PROJECT	DESIGNATION
CONTRACT	
	HAMILTON 33008

HAMILTON COUNTY HIGHWAY DEPARTMENT

INDEX

STRUCTURE	TYPE	SPAN AND SKEW	OVER	STATION
HAMILTON COUNTY BRIDGE 305	Composite Prestressed Concrete Box Beam	1 Span @ 25'-0", Square	Sugar Run	1093+36.00

SHEET NO.	SUBJECT
1	TITLE SHEET
2	TYPICAL CROSS SECTIONS
3	TRAFFIC DETOUR PLAN
4 - 6	PLAN AND PROFILE
7 - 8	EROSION CONTROL DETAILS
9 - 10	CONSTRUCTION DETAILS
11	INTERSECTION DETAILS
12 - 13	SOIL BORINGS
14	CHANNEL CHANGE LAYOUT
15	LAYOUT
16	GENERAL PLAN - STRUCTURE NO. 1
17 - 18	GRATED BOX END SECTION DETAILS
19	GENERAL PLAN - STRUCTURE NO. 2
20 - 21	ABUTMENT DETAILS
22	SUBSTRUCTURE DETAILS
23	FRAMING PLAN
24	BEAM DETAILS
25	SUPERSTRUCTURE DETAILS
26 - 27	SUMMARY OF QUANTITIES
28 - 45	CROSS SECTIONS

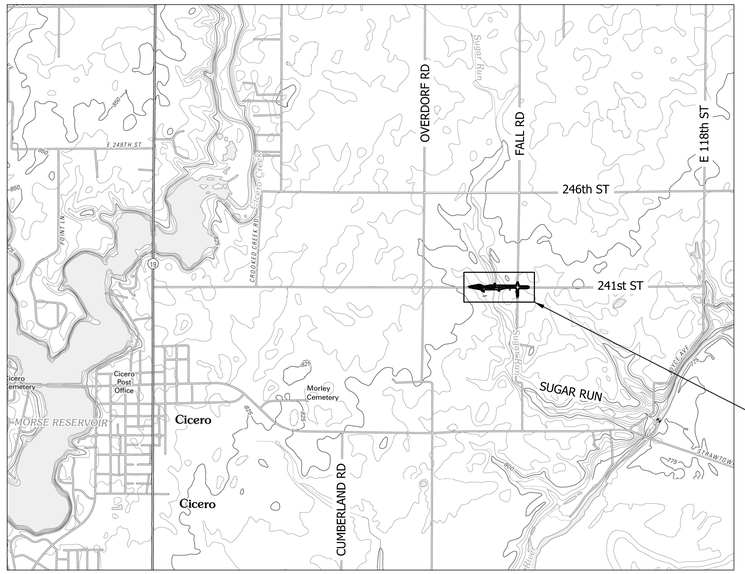
UTILITIES

DUKE ENERGY - ELECTRIC
GABE GIBSON
GABE.GIBSON@DUKE-ENERGY.COM
OFFICE: 317-776-5340
MOBILE: 317-416-1313
100 S. MILL CREEK ROAD
NOBLESVILLE, IN 46062

FRONTIER COMMUNICATIONS OF INDIANA - COMMUNICATION
STEPHEN COSTLOW
STEVE.COSTLOW@FTR.COM
OFFICE: 317-984-9010
MOBILE: 317-514-1147
20905 HAGUE ROAD
NOBLESVILLE, IN 46062

REPLACEMENT PLANS FOR SMALL STRUCTURE NO. 33008 (BRIDGE NO. 305) 241ST STREET OVER SUGAR RUN WHITE RIVER TOWNSHIP HAMILTON COUNTY, INDIANA PB-14-0009

SMALL STRUCTURE REPLACEMENT ON 241ST STREET OVER SUGAR RUN,
LOCATED 1.81 MILES EAST OF S.R. 19
IN SECTION 32, T-20-N, R-5-E,
WHITE RIVER TOWNSHIP, HAMILTON COUNTY, INDIANA



1" = 2000'

HAMILTON COUNTY

TRAFFIC DATA

A.A.D.T.	(2016)	350 V.P.D.
A.A.D.T.	(2036)	630 V.P.D.
D.H.V	(2036)	. V.P.H.
DIRECTIONAL DISTRIBUTION		. %
TRUCKS		5 % A.A.D.T.
		. % D.H.V.

DESIGN DATA

DESIGN SPEED	55 M.P.H.
PROJECT DESIGN CRITERIA	3R NON-FREEWAY
FUNCTIONAL CLASSIFICATION	COLLECTOR
RURAL/URBAN	RURAL
TERRAIN	LEVEL
ACCESS CONTROL	NONE

PROJECT LOCATION SHOWN BY HAMILTON COUNTY

LATITUDE: 40° 08' 23" N LONGITUDE: 85° 58' 46" W

BRIDGE LENGTH -	0.005 MILES
ROADWAY LENGTH -	0.268 MILES
TOTAL LENGTH -	0.274 MILES
MAXIMUM GRADE -	-1.100%

HAMILTON COUNTY BOARD OF COMMISSIONERS

APPROVED BY Mark Heirbrandt DATE 01-26-2018
MARK HEIRBRANDT, PRESIDENT

Christine Altman
CHRISTINE ALTMAN, MEMBER

STEVEN C. DILLINGER, MEMBER

RECOMMEND FOR APPROVAL Joel Thurman DATE 01-26-2018
JOEL THURMAN, COUNTY ENGINEER (ACTING)

ATTESTED BY Robin M Mills DATE 01-26-2018
ROBIN MILLS, AUDITOR

PLANS PREPARED BY:

SJCA P.C.
ENGINEERS & SURVEYORS
9102 North Meridian Street - Suite 200 - Indianapolis, IN 46260
Phone: (317) 566-0629
Fax: (317) 566-0633
Email: sjca@sjcassoc.com

INDIANA DEPARTMENT OF TRANSPORTATION
STANDARD SPECIFICATIONS DATED 2018
TO BE USED WITH THESE PLANS

PLANS PREPARED BY: SJCA P.C. (317) 566-0629 PHONE NUMBER
CERTIFIED BY: Sherly George 1/26/2018 DATE

SHERLY GEORGE REGISTERED No. 19600508 STATE OF INDIANA PROFESSIONAL ENGINEER

	HAMILTON 33008
	DESIGNATION
SURVEY BOOK	SHEETS
ELECTRONIC	1 of 45
CONTRACT	PROJECT

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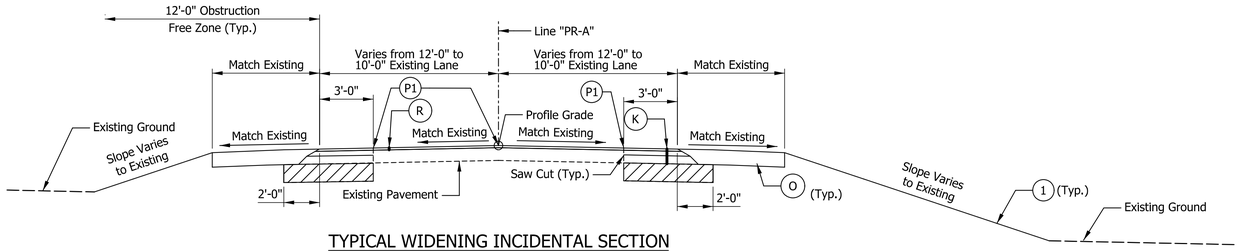
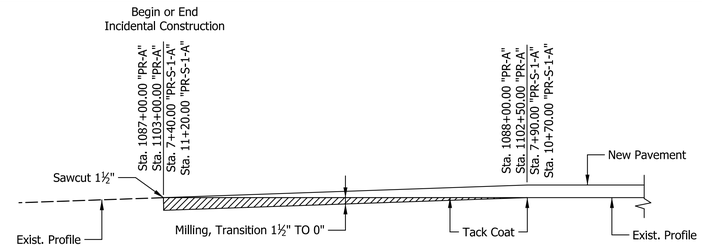


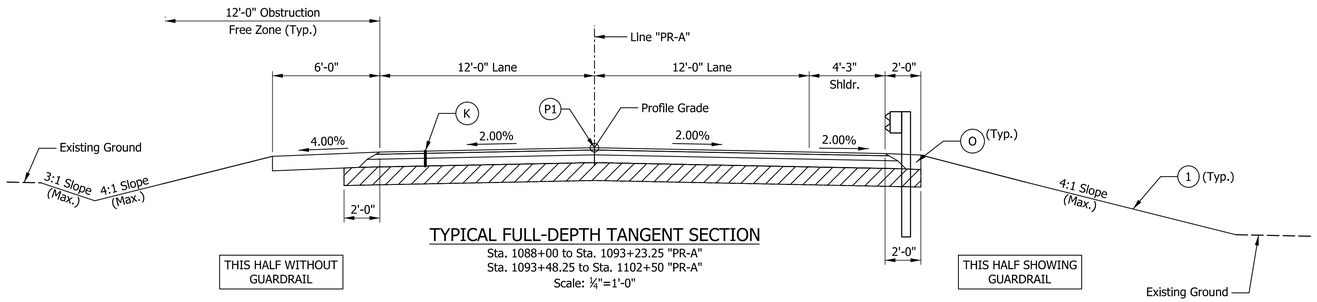
TYPICAL WIDENING INCIDENTAL SECTION

Sta. 1087+00 to Sta. 1088+00 "PR-A"
Sta. 1102+50 to Sta. 1103+00 "PR-A"
Scale: ¼"=1'-0"



ASPHALT WEDGE & LEVEL DETAIL

Not to Scale

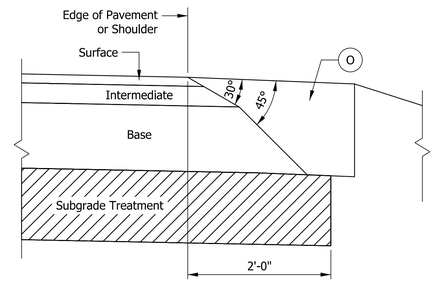


TYPICAL FULL-DEPTH TANGENT SECTION

Sta. 1088+00 to Sta. 1093+23.25 "PR-A"
Sta. 1093+48.25 to Sta. 1102+50 "PR-A"
Scale: ¼"=1'-0"

PAVING EXCEPTION

Sta. 1093+22.25 to Sta. 1093+49.75



SAFETY EDGE DETAIL

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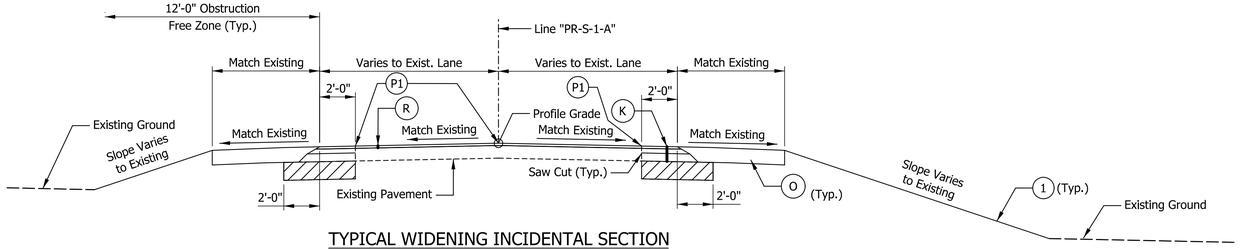
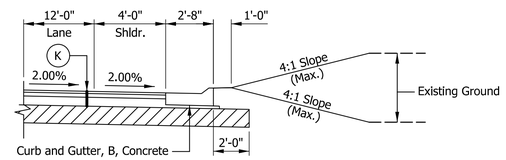


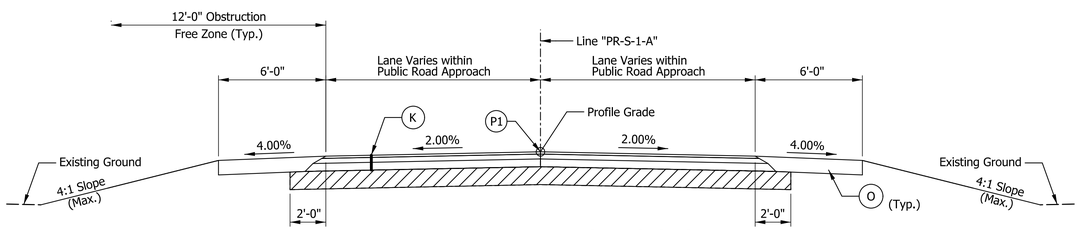
TYPICAL WIDENING INCIDENTAL SECTION

Sta. 7+40 to Sta. 7+90 "PR-S-1-A"
Sta. 10+70 to Sta. 11+20 "PR-S-1-A"
Scale: ¼"=1'-0"



TYPICAL CURB AND GUTTER SECTION

Sta. 1090+80 "PR-A" to Sta. 1092+05 "PR-A", Lt.
Sta. 1097+00 "PR-A" to Sta. 1099+70 "PR-A", Rt.
Sta. 9+12 "PR-S-1-A" to Sta. 9+71 "PR-S-1-A", Lt.
Scale: ¼" = 1'-0"



TYPICAL FULL-DEPTH TANGENT SECTION

Sta. 7+90 to Sta. 9+88 "PR-S-1-A"
Sta. 10+12 to Sta. 10+70 "PR-S-1-A"
Scale: ¼"=1'-0"

LEGEND

- (K) 165 lb/syd HMA Surface, Type A on 275 lb/syd HMA Intermediate, Type A on 660 lb/syd HMA Base, Type A
- (O) 10" Compacted Aggregate Base, 53
- (P1) Joint Adhesive required for surface and intermediate layers at longitudinal joints
- (R) Variable Depth - HMA, Surface, Type B
- (1) Mulched Seeding "R" with Erosion Control Blankets
- Subgrade Treatment, Type II

User: kharrison

Model: Typical Sections
1/30/2018 9:46:03 AM

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SHERLY GEORGE
REGISTERED
No. 19600508
STATE OF INDIANA
PROFESSIONAL ENGINEER

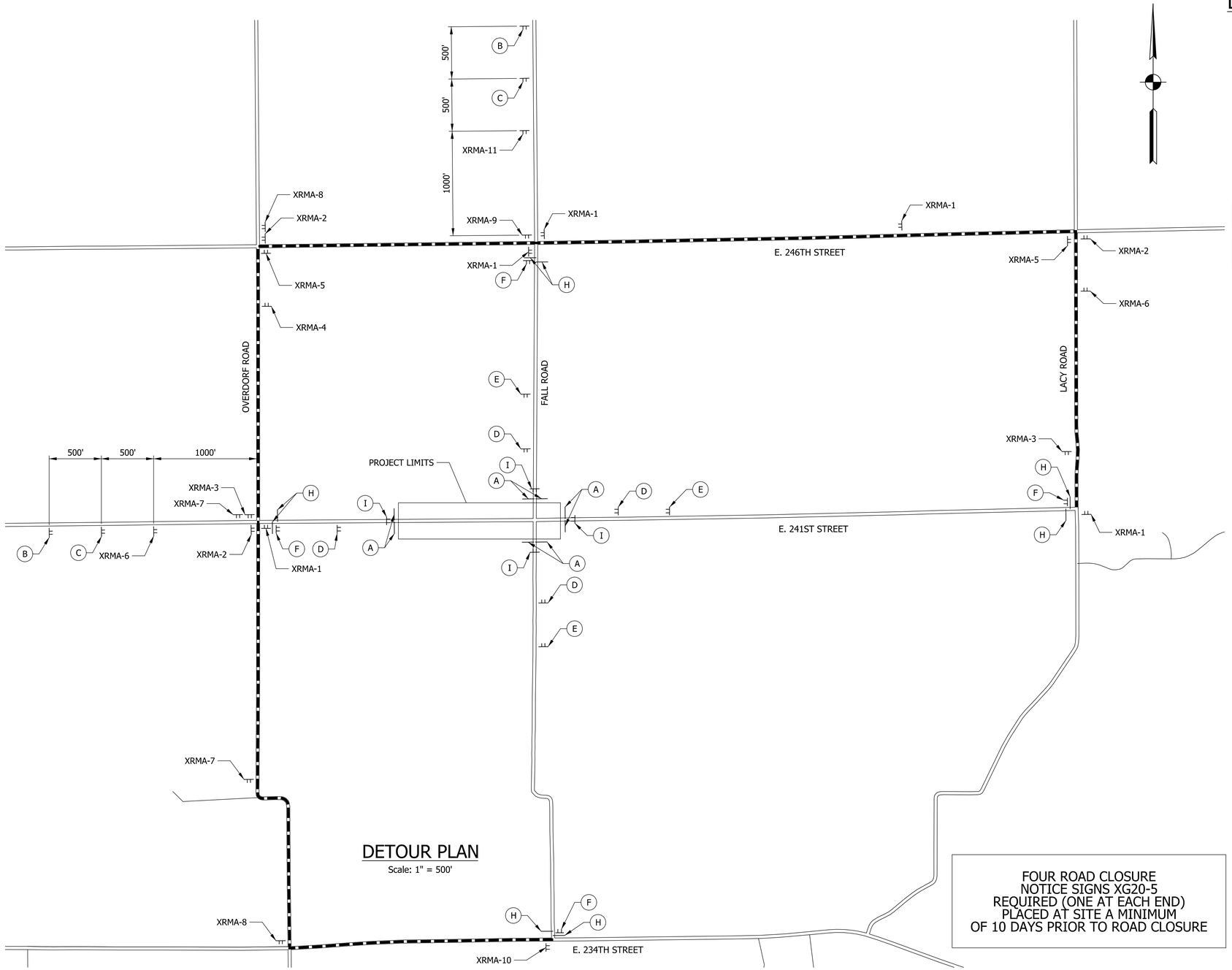
RECOMMENDED FOR APPROVAL — DESIGN ENGINEER — 1/26/2018 DATE

DESIGNED: SG | DRAWN: KCH
CHECKED: MJF | CHECKED: SG

HAMILTON COUNTY
BRIDGE NO. 305

TYPICAL CROSS SECTIONS

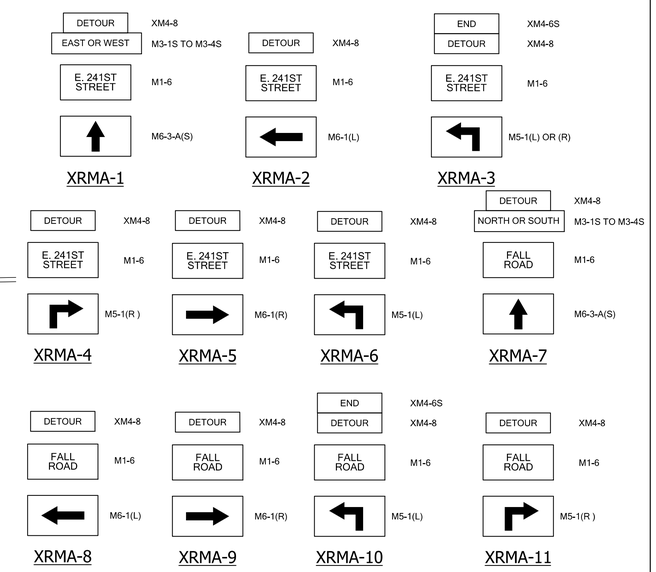
HORIZONTAL SCALE	HAMILTON COUNTY
AS NOTED	HAMILTON 33008
VERTICAL SCALE	DESIGNATION
AS NOTED	
SURVEY BOOK	SHEETS
ELECTRONIC	2 of 45
CONTRACT	PROJECT



DETOUR PLAN

Scale: 1" = 500'

DETOUR ROUTE MARKER ASSEMBLY LEGEND



LEGEND

- (A) TYPE III-A BARRICADES
- (B) "ROAD CLOSED AHEAD" - XW20-3
- (C) "DETOUR AHEAD" - XW20-2
- (D) "ROAD CLOSED 500 FT." - XW20-3
- (E) "ROAD CLOSED 1000 FT." - XW20-3
- (F) "ROAD CLOSED X MILES AHEAD LOCAL TRAFFIC ONLY" - R11-3 "DETOUR" (LT. OR RT.) M4-10
- (H) TYPE III-B BARRICADES STAGGERED
- (I) ROAD CLOSURE SIGN ASSEMBLY AND R11-2
- SIGN ASSEMBLY
- DETOUR ROUTE

ESTIMATED QUANTITIES

DESCRIPTION	UNIT	TOTAL
CONSTRUCTION SIGN, A	EACH	15
DETOUR ROUTE MARKER ASSEMBLY	EACH	22
ROAD CLOSURE SIGN ASSEMBLY	EACH	12
TYPE III-A BARRICADES	LFT	96
TYPE III-B BARRICADES	LFT	96

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

NOTES:
ESTIMATED QUANTITY FOR PAYMENT: TYPE A - 15
(8 TYPE A SIGNS INCLUDED IN ROAD CLOSURE SIGN ASSEMBLY)

DETOUR ROUTE MARKER ASSEMBLIES SHALL BE IN ACCORDANCE WITH STANDARD DRAWING 801-TCDT-03.

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.

SHERLY GEORGE REGISTERED No. 19600508 STATE OF INDIANA PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL — DESIGN ENGINEER — 1/26/2018 DATE

DESIGNED: KCH | DRAWN: KCH/MAB
CHECKED: MJF | CHECKED: SG

HAMILTON COUNTY
BRIDGE NO. 305

TRAFFIC DETOUR PLAN

HORIZONTAL SCALE	HAMILTON COUNTY
AS SHOWN	HAMILTON 33008
VERTICAL SCALE	DESIGNATION
AS SHOWN	
SURVEY BOOK	SHEETS
ELECTRONIC	3 of 45
CONTRACT	PROJECT

Model: Detour Route
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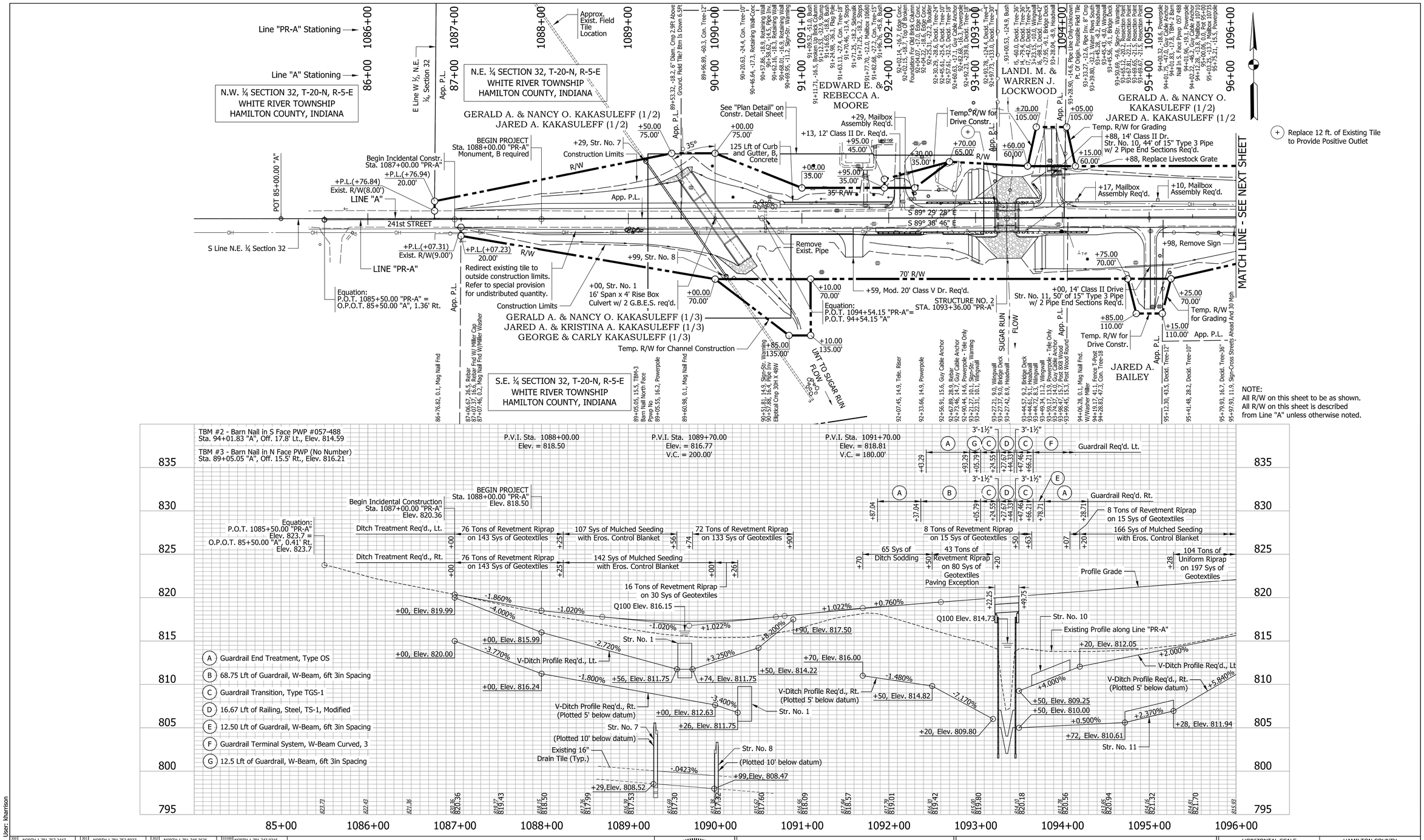

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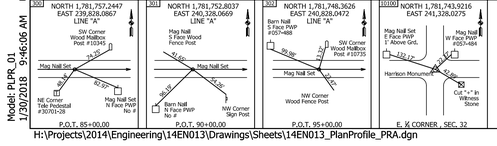

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SHERLY GEORGE REGISTERED No. 19600508 STATE OF INDIANA PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL — DESIGN ENGINEER — 1/26/2018 DATE

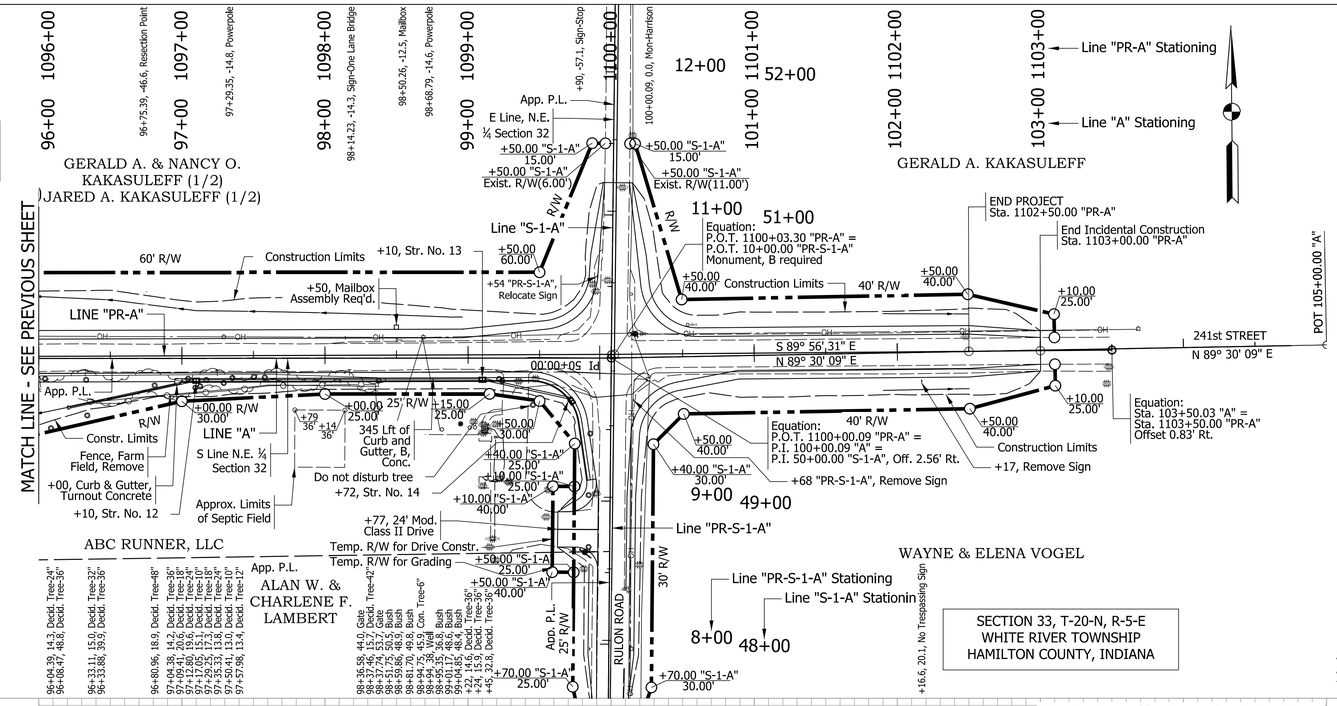
DESIGNED: SG | DRAWN: KCH
CHECKED: KAG | CHECKED: SG

HAMILTON COUNTY BRIDGE NO. 305

PLAN AND PROFILE LINE "PR-A"

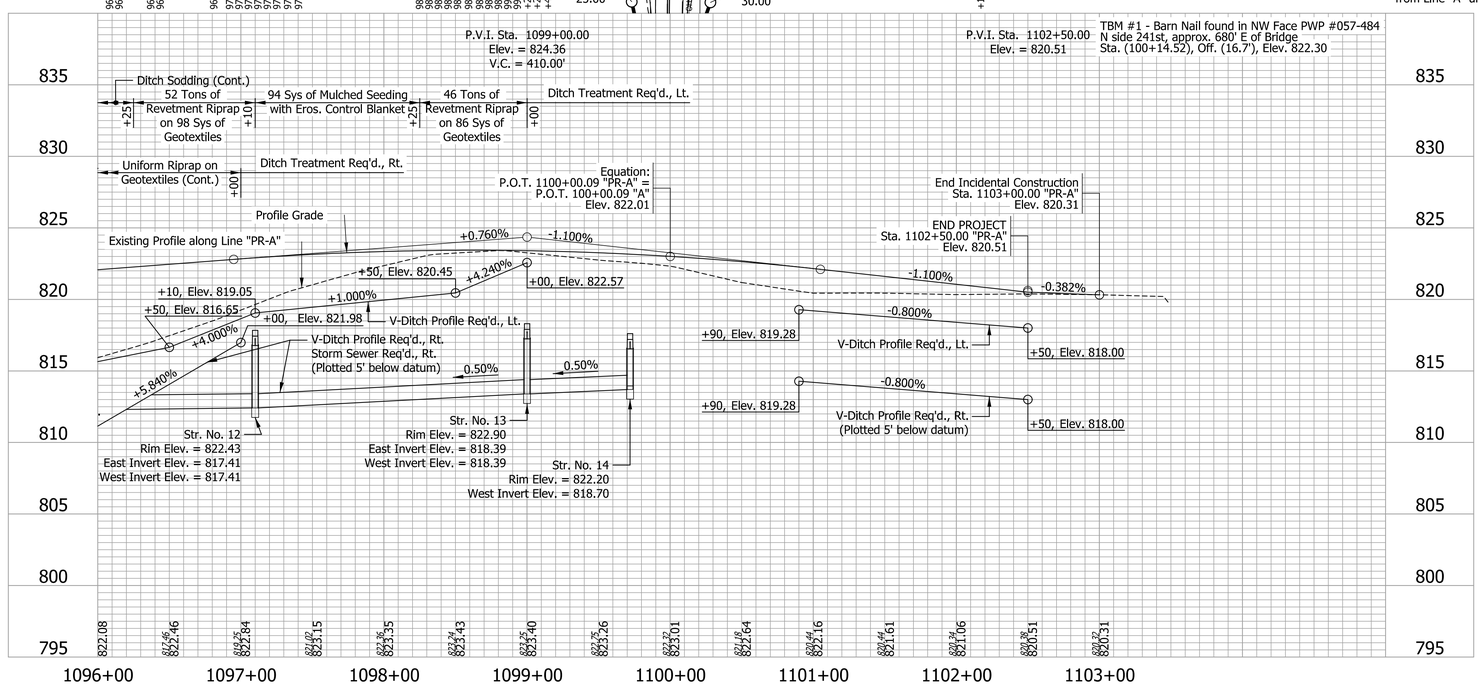
HORIZONTAL SCALE	HAMILTON COUNTY
1" = 50'	HAMILTON 33008
VERTICAL SCALE	DESIGNATION
1" = 5'	
SURVEY BOOK	SHEETS
ELECTRONIC	4 of 45
CONTRACT	PROJECT

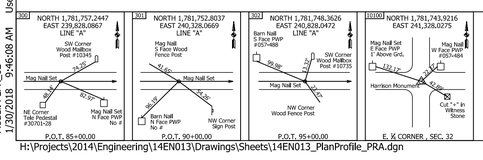
N.E. ¼ SECTION 32, T-20-N, R-5-E
WHITE RIVER TOWNSHIP
HAMILTON COUNTY, INDIANA



SECTION 33, T-20-N, R-5-E
WHITE RIVER TOWNSHIP
HAMILTON COUNTY, INDIANA

NOTE:
All R/W on this sheet to be as shown.
All R/W on this sheet is described from Line "A" unless otherwise noted.





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SHERLY GEORGE REGISTERED No. 19600508 STATE OF INDIANA PROFESSIONAL ENGINEER

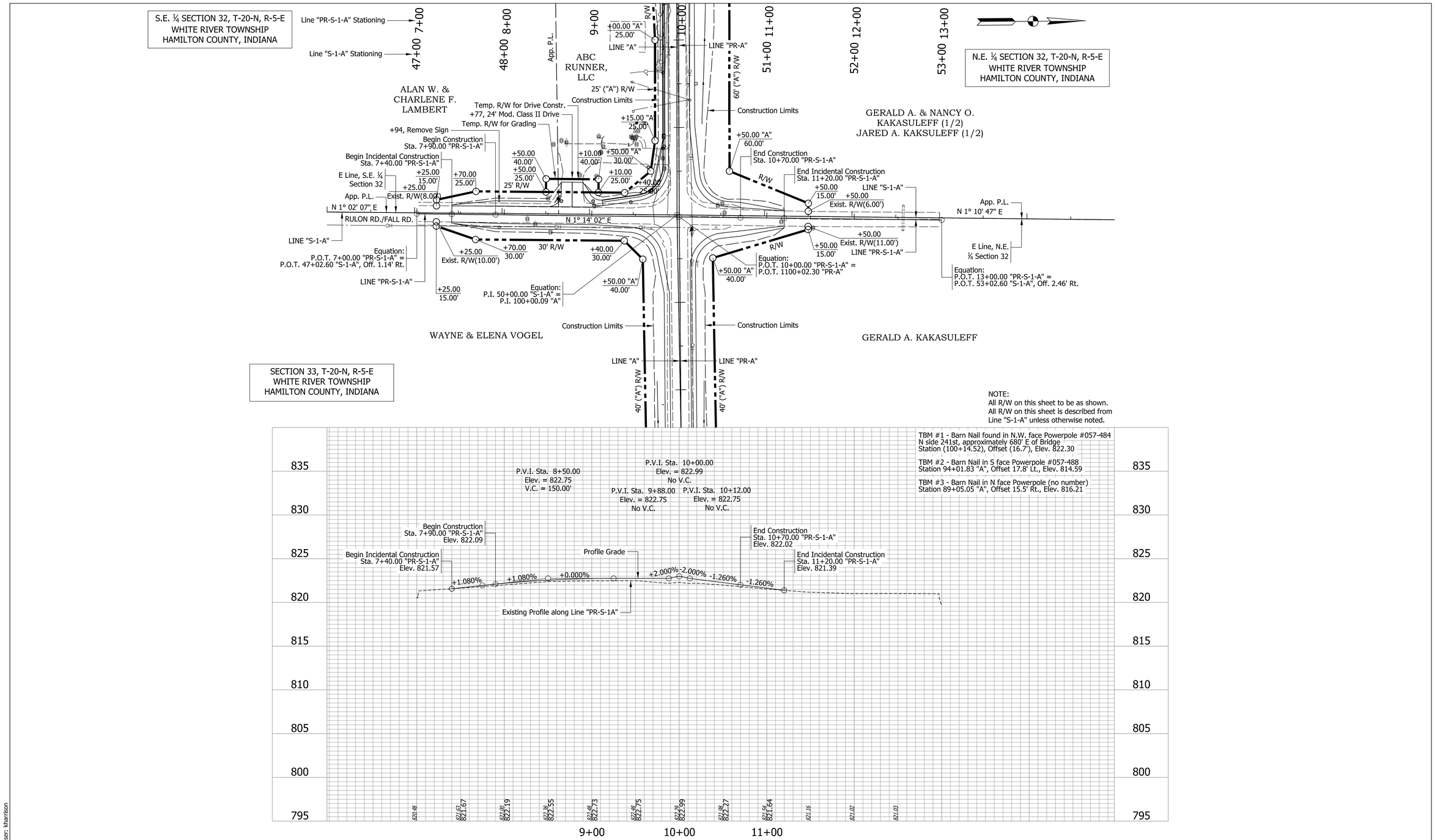
RECOMMENDED FOR APPROVAL — DESIGN ENGINEER — 1/26/2018 DATE

DESIGNED: SG | DRAWN: KCH
CHECKED: MJF | CHECKED: SG

HAMILTON COUNTY
BRIDGE NO. 305

PLAN AND PROFILE
LINE "PR-A"

HORIZONTAL SCALE	HAMILTON COUNTY
1" = 50'	HAMILTON 33008
VERTICAL SCALE	DESIGNATION
1" = 5'	
SURVEY BOOK	SHEETS
ELECTRONIC	5 of 45
CONTRACT	PROJECT



NOTE:
All R/W on this sheet to be as shown.
All R/W on this sheet is described from Line "S-1-A" unless otherwise noted.

TBM #1 - Barn Nail found in N.W. face Powerpole #057-484
N side 241st, approximately 680' E of Bridge
Station (100+14.52), Offset (16.7'), Elev. 822.30

TBM #2 - Barn Nail in S face Powerpole #057-488
Station 94+01.83 "A", Offset 17.8' Lt., Elev. 814.59

TBM #3 - Barn Nail in N face Powerpole (no number)
Station 89+05.05 "A", Offset 15.5' Rt., Elev. 816.21

SHERLY GEORGE REGISTERED No. 19600508 STATE OF INDIANA PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL — DESIGN ENGINEER — 1/26/2018 DATE

DESIGNED: SG | DRAWN: KCH
CHECKED: MJF | CHECKED: SG

HAMILTON COUNTY
BRIDGE NO. 305

PLAN AND PROFILE
LINE "PR-S-1-A"

HORIZONTAL SCALE	HAMILTON COUNTY
1" = 50'	HAMILTON 33008
VERTICAL SCALE	DESIGNATION
1" = 5'	
SURVEY BOOK	SHEETS
ELECTRONIC	6 of 45
CONTRACT	PROJECT

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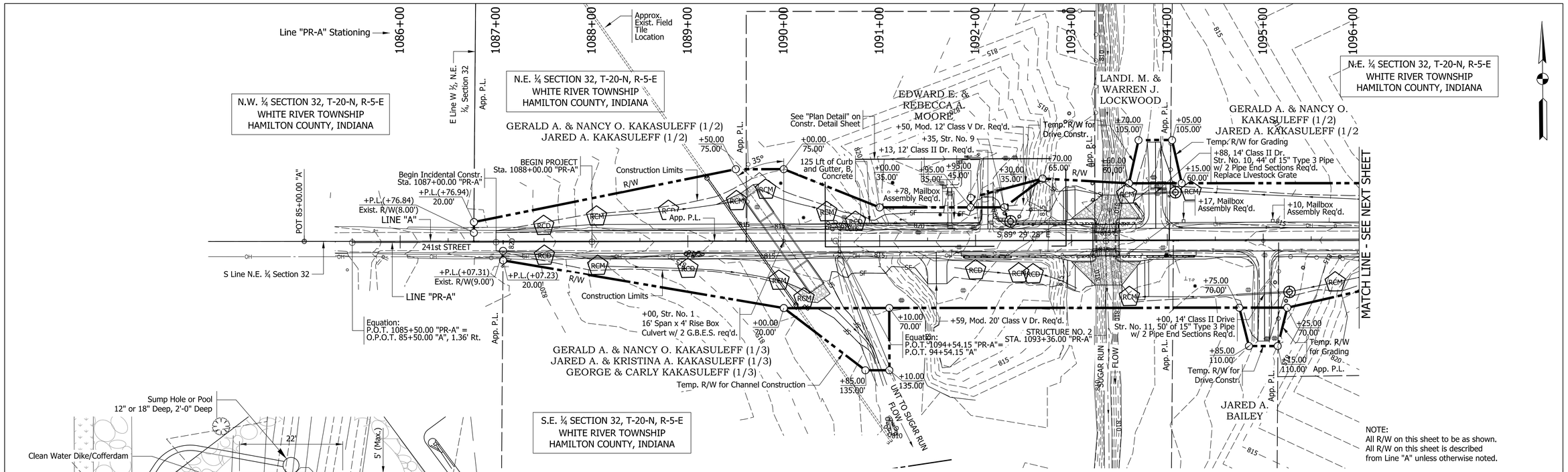

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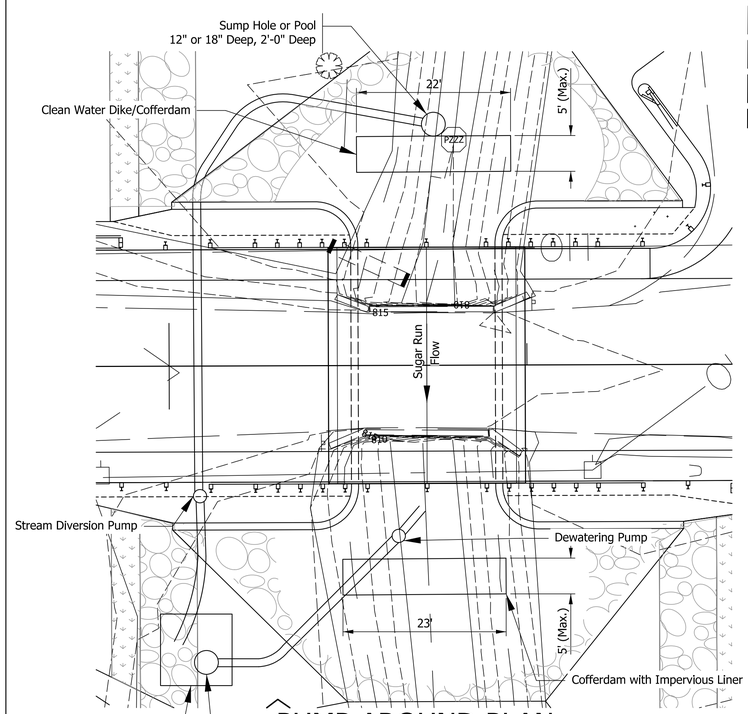
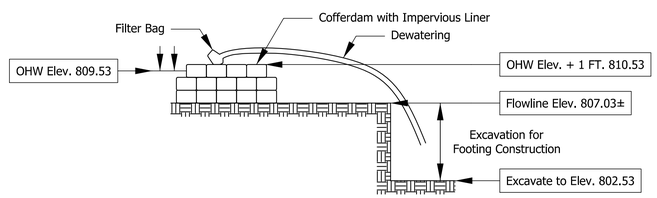


PUMP AROUND PLAN

Scale: 1" = 10'



DEWATERING / WORK AREA

Not to Scale

LEGEND

- DITCH INLET PROTECTION
- RCD — REVETMENT CHECK DAM
- RCM — REVETMENT CHECK DAM MODIFIED

NOTES:
ANY AREAS IN ADDITION TO THOSE CALLED OUT, LEFT UNDISTURBED FOR A PERIOD EXCEEDING 7 DAYS SHALL BE REQUIRED TO HAVE TEMPORARY SEEDING.

1. ALL DISTURBED AREAS SHALL BE PERMANENTLY SEEDED IN ACCORDANCE WITH INDOT STANDARD SPECIFICATIONS AS SOON AS POSSIBLE UPON COMPLETION OF WORK IN THAT AREA.

2. UPON COMPLETION OF DITCH GRADING, PERMANENT EROSION CONTROL MEASURES SPECIFIED ON ROAD PLANS SHALL BE IMPLEMENTED

3. EROSION CONTROL BLANKETS WILL BE USED ON ALL SLOPES STEEPER THAN 3:1.

4. PUMP AROUND OPERATION SHALL REMAIN IN PLACE UNTIL ALL WORK IN THE CHANNEL IS COMPLETE INCLUDING CHANNEL STABILIZATION AND WINGWALL INSTALLATION.

5. REFER STANDARD DRAWINGS 205-TECD, 205-TEC1, 205-TECP FOR EROSION CONTROL MEASURES.

SHERLY GEORGE
REGISTERED
No. 19600508
STATE OF INDIANA
PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL — DESIGN ENGINEER — DATE 1/26/2018

DESIGNED: SG | DRAWN: MDP
CHECKED: MJF | CHECKED: SG

HAMILTON COUNTY
BRIDGE NO. 305

EROSION CONTROL DETAILS

HORIZONTAL SCALE	HAMILTON COUNTY
1" = 50'	HAMILTON 33008
VERTICAL SCALE	DESIGNATION
1" = 5'	
SURVEY BOOK	SHEETS
ELECTRONIC	7 of 45
CONTRACT	PROJECT

User: kharrison
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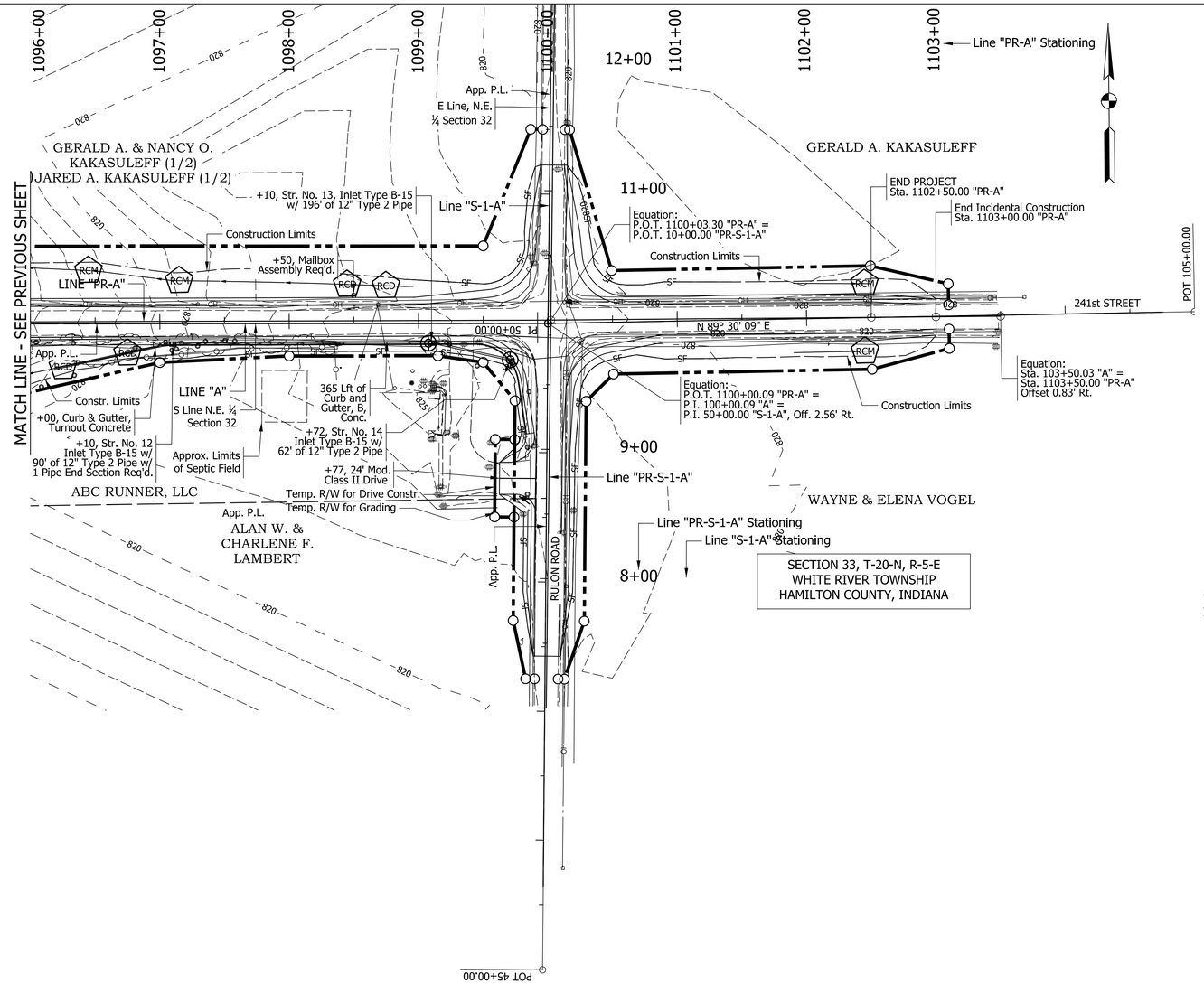

SECTION 33, T-20-N, R-5-E
WHITE RIVER TOWNSHIP
HAMILTON COUNTY, INDIANA

NOTE:
All R/W on this sheet to be as shown.
All R/W on this sheet is described from Line "A" unless otherwise noted.

SHERLY GEORGE
REGISTERED
No. 19600508
STATE OF INDIANA
PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL — DESIGN ENGINEER — 1/26/2018 DATE

DESIGNED: SG | DRAWN: MDP
CHECKED: MJF | CHECKED: SG

HAMILTON COUNTY
BRIDGE NO. 305

EROSION CONTROL DETAILS

HORIZONTAL SCALE	HAMILTON COUNTY
1" = 50'	HAMILTON 33008
VERTICAL SCALE	DESIGNATION
1" = 5'	
SURVEY BOOK	SHEETS
ELECTRONIC	8 of 45
CONTRACT	PROJECT

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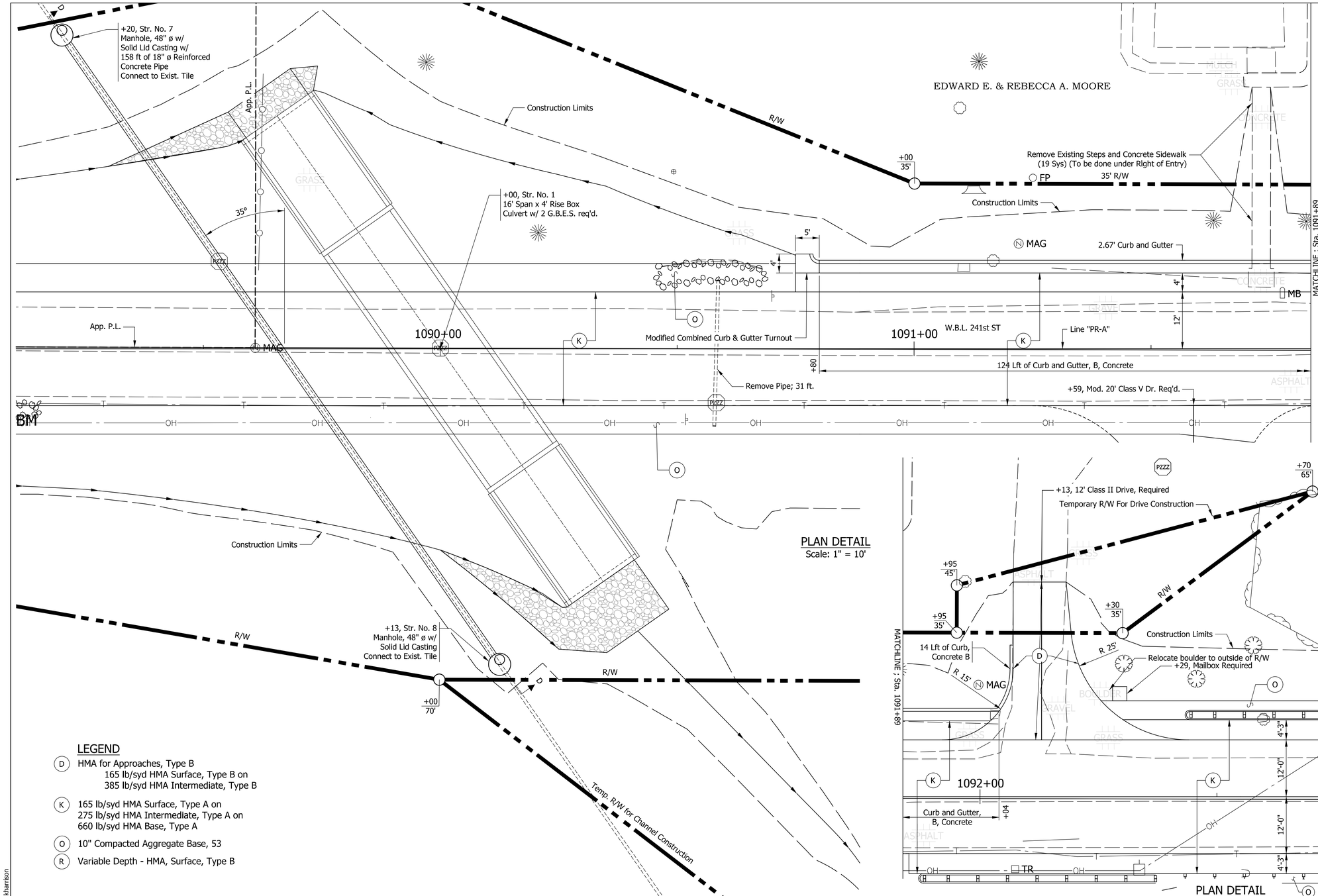

LEGEND

- (D) HMA for Approaches, Type B
  165 lb/syd HMA Surface, Type B on
  385 lb/syd HMA Intermediate, Type B
- (K) 165 lb/syd HMA Surface, Type A on
  275 lb/syd HMA Intermediate, Type A on
  660 lb/syd HMA Base, Type A
- (O) 10" Compacted Aggregate Base, 53
- (R) Variable Depth - HMA, Surface, Type B

Model: Constr Detail 1
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User: kharrison

SHERLY GEORGE
REGISTERED
No. 19600508
STATE OF INDIANA
PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL — DESIGN ENGINEER — DATE 1/26/2018

DESIGNED: SG | DRAWN: CDR/AM
CHECKED: MJF | CHECKED: SG

HAMILTON COUNTY
BRIDGE NO. 305

CONSTRUCTION DETAILS

HORIZONTAL SCALE	HAMILTON COUNTY
AS NOTED	HAMILTON 33008
VERTICAL SCALE	DESIGNATION
AS NOTED	
SURVEY BOOK	SHEETS
ELECTRONIC	9 of 45
CONTRACT	PROJECT

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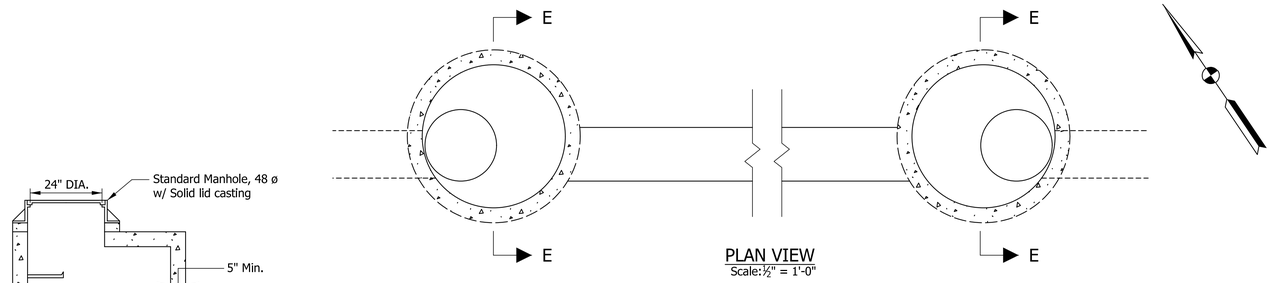
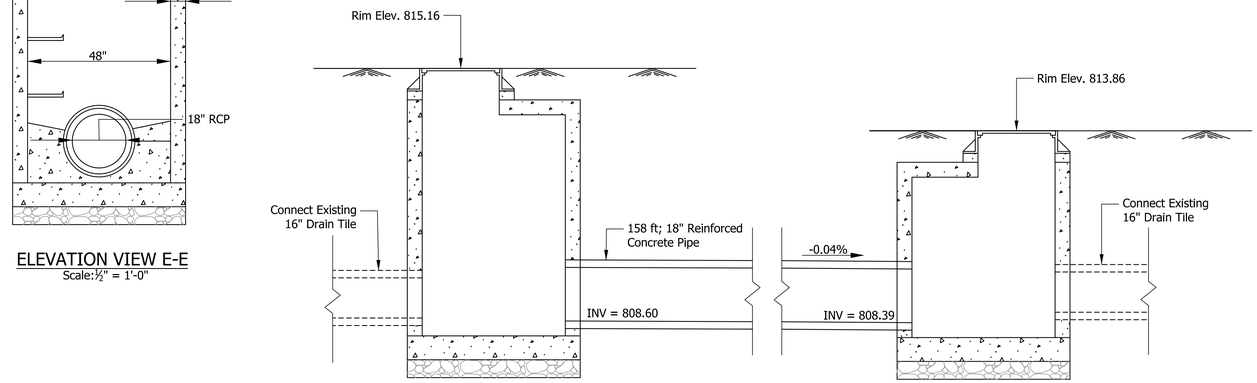
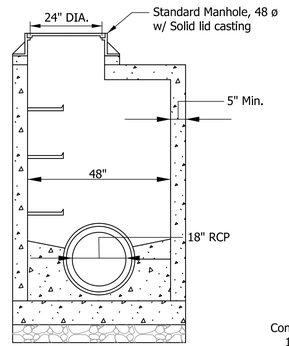


PLAN VIEW
Scale: ½" = 1'-0"

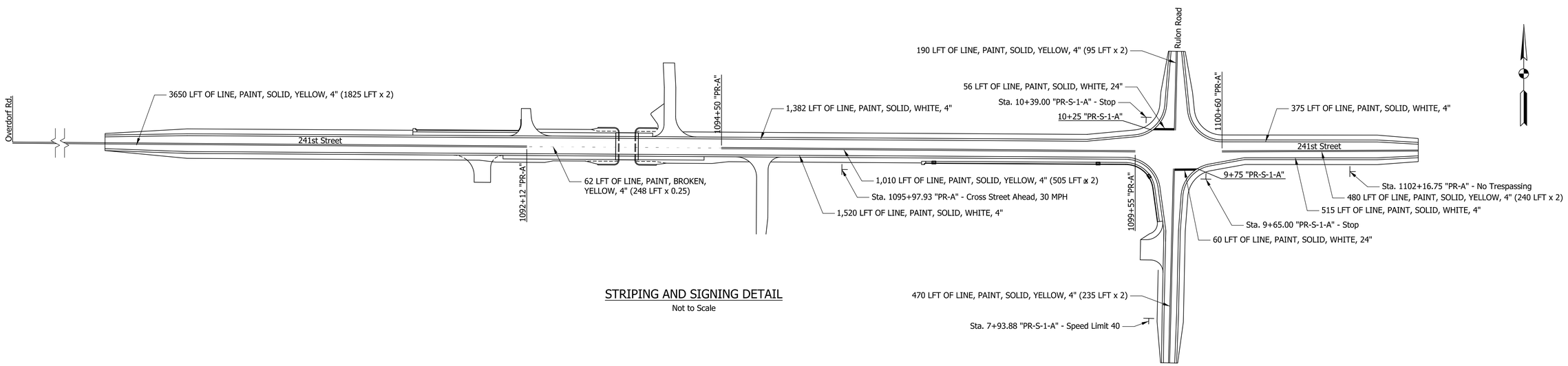


SECTION "D-D"
Scale: ½" = 1'-0"

Note:
Refer contract documents for manhole for pipe sizes 12" through 24" and manhole solid lid casting



ELEVATION VIEW E-E
Scale: ½" = 1'-0"



STRIPING AND SIGNING DETAIL
Not to Scale

SHERLY GEORGE
REGISTERED
No.
19600508
STATE OF
INDIANA
PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL — DESIGN ENGINEER — 1/26/2018 DATE

DESIGNED: SG | DRAWN: CDR/AM
CHECKED: MJF | CHECKED: SG

HAMILTON COUNTY
BRIDGE NO. 305

CONSTRUCTION DETAILS

HORIZONTAL SCALE	HAMILTON COUNTY
AS NOTED	HAMILTON 33008
VERTICAL SCALE	DESIGNATION
AS NOTED	
SURVEY BOOK	SHEETS
ELECTRONIC	10 of 45
CONTRACT	PROJECT

Model: Const Detail 2
1/30/2018 9:46:14 AM User: kharrison

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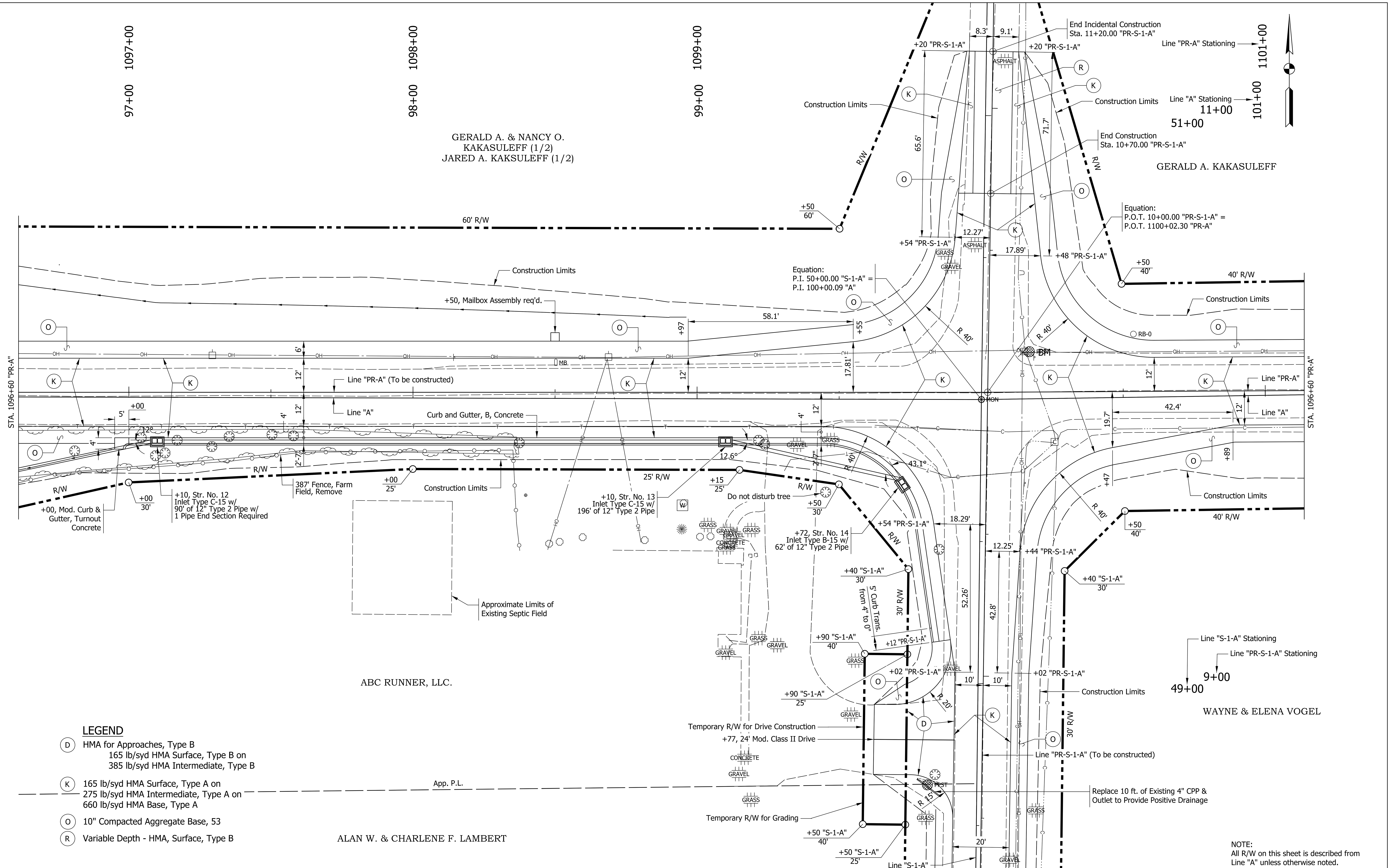

LEGEND

- (D) HMA for Approaches, Type B
  165 lb/syd HMA Surface, Type B on
  385 lb/syd HMA Intermediate, Type B
- (K) 165 lb/syd HMA Surface, Type A on
  275 lb/syd HMA Intermediate, Type A on
  660 lb/syd HMA Base, Type A
- (O) 10" Compacted Aggregate Base, 53
- (R) Variable Depth - HMA, Surface, Type B

NOTE:
All R/W on this sheet is described from Line "A" unless otherwise noted.

SHERLY GEORGE REGISTERED No. 19600508 STATE OF INDIANA PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL [signature] DESIGN ENGINEER 1/26/2018 DATE

DESIGNED: SG	DRAWN: CDR		
CHECKED: MJF	CHECKED: SG		

HAMILTON COUNTY
BRIDGE NO. 305

CONSTRUCTION DETAILS
STA. 1096+60 TO STA. 1101+15 "PR-A"

HORIZONTAL SCALE	HAMILTON COUNTY
1/16" = 1'-0"	HAMILTON 33008
VERTICAL SCALE	DESIGNATION
N/A	
SURVEY BOOK	SHEETS
ELECTRONIC	11 of 45
CONTRACT	PROJECT

Model: Constr Detail 1 User: kharrison
1/30/2018 9:46:15 AM
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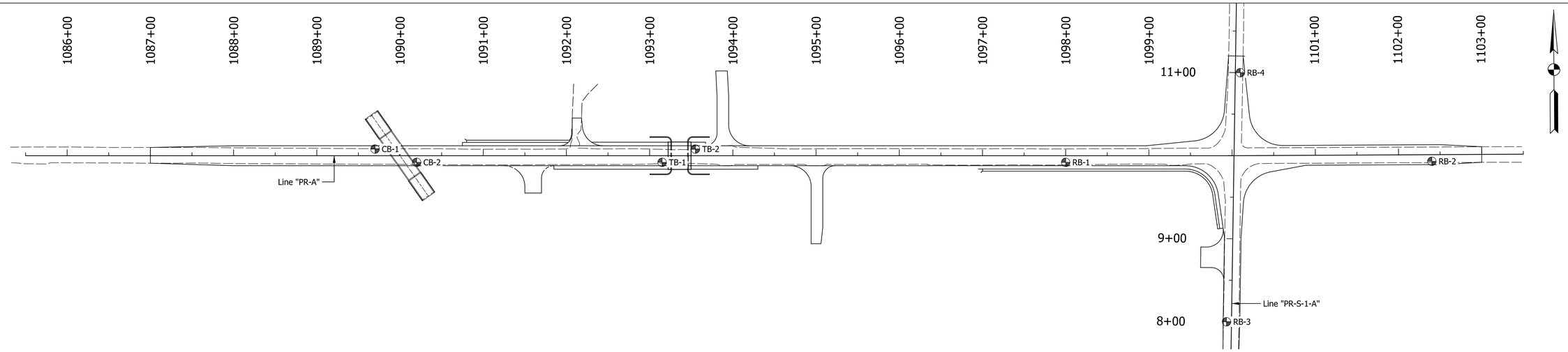

LOG OF TEST BORING

EARTH EXPLORATION

Project: 241st Street over Sugar Run
Location: Hamilton County, IN
Client: SJCA P.C.
7770 West New York Street - Indianapolis, Indiana 46214
317-273-1690 / 317-273-2250 (Fax)

Boring No. CB-1
Elevation 816
Datum ---
EEI Proj. No. 1-15-076
Sheet 1 of 1

Project No. --- | Station 1089+70 | Weather Sunny | Driller B.N.
Struct. No. Hamilton 33008 | Offset 8 ft Lt. "PR-A" | Temp. 70° F | Inspector ---

SAMPLE No.	Type	Rec %	N Value	Depth ft	Elev	DESCRIPTION/CLASSIFICATION and REMARKS	q_p tsf	q_u tsf	γ_d pcf	W %	LL %	PL %	PI %
					815	ASPHALTIC CONCRETE							
						GRANULAR SUBBASE, (sand and gravel)							
SS-1		70	6				1¼			24.7			
SS-2		85	5	5		CLAY LOAM, stiff to very stiff, moist, brown	3			18.0			
					810								
SS-3		85	17				>4½			10.8			
SS-4		80	18	10		LOAM, hard to stiff, moist, brown to gray near 12 ft	2½	1.31	128.3	11.1			
					805								
SS-5		85	12				3¾			10.3			
SS-6		85	11	15							NP	NP	NP
					800	SAND, medium dense to dense, wet, gray, A-3(0)							
SS-7		80	37										
SS-8		65	27	20		GRAVELLY SAND, dense, wet, gray							

End of Boring at 20 ft

WATER LEVEL OBSERVATIONS

Depth ft	While Drilling	Upon Completion	After Drilling
To Water	13½	4	BF
To Cave-in		10	

The stratification lines represent the approximate boundary between soil/rock types and the transition may be gradual.

GENERAL NOTES

Start 4/26/16 End 4/26/16 Rig CME 75
Drilling Method 3¼" I.D. HSA Truck
Remarks Backfilled with auger cuttings, bentonite chips and concrete patch at surface.

LOG OF TEST BORING

EARTH EXPLORATION

Project: 241st Street over Sugar Run
Location: Hamilton County, IN
Client: SJCA P.C.
7770 West New York Street - Indianapolis, Indiana 46214
317-273-1690 / 317-273-2250 (Fax)

Boring No. CB-2
Elevation 815
Datum ---
EEI Proj. No. 1-15-076
Sheet 1 of 1

Project No. --- | Station 1090+20 | Weather Sunny | Driller B.N.
Struct. No. Hamilton 33008 | Offset 8 ft Rt. "PR-A" | Temp. 70° F | Inspector ---

SAMPLE No.	Type	Rec %	N Value	Depth ft	Elev	DESCRIPTION/CLASSIFICATION and REMARKS	q_p tsf	q_u tsf	γ_d pcf	W %	LL %	PL %	PI %
						ASPHALTIC CONCRETE							
						GRANULAR SUBBASE, (sand and gravel)							
SS-1		80	10			LOAM, very stiff, moist, brown	3			15.3			
SS-2		65	4	5	810	CLAY LOAM, stiff, moist, brown	2			23.3			
SS-3		85	16				>4½			11.2			
SS-4		80	30	10	805	LOAM, hard, moist, brown and gray to gray, near 12 ft	>4½			9.3			
SS-5		85	24				>4½			9.0			
SS-6		85	23	15	800		>4½			11.3			
SS-7		65	36			SAND, dense, wet, gray							
SS-8		85	24	20	795								

End of Boring at 20 ft

WATER LEVEL OBSERVATIONS

Depth ft	While Drilling	Upon Completion	After Drilling
To Water	14	4	BF
To Cave-in		12	

The stratification lines represent the approximate boundary between soil/rock types and the transition may be gradual.

GENERAL NOTES

Start 4/26/16 End 4/26/16 Rig CME 75
Drilling Method 3¼" I.D. HSA Truck
Remarks Backfilled with auger cuttings, bentonite chips and concrete patch at surface.

LOG OF TEST BORING

EARTH EXPLORATION

Project: 241st Street over Sugar Run
Location: Hamilton County, IN
Client: SJCA P.C.
7770 West New York Street - Indianapolis, Indiana 46214
317-273-1690 / 317-273-2250 (Fax)

Boring No. RB-1
Elevation 822
Datum ---
EEI Proj. No. 1-15-076
Sheet 1 of 1

Project No. --- | Station 1098+00 | Weather Sunny | Driller B.N.
Struct. No. --- | Offset 8 ft Rt. "PR-A" | Temp. 70° F | Inspector ---

SAMPLE No.	Type	Rec %	N Value	Depth ft	Elev	DESCRIPTION/CLASSIFICATION and REMARKS	q_p tsf	q_u tsf	γ_d pcf	W %	LL %	PL %	PI %
						ASPHALTIC CONCRETE							
						GRANULAR SUBBASE, (sand and gravel)							
SS-1		65	9		820		3½			40.7	53	21	32
SS-2		65	8	5		CLAY, very stiff to stiff, moist, brown, with sand seam near 7 ft	2¼			26.5			
SS-3		70	6		815		1			20.5			

End of Boring at 7.5 ft

WATER LEVEL OBSERVATIONS

Depth ft	While Drilling	Upon Completion	After Drilling
To Water	7½	NW	BF
To Cave-in		4	

The stratification lines represent the approximate boundary between soil/rock types and the transition may be gradual.

GENERAL NOTES

Start 4/26/16 End 4/26/16 Rig CME 75
Drilling Method 3¼" I.D. HSA Truck
Remarks Backfilled with auger cuttings, bentonite chips and concrete patch at surface.

SHERLY GEORGE REGISTERED No. 19600508 STATE OF INDIANA PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL — DESIGN ENGINEER — DATE 1/26/2018

DESIGNED: SG | DRAWN: KCH
CHECKED: GAH | CHECKED: SG

HAMILTON COUNTY
BRIDGE NO. 305

SOIL BORINGS

HORIZONTAL SCALE	HAMILTON COUNTY
NOT TO SCALE	HAMILTON 33008
VERTICAL SCALE	DESIGNATION
NOT TO SCALE	
SURVEY BOOK	SHEETS
ELECTRONIC	12 of 45
CONTRACT	PROJECT

Model: Soil Borings-1
1/30/2018 9:46:16 AM
User: kharrison

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LOG OF TEST BORING

Project: 241st Street over Sugar Run
Location: Hamilton County, IN
Client: SJCA P.C.
7770 West New York Street - Indianapolis, Indiana 46214
317-273-1690 / 317-273-2250 (Fax)

Boring No. RB-2
Elevation 820
Datum ---
EEI Proj. No. 1-15-076
Sheet 1 of 1

Project No. ---
Struct. No. ---
Station 1102+40
Offset 8 ft Rt. "PR-A"
Weather Sunny
Temp. 70° F
Driller B.N.
Inspector ---

SAMPLE No.	Type	Rec %	N Value	Depth ft	Elev	DESCRIPTION/CLASSIFICATION and REMARKS	q_p tsf	q_u tsf	γ_t pcf	W %	LL %	PL %	PI %
						ASPHALTIC CONCRETE							
						GRANULAR SUBBASE, (sand and gravel)							
SS-1		55	6			**CLAY**, very stiff to stiff, moist, dark gray (possible fill)	3½			24.4			
SS-2		80	8	5	815		1			30.6			
SS-3		80	4			**CLAY**, stiff, moist, brown, with sandy seam near 7½ ft	1¼			28.2			
SS-4		85	11	10	810	**CLAY LOAM**, hard, moist, brown	4½			12.3			
						End of Boring at 10 ft							

WATER LEVEL OBSERVATIONS

Depth ft	While Drilling	Upon Completion	After Drilling
To Water	7	NW	BF
To Cave-in		7	

The stratification lines represent the approximate boundary between soil/rock types and the transition may be gradual.

GENERAL NOTES

Start 4/26/16 End 4/26/16 Rig CME 75
Drilling Method 3¼" I.D. HSA Truck
Remarks **Backfilled with auger cuttings, bentonite chips and concrete patch at surface.**

LOG OF TEST BORING

Project: 241st Street over Sugar Run
Location: Hamilton County, IN
Client: SJCA P.C.
7770 West New York Street - Indianapolis, Indiana 46214
317-273-1690 / 317-273-2250 (Fax)

Boring No. RB-3
Elevation 822
Datum ---
EEI Proj. No. 1-15-076
Sheet 1 of 1

Project No. ---
Struct. No. ---
Station 8+00
Offset 6 ft Lt. "PR-S-1-A"
Weather Sunny
Temp. 70° F
Driller B.N.
Inspector ---

SAMPLE No.	Type	Rec %	N Value	Depth ft	Elev	DESCRIPTION/CLASSIFICATION and REMARKS	q_p tsf	q_u tsf	γ_t pcf	W %	LL %	PL %	PI %
						ASPHALTIC CONCRETE							
						GRANULAR SUBBASE, (sand and gravel)							
SS-1		80	11		820		3¼			23.8	45	18	27
SS-2		65	7	5		**CLAY LOAM**, very stiff, moist, brown	2			19.2			
SS-3		65	25		815	**SAND**, medium dense, wet, brown							
						End of Boring at 7.5 ft							

WATER LEVEL OBSERVATIONS

Depth ft	While Drilling	Upon Completion	After Drilling
To Water	5	NW	BF
To Cave-in		5	

The stratification lines represent the approximate boundary between soil/rock types and the transition may be gradual.

GENERAL NOTES

Start 4/26/16 End 4/26/16 Rig CME 75
Drilling Method 3¼" I.D. HSA Truck
Remarks **Backfilled with auger cuttings, bentonite chips and concrete patch at surface.**

LOG OF TEST BORING

Project: 241st Street over Sugar Run
Location: Hamilton County, IN
Client: SJCA P.C.
7770 West New York Street - Indianapolis, Indiana 46214
317-273-1690 / 317-273-2250 (Fax)

Boring No. RB-4
Elevation 822
Datum ---
EEI Proj. No. 1-15-076
Sheet 1 of 1

Project No. ---
Struct. No. ---
Station 11+00
Offset 6 ft Rt. "PR-S-1-A"
Weather Sunny
Temp. 70° F
Driller B.N.
Inspector ---

SAMPLE No.	Type	Rec %	N Value	Depth ft	Elev	DESCRIPTION/CLASSIFICATION and REMARKS	q_p tsf	q_u tsf	γ_t pcf	W %	LL %	PL %	PI %
						ASPHALTIC CONCRETE							
						GRANULAR SUBBASE, (sand and gravel)							
SS-1		70	7		820		2			13.1			
SS-2		85	17	5		**LOAM**, stiff to very stiff, moist, brown, with sand seams near 4½ ft and 7½ ft	3½			12.0	19	14	5
SS-3		55	8		815		1¼			12.8			
						End of Boring at 7.5 ft							

WATER LEVEL OBSERVATIONS

Depth ft	While Drilling	Upon Completion	After Drilling
To Water	NW	NW	BF
To Cave-in		5½	

The stratification lines represent the approximate boundary between soil/rock types and the transition may be gradual.

GENERAL NOTES

Start 4/26/16 End 4/26/16 Rig CME 75
Drilling Method 3¼" I.D. HSA Truck
Remarks **Backfilled with auger cuttings, bentonite chips and concrete patch at surface.**

LOG OF TEST BORING

Project: 241st Street over Sugar Run
Location: Hamilton County, IN
Client: SJCA P.C.
7770 West New York Street - Indianapolis, Indiana 46214
317-273-1690 / 317-273-2250 (Fax)

Boring No. TB-1
Elevation 815
Datum ---
EEI Proj. No. 1-15-076
Sheet 1 of 2

Project No. ---
Struct. No. ---
Station 1093+15
Offset 8 ft Rt. "PR-A"
Weather Sunny
Temp. 85° F
Driller B.N.
Inspector ---

SAMPLE No.	Type	Rec %	N Value	Depth ft	Elev	DESCRIPTION/CLASSIFICATION and REMARKS	q_p tsf	q_u tsf	γ_t pcf	W %	LL %	PL %	PI %
						ASPHALTIC CONCRETE							
						GRANULAR SUBBASE, (sand and gravel)							
SS-1		55	4				¾			18.3			
SS-2		55	4	5	810		½			21.5			
SS-3		55	3			**CLAY LOAM**, medium stiff, moist, brown to gray	1			15.2			
SS-4		0	19	10	805		---			---			
SS-5		90	18				4	3.05	125.1	11.8			
SS-6		85	15	15	800	**LOAM**, very stiff to hard, moist, gray	4½			10.5			
SS-7		80	10			**SAND AND GRAVEL**, loose, wet, gray							
SS-8		80	51	20	795								
						SANDY GRAVEL, very dense, wet, gray							
SS-9		80	37	25	790						NP	NP	NP
						GRAVELLY SAND, dense, wet, gray, A-1-b(0)							
SS-10		85	29	30	785		4½			9.1			
						LOAM, hard, moist, gray							
SS-11		80	45	35	780	**SAND AND GRAVEL**, dense to very dense, wet, gray, with cobbles near 43 ft							

Continued Next Page

WATER LEVEL OBSERVATIONS

Depth ft	While Drilling	Upon Completion	After Drilling
To Water	7	4	BF
To Cave-in		13	

The stratification lines represent the approximate boundary between soil/rock types and the transition may be gradual.

GENERAL NOTES

Start 4/25/16 End 4/25/16 Rig CME 75
Drilling Method 3¼" I.D. HSA Truck
Remarks **Backfilled with auger cuttings, bentonite chips and concrete patch at surface.**

LOG OF TEST BORING

Project: 241st Street over Sugar Run
Location: Hamilton County, IN
Client: SJCA P.C.
7770 West New York Street - Indianapolis, Indiana 46214
317-273-1690 / 317-273-2250 (Fax)

Boring No. TB-1
Elevation 815
Datum ---
EEI Proj. No. 1-15-076
Sheet 2 of 2

Project No. ---
Struct. No. ---
Station 1093+15
Offset 8 ft Rt. "PR-A"
Weather Sunny
Temp. 85° F
Driller B.N.
Inspector ---

SAMPLE No.	Type	Rec %	N Value	Depth ft	Elev	DESCRIPTION/CLASSIFICATION and REMARKS	q_p tsf	q_u tsf	γ_t pcf	W %	LL %	PL %	PI %
SS-12		85	61	40	775	**SAND AND GRAVEL**, dense to very dense, wet, gray, with cobbles near 43 ft							
SS-13		20	51	45	770	**SAND**, very dense, wet, gray							
SS-14		85	36	50	765	**LOAM**, very stiff, moist, gray	3½			16.6			
SS-15		85	50/.4*	55	760	**SAND AND GRAVEL**, very dense, wet, gray							
SS-16		80	82	60	755		4			14.7			
						SILTY LOAM, very stiff, moist, gray, with cobbles							
SS-17		85	50/.3*	65	750	**SAND AND GRAVEL**, very dense, wet, gray, with cobbles							
SS-18		85	50/.4*			**SANDY GRAVEL**, very dense, wet, gray, with cobbles							
						End of Boring at 68.9 ft							
						Note: Mud-rotary drilling used below 16½ ft							
						*Seating increment							

The stratification lines represent the approximate boundary between soil/rock types and the transition may be gradual.

LOG OF TEST BORING

Project: 241st Street over Sugar Run
Location: Hamilton County, IN
Client: SJCA P.C.
7770 West New York Street - Indianapolis, Indiana 46214
317-273-1690 / 317-273-2250 (Fax)

Boring No. TB-2
Elevation 814
Datum ---
EEI Proj. No. 1-15-076
Sheet 1 of 2

Project No. ---
Struct. No. ---
Station 1093+55
Offset 8 ft Lt. "PR-A"
Weather Sunny
Temp. 65° F
Driller B.N.
Inspector ---

SAMPLE No.	Type	Rec %	N Value	Depth ft	Elev	DESCRIPTION/CLASSIFICATION and REMARKS	q_p tsf	q_u tsf	γ_t pcf	W %	LL %	PL %	PI %
						ASPHALTIC CONCRETE							
						GRANULAR SUBBASE, (sand and gravel)							
SS-1		65	3			**SILTY LOAM**, very stiff, moist, brown	2½	0.35	104.3	22.3			
SS-2		55	7	5	810	**SILTY CLAY LOAM**, soft, moist, brown	¼			35.0			
SS-3		10	38			**CLAY LOAM**, soft, moist, brown	½			15.6			
SS-4		90	26	10	805		>4½			9.2			
SS-5		85	23			**LOAM**, hard, moist, gray	>4½			10.1			
SS-6		90	23	15	800		>4½	9.25	134.8	8.9			
SS-7		45	5										
SS-8		45	36	20	795	**SAND**, very loose to dense, wet, gray							
SS-9		65	23	25	790								
SS-10		80	34	30	785	**SAND AND GRAVEL**, dense, wet, gray, with clay loam seam near 30 ft							

Continued Next Page

WATER LEVEL OBSERVATIONS

Depth ft	While Drilling	Upon Completion	After Drilling
To Water	4½	4	BF
To Cave-in		14	

The stratification lines represent the approximate boundary between soil/rock types and the transition may be gradual.

GENERAL NOTES

Start 4/25/16 End 4/25/16 Rig CME 75
Drilling Method 3¼" I.D. HSA Truck
Remarks **Backfilled with auger cuttings, bentonite chips and concrete patch at surface.**

LOG OF TEST BORING

Project: 241st Street over Sugar Run
Location: Hamilton County, IN
Client: SJCA P.C.
7770 West New York Street - Indianapolis, Indiana 46214
317-273-1690 / 317-273-2250 (Fax)

Boring No. TB-2
Elevation 814
Datum ---
EEI Proj. No. 1-15-076
Sheet 2 of 2

Project No. ---
Struct. No. ---
Station 1093+55
Offset 8 ft Lt. "PR-A"
Weather Sunny
Temp. 65° F
Driller B.N.
Inspector ---

SAMPLE No.	Type	Rec %	N Value	Depth ft	Elev	DESCRIPTION/CLASSIFICATION and REMARKS	q_p tsf	q_u tsf	γ_t pcf	W %	LL %	PL %	PI %
SS-11		90	47	35	780	**SAND AND GRAVEL**, dense, wet, gray, with clay loam seam near 30 ft							
SS-12		85	17	40	775	**LOAM**, very stiff, moist, gray	2			10.3			
SS-13		80	22	45	770		4	3.12	132.8	9.2			
						End of Boring at 45 ft							
						Note: Mud-rotary drilling used below 23½ ft							

The stratification lines represent the approximate boundary between soil/rock types and the transition may be gradual.

SHERLY GEORGE REGISTERED No. 19600508 STATE OF INDIANA PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL — DESIGN ENGINEER — 1/26/2018 DATE

DESIGNED: SG DRAWN: KCH
CHECKED: GAH CHECKED: SG

HAMILTON COUNTY
BRIDGE NO. 305

SOIL BORINGS

HORIZONTAL SCALE	HAMILTON COUNTY
NOT TO SCALE	HAMILTON 33008
VERTICAL SCALE	DESIGNATION
NOT TO SCALE	
SURVEY BOOK	SHEETS
ELECTRONIC	13 of 45
CONTRACT	PROJECT

Model: Soil Borings-2
1/30/2018 9:46:35 AM User: kharrison

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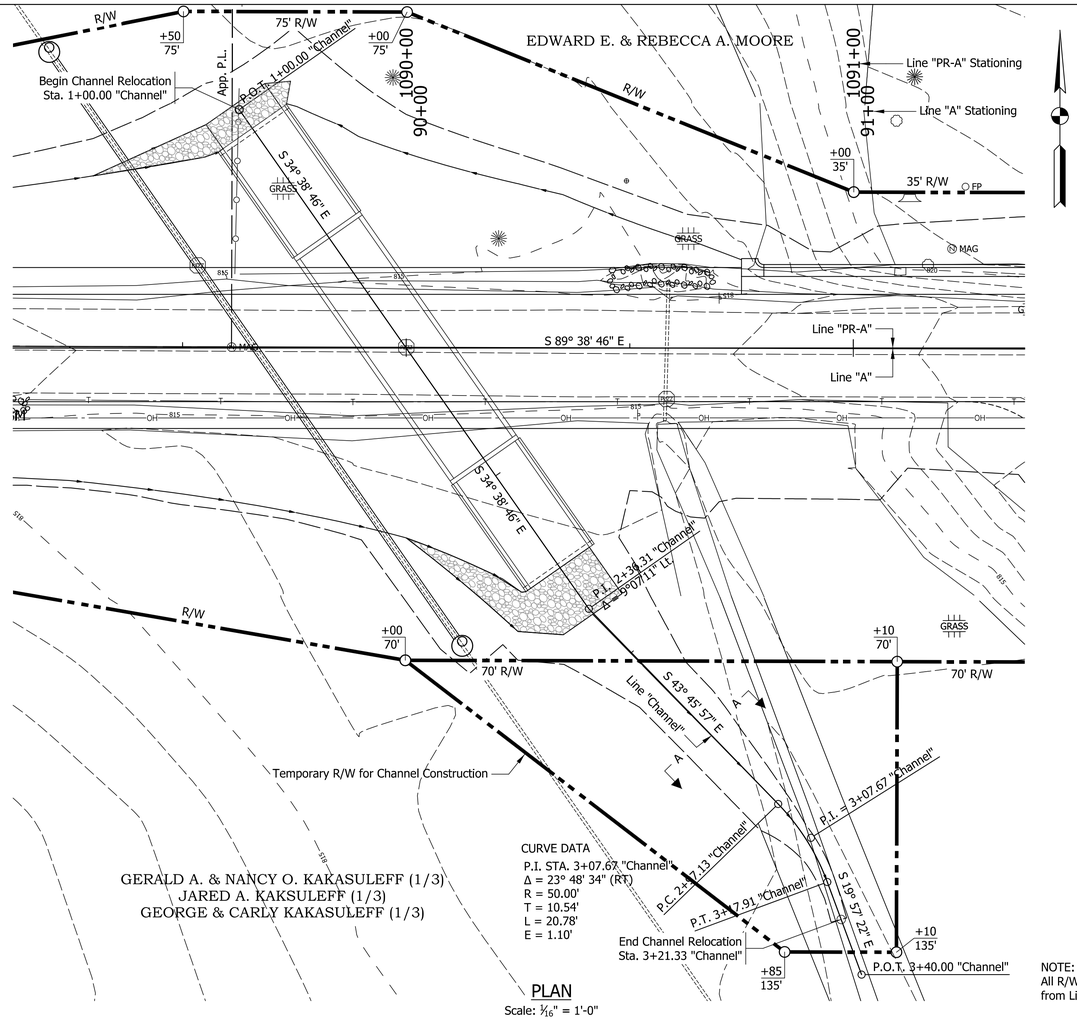
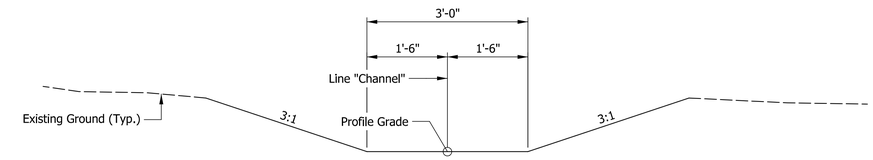


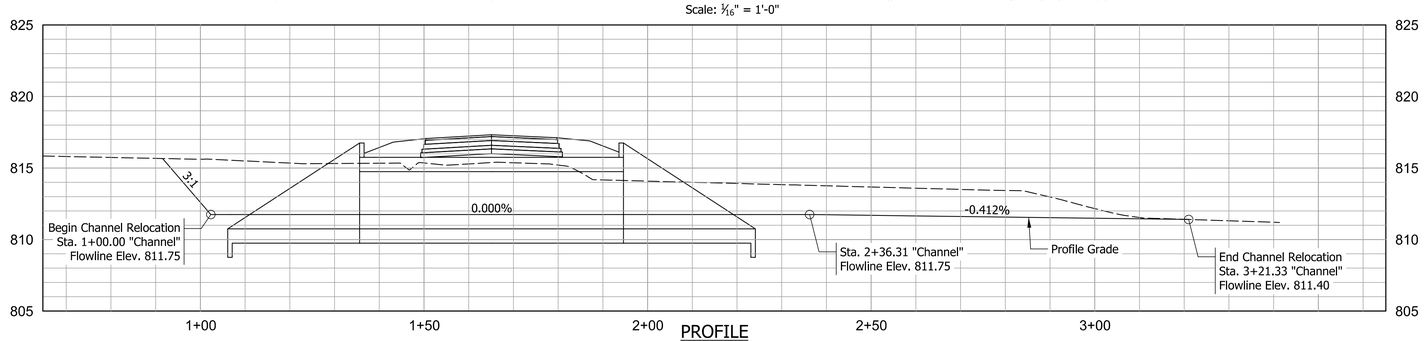
CURVE DATA
P.I. STA. 3+07.67 "Channel"
Δ = 23° 48' 34" (RT)
R = 50.00'
T = 10.54'
L = 20.78'
E = 1.10'

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

NOTE:
All R/W on this sheet is described from Line "A" unless otherwise noted.



SECTION "A-A"
Scale: 3/4" = 1'-0"



PROFILE
Horizontal Scale: 1/16" = 1'-0"
Vertical Scale: 1" = 5'-0"

SHERLY GEORGE
REGISTERED
No. 19600508
STATE OF INDIANA
PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL — DESIGN ENGINEER — DATE 1/26/2018

DESIGNED: SG | DRAWN: PFC
CHECKED: MJF | CHECKED: SG

HAMILTON COUNTY
BRIDGE NO. 305

CHANNEL CHANGE LAYOUT

HORIZONTAL SCALE	HAMILTON COUNTY
AS NOTED	HAMILTON 33008
VERTICAL SCALE	DESIGNATION
AS NOTED	
SURVEY BOOK	SHEETS
ELECTRONIC	14 of 45
CONTRACT	PROJECT

Model: Constr Detail 1
1/30/2018 9:47:04 AM User: kharrison

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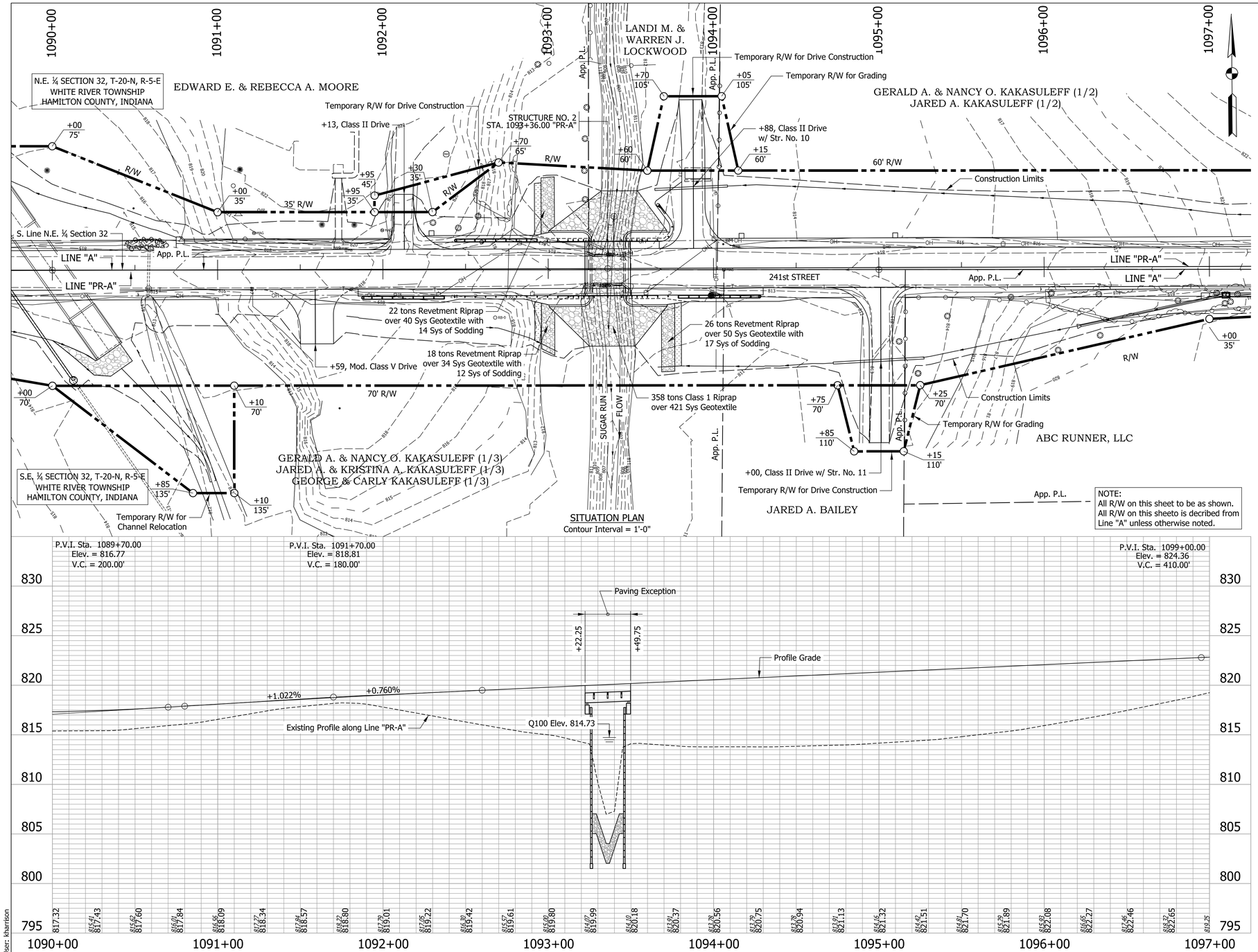

NOTE:
All R/W on this sheet to be as shown.
All R/W on this sheeto is decribed from Line "A" unless otherwise noted.

SITUATION PLAN
Contour Interval = 1'-0"

UTILITIES

See Title Sheet for Utility Owner information.

EXISTING STRUCTURE

The existing structure is a single span Reinforced Concrete Slab structure with 14.8' Span, No Skew.

HYDRAULIC DATA

Drainage Area	2.73 sq. miles
Design Discharge (Q100)	850 cfs
Q100 Elevation	814.73 ft
Backwater	1.87 ft
Velocity @ Q100	
Proposed Structure	8.58 ft/s
Gross Waterway Opening Required Below Q100 (Structure)	
Proposed Structure	95.08 sq. ft
Road Overflow Waterway Area	0 sq. ft
Waterway Opening Provided (Below Q100)	99.06 sq. ft
Minimum Low Structure Elevation	814.98 ft
Skew	0 degrees
Existing Waterway Opening (Below Q100)	58.94 sq. ft
Existing Road Overflow Waterway Area	36.08 sq. ft
Existing Low Structure Elevation	812.13 ft
Existing Backwater	1.88 ft

EARTHWORK SUMMARY

Fill +20%	6,416 Cys
Unclassified Excavation	1,245 Cys
Common Excavation	1,874 Cys
Waterway Excavation	188 Cys
Channel Relocation	58 Cys
Structure No. 2	130 Cys
Usable Waterway Excavation (70%)	132 Cys
Borrow *	3,297 Cys
Benching **	127 Cys

* - Borrow will not be paid for - stockpile material shall be used as borrow.

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

COMPOSITE PRESTRESSED CONCRETE BOX BEAM BRIDGE
One Span @ 23'-0", Square
32'-6" Clear Roadway
241st Street over Sugar Run Creek

SHERLY GEORGE
REGISTERED
No. 19600508
STATE OF INDIANA
PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL — DESIGN ENGINEER — 1/26/2018 DATE

DESIGNED: SG | DRAWN: KCH
CHECKED: MJF | CHECKED: SG

HAMILTON COUNTY
BRIDGE NO. 305

LAYOUT

HORIZONTAL SCALE	HAMILTON COUNTY
1" = 30'	HAMILTON 33008
VERTICAL SCALE	DESIGNATION
1" = 5'	
SURVEY BOOK	SHEETS
ELECTRONIC	15 of 45
CONTRACT	PROJECT

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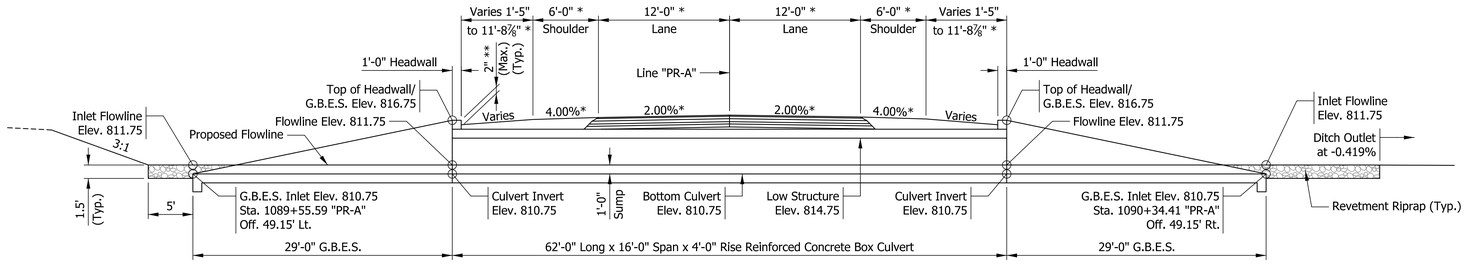
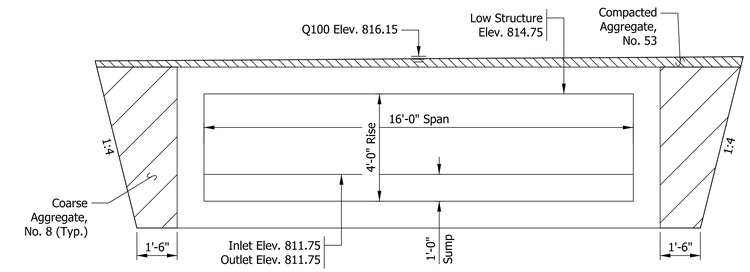


SECTION "B-B"

Scale: ⅛" = 1'-0"

* - Measured perpendicular to Line "PR-A"
** - Cross slopes vary to maintain 2" maximum headwall exposure



SECTION "A-A"

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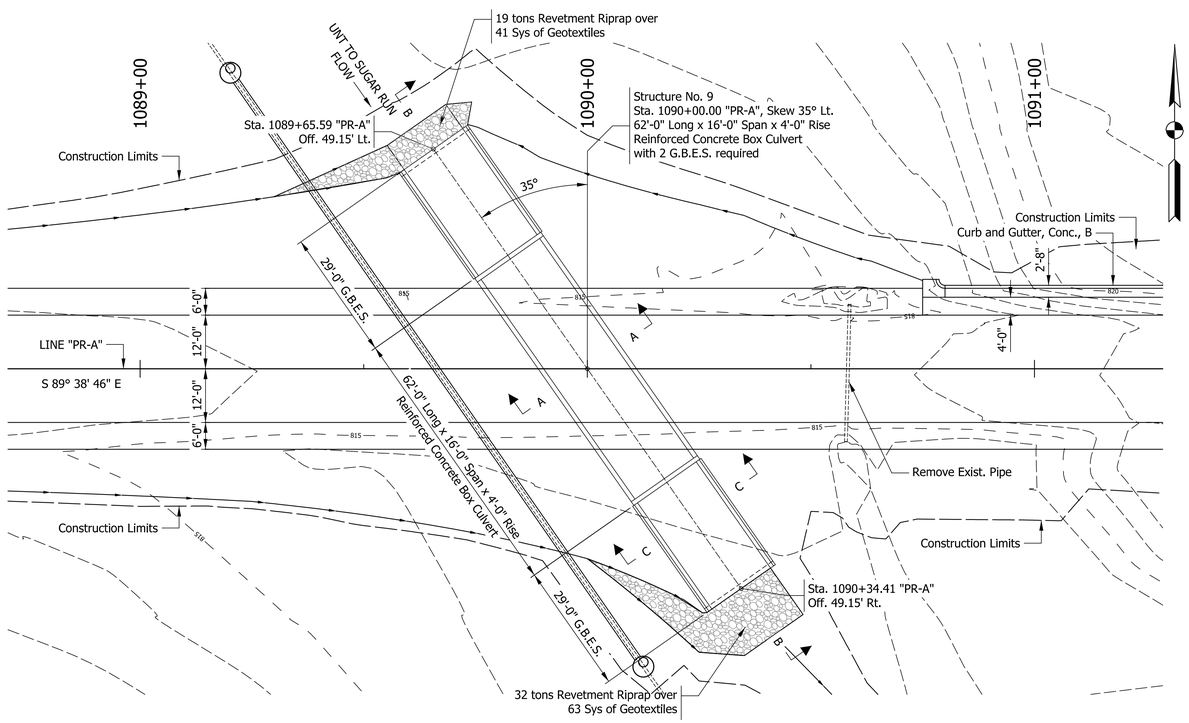
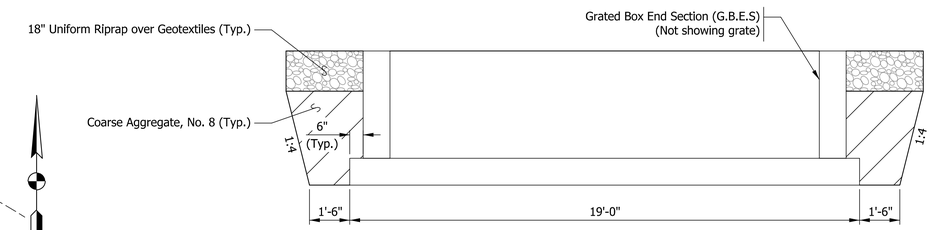


PLAN

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



SECTION "C-C"

Scale: ⅜" = 1'-0"

DESIGN DATA

LOADING:
Design for HL-93 in accordance with 2012 AASHTO LRFD Specifications.

Dead Load increased 35 PSF for future wearing surface.

DESIGN STRENGTHS

Concrete in Headwall and Grated Box End Sections F'c = 4000 p.s.i.
Reinforcing Steel (Grade 60) Fy = 60,000 p.s.i.

SUMMARY OF QUANTITIES

Coarse Aggregate, No. 8 = 121 cys
Uniform Riprap = 138 tons

GENERAL NOTES

All dimensions are in feet and inches and all elevations are in feet unless otherwise noted.

Standard Dwg. E714-BCSP-01 shall be followed for stream bed scour protection and sumping detail.

HYDRAULIC DATA

Drainage Area	164 sq. miles
Design Discharge (Q100)	225 cfs
Q100 Elevation	816.15 ft
Backwater	0.82 ft
Velocity @ Q100	
Proposed Structure	5.16 ft/s
Gross Waterway Opening Required Below Q100 (Structure)	
Proposed Structure	28.6 sq. ft
Road Overflow Waterway Area	0 sq. ft
Waterway Opening Provided (Below Q100)	43.6 sq. ft
Minimum Low Structure Elevation	814.75 ft
Skew	35 degrees
Existing Waterway Opening (Below Q100)	6.9 sq. ft
Existing Road Overflow Waterway Area	21.7 sq. ft
Existing Low Structure Elevation	814.83 ft
Existing Backwater	2.49 ft

PRECAST REINFORCED CONCRETE BOX CULVERT

16'-0" Span x 4'-0" Rise, 35° Skew Lt.
Unnamed Tributary to Sugar Run

SHERLY GEORGE REGISTERED No. 19600508 STATE OF INDIANA PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL — DESIGN ENGINEER — DATE 1/26/2018

DESIGNED: SG | DRAWN: PFC
CHECKED: MJF | CHECKED: SG

HAMILTON COUNTY
BRIDGE NO. 305

GENERAL PLAN - STRUCTURE NO. 1

HORIZONTAL SCALE	HAMILTON COUNTY
AS NOTED	HAMILTON 33008
VERTICAL SCALE	DESIGNATION
AS NOTED	
SURVEY BOOK	SHEETS
ELECTRONIC	16 of 45
CONTRACT	PROJECT

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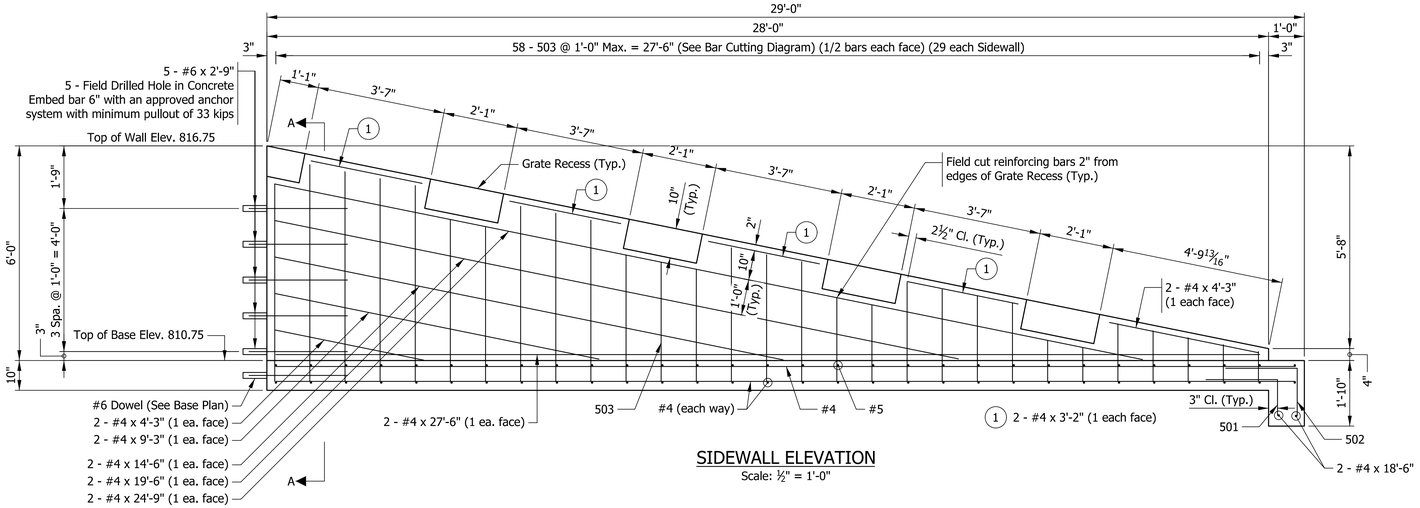
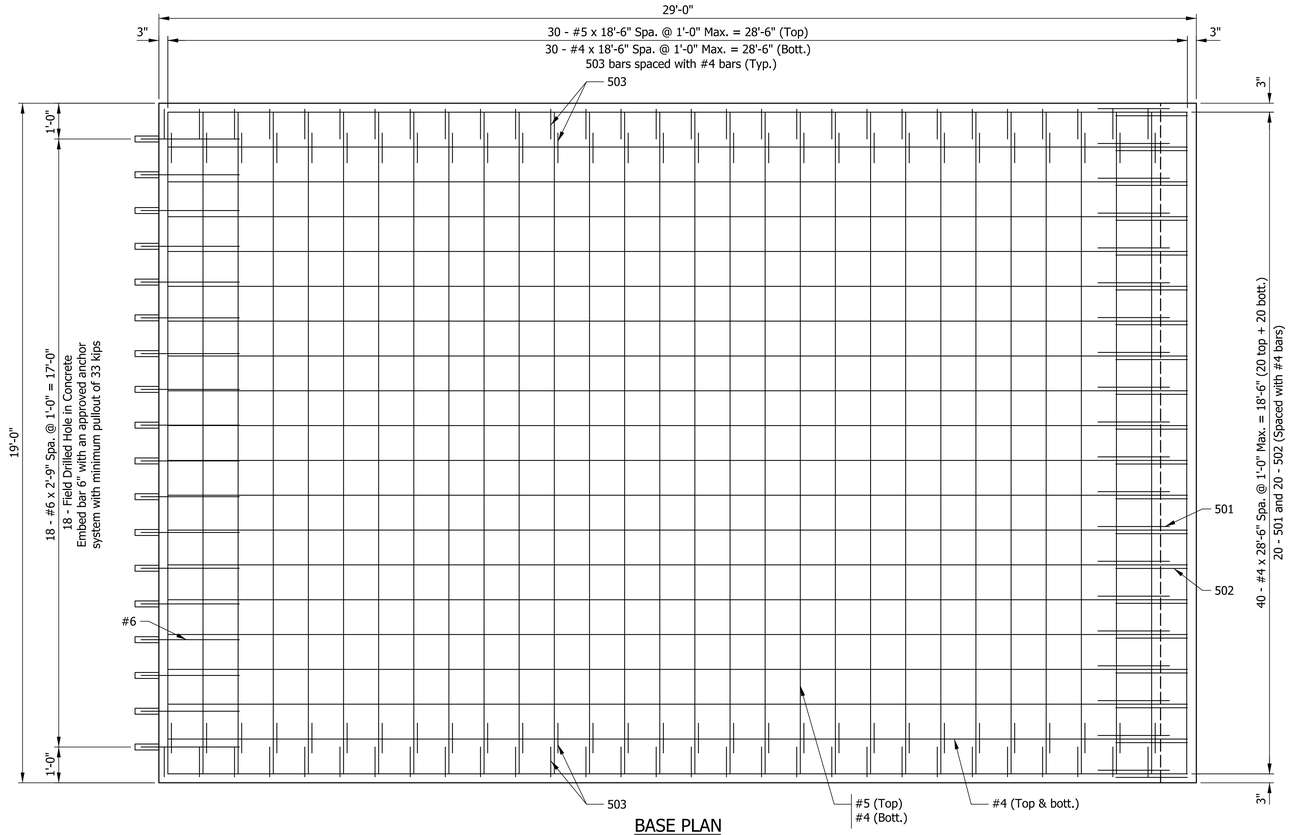


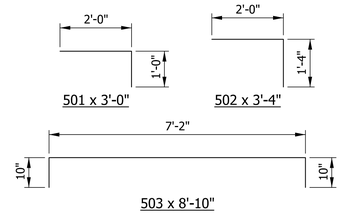
SIDEWALL ELEVATION

Scale: ½" = 1'-0"



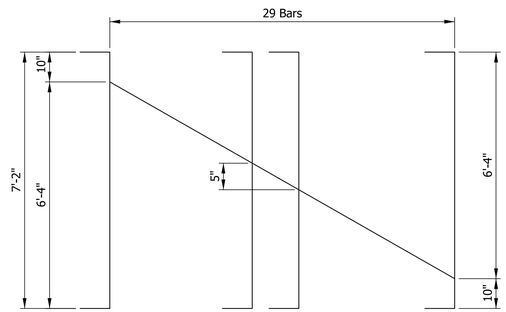
BASE PLAN

Scale: ½" = 1'-0"



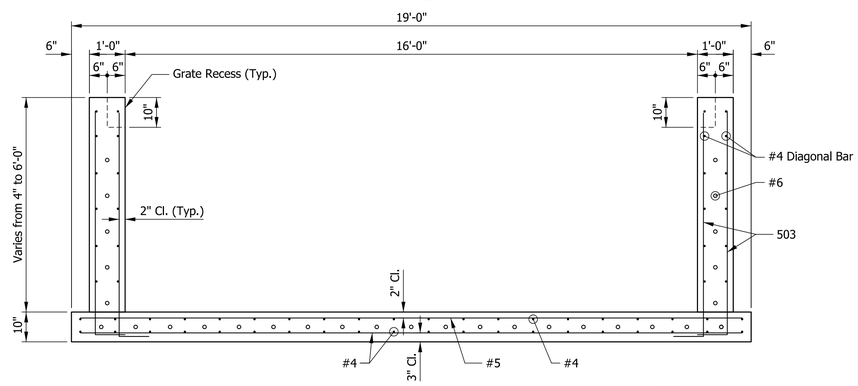
BAR BENDING DETAILS

Not to Scale



503 CUTTING DIAGRAM

29 - 8'-10" Bars Cuts 58
Not to Scale



SECTION "A-A"

Scale: ½" = 1'-0"

BILL OF MATERIALS

GRATED BOX END SECTION
(2 Required)

EPOXY COATED REINFORCING STEEL			
Size or Mark	Number of Bars	Length (ft)	Weight (Lb)
#6	28	2' -9"	
Total #6			116
501	20	3' -0"	
502	20	3' -4"	
503	58	8' -10"	
#5	30	18' -6"	
Total #5			1,245
#4	40	28' -6"	
#4	2	27' -6"	
#4	2	24' -9"	
#4	2	19' -6"	
#4	32	18' -6"	
#4	2	14' -6"	
#4	2	9' -3"	
#4	4	4' -3"	
#4	8	3' -2"	
Total #4			1,313
TOTAL EPOXY COATED			2,674
CONCRETE			
Concrete, Class B (Cys)			23.3
MISCELLANEOUS			
Field Drilled Holes in Concrete (Ea.)			28
Galvanized Steel Grate (Lbs)			20,204

NOTE: These quantities are for informational purposes only and are not separate pay items.

NOTES

Maximum Factored Bearing Pressure = 299 psf
Factored Bearing Resistance = 3000 psf

SHERLY GEORGE
REGISTERED
No. 19600508
STATE OF INDIANA
PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL — DESIGN ENGINEER — 1/26/2018 DATE

DESIGNED: SG | DRAWN: KCH
CHECKED: SJC | CHECKED: SG

HAMILTON COUNTY
BRIDGE NO. 305

GRATED BOX END SECTION DETAILS

HORIZONTAL SCALE	HAMILTON COUNTY
AS SHOWN	HAMILTON 33008
VERTICAL SCALE	DESIGNATION
AS SHOWN	
SURVEY BOOK	SHEETS
ELECTRONIC	17 of 45
CONTRACT	PROJECT

Model: GBES Details - 1
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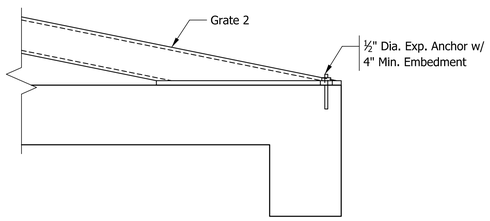
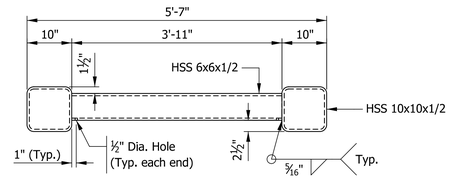
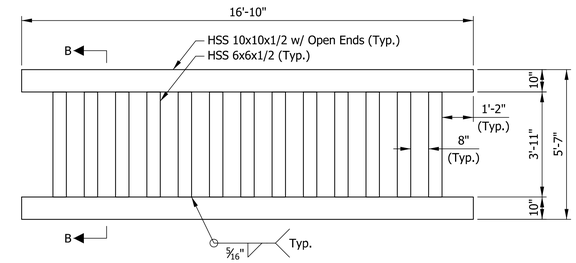


GRATE 2 CONNECTION DETAIL
Scale: ⅜" = 1'-0"



SECTION "B-B"
Scale: ¾" = 1'-0"



GRATE 1 - PLAN
Scale: ⅜" = 1'-0"

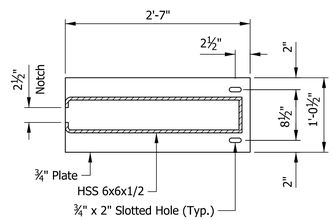
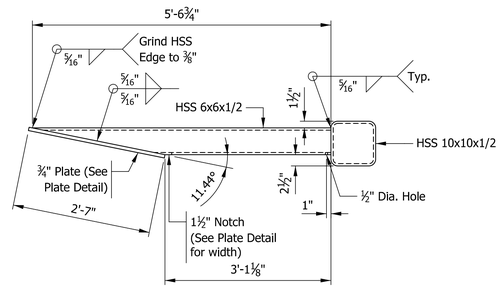
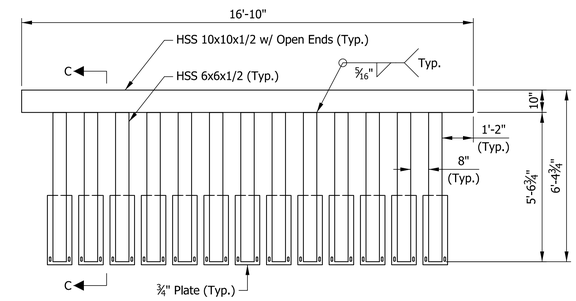


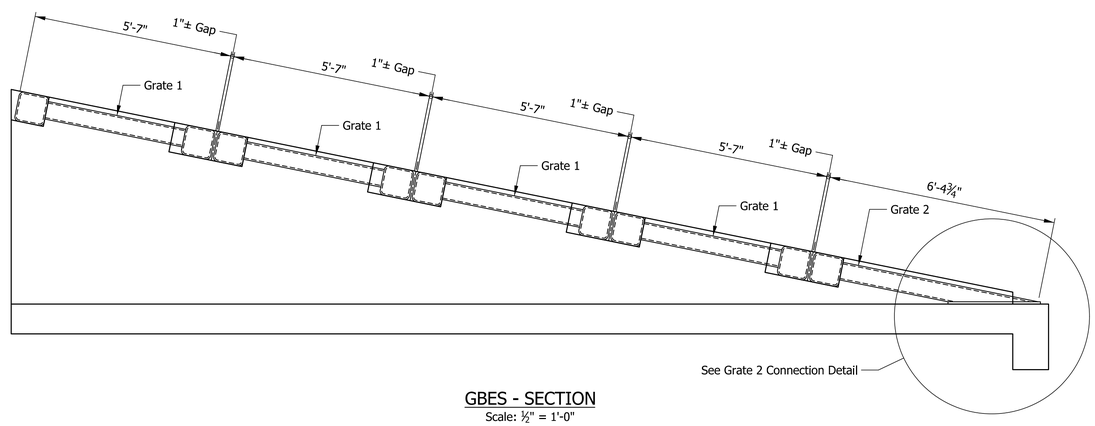
PLATE DETAIL
Scale: ⅜" = 1'-0"



SECTION "C-C"
Scale: ¾" = 1'-0"



GRATE 2 - PLAN
Scale: ⅜" = 1'-0"



GBES - SECTION
Scale: ½" = 1'-0"

GRATE NOTES

Square HSS shall be in accordance with ASTM A 500 Gr. B.

Plate material shall be in accordance with ASTM A 36.

Welding shall be performed in accordance with AWS specifications by AWS qualified welder operators using E70 electrodes.

All grates and hardware shall be Hot Dip Galvanized in accordance with the Special Provisions.

Structural steel for galvanized steel grate - 40,408 lbs.

Quantities are for informational purposes only and are not separate pay Items.

SHERLY GEORGE
REGISTERED
No. 19600508
STATE OF INDIANA
PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL — DESIGN ENGINEER — DATE: 1/26/2018

DESIGNED: SG | DRAWN: KCH
CHECKED: SJC | CHECKED: SG

HAMILTON COUNTY
BRIDGE NO. 305

GRATED BOX END SECTION DETAILS

HORIZONTAL SCALE	HAMILTON COUNTY
AS SHOWN	HAMILTON 33008
VERTICAL SCALE	DESIGNATION
AS SHOWN	
SURVEY BOOK	SHEETS
ELECTRONIC	18 of 45
CONTRACT	PROJECT

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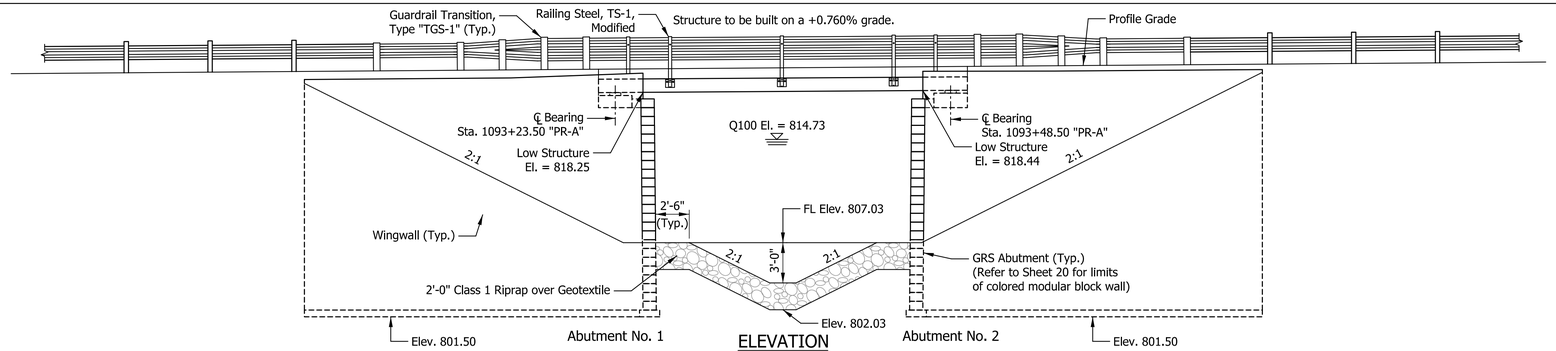
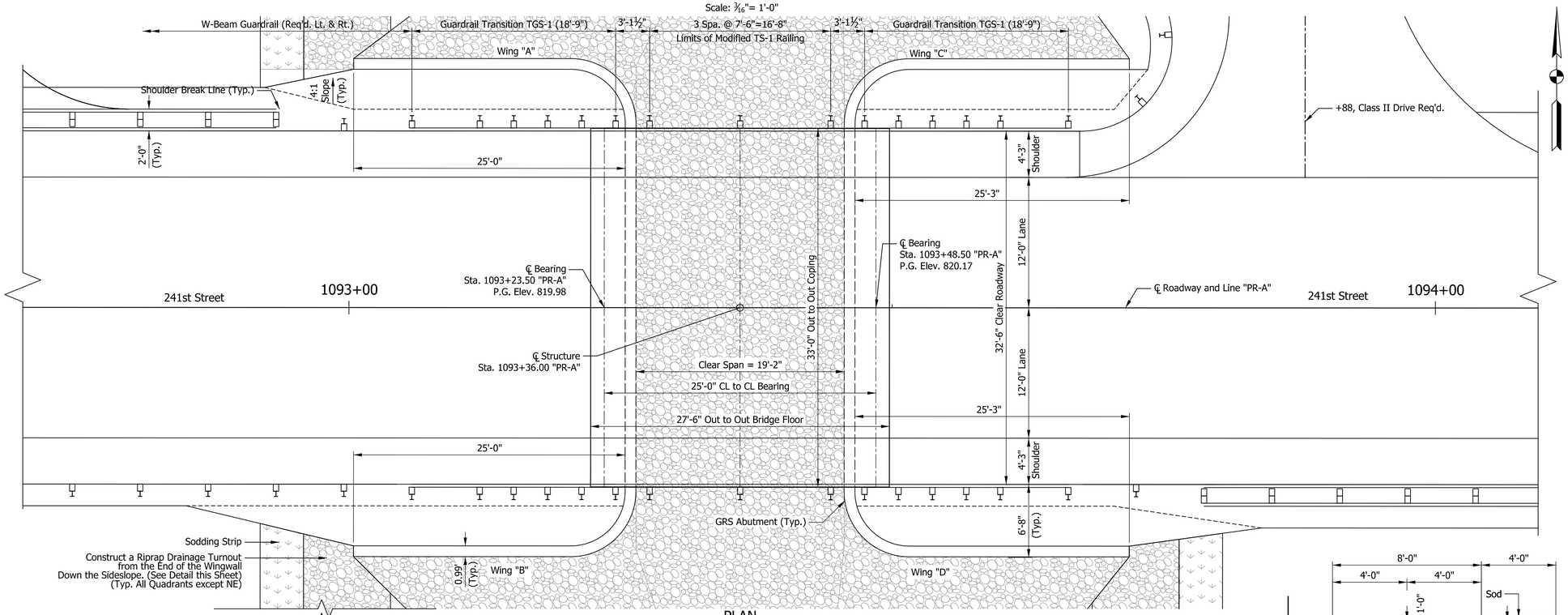


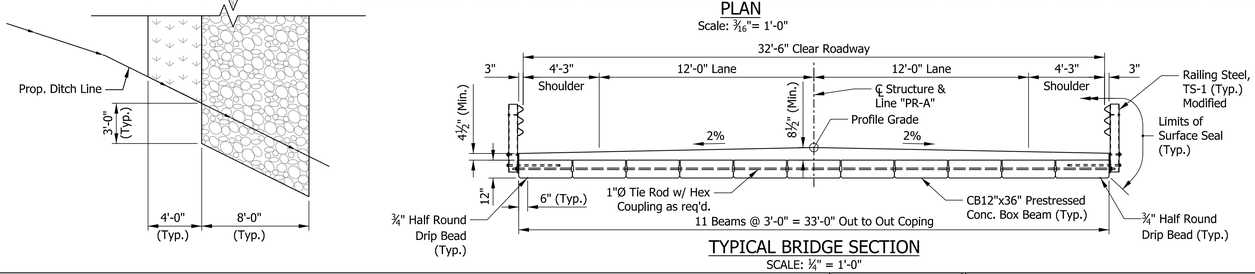
ELEVATION

Scale: 3/16"= 1'-0"



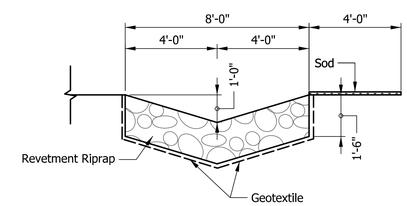
PLAN

Scale: 3/16"= 1'-0"



TYPICAL BRIDGE SECTION

SCALE: ¼" = 1'-0"



RIPRAP DRAINAGE TURNOUT SECTION

SCALE: Not To Scale

DESIGN DATA

Live Load:
Superstructure, Substructure and Substructure Foundation Designed for HL-93 loading, in accordance with AASHTO LRFD Bridge Design Specification, 6th Edition, 2012, and subsequent Interim Specifications through 2015

Dead Load:
Designed for actual dead load plus 35 p.s.f. future wearing surface

Slab designed with 1/2" wearing surface.

DESIGN STRENGTHS

Unit Stresses:
Class "C" Concrete F'c = 4000 p.s.i.
Class "A" Concrete F'c = 3500 p.s.i.
Class "B" Concrete F'c = 3000 p.s.i.
Reinforcing Steel (Grade 60) Fy = 60,000 p.s.i.

PRESTRESSED CONCRETE:
f'c=6000 psi @28 days
Initial f'c=5000 psi @ Release of Strands
PRESTRESSED STRANDS:
0.5"Ø 7 Wire Special LoLax Strands (As=0.167in²)
Min. Tensile Strength=70,000 psi
Initial Pull=33,800 lbs. per strand
Stay in place deck forms will not be permitted on this project.

GENERAL NOTES

All dimensions are in feet and inches and all elevations are in feet unless otherwise noted.

Reinforcing steel covering to be 2½" in top and 1" min. in bottom of floor slabs. 3" in footings except bottom steel to be 4", and 2" in all other parts, unless noted.

Surface Seal the top of bridge floor, face of deck copings, outside face of exterior beams, and underside of bridge floor from coping to drip bead. Estimated Quantity = XX Sft.

Clear span of 17'-0" at top of leveling pad and 19'-2" at top of wall with a maximum batter of 4° degrees.

COMPOSITE PRESTRESSED CONCRETE BOX BEAM BRIDGE
One Span @ 25'-0", Square
32'-6" Clear Roadway
241st Street over Sugar Run Creek

SHERLY GEORGE REGISTERED No. 19600508 STATE OF INDIANA PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL — DESIGN ENGINEER — 1/26/2018 DATE

DESIGNED: SG | DRAWN: PFC
CHECKED: MJF | CHECKED: SG

HAMILTON COUNTY
BRIDGE NO. 305

GENERAL PLAN - STRUCTURE NO. 2

HORIZONTAL SCALE	HAMILTON COUNTY
AS NOTED	HAMILTON 33008
VERTICAL SCALE	DESIGNATION
AS NOTED	
SURVEY BOOK	SHEETS
ELECTRONIC	19 of 45
CONTRACT	PROJECT

Model: General Plan 1/30/2018 9:47:11 AM User: kharrison

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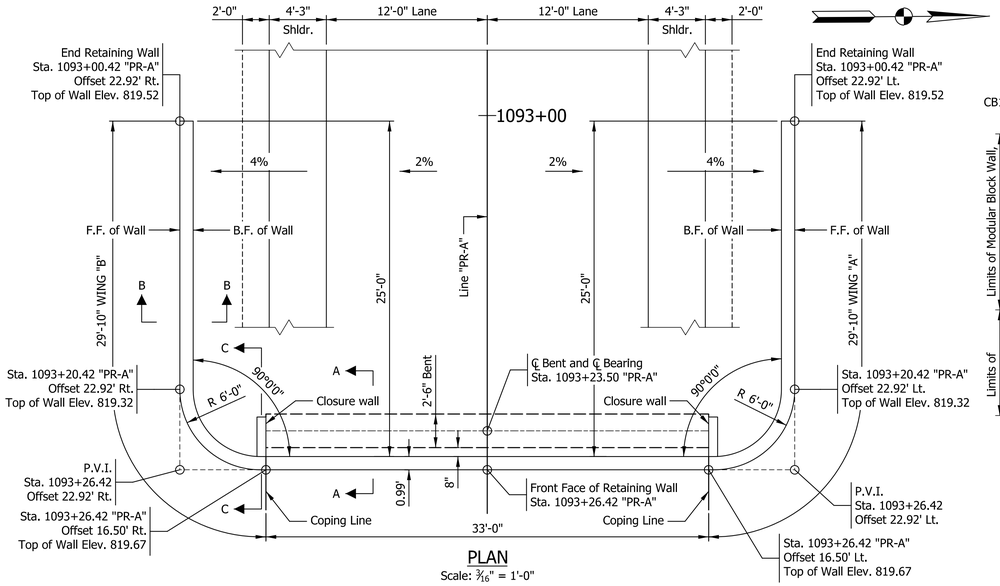
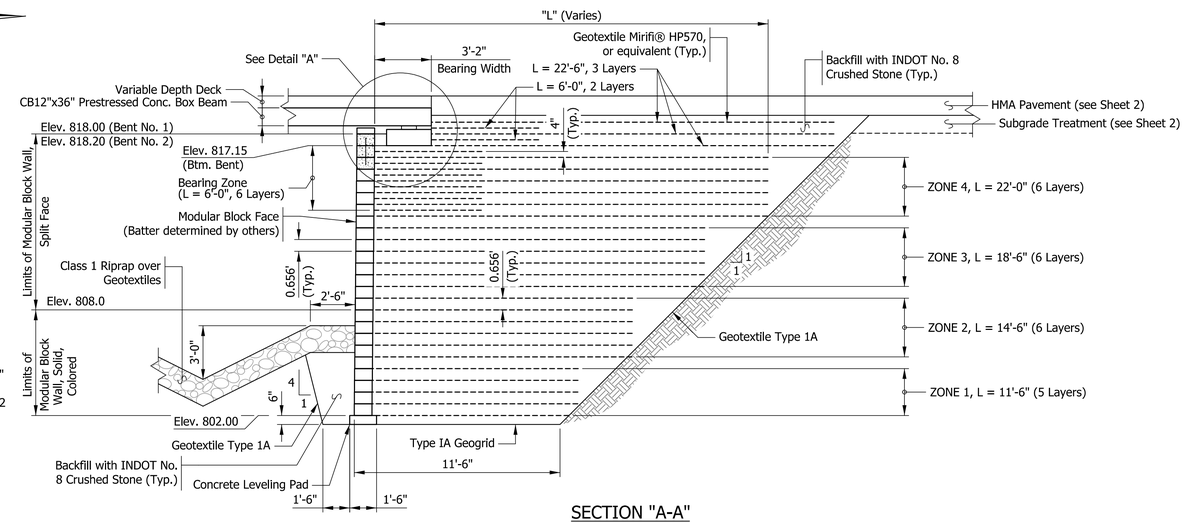


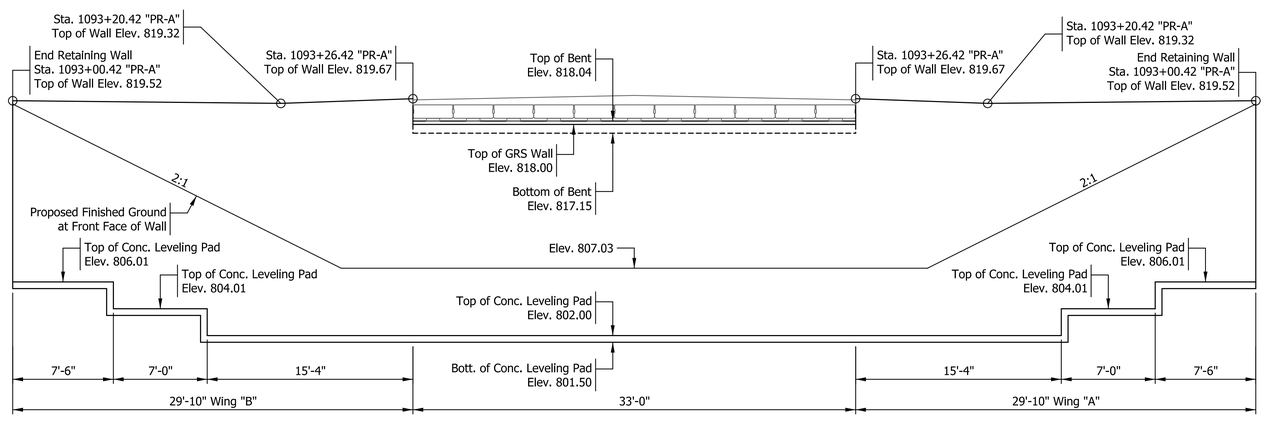
PLAN

Scale: 3/16" = 1'-0"



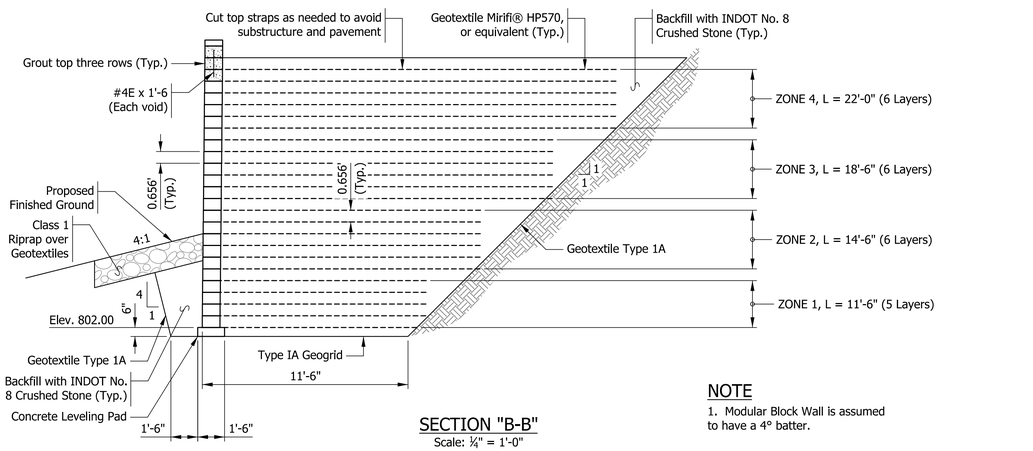
SECTION "A-A"

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



ELEVATION

Scale: 3/16" = 1'-0"

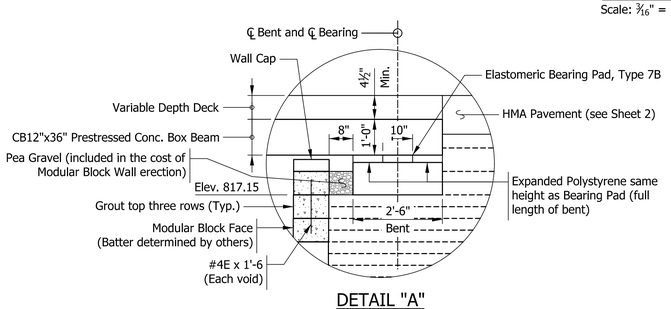


SECTION "B-B"

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

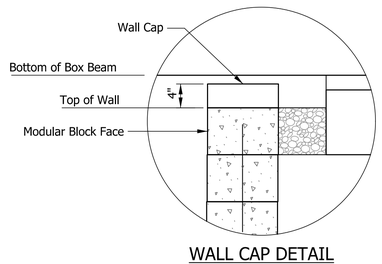
NOTE

1. Modular Block Wall is assumed to have a 4° batter.



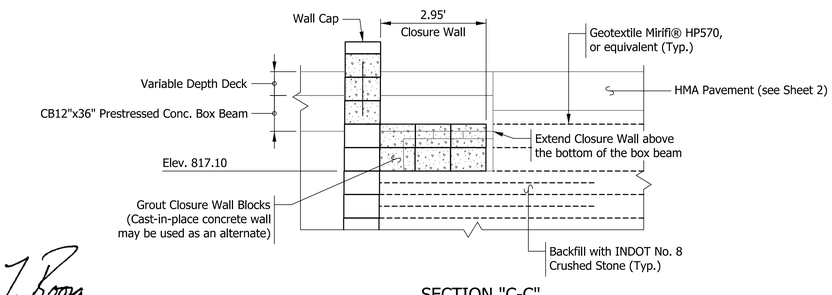
DETAIL "A"

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



WALL CAP DETAIL

Scale: 1" = 1'-0"



SECTION "C-C"

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

SCOTT T. ROOSA REGISTERED PE10910598 STATE OF INDIANA PROFESSIONAL ENGINEER

SHERLY GEORGE REGISTERED No. 19600508 STATE OF INDIANA PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	1/26/2018 DATE	
DESIGNED: SG	DRAWN: KCH		
CHECKED: KAG	CHECKED: SG		

HAMILTON COUNTY
BRIDGE NO. 305

ABUTMENT NO. 1 DETAILS

HORIZONTAL SCALE	HAMILTON COUNTY
-	HAMILTON 33008
VERTICAL SCALE	DESIGNATION
-	
SURVEY BOOK	SHEETS
ELECTRONIC	20 of 45
CONTRACT	PROJECT

User: kharrison

Model: Abut 1 Details
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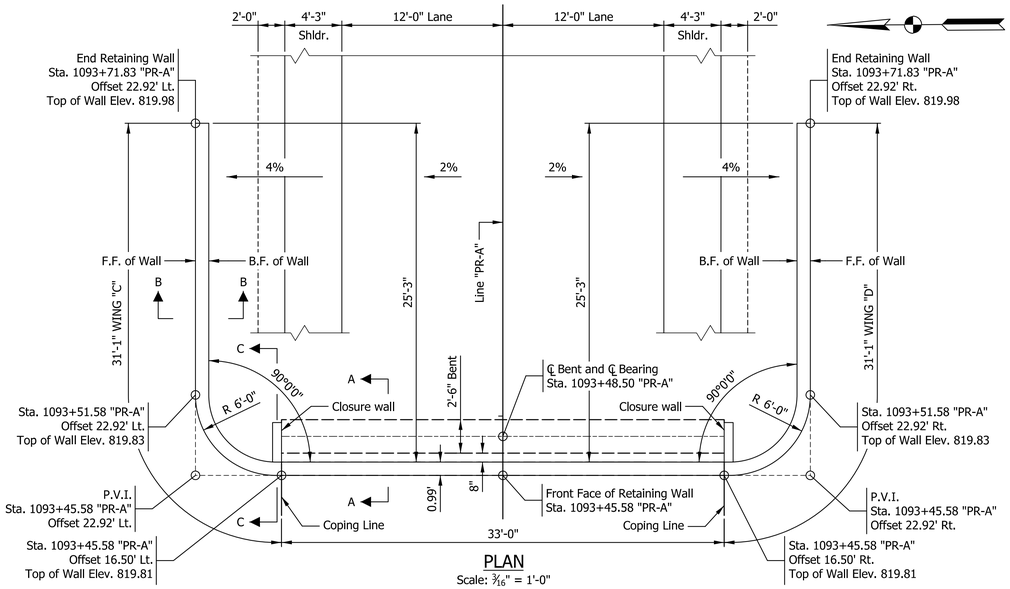
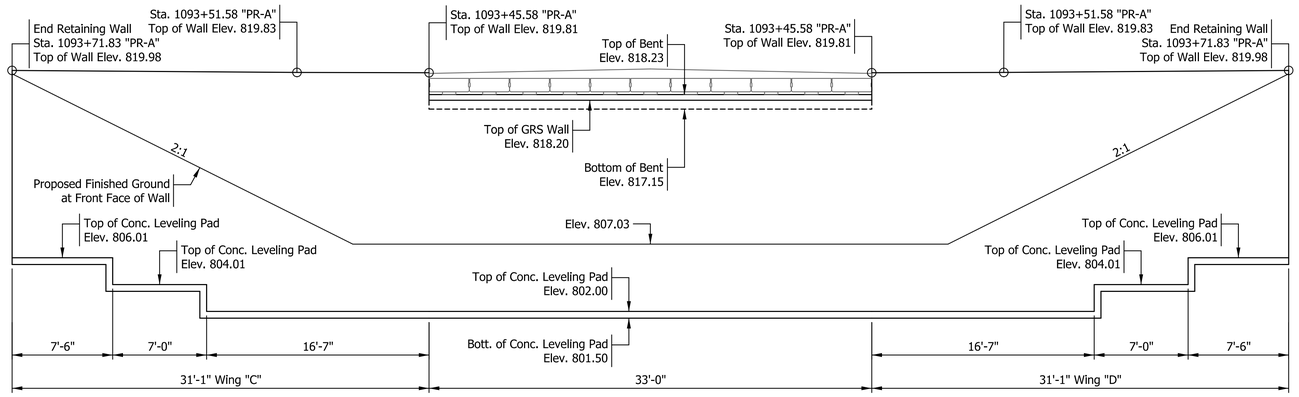


PLAN

Scale: 3/16" = 1'-0"



ELEVATION

Scale: 3/16" = 1'-0"

Model: Abut 2 Details
1/30/2018 9:47:13 AM User: kharrison

SHERLY GEORGE
REGISTERED
No. 19600508
STATE OF INDIANA
PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL — DESIGN ENGINEER — 1/26/2018 DATE

DESIGNED: SG | DRAWN: KCH
CHECKED: KAG | CHECKED: SG

HAMILTON COUNTY
BRIDGE NO. 305

ABUTMENT NO. 2 DETAILS

HORIZONTAL SCALE	HAMILTON COUNTY
-	HAMILTON 33008
VERTICAL SCALE	DESIGNATION
-	
SURVEY BOOK	SHEETS
ELECTRONIC	21 of 45
CONTRACT	PROJECT

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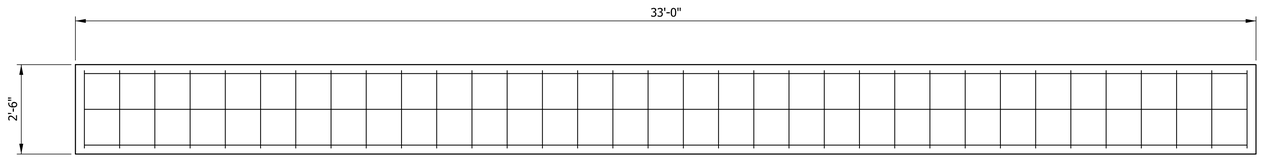
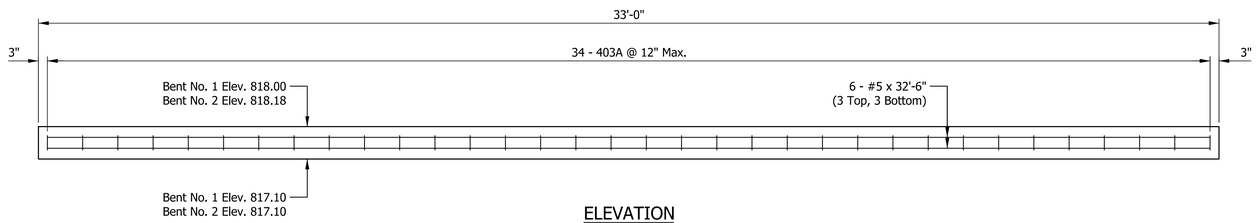
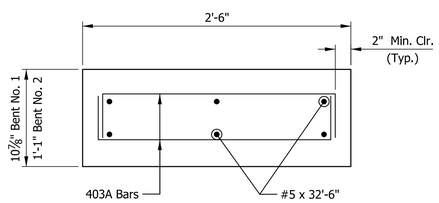


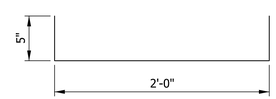
PLAN
Scale: ½"= 1'-0"



ELEVATION
Scale: ½"= 1'-0"



TYPICAL SECTION
Scale: 1½"= 1'-0"



403A x 2'-10"

BILL OF MATERIALS SUBSTRUCTURE BENT NO. 1

EPOXY COATED REINFORCING BARS			
SIZE OR MARK	NUMBER OF BARS	LENGTH (FT.)	WEIGHT (LBS.)
#5	6	32'-6"	
TOTAL #5			203
403A	34	2'-10"	
TOTAL #4			65
TOTAL EPOXY COATED REINFORCING BARS			268
CONCRETE			
SUBSTRUCTURE, CLASS "A"			2.8 CYS
LEVELING PAD, CONCRETE			92.7 LFT
GRS ABUTMENT			
MODULAR BLOCK WALL ERECTION			1,564 SFT
MODULAR BLOCK WALL, SOLID, COLORED			166 SFT
MODULAR BLOCK WALL, SPLIT FACE			1,398 SFT
COARSE AGGREGATE, NO. 8			815 CYS
HIGH STRENGTH GEOTEXTILE			3,492 SYS

BILL OF MATERIALS SUBSTRUCTURE BENT NO. 2

EPOXY COATED REINFORCING BARS			
SIZE OR MARK	NUMBER OF BARS	LENGTH (FT.)	WEIGHT (LBS.)
#5	6	32'-6"	
TOTAL #5			203
403A	34	2'-10"	
TOTAL #4			65
TOTAL EPOXY COATED REINFORCING BARS			268
CONCRETE			
SUBSTRUCTURE, CLASS "A"			3.3 CYS
LEVELING PAD, CONCRETE			95.2 LFT
GRS ABUTMENT			
MODULAR BLOCK WALL ERECTION			1,618 SFT
MODULAR BLOCK WALL, SOLID, COLORED			166 SFT
MODULAR BLOCK WALL, SPLIT FACE			1,452 SFT
COARSE AGGREGATE, NO. 8			831 CYS
HIGH STRENGTH GEOTEXTILE			3,507 SYS

SHERLY GEORGE
REGISTERED
No. 19600508
STATE OF INDIANA
PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL — DESIGN ENGINEER — 1/26/2018 DATE

DESIGNED: SG | DRAWN: KCH/PFC
CHECKED: MJF | CHECKED: SG

HAMILTON COUNTY
BRIDGE NO. 305

SUBSTRUCTURE DETAILS

HORIZONTAL SCALE	HAMILTON COUNTY
-	HAMILTON 33008
VERTICAL SCALE	DESIGNATION
-	

SURVEY BOOK	SHEETS		
ELECTRONIC	22	of	45
CONTRACT	PROJECT		

Model: SubStr Details
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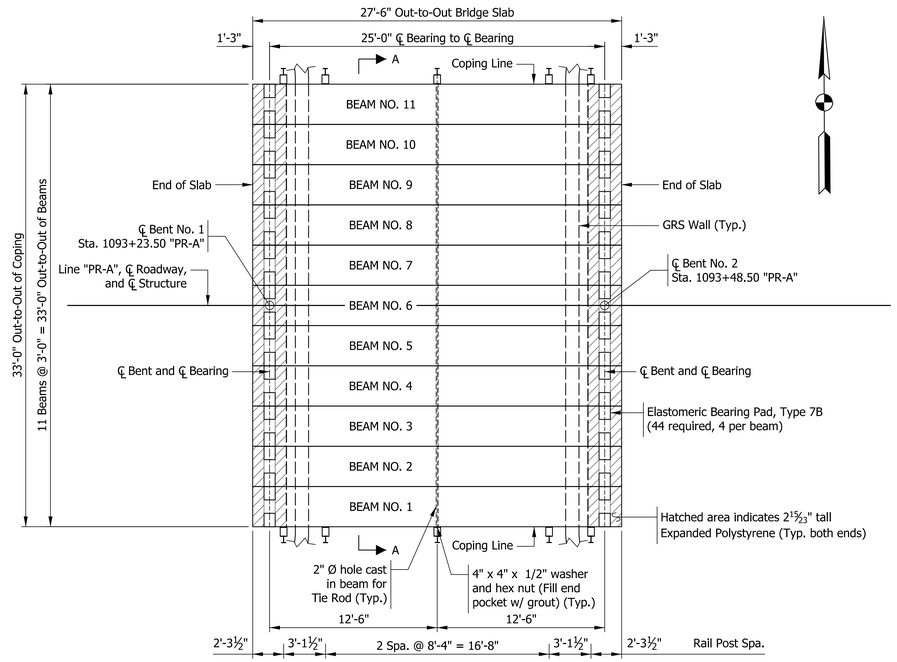
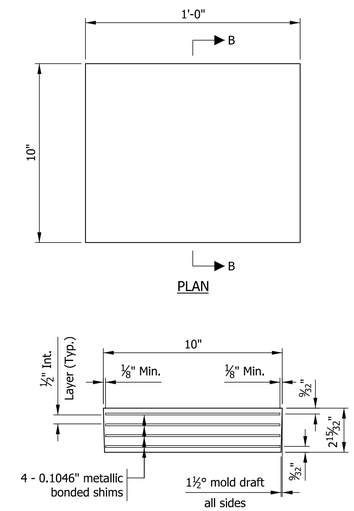


FRAMING PLAN

Scale: 3/16" = 1'-0"



ELASTOMERIC BEARING PAD DETAILS

(Material to be 55 Durometer Hardness)
Scale: 3" = 1'-0"

DESIGN DATA

Initial Pull per Strand = 33,818 lbs

CONCRETE STRENGTH
Initial F'c = 5000 p.s.i.
Final F'c = 6000 p.s.i.

SPAN "A"
Computed Beam Camber = 0.501 in
Dead Load Deflection = 0.010 in
Residual Camber = 0.401 in

NOTES

1) For General Notes, see Sheet 13.

2) For Section "A-A", see Sheet 13.

3) For Beam Details and additional details, See Sheet 21.

4) All reinforcing steel to be epoxy coated unless otherwise noted.

5) For Reinforcing Bar Notes, see Std. Dwg. E 703-BRST-01.

6) The cost of Elastomeric Bearing Pads, Type 7-B, Expanded Polystyrene, ¾" Threaded Insert, ¾" Threaded Reinforcing, Sealer on outside face of exterior beams, and Prestressed Concrete Box Beams to be included in the cost of Box Beams.

7) See INDOT standards E 707-BPBF-01 and 04 for Bridge Precast Beam Fabrication details.

8) The beams are to be supported at bearing points while stored and while transporting to job site.

9) Maximum distance from end of beam to pick up point is 3'-0".

10) Omit keyway on exterior face of exterior beam.

11) Beams shall be cast a minimum of 15 days before slab is poured.

12) The top of beams are to be scored transversely at ±3" centers with pointed tool.

13) Several lifting devices are satisfactory. The type used must be guaranteed by the beam manufacturer and approved by the engineer on the shop drawings.

14) Sealer on outside face of exterior beam to be done by Fabricator in the shop.

15) Prior to tensionnig the tie rods, spacers shall be placed between beams to maintain the ⅞" joint width.

16) After the beams are set in their final position and tied transversley with rods as indicated on plans, the longitudinal joints shall be thoroughly cleaned, a backer rod placed below the joints and joints filled with non-shrink grout.

17) All bars extending from the box beams into the concrete deck are to be epoxy coated.

18) Beam Manufacturer to furnish Shop Drawings of Prestressed Box Beams for approval prior to fabrication as specified in Section 707 of the Standard Specifications.

19) See INDOT standards E 726-BEPF-01 for Elastomeric Bearing Pad details.

DEFLECTIONS AT MIDSPAN	
	CB12x36
CAMBER AS ERECTED (+)	0.501 in.
DEAD LOAD DEFLECTION (-)	0.010 in.
RESIDUAL CAMBER (+)	0.401 in.

SHERLY GEORGE
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No. 19600508
STATE OF INDIANA
PROFESSIONAL ENGINEER

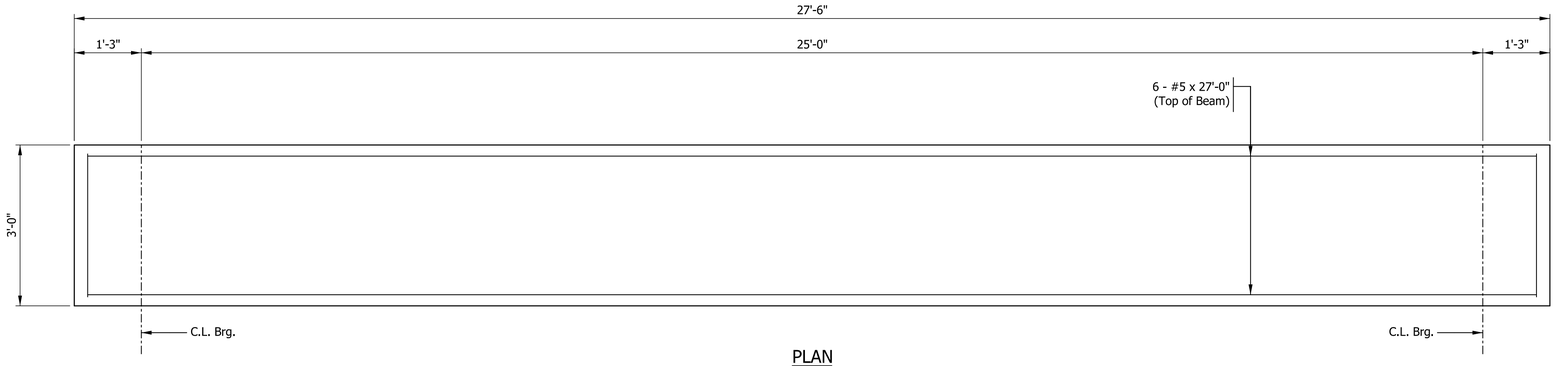
RECOMMENDED FOR APPROVAL — DESIGN ENGINEER — 1/26/2018 DATE

DESIGNED: SG DRAWN: KCH
CHECKED: MJF CHECKED: SG

HAMILTON COUNTY
BRIDGE NO. 305

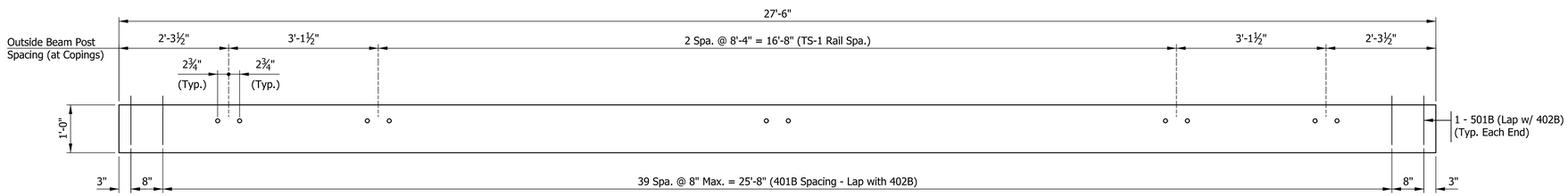
FRAMING PLAN

HORIZONTAL SCALE	HAMILTON COUNTY
AS SHOWN	HAMILTON 33008
VERTICAL SCALE	DESIGNATION
AS SHOWN	
SURVEY BOOK	SHEETS
ELECTRONIC	23 of 45
CONTRACT	PROJECT



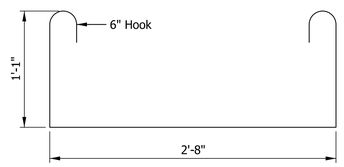
PLAN

Scale: ¾"= 1'-0"

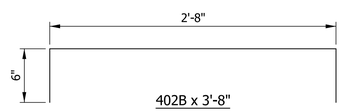


ELEVATION

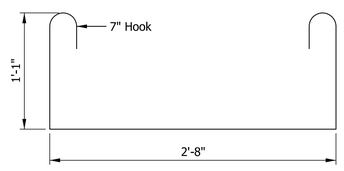
Scale: ¾"= 1'-0"



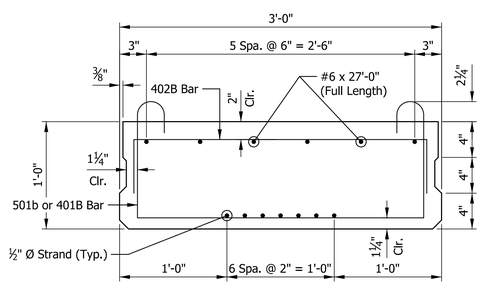
401B x 5'-10"



402B x 3'-8"

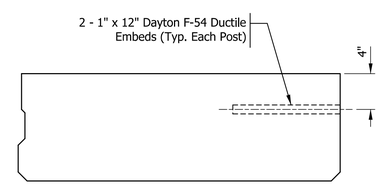


501B x 6'-0"



TYPICAL SECTION THRU BEAM

Scale: 1½"= 1'-0"



TYPICAL EXTERIOR BEAM

Scale: 1½"= 1'-0"

NOTE: For beam notes and design data, see Sheet 20.

SHERLY GEORGE
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No. 19600508
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PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	1/26/2018 DATE	
DESIGNED: SG	DRAWN: PFC		
CHECKED: MJF	CHECKED: SG/GAH		

HAMILTON COUNTY
BRIDGE NO. 305

BEAM DETAILS

HORIZONTAL SCALE	HAMILTON COUNTY		
	HAMILTON 33008		
VERTICAL SCALE	DESIGNATION		
SURVEY BOOK	SHEETS		
ELECTRONIC	24	of	45
CONTRACT	PROJECT		

Model: Beam Details
1/30/2018 9:47:17 AM User: kharrison

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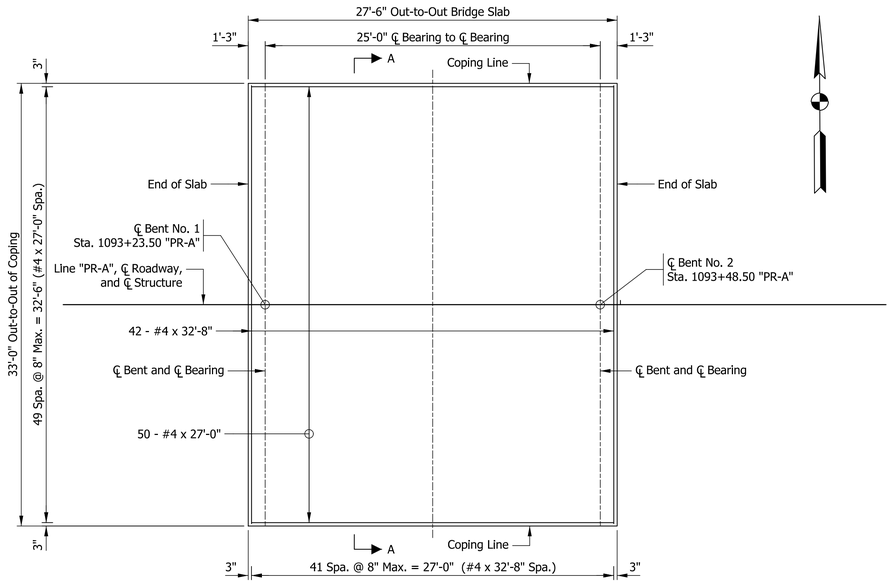
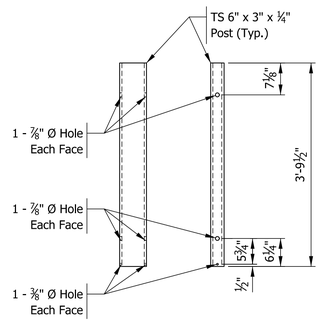
BILL OF MATERIALS
SUPERSTRUCTURE

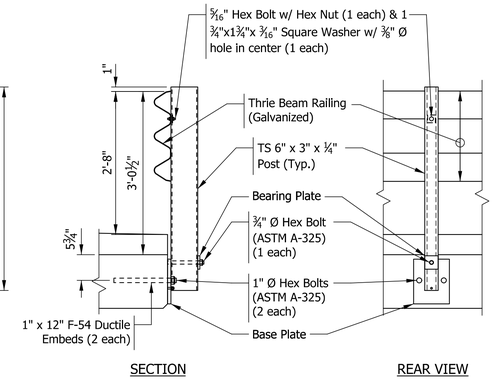
EPOXY COATED REINFORCING STEEL			
Size or Mark	Number of Bars	Length (ft)	Weight (Lb)
#4	42	32' -8"	
#4	50	27' -0"	
Total #4			1,819
TOTAL EPOXY COATED			1,819
CONCRETE			
Total Concrete, C, Superstructure (Cyd)			18.2
MISCELLANEOUS			
Structural Members, Concrete Box Beam, 12" x 36" (11 at 27.5' each) (Lft)			303
Railing, Steel TS-1, Modified (Galvanized) (Lft)			45.83
Surface Seal (Est. Qty.) (Sft)			920



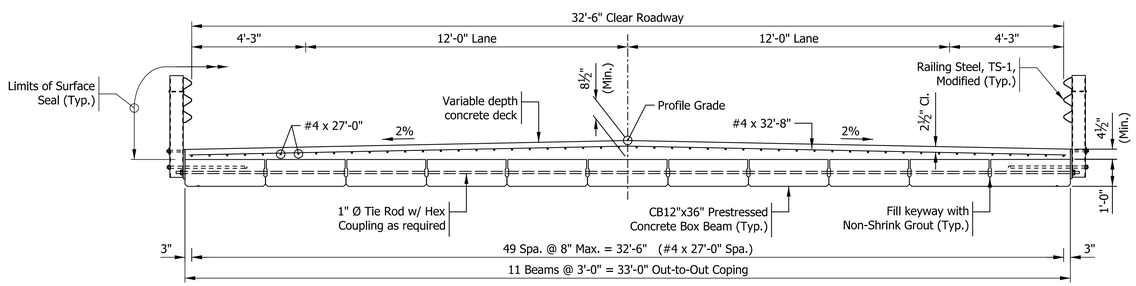
FLOOR PLAN
Scale: 3/16" = 1'-0"



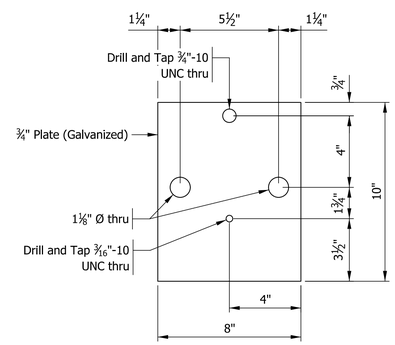
POST DETAIL
Scale: ¾" = 1'-0"



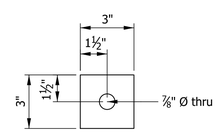
RAIL POST AT STRUCTURE
Scale: ¾" = 1'-0"



SECTION "A-A"
SCALE: ⅜" = 1'-0"



STEEL BASE PLATE
Scale: 3" = 1'-0"



STEEL BEARING PLATE
Scale: 3" = 1'-0"

SHERLY GEORGE
REGISTERED
No. 19600508
STATE OF INDIANA
PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL — DESIGN ENGINEER — 1/26/2018 DATE

DESIGNED: SG | DRAWN: KCH
CHECKED: MJF | CHECKED: SG

HAMILTON COUNTY
BRIDGE NO. 305

SUPERSTRUCTURE DETAILS

HORIZONTAL SCALE	HAMILTON COUNTY
-	HAMILTON 33008
VERTICAL SCALE	DESIGNATION
-	
SURVEY BOOK	SHEETS
ELECTRONIC	25 of 45
CONTRACT	PROJECT

Model: SubStr Details
1/30/2018 9:47:18 AM User: kharrison

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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	GRADE 3	GRADE 4	EXCAVATION CUT	EXCAVATION FILL	CLEAR ZONE AT DRIVE	HMA FOR APPROACHES, TYPE B	HMA MATERIALS: HMA, SURFACE, TYPE A	HMA MATERIALS: HMA, INTERMEDIATE, TYPE A	HMA MATERIALS: HMA, BASE, TYPE A	JOINT ADHESIVE, SURFACE	JOINT ADHESIVE, INTERMEDIATE		HMA MATERIAL FOR: PRIME COAT	HMA MATERIAL FOR: TACK COAT	COMPACTED AGGREGATE NO. 53 DEPTH 10"		SUBGRADE TREATMENT, TYPE II	REMARKS
		FT	FT	FT	FT	SYS	SYS	SYS	%	%	%	%	CYS	CYS	FT	TONS	TONS	TONS	TONS	LFT	LFT		SYS	TONS	TONS		SYS	
LINE "PR-A"	Mainline												1549	4869			369	596	1,453	1,850	2,000			2	868		4,923	
1091+59	Mod. Class V Drive	20	33	25, 15					9.11				16	0														
1092+13	Class II Drive	12	33	15, 25	11				8.88				6	1		18								0.02			65	
1093+88	Class II Drive	14	90	15, 25	43				9.44				1	138		44								0.04			160	
1095+00	Class II Drive	12	94	25, 15	35				9.37				1	151		45								0.04			165	
LINE "PR-S-1-A"	Mainline												299	51			112	169	423	356	456			0.67	191		1363	
8+77	Mod. Class II Drive	24	28	15, 20	11				1.22				2	4		26								0.02			95	
TOTALS																**133**	**481**	**765**	**1,876**	**2,206**	**2,456**			**3**	**1,059**		**6,771**	

MONUMENT AND R/W MARKER TABLE

STATION	OFFSET	MONUMENT A	MONUMENT B	MONUMENT C	MONUMENT D	MONUMENT SECTION CORNER	R/W MARKER
LINE "A"							
86+76.94	-20						1
87+07.23	20						1
89+50.00	-75						1
90+00.00	-75						1
90+00.00	70						1
91+00.00	-35						1
92+30.00	-35						1
92+70.00	-65						1
93+60.00	-60						1
95+25.00	70						1
97+00.00	30						1
98+00.00	25						1
99+15.00	25						1
99+50.00	-60						1
99+50.00	30						1
100+00.00	-40						1
100+00.00	40						1
102+50.00	-40						1
102+50.00	40						1
103+10.00	-25						1
103+10.00	-25						1
LINE "S-1-A"							
47+25.00	-15						1
47+25.00	15						1
47+70.00	-25						1
47+70.00	30						1
49+40.00	-25						1
49+40.00	30						1
51+50.00	-15						1
51+50.00	15						1
LINE "PR-A"							
1088+00.00	0		1				
1100+03.30	0		1				
TOTALS		**0**	**2**	**0**	**0**	**0**	**29**

SUMMARY OF BRIDGE QUANTITIES

ITEM	CONCRETE CLASS C SUPERSTR	CONCRETE CLASS A SUBSTR	REINF. BARS, EPOXY COATED	RAILING, STEEL TS-1, MOD.	GRS ABUTMENT: LEVELING PAD, CONCRETE	GRS ABUTMENT: MODULAR BLOCK WALL ERECTION	GRS ABUTMENT: MODULAR BLOCK WALL, SOLID, COLORED	GRS ABUTMENT: MODULAR BLOCK WALL, SPLIT FACE	GRS ABUTMENT: COARSE AGGREGATE, NO. 8	GRS ABUTMENT: HIGH STRENGTH GEOTEXTILES	GRS ABUTMENT: GEOTEXTILE TYPE 1A	STRUCTURAL MEMBERS, CONC. BOX BEAM, 12" x 36"	SURFACE SEAL **	REMARKS
	CYS	CYS	LBS	LFT	LFT	SFT	SFT	SFT	CYS	SYS		LFT	SFT	
STRUCTURE NO. 2														
Bent No. 1		2.8	268		92.7	1,478	166	1,312	658	2,407	131			
Bent No. 2		3.3	268		95.2	1,359	166	1,193	662	2,407	131			
Superstructure	18.2		1,819	45.83								303	920	
TOTALS	18.2	6.1	2,355	45.83	187.9	2,837	332	2,505	1,320	4,814	262	303	920	

** Estimated quantity

STRUCTURE DATA

STRUCTURE NUMBER	LOCATION: STATION	LOCATION: LEFT	LOCATION: CROSS	LOCATION: RIGHT	LOCATION: OFFSET	SIZE	DESCRIPTION: PIPE TYPE	DESCRIPTION: MANHOLE, INLET, CATCH BASIN, OR SPECIALTY STRUCTURE	LENGTH	VIDEO INSPECTION LENGTH	SKEW	FLOW LINE: COVER	FLOW LINE: UP STREAM	FLOW LINE: DOWN STREAM	SERVICE LIFE	SITE DESIGNATION	pH		COARSE AGGREGATE, NO. 8	GEOTEXTILES, TYPE 1A	REVETMENT RIPRAP	UNIFORM RIPRAP	SCOUR PROTECTION: SUMP DEPTH	SCOUR PROTECTION: GEOTEXTILE, TYPE 1A	SCOUR PROTECTION: RIPRAP TYPE	SCOUR PROTECTION: RIPRAP TONS	SODDING	PIPE END SECTION	GRATED BOX END SECTION: TYPE	GRATED BOX END SECTION: SLOPE	GRATED BOX END SECTION: EA.	SAFETY METAL END SECTION: TYPE	SAFETY METAL END SECTION: SLOPE	SAFETY METAL END SECTION: EA.	CONNECT TO STR.	REMARKS
					FT				LFT	LFT		LFT	ELEV.	ELEV.	YRS				CYS	SYS	TON	TON	IN.	SYS.	TYPE	TONS	SYS	EA.	TYPE	SLOPE	EA.	TYPE	SLOPE	EA.		
	LINE "PR-A"																																			
1	1090+00		X			16' x 4'		Reinf. Conc. Box Culvert	62.0		35		811.75	811.75					121	228	51	34	12							2					
2	1093+36		X					Adjacent Box Beam Bridge	25.0				807.03	807.03							66			421	Cl. 1	358										
7	1089+20	X		X		18"		Manhole 48" w/ RCP *	158.0		35	6.1	808.60	808.39	75		7		84																8	Connect Exist. Draintile to Str. 7
8	1089+13			X				Manhole 48" *																												Connect to Exist. Draintile
10	1093+88	X				15"	3		44.0			4.7	811.61	809.85	75		7		21									2								
11	1095+00			X		15"	3		50.0			4.3	811.94	810.61	75		7		21									2								
12	1097+10			X		12"	2	Inlet C-15	90.0			3.7	817.41	817.31	75		7		31									1								
13	1099+10			X		12"	2	Inlet C-15	196.0			3.5	818.39	817.41	75		7		54																12	
14	1099+72			X		12"	2	Inlet B-15	62.0			2.6	818.70	818.39	75		7		11																13	
TOTALS																				**228**	**117**	**34**		**421**		**358**										

* - See Standard Plan D-21 for Manhole 48" details. See Standard Plan CT-1 for manhole solid lid casting.

SHERLY GEORGE REGISTERED No. 19600508 STATE OF INDIANA PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL — DESIGN ENGINEER — DATE 1/26/2018

DESIGNED: SG | DRAWN: KCH | CHECKED: MJF | CHECKED: SG

HAMILTON COUNTY
BRIDGE NO. 305

SUMMARY OF QUANTITIES

HORIZONTAL SCALE	HAMILTON COUNTY
	HAMILTON 33008
VERTICAL SCALE	DESIGNATION
SURVEY BOOK	SHEETS
ELECTRONIC	26 of 45
CONTRACT	PROJECT

User: kharrison
Model: Summary of Qty
1/30/2018 9:47:20 AM

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TEMPORARY EROSION CONTROL TABLE

STATION	LOCATION LEFT	LOCATION RIGHT	TEMPORARY SILT FENCE LFT	TEMPORARY CHECK DAM, REVETMENT RIPRAP TONS	TEMPORARY CHECK DAM, MODIFIED, REVETMENT RIPRAP TONS	TEMPORARY INLET PROTECTION EACH	TEMPORARY FILTER STONE TON	TEMPORARY GEOTEXTILE SYS
LINE "PR-A"								
1087+50.00	X			6.0				10
1087+50.00		X		6.0				10
1088+05.00	X				2.0		1	8
1088+06.00		X			2.0		1	8
1088+80.00	X			6.0				10
1089+00.00		X			2.0		1	8
1089+51.00	X				8.0		1	18
1089+81.00	X				8.0		1	18
1089+95.00		X			2.0		1	8
1090+21.00		X			2.0		1	8
1090+21 to 1090+95		X	101					
1090+45.00	X				2.0		1	8
1090+48 to 1090+99		X	99					
1090+48 to 1091+50		X	126					
1090+75.00	X				2.0		1	8
1090+90 to 1092+07	X		130					
1092+00.00		X		6.0				10
1092+18 to 1092+44	X		36					
1092+45.00		X			2.0		1	8
1092+56 to 1093+32	X		98					
1092+60.00		X			2.0		1	8
1093+58.00	X				2.0		1	8
1093+60.00		X			2.0		1	8
1093+90 to 1094+21	X		66					
1094+10.00	X					1		
1094+25.00	X				2.0		1	8
1095+25.00		X				1		
1095+75.00		X			2.0		1	8
1096+25.00		X		6.0				10
1096+45.00	X				2.0		1	8
1096+75.00		X		6.0				10
1097+15.00	X				2.0		1	8
1097+23 to 48+90 "PR-S-1-A"		X	330					
1098+45.00	X			6.0				10
1098+75.00	X			6.0				10
1098+90 to 51+20 "PR-S-1-A"	X		174					
1099+00.00	X					1		
1099+75.00		X				1		
1102+44.00	X				2.0		1	8
1102+44.00		X			2.0		1	8
LINE "PR-S-1-A"								
47+40.00	X		135					
47+40.00		X	339					
51+20.00		X	195					
TOTALS			**1,829**	**48.0**	**50.0**	**4**	**19**	**252**

NOTE: Erosion Control quantities are for information only.

PAVED SIDE DITCH, RIPRAP DITCH, AND SODDING SUMMARY TABLE

LOCATION FROM STATION	LOCATION TO STATION	LEFT	MEDIAN	RIGHT	RIPRAP DITCH REVETMENT RIPRAP TONS	RIPRAP DITCH UNIFORM RIPRAP TONS	RIPRAP DITCH GEOTEXTILES, TYPE 1A SYS	SODDING FOR PAVED SIDE DITCHES SYS	SODDING FOR DITCHES SYS	SODDING FOR MEDIAN SYS	SODDING FOR SHOULDER BREAK SYS	SODDING AT BRIDGE CONE SYS	TOTAL SODDING SYS	SODDING FOR LAWNS SYS
LINE "PR-A"														
1087+00	1088+25	X			76		143							
1087+00	1088+25			X	76		143							
1088+25	1089+56	X							107					
1088+25	1090+00			X					142					
1089+74	1090+90	X			72		133							
1089+75	1092+07	X												339
1090+00	1090+26			X	16		30							
1091+70	1092+50			X					65					
1092+17	1092+92	X												114
1092+50	1093+20			X	43		80							
1093+50	1093+63	X			8		15							
1094+07	1094+20	X			8		15							
1094+20	1096+25	X							166					
1095+06	1099+70	X												725
1095+28	1097+00			X	104		197							
1096+25	1097+10	X			52		98							
1097+10	1098+25	X							94					
1098+25	1099+00	X			46		86							
LINE "PR-S-1-A"														
8+90	9+78	X												33
TOTALS					501		940		574					1211

		STRUCTURE NUMBER 7		10	11	12	13	14
PIPE TYPE / SHAPE		2		3	3	2	2	2
SMOOTH PIPE SIZE		18		15	15	12	12	12
CORRUGATED PIPE SIZE				15	15			
RCP/RCHEP (S)	CLASS	II		II	II	II	II	III
	$D_{0.01}$ RATING	1000		1000	1000	1000	1000	1250
NON-REINFORCED CONCRETE PIPE, CLASS 3 (S)				15	15	12	12	12
CORRUGATED PE PIPE, TYPE S (S)*				15	15	12	12	
RIBBED PE PIPE (S)*								
SMOOTH WALL PE PIPE (S)* / MAXIMUM DR				15 / 26	15 / 26	12 / 26	12 / 26	
PROFILE WALL PVC PIPE (S)				15	15	12	12	
SMOOTH WALL PVC PIPE (S)*				15	15	12	12	
VITRIFIED CLAY PIPE, EXTRA STRENGTH (S)				15	15	12	12	12
CORRUGATED STEEL PIPE / PIPE-ARCH: FULLY BIT. PAVED & LINED (S)	CORR. PROFILE							
	THICKNESS							
ZINC COATED (C)	CORR. PROFILE							
	THICKNESS							
ZINC COATED W/ BPI (C)	CORR. PROFILE							
	THICKNESS							
ALUM. COATED TYPE 2 (C)	CORR. PROFILE							
	THICKNESS							
ALUM. COATED TYPE 2 W/ BPI (C)	CORR. PROFILE			2 2/3" x 1/2"	2 2/3" x 1/2"			
	THICKNESS			0.109	0.109			
POLYMER PRECOATED GALVANIZED (C)	CORR. PROFILE			2 2/3" x 1/2"	2 2/3" x 1/2"			
	THICKNESS			0.109	0.109			
POLYMER PRECOATED GALVANIZED W/ BPI (C)	CORR. PROFILE							
	THICKNESS							
POLYMER PRECOATED GALVANIZED CORRUGATED STEEL PIPE TYPE 1A (S)	CORR. PROFILE							
	THICKNESS							
FIBER BONDED BITUMINOUS COATED (C)	CORR. PROFILE							
	THICKNESS							
FIBER BONDED BITUMINOUS COATED W/ BPI (C)	CORR. PROFILE							
	THICKNESS							
CORRUGATED ALUM. ALLOY PIPE (C)	CORR. PROFILE							
	THICKNESS							
CORRUGATED ALUM. ALLOY PIPE W/ BPI (C)	CORR. PROFILE			2 2/3" x 1/2"	2 2/3" x 1/2"			
	THICKNESS			0.06	0.06			
STR. PLATE ALUMINUM ALLOY PLATE (C)	CORR. PROFILE							
	THICKNESS							
STR. PLATE ALUMINUM ALLOY PLATE W/ CFP (C)	CORR. PROFILE							
	THICKNESS							
STR. PLATE STEEL PIPE (C)	CORR. PROFILE							
	THICKNESS **							
STR. PLATE STEEL PIPE W/ CFP (C)	CORR. PROFILE							
	THICKNESS **							

GUARDRAIL TABLE

LOCATION FROM STATION	LOCATION TO STATION	LEFT	MEDIAN LEFT	MEDIAN RIGHT	RIGHT	W-BEAM GUARDRAIL: GUARDRAIL, W-BEAM, 6 FT. 3 IN. SPACING LFT	GUARDRAIL, W-BEAM, 3 FT. 1.5 IN. SPACING LFT	LFT	LFT	LFT	GUARDRAIL FLARE RATE		GUARDRAIL TRANSITION TYPE TGS-1 EACH	GUARDRAIL END TREATMENT TYPE OS EACH	CURVED W-BEAM GUARDRAIL SYSTEM: TERMINAL SYSTEM TYPE	TERMINAL SYSTEM EACH	CONNECTOR SYSTEM TYPE	CONNECTOR SYSTEM EACH	GUARDRAIL REMOVE LFT	GUARDRAIL RESET LFT	IMPACT ATTENUATOR TYPE ___ EACH	IMPACT ATTENUATOR TYPE ___ EACH	REMARKS
LINE "PR-A"																							
1091+87.04	1093+36.00				X	68.75							1	1									
1093+36.00	1094+28.71				X	12.50							1	1									
1092+43.29	1093+36.00	X				12.50								1									
1093+36.00	1093+66.21	X											1		3	1							
TOTALS						**93.75**							**3**	**3**		**1**							

LEGEND

RCP-	Reinforced Concrete Pipe
RCHEP-	Reinforced
PE-	Polyethylene
DR-	Dimension Ratio
PVC-	Polyvinyl Chloride
BIT-	Bituminous
CORR-	Corrugation
BPI-	Bituminous Paved Invert
ALUM-	Aluminum
STR-	Structural
CFP-	Concrete Field Paving
CIR-	Circular Pipe
DEF-	Deformed Pipe
(S)-	Smooth Pipe Material
(C)-	Corrugated Pipe Material
OK-	Acceptable for Use
(LS)-	Lock Seam Pipe Required

*- Refer to Standard Drawings 715-PHCL-18 and -19 for nominal diameter appropriate for pay item diameter.

**- Tabulated thickness refers to top and side plates. Bottom plates shall be of next greater available thickness.

MAILBOX APPROACHES

C/L BOX STATION	LT./RT.	DESCRIPTION	WIDTH "W" (FT.) *	ASSEMBLY REQUIRED SINGLE	DOUBLE	
1092+29 "PR-A"	Lt.	Mailbox Assembly	6	1		
1094+17 "PR-A"	Lt.	Mailbox Assembly	6	1		
1095+10 "PR-A"	Lt.	Mailbox Assembly	6	1		
1098+50 "PR-A"	Lt.	Mailbox Assembly	6	1		
TOTALS				**4**	**0**	**0**

* - Unpaved Shoulder

SHEET SIGN & POST SUMMARY

PLAN SHEET NO. / LINE	SIGN LOCATION (STA.)	SIGN CODE	SIGN SIZE (IN. X IN.)	GROUND MOUNTED SIGN AREA (SF) XX IN.	XX IN.	XX IN.	MOUNTED ON PANEL SIGN, AREA (SF) XX IN.	U CHANNEL POST LENGTH 1 FT	POST LENGTH 2 FT	POST LENGTH TYPE A FT	TYPE B FT	2" X 2" X 12 GA. (TYPE 2) REINFORCED ANCHOR POST LENGTH (FT) 1	2	TOTAL	2" X 2" X 12 GA. (TYPE 1) REINFORCED ANCHOR POST LENGTH (FT) 1	TOTAL
PR-A	1095+97.93	(Cross Street Ah.) 30 MPH													10.7	11
PR-A	1102+16.75	(No trespassing)													10.0	10
PR-S-1-A	7+93.88	(Speed Limit 40)													10.2	10
PR-S-1-A	10+39.00	R1-1													10.2	10
PR-S-1-A	9+65.00	R1-1													10.2	10
TOTALS																51

SHERLY GEORGE REGISTERED No. 19600508 STATE OF INDIANA PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL — DESIGN ENGINEER — 1/26/2018 DATE

DESIGNED: SG DRAWN: KCH

CHECKED: MJF CHECKED: SG

HAMILTON COUNTY BRIDGE NO. 305

SUMMARY OF QUANTITIES

HORIZONTAL SCALE	HAMILTON COUNTY
	HAMILTON 33008
VERTICAL SCALE	DESIGNATION
SURVEY BOOK	SHEETS
ELECTRONIC	27 of 45
CONTRACT	PROJECT

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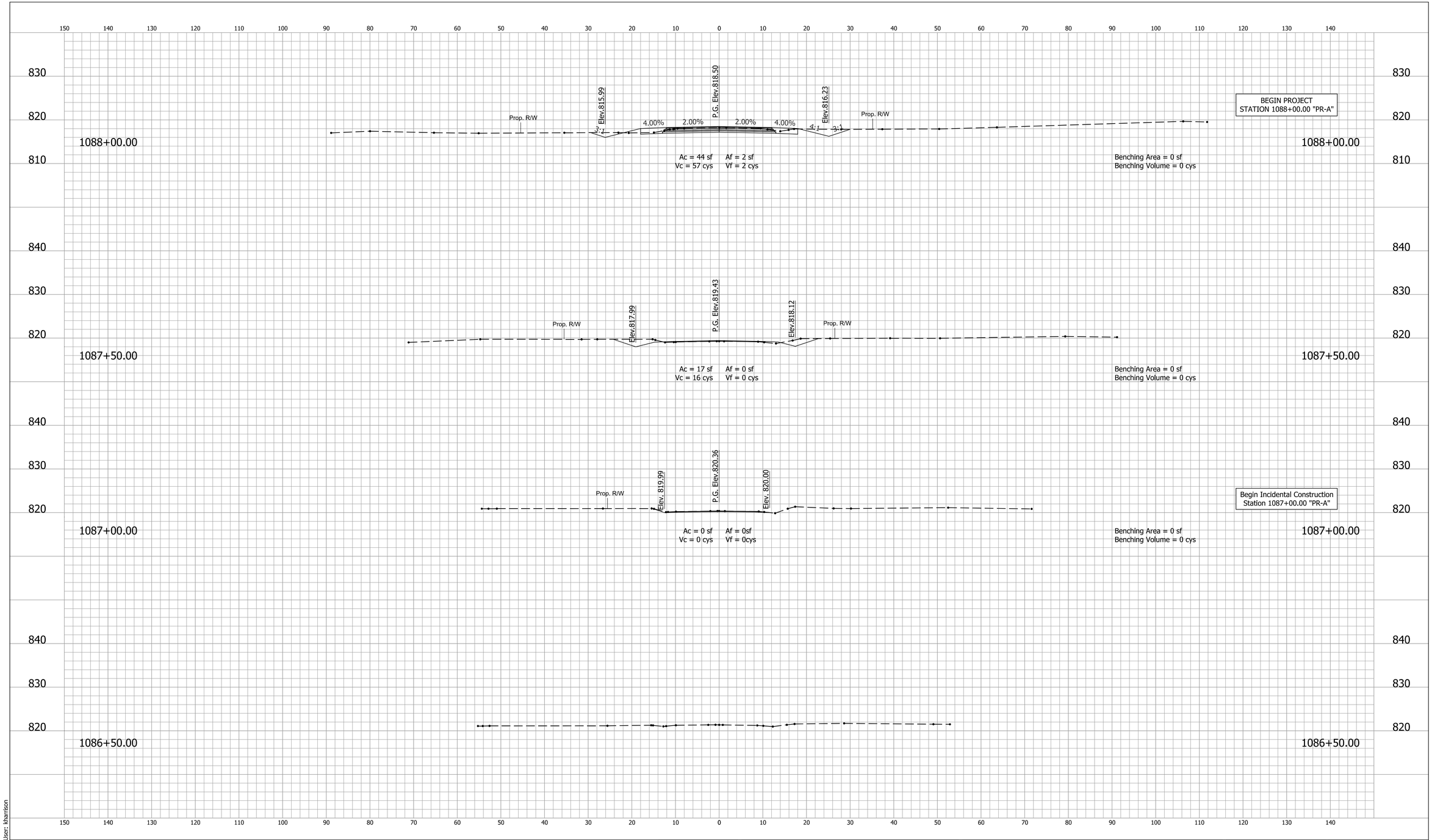

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RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER DATE

DESIGNED: SG DRAWN: KCH
CHECKED: MJF CHECKED: SG

HAMILTON COUNTY
BRIDGE NO. 305

CROSS SECTIONS
LINE "PR-A"

HORIZONTAL SCALE	HAMILTON COUNTY
1" = 10'	HAMILTON 33008
VERTICAL SCALE	DESIGNATION
1" = 10'	

SURVEY BOOK	SHEETS
ELECTRONIC	28 of 45
CONTRACT	PROJECT

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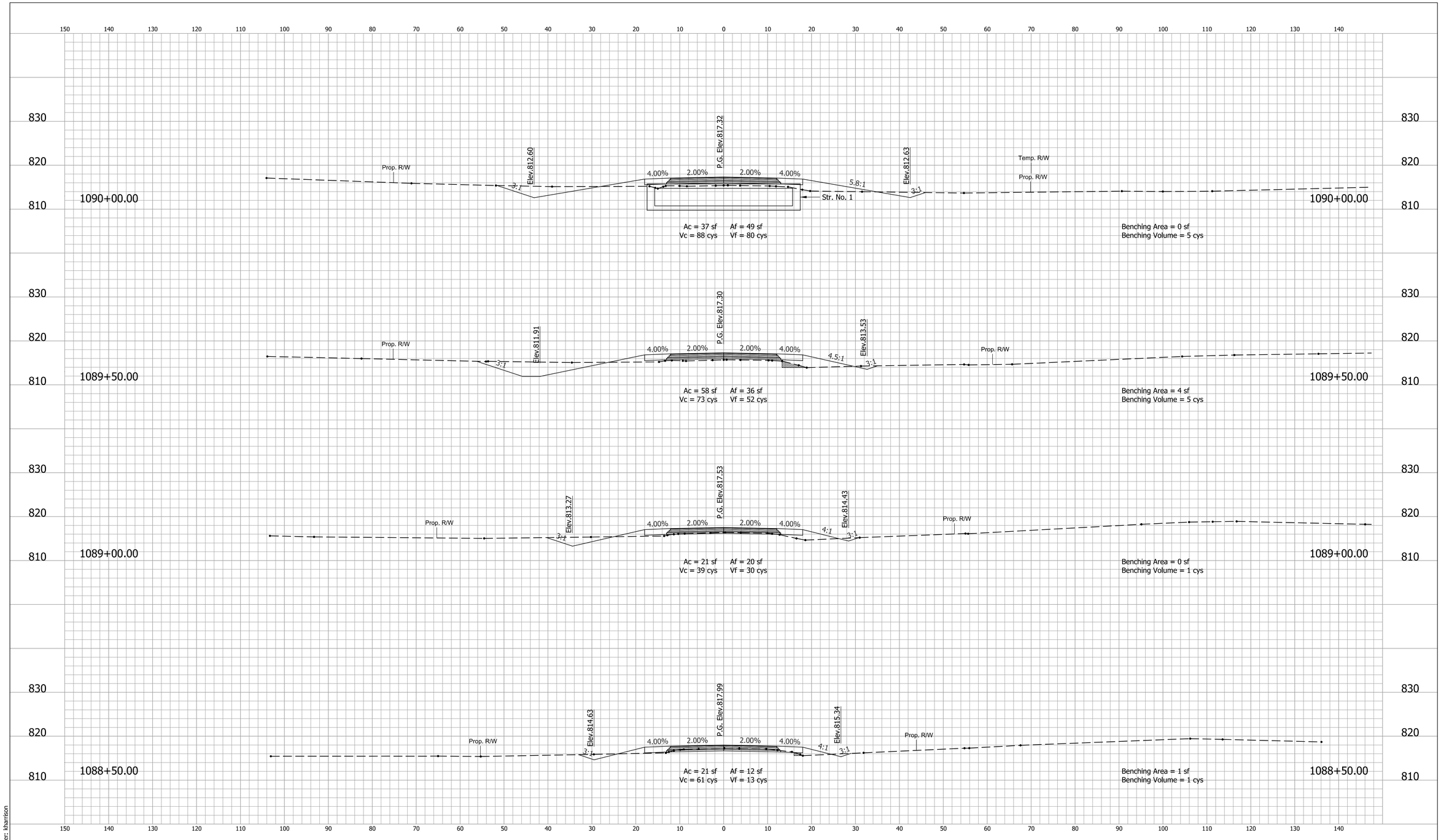

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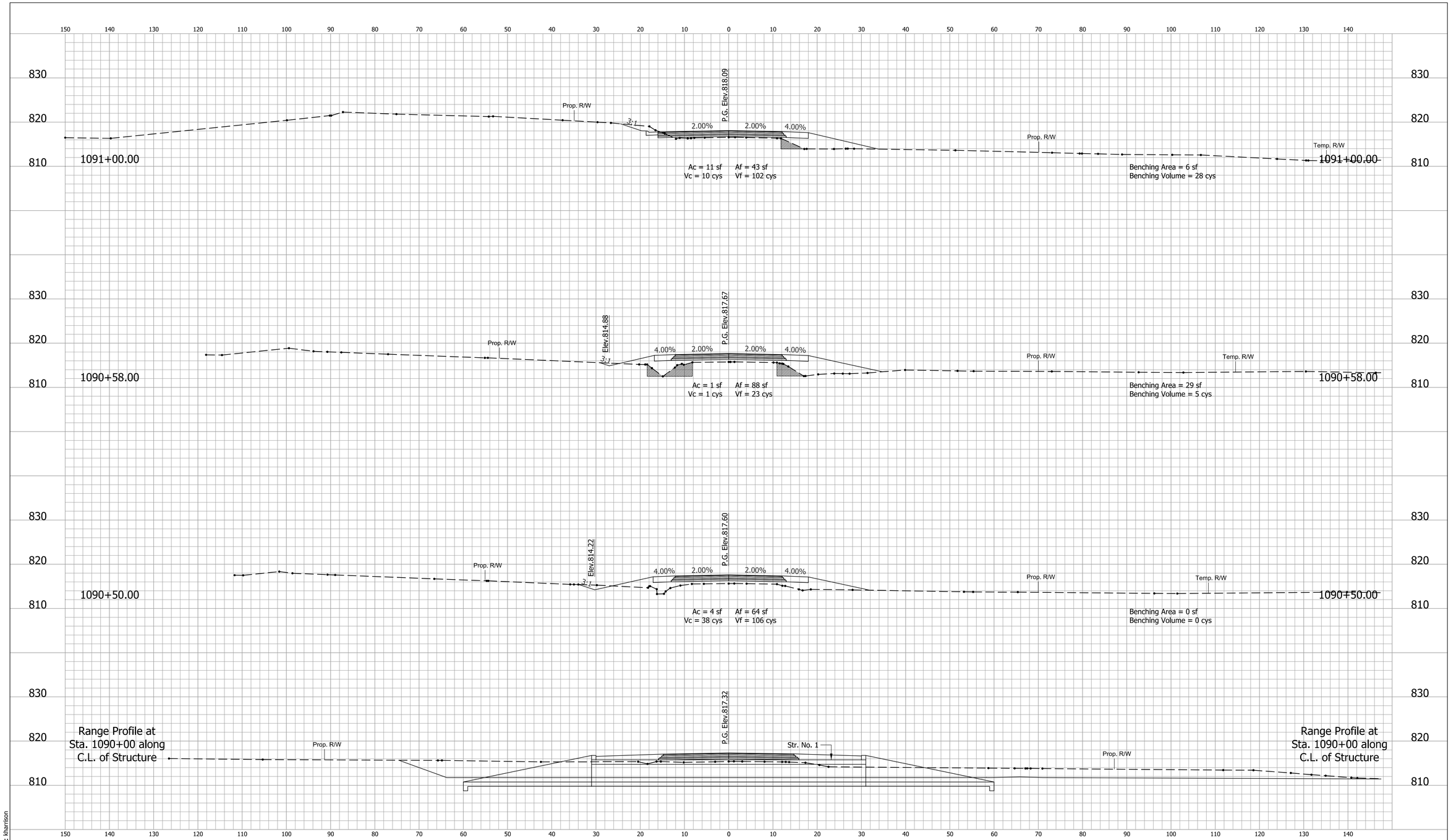
RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER DATE	HAMILTON COUNTY BRIDGE NO. 305	HORIZONTAL SCALE 1" = 10'	HAMILTON COUNTY HAMILTON 33008
		VERTICAL SCALE 1" = 10'	DESIGNATION
DESIGNED: SG / DRAWN: KCH	CROSS SECTIONS LINE "PR-A"	SURVEY BOOK ELECTRONIC	SHEETS 29 of 45
CHECKED: MJF / CHECKED: SG		CONTRACT	PROJECT



RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER DATE	HAMILTON COUNTY BRIDGE NO. 305	HORIZONTAL SCALE 1" = 10'	HAMILTON COUNTY HAMILTON 33008
		VERTICAL SCALE 1" = 10'	DESIGNATION
DESIGNED: SG DRAWN: KCH	CROSS SECTIONS LINE "PR-A"	SURVEY BOOK	SHEETS
CHECKED: MJF CHECKED: SG		ELECTRONIC	30 of 45
		CONTRACT	PROJECT

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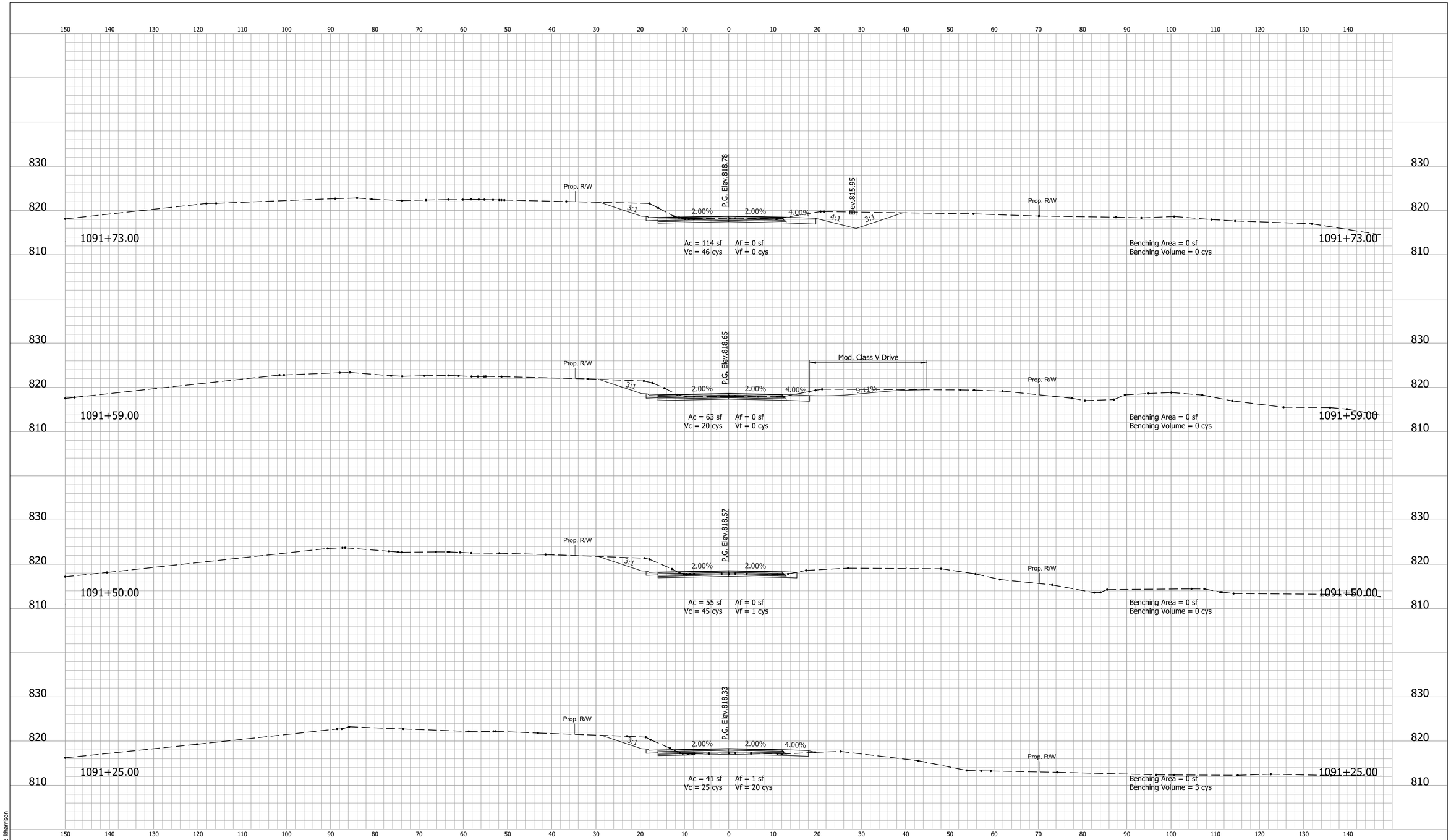

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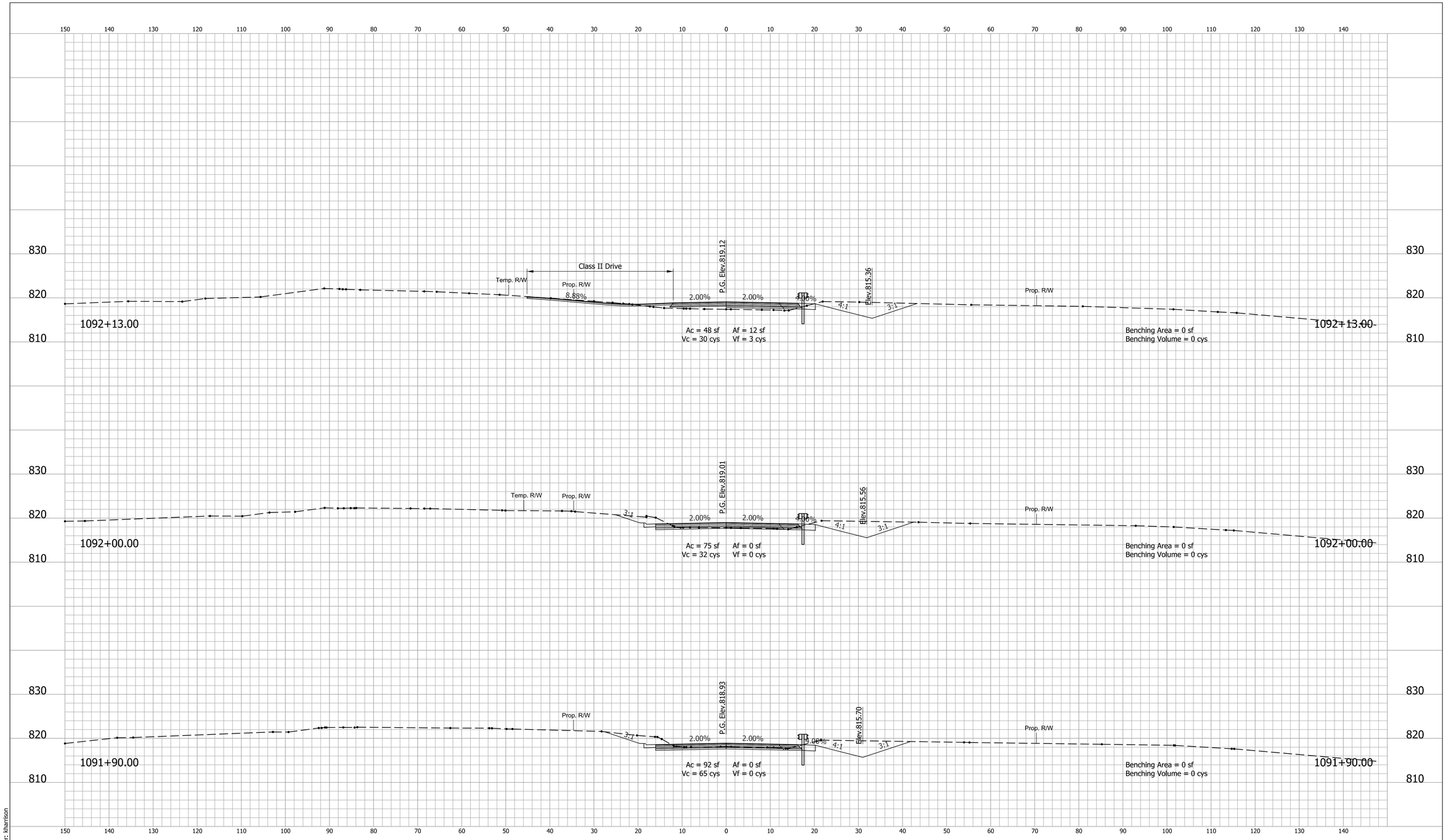
RECOMMENDED FOR APPROVAL
DESIGN ENGINEER DATE

DESIGNED: SG DRAWN: KCH
CHECKED: MJF CHECKED: SG

HAMILTON COUNTY
BRIDGE NO. 305

CROSS SECTIONS
LINE "PR-A"

HORIZONTAL SCALE	HAMILTON COUNTY
1" = 10'	HAMILTON 33008
VERTICAL SCALE	DESIGNATION
1" = 10'	
SURVEY BOOK	SHEETS
ELECTRONIC	31 of 45
CONTRACT	PROJECT



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RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER DATE

DESIGNED: SG DRAWN: KCH

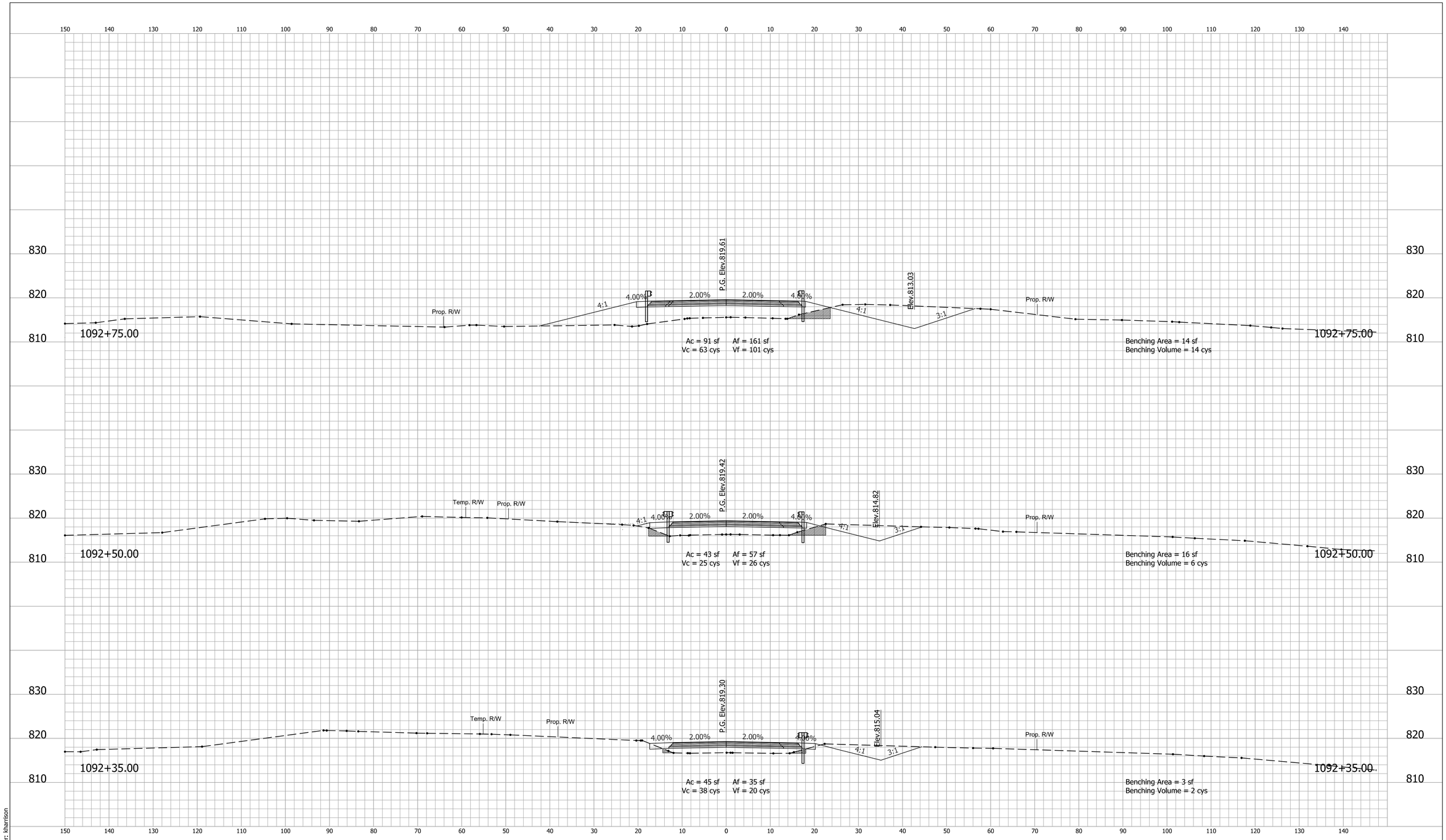
CHECKED: MJF CHECKED: SG

HAMILTON COUNTY
BRIDGE NO. 305

CROSS SECTIONS
LINE "PR-A"

HORIZONTAL SCALE	HAMILTON COUNTY
1" = 10'	HAMILTON 33008
VERTICAL SCALE	DESIGNATION
1" = 10'	

SURVEY BOOK	SHEETS		
ELECTRONIC	32	of	45
CONTRACT	PROJECT		



RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER DATE

DESIGNED: SG DRAWN: KCH

CHECKED: MJF CHECKED: SG

HAMILTON COUNTY
BRIDGE NO. 305

CROSS SECTIONS
LINE "PR-A"

HORIZONTAL SCALE	HAMILTON COUNTY
1" = 10'	HAMILTON 33008
VERTICAL SCALE	DESIGNATION
1" = 10'	

SURVEY BOOK	SHEETS		
ELECTRONIC	33	of	45
CONTRACT	PROJECT		

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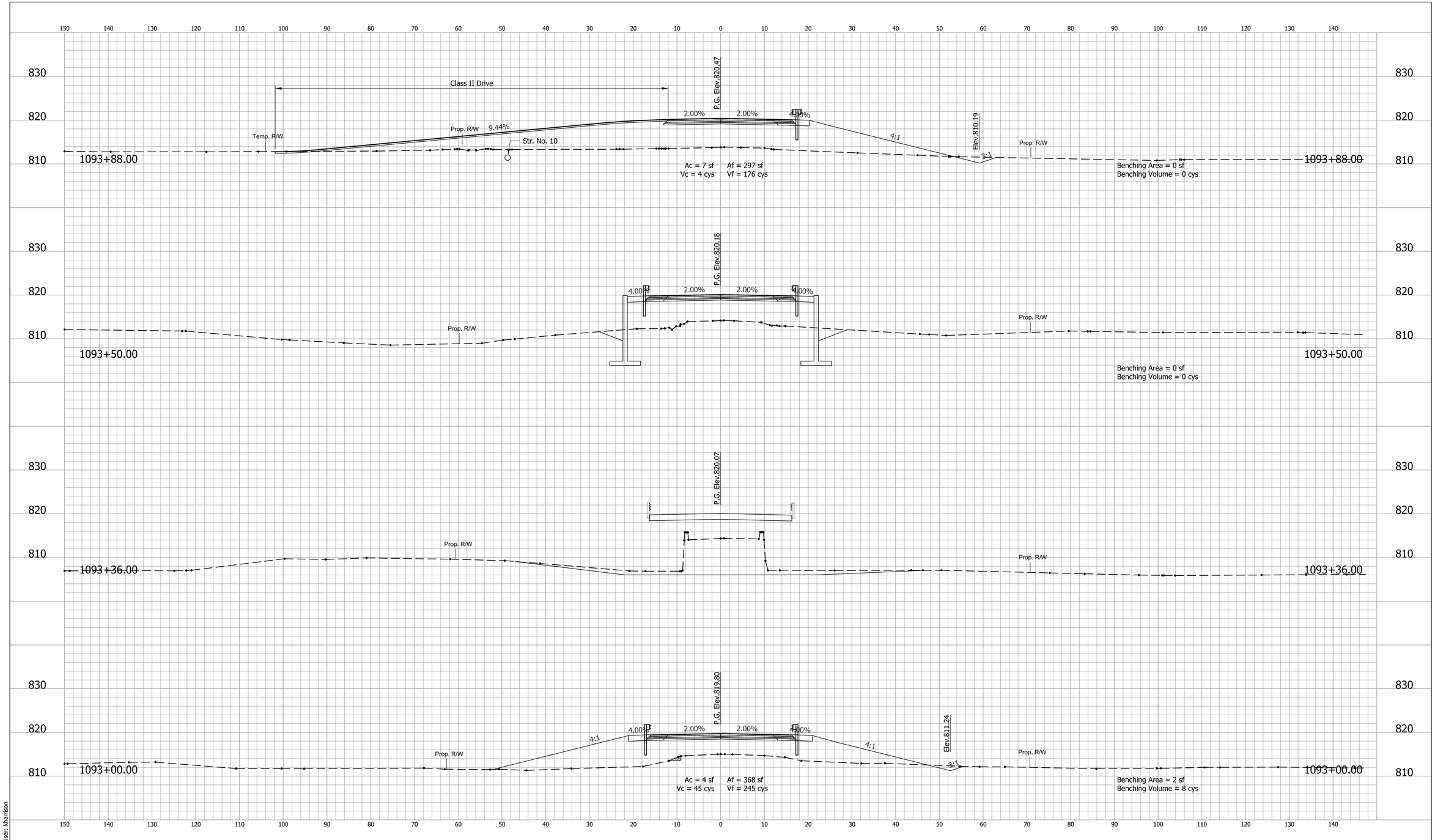

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RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER DATE

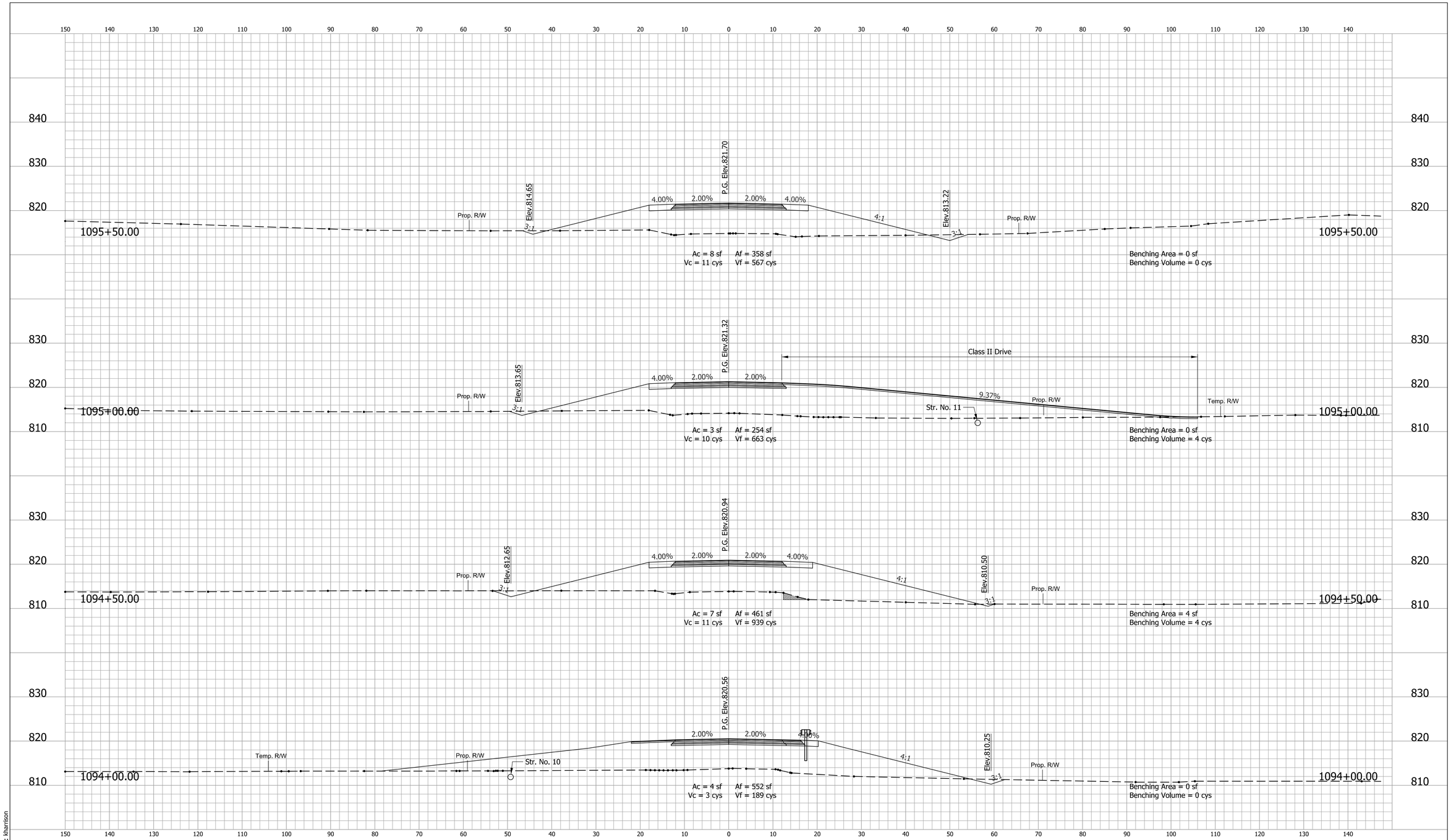
DESIGNED: SG DRAWN: KCH

CHECKED: MJF CHECKED: SG

HAMILTON COUNTY
BRIDGE NO. 305

CROSS SECTIONS
LINE "PR-A"

HORIZONTAL SCALE	HAMILTON COUNTY
1" = 10'	HAMILTON 33008
VERTICAL SCALE	DESIGNATION
1" = 10'	
SURVEY BOOK	SHEETS
ELECTRONIC	34 of 45
CONTRACT	PROJECT



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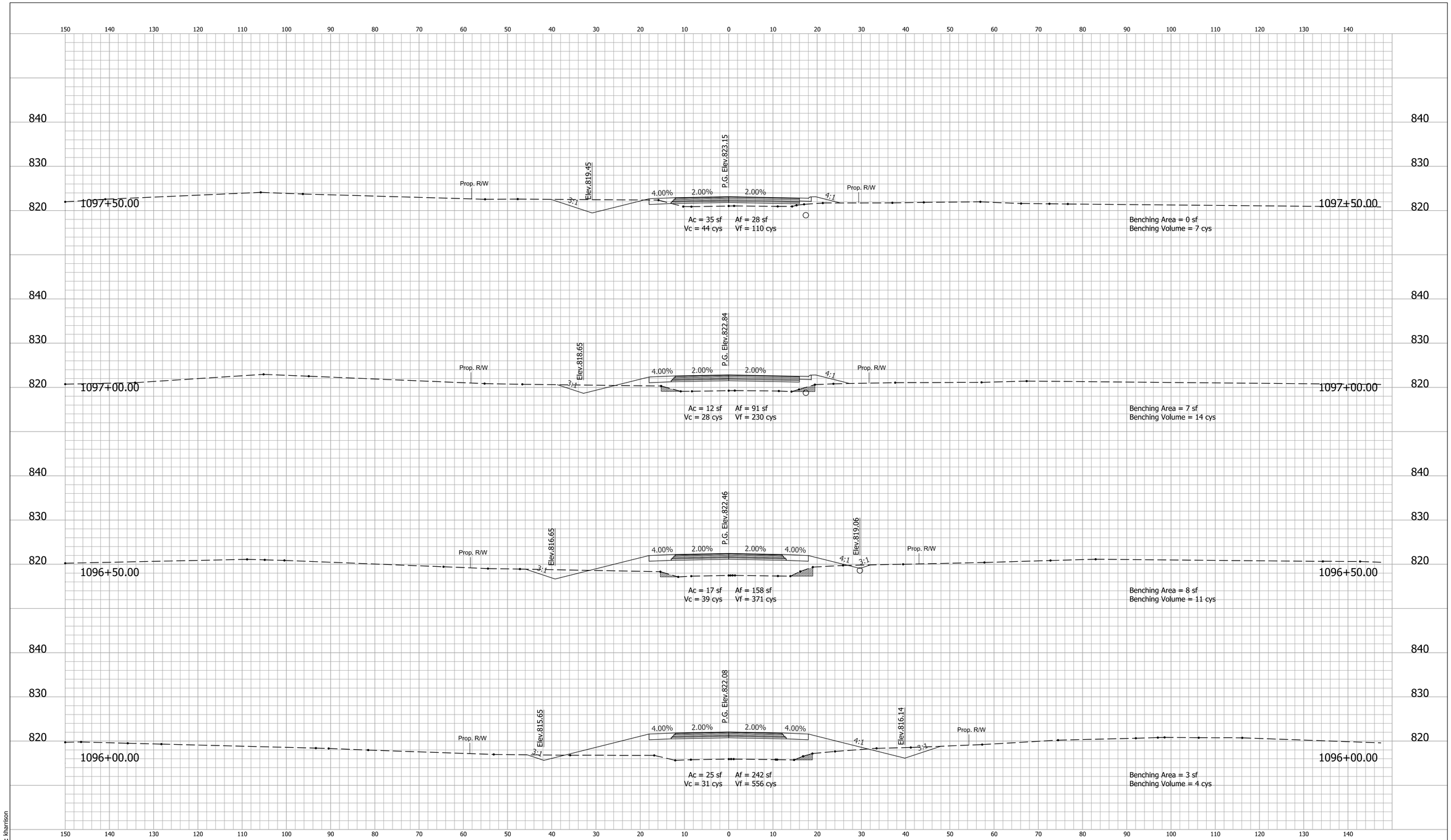
RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER DATE	HAMILTON COUNTY BRIDGE NO. 305	HORIZONTAL SCALE 1" = 10'	HAMILTON COUNTY HAMILTON 33008
		VERTICAL SCALE 1" = 10'	DESIGNATION
DESIGNED: SG DRAWN: KCH	CROSS SECTIONS LINE "PR-A"	SURVEY BOOK ELECTRONIC	SHEETS 35 of 45
CHECKED: MJF CHECKED: SG		CONTRACT	PROJECT



RECOMMENDED FOR APPROVAL

DESIGN ENGINEER DATE

DESIGNED: SG DRAWN: KCH

CHECKED: MJF CHECKED: SG

HAMILTON COUNTY
BRIDGE NO. 305

CROSS SECTIONS
LINE "PR-A"

HORIZONTAL SCALE	HAMILTON COUNTY
1" = 10'	HAMILTON 33008
VERTICAL SCALE	DESIGNATION
1" = 10'	

SURVEY BOOK	SHEETS
ELECTRONIC	36 of 45
CONTRACT	PROJECT

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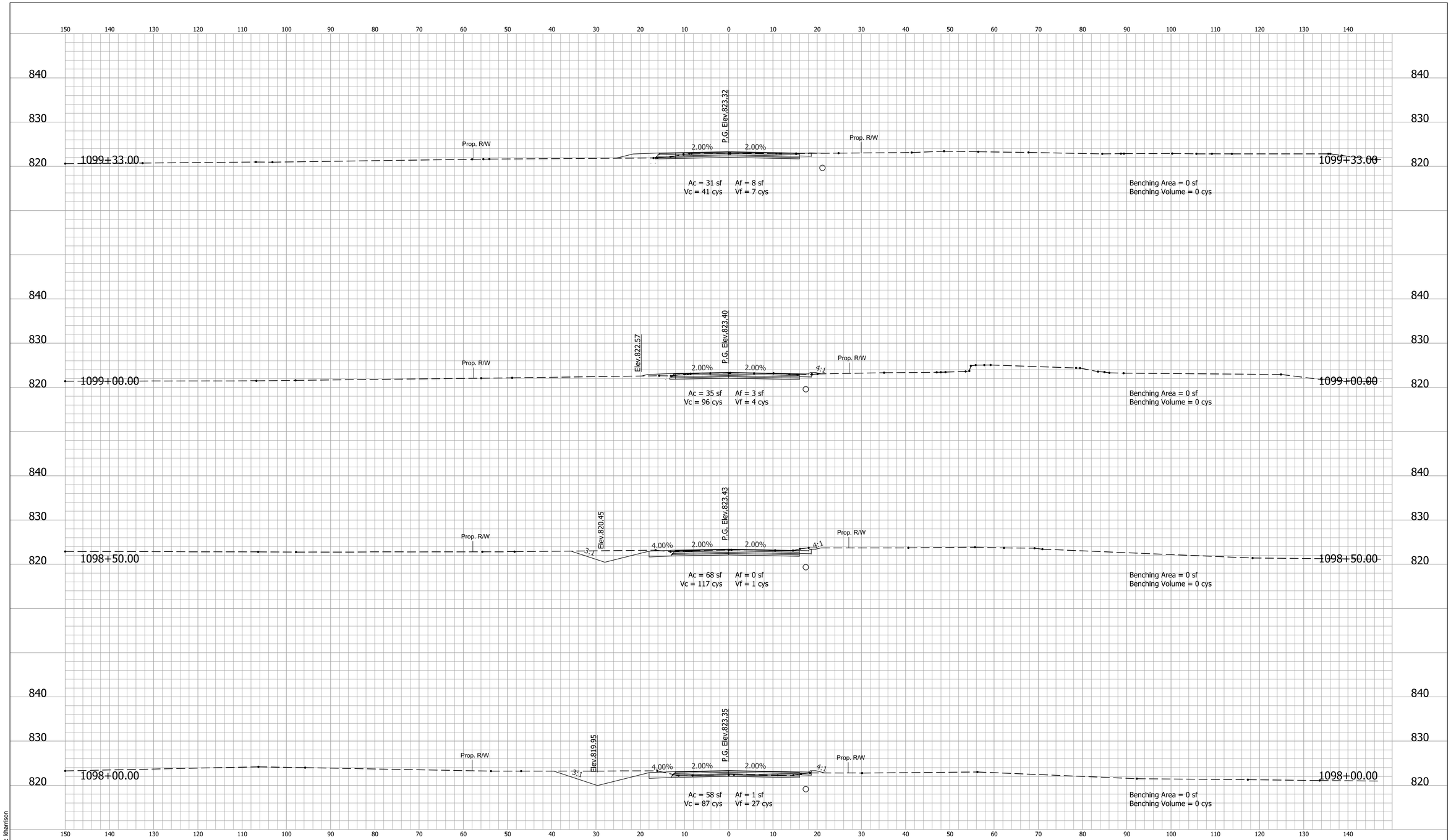

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RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER DATE

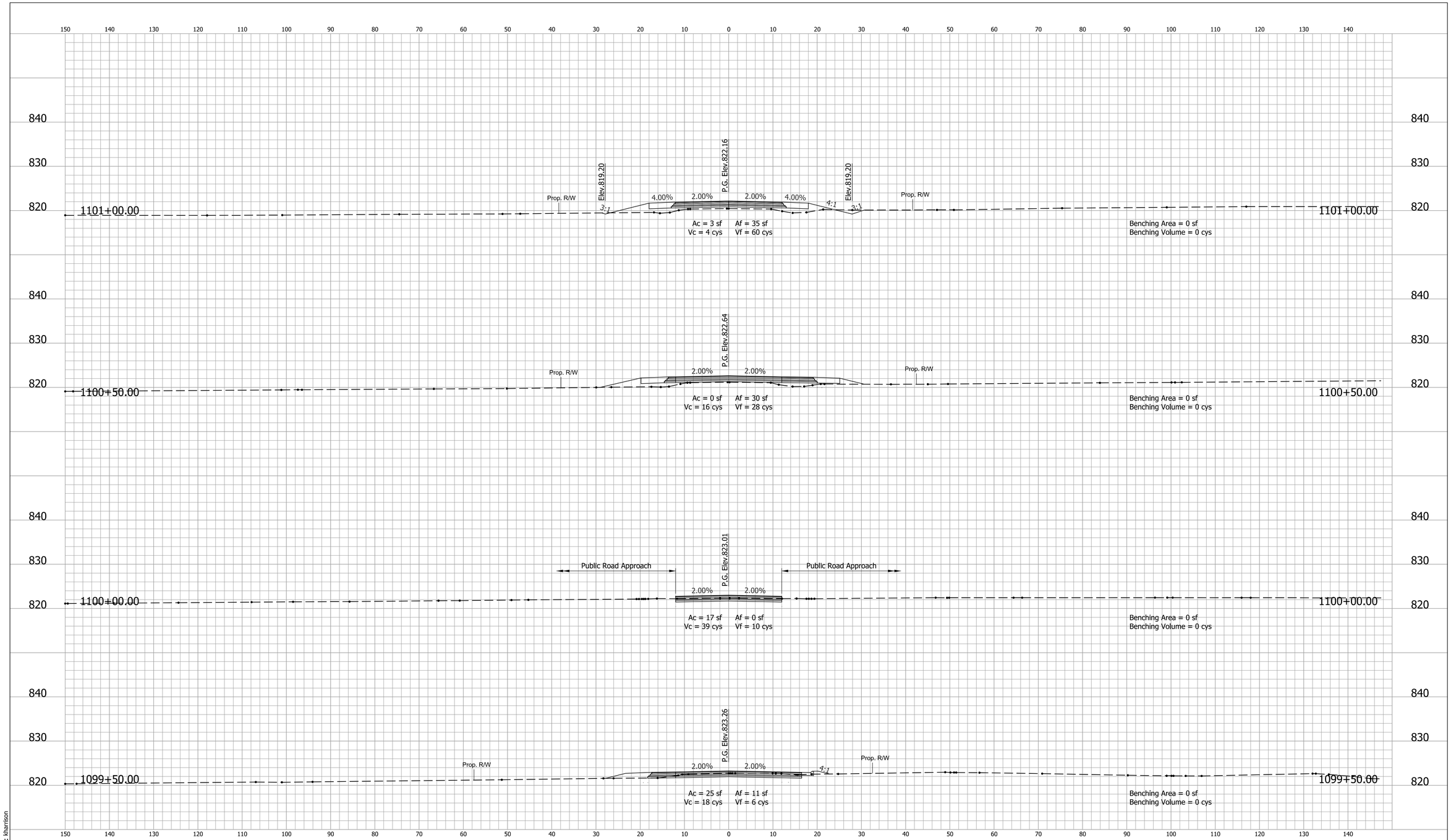
DESIGNED: SG DRAWN: KCH

CHECKED: MJF CHECKED: SG

HAMILTON COUNTY
BRIDGE NO. 305

CROSS SECTIONS
LINE "PR-A"

HORIZONTAL SCALE	HAMILTON COUNTY
1" = 10'	HAMILTON 33008
VERTICAL SCALE	DESIGNATION
1" = 10'	
SURVEY BOOK	SHEETS
ELECTRONIC	37 of 45
CONTRACT	PROJECT



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RECOMMENDED FOR APPROVAL _____
DESIGN ENGINEER DATE

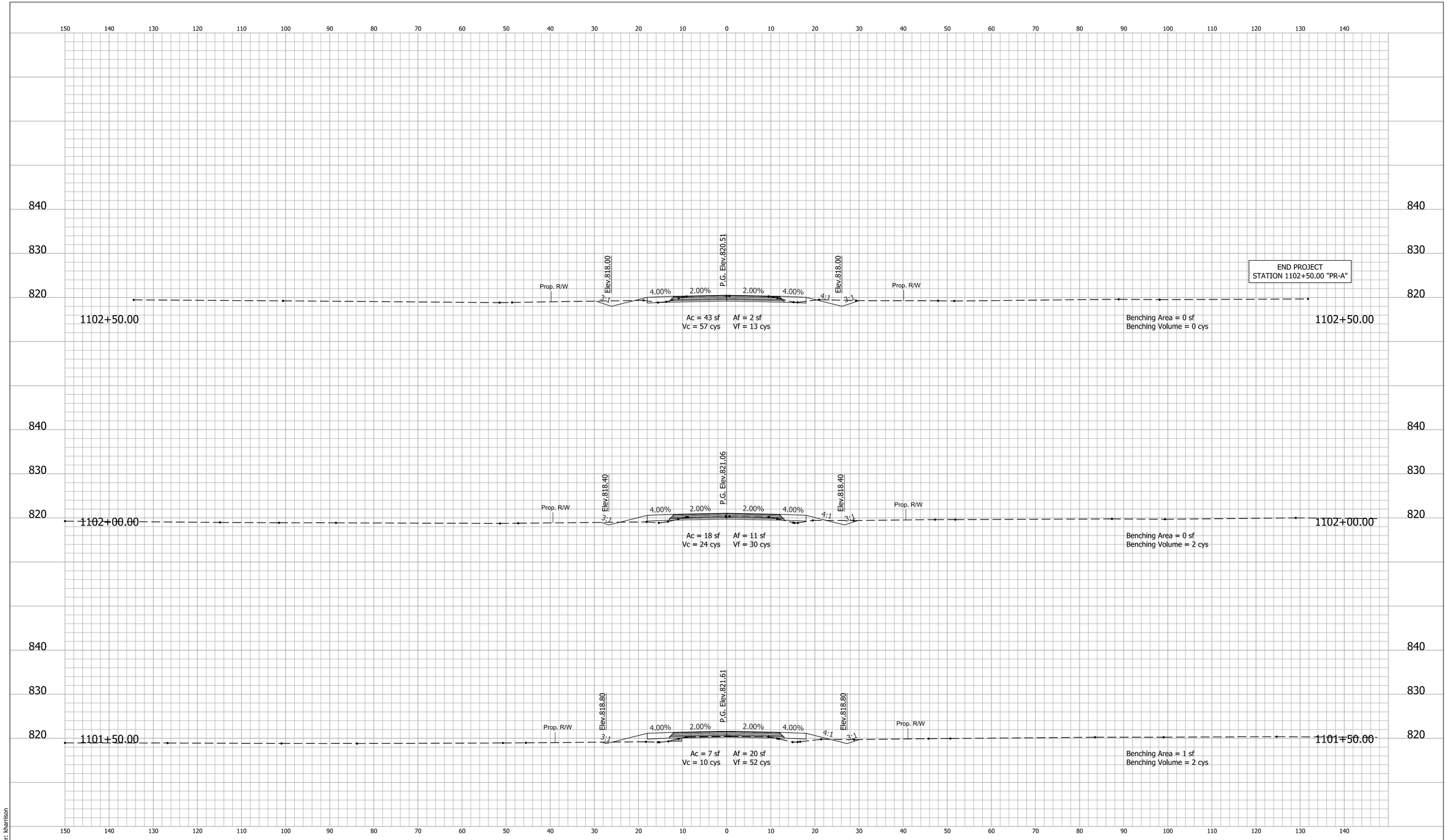
DESIGNED: SG DRAWN: KCH
CHECKED: MJF CHECKED: SG

HAMILTON COUNTY
BRIDGE NO. 305

CROSS SECTIONS
LINE "PR-A"

HORIZONTAL SCALE	HAMILTON COUNTY
1" = 10'	HAMILTON 33008
VERTICAL SCALE	DESIGNATION
1" = 10'	

SURVEY BOOK	SHEETS
ELECTRONIC	38 of 45
CONTRACT	PROJECT



RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER DATE

DESIGNED: SG DRAWN: KCH

CHECKED: MJF CHECKED: SG

HAMILTON COUNTY
BRIDGE NO. 305

CROSS SECTIONS
LINE "PR-A"

HORIZONTAL SCALE	HAMILTON COUNTY
1" = 10'	HAMILTON 33008
VERTICAL SCALE	DESIGNATION
1" = 10'	

SURVEY BOOK	SHEETS		
ELECTRONIC	39	of	45
CONTRACT	PROJECT		

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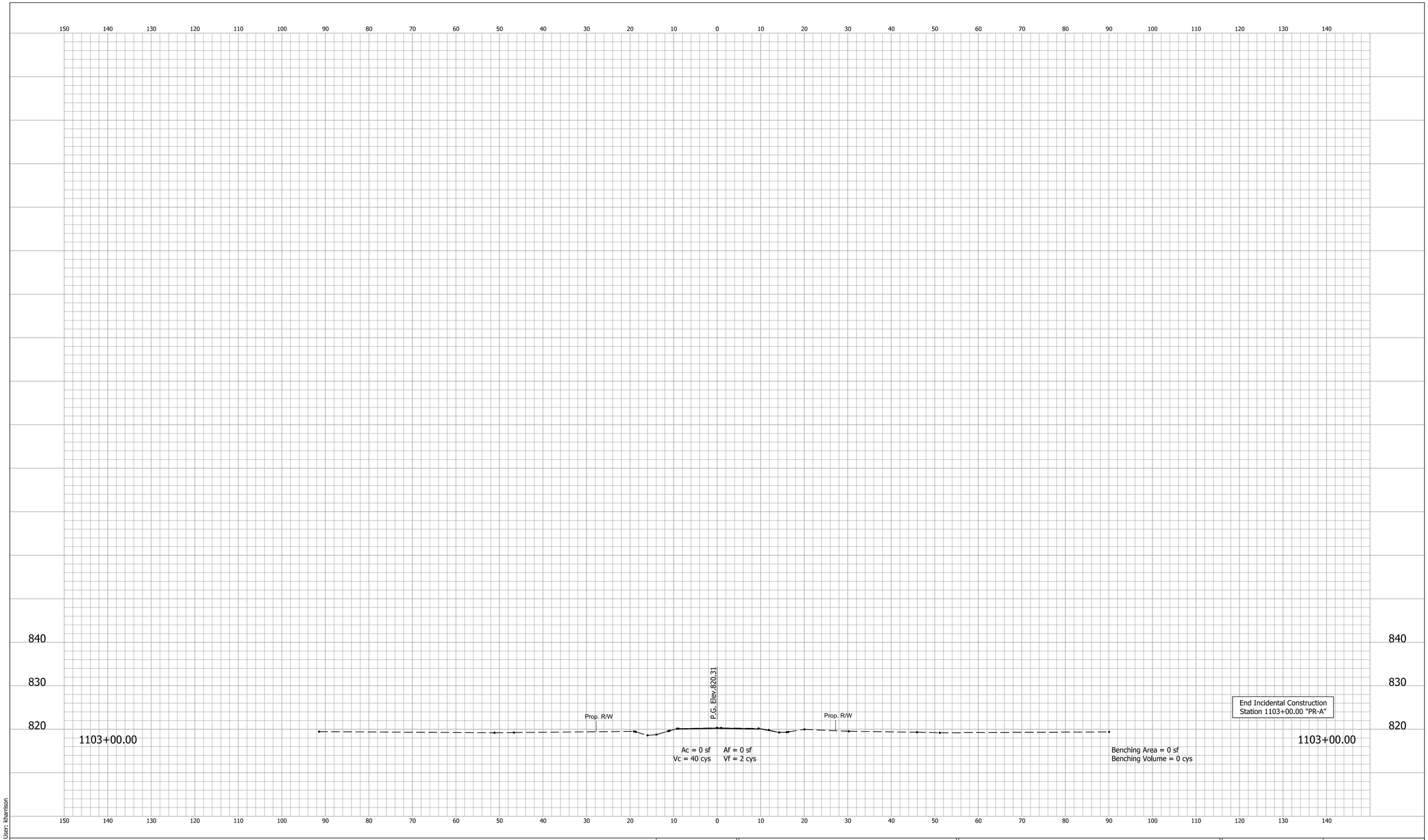

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RECOMMENDED FOR APPROVAL _____
DESIGN ENGINEER DATE

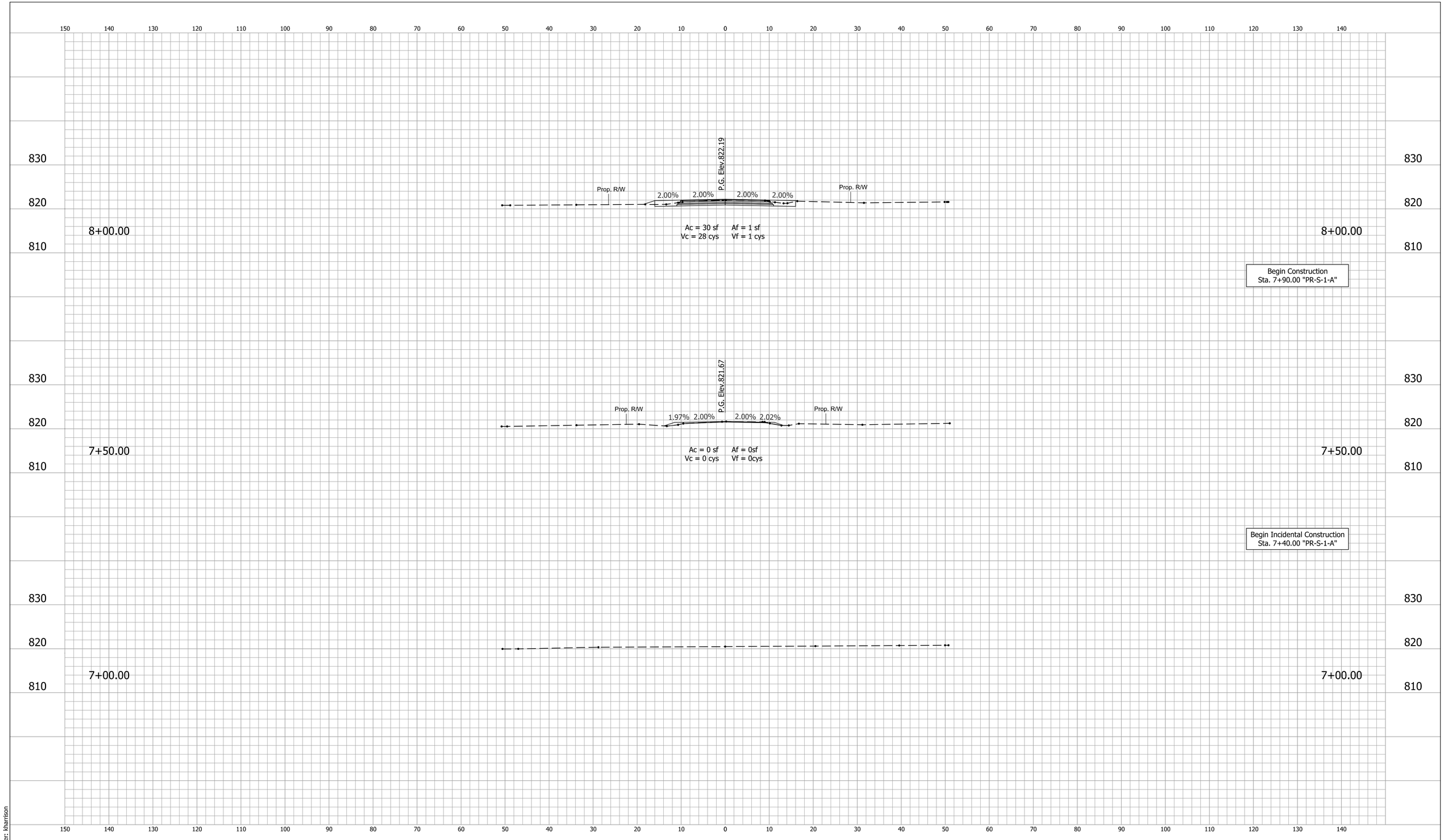
DESIGNED: SG DRAWN: KCH
CHECKED: MJF CHECKED: SG

HAMILTON COUNTY
BRIDGE NO. 305

CROSS SECTIONS
LINE "PR-A"

HORIZONTAL SCALE	HAMILTON COUNTY
1" = 10'	HAMILTON 33008
VERTICAL SCALE	DESIGNATION
1" = 10'	

SURVEY BOOK	SHEETS
ELECTRONIC	40 of 45
CONTRACT	PROJECT



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RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER DATE

DESIGNED: SG DRAWN: KCH

CHECKED: MJF CHECKED: SG

HAMILTON COUNTY
BRIDGE NO. 305

CROSS SECTIONS
LINE "PR-S-1-A"

HORIZONTAL SCALE	HAMILTON COUNTY
1" = 10'	HAMILTON 33008
VERTICAL SCALE	DESIGNATION
1" = 10'	

SURVEY BOOK	SHEETS		
ELECTRONIC	41	of	45
CONTRACT	PROJECT		

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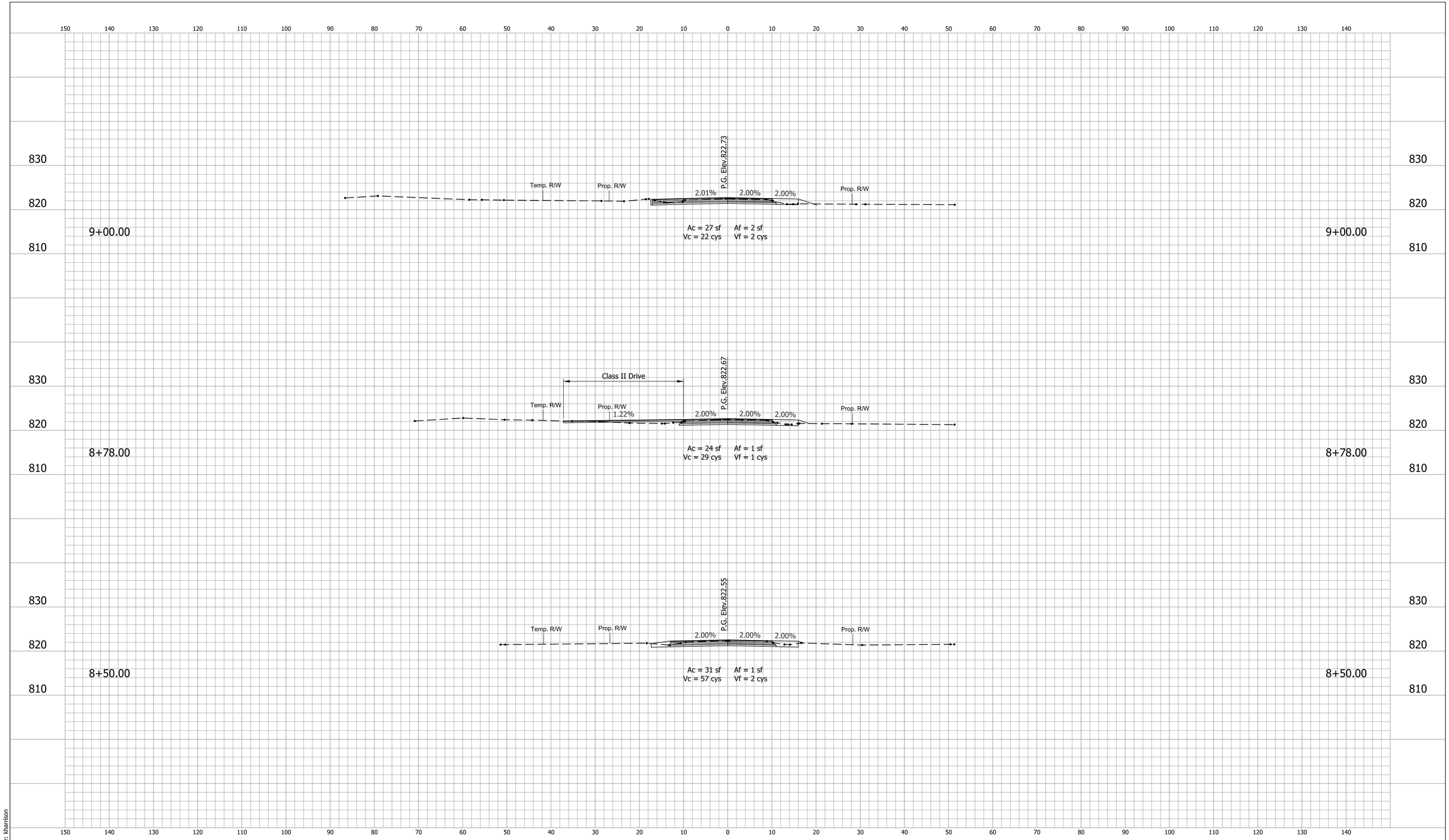

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RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER DATE

DESIGNED: SG DRAWN: KCH

CHECKED: MJF CHECKED: SG

HAMILTON COUNTY
BRIDGE NO. 305

CROSS SECTIONS
LINE "PR-S-1-A"

HORIZONTAL SCALE	HAMILTON COUNTY
1" = 10'	HAMILTON 33008
VERTICAL SCALE	DESIGNATION
1" = 10'	

SURVEY BOOK	SHEETS		
ELECTRONIC	42	of	45
CONTRACT	PROJECT		

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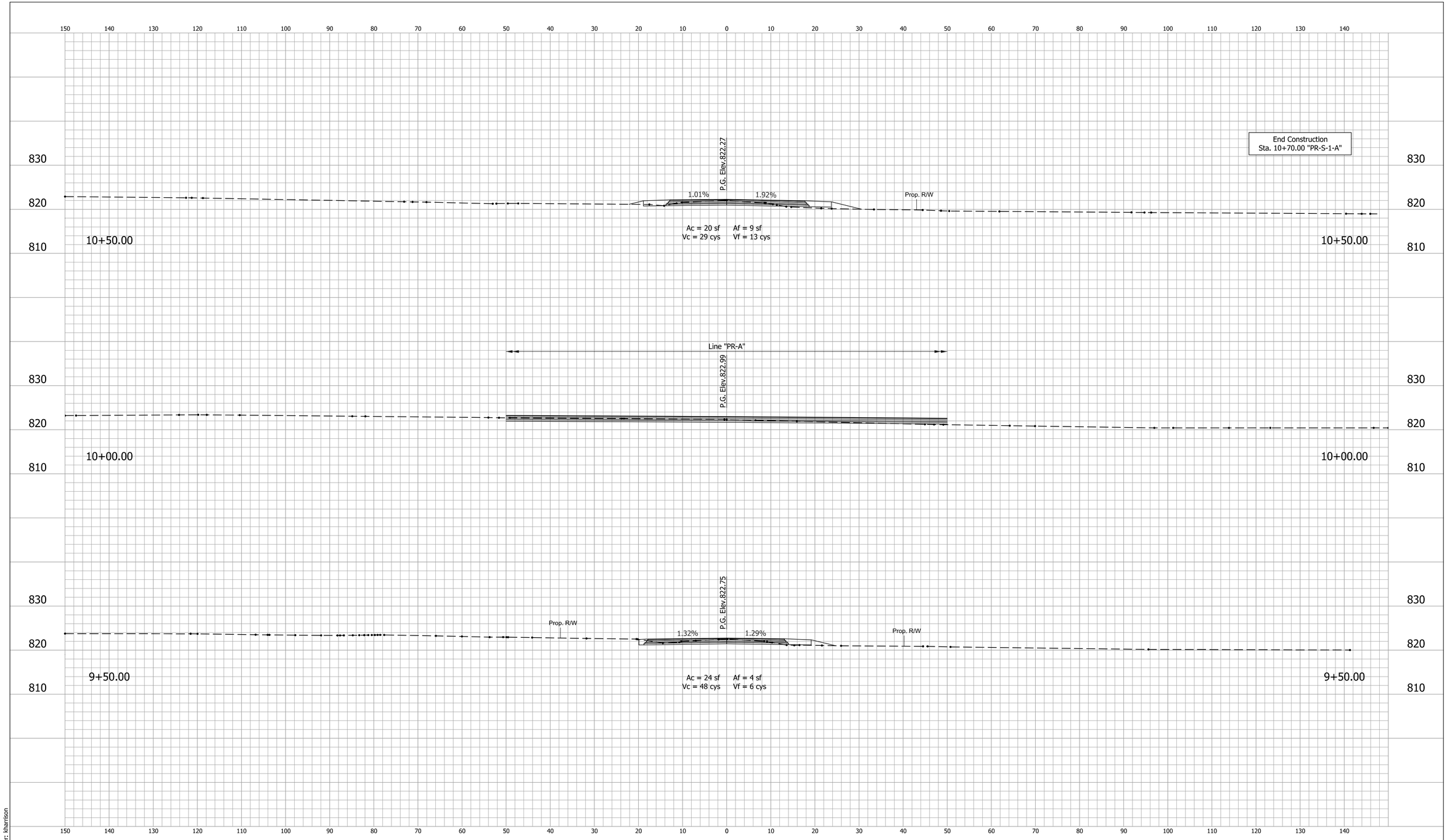

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RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER DATE

DESIGNED: SG DRAWN: KCH

CHECKED: MJF CHECKED: SG

HAMILTON COUNTY
BRIDGE NO. 305

CROSS SECTIONS
LINE "PR-S-1-A"

HORIZONTAL SCALE	HAMILTON COUNTY
1" = 10'	HAMILTON 33008
VERTICAL SCALE	DESIGNATION
1" = 10'	
SURVEY BOOK	SHEETS
ELECTRONIC	43 of 45
CONTRACT	PROJECT

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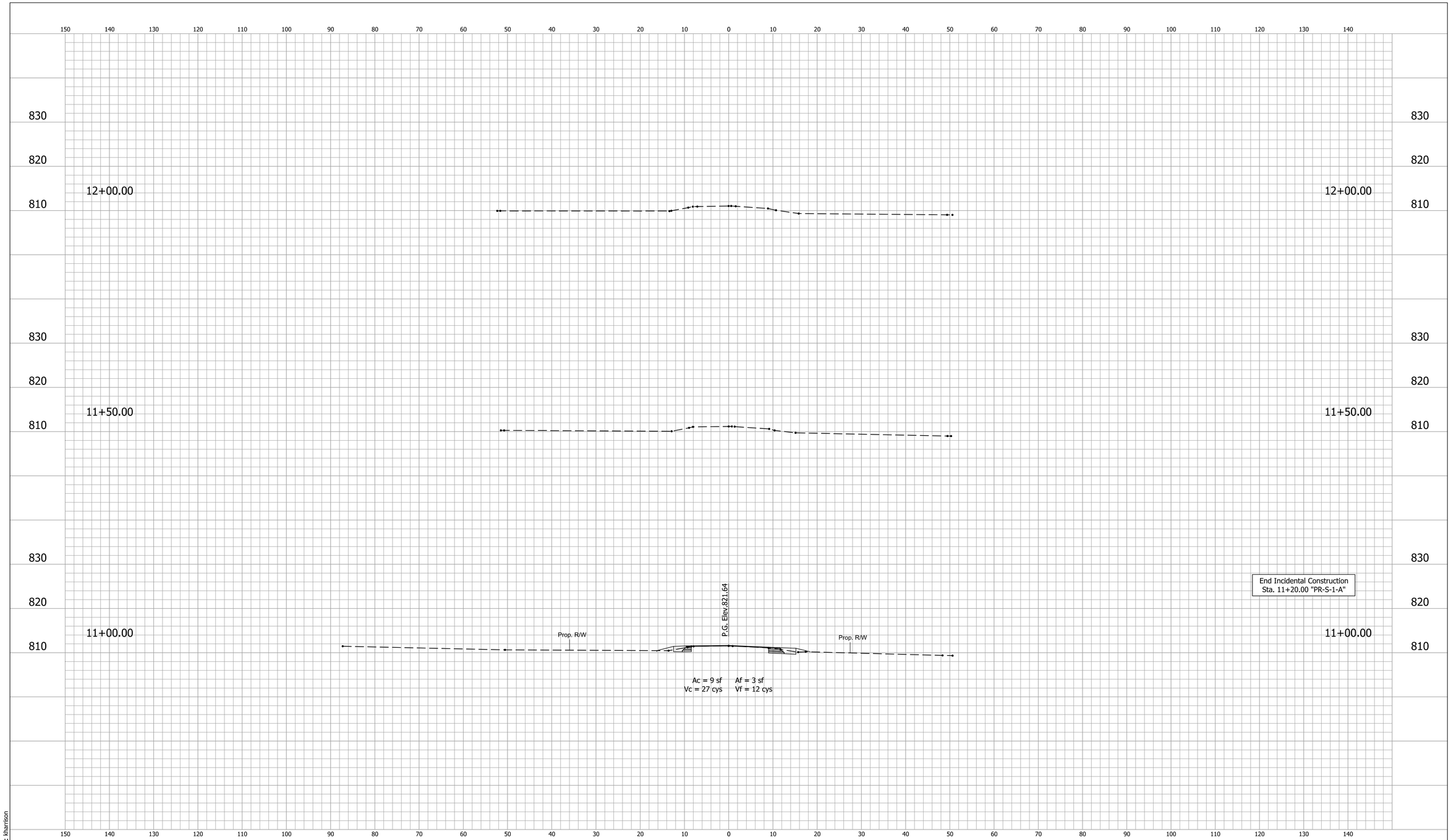

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER DATE	HAMILTON COUNTY BRIDGE NO. 305	HORIZONTAL SCALE 1" = 10'	HAMILTON COUNTY HAMILTON 33008
		VERTICAL SCALE 1" = 10'	DESIGNATION
DESIGNED: SG DRAWN: KCH	CROSS SECTIONS LINE "PR-S-1-A"	SURVEY BOOK ELECTRONIC	SHEETS 44 of 45
CHECKED: MJF CHECKED: SG		CONTRACT	PROJECT

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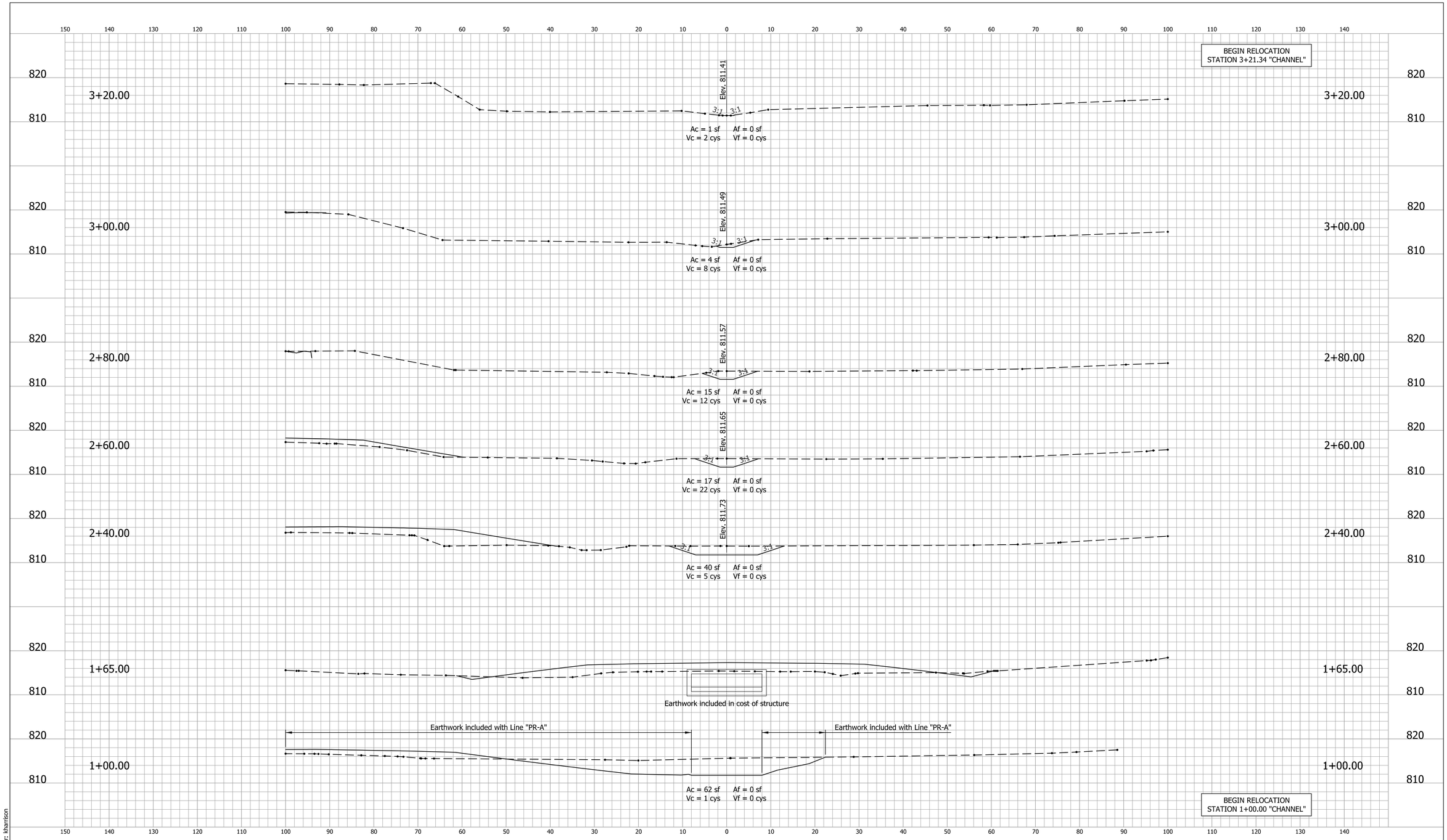

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RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER DATE

DESIGNED: SG DRAWN: KCH
CHECKED: MJF CHECKED: SG

HAMILTON COUNTY
BRIDGE NO. 305

CROSS SECTIONS
LINE "CHANNEL"

HORIZONTAL SCALE	HAMILTON COUNTY
1" = 10'	HAMILTON 33008
VERTICAL SCALE	DESIGNATION
1" = 10'	
SURVEY BOOK	SHEETS
ELECTRONIC	45 of 45
CONTRACT	PROJECT

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