PROJECT	DESIGNATION
PB-19-0003	-
CONTRACT	STRUCTURE
-	HAMILTON 98

STRUCTURE	TYPE	SPAN AND SKEW	OVER	STATION
HAMILTON COUNTY BRIDGE 98	CONTINUOUS COMPOSITE STEEL BEAM BRIDGE	3 SPANS @ 72'-0", 90'-0", 72'-0". SKEW 00° 00' 00.0"	MORSE RESERVOIR	32+18.00 "A"

HAMILTON COUNTY HIGHWAY DEPARTMENT

HAMILTON COUNTY
INDIANA

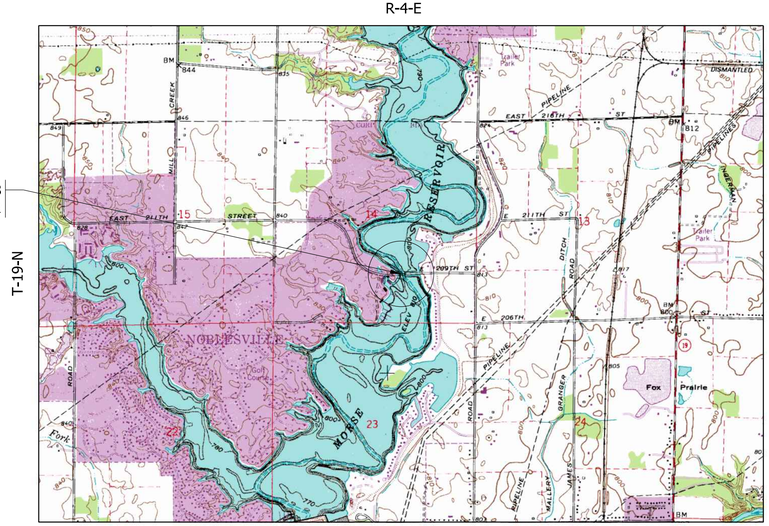
BRIDGE REHABILITATION PLANS FOR HAMILTON COUNTY BRIDGE 98 EAST 209TH STREET OVER MORSE RESERVOIR NOBLESVILLE TOWNSHIP HAMILTON COUNTY, INDIANA PB-19-0003

BRIDGE REHABILITATION ON EAST 209TH STREET OVER MORSE RESERVOIR,
LOCATED 0.36 MILES WEST OF HAGUE ROAD IN SECTION 14,
T-19-N, R-4-E, NOBLESVILLE TOWNSHIP, HAMILTON COUNTY, INDIANA.

R-4-E

HAMILTON COUNTY BRIDGE 98
EAST 209TH STREET OVER MORSE RESERVOIR

T-19-N



T-19-N

R-4-E

SCALE: 1"=2,000'

HAMILTON COUNTY

HAMILTON COUNTY BOARD OF COMMISSIONERS

APPROVED BY DATE 1/31/2020

CHRISTINE ALTMAN, PRESIDENT

MARK HEIRBRANDT, VICE PRESIDENT

STEVEN C. DILLINGER, MEMBER

RECOMMEND FOR APPROVAL DATE 1/31/2020

JIM NEAL, P.E., COUNTY HIGHWAY ENGINEER

ATTESTED BY DATE 1/31/20

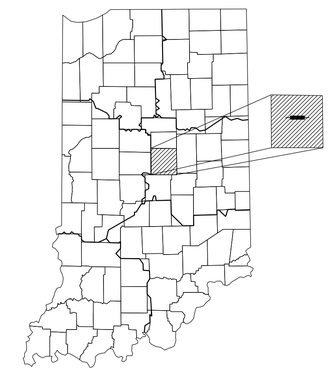
ROBIN M. MILLS, AUDITOR

TRAFFIC DATA

A.A.D.T.	2020	9,518 V.P.D.
A.A.D.T.	2040	12,373 V.P.D.
D.H.V	-	- V.P.H.
DIRECTIONAL DISTRIBUTION		51 %
TRUCKS		5.9 % A.A.D.T.
		- % D.H.V.

DESIGN DATA

DESIGN SPEED	40 M.P.H.
PROJECT DESIGN CRITERIA	3R PROJECT, NON-FREEWAY
FUNCTIONAL CLASSIFICATION	MINOR ARTERIAL
RURAL/URBAN	URBAN
TERRAIN	LEVEL
ACCESS CONTROL	NONE



PROJECT LOCATION SHOWN BY
HAMILTON COUNTY

LATITUDE: 40° 05' 27" N LONGITUDE: 86° 02' 25" W

BRIDGE LENGTH:	0.045	MI.
ROADWAY LENGTH:	0.049	MI.
TOTAL LENGTH:	0.094	MI.
MAX. GRADE:	1.430	%

Plans Prepared By:
SJCA P.C.
ENGINEERS & SURVEYORS
9102 North Meridian Street, Suite 200, Indianapolis, IN 46260
Phone: (317) 566-0629
Website: www.sjca-pc.com

INDIANA DEPARTMENT OF TRANSPORTATION
STANDARD SPECIFICATIONS DATED 2020
TO BE USED WITH THESE PLANS.

DANIEL R. MULLANEY
REGISTERED
No. PE11400776
STATE OF INDIANA
PROFESSIONAL ENGINEER

PLANS PREPARED BY: SJCA, P.C. (317) 566-0629 PHONE NUMBER

CERTIFIED BY: January 29, 2020 DATE

APPROVED FOR LETTING: DATE

BRIDGE FILE
HAMILTON 98
DESIGNATION
-

SURVEY BOOK	SHEETS		
ELECTRONIC	1	of	31
CONTRACT	PROJECT		
-	PB-19-0003		

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2/3/2020 1:02:48 PM
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UTILITIES

AT&T - DISTRIBUTION
Brad Bailey
240 N. Meridian St.
Indianapolis, IN 46204
Bb3525@att.com
(317) 610-5422

CITIZENS WATER
Scott Ritter
2150 Dr. Martin Luther King Jr. St.
Indianapolis, IN 46202
sritter@citizensenergygroup.com
(317) 927-4434

COMCAST CABLE
William Morris
5330 E. 65th St.
Indianapolis, IN 46220
william_morris@comcast.com
(317) 516-2237

DUKE ENERGY
Dan Benson
100 S. Mill Creek Rd.
Noblesville, IN 46062
dan.benson@duke-energy.com
(317) 776-5340

CITY OF NOBLESVILLE
Andrew Rodewald
16 S. 10th St., Suite 155
Noblesville, IN 46060
arodewald@noblesville.in.us
(317) 776-6330

FRONTIER COMMUNICATIONS OF INDIANA
Stephen Costlow
20905 Hague Road
Noblesville, IN 46062
Steve.costlow@ftr.com
(317) 984-9010

MARATHON PIPELINE CO.
Greg Newman
20-C Industrial Drive
Lexington, OH 44904
gcnewman@marathonpetroleum.com
(419) 884-0800 ext. 236

PANHANDLE EASTERN PIPELINE CO.
Troy Yackle
9371 Zionsville Rd.
Indianapolis, IN 46268
Troy.Yackle@energytransfer.com
(317) 733-3213

VECTREN - GAS DISTRIBUTION
Shawn Williams
16000 Allisonville Rd.
Noblesville, IN 46060
shawn.williams@centerpointenergy.com
(317) 776-5574

REVISIONS

SHEET NO.	DATE	REVISED

INDEX

SHEET NO.	SUBJECT
1	TITLE
2	INDEX
3	TYPICAL SECTIONS
4	DETOUR ROUTE
5 - 6	CONSTRUCTION DETAILS
7 - 8	EROSION CONTROL
9	LAYOUT
10	GENERAL PLAN
11	REMOVAL DETAILS
12 - 13	END BENT DETAILS
14	BEAM DETAILS
15 - 17	SUPERSTRUCTURE DETAILS
18	BRIDGE RAIL DETAILS
19	SCREED DATA
20	REINFORCED CONCRETE BRIDGE APPROACH DETAILS
21	SUMMARY OF QUANTITIES
22 - 31	CROSS SECTIONS - LINE "A"

DANIEL R. MULLANEY
REGISTERED
No. PE11400776
STATE OF INDIANA
PROFESSIONAL ENGINEER

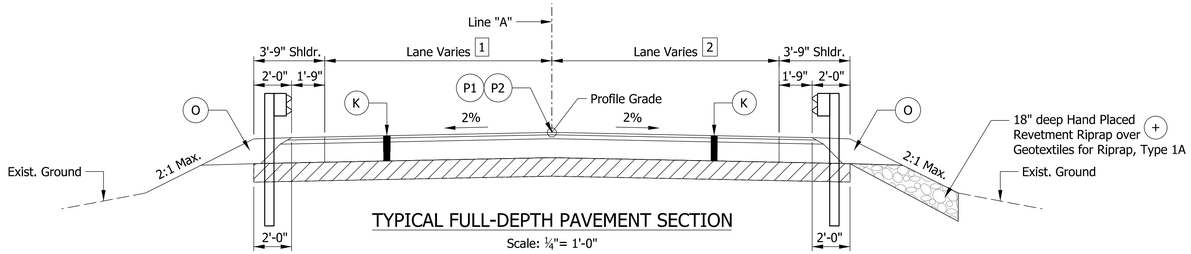
RECOMMENDED FOR APPROVAL — DESIGN ENGINEER — 1/29/2020 DATE

DESIGNED: MAH DRAWN: MAH
CHECKED: DRM CHECKED: DRM

HAMILTON COUNTY
BRIDGE NO. 98

INDEX SHEET

HORIZONTAL SCALE	BRIDGE FILE
N/A	HAMILTON 98
VERTICAL SCALE	DESIGNATION
N/A	-
SURVEY BOOK	SHEETS
ELECTRONIC	2 of 31
CONTRACT	PROJECT
-	PB-19-0003



TYPICAL FULL-DEPTH PAVEMENT SECTION

Scale: ¼"= 1'-0"

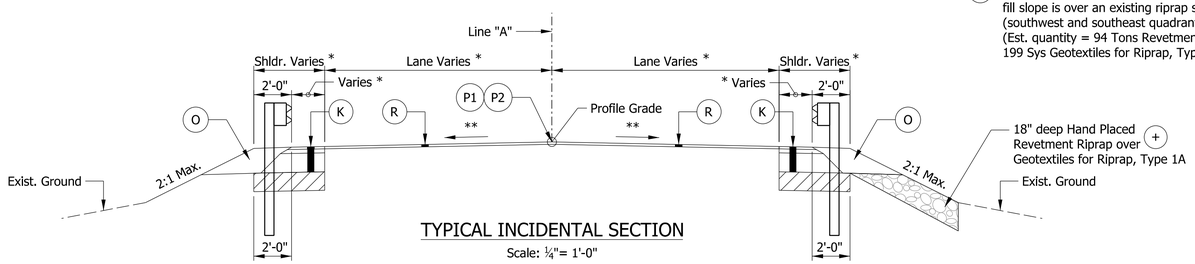
Sta. 29+50.00 "A" to 33+95.00 "A"

1 Varies from 16'-9" at Sta. 29+50.00 "A" to 12'-0" at Sta. 30+09.50 "A"
Equals 12'-0" from Sta. 30+09.50 "A" to Sta. 30+78.71 "A"
Equals 12'-0" from Sta. 33+57.29 "A" to Sta. 33+95.00 "A"

2 Varies from 17'-4" at Sta. 29+50.00 "A" to 12'-4" at Sta. 30+02.66 "A"
Equals 12'-4" from Sta. 30+02.66 "A" to Sta. 30+17.00 "A"
Equals 12'-0" from Sta. 30+17.00 "A" to Sta. 30+78.71 "A"
Equals 12'-0" from Sta. 33+57.29 "A" to Sta. 33+95.00 "A"

PAVING EXCEPTION

Sta. 30+78.71 "A" to Sta. 33+57.29 "A"



TYPICAL INCIDENTAL SECTION

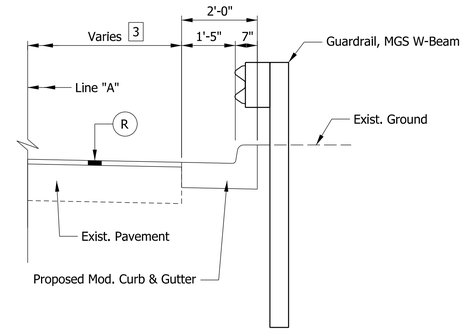
Scale: ¼"= 1'-0"

Sta. 29+00.00 "A" to 29+50.00 "A"
Sta. 33+95.00 "A" to 34+43.00 "A"

+ Riprap to be placed in locations where proposed fill slope is over an existing riprap slope (southwest and southeast quadrants) (Est. quantity = 94 Tons Revetment Riprap; 199 Sys Geotextiles for Riprap, Type 1A)

* See Sheets 5 & 6 for Details

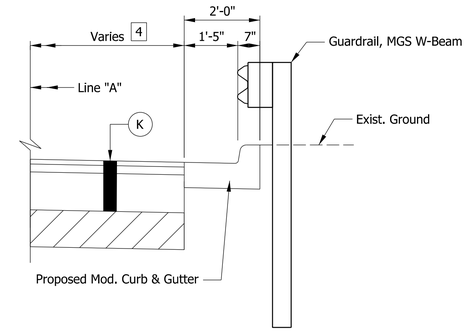
** Cross Slope Varies to Match Existing



INCIDENTAL SECTION @ PROPOSED CURB

Scale: ½"= 1'-0"

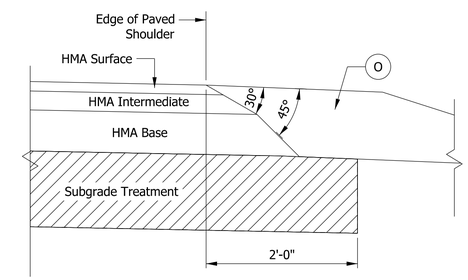
3 Varies from 22'-2" at Sta. 29+00.00 "A" to 17'-4" at Sta. 29+50.00 "A", Rt.



FULL-DEPTH PAVEMENT SECTION @ PROPOSED CURB

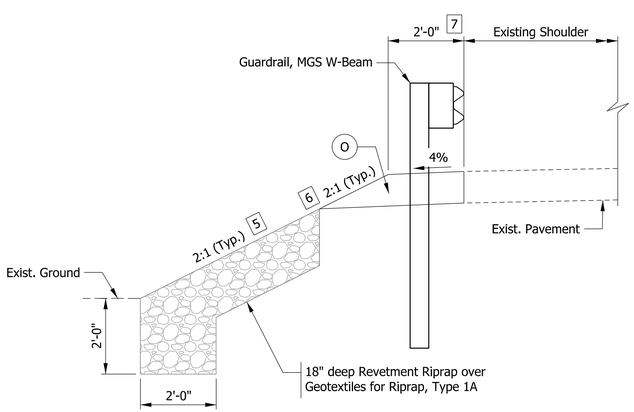
Scale: ½"= 1'-0"

4 Varies from 17'-4" at Sta. 29+50.00 "A" to 12'-4" at Sta. 30+02.66 "A", Rt.
Equals 12'-4" from Sta. 30+02.66 "A" to Sta. 30+17.00 "A", Rt.



SAFETY EDGE DETAIL

Not to Scale



5 Equals 2:1 from Sta. 25+85.00 "A" to Sta. 27+00.00 "A"
Varies from 2:1 at Sta. 27+00.00 "A" to 1.5:1 at Sta. 27+10.00 "A"
Equals 1.5:1 from Sta. 27+10.00 "A" to Sta. 27+50.00 "A"
Varies from 1.5:1 at Sta. 27+50.00 "A" to 3:1 at Sta. 27+70.00 "A"

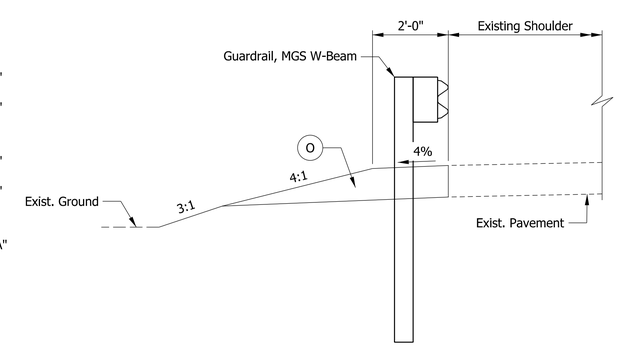
6 Equals 2:1 from Sta. 25+85.00 "A" to Sta. 27+00.00 "A"
Varies from 2:1 at Sta. 27+00.00 "A" to 1.5:1 at Sta. 27+20.00 "A"
Equals 1.5:1 from Sta. 27+20.00 "A" to Sta. 27+50.00 "A"
Varies from 1.5:1 at Sta. 27+50.00 "A" to 4:1 at Sta. 27+70.00 "A"

7 Equals 4'-0" from Sta. 25+85.00 "A" to Sta. 26+47.00 "A"
Varies from 4'-0" at Sta. 26+47.00 "A" to 2'-0" at Sta. 26+55.00 "A"
Equals 2'-0" from Sta. 26+55.00 "A" to Sta. 27+70.00 "A"

INCIDENTAL CONSTRUCTION - GUARDRAIL INSTALLATION & GRADING

Scale: ½"= 1'-0"

Sta. 25+85.00 "A to Sta. 27+70.00 "A", Left



INCIDENTAL CONSTRUCTION - GUARDRAIL INSTALLATION & GRADING

Scale: ½"= 1'-0"

Sta. 27+70.00 "A to Sta. 29+00.00 "A", Left

LEGEND

- (K) 165 lbs/syd HMA, Surface, Type B, 9.5mm on 275 lbs/syd HMA, Intermediate, Type B, 19.0mm on 1320 lbs/syd HMA, Base, Type B, 25.0mm on Subgrade Treatment, Type IC
- (R) Variable depth HMA, Surface, Type B, 9.5mm on Milling, Asphalt, 1½"
- (O) Variable depth Compacted Aggregate, No. 53 (16" max.)
- (P1) Joint adhesive required for Surface and Intermediate layers at longitudinal joints
- (P2) Liquid asphalt sealant required on Surface layer over longitudinal joint, 24" width
- Subgrade Treatment, Type IC

DANIEL R. MULLANEY REGISTERED No. PE11400776 STATE OF INDIANA PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL — DESIGN ENGINEER — DATE 1/29/2020

DESIGNED: PFC | DRAWN: PFC

CHECKED: DRM | CHECKED: DRM

HAMILTON COUNTY
BRIDGE NO. 98

TYPICAL SECTIONS

HORIZONTAL SCALE	BRIDGE FILE
AS NOTED	HAMILTON 98
VERTICAL SCALE	DESIGNATION
AS NOTED	-
SURVEY BOOK	SHEETS
ELECTRONIC	3 of 31
CONTRACT	PROJECT
-	PB-19-0003

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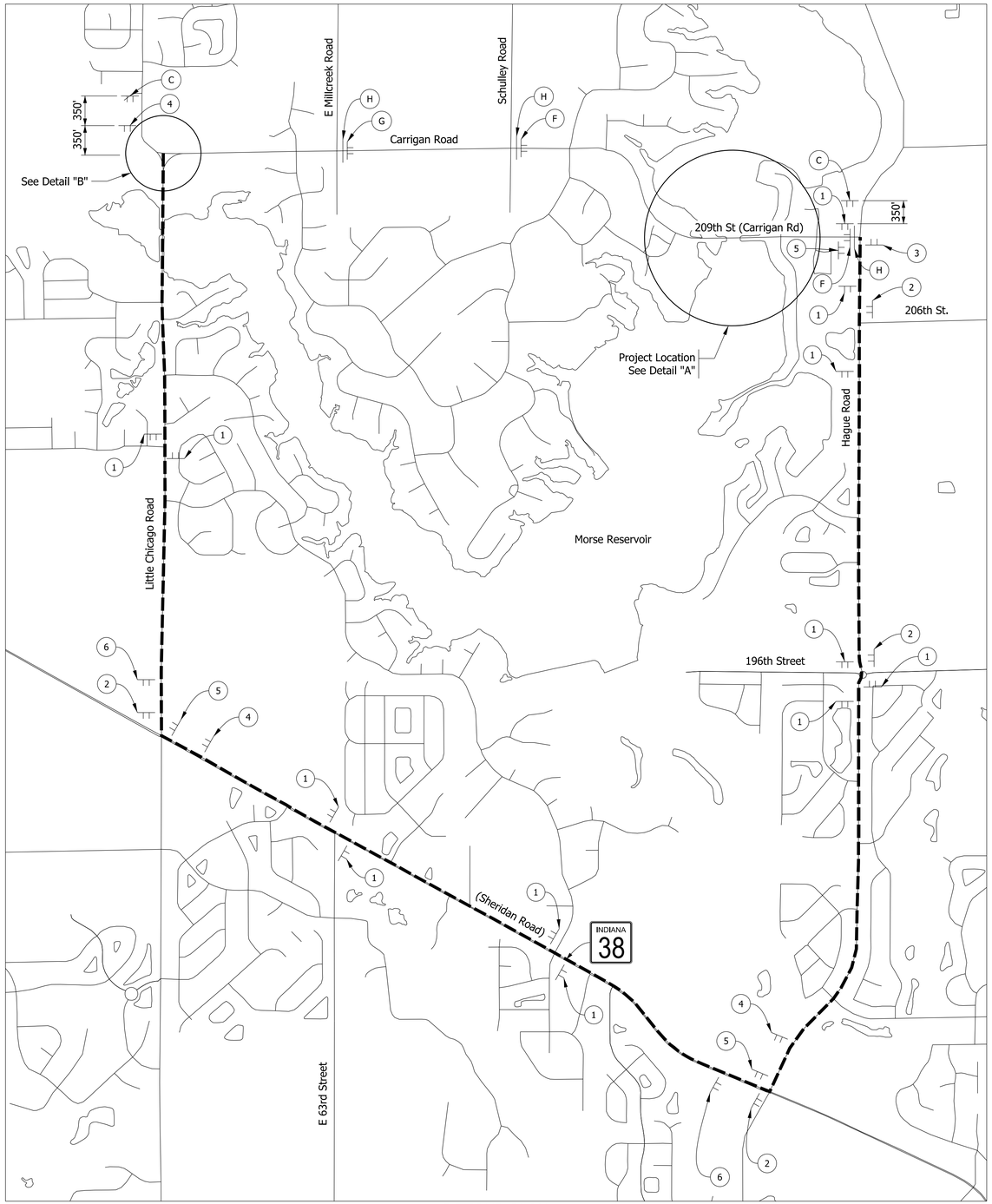
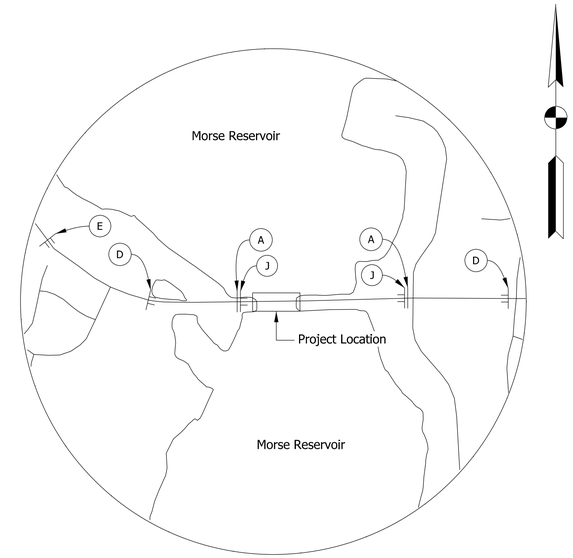
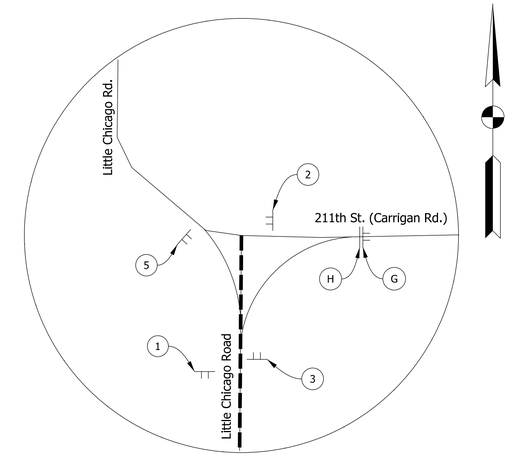


DETOUR PLAN
Scale: 1" = 1000'



DETAIL "A"
Scale: 1" = 400'



DETAIL "B"
Scale: 1" = 200'

DETOUR ROUTE MARKER ASSEMBLY LEGEND

DETOUR / EAST/WEST	XM4-8 / M3-2 or M3-4	DETOUR / EAST/WEST	XM4-8 / M3-2 or M3-4	END DETOUR	XM4-8a
CARRIGAN RD.	M1-6	CARRIGAN RD.	M1-6	CARRIGAN RD.	M1-6
↑	M6-3	←	M6-1		
XRMA-1 (1)		XRMA-2 (2)		XRMA-3 (3)	
DETOUR / EAST/WEST	XM4-8 / M3-2 or M3-4	DETOUR / EAST/WEST	XM4-8 / M3-2 or M3-4	DETOUR / EAST/WEST	XM4-8 / M3-2 or M3-4
CARRIGAN RD.	M1-6	CARRIGAN RD.	M1-6	CARRIGAN RD.	M1-6
→	M6-1	↰	M5-1(L)	↱	M5-1(R)
XRMA-5 (5)		XRMA-6 (6)		XRMA-4 (4)	

TWO ROAD CLOSURE
NOTICE SIGNS XG20-5
REQUIRED (ONE AT EACH END)
PLACED AT SITE A MINIMUM
OF 10 DAYS PRIOR TO ROAD CLOSURE

LEGEND

- (A) TYPE III-A BARRICADES - 24 LFT REQUIRED
- (C) "DETOUR AHEAD" - XW20-2
- (D) "ROAD CLOSED 500 FT." - XW20-3
- (E) "ROAD CLOSED 1000 FT." - XW20-3
- (F) ROAD CLOSURE SIGN ASSEMBLY WITH "ROAD CLOSED TO THRU TRAFFIC" - R11-4
- (G) ROAD CLOSURE SIGN ASSEMBLY WITH "ROAD CLOSED X MILES AHEAD LOCAL TRAFFIC ONLY" - R11-3
- (H) TYPE III-B BARRICADES STAGGERED - 24 LFT REQUIRED*
- (J) ROAD CLOSURE SIGN ASSEMBLY WITH "ROAD CLOSED" - R11-2
- SIGN ASSEMBLY
- DETOUR ROUTE

* LOCATED OUTSIDE OF TRAVELED WAY

ESTIMATED QUANTITIES

DESCRIPTION	UNIT	TOTAL
CONSTRUCTION SIGN, A	EACH	7
DETOUR ROUTE MARKER ASSEMBLY	EACH	29
ROAD CLOSURE SIGN ASSEMBLY	EACH	6
TYPE III-A BARRICADES	LFT	48
TYPE III-B BARRICADES	LFT	96

NOTES:
DETOUR ROUTE MARKER ASSEMBLIES SHALL BE IN ACCORDANCE WITH INDOT STANDARD DRAWING 801-TCDT-04.

TYPE B CONSTRUCTION WARNING LIGHTS SHALL BE USED WITH ALL SIGNS LOCATED ON BARRICADES.
TYPE A CONSTRUCTION WARNING LIGHTS SHALL BE USED ON ALL OTHER CONSTRUCTION SIGNS.

DANIEL R. MULLANEY
REGISTERED
No. PE11400776
STATE OF INDIANA
PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL — DESIGN ENGINEER — DATE 1/29/2020

DESIGNED: MAH | DRAWN: MAH/PFC
CHECKED: DRM | CHECKED: DRM

HAMILTON COUNTY
BRIDGE NO. 98

DETOUR ROUTE

HORIZONTAL SCALE	BRIDGE FILE
AS NOTED	HAMILTON 98
VERTICAL SCALE	DESIGNATION
N/A	-
SURVEY BOOK	SHEETS
ELECTRONIC	4 of 31
CONTRACT	PROJECT
-	PB-19-0003

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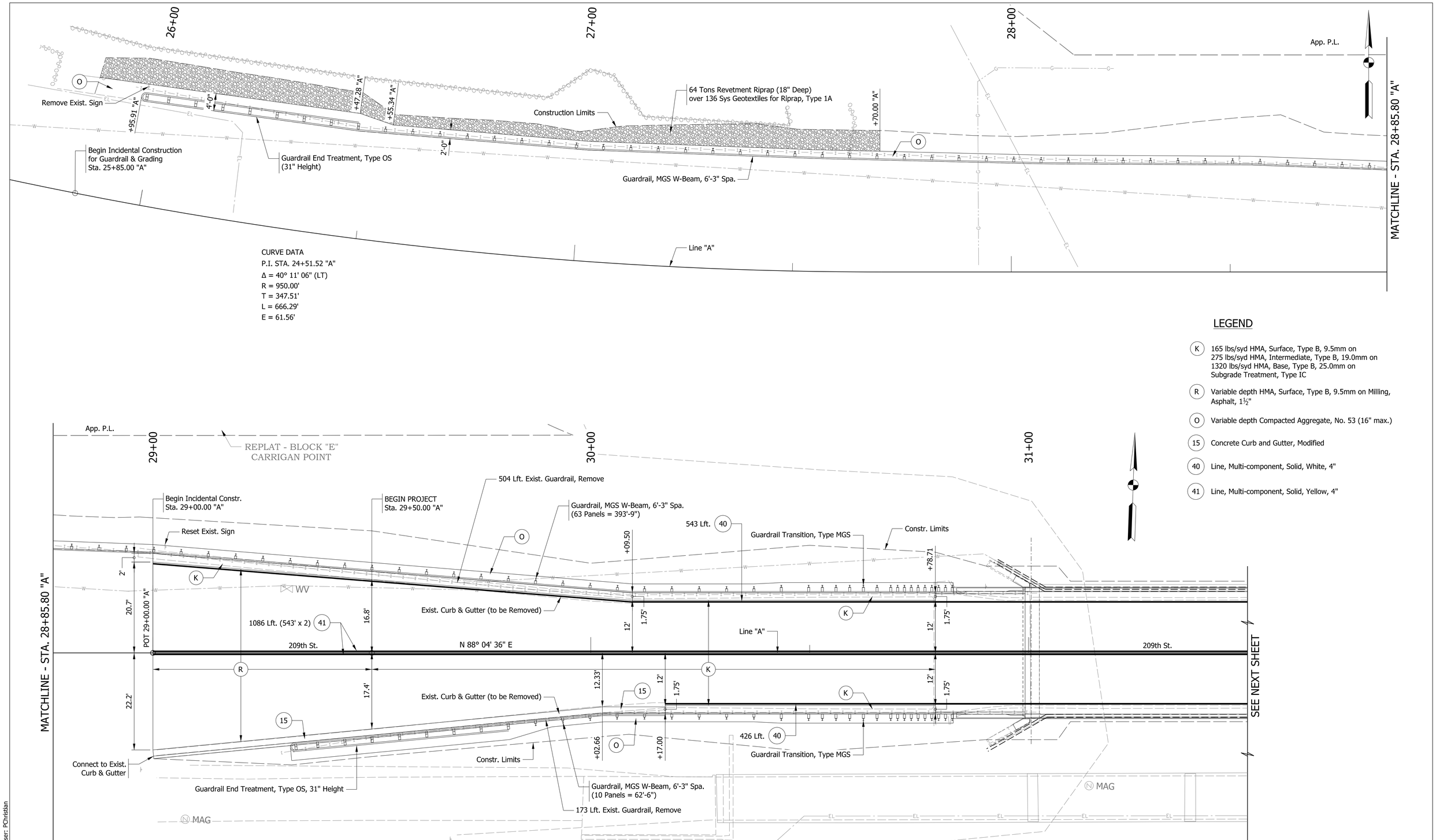

DANIEL R. MULLANEY
REGISTERED
No. PE11400776
STATE OF INDIANA
PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL — DESIGN ENGINEER — 1/29/2020 DATE

DESIGNED: PFC | DRAWN: PFC
CHECKED: DRM | CHECKED: DRM

HAMILTON COUNTY
BRIDGE NO. 98

CONSTRUCTION DETAILS

HORIZONTAL SCALE	BRIDGE FILE
1" = 10'	HAMILTON 98
VERTICAL SCALE	DESIGNATION
N/A	-
SURVEY BOOK	SHEETS
ELECTRONIC	5 of 31
CONTRACT	PROJECT
-	PB-19-0003

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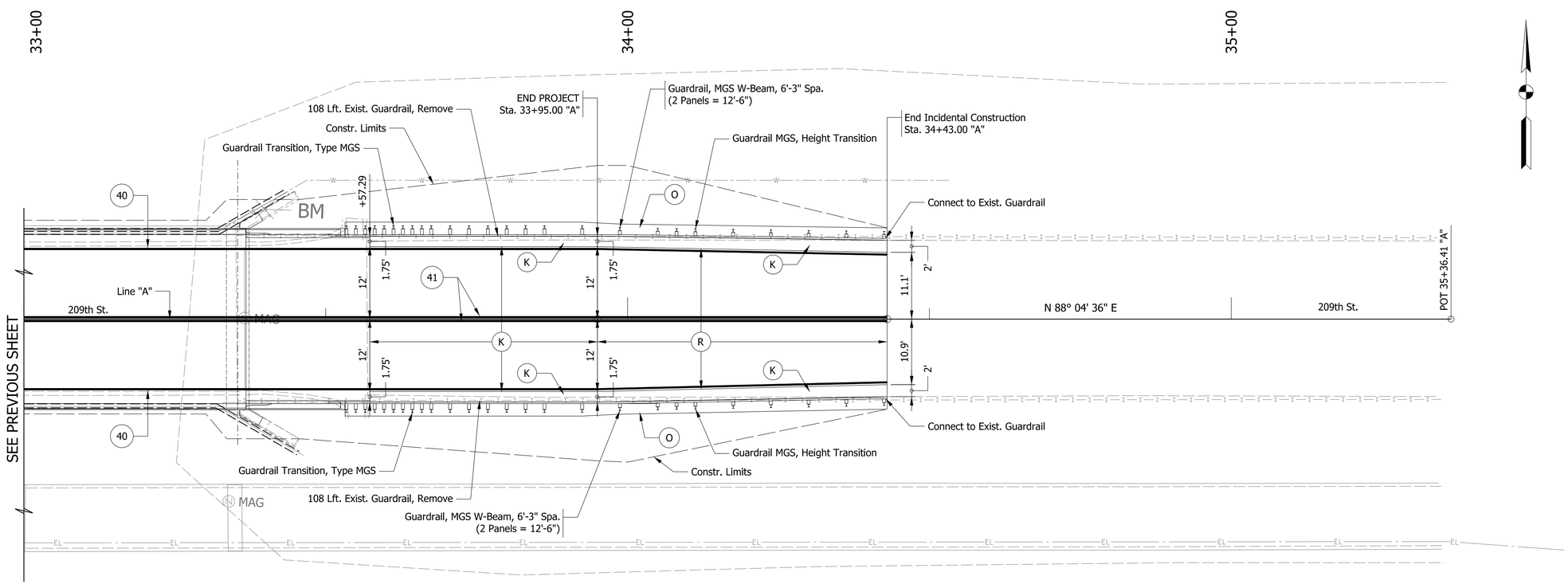

LEGEND

- (K) 165 lbs/syd HMA, Surface, Type B, 9.5mm on 275 lbs/syd HMA, Intermediate, Type B, 19.0mm on 1320 lbs/syd HMA, Base, Type B, 25.0mm on Subgrade Treatment, Type IC
- (R) Variable depth HMA, Surface, Type B, 9.5mm on Milling, Asphalt 1½"
- (O) Variable depth Compacted Aggregate, No. 53 (16" max.)
- (15) Concrete Curb and Gutter, Modified
- (40) Line, Multi-component, Solid, White, 4"
- (41) Line, Multi-component, Solid, Yellow, 4"

DANIEL R. MULLANEY
REGISTERED
No. PE11400776
STATE OF INDIANA
PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL — DESIGN ENGINEER — 1/29/2020 DATE

DESIGNED: PFC | DRAWN: PFC
CHECKED: DRM | CHECKED: DRM

HAMILTON COUNTY
BRIDGE NO. 98

CONSTRUCTION DETAILS

HORIZONTAL SCALE	BRIDGE FILE
1" = 10'	HAMILTON 98
VERTICAL SCALE	DESIGNATION
N/A	-
SURVEY BOOK	SHEETS
ELECTRONIC	6 of 31
CONTRACT	PROJECT
-	PB-19-0003

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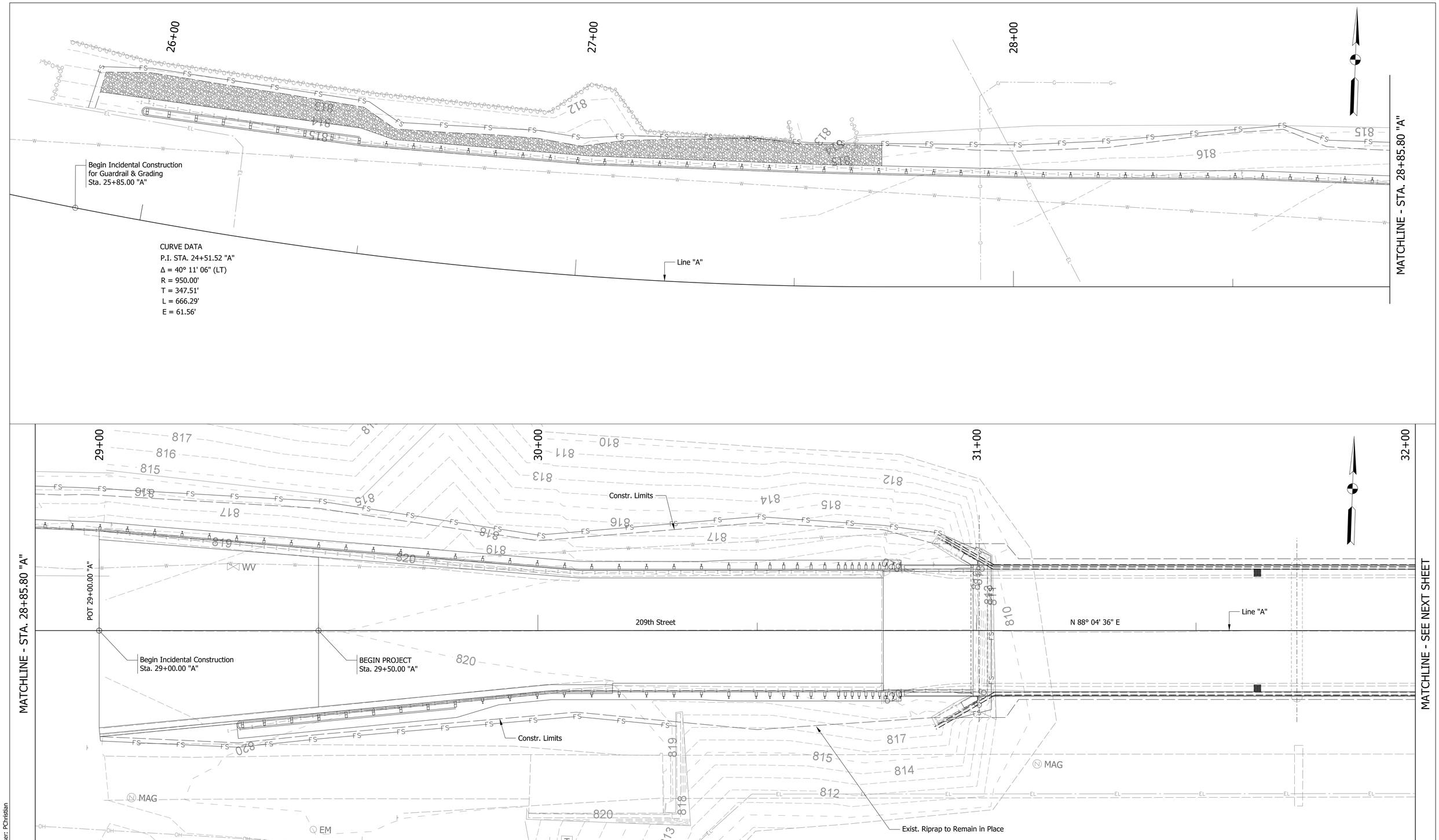

LEGEND

FS — Filter Sock

DANIEL R. MULLANEY
REGISTERED
No. PE11400776
STATE OF INDIANA
PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL — DESIGN ENGINEER — 1/29/2020 DATE

DESIGNED: GAH | DRAWN: PFC
CHECKED: PFC | CHECKED: GAH

HAMILTON COUNTY
BRIDGE NO. 98

EROSION CONTROL

HORIZONTAL SCALE	BRIDGE FILE
1" = 10'	HAMILTON 98
VERTICAL SCALE	DESIGNATION
N/A	-
SURVEY BOOK	SHEETS
ELECTRONIC	7 of 31
CONTRACT	PROJECT
-	PB-19-0003

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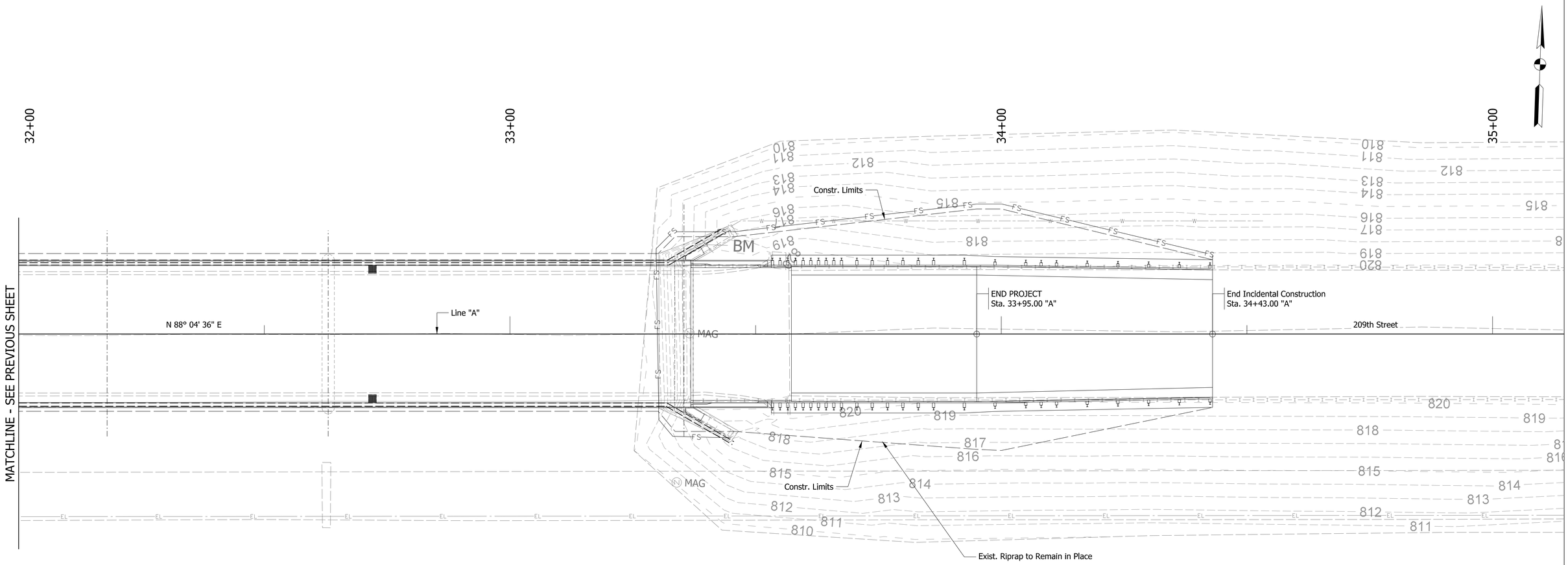

TEMPORARY EROSION CONTROL TABLE

STATION	LOCATION LEFT	LOCATION SLOPE	LOCATION RIGHT	TEMPORARY FILTER SOCK LFT	TEMPORARY SEED MIXTURE LBS	TEMPORARY NO. 2 STONE TON	FERTILIZER TON	SEDIMENT, REMOVE CYS	TEMPORARY MULCH TON	REMARKS
LINE "A"										
25+85 to 30+91	X			515				8		
29+00 to 30+30			X	133				2		
30+91 to 31+04		X		60				1		
33+30 to 33+45		X		70				1		
33+45 to 34+43	X			100				2		
Undistributed Quantity					23	100	0.1		0.4	
TOTALS				**878**	**23**	**100**	**0.1**	**14**	**0.4**	

LEGEND

FS — Filter Sock

DANIEL R. MULLANEY REGISTERED No. PE11400776 STATE OF INDIANA PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL — DESIGN ENGINEER — 1/29/2020 DATE

DESIGNED: GAH | DRAWN: PFC

CHECKED: PFC | CHECKED: GAH

HAMILTON COUNTY
BRIDGE NO. 98

EROSION CONTROL

HORIZONTAL SCALE	BRIDGE FILE
1" = 10'	HAMILTON 98
VERTICAL SCALE	DESIGNATION
N/A	-
SURVEY BOOK	SHEETS
ELECTRONIC	8 of 31
CONTRACT	PROJECT
-	PB-19-0003

Model: Sheet_2
2/3/2020 9:43:21 AM User: PChristian

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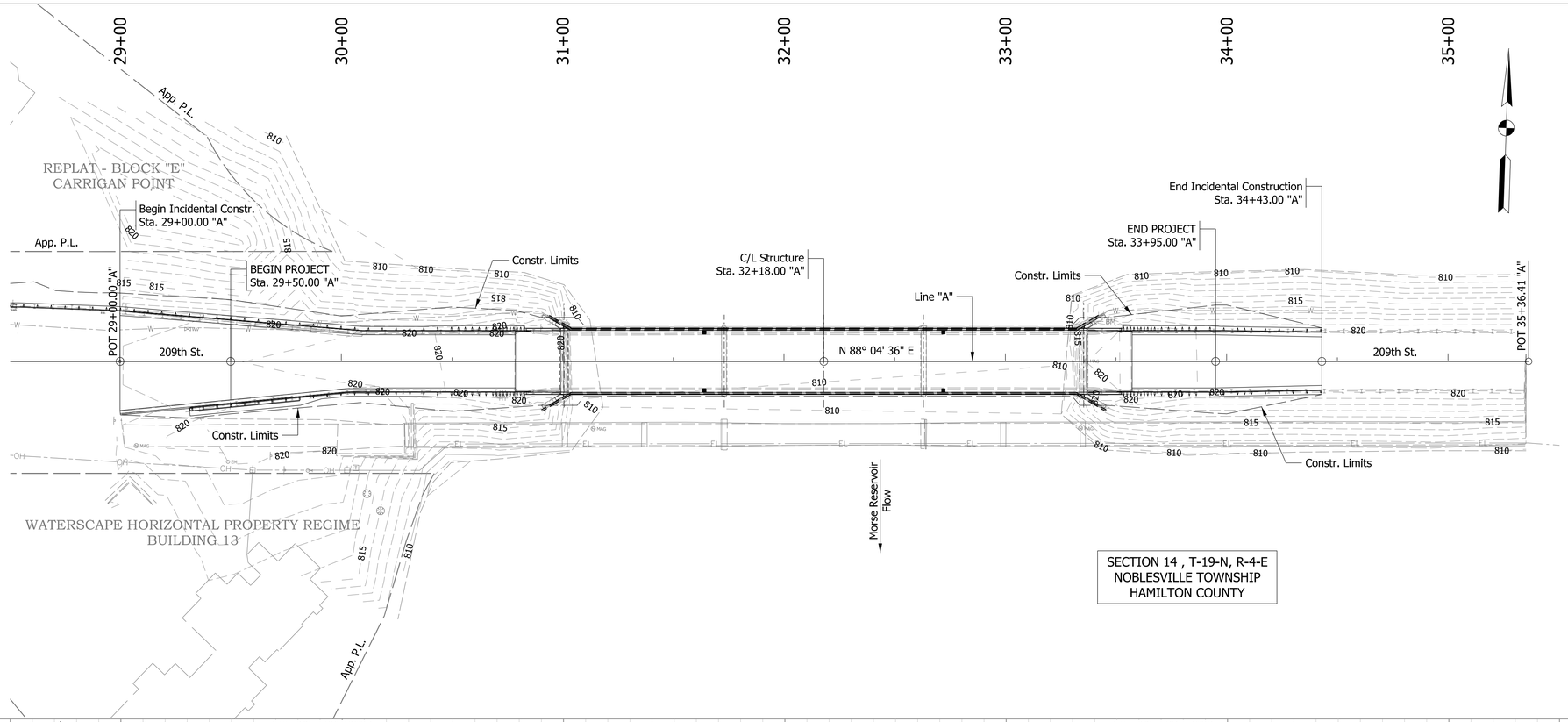


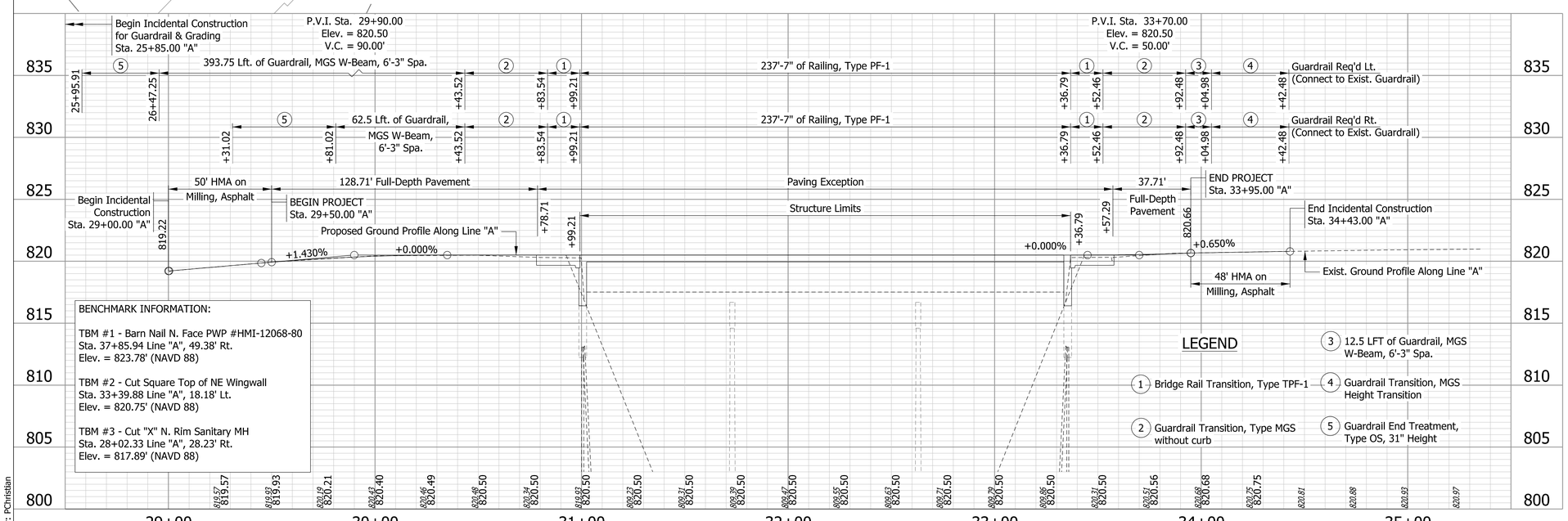
SECTION 14 , T-19-N, R-4-E
NOBLESVILLE TOWNSHIP
HAMILTON COUNTY

UTILITIES

See Index Sheet For Information

EXISTING STRUCTURE

Existing structure is a continuous steel beam bridge with 3 spans at 72'-0", 90'-0", 72'-0" with 0° skew.



BENCHMARK INFORMATION:

TBM #1 - Barn Nail N. Face PWP #HMI-12068-80
Sta. 37+85.94 Line "A", 49.38' Rt.
Elev. = 823.78' (NAVD 88)

TBM #2 - Cut Square Top of NE Wingwall
Sta. 33+39.88 Line "A", 18.18' Lt.
Elev. = 820.75' (NAVD 88)

TBM #3 - Cut "X" N. Rim Sanitary MH
Sta. 28+02.33 Line "A", 28.23' Rt.
Elev. = 817.89' (NAVD 88)

LEGEND

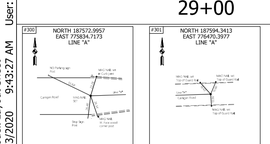
1. Bridge Rail Transition, Type TPF-1
2. Guardrail Transition, Type MGS without curb
3. 12.5 LFT of Guardrail, MGS W-Beam, 6'-3" Spa.
4. Guardrail Transition, MGS Height Transition
5. Guardrail End Treatment, Type OS, 31" Height

EARTHWORK SUMMARY

Fill +25%	36 Cys
Unclassified Excavation, Foundation	20 Cys
Common Excavation	185 Cys
Waste	169 Cys
Benching	84 Cys

* Benching Will Not Be Paid For Directly
Cost Of Benching To Be Included In Common Excavation

CONTINUOUS COMPOSITE STEEL BEAM BRIDGE
3 SPANS: 72'-0", 90'-0", 72'-0"
28'-0" CLEAR ROADWAY; NO SKEW
EAST 209TH STREET OVER MORSE RESERVOIR
HAMILTON COUNTY



DANIEL R. MULLANEY
REGISTERED
No. PE11400776
STATE OF INDIANA
PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL — DESIGN ENGINEER — 1/29/2020 DATE

DESIGNED: PFC | DRAWN: PFC
CHECKED: DRM | CHECKED: DRM

HAMILTON COUNTY
BRIDGE NO. 98

LAYOUT

HORIZONTAL SCALE	BRIDGE FILE
1" = 30'	HAMILTON 98
VERTICAL SCALE	DESIGNATION
1" = 5'	-
SURVEY BOOK	SHEETS
ELECTRONIC	9 of 31
CONTRACT	PROJECT
-	PB-19-0003

Model: Layout Sheet
2/3/2020 9:43:27 AM User: PChristian

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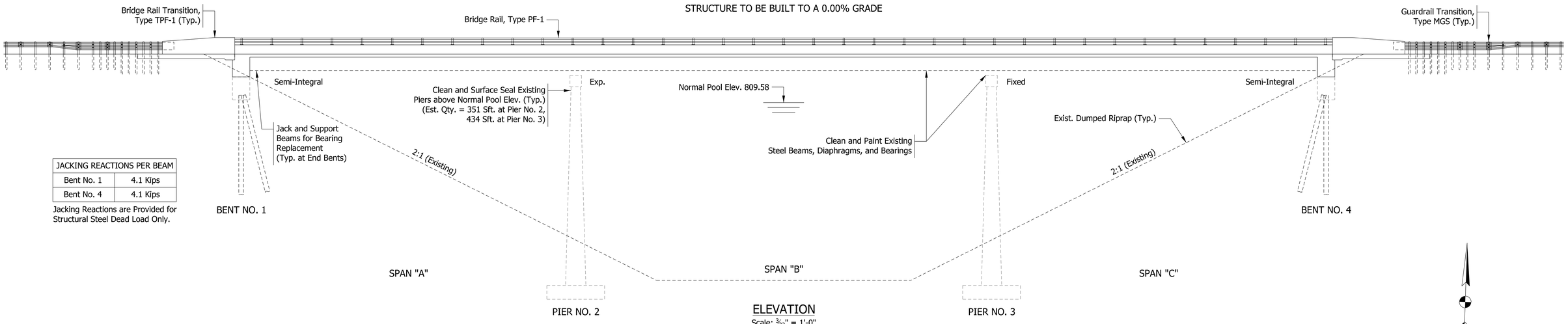
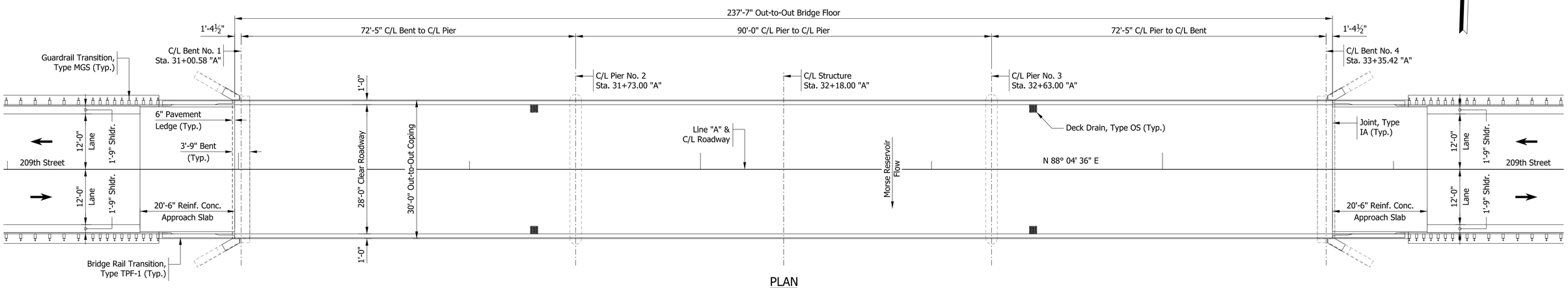


JACKING REACTIONS PER BEAM	
Bent No. 1	4.1 Kips
Bent No. 4	4.1 Kips

Jacking Reactions are Provided for Structural Steel Dead Load Only.

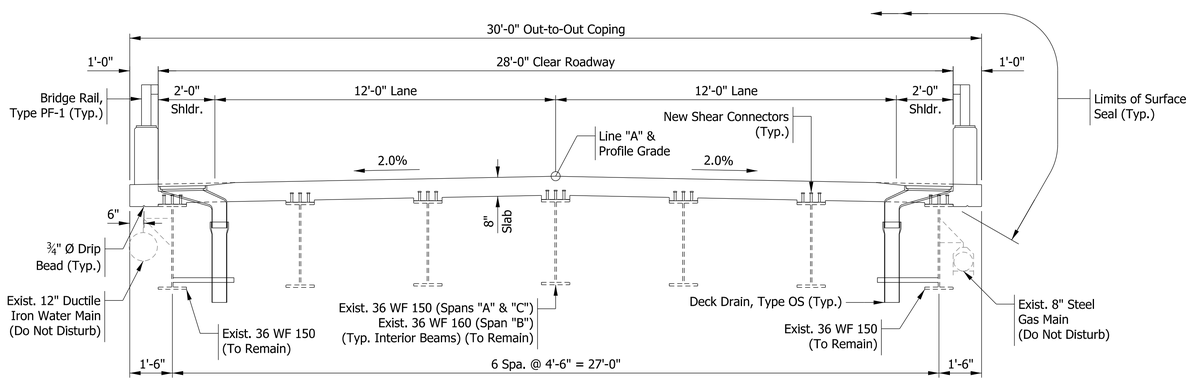
ELEVATION

Scale: $\frac{3}{32}$" = 1'-0"



PLAN

Scale: $\frac{3}{32}$" = 1'-0"



TYPICAL BRIDGE SECTION

Scale: $\frac{3}{8}$" = 1'-0"

GENERAL NOTES

PLANS FOR THE EXISTING STRUCTURE ARE ON FILE IN THE HAMILTON COUNTY HIGHWAY DEPARTMENT.

REINFORCING STEEL COVER SHALL BE 2½" MIN. IN TOP AND 1" MIN IN BOTTOM OF FLOOR SLABS AND 2" IN ALL OTHER PARTS UNLESS NOTED.

THE EXPOSED FACES OF THE END BENTS, THE PORTIONS OF EXISTING PIERS ABOVE THE NORMAL POOL ELEVATION, THE TOP OF THE DECK AND APPROACH SLABS, ALL EXPOSED FACES OF THE CONCRETE BARRIER, THE FACE OF THE DECK COPING AND THE UNDERSIDE OF THE DECK FROM THE COPING TO THE DRIP BEAD SHALL BE SEALED WITH A PENETRATING EPOXY SEALER.

WHERE NEW WORK IS TO BE FITTED TO OLD WORK, THE CONTRACTOR SHALL CHECK ALL DIMENSIONS AND CONDITIONS IN THE FIELD, REPORT ALL ERRORS AND DISCREPENCIES TO THE ENGINEER AND ASSUME RESPONSIBILITY FOR THEIR CORRECTNESS AND THE FIT OF THE NEW PART TO THE OLD.

DESIGN STRENGTHS

CLASS "C" CONCRETE	f 'c = 4,000 PSI
REINFORCING STEEL	fy = 60,000 PSI

DESIGN DATA

LIVE LOAD:
ORIGINAL STRUCTURE DESIGNED FOR HS20 LOADING WITH IMPACT AND DISTRIBUTION IN ACCORDANCE WITH 1953 A.A.S.H.T.O. SPECIFICATIONS.
NEW BRIDGE DECK DESIGNED FOR HS20 LOADING WITH IMPACT AND DISTRIBUTION IN ACCORDANCE WITH THE 2002 A.A.S.H.T.O. STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, 17TH EDITION.

DEAD LOAD:
ACTUAL WEIGHT PLUS 35 PSF (COMPOSITE) FOR FUTURE WEARING SURFACE, AND 15 PSF (NON-COMPOSITE) FOR PERMANENT METAL DECK FORMS.

FLOOR SLAB:
DESIGNED WITH A 7½" STRUCTURAL DEPTH AND A ½" INTEGRAL WEARING SURFACE.

CONTINUOUS COMPOSITE STEEL BEAM BRIDGE
3 SPANS: 72'-0", 90'-0", 72'-0"
28'-0" CLEAR ROADWAY; NO SKEW
EAST 209TH STREET OVER MORSE RESERVOIR
HAMILTON COUNTY

DANIEL R. MULLANEY REGISTERED No. PE11400776 STATE OF INDIANA PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL — DESIGN ENGINEER — 1/29/2020 DATE

DESIGNED: DRM | DRAWN: PFC
CHECKED: GAH | CHECKED: DRM

HAMILTON COUNTY
BRIDGE NO. 98

GENERAL PLAN

HORIZONTAL SCALE	BRIDGE FILE
AS NOTED	HAMILTON 98
VERTICAL SCALE	DESIGNATION
AS NOTED	-
SURVEY BOOK	SHEETS
ELECTRONIC	10 of 31
CONTRACT	PROJECT
-	PB-19-0003

Model: General Plan 2/3/2020 9:49:29 AM User: PChristian

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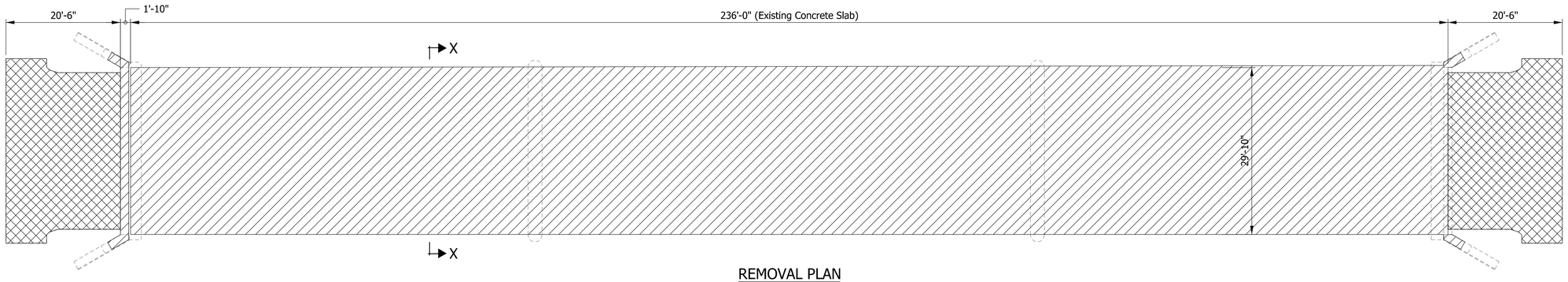
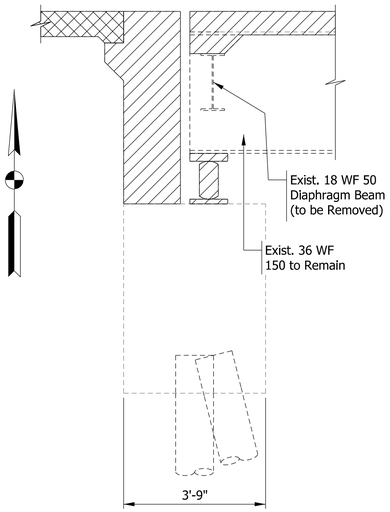


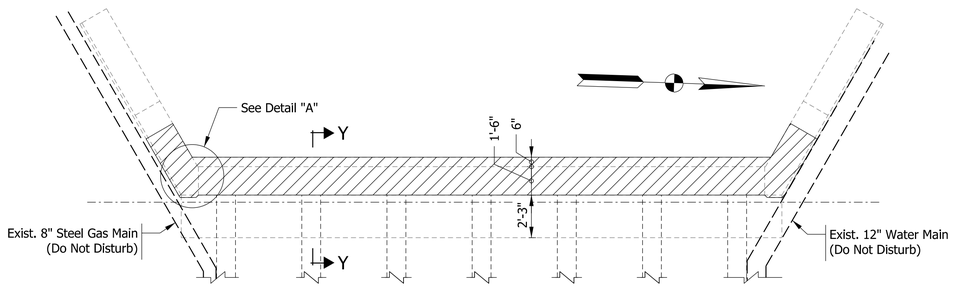
REMOVAL PLAN

Scale: 3/32" = 1'-0"



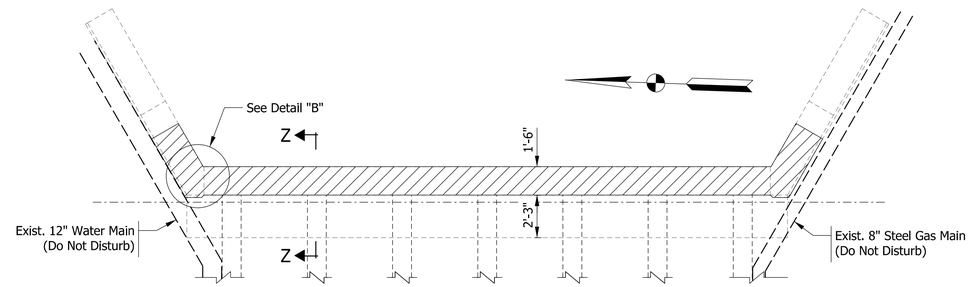
SECTION Y-Y

Scale: 1/2" = 1'-0"



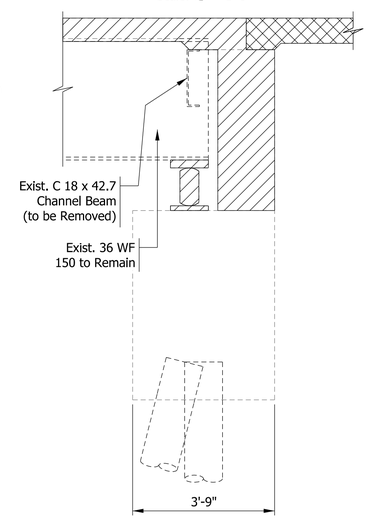
REMOVAL @ BENT NO. 1

Scale: 1/4" = 1'-0"



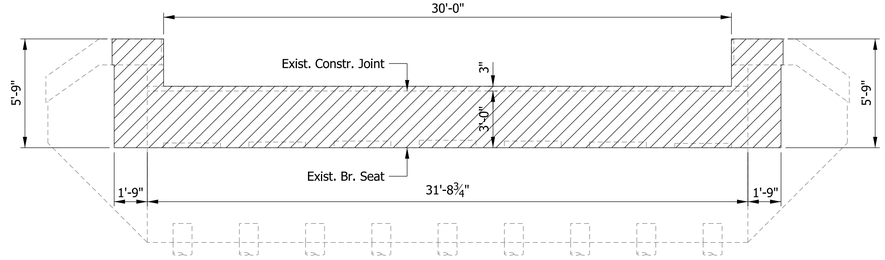
REMOVAL @ BENT NO. 4

Scale: 1/4" = 1'-0"



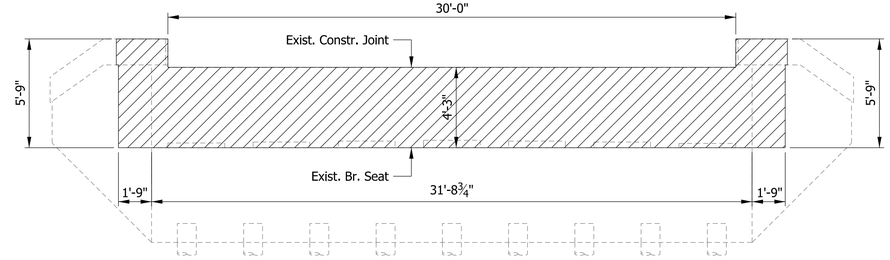
SECTION Z-Z

Scale: 1/2" = 1'-0"



ELEVATION @ BENT NO. 1

Scale: 1/4" = 1'-0"



ELEVATION @ BENT NO. 4

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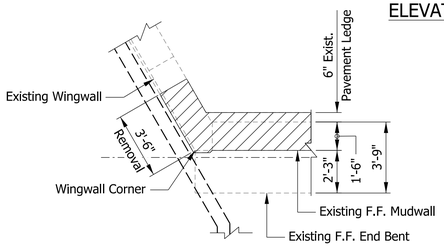
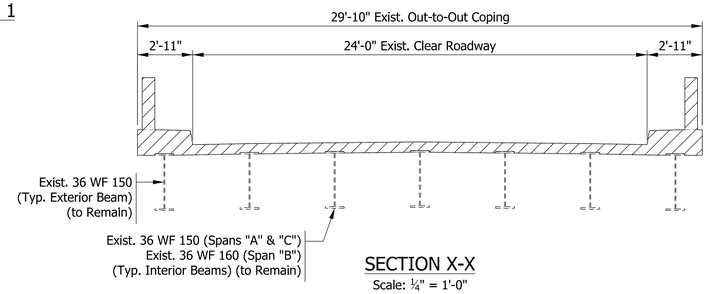


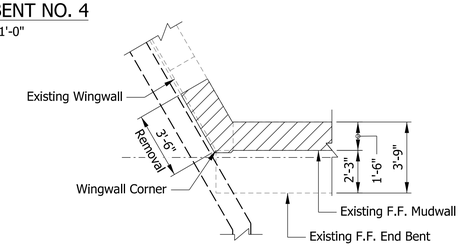
DETAIL "A"

Scale: 1/4" = 1'-0"



SECTION X-X

Scale: 1/4" = 1'-0"



DETAIL "B"

Scale: 1/4" = 1'-0"

NOTES

Utilities not shown in Elevation View for clarity.

LEGEND

Indicates Removal

Indicates Pavement Removal

DANIEL R. MULLANEY
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DESIGNED: PFC | DRAWN: PFC

CHECKED: DRM | CHECKED: DRM

HAMILTON COUNTY
BRIDGE NO. 98

REMOVAL DETAILS

HORIZONTAL SCALE	BRIDGE FILE
AS NOTED	HAMILTON 98
VERTICAL SCALE	DESIGNATION
AS NOTED	-
SURVEY BOOK	SHEETS
ELECTRONIC	11 of 31
CONTRACT	PROJECT
-	PB-19-0003

User: PChristian

Model: Removal Sheet
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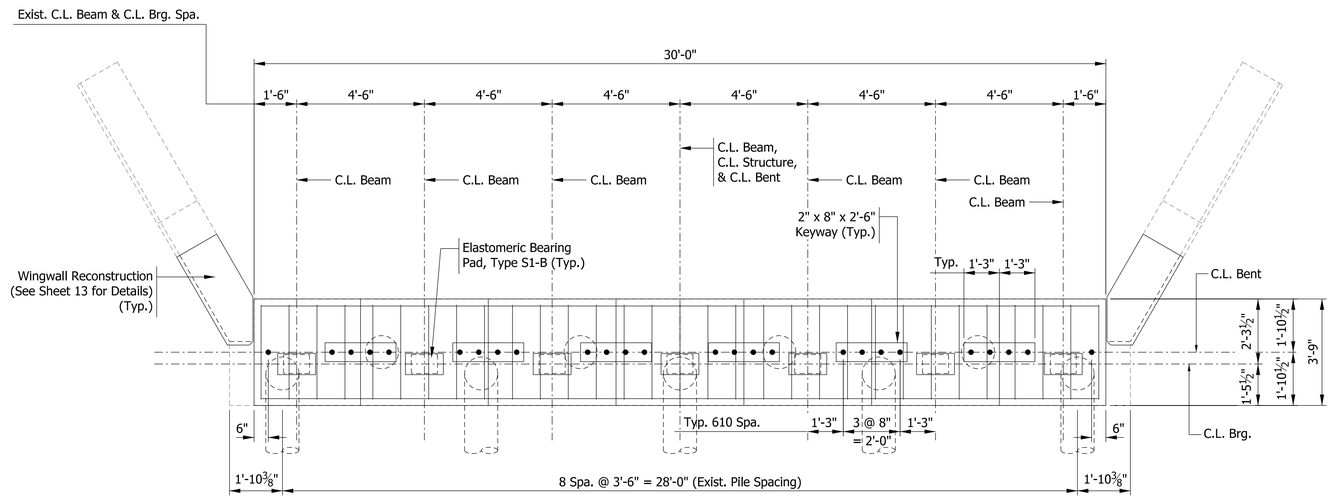
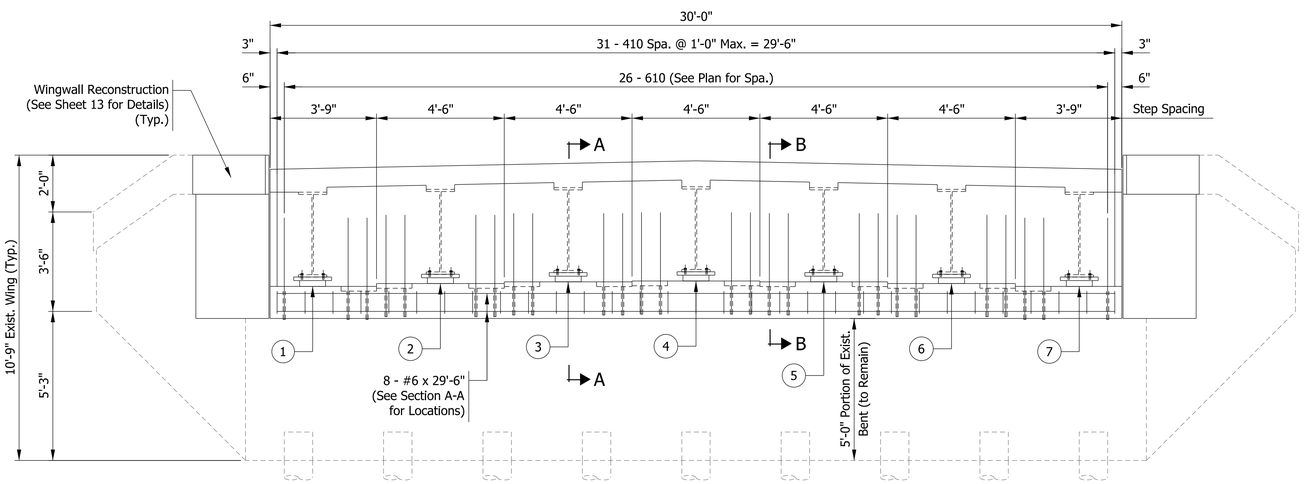


PLAN - BENTS NO. 1 & NO. 4

Scale: ⅜" = 1'-0"



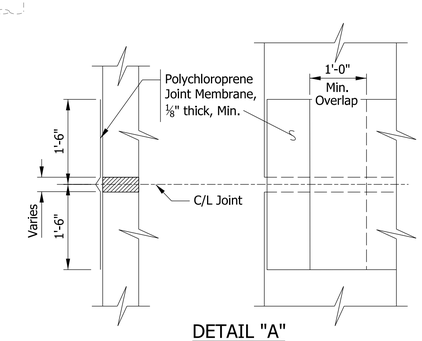
ELEVATION - BENTS NO. 1 & NO. 4

Scale: ⅜" = 1'-0"

TABLE OF PROPOSED BRIDGE SEAT ELEVATIONS							
	1	2	3	4	5	6	7
Bent No. 1 & No. 4	816.08	816.18	816.24	816.27	816.24	816.18	816.08

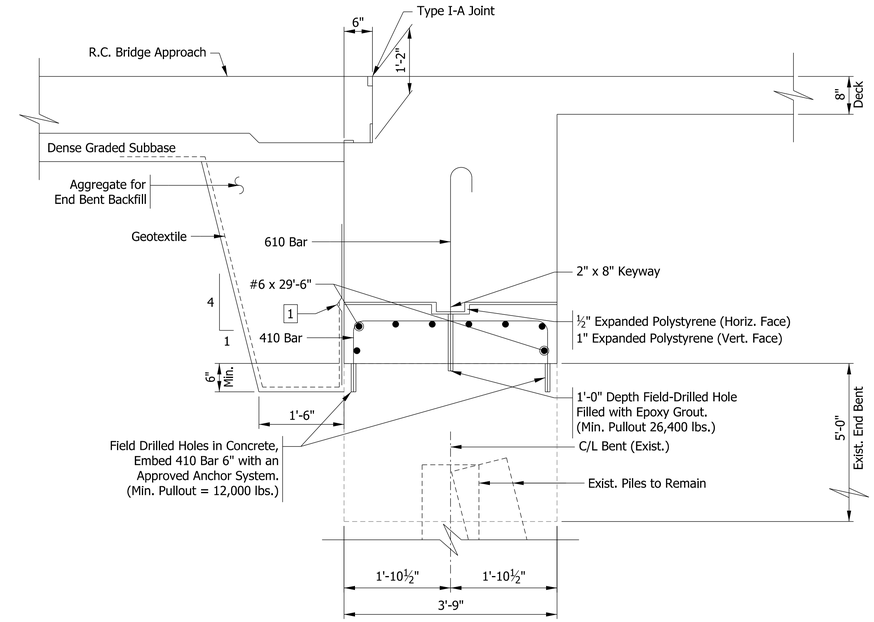
NOTES

1. For reinforcing bar notes, See Std. Dwg. E-703-BRST-01.
2. All reinforcing in End Bents and Wingwalls is to be Epoxy-Coated.
3. All reinforcing below bridge seat and in the Wingwalls is billed with the End Bents.



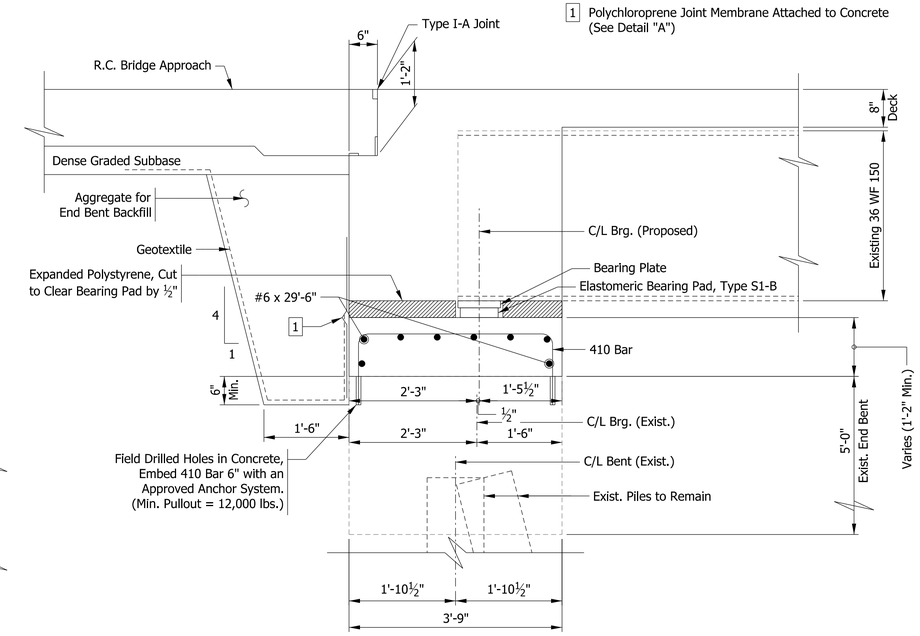
DETAIL "A"
JOINT MEMBRANE DETAIL

Scale: ¾" = 1'-0"



SECTION B-B

(Section Between Beams)
(Bent No. 1 Shown, Bent No. 4 Similar)
Scale: ¾" = 1'-0"



SECTION A-A

(Section Through Beam)
(Bent No. 1 Shown, Bent No. 4 Similar)
Scale: ¾" = 1'-0"

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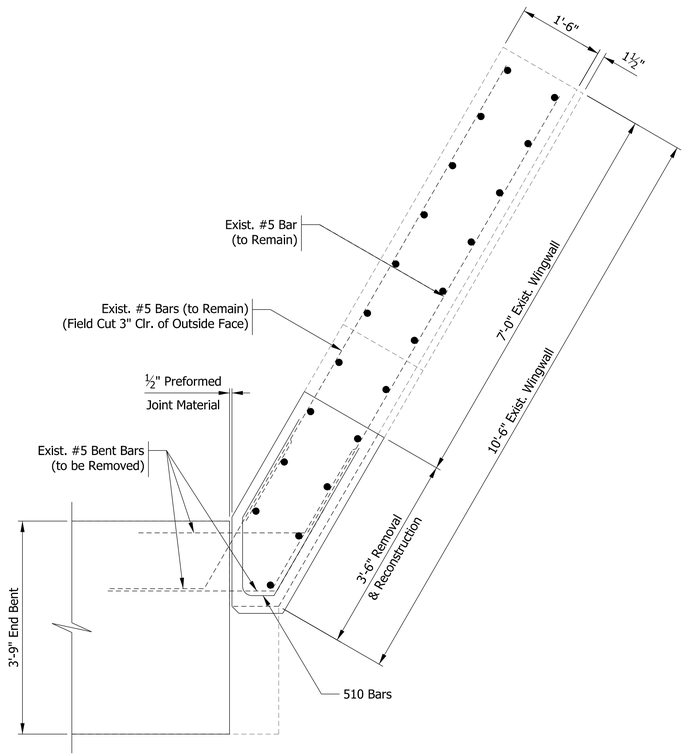
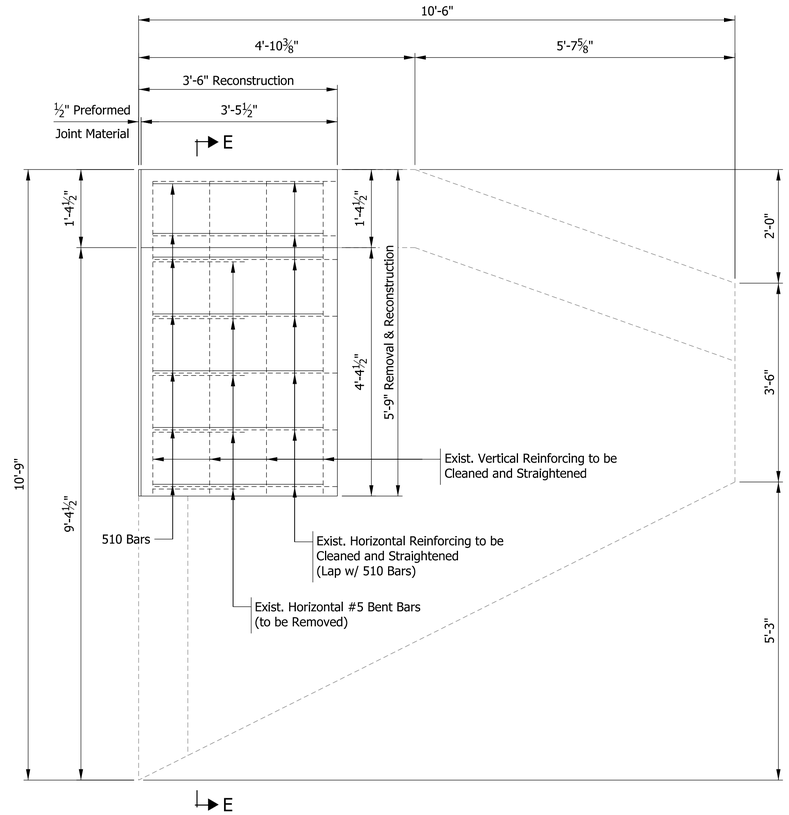
HAMILTON COUNTY
BRIDGE NO. 98

END BENTS NO. 1 & NO. 4 DETAILS

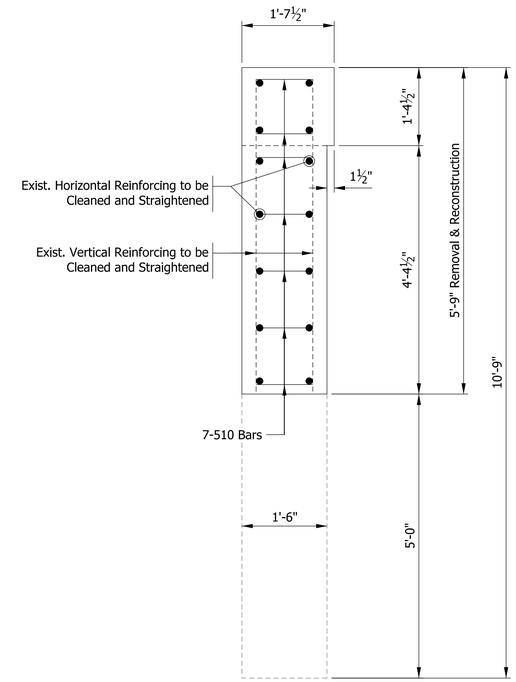
HORIZONTAL SCALE	BRIDGE FILE
AS NOTED	HAMILTON 98
VERTICAL SCALE	DESIGNATION
AS NOTED	-
SURVEY BOOK	SHEETS
ELECTRONIC	12 of 31
CONTRACT	PROJECT
-	PB-19-0003



PLAN - WING CORNER
(Typ. Each Wing)
Scale: ¾" = 1'-0"



WING ELEVATION
(Typ. Each Wing)
Scale: ¾" = 1'-0"

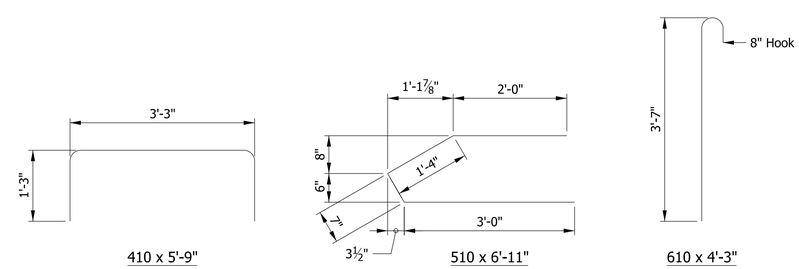


SECTION E-E
(Typ. Each Wing)
Scale: ¾" = 1'-0"

BILL OF MATERIALS

BENT NO. 1
(BENT NO. 4 SAME)

EPOXY COATED REINFORCING BARS			
Size or Mark	Number of Bars	Length (ft)	Weight (Lb)
610	26	4' -3"	
#6	8	29' -6"	
Total #6			521
510	14	6' -11"	
Total #5			101
410	31	5' -9"	
Total #4			120
TOTAL EPOXY COATED BARS			742
CONCRETE			
Concrete, C, Substructure in Wings (Cys)			2.3
Concrete, C, Substructure in End Bent (Cys)			5.2
Total Concrete, C, Substructure (Cys)			7.5
MISCELLANEOUS			
Field Drilled Hole in Concrete (Each)			88
Aggregate for End Bent Backfill (Cys)			10
Geotextile for Riprap, Type 1A (Sys)			31
Bearing Assembly, Elastomeric (Each)			7
Surface Seal (250 Sft)			1 LSUM



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DESIGNED: MG | DRAWN: PFC
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HAMILTON COUNTY
BRIDGE NO. 98

END BENTS NO. 1 & NO. 4 DETAILS

HORIZONTAL SCALE	BRIDGE FILE
AS NOTED	HAMILTON 98
VERTICAL SCALE	DESIGNATION
AS NOTED	-
SURVEY BOOK	SHEETS
ELECTRONIC	13 of 31
CONTRACT	PROJECT
-	PB-19-0003

Model: Sheet 2
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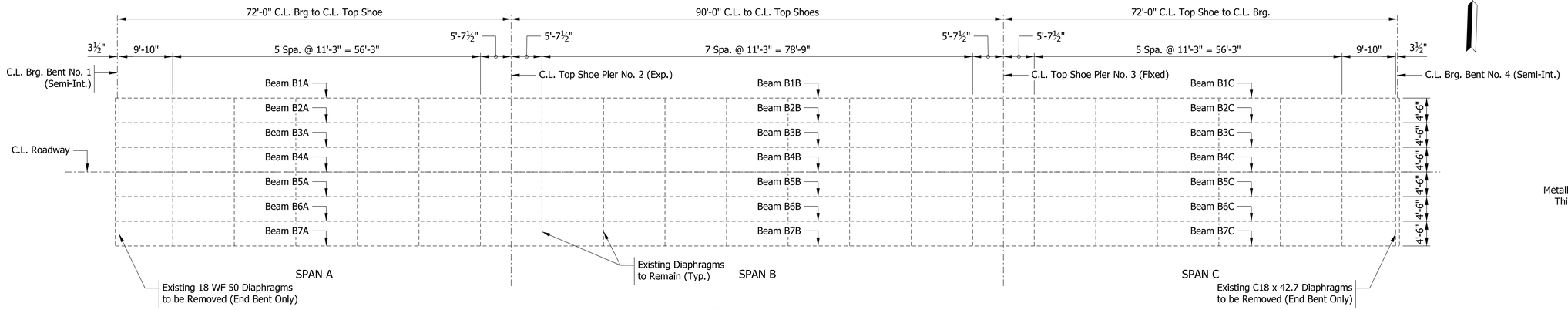
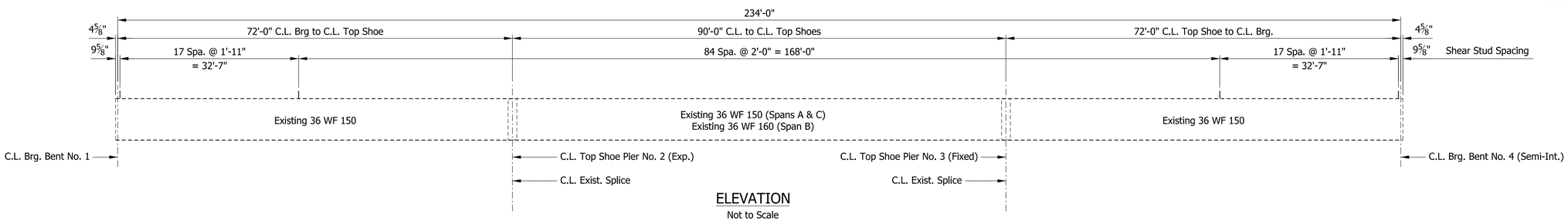


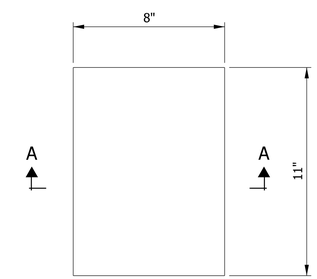
FRAMING PLAN

Scale: 3/32" = 1'-0"

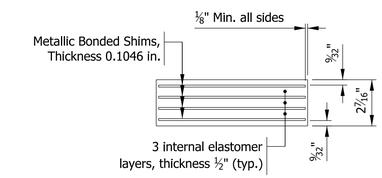


ELEVATION

Not to Scale



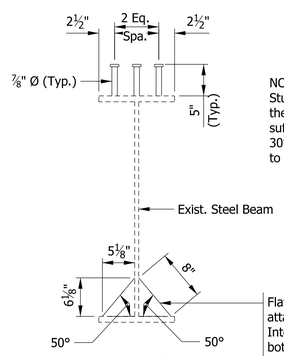
PLAN



SECTION A-A

TYPE S1-B ELASTOMERIC BEARING PAD DETAILS

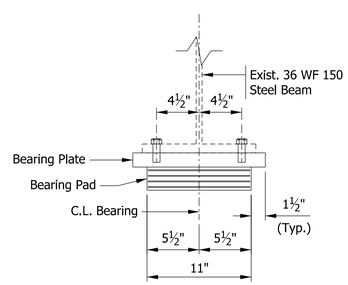
(End Bents No. 1 & No. 4)
Scale: 3"= 1'-0"



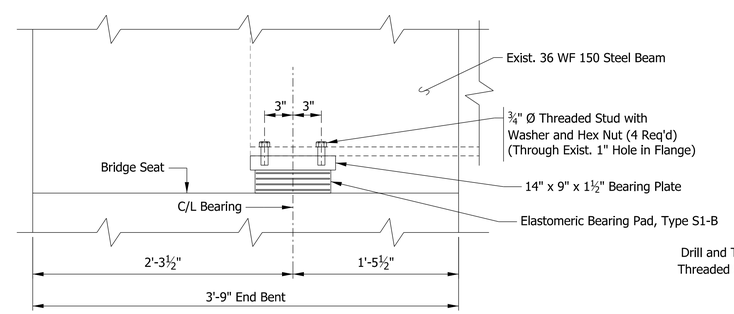
NOTES:
Studs shall be automatically welded to the beam by the use of a stud welding gun. The welds shall be of sufficient strength to permit the studs to be bent 30°. Top of existing beam to be cleaned prior to installation of shear studs.

BEAM SECTION

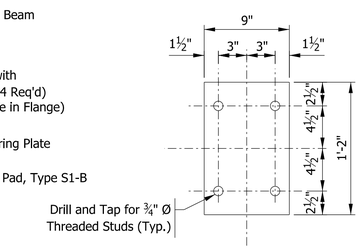
Scale: 1" = 1'-0"



End View



Side View



Plan - Bearing Plate

NOTE:
Bearing Plate shall be Vulcanized to Bearing Pad

BEARING ASSEMBLY DETAILS - BENTS NO. 1 & NO. 4

Scale: 1½"= 1'-0"

NOTE:
For additional details regarding bearing assemblies, see INDOT Std. Drawing E-726-BEBP-04 & -05

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HAMILTON COUNTY
BRIDGE NO. 98

BEAM DETAILS

HORIZONTAL SCALE	BRIDGE FILE
AS NOTED	HAMILTON 98
VERTICAL SCALE	DESIGNATION
AS NOTED	-
SURVEY BOOK	SHEETS
ELECTRONIC	14 of 31
CONTRACT	PROJECT
-	PB-19-0003

Model: Sheet 1
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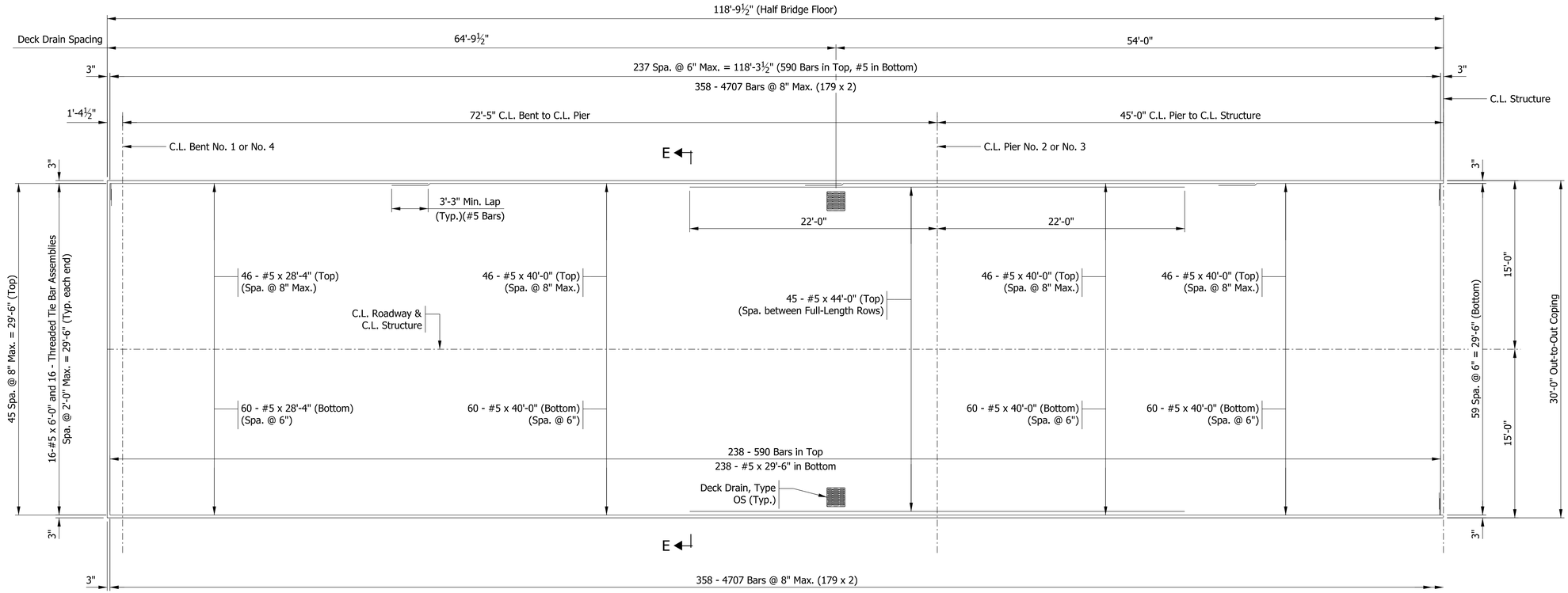
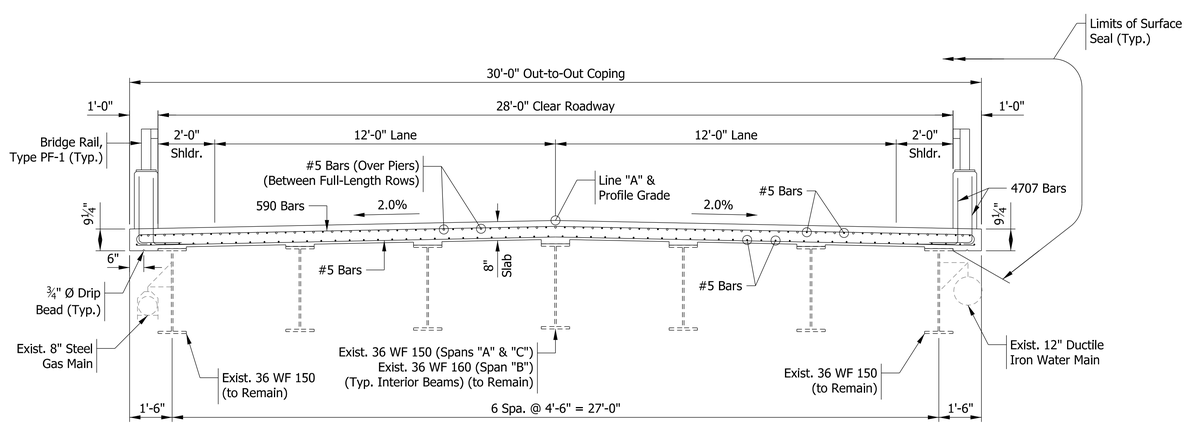


HALF FLOOR PLAN

(Symmetrical about C.L. Structure)
Scale: 3/16" = 1'-0"



SECTION E-E

Scale: 3/8" = 1'-0"

NOTES

1. All reinforcing bars shall be epoxy-coated.

DANIEL R. MULLANEY
REGISTERED
No. PE11400776
STATE OF INDIANA
PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL — DESIGN ENGINEER — 1/29/2020 DATE

DESIGNED: MG | DRAWN: PFC
CHECKED: RK | CHECKED: MG

HAMILTON COUNTY
BRIDGE NO. 98

SUPERSTRUCTURE DETAILS

HORIZONTAL SCALE	BRIDGE FILE
AS NOTED	HAMILTON 98
VERTICAL SCALE	DESIGNATION
AS NOTED	-
SURVEY BOOK	SHEETS
ELECTRONIC	15 of 31
CONTRACT	PROJECT
-	PB-19-0003

Model: Sheet 1
2/3/2020 9:43:37 AM User: PChristian

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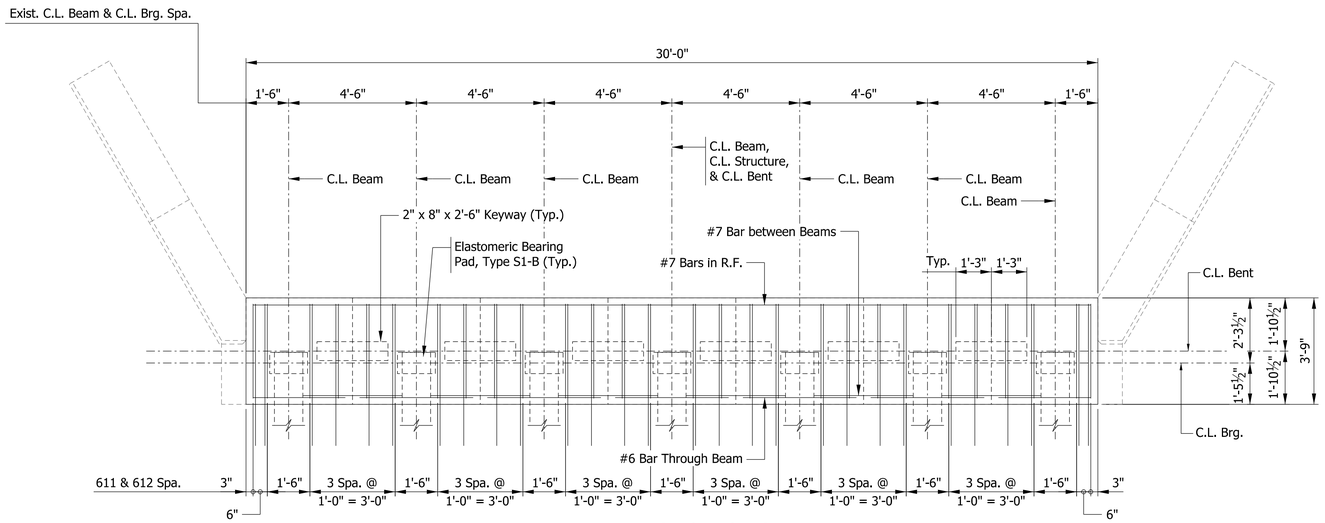
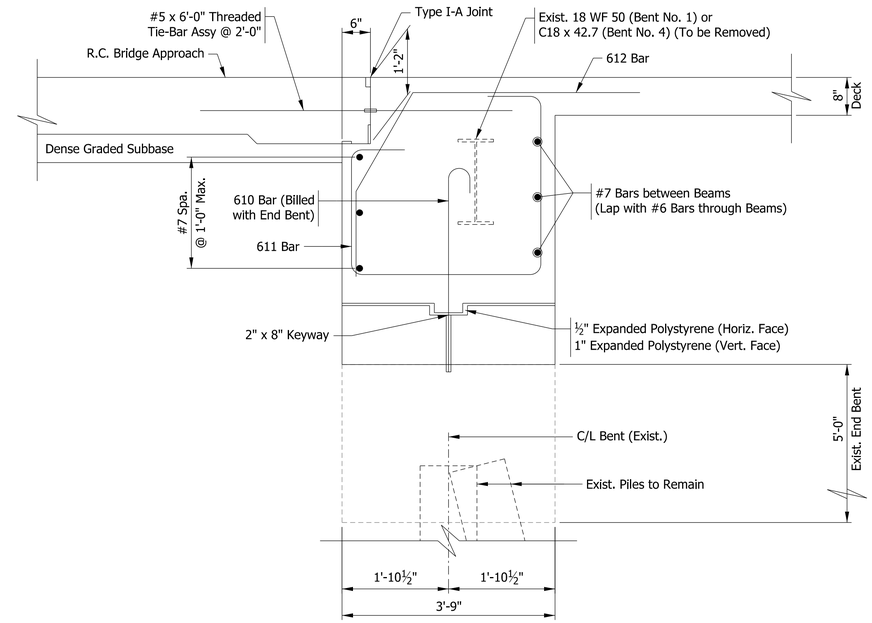


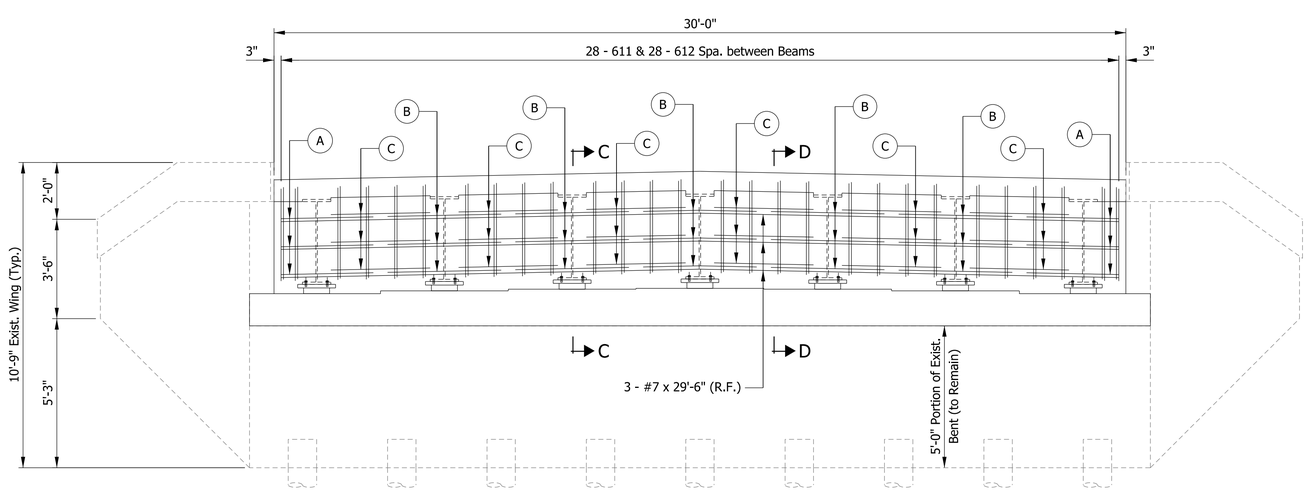
PLAN - BENTS NO. 1 & NO. 4

Scale: ⅜" = 1'-0"



SECTION D-D

(Section Between Beams)
(Bent No. 1 Shown, Bent No. 4 Similar)
Scale: ¾" = 1'-0"



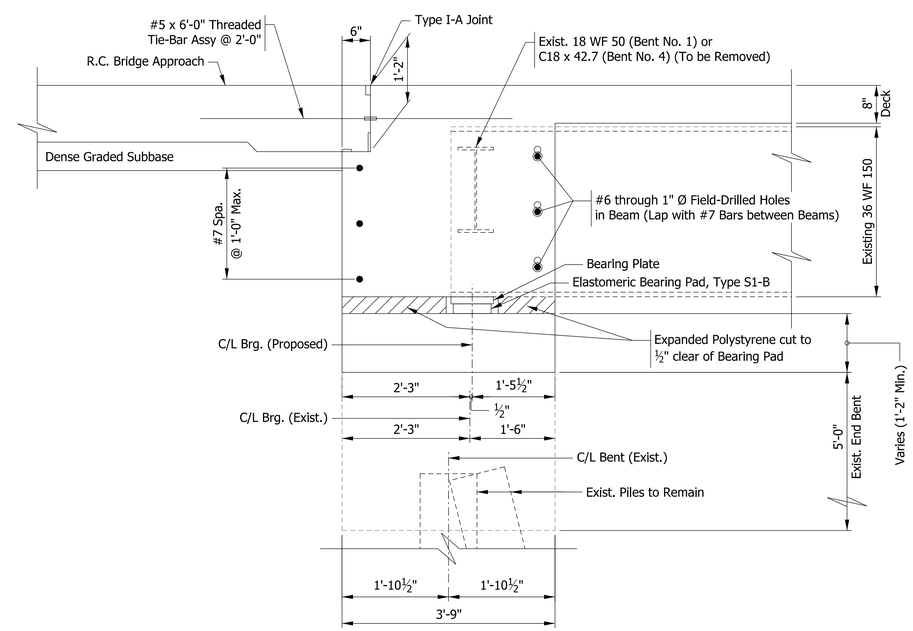
ELEVATION - BENTS NO. 1 & NO. 4

Scale: ⅜" = 1'-0"

(A) 3 - #6 x 3'-3" Thru Beam (Lap w/ #7 between Beams)

(B) 3 - #6 x 4'-0" Thru Beam (Lap w/ #7 between Beams)

(C) 3 - #7 x 3'-6" (Lap w/ #6 Thru Beam)



SECTION C-C

(Section Through Beam)
(Bent No. 1 Shown, Bent No. 4 Similar)
Scale: ¾" = 1'-0"

DANIEL R. MULLANEY REGISTERED No. PE11400776 STATE OF INDIANA PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL — DESIGN ENGINEER — DATE 1/29/2020

DESIGNED: MG | DRAWN: PFC

CHECKED: RK | CHECKED: MG

HAMILTON COUNTY BRIDGE NO. 98

SUPERSTRUCTURE DETAILS

HORIZONTAL SCALE	BRIDGE FILE
AS NOTED	HAMILTON 98
VERTICAL SCALE	DESIGNATION
AS NOTED	-
SURVEY BOOK	SHEETS
ELECTRONIC	16 of 31
CONTRACT	PROJECT
-	PB-19-0003

Model: Sheet 2
2/3/2020 9:43:38 AM User: PChristian

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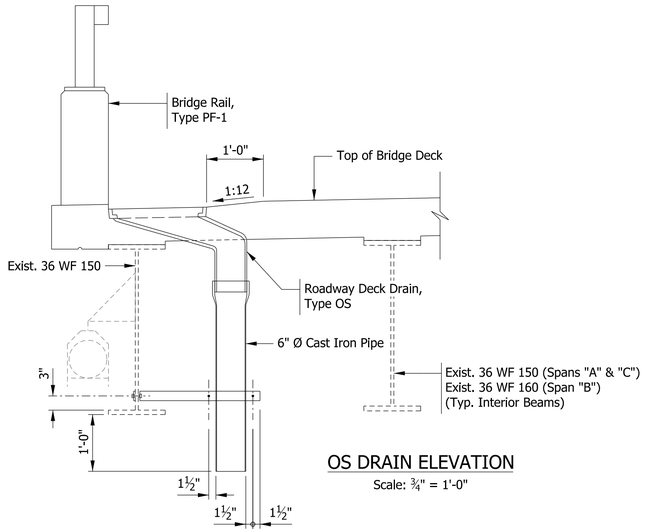
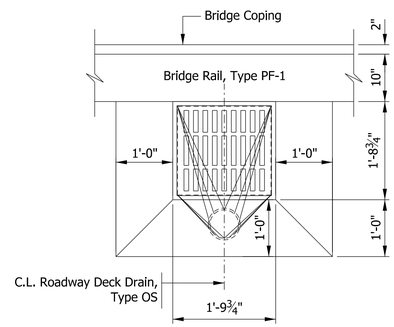


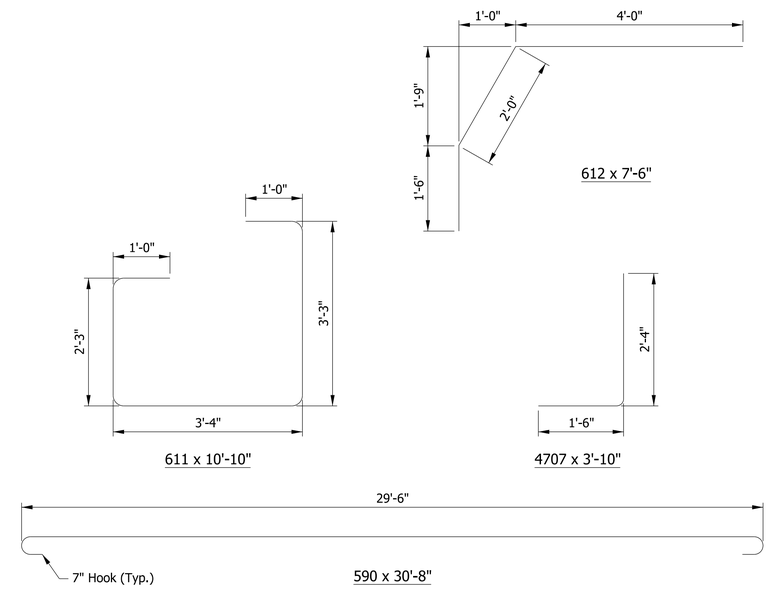
OS DRAIN ELEVATION

Scale: ¾" = 1'-0"



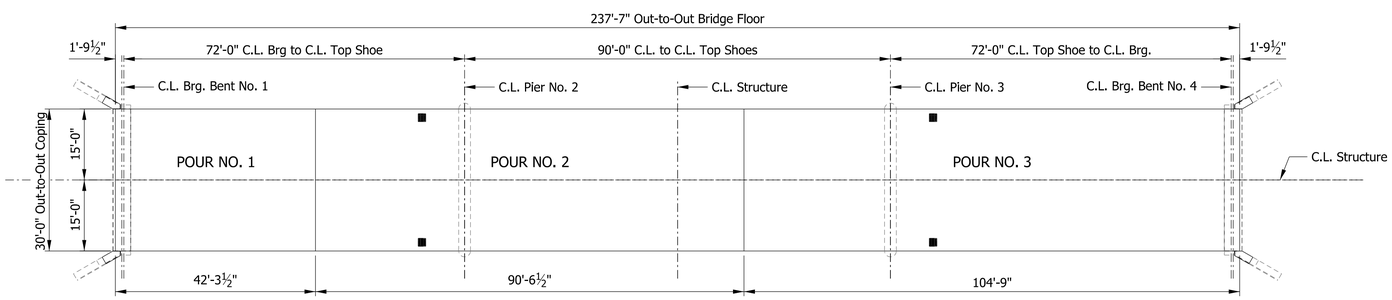
OS DRAIN PLAN

Scale: ¾" = 1'-0"



BILL OF MATERIALS
SUPERSTRUCTURE

EPOXY COATED REINFORCING STEEL			
Size or Mark	Number of Bars	Length (ft)	Weight (Lb)
#7	6	29' -6"	
#7	36	3' -6"	
Total #7			620
611	56	10' -10"	
612	56	7' -6"	
#6	30	4' -0"	
#6	12	3' -3"	
Total #6			1,781
590	476	30' -8"	
#5	530	40' -0"	
#5	476	29' -6"	
#5	212	28' -4"	
#5	90	44' -0"	
#5	32	6' -0"	
Total #5			62,578
4707	1432	3' -10"	
Total #4			3,667
TOTAL EPOXY COATED			68,646
CONCRETE			
Pour No. 1 (Cys)			48.0
Pour No. 2 (Cys)			71.5
Pour No. 3 (Cys)			97.4
Total Concrete, C, Superstructure (Cys)			216.9
MISCELLANEOUS			
Grates, Basins, and Fittings, Cast Iron (Each)			4
Pipe, Roadway Drain Casting Extension (Each)			4
Drilled Hole (In Beams) (Each)			42
Threaded Tie Bar Assemblies (Each)			32
Stud Shear Connectors (Each)			2,499
Surface Seal (8070 Sft)			1 LSum



POUR SEQUENCE DIAGRAM

Scale: 1/16" = 1'-0"

NOTES

1. All reinforcing bars shall be epoxy-coated.
2. For Reinforcing Bar Notes, see INDOT Std. Dwg. E 703-BRST-01.

DANIEL R. MULLANEY
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STATE OF INDIANA
PROFESSIONAL ENGINEER

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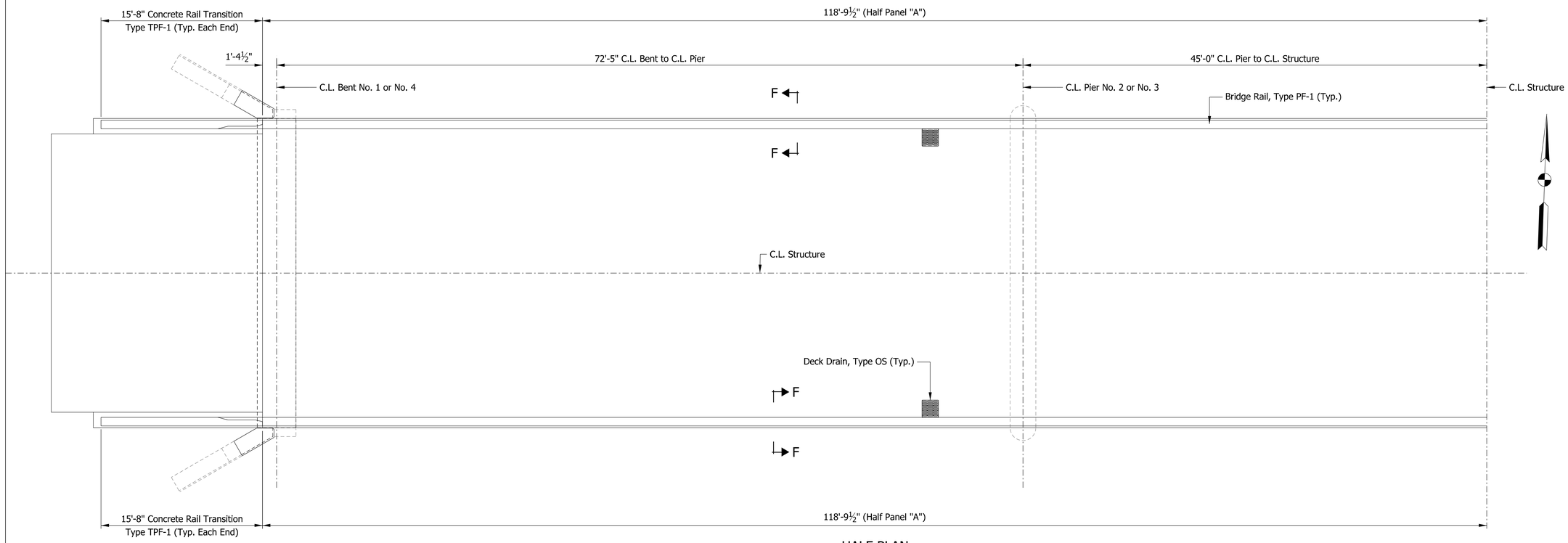
DESIGNED: MG | DRAWN: PFC
CHECKED: RK | CHECKED: MG

HAMILTON COUNTY
BRIDGE NO. 98

SUPERSTRUCTURE DETAILS

HORIZONTAL SCALE	BRIDGE FILE
AS NOTED	HAMILTON 98
VERTICAL SCALE	DESIGNATION
AS NOTED	-
SURVEY BOOK	SHEETS
ELECTRONIC	17 of 31
CONTRACT	PROJECT
-	PB-19-0003



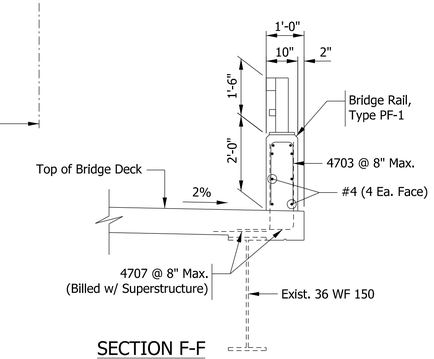
HALF PLAN

(West Half Shown) (Symmetrical about C.L. Structure)
Scale: 3/16" = 1'-0"

BILL OF MATERIALS

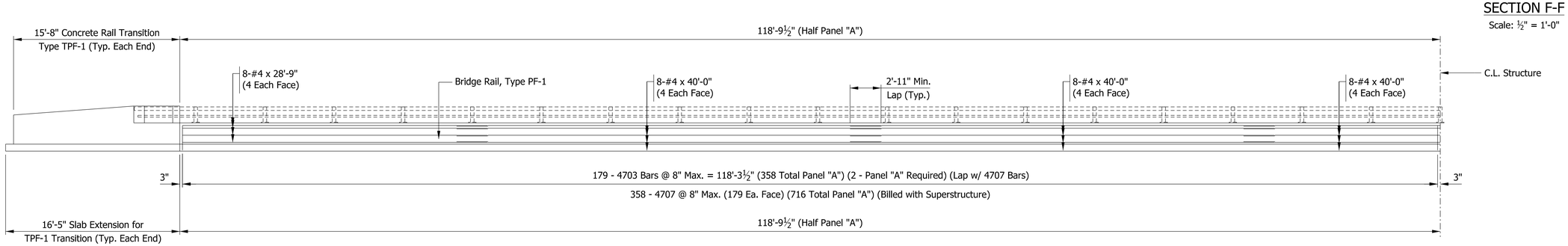
BRIDGE RAILING - PANEL "A"
(2 REQUIRED)

EPOXY COATED REINFORCING STEEL			
Size or Mark	Number of Bars	Length (ft)	Weight (Lb)
4703	358	3' -11"	
#4	40	40' -0"	
#4	16	28' -9"	
Total #4			2,313
Concrete Railing Transition, Type TPF-1 (2 @ 730)			1,460
TOTAL EPOXY COATED			3,773
CONCRETE			
Railing, Type PF-1 (Cyd)			14.7
MISCELLANEOUS			
Concrete Railing Transition, Type TPF-1 (Ea.)			2
Railing, Steel, PF-1 (Lft.)			238
Surface Seal (1390 Sft)			1 Lsum



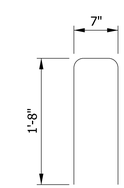
SECTION F-F

Scale: ½" = 1'-0"



HALF ELEVATION - PANEL "A"

(Symmetrical about C.L. Structure)
Scale: 3/16" = 1'-0"



4703 x 3'-11"

NOTES

1. All Reinforcing to be Epoxy-Coated.
2. For Additional Bridge Rail Details, See INDOT Std. Dwg. E 706-BRPP-01 thru 05.
3. For Concrete Railing Transition TPF-1, See INDOT Std. Dwg. E 706-TTPP-01 thru 03.
4. Steel Railing to be Galvanized and Powder-Coated (See Special Provisions)

DANIEL R. MULLANEY REGISTERED No. PE11400776 STATE OF INDIANA PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL — DESIGN ENGINEER — 1/29/2020 DATE

DESIGNED: PFC DRAWN: PFC
CHECKED: GAH CHECKED: GAH

HAMILTON COUNTY
BRIDGE NO. 98

BRIDGE RAIL DETAILS

HORIZONTAL SCALE	BRIDGE FILE
AS NOTED	HAMILTON 98
VERTICAL SCALE	DESIGNATION
AS NOTED	-
SURVEY BOOK	SHEETS
ELECTRONIC	18 of 31
CONTRACT	PROJECT
-	PB-19-0003

Model: Bridge Railing Details
2/3/2020 9:43:41 AM User: PChristian

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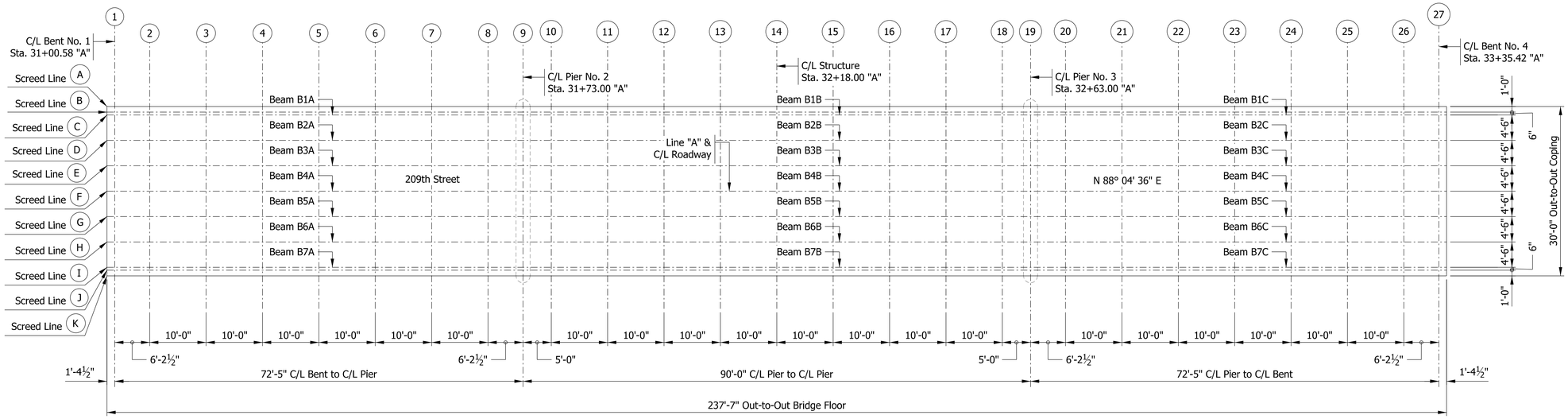
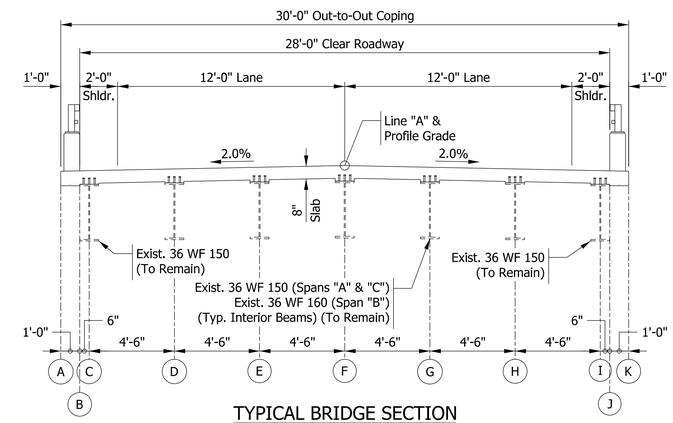


PLAN OF SCREEDS

Scale: 3/32" = 1'-0"



TYPICAL BRIDGE SECTION

Scale: 1/4" = 1'-0"

TABLE OF SCREED ELEVATIONS

SCREED LINE	LOCATION	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
SCREED "A"	TOP OF COPING	820.200	820.215	820.240	820.250	820.250	820.235	820.220	820.205	820.200	820.205	820.220	820.240	820.255	820.265	820.255	820.240	820.220	820.205	820.200	820.205	820.220	820.235	820.250	820.250	820.240	820.215	820.200
	TOP OF ADJACENT GIRDER																											
	DIFFERENCE																											
SCREED "B"	TOP OF DECK	820.220	820.235	820.260	820.270	820.270	820.255	820.240	820.225	820.220	820.225	820.240	820.260	820.275	820.285	820.275	820.260	820.240	820.225	820.220	820.225	820.240	820.255	820.270	820.270	820.260	820.235	820.220
	TOP OF ADJACENT GIRDER																											
	DIFFERENCE																											
SCREED "C"	TOP OF DECK	820.230	820.245	820.270	820.280	820.280	820.265	820.250	820.235	820.230	820.235	820.250	820.270	820.285	820.295	820.285	820.270	820.250	820.235	820.230	820.235	820.250	820.265	820.280	820.280	820.270	820.245	820.230
	TOP OF GIRDER																											
	DIFFERENCE																											
SCREED "D"	TOP OF DECK	820.320	820.335	820.360	820.370	820.370	820.360	820.340	820.325	820.320	820.325	820.340	820.360	820.375	820.380	820.375	820.360	820.340	820.325	820.320	820.325	820.340	820.360	820.370	820.370	820.360	820.335	820.320
	TOP OF GIRDER																											
	DIFFERENCE																											
SCREED "E"	TOP OF DECK	820.410	820.425	820.450	820.460	820.460	820.450	820.430	820.415	820.410	820.415	820.430	820.450	820.465	820.470	820.465	820.450	820.430	820.415	820.410	820.415	820.430	820.450	820.460	820.460	820.450	820.425	820.410
	TOP OF GIRDER																											
	DIFFERENCE																											
SCREED "F"	TOP OF DECK	820.500	820.515	820.540	820.550	820.550	820.540	820.520	820.505	820.500	820.505	820.520	820.540	820.555	820.560	820.555	820.540	820.520	820.505	820.500	820.505	820.520	820.540	820.550	820.550	820.540	820.515	820.500
	TOP OF GIRDER																											
	DIFFERENCE																											
SCREED "G"	TOP OF DECK	820.410	820.425	820.450	820.460	820.460	820.450	820.430	820.415	820.410	820.415	820.430	820.450	820.465	820.470	820.465	820.450	820.430	820.415	820.410	820.415	820.430	820.450	820.460	820.460	820.450	820.425	820.410
	TOP OF GIRDER																											
	DIFFERENCE																											
SCREED "H"	TOP OF DECK	820.320	820.335	820.360	820.370	820.370	820.360	820.340	820.325	820.320	820.325	820.340	820.360	820.375	820.380	820.375	820.360	820.340	820.325	820.320	820.325	820.340	820.360	820.370	820.370	820.360	820.335	820.320
	TOP OF GIRDER																											
	DIFFERENCE																											
SCREED "I"	TOP OF DECK	820.230	820.245	820.270	820.280	820.280	820.265	820.250	820.235	820.230	820.235	820.250	820.270	820.285	820.295	820.285	820.270	820.250	820.235	820.230	820.235	820.250	820.265	820.280	820.280	820.270	820.245	820.230
	TOP OF GIRDER																											
	DIFFERENCE																											
SCREED "J"	TOP OF DECK	820.220	820.235	820.260	820.270	820.270	820.255	820.240	820.225	820.220	820.225	820.240	820.260	820.275	820.285	820.275	820.260	820.240	820.225	820.220	820.225	820.240	820.255	820.270	820.270	820.260	820.235	820.220
	TOP OF ADJACENT GIRDER																											
	DIFFERENCE																											
SCREED "K"	TOP OF COPING	820.200	820.215	820.240	820.250	820.250	820.235	820.220	820.205	820.200	820.205	820.220	820.240	820.255	820.265	820.255	820.240	820.220	820.205	820.200	820.205	820.220	820.235	820.250	820.250	820.240	820.215	820.200
	TOP OF ADJACENT GIRDER																											
	DIFFERENCE																											

PROCEDURE AND NOTES

1. After beams are set, take elevations at all screed points on top of beams. Enter these elevations in the table. Subtract these elevations from the tabulated elevations and use the resulting dimensions as the height for setting screed forms above these points. These dimensions remain constant regardless of how much or in what order the concrete is poured.
2. Do not set screed forms by leveling.
3. No concrete in the floor slab shall be poured until the above operations are completed.
4. Screed elevations as shown in the table include an allowance for concrete dead load deflections.

DANIEL R. MULLANEY REGISTERED No. PE11400776 STATE OF INDIANA PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL Dan Mullaney DESIGN ENGINEER 1/29/2020 DATE

DESIGNED: MG DRAWN: PFC

CHECKED: DRM CHECKED: DRM

HAMILTON COUNTY
BRIDGE NO. 98

SCREED DATA

HORIZONTAL SCALE	BRIDGE FILE
AS NOTED	HAMILTON 98
VERTICAL SCALE	DESIGNATION
AS NOTED	-
SURVEY BOOK	SHEETS
ELECTRONIC	19 of 31
CONTRACT	PROJECT
-	PB-19-0003

Model: Screed Sheet User: PChristian
2/3/2020 9:43:43 AM

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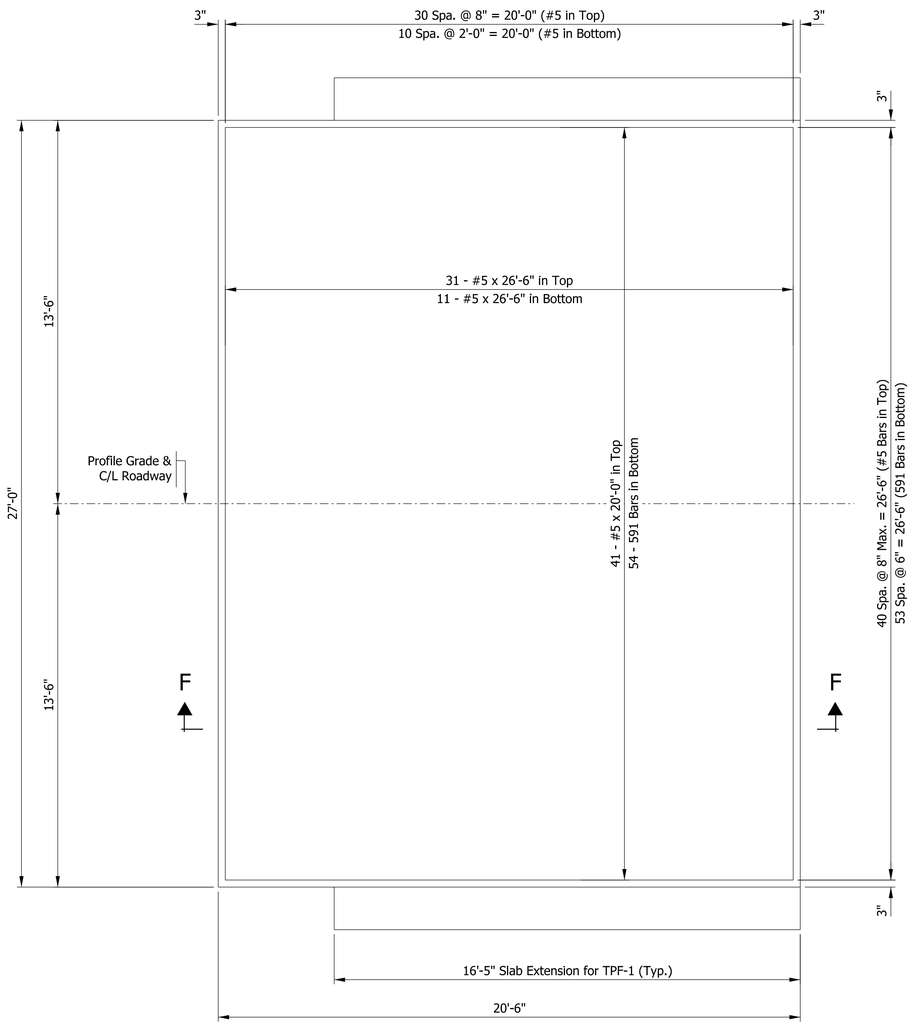


PLAN - WEST APPROACH

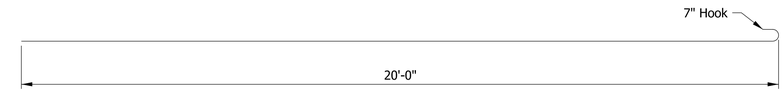
(East Approach Same)

Scale: ⅜" = 1'-0"

BILL OF MATERIALS

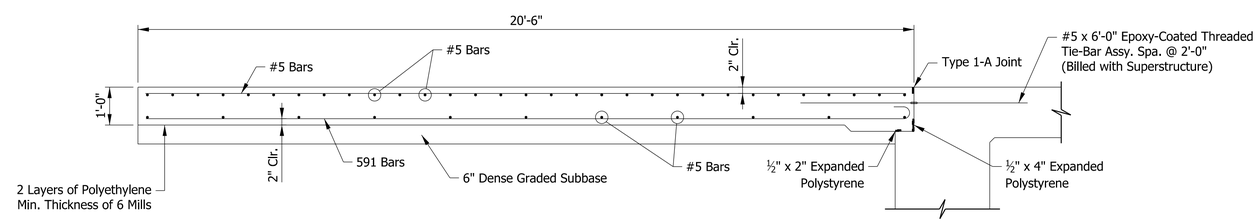
R.C. BRIDGE APPROACH
WEST APPROACH
(EAST APPROACH SAME)

EPOXY COATED REINFORCING STEEL			
Size or Mark	Number of Bars	Length (ft)	Weight (Lb)
591	54	20' -7"	
#5	42	26' -6"	
#5	41	20' -0"	
Total #5			3,176
Total from RCBA Extension (2 x 269 Lbs)			538
TOTAL EPOXY COATED			3,714
MISCELLANEOUS			
Reinforced Concrete Bridge Approach, 12" (Sys)			67.0
Dense Graded Subbase (Cys)			11.0
Surface Seal (580 Sft)			1 LSum



591 x 20'-7"

Scale: ½" = 1'=0"



SECTION F-F

Scale: ½" = 1'=0"

NOTES

1. All Reinforcing Bars to be Epoxy Coated.
2. See Standard Drawing E 609-RCBA-03 for Additional Details.

DANIEL R. MULLANEY
REGISTERED
No. PE11400776
STATE OF INDIANA
PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL — DESIGN ENGINEER — 1/29/2020 DATE

DESIGNED: PFC DRAWN: PFC
CHECKED: GAH CHECKED: GAH

HAMILTON COUNTY
BRIDGE NO. 98

REINFORCED CONCRETE
BRIDGE APPROACH DETAILS

HORIZONTAL SCALE	BRIDGE FILE
AS NOTED	HAMILTON 98
VERTICAL SCALE	DESIGNATION
AS NOTED	-
SURVEY BOOK	SHEETS
ELECTRONIC	20 of 31
CONTRACT	PROJECT
-	PB-19-0003

Model: Bridge Approach Slab
2/3/2020 9:43:46 AM User: PChristian

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SUMMARY OF BRIDGE QUANTITIES

ITEM	CONCRETE CLASS C SUPERSTR.	CONCRETE CLASS C SUBSTR.	CONCRETE CLASS B ABOVE FOOTING	CONCRETE CLASS B IN FOOTING	THREADED TIE BAR ASSEMBLY, EPOXY COATED	REINF. BARS, EPOXY COATED	RAILING STEEL, PF-1	RAILING CONCRETE, PF-1	CONCRETE BRIDGE RAILING TRANSITION, TPF-1	FIELD DRILLED HOLE IN CONCRETE	BARRIER DELIN-EATORS	REINF. CONC. BRIDGE APPROACH, 12 IN.	DENSE GRADED SUBBASE
	CYS	CYS	CYS	CYS	EACH	LBS	LFT	CYS	EACH	EACH	EACH	SYS	CYS
Superstructure	216.9				32	68,646							
Concrete Bridge Railing						7,546	476	29.4	4				
End Bent No. 1		7.5				742				88			
Pier No. 2													
Pier No. 3													
End Bent No. 4		7.5				742				88			
Reinf. Conc. Bridge Approach - East						3,714						67	11
Reinf. Conc. Bridge Approach - West						3,714						67	11
TOTALS	**216.9**	**15.0**			**32**	**85,104**	**476**	**29.4**	**4**	**176**		**134**	**22**

ITEM	PILES STEEL PIPE, 0.375 IN., 14 IN.	PILES TEST PILE, INDICATOR, PRODUCTION	PILES TEST PILE, INDICATOR, RESTRIKE	PILES CORED HOLE IN ROCK NO.	PILES CORED HOLE IN ROCK LFT	GRATES, BASINS AND FITTINGS, CAST IRON	PIPE, ROADWAY DRAIN CASTING EXTENSION	BEARING ASSEMBLY, ELASTOMERIC	DRILLED HOLE	STUD SHEAR CONNECTORS	CONC. STR. MEMBERS BOX BEAM TYPE & SIZE	CONC. STR. MEMBERS I-BEAM TYPE & SIZE	AGGREGATE FOR END BENT BACKFILL	GEOTEXTILE FOR RIPRAP, TYPE 1A	SLOPEWALL, REMOVE	SURFACE SEAL **
	LFT	LFT	EACH	NO.	LFT	EACH	EACH	EACH	EACH	EACH	LFT	LFT	CYS	SYS	SFT	SFT
Superstructure						4	4		42	2499						8070
Concrete Bridge Railing																2780
End Bent No. 1								7					10	31		250
Pier No. 2																351
Pier No. 3																434
End Bent No. 4								7					10	31		250
Reinf. Conc. Bridge Approach - East																580
Reinf. Conc. Bridge Approach - West																580
TOTALS						**4**	**4**	**14**	**42**	**2,499**			**20**	**62**		**13,295**

** Estimated quantity - Lump Sum Item

PAVEMENT QUANTITIES AND APPROACH TABLE

LOCATION	DESCRIPTION (APPROACH TYPE OR CLASS)	WIDTH	LENGTH	RADII	DISTANCE BEYOND R/W LINE	SURFACE BEYOND R/W LINE COMPACTED AGGREGATE BASE	SURFACE BEYOND R/W LINE HMA	SURFACE BEYOND R/W LINE CONCRETE	GRADE 1	GRADE 2	EXCAVATION CUT	EXCAVATION FILL	CLEAR ZONE AT DRIVE	HMA FOR APPROACHES LBS. PER SYD.	HMA FOR APPROACHES LBS. PER SYD.	HMA MATERIALS HMA, SURFACE, TYPE B, 9.5 MM LBS. PER SYD. 165	HMA MATERIALS HMA, INTERMD., TYPE B, 19.0MM LBS. PER SYD. 275	HMA MATERIALS HMA, BASE, TYPE B, 25.0 MM LBS. PER SYD. 1320	HMA WEDGE AND LEVEL, TYPE B	CURB AND GUTTER, CONCRETE, MODIFIED	JOINT ADHESIVE, SURFACE	JOINT ADHESIVE, INTERMEDIATE	LIQUID ASPHALT SEALANT	HMA MATERIAL FOR: PRIME COAT	HMA MATERIAL FOR: TACK COAT	COMPACTED AGGREGATE, NO. 53 DEPTH 16		COMPACTED AGGREGATE FOR SURFACE NO. 73 DEPTH			SUBGRADE TREATMENT, TYPE IC	PAVEMENT REMOVAL	CURB AND GUTTER, REMOVE	MILLING, ASPHALT 1 1/2"	REVETMENT RIPRAP (HAND LAID) *	GEOTEXTILES FOR RIPRAP, TYPE 1A *	REMARKS
		FT	FT	FT	FT	SYS	SYS	SYS	%	%	CYS	CYS	FT	SYS	SYS	TONS	TONS	TONS	TONS	LFT	LFT	LFT	LFT	SYS	SYS	TONS		SYS	SYS		SYS	SYS	LFT	SYS	TONS	SYS	
Line "A"	Mainline										185	29				74	77	371		117	796	697	796		2133	182					654	136	231	364	158	335	
TOTALS											**185**	**29**				**74**	**77**	**371**		**117**	**796**	**697**	**796**		**2133**	**182**					**654**	**136**	**231**	**364**	**158**	**335**	

* - Estimated quantity

GUARDRAIL TABLE

FROM STATION	TO STATION	LOCATION LEFT	LOCATION MEDIAN LEFT	LOCATION MEDIAN RIGHT	LOCATION RIGHT	W-BEAM GUARDRAIL: GUARDRAIL, MGS W-BEAM, 6 FT. 3 IN. SPACING	W-BEAM GUARDRAIL: GUARDRAIL, DOUBLE-FACED MGS W-BEAM, 6 FT. 3 IN. SPACING	GUARDRAIL FLARE RATE	GUARDRAIL MGS, HEIGHT TRANSITION	GUARDRAIL TRANSITION TYPE MGS WITHOUT CURB	GUARDRAIL END TREATMENT TYPE OS, 31" HEIGHT	GUARDRAIL END TREATMENT TYPE MS, 31" HEIGHT	CURVED W-BEAM GUARDRAIL SYSTEM: TERMINAL SYSTEM TYPE	TERMINAL SYSTEM EACH	CONNECTOR SYSTEM TYPE	CONNECTOR SYSTEM EACH	GUARDRAIL REMOVE	GUARDRAIL RESET	GUARDRAIL, MGS, W-BEAM, CABLE TERM. ANCHOR	IMPACT ATTENUATOR TYPE ___	REMARKS
						LFT	LFT		EACH	EACH	EACH	EACH	TYPE	EACH	TYPE	EACH	LFT	LFT	EACH	EACH	
LINE "A"																					
25+95.91	26+47.25	X									1										
26+47.25	30+43.52	X				393.75											504				
30+43.52	30+83.54	X								1											
33+52.46	33+92.48	X								1											
33+92.48	34+04.98	X				12.5											108				
34+04.98	34+42.48	X							1												Connect to Exist. GR
29+31.42	29+81.12				X						1										
29+81.12	30+43.52				X	62.5											173				
30+43.52	30+83.54				X					1											
33+52.46	33+92.48				X					1											
33+92.48	34+04.98				X	12.5											108				
34+04.98	34+42.48				X				1												Connect to Exist. GR
TOTALS						481.25			2	4	2						893				

PAVEMENT MARKINGS SUMMARY OF QUANTITIES

LOCATION	LEFT	CENTER	RIGHT	LINE, MULTI-COMPONENT SOLID WHITE 4 in ft	LINE, MULTI-COMPONENT BROKEN WHITE 4 in ft	LINE, MULTI-COMPONENT SOLID YELLOW 4 in ft	PAVEMENT MESSAGE THERMOPLASTIC LANE INDICATION ARROW EACH	SNOWPLOWABLE RAISED PAVEMENT MARKERS EACH
LINE "A"								
29+00.00 to 34+43.00 "A"		X				1,086		
30+17.00 to 34+43.00 "A"			X	426				
29+00.00 to 34+43.00 "A"	X			543				
TOTAL				969	0	1,086		

BRIDGE PAINTING INFORMATION

Structure Number	Length of Structural Steel Spans *	Existing Primer Type	Year Last Painted	Year Built	Tons of Structural Steel **	Surface Area Structural Steel (sft) **	New Paint Color (name)	New Paint Color No.
Hamilton 98	72'-0", 90'-0", 72'-0"	Hazardous	1954	1954	147	17,150	Deep Hemlock	Porter Paints, Color No. 6348-5

* Length shown is approximate
** The quantities shown are approximate only
The Contractor shall determine the quantities upon which to base its bid

DANIEL R. MULLANEY REGISTERED No. PE11400776 STATE OF INDIANA PROFESSIONAL ENGINEER

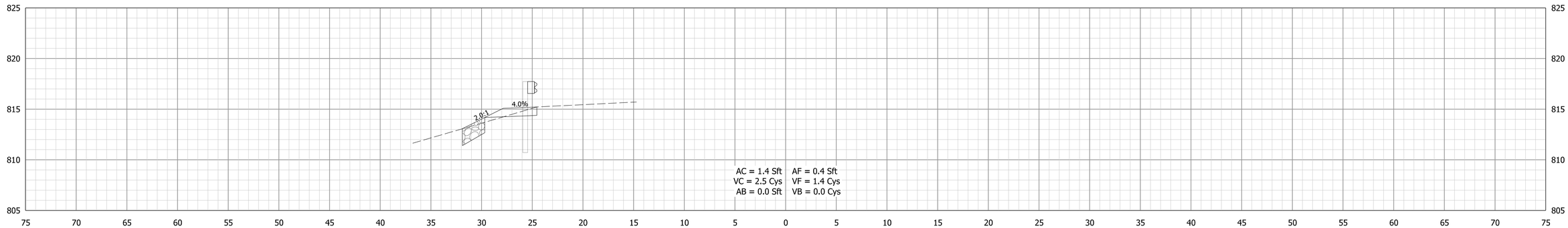
RECOMMENDED FOR APPROVAL — DESIGN ENGINEER — DATE 1/29/2020

DESIGNED: PFC DRAWN: PFC
CHECKED: GAH CHECKED: GAH

HAMILTON COUNTY
BRIDGE NO. 98

SUMMARY OF QUANTITIES

HORIZONTAL SCALE	BRIDGE FILE
N/A	HAMILTON 98
VERTICAL SCALE	DESIGNATION
N/A	-
SURVEY BOOK	SHEETS
ELECTRONIC	21 of 31
CONTRACT	PROJECT
-	PB-19-0003



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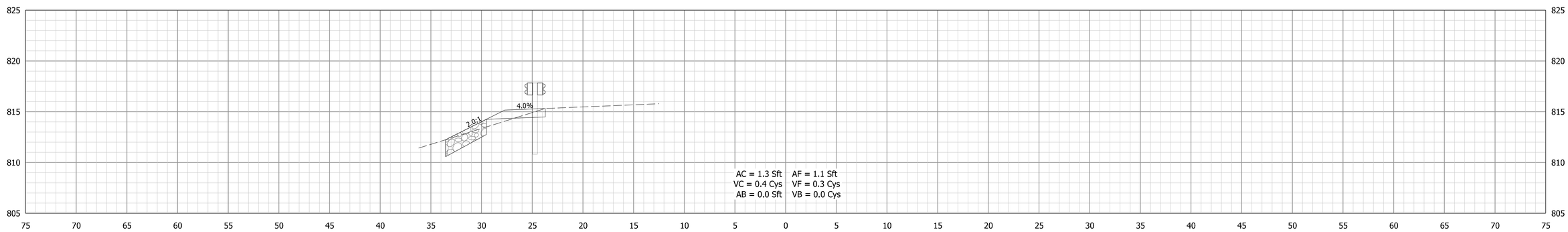

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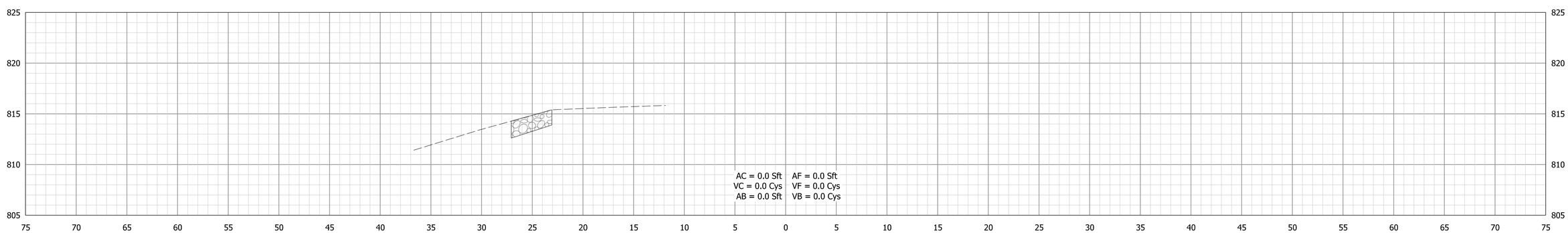

Begin Incidental Construction
for Guardrail and Grading
25+85.00 "A"

25+85.00

STA. 25+85.00 TO STA. 26+50.00

Model: A_Ext User: PChristian
2/3/2020 9:43:51 AM

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER DATE

DESIGNED: KCH DRAWN: KCH
CHECKED: DRM CHECKED: DRM

HAMILTON COUNTY
BRIDGE NO. 98

CROSS SECTIONS - LINE "A"

HORIZONTAL SCALE	BRIDGE FILE
1" = 5'	HAMILTON 98
VERTICAL SCALE	DESIGNATION
1" = 5'	-
SURVEY BOOK	SHEETS
ELECTRONIC	22 of 31
CONTRACT	PROJECT
-	PB-19-0003

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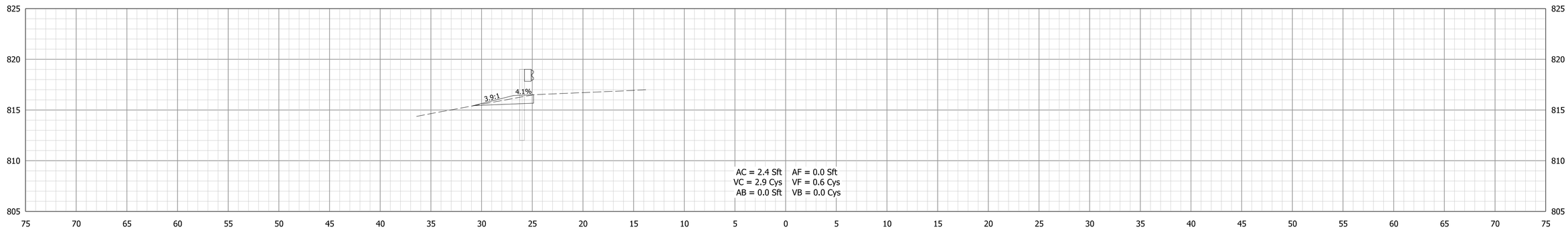

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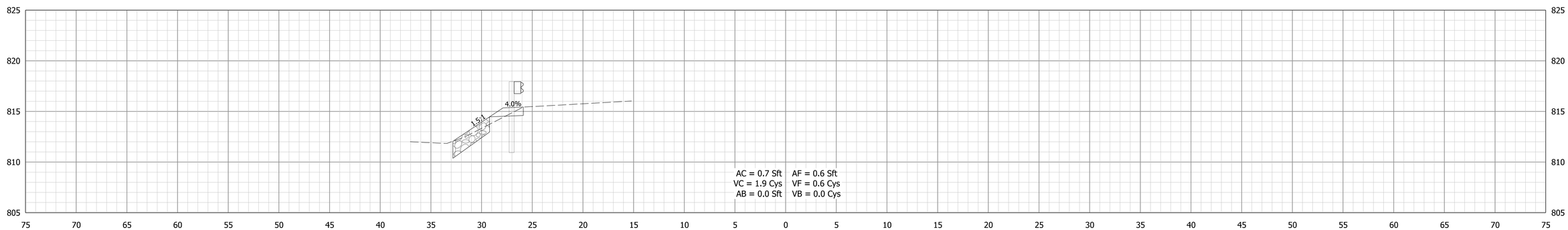

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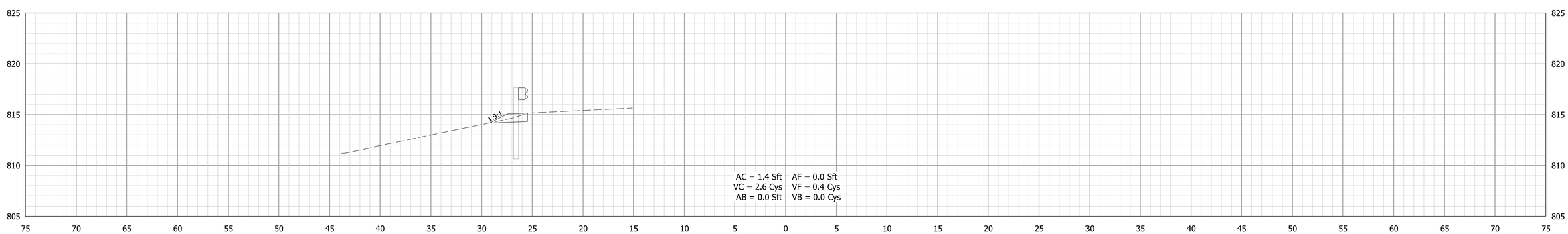

27+00.00

STA. 27+00.00 TO STA. 28+00.00

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RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER DATE

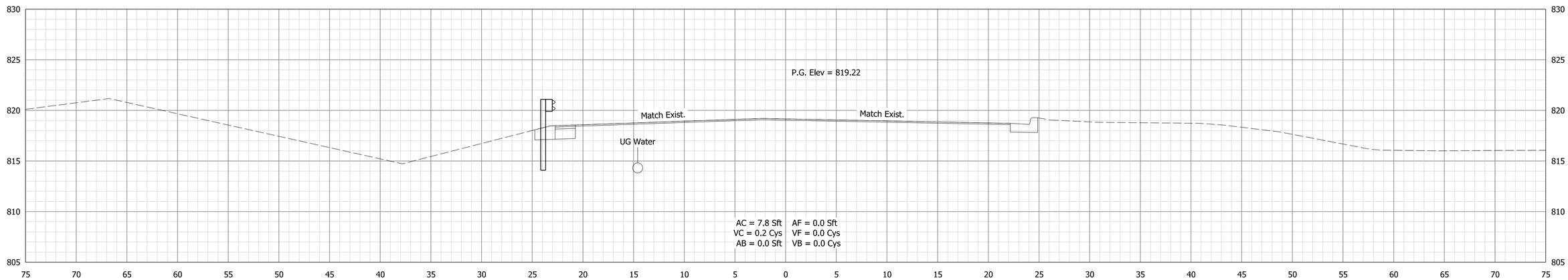
DESIGNED: KCH DRAWN: KCH

CHECKED: DRM CHECKED: DRM

HAMILTON COUNTY
BRIDGE NO. 98

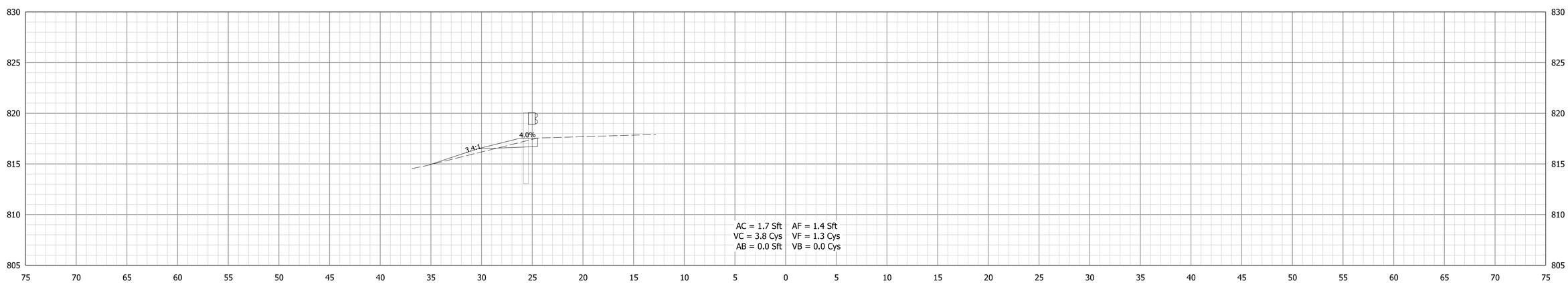
CROSS SECTIONS - LINE "A"

HORIZONTAL SCALE	BRIDGE FILE
1" = 5'	HAMILTON 98
VERTICAL SCALE	DESIGNATION
1" = 5'	-
SURVEY BOOK	SHEETS
ELECTRONIC	23 of 31
CONTRACT	PROJECT
-	PB-19-0003



29+00.00

Begin Incidental Construction
29+00.00 "A"



28+50.00

STA. 28+50.00 TO STA. 29+00.00

User: PChristian

Model: A_Ext
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RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER DATE

DESIGNED: KCH DRAWN: KCH

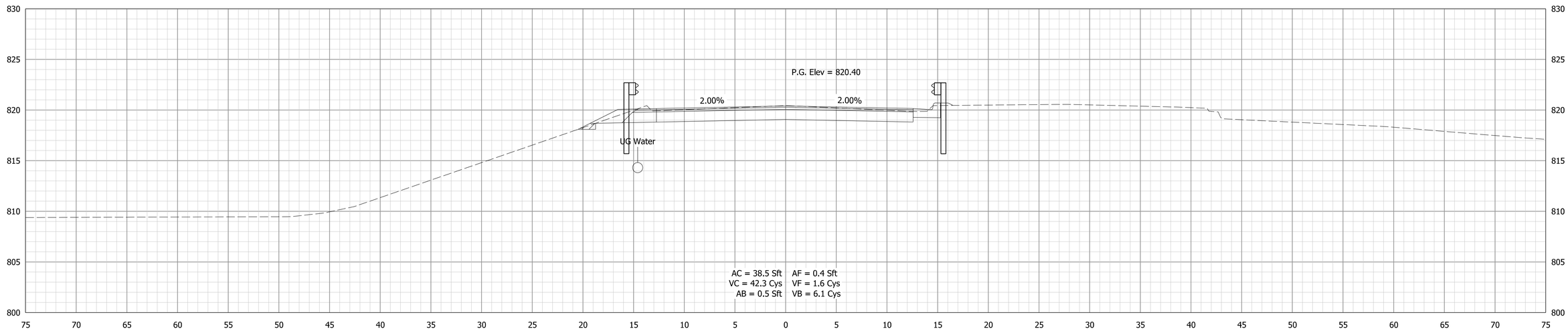
CHECKED: DRM CHECKED: DRM

HAMILTON COUNTY
BRIDGE NO. 98

CROSS SECTIONS - LINE "A"

HORIZONTAL SCALE	BRIDGE FILE
1" = 5'	HAMILTON 98
VERTICAL SCALE	DESIGNATION
1" = 5'	-

SURVEY BOOK	SHEETS		
ELECTRONIC	24	of	31
CONTRACT	PROJECT		
-	PB-19-0003		



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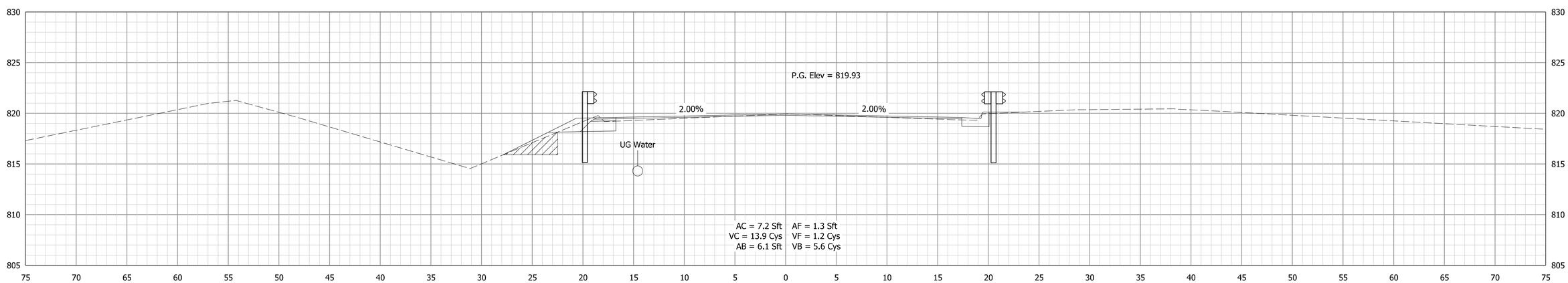

29+50.00

BEGIN PROJECT
29+50.00 "A"

STA. 29+50.00 TO STA. 30+00.00

User: PChristian
9:43:53 AM
Model: A
2/3/2020

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER DATE

DESIGNED: PFC DRAWN: PFC
CHECKED: GAH CHECKED: GAH

HAMILTON COUNTY
BRIDGE NO. 98

CROSS SECTIONS - LINE "A"

HORIZONTAL SCALE	BRIDGE FILE
1" = 5'	HAMILTON 98
VERTICAL SCALE	DESIGNATION
1" = 5'	-
SURVEY BOOK	SHEETS
ELECTRONIC	25 of 31
CONTRACT	PROJECT
-	PB-19-0003

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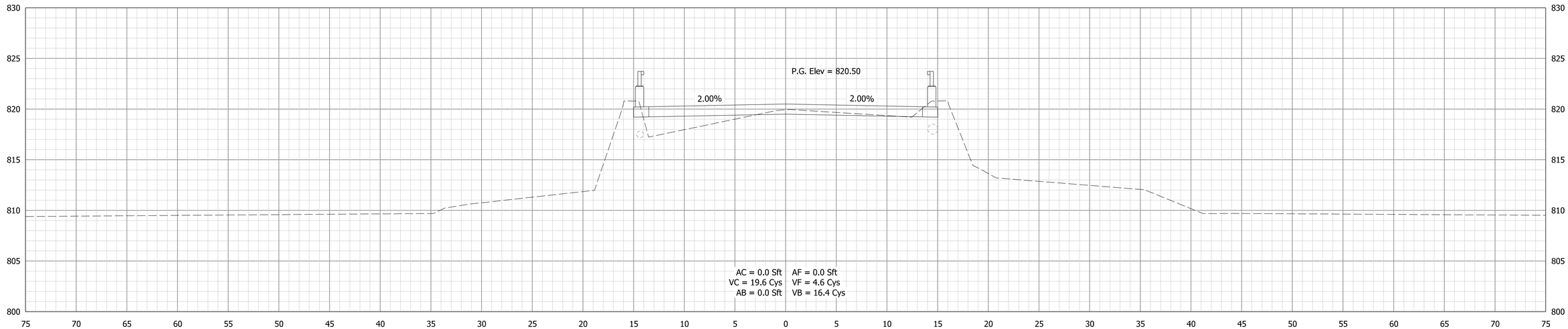

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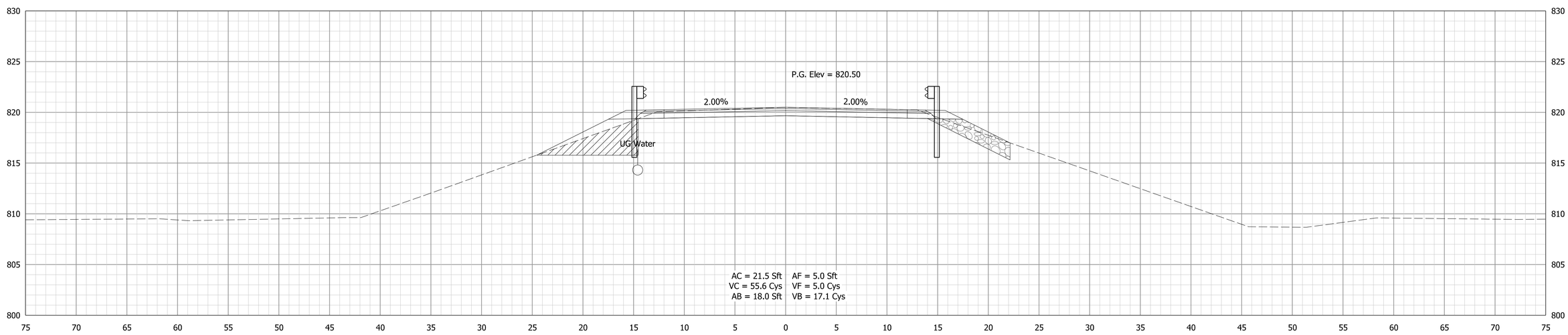

30+50.00

STA. 30+50.00 TO STA. 30+99.21

User: PChristian

Model: A
2/3/2020 9:43:54 AM

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RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER DATE

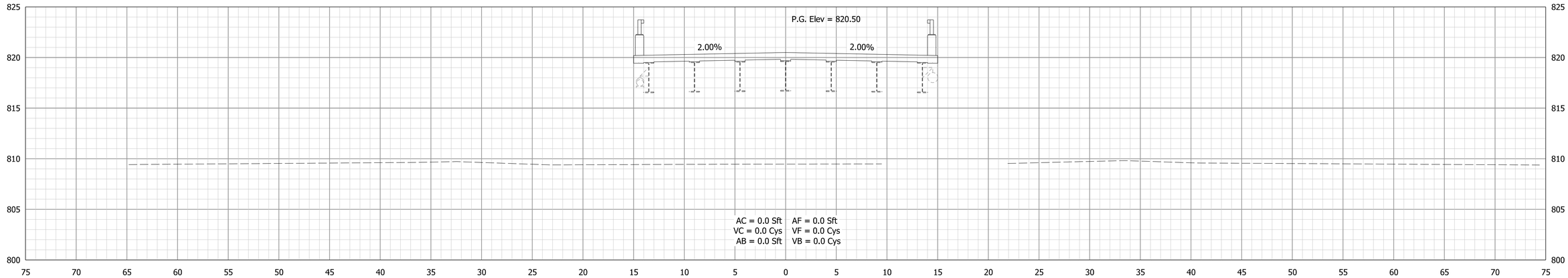
DESIGNED: PFC DRAWN: PFC

CHECKED: GAH CHECKED: GAH

HAMILTON COUNTY
BRIDGE NO. 98

CROSS SECTIONS - LINE "A"

HORIZONTAL SCALE	BRIDGE FILE
1" = 5'	HAMILTON 98
VERTICAL SCALE	DESIGNATION
1" = 5'	-
SURVEY BOOK	SHEETS
ELECTRONIC	26 of 31
CONTRACT	PROJECT
-	PB-19-0003



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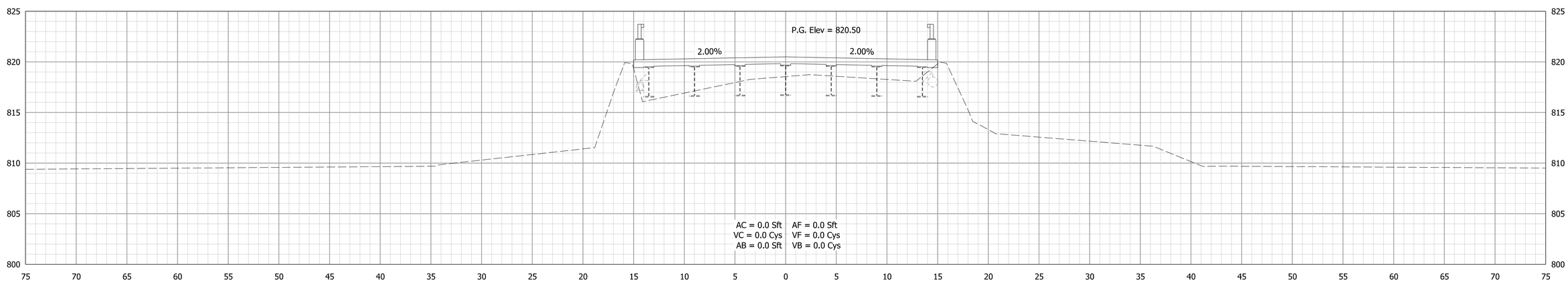

31+00.00

STA. 31+00.00 TO STA. 32+00.00

User: PChristian

Model: A
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RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER DATE

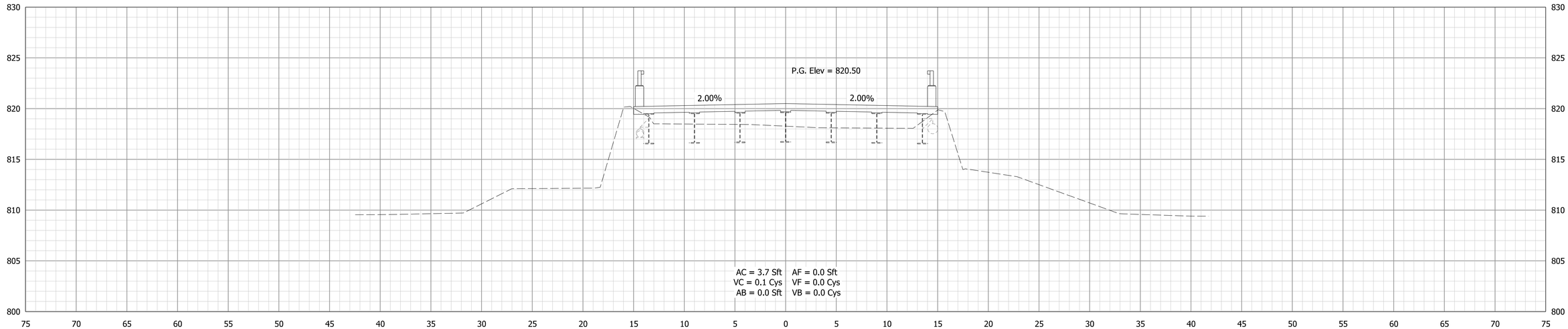
DESIGNED: PFC DRAWN: PFC

CHECKED: GAH CHECKED: GAH

HAMILTON COUNTY
BRIDGE NO. 98

CROSS SECTIONS - LINE "A"

HORIZONTAL SCALE	BRIDGE FILE
1" = 5'	HAMILTON 98
VERTICAL SCALE	DESIGNATION
1" = 5'	-
SURVEY BOOK	SHEETS
ELECTRONIC	27 of 31
CONTRACT	PROJECT
-	PB-19-0003



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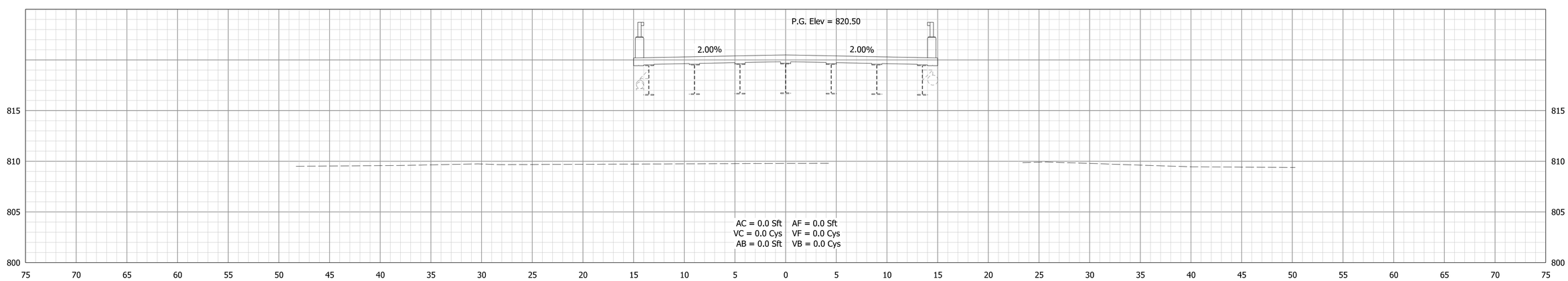

33+00.00

STA. 33+00.00 TO STA. 33+35.42

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RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER DATE

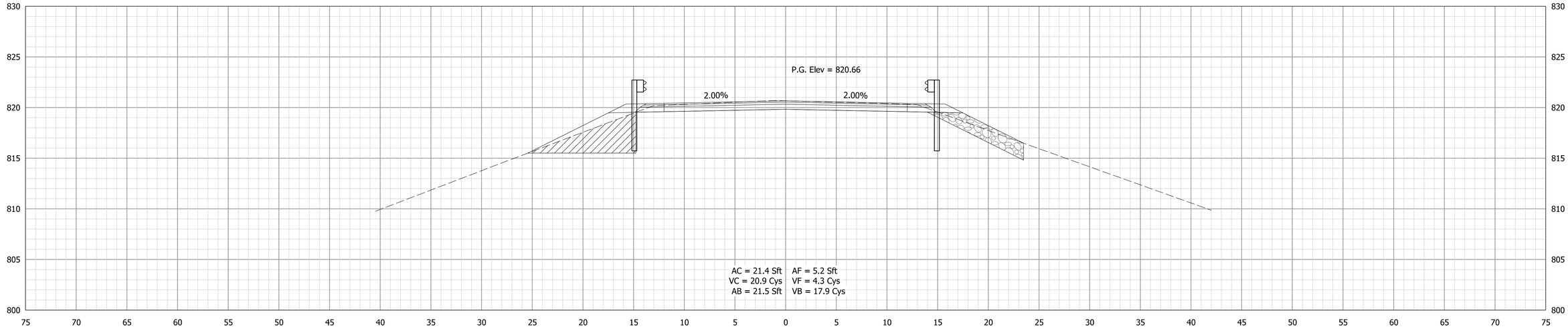
DESIGNED: PFC DRAWN: PFC

CHECKED: GAH CHECKED: GAH

HAMILTON COUNTY
BRIDGE NO. 98

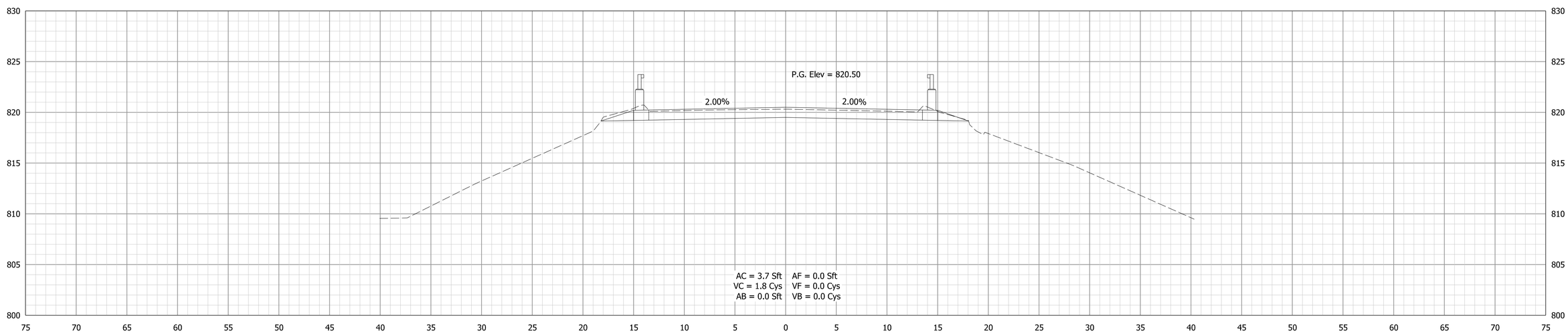
CROSS SECTIONS - LINE "A"

HORIZONTAL SCALE	BRIDGE FILE
1" = 5'	HAMILTON 98
VERTICAL SCALE	DESIGNATION
1" = 5'	-
SURVEY BOOK	SHEETS
ELECTRONIC	28 of 31
CONTRACT	PROJECT
-	PB-19-0003



33+95.00

END PROJECT
33+95.00 "A"



33+50.00

STA. 33+50.00 TO STA. 33+95.00

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER DATE	HAMILTON COUNTY BRIDGE NO. 98	HORIZONTAL SCALE 1" = 5'	BRIDGE FILE HAMILTON 98
		VERTICAL SCALE 1" = 5'	DESIGNATION -
DESIGNED: PFC DRAWN: PFC	CROSS SECTIONS - LINE "A"	SURVEY BOOK ELECTRONIC	SHEETS 29 of 31
CHECKED: GAH CHECKED: GAH		CONTRACT -	PROJECT PB-19-0003

Model: A User: PChristian
2/3/2020 9:43:55 AM
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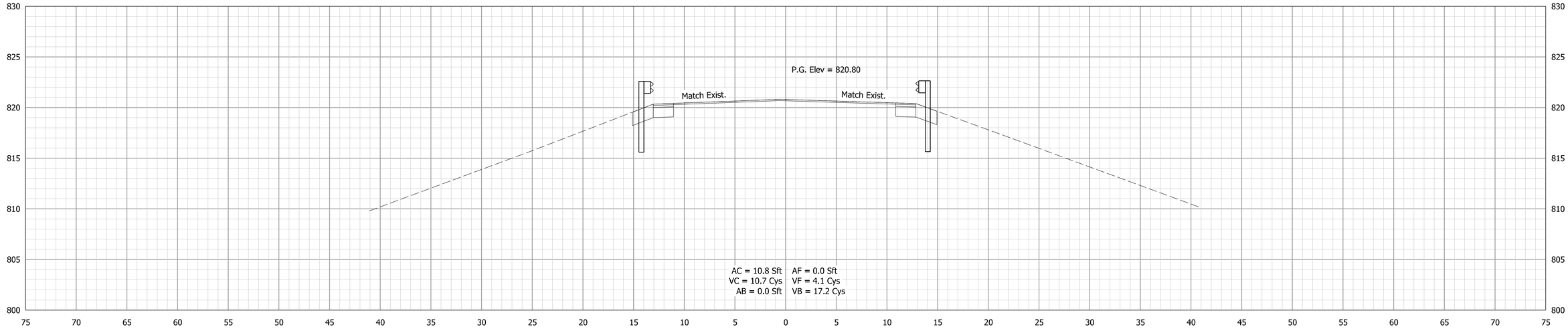
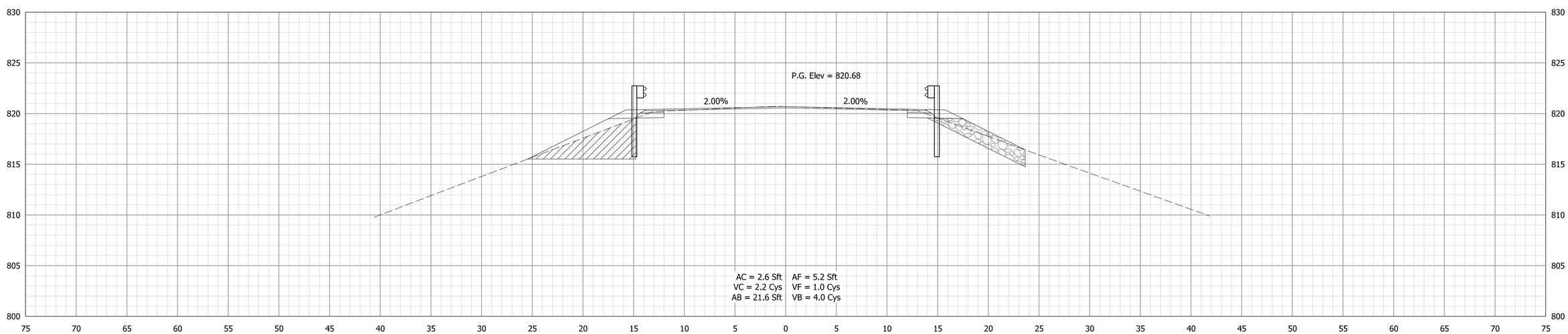


34+43.00

End Incidental Construction
34+43.00 "A"



34+00.00

STA. 34+00.00 TO STA. 34+43.00

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER DATE	HAMILTON COUNTY BRIDGE NO. 98	HORIZONTAL SCALE 1" = 5'	BRIDGE FILE HAMILTON 98
		VERTICAL SCALE 1" = 5'	DESIGNATION -
DESIGNED: PFC / DRAWN: PFC	CROSS SECTIONS - LINE "A"	SURVEY BOOK ELECTRONIC	SHEETS 30 of 31
CHECKED: GAH / CHECKED: GAH		CONTRACT -	PROJECT PB-19-0003

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Model: A
2/3/2020 9:43:55 AM
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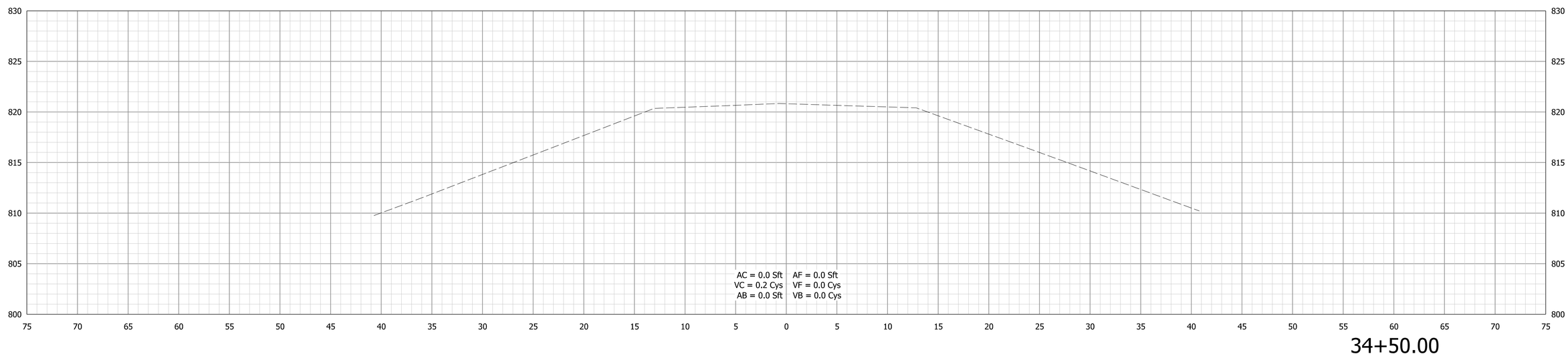

34+50.00

STA. 34+50.00 TO STA. 34+50.00

User: PChristian

Model: A
2/3/2020 9:43:56 AM

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER DATE

DESIGNED: PFC DRAWN: PFC

CHECKED: GAH CHECKED: GAH

HAMILTON COUNTY
BRIDGE NO. 98

CROSS SECTIONS - LINE "A"

HORIZONTAL SCALE	BRIDGE FILE
1" = 5'	HAMILTON 98
VERTICAL SCALE	DESIGNATION
1" = 5'	-
SURVEY BOOK	SHEETS
ELECTRONIC	31 of 31
CONTRACT	PROJECT
-	PB-19-0003

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