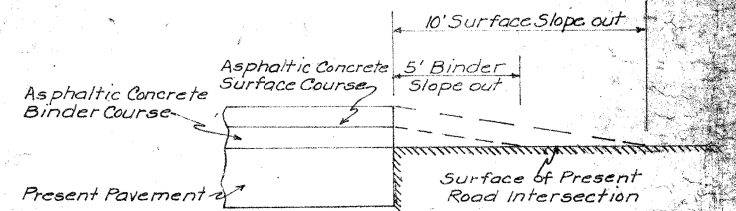
TYPICAL SECTION AFTER RESURFACING (THIS IMPROVEMENT)



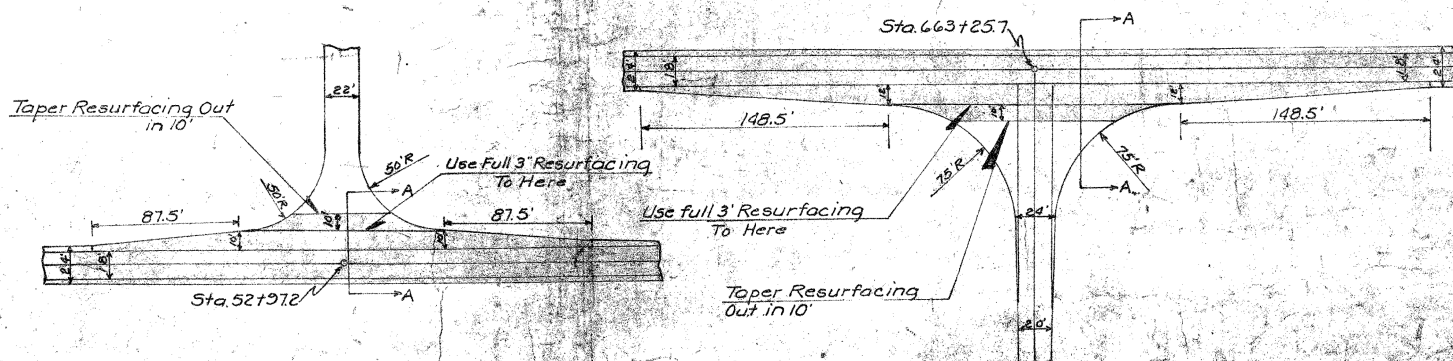
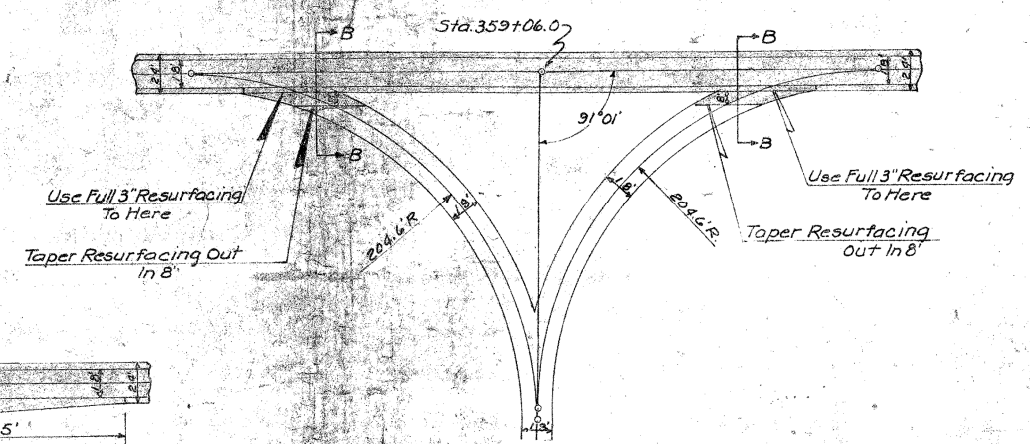
STA. 11+66.0 TO STA. 529+95.0
EQUATION
STA. 529+95.0 = STA. 529+87.0
STA. 529+87.0 TO STA. 698+00.0



SECTION "B-B"



SECTION "A-A"



IOWA STATE HIGHWAY COMMISSION
STANDARD DESIGN NO. RD-32
TYPICAL IMPROVEMENT SECTIONS
SCALE - NONE
DECEMBER 1958

For Information Only

IOWA DEPARTMENT OF TRANSPORTATION

MAINTENANCE DEPT 1977 BITUMINOUS WORK

On U.S. 69 From Wright Co. Line
To within Garner - Jct. 18

A.C. Resurfacing
Hancock COUNTY

PROJECT NO. FN-69-8(6)--21-41

DIVISION NO.

DISTRICT NO. 2

LENGTH = 69,808 FT.

13.22 MI.

AREA = 186,155 SQ.YDS.

RETURNS = SQ.YDS.

TOTAL = 186,155 SQ.YDS.

Proposed Work 1977 (Does not include Bridges)

Single Course (nominal 2" thickness) asphaltic concrete resurfacing of 186,155 sq. yds. using 0.10 gal. primer or tack coat per sq. yd. and a single compacted layer of asphaltic concrete placed at the rate of 220 lbs./sq. yd.

Estimated Quantities

- Tack Coat Bitumen 6,205 gals.
- 1/2" Type "A" Asphaltic Concrete 20,477 tons
- Asphalt Cement 1,177 tons
- Patches, Full Depth 400 sq.yds.
- Class A Crushed Stone 5,288 tons

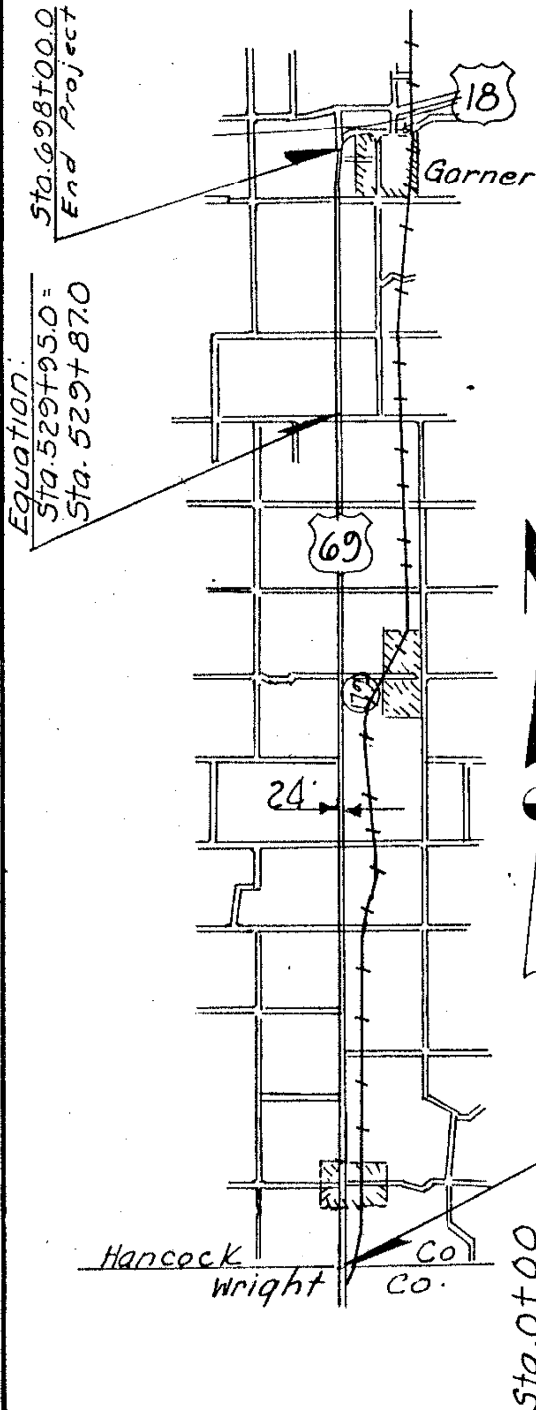
3 foot wide wedge shaped fillets will be applied to the shoulders using Class A Crushed Stone at the rate of 400 tons per mile.

Cross slope shall not be less than 1 1/2% or more than 3%.

Existing paved approach fillets to be resurfaced.

Full depth patches shall be asphalt concrete only.

Excavation depth may range up to 18 inches.

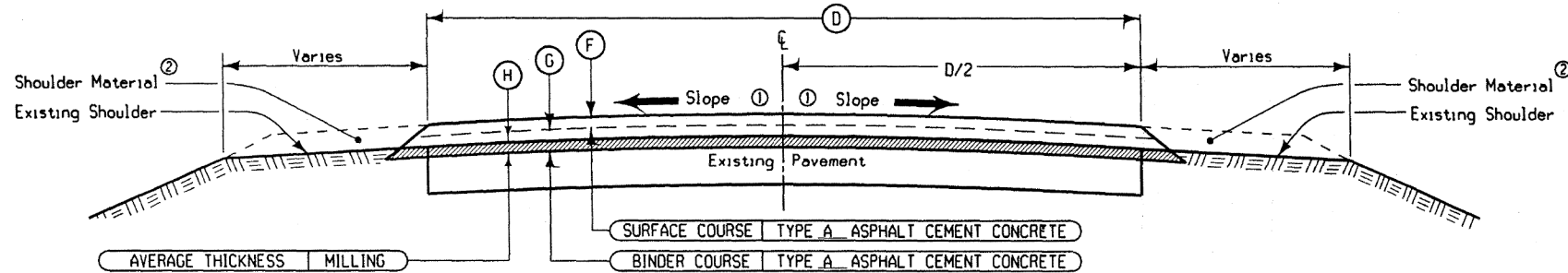


DATE STARTED:

DATE FINISHED:

For Information Only

2602
Modified
Dimensions in mm unless noted.



- Notes:
- ① Finished slope shall match existing pavement except that the maximum allowable slope is 3.0%, minimum allowable slope is 2.0%. Section may be modified as directed by the engineer through areas of special shaping.
Refer to tabulation listing of superelevated curves and Standard Road Plans for additional requirements through superelevated curves.
 - ② Shoulder material as specified elsewhere in these plans; refer to Typical [7134] and [7135] for "Type 'B' Granular Surfaced Shoulders" and Typical [7136] for "Type 'A' Granular Surfaced Shoulders".
 - ③ Tack coat is incidental to the work required.
 - ④ Estimated for two applications.
 - ⑤ Estimated for three applications.

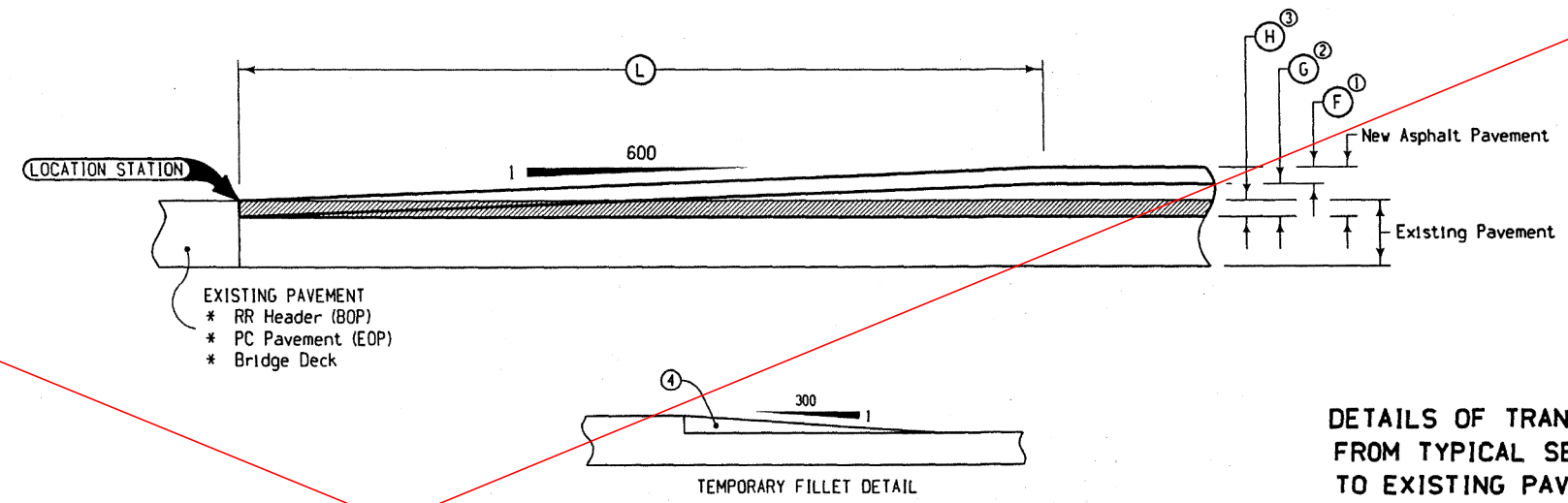
DESIGN RATES	
ITEM	RATE
Surface Course	2325 kg/m ³
Binder Course	2325 kg/m ³
Tack Coat	0.20 L/m ²

TABLE OF DESIGN QUANTITIES Per Station										
LOCATION		D	F	G	H	TACK COAT	ASPHALT CEMENT	ASPHALT CEMENT CONCRETE		MILLING
ROAD IDENTIFICATION	STATION TO STATION	m	mm	mm	mm	L ③	Mg	SURFACE	BINDER	Mg
US 69	133+82.7 - 197+21.8 (A)	7.2	40	80	30	441.6 ⑤	11.2	67.3	136.9	50.9
US 69	0+00.0 (A) - 213+51.3	7.2	40	100	40	442.8 ⑤	13.1	67.3	171.6	67.9

(A) Equation: Wright/Hancock County Line
Sta. 197+21.79 = Sta. 0+00.00

TYPICAL CROSS SECTION ACC RESURFACING

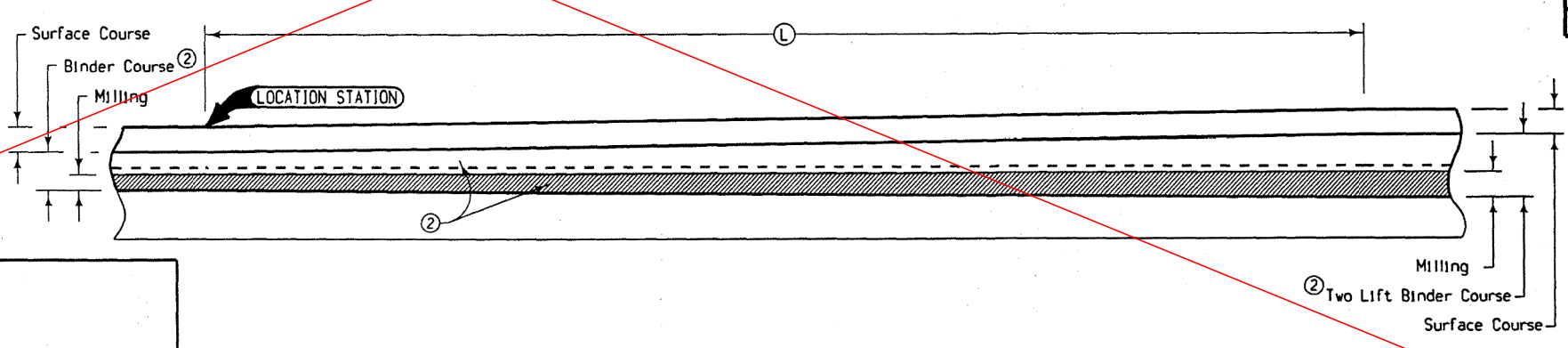
- ① Full depth of surface course shall butt into existing pavement
- ② Binder course shall runout to nothing
- ③ Mill to depth required. Adjust depth at the Location Point to allow the full depth of surface course to butt into the existing pavement.
- ④ A temporary fillet shall be placed when a drop off is greater than 50 millimeters. The length of fillet can be computed by multiplying the drop off, in meters, by 300. If the fillet is to be incorporated into the resurfacing then the following shall apply. A prime and tack coat covering the area of the fillet shall be applied. The asphalt cement concrete shall be the same as the binder course. The fillet shall be compacted in accordance with current specifications. The top portion of the fillet shall be milled to allow the full depth of the surface and binder courses to butt into the pavement when required.



LOCATION STATION	LENGTH OF TRANSITION L m	DEPTH OF MILLING H mm ③	DEPTH OF SURFACE COURSE F mm ①	DEPTH OF BINDER COURSE G mm ②	REMARKS
133+82.7	54	30	40	80	BOP
213+51.3	60	40	40	100	EOP

DETAILS OF TRANSITION FROM TYPICAL SECTION TO EXISTING PAVEMENT

- ① Transition length shall apply for all stages of construction, including milling, binder courses, and surface course.
- ② When transitioning from a two lift binder course to a single lift binder course, one of the lifts in the two lift section shall be feathered out. Which lift is feathered depends on the staging of the project.



LOCATION STATION	LENGTH OF TRANSITION L m ①	REMARKS
197+21.8	12	At the Wright/Hancock County Line

DETAILS OF TRANSITION BETWEEN TYPICAL SECTIONS

DESIGN TEAM OHMAN/VORTHERMS

METRIC

IOWA DOT * OFFICE OF DESIGN

WRIGHT/HANCOCK COUNTY

PROJECT NUMBER STP-69-7(20)--2C-99

SHEET NUMBER B.01

For Information Only

9069020.b01

FILE NO. -----

ENGLISH

DESIGN TEAM WHKS & CO.

HANCOCK COUNTY

PROJECT NUMBER BRFN-069-8(030)--39-41

SHEET NUMBER B.8

SURVEY SYMBOLS

- Interstate Highway Symbol
- U.S. Highway Symbol
- Iowa Highway Symbol
- County Road Highway Symbol
- Evergreen Tree
- Deciduous Tree
- Fruit Tree
- Shrub (Bushes)
- Timber
- Hedge
- Stump
- Swamp
- Rock Outcrop
- Broken Concrete
- Revetment (Rip Rap)
- Cemetery
- Grave
- Cave
- Sink Hole
- Board Fence
- Chain Link or Security Fence
- Wire Fence
- Terrace
- Earth Dam or Dike (Existing)
- Tile Outlet
- Edge of Water
- Existing Drainage
- Right of Way Rail or Lot Corner
- Concrete Monument
- Well
- Windmill
- Beehive Intake
- Existing Intake
- Existing Utility Access (Manhole)
- Fire Hydrant
- Water Hydrant (Rural)
- Septic Tank
- Cistern
- L.P. Gas Tank (No Footing)
- Underground Storage Tank
- Latrine
- Satellite TV Dish
- Water Hook Up
- Radio Tower
- Tower Anchor
- Guardrail (Beam or Cable)
- Guard Post (one or two)
- Guard Post (over two)
- Filler Pipe
- Gas Valve
- Water Valve
- Speed Limit Sign
- Mile Marker Post
- SIGN Sign
- TCB Traffic Signal Control Box
- RRB Rail Road Signal Control Box
- TSB Telephone Switch Box
- EB Electric Box

UTILITY LEGEND

— F0 — FO1D, Aureon - Quality D

Aureon
 Contact: Jeff Klocko
 Phone: (515)-830-0445
 Email: jeff.klocko@aureon.com

PLAN VIEW COLOR LEGEND OF PLAN AND PROFILE SHEETS

LINEWORK		Design Color No.		
Green	(2)		Existing Topographic Features and Labels	
Blue	(1)		Proposed Alignment, Stationing, Tic Marks, and Alignment Annotation	
Magenta	(5)		Existing Utilities	
SHADING		Design Color No.		Transparency
Pink, Dark	(13)		Temporary Pavement Shading	50%
Yellow	(4)		Proposed Pavement Shading	50%
Orange	(6)		Proposed Granular Shading	50%
Orange	(70)		Proposed Shoulder Granular Shading	50%
Yellow	(68)		Proposed Shoulder Paved Full Depth Shading	50%
Yellow	(132)		Proposed Shoulder Paved Partial Depth Shading	50%
Brown, Light	(236)		Grading Shading	50%
Orange, Light	(134)		Proposed Granular Entrance Shading	50%
Yellow	(220)		Proposed Paved Entrance Shading	50%
Tan	(8)		Proposed Sidewalk Shading	50%
Blue, Light	(230)		Proposed Sidewalk Landing Shading	50%
Pink	(11)		Proposed Sidewalk Ramp Shading	50%
Red	(3)		Proposed Structure Shading	50%
Red	(3)		Delineates Restricted Areas	0%

PROFILE VIEW COLOR LEGEND OF PLAN AND PROFILE SHEETS

LINEWORK		Design Color No.	
Green	(10)		Existing Ground Line Profile
Blue	(1)		Proposed Profile and Annotation
Magenta	(5)		Existing Utilities
Blue, Light	(230)		Proposed Ditch Grades, Left
Black	(0)		Proposed Ditch Grades, Median
Rust	(14)		Proposed Ditch Grades, Right

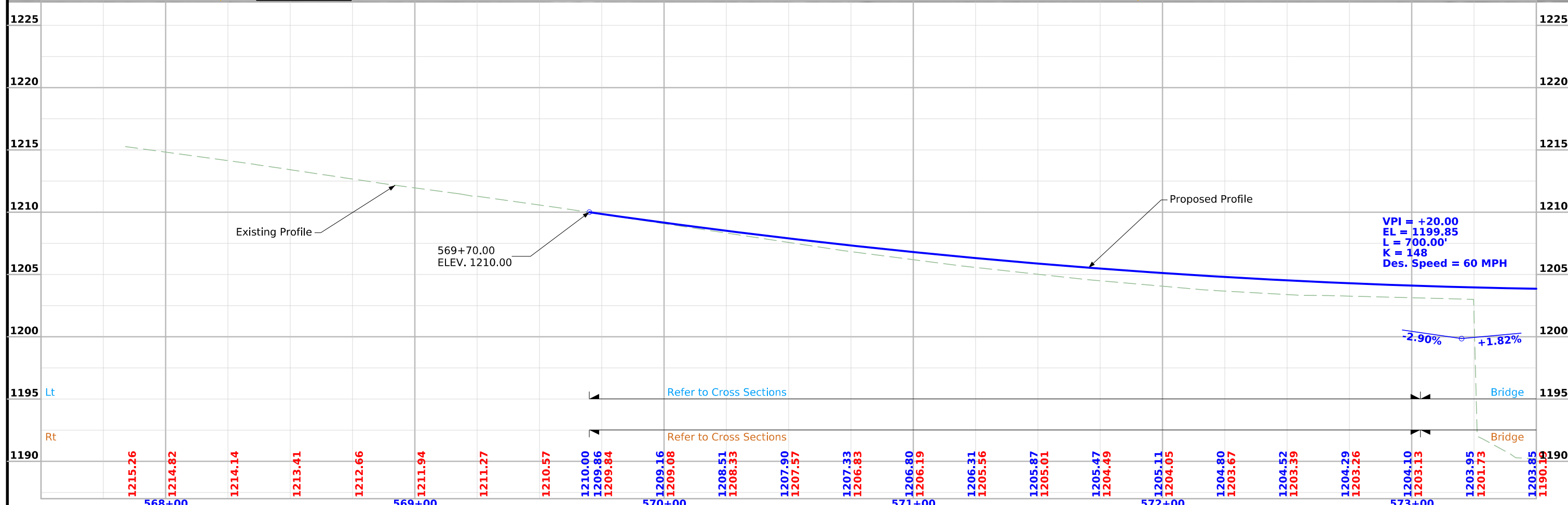
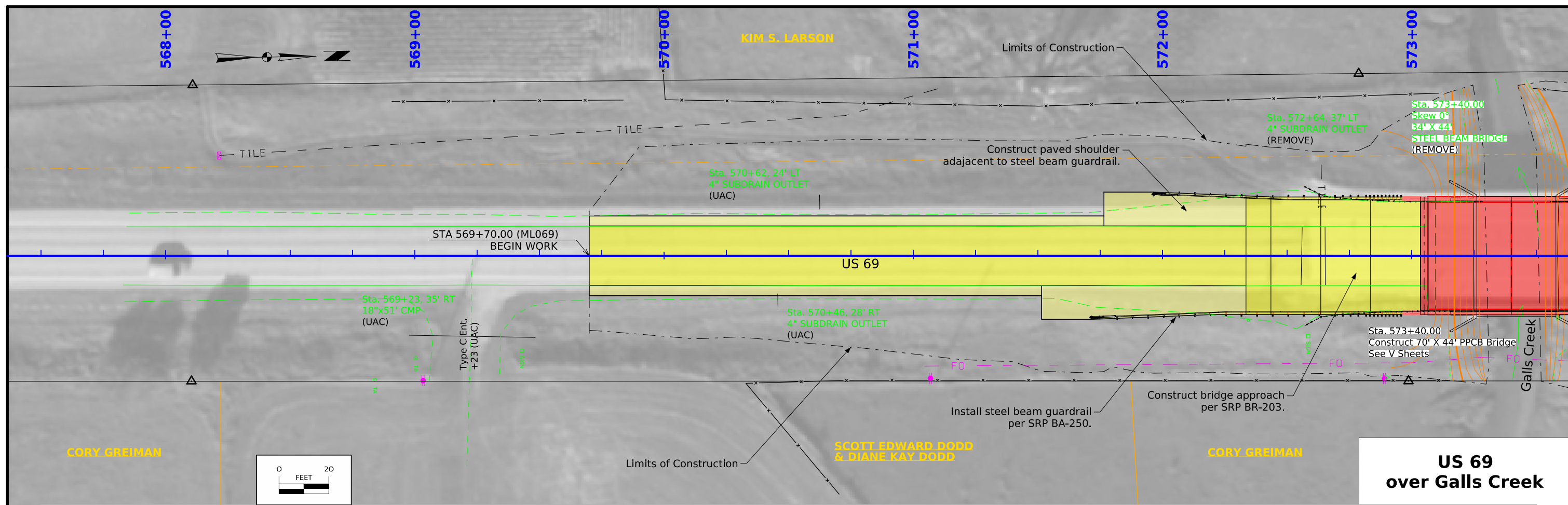
- Reference Point
- Station
- Survey Line
- Section Corner
- Ground Line Intercept
- Saw Cut
- Guardrail
- Trench Drain
- HighTension Cable Guardrail
- Sheet Pile
- Pavement Removal
- Clearing & Grubbing Area

RIGHT-OF-WAY LEGEND

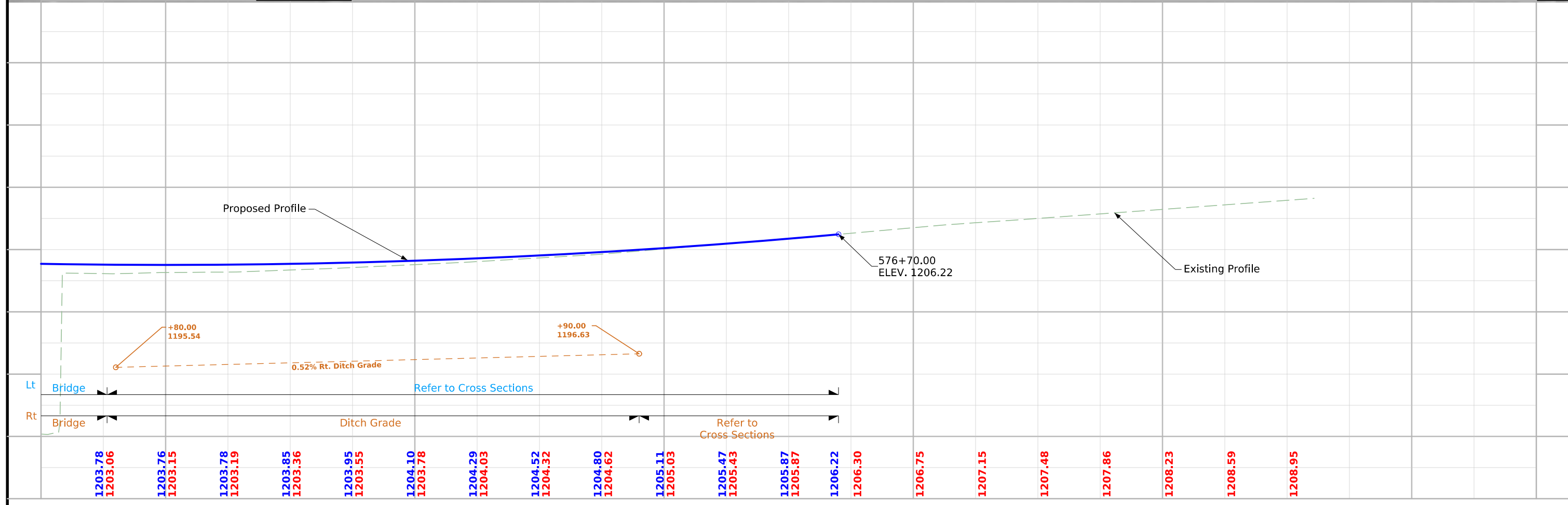
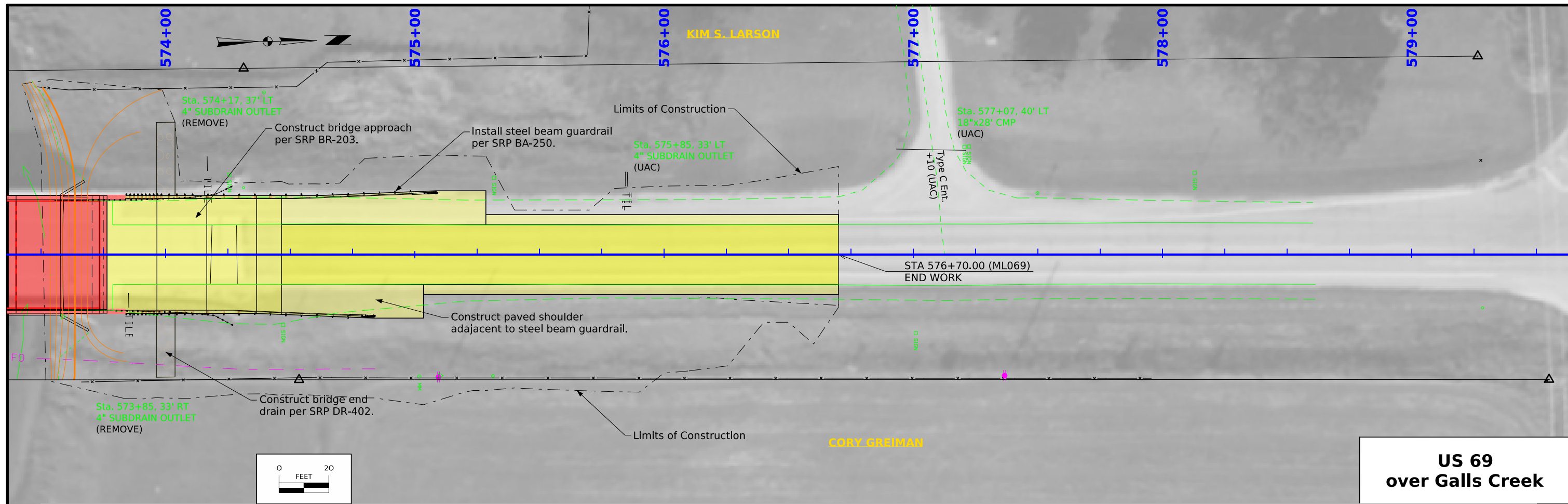
- Proposed Right-of-Way Symbol
- Proposed Right-of-Way Line
- Existing Right of Way
- Existing and Proposed Right-of-Way
- Easement and Existing Right-of-Way
- Easement (Temporary) Symbol
- Easement (Temporary) Line
- Easement
- C/A Access Control
- Property Line Symbol
- Property Line

PLAN AND PROFILE LEGEND AND SYMBOL INFORMATION SHEET

(COVERS SHEET SERIES D, E, F, & K)



FILE NO. -----	ENGLISH	DESIGN TEAM WHKS & CO.	HANCOCK COUNTY	PROJECT NUMBER BRFN-069-8(030)--39-41	SHEET NUMBER D.2
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Survey Information

SURVEY INDEX

County: Hancock
PIN: 24-41-069-010
Project Number: BRFN-069-8(030)--39-41
Location: Galls Creek 2.8 mi S of US 18
Type of Work: Bridge Unspecified
Project Directory: 4106901024

Survey Personnel

Jeremy Leemon – Survey Party Chief
Steve Lentz – Assistant Survey Party Chief

Date(s) of Survey

Begin Date 12/26/2024
End Date 12/30/2024

General Information

This survey is for the replacement of the existing bridge on US 69 over drainage ditch in Hancock County. This project is a Limited Topographic Survey.

Utility Information

For logging data and other utility details see Utility Survey and Ownership Report in the Utility folder of the PrelimSurvey project directory.

Project Control

Nearby Iowa Real Time Network reference stations were utilized to verify horizontal and vertical control on Hancock County control points. A Base was set up on a Hancock County Control Point and additional checks were performed. For additional details of the control survey, contact the Preliminary Survey department.

PROJECT DATUM: NAD83(2011) for EPOCH 2010.00 (IaRTN 2019 ADJUSTMENT)
COORDINATE SYSTEM: IOWA REGIONAL COORDINATE SYSTEM ZONE 2
(U.S. SURVEY FOOT)
VERTICAL DATUM: NAVD88
GEOID MODEL: 2018u3

Alignment Information

The horizontal alignment for U.S. Hwy 69 this survey is a retrace of As-built Plans No. FN-139. Survey stationing was equated to the plan center of bridge at Sta. 573+42.00 and carried back and ahead without equation throughout the survey.

Survey stationing relates to as built plan stationing as follows:

POT Sta. 565+00.00 As-built Plans Project No. FN-139
Survey POT Sta. 565+00.00

POT Sta. 581+00.00 As-built Plans Project No. FN-139
Survey POT Sta. 581+00.00

CONTROL POINT VICINITY MAP

This map is a guide to the vicinity of the primary project control points. Primary control is for use with RTK base stations and for RTN validation. Future surveys will use primary project control to establish temporary control as needed for construction or other surveying applications.



HORIZ. DATUM: NAD83(2011) for EPOCH 2010.00 (IaRTN 2019 Adjustment) - Iowa RCS Zone 2 (U.S. Survey Foot)

VERT. DATUM: NAVD88 - Geoid Model: 2018u3

Coordinate listing from next sheet will be used with IaRTN for monument recovery. No other reference ties are given.

HORIZONTAL AND VERTICAL PROJECT CONTROL COORDINATE LISTING
 HORIZ. DATUM: NAD83(2011) for EPOCH 2010.00 (laRTN 2019 Adjustment)
 la. Regional Coordinate System Zone XX (U.S. Survey Foot)
 VERT. DATUM: NAVD88
 Geoid Model: 2018u3 or 2018u2

Point Name	Northing	Easting	Elevation	Feature Definition-Description
100	9763625.68	12268451.69	1219.49	SET 5/8" X 48" REBAR 6" DEEP 50' NORTH OF US 69 CL
103	9765031.35	12268550.46	1209.28	SET 5/8" X 48" REBAR 6" DEEP 22' SOUTH OF US 69 CL
104	9764461.67	12268543.98	1203.15	FD IHC BM IN NORTHEAST BRIDGE WINGWALL

565+00

566+00

567+00

568+00

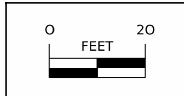
569+00

570+00

571+00



POB 565+00.00



US 69 ALIGNMENT

571+00

572+00

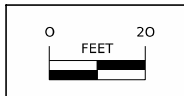
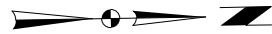
573+00

574+00

575+00

576+00

577+00



Refer to Sheet G.6
for Additional Information.

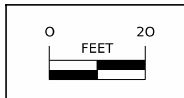
577+00

578+00

579+00

580+00

581+00



POE 581+00.00

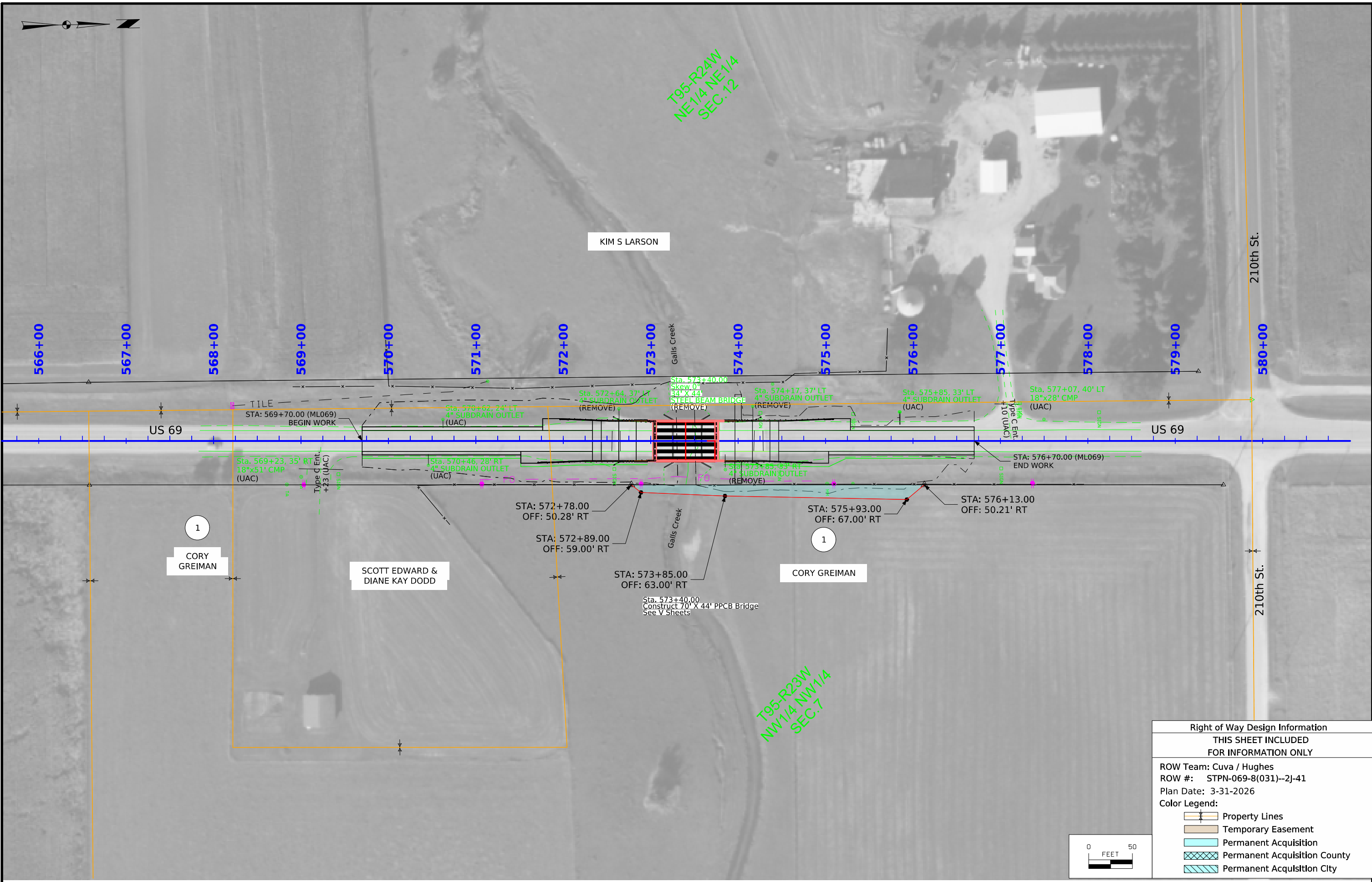
Refer to Sheet G.6
for Additional Information.

US 69 ALIGNMENT

ALIGNMENT COORDINATES

Line No.	Name	Location	Point on Tangent Station	Point on Tangent Y Northing	Point on Tangent X Easting	Begin Spiral Station	Begin Spiral Y Northing	Begin Spiral X Easting	Begin Curve Station	Begin Curve Y Northing	Begin Curve X Easting	Simple Curve PI or Master PI Station	Simple Curve PI or Master PI Y Northing	Simple Curve PI or Master PI X Easting	End Curve Station	End Curve Y Northing	End Curve X Easting	End Spiral Station	End Spiral Y Northing	End Spiral X Easting
1.0	ML069		565+00.00	9763603.522	12268504.152															
2.0	ML069		581+00.00	9765203.279	12268532.042															

NO ACCESS RIGHTS ARE TO BE ACQUIRED ON THIS PROJECT.



T95-R24W
NE 1/4 NE 1/4
SEC. 12

KIM S LARSON

1
CORY GREIMAN

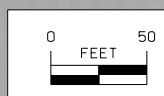
SCOTT EDWARD & DIANE KAY DODD

1
CORY GREIMAN

Sta. 573+40.00
Construct 70' X 44' PPCB Bridge
See V Sheets

T95-R23W
NW 1/4 NW 1/4
SEC. 7

Right of Way Design Information	
THIS SHEET INCLUDED FOR INFORMATION ONLY	
ROW Team: Cuva / Hughes	
ROW #: STPN-069-8(031)--2J-41	
Plan Date: 3-31-2026	
Color Legend:	
	Property Lines
	Temporary Easement
	Permanent Acquisition
	Permanent Acquisition County
	Permanent Acquisition City



108_23A
8/15/22

TRAFFIC CONTROL PLAN

The US 69 bridge over Galls Creek will be constructed under a full road closure with a detour. Traffic will be detoured to the West with the following route:

Southbound Traffic: Traffic will travel West on 210th St. to Nash Ave. for 5 miles. Then South to 170th St. for 4 miles. Then East to US 69 for 5 miles. Total Detour length is 14 miles.

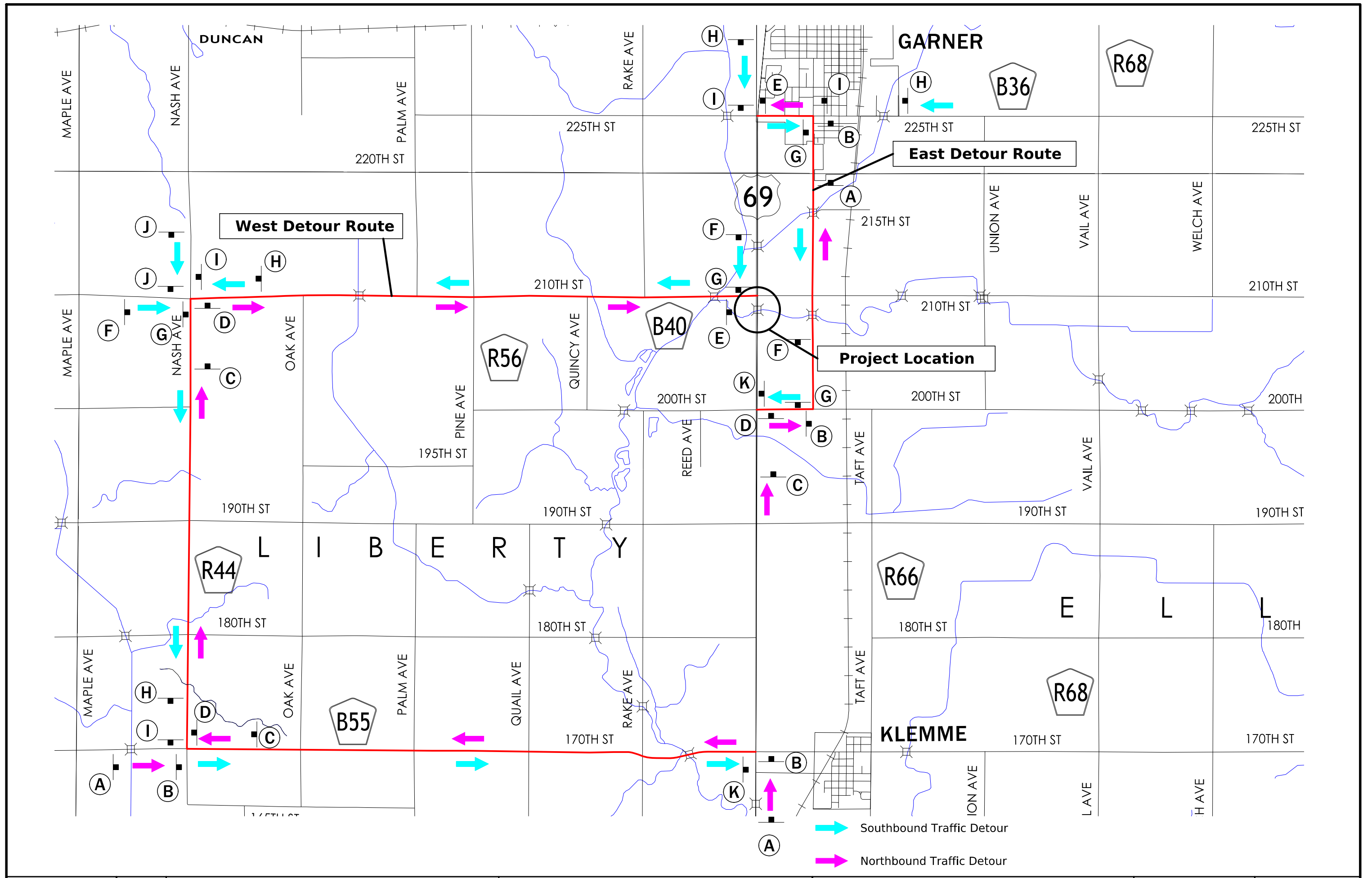
Northbound Traffic: Traffic will travel West on 170th St. to Nash Ave. for 5 miles. Then North to 210th St. for 4 miles. Then East to US 69 for 5 miles. Total Detour length is 14 miles.

111_01
10/14/22

COORDINATED OPERATIONS

Other work in progress during the same period of time will include the construction of the projects listed. Coordinate operations with those of other contractors working within the same area.

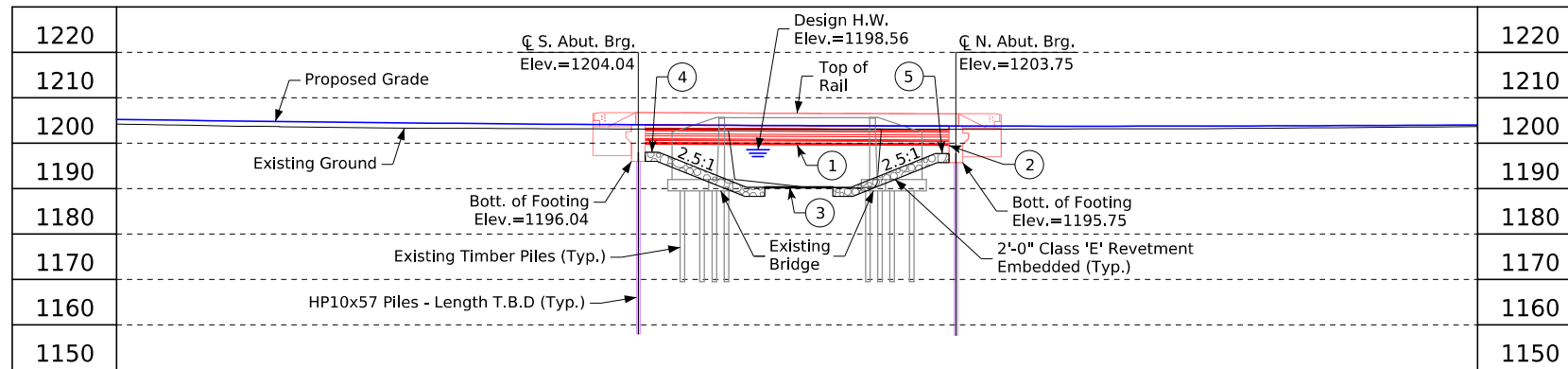
Project	Type of Work
District to provide.	



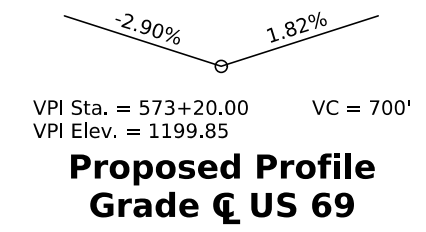
<p>(A)</p> <p>M4-8, 30" X 15" M3-1, 30" X 15"</p> <p>M1-4, 24" X 24" M5-1, 30" X 21"</p>	<p>(B)</p> <p>M4-8, 30" X 15" M3-1, 30" X 15"</p> <p>M1-4, 24" X 24" M6-1, 30" X 21"</p>	<p>(C)</p> <p>M4-8, 30" X 15" M3-1, 30" X 15"</p> <p>M1-4, 24" X 24" M5-1, 30" X 21"</p>	<p>(D)</p> <p>M4-8, 30" X 15" M3-1, 30" X 15"</p> <p>M1-4, 24" X 24" M6-1, 30" X 21"</p>	<p>(E)</p> <p>M4-8b, 30" X 15" M4-8, 30" X 15" M3-1, 30" X 15" M1-4, 24" X 24"</p>	<p>(F)</p> <p>M4-8, 30" X 15" M3-3, 30" X 15"</p> <p>M1-4, 24" X 24" M5-1, 30" X 21"</p>	<p>(G)</p> <p>M4-8, 30" X 15" M3-3, 30" X 15"</p> <p>M1-4, 24" X 24" M6-1, 30" X 21"</p>
<p>(H)</p> <p>M4-8, 30" X 15" M3-3, 30" X 15"</p> <p>M1-4, 24" X 24" M5-1, 30" X 21"</p>	<p>(I)</p> <p>M4-8, 30" X 15" M3-3, 30" X 15"</p> <p>M1-4, 24" X 24" M6-1, 30" X 21"</p>	<p>(J)</p> <p>M4-8, 30" X 15" M3-3, 30" X 15"</p> <p>M1-4, 24" X 24" M6-3, 30" X 21"</p>	<p>(K)</p> <p>M4-8b, 30" X 15" M4-8, 30" X 15" M3-3, 30" X 15" M1-4, 24" X 24"</p>			

Detour Route Signage

- ① Channel Low Beam Elev. = See Hydraulic Data
- ② Operational Low Beam Elev. = See Hydraulic Data
- ③ Bott. of Streambed Elev. = 1190.3±
- ④ Top of South Berm Elev. = 1198.04
- ⑤ Top of North Berm Elev. = 1197.75



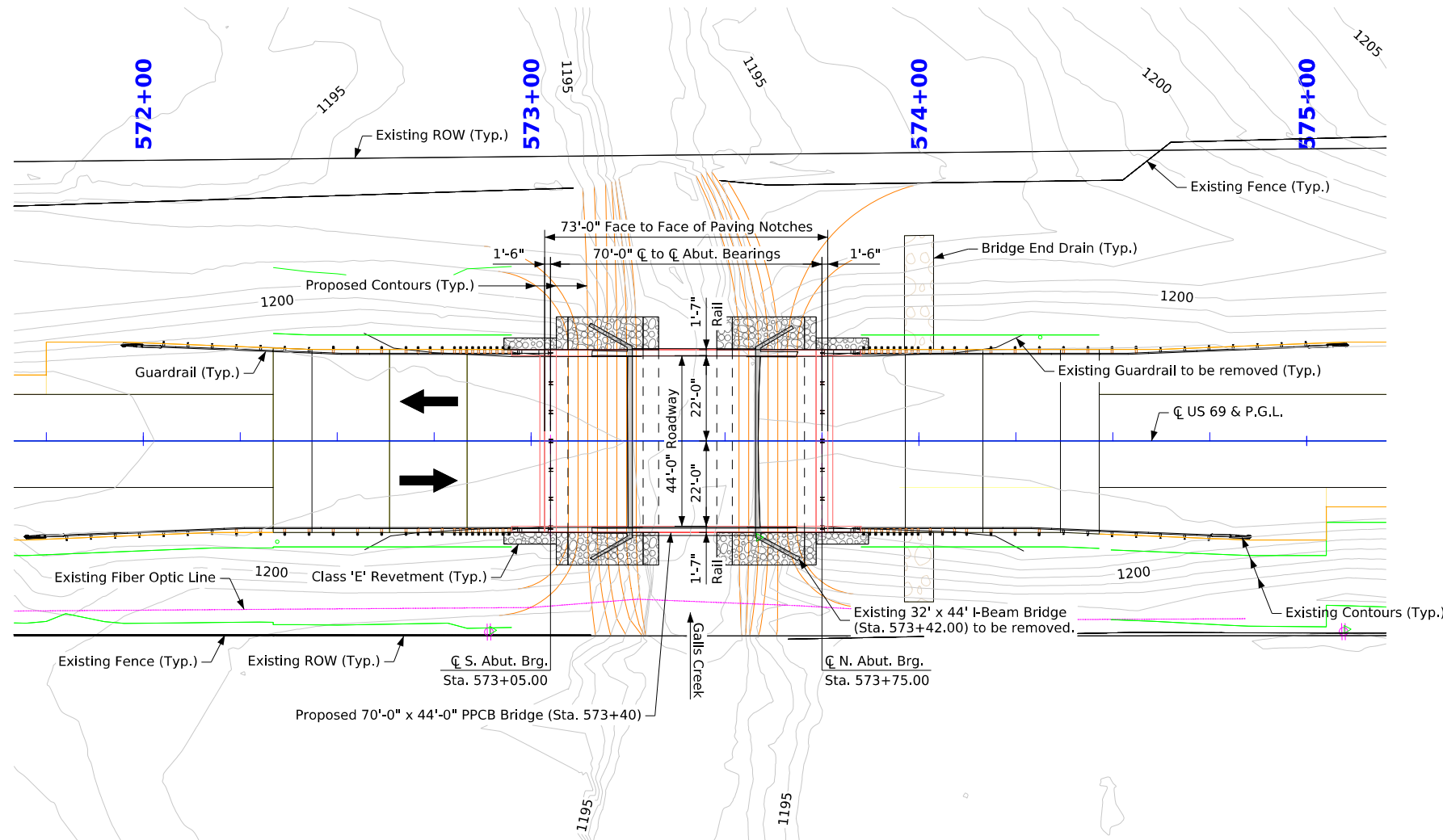
Longitudinal Section Along Centerline of Bridge



Proposed Profile Grade of US 69

Notes:

Top of bridge deck at centerline roadway is 0.03' below the P.G.L. to account for deck cross slope and parabolic crown.
Class "E" revetment stone is embedded.



Situation Plan

Location

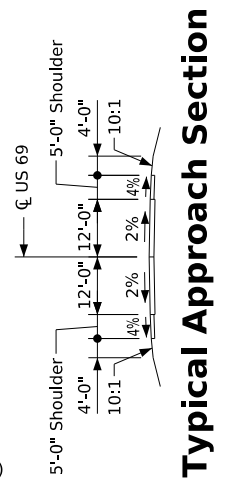
US 69 over Galls Creek
T-95N R-23W & T-95N R24W
Section 7 & 12
Eli & Liberty Township
Hancock County
FHWA No. 26880 (Existing)
FHWA No. 26881 (Proposed)
Bridge Maint. No. 4189.85069
Latitude 43.065804°
Longitude -93.616183°

Utilities Note:

Utilities shown on this sheet are for information only. See Road Design sheets for utility information.

General Utility Symbols:

FO - Fiber Optic Line



Typical Approach Section

Hydraulic Data

RIDB: GALLSC_HANC_0.55
Drainage Area = 22.3 sq. mi.
Site Stream (HGL) Slope = 0.123% (6.5 ft/mi)
Discharges from USGS Regression Equations
USGS Report SIR 2013-5086, Region 1
Ave. Low Water Stage = 1190.7
Extreme Highwater = Unknown
Channel Low Beam = 1199.70
Operational Low Beam = 1199.51
Roadway Overtopping El. = 1203.76
At North Bridge Approach (>500-yr)
Q₁₀ = 1140 cfs
(Downstream) Stage = 1197.18
Ave. Bridge Velocity = 4.2 ft/s
Q₅₀ = 2040 cfs
Stage = 1198.17
Ave. Bridge Velocity = 6.1 ft/s
Operational Freeboard = 1.34 ft
Q₁₀₀ (Design) = 2480 cfs
Stage = 1198.56
Backwater = 1.00 ft
Ave. Bridge Velocity = 6.9 ft/s
Operational Freeboard = 0.95 ft
Q₂₀₀ = 2960 cfs
Stage = 1198.94
Backwater = 1.45 ft
Ave. Bridge Velocity = 7.7 ft/s
Operational Freeboard = 0.57 ft
Calculated Scour = 1184.9
Q₅₀₀ = 3510 cfs
Stage = 1199.34
Backwater = 2.01 ft
Ave. Bridge Velocity = 8.5 ft/s
Operational Freeboard = 0.17 ft
Calculated Scour = 1183.9

Design Data Rural

2024 AADT	2,750	V.P.D.
TRUCKS	15 %	

Hydraulic Design

I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.

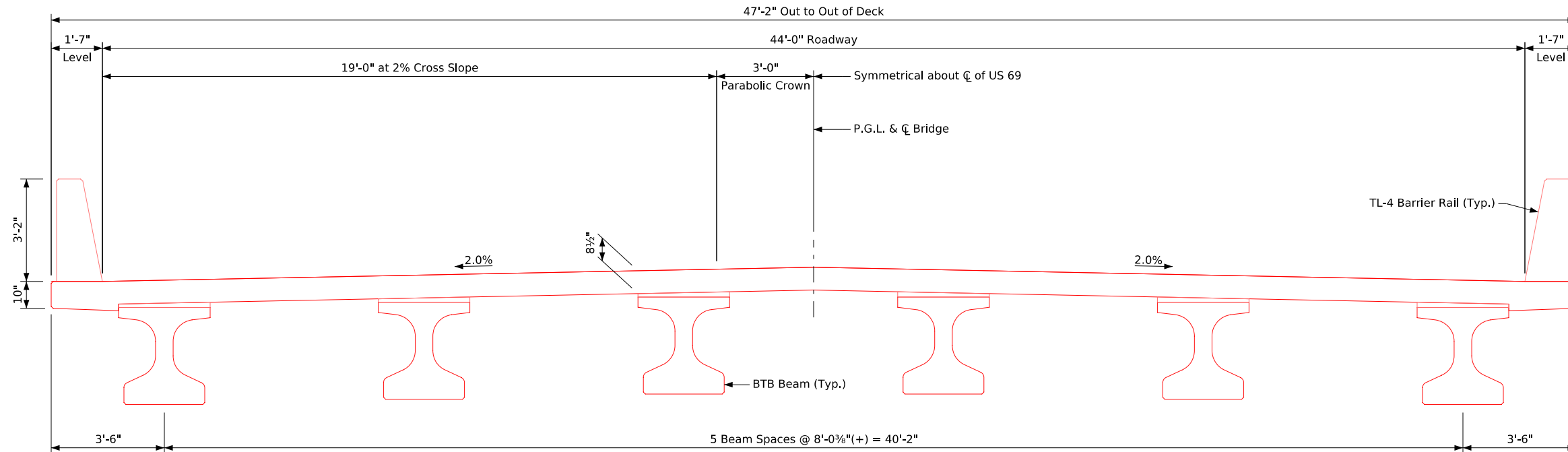
Brian J. Birkland 12-1-2025
Signature Date
Printed or Typed Name
My license renewal date is December 31, 2026

Pages or sheets covered by this sheet: V.1 - V.3

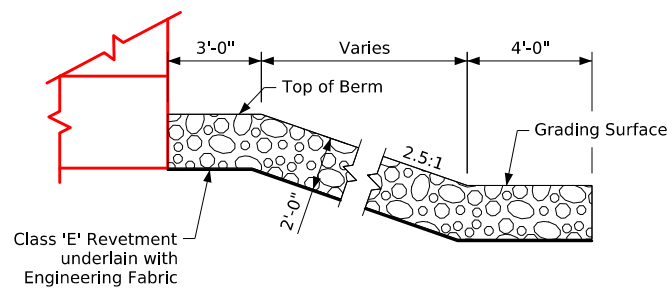
Preliminary

Design For 0° Skew
70'-0" x 44'-0" Pretensioned Prestressed Concrete Beam Bridge
70'-0" Span BTB Beams
Situation Plan
STA. 573+40.00 (US 69) Turn-In Date: January 2026
Hancock County
IOWA DEPARTMENT OF TRANSPORTATION
Design No. XXX Design Sheet No. 1 of 3 FHWA No. 26881





Transverse Section



Typical Berm Armoring Details

General Notes:

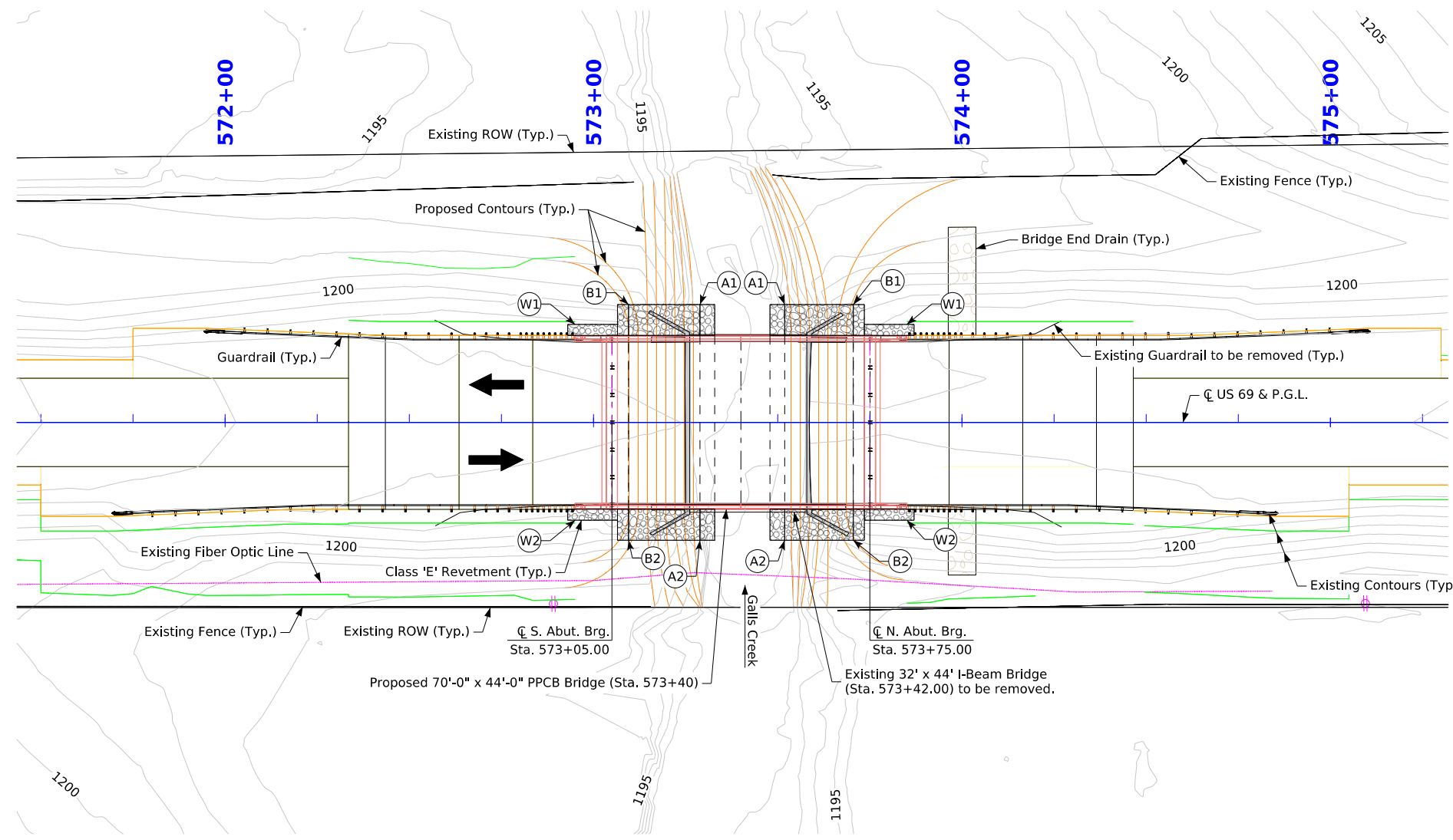
(Final designer to include in final plans)
 This design is for the replacement of the existing 32'-0" x 44'-0" Steel I-Beam Bridge, Hancock County, Design Nos. 1030 & 360, FHWA No. 26880, and Maint. No. 4189.8S069.

Designer Notes:

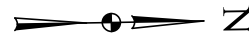
- (Final designer to delete these notes from final Situation Plan)
- TL-4 Single Slope Bridge Railing Proposed
- Beam type - BTB
- Abutment type - Integral
- Conflict between proposed driven pile and existing concrete foundations is not anticipated, but shall be verified in Final Design.
- The bridge does not meet Iowa DOT's desired 50-yr 3-foot operational freeboard per BDM 3.2.2.4. Rationale:
 - The proposed 70' bridge provides channel freeboard greater than zero for the 500-yr event.
 - Road grade overflow readily provides relief in the event the bridge opening is obstructed.
 - Ice or debris is not expected to be a problem.
 - The smaller drainage area has a relatively lower duration of peak flooding than larger streams.
 - The lower freeboard allows for more efficient hydraulic use of the bridge open area for all flood frequencies.
- Density used for Class E Revetment quantity calculations is 1.6 Tons/CY.



Preliminary
 Design For 0° Skew
**70'-0" x 44'-0" Pretensioned
 Prestressed Concrete Beam Bridge**
 70'-0" Span BTB Beams
Situation Plan - Misc.
 STA. 573+40.00 (US 69) Turn-in Date: January 2026
Hancock County
 IOWA DEPARTMENT OF TRANSPORTATION
 Design No. XXXX Design Sheet No. 2 of 3 FHWA No. 26881



Site Plan



Points	South Abutment			North Abutment		
	Station	Offset	Elev.	Station	Offset	Elev.
A1	573+28.85	32.00' LT.	1190.30	573+51.88	32.00' LT.	1190.30
A2	573+28.85	32.00' RT.	1190.30	573+51.88	32.00' RT.	1190.30
B1	573+09.50	32.00' LT.	1198.04	573+70.50	32.00' LT.	1197.75
B2	573+09.50	32.00' RT.	1198.04	573+70.50	32.00' RT.	1197.75
W1	572+96.50	26.58' LT.	1203.54	573+83.50	26.58' LT.	1203.18
W2	572+96.50	26.58' RT.	1203.54	573+83.50	26.58' RT.	1203.18

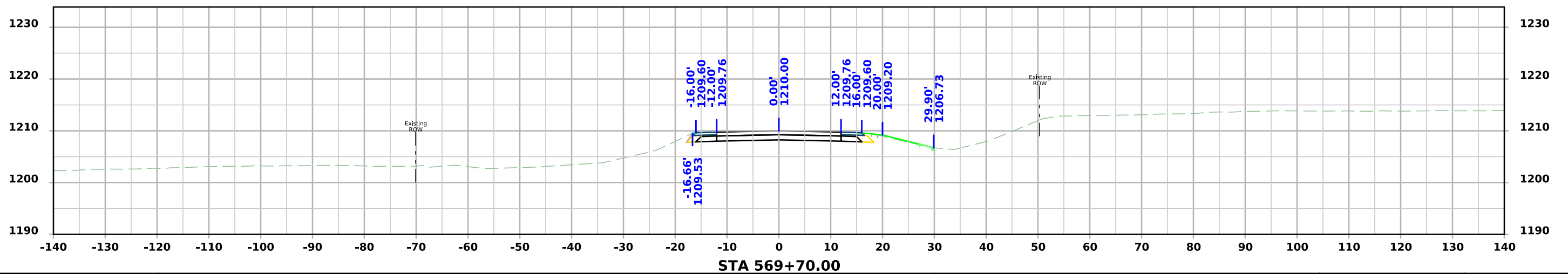
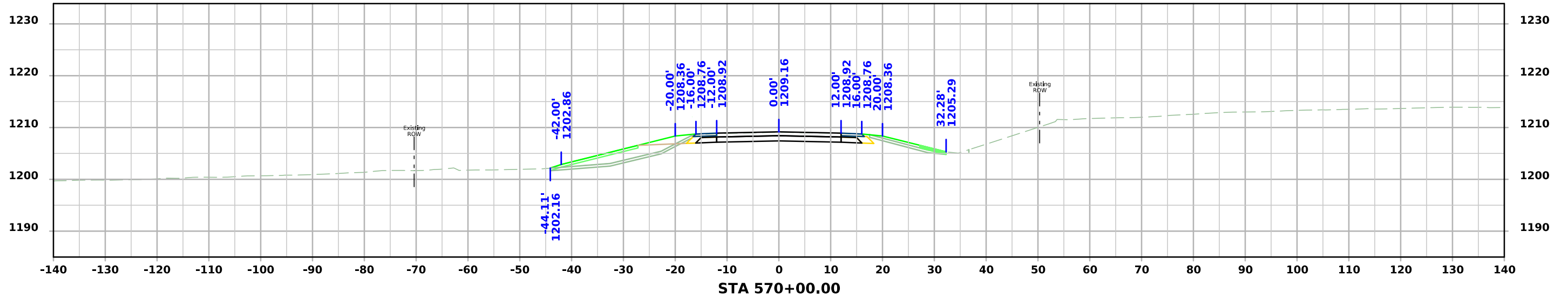
Berm slope elevations reflect the grading surface. Stations and offsets are based on the centerline of US 69.

Estimated Berm Armoring Quantities			
Location	Revetment Class E (Ton)	Engineering Fabric (SY)	Excavation Class 10 (CY)
South Berm	211.2	238.8	132.0
North Berm	205.3	232.9	128.3
Totals	416.4	471.7	260.3

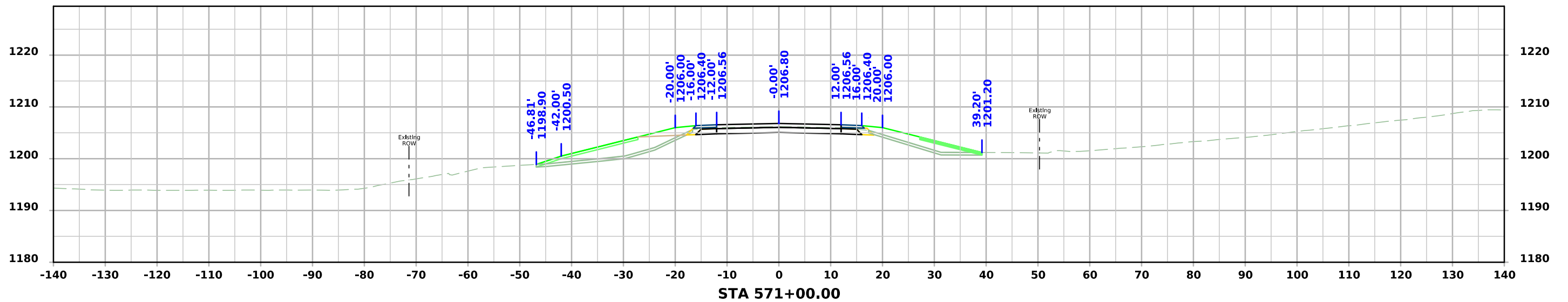
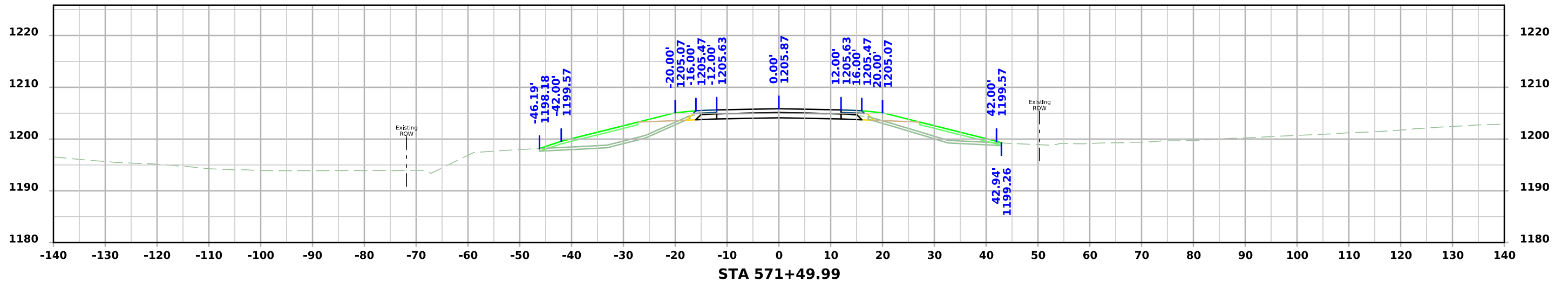
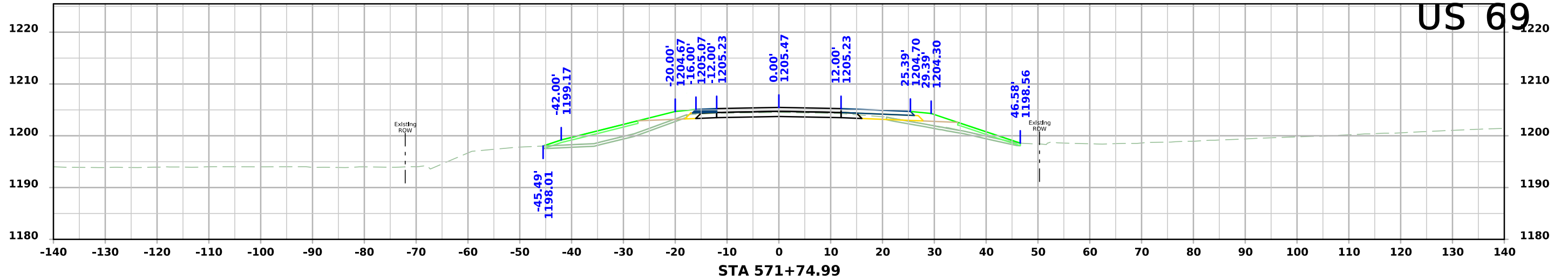
Excavation quantities are calculated from grading surface.

Preliminary
Design For 0° Skew
70'-0" x 44'-0" Prestressed Concrete Beam Bridge
70'-0" Span BTB Beams
Situation Plan - Site
STA. 573+40.00 (US 69) Turn-in Date: January 2026
Hancock County
IOWA DEPARTMENT OF TRANSPORTATION
Design No. XXX Design Sheet No. 3 of 3 FHWA No. 26881

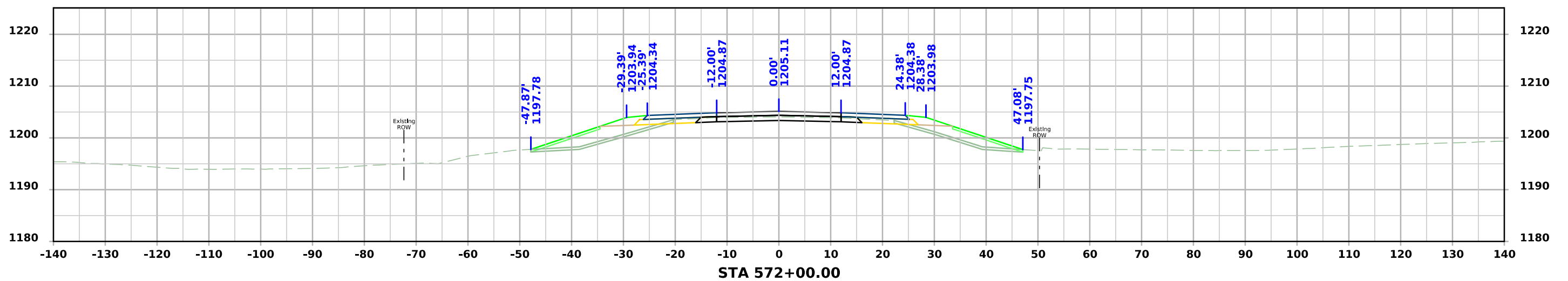
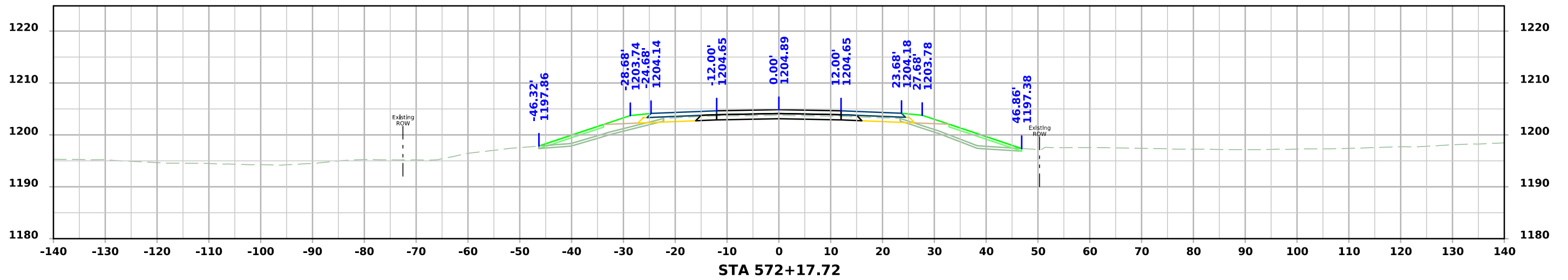
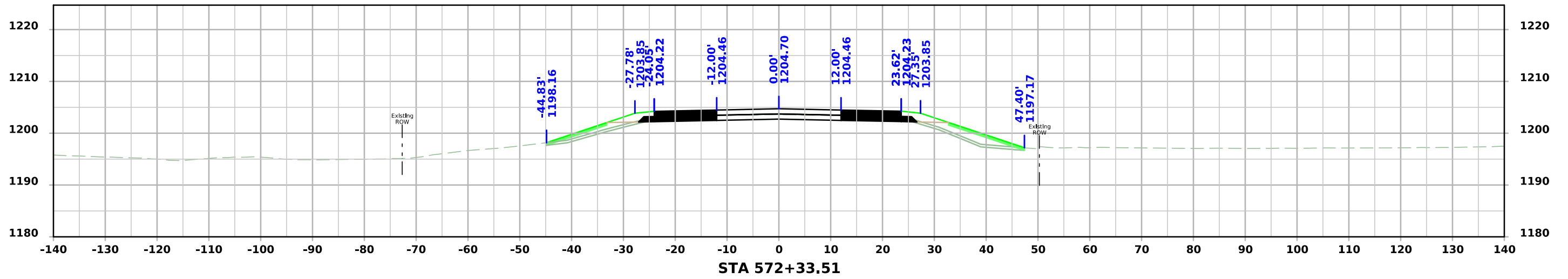




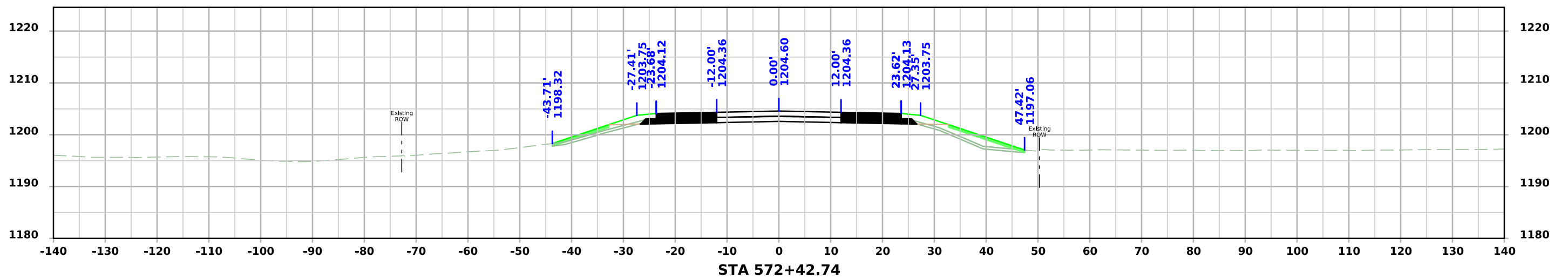
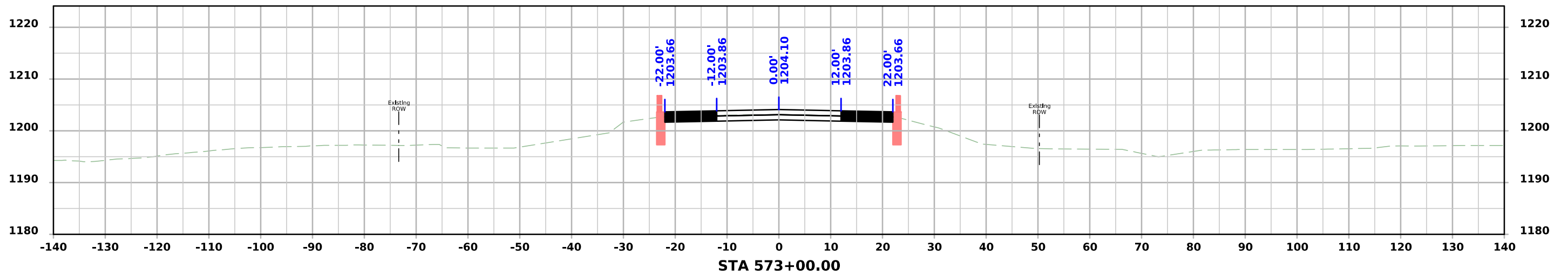
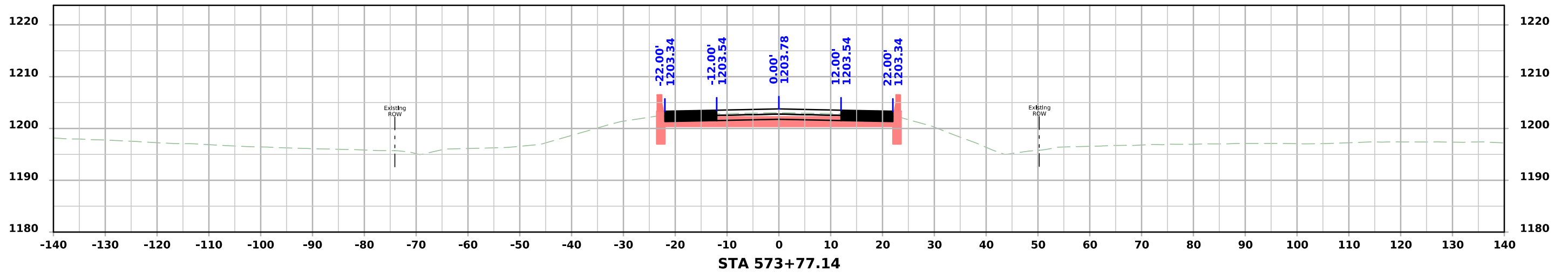
US 69



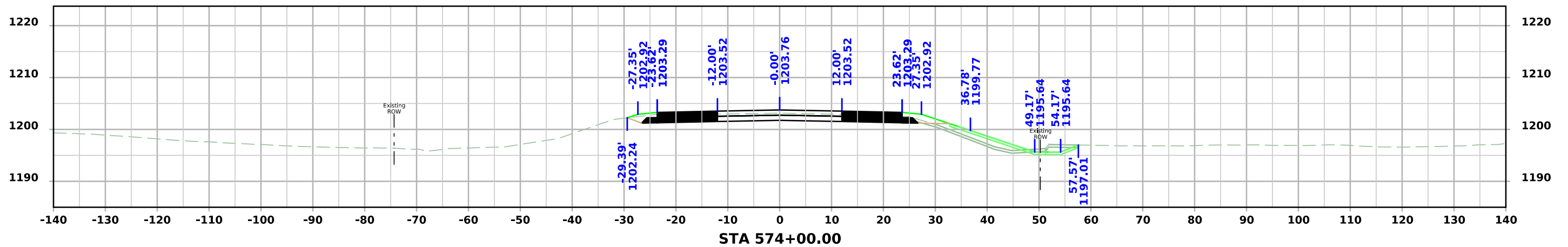
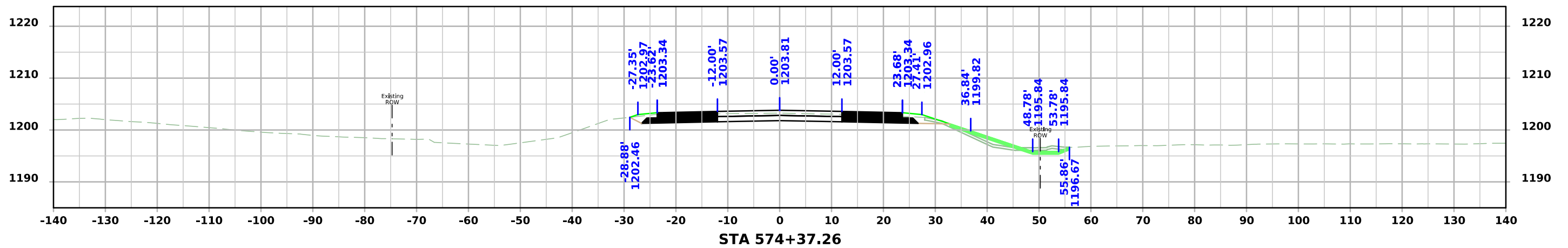
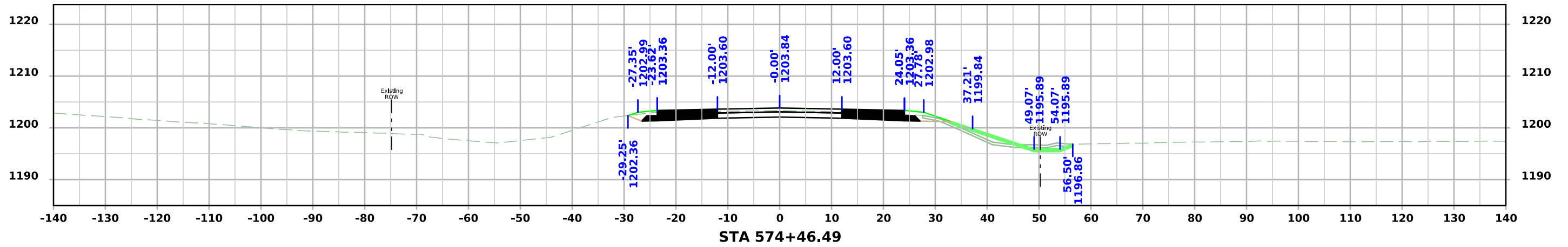
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