01-17-2025 LETTING ITEM 120

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 89	21-00101-00-BR	MADISON	30	1
	ILLINOIS	CONTRACT NO. 97849		

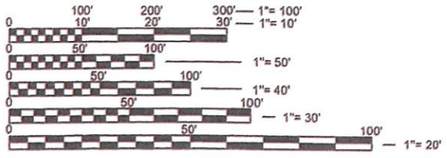
INDEX OF SHEETS

IDOT HIGHWAY STANDARDS

000001-08	STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
001001-02	AREAS OF REINFORCEMENT BARS
001006	DECIMAL OF AN INCH AND OF A FOOT
280001-07	TEMPORARY EROSION CONTROL SYSTEMS
515001-04	NAME PLATE FOR BRIDGES
630001-13	STEEL PLATE BEAM GUARDRAIL
630301-09	SHOULDER WIDENING FOR TYPE 1 (SPECIAL) GUARDRAIL TERMINALS
631032-10	TRAFFIC BARRIER TERMINAL, TYPE 6A
701006-05	OFF-RD OPERATIONS, 2L, 2W, 15' TO 24" FROM PAVEMENT EDGE
701011-04	OFF-RD MOVING OPERATIONS, 2L, 2W, DAY ONLY
701901-10	TRAFFIC CONTROL DEVICES
720011-01	SIGN PANEL MOUNTING DETAILS
725001-01	OBJECT TERMINAL MARKERS
782006-01	GUARDRAIL AND BARRIER WALL REFLECTOR MOUNTING DETAILS
BLR-21-9	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS

DESIGN DESIGNATION

ROADWAY CLASSIFICATION: LOCAL ROAD
DESIGN SPEED: 40 MPH
CURRENTADT (2024): 275
DESIGN ADT (2024): 275



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 EXCAVATORS
1-800-892-0123
OR 811

PLANS PREPARED BY:

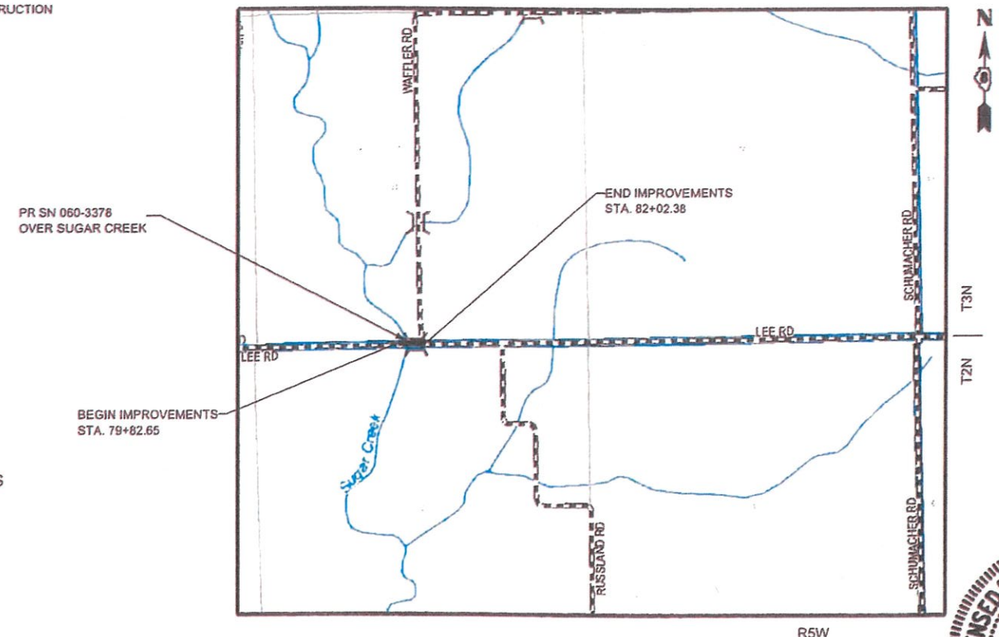
TWM ENGINEERING GEOSPATIAL SERVICES
204 Evergreen Lane, Unit B
Glen Carbon, Illinois 62034
Tel: 618.656.4040
www.twm-inc.com
Illinois Professional Design Firm No. 184-001220
License Expires: 04/30/2025
ILLINOIS - MISSOURI - TENNESSEE

CONTRACT NO. 97849

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

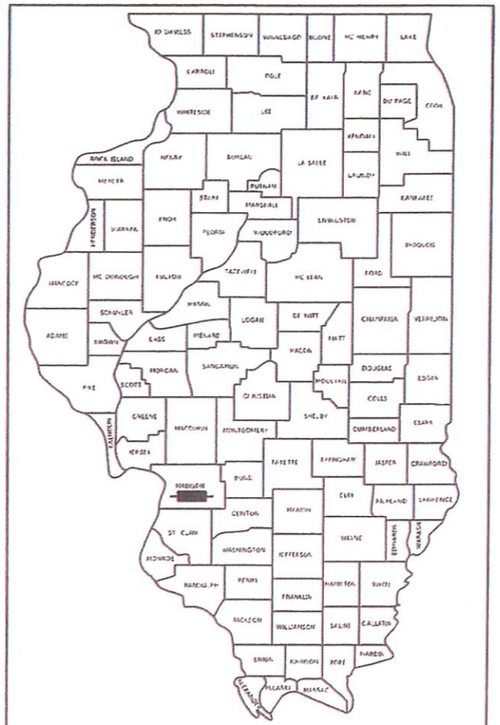
PROPOSED HIGHWAY PLANS

STP-BR FUNDS
TOWNSHIP ROAD 89
SECTION NO. 21-00101-00-BR
PROJECT X3Q7(734)
BRIDGE REPLACEMENT OF
LEE ROAD OVER SUGAR CREEK
MADISON COUNTY
C-98-027-25



LOCATION MAP
NOT TO SCALE

GROSS LENGTH = 219.73 FT. = 0.042 MILE
NET LENGTH = 219.73 FT. = 0.042 MILE



LOCATION OF SECTION INDICATED THUS: -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

APPROVED 10-11 20 24
COUNTY ENGINEER
MADISON COUNTY HIGHWAY DEPARTMENT

PASSED 10-28 20 24
DISTRICT 8 ENGINEER
LOCAL ROADS & STREETS

RELEASED FOR BID BASED ON LIMITED REVIEW 10-28 20 24
REGION FIVE ENGINEER

LICENSED PROFESSIONAL ENGINEER
JORDAN B HARR
062-072771
OF ILLINOIS

10/11/24
JORDAN B HARR, P.E.
LICENSE NO. 062-072771
EXPIRATION DATE
11-30-2025

PRINTED BY THE AUTHORITY OF THE STATE OF ILLINOIS

GENERAL

FOR CODED PAY ITEM DESCRIPTIONS, INCLUDED ITEMS, AND ALL MATERIAL SPECIFICATIONS, PLEASE REFER TO THE LATEST EDITION OF THE IDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.

THE CONTRACTOR SHALL CONFINE HIS/HER OPERATIONS TO THE AREA LOCATED WITHIN THE CONSTRUCTION LIMIT LINES, AS SHOWN ON THE PLANS. ANY AREA DISTURBED BEYOND THESE LIMITS SHALL BE RESTORED TO ITS ORIGINAL CONDITION AT THE CONTRACTOR'S EXPENSE.

ALL EXISTING ROADWAY FEATURES, SUCH AS CULVERTS, RIPRAP, PAVEMENT, FENCING, ETC., LOCATED WITHIN THE CONSTRUCTION LIMITS ARE TO BE REMOVED UNLESS NOTED OTHERWISE ON THE PLANS.

IT IS NOT WARRANTED THAT THIS DOCUMENT CONTAINS COMPLETE INFORMATION REGARDING EASEMENTS, RESERVATIONS, RESTRICTIONS, RIGHT-OF-WAYS, BUILDING LINE SETBACKS, AND OTHER ENCUMBRANCES. FOR COMPLETE INFORMATION, A TITLE OPINION OR COMMITMENT FOR TITLE INSURANCE SHOULD BE OBTAINED AND THOUROUGHLY REVIEWED.

ALL GUARRAIL AND BRIDGE RAIL REFLECTORS SHALL BE BI-DIRECTIONAL AND CRYSTAL/CRYSTAL IN COLOR.

ALL SIGNS TO BE REMOVED SHALL BE SALVAGED FOR HELVETIA TOWNSHIP.

UTILITIES - LOCATION/INFORMATION ON PLANS

UNLESS NOTED OTHERWISE, THE TYPE, SIZE, DEPTH AND LOCATION OF EXISTING GAS MAINS, SEWERS, ELECTRIC POWER LINES, TELEPHONE LINES AND OTHER UTILITIES AS DELINEATED ON THE PLANS HAVE BEEN DETERMINED BY REVIEW OF AVAILABLE EXISTING "AS-BUILT" OR RECORD DRAWINGS, FIELD SURVEY OF ABOVE GROUND SURFACE UTILITY FEATUES. THE OWNER AND ENGINEER HAVE NOT UNDERTAKEN SUBSURFACE EXPLORATORY INVESTIGATIONS TO CONFIRM OR VERIFY THE UTILITIES SHOWN ON THESE PLANS; THEREFORE THEIR EXACT LOCATION, SIZE AND FUNCTION MUST BE CONSIDERED APPROXIMATE. THE EXISTING LOCATION OF ALL UNDERGROUND ELECTRIC, UNDERGROUND TELEPHONE, CABLE, SANITARY SEWER LINES, AND UNDERGROUND GAS LINES HAVE BEEN APPROXIMATED AT MINIMUM DEPTHS OF 30", 24", 24", 30", 30" RESPECTIVELY.

THE ENGINEER AND OWNER FURTHER DO NOT WARRANT THAT ALL UTLITIES HAVE BEEN ILLUSTRATED ON THE DOCUMENTS. THE CONTRACTOR IS SOLEY RESPONSIBLE FOR CONTACTING J.U.L.I.E. FOR FIELD VERIFICATION OF ALL UTILITIES ON THE SITE PRIOR TO COMMENCEMENT OF CONSTRUCTION. IF THE CONTRACTOR DETERMINES THAT SUBSTANTIAL DISCREPENCY EXISTS BETWEEN FIELD VERIFIED UTILITIES AND THESE PLANS WHICH WOULD SIGNIFICANTLY AFFECT THE FUNCTION, COST, OR PERFORMANCE OF THE PROJECT, THE CONTRACTOR SHALL IMMEADIATELY CONTACT THE ENGINEER FOR CLARIFICATION AND PROJECT DIRECTION.

ANY FACILITIES OR APPURTANCES, WHICH ARE THE PROPERTY OF ANY PUBLIC UTILITY LOCATED WITHIN THE LIMITS OF CONSTRUCTION, SHALL BE RELOCATED OR ADJUSTED BY THEIR PERSPECTIVE OWNERS. THE CONTRACTOR SHALL NOTIFY AND COOPERATE WITH THE OWNERS OF ANY SUCH FACILITY IN THEIR REMOVAL/ADJUSTMENTS AND ADJUST HIS OPERATIONS IN ORDER THAT, THE UTILITY'S OPERATIONS AND THE CONSTRUCTION OF THE PROJECT MAY PROGRESS IN A REASONABLE MANNER.

ANY SUBSURFACE UTILITY WITHIN CONSTRUCTION LIMITS IS TO BE VERIFIED FOR ACTIVITY WITH RESPECTIVE UTILITY OWNER AND ALL ABANDONED UTILITIES ARE TO BE REMOVED CONST INCLUDED IN COST OF EXCAVATION.

UTILITIES OWNERS AND CONTACT INFORMATION

ELECTRIC	CLINTON COUNTY ELECTRIC COOP	475 N. MAIN ST.	BREESE, IL	(800) 526-7282
WATER	TRI-TOWNSHIP WATER DISTRICT	180 STATE ROUTE 160	TRENTON, IL	(618) 654-4542

EROSION CONTROL

ALL TEMPORARY AND PERMANENT EROSION CONTROL DEVICES SHALL BE IMPLEMENTED AS SHOWN ON THE EROSION CONTROL PLAN.

IT IS THE CONTRACTOR'S RESPONSIBLITY TO ENSURE THAT ALL EROSION AND DISPLACED SEDIMENT DOES NOT MIGRATE OFF SITE. IF UNEXPECTED EROSION OR SEDIMENTATION OCCURS, OR IF THE EROSION PLAN STRUCTURES BECOME DAMAGED, THE CONTRACTOR SHALL PROVIDE SUFFICIENT MEASURES TO REPAIR, REPLACE, OR INSTALL EROSION CONTROL STRUCTURES TO INSURE OFF-SITE DAMAGE DOES NOT OCCUR. ANY SEDIMENT OR EROSION DAMAGE WHICH OCCURS OFF-SITE SHALL BE REPAIRED BY THE CONTRACTOR AT HIS/HER EXPENSE.

DRAINAGE DURING STAGE CONSTRUCTION

IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO MAINTAIN POSITIVE DRAINAGE DURING VARIOUS STAGES OF CONSTRUCTION. THIS INCLUDES ALL LABOR AND MATERIALS BEYOND WHAT IS SPECIFIED IN THE PLANS. ITEMS SUCH AS TEMPORARY DITCHES AND PIPES DEEMED NECESSARY OR MAINTAINING DRAIANGE ARE CONSIDERED TO BE THE RESPONSIBILITY OF THE CONTRACTOR AND WILL NOT BE PAID SEPARATELY.

PROPERTY OWNER ACCESS REQUIREMENT

ACCESS MUST BE MAINTAINED TO ALL EXISTING PROPERTIES DURING CONSTRUCTION, UNLESS ARRANGEMENTS ARE MADE IN WRITING BY THE CONTRACTOR WITH THE PROPERTY OWNERS WITH A COPY TO THE ENGINEER FOR SHORT-TERM CLOSURE.

PRIOR TO CONSTRUCTING ANY ENTRANCE, THE PROPERTY OWNER WILL BE NOTIFIED IN WRITING, INFORMING THEM OF CONSTRUCTION AND ESTIMATED DATES CONSTRUCTION WILL TAKE PLACE.

TRAFFIC CONTROL

SEE SPECIAL PROVISIONS FOR ADDTIONAL REQUIREMENTS.

ALL TRAFFIC CONTROL INCLUDING, BUT NOT LIMITED TO, WORK ZONE, TEMPORARY, AND PERMANENT, SHALL BE FURNISHED, INSTALLED, MAINTAINED, RELOCATED, AND/OR REMOVED IN ACCORDANCE WITH SECTION 701 OF THE LATEST EDITION OF THE IDOT STANDARD SPECIFICICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AND THE LATES EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

TRAFFIC CONTROL SIGNS SHALL BE 48" FLUORESCENT ORANGE.

THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING THE MADISON COUNTY HIGHWAY DEPARTMENT AT LEAST SEVENTY-TWO (72) HOURS IN ADVANCE PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION ACTIVITIES OR WORK REQUIRING INSPECTINO OR APPROVAL BY THE AFFECTED UNITS OF GOVERNMENT.

COMMITMENTS

A VALID BRIDGE BAT ASSESSMENT IS REQUIRED PRIOR TO PERFORMING ANY WORK BELOW THE EXISTING BRIDGE DECK SURFACE.

TWM ENGINEERING GEOSPATIAL SERVICES
TWM, INC.
WWW.TWM-INC.COM
IL DESIGN FIRM LICENSE NO: 184-001220

USER NAME = bbillhartz	DESIGNED - JBH	REVISED -	
	DRAWN - JBH	REVISED -	
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PLOT DATE = 10/10/2024	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES

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

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 89	21-00101-00-BR	MADISON	30	2
		CONTRACT NO. 97849		
	ILLINOIS	FED. AID PROJECT		

CODE NO.	PAY ITEM	UNIT	TOTAL QUANTITY
20200100	EARTH EXCAVATION	CU YD	10
20400800	FURNISHED EXCAVATION	CU YD	195
25000210	SEEDING, CLASS 2A	ACRE	0.25
25000400	NITROGEN FERTILIZER NUTRIENT	POUND	23
25000500	PHOSPHORUS FERTILIZER NUTRIENT	POUND	23
25000600	POTASSIUM FERTILIZER NUTRIENT	POUND	23
25100115	MULCH, METHOD 2	ACRE	0.25
28000400	PERIMETER EROSION BARRIER	FOOT	410
28100107	STONE RIPRAP, CLASS A4	SQ YD	500
28200200	FILTER FABRIC	SQ YD	500
35100900	AGGREGATE BASE COURSE, TYPE A 10"	SQ YD	216
48100900	AGGREGATE SHOULDERS, TYPE A 10"	SQ YD	95
50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1
50200100	STRUCTURE EXCAVATION	CU YD	120
50300225	CONCRETE STRUCTURES	CU YD	40.7

	CODE NO.	PAY ITEM	UNIT	TOTAL QUANTITY
	50300255	CONCRETE SUPERSTRUCTURE	CU YD	138.8
	50300260	BRIDGE DECK GROOVING	SQ YD	356
	50300300	PROTECTIVE COAT	SQ YD	462
	50500105	FURNISHING AND ERECTING STRUCTURAL STEEL	L SUM	1
	50500505	STUD SHEAR CONNECTORS	EACH	1164
	50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	43520
X	50901050	STEEL RAILING, TYPE SM	FOOT	230
	51201800	FURNISHING STEEL PILES HP14X73	FOOT	360
	51202305	DRIVING PILES	FOOT	360
	51203800	TEST PILE STEEL HP14X73	EACH	2
	51204650	PILE SHOES	EACH	8
	51500100	NAME PLATES	EACH	1
	52100520	ANCHOR BOLTS, 1"	EACH	16
	59300100	CONTROLLED LOW-STRENGTH MATERIAL	CU YD	137
X	63000003	STEEL PLATE BEAM GUARDRAIL, TYPE A, 9 FOOT POSTS	FOOT	50

X SPECIALTY ITEM

MODEL: Default
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES

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

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 89	21-00101-00-BR	MADISON	30	3
		CONTRACT NO. 97849		
		ILLINOIS	FED. AID PROJECT	

	CODE NO.	PAY ITEM	UNIT	TOTAL QUANTITY
X	63100087	TRAFFIC BARRIER TERMINAL, TYPE 6A	EACH	2
X	63100167	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT	EACH	2
	67100100	MOBILIZATION	L SUM	1
	72400310	REMOVE SIGN PANEL - TYPE 1	SQ FT	24
X	72501000	TERMINAL MARKER - DIRECT APPLIED	EACH	2
X	72501100	TERMINAL MARKER - POST MOUNTED	EACH	2
X	78200005	GUARDRAIL REFLECTORS, TYPE A	EACH	4
X	78200011	BARRIER WALL REFLECTORS, TYPE C	EACH	4
	X5080530	BAR TERMINATORS	EACH	412
	X7010216	TRAFFIC CONTROL AND PROTECTION, (SPECIAL)	L SUM	1
#	Z0076600	TRAINEES	HOUR	500
#	Z0076604	TRAINEES TRAINING PROGRAM GRADUATE	HOUR	500

X SPECIALTY ITEM # 0042

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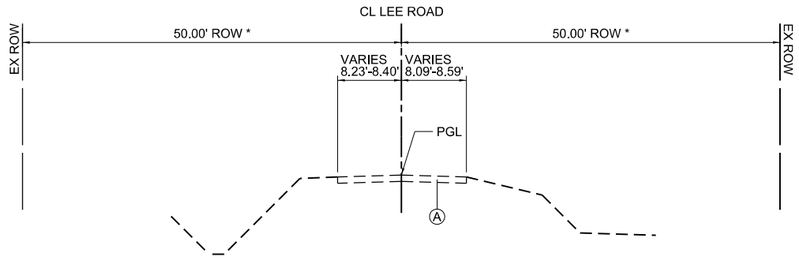
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES

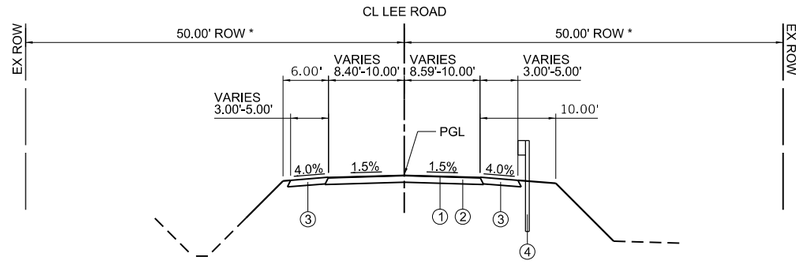
SCALE: | SHEET 2 OF 2 SHEETS | STA. | TO STA.

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 89	21-00101-00-BR	MADISON	30	4
		CONTRACT NO. 97849		
	ILLINOIS FED. AID PROJECT			



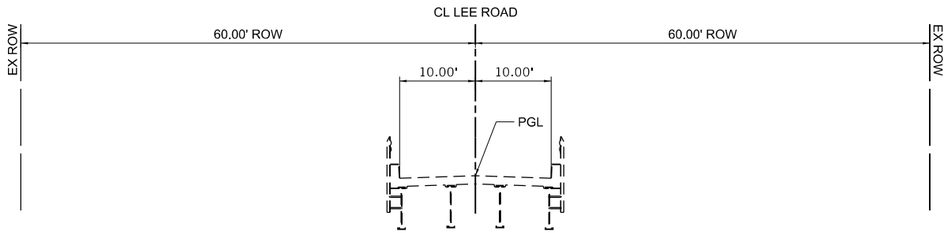
EXISTING TYPICAL SECTION

STA 79+82.65 TO STA 80+48.33
* ROW LT & RT 60.00' FROM STA. 80+00.00 TO 80+48.33



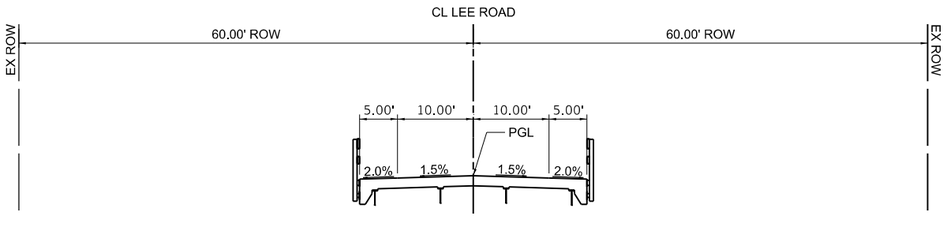
PROPOSED TYPICAL SECTION

STA. 79+82.65 TO STA. 80+52.35
* ROW LT & RT 60.00' FROM STA. 80+00.00 TO STA. 80+52.35



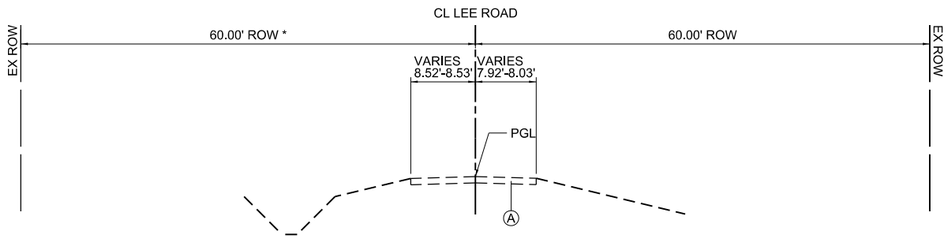
EXISTING BRIDGE SECTION

STA. 80+48.33 TO STA. 81+73.52



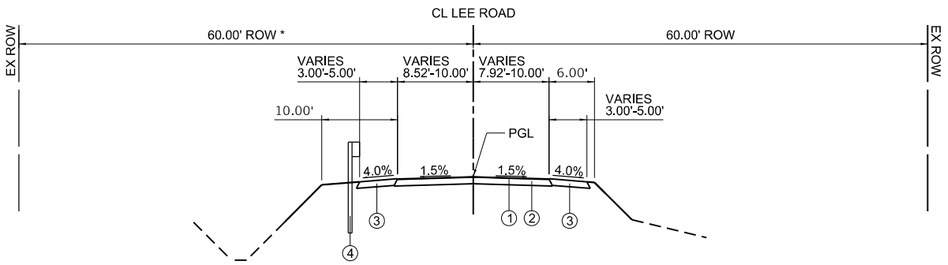
PROPOSED BRIDGE SECTION

STA 80+52.35 TO STA 81+67.14



EXISTING TYPICAL SECTION

STA. 81+73.52 TO STA. 82+02.38
* ROW LT 50.00' FROM STA. 82+00.00 TO STA. 82+02.38



PROPOSED TYPICAL SECTION

STA 81+67.14 TO STA 82+02.38
* ROW LT 50.00' FROM STA. 82+00.00 TO STA. 82+02.38

LEGEND

A	EXISTING OIL & CHIP
1	PROPOSED A-2 BITUMINOUS SURFACE TREATMENT (BY OTHERS)
2	PROPOSED AGGREGATE BASE COURSE, TYPE A 10"
3	PROPOSED AGGREGATE SHOULDERS, TYPE A 10"
4	PROPOSED STEEL PLATE BEAM GUARDRAIL, TYPE A, 9 FOOT POSTS

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TYPICAL SECTIONS

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

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 89	21-00101-00-BR	MADISON	30	5
		CONTRACT NO. 97849		
	ILLINOIS	FED. AID PROJECT		

EARTHWORK SCHEDULE

LOCATION				EARTH EXCAVATION	FOR INFORMATION ONLY: EARTH EXCAVATION ADJUSTED FOR 25% SHRINKAGE	FOR INFORMATION ONLY: EMBANKMENT	FOR INFORMATION ONLY: BALANCE WASTE (+) SHORTAGE (-)	FURNISHED EXCAVATION
ROAD	STATION	TO	STATION	CU YD	CU YD	CU YD	CU YD	CU YD
LEE ROAD	79+12.60	TO	82+02.38	10	8	200	-193	195
			TOTAL:	10	8	200	-193	195

SEEDING AND EROSION CONTROL SCHEDULE

LOCATION					SEEDING, CLASS 2A	NITROGEN FERTILIZER NUTRIENT	PHOSPHOROUS FERTILIZER NUTRIENT	POTASSIUM FERTILIZER NUTRIENT	MULCH, METHOD 2	PERIMETER EROSION BARRIER
ROAD	STATION	TO	STATION	LT/RT	ACRE	POUND	POUND	POUND	ACRE	FOOT
LEE ROAD	79+82.65	TO	82+02.38	LT	0.03	2.7	2.7	2.7	0.03	190
LEE ROAD	79+82.65	TO	82+02.38	RT	0.05	4.5	4.5	4.5	0.05	220
				TOTAL:	0.25	23	23	23	0.25	410

PAVING SCHEDULE

LOCATION				AGGREGATE BASE COURSE, TYPE A 10"	AGGREGATE SHOULDERS, TYPE A 10"
ROAD	STATION	TO	STATION	SQ YD	SQ YD
LEE ROAD	79+82.65	TO	80+52.35	144	
			LT		30
			RT		33
LEE ROAD	81+67.15	TO	82+02.38	72	
			LT		18
			RT		14
			TOTAL:	216	95

SIGNAGE SCHEDULE

LOCATION				DESCRIPTION				REMOVE SIGN PANEL - TYPE 1
ROAD	STATION	OFFSET	DIRECTION			LENGTH	HEIGHT	SQ FT
LEE ROAD	79+33.17	14.81	RT	R12-4	WEIGHT LIMIT	36"	24"	6
LEE ROAD	80+45.22	12.07	RT	OM3-R	OBJECT MARKER	12"	36"	3
LEE ROAD	80+45.64	12.32	LT	OM3-L	OBJECT MARKER	12"	36"	3
LEE ROAD	81+76.97	12.52	LT	OM3-R	OBJECT MARKER	12"	36"	3
LEE ROAD	81+77.08	11.70	RT	OM3-L	OBJECT MARKER	12"	36"	3
LEE ROAD	82+24.24	20.75	LT	R12-4	WEIGHT LIMIT	36"	24"	6
							TOTAL:	24

SEE GENERAL NOTES SHEET 2 FOR SALVAGE INFO.

GUARDRAIL SCHEDULE

LOCATION					STEEL PLATE BEAM GUARDRAIL, TYPE A, 9 FOOT POSTS	TRAFFIC BARRIER TERMINAL, TYPE 1, SPECIAL (TANGENT)	TRAFFIC BARRIER TERMINAL, TYPE 6A	TERMINAL MARKER - DIRECT APPLIED	TERMINAL MARKER - POST MOUNTED	GUARDRAIL RELECTORS, TYPE A	BARRIER WALL REFLECTORS, TYPE C
ROAD	STATION	TO	STATION	LT/RT	FOOT	EACH	EACH	EACH	EACH	EACH	EACH
LEE ROAD	79+81.37	TO	80+06.37	RT		1		1			
LEE ROAD	80+06.37	TO	80+18.87	RT	12.5					1	
LEE ROAD	80+18.87	TO	80+56.37	RT			1			1	
LEE ROAD	80+48.33	TO	81+63.13	LT					1		2
LEE ROAD	80+56.37	TO	81+17.17	RT					1		2
LEE ROAD	81+63.13	TO	82+00.63	LT			1			1	
LEE ROAD	82+00.63	TO	82+36.11	LT	37.5					1	
LEE ROAD	82+36.11	TO	82+55.00	LT		1		1			
				TOTAL:	50	2	2	2	2	4	4

TWM, INC.
WWW.TWM-INC.COM
IL DESIGN FIRM LICENSE NO: 184-001220
ENGINEERING GEOSPATIAL SERVICES

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	DRAWN - JBH	REVISED -
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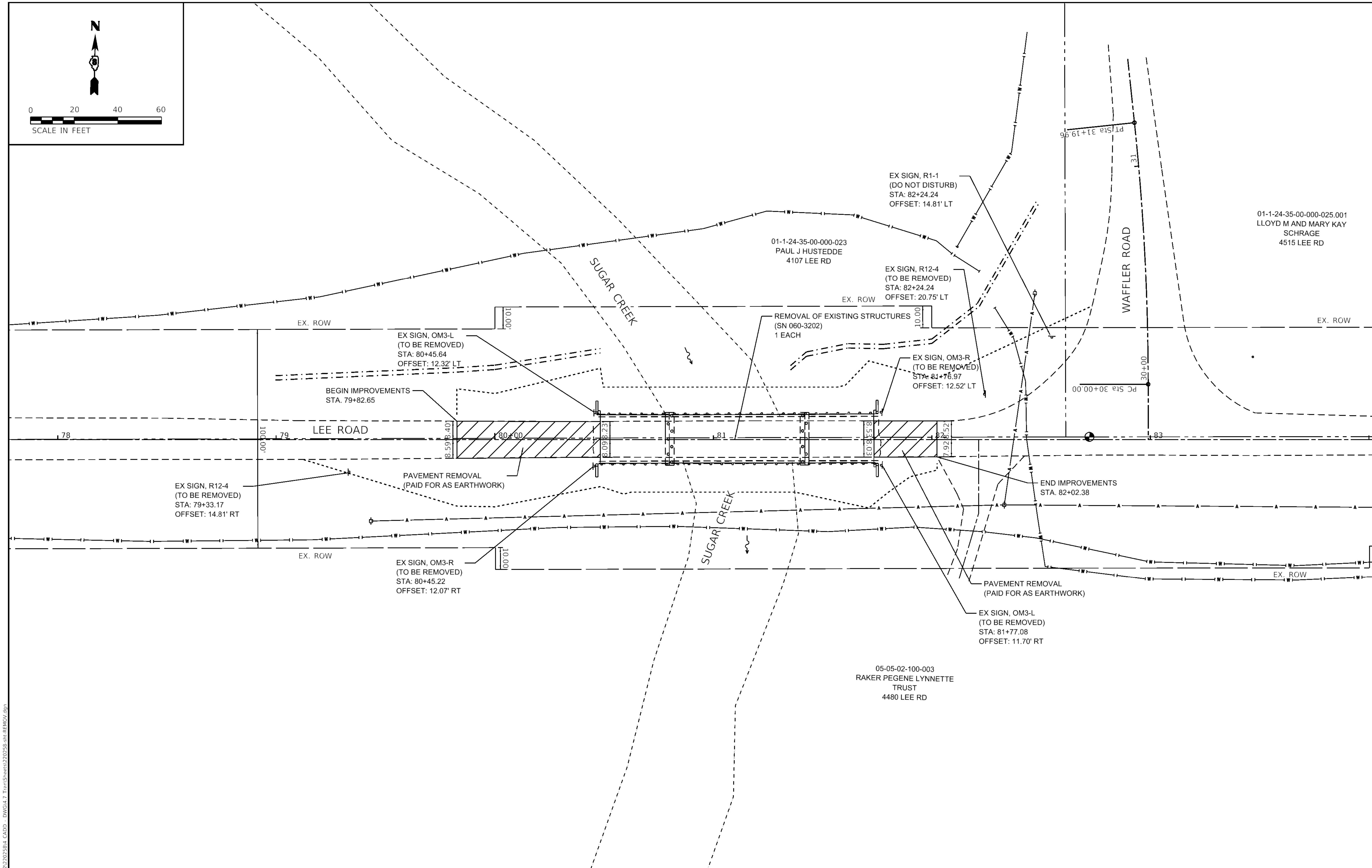
PLOT DATE = 10/10/2024	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SCHEDULE OF QUANTITIES

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

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 89	21-00101-00-BR	MADISON	30	6
		CONTRACT NO. 97849		
		ILLINOIS	FED. AID PROJECT	


N
0 20 40 60
SCALE IN FEET
SUGAR CREEK
WAFFLER ROAD
LEE ROAD
EX. ROW
01-1-24-35-00-000-023
PAUL J HUSTEDDE
4107 LEE RD
01-1-24-35-00-000-025.001
LLOYD M AND MARY KAY
SCHRAGE
4515 LEE RD
05-05-02-100-003
RAKER PEGENE LYNNETTE
TRUST
4480 LEE RD
EX SIGN, R1-1
(DO NOT DISTURB)
STA: 82+24.24
OFFSET: 14.81' LT
EX SIGN, R12-4
(TO BE REMOVED)
STA: 82+24.24
OFFSET: 20.75' LT
REMOVAL OF EXISTING STRUCTURES
(SN 060-3202)
1 EACH
EX SIGN, OM3-L
(TO BE REMOVED)
STA: 80+45.64
OFFSET: 12.32' LT
EX SIGN, OM3-R
(TO BE REMOVED)
STA: 81+76.97
OFFSET: 12.52' LT
BEGIN IMPROVEMENTS
STA. 79+82.65
PAVEMENT REMOVAL
(PAID FOR AS EARTHWORK)
EX SIGN, R12-4
(TO BE REMOVED)
STA: 79+33.17
OFFSET: 14.81' RT
END IMPROVEMENTS
STA. 82+02.38
EX SIGN, OM3-R
(TO BE REMOVED)
STA: 80+45.22
OFFSET: 12.07' RT
PAVEMENT REMOVAL
(PAID FOR AS EARTHWORK)
EX SIGN, OM3-L
(TO BE REMOVED)
STA: 81+77.08
OFFSET: 11.70' RT
PT Sta 31+19.96
PC Sta 30+00.00
30+00
31
78
79
80+00
81
82
83
84
100.00'
10.00'

MODEL: Default
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TWM, INC. WWW.TWM-INC.COM IL DESIGN FIRM LICENSE NO: 184-001220 (TWM ENGINEERING & GEOSPATIAL SERVICES)	USER NAME = bbillhartz	DESIGNED - JBH	REVISED -
		DRAWN - JBH	REVISED -
	PLOT SCALE = 40.0000 ' / in.	CHECKED - JJV	REVISED -
	PLOT DATE = 10/10/2024	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

REMOVAL PLAN

SCALE: 1"=20' | SHEET 1 OF 1 SHEETS | STA. 79+82.65 TO STA. 82+02.38

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 89	21-00101-00-BR	MADISON	30	7
		CONTRACT NO. 97849		
		ILLINOIS FED. AID PROJECT		

N

0 20 40 60

SCALE IN FEET

EX STRUCTURE
SN 060-3202
SKEW=0°
SIMPLY SUPPORTED, THREE SPAN BRIDGE.
LENGTH=132'-5". WIDTH=22'-6".

PR STRUCTURE
SN 060-3378
SKEW=15° STATION=81+09.75
SIMPLY SUPPORTED, SINGLE SPAN BRIDGE.
LENGTH=114'-10". WIDTH=30'.

01-1-24-35-00-000-025.001
LLOYD M AND MARY KAY
SCHRAGE
4515 LEE RD

01-1-24-35-00-000-023
PAUL J HUSTEDDE
4107 LEE RD

SUGAR CREEK

WAFFLER ROAD

LEE ROAD

EX. ROW

LIMITS OF CONSTRUCTION

TRAFFIC BARRIER TERMINAL, TYPE 1, SPECIAL (TANGENT) W/ TERMINAL MARKER

STEEL PLATE BEAM GUARDRAIL, TYPE A, 9-FOOT POSTS

TRAFFIC BARRIER TERMINAL, TYPE 6A

TERMINAL MARKER - POST MOUNTED

AGG SHOULDER TY A (TYP)

PR EOP

BEGIN IMPROVEMENTS STA. 79+82.65

STA. 79+12.60

SHOULDER WIDENING PER IDOT STD. 630301

STA. 79+71.37

STA. 81+09.75
EX SN 060-3202
PR BRIDGE REPLACEMENT

END IMPROVEMENTS STA. 82+02.38

PC Sta 30+00.00

30+00

79 80+00 81 82 83 84

10.00' 15.00' 8.59' 6.40' 30.00' 7.92' 8.52'

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

PROFILE
SURVEYED
PLOTTED
NOTE BOOK
NO.
ALIGNMENT CHECKED
B.M. NOTED
STRUCTURE NOTATNS CHKD
BY
DATE

EX. GRADE PROFILE
LEE ROAD

PR. GRADE PROFILE
LEE ROAD

STA. 79+82.65
ELEV=456.48

VPI STA. 80+45.50
ELEVATION 457.63

VPI STA. 81+76.61
ELEVATION 460.18

STA. 82+02.38
ELEV=460.62

+1.83% +1.94% +1.94% +1.70%

PR. LOW BEAM
ELEV=452.16

100-YR H.W.
ELEV=451.50

D.H.W.
ELEV=450.70

STREAMBED
ELEV=435.80

470 465 460 455 450 445 440 435 430

454.06 454.98 455.88 456.78 456.80 457.67 457.72 458.48 458.69 459.47 459.66 460.56 460.58 461.82 462.89 463.69 464.59 465.44

78+50 79+00 79+50 80+00 80+50 81+00 81+50 82+00 82+50 83+00 83+50 84+00 84+50

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TWM ENGINEERING GEOSPATIAL SERVICES
TWM, INC.
WWW.TWM-INC.COM
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USER NAME = bbillhartz
PLOT SCALE = 40.0000 ' / in.
PLOT DATE = 10/10/2024

DESIGNED - JBH
DRAWN - JBH
CHECKED - JJV
DATE -

REVISED -
REVISED -
REVISED -
REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

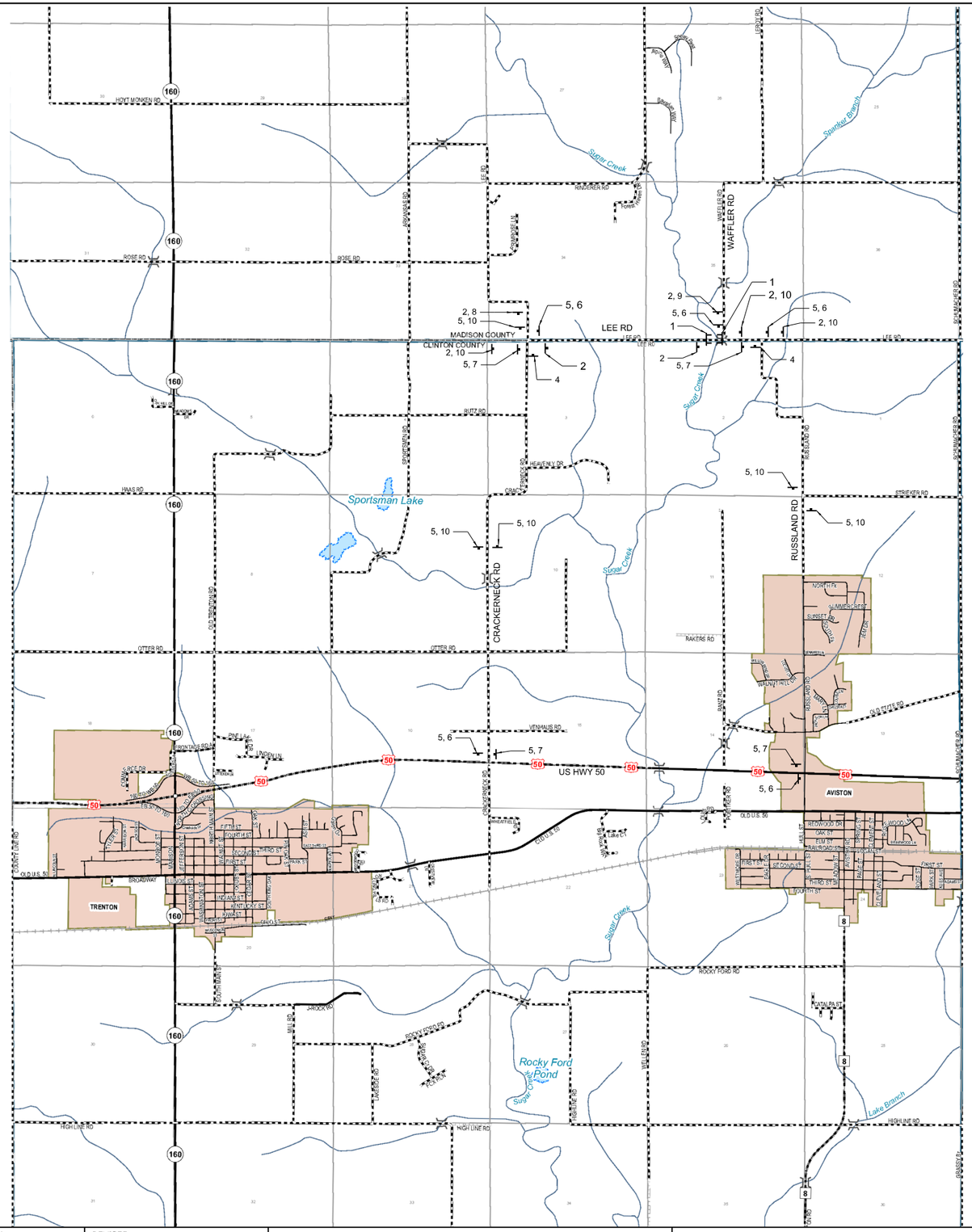
PLAN AND PROFILE

SCALE: 1"=20' SHEET 1 OF 1 SHEETS STA. 79+82.65 TO STA. 82+02.38

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 89	21-00101-00-BR	MADISON	30	8
		CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			

N

NOT TO SCALE



1. TYPE III BARRICADE WITH "ROAD CLOSED" SIGN AND TYPE A LIGHTS
2. ROAD CLOSED AHEAD SIGN W20-3(0) (48"X48")
3. RESERVED
4. END DETOUR SIGN M4-8a (24"X18")
5. DETOUR SIGN M4-8 (36"X12")
6. DIRECTIONAL ARROW SIGN M6-1L (24"X24")
7. DIRECTIONAL ARROW SIGN M6-1R (24"X24")
8. ADVANCE TURN ARROW SIGN M5-1L (24"X24")
9. ADVANCE TURN ARROW SIGN M5-1R (24"X24")
10. DIRECTIONAL ARROW SIGN M6-3 (24"X24")

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TWM ENGINEERING GEOSPATIAL SERVICES
TWM, INC.
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IL DESIGN FIRM LICENSE NO: 184-001220

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PLOT SCALE = 40.0000 ' / in.	CHECKED - JJV	REVISED -
PLOT DATE = 10/10/2024	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DETOUR PLAN

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

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 89	21-00101-00-BR	MADISON	30	9
		CONTRACT NO. 97849		
	ILLINOIS	FED. AID PROJECT		

N

0 20 40 60

SCALE IN FEET

01-1-24-35-00-000-023
PAUL J HUSTEDDE
4107 LEE RD

01-1-24-35-00-000-025.001
LLOYD M AND MARY KAY
SCHRAGE
4515 LEE RD

SUGAR CREEK

WAFFLER ROAD

PI Sta 31+19.96

31

30+00

PC Sta 30+00.00

EX. ROW

PERIMETER EROSION BARRIER

SEEDING, CLASS 2A
W/ FERTILIZER AND
MULCH, METHOD 2

LEE ROAD

78 79 80+00 81 82 83 84

BEGIN IMPROVEMENTS
STA. 79+82.65

END IMPROVEMENTS
STA. 82+02.38

STONE RIPRAP, CLASS A4
(SEE BRIDGE PLANS)

05-05-02-100-003
RAKER PEGENE LYNNETTE
TRUST
4480 LEE RD

MODEL: Default
FILE NAME: P:\2022\2202584 CADD - DWG\4.7 Trans\Sheets\220258-sht-EROS 01.dgn

TWM ENGINEERING GEOSPATIAL SERVICES
TWM, INC.
WWW.TWM-INC.COM
IL DESIGN FIRM
LICENSE NO:
184-001220

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	DRAWN - JBH	REVISED -
PLOT SCALE = 40.0000 ' / in.	CHECKED - JJV	REVISED -
PLOT DATE = 10/10/2024	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

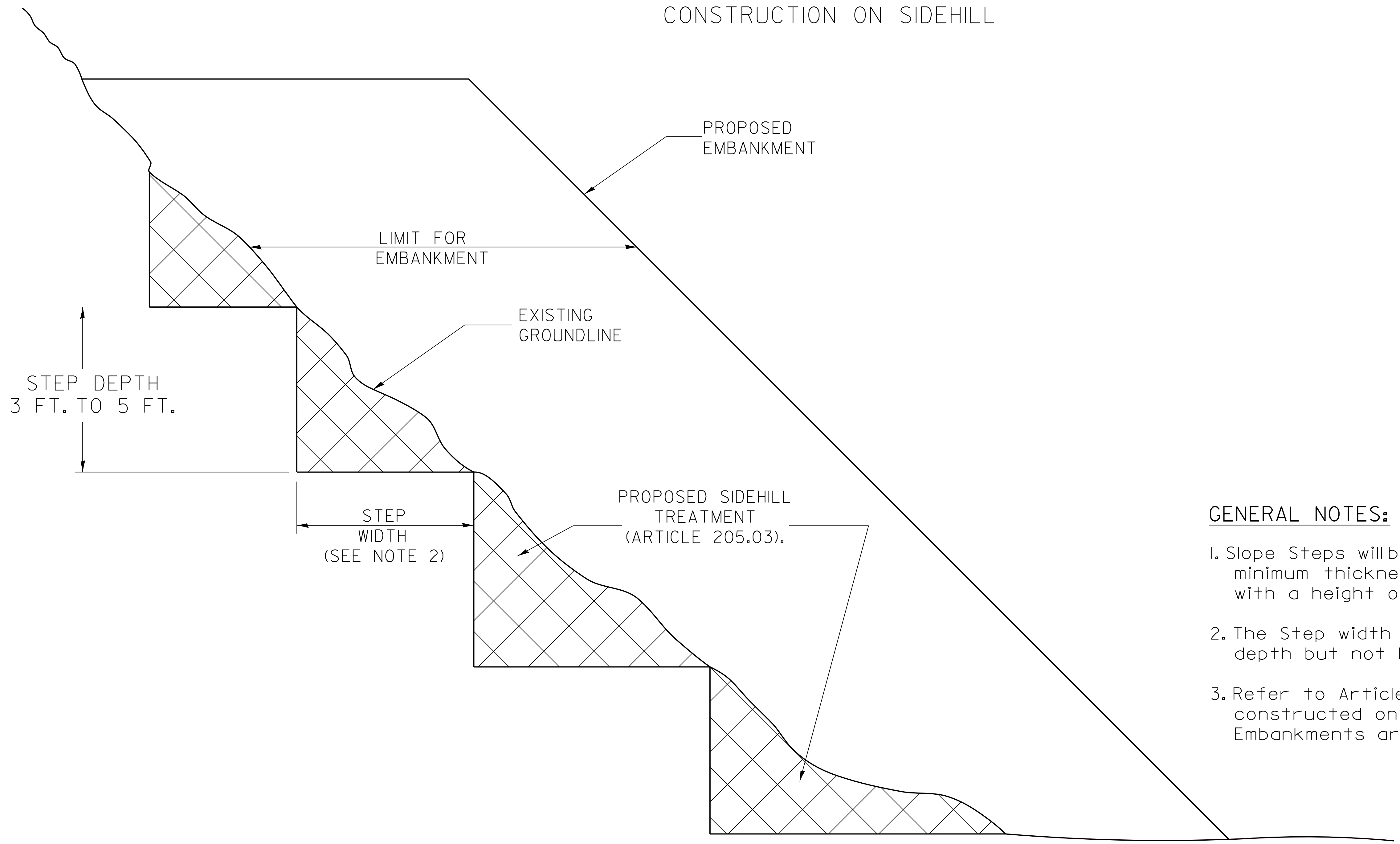
EROSION CONTROL PLAN

SCALE: 1"=20' | SHEET 1 OF 1 SHEETS | STA. 79+82.65 TO STA. 82+02.38

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 89	21-00101-00-BR	MADISON	30	10
		CONTRACT NO. 97849		
	ILLINOIS	FED. AID PROJECT		

SLOPE STEPS DETAIL

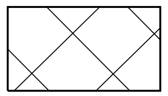
TYPICAL CROSS-SECTION EMBANKMENT CONSTRUCTION ON SIDEHILL



GENERAL NOTES:

1. Slope Steps will be required for all 12(300) minimum thickness "sliver fills" and on all fills with a height of 10 feet or greater.
2. The Step width shall be twice the Step depth but not less than 6 feet.
3. Refer to Article 205.03 for Embankment to be constructed on Hillside or Slopes, or if existing Embankments are to be widened.

REPLACEMENT MATERIAL:



STANDARD EMBANKMENT (IN ACCORDANCE WITH 205 OF THE STANDARD SPECIFICATION).

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TWM ENGINEERING & GEOSPATIAL SERVICES

USER NAME = jharr	DESIGNED - JBH	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
	DRAWN - JBH	REVISED -	
PLOT SCALE = 20.0000 ' / In.	CHECKED - JJV	REVISED -	
PLOT DATE = 10/11/2024	DATE -	REVISED -	

SLOPE STEPS DETAILS

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

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 89	21-00101-00-BR	MADISON	30	11

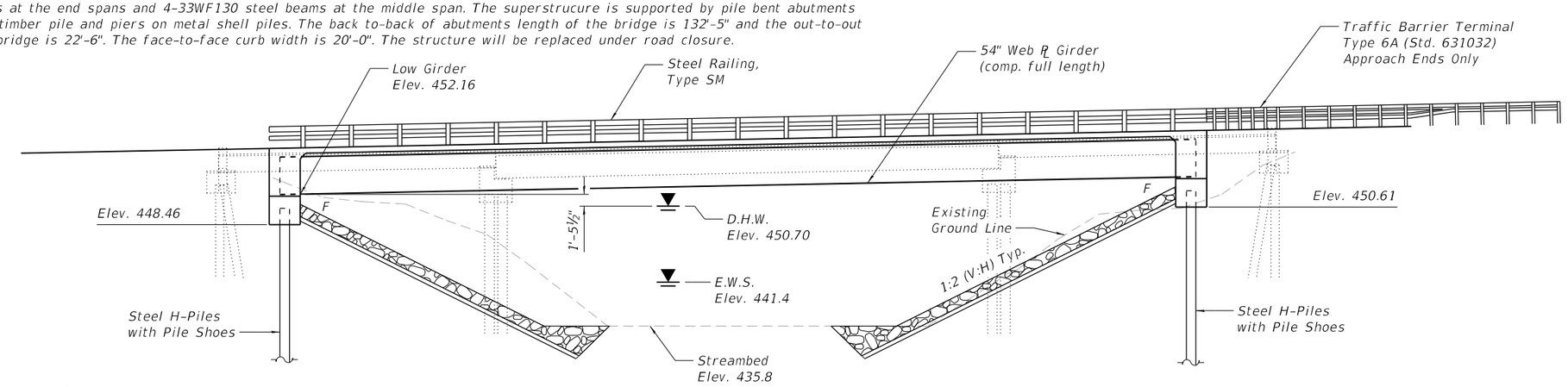
CONTRACT NO. 97849

ILLINOIS FED. AID PROJECT

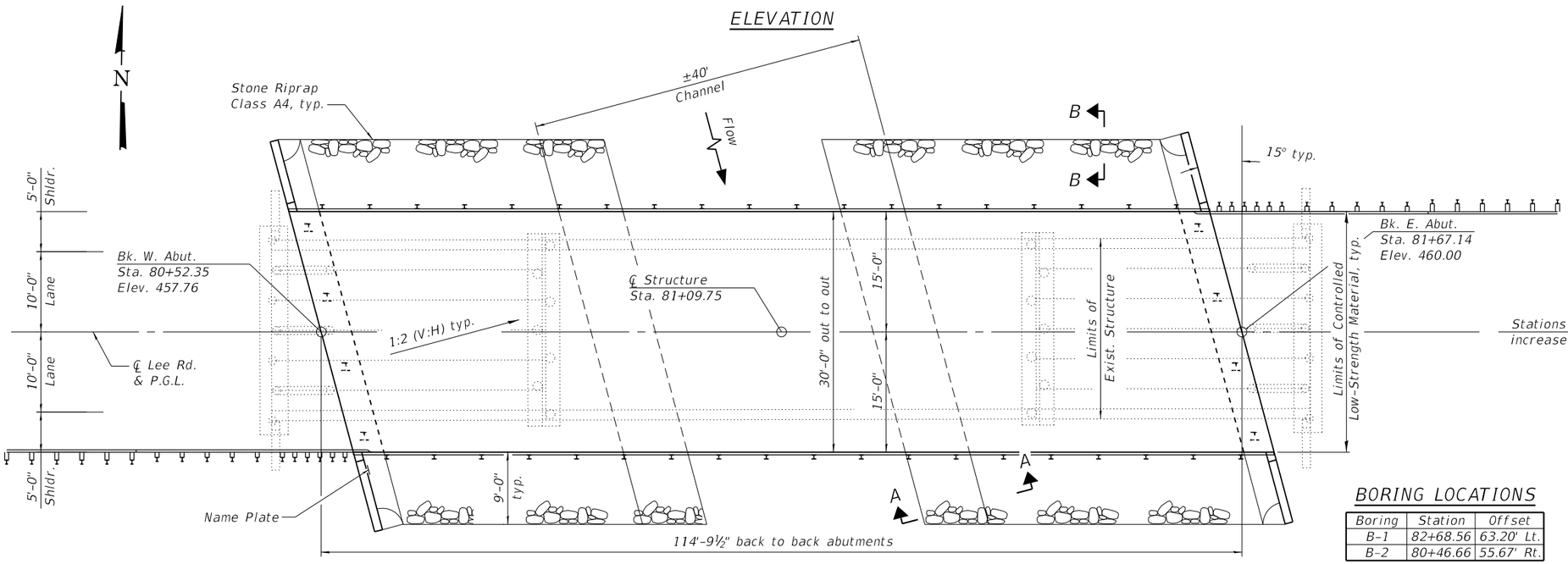
Benchmark: Cut square on SE wingwall of SN 060-3202. Elev. 460.28.

Existing Structure: SN 060-3202 was built in 1965. It is a simply supported, three span bridge consisting of 6-24"x45" precast concrete channel beams at the end spans and 4-33WF130 steel beams at the middle span. The superstrucure is supported by pile bent abutments on creosoted timber pile and piers on metal shell piles. The back to-back of abutments length of the bridge is 132'-5" and the out-to-out width of the bridge is 22'-6". The face-to-face curb width is 20'-0". The structure will be replaced under road closure.

No salvage.

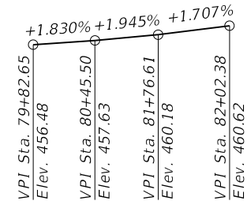


ELEVATION



PLAN

INDEX OF SHEETS



PROFILE GRADE
(along ℄ Lee Road)

DESIGN SPECIFICATIONS

2020 AASHTO LRFD Bridge Design Specifications, 9th Edition

DESIGN STRESSES

FIELD UNITS

f'c = 3,500 psi
f'c = 5,000 psi (Concrete Superstructure)
fy = 60,000 psi (Reinforcement)
fy = 50,000 psi (AASHTO M270 Grade 50W)

LOADING HL-93

Allow 50#/sq. ft. for future wearing surface.

SEISMIC DATA

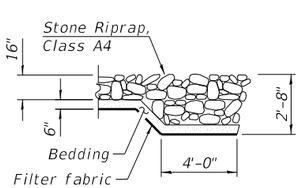
Seismic Performance Zone (SPZ) = 2
Design Spectral Acceleration at 1.0 sec. (SD1) = 0.251g
Design Spectral Acceleration at 0.2 sec. (SDS) = 0.578g
Soil Site Class = D

BORING LOCATIONS

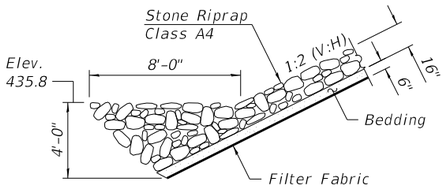
Boring	Station	Offset
B-1	82+68.56	63.20' Lt.
B-2	80+46.66	55.67' Rt.

I certify that to the best of knowledge, information and belief, this bridge/box culvert design is structurally adequate for the design loading shown on the plans. The design is an economical one for the style of structure and complies with requirements of the AASHTO Design Specifications shown on the plans.

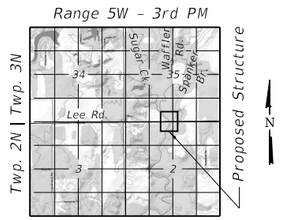
LICENSED STRUCTURAL ENGINEER
MATTHEW J. JOOST
081-007157
STATE OF ILLINOIS
Signed: 10/10/2024
Expires: 11/30/2026



SECTION B-B



SECTION A-A



LOCATION SKETCH

GENERAL PLAN & ELEVATION
LEE ROAD OVER SUGAR CREEK
T.R. 89 - SEC. 21-00101-00-BR
MADISON COUNTY
STA. 81+09.75
STRUCTURE NO. 060-3378

FILE NAME = P:\2022\22025B\4 CADD - DWG\4.4 Struct\060378-001-GPE.dgn

TWM, INC. WWW.TWM-INC.COM
ENGINEERING & GEOSPATIAL SERVICES
IL DESIGN FIRM LICENSE NO: 184-001220

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	CHECKED - BWP/CDK	REVISED	
PLOT SCALE = 0.1667 ' / in.	DRAWN - JBE/MAL	REVISED	
PLOT DATE = 10/9/2024	CHECKED - MJJ/CDK	REVISED	

MADISON COUNTY
HIGHWAY DEPARTMENT

GENERAL PLAN & ELEVATION
STRUCTURE NO. 060-3378
SHEET 1 OF 16 SHEETS

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 89	21-00101-00-BR	MADISON	30	12
		CONTRACT NO.		
	ILLINOIS	FED. AID PROJECT		

GENERAL NOTES

1. Fasteners shall be ASTM F 3125 Grade A325 Type 1, mechanically galvanized bolts in painted or coated metallized areas. Fasteners shall be ASTM F 3125 Grade Type 3 weathering steel bolts in unpainted areas. Bolts ¾ in. diameter, holes 15⁄16 in. diameter, unless otherwise noted.
2. Calculated weight of Structural Steel = 101,630 (M270 Grade 50W).
3. All structural steel shall be AASHTO M270 Grade 50W.
4. No field welding is permitted except as specified in the contract documents.
5. Reinforcement bars designated (E) shall be epoxy coated.
6. Layout of the slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.
7. The embankment configuration shown shall be the minimum that must be placed and compacted prior to construction of the abutments.
8. Structural Steel shall be painted for a distance equal to the depth of the embedment into the concrete cap plus 18 in. Painted areas shall be primed in the shop with a Department-approved zinc rich primer. Field painting will not be required.
9. Piles below existing abutments shall be removed at least 1'-0" below the Structure Excavation line for the proposed abutments. Cost included with Removal of Existing Structure.
10. Protective Coat shall be applied to the top of the deck, vertical exterior face of the deck, and the bottom of the deck from the outer edge to the drip notch.
11. The existing bridge plans are available from Madison County Highway Department.
12. The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to address the presence of lead on this project.

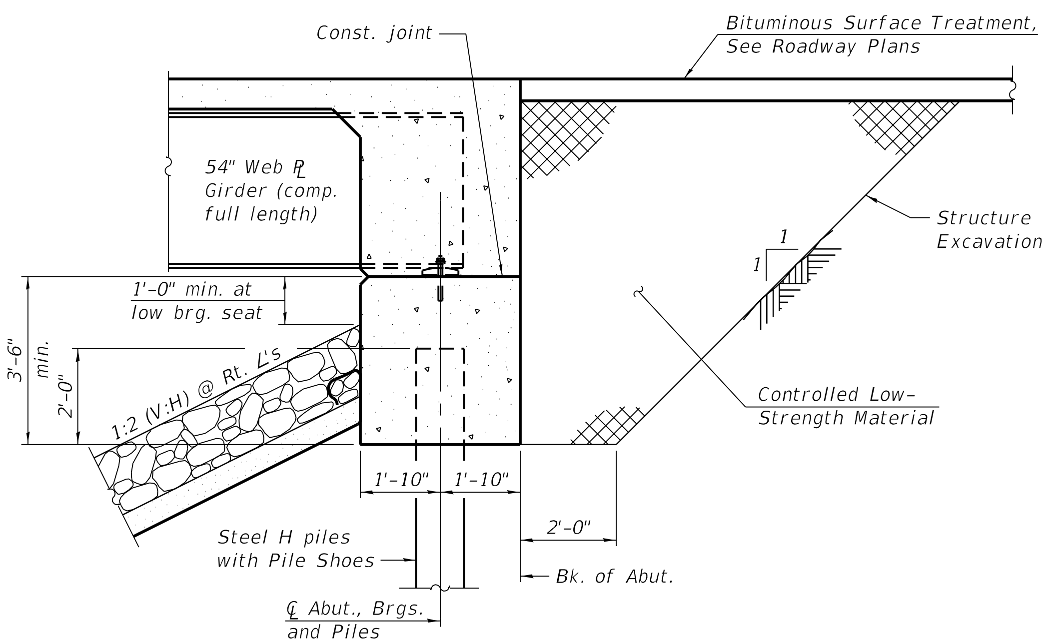
TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Stone Riprap, Class A4	Sq. Yd.		500	500
Filter Fabric	Sq. Yd.		500	500
Removal of Existing Structure	Each			1
Structure Excavation	Cu. Yd.		120	120
Concrete Structures	Cu. Yd.		40.7	40.7
Concrete Superstructure	Cu. Yd.	138.8		138.8
Bridge Deck Grooving	Sq. Yd.	356		356
Protective Coat	Sq. Yd.	462		462
Furnishing & Erecting Structural Steel	L. Sum	1		1
Stud Shear Connectors	Each	1164		1164
Reinforcement Bars, Epoxy Coated	Pound	33,800	9,720	43,520
Steel Railing, Type SM	Foot	230		230
Furnishing Steel Piles HP14x73	Foot		360	360
Driving Piles	Foot		360	360
Test Pile HP14x73	Each		2	2
Pile Shoes	Each		8	8
Name Plates	Each	1		1
Anchor Bolts, 1"	Each	16		16
Controlled Low-Strength Material	Cu. Yd.		137	137
Bar Terminator	Each	112	300	412

SUGAR CREEK
BUILT 202_ BY
MADISON COUNTY
SEC. 21-00101-00-BR
T.R. 89. STA. 81+09.75
STR. NO. 060-3378
LOADING HL-93

NAME PLATE

See Std. 515001



SECTION THRU INTEGRAL ABUTMENT

(Horiz. dim. at Rt. ∠'s)

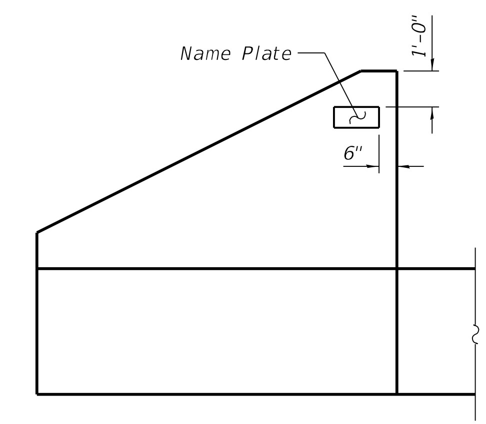
DESIGN SCOUR ELEVATION TABLE

Event / Limit	Design Scour Elevations (ft.)		
State	W. Abut.	E. Abut.	Item 113
Q100	448.46	450.61	8
Q200	448.46	450.61	
Design	448.46	450.61	
Check	448.46	450.61	

WATERWAY INFORMATION

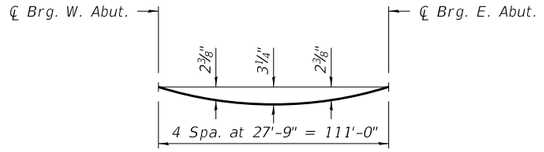
Drainage Area = 5.4 sq. mi. Low Grade Elev. 450.5 @ Sta. 74+90

Flood	Freq. Yr.	Q C.F.S.	Opening Ft² Exist.	Opening Ft² Prop.	Nat. H.W.E.	Head - Ft. Exist.	Head - Ft. Prop.	Headwater El. Exist.	Headwater El. Prop.
	10	5,870	788	993	450.3	1.3	1.1	451.6	451.4
Design	20	7,110	825	1,032	450.7	1.6	1.3	452.3	452.0
Base	100	10,600	912	1,120	451.5	1.6	1.6	453.1	453.1
Scour Check	200	11,475	932	1,140	451.7	1.5	1.5	453.2	453.2
Max. Calc.	500	14,100	988	1,196	452.2	1.4	1.4	453.6	453.6



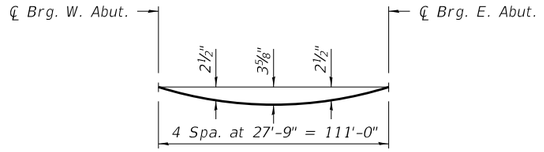
Southwest Wingwall Elevation

LOCATION OF NAME PLATE



EXTERIOR GIRDER DEAD LOAD DEFLECTION DIAGRAM

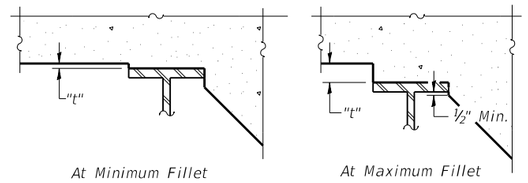
(Includes weight of concrete only.)



INTERIOR GIRDER 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 Sheet 4 of 16.

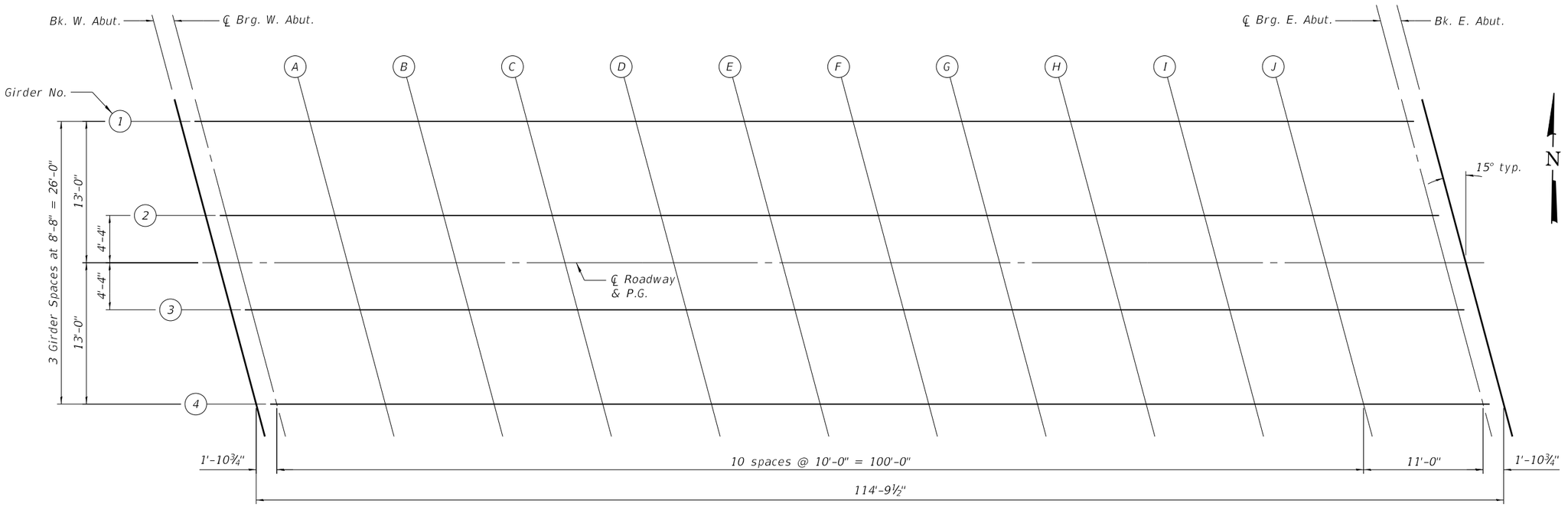


At Minimum Fillet

At Maximum Fillet

To determine "t": After all structural steel has been erected, elevations of the top flanges of the girders shall be taken at intervals shown below. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown on Sheet 4 of 16, minus slab thickness, equals the fillet heights "t" above top flange of girders.

FILLET HEIGHTS



PLAN

TWM, INC.
WWW.TWM-INC.COM
IL DESIGN FIRM LICENSE NO: 184-001220
ENGINEERING & GEOSPATIAL SERVICES

USER NAME = jesker	DESIGNED - MAL	REVISED	
	CHECKED - CDK	REVISED	
PLOT SCALE = 0.2.0000 '-" / in.	DRAWN - MAL	REVISED	
PLOT DATE = 10/9/2024	CHECKED - CDK	REVISED	

MADISON COUNTY HIGHWAY DEPARTMENT

TOP OF SLAB ELEVATIONS
STRUCTURE NO. 060–3378
SHEET 3 OF 16 SHEETS

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 89	21-00101-00-BR	MADISON	30	14
		CONTRACT NO.		
	ILLINOIS	FED. AID PROJECT		

GIRDER 1

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	80+48.87	-13.00	457.49	457.49
℄ Brg. W. Abut.	80+50.76	-13.00	457.52	457.52
A	80+60.76	-13.00	457.72	457.79
B	80+70.76	-13.00	457.91	458.06
C	80+80.76	-13.00	458.11	458.31
D	80+90.76	-13.00	458.30	458.55
E	81+00.76	-13.00	458.49	458.77
F	81+10.76	-13.00	458.69	458.96
G	81+20.76	-13.00	458.88	459.13
H	81+30.76	-13.00	459.08	459.29
I	81+40.76	-13.00	459.27	459.43
J	81+50.76	-13.00	459.47	459.55
℄ Brg. E. Abut.	81+61.76	-13.00	459.68	459.68
Bk. E. Abut.	81+63.66	-13.00	459.72	459.72

GIRDER 2

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	80+51.19	-4.33	457.68	457.68
℄ Brg. W. Abut.	80+53.09	-4.33	457.71	457.71
A	80+63.09	-4.33	457.91	457.99
B	80+73.09	-4.33	458.10	458.26
C	80+83.09	-4.33	458.30	458.52
D	80+93.09	-4.33	458.49	458.76
E	81+03.09	-4.33	458.69	458.98
F	81+13.09	-4.33	458.88	459.17
G	81+23.09	-4.33	459.07	459.35
H	81+33.09	-4.33	459.27	459.50
I	81+43.09	-4.33	459.46	459.63
J	81+53.09	-4.33	459.66	459.75
℄ Brg. E. Abut.	81+64.09	-4.33	459.87	459.87
Bk. E. Abut.	81+65.98	-4.33	459.91	459.91

℄ ROADWAY & PROFILE GRADE

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	80+52.35	0.00	457.76	457.76
℄ Brg. W. Abut.	80+54.25	0.00	457.80	457.80
A	80+64.25	0.00	457.99	458.08
B	80+74.25	0.00	458.19	458.35
C	80+84.25	0.00	458.38	458.61
D	80+94.25	0.00	458.58	458.85
E	81+04.25	0.00	457.77	459.07
F	81+14.25	0.00	458.97	459.26
G	81+24.25	0.00	459.16	459.43
H	81+34.25	0.00	459.36	459.59
I	81+44.25	0.00	459.55	459.72
J	81+54.25	0.00	459.75	459.84
℄ Brg. E. Abut.	81+65.25	0.00	459.96	459.96
Bk. E. Abut.	81+67.14	0.00	460.00	460.00

GIRDER 3

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	80+53.51	4.33	457.72	457.72
℄ Brg. W. Abut.	80+55.41	4.33	457.76	457.76
A	80+65.41	4.33	457.95	458.04
B	80+75.41	4.33	458.15	458.31
C	80+85.41	4.33	458.34	458.56
D	80+95.41	4.33	458.54	458.80
E	81+05.41	4.33	458.73	459.02
F	81+15.41	4.33	458.92	459.22
G	81+25.41	4.33	459.12	459.39
H	81+35.41	4.33	459.31	459.54
I	81+45.41	4.33	459.51	459.68
J	81+55.41	4.33	459.70	459.80
℄ Brg. E. Abut.	81+66.41	4.33	459.92	459.92
Bk. E. Abut.	81+68.30	4.33	459.95	459.95

GIRDER 4

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	80+55.83	13.00	457.62	457.62
℄ Brg. W. Abut.	80+57.73	13.00	457.66	457.66
A	80+67.73	13.00	457.85	457.93
B	80+77.73	13.00	458.05	458.19
C	80+87.73	13.00	458.24	458.45
D	80+97.73	13.00	458.44	458.68
E	81+07.73	13.00	458.63	458.90
F	81+17.73	13.00	458.82	459.10
G	81+27.73	13.00	459.02	459.27
H	81+37.73	13.00	459.21	459.43
I	81+47.73	13.00	459.41	459.56
J	81+57.73	13.00	459.60	459.69
℄ Brg. E. Abut.	81+68.73	13.00	459.82	459.82
Bk. E. Abut.	81+70.63	13.00	459.85	459.85

FILE NAME = P:\2022\220258\4 CADD - DWG\4.4 Struct\060378-004-Top of Slab Elevations.dgn

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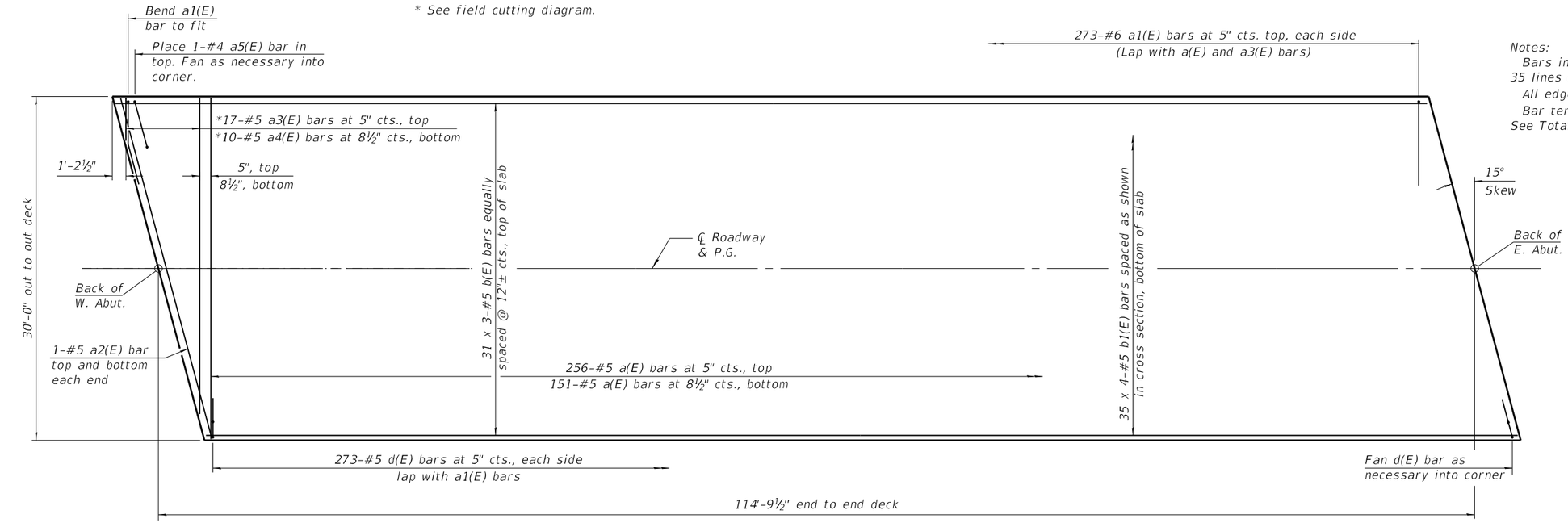
USER NAME = jesker	DESIGNED - MAL	REVISED	
	CHECKED - CDK	REVISED	
PLOT SCALE = 0.2.0000 '-" / in.	DRAWN - MAL	REVISED	
PLOT DATE = 10/9/2024	CHECKED - CDK	REVISED	

MADISON COUNTY HIGHWAY DEPARTMENT

TOP OF SLAB ELEVATIONS
STRUCTURE NO. 060-3378
SHEET 4 OF 16 SHEETS

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 89	21-00101-00-BR	MADISON	30	15
		CONTRACT NO.		
	ILLINOIS	FED. AID PROJECT		

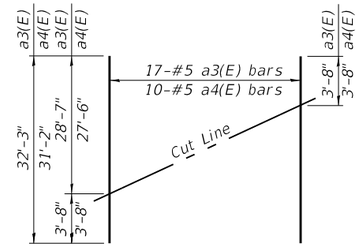


Notes:
Bars indicated thus 35 x 4-#5 etc. indicates 35 lines of bars with 4 lengths per line.
All edges shall have ¾" chamfer.
Bar terminators, paid for separately. See Total Bill of Material.

PLAN

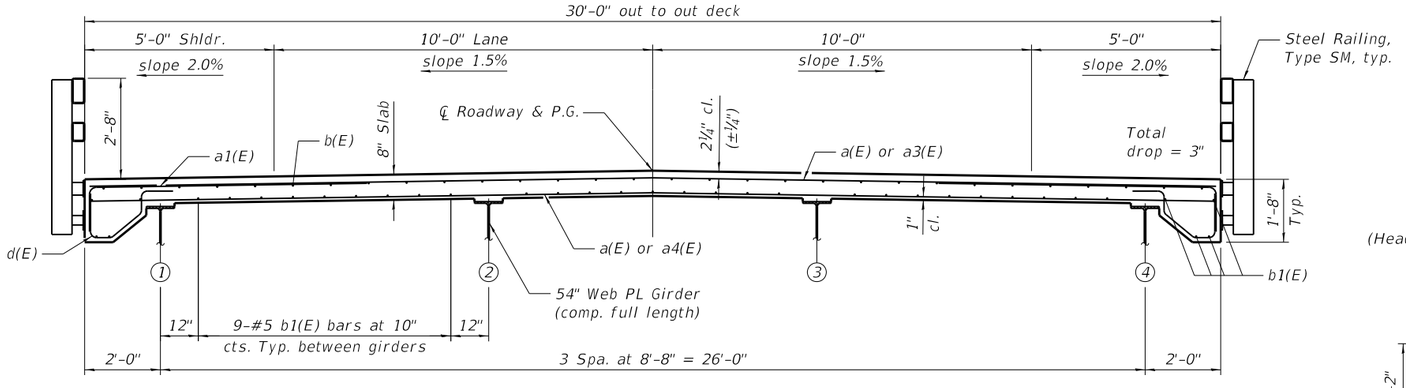
MINIMUM BAR LAP

#5 bar = 3'-6"



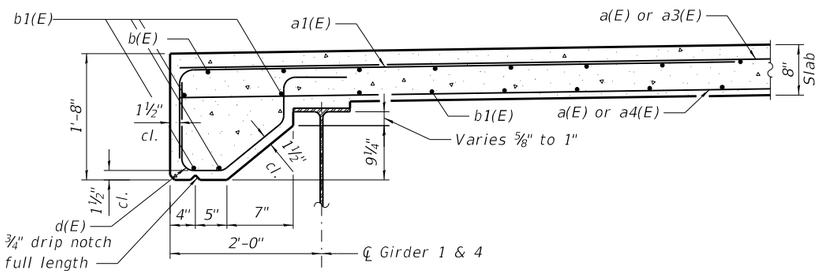
FIELD CUTTING DIAGRAM

Order a3(E) and a4(E) bars full length. Cut as shown and use remainder of bars in opposite end of deck.



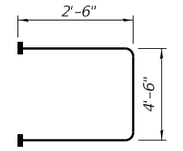
CROSS SECTION

(Looking East)



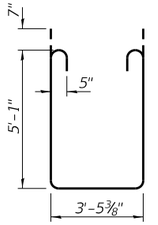
SECTION THRU EDGE OF SLAB

(Railing not shown for clarity)

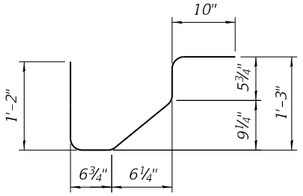


BAR s10(E)

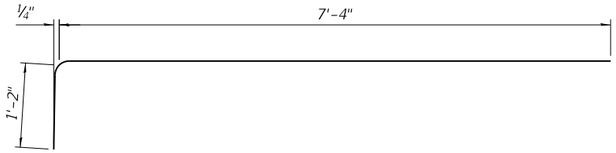
(Headed. 112 - #5 Bar terminators)



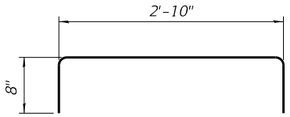
BAR s11(E)



BAR d(E)



BAR a1(E)



BAR a5(E)

SUPERSTRUCTURE BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(E)	407	#5	29'-8"	
a1(E)	546	#6	8'-6"	
a2(E)	4	#5	30'-8"	
a3(E)	17	#5	32'-3"	
a4(E)	10	#5	31'-2"	
a5(E)	2	#4	4'-2"	
b(E)	93	#5	40'-8"	
b1(E)	140	#5	31'-4"	
d(E)	546	#5	4'-0"	
m10(E)	12	#6	30'-8"	
m11(E)	30	#6	8'-7"	
m12(E)	20	#6	1'-8"	
s10(E)	56	#5	9'-6"	
s11(E)	56	#5	14'-9"	
Reinforcement Bars, Epoxy Coated			Lbs.	33,800
Concrete Superstructure			Cu. Yds.	138.8

FILE NAME = P:\2022\22029258\4 CADD - DWG\4.4 Struct\0603378-005-Superstructure.dgn

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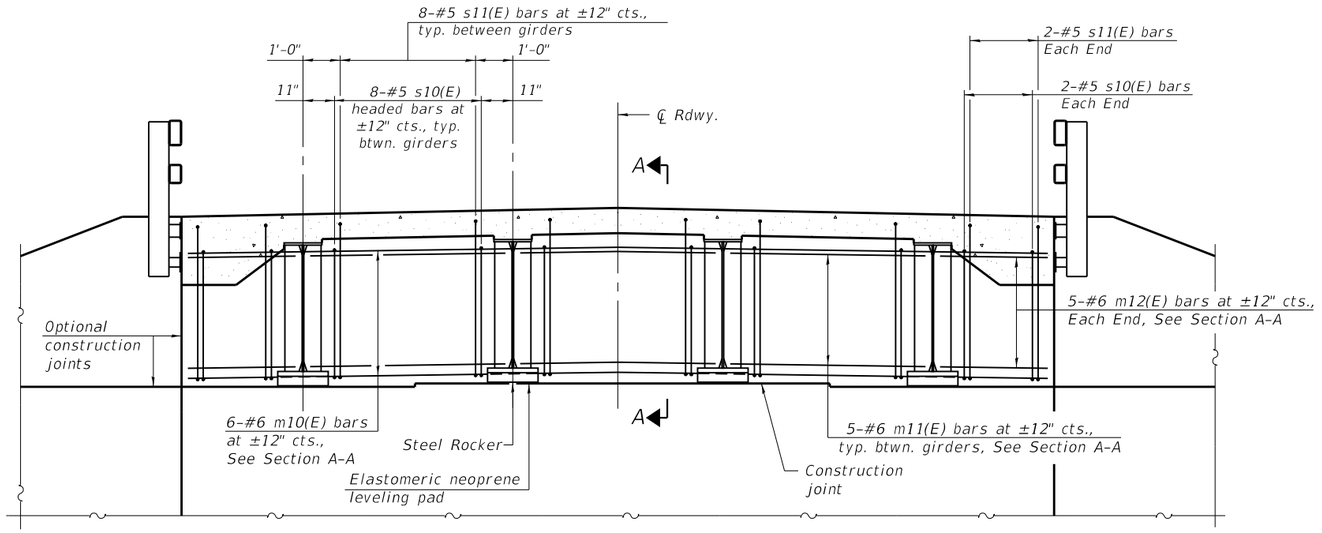
	CHECKED - CDK	REVISED	
PLOT SCALE = 0:2.0000 ':' / in.	DRAWN - MAL	REVISED	
PLOT DATE = 10/9/2024	CHECKED - CDK	REVISED	

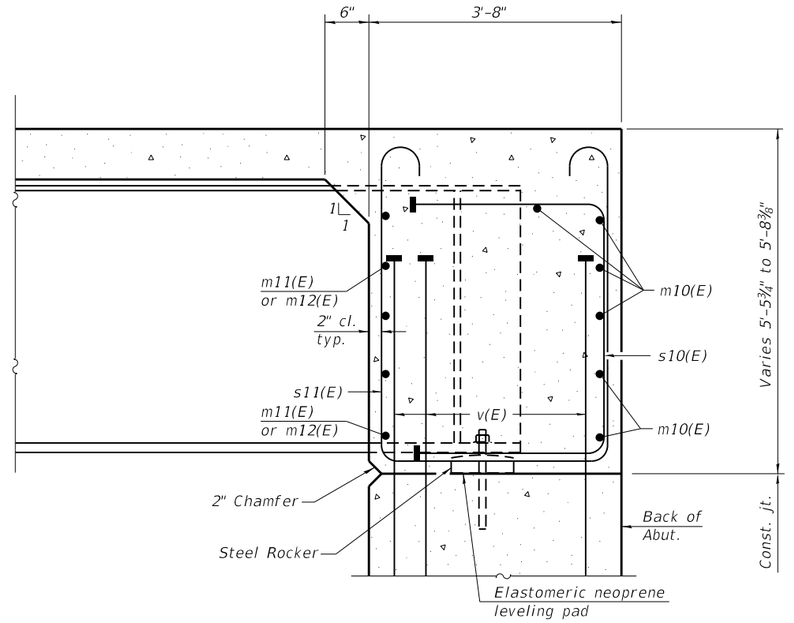
MADISON COUNTY HIGHWAY DEPARTMENT

SUPERSTRUCTURE
STRUCTURE NO. 060-3378
SHEET 5 OF 16 SHEETS

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 89	21-00101-00-BR	MADISON	30	16
		CONTRACT NO.		
		ILLINOIS	FED. AID PROJECT	

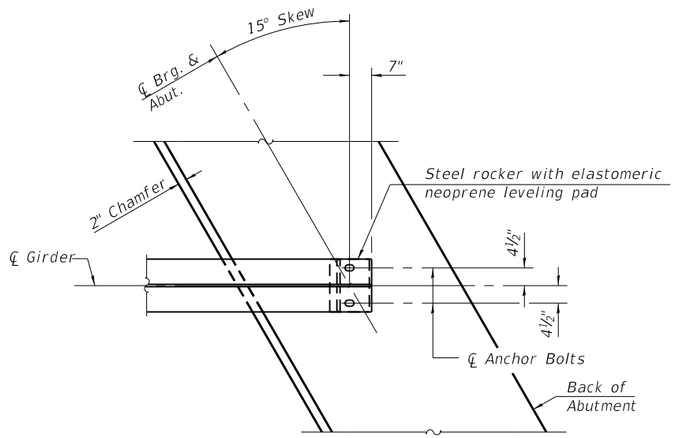


DIAPHRAGM AT ABUTMENT



SECTION A-A

(at Rt. ∠'s)



PLAN AT ABUTMENT

(Showing bottom flange of girder)

Notes:

See sheet 5 of 16 for superstructure details and Bill of Material.

The s10(E) and s11(E) bars shall be placed parallel to the girders. Spacing for these bars shall be at right angles to the girders.

FILE NAME = P:\2022\2202258\4 CADD - DWG\4.4 Struct\06033778-006-Diaphragm.dgn

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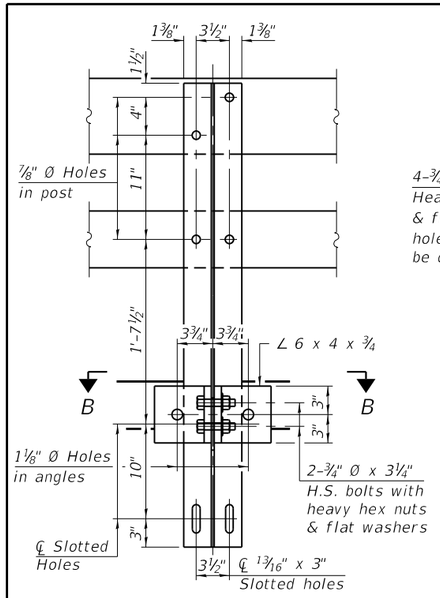
PLOT SCALE = 0:2.0000 ':' / in.	DRAWN - MAL	REVISED	
PLOT DATE = 10/9/2024	CHECKED - CDK	REVISED	

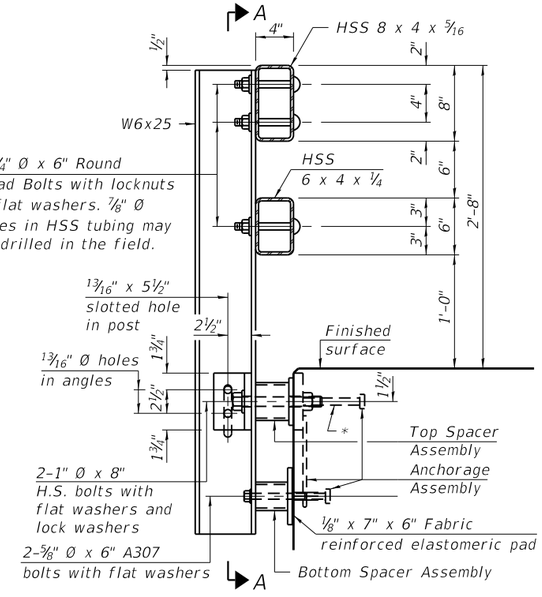
MADISON COUNTY HIGHWAY DEPARTMENT

DIAPHRAGM DETAILS
STRUCTURE NO. 060-3378
SHEET 6 OF 16 SHEETS

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 89	21-00101-00-BR	MADISON	30	17
		CONTRACT NO.		
	ILLINOIS	FED. AID PROJECT		

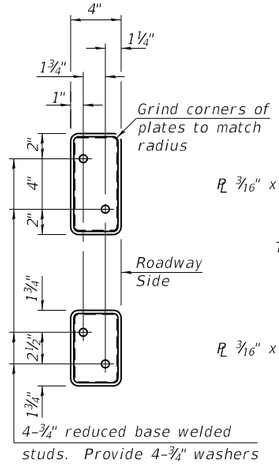


SECTION A-A

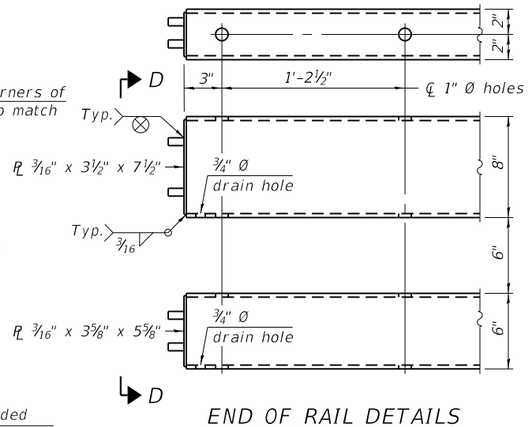


SECTION AT RAIL POST

* The outermost longitudinal reinforcement bar and 3 transverse reinforcement bars shall be placed directly above the studs of the rail post anchorage assembly as shown in the superstructure details.



VIEW D-D



END OF RAIL DETAILS

Notes:

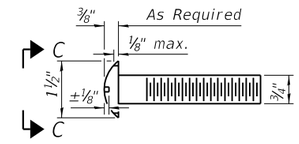
A sufficient number of shims of various thicknesses, sized to fit behind the top spacer assembly, 5" x 11½", and bottom spacer assembly, 6" x 7", shall be provided to adjust posts for proper alignment. If the summation of shims is greater than ¼" (top) or ½" (bottom), longer bolts are required. Cost included with Steel Railing, Type SM.

All steel rail elements including shims shall be galvanized according to Article 509.05 of the Standard Specifications.

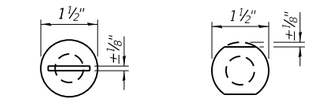
All HSS tubing serving as railing shall be CVN tested according to Article 1006.34(b) of the Standard Specifications.

Rail splice inserts may be built out of 2 -⅜" bent plates in lieu of the 4 plate rail splice inserts shown, provided the outside dimensions are matched.

All round head bolts shall be ASTM A307 with locknuts according to ASTM A563 grade A.



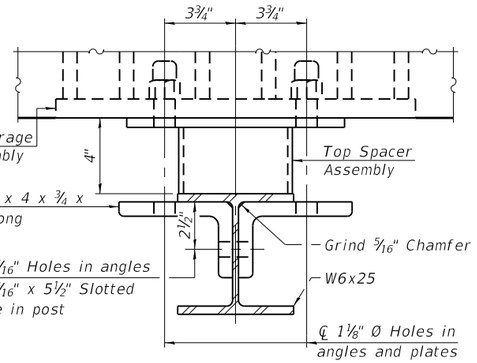
ROUND HEAD BOLT DETAIL



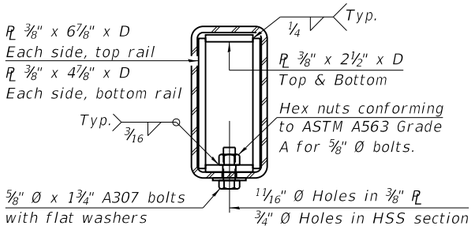
With Slot (shown) or Approved Recess

Without Slot or Recess

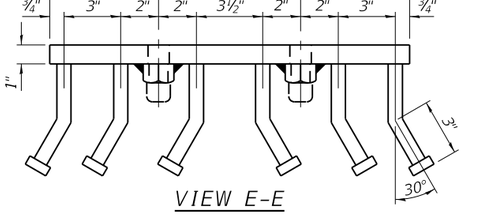
VIEW C-C



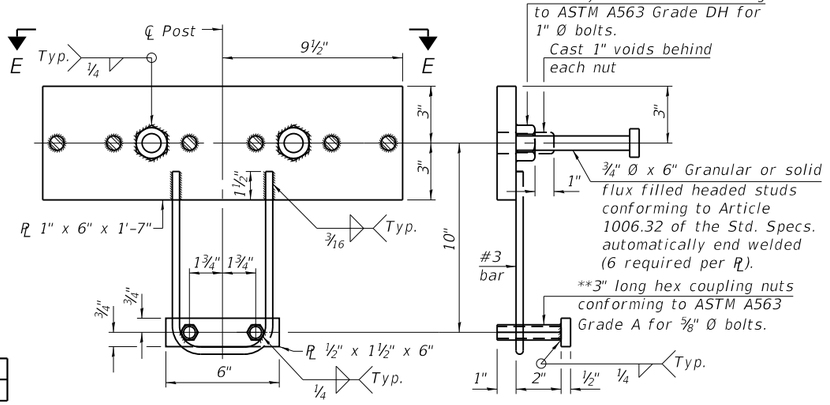
SECTION B-B



SECTION AT RAIL SPLICE

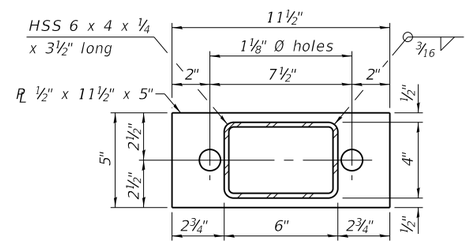


VIEW E-E

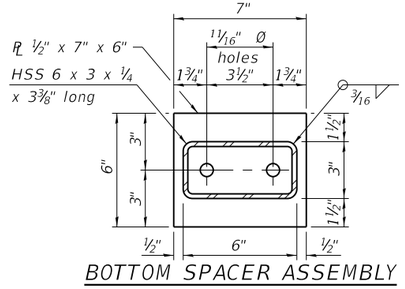


ANCHORAGE ASSEMBLY

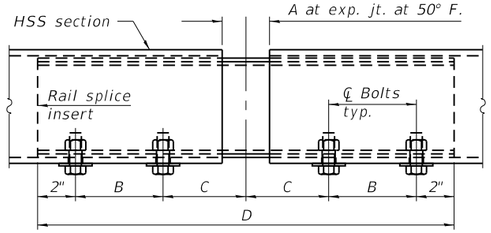
** Threaded areas shall be plugged or blocked off during casting of concrete.



TOP SPACER ASSEMBLY



BOTTOM SPACER ASSEMBLY



RAIL SPLICE ELEVATION

RAILING CRITERIA

MASH 2016 Test Level	2
Railing Weight (plf)	90
Min f'c (psi)	5,000
Max Post Spacing	6'-3"

SPLICE DIMENSIONS

Location	T	A	B	C	D	E
All locs. not over exp. jts.	0	¼"	4"	4"	1'-8"	-

BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing, Type SM	Foot	230

FILE NAME = P:\2022\2202584 CADD - DWG\4.4 Struct\060337B-007-Steel Railing, Type SM.dgn

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USER NAME = jesker
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PLOT DATE = 10/9/2024

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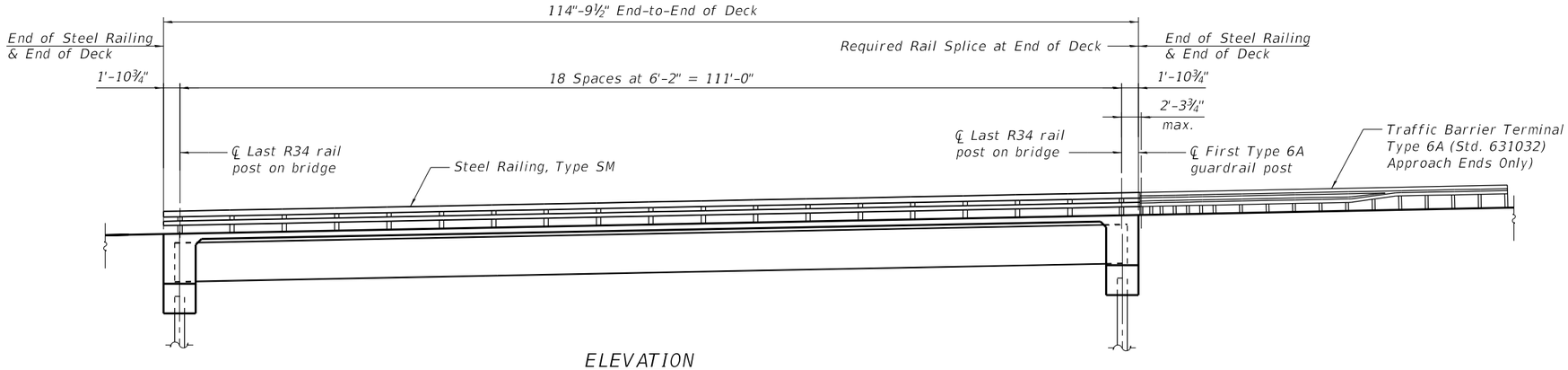
CHECKED - CDK | REVISED
DRAWN - MAL | REVISED
CHECKED - CDK | REVISED

MADISON COUNTY HIGHWAY DEPARTMENT

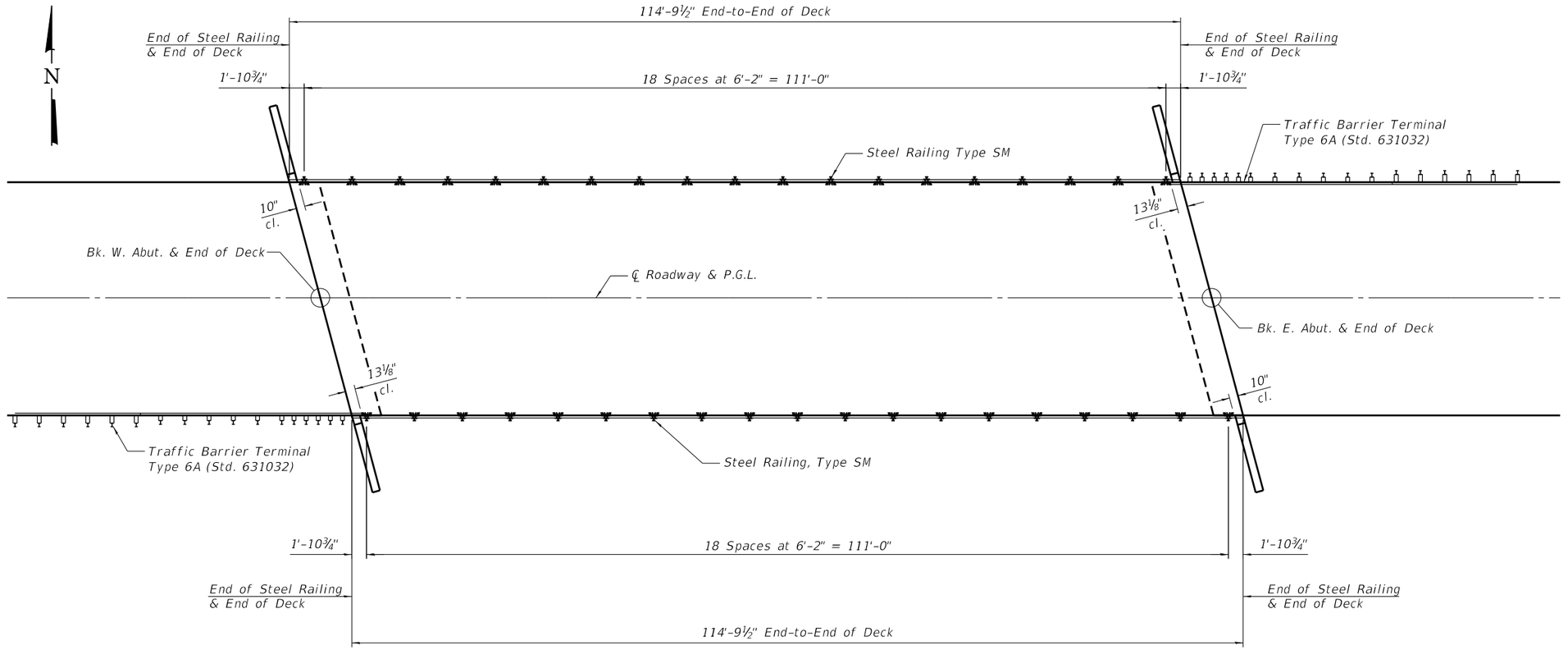
STEEL RAILING, TYPE SM
STRUCTURE NO. 060-3378
SHEET 7 OF 16 SHEETS

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 89	21-00101-00-BR	MADISON	30	18
		CONTRACT NO.		
		ILLINOIS	FED. AID PROJECT	



ELEVATION

(Looking North)
(South Elevation Similar)



PLAN

FILE NAME = P:\2022\2202358\4 CADD - DWG\4.4 Struc\060\378-008-Steel Railing, Type SM.dgn

TWM, INC. WWW.TWM-INC.COM ENGINEERING GEOSPATIAL SERVICES — IL DESIGN FIRM LICENSE NO: 184-001220	USER NAME = jesker	DESIGNED - MAL	REVISED	MADISON COUNTY HIGHWAY DEPARTMENT	STEEL RAILING, TYPE SM STRUCTURE NO. 060–3378
		CHECKED - CDK	REVISED		
	PLOT SCALE = 0:2.0000 '-' / in.	DRAWN - MAL	REVISED		SHEET 8 OF 16 SHEETS
	PLOT DATE = 10/9/2024	CHECKED - CDK	REVISED		

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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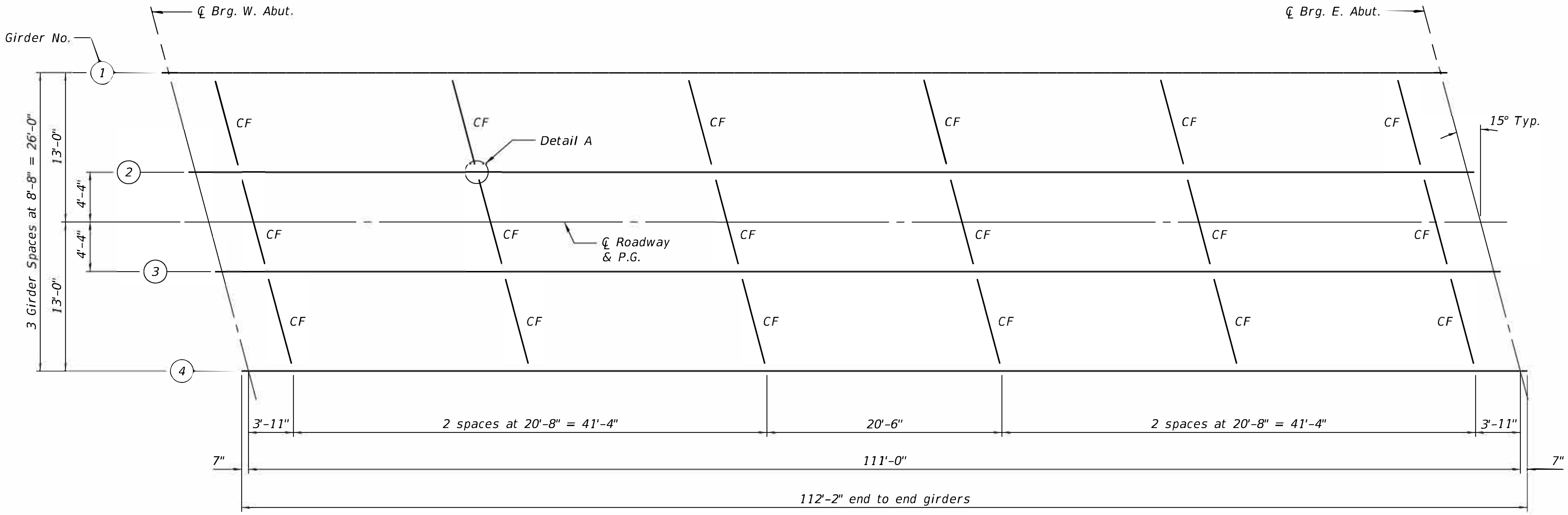
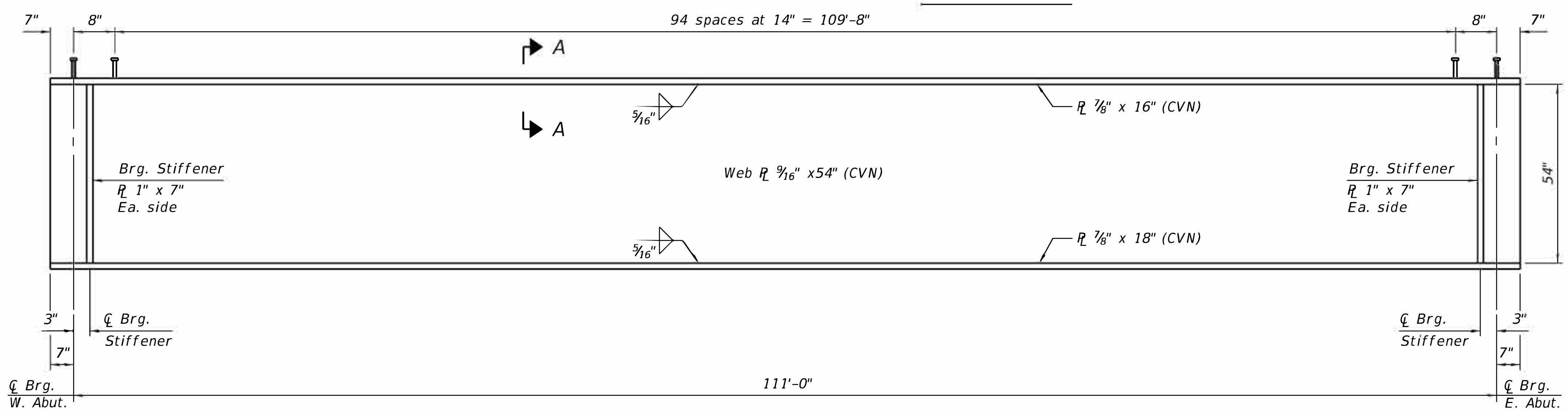
		CONTRACT NO.		
		ILLINOIS	FED. AID PROJECT	



FRAMING PLAN

Notes:
For Detail A and Cross Frame Details, see Sheet 10 of 16.
All cross frames shall be installed as steel is erected and secured with erection pins and bolts except otherwise noted.



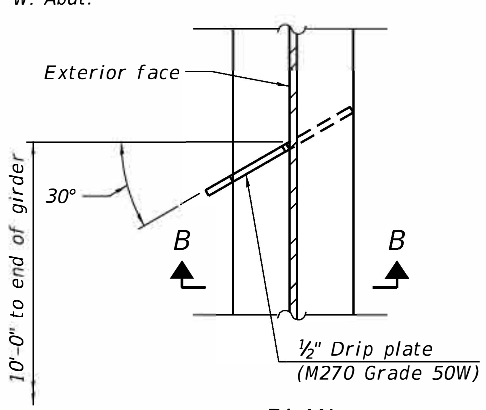
GIRDER ELEVATION

"CVN" denotes Charpy-V-Notch Impact Energy Requirements, Zone 2.

*TOP OF WEB ELEVATIONS

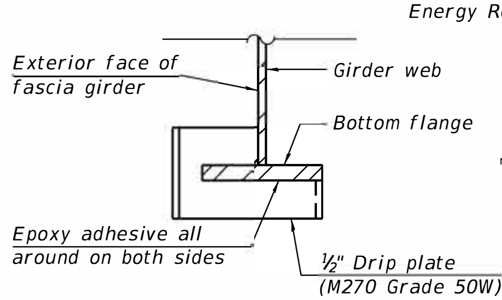
Location	℄ Brg. W. Abut.	℄ Brg. E. Abut.
Girder 1	456.71	458.86
Girder 2	456.90	459.06
Girder 3	456.94	459.10
Girder 4	456.84	459.00

* For fabrication use only.

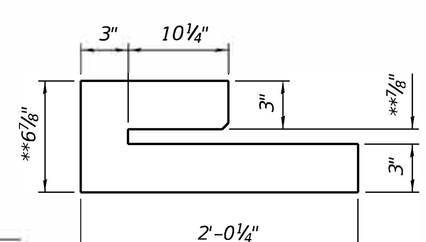


PLAN

(Top flange omitted for clarity)

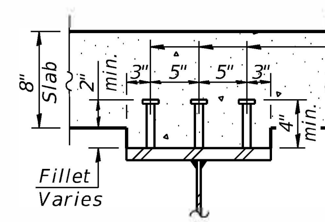


SECTION B-B



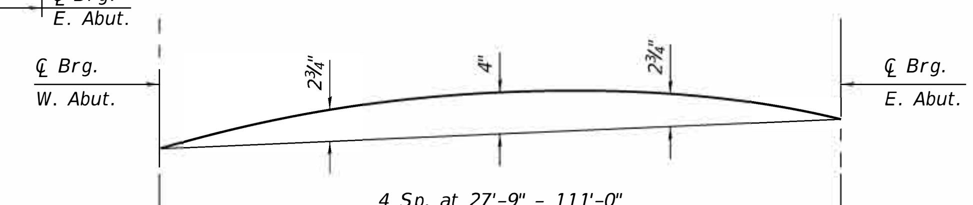
** Adjust to dimensions as required for thickness tolerance and fit-up

DRIP PLATE ELEVATION

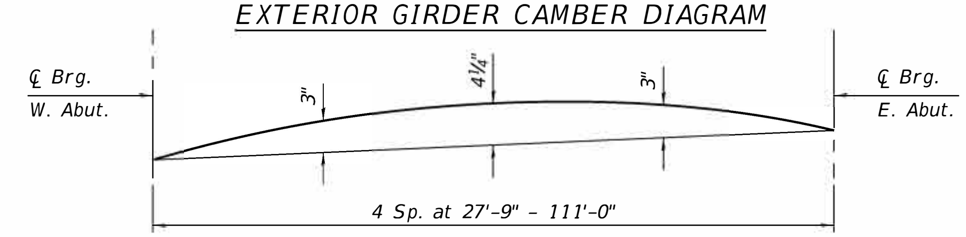


¾" Ø Granular or solid flux filled headed studs automatically end welded to flange. (No. Req'd.= 1164)

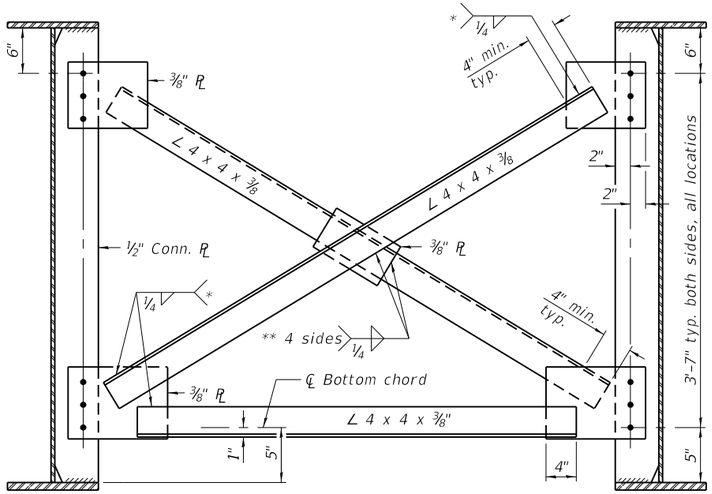
SECTION A-A



EXTERIOR GIRDER CAMBER DIAGRAM



INTERIOR GIRDER CAMBER DIAGRAM



* Fillet weld angles along 3 sides on one face of gusset plate; however, if cross-frames are galvanized, weld all-around.

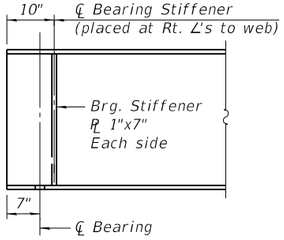
** If cross-frames are galvanized, weld all-around.

INTERIOR CROSS-FRAME

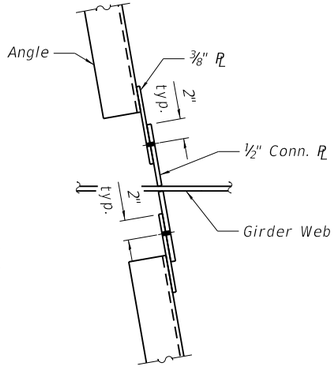
Notes:

Detail $1\frac{5}{16}$" Ø holes for all $\frac{3}{4}$" Ø bolts ($1\frac{1}{16}$" Ø holes for all $\frac{7}{8}$" Ø bolts only if required by design).

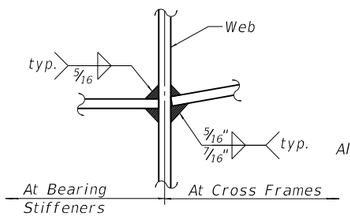
Two hardened washers required for each set of oversized holes.



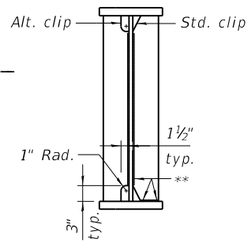
TYPICAL END OF GIRDER ELEVATION



DETAIL A

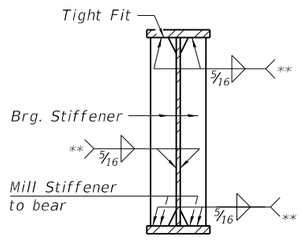


WEB WELD DETAIL



WELD LIMITS AND CLIP DETAIL

** Stop welds ¼" (±⅛") from edges as shown, typical.



BEARING STIFFENER AT ABUTMENT

See Weld Limits and Clip Details for information not shown

INTERIOR GIRDER MOMENT TABLE		
		0.5 Sp. 1
I_s	(in^4)	29741
$I_c(n)$	(in^4)	75521
$I_c(3n)$	(in^4)	57202
$I_c(cr)$	(in^4)	–
S_s	(in^3)	1037
$S_c(n)$	(in^3)	1525
$S_c(3n)$	(in^3)	1408
$S_c(cr)$	(in^3)	–
S_x	(in^3)	1305
DC1	(k/')	1.119
M_{DC1}	('k)	1724
DC2	(k/')	0.045
M_{DC2}	('k)	69
DW	(k/')	0.375
M_{DW}	('k)	578
LLDF		0.641
M_{L+IM}	('k)	2103
f_f (Strength I)	(ksi)	0
$M_u + \frac{1}{3} f_f S_x$	('k)	6789
$\phi_f M_n$	('k)	8569
f_s DC1	(ksi)	19.95
f_s DC2	(ksi)	0.59
f_s DW	(ksi)	4.93
f_s (L+IM)	(ksi)	16.55
f_f (Service II)	(ksi)	0.00
$f_s + f_f/2$ (Service II)	(ksi)	46.98
Service II Resistance	(ksi)	47.50
$f_s + f_f/3$ (Strength I)	(ksi)	–
$\phi_f F_n$	(ksi)	–
V_f	(k)	31.5

GIRDER REACTION TABLE		
		Abut.
LLDF		0.861
OCF		–
R_{DC1}	(k)	63.2
R_{DC2}	(k)	22.5
R_{DW}	(k)	20.8
R_L	(k)	87.4
R_{Im}	(k)	19.5
R_{Total} (Strength I)(Impact)	(k)	213.4
R_{Total} (Strength I)(No Impact)	(k)	193.9

I_s, S_s : Non-composite moment of inertia and section modulus of the steel section used for computing f_s(Total-Strength I, and Service II) 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-Strength I, and Service II) in uncracked sections 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-Strength I, and Service II) in uncracked sections, due to long-term composite (superimposed) dead loads ($in.^4$ and $in.^3$).

$I_c(cr)$, $S_c(cr)$: Composite moment of inertia and section modulus of the steel and longitudinal deck reinforcement, used for computing f_s (Total-Strength I and Service II) in cracked sections, due to both short-term composite live loads and long-term composite (superimposed) dead loads ($in.^4$ and $in.^3$).

S_x : Section modulus about the major axis of a section to the controlling flange, tension or compression, taken as yield moment with respect to the controlling flange over the yield strength of the controlling flange ($in.^3$).

DC1: Un-factored non-composite dead load (kips/ft.).

M_{DC1} : Un-factored moment due to non-composite dead load (kip-ft.).

DC2: Un-factored long-term composite (superimposed excluding future wearing surface) dead load (kips/ft.).

M_{DC2} : Un-factored moment due to long-term composite (superimposed excluding future wearing surface) dead load (kip-ft.).

DW: Un-factored long-term composite (superimposed future wearing surface only) dead load (kips/ft.).

M_{DW} : Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load (kip-ft.).

LLDF: Live Load Distribution Factor for moment and shear computed according to Article 4.6.2.2 and further IDOT provisions.

M_{L+IM}: Un-factored live load moment plus dynamic load allowance (impact) (kip-ft.).

M_u : Strength I load combination of factored design moments (kip-ft.). $1.25\,(M_{DC1} + M_{DC2}) + 1.5\,M_{DW} + 1.75\,M_{L+IM}$

f_f : Factored calculated flange lateral bending stress as calculated using Article 6.10.1.6 and as further simplified by IDOT provisions (ksi).

$\phi_f M_n$: Factored nominal flexural resistance of the section determined as specified in Article 6.10.7.1 or A6 as applicable (kip-ft.).

f_s DC1: Un-factored stress at edge of flange for controlling steel flange due to vertical non-composite dead loads as calculated below (ksi).
M_{DC1} / S_s

f_s DC2: Un-factored stress at edge of flange for controlling steel flange due to vertical composite dead loads as calculated below (ksi).
$M_{DC2} / S_c(3n)$ or $M_{DC2} / S_c(cr)$ as applicable.

f_s DW: Un-factored stress at edge of flange for controlling steel flange due to vertical composite future wearing surface loads as calculated below (ksi).
$M_{DW} / S_c(3n)$ or $M_{DW} / S_c(cr)$ as applicable.

f_s (L + IM): Un-factored stress at edge of flange for controlling steel flange due to vertical composite live load plus impact loads as calculated below (ksi).
$M_{L+IM} / S_c(n)$ or $M_{L+IM} / S_c(cr)$ as applicable.

$f_s + f_f/2$ (Service II): Sum of stresses as computed below (ksi).
f_s DC1 + f_s DC2 + f_s DW + 1.3 f_s (L + IM) + $f_f/2$

Service II Resistance: Composite ($0.95R_hF_{yf}$) or noncomposite ($0.80R_hF_{yf}$) stress capacity according to Article 6.10.4.2 (ksi).

$f_s + f_f/3$ (Strength I): Sum of stresses as computed below on non-compact sections (ksi).
$1.25\,(f_s$ DC1 + f_s DC2) + 1.5 f_s DW + 1.75 f_s (L + IM) + $f_f/3$

$\phi_f F_n$: Factored nominal flexural resistance of the section as specified in Article 6.10.7.2 or 6.10.8 as applicable (ksi).

V_f : Maximum factored shear range in span computed according to Article 6.10.10.

OCF: Obtuse Correction Factor according to Article 4.6.2.2.3c or as further simplified by IDOT provisions.

R_{DC1} : Un-factored reaction due to non-composite dead load (kip).

R_{DC2} : Un-factored reaction due to long-term composite (superimposed excluding future wearing surface) dead load (kip).

R_{DW} : Un-factored reaction due to long-term composite (superimposed future wearing surface only) dead load (kip).

R_L : Un-factored live load reaction (kip).

R_{IM} : Un-factored dynamic load allowance (impact) (kip).

R_{Total} (Strength I)(Impact): Strength I load combination of factored design reactions (kip).
$1.25\,(R_{DC1} + R_{DC2}) + 1.5R_{DW} + 1.75\,(R_L + R_{IM})$

R_{Total} (Strength I)(No Impact): Strength I load combination of factored design reactions, not including dynamic load allowance (Impact) (kip).
$1.25\,(R_{DC1} + R_{DC2}) + 1.5R_{DW} + 1.75\,(R_L)$

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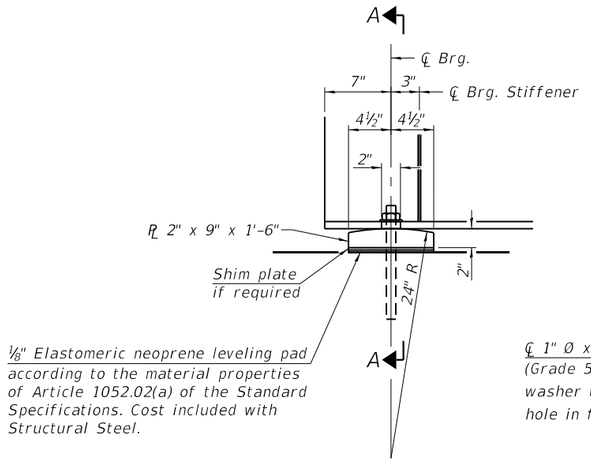
PLOT DATE = 10/9/2024	CHECKED - CDK	REVISED	

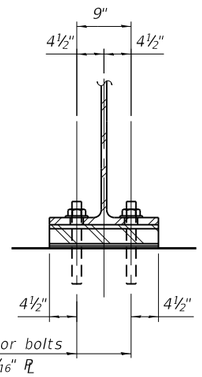
MADISON COUNTY HIGHWAY DEPARTMENT

STRUCTURAL STEEL DETAILS
STRUCTURE NO. 060-3378
SHEET 10 OF 16 SHEETS

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 89	21-00101-00-BR	MADISON	30	21
		CONTRACT NO.		
		ILLINOIS	FED. AID PROJECT	



ELEVATION AT ABUTMENT



SECTION A-A

FIXED BEARING
(8 Required)

Notes:
Anchor bolts at all supports shall be installed as each member is erected unless an equivalent temporary mean of lateral restraint is used.

SHIM PLATE THICKNESS

	Girder 1	Girder 2	Girder 3	Girder 4
W. Abut.	-	-	½"	-
E. Abut.	-	-	½"	-

TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
Anchor Bolts, 1"	Each	16

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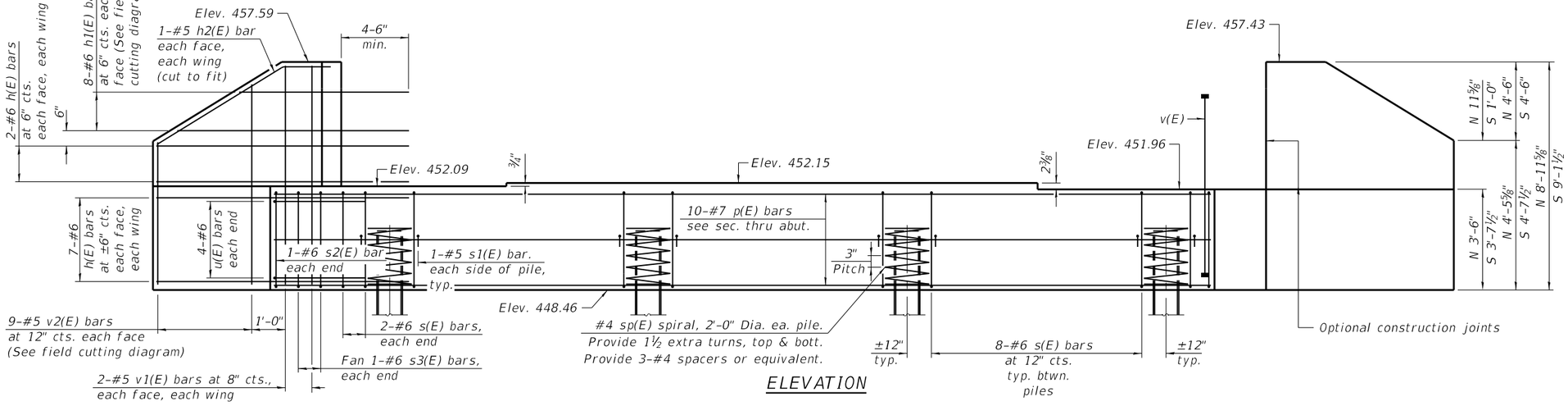
MADISON COUNTY
HIGHWAY DEPARTMENT

BEARING DETAILS
STRUCTURE NO. 060-3378
SHEET 11 OF 16 SHEETS

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 89	21-00101-00-BR	MADISON	30	22
		CONTRACT NO.		
	ILLINOIS	FED. AID PROJECT		



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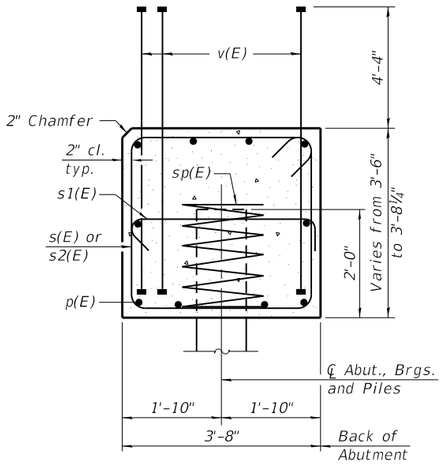
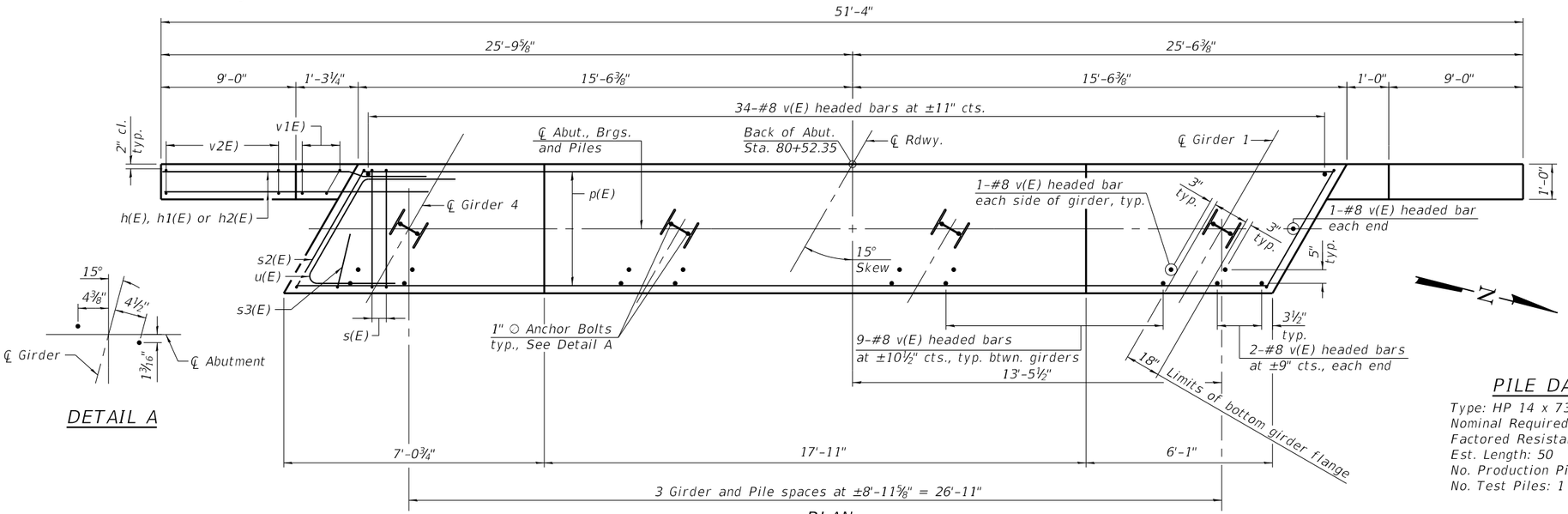


SEC. THRU ABUT.

Dimensions at right angles to abutment.



PLAN

DETAIL A

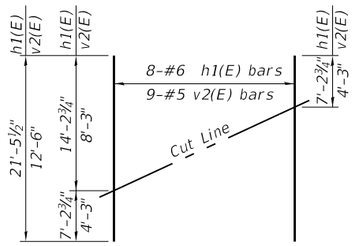
PILE DATA

Type: HP 14 x 73
Nominal Required Bearing: 578
Factored Resistance Available: 318
Est. Length: 50
No. Production Piles: 3
No. Test Piles: 1

BILL OF MATERIAL

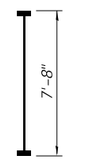
Bar	No.	Size	Length	Shape
h(E)	36	#6	14'–9"	
h1(E)	16	#6	21'–6"	
h2(E)	4	#5	10'–6"	
p(E)	10	#7	30'–8"	
s(E)	28	#6	14'–4"	
s1(E)	8	#5	4'–4"	
s2(E)	2	#6	14'–7"	
s3(E)	2	#6	7'–2"	
sp(E)	4	#4	2'–0" *	
u(E)	8	#6	11'–11"	
v(E)	75	#8	7'–8"	
v1(E)	8	#5	8'–7"	
v2(E)	18	#5	12'–6"	
Structure Excavation	Cu. Yd.	56		
Concrete Structures	Cu. Yd.	20.3		
Reinforcement Bars, Epoxy Coated	Pound	4860		
Furnishing Steel Piles, HP14x73	Foot	150		
Driving Piles	Foot	150		
Test Pile, HP14x73	Each	1		
Pile Shoes	Each	4		

* Length is height of spiral.



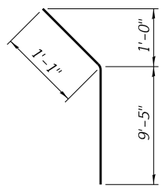
FIELD CUTTING DIAGRAM

Order h1(E) and v2(E) full length. Cut as shown and use remainder of bars in opposite face.

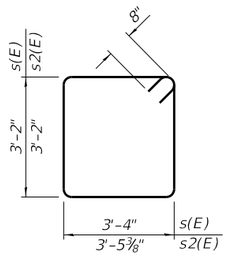


BAR v(E)

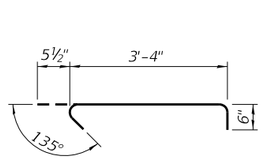
(Headed. 150 – #8 Bar terminators)



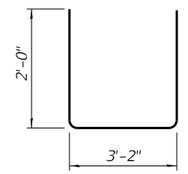
BAR h2(E)



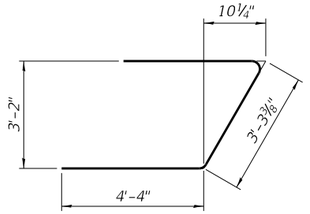
BAR s(E) & s2(E)



BAR s1(E)



BAR s3(E)



BAR u(E)

Notes:
Pour steps monolithically with cap.
For details of piles see sheet 14 of 16.
Corrosion Inhibitor per Article 1020.05(b) and Section 1021 of the Standard Specifications shall be added to the entire quantity of Concrete Structures utilized in the abutments. Cost included with Concrete Structures.
Bar terminators, paid for separately. See Total Bill of Material.

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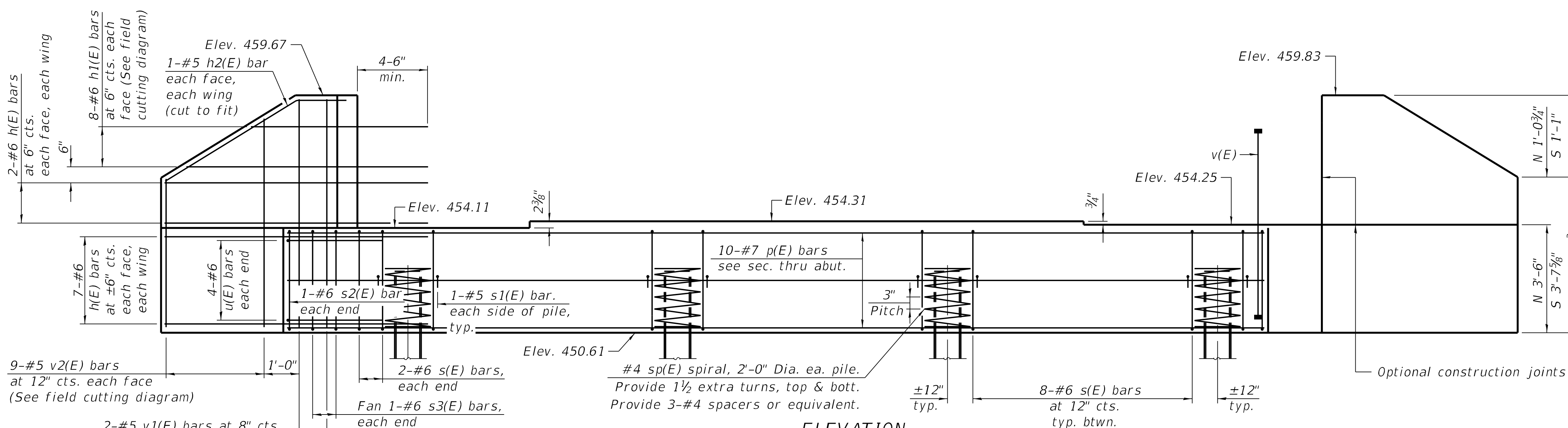
	CHECKED - CDK	REVISED	
PLOT SCALE = 0:2.0000 '-' / in.	DRAWN - MAL	REVISED	
PLOT DATE = 10/9/2024	CHECKED - CDK	REVISED	

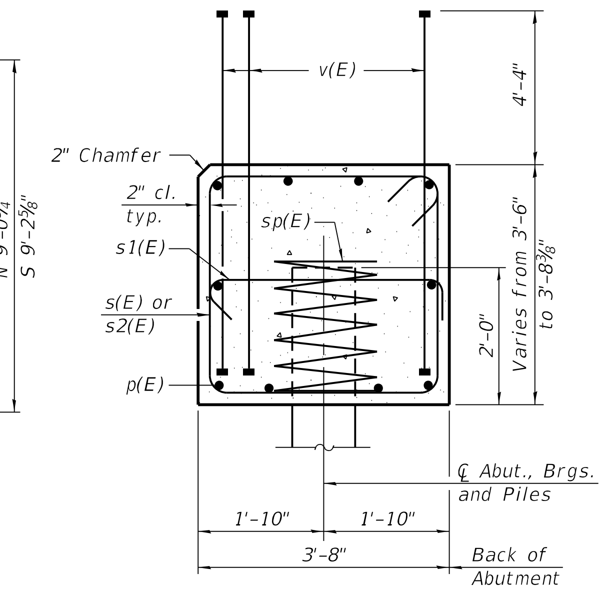
MADISON COUNTY HIGHWAY DEPARTMENT

WEST ABUTMENT
STRUCTURE NO. 060–3378
SHEET 12 OF 16 SHEETS

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 89	21-00101-00-BR	MADISON	30	23
		CONTRACT NO.		
		ILLINOIS	FED. AID PROJECT	

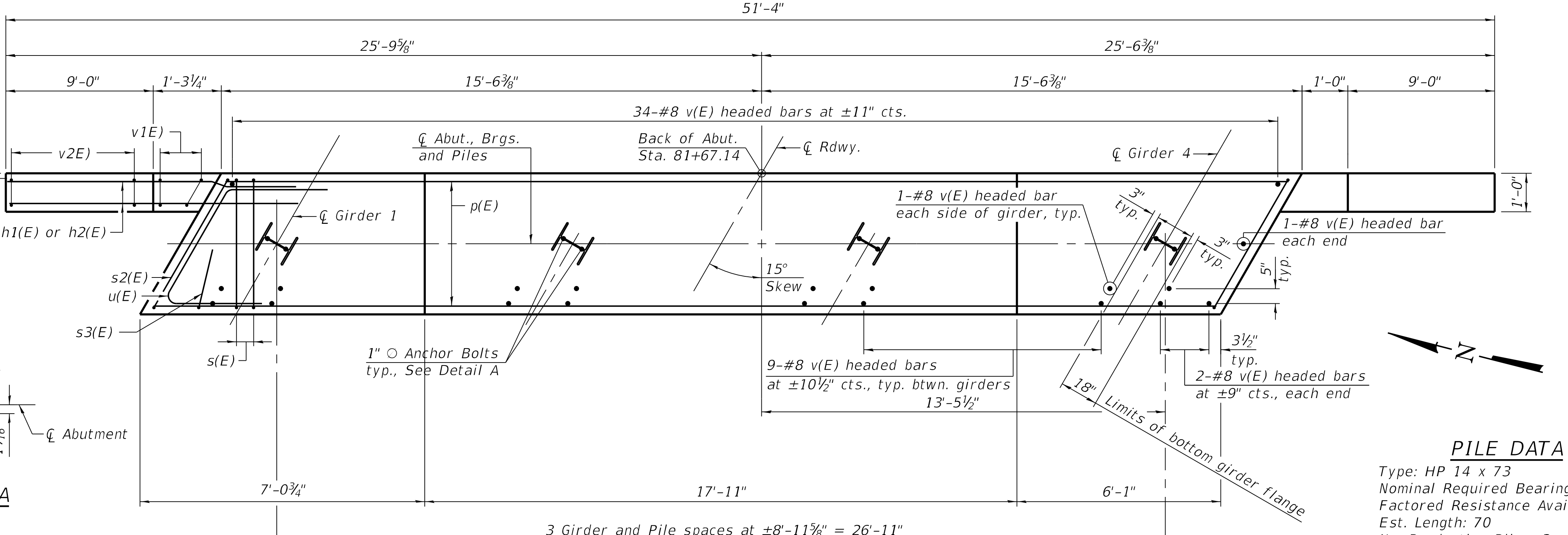


ELEVATION

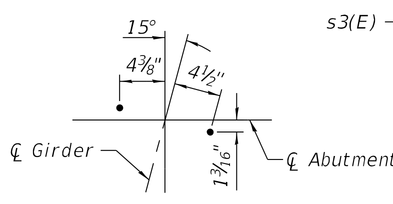


SEC. THRU ABUT.

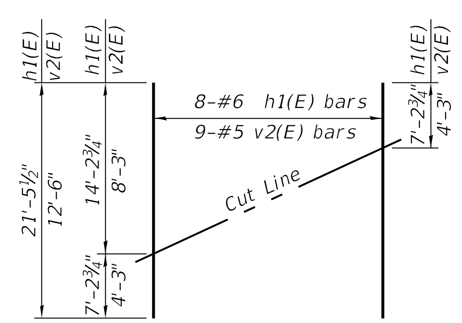
Dimensions at right angles to abutment.



PLAN

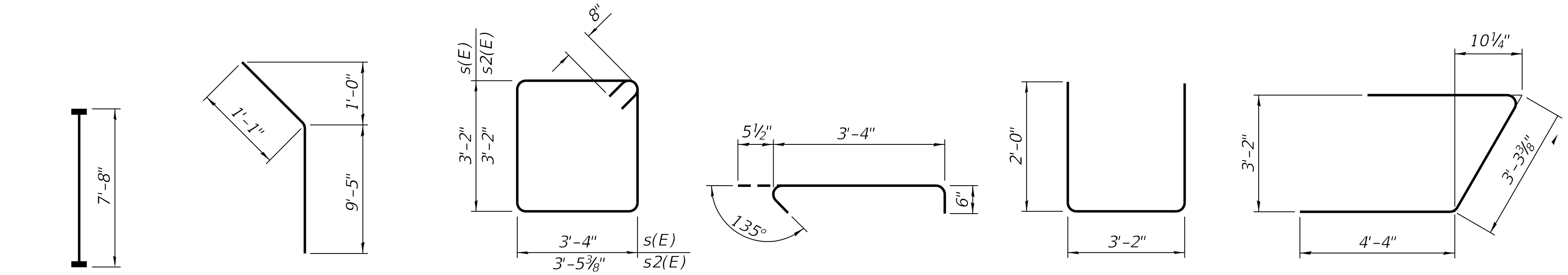


DETAIL A



FIELD CUTTING DIAGRAM

Order h1(E) and v2(E) full length. Cut as shown and use remainder of bars in opposite face.



BAR v(E) (Headed. 150 - #8 Bar terminators) | BAR h2(E) | BAR s(E) & s2(E) | BAR s1(E) | BAR s3(E) | BAR u(E)

PILE DATA

Type: HP 14 x 73
Nominal Required Bearing: 578
Factored Resistance Available: 318
Est. Length: 70
No. Production Piles: 3
No. Test Piles: 1

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	36	#6	14'-9"	
h1(E)	16	#6	21'-6"	
h2(E)	4	#5	10'-6"	
p(E)	10	#7	30'-8"	
s(E)	28	#6	14'-4"	
s1(E)	8	#5	4'-4"	
s2(E)	2	#6	14'-7"	
s3(E)	2	#6	7'-2"	
* sp(E)	4	#4	2'-0"	
u(E)	8	#6	11'-11"	
v(E)	75	#8	7'-8"	
v1(E)	8	#5	8'-7"	
v2(E)	18	#5	12'-6"	
Structure Excavation		Cu. Yd.	64	
Concrete Structures		Cu. Yd.	20.4	
Reinforcement Bars, Epoxy Coated		Pound	4860	
Furnishing Steel Piles, HP14x73		Foot	210	
Driving Piles		Foot	210	
Test Pile, HP14x73		Each	1	
Pile Shoes		Each	4	

* Length is height of spiral.

Notes:
Pour steps monolithically with cap.
For details of piles see sheet 14 of 16.
Corrosion Inhibitor per Article 1020.05(b) and Section 1021 of the Standard Specifications shall be added to the entire quantity of Concrete Structures utilized in the abutments. Cost included with Concrete Structures.
Bar terminators, paid for separately.
See Total Bill of Material.

FILE NAME = P:\2022\220258\4 CADD - DWG\4.4 Struc\0603378-013-E. Abut..dgn

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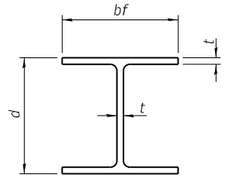
USER NAME = jesker	DESIGNED - MAL	REVISED	
	CHECKED - CDK	REVISED	
PLOT SCALE = 0:2.0000 ' / in.	DRAWN - MAL	REVISED	
PLOT DATE = 10/9/2024	CHECKED - CDK	REVISED	

MADISON COUNTY HIGHWAY DEPARTMENT

EAST ABUTMENT
STRUCTURE NO. 060-3378

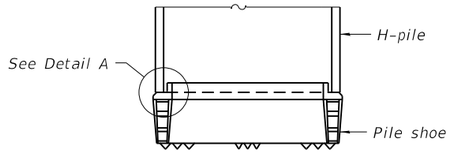
SHEET 13 OF 16 SHEETS

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 89	21-00101-00-BR	MADISON	30	24
		CONTRACT NO.		
		ILLINOIS FED. AID PROJECT		

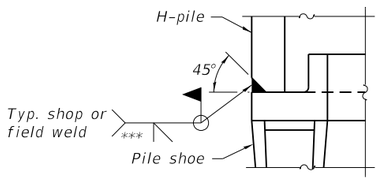


STEEL PILE TABLE

Designation	Depth d	Flange width bf	Web and Flange thickness t	Encasement diameter A
HP 14x117	14¼"	14⅞"	13/16"	30"
x102	14"	14¾"	1 1/16"	30"
x89	13⅞"	14¾"	⅝"	30"
x73	13⅝"	14⅝"	½"	30"
HP 12x84	12¼"	12¼"	1 1/16"	24"
x74	12⅛"	12¼"	⅝"	24"
x63	12"	12⅛"	½"	24"
x53	11¾"	12"	7/16"	24"
HP 10x57	10"	10¼"	9/16"	24"
x42	9¾"	10⅛"	7/16"	24"
HP 8x36	8"	8⅛"	7/16"	18"



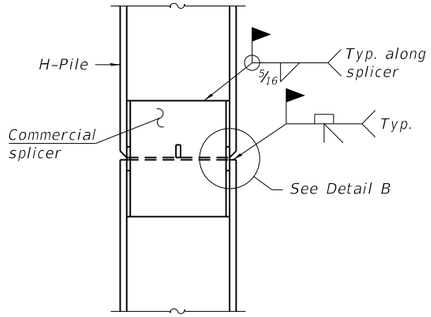
ELEVATION



DETAIL A

SHOE ATTACHMENT

Note:
The steel H-piles shall be according to AASHTO M270 Grade 50.



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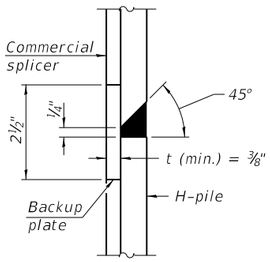
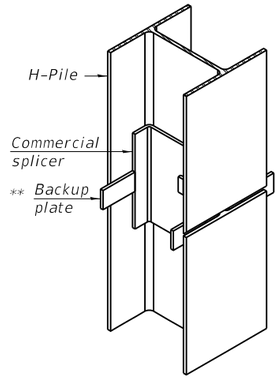
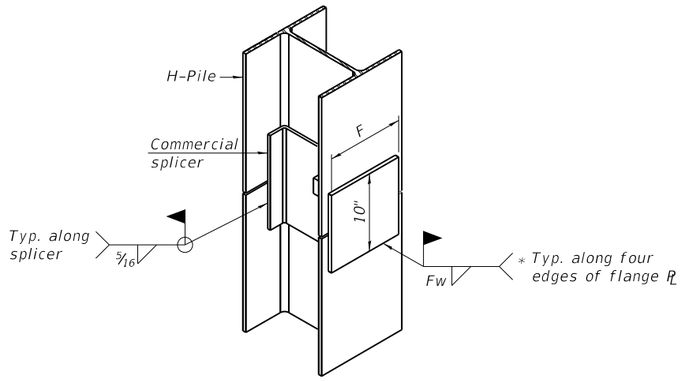


DETAIL "B"



ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE



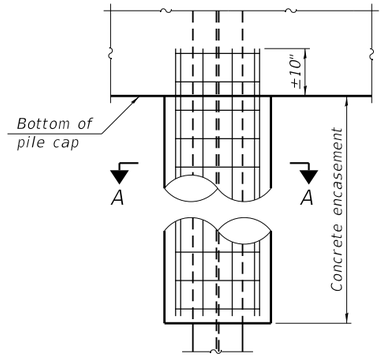
ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE ALTERNATE

* Interrupt welds ¼" from end of web and/or each flange.

** Remove portions of backup plates that extend outside the flanges.

*** Weld size per pile shoe manufacturer (5/16" min.).



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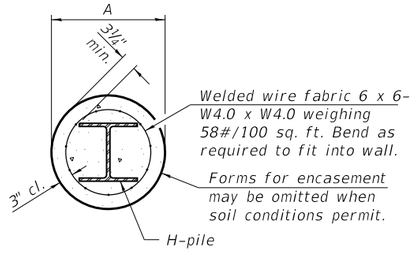
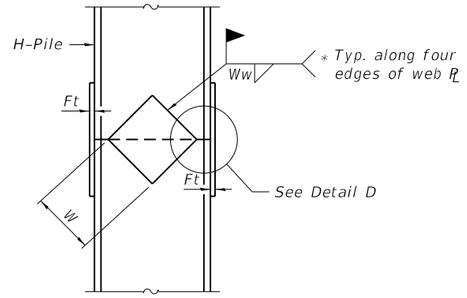


SECTION A-A

INDIVIDUAL PILE CONCRETE ENCASEMENT

(when specified)



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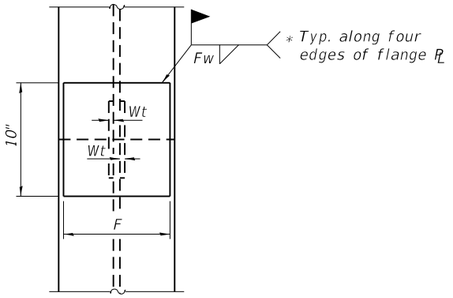
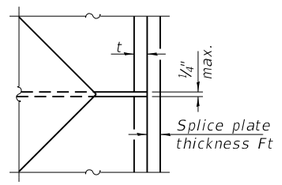


END VIEW



DETAIL D

Designation	F	Ft	Fw	W	Wt	Ww
HP 14x117	12½"	1"	⅞"	7¾"	⅝"	½"
x102	12½"	⅞"	¾"	7¾"	⅝"	½"
x89	12½"	¾"	1 1/16"	7¾"	⅝"	½"
x73	12½"	⅝"	9/16"	7¾"	⅝"	½"
HP 12x84	10"	⅞"	1 1/16"	6½"	⅝"	½"
x74	10"	⅞"	1 1/16"	6½"	⅝"	½"
x63	10"	⅝"	½"	6½"	½"	⅜"
x53	10"	⅝"	½"	6½"	½"	⅜"
HP 10x57	8"	¾"	9/16"	5¼"	½"	⅜"
x42	8"	⅝"	9/16"	5¼"	½"	⅜"
HP 8x36	7"	⅝"	7/16"	4¼"	½"	⅜"

WELDED PLATE FIELD SPLICE

F-HP 2-1-2023

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MADISON COUNTY HIGHWAY DEPARTMENT

HP PILE DETAILS
STRUCTURE NO. 060-3378
SHEET 14 OF 16 SHEETS

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 89	21-00101-00-BR	MADISON	30	25
		CONTRACT NO.		
	ILLINOIS	FED. AID PROJECT		

Illinois Department of Transportation
Division of Highways
SCI Engineering

SOIL BORING LOG

Date 08/02/22

ROUTE Lee Road **DESCRIPTION** Replacement of bridge over Sugar Creek **LOGGED BY** Midwest Drilling

SECTION _____ **LOCATION** Aviston, Illinois
Lat 38.655863 **Long** -89.622877

COUNTY Madison **DRILLING METHOD** CME 750 w/CFA **HAMMER TYPE** Automatic

STRUCT. NO. _____
Station _____

BORING NO. B-1
Station N/A
Offset _____
Ground Surface Elev. 458 ft

Surface Water Elev. N/A ft
Stream Bed Elev. N/A ft
Groundwater Elev.:
First Encounter 436 ft ▼
Upon Completion N/A ft
After N/A **Hrs.** N/A ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
FILL: Brown, clay, moist, medium stiffness A-6	2 3 5	>4.5 P	18
Becomes brown and gray, soft	1 1 2	0.5 P	20
-5			
452.5			
CLAY: Gray, moist, medium stiffness A-6	3 3 4	4.0 P	16
Becomes stiff	3 4 5	3.5 P	21
-10			
Becomes gray			
	3 4 5	0.6 S	12
-15			
	4 5 6	1.1 S	12
-20			
CLAY: Gray, moist, medium stiffness A-6 *(continued)*			
436.0 ▼			
CLAY: Gray, moist, stiff A-6			
-25	4 7 8		10
-30	4 5 7	3.5 P	18
426.0			
CLAY: Gray, moist, stiff A-7			
-35	5 6 7	3.0 P	22
-40	5 7 7	0.7 S	18

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
AASHTO Classifications are based on visual classifications unless otherwise noted BBS, form 137 (Rev. 8-99)

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Illinois Department of Transportation
Division of Highways
SCI Engineering

SOIL BORING LOG

Date 08/02/22

ROUTE Lee Road **DESCRIPTION** Replacement of bridge over Sugar Creek **LOGGED BY** Midwest Drilling

SECTION _____ **LOCATION** Aviston, Illinois
Lat 38.655863 **Long** -89.622877

COUNTY Madison **DRILLING METHOD** CME 750 w/CFA **HAMMER TYPE** Automatic

STRUCT. NO. _____
Station _____

BORING NO. B-1
Station N/A
Offset _____
Ground Surface Elev. 458 ft

Surface Water Elev. N/A ft
Stream Bed Elev. N/A ft
Groundwater Elev.:
First Encounter 436 ft ▼
Upon Completion N/A ft
After N/A **Hrs.** N/A ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
CLAY: Gray, moist, stiff A-7 *(continued)*			
416.0			
SILTY SAND: Gray, moist, medium stiffness A-2	2 3 4		23
-45			
411.0			
CLAY: Gray, moist, stiff A-7	5 7 7	0.4 S	14
-50			
406.0			
CLAY: Gray, moist, stiff A-6	3 4 4	0.6 B	22
-55			
401.0			
CLAY: Gray, moist, stiff A-7	3 5 7	2.0 P	21
-60			
CLAY: Gray, moist, stiff A-7 *(continued)*			
-65	4 8 10	3.5 P	17
391.5			
SHALE: Gray, hard			
-70	50/3"	>4.5 P	11
	50/2"		6
-75	50/1"		9
	50/1"		15
380.5			
Boring terminated at 77.5 ft.			
-80			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
AASHTO Classifications are based on visual classifications unless otherwise noted BBS, form 137 (Rev. 8-99)

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	CHECKED - CDK	REVISED	
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PLOT DATE = 10/9/2024	CHECKED - CDK	REVISED	

MADISON COUNTY HIGHWAY DEPARTMENT

SOIL BORING LOGS
STRUCTURE NO. 060-3378
SHEET 15 OF 16 SHEETS

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 89	21-00101-00-BR	MADISON	30	26
		CONTRACT NO.		
	ILLINOIS	FED. AID PROJECT		

Illinois Department of Transportation

Division of Highways
SCI Engineering

SOIL BORING LOG

Date 08/02/22

ROUTE Lee Road **DESCRIPTION** Replacement of bridge over Sugar Creek **LOGGED BY** Midwest Drilling

SECTION _____ **LOCATION** Aviston, Illinois
Lat 38.655863 **Long** -89.622877

COUNTY Madison **DRILLING METHOD** CME 750 w/CFA **HAMMER TYPE** Automatic

STRUCT. NO. _____
Station _____

BORING NO. B-2
Station N/A
Offset _____
Ground Surface Elev. 452 ft

Surface Water Elev. N/A ft
Stream Bed Elev. N/A ft

Groundwater Elev.:
First Encounter 440 ft ▼
Upon Completion N/A ft
After N/A **Hrs.** N/A ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
FILL: Brown, clay, moist, very stiff A-6			
	4 8 16	>4.5 P	14
Becomes gray, stiff			
-5	2 4 6	>4.5 P	10
Becomes brown and gray, medium stiffness			
	2 2 3	>4.5 P	18
444.0 CLAY: Gray, moist, very soft A-6			
-10	WH WH 1	0.3 P	33
▼			
-15	WH WH WH	<0.25 P	27
Becomes brown, soft			
-20	1 2 3	0.3 B	18
CLAY: Gray, moist, very soft A-6 *(continued)*			
430.0 CLAY: Brown, moist, medium stiffness A-7			
-25	2 3 4	0.5 B	23
425.0 CLAY: Gray, moist, medium stiffness A-6			
-30	3 4 4	0.5 B	18
420.0 SILTY SAND: Gray, moist, stiff A-2			
-35	7 8 8		17
415.0 SHALEY CLAY: Dark gray, very stiff A-7			
-40	25 10 15	>9.0 P	20

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
AASHTO Classifications are based on visual classifications unless otherwise noted BBS, form 137 (Rev. 8-99)

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Illinois Department of Transportation

Division of Highways
SCI Engineering

SOIL BORING LOG

Date 08/02/22

ROUTE Lee Road **DESCRIPTION** Replacement of bridge over Sugar Creek **LOGGED BY** Midwest Drilling

SECTION _____ **LOCATION** Aviston, Illinois
Lat 38.655863 **Long** -89.622877

COUNTY Madison **DRILLING METHOD** CME 750 w/CFA **HAMMER TYPE** Automatic

STRUCT. NO. _____
Station _____

BORING NO. B-2
Station N/A
Offset _____
Ground Surface Elev. 452 ft

Surface Water Elev. N/A ft
Stream Bed Elev. N/A ft

Groundwater Elev.:
First Encounter 440 ft ▼
Upon Completion N/A ft
After N/A **Hrs.** N/A ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
SHALEY CLAY: Dark gray, very stiff A-7 *(continued)*			
-45	20 50/2"	>9.0 P	19
405.0 SHALE: Gray, hard			
-50	50/3"		9
	50/1"		15
-55	50/1"		8
397.0 Boring terminated at 55 ft.			
-60			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
AASHTO Classifications are based on visual classifications unless otherwise noted BBS, form 137 (Rev. 8-99)

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TWM, INC.
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IL DESIGN FIRM LICENSE NO: 184-001220

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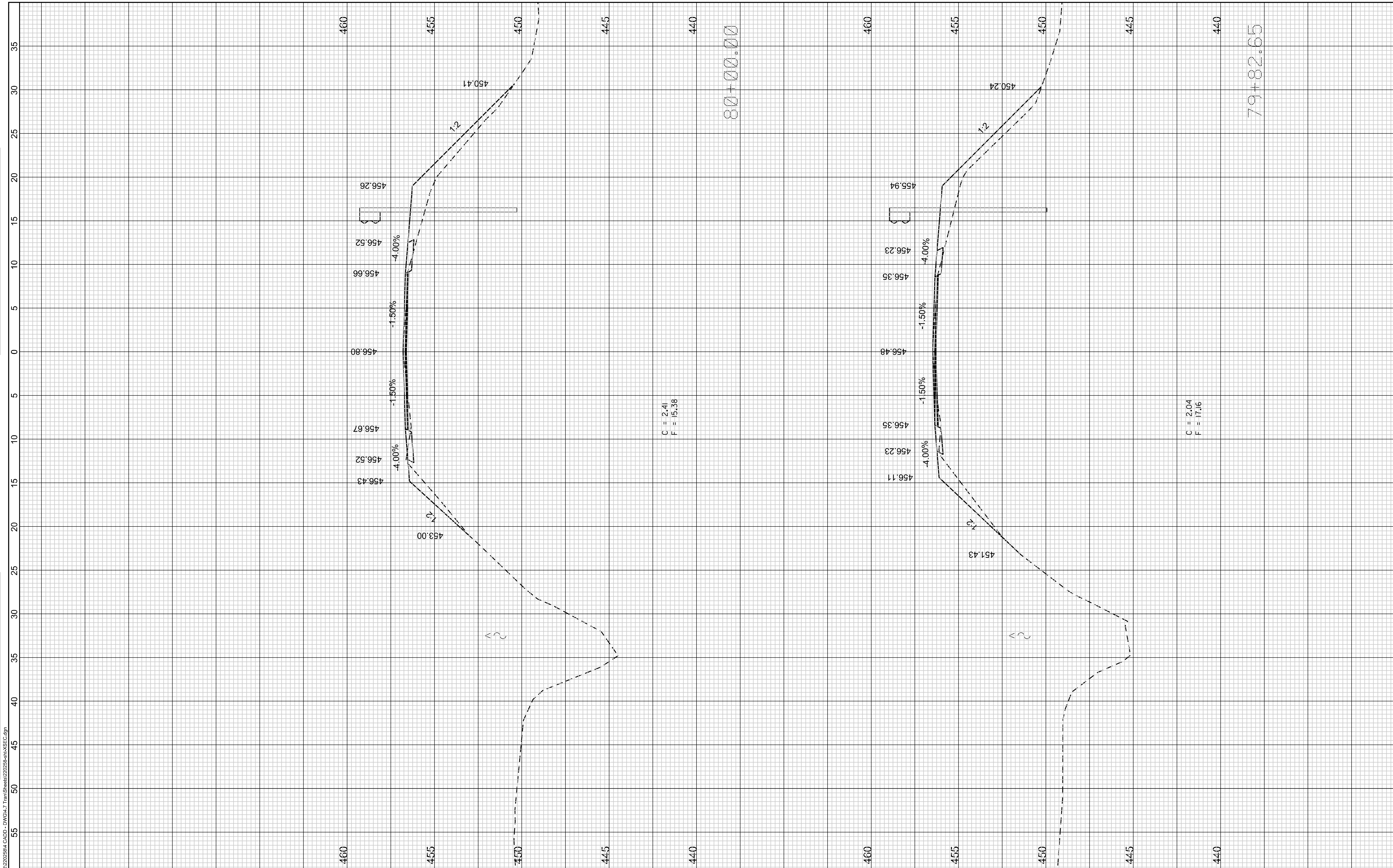
PLOT DATE = 10/9/2024	CHECKED - CDK	REVISED

MADISON COUNTY HIGHWAY DEPARTMENT

SOIL BORING LOGS
STRUCTURE NO. 060-3378
SHEET 16 OF 16 SHEETS

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 89	21-00101-00-BR	MADISON	30	27
		CONTRACT NO.		
	ILLINOIS	FED. AID PROJECT		



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

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

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TWM ENGINEERING & GEOSPATIAL SERVICES

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WWW.TWM-INC.COM
IL DESIGN FIRM LICENSE NO: 184-001220

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	DRAWN - JBH	REVISED -	
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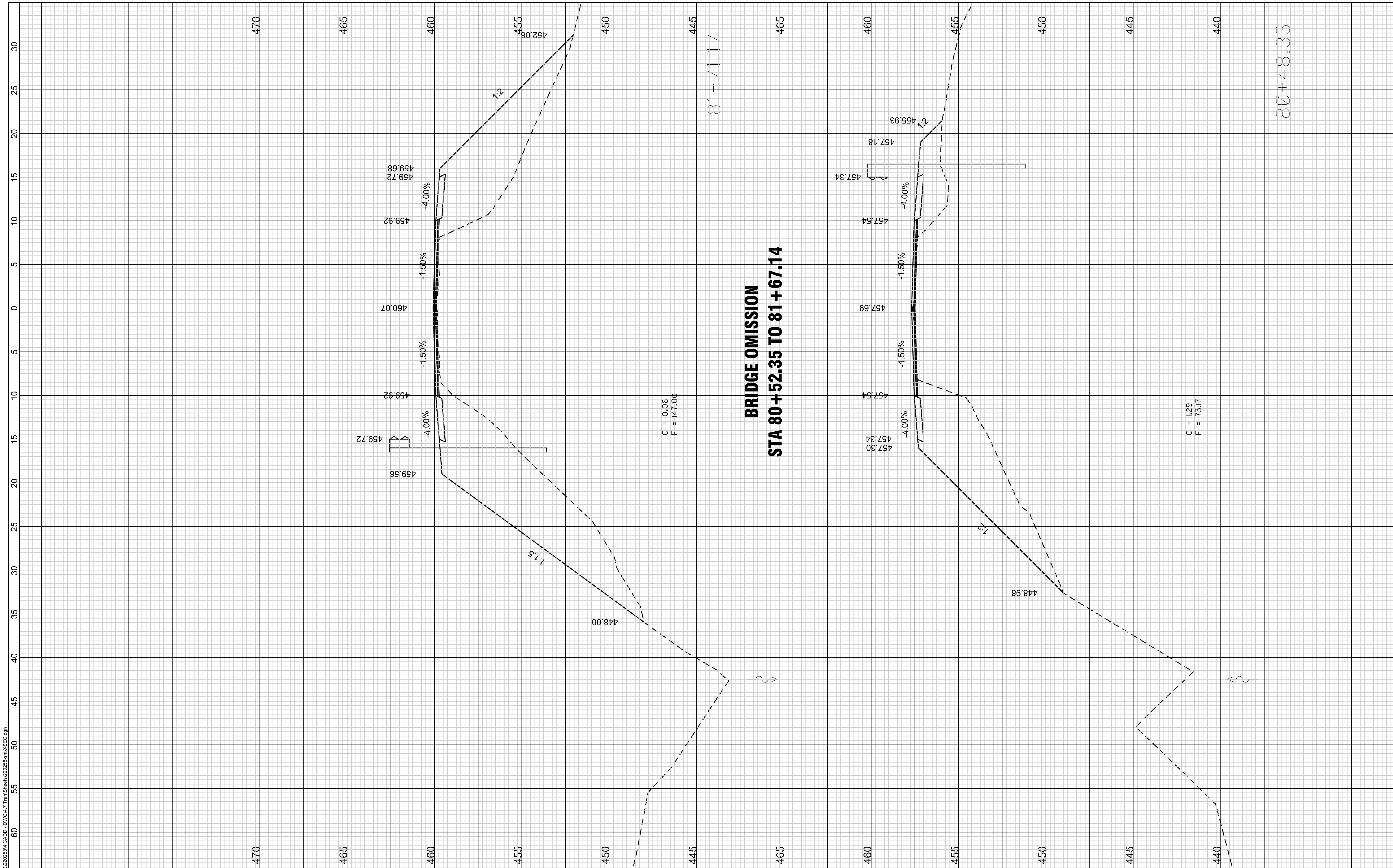
PLOT DATE = 10/11/2024	DATE - 08/06/2024	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS

SCALE: 1"=10' | SHEET 1 OF 3 SHEETS | STA. 79+82.65 TO STA. 80+00.00

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 89	21-00101-00-BR	MADISON	30	28
		CONTRACT NO.		
		ILLINOIS FED. AID PROJECT		



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

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

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TWM, INC.
WWW.TWM-INC.COM
IL DESIGN FIRM LICENSE NO: 184-001220

USER NAME = jharr	DESIGNED -	JBH	REVISED -		
	DRAWN -	JBH	REVISED -		
PLOT SCALE = 10.0000 ' / in.	CHECKED -	JJV	REVISED -		
PLOT DATE = 10/11/2024	DATE -	08/06/2024	REVISED -		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

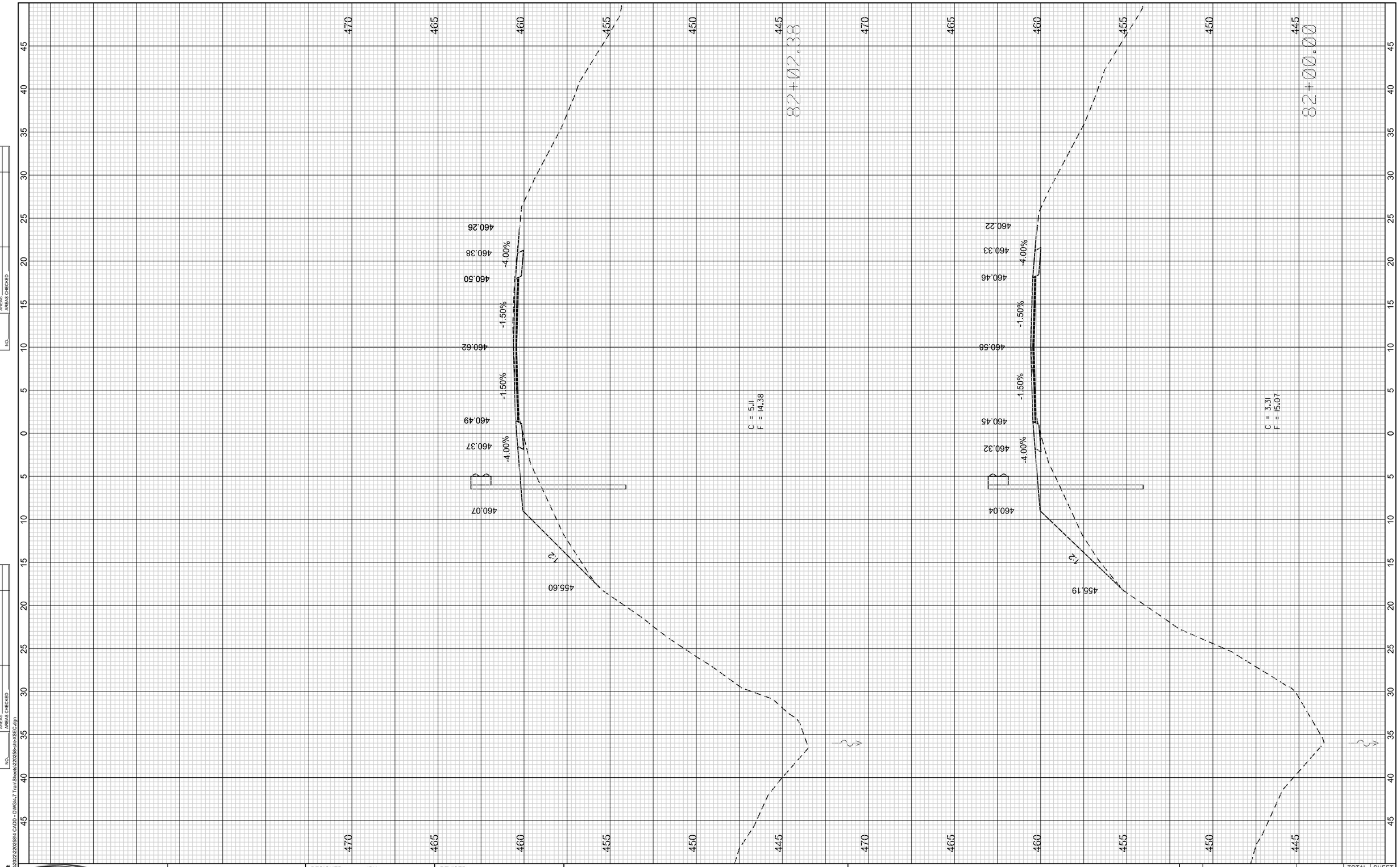
CROSS SECTIONS

SCALE: 1"=10' SHEET 2 OF 3 SHEETS STA. 80+48.33 TO STA. 81+71.17

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 89	21-00101-00-BR	MADISON	30	29
		CONTRACT NO.		
		ILLINOIS FED. AID PROJECT		

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

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



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	IL DESIGN FIRM LICENSE NO: 184-001220		DRAWN - JBH	REVISED -
		PLOT SCALE = 10.0000 ' / In.	CHECKED - JJV	REVISED -
		PLOT DATE = 10/11/2024	DATE - 08/06/2024	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS

SCALE: 1"=10' | SHEET 3 OF 3 SHEETS | STA. 82+00.00 | TO STA. 82+02.37

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 89	21-00101-00-BR	MADISON	30	30
		CONTRACT NO.		
		ILLINOIS	FED. AID PROJECT	