09-19-14 LETTING ITEM 077

FOR INDEX OF SHEETS, SEE SHEET NO. 2

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	60-2HB-2	MADISON	52	1
	ILLINOIS	CONTRACT NO. 76G10		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROPOSED
HIGHWAY PLANS

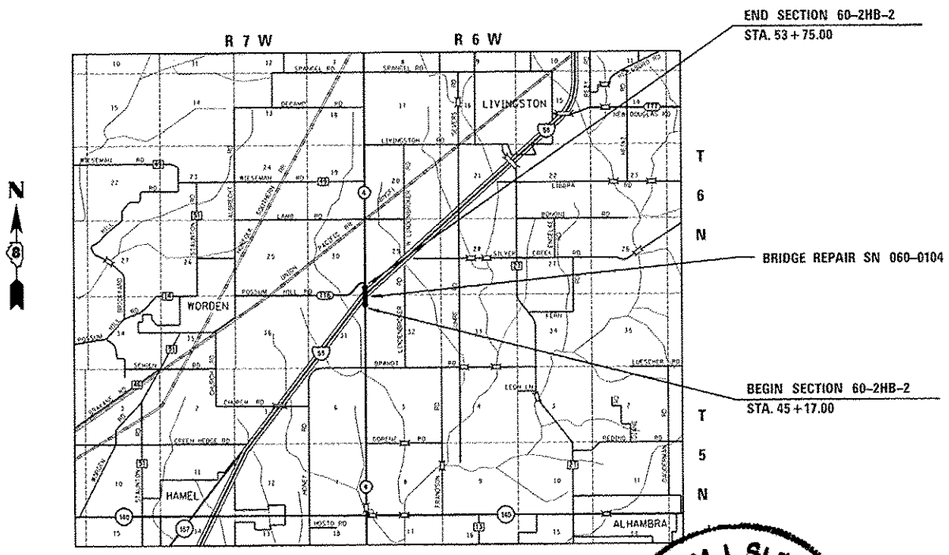
FAI 55 (IL RTE. 4 OVER I–55)
SECTION 60–2HB–2

BRIDGE DECK REPLACEMENT & PAVING – FAI 55 (IL RTE. 4) OVER I–55, 0.5 MI. E. OF WORDEN
MADISON COUNTY

C–98–009–13

D–98–011–13

LOCATION OF SECTION INDICATED THUS:– ■



LAYOUT

0 MI 1 MI 2 MI 3 MI

1" = 1 MILE

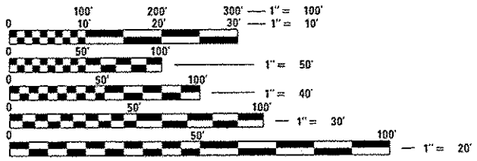
GROSS LENGTH = 858.00 FT. = 0.163 MILE

NET LENGTH = 858.00 FT. = 0.163 MILE

DESIGN DESIGNATION

FUNCTIONAL CLASS: FAP RTE 314 (IL RTE 4)
MINOR ARTERIAL (N. OF I–55)
PRINCIPAL ARTERIAL (S. OF I–55)
ADT: 3700 (2011) – SU=274 MU=352
DESIGN/POSTED SPEED: 60/55 MPH

SECTION 60–(1,2)RS–3 INCLUDES DECK REPLACEMENT OF A FOUR SPAN, 290'–6" STRUCTURE CARRYING FAP ROUTE 314 (IL RTE 4) OVER INTERSTATE 55 STATION 50+00.00 FAP ROUTE 314 (IL RTE 4) = STATION 550+23.91 I–55 S.N. 060–0104



FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

J.U.L.I.E.
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION
1–800–892–0123
OR 811

PROJECT ENGINEER: TIM PADGETT 618–346–3325
PROJECT MANAGER: PHIL COPPERNOLL 618–346–3480

CONTRACT NO. 76G10

WILLIAM J. SLEEMAN
062-048085
REGISTERED PROFESSIONAL ENGINEER
STATE OF ILLINOIS

7/9/2014
EXPIRES 11-30-2015

QUIGG ENGINEERING INC

B&A
BENTON & ASSOCIATES INC

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED July 11 20 14
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER
Aug 15 20 14
John D. Baranzelli, P.E. /pr
acting ENGINEER OF DESIGN AND ENVIRONMENT
Aug 15 20 14
Omar Osman, P.E. /pr
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

PRINTED BY THE AUTHORITY OF THE STATE OF ILLINOIS

INDEX OF SHEETS

SHEET NO.	ITEM
1	COVER SHEET
2–3	HIGHWAY STANDARDS, GENERAL NOTES & UTILITY COORDINATION
4–8	SUMMARY OF QUANTITIES
9–11	TYPICAL SECTIONS
12	SCHEDULE OF QUANTITIES
13	ALIGNMENT, TIES & BENCHMARKS
14	PLAN AND PROFILE FAP ROUTE 314 (IL RTE 4)
15	DETOUR PLANS
16–17	MEDIAN DETAILS
18	PAVEMENT MARKING PLAN
19–47	STRUCTURAL SHEETS
48–52	CROSS SECTIONS FAP ROUTE 314 (IL RTE 4)

GENERAL NOTES

1. THIS SECTION SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE PLANS, THE "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" ADOPTED JANUARY 1, 2012, THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", THE "SUPPLEMENTAL SPECIFICATIONS AND RECURRING SPECIAL PROVISIONS", AND THE SPECIAL PROVISIONS INCLUDED IN THE PROPOSAL. THE IDOT HIGHWAY STANDARDS LATEST REVISION NUMBERS SHALL APPLY TO THIS PROJECT.

2. THE CONTRACTOR SHALL USE CARE IN ALL REMOVAL ACTIVITIES NEAR ALL EXISTING ITEMS WHICH WILL REMAIN. ANY DAMAGE DONE TO EXISTING ITEMS BY THE CONTRACTOR SHALL BE REPAIRED AT THE CONTRACTORS EXPENSE.

3. EXCESS BITUMEN REMOVAL SHALL BE PAID FOR ACCORDING TO ARTICLE 109.04 OF THE STANDARD SPECIFICATIONS.

4. MIXTURES FOR JOINTS, CRACKS AND FLANGEWAYS SHALL BE PAID FOR ACCORDING TO ARTICLE 109.04 OF THE STANDARD SPECIFICATIONS.

5. THE THICKNESS OF HOT-MIX ASPHALT SURFACE REMOVAL VARIES ACROSS PAVEMENT AND SHOULDERS, AN ESTIMATED 106 TONS OF HOT-MIX ASPHALT SURFACE WILL BE REMOVED.

6. ILLINOIS STATE LAW REQUIRES A 48-HOUR NOTICE BE GIVEN TO ALL UTILITIES BEFORE DIGGING. FIELD MARKING OF FACILITIES MAY BE OBTAINED BY CONTACTING J.U.L.I.E. (1-800-892-0123 OR 811) OR FOR NON-MEMBERS, THE UTILITY COMPANY DIRECTLY.

   UTILITY INTERFERENCE'S ARE NOT ANTICIPATED ON THIS CONTRACT. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE HIS CONSTRUCTION ACTIVITIES WITH THE VARIOUS UTILITY OWNERS. ALL POTENTIAL CONFLICTS SHALL BE INVESTIGATED AND REMEDIAL ACTION TAKEN PRIOR TO INTERRUPTION OF THE CONTRACTOR'S PROGRESS. NO ADDITIONAL SHALL BE ADDED TO THE CONTRACT RESULTING FROM UTILITY CONFLICTS.

7. THE THICKNESS OF THE HOT-MIX ASPHALT MIXTURE SHOWN ON THE PLANS IS THE NOMINAL THICKNESS. DEVIATIONS FROM THE NOMINAL THICKNESS WILL BE PERMITTED WHEN SUCH DEVIATIONS OCCUR DUE TO IRREGULARITIES IN THE EXISTING SURFACE OR BASE ON WHICH THE BITUMINOUS MIXTURE IS PLACED.

8. PLAN DIMENSIONS AND DETAILS RELATIVE TO EXISTING PLANS ARE SUBJECT TO VARIATIONS FOUND IN THE FIELD. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS IN THE FIELD PRIOR TO CONSTRUCTION AND ORDERING OF MATERIALS. ANY ADJUSTMENTS PROPOSED BY THE CONTRACTOR MUST BE APPROVED BY THE ENGINEER. SUCH VARIATIONS SHALL NOT BE CAUSE FOR ADDITIONAL COMPENSATION FOR A CHANGE IN THE SCOPE OF WORK, HOWEVER, THE CONTRACTOR WILL BE PAID FOR THE QUANTITY ACTUALLY FURNISHED BASED UPON THE UNIT PRICES.

9. THE ILLINOIS DEPARTMENT OF TRANSPORTATION STRONGLY ENCOURAGES THE PRIME CONTRACTOR AND THEIR APPROVED SUB-CONTRACTORS TO HIRE MINORITY, WOMEN AND DISADVANTAGED INDIVIDUALS FROM ITS FEDERALLY FUNDED HIGHWAY CONSTRUCTION CAREERS TRAINING PROGRAM (HCCTP) TO HELP MEET WORKFORCE AND TRAINEE GOALS. THIS PROGRAM IS TRAINING MINORITIES, WOMEN AND DISADVANTAGED INDIVIDUALS IN HIGHWAY CONSTRUCTION-RELATED SKILLS, E.G., MATH FOR TRADES, JOB READINESS, TECHNICAL SKILLS COURSEWORK (CARPENTRY, CONCRETE FLATWORK, BLUEPRINT READING, SITE PLANS, SITEWORK, TOOLS USE, ETC.) AND OSHA 10 HOUR CERTIFICATION, TO PREPARE THEM FOR A CAREER IN THE HIGHWAY CONSTRUCTION TRADES. GRADUATES ARE WELL-TRAINED AND READY TO BECOME PRODUCTIVE ENTRY-LEVEL CONSTRUCTION WORKERS. PLEASE CONTACT THE DISTRICT 8 EEO OFFICE AT 618-346-3360 AND/OR THE HCCTP COORDINATOR AT 618-874-6528 TO LEARN MORE ABOUT THE PROGRAM AND FOR ASSISTANCE IN MEETING WORKFORCE AND TRAINEE GOALS.

10. EXCEPT WHERE DESIGNATED OTHERWISE, THE LOCATIONS AND/OR DEPTHS OF UNDERGROUND UTILITIES SHOWN HAVE BEEN TAKEN FROM OFFICE RECORD INFORMATION FURNISHED BY THE UTILITY OWNERS AND MUST BE CONSIDERED APPROXIMATE.

THE FOLLOWING MIXTURE REQUIREMENTS ARE APPLICABLE FOR THIS PROJECT:

ROUTE	FAI 55
SECTION	60-2HB-2
COUNTY	MADISON
CONTRACT	76G10

DESCRIPTION:	DECK REPLACEMENT AND ROADWAY APPROACH ON IL 4 OVER FAI 55, 0.5 MI E OF WORDEN - SN 060-0104

ADT (CONSTRUCTION YR)	3700
MU%	9.5
SU%	7.4
20 YR ESAL'S	2.24

MIXTURE USE:	SURFACE COURSE	BINDER	SHOULDERS ≥ 2.25"
AC/PG	PG 64-22	PG 64-22	PG 64-22
RAP% (MAX)	SEE SPEC.	SEE SPEC.	SEE SPEC.
DESIGN AIR VOIDS	4.0% @ Ndes = 70	4.0% @ Ndes = 70	**2.0% @ Ndes = 30
MIX COMPOSITION (GRADATION MIXTURE)	IL 9.5	IL 19.0 FG	NMAS 3/4"
FRICTION AGG	MIXTURE "C"	MIXTURE "B"	
QUALITY MGMT PROGRAM	QCQA	QCQA	QCQA

** TOP LIFT SHOULDERS - DESIGN THIS MIX AT 2% VOIDS AND ADD ASPHALT TO REDUCE VOIDS TO 1.5%

PLAN QUANTITIES FOR HOT-MIX ASPHALT ITEMS ARE CALCULATED USING A UNIT WEIGHT OF 112 LB/SQ YD/IN

HIGHWAY STANDARDS

000001-06 - STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
001001-02 - AREAS OF REINFORCEMENT BARS
001006 - DECIMAL OF AN INCH AND OF A FOOT
420401-10 - BRIDGE APPROACH PAVEMENT CONNECTOR
482011-03 - HMA SHLD. STRIPS/SHLDS. WITH RESURFACING OR WIDENING AND RESURFACING PROJECTS
515001-03 - NAME PLATE FOR BRIDGES
606001-05 - CONCRETE CURB TYPE B AND COMBINATION CONCRETE CURB AND GUTTER
606301-04 - PC CONCRETE ISLANDS AND MEDIANS
610001-06 - SHOULDER INLET WITH CURB
630001-10 - STEEL PLATE BEAM GUARDRAIL
630301-06 - SHOULDER WIDENING FOR TYPE 1 (SPECIAL) GUARDRAIL TERMINALS
631031-12 - TRAFFIC BARRIER TERMINAL, TYPE 6
635006-03 - REFLECTOR AND TERMINAL MARKER PLACEMENT
635011-02 - REFLECTOR MARKER AND MOUNTING DETAILS
701101-04 - OFF-RD OPERATIONS, MULTILANE, 15' (4.5m) TO 24" (600mm) FROM PAVEMENT EDGE
701400-07 - APPROACH LANE CLOSURE, FREEWAY/EXPRESSWAY
701401-08 - LANE CLOSURE, FREEWAY/EXPRESSWAY
701406-08 - LANE CLOSURE, FREEWAY/EXPRESSWAY, DAY OPERATIONS ONLY
701428 - TRAFFIC CONTROL SETUP AND REMOVAL FREEWAY/EXPRESSWAY
701901-03 - TRAFFIC CONTROL DEVICES
780001-04 - TYPICAL PAVEMENT MARKINGS
781001-03 - TYPICAL APPLICATIONS RAISED REFLECTIVE PAVEMENT MARKERS
782001 - PRISMATIC CURB REFLECTORS
BLR 17-4 - TRAFFIC CONTROL DEVICES - DAY LABOR CONSTRUCTION

COMMITMENTS

IF AT ANY POINT IN PROJECT IMPLEMENTATION OR OPERATION A COMMITMENT WILL BE AFFECTED BY SUBSEQUENT PROJECT DECISIONS OR COMMITMENTS, THE AFFECTED PARTIES, WHICH INCLUDES ALL DEPARTMENT PERSONNEL, WILL BE NOTIFIED AND THEIR COMMENTS WILL BE CONSIDERED PRIOR TO MAKING A FINAL DECISION ON THE ACTION AFFECTING THE EARLIER COMMITMENT. THE PROCEDURES AND THE RESULTS OF THE COORDINATION WITH AFFECTED PARTIES AND THE ULTIMATE DECISION ON THE PROPOSED CHANGE(S) TO THE COMMITMENT SHALL BE DOCUMENTED IN THE COMMITMENT FILE.

COMMITMENTS FOR THIS PROJECT ARE AS FOLLOWS:

NONE

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	PLOT DATE = 7/10/2014	DATE - 6/30/14	REVISED -

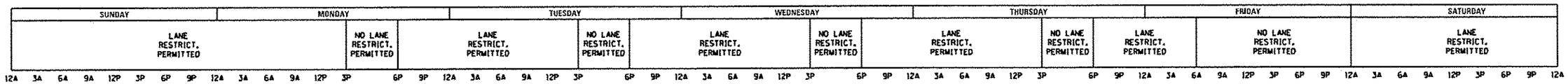
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

HIGHWAY STANDARDS, GENERAL NOTES & UTILITY COORDINATION
FAI 55

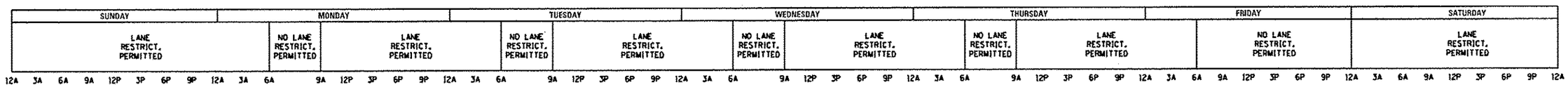
SCALE: | SHEET 1 OF 2 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	60-2HB-2	MADISON	52	2
		CONTRACT NO. 76G10		
	ILLINOIS FED. AID PROJECT			

I–55 NORTHBOUND 1–LANE RESTRICTIONS SCHEDULE



I–55 SOUTHBOUND 1–LANE RESTRICTIONS SCHEDULE



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	Sheets\D076G10-sht-hwystd-gennotes.dgn	DRAWN - MGM	REVISED -			55	60-2HB-2	MADISON	52	3
	PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED -					CONTRACT NO. 76G10		
	PLOT DATE = 7/10/2014	DATE - 6/30/14	REVISED -		SCALE: SHEET 2 OF 2 SHEETS STA. TO STA.		ILLINOIS FED. AID PROJECT			

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE: BRIDGE 0014 060-0104 100% STATE					
40600982	HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT	SQ YD	138	138					
40603315	HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N70	TON	177	177					
42001430	BRIDGE APPROACH PAVEMENT CONNECTOR (FLEXIBLE)	SQ YD	1479	1479					
44000100	PAVEMENT REMOVAL	SQ YD	1064	1064					
44000500	COMBINATION CURB AND GUTTER REMOVAL	FOOT	803	803					
44003100	MEDIAN REMOVAL	SQ FT	3886	3886					
44004250	PAVED SHOULDER REMOVAL	SQ YD	406	406					
48101200	AGGREGATE SHOULDERS, TYPE B	TON	121	121					
48203100	HOT-MIX ASPHALT SHOULDERS	TON	97	97					
50102400	CONCRETE REMOVAL	CU YD	49	49					
50104650	SLOPE WALL REMOVAL	SQ YD	4	4					
50104720	REMOVAL OF EXISTING CONCRETE DECK	EACH	1	1					
50157300	PROTECTIVE SHIELD	SQ YD	886	886					
50200100	STRUCTURE EXCAVATION	CU YD	81	81					

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(S) SEE SPECIAL PROVISIONS ✱ SPECIALITY ITEM

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	PLOT DATE = 7/10/2014	DATE - 6/30/14	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES
FAI 55

SCALE: | SHEET 1 OF 5 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	60-2HB-2	MADISON	52	4
		CONTRACT NO. 76G10		
	ILLINOIS FED. AID PROJECT			

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE BRIDGE 0014 060-0104 100% STATE					
50300100	FLOOR DRAINS	EACH	6	6					
50300225	CONCRETE STRUCTURES	CU YD	94.8	94.8					
50300255	CONCRETE SUPERSTRUCTURE	CU YD	913.0	913.0					
50300260	BRIDGE DECK GROOVING	SQ YD	1595	1595					
50300300	PROTECTIVE COAT	SQ YD	2648	2648					
50500405	FURNISHING AND ERECTING STRUCTURAL STEEL	POUND	5150	5150					
50500505	STUD SHEAR CONNECTORS	EACH	6,960	6,960					
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	220,170	220,170					
50800515	BAR SPLICERS	EACH	184	184					
51100100	SLOPE WALL 4 INCH	SQ YD	4	4					
51500100	NAME PLATES	EACH	1	1					
52000110	PREFORMED JOINT STRIP SEAL	FOOT	190	190					
52100010	ELASTOMERIC BEARING ASSEMBLY, TYPE I	EACH	20	20					
52100520	ANCHOR BOLTS, 1"	EACH	40	40					

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(S) SEE SPECIAL PROVISIONS * SPECIALITY ITEM

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES
FAI 55

SCALE: | SHEET 2 OF 5 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	60-2HB-2	MADISON	52	5
		CONTRACT NO. 76G10		
	ILLINOIS FED. AID PROJECT			

	CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE: BRIDGE 0014 060-0104 100% STATE					
	58700300	CONCRETE SEALER	SQ FT	1534	1534					
	59300100	CONTROLLED LOW-STRENGTH MATERIAL	CU YD	33	33					
	60608600	COMBINATION CONCRETE CURB AND GUTTER, TYPE M-6.06	FOOT	803	803					
	60618300	CONCRETE MEDIAN SURFACE, 4 INCH	SQ FT	3454	3454					
	60622400	CONCRETE MEDIAN, TYPE SM-6.06	SQ FT	432	432					
	61000335	TYPE G INLET BOX, STANDARD 610001	EACH	2	2					
*	63000001	STEEL PLATE BEAM GUARDRAIL TYPE A, 6 FOOT POSTS	FOOT	75	75					
*	63100085	TRAFFIC BARRIER TERMINAL, TYPE 6	EACH	2	2					
*	63100167	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT	EACH	2	2					
	63200310	GUARDRAIL REMOVAL	FOOT	167	167					
	67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	10	10					
	67100100	MOBILIZATION	L SUM	1	1					
	70100700	TRAFFIC CONTROL AND PROTECTION, STANDARD 701406	L SUM	1	1					
	70100800	TRAFFIC CONTROL AND PROTECTION, STANDARD 701401	L SUM	1	1					

(S) SEE SPECIAL PROVISIONS * SPECIALITY ITEM

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	PLOT DATE = 7/10/2014	DATE - 6/30/14	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES
FAI 55

SCALE: | SHEET 3 OF 5 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	60-2HB-2	MADISON	52	6
		CONTRACT NO. 76G10		
		ILLINOIS FED. AID PROJECT		

	CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE BRIDGE 0014 060-0104 100% STATE					
	70106800	CHANGEABLE MESSAGE SIGN	CAL MO	6	6					
	70300210	TEMPORARY PAVEMENT MARKING LETTERS AND SYMBOLS	SQ FT	16	16					
	70300220	TEMPORARY PAVEMENT MARKING - LINE 4"	FOOT	3545	3545					
	70301000	WORK ZONE PAVEMENT MARKING REMOVAL	SQ FT	1197	1197					
*	78000100	THERMOPLASTIC PAVEMENT MARKING - LETTERS AND SYMBOLS	SQ FT	16	16					
*	78000200	THERMOPLASTIC PAVEMENT MARKING - LINE 4"	FOOT	2147	2147					
*	78008210	POLYUREA PAVEMENT MARKING TYPE I - LINE 4"	FOOT	1399	1399					
*	78100100	RAISED REFLECTIVE PAVEMENT MARKER	EACH	3	3					
*	78200300	PRISMATIC CURB REFLECTOR	EACH	59	59					
* (S)	78200410	GUARDRAIL MARKERS, TYPE A	EACH	4	4					
* (S)	78200530	BARRIER WALL MARKERS, TYPE C	EACH	6	6					
* (S)	78201000	TERMINAL MARKER - DIRECT APPLIED	EACH	2	2					
	78300200	RAISED REFLECTIVE PAVEMENT MARKER REMOVAL	EACH	3	3					
(S)	Z0001899	JACK AND REMOVE EXISTING BEARINGS	EACH	20	20					
(S)	Z0007112	CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES	L SUM	1	1					
(S)	Z0010501	CLEANING AND PAINTING STEEL BRIDGE NO. 1	L SUM	1	1					

(S) SEE SPECIAL PROVISIONS * SPECIALITY ITEM

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Default	PLOT DATE = 7/10/2014	DATE - 6/30/14	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES
FAI 55

SCALE: | SHEET 4 OF 5 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	60-2HB-2	MADISON	52	7
		CONTRACT NO. 76G10		
	ILLINOIS FED. AID PROJECT			

	CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE BRIDGE 0014 060-0104 100% STATE					
(S)	Z0012754	STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 INCHES)	SQ FT	713	713					
(S)	Z0013798	CONSTRUCTION LAYOUT	L SUM	1	1					
(S)	Z0016702	DETOUR SIGNING	L SUM	1	1					
(S)	Z0018002	DRAINAGE SCUPPERS, DS-11	EACH	2	2					
(S)	Z0064300	SEALING CRACKS	FOOT	320	320					
ϕ	Z0076604	TRAINEES TRAINING PROGRAM GRADUATE	HOUR	1500	1500					
(S)	40600275	BITUMINOUS MATERIALS (PRIME COAT)	POUND	2011	2011					
(S)	X4401198	HOT-MIX ASPHALT SURFACE REMOVAL, VARIABLE DEPTH	SQ YD	1951	1951					
(S)	X5860110	GRANULAR BACKFILL FOR STRUCTURES	CU YD	81	81					
(S)	X7010410	SPEED DISPLAY TRAILER	CAL MO	6	6					

(S) SEE SPECIAL PROVISIONS * SPECIALITY ITEM ϕ 0042

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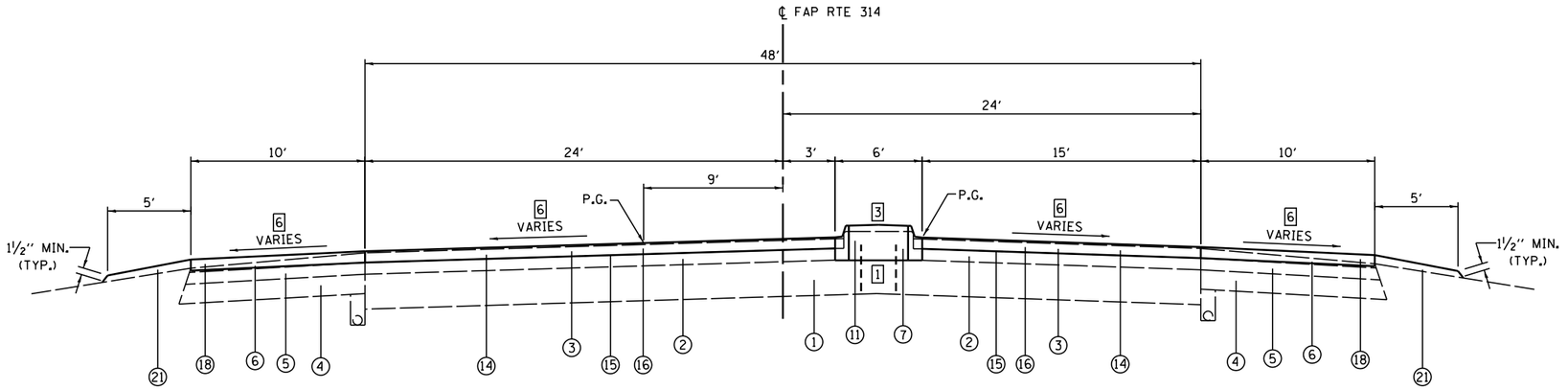
Default	PLOT DATE = 7/10/2014	DATE - 6/30/14	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES
FAI 55

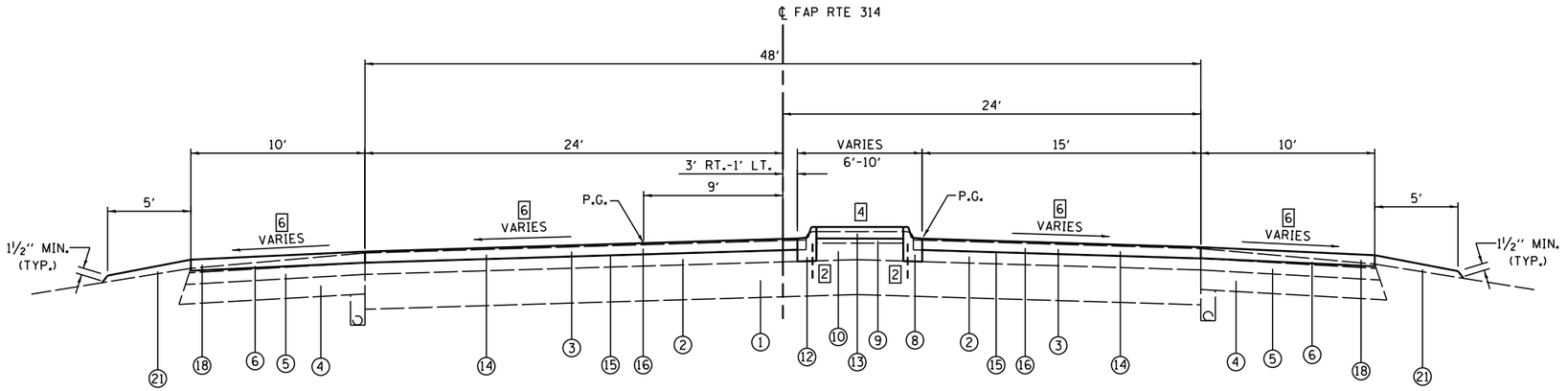
SCALE: | SHEET 5 OF 5 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	60-2HB-2	MADISON	52	8
		CONTRACT NO. 76G10		
	ILLINOIS FED. AID PROJECT			



FAP ROUTE 314 (IL ROUTE 4)

STA. 45+17.00 TO STA. 46+25.00



FAP ROUTE 314 (IL ROUTE 4)

STA. 46+25.00 TO STA. 47+25.00

(1) EXISTING CONCRETE PAVEMENT, 9"
(2) EXISTING HMA SURFACE COURSE, 3"
(3) EXISTING HMA SURFACE COURSE, 2¼"
(4) EXISTING STABILIZED BASE COURSE, 5"
(5) EXISTING HMA SHOULDER, 3"
(6) EXISTING HMA SHOULDER, 2¼"-1"
(7) EXISTING CONC MEDIAN W/M-6.06 MOD. CURB AND GUTTER (TO BE REMOVED)
(8) EXISTING M-6.06 MODIFIED CONC CURB & GUTTER (TO BE REMOVED)
(9) EXISTING CONC MEDIAN SURFACE (TO BE REMOVED)
(10) EXISTING SUBBASE GRANULAR MATERIAL
(11) PROPOSED CONCRETE MEDIAN, TYPE SM-6.06
(12) PROPOSED COMBINATION CONCRETE CURB & GUTTER, TYPE M-6.06
(13) PROPOSED CONCRETE MEDIAN SURFACE, 4 INCH
(14) PROPOSED HOT-MIX ASPHALT SURFACE REMOVAL, VARIABLE DEPTH
(15) PROPOSED BITUMINOUS MATERIALS (PRIME COAT)
(16) PROPOSED HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N70 2¼"
(17) PROPOSED BRIDGE APPROACH PAVEMENT CONNECTOR (FLEXIBLE)
HOT-MIX ASPHALT BINDER COURSE, IL-19.0 FG, N70 15¾"
HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N70 2¼"
(18) PROPOSED HOT-MIX ASPHALT SHOULDERS 2¼"
(19) PROPOSED BRIDGE APPROACH PAVEMENT CONNECTOR (FLEXIBLE)
HOT-MIX ASPHALT SHOULDERS 18"
(20) PROPOSED COARSE AGGREGATE FILL
(21) PROPOSED AGGREGATE SHOULDERS, TYPE B

NOTE:

[1] EXISTING CONC. MEDIAN IS PINNED TO EXISTING CONC. PVMT. BY ¾"x12" DOWEL BAR AT 20' CTRS. EX. REINFORCEMENT SHALL BE CUT FLUSH TO EX. CONCRETE PAVEMENT.

[2] EXISTING CONC. CURB & GUTTER IS PINNED TO EXISTING CONC. PVMT. BY ¾"x12" DOWEL BAR AT 5' CTRS. A #4 BAR RUNS LONGITUDINAL IN CURB & GUTTER. EX. VERTICAL REINFORCEMENT SHALL BE CUT FLUSH TO EX. CONC. PAVEMENT.

[3] TRANSITION CONCRETE MEDIAN FROM EXISTING HEIGHT TO PROPOSED HEIGHT FROM STA. 45+17.00 TO STA. 45+37.00.

[4] CONTRACTOR SHALL ADD ADDITIONAL SUBBASE GRANULAR MATERIAL, TYPE C AS NECESSARY FOR CONC. MEDIAN SURFACE SUBGRADE. COST SHALL BE INCLUDED IN UNIT PRICE FOR CONCRETE MEDIAN SURFACE, 4 INCH.

[5] TRANSITION CONCRETE MEDIAN FROM PROPOSED HEIGHT TO EXISTING HEIGHT FROM STA. 53+55.00 TO STA. 53+75.00

[6] TRANSITION PAVEMENT AND SHOULDER SLOPES FROM EXISTING TO 1.50% AND 4.00%, STA. 45+17.00 TO STA. 45+67.00
PAVEMENT AND SHOULDER SLOPE SHALL BE 1.50% AND 4.00% FROM STA. 45+67.00 TO STA. 47+25.00

[7] TRANSITION PAVEMENT AND SHOULDER SLOPES FROM 1.50% AND 4.00% TO 1.56% AND 2.08%, STA. 47+25.00 TO STA. 48+24.32
TRANSITION PAVEMENT AND SHOULDER SLOPE FROM 1.56% AND 2.08% TO 1.50% AND 4.00%, STA. 51+74.86 TO STA. 52+75.00

[8] PAVEMENT AND SHOULDER SLOPES SHALL BE 1.50% AND 4.00% FROM STA. 52+75.00 TO STA. 53+25.00
TRANSITION PAVEMENT AND SHOULDER SLOPES FROM 1.50% AND 4.00% TO EXISTING, STA. 53+25.00 TO STA. 53+75.00

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	PLOT DATE = 7/10/2014	DATE - 6/30/14	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

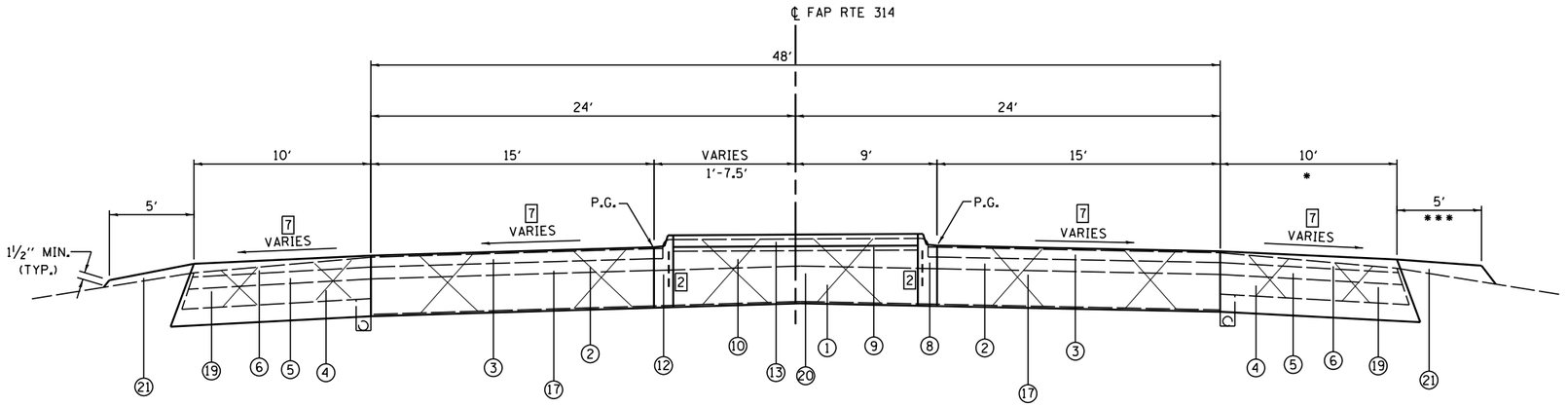
TYPICAL SECTIONS
FAI 55

SCALE: | SHEET 1 OF 3 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	60-2HB-2	MADISON	52	9
		CONTRACT NO. 76G10		
	ILLINOIS FED. AID PROJECT			

BRIDGE APPROACH PAVEMENT CONNECTOR - STA. 47+25.00 TO 48+24.32

BRIDGE APPROACH PAVEMENT CONNECTOR - STA. 51+74.86 TO 52+75.00



FAP ROUTE 314 (IL ROUTE 4)

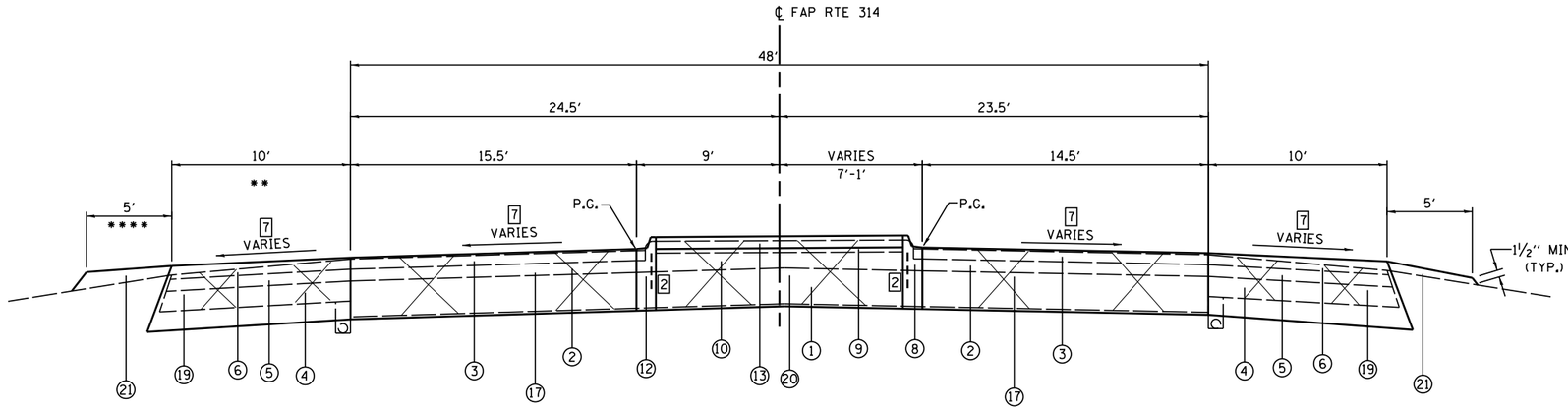
STA. 47+25.00 TO STA. 48+24.32

* TRANSITION SHOULDER WIDTH FROM 10′ TO 7′, STA. 47+78.79 TO STA. 48+60.50

*** SHOULDER FOR GUARDRAIL SHALL BE CONSTRUCTED USING AGGREGATE SURFACE COURSE, TYPE B FROM STA. 47+36.00 TO 48+77.00. THIS WORK WILL BE PAYED FOR AS "AGGREGATE SHOULDLERS, TYPE B

╳ EXISTING PAVEMENT AND SHOULDERS TO BE REMOVED

1. EXISTING CONCRETE PAVEMENT, 9″
2. EXISTING HMA SURFACE COURSE, 3″
3. EXISTING HMA SURFACE COURSE, 2¼″
4. EXISTING STABILIZED BASE COURSE, 5″
5. EXISTING HMA SHOULDER, 3″
6. EXISTING HMA SHOULDER, 2¼″-1″
7. EXISTING CONC MEDIAN W/M-6.06 MOD. CURB AND GUTTER (TO BE REMOVED)
8. EXISTING M-6.06 MODIFIED CONC CURB & GUTTER (TO BE REMOVED)
9. EXISTING CONC MEDIAN SURFACE (TO BE REMOVED)
10. EXISTING SUBBASE GRANULAR MATERIAL
11. PROPOSED CONCRETE MEDIAN, TYPE SM-6.06
12. PROPOSED COMBINATION CONCRETE CURB & GUTTER, TYPE M-6.06
13. PROPOSED CONCRETE MEDIAN SURFACE, 4 INCH
14. PROPOSED HOT-MIX ASPHALT SURFACE REMOVAL, VARIABLE DEPTH
15. PROPOSED BITUMINOUS MATERIALS (PRIME COAT)
16. PROPOSED HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N70 2¼″
17. PROPOSED BRIDGE APPROACH PAVEMENT CONNECTOR (FLEXIBLE)
    HOT-MIX ASPHALT BINDER COURSE, IL-19.0 FG, N70 15¾″
    HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N70 2¼″
18. PROPOSED HOT-MIX ASPHALT SHOULDERS 2¼″
19. PROPOSED BRIDGE APPROACH PAVEMENT CONNECTOR (FLEXIBLE)
    HOT-MIX ASPHALT SHOULDERS 18″
20. PROPOSED COARSE AGGREGATE FILL
21. PROPOSED AGGREGATE SHOULDERS, TYPE B



** TRANSITION SHOULDER WIDTH FROM 7′ TO 10′, STA. 51+38.60 TO STA. 52+75.00

**** SHOULDER FOR GUARDRAIL SHALL BE CONSTRUCTED USING AGGREGATE SURFACE COURSE, TYPE B FROM STA. 51+23.00 TO 52+88.00. THIS WORK WILL BE PAYED FOR AS "AGGREGATE WEDGE SHOULDLER, TYPE B

FAP ROUTE 314 (IL ROUTE 4)

STA. 51+74.86 TO STA. 52+75.00

NOTE:

[1] EXISTING CONC. MEDIAN IS PINNED TO EXISTING CONC. PVMT. BY ¾″×12″ DOWEL BAR AT 20′ CTRS. EX. REINFORCEMENT SHALL BE CUT FLUSH TO EX. CONCRETE PAVEMENT.

[2] EXISTING CONC. CURB & GUTTER IS PINNED TO EXISTING CONC. PVMT. BY ¾″×12″ DOWEL BAR AT 5′ CTRS. A #4 BAR RUNS LONGITUDINAL IN CURB & GUTTER. EX. VERTICAL REINFORCEMENT SHALL BE CUT FLUSH TO EX. CONC. PAVEMENT.

[3] TRANSITION CONCRETE MEDIAN FROM EXISTING HEIGHT TO PROPOSED HEIGHT FROM STA. 45+17.00 TO STA. 45+37.00.

[4] CONTRACTOR SHALL ADD ADDITIONAL SUBBASE GRANULAR MATERIAL, TYPE C AS NECESSARY FOR CONC. MEDIAN SURFACE SUBGRADE. COST SHALL BE INCLUDED IN UNIT PRICE FOR CONCRETE MEDIAN SURFACE, 4 INCH.

[5] TRANSITION CONCRETE MEDIAN FROM PROPOSED HEIGHT TO EXISTING HEIGHT FROM STA. 53+55.00 TO STA. 53+75.00

[6] TRANSITION PAVEMENT AND SHOULDER SLOPES FROM EXISTING TO 1.50% AND 4.00%, STA. 45+17.00 TO STA. 45+67.00
PAVEMENT AND SHOULDER SLOPE SHALL BE 1.50% AND 4.00% FROM STA. 45+67.00 TO STA. 47+25.00

[7] TRANSITION PAVEMENT AND SHOULDER SLOPES FROM 1.50% AND 4.00% TO 1.56% AND 2.08%, STA. 47+25.00 TO STA. 48+24.32
TRANSITION PAVEMENT AND SHOULDER SLOPE FROM 1.56% AND 2.08% TO 1.50% AND 4.00%, STA. 51+74.86 TO STA. 52+75.00

[8] PAVEMENT AND SHOULDER SLOPES SHALL BE 1.50% AND 4.00% FROM STA. 52+75.00 TO STA. 53+25.00
TRANSITION PAVEMENT AND SHOULDER SLOPES FROM 1.50% AND 4.00% TO EXISTING, STA. 53+25.00 TO STA. 53+75.00

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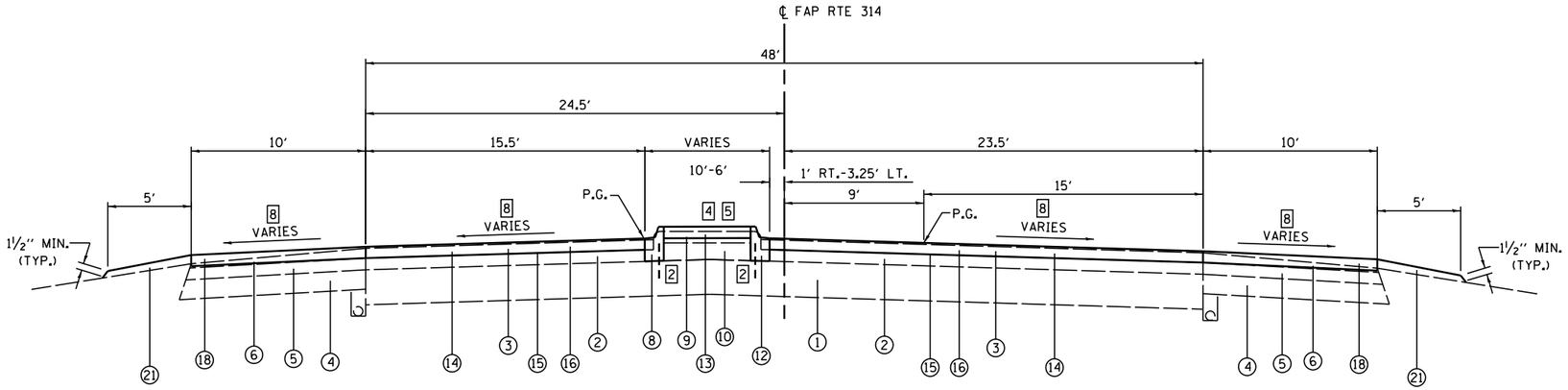
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TYPICAL SECTIONS
FAI 55

SCALE: | SHEET 2 OF 3 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	60-2HB-2	MADISON	52	10
		CONTRACT NO. 76G10		
	ILLINOIS FED. AID PROJECT			



FAP ROUTE 314 (IL ROUTE 4)

STA. 52+75.00 TO STA. 53+75.00

① EXISTING CONCRETE PAVEMENT, 9"
② EXISTING HMA SURFACE COURSE, 3"
③ EXISTING HMA SURFACE COURSE, 2¼"
④ EXISTING STABILIZED BASE COURSE, 5"
⑤ EXISTING HMA SHOULDER, 3"
⑥ EXISTING HMA SHOULDER, 2¼"-1"
⑦ EXISTING CONC MEDIAN W/M-6.06 MOD. CURB AND GUTTER (TO BE REMOVED)
⑧ EXISTING M-6.06 MODIFIED CONC CURB & GUTTER (TO BE REMOVED)
⑨ EXISTING CONC MEDIAN SURFACE (TO BE REMOVED)
⑩ EXISTING SUBBASE GRANULAR MATERIAL
⑪ PROPOSED CONCRETE MEDIAN, TYPE SM-6.06
⑫ PROPOSED COMBINATION CONCRETE CURB & GUTTER, TYPE M-6.06
⑬ PROPOSED CONCRETE MEDIAN SURFACE, 4 INCH
⑭ PROPOSED HOT-MIX ASPHALT SURFACE REMOVAL, VARIABLE DEPTH
⑮ PROPOSED BITUMINOUS MATERIALS (PRIME COAT)
⑯ PROPOSED HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N70 2¼"
⑰ PROPOSED BRIDGE APPROACH PAVEMENT CONNECTOR (FLEXIBLE)
HOT-MIX ASPHALT BINDER COURSE, IL-19.0 FG, N70 15¾"
HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N70 2¼"
⑱ PROPOSED HOT-MIX ASPHALT SHOULDERS 2¼"
⑲ PROPOSED BRIDGE APPROACH PAVEMENT CONNECTOR (FLEXIBLE)
HOT-MIX ASPHALT SHOULDERS 18"
⑳ PROPOSED COARSE AGGREGATE FILL
㉑ PROPOSED AGGREGATE SHOULDERS, TYPE B

NOTE:

[1] EXISTING CONC. MEDIAN IS PINNED TO EXISTING CONC. PVMT. BY ¾"x12" DOWEL BAR AT 20' CTRS. EX. REINFORCEMENT SHALL BE CUT FLUSH TO EX. CONCRETE PAVEMENT.

[2] EXISTING CONC. CURB & GUTTER IS PINNED TO EXISTING CONC. PVMT. BY ¾"x12" DOWEL BAR AT 5' CTRS. A #4 BAR RUNS LONGITUDINAL IN CURB & GUTTER. EX. VERTICAL REINFORCEMENT SHALL BE CUT FLUSH TO EX. CONC. PAVEMENT.

[3] TRANSITION CONCRETE MEDIAN FROM EXISTING HEIGHT TO PROPOSED HEIGHT FROM STA. 45+17.00 TO STA. 45+37.00.

[4] CONTRACTOR SHALL ADD ADDITIONAL SUBBASE GRANULAR MATERIAL, TYPE C AS NECESSARY FOR CONC. MEDIAN SURFACE SUBGRADE. COST SHALL BE INCLUDED IN UNIT PRICE FOR CONCRETE MEDIAN SURFACE, 4 INCH.

[5] TRANSITION CONCRETE MEDIAN FROM PROPOSED HEIGHT TO EXISTING HEIGHT FROM STA. 53+55.00 TO STA. 53+75.00

[6] TRANSITION PAVEMENT AND SHOULDER SLOPES FROM EXISTING TO 1.50% AND 4.00%, STA. 45+17.00 TO STA. 45+67.00
PAVEMENT AND SHOULDER SLOPE SHALL BE 1.50% AND 4.00% FROM STA. 45+67.00 TO STA. 47+25.00

[7] TRANSITION PAVEMENT AND SHOULDER SLOPES FROM 1.50% AND 4.00% TO 1.56% AND 2.08%, STA. 47+25.00 TO STA. 48+24.32
TRANSITION PAVEMENT AND SHOULDER SLOPE FROM 1.56% AND 2.08% TO 1.50% AND 4.00%, STA. 51+74.86 TO STA. 52+75.00

[8] PAVEMENT AND SHOULDER SLOPES SHALL BE 1.50% AND 4.00% FROM STA. 52+75.00 TO STA. 53+25.00
TRANSITION PAVEMENT AND SHOULDER SLOPES FROM 1.50% AND 4.00% TO EXISTING, STA. 53+25.00 TO STA. 53+75.00

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	PLOT DATE = 7/10/2014	DATE - 6/30/14	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TYPICAL SECTIONS
FAI 55

SCALE: | SHEET 3 OF 3 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	60-2HB-2	MADISON	52	11
		CONTRACT NO. 76G10		
	ILLINOIS FED. AID PROJECT			

REMOVAL SCHEDULE

LOCATION STATION TO STATION	HOT-MIX ASPHALT SURF REM BUTT JOINT	HOT-MIX ASPHALT SURF REM, VAR. DEPTH	PAVEMENT REMOVAL	COMB CURB AND GUTTER REMOVAL	MEDIAN REMOVAL	PAVED SHOULDER REMOVAL	GUARDRAIL REMOVAL
	SQ YD	SQ YD	SQ YD	FOOT	SQ YD	SQ YD	FOOT
STA. 45+17.00 TO STA. 45+27.00, IL 4, RT.	27.8						
STA. 45+17.00 TO STA. 46+25.00, IL 4, RT.					432.0		
STA. 45+17.00 TO STA. 45+27.00, IL 4, LT.	41.1						
STA. 45+27.00 TO STA. 47+25.00, IL 4, RT.		550.0					
STA. 45+27.00 TO STA. 47+25.00, IL 4, LT.		797.3					
STA. 46+25.00 TO STA. 48+24.32, IL 4, RT. & LT.				400.4	1722.3		
STA. 47+25.00 TO STA. 48+24.32, IL 4, RT. & LT.			529.7			200.9	
STA. 48+05.00 TO STA. 48+89.00, IL 4, RT.							84.0
STA. 51+12.00 TO 51+95.00, IL 4, LT.							83.0
STA. 51+74.86 TO 52+75.00, IL 4, RT. & LT.			534.1			205.4	
STA. 51+74.86 TO 53+75.00, IL 4, RT. & LT.				402.1	1731.6		
STA. 52+75.00 TO 53+65.00, IL 4, RT. & LT.		603.8					
STA. 53+65.00 TO 53+75.00, IL 4, RT.	28.1						
STA. 53+65.00 TO 53+75.00, IL 4, LT.	40.9						
TOTAL	137.9	1951.1	1063.8	802.5	3885.9	406.3	167.0

HOT-MIX ASPHALT SCHEDULE

LOCATION STATION TO STATION	BITUMINOUS MATERIALS (PRIME COAT)	HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N70	BRIDGE APPROACH PVMT CONNECTOR (FLEXIBLE)
	POUND	TON	SQ YD
STA. 45+17.00 TO STA. 47+25.00, IL 4, RT.	156.0	43.7	
STA. 45+17.00 TO STA. 47+25.00, IL 4, LT.	273.3	76.5	
STA. 47+25.00 TO STA. 48+24.32, IL 4, RT. & LT.	535.5		739.6
STA. 51+74.86 TO STA. 52+75.00, IL 4, RT. & LT.	535.8		739.0
STA. 52+75.00 TO STA. 53+75.00, IL 4, RT.	126.0	35.3	
STA. 52+75.00 TO STA. 53+75.00, IL 4, LT.	76.5	21.4	
TOTAL	1703.1*	176.9	1478.6

* NOT A TOTAL QUANTITY

PAVEMENT MARKING SCHEDULE

LOCATION STATION TO STATION	TEMPORARY PAVEMENT MARKING LETTERS & SYMBOLS	TEMPORARY PAVEMENT MARKING-LINE 4"	WORK ZONE PAVEMENT MARKING REMOVAL	THERMOPLASTIC PAVEMENT MARKING LETTERS & SYMBOLS	THERMOPLASTIC PAVEMENT MARKING-LINE 4"	POLYUREA PAVEMENT MARKING TY I -LINE 4'	PRISMATIC CURB REFLECTOR
	SQ FT	FOOT	SQ FT	SQ FT	FOOT	FOOT	EACH
STA. 45+17.00 TO STA. 48+50.46, IL 4, NB LN		652.4	217.5		652.4		9
STA. 45+17.00 TO STA. 46+30.00, IL 4, SB TURN LN		113.0	37.7		113.0		
STA. 45+17.00 TO STA. 48+14.54, IL 4, SB LN		578.7	192.9		578.7		16
STA. 46+10.00, IL 4, SB TURN LN	15.6		15.6	15.6			
STA. 48+14.54 TO STA. 51+63.34, IL 4, SB LN		699.6	233.2			699.6	10
STA. 48+50.46 TO STA. 52+00.75, IL 4, NB LN		698.9	233.0			698.9	10
STA. 51+84.56 TO STA. 53+75.00, IL 4, NB LN		364.7	121.6		364.7		9
STA. 51+48.94 TO STA. 53+75.00, IL 4, SB LN		437.7	145.9		437.7		5
TOTAL	15.6	3545.0	1197.4	15.6	2146.5	1398.5	59

SHOULDER SCHEDULE

LOCATION STATION TO STATION	BITUMINOUS MATERIALS (PRIME COAT)	HOT-MIX ASPHALT SHOULDERS	AGGREGATE SHOULDERS TYPE B
	POUND	TON	TON
STA. 45+17.00 TO STA. 47+25.00, IL 4, RT.	104.0	29.1	
STA. 45+17.00 TO STA. 47+25.00, IL 4, LT.	104.0	29.1	
STA. 45+17.00 TO STA. 48+77.00, IL 4, RT.			38.6
STA. 45+17.00 TO STA. 47+84.54, IL 4, LT.			25.4
STA. 51+22.80 TO STA. 53+75.00, IL 4, LT.			41.8
STA. 52+13.30 TO STA. 53+75.00, IL 4, RT.			15.4
STA. 52+75.00 TO STA. 53+75.00, IL 4, RT.	50.0	18.7	
STA. 52+75.00 TO STA. 53+75.00, IL 4, LT.	50.0	20.2	
TOTAL	308.0*	97.1	121.2

* NOT A TOTAL QUANTITY

MEDIANS & CONCRETE CURB & GUTTER

LOCATION STATION TO STATION	COMB CONC CURB & GUTTER, TYPE M-6.06	CONCRETE MEDIAN SURFACE, 4 INCH	CONCRETE MEDIAN, TYPE SM-6.06
	FOOT	SQ FT	SQ FT
STA. 45+17.00 TO STA. 46+25.00, IL 4, RT.			432.0
STA. 46+25.00 TO STA. 48+24.32, IL 4, RT. & LT.	400.4	1722.3	
STA. 51+74.86 TO STA. 53+75.00, IL 4, RT. & LT.	402.1	1731.6	
TOTAL	802.5	3453.9	432.0

GUARDRAIL

LOCATION STATION TO STATION	STEEL PLATE BEAM GUARDRAIL, TY A 6 FT POSTS	TRAFFIC BARRIER TERMINAL, TYPE 6	TRAFFIC BARRIER TERMINAL TYPE 1, SP (TAN,)	GUARDRAIL MARKERS TYPE A	BARRIER WALL MARKERS TYPE C	TERMINAL MARKERS DIRECT APPLIED
	FOOT	EACH	EACH	EACH	EACH	EACH
STA. 47+45.84 TO STA. 47+95.84, IL 4, RT.	37.5	1	1	2		1
STA. 48+77.09 TO STA. 51+92.94, IL 4, RT. & LT.					6	
STA. 51+22.79 TO STA. 52+54.04, IL 4, LT.	37.5	1	1	2		1
TOTAL	75.0	2	2	4	6	2

NOTE:

FACTORS USED FOR ESTIMATING PLAN QUANTITIES ARE AS FOLLOWS AND SHALL NOT BE USED FOR THE BASIS OF FINAL QUANTITIES:

ALL HOT-MIX ASPHALT..... 112 LBS/SQ YD/INCH
BITUMINOUS MATERIALS (PRIME COAT)
ON MILLED PAVEMENTS..... 0.05 LB/SQ FT
FOG COAT BETWEEN LIFTS..... 0.025 LB/SQ FT
ALL AGGREGATE..... 2.05 TON/CU YD

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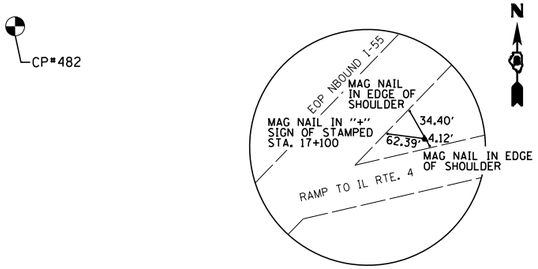
Default	PLOT DATE = 7/10/2014	DATE - 6/30/14	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

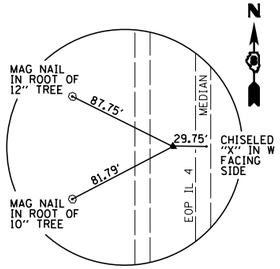
SCHEDULE OF QUANTITIES
FAI 55

SCALE: | SHEET 1 OF 1 SHEETS | STA. | TO STA.

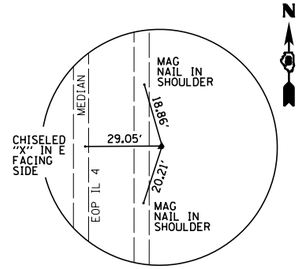
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	60-2HB-2	MADISON	52	12
		CONTRACT NO. 76G10		
	ILLINOIS	FED. AID PROJECT		



CP#482
IRON PIN WITH IDOT CAP

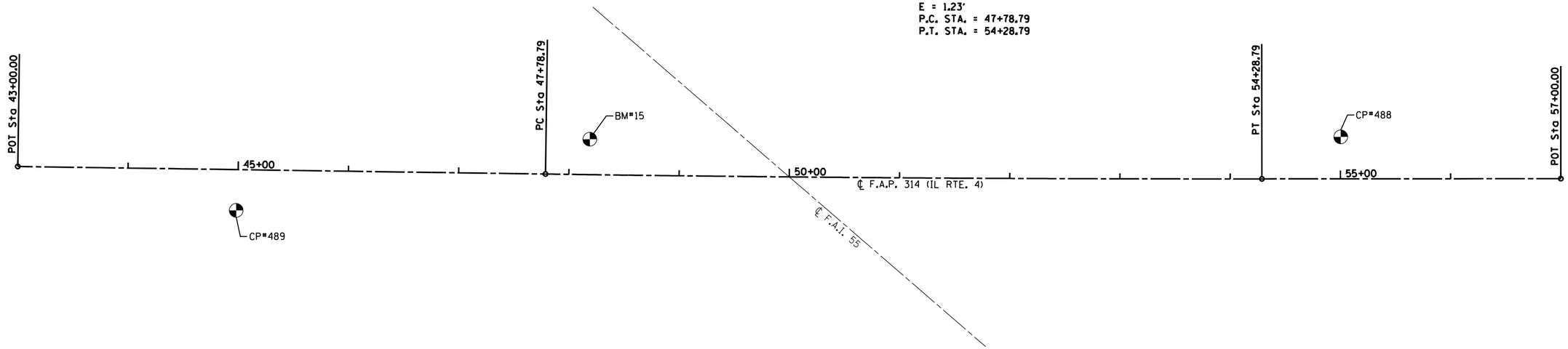


CP#488
IRON PIN WITH IDOT CAP
± 388' N OF BRIDGE



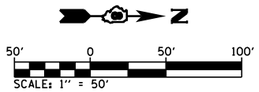
CP#489
IRON PIN WITH IDOT CAP
± 388' S OF BRIDGE

EXIST. CURVE CL_RTE4-1
PI STA. = 51+03.80
Δ = 0° 52' 00" (LT)
D = 0° 08' 00"
R = 42,971.80'
T = 325.01'
L = 650.00'
E = 1.23'
P.C. STA. = 47+78.79
P.T. STA. = 54+28.79



GROUND COORDINATES

DESCRIPTION	POINT NO.	NORTHING	EASTING
FAP RTE. 314 (IL. RTE. 4)			
POT STA. 43+00.00		824300.7059	400675.9930
PC STA. 47+78.79		824779.4507	400682.8602
PI STA. 51+03.80		825104.4232	400687.5217
PT STA. 54+28.79		825429.4290	400687.2673
POT STA. 57+00.00		825700.6389	400687.0549
CONTROL POINTS			
CP#482		824134.8253	400080.5268
CP#488		825500.9601	400649.0623
CP#489		824498.8444	400715.8524



BM-15
CHISELED SQUARE FOUND IN THE CENTER OF HEADWALL OF DOUBLE BOX CULVERT (SN-060-2015) @ E. SIDE OF RAMP FOR NB I-55 TO IL RTE. 4 ± 33.08 MILE MARKER
ELEV=550.734'

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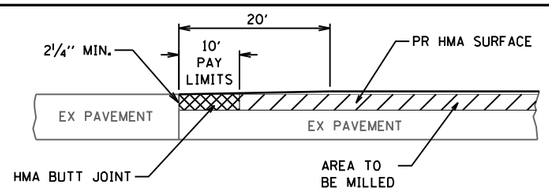
	Sheets\D876G10-ATB.dgn	DRAWN SDW	REVISED -
	PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED -
	PLOT DATE = 7/10/2014	DATE 6/30/14	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ALIGNMENT, TIES, & BENCHMARKS
FAI 55

SCALE: | SHEET 1 OF 1 SHEETS | STA. | TO STA.

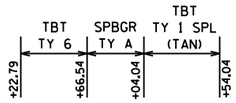
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	60-2HB-2	MADISON	52	13
		CONTRACT NO. 76G10		
	ILLINOIS FED. AID PROJECT			

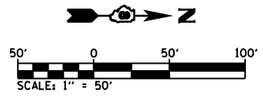


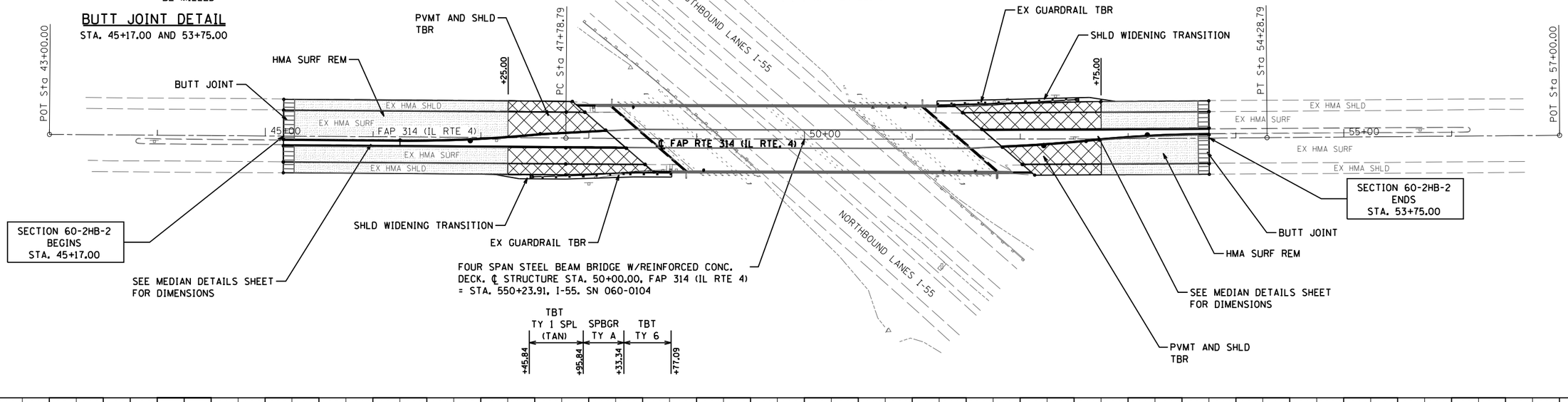
BUTT JOINT DETAIL

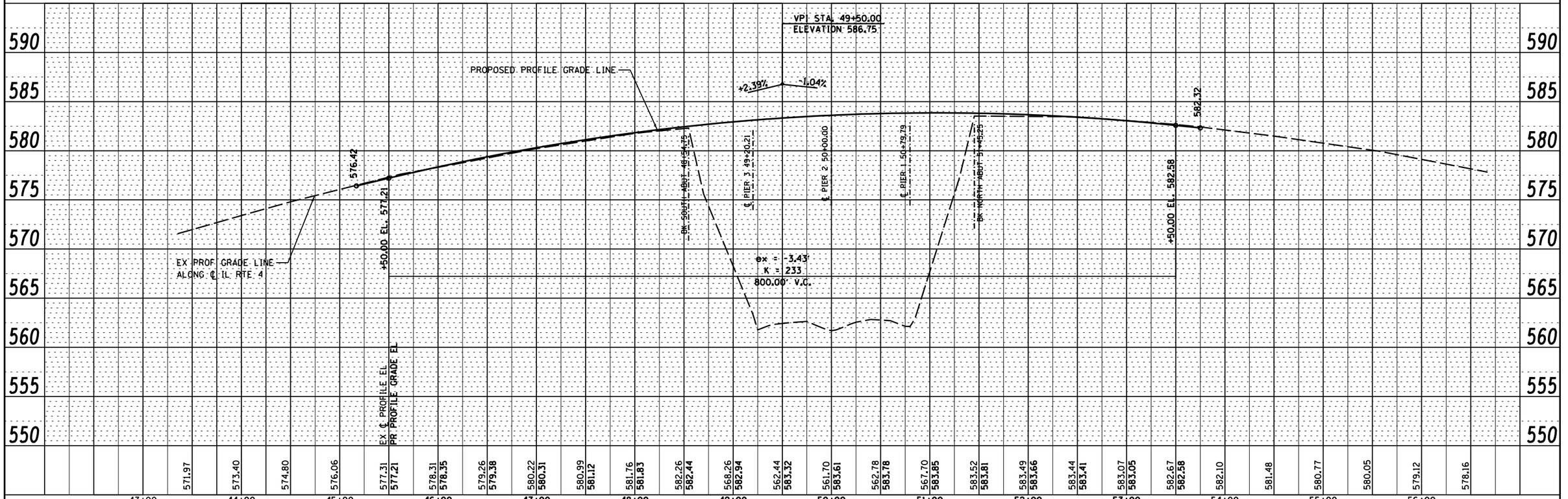
STA. 45+17.00 AND 53+75.00

EXIST. CURVE CL_RTE4-1
PI STA. = 51+03.80
Δ = 0° 52' 00" (LT)
D = 0° 08' 00"
R = 42,971.80'
T = 325.01'
L = 650.00'
E = 1.23'
P.C. STA. = 47+78.79
P.T. STA. = 54+28.79









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	PLOT DATE = 7/10/2014	DATE - 6/30/14	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PLAN AND PROFILE
FAI 55

SCALE: | SHEET 1 OF 1 SHEETS | STA. | TO STA.

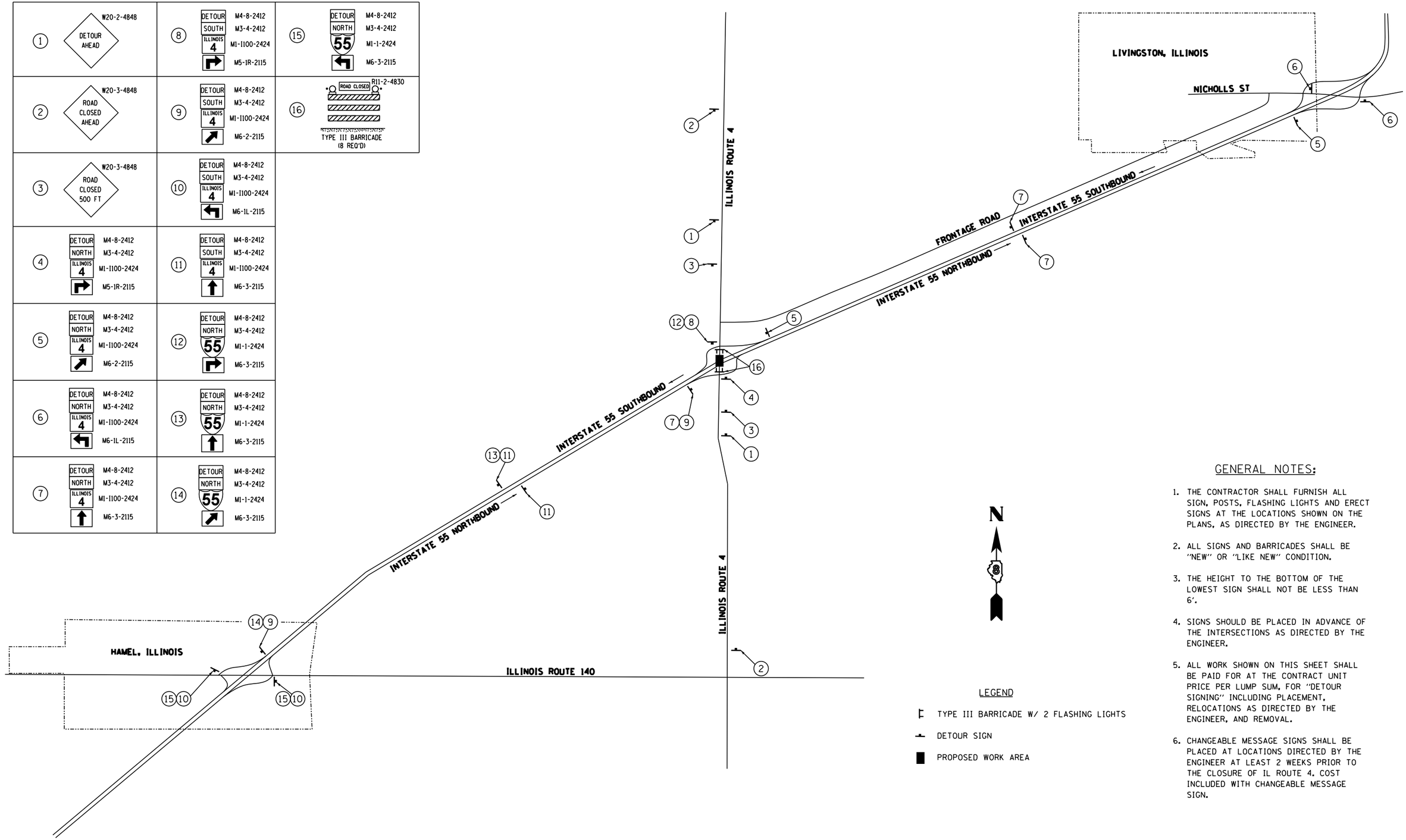
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	60-2HB-2	MADISON	52	14
		CONTRACT NO. 76G10		
	ILLINOIS FED. AID PROJECT			

PLAN — SURVEYED — PLOTTED — ALIGNMENT CHECKED — RT. OF WAY CHECKED — CADD FILE NAME — NOTE BOOK — NO. — BY — DATE

PROFILE — SURVEYED — PLOTTED — PROFILE CHECKED — BM. NOTED — STRUCTURE NO'S/ATN'S CHKD — NOTE BOOK — NO. — BY — DATE

DETOUR SIGNING

1	W20-2-4848 DETOUR AHEAD	8	M4-8-2412 DETOUR M3-4-2412 SOUTH M1-1100-2424 ILLINOIS 4 M5-1R-2115	15	M4-8-2412 DETOUR M3-4-2412 NORTH M1-1-2424 55 M6-3-2115
2	W20-3-4848 ROAD CLOSED AHEAD	9	M4-8-2412 DETOUR M3-4-2412 SOUTH M1-1100-2424 ILLINOIS 4 M6-2-2115	16	R11-2-4830 ROAD CLOSED TYPE III BARRICADE (8 REQ'D)
3	W20-3-4848 ROAD CLOSED 500 FT	10	M4-8-2412 DETOUR M3-4-2412 SOUTH M1-1100-2424 ILLINOIS 4 M6-1L-2115		
4	M4-8-2412 DETOUR M3-4-2412 NORTH M1-1100-2424 ILLINOIS 4 M5-1R-2115	11	M4-8-2412 DETOUR M3-4-2412 SOUTH M1-1100-2424 ILLINOIS 4 M6-3-2115		
5	M4-8-2412 DETOUR M3-4-2412 NORTH M1-1100-2424 ILLINOIS 4 M6-2-2115	12	M4-8-2412 DETOUR M3-4-2412 NORTH M1-1-2424 55 M6-3-2115		
6	M4-8-2412 DETOUR M3-4-2412 NORTH M1-1100-2424 ILLINOIS 4 M6-1L-2115	13	M4-8-2412 DETOUR M3-4-2412 NORTH M1-1-2424 55 M6-3-2115		
7	M4-8-2412 DETOUR M3-4-2412 NORTH M1-1100-2424 ILLINOIS 4 M6-3-2115	14	M4-8-2412 DETOUR M3-4-2412 NORTH M1-1-2424 55 M6-3-2115		



N

GENERAL NOTES:

1. THE CONTRACTOR SHALL FURNISH ALL SIGN, POSTS, FLASHING LIGHTS AND ERECT SIGNS AT THE LOCATIONS SHOWN ON THE PLANS, AS DIRECTED BY THE ENGINEER.
2. ALL SIGNS AND BARRICADES SHALL BE "NEW" OR "LIKE NEW" CONDITION.
3. THE HEIGHT TO THE BOTTOM OF THE LOWEST SIGN SHALL NOT BE LESS THAN 6'.
4. SIGNS SHOULD BE PLACED IN ADVANCE OF THE INTERSECTIONS AS DIRECTED BY THE ENGINEER.
5. ALL WORK SHOWN ON THIS SHEET SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE PER LUMP SUM, FOR "DETOUR SIGNING" INCLUDING PLACEMENT, RELOCATIONS AS DIRECTED BY THE ENGINEER, AND REMOVAL.
6. CHANGEABLE MESSAGE SIGNS SHALL BE PLACED AT LOCATIONS DIRECTED BY THE ENGINEER AT LEAST 2 WEEKS PRIOR TO THE CLOSURE OF IL ROUTE 4. COST INCLUDED WITH CHANGEABLE MESSAGE SIGN.

LEGEND

- TYPE III BARRICADE W/ 2 FLASHING LIGHTS
- DETOUR SIGN
- PROPOSED WORK AREA

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	PLOT DATE = 7/10/2014	CHECKED -	REVISED -
		DATE - 6/30/14	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DETOUR PLANS
FAI 55

SCALE: NTS | SHEET 1 OF 1 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	60-2HB-2	MADISON	52	15
		CONTRACT NO. 76G10		
		ILLINOIS FED. AID PROJECT		

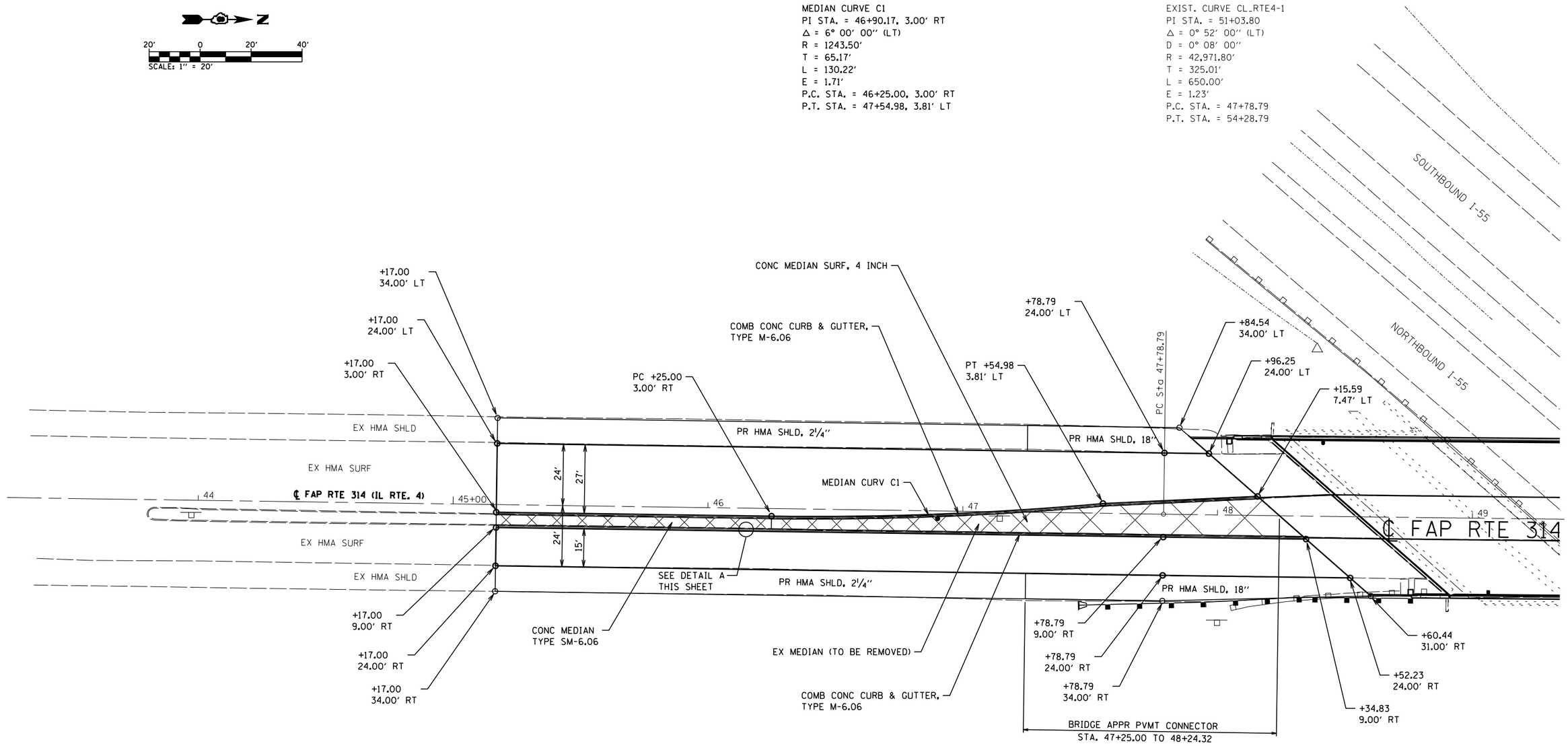
N

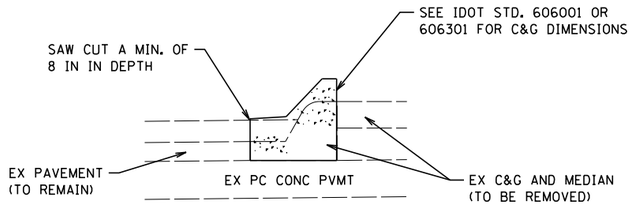
20' 0 20' 40'

SCALE: 1" = 20'

MEDIAN CURVE C1
PI STA. = 46+90.17, 3.00' RT
Δ = 6° 00' 00" (LT)
R = 1243.50'
T = 65.17'
L = 130.22'
E = 1.71'
P.C. STA. = 46+25.00, 3.00' RT
P.T. STA. = 47+54.98, 3.81' LT

EXIST. CURVE CL_RTE4-1
PI STA. = 51+03.80
Δ = 0° 52' 00" (LT)
D = 0° 08' 00"
R = 42,971.80'
T = 325.01'
L = 650.00'
E = 1.23'
P.C. STA. = 47+78.79
P.T. STA. = 54+28.79





DETAIL A - COMBINATION CURB AND GUTTER

NOT TO SCALE

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Default	PLOT DATE = 7/10/2014	DATE - 6/30/14	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MEDIAN DETAILS
FAI 55

SCALE: | SHEET 1 OF 2 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	60-2HB-2	MADISON	52	16
		CONTRACT NO. 76G10		
	ILLINOIS	FED. AID PROJECT		

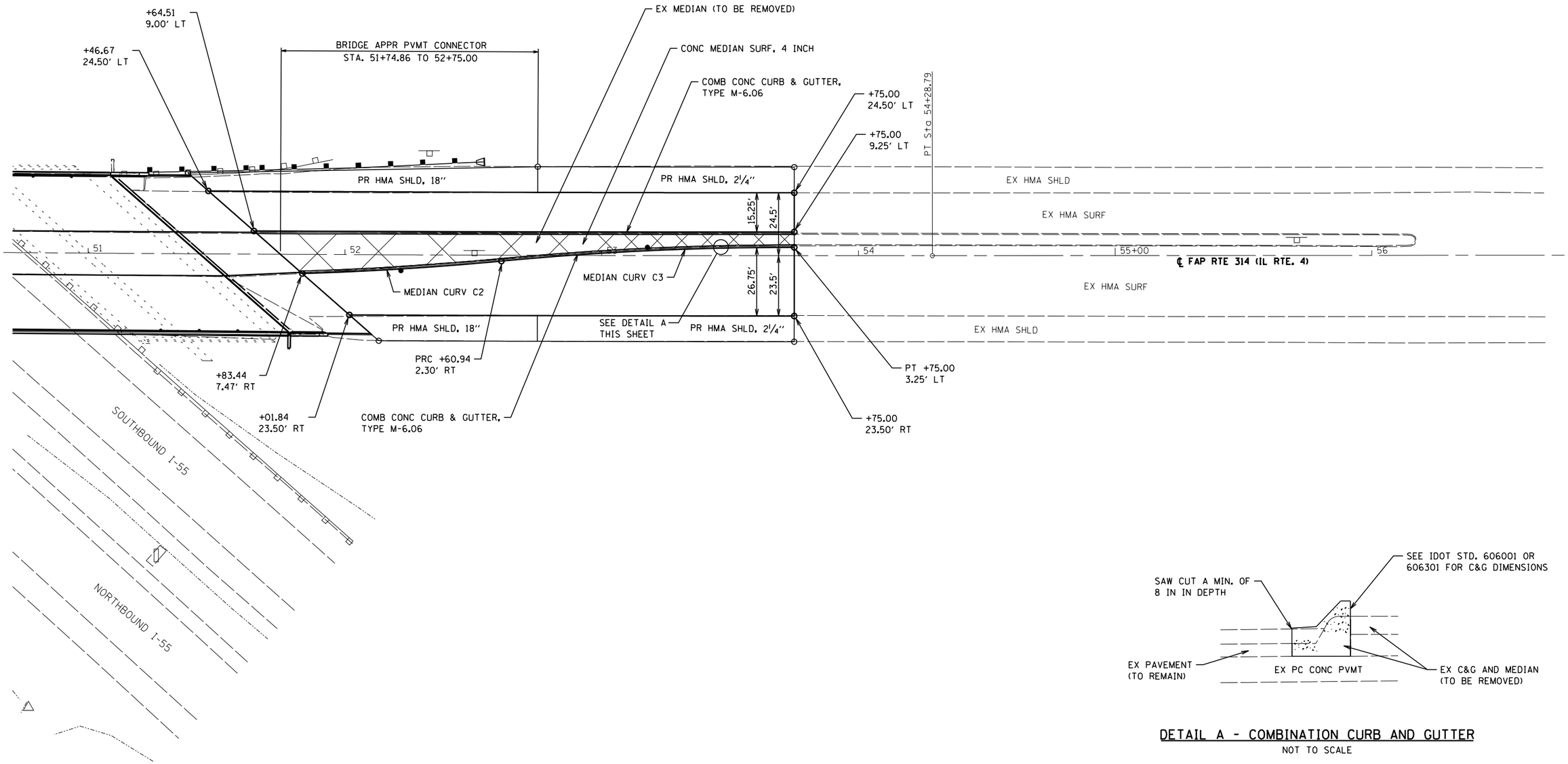
EXIST. CURVE CL_RTE4-1
PI STA. = 51+03.80
Δ = 0° 52′ 00″ (LT)
D = 0° 08′ 00″
R = 42,971.80′
T = 325.01′
L = 650.00′
E = 1.23′
P.C. STA. = 47+78.79
P.T. STA. = 54+28.79

MEDIAN CURVE C2
PI STA. = 52+21.81, 6.17′ RT
Δ = 3° 45′ 00″ (LT)
R = 1201.10′
T = 39.32′
L = 78.61′
E = 0.64′
P.C. STA. = 51+82.52, 7.50′ RT
P.R.C. STA. = 52+60.94, 2.30′ RT

MEDIAN CURVE C3
PI STA. = 53+17.84, 3.25′ LT
Δ = 5° 30′ 00″ (RT)
R = 1190.10′
T = 57.16′
L = 114.24′
E = 1.37′
P.R.C. STA. = 52+60.94, 2.30′ RT
P.T. STA. = 53+75.00, 3.25′ LT

N

20′ 0 20′ 40′
SCALE: 1″ = 20′



DETAIL A - COMBINATION CURB AND GUTTER

NOT TO SCALE

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	PLOT DATE = 7/10/2014	DATE - 6/30/14	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MEDIAN DETAILS
FAI 55

SCALE: | SHEET 2 OF 2 SHEETS | STA. | TO STA.

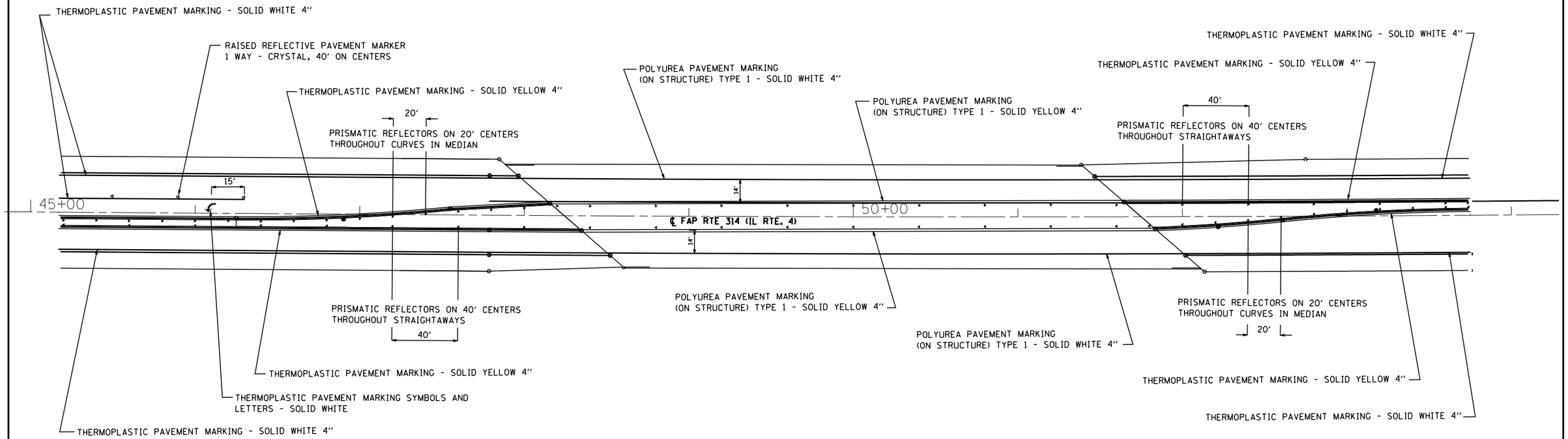
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	60-2HB-2	MADISON	52	17
		CONTRACT NO. 76G10		
	ILLINOIS FED. AID PROJECT			

N

30′ 0 30′ 60′

SCALE: 1″ = 30′

NOTE: POLYUREA PAVEMENT MARKING SHALL BE USED ON ALL PCC SURFACES. THERMOPLASTIC PAVEMENT MARKING SHALL BE USED ON ALL HMA SURFACES.



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	PLOT DATE = 7/18/2014	DATE - 6/30/14	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKING PLAN
FAI 55

SCALE: | SHEET 1 OF 1 SHEETS | STA. | TO STA.

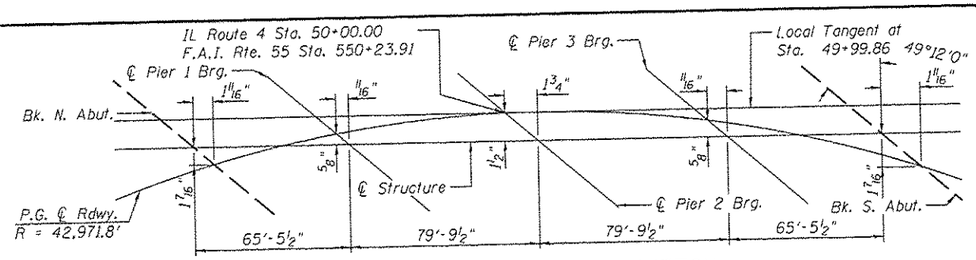
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	60-2HB-2	MADISON	52	18
		CONTRACT NO. 76G10		
		ILLINOIS FED. AID PROJECT		

B.M.: BM#15; Chiseled Square in center of headwall of Double Box Culvert (SN 060-2015) at E. side of ramp for northbound I-55 to IL Rte. 4, Mile Marker ±33.08, Elev. 550.734'

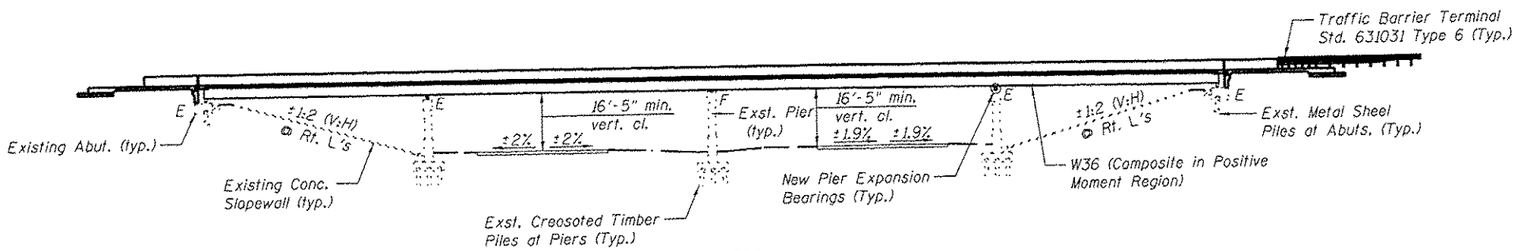
Traffic: Complete road closure with traffic detour routes will facilitate construction.

Existing Structure: SN 060-0104, 4 span Reinforced concrete slab on wide flange steel beams, Reinforced concrete multicolumn piers, Reinforced concrete abutments, Built as F.A.Rte. 5 Sec. 520-HB Sta. 20+00.00 over F.A.Rte. 55 Sta. 550+17.30 in 1955, Deck widened in 1973 as F.A.I. Rte. 4 Sta. 50+00 Sec. 60-2HBK-1, Deck Repairs & Joint Replacement 1986 as F.A.Rte. 670 Sec 60-2HBI, Abut. bearing replacement & longitudinal joint closure in 1998 as Sec. 60-(1,2)RS-1, Protective Shielding in 2007.

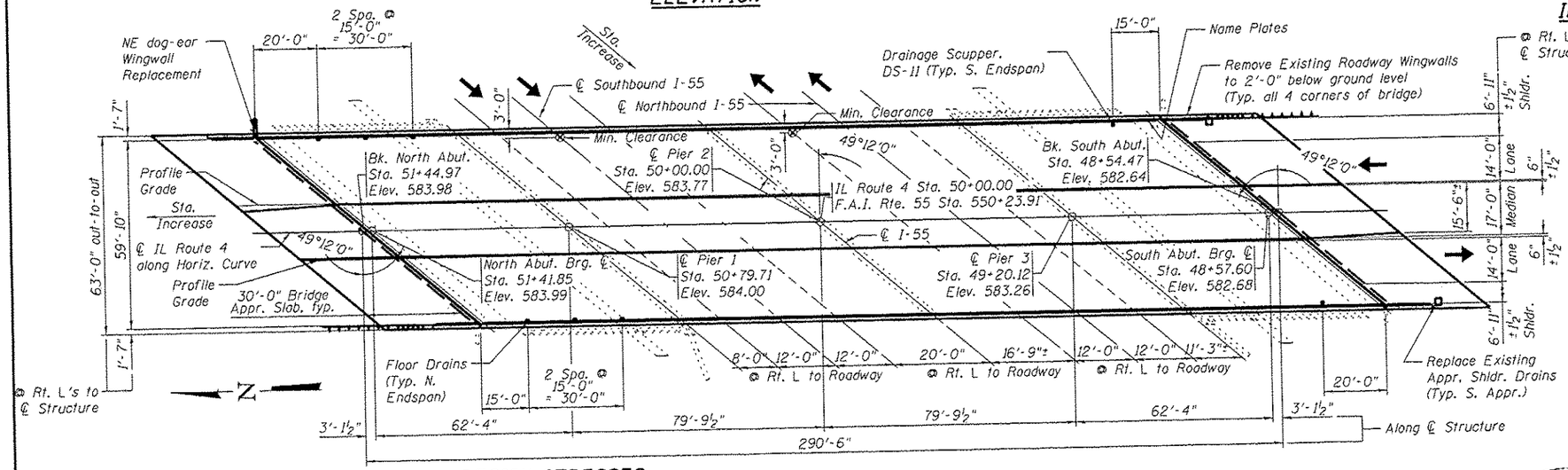
Salvage: None.



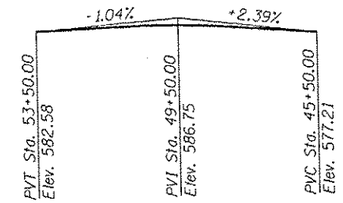
IL ROUTE 4 OFFSET SKETCH



ELEVATION

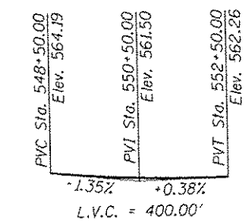


PLAN



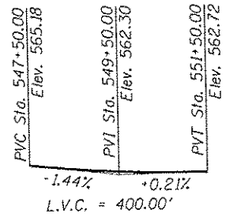
L.V.C. = 800.00'

PROFILE GRADE IL ROUTE 4



L.V.C. = 400.00'

PROFILE GRADE F.A.I. Rte. 55 Northbound



L.V.C. = 400.00'

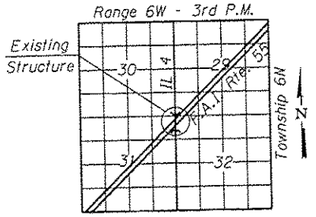
PROFILE GRADE F.A.I. Rte. 55 Southbound

SHEET INDEX

General Plan & Elevation	1
General Data	2
Top of Slab Elevations	3-9
Superstructure	10
Superstructure Details	11-12
Drainage Scuppers	13
Parapet Slipforming Option	14
Preformed Joint Strip Seal	15
Approach Slab Details	16-17
Structural Steel	18-19
Bearing Details	20
Backwall Replacement	21-23
Pier Repairs	24-26
Slopewall Repairs	27
Wingwall Replacement	28
Bar Splicers	29

SCOPE OF WORK

1) Remove and replace deck and parapet.
2) Install shear studs in positive moment regions.
3) Remove and replace backwalls.
4) Remove all expansion joints.
5) Remove & replace Pier expansion bearings.
6) Remove & replace approach pavements.
7) Remove roadway wingwalls.
8) Remove & replace NE dog-ear wingwall.
9) Add drainage scuppers and floor drains.
10) Paint all exposed structural steel surfaces.
11) Formed concrete repairs on substructures and slopewall.
12) Remove and replace 3 select structural steel diaphragms.
13) Remove existing Protective Shielding.



LOCATION SKETCH

DESIGN SPECIFICATIONS

2002 AASHTO Standard Specifications for Highway Bridges
1995 Seismic Retrofitting Manual (FHWA RD-94-052)

LOADING HS20-44

Allow 25#/sq. ft. for future wearing surface.

SEISMIC DATA

Seismic Performance Category (SPC) = A
Bedrock Acceleration Coefficient (A) = .083
Site Coefficient (S) = 1.0

DESIGN STRESSES

FIELD UNITS

f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)
fy = 36,000 psi (M270 Grade 36)

FIELD UNITS (Exist. Const.)

f'c superstructure = 2,800 psi
f'c substructure = 1,600 psi
fy substructure = 40,000 psi (Reinforcement)
fy = 33,000 psi (A7), Beam Strength limited to yield strength subject to bracing req.

HORIZONTAL CURVES

E.A. Rte. 55 Northbound Pavement
PI STA. = 549+00.00
Δ = 3° 06' 11"
D = 0° 31' 04"
R = 11,063.06'
T = 299.64'
L = 599.13'
E = 4.06'
S.E. = 0.019'/FT.
S.E. ATTAINED STA. = 545+20 TO STA. 546+22
S.E. REMOVED STA. = 551+83 TO STA. 552+85
P.C. STA. = 546+00.00
P.T. STA. = 552+00.00

E.A. Rte. 55 Southbound Pavement
NO CURVE FROM STA. 548+83.31 TO STA. 553+19.30

IL ROUTE 4
PI STA. = 51+03.80
Δ = 0° 52' 00"
D = 0° 08' 00"
R = 42971.8'
T = 325.01'
L = 650.00'
E = 1.23'
S.E. = NONE
P.C. STA. = 47+78.79
P.T. STA. = 54+28.79

APPROVED

For Structural Adequacy Only

P. Carl Lenzen IES
Engineer of Bridges & Structures

STATION 50+00.00
RE-BUILT 20__ BY
STATE OF ILLINOIS
IL RTE. 4 SEC. 60-2HB-2
LOADING HS20
STRUCTURE NO. 060-0104

NAME PLATE

See Std. 515001

Existing Name Plate shall be cleaned and relocated next to new Name Plate. Cost included with Name Plates.

REGINALD H. BENTON
081-004623
LICENSED STRUCTURAL ENGINEER OF JACKSONVILLE
ILLINOIS

Reginald H. Benton
7/10/2014
EXP 11/30/14

GENERAL PLAN & ELEVATION
IL ROUTE 4 OVER INTERSTATE 55
F.A.I. RTE. 55
SECTION 60-2HB-2
MADISON COUNTY
IL ROUTE 4 STA. 50+00.00
F.A.I. RTE. 55 STA. 550+23.91
STRUCTURE NO. 060-0104

BENTON & ASSOCIATES INC
BENTON & ASSOCIATES, INC.
Consulting Engineers / Land Surveyors
1970 West Lafayette Ave. Jacksonville, IL 62650
Phone: 217-245-4146 Fax: 217-245-4149
IL Design Firm Registration No. 184-000852

QUIGG ENGINEERING INC
2351 SOUTH DIRKSEN PARKWAY
SPRINGFIELD, ILLINOIS 62703
217-670-0563 (P) / 217-679-2204 (F)
www.quiggengineering.com

FILE NAME: 0600104-76G10-001-GPE.dgn	USER NAME =	DESIGNED - MBH	REVISED -
		CHECKED - DRB	REVISED -
	PLOT SCALE =	DRAWN - MBH	REVISED -
	PLOT DATE =	CHECKED - RHB	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN
STRUCTURE NO. 060-0104
SHEET NO. 1 OF 29 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	60-2HB-2	MADISON	52	19
		CONTRACT NO. 76G10		

FED. ROAD DIST. NO. 8 | ILLINOIS | FED. AID PROJECT

GENERAL NOTES

1. Calculated weight of Structural Steel = 4,020 lbs (Grade 50).

2. Calculated weight of Structural Steel = 1,130 lbs (Grade 36).

3. Fasteners shall be ASTM A325 Type 1, mechanically galvanized bolts. Bolts $^{7}/_{8}$"Ø, holes $^{15}/_{16}$"Ø, unless otherwise noted.

4. No field welding is permitted except as specified in the contract documents.

5. The Contractor shall test the existing welds by non-destructive methods within 2 ft. of the end of the existing cover plates for cracks after removal of the existing concrete deck. Dye penetrant (PT), magnetic particle (MT), or other approved testing method shall be performed by qualified personnel approved by the Engineer. If cracks are found, report them to the Bureau of Bridges and Structures for disposition. The cost of testing is included in the Removal of Existing Concrete Deck. The cost of crack repair, if necessary, will be paid for according to Article 109.04 of the Standard Specifications.

6. Reinforcement bars designated (E) shall be epoxy coated.

7. Prior to pouring the new concrete deck, all heavy or loose rust, loose mill scale, and other loose or potentially detrimental foreign material shall be removed from the surfaces in contact with concrete. Tightly adhered paint may remain unless otherwise noted. Removal shall be accomplished by methods that will not damage the steel and the cost will be included in the pay item covering removal of the existing concrete. As directed by the Engineer, existing construction accessories welded to the top flange of beams and girders shall be removed. The weld areas shall be ground flush and inspected for cracks using magnetic particle testing (MT) or dye penetrant testing (PT) by qualified personnel approved by the Engineer. Any cracks that can not be removed by grinding $^{1}/_{4}$ in. deep shall be identified and reported to the Bureau of Bridges and Structures for further disposition. The cost of removing welded accessories, grinding and inspecting weld areas and grinding cracks will be paid for according to Article 109.04 of the Standard Specifications.

8. Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contactor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.

9. Concrete Sealer shall be applied to the designated areas of the Abutments.

10. The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project.

11. The concrete for bridge decks finished according to Article 503.16(a) of the Standard Specifications shall be placed and compacted parallel to the skew in uniform increments along centerline of bridge. The machine used for finishing shall be set parallel to the skew for striking off and screeding the concrete.

12. In addition to the requirements of Article 501.03 in the Standard Specifications, the Contractor shall evaluate the condition of the existing Protective Shield. Such evaluation shall be performed by a licensed Structural Engineer in Illinois. The cost of this evaluation is included with Protective Shield. If structurally adequate, the existing Protective Shield shall remain in place for demolition of the existing bridge deck. The Contractor shall be paid for this work based on the total quantity of existing and new Protective Shield actually required at the Contract unit price per square yard for Protective Shield. The cost of removing the Protective Shield after curing of the new bridge deck is included in Protective Shield pay item.

13. All new Structural Steel shall be shop painted with an inorganic zinc-rich primer per AASHTO M300, Type 1. Cost included with Furnishing and Erecting Structural Steel.

14. Existing structural steel that will be in contact with new structural steel shall be cleaned and painted prior to erection as required by the Special Provisions "Cleaning & Painting Contact Surface Areas of Existing Steel Structures".

15. Cleaning and painting of the existing structural steel shall be specified in the special provision for "Cleaning and Painting Existing Steel Structures". All existing steel shall be cleaned per Near White Blast Cleaning- SSPC-SP10. All existing steel shall be painted according to the requirements of Paint System 1-OZ/E/U. The color of the final finish coat for all interior steel surfaces shall be Gray, Munsell No. 5B 7/1. The color of the final finish coat for the exterior and bottom flange beams shall be Gray, Munsell No. 5B 7/1.

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Concrete Removal	Cu. Yd.		49	49
Slope Wall Removal	Sq. Yd.		4	4
Removal of Existing Concrete Deck	Each	1		1
Protective Shield	Sq. Yd.	886		886
Structure Excavation	Cu. Yd.		81	81
Concrete Structures	Cu. Yd.		94.8	94.8
Concrete Superstructure	Cu. Yd.	913		913
Floor Drains	Each	6		6
Bridge Deck Grooving	Sq. Yd.	1595		1595
Protective Coat	Sq. Yd.	2648		2648
Furnishing and Erecting Structural Steel	Pound	5,150		5,150
Stud Shear Connectors	Each	6,960		6,960
Reinforcement Bars, Epoxy Coated	Pound	202,730	17,440	220,170
Bar Splicers	Each	184		184
Name Plates	Each	1		1
Slope Wall, 4"	Sq. Yd.		4	4
Preformed Joint Strip Seal	Foot	190		190
Elastomeric Bearing Assembly, Type 1	Each	20		20
Anchor Bolts, 1"	Each		40	40
Concrete Sealer	Sq. Ft.		1534	1534
Granular Backfill for Structures	Cu. Yd.		81	81
Type G Inlet Box, Standard 610001	Each	2		2
Controlled Low-Strength Material	Cu. Yd.		33	33
Jack and Remove Existing Bearings	Each	20		20
Containment and Disposal of Lead Paint Cleaning Residues	L. Sum	1		1
Cleaning and Painting Steel Bridge No. 1	L. Sum	1		1
Structural Repair of Concrete (Depth <= 5")	Sq. Ft.		713	713
Drainage Scuppers, DS-11	Each		2	2
Sealing Cracks	Foot		320	320

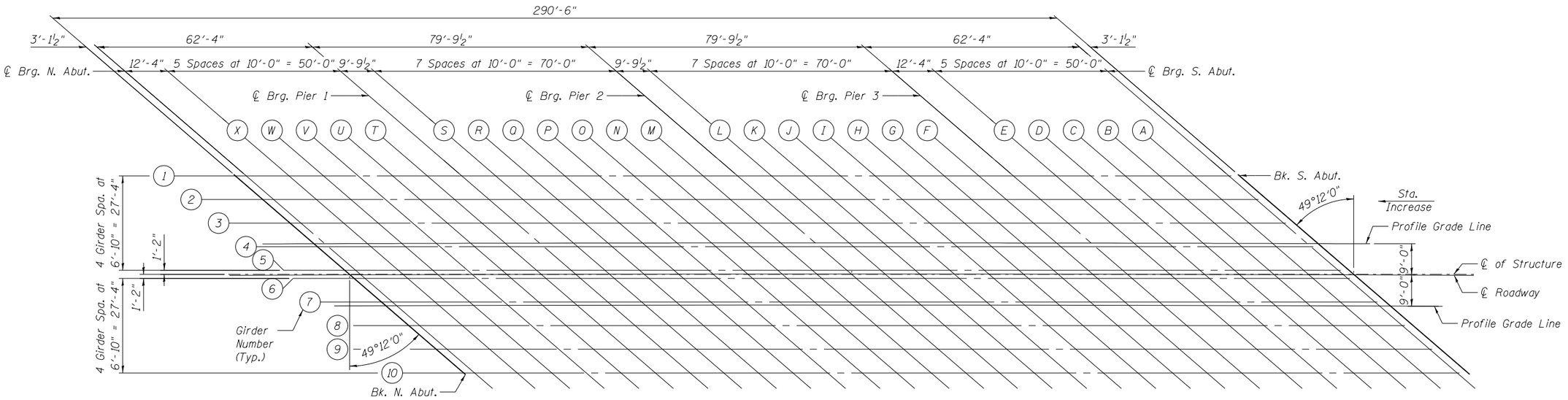
BENTON & ASSOCIATES, INC.
QUIGG ENGINEERING INC

FILE NAME: 0600104-76G10-002-Data.dgn	USER NAME =	DESIGNED - MBH	REVISED -
		CHECKED - DRB	REVISED -
	PLOT SCALE =	DRAWN - MBH	REVISED -
	PLOT DATE =	CHECKED - RHB	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL DATA
STRUCTURE NO. 060-0104
SHEET NO. 2 OF 29 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	60-2HB-2	MADISON	52	20
		CONTRACT NO. 76G10		
FED. ROAD DIST. NO. 8	ILLINOIS	FED. AID PROJECT		



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SN 060-0104

PLAN

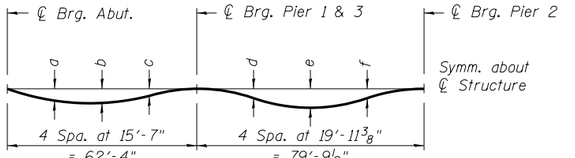
BENTON & ASSOCIATES, INC.
QUIGG ENGINEERING INC

FILE NAME: 0600104-76G10-003-Elev1.dgn	USER NAME =	DESIGNED - MBH	REVISED -
		CHECKED - DRB	REVISED -
	PLOT SCALE =	DRAWN - MBH	REVISED -
	PLOT DATE =	CHECKED - RHB	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS
STRUCTURE NO. 060-0104
SHEET NO. 3 OF 29 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	60-2HB-2	MADISON	52	21
		CONTRACT NO. 76G10		
FED. ROAD DIST. NO. 8	ILLINOIS	FED. AID PROJECT		

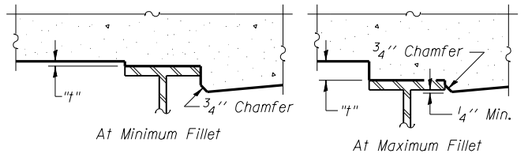


DEAD LOAD DEFLECTION DIAGRAM

(Includes weight of concrete only.)

Note:
The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown on sheets 4-7.

Location	BMS 2 thru 4 & BMS 7 thru 9	BMS 5 & 6	BMS 1 & 10
a	1/4"	5/32"	7/32"
b	1/4"	3/16"	1/4"
c	1/8"	3/32"	1/8"
d	3/16"	5/32"	3/16"
e	3/8"	1/4"	11/32"
f	3/16"	1/8"	3/16"



To determine "t": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown below. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown below, minus slab thickness, equals the fillet heights "t" above top flange of beams. Note that fillet heights are expected to be greater than 3" on some beams and the vertical dimension of shear studs should consider this to ensure they extend at least 2" into the slab.

FILLET HEIGHTS

BEAM 1

Location	Station	Offset from ℄ Roadway	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	48+87.70	28.52'	582.49'	582.49'
℄ Brg. S. Abut.	48+90.82	28.51'	582.52'	582.52'
A	49+00.81	28.49'	582.61'	582.63'
B	49+10.81	28.47'	582.70'	582.72'
C	49+20.80	28.45'	582.78'	582.80'
D	49+30.79	28.43'	582.86'	582.87'
E	49+40.79	28.42'	582.93'	582.94'
℄ Brg. PIER 3	49+53.11	28.40'	583.02'	583.02'
F	49+63.11	28.39'	583.08'	583.08'
G	49+73.10	28.38'	583.14'	583.15'
H	49+83.09	28.38'	583.19'	583.22'
I	49+93.09	28.38'	583.25'	583.27'
J	50+03.08	28.37'	583.29'	583.32'
K	50+13.07	28.38'	583.33'	583.35'
L	50+23.07	28.38'	583.37'	583.38'
℄ Brg. PIER 2	50+32.85	28.39'	583.41'	583.41'
M	50+42.84	28.40'	583.44'	583.44'
N	50+52.84	28.41'	583.46'	583.48'
O	50+62.83	28.42'	583.48'	583.51'
P	50+72.82	28.44'	583.50'	583.53'
Q	50+82.82	28.46'	583.51'	583.54'
R	50+92.81	28.48'	583.52'	583.54'
S	51+02.81	28.50'	583.53'	583.53'
℄ Brg. PIER 1	51+12.59	28.52'	583.53'	583.53'
T	51+22.58	28.55'	583.52'	583.53'
U	51+32.58	28.58'	583.51'	583.53'
V	51+42.57	28.61'	583.50'	583.52'
W	51+52.56	28.65'	583.49'	583.51'
X	51+62.56	28.68'	583.46'	583.48'
℄ Brg. N. Abut.	51+74.88	28.73'	583.43'	583.43'
Bk. N. Abut.	51+78.00	28.74'	583.42'	583.42'

BEAM 2

Location	Station	Offset from ℄ Roadway	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	48+79.77	21.71'	582.56'	582.56'
℄ Brg. S. Abut.	48+82.89	21.70'	582.59'	582.59'
A	48+92.89	21.68'	582.68'	582.70'
B	49+02.88	21.65'	582.77'	582.80'
C	49+12.88	21.63'	582.86'	582.88'
D	49+22.87	21.61'	582.94'	582.96'
E	49+32.87	21.59'	583.02'	583.02'
℄ Brg. PIER 3	49+45.19	21.58'	583.10'	583.10'
F	49+55.19	21.57'	583.17'	583.18'
G	49+65.18	21.56'	583.23'	583.25'
H	49+75.18	21.55'	583.29'	583.32'
I	49+85.17	21.54'	583.35'	583.38'
J	49+95.17	21.54'	583.40'	583.42'
K	50+05.16	21.54'	583.44'	583.46'
L	50+15.16	21.54'	583.49'	583.49'
℄ Brg. PIER 2	50+24.94	21.55'	583.52'	583.52'
M	50+34.94	21.56'	583.56'	583.56'
N	50+44.93	21.57'	583.58'	583.60'
O	50+54.93	21.58'	583.61'	583.64'
P	50+64.92	21.59'	583.63'	583.66'
Q	50+74.92	21.61'	583.65'	583.67'
R	50+84.91	21.63'	583.66'	583.67'
S	50+94.91	21.65'	583.67'	583.67'
℄ Brg. PIER 1	51+04.70	21.67'	583.67'	583.67'
T	51+14.69	21.70'	583.67'	583.67'
U	51+24.69	21.72'	583.66'	583.68'
V	51+34.68	21.75'	583.65'	583.68'
W	51+44.68	21.79'	583.64'	583.66'
X	51+54.67	21.82'	583.62'	583.64'
℄ Brg. N. Abut.	51+67.00	21.87'	583.60'	583.60'
Bk. N. Abut.	51+70.12	21.88'	583.59'	583.59'

BEAM 3

Location	Station	Offset from ℄ Roadway	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	48+71.83	14.90'	582.59'	582.59'
℄ Brg. S. Abut.	48+74.96	14.89'	582.63'	582.63'
A	48+84.95	14.86'	582.72'	582.74'
B	48+94.95	14.84'	582.82'	582.84'
C	49+04.95	14.81'	582.90'	582.93'
D	49+14.94	14.79'	582.99'	583.00'
E	49+24.94	14.77'	583.07'	583.07'
℄ Brg. PIER 3	49+37.27	14.75'	583.16'	583.16'
F	49+47.27	14.74'	583.23'	583.24'
G	49+57.26	14.73'	583.30'	583.32'
H	49+67.26	14.72'	583.36'	583.39'
I	49+77.26	14.71'	583.42'	583.45'
J	49+87.25	14.71'	583.47'	583.50'
K	49+97.25	14.71'	583.52'	583.54'
L	50+07.25	14.71'	583.57'	583.57'
℄ Brg. PIER 2	50+17.03	14.71'	583.61'	583.61'
M	50+27.03	14.72'	583.64'	583.65'
N	50+37.03	14.73'	583.67'	583.69'
O	50+47.02	14.73'	583.70'	583.73'
P	50+57.02	14.75'	583.73'	583.76'
Q	50+67.02	14.76'	583.75'	583.77'
R	50+77.01	14.78'	583.76'	583.78'
S	50+87.01	14.80'	583.77'	583.78'
℄ Brg. PIER 1	50+96.80	14.82'	583.78'	583.78'
T	51+06.80	14.84'	583.78'	583.79'
U	51+16.79	14.87'	583.78'	583.79'
V	51+26.79	14.90'	583.78'	583.80'
W	51+36.78	14.93'	583.76'	583.79'
X	51+46.78	14.96'	583.75'	583.77'
℄ Brg. N. Abut.	51+59.11	15.00'	583.73'	583.73'
Bk. N. Abut.	51+62.23	15.01'	583.72'	583.72'

E-S 7-1-10
BENTON & ASSOCIATES, INC.
QUIGG ENGINEERING INC

FILE NAME	USER NAME =	DESIGNED - MBH	REVISED -
0600104-76G10-004-Elev2.dgn		CHECKED - DRB	REVISED -
	PLOT SCALE =	DRAWN - MBH	REVISED -
	PLOT DATE =	CHECKED - RHB	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS
STRUCTURE NO. 060-0104
SHEET NO. 4 OF 29 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	60-2HB-2	MADISON	52	22
		CONTRACT NO. 76G10		
FED. ROAD DIST. NO. 8	ILLINOIS	FED. AID PROJECT		

BEAM 4

Location	Station	Offset from ℄ Roadway	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	48+63.90	8.09′	582.62′	582.62′
℄ Brg. S. Abut.	48+67.02	8.08′	582.65′	582.65′
A	48+77.02	8.05′	582.75′	582.77′
B	48+87.02	8.02′	582.85′	582.87′
C	48+97.02	8.00′	582.94′	582.96′
D	49+07.02	7.98′	583.03′	583.04′
E	49+17.01	7.96′	583.11′	583.12′
℄ Brg. PIER 3	49+29.35	7.93′	583.21′	583.21′
F	49+39.34	7.92′	583.28′	583.29′
G	49+49.34	7.91′	583.35′	583.37′
H	49+59.34	7.89′	583.42′	583.45′
I	49+69.34	7.89′	583.48′	583.51′
J	49+79.34	7.88′	583.54′	583.56′
K	49+89.33	7.88′	583.59′	583.61′
L	49+99.33	7.87′	583.64′	583.64′
℄ Brg. PIER 2	50+09.12	7.88′	583.68′	583.68′
M	50+19.12	7.88′	583.72′	583.73′
N	50+29.12	7.89′	583.76′	583.77′
O	50+39.12	7.89′	583.79′	583.81′
P	50+49.11	7.90′	583.82′	583.85′
Q	50+59.11	7.92′	583.84′	583.86′
R	50+69.11	7.93′	583.86′	583.87′
S	50+79.11	7.95′	583.87′	583.88′
℄ Brg. PIER 1	50+88.90	7.97′	583.88′	583.88′
T	50+98.90	7.99′	583.89′	583.89′
U	51+08.90	8.01′	583.89′	583.90′
V	51+18.89	8.04′	583.89′	583.91′
W	51+28.89	8.07′	583.88′	583.90′
X	51+38.89	8.10′	583.87′	583.89′
℄ Brg. N. Abut.	51+51.22	8.14′	583.85′	583.85′
Bk. N. Abut.	51+54.34	8.15′	583.84′	583.84′

BEAM 5

Location	Station	Offset from ℄ Roadway	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	48+55.96	1.28′	582.64′	582.64′
℄ Brg. S. Abut.	48+59.09	1.27′	582.68′	582.68′
A	48+69.09	1.24′	582.78′	582.79′
B	48+79.09	1.21′	582.88′	582.90′
C	48+89.09	1.18′	582.98′	582.99′
D	48+99.08	1.16′	583.07′	583.08′
E	49+09.08	1.14′	583.15′	583.16′
℄ Brg. PIER 3	49+21.42	1.11′	583.25′	583.25′
F	49+31.42	1.10′	583.33′	583.34′
G	49+41.42	1.08′	583.40′	583.42′
H	46+51.42	1.07′	583.47′	583.49′
I	49+61.42	1.06′	583.54′	583.56′
J	49+71.42	1.05′	583.60′	583.62′
K	49+81.42	1.05′	583.65′	583.67′
L	49+91.42	1.04′	583.71′	583.71′
℄ Brg. PIER 2	50+01.21	1.04′	583.75′	583.75′
M	50+11.21	1.04′	583.80′	583.80′
N	50+21.21	1.05′	583.84′	583.85′
O	50+31.21	1.05′	583.87′	583.89′
P	50+41.21	1.06′	583.90′	583.92′
Q	50+51.21	1.07′	583.93′	583.95′
R	50+61.21	1.09′	583.95′	583.96′
S	50+71.21	1.10′	583.97′	583.97′
℄ Brg. PIER 1	50+81.00	1.12′	583.98′	583.98′
T	50+91.00	1.14′	583.99′	583.99′
U	51+01.00	1.16′	583.99′	584.00′
V	51+11.00	1.19′	584.00′	584.01′
W	51+21.00	1.21′	583.99′	584.01′
X	51+31.00	1.24′	583.98′	584.00′
℄ Brg. N. Abut.	51+43.33	1.28′	583.97′	583.97′
Bk. N. Abut.	51+46.45	1.29′	583.96′	583.96′

℄ STRUCTURE

Location	Station	Offset from ℄ Roadway	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	48+54.61	0.12′	582.64′	582.64′
℄ Brg. S. Abut.	48+57.73	0.11′	582.68′	582.68′
A	48+67.73	0.08′	582.78′	582.79′
B	48+77.73	0.05′	582.88′	582.90′
C	48+87.73	0.02′	582.98′	583.00′
D	48+97.73	0.00′	583.07′	583.08′
E	49+07.73	-0.03′	583.16′	583.16′
℄ Brg. PIER 3	49+20.06	-0.05′	583.26′	583.26′
F	49+30.06	-0.07′	583.34′	583.34′
G	49+40.06	-0.08′	583.41′	583.43′
H	49+50.06	-0.10′	583.48′	583.50′
I	49+60.06	-0.11′	583.55′	583.57′
J	49+70.06	-0.12′	583.61′	583.63′
K	49+80.06	-0.12′	583.67′	583.68′
L	49+90.06	-0.12′	583.72′	583.72′
℄ Brg. PIER 2	49+99.86	-0.13′	583.77′	583.77′
M	50+09.86	-0.12′	583.81′	583.81′
N	50+19.86	-0.12′	583.85′	583.86′
O	50+29.86	-0.11′	583.88′	583.90′
P	50+39.86	-0.11′	583.92′	583.94′
Q	50+49.86	-0.10′	583.94′	583.96′
R	50+59.86	-0.08′	583.97′	583.98′
S	50+69.86	-0.07′	583.98′	583.99′
℄ Brg. PIER 1	50+79.65	-0.05′	584.00′	584.00′
T	50+89.65	-0.03′	584.01′	584.01′
U	50+99.65	-0.01′	584.01′	584.02′
V	51+09.65	0.02′	584.01′	584.03′
W	51+19.65	0.04′	584.01′	584.03′
X	51+29.65	0.07′	584.00′	584.01′
℄ Brg. N. Abut.	51+41.98	0.11′	583.99′	583.99′
Bk. N. Abut.	51+45.11	0.12′	583.98′	582.98′

E-S 7-1-10
BENTON & ASSOCIATES, INC.
QUIGG ENGINEERING INC

FILE NAME	USER NAME =	DESIGNED - MBH	REVISED -
0600104-76G10-005-Elev3.dgn		CHECKED - DRB	REVISED -
	PLOT SCALE =	DRAWN - MBH	REVISED -
	PLOT DATE =	CHECKED - RHB	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS
STRUCTURE NO. 060-0104
SHEET NO. 5 OF 29 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	60-2HB-2	MADISON	52	23
		CONTRACT NO. 76G10		
FED. ROAD DIST. NO. 8	ILLINOIS	FED. AID PROJECT		

℄ ROADWAY

Location	Station	Offset from ℄ Roadway	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	48+54.47	0.00′	582.64′	582.64′
℄ Brg. S. Abut.	48+57.60	0.00′	582.68′	582.68′
A	48+67.64	0.00′	582.78′	582.79′
B	48+77.67	0.00′	582.88′	582.90′
C	48+87.71	0.00′	582.98′	583.00′
D	48+97.73	0.00′	583.07′	583.08′
E	49+07.76	0.00′	583.16′	583.16′
℄ Brg. PIER 3	49+20.12	0.00′	583.26′	583.26′
F	49+30.14	0.00′	583.34′	583.34′
G	49+40.16	0.00′	583.41′	583.43′
H	49+50.18	0.00′	583.48′	583.50′
I	49+60.19	0.00′	583.55′	583.57′
J	49+70.20	0.00′	583.61′	583.63′
K	49+80.20	0.00′	583.67′	583.68′
L	49+90.21	0.00′	583.72′	583.72′
℄ Brg. PIER 2	50+00.00	0.00′	583.77′	583.77′
M	50+10.00	0.00′	583.81′	583.81′
N	50+20.00	0.00′	583.85′	583.86′
O	50+29.99	0.00′	583.88′	583.90′
P	50+39.98	0.00′	583.92′	583.94′
Q	50+49.97	0.00′	583.94′	583.96′
R	50+59.95	0.00′	583.97′	583.98′
S	50+69.93	0.00′	583.98′	583.99′
℄ Brg. PIER 1	50+79.71	0.00′	584.00′	584.00′
T	50+89.68	0.00′	584.01′	584.01′
U	50+99.66	0.00′	584.01′	584.02′
V	51+09.63	0.00′	584.01′	584.03′
W	51+19.60	0.00′	584.01′	584.03′
X	51+29.57	0.00′	584.00′	584.01′
℄ Brg. N. Abut.	51+41.85	0.00′	583.99′	583.99′
Bk. N. Abut.	51+44.97	0.00′	583.98′	582.98′

Beam 6

Location	Station	Offset from ℄ Roadway	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	48+53.25	-1.04′	582.61′	582.61′
℄ Brg. S. Abut.	48+56.38	-1.05′	582.64′	582.64′
A	48+66.38	-1.08′	582.75′	582.76′
B	48+76.38	-1.11′	582.85′	582.87′
C	48+86.38	-1.14′	582.95′	582.96′
D	48+96.38	-1.17′	583.04′	583.05′
E	49+06.38	-1.19′	583.13′	583.14′
℄ Brg. PIER 3	49+18.71	-1.22′	583.23′	583.23′
F	49+28.71	-1.23′	583.31′	583.32′
G	49+38.71	-1.25′	583.39′	583.40′
H	49+48.71	-1.26′	583.46′	583.48′
I	49+58.71	-1.27′	583.52′	583.55′
J	49+68.71	-1.28′	583.59′	583.60′
K	49+78.71	-1.29′	583.64′	583.65′
L	49+88.71	-1.29′	583.70′	583.70′
℄ Brg. PIER 2	49+98.50	-1.29′	583.74′	583.74′
M	50+08.50	-1.29′	583.79′	583.79′
N	50+18.50	-1.29′	583.83′	583.84′
O	50+28.50	-1.28′	583.86′	583.88′
P	50+38.51	-1.27′	583.90′	583.92′
Q	50+48.51	-1.26′	583.92′	583.94′
R	50+58.51	-1.25′	583.95′	583.96′
S	50+68.51	-1.24′	583.96′	583.97′
℄ Brg. PIER 1	50+78.30	-1.22′	583.98′	583.98′
T	50+88.30	-1.20′	583.99′	583.99′
U	50+98.30	-1.18′	583.99′	584.00′
V	51+08.30	-1.16′	584.00′	584.01′
W	51+18.30	-1.13′	583.99′	584.01′
X	51+28.30	-1.10′	583.99′	584.00′
℄ Brg. N. Abut.	51+40.63	-1.06′	583.97′	583.97′
Bk. N. Abut.	51+43.76	-1.05′	583.97′	583.97′

BEAM 7

Location	Station	Offset from ℄ Roadway	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	48+45.31	-7.85′	582.42′	582.42′
℄ Brg. S. Abut.	48+48.43	-7.86′	582.45′	582.45′
A	48+58.44	-7.89′	582.56′	582.57′
B	48+68.44	-7.92′	582.67′	582.69′
C	48+78.44	-7.95′	582.77′	582.79′
D	48+88.44	-7.98′	582.86′	582.88′
E	48+98.44	-8.01′	582.95′	582.96′
℄ Brg. PIER 3	49+10.78	-8.03′	583.06′	583.06′
F	49+20.78	-8.05′	583.14′	583.15′
G	49+30.78	-8.07′	583.22′	583.24′
H	49+40.78	-8.09′	583.30′	583.32′
I	49+50.79	-8.10′	583.37′	583.40′
J	49+60.79	-8.11′	583.43′	583.46′
K	49+70.79	-8.12′	583.49′	583.51′
L	49+80.79	-8.12′	583.55′	583.55′
℄ Brg. PIER 2	49+90.59	-8.12′	583.60′	583.60′
M	50+00.59	-8.13′	583.65′	583.65′
N	50+10.59	-8.12′	583.69′	583.71′
O	50+20.59	-8.12′	583.73′	583.76′
P	50+30.59	-8.11′	583.76′	583.80′
Q	50+40.60	-8.11′	583.80′	583.82′
R	50+50.60	-8.10′	583.82′	583.84′
S	50+60.60	-8.08′	583.84′	583.85′
℄ Brg. PIER 1	50+70.39	-8.07′	583.86′	583.86′
T	50+80.39	-8.05′	583.87′	583.88′
U	50+90.40	-8.03′	583.88′	583.90′
V	51+00.40	-8.01′	583.89′	583.91′
W	51+00.40	-7.98′	583.89′	583.91′
X	51+20.40	-7.96′	583.88′	583.90′
℄ Brg. N. Abut.	51+32.74	-7.92′	583.87′	583.87′
Bk. N. Abut.	51+35.86	-7.91′	583.87′	583.87′

E-S 7-1-10
BENTON & ASSOCIATES, INC.
QUIGG ENGINEERING INC

FILE NAME	USER NAME =	DESIGNED - MBH	REVISED -
0600104-76G10-006-Elev4.dgn		CHECKED - DRB	REVISED -
	PLOT SCALE =	DRAWN - MBH	REVISED -
	PLOT DATE =	CHECKED - RHB	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS
STRUCTURE NO. 060-0104
SHEET NO. 6 OF 29 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	60-2HB-2	MADISON	52	24
		CONTRACT NO. 76G10		
FED. ROAD DIST. NO. 8	ILLINOIS	FED. AID PROJECT		

BEAM 8

Location	Station	Offset from ℄ Roadway	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	48+37.37	-14.65′	582.22′	582.22′
℄ Brg. S. Abut.	48+40.49	-14.66′	582.25′	582.25′
A	48+50.49	-14.70′	582.37′	582.38′
B	48+60.50	-14.73′	582.48′	582.50′
C	48+70.50	-14.76′	582.58′	582.60′
D	48+80.50	-14.79′	582.68′	582.70′
E	48+90.51	-14.82′	582.78′	582.78′
℄ Brg. PIER 3	49+02.85	-14.85′	582.89′	582.89′
F	49+12.85	-14.87′	582.97′	582.98′
G	49+22.85	-14.89′	583.05′	583.07′
H	49+32.86	-14.91′	583.13′	583.16′
I	49+42.86	-14.92′	583.20′	583.23′
J	49+52.86	-14.93′	583.27′	583.30′
K	49+62.87	-14.94′	583.34′	583.35′
L	49+72.87	-14.95′	583.40′	583.40′
℄ Brg. PIER 2	49+82.67	-14.96′	583.45′	583.45′
M	49+92.67	-14.96′	583.50′	583.51′
N	50+02.67	-14.96′	583.55′	583.57′
O	50+12.68	-14.96′	583.59′	583.62′
P	50+22.68	-14.95′	583.63′	583.66′
Q	50+32.68	-14.95′	583.66′	583.69′
R	50+42.69	-14.94′	583.69′	583.71′
S	50+52.69	-14.93′	583.72′	583.73′
℄ Brg. PIER 1	50+62.48	-14.91′	583.74′	583.74′
T	50+72.49	-14.90′	583.76′	583.76′
U	50+82.49	-14.88′	583.77′	583.78′
V	50+92.49	-14.86′	583.78′	583.80′
W	51+02.50	-14.84′	583.78′	583.81′
X	51+12.50	-14.81′	583.78′	583.80′
℄ Brg. N. Abut.	51+24.84	-14.78′	583.78′	583.78′
Bk. N. Abut.	51+27.97	-14.77′	583.77′	583.77′

BEAM 9

Location	Station	Offset from ℄ Roadway	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	48+29.42	-21.45′	582.01′	582.01′
℄ Brg. S. Abut.	48+32.55	-21.47′	582.05′	582.05′
A	48+42.55	-21.50′	582.17′	582.18′
B	48+52.56	-21.54′	582.28′	582.30′
C	48+62.56	-21.57′	582.38′	582.41′
D	48+72.57	-21.60′	582.49′	582.50′
E	48+82.57	-21.63′	582.59′	582.59′
℄ Brg. PIER 3	48+94.91	-21.66′	582.70′	582.70′
F	49+04.91	-21.69′	582.79′	582.80′
G	49+14.92	-21.71′	582.88′	582.89′
H	49+24.93	-21.73′	582.96′	582.98′
I	49+34.93	-21.74′	583.03′	583.06′
J	49+44.94	-21.76′	583.11′	583.13′
K	49+54.94	-21.77′	583.17′	583.19′
L	49+64.95	-21.78′	583.24′	583.24′
℄ Brg. PIER 2	49+74.74	-21.78′	583.29′	583.29′
M	49+84.75	-21.79′	583.35′	583.35′
N	49+94.75	-21.79′	583.40′	583.42′
O	50+04.76	-21.79′	583.45′	583.47′
P	50+14.76	-21.79′	583.49′	583.52′
Q	50+24.77	-21.78′	583.53′	583.55′
R	50+34.77	-21.78′	583.56′	583.58′
S	50+44.78	-21.77′	583.59′	583.59′
℄ Brg. PIER 1	50+54.57	-21.76′	583.61′	583.61′
T	50+64.58	-21.74′	583.63′	583.64′
U	50+74.58	-21.73′	583.65′	583.66′
V	50+84.59	-21.71′	583.66′	583.68′
W	50+94.59	-21.69′	583.67′	583.69′
X	51+04.60	-21.66′	583.67′	583.69′
℄ Brg. N. Abut.	51+16.94	-21.63′	583.67′	583.67′
Bk. N. Abut.	51+20.07	-21.62′	583.67′	583.67′

BEAM 10

Location	Station	Offset from ℄ Roadway	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	48+21.47	-28.25′	581.77′	581.77′
℄ Brg. S. Abut.	48+24.58	-28.27′	581.81′	581.81′
A	48+34.60	-28.31′	581.93′	581.94′
B	48+44.61	-28.34′	582.05′	582.07′
C	48+54.62	-28.38′	582.16′	582.18′
D	48+64.62	-28.41′	582.26′	582.28′
E	48+74.63	-28.44′	582.37′	582.37′
℄ Brg. PIER 3	48+86.97	-28.48′	582.49′	582.49′
F	48+96.98	-28.50′	582.58′	582.58′
G	49+06.98	-28.53′	582.67′	582.68′
H	49+16.99	-28.55′	582.75′	582.78′
I	49+27.00	-28.56′	582.83′	582.86′
J	49+37.00	-28.58′	582.91′	582.93′
K	49+47.01	-28.59′	582.98′	582.99′
L	49+57.02	-28.60′	583.04′	583.05′
℄ Brg. PIER 2	49+66.82	-28.61′	583.11′	583.11′
M	49+76.82	-28.62′	583.16′	583.17′
N	49+86.83	-28.62′	583.22′	583.23′
O	49+96.84	-28.63′	583.27′	583.29′
P	50+06.84	-28.62′	583.31′	583.34′
Q	50+16.85	-28.62′	583.35′	583.38′
R	50+26.86	-28.62′	583.39′	583.41′
S	50+36.86	-28.61′	583.42′	583.43′
℄ Brg. PIER 1	50+46.66	-28.60′	583.45′	583.45′
T	50+56.67	-28.59′	583.47′	583.48′
U	50+66.67	-28.57′	583.49′	583.51′
V	50+76.68	-28.56′	583.51′	583.53′
W	50+86.69	-28.54′	583.52′	583.54′
X	50+96.69	-28.52′	583.53′	583.54′
℄ Brg. N. Abut.	51+09.04	-28.49′	583.53′	583.53′
Bk. N. Abut.	51+12.16	-28.48′	583.53′	583.53′

E-S 7-1-10
BENTON & ASSOCIATES, INC.
QUIGG ENGINEERING INC

FILE NAME	USER NAME =	DESIGNED - MBH	REVISED -
0600104-76G10-007-Elev5.dgn		CHECKED - DRB	REVISED -
	PLOT SCALE =	DRAWN - MBH	REVISED -
	PLOT DATE =	CHECKED - RHB	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS
STRUCTURE NO. 060-0104
SHEET NO. 7 OF 29 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	60-2HB-2	MADISON	52	25
		CONTRACT NO. 76G10		
FED. ROAD DIST. NO. 8	ILLINOIS	FED. AID PROJECT		

SOUTH APPROACH PAVEMENT
EAST CURB LINE

Location	Station	Offset from ℄ Roadway	Theoretical Grade Elevations
End of S. Appr. Pvmt.	48+59.85	30.44′	582.20′
A1	48+69.84	30.41′	582.30′
A2	48+79.83	30.38′	582.40′
Bk. S. Abut.	48+89.82	30.35′	582.50′

SOUTH APPROACH PAVEMENT
EAST LANE LINE 2

Location	Station	Offset from ℄ Roadway	Theoretical Grade Elevations
End of S. Appr. Pvmt.	48+52.49	24.13′	582.25′
A1	48+62.10	23.76′	582.36′
A2	48+71.71	23.40′	582.46′
Bk. S. Abut.	48+81.31	23.04′	582.56′

SOUTH APPROACH PAVEMENT
EAST LANE LINE 1

Location	Station	Offset from ℄ Roadway	Theoretical Grade Elevations
End of S. Appr. Pvmt.	48+35.07	9.19′	582.29′
A1	48+45.06	9.15′	582.40′
A2	48+55.06	9.12′	582.51′
Bk. S. Abut.	48+65.06	9.09′	582.62′

℄ STRUCTURE

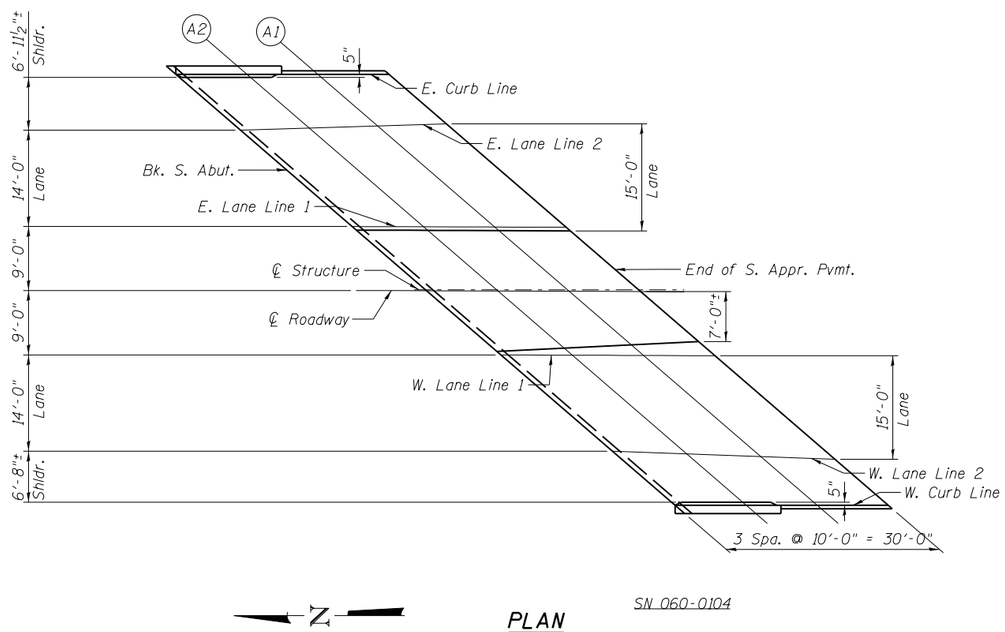
Location	Station	Offset from ℄ Roadway	Theoretical Grade Elevations
End of S. Appr. Pvmt.	48+24.61	0.23′	582.30′
A1	48+34.61	0.19′	582.42′
A2	48+44.61	0.16′	582.53′
Bk. S. Abut.	48+54.61	0.12′	582.64′

℄ ROADWAY

Location	Station	Offset from ℄ Roadway	Theoretical Grade Elevations
End of S. Appr. Pvmt.	48+24.34	0.00′	582.30′
A1	48+34.38	0.00′	582.42′
A2	48+44.43	0.00′	582.53′
Bk. S. Abut.	48+54.47	0.00′	582.64′

SOUTH APPROACH PAVEMENT
WEST LANE LINE 1

Location	Station	Offset from ℄ Roadway	Theoretical Grade Elevations
End of S. Appr. Pvmt.	48+14.14	-8.72′	582.04′
A1	48+24.14	-8.77′	582.16′
A2	48+34.14	-8.81′	582.28′
Bk. S. Abut.	48+44.15	-8.84′	582.39′



PLAN

SN 060-0104

SOUTH APPROACH PAVEMENT
WEST LANE LINE 2

Location	Station	Offset from ℄ Roadway	Theoretical Grade Elevations
End of S. Appr. Pvmt.	47+96.69	-23.64′	581.58′
A1	48+07.08	-23.36′	581.72′
A2	48+17.48	-23.07′	581.85′
Bk. S. Abut.	48+28.87	-22.78′	581.99′

SOUTH APPROACH PAVEMENT
WEST CURB LINE

Location	Station	Offset from ℄ Roadway	Theoretical Grade Elevations
End of S. Appr. Pvmt.	47+89.32	-29.94′	581.35′
A1	47+99.32	-29.99′	581.49′
A2	48+09.33	-30.04′	581.62′
Bk. S. Abut.	48+19.34	-30.08′	581.74′

E-AS 7-1-10

BENTON & ASSOCIATES, INC.
QUIGG ENGINEERING INC

FILE NAME: 0600104-76G10-008-Elev6.dgn	USER NAME =	DESIGNED - MBH	REVISED -
		CHECKED - DRB	REVISED -
	PLOT SCALE =	DRAWN - MBH	REVISED -
	PLOT DATE =	CHECKED - RHB	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SOUTH APPROACH SLAB ELEVATIONS
STRUCTURE NO. 060-0104
SHEET NO. 8 OF 29 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	60-2HB-2	MADISON	52	26
		CONTRACT NO. 76G10		
FED. ROAD DIST. NO. 8	ILLINOIS	FED. AID PROJECT		

NORTH APPROACH PAVEMENT
EAST CURB LINE

Location	Station	Offset from ℄ Roadway	Theoretical Grade Elevations
Bk. N. Abut.	51+80.12	30.59′	583.40′
A3	51+90.11	30.63′	583.37′
A4	52+00.11	30.67′	583.33′
End of N. Appr. Pvmt.	52+10.10	30.72′	583.29′

NORTH APPROACH PAVEMENT
EAST LANE LINE 2

Location	Station	Offset from ℄ Roadway	Theoretical Grade Elevations
Bk. N. Abut.	51+71.66	23.22′	583.57′
A3	51+82.04	23.59′	583.53′
A4	51+92.42	23.97′	583.49′
End of N. Appr. Pvmt.	52+02.80	24.35′	583.45′

NORTH APPROACH PAVEMENT
EAST LANE LINE 1

Location	Station	Offset from ℄ Roadway	Theoretical Grade Elevations
Bk. N. Abut.	51+55.50	9.16′	583.83′
A3	51+65.50	9.19′	583.80′
A4	51+75.50	9.23′	583.78′
End of N. Appr. Pvmt.	51+85.49	9.28′	583.75′

℄ STRUCTURE

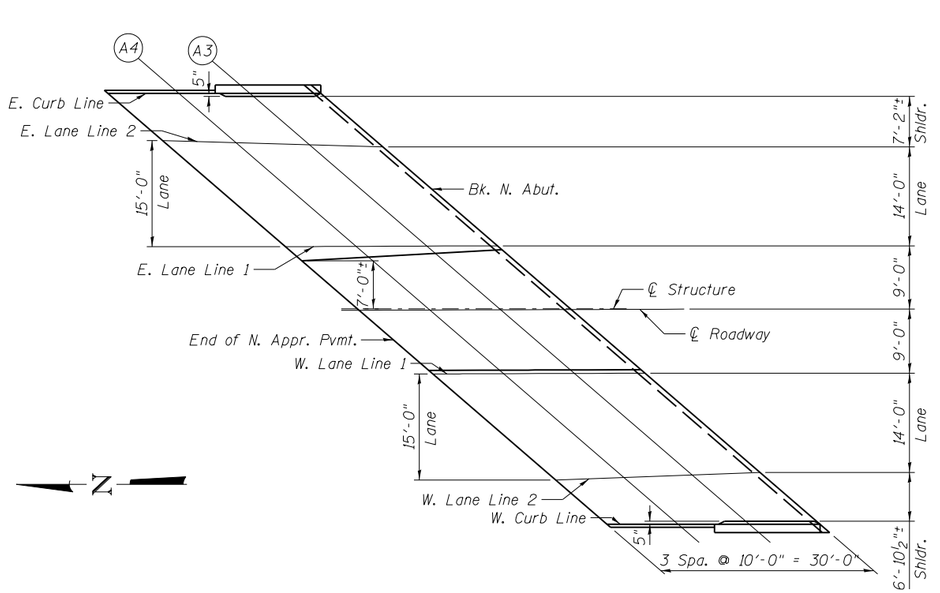
Location	Station	Offset from ℄ Roadway	Theoretical Grade Elevations
Bk. N. Abut.	51+45.11	0.12′	583.98′
A3	51+55.11	0.16′	583.96′
A4	51+65.11	0.19′	583.94′
End of N. Appr. Pvmt.	51+75.11	0.23′	583.91′

℄ ROADWAY

Location	Station	Offset from ℄ Roadway	Theoretical Grade Elevations
Bk. N. Abut.	51+44.97	0.00′	583.98′
A3	51+54.93	0.00′	583.96′
A4	51+64.88	0.00′	583.94′
End of N. Appr. Pvmt.	51+74.84	0.00′	583.91′

NORTH APPROACH PAVEMENT
WEST LANE LINE 1

Location	Station	Offset from ℄ Roadway	Theoretical Grade Elevations
Bk. N. Abut.	51+34.71	-8.91′	583.86′
A3	51+44.71	-8.88′	583.85′
A4	51+54.71	-8.85′	583.83′
End of N. Appr. Pvmt.	51+64.71	-8.81′	583.81′



SN 060-0104

PLAN

NORTH APPROACH PAVEMENT
WEST LANE LINE 2

Location	Station	Offset from ℄ Roadway	Theoretical Grade Elevations
Bk. N. Abut.	51+18.52	-22.96′	583.65′
A3	51+28.14	-23.27′	583.64′
A4	51+37.76	-23.57′	583.63′
End of N. Appr. Pvmt.	51+47.38	-23.87′	583.61′

NORTH APPROACH PAVEMENT
WEST CURB LINE

Location	Station	Offset from ℄ Roadway	Theoretical Grade Elevations
Bk. N. Abut.	51+10.05	-30.32′	583.51′
A3	51+20.05	-30.29′	583.51′
A4	51+30.06	-30.26′	583.50′
End of N. Appr. Pvmt.	51+40.06	-30.23′	583.49′

E-AS 7-1-10
BENTON & ASSOCIATES, INC.
QUIGG ENGINEERING INC

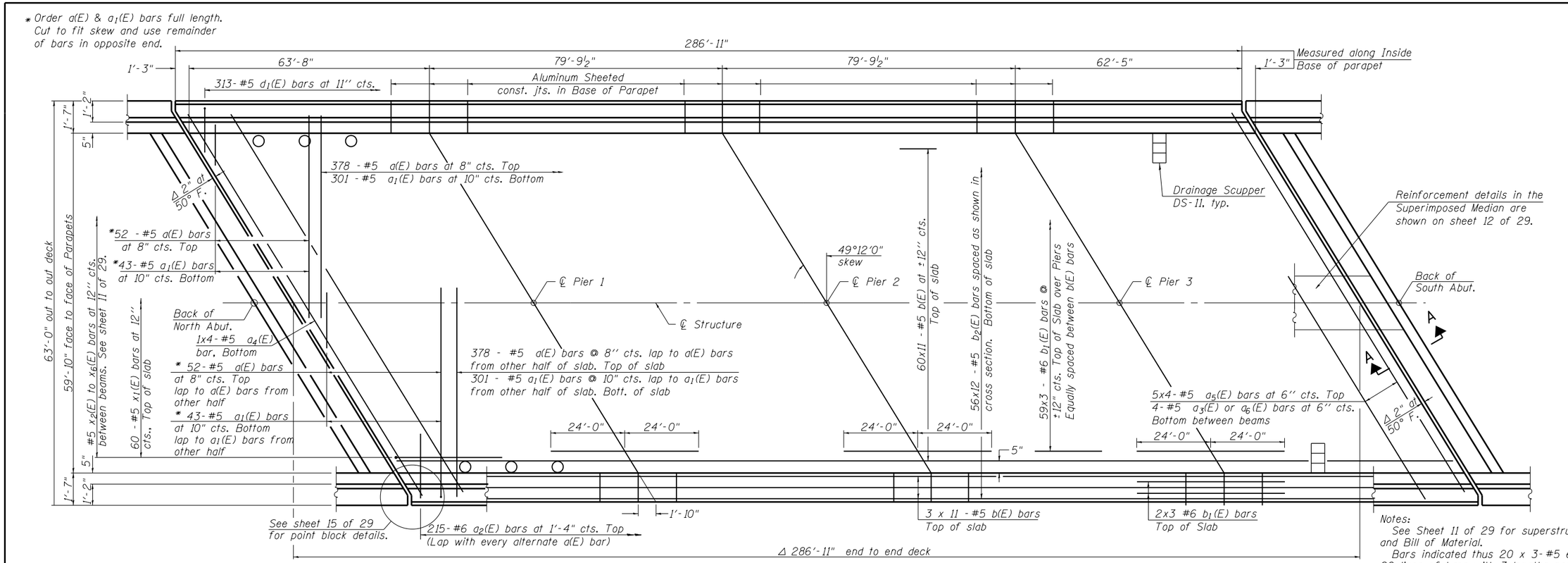
FILE NAME: 0600104-76G10-009-Elev7.dgn	USER NAME =	DESIGNED - MBH	REVISED -
		CHECKED - DRB	REVISED -
	PLOT SCALE =	DRAWN - MBH	REVISED -
	PLOT DATE =	CHECKED - RHB	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF NORTH APPROACH SLAB ELEVATIONS
STRUCTURE NO. 060-0104
SHEET NO. 9 OF 29 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	60-2HB-2	MADISON	52	27
		CONTRACT NO. 76G10		
FED. ROAD DIST. NO. 8	ILLINOIS	FED. AID PROJECT		

* Order a(E) & a_1(E) bars full length. Cut to fit skew and use remainder of bars in opposite end.

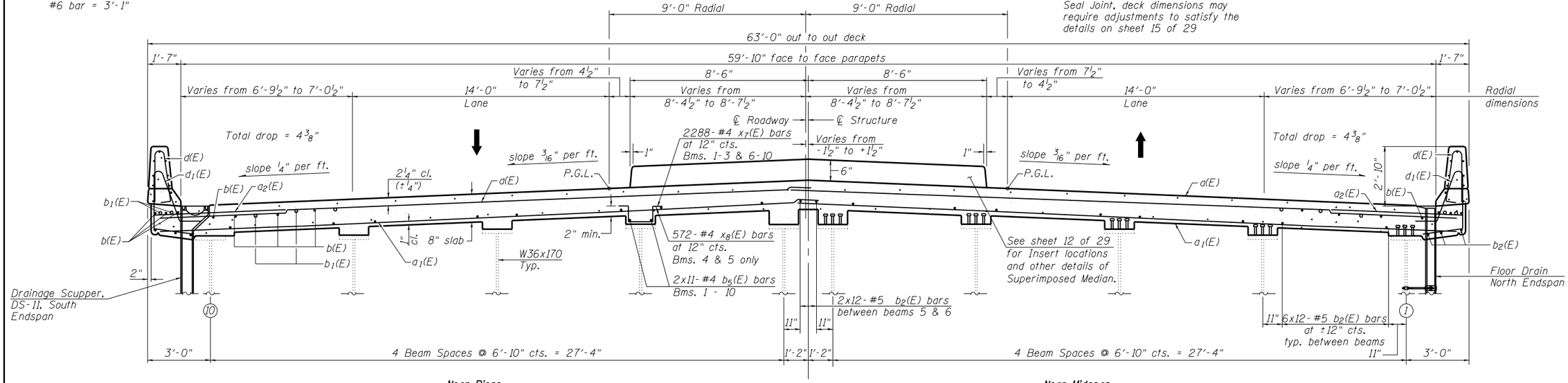


Minimum Bar Lap

#4 bar = 2'-1"
#5 bar = 2'-7"
#6 bar = 3'-1"

△ Dimensions are based on a Rolled Strip Seal Joint. If the contractor elects to use the Welded Rail Strip Seal Joint, deck dimensions may require adjustments to satisfy the details on sheet 15 of 29

PLAN



Near Piers **Near Midspan**

CROSS SECTION

(Looking North)

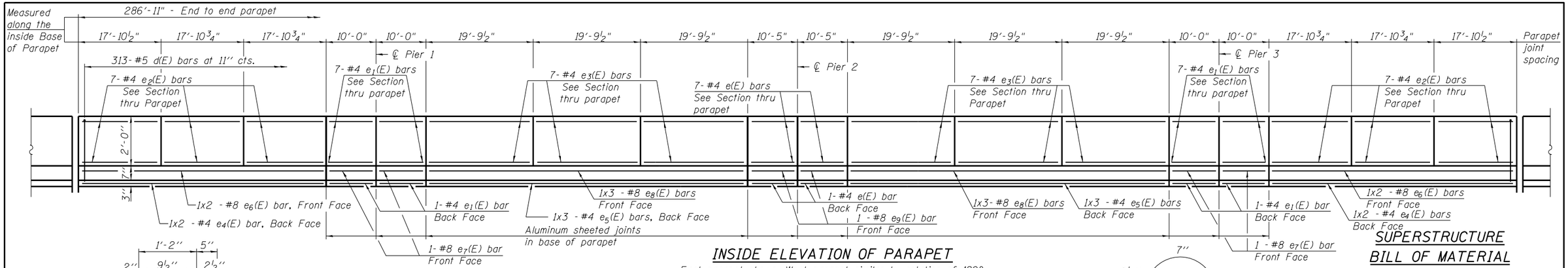
BENTON & ASSOCIATES, INC.
QUIGG ENGINEERING, INC.

FILE NAME	USER NAME =	DESIGNED - DRB	REVISED
0600104-76G10-010-Superstructure.dgn		CHECKED - MBH	REVISED
	PLOT SCALE =	DRAWN - TF	REVISED
	PLOT DATE =	CHECKED - JK	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

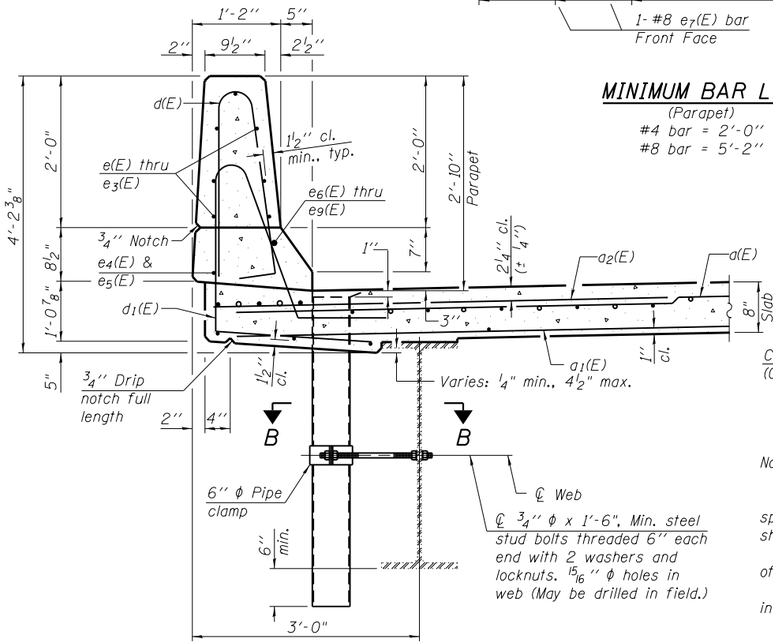
SUPERSTRUCTURE
STRUCTURE NO. 060-0104
SHEET NO. 10 OF 29 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	60-2HB-2	MADISON	52	28
		CONTRACT NO. 76G10		
	ILLINOIS FED. AID PROJECT			



INSIDE ELEVATION OF PARAPET

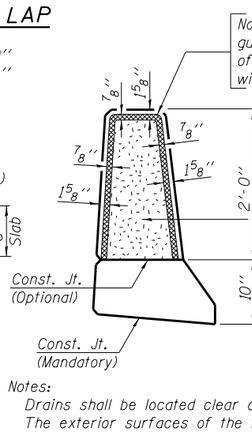
East parapet shown. West parapet similar by rotation of 180°.



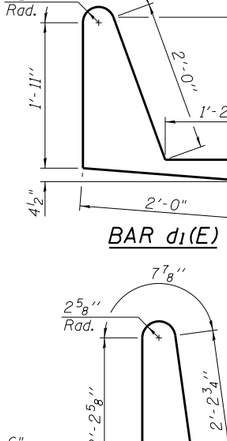
SECTION THRU PARAPET

MINIMUM BAR LAP

(Parapet)
#4 bar = 2'-0"
#8 bar = 5'-2"



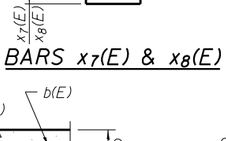
PARAPET JOINT DETAILS



BARS a3(E) & a6(E)

BAR d1(E)

BAR d(E)



BARS x7(E) & x8(E)

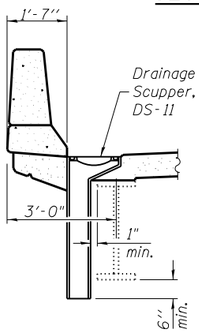
BAR x1(E)

BARS x2(E) THRU X6(e)

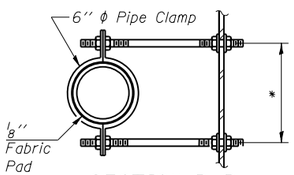
SUPERSTRUCTURE BILL OF MATERIAL

Bar	No.	Size	Length	Shape
d(E)	860	#5	32'-6"	
a1(E)	688	#5	32'-0"	
a2(E)	430	#6	6'-6"	
a3(E)	64	#5	11'-4"	
a4(E)	8	#5	23'-9"	
a5(E)	40	#5	25'-9"	
a6(E)	8	#5	4'-6"	
a7(E)	16	#5	1'-6"	
b(E)	924	#5	28'-5"	
b1(E)	567	#6	18'-1"	
b2(E)	672	#5	26'-4"	
* b5(E)	220	#4	27'-11"	
c1(E)	287	#5	25'-6"	
c2(E)	574	#5	1'-4"	
d(E)	626	#5	5'-7"	
d1(E)	626	#5	7'-8"	
e(E)	32	#4	10'-2"	
e1(E)	64	#4	9'-9"	
e2(E)	84	#4	17'-7"	
e3(E)	84	#4	19'-6"	
e4(E)	8	#4	27'-10"	
e5(E)	12	#4	21'-1"	
e6(E)	8	#8	29'-6"	
e7(E)	8	#8	9'-9"	
e8(E)	12	#8	23'-3"	
e9(E)	4	#8	10'-2"	
x1(E)	120	#5	4'-1"	
x2(E)	6	#5	6'-9"	
x3(E)	33	#5	7'-2"	
x4(E)	25	#5	7'-7"	
x5(E)	16	#5	7'-11"	
x6(E)	20	#5	8'-4"	
* x7(E)	2288	#4	3'-0"	
* x8(E)	572	#4	3'-6"	
Reinforcement Bars, Epoxy Coated		Pound	152,790	
Concrete Superstructure		Cu. Yds.	695.7	

Bars indicated thus 1 x 2-#8 etc. indicates 1 line of bars with 2 lengths per line.

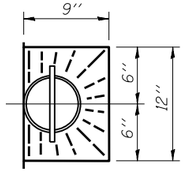


SECTION C-C

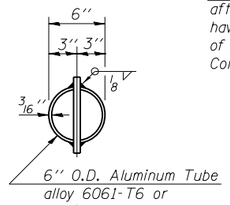


SECTION B-B

* Dimension as required by Pipe Clamp

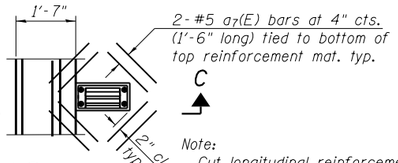


TOP PLAN



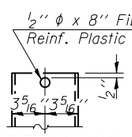
TOP PLAN

(Showing Aluminum Tube)

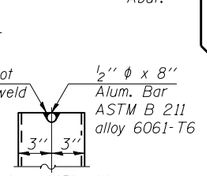


PLAN

Note: Cut longitudinal reinforcement to clear drainage scuppers.

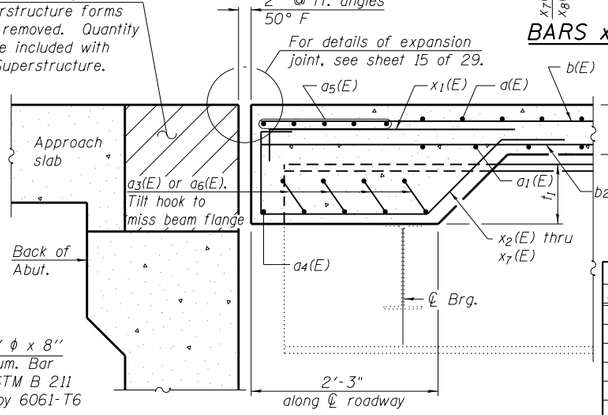


FIBERGLASS PIPE



ALUMINUM TUBE

Hatched area to be poured after superstructure forms have been removed. Quantity of concrete included with Concrete Superstructure.



SECTION A-A

* Quantity of x7(E) & x8(E) is estimated. Actual quantities will be determined in field.
b5(E) & x7(E) shall be used when fillets are ≥ 4" but < 9"
b5(E) & x8(E) shall be used when fillets are > 9"

Table of t_1 Dimensions		
Beam No.	N. Abut	S. Abut
1	3⅜"	3⅜"
2	3⅜"	3⅜"
3	3⅜"	3⅜"
4	3¼"	3⅜"
5	3	3
6	9	9½"
7	7½"	7⅞"
8	6⅛"	6⅜"
9	4½"	4¾"
10	3	3"

Table of t_1 Dimensions							
x bar	Dimensions				N. Abut.	S. Abut.	
	W	X	Y	Z	3 on either side of Beam No.:	3 on either side of Beam No.:	Total No. of Bars
x2(E)	10"	7⅜"	7⅜"	10⅜"	10**	1**	6
x3(E)	12"	9⅜"	9⅜"	13¼"	1**,2,3,4,9	2	33
x4(E)	14"	11⅜"	11⅜"	16⅛"	5***	3,4,9,10**	25
x5(E)	16"	13⅜"	13⅜"	18⅞"	8	5***,8	16
x6(E)	18"	15⅜"	15⅜"	21¼"	6***,7	6***,7	20

** Indicates bars placed on only one side of beam.
*** Indicates 3 bars placed on one side of beam and 1 bar placed on opposing side.

S-D2 8-31-12

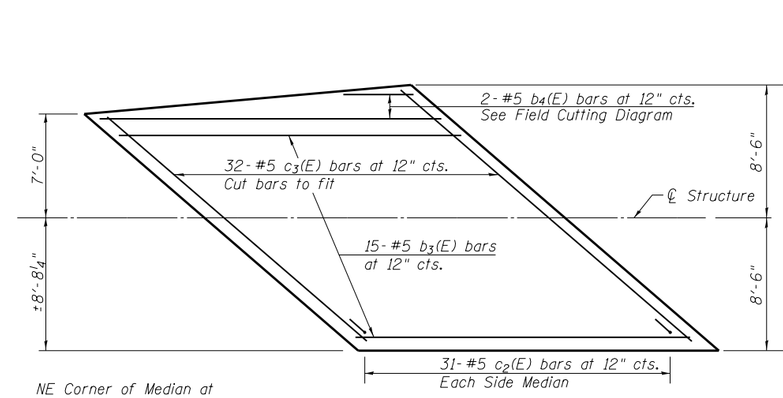
BENTON & ASSOCIATES, INC.
QUIGG ENGINEERING, INC.

FILE NAME	USER NAME =	DESIGNED - DRB	REVISED
06001Ø4-76G10-011-SuperstructureDetails01.dgn		CHECKED - MBH	REVISED
	PLOT SCALE =	DRAWN - TF	REVISED
	PLOT DATE =	CHECKED - JK	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

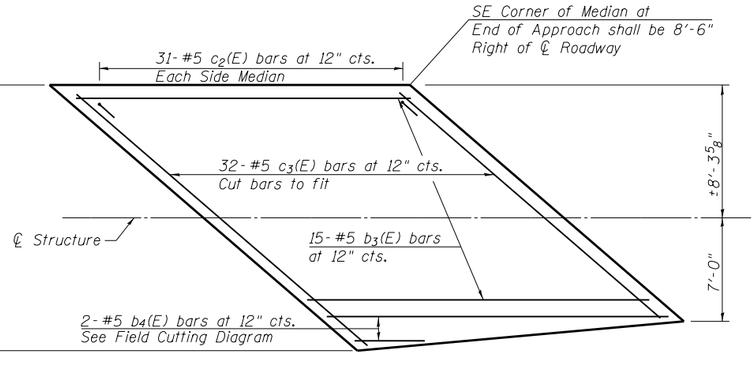
SUPERSTRUCTURE DETAILS
STRUCTURE NO. 060-0104
SHEET NO. 11 OF 29 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	60-2HB-2	MADISON	52	29
		CONTRACT NO. 76G10		
	ILLINOIS FED. AID PROJECT			

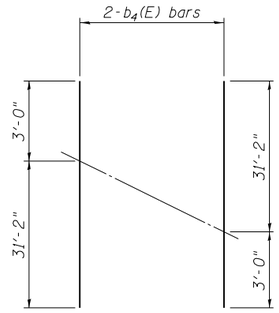


NE Corner of Median at Approach shall be 8'-6" Left of ℄ Roadway

PLAN
NORTH APPROACH MEDIAN

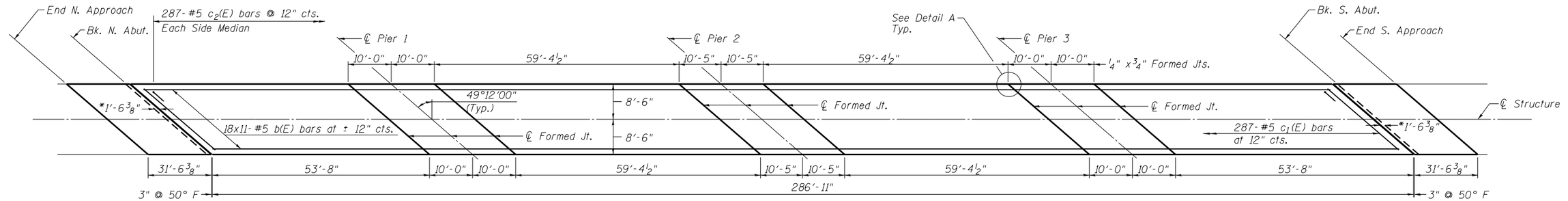


PLAN
SOUTH APPROACH MEDIAN



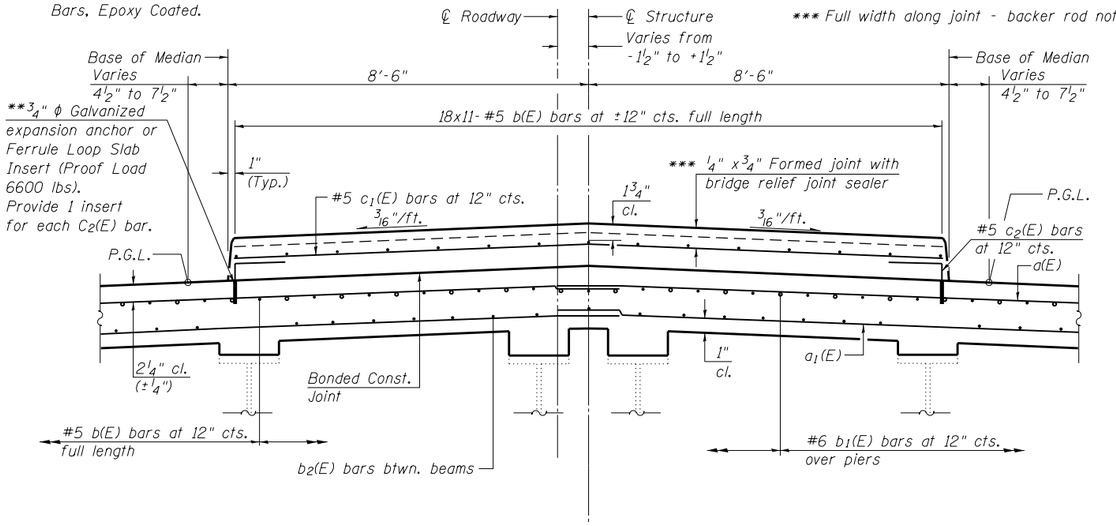
FIELD CUTTING DIAGRAM

Order $b_4(E)$ full length. Cut as shown and use remainder of bars in opposite approach slab.



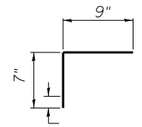
PLAN OF SUPERIMPOSED MEDIAN

** The cost of expansion anchors/inserts is included in the cost of Reinforcement Bars, Epoxy Coated.

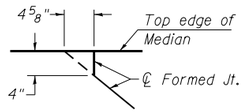


CROSS SECTION THRU MEDIAN
(Main Spans)

MINUMUM BAR LAP
#5 bar = 2'-7"



BAR $c_2(E)$

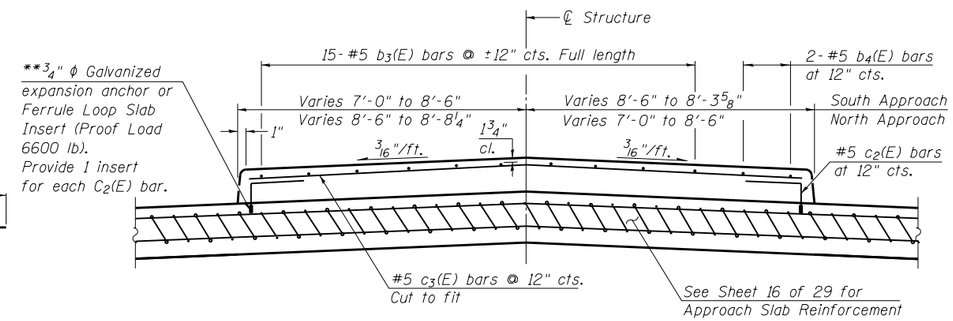


PLAN
Detail A

Notes:

1. Bars indicated 20x3-#5 etc. indicates 20 lines of bars with 3 lengths per line.
2. See sheet 11 of 29 for Bill of Material of Superimposed Median in Main Spans.
3. See sheet 17 of 29 for Bill of Material of Superimposed Median in Approach Slabs.

*Pour Appr. Median over top of Abut. Backfill.



CROSS SECTION THRU MEDIAN
Bridge Approach Slab Looking North
(North Approach Slab Shown - South Approach Slab Similar)

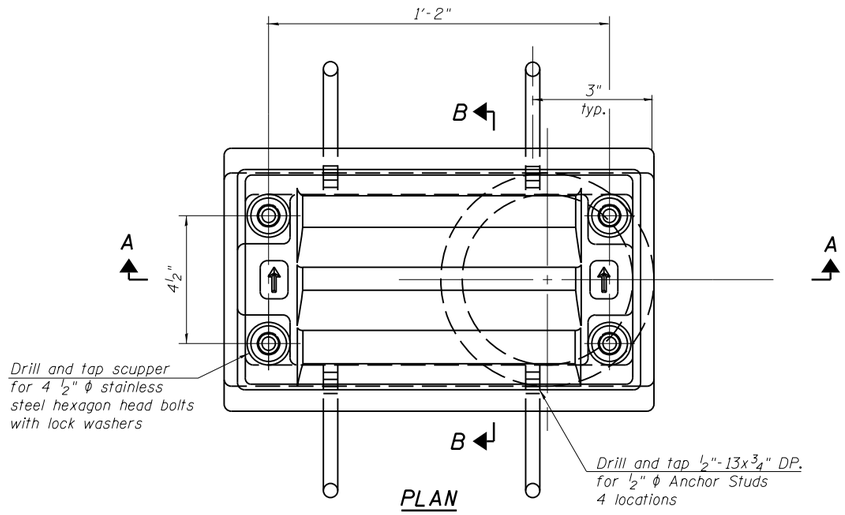
BENTON & ASSOCIATES, INC.
QUIGG ENGINEERING, INC.

FILE NAME	USER NAME =	DESIGNED - DRB	REVISED
0600104-76G10-012-SuperstructureDetails02.dgn		CHECKED - MBH	REVISED
	PLOT SCALE =	DRAWN - TF	REVISED
	PLOT DATE =	CHECKED - JK	REVISED

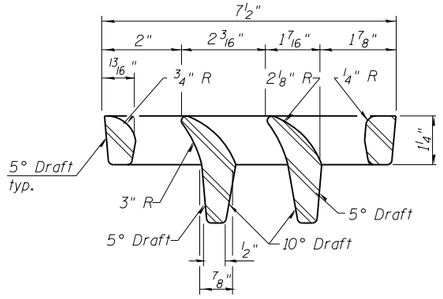
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUPERSTRUCTURE DETAILS
STRUCTURE NO. 060-0104
SHEET NO. 12 OF 29 SHEETS

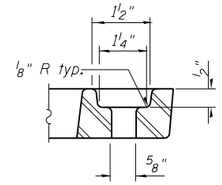
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	60-2HB-2	MADISON	52	30
		CONTRACT NO. 76G10		
		ILLINOIS FED. AID PROJECT		



PLAN



VANE GRATE DETAIL



BOLT HOLE DETAIL

Notes:

All cast iron parts shall be gray iron conforming to the requirements of AASHTO M 105, Class 35B.

Bolts, anchor studs, washers and nuts shall conform to the requirements of ASTM A 307 and shall be galvanized according to AASHTO M 232.

Downspouts located on the exterior side of a painted steel fascia beam shall be painted with the finish coat specified for the exterior side of the fascia beam.

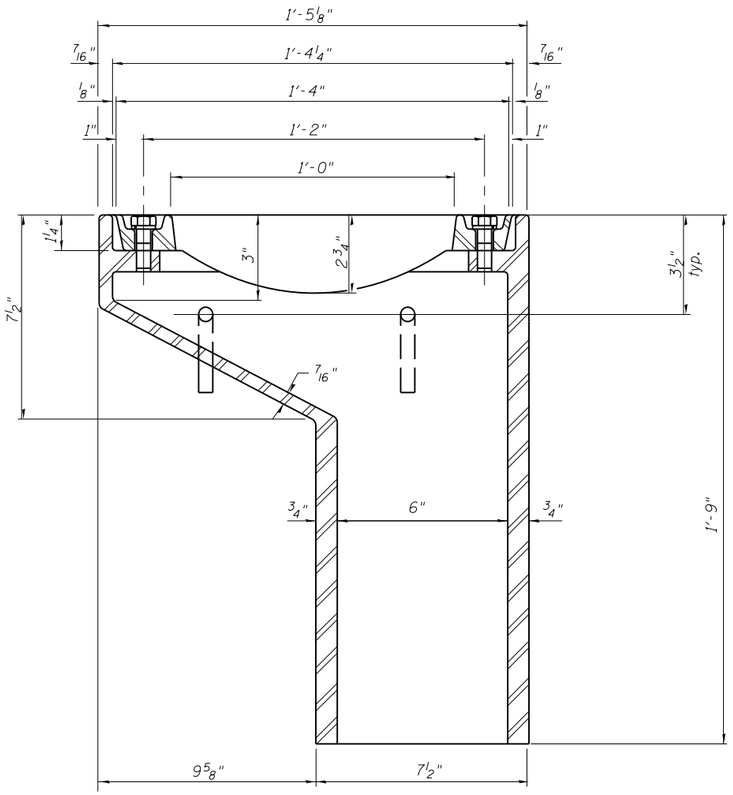
As an alternate, bolts, anchor studs, washers and nuts may be stainless steel according to Article 1006.29(d) of the Standard Specifications.

Structural steel weldments of equal sections and of the same configuration may be substituted for the cast iron scupper frame. Fillet or full penetration welds shall be used for the weldments. Details shall be submitted to the Engineer for approval. Structural steel weldments shall not be substituted for the cast iron scupper grate. Structural steel frames and downspouts shall be galvanized according to AASHTO M111.

The Contractor shall take appropriate measures to assure that Protective Coat is not applied to the scupper.

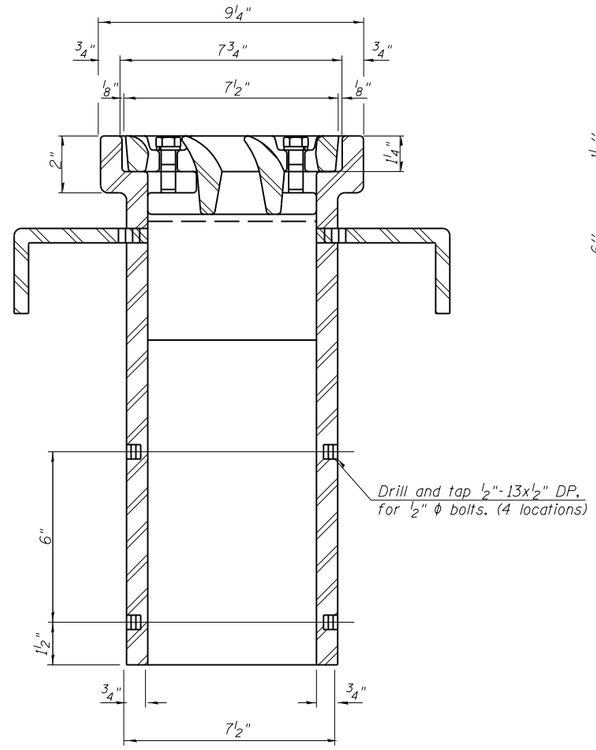
Cost of the Grate, Frame, Downspout, Anchor Studs, Bolts, Washers and Nuts including complete installation of the scupper shall be paid for at the contract unit price each for Drainage Scupper, DS-11.

Alternate fiberglass downspout conforming to ASTM D 2996 with a short-time rupture strength hoop tensile stress of 30,000 psi min. may be used in lieu of the cast iron or steel equivalent.

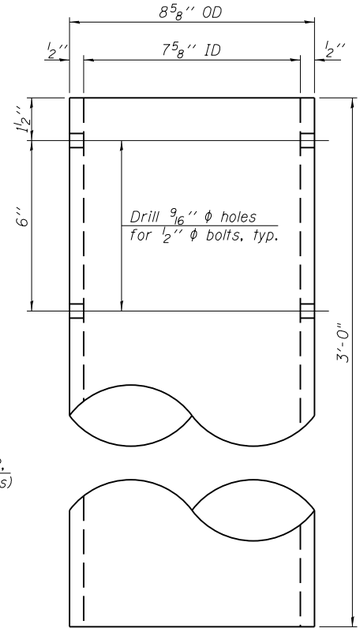


SECTION A-A

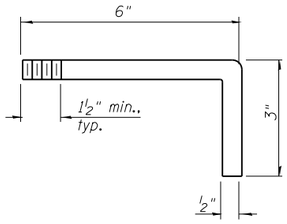
See sheet 1 of 29 for scupper location relative to parapet.



SECTION B-B



DOWNSPOUT



ANCHOR STUD DETAIL

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Drainage Scupper, DS-11	Each	2

DS-11 7-1-10

BENTON & ASSOCIATES, INC.

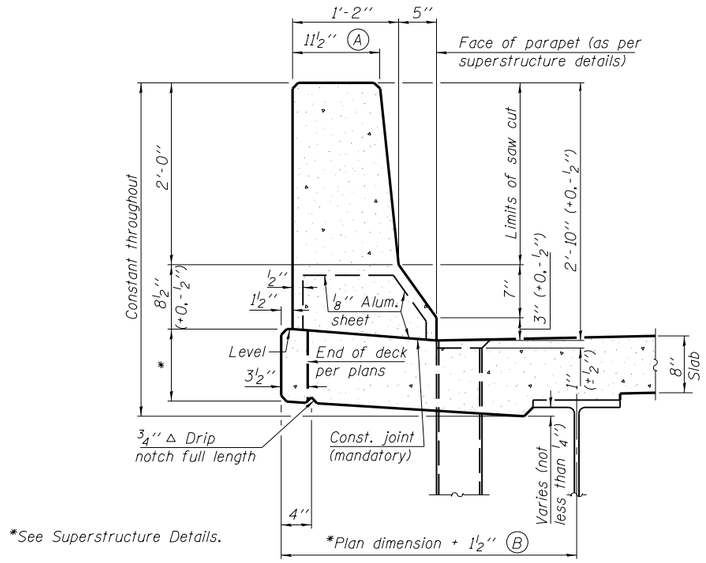
QUIGG ENGINEERING INC

FILE NAME 0600104-76G10-013-Scupper.dgn	USER NAME =	DESIGNED - MBH	REVISED -
		CHECKED - DRB	REVISED -
	PLOT SCALE =	DRAWN - MBH	REVISED -
	PLOT DATE =	CHECKED - RHB	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DRAINAGE SCUPPER, DS-11
STRUCTURE NO. 060-0104
SHEET NO. 13 OF 29 SHEETS

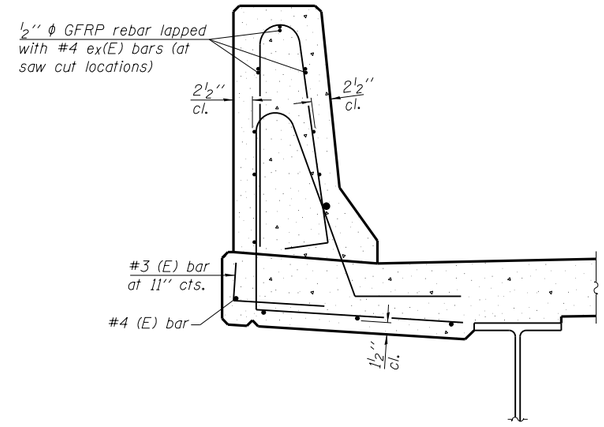
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	60-2HB-2	MADISON	52	31
		CONTRACT NO. 76G10		
FED. ROAD DIST. NO. 8	ILLINOIS	FED. AID PROJECT		



*See Superstructure Details.

34" F SHAPE PARAPET SECTION

(Showing dimensions)



SECTION

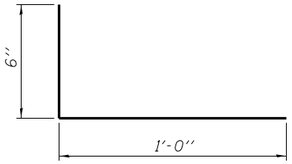
(34" parapet shown - 42" parapet similar)
(Showing reinforcement clearances for slip forming and additional reinforcement bars)

GENERAL NOTES

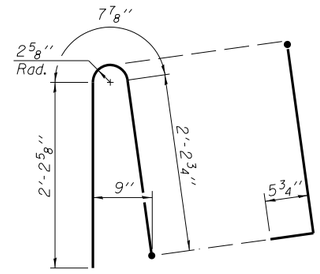
All dimensions shall remain the same as shown on superstructure details, except dimensions A and B which are to be revised as shown to provide additional clearance. Additional concrete needed to revise dimension A and B = 0.0165 cu. yds./ft. for 34" parapet or = 0.0223 cu. yds./ft. for 42" parapet.

Place aluminum sheet in curb portion at and near piers. Full thickness saw cut at all joint locations in lieu of cork joint filler.

Steel superstructure shown. Other superstructure types similar.

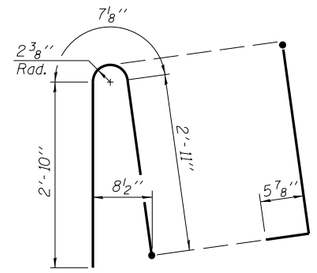


#3 (E) BAR



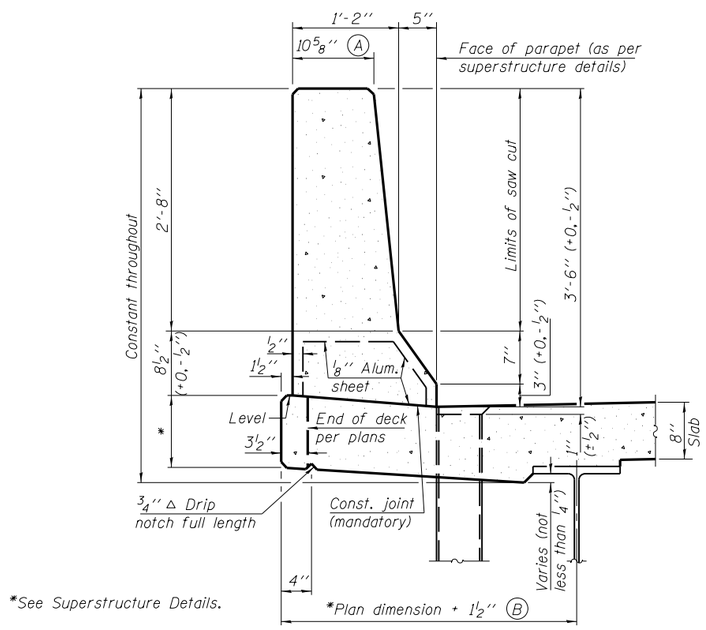
ALTERNATE BAR d(E)

(For 34" parapet when conduit is present)



ALTERNATE BAR d(E)

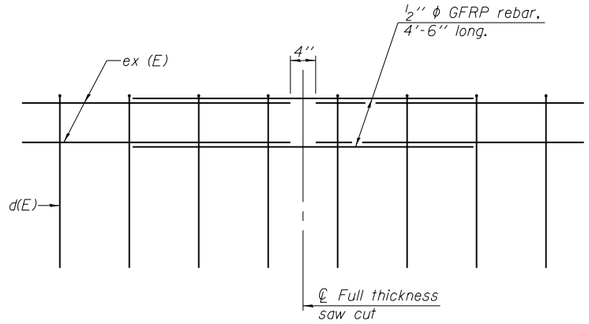
(For 42" parapet when conduit is present)



*See Superstructure Details.

42" F SHAPE PARAPET SECTION

(Showing dimensions)



GFRP REBAR STIFFENING DETAIL

(Place as shown in parapet section at each parapet joint location.)

SFP 34-42 8-16-12

BENTON & ASSOCIATES, INC.

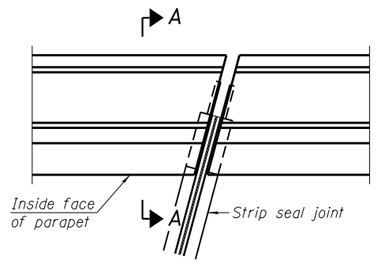
QUIGG ENGINEERING INC

FILE NAME: 0600104-76G10-014-Parapets.dgn	USER NAME =	DESIGNED - MBH	REVISED -
		CHECKED - DRB	REVISED -
	PLOT SCALE =	DRAWN - MBH	REVISED -
	PLOT DATE =	CHECKED - RHB	REVISED -

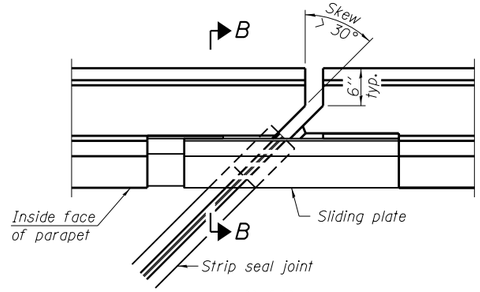
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CONCRETE PARAPET SLIPFORMING OPTION
STRUCTURE NO. 060-0104
SHEET NO. 14 OF 29 SHEETS

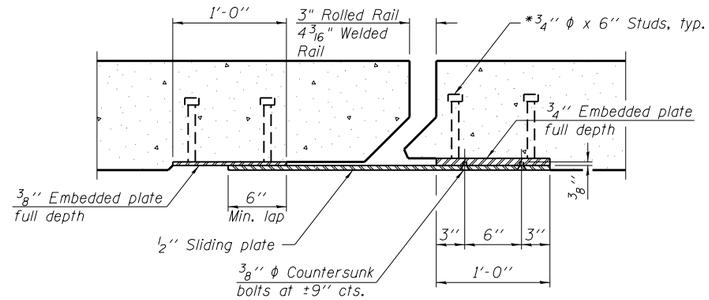
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	60-2HB-2	MADISON	52	32
		CONTRACT NO. 76G10		
FED. ROAD DIST. NO. 8	ILLINOIS	FED. AID PROJECT		



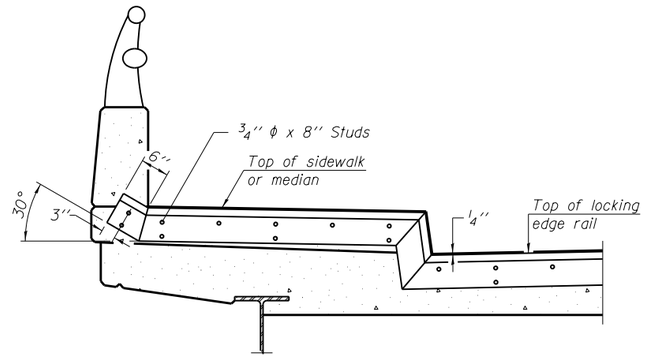
PLAN
(For skews ≤ 30°)



PLAN
(For skews > 30°)
Showing point block

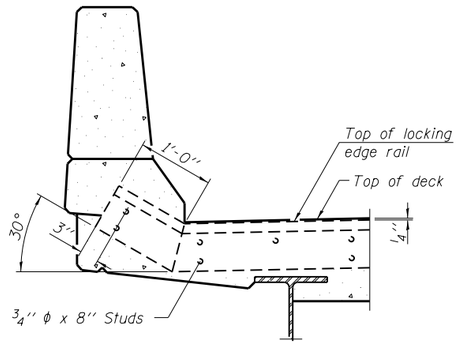


SECTION C-C

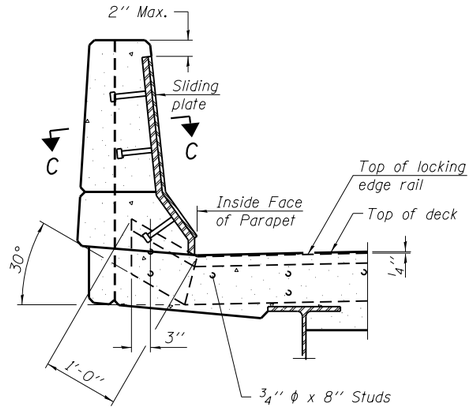


TYPICAL END TREATMENT AT SIDEWALK OR MEDIAN

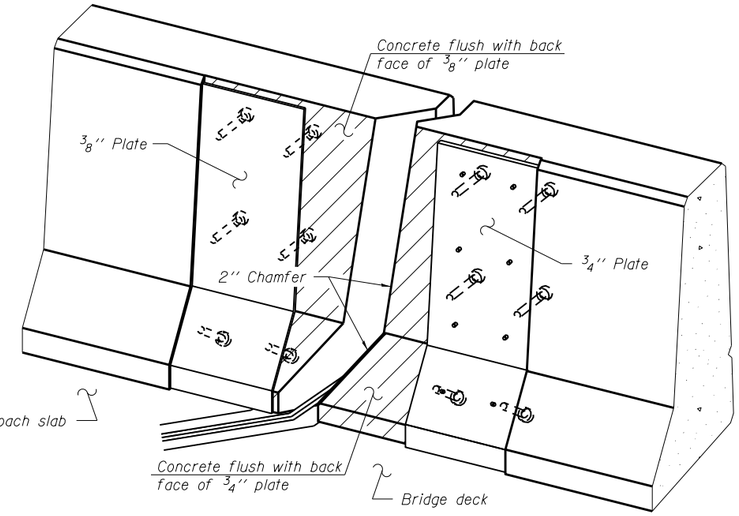
Shorter plates with a single row of studs at 12" cts. may be necessary on medians which are shallower than 9". See manufacturer's recommendation.



SECTION A-A



SECTION B-B



TRIMETRIC VIEW
(Showing back plates only)

Notes:

The strip seal shall be made continuous and shall have a minimum thickness of 1/4". The configuration of the strip seal shall match the configuration of the Locking Edge Rails. Open or "webbed" strip seal gland configurations are not permitted. The gland shall be sized for a maximum rated movement of 4 inches.

The Locking Edge Rails depicted are conceptual only, except for the minimum dimensions shown. The actual configuration of the Locking Edge Rails and matching strip seal may vary from manufacturer to manufacturer. Flanged edge rails will not be allowed. Locking Edge Rails may be spliced at slope discontinuities.

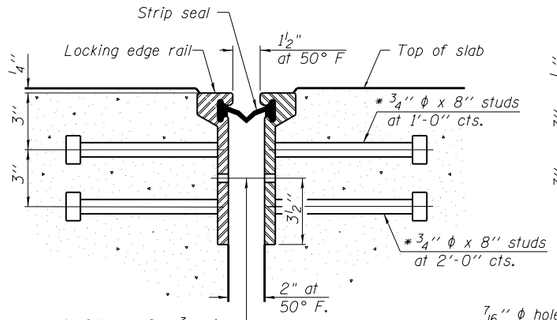
The manufacturer's recommended installation methods shall be followed.

The joint opening and deck dimensions detailed on the superstructure are based on a rolled rail expansion joint. If the Contractor elects to use the welded rail expansion joint, the opening and deck dimensions shall be modified according to the dimensions detailed on this sheet. Required modifications shall be made at no additional cost to the State.

All steel components shall be galvanized after fabrication according to Article 520.03 of the Standard Specifications.

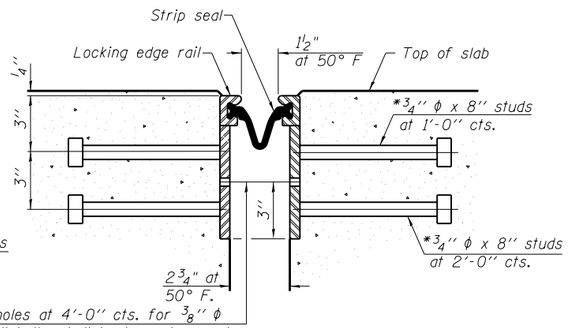
Maximum space between rail segments shall be 3/16", sealed with a suitable sealant. Joints in rails within 10 ft. of curbs shall be welded.

Parapet plates and anchorage studs for skews > 30° included in the cost of Preformed Joint Strip Seal.



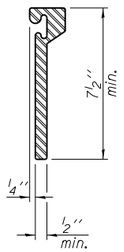
7/16" ϕ holes at 4'-0" cts. for 3/8" ϕ bolts. All bolts shall be burned, sawed, or chipped off flush with the plates after forms are removed, typ.

SECTION THRU ROLLED RAIL JOINT

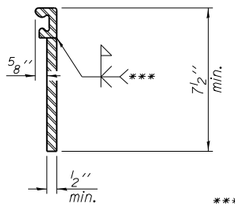


7/16" ϕ holes at 4'-0" cts. for 3/8" ϕ bolts. All bolts shall be burned, sawed, or chipped off flush with the plates after forms are removed, typ.

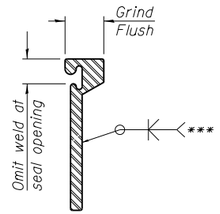
SECTION THRU WELDED RAIL JOINT



ROLLED EXTRUDED RAIL



WELDED RAIL



*** Back gouge not required if complete joint penetration is verified by mock-up.

LOCKING EDGE RAIL SPLICE

The inside of the locking edge rail groove shall be free of weld residue.

Rolled rail shown, welded rail similar.

LOCKING EDGE RAILS

BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	190

* Granular or solid flux filled headed studs conforming to Article 1006.32 of the Std. Specs., automatically end welded.

EJ-SSJ 1-27-12

BENTON & ASSOCIATES, INC.
QUIGG ENGINEERING, INC.

FILE NAME	USER NAME =	DESIGNED - DRB	REVISED
0600104-76G10-015-PreformedJointStripSea	Details.dgn	CHECKED - MBH	REVISED
	PLOT SCALE =	DRAWN - TF	REVISED
	PLOT DATE =	CHECKED - JK	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

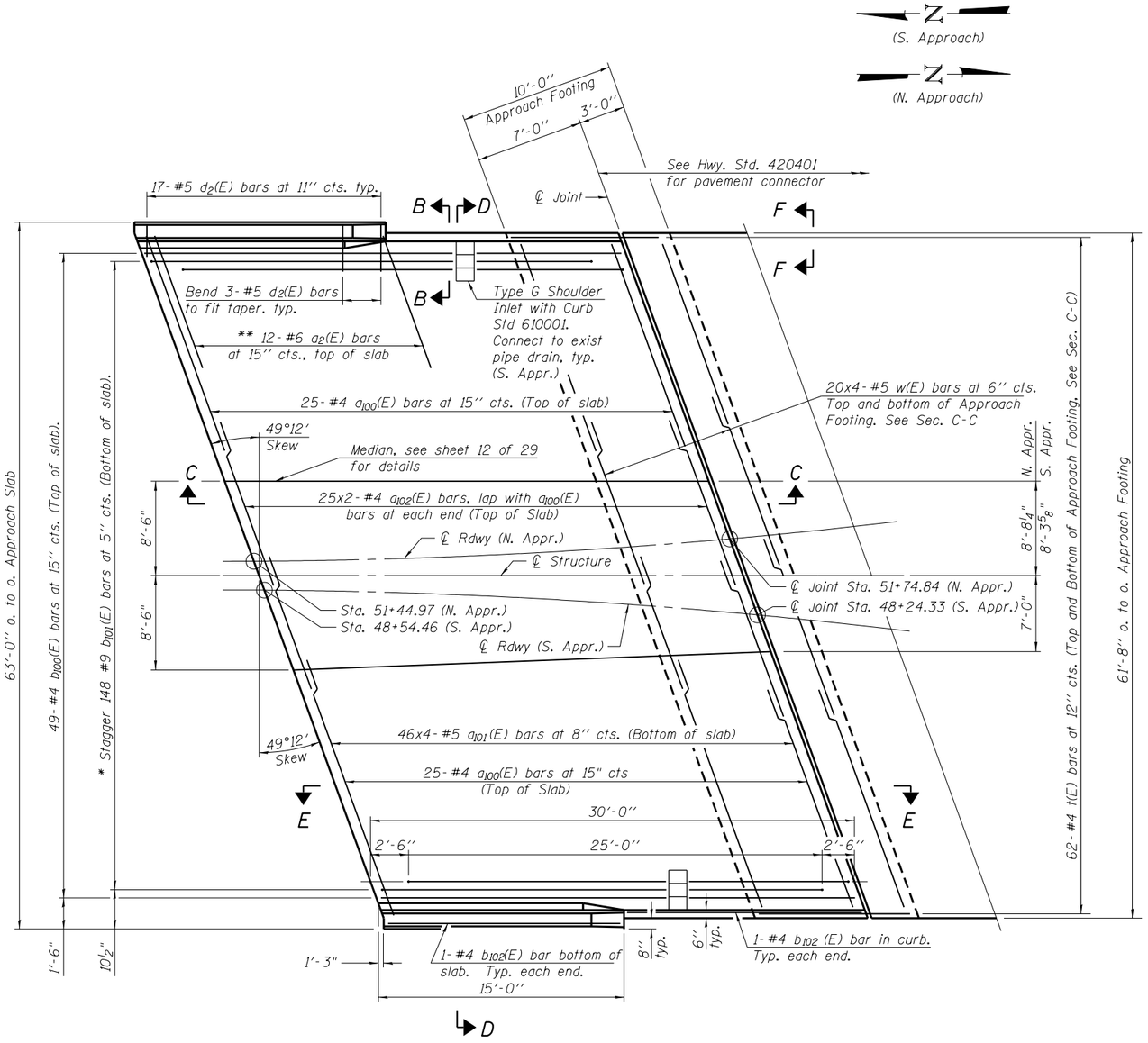
PREFORMED JOINT STRIP SEAL
STRUCTURE NO. 060-0104

SHEET NO. 15 OF 29 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	60-2HB-2	MADISON	52	33
		CONTRACT NO. 76G10		
	ILLINOIS FED. AID PROJECT			

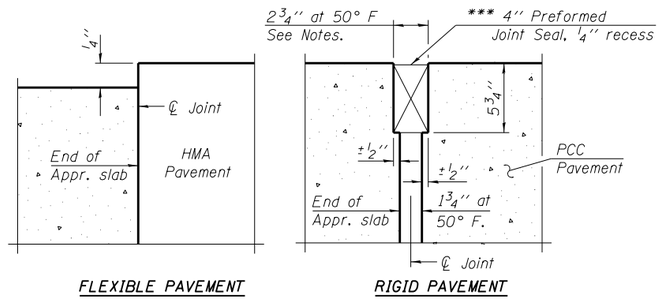
Notes:
See sheet 17 of 29 for Sections C-C & D-D and View E-E.
$a_2(E)$, $a_{100}(E)$, $a_{101}(E)$ and $a_{102}(E)$ bar spacings measured along ℄ Rdwy.
The joint opening shall be determined per Article 520.04 of the Standard Specifications. The minimum dimension shall be $1\frac{1}{2}$'' for installation purposes.

*** Cost included with Concrete Superstructure.



PLAN

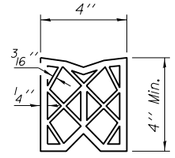
* Tilt #9 b_{101}(E) bars as required to maintain clearance.
** Space between a_{100}(E) bars, typ. each parapet.



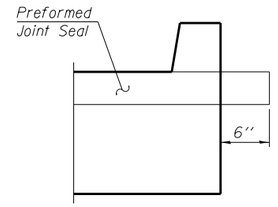
FLEXIBLE PAVEMENT

RIGID PAVEMENT

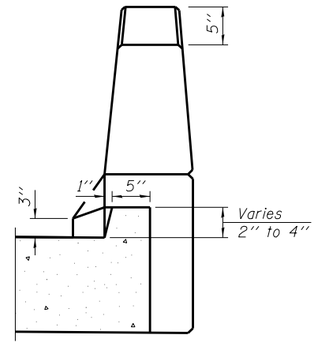
DETAIL A



PREFORMED JOINT SEAL



VIEW F-F



VIEW B-B

MINIMUM BAR LAP

#4 bar = 2'-4"
#5 bar = 2'-7"

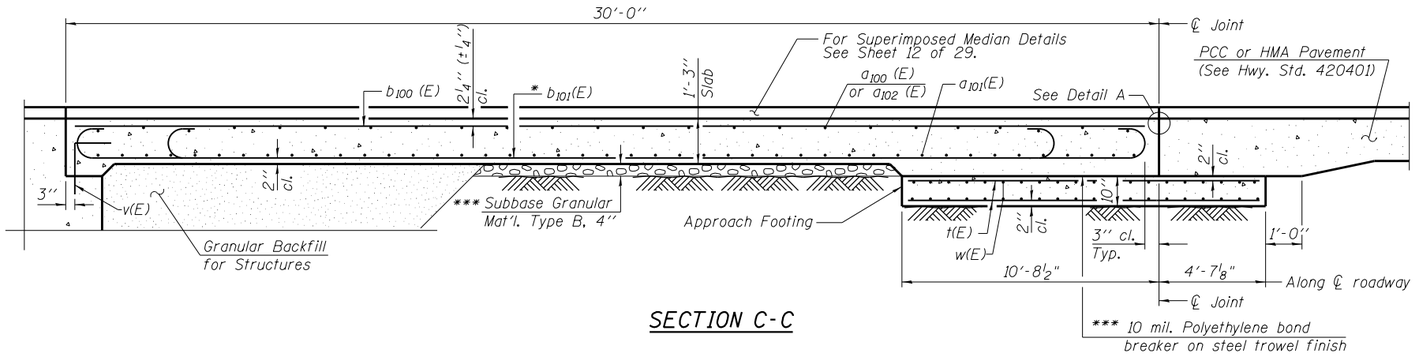
BA-R 12-12-12
BENTON & ASSOCIATES, INC.
QUIGG ENGINEERING, INC.

FILE NAME: 0600104-76G10-016-ApproachSlabDetails01.dgn	USER NAME =	DESIGNED - DRB	REVISED
		CHECKED - MBH	REVISED
	PLOT SCALE =	DRAWN - KC	REVISED
	PLOT DATE =	CHECKED - JK	REVISED

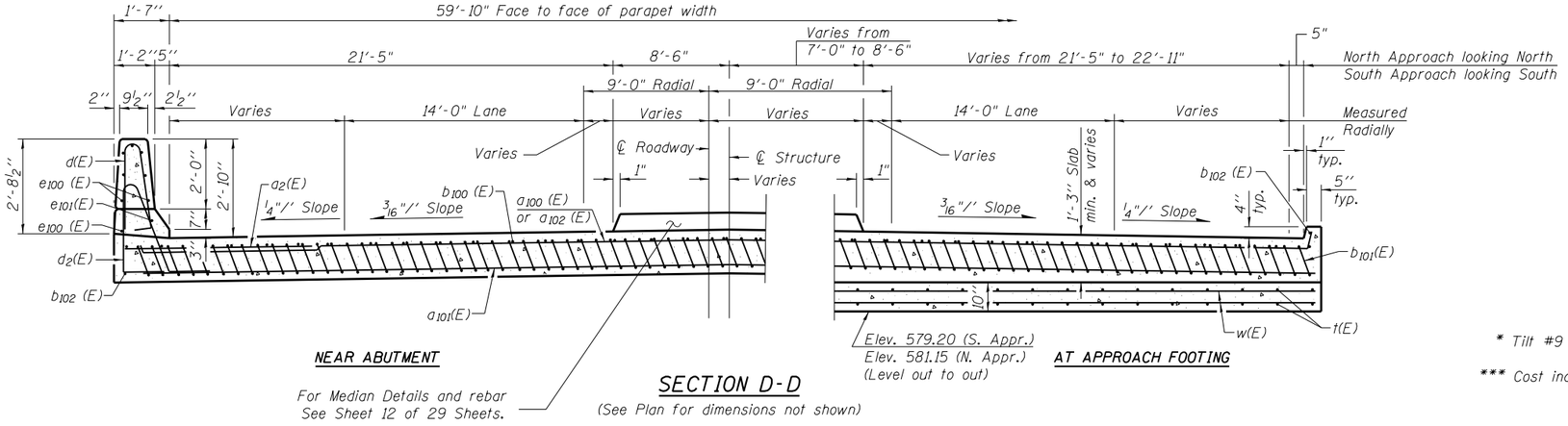
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BRIDGE APPROACH SLAB DETAILS
STRUCTURE NO. 060-0104
SHEET NO. 16 OF 29 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	60-2HB-2	MADISON	52	34
		CONTRACT NO. 76G10		
		ILLINOIS FED. AID PROJECT		

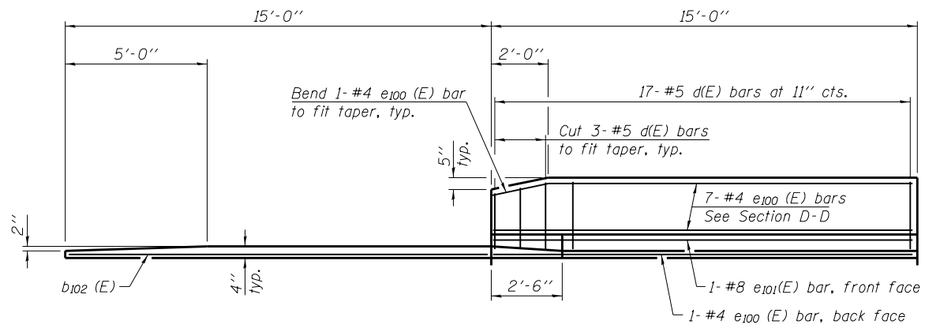


SECTION C-C

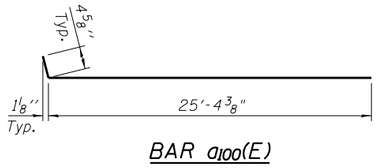


SECTION D-D

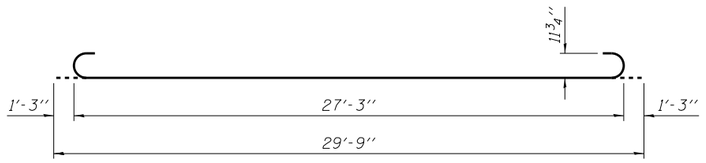
(See Plan for dimensions not shown)



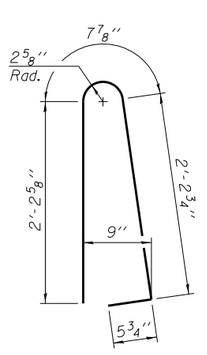
VIEW E-E



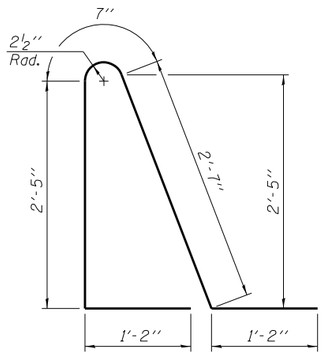
BAR a_{100}(E)



BAR b_{101}(E)



BAR d(E)



BAR d_2(E)

Notes:

See sheet 16 of 29 for Detail A and View B-B.
Approach slab and parapet concrete shall be paid for as Concrete Superstructure.
Approach footing concrete shall be paid for as Concrete Structures.
Reinforcement shall be paid for as Reinforcement Bars, Epoxy Coated.
For v(E) bar details, see sheet 22 & 23 of 29.
The approach footing maximum applied service bearing pressure (Qmax) = 2.0 ksf.
Cost of excavation for approach footing included with Concrete Structures.
For Granular Backfill for Structures and drainage treatment details, see sheet 21 of 29.
For additional parapet details, see sheet 11 of 29.

* Tilt #9 b_{101}(E) bars as required to maintain clearance.

*** Cost included with Concrete Superstructure.

TWO APPROACHES
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a_2(E)	48	#6	6'-6"	
a_{100}(E)	100	#4	25'-9"	
a_{101}(E)	368	#5	25'-6"	
a_{102}(E)	100	#4	25'-3"	
b_3(E)	30	#5	34'-2"	
b_4(E)	2	#5	34'-2"	
b_{100}(E)	98	#4	29'-8"	
b_{101}(E)	296	#9	29'-9"	
b_{102}(E)	8	#4	14'-8"	
c_2(E)	124	#5	1'-4"	
c_3(E)	31	#5	48'-9"	
d(E)	68	#5	5'-7"	
d_2(E)	68	#5	7'-11"	
e_{100}(E)	32	#4	14'-8"	
e_{101}(E)	4	#8	14'-8"	
t(E)	248	#4	15'-0"	
w(E)	320	#5	25'-6"	
Concrete Superstructure			Cu. Yd.	217.3
Concrete Structures			Cu. Yd.	58.3
Reinforcement Bars, Epoxy Coated			Pound	60,940
Type G, Inlet Box Standard 610001			Each	2

BA-R 12-12-12

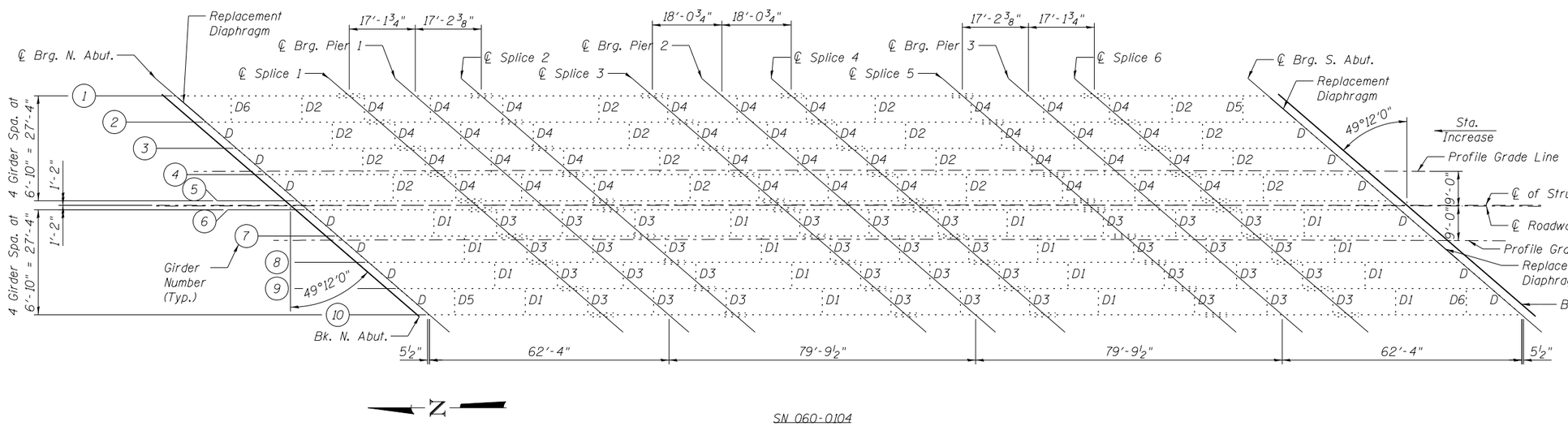
BENTON & ASSOCIATES, INC.
QUIGG ENGINEERING, INC.

FILE NAME	USER NAME =	DESIGNED - DRB	REVISED
06000104-76G10-017-ApproachSlabDetails02.dgn		CHECKED - MBH	REVISED
	PLOT SCALE =	DRAWN - KC	REVISED
	PLOT DATE =	CHECKED - JK	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

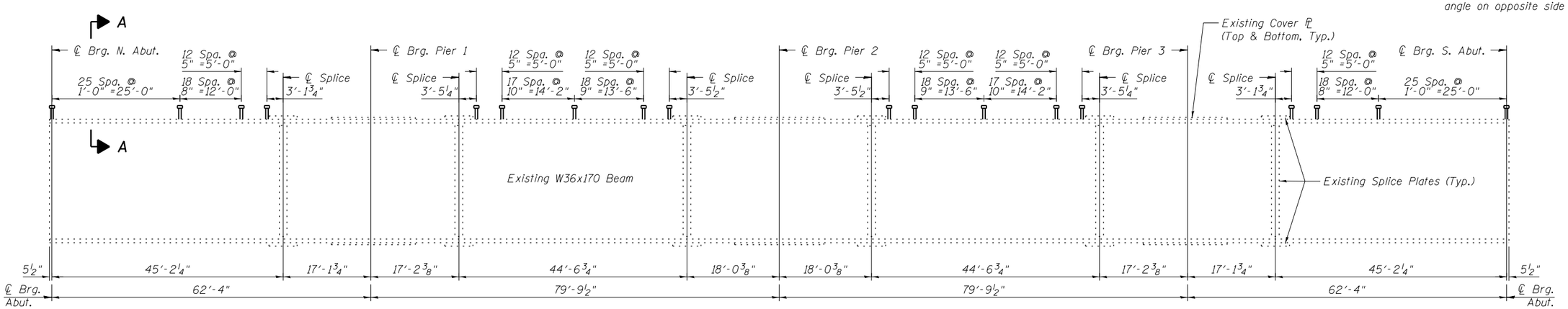
BRIDGE APPROACH SLAB DETAILS
STRUCTURE NO. 060-0104
SHEET NO. 17 OF 29 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	60-2HB-2	MADISON	52	35
		CONTRACT NO. 76G10		
	ILLINOIS FED. AID PROJECT			

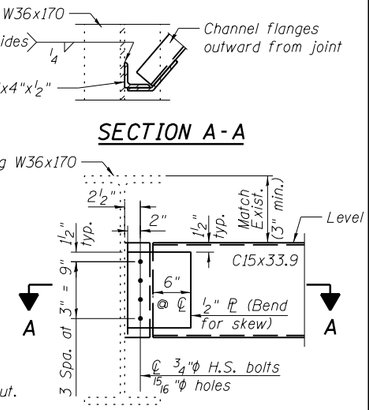


SN 060-0104

PLAN



GIRDER ELEVATION

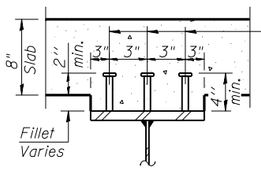


SECTION A-A

END DIAPHRAGM

Notes:
Two hardened washers required for each set of oversized holes.

Remove existing diaphragms and shelf angles between spans where diaphragms are to be replaced (3 locations). Existing bolts to remain on members where shelf angle on opposite side is to remain.

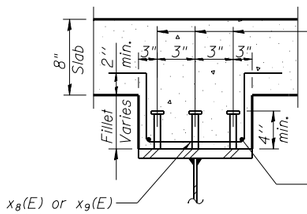


¾" ϕ Granular or solid flux filled headed studs automatically end welded to flange. (No. Req'd.= 6960)

SECTION A-A STANDARD FILLET

(Where fillets are less than 4")

Note that fillet heights are expected to be high on some beams and the vertical dimension of shear studs should consider this to ensure they extend at least 2" into the slab, except where fillet areas have shear reinforcement.



¾" ϕ Granular or solid flux filled headed studs automatically end welded to flange. (No. Req'd.= 6960)

SECTION A-A DEEP FILLET

(Where fillets are more than 4")

Notes:

1. Individual cross frames or diaphragms at supports may be temporarily disconnected to install bearing anchor rods.
2. Any missing, loose, or deteriorated rivets found in existing connections during construction shall be replaced with high strength bolts.

BILL OF MATERIAL

Item	Unit	Total
Furnishing and Erecting Structural Steel	Pound	1,130
Stud Shear Connectors	Each	6,960

G-1 7-1-10
BENTON & ASSOCIATES, INC.
QUIGG ENGINEERING INC

FILE NAME: 0600104-76G10-018-Steel.dgn	USER NAME =	DESIGNED - MBH	REVISED -
		CHECKED - DRB	REVISED -
	PLOT SCALE =	DRAWN - MBH	REVISED -
	PLOT DATE =	CHECKED - RHB	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STRUCTURAL STEEL
STRUCTURE NO. 060-0104
SHEET NO. 18 OF 29 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	60-2HB-2	MADISON	52	36
		CONTRACT NO. 76G10		
FED. ROAD DIST. NO. 8	ILLINOIS	FED. AID PROJECT		

INTERIOR GIRDER MOMENT TABLE					
		0.4 Span 1 & 0.6 Span 4	Pier 1 & Pier 3	0.5 Span 2 & Span 3	Pier 2
I_s	(in^4)	10500	14682	10500	14682
$I_c(n)$	(in^4)	27588	-	27588	-
$I_c(3n)$	(in^4)	19903	-	19903	-
S_s	(in^3)	581	787	581	787
$S_c(n)$	(in^3)	855	-	855	-
$S_c(3n)$	(in^3)	767	-	767	-
Z	(in^3)	-	-	-	-
ϱ	(k/')	0.96	1.28	0.96	1.28
$M\varrho$	('k)	240.6	689.6	234.8	721.5
$s\varrho$	(k/')	0.32	-	0.32	-
$M_s\varrho$	('k)	88.9	-	97.3	-
M_L	('k)	445.2	308.6	503.4	345.6
M_I	('k)	118.8	82.4	122.9	84.4
$\frac{5}{3}[M_L + I]$	('k)	939.9	651.6	1043.8	716.7
M_a	('k)	1650.2	1743.6	1788.7	1869.7
M_u	('k)	-	-	-	-
f_s ϱ non-comp	(ksi)	4.97	10.52	4.85	11.01
f_s ϱ (comp)	(ksi)	1.45	-	1.59	-
f_s $\frac{5}{3}[M_L + M_I]$	(ksi)	13.87	9.94	15.41	10.93
f_s (Overload)	(ksi)	20.29	20.46	21.85	21.94
** f_s (Total)	(ksi)	26.38	26.60	28.40	28.52
VR	(k)	52	-	43	-

INTERIOR GIRDER REACTION TABLE				
		N. Abut. & S. Abut.	Pier 1 & Pier 3	Pier 2
$R\varrho$	(k)	31.1	99.0	103.6
R_L	(k)	36.9	48.8	51.2
R_I	(k)	9.9	13.0	12.5
R_{Total}	(k)	77.9	160.8	167.3

** Braced non-compact and partially braced section

I_s, S_s: Non-composite moment of inertia and section modulus of the steel section used for computing f_s(Total and Overload) due to non-composite dead loads (in.^{4} and in.^{3}).

$I_c(n)$, $S_c(n)$: Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing f_s(Total and Overload) due to short-term composite live loads (in.^{4} and in.^{3}).

$I_c(3n)$, $S_c(3n)$: Composite moment of inertia and section modulus of the steel and deck based upon 3 times the modular ratio, "3n", used for computing f_s(Total and Overload) due to long-term composite (superimposed) dead loads (in.^{4} and in.^{3}).

Z: Plastic Section Modulus of the steel section in non-composite areas (in.^{3}).

ϱ: Un-factored non-composite dead load (kips/ft.).

$M\varrho$: Un-factored moment due to non-composite dead load (kip-ft.).

$s\varrho$: Un-factored long-term composite (superimposed) dead load (kips/ft.)

$M_s\varrho$: Un-factored moment due to long-term composite (superimposed) dead load (kip-ft.).

M_L: Un-factored live load moment (kip-ft.).

M_I: Un-factored moment due to impact (kip-ft.).

M_a: Factored design moment (kip-ft.).
$1.3\ [\ M\varrho + M_s\varrho + \frac{5}{3}\ (M_L + M_I)]$

f_s (Overload): Sum of stresses as computed from the moments below (ksi).
$M\varrho + M_s\varrho + \frac{5}{3}\ (M_L + M_I)$

f_s (Total): Sum of stresses as computed from the moments below on non-compact section (ksi).
$1.3\ [M\varrho + M_s\varrho + \frac{5}{3}\ (M_L + M_I)]$

VR: Maximum M_L + impact shear range within the composite portion of the span for stud shear connector design (kips).

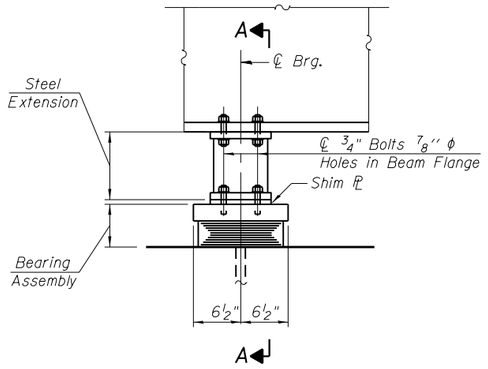
BENTON & ASSOCIATES, INC.
QUIGG ENGINEERING INC

FILE NAME: 0600104-76G10-019-Frame.dgn	USER NAME =	DESIGNED - MBH	REVISED -
		CHECKED - DRB	REVISED -
	PLOT SCALE =	DRAWN - MBH	REVISED -
	PLOT DATE =	CHECKED - RHB	REVISED -

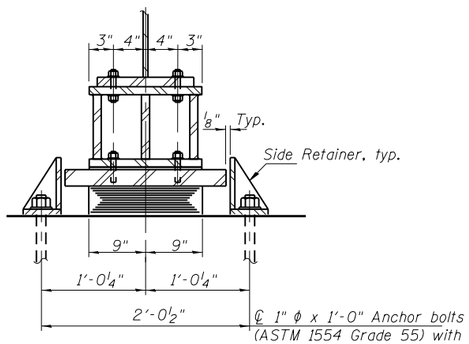
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STEEL DETAILS
STRUCTURE NO. 060-0104
SHEET NO. 19 OF 29 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	60-2HB-2	MADISON	52	37
		CONTRACT NO. 76G10		
FED. ROAD DIST. NO. 8	ILLINOIS	FED. AID PROJECT		



ELEVATION AT PIERS 1 & 3



SECTION A-A

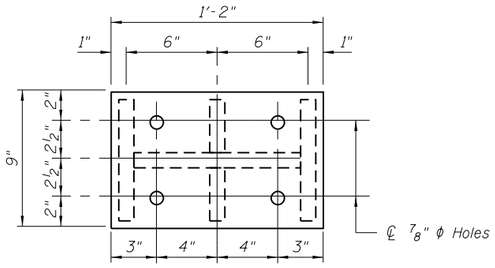
GIRDER REACTIONS

Exp. Bearings, piers 1 & 3

RQ	(k)	99
RL	(k)	48.8
IMP.	(k)	13.0
R_{Total}	(k)	160.8

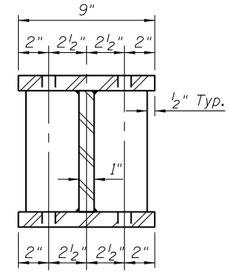
RQ (steel only) = 13.4 kips

The Contractor shall field verify steel extensions and shim plates required to insure that the actual existing top of beam elevations are maintained.

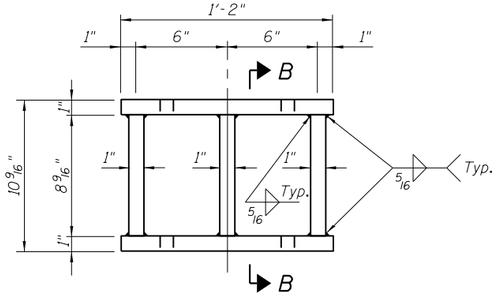


PLAN TOP AND BOTTOM PLATE

(Steel Extension)



SECTION B-B



STEEL EXTENSION DETAIL

Piers 1 & 3 - 20 Req'd

Notes:

New steel extensions, side retainers, shim PL's, and connection bolts, are included in "Furnishing and Erecting Structural Steel.

Prior to ordering any material, the Contractor shall verify in the field all bearing height and shim thickness dimensions.

Recommended min. jack capacity = 30 Ton.

Hatched area indicates bearing removal

See Special Provisions for "Jack and Remove Existing Bearings"

Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.

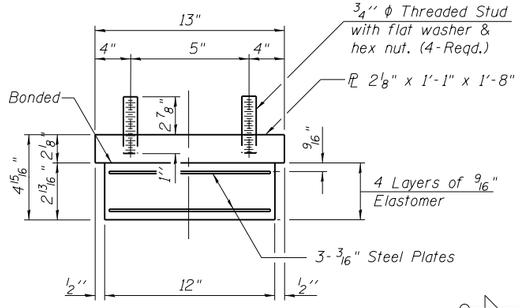
Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.

* The structural steel plates of the Bearing Assembly shall conform to the requirements of AASHTO M 270 Grade 50.

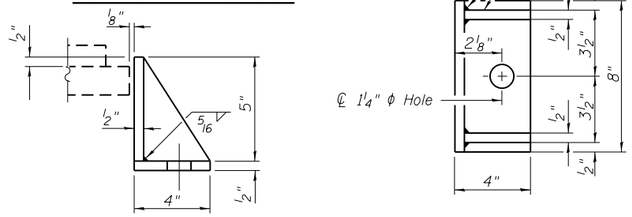
Two 1/8 in. adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details.

TYPE I ELASTOMERIC EXP. BRG.

20 Each, Piers 1 & 3



BEARING ASSEMBLY



SIDE RETAINER

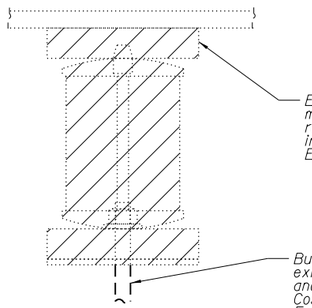
Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates. Weight included with Structural Steel.

SHIM PL HEIGHT TABLE

Beams	Pier 1	Pier 3
1	11/16"	11/16"
2	5/16"	9/16"
3	7/16"	7/16"
4	7/16"	¼"
5	7/16"	⅛"
6	¼"	¼"
7	¼"	¼"
8	0"	7/16"
9	5/16"	5/16"
10	7/16"	¼"

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly Type I	Each	20
Anchor Bolts 1" ϕ	Each	40
Jack & Remove Existing Bearing	Each	20
Furnishing & Erecting Structural Steel	Pounds	4020



Existing PL to be removed using the air-arc method and grind smooth all weld material remaining on the bottom flange. Cost included in "Jack and Remove Existing Bearings".

Burn existing anchor bolts flush with existing concrete surface. Grind existing anchor bolt smooth and seal with epoxy. Cost included in "Jack and Remove Existing Bearings".

ROCKER BRGS

Piers 1 & 3

Replace exist. rocker bearings with Type I Elastomeric Bearing and Steel Extension

EXISTING BEARING REMOVAL DETAIL

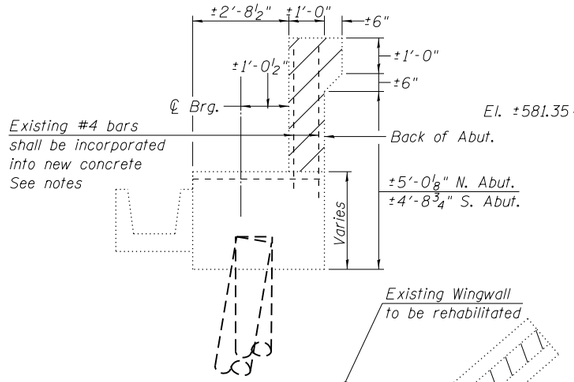
BENTON & ASSOCIATES, INC.
QUIGG ENGINEERING, INC.

FILE NAME: 0600104-76G10-020-BearingAssembly.dgn	USER NAME =	DESIGNED - DRB	REVISED
		CHECKED - MBH	REVISED
	PLOT SCALE =	DRAWN - TF	REVISED
	PLOT DATE =	CHECKED - JK	REVISED

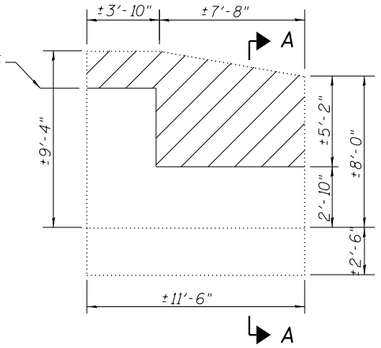
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BEARING DETAILS
STRUCTURE NO. 060-0104
SHEET NO. 20 OF 29 SHEETS

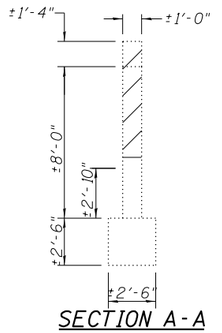
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	60-2HB-2	MADISON	52	38
		CONTRACT NO. 76G10		
	ILLINOIS FED. AID PROJECT			



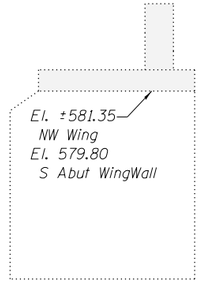
SECTION B-B



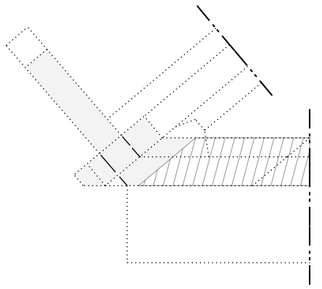
ELEVATION OF EXISTING END POST

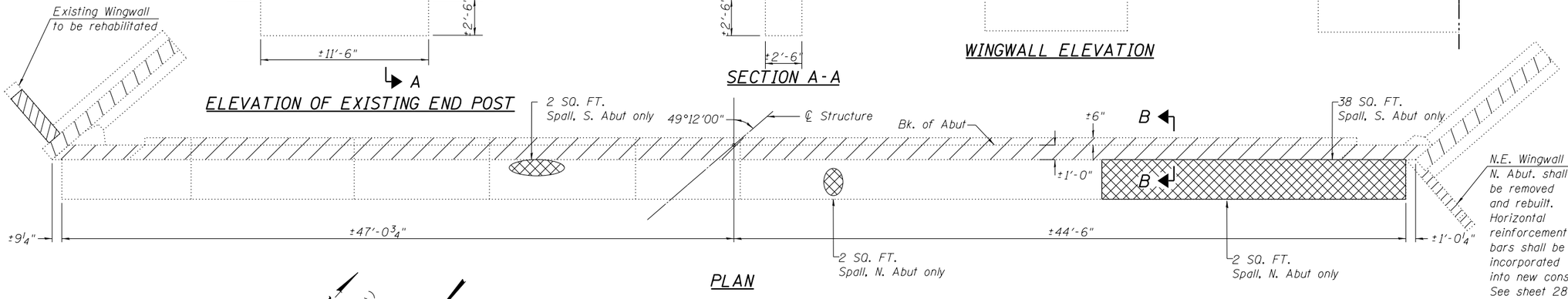


SECTION A-A

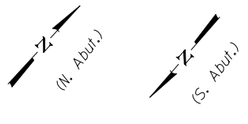


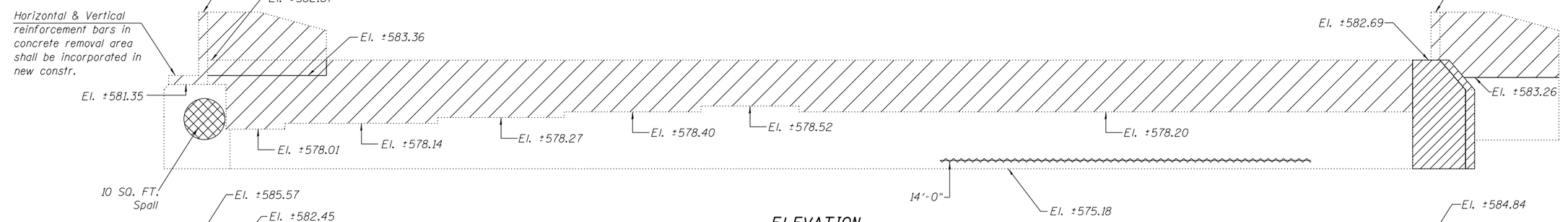
WINGWALL ELEVATION



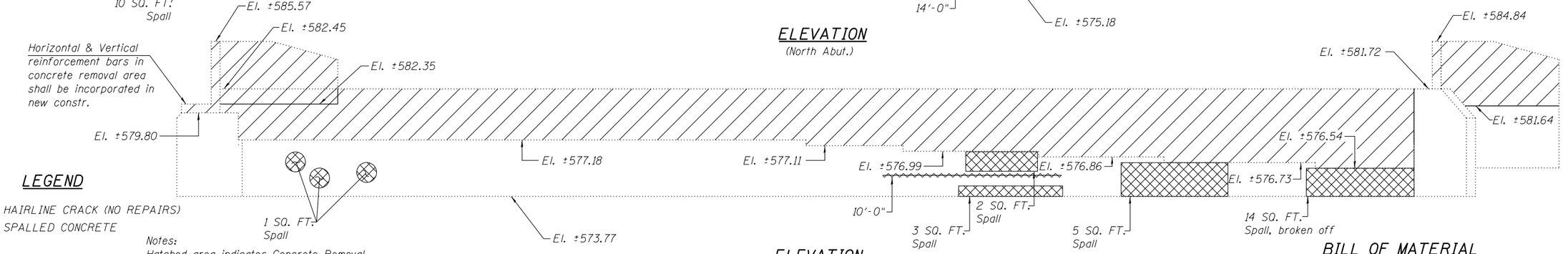


PLAN





ELEVATION
(North Abut.)



ELEVATION
(South Abut.)

LEGEND

= HAIRLINE CRACK (NO REPAIRS)

= SPALLED CONCRETE

S.F. = SQUARE FEET

L.F. = LINEAL FEET

Notes:
Hatched area indicates Concrete Removal.
Shaded areas indicate the extent of concrete removal at the wingwalls.
Existing reinforcement shall be cleaned and incorporated into the new construction.
Cost included in Concrete Removal.
Any reinforcement bars that are damaged during concrete removal operations shall be repaired using an approved bar splicer or anchorage system.
Cost included in Concrete Removal.

BILL OF MATERIAL

Item	Unit	Quantity
Structural Repair of Concrete (Depth Equal to or Less Than 5")	Sq Ft	81
Concrete Removal	Cu. Yd.	47

BENTON & ASSOCIATES, INC.
QUIGG ENGINEERING, INC.

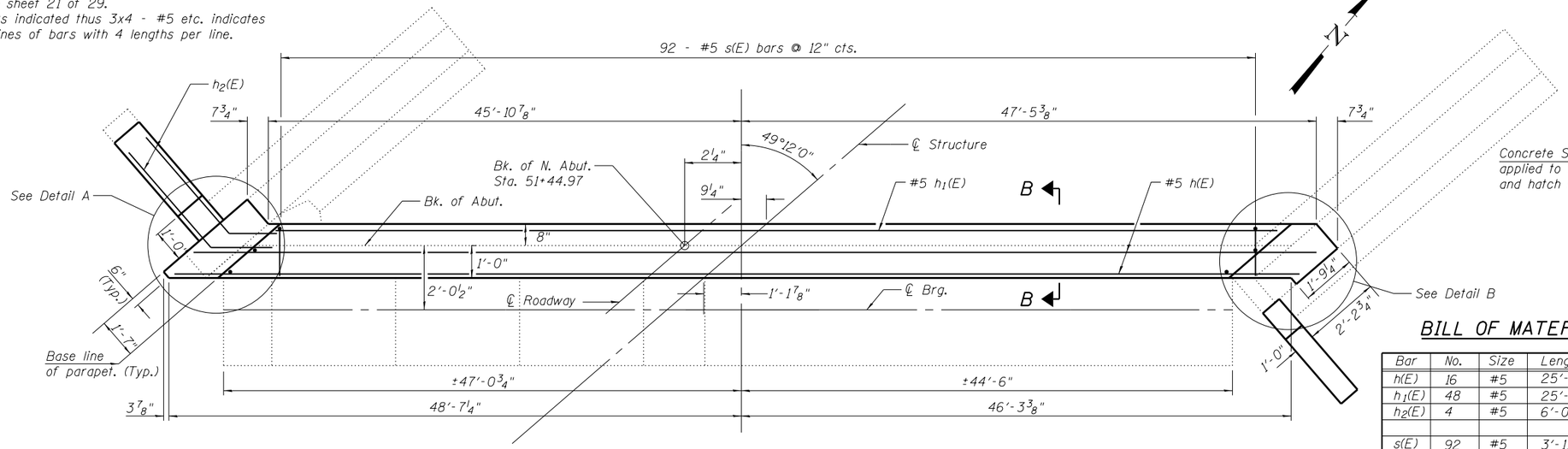
FILE NAME	USER NAME =	DESIGNED - DRB	REVISED
0600104-76G10-021-Abutment Backwall Removal and Repair.dgn		CHECKED - MBH	REVISED
	PLOT SCALE =	DRAWN - SDM	REVISED
	PLOT DATE =	CHECKED - JK	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ABUTMENT CONCRETE REMOVAL & REPAIR
STRUCTURE NO. 060-0104
SHEET NO. 21 OF 29 SHEETS

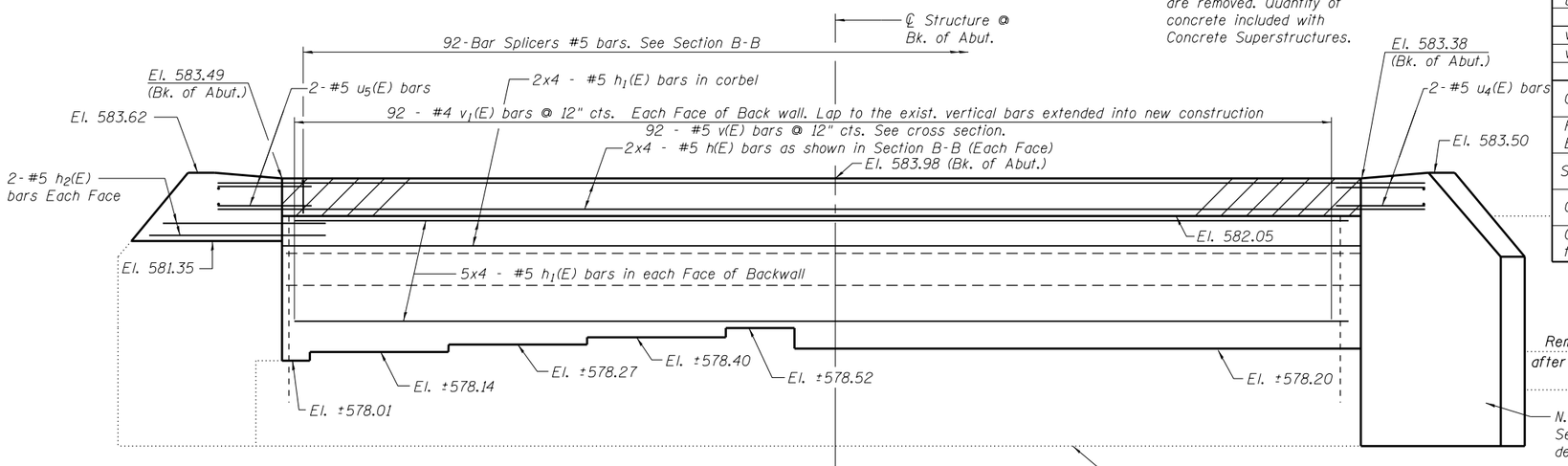
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	60-2HB-2	MADISON	52	39
		CONTRACT NO. 76G10		
	ILLINOIS FED. AID PROJECT			

Notes:
For Concrete Removal and Structure Repair details see sheet 21 of 29.
Bars indicated thus 3x4 - #5 etc. indicates 3 lines of bars with 4 lengths per line.

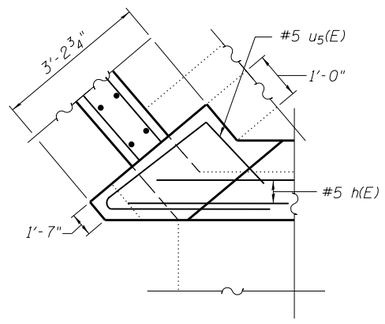


PLAN

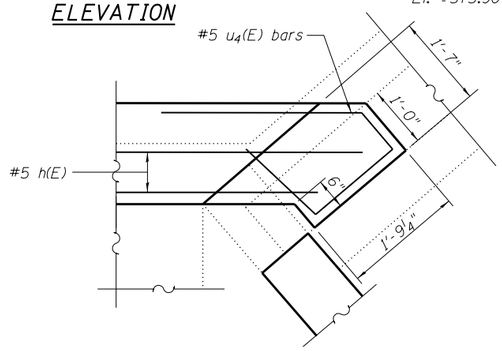
Hatched area to be poured after Superstructure forms are removed. Quantity of concrete included with Concrete Superstructures.



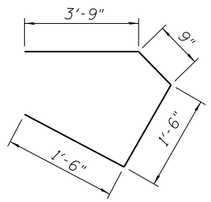
ELEVATION



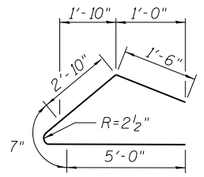
DETAIL A



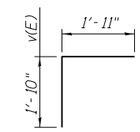
DETAIL B



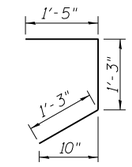
BAR u4(E)



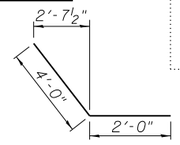
BAR u5(E)



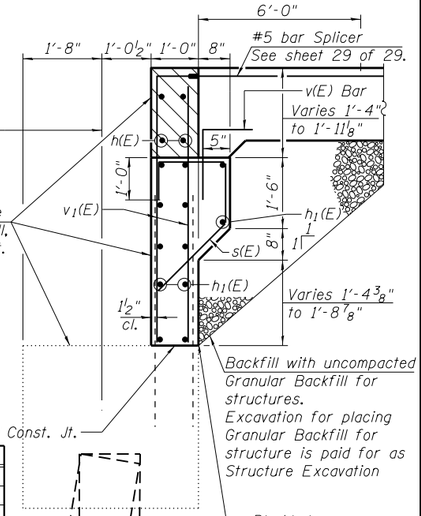
BAR v(E)



BAR s(E)

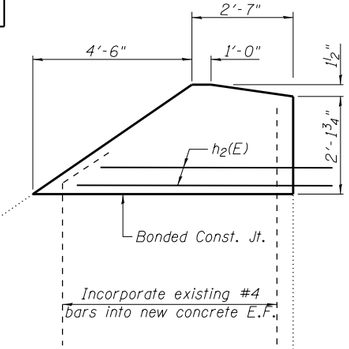


BAR h2(E)



MIN BAR LAPS
#5 bars = 2'-7"

SECTION B-B



N.W. Wingwall

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	16	#5	25'-0"	
h1(E)	48	#5	25'-9"	
h2(E)	4	#5	6'-0"	
s(E)	92	#5	3'-11"	
u4(E)	2	#5	7'-6"	
u5(E)	2	#5	9'-11"	
v(E)	92	#5	3'-9"	
v1(E)	184	#4	5'-0"	
Concrete Structure		Cu. Yds.	18.1	
Reinforcement bars, Epoxy Coated		Pounds	3120	
Structure Excavation		Cu. Yds.	35	
Concrete Sealer		Sq. Ft.	767	
Granular Backfill for Structures		Cu. Yds.	35	

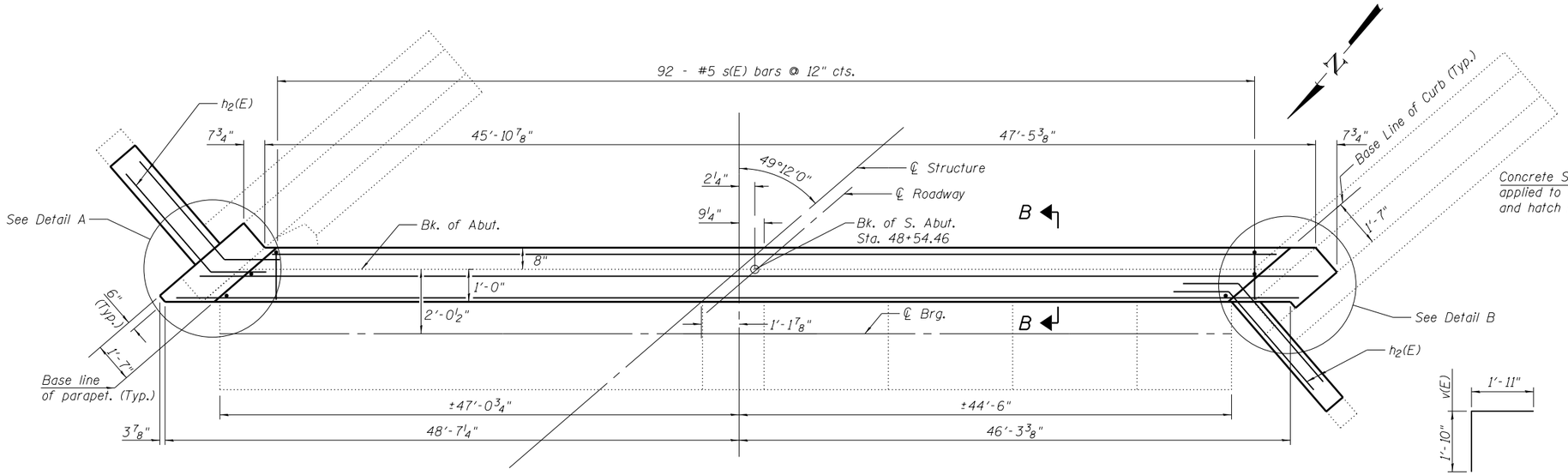
BENTON & ASSOCIATES, INC.
QUIGG ENGINEERING, INC.

FILE NAME	USER NAME =	DESIGNED - DRB	REVISED
0600104-76G10-022-North Abutment.dgn		CHECKED - MBH	REVISED
	PLOT SCALE =	DRAWN - KC	REVISED
	PLOT DATE =	CHECKED - JK	REVISED

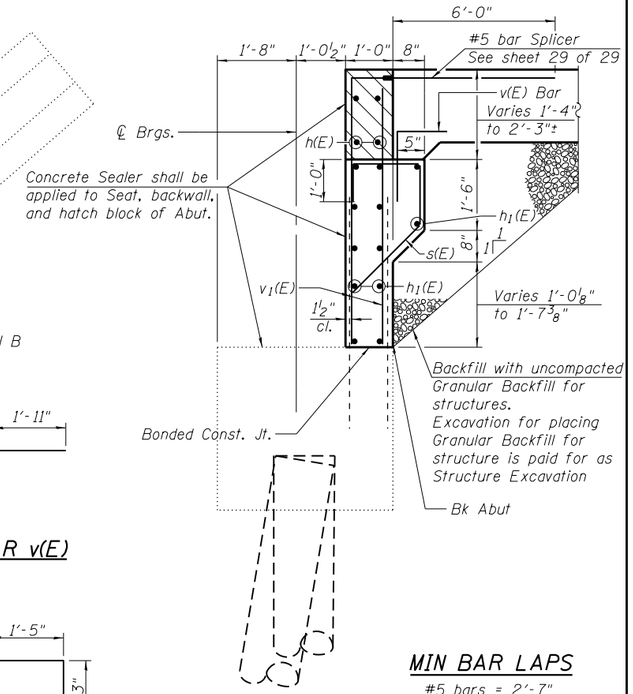
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

NORTH ABUTMENT
STRUCTURE NO.060-0104
SHEET NO. 22 OF 29 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	60-2HB-2	MADISON	52	40
		CONTRACT NO. 76G10		
	ILLINOIS FED. AID PROJECT			



PLAN

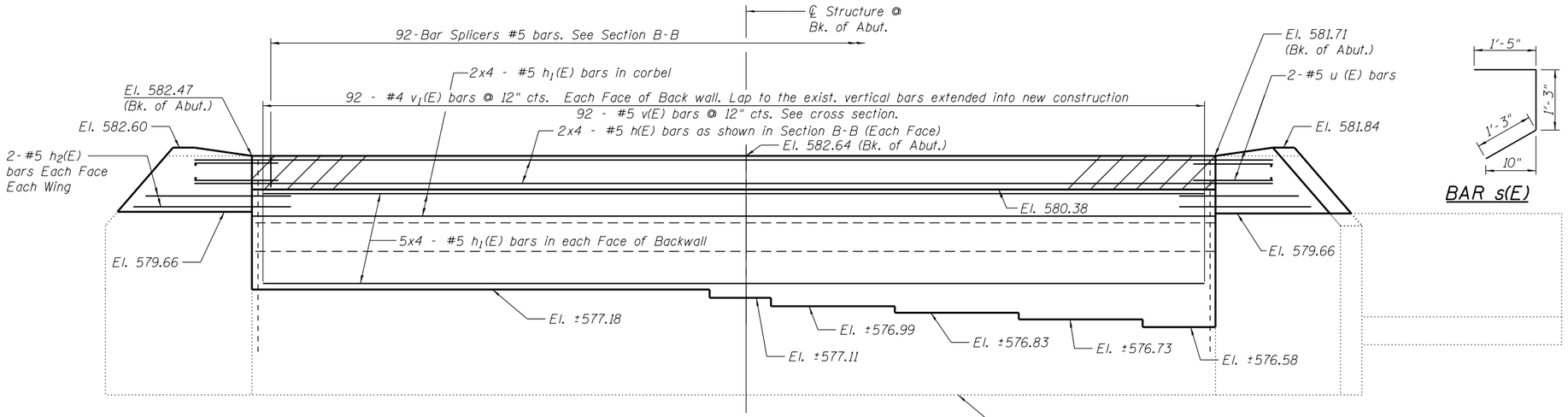


BAR v(E)

MIN BAR LAPS

#5 bars = 2'-7"

SECTION B-B



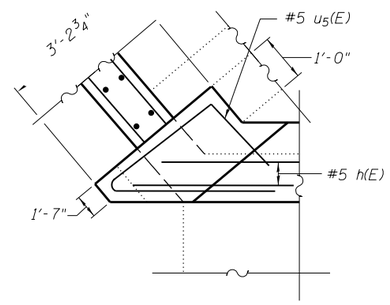
ELEVATION

BAR s(E)

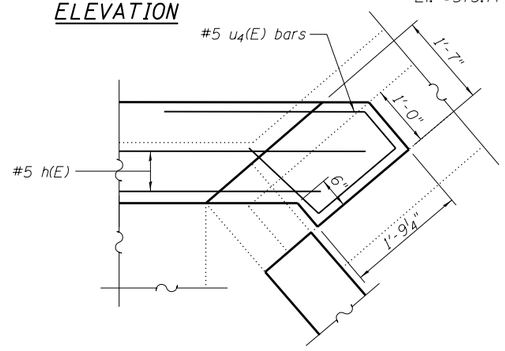
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	16	#5	25'-0"	
$h_1(E)$	48	#5	25'-9"	
$h_2(E)$	8	#5	6'-0"	
s(E)	92	#5	3'-11"	
$u_4(E)$	2	#5	7'-6"	
$u_5(E)$	2	#5	9'-11"	
v(E)	92	#5	3'-9"	
$v_1(E)$	184	#4	5'-0"	

Concrete Structure	Cu. Yds.	17.1
Reinforcement bars, Epoxy Coated	Pounds	3150
Structure Excavation	Cu. Yds.	35
Concrete Sealer	Sq. Ft.	767
Granular Backfill for Structures	Cu. Yds.	35



DETAIL A



DETAIL B

Notes:
For Concrete Removal and Structure Repair details see sheet 21 of 29.
Bars indicated thus 3x4 - #5 etc. indicates 3 lines of bars with 4 lengths per line.
Hatched area to be poured after Superstructure forms are removed. Quantity of Concrete included with Concrete Superstructures.
Rebar bending diagrams $u_4(E)$, $u_5(E)$, $h_2(E)$ and Wing Wall reinforcement details see sheet 22 of 29.

BENTON & ASSOCIATES, INC.
QUIGG ENGINEERING, INC.

FILE NAME: 06001O4-76G10-023-South Abutment.dgn	USER NAME =	DESIGNED - DRB	REVISED
		CHECKED - MBH	REVISED
	PLOT SCALE =	DRAWN - KC	REVISED
	PLOT DATE =	CHECKED - JK	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

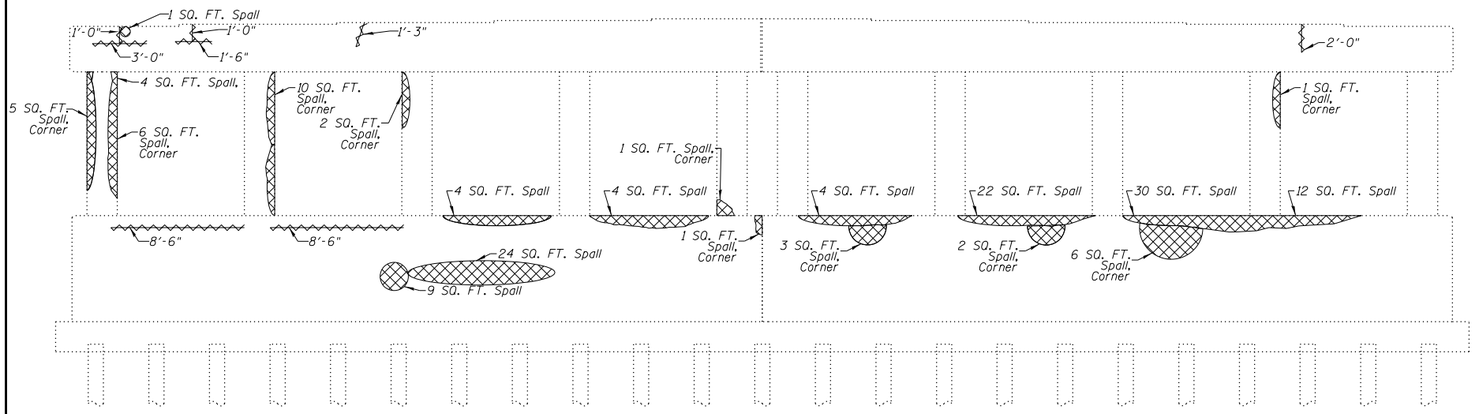
SOUTH ABUTMENT
STRUCTURE NO. 060-0104
SHEET NO. 23 OF 29 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	60-2HB-2	MADISON	52	41
		CONTRACT NO. 76G10		
	ILLINOIS FED. AID PROJECT			

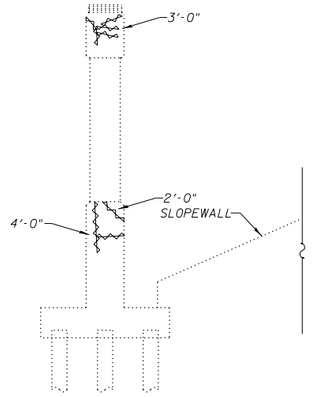
LEGEND

= HAIRLINE CRACK*
= SPALLING
S.F. = SQUARE FEET
L.F. = LINEAL FEET

PLAN



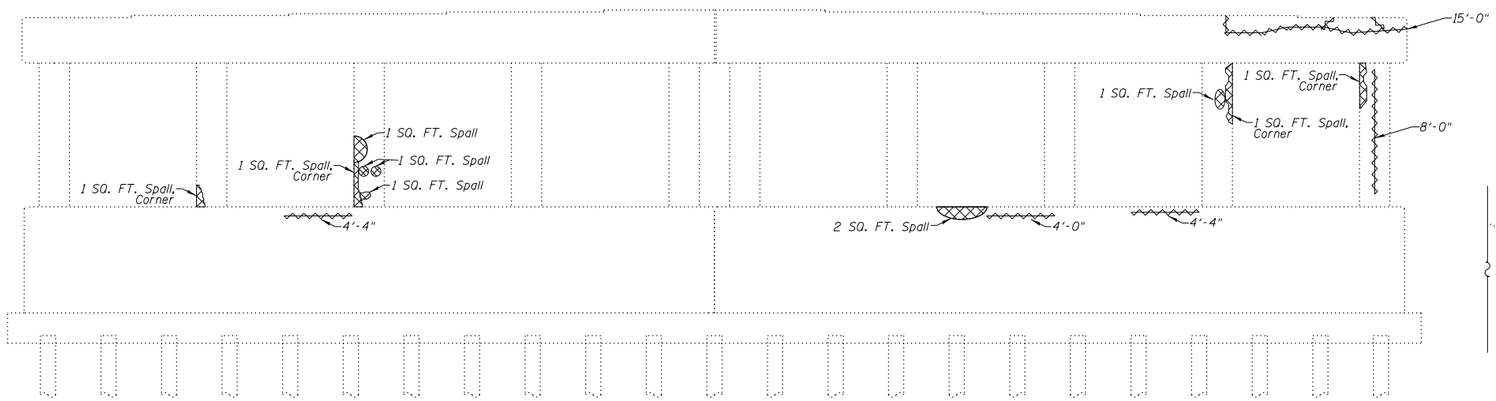
ELEVATION
(Looking Northwest)



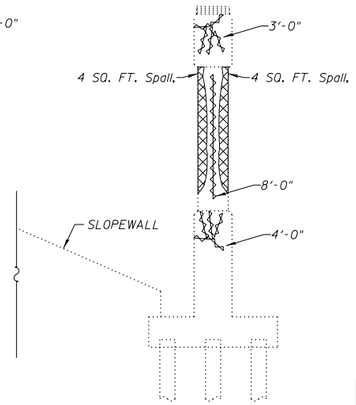
END VIEW
(E. END)

*Hairline cracks shown for information only. No Repairs proposed.

Note: Crack Widths are 1/8" ± 1/16" Unless noted otherwise



ELEVATION
(Looking Southeast)



END VIEW
(W. END)

BILL OF MATERIAL

Item	Unit	Quantity
Structural Repair of Concrete (Depth Equal to or less than 5")	Sq Ft	169

BENTON & ASSOCIATES, INC.
QUIGG ENGINEERING, INC.

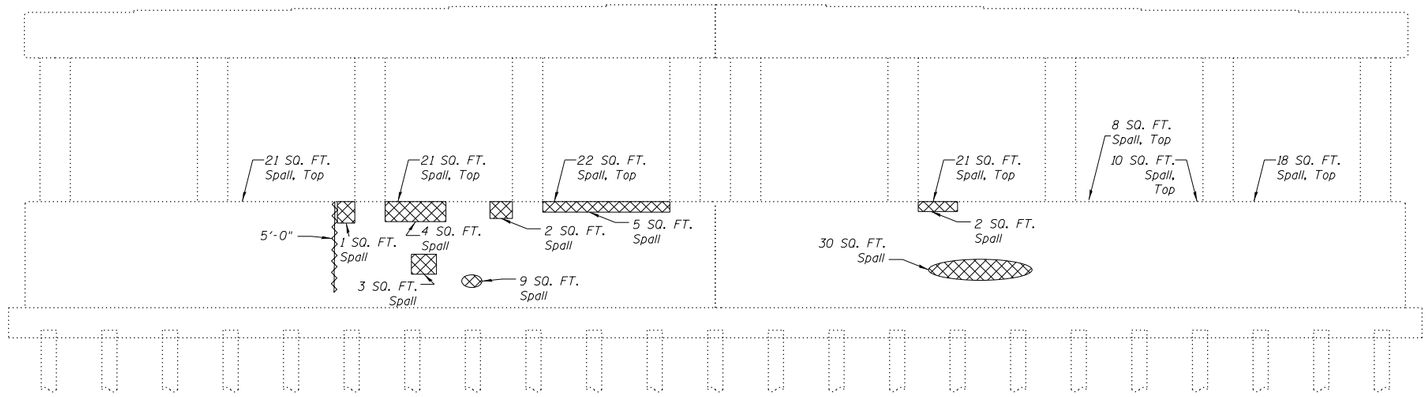
FILE NAME	USER NAME =	DESIGNED - DRB	REVISED
0600104-76G10-024-Pier 1.dgn		CHECKED - MBH	REVISED
	PLOT SCALE =	DRAWN - SDM	REVISED
	PLOT DATE =	CHECKED - JK	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

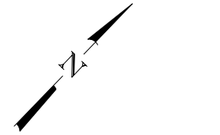
PIER 1
STRUCTURE NO. 060-0104
SHEET NO. 24 OF 29 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	60-2HB-2	MADISON	52	42
		CONTRACT NO. 76G10		
	ILLINOIS FED. AID PROJECT			

PLAN

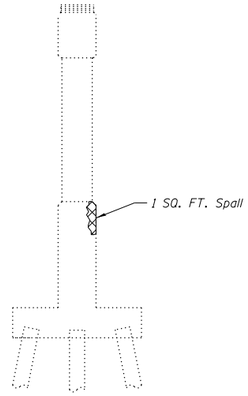


ELEVATION
(Looking Northwest)



LEGEND

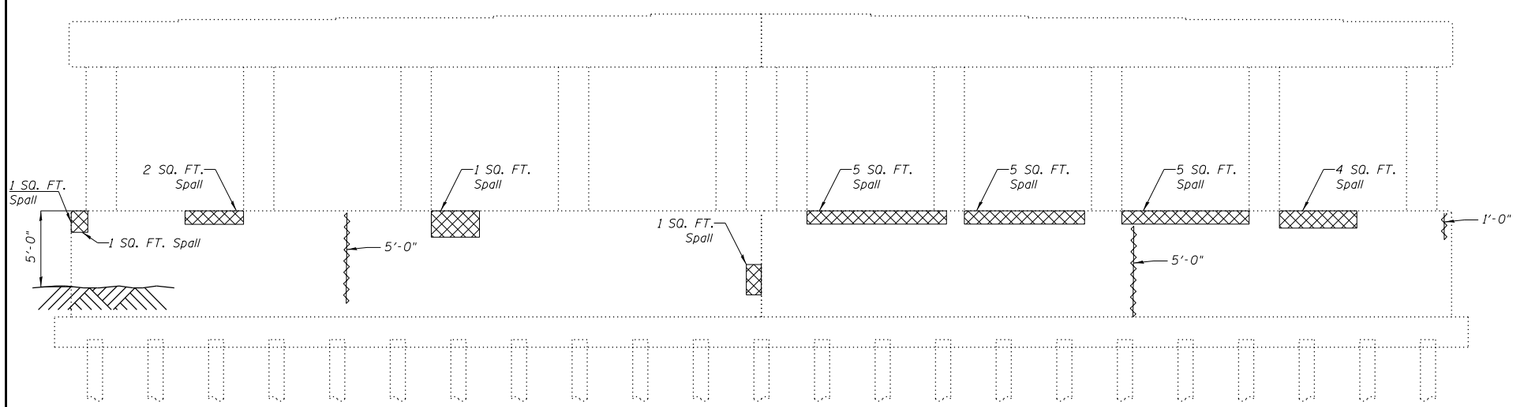
= HAIRLINE CRACK*
= SPALLING
S.F. = SQUARE FEET
L.F. = LINEAL FEET



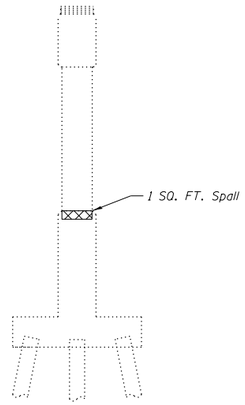
END VIEW
(E. END)

*Hairline cracks shown for information only. No Repairs proposed.

Note: Crack Widths are 1/8" ± 1/16" Unless noted otherwise



ELEVATION
(Looking Southeast)



END VIEW
(W. End)

BILL OF MATERIAL

Item	Unit	Quantity
Structural Repair of Concrete (Depth Equal to or less than 5")	Sq Ft	204

BENTON & ASSOCIATES, INC.
QUIGG ENGINEERING, INC.

FILE NAME			
0600104-76G10-025-Pier 2.dgn	USER NAME =	DESIGNED - DRB	REVISED
		CHECKED - MBH	REVISED
	PLOT SCALE =	DRAWN - SDM	REVISED
	PLOT DATE =	CHECKED - JK	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER 2
STRUCTURE NO. 060-0104
SHEET NO. 25 OF 29 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	60-2HB-2	MADISON	52	43
		CONTRACT NO. 76G10		
	ILLINOIS FED. AID PROJECT			

LEGEND

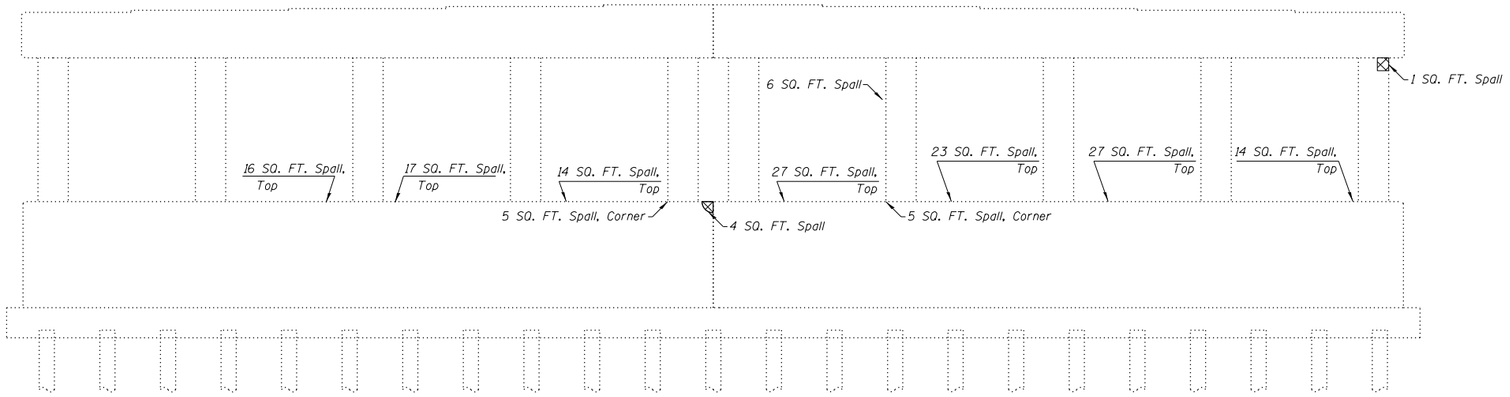
= HAIRLINE CRACK*

= SPALLING

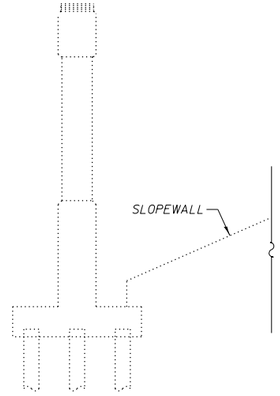
S.F. = SQUARE FEET

L.F. = LINEAL FEET

PLAN



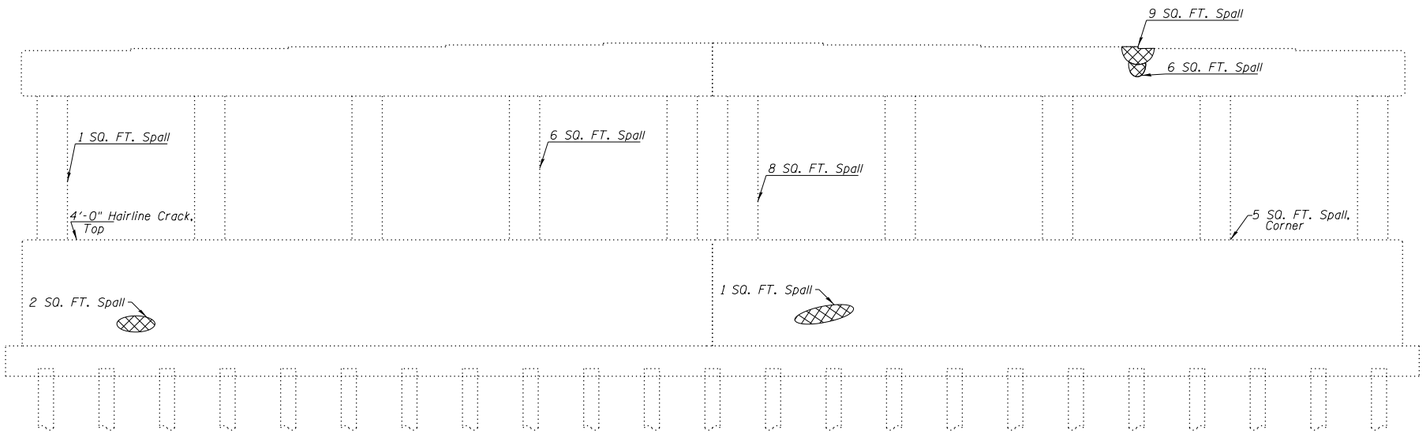
ELEVATION
(Looking Northwest)



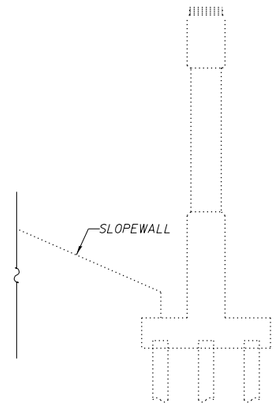
END VIEW
(E. End)

*Hairline cracks shown for information only. No Repairs proposed.

Note: Crack Widths are 1/8" ± 1/16" Unless noted otherwise



ELEVATION
(Looking Southeast)



END VIEW
(W. End)

BILL OF MATERIAL

Item	Unit	Quantity
Structural Repair of Concrete (Depth Equal to or less than 5")	Sq Ft	197

BENTON & ASSOCIATES, INC.
QUIGG ENGINEERING, INC.

FILE NAME	USER NAME =	DESIGNED - DRB	REVISED
0600104-76G10-026-Pier 3.dgn		CHECKED - MBH	REVISED
	PLOT SCALE =	DRAWN - SDM	REVISED
	PLOT DATE =	CHECKED - JK	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

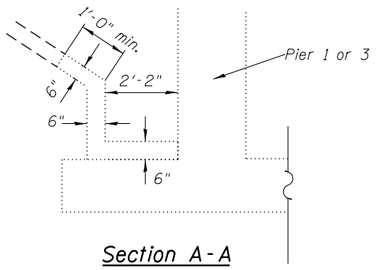
PIER 3
STRUCTURE NO. 060-0104
SHEET NO. 26 OF 29 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	60-2HB-2	MADISON	52	44
		CONTRACT NO. 76G10		
	ILLINOIS FED. AID PROJECT			

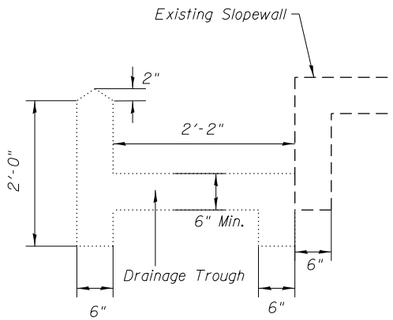
BILL OF MATERIAL

Item	Unit	Quantity
Slopewall Removal	Sq. Yd.	4
Slopewall, 4"	Sq. Yd.	4
Sealing Cracks	Foot	320
Controlled Low Strength Material	Cu. Yd.	33
Structural Repair of Concrete (Depth Equal to or less than 5")	Sq. Ft.	62

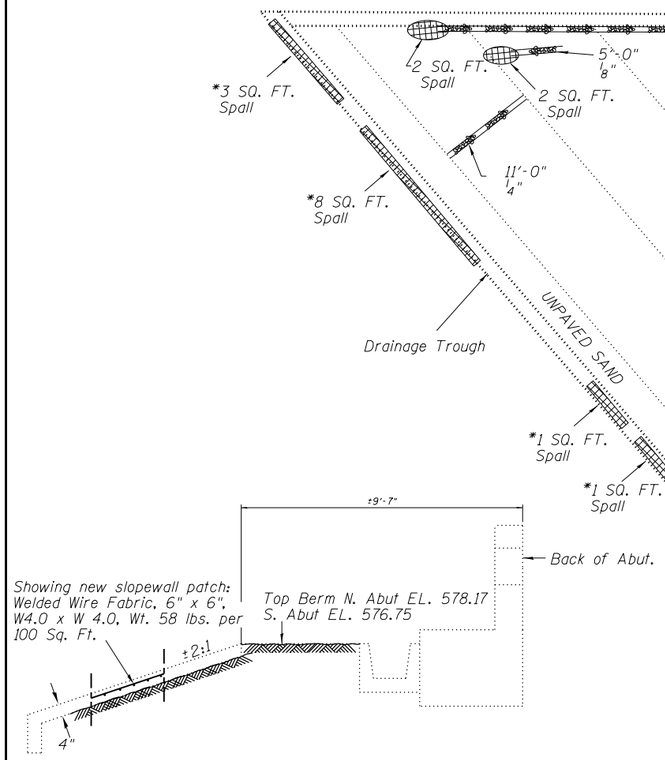
Slopewall Notes:
1. Open cracks shall be filled. Cost included in SEALING CRACKS. See Special Provisions.
2. Spalled Slopewall shall be removed as SLOPEWALL REMOVAL and Patched with SLOPEWALL, 4".
3. Spalled areas of drainage troughs shall be repaired using STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5").
4. The length of overlap between the outermost cross wires of new and existing Welded Wire Fabric shall be 8" min.



Section A-A



Section B-B



SECTION THRU SLOPE WALL

PLAN OF SLOPEWALL
(North Abutment)

PLAN OF SLOPEWALL
(South Abutment)

*INDICATES STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5")

LEGEND

= HAIRLINE CRACK (NO REPAIRS)
= OPEN CRACK (THICKNESS)
= SPALLING
= HOLLOW OR SETTLED AREA FILL WITH CLSM

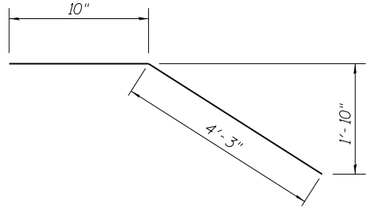
BENTON & ASSOCIATES, INC.
QUIGG ENGINEERING, INC.

FILE NAME	USER NAME =	DESIGNED - DRB	REVISED
0600104-76G10-027-Slopewall.dgn		CHECKED - MBH	REVISED
	PLOT SCALE =	DRAWN - SDM	REVISED
	PLOT DATE =	CHECKED - JK	REVISED

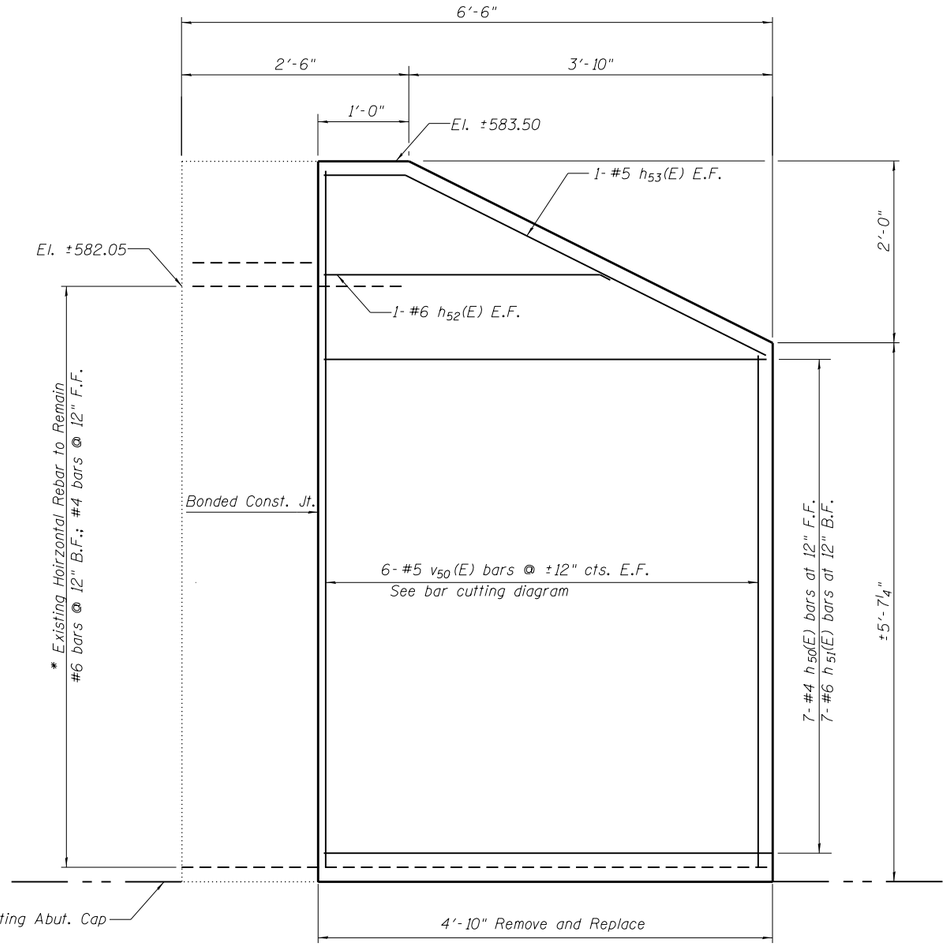
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SLOPEWALL
STRUCTURE NO. 060-0104
SHEET NO. 27 OF 29 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	60-2HB-2	MADISON	52	45
		CONTRACT NO. 76G10		
	ILLINOIS	FED. AID PROJECT		



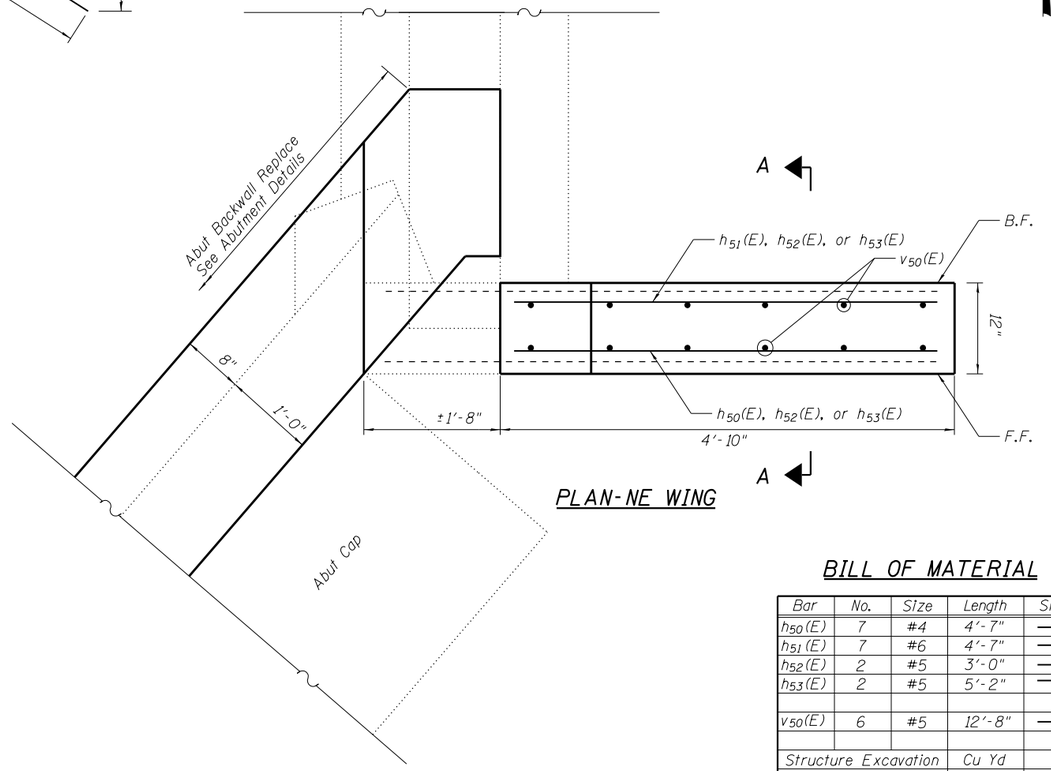
BAR h_{53}(E)



NE WING ELEVATION

* Existing rebar to remain in place shall be cleaned and lapped to h_{50}(E) or h_{51}(E) bars.
B.F. indicates Back Face.
F.F. indicates Front Face.
E.F. indicates Each Face.

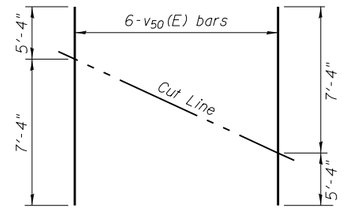
For additional details at North Abutment
See sheet 22 of 29.



PLAN-NE WING

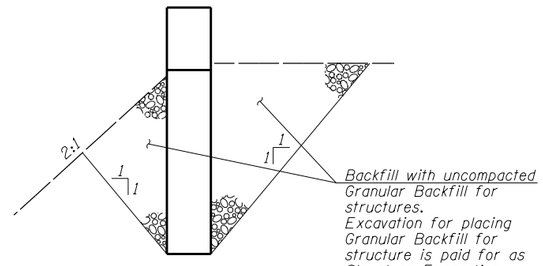
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h_{50}(E)	7	#4	4'-7"	———
h_{51}(E)	7	#6	4'-7"	———
h_{52}(E)	2	#5	3'-0"	———
h_{53}(E)	2	#5	5'-2"	———
v_{50}(E)	6	#5	12'-8"	———
Structure Excavation			Cu Yd	11
Concrete Removal			Cu Yd	2
Concrete Structures			Cu Yd	1.3
Reinforcement Bars Epoxy Coated			Pound	170
Granular Backfill for Structures			Cu Yd	11



FIELD CUTTING DIAGRAM

Order v_{50}(E) bars full length. Cut as shown and use remainder of bars in opposite face of wall.



SECTION A-A
BACKFILL DETAIL

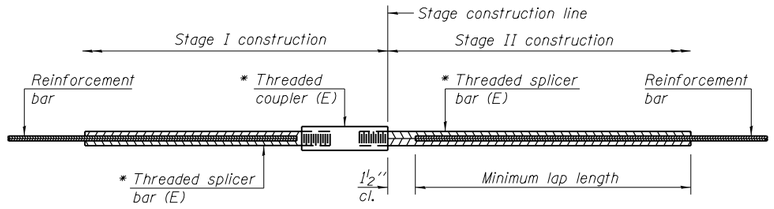
BENTON & ASSOCIATES, INC.
QUIGG ENGINEERING, INC.

FILE NAME	USER NAME =	DESIGNED - DRB	REVISED
0600104-76G10-028-NE Wing Wall Detail.dgn		CHECKED - MBH	REVISED
	PLOT SCALE =	DRAWN - SDM	REVISED
	PLOT DATE =	CHECKED - JK	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

NORTHEAST WINGWALL DETAIL
STRUCTURE NO. 060-0104
SHEET NO. 28 OF 29 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	60-2HB-2	MADISON	52	46
		CONTRACT NO. 76G10		
	ILLINOIS FED. AID PROJECT			



STANDARD BAR SPLICER ASSEMBLY

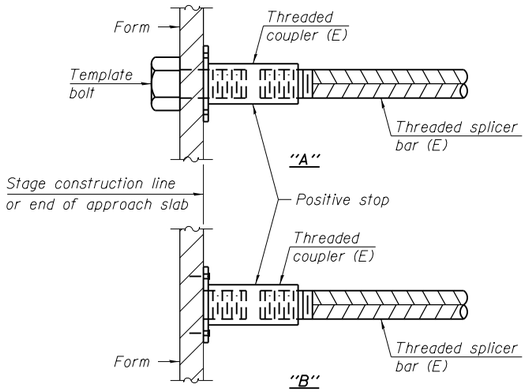
Minimum Lap Lengths						
Bar size to be spliced	Table 1	Table 2	Table 3	Table 4	Table 5	Table 6
3, 4	1'-5"	1'-11"	2'-1"	2'-4"	2'-7"	2'-11"
5	1'-9"	2'-5"	2'-7"	2'-11"	3'-3"	3'-8"
6	2'-1"	2'-11"	3'-1"	3'-6"	3'-10"	4'-5"
7	2'-9"	3'-10"	4'-2"	4'-8"	5'-2"	5'-10"
8	3'-8"	5'-1"	5'-5"	6'-2"	6'-9"	7'-8"
9	4'-7"	6'-5"	6'-10"	7'-9"	8'-7"	9'-8"

Table 1: Black bar, 0.8 Class C
Table 2: Black bar, Top bar lap, 0.8 Class C
Table 3: Epoxy bar, 0.8 Class C
Table 4: Epoxy bar, Top bar lap, 0.8 Class C
Table 5: Epoxy bar, Class C
Table 6: Epoxy bar, Top bar top, Class C

Threaded splicer bar length = min. lap length + 1½" + thread length

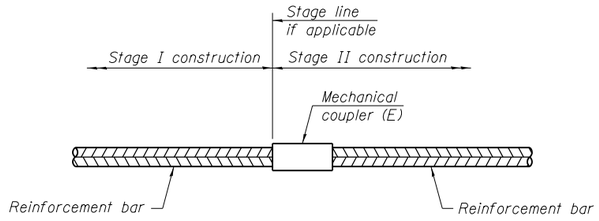
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Table for minimum lap length



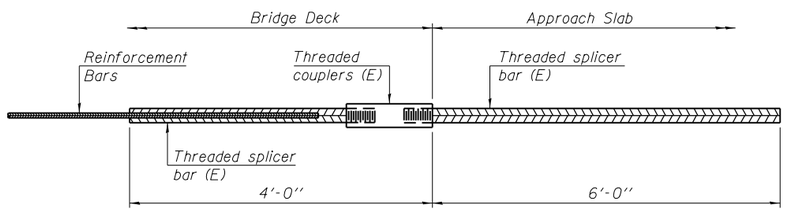
INSTALLATION AND SETTING METHODS

"A" : Set bar splicer assembly by means of a template bolt.
"B" : Set bar splicer assembly by nailing to wood forms or cementing to steel forms.
(E) : Indicates epoxy coating.



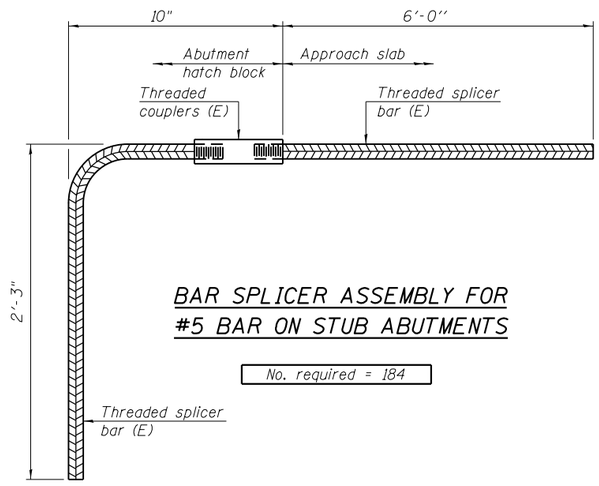
STANDARD MECHANICAL SPLICER

Location	Bar size	No. assemblies required



BAR SPLICER ASSEMBLY FOR #5 BAR ON INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

No. required =



BAR SPLICER ASSEMBLY FOR #5 BAR ON STUB ABUTMENTS

No. required = 184

NOTES

Splicer bars shall be deformed with threaded ends and have a minimum 60 ksi yield strength.

All reinforcement shall be lapped and tied to the splicer bars.

Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars. See Section 508 of the Standard Specifications.

See approved list of bar splicer assemblies and mechanical splicers for alternatives.

BSD-1 1-27-12

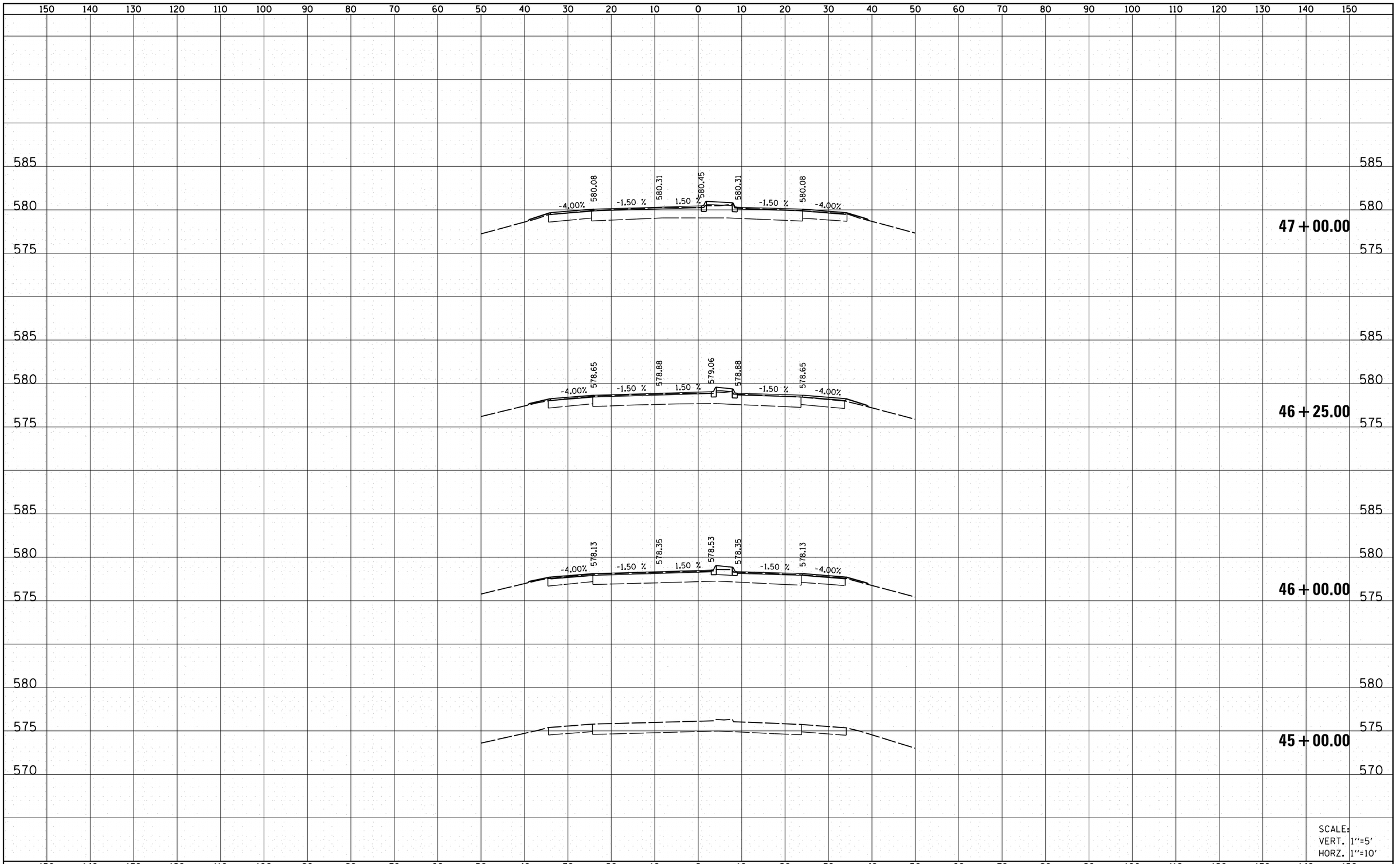
BENTON & ASSOCIATES, INC.
QUIGG ENGINEERING, INC.

FILE NAME: 0600104-76G10-029-BarSplicers.dgn	USER NAME =	DESIGNED - DRB	REVISED
		CHECKED - MBH	REVISED
	PLOT SCALE =	DRAWN - TF	REVISED
	PLOT DATE =	CHECKED - JK	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS
STRUCTURE NO. 060-0104
SHEET NO. 29 OF 29 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	60-2HB-2	MADISON	52	47
		CONTRACT NO. 76G10		
	ILLINOIS	FED. AID PROJECT		



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Default		DRAWN - MGM	REVISED -
	PLOT SCALE = 20.0000 ' / in.	CHECKED -	REVISED -
	PLOT DATE = 7/10/2014	DATE - 6/30/14	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

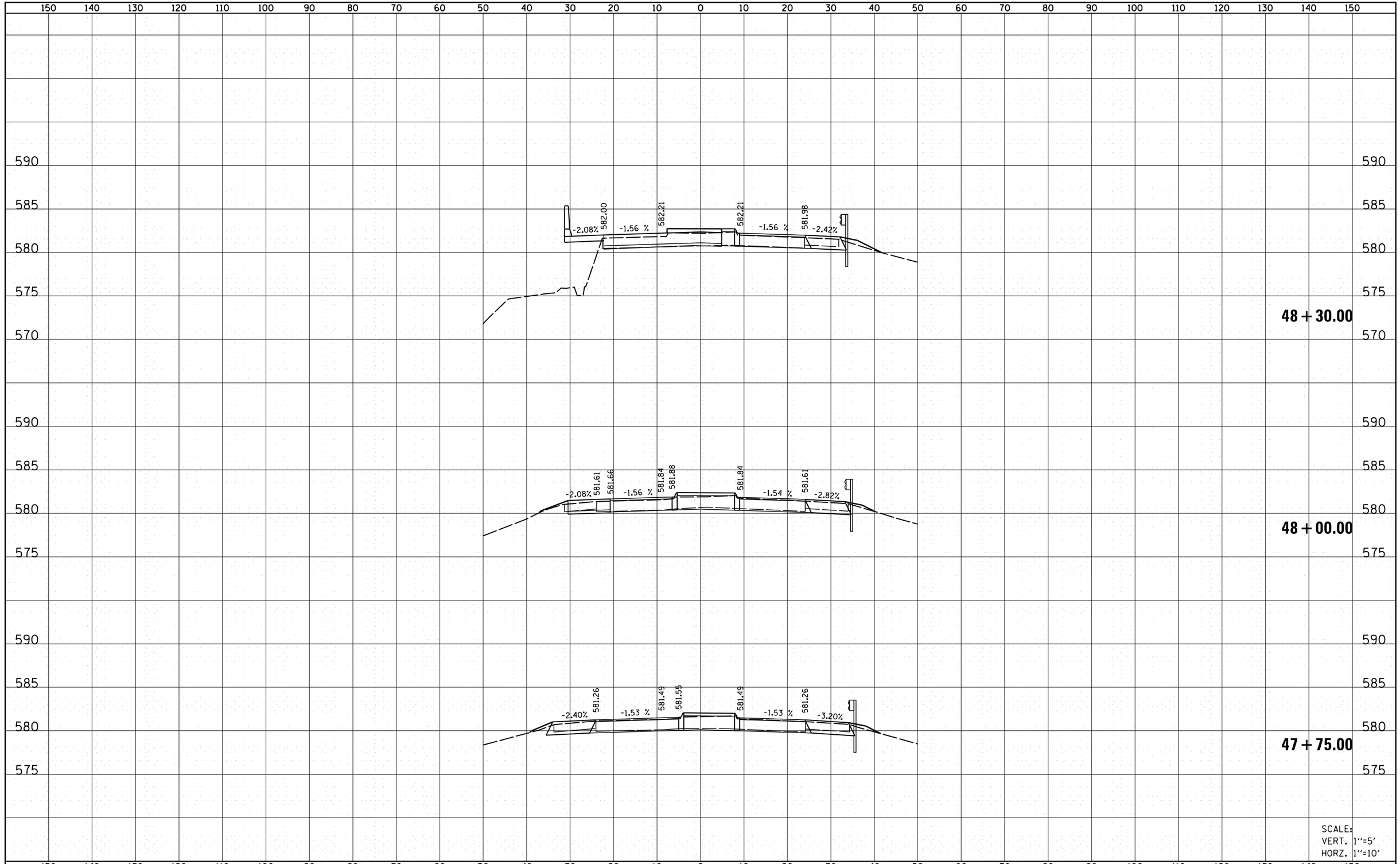
CROSS SECTIONS MAINLINE
FAI 55

SCALE: | SHEET 1 OF 5 SHEETS | STA. 45+00.00 | TO STA. 47+00.00

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	60-2HB-2	MADISON	52	48
		CONTRACT NO. 76G10		
		ILLINOIS FED. AID PROJECT		

FINAL SURVEY — NOTE BOOK — NO. — SURVEYED — PLOTTED — TEMPLATE — AREAS — AREAS CHECKED — BY — DATE

ORIGINAL SURVEY — NOTE BOOK — NO. — SURVEYED — PLOTTED — TEMPLATE — AREAS — AREAS CHECKED — BY — DATE



FINAL SURVEY

NO.	NOTE BOOK	SURVEYED	BY	DATE
		PLOTTED		
		TEMPLATE		
		AREAS		
		AREAS CHECKED		

ORIGINAL SURVEY

NO.	NOTE BOOK	SURVEYED	BY	DATE
		PLOTTED		
		TEMPLATE		
		AREAS		
		AREAS CHECKED		

FILE NAME =	USER NAME = $USER$	DESIGNED -	REVISED -
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	PLOT SCALE = 20.0000 ' / in.	CHECKED -	REVISED -
Default	PLOT DATE = 7/10/2014	DATE - 6/30/14	REVISED -

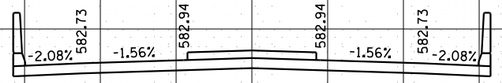
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS MAINLINE
FAI 55

SCALE: | SHEET 2 OF 5 SHEETS | STA. 47+75.00 | TO STA. 48+30.00

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	60-2HB-2	MADISON	52	49
		CONTRACT NO. 76G10		
	ILLINOIS	FED. AID PROJECT		

50 + 00.00



49 + 00.00

SCALE:
VERT. 1"=5'
HORZ. 1"=10'

FINAL SURVEY	DATE	BY
NOTE BOOK	SURVEYED	
NO.	PLOTTED	
	TEMPLATE	
	AREAS	
	AREAS CHECKED	

ORIGINAL SURVEY	DATE	BY
NOTE BOOK	SURVEYED	
NO.	PLOTTED	
	TEMPLATE	
	AREAS	
	AREAS CHECKED	

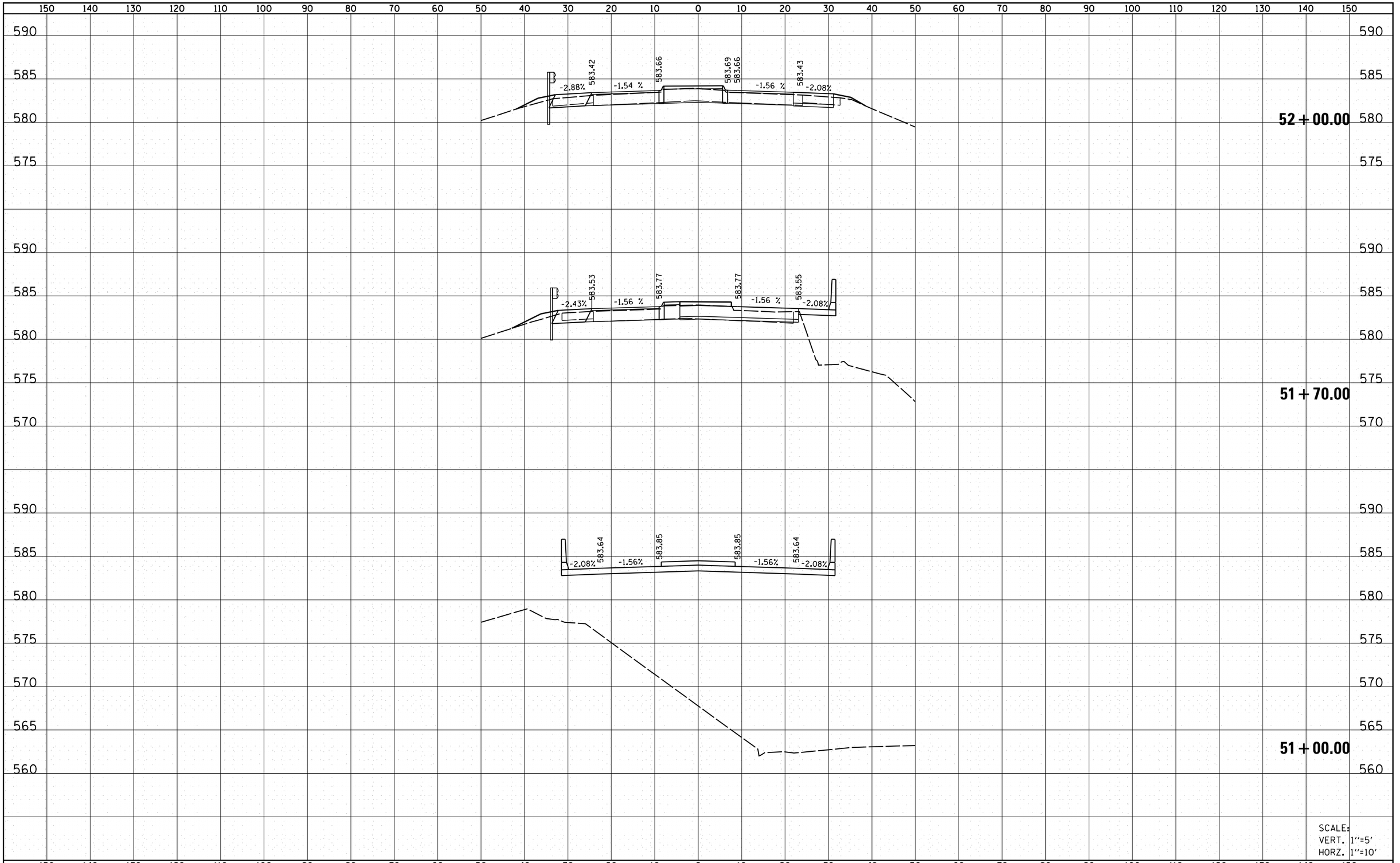
FILE NAME = P:\10E2166-10\60-2HB-2 76G10 FAI 55\CADD Sheets\D876G10-sht-xssht-IL 4 .dgn	USER NAME = $USER$	DESIGNED -	REVISED -
		DRAWN - MGM	REVISED -
	PLOT SCALE = 20.0000 ' / in.	CHECKED -	REVISED -
Default	PLOT DATE = 7/10/2014	DATE - 6/30/14	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS MAINLINE
FAI 55

SCALE: | SHEET 3 OF 5 SHEETS | STA. 49+00.00 | TO STA.50+00.00

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	60-2HB-2	MADISON	52	50
		CONTRACT NO. 76G10		
		ILLINOIS FED. AID PROJECT		



FINAL SURVEY

NO.	NOTE BOOK	SURVEYED	PLOTTED	TEMPLATE	AREAS	AREAS CHECKED	BY	DATE

ORIGINAL SURVEY

NO.	NOTE BOOK	SURVEYED	PLOTTED	TEMPLATE	AREAS	AREAS CHECKED	BY	DATE

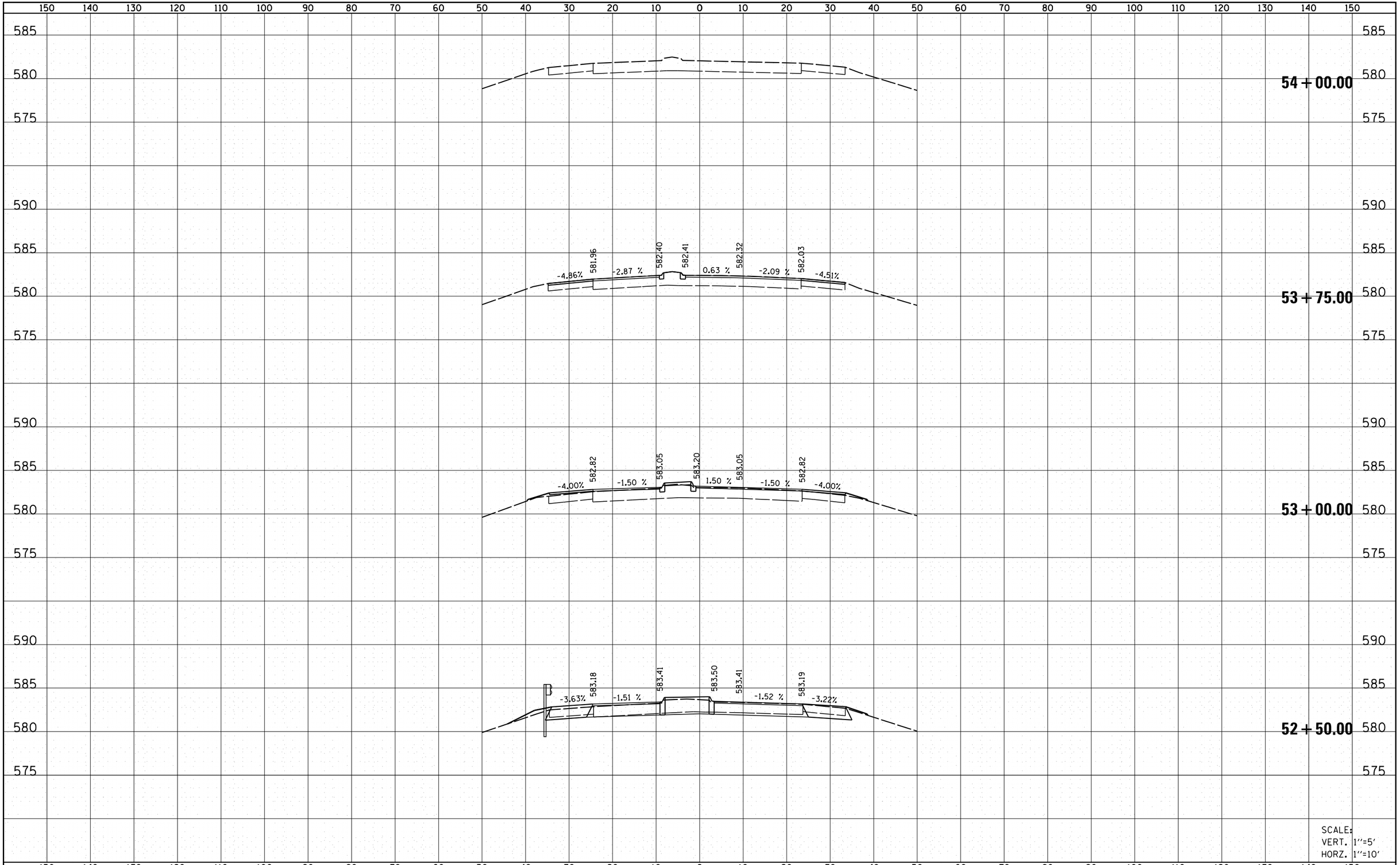
FILE NAME = P:\10E2166-10\60-2HB-2 76G10 FAI 55\CADD Sheets\D876G10-sht-xssht-IL 4 .dgn	USER NAME = $USER$	DESIGNED -	REVISED -
		DRAWN - MGM	REVISED -
	PLOT SCALE = 20.0000 ' / in.	CHECKED -	REVISED -
Default	PLOT DATE = 7/10/2014	DATE - 6/30/14	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS MAINLINE
FAI 55

SCALE: | SHEET 4 OF 5 SHEETS | STA. 51+00.00 | TO STA. 52+00.00

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	60-2HB-2	MADISON	52	51
		CONTRACT NO. 76G10		
		ILLINOIS FED. AID PROJECT		



ORIGINAL SURVEY	NOTE BOOK	NO.
SURVEYED		
PLOTTED		
TEMPLATE		
AREAS		
AREAS CHECKED		

FINAL SURVEY	NOTE BOOK	NO.
SURVEYED		
PLOTTED		
TEMPLATE		
AREAS		
AREAS CHECKED		

BY	DATE

FILE NAME =	USER NAME = $USER$	DESIGNED -	REVISED -
P:\10E2166-10\60-2HB-2 76G10 FAI 55\CADD Sheets\D876G10-sht-xssht-IL 4 .dgn		DRAWN - MGM	REVISED -
	PLOT SCALE = 20.0000 ' / in.	CHECKED -	REVISED -
Default	PLOT DATE = 7/10/2014	DATE - 6/30/14	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS MAINLINE
FAI 55

SCALE: | SHEET 5 OF 5 SHEETS | STA. 52+50.00 | TO STA. 54+00.00

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	60-2HB-2	MADISON	52	52
		CONTRACT NO. 76G10		
		ILLINOIS FED. AID PROJECT		