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PLANS OF PROPOSED IMPROVEMENT ON THE

PRIMARY ROAD SYSTEM

MUSCATINE COUNTY

Bridge Replacement

US 6 bridge
over East Branch Wapsinonoc Creek
0.5 miles east of junction of IA 70

SCALES: As Noted

Refer to the Proposal Form for list of applicable specifications.

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



Note for Final Designer:
Deliver old steel beam guardrail to
local DOT maintenance shop; note
that the sections should be unbolted
and not cut.

DESIGN DATA RURAL				
20 21	AADT	1,830	V.P.D.	
20 46	AADT	1,900	V.P.D.	
20 46	DHV	190	V.P.H.	
TRUCKS		7	%	
Total				
Design ESALs		--		

SHEET NO.	NAME	TYPE
A.1	X	Primary Signature Block
V.1	Mark D. Werner	Hydraulic Design

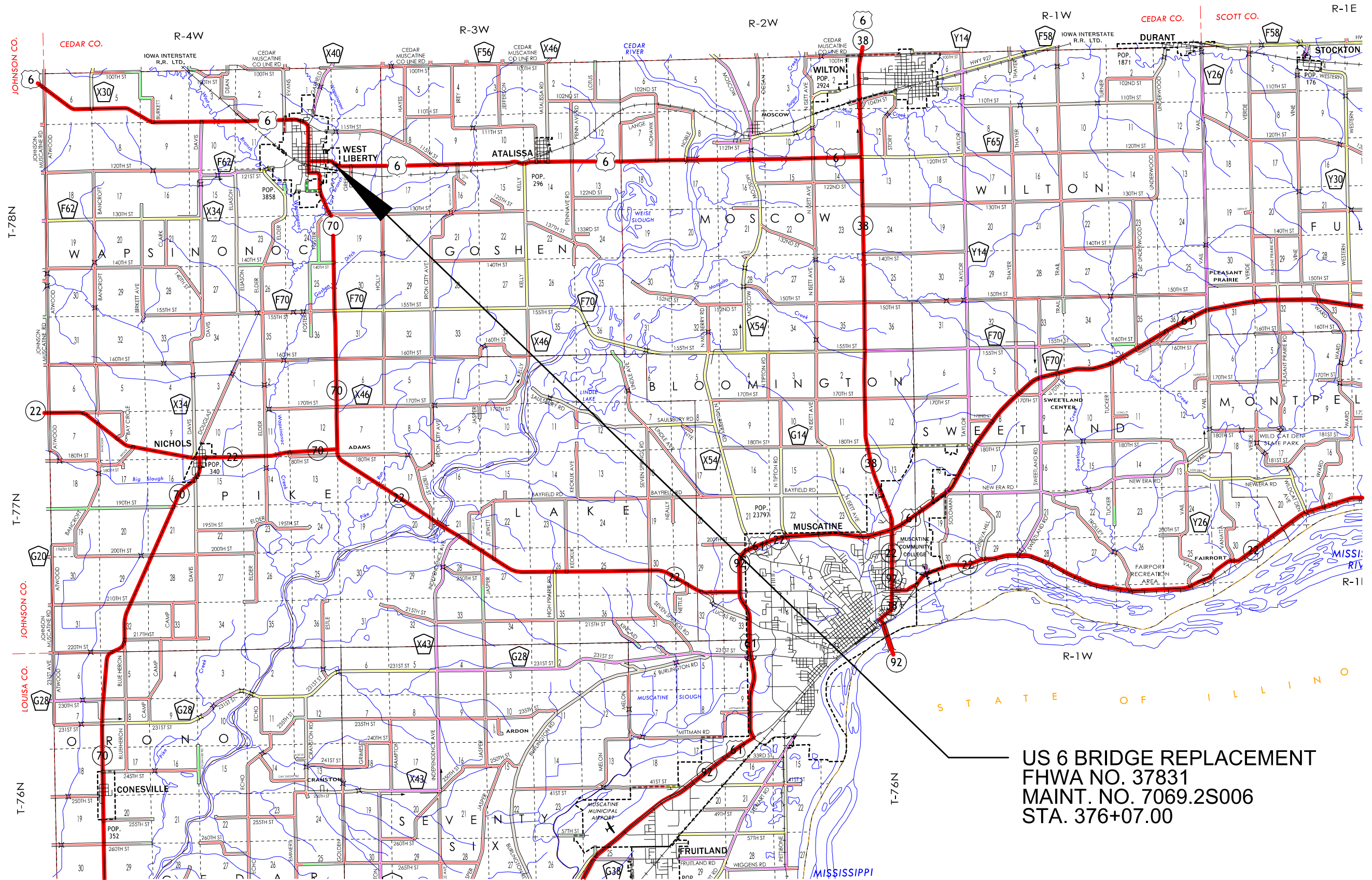
REVISIONS

TOTAL	
43	
PROJECT IDENTIFICATION NUMBER	
21-70-006-030	
PROJECT NUMBER	
BRF-006-8(046)--38-70	
R.O.W. PROJECT NUMBER	
STPN-006-8(47)--2J-70	

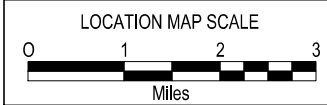
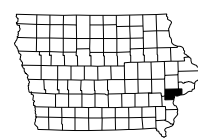
PRELIMINARY PLANS

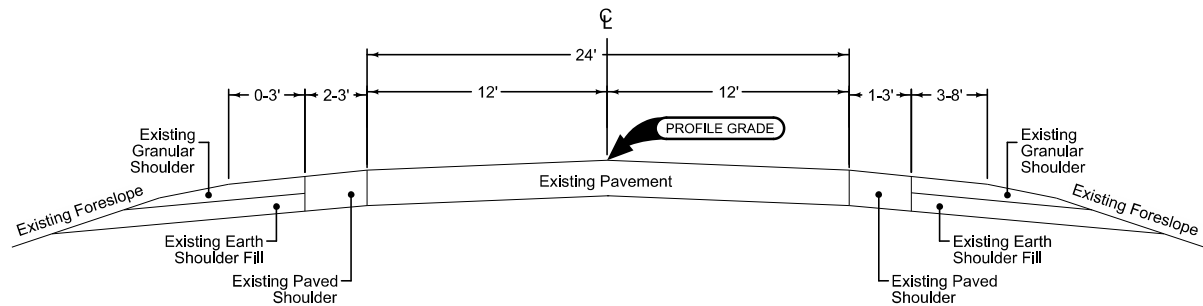
Subject to change by final design.

D05 PLAN - Date: 08/08/2025



US 6 BRIDGE REPLACEMENT
FHWA NO. 37831
MAINT. NO. 7069.2S006
STA. 376+07.00





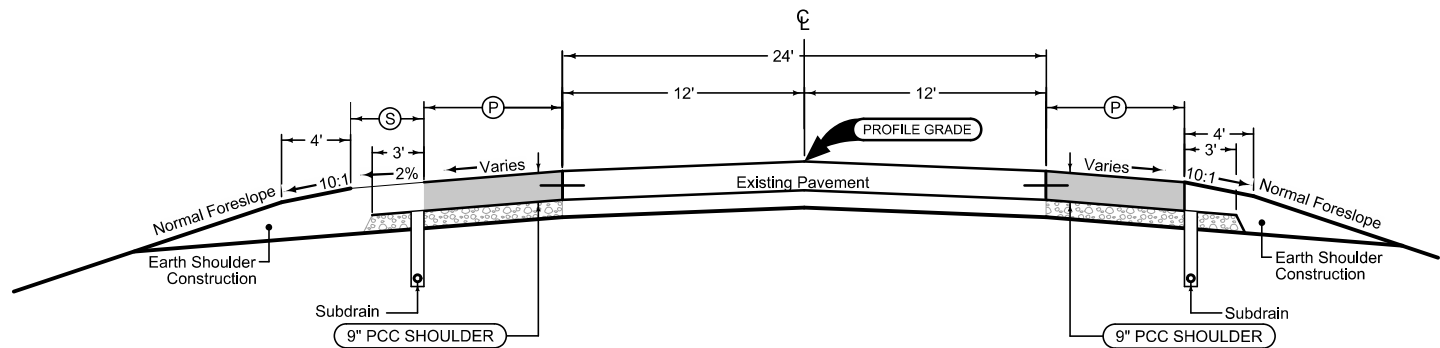
US 6

EXISTING US 6

Full Depth PCC Shoulder

Shoulder Jointing:
Longitudinal joint: BT-2, or L-2
Transverse joints: C at 17' spacing

2_P_FullPCC_04-15-25			
STATION TO STATION		(P) Feet	(S) Feet
372+56.56	374+06.85	6	0
374+06.85	374+26.85	12.7	14
374+26.85	374+86.56	12.7 - 11.8	14
377+44.73	377+53.99	7.5	12
377+96.26	379+57.41	6	0



Full Depth PCC Shoulder

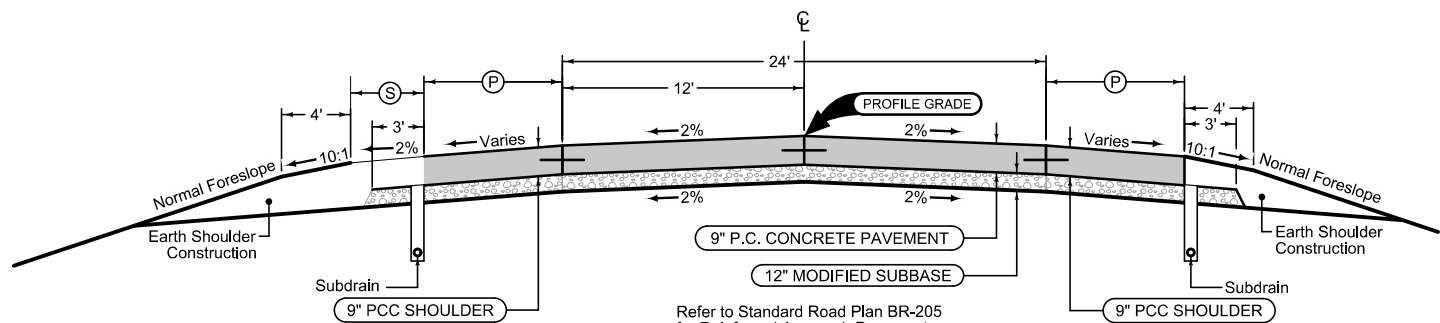
Shoulder Jointing:
Longitudinal joint: BT-2, or L-2
Transverse joints: C at 17' spacing

2_P_FullPCC_04-15-25		
STATION TO STATION		(P) Feet
372+56.56	374+28.16	6
374+28.16	374+48.16	10.5
374+48.16	374+86.56	10.5 - 9.5
377+44.73	377+62.57	10.2 - 11.3
377+62.57	377+82.57	11.3
377+82.57	379+57.41	6

Full Depth PCC Shoulder

Shoulder Jointing:
Longitudinal joint: BT-2, or L-2
Transverse joints: C at 17' spacing

2_P_FullPCC_04-15-25			
STATION TO STATION		(P) Feet	(S) Feet
377+29.43	377+44.73	7.5	12



Refer to Standard Road Plan BR-205
for Reinforced Approach Pavement
Mainline Jointing:
Transverse joints: CD at 17' spacing
Longitudinal joint: L-2

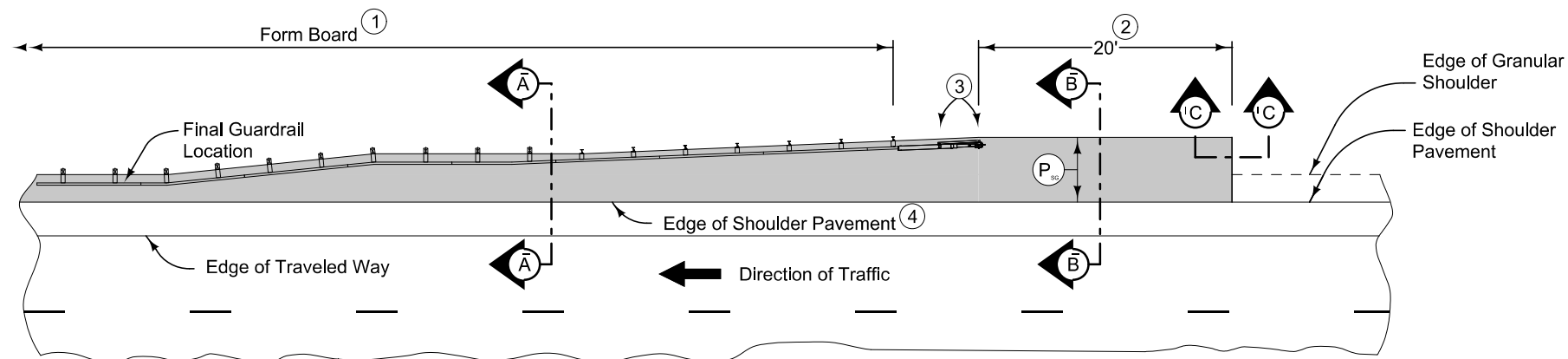
2P_04-21-20	
STATION TO STATION	
377+29.44	377+44.73

Full Depth PCC Shoulder

Shoulder Jointing:
Longitudinal joint: BT-2, or L-2
Transverse joints: C at 17' spacing

2_P_FullPCC_04-15-25		
STATION TO STATION		(P) Feet
377+29.43	377+44.73	9 - 10.2

US 6



PLAN VIEW

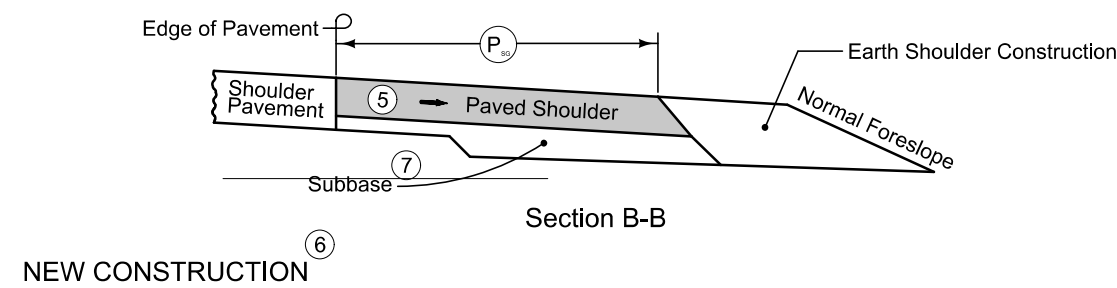
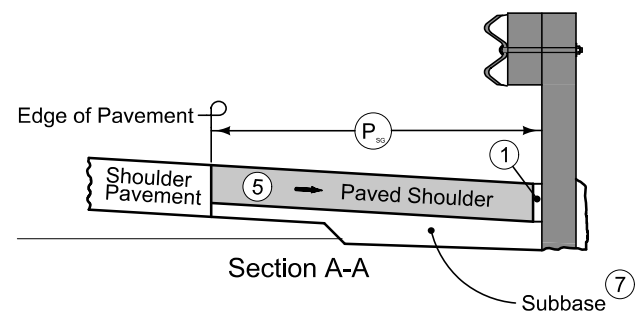
9" HMA Paved Shoulder at guardrail. 8" PCC may be substituted with the following jointing layout:

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.

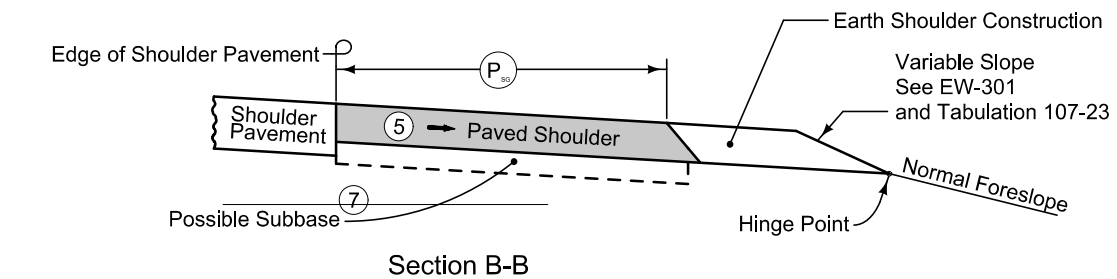
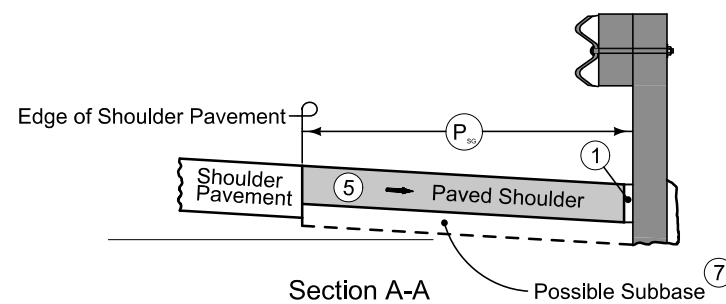
Compaction of HMA is required to face of guardrail post. Hand compaction will be allowed under guardrail. Removal and reinstallation of guardrail will be allowed with no additional payment.

Refer to Tabulation 112-9 for shoulder quantities.

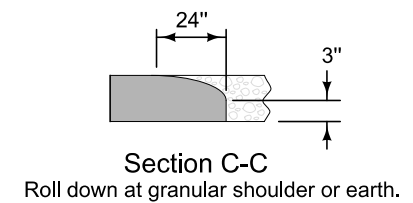
- ① PCC option only: When guardrail posts are installed prior to construction of PCC paved shoulder, fasten form board to the face of guardrail posts for the length shown.
- ② Continue paved shoulder 20 feet beyond the center of the first post.
- ③ Shoulder may be notched for first 2 posts or post sleeves may be installed through pavement. Do not drive posts through pavement.
- ④ 'BT' (per PV-101) joint for PCC shoulder.
'B' (per PV-101) joint for HMA shoulder.
- ⑤ Match shoulder slope.
- ⑥ The Contractor has the option to pave the paved shoulder at guardrail and the partial width paved shoulder as one operation.
- ⑦ Refer to other details in the plan.



NEW CONSTRUCTION



EXISTING SHOULDER



PAVED SHOULDER AT GUARDRAIL
(ADJACENT TO PARTIAL WIDTH PAVED SHOULDER)

ESTIMATED ROADWAY QUANTITIES
(1 DIVISION PROJECT)

100-0A
10-28-97

Item No.	Item Code	Item	Unit	Total	As Built Qty.

ESTIMATED PROJECT QUANTITIES
(1 DIVISION PROJECT)

100-1A
07-15-97

Item No.	Item Code	Item	Unit	Total	As Built Qty.

STANDARD ROAD PLANS

105-4
10-18-11

The following Standard Road Plans apply to construction work on this project.		
Number	Date	Title
BA-200	04-15-25	Steel Beam Guardrail Components
BA-202	04-15-25	Steel Beam Guardrail Bolted End Anchor
BA-205	10-17-23	Steel Beam Guardrail Tangent End Terminal (MASH TL-3)
BA-209	10-15-24	Steel Beam Guardrail Barrier Transition Section (MASH TL-3, 34" Mounting Height)
BA-250	10-21-25	Steel Beam Guardrail Installation at Concrete Barrier or Bridge End Post (MASH T
BR-205	10-21-25	Double Reinforced 12" Approach (Slab Bridge)
BR-211	10-21-25	Bridge Approach (Abutting PCC or Composite Pavement)
DR-101	04-18-17	Pipe Culvert (Bedding and Backfill)
DR-102	04-21-15	Pipe Culvert (Cover and Camber)
DR-103	04-21-15	Pipe Culvert (Installation Details)
DR-104	04-19-16	Depth of Cover Tables for Concrete and Corrugated Pipe
DR-201	10-17-23	Concrete Aprons
DR-203	04-21-20	Metal Pipe Aprons and Beveled Ends
DR-306	10-17-23	Precast Concrete Headwall for Subdrain Outlets
DR-402	04-16-24	Rock Flume for Bridge End Drain
DR-651	04-18-17	Unclassified Pipe Culvert
EW-301	04-16-24	Guardrail Grading
EW-501	10-17-23	Rural Entrance
LS-625	10-19-21	Steel Beam Guardrail Tangent End Terminal (NCHRP 350 TL-3)
PM-110	04-16-24	Line Types
PV-101	10-21-25	Joints
PV-102	10-21-25	PCC Curb Details
PV-301	04-15-25	Superelevation Details Two Lane Roadway
SI-173	04-19-16	Object Markers
SI-211	10-18-22	Object Marker and Delineator Placement with Guardrail
SI-881	04-16-19	Special Signs for Workzones
TC-1	10-15-19	Work Not Affecting Traffic (Two-Lane or Multi-Lane)
TC-252	10-21-25	Routes Closed to Traffic

102-5

04-18-17

EXISTING PAVEMENT

No.	Location					Year	Type	Project Number	Surface		Base		Subbase		Removal		Coarse Aggregate			Reinforcement	Remarks
	County	Route	Dir. of Travel	Begin Ref. Loc. Sign	End Ref. Loc. Sign				Type	Depth	Type	Depth	Type	Depth	Type	Depth	Source	Type	Durability Class	Type	
1	Muscatine	US 6	Both	268.82	269.23	2019	M	MP-006-5(702)267--76-70													HMA crack filling
						2018	M	MP-006-5(702)267--76-70													HMA crack filling
						2001	V	STP-6-8(28)--2J-70	AAC	2							MOSCOW	C.LST.			MIL 38-UNKNOWN CITY O'LA
						2001		STP-6-8(28)--2J-70	AAC	1.5	BAC	1.5					MOSCOW	C.LST.			
						1939		NA	PCC	7.5											

SURVEY SYMBOLS

	AST, Above Ground Storage Tank		PR, Electric Riser Pole
	BB, Billboard		PRO, Profile Shot
	BBB, Bottom of Bridge Beam		PT, Curve Point
	BCL, Bridge Centerline		REF, Reference Tie Point
	BD, Bridge Deck		RET, Retaining Walls
	BIN, Grain Bin		RIP, Rip-Rap
	BL, Topo Breakline		ROC, Rock Outcropping
	BLD, Building or Foundation		ROW, Right of Way Mark
	BLS, Bridge Low Steel		RR, Centerline of Railroad Tracks
	BM, Bench Mark		RRB, Railroad Signal Box
	BNK, Stream Bank		RRF, Railroad Frog
	BRG, Bridge		RRR, Railroad Rail
	C, Centerline BL of Road -ML or SR		RRS, Railroad Signal
	CAV, Cave		RRW, Railroad Switch
	CEL, Cell Phone Tower		RT, Radio Tower
	CIS, Cistern		S, Soil Sampling Site -Wetlands
	CON, Concrete or A/C Slab		SBR, Size of Bridge
	CP, Control Point		SC, Spiral Point
	CRP, Corporation Line		SCR, Section Corner
	CS, Curve Point		SEP, Septic Tank
	CU, Back of Curb		SF, Silt Fence -Wetlands
	CUL, Culvert		SG, Staff Gauge -Wetlands
	D, Centerline Draw or Stream -Down		SH, Paved Shoulder
	DAB, Drainage Area Boundary		SHR, Shrub
	DIK, Centerline of Dike or Dam		SI, Sign
	DTM, Photogrammetry Elv. Control Check		SL, Speed Limit Sign
	DU, Centerline Draw or Stream -Up		SLN, Section Line
	EB, Electrical Box		SLO, Silo
	EG, Edge of Gravel Road		SNK, Sink Hole
	ENP, Edge Paved Entrance and Park Lot		SNP, Unpaved Shoulder
	ENT, Centerline BL of Entrance		SP, Stream Profile
	ENU, Edge Unpaved Entrance and Parking		STP, Stump
	EP, Edge of Paved Roads -ML or SR		SWK, Sidewalk
	EW, Edge of Water		SWP, Swamp or Marsh
	FCL, Chain Link and Security Fence		TA, Tower Anchor
	FENO, FENO Monument		TBO, Telephone Booth
	FHD, Fire Hydrants		TCB, Traffic Signal Box
	FLG, Flag Poles		TDC, Tree Deciduous
	FP, Filler Pipe		TDL, Trafic Detection Loop
	FW, Wire Fence		TER, Terrace
	FWD, Wood Fence		TEV, Evergreen Tree
	GDC, Guard Rail Cable		TFR, Tree Fruit
	GDL, Guard Rail Steel		TGP, Telegraph Pole
	GP, Guard Post -Less Than 4 Posts		TIL, Tile Line
	GR, Ground Shot		TLNL, Tree Line Left
	GRV, Grave		TLNR, Tree Line Right
	GU, Gutter In Front of Curb		TOP, Top of Bridge Pier
	GV, Gas Valve		TPA, Telephone Pole Co. 1
	HDG, Hedge Row		TPB, Telephone Pole Co. 2
	HS, Hydric Soil -Wetlands		TPC, Telephone Pole Co. 3
	HT, Electrical Highline Tower		TR, Telephone Riser Pole
	IN, Storm Sewer Intake		TRL, Trail
	INB, Storm Sewer Beehive Intake		TS, Spiral Point
	LC, Lot Corner		TSB, Telephone Switch Box
	LIN, Miscellaneous Line		TSG, Traffic Signal
	LP, L.P. Tank		TSL, Traffic Signal and Luminare
	LUM, Luminaire		TV, Satellite TV Dish
	MH, Utility Access -Manhole		TVP, TV Pedestal
	MIS, Miscellaneous		TW, Top of Water
	MM, Mile Marker Post		UB, Utility Box
	OUT, Tile Outlet		UE, Utility Elevation
	PC, Curve Point		UPH, Utility Pot Hole - Quality A
	PCP, Photo Control Point		UST, Underground Tank
	PCT, Photo Control Target		UV, Underground Utility Vault
	PI, Tangent Point		VS, Channel Cross Section
	PIP, Pipe Culvert		WC, Wild Card -Misc. Field Shot
	PL, Location of Photo -Wetlands		WEL, Well
	PLG, Location of General Photo		WHD, Water Hydrant
	POC, Curve Point		WHU, RV Water Hook Up
	POST, Spiral Point		WM, Wind Mill
			WND, Wind Turbine
			WV, Water Valve

UTILITY LEGEND

Sub-Surface Utility Mapping Quality Level is in accordance with C/ASCE 38-02 Standard Guidelines for the Collection and Depiction of Existing Subsurface Utility Data.

Remark Abbreviations
QLA Quality Level A Highest guideline quality level
QLD Quality Level D Lowest guideline quality level

	FO1C, WINDSTREAM - Quality C Dan Hogan Engineering Manager - 1A 563-920-2428 Dan.Hogan@windstream.com Stephen Kness Construction Manager 2 OSP Eng 319-790-7678 stephen.kness@windstream.com
	FO2C, MEDIACOM IOWA CITY - Quality C Nick Renfrew Construction Specialist 641-682-8760 ext 3182 nrenfrew@mediacomcc.com
	FO3C, LUMEN (CENTURYLINK) - Quality C Steve Parker Manager of Engineering & Construction 515-265-0968 CTL-RDMV-1A@lumen.com
	FO4C, AUREON NETWORK SERVICES - Quality C Jeff Klocko 515-830-0445 jeff.klocko@aureon.com
	GHPC, MIDAMERICAN ENERGY - Quality C William E Barry Gas Projects Manager 319-298-5146 webarry@midamerican.com
	ELIC, CITY OF WEST LIBERTY - Quality C Lawrence McNaul City Manager lmcnaul@lcom.net
	PPA, CITY OF WEST LIBERTY Lawrence McNaul City Manager lmcnaul@lcom.net

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.	
Lavender	(9)		Temporary Pavement Shading
Yellow	(4)		Proposed Pavement Shading
Orange	(6)		Proposed Granular Shading
Orange	(70)		Proposed Shoulder Granular Shading
Yellow	(68)		Proposed Shoulder Paved Full Depth Shading
Yellow	(132)		Proposed Shoulder Paved Partial Depth Shading
Gray, Dark	(112)		Proposed Grade and Pave Shading "In conjunction with a paving project"
Brown, Light	(236)		Grading Shading
Orange, Light	(134)		Proposed Granular Entrance Shading
Yellow	(220)		Proposed Paved Entrance Shading
Tan	(8)		Proposed Sidewalk Shading
Blue, Light	(230)		Proposed Sidewalk Landing Shading
Pink	(11)		Proposed Sidewalk Ramp Shading
Green, Light	(225)		Existing Pavement Shading
Red	(3)		Proposed Structure Shading
Red	(3)		Delineates Restricted Areas

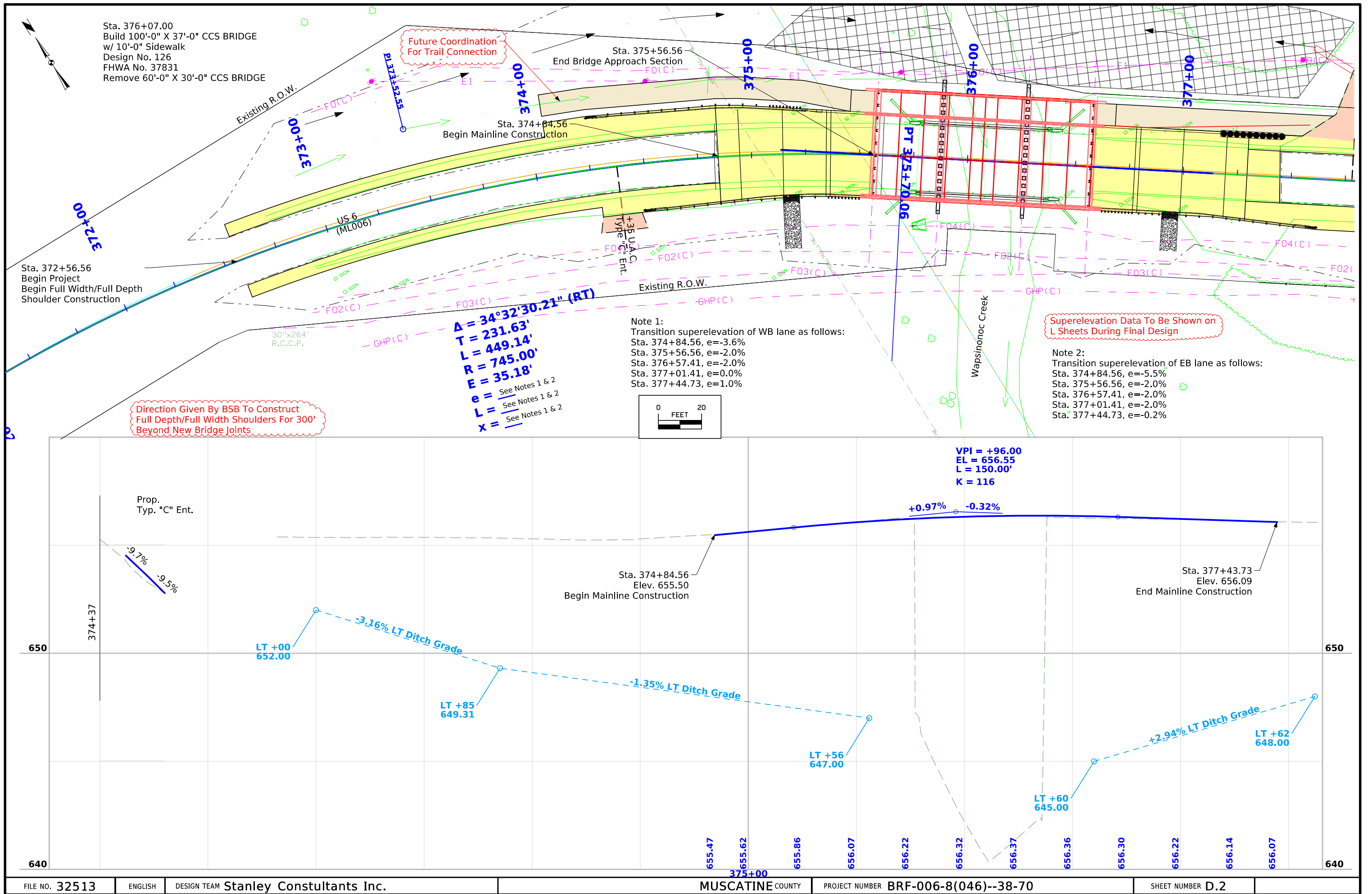
PROFILE VIEW COLOR LEGEND OF PLAN AND PROFILE SHEETS

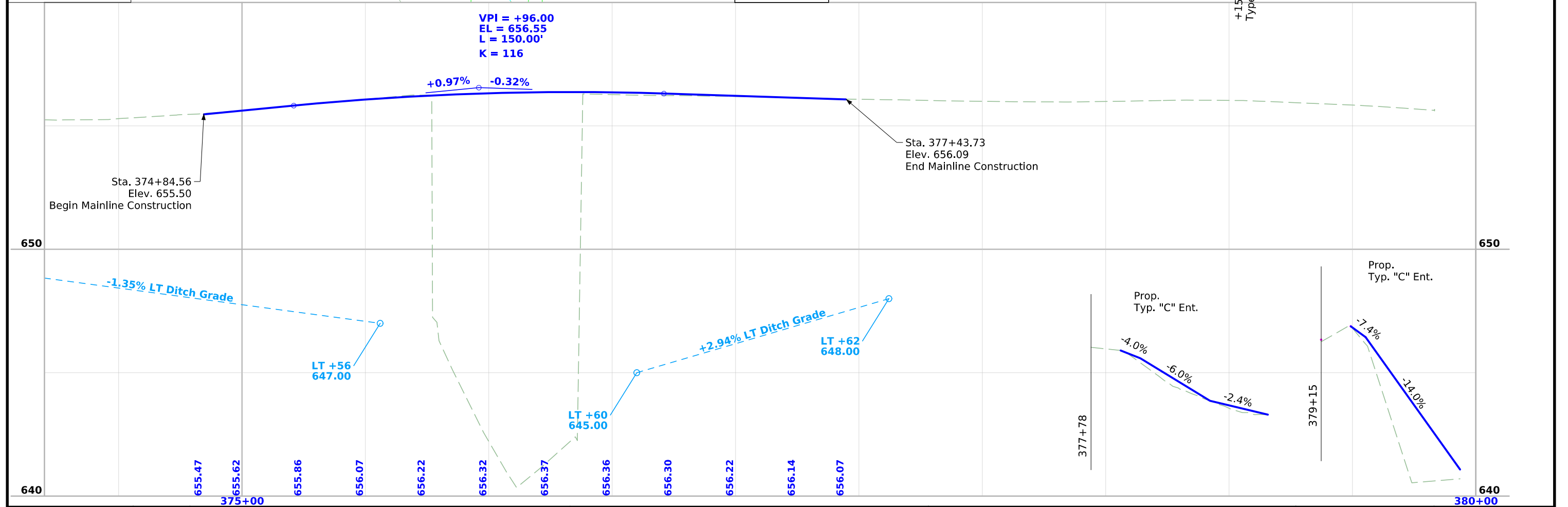
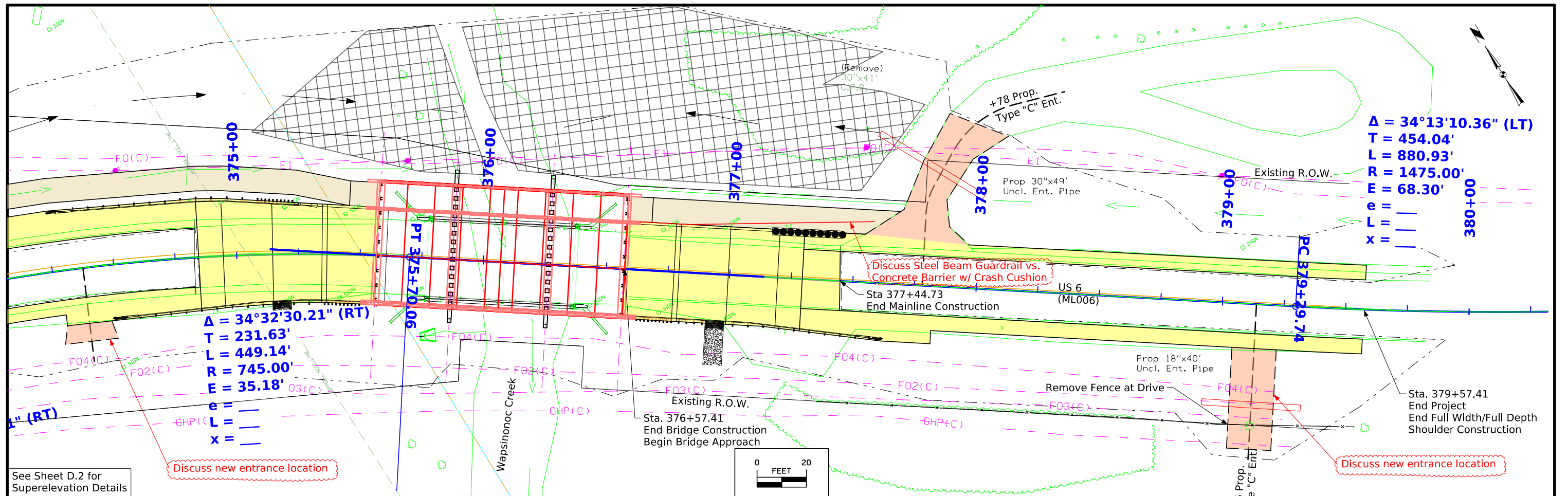
LINEWORK	Design	Color No.	
Green	(10)		Existing Ground Line Profile
Blue	(1)		Proposed Profile and Annotation
Magenta	(5)		Existing Utilities
Blue, Light	(230)		Proposed Ditch Grades, Left
Black	(0)		Proposed Ditch Grades, Median
Rust	(14)		Proposed Ditch Grades, Right

Reference Point		RIGHT-OF-WAY LEGEND	
	Station		Proposed Right-of-Way
	Section Corner		Existing Right of Way
	Ground Line Intercept		Existing and Proposed Right-of-Way
	Saw Cut		Easement and Existing Right-of-Way
	Guardrail		Easement (Temporary)
	Trench Drain		Easement
	HighTension Cable Guardrail		Access Control
	Sheet Pile		Property Line
	Pavement Removal		Clearing & Grubbing Area

PLAN AND PROFILE
LEGEND AND SYMBOL
INFORMATION SHEET

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





Survey Information

SURVEY INDEX

County: Muscatine
PIN: 21-70-006-030
Project Number: BRF-006-8(46)--38-70
Location: Wapsinonoc Creek 0.5 Mi. East of IA 70
Type of Work: Bridge Replacement

(U.S. SURVEY FOOT)
VERTICAL DATUM: NAVD88
GEOID MODEL: GEOID12B

Alignment Information

NO alignment

Survey Personnel

Matthew Fouts – PLS
Daniel Marti – PLS
Drake Marti – Survey Technician
Joshua Randolph – Survey CADD Technician

Date(s) of Survey

Begin Date 03/16/2023
End Date 03/24/2023

General Information

This survey is for preliminary design for the section of approximately 0.1 mile of roadway, there is one bridge along the route. Project datum is provided by Design Survey Office. This project is a full DTM 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

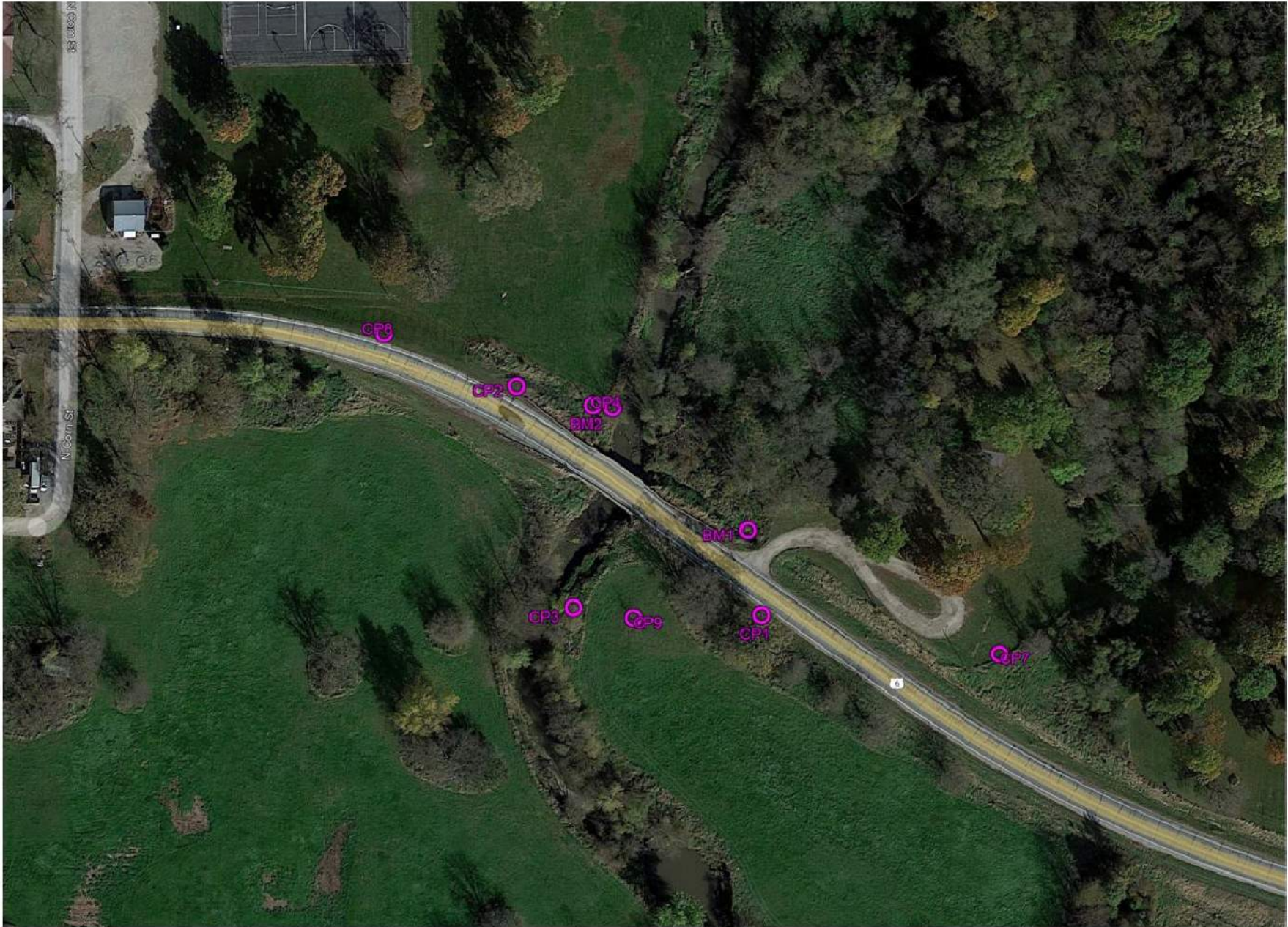
(RTN)
Nearby Iowa Real Time Network reference stations were utilized to obtain horizontal and vertical control on primary project control points. For additional details of the control survey, contact the Preliminary Survey department.

(Static)
Static observations were not used for this survey.

PROJECT DATUM: NAD83(2011) for EPOCH 2010.00
COORDINATE SYSTEM: IOWA REGIONAL COORDINATE SYSTEM ZONE 14
(Burlington).

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 14 (U.S. Survey Foot)

VERT. DATUM: NAVD88 - Geoid Model: 12B

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

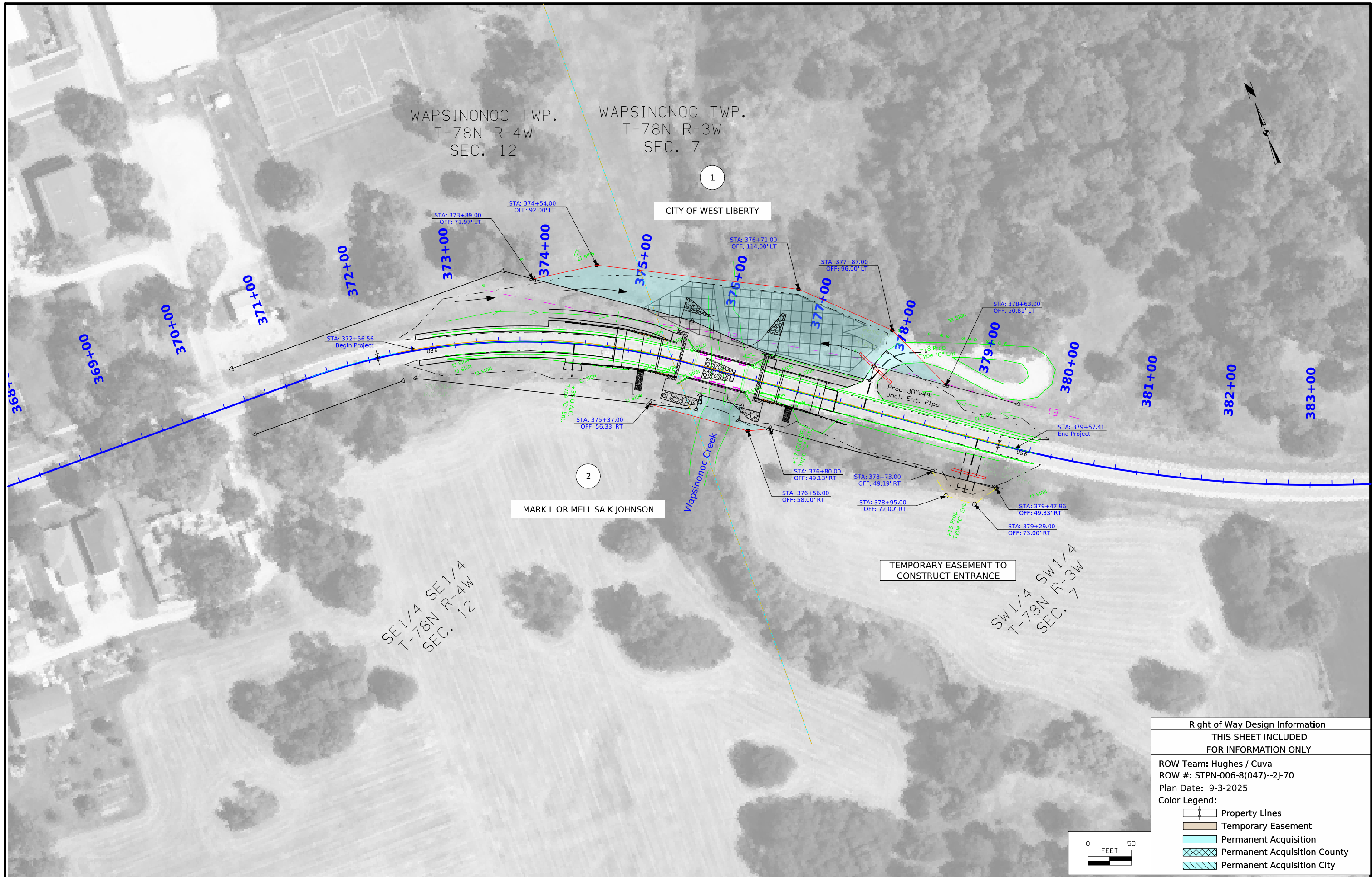
HORIZONTAL AND VERTICAL PROJECT CONTROL COORDINATE LISTING
HORIZ. DATUM: NAD83(2011) for EPOCH 2010.00 (laRTN 2019 Adjustment)
la. Regional Coordinate System Zone 14 (U.S. Survey Foot)
VERT. DATUM: NAVD88
Geoid Model: 12B

POINT NAME	NORTHING	EASTING	ELEVATION	DESCRIPTION
1	6680596.93	24499882.61	655.99	SET 5/8" REBAR SOUTH OF THE ROAD ON THE SHOULDER EAST OF THE BRIDGE
2	6680816.91	24499632.00	655.38	SET 5/8" REBAR NORTH OF THE ROAD WEST OF THE BRIDGE
3	6680608.52	24499696.45	651.87	SET 5/8" REBAR 100'+/- SOUTHWEST OF THE SOUTHWEST CORNER OF BRIDGE
4	6680800.38	24499721.84	649.92	SET 5/8" REBAR 45'+/- NORTH OF THE NORTH CORNER OF THE BRIDGE
5	6680688.12	24499875.30	654.17	SET RAILROAD SPIKE IN POWER POLE
6	6680782.77	24499714.44	652.50	SET RAILROAD SPIKE IN POWER POLE
7	6680557.98	24500123.00	652.83	SET FENO MONUMENT 50' EAST OF GRAVEL DRIVE AND 75' NORTH OF HIGHWAY
8	6680875.61	24499477.71	656.28	SET FENO MONUMENT 3' NORTH OF EDGE OF ROAD AND 130' WEST OF BRIDGE
9	6680601.76	24499745.13	652.71	SET FENO MONUMENT 20' SOUTH OF HIGHWAY AT THE END OF A FIELD DRIVE
100	6691211.76	24500104.07	675.11	FOUND SURVEY MARKER MUSCATINE CO 2000-100
803	6680314.11	24494603.06	657.78	FOUND 5/8" REBAR IN 3" PVC SECONDARY ROADS DEPARTMENT 2002

ALIGNMENT COORDINATES																		101-16 10-20-09	
Name	Location	Point on Tangent			Begin Spiral			Begin Curve			Simple Curve PI or Master PI of SCS			End Curve			End Spiral		
		Station	Coordinates		Station	Coordinates		Station	Coordinates		Station	Coordinates		Station	Coordinates		Station	Coordinates	
			Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)
1	US 6 (ML006)	362+59.54	6680902.56	24498413.60															
2	US 6 (ML006)							371+20.93	6680887.99	24499274.87	373+52.55	6680884.07	24499506.46	375+70.06	6680749.53	24499695.00			
3	US 6 (ML006)							379+29.74	6680540.61	24499987.78	383+83.78	6680276.87	24500357.38	388+10.67	6680266.64	24500811.30			
4	US 6 (ML006)	412+44.78	6680211.78	24503244.79															

SPIRAL OR CIRCULAR CURVE DATA																101-17 04-19-11
Name	Location	ΔSCS	Horizontal Alignment Data													Remarks
			Spiral Data								Curve Data					
			θS	Ls	Ts	Es	Xc	Yc	L.T.	S.T.	ΔC	T	L	R	E	
C1	US 6 (ML006)									34.542°	231.626	449.136	745.000	35.177		
C2	US 6 (ML006)									34.220°	454.045	880.935	1475.000	68.302		

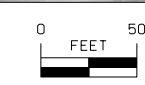
NO ACCESS RIGHTS ARE TO BE ACQUIRED ON THIS PROJECT.



FILE NO.	ENGLISH	DESIGN TEAM Stanley Consultants Inc.	MUSCATINE COUNTY	PROJECT NUMBER BRF-006-8(046)--38-70	SHEET NUMBER H.1
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8:26:03 AM 9/4/2025 CHUGHES pw:\\NTPwint1.dot.int.lan:PWMain\\Documents\\Projects\\7000603021\\ROW\\ROW_70006047.dgn

Right of Way Design Information
THIS SHEET INCLUDED FOR INFORMATION ONLY
ROW Team: Hughes / Cuva
ROW #: STPN-006-8(047)--2J-70
Plan Date: 9-3-2025
Color Legend:
Property Lines
Temporary Easement
Permanent Acquisition
Permanent Acquisition County
Permanent Acquisition City



108-23A
08-01-08

TRAFFIC CONTROL PLAN

US 6 will be closed and an off-site detour will be utilized.

Detour -

IA 70 south to F70 east to X46 north to US 6 west.

Detour will be signed and maintained by Iowa Department of Transportation.

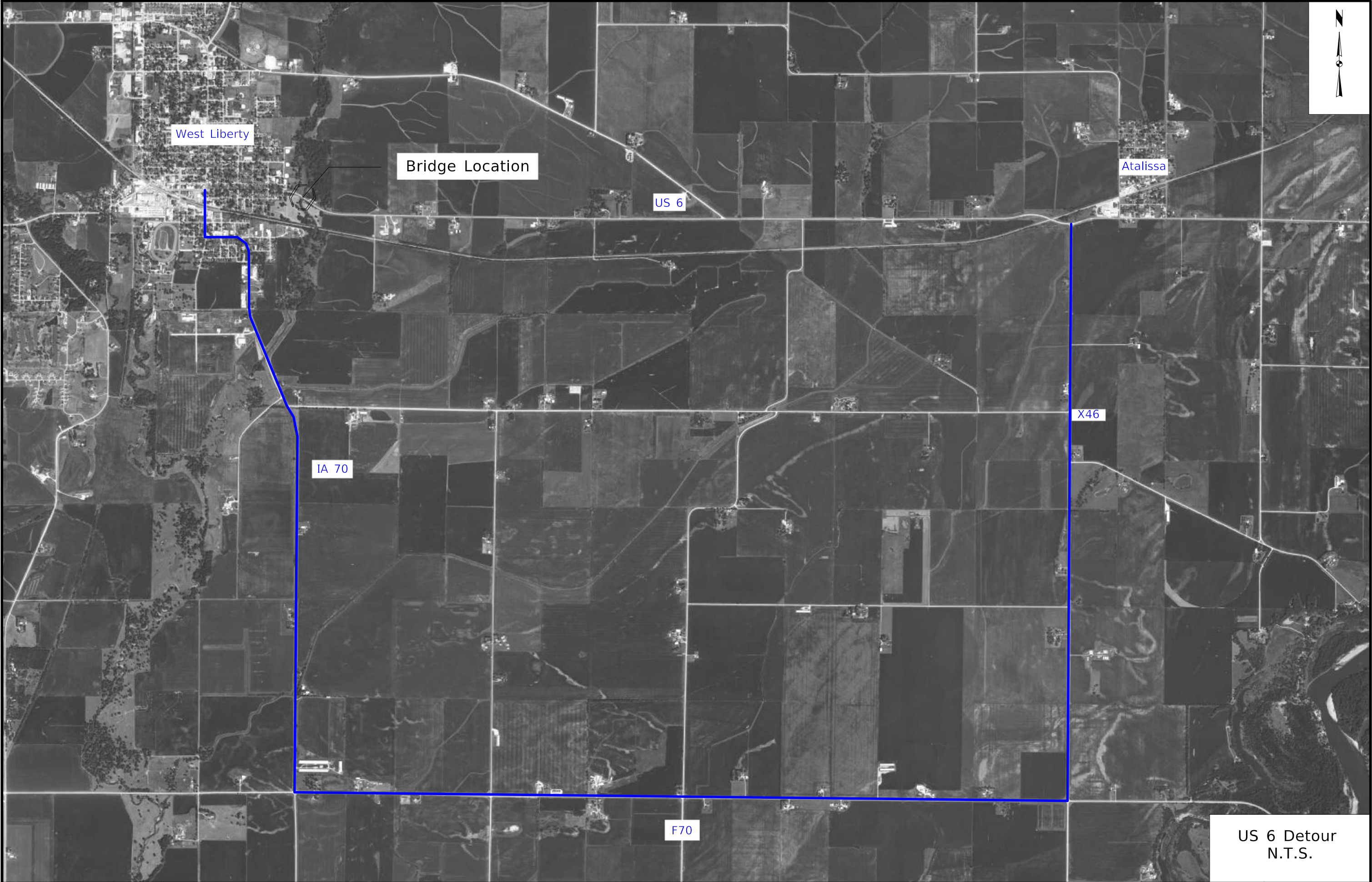
111-01
04-17-12

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.

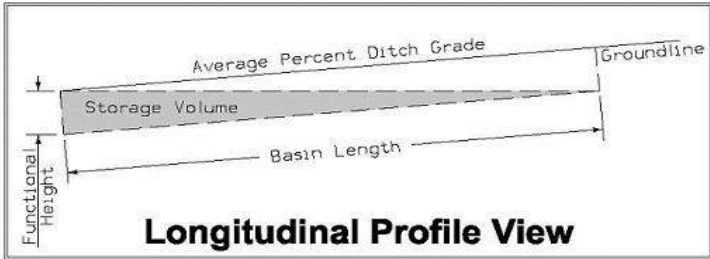
Project	Type of Work
None provided	

108-25 10-21-14												
511 TRAVEL RESTRICTIONS												
Route	Direction	County	Location Description	Feature Crossed	Object Type	Maint. Bridge No., Structure ID, or FHWA No.	Type of Restriction	Existing Measurement	Construction Measurement	Construction Measurement as Signed	Projected As Built Measurement	Remarks
None												



100-14
10-17-17

The diagram shows a cross-section of a storage basin. It is a trapezoidal shape with a flat top and sloped sides. The top horizontal edge is labeled "Storage Volume". The vertical height from the top edge to the bottom edge is labeled "Functional Height". The horizontal width at the bottom is labeled "Basin Width". The left sloped side is labeled "FS:1" and the right sloped side is labeled "BS:1".



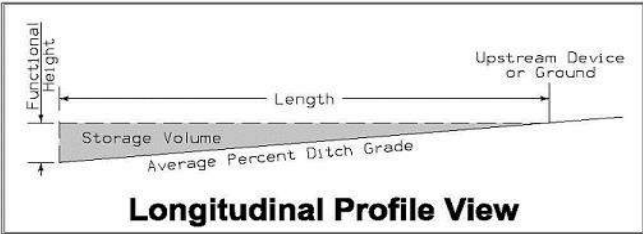
* Volume equation: $(0.5 * \text{Length} * (\text{Width} * \text{Height} + \text{Width} * (\text{Height} - \text{Length} * \text{Avg\%Slope})))$

Basin No.	Location		Bid Items		Stormwater		Storage Volume Summary			Remarks
	Station	Side	Installation	Removal	Basin Width	Basin Length	Height	Avg. % Slope	Volume*	
			EACH	EACH	FT	FT	FT		CF	
1	374+90.00	Lt	1	1	5.0	50.0	2.85	0.8%	662.5	
1	375+43.00	Lt	1	1	5.0	50.0	2.85	0.3%	693.8	
1	376+57.00	Lt	1	1	5.0	50.0	2.85	3.8%	475.0	
1	377+43.00	Lt	1	1	5.0	50.0	2.85	3.5%	493.8	
		Totals:	4	4					2325.0	

100-18
10-16-18



A cross-sectional diagram of a ditch. The ditch has a flat bottom and sloped sides. The left slope is labeled 'FS:1' and the right slope is labeled 'BS:1'. The central flat area is labeled 'Storage Volume'. A vertical arrow pointing from the top surface to the bottom is labeled 'Functional Height'. A horizontal double-headed arrow at the bottom is labeled 'Ditch Width'.



* Volume equation: $[0.5 \cdot \text{Spacing} \cdot (0.5 \cdot H^2 \cdot FS + DW \cdot H + 0.5 \cdot H^2 \cdot BS)]$

[illegible]

100-19
10-19-21

[illegible]

100-23
04-17-18

[illegible]

STORMWATER DRAINAGE BASIN AND STORAGE													100-34 10-17-17
Drainage Basin Location						Refer to EC Standards and 570s Details. Summary of Stormwater Storage							Remarks
Basin No.	Station to Station		Side	Discharge Point		Total Disturbed Area	Disturbed Area with Storage Provided	Disturbed Area without Storage Provided	Best Management Practice	Total Storage Volume Provided	Total Storage Volume Required	Storage Volume Met?	
				Station	Side								
						Acres	Acres	Acres		CF	CF	Yes/No	
1	372+38.00	379+94.00	Both	376+15.00	Rt	1.2	1.2	0.0	Silt Fence for Ditch Check (EC-201)	1961.2	4239.3	Yes	
									Silt Basin (EW-403)	2325.0			
									Vegetated Buffer	0.0			
									Totals:	4286.2			
2	378+44.00	379+90.00	Rt	379+70.00	Rt	0.1	0.0	0.1	Vegetated Buffer	0.0	0.0	N/A	

110-12 10-20-20 POLLUTION PREVENTION PLAN This project is regulated by the requirements of the Iowa Department of Natural Resources (DNR) National Pollutant Discharge Elimination System (NPDES) General Permit No. 2 OR an Iowa Department of Natural Resources (DNR) National Pollutant Discharge Elimination System (NPDES) individual storm water permit. The Contractor shall carry out the terms and conditions of this permit and the Pollution Prevention Plan (PPP). This Base PPP includes information on Roles and Responsibilities, Project Site Description, Controls, Maintenance Procedures, Inspection Requirements, Non-Storm Water Controls, Potential Sources of Off Right-of-Way Pollution, and Definitions. This plan references other documents rather than repeating the information contained in the documents. A copy of this Base Pollution Prevention Plan, amended as needed during construction, will be readily available for review. All contractors shall conduct their operations in a manner that controls pollutants, minimizes erosion, and prevents sediments from entering waters of the state and leaving the highway right-of-way. The Contractor shall be responsible for compliance and implementation of the PPP for their entire contract. This responsibility shall be further shared with subcontractors whose work is a source of potential pollution as defined in this PPP. I. ROLES AND RESPONSIBILITES A. Designer: 1. Prepares Base PPP included in the project plan. 2. Prepares Notice of Intent (NOI) submitted to Iowa DNR. 3. Is signature authority on the Base PPP. If consultant designed, signature from Contracting Authority is also required. B. Contractor: 1. Signs a co-permittee certification statement adhering to the requirements of the NPDES permit and this PPP. All co-permittees are legally required under the Clean Water Act and the Iowa Administrative Code to ensure compliance with the terms and conditions of this PPP. 2. Designates a Water Pollution Control Manager (WPCM), who has the duties and responsibilities as defined in Section 2602 of the Standard Specifications. 3. Submits an Erosion Control Implementation Plan (ECIP) and ECIP updates according to Section 2602 of the Standard Specifications. 4. Installs and maintains appropriate controls. This work may be subcontracted as documented through Subcontractor Request Forms (Form 830231). 5. Supervises and implements good housekeeping practices according to Paragraph III, C, 2. 6. Conducts joint required inspections of the site with inspection staff. When Contractor is not mobilized on site, Contractor may delegate this responsibility to a trained or certified subcontractor. Contracting Authority also may waive joint inspection requirement during winter shutdown. In both circumstances, WPCM (or trained or certified delegate from the Contractor) is still responsible to review and sign inspection reports. 7. Complies with training and certification requirements of Section 2602 of the Standard Specifications. 8. Submits amended PPP site map according to Section 2602 of the Standard Specifications. C. Subcontractors: 1. Sign a co-permittee certification statement adhering to the requirements of the NPDES permit and this PPP if: responsible for sediment or erosion controls; involved in land disturbing activities; or perorming work that is a source of potential pollution as defined in this PPP. Subcontracted work items are identified in Subcontractor Request Forms (Form 830231). All co-permittees are legally required under the Clean Water Act and the Iowa Administrative Code to ensure compliance with the terms and conditions of this PPP. 2. Implement good housekeeping practices according to Paragraph III, C, 2. D. RCE/Project Engineer: 1. Is Project Storm Water Manager. 2. On projects where DOT is the Contracting Authority, is current with erosion control training or certification. 3. Takes actions necessary to ensure compliance with storm water requirements including, where appropriate, issuing stop work orders, and directing additional inspections at construction project sites that are experiencing problems with achieving permit compliance. 4. Orders the taking of measures to cease, correct, prevent, or minimize the consequences of non-compliance with the storm water requirements of the Applicable Permit. 5. Supervises all work necessary to meet storm water requirements at the Project, including work performed by contractors and subcontractors. 6. Requires employees, contractors, and subcontractors to take appropriate responsive action to comply with storm water requirements, including requiring any such person to cease or correct a violation of storm water requirements, and to order or recommend such other actions as necessary to meet storm water requirements. 7. Is familiar with the Project PPP and storm water site map. 8. On projects where DOT is Contracting Authority, is responsible for periodically monitoring inspection reports to determine whether deficiencies identified in inspection reports were adequately and timely addressed, and if not, has the authority and responsibility to direct immediate actions to correct the deficiencies. 9. Is the point of contact for the Project for regulatory officials, Inspector, contractors, and subcontractors regarding storm water requirements. 10. Is signature authority on Notice of Discontinuation. 11. Maintains an up-to-date record of contractors, subcontractors, and subcontracted work items through Subcontractor Request Forms (Form 830231). 12. Makes information to determine permit compliance available to the DNR upon their request. E. Inspector: 1. Updates PPP through fieldbook entries and storm water site inspection reports if there is a change in design, construction, operation, or maintenance which has a significant effect on the discharge of pollutants from the project. 2. Makes information to determine permit compliance available to the DNR upon their request. 3. Conducts joint required inspections of the site with the contractor/subcontractor. 4. Completes an inspection report after each inspection. 5. Is signature authority on storm water inspection reports. II. PROJECT SITE DESCRIPTION A. This Pollution Prevention Plan (PPP) is for the construction of a Bridge Replacement. B. This PPP covers approximately 1.89 acres with an estimated 1.3 acres being disturbed. The portion of the PPP covered by this contract has 1.3 acres disturbed. C. The PPP is located in an area of 1 soil association Tama - Muscatine - Downs. The estimated weighted average runoff coefficient number for this PPP after completion will be 0.33. D. Storm Water Site Map is located in the R sheets. Proposed slopes are shown in cross sections, details, or standard road plans. Supplemental information is located in the Tabulations in the C or CE sheets. E. The base storm water site map is amended by contract modifications and progress payments (fieldbook entries) of completed erosion control work. Also, due to project phasing, erosion and sediment controls shown on project plans may not be installed until needed, based on site conditions. For example, silt fence ditch checks will typically not be installed until the ditch has been installed. Installed locations may also be modified from tabulation locations by field staff. Installed locations will be				110-12 10-20-20 POLLUTION PREVENTION PLAN documented by fieldbook entries and amended PPP site map. F. Runoff from this work will flow into Wapsinonoc Creek. III. CONTROLS A. The Contractor’s ECIP specified in Article 2602.03 of the Standard Specifications for accomplishment of storm water controls should clearly describe the intended sequence of major activities, and for each activity define the control measure and the timing during the construction process that the measure will be implemented. B. Preserve vegetation in areas not needed for construction. C. Sections 2601 and 2602 of the Standard Specifications define requirements to implement erosion and sediment control measures. Actual quantities used and installed locations may vary from the Base PPP and amendment of the plan will be documented via fieldbook entries, amended PPP site map, or by contract modification. Additional erosion and sediment control items may be required as determined by the inspector and/or contractor during storm water site inspections. If the work involved is not applicable to any contract items, the work will be paid for according to Article 1109.03 paragraph B of the Standard Specifications. 1. EROSION AND SEDIMENT CONTROLS a. Stabilization Practices 1) Site plans will ensure that existing vegetation or natural buffers are preserved where attainable and disturbed portions of the site will be stabilized. 2) Initialize stabilization of disturbed areas immediately after clearing, grading, excavating, or other earth disturbing activities have: a) Permanently ceased on any portion of the site, or b) Temporarily ceased on any portion of the site and will not resume for a period exceeding 14 calendar days. 3) Staged permanent and/or temporary stabilizing seeding and mulching shall be completed as the disturbed areas are completed. Incomplete areas shall be stabilized according to paragraph III, C, 1, a, 2, b above. 4) Permanent and Temporary Stabilization practices to be used for this project are located in the storm water site map, Estimated Project Quantities (100-0A, 100-1A, or 100-1C), and Estimate Reference Information (100-4A) located in the C or R sheets. Typical drawings detailing construction of the practices to be used on this project are referenced in the Standard Road Plans Tabulation (105-4) in the C or R sheets. 5) Preservation of existing vegetation within right-of-way or easements will act as vegetative buffer strips. 6) Preservation of topsoil: Bid items to be used for this project are located in the Estimated Project Quantities (100-0A, 100-1A, or 100-1C) and Estimate Reference Information (100-4A) located in the C or R sheets. Additional information may be found in the Tabulations in the C or T Tabulation sheets, or is referenced in Section 2105 of the Standard Specifications. b. Structural Practices 1) Structural practices will be implemented to divert flows from exposed soils and detain or otherwise limit runoff and the discharge of pollutants from exposed areas of the site. Additionally, structural practices may include: silt basins that provide 3600 cubic feet of storage per acre drained or equivalent sediment controls, outlet structures that withdraw water from surface when discharging basins, and controls to direct storm water to vegetated areas. 2) Structural practices to be used for this project are located in the storm water site map, Estimated Project Quantities (100-0A, 100-1A, or 100-1C), and Estimate Reference Information (100-4A) located in the C or R sheets, as well as all other item specific Tabulations. Typical drawings detailing construction of the devices to be used on this project can be found on the B or R sheets or are referenced in the Standard Road Plans Tabulation (105-4) located in the C or R sheets. c. Storm Water Management Measures shall be installed during the construction process to control pollutants in storm water discharges that will occur after construction operations have been completed. This may include velocity dissipation devices at discharge locations and along length of outfall channel as necessary to provide a non-erosion velocity flow from structure to water course. If included with this project, these items are located in the storm water site map and Estimated Project Quantities (100-0A, 100-1A, or 100-1C) and Estimate Reference Information (100-4A) located in the C or R sheets, as well as all other item specific Tabulations. Typical drawings detailing construction of the practices to be used on this project are referenced in the Standard Road Plans Tabulation. The installation of these devices may be subject to Section 404 of the Clean Water Act. 2. OTHER CONTROLS Contractor disposal of unused construction materials and construction material wastes shall comply with applicable state and local waste disposal, sanitary sewer, or septic system regulations. In the event of a conflict with other governmental laws, rules and regulations, the more restrictive laws, rules or regulations shall apply. a. Vehicle Entrances and Exits - Construct and maintain entrances and exits to prevent tracking of sediments onto roadways. b. Material Delivery, Storage and Use - Implement practices to prevent discharge of construction materials during delivery, storage, and use. c. Stockpile Management - Install controls to reduce or eliminate pollution of storm water from stockpiles of soil and paving. d. Waste Disposal - Do not discharge any materials, including building materials, into waters of the state, except as authorized by a Section 404 permit. e. Spill Prevention and Control - Implement chemical spill and leak prevention and response procedures to contain and clean up spills and prevent material discharges to the storm drain system and waters of the state. f. Concrete Residuals and Washout Wastes - Waste shall not be discharged to a surface water and is not allowed to adversely affect a water of the state. Designate temporary concrete washout facilities for rinsing out concrete trucks. Provide directions to truck drivers where designated washout facilities are located. Designated washout areas should be located at least 50 feet away from storm drains, streams or other water bodies. Care should be taken to ensure these facilities do not overflow during storm events. g. Concrete Grooving/Grinding Slurry - Do not discharge slurry to a waterbody or storm drain. Slurry may be applied on foreslopes or removed from the project. h. Vehicle and Equipment Storage and Maintenance Areas - Perform on site fueling and maintenance in accordance with all environment laws such as proper storage of onsite fuels and proper disposal of used engine oil or other fluids on site. Employ washing practices that prevent contamination of surface and ground water from wash water. Wash waters must be treated in a sediment basin or alternative control that provides equivalent or better treatment prior to discharge. i. Litter Management - Ensure employees properly dispose of litter. Minimize exposure of trash if exposure to precipitation or storm water would result in a discharge of pollutants. j. Dewatering - Properly treat water to remove suspended sediment before it re-enters a waterbody or discharges off-site. Measures are also to be taken to prevent scour erosion at dewatering discharge point. 3. APPROVED STATE OR LOCAL PLANS During the course of this construction, it is possible that situations will arise where unknown materials will be encountered. When such situations are encountered, they will be handled according to all federal, state, and local regulations in effect at the time. IV. MAINTENANCE PROCEDURES			
FILE NO. 32513		ENGLISH	DESIGN TEAM Stanley Consultants Inc.	MUSCATINE COUNTY	PROJECT NUMBER BRF-006-8(046) -- 38-70	SHEET NUMBER RC.3	

12/8/2023 9:03:14 AM 9589 c:\pw_work\pmain\xingwei.weng\d1181624\SH7_70006046_RC01.xlsm

POLLUTION PREVENTION PLAN

The Contractor is required to maintain all temporary erosion and sediment control measures in proper working order, including cleaning, repairing, or replacing them throughout the contract period. This shall begin when the features have lost 50% of their capacity.

V. INSPECTION REQUIREMENTS

- A. Inspections shall be made jointly by the Contractor and the Contracting Authority's inspector at least once every seven calendar days. Storm water site inspections will include:
- 1. Date of the inspection.
 - 2. Summary of the scope of the inspection.
 - 3. Name and qualifications of the personnel making the inspection.
 - 5. Review of erosion and sediment control measures within disturbed areas for the effectiveness in preventing impacts to receiving waters.
 - 6. Major observations related to the implementation of the PPP.
 - 7. Identification of corrective actions required to maintain or modify erosion and sediment control measures.
- B. Include storm water site inspection reports in the Amended PPP. Incorporate any additional erosion and sediment control measures determined as a result of the inspection. Immediately begin corrective actions on all deficiencies found within 3 calendar days of the inspection and complete within 7 calendar days following the inspection. If it is determined that making the corrections less than 72 hours after the inspection is impracticable, it should be documented why it is impracticable and indicate an estimated date by which the corrections will be made.

VI. NON-STORM WATER DISCHARGES

This includes subsurface drains (i.e. longitudinal and standard subdrains) and slope drains. The velocity of the discharge from these features may be controlled by the use of headwalls or blocks, Class A stone, erosion stone or other appropriate materials. This also includes uncontaminated groundwater from dewatering operations, which will be controlled as discussed in Section III of the PPP.

VII. POTENTIAL SOURCES OF OFF RIGHT-OF-WAY (ROW) POLLUTION

Silts, sediment, and other forms of pollution may be transported onto highway right-of-way (ROW) as a result of a storm event. Potential sources of pollution located outside highway ROW are beyond the control of this PPP. Pollution within highway ROW will be conveyed and controlled per this PPP.

VIII. DEFINITIONS

- A. Base PPP - Initial Pollution Prevention Plan.
- B. Amended PPP - Base PPP amended during construction. May include Plan Revisions or Contract Modifications for new items, storm water site inspection reports, fieldbook entries made by the inspector, amended PPP site map by the Contractor, ECIP, NOI, co-permittee certifications, and Subcontractor Request Forms. Items amending the PPP are stored electronically and are readily available upon request.
- C. Fieldbook Entries - This contains the inspector's daily diary and bid item postings.
- D. Controls - Methods, practices, or measures to minimize or prevent erosion, control sedimentation, control storm water, or minimize contaminants from other types of waste or materials. Also called Best Management Practices (BMPs).
- E. Signature Authority - Representative authorized to sign various storm water documents.

CERTIFICATION STATEMENT

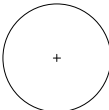
I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature

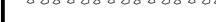
Printed or Typed Name

Signature

LINE STYLE LEGEND OF LANDSCAPE SHEETS			
LINESTYLE		Design Element	
-----		Living Snow Fence Single Row	
-----		Living Snow Fence Double Row	
_____		Mechanical Edge	

CELL LEGEND OF LANDSCAPE SHEETS			
CELL	Design Element	Plant Diameter	
	Clearing		
	Proposed Shrub	6 FT	
	Proposed Understory Tree	12 FT	
	Proposed Conifer Tree	18 FT	
	Proposed Overstory Tree	30 FT	

PATTERN LEGEND OF LANDSCAPE SHEETS			
	Brush Clearing		Spray Area
	Clearing & Grubbing		

LINE STYLE LEGEND OF EROSION CONTROL SHEETS			
LINESTYLE		Design Element	
		Silt Fence	
		Perimeter and Slope Sediment Control Device (9")	
		Perimeter and Slope Sediment Control Device (12")	
		Perimeter and Slope Sediment Control Device (20")	
		Open-Throat Curb Intake Sediment Filter	
		Concentrated Flow	
		Rock Check and Rock Check Dam	
		Sheet Flow	

CELL LEGEND OF EROSION CONTROL SHEETS			
CELL	Design Element		
	Temporary Sediment Control basin		
	Erosion Control for Circular Intake or Manhole Well		
	Erosion Control for Rectangular Intake or Manhole Well		
	Grate Intake Sediment Filter Bag		
	Silt Basin		
	Silt Fence Tail		
	Stormwater Drainage Basin Discharge Point		

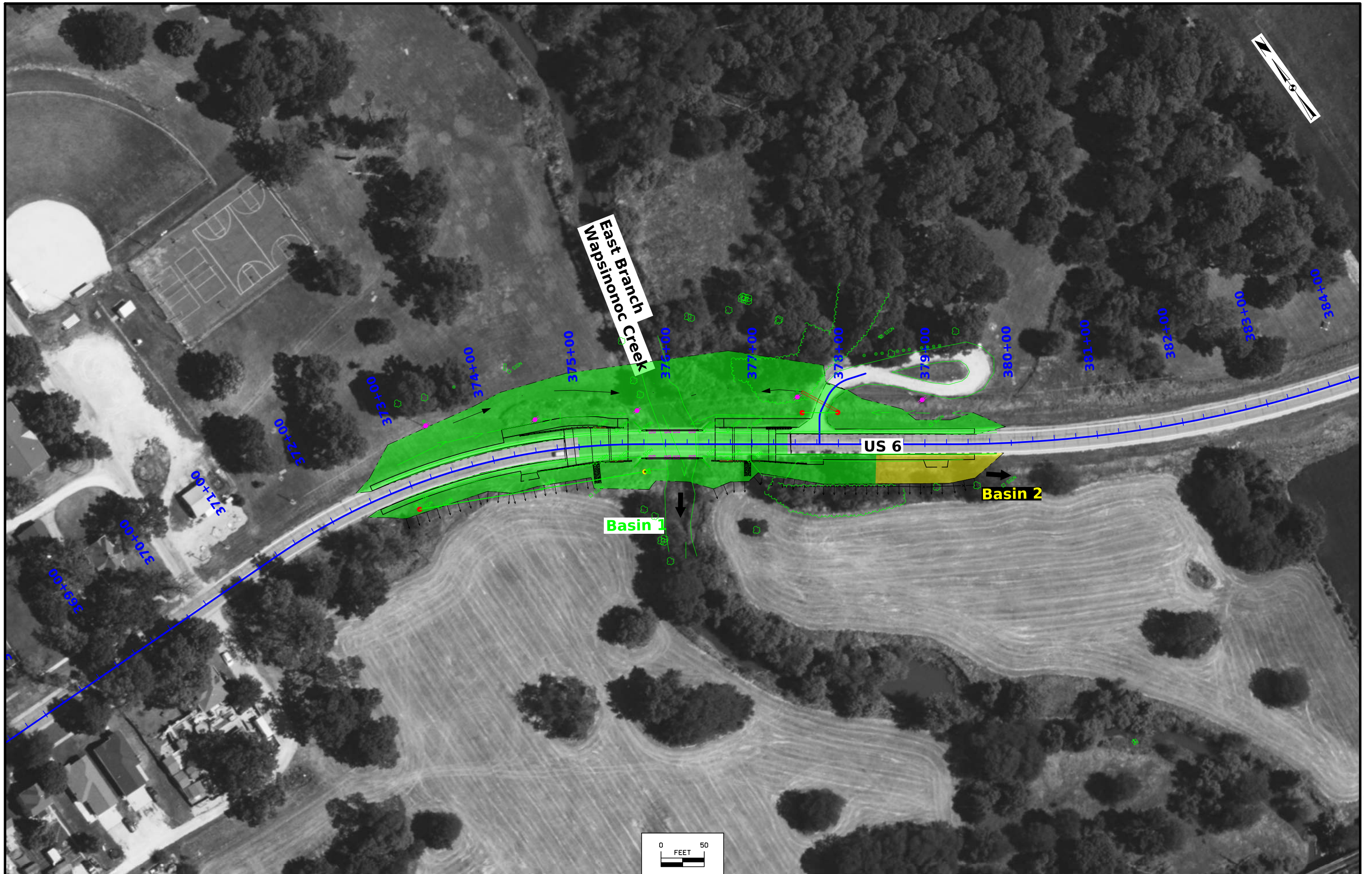
PLAN VIEW COLOR LEGEND OF EROSION CONTROL SHEETS				
LINEWORK	Design	Color No.		
Green	(2)		Existing Topographic Features and Labels	
Blue	(1)		Proposed Alignment, Stationing, Tic Marks, and Alignment Annotation	
Magenta	(5)		Existing Utilities	
Black	(0)		Permanent Erosion Control Features	
Blaze Orange	(222)		Temporary Erosion Control Features	
SHADING	Design	Color No.	Transparency	
Citron	(234)		Mulching, All Types	50%
Light Brown	(238)		Special Ditch Control, Wood Excelsior Mat	0%
Grass Green	(233)		8FT Mow Strip	50%
Red	(3)		Delineates Restricted Areas	0%

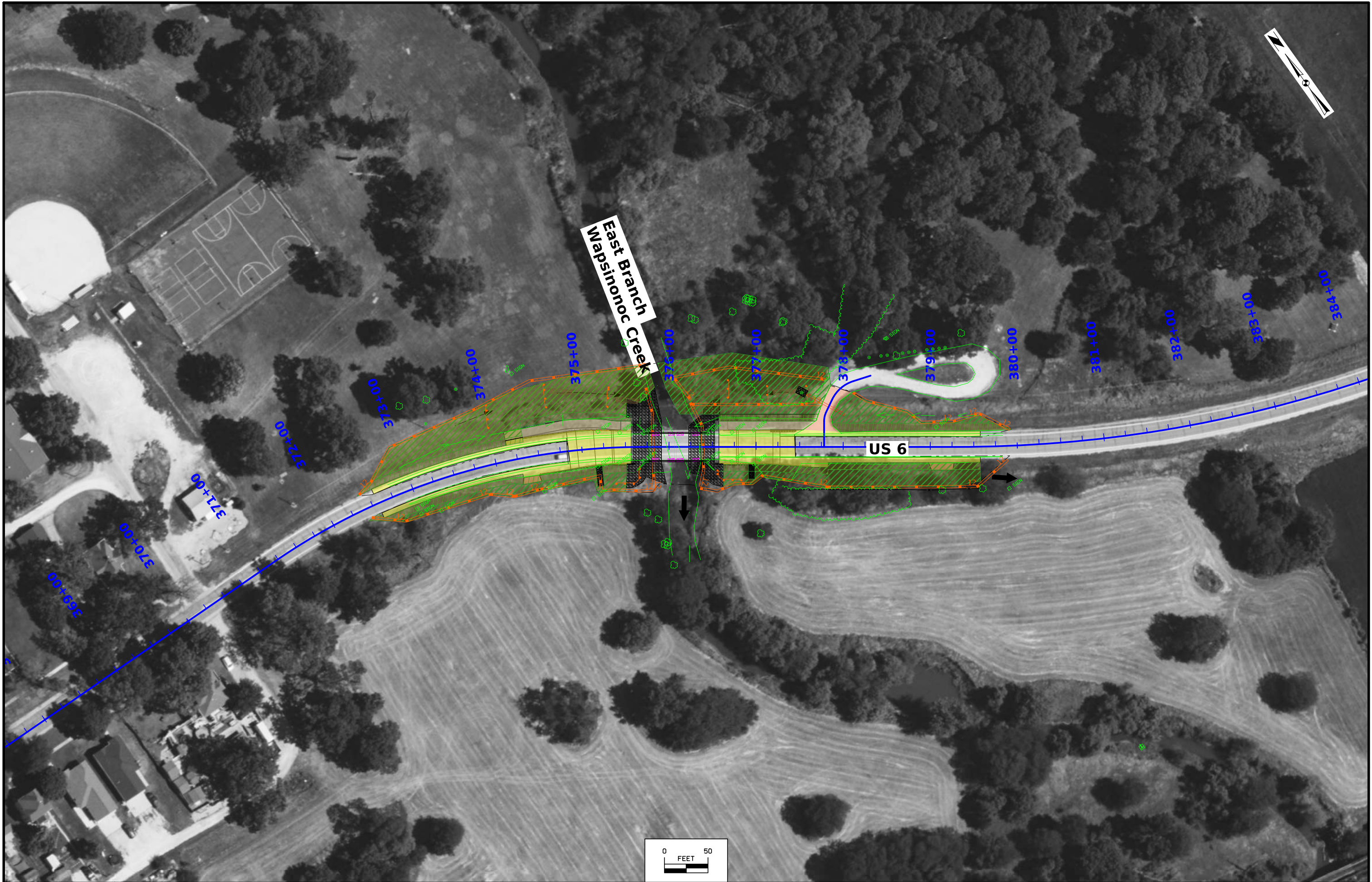
PATTERN LEGEND OF EROSION CONTROL SHEETS			
	Seeding and Fertilizing		Turf Reinforcement Mat Type 1
	Seeding and Fertilizing (Rural)		Turf Reinforcement Mat Type 2
	Seeding and Fertilizing (Urban)		Turf Reinforcement Mat Type 3
	Native Grass Seeding		Turf Reinforcement Mat Type 4
	Salt Tolerant Seeding		Slope Protection, Wood Excelsior Mat
	Wetland Grass Seeding		Transition Mat
	Wildflower Seeding		Rock Features, Permanent
	Sodding		Rock Features, Temporary

EROSION CONTROL
LEGEND AND SYMBOL
INFORMATION SHEET

(COVERS SHEET SERIES R)

FILE NO. 32513	ENGLISH	DESIGN TEAM Stanley Consultants Inc.	MUSCATINE COUNTY	PROJECT NUMBER BRF-006-8(046)--38-70	SHEET NUMBER RR.1
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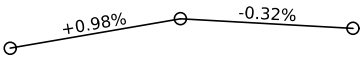




FILE NO. 32513	ENGLISH	DESIGN TEAM Stanley Consultants Inc.	MUSCATINE COUNTY	PROJECT NUMBER BRF-006-8(046)--38-70	SHEET NUMBER RR.3
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BENCH MARK NO. CP2: N:6680816.91 E:24499632.00; ELEV. 655.38
SET 3/8" REBAR NORTH OF THE ROAD WEST OF THE BRIDGE

VPI Sta. = 375+96.00
VPI Elev. = 656.55
VC = 150'



VPC Sta. = 375+21.00 VPT Sta. = 376+71.00
VPC Elev. = 655.82 VPT Elev. = 656.31

Proposed Profile
Grade US 6

Hydraulic Data

Drainage Area = 46.4 sq. mi.
Stream Slope (HGL) = 6.35 ft./mi.
Avg. Low Water Stage = 640.85

Q_{Overtop} = 5,910 cfs
Avg. Bridge Velocity = 7.31 fps
Calculated Design Scour = 632.9

Q₅₀ = 7,000 cfs
Stage = 656.06
Regulatory Low Beam = 654.46
Avg. Bridge Velocity = 6.73 fps
Calculated Check Scour = 632.6

Q₁₀₀ = 8,600 cfs
Stage = 656.67
Operational Low Beam = 654.25
Backwater = 0.54 Ft.
Avg. Bridge Velocity = 5.07 fps

Q₂₀₀ = 10,230 cfs
Stage = 657.00

Q₅₀₀ = 13,000 cfs
Stage = 657.76
Avg. Bridge Velocity = 2.59 fps

Notes

All units are in feet unless otherwise noted.
TL-4 Bridge Railing proposed.
Pier Type - Fully Encased Pile Bents
Foundation type to be confirmed during final design.
Berm slope and revetment extents to be reviewed and determined during final design.

Traffic Estimate

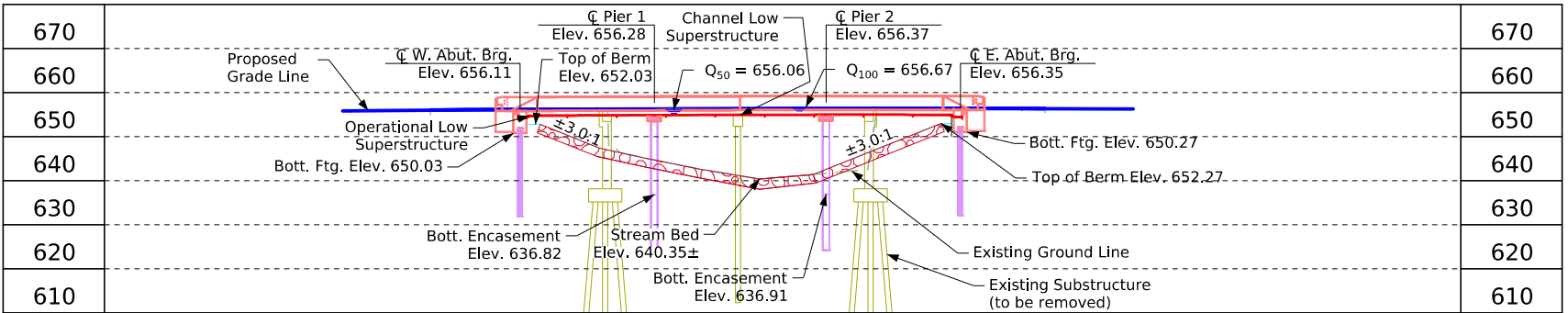
2021 AADT 1830 V.P.D.
TRUCKS 7 %

PRELIMINARY

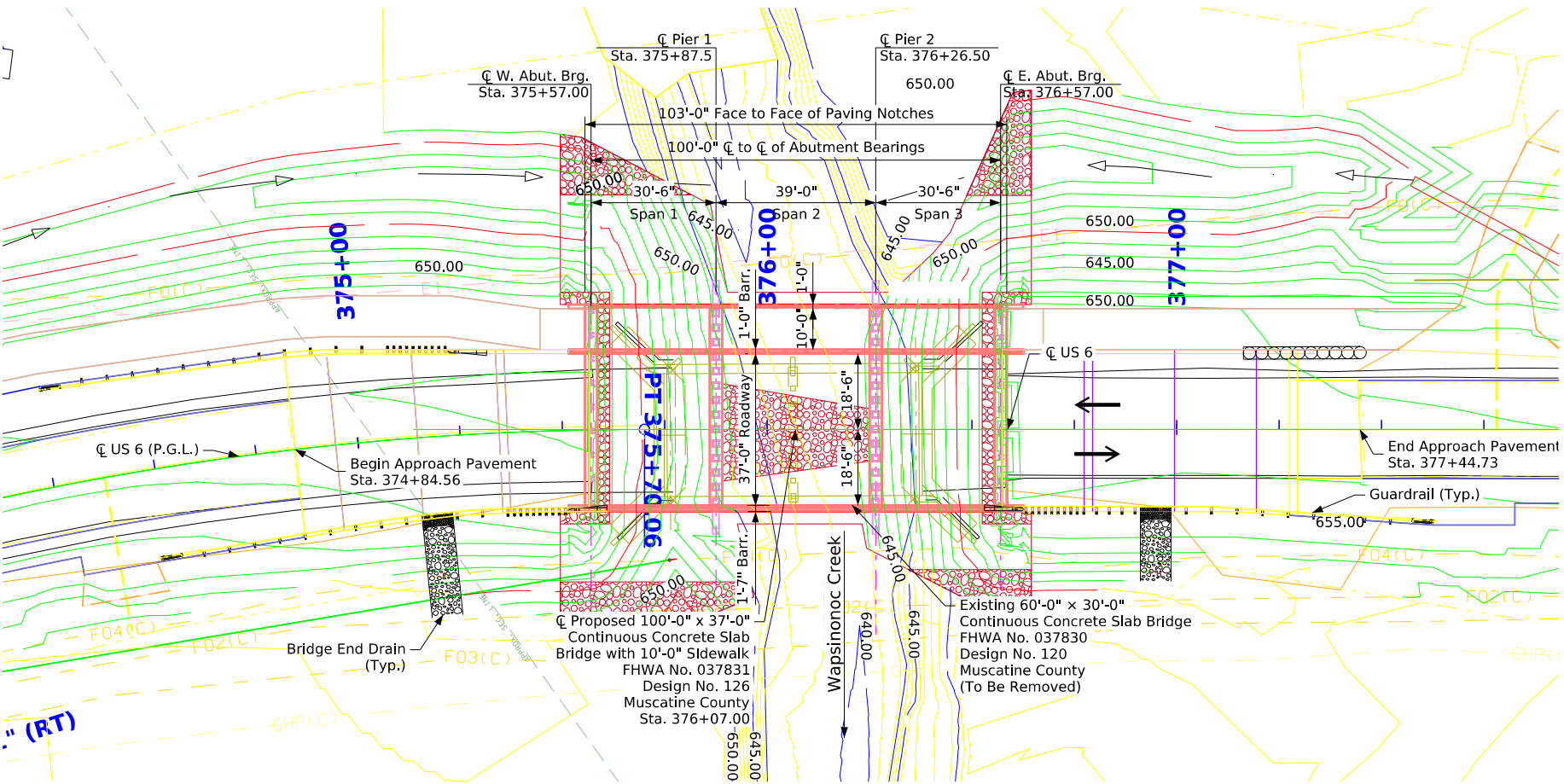
Design For 0° Skew
100'-0" × 37'-0" Continuous Concrete
Slab Bridge w/ 10'-0" Sidewalk
30'-6" End Spans 39'-0" Interior Span

Situation Plan

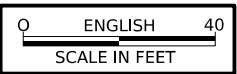
STA. 376+07.00 (C US 6) Turn-in Date: Aug. 2025
Muscatine County
IOWA DEPARTMENT OF TRANSPORTATION
Design No. 126 Design Sheet No. 1 of 2 FHWA No. 37831



Longitudinal Section Along C Approach Roadway



Situation Plan



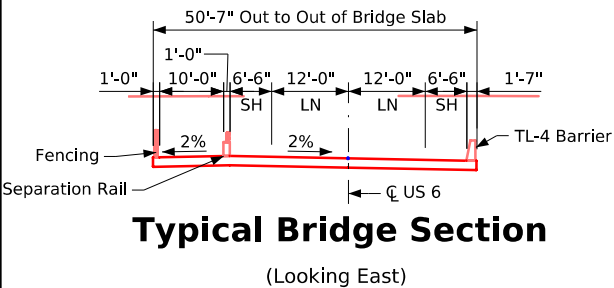
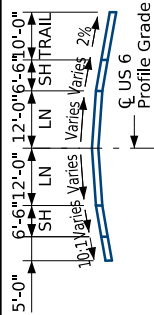
Utilities Legend:

GHP(C) - Gas Line - MidAmerican Energy
E1 - Electrical Line - City of West Liberty
FO(C) - Fiber Optic Line - Windstream
FO2(C) - Fiber Optic Line - Mediacom
FO3(C) - Fiber Optic Line - CenturyLink
FO4(C) - Fiber Optic Line - Aureon Network Services

Location

US 6 over Wapsinonoc Creek
In City of West Liberty
T-78N R-3W
Section 7
Wapsinonoc Township
Muscatine County
FHWA No. 37831
Bridge Maint. No. 7069.2S006
Latitude 41.569432°
Longitude -91.251056°

Typical Approach Section



Typical Bridge Section

(Looking East)

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.

Signature: **MARK D. WERNER** Date: 8/8/2025

Printed or Typed Name: **MARK D. WERNER**

My license renewal date is December 31, 2025

Pages or sheets covered by this seal: **V.01**

Design Notes:

This design is for the replacement of the existing 60'-0" x 30'-0" Continuous Concrete Slab Bridge, Muscatine Design No. 120, FHWA No. 37830, Maint. No. 7069.25006.

Special attention shall be taken to avoid potential conflicts between proposed structure and existing abutments and piers.

The bridge will be designed to withstand the applicable effects of ice and the horizontal stream loads and uplift forces associated with the Q₁₀₀.

Bridge deck drainage will be evaluated during Final Design.

An Iowa DNR Flood Plain Permit is required.

The bridge does not meet Iowa DOT's desired (operational or channel) freeboard per BDM 3.2.2.4. Final Design aspects in the BDM related to inundation required.

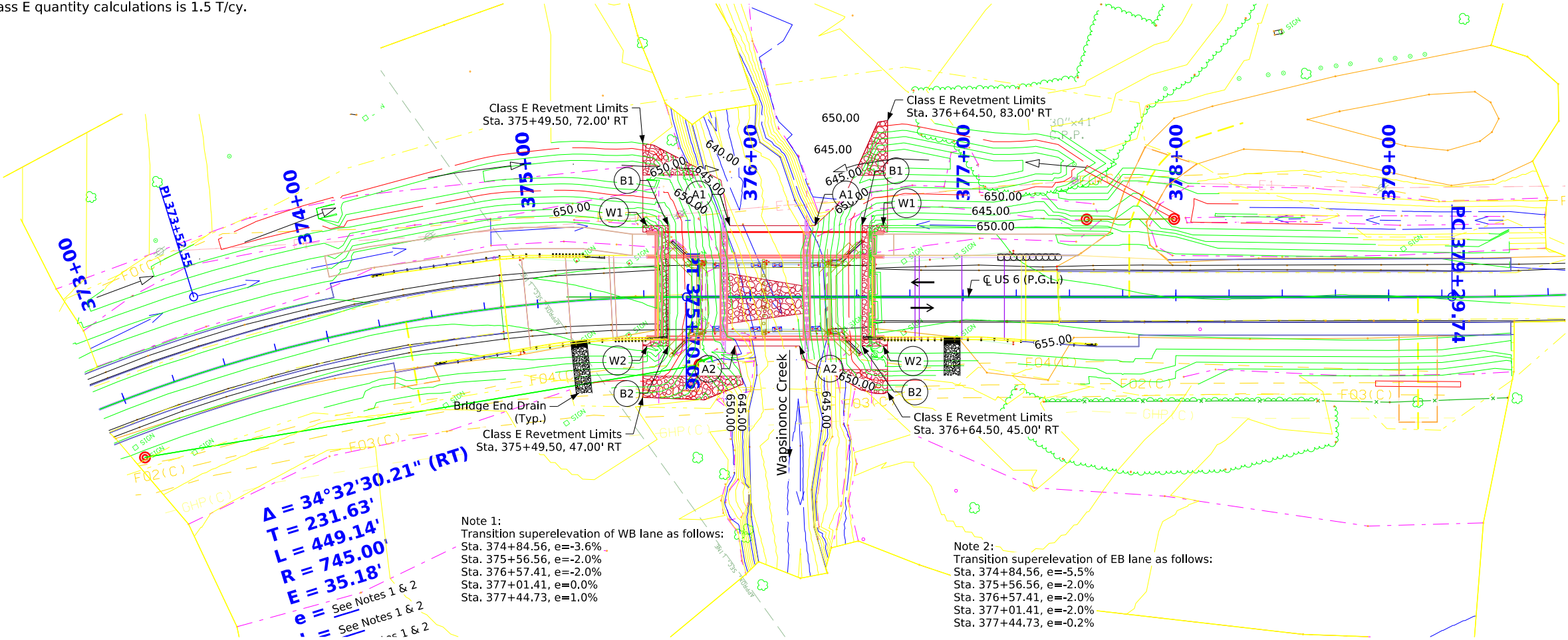
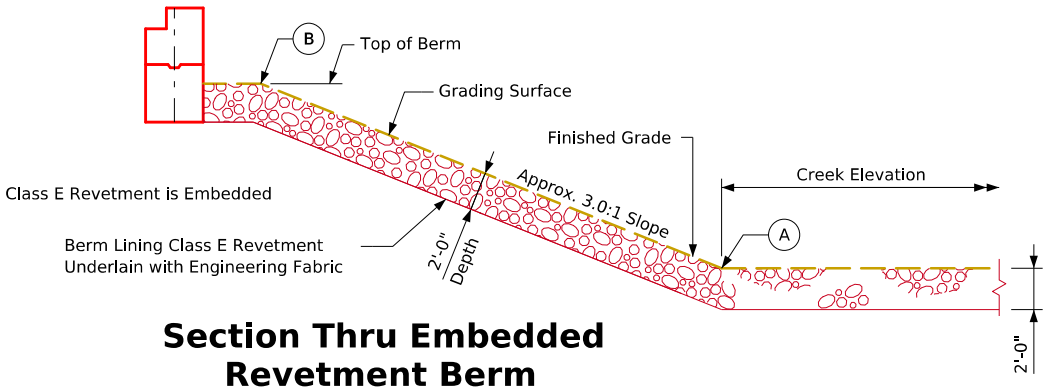
Density used for Class E quantity calculations is 1.5 T/cy.

BENCH MARK NO. CP2: N:6680816.91 E:24499632.00; ELEV. 655.38
SET 3/8" REBAR NORTH OF THE ROAD WEST OF THE BRIDGE

Berm Slope Location Table

Points	West Abutment			East Abutment		
	Station	Offset	Elev.	Station	Offset	Elev.
A1	375+90.31	33.50' LT	640.70	376+30.37	33.50' LT	641.73
A2	375+92.72	23.08' RT	643.63	376+23.18	23.08' RT	640.66
B1	375+61.50	33.50' LT	652.03	376+52.50	33.50' LT	652.27
B2	375+61.50	23.08' RT	652.03	376+52.50	23.08' RT	652.27
W1	375+51.50	33.50' LT	656.52	376+62.50	33.50' LT	656.50
W2	375+51.50	23.08' RT	655.10	376+62.50	23.08' RT	655.45

Berm slope elevations reflect the grading surface.



Estimated Berm Armoring Quantities

Location	Revetment CL. E (Ton)	Erosion Stone (Ton)	Engineering Fabric (SY)	CL. 10 Channel Excavation (CY)
Berm Lining - West Abutment	420	--	440	260
Berm Lining - East Abutment	380	--	400	240
Totals	800	--	840	500

Excavation quantity calculated from grading surface. Excavation quantity if for embedded revetment core out only, and does not include excavation to the grading surface. Excavation quantity to the grading surface is determined by Road Design and included in the Road Plans.

Site Plan



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PRELIMINARY

Design For 0° Skew
100'-0" x 37'-0" Continuous Concrete Slab Bridge w/ 10'-0" Sidewalk
30'-6" End Spans 39'-0" Interior Span

Site Plan

STA. 376+07.00 (C US 6) Turn-in Date: Aug. 2025
Muscatine County
IOWA DEPARTMENT OF TRANSPORTATION
Design No. 126 Design Sheet No. 2 of 2 FHWA No. 37831

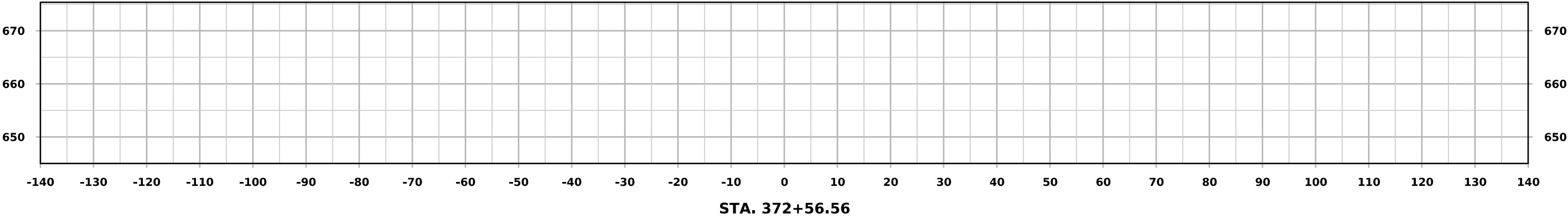
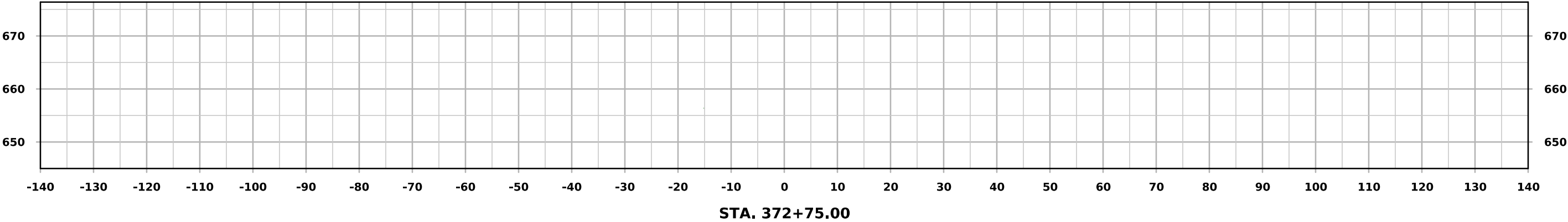
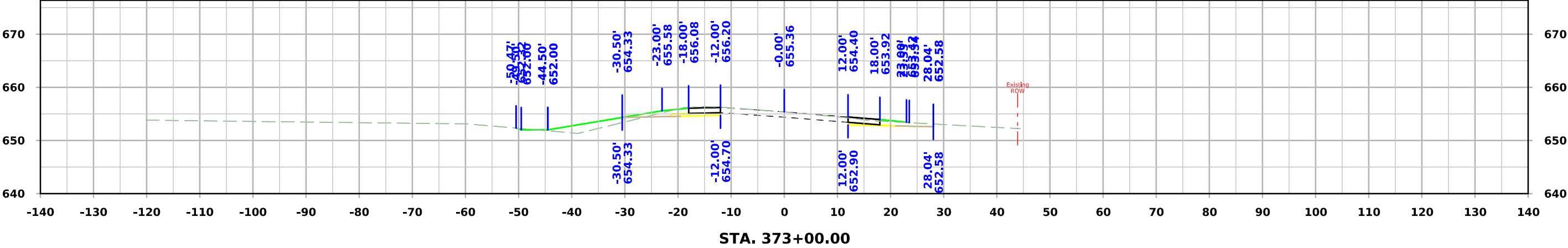
CROSS SECTION VIEW COLOR LEGEND			
Design Color No.	Feature	Design Color No.	Feature
Aggregate		Structural	
(64)	Choke Stone	(112)	Noise Wall
(42)	Engineering Fabric	(112)	Noise Wall Footing
(8)	Flooded Backfill	(112)	Retaining Wall Back
(92)	Macadam Stone	(112)	Retaining Wall Back Excavate
(20)	Modified	(112)	Retaining Wall Face
(12)	Plowing Shaping	(112)	Retaining Wall Front Excavate
(14)	Porous Backfill	(112)	Retaining Wall Front Footing
(8)	Revetment Class A	(112)	Retaining Wall MSE Gutter
(6)	Revetment Class B	(112)	Retaining Wall Reinforced Earth
(62)	Revetment Class C	Grading	
(188)	Revetment Class D	(8)	Behind Curb Cut
(28)	Revetment Class E	(6)	Granular
(12)	Shoulder Special Backfill	(13)	Granular Back Fill
(12)	Special Backfill	(48)	Rock Undercut
(20)	Subbase	(8)	Shoulder Earth Fill
(20)	Subbase Lower	(2)	Side Slopes
(20)	Subbase Upper	(226)	Side Slopes Dressing
(118)	Subgrade Treatment	Substrata	
Asphalt		(128)	Boulder Substrata
(207)	HMA Base Course	(48)	Broken Weathered Substrata
(207)	HMA Interim Course	(3)	Core Out Substrata
(207)	HMA Surface Course	(203)	Existing Pavement Substrata
Concrete		(6)	Loam Substrata
(0)	Barrier Concrete	(80)	Rock Substrata
(0)	Barrier Concrete Footing	(4)	Select Sand Substrata
(0)	Curb Gutter	(3)	Shale Substrata
(48)	Flowable Mortar	(10)	Topsoil Substrata
(0)	Median Concrete	Unsuitable / Waste	
(0)	PCC Pavement	(3)	Unsuitable Type A
(0)	Sidewalk	(13)	Unsuitable Type B
Shoulder		(11)	Unsuitable Type C
(209)	Shoulder HMA	(3)	Waste
(0)	Shoulder PCC		
(6)	Shoulder Granular		
Existing			
(0)	Existing Pavement		

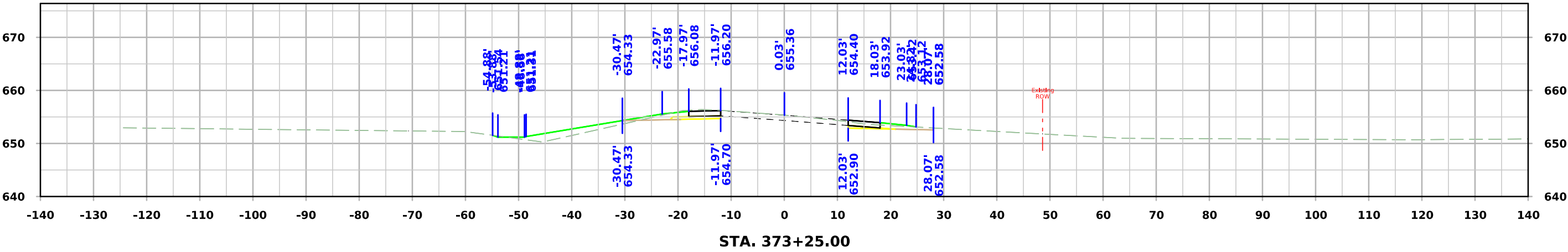
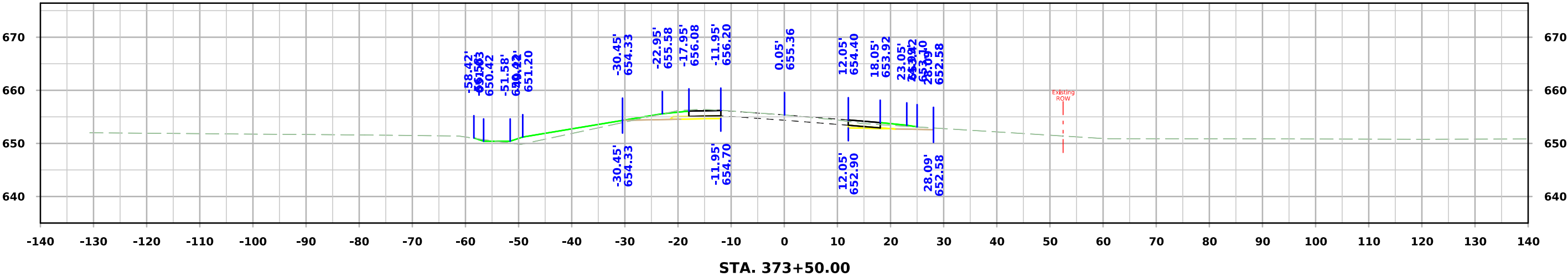
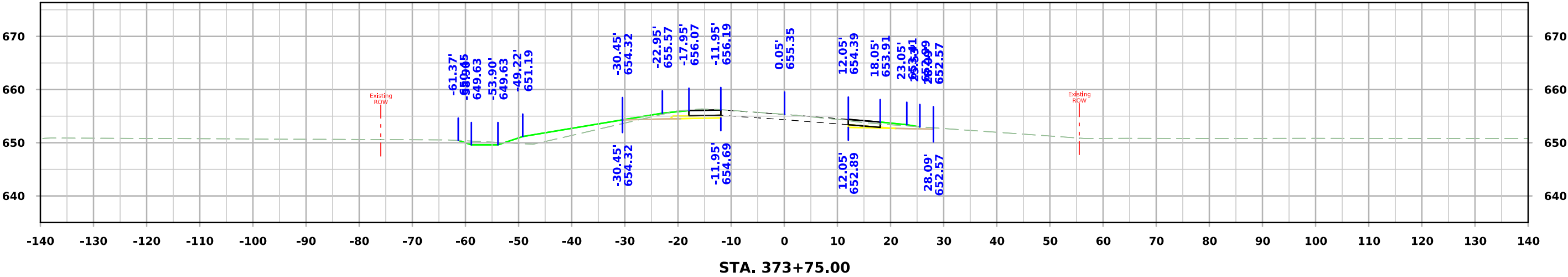
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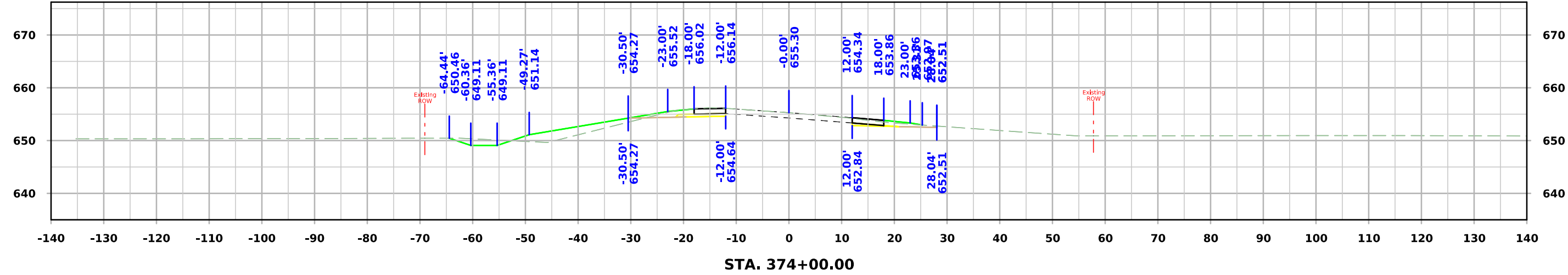
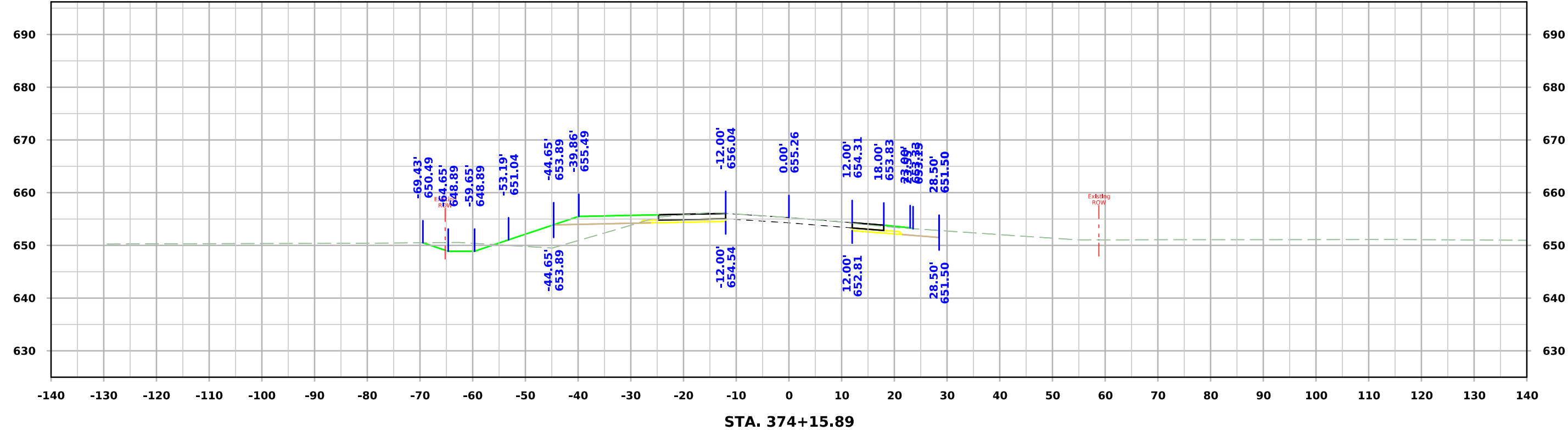
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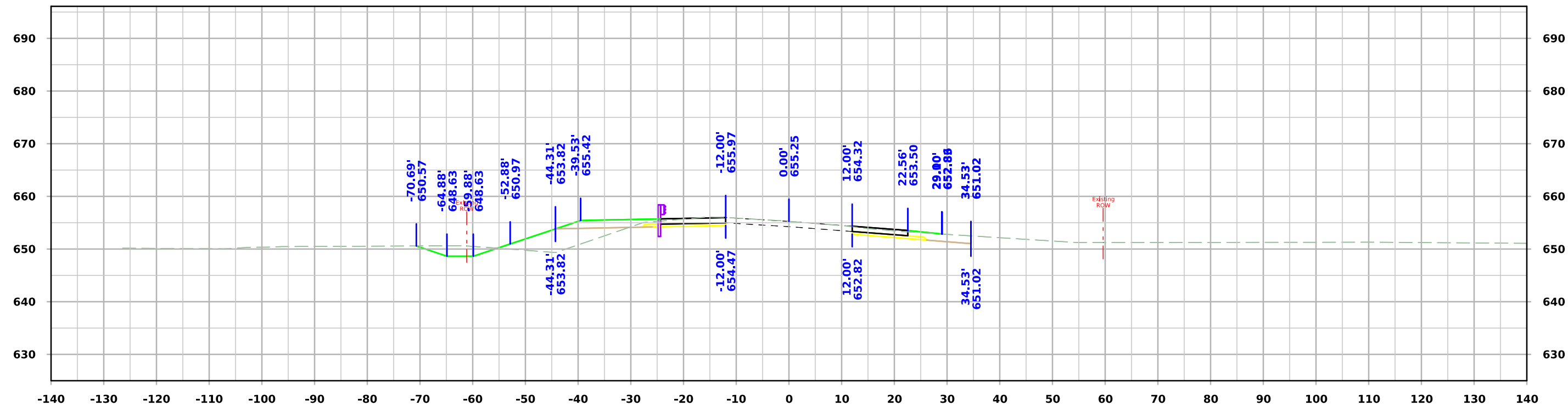
CROSS SECTIONS
LEGEND AND INFORMATION SHEET

(COVERS SHEET SERIES W, X, Y, & Z)

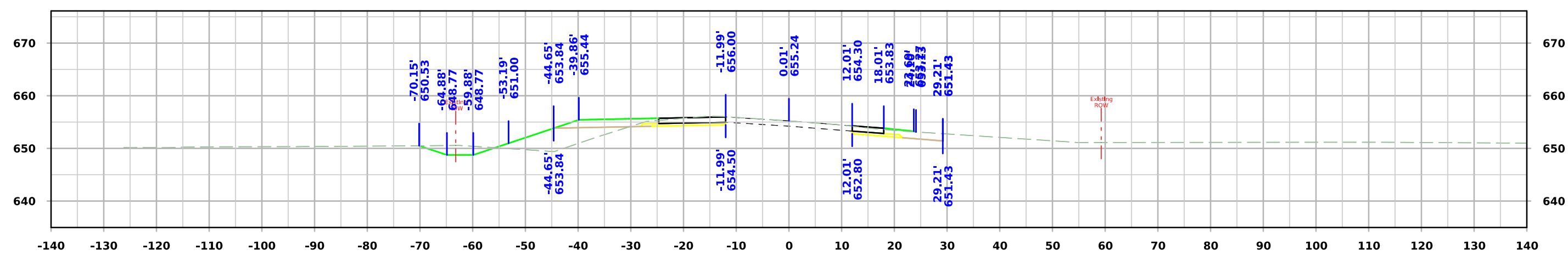




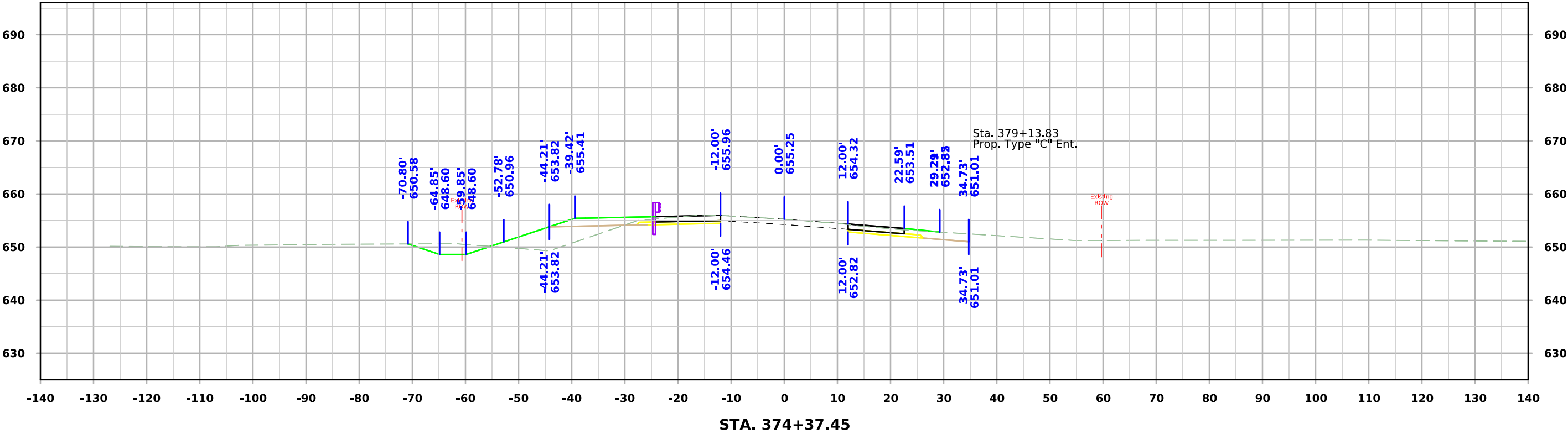
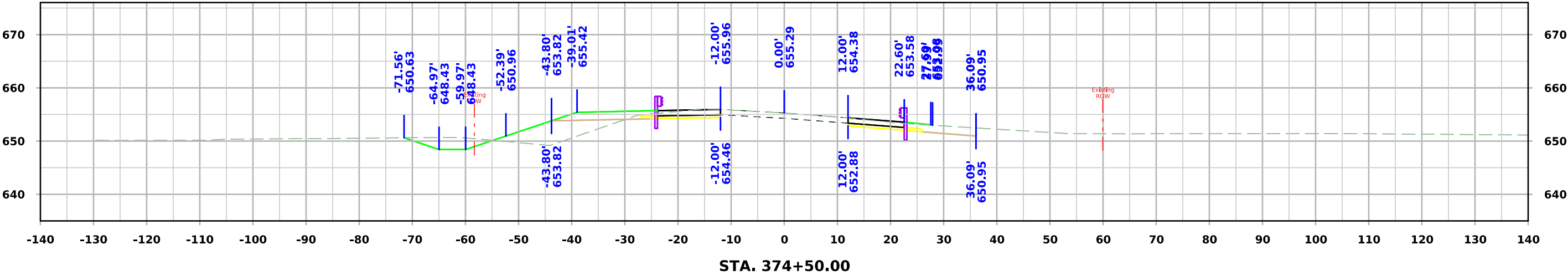


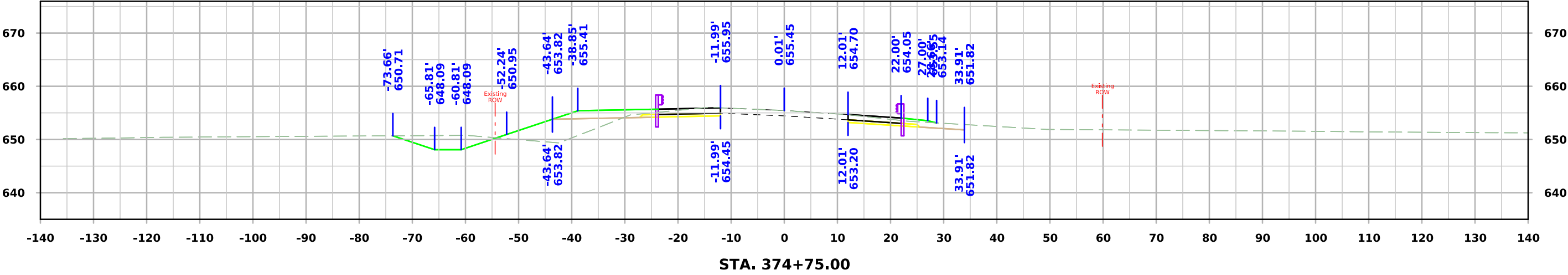


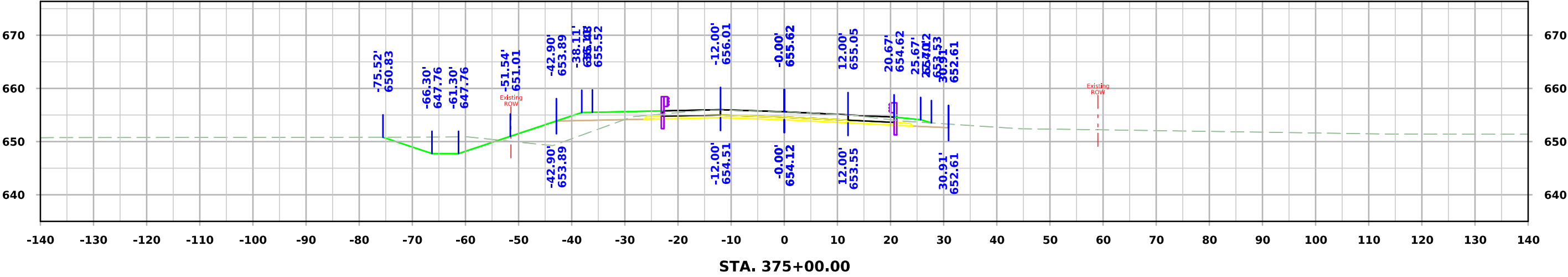
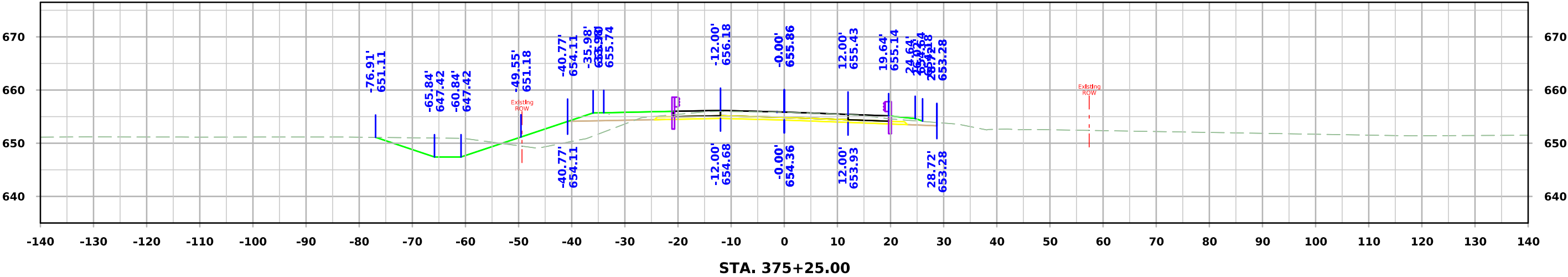
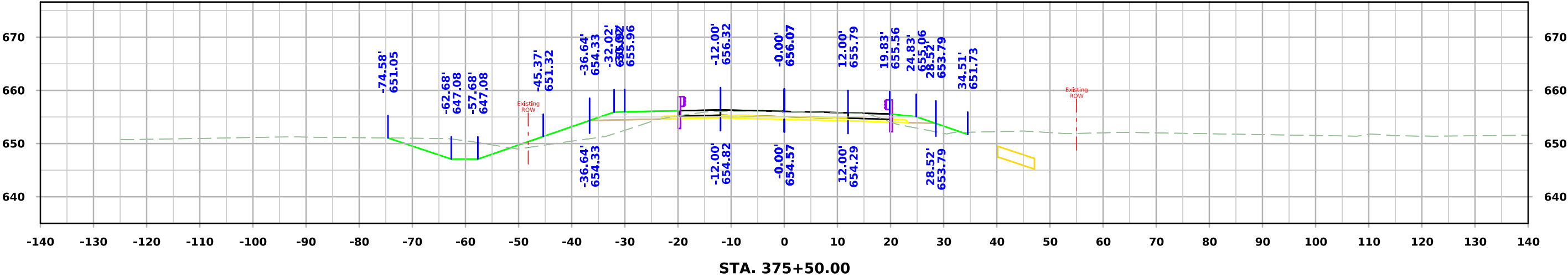
STA. 374+35.00

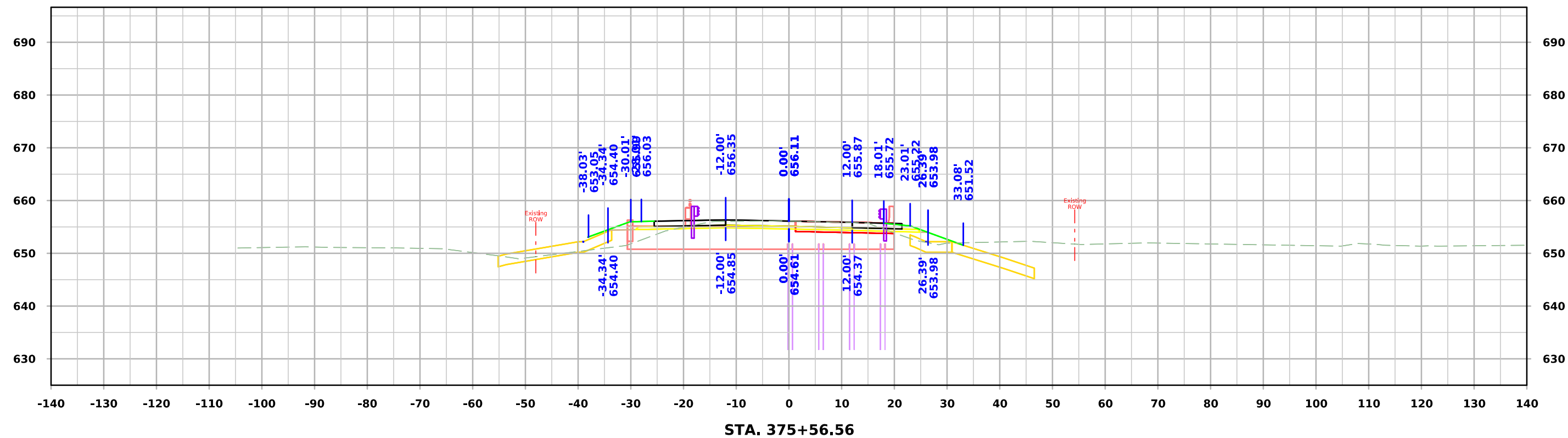


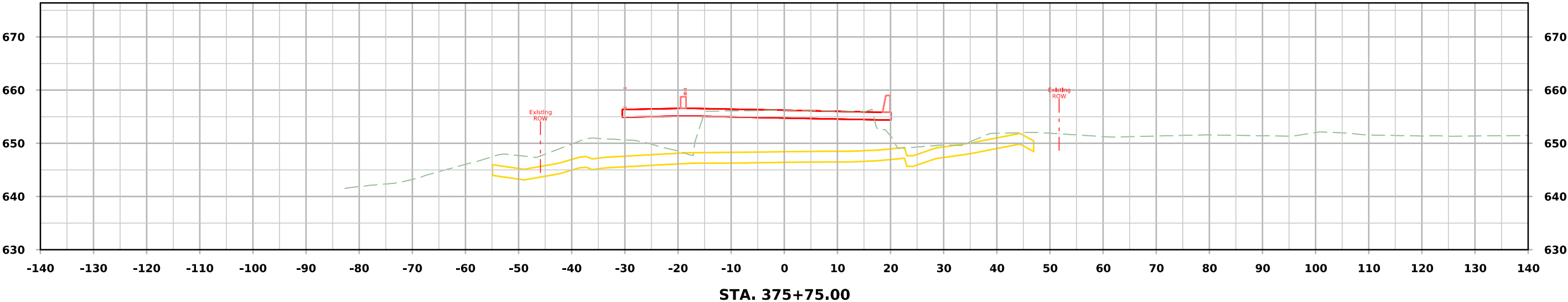
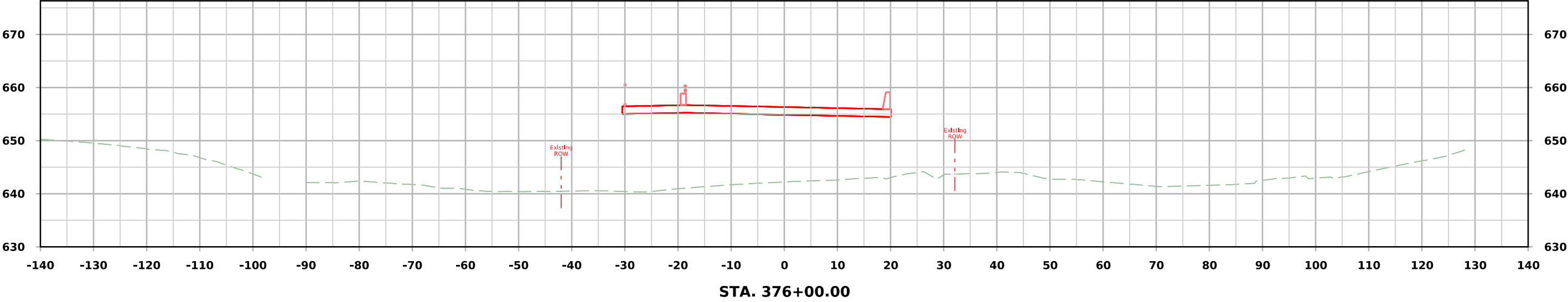
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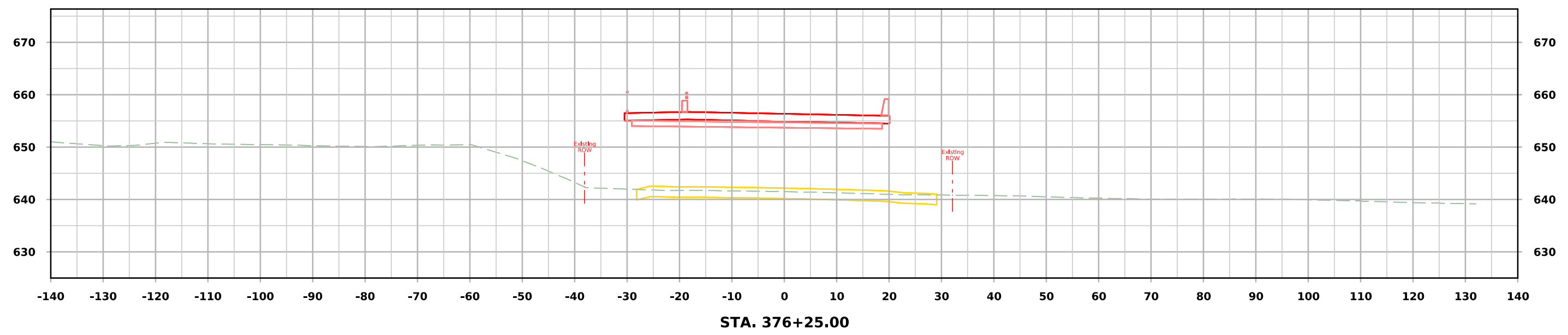
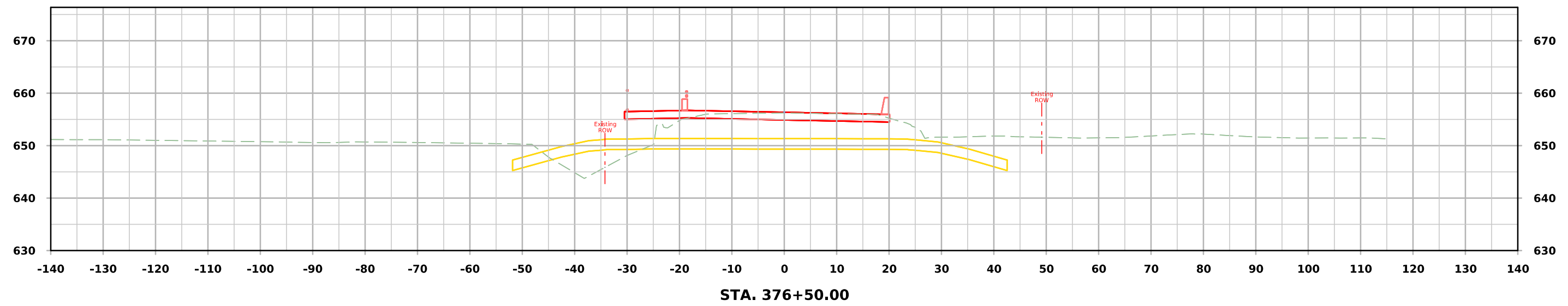


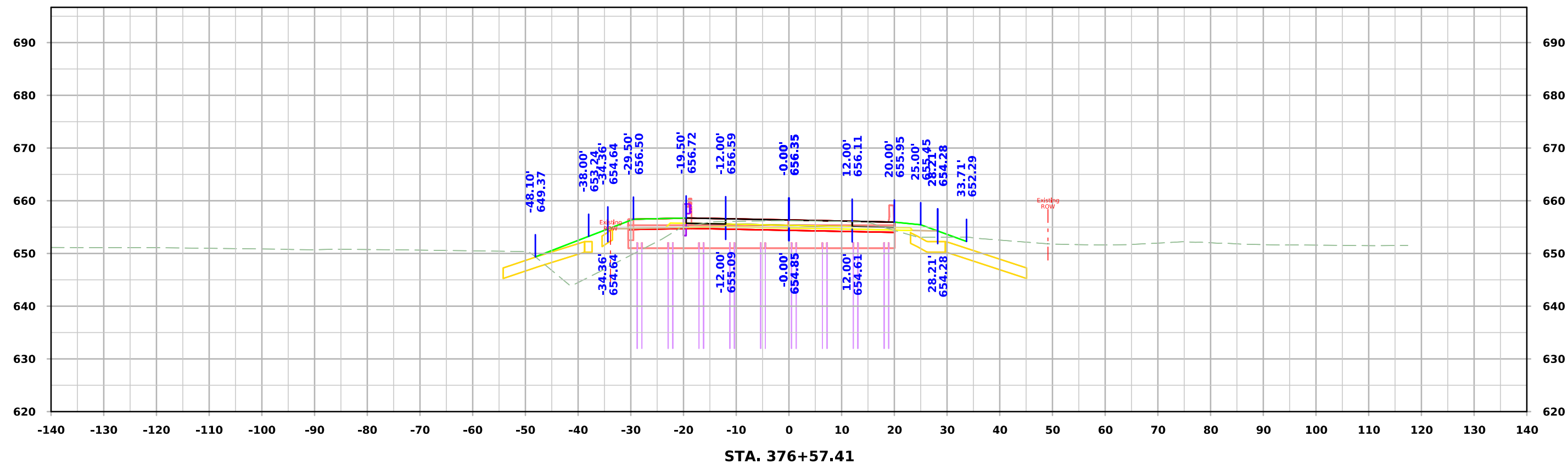




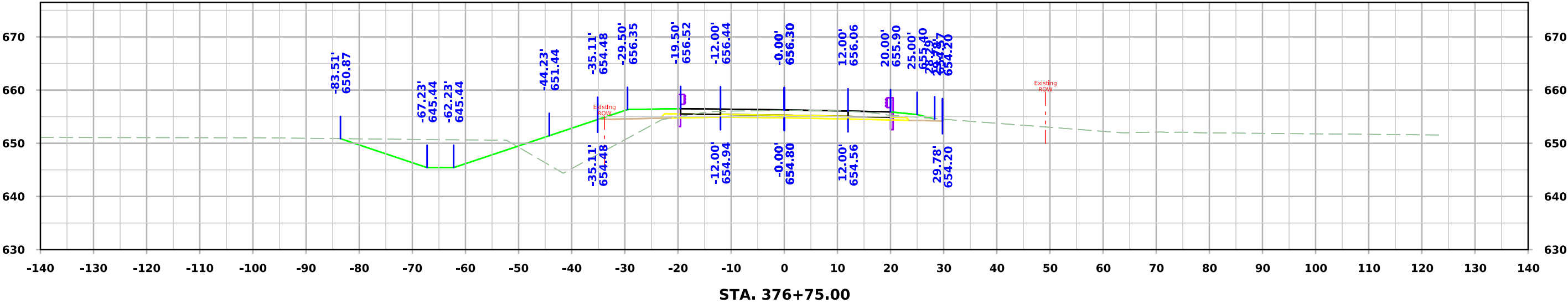
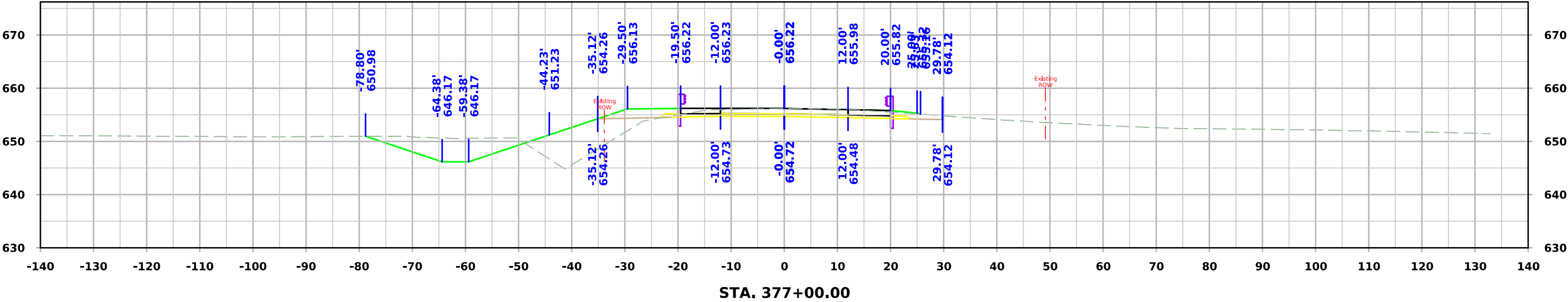
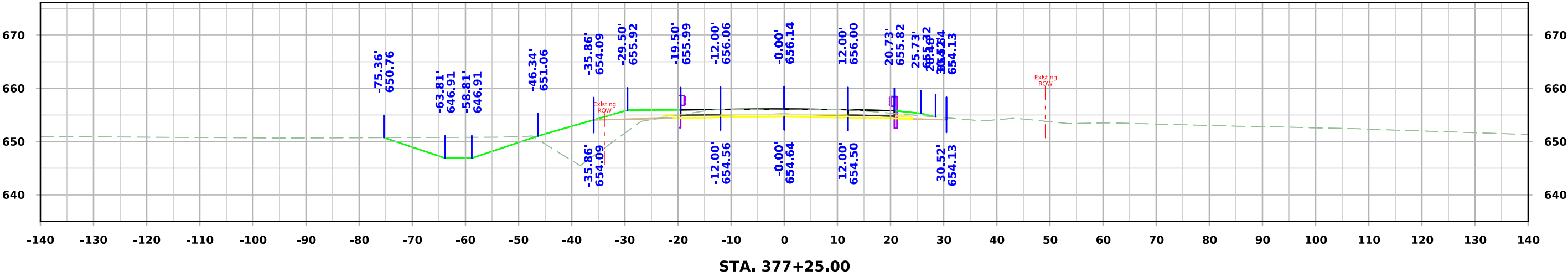




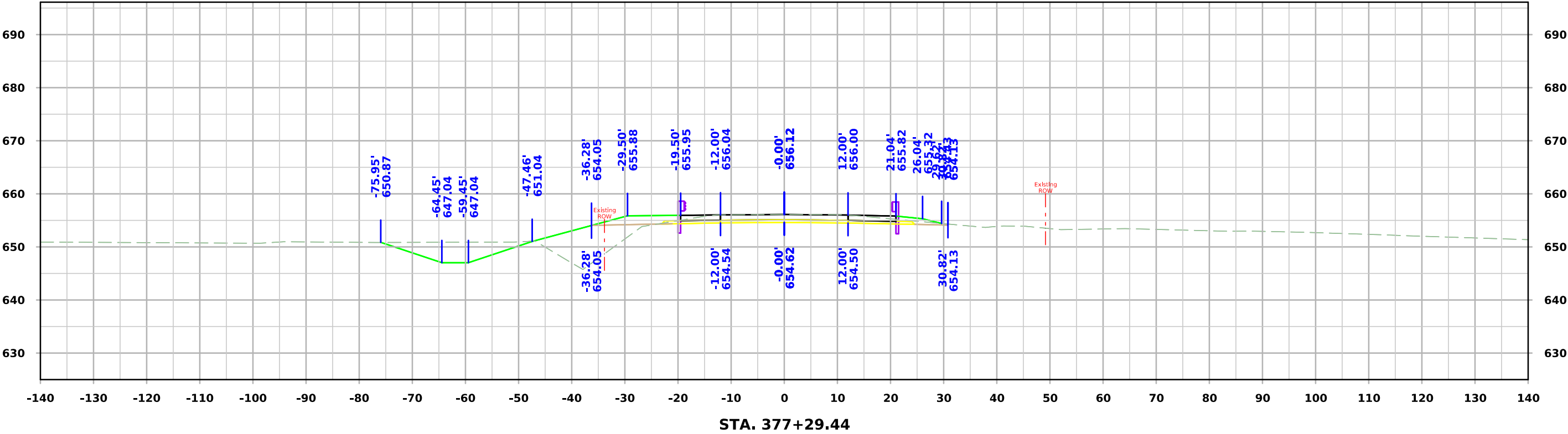
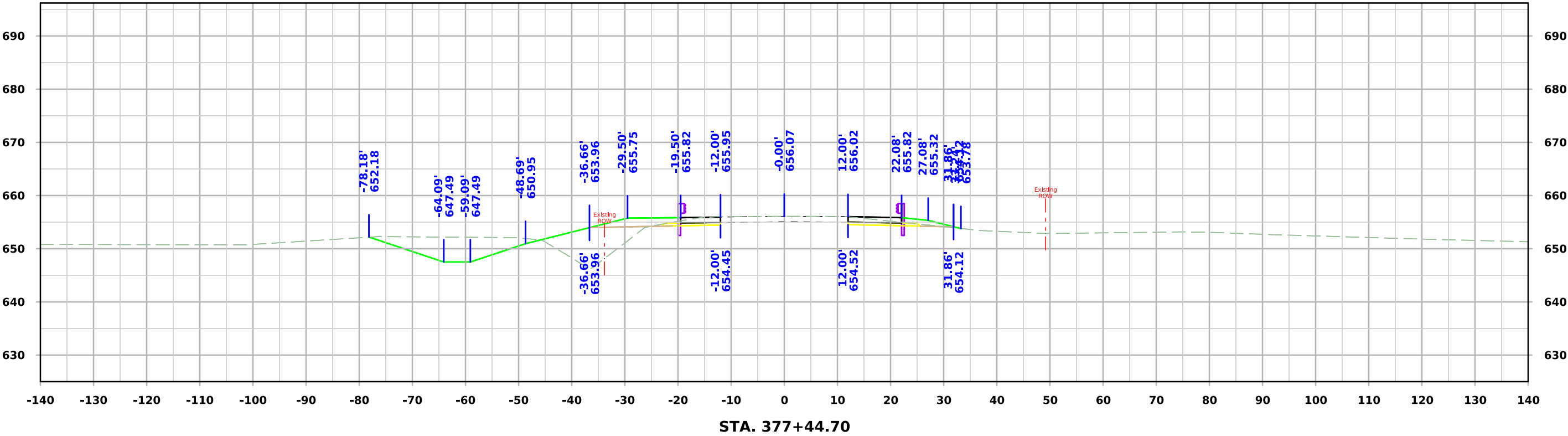


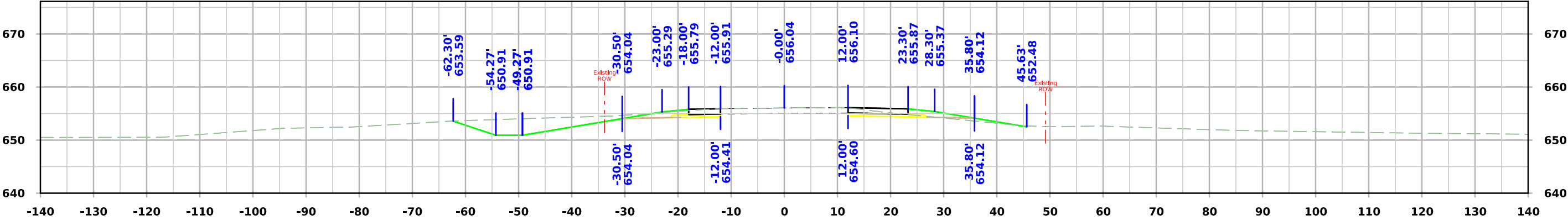


US 6

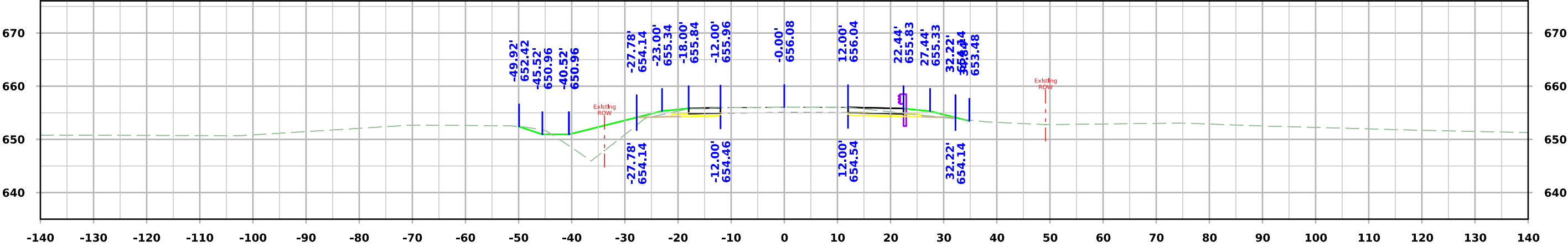


US 6





STA. 377+75.00



STA. 377+50.00

