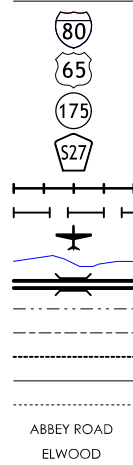


BRIDGE REPLACEMENT - PPCB
BRF-003-6(58)--38-09

BREMER COUNTY - DESIGN 118

LEGEND

- INTERSTATE HIGHWAY
- PRIMARY HIGHWAY-DIVIDED
- PRIMARY HIGHWAY
- PORTLAND CEMENT CONCRETE ROAD
- ASPHALT ROAD
- BITUMINOUS ROAD
- GRAVEL ROAD
- EARTHEN ROAD
- INTERSTATE HIGHWAY
- UNITED STATES HIGHWAY
- STATE HIGHWAY
- COUNTY HIGHWAY
- RAILROAD
- PIPELINE
- AIRPORT
- HYDROLOGY
- BRIDGE
- STATE BOUNDARY
- COUNTY BOUNDARY
- CORPORATE BOUNDARY
- TOWNSHIP LINE
- SECTION LINE
- ROAD NAMES
- UNINCORPORATED PLACE



PLANS OF PROPOSED IMPROVEMENTS ON THE
PRIMARY ROAD SYSTEM
BREMER COUNTY
BRIDGE REPLACEMENT - PPCB
1A 3 OVER BUCK CREEK BRIDGE,
0.6 MILES EAST OF COUNTY ROAD V-56

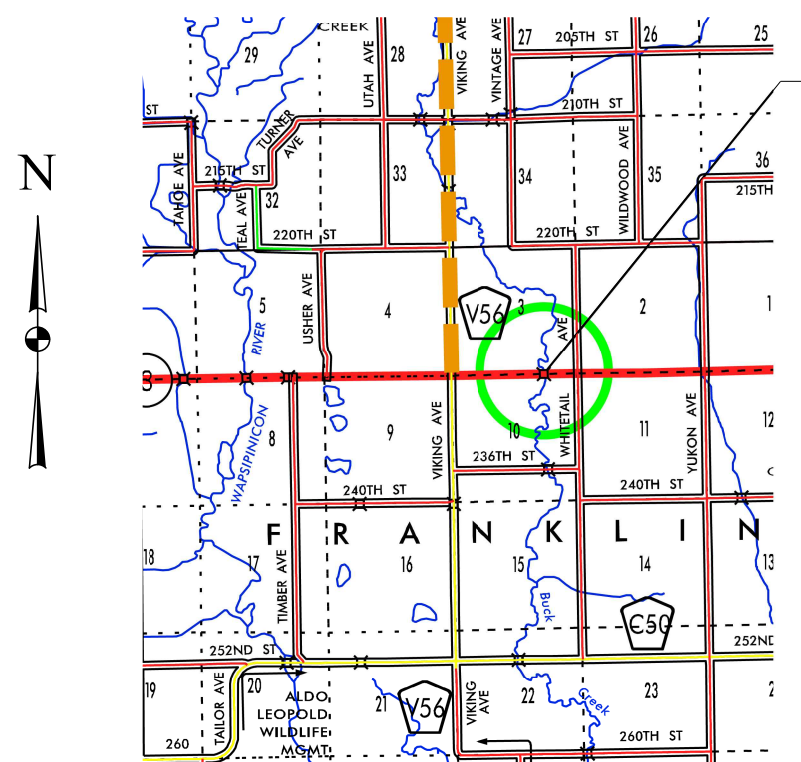
THE IOWA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION, SERIES 2015, PLUS APPLICABLE GENERAL SUPPLEMENTAL SPECIFICATIONS, DEVELOPMENTAL SPECIFICATIONS, SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS SHALL APPLY TO CONSTRUCTION WORK ON THIS PROJECT.

ENGLISH STANDARD BRIDGE PLANS		
STANDARD	ISSUED	REVISED
H44-01-07	03-07	05-13
H44-01A-07	03-07	05-13
H44-02-07	03-07	05-13
H44-03-07	03-07	06-12
H44-04-07	03-07	10-11
H44-05-07	03-07	05-13
H44-07-07	03-07	11-09
H44-09-07	03-07	07-15
H44-10-07	03-07	07-10
H44-27-07	03-07	11-09
H44-28-07	03-07	11-09
H44-31-07	03-07	11-09
H44-32-07	03-07	11-09
H44-33-07	03-07	11-09
H44-34-07	03-07	11-09
H44-37-07	03-07	09-12
H44-50-07	03-07	11-09
H44-51-07	03-07	11-09
H44-53-07	03-07	05-13
H44-74-07	03-07	11-09
H44-75-07	03-07	09-14
H44-77-07	03-07	09-14

REVISIONS

TOTAL SHEETS	18
PROJECT NUMBER	BRF-003-6(58)--38-09
R.O.W. PROJECT NUMBER	-
PROJECT IDENTIFICATION NUMBER	14-09-003-010

INDEX OF SHEETS	
NO.	DESCRIPTION
1	TITLE SHEET
2-4	DESIGN 118
D.1-W8	ROADWAY SHEETS



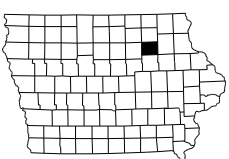
PRELIMINARY
NOT FOR CONSTRUCTION

STANDARD ROAD PLANS	
STANDARD ROAD PLANS ARE LISTED ON SHEET NUMBER	

DESIGN DATA RURAL	
2019 AADT	2500 V.P.D.
2039 AADT	2500 V.P.D.
2039 DHV	260 V.P.H.
TRUCKS	8 %
Total Design ESALs	--



INDEX OF SEALS		
SHEET NO.	NAME	TYPE
I	MICHAEL P. CAVEN	STRUCTURAL DESIGN
I	DANIEL D. KIMBALL	HYDRAULIC DESIGN
BRIDGE STANDARDS	NORMAN L. McDONALD	STRUCTURAL DESIGN



PROJECT DIRECTORY NAME: 0900301014

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 Daniel D. Kimball Date _____

Printed or Typed Name _____

My license renewal date is December 31, 2017

Pages or sheets covered by this seal: _____

STRUCTURAL 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 MICHAEL P. CAVEN Date _____

Printed or Typed Name _____

My license renewal date is December 31, 2016

Pages or sheets covered by this seal: _____

1020		GR. ELEV. = 1001.99	GR. ELEV. = 1002.12	GR. ELEV. = 1002.19		1020
1010	W. ABUT. BRG. GR. ELEV. = 1001.64	DESIGN H.W. ELEV. = 996.00	LOW STEP ELEV. = 997.45	LOW STEP ELEV. = 997.39	E. ABUT. BRG. GR. ELEV. = 1002.17	1010
1000	LOW STEP ELEV. = 996.92				LOW STEP ELEV. = 997.46	1000
990	BOTTOM OF FOOTING ELEV. = 993.42				BOTTOM OF FOOTING ELEV. = 993.96	990
980	HP10x57 STEEL BRG PILES (TYP. EACH ABUT.)				BOTTOM OF PREBORED HOLES, ELEV. = 983.96	980
970	BOTTOM OF PREBORED HOLES, ELEV. = 983.42	BOTTOM OF CAP, ELEV. = 990.95	STREAMBED ELEV. = 979.16	BOTTOM OF CAP, ELEV. = 990.89	BERM ELEV. = 995.96	970
960	BERM ELEV. = 995.42			BOTTOM OF FOOTING ELEV. = 972.89	EXCAVATION CLASSIFICATION LINE, ELEV. = 980.33	960
950	2'-0 CLASS 'E' RIPRAP WITH ENGINEERING FABRIC (TYP.)	BOTTOM OF FOOTING ELEV. = 972.95	STEEL BRG PILES (TYP. EACH PIER)	DESIGN SCOUR ELEV. = 970.50		950

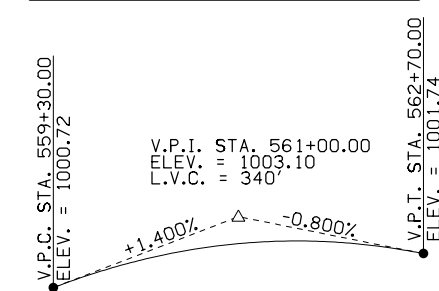
NOTE: TOP OF BRIDGE DECK CROWN
0.03' BELOW PROFILE GRADE.

LONGITUDINAL SECTION ALONG C APPROACH ROADWAY

- ① REGULATORY LOW SUPERSTRUCTURE
ELEV. = 997.78
- ② OPERATIONAL LOW SUPERSTRUCTURE
ELEV. = 997.19

BENCH MARK: BM3 - STA.563+19.22, 62.861'RT., 60d SPIKE IN POWER POLE NORTH SIDE
HIGHWAY 3 APPROXIMATELY 200 FEET EAST OF BRIDGE OVER BUCK CREEK
ELEV. = 992.490

PROFILE GRADE IA 3



HYDRAULIC DATA

DRAINAGE AREA = 38.6 SQ. MI.
STREAM SLOPE = 4.88 FT./MI.
AVG. LOW WATER STAGE = 988.0

Q₅₀ = 6,270 CFS
STAGE = 996.0
BACKWATER = 0.59 FT.
AVG. BRIDGE VELOCITY = 5.9 FPS

Q₁₀₀ = 7,320 CFS
STAGE = 996.4
BACKWATER = 0.74 FT.
AVG. BRIDGE VELOCITY = 6.5 FPS

Q₂₀₀ = 9,350 CFS
STAGE = 997.0
CALCULATED DESIGN SCOUR = 970.50

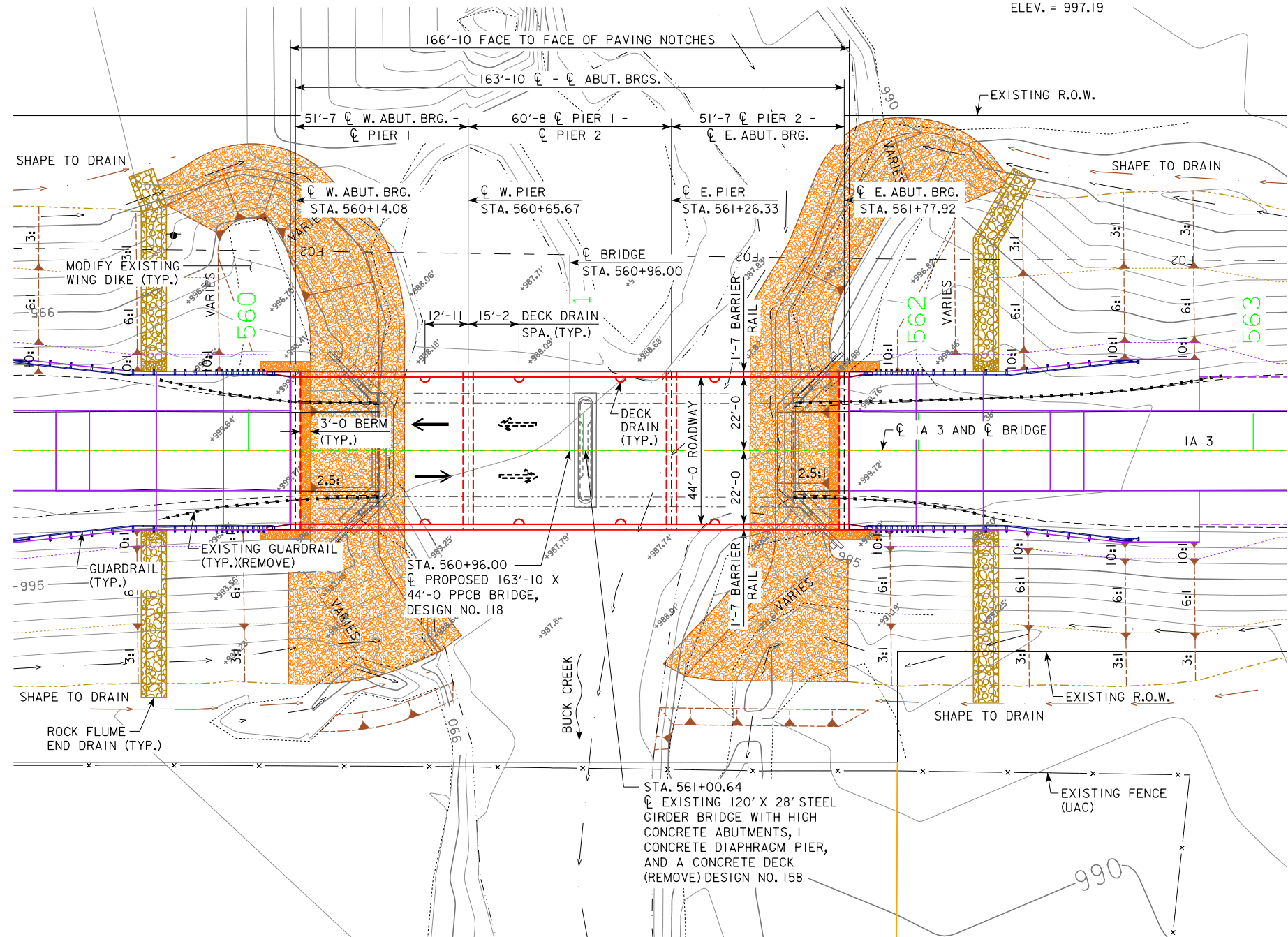
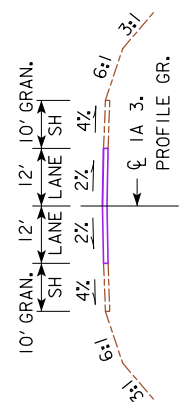
Q₅₀₀ = 10,000 CFS
STAGE W/ BACKWATER = 998.45

ROADWAY TOP ELEVATION = 998.9
CALCULATED DESIGN SCOUR CHECK = 970.00

TRAFFIC ESTIMATE

2019 AADT	2500	V.P.D.
2039 AADT	2500	V.P.D.
2039 DHV	260	V.P.H.
TRUCKS	8	%
TOTAL DESIGN ESALS		

TYPICAL APPROACH SECTION



SITUATION PLAN

LOCATION

IA 3 OVER BUCK CREEK
T-91N, R-11W
SECTIONS 3, 10
FRANKLIN TOWNSHIP
BREMER COUNTY
FHWA NO. 015651
BRIDGE MAINT. NO. 0939.IS003
LATITUDE 42.714705°
LONGITUDE -92.126327°

NOTES

- PIER TYPE - T PIER.
- CLASS 'E' REVETMENT STONE IS EMBEDDED.
- BEAM TYPE - AASHTO B.
- STANDARD BRIDGE H44.
- PIER SUBSTRUCTURE TO BE VERIFIED DURING FINAL DESIGN.
- SEE SHEET 3 FOR BERM DETAILS.
- TL-4 BRIDGE RAILING PROPOSED.

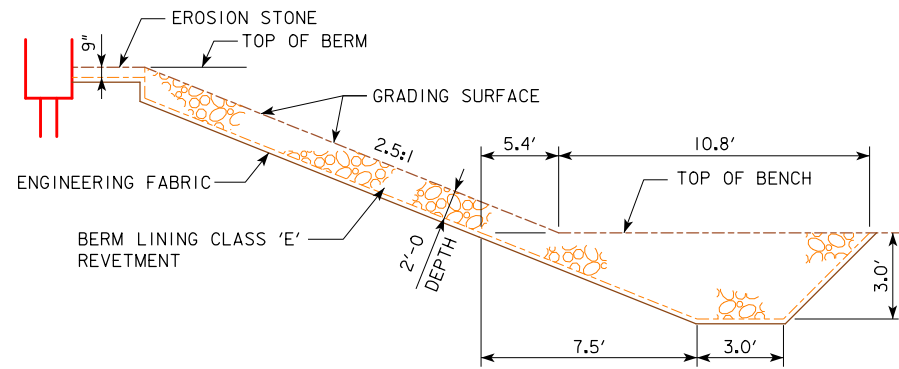
UTILITIES LEGEND

- F02 — ORAN MUTUAL TELEPHONE COMPANY
- ALLIANT ENERGY

PRELIMINARY
DESIGN FOR 0° SKEW
**163'-10 X 44'-0 PRETENSIONED
PRESTRESSED CONC. BEAM BRIDGE**
51'-7 END SPANS (B BEAM TYPE) 60'-8 INTERIOR SPAN
SITUATION PLAN
STA. 560+96.00 JUNE, 2016
BREMER COUNTY
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
DESIGN SHEET NO. 1 OF 3 FILE NO. 31145 DESIGN NO. 118

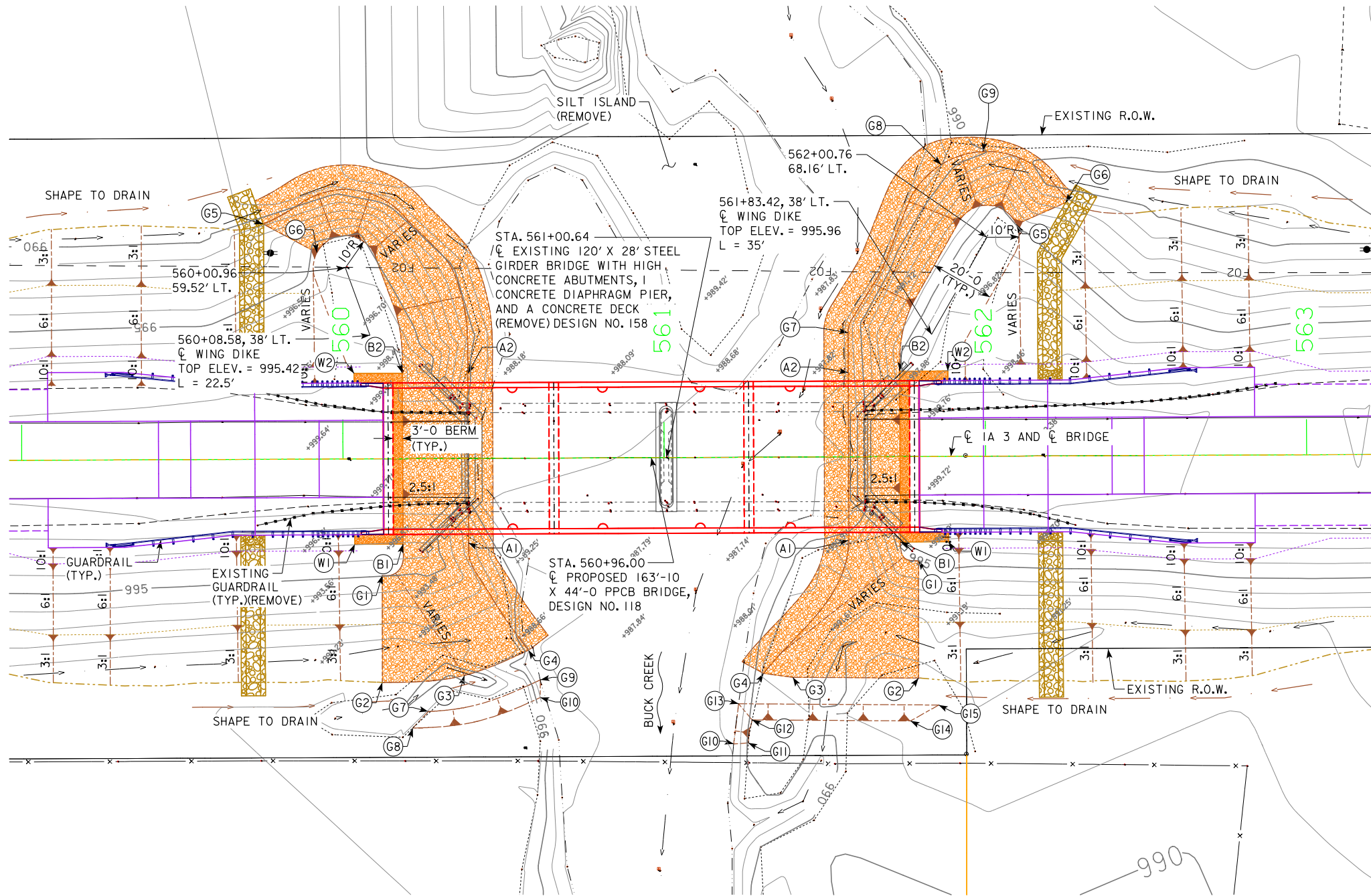
ESTIMATED BERM ARMORING QUANTITIES				
LOCATION	REVETMENT CL. 'E' (TON)	EROSION STONE (TON)	ENGINEERING FABRIC (SY)	EXCAVATION (CY)
BERM LINING - WEST ABUTMENT	705	15	680	450
BERM LINING - EAST ABUTMENT	670	15	650	430
TOTALS	1,375	30	1,330	880

EXCAVATION QUANTITY CALCULATED FROM GRADING SURFACE.



SECTION THRU EMBEDDED REVETMENT BERM

BENCH MARK: BM3 - STA.563+19.22, 62.861' RT., 60d SPIKE IN POWER POLE NORTH SIDE HIGHWAY 3 APPROXIMATELY 200 FEET EAST OF BRIDGE OVER BUCK CREEK ELEV. = 992.490

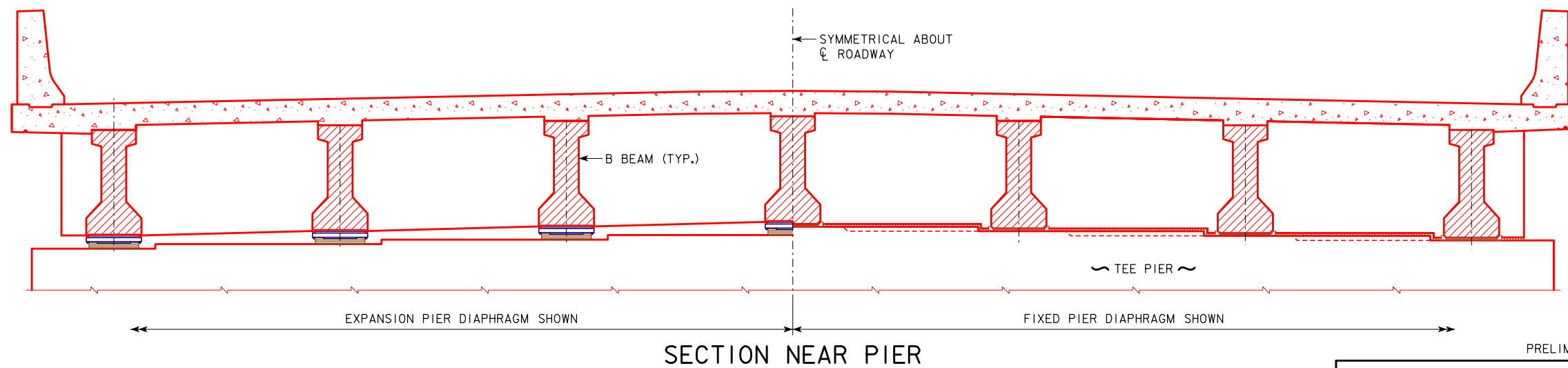
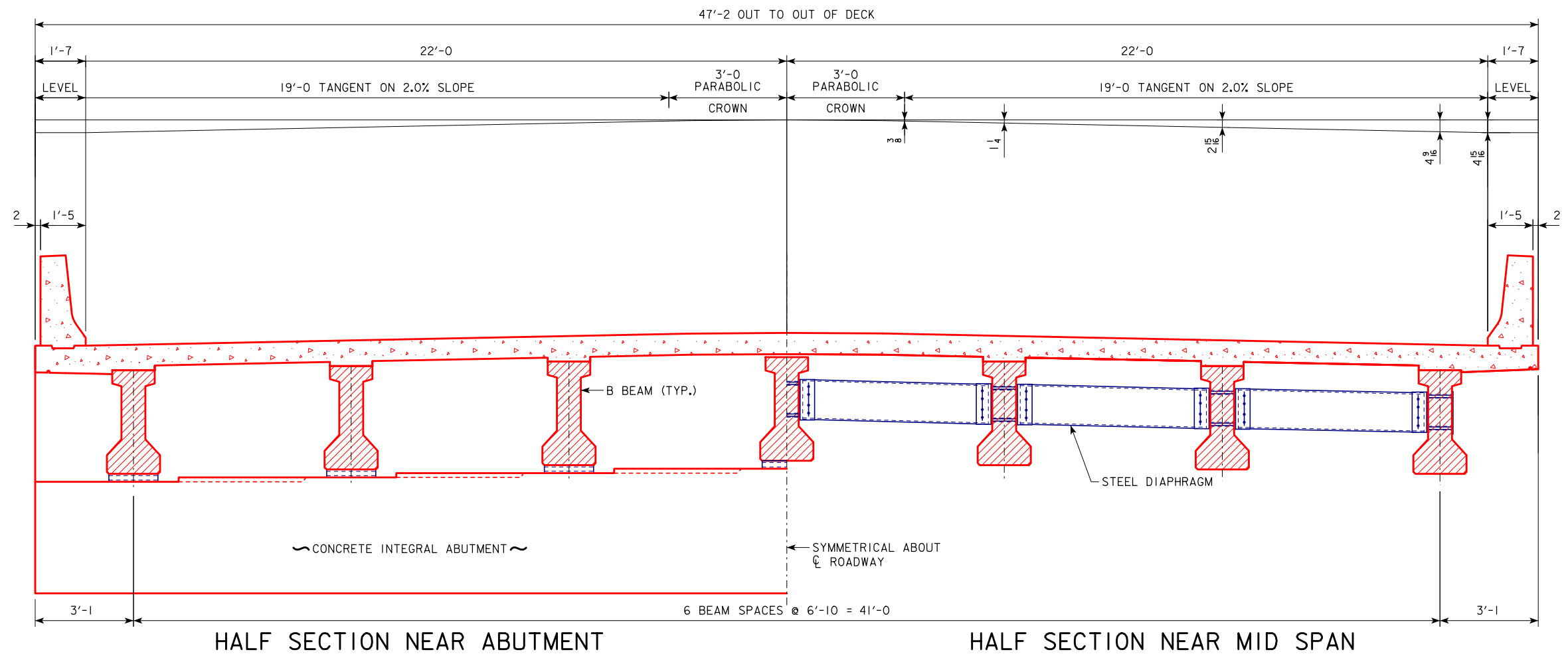


POINTS	WEST ABUTMENT			EAST ABUTMENT		
	STATION	OFFSET	ELEV.	STATION	OFFSET	ELEV.
A1	560+38.97	26.58' RT.	987.26	561+57.41	26.58' RT.	989.56
A2	560+38.97	26.58' LT.	987.26	561+57.41	26.58' LT.	989.56
B1	560+18.58	26.58' RT.	995.42	561+73.42	26.58' RT.	995.96
B2	560+18.58	26.58' LT.	995.42	561+73.42	26.58' LT.	995.96
W1	560+03.58	26.58' RT.	1000.78	561+88.42	26.58' RT.	1001.39
W2	560+03.58	26.58' LT.	1000.78	561+88.42	26.58' LT.	1001.39

BERM SLOPE ELEVATIONS REFLECT THE GRADING SURFACE

POINTS	WEST ABUTMENT			EAST ABUTMENT		
	STATION	OFFSET	ELEV.	STATION	OFFSET	ELEV.
G1	560+12.07	36.37' RT.	995.42	561+79.06	32.51' RT.	995.96
G2	560+12.07	69.62' RT.	990.00	561+79.06	69.01' RT.	990.72
G3	560+37.43	67.71' RT.	989.00	561+39.76	68.60' RT.	990.22
G4	560+57.52	59.82' RT.	987.26	561+30.65	67.36' RT.	989.56
G5	559+75.47	73.32' LT.	992.00	562+09.93	72.16' LT.	995.96
G6	559+92.16	64.27' LT.	995.42	562+25.29	78.86' LT.	989.56
G7	560+26.28	78.77' RT.	989.50	561+57.41	38.65' LT.	989.56
G8	560+21.42	83.88' RT.	991.50	561+86.57	90.85' LT.	989.56
G9	560+61.12	69.06' RT.	987.26	561+99.23	94.90' LT.	989.56
G10	560+61.09	74.58' RT.	989.26	561+21.25	89.27' RT.	989.56
G11	--	--	--	561+25.80	88.98' RT.	990.22
G12	--	--	--	561+27.03	81.81' RT.	990.22
G13	--	--	--	561+22.83	76.77' RT.	989.56
G14	--	--	--	561+76.33	82.23' RT.	991.72
G15	--	--	--	561+85.12	77.43' RT.	990.72

PRELIMINARY
 DESIGN FOR 0° SKEW
**163'-10 X 44'-0 PRETENSIONED
 PRESTRESSED CONC. BEAM BRIDGE**
 51'-7 END SPANS (B BEAM TYPE) 60'-8 INTERIOR SPAN
SITE PLAN
 STA. 560+96.00 JUNE, 2016
BREMER COUNTY
 IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
 DESIGN SHEET NO. 2 OF 3 FILE NO. 31145 DESIGN NO. 118

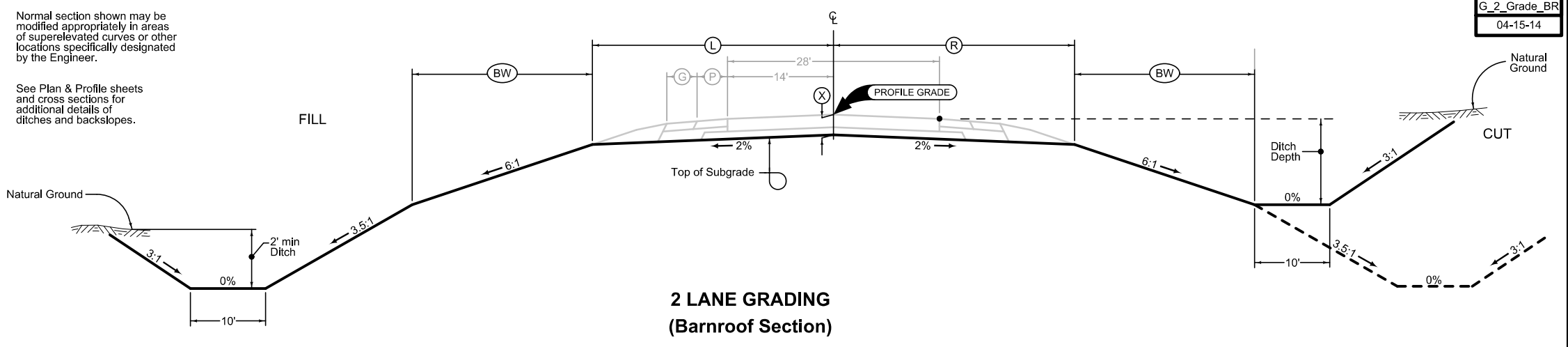


PRELIMINARY
 DESIGN FOR 0° SKEW
**163'-10 X 44'-0 PRETENSIONED
 PRESTRESSED CONC. BEAM BRIDGE**
 51'-7 END SPANS (B BEAM TYPE) 60'-8 INTERIOR SPAN
TRANSVERSE SECTION
 STA. 560+96.00 JUNE, 2016
BREMER COUNTY
 IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
 DESIGN SHEET NO. 3 OF 3 FILE NO. 31145 DESIGN NO. 118

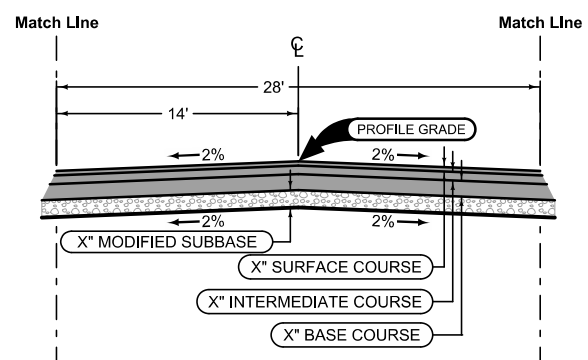
LOCATION		DIMENSIONS			
ROAD IDENTIFICATION	STATION TO STATION	(L) Feet	(R) Feet	(X) Inches	(BW) Feet
IA-3		32.86	32.86	18	17.54

Normal section shown may be modified appropriately in areas of superelevated curves or other locations specifically designated by the Engineer.

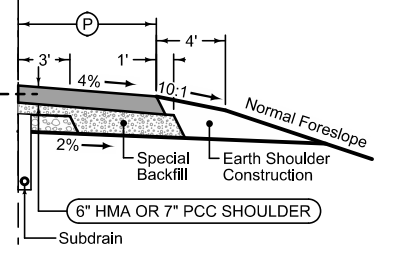
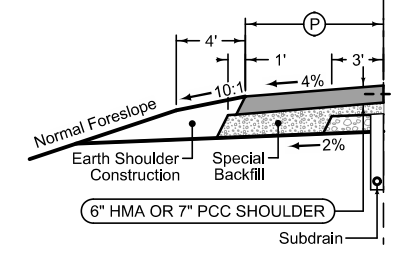
See Plan & Profile sheets and cross sections for additional details of ditches and backslopes.



G_2_Grade_BR
04-15-14



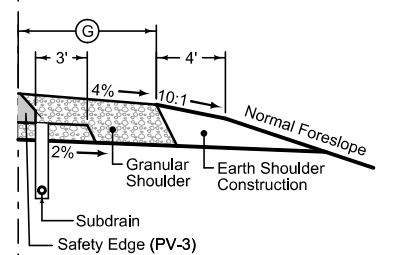
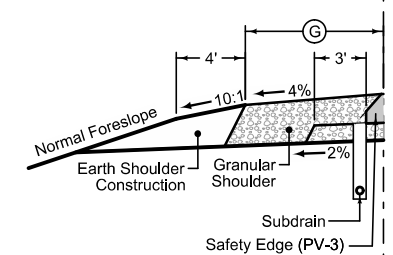
2H_10-19-10	
STATION TO STATION	
557+20.00	559+42.58
562+49.42	566+65.00



Paved Shoulder at Guardrail

PCC Shoulder Jointing:
 Longitudinal joint: BT-1 or BT-5
 Transverse joints: C at 20' spacing
 HMA Shoulder Jointing:
 Longitudinal joint: B

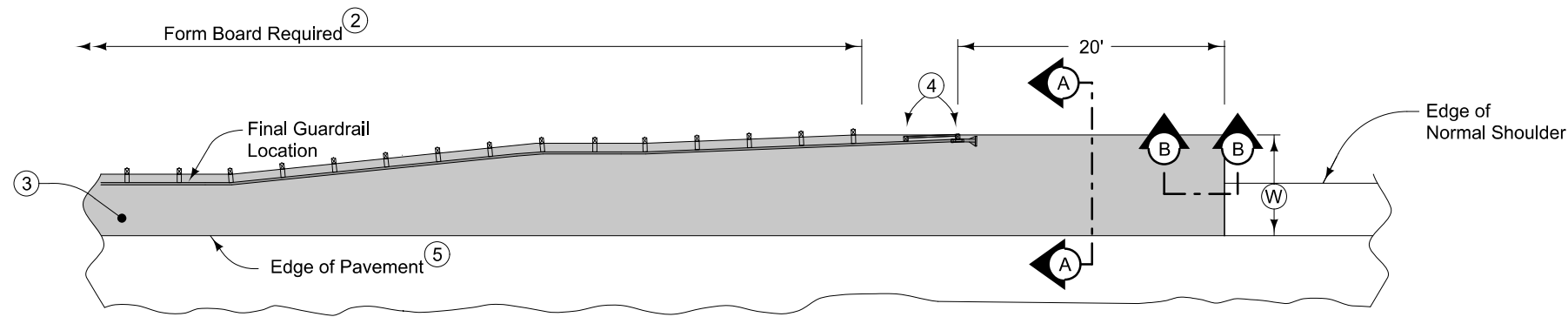
2_P_Guard_10-21-14		
STATION TO STATION		(P) Feet
559+08.13	559+31.87	13.27
559+31.87	559+65.59	Var.
559+65.59	559+72.58	9.63
562+19.42	562+26.41	9.63
562+60.13	562+83.87	13.27



Granular Shoulder with Safety Edge

2_G_10-21-14		
STATION TO STATION		(G) Feet
557+20.00	559+08.13	8.0
562+83.87	566+65.00	8.0

4:00:27 PM 6/14/2016 degenhardta P:\60480808\900-CAD-GIS\0900301014\Design\Sheetfiles\09003058_B01.sht

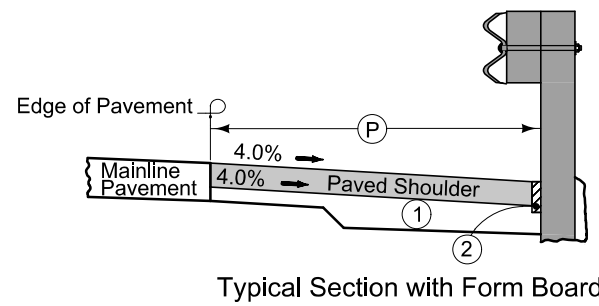


6" HMA Paved Shoulder at guardrail. 7" PCC may be substituted with the following jointing layout:

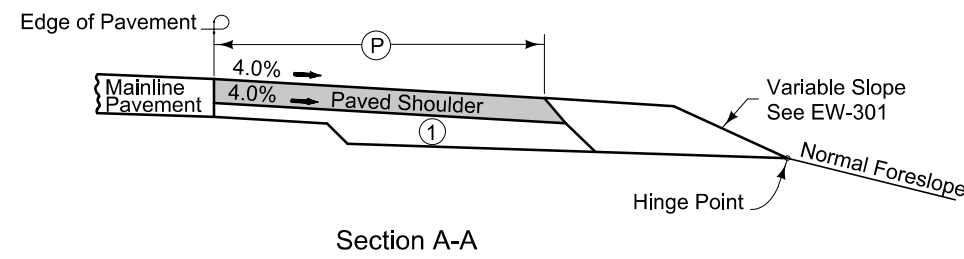
Match mainline pavement joint spacing. When mainline pavement is 8" or greater in thickness, place additional transverse 'C' joints in shoulder at mid-panel of the mainline pavement. Place longitudinal 'C' joint at W/2 from edge of mainline pavement when W is greater than 10' wide. Terminate longitudinal 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 & reinstallation of guardrail will be allowed with no additional payment.

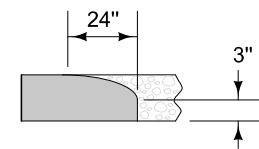
Refer to Shoulder tabulation (112-9) for quantities.



Typical Section with Form Board



Section A-A



Section B-B
Roll down at granular shoulder or earth.

- ① 6" subgrade treatment.
- ② When guardrail posts are installed prior to construction of paved shoulder, nail 1" x 6" untreated form boards along the face of guardrail posts for the length shown. This board is to prevent shoulder material from contacting the sides of the posts and altering the function of the guardrail. Form board not required for final 2 posts.
- ③ Continue paved shoulder to existing paved shoulder or 20' beyond the end of guardrail.
- ④ Shoulder may be notched for final 2 posts or post sleeves may be installed through pavement.
- ⑤ 'KT-1' joint for PCC shoulder.
'B' joint for HMA shoulder.

PAVED SHOULDER AT GUARDRAIL

SURVEY SYMBOLS

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

UTILITY LEGEND

	ALLIANT ENERGY Contact name: Laura Barr Contact Phone: 319-286-1315 Contact Email: locate IPL@alliantenergy.com
	MEDIACOM Contact name: Mike Ungs Contact Phone: 319-269-6266 Contact Email: waterloolocates@mchsi.com
	ORAN MUTUAL TELEPHONE COMPANY Contact name: Barb Gruetzmacher Contact Phone: 319-638-6006 Contact Email: omtc@orantelco.com
	READLYN TELEPHONE COMPANY Contact name: Sharon K. Huck Contact Phone: 319-279-3375 Contact Email: Readlyn@netins.net

PLAN VIEW COLOR LEGEND OF PLAN AND PROFILE SHEETS

LINEWORK	Design Color No.	Description
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.	Description	
Yellow	(4)	Highlight for Critical Notes or Features
Red	(3)	Delineates Restricted Areas
Lavender	(9)	Temporary Pavement Shading
Gray, Light	(48)	Proposed Pavement Shading
Gray, Med	(80)	Proposed Granular Shading
Gray, Dark	(112)	Proposed Grade and Pave Shading "In conjunction with a paving project"
Brown, Light	(236)	Grading Shading
Tan	(8)	Proposed Sidewalk Shading
Blue, Light	(230)	Proposed Sidewalk Landing Shading
Pink	(11)	Proposed Sidewalk Ramp Shading

PROFILE VIEW COLOR LEGEND OF PLAN AND PROFILE SHEETS

LINEWORK	Design Color No.	Description
Green	(2)	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

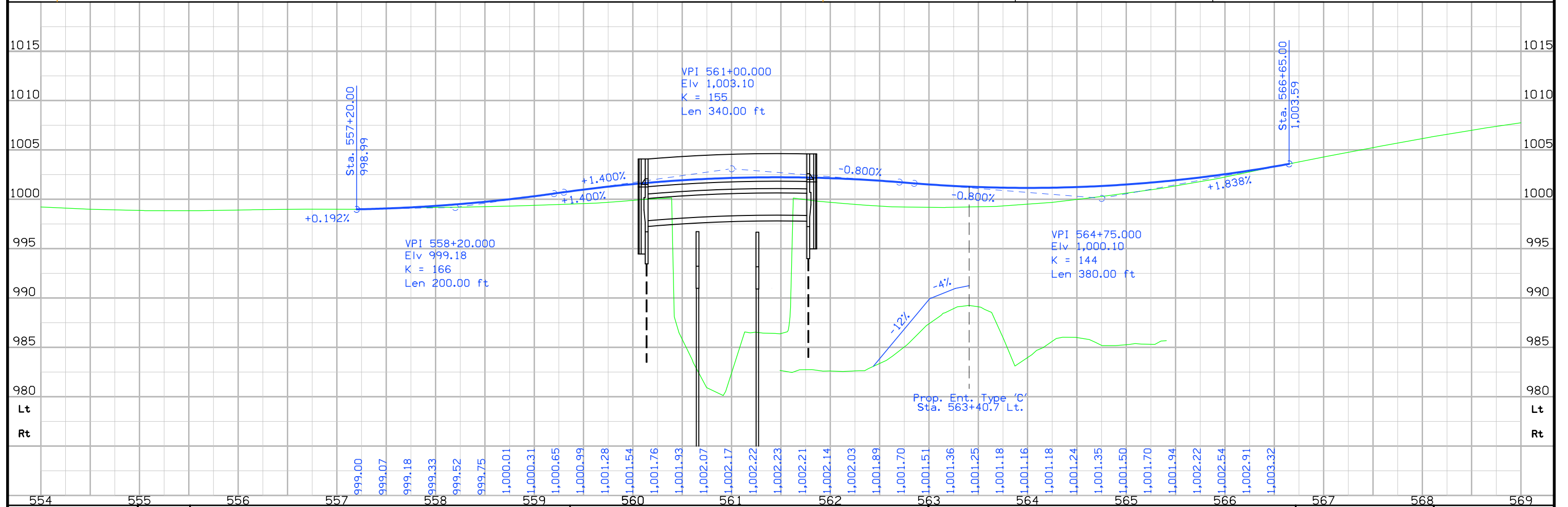
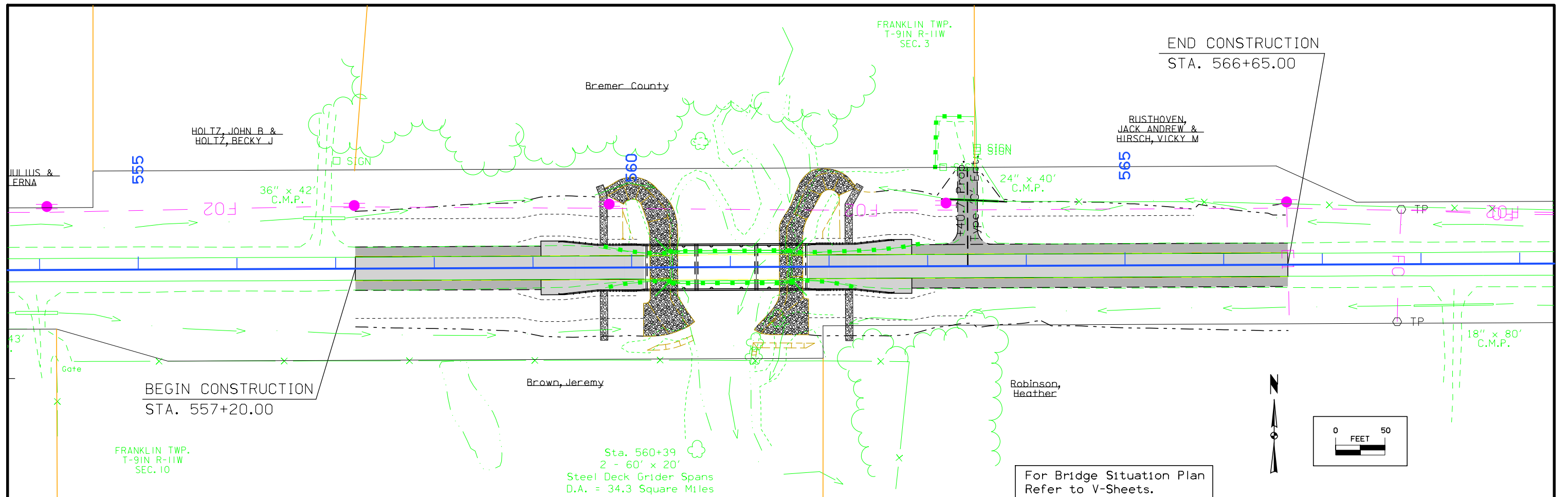
Symbol	Description
	Reference Point
	Survey Line
	Station
	Section Corner
	Ground Line Intercept
	Saw Cut
	Guardrail
	Trench Drain
	HighTension Cable Guardrail
	Sheet Pile
	Pavement Removal
	Clearing & Grubbing Area

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



PLAN AND PROFILE LEGEND AND SYMBOL INFORMATION SHEET

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



554	555	556	557	558	559	560	561	562	563	564	565	566	567	568	569																						
999.00	999.07	999.18	999.33	999.52	999.75	1,000.01	1,000.31	1,000.65	1,000.99	1,001.28	1,001.54	1,001.76	1,001.93	1,002.07	1,002.17	1,002.22	1,002.23	1,002.21	1,002.14	1,002.03	1,001.89	1,001.70	1,001.51	1,001.36	1,001.25	1,001.18	1,001.16	1,001.18	1,001.24	1,001.35	1,001.50	1,001.70	1,001.94	1,002.22	1,002.54	1,002.91	1,003.32

Survey Information

General Information

Measurement units for this survey are US survey feet. This survey is for replacement of the Buck Creek Bridge (Maint. No. 0939.1s003) on Iowa Highway 3 - 0.6 miles east of County Road V-56

Vertical Control

Vertical datum for this survey is NAVD88 (Computed using Geoid 12B). The Ellipsoidal Height was computed at control point BC7 by performing a static GPS survey with an NGS OPUS Solution. Additional benchmark and elevations on control points were then established using differential leveling.

Horizontal Control

The project coordinate system for this survey is the Iowa Regional Coordinate System (IaRCS) Zone 5 (U.S. Survey Feet). Iowa State Plane Coordinates (Ia North 1401) were established on control point BC7 by performing a static GPS survey with an NGS OPUS Solution, the base stations used in the solution were IAEL, IADE and IATA. The Iowa state plane coordinates were converted to Iowa Regional Coordinate (Zone 5 U.S. Survey Feet). Then coordinates were established on the remaining project control points.

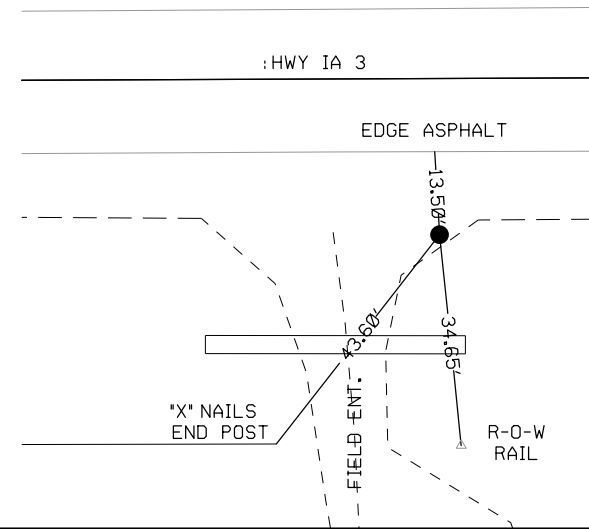
Alignment Information

The horizontal alignment for this survey is a retrace of as-built Plans Bremer County Project Number P-483 1930 Paving. PI station 548+73.2 was used for stationing.

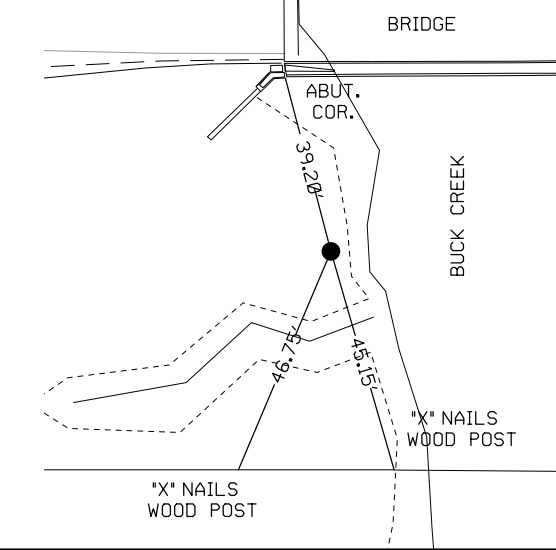
VERTICAL CONTROL

Point	North	East	Elevation	Station	Offset	Feature	Description
BM1	8923544.310	15532560.700	996.910	554+17.39	60.054	BM	TOP RIGHT-OF-WAY RAIL SOUTH SIDE HIGHWAY 3 APPROXIMATELY 600 FEET WEST OF BRIDGE OVER BUCK CREEK.
BM2	8923590.152	15533182.290	1002.970	560+39.17	16.865	BM	SQUARE CUT TOP CONCRETE WINGWALL AT THE SOUTHWEST CORNER OF BRIDGE OVER BUCK CREEK
BM3	8923671.072	15533461.990	992.490	563+19.22	-62.861	BM	60D SPIKE IN POWER POLE NORTH SIDE HIGHWAY 3 APPROXIMATELY 200 FEET EAST OF BRIDGE OVER BUCK CREEK

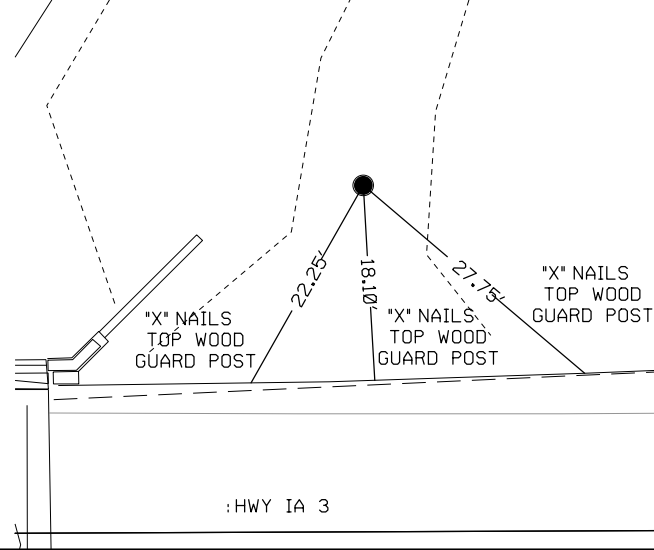
C.P. STA. 554+14.17, Rt. 25.62
 C.P. BC1, SET 1/2 IN X24 IN REBAR
 N=8923578.728, E=15532557.331



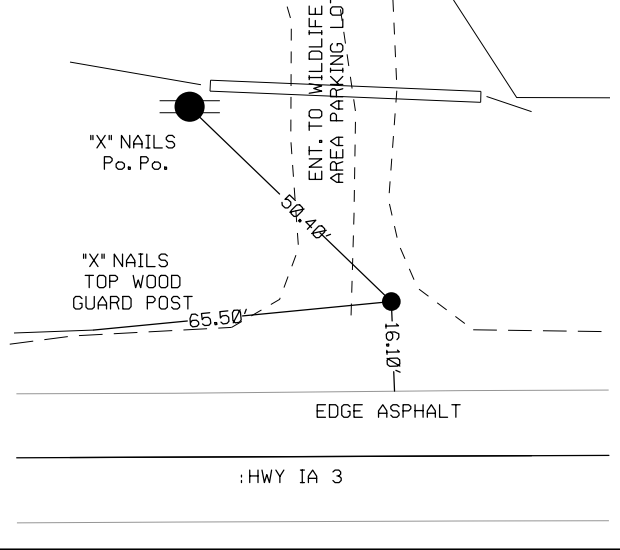
C.P. STA. 560+48.08, Rt. 51.17
 C.P. BC1, SET 1/2 IN X24 IN REBAR
 N=8923555.881, E=15533191.346



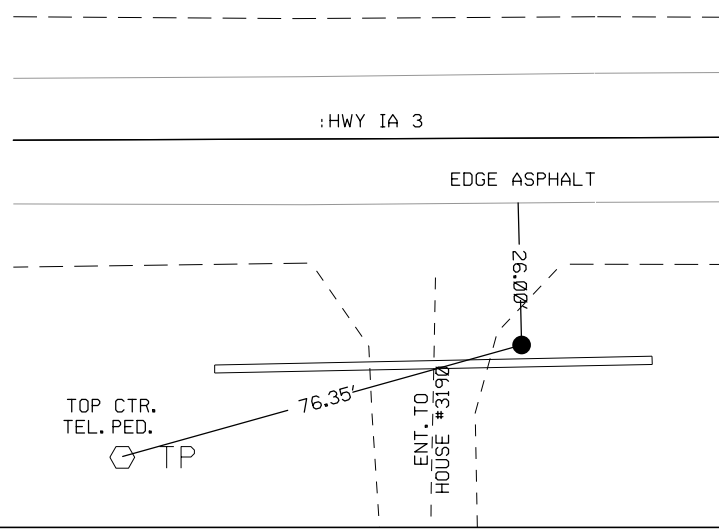
C.P. STA. 561+93.21, Lt. 33.93
 C.P. BC1, SET 1/2 IN X24 IN REBAR
 N=8923641.600, E=15533336.107



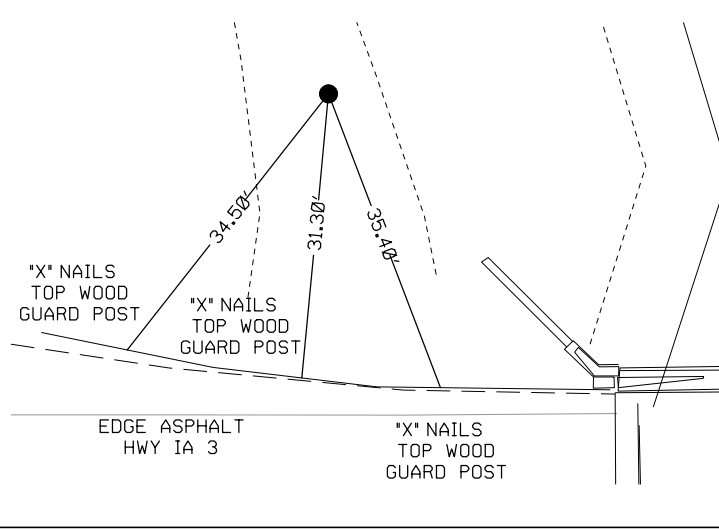
C.P. STA. 563+55.63, Lt. 28.18
 C.P. BC1, SET 1/2 IN X24 IN REBAR
 N=8923636.549, E=15533498.548



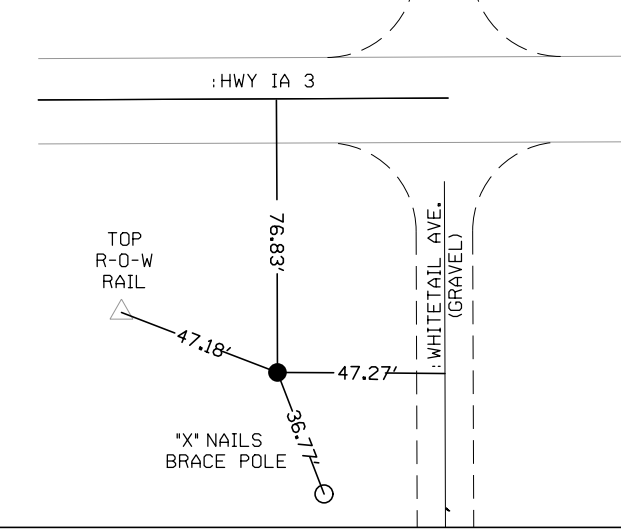
C.P. STA. 568+49.33, Rt. 38.09
 C.P. BC1, SET 1/2 IN X24 IN REBAR
 N=8923572.380, E=15533992.529



C.P. STA. 560+06.70, Lt. 47.91
 C.P. BC1, SET 1/2 IN X24 IN REBAR
 N=8923654.784, E=15533149.538



C.P. STA. 574+67.89, Rt. 77.24
 C.P. BC7, SET 5/8 IN X 30 IN REBAR - STATIC SOLUTION
 N=8923535.871, E=15534611.247

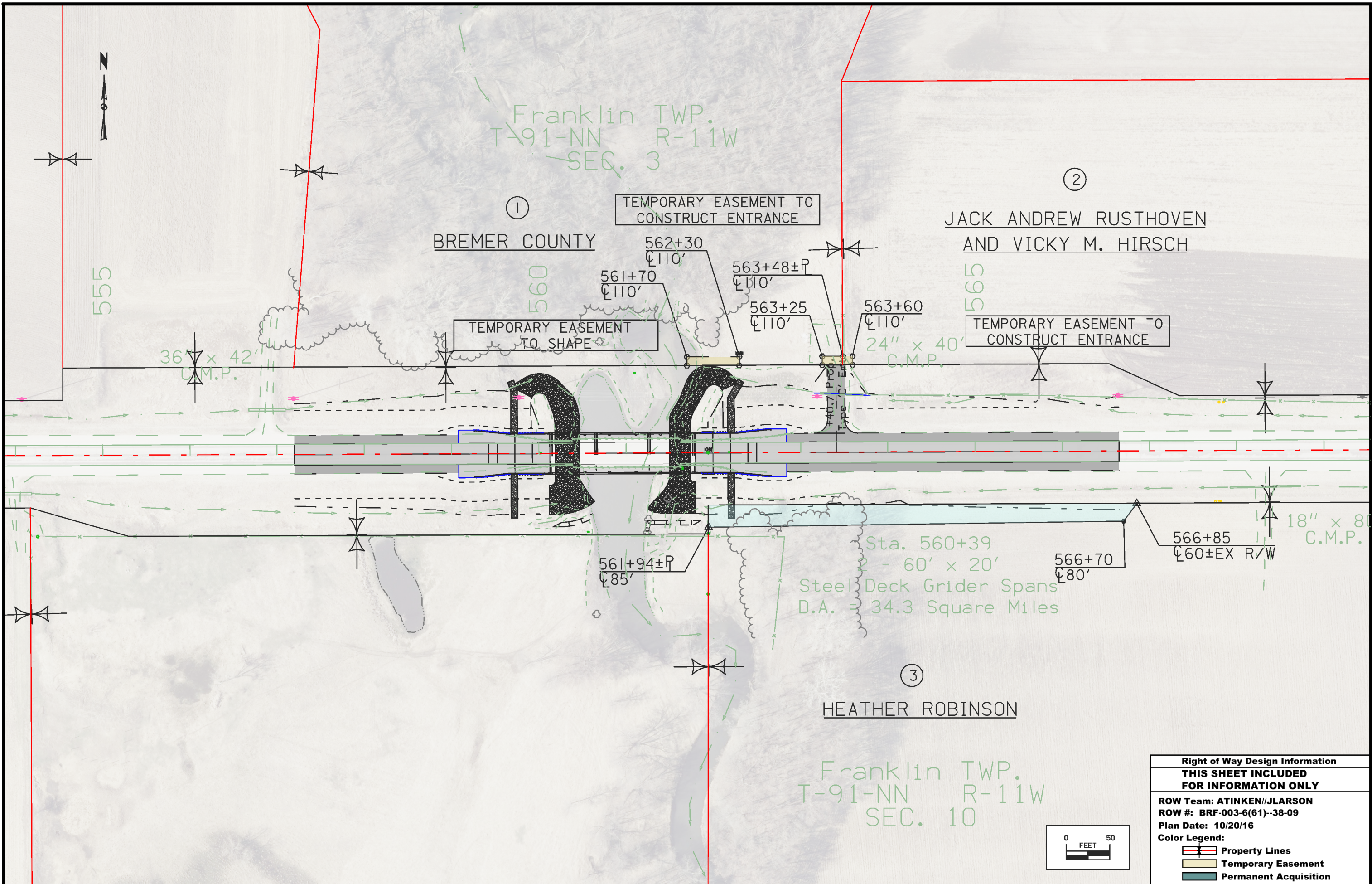


ALIGNMENT COORDINATES

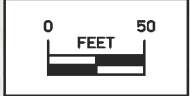
101-16
10-20-09

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)
P1		548+73.20	8,923,602.04	15,532,016.25															
P2		575+16.37	8,923,613.32	15,534,659.40															

Bremer	ROW: NHSN-003-6(61)--2R-09			PIN 14-09-003-010															
	Buck Creek 0.6 mi E of Co Rd V56																		
			STATE		COUNTY		CITY			BORROW									
PARCEL NO.	OWNER NAME	FEE	EASE	FEE	EASE	FEE	EASE	EXCESS	FEE	T.E.	MITIGATION	OTHER	HOUSE	BUILDING(S)	A/C ONLY	TOTAL ACQ.			
1	Bremer County - Fee																		
2	Vicky M Hirsch - Fee Jack Andrew Rusthoven - Fee																		
3	Heather Robinson - Fee		0.25 AC																
3 Parcels	"TOTALS	0 AC	0.25 AC	0 AC	0 AC	0 AC	0 AC	0 AC	0 AC	0 AC	0 AC	0 AC							
		0 SF	0 SF	0 SF	0 SF	0 SF	0 SF	0 SF	0 SF	0 SF	0 SF	0 SF							



Right of Way Design Information	
THIS SHEET INCLUDED FOR INFORMATION ONLY	
ROW Team: ATINKEN//JLARSON	
ROW #: BRF-003-6(61)-38-09	
Plan Date: 10/20/16	
Color Legend:	
	Property Lines
	Temporary Easement
	Permanent Acquisition



LINE STYLE LEGEND OF CROSS SECTION SHEETS (ROAD)

- Existing Ground Line
- ===== Proposed Template
- ===== Proposed Topsoil Placement
- Additional Topsoil Removal
- Subgrade Treatment
- Granular Shoulder
- ===== Pavement
- Existing Pipe\RCB
- ===== Proposed Pipe\RCB
- ===== Proposed Dike
- ===== All Elements Associated with Proposed Entrances

LINE STYLE LEGEND OF CROSS SECTION SHEETS (SOILS)

- Topsoil (Class 10)
- Slope Dressing Only
- Class 10 Materials
- Select Loams And Clay-Loams
- Select Sand
- Unsuitable Type A Disposal
- Unsuitable Type B Disposal
- Unsuitable Type C Disposal
- Shale
- Waste
- Broken and Weathered Rock
- Solid Rock
- Boulders

Note: All layer lines and descriptions identify layers above the line.

Note: Vertical or near vertical lines connecting soil layers at edges of cross sections are only for the purpose of calculating template quantities and do not depict soil stratification.

SYMBOL LEGEND OF CROSS SECTION SHEETS

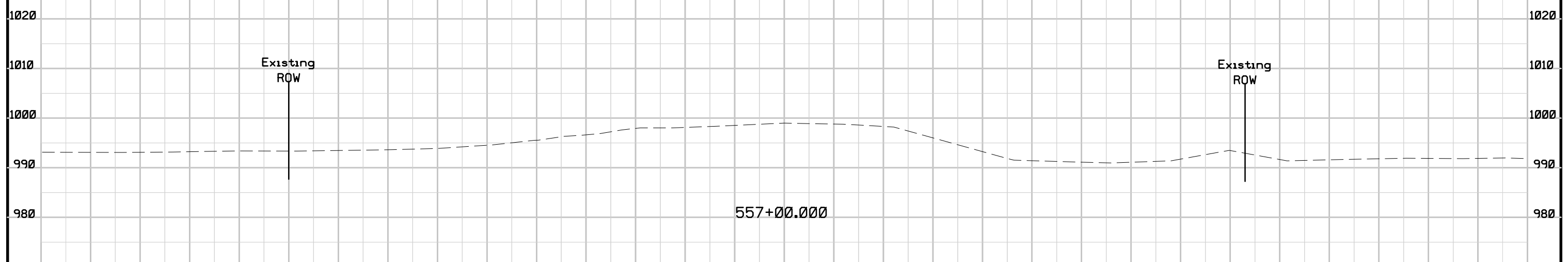
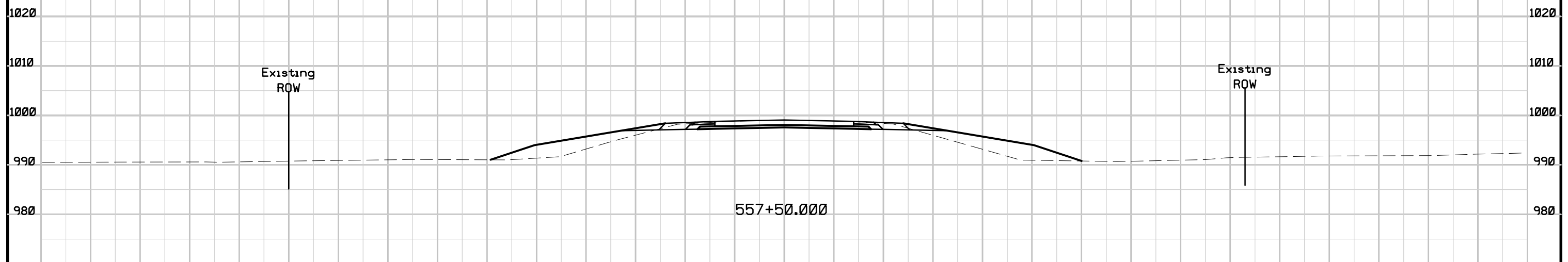
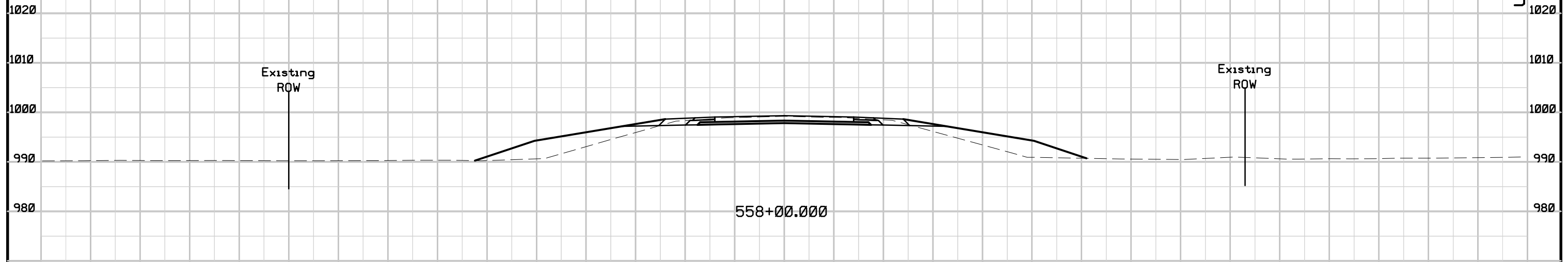
- Existing ROW
----- Existing Right-of-Way Limit
- Proposed ROW
----- Proposed Right-of-Way Limit
- Temporary ROW
----- Temporary Right-of-Way Limit

**CROSS SECTION
LEGEND AND SYMBOL
INFORMATION SHEET**

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

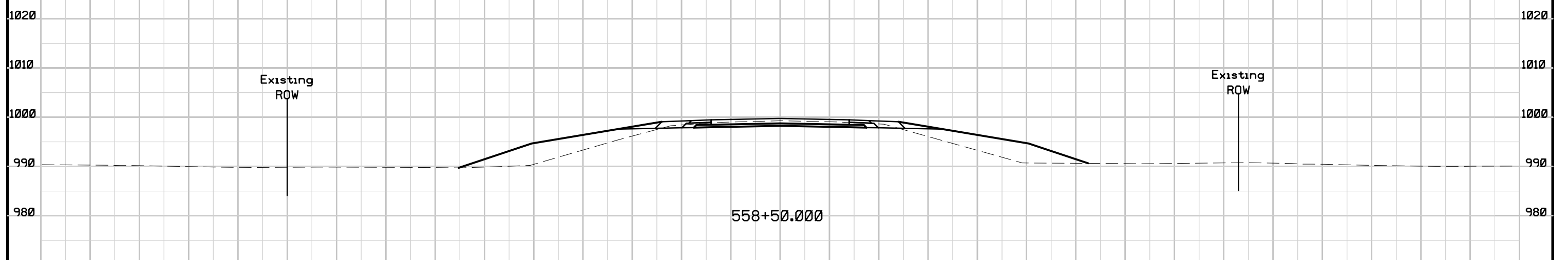
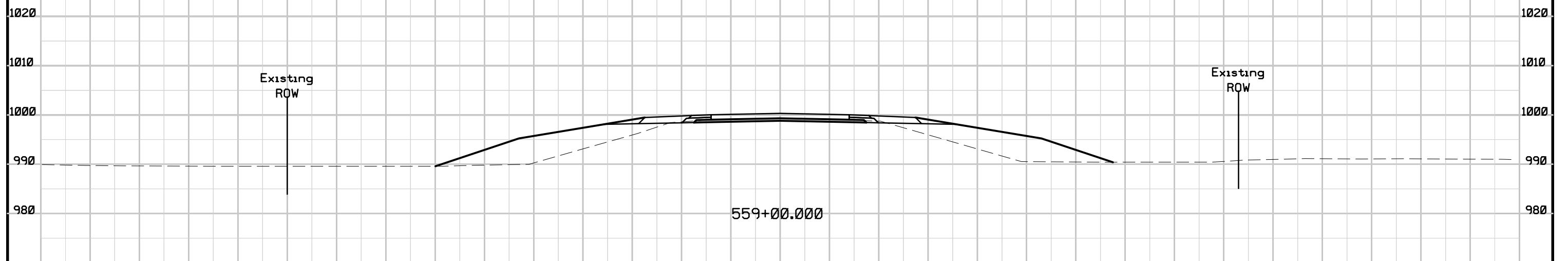
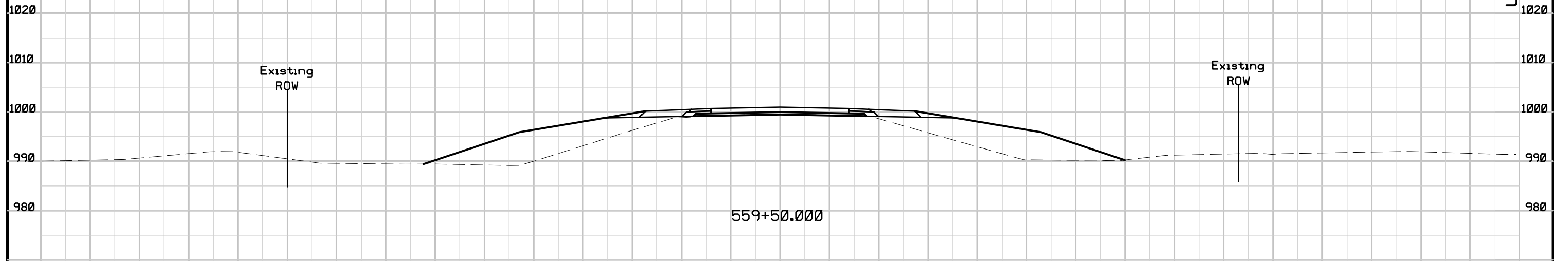
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IA HWY 3
Preliminary



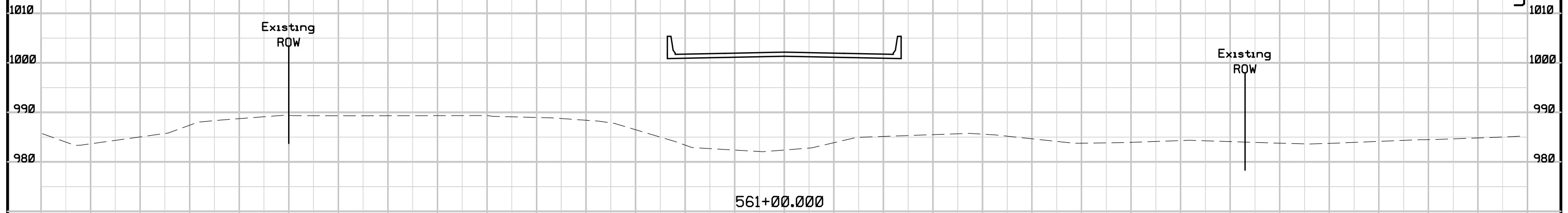
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IA HWY 3 Preliminary

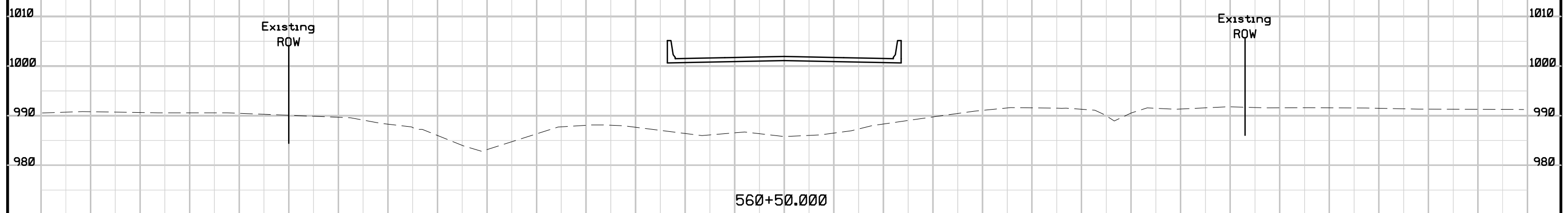


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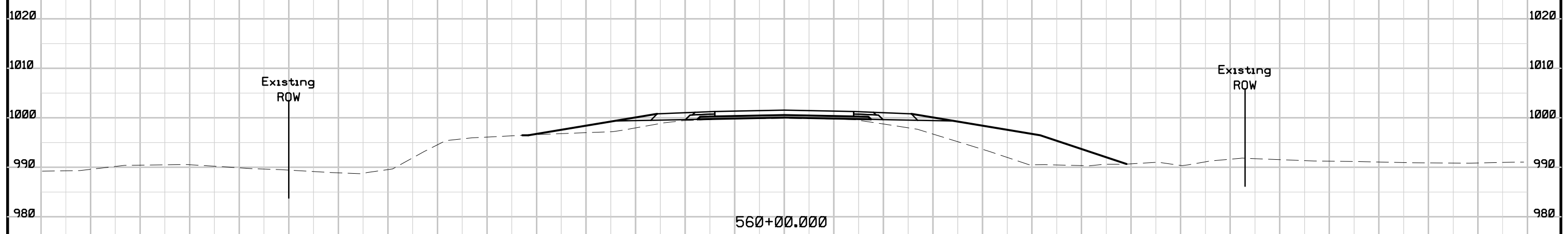
IA HWY 3 Preliminary



561+00.000



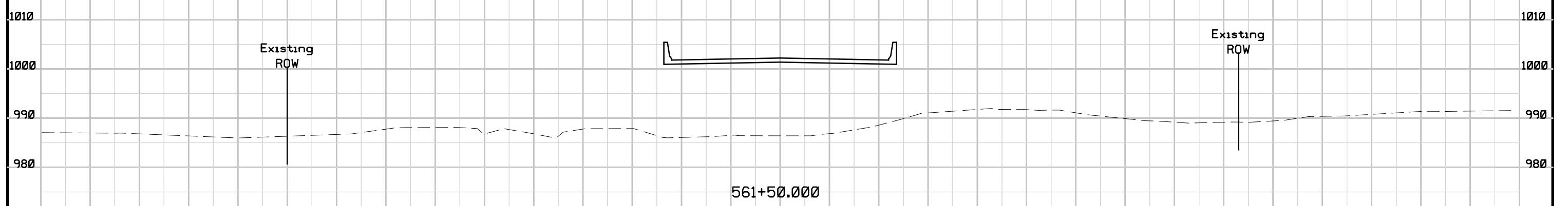
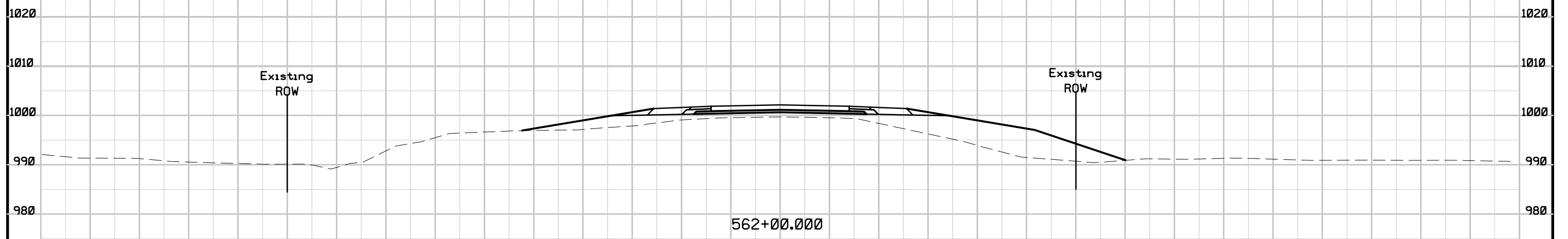
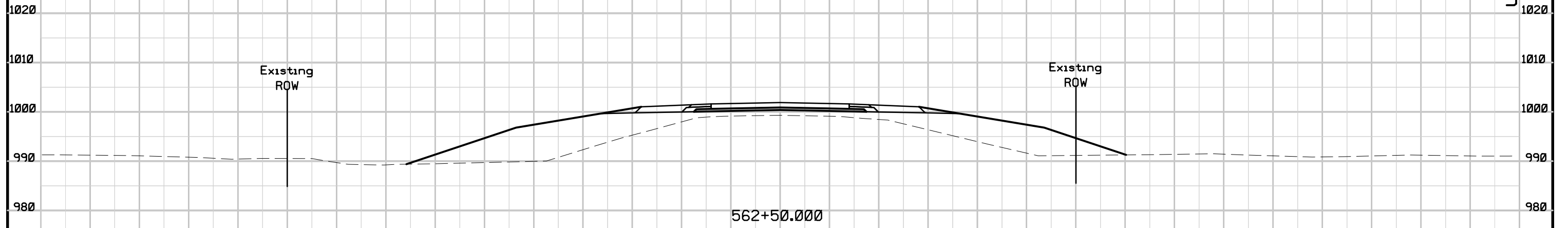
560+50.000



560+00.000

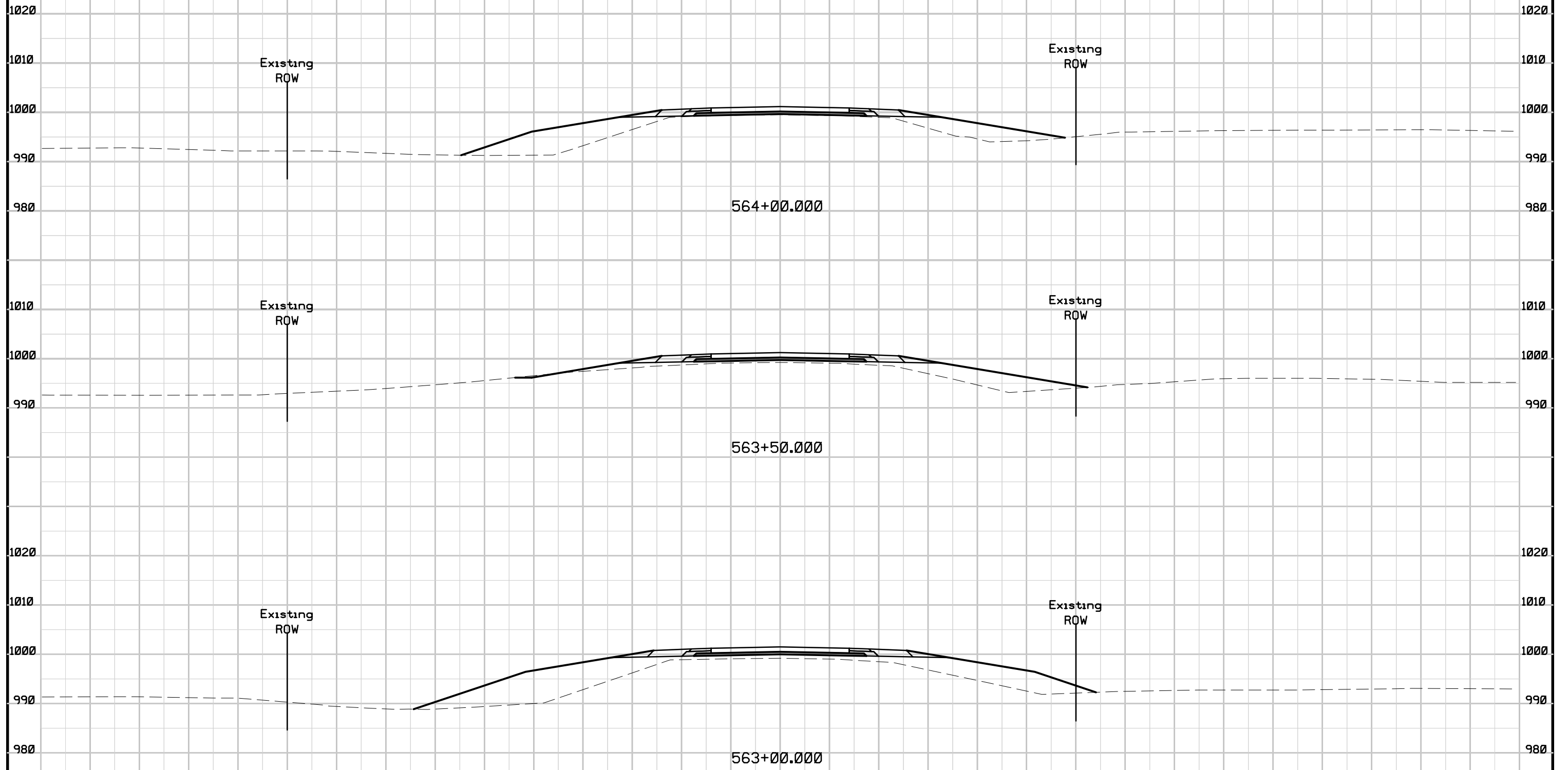
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IA HWY 3 Preliminary

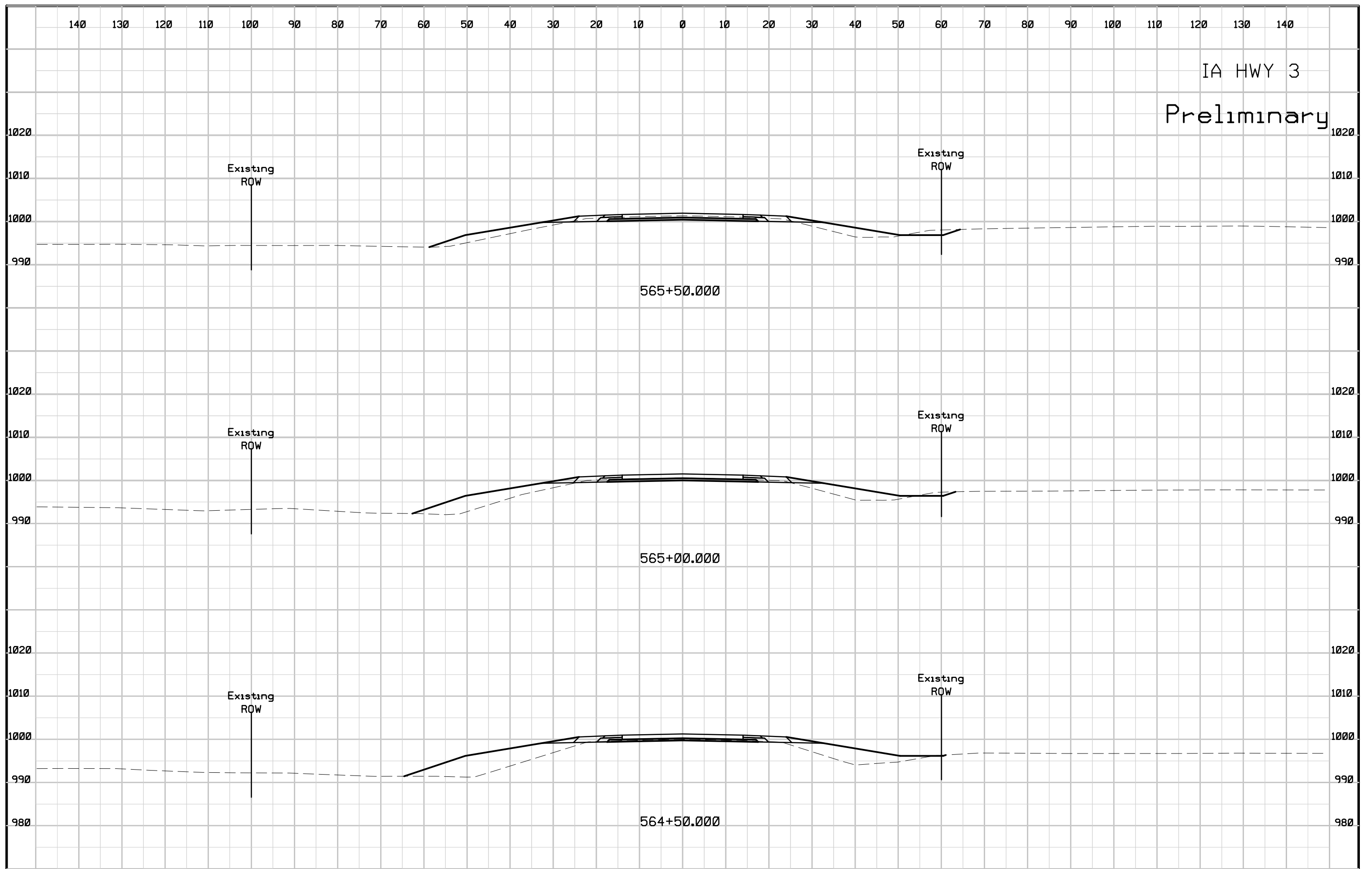


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IA HWY 3 Preliminary



IA HWY 3
Preliminary



140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

IA HWY 3
Preliminary

