

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

MUN. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
4115	15-0048-00-BR	COOK	4.4	1
		ILLINOIS	CONTRACT NO. 61J38	

# PLANS FOR PROPOSED FEDERAL AID HIGHWAY

MUNI 4115 BROOKWOOD DRIVE  
BROOKWOOD DRIVE OVER BUTTERFIELD CREEK  
SECTION 15-00048-00-BR  
PROJECT XB68(603)  
BRIDGE REPLACEMENT  
VILLAGE OF FLOSSMOOR  
COOK COUNTY  
JOB NO. C-91-240-15

FOR INDEX OF SHEETS, SEE SHEET NO. 2  
FOR LIST OF STATE STANDARDS, SEE SHEET NO. 2

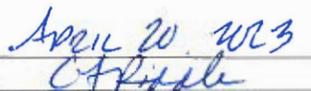
DESIGN DESIGNATION: LOCAL ROAD OR STREET  
BROOKWOOD DRIVE  
FUNCTIONAL CLASSIFICATION: LOCAL STREET (URBAN)  
ADT = 225 VEHICLES PER DAY (2018)  
25 MPH POSTED SPEED

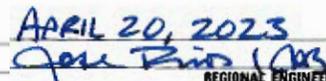


LOCATION OF SECTION INDICATED THIS: - [Symbol]

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

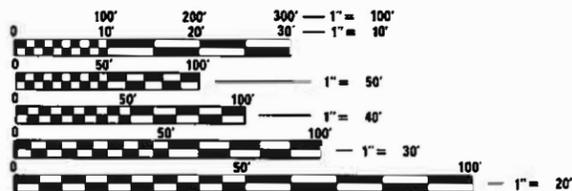
APPROVED   
PUBLIC WORKS DIRECTOR  
VILLAGE OF FLOSSMOOR

PASSED   
APRIL 20, 2023  
DISTRICT 1 ENGINEER OF LOCAL ROADS AND STREETS

RELEASED FOR BID  
BASED ON LIMITED  
REVIEW   
APRIL 20, 2023  
REGIONAL ENGINEER

PRINTED BY THE AUTHORITY  
OF THE STATE OF ILLINOIS

FEDERAL AID PROGRAM ENGINEER: CARMEN E. RAMOS, P.E., SCHAUMBURG, IL



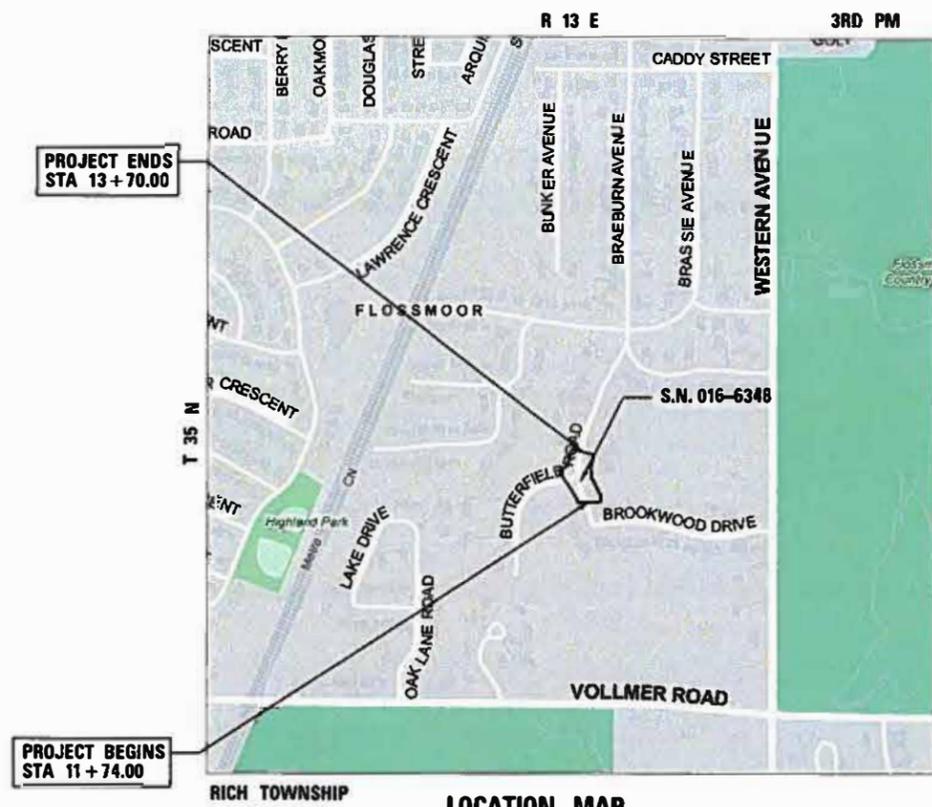
FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD  
ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT  
CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS  
ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

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

**CB** CHRISTOPHER B. BURKE ENGINEERING, LTD.  
9575 W. Higgins Road, Suite 800  
Rosemont, Illinois 60018  
(847) 823-0500

PROFESSIONAL DESIGN FIRM NO. 184-00175  
EXPIRATION DATE: APRIL 30, 2023

CONTRACT NO. 61J38



PROJECT BEGINS  
STA 11 + 74.00

PROJECT ENDS  
STA 13 + 70.00

LOCATION MAP  
NOT TO SCALE

GROSS LENGTH = 196.00 FT. = 0.037 MILE  
NET LENGTH = 196.00 FT. = 0.037 MILE



  
MAJID MOBASSERI  
ILLINOIS REGISTRATION No. 081-005058 STRUCTURAL ENGINEER  
EXPIRATION DATE: 11/30/24

## GENERAL NOTES

1. ALL CONSTRUCTION SHALL BE DONE IN ACCORDANCE WITH THE "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION", ADOPTED JANUARY 1, 2022: THE LATEST EDITION OF THE "ILLINOIS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS" (IMUTCD), THE "DETAILS" IN THE PLANS, AND THE "SPECIAL PROVISIONS" INCLUDED IN THE CONTRACT DOCUMENTS.
2. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASCERTAIN EXISTING FIELD CONDITIONS PRIOR TO BIDDING ON THIS PROJECT.
3. THE CONTRACTOR SHALL LIMIT HIS/HER CONSTRUCTION ACTIVITIES TO THE WORK AREAS DESIGNATED ON THE PLANS. ANY DAMAGE TO AREAS OUTSIDE OF THESE LIMITS SHALL BE REPAIRED BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER.
4. THE CONTRACTOR SHALL NOTIFY JOHN BRUNKE, PUBLIC WORKS DIRECTOR AT 708-957-4100 AT LEAST 48 HOURS IN ADVANCE OF BEGINNING WORK AND COORDINATE ALL CONSTRUCTION OPERATIONS WITH THE ENGINEER.
5. THE CONTRACTOR WILL BE REQUIRED TO RELOCATE OR REMOVE AND REPLACE SIGNS WHICH INTERFERE WITH CONSTRUCTION OPERATIONS, AND TO TEMPORARILY RESET ALL SUCH SIGNS DURING CONSTRUCTION OPERATIONS. IF EXISTING SIGNS ARE DAMAGED DURING THE REMOVAL AND REPLACEMENT PROCESS, THE SIGN SHALL BE REPLACED.
6. THE CONTRACTOR SHALL GIVE NOTICES AND COMPLY WITH APPLICABLE LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ALL PUBLIC AUTHORITIES BEARING ON SAFETY OF PERSONS OR PROPERTY OR THEIR PROTECTION FROM DAMAGE, INJURY OR LOSS.
7. GEOTECHNICAL FABRIC FOR GROUND STABILIZATION AND/OR AGGREGATE SUBGRADE IMPROVEMENT (CU YD) HAVE BEEN PROVIDED FOR USE AT THE LOCATIONS INDICATED FOR SOILS THAT TEND TO BE UNSTABLE AND/OR UNSUITABLE. THE ACTUAL NEED FOR REMOVAL AND REPLACEMENT WITH ABOVE ITEM WILL BE DETERMINED IN THE FIELD AT THE TIME OF CONSTRUCTION BY THE GEOTECHNICAL ENGINEER. ALL POTENTIALLY UNSTABLE SOILS SHOULD BE TESTED WITH A STATIC OR DYNAMIC CONE PENETROMETER AND TREATED IN ACCORDANCE WITH ARTICLE 301.04 OF THE SSRBC AND IDOT SUBGRADE STABILITY MANUAL. IF UNSTABLE AND/OR UNSUITABLE SOILS ARE NOT ENCOUNTERED, THEN THE QUANTITY SHALL BE DEDUCTED AND NO ADDITIONAL COMPENSATION WILL BE DUE TO THE CONTRACTOR.
8. THE CONTRACTOR SHALL COORDINATE CONSTRUCTION ACTIVITIES WITH ANY OTHER ROADWAY PROJECTS WITHIN THE AREA THAT ARE UNDER CONSTRUCTION AT THE SAME TIME.
9. THE CONTRACTOR SHALL CONTACT KALPANA KANNAN-HOSADURGA, THE DISTRICT ONE TRAFFIC CONTROL SUPERVISOR, AT KALPANA.KANNAN-HOSADURGA@ILLINOIS.GOV A MINIMUM OF 72 HOURS IN ADVANCE OF BEGINNING WORK.
10. THE RESIDENT ENGINEER SHALL CONTACT FADI SULTAN, AREA TRAFFIC FIELD ENGINEER VIA EMAIL AT [FADI.SULTAN@ILLINOIS.GOV](mailto:FADI.SULTAN@ILLINOIS.GOV) MINIMUM OF TWO (2) WEEKS PRIOR TO THE PLACEMENT OF PERMANENT PAVEMENT MARKINGS.
11. THE SUBGRADE STABILITY SHALL BE VERIFIED BY PROOF ROLLING WITH A FULLY LOADED TANDEM-AXLE TRUCK. ANY AGGREGATE SUBGRADE IMPROVEMENT CONTAMINATED AND/OR DAMAGED BY THE CONTRACTOR'S VEHICLES AND/OR EQUIPMENTS IS TO BE REMOVED AND REPLACED AS DIRECT BY THE ENGINEER AT CONTRACTOR EXPENSE. THE AGGREGATE GRADATION FOR THE AGGREGATE SUBGRADE IMPROVEMENT 12" LOWER LIFT SHALL BE CS 1 OR RR 1. PIPE UNDERDRAINS SHALL BE INSTALLED ACCORDING TO SECTION 601 OF THE SSRBC AND STANDARD 601001-05. TOP OF PIPE UNDERDRAINS SHALL BE PLACED MINIMUM 6" BELOW THE AGGREGATE SUBGRADE IMPROVEMENT LAYER. THE COST OF MAKING PIPE UNDERDRAINS CONNECTIONS TO DRAINAGE STRUCTURES SHALL BE INCLUDED IN THE COST OF THE PIPE UNDERDRAINS.
12. **UTILITIES**  
(A) ALL UNDERGROUND UTILITY LOCATIONS, INCLUDING BUT NOT LIMITED TO SANITARY AND STORM SEWERS, WATER MAINS AND THEIR RESPECTIVE SERVICE LINES, SHOWN ON THE PLANS ARE APPROXIMATE ONLY. UNDERGROUND FACILITIES REPRESENTS ONLY THE OPINION OF THE VILLAGE, AS TO THE LOCATION OF SUCH UTILITIES AND IS ONLY INCLUDED FOR THE CONVENIENCE OF THE BIDDER. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO HAVE THE RESPECTIVE UTILITY COMPANIES FIELD LOCATE ALL UTILITIES AS NECESSARY, PRIOR TO STARTING CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY J.U.L.I.E. AT (800) 892-0123, AND ALL PUBLIC AND PRIVATE UTILITIES BEFORE STARTING CONSTRUCTION.

(B) THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL UNDERGROUND OR SURFACE UTILITIES EVEN THOUGH THEY MAY NOT BE SHOWN ON THE PLANS. ANY UTILITY THAT IS DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED OR REPLACED TO THE SATISFACTION OF THE ENGINEER.

### 13. STORM SEWER CONSTRUCTION

FRAME ELEVATIONS GIVEN ON THE PLANS ARE ONLY TO ASSIST THE CONTRACTOR IN DETERMINING THE APPROXIMATE OVERALL HEIGHT OF THE STRUCTURE. FRAMES OF ALL NEW, ADJUSTED OR RECONSTRUCTED STRUCTURES WILL BE ADJUSTED TO THE FINAL ELEVATION OF THE AREA IN WHICH THEY ARE LOCATED.

### 14. SOIL EROSION AND SEDIMENT CONTROL

(A) SOIL EROSION AND SEDIMENT CONTROL (SESC) FEATURES MUST BE CONSTRUCTED PRIOR TO THE COMMENCEMENT OF UPLAND DISTURBANCE. SOIL DISTURBANCE MUST BE PHASED OR ENACTED IN SUCH A MANNER AS TO MINIMIZE EROSION. SOIL STABILIZATION MEASURES MUST CONSIDER THE TIME OF YEAR, SITE CONDITIONS AND THE USE OF TEMPORARY AND/OR PERMANENT MEASURES.

(B) UNLESS OTHERWISE INDICATED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES WILL BE INSTALLED AT MINIMUM ACCORDING TO THE STANDARDS AND SPECIFICATIONS IN THE ILLINOIS URBAN MANUAL, REVISED TO LATEST VERSION AS AMENDED. A COPY OF THE APPROVED SOIL EROSION AND SEDIMENT CONTROL (SESC) PLAN MUST BE MAINTAINED ON THE SITE AT ALL TIMES.

(C) THE EROSION AND SEDIMENT CONTROLS SHOWN ON THE PLANS ARE THE MINIMUM REQUIREMENTS. ADDITIONAL MEASURES MAY BE REQUIRED AS DIRECTED BY THE ENGINEER. ALL ADDITIONAL MEASURES MUST BE IN PLACE WITHIN 3 DAYS OF DISTURBANCE AND ANY EMERGENCY SESC MEASURES MUST BE INSTALLED IMMEDIATELY.

(D) THE CONTRACTOR MUST CLEAN UP, GRADE THE WORK AREAS AS THE PROJECT PROGRESSES, AND INSTALL TEMPORARY OR PERMANENT EROSION PROTECTION TO CONTROL SOIL EROSION, OR INSTALL APPROPRIATE SEDIMENT CONTROL DEVICES TO TRAP SEDIMENT. PAVEMENT MUST BE CLEANED DAILY OR AS NECESSARY TO REMOVE TRACK-OUT MATERIAL.

(E) DURING DE-WATERING/PUMPING OPERATIONS, ONLY UNCONTAMINATED WATER SHOULD BE ALLOWED TO DISCHARGE TO PROTECTED NATURAL AREAS, WATERS OF THE STATE, OR TO A STORM SEWER SYSTEM (IN ACCORDANCE WITH LOCAL PERMITS). INLET HOSES SHOULD BE FLOATED AT THE SURFACE OF THE WATER IN ORDER TO LIMIT THE AMOUNT OF SEDIMENT INTAKE. PUMPING OPERATIONS MAY BE DISCHARGED TO A STABILIZED AREA THAT CONSISTS OF AN ENERGY DISSIPATING DEVICE (E.G., STONE), SEDIMENT FILTER BAG, OR BOTH. ADEQUATE EROSION AND SEDIMENT CONTROLS SHOULD BE USED DURING DE-WATERING OPERATIONS AS NECESSARY. DEWATERING SEDIMENT LADEN WATER DIRECTLY INTO FIELD TILES, STORM WATER STRUCTURES, OR "WATERS OF THE US" IS PROHIBITED.

(F) CONSTRUCTION ACTIVITIES MUST BE SCHEDULED TO MINIMIZE THE TIME SOIL IS EXPOSED AND UNPROTECTED. IN NO CASE WILL THE EXISTING VEGETATION BE DESTROYED, REMOVED, OR DISTURBED MORE THAN FOURTEEN (14) DAYS PRIOR TO THE INITIATION OF IMPROVEMENTS.

(G) ALL DISTURBED SOILS ARE TO BE STABILIZED, TEMPORARILY OR PERMANENTLY, WITHIN SEVEN (7) DAYS OF CONSTRUCTION ACTIVITY HAVING CEASED IF THE SOIL IS TO REMAIN UNDISTURBED FOR MORE THAN FOURTEEN (14) DAYS.

(H) ALL NITROGEN, PHOSPHOROUS AND POTASSIUM FERTILIZER NUTRIENTS HAVE BEEN INTENTIONALLY OMITTED FROM THE CONTRACT ON THE SODDING APPLICATION.

## INDEX OF SHEETS

- 1 COVER SHEET
- 2 INDEX OF SHEETS, HIGHWAY STANDARDS, DISTRICT 1 DETAILS, COMMITMENTS AND GENERAL NOTES
- 3-6 SUMMARY OF QUANTITIES
- 7 TYPICAL SECTIONS
- 8 EARTHWORK SCHEDULE
- 9 ALIGNMENTS, TIES AND BENCHMARKS
- 10 EXISTING CONDITIONS AND REMOVAL PLAN
- 11 PROPOSED PLAN AND PROFILE
- 12 DETOUR PLAN
- 13 EROSION CONTROL PLAN
- 14-28 BRIDGE PLANS
- 29 BORING LOGS (BRIDGE)
- 30-34 BOX CULVERT PLANS
- 35 BORING LOGS (BOX CUVERT)
- 36-37 CONSTRUCTION DETAILS
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- 43 - 44 CROSS SECTIONS

## HIGHWAY STANDARDS

- 000001 - 08 STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
- 280001 - 07 TEMPORARY EROSION CONTROL SYSTEMS
- 424016 - 05 MID-BLOCK CURB RAMPS FOR SIDEWALKS
- 515001 - 04 NAME PLATE FOR BRIDGES
- 601001 - 05 PIPE UNDERDRAINS
- 606001 - 08 CONCRETE CURB TYPE B AND COMBINATION CONCRETE CURB AND GUTTER
- 630001 - 12 STEEL PLATE BEAM GUARDRAIL
- 701006 - 05 OFF-ROAD OPERATIONS, 2L, 2W, 15' TO 24" FROM PAVEMENT EDGE
- 701301 - 04 LANE CLOSURE, 2L, 2W, SHORT TIME OPERATIONS
- 701311 - 03 LANE CLOSURE, 2L, 2W, MOVING OPERATIONS - DAY ONLY
- 701501 - 06 URBAN LANE CLOSURE, 2L, 2W, UNDIVIDED
- 701801 - 06 SIDEWALK, CORNER OR CROSSWALK CLOSURE
- 701901 - 08 TRAFFIC CONTROL DEVICES
- 720001 - 01 SIGN PANEL MOUNTING DETAILS
- 728001 - 01 TELESCOPING STEEL SIGN SUPPORT

## DISTRICT ONE DETAILS

- BD-01 DRIVEWAY DETAIL - DISTANCE BETWEEN R.O.W. AND FACE OF CURB & EDGE OF SHOULDER GREATER OR EQUAL TO 15' (4.5 m)
- BD-32 BUTT JOINTS AND HMA TAPER
- TC -10 TRAFFIC CONTROL AND PROTECTION FOR SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS
- TC-13 DISTRICT ONE TYPICAL PAVEMENT MARKINGS
- TC-21 DETOUR SIGNING FOR CLOSING STATE HIGHWAYS

## COMMITMENTS

NONE

FILE NAME =	USER NAME = doconnell	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>BROOKWOOD DRIVE BRIDGE REPLACEMENT INDEX OF SHEETS, HIGHWAY STANDARDS, DISTRICT 1 DETAILS, COMMITMENTS AND GENERAL NOTES</b>	MUN. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
N:\Flossmoor\220309\Civil\NOT_220309_01.dwg		DRAWN -	REVISED -			4115	15-00048-00-BR	COOK	44	2
Default		CHECKED -	REVISED -			CONTRACT NO. 61J38				
		DATE -	REVISED -			ILLINOIS FED. AID PROJECT				
		PLOT SCALE = 40'		SCALE:	SHEET	OF	SHEETS	STA.	TO	STA.
		PLOT DATE = 4/6/2023								

						CONSTRUCTION CODE ITEP FUNDS 80% FEDS / 20% STATE	
SPECIALTY	SPECIAL PROVISION	CODED PAY ITEM NO.	ITEM	UNIT	TOTAL QUANTITY	BRIDGE REPLACEMENT 0010 URBAN	TRAINEES 0042 URBAN
		20101000	TEMPORARY FENCE	FOOT	60	60	
X		20101200	TREE ROOT PRUNING	EACH	2	2	
X		20101350	TREE PRUNING (OVER 10 INCH DIAMETER)	EACH	24	24	
		20200100	EARTH EXCAVATION	CU YD	43	43	
		20900110	POROUS GRANULAR BACKFILL	CU YD	470	470	
		21001000	GEOTECHNICAL FABRIC FOR GROUND STABILIZATION	SQ YD	30	30	
		21101615	TOPSOIL FURNISH AND PLACE, 4"	SQ YD	230	230	
		25200110	SODDING, SALT TOLERANT	SQ YD	230	230	
	*	25200200	SUPPLEMENTAL WATERING	UNIT	13	13	
		28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	5	5	
		28000400	PERIMETER EROSION BARRIER	FOOT	350	350	
		28000510	INLET FILTERS	EACH	2	2	
		28100107	STONE RIPRAP, CLASS A4	SQ YD	275	275	
		28200200	FILTER FABRIC	SQ YD	75	75	
	*	30300001	AGGREGATE SUBGRADE IMPROVEMENT	CU YD	20	20	
	*	30300112	AGGREGATE SUBGRADE IMPROVEMENT 12"	SQ YD	636	636	
		40600275	BITUMINOUS MATERIALS (PRIME COAT)	POUND	740	740	
		40600290	BITUMINOUS MATERIALS (TACK COAT)	POUND	740	740	
		40600982	HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT	SQ YD	55	55	

X = SPECIALTY ITEM

FILE NAME =	USER NAME = docennell	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>BROOKWOOD DRIVE BRIDGE REPLACEMENT SUMMARY OF QUANTITIES</b>			MUN. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
H:\Fleissner\220309\Civil\500.220309.dwg		DRAWN -	REVISED -					4115	15-00048-00-BR	COOK	44	3
		PLOT SCALE = 40'	CHECKED -					REVISED -	CONTRACT NO. 61J38			
Default		PLOT DATE = 4/6/2023	DATE -					REVISED -	ILLINOIS FED. AID PROJECT			
				SCALE:	SHEET	OF	SHEETS	STA.	TO STA.			

CONSTRUCTION CODE ITEP FUNDS 80%  
FEDS / 20% STATE

SPECIALTY	SPECIAL PROVISION	CODED PAY ITEM NO.	ITEM	UNIT	TOTAL QUANTITY	BRIDGE REPLACEMENT 0010 URBAN	TRAINEES 0042 URBAN
	*	40603080	HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N50	TON	127	127	
	*	40604060	HOT-MIX ASPHALT SURFACE COURSE, IL-9.5, MIX "D", N50	TON	92	92	
		42400200	PORTLAND CEMENT CONCRETE SIDEWALK 5 INCH	SQ FT	513	513	
		42400800	DETECTABLE WARNINGS	SQ FT	22	22	
		44000100	PAVEMENT REMOVAL	SQ YD	543	543	
		44000200	DRIVEWAY PAVEMENT REMOVAL	SQ YD	30	30	
		44000500	COMBINATION CURB AND GUTTER REMOVAL	FOOT	145	145	
		44000600	SIDEWALK REMOVAL	SQ FT	780	780	
		50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1	1	
		50200100	STRUCTURE EXCAVATION	CU YD	665	665	
		50200450	REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL FOR STRUCTURES	CU YD	60	60	
		50201101	COFFERDAM (TYPE 1) (LOCATION - 1)	EACH	1	1	
		50201102	COFFERDAM (TYPE 1) (LOCATION - 2)	EACH	1	1	
		50201103	COFFERDAM (TYPE 1) (LOCATION - 3)	EACH	1	1	
		50300225	CONCRETE STRUCTURES	CU YD	111.8	111.8	
		50300255	CONCRETE SUPERSTRUCTURE	CU YD	16.8	16.8	
		50300280	CONCRETE ENCASMENT	CU YD	2.1	2.1	
		50300300	PROTECTIVE COAT	SQ YD	70	70	
		50400405	PRECAST PRESTRESSED CONCRETE DECK BEAMS (21" DEPTH)	SQ FT	2193	2193	

X = SPECIALTY ITEM

FILE NAME :	USER NAME : dconne11	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>BROOKWOOD DRIVE BRIDGE REPLACEMENT SUMMARY OF QUANTITIES</b>	MUN. RY.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
N:\1055m00r\220309\Civil\500.220309.02.dwg		DRAWN -	REVISED -			4115	15-00048-00-BR	COOK	44	4	
PLOT SCALE : 40'		CHECKED -	REVISED -			CONTRACT NO. 61J38					
PLOT DATE : 4/6/2023		DATE -	REVISED -			ILLINOIS FED. AID PROJECT					
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							CONSTRUCTION CODE ITEP FUNDS 80% FEDS / 20% STATE	
SPECIALTY	SPECIAL PROVISION	CODED PAY ITEM NO.	ITEM	UNIT	TOTAL QUANTITY	BRIDGE REPLACEMENT 0010 URBAN	TRAINEES 0042 URBAN	
		50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	13860	13860		
X		50900105	ALUMINUM RAILING, TYPE L	FOOT	45	45		
X		50901050	STEEL RAILING, TYPE SM	FOOT	51	51		
		51201600	FURNISHING STEEL PILES HP12X53	FOOT	451	451		
		51202305	DRIVING PILES	FOOT	451	451		
		51203600	TEST PILE STEEL HP12X53	EACH	2	2		
		51500100	NAME PLATES	EACH	1	1		
		52200020	TEMPORARY SOIL RETENTION SYSTEM	SQ FT	250	250		
		54010704	PRECAST CONCRETE BOX CULVERTS 7' X 4'	FOOT	37	37		
		58100200	WATERPROOFING MEMBRANE SYSTEM	SQ YD	210	210		
		59100100	GEOCOMPOSITE WALL DRAIN	SQ YD	175	175		
		60108204	PIPE UNDERDRAINS, TYPE 2, 4"	FOOT	420	420		
		60146304	PIPE UNDERDRAINS FOR STRUCTURES 4"	FOOT	120	120		
		60250200	CATCH BASINS TO BE ADJUSTED	EACH	1	1		
		60255500	MANHOLES TO BE ADJUSTED	EACH	2	2		
		60603800	COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.12	FOOT	135	135		
		63000003	STEEL PLATE BEAM GUARDRAIL, TYPE A, 9 FOOT POSTS	FOOT	140	140		
		63200310	GUARDRAIL REMOVAL	FOOT	115	115		
X		66900200	NON-SPECIAL WASTE DISPOSAL	CU YD	150	150		

X = SPECIALTY ITEM

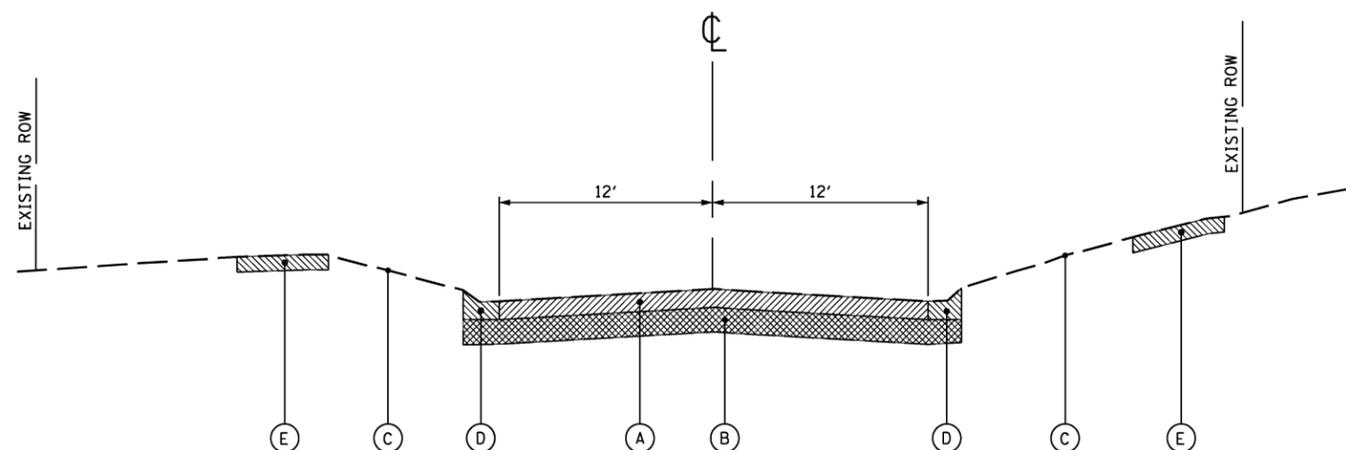
FILE NAME :	USER NAME : dcanneil	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>BROOKWOOD DRIVE BRIDGE REPLACEMENT SUMMARY OF QUANTITIES</b>			MUN. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
N:\flossmoor\220307\Civil\500.220307.03.ht		DRAWN -	REVISED -					4115	15-00048-00-BR	COOK	44	5
Default		CHECKED -	REVISED -					CONTRACT NO. 61J38			ILLINOIS FED. AID PROJECT	
		DATE -	REVISED -					SCALE:	SHEET	OF	SHEETS	STA.

SPECIALTY	SPECIAL PROVISION	CODED PAY ITEM NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE ITEP FUNDS 80% FEDS / 20% STATE	
						BRIDGE REPLACEMENT 0010 URBAN	TRAINEES 0042 URBAN
X		66900530	SOIL DISPOSAL ANALYSIS	EACH	1	1	
X		66901001	REGULATED SUBSTANCES PRE-CONSTRUCTION PLAN	L SUM	1	1	
X		66901003	REGULATED SUBSTANCES FINAL CONSTRUCTION REPORT	L SUM	1	1	
X		66901006	REGULATED SUBSTANCES MONITORING	CAL DA	60	60	
		67100100	MOBILIZATION	L SUM	1	1	
X		78000600	THERMOPLASTIC PAVEMENT MARKING - LINE 12"	FOOT	15	15	
X	*	K1004595	PRUNING FOR SAFETY AND EQUIPMENT CLEARANCE	L SUM	1	1	
	*	X0326806	WASHOUT BASIN	L SUM	1	1	
	*	X0900064	MEMBRANE WATERPROOFING SYSTEM FOR BURIED STRUCTURES	SQ YD	45	45	
	*	X1200050	BOX CULVERT REMOVAL	FOOT	33	33	
	*	X2010400	STUMP REMOVAL ONLY	UNIT	5	5	
	*	X7010216	TRAFFIC CONTROL AND PROTECTION, (SPECIAL)	L SUM	1	1	
	*	X7240505	RELOCATE SIGN PANEL AND POST	EACH	5	5	
	*	Z0004522	HOT-MIX ASPHALT DRIVEWAY PAVEMENT, 6"	SQ YD	30	30	
	*	Z0013798	CONSTRUCTION LAYOUT	L SUM	1	1	
	*	Z0030850	TEMPORARY INFORMATION SIGNING	SQ FT	55	55	
	*	Z0076600	TRAINEES	HOUR	500		500
	*	Z0076604	TRAINEES TRAINING PROGRAM GRADUATE	HOUR	500		500

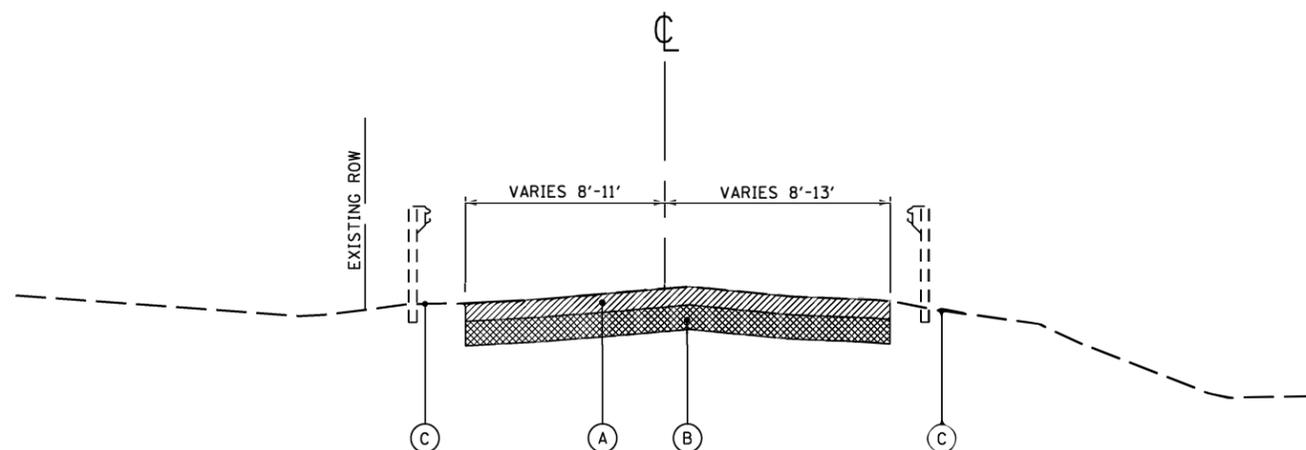
X = SPECIALTY ITEM

FILE NAME :	USER NAME = dcoconnell	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>BROOKWOOD DRIVE BRIDGE REPLACEMENT SUMMARY OF QUANTITIES</b>	MUN. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
H:\jossman\220309\Civil\500.220309_04.dwg		DRAWN -	REVISED -			4115	15-0004B-00-BR	COOK	44	6	
		CHECKED -	REVISED -			CONTRACT NO. 61J38					
Default		DATE -	REVISED -			ILLINOIS FED. AID PROJECT					

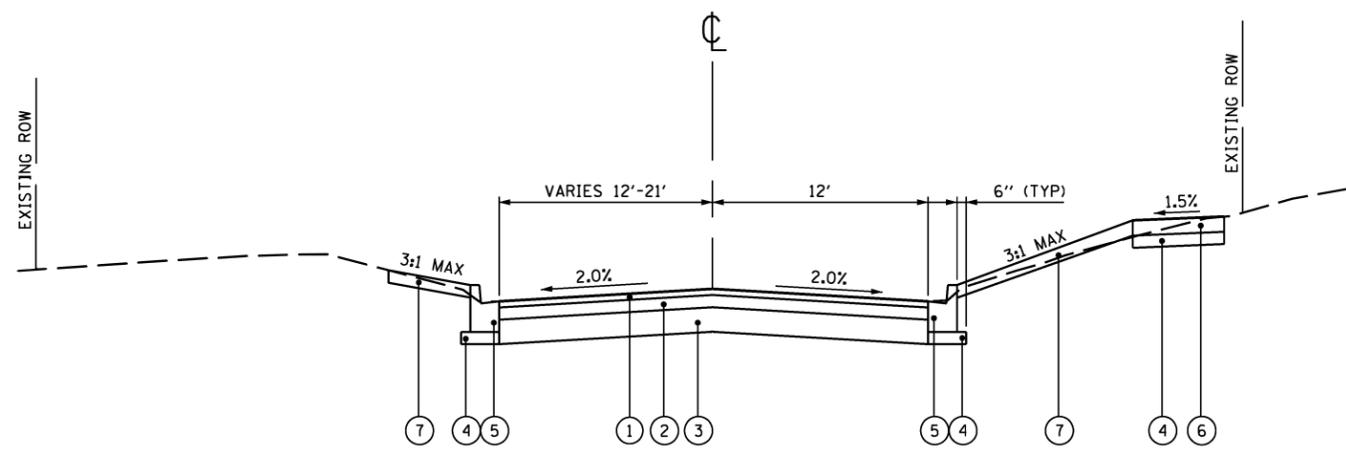
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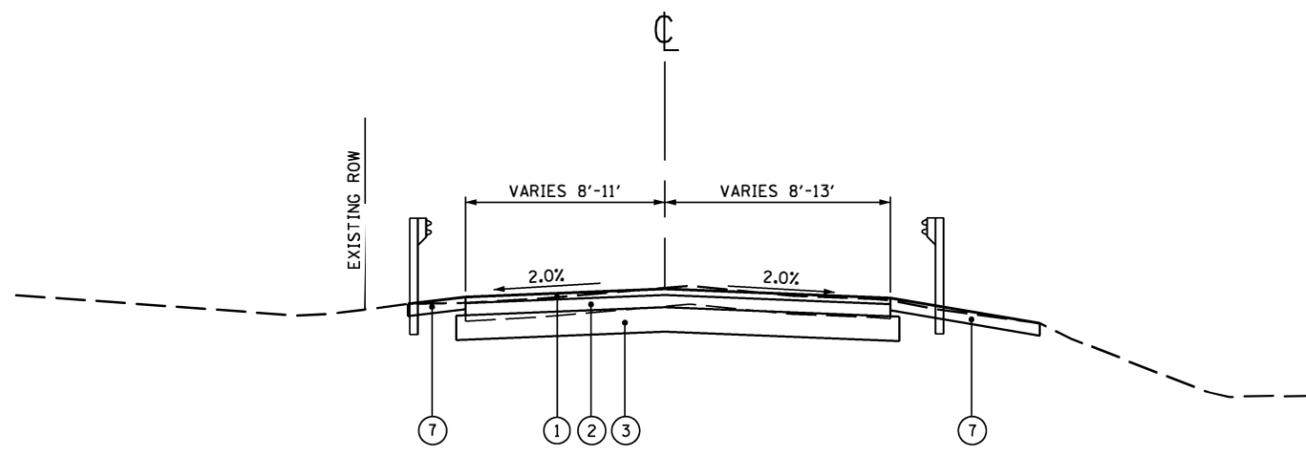
**BROOKWOOD DRIVE**  
EXISTING TYPICAL SECTION  
STA 11+74 TO STA 13+70



**BUTTERFIELD ROAD**  
EXISTING TYPICAL SECTION  
STA 13+37 TO STA 13+70  
STA 22+97 TO STA 23+80



**BROOKWOOD DRIVE**  
PROPOSED TYPICAL SECTION  
STA 11+74 TO STA 13+70



**BUTTERFIELD ROAD**  
PROPOSED TYPICAL SECTION  
STA 13+37 TO STA 13+70  
STA 22+97 TO STA 23+80

HOT-MIX ASPHALT MIXTURE REQUIREMENTS		
MIXTURE TYPE	AIR VOIDS @NDES	OMP
<b>HMA DRIVEWAY PAVEMENT 6"</b>		
HOT-MIX ASPHALT SURFACE COURSE, IL-9.5, MIX "D", N50, 2"	4% @ 50 GYR.	LR-1030-2
HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N50, 4"	4% @ 50 GYR.	LR-1030-2
<b>HMA RECONSTRUCTION</b>		
HOT-MIX ASPHALT SURFACE COURSE, IL-9.5, MIX "D", N50, 2"	4% @ 50 GYR.	LR-1030-2
HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N50, 4"	4% @ 50 GYR.	LR-1030-2
<b>HMA OVERLAY</b>		
HOT-MIX ASPHALT SURFACE COURSE, IL-9.5 MIX "D", N50, VARIES (2 1/2)" AVG)	4% @ 50 GYR.	LR-1030-2
OMP DESIGNATION: QUALITY CONTROL/QUALITY ASSURANCE (OC/OA) PER LR 1030-2		

THE UNIT WEIGHT USED TO CALCULATE ALL HOT-MIX ASPHALT SURFACE MIXTURES IS 112 LBS/SOYD/IN.  
THE "AC TYPE" FOR POLYMERIZED HMA MIXES SHALL BE "SBS/SBR PG 76-22" AND FOR NON-POLYMERIZED HMA THE "AC TYPE" SHALL BE "PG 64-22" UNLESS MODIFIED BY RECLAIMED MATERIALS SPECIFICATIONS.

**LEGEND**

- (A) EXISTING HOT-MIX ASPHALT PAVEMENT TO BE REMOVED (PAID FOR AS PAVEMENT REMOVAL)
- (B) EARTH EXCAVATION
- (C) EXISTING TOPSOIL AND SODDING
- (D) COMBINATION CONCRETE CURB AND GUTTER REMOVAL
- (E) EXISTING SIDEWALK REMOVAL
- (1) 2" HOT-MIX ASPHALT SURFACE COURSE, IL-9.5 MIX "D", N50
- (2) 4" HOT-MIX ASPHALT BINDER COURSE IL-19.0, N50
- (3) AGGREGATE BASE COURSE, TYPE B, 8"
- (4) AGGREGATE BASE COURSE, TYPE B, 4"
- (5) COMBINATION CURB & GUTTER, TYPE B-6.12
- (6) 5" PCC SIDEWALK
- (7) TOPSOIL FURNISH AND PLACE 4"

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		DATE -	REVISED -

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**BROOKWOOD DRIVE BRIDGE REPLACEMENT**  
**TYPICAL SECTIONS**

SCALE: SHEET OF SHEETS STA. TO STA.

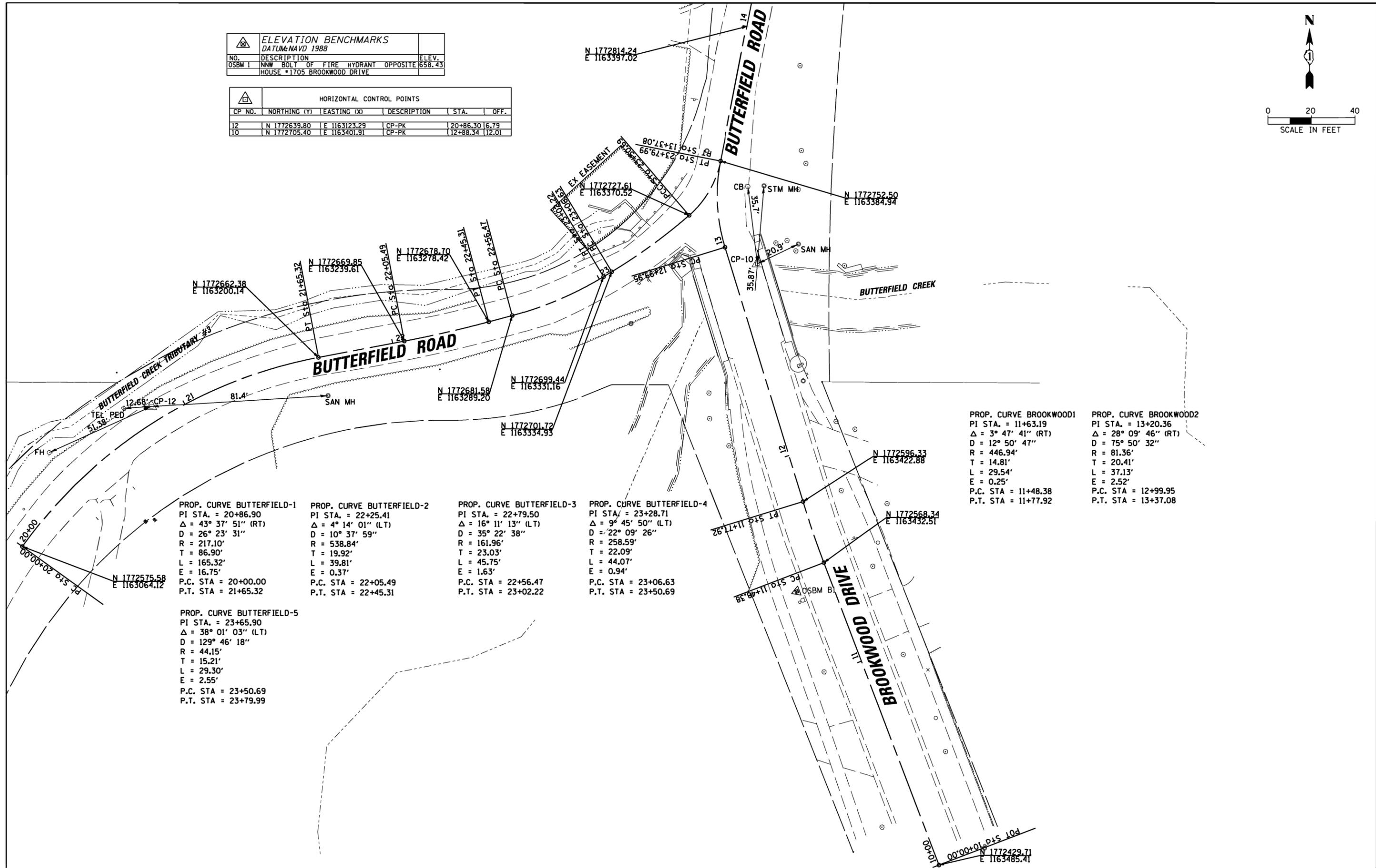
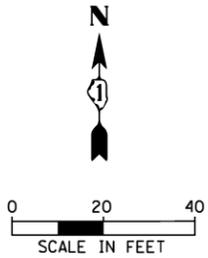
MUN. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
4115	15-00048-00-BR	COOK	44	7
CONTRACT NO. 61J38				
ILLINOIS FED. AID PROJECT				

EARTHWORK SCHEDULE							
STATION			20200100		EMBANKMENT	EARTHWORK BALANCE WASTE (+) OR SHORTAGE (-)	TOPSOIL EXCAVATION (6" NOMINAL)
			EARTH EXCAVATION	EARTH EXCAVATION VOLUME USED (15% SHRINKAGE)			
11+74	TO	12+00	20.9	17.8	1.7	16.1	7.3
12+00	TO	12+36	26.6	22.6	11.7	10.9	6.1
BRIDGE							
13+00	TO	13+25	42.4	36.0	35.1	0.9	16.7
13+25	TO	13+50	12.3	10.5	3.8	6.7	5.2
13+50	TO	13+70	11.0	9.4	1.0	8.4	2.8
<b>TOTALS</b>			<b>113.3</b>	<b>96.3</b>	<b>53.4</b>	<b>42.9</b>	<b>38.0</b>

SUMMARY		
20200100	20400800	20201200
EARTH EXCAVATION	FURNISHED EXCAVATION	REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL
(CU YD)	(CU YD)	(CU YD)
113	0	38

ELEVATION BENCHMARKS DATUM: NAVD 1988		
NO.	DESCRIPTION	ELEV.
OSBM 1	NNW BOLT OF FIRE HYDRANT OPPOSITE HOUSE #1705 BROOKWOOD DRIVE	658.43

HORIZONTAL CONTROL POINTS					
CP NO.	NORTHING (Y)	EASTING (X)	DESCRIPTION	STA.	OFF.
12	N 1772639.80	E 1163123.29	CP-PK	20+86.30	16.79
10	N 1772705.40	E 1163401.91	CP-PK	12+88.34	112.01



PROP. CURVE BUTTERFIELD-1  
 PI STA. = 20+86.90  
 Δ = 43° 37' 51" (RT)  
 D = 26° 23' 31"  
 R = 217.10'  
 T = 86.90'  
 L = 165.32'  
 E = 16.75'  
 P.C. STA = 20+00.00  
 P.T. STA = 21+65.32

PROP. CURVE BUTTERFIELD-2  
 PI STA. = 22+25.41  
 Δ = 4° 14' 01" (LT)  
 D = 10° 37' 59"  
 R = 538.84'  
 T = 19.92'  
 L = 39.81'  
 E = 0.37'  
 P.C. STA = 22+05.49  
 P.T. STA = 22+45.31

PROP. CURVE BUTTERFIELD-3  
 PI STA. = 22+79.50  
 Δ = 16° 11' 13" (LT)  
 D = 35° 22' 38"  
 R = 161.96'  
 T = 23.03'  
 L = 45.75'  
 E = 1.63'  
 P.C. STA = 22+56.47  
 P.T. STA = 23+02.22

PROP. CURVE BUTTERFIELD-4  
 PI STA. = 23+28.71  
 Δ = 9° 45' 50" (LT)  
 D = 22° 09' 26"  
 R = 258.59'  
 T = 22.09'  
 L = 44.07'  
 E = 0.94'  
 P.C. STA = 23+06.63  
 P.T. STA = 23+50.69

PROP. CURVE BUTTERFIELD-5  
 PI STA. = 23+65.90  
 Δ = 38° 01' 03" (LT)  
 D = 129° 46' 18"  
 R = 44.15'  
 T = 15.21'  
 L = 29.30'  
 E = 2.55'  
 P.C. STA = 23+50.69  
 P.T. STA = 23+79.99

PROP. CURVE BROOKWOOD1  
 PI STA. = 11+63.19  
 Δ = 3° 47' 41" (RT)  
 D = 12° 50' 47"  
 R = 446.94'  
 T = 14.81'  
 L = 29.54'  
 E = 0.25'  
 P.C. STA = 11+48.38  
 P.T. STA = 11+77.92

PROP. CURVE BROOKWOOD2  
 PI STA. = 13+20.36  
 Δ = 28° 09' 46" (RT)  
 D = 75° 50' 32"  
 R = 81.36'  
 T = 20.41'  
 L = 37.13'  
 E = 2.52'  
 P.C. STA = 12+99.95  
 P.T. STA = 13+37.08

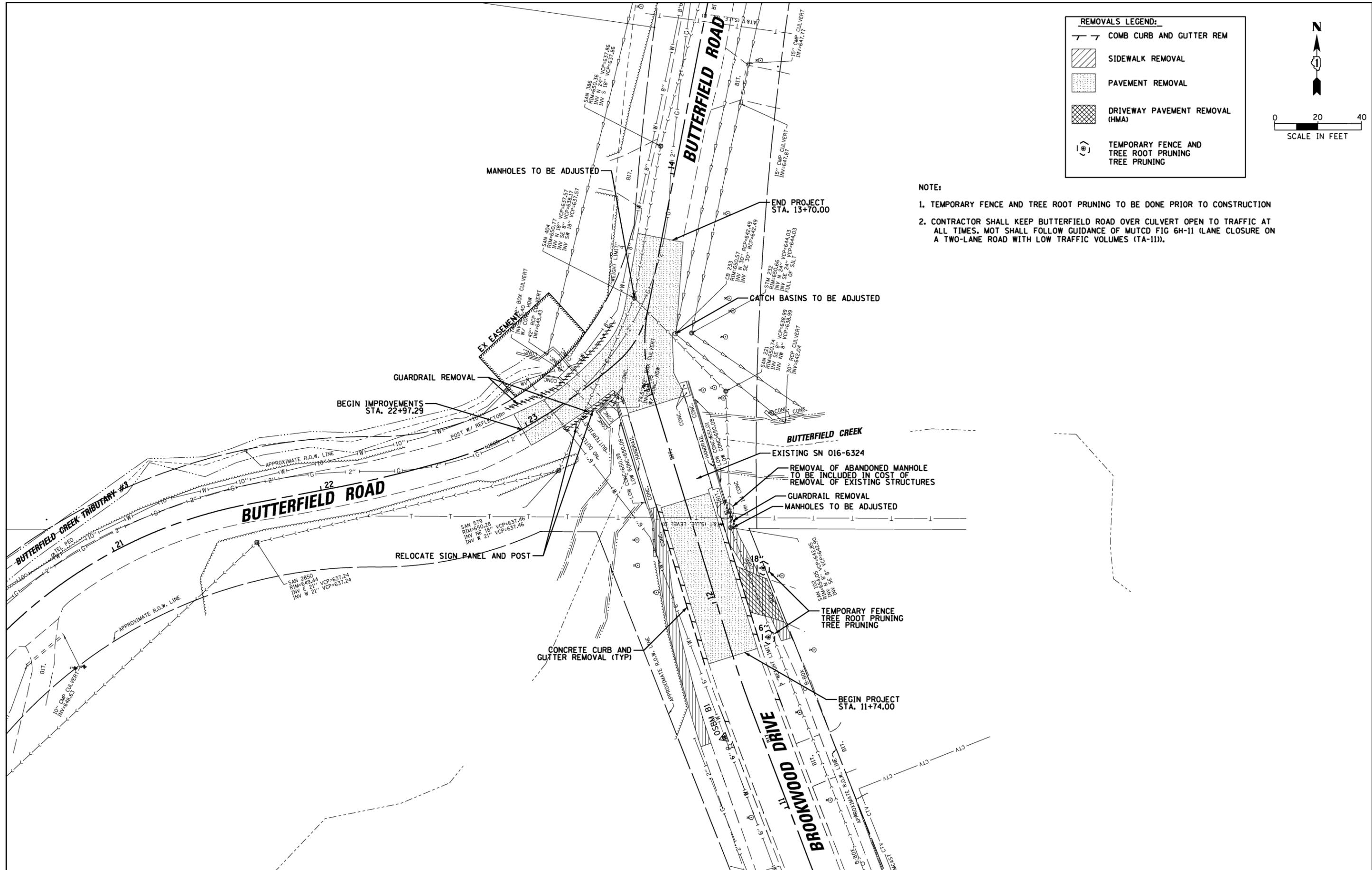
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		DATE -	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**BROOKWOOD DRIVE BRIDGE REPLACEMENT  
ALIGNMENTS, TIES AND BENCHMARKS**

SCALE: SHEET OF SHEETS STA. TO STA.

MUN. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
4115	15-00048-00-BR	COOK	44	9
CONTRACT NO. 61J38				
ILLINOIS FED. AID PROJECT				



**NOTE:**

1. TEMPORARY FENCE AND TREE ROOT PRUNING TO BE DONE PRIOR TO CONSTRUCTION
2. CONTRACTOR SHALL KEEP BUTTERFIELD ROAD OVER CULVERT OPEN TO TRAFFIC AT ALL TIMES. NOT SHALL FOLLOW GUIDANCE OF MUTCD FIG 6H-11 (LANE CLOSURE ON A TWO-LANE ROAD WITH LOW TRAFFIC VOLUMES (TA-11)).

FILE NAME = N:\Flossmoor\220309\Civil\REM_220309_01.plt	USER NAME = doconnell	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>BROOKWOOD DRIVE BRIDGE REPLACEMENT EXISTING CONDITIONS AND REMOVAL PLAN</b>	MUN. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
Default	PLOT SCALE = 48"	DRAWN -	REVISED -			4115	15-00048-00-BR	COOK	44	10	
	PLOT DATE = 4/6/2023	CHECKED -	REVISED -			CONTRACT NO. 61J38					
		DATE -	REVISED -			ILLINOIS FED. AID PROJECT					

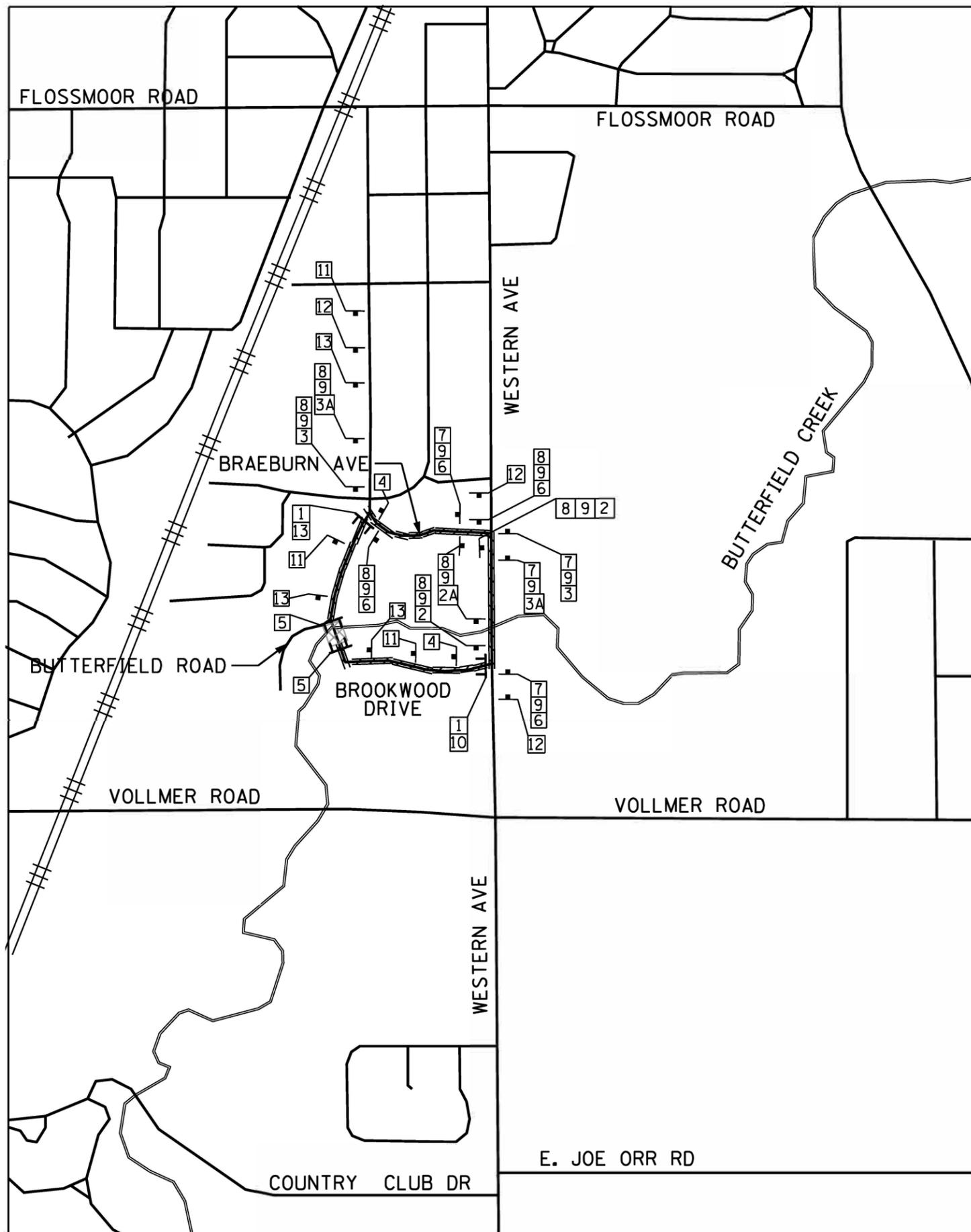


**MAINTENANCE OF TRAFFIC GENERAL NOTES**

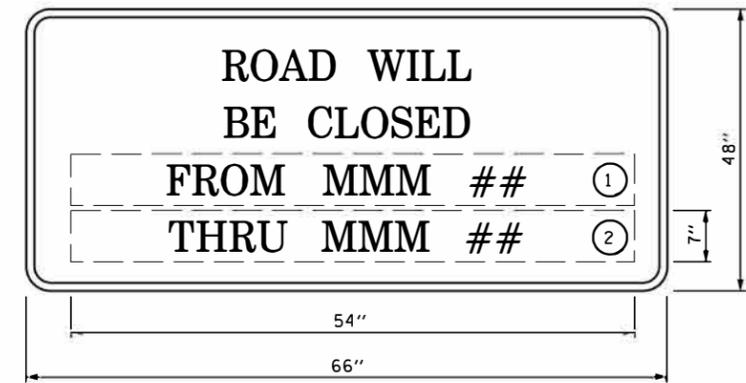
1. ALL SIGNAGE TO BE IN ACCORDANCE WITH MUTCD. SUGGESTED MAINTENANCE OF TRAFFIC SHOWN IS MINIMUM REQUIRED; CONTRACTOR SHALL PROVIDE ADDITIONAL TRAFFIC CONTROL MEASURES AS DIRECTED BY RESIDENT ENGINEER. THIS WORK WILL BE INCLUDED IN THE COST OF TRAFFIC CONTROL AND PROTECTION, SPECIAL.
2. SEE DETOUR SIGNAGE PLAN FOR SIGNS TO BE POSTED PRIOR TO FULL ROAD CLOSURE.

**SCHEDULE OF SIGNS**

SIGN NO.	SIGN TYPE
1	 R-11-4-60X30
2	 M4-9 R (O) 30X24
2A	 M4-9 R (O) 30X24
3	 M4-9 L (O) 30X24
3A	 M4-9 L (O) 30X24
4	 M4-8A (O) 24X18
5	 R-11-2-48X30
6	 M4-9 (O) 30X24
7	 M3-1(O)-2412
8	 M3-3(O)-2412
9	 SPECIAL 24"x18", 6" BLACK LETTERS ON ORANGE REFLECTIVE BACKGROUND
10	 M4-10R 48X18
11	 W20-3 48X48
12	 W20-2 48X48
13	 W20-3 48X48
14	 M4-10L 48X18



**DETOUR SIGNAGE**



- ① OVERLAY PANEL TO CONTAIN STARTING DATE OF FULL CLOSURE AND DETOUR IMPLEMENTATION. (I.E. "FROM APRIL 2")
- ② OVERLAY PANEL TO CONTAIN ENDING DATE OF FULL CLOSURE AND DETOUR IMPLEMENTATION.

**SIGNAGE NOTES**

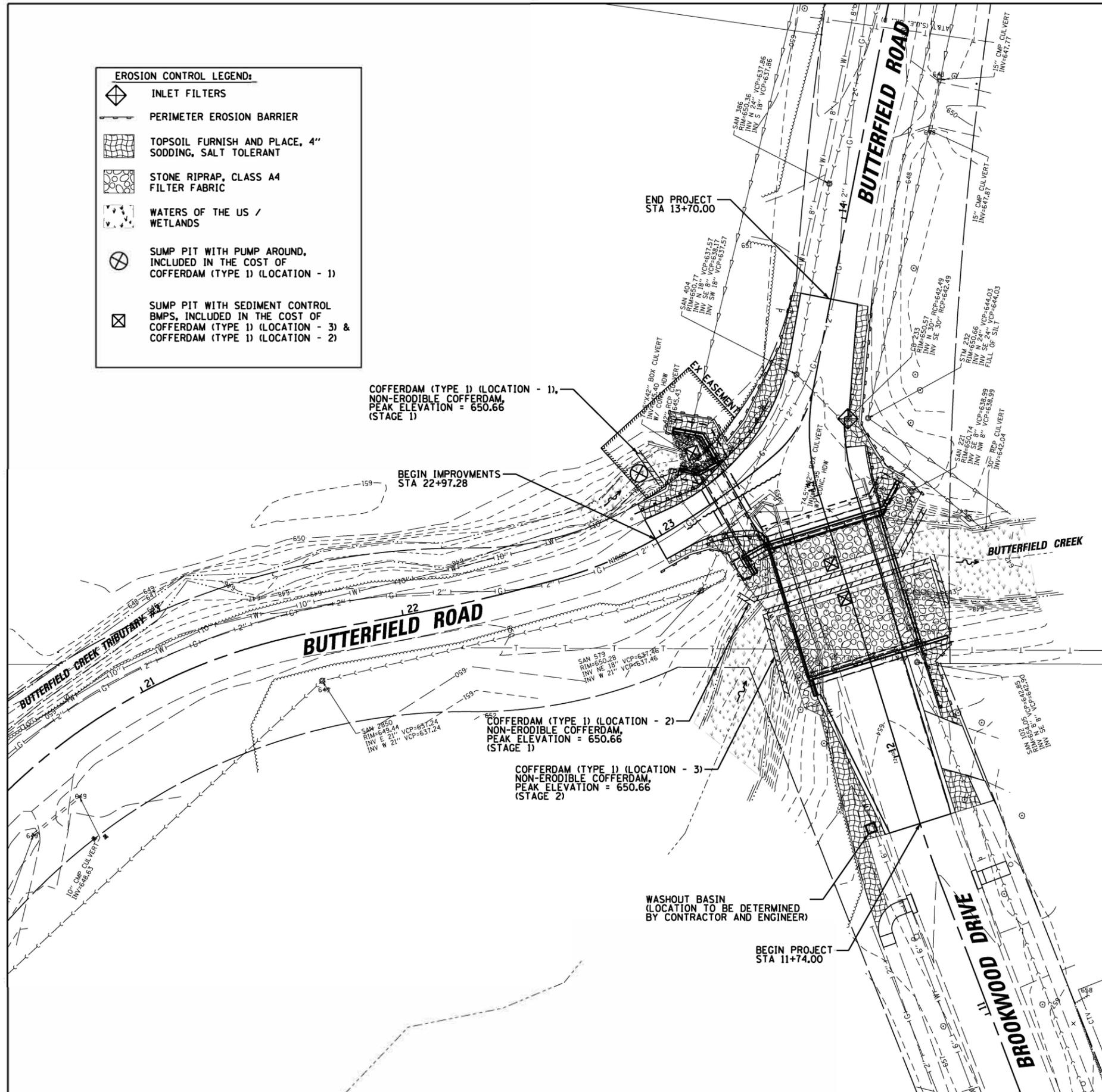
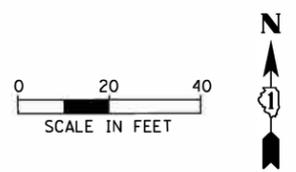
- A. SIGN SHALL BE 48"x66" AND MADE USING "HIGHWAY C" FONT.
- B. USE 6" BLACK LETTERS ON AN ORANGE REFLECTIVE BACKGROUND.
- C. SIGN SHALL BE PAID FOR AS TEMPORARY INFORMATION SIGNING. ONE SIGN ASSEMBLY EQUALS 27.3 SQUARE FEET
- D. ERECT SIGN ASSEMBLY (POST MOUNTED) WITH PANELS ① AND ② IN PLACE ON ROAD TO BE CLOSED IN EACH DIRECTION NEAR POINT OF CLOSURE OR WITHIN SECTION TO BE FULLY CLOSED TWO (2) WEEKS PRIOR TO START DATE OF FULL CLOSURE.

**LEGEND**

-  DETOUR SIGNS, NUMBER DENOTES TYPE.
-  TYPE III BARRICADES WITH AMBER FLASHING LIGHTS.
-  DETOUR ROUTE
-  ROAD CLOSED TO THRU TRAFFIC

**EROSION CONTROL LEGEND:**

	INLET FILTERS
	PERIMETER EROSION BARRIER
	TOPSOIL FURNISH AND PLACE, 4" SODDING, SALT TOLERANT
	STONE RIPRAP, CLASS A4 FILTER FABRIC
	WATERS OF THE US / WETLANDS
	SUMP PIT WITH PUMP AROUND, INCLUDED IN THE COST OF COFFERDAM (TYPE 1) (LOCATION - 1)
	SUMP PIT WITH SEDIMENT CONTROL BMPs, INCLUDED IN THE COST OF COFFERDAM (TYPE 1) (LOCATION - 3) & COFFERDAM (TYPE 1) (LOCATION - 2)



- NOTES:**
- A. UNLESS OTHERWISE INDICATED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES WILL BE CONSTRUCTED TO THE STANDARDS AND SPECIFICATIONS IN THE ILLINOIS URBAN MANUAL, LATEST EDITION.
  - B. THE WILL / SOUTH COOK SOIL AND WATER CONSERVATION DISTRICT (WSCSWCD) MUST BE NOTIFIED ONE WEEK PRIOR TO THE PRE-CONSTRUCTION MEETING, ONE WEEK PRIOR TO THE COMMENCEMENT OF LAND DISTURBING ACTIVITIES, AND ONE WEEK PRIOR TO THE FINAL INSPECTION.
  - C. A COPY OF THE APPROVED EROSION AND SEDIMENTATION CONTROL PLAN SHALL BE MAINTAINED AT THE SITE AT ALL TIMES.
  - D. PRIOR TO COMMENCING LAND-DISTURBING ACTIVITIES IN AREAS OTHER THAN INDICATED ON THESE PLANS, A SUPPLEMENTARY EROSION CONTROL PLAN SHALL BE SUBMITTED FOR REVIEW BY THE WSCSWCD.
  - E. THE CONTRACTOR IS RESPONSIBLE FOR THE INSTALLATION OF ANY ADDITIONAL EROSION CONTROL MEASURES NECESSARY TO PREVENT EROSION AND SEDIMENTATION AS DETERMINED BY THE WSCSWCD.
  - F. DURING DEWATERING OPERATIONS, WATER WILL BE FILTERED, OR PUMPED INTO SEDIMENT BASINS OR SILT TRAPS. DEWATERING DIRECTLY INTO STREAMS, WETLANDS, FIELD TILES, OR STORMWATER STRUCTURES ARE PROHIBITED.
  - G. IT IS THE RESPONSIBILITY OF THE LANDOWNER AND/OR GENERAL CONTRACTOR TO INFORM ANY SUB-CONTRACTOR(S), WHO MAY PERFORM WORK ON THIS SITE/PROJECT, OF THE REQUIREMENTS IN IMPLEMENTING AND MAINTAINING THESE EROSION CONTROL PLANS AND ASSURE COMPLIANCE WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL REGULATIONS.
  - H. CONTRACTOR SHALL SUBMIT TO RESIDENT ENGINEER AND WSCSWCD AN IN-STREAM WORK PLAN PRIOR TO BEGINNING WORK. THIS WILL NEED SEPARATE APPROVAL OF PLAN.
  - I. IF AN AREA IS NOT GOING TO BE WORKED ON FOR MORE THAN (7) DAYS AND IS NOT READY TO BE PERMANENTLY STABILIZED WITH SODDING, SALT TOLERANT, THEN TEMPORARY EROSION CONTROL BLANKET SHALL BE APPLIED.
  - J. INSTREAM CONSTRUCTION SEQUENCE TO BE DETERMINE BY CONTRACTOR AND PROVIDED TO RESIDENT ENGINEER AND WSCSWCD FOR APPROVAL.
  - K. CONTRACTOR SHALL INSTALL NON-ERODIBLE COFFERDAMS, SUMP PITS, PUMPS, AND ASSOCIATED DEWATERING BMPs PRIOR TO DEMOLITION AND REMOVALS. DEMOLITION AND REMOVAL OF EXISTING STRUCTURES SHALL OCCUR IN DRY CONDITIONS BEHIND NON-ERODIBLE COFFERDAMS.
  - L. NON-ERODIBLE COFFERDAMS SHALL REMAIN IN PLACE DURING COMPLETION OF IN-STREAM WORK THROUGH PERMANENT STABILIZATION AND PLACEMENT OF SCOUR PROTECTION/RIPRAP.
  - M. NON-ERODIBLE COFFERDAMS SHALL NOT BLOCK MORE THAN 50% OF STREAM WIDTH AT A GIVEN TIME AND BE INSTALLED TO OVERTOP AT THE 2-YEAR PEAK ELEVATION.
  - N. ROCK COFFERDAM SHOWN AS GUIDANCE AND REVISIONS TO THE PROPOSED COFFERDAM MUST BE APPROVED BY THE WILL/SOUTH COOK COUNTY SWCD PRIOR TO THE START OF ANY WORK ON-SITE
  - O. THIS AUTHORIZATION IS CONTINGENT UPON IMPLEMENTING AND MAINTAINING SOIL EROSION AND SEDIMENT CONTROLS IN A SERVICEABLE CONDITION THROUGHOUT THE DURATION OF THE PROJECT. CONTRACTOR SHALL COMPLY WITH THE SOIL AND WATER CONSERVATION DISTRICT'S (SWCD) WRITTEN AND VERBAL RECOMMENDATIONS REGARDING THE SOIL EROSION AND SEDIMENT CONTROL (SESC) PLAN AND THE INSTALLATION AND MAINTENANCE REQUIREMENTS OF THE SESC PRACTICES ON-SITE.
    1. CONTRACTOR SHALL SCHEDULE A PRECONSTRUCTION MEETING WITH SWCD TO DISCUSS THE SESC PLAN AND THE INSTALLATION AND MAINTENANCE REQUIREMENTS OF THE SESC PRACTICES ON THE SITE. CONTRACTOR SHALL CONTACT THE SWCD AT LEAST 10 CALENDAR DAYS PRIOR TO THE PRECONSTRUCTION MEETING SO THAT A REPRESENTATIVE MAY ATTEND.
    2. CONTRACTOR SHALL NOTIFY THE SWCD OF ANY CHANGES OR MODIFICATIONS TO THE APPROVED PLAN SET. FIELD CONDITIONS DURING PROJECT CONSTRUCTION MAY REQUIRE THE IMPLEMENTATION OF ADDITIONAL SESC MEASURES. IF CONTRACTOR FAILS TO IMPLEMENT CORRECTIVE MEASURES, THIS OFFICE MAY REQUIRE MORE FREQUENT SITE INSPECTIONS TO ENSURE THE INSTALLED SESC MEASURES ARE ACCEPTABLE.
    3. PRIOR TO COMMENCEMENT OF ANY IN-STREAM WORK, CONTRACTOR SHALL SUBMIT CONSTRUCTIONS PLANS AND A DETAILED NARRATIVE TO THE SWCD THAT DISCLOSE THE CONTRACTOR'S PREFERRED METHOD OF COFFERDAM AND DEWATERING METHOD. WORK IN THE WATERWAY SHALL NOT COMMENCE UNTIL THE SWCD NOTIFIES YOU, IN WRITING, THAT THE PLANS HAVE BEEN APPROVED.
  - P. A COPY OF THE IN-STREAM WORKPLAN WITH ANY CHANGES NOTED SHALL BE SUBMITTED TO THE ENGINEER FOR OILL-SOUTH COOK SWCD APPROVAL BEFORE STARTING THIS PORTION OF THE PROJECT

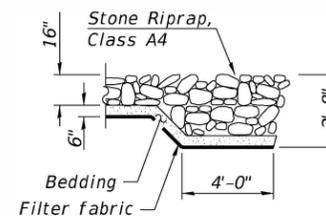
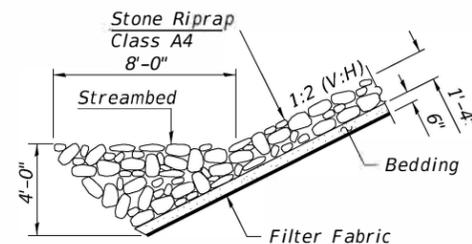
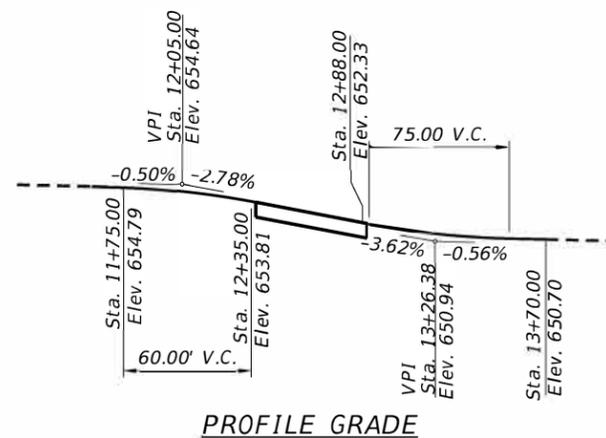
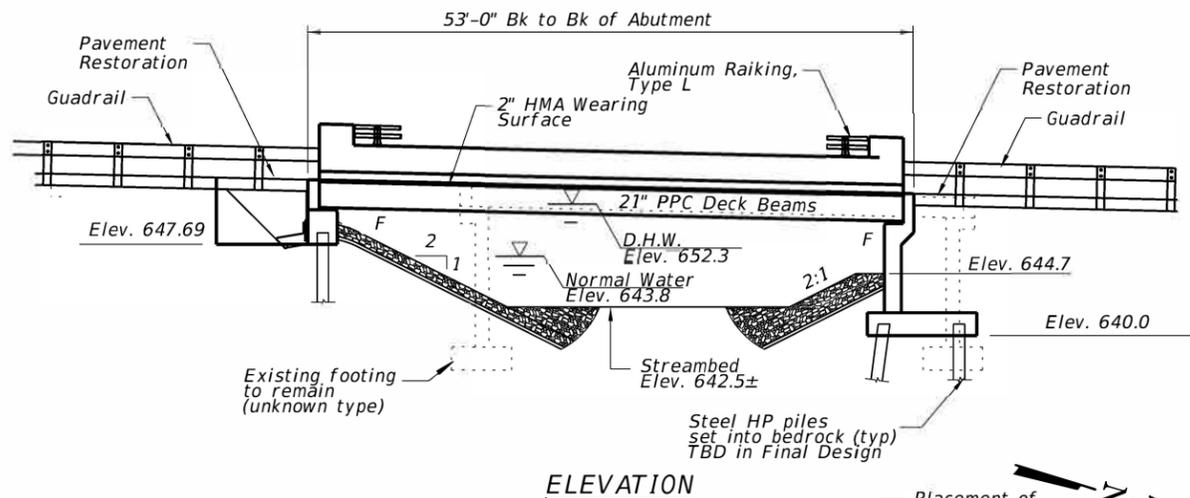
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N:\flossmoor\220309\Civil\ERO_220309_01.dwg		DRAWN -	REVISED -			4115	15-00048-00-BR	COOK	44	13
PLOT SCALE = 48"		CHECKED -	REVISED -			CONTRACT NO. 61J38				
DATE = 4/6/2023		DATE -	REVISED -			ILLINOIS FED. AID PROJECT				
Default				SCALE:	SHEET	OF	SHEETS	STA.	TO	STA.

Benchmark: OSBM 1- NNW bolt on fire hydrant opposite house at 1705 Brookwood Dr.  
Elev: 658.43

Existing Structure:  
SN. 016-6324 was constructed in 1963. Single span structure with length 45'-0", back to back abutments and has no skew. The superstructure consists of 11-23" PPC deck beams (36" & 48" width) and has a total deck width of 35'-8". Bridge carries two lanes of traffic with a 3'-6" sidewalk on the left and a 3'-8" sidewalk on the right. Pipe handrail type railing is secured to the top of the sidewalk. Substructure is pinned closed abutment and will be removed. Footing type unknown. Complete closure during construction and traffic detoured. No stage construction.

Salvage: None

BUTTERFIELD CREEK  
BUILT 2023 BY  
CITY OF FLOSSMOOR  
SEC. 14-00048-00-BR  
STATION 12+62.50  
STR. NO. 016-6348 LOADING HL-93



**DESIGN STRESSES**

FIELD UNITS (NEW CONSTRUCTION)

$f'_c = 4,000$  psi (Superstructure)  
 $f'_c = 3,500$  psi (Substructure)  
 $f_y = 60,000$  psi (Reinforcement)

PRECAST PRESTRESSED UNITS

$f'_c = 6,000$  psi  
 $f'_c = 5,000$  psi  
 $f_{pu} = 270,000$  psi ( $1/2"$  low relax. strands)  
 $f_{pbt} = 201,960$  psi ( $1/2"$  low relax. strands)

**SEISMIC DATA**

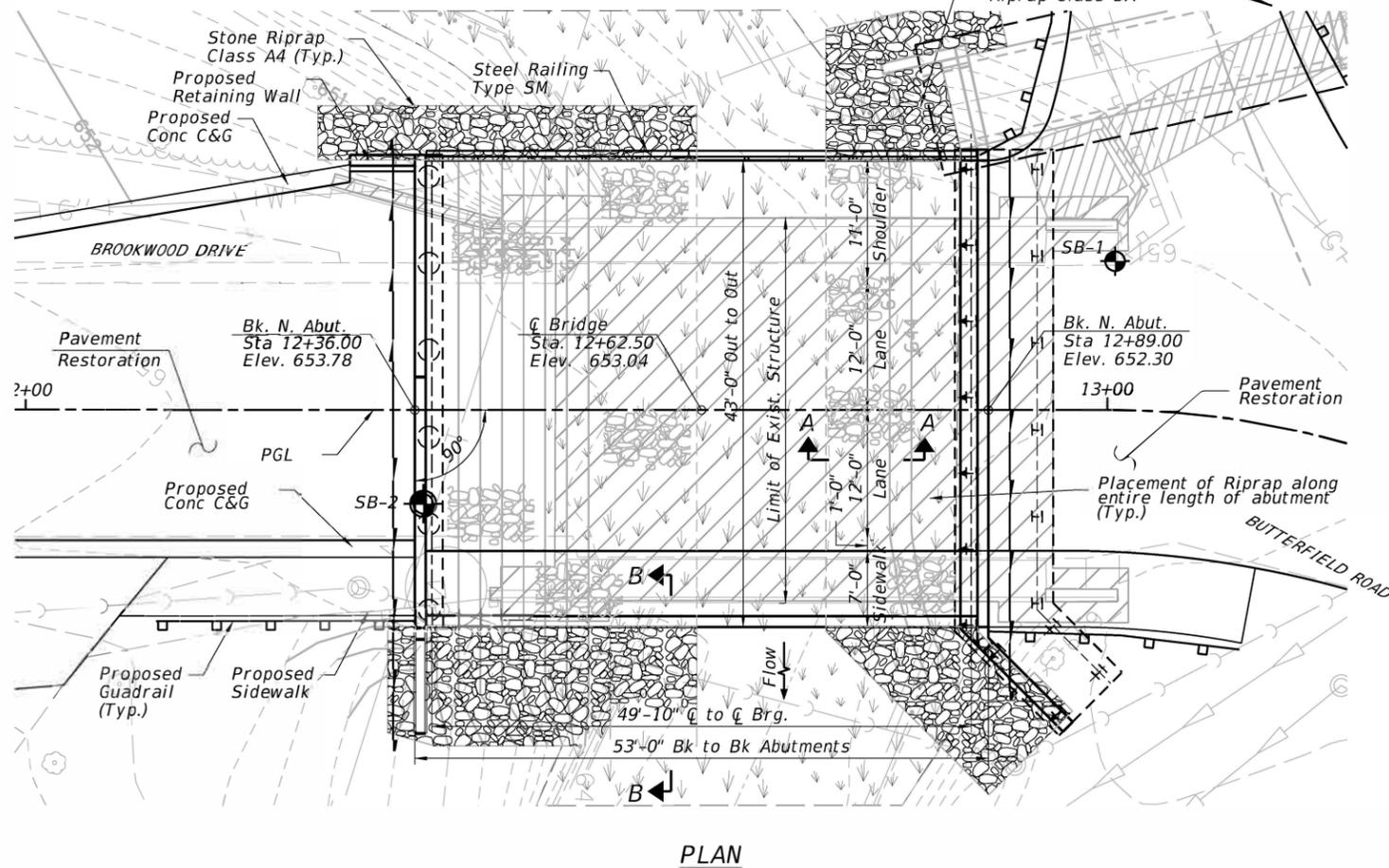
Seismic Performance Zone (SPZ) = 1  
Design Spectral Acceleration at 1.0 sec. (SD1) = 0.066 g  
Design Spectral Acceleration at 0.2 sec. (SDS) = 0.117 g  
Soil Site Class = C

**LOADING HL-93**

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

**DESIGN SPECIFICATIONS**

2020 AASHTO LRFD Bridge Design Specifications, 9th Edition with Iterims



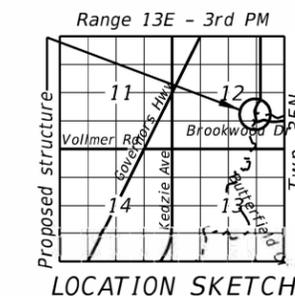
**WATERWAY INFORMATION**

Drainage Area = 20.9 Sq. Miles Low Grade Elev. 650.08 @ Sta. 12+89

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Nat. H.W.E.	Head - Ft.		Headwater El.	
			Exist.	Prop.		Exist.	Prop.	Exist.	Prop.
Design	10	1490	299	361	651.5	0.3	0.2	651.8	651.7
Base	30	1940	299	361	652.3	0.0	0.0	652.3	652.3
Overtopping	100	2520	299	361	652.9	0.0	0.0	652.9	652.9
Max. Calc.	<2	500	3475	299	361	653.5	0.0	0.0	653.5

**DESIGN SCOUR ELEVATION TABLE**

Design Scour Elevations (ft.)	Item	
	N. Abut.	S. Abut.
Q100	635.3	-
Q200	635.1	-
Design	635.3	647.69
Check	635.1	647.69



I Certify That To The Best Of My Knowledge, Information And Belief, This Bridge 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 Current "AASHTO LRFD Bridge Design Specification For Highway And Bridges".



*Majid Mobasseri*  
1/17/23  
**MAJID MOBASSERI**  
ILLINOIS REGISTRATION No. 081-005058 STRUCTURAL ENGINEER  
EXPIRATION DATE: 11/30/24

**GENERAL PLAN**  
**BROOKWOOD DRIVE OVER**  
**BUTTERFIELD CREEK**  
**SECTION 14-00048-00-BR**  
**COOK COUNTY**  
**STA. 12+62.50**  
**STRUCTURE No. 016-6348**

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PLOT SCALE =	DRAWN - MYG	REVISED -
PLOT DATE = 4/6/2023	CHECKED - JGS	REVISED -
	DATE -	REVISED -

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**BROOKWOOD DRIVE BRIDGE REPLACEMENT**  
**GENERAL PLAN AND ELEVATION**

SCALE: SHEET S-1 OF 5-16 SHEETS STA. TO STA.

MUN. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
4115	14-00086-00-BR	COOK	44	14
			CONTRACT NO. 61J38	
ILLINOIS FED. AID PROJECT				

**GENERAL NOTES**

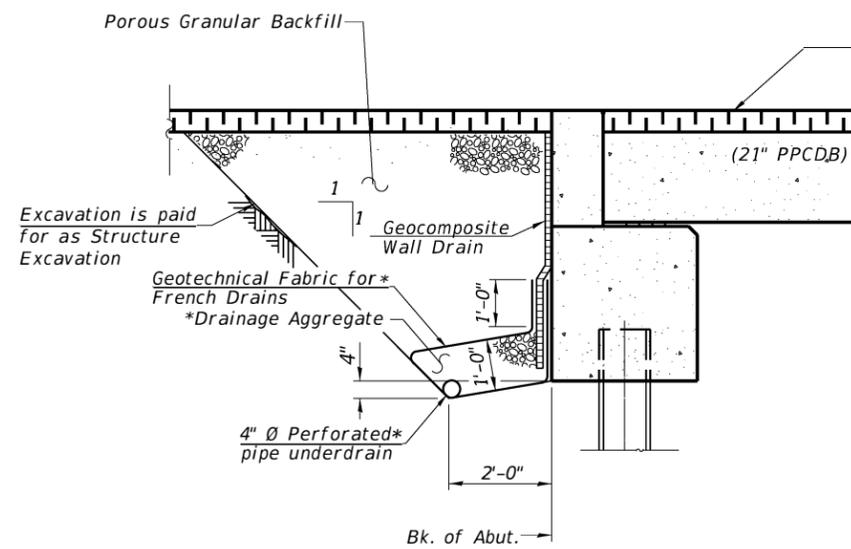
1. Reinforcement bars designated (E) shall be epoxy coated.
2. Layout of the slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.
3. Protective coat shall not be applied to surfaces to which Waterproofing Membrane System is applied.
4. Excavation behind existing abutment walls shall be performed to balance front and back soil pressure before removing the existing superstructure.
5. Backfill shall be placed behind the abutment after the superstructure has been poured and falsework removed. See Article 502.10 of the Standard Specifications.

**INDEX OF SHEETS**

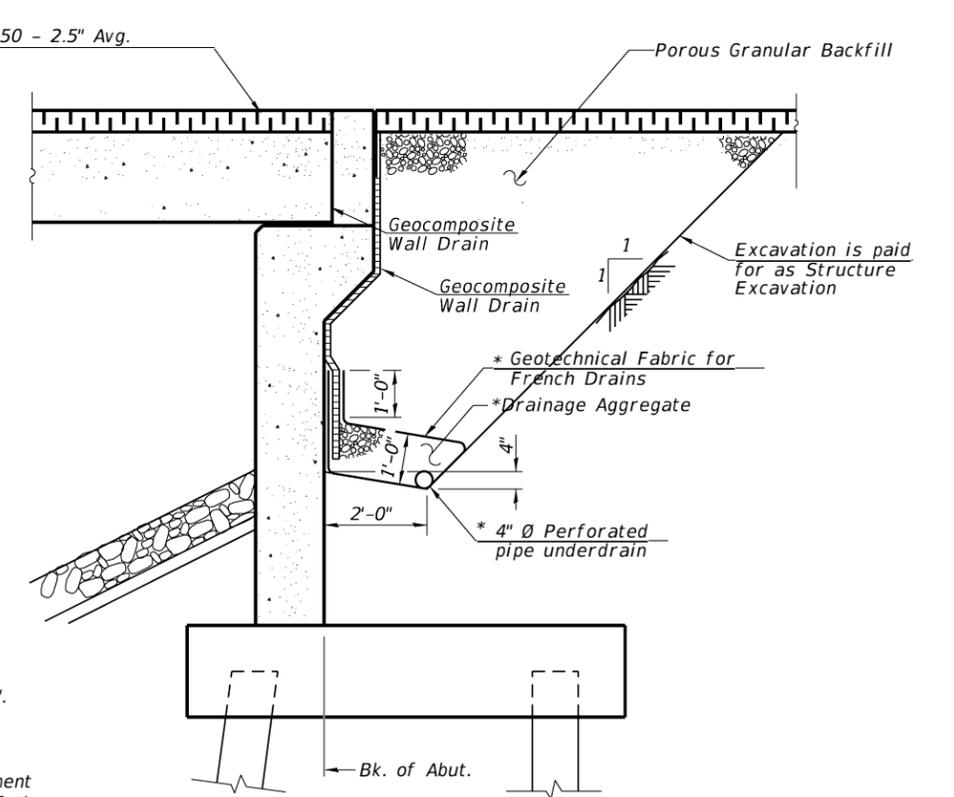
- S-1 General Plan and Elevation
- S-2 General Notes And Details
- S-3 Superstructure
- S-4 Superstructure Details
- S-5 Parapet Elevation
- S-6 Aluminum Railing, Type L
- S-7 Steel Railing, Type SM Details
- S-8 21"x48" PPC Deck Beam
- S-9 21"x48" PPC Deck Beam Details
- S-10 21"x36" PPC Deck Beam
- S-11 21"x36" PPC Deck Beam Details
- S-12 South Abutment
- S-13 North Abutment Details
- S-14 North Abutment Foundation Plan
- S-15 HP Pile Details
- S-16 Soil Borings

**TOTAL BILL OF MATERIAL**

PAY ITEM	ITEM	UNIT	QUANTITY
20900110	POROUS GRANULAR BACKFILL	CU YD	335
40604060	HOT-MIX ASPHALT SURFACE COURSE, IL-9.5, MIX "D", N50	TON	28.6
50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1
50200100	STRUCTURE EXCAVATION	CU YD	420
50300225	CONCRETE STRUCTURES	CU YD	90.3
50300255	CONCRETE SUPERSTRUCTURE	CU YD	16.8
50300280	CONCRETE ENCASEMENT	CU YD	2.1
50300300	PROTECTIVE COAT	SQ YD	70
50400405	PRECAST PRESTRESSED CONCRETE DECK BEAMS (21" DEPTH)	SQ FT	2,193
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	11,740
50900105	ALUMINUM RAILING, TYPE L	FOOT	45
50901050	STEEL RAILING, TYPE SM	FOOT	51
51201600	FURNISHING STEEL PILES HP12X53	FOOT	451
51202305	DRIVING PILES	FOOT	451
51203600	TEST PILE STEEL HP12X53	EACH	2
51500100	NAME PLATE	EACH	1
58100200	WATERPROOFING MEMBRANE SYSTEM	SQ YD	210
59100100	GEOCOMPOSITE WALL DRAIN	SQ YD	100
60146304	PIPE UNDERDRAINS FOR STRUCTURES 4"	FOOT	120
67100100	MOBILIZATION	LSUM	1



**SECTION THRU SOUTH ABUTMENT**



**SECTION THRU NORTH ABUTMENT**

\*Included in the cost of Pipe Underdrains for Structures, 4".

Note:  
All drainage system components shall extend parallel to the abutment back wall until they intersect the wingwalls or 2'-0" from the end of the wingwalls when the wings are parallel to the abutment. The pipe shall extend under the wingwall, if necessary, until intersecting the side slopes. The pipes shall drain into concrete headwalls. (See Article 601.05 of the Standard Specifications and Highway Standard 601101).

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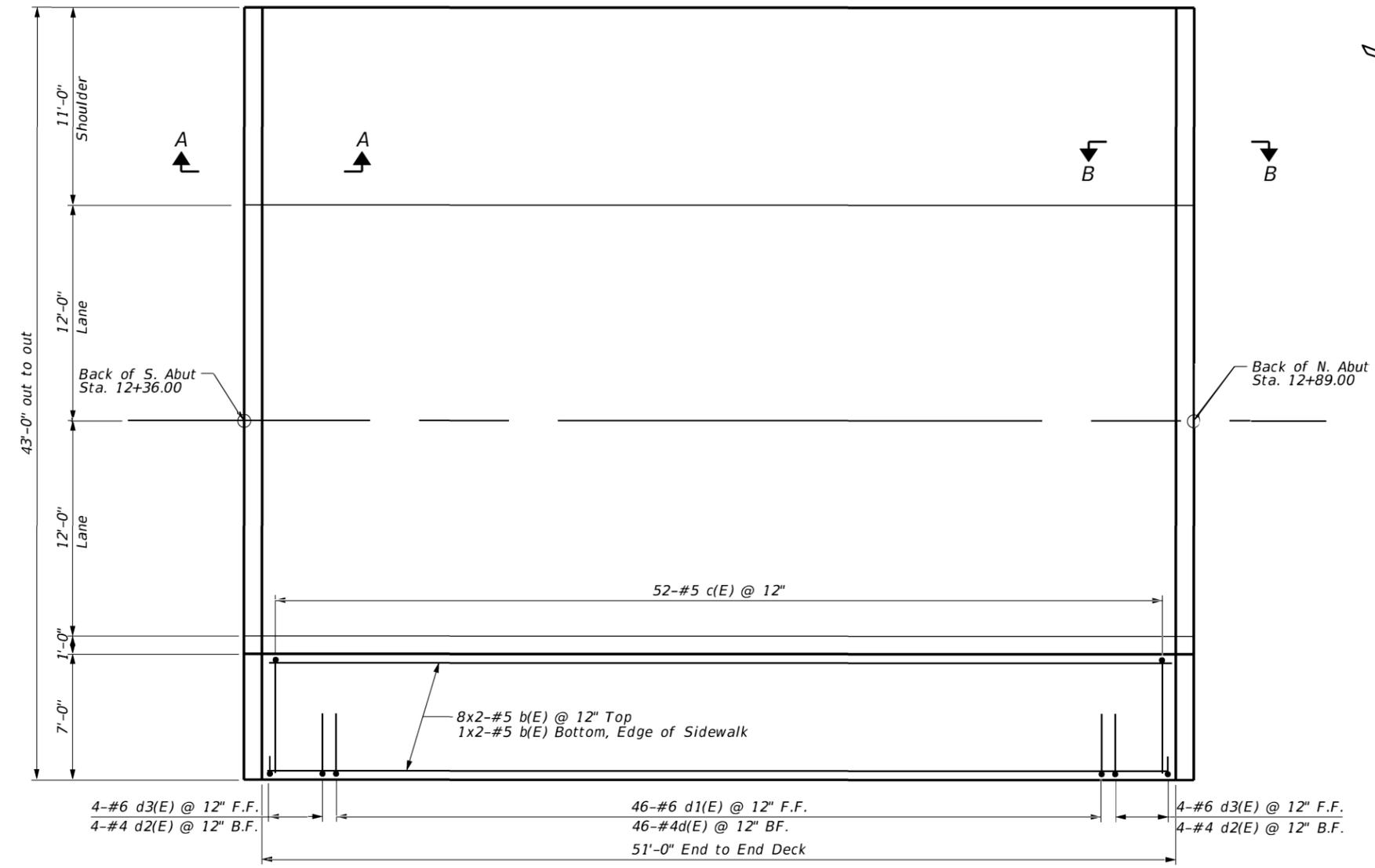
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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

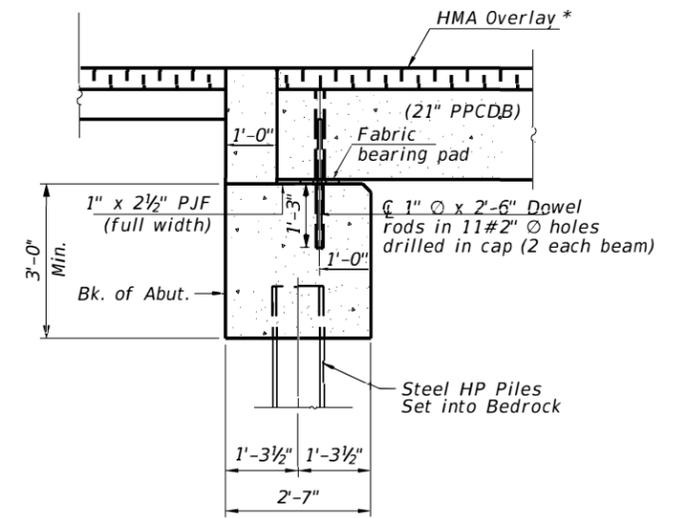
**BROOKWOOD DRIVE BRIDGE REPLACEMENT  
GENERAL NOTES AND DETAILS**

SCALE: SHEET S-2 OF 5-16 SHEETS STA. TO STA.

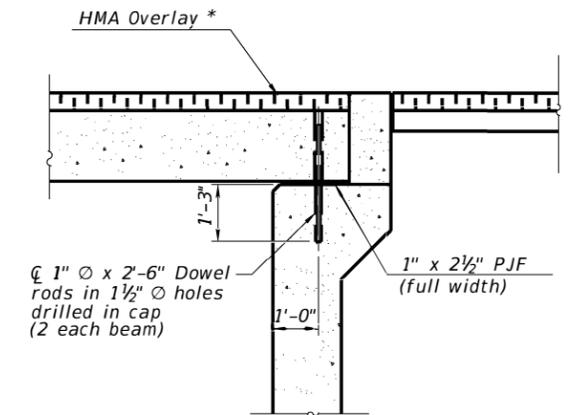
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4115	14-00086-00-BR	COOK	44	15
CONTRACT NO. 61J38			ILLINOIS FED. AID PROJECT	



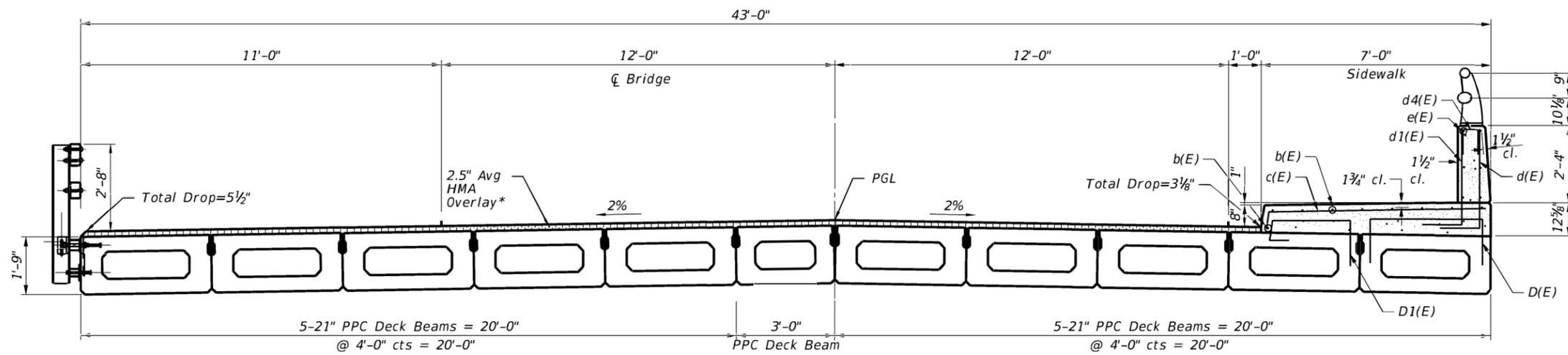
**PLAN**



**SECTION A-A SOUTH ABUTMENT**



**SECTION B-B NORTH ABUTMENT**



**CROSS SECTION**  
(Looking North)

**MIN. BAR LAP**  
#5 = 3'-0"

\*HMA overlay consists of  
HMA SC, IL-9.5, Mix "D", N50 - 2.5" Avg.

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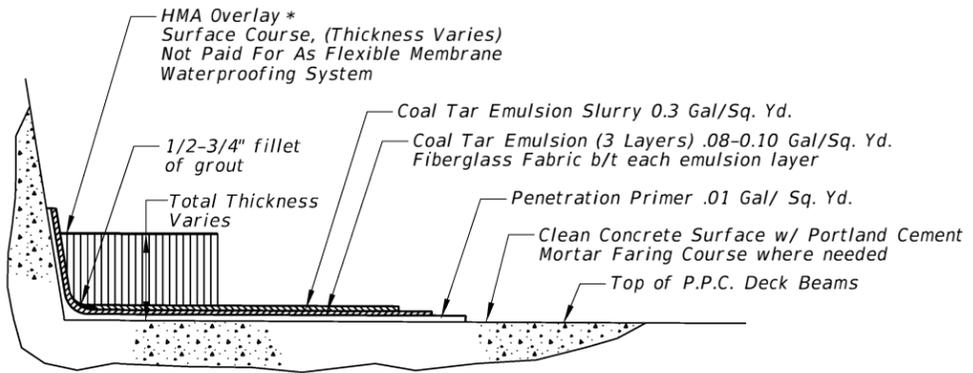
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	DATE -	REVISED -

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**BROOKWOOD DRIVE BRIDGE REPLACEMENT**  
**SUPERSTRUCTURE**

SCALE: SHEET S-3 OF 5-16 SHEETS STA. TO STA.

MUN. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
4115	14-00086-00-BR	COOK	44	16
CONTRACT NO. 61J38				
ILLINOIS FED. AID PROJECT				

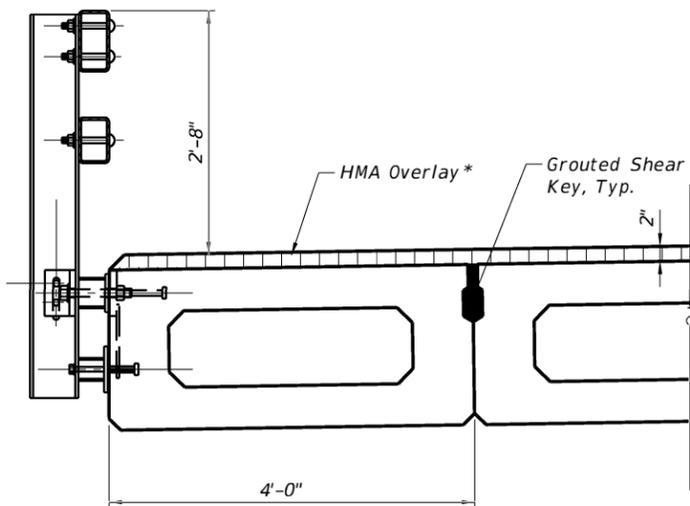


**MEMBRANE WATERPROOFING SECTION**

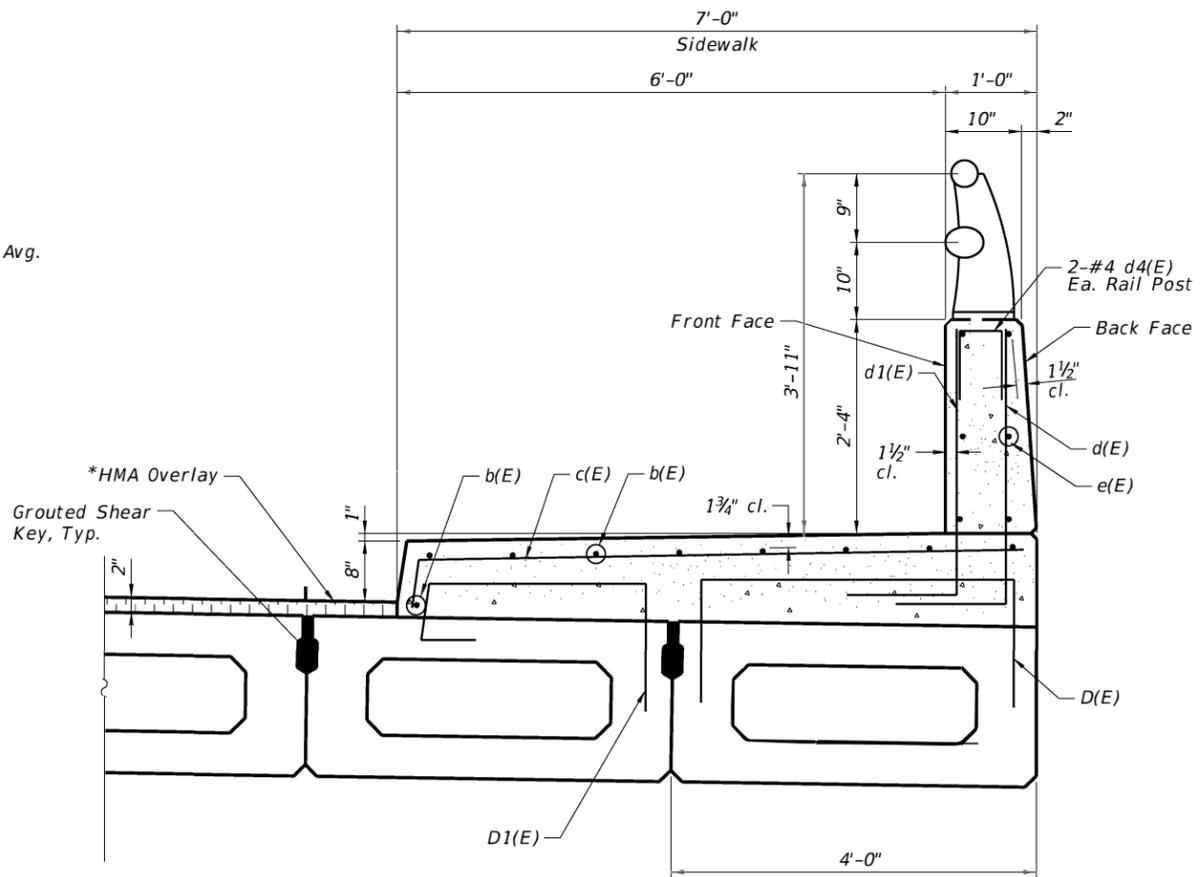
**NOTES:**

1. Terminate Membrane Waterproofing 2" Up Face of Curb.
2. Membrane placement shall begin at low point.

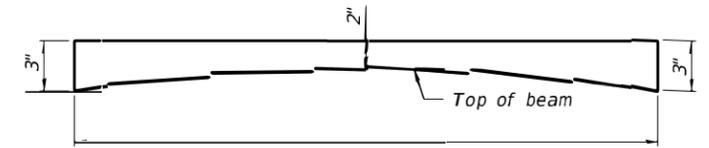
\* HMA overlay consists of HMA SC, 1L-9.5, Mix "D", N50 - 2.5" Avg.



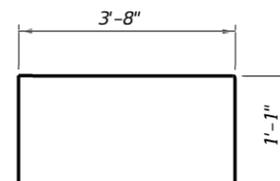
**SECTION THRU SHOULDER**



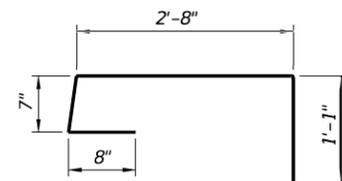
**SECTION THRU SIDEWALK**



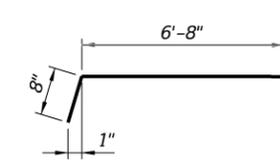
**ANTICIPATED HMA OVERLAY\* PROFILE**  
(For information only)



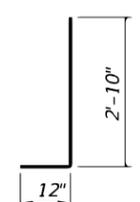
**BAR D(E) \***



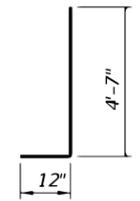
**BAR D1(E) \***



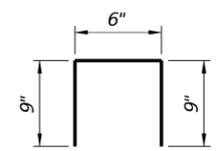
**BAR c(E)**



**BARS d(E) & d1(E)**



**BARS d2(E) & d3(E)**



**BAR d4(E)**

**SUPERSTRUCTURE BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
b(E)	18	#5	26'-10"	—
c(E)	52	#5	7'-4"	—
d(E)	46	#4	3'-10"	J
d1(E)	46	#6	3'-10"	J
d2(E)	8	#4	5'-7"	J
d3(E)	8	#6	5'-7"	J
d4(E)	12	#4	2'-0"	J
e(E)	18	#4	16'-8"	—
e1(E)	12	#4	2'-8"	—
Reinforcement Bars, Epoxy Coated			Pound	1,620
Concrete Superstructure			Cu. Yd.	16.8

Bars indicated thus 1 x 3-#4 etc. indicates 1 line of bars with 3 lengths per line.

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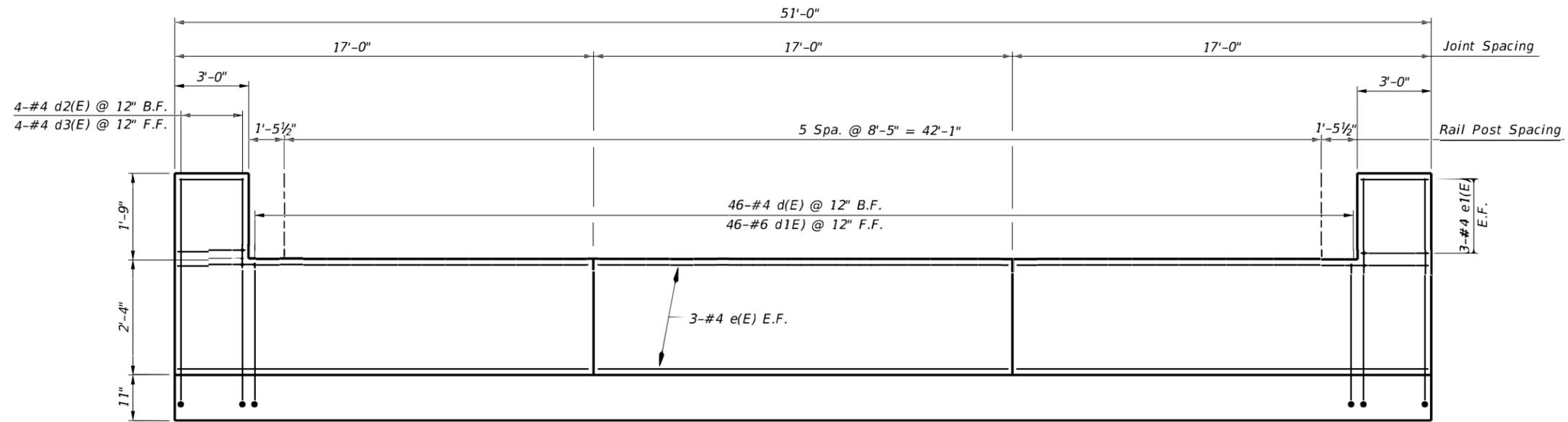
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	DATE -	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

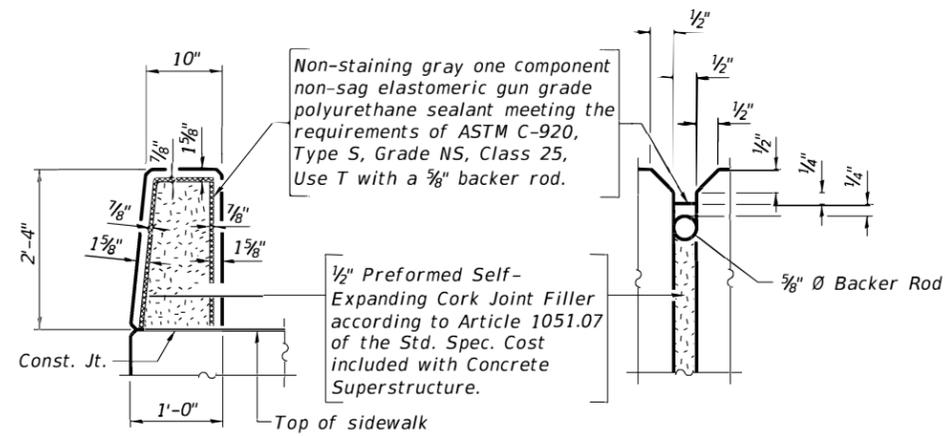
**BROOKWOOD DRIVE BRIDGE REPLACEMENT  
SUPERSTRUCTURE DETAILS**

SCALE: SHEET S-4 OF 5-16 SHEETS STA. TO STA.

MUN. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
4115	14-00086-00-BR	COOK	44	17
CONTRACT NO. 61J38			ILLINOIS FED. AID PROJECT	



INSIDE ELEVATION OF PARAPET



PARAPET JOINT DETAILS

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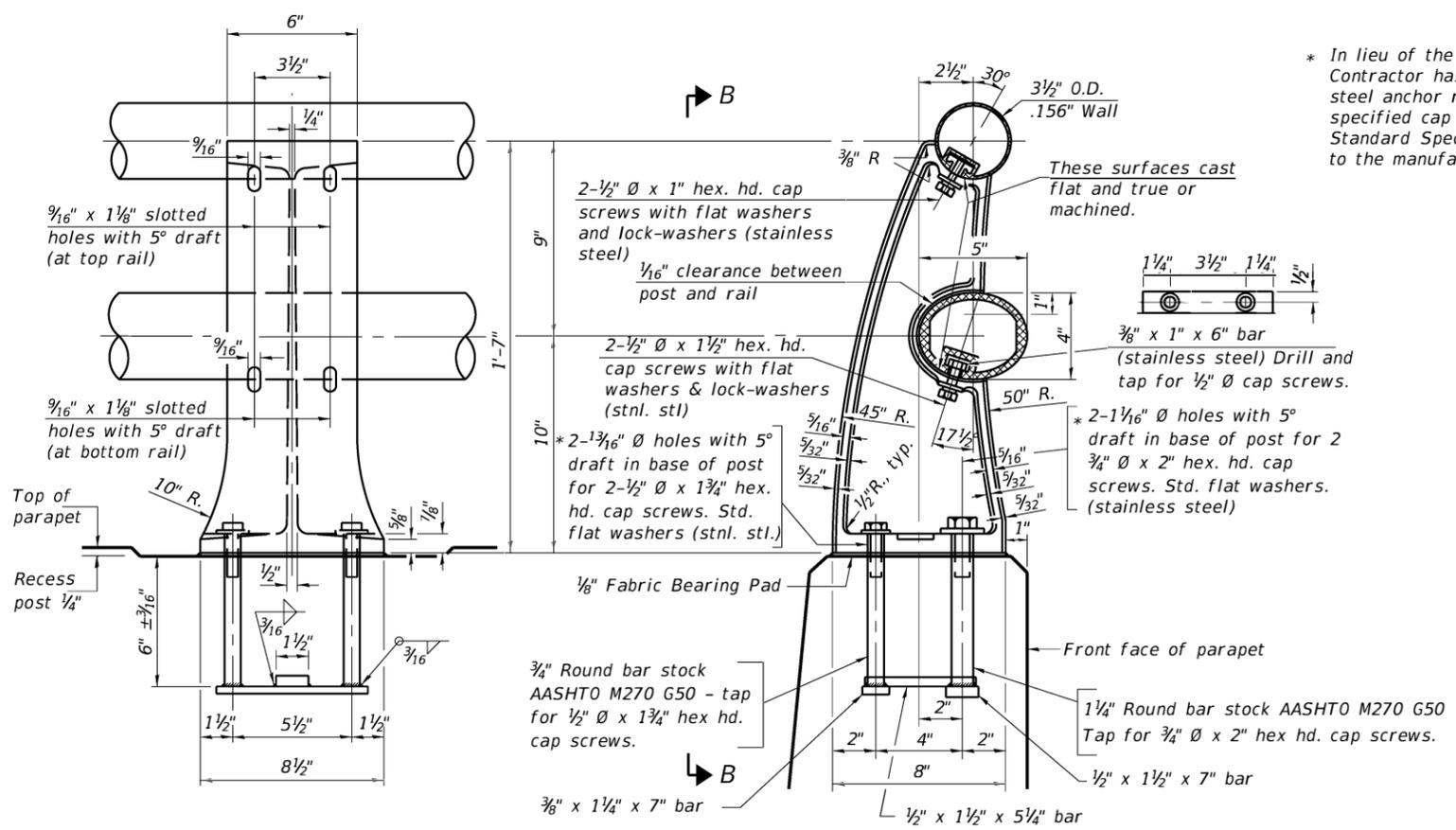
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**BROOKWOOD DRIVE BRIDGE REPLACEMENT  
PARAPET ELEVATION**

SCALE: SHEET 5-5 OF 5-16 SHEETS STA. TO STA.

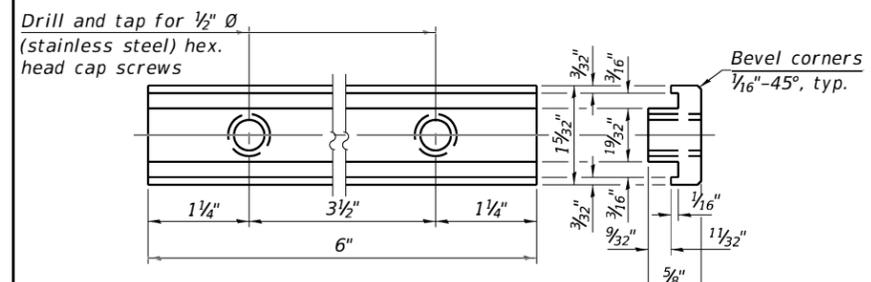
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4115	14-00086-00-BR	COOK	44	18
CONTRACT NO. 61J38				
ILLINOIS FED. AID PROJECT				

\* In lieu of the cast-in-place anchor device shown, the Contractor has the option of drilling and setting stainless steel anchor rods of the same diameter and grade as the specified cap screws according to Article 509.06 of the Standard Specifications. Embedment shall be according to the manufacturer's specifications.

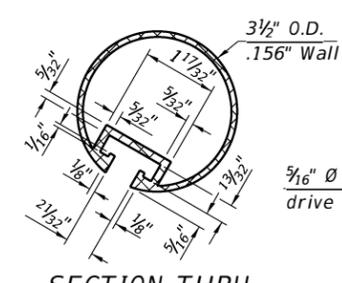


VIEW B-B  
RAIL POST DETAILS

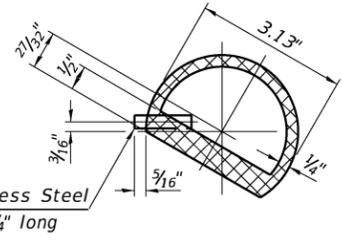
SECTION A-A



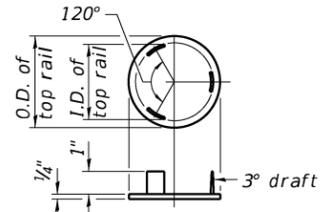
RAIL POST CLAMP BAR  
For Top Rail



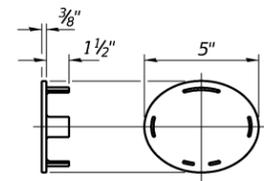
SECTION THRU TOP RAIL



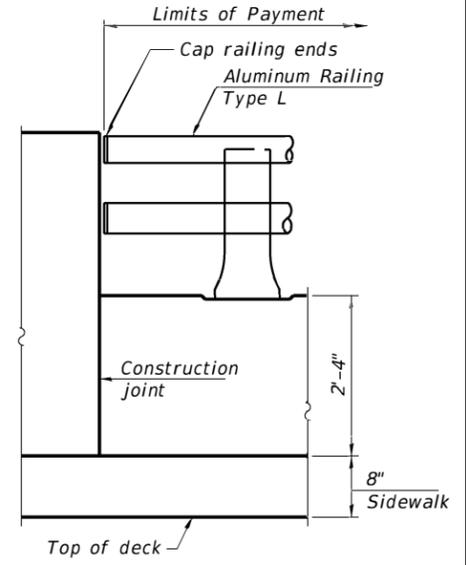
SECTION THRU TOP RAIL SPLICE



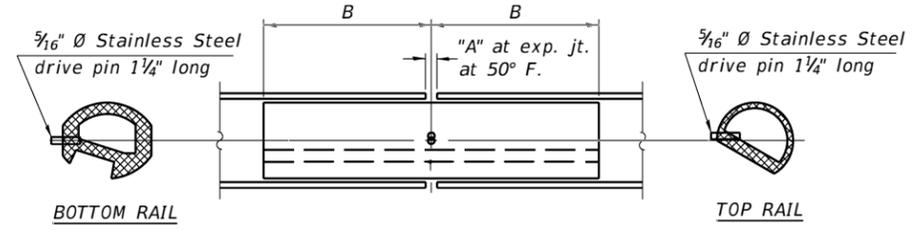
CAST END CAP  
For top rail  
Drive Fit Type



CAST END CAP  
For bottom rail  
Drive Fit Type



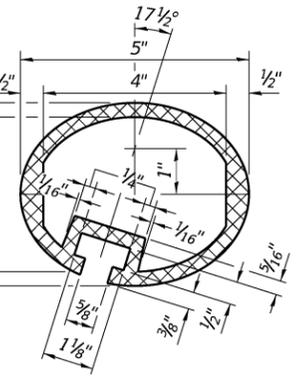
RAIL END TREATMENT FOR TYPE 5 AND 6 TERMINAL



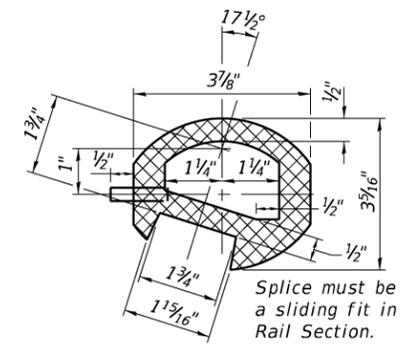
RAIL SPLICE

SPLICE DIMENSIONS

Location	T	A	B
All locs. not over exp. jts.	0	3/8"	1'-2"
Over Strip Seal Jt.	≤ 4"	2 1/2"	1'-2"
Over Finger or Modular Jt.	≤ 9 1/2"	5 1/2"	1'-7 3/4"
Over Finger or Modular Jt.	≤ 15"	8 1/4"	2'-1 1/4"



SECTION THRU BOTTOM RAIL



SECTION THRU BOTTOM RAIL SPLICE

Notes:  
All Posts shall be normal to parapet.  
All joints in rail shall be spliced per detail.  
All exposed rail ends shall be capped per detail.  
Provide 1-1/8" and 2-1/16" Aluminum Shims for 25% of the Posts. Rail elements shall be parallel to Grade, high spots shall be ground and low spots shimmed.  
Place reinforcement bars to miss anchor rod locations.  
See sheet S-5 for rail post spacing.

BILL OF MATERIAL

Item	Unit	Quantity
Aluminum Railing, Type L	Foot	45

**RAILING CRITERIA**

NCHRP 350 Test Level	4
Post Spacing Range	7'-0" - 10'-0"
Rail Weight (plf)	40

R-20 10-12-2021

USER NAME	DESIGNED	REVISIONS
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	MYG	-
	JGS	-
		-

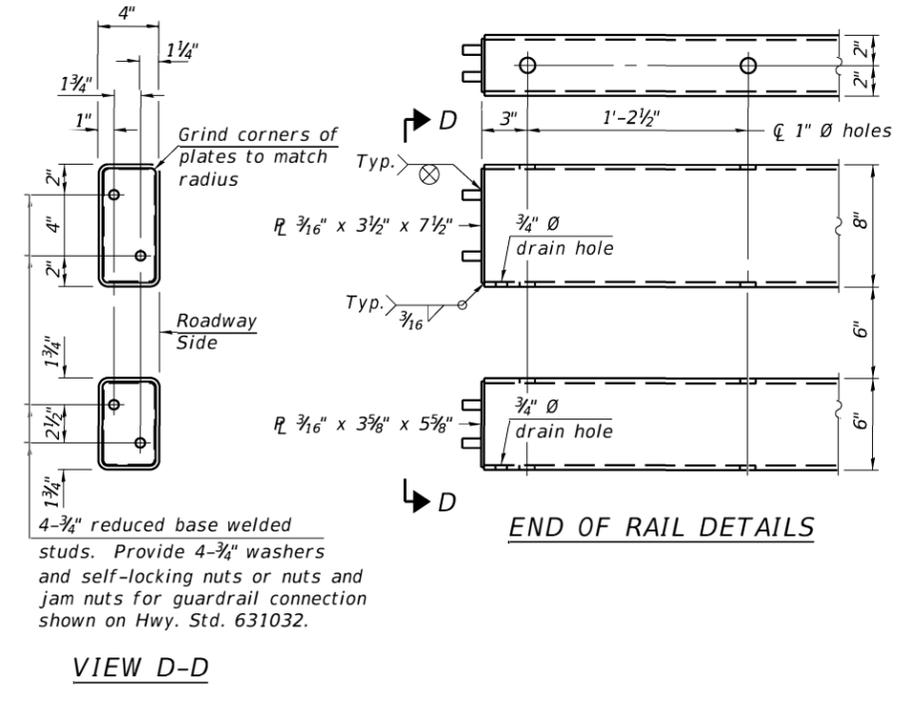
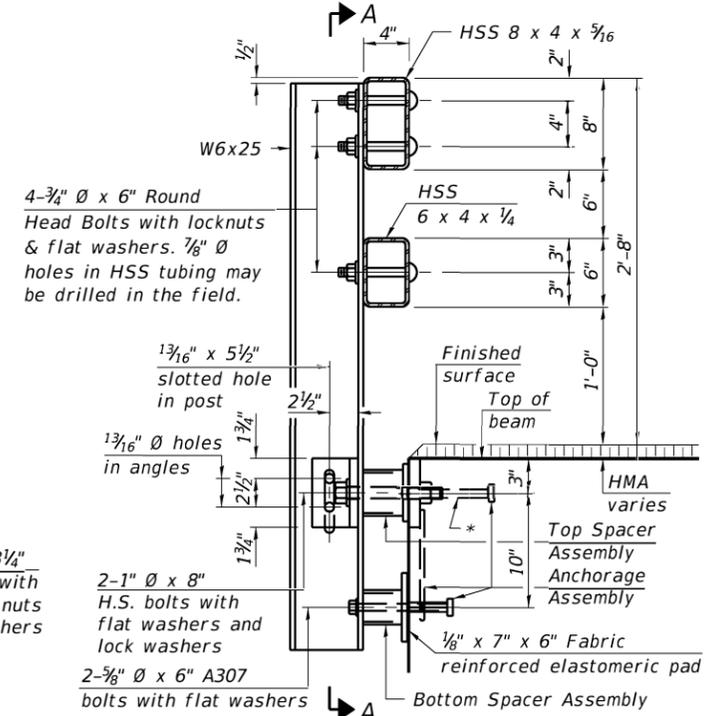
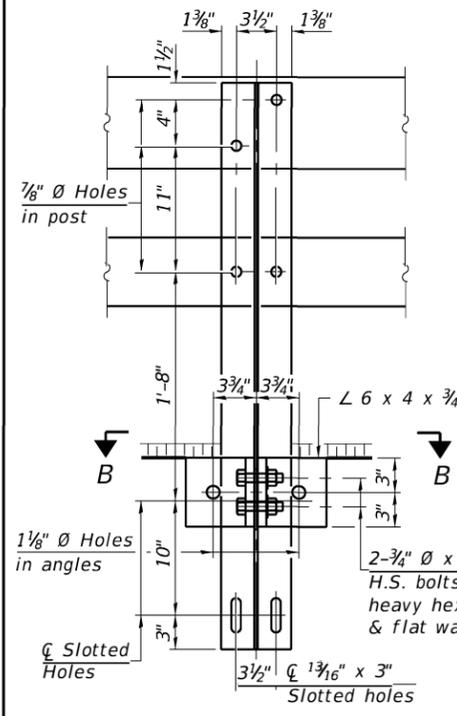
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

BROOKWOOD DRIVE BRIDGE REPLACEMENT  
ALUMINUM RAILING, TYPE L

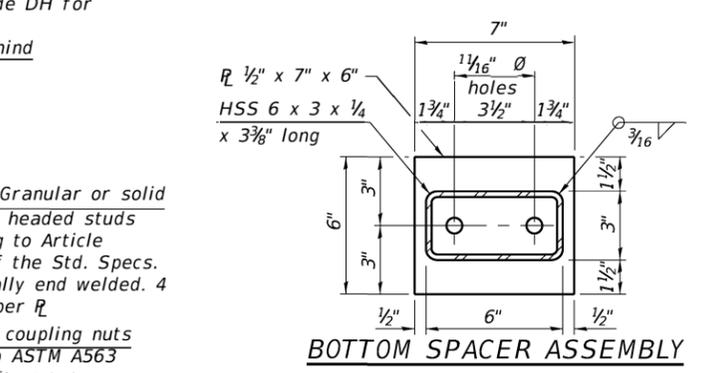
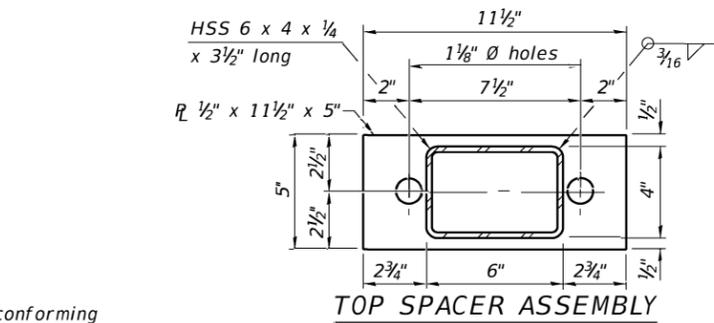
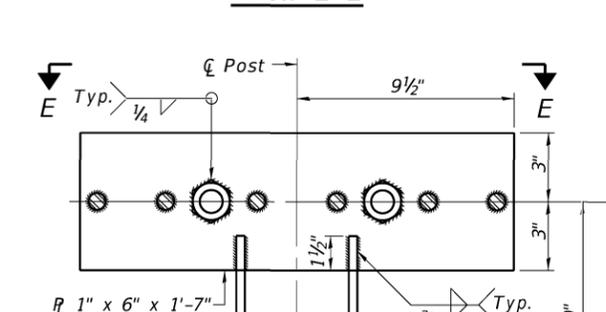
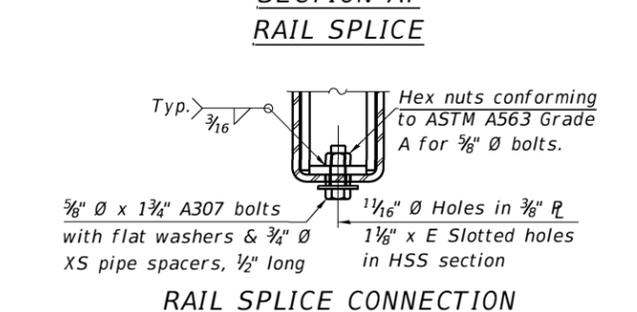
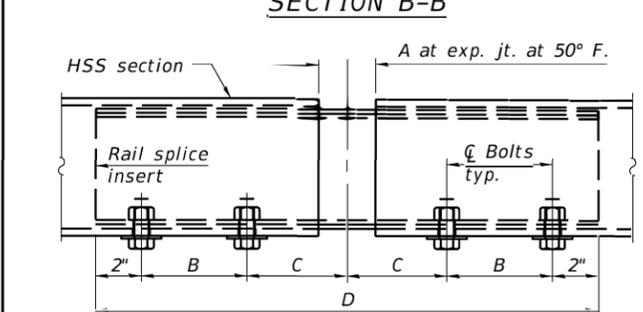
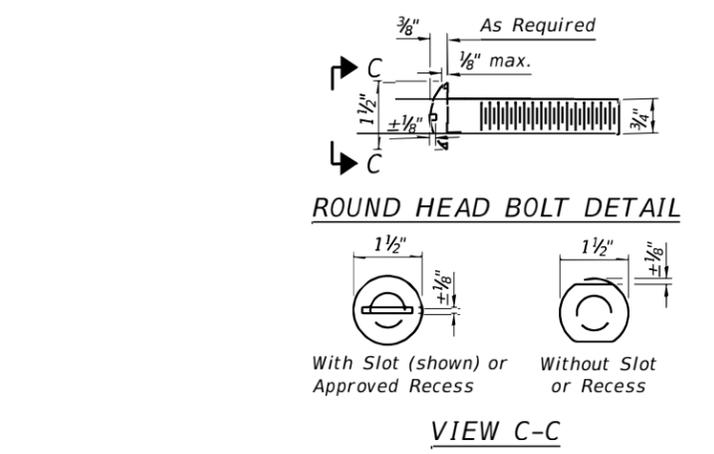
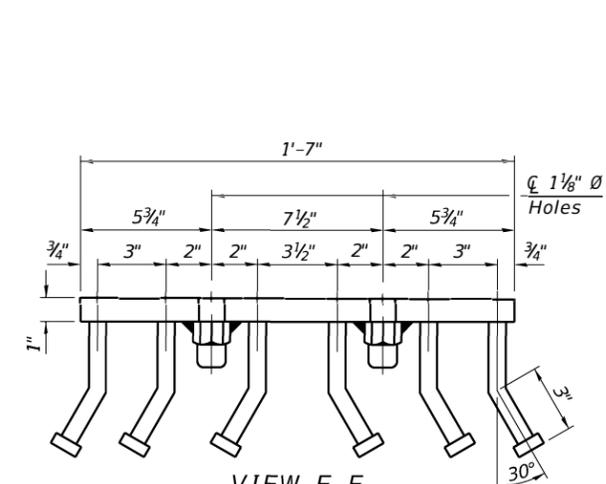
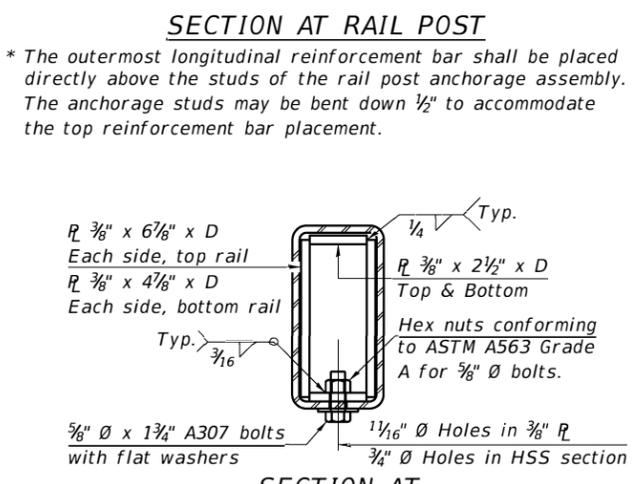
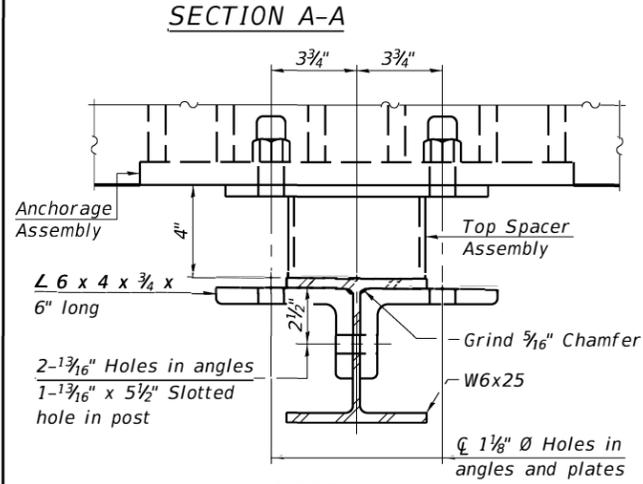
SCALE: SHEET S-6 OF 5-16 SHEETS STA. TO STA.

MUN. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
4115	14-00086-00-BR	COOK	44	19
CONTRACT NO. 61J38			ILLINOIS FED. AID PROJECT	

MODEL: D:\p\11\110309\Struct\06-2309-Parapet-Rail.sht



Notes:  
 A sufficient number of shims of various thicknesses, sized to fit behind the top spacer assembly, 5" x 11 1/2", and bottom spacer assembly, 6" x 7", shall be provided to adjust posts for proper alignment. If the summation of shims is greater than 1/4" (top) or 1/2" (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 - 3/8" 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.



**RAILING CRITERIA**

MASH 2016 Test Level	2
Railing Weight (plf)	90
Min f'c (psi)	5,000
Max Post Spacing	6'-3"
HMA thickness range (in)	1 1/4" - 3 3/8"

**SPLICE DIMENSIONS**

Location	T	A	B	C	D	E
All locs. not over exp. jts.	0	1/4"	4"	4"	1'-8"	-
Over Strip Seal Jt.	≤4"	2 1/2"	4 3/8"	4 3/8"	1'-10"	3 1/16"
Over Finger or Modular Jt.	≤9 1/2"	5 1/2"	7 3/8"	7 1/4"	2'-9 1/4"	5 1 3/16"
Over Finger or Modular Jt.	≤15"	8 1/4"	10 1/8"	10"	3'-8 1/4"	8 9/16"

T = ; total movement along centerline of roadway at expansion joint.

**BILL OF MATERIAL**

Item	Unit	Quantity
Steel Railing, Type SM	Foot	51

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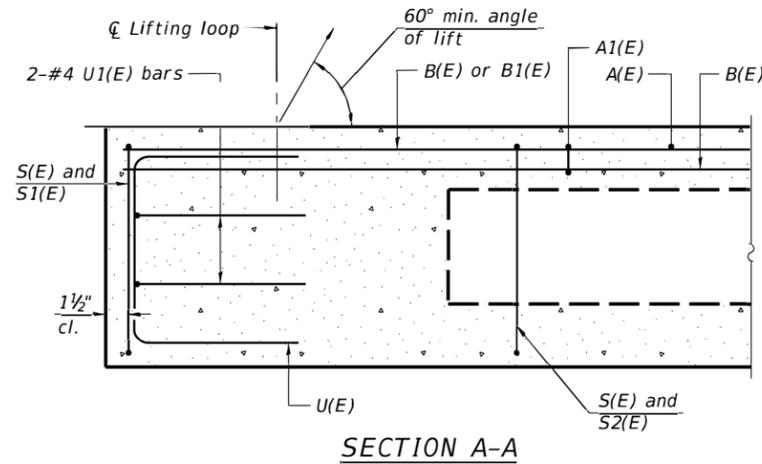
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	DATE -	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

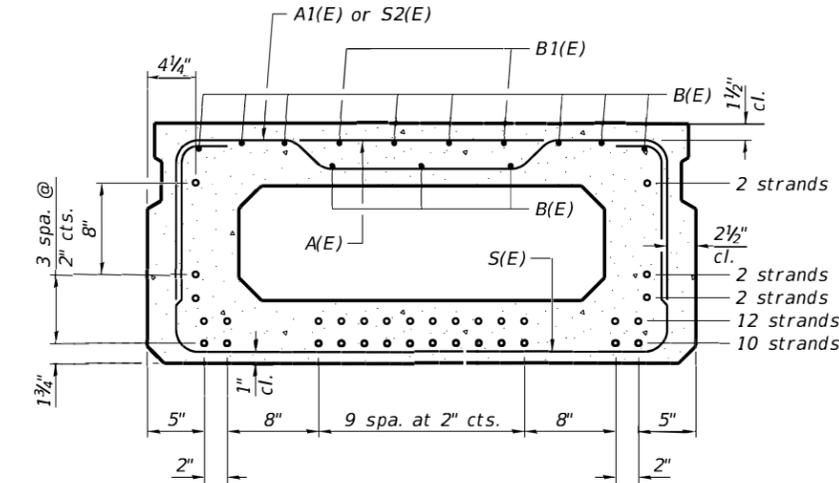
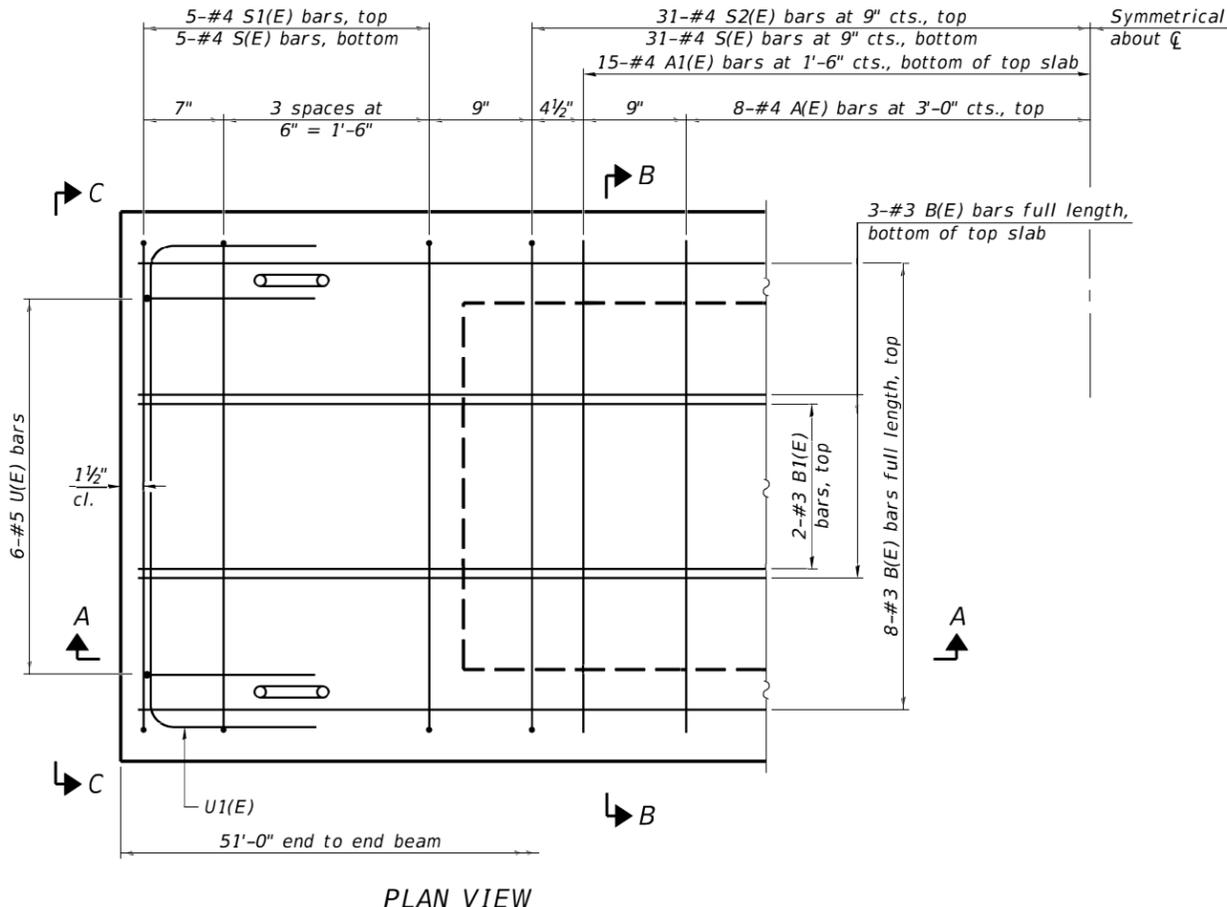
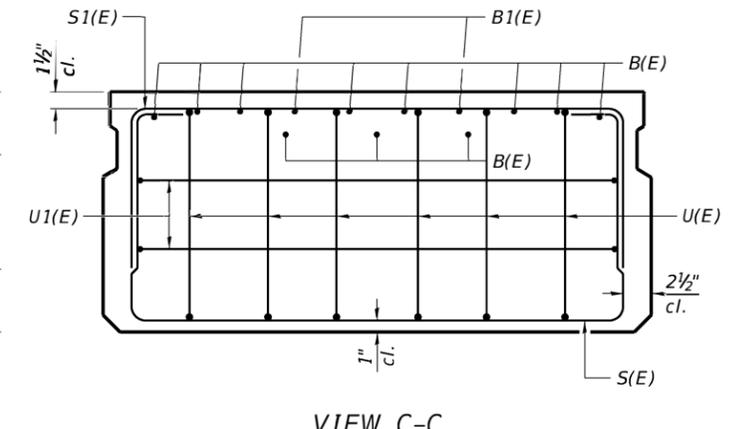
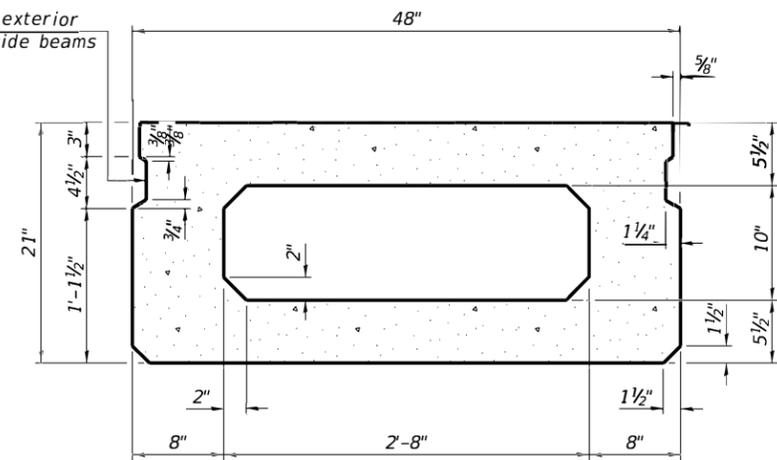
**BROOKWOOD DRIVE BRIDGE REPLACEMENT  
STEEL RAILING, TYPE SM DETAILS**

SCALE: SHEET S-7 OF 5-16 SHEETS STA. TO STA.

MUN. RTE. 4115	SECTION 14-00086-00-BR	COUNTY COOK	TOTAL SHEETS 44	SHEET NO. 20
CONTRACT NO. 61J38			ILLINOIS FED. AID PROJECT	



Omit key on exterior face of outside beams



**SECTION B-B**  
(Showing reinforcement and permissible strand locations)  
Note:  
Place the number of strands specified in each row symmetrically about the centerline of beam in the permissible strand locations shown.

**MINIMUM BAR LAP**  
#3 bar = 1'-6"

**BAR LIST**  
**ONE BEAM ONLY**  
(For information only)

Bar	No.	Size	Length	Shape
A(E)	16	#4	3'-7"	—
A1(E)	30	#4	3'-10"	—
B(E)	22	#3	26'-1"	—
B1(E)	4	#3	10'-0"	—
S(E)	72	#4	7'-5"	U
S1(E)	10	#4	5'-11"	U
S2(E)	62	#4	6'-2"	U
U(E)	12	#5	4'-0"	U
U1(E)	4	#4	6'-0"	U

Note:  
See sheet S-4 for additional details including D(E) and D1(E) bars for beams under sidewalk. East exterior beam shall have 69 D(E) bars and second beam from East shall have 69 D1(E) bars.

Note:  
Spacing of S(E) and S2(E) bars may be adjusted up to 4" in the immediate area of the transverse tie diaphragms to miss the block outs for the transverse ties.

MODEL: D:\p\full FILE NAME: N:\bssm0012\2009\Struct\08-2209-48-PPCDeckBeam1.sht

PD-2148-0

1-1-2020

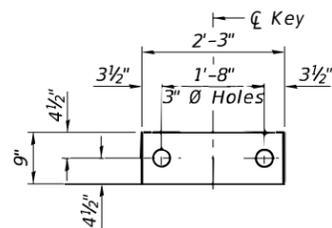
USER NAME = doconnell	DESIGNED - MM	REVISED -
	DRAWN - MYG	REVISED -
PLOT SCALE =	CHECKED - JGS	REVISED -
PLOT DATE = 4/6/2023	DATE -	REVISED -

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

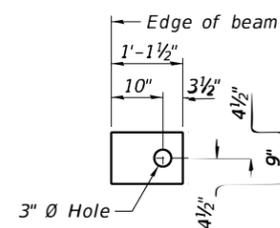
**BROOKWOOD DRIVE BRIDGE REPLACEMENT**  
**21" x 48" PPC DECK BEAM**

SCALE: SHEET S-8 OF 5-16 SHEETS STA. TO STA.

MUN RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
4115	14-00086-00-BR	COOK	44	21
CONTRACT NO. 61J38			ILLINOIS FED. AID PROJECT	



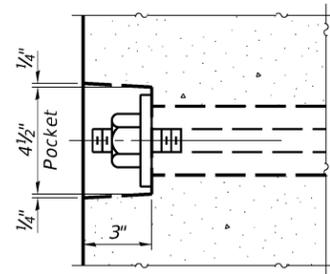
**FABRIC BEARING PAD**  
(Interior)



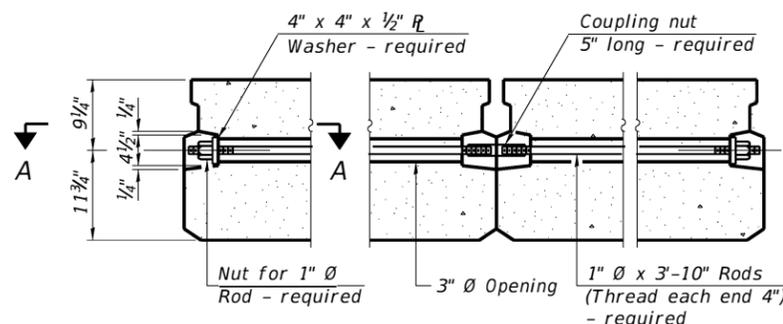
**FABRIC BEARING PAD**  
(Exterior)

**FIXED**

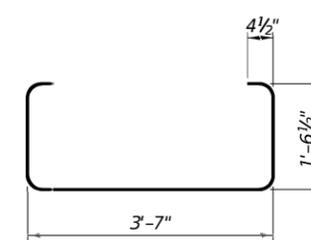
Notes:  
All bearing pads shall be 1" thick.  
Omit holes when using expansion bearings.  
Expansion bearing pads shall be bonded to the substructure.



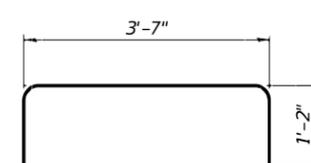
**SECTION A-A**



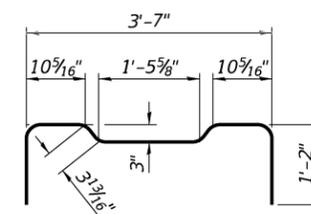
**TYPICAL TRANSVERSE TIE ASSEMBLY**



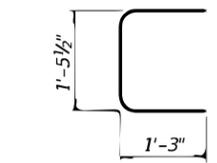
**BAR S(E)**



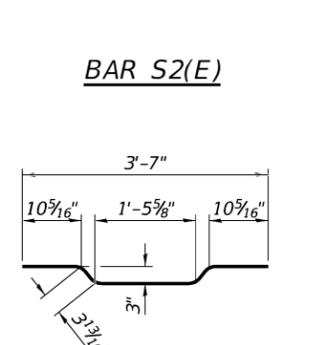
**BAR S1(E)**



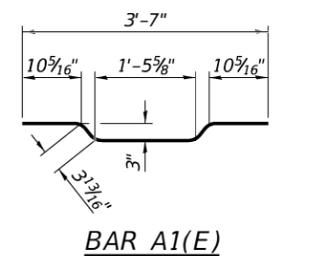
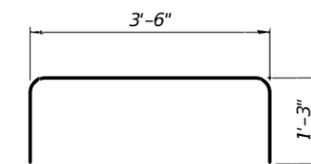
**BAR U(E)**



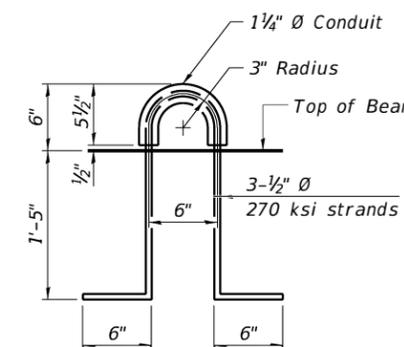
**BAR U1(E)**



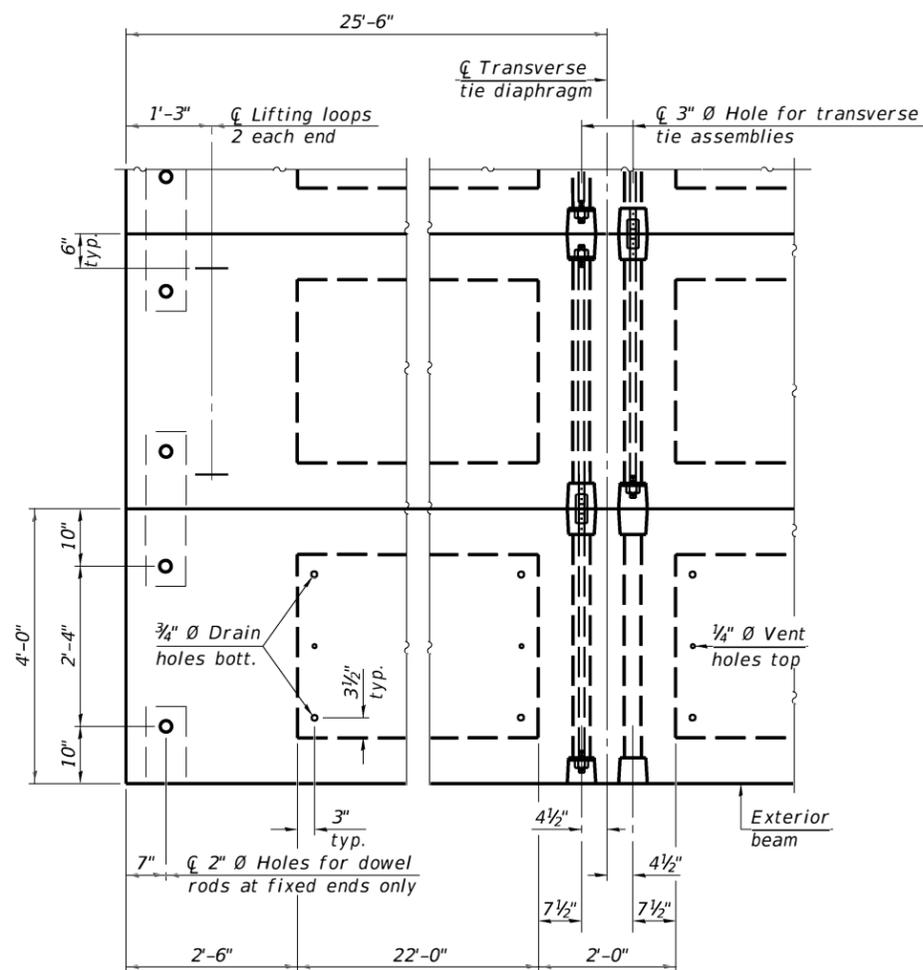
**BAR S2(E)**



**BAR A1(E)**



**LIFTING LOOP DETAIL**



**PLAN VIEW**

**NOTES**

Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 sq. in.  
The 1" diameter rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets on exterior faces of bridge shall be filled with grout after transverse tie assembly is in place.  
Two 1/8" fabric adjusting shims of the dimensions of the exterior bearing pad shall be provided for each bearing pad location.  
A minimum 2 1/2" diameter lifting pin shall be used to engage the lifting loops during handling.  
Corrosion Inhibitor, per Article 1020.05(b)(10) and 1021.07 of the Standard Specifications, shall be used in the concrete for precast prestressed concrete deck beams.  
Compressive strength of prestressed concrete, f'c, shall be 6000 psi.  
Compressive strength of prestressed concrete at release, f'ci, shall be 5000 psi.

**BILL OF MATERIAL**

Precast Prestressed Conc. Deck Bms. (21" depth)	Sq. Ft.	2040
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Note:  
Connect beams in pairs with the transverse tie configuration shown.

PDD-2148-0

1-1-2020

USER NAME = docconnell	DESIGNED - MM	REVISED -
	DRAWN - MYG	REVISED -
PLOT SCALE =	CHECKED - JGS	REVISED -
PLOT DATE = 4/6/2023	DATE -	REVISED -

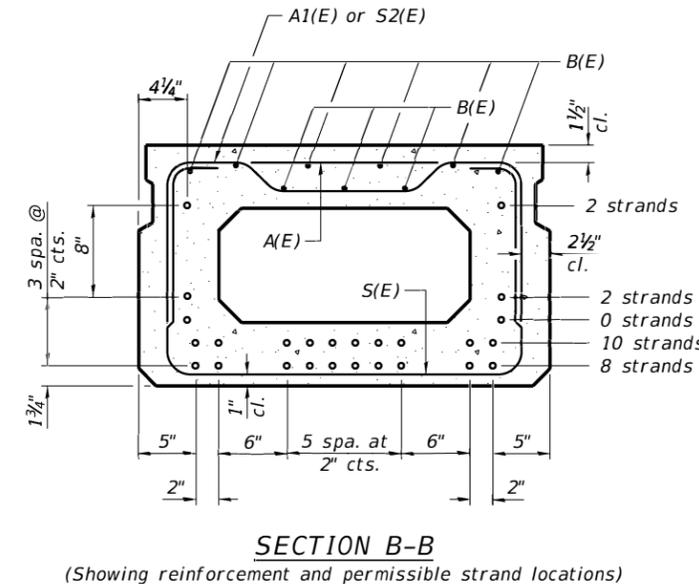
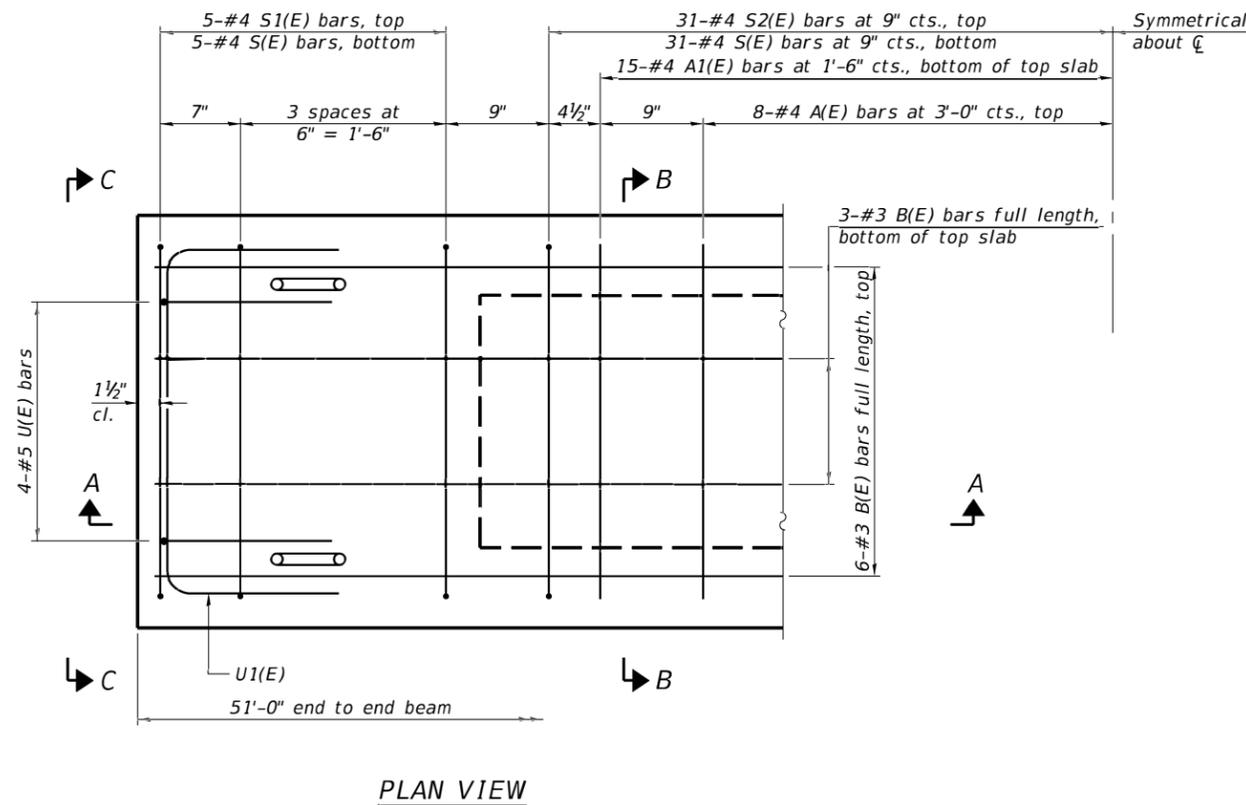
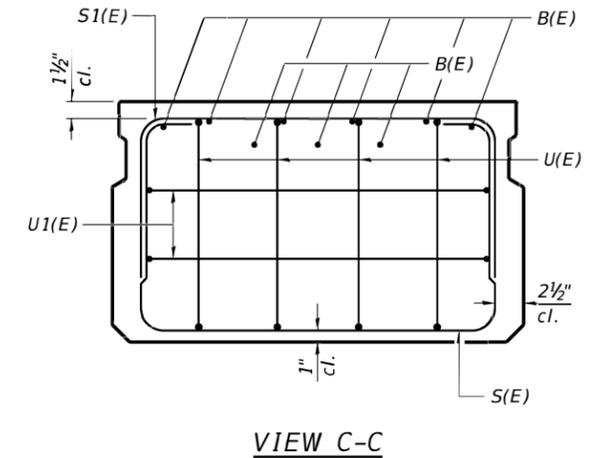
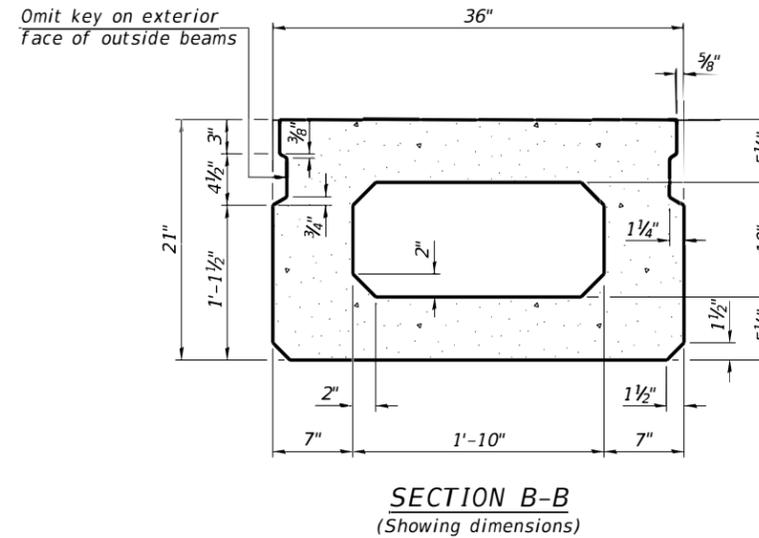
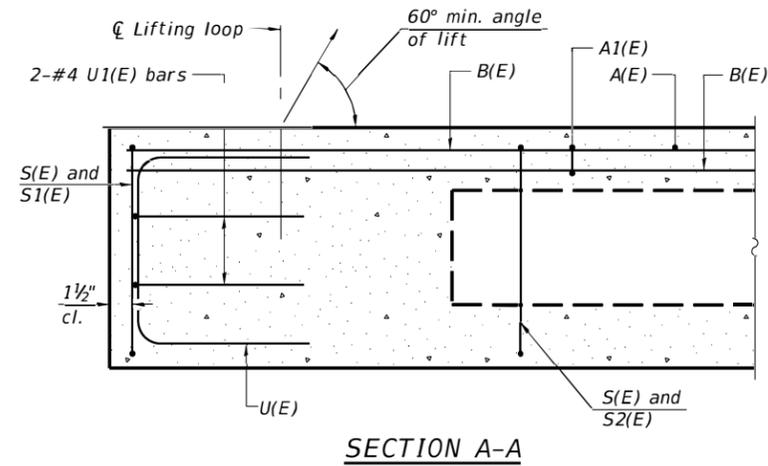
**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**BROOKWOOD DRIVE BRIDGE REPLACEMENT**  
**21" x 48" PPC DECK BEAM DETAILS**

SCALE: SHEET S-9 OF 5-16 SHEETS STA. TO STA.

MUN. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
4115	14-00086-00-BR	COOK	44	22
			CONTRACT NO. 61J38	
ILLINOIS FED. AID PROJECT				

MODEL: Default  
FILE NAME: I:\Users\moham22\30309\Struct\09-2020\9-48-PPCDeckBeam2.rvt



**BAR LIST**  
**ONE BEAM ONLY**  
(For information only)

Bar	No.	Size	Length	Shape
A(E)	16	#4	2'-7"	—
A1(E)	30	#4	2'-10"	—
B(E)	18	#3	26'-1"	—
S(E)	72	#4	6'-5"	U
S1(E)	10	#4	4'-11"	U
S2(E)	62	#4	5'-2"	U
U(E)	8	#5	4'-0"	C
U1(E)	4	#4	5'-0"	C

Note:  
Place the number of strands specified in each row symmetrically about the centerline of beam in the permissible strand locations shown.

**MINIMUM BAR LAP**  
#3 bar = 1'-6"

Note:  
Spacing of S(E) and S2(E) bars may be adjusted up to 4" in the immediate area of the transverse tie diaphragms to miss the block outs for the transverse ties.

PD-2136-0

1-1-2020

USER NAME = doconnell	DESIGNED - MM	REVISED -
DRAWN - MYG	REVISED -	
PLOT SCALE =	CHECKED - JGS	REVISED -
PLOT DATE = 4/6/2023	DATE -	REVISED -

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**BROOKWOOD DRIVE BRIDGE REPLACEMENT**  
**21" x 36" PPC DECK BEAM**

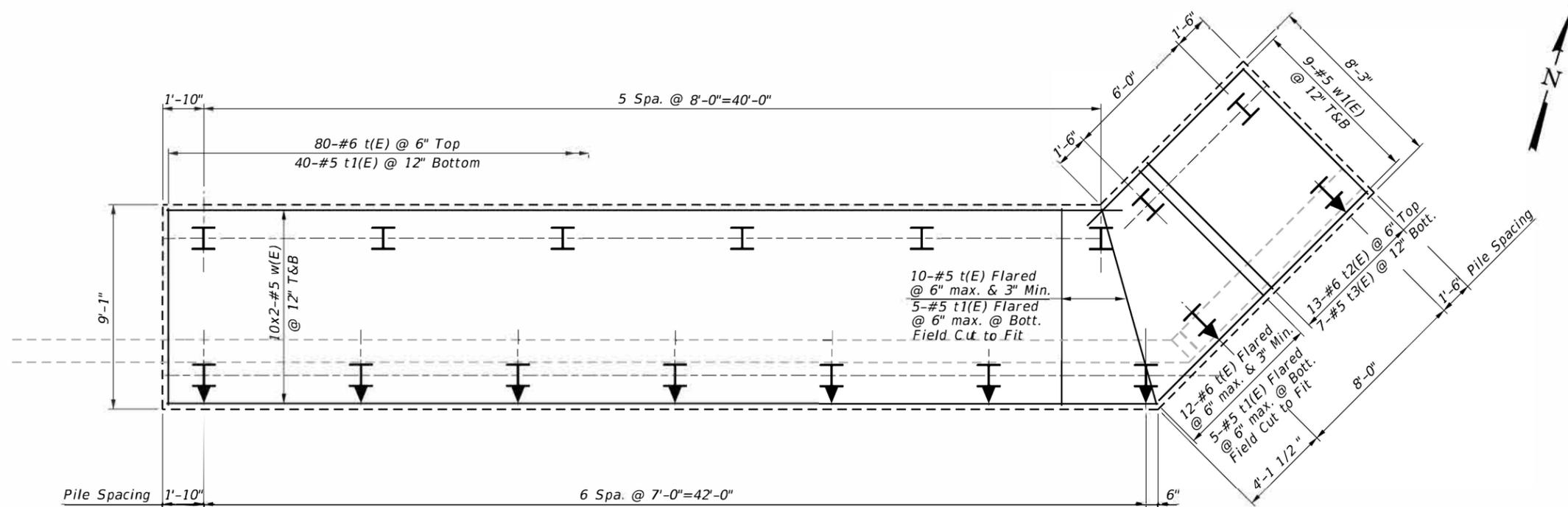
SCALE: SHEET S-10 OF 5-16 SHEETS STA. TO STA.

MUN RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
4115	14-00086-00-BR	COOK	44	23
CONTRACT NO. 61J38			ILLINOIS FED. AID PROJECT	









**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h(E)	48	#5	24'-9"	—
h2(E)	20	#5	10'-3"	—
h3(E)	2	#5	8'-10"	—
h4(E)		Not Used		
h5(E)	8	#5	6'-0"	—
h6(E)	7	#5	5'-0"	—
h7(E)	5	#5	3'-10"	—
h8(E)	3	#5	4'-2"	—
h9(E)	2	#5	8'-2"	—
h10(E)	2	#5	8'-6"	—
n(E)	126	#5	9'-10"	—
n2(E)	11	#6	8'-4"	—
u(E)	45	#5	4'-7"	—
v(E)	37	#5	5'-9"	—
v1(E)	37	#5	4'-0"	—
v2(E)	10	#5	6'-7"	—
v3(E)	10	#5	5'-0"	—
v4(E)	3	#5	18'-5"	—
v5(E)	11	#5	7'-10"	—
t(E)	102	#6	10'-5"	—
t1(E)	50	#5	8'-9"	—
t2(E)	13	#6	9'-5"	—
t3(E)	7	#5	7'-9"	—
w(E)	40	#5	24'-0"	—
w1(E)	18	#5	12'-3"	—
Structure Excavation		Cu. Yd.	345	
Concrete Structures		Cu. Yd.	69.9	
Reinforcement Bars, Epoxy Coated		Pound	7,440	
Furnishing Steel Piles HP 12x53		Foot	336	
Driving Piles		Foot	336	
Test Pile Steel HP 12x53		Each	1	

**PILE DATA**

Type: HP 12x53  
 Nominal Required Bearing: 419 Kip  
 Factored Resistance Available: 230 Kip  
 Est. Length: 21  
 No. Production Piles: 16  
 No. Test Piles: 1

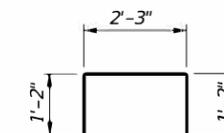
**FOUNDATION PLAN**



**BAR n(E)**

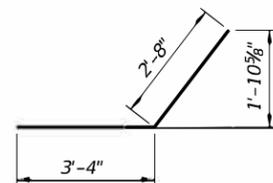


**BAR n2(E)**

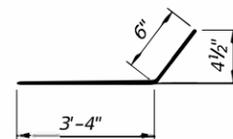


**BAR u(E)**

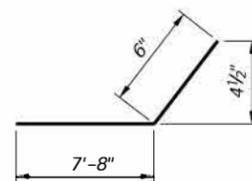
**MIN. BAR LAP**  
 #5 = 3'-7"



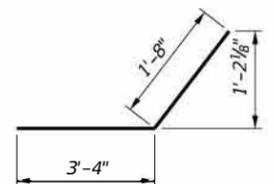
**BAR h5(E)**



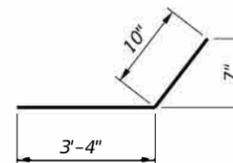
**BAR h7(E)**



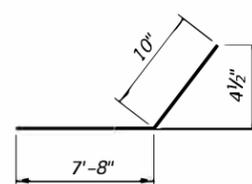
**BAR h9(E)**



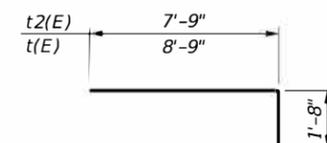
**BAR h6(E)**



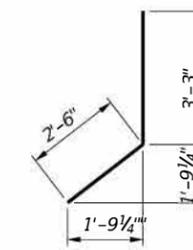
**BAR h8(E)**



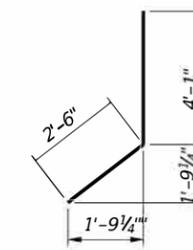
**BAR h10(E)**



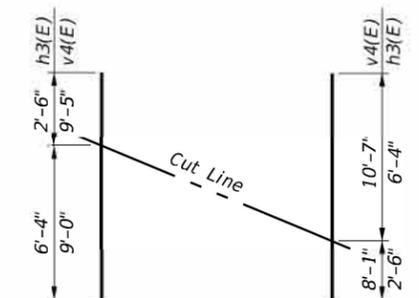
**BARS t(E) & t2(E)**



**BAR v(E)**



**BAR v2(E)**



**BARS v4(E) & h3(E)**

MODEL: Default  
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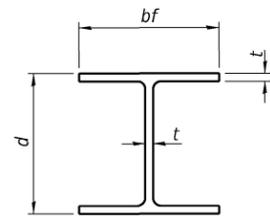
USER NAME = doconnell	DESIGNED - MM	REVISED -
PLOT SCALE =	DRAWN - MYG	REVISED -
PLOT DATE = 4/6/2023	CHECKED - JGS	REVISED -
	DATE -	REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**BROOKWOOD DRIVE BRIDGE REPLACEMENT  
 NORTH ABUTMENT FOUNDATION PLAN**

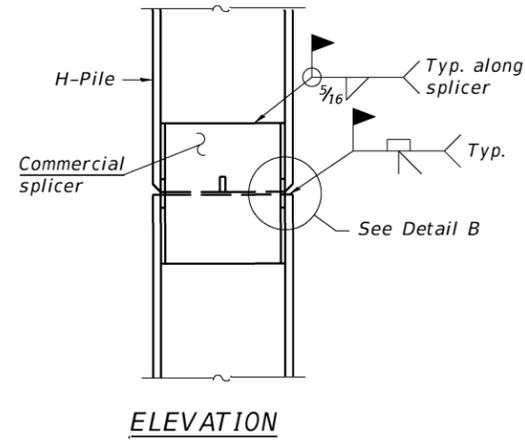
SCALE: SHEET S-14 OF 5-16 SHEETS STA. TO STA.

MUN. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
4115	14-00086-00-BR	COOK	44	27
CONTRACT NO. 61J38			ILLINOIS FED. AID PROJECT	

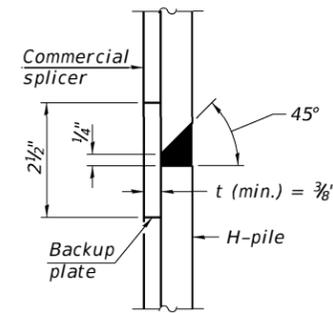


**STEEL PILE TABLE**

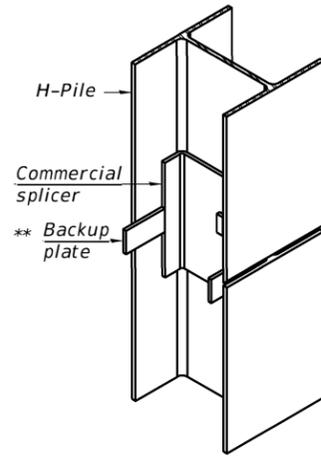
Designation	Depth d	Flange width bf	Web and Flange thickness t	Encasement diameter A
HP 14x117	14 1/4"	14 7/8"	1 3/16"	30"
x102	14"	14 3/4"	1 1/16"	30"
x89	13 7/8"	14 3/4"	5/8"	30"
x73	13 3/8"	14 3/8"	1/2"	30"
HP 12x84	12 1/4"	12 1/4"	1 1/16"	24"
x74	12 1/8"	12 1/4"	5/8"	24"
x63	12"	12 1/8"	1/2"	24"
x53	11 3/4"	12"	7/16"	24"
HP 10x57	10"	10 1/4"	9/16"	24"
x42	9 3/4"	10 1/8"	7/16"	24"
HP 8x36	8"	8 1/8"	7/16"	18"



**ELEVATION**

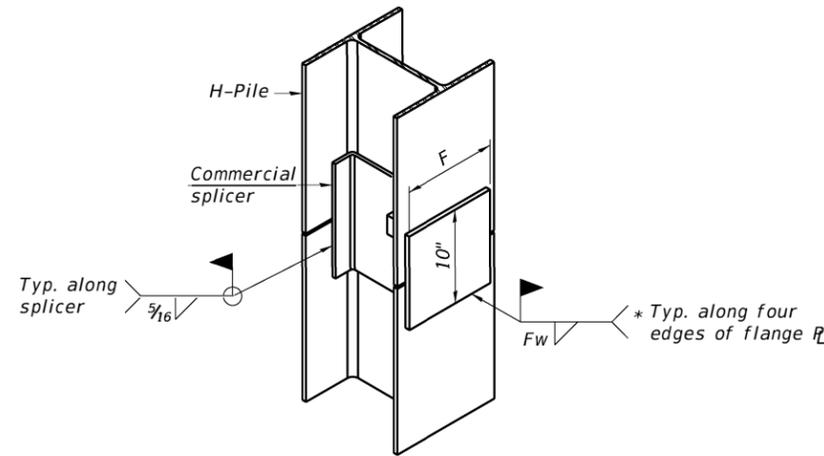


**DETAIL "B"**



**ISOMETRIC VIEW**

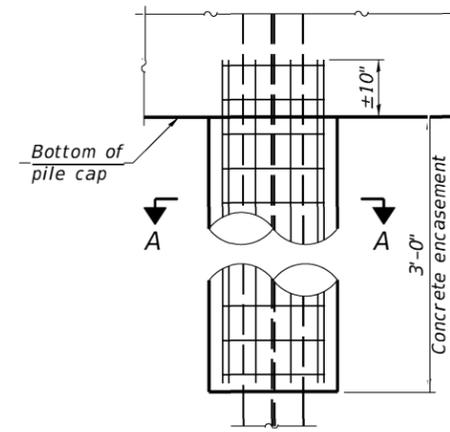
**WELDED COMMERCIAL SPLICE**



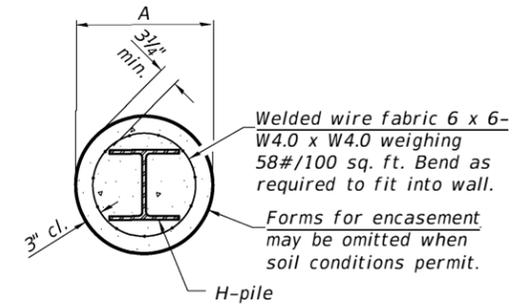
**ISOMETRIC VIEW**

**WELDED COMMERCIAL SPLICE ALTERNATE**

- \* Interrupt welds 1/4" 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.).

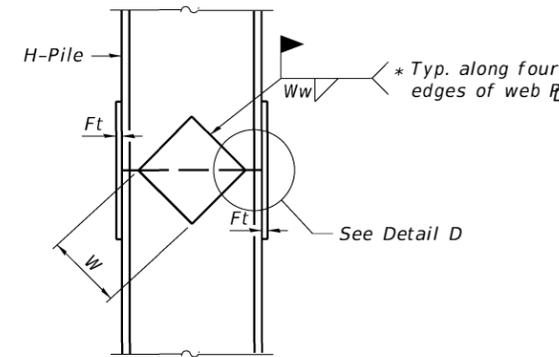


**ELEVATION**

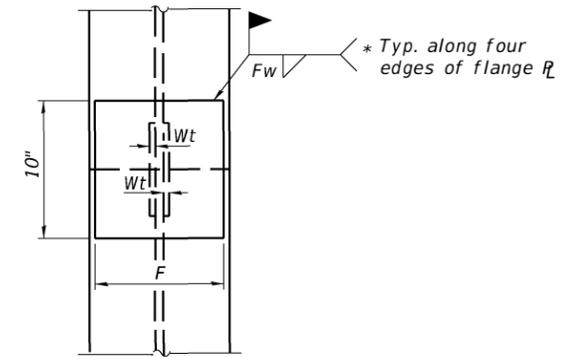


**SECTION A-A**

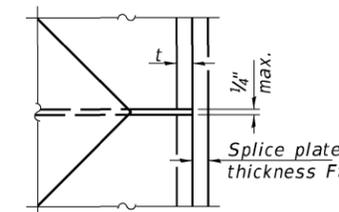
**INDIVIDUAL PILE CONCRETE ENCASUREMENT (when specified)**



**ELEVATION**



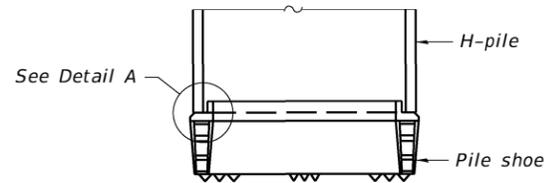
**END VIEW**



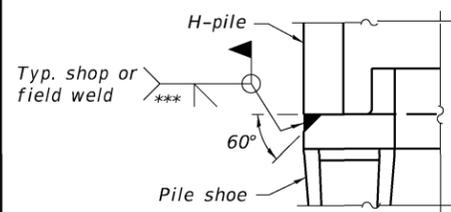
**DETAIL D**

**WELDED PLATE FIELD SPLICE**

Designation	F	Ft	Fw	W	Wt	Ww
HP 14x117	12 1/2"	1"	7/8"	7 3/4"	5/8"	1/2"
x102	12 1/2"	7/8"	3/4"	7 3/4"	5/8"	1/2"
x89	12 1/2"	3/4"	1 1/16"	7 3/4"	5/8"	1/2"
x73	12 1/2"	5/8"	9/16"	7 3/4"	5/8"	1/2"
HP 12x84	10"	7/8"	1 1/16"	6 1/2"	5/8"	1/2"
x74	10"	7/8"	1 1/16"	6 1/2"	5/8"	1/2"
x63	10"	5/8"	1/2"	6 1/2"	1/2"	3/8"
x53	10"	5/8"	1/2"	6 1/2"	1/2"	3/8"
HP 10x57	8"	3/4"	9/16"	5 1/4"	1/2"	3/8"
x42	8"	5/8"	9/16"	5 1/4"	1/2"	3/8"
HP 8x36	7"	5/8"	7/16"	4 1/4"	1/2"	3/8"



**ELEVATION**



**DETAIL A**

**SHOE ATTACHMENT**

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

1-1-2020

USER NAME = docconnell	DESIGNED - MM	REVISED -
PLOT SCALE =	DRAWN - MYG	REVISED -
PLOT DATE = 4/6/2023	CHECKED - JGS	REVISED -
	DATE -	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**BROOKWOOD DRIVE BRIDGE REPLACEMENT  
HP PILE DETAILS**

SCALE: SHEET S-15 OF 5-16 SHEETS STA. TO STA.

MUN. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
4115	14-00086-00-BR	COOK	44	28
CONTRACT NO. 61J38			ILLINOIS FED. AID PROJECT	

MODEL: Default  
FILE NAME: R:\0505mod\220309Struct\15-220309-HP\_Pile.dwg



Benchmark: OSBM 1- NNW bolt on fire hydrant opposite house at 1705 Brookwood Dr.  
Elev: 658.43

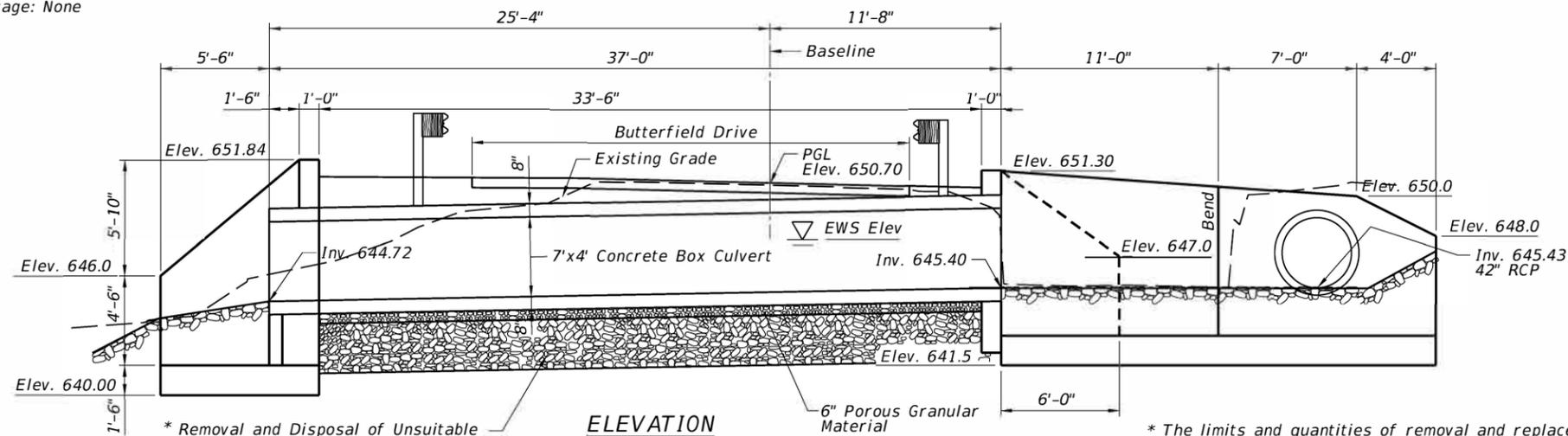
Existing Structure: Existing structure is a 6'x3.5' culvert cast-in-place concrete. The date of original construction is unknown. The culvert will be removed completely and re-placed with new culvert at west of existing one.

Traffic to be maintained utilizing stage construction.

Salvage: None

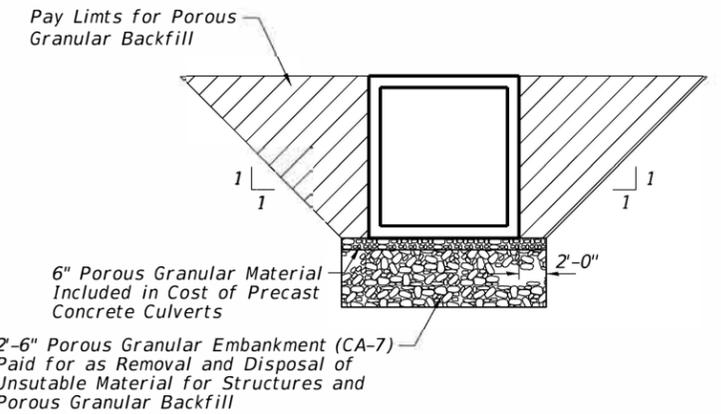
**INDEX OF SHEET**

- C-1 Proposed Box Culvert - General Plan and Elevation
- C-2 Proposed Box Culvert - General Notes and Details
- C-3 Proposed Box Culvert - SW Wingwall Details
- C-4 Proposed Box Culvert - NW and NE Wingwall Details
- C-5 Proposed Box Culvert - Culvert Details
- C-6 Proposed Box Culvert - Boring Logs



\* Removal and Disposal of Unsuitable Material for Structure, Replace with Porous Granular Backfill

\* The limits and quantities of removal and replacement are shown based on the boring data and maybe modified by the District Geotechnical and Field Engineers for variable subsurface conditions encounter in the field.



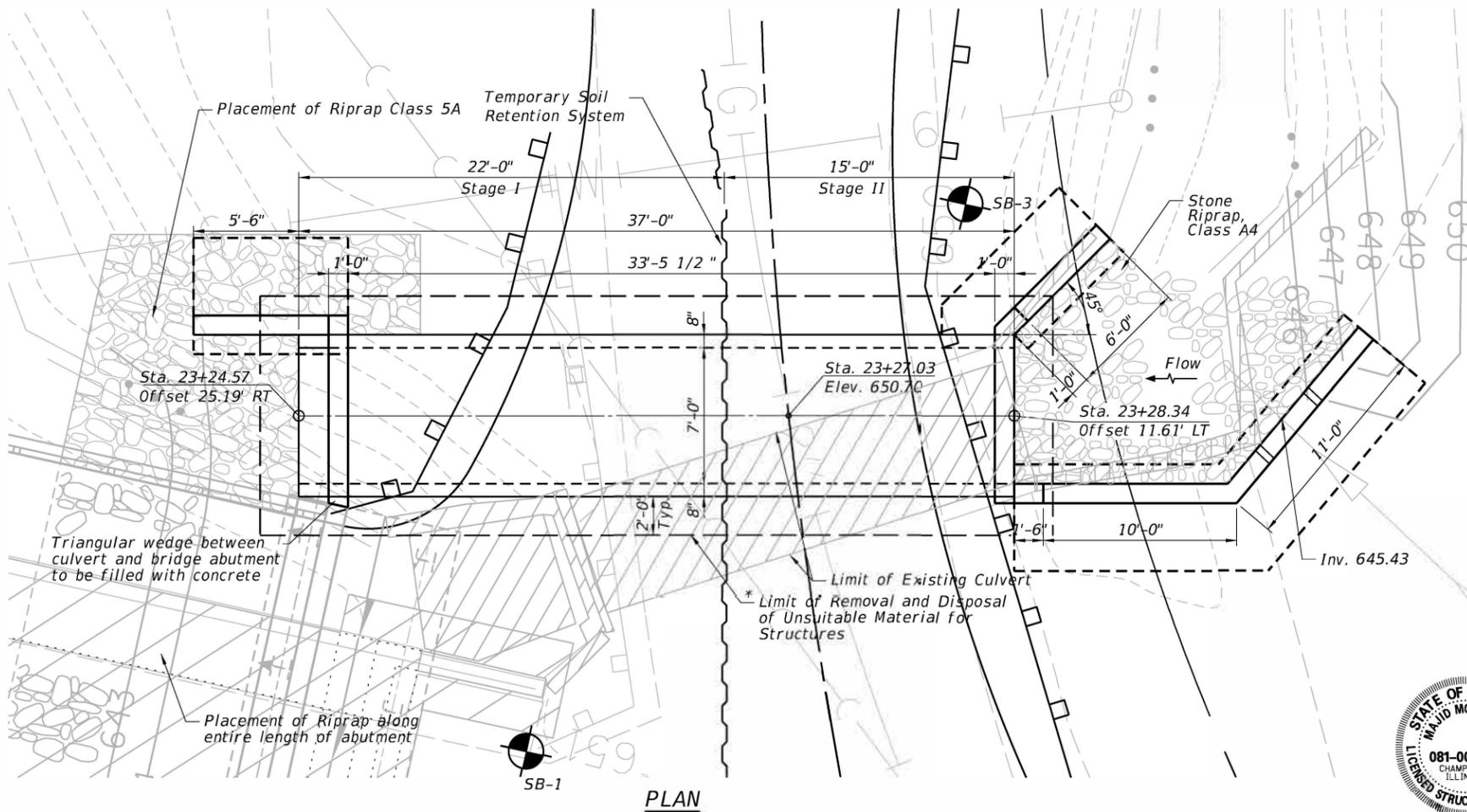
**PAY LIMITS FOR POROUS GRANULAR BACKFILL**  
(Hatched area)

**LOADING HL-93**  
Allow 50#/sq. ft. for future wearing surface.

**DESIGN SPECIFICATIONS**  
2020 AASHTO LRFD Bridge Design Specifications, 9th Edition with Iterims

**DESIGN STRESSES**  
FIELD UNITS

- $f'_c = 3,500$  psi (C.I.P. Concrete)
- $f'_c = 5,000$  psi (Precast Concrete)
- $f_y = 60,000$  psi (Reinforcement Bars)
- $f_y = 65,000$  psi (Welded Wire Fabric)



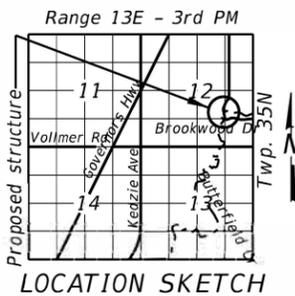
Triangular wedge between culvert and bridge abutment to be filled with concrete

Placement of Riprap along entire length of abutment

Limit of Existing Culvert  
\* Limit of Removal and Disposal of Unsuitable Material for Structures



**PROFILE GRADE**



**LOCATION SKETCH**

I Certify That To The Best Of My Knowledge, Information And Belief, This Bridge 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 Current "AASHTO LRFD Bridge Design Specification For Highway And Bridges".



**MAJID MOBASSERI**  
ILLINOIS REGISTRATION No. 081-005058 STRUCTURAL ENGINEER  
EXPIRATION DATE: 11/30/24

**GENERAL PLAN**  
**BUTTERFIELD ROAD OVER**  
**BUTTERFIELD CREEK**  
**SECTION 14-00048-00-BR**  
**COOK COUNTY**

MODEL: Default  
FILE NAME: \\11055mop\2320309\Struct17-2320309-CRF-Culvert.rvt

USER NAME = doconnell	DESIGNED - MM	REVISED -
	DRAWN - MYG	REVISED -
PLOT SCALE =	CHECKED - JGS	REVISED -
PLOT DATE = 4/6/2023	DATE -	REVISED -

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**BROOKWOOD DRIVE BRIDGE REPLACEMENT**  
**PROPOSED BOX CULVERT - GENERAL PLAN AND ELEVATION**

SCALE: SHEET C-1 OF C-6 SHEETS STA. TO STA.

MUN. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
4115	14-00086-00-BR	COOK	44	30
			CONTRACT NO. 61J38	
ILLINOIS FED. AID PROJECT				

**GENERAL NOTES**

1. All work and materials shall be in accordance with the Illinois Department of Transportation (IDOT) Standard Specifications for Road and Bridge Construction adopted January 1, 2022 and the IDOT Supplemental Specifications and Recurring Special Provisions, Adopted January 1, 2023, unless noted otherwise.
2. The Contractor shall verify all dimensions in the field prior to commencing work. The engineer shall be notified of any discrepancies which may exist, prior to proceeding with the work.
3. Any information concerning type or location of underground and other utilities is not guaranteed to be accurate or all inclusive. The Contractor is responsible for making his own determinations as to the type and location of the utilities as may be necessary to avoid damage thereto. Contractor shall call J.U.L.I.E. prior to excavation.
4. Cantilevered sheet piling design may not be feasible due to potential conflict with existing utilities and depth of bedrock. The Contractor shall submit a temporary soil retention system design including plan details and calculations for review and acceptance by the Engineer.
5. The excavation and work area shall be properly drained at all times during construction. All wet, loose, frozen or other unsuitable material shall be removed prior to placement of concrete or compacted backfill. The cost of any pumping required shall be included in the cost of Precast Concrete Box Culverts.
6. Foundation design is based on soil information provided in Testing Service Corporation Report L-83, 916, dated September 16, 2020. Contractor shall have a geotechnical engineer to field verify the allowable bearing capacity under the box culvert and wingwall exceeds 3000 psf. Cost included in "Precast Concrete Box Culverts".
7. It shall be the responsibility of the Contractor to divert the stream flow during construction in order to keep the construction areas free of water. The method of water diversion shall be subject to the approval of the Engineer and cost shall be included with "Precast Concrete Box Culvert".
8. Layout of slope protection system may be varied in the field to suit ground conditions as directed by the Engineer.
9. For backfilling and embankment, see Standard Specifications.

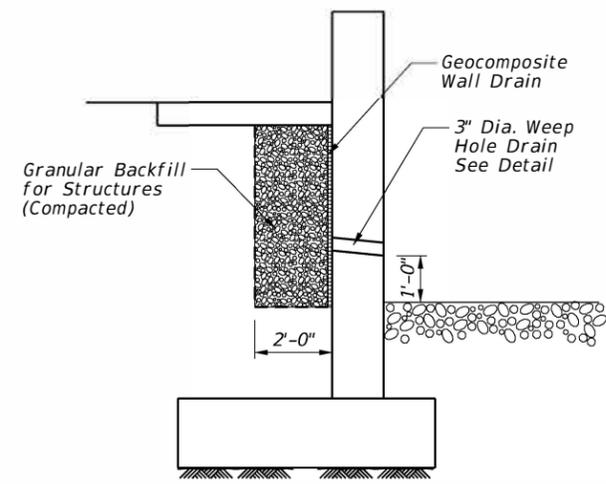
**CAST-IN-PLACE CONCRETE NOTES:**

1. All cast-in-place concrete work shall be in accordance with section 503 of the Illinois Department of Transportation (IDOT) Standard Specifications for Road and Bridge Construction adopted January 1, 2022, supplemental specifications and recurring special provisions and as noted below.
2. Reinforcement bars shall conform to the requirements of ASTM A 706 GR60.
3. Exposed edges of cast-in-place concrete shall be beveled 3/4".
4. All construction joints shall be bonded.
5. Cover from the face of concrete to face of reinforcement bars shall be 3" for surfaces cast against earth and 2" for all other surfaces unless otherwise noted.

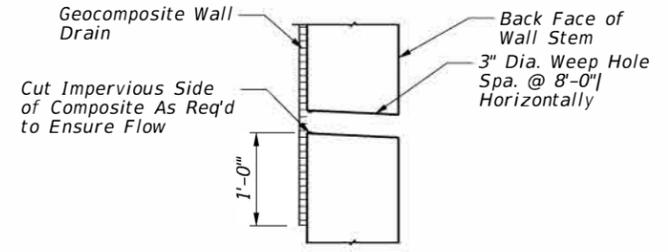
6. Contractor shall coordinate with Precast Box Culvert Manufacturer to account for possible creep between box segments.

**PRECAST CONCRETE BOX CULVERT**

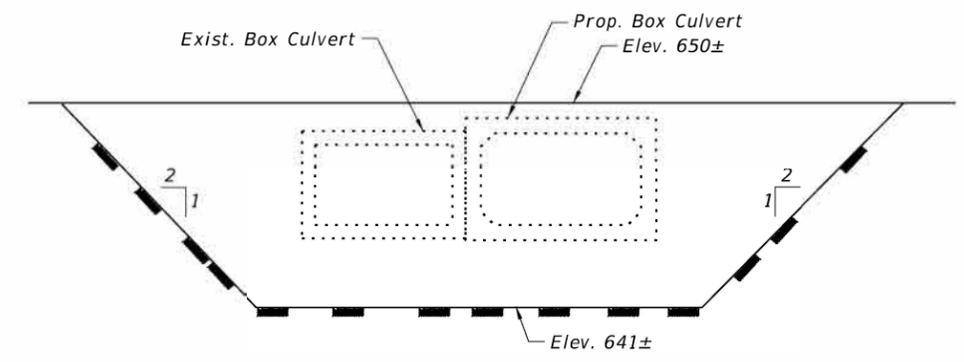
1. All precast concrete box culvert work shall be in accordance with sections 504 and 540 of the Illinois Department of Transportation Standard Specifications for Road and Bridge Construction adopted January 1, 2022, supplemental specifications and recurring special provisions and as noted below.
2. The precast concrete box culvert is a performance based system. The contractor shall be responsible for providing the design, engineering, fabrication and installation of the precast concrete box culvert. The contractor shall submit to the engineer calculations and shop drawings sealed by a Structural Engineer licensed in the state of Illinois for review prior to fabricating the precast concrete box culvert. Precast concrete box culverts shall conform to the requirements of ASTM C1577. The shop drawings shall include the bar splicers locations and details.
3. Bar splicers shall be installed at the locations shown on the drawings by the precast concrete box culvert manufacturer. Cost of bar splicers are included in Precast Box Culverts.



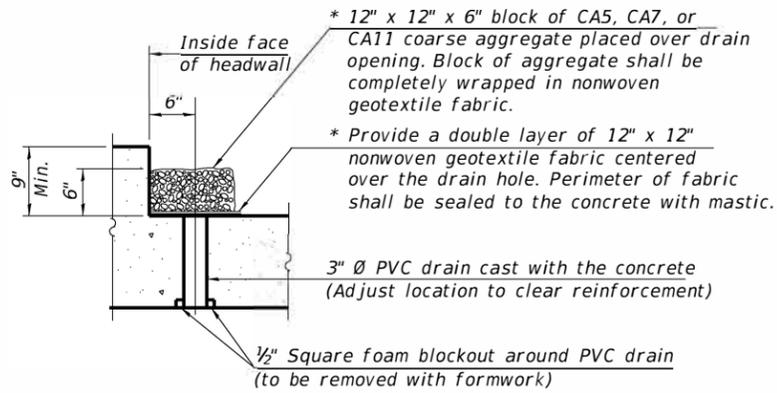
**TYPICAL SECTION THRU WALL**



**WEEP HOLE DRAIN DETAIL**



**TEMPORARY SOIL RETENTION SYSTEM**



**DRAIN DETAIL**

(All costs associated with furnishing and constructing the above drain detail will not be measured for payment but shall be included in the contract unit price for the Precast Concrete Box Culvert, 7'x4')

Nonwoven geotextile fabric shall conform to the requirements of Article 1080.01 of the Standard Specifications. The minimum weight of the fabric shall be 6 ounces per square yard.

**TOTAL BILL OF MATERIAL**

PAY ITEM	ITEM	UNIT	QUANTITY
20900110	POROUS GRANULAR BACKFILL	CU YD	135
50200100	STRUCTURE EXCAVATION	CU YD	245
50200450	REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL FOR STRUCTURES	CU YD	60
50300225	CONCRETE STRUCTURES	CU YD	21.5
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	2120
52200020	TEMPORARY SOIL RETENTION SYSTEM	SQ FT	250
54010704	PRECAST CONCRETE BOX CULVERTS 7' X 4'	FOOT	37
59100100	GEOCOMPOSITE WALL DRAIN	SQ YD	75
X0900064	MEMBRANE WATERPROOFING SYSTEM FOR BURIED STRUCTURES	SQ YD	45
X1200050	BOX CULVERT REMOVAL	FOOT	33

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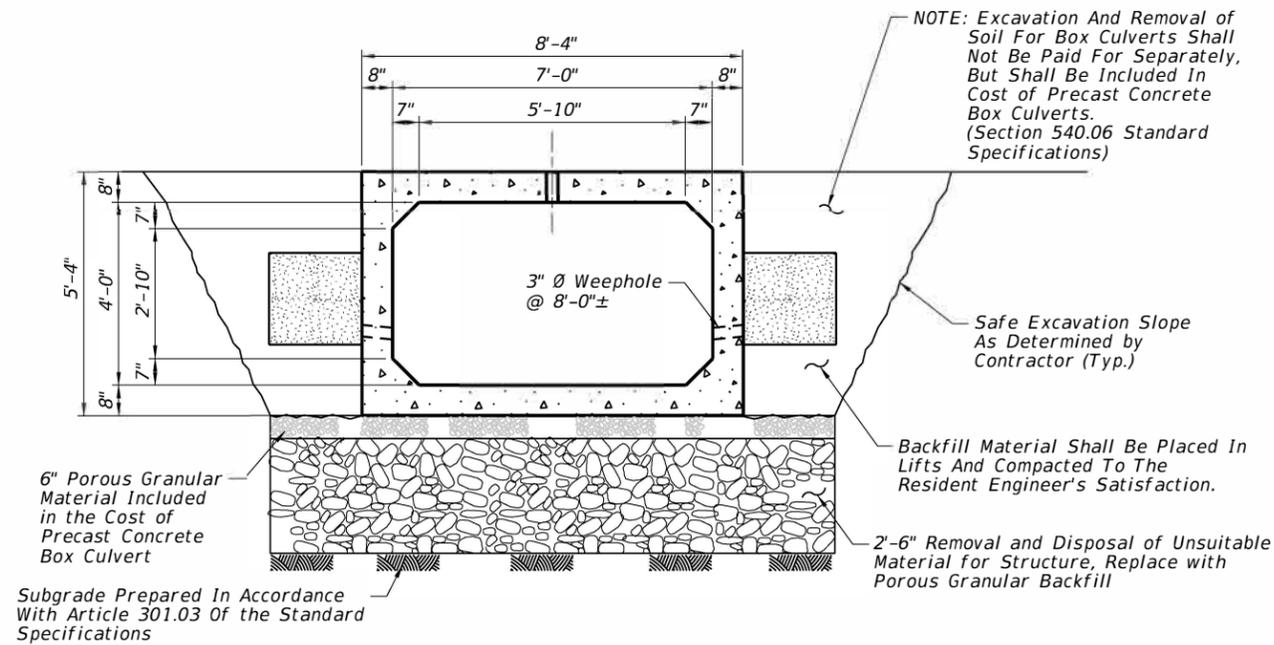
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PLOT SCALE =	DRAWN - MYG	REVISED -
PLOT DATE = 4/6/2023	CHECKED - JGS	REVISED -
	DATE -	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

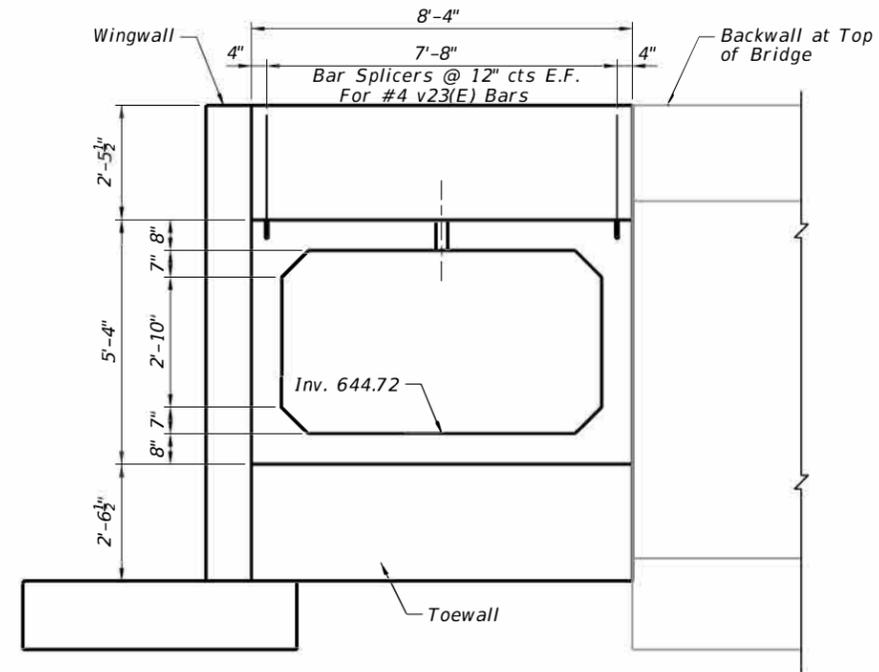
**BROOKWOOD DRIVE BRIDGE REPLACEMENT  
PROPOSED BOX CULVERT - GENERAL NOTES AND DETAILS**

MUN. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
4115	14-00086-00-BR	COOK	44	31
CONTRACT NO. 61J38				
ILLINOIS FED. AID PROJECT				

SCALE: SHEET C-2 OF C-6 SHEETS STA. TO STA.



TYPICAL SECTION THRU PRECAST CULVERT



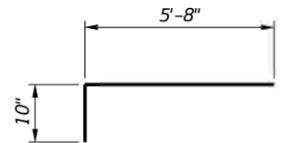
END VIEW

BILL OF MATERIAL

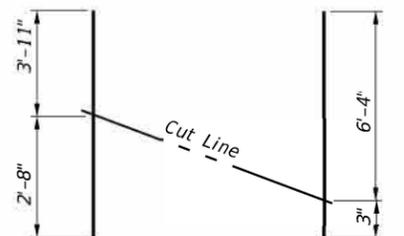
Bar	No.	Size	Length	Shape
h20(E)	10	#4	7'-8"	—
h21(E)	6	#4	6'-7"	—
h22(E)	4	#4	8'-0"	—
n20(E)	9	#5	5'-2"	⌋
v20(E)	4	#5	10'-0"	—
v21(E)	7	#4	14'-6"	—
v22(E)	9	#4	2'-3"	—
t20(E)	9	#5	6'-6"	└
t21(E)	9	#4	5'-8"	—
w20(E)	12	#4	7'-8"	—
Structure Excavation		Cu. Yd.	40	
Concrete Structures		Cu. Yd.	5.0	
Reinforcement Bars, Epoxy Coated		Pound	450	



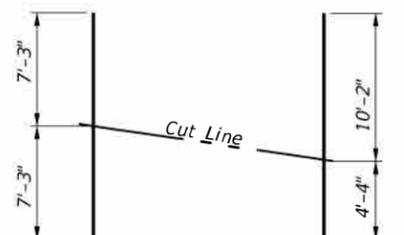
BAR n20(E)



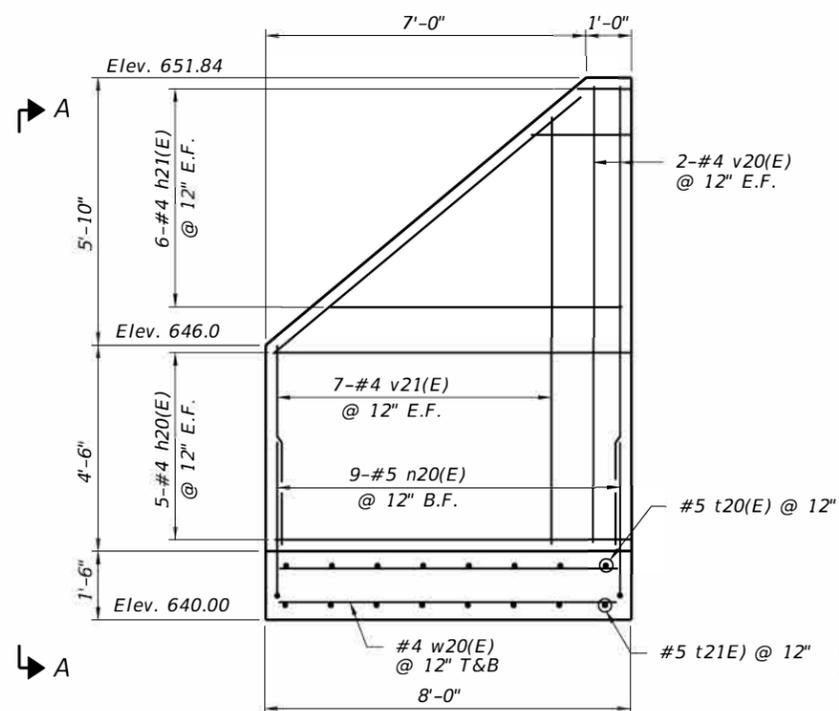
BARS t20(E)



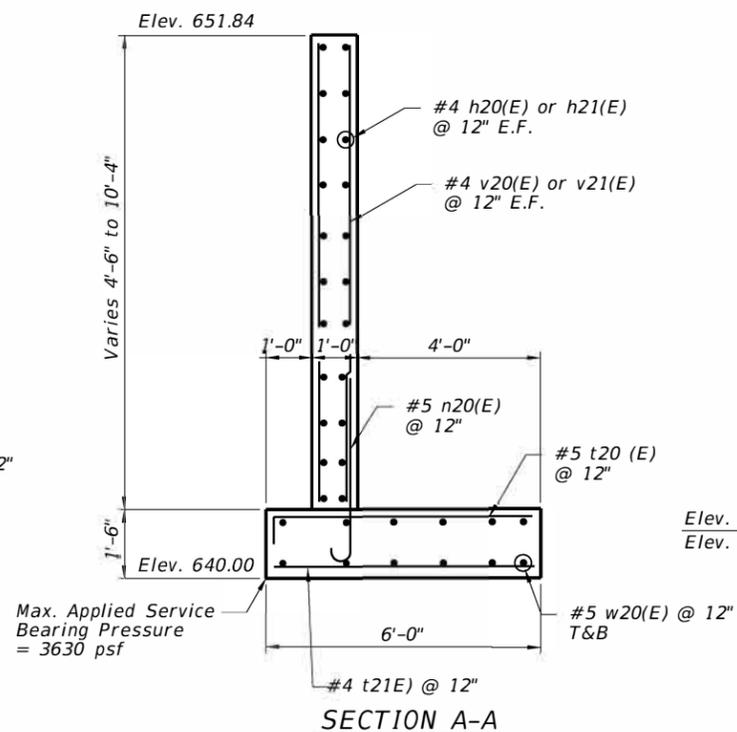
BARS h21(E)  
(Discard the shortest piece)



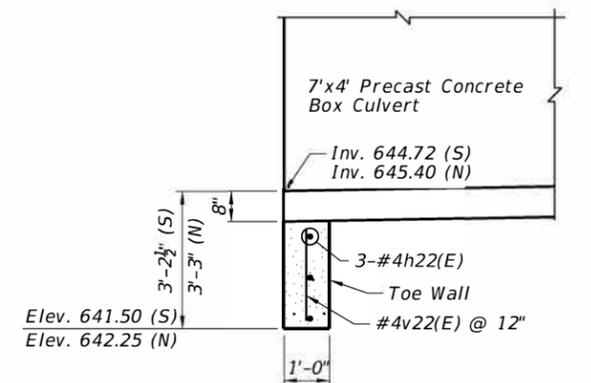
BARS v21(E)



ELEVATION S.W. WALL



SECTION A-A



TOEWALL DETAIL (BOTH ENDS)

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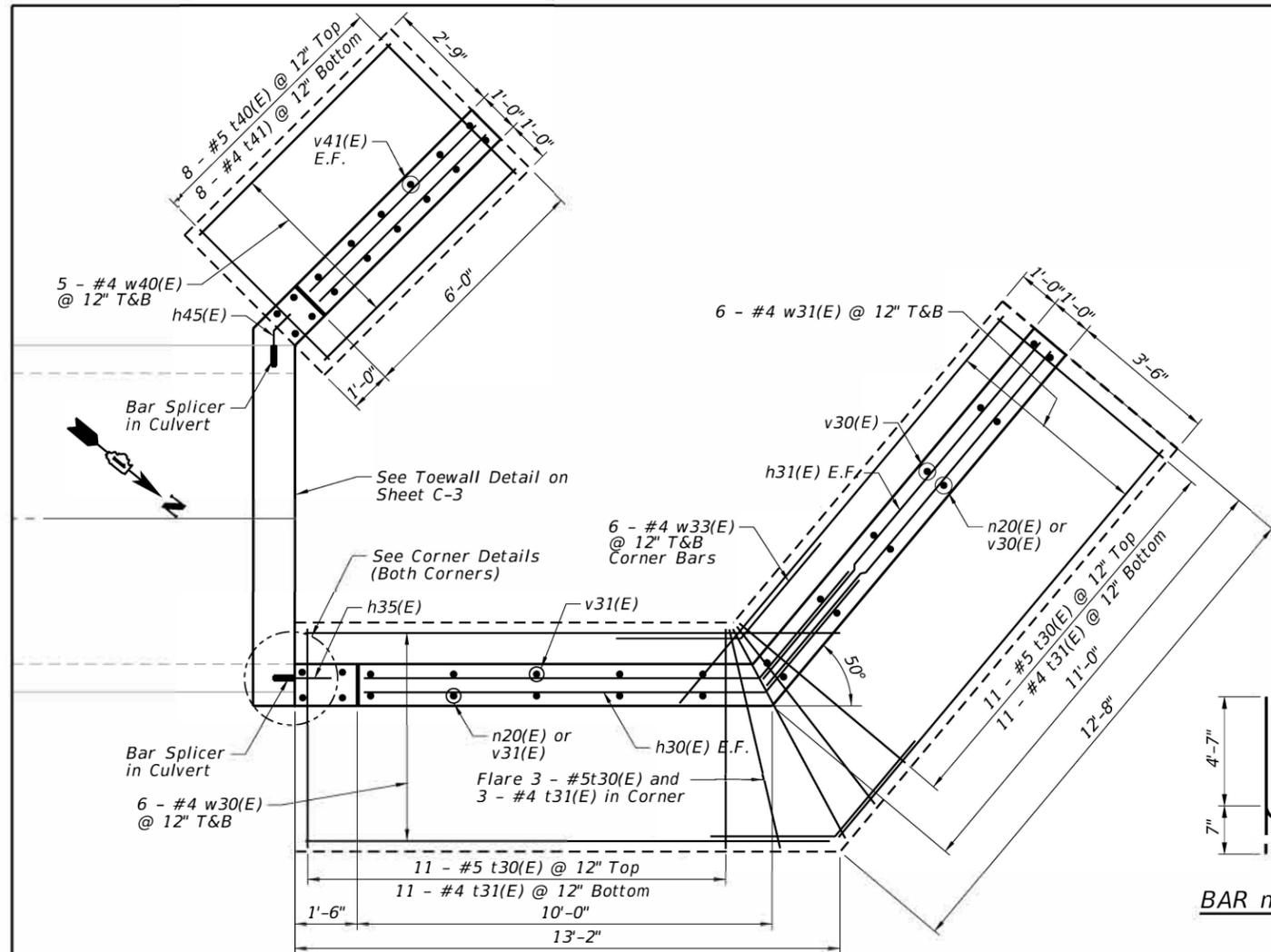
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	DATE -	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

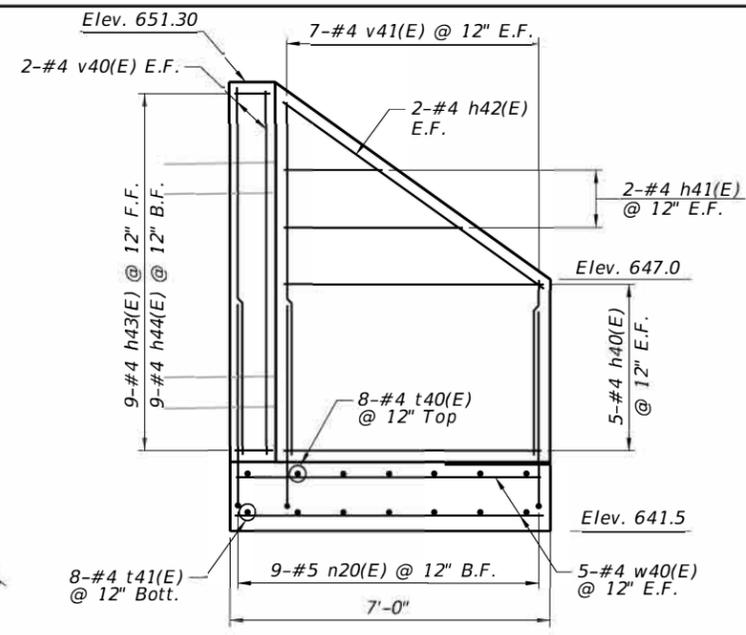
BROOKWOOD DRIVE BRIDGE REPLACEMENT  
PROPOSED BOX CULVERT - SW WINGWALL DETAILS

SCALE: SHEET C-3 OF C-6 SHEETS STA. TO STA.

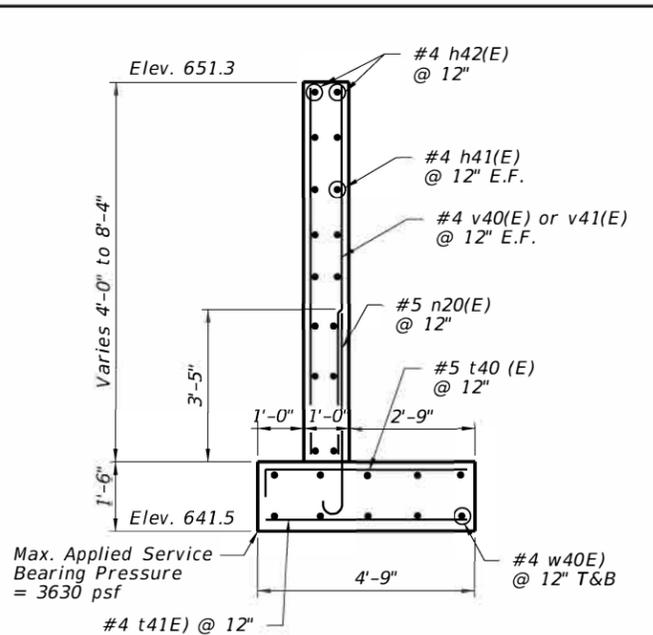
MUN. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
4115	14-00086-00-BR	COOK	44	32
CONTRACT NO. 61J38				
ILLINOIS FED. AID PROJECT				



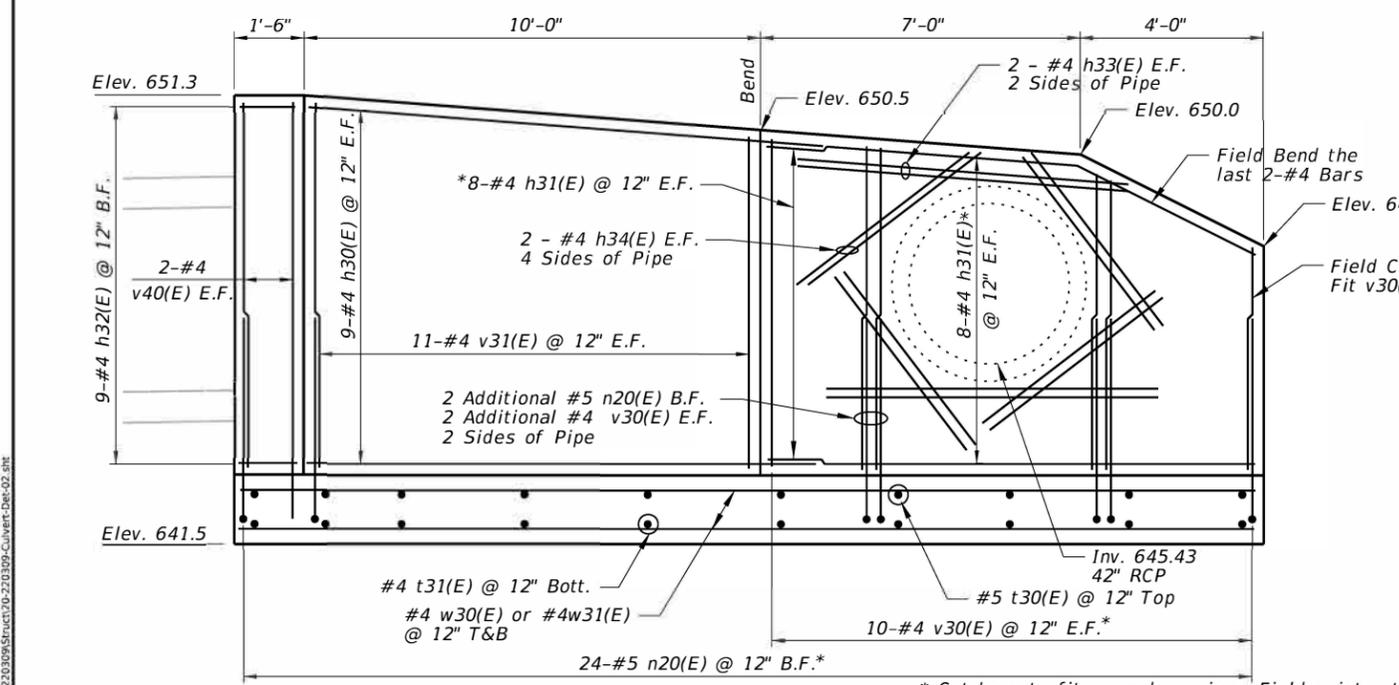
PLAN - NORTH END



ELEVATION - NORTHWEST WALL

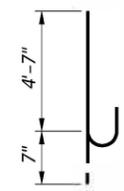


SECTION - NORTHWEST WALL

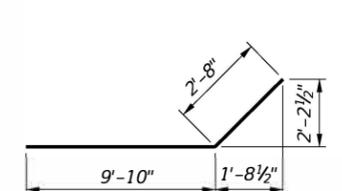


ELEVATION - NORTHEAST WALL

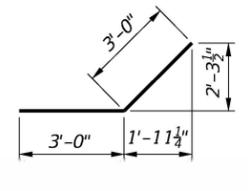
\* Cut bars to fit around opening. Field paint cut ends with epoxy paint. Cost of cutting and painting ends of bars shall be included in the cost of Reinforcement Bars, Epoxy Coated.



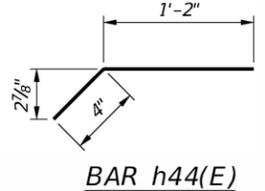
BAR n20(E)



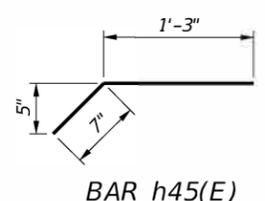
BAR h30(E)



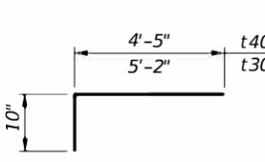
BAR w32(E)



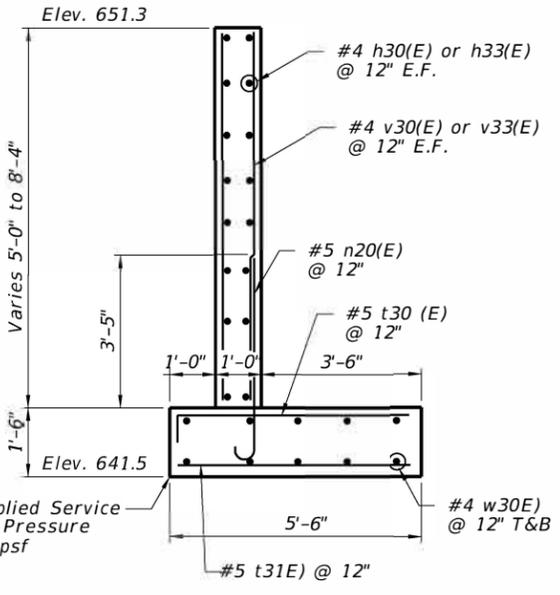
BAR h44(E)



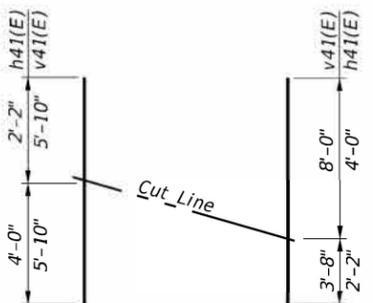
BAR h45(E)



BARS t30(E) & t40(E)



SECTION - NORTHEAST WALL



BARS v41(E) & h41(E)

NW AND NE WALLS  
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h22(E)	7	#4	8'-0"	—
h30(E)	18	#4	12'-6"	—
h31(E)	16	#4	10'-10"	—
h32(E)	18	#4	1'-2"	—
h33(E)	8	#4	7'-3"	—
h34(E)	16	#4	4'-9"	—
h35(E)	5	#4	1'-6"	—
h40(E)	10	#4	5'-8"	—
h41(E)	2	#4	6'-2"	—
h42(E)	2	#4	7'-0"	—
h43(E)	9	#4	1'-0"	—
h44(E)	9	#4	1'-6"	—
h45(E)	5	#4	1'-10"	—
n20(E)	37	#5	5'-2"	—
v22(E)	9	#4	2'-3"	—
v23(E)	16	#4	2'-8"	—
v24(E)	8	#4	1'-4"	—
v30(E)	28	#4	6'-10"	—
v31(E)	22	#4	7'-4"	—
v40(E)	8	#4	8'-2"	—
v41(E)	7	#4	11'-8"	—
t30(E)	25	#5	6'-2"	—
t31(E)	25	#4	5'-2"	—
t40(E)	8	#5	5'-5"	—
t41(E)	8	#4	4'-5"	—
w30(E)	12	#4	12'-10"	—
w31(E)	12	#4	12'-4"	—
w32(E)	12	#4	6'-0"	—
w40(E)	10	#4	6'-8"	—
Reinforcement Bars, Epoxy Coated		Lbs.	1,670	
Concrete Structures		Cu. Yds.	16.6	

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 DATE: 4/6/2023

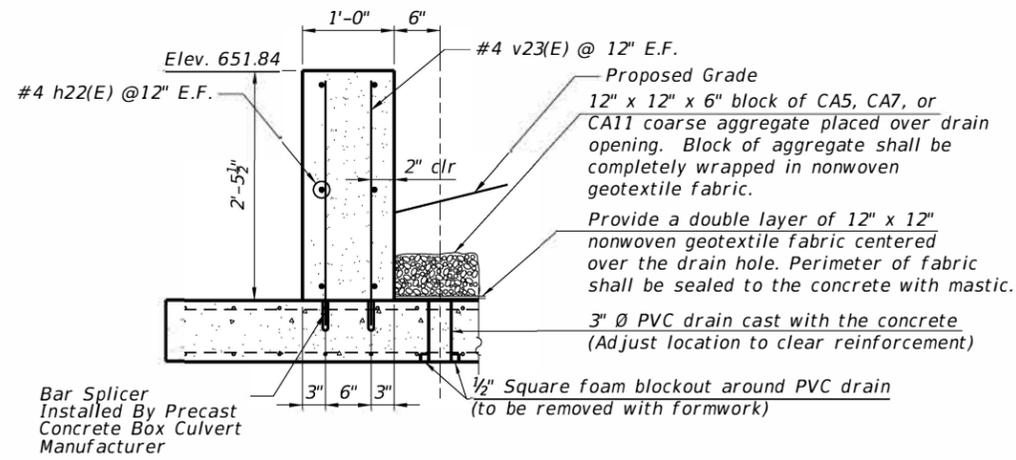
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PLOT SCALE =	DRAWN - MYG	REVISED -
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	DATE -	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

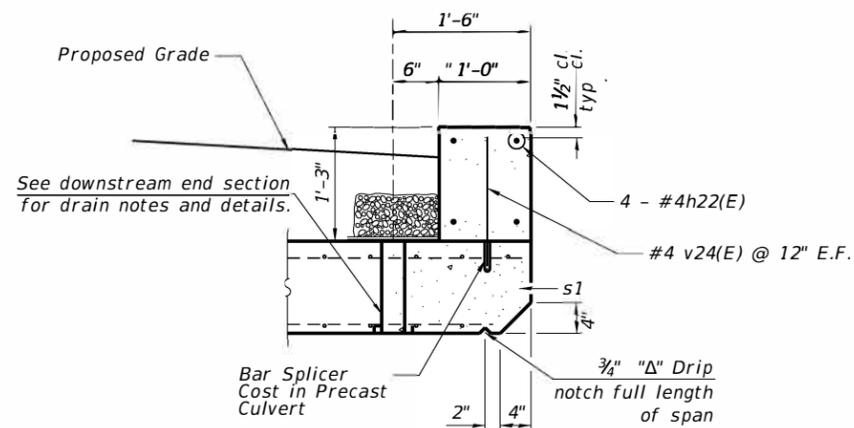
BROOKWOOD DRIVE BRIDGE REPLACEMENT  
PROPOSED BOX CULVERT - NW AND NE WINGWALL DETAILS

SCALE: SHEET C-4 OF C-6 SHEETS STA. TO STA.

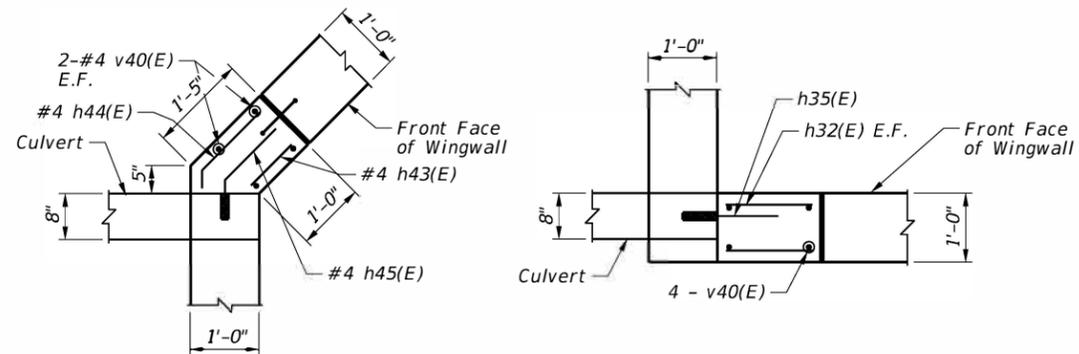
MUN. RTE. 4115	SECTION 14-00086-00-BR	COUNTY COOK	TOTAL SHEETS 44	SHEET NO. 33
CONTRACT NO. 61J38			ILLINOIS FED. AID PROJECT	



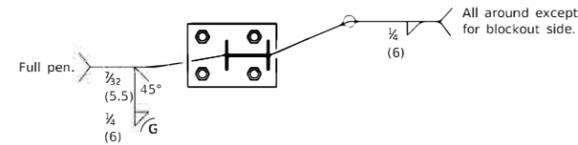
**HEADWALL SECTION**  
(Downstream End)



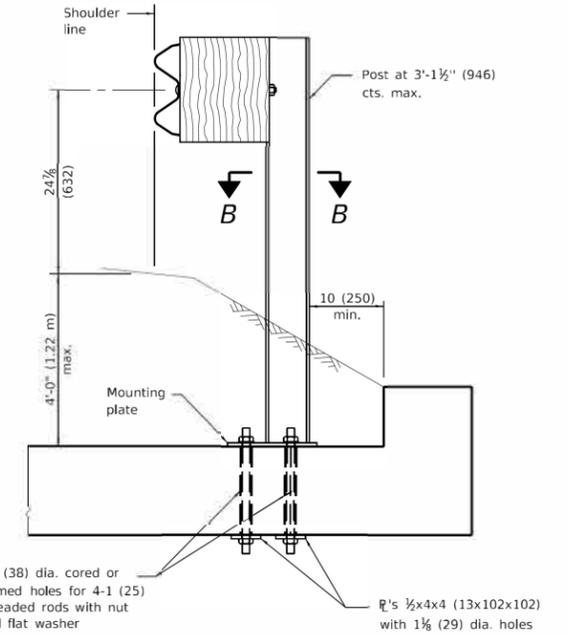
**HEADWALL SECTION**  
(Upstream End)



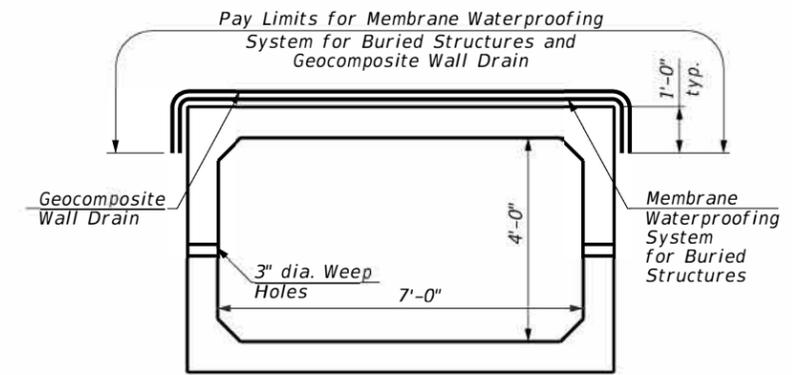
**CORNER DETAILS**  
(Upstream End)



**SECTION B-B**



**RAIL POST CONNECTION DETAIL**



**MEMBER WATERPROOFING**  
**FOR BURIED STRUCTURES**

MODEL: Default  
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PLOT SCALE =	DRAWN - MYG	REVISED -
PLOT DATE = 4/6/2023	CHECKED - JGS	REVISED -
	DATE -	REVISED -

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

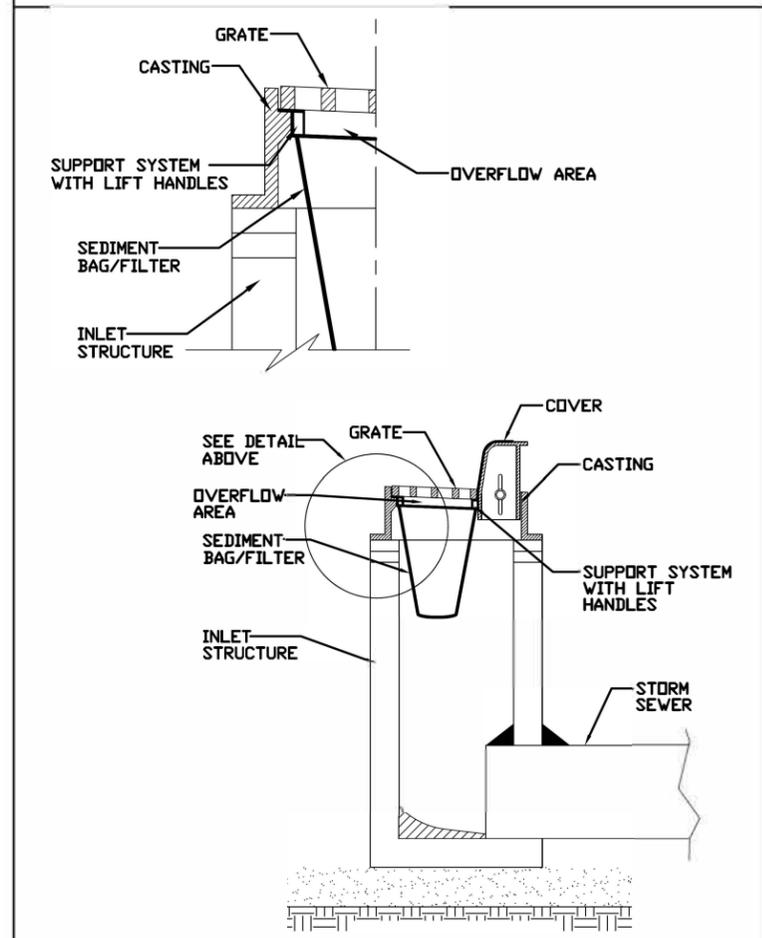
**BROOKWOOD DRIVE BRIDGE REPLACEMENT**  
**PROPOSED BOX CULVERT - CULVERT DETAILS**

SCALE: SHEET C-5 OF C-6 SHEETS STA. TO STA.

MUN. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
4115	14-00086-00-BR	COOK	44	34
CONTRACT NO. 61J38				
ILLINOIS FED. AID PROJECT				



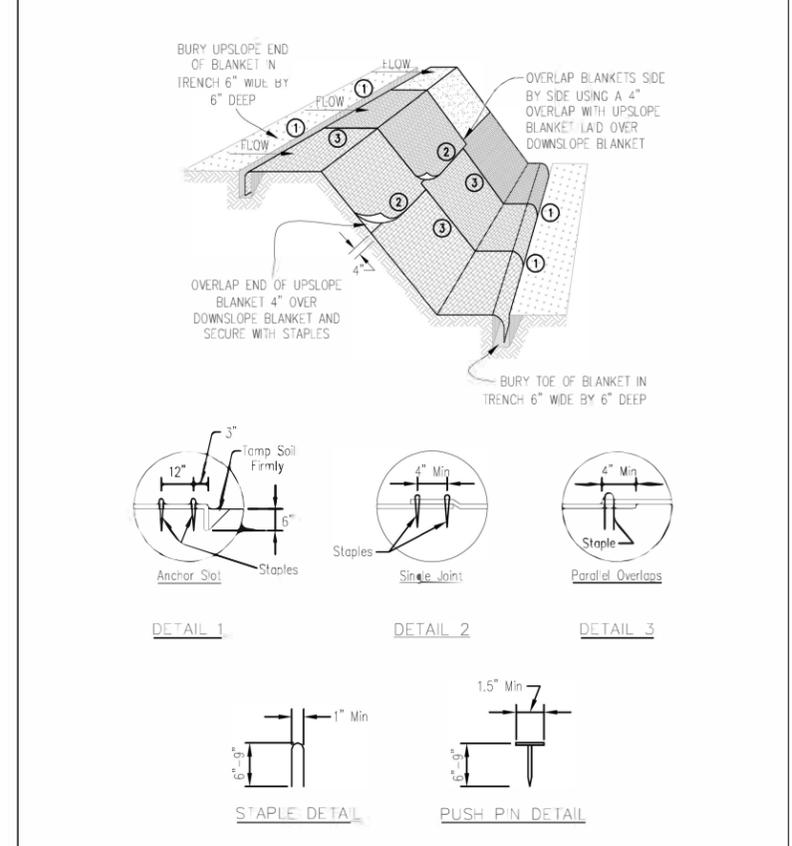
# INLET PROTECTION - PAVED AREAS DROP-IN PROTECTION



REFERENCE	STANDARD DWG. NO.
Project _____	IUM-561D
Designed _____ Date _____	SHEET 1 OF 1
Checked _____ Date _____	DATE 01-11-11
Approved _____ Date _____	

INLET FILTER

AUTOCAD2006

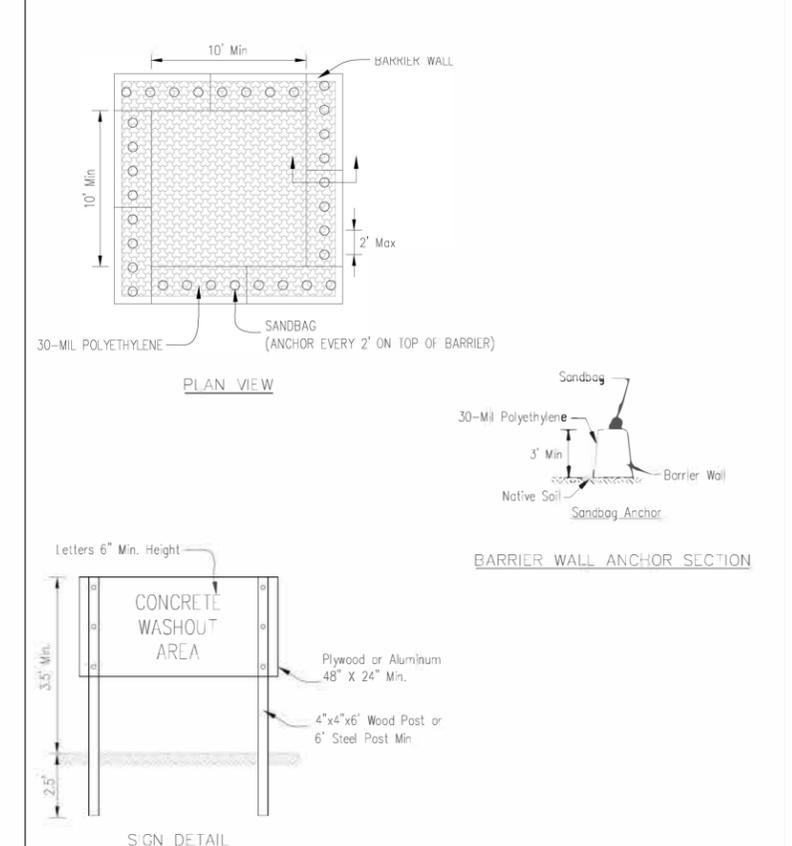


- NOTES:
1. Staples shall be placed in a diamond pattern at 2 per s.y. for stiched blankets. Non-stiched shall use 4 staples per s.y. of material. This equates to 200 staples with stiched blanket and 400 staples with non-stiched blanket per 100 s.y. of material.
  2. Staple or push pin lengths shall be selected based on soil type and conditions, (minimum staple length is 6").
  3. Erosion control material shall be placed in contact with the soil over a prepared seedbed.
  4. All anchor slots shall be stapled at approximately 12" intervals.

DESIGNED	DATE
Drawn B. JOHNSON	11/08
CHECKED	
APPROVED	

## EROSION CONTROL BLANKET INSTALLATION DETAILS

AUTOCAD2006

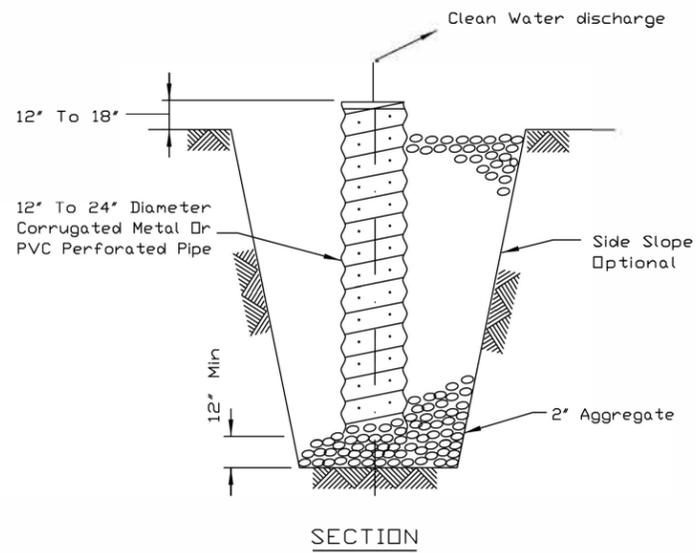


- NOTES:
1. Maintaining temporary concrete washout facilities shall include removing and disposing of hardened concrete and/or slurry and returning the facilities to a functional condition.
  2. Facility shall be cleaned or reconstructed in a new area once washout becomes two-thirds full.

DESIGNED	DATE
Drawn B. JOHNSON	8/08
CHECKED	
APPROVED	

## TEMPORARY CONCRETE WASHOUT FACILITY - BARRIER WALL

### SUMP PIT PLAN

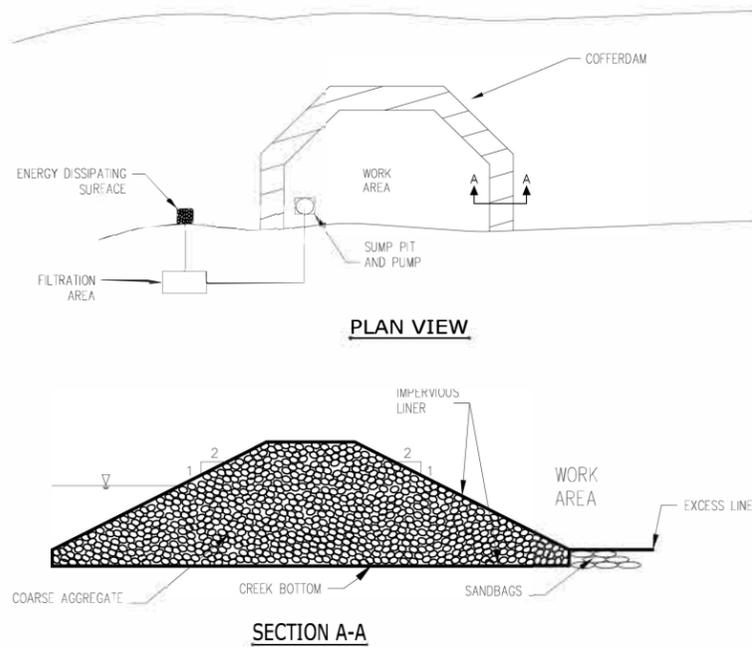


- NOTES:
1. Pit dimensions are optional.
  2. The standpipe will be constructed by perforating a 12"-24" diameter corrugated metal or PVC pipe.
  3. A base of 2" aggregate will be placed in the pit to a minimum depth of 12". After installing the standpipe, the pit surrounding the standpipe will then be backfilled with 2" aggregate.
  4. The standpipe will extend 12" to 18" above the lip of the pit.
  5. If discharge will be pumped directly to a storm drainage system, the standpipe will be wrapped with filter fabric before installation.
  6. If desired, 1/4"-1/2" hardware cloth may be placed around the standpipe prior to attaching the filter fabric. This will increase the rate of water seepage into the pipe.

REFERENCE	STANDARD DWG. NO.
Project _____	IL-650
Designed _____ Date _____	SHEET 1 OF 1
Checked _____ Date _____	DATE 8-11-94
Approved _____ Date _____	



### ROCK PARTIAL COFFERDAM

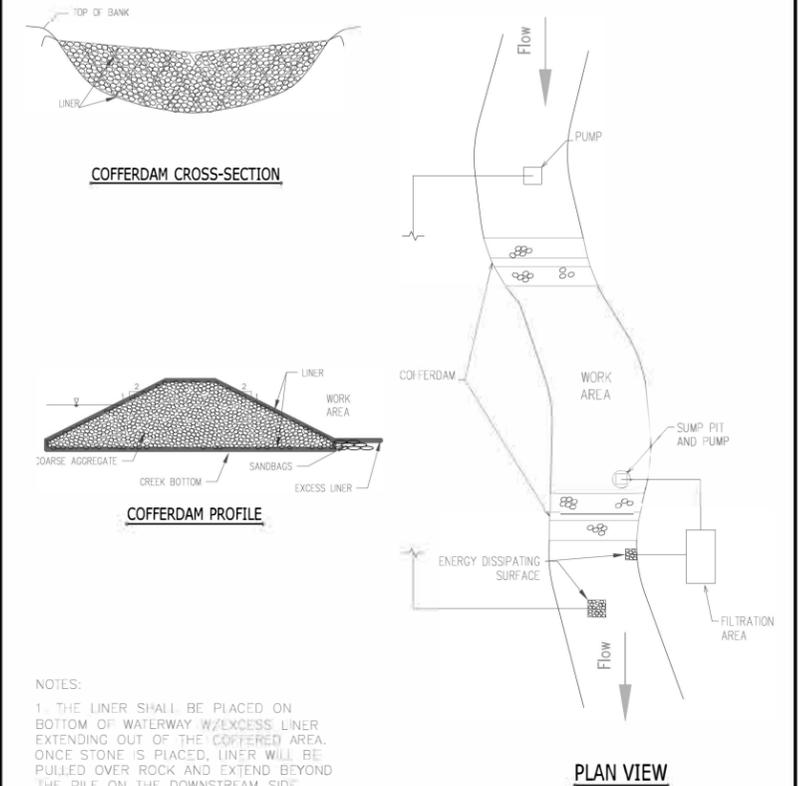


- NOTES:
1. THE LINER SHALL BE PLACED ON BOTTOM OF WATERWAY W/ EXCESS LINER EXTENDING OUT OF THE COFFERED AREA. ONCE STONE IS PLACED, LINER WILL BE PULLED OVER ROCK AND EXTEND BEYOND THE PILE ON THE DOWNSTREAM SIDE. SANDBAGS WILL SECURE THE EXCESS LINER AS SHOWN. REFER TO THE STANDARD FOR LINER SPECIFICATIONS.

REFERENCE	STANDARD DWG. NO.
Project _____	IUM-503RP
Designed _____ Date _____	SHEET 6 OF 7
Checked _____ Date _____	DATE 7-09-2012
Approved _____ Date _____	



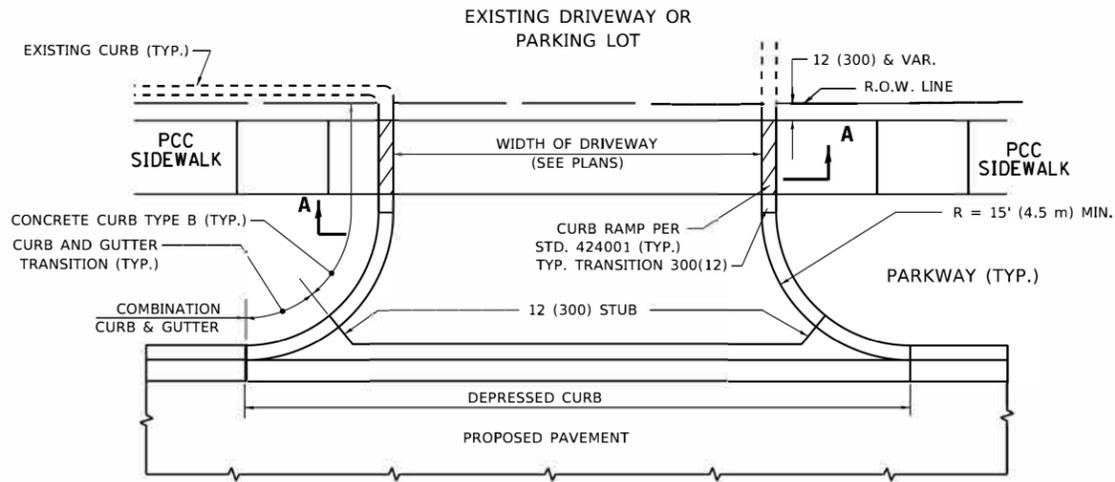
### ROCK COFFERDAM



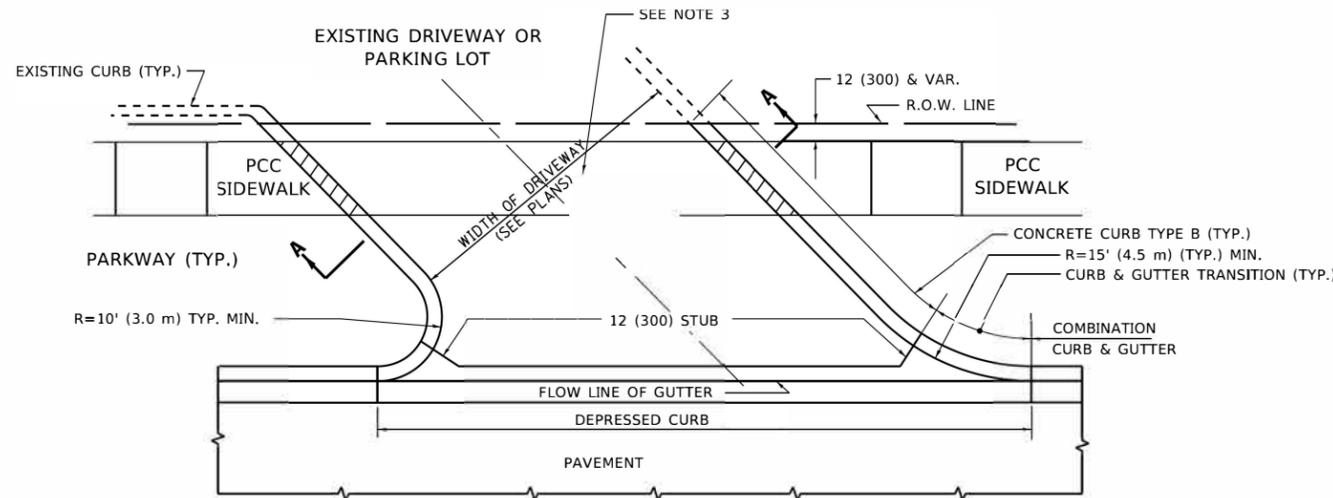
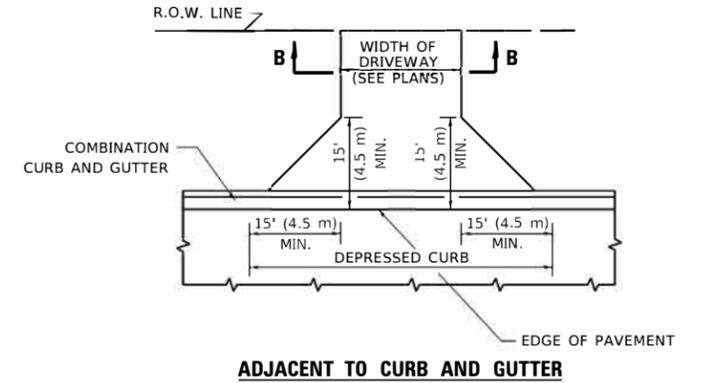
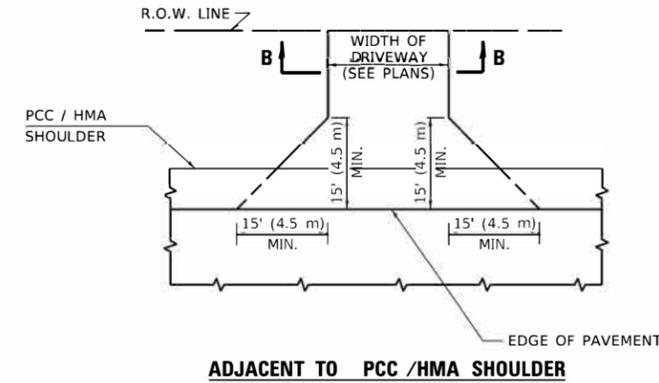
- NOTES:
1. THE LINER SHALL BE PLACED ON BOTTOM OF WATERWAY W/ EXCESS LINER EXTENDING OUT OF THE COFFERED AREA. ONCE STONE IS PLACED, LINER WILL BE PULLED OVER ROCK AND EXTEND BEYOND THE PILE ON THE DOWNSTREAM SIDE. SANDBAGS WILL SECURE THE EXCESS LINER AS SHOWN. REFER TO THE STANDARD FOR LINER SPECIFICATIONS.

REFERENCE	STANDARD DWG. NO.
Project _____	IUM-503RF
Designed _____ Date _____	SHEET 5 OF 7
Checked _____ Date _____	DATE 7-09-2012
Approved _____ Date _____	

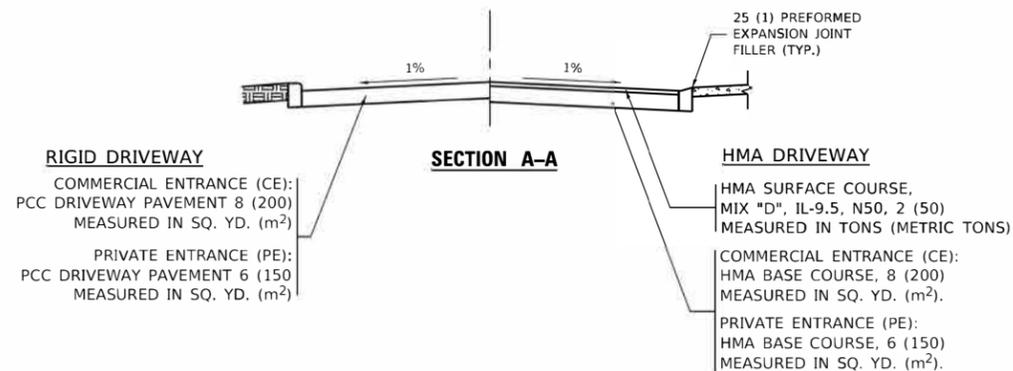
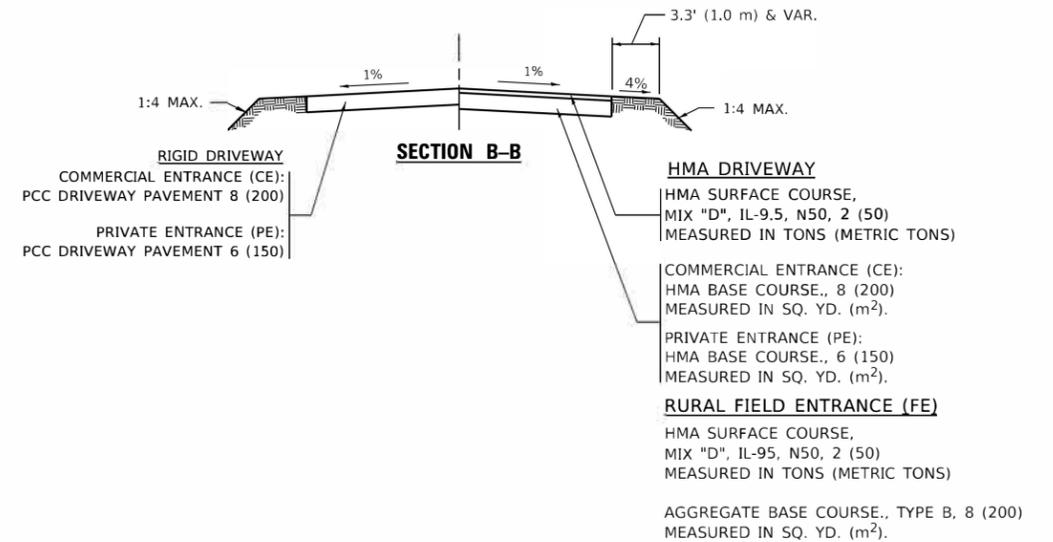




**WITH CONCRETE CURB, TYPE B**



**WITH CONCRETE CURB, TYPE B**



**GENERAL NOTES**

- DRIVEWAY SLOPES, LOCATIONS, & GEOMETRIC LAYOUT SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE "HANDBOOK FOR POLICY ON PERMITS FOR ACCESS DRIVEWAYS TO STATE HIGHWAYS". FOR FURTHER LAYOUT REQUIREMENTS, REFER TO ILLUSTRATIONS IN THE PERMIT HANDBOOK. DRIVEWAYS SHALL BE REPLACED IN KIND, UNLESS OTHERWISE NOTED ON THE PLANS.
- COMMERCIAL DRIVEWAYS SHALL BE CONSTRUCTED WITH CONCRETE CURB, TYPE B RETURNS EXCEPT WHEN THE SIDEWALK EDGE IS 4 FEET (1.2 METERS) OR LESS FROM THE BACK OF CURB, CONSTRUCT A FLARE DRIVEWAY WITHOUT CURB.

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE NOTED.

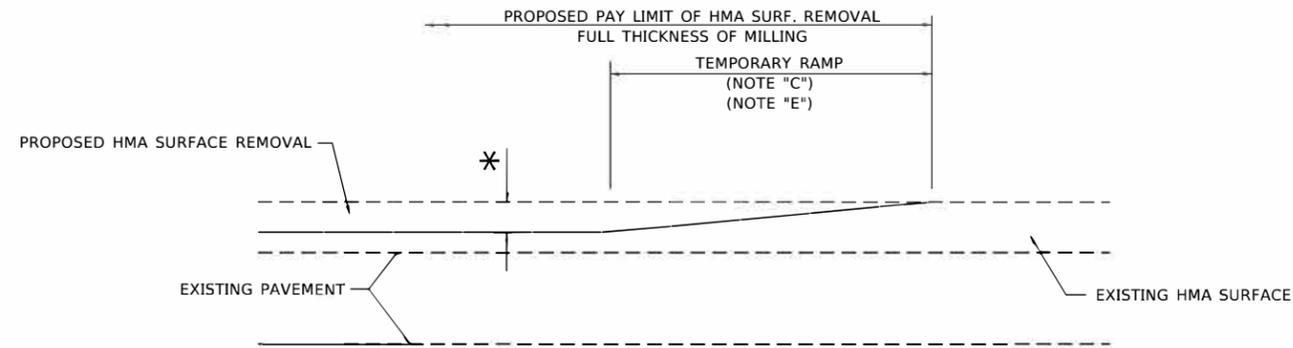
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USER NAME = demanchelt	DESIGNED - R. SHAH	REVISED - R. BORO 06-11-08
	DRAWN -	REVISED - R. BORO 09-06-11
PLOT SCALE = 100.0000' / in.	CHECKED -	REVISED - K. SMITH 08-28-19
PLOT DATE = 2/2/2022	DATE - 11-04-95	REVISED - K. SMITH 02-01-22

STATE OF ILLINOIS  
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<b>DRIVEWAY DETAILS - DISTANCE BETWEEN R.O.W. AND FACE OF CURB &amp; EDGE OF SHOULDER ≥ 15'(4.5m)</b>			
SCALE: NONE	SHEET 1 OF 1 SHEETS	STA. TO STA.	

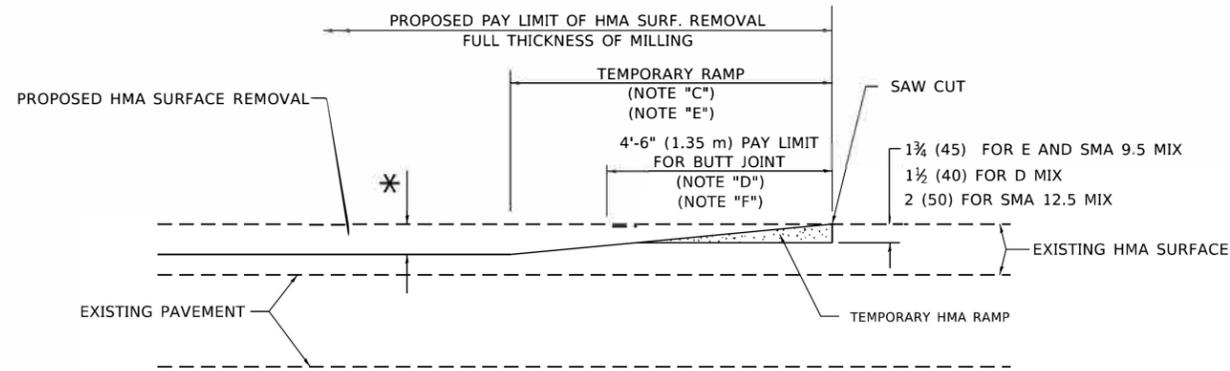
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
4115	14-00086-00-BR	COOK	44	38
BD400-01 (BD-01)			CONTRACT NO. 6J38	
ILLINOIS FED. AID PROJECT				



**MILLED TEMPORARY RAMP**

(FOR BUTT JOINT AND HMA TAPER SEE DETAIL BELOW)

**OPTION 1**

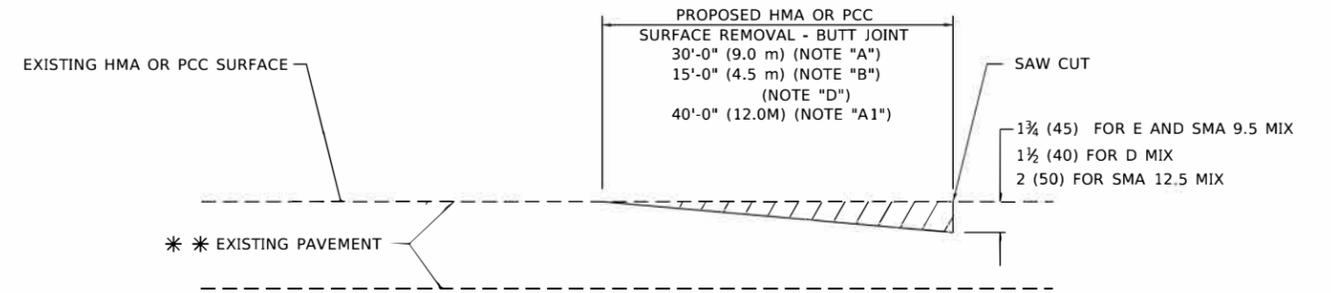


**HMA CONSTRUCTED TEMPORARY RAMP**

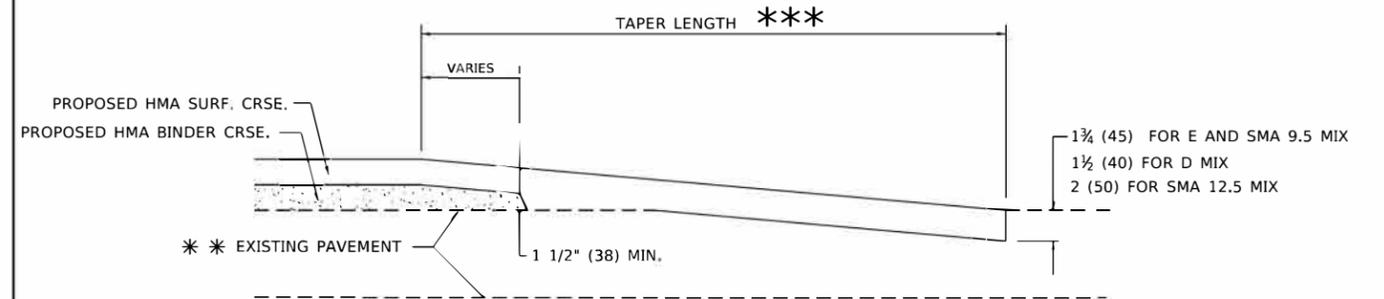
(FOR BUTT JOINT AND HMA TAPER SEE DETAIL BELOW)

**OPTION 2**

**TYPICAL TEMPORARY RAMP**



**BUTT JOINT DETAIL**



**HMA TAPER DETAIL**

**TYPICAL BUTT JOINT AND HMA TAPER FOR RESURFACING ONLY**

\*\*\* PC CONCRETE, HMA OR HMA RESURFACED PAVEMENT.

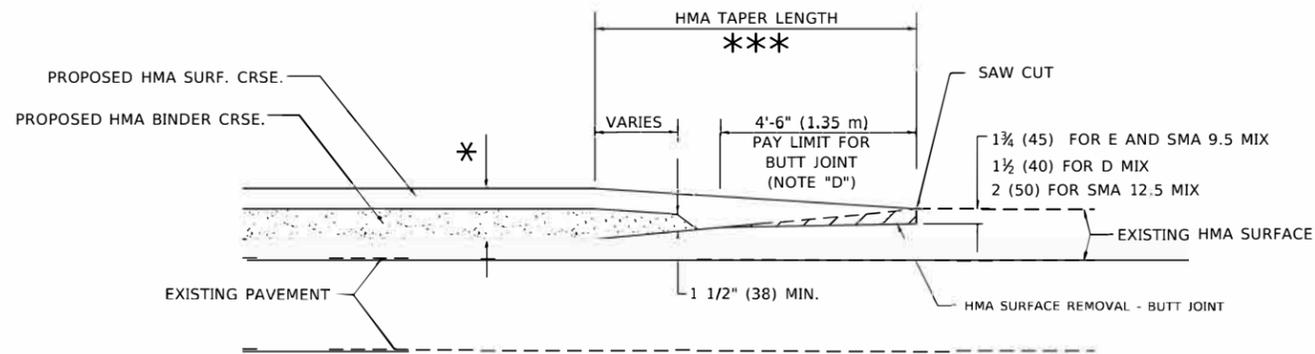
**GENERAL NOTES**

- A. MAINLINE ARTERIAL ROADWAYS AND MAJOR SIDE ROADS.
- A1. INTERSTATES
- B. MINOR SIDE ROADS.
- C. THE TEMP. RAMP SHALL BE CONSTRUCTED IMMEDIATELY UPON REMOVAL OF THE EXISTING HMA SURFACE.
- D. THE BUTT JOINT SHALL BE CONSTRUCTED IMMEDIATELY PRIOR TO PLACING THE PROPOSED HMA COURSES.
- E. TAPER THE TEMP. RAMP AT A RATE OF 3' - 4" (1.02m) PER 1 INCH (25 mm) OF MILLING THICKNESS.  
\* SEE TYPICAL SECTIONS FOR MILLING THICKNESS.
- F. SEE ARTICLE 406.08 AND 406.14 OF THE STANDARD SPECIFICATIONS FOR "HMA AND/OR PCC SURFACE REMOVAL, BUTT JOINT".  
\*\*\* 20'-0" (6.1 m) PER 1 (25) RESURFACING (NOTE "A")  
10'-0" (3.0 m) PER 1 (25) RESURFACING (NOTE "B")

**BASIS OF PAYMENT**

- 1. THE BUTT JOINT WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE YARD (SQUARE METER) FOR "HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT" OR FOR "PORTLAND CEMENT CONCRETE SURFACE REMOVAL- BUTT JOINT".
- 2. THE TEMPORARY RAMP AND SAW CUT SHALL BE INCLUDED IN THE UNIT COST FOR HMA OR PCC SURFACE REMOVAL-BUTT JOINT.

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.



**BUTT JOINT AND HMA TAPER**

**TYPICAL BUTT JOINT AND HMA TAPER FOR MILLING AND RESURFACING**

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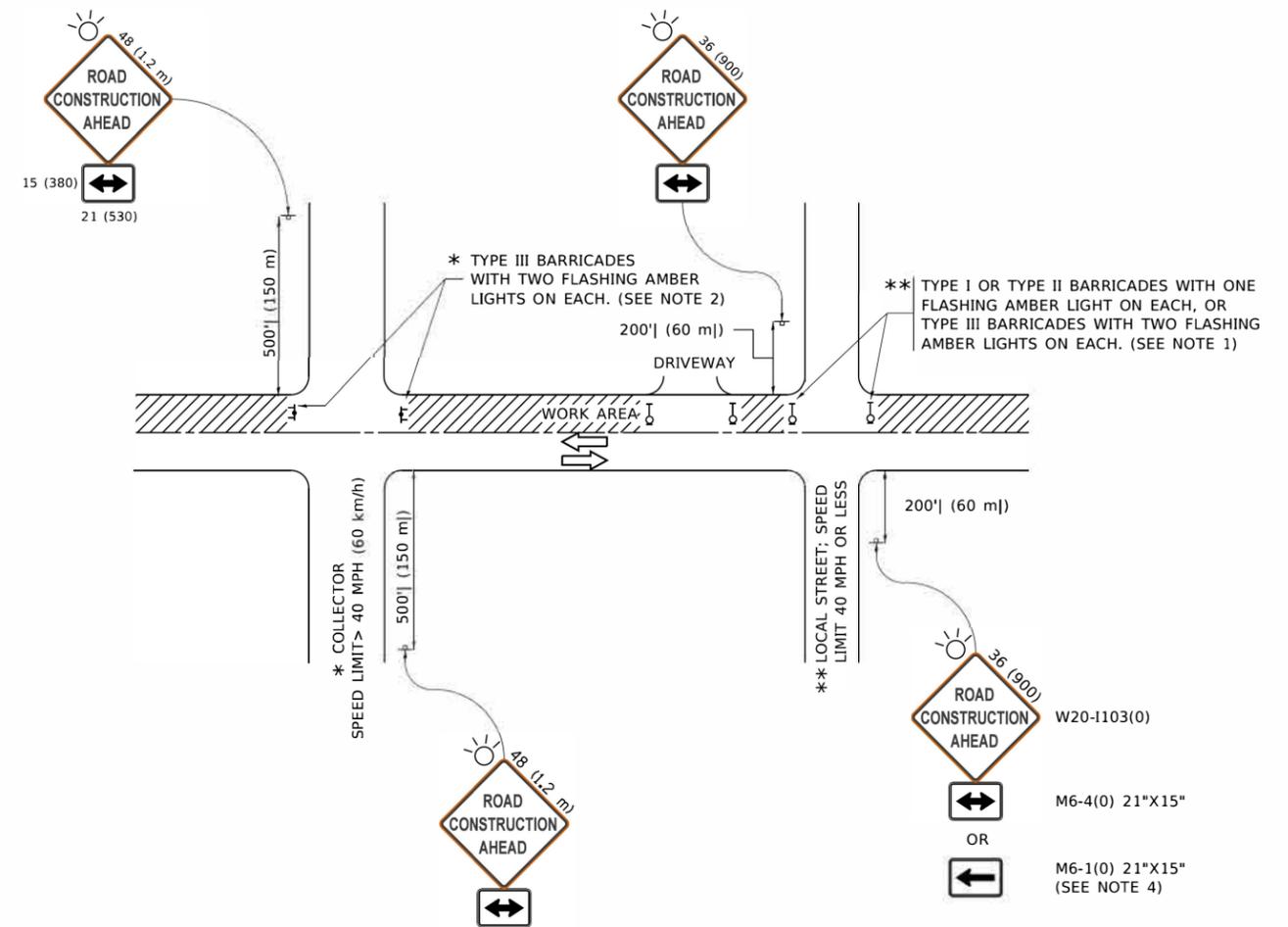
USER NAME = demanchelt	DESIGNED - M. DE YONG	REVISED - A. ABBAS 03-21-97
	DRAWN -	REVISED - M. GOMEZ 04-06-01
PLOT SCALE = 100.0000' / in.	CHECKED -	REVISED - R. BORO 01-01-07
PLOT DATE = 2/2/2022	DATE - 06-13-90	REVISED - K. SMITH 02-01-22

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DEPARTMENT OF TRANSPORTATION

BUTT JOINT AND  
HMA TAPER DETAILS

SCALE: NONE SHEET 1 OF 1 SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
4115	15-00086-00-BR	COOK	44	39
BD400-05 BD-32		CONTRACT NO. 61J38		
ILLINOIS FED. AID PROJECT				



**NOTES:**

1. SIDE ROAD WITH A SPEED LIMIT OF 40 MPH (60 km/h) OR LESS AS SHOWN ON THE DRAWING AND AS DIRECTED BY THE ENGINEER:
  - a) ONE "ROAD CONSTRUCTION AHEAD" SIGN 36 x 36 (900x900) WITH A FLASHER MOUNTED ON IT APPROXIMATELY 200' (60 m) IN ADVANCE OF THE MAIN ROUTE.
  - b) THE CLOSED PORTION OF THE MAIN ROUTE SHALL BE PROTECTED BY BLOCKING WITH TYPE I, TYPE II OR TYPE III BARRICADES, 1/3 OF THE CROSS SECTION OF THE CLOSED PORTION.
2. SIDE ROAD WITH A SPEED LIMIT GREATER THAN 40 MPH (60 km/h) AS SHOWN ON THE DRAWING AND AS DIRECTED BY THE ENGINEER:
  - a) ONE "ROAD CONSTRUCTION AHEAD" SIGN 48 x 48 (1.2 m x 1.2 m) WITH A FLASHER MOUNTED ON IT APPROXIMATELY 500' (150 m) IN ADVANCE OF THE MAIN ROUTE.
  - b) BLOCKING WITH TYPE III BARRICADES, 1/2 OF THE CROSS SECTION OF THE CLOSED PORTION.
3. CONES MAY BE SUBSTITUTED FOR BARRICADES OR DRUMS AT HALF THE SPACING DURING DAY OPERATIONS. CONES SHALL BE A MINIMUM OF 28 (710) IN HEIGHT.
4. SIGNING AND THE WORK ZONE, A SINGLE HEADED ARROW (M6-1) SHALL BE USED IN LIEU OF THE DOUBLE HEADED ARROW (M6-4).
 

WHEN THE SIDE ROAD LIES BETWEEN THE BEGINNING OF THE MAINLINE
5. WHEN WORK IS BEING PERFORMED ON A SIDE ROAD OR DRIVEWAY, FOLLOW THE APPLICABLE STANDARD(S). THE DIRECTIONAL ARROW (M6-1 OR M6-4) SHALL BE COVERED OR REMOVED WHEN NO LONGER CONSISTENT WITH THE TRAFFIC CONTROL SET-UP.
6. ADVANCE WARNING SIGNS ARE TO BE OMITTED ON DRIVEWAYS UNLESS OTHERWISE SPECIFIED IN THE PLANS OR BY THE ENGINEER.
7. THE TRAFFIC CONTROL AND PROTECTION FOR SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS SHALL BE INCLUDED IN THE COST OF SPECIFIED TRAFFIC CONTROL STANDARDS OR ITEMS.

All dimensions are in inches (millimeters) unless otherwise shown.

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USER NAME = footej	DESIGNED = L.H.A.	REVISED = A. HOUSEH 10-15-96
	DRAWN =	REVISED = T. RAMMACHER 01-06-00
PLOT SCALE = 50.0000" / in.	CHECKED =	REVISED = A. SCHUETZE 07-01-13
PLOT DATE = 3/4/2019	DATE = 06-89	REVISED = A. SCHUETZE 09-15-16

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**TRAFFIC CONTROL AND PROTECTION FOR  
SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS**

SCALE: NONE SHEET 1 OF 1 SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
4115	15-00086-00-BR	COOK	44	40
<b>TC-10</b>			CONTRACT NO. 61J38	
ILLINOIS FED. AID PROJECT				



**ROUTE MARKERS**

FOR U.S. ROUTES  
M1-40-2424

FOR ILLINOIS ROUTES  
M1-50-2424

R.R. UNMARKED ROUTES  
SPECIAL 24" x 18" VARIABLE  
4" BLACK LETTERS ON WHITE  
REFLECTIVE BACKGROUND

**ARROWS SIGNS**

M5-1L-2115

M5-1R-2115

M6-1-2115

M6-2-2115

M6-3-2115

**CARDINAL DIRECTION & DETOUR SIGNS**

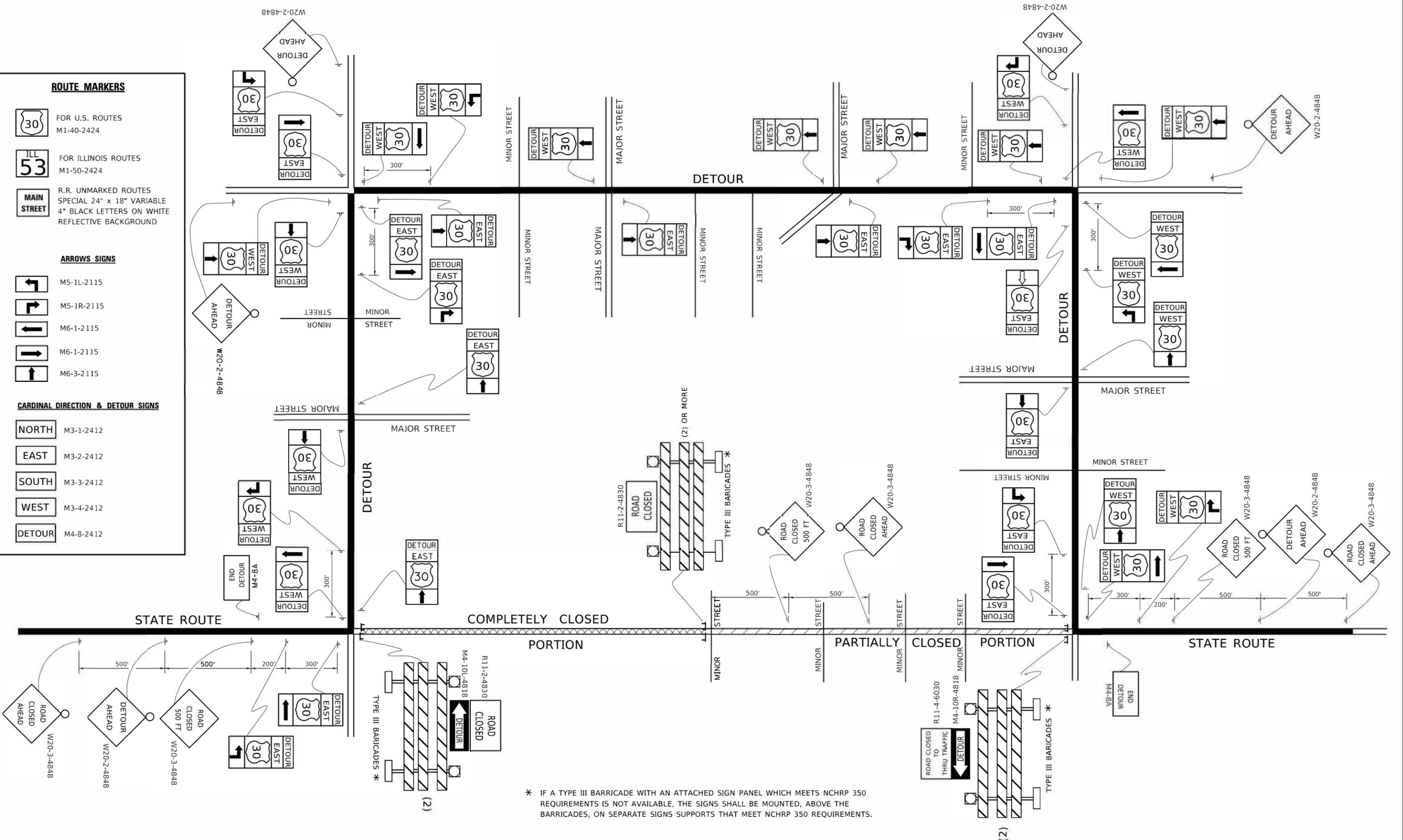
NORTH M3-1-2412

EAST M3-2-2412

SOUTH M3-3-2412

WEST M3-4-2412

DETOUR M4-8-2412



\* IF A TYPE III BARRICADE WITH AN ATTACHED SIGN PANEL WHICH MEETS NCHRP 350 REQUIREMENTS IS NOT AVAILABLE, THE SIGNS SHALL BE MOUNTED, ABOVE THE BARRICADES, ON SEPARATE SIGNS SUPPORTS THAT MEET NCHRP 350 REQUIREMENTS.

MODEL: D:\draft  
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 PLOT DATE = 3/4/2019

USER NAME = footemj	DESIGNED -	REVISED - 10-18-02
PLOT SCALE = 50.0000' / in.	DRAWN -	REVISED - R. BORO 09-14-09
PLOT DATE = 3/4/2019	CHECKED -	REVISED -
	DATE -	REVISED -

**STATE OF ILLINOIS  
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<b>DETOUR SIGNING FOR CLOSING STATE HIGHWAYS</b>	
SCALE: NONE	SHEET 1 OF 1 SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
4115	15-00086-00-BR	COOK	44	42
TC-21			CONTRACT NO. 61J38	
ILLINOIS   FED. AID PROJECT				



