

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
**PLANS FOR PROPOSED  
FEDERAL AID HIGHWAY**  
FAU 3699 (PFINGSTEN / KATES ROAD)  
FROM WAUKEGAN TO LAKE COOK ROAD  
BRIDGE REPLACEMENT AND PAVEMENT RESURFACING  
SECTION 14-00098-00-BR  
PROJECT NO. M-BRM-4003(391)  
VILLAGE OF DEERFIELD  
LAKE COUNTY  
C-91-042-17

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3699	14-00098-00-BR	LAKE	102	1
FED. ROAD DIST. NO. 1	ILLINOIS	CONTRACT NO. 61D63		

**INDEX OF SHEETS**

SEE SHEET 2 FOR INDEX OF SHEETS

**HIGHWAY STANDARDS**

SEE SHEET 2 FOR LIST OF HIGHWAY STANDARDS

**DISTRICT 1 DETAILS**

SEE SHEET 2 FOR LIST OF DISTRICT 1 DETAILS

**DESIGN DESIGNATION**

PFINGSTEN ROAD / KATES ROAD  
FUNCTIONAL CLASS = MAJOR COLLECTOR  
POSTED SPEED = 30 MPH  
DESIGN SPEED = 35 MPH

**TRAFFIC DATA**

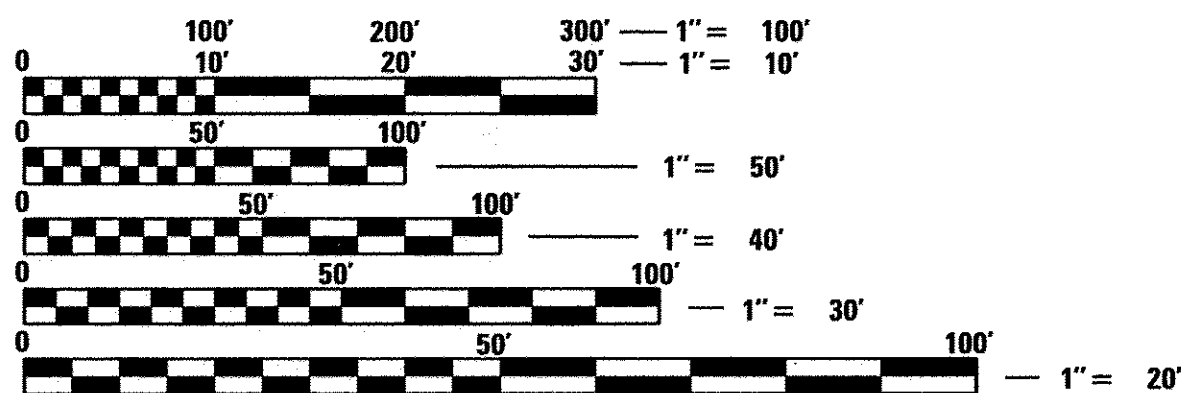
PFINGSTEN ROAD / KATES ROAD  
ADT = 9450 VPD (2015)  
10,400 VPD (2040)

**Ciorba Group, Inc.**

**DESIGN FIRM  
REGISTRATION NUMBER**

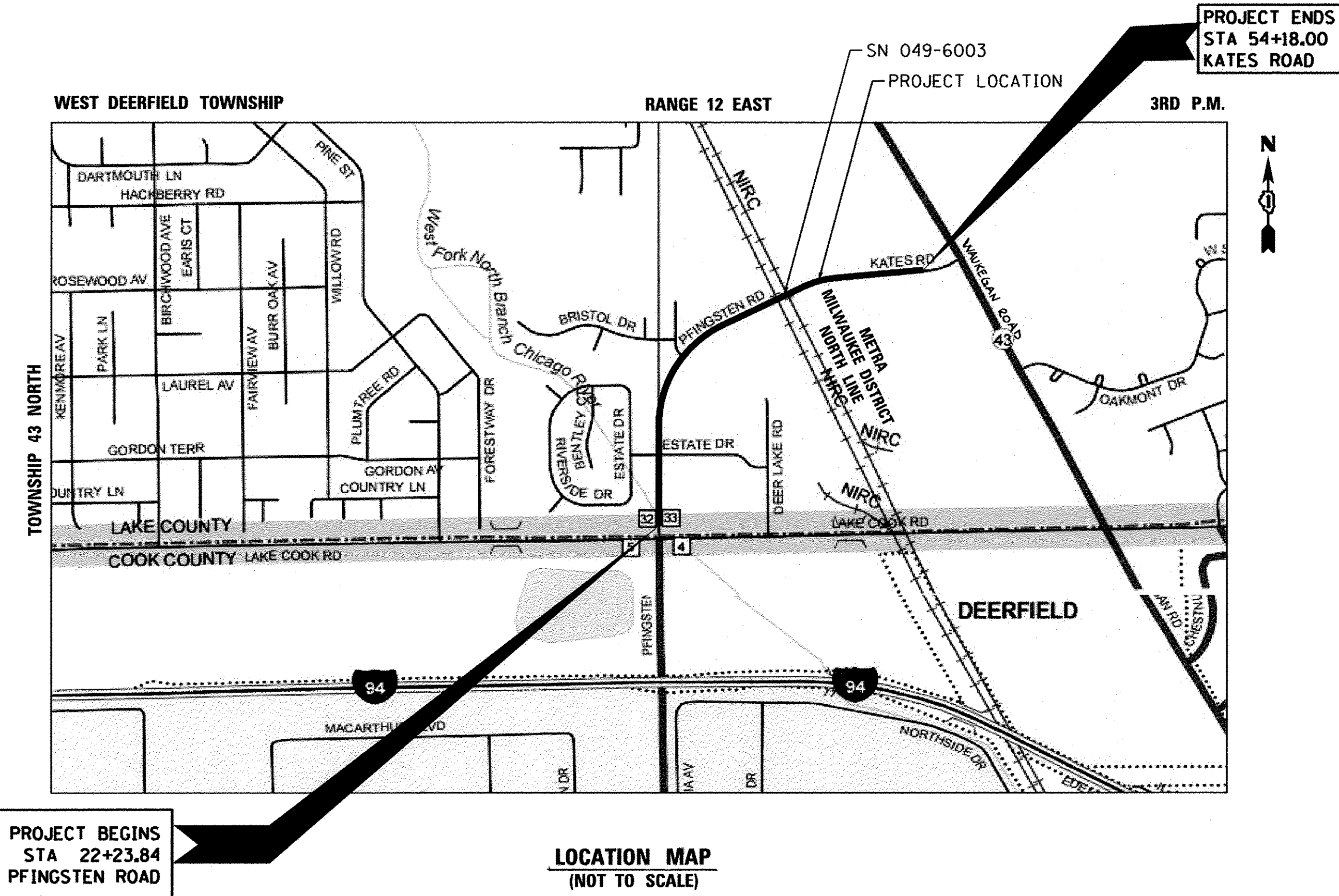
184-001016

CONSULTING ENGINEERS  
SUITE 402, 5507 NORTH CUMBERLAND AVE  
CHICAGO, ILLINOIS 60656 :: (773) 775-4009



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

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

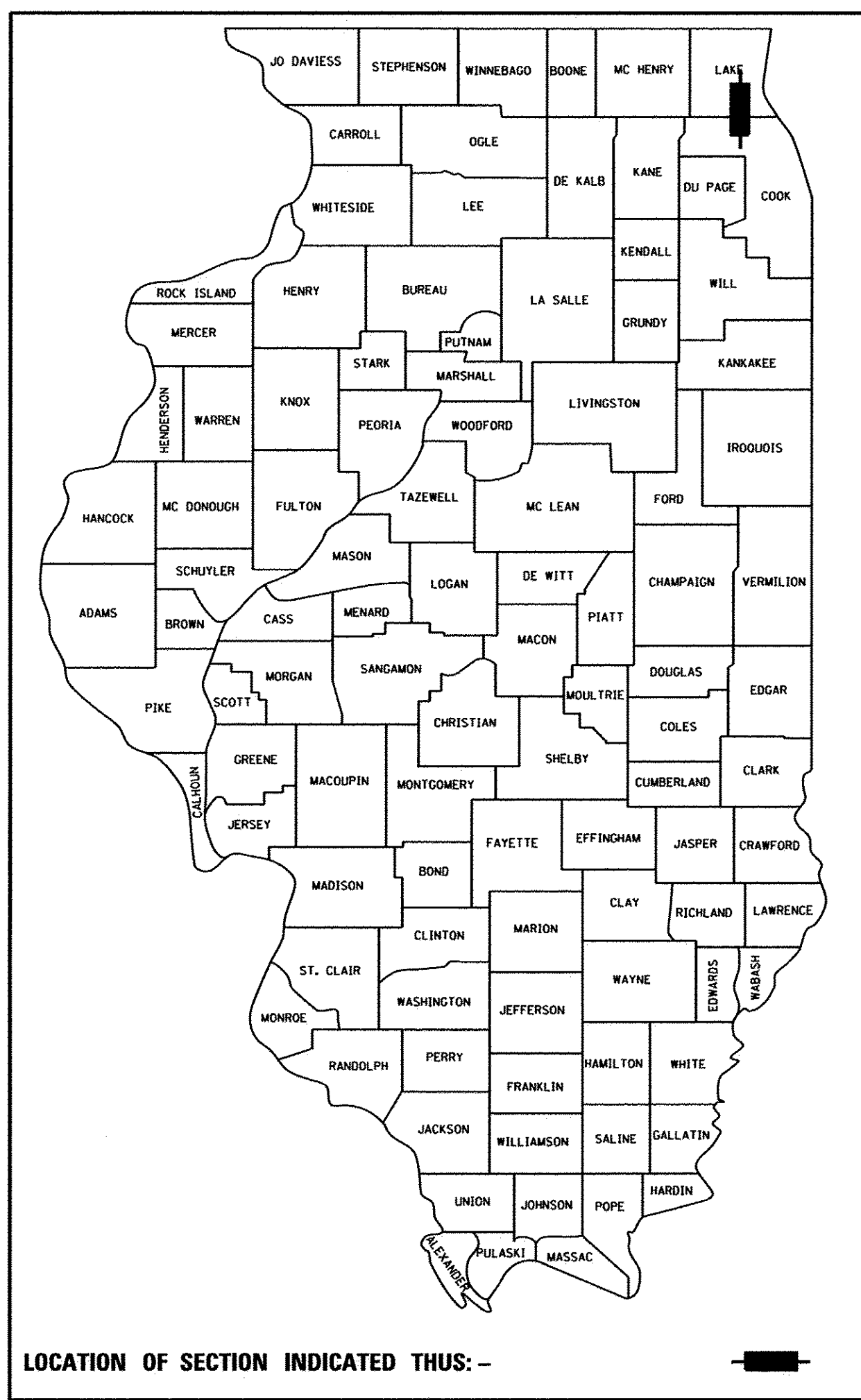


PROJECT BEGINS  
STA 22+23.84  
PFINGSTEN ROAD

PROJECT ENDS  
STA 54+18.00  
KATES ROAD

**LOCATION MAP  
(NOT TO SCALE)  
PROJECT LENGTH**

TOTAL GROSS AND NET LENGTH = 3,194.16 FEET (0.605 MILES)



**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

Approved: 12/1/16 DATE

*Robert W. Phillips*  
Village of Deerfield, Director of Public Works and Engineering

Passed: DECEMBER 22, 2016 DATE

*Christopher Noct*  
District 1 Engineer of Local Roads & Streets

Releasing for Bid Based on Limited Review: December 22 DATE 2016

*John F. ...*  
Regional Engineer

STATE OF ILLINOIS  
BRET W. SAUTER  
062-060315  
LICENSED PROFESSIONAL ENGINEER  
OF ILLINOIS  
STRUCTURAL ENGINEER

DATE: 12/1/2016  
SEAL EXPIRES: 11/30/2018

STATE OF ILLINOIS  
JOSEPH P. ATTANASEO  
062-060315  
LICENSED PROFESSIONAL ENGINEER  
OF ILLINOIS

DATE: 12/1/2016  
SEAL EXPIRES: 11/30/2017

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OF THE STATE OF ILLINOIS**

CONSULTANT ENGINEER: JOSEPH P. ATTANASEO, P.E. CIORBA GROUP, INC.  
PROGRAM AND OFFICE ENGINEER: CHARLES F. RIDDLE, P.E. 847-705-4406 SCHAUMBURG, IL

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**STATE STANDARDS**

STANDARD NO.	LIST OF DESCRIPTION
000001-06	STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
001001-02	AREAS OF REINFORCEMENT BARS
001006	DECIMAL OF AN INCH AND OF A FOOT
280001-07	TEMPORARY EROSION CONTROL SYSTEMS
420406	PAVEMENT CONNECTOR (HMA) FOR BRIDGE APPROACH SLAB
424001-09	PERPENDICULAR CURB RAMPS FOR SIDEWALKS
424006-02	DIAGONAL CURB RAMPS FOR SIDEWALKS
424011-03	CORNER PARALLEL CURB RAMPS FOR SIDEWALKS
424021-03	DEPRESSED CORNER FOR SIDEWALKS
442201-03	CLASS D PATCHES
602011-02	CATCH BASIN TYPE C
602301-04	INLET - TYPE A
604071-05	FRAME AND GRATE TYPE 20
606001-06	CONCRETE CURB TYPE B AND COMBINATION CONCRETE CURB AND GUTTER
631031-15	TRAFFIC BARRIER TERMINAL, TYPE 6
664001-02	CHAIN LINK FENCE
701006-05	OFF-RD OPERATIONS, 2L, 2W, 15' (4.5 m) TO 24" (600 mm) FROM PAVEMENT EDGE
701101-05	OFF-RD OPERATIONS, MULTILANE, 15' (4.5 m) TO 24" (600 mm) FROM PAVEMENT EDGE
701301-04	LANE CLOSURE, 2L, 2W, SHORT TIME OPERATIONS
701311-03	LANE CLOSURE, 2L, 2W, SHORT TIME OPERATIONS - DAY ONLY
701427-05	LANE CLOSURE, MULTILANE, INTERMITTENT OR MOVING OPER. FOR SPEEDS < 40 MPH
701501-06	URBAN LANE CLOSURE, 2L, 2W UNDIVIDED
701502-07	URBAN LANE CLOSURE, 2L, 2W, WITH BIDIRECTIONAL LEFT TURN LANE
701701-10	URBAN LANE CLOSURE, MULTILANE INTERSECTION
701801-06	SIDEWALK, CORNER OR CROSSWALK CLOSURE
701901-06	TRAFFIC CONTROL DEVICES
725001-01	OBJECT AND TERMINAL MARKERS
780001-05	TYPICAL PAVEMENT MARKINGS
781001-04	TYPICAL APPLICATIONS RAISED REFLECTIVE PAVEMENT MARKERS
782006	GUARDRAIL AND BARRIER WALL REFLECTOR DETAILS
878001-10	CONCRETE FOUNDATION DETAILS
880006-01	TRAFFIC SIGNAL MOUNTINGS DETAILS

**IDOT DISTRICT 1 STANDARDS**

STANDARD NO.	LIST OF DESCRIPTION
BD-03	OUTLET FOR CURB AND GUTTER
BD-08	DETAILS FOR FRAMES AND LIDS ADJUSTMENT WITH MILLINGS
BD-32	BUTT JOINT AND HMA TAPER DETAILS
BD-34	DETAILS FOR DEPRESSED CURB & GUTTER AND SHOULDER TREATMENT AT TBT TY. 1 SPL.
TC-10	TRAFFIC CONTROL AND PROTECTION FOR SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS
TC-11	TYPICAL APPLICATIONS OF RAISED REFLECTIVE PAVEMENT MARKERS (SNOW-PLOW RESISTANT)
TC-13	DISTRICT ONE TYPICAL PAVEMENT MARKINGS
TC-14	TRAFFIC CONTROL AND PROTECTION AT TURN BAYS (TO REMAIN OPEN TO TRAFFIC)
TC-16	PAVEMENT MARKING LETTERS AND SYMBOLS FOR TRAFFIC STAGING
TC-21	DETOUR SIGNING FOR CLOSING STATE HIGHWAYS
TC-22	ARTERIAL ROAD INFORMATION SIGN
TC-26	DRIVEWAY ENTRANCE SIGNING
TS-05	DISTRICT ONE STANDARD TRAFFIC SIGNAL DESIGN DETAIL
TS-07	DISTRICT 1 - DETECTOR LOOP INSTALLATION DETAILS FOR ROADWAY RESURFACING

**UTILITY CONTACT INFORMATION**

AT&T DISTRIBUTION: MCI:  
 KEVIN CAVENAILE DEAN BOYERS  
 815-274-3093 972-729-6322

COMCAST: ROGERS TELECOM INC.  
 BEVERLY COSCARELLI VICKIE MORAN  
 630-600-6321 920-395-7125

TIM TAMASON VILLAGE OF DEERFIELD:  
 ComEd TYLER DICKINSON  
 PUBLIC RELOCATION 847-317-2490  
 815-477-5258

NORTHSORE GAS NORTHSHORE SANITARY DISTRICT  
 GRACE PTAK NICK WOLF  
 847-263-4638 847-623-6060

METROCOM  
 MATT SCHULTE  
 262-754-3063

ATT/T-TCG  
 BRUCE KNIGHT  
 331-302-9041

**RAILROAD CONTACT INFORMATION**

METRA:  
 MR. DONALD WHISTLER  
 312-322-8016

**COMMITMENTS**

NONE.

**EARTHWORK SCHEDULE**

STATION	LENGTH	CUT	FILL	EARTH EXCAVATION	EARTH EXCAVATION FOR EMBANKMENT ADJUSTED FOR SHRINKAGE (25%)	EMBANKMENT	EARTHWORK BALANCE WASTE (+) OR SHORTAGE (-)
	(FT)	(SF)	(SF)	(CU YD)	(CU YD)	(CU YD)	(CU YD)
40+00		0.0	0.0				
40+37	37	5.7	0.0	3.9	2.9	0.0	2.9
40+50	13	4.4	0.0	2.4	1.8	0.0	1.8
41+00	50	2.9	0.0	6.8	5.1	0.0	5.1
41+30	30	28.0	9.0	17.2	12.9	5.0	7.8
41+50	20	18.7	9.6	17.3	13.0	6.9	6.1
41+63	13	20.4	42.6	9.4	7.1	12.6	-5.5
41+64	1	1.4	0.0	0.4	0.3	0.8	-0.5
41+75	11	1.1	3.6	0.5	0.4	0.7	-0.4
41+96	21	0.0	12.2	0.4	0.3	6.1	-5.8
BRIDGE OMISSION							
43+64		1.8	2.8				
43+75	11	0.0	7.1	0.4	0.3	2.0	-1.7
44+00	25	0.0	28.5	0.0	0.0	16.5	-16.5
44+25	25	0.0	13.4	0.0	0.0	19.4	-19.4
44+35	10	8.5	0.0	1.6	1.2	2.5	-1.3
44+50	15	0.0	0.0	2.4	1.8	0.0	1.8
TOTAL				49.5	37.1	72.5	-35.4
ROUNDUP				50.0	38.0	73.0	-36.0

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	DATE - 12/5/2016	REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**PFINGSTENKATES ROAD IMPROVEMENTS  
 INDEX, STANDARDS, UTILITY CONTACTS AND COMMITMENTS**

SCALE: N.T.S. SHEET NO. 01 OF 01 SHEETS STA. TO STA.

F.A.U. RTE. 3699	SECTION 14-00098-00-BR	COUNTY LAKE	TOTAL SHEETS 102	SHEET NO. 2
CONTRACT NO. 61D63				
FED. ROAD DIST. NO. 1   ILLINOIS   FED. AID PROJECT M-BRM-4003(391)				

**GENERAL NOTES**

- ALL CONSTRUCTION SHALL BE DONE IN ACCORDANCE WITH THE DETAILS IN THE PLANS, THE SPECIAL PROVISIONS INCLUDED IN THE CONTRACT DOCUMENTS AND THE LATEST EDITION OF THE FOLLOWING STATE OF ILLINOIS SPECIFICATIONS: "THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" (REFERRED TO AS THE "STANDARD SPECIFICATIONS"), THE "SUPPLEMENTAL SPECIFICATIONS AND RECURRING SPECIAL PROVISIONS", THE "MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS", THE "MANUAL OF TEST PROCEDURES FOR MATERIALS" AND THE "STANDARD SPECIFICATIONS FOR WATER AND SEWER MAIN CONSTRUCTION IN ILLINOIS". ANY REFERENCE TO "STANDARDS" THROUGHOUT THE PLANS OR SPECIAL PROVISIONS SHALL BE INTERPRETED AS THE LATEST I.D.O.T. STANDARD.
- THE CONTRACTOR SHALL NOTIFY THE FOLLOWING A MINIMUM OF 72 HOURS PRIOR TO THE COMMENCEMENT OF WORK.
  - THE RESIDENT ENGINEER
  - THE VILLAGE OF DEEFFIELD - TYLER DICKINSON, PE AT 847-317-2490
  - THE VILLAGE OF DEERFIELD PUBLIC WORKS DEPARTMENT AT 847-317-7245
- NO WORK SHALL COMMENCE UNTIL TRAFFIC CONTROL REQUIREMENTS ARE MET TO THE SATISFACTION OF THE ENGINEER.
- THE CONTRACTOR IS RESPONSIBLE TO ASCERTAIN EXISTING FIELD CONDITIONS PRIOR TO BIDDING ON THIS PROJECT. NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR FAILURE TO VERIFY EXISTING DIMENSIONS OR CONDITIONS.
- ALL WORK PERFORMED UNDER THIS CONTRACT SHALL BE IN ACCORDANCE WITH THE VILLAGE OF DEERFIELD ORDINANCES AND STANDARDS.
- WHEN THE PLANS OR SPECIAL PROVISIONS INCLUDE INFORMATION PERTAINING TO THE LOCATION AND ELEVATIONS OF UTILITY FACILITIES, SUCH INFORMATION REPRESENTS ONLY THE OPINION OF THE ENGINEER AS TO LOCATION AND ELEVATION OF SUCH UTILITIES AND IS ONLY INCLUDED FOR THE CONVENIENCE OF THE BIDDERS. THE ENGINEER AND THE OWNER ASSUME NO RESPONSIBILITY WHATEVER IN RESPECT TO THE SUFFICIENCY OR ACCURACY OF THE INFORMATION SHOWN ON THE PLANS RELATIVE TO THE LOCATION AND ELEVATION OF UTILITY FACILITIES, NOR THE MANNER IN WHICH THEY ARE TO BE REMOVED OR ADJUSTED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VISIT THE SITE AND DETERMINE THE ACTUAL LOCATION AND ELEVATION OF ALL UTILITIES. THE CONTRACTOR SHALL OBTAIN FROM THE RESPECTIVE UTILITY COMPANIES DETAILED INFORMATION RELATIVE TO THE LOCATION AND ELEVATION OF THEIR FACILITIES AND THE WORKING SCHEDULES OF THE UTILITY COMPANIES FOR REMOVING OR ADJUSTING THEM.
- THE CONTRACTOR SHALL VERIFY THE ELEVATIONS AND LOCATIONS OF ALL EXISTING INFORMATION AS SHOWN ON THE PLANS AND NOTIFY THE ENGINEER OF ALL DISCREPANCIES PRIOR TO THE COMMENCEMENT OF THE WORK. EXISTING UNDERGROUND UTILITIES SHALL BE EXPOSED BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION TO DETERMINE IF A PROBLEM OR CONFLICT EXISTS WITH THE PROPOSED IMPROVEMENTS AND TO AVOID DELAYS IN THE PROGRESS OF THE WORK ONCE THE WORK COMMENCES.
- THE CONTRACTOR SHALL MAKE ALL NECESSARY FINAL ADJUSTMENTS TO EXISTING AND PROPOSED FRAMES, GRATES, LIDS, AND STRUCTURES TO MEET FINAL FINISHED GRADES.
- THE CONTRACTOR SHALL MAINTAIN AND KEEP UP TO DATE A SET OF "RECORD DRAWINGS" SHOWING ALL CHANGES FROM THE ORIGINAL PLANS. THE CONTRACTOR SHALL DELIVER THE "RECORD DRAWINGS" TO THE ENGINEER WITHIN 30 DAYS OF COMPLETION OF THE PROJECT.
- FRAMES, LIDS AND GRATES OF EXISTING CATCH BASINS, INLETS, MANHOLES AND VALVE VAULTS WHICH ARE TO BE ABANDONED OR REPLACED IN THIS PROJECT SHALL BE SALVAGED AND REMAIN THE PROPERTY OF THE VILLAGE OF DEERFIELD. THE CONTRACTOR SHALL DELIVER THESE CASTINGS TO THE VILLAGE AT A LOCATION WITHIN THE VILLAGE LIMITS SPECIFIED DURING THE PRE-CONSTRUCTION MEETING.
- ALL FRAMES AND GRATES DAMAGED BY THE CONTRACTOR DURING CONSTRUCTION WILL BE REPLACED, TO THE SATISFACTION OF THE ENGINEER, BY THE CONTRACTOR AT HIS EXPENSE.
- ALL NEW FRAMES AND GRATES SHALL BE NEENAH TYPE R-1713.
- HDPE ADJUSTMENT RINGS ARE PREFERRED FOR THE ADJUSTMENTS OF CATCH BASINS, MANHOLES, VALVE VAULTS AND INLETS. NO MORE THAN 2 RINGS FOR A TOTAL ADJUSTMENT OF 8 INCHES WILL BE ALLOWED.
- PERMITTED HOURS OF CONSTRUCTION PER VILLAGE ORDINANCE, THE CONTRACTOR SHALL BE REQUIRED TO CONFINE THE WORK ACTIVITY BETWEEN 7:30 AM-7:00 PM MONDAY THROUGH FRIDAY, 8:30 AM-5:00 PM SATURDAYS. WORK ON SATURDAYS SHALL BE COORDINATED AND APPROVED IN WRITING BY THE ENGINEER AT LEAST 48 HOURS IN ADVANCE. NO WORK WILL BE PERMITTED ON SUNDAY OR VILLAGE OBSERVED HOLIDAYS WITHOUT THE ENGINEER'S WRITTEN APPROVAL OVERNIGHT WORK SHALL BE COORDINATED AND APPROVED IN WRITING BY THE ENGINEER AT LEAST 7 DAYS IN ADVANCE. WORK ACTIVITY, AS INTENDED HEREIN, INCLUDES WARMING/STARTING UP/IDLING OF ANY MACHINERY OR ENGINES.

**GENERAL NOTES (CONT.)**

- UNLESS DETOUR IS ESTABLISHED, TWO-WAY TRAFFIC MUST BE RESTORED AT THE END OF EACH WORK DAY. STEEL PLATING WILL BE REQUIRED OVER ANY OPEN TRENCHES.
  - THE CONTRACTOR SHALL SUBMIT A PRE-PLANNED SEQUENCE (CONSTRUCTION SCHEDULE) OF THE WORK AT THE PRECONSTRUCTION MEETING FOR REVIEW AND APPROVAL. THE CONSTRUCTION SCHEDULE MUST BE APPROVED BY THE VILLAGE AND ENGINEER PRIOR TO THE START OF CONSTRUCTION.
  - IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO COORDINATE WITH METRA WHENEVER CONSTRUCTION ACTIVITY IS WITHIN 25 FEET OF THE RAILROAD ROW. THE CONTRACTOR SHALL RETAIN FLAGMEN EMPLOYED AND DESIGNATED BY METRA TO MONITOR ON-COMING TRAIN TRAFFIC, AND ADVISE CONTRACTOR PERSONNEL WHEN ACTIVITY ON OR NEAR THE RAILROAD RIGHT-OF-WAY MAY PROCEED. THIS ITEM WILL BE PAID FOR ACCORDING TO ARTICLE 107.12 AND WILL BE REIMBURSED ACCORDING TO ARTICLE 109.05.
  - THE FOLLOWING PAY ITEMS INCLUDE ADDITIONAL QUANTITIES TO PROVIDE TEMPORARY PAVEMENT MARKINGS IF PROPOSED PAVEMENT MARKINGS CANNOT BE COMPLETED PER ARTICLE 780.05:
    - 70300210 TEMPORARY PAVEMENT MARKING - LETTERS AND SYMBOLS
    - 70300220 TEMPORARY PAVEMENT MARKING - LINE 4"
    - 70300240 TEMPORARY PAVEMENT MARKING - LINE 6"
    - 70300260 TEMPORARY PAVEMENT MARKING - LINE 12"
    - X7030005 TEMPORARY PAVEMENT MARKING REMOVAL
- GRINDING OF THE PAVEMENT MARKINGS ON THE SURFACE COURSE WILL NOT BE ALLOWED.

**EROSION CONTROL GENERAL NOTES**

- ALL AREAS LOCATED DOWNSTREAM FROM DISTURBED AREAS OF CONSTRUCTION SHALL BE PROTECTED FROM POTENTIAL INCREASE OF EROSION AND SEDIMENTATION RESULTING FROM UPSTREAM ACTIVITIES.
- SOIL DISTURBANCE SHALL BE CONDUCTED IN SUCH A MANNER AS TO MINIMIZE EROSION. AREAS OF CONSTRUCTION SITE THAT ARE NOT TO BE GRADED SHALL BE PROTECTED FROM CONSTRUCTION TRAFFIC OR OTHER DISTURBANCE UNTIL FINAL SODDING IS PERFORMED.
- SOIL EROSION AND SEDIMENT CONTROL FEATURES SHALL BE CONSTRUCTED AND FUNCTIONAL PRIOR TO THE START OF DISTURBANCE.
- STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICAL IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED; BUT IN NO CASE SHALL THESE MEASURES BE INSTALLED MORE THAN 7 DAYS AFTER THE CONSTRUCTION IN THIS AREA TEMPORARILY OR PERMANENTLY CEASES.
- ALL STORM SEWER STRUCTURES THAT RECEIVE RUNOFF DURING CONSTRUCTION SHALL INCLUDE INLET PROTECTION FILTERS TO PREVENT DEBRIS AND EXCESSIVE SEDIMENT FROM ENTERING THE STORM SEWER SYSTEM. THESE PROTECTIVE MEASURES SHALL BE PROPERLY INSTALLED, MAINTAINED, AND REMOVED IN THEIR ENTIRETY AFTER THE AREA TRIBUTARY TO THE STORM STRUCTURE IS STABILIZED.
- ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED WITHIN 30 DAYS AFTER FINAL SITE STABILIZATION IS ACHIEVED OR AFTER THE TEMPORARY MEASURES ARE NO LONGER NEEDED. TRAPPED SEDIMENT SHALL BE PROPERLY STABILIZED OR DISPOSED.
- REPAIR, REPLACE OR MAINTAIN EROSION AND SEDIMENT CONTROL STRUCTURES AFTER A RAINFALL EVENT OF 1/2 INCH OR MORE OVER A 24-HOUR PERIOD AND ON A WEEKLY BASIS AS A MINIMUM.
- MAKE ADJUSTMENTS TO THE SEDIMENTATION AND EROSION CONTROL PLAN AND METHODS, AS NEEDED, TO ACCOMPLISH THE INTENDED PURPOSE.
- ALL ADJACENT ROADWAYS MUST BE KEPT CLEAR OF DEBRIS, INSPECTED DAILY, AND CLEANED WHEN NECESSARY OR AS DETERMINED BY THE ENGINEER.
- THE CONTRACTOR SHALL NOT CAUSE OR PERMIT THE DUMPING, DEPOSITING, DROPPING, THROWING, DISCARDING OR LEAVING OF CONSTRUCTION MATERIAL AND/OR DEBRIS UPON OR INTO ANY CHANNEL, DITCH, SWALE OR ANY OTHER TEMPORARY OR PERMANENT LOCATIONS MEANT TO CONVEY SITE DRAINAGE.
- IF THE CONTRACTOR IS NOTIFIED BY THE ENGINEER OF AN EROSION AND SEDIMENT CONTROL DEFICIENCY, THE DEFICIENCY MUST BE CORRECTED WITHIN 24-HOURS OF BEING NOTIFIED.

**STRUCTURAL GENERAL NOTES**

- THE ILLINOIS DEPARTMENT OF TRANSPORTATION IS NOT THE OWNER OF RECORD FOR THIS BRIDGE. THOSE SEEKING HISTORIC AS-BUILT OR OTHER RECORD PLANS SHOULD CONTACT THE OWNER OF RECORD. TO MAKE ARRANGEMENTS FOR ACCESS TO THIS INFORMATION PLEASE CONTACT:

TYLER DICKINSON, PE, ENGINEERING TECHNICIAN  
VILLAGE OF DEERFIELD  
847-317-2490

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**ENGINEERING CONSULTANT**  
  
 CONSULTING ENGINEERS  
 5507 North Cumberland Avenue, Suite 402  
 Chicago, Illinois 60630  
 Tel: 773.775.4009 Fax: 773.775.4014  
 Email: chicago@clorba.com

USER NAME = jattenasso	DESIGNED - JPA	REVISED -
PLOT SCALE = 1.0000' / 1"	DRAWN - DW	REVISED -
PLOT DATE = 1/11/2017	CHECKED - DJO	REVISED -
	DATE - 12/5/2016	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**PFINGSTEN/KATES ROAD IMPROVEMENTS  
GENERAL NOTES**

SCALE: N.T.S. SHEET NO. 01 OF 01 SHEETS STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3699	14-00098-00-BR	LAKE	102	3
CONTRACT NO. 61D63				
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT M-BRM-40031391				

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	RECONSTRUCT	RESURFACE	BRIDGE
				80% FED / 20% LOC 0004	80% FED / 20% LOC 0005	80% FED / 20% LOC 0014
20200100	EARTH EXCAVATION	CU YD	50	50		
20201200	REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL	CU YD	372		372	
20400800	FURNISHED EXCAVATION	CU YD	40	40		
20800150	TRENCH BACKFILL	CU YD	263	263		
21001000	GEOTECHNICAL FABRIC FOR GROUND STABILIZATION	SQ YD	1,855		1,855	
21101600	TOPSOIL FURNISH AND PLACE, VARIABLE DEPTH	SQ YD	400		400	
21101625	TOPSOIL FURNISH AND PLACE, 6"	SQ YD	195	195		
25000400	NITROGEN FERTILIZER NUTRIENT	POUND	8	3	5	
25000500	PHOSPHORUS FERTILIZER NUTRIENT	POUND	8	3	5	
25000600	POTASSIUM FERTILIZER NUTRIENT	POUND	8	3	5	
25200110	SODDING, SALT TOLERANT	SQ YD	595	195	400	
25200200	SUPPLEMENTAL WATERING	UNIT	27	9	18	
28000400	PERIMETER EROSION BARRIER	FOOT	839	356	483	
28000510	INLET FILTERS	EACH	24		24	
28100105	STONE RIPRAP, CLASS A3	SQ YD	6		6	
30300112	AGGREGATE SUBGRADE IMPROVEMENT 12"	SQ YD	565		565	
31101180	SUBBASE GRANULAR MATERIAL, TYPE B 2"	SQ YD	150		150	
31101400	SUBBASE GRANULAR MATERIAL, TYPE B 6"	SQ YD	415	415		

\* DENOTES SPECIALITY ITEM  
 △ DENOTES SPECIAL PROVISION

△

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	RECONSTRUCT	RESURFACE	BRIDGE
				80% FED / 20% LOC 0004	80% FED / 20% LOC 0005	80% FED / 20% LOC 0014
40600290	BITUMINOUS MATERIALS (TACK COAT)	POUND	58,715		58,715	
40600400	MIXTURE FOR CRACKS, JOINTS, AND FLANGEWAYS	TON	20		20	
40600827	POLYMERIZED LEVELING BINDER (MACHINE METHOD), IL-4.75, N50	TON	550		550	
40600982	HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT	SQ YD	212		212	
40603340	HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N70	TON	1,466		1,466	
40701881	HOT-MIX ASPHALT PAVEMENT (FULL-DEPTH), 10"	SQ YD	605	605		
42000070	PAVEMENT CONNECTOR (HMA) FOR BRIDGE APPROACH SLAB	SQ YD	70	70		
42400200	PORTLAND CEMENT CONCRETE SIDEWALK 5 INCH	SQ FT	3,165		3,165	
42400800	DETECTABLE WARNINGS	SQ FT	125		125	
44000100	PAVEMENT REMOVAL	SQ YD	715	660	55	
44000157	HOT-MIX ASPHALT SURFACE REMOVAL, 2"	SQ YD	13,085		13,085	
44000500	COMBINATION CURB AND GUTTER REMOVAL	FOOT	111	68	43	
44000600	SIDEWALK REMOVAL	SQ FT	3,890		3,890	
44201741	CLASS D PATCHES, TYPE II, 8 INCH	SQ YD	95		95	
44201745	CLASS D PATCHES, TYPE III, 8 INCH	SQ YD	230		230	
44201747	CLASS D PATCHES, TYPE IV, 8 INCH	SQ YD	1,160		1,160	
48101620	AGGREGATE SHOULDERS, TYPE B 10"	SQ YD	37		37	
48102100	AGGREGATE WEDGE SHOULDER, TYPE B	TON	20		20	

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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**PFINGSTENKATES ROAD IMPROVEMENTS  
SUMMARY OF QUANTITIES**

SCALE: N.T.S. SHEET NO. 1 OF 4 SHEETS STA. TO STA.

F.A.U. RTE. 3699	SECTION 14-00098-00-BR	COUNTY LAKE	TOTAL SHEETS 102	SHEET NO. 4
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT			CONTRACT NO. 61063	
M-BRM-4003(391)				

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	RECONSTRUCT	RESURFACE	BRIDGE
				80% FED / 20% LOC 0004	80% FED / 20% LOC 0005	80% FED / 20% LOC 0014
50101500	REMOVAL OF EXISTING SUPERSTRUCTURES	EACH	1			1
50102400	CONCRETE REMOVAL	CU YD	148.1			148.1
50157300	PROTECTIVE SHIELD	SQ YD	418			418
50200100	STRUCTURE EXCAVATION	CU YD	4			4
50300225	CONCRETE STRUCTURES	CU YD	63.9			63.9
50300255	CONCRETE SUPERSTRUCTURE	CU YD	284.9			284.9
50300260	BRIDGE DECK GROOVING	SQ YD	519			519
50300300	PROTECTIVE COAT	SQ YD	788			788
50301350	CONCRETE SUPERSTRUCTURE (APPROACH SLAB)	CU YD	114.5			114.5
50401310	FURNISHING AND ERECTING PRECAST PRESTRESSED CONCRETE BEAMS, IL36	FOOT	741			741
50500405	FURNISHING AND ERECTING STRUCTURAL STEEL	POUND	2,470			2,470
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	91,530			91,530
* 50901730	BRIDGE FENCE RAILING	FOOT	334			334
51500100	NAME PLATES	EACH	1			1
52100010	ELASTOMERIC BEARING ASSEMBLY, TYPE I	EACH	7			7
52100520	ANCHOR BOLTS, 1"	EACH	28			28
52200500	MECHANICALLY STABILIZED EARTH RETAINING WALL	SQ FT	1,388			1,388
550A0050	STORM SEWERS, CLASS A, TYPE 1 12"	FOOT	30	30		

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	RECONSTRUCT	RESURFACE	BRIDGE
				80% FED / 20% LOC 0004	80% FED / 20% LOC 0005	80% FED / 20% LOC 0014
55100500	STORM SEWER REMOVAL 12"	FOOT	30	30		
60208210	CATCH BASINS, TYPE C, TYPE 20 FRAME AND GRATE	EACH	1	1		
60237420	INLETS, TYPE A, TYPE 20 FRAME AND GRATE	EACH	1	1		
60300105	FRAMES AND GRATES TO BE ADJUSTED	EACH	22		22	
60300305	FRAMES AND LIDS TO BE ADJUSTED	EACH	3		3	
60500050	REMOVING CATCH BASINS	EACH	1	1		
60500060	REMOVING INLETS	EACH	1	1		
60600095	CLASS SI CONCRETE (OUTLET)	CU YD	5		5	
60603800	COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.12	FOOT	165	70	95	
* 63100085	TRAFFIC BARRIER TERMINAL, TYPE 6	EACH	1	1		
* 63100167	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT	EACH	1	1		
* 63200310	GUARDRAIL REMOVAL	FOOT	66	66		
* 66400105	CHAIN LINK FENCE, 4'	FOOT	110	110		
* 66400305	CHAIN LINK FENCE, 6'	FOOT	55	55		
67100100	MOBILIZATION	LSUM	1			1
70103815	TRAFFIC CONTROL SURVEILLANCE	CAL DA	120		120	
70300100	SHORT TERM PAVEMENT MARKING	FOOT	2,247	2,247		
70300150	SHORT TERM PAVEMENT MARKING REMOVAL	SQ FT	329		329	

\* DENOTES SPECIALITY ITEM  
 △ DENOTES SPECIAL PROVISION

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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**PFINGSTENKATES ROAD IMPROVEMENTS  
SUMMARY OF QUANTITIES**

SCALE: N.T.S. SHEET NO. 2 OF 4 SHEETS STA. TO STA.

F.A.U. RTE. 3699	SECTION 14-00098-00-BR	COUNTY LAKE	TOTAL SHEETS 102	SHEET NO. 5
CONTRACT NO. 61D63				FED. ROAD DIST. NO. 1   ILLINOIS   FED. AID PROJECT M-BRM-4003(391)

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	RECONSTRUCT	RESURFACE	BRIDGE
				80% FED / 20% LOC 0004	80% FED / 20% LOC 0005	80% FED / 20% LOC 0014
70300210	TEMPORARY PAVEMENT MARKING LETTERS AND SYMBOLS	SQ FT	330		330	
70300220	TEMPORARY PAVEMENT MARKING - LINE 4"	FOOT	7,735	7,735		
70300240	TEMPORARY PAVEMENT MARKING - LINE 6"	FOOT	2,250	2,250		
70300260	TEMPORARY PAVEMENT MARKING - LINE 12"	FOOT	650	650		
72400100	REMOVE SIGN PANEL ASSEMBLY - TYPE A	EACH	3		3	
72400200	REMOVE SIGN PANEL ASSEMBLY - TYPE B	EACH	4	4		
* 72501000	TERMINAL MARKER - DIRECT APPLIED	EACH	1	1		
* 78000100	THERMOPLASTIC PAVEMENT MARKING - LETTERS AND SYMBOLS	SQ FT	330	330		
* 78000200	THERMOPLASTIC PAVEMENT MARKING - LINE 4"	FOOT	7,735	7,735		
* 78000400	THERMOPLASTIC PAVEMENT MARKING - LINE 6"	FOOT	2,270	2,270		
* 78000600	THERMOPLASTIC PAVEMENT MARKING - LINE 12"	FOOT	265	265		
* 78000650	THERMOPLASTIC PAVEMENT MARKING - LINE 24"	FOOT	173	173		
* 78006110	PREFORMED THERMOPLASTIC PAVEMENT MARKING - LINE 4"	FOOT	612			612
* 78100100	RAISED REFLECTIVE PAVEMENT MARKER	EACH	138	138		
* 78100105	RAISED REFLECTIVE PAVEMENT MARKER (BRIDGE)	EACH	8			8
* 78200005	GUARDRAIL REFLECTORS, TYPE A	EACH	4	4		
* 78300200	RAISED REFLECTIVE PAVEMENT MARKER REMOVAL	EACH	90	90		
△ * 81028200	UNDERGROUND CONDUIT, GALVANIZED STEEL, 2" DIA.	FOOT	70		70	

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	RECONSTRUCT	RESURFACE	BRIDGE
				80% FED / 20% LOC 0004	80% FED / 20% LOC 0005	80% FED / 20% LOC 0014
△ * 85000200	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	2		2	
△ * 87300010	GROUNDING EXISTING HANDHOLE FRAME AND COVER	EACH	8		8	
△ * 87301215	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 2C	FOOT	841		841	
△ * 87301225	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C	FOOT	862		862	
△ * 87301900	ELECTRIC CABLE IN CONDUIT, EQUIPMENT GROUNDING CONDUCTOR, NO. 6 1C	FOOT	144		144	
△ * 87502440	TRAFFIC SIGNAL POST, GALVANIZED STEEL 10 FT.	EACH	2		2	
△ * 87800100	CONCRETE FOUNDATION, TYPE A	FOOT	12		12	
* 87900200	DRILL EXISTING HANDHOLE	EACH	3		3	
△ * 88102717	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER	EACH	4		4	
* 88600100	DETECTOR LOOP, TYPE I	FOOT	35		35	
△ * 88600600	DETECTOR LOOP REPLACEMENT	FOOT	804		804	
△ * 88800100	PEDESTRIAN PUSH-BUTTON	EACH	4		4	
* 89502200	MODIFY EXISTING CONTROLLER	EACH	1		1	
△ * 89502210	MODIFY EXISTING CONTROLLER CABINET	EACH	1		1	
* 89502376	REBUILD EXISTING HANDHOLE	EACH	1		1	
△ X0322924	RETAINING WALL REMOVAL	SQ FT	1,753			1,753
△ X0324761	DRAINAGE SYSTEM (SPECIAL)	LSUM	1			1
△ X5860110	GRANULAR BACKFILL FOR STRUCTURES	CU YD	22			22

\* DENOTES SPECIALITY ITEM # 0042 CONSTRUCTION TYPE CODE  
△ DENOTES SPECIAL PROVISION

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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

PFINGSTENKATES ROAD IMPROVEMENTS  
SUMMARY OF QUANTITIES

SCALE: N.T.S. SHEET NO. 3 OF 4 SHEETS STA. TO STA.

F.A.U. RTE. 3699	SECTION 14-00098-00-BR	COUNTY LAKE	TOTAL SHEETS 102	SHEET NO. 6
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				CONTRACT NO. 61D63
				M-BRM-4003(391)

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	RECONSTRUCT	RESURFACE	BRIDGE
				80% FED / 20% LOC 0004	80% FED / 20% LOC 0005	80% FED / 20% LOC 0014
△	X6030310	FRAMES AND LIDS TO BE ADJUSTED (SPECIAL)	EACH	6	6	
△ *	X6640300	CHAIN LINK FENCE REMOVAL	FOOT	424	424	
△	X7010216	TRAFFIC CONTROL AND PROTECTION, (SPECIAL)	LSUM	1	1	
△	X7030005	TEMPORARY PAVEMENT MARKING REMOVAL	SQ FT	4,685	4,685	
*	X8760055	PEDESTRIAN PUSH-BUTTON POST, TYPE A	EACH	1	1	
△	XX008140	REMOVE AND RELOCATE EXISTING PLAQUE	EACH	1		1
△	XX009049	REMOVE AND REPLACE CURB AND GUTTER (SPECIAL)	FOOT	1,445	1,445	
△	Z0010615	CLEANING EXISTING INLETS	EACH	9	9	
△	Z0013798	CONSTRUCTION LAYOUT	LSUM	1		1
△	Z0030850	TEMPORARY INFORMATION SIGNING	SQ FT	180	180	
△	Z0048665	RAILROAD PROTECTIVE LIABILITY INSURANCE	LSUM	1		1
△	Z0052399	RELOCATE PORTABLE TEMPORARY BARRIER SYSTEM	FOOT	212		212
△ *	Z0073510	TEMPORARY TRAFFIC SIGNAL TIMING	EACH	6		6
△ #	Z0076600	TRAINEES	HOUR	500	500	
△ #	Z0076604	TRAINEES TRAINING PROGRAM GRADUATE	HOUR	500	500	

\* DENOTES SPECIALITY ITEM # 0042 CONSTRUCTION TYPE CODE  
△ DENOTES SPECIAL PROVISION

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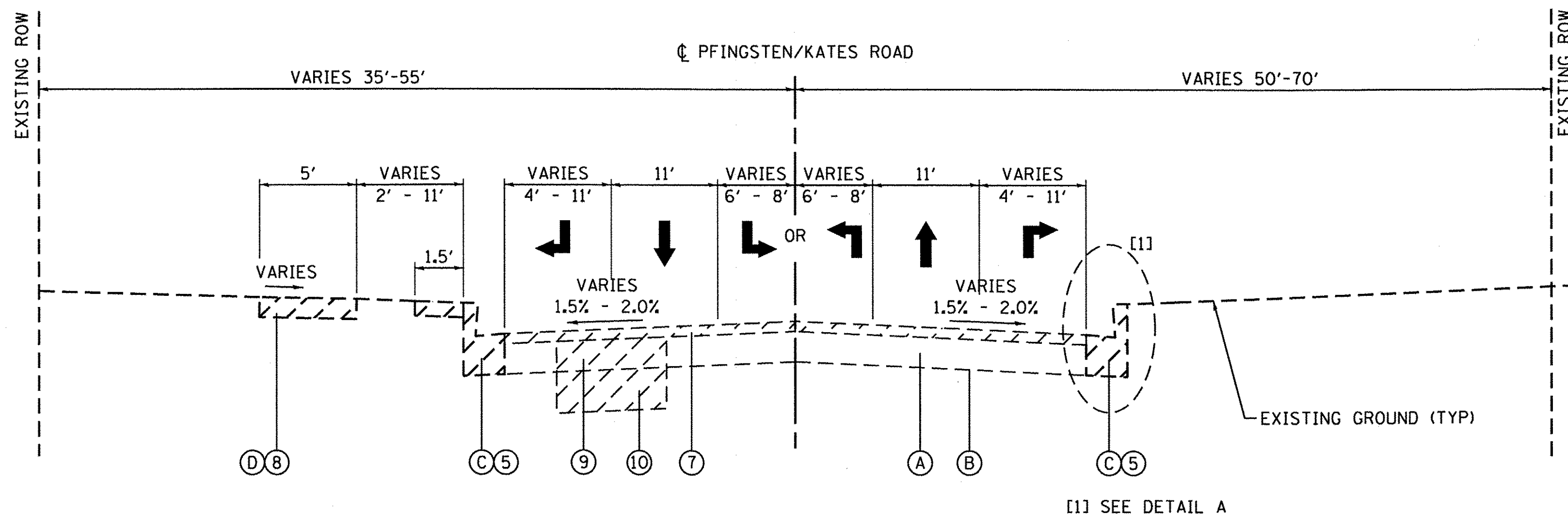
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**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

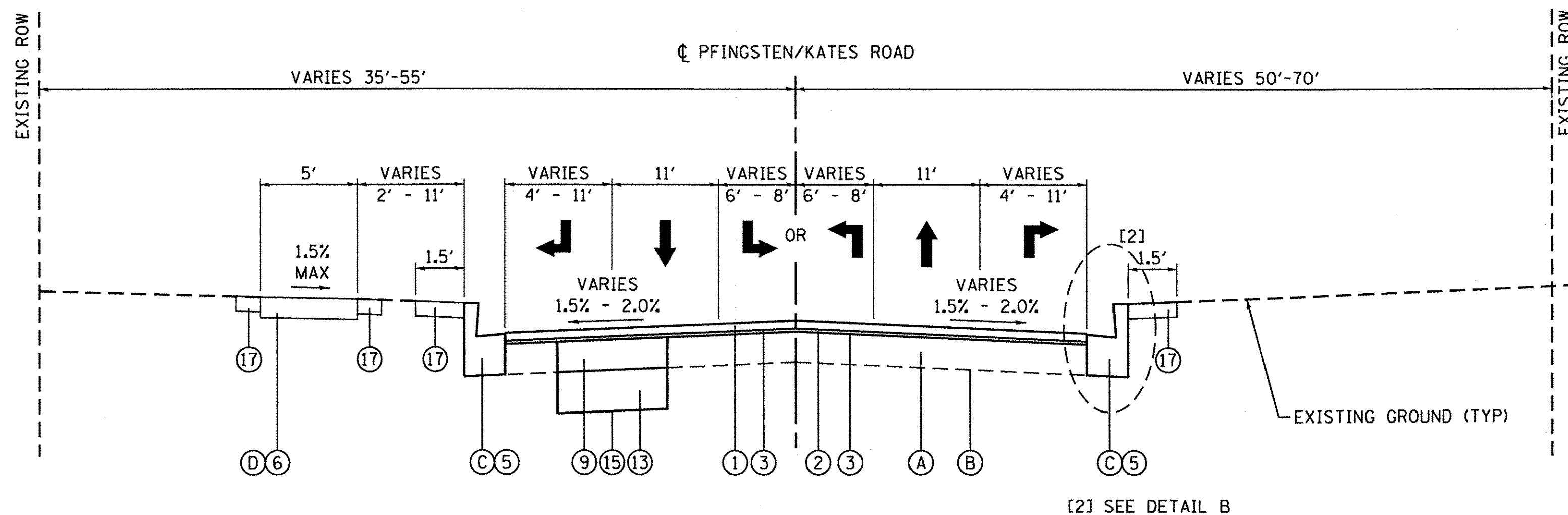
**PFINGSTENKATES ROAD IMPROVEMENTS**  
**SUMMARY OF QUANTITIES**

SCALE: N.T.S. SHEET NO. 4 OF 4 SHEETS STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3699	14-00098-00-BR	LAKE	102	7
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT			CONTRACT NO. 61D63	
			M-BRM-4003(391)	



**EXISTING TYPICAL SECTION**  
 PFINGSTEN/KATES ROAD  
 STA 22+23.84 TO STA 36+00  
 STA 47+40 TO STA 54+18



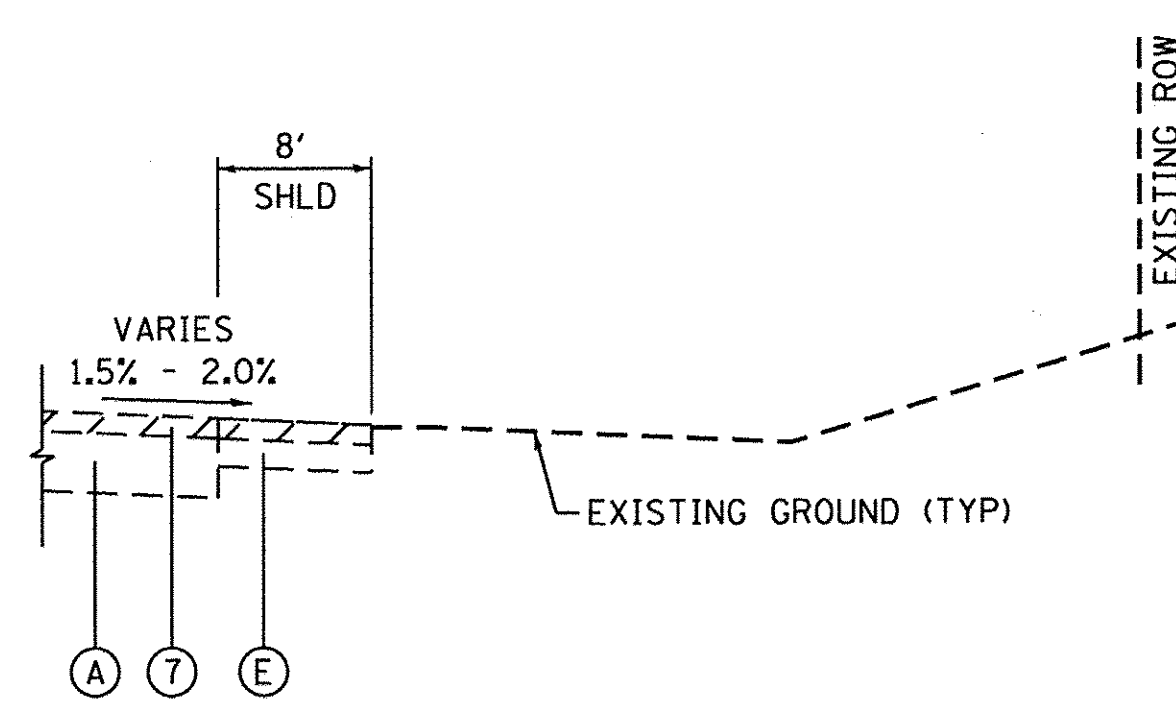
**PROPOSED TYPICAL SECTION**  
 PFINGSTEN/KATES ROAD  
 STA 22+23.84 TO STA 36+00  
 STA 47+40 TO STA 54+18

**EXISTING LEGEND:**

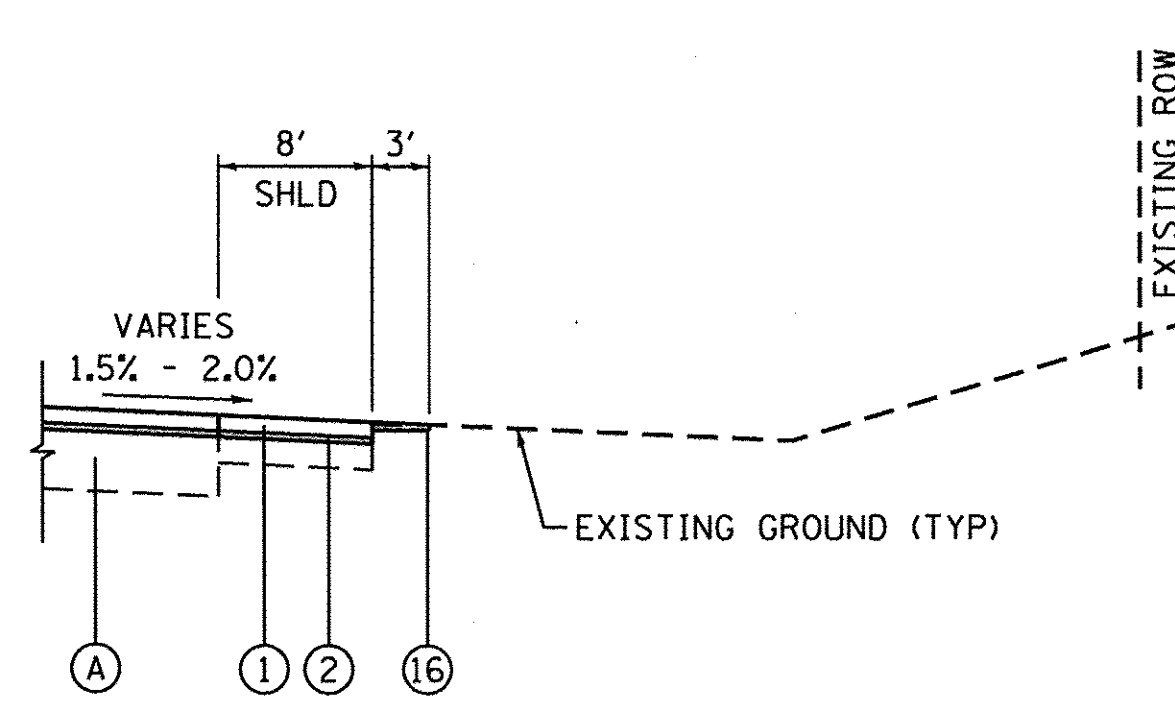
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- (B) EXISTING SUBGRADE
- (C) EXISTING COMB CONC CURB AND GUTTER
- (D) EXISTING CONC SIDEWALK
- (E) EXISTING PAVED SHOULDER
- REMOVAL

**PROPOSED LEGEND:**

- (1) HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N70; 1 1/2"
- (2) POLYMERIZED LEVELING BINDER (MACHINE METHOD), IL-4.75, N50; 3/4"
- (3) BITUMINOUS MATERIALS (TACK COAT)
- (4) HOT-MIX ASPHALT PAVEMENT (FULL-DEPTH), 10"
- (5) REMOVE AND REPLACE CURB AND GUTTER (SPECIAL) (AS DIRECTED BY THE ENGINEER, SEE PROPOSED PLAN FOR TYPE)
- (6) PORTLAND CEMENT CONCRETE SIDEWALK 5 INCH (FOR ADA CURB RAMPS OR AS DIRECTED BY THE ENGINEER)
- (7) HOT-MIX ASPHALT SURFACE REMOVAL, 2"
- (8) SIDEWALK REMOVAL (AS DIRECTED BY THE ENGINEER)
- (9) CLASS D PATCHES, 8" (LOCATION AND TYPE AS DIRECTED BY THE ENGINEER)
- (10) REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL (AS DIRECTED BY THE ENGINEER)
- (11) RELOCATE TEMPORARY BARRIER SYSTEM
- (12) PAVEMENT REMOVAL
- (13) AGGREGATE SUBGRADE IMPROVEMENT, 12"
- (14) SUBBASE GRANULAR MATERIAL, TYPE B 6"
- (15) GEOTECHNICAL FABRIC FOR GROUND STABILIZATION
- (16) AGGREGATE WEDGE SHOULDER, TYPE B
- (17) TOPSOIL FURNISH AND PLACE, VARIABLE DEPTH SODDING, SALT TOLERANT NITROGEN FERTILIZER NUTRIENT PHOSPHOROUS FERTILIZER NUTRIENT POTASSIUM FERTILIZER NUTRIENT
- (18) HOT-MIX ASPHALT PAVEMENT (FULL DEPTH), 10"
- (19) AGGREGATE SUBGRADE IMPROVEMENT 12"
- (20) COMBINATION CURB AND GUTTER REMOVAL
- (21) COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.12
- (22) TOPSOIL FURNISH AND PLACE, 6" SODDING, SALT TOLERANT NITROGEN FERTILIZER NUTRIENT PHOSPHOROUS FERTILIZER NUTRIENT POTASSIUM FERTILIZER NUTRIENT



**DETAIL A**  
 PFINGSTEN/KATES ROAD  
 STA 29+30 TO STA 36+00



**DETAIL B**  
 PFINGSTEN/KATES ROAD  
 STA 29+30 TO STA 36+00

STRUCTURAL DESIGN TRAFFIC:		YEAR 2040
PV = 100%	SU = 0%	MU = 0%
ROAD/STREET CLASSIFICATION: MAJOR COLLECTOR		
PERCENT OF STRUCTURAL TRAFFIC IN DESIGN LANE:		
P = 100	S = 0	M = 0
TRAFFIC FACTOR: ACTUAL TF = 0.01 AC TYPE = 64-22		
MINIMUM TF = 6.34		
PG GRADE: BINDER = 64-22 SURFACE = 64-22		
SUBGRADE SUPPORT RATING:		
SSR = POOR (STA. 41+30.00 TO STA. 41+96.50)		
SSR = POOR (STA. 43+64.50 TO STA. 44+39.50)		

HOT-MIX ASPHALT MIXTURE REQUIREMENTS - PFINGSTEN/KATES ROAD	
MIXTURE TYPE	AIR VOIDS @ NDES
<b>FULL DEPTH PAVEMENT</b>	
HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N70 (IL 9.5 mm); 2"	4% @ 70 GYR.
HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N70; 8" (2 LIFTS)	4% @ 70 GYR.
<b>RESURFACING</b>	
HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N70; 1 1/2"	4% @ 70 GYR.
POLYMERIZED LEVELING BINDER (MACHINE METHOD), IL-4.75, N50; 3/4"	3.5% @ 50 GYR.
<b>CLASS D PATCHES</b>	
CLASS D PATCH (HMA BINDER IL-19 mm); 8"	4% @ 70 GYR.

- THE UNIT WEIGHT USED TO CALCULATE ALL HMA SURFACE MIXTURE QUANTITIES IS 112 LBS/SO YD/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 DISTRICT ONE SPECIAL PROVISIONS.
- FOR USE OF RECYCLED MATERIALS SEE SPECIAL PROVISIONS.

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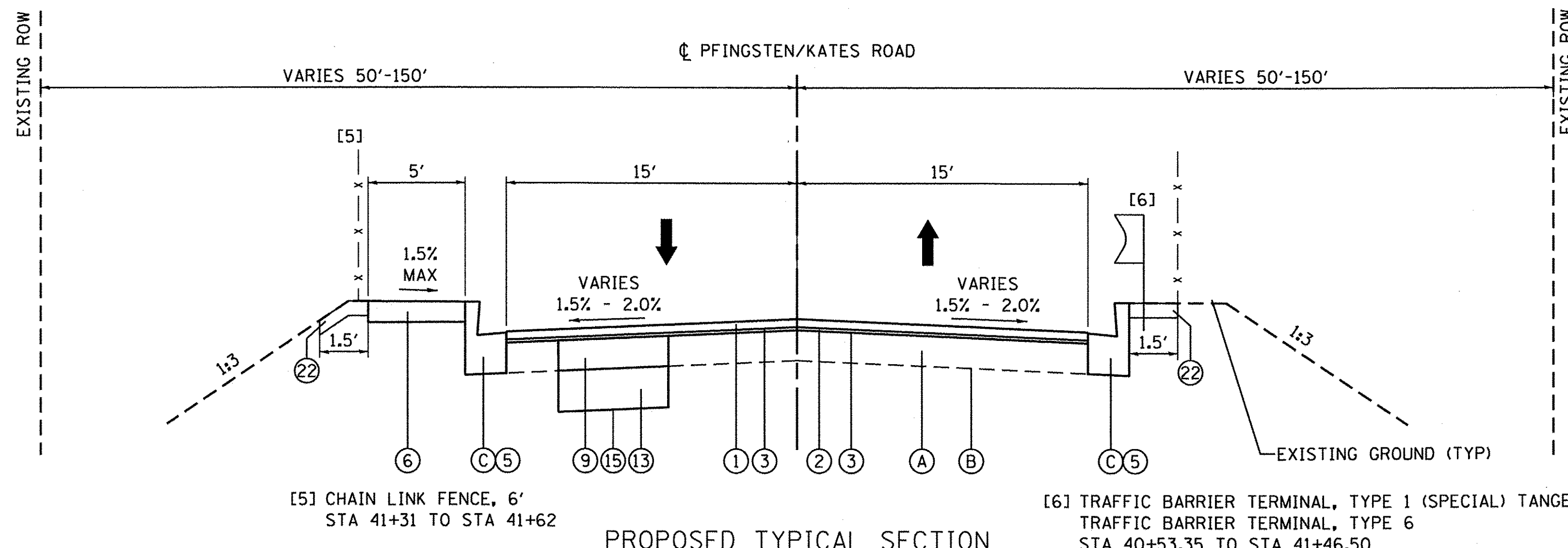
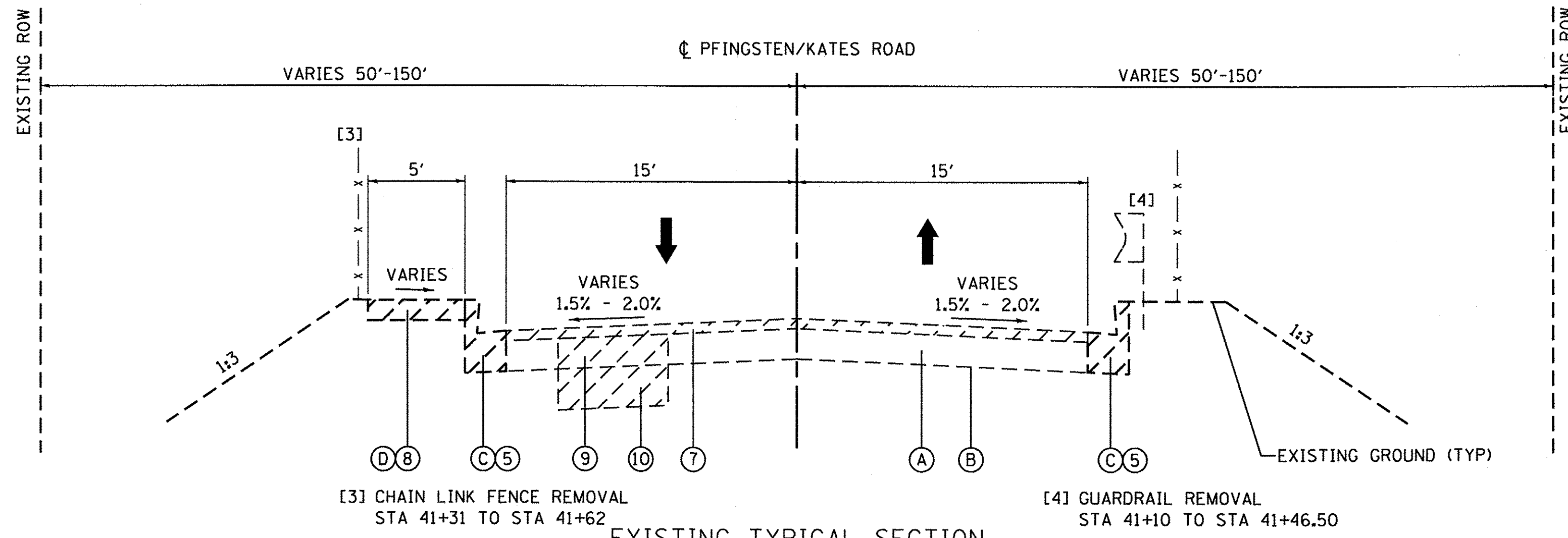
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**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

<b>PFINGSTEN/KATES ROAD IMPROVEMENTS    TYPICAL ROADWAY SECTIONS</b>	
SCALE: N.T.S.	SHEET NO. 1 OF 5 SHEETS
STA.	TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3699	14-00098-00-BR	LAKE	102	8
CONTRACT NO. 61D63				
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT M-BRM-4003 (391)				





**EXISTING LEGEND:**

- (A) EXISTING HMA PAVEMENT (9" - 11")
- (B) EXISTING SUBGRADE
- (C) EXISTING COMB CONC CURB AND GUTTER
- (D) EXISTING CONC SIDEWALK
- (E) EXISTING PAVED SHOULDER
- [Hatched] REMOVAL

**PROPOSED LEGEND:**

- (1) HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N70; 1 1/2"
- (2) POLYMERIZED LEVELING BINDER (MACHINE METHOD), IL-4.75, N50; 3/4"
- (3) BITUMINOUS MATERIALS (TACK COAT)
- (4) HOT-MIX ASPHALT PAVEMENT (FULL-DEPTH), 10"
- (5) REMOVE AND REPLACE CURB AND GUTTER (SPECIAL) (AS DIRECTED BY THE ENGINEER, SEE PROPOSED PLAN FOR TYPE)
- (6) PORTLAND CEMENT CONCRETE SIDEWALK 5 INCH (FOR ADA CURB RAMPS OR AS DIRECTED BY THE ENGINEER)
- (7) HOT-MIX ASPHALT SURFACE REMOVAL, 2"
- (8) SIDEWALK REMOVAL (AS DIRECTED BY THE ENGINEER)
- (9) CLASS D PATCHES, 8" (LOCATION AND TYPE AS DIRECTED BY THE ENGINEER)
- (10) REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL (AS DIRECTED BY THE ENGINEER)
- (11) RELOCATE TEMPORARY BARRIER SYSTEM
- (12) PAVEMENT REMOVAL
- (13) AGGREGATE SUBGRADE IMPROVEMENT, 12"
- (14) SUBBASE GRANULAR MATERIAL, TYPE B 6"
- (15) GEOTECHNICAL FABRIC FOR GROUND STABILIZATION
- (16) AGGREGATE WEDGE SHOULDER, TYPE B
- (17) TOPSOIL FURNISH AND PLACE, VARIABLE DEPTH  
SODDING, SALT TOLERANT  
NITROGEN FERTILIZER NUTRIENT  
PHOSPHOROUS FERTILIZER NUTRIENT  
POTASSIUM FERTILIZER NUTRIENT
- (18) HOT-MIX ASPHALT PAVEMENT (FULL DEPTH), 10"
- (19) AGGREGATE SUBGRADE IMPROVEMENT 12"
- (20) COMBINATION CURB AND GUTTER REMOVAL
- (21) COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.12
- (22) TOPSOIL FURNISH AND PLACE, 6"  
SODDING, SALT TOLERANT  
NITROGEN FERTILIZER NUTRIENT  
PHOSPHOROUS FERTILIZER NUTRIENT  
POTASSIUM FERTILIZER NUTRIENT

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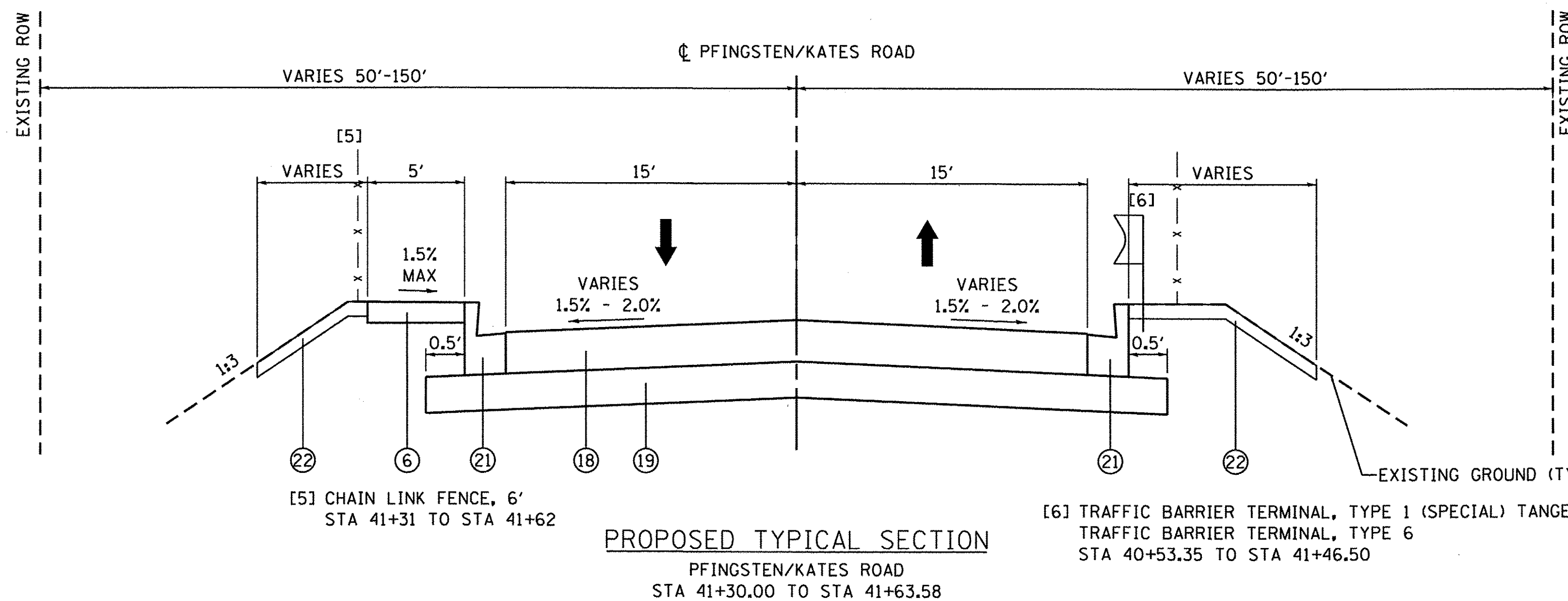
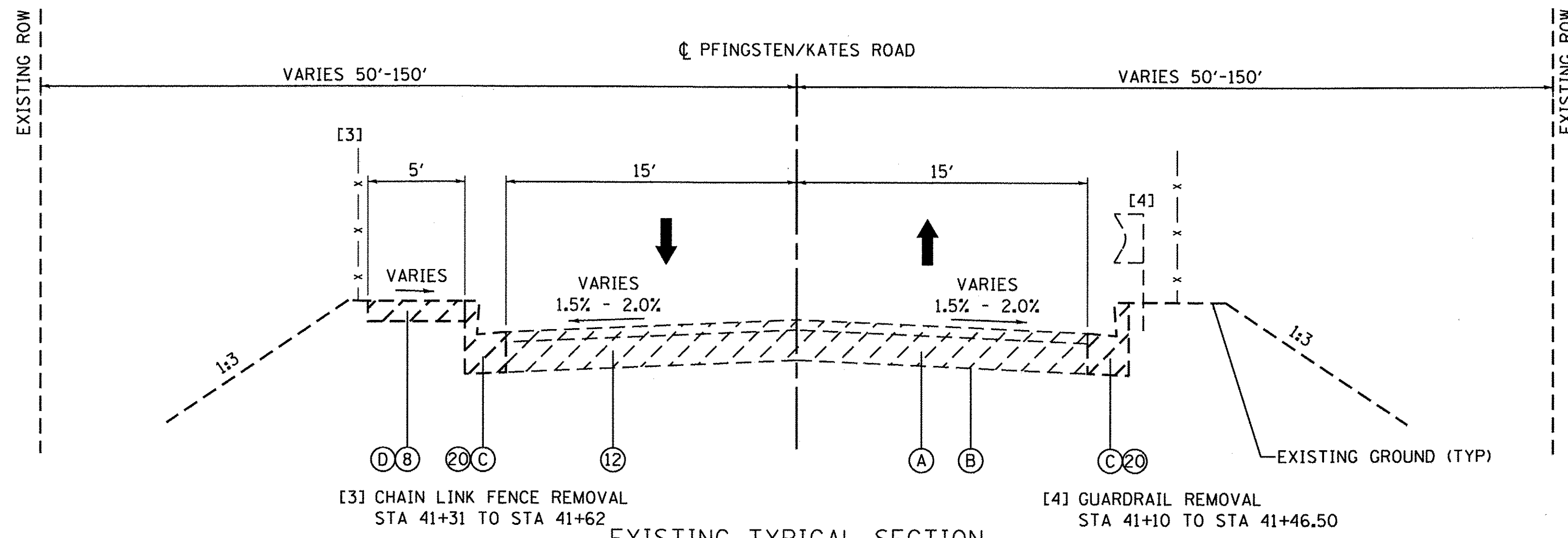
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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**PFINGSTENKATES ROAD IMPROVEMENTS  
TYPICAL ROADWAY SECTIONS**

SCALE: N.T.S. SHEET NO. 2 OF 5 SHEETS STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3699	14-00098-00-BR	LAKE	102	9
CONTRACT NO. 61D63				
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT M-BRM-4003 (391)				



**EXISTING LEGEND:**

- (A) EXISTING HMA PAVEMENT (9" - 11")
- (B) EXISTING SUBGRADE
- (C) EXISTING COMB CONC CURB AND GUTTER
- (D) EXISTING CONC SIDEWALK
- (E) EXISTING PAVED SHOULDER
- REMOVAL

**PROPOSED LEGEND:**

- (1) HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N70; 1 1/2"
- (2) POLYMERIZED LEVELING BINDER (MACHINE METHOD), IL-4.75, N50; 3/4"
- (3) BITUMINOUS MATERIALS (TACK COAT)
- (4) HOT-MIX ASPHALT PAVEMENT (FULL-DEPTH), 10"
- (5) REMOVE AND REPLACE CURB AND GUTTER (SPECIAL) (AS DIRECTED BY THE ENGINEER, SEE PROPOSED PLAN FOR TYPE)
- (6) PORTLAND CEMENT CONCRETE SIDEWALK 5 INCH (FOR ADA CURB RAMPS OR AS DIRECTED BY THE ENGINEER)
- (7) HOT-MIX ASPHALT SURFACE REMOVAL, 2"
- (8) SIDEWALK REMOVAL (AS DIRECTED BY THE ENGINEER)
- (9) CLASS D PATCHES, 8" (LOCATION AND TYPE AS DIRECTED BY THE ENGINEER)
- (10) REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL (AS DIRECTED BY THE ENGINEER)
- (11) RELOCATE TEMPORARY BARRIER SYSTEM
- (12) PAVEMENT REMOVAL
- (13) AGGREGATE SUBGRADE IMPROVEMENT, 12"
- (14) SUBBASE GRANULAR MATERIAL, TYPE B 6"
- (15) GEOTECHNICAL FABRIC FOR GROUND STABILIZATION
- (16) AGGREGATE WEDGE SHOULDER, TYPE B
- (17) TOPSOIL FURNISH AND PLACE, VARIABLE DEPTH  
SODDING, SALT TOLERANT  
NITROGEN FERTILIZER NUTRIENT  
PHOSPHOROUS FERTILIZER NUTRIENT  
POTASSIUM FERTILIZER NUTRIENT
- (18) HOT-MIX ASPHALT PAVEMENT (FULL DEPTH), 10"
- (19) AGGREGATE SUBGRADE IMPROVEMENT 12"
- (20) COMBINATION CURB AND GUTTER REMOVAL
- (21) COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.12
- (22) TOPSOIL FURNISH AND PLACE, 6"  
SODDING, SALT TOLERANT  
NITROGEN FERTILIZER NUTRIENT  
PHOSPHOROUS FERTILIZER NUTRIENT  
POTASSIUM FERTILIZER NUTRIENT

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 CONTRACT = 61D63



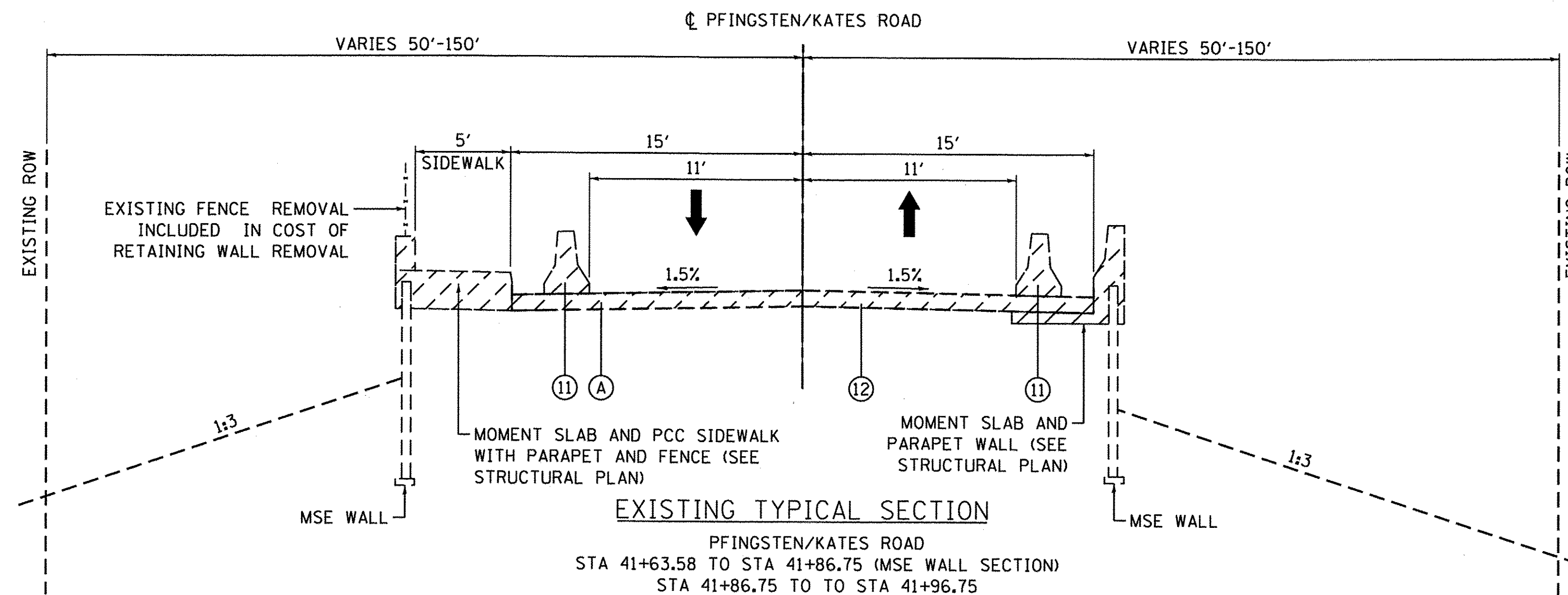
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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

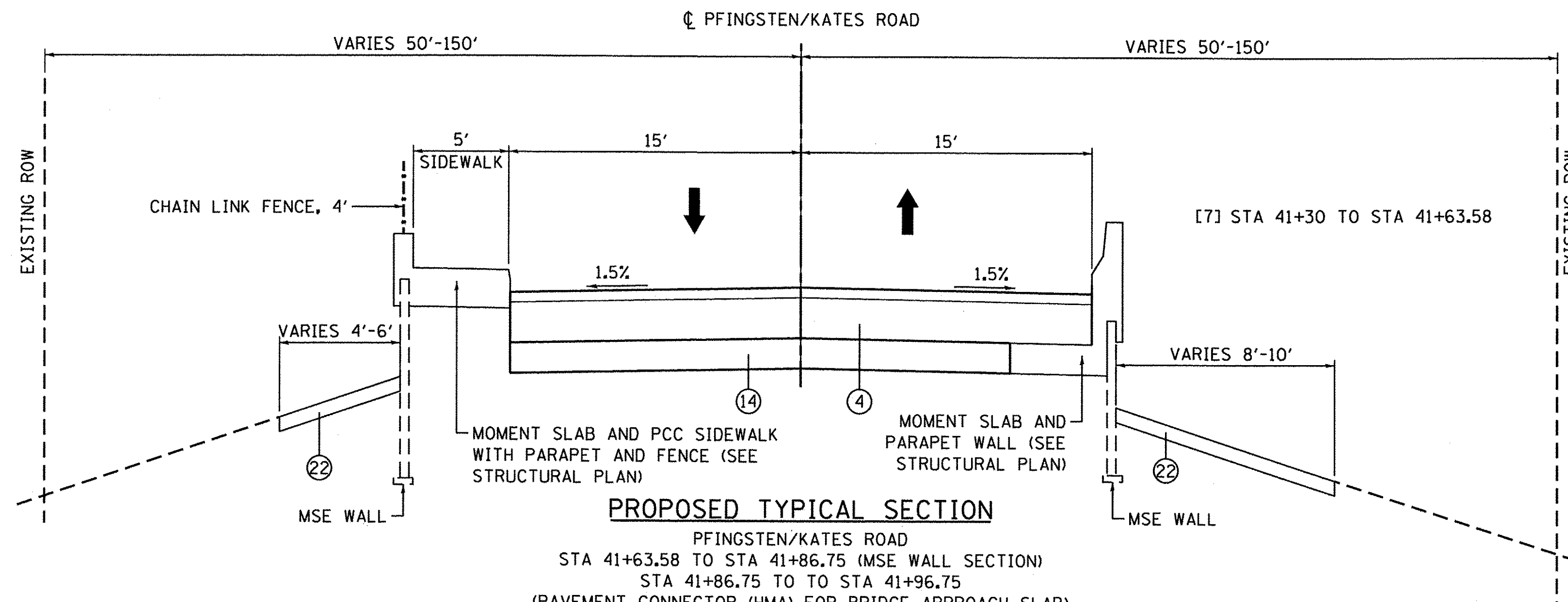
**PFINGSTEN/KATES ROAD IMPROVEMENTS  
TYPICAL ROADWAY SECTIONS**

SCALE: N.T.S. SHEET NO. 3 OF 5 SHEETS STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3699	14-00098-00-BR	LAKE	102	10
CONTRACT NO. 61D63				
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT M-BRM-4003 (391)				



**EXISTING TYPICAL SECTION**  
 PFINGSTEN/KATES ROAD  
 STA 41+63.58 TO STA 41+86.75 (MSE WALL SECTION)  
 STA 41+86.75 TO TO STA 41+96.75  
 (PAVEMENT CONNECTOR (HMA) FOR BRIDGE APPROACH SLAB)  
 STA 41+96.75 TO STA 43+63.25 (BRIDGE OMISSION)  
 STA 43+63.25 TO TO STA 43+73.25  
 (PAVEMENT CONNECTOR (HMA) FOR BRIDGE APPROACH SLAB)  
 STA 43+73.25 TO STA 44+36.00



**PROPOSED TYPICAL SECTION**  
 PFINGSTEN/KATES ROAD  
 STA 41+63.58 TO STA 41+86.75 (MSE WALL SECTION)  
 STA 41+86.75 TO TO STA 41+96.75  
 (PAVEMENT CONNECTOR (HMA) FOR BRIDGE APPROACH SLAB)  
 STA 41+96.75 TO STA 43+63.25 (BRIDGE OMISSION)  
 STA 43+63.25 TO TO STA 43+73.25  
 (PAVEMENT CONNECTOR (HMA) FOR BRIDGE APPROACH SLAB)  
 STA 43+73.25 TO STA 44+36.00

**EXISTING LEGEND:**

- (A) EXISTING HMA PAVEMENT (9" - 11")
- (B) EXISTING SUBGRADE
- (C) EXISTING COMB CONC CURB AND GUTTER
- (D) EXISTING CONC SIDEWALK
- (E) EXISTING PAVED SHOULDER
- [Hatched pattern] REMOVAL

**PROPOSED LEGEND:**

- (1) HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N70; 1 1/2"
- (2) POLYMERIZED LEVELING BINDER (MACHINE METHOD), IL-4.75, N50; 3/4"
- (3) BITUMINOUS MATERIALS (TACK COAT)
- (4) HOT-MIX ASPHALT PAVEMENT (FULL-DEPTH), 10"
- (5) REMOVE AND REPLACE CURB AND GUTTER (SPECIAL) (AS DIRECTED BY THE ENGINEER, SEE PROPOSED PLAN FOR TYPE)
- (6) PORTLAND CEMENT CONCRETE SIDEWALK 5 INCH (FOR ADA CURB RAMPS OR AS DIRECTED BY THE ENGINEER)
- (7) HOT-MIX ASPHALT SURFACE REMOVAL, 2"
- (8) SIDEWALK REMOVAL (AS DIRECTED BY THE ENGINEER)
- (9) CLASS D PATCHES, 8" (LOCATION AND TYPE AS DIRECTED BY THE ENGINEER)
- (10) REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL (AS DIRECTED BY THE ENGINEER)
- (11) RELOCATE TEMPORARY BARRIER SYSTEM
- (12) PAVEMENT REMOVAL
- (13) AGGREGATE SUBGRADE IMPROVEMENT, 12"
- (14) SUBBASE GRANULAR MATERIAL, TYPE B 6"
- (15) GEOTECHNICAL FABRIC FOR GROUND STABILIZATION
- (16) AGGREGATE WEDGE SHOULDER, TYPE B
- (17) TOPSOIL FURNISH AND PLACE, VARIABLE DEPTH  
 SODDING, SALT TOLERANT  
 NITROGEN FERTILIZER NUTRIENT  
 PHOSPHOROUS FERTILIZER NUTRIENT  
 POTASSIUM FERTILIZER NUTRIENT
- (18) HOT-MIX ASPHALT PAVEMENT (FULL DEPTH), 10"
- (19) AGGREGATE SUBGRADE IMPROVEMENT 12"
- (20) COMBINATION CURB AND GUTTER REMOVAL
- (21) COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.12
- (22) TOPSOIL FURNISH AND PLACE, 6"  
 SODDING, SALT TOLERANT  
 NITROGEN FERTILIZER NUTRIENT  
 PHOSPHOROUS FERTILIZER NUTRIENT  
 POTASSIUM FERTILIZER NUTRIENT

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**ENGINEERING CONSULTANT**  
**Clorba Group, Inc.**  
 CONSULTING ENGINEERS  
 2507 North Cumberland Avenue, Suite 402  
 Chicago, Illinois 60656  
 Tel: 773.775.4009 Fax: 773.775.4014  
 Email: chicago@clorba.com

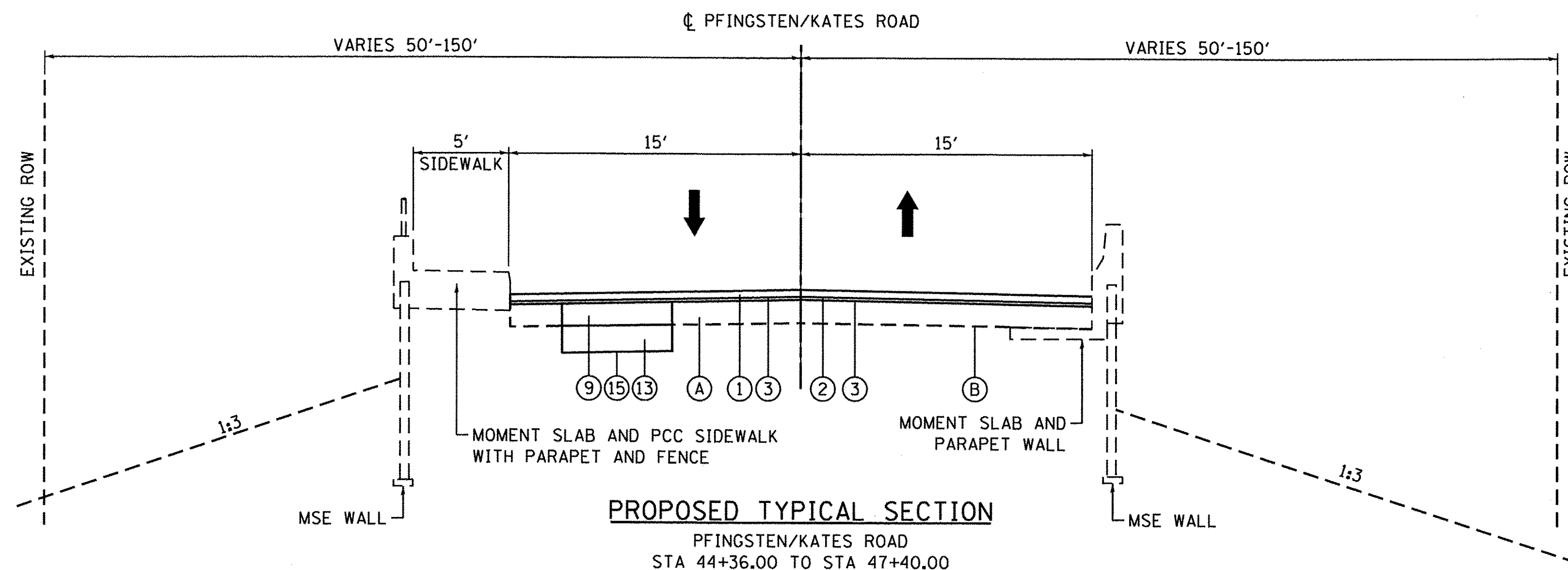
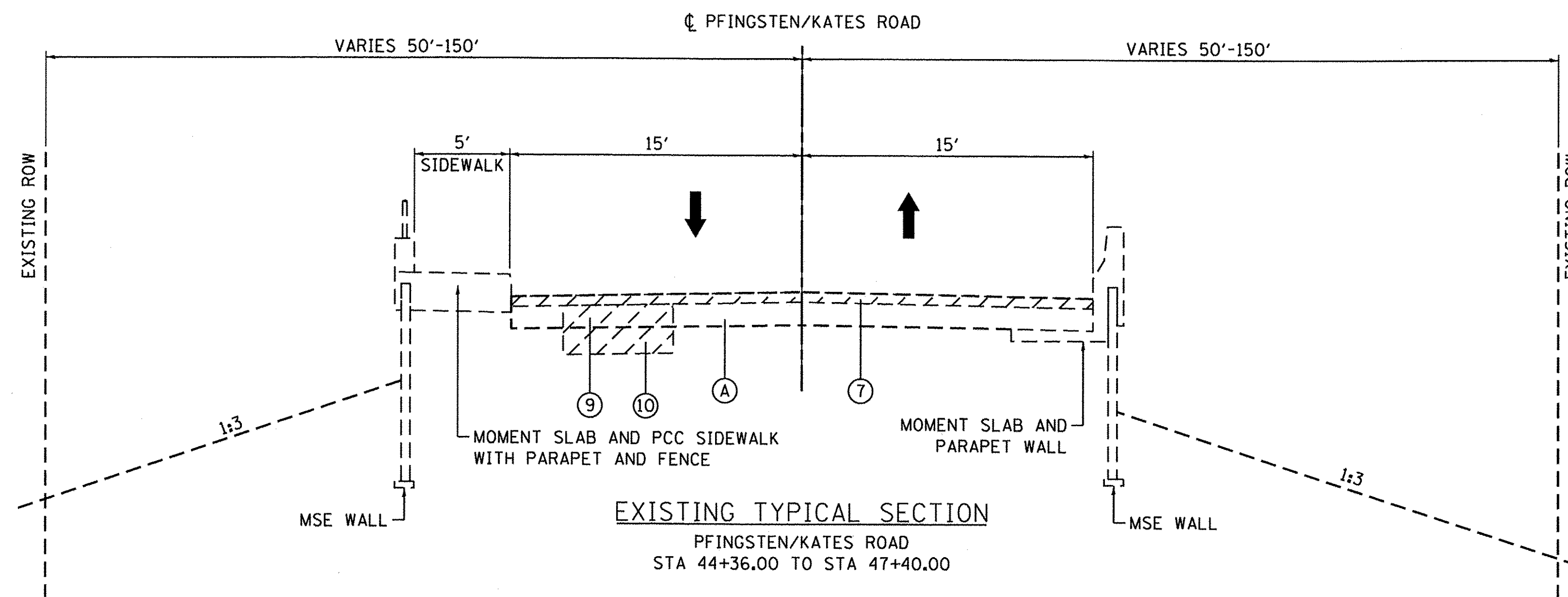
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**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**PFINGSTENKATES ROAD IMPROVEMENTS  
 TYPICAL ROADWAY SECTIONS**

SCALE: N.T.S. SHEET NO. 4 OF 5 SHEETS STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3699	14-00098-00-BR	LAKE	102	11
<b>CONTRACT NO. 61D63</b>				
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT M-BRM-4003 (391)				



**EXISTING LEGEND:**

- (A) EXISTING HMA PAVEMENT (9" - 11")
- (B) EXISTING SUBGRADE
- (C) EXISTING COMB CONC CURB AND GUTTER
- (D) EXISTING CONC SIDEWALK
- (E) EXISTING PAVED SHOULDER
- REMOVAL

**PROPOSED LEGEND:**

- (1) HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N70; 1 1/2"
- (2) POLYMERIZED LEVELING BINDER (MACHINE METHOD), IL-4.75, N50; 3/4"
- (3) BITUMINOUS MATERIALS (TACK COAT)
- (4) HOT-MIX ASPHALT PAVEMENT (FULL-DEPTH), 10"
- (5) REMOVE AND REPLACE CURB AND GUTTER (SPECIAL) (AS DIRECTED BY THE ENGINEER, SEE PROPOSED PLAN FOR TYPE)
- (6) PORTLAND CEMENT CONCRETE SIDEWALK 5 INCH (FOR ADA CURB RAMPS OR AS DIRECTED BY THE ENGINEER)
- (7) HOT-MIX ASPHALT SURFACE REMOVAL, 2"
- (8) SIDEWALK REMOVAL (AS DIRECTED BY THE ENGINEER)
- (9) CLASS D PATCHES, 8" (LOCATION AND TYPE AS DIRECTED BY THE ENGINEER)
- (10) REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL (AS DIRECTED BY THE ENGINEER)
- (11) RELOCATE TEMPORARY BARRIER SYSTEM
- (12) PAVEMENT REMOVAL
- (13) AGGREGATE SUBGRADE IMPROVEMENT, 12"
- (14) SUBBASE GRANULAR MATERIAL, TYPE B 6"
- (15) GEOTECHNICAL FABRIC FOR GROUND STABILIZATION
- (16) AGGREGATE WEDGE SHOULDER, TYPE B
- (17) TOPSOIL FURNISH AND PLACE, VARIABLE DEPTH  
SODDING, SALT TOLERANT  
NITROGEN FERTILIZER NUTRIENT  
PHOSPHOROUS FERTILIZER NUTRIENT  
POTASSIUM FERTILIZER NUTRIENT
- (18) HOT-MIX ASPHALT PAVEMENT (FULL DEPTH), 10"
- (19) AGGREGATE SUBGRADE IMPROVEMENT 12"
- (20) COMBINATION CURB AND GUTTER REMOVAL
- (21) COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.12
- (22) TOPSOIL FURNISH AND PLACE, 6"  
SODDING, SALT TOLERANT  
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 PROJECT = Pfingsten/Kates Road Typical Sections  
 SHEET = 5 of 5

**ENGINEERING CONSULTANT**  
**Clorba Group, Inc.**  
 CONSULTING ENGINEERS  
 8507 North Cumberland Avenue, Suite 402  
 Chicago, Illinois 60636  
 Tel: 773.775.4009 Fax: 773.775.4014  
 Email: chicago@clorba.com

USER NAME = jatonaseo	DESIGNED - JPA	REVISED -
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**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

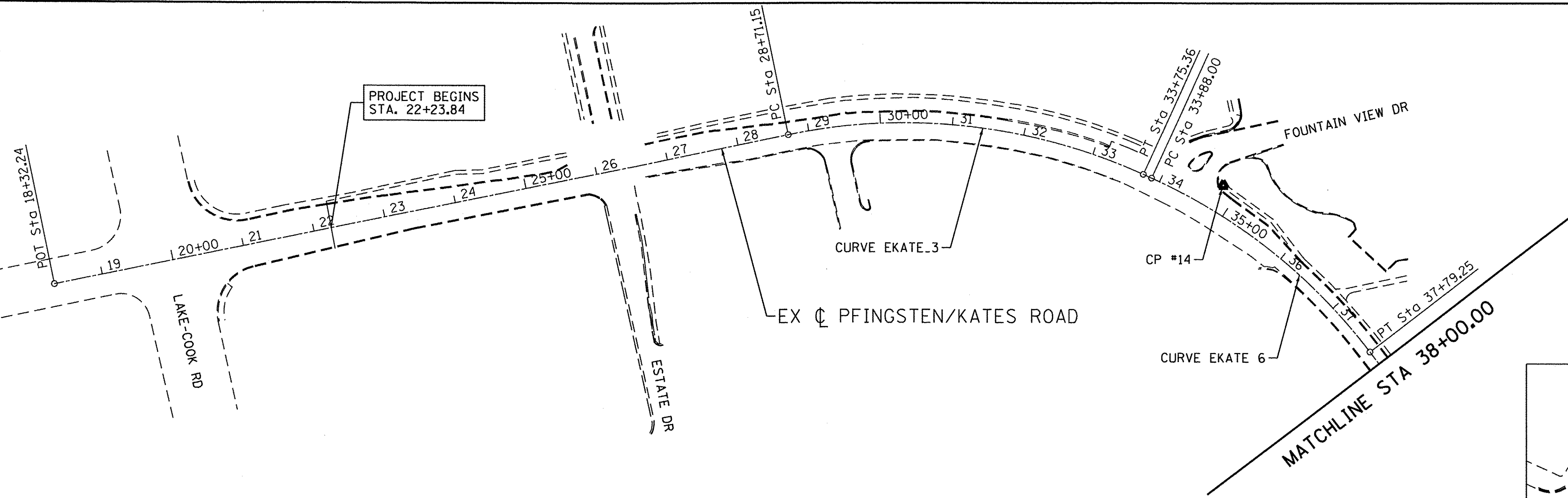
**PFINGSTENKATES ROAD IMPROVEMENTS**  
**TYPICAL ROADWAY SECTIONS**

SCALE: N.T.S.      SHEET NO. 5 OF 5 SHEETS      STA.      TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3699	14-00098-00-BR	LAKE	102	12
CONTRACT NO. 61D63				
FED. ROAD DIST. NO. 1   ILLINOIS FED. AID PROJECT M-BRM-4003 (391)				

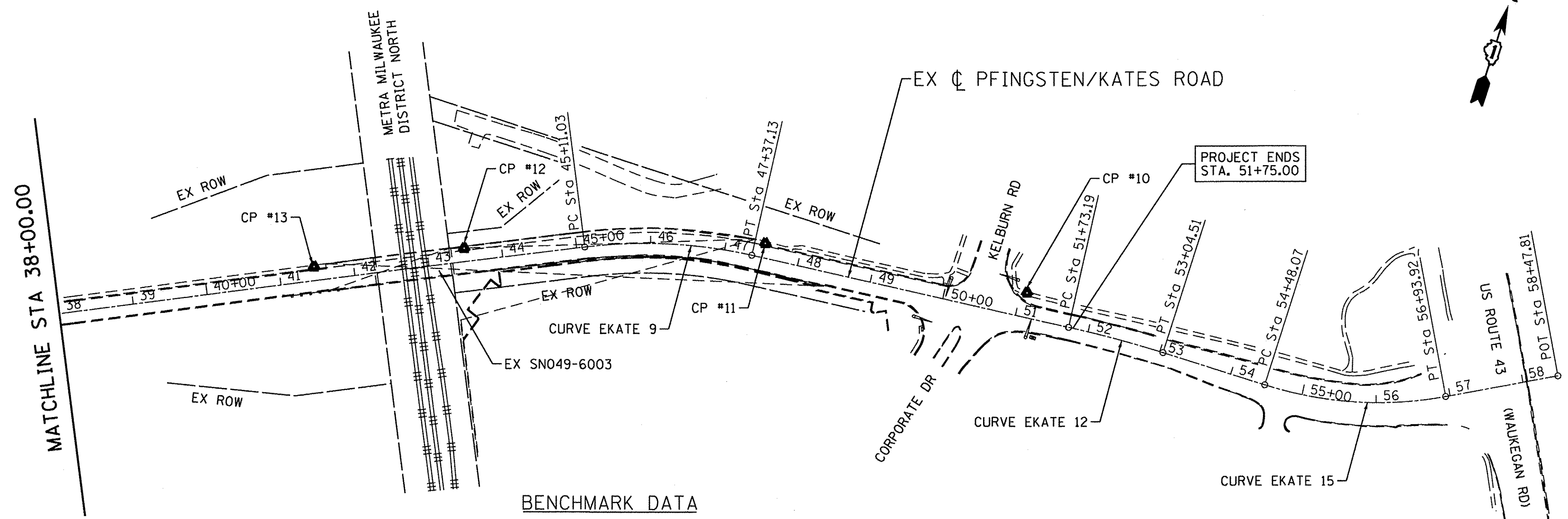
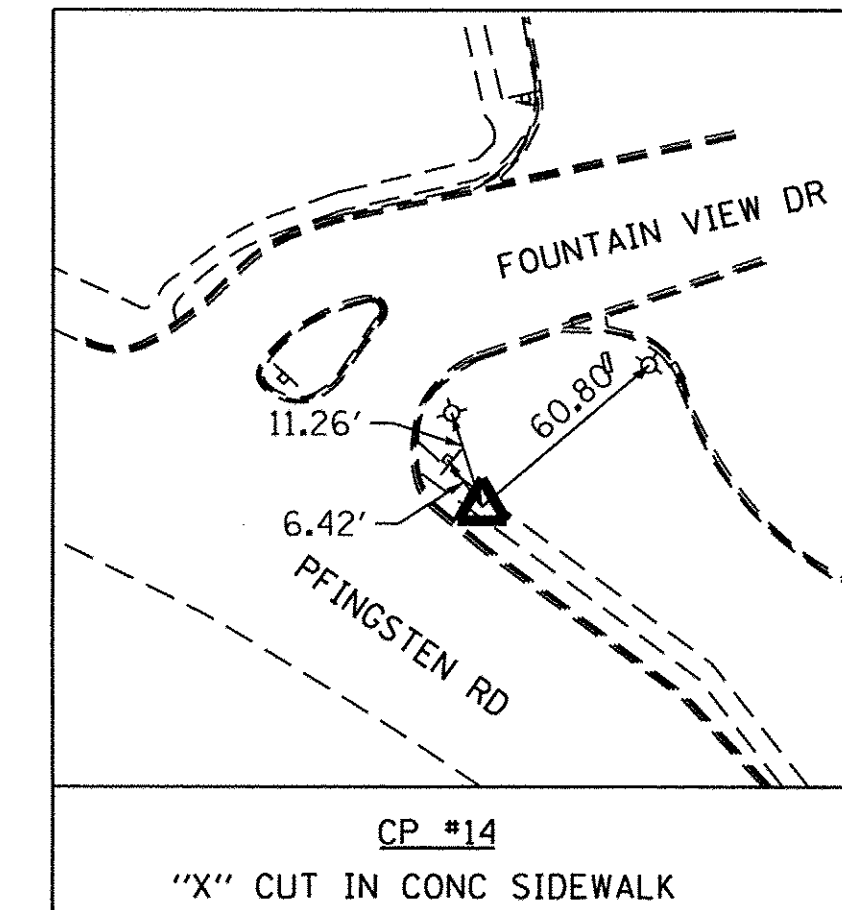
ALIGNMENT COORDINATES - PFINGSTEN/KATES ROAD

	STA	NORTH	EAST
P.O.T.	18+32.24	1,998,485.19	1,115,802.98
P.C.	28+71.15	1,999,524.00	1,115,817.40
P.T.	33+75.36	1,999,993.31	1,115,977.63
P.C.	33+88.00	2,000,003.42	1,115,985.22
P.T.	37+79.25	2,000,247.63	1,116,285.90
P.C.	45+11.03	2,000,557.73	1,116,948.73
P.T.	47+37.13	2,000,616.36	1,117,165.92
P.C.	51+73.19	2,000,655.45	1,117,600.23
P.T.	53+04.51	2,000,661.48	1,117,731.36
P.C.	54+48.07	2,000,661.80	1,117,874.92
P.T.	56+93.92	2,000,721.56	1,118,110.85
P.O.T.	58+47.81	2,000,794.51	1,118,246.35



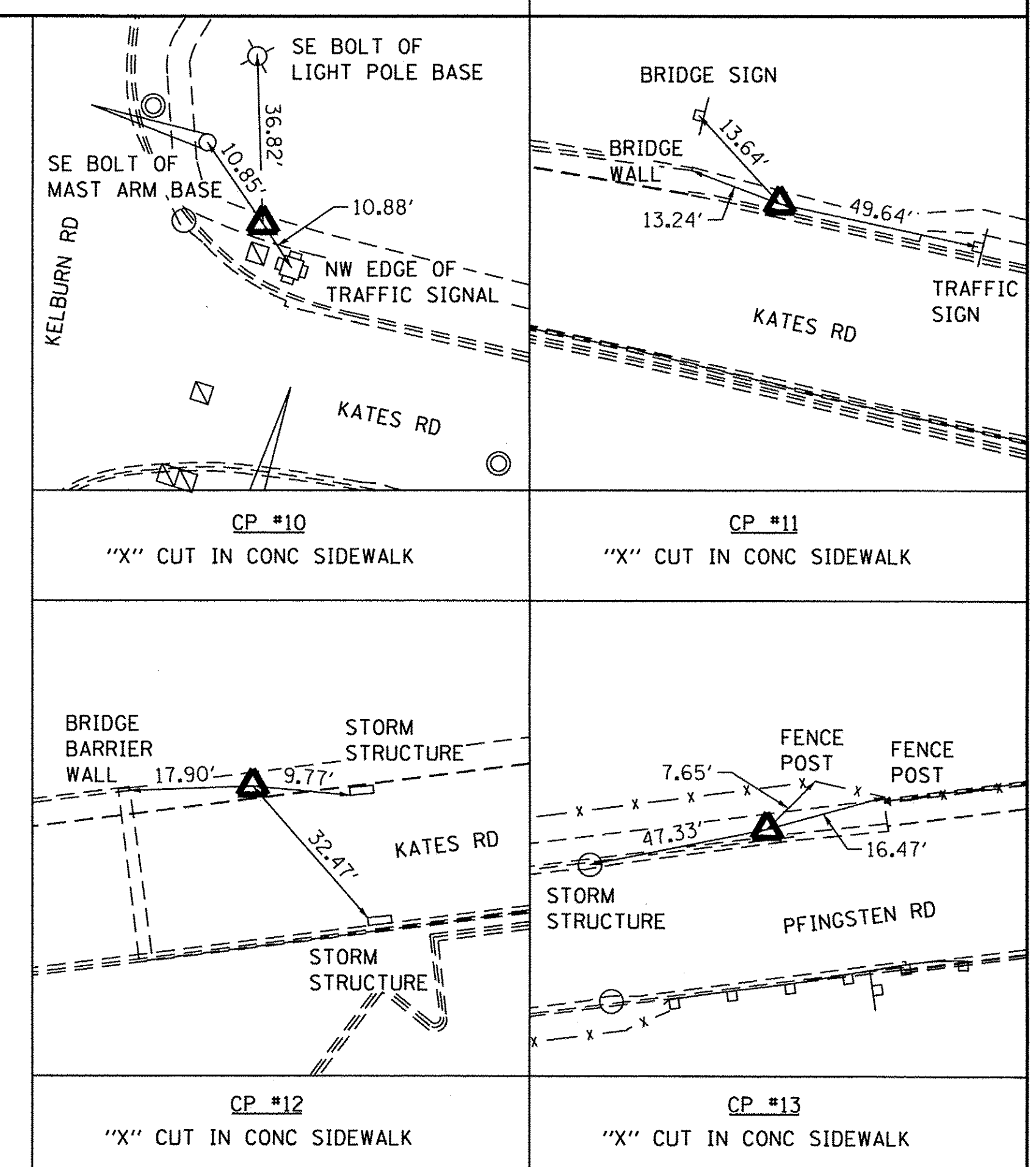
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EKATE.3	EKATE.6	EKATE.9	EKATE.12	EKATE.15
PI STA. = 31+31.95	PI STA. = 35+87.62	PI STA. = 46+25.24	PI STA. = 52+38.89	PI STA. = 55+73.54
Δ = 36° 06' 41" (RT)	Δ = 28° 01' 16" (RT)	Δ = 19° 55' 47" (RT)	Δ = 5° 00' 56" (RT)	Δ = 28° 10' 22" (LT)
D = 7° 09' 43"	D = 7° 09' 43"	D = 8° 48' 53"	D = 3° 49' 11"	D = 11° 27' 33"
R = 800.00'	R = 800.00'	R = 650.00'	R = 1,500.00'	R = 500.00'
T = 260.79'	T = 199.62'	T = 114.20'	T = 65.70'	T = 125.47'
L = 504.21'	L = 391.25'	L = 226.10'	L = 131.31'	L = 245.85'
E = 41.44'	E = 24.53'	E = 9.96'	E = 1.44'	E = 15.50'
P.C. STA. = 28+71.15	P.C. STA. = 33+88.00	P.C. STA. = 45+11.03	P.C. STA. = 51+73.19	P.C. STA. = 54+48.07
P.T. STA. = 33+75.36	P.T. STA. = 37+79.25	P.T. STA. = 47+37.13	P.T. STA. = 53+04.51	P.T. STA. = 56+93.92

POINT #	NORTH	EAST	ELEV	STA	OFFSET
CP #10	2,000,682.41	1,117,532.91	680.26	51+08.57	-32.89
CP #11	2,000,637.16	1,117,178.23	684.43	47+51.26	-19.61
CP #12	2,000,505.80	1,116,795.35	702.05	43+50.10	-17.96
CP #13	2,000,420.42	1,116,611.04	699.85	41+46.97	-18.73
CP #14	2,000,098.48	1,116,016.32	663.90	34+78.64	-37.59



BENCHMARK DATA

BM 2007-41	VILLAGE OF DEERFIELD MONUMENT AT SE CORNER OF BRISTOL DR AND MAYER CT AT 227 BRISTOL DR	ELEV = 655.20
BM 2007-42	VILLAGE OF DEERFIELD MONUMENT AT NE CORNER OF KATES RD AND KELBURN RD AT COROMANDEL	ELEV = 680.81
TBM "A"	TOP OF NW BOLT OF MAST ARM AT NW CORNER OF KATES RD AND KELBURN RD	ELEV = 680.28
TBM "B"	TOP OF SE BOLT OF LIGHT POLE BASE AT NE CORNER OF KATES RD AND KELBURN RD	ELEV = 663.62



NOTES

ALL COORDINATES SHOWN REFER TO THE ILLINOIS STATE PLANE COORDINATE SYSTEM (EAST ZONE) BASED ON THE NAD 83 (2007 ADJUSTMENT) HORIZONTAL DATUM.

THE ORTHOMETRIC HEIGHTS SHOWN REFLECT THE NAVD88.

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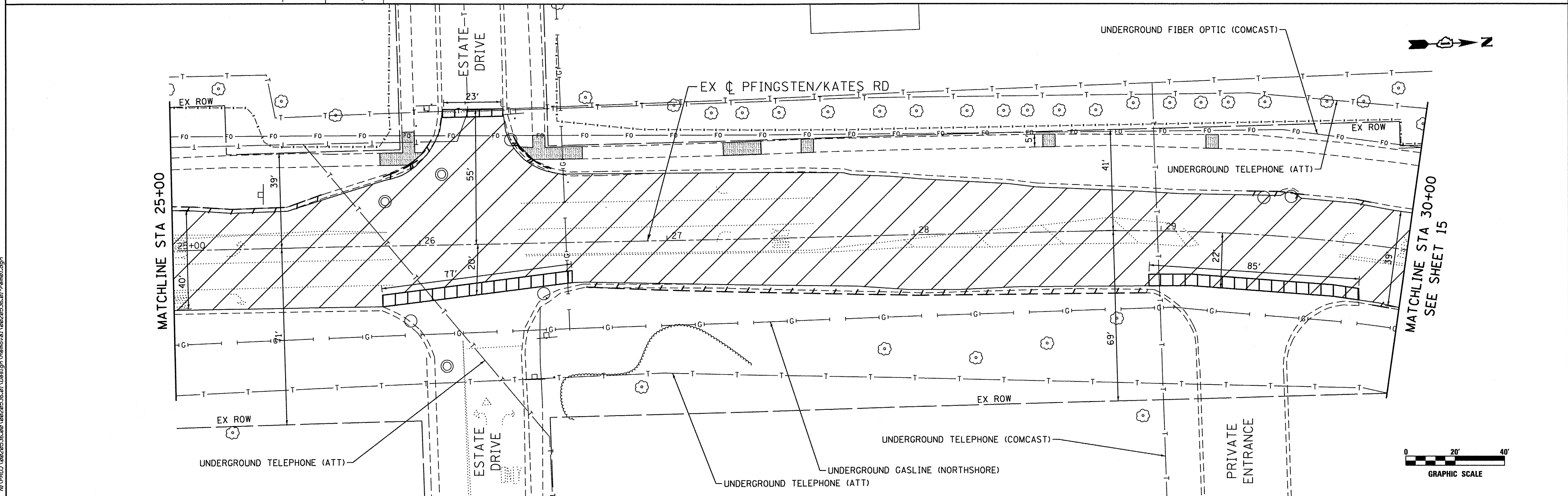
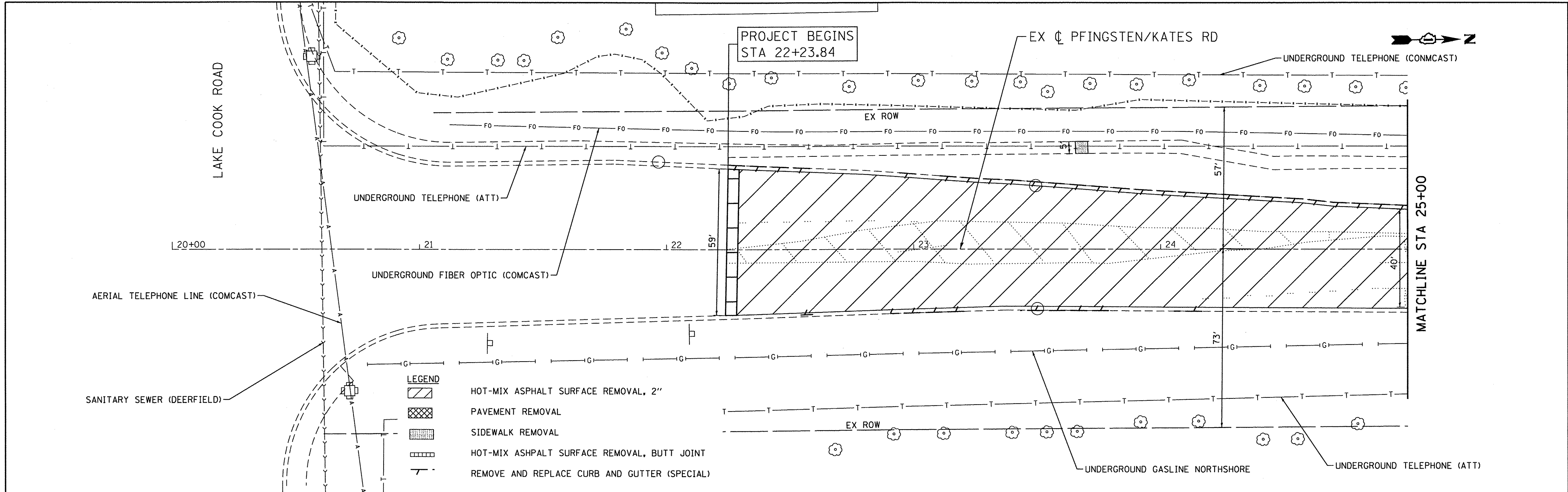


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DRAWN - DW	REVISIONS -
CHECKED - DJO	REVISIONS -
DATE - 12/5/2016	REVISIONS -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

PFINGSTEN/KATES ROAD IMPROVEMENTS ALIGNMENT, TIES AND BENCHMARKS	
SCALE: 1" = 100'	SHEET NO. 1 OF 1 SHEETS
STA.	TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3699	14-00098-00-BR	LAKE	102	13
CONTRACT NO. 61D63				
FED. ROAD DIST. NO. 1   ILLINOIS   FED. AID PROJECT M-BRM-4003391J				



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**ENGINEERING CONSULTANT**  
**Clorba Group, Inc.**  
 CONSULTING ENGINEERS  
 5507 North Cumberland Avenue, Suite 402  
 Chicago, Illinois 60630  
 Tel: 773.775.4009 Fax 773.775.4014  
 Email: chicago@clorba.com

USER NAME = jattanesoo  
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DESIGNED - JPA  
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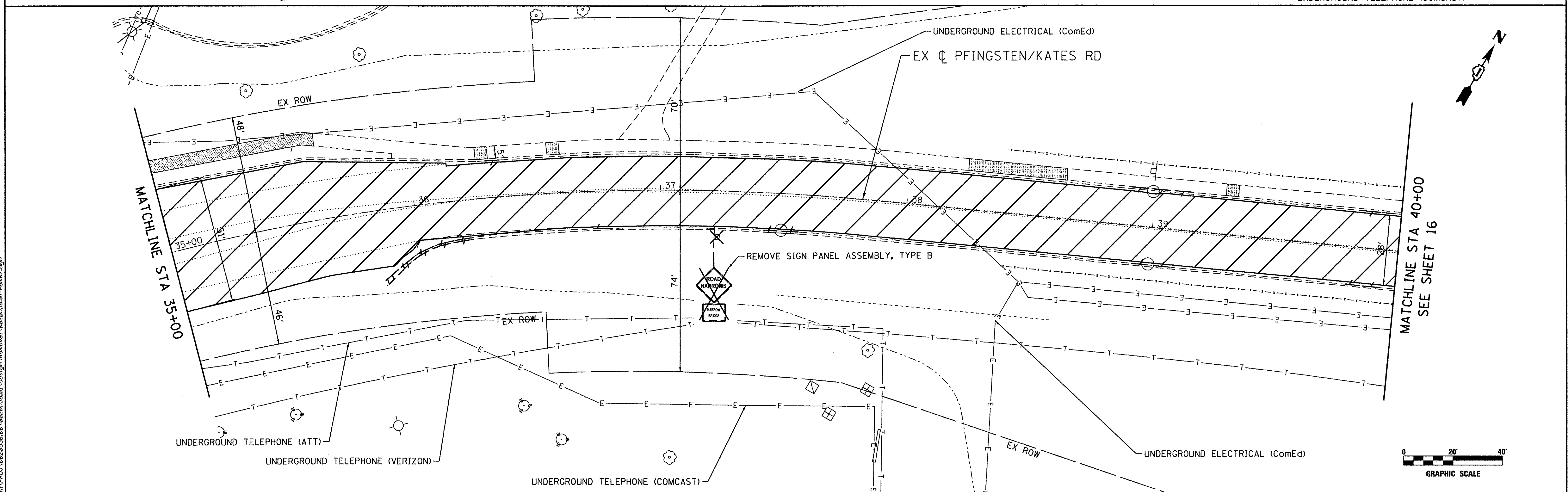
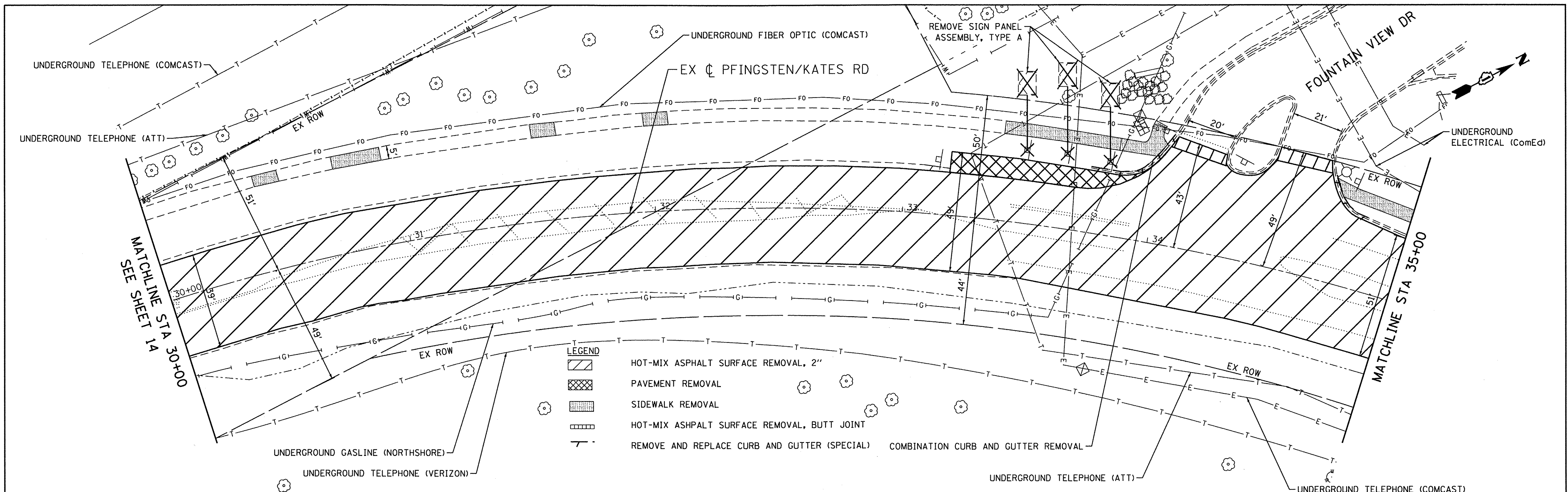
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**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

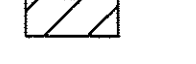





**PFINGSTEN/KATES ROAD IMPROVEMENTS  
 EXISTING CONDITIONS AND REMOVAL PLAN**

SCALE: 1" = 20'    SHEET NO. 1 OF 4 SHEETS    STA. 22+23.84 TO STA. 30+00

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3699	14-00098-00-BR	LAKE	102	14
CONTRACT NO. 61D63				
FED. ROAD DIST. NO. 1   ILLINOIS FED. AID PROJECT M-BRM-4003(391)				



**LEGEND**

-  HOT-MIX ASPHALT SURFACE REMOVAL, 2"
-  PAVEMENT REMOVAL
-  SIDEWALK REMOVAL
-  HOT-MIX ASPHALT SURFACE REMOVAL, BUTT JOINT
-  REMOVE AND REPLACE CURB AND GUTTER (SPECIAL)
-  COMBINATION CURB AND GUTTER REMOVAL

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**ENGINEERING CONSULTANT**  
**Clorba Group, Inc.**  
 CONSULTING ENGINEERS  
 5507 North Cumberland Avenue, Suite 402  
 Chicago, Illinois 60656  
 Tel: 773.775.4009 Fax: 773.775.4614  
 Email: cllorba@clorba.com

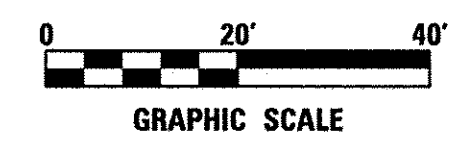
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	DATE - 12/5/2016	REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**PFINGSTENKATES ROAD IMPROVEMENTS  
 EXISTING CONDITIONS & REMOVAL PLAN**

SCALE: 1" = 20'    SHEET NO. 2 OF 4 SHEETS    STA. 30+00 TO STA. 40+00

F.A.U. RTE. 3699	SECTION 14-00098-00-BR	COUNTY LAKE	TOTAL SHEETS 102	SHEET NO. 15
CONTRACT NO. 61D63				
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT M-BRM-4003(391)				

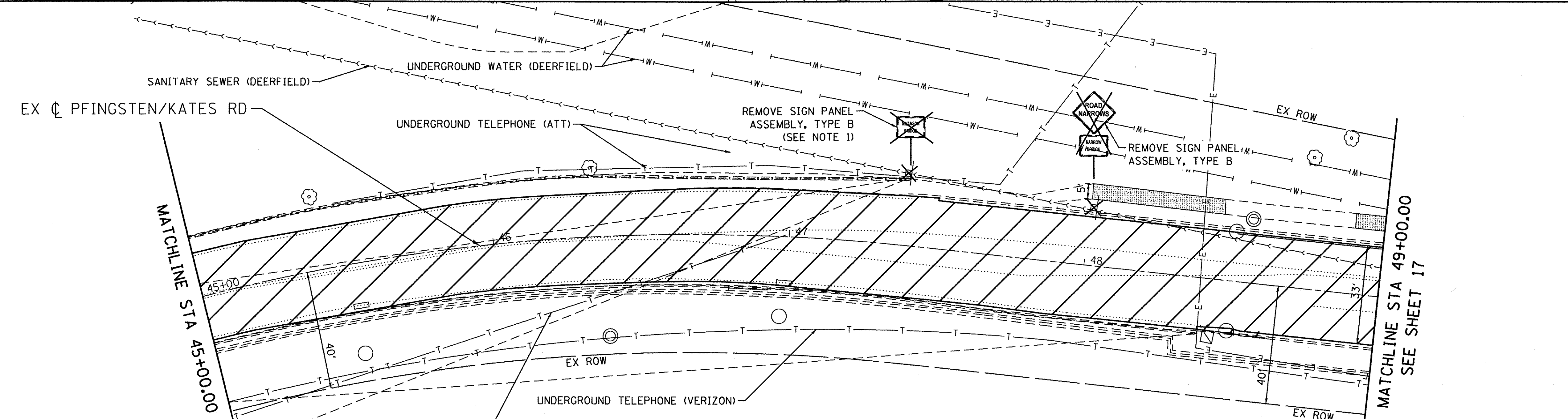
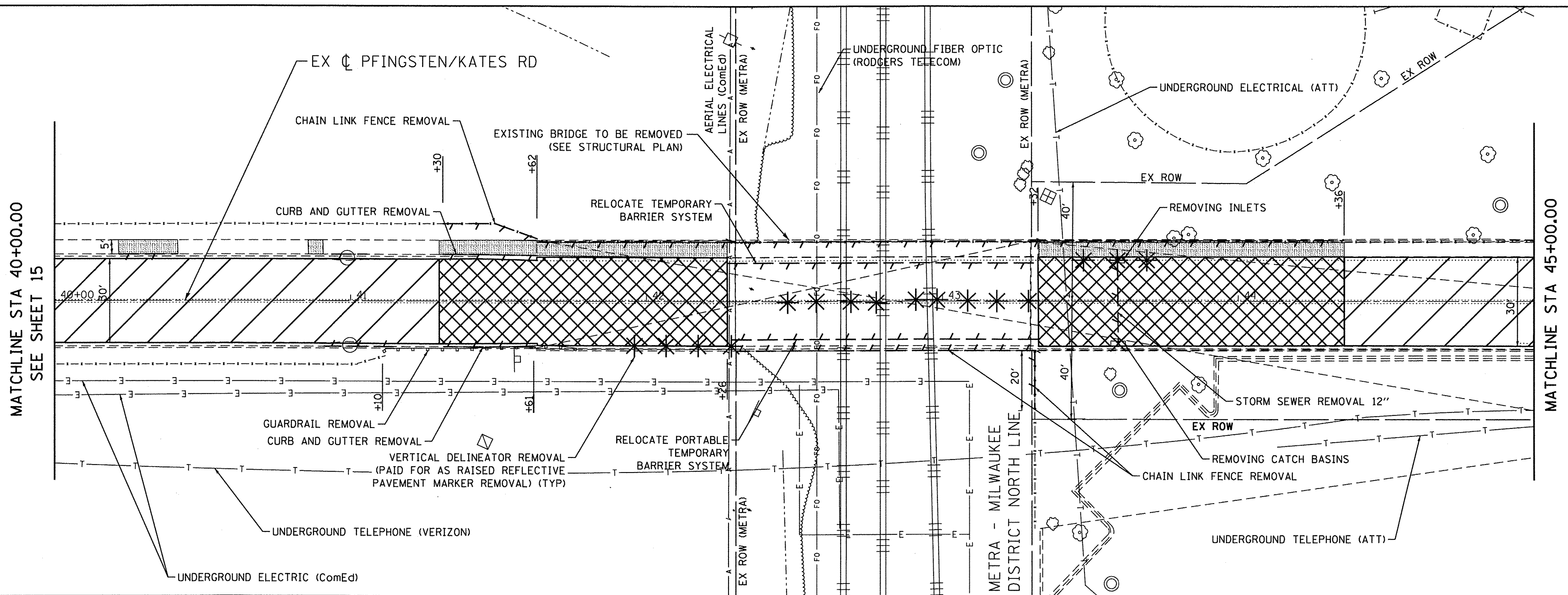


MATCHLINE STA 40+00.00  
SEE SHEET 15

MATCHLINE STA 45+00.00

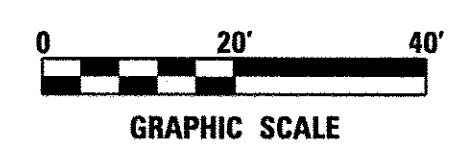
MATCHLINE STA 45+00.00

MATCHLINE STA 49+00.00  
SEE SHEET 17



- LEGEND**
- HOT-MIX ASPHALT SURFACE REMOVAL, 2"
  - PAVEMENT REMOVAL
  - SIDEWALK REMOVAL
  - HOT-MIX ASPHALT SURFACE REMOVAL, BUTT JOINT
  - REMOVE AND REPLACE CURB AND GUTTER (SPECIAL)

**NOTE**  
1. SIGN SHALL BE SALVAGED AND DELIVERED TO THE VILLAGE OF DEERFIELD PUBLIC WORKS DEPARTMENT.



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**ENGINEERING CONSULTANT**  
**Clorba Group, Inc.**  
 CONSULTING ENGINEERS  
 5507 North Cumberland Avenue, Suite 402  
 Chicago, Illinois 60630  
 Tel: 773.775.4509 Fax: 773.775.4014  
 Email: chicago@clorba.com

USER NAME = jottanoseo  
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 PLOT DATE = 12/5/2016

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 DRAWN - DW  
 CHECKED - DJO  
 DATE - 12/5/2016

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 REVISED -

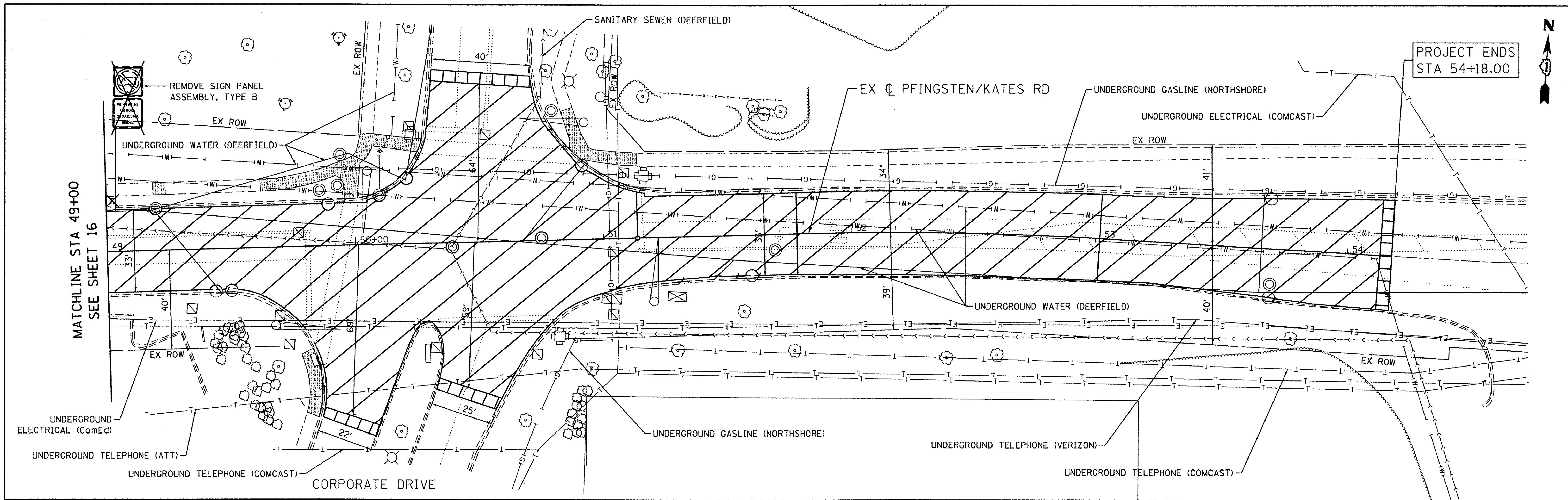
**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**PFINGSTENKATES ROAD IMPROVEMENTS  
 EXISTING CONDITIONS & REMOVAL PLAN**

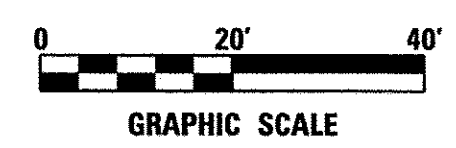
SCALE: 1" = 20' SHEET NO. 3 OF 4 SHEETS STA. 40+00 TO STA. 49+00

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3699	14-00098-00-BR	LAKE	102	16
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT			CONTRACT NO. 61D63	
			M-BRM-4003(391)	





LEGEND	
	HOT-MIX ASPHALT SURFACE REMOVAL, 2"
	PAVEMENT REMOVAL
	SIDEWALK REMOVAL
	HOT-MIX ASPHALT SURFACE REMOVAL, BUTT JOINT
	REMOVE AND REPLACE CURB AND GUTTER (SPECIAL)



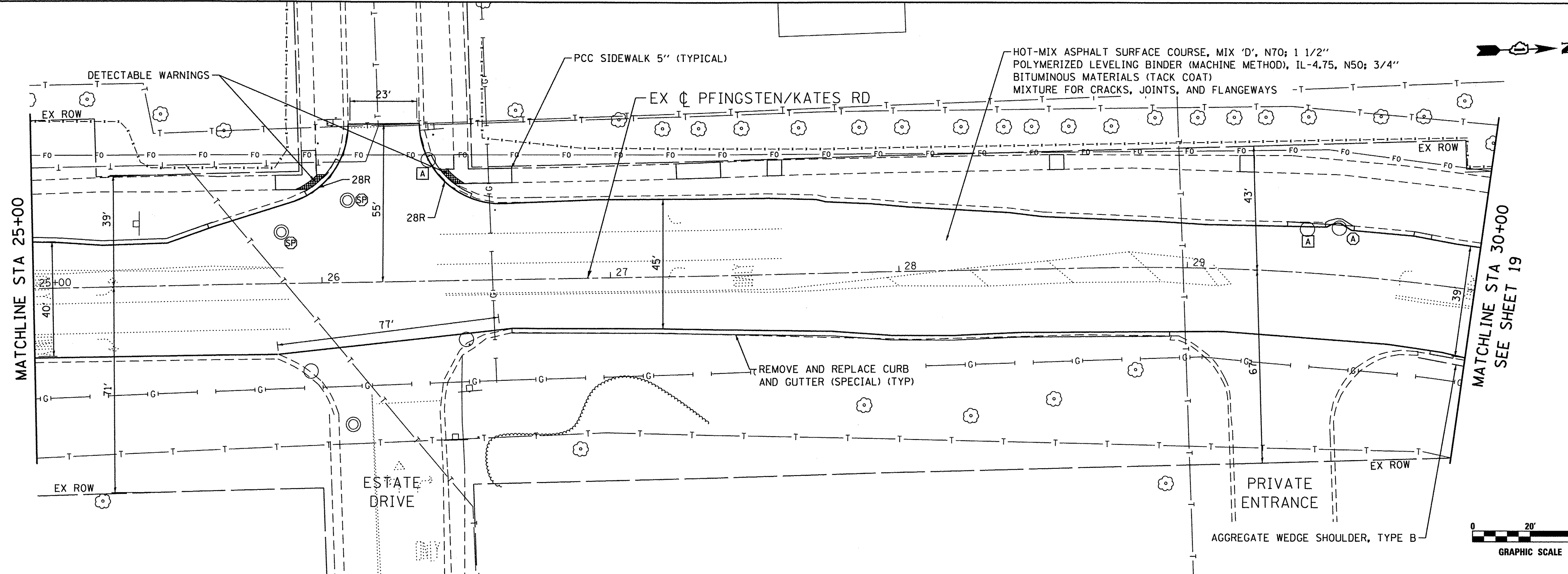
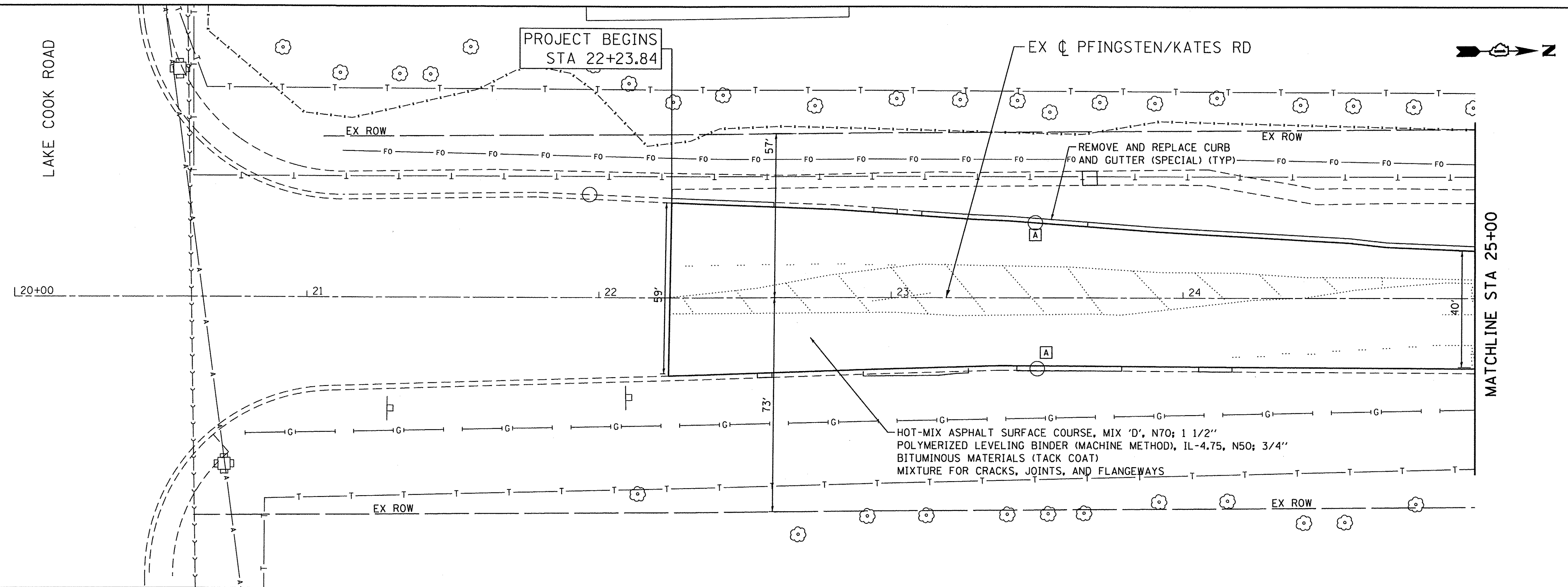
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<b>ENGINEERING CONSULTANT</b>  CONSULTING ENGINEERS 5507 North Cumberland Avenue, Suite 402 Chicago, Illinois 60630 Tel: 773.775.4009 Fax: 773.775.4014 Email: chicago@clorba.com	USER NAME = jattanosoo	DESIGNED - JPA	REVISED -
	PLOT SCALE = 20.0000' / 1"	DRAWN - DW	REVISED -
	PLOT DATE = 12/25/2016	CHECKED - DJO	REVISED -
		DATE - 12/25/2016	REVISED -

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

<b>PFRINGSTEN/KATES ROAD IMPROVEMENTS</b> <b>EXISTING CONDITIONS &amp; REMOVAL PLAN</b>		
SCALE: 1" = 20'	SHEET NO. 4 OF 4 SHEETS	STA. 49+00.00 TO STA. END

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3699	14-00098-00-BR	LAKE	102	17
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT			CONTRACT NO. 61D63	
			M-BRM-4003(391)	



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**ENGINEERING CONSULTANT**

**Clorba Group, Inc.**  
 CONSULTING ENGINEERS  
 5507 North Cumberland Avenue, Suite 402  
 Chicago, Illinois 60630  
 Tel: 773.775.4009 Fax: 773.775.4014  
 Email: cgroup@clorba.com

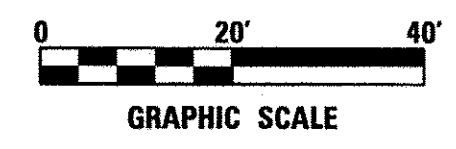
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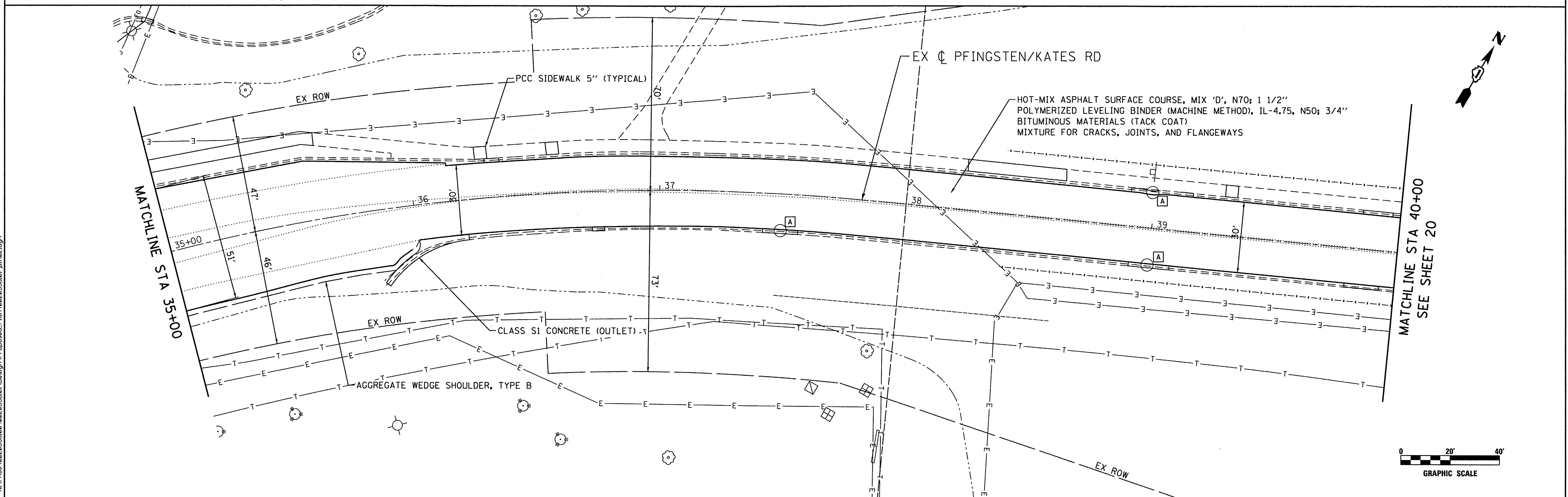
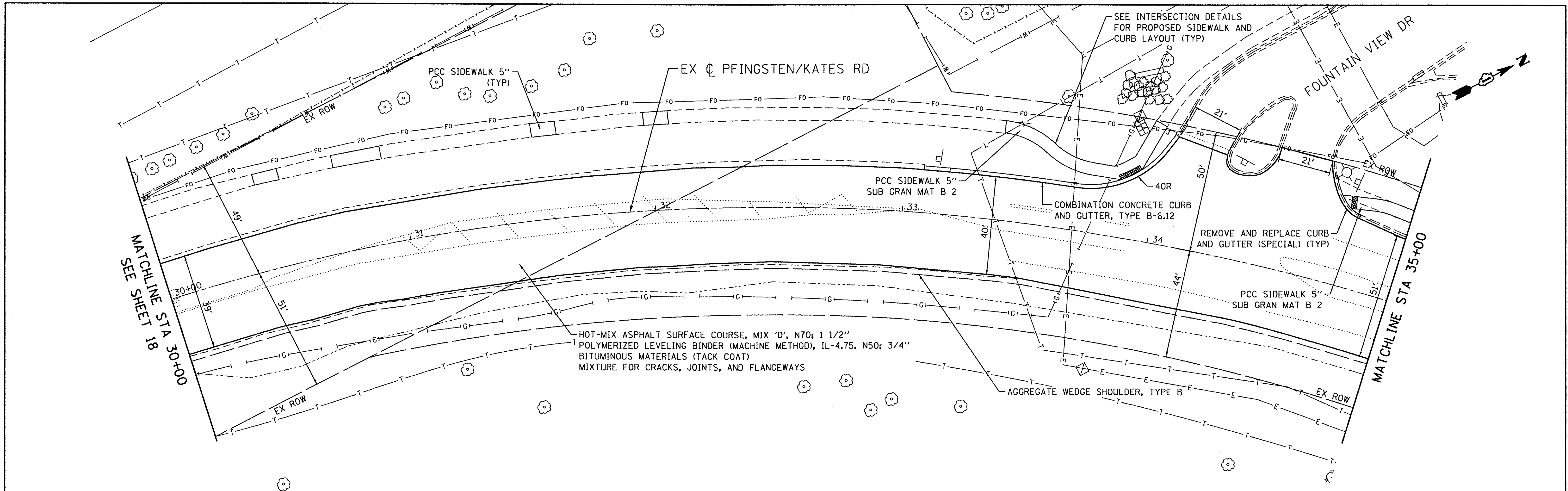
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**PFINGSTEN/KATES ROAD IMPROVEMENTS  
PROPOSED PLAN**

SCALE: 1" = 20'    SHEET NO. 1 OF 4 SHEETS    STA. 22+23.84 TO STA. 30+00

F.A.U. RTE. 3699	SECTION 14-00098-00-BR	COUNTY LAKE	TOTAL SHEETS 102	SHEET NO. 18
FED. ROAD DIST. NO. 1   ILLINOIS FED. AID PROJECT			CONTRACT NO. 61D63 M-BRM-4003391	





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**ENGINEERING CONSULTANT**  
**Clorba Group, Inc.**  
 CONSULTING ENGINEERS  
 6507 North Cumberland Avenue, Suite 402  
 Chicago, Illinois 60630  
 Tel: 773.775.4009 Fax: 773.775.4014  
 Email: chicago@clorba.com

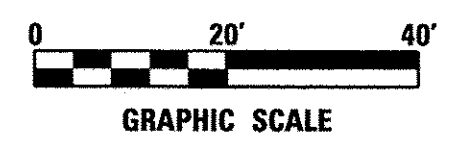
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	DATE - 12/5/2016	REVISED -

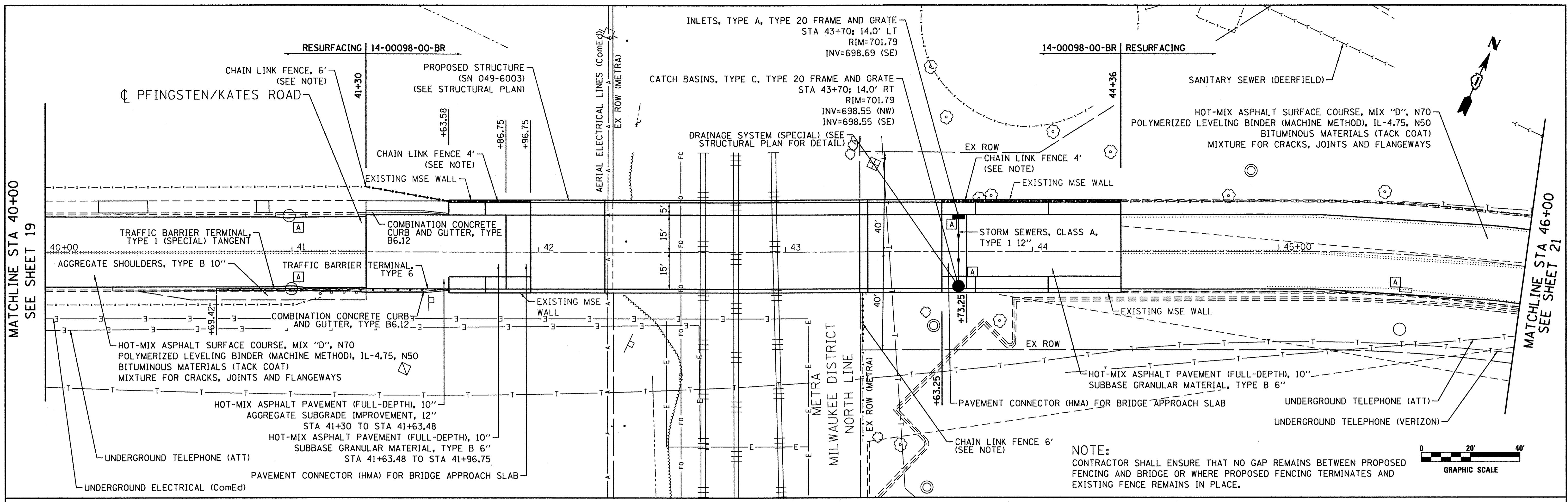
**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**PFINGSTENKATES ROAD IMPROVEMENTS**  
**PROPOSED PLAN**

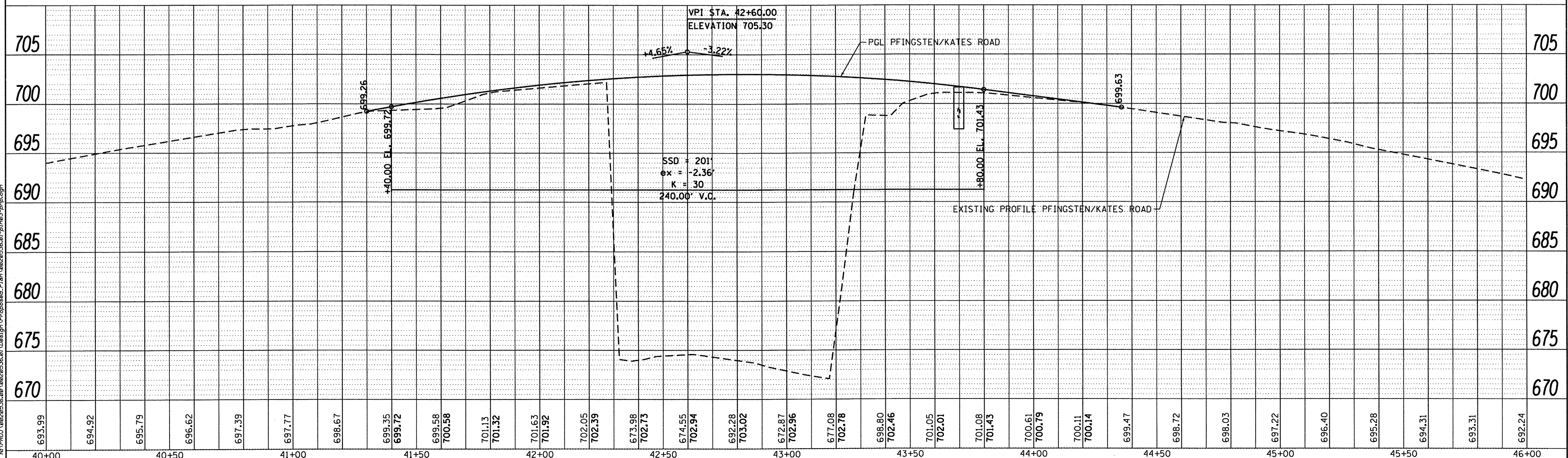
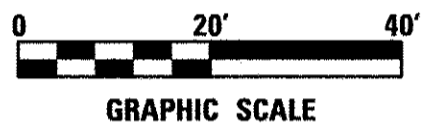
SCALE: 1" = 20'    SHEET NO. 2 OF 4 SHEETS    STA. 30+00 TO STA. 40+00

F.A.U. RTE. 3699	SECTION 14-00098-00-BR	COUNTY LAKE	TOTAL SHEETS 102	SHEET NO. 19
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT			CONTRACT NO. 61D63	
M-BRM-4003(391)				



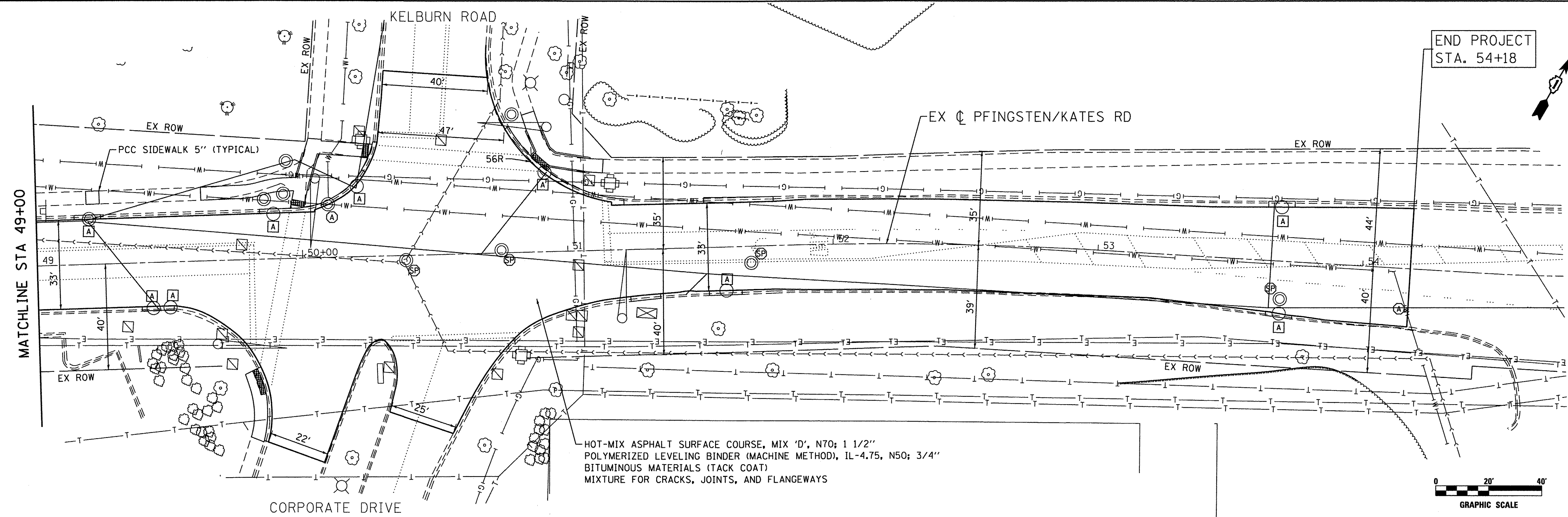
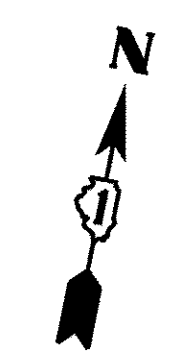
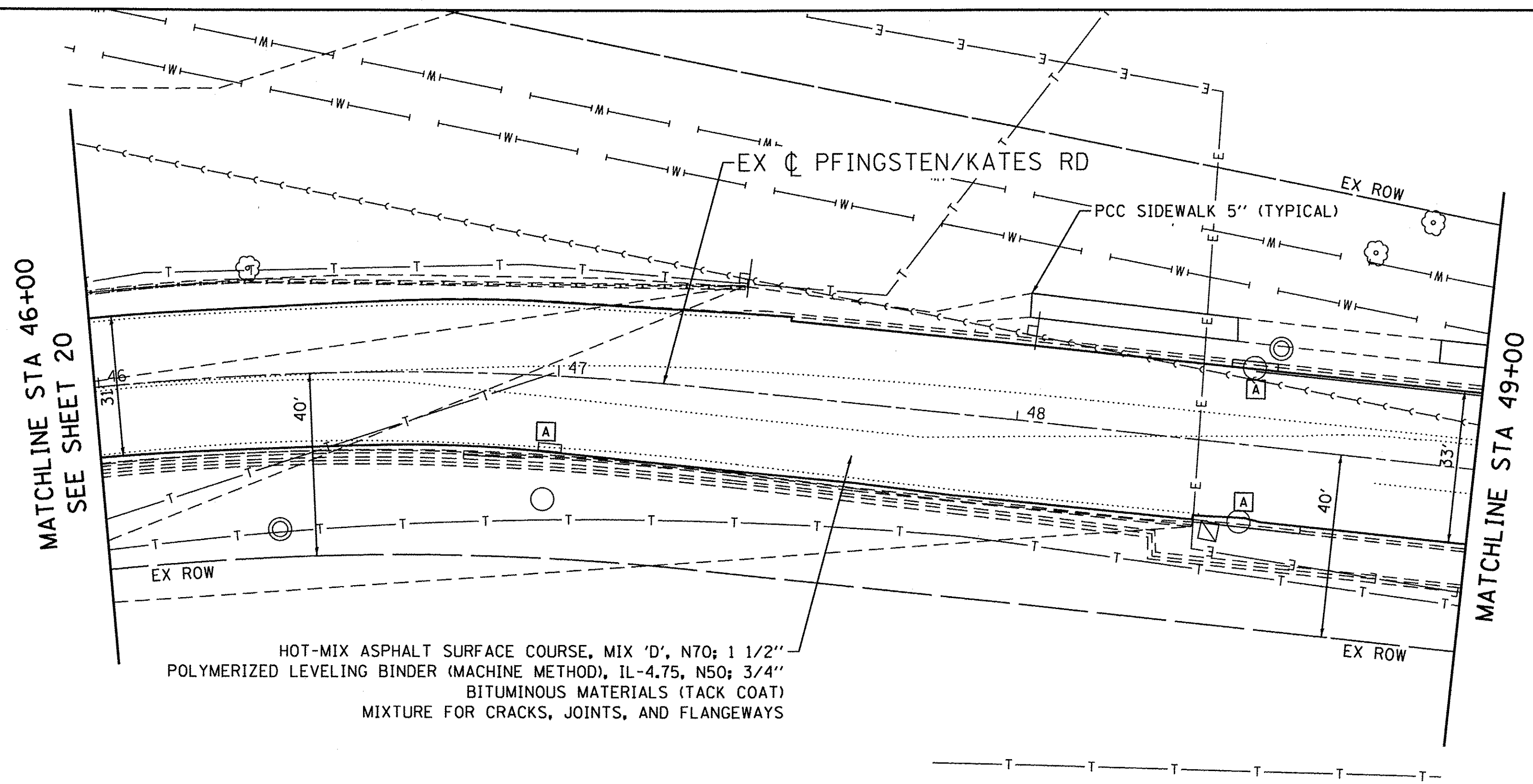


**NOTE:**  
 CONTRACTOR SHALL ENSURE THAT NO GAP REMAINS BETWEEN PROPOSED FENCING AND BRIDGE OR WHERE PROPOSED FENCING TERMINATES AND EXISTING FENCE REMAINS IN PLACE.

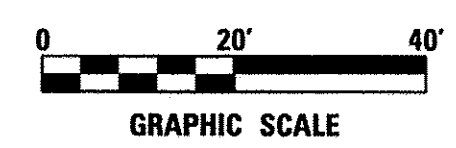
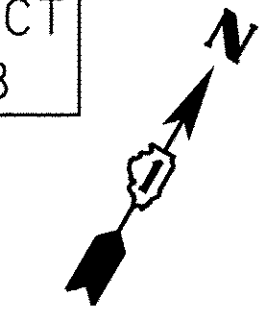


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<b>ENGINEERING CONSULTANT</b> <b>Clorba Group, Inc.</b> <small>CONSULTING ENGINEERS</small> <small>6507 North Cumberland Avenue, Suite 402</small> <small>Chicago, Illinois 60636</small> <small>Tel. 773.775.4509 Fax 773.775.4014</small> <small>Email: chicago@clorba.com</small>		USER NAME = j.totonaseo PLOT SCALE = 20.0000' / in. PLOT DATE = 12/5/2016	DESIGNED - JPA DRAWN - DW CHECKED - DJO DATE - 12/5/2016	REVISED - REVISED - REVISED - REVISED -	<b>STATE OF ILLINOIS</b> <b>DEPARTMENT OF TRANSPORTATION</b>		<b>PFINGSTENKATES ROAD IMPROVEMENTS</b> <b>PLAN AND PROFILE</b>		SCALE: 1" = 20' SHEET NO. 3 OF 4 SHEETS STA. 39+00 TO STA. 46+00	F.A.U. RTE. 3699 SECTION 14-00098-00-BR COUNTY LAKE TOTAL SHEETS 102 SHEET NO. 20 CONTRACT NO. 61D63 FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT M-BRM-4003(391)
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END PROJECT  
STA. 54+18



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**ENGINEERING CONSULTANT**  
**Clorba Group, Inc.**  
 CONSULTING ENGINEERS  
 5507 North Cumberland Avenue, Suite 402  
 Chicago, Illinois 60630  
 Tel: 773.775.4009 Fax: 773.775.4014  
 Email: clorba@clorba.com

USER NAME = jettanoso	DESIGNED - JPA	REVISED -
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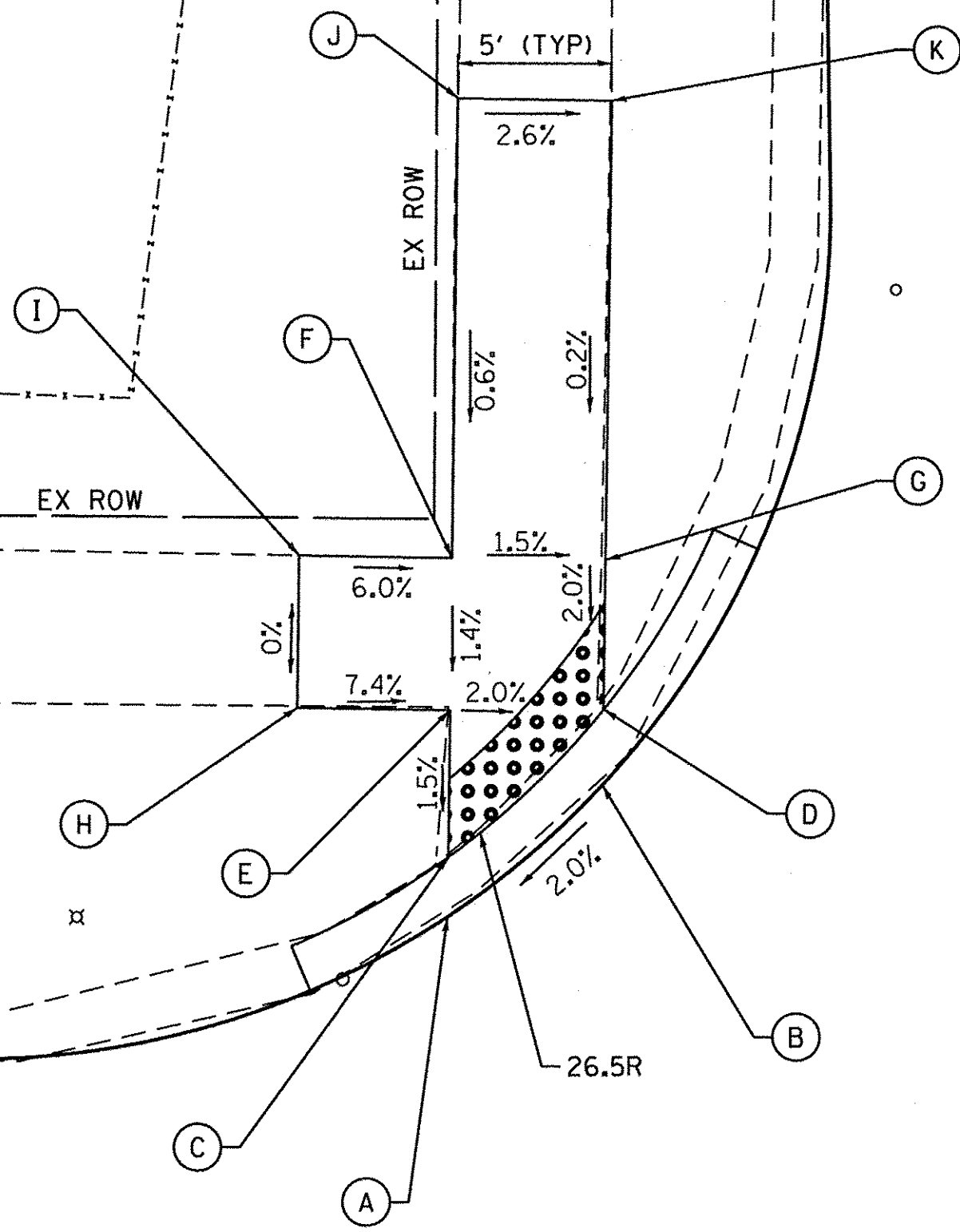
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**PFINGSTENKATES ROAD IMPROVEMENTS  
PROPOSED PLAN**

SCALE: 1" = 20' SHEET NO. 4 OF 4 SHEETS STA. 46+00 TO STA. 54+00

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3699	14-00098-00-BR	LAKE	102	21
FED. ROAD DIST. NO. 1   ILLINOIS FED. AID PROJECT			CONTRACT NO. 61D63	
			M-BRM-4003(391)	

POINT	STATION	OFFSET	ELEVATION
A	26+39.77	38.7 LT	656.27
B	26+44.14	33.7 LT	656.37
C	26+41.72	38.7 LT	656.26
D	26+46.60	33.7 LT	656.23
E	26+46.52	38.7 LT	656.33
F	26+51.51	38.7 LT	656.40
G	26+51.52	33.7 LT	656.33
H	26+46.51	43.7 LT	656.70
I	26+51.51	43.7 LT	656.70
J	26+66.51	38.7 LT	656.49
K	26+66.51	33.7 LT	656.36



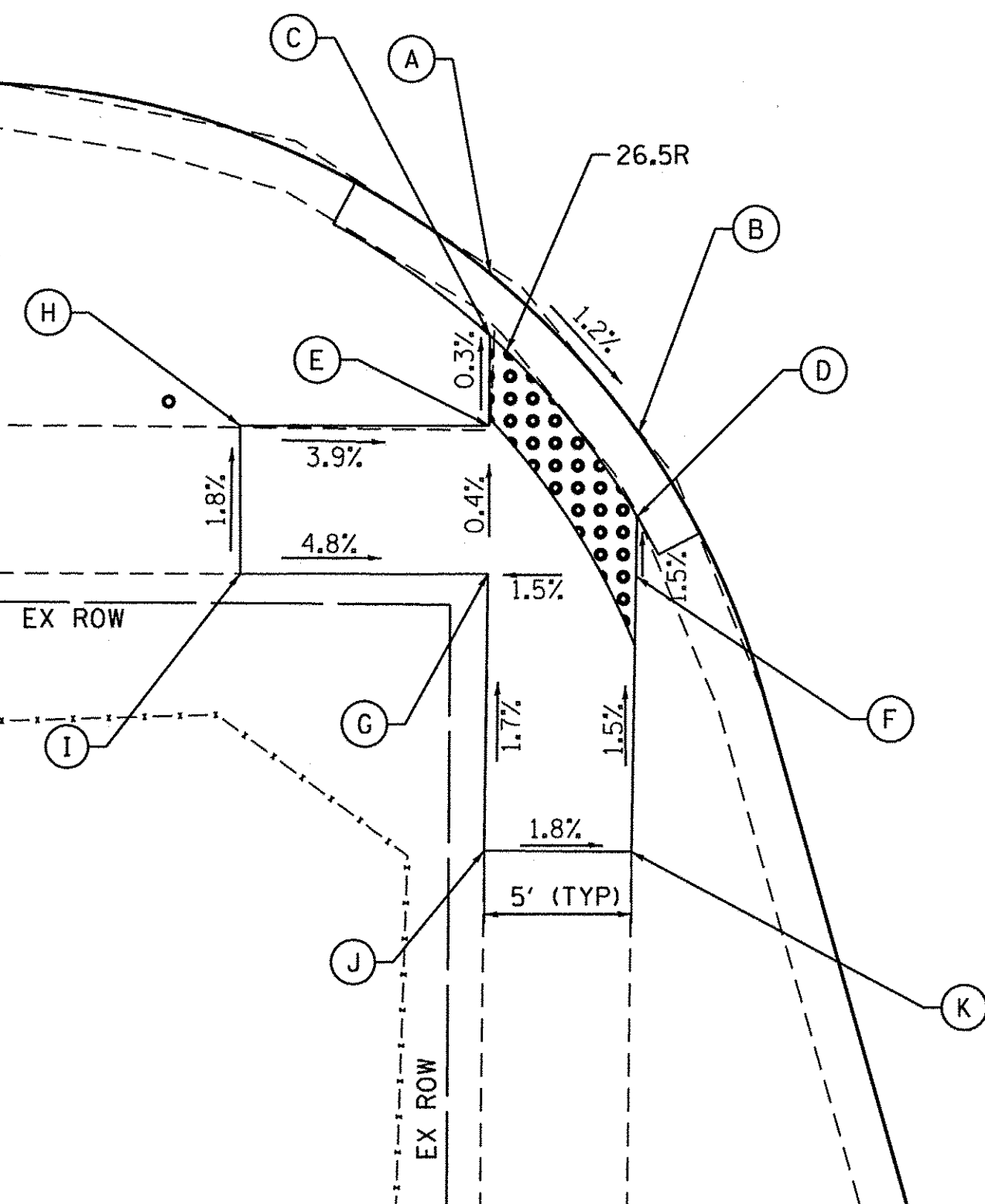
ESTATE DRIVE

EX Q PFINGSTEN ROAD

PFINGSTEN ROAD

ESTATE DRIVE

POINT	STATION	OFFSET	ELEVATION
A	26+03.97	37.6 LT	656.54
B	25+98.68	32.6 LT	646.47
C	26+01.89	37.6 LT	656.53
D	25+95.86	32.6 LT	656.46
E	25+98.84	37.6 LT	656.54
F	25+93.92	32.6 LT	656.49
G	25+93.84	37.6 LT	656.56
H	25+98.72	46.0 LT	656.87
I	25+93.72	45.9 LT	656.96
J	25+84.51	37.6 LT	656.72
K	25+84.55	32.6 LT	656.63



PFINGSTEN ROAD  
26

NOTE:  
SLOPE VALUES CALLED OUT FOR  
VERIFICATION OF DESIGN INTENT  
ONLY. BUILD RAMP AND LANDINGS  
ACCORDING TO STATION/OFFSET  
INFORMATION PROVIDED IN THE TABLES



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**ENGINEERING CONSULTANT**  
**Clorba Group, Inc.**  
 CONSULTING ENGINEERS  
 5507 North Cumberland Avenue, Suite 402  
 Chicago, Illinois 60630  
 Tel: 773.775.4009 Fax 773.775.4014  
 Email: chicago@clorba.com

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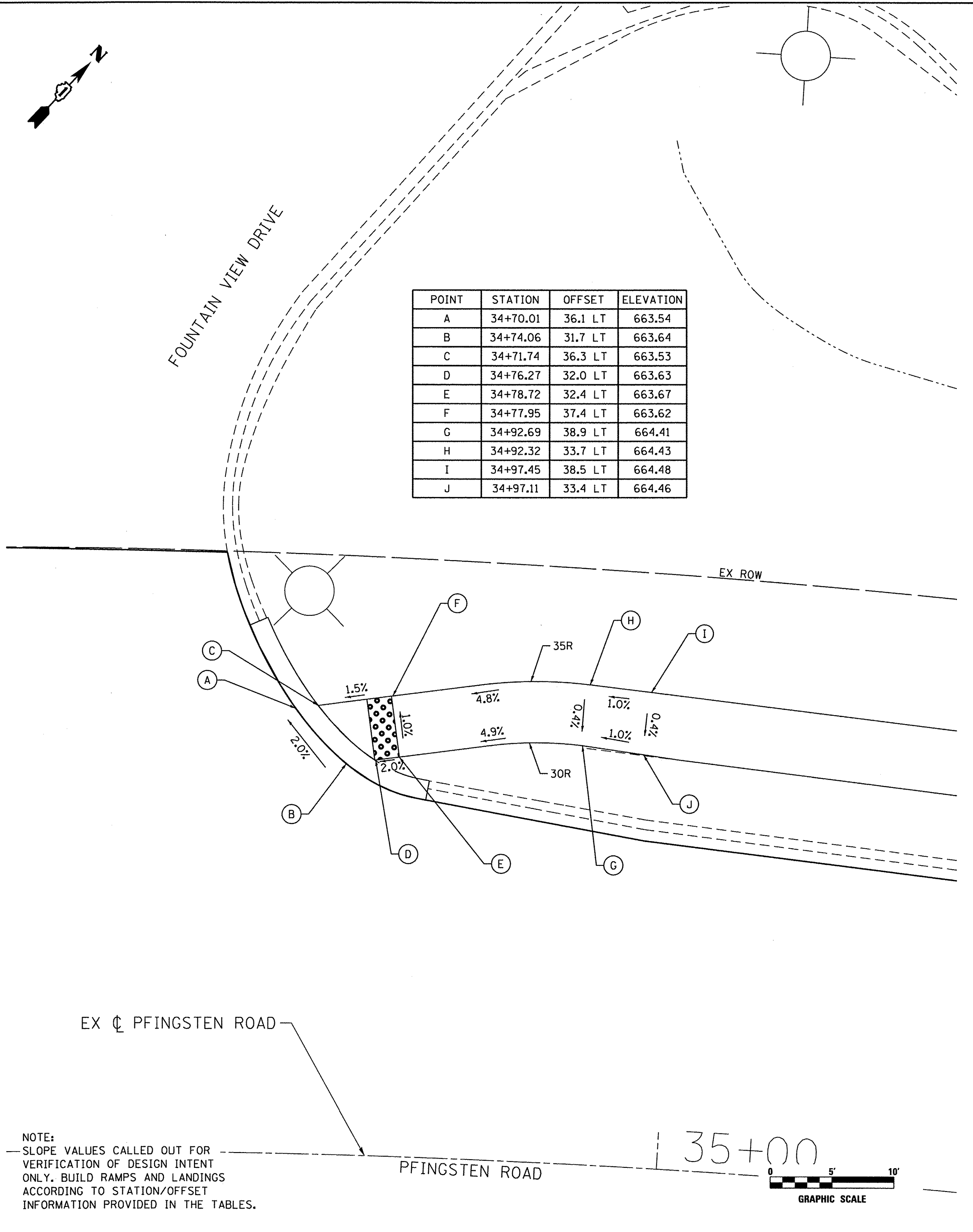
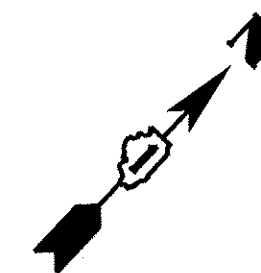
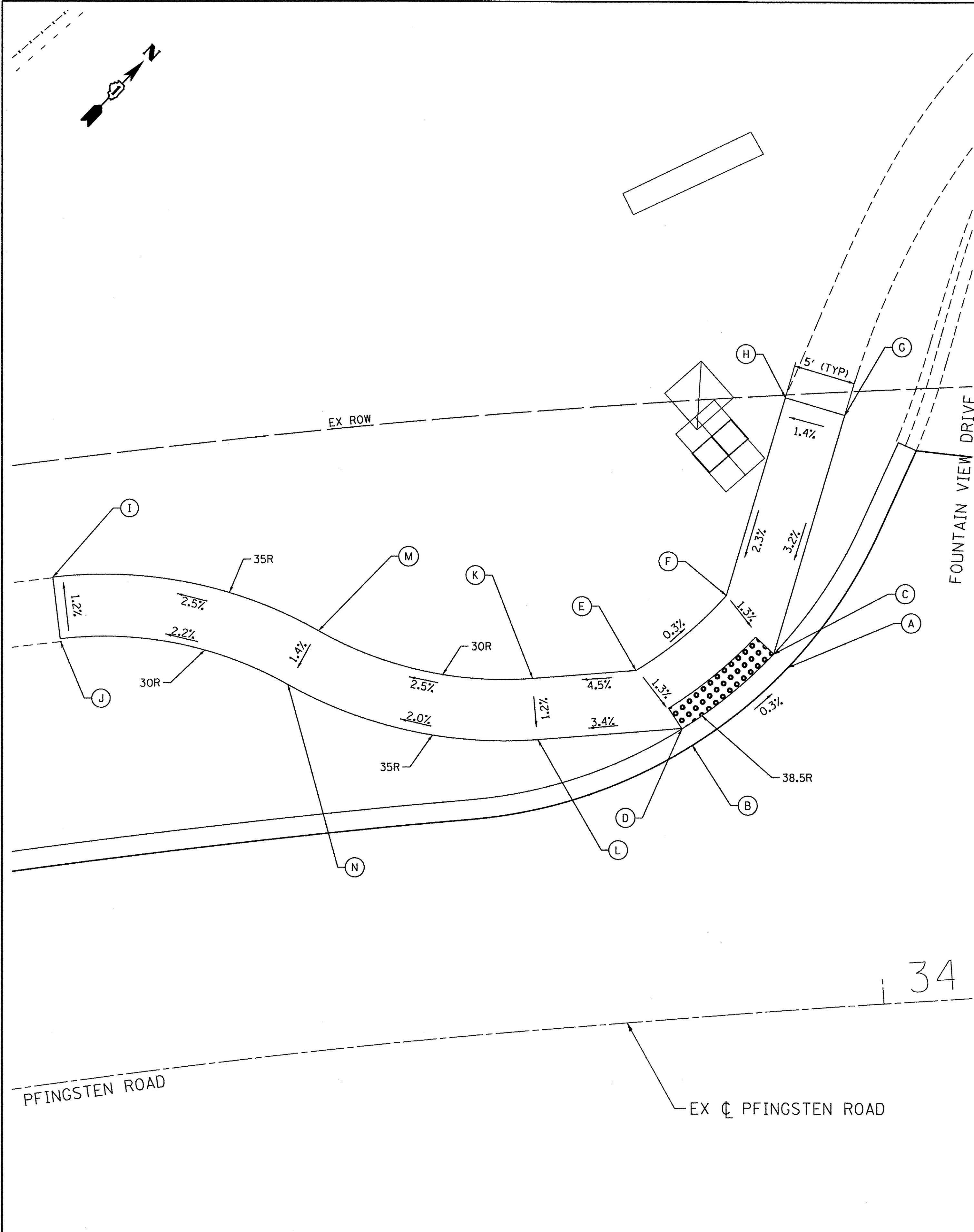
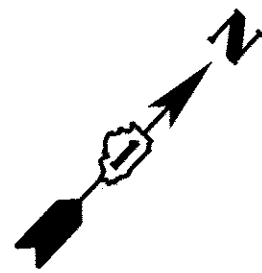
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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

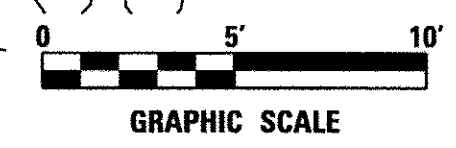
**PFINGSTEN/KATES ROAD IMPROVEMENTS  
INTERSECTION DETAILS**

SCALE: 1" = 5' SHEET NO. 1 OF 3 SHEETS STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3699	14-00098-00-BR	LAKE	102	22
CONTRACT NO. 61D63				
FED. ROAD DIST. NO. 1   ILLINOIS   FED. AID PROJECT M-BRM-4003(391)				



NOTE:  
 -SLOPE VALUES CALLED OUT FOR  
 VERIFICATION OF DESIGN INTENT  
 ONLY. BUILD RAMPS AND LANDINGS  
 ACCORDING TO STATION/OFFSET  
 INFORMATION PROVIDED IN THE TABLES.



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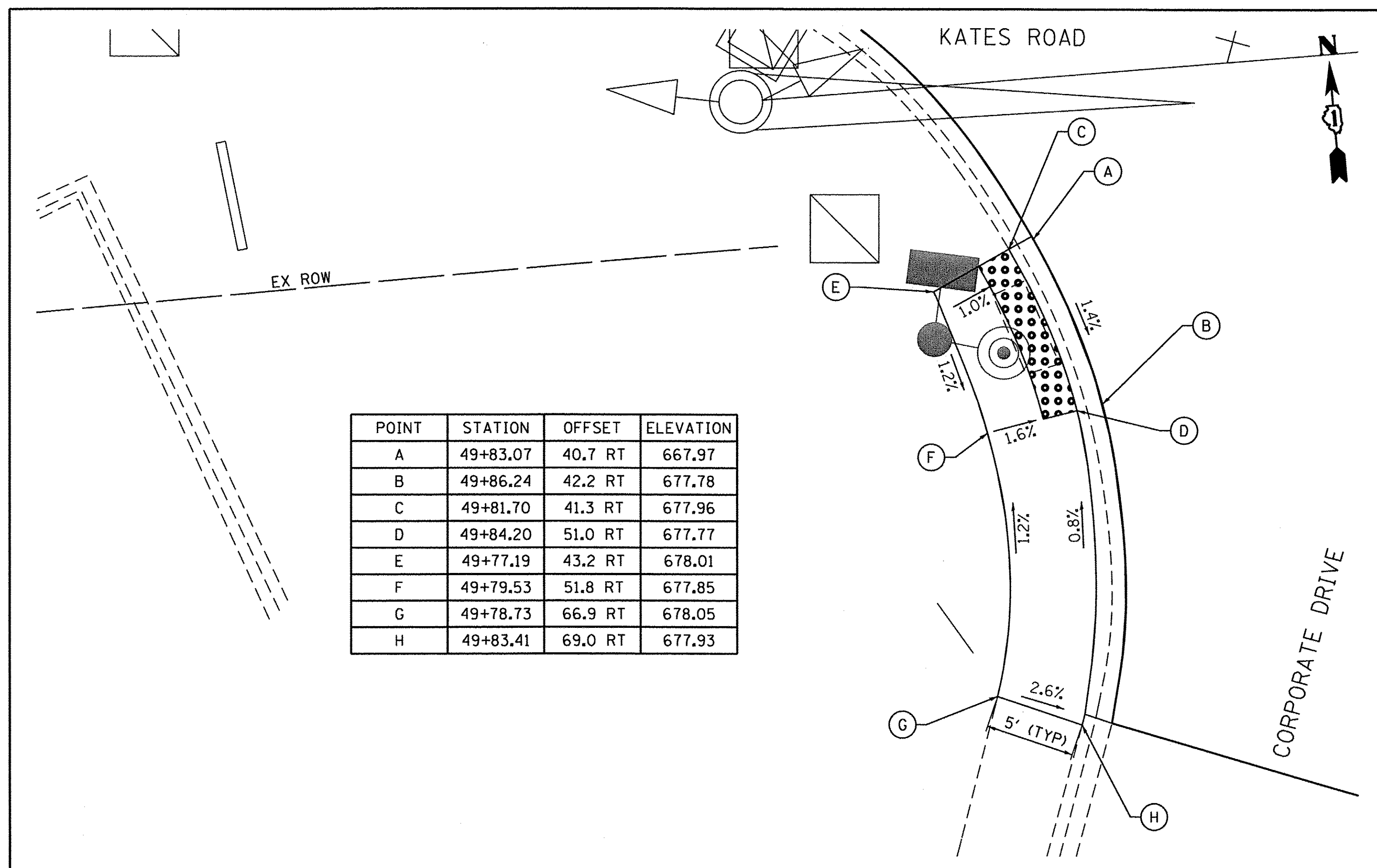
**ENGINEERING CONSULTANT**  
**Clorba Group, Inc.**  
 CONSULTING ENGINEERS  
 5507 North Cumberland Avenue, Suite 402  
 Chicago, Illinois 60630  
 Tel: 773.775.4009 Fax: 773.775.4014  
 Email: chicago@clorba.com

USER NAME = jtonnaseo	DESIGNED - JPA	REVISED -
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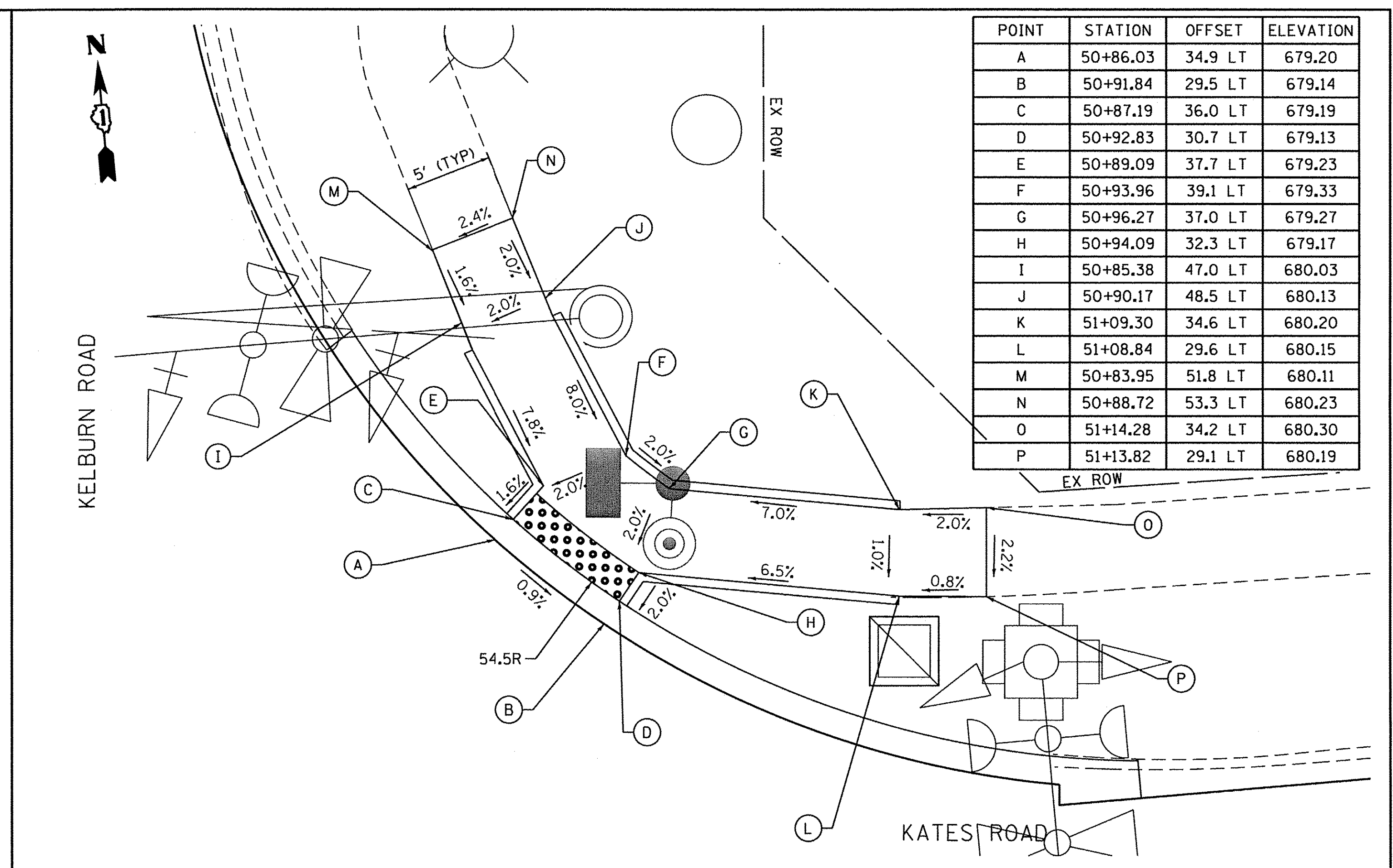
**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**PFINGSTEN/KATES ROAD IMPROVEMENTS**  
**INTERSECTION DETAILS**  
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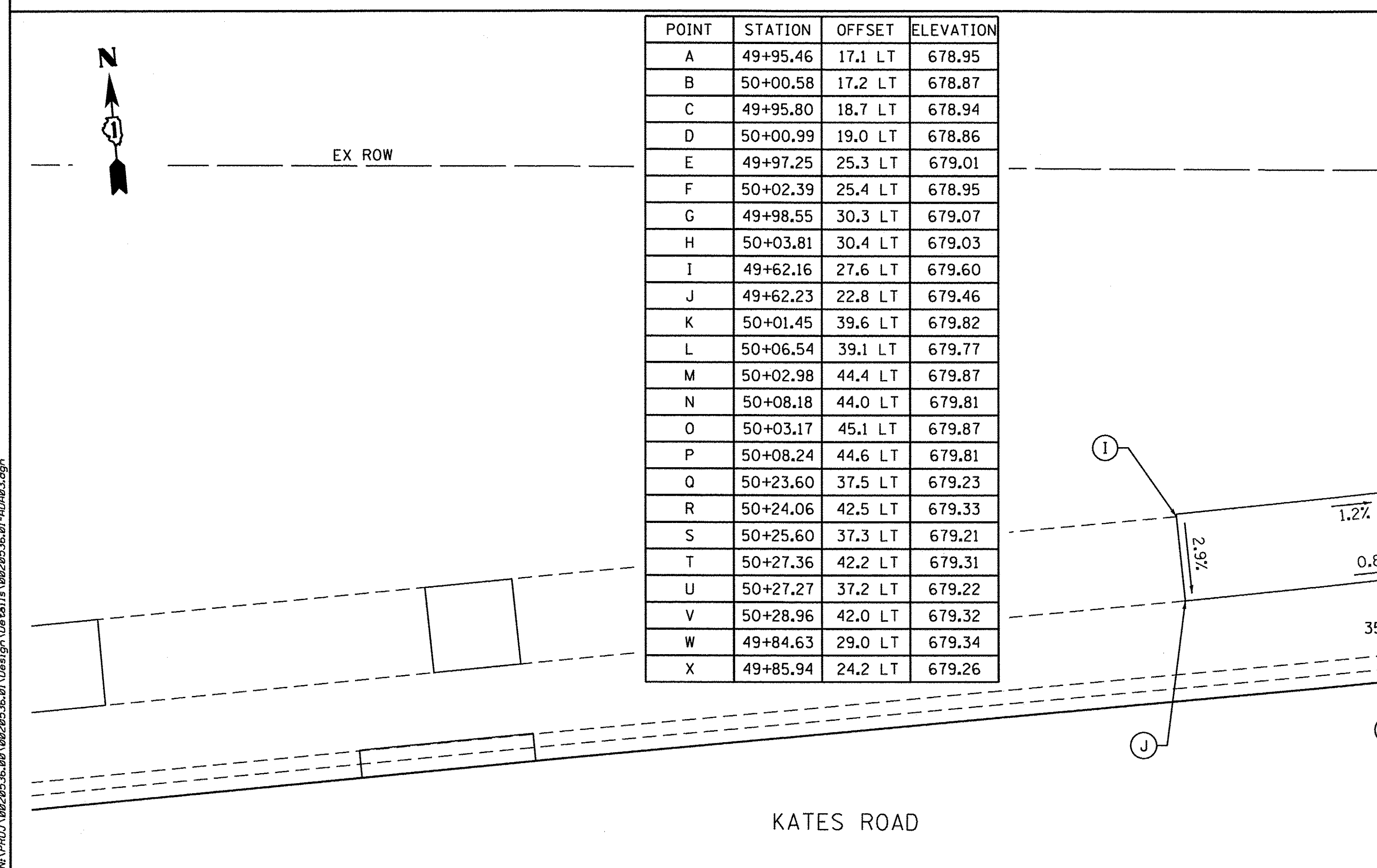
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3699	14-00098-00-BR	LAKE	102	23
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT			CONTRACT NO. 61D63 M-BRM-4003(391)	



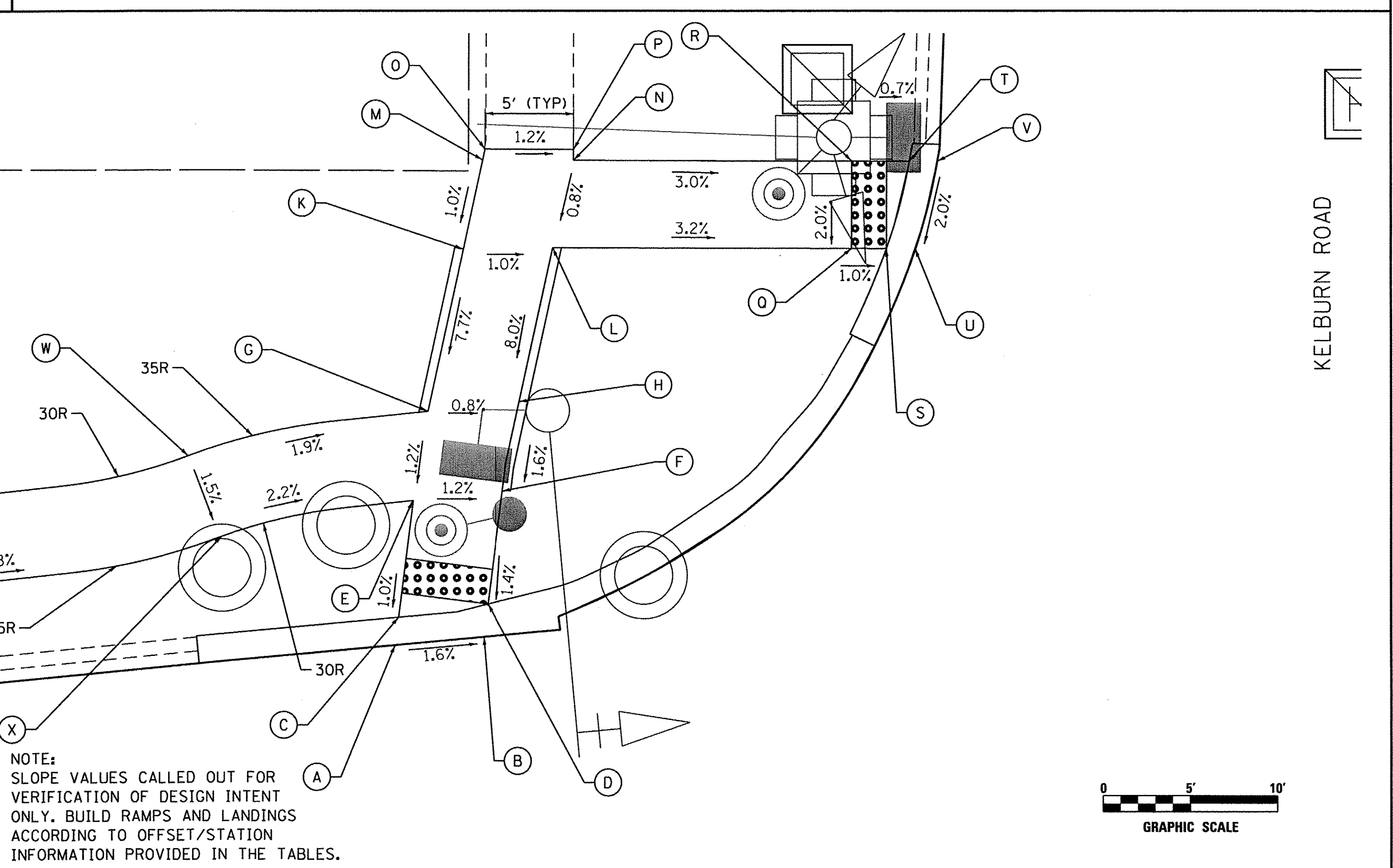
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B	49+86.24	42.2 RT	677.78
C	49+81.70	41.3 RT	677.96
D	49+84.20	51.0 RT	677.77
E	49+77.19	43.2 RT	678.01
F	49+79.53	51.8 RT	677.85
G	49+78.73	66.9 RT	678.05
H	49+83.41	69.0 RT	677.93



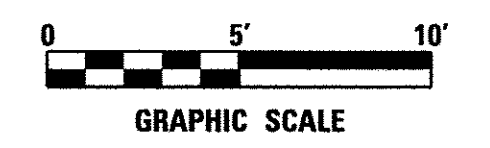
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C	50+87.19	36.0 LT	679.19
D	50+92.83	30.7 LT	679.13
E	50+89.09	37.7 LT	679.23
F	50+93.96	39.1 LT	679.33
G	50+96.27	37.0 LT	679.27
H	50+94.09	32.3 LT	679.17
I	50+85.38	47.0 LT	680.03
J	50+90.17	48.5 LT	680.13
K	51+09.30	34.6 LT	680.20
L	51+08.84	29.6 LT	680.15
M	50+83.95	51.8 LT	680.11
N	50+88.72	53.3 LT	680.23
O	51+14.28	34.2 LT	680.30
P	51+13.82	29.1 LT	680.19



POINT	STATION	OFFSET	ELEVATION
A	49+95.46	17.1 LT	678.95
B	50+00.58	17.2 LT	678.87
C	49+95.80	18.7 LT	678.94
D	50+00.99	19.0 LT	678.86
E	49+97.25	25.3 LT	679.01
F	50+02.39	25.4 LT	678.95
G	49+98.55	30.3 LT	679.07
H	50+03.81	30.4 LT	679.03
I	49+62.16	27.6 LT	679.60
J	49+62.23	22.8 LT	679.46
K	50+01.45	39.6 LT	679.82
L	50+06.54	39.1 LT	679.77
M	50+02.98	44.4 LT	679.87
N	50+08.18	44.0 LT	679.81
O	50+03.17	45.1 LT	679.87
P	50+08.24	44.6 LT	679.81
Q	50+23.60	37.5 LT	679.23
R	50+24.06	42.5 LT	679.33
S	50+25.60	37.3 LT	679.21
T	50+27.36	42.2 LT	679.31
U	50+27.27	37.2 LT	679.22
V	50+28.96	42.0 LT	679.32
W	49+84.63	29.0 LT	679.34
X	49+85.94	24.2 LT	679.26



NOTE:  
SLOPE VALUES CALLED OUT FOR  
VERIFICATION OF DESIGN INTENT  
ONLY. BUILD RAMPS AND LANDINGS  
ACCORDING TO OFFSET/STATION  
INFORMATION PROVIDED IN THE TABLES.



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**ENGINEERING CONSULTANT**  
**Clorba Group, Inc.**  
 CONSULTING ENGINEERS  
 8507 North Cumberland Avenue, Suite 402  
 Chicago, Illinois 60656  
 Tel: 773.775.4009 Fax: 773.775.4014  
 Email: chicago@clorba.com

USER NAME = jettanasso	DESIGNED - JPA	REVISED -
PLOT SCALE = 5/0000' / 1"	DRAWN - DW	REVISED -
PLOT DATE = 12/5/2016	CHECKED - DJO	REVISED -
	DATE - 12/5/2016	REVISED -

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

**PFINGSTENKATES ROAD IMPROVEMENTS**  
**INTERSECTION DETAILS**

SCALE: 1" = 5'    SHEET NO. 3 OF 3 SHEETS    STA.    TO STA.

F.A.U. RTE. 3699	SECTION 14-00098-00-BR	COUNTY LAKE	TOTAL SHEETS 102	SHEET NO. 24
CONTRACT NO. 61D63				
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT M-BRM-4003(391)				



**MAINTENANCE OF TRAFFIC GENERAL NOTES**

1. PRIOR TO BEGINNING CONSTRUCTION, THE CONTRACTOR SHALL BE REQUIRED TO SUBMIT A PROPOSED CONSTRUCTION STAGING PLAN 21 DAYS PRIOR TO IMPLEMENTATION AND MEET WITH THE ENGINEER AND REPRESENTATIVES OF THE VILLAGE OF DEERFIELD TO ASCERTAIN THE SCHEDULE OF THE TRAFFIC STAGING AND POSSIBLE CHANGES. ADDITIONAL MEETINGS WILL BE REQUIRED 10 DAYS PRIOR TO IMPLEMENTATION AND AGAIN 2 DAYS PRIOR TO IMPLEMENTATION TO FINALIZE DETAILS.
2. THE MAINTENANCE OF TRAFFIC PLANS SHALL SERVE AS A GUIDE FOR SAFE TRAFFIC DIVERSION DURING CONTRACT EXECUTION. THE CONTRACTOR MAY IMPROVE OR MODIFY THE TRAFFIC CONTROL PLANS TO MEET CONSTRUCTION NEEDS, BUT NOT AT THE EXPENSE OF PUBLIC SAFETY OR CONVENIENCE. CHANGES TO THE TRAFFIC CONTROL PLAN SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL. THE ENGINEER SHALL BE INFORMED IN WRITING A MINIMUM OF 48 HOURS IN ADVANCE OF ALL CHANGES TO THE TRAFFIC CONTROL PLANS.
3. ALL CONTRACTOR SUPPLIED TRAFFIC CONTROL DEVICES AND SIGNS SHALL BE IN GOOD CONDITION AND SHALL BE SUBJECT TO APPROVAL BY THE ENGINEER.
4. ALL TRAFFIC CONTROL DEVICES USED FOR THE MAINTENANCE OF TRAFFIC, SHALL BE REFLECTORIZED PRIOR TO INSTALLATION AND CLEANED AS SPECIFIED IN THE SPECIAL PROVISIONS AND AS DIRECTED BY THE ENGINEER.
5. EXCAVATION ON BOTH SIDES OF THE PAVEMENT AT ANY ONE LOCATION AT THE SAME TIME WILL NOT BE PERMITTED PER ARTICLE 701.08 OF THE IDOT STANDARD SPECS.
6. STAGE 1 AND STAGE 2 MAY OVERLAP.

**MAINTENANCE OF TRAFFIC STAGING SEQUENCE**

**STAGE 1**

CONSTRUCTION:  
BRIDGE REMOVAL AND REPLACEMENT.  
  
ROADWAY RECONSTRUCTION.

MAINTENANCE OF TRAFFIC:  
PFINGSTEN/KATES ROAD WILL BE CLOSED FOR THE DURATION OF BRIDGE SUPERSTRUCTURE WORK. TRAFFIC WILL BE DETOURED. SEE DETOUR PLAN.

**STAGE 2**

CONSTRUCTION:  
ROADWAY REHABILITATION.

MAINTENANCE OF TRAFFIC:  
TRAFFIC CONTROL ALONG PFINGSTEN/KATES ROAD FROM LAKE COOK ROAD TO FOUNTAIN VIEW DRIVE AND CORPORATE DRIVE/KELBURN ROAD TO US ROUTE 43 (WALKEGAN ROAD) IS PER IDOT HIGHWAY STANDARDS 701006, 701101, 701301, 701311, 701427, 701502, 701701, AND 701801 MAINTAINING BI-DIRECTIONAL TRAFFIC WITH TEMPORARY DAY TIME LANE CLOSURES.

FLAGGERS WILL BE USED WHERE REQUIRED PER HIGHWAY STANDARD 701501.

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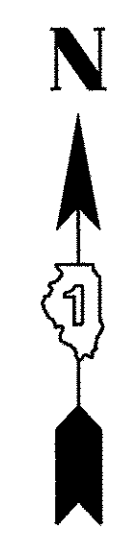


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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

<b>PFINGSTEN/KATES ROAD IMPROVEMENTS</b>		F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
MAINTENANCE OF TRAFFIC GENERAL NOTES AND CONSTRUCTION STAGING		3699	14-00098-00-BR	LAKE	102	25
SCALE: N.T.S.	SHEET NO. 1 OF 1 SHEETS	STA.	TO STA.	CONTRACT NO. 61D63		

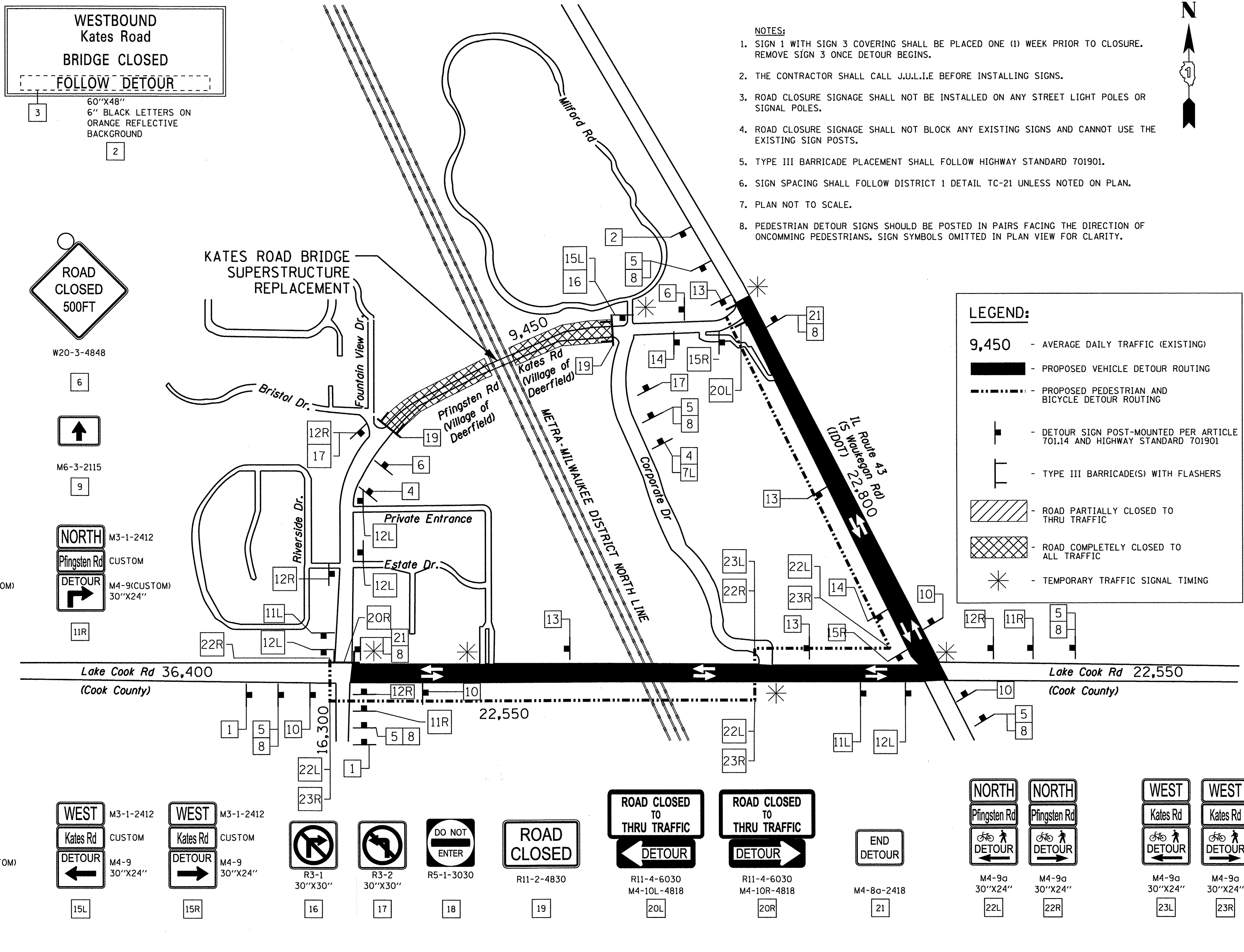
FED. ROAD DIST. NO. 1	ILLINOIS FED. AID PROJECT	14-BR-4003391
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- NOTES:**
- SIGN 1 WITH SIGN 3 COVERING SHALL BE PLACED ONE (1) WEEK PRIOR TO CLOSURE. REMOVE SIGN 3 ONCE DETOUR BEGINS.
  - THE CONTRACTOR SHALL CALL J.U.L.I.E BEFORE INSTALLING SIGNS.
  - ROAD CLOSURE SIGNAGE SHALL NOT BE INSTALLED ON ANY STREET LIGHT POLES OR SIGNAL POLES.
  - ROAD CLOSURE SIGNAGE SHALL NOT BLOCK ANY EXISTING SIGNS AND CANNOT USE THE EXISTING SIGN POSTS.
  - TYPE III BARRICADE PLACEMENT SHALL FOLLOW HIGHWAY STANDARD 701901.
  - SIGN SPACING SHALL FOLLOW DISTRICT 1 DETAIL TC-21 UNLESS NOTED ON PLAN.
  - PLAN NOT TO SCALE.
  - PEDESTRIAN DETOUR SIGNS SHOULD BE POSTED IN PAIRS FACING THE DIRECTION OF ONCOMING PEDESTRIANS. SIGN SYMBOLS OMITTED IN PLAN VIEW FOR CLARITY.

**LEGEND:**

- 9,450 - AVERAGE DAILY TRAFFIC (EXISTING)
- PROPOSED VEHICLE DETOUR ROUTING
- PROPOSED PEDESTRIAN AND BICYCLE DETOUR ROUTING
- DETOUR SIGN POST-MOUNTED PER ARTICLE 701.14 AND HIGHWAY STANDARD 701901
- TYPE III BARRICADE(S) WITH FLASHERS
- ROAD PARTIALLY CLOSED TO THRU TRAFFIC
- ROAD COMPLETELY CLOSED TO ALL TRAFFIC
- TEMPORARY TRAFFIC SIGNAL TIMING



**NORTHBOUND Pfingsten Road BRIDGE CLOSED FOLLOW DETOUR**

60"x48" 6" BLACK LETTERS ON ORANGE REFLECTIVE BACKGROUND

1

3

BEGINS MMDD/YYYY

3

**WESTBOUND Kates Road BRIDGE CLOSED FOLLOW DETOUR**

60"x48" 6" BLACK LETTERS ON ORANGE REFLECTIVE BACKGROUND

2

3

**ROAD CLOSED AHEAD** W20-3-4848 4

**DETOUR AHEAD** W20-2-4848 5

**ROAD CLOSED 500FT** W20-3-4848 6

**Left Arrow** M6-1(O)-2115 7L

**Right Arrow** M6-1(O)-2115 7R

**Up Arrow** M6-3-2115 9

**Pfingsten Rd** W20-2-2115 CUSTOM 8

**Kates Rd** W20-2-2115 CUSTOM 8

**NORTH Pfingsten Rd DETOUR** M3-1-2412 CUSTOM 10

**NORTH Pfingsten Rd DETOUR** M3-1-2412 CUSTOM 11L

**NORTH Pfingsten Rd DETOUR** M3-1-2412 CUSTOM 11R

**NORTH Pfingsten Rd DETOUR** M3-1-2412 CUSTOM 12L

**NORTH Pfingsten Rd DETOUR** M3-1-2412 CUSTOM 12R

**WEST Kates Rd DETOUR** M3-1-2412 CUSTOM 13

**WEST Kates Rd DETOUR** M3-1-2412 CUSTOM 14

**WEST Kates Rd DETOUR** M3-1-2412 CUSTOM 15L

**WEST Kates Rd DETOUR** M3-1-2412 CUSTOM 15R

**ROAD CLOSED TO THRU TRAFFIC** R3-1 30"x30" 16

**ROAD CLOSED TO THRU TRAFFIC** R3-2 30"x30" 17

**DO NOT ENTER** R5-1-3030 18

**ROAD CLOSED** R11-2-4830 19

**ROAD CLOSED TO THRU TRAFFIC** R11-4-6030 M4-10L-4818 20L

**ROAD CLOSED TO THRU TRAFFIC** R11-4-6030 M4-10R-4818 20R

**END DETOUR** M4-8a-2418 21

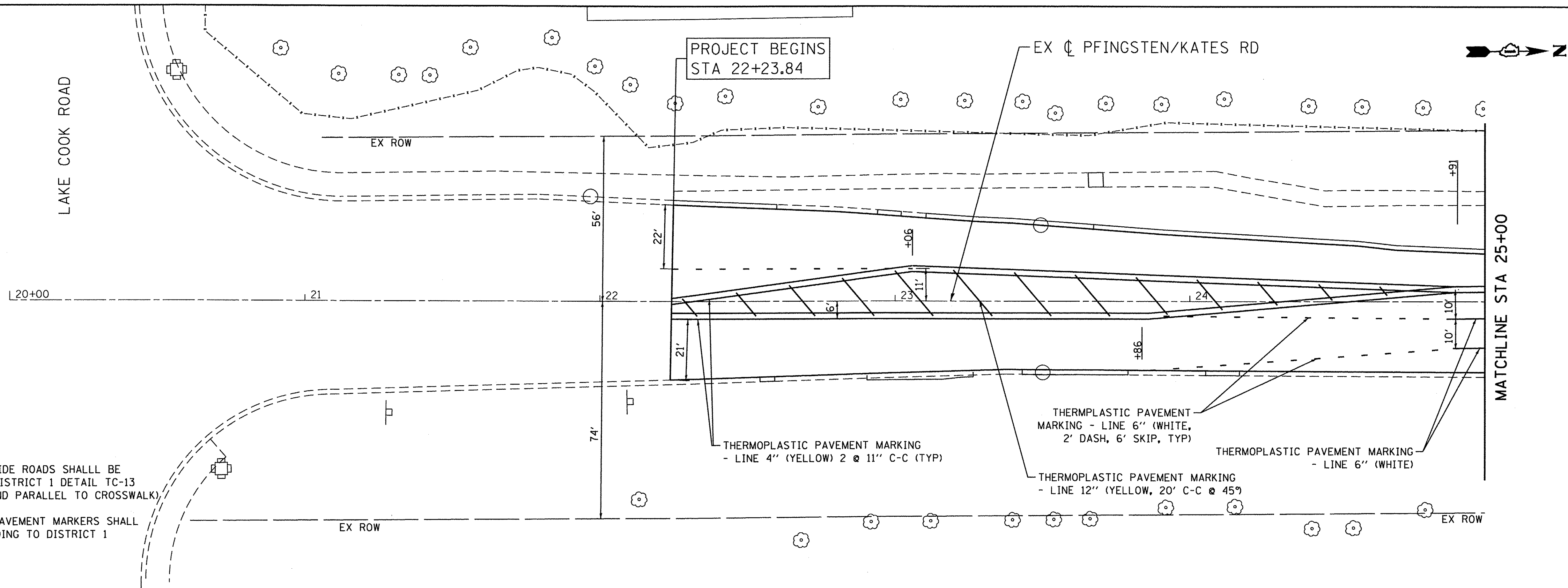
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**NORTH Pfingsten Rd DETOUR** M4-9a 30"x24" 22R

**WEST Kates Rd DETOUR** M4-9a 30"x24" 23L

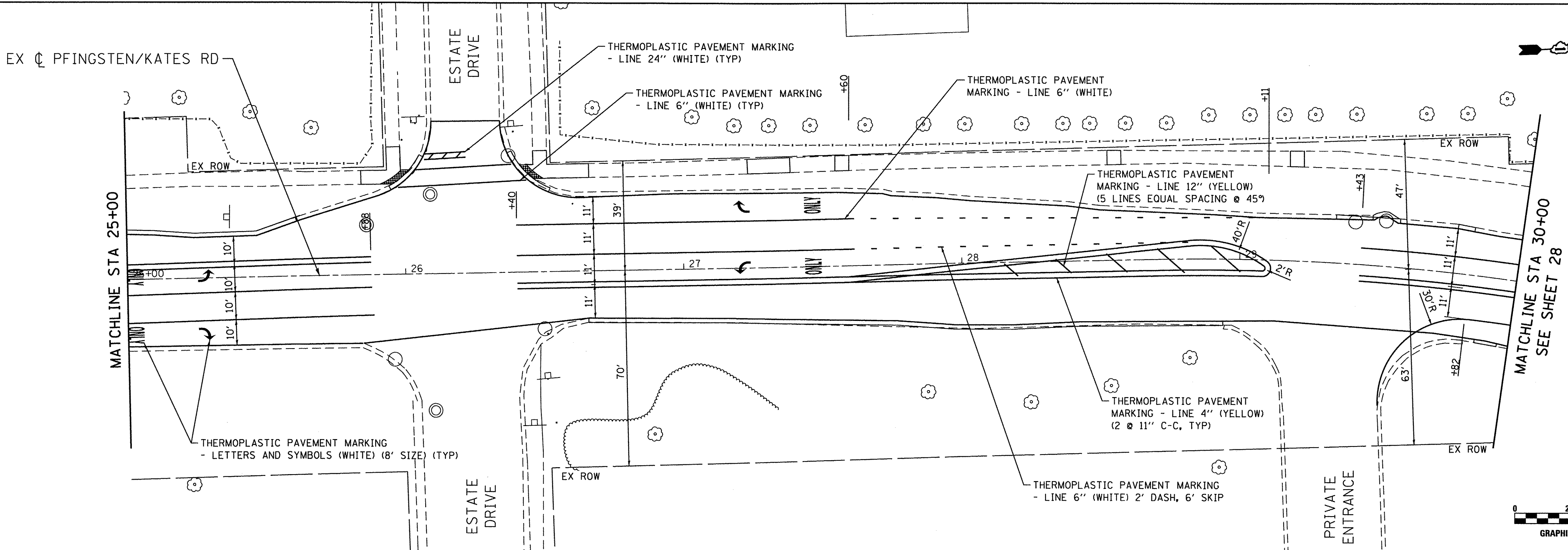
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**NOTES:**

1. STOP BARS ON ALL SIDE ROADS SHALL BE INSTALLED PER IDOT DISTRICT 1 DETAIL TC-13 (4' IN ADVANCE OF AND PARALLEL TO CROSSWALK)
2. RAISED REFLECTIVE PAVEMENT MARKERS SHALL BE INSTALLED ACCORDING TO DISTRICT 1 STANDARD TC-11



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**Clorba Group, Inc.**  
 CONSULTING ENGINEERS  
 5507 North Cumberland Avenue, Suite 402  
 Chicago, Illinois 60630  
 Tel: 773.775.4009 Fax 773.775.4014  
 Email: clorba@clorba.com

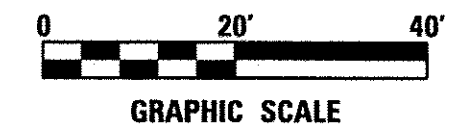
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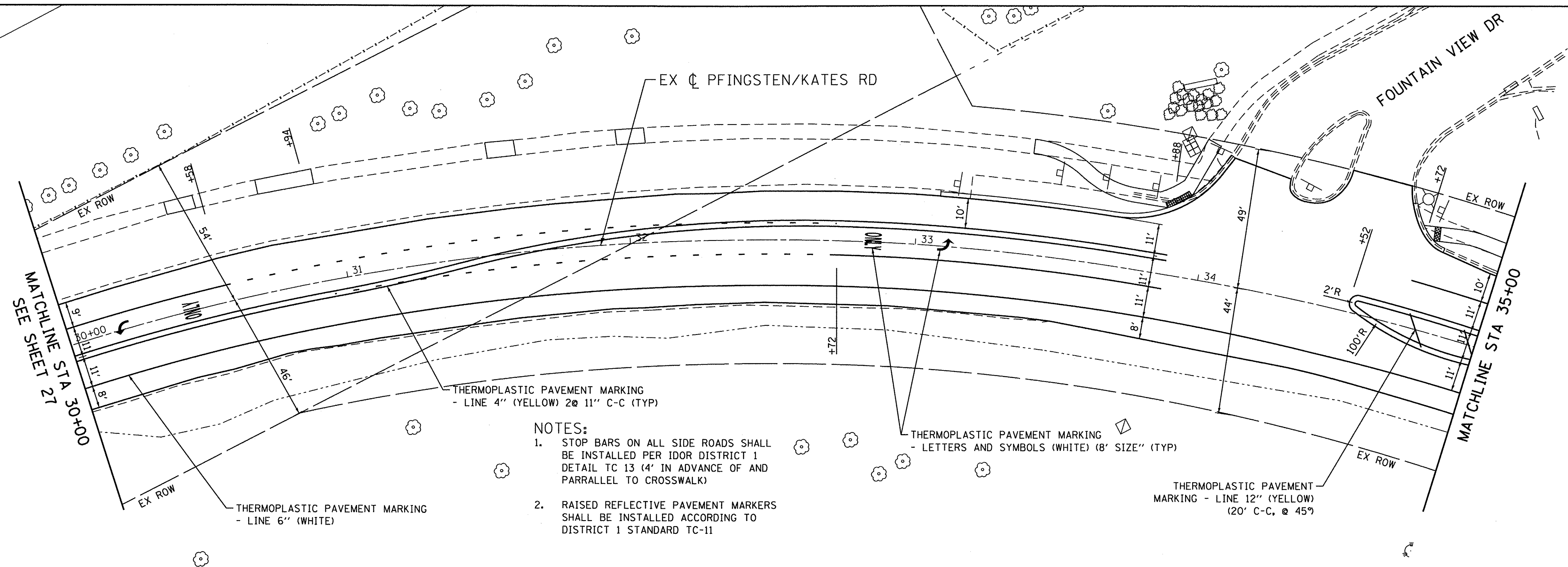
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**PFINGSTEN/KATES ROAD IMPROVEMENTS  
PAVEMENT MARKING PLAN**

SCALE: 1" = 20'    SHEET NO. 1 OF 4 SHEETS    STA. 22+23.84 TO STA. 30+00

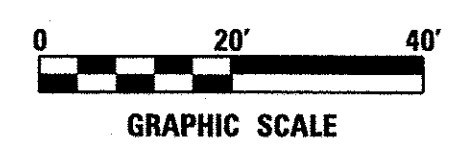
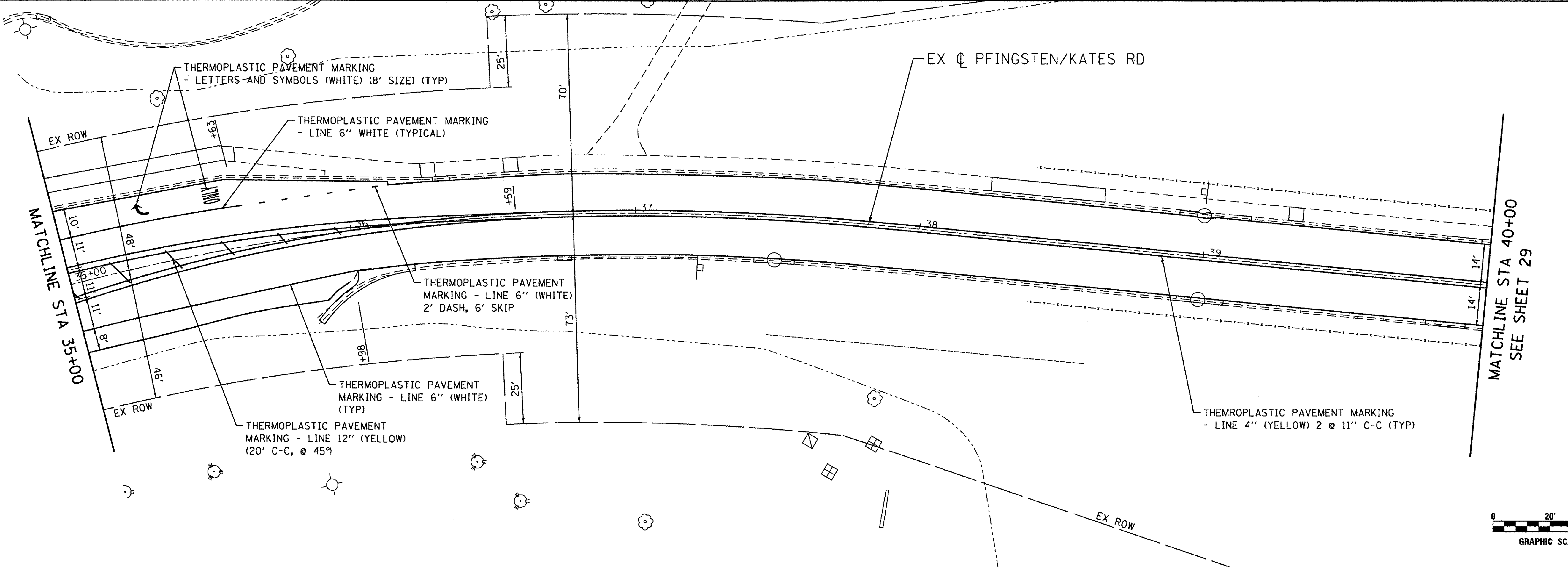
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FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT			CONTRACT NO. 61D63	
M-BRM-4003(391)				





**NOTES:**

1. STOP BARS ON ALL SIDE ROADS SHALL BE INSTALLED PER IDOR DISTRICT 1 DETAIL TC 13 (4' IN ADVANCE OF AND PARRALLEL TO CROSSWALK)
2. RAISED REFLECTIVE PAVEMENT MARKERS SHALL BE INSTALLED ACCORDING TO DISTRICT 1 STANDARD TC-11



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**Clorba Group, Inc.**  
 CONSULTING ENGINEERS  
 5507 North Cumberland Avenue, Suite 402  
 Chicago, Illinois 60630  
 Tel: 773.775.4509 Fax: 773.775.4014  
 Email: chicago@clorba.com

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**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**PFINGSTEN/KATES ROAD IMPROVEMENTS  
 PAVEMENT MARKING PLAN**

SCALE: 1" = 20'    SHEET NO. 2 OF 4 SHEETS    STA. 30+00 TO STA. 40+00

F.A.U. RTE. 3699	SECTION 14-00098-00-BR	COUNTY LAKE	TOTAL SHEETS 102	SHEET NO. 28
FED. ROAD DIST. NO. 1   ILLINOIS FED. AID PROJECT			CONTRACT NO. 61D63 M-BRM-4003(391)	

MATCHLINE STA 40+00  
SEE SHEET 28

MATCHLINE STA 45+00

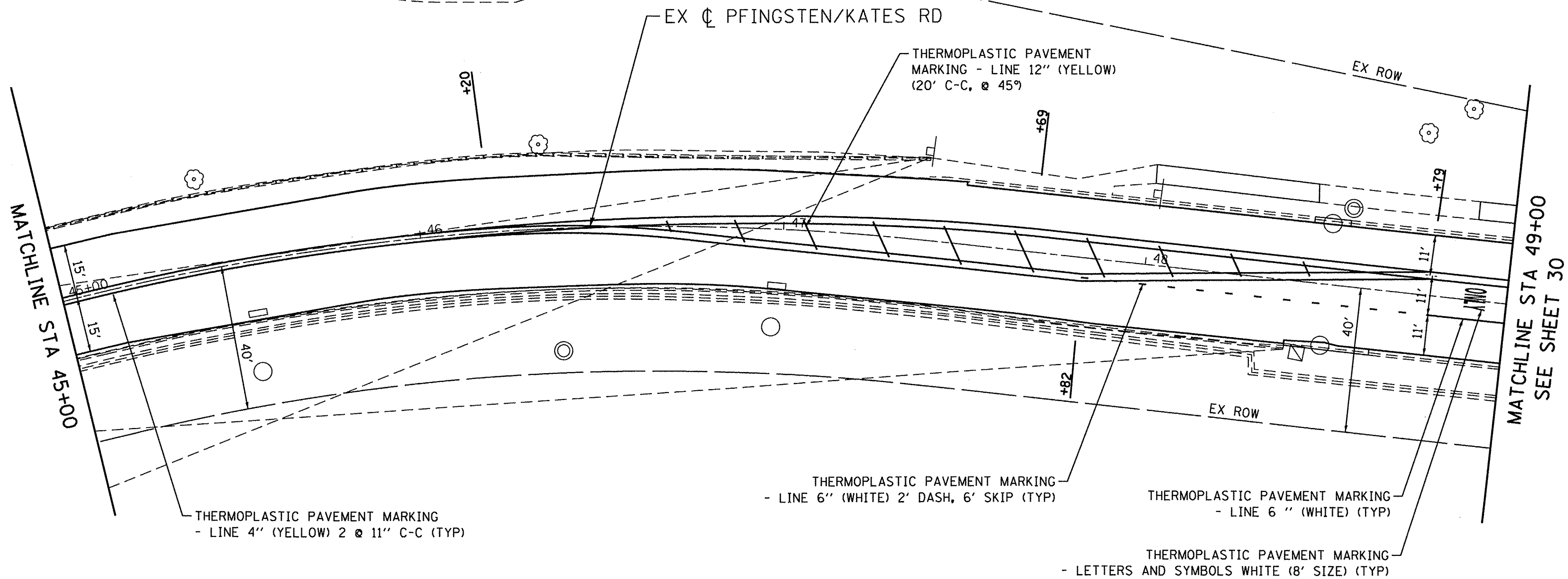
**NOTES:**

1. STOP BARS ON ALL SIDE ROADS SHALL BE INSTALLED PER IDOR DISTRICT 1 DETAIL TC 13 (4' IN ADVANCE OF AND PARRALLEL TO CROSSWALK)
2. RAISED REFLECTIVE PAVEMENT MARKERS SHALL BE INSTALLED ACCORDING TO DISTRICT 1 STANDARD TC-11

THERMOPLASTIC PAVEMENT MARKING  
- LINE 4" (YELLOW) 2 @ 11" C-C (TYP)

PREFORMED THERMOPLASTIC PAVEMENT MARKING  
- LINE 4" (YELLOW) 2 @ 11" C-C (TYP)  
(STA 41+97 TO STA 43+63)

RAISED REFLECTIVE PAVEMENT MARKER (BRIDGE)  
(STA 41+97 TO STA 43+63)



THERMOPLASTIC PAVEMENT MARKING  
- LINE 4" (YELLOW) 2 @ 11" C-C (TYP)

THERMOPLASTIC PAVEMENT MARKING  
- LINE 6" (WHITE) 2' DASH, 6' SKIP (TYP)

THERMOPLASTIC PAVEMENT MARKING  
- LINE 6" (WHITE) (TYP)

THERMOPLASTIC PAVEMENT MARKING  
- LETTERS AND SYMBOLS WHITE (8' SIZE) (TYP)



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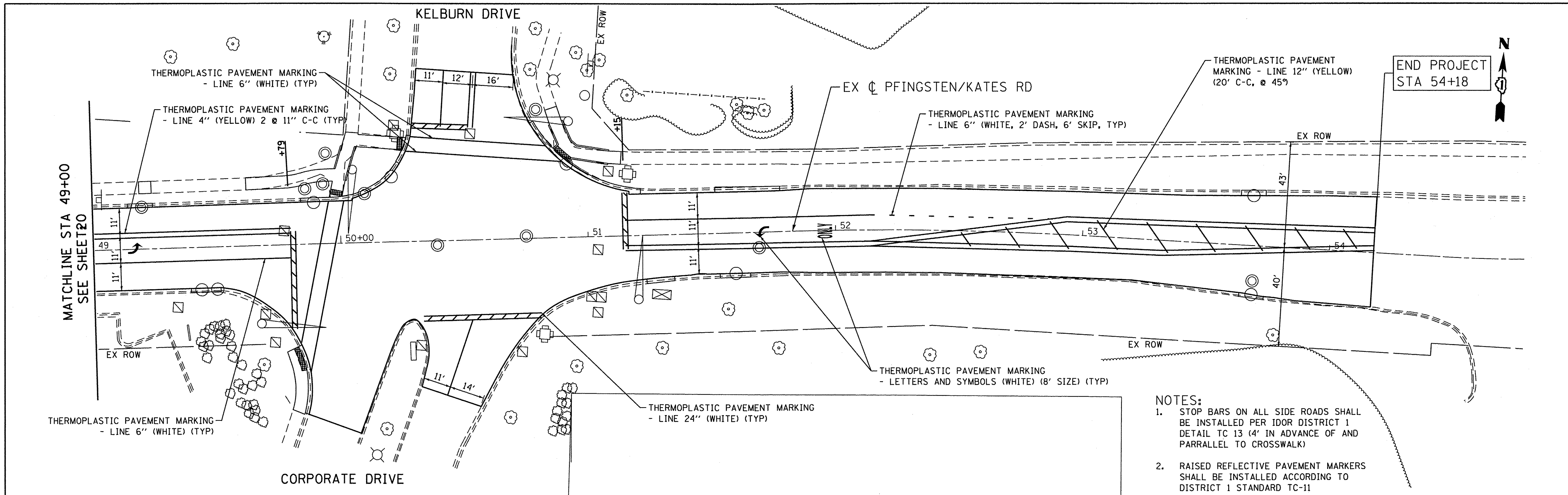
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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**PFINGSTEN/KATES ROAD IMPROVEMENTS  
PAVEMENT MARKING PLAN**

SCALE: 1" = 20' SHEET NO. 3 OF 4 SHEETS STA. 40+00 TO STA. 49+00

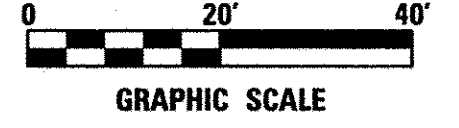
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FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT			CONTRACT NO. 61D63	
			M-BRM-4003(391)	



**END PROJECT  
STA 54+18**



- NOTES:**
1. STOP BARS ON ALL SIDE ROADS SHALL BE INSTALLED PER IDOR DISTRICT 1 DETAIL TC 13 (4' IN ADVANCE OF AND PARRALLEL TO CROSSWALK)
  2. RAISED REFLECTIVE PAVEMENT MARKERS SHALL BE INSTALLED ACCORDING TO DISTRICT 1 STANDARD TC-11



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**Clorba Group, Inc.**  
 CONSULTING ENGINEERS  
 5507 North Cumberland Avenue, Suite 402  
 Chicago, Illinois 60630  
 Tel: 773.775.4009 Fax: 773.775.4014  
 Email: chicago@clorba.com

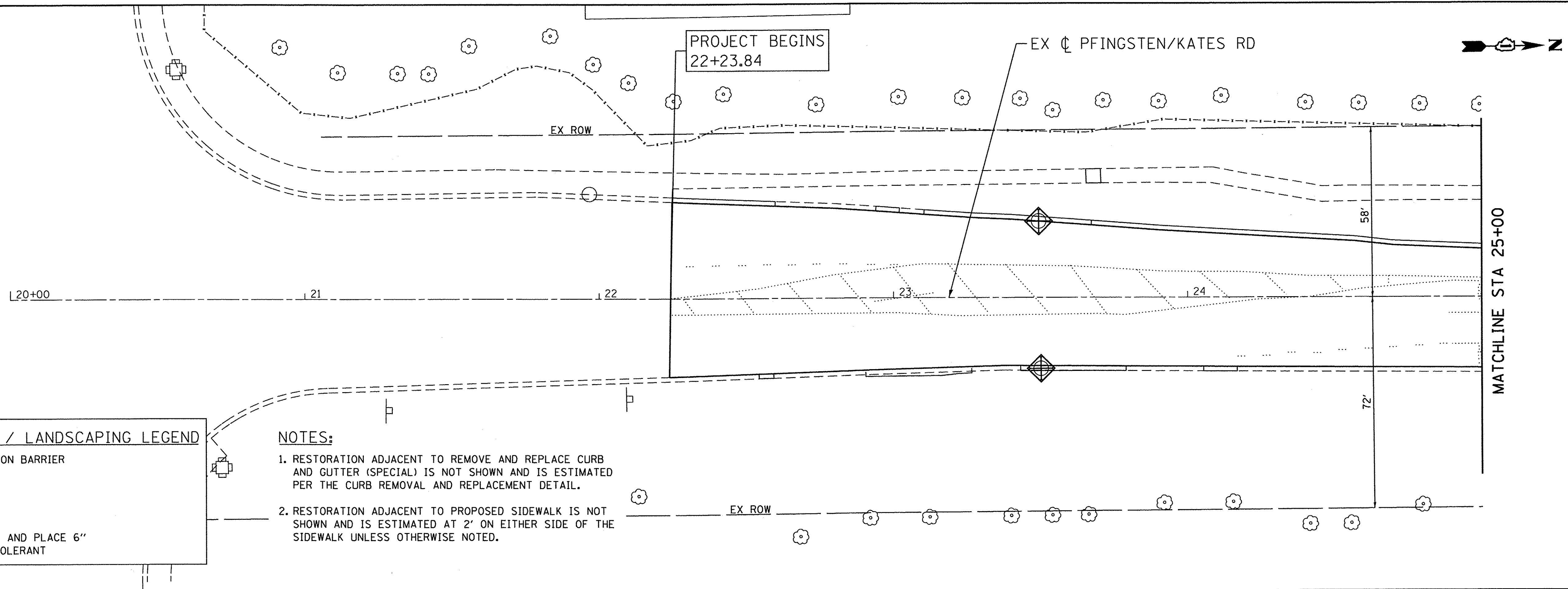
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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**PFINGSTENKATES ROAD IMPROVEMENTS  
PAVEMENT MARKING PLAN**

SCALE: 1" = 20' SHEET NO. 4 OF 4 SHEETS STA. 49+00 TO STA. END

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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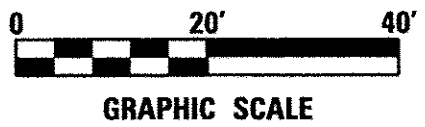
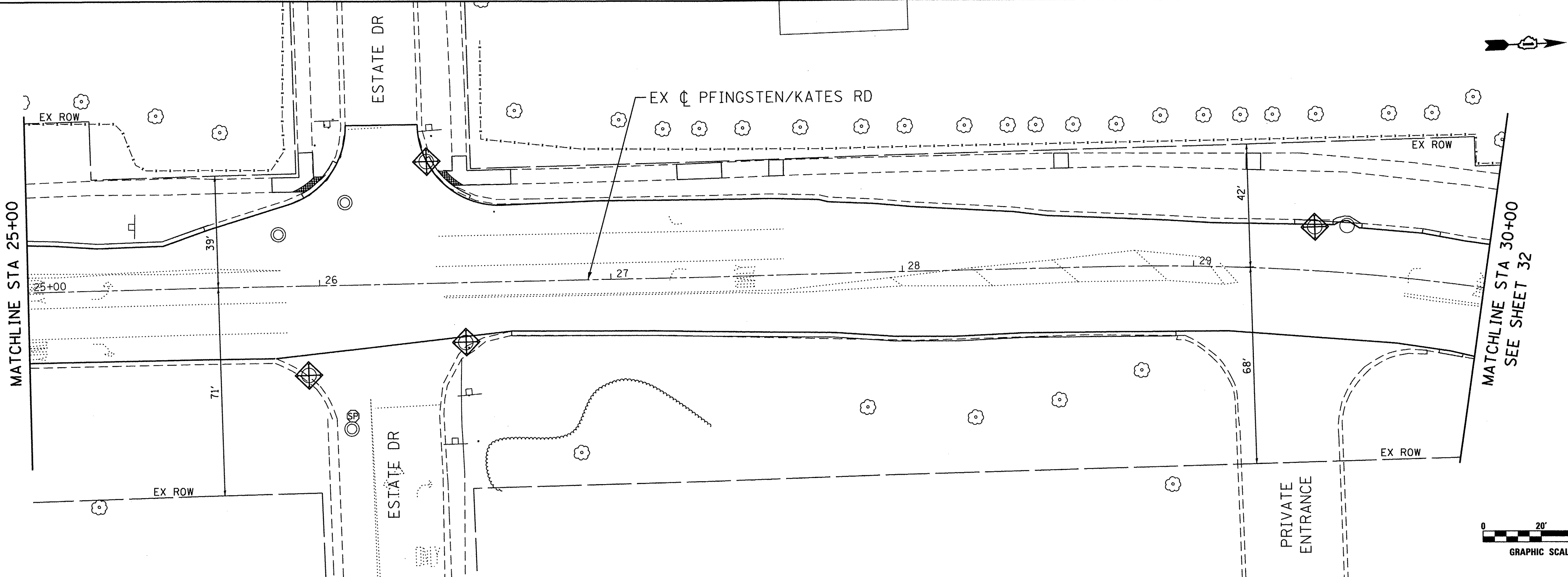


**EROSION CONTROL / LANDSCAPING LEGEND**

- PERIMETER EROSION BARRIER
- INLET FILTERS
- TOPSOIL FURNISH AND PLACE 6" SODDING, SALT TOLERANT

**NOTES:**

1. RESTORATION ADJACENT TO REMOVE AND REPLACE CURB AND GUTTER (SPECIAL) IS NOT SHOWN AND IS ESTIMATED PER THE CURB REMOVAL AND REPLACEMENT DETAIL.
2. RESTORATION ADJACENT TO PROPOSED SIDEWALK IS NOT SHOWN AND IS ESTIMATED AT 2' ON EITHER SIDE OF THE SIDEWALK UNLESS OTHERWISE NOTED.



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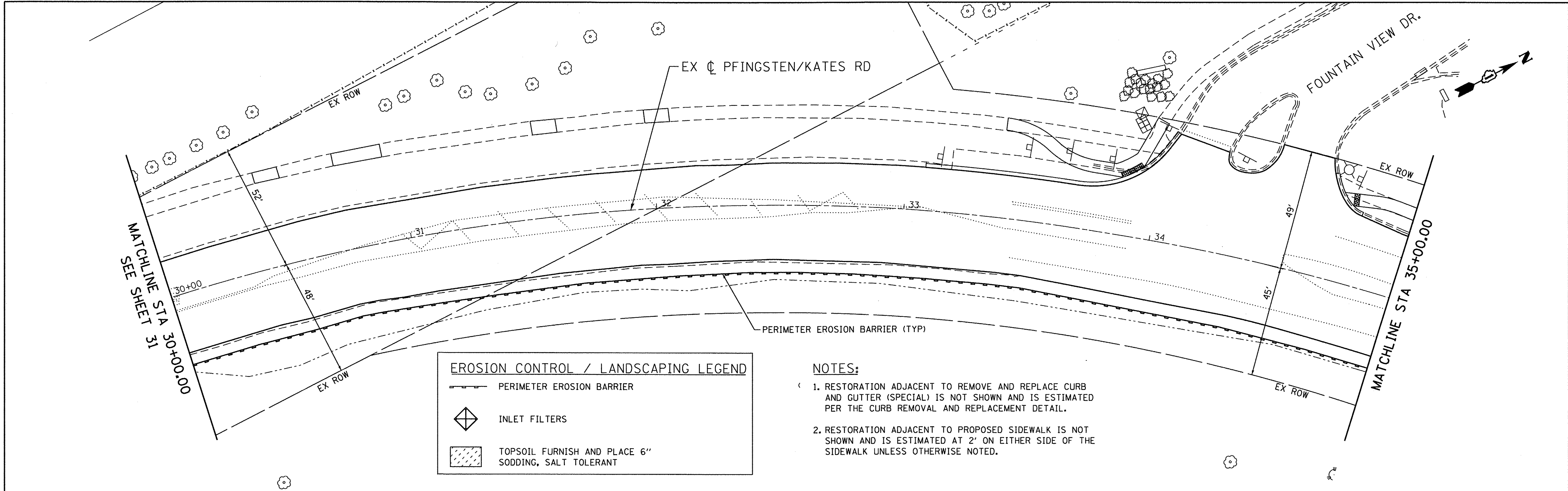
 <b>Clorba Group, Inc.</b> CONSULTING ENGINEERS 6507 North Cumberland Avenue, Suite 402 Chicago, Illinois 60658 Tel. 773.775.4009 Fax 773.775.4014 Email: chicago@clorba.com	USER NAME = jattanasoo	DESIGNED - LAM	REVISED -
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**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**PFINGSTENKATES ROAD IMPROVEMENTS**  
**EROSION AND SEDIMENT CONTROL PLANS**

SCALE: 1" = 20'    SHEET NO. 1 OF 4 SHEETS    STA. BEGIN TO STA. 30+00

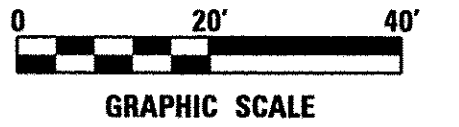
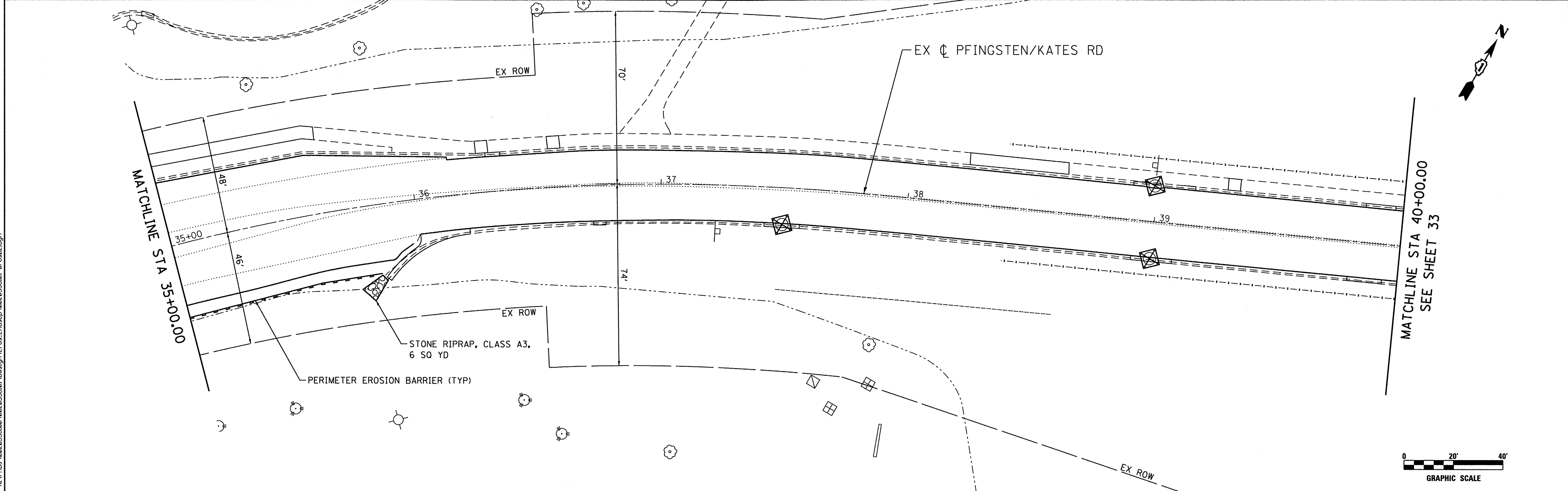
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FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT			CONTRACT NO. 61D63	
M-BRM-4003(391)				



**EROSION CONTROL / LANDSCAPING LEGEND**

	PERIMETER EROSION BARRIER
	INLET FILTERS
	TOPSOIL FURNISH AND PLACE 6" SODDING, SALT TOLERANT

- NOTES:**
1. RESTORATION ADJACENT TO REMOVE AND REPLACE CURB AND GUTTER (SPECIAL) IS NOT SHOWN AND IS ESTIMATED PER THE CURB REMOVAL AND REPLACEMENT DETAIL.
  2. RESTORATION ADJACENT TO PROPOSED SIDEWALK IS NOT SHOWN AND IS ESTIMATED AT 2' ON EITHER SIDE OF THE SIDEWALK UNLESS OTHERWISE NOTED.



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**Clorba Group, Inc.**  
 CONSULTING ENGINEERS  
 6507 North Cumberland Avenue, Suite 402  
 Chicago, Illinois 60645  
 Tel: 773.775.4008 Fax: 773.775.4014  
 Email: chicagoc@clorba.com

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**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

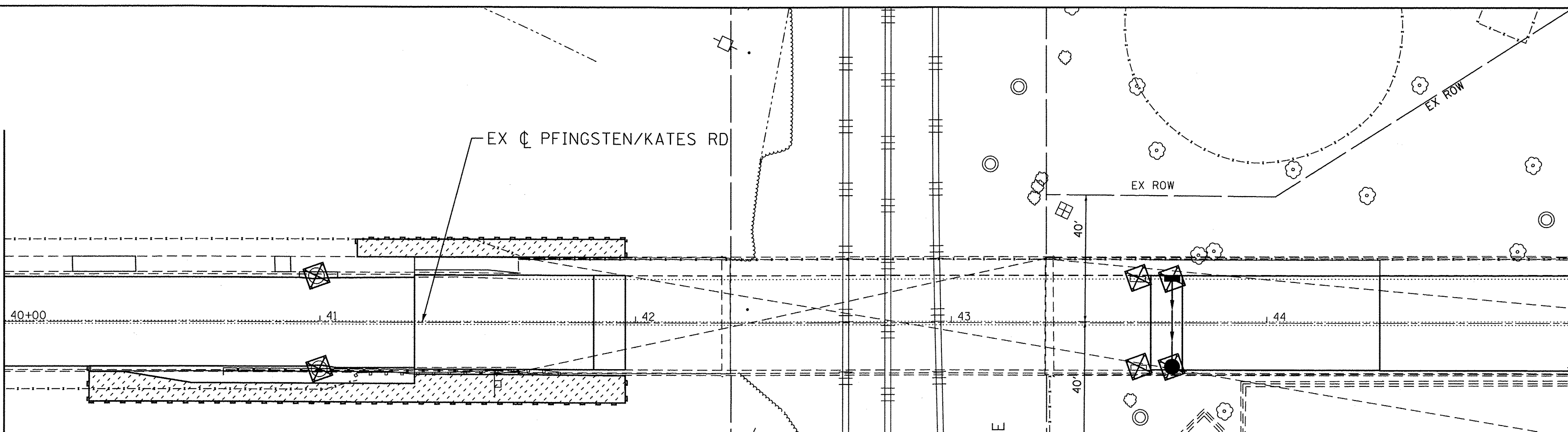
**PFINGSTENKATES ROAD IMPROVEMENTS  
 EROSION AND SEDIMENT CONTROL PLANS**

SCALE: 1" = 20'    SHEET NO. 2 OF 4 SHEETS    STA. 30+00 TO STA. 40+00

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3699	14-00098-00-BR	LAKE	102	32
FED. ROAD DIST. NO. 1 (ILLINOIS) FED. AID PROJECT				CONTRACT NO. 61D63
				M-BRM-4003(391)



MATCHLINE STA 40+00  
SEE SHEET 32

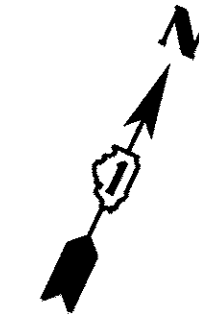


**EROSION CONTROL / LANDSCAPING LEGEND**

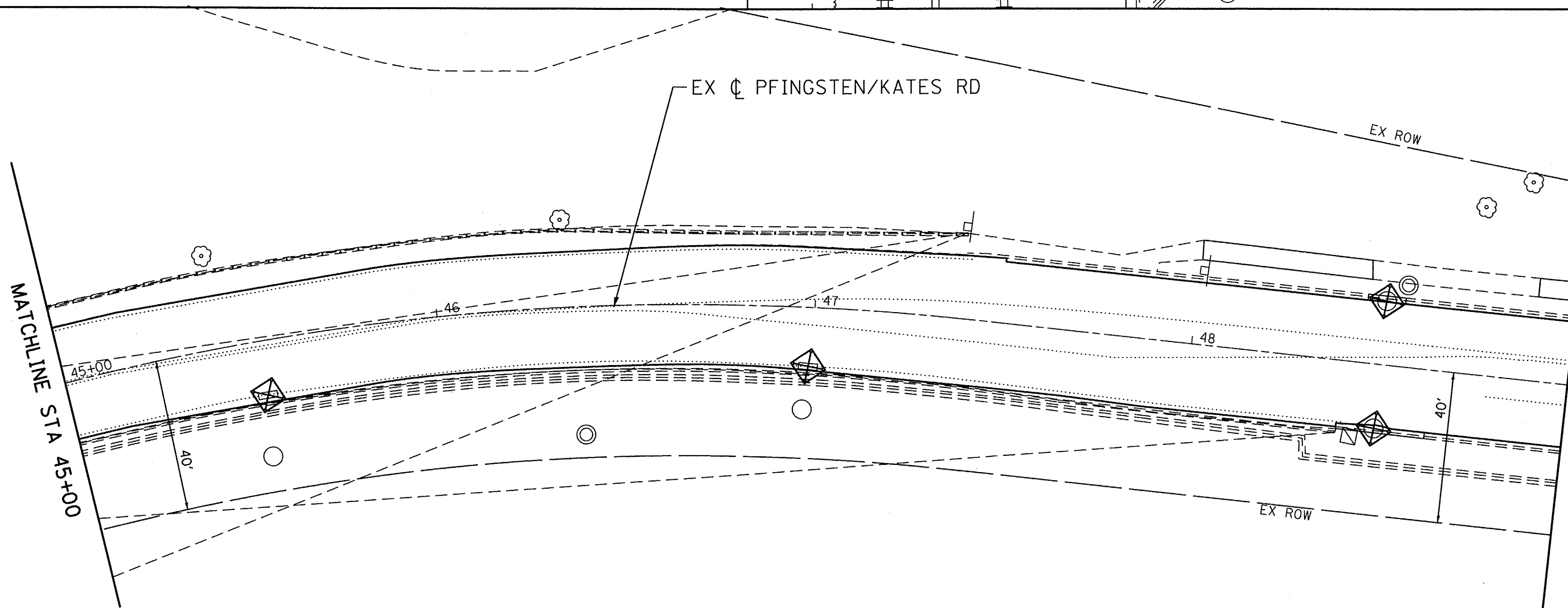
- PERIMETER EROSION BARRIER
- INLET FILTERS
- TOPSOIL FURNISH AND PLACE 6" SODDING, SALT TOLERANT

**NOTES:**

1. RESTORATION ADJACENT TO REMOVE AND REPLACE CURB AND GUTTER (SPECIAL) IS NOT SHOWN AND IS ESTIMATED PER THE CURB REMOVAL AND REPLACEMENT DETAIL.
2. RESTORATION ADJACENT TO PROPOSED SIDEWALK IS NOT SHOWN AND IS ESTIMATED AT 2' ON EITHER SIDE OF THE SIDEWALK UNLESS OTHERWISE NOTED.



MATCHLINE STA 45+00



MATCHLINE STA 49+00  
SEE SHEET 34



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**ENGINEERING CONSULTANT**  
**Ciorba Group, Inc.**  
**CONSULTING ENGINEERS**  
3507 North Cumberland Avenue, Suite 402  
Chicago, Illinois 60649  
Tel: 773.775.4009 Fax: 773.775.4014  
Email: Chicago@cg1.com

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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

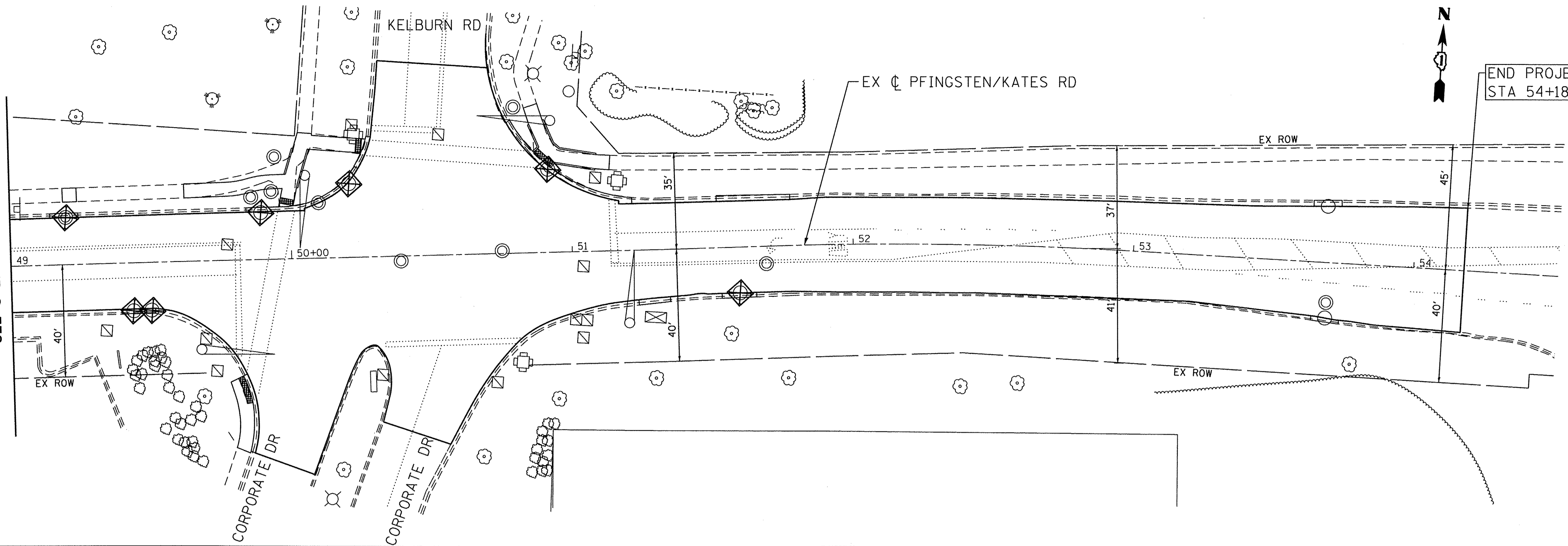
**PFINGSTENKATES ROAD IMPROVEMENTS  
EROSION AND SEDIMENT CONTROL PLANS**

SCALE: 1" = 20'    SHEET NO. 3 OF 4 SHEETS    STA. 40+00 TO STA. 49+00

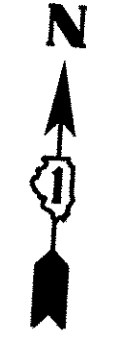
F.A.U. RTE. 3699	SECTION 14-00098-00-BR	COUNTY LAKE	TOTAL SHEETS 102	SHEET NO. 33
CONTRACT NO. 61D63				
FED. ROAD DIST. NO. 1   ILLINOIS FED. AID PROJECT				

M-BRM-4003(3/91)




MATCHLINE STA 49+00.00  
SEE SHEET 33



END PROJECT  
STA 54+18.00

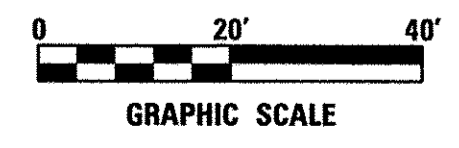


**EROSION CONTROL / LANDSCAPING LEGEND**

-  PERIMETER EROSION BARRIER
-  INLET FILTERS
-  TOPSOIL FURNISH AND PLACE 6" SODDING, SALT TOLERANT

**NOTES:**

1. RESTORATION ADJACENT TO REMOVE AND REPLACE CURB AND GUTTER (SPECIAL) IS NOT SHOWN AND IS ESTIMATED PER THE CURB REMOVAL AND REPLACEMENT DETAIL.
2. RESTORATION ADJACENT TO PROPOSED SIDEWALK IS NOT SHOWN AND IS ESTIMATED AT 2' ON EITHER SIDE OF THE SIDEWALK UNLESS OTHERWISE NOTED.



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 USER = jordan  
 PLOT DATE = 12/5/2016

**ENGINEERING CONSULTANT**  
  
**Clorba Group, Inc.**  
 CONSULTING ENGINEERS  
 5507 North Cumberland Avenue, Suite 402  
 Chicago, Illinois 60630  
 Tel: 773.775.4009 Fax: 773.775.4014  
 Email: chicago@clorba.com

USER NAME = jordan	DESIGNED - LAM	REVISED -
PLOT SCALE = 20.0000' / 1"	DRAWN - JS	REVISED -
PLOT DATE = 12/5/2016	CHECKED - LAM	REVISED -
	DATE - 12/5/2016	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**PFINGSTEN/KATES ROAD IMPROVEMENTS  
EROSION AND SEDIMENT CONTROL PLANS**

SCALE: 1" = 20'    SHEET NO. 4 OF 4 SHEETS    STA. 49+00 TO STA. END

F.A.U. RTE. 3699	SECTION 14-00098-00-BR	COUNTY LAKE	TOTAL SHEETS 102	SHEET NO. 34
CONTRACT NO. 61D63				
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT M-BRM-4003(391)				

# TRAFFIC SIGNAL LEGEND

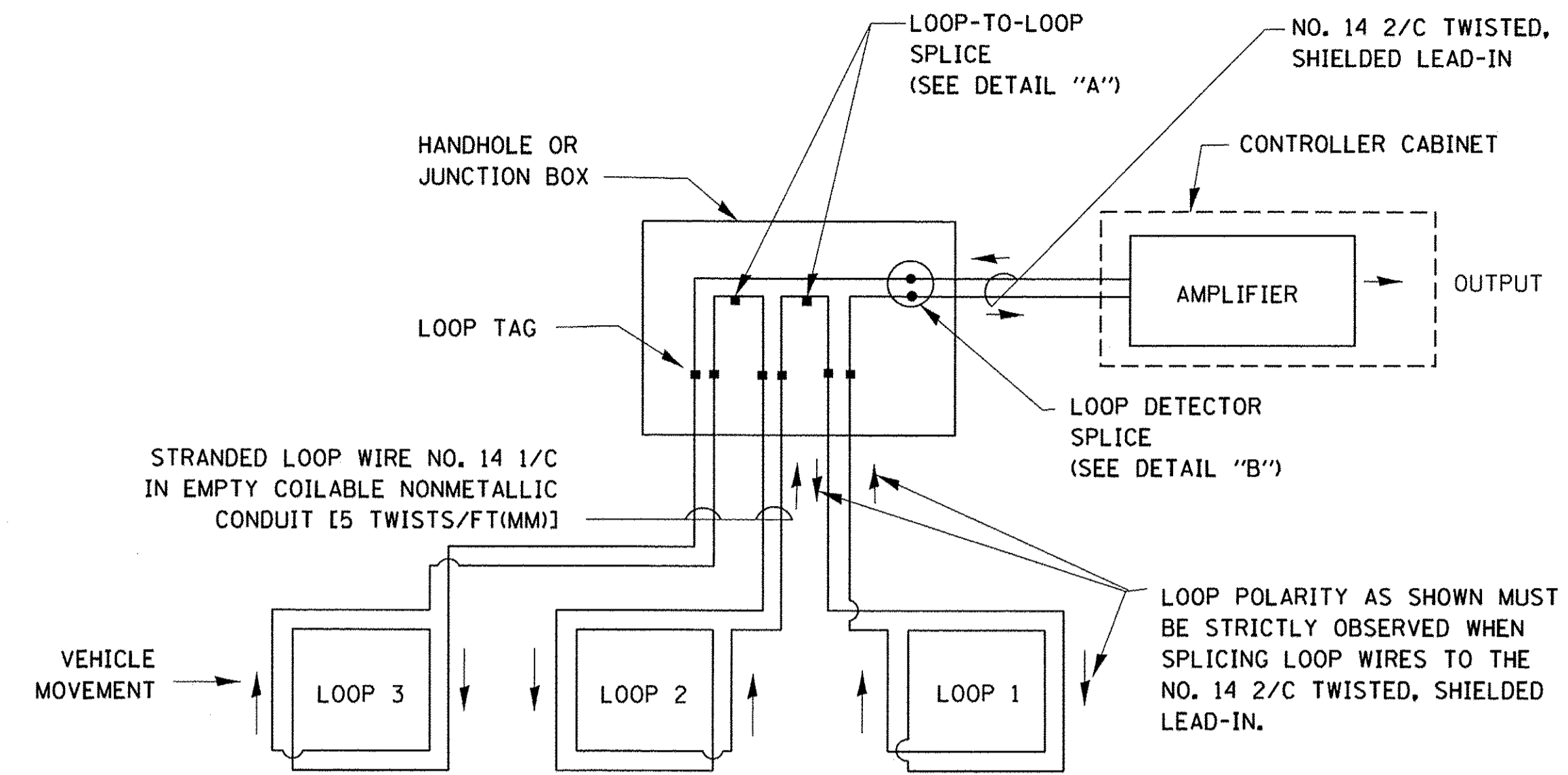
ITEM	REMOVAL	EXISTING	PROPOSED	ITEM	REMOVAL	EXISTING	PROPOSED	ITEM	REMOVAL	EXISTING	PROPOSED
CONTROLLER CABINET				EMERGENCY VEHICLE LIGHT DETECTOR				ELECTRIC CABLE IN CONDUIT, TRACER, NO. 14 1/C, UNLESS NOTED OTHERWISE			
RAILROAD CONTROL CABINET				CONFIRMATION BEACON				COAXIAL CABLE			
COMMUNICATIONS CABINET				HANDHOLE				VENDOR CABLE FOR CAMERA			
MASTER CONTROLLER				HEAVY DUTY HANDHOLE				COPPER INTERCONNECT CABLE, NO. 18 3 PAIR TWISTED, SHIELDED			
MASTER MASTER CONTROLLER				DOUBLE HANDHOLE				FIBER OPTIC CABLE NO. 62.5/125, MM12F			
UNINTERRUPTIBLE POWER SUPPLY				JUNCTION BOX				FIBER OPTIC CABLE NO. 62.5/125, MM12F SM12F			
SERVICE INSTALLATION, (P) POLE OR (G) GROUND MOUNT				UNDERGROUND CONDUIT, GALVANIZED STEEL (UC)				FIBER OPTIC CABLE NO. 62.5/125, MM12F SM24F			
TELEPHONE CONNECTION (P) POLE OR (G) GROUND MOUNT				TEMPORARY SPAN WIRE, TETHER WIRE, AND CABLE				GROUND ROD AT (C) CONTROLLER, (H) HANDHOLE, (P) POST, (M) MAST ARM, OR (S) SERVICE			
STEEL MAST ARM ASSEMBLY AND POLE				COMMON TRENCH				CONTROLLER CABINET AND FOUNDATION TO BE REMOVED			
ALUMINUM MAST ARM ASSEMBLY AND POLE				COILABLE NONMETALLIC CONDUIT (EMPTY)				STEEL MAST ARM POLE AND FOUNDATION TO BE REMOVED			
STEEL COMBINATION MAST ARM ASSEMBLY AND POLE WITH LUMINAIRE				SYSTEM ITEM		S	S	ALUMINUM MAST ARM POLE AND FOUNDATION TO BE REMOVED			
STEEL COMBINATION MAST ARM ASSEMBLY AND POLE WITH PTZ CAMERA				INTERSECTION ITEM		I	IP	STEEL COMBINATION MAST ARM ASSEMBLY AND POLE WITH LUMINAIRE AND FOUNDATION TO BE REMOVED			
SIGNAL POST				REMOVE ITEM	R			SIGNAL POST AND FOUNDATION TO BE REMOVED			
TEMPORARY WOOD POLE (CLASS 5 OR BETTER) 45 FOOT (13.7m) MINIMUM				RELOCATE ITEM	RL			INTERSECTION & SAMPLING (SYSTEM) DETECTOR			
GUY WIRE				ABANDON ITEM	A			SAMPLING (SYSTEM) DETECTOR			
SIGNAL HEAD				12" (300mm) TRAFFIC SIGNAL SECTION				QUEUE DETECTOR			
SIGNAL HEAD CONSTRUCTION STAGES (NUMBERS INDICATE THE CONSTRUCTION STAGE)				12" (300mm) RED WITH 8" (200mm) YELLOW AND GREEN TRAFFIC SIGNAL FACE				PREFORMED QUEUE DETECTOR			
SIGNAL HEAD WITH BACKPLATE				SIGNAL FACE				PREFORMED INTERSECTION AND SAMPLING (SYSTEM) DETECTOR			
SIGNAL HEAD OPTICALLY PROGRAMMED				SIGNAL FACE WITH BACKPLATE. "P" INDICATES PROGRAMMED HEAD				PREFORMED SAMPLING (SYSTEM) DETECTOR			
FLASHER INSTALLATION (S DENOTES SOLAR POWER)				"RB" INDICATES REFLECTIVE BACKPLATE							
PEDESTRIAN SIGNAL HEAD				12" (300mm) PEDESTRIAN SIGNAL HEAD WALK/DON'T WALK SYMBOL							
PEDESTRIAN PUSHBUTTON DETECTOR				12" (300mm) PEDESTRIAN SIGNAL HEAD INTERNATIONAL SYMBOL, OUTLINED							
ACCESSIBLE PEDESTRIAN PUSHBUTTON DETECTOR				12" (300mm) PEDESTRIAN SIGNAL HEAD INTERNATIONAL SYMBOL, SOLID							
ILLUMINATED SIGN "NO LEFT TURN"				PEDESTRIAN SIGNAL HEAD, INTERNATIONAL SYMBOL, WITH COUNTDOWN TIMER							
ILLUMINATED SIGN "NO RIGHT TURN"				RADIO INTERCONNECT							
DETECTOR LOOP, TYPE I				RADIO REPEATER							
PREFORMED DETECTOR LOOP				DENOTES NUMBER OF CONDUCTORS, ELECTRIC CABLE NO. 14, UNLESS NOTED OTHERWISE, ALL DETECTOR LOOP CABLE TO BE SHIELDED							
MICROWAVE VEHICLE SENSOR				GROUND CABLE IN CONDUIT NO. 6 SOLID COPPER (GREEN)							
VIDEO DETECTION CAMERA											
VIDEO DETECTION ZONE											
PAN, TILT, ZOOM CAMERA											
WIRELESS DETECTOR SENSOR											
WIRELESS ACCESS POINT											

## RAILROAD SYMBOLS

	EXISTING	PROPOSED
RAILROAD CONTROL CABINET		
RAILROAD CANTILEVER MAST ARM		
FLASHING SIGNAL		
CROSSING GATE		
CROSSBUCK		

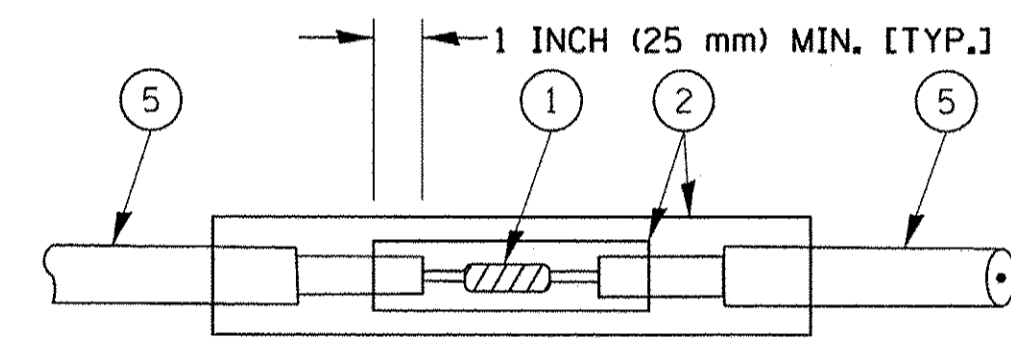
**LOOP DETECTOR NOTES**

1. EACH PAIR OF LOOP WIRES SHALL BE PLACED IN A SEPARATE EMPTY COILABLE NONMETALLIC CONDUIT FROM THE EDGE OF PAVEMENT TO THE HANDHOLE. SPACING BETWEEN THE HOLES DRILLED IN THE PAVEMENT SHALL NOT BE LESS THAN 6" (150 mm). EMPTY COILABLE NONMETALLIC CONDUIT SHALL BE INCLUDED IN THE COST OF THE LOOP WIRE.
2. THE NUMBER OF LOOP TURNS SHALL BE AS RECOMMENDED BY THE AMPLIFIER MANUFACTURER. ALL ADJACENT SIDES OF THE LOOPS SHALL BE INSTALLED IN SUCH A WAY THAT THE CURRENT FLOW IS IN THE SAME DIRECTION TO REINFORCE ITS MAGNETIC FIELDS FOR SMALL VEHICLE DETECTION.
3. EACH LOOP LEAD-IN SHALL BE IDENTIFIED AND PERMANENTLY TAGGED IN THE HANDHOLE. EACH LEAD-IN CABLE TAG SHALL INDICATE THE LOCATION OF THE LOOP, LOOP ROTATION (CLOCKWISE/COUNTERCLOCKWISE), LOOP LEAD-IN DIRECTION (IN OR OUT), LOOP CABLE NUMBER AND LOCATION IN CABINET, AND NUMBER OF TURNS IN THE DETECTOR LOOPS IN WATER PROOF INK AS INDICATED ON THE DISTRICT 1 STANDARD TRAFFIC SIGNAL DESIGN DETAIL. THE CONTRACTOR SHALL MARK LOOP LOCATIONS ON RECORD DRAWINGS AND PRESENT TO THE ENGINEER AFTER FINAL INSPECTION. LOOPS SHALL BE MARKED BY LANE AND LOOP NUMBER. SEE DETAIL BELOW.
4. ALL LOOP CABLE SHALL BE FASTENED WITH PLASTIC TIE WRAP TO THE HANDHOLE HOOKS.
5. IN ASPHALT PAVEMENT, LOOPS SHOULD BE PLACED IN THE BINDER AND DIVEHOLES MARKED AT THE CURB WITH A SAW-CUT. THE SAW-CUT SHALL BE CUT IN ACCORDANCE WITH LOCAL AND E.P.A. DUST CONTROL REQUIREMENTS. DETECTOR LOOP(S) SHALL NOT BE INSTALLED IN WET CONDITIONS AND THE SAW-CUTS MUST BE FREE OF DEBRIS AND RESIDUE SUCH AS DUST AND WATER WHICH IS TO BE ACHIEVED BY THE USE OF COMPRESSED AIR, WIRE BRUSHING AND HEAT DRYING ACCORDING TO SEALANT MANUFACTURER REQUIREMENTS. THE DETECTOR WIRE SHALL BE HELD IN PLACE BY THE USE OF FORM WEDGES. WEDGES SHALL BE SPACED NO MORE THAN 18" (450 mm) APART.
6. LOOP SPLICES SHALL BE SOLDERED USING A SOLDERING IRON. BLOW TORCHES OR OTHER DEVICES WHICH OXIDIZE COPPER CABLE SHALL NOT BE ALLOWED FOR SOLDERING OPERATIONS. SEE DETAIL BELOW RIGHT.
7. PREFORMED DETECTOR LOOPS SHALL BE USED, AS SHOWN ON THE PLANS, WHERE NEW CONCRETE PAVEMENT IS PROPOSED. THE INSTALLATION OF PREFORMED LOOPS SHALL BE IN ACCORDANCE WITH THE DISTRICT 1 SPECIFICATIONS OR AS DIRECTED BY THE ENGINEER.

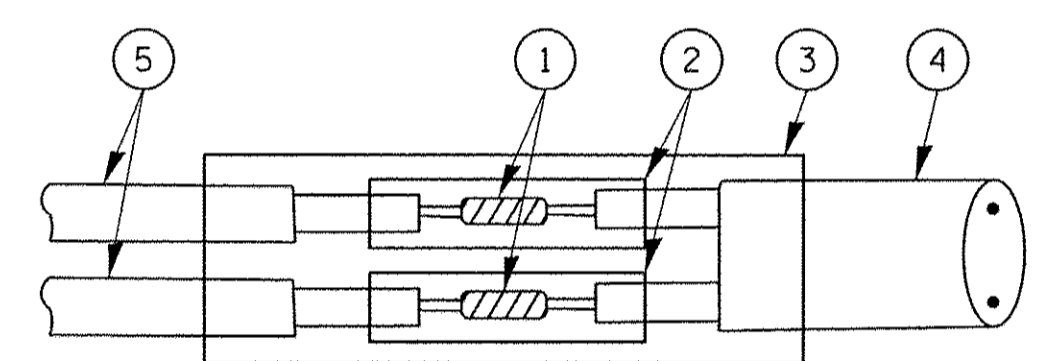


**DETECTOR LOOP WIRING SCHEMATIC**

- LOOPS SHALL BE SPLICED IN SERIES.
- SAW-CUTS SHALL BE A MINIMUM WIDTH OF 5/16" (8 mm).
- SAW-CUT DEPTHS SHALL BE 3" (75 mm), IF IN CONCRETE, THE SAW-CUT DEPTH SHALL BE TO THE TOP OF THE REINFORCEMENT.
- LOOP CORNERS SHALL BE DRILLED WITH A 2" (50 mm) DIAMETER CORE.



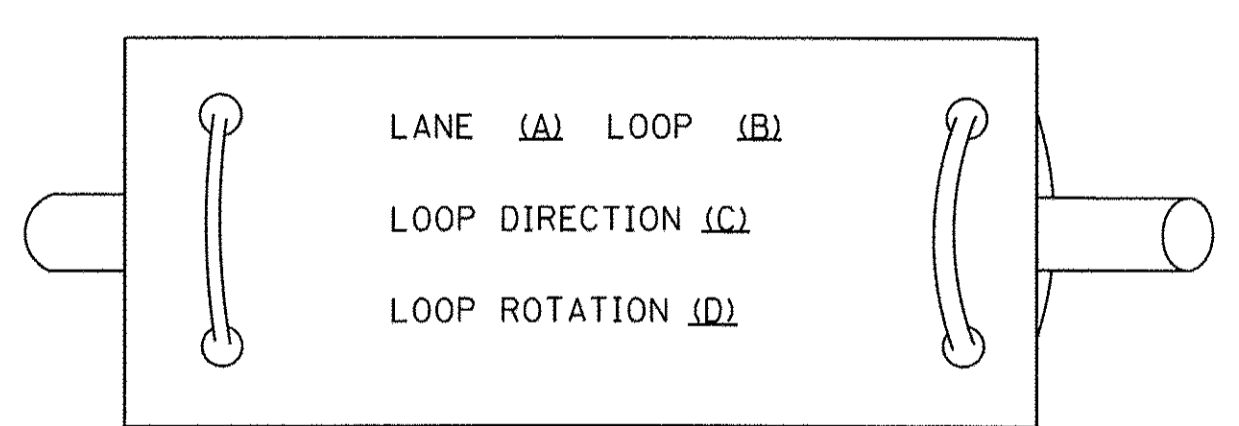
DETAIL "A"  
LOOP-TO-LOOP SPLICE



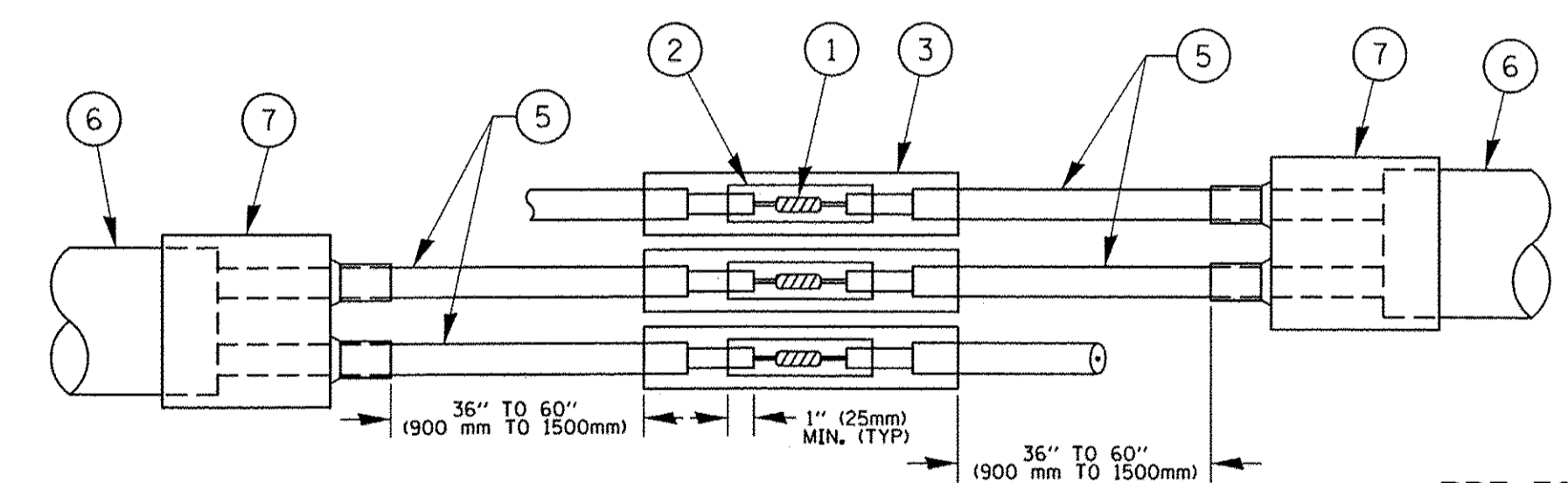
DETAIL "B"  
LOOP-TO-CONTROLLER SPLICE

**TYPE I LOOP**

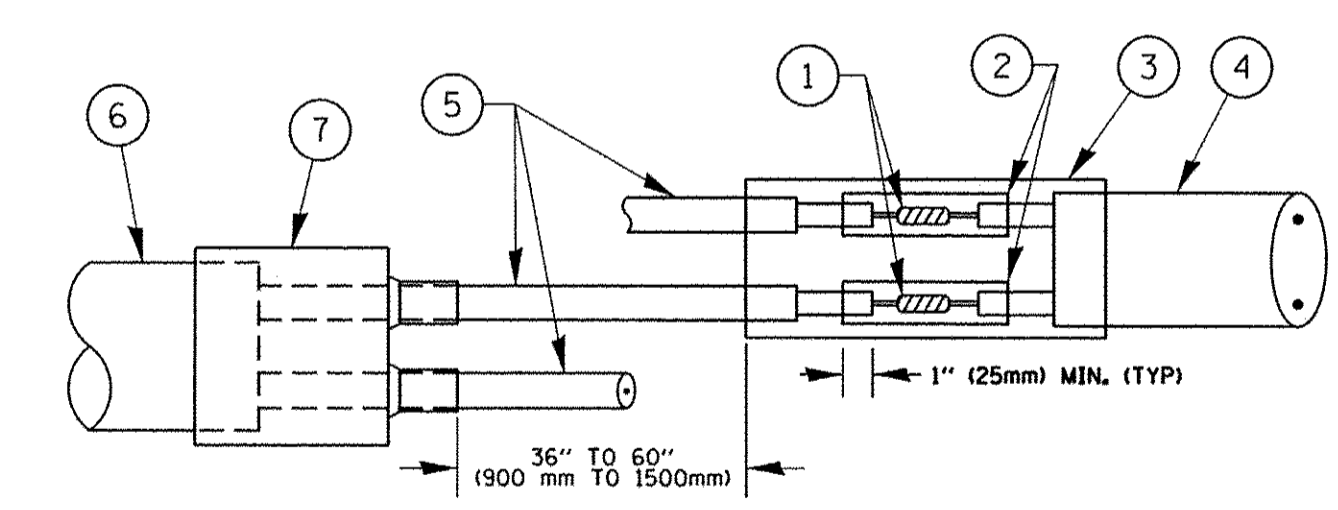
**LOOP LEAD-IN CABLE TAG**



- A. LANE 1 IS THE LANE CLOSEST TO THE CENTERLINE OF THE ROADWAY
- B. LOOP #1 IS THE LOOP IN THE LANE CLOSEST TO THE INTERSECTION.
- C. LABEL LOOP CABLE "IN" OR LOOP CABLE "OUT".
- D. LABEL LOOP CABLE CLOCKWISE OR LOOP CABLE COUNTERCLOCKWISE.



DETAIL "A"  
LOOP-TO-LOOP SPLICE



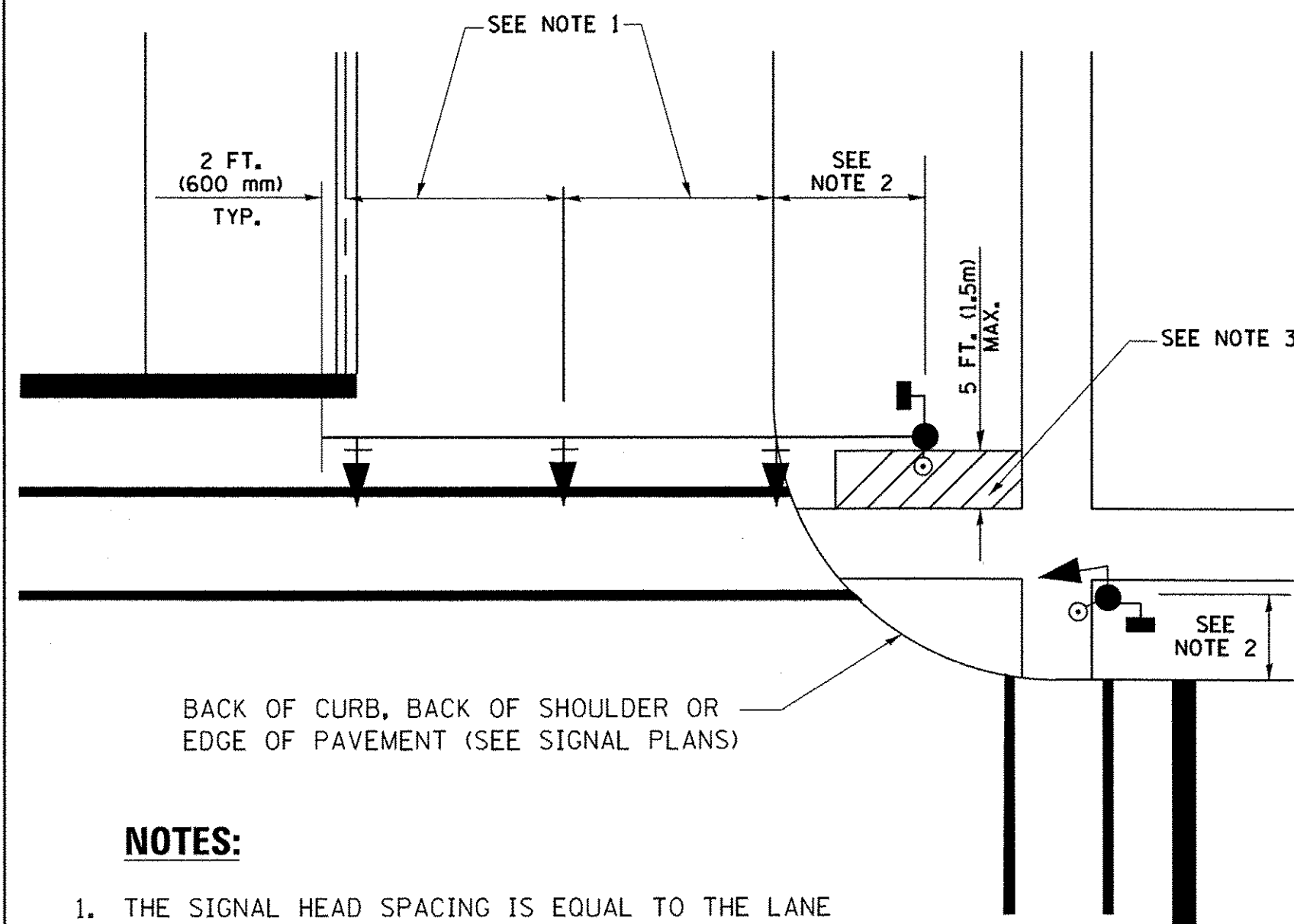
DETAIL "B"  
LOOP-TO-CONTROLLER SPLICE

**PRE-FORMED LOOP**

**LOOP DETECTOR SPLICE**

- 1 WESTERN UNION SPLICE SOLDERED WITH ROSIN CORE FLUX. ALL EXPOSED SURFACES OF THE SOLDER SHALL BE SMOOTH. THE WESTERN UNION SPLICES SHALL BE STAGGERED.
- 2 WCSMW 30/100 HEAT SHRINK TUBE, MINIMUM LENGTH 3" (75 mm), UNDERWATER GRADE.
- 3 WCS 200/750 HEAT SHRINK TUBE, MINIMUM LENGTH 6" (150 mm), UNDERWATER GRADE.
- 4 NO. 14 2/C TWISTED, SHIELDED CABLE.
- 5 LOOP CONDUCTOR WITH FLEXIBLE PLASTIC TUBE.
- 6 PRE-FORMED LOOP
- 7 XL POLYOLEFIN 2 CONDUCTOR BREAKOUT SEALS. TYCO CBR-2 OR APPROVED EQUAL

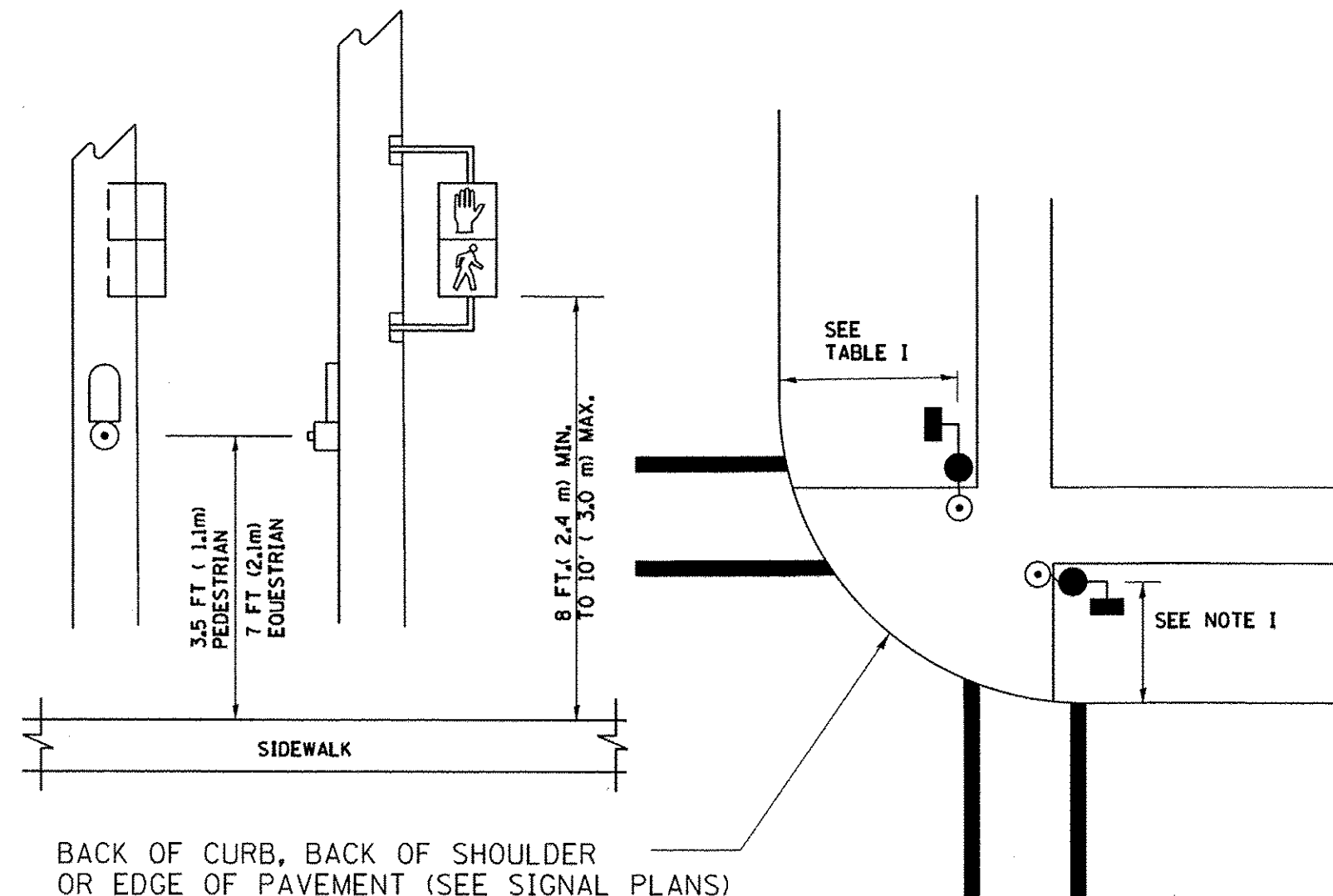
**TRAFFIC SIGNAL MAST ARM AND SIGNAL POST**  
**MAST ARM MOUNTED SIGNALS IN EXISTING, PROPOSED OR**  
**FUTURE SIDEWALK/BICYCLE PATH AREA. INTERSECTION SHOWN**  
**WITH PEDESTRIAN SIGNALS AND PEDESTRIAN PUSHBUTTON DETECTORS.**



**NOTES:**

1. THE SIGNAL HEAD SPACING IS EQUAL TO THE LANE WIDTH OR AS SHOWN ON THE TRAFFIC SIGNAL PLAN.
2. REFER TO THE TRAFFIC SIGNAL EQUIPMENT OFFSET TABLE.
3. PROVIDE A LEVEL ALL-WEATHER SURFACE (CONCRETE SIDEWALK, ASPHALT BICYCLE PATH SURFACE OR MATCHING MATERIAL TO THE ADJACENT SURFACE) UP TO THE MAST ARM SHAFT OR THE SIGNAL POST.
4. THE FACE OF THE PEDESTRIAN PUSHBUTTON SHALL BE PARALLEL TO THE CROSSWALK TO BE USED.
5. THE LOCATIONS AND INSTALLATION OF PEDESTRIAN SIGNAL HEADS AND PEDESTRIAN PUSHBUTTONS SHALL MEET THE REQUIREMENTS OF THE MUTCD AND INFORMATION FOUND IN THE "AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES FOR BUILDINGS AND FACILITIES."

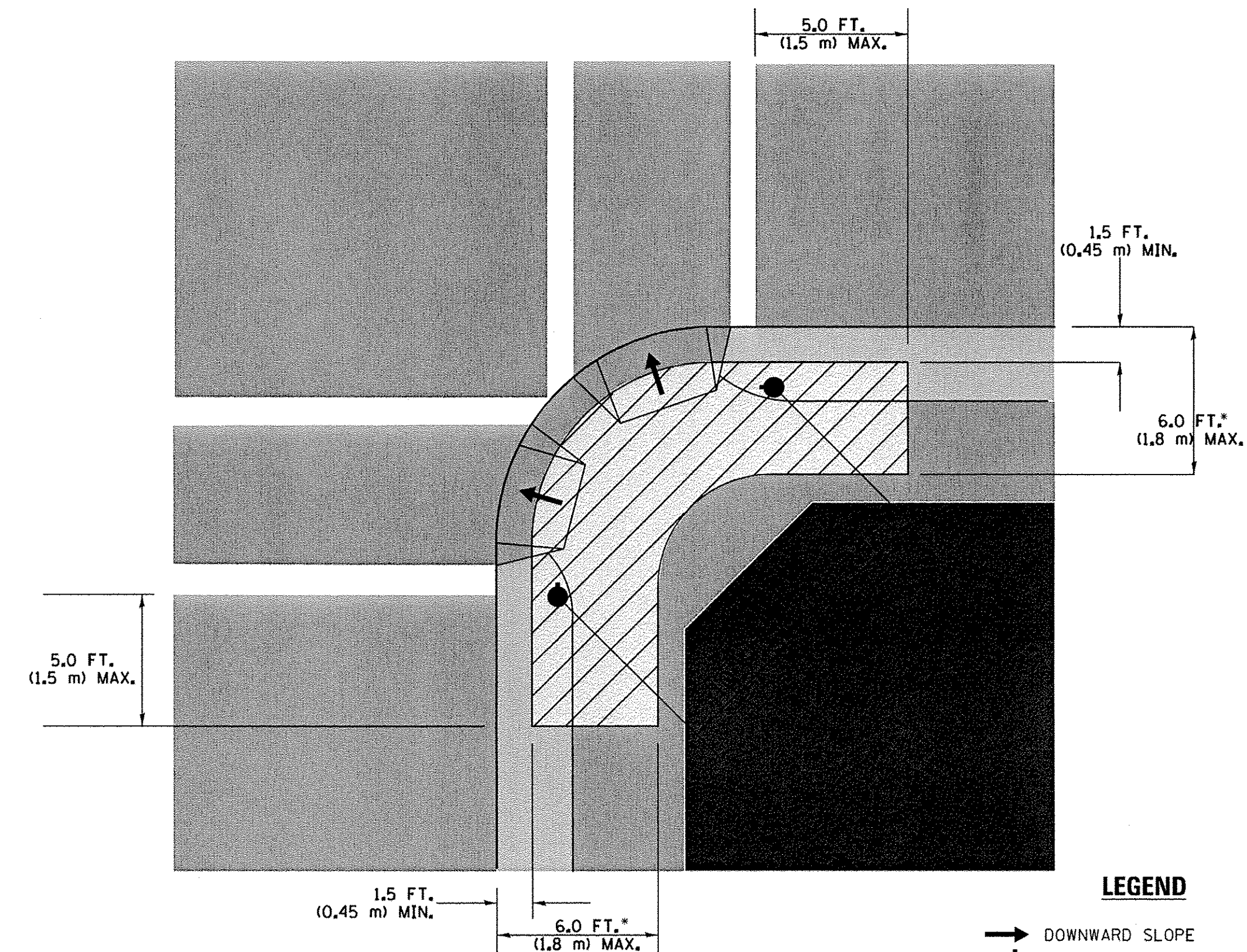
**PEDESTRIAN SIGNAL POST**  
**AND**  
**PEDESTRIAN PUSH BUTTON POST**



**NOTES:**

1. REFER TO THE TRAFFIC SIGNAL EQUIPMENT OFFSET TABLE.
2. PROVIDE A LEVEL ALL-WEATHER SURFACE (CONCRETE SIDEWALK, ASPHALT BICYCLE PATH SURFACE OR MATCHING MATERIAL TO THE ADJACENT SURFACE) UP TO THE PEDESTRIAN SIGNAL POST OR THE PEDESTRIAN PUSH BUTTON POST.
3. THE FACE OF THE PEDESTRIAN PUSHBUTTON SHALL BE PARALLEL TO THE CROSSWALK TO BE USED.
4. THE LOCATIONS AND INSTALLATION OF PEDESTRIAN SIGNAL HEADS AND PEDESTRIAN PUSHBUTTONS SHALL MEET THE REQUIREMENTS OF THE MUTCD AND INFORMATION FOUND IN THE "AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES FOR BUILDINGS AND FACILITIES."

**RECOMMENDED PUSHBUTTON LOCATIONS**



**LEGEND**

- DOWNWARD SLOPE
- PEDESTRIAN PUSHBUTTON
- ▨ RECOMMENDED PUSHBUTTON LOCATIONS

- WHERE THERE ARE CONSTRAINTS THAT MAKE IT IMPRACTICAL TO PLACE THE PEDESTRIAN PUSHBUTTON BETWEEN 1.5 FT (0.45 m) AND 6 FT ( 1.8 m) FROM THE EDGE OF THE CURB, SHOULDER, OR PAVEMENT, IT SHOULD NOT BE FURTHER THAN 10 FT (3 m) FROM THE EDGE OF CURB, SHOULDER, OR PAVEMENT.
- WHERE THERE ARE CONSTRAINTS ON A PARTICULAR CORNER THAT MAKE IT IMPRACTICAL TO PROVIDE THE 10 FT (3 m) SEPERATION BETWEEN THE TWO PEDESTRIAN PUSHBUTTONS, THE PUSHBUTTONS MAY BE PLACED CLOSER TOGETHER OR ON THE SAME POLE.

**NOTES:**

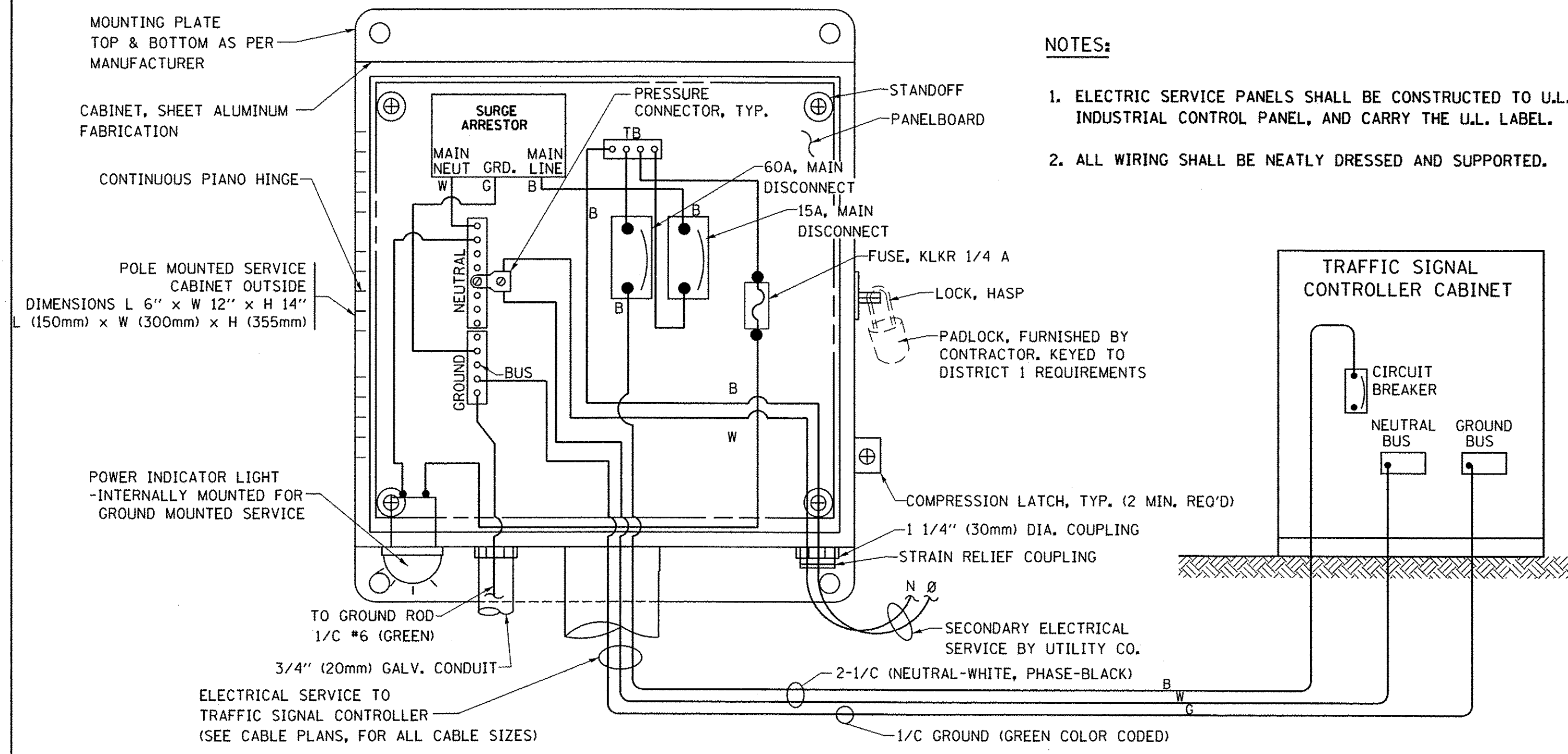
1. PEDESTRIAN SIGNAL HEADS SHALL BE MOUNTED WITH THE BOTTOM OF THE SIGNAL HOUSING INCLUDING BRACKETS NOT LESS THAN 8 FT (2.4 m) OR MORE THAN 10 FT (3 m) ABOVE SIDEWALK LEVEL, AND SHALL BE POSITIONED AND ADJUSTED TO PROVIDE MAXIMUM VISIBILITY AT THE BEGINNING OF THE CONTROLLED CROSSWALK.
2. THE BOTTOM OF THE SIGNAL HOUSING (INCLUDING BRACKETS) OF A VEHICULAR SIGNAL FACE THAT IS NOT LOCATED OVER A HIGHWAY SHALL BE AT LEAST 8 FT (2.4 m) BUT NOT MORE THAN 19 FT (5.8 m) ABOVE THE SIDEWALK OR, IF THERE IS NO SIDEWALK, ABOVE THE PAVEMENT GRADE AT THE CENTER OF THE ROADWAY.
3. THE BOTTOM OF THE SIGNAL HOUSING AND ANY RELATED ATTACHMENTS TO A SIGNAL FACE LOCATED OVER ANY PORTION OF A HIGHWAY SHALL BE ACCORDING TO CURRENT STATE STANDARDS 877001, 877002, 877006, 877011 AND 877012 WITH A MINIMUM OF 16 FT (5.0 m) AND A MAXIMUM OF 18 FT. (5.5 m) FROM THE HIGHEST POINT OF PAVEMENT.
4. THE BOTTOM OF THE TEMPORARY SPAN WIRE MOUNTED SIGNAL HOUSING AND ANY RELATED ATTACHMENTS TO A SIGNAL FACE LOCATED OVER ANY PORTION OF A HIGHWAY SHALL BE ACCORDING TO CURRENT STATE STANDARD 880001 WITH A MINIMUM OF 17 FT (5.18 m) FROM THE HIGHEST POINT OF PAVEMENT.
5. THE TOP OF THE SIGNAL HOUSING OF A SIGNAL FACE LOCATED OVER ANY PORTION OF A HIGHWAY SHALL NOT BE MORE THAN 25.6 FT (7.8 m) ABOVE THE PAVEMENT.

**TRAFFIC SIGNAL EQUIPMENT OFFSET**

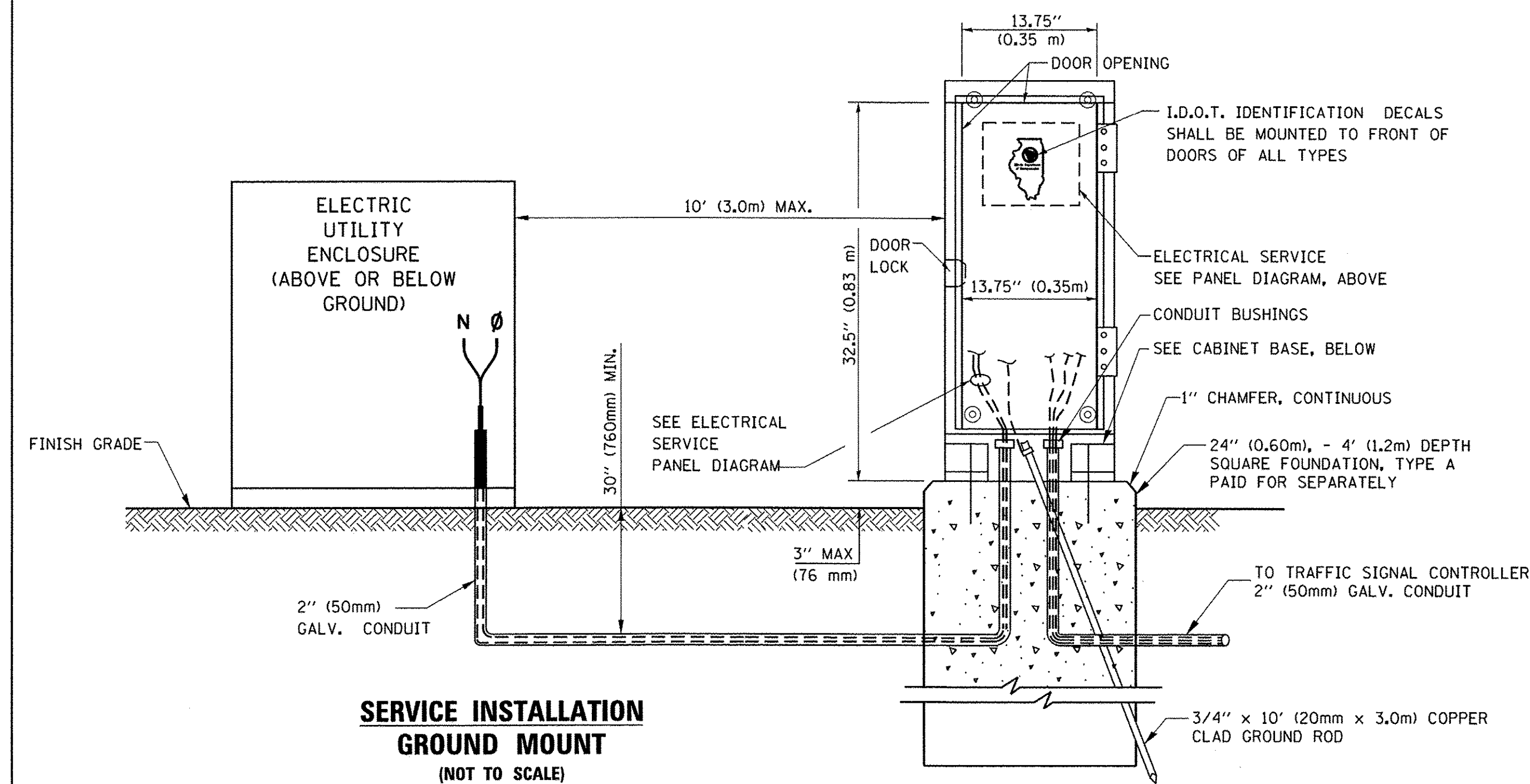
TRAFFIC SIGNAL EQUIPMENT	COMBINATION CONCRETE CURB AND GUTTER (MINIMUM DISTANCE FROM BACK OF CURB TO CENTERLINE OF FOUNDATION)	SHOULDER/NON-CURBED AREA (MINIMUM DISTANCE FROM EDGE OF PAVEMENT TO CENTERLINE OF FOUNDATION)
TRAFFIC SIGNAL MAST ARM POLE	6 FT (1.8m)	SHOULDER WIDTH + 2 FT (0.6m), MINIMUM 10 FT (3.0m)
TRAFFIC SIGNAL POST	4 FT (1.2m)	SHOULDER WIDTH + 2 FT (0.6m), MINIMUM 10 FT (3.0m)
PEDESTRIAN SIGNAL POST	4 FT (1.2m)	SHOULDER WIDTH + 2 FT (0.6m), MINIMUM 10 FT (3.0m)
PEDESTRIAN PUSHBUTTON POST	4 FT (1.2m)	SHOULDER WIDTH + 2 FT (0.6m), MINIMUM 10 FT (3.0m)
TEMPORARY WOOD POLE	6 FT (1.8m)	SHOULDER WIDTH + 2 FT (0.6m), MINIMUM 10 FT (3.0m)
CONTROLLER CABINET	6 FT (1.8m) MINIMUM DISTANCE SEE NOTE 2	SHOULDER WIDTH + 6 FT (1.8m), MINIMUM 16 FT (4.9m) SEE NOTE 3.
SERVICE INSTALLATION, GROUND MOUNT	6 FT (1.8m) MINIMUM DISTANCE SEE NOTE 2	SHOULDER WIDTH + 6 FT (1.8m), MINIMUM 16 FT (4.9m) SEE NOTE 3.

**NOTES:**

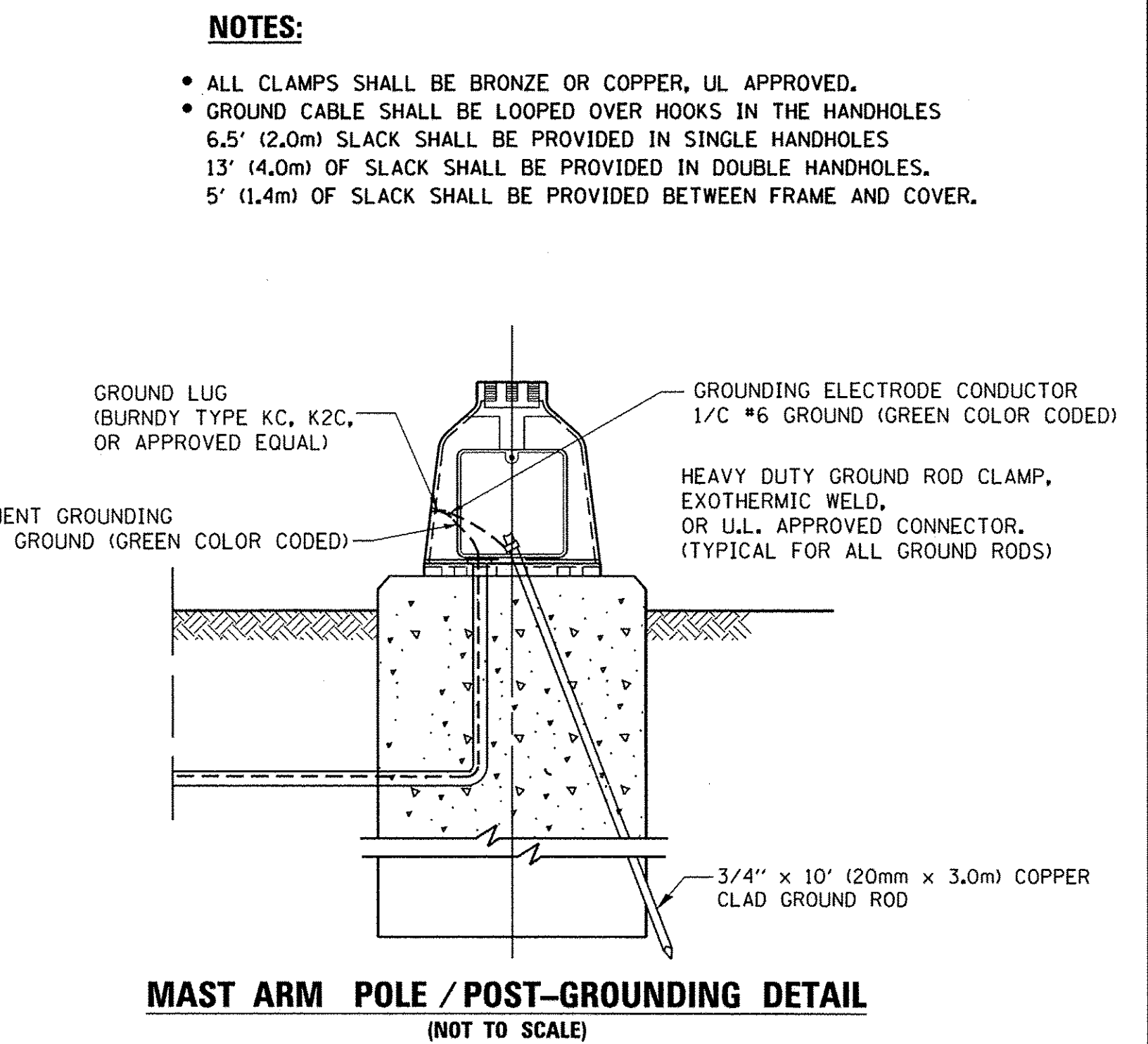
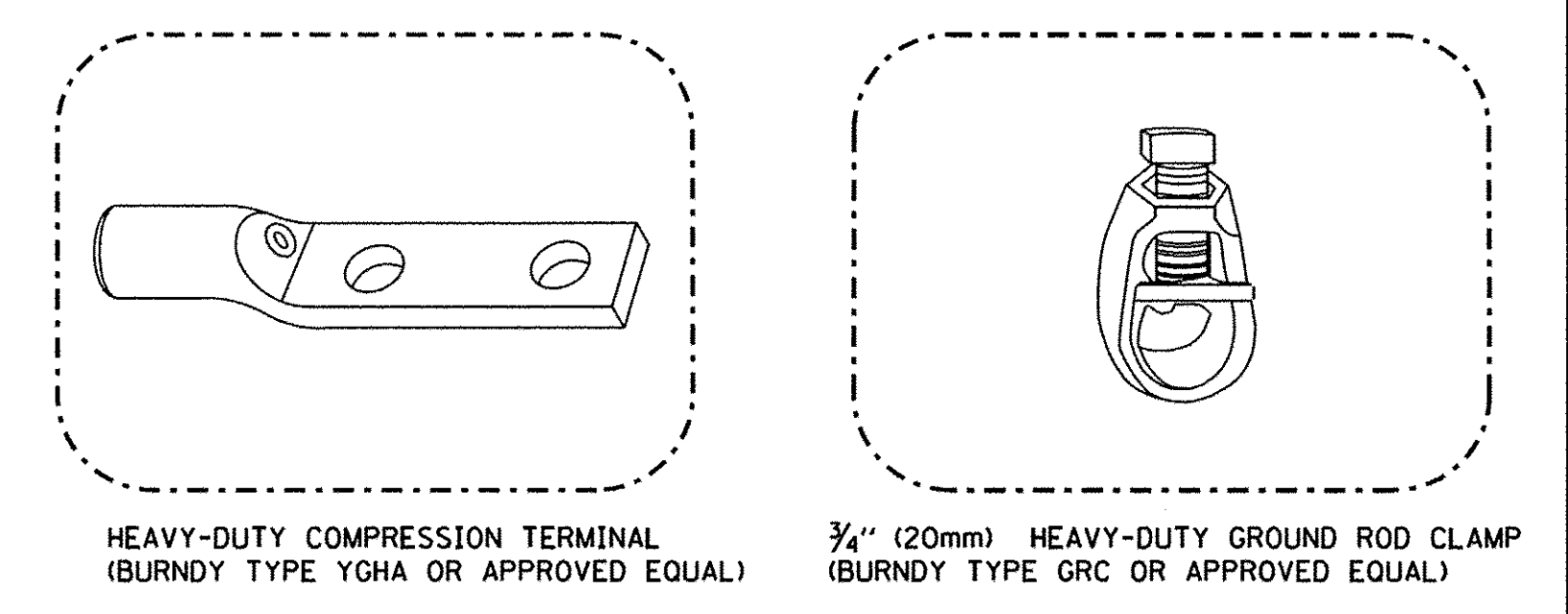
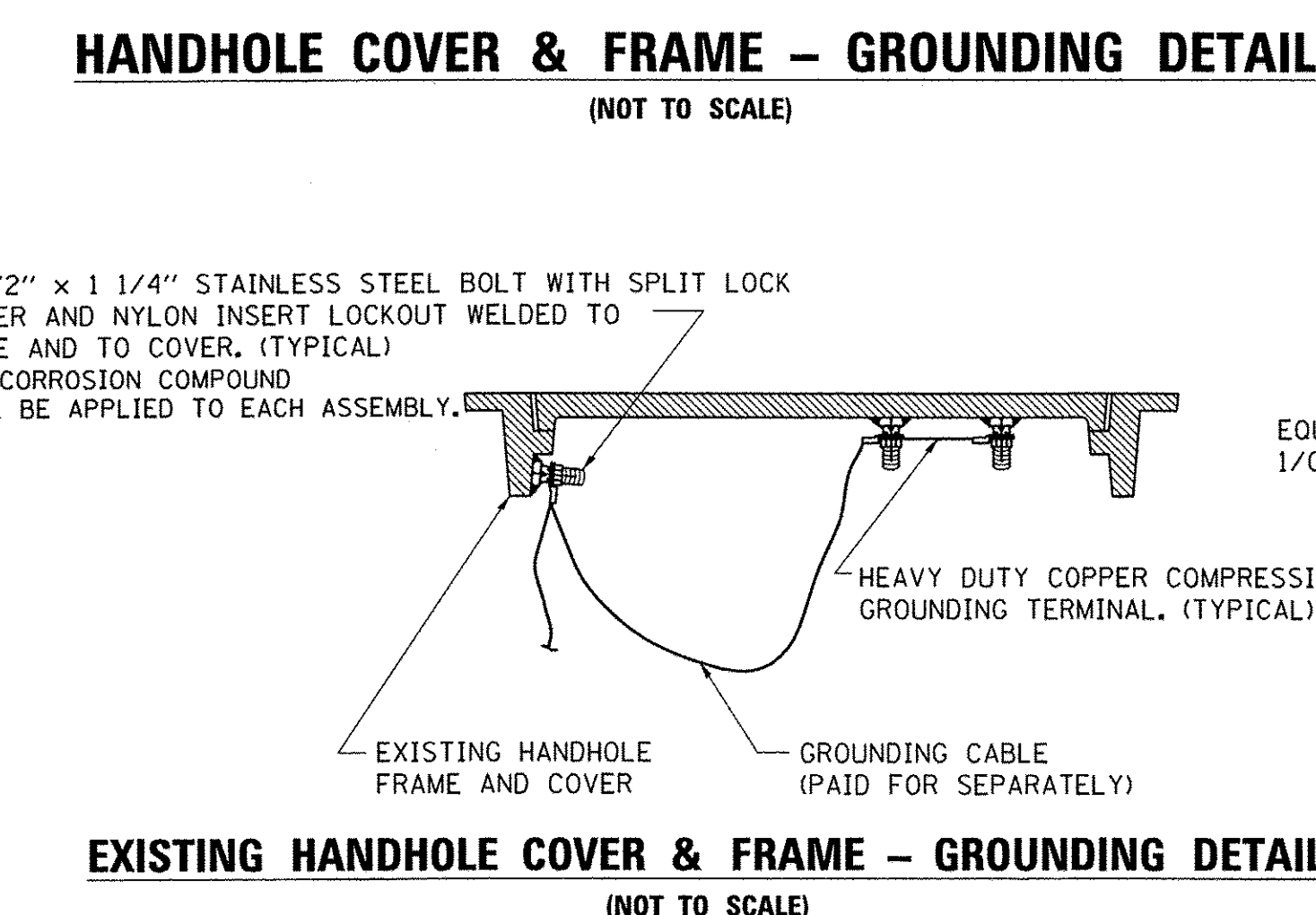
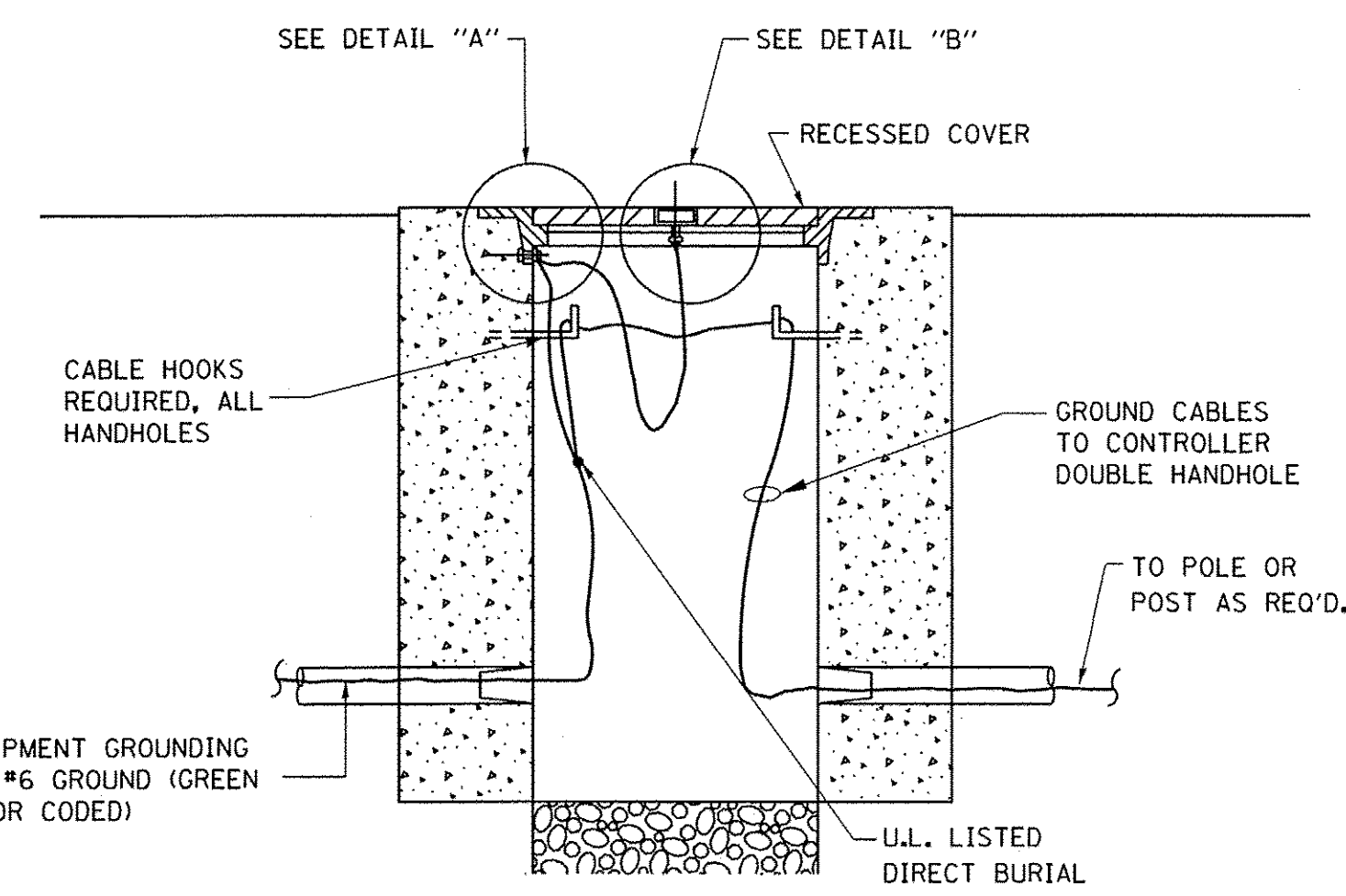
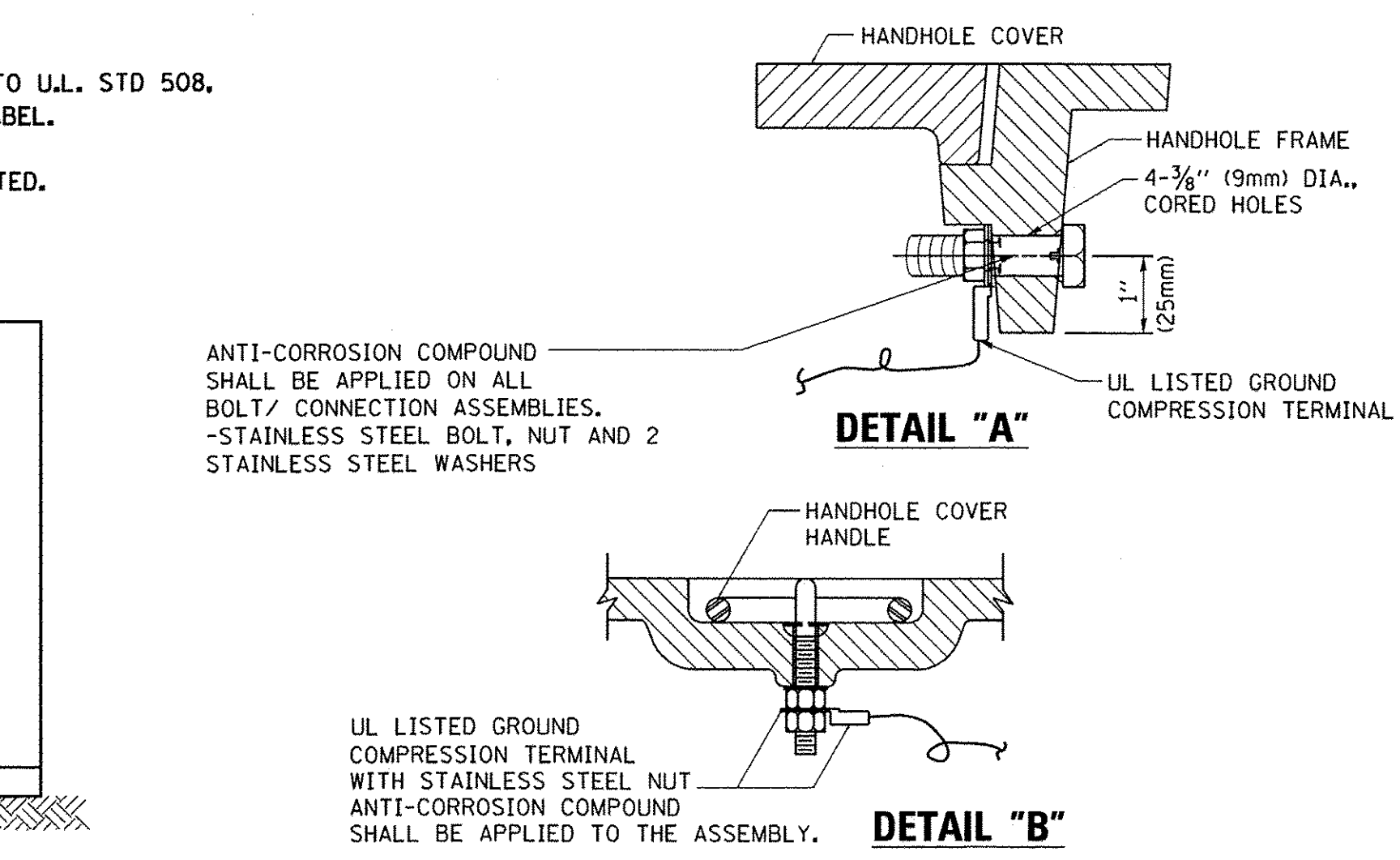
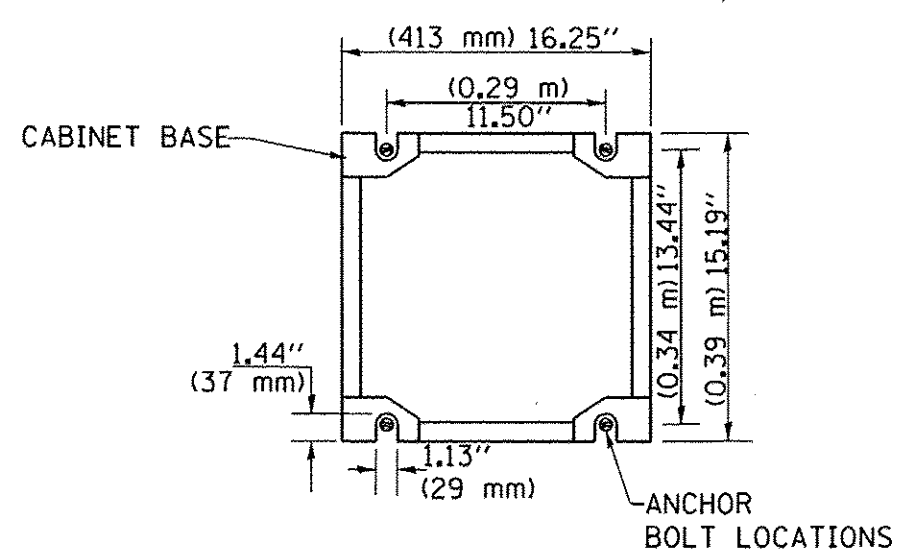
1. CONTACT THE "AREA TRAFFIC SIGNAL MAINTENANCE AND OPERATIONS ENGINEER" FOR ASSISTANCE IN LOCATING THE TRAFFIC SIGNAL EQUIPMENT WHEN THERE ARE CONFLICTS WITH DITCHES OR THE MINIMUM OFFSET DISTANCES CANNOT BE MET.
2. MINIMUM DISTANCE FROM THE BACK OF CURB TO THE ROADWAY SIDE OF THE FOUNDATION.
3. MINIMUM DISTANCE FROM THE EDGE OF PAVEMENT TO THE ROADWAY SIDE OF THE FOUNDATION.
4. ANY CHANGES TO THE OFFSETS OF THE FOUNDATIONS, FROM THE MINIMUM DISTANCES LISTED IN THE "TRAFFIC SIGNAL EQUIPMENT OFFSET" CHART AND THE TRAFFIC SIGNAL INSTALLATION PLAN, COULD EFFECT THE PLACEMENT OF THE SIGNAL HEADS, PEDESTRIAN SIGNAL HEADS AND THE PEDESTRIAN PUSHBUTTONS. THE SIGNAL HEAD PLACEMENT ON THE MAST ARMS SHALL REMAIN AS PER THE TRAFFIC SIGNAL INSTALLATION PLAN AND THE "TRAFFIC SIGNAL MAST ARM AND SIGNAL POST" DETAIL ABOVE. THE PROPOSED MAST ARM LENGTHS MAY NEED TO BE REVISED TO MEET THE ABOVE REQUIREMENTS. THE PEDESTRIAN SIGNAL HEADS AND PEDESTRIAN PUSHBUTTONS MUST MEET THE REQUIREMENTS UNDER THE DETAILS ON THIS SHEET.



**ELECTRICAL SERVICE - PANEL DIAGRAM (TYPICAL FOR POLE AND GROUND MOUNTED SERVICE)**  
**SERVICE INSTALLATION POLE MOUNT (SHOWN)**  
 (NOT TO SCALE)



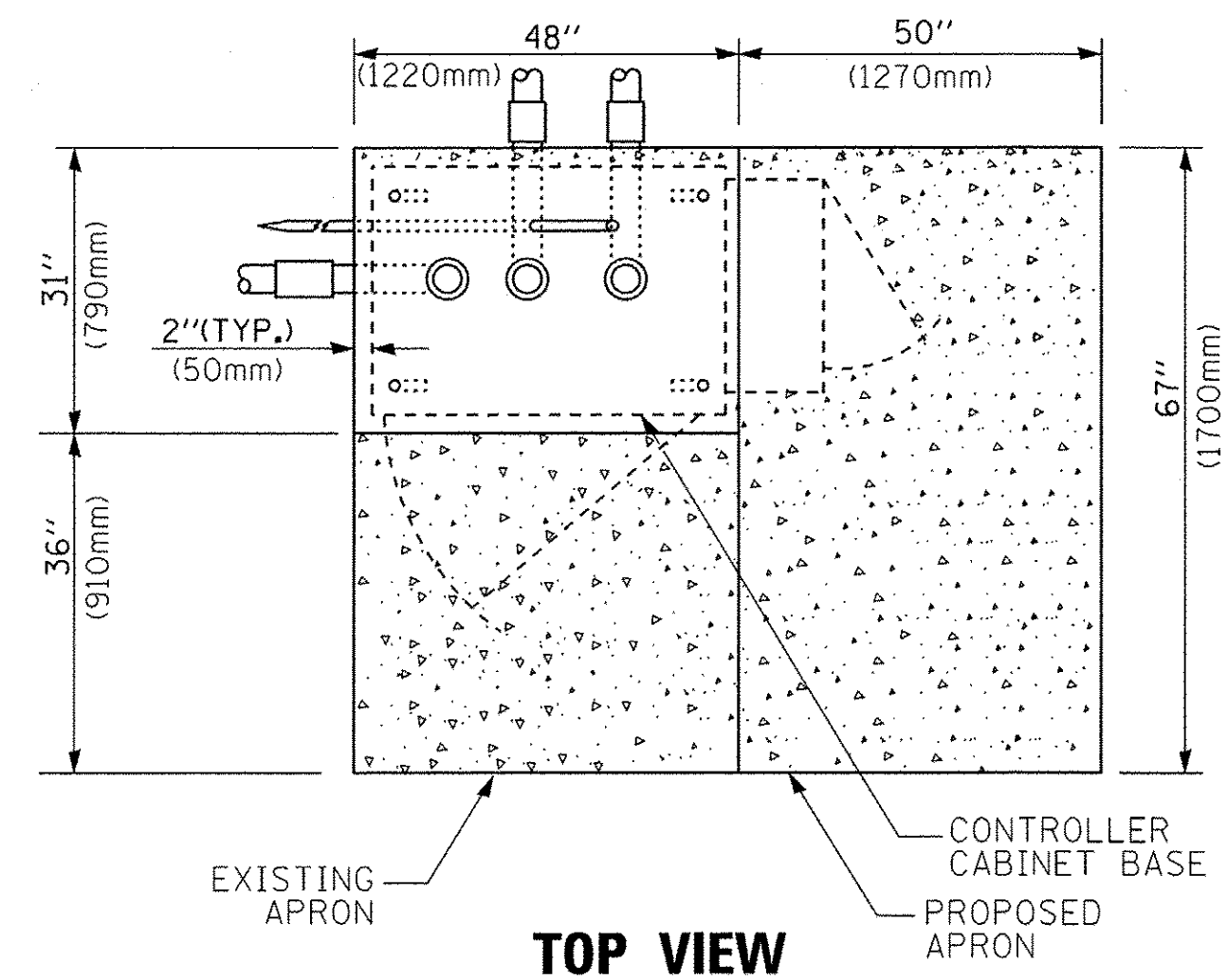
**CABINET - BASE BOLT PATTERN**  
 (NOT TO SCALE)



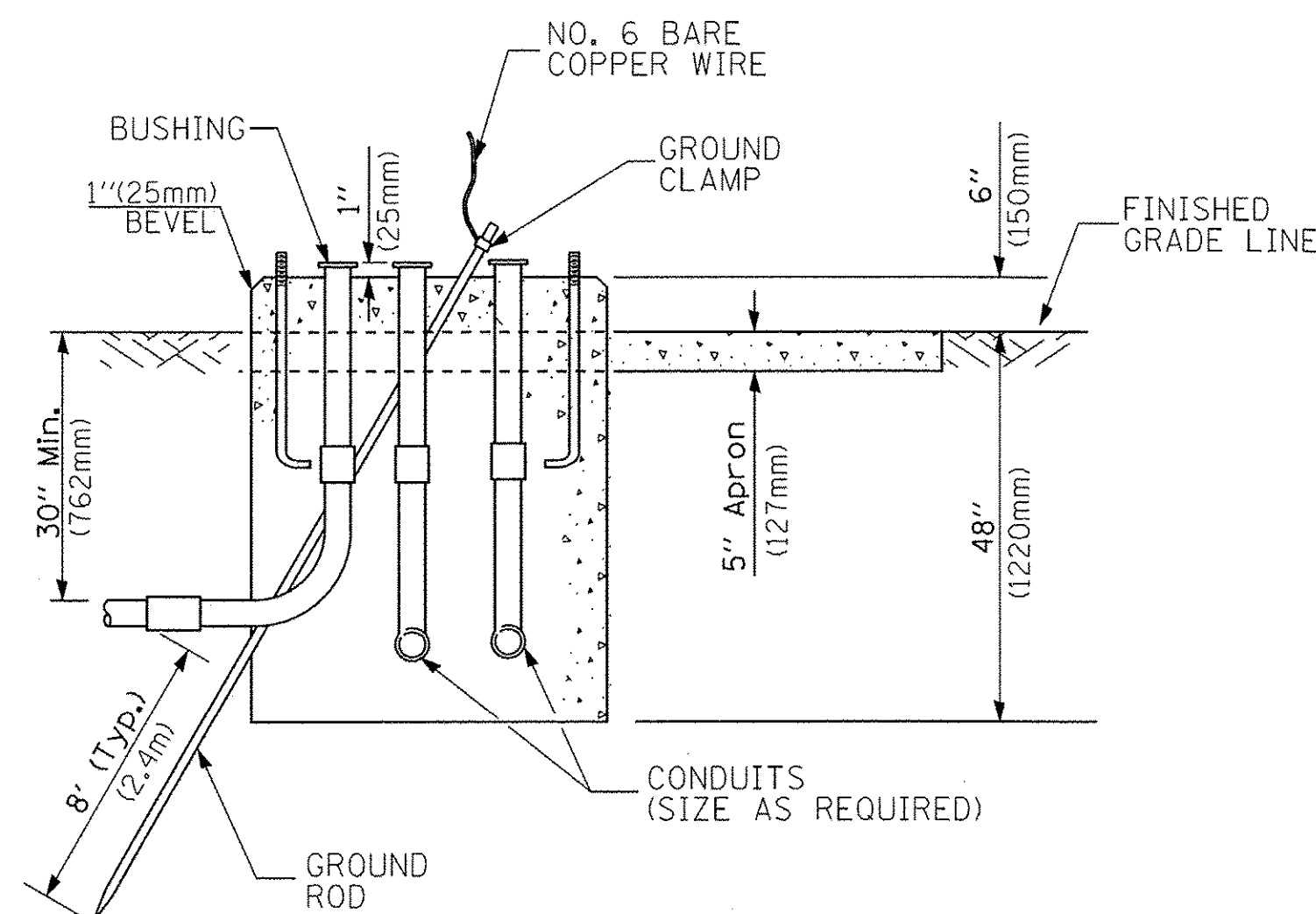
**NOTES:**  
**GROUNDING SYSTEM**

1. THE GROUNDING SYSTEM SHALL CONSIST OF AN INSULATED CONDUCTOR TYPE XLP, NO. 6 A.W.G., STRANDED COPPER TO BE INSTALLED IN RACEWAYS. THE GROUNDING CABLE SHALL BE INSTALLED IN A CONTINUOUS MANNER AS SHOWN ON THE CABLE PLAN PROVIDED. ALL GROUNDING CONDUCTORS SHALL BE BONDED TO METAL ENCLOSURE (HANDHOLE, POST, MAST ARM, CONTROLLER, ETC.). GROUND ROD SHALL BE 3/4" DIA. x 10'-0" (20mm x 3.0m) LONG, COPPER CLAD. ONE GROUND ROD SHALL BE INSTALLED AT ALL POST FOUNDATIONS, POLE FOUNDATIONS, CONTROLLER CABINET FOUNDATION AND ELECTRICAL SERVICE INSTALLATION AS INDICATED ON THE CABLE PLAN. IF THERE ARE ANY SPECIAL CONDITIONS SUCH AS SUB-SURFACE CONDITIONS OR INSTALLATION PROBLEMS, THE RESIDENT ENGINEER SHALL BE NOTIFIED OR CONTACT THE BUREAU OF TRAFFIC, ILLINOIS DEPARTMENT OF TRANSPORTATION DISTRICT ONE AT (847) 705-4139.
2. THE NEUTRAL CONDUCTOR AND THE GROUND CONDUCTOR SHALL BE CONNECTED IN THE SERVICE INSTALLATION. AT NO OTHER POINT IN THE TRAFFIC SIGNAL SYSTEM SHALL THE NEUTRAL AND GROUND CONDUCTORS BE CONNECTED.
3. ALL EQUIPMENT GROUNDING CONDUCTORS SHALL TERMINATE AT THE GROUND BUS IN THE CONTROLLER CABINET.
4. THE CONTRACTOR SHALL PROVIDE A GROUND CABLE WITH CONNECTORS BETWEEN THE HANDHOLE COVER AND HANDHOLE FRAME.

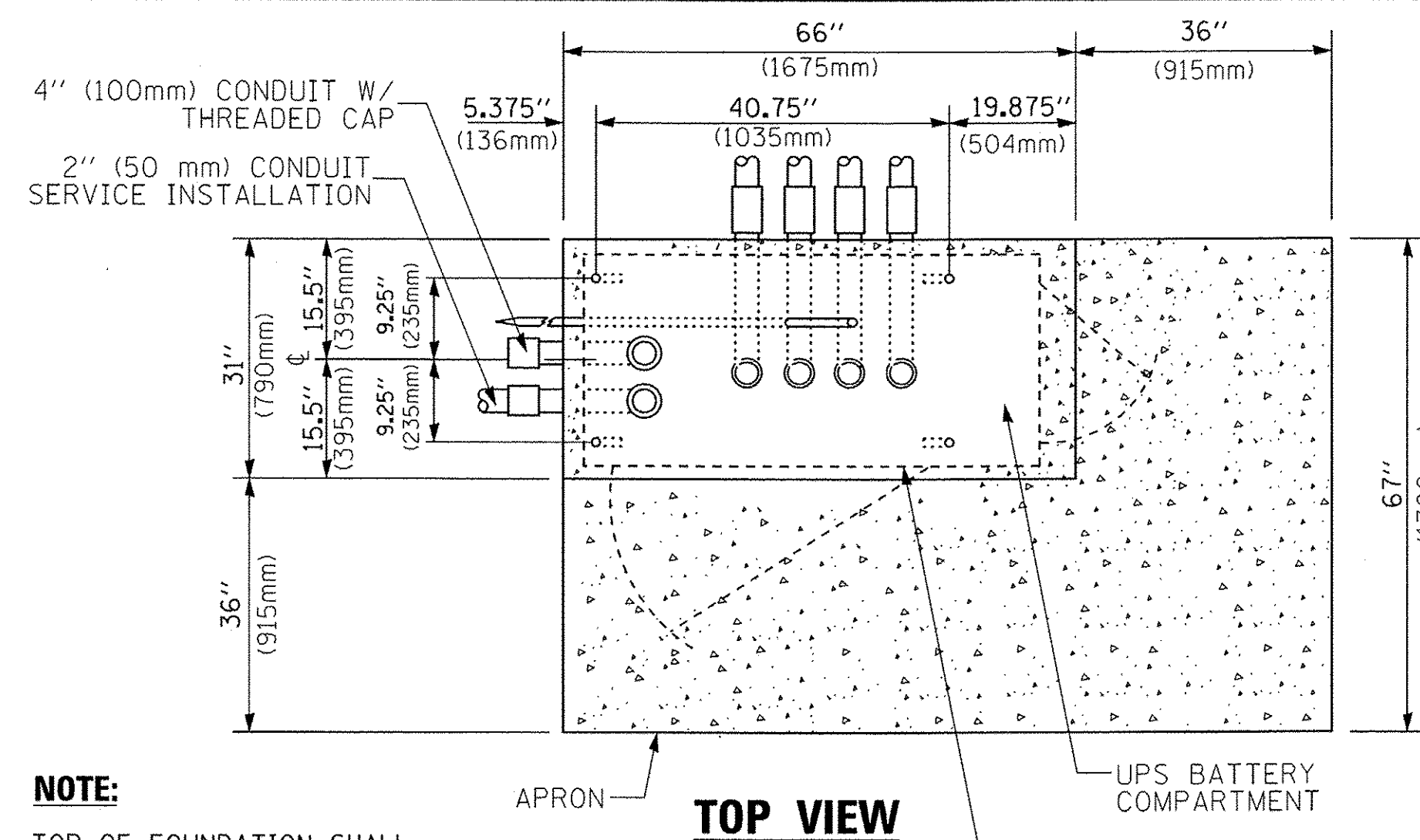
- NOTES:**
- ALL CLAMPS SHALL BE BRONZE OR COPPER, UL APPROVED.
  - GROUND CABLE SHALL BE LOOPED OVER HOOKS IN THE HANDHOLES 6.5' (2.0m) SLACK SHALL BE PROVIDED IN SINGLE HANDHOLES 13' (4.0m) OF SLACK SHALL BE PROVIDED IN DOUBLE HANDHOLES. 5' (1.4m) OF SLACK SHALL BE PROVIDED BETWEEN FRAME AND COVER.



**TOP VIEW**

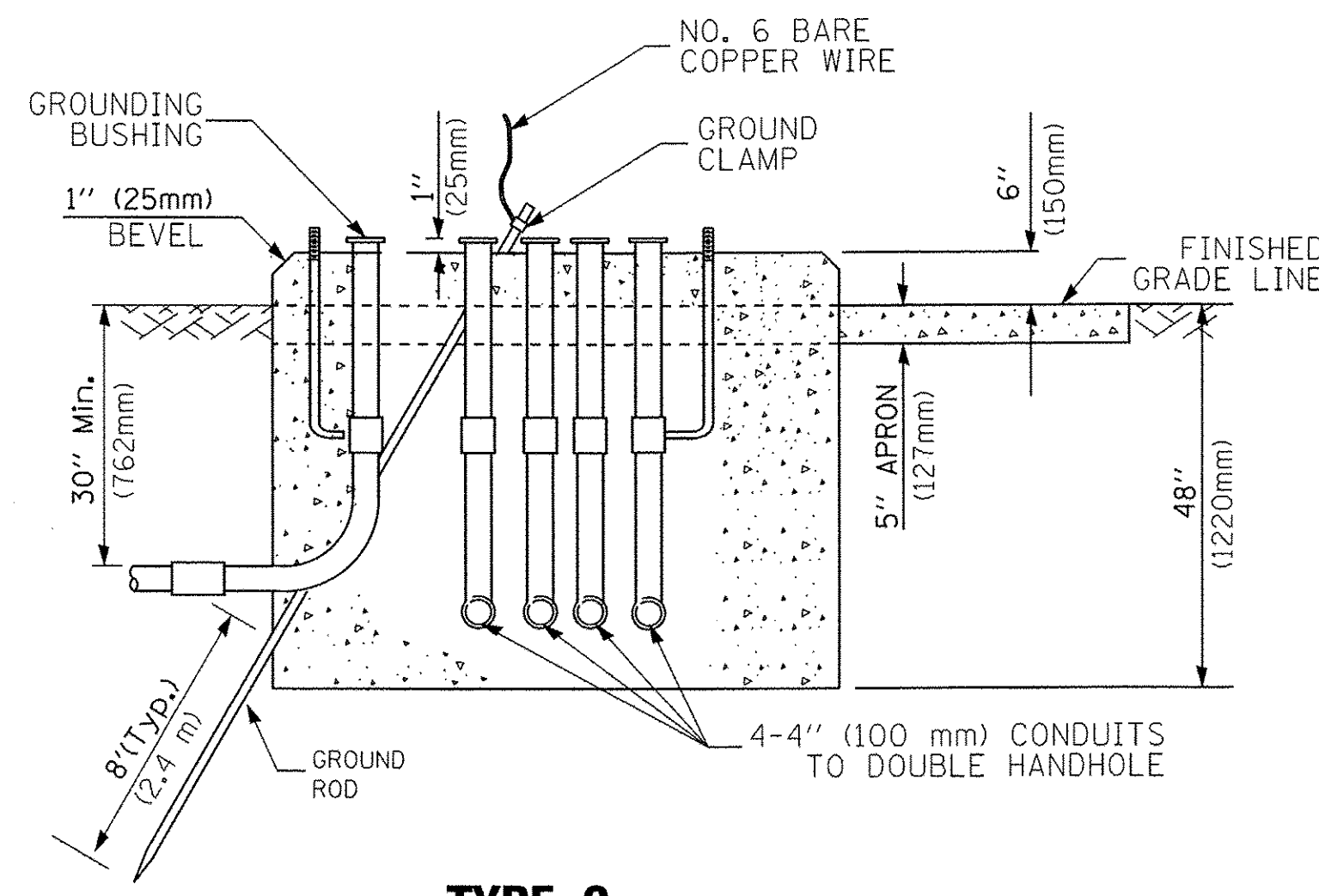


**TYPE D  
FOR GROUND MOUNTED  
CONTROLLER CABINET  
AND UPS BATTERY CABINET**

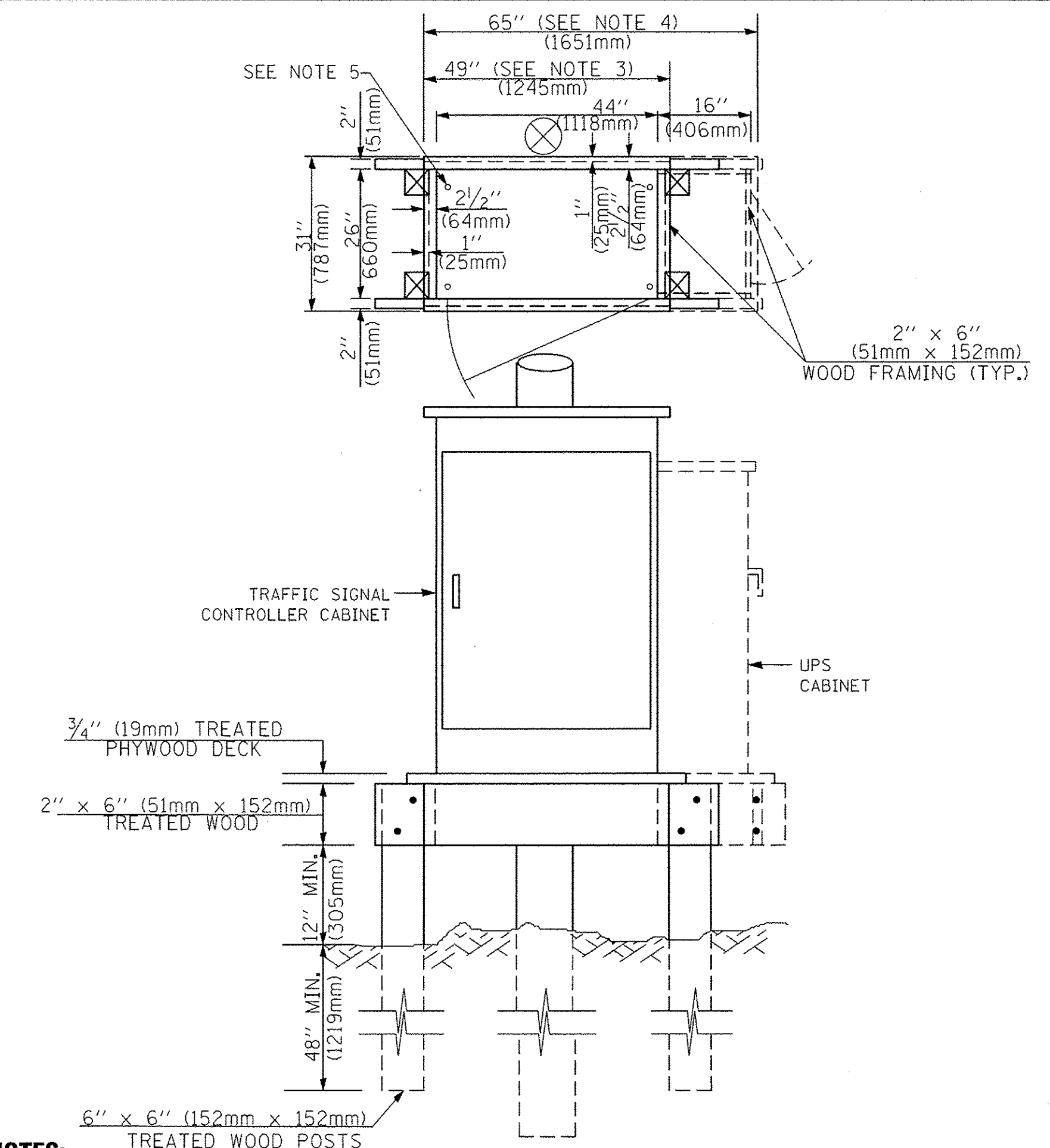


**TOP VIEW**

**NOTE:**  
TOP OF FOUNDATION SHALL BE HIGHER THAN TOP OF DOUBLE HANDHOLE



**TYPE C  
FOR GROUND MOUNTED  
SUPER P (TYPE IV) AND SUPER R (TYPE V)  
CONTROLLER CABINETS**



**NOTES:**

1. BASED ON CONTROLLER CABINET TYPE IV WITH BASE DIMENSIONS OF 26" x 44" (660mm x 1118mm). ADJUST PLATFORM SIZE TO FIT CABINET BASE DIMENSIONS BEING SUPPLIED.
2. BASED ON UNINTERRUPTIBLE POWER SUPPLY CABINET WITH BASE DIMENSIONS OF 16" x 25" (406mm x 635mm). ADJUST PLATFORM SIZE TO FIT CABINET BASE DIMENSIONS BEING SUPPLIED.
3. PLATFORM SIZE FOR CONTROLLER CABINET TYPE IV.
4. PLATFORM SIZE FOR CONTROLLER CABINET TYPE IV AND UNINTERRUPTIBLE POWER SUPPLY CABINET.
5. DRILLED HOLES THROUGH THE PLATFORM BASE TO MATCH THE CONTROLLER CABINET BOLT TEMPLATE. FASTEN THE CONTROLLER CABINET TO THE PLATFORM WITH CARRIAGE BOLTS, WASHERS AND NUTS.
6. FASTEN ALL SUPPORT WOOD FRAMING TO THE WOOD POSTS WITH 2 LAG SCREWS FOR EACH CONNECTION.

**TEMPORARY SIGNAL CONTROLLER  
WOOD SUPPORT PLATFORM**

CABLE SLACK LENGTH	FEET	METER
HANDHOLE	6.5	2.0
DOUBLE HANDHOLE	13.0	4.0
SIGNAL POST	2.0	0.6
MAST ARM	2.0	0.6
CONTROLLER CABINET	1.5	0.5
FIBER OPTIC AT CABINET	13.0	4.0
ELECTRIC SERVICE AT (CABINET OR SERVICE LOCATION)	1.5	0.5
GROUND CABLE (SIGNAL POST, MAST ARM, CABINET)	1.5	0.5
GROUND CABLE (BETWEEN FRAME AND COVER)	5.0	1.6

**CABLE SLACK**

VERTICAL CABLE LENGTH	FEET	METER
MAST ARM POLE (MAST ARM MOUNTED SIGNAL HEAD) (L = MAST ARM LENGTH - DISTANCE TO SIGNAL HEAD FROM END OF ARM)	20.0+L	6.0+L
BRACKET MOUNTED (MAST ARM POLE OR SIGNAL POLE)	13.0	4.0
PEDESTRIAN PUSH BUTTON	6.0	2.0
SERVICE INSTALLATION POLE MOUNT TO SERVICE DROP	13.5	4.1
SERVICE INSTALLATION POLE MOUNT TO GROUND	13.5	4.1
SERVICE INSTALLATION GROUND MOUNT	6.0	2.0
FOUNDATION (SIGNAL POST, MAST ARM POLE, CONTROLLER CABINET, SERVICE-GROUND MOUNT)	3.0	1.0

**VERTICAL CABLE LENGTH**

FOUNDATION	DEPTH
TYPE A - Signal Post	4'-0" (1.2m)
TYPE C - CONTROLLER W/ UPS	4'-0" (1.2m)
TYPE D - CONTROLLER	4'-0" (1.2m)
SERVICE INSTALLATION, GROUND MOUNT, TYPE A - SQUARE	4'-0" (1.2m)

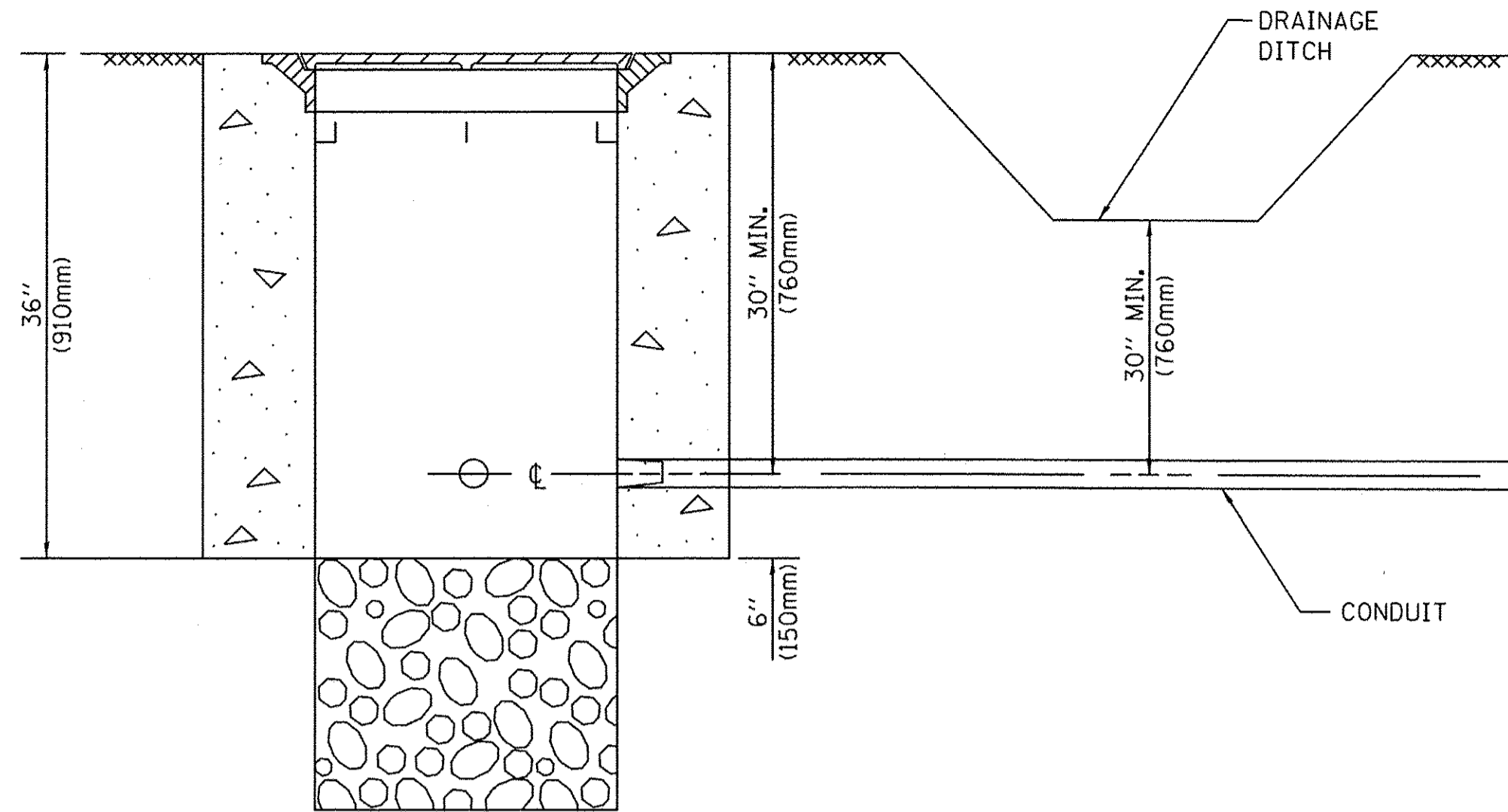
**DEPTH OF FOUNDATION**

Mast Arm Length	① Foundation Depth	Foundation Diameter	Spiral Diameter	Quantity of Rebars	Size of Rebars
Less than 30' (9.1 m)	10'-0" (3.0 m)	30" (750mm)	24" (600mm)	8	6(19)
Greater than or equal to 30' (9.1 m) and less than 40' (12.2 m)	13'-6" (4.1 m)	30" (750mm)	24" (600mm)	8	6(19)
Greater than or equal to 40' (12.2 m) and less than 50' (15.2 m)	11'-0" (3.4 m)	36" (900mm)	30" (750mm)	12	7(22)
Greater than or equal to 50' (15.2 m) and up to 55' (16.8 m)	13'-0" (4.0 m)	36" (900mm)	30" (750mm)	12	7(22)
Greater than or equal to 55' (16.8 m) and up to 65' (19.8 m)	15'-0" (4.6 m)	36" (900mm)	30" (750mm)	12	7(22)
Greater than or equal to 65' (19.8 m) and less than 75' (22.9 m)	21'-0" (6.4 m)	42" (1060mm)	36" (900mm)	16	8(25)
Greater than or equal to 75' (22.9 m)	25'-0" (7.6 m)	42" (1060mm)	36" (900mm)	16	8(25)

**NOTES:**

1. These foundation depths are for sites which have cohesive soils (clayey silt, sandy clay, etc.) along the length of the shaft, with an average Unconfined Compressive Strength (qu) > 1.0 tsf (100 kpa). This strength shall be verified by boring data prior to construction or with testing by the Engineer during foundation drilling. The Bureau of Bridges & Structures should be contacted for a revised design if other conditions are encountered.
2. Combination mast arm assemblies under 55 feet (16.8 m) shall use 36" (900 mm) diameter foundations.
3. Combination mast arm assemblies under 56 feet (16.8 m) through 75 feet (22.9 m) shall use 42" (1060 mm) diameter foundations.
4. For mast arm assemblies with dual arms refer to state standard 878001.

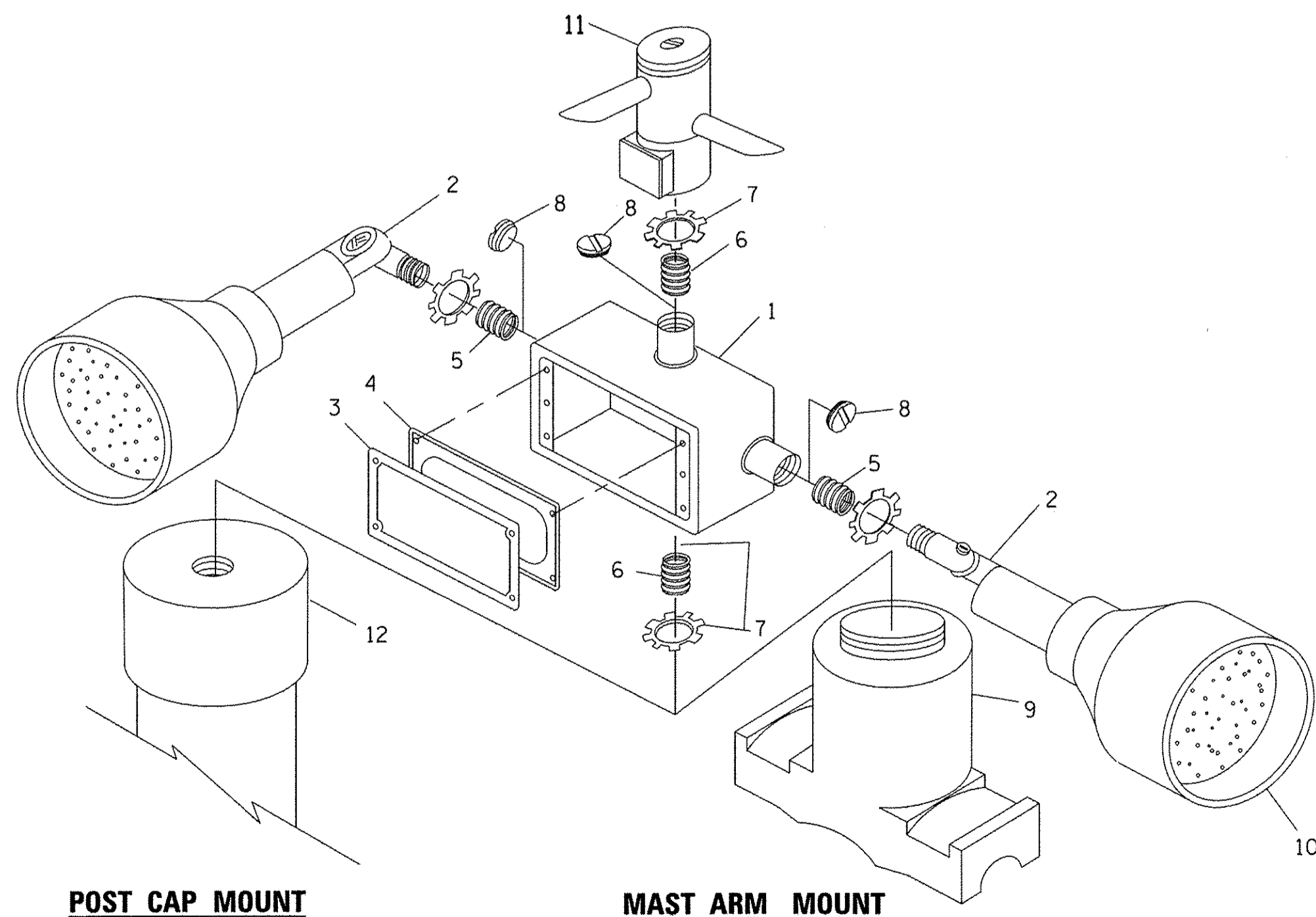
**DEPTH OF MAST ARM FOUNDATIONS, TYPE E**



**NOTES:**

1. CONDUIT DEPTH SHALL BE A MINIMUM OF 30" (760mm) BELOW THE BOTTOM OF THE DRAINAGE DITCH OR ANY SLOPING GROUND
2. THE MINIMUM CONDUIT DEPTH APPLIES TO ALL CONDUIT PLACED UNDER ROADWAY PAVEMENT, MULTI-USE PATHS, SIDEWALKS AND SOIL SURFACES.
3. THE MINIMUM CONDUIT DEPTH APPLIES TO ALL HANDHOLES, HEAVY DUTY HANDHOLES AND DOUBLE HANDHOLES.

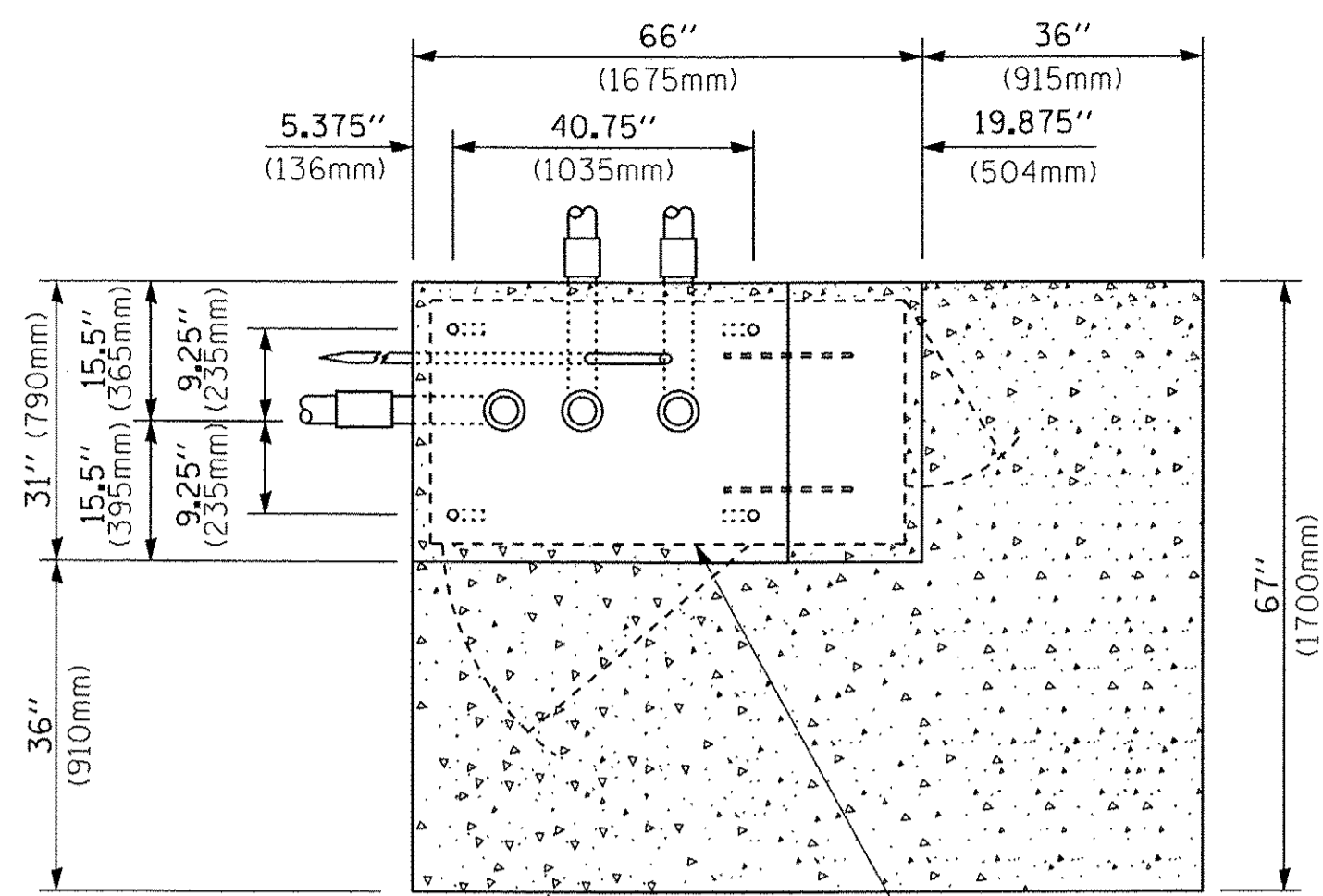
**HANDHOLE WITH MINIMUM CONDUIT DEPTH**  
(NOT TO SCALE)



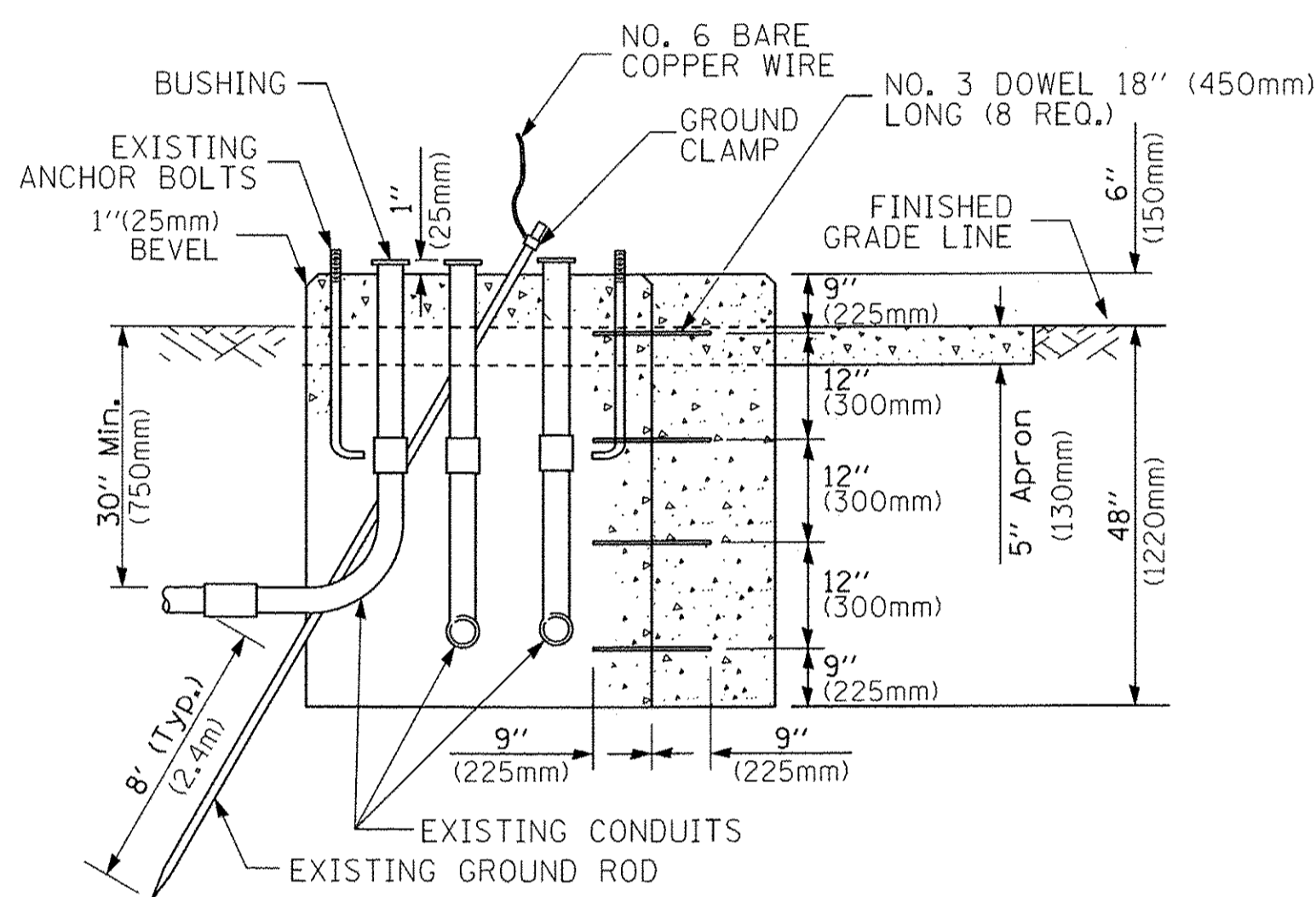
**POST CAP MOUNT**

**MAST ARM MOUNT**

**EMERGENCY VEHICLE DETECTOR WITH CONFIRMATION BEACON MOUNTING DETAIL**



**TOP VIEW**  
(NOT TO SCALE)

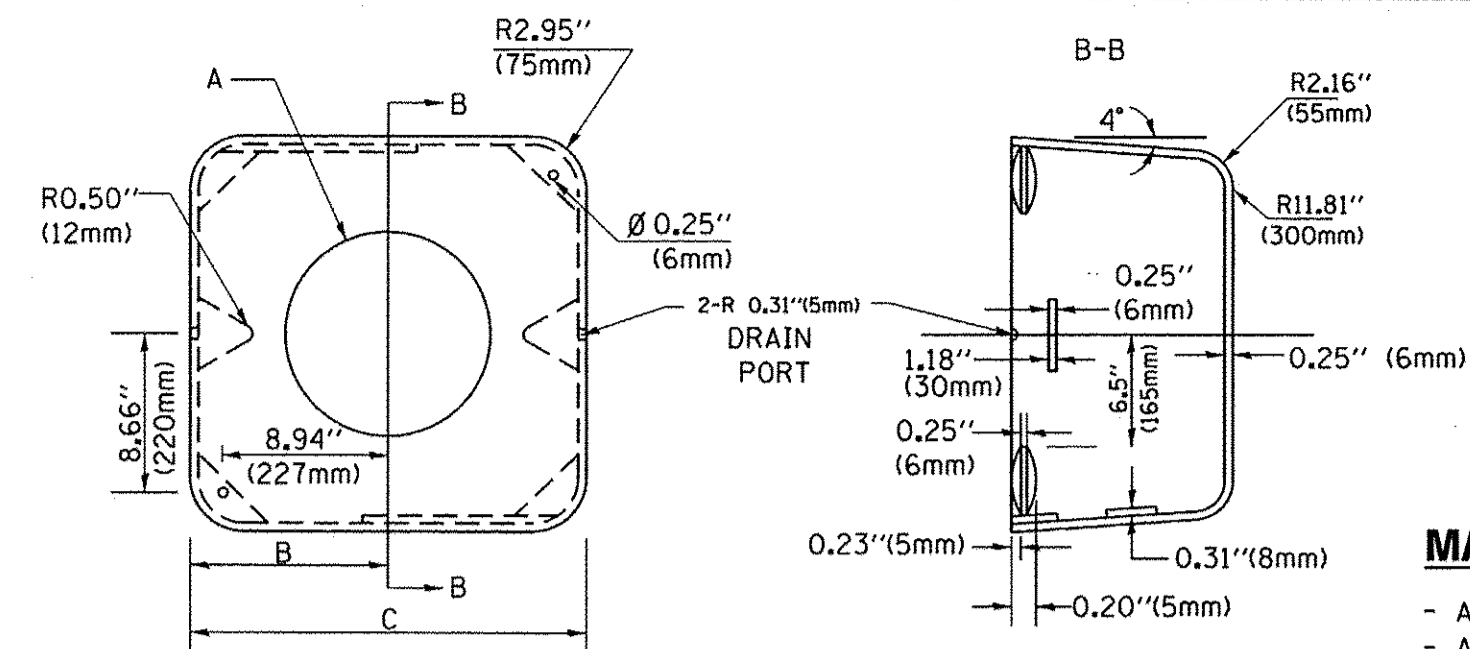


**MODIFY EXISTING TYPE "D" FOUNDATION TO TYPE "C" FOUNDATION**  
(NOT TO SCALE)

ITEM NO.	IDENTIFICATION
1	OUTLET BOX- GALV. 21 CU.IN. (0.000344 CU-M)
2	LAMP HOLDER AND COVER
3	OUTLET BOX COVER
4	RUBBER COVER GASKET
5	REDUCING BUSHING
6	3/4" (19 mm) CLOSE NIPPLE
7	3/4" (19 mm) LOCKNUT
8	3/4" (19 mm) HOLE PLUG
9	SADDLE BRACKET - GALV.
10	6 WATT PAR 38 LED FLOOD LAMP
11	DETECTOR UNIT
12	POST CAP [18 FT. (5.4 m) POST MIN.]

**NOTES:**

1. ALL ELECTRICAL ITEMS, EXCEPT ITEMS #2 AND #11 SHALL BE ALUMINUM OR GALVANIZED
2. ITEM #1- OZ/GEDNEY FSX-1-50 OR EQUIVALENT  
ITEM #2- MULBERRY CON-O-SHADE LAMP SHIELD OR EQUIVALENT  
ITEM #9- "BAND-IT" SADDLE BRACKET OR EQUIVALENT
3. WHEN POST MOUNTING IS SPECIFIED, ITEM #9 SHALL NOT BE REQUIRED. THE DETECTION UNIT SHALL BE MOUNTED DIRECTLY ON TOP OF THE CAP BY DRILLING AND TAPPING A 3/4" (19 mm) HOLE WITH PIPE THREADS. THE POST CAP SHALL EITHER BE SCREWED TO THE TOP OF THE POST OR A MINIMUM OF 3 TIGHTENING SCREWS SHALL BE REQUIRED ON EACH CAP.



**MATERIAL:**

- ASTM A36 STEEL
- ASTM A-123 HOT DIPPED GALVANIZED

A	B	C	HEIGHT	WEIGHT
VARIES	9.5"(241mm)	19"(483mm)	7" (178mm) - 12" (300mm)	53 lbs (24kg)
VARIES	10.75"(273mm)	21.5"(546mm)	7" (178mm) - 12" (300mm)	68 lbs (31 kg)
VARIES	13.0"(330mm)	26"(660mm)	7" (178mm) - 12" (300mm)	81 lbs (37 kg)
VARIES	18.5"(470mm)	37"(940mm)	7" (178mm) - 12" (300mm)	126 lbs (57 kg)

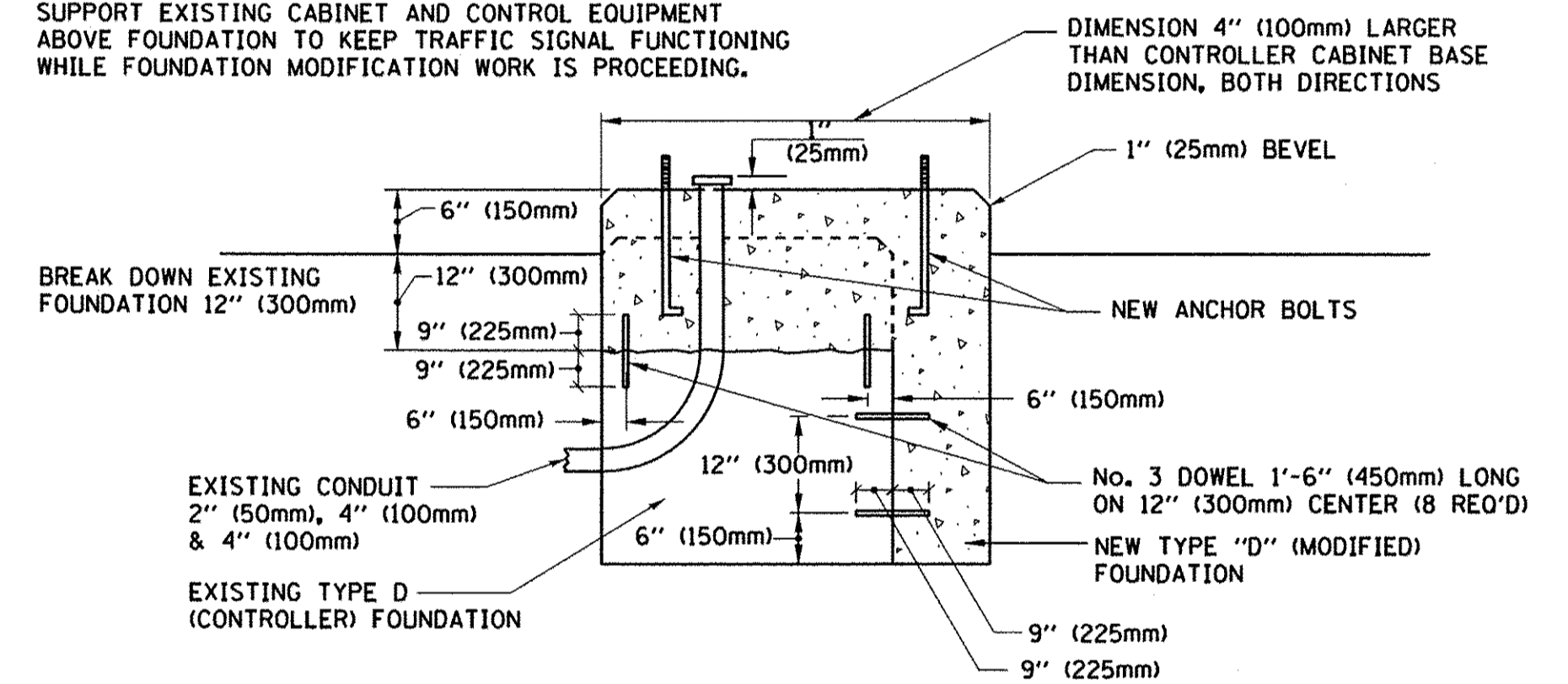
**SHROUD**

**NOTES:**

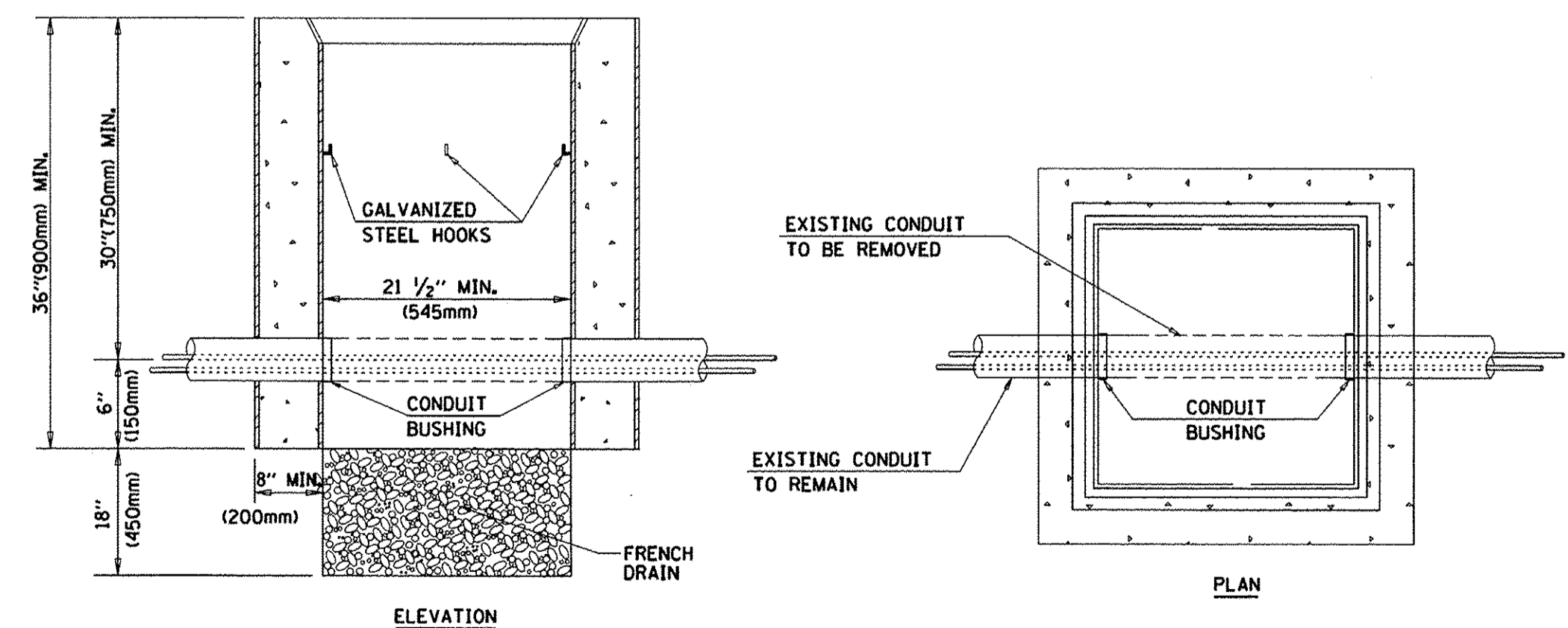
1. DIMENSION "A" IS EQUAL TO THE DIAMETER OF THE MAST ARM POLE AT THE TOP OF THE SHROUD. THE SHROUD SHALL BE TIGHT TO THE MAST ARM POLE.
2. THE SUPPLIER SHALL VERIFIED THE ABOVE DIMENSIONS BASED ON MAST ARM REQUIREMENTS.
3. THE HEIGHT OF THE SHROUD SHALL COVER THE ANCHOR BOLTS, NUTS AND MAST ARM POLE BASE.

**NOTE:**

SUPPORT EXISTING CABINET AND CONTROL EQUIPMENT ABOVE FOUNDATION TO KEEP TRAFFIC SIGNAL FUNCTIONING WHILE FOUNDATION MODIFICATION WORK IS PROCEEDING.



**MODIFY EXISTING TYPE "D" FOUNDATION**



**NOTES:**

1. HANDHOLE CONSTRUCTED PER STATE STANDARD 814001.
2. REMOVAL OF THE EXISTING CONDUIT FROM THE HANDHOLE AND THE INSTALLATION OF THE CONDUIT BUSHINGS SHALL BE INCLUDED WITH THE COST OF THE HANDHOLE.

**HANDHOLE TO INTERCEPT EXISTING CONDUIT**

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	PLOT DATE = 1/13/2014	DATE - 10-28-09	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

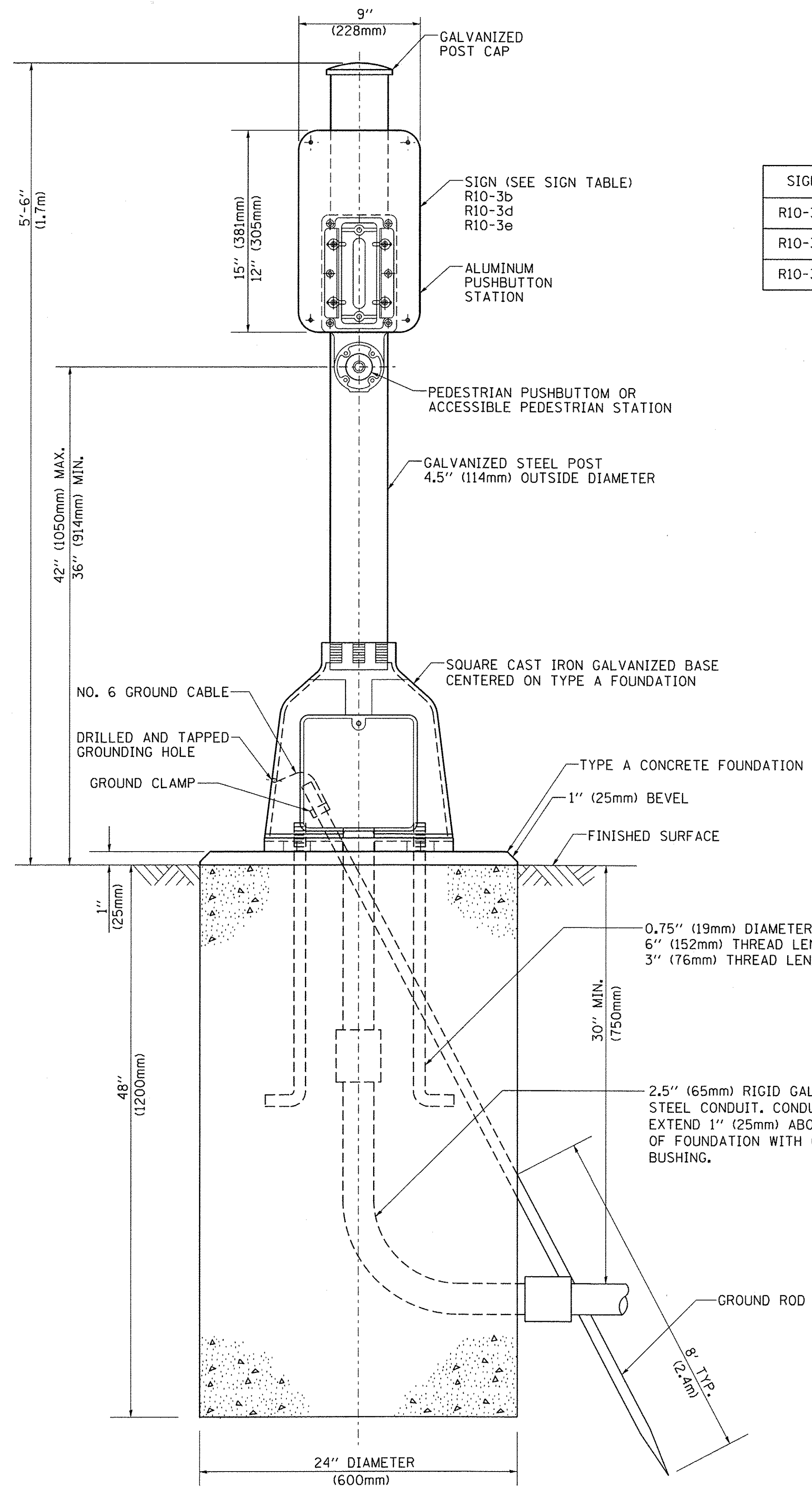
**DISTRICT ONE  
STANDARD TRAFFIC SIGNAL DESIGN DETAILS**

SCALE: NONE

SHEET NO. 6 OF 7 SHEETS STA. TO STA.

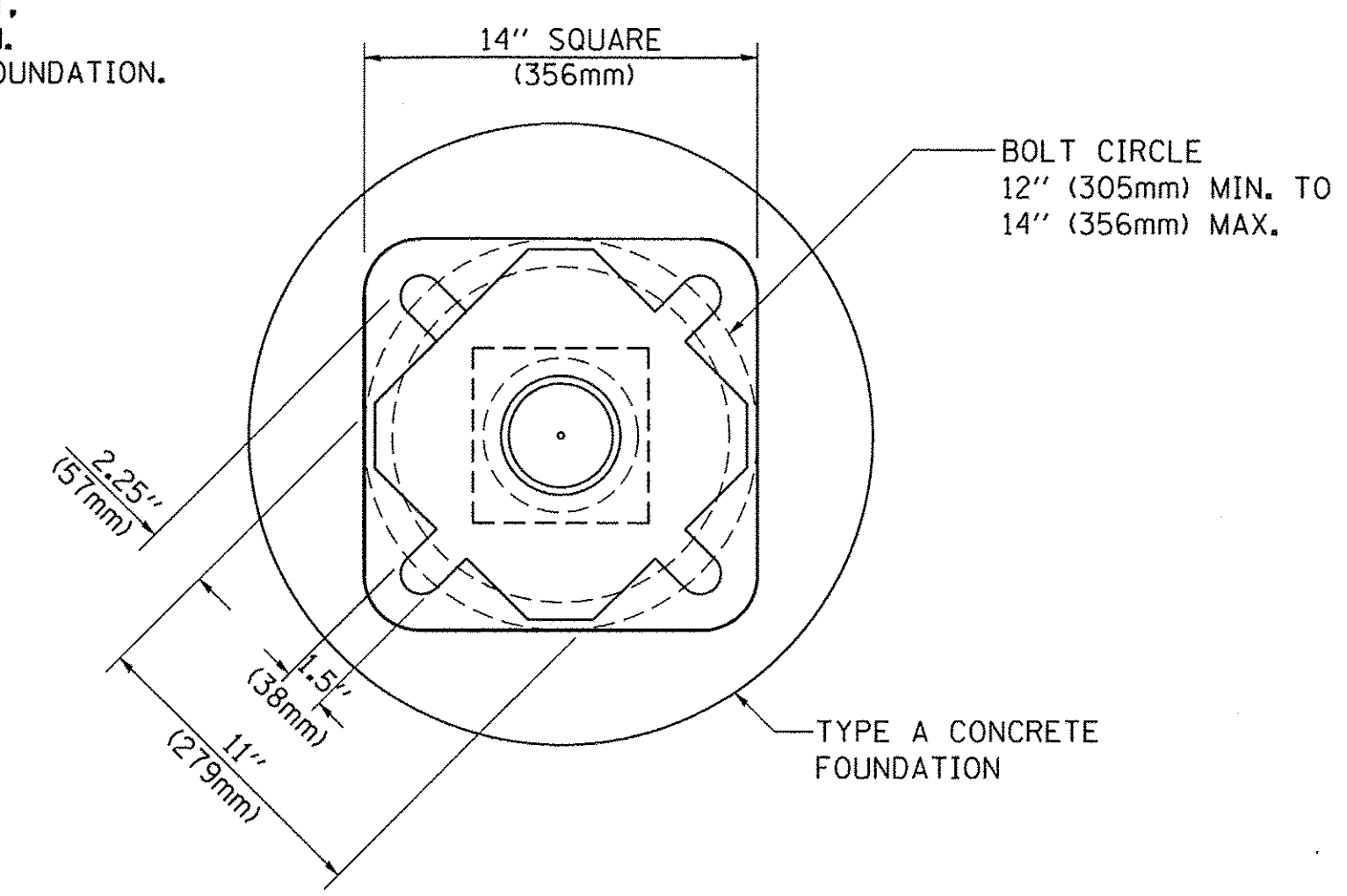
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3699	14-00098-00-BR	LAKE	102	40
TS-05		CONTRACT NO. 61D63		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT M-BRM-4003 (391)				





**SIGN TABLE**

SIGN	DIMENSIONS
R10-3b	9" (228mm) X 12" (305mm)
R10-3d	9" (228mm) X 12" (305mm)
R10-3e	9" (228mm) X 15" (381mm)



**BOLT PATTERN**  
**PEDESTRIAN PUSH BUTTON POST, TYPE A**

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c:\pw_work\pwidot\footemj\d0108315\ts05.dgn		DRAWN - GND	REVISED -
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**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

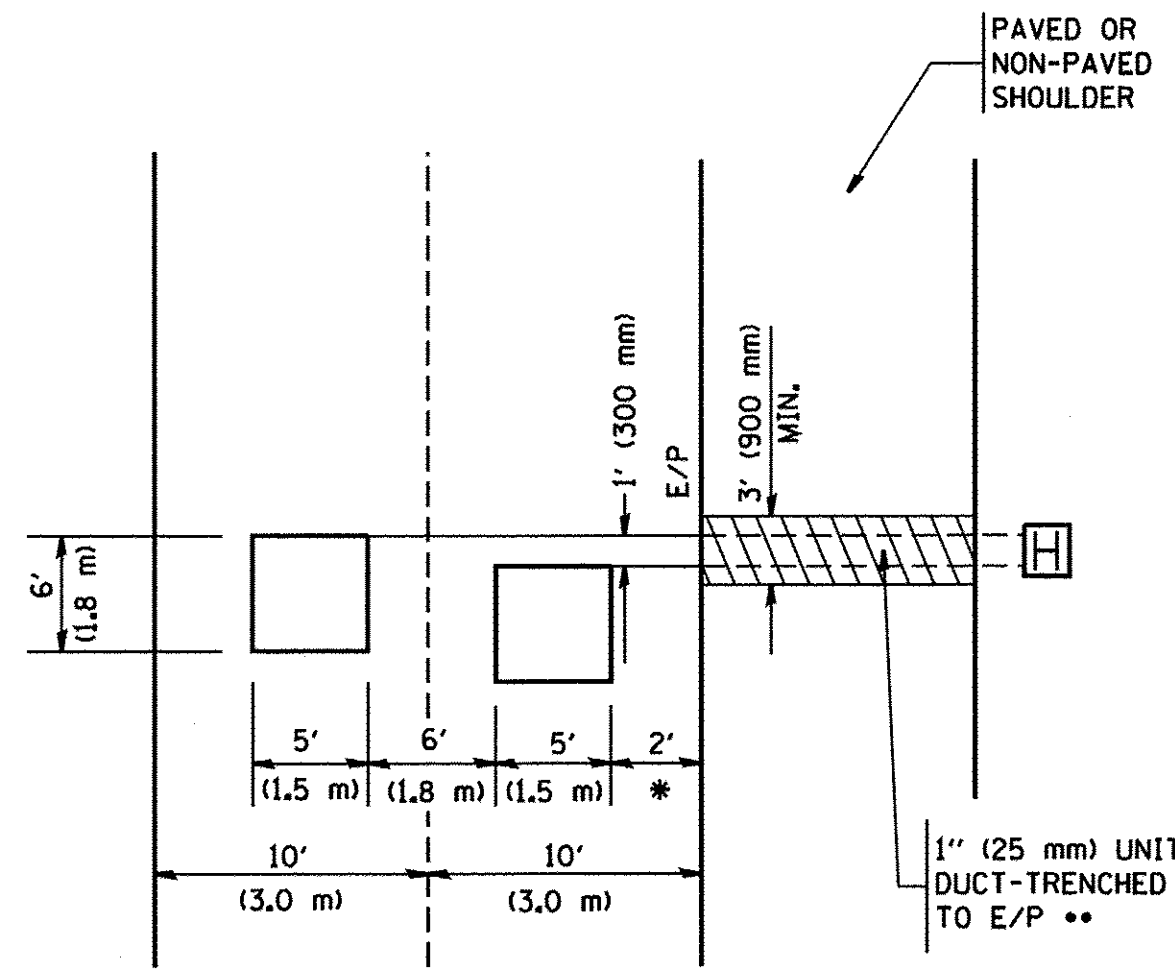
**DISTRICT ONE**  
**STANDARD TRAFFIC SIGNAL DESIGN DETAILS**

SCALE: NONE    SHEET NO. 7 OF 7 SHEETS    STA.    TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3699	14-00098-00-BR	LAKE	102	41
<b>TS-05</b>			<b>CONTRACT NO. 61D63</b>	
FED. ROAD DIST. NO. 1   ILLINOIS   FED. AID PROJECT    M-BRM-4003 (391)				

**LOOPS NEXT TO SHOULDERS**

PROVIDE A PAVEMENT REPLACEMENT  
NOTE WHICH SHOULD EQUAL  
3' (900 mm) X WIDTH OF  
PAVED SHOULDER.

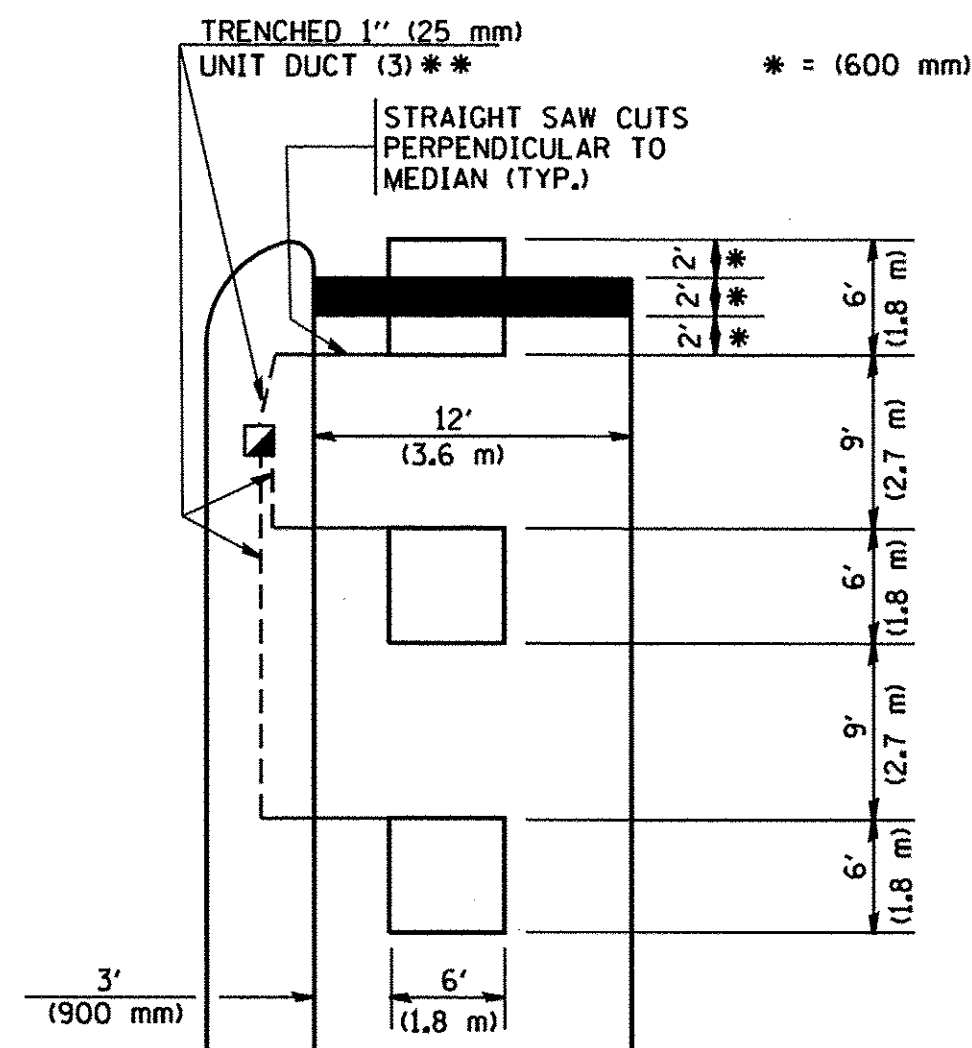


\* = (600 mm)

\*\* UNIT DUCT IS TO BE SHOWN ON PLAN SHEETS  
BUT SHALL NOT BE INCLUDED IN THE PAY ITEMS.

**LEFT TURN LANES WITH MEDIANS  
VOLUME DENSITY ("FAR OUT" DETECTION)  
ON SAME APPROACH  
(PROTECTED / PERMITTED LEFT TURN PHASING)**

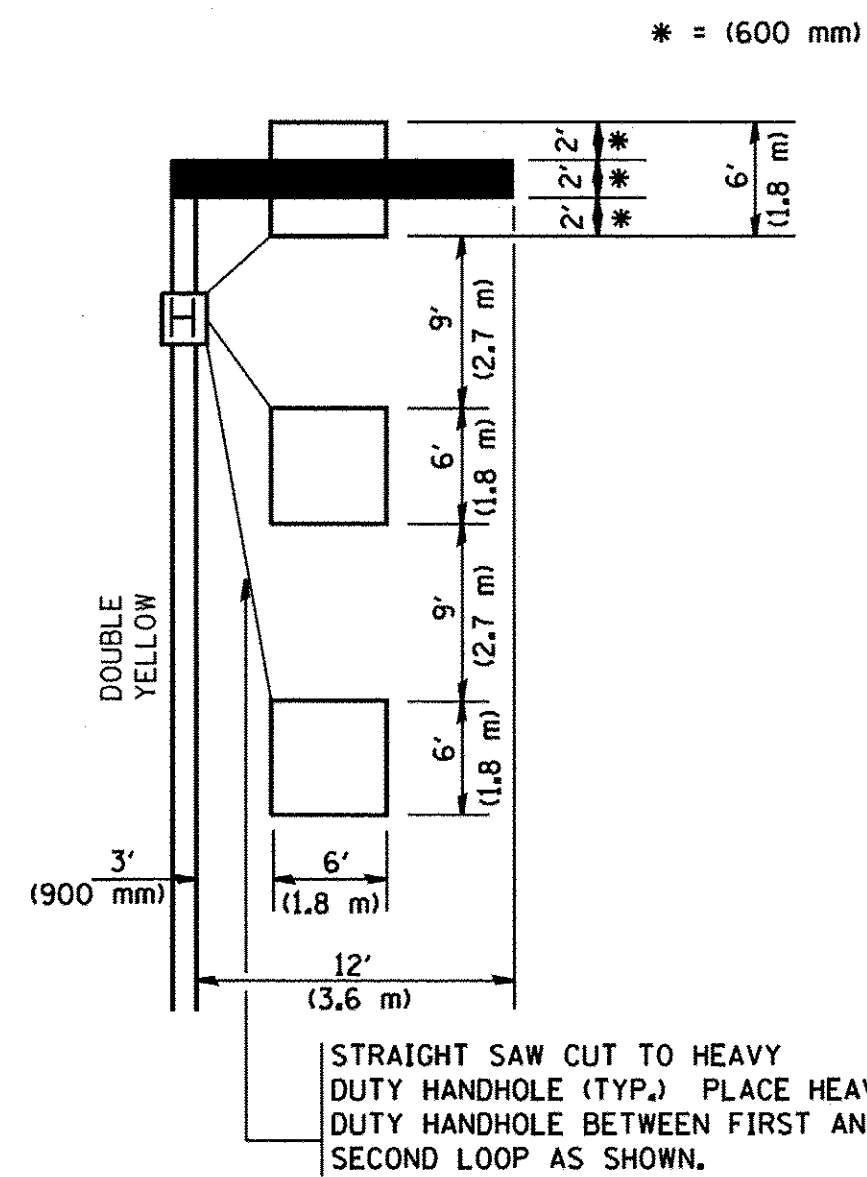
HANDHOLE LOCATION MAY  
VARY DEPENDING ON GEOMETRICS  
AND DESIGN OF TRAFFIC SIGNALS.  
HEAVY-DUTY HANDHOLES TO BE  
USED WHEN THE MEDIAN IS  
MOUNTABLE. REFER TO STANDARD  
814001 TO ENSURE THAT HANDHOLE  
FITS IN MEDIAN.



\*\* UNIT DUCT IS TO BE SHOWN ON PLAN SHEETS  
BUT SHALL NOT BE INCLUDED IN THE PAY ITEMS.

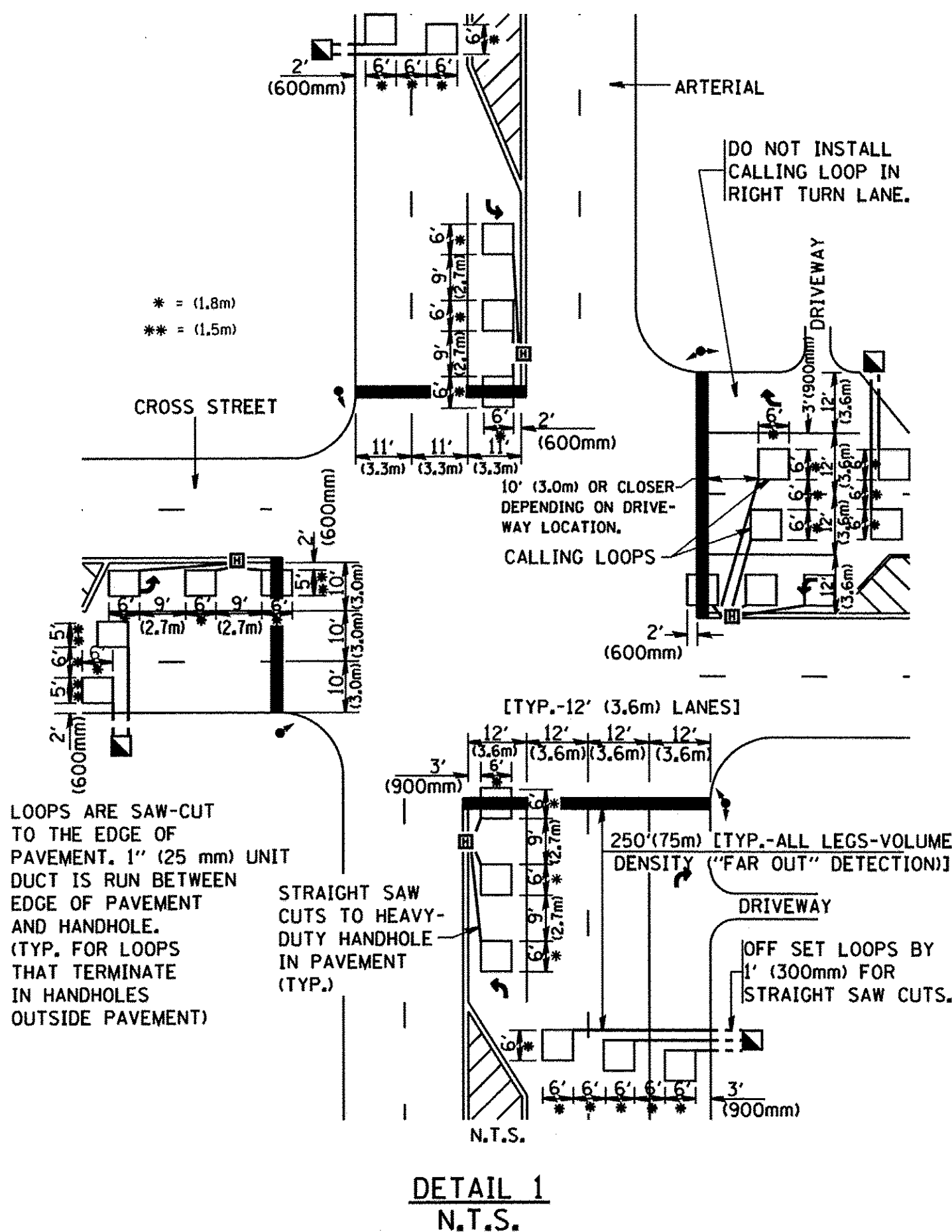
NOTE: DUAL LEFT TURNS NOT SHOWN REFER TO  
PLAN SHEET FOR DETECTOR LOOP REPLACEMENT

**LEFT TURN LANES WITHOUT MEDIANS  
VOLUME DENSITY ("FAR OUT" DETECTION)  
ON SAME APPROACH  
(PROTECTED / PERMITTED LEFT TURN PHASING)**



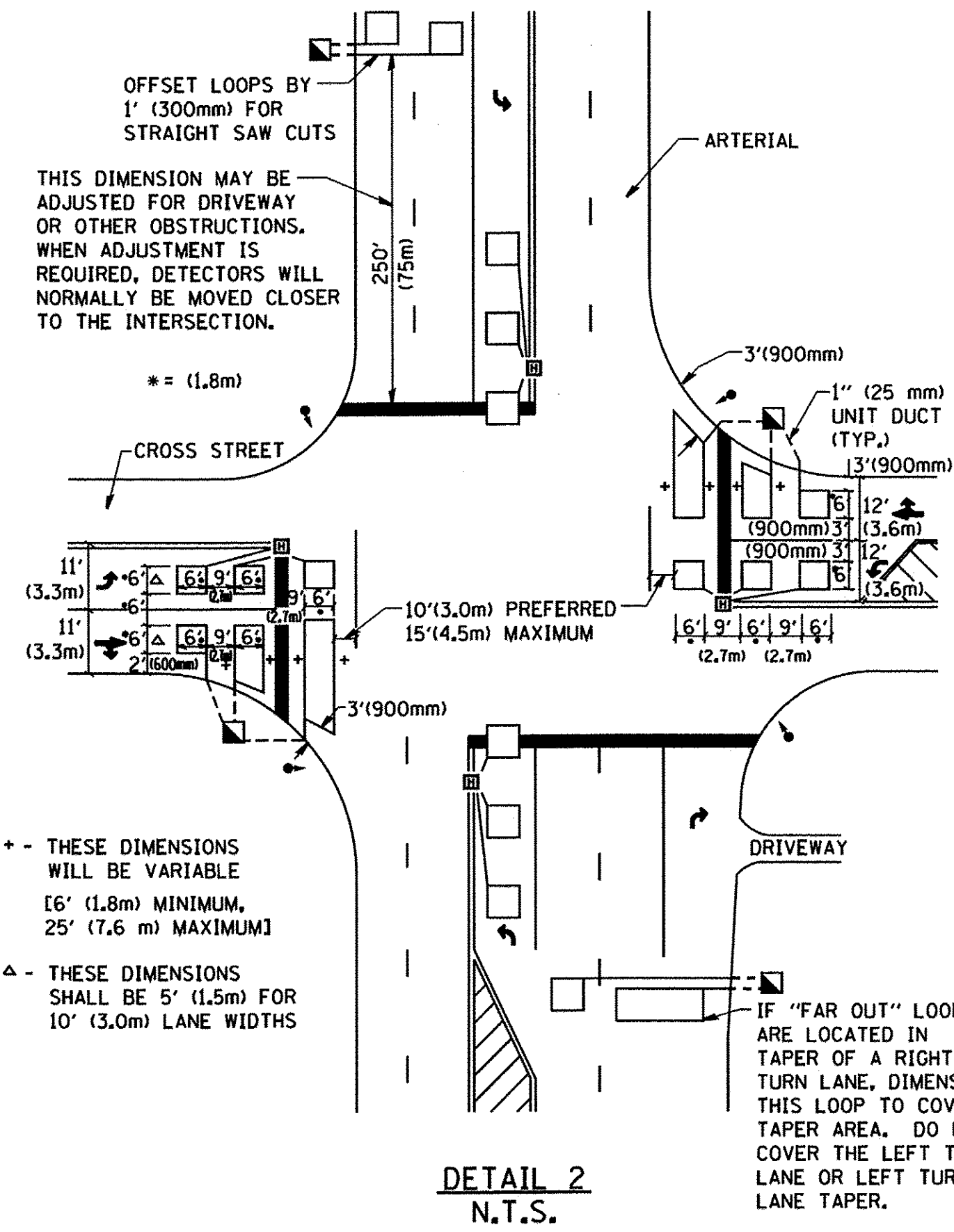
NOTE: DUAL LEFT TURNS NOT SHOWN REFER TO  
PLAN SHEET FOR DETECTOR LOOP REPLACEMENT

**ARTERIAL-VOLUME DENSITY ("FAR OUT" DETECTION)  
CROSS STREET-VOLUME DENSITY ("FAR OUT" DETECTION)**



**DETAIL 1  
N.T.S.**

**ARTERIAL-VOLUME DENSITY ("FAR OUT" DETECTION)  
CROSS STREET-NON VOLUME DENSITY ("UPTIGHT" PRESENCE DETECTION)**



**DETAIL 2  
N.T.S.**

**NOTES:**

**VEHICLES LOOP DETECTORS**

- \* ALL LEAD IN CABLE SHALL BE TWO CONDUCTOR NO. 14 TWISTED, SHIELDED.
- \* EACH DETECTOR LOOP SHALL HAVE ITS OWN SAW CUT FROM THE LOOP TO THE EDGE OF PAVEMENT OR TO A HANDHOLE IN THE PAVEMENT.
- \* EACH DETECTOR LOOP SHALL HAVE ITS OWN ONE INCH (25 mm) UNIT DUCT BETWEEN THE EDGE OF PAVEMENT AND THE FIRST HANDHOLE OR JUNCTION BOX. EACH UNIT DUCT RUN SHALL BE SHOWN ON THE PLANS BY THE DESIGNER, BUT SHALL NOT BE PAID FOR SEPARATELY. THIS ITEM IS INCIDENTAL TO THE PAY ITEM FOR DETECTOR LOOPS.
- \* ONE DIMENSION OF ALL DETECTOR LOOPS SHALL BE SIX FEET (1.8 m)
- \* EACH LANE OF NON-LOCKING, PRESENCE DETECTION AND EACH LANE OF A DOUBLE LEFT TURN LANE REQUIRES A SEPARATE INDUCTIVE LOOP DETECTOR AND LEAD IN CABLE.
- \* WHEN NON-LOCKING, PRESENCE DETECTION IS USED, MORE THAN ONE LOOP PER LANE IS REQUIRED BEHIND THE STOP BAR (i.e. 1-1/2, 1-3/4, 2).
- \* WHEN SYSTEM LOOPS ARE REQUIRED ON AN APPROACH OF AN INTERSECTION, THE LOOPS USED FOR VOLUME DENSITY AND INTERSECTION TIMING SHALL ALSO BE USED AS SYSTEM DETECTORS. EACH ONE OF THESE TYPE OF LOOPS REQUIRES A SEPARATE TWO CONDUCTOR NO. 14 TWISTED SHIELDED CABLE AND A SEPARATE INDUCTIVE LOOP DETECTOR WHEN NEW CONTROLLERS ARE UTILIZED. THE DESIGNER SHALL LABEL THESE TYPES OF LOOPS AS "INTERSECTION AND SAMPLING (SYSTEM) DETECTORS" ON THE SIGNAL LAYOUT, THE INTERCONNECT PLAN AND THE SYSTEM CABLE PLAN. WHEN AN EXISTING CONTROLLER IS UTILIZED FOR THIS TYPE OF DETECTION, THE PAY ITEM "INDUCTIVE LOOP DETECTOR WITH SYSTEM OUTPUT" SHOULD BE USED.

**PLACEMENT OF DETECTORS**

THE FOLLOWING FIGURES REPRESENT THE MOST COMMON DETECTOR LOOP LOCATIONS AND SIZES. ADJUSTMENTS WILL BE NECESSARY FOR SPECIFIC GEOMETRIC CONSIDERATIONS.

LOCATIONS AND DEMENSIONS OF DETECTOR LOOPS ARE REQUIRED ON ALL SIGNAL LAYOUT PLAN SHEETS.

"FAR OUT" DETECTION REFERS TO LOCKING, PRESENCE TYPE DETECTION LOCATED IN THRU LANES, RIGHT TURN LANES, AND RIGHT TURN LANE TAPER AREAS (IF APPLICABLE), USUALLY 250' (75 m) IN ADVANCE OF STOP BARS. "UPTIGHT" DETECTION REFERS TO NON-LOCKING PRESENCE TYPE DETECTION LOCATED IN ALL LANES AND 10'-15' (3.0 m-4.5 m) BEHIND THE CROSSING STREET'S EDGE OF PAVEMENT EXTENDED.

**NOTE:**

ALL DETAILS AND NOTES SHOWN ARE FROM THE I.D.O.T. DISTRICT 1 TRAFFIC SIGNAL DESIGN GUIDELINES DATED JANUARY 1995

THIS DRAWING HAS BEEN PREPARED TO ASSIST THE RESIDENT ENGINEER FOR ALL ROADWAY RESURFACING OR S.M.A.R.T. PROJECTS WHERE THE DIMENSIONS ARE NOT SHOWN ON THE PLANS AND THE FINAL LOCATIONS FOR CROSSWALKS OR STOP BARS ARE NOT DETERMINED.

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PLOT DATE = 1/4/2008

DESIGNED -  
DRAWN -  
CHECKED - R.K.F.  
DATE -

REVISED -  
REVISED -  
REVISED -  
REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**DISTRICT 1 - DETECTOR LOOP INSTALLATION  
DETAILS FOR ROADWAY RESURFACING**

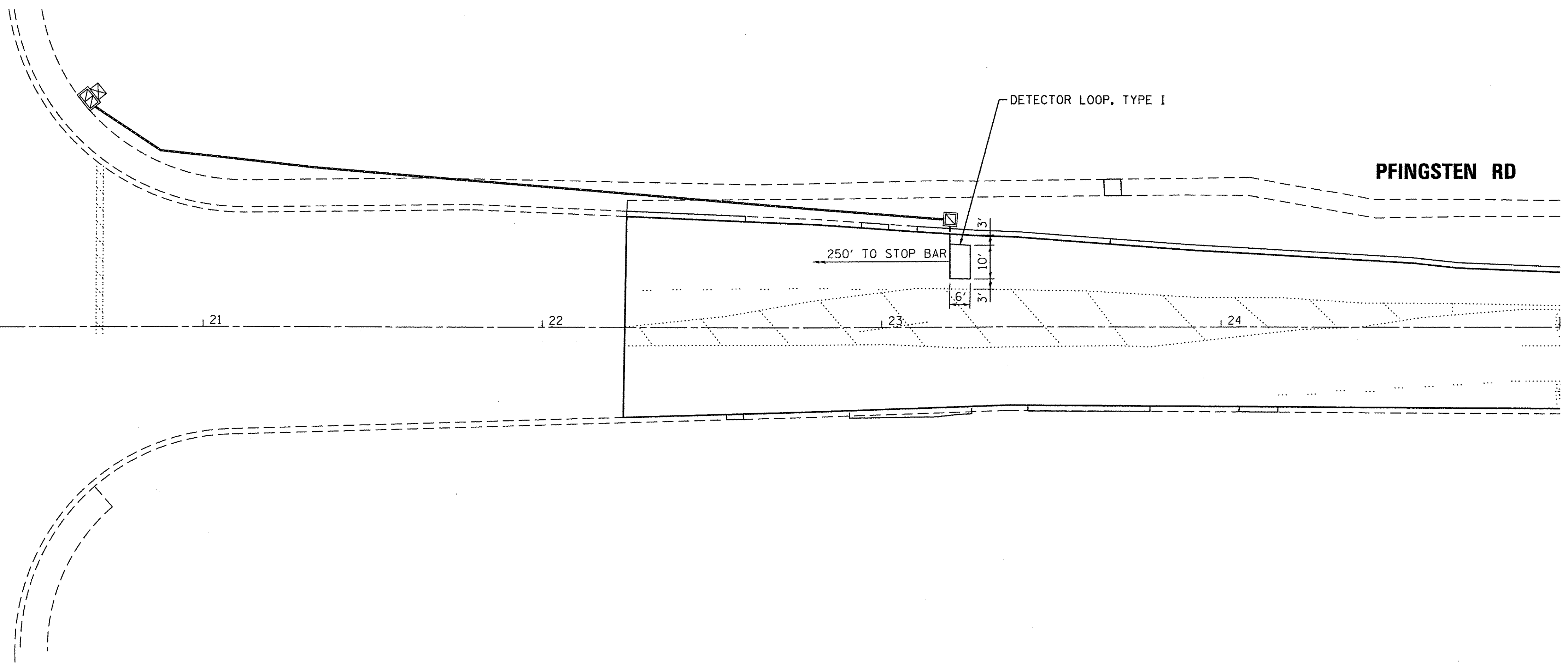
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F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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TS-07			CONTRACT NO. 61D63	
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT M-BRM-4003 (391)				



LAKE COOK ROAD

PFINGSTEN RD



**NOTES:**

1. EACH DETECTOR LOOP SHALL HAVE ITS OWN 1" COILABLE NON-METALLIC CONDUIT BETWEEN THE EDGE OF PAVEMENT AND THE ADJACENT HANDHOLE AS SHOWN ON THE PLANS AND AS STATED IN THE TRAFFIC SIGNAL SPECIFICATIONS.

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**ENGINEERING CONSULTANT**  
**Clorba Group, Inc.**  
 CONSULTING ENGINEERS  
 5507 North Cumberland Avenue, Suite 402  
 Chicago, Illinois 60656  
 Tel: 773.775.4009 Fax: 773.775.4014  
 Email: clorba@clorba.com

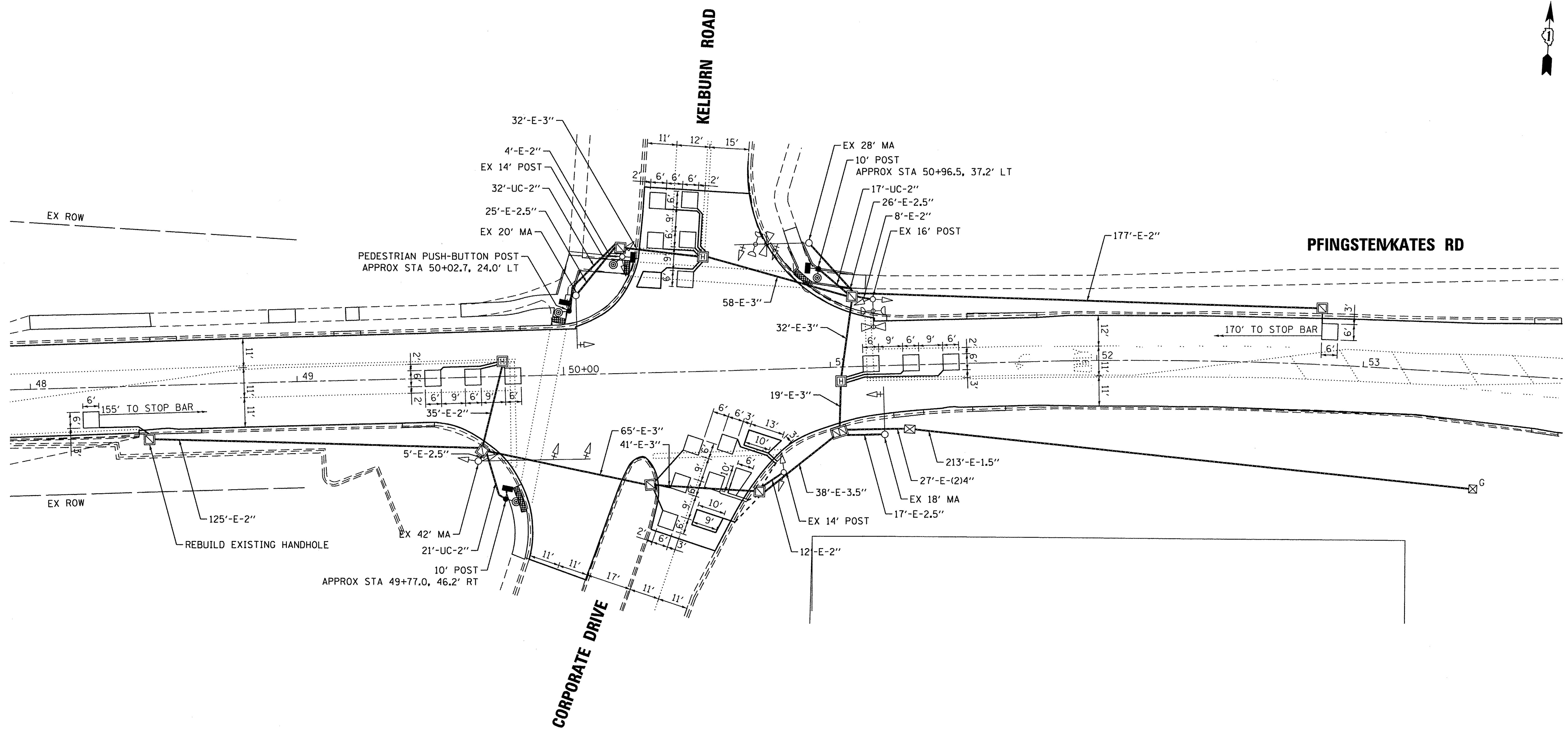
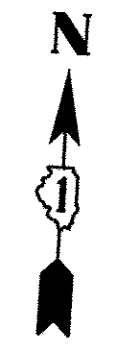
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**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**PFINGSTEN/KATES ROAD IMPROVEMENTS  
 DETECTOR LOOP REPLACEMENT PLAN  
 PFINGSTEN ROAD AT LAKE COOK ROAD**

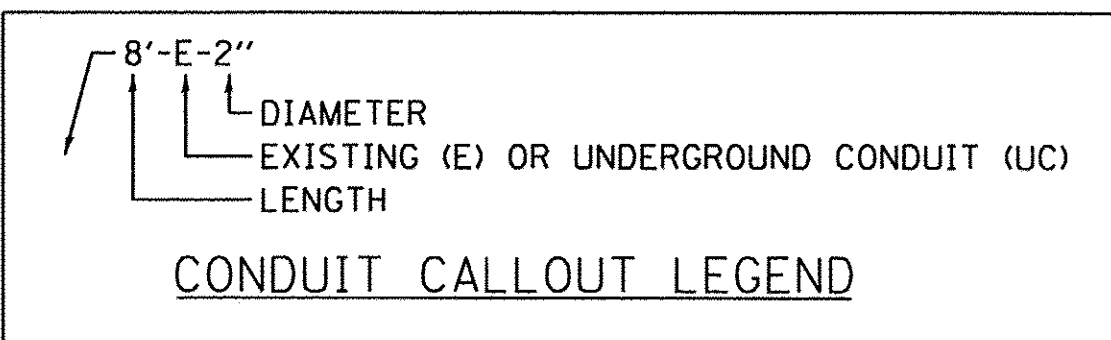
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CONTRACT NO. 61D63				
FED. ROAD DIST. NO. 1   ILLINOIS FED. AID PROJECT M-BRM-4003(391)				



**NOTES:**

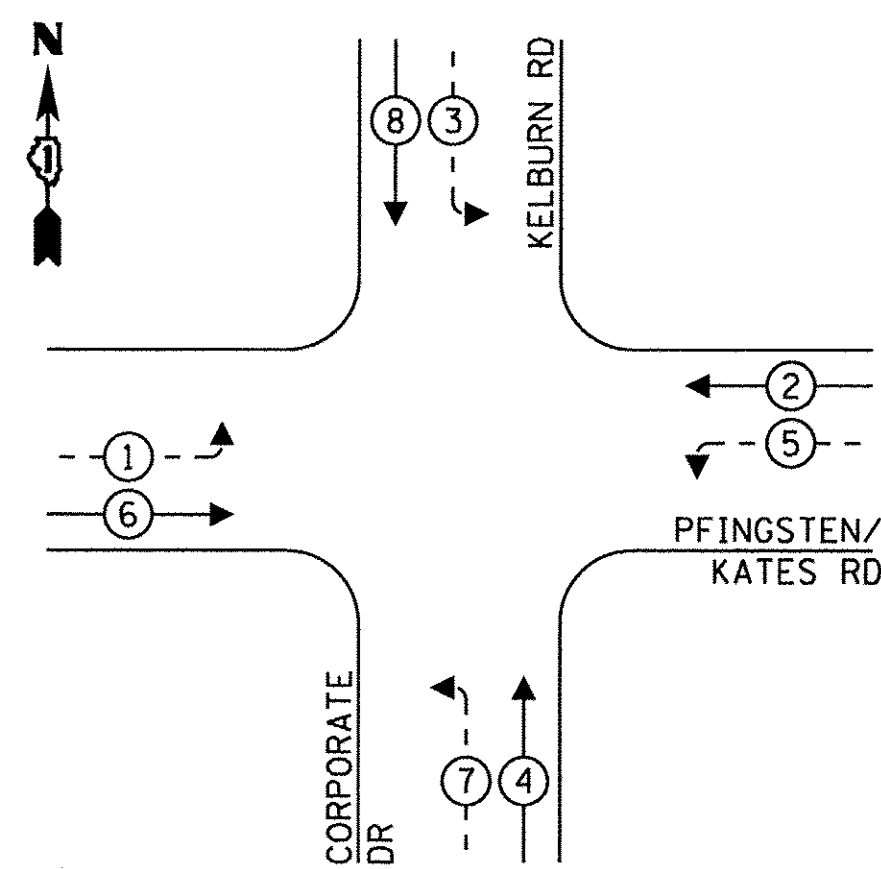
1. EACH DETECTOR LOOP SHALL HAVE ITS OWN 1" COILABLE NON-METALLIC CONDUIT BETWEEN THE EDGE OF PAVEMENT AND THE ADJACENT HANDHOLE AS SHOWN ON THE PLANS AND AS STATED IN THE TRAFFIC SIGNAL SPECIFICATIONS.



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 <b>ENGINEERING CONSULTANT</b> CONSULTING ENGINEERS <small>5507 North Cumberland Avenue, Suite 402          Chicago, Illinois 60630          Tel: 773.776.4009 Fax: 773.776.4014          Email: chicago@clorba.com</small>	USER NAME = jattenaseo	DESIGNED - JMV	REVISED -	<b>STATE OF ILLINOIS</b> <b>DEPARTMENT OF TRANSPORTATION</b>	<b>PFINGSTENKATES ROAD IMPROVEMENTS</b> <b>TRAFFIC SIGNAL MODIFICATION PLAN</b> <b>PFINGSTEN /KATES ROAD AT CORPORATE DRIVE</b>	F.A.U. RTE. = 3699	SECTION = 14-00098-00-BR	COUNTY = LAKE	TOTAL SHEETS = 102	SHEET NO. = 44	
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	PLOT DATE = 12/5/2016	DATE - 12/5/2016	REVISED -			FED. ROAD DIST. NO. 1   ILLINOIS FED. AID PROJECT			M-BRM-4003(391)		

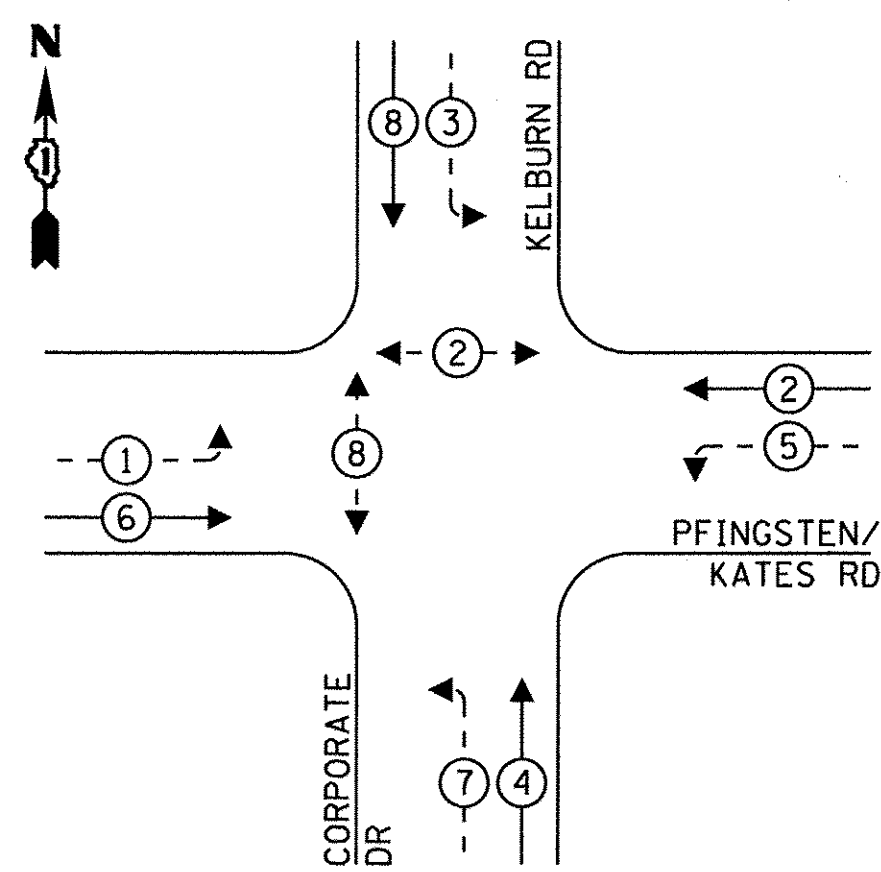
**EXISTING CONTROLLER SEQUENCE**



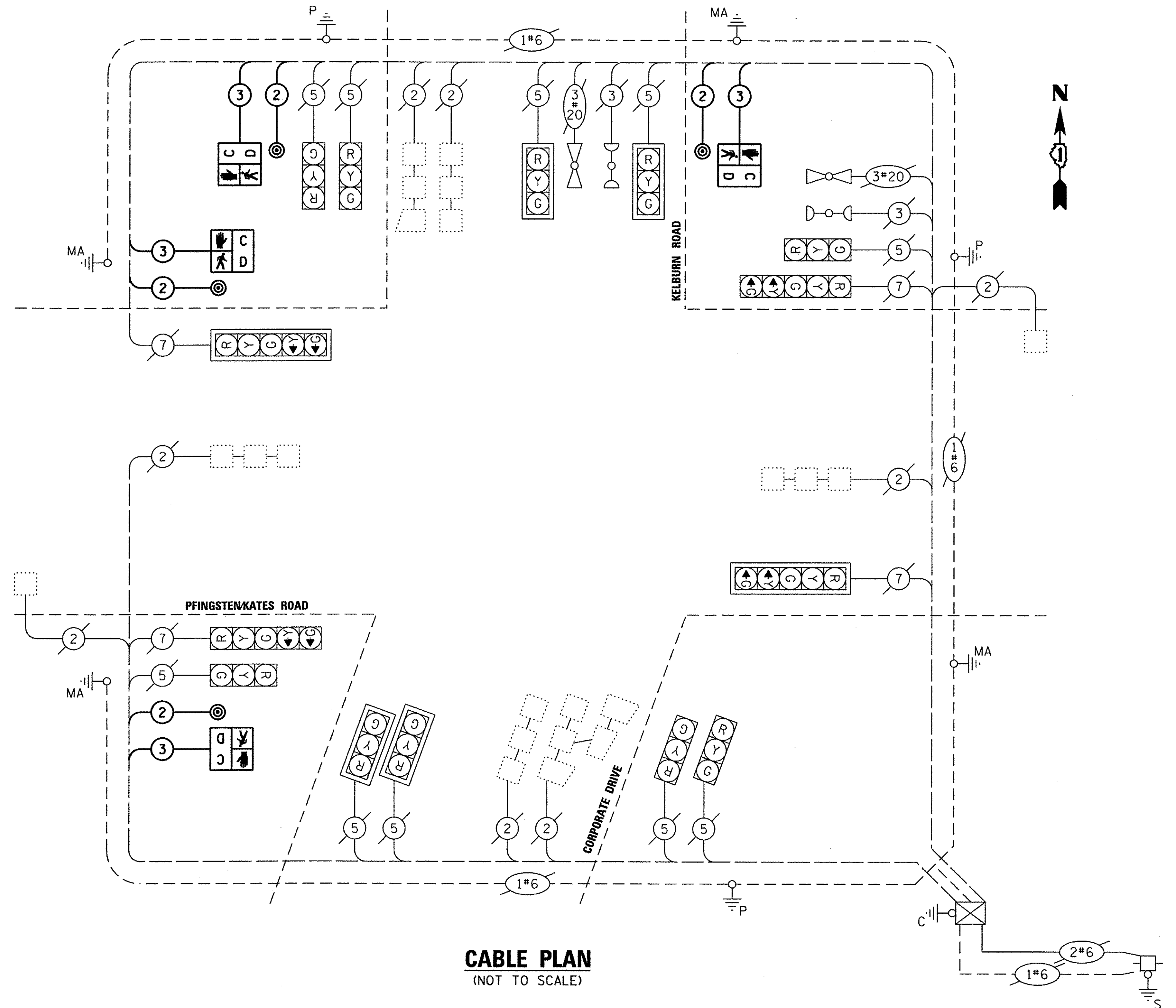
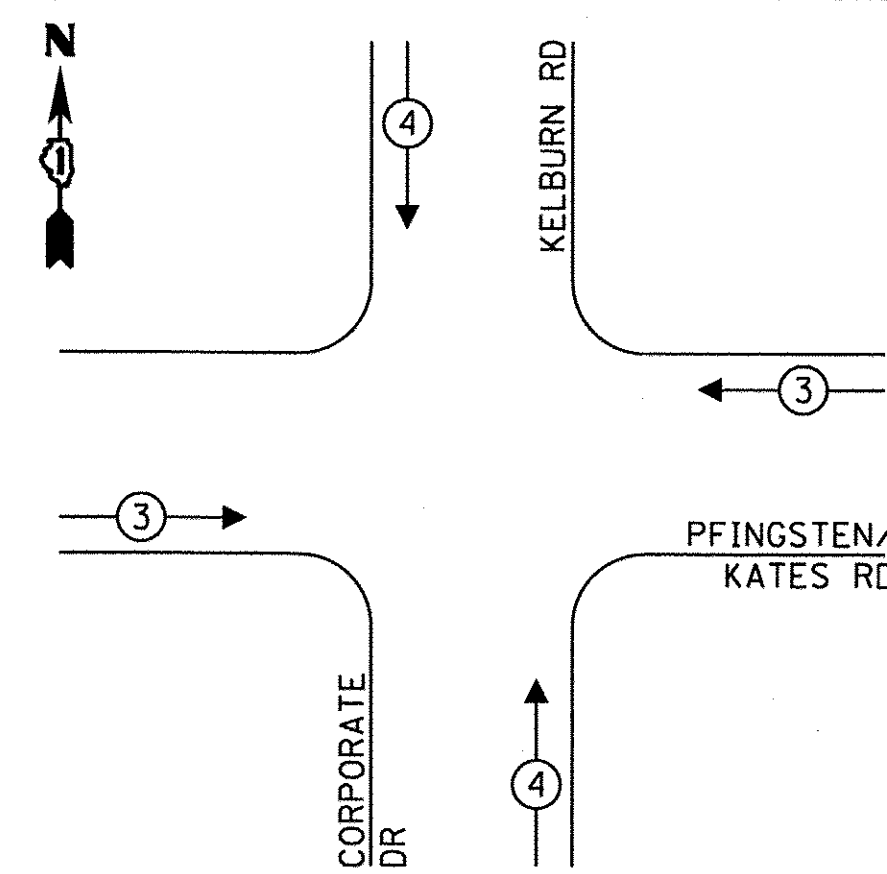
**LEGEND:**

- ← ⊙ ← PROTECTED PHASE
- ← ⊙ - - PROTECTED/PERMITTED PHASE
- ← ⊙ → PEDESTRIAN PHASE
- ← ⊙ OL OVERLAP
- ← ⊙ FF FREE FLOW

**PROPOSED CONTROLLER SEQUENCE**



**EMERGENCY VEHICLE PREEMPTION SEQUENCE**



**SCHEDULE OF QUANTITIES**

ITEM #	DESCRIPTION	UNIT	QUANTITY
81028200	UNDERGROUND CONDUIT, GALVANIZED STEEL, 2" DIA.	FOOT	70
85000200	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	2
87300010	GROUNDING EXISTING HANDHOLE FRAME AND COVER	EACH	8
87301215	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 2C	FOOT	841
87301225	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C	FOOT	862
87301900	ELECTRIC CABLE IN CONDUIT, EQUIPMENT GROUNDING CONDUCTOR, NO. 6 1C	FOOT	144
87502440	TRAFFIC SIGNAL POST, GALVANIZED STEEL 10 FT.	EACH	2
87800100	CONCRETE FOUNDATION, TYPE A	FOOT	12
87900200	DRILL EXISTING HANDHOLE	EACH	3
88102717	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER	EACH	4
88600100	DETECTOR LOOP, TYPE 1	FOOT	35
88600600	DETECTOR LOOP REPLACEMENT	FOOT	804
88800100	PEDESTRIAN PUSH-BUTTON	EACH	4
89502200	MODIFY EXISTING CONTROLLER	EACH	1
89502210	MODIFY EXISTING CONTROLLER CABINET	EACH	1
89502376	REBUILD EXISTING HANDHOLE	EACH	1

**TRAFFIC SIGNAL ELECTRICAL SERVICE REQUIREMENTS**

TYPE	NO. OF LAMPS	LED WATTAGE	% OPERATION	TOTAL WATTAGE
SIGNAL (RED)	14	11	50	77
(YELLOW)	14	20	5	14
(GREEN)	14	12	45	75.6
PERMISSIVE ARROW	8	10	10	8
PED. SIGNAL	4	20	100	80
CONTROLLER	1	100	100	100
UPS	-	25	100	-
VIDEO SYSTEM	-	150	100	-
BLANK-OUT SIGN	-	25	5	-
FLASHER	-	-	50	-
STREET NAME SIGN	-	120	50	-
LUMINAIRE	-	-	-	-
<b>ENERGY COSTS TO:</b>				<b>TOTAL = 354.6</b>

VILLAGE OF DEERFIELD  
850 WALKER ROAD  
DEERFIELD, IL 60015

ENERGY SUPPLY: CONTACT: CUSTOMER SERVICE  
PHONE: (800) 334-7661  
COMPANY: CQM, ED.  
ACCOUNT NUMBER: ---

**NOTES:**

- THIS INTERSECTION HAS AN EXISTING SYSTEM GROUNDING SYSTEM. EXISTING HANDHOLES (INCLUDING LIDS) SHALL BE GROUNDING AS NOTED.

**Ciorba Group, Inc.**  
CONSULTING ENGINEERS  
6507 North Cumberland Avenue, Suite 402  
Chicago, Illinois 60656  
Tel. 773.775.4009 Fax 773.775.4014

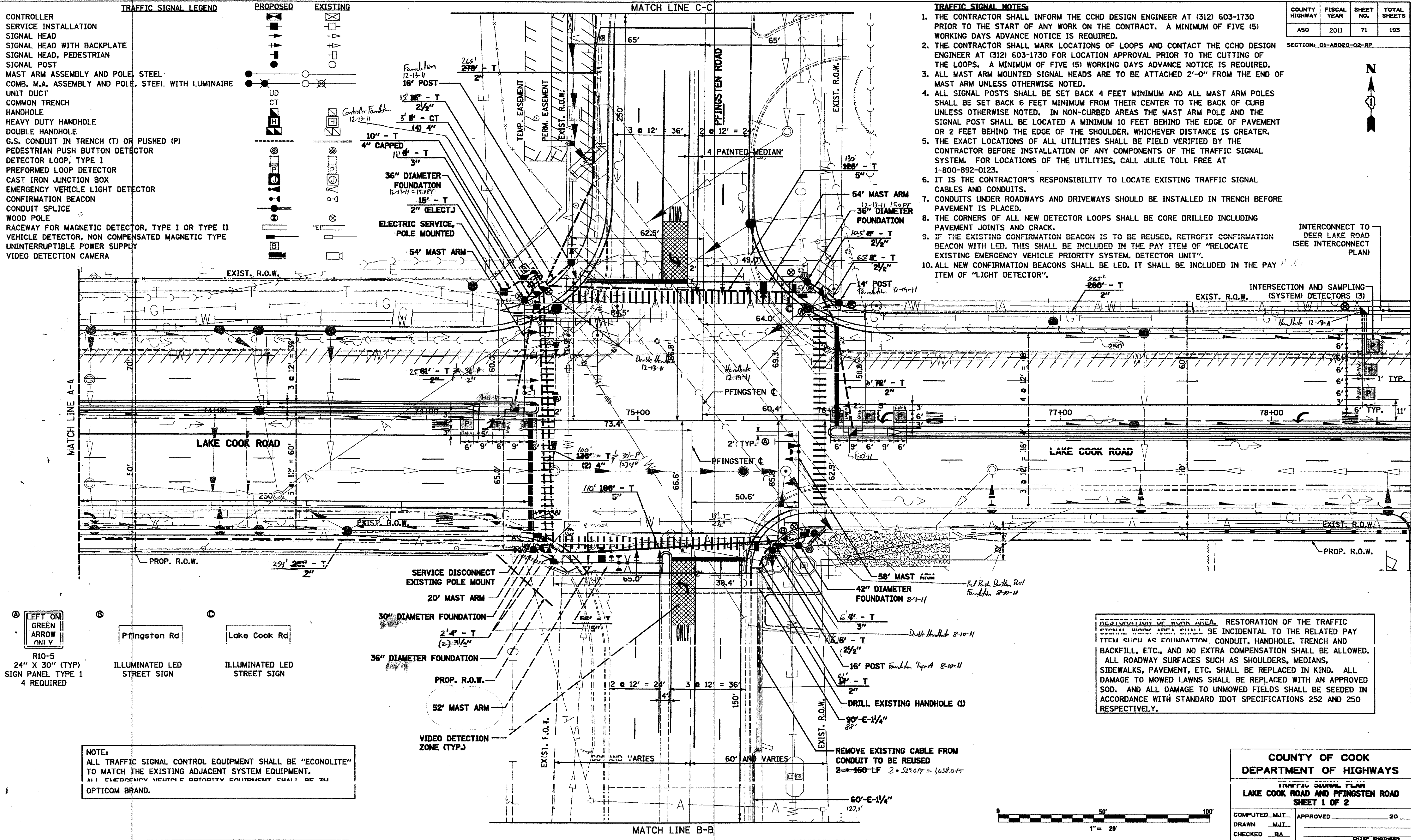
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PLOT DATE = 12/5/2016	CHECKED - -	REVISED - -
	DATE - -	REVISED - -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**TRAFFIC SIGNAL CABLE PLAN  
PFLINGSTEN /KATES ROAD AT CORPORATE DRIVE**

NONE SHEET NO. 1 OF 1 SHEETS STA. TO STA.

F.A.U. RTE. 3699	SECTION 14-00098-00-BR	COUNTY LAKE	TOTAL SHEETS 102	SHEET NO. 45
FED. ROAD DIST. NO. - ILLINOIS FED. AID PROJECT			CONTRACT NO. 61D63 M-BRM-4003(3911)	



- TRAFFIC SIGNAL LEGEND**
- CONTROLLER SERVICE INSTALLATION
  - SIGNAL HEAD
  - SIGNAL HEAD WITH BACKPLATE
  - SIGNAL HEAD, PEDESTRIAN
  - SIGNAL POST
  - MAST ARM ASSEMBLY AND POLE, STEEL
  - COMB. M.A. ASSEMBLY AND POLE, STEEL WITH LUMINAIRE
  - UNIT DUCT
  - COMMON TRENCH
  - HANDHOLE
  - HEAVY DUTY HANDHOLE
  - DOUBLE HANDHOLE
  - G.S. CONDUIT IN TRENCH (T) OR PUSHED (P)
  - PEDESTRIAN PUSH BUTTON DETECTOR
  - DETECTOR LOOP, TYPE I
  - PREFORMED LOOP DETECTOR
  - CAST IRON JUNCTION BOX
  - EMERGENCY VEHICLE LIGHT DETECTOR
  - CONFIRMATION BEACON
  - CONDUIT SPLICE
  - WOOD POLE
  - RACEWAY FOR MAGNETIC DETECTOR, TYPE I OR TYPE II
  - VEHICLE DETECTOR, NON COMPENSATED MAGNETIC TYPE
  - UNINTERRUPTIBLE POWER SUPPLY
  - VIDEO DETECTION CAMERA

- TRAFFIC SIGNAL NOTES:**
- THE CONTRACTOR SHALL INFORM THE CCHD DESIGN ENGINEER AT (312) 603-1730 PRIOR TO THE START OF ANY WORK ON THE CONTRACT. A MINIMUM OF FIVE (5) WORKING DAYS ADVANCE NOTICE IS REQUIRED.
  - THE CONTRACTOR SHALL MARK LOCATIONS OF LOOPS AND CONTACT THE CCHD DESIGN ENGINEER AT (312) 603-1730 FOR LOCATION APPROVAL PRIOR TO THE CUTTING OF THE LOOPS. A MINIMUM OF FIVE (5) WORKING DAYS ADVANCE NOTICE IS REQUIRED.
  - ALL MAST ARM MOUNTED SIGNAL HEADS ARE TO BE ATTACHED 2'-0" FROM THE END OF MAST ARM UNLESS OTHERWISE NOTED.
  - ALL SIGNAL POSTS SHALL BE SET BACK 4 FEET MINIMUM AND ALL MAST ARM POLES SHALL BE SET BACK 6 FEET MINIMUM FROM THEIR CENTER TO THE BACK OF CURB UNLESS OTHERWISE NOTED. IN NON-CURBED AREAS THE MAST ARM POLE AND THE SIGNAL POST SHALL BE LOCATED A MINIMUM 10 FEET BEHIND THE EDGE OF PAVEMENT OR 2 FEET BEHIND THE EDGE OF THE SHOULDER, WHICHEVER DISTANCE IS GREATER.
  - THE EXACT LOCATIONS OF ALL UTILITIES SHALL BE FIELD VERIFIED BY THE CONTRACTOR BEFORE INSTALLATION OF ANY COMPONENTS OF THE TRAFFIC SIGNAL SYSTEM. FOR LOCATIONS OF THE UTILITIES, CALL JULIE TOLL FREE AT 1-800-892-0123.
  - IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE EXISTING TRAFFIC SIGNAL CABLES AND CONDUITS.
  - CONDUITS UNDER ROADWAYS AND DRIVEWAYS SHOULD BE INSTALLED IN TRENCH BEFORE PAVEMENT IS PLACED.
  - THE CORNERS OF ALL NEW DETECTOR LOOPS SHALL BE CORE DRILLED INCLUDING PAVEMENT JOINTS AND CRACK.
  - IF THE EXISTING CONFIRMATION BEACON IS TO BE REUSED, RETROFIT CONFIRMATION BEACON WITH LED. THIS SHALL BE INCLUDED IN THE PAY ITEM OF "RELOCATE EXISTING EMERGENCY VEHICLE PRIORITY SYSTEM, DETECTOR UNIT".
  - ALL NEW CONFIRMATION BEACONS SHALL BE LED. IT SHALL BE INCLUDED IN THE PAY ITEM OF "LIGHT DETECTOR".

COUNTY HIGHWAY	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
ASO	2011	71	193

SECTION\_01-ASO20-02-RP

INTERCONNECT TO DEER LAKE ROAD (SEE INTERCONNECT PLAN)

INTERSECTION AND SAMPLING (SYSTEM) DETECTORS (3)

- LEFT ON GREEN ARROW SIGN PANEL TYPE 1 4 REQUIRED
- ILLUMINATED LED STREET SIGN
- ILLUMINATED LED STREET SIGN

**NOTE:**  
ALL TRAFFIC SIGNAL CONTROL EQUIPMENT SHALL BE "ECONOLITE" TO MATCH THE EXISTING ADJACENT SYSTEM EQUIPMENT. ALL EMERGENCY VEHICLE PRIORITY EQUIPMENT SHALL BE THE OPTICOM BRAND.

**RESTORATION OF WORK AREA:** RESTORATION OF THE TRAFFIC SIGNAL WORK AREA SHALL BE INCIDENTAL TO THE RELATED PAY ITEM SUCH AS FOUNDATION, CONDUIT, HANDHOLE, TRENCH AND BACKFILL, ETC., AND NO EXTRA COMPENSATION SHALL BE ALLOWED. ALL ROADWAY SURFACES SUCH AS SHOULDERS, MEDIANS, SIDEWALKS, PAVEMENT, ETC. SHALL BE REPLACED IN KIND. ALL DAMAGE TO MOWED LAWNS SHALL BE REPLACED WITH AN APPROVED SOD, AND ALL DAMAGE TO UNMOWED FIELDS SHALL BE SEEDED IN ACCORDANCE WITH STANDARD IDOT SPECIFICATIONS 252 AND 250 RESPECTIVELY.

COUNTY OF COOK DEPARTMENT OF HIGHWAYS			
TRAFFIC SIGNAL PLAN LAKE COOK ROAD AND PFLUGSTEN ROAD SHEET 1 OF 2			
COMPUTED - MJT	APPROVED - MJT	20	
DRAWN - MJT	CHECKED - BA	CHIEF ENGINEER	

# FOR INFORMATIONAL PURPOSES ONLY

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ENGINEERING CONSULTANT	USER NAME = jgallagher	DESIGNED - JMV	REVISED -
Clorba Group, Inc.		DRAWN - JMV	REVISED -
CONSULTING ENGINEERS	PLOT SCALE = 20.0000' / in.	CHECKED - DJO	REVISED -
5507 North Cumberland Avenue, Suite 402 Chicago, Illinois 60630 Tel: 773.775.4009 Fax: 773.775.4014 Email: Chicago@clorba.com	PLOT DATE = 12/5/2016	DATE - 12/5/2016	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

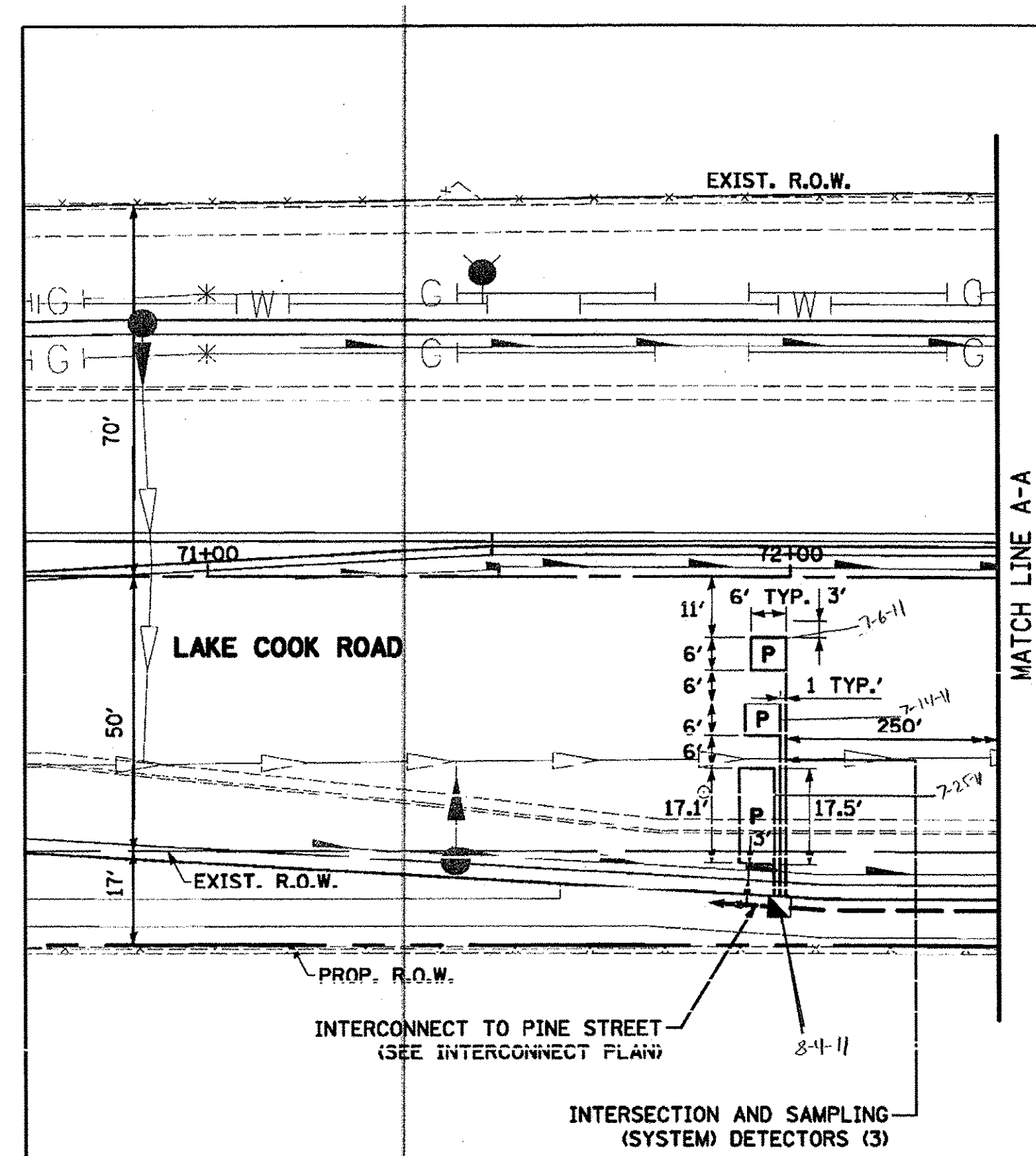
PFLUGSTEN/KATES ROAD IMPROVEMENTS  
RECORD DRAWINGS  
PFLUGSTEN ROAD AT LAKE COOK ROAD

SCALE: N.T.S. SHEET NO. 1 OF 3 SHEETS STA. TO STA.

F.A.U. RTE. 3699	SECTION 14-00098-00-BR	COUNTY LAKE	TOTAL SHEETS 102	SHEET NO. 46
CONTRACT NO. 61D63				
FED. ROAD DIST. NO. 1   ILLINOIS FED. AID PROJECT M-BRM-4003(391)				

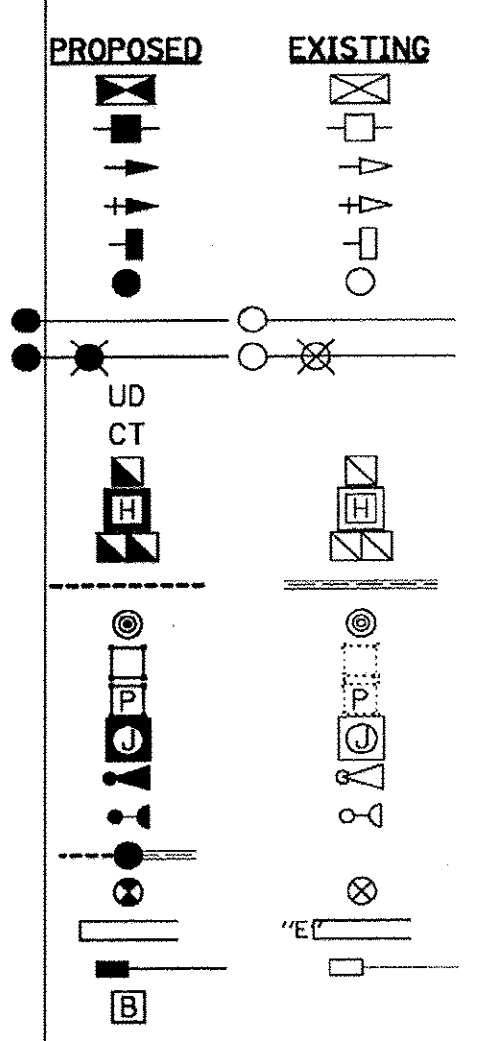
COUNTY HIGHWAY	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
AS0	2011	72	193

SECTION 01-AS020-02-RP

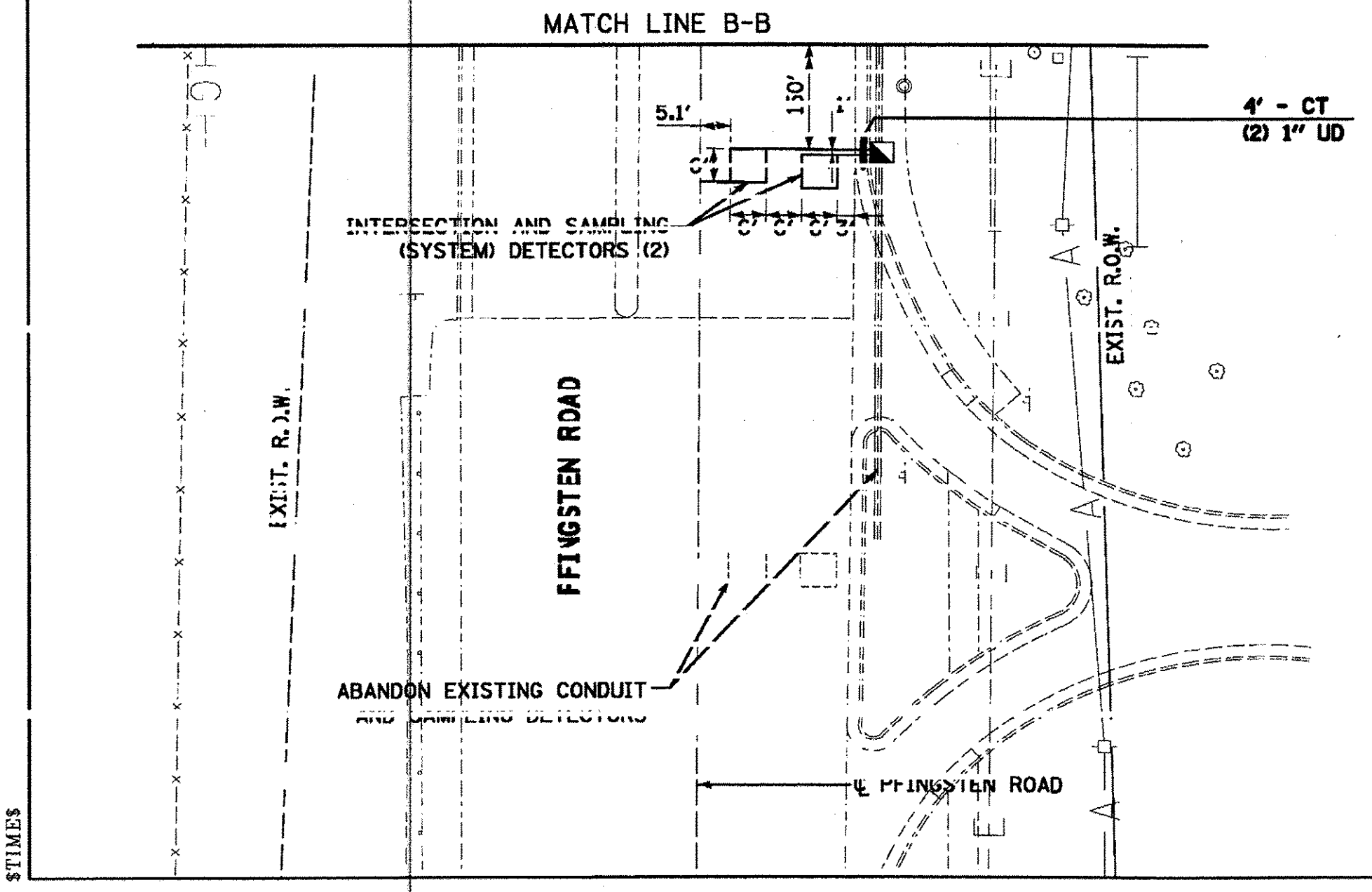
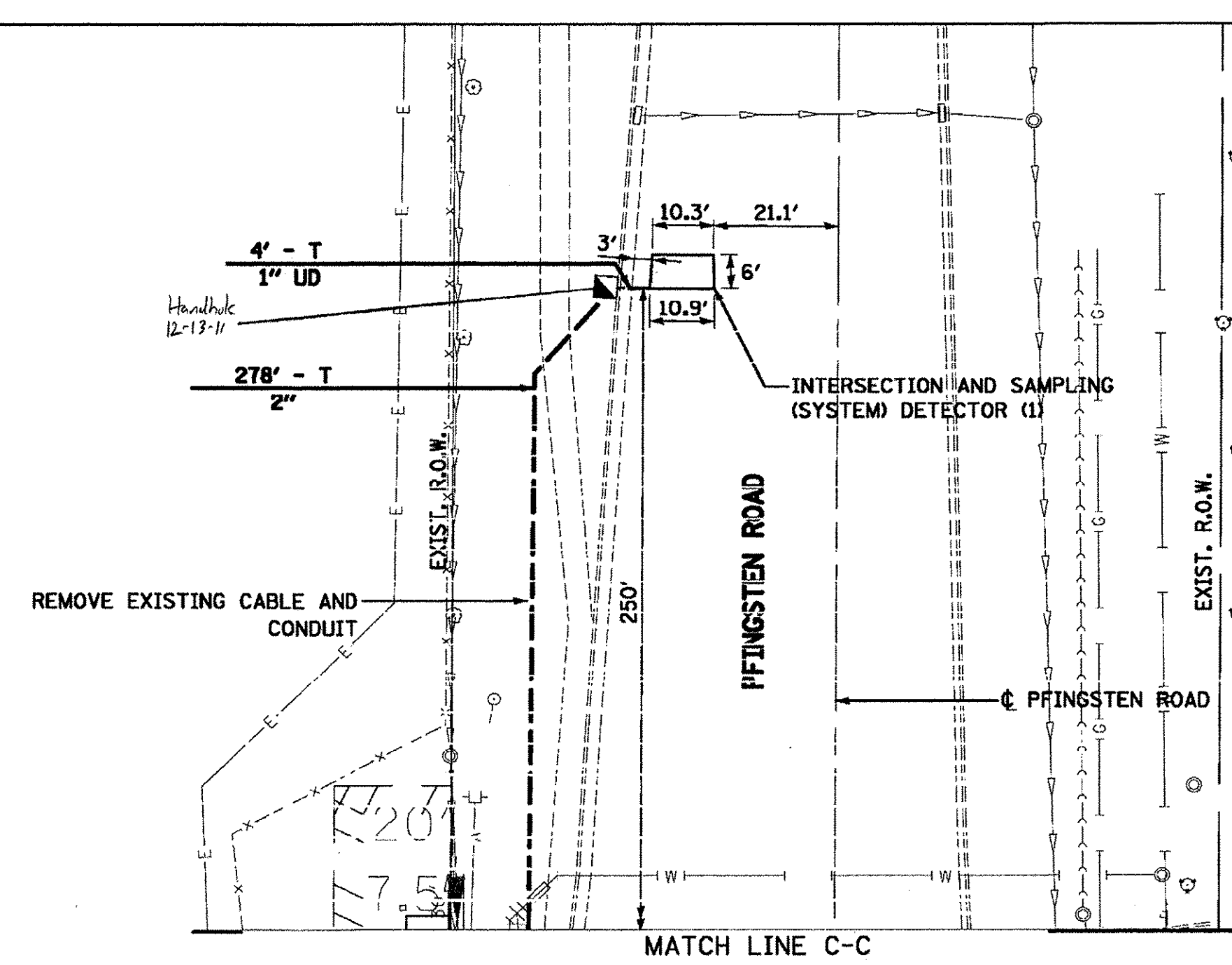


**TRAFFIC SIGNAL LEGEND**

- CONTROLLER
- SERVICE INSTALLATION
- SIGNAL HEAD
- SIGNAL HEAD WITH BACKPLATE
- SIGNAL HEAD, PEDESTRIAN
- SIGNAL POST
- MAST ARM ASSEMBLY AND POLE, STEEL
- COMB. M.A. ASSEMBLY AND POLE, STEEL WITH LUMINAIRE
- UNIT DUCT
- COMMON TRENCH
- HANDHOLE
- HEAVY DUTY HANDHOLE
- DOUBLE HANDHOLE
- G.S. CONDUIT IN TRENCH (T) OR PUSHED (P)
- PEDESTRIAN PUSH BUTTON DETECTOR
- DETECTOR LOOP, TYPE I
- PREFORMED LOOP DETECTOR
- CAST IRON JUNCTION BOX
- EMERGENCY VEHICLE LIGHT DETECTOR
- CONFIRMATION BEACON
- CONDUIT SPLICE
- WOOD POLE
- RACEWAY FOR MAGNETIC DETECTOR, TYPE I OR TYPE II
- VEHICLE DETECTOR, NON COMPENSATED MAGNETIC TYPE
- UNINTERRUPTIBLE POWER SUPPLY



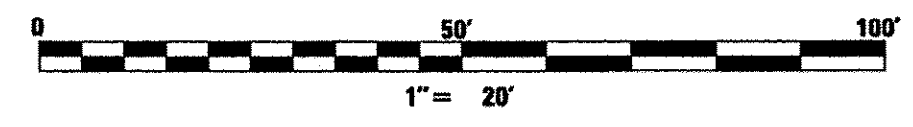
**NOTE:**  
 ALL TRAFFIC SIGNAL CONTROL EQUIPMENT SHALL BE "ECONOLITE"  
 TO MATCH THE EXISTING ADJACENT SYSTEM EQUIPMENT.  
 ALL EMERGENCY VEHICLE PRIORITY EQUIPMENT SHALL BE 3M  
 OPTICOM BRAND.



**RESTORATION OF WORK AREA.** RESTORATION OF THE TRAFFIC SIGNAL WORK AREA SHALL BE INCIDENTAL TO THE RELATED PAY ITEM SUCH AS FOUNDATION, CONDUIT, HANDHOLE, TRENCH AND BACKFILL, ETC., AND NO EXTRA COMPENSATION SHALL BE ALLOWED. ALL ROADWAY SURFACES SUCH AS SHOULDERS, MEDIANS, SIDEWALKS, PAVEMENT, ETC. SHALL BE REPLACED IN KIND. ALL DAMAGE TO MOWED LAWNS SHALL BE REPLACED WITH AN APPROVED SOD. AND ALL DAMAGE TO UNMOWED FIELDS SHALL BE SEEDING IN ACCORDANCE WITH STANDARD IDOT SPECIFICATIONS 252 AND 250 RESPECTIVELY.

**TRAFFIC SIGNAL NOTES:**

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7. CONDUITS UNDER ROADWAYS AND DRIVEWAYS SHOULD BE INSTALLED IN TRENCH BEFORE PAVEMENT IS PLACED.
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10. ALL NEW CONFIRMATION BEACONS SHALL BE LED. IT SHALL BE INCLUDED IN THE PAY ITEM OF "LIGHT DETECTOR".



COUNTY OF COOK DEPARTMENT OF HIGHWAYS	
TRAFFIC SIGNAL PLAN LAKE COOK ROAD AND PFINGSTEN ROAD SHEET 2 OF 2	
COMPUTED <u>  </u> MJT	APPROVED _____ 20
DRAWN <u>  </u> MJT	
CHECKED <u>  </u> BA	CHIEF ENGINEER

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**ENGINEERING CONSULTANT**  
**Clorba Group, Inc.**  
 CONSULTING ENGINEERS  
 5507 North Cumberland Avenue, Suite 402  
 Chicago, Illinois 60630  
 Tel. 773.775.4209 Fax 773.775.4014  
 Email: clorba@clorba.com

USER NAME = jottanaseo	DESIGNED - JMV	REVISED -
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PLOT DATE = 12/5/2016	CHECKED - DJO	REVISED -
	DATE - 12/5/2016	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

**PFINGSTENKATES ROAD IMPROVEMENTS**  
**RECORD DRAWINGS**  
**PFINGSTEN ROAD AT LAKE COOK ROAD**

SCALE: N.T.S. SHEET NO. 2 OF 3 SHEETS STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3699	14-00098-00-BR	LAKE	102	47
CONTRACT NO. 61D63				
FED. ROAD DIST. NO. 1   ILLINOIS FED. AID PROJECT M-BRM-4003(391)				

FOR INFORMATIONAL PURPOSES ONLY

COUNTY HIGHWAY	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
ASO	2011	73	193

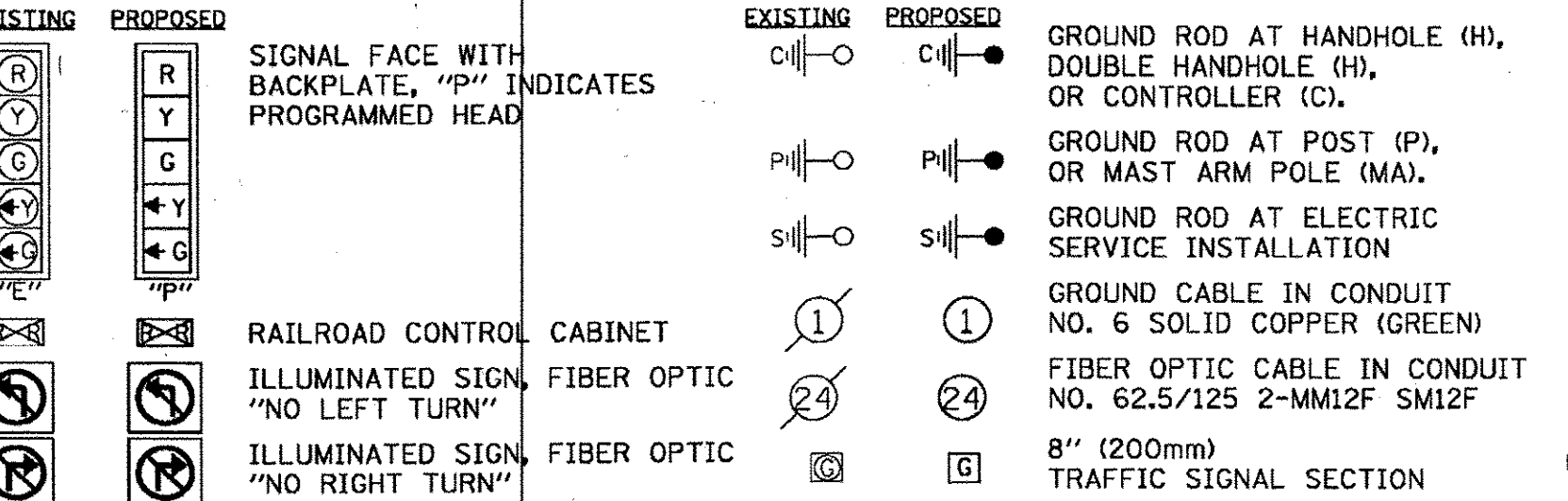
SECTION: 01-AS020-02-RP

EXISTING	PROPOSED	DESCRIPTION
(P)	(P)	PREFORMED DETECTOR LOOP
(2)	(2)	DENOTES NUMBER OF CONDUCTORS, ALL CABLE NO. 14 EXCEPT AS INDICATED. ALL LOOP DETECTOR CABLE TO BE SHIELDED.
(1)	(1)	VIDEO DETECTION CAMERA NO. 14 1/C TRACER CABLE
(3)	(3)	OPTICOM CABLE NO. 20 3C
(SOOW)	(SOOW)	ELECTRIC CABLE NO. 14 3C SOOW
(V)	(V)	ELECTRIC CABLE, VIDEO DETECTION SYSTEM

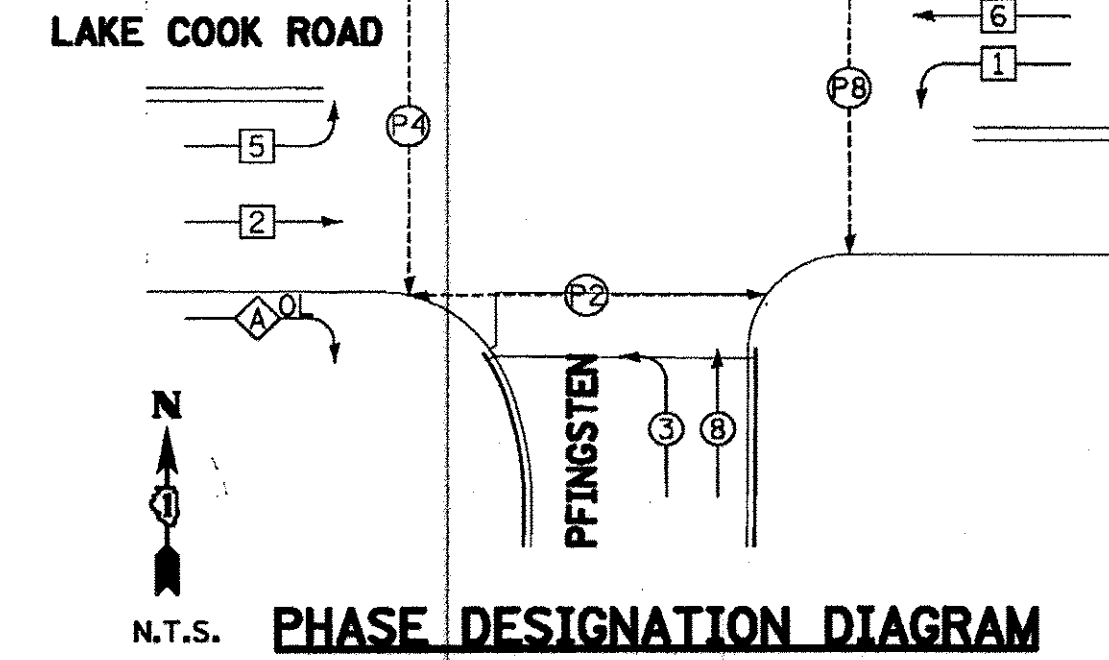
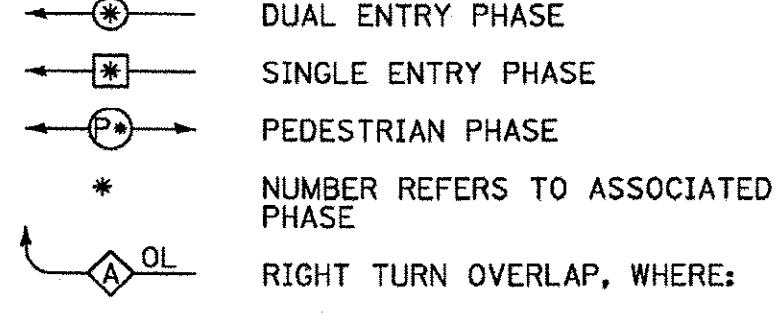
**BILL OF MATERIALS**

SIGN PANEL - TYPE 1	50 FT	20
CONDUIT IN TRENCH, 2" DIA., GALVANIZED STEEL	FOOT	964
CONDUIT IN TRENCH, 2 1/2" DIA., GALVANIZED STEEL	FOOT	37
CONDUIT IN TRENCH, 3" DIA., GALVANIZED STEEL	FOOT	13
CONDUIT IN TRENCH, 3 1/2" DIA., GALVANIZED STEEL	FOOT	8
CONDUIT IN TRENCH, 4" DIA., GALVANIZED STEEL	FOOT	292
CONDUIT IN TRENCH, 5" DIA., GALVANIZED STEEL	FOOT	234
HANDHOLE	EACH	8
DOUBLE HANDHOLE	EACH	2
TRENCH AND BACKFILL FOR ELECTRICAL WORK	FOOT	1312
FULL-ACTUATED CONTROLLER AND TYPE V CABINET	EACH	1
TRANSCEIVER - FIBER OPTIC	EACH	1
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 2C	FOOT	1085
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C	FOOT	2274
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C	FOOT	2555
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 7C	FOOT	1414
ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14 1 PAIR	FOOT	4576
ELECTRIC CABLE IN CONDUIT, SERVICE, NO. 6 2 C	FOOT	34
TRAFFIC SIGNAL POST, GALVANIZED STEEL 14 FT.	EACH	3
TRAFFIC SIGNAL POST, GALVANIZED STEEL 16 FT.	EACH	1
STEEL MAST ARM ASSEMBLY AND POLE, 20 FT.	EACH	1
STEEL COMBINATION MAST ARM ASSEMBLY AND POLE, 52 FT. WITH 15 FT. ARM	EACH	1
STEEL COMBINATION MAST ARM ASSEMBLY AND POLE, 54 FT. WITH 15 FT. ARM	EACH	1
STEEL MAST ARM ASSEMBLY AND POLE, 58 FT.	EACH	1
CONCRETE FOUNDATION, TYPE A	EACH	12
CONCRETE FOUNDATION, TYPE B	EACH	4
CONCRETE FOUNDATION, TYPE E 30-INCH DIAMETER	FOOT	10
CONCRETE FOUNDATION, TYPE E 36-INCH DIAMETER	FOOT	45
CONCRETE FOUNDATION, TYPE E 42-INCH DIAMETER	FOOT	21
DRILL EXISTING HANDHOLE	FOOT	12
TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM	EACH	1
INDUCTIVE LOOP DETECTOR	EACH	13
DETECTOR LOOP, TYPE I	FOOT	21
LIGHT DETECTOR	EACH	1
LIGHT DETECTOR AMPLIFIER	EACH	1
PEDESTRIAN PUSH-BUTTON	EACH	1
TEMPORARY TRAFFIC SIGNAL INSTALLATION	EACH	1
RELOCATE EXISTING EMERGENCY VEHICLE PRIORITY SYSTEM, DETECTOR UNIT	EACH	1
REMOVE ELECTRIC CABLE FROM CONDUIT	FOOT	494
REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	1
REMOVE EXISTING HANDHOLE	EACH	1
REMOVE EXISTING CONCRETE FOUNDATION	EACH	1
ELECTRIC CABLE IN CONDUIT, GROUND, NO. 6 1C (GREEN)	FOOT	571
PREFORMED DETECTOR LOOP	FOOT	544
SERVICE INSTALLATION - POLE MOUNTED	EACH	1
UNINTERRUPTIBLE POWER SUPPLY	EACH	1
ELECTRIC CABLE IN CONDUIT NO. 20 3/C, TWISTED, SHIELDED	FOOT	180
SIGNAL HEAD LED, 1-FACE, 3-SECTION, MAST-ARM MOUNTED	EACH	1
SIGNAL HEAD LED, 1-FACE, 5-SECTION, MAST-ARM MOUNTED	EACH	1
SIGNAL HEAD LED, 2-FACE, 3-SECTION, BRACKET MOUNTED	EACH	1
SIGNAL HEAD LED, 2-FACE, 1-3 SECTION, 1-5, SECTION BRACKET MOUNTED	EACH	1
PEDESTRIAN COUNTDOWN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED	EACH	1
PEDESTRIAN COUNTDOWN SIGNAL HEAD, LED, 2-FACE, BRACKET MOUNTED	EACH	1
TEMPORARY TRAFFIC SIGNAL TIMINGS	EACH	1
RELOCATE ILLUMINATED STREET NAME SIGN, LED	EACH	1
ELECTRICAL CABLE IN CONDUIT, STREET NAME SIGN, NO. 14 3C TYPE SOOW	FOOT	801
ELECTRIC CABLE, VIDEO DETECTION SYSTEM	FOOT	121
VIDEO DETECTION SYSTEM, SINGLE CAMERA / PROCESSOR VIDEO DETECTION	EACH	1
4" x 4" x 1/2" A.C. SILL	Each	1
Relocation Push-Button, Post, (Gold med.) Type 1	Each	1
	Each	1

**CABLE PLAN LEGEND**

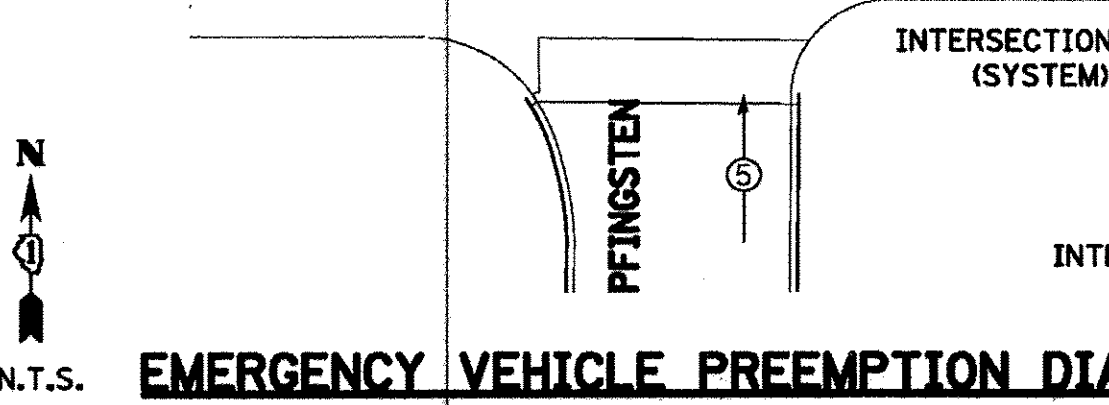
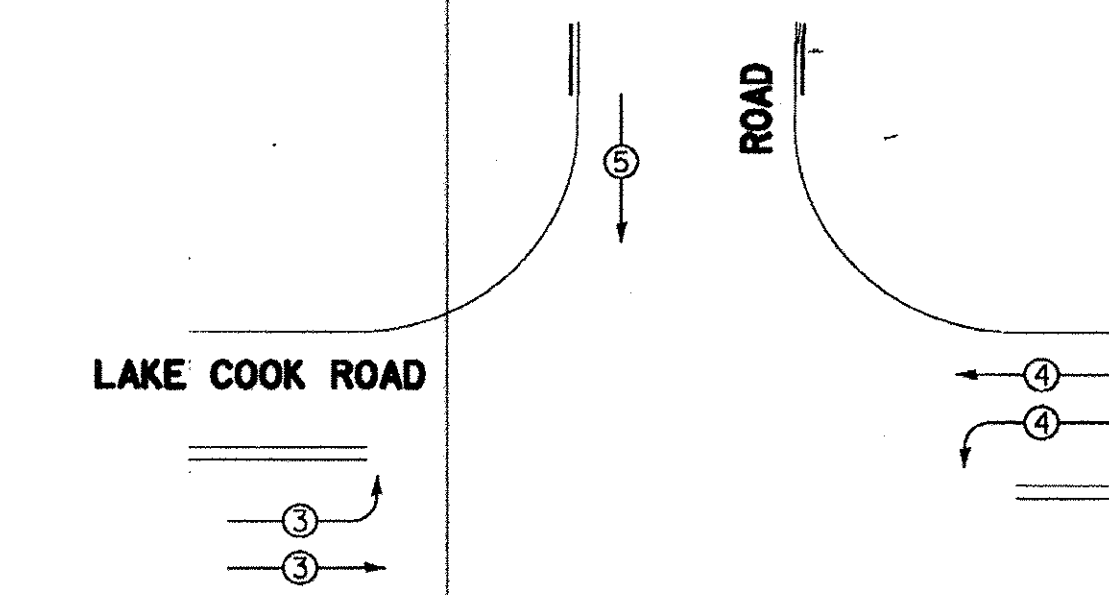


**PHASE DIAGRAM LEGEND**



**PROPOSED EMERGENCY VEHICLE PREEMPTORS**

EMERGENCY VEHICLE PREEMPTORS	3	4	5
MOVEMENT	→	→	→



**C.C.H.D. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS**

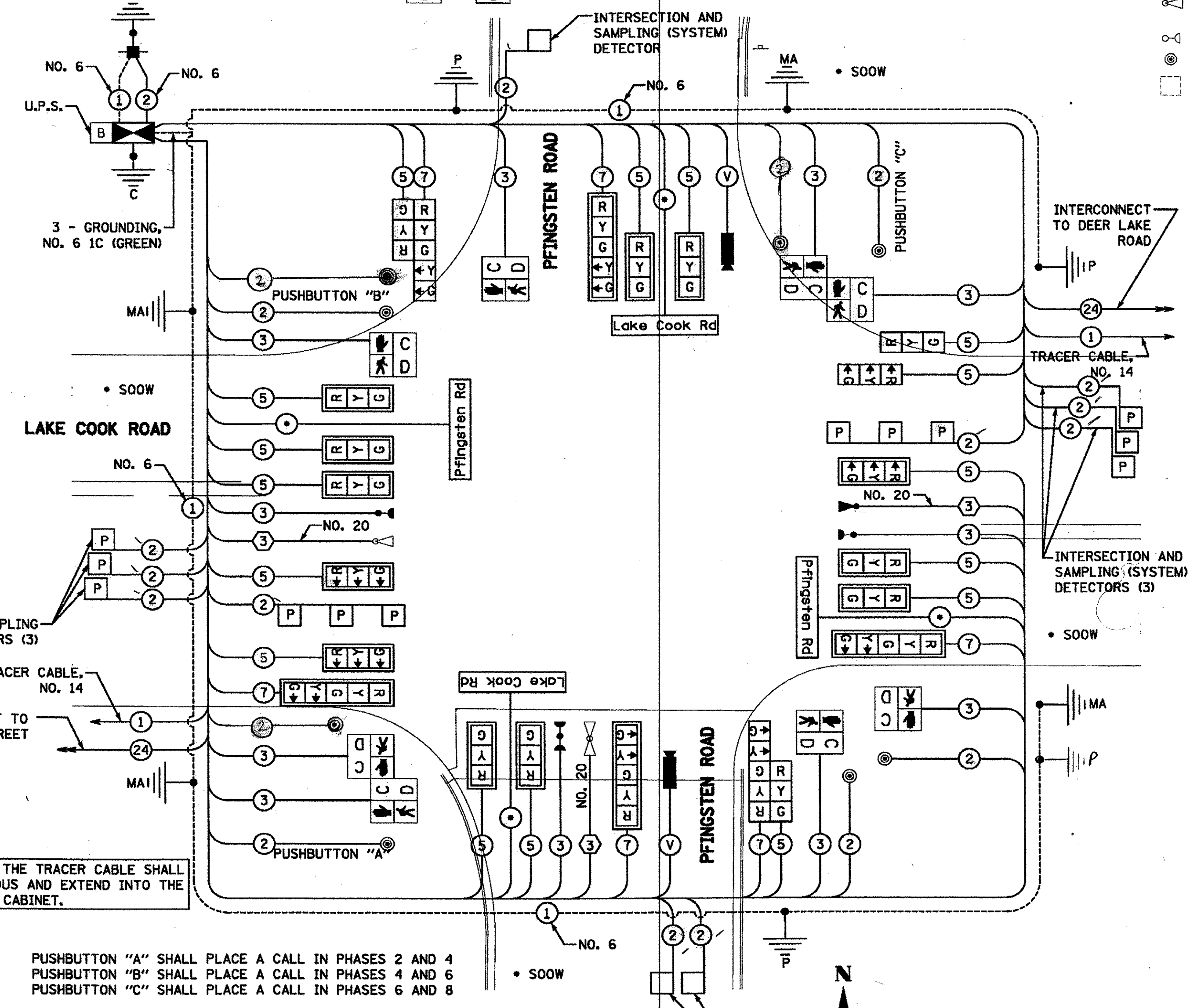
TYPE	NO. OF LAMPS	WATTAGE	TOTAL WATTAGE
SIGNAL (RED)	16	17	0.50
(YELLOW)	16	25	0.25
(GREEN)	16	15	0.25
ARROW	10	12	0.10
PED. SIGNAL	8	25	1.00
CONTROLLER	1	100	1.00
ILLUM. SIGN	4	25	0.05
VIDEO SYSTEM	1	150	1.50
FLASHER	0	25	0.50
ENERGY COST TO:		TOTAL =	763.0

PUSHBUTTON "A" SHALL PLACE A CALL IN PHASES 2 AND 4  
 PUSHBUTTON "B" SHALL PLACE A CALL IN PHASES 4 AND 6  
 PUSHBUTTON "C" SHALL PLACE A CALL IN PHASES 6 AND 8

**CABLE SLACK**

ITEM	FT. (m)	VERTICAL	FT. (m)
HANDHOLE	6.5 (2.0)	ALL FOUNDATIONS	3.5 (1.1)
DOUBLE HANDHOLE	13 (4.0)	MAST ARM (LT POLE)	20'-H= (6m+H)=
SIGNAL POST	2 (0.6)	BRACKET MOUNTED	13 (4.0)
CONTROLLER CAB.	1 (0.3)	PED. PUSHBUTTON	4 (1.2)
FIBER OPTIC	13 (4.0)	ELECTRIC SERVICE	13.5 (4.1)
ELECTRIC SERVICE	1 (0.3)	SERVICE TO GROUND	13.5 (4.1)
GROUND CABLE	1 (0.3)	POST MOUNTED	6 (1.8)

**CABLE PLAN**



THE END OF THE TRACER CABLE SHALL BE CONTINUOUS AND EXTEND INTO THE CONTROLLER CABINET.

NOTE:  
 ALL TRAFFIC SIGNAL EXISTING CONTROL EQUIPMENT SHALL BE "ECONOLITE" TO MATCH THE EXISTING ADJACENT SYSTEM EQUIPMENT.  
 ALL EMERGENCY VEHICLE PRIORITY EQUIPMENT SHALL BE 3M OPTICOM BRAND.

**FOR INFORMATIONAL PURPOSES ONLY**

**COUNTY OF COOK DEPARTMENT OF HIGHWAYS**

**CABLE PLAN, PHASE DESIGNATION DIAGRAM AND SUMMARY OF QUANTITIES LAKE COOK ROAD AND PFINGSTEN ROAD**

COMPUTED_MJT	APPROVED	20
DRAWN_MJT		
CHECKED_BA		

TD-5

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 FILE NAME = N:\PROJ\110029536\01-AS020-02-RP\01-AS020-02-RP.dwg

**ENGINEERING CONSULTANT**  
**Clorba Group, Inc.**  
 CONSULTING ENGINEERS  
 5507 North Cumberland Avenue, Suite 402  
 Chicago, Illinois 60630  
 Tel: 773.775.4009 Fax 773.775.4014  
 Email: chicago@clorba.com

USER NAME = jettanosoo	DESIGNED - JMV	REVISED -
PLOT SCALE = 20.0000' / in.	DRAWN - JMV	REVISED -
PLOT DATE = 12/5/2016	CHECKED - DJO	REVISED -
	DATE - 12/5/2016	REVISED -

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

**PFINGSTEN/KATES ROAD IMPROVEMENTS**  
**RECORD DRAWINGS**  
**PFINGSTEN ROAD AT LAKE COOK ROAD**

SCALE: N.T.S. SHEET NO. 3 OF 3 SHEETS STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3699	14-00098-00-BR	LAKE	102	48
CONTRACT NO. 61D63				
FED. ROAD DIST. NO. 1 [ILLINOIS] FED. AID PROJECT M-BRM-4003(391)				



Bench Mark: Monument 2007-42-NE corner of Kates Road and Kelburn Road Elev. 680.81

Existing Structure: S.N. 049-6003 was constructed in 1987, under Section 14-00098-BR. This single span structure consists of pre-cast 42in prestressed concrete box beams with a 1 1/2 bituminous overlay. Superstructure and abutments to be removed and replaced with a single span PPC I-Beam structure on semi-integral abutments. Existing piles will be incorporated into proposed abutments. Existing MSE walls will be repaired and reused. The roadway will be closed during construction and traffic will use a detour.

**TOP OF TRACK 1 ELEVATION**

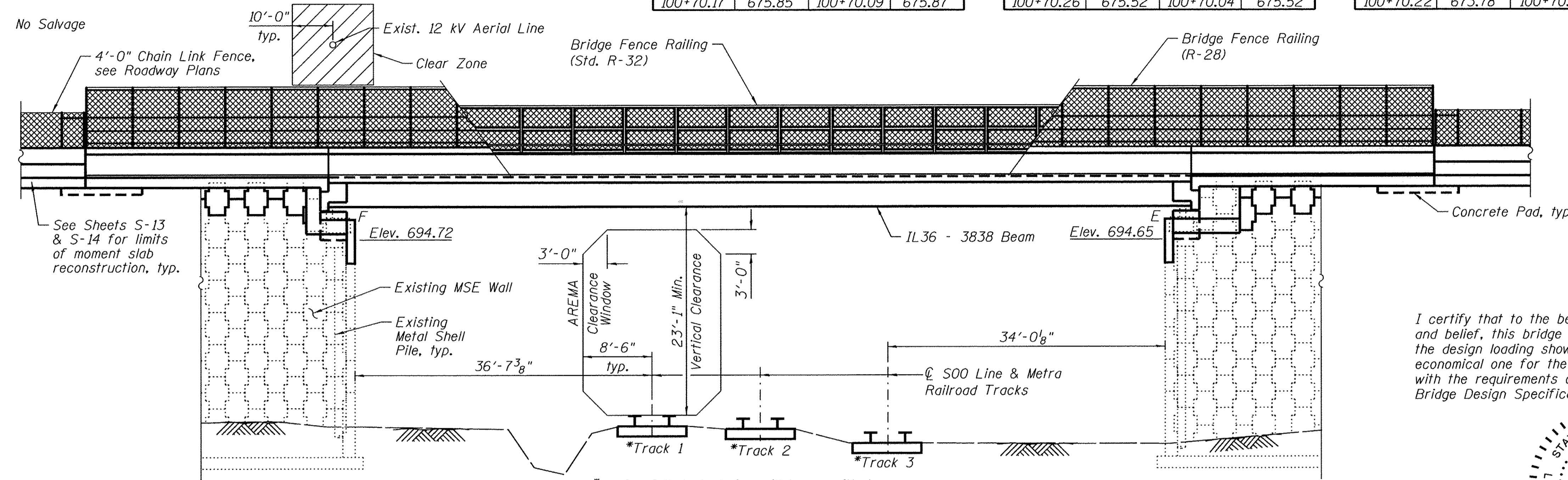
LEFT RAIL		RIGHT RAIL	
Station	Elevation	Station	Elevation
99+27.87	675.08	99+28.05	675.09
99+83.89	675.39	99+84.09	675.39
100+19.87	675.58	100+19.46	675.58
100+70.17	675.85	100+70.09	675.87

**TOP OF TRACK 2 ELEVATION**

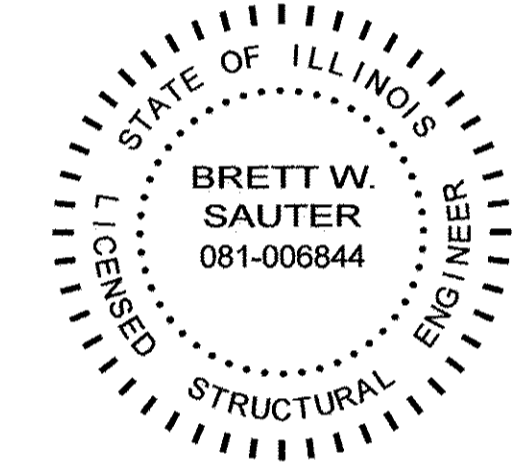
LEFT RAIL		RIGHT RAIL	
Station	Elevation	Station	Elevation
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99+84.24	675.11	99+83.97	675.10
100+19.80	675.27	100+19.94	675.28
100+70.26	675.52	100+70.04	675.52

**TOP OF TRACK 3 ELEVATION**

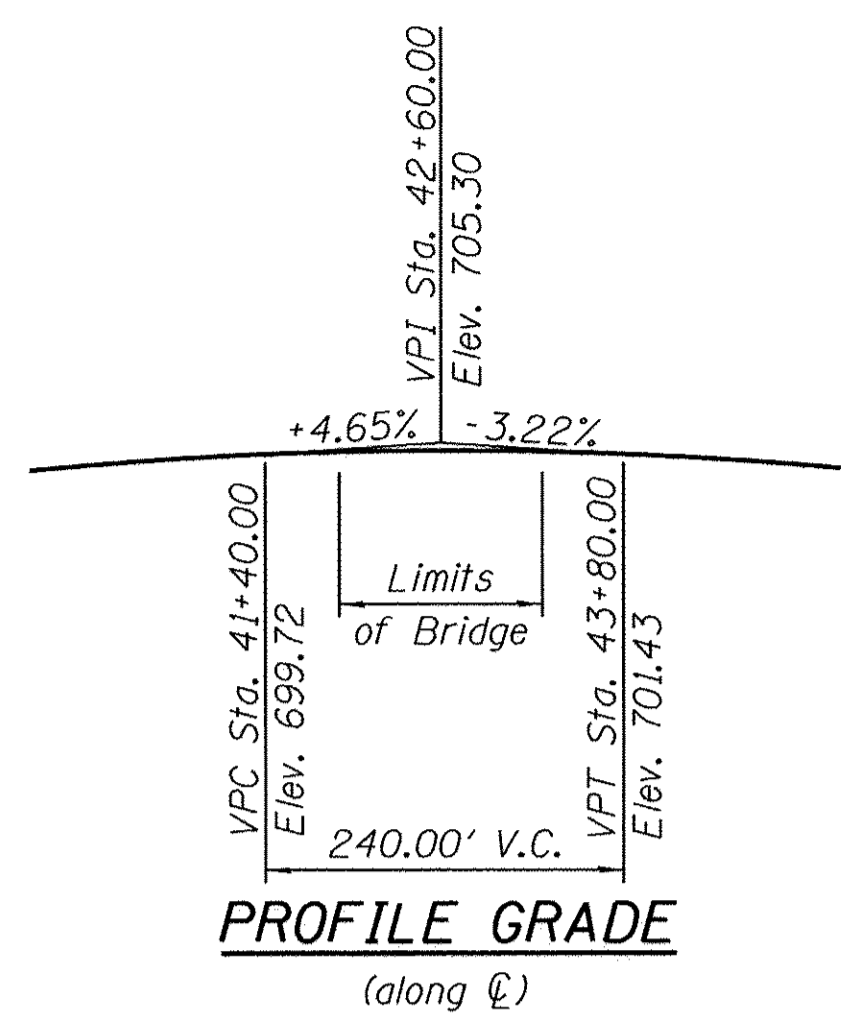
LEFT RAIL		RIGHT RAIL	
Station	Elevation	Station	Elevation
99+28.61	673.11	99+28.61	673.09
99+84.10	673.39	99+84.19	673.37
100+20.04	673.47	100+20.02	673.44
100+70.22	673.78	100+70.27	673.77



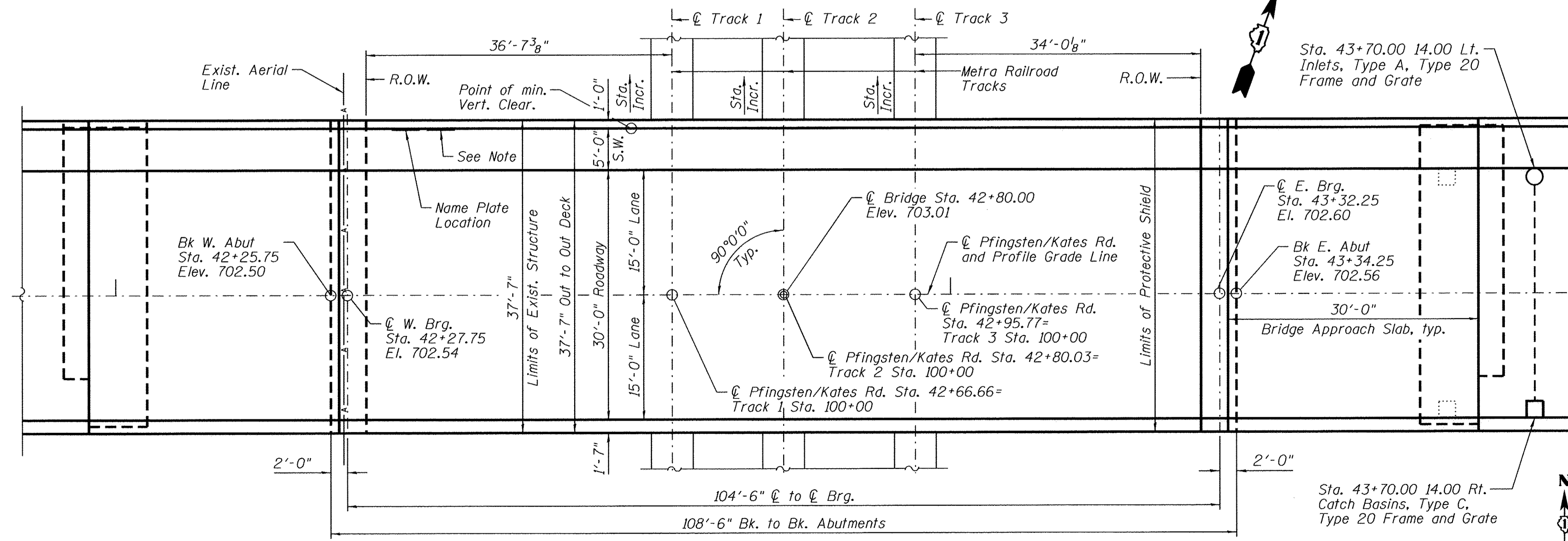
I certify that to the best of my knowledge, information and belief, this bridge design is structurally adequate for the design loading shown on the plans. The design is an economical one for the style of structure and complies with the requirements of the current "AASHTO LRFD Bridge Design Specifications"



DATE: 12/1/2016  
SEAL EXPIRES: 11/30/2018



**ELEVATION**  
(Looking North)



Note:  
Existing dedication brass plaque to be salvaged, cleaned and reinstalled at location shown above, paid for as Remove and Relocate Existing Plaque.

**PLAN**

**DESIGN SPECIFICATIONS**

2014 AASHTO LRFD Bridge Design Specifications, 7th Edition and 2016 Interim

**LOADING HL-93**

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

**DESIGN STRESSES**

**FIELD UNITS**

f'c = 4,000 psi (Deck, Approach Slab, and Moment Slab)  
f'c = 3,500 psi (Substructure)  
fy = 60,000 psi (Reinforcement)

**PRECAST PRESTRESSED UNITS**

f'c = 8,500 psi (Beam)  
f'ci = 7,000 psi (Beam)  
fpu = 270,000 psi (0.6" φ Low Lax Strands)  
fpbt = 202,500 psi

**SEISMIC DATA**

Seismic Performance Zone (SPZ) = 1  
Design Spectral Acceleration at 1.0 sec. (SD1) = 0.04g  
Design Spectral Acceleration at 0.2 sec. (SD5) = 0.08g  
Soil Site Class = D

**GENERAL PLAN & ELEVATION  
PFINGSTEN/KATES ROAD (F.A.U. 3699)**

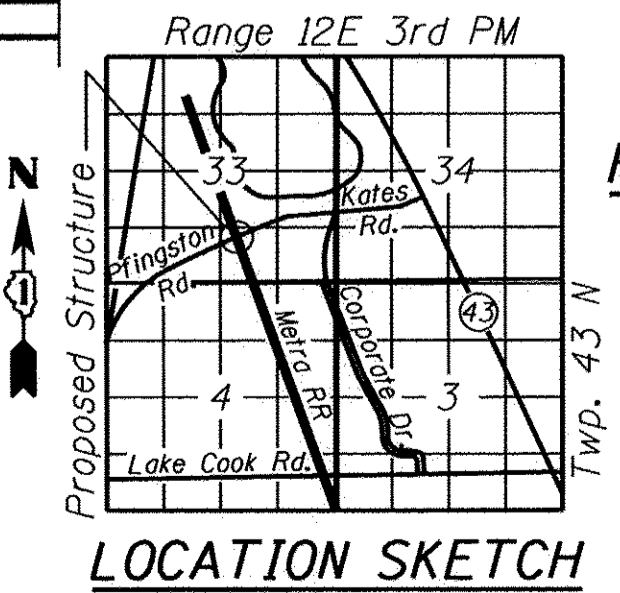
**OVER METRA TRACKS**

**SECTION 14-00098-00-BR**

**LAKE COUNTY**

**STATION 42+80.00**

**STRUCTURE NO. 049-6003**



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DESIGNED - APD	CHECKED - BWS	REVISED -
CHECKED - BWS	DRAWN - SBA	REVISED -
DRAWN - SBA	CHECKED - BWS	REVISED -
CHECKED - BWS	REVISED -	

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

SHEET NO. S-1 OF S-33 SHEETS

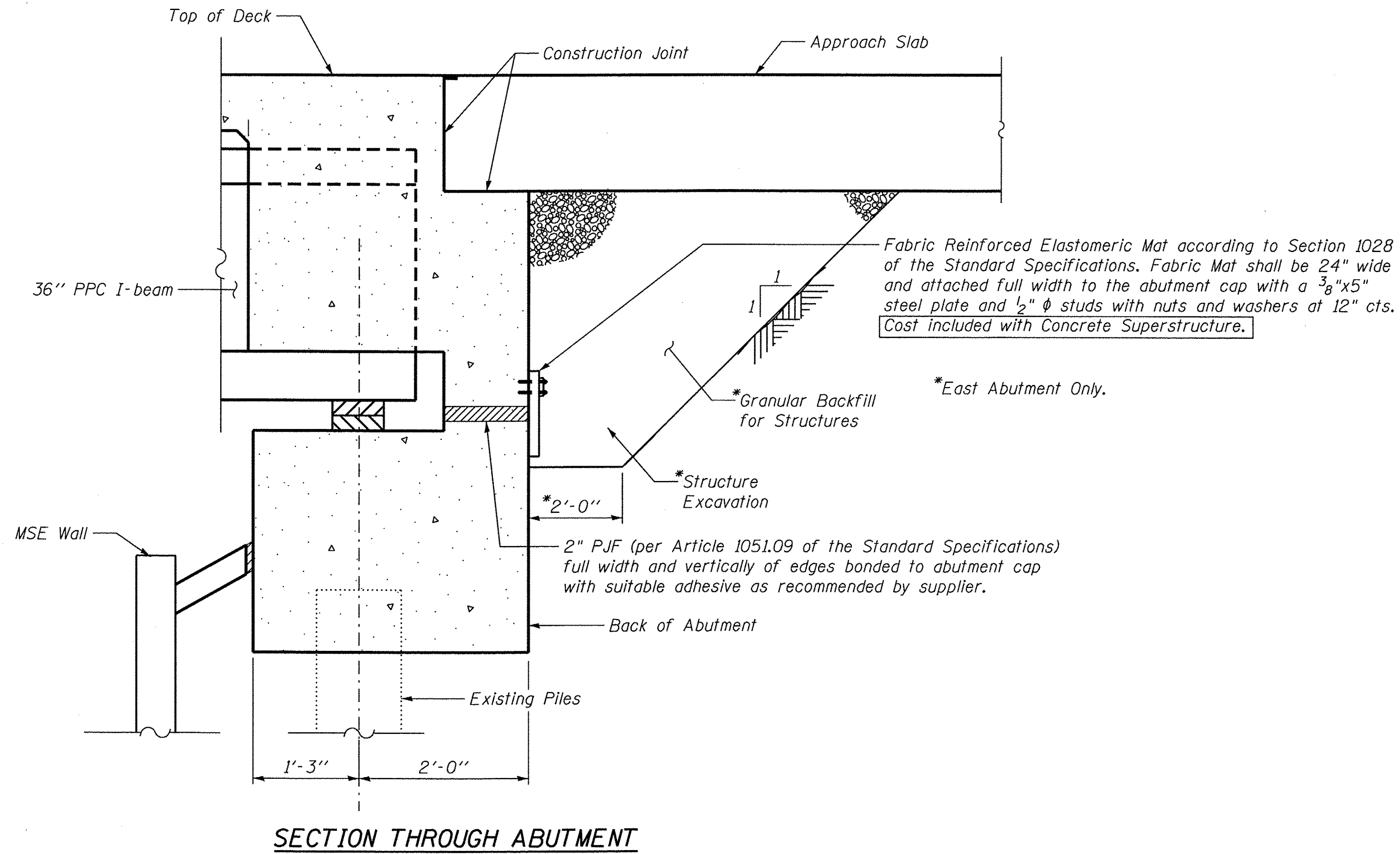
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3699	14-00098-00-BR	LAKE	33	49
CONTRACT NO. 61D63				
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT			M-BRM-4003(391)	

**GENERAL NOTES**

1. Reinforcement bars designated (E) shall be epoxy coated.
2. Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.
3. Slip forming of the parapets is not allowed.

**INDEX OF SHEETS**

- S-1 General Plan and Elevation
- S-2 General Notes, Bill of Materials & Index of Sheets
- S-3 Removal Plan
- S-4 Existing MSE Wall 1
- S-5 Existing MSE Wall 2
- S-6 Existing MSE Wall 3
- S-7 Existing MSE Wall 4
- S-8 Existing MSE Wall 5
- S-9 W. MSE Wall Removal
- S-10 E. MSE Wall Removal
- S-11 Proposed West MSE Wall
- S-12 Proposed East MSE Wall
- S-13 Moment Slab Plan and Elevation 1
- S-14 Moment Slab Plan and Elevation 2
- S-15 Moment Slab Details
- S-16 Wingwall and MSE Wall Details
- S-17 Top of Slab Elevations 1
- S-18 Top of Slab Elevations 2
- S-19 Top of W. Approach Slab Elevations
- S-20 Top of E. Approach Slab Elevations
- S-21 Deck Plan and Cross Section
- S-22 Superstructure Details 1
- S-23 Superstructure Details 2
- S-24 Bridge Approach Slab Details 1
- S-25 Bridge Approach Slab Details 2
- S-26 Bridge Fence Railing, Parapet Mounted 1
- S-27 Bridge Fence Railing, Parapet Mounted 2
- S-28 Framing Plan
- S-29 Prestressed Beam Details 1
- S-30 Prestressed Beam Details 2
- S-31 Bearing Details
- S-32 West Abutment
- S-33 East Abutment



**TOTAL BILL OF MATERIAL**

ITEM	UNIT	SUPER	SUB	TOTAL
Removal of Existing Superstructures	Each	1		1
Concrete Removal	Cu. Yd.		148.1	148.1
Protective Shield	Sq. Yd.	418		418
Structure Excavation	Cu. Yd.		4	4
Concrete Structures	Cu. Yd.		63.9	63.9
Concrete Superstructure	Cu. Yd.	284.9		284.9
Bridge Deck Grooving	Sq. Yd.	519		519
Protective Coat	Sq. Yd.	788		788
Concrete Superstructure (Approach Slab)	Cu. Yd.	114.5		114.5
Furnishing And Erecting Precast Prestressed Concrete I-Beams, IL36	Foot	741		741
Furnishing And Erecting Structural Steel	Pound	2,470		2,470
Reinforcement Bars, Epoxy Coated	Pound	87,150	4,380	91,530
Bridge Fence Railing	Foot	334		334
Name Plates	Each	1		1
Elastomeric Bearing Assembly, Type I	Each	7		7
Anchor Bolts, 1"	Each	28		28
Mechanically Stabilized Earth Retaining Wall	Sq. Ft.		1,388	1,388
Retaining Wall Removal	Sq. Ft.		1,753	1,753
Drainage System (Special)	L Sum	1		1
Granular Backfill For Structures	Cu. Yd.	22		22
Remove and Relocate Existing Plaque	Each	1		1

STATION 42+80.00  
 BUILT 2011 BY  
 VILLAGE OF DEERFIELD  
 SECTION 14-00098-00-BR  
 STA. 42+80.00  
 STR. NO. 049-6003  
 LOADING HL93

**NAME PLATE**  
 See Std. 515001

N:\PROJECTS\002020536\002020536.dgn Bridge\_02.General Notes Bill of Materials and Index of Sheets.dgn

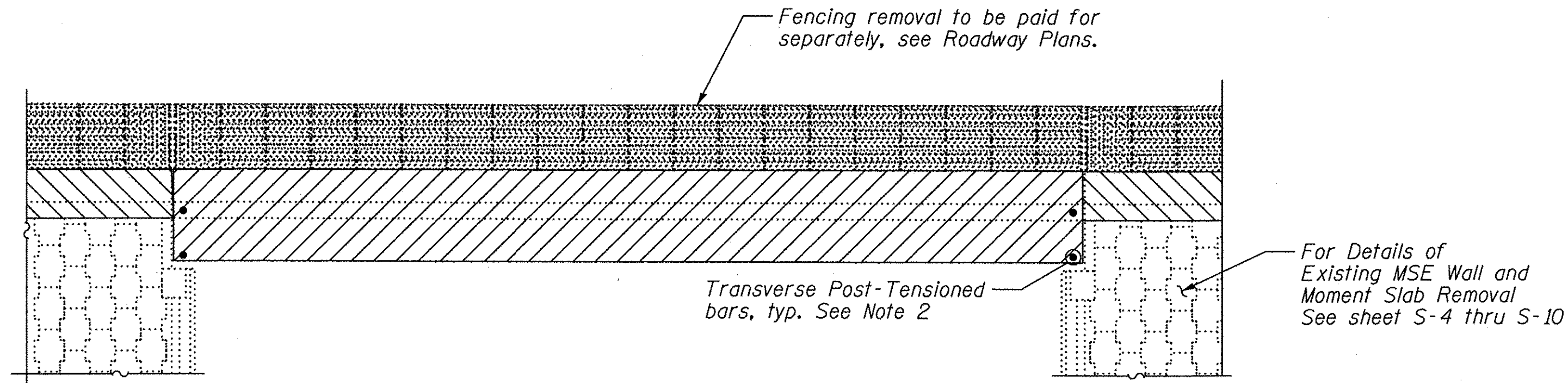


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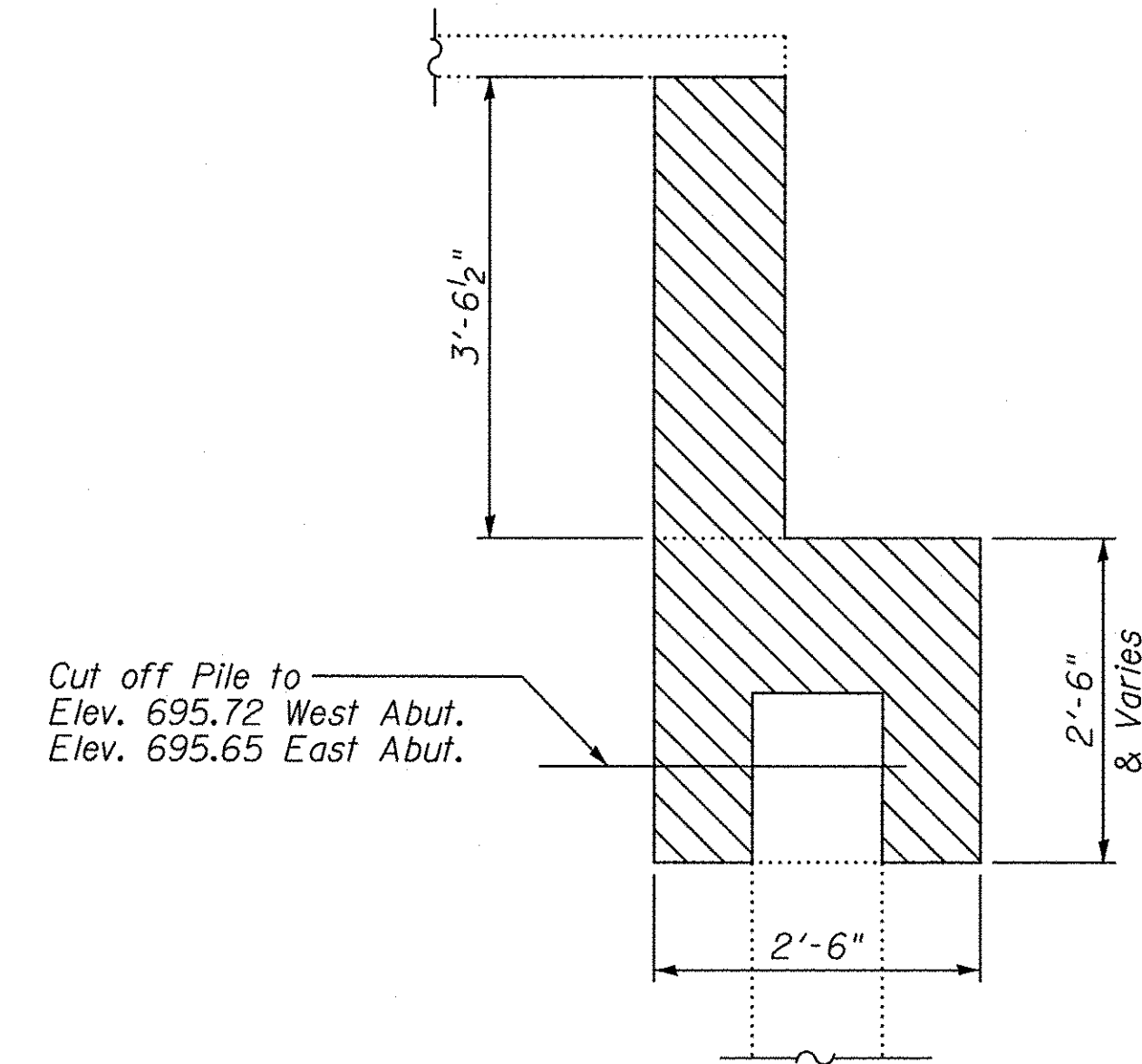
STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

GENERAL NOTES, BILL OF MATERIALS & INDEX OF SHEETS  
 STRUCTURE NO. 049-6003

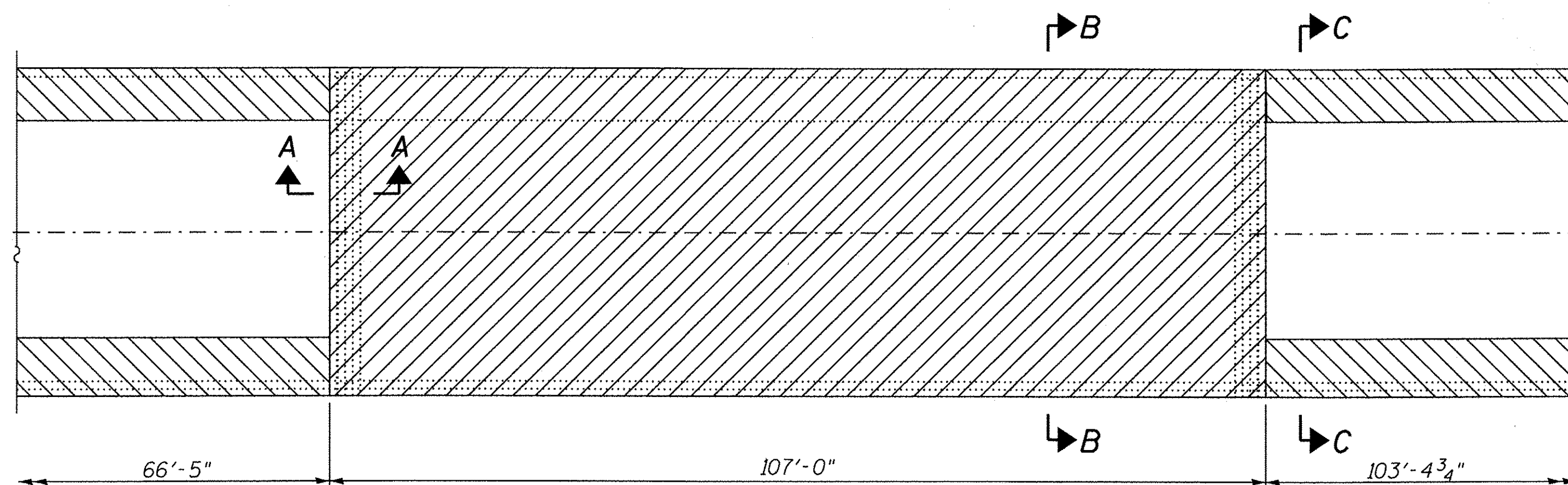
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FED. ROAD DIST. NO. 1			CONTRACT NO. 61D63	
ILLINOIS FED. AID PROJECT			M-BRM-4003(391)	



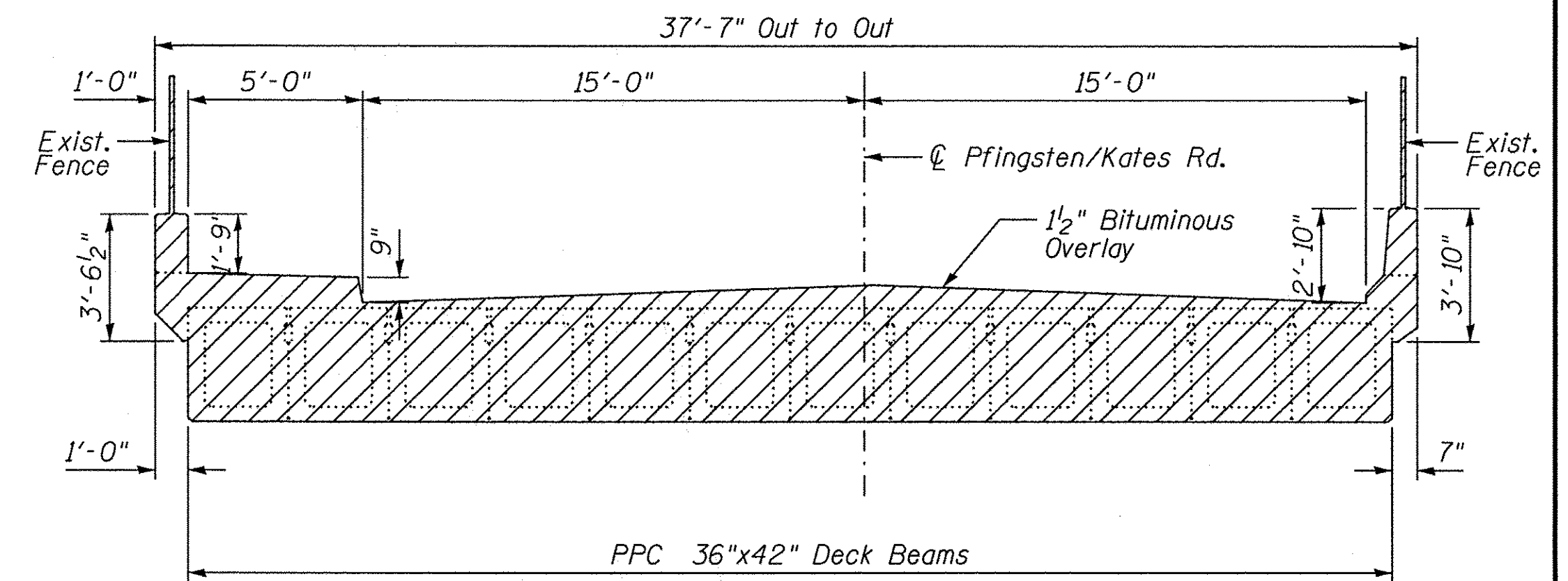
**ELEVATION**  
(Looking North)



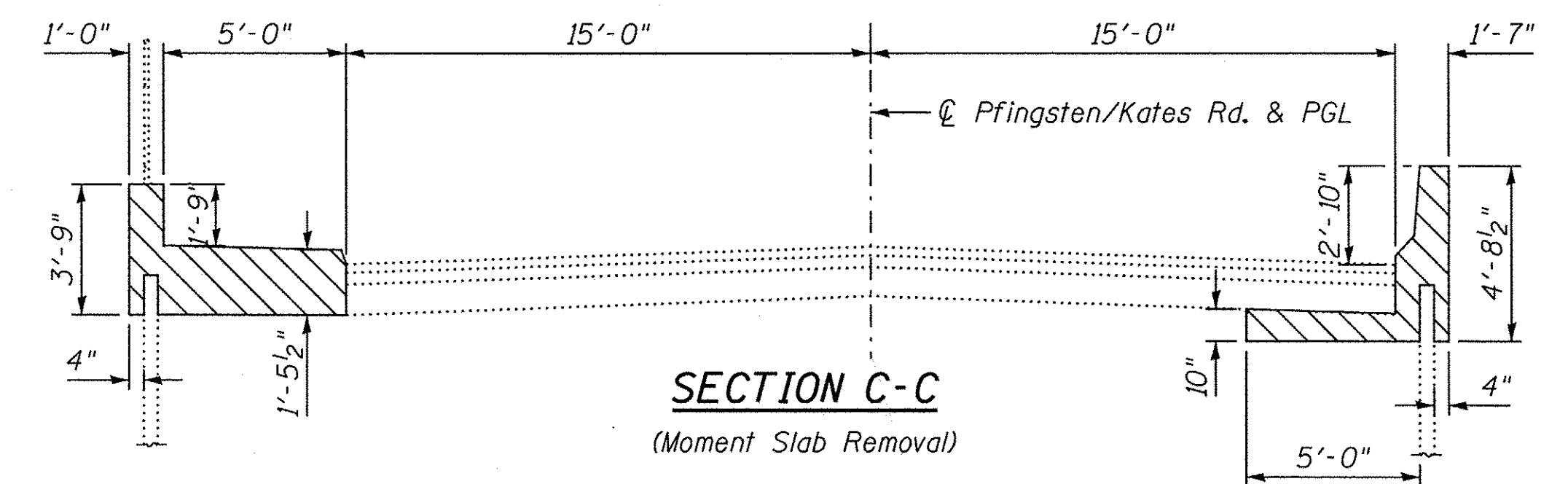
**SECTION A-A**  
(Deck and Deck Beams are not shown for clarity)



**PLAN**



**SECTION B-B**



**SECTION C-C**  
(Moment Slab Removal)

**LEGEND**

- Removal of Existing Superstructure
- Concrete Removal

**BILL OF MATERIAL**  
(Abutments Only)

Concrete Removal	Cu. Yd.	26.2
------------------	---------	------

**NOTES:**

1. Existing PPC Deck beams are in a deteriorated condition with reduced load carrying capacity. It is a Contractor's responsibility to account for the condition of the beams when developing removal procedures.
2. Post-Tensioned bars should not be cut when removed but loosened and then removed.

N:\PROJ\0020536.00\0020536.01\Design\Structural\CAD\PFingsten\_Bridge\_03\_Removal\_Plan.dgn



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

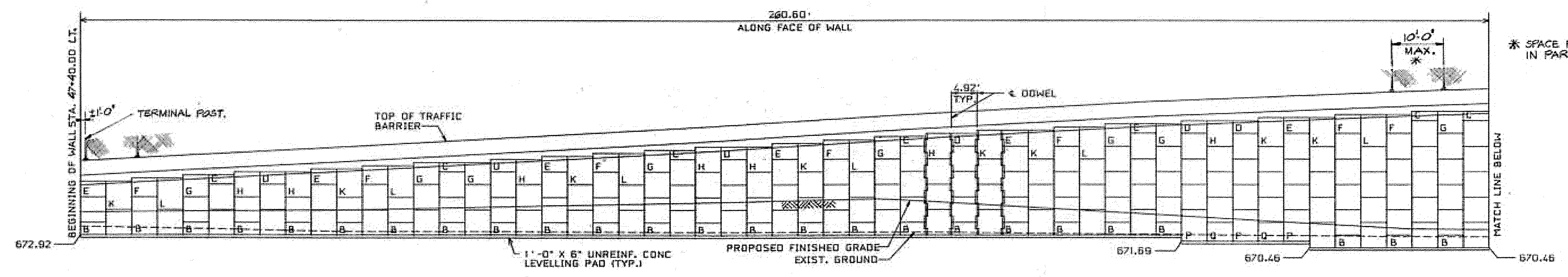
**REMOVAL PLAN**  
**STRUCTURE NO. 049-6003**

SHEET NO. S-3 OF S-33 SHEETS

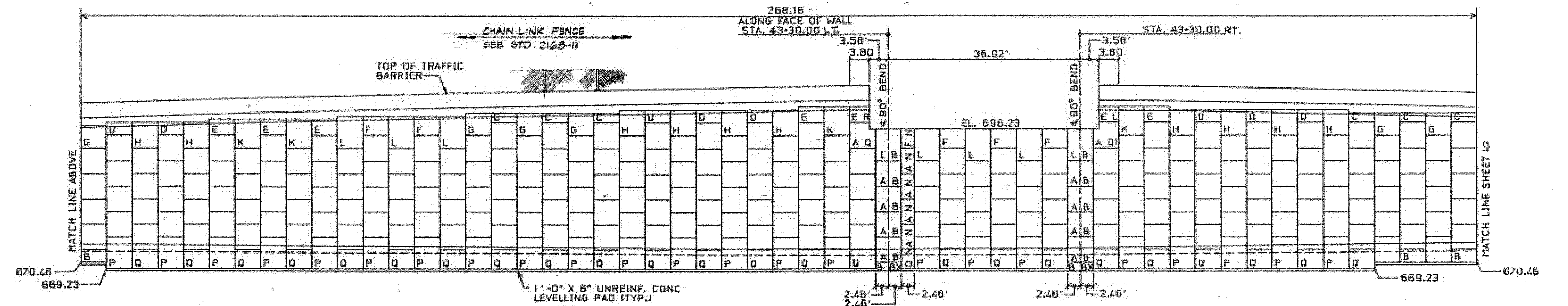
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			M-BRM-40033911	

ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
			16	20
FED. ROAD DIST. NO. 1 ILLINOIS PROJECT				

Sheet 9 of 13



**EAST WALL  
ELEVATION - FRONT FACE**  
SCALE: 1"=10'



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Reinforced Earth Company  
1750 North Moore Street, Arlington, Virginia 22209  
(703) 827-9484

**REINFORCED EARTH WALL**

VILLAGE OF DEERFIELD  
PFRINGSTEN ROAD EXTENSION  
BRIDGE OVER 500 LINE  
LAKE COUNTY

SCALE: \_\_\_\_\_ DRAWN BY: \_\_\_\_\_  
DATE: OCT. 1986 CHECKED BY: \_\_\_\_\_

FOR INFORMATION ONLY

N:\PROJECTS\0220536\00\0220536\01\Design\Structural\CAD\PFringsten\_Bridge\_04\_Ext MSE Wall 1.dgn

**CG Corba Group, Inc.**  
CONSULTING ENGINEERS  
5307 North Cornfield Avenue  
Suite 402 Chicago, Illinois 60656  
Tel: 773.775.4050  
Fax: 773.775.4874  
Email: ccorba@corba.com

USER NAME = jattansoo	DESIGNED -	REVISED -
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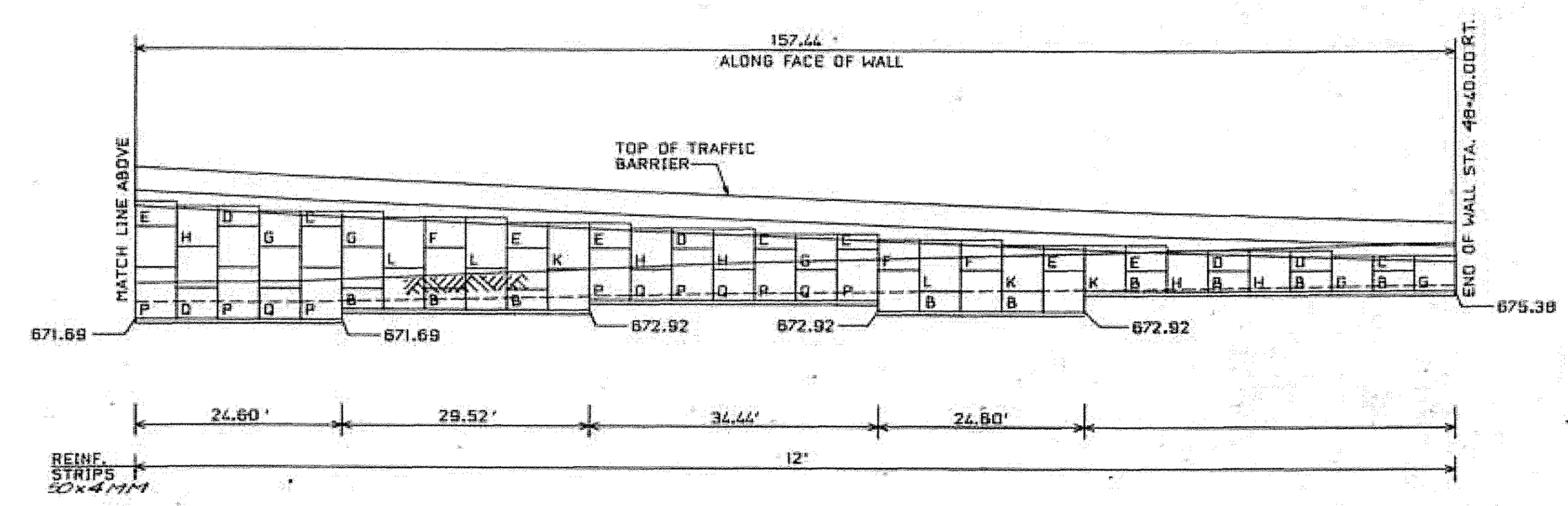
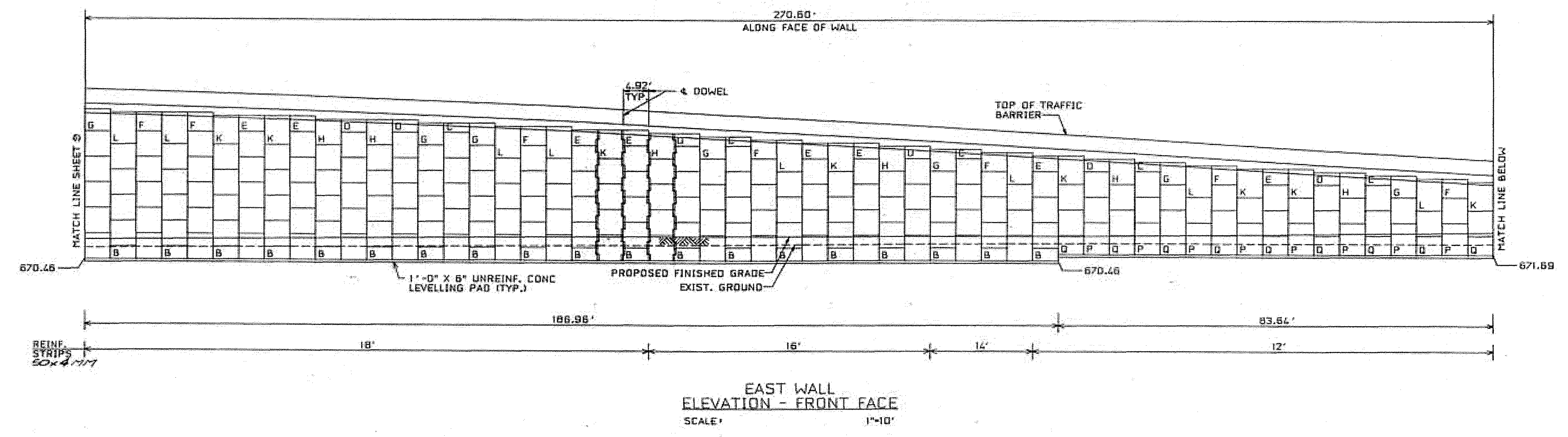
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**EXISTING MSE WALL 1  
STRUCTURE NO. 049-6003**  
SHEET NO. S-4 OF S-33 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3699	14-00098-00-BR	LAKE	102	52
CONTRACT NO. 61D63				
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				M-BRM-400313911

ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
			15	20
FED. ROAD DIST. NO. 1 ILLINOIS PROJECT				

Sheet 10 of 13



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 (703) 487-2634

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**REINFORCED EARTH WALL**

VILLAGE OF DEERFIELD  
 PRINGSTEN ROAD EXTENSION  
 BRIDGE OVER 500 LINE  
 LAKE COUNTY

SCALE: DATE: OCT. 1986

DRAWN BY: CHECKED BY: J. J.

FOR INFORMATION ONLY

N:\PROJ\0220536\00\0220536\01\Design\Structural\CAD\Pringsten\_Bridge\_05\_Ext MSE Wall 2.dgn

**CG Clorba Group, Inc.**  
 CONSULTING ENGINEERS  
 5502 North Cumberland Avenue  
 Suite 402 Chicago, Illinois 60656  
 Tel: 773 775 4400  
 Fax: 773 775 4414  
 Email: cllorba@clorba.com

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PLOT SCALE = 0.0833 sf / in.	CHECKED -	REVISED -
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STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

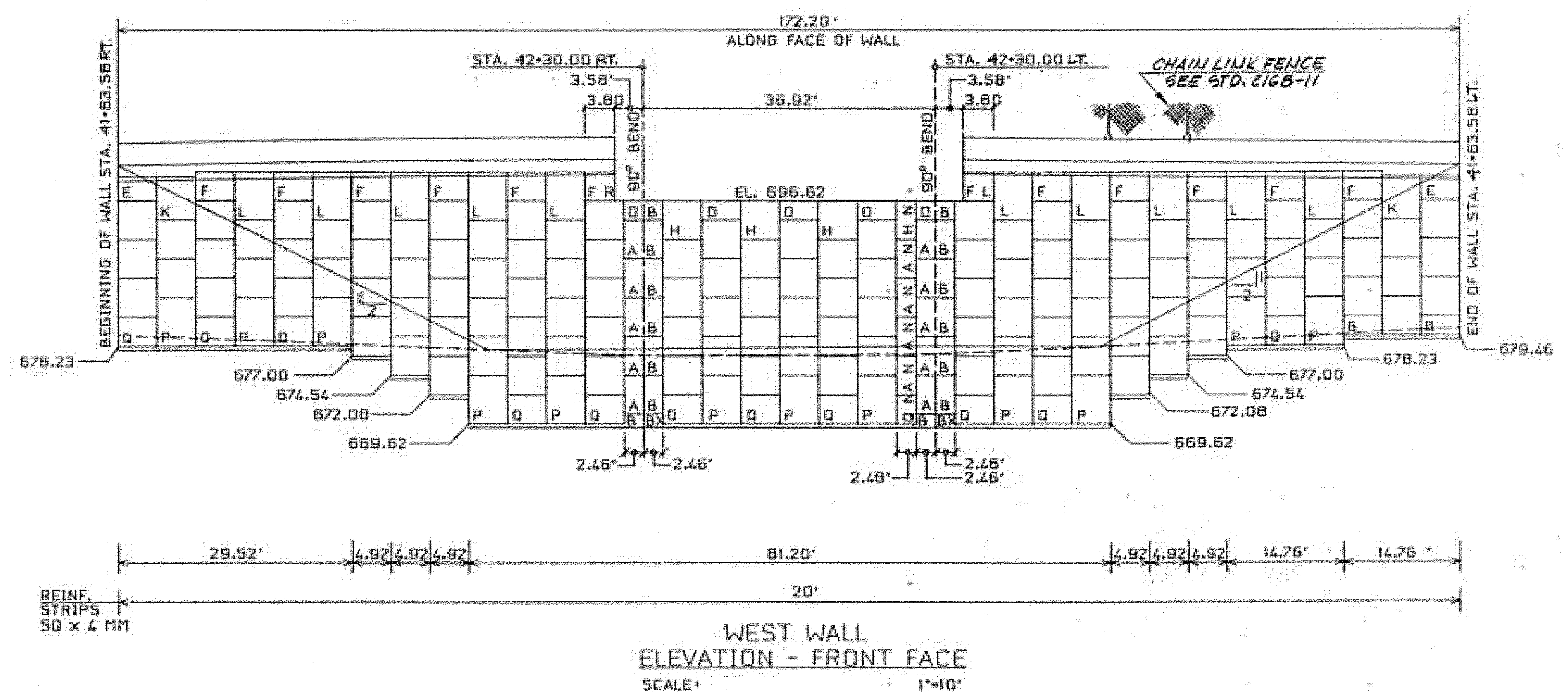
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 STRUCTURE NO. 049-6003

SHEET NO. S-5 OF S-33 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 61D63				
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT M-BRM-4003(391)				

ROUTE NO.	DIST.	COUNTY	TOTAL SHEETS	SHEET NO.
			16	20

Sheet 11 of 13



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 (703) 517-1834

**REINFORCED EARTH WALL**  
 VILLAGE OF DEERFIELD  
 PINGSTEN ROAD EXTENSION  
 BRIDGE OVER 500 LINE  
 LAKE COUNTY  
 SCALE  
 DATE : OCT. 1986  
 DRAWN BY  
 CHECKED BY

FOR INFORMATION ONLY

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**Clorba Group, Inc.**  
 CONSULTING ENGINEERS  
 5317 North Cumberland Avenue  
 Suite 402 - Chicago, Illinois 60630  
 Tel: 773.375.4000  
 Fax: 773.375.4014  
 Email: Chicago@clorba.com

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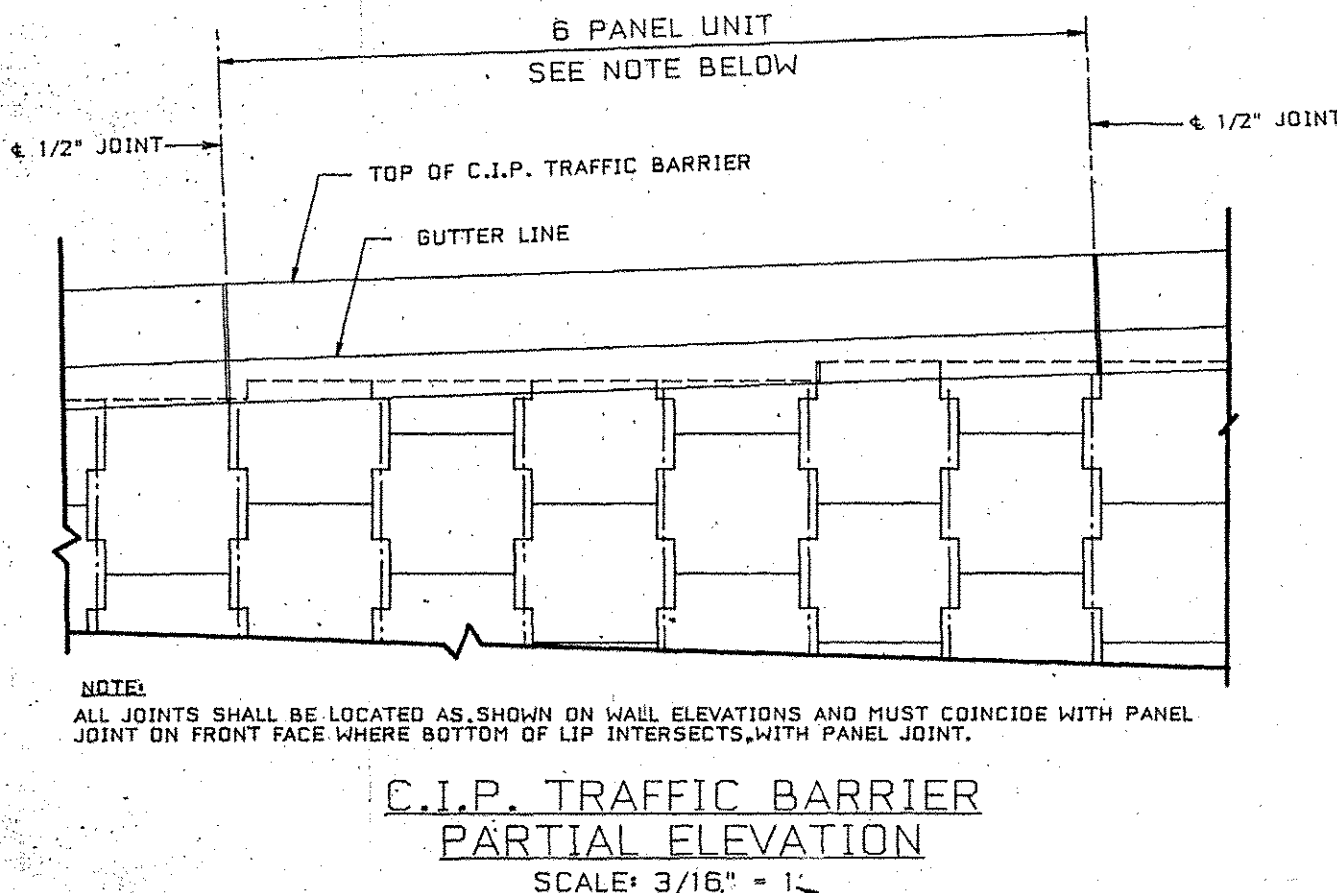
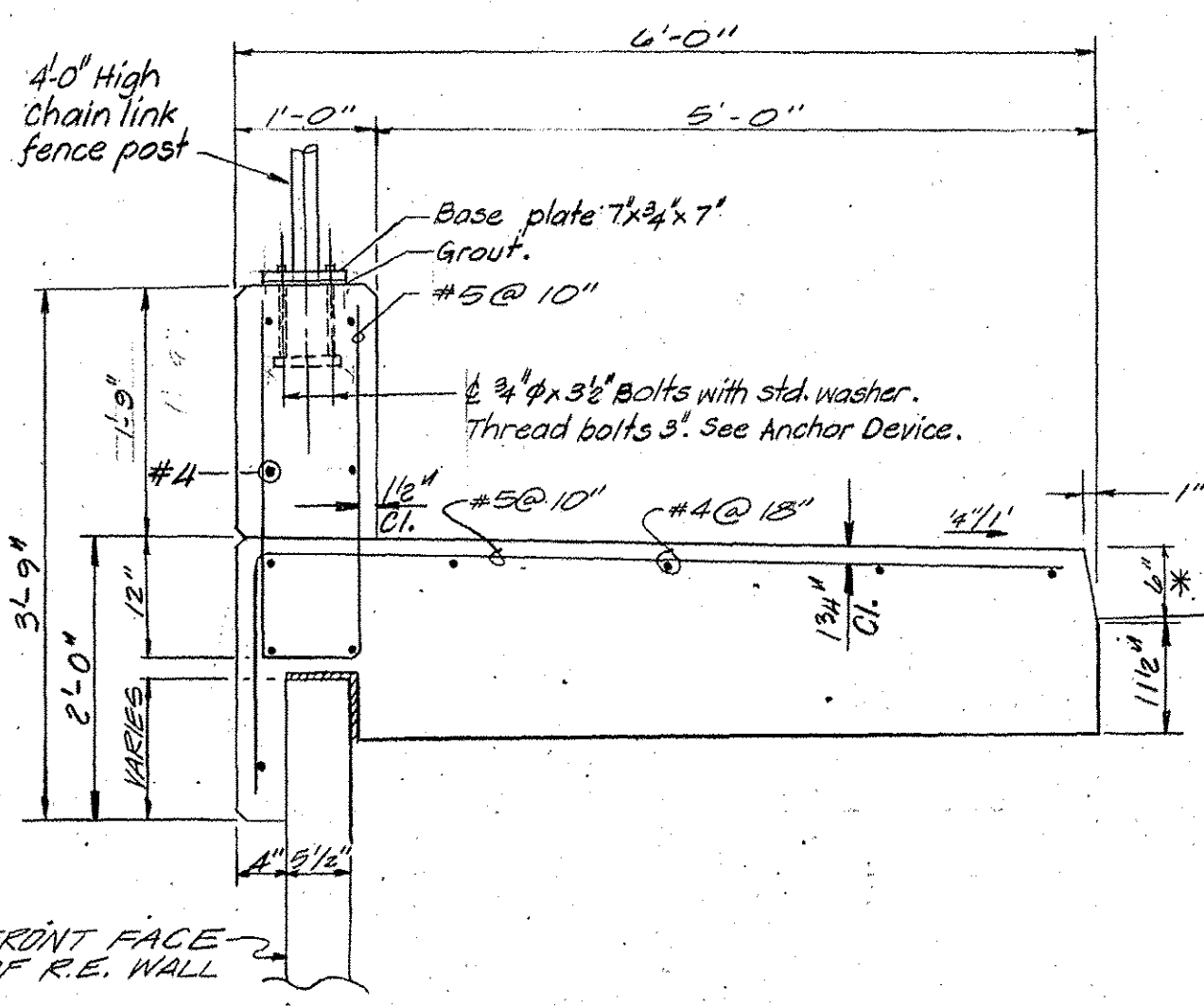
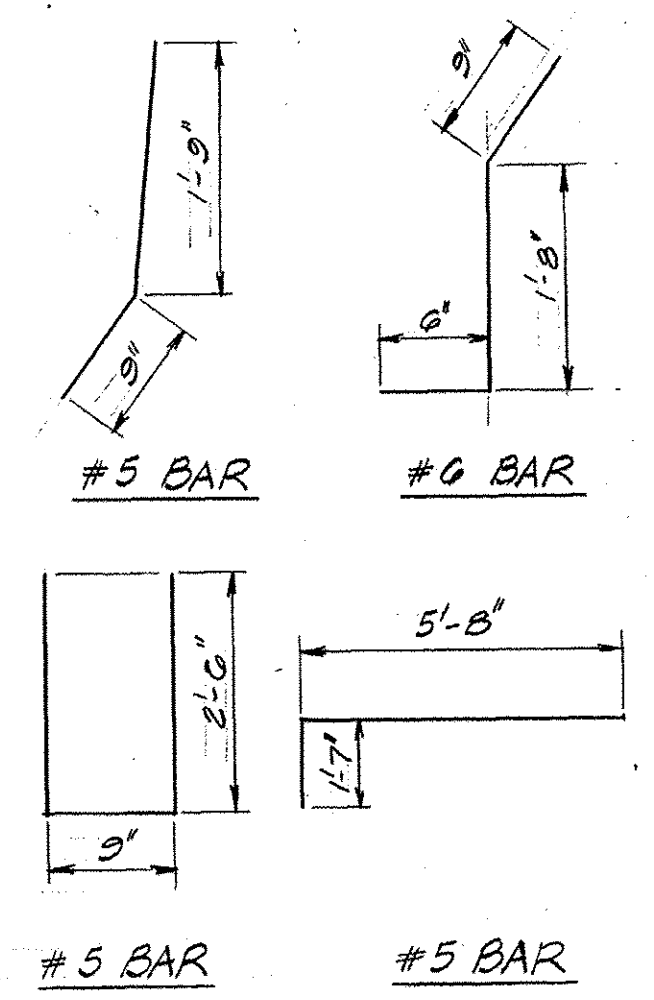
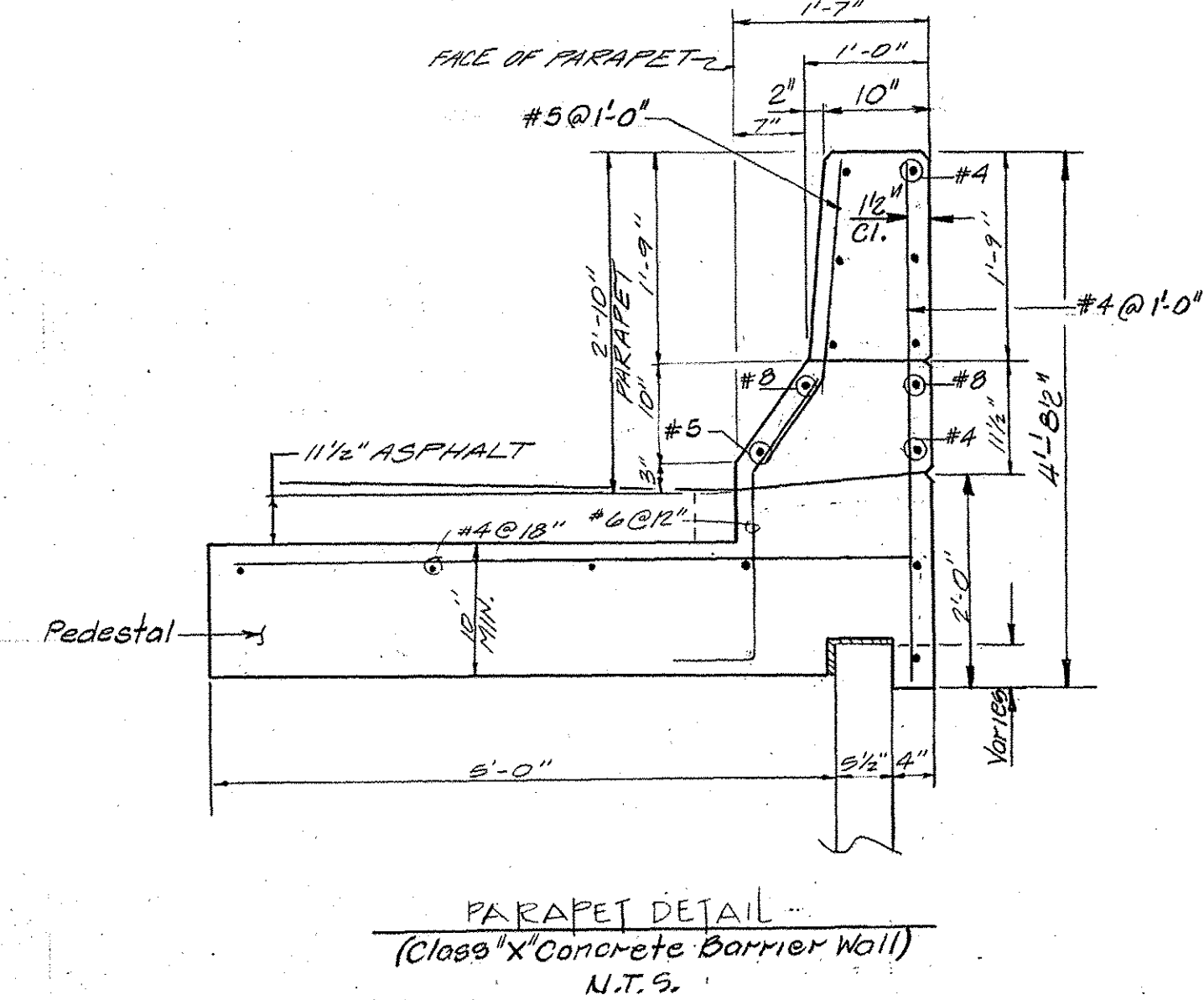
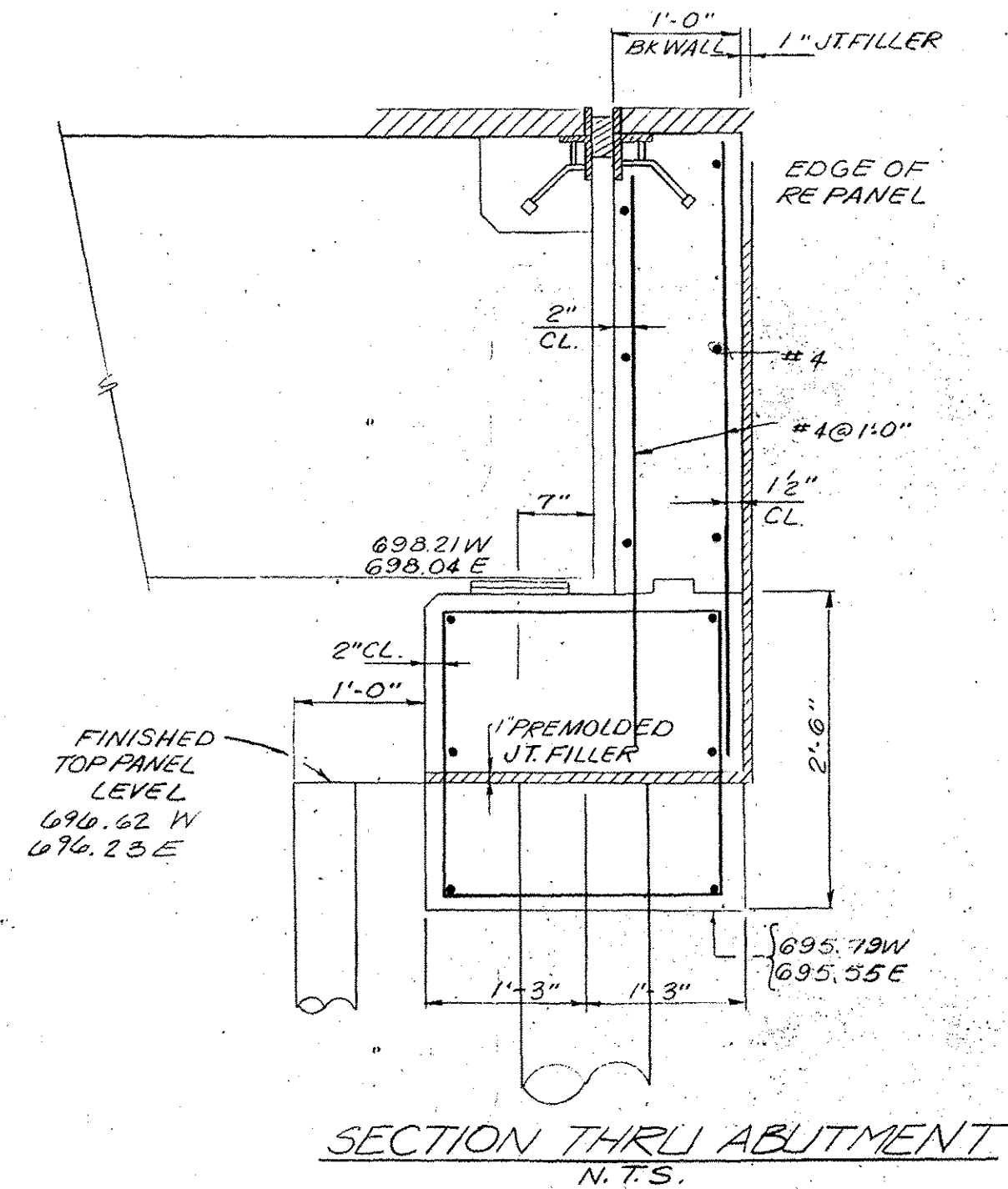
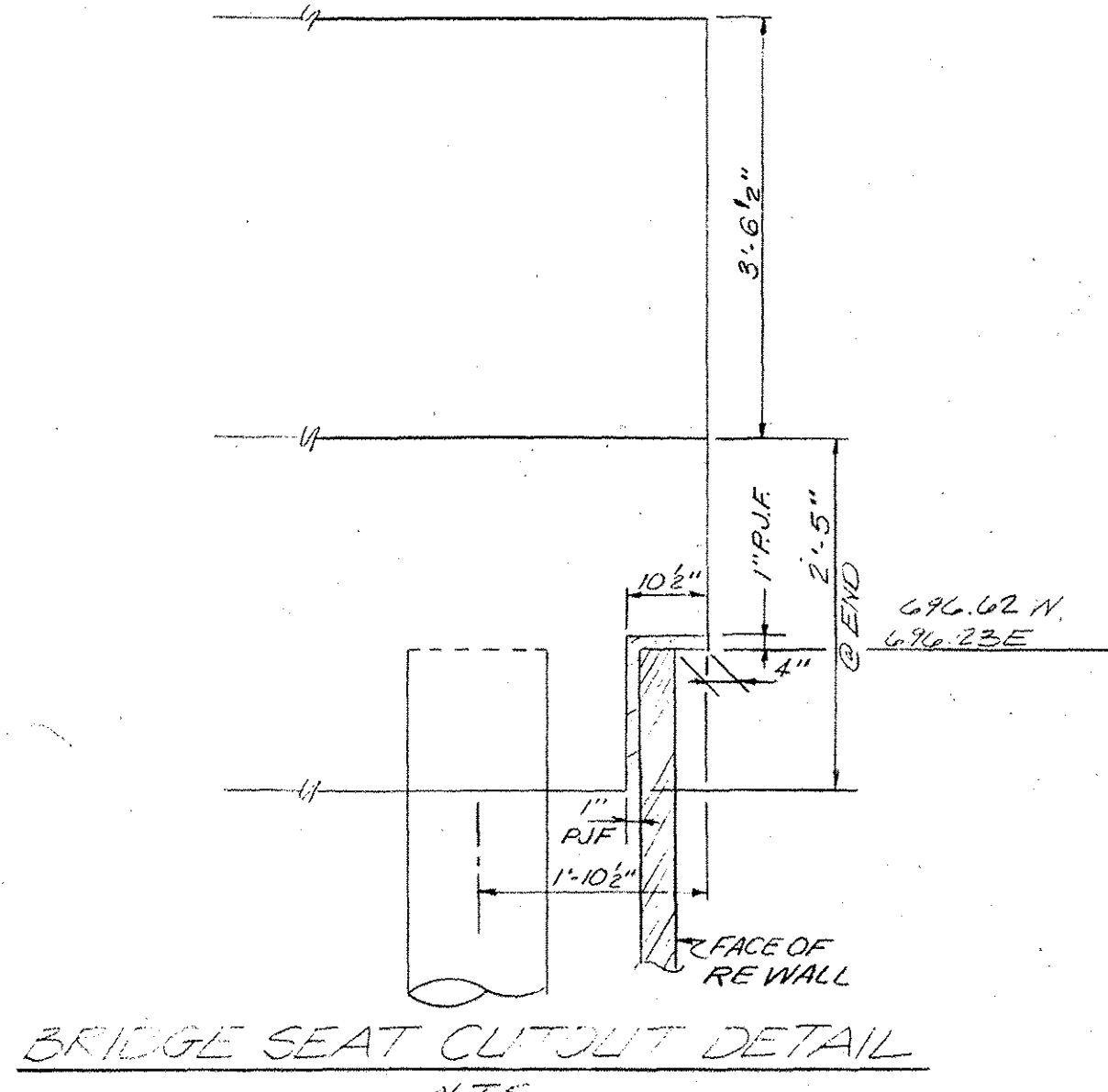
**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**EXISTING MSE WALL 3  
 STRUCTURE NO. 049-6003**  
 SHEET NO. S-6 OF S-33 SHEETS

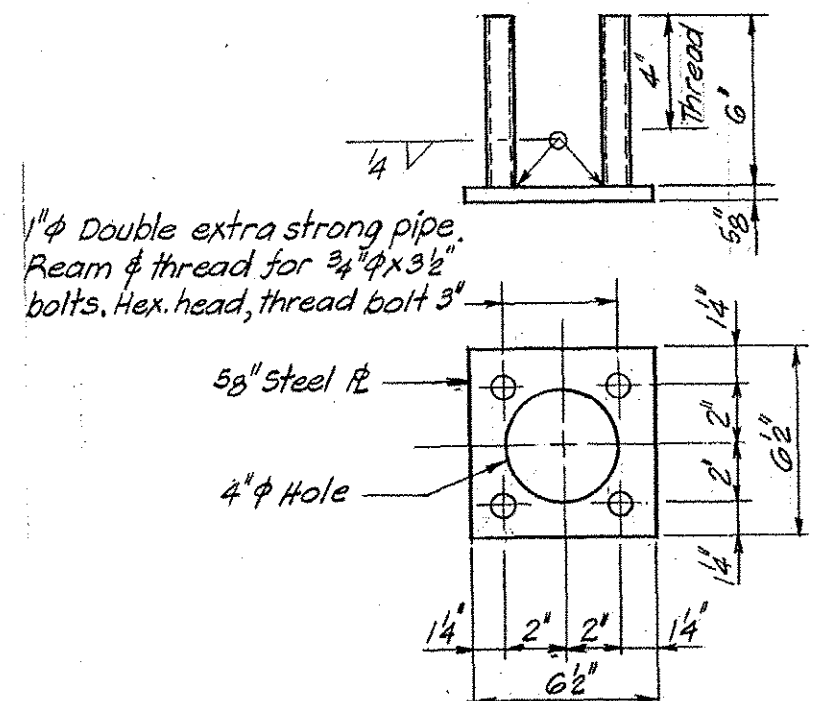
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3699	14-00098-00-BR	LAKE	102	54
CONTRACT NO. 61D63			M-BRM-4003(391)	

ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
			17	20

FED. ROAD DIST. NO. 1 ILLINOIS PROJECT SHEET 12 of 13



- NOTES:**
1. For proper parapet joint spacing and bar lengths, the Contractor must coordinate the work with the reinforcing earth supplier.
  2. The contractor to submit reinforcing steel bars schedule for review by the Engineer.
  3. For parapet joint details see sht. #3. The 1/2\"/>



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**The Reinforced Earth Company**  
 Rosslyn Center, 1700 North Moore Street, Arlington, Virginia 22209  
 (703) 527-3434

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**REINFORCED EARTH WALL**  
 VILLAGE OF DEERFIELD  
 PFINGSTEN ROAD EXTENSION  
 BRIDGE OVER 500 LINE  
 LAKE COUNTY  
 SCALE: DATE: OCT, 1986  
 DRAWN BY: CHECKED BY:

**FOR INFORMATION ONLY**

N:\PROJECTS\00220536.00\020536.01\Design\Structure\CAD\Final\ngsten\_Bridge.07\_Exist MSE Wall 4.dgn

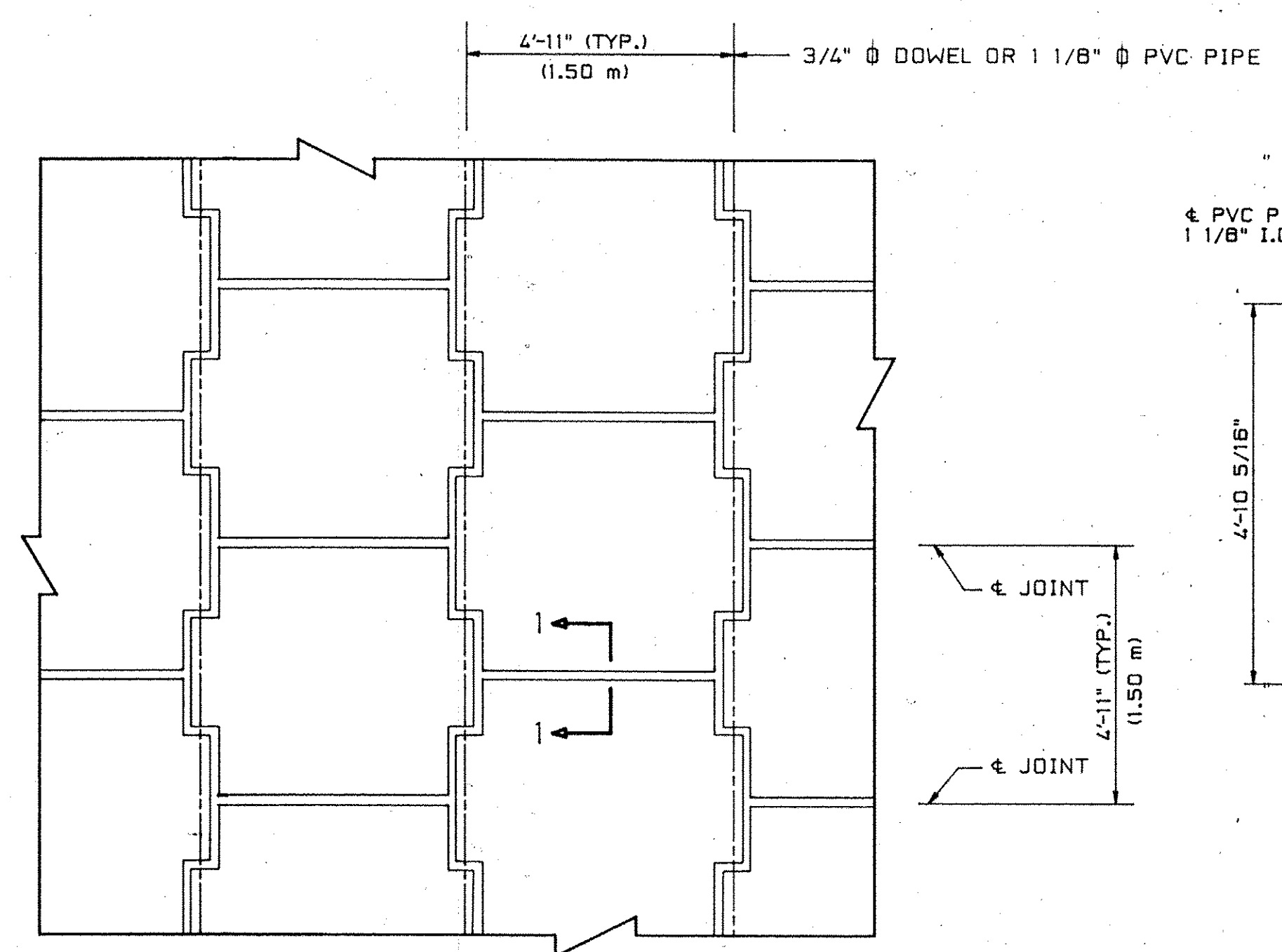
**CG** Corba Group, Inc.  
 CONSULTING ENGINEERS  
 5017 North Cumberland Avenue  
 Suite 422, Chicago, Illinois 60656  
 Tel: 773.375.4000  
 Fax: 773.375.4814  
 Email: Chicago@corba.com

USER NAME = jattanesco	DESIGNED -	REVISED -
PLOT SCALE = 0.0833 sf / in.	CHECKED -	REVISED -
PLOT DATE = 12/5/2016	DRAWN - SBA	REVISED -
	CHECKED - BWS	REVISED -

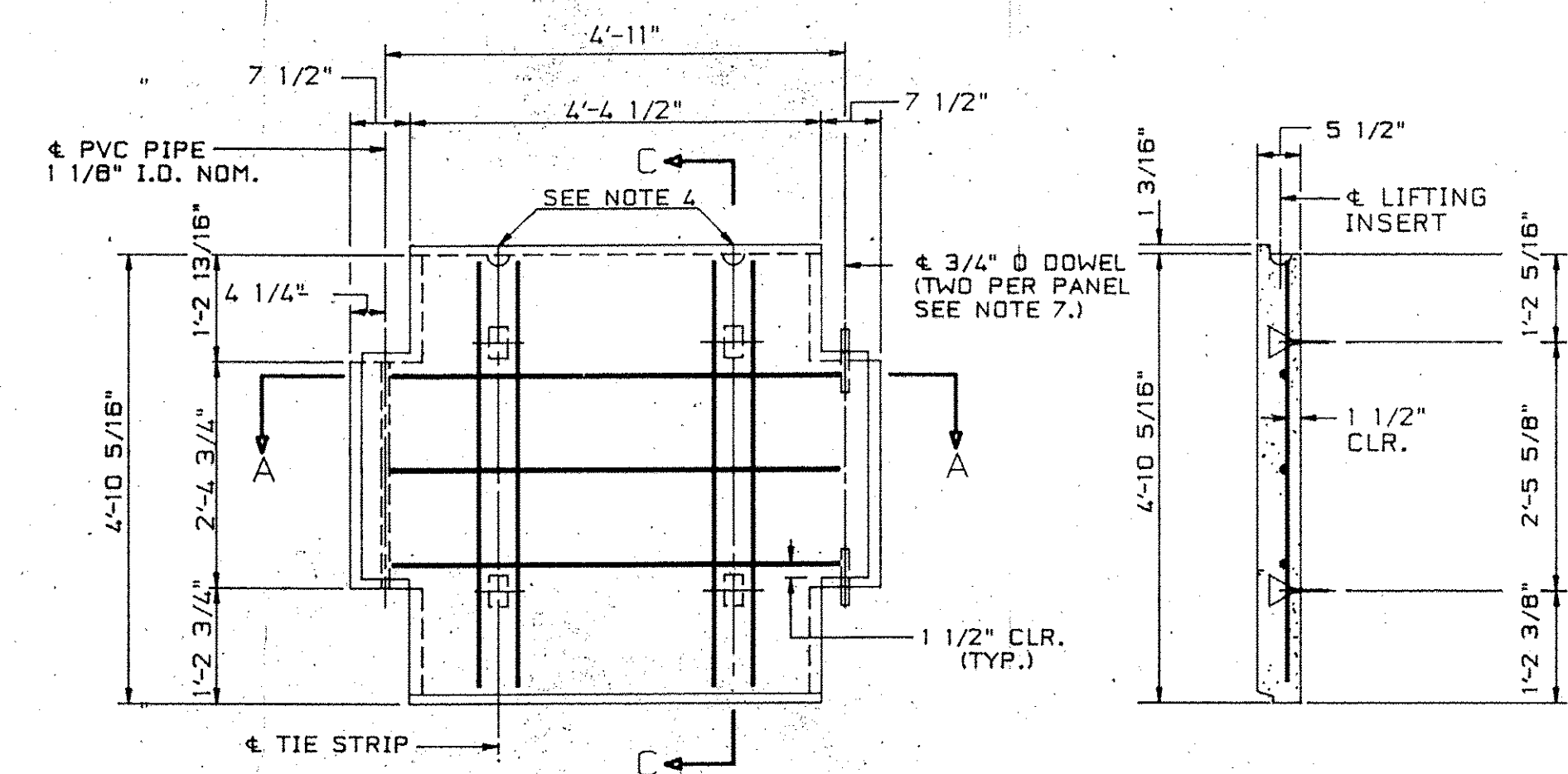
**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**EXISTING MSE WALL 4**  
**STRUCTURE NO. 049-6003**  
 SHEET NO. S-7 OF S-33 SHEETS

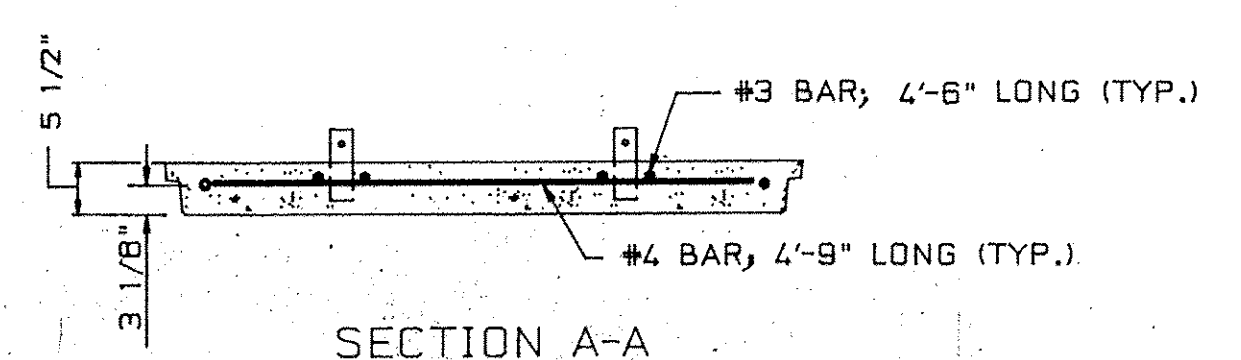
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3699	14-00098-00-BR	LAKE	102	55
CONTRACT NO. 61D63				
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				M-BRM-4003(391)



TYPICAL PANEL LAYOUT  
PARTIAL ELEVATION - FRONT FACE  
SCALE: 1/2" = 1'-0"



PANEL TYPE "A"  
WITH R4 REINFORCEMENT  
FRONT VIEW  
SCALE: 3/4" = 1'-0"

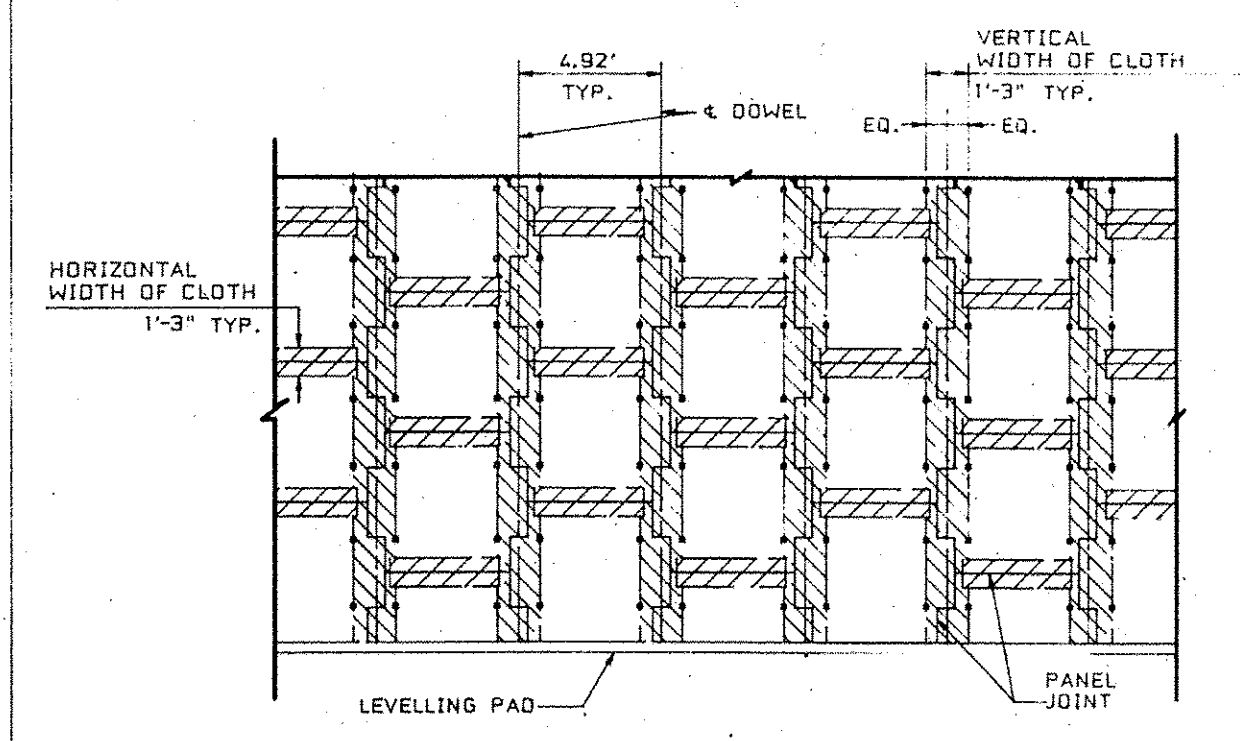


SECTION A-A  
SCALE: 3/4" = 1'-0"

PANEL THICKNESS	REINFORCEMENT DESIGNATION	PANEL REINFORCEMENT A <sub>s</sub> (IN <sup>2</sup> )	MAXIMUM ALLOWABLE HORIZONTAL STRESS AT FACING (KSF)
5 1/2"	R4	0.44 VERTICAL 0.58 HORIZONTAL	1.01
	R6	0.66 VERTICAL 0.78 HORIZONTAL	1.33
	R7	1.18 VERTICAL 1.77 HORIZONTAL	2.58

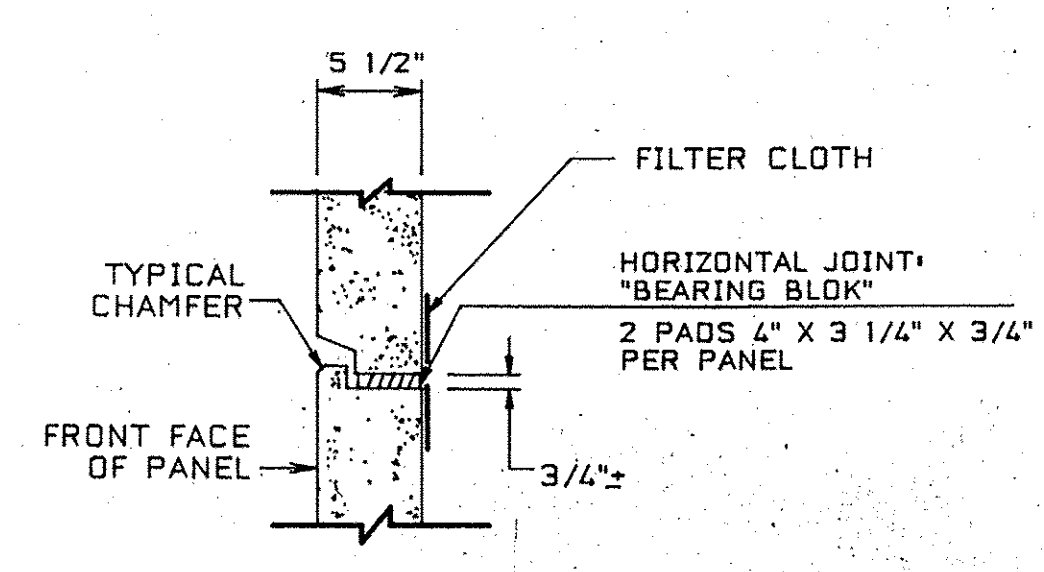
NOTES:

1. REINFORCING STEEL TO BE A615 GRADE 60.
2. 3/8" X 3/8" CHAMFER SHALL BE PROVIDED ON ALL EXPOSED EDGES (FRONT FACE ONLY).
3. ALL PANEL TYPES AND OTHER RELATED ELEMENTS WILL BE DETAILED ON SHOP DRAWINGS.
4. ALL PANELS SHALL HAVE TWO LIFTING INSERTS OF ONE TON CAPACITY EACH.
5. PANEL DESIGN THICKNESS IS 5 1/2". THICKNESS OF CONCRETE MUST INCREASE TO ACCOMMODATE ANY ARCHITECTURAL SURFACE FINISH THAT MAY BE SPECIFIED.
6. ACTUAL PANEL REINFORCEMENT FOR ALL PANEL TYPES ON THIS PROJECT IS DESIGNATED ABOVE. R4 ILLUSTRATED FOR INFORMATION ONLY.
7. EACH 3/4" Ø DOWEL SHALL HAVE MINIMUM LENGTH OF 10". DOWELS MAY BE GALVANIZED STEEL OR PVC ROD. A SINGLE FULL LENGTH DOWEL MAY BE USED AT THE DISCRETION OF THE MANUFACTURER.

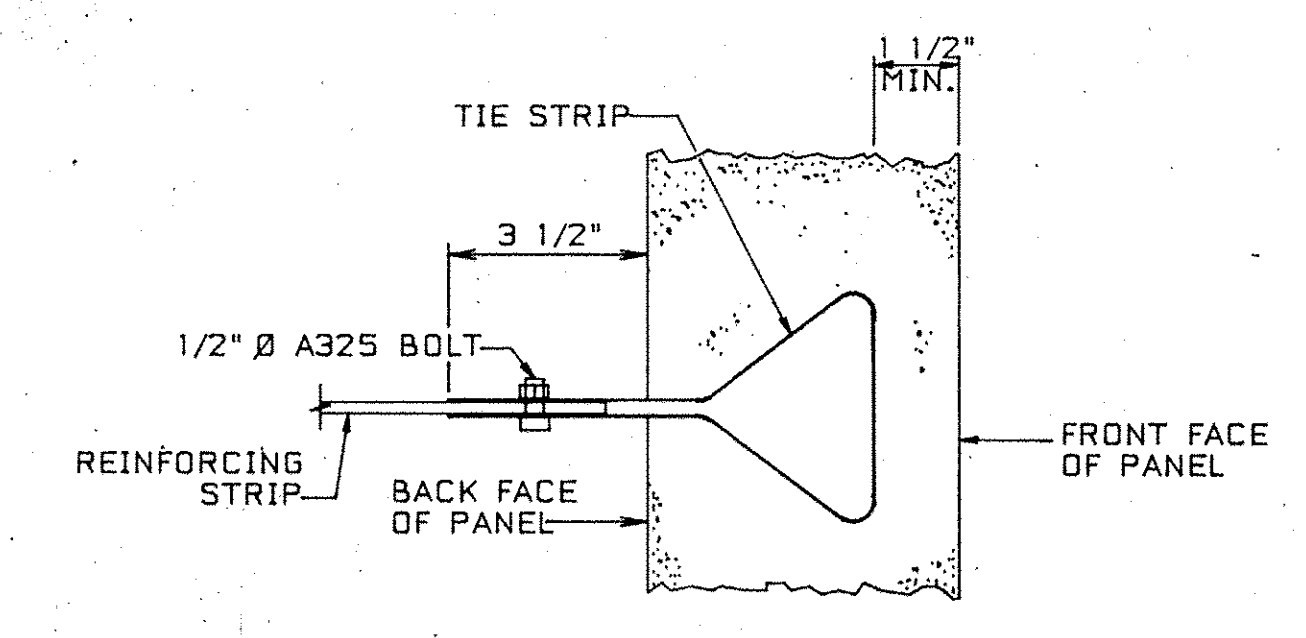


FILTER CLOTH DETAIL  
PARTIAL ELEVATION - BACK FACE  
SCALE: 3/16" = 1'

NOTE:  
STRIPS OF FILTER CLOTH SHALL BE PLACED ON BACK FACE OF PANEL OVER PANEL JOINTS. FILTER CLOTH SHALL BE ADHERED TO BACK FACE OF PANELS USING AN ADHESIVE COMPOUND SUPPLIED BY THE CONTRACTOR AND APPROVED BY THE REINFORCED EARTH COMPANY.



SECTION 1-1  
SCALE: 3/4" = 1'-0"



CONNECTION DETAIL  
NO SCALE

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**The Reinforced Earth Company**  
 Roslyn Center 1700 North Moore Street, Arlington, Virginia 22209  
 (703) 527-3434

**REINFORCED EARTH WALL**

VILLAGE OF DEERFIELD  
 PINGSTEN ROAD EXTENSION  
 BRIDGE OVER 500 LINE  
 LAKE COUNTY

SCALE: DATE: OCT. 1986  
 DRAWN BY: CHECKED BY:

FOR INFORMATION ONLY

N:\PROJ\0020536\00\020536\01\Design\Structural\CAD\Final\Bridg08\_Exist MSE Wall 5.dgn

**Clorba Group, Inc.**  
 CONSULTING ENGINEERS  
 5007 North Cumberland Avenue  
 Suite 212, Chicago, Illinois 60656  
 Tel: 773.775.4000  
 Fax: 773.775.4014  
 Email: clorba@clorba.com

USER NAME = jettanoseo	DESIGNED -	REVISED -
PLOT SCALE = 0.0833 sf / in.	CHECKED -	REVISED -
PLOT DATE = 12/5/2016	DRAWN - SBA	REVISED -
	CHECKED - BWS	REVISED -

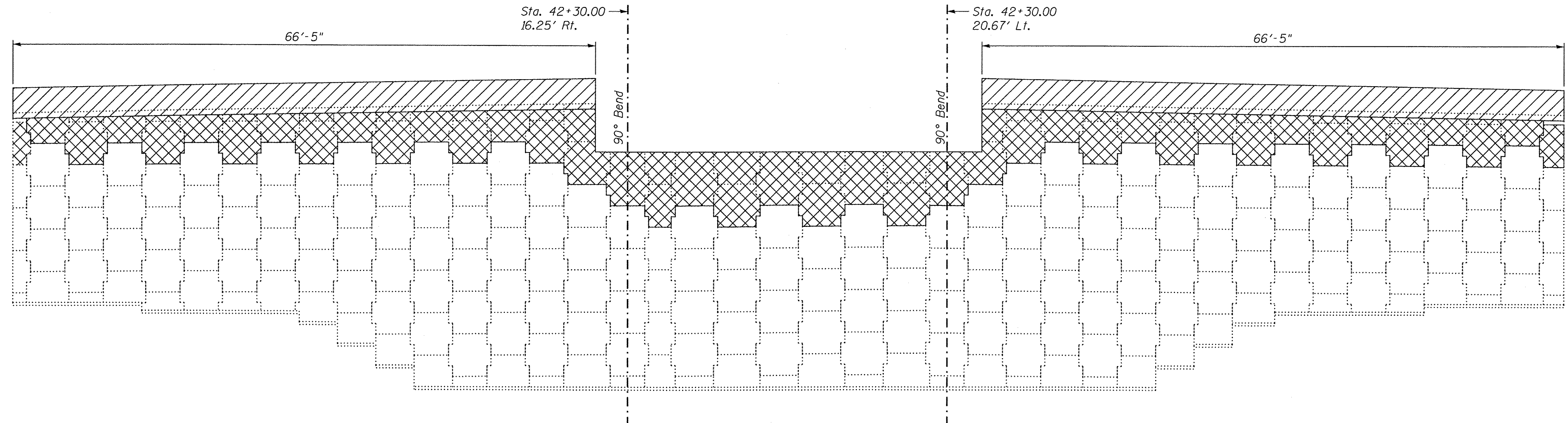
STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

EXISTING MSE WALL 5  
 STRUCTURE NO. 049-6003

SHEET NO. S-8 OF S-33 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3699	14-00098-00-BR	LAKE	102	56
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT			CONTRACT NO. 61D63 M-BRM-4003(391)	





**UNFOLDED WEST MSE WALL REMOVAL**  
(Looking at Front Face)

**BILL OF MATERIAL**

Concrete Removal	Cu. Yd.	47.7
Retaining Wall Removal	Sq. Ft.	797

**LEGEND**

- Concrete Removal
- MSE Wall Removal

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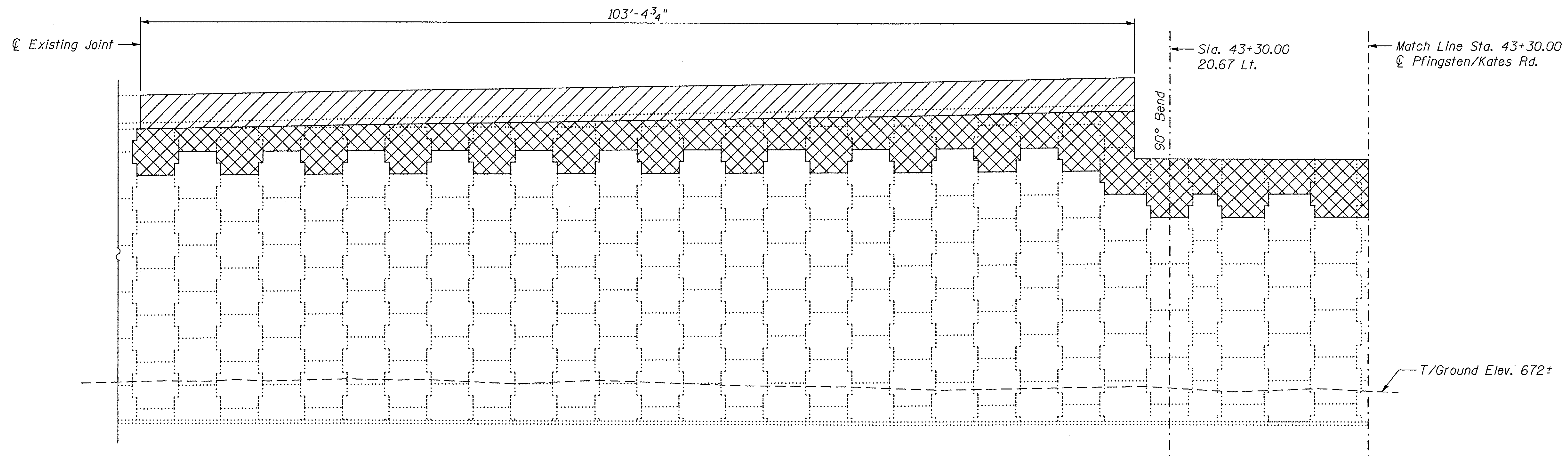
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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

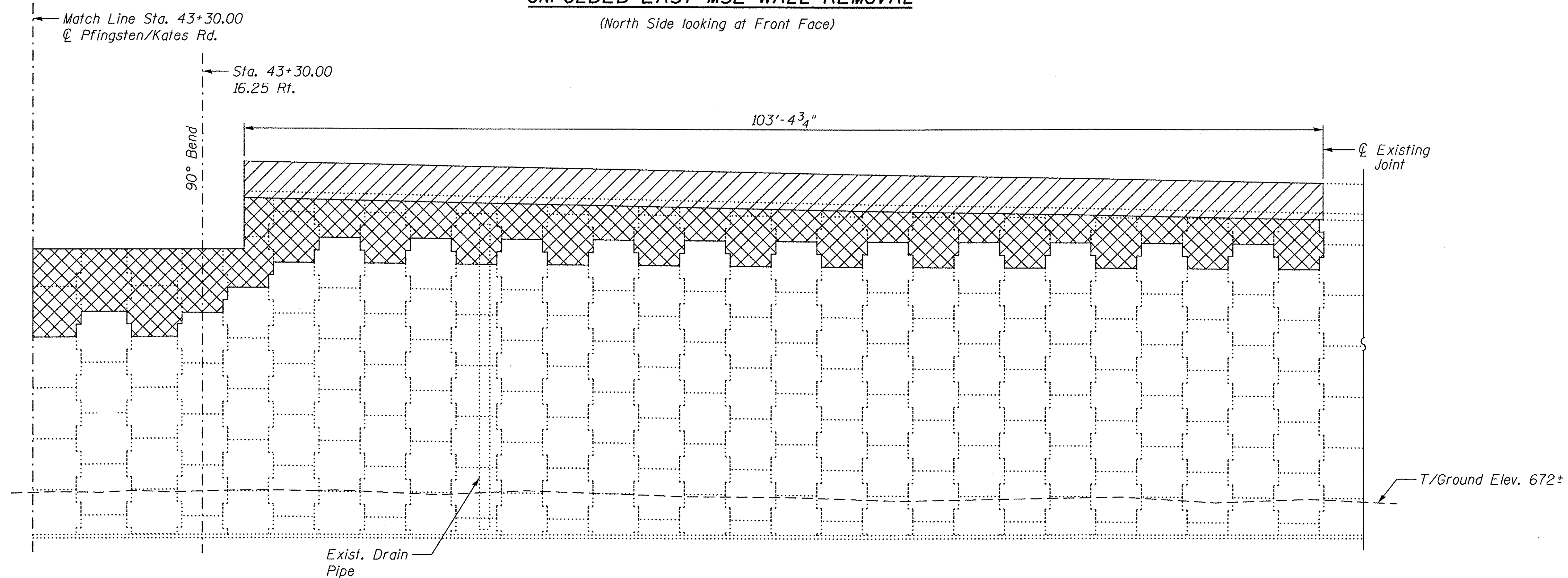
**W. MSE WALL REMOVAL  
STRUCTURE NO. 049-6003**

SHEET NO. S-9 OF S-33 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3699	14-00098-00-BR	LAKE	102	57
FED. ROAD DIST. NO. 1   ILLINOIS FED. AID PROJECT			CONTRACT NO. 61D63 M-BRM-4003(391)	



**UNFOLDED EAST MSE WALL REMOVAL**  
(North Side looking at Front Face)



**UNFOLDED EAST MSE WALL REMOVAL**  
(South Side looking at Front Face)

**BILL OF MATERIAL**

Concrete Removal	Cu. Yd.	74.2
Retaining Wall Removal	Sq. Ft.	956

**LEGEND**

- Concrete Removal
- MSE Wall Removal

N:\PROJECTS\0220536\0220536.dgn\Design\Structural\CAD\Pfingsten\_Bridge\_10\_E\_MSE\_Wall\_Removal.dgn

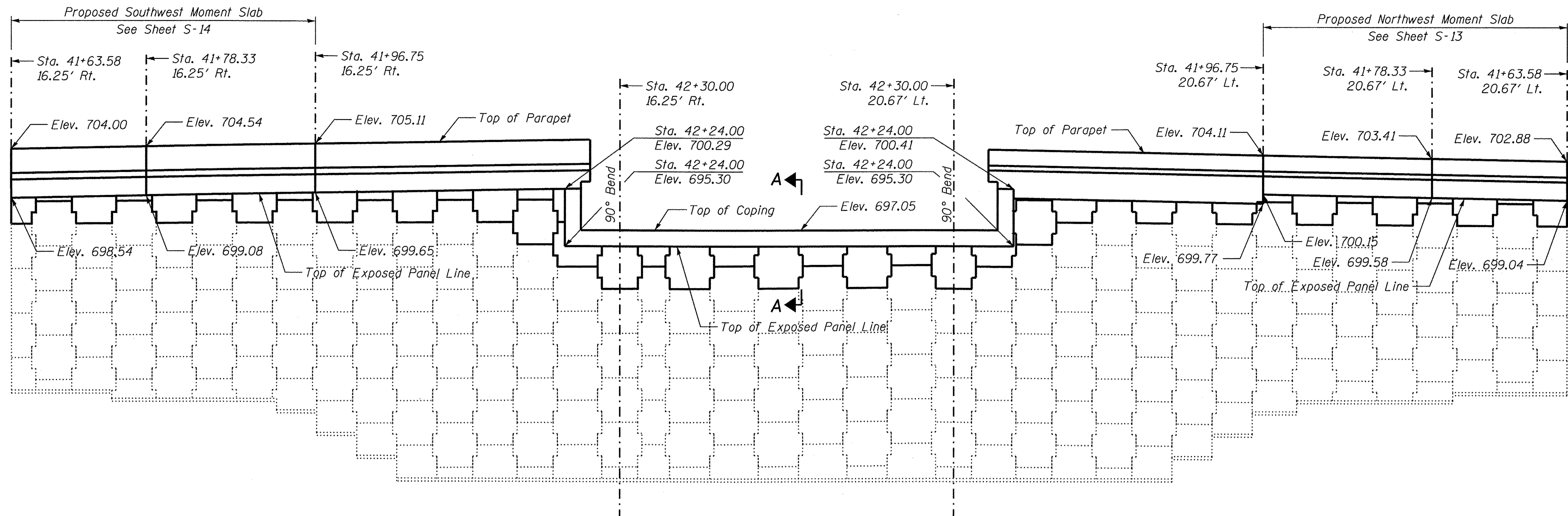
**Clorba Group, Inc.**  
CONSULTING ENGINEERS  
200 North Clark Street  
Suite 400 Chicago, Illinois 60610  
Tel: 773.775.4222  
Fax: 773.775.4214  
Email: chicago@clorba.com

USER NAME = jettanaseo	DESIGNED - APD	REVISED -
PLOT SCALE = 6.6667' / in.	CHECKED - BWS	REVISED -
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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

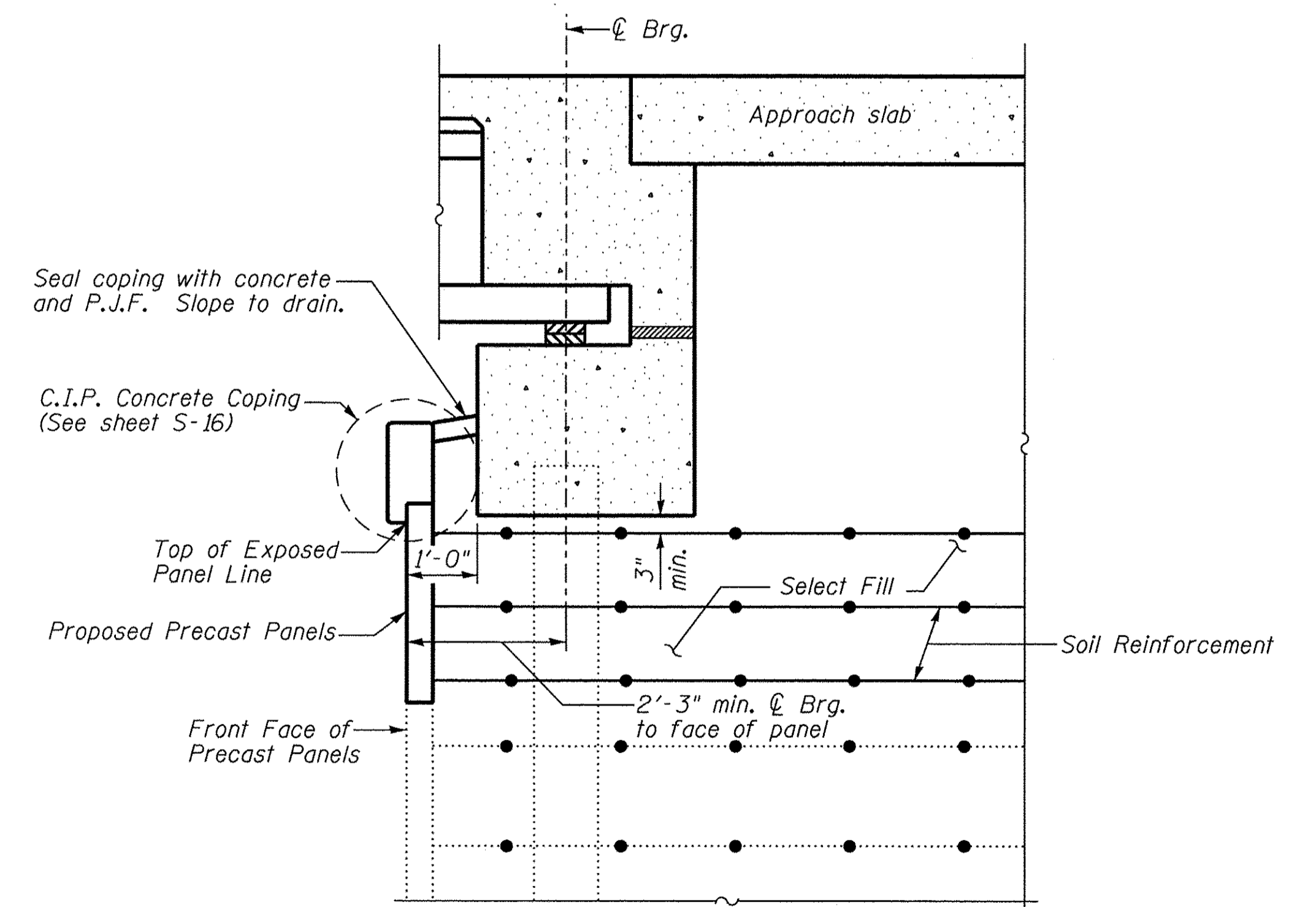
**E. MSE WALL REMOVAL  
STRUCTURE NO. 049-6003**

F.A.U. RTE. 3699	SECTION 14-00098-00-BR	COUNTY LAKE	TOTAL SHEETS 102	SHEET NO. 58
FED. ROAD DIST. NO. 1   ILLINOIS   FED. AID PROJECT			CONTRACT NO. 61D63 M-BRM-4003(391)	



**UNFOLDED WEST MSE WALL ELEVATION**

(Looking at Front Face)



**SECTION A-A**

(Typical wall section thru West Abutment),  
(East Abutment similar)

The M.S.E. Wall supplier's internal stability design shall account for horizontal sliding force of 0.5 kips/ft. of abutment.

**NOTES:**

1. Stations and offsets are measured from centerline of Pflingsten / Kates Rd. to front face of MSE wall panels.
2. Proposed MSE walls panels shall match the color and style of the existing MSE wall panels.
3. For Bill of Material, see sheet S-12.

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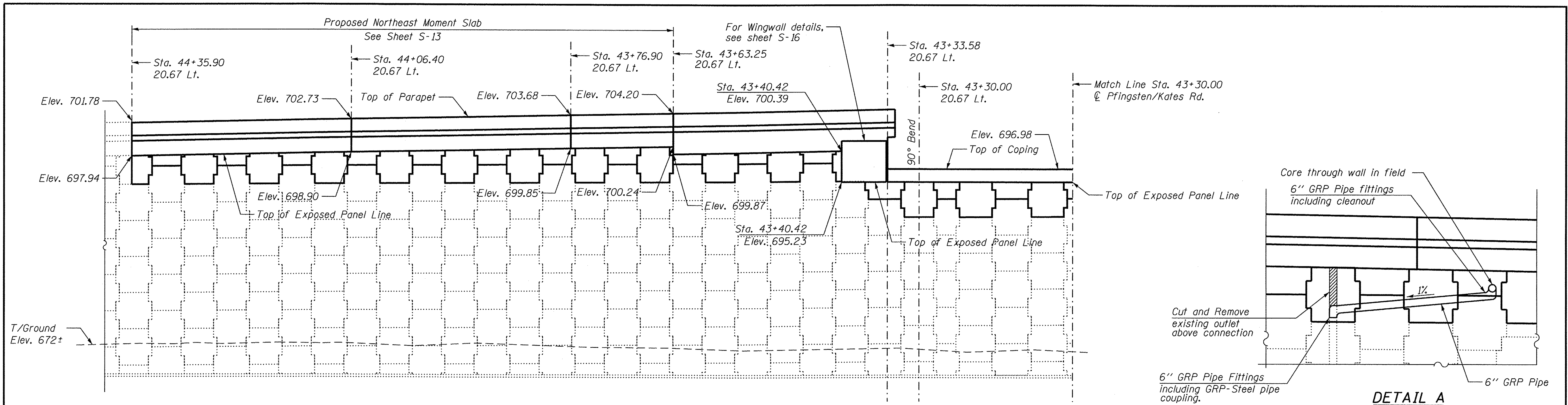
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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

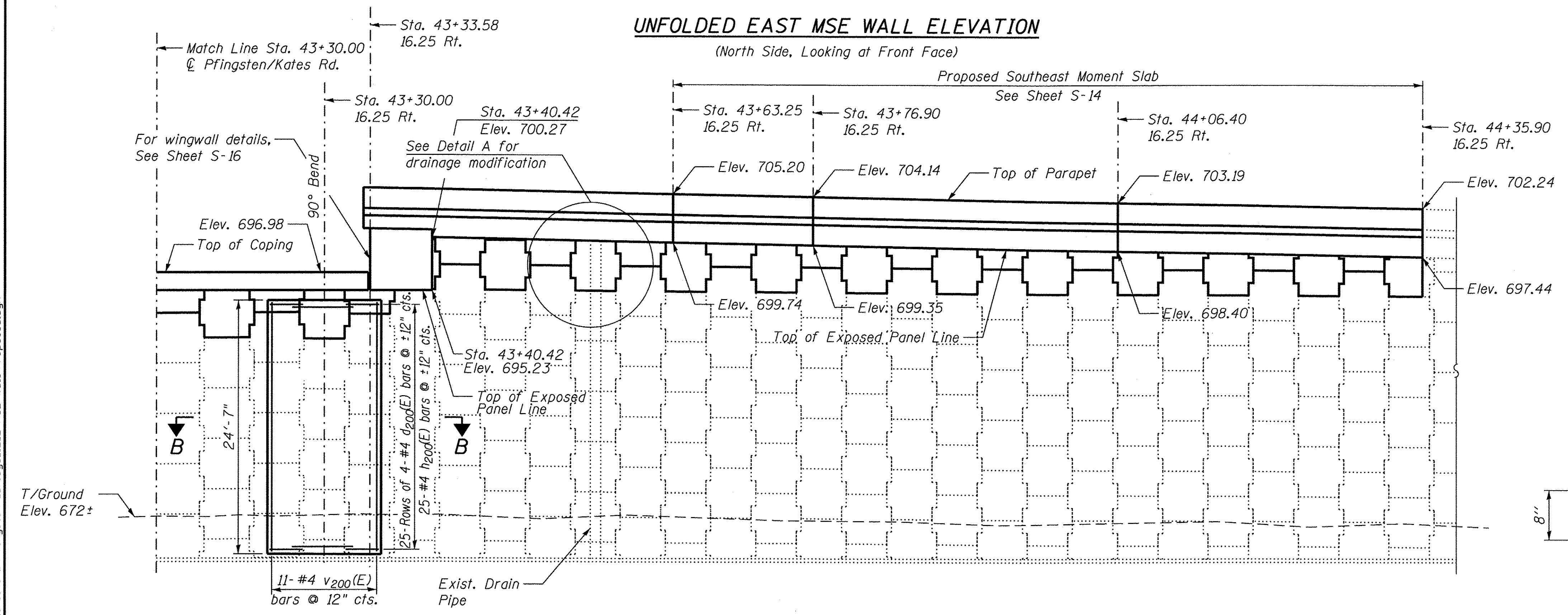
**PROPOSED WEST MSE WALL  
STRUCTURE NO. 049-6003**

SHEET NO. S-11 OF S-33 SHEETS

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CONTRACT NO. 61063				
FED. ROAD DIST. NO. 1   ILLINOIS FED. AID PROJECT M-BRM-4003(391)				

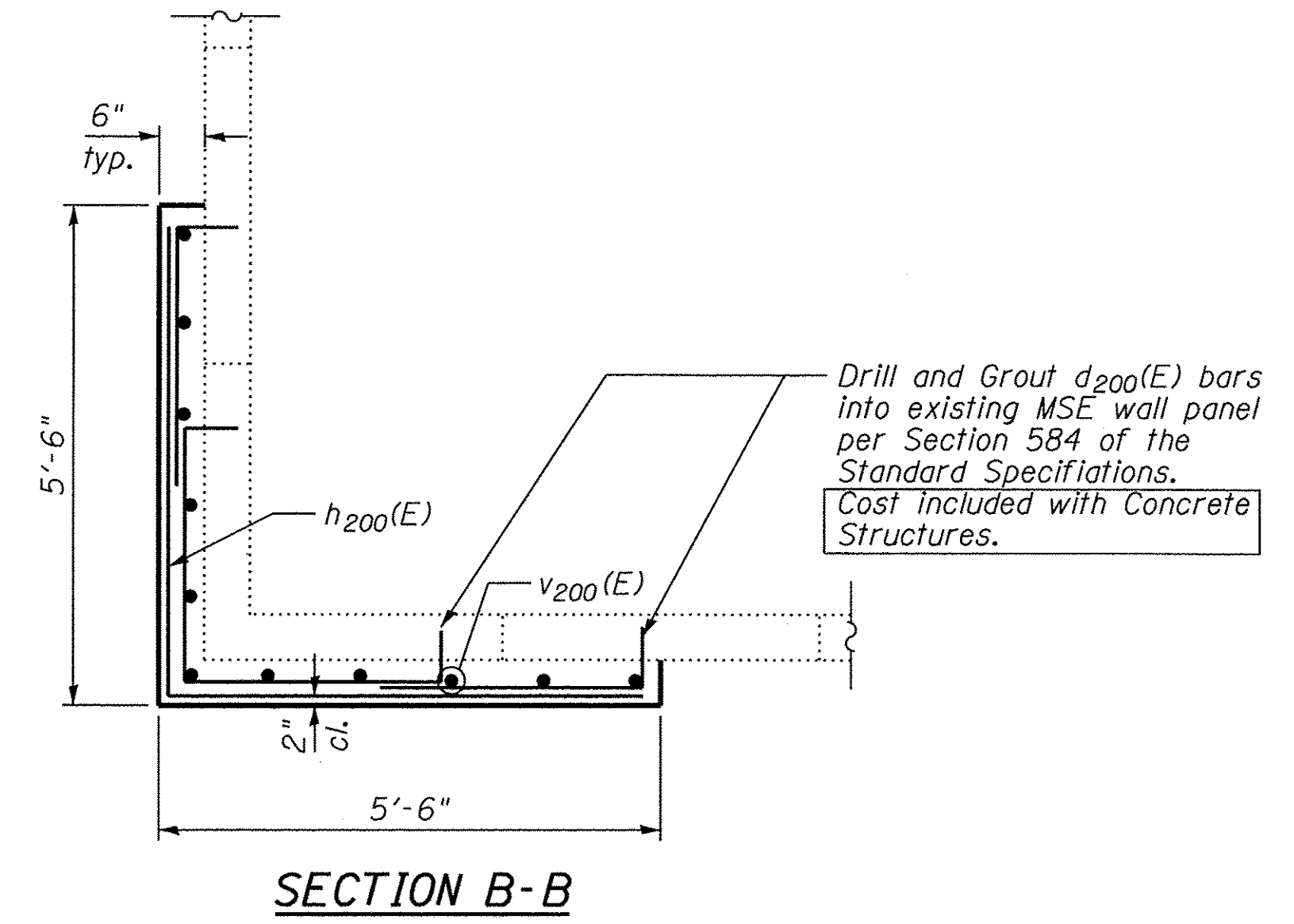


**UNFOLDED EAST MSE WALL ELEVATION**  
(North Side, Looking at Front Face)



**UNFOLDED EAST MSE WALL ELEVATION**  
(South Side, Looking at Front Face)

- NOTES:**
1. Stations and offsets are measured from centerline of Pflingsten / Kates Rd. to front face of MSE wall panels.
  2. Proposed MSE walls panels shall match the color and style of the existing MSE wall panels.



**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
d200(E)	100	#4	3'-8"	┌
h200(E)	25	#4	10'-4"	┌
v200(E)	11	#4	24'-3"	┌
Mechanically Stabilized Earth Retaining Wall			Sq. Ft.	1,388
Drainage System (Special) Structure Excavation			L.Sum	1
Concrete Structures			Cu. Yd.	4.8
Reinforcement Bars, Epoxy Coated			Pound	600

N:\PROJ\00202536\00202536.dwg\00202536.dwg\12-E MSE Wall\Proposed.dwg

**Clorba Group, Inc.**  
CONSULTING ENGINEERS  
807 North Cumberland Avenue  
Suite 450, Chicago, Illinois 60656  
Tel: 773.775.4000  
Fax: 773.775.4814  
Email: chicago@clorba.com

USER NAME = jottanaseo  
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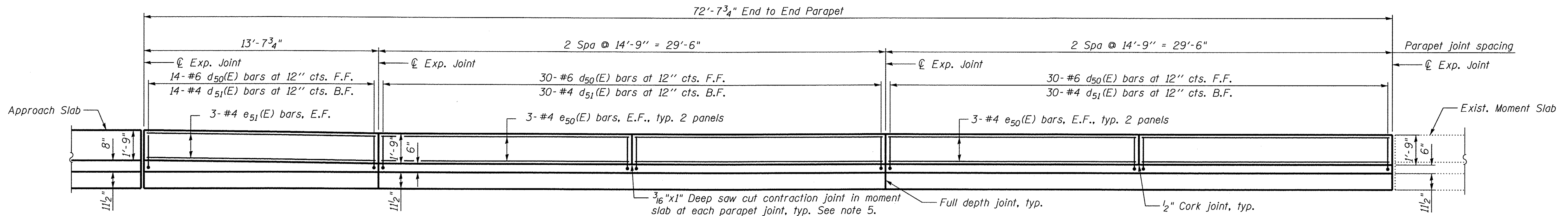
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REVISION -  
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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

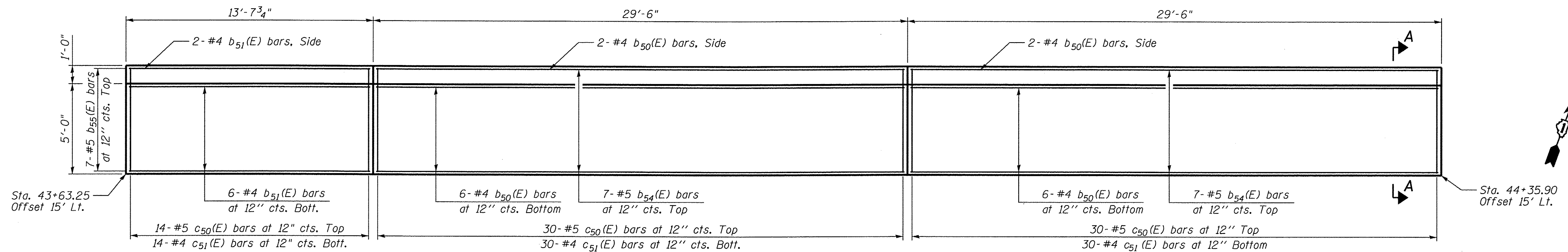
**PROPOSED EAST MSE WALL  
STRUCTURE NO. 049-6003**

SHEET NO. S-12 OF S-33 SHEETS

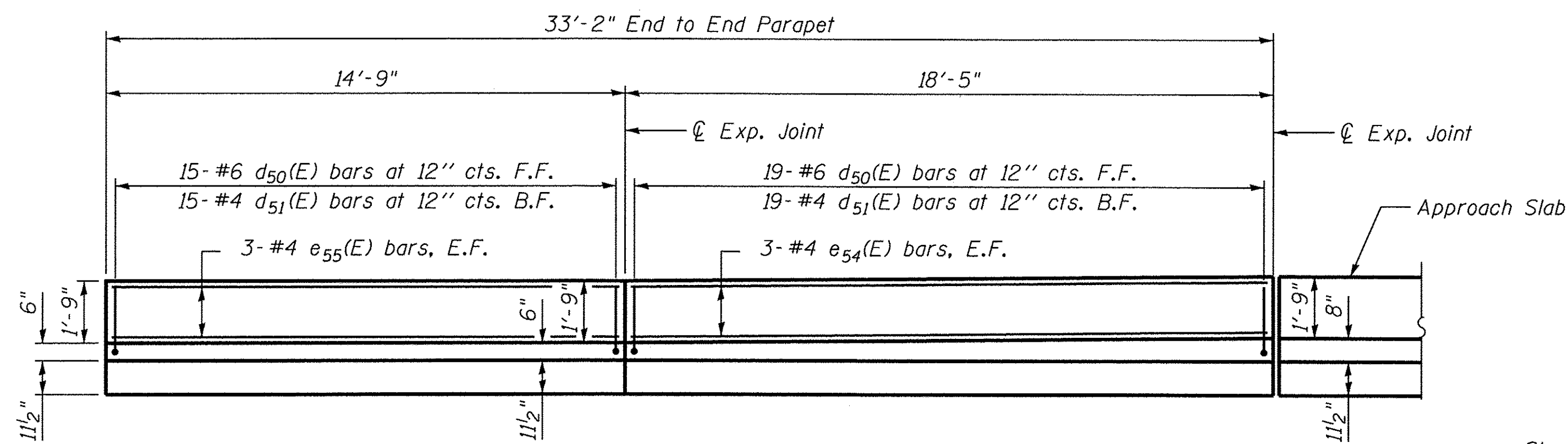
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3699	14-00098-00-BR	LAKE	102	60
CONTRACT NO. 61D63				
FED. ROAD DIST. NO. 1   ILLINOIS FED. AID PROJECT				M-BRM-4003(391)



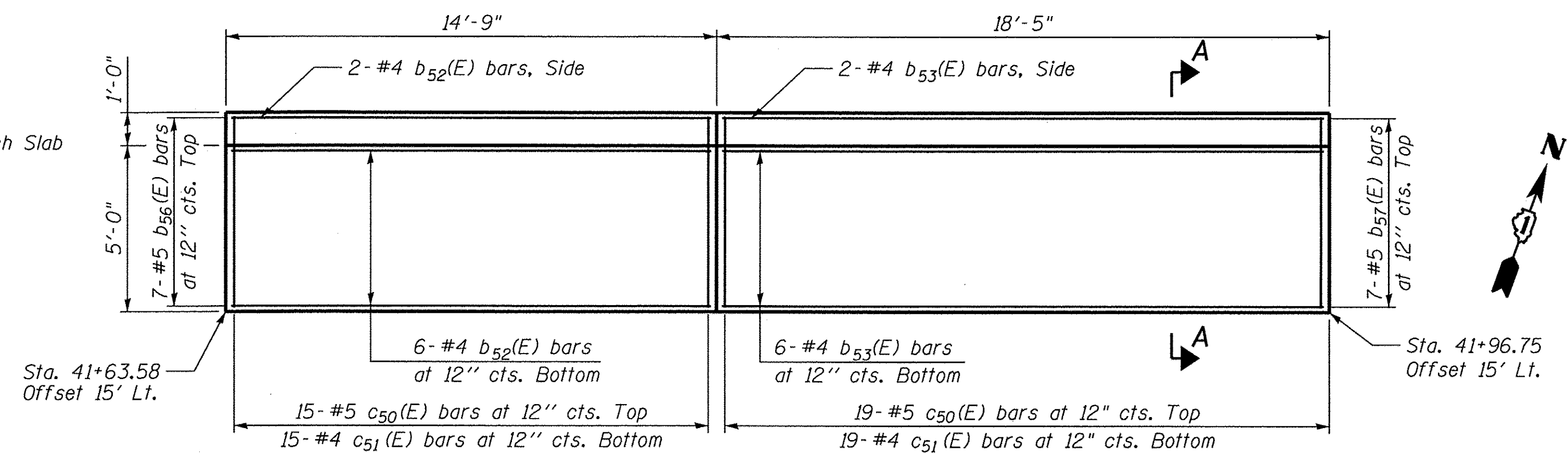
**PARAPET ELEVATION AT NORTHEAST SIDEWALK MOMENT SLAB**  
(Looking North)



**PLAN OF NORTHEAST SIDEWALK MOMENT SLAB**



**PARAPET ELEVATION AT NORTHWEST SIDEWALK MOMENT SLAB**  
(Looking North)



**NORTHWEST SIDEWALK MOMENT SLAB PLAN**

**NOTES:**

1. For Bill of Material and Bar Bending Diagrams see Sheet S-15 of S-33.
2. For Expansion Joint Details see Sheet S-15 of S-33.
3. For Parapet Joint Details see Sheet S-22 of S-33.
4. For Sections A-A see Sheet S-15 of S-33.
5. For Contraction Joint Details see Sheet S-15 of S-33.

**NOTES:**

- F.F. = Front Face  
B.F. = Back Face  
E.F. = Each Face

N:\PROJ\0020536.00\0020536.01\Design\Structural\CAD\VP\lingsten\_Bridge.13.Moment Slab Plan and Elevation 1.dgn



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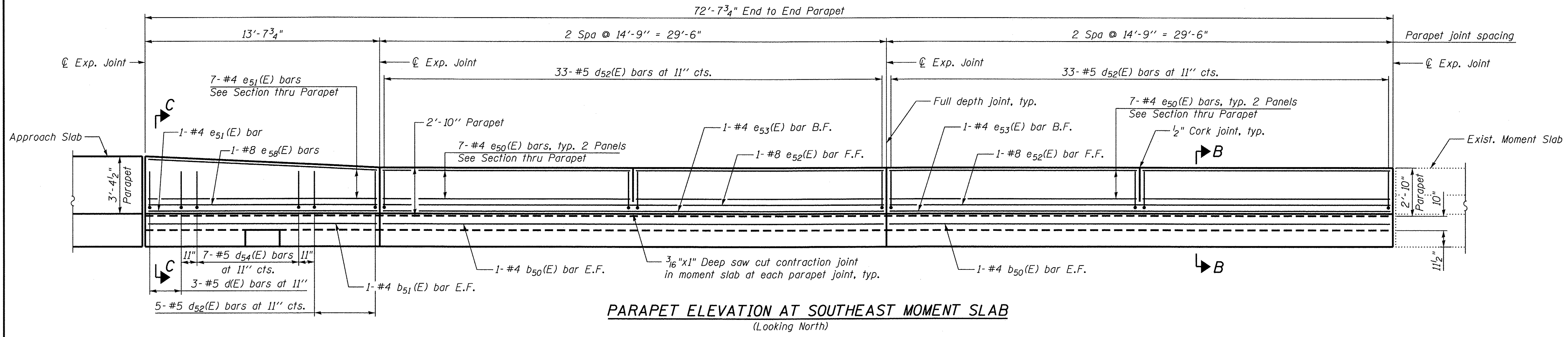
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**MOMENT SLAB PLAN AND ELEVATION 1  
STRUCTURE NO. 049-6003**

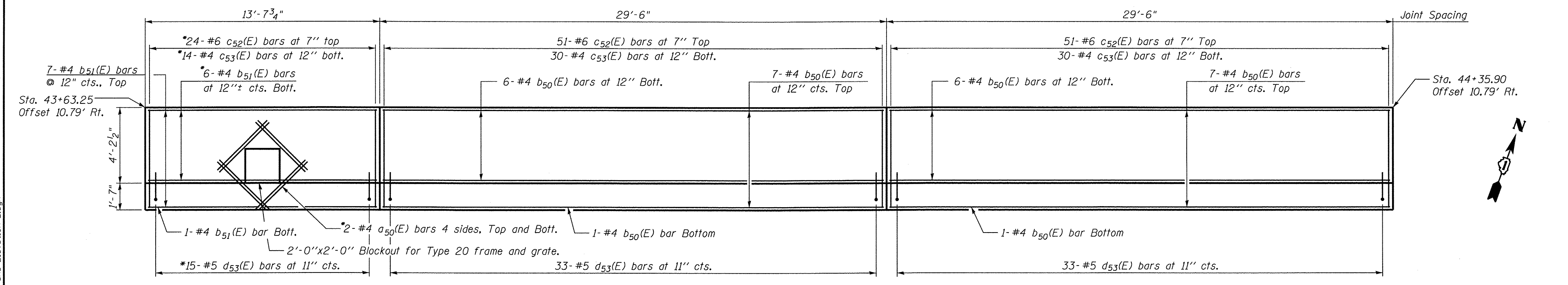
SHEET NO. S-13 OF S-33 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3699	14-00098-00-BR	LAKE	102	61
CONTRACT NO. 61D63				
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT			M-BRM-4003(391)	

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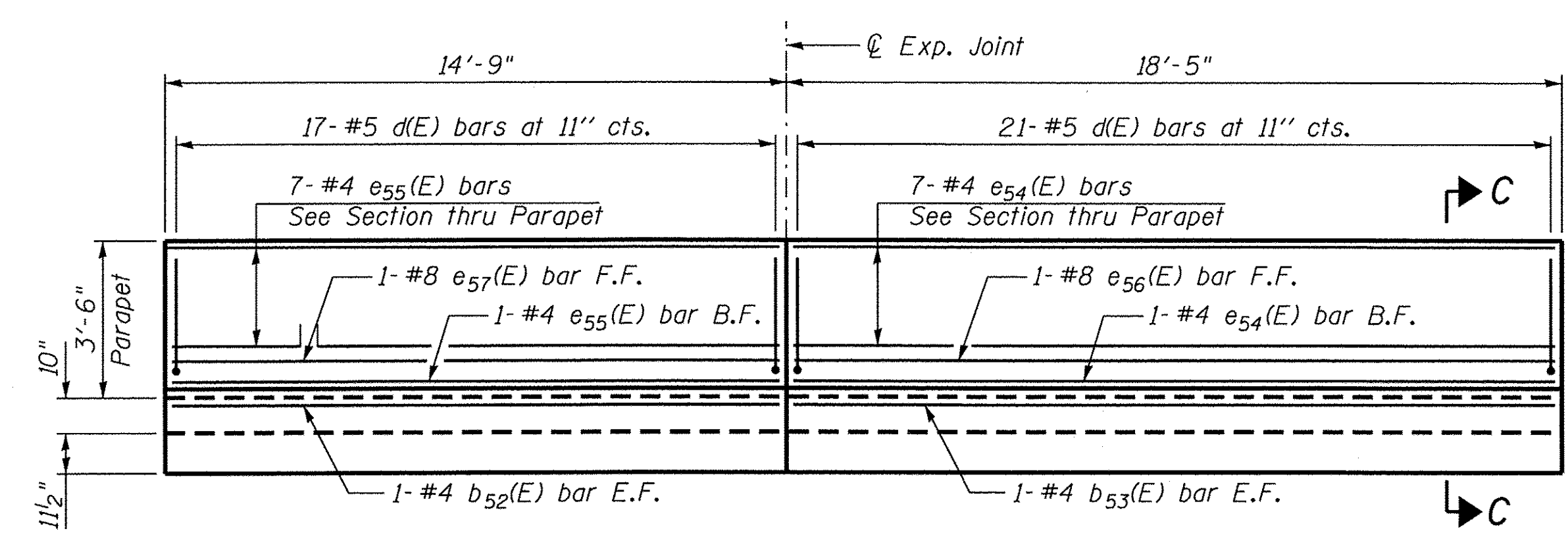


**PARAPET ELEVATION AT SOUTHEAST MOMENT SLAB**  
(Looking North)

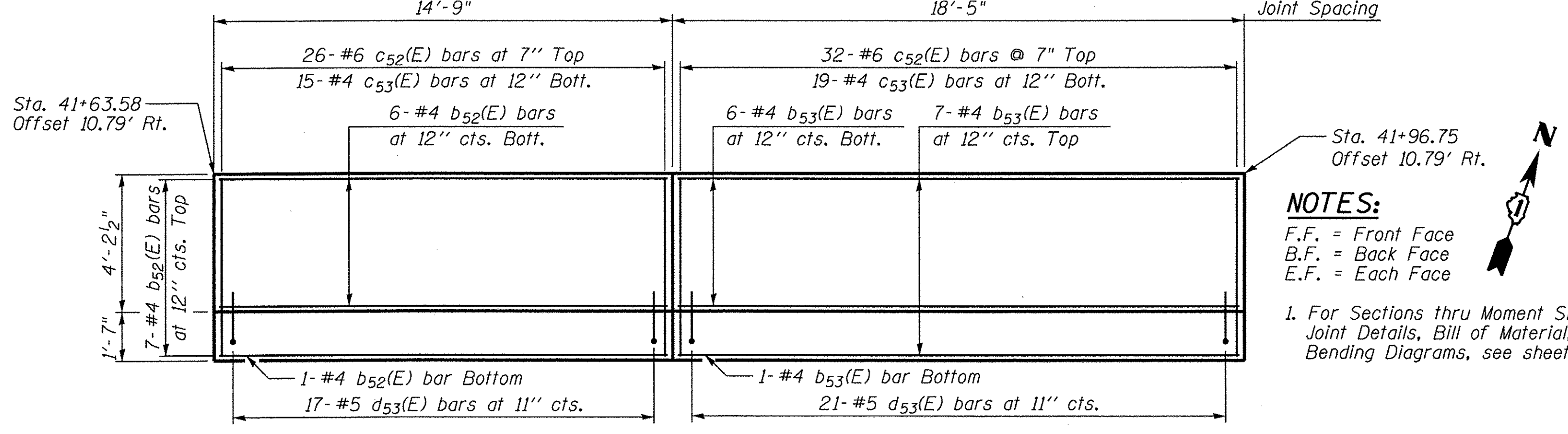


**PLAN OF SOUTHEAST MOMENT SLAB**

\*Cut to fit as required.



**PARAPET ELEVATION AT SOUTHWEST MOMENT SLAB**  
(Looking North)



**PLAN OF SOUTHWEST MOMENT SLAB**

**NOTES:**  
 F.F. = Front Face  
 B.F. = Back Face  
 E.F. = Each Face  
 1. For Sections thru Moment Slab and Joint Details, Bill of Material, and Bending Diagrams, see sheet S-15.



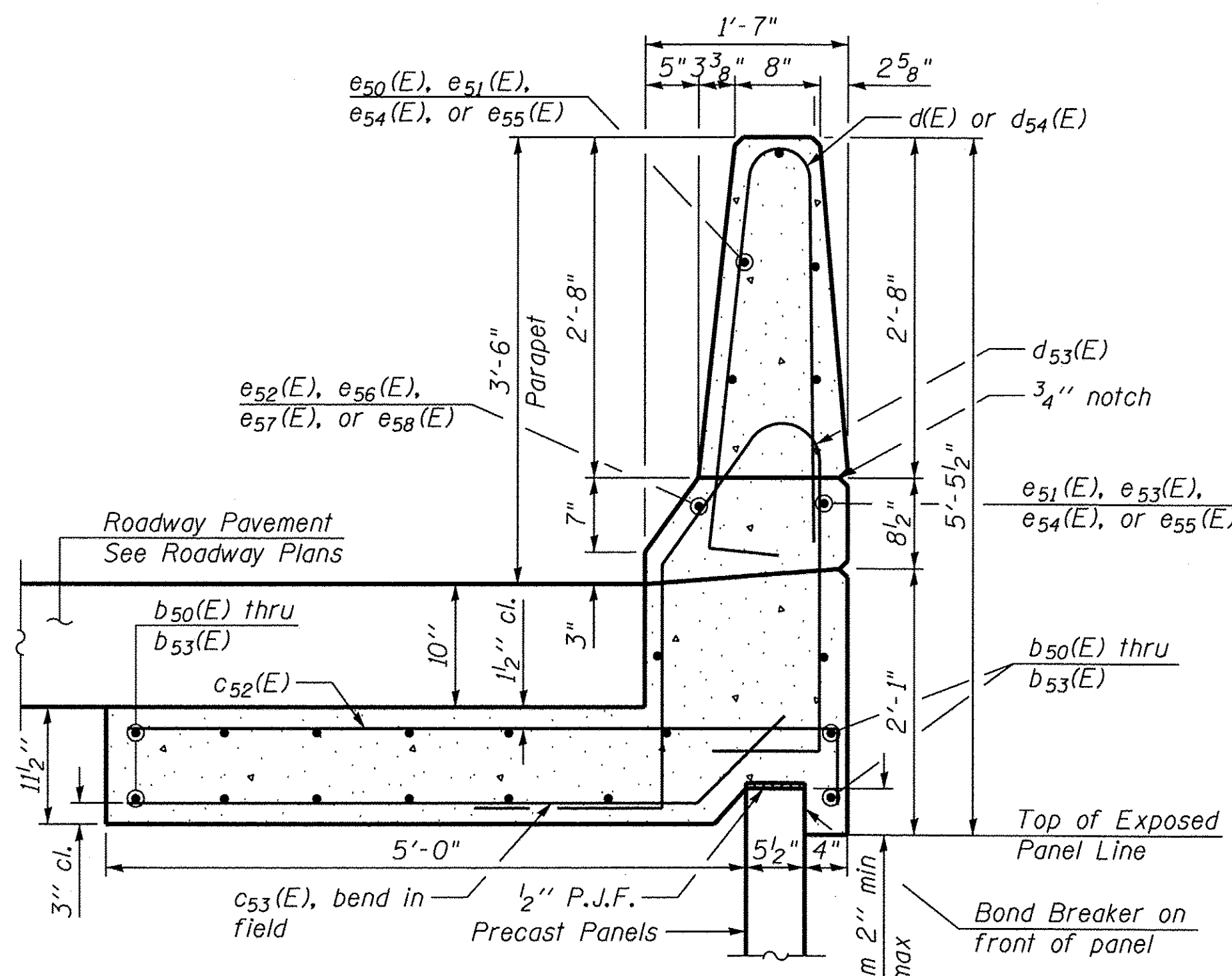
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**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

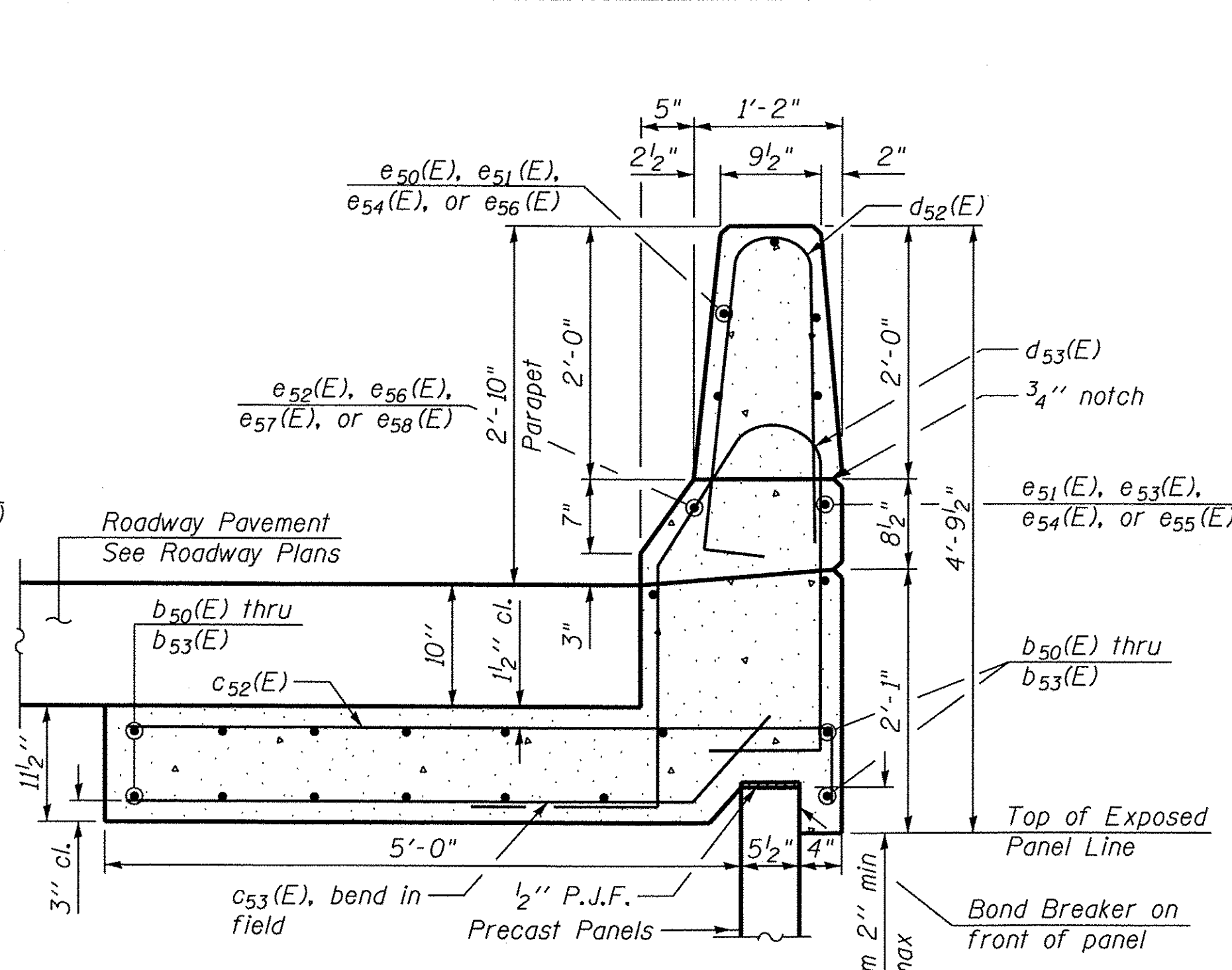
**MOMENT SLAB PLAN AND ELEVATION 2**  
**STRUCTURE NO. 049-6003**

SHEET NO. S-14 OF S-33 SHEETS

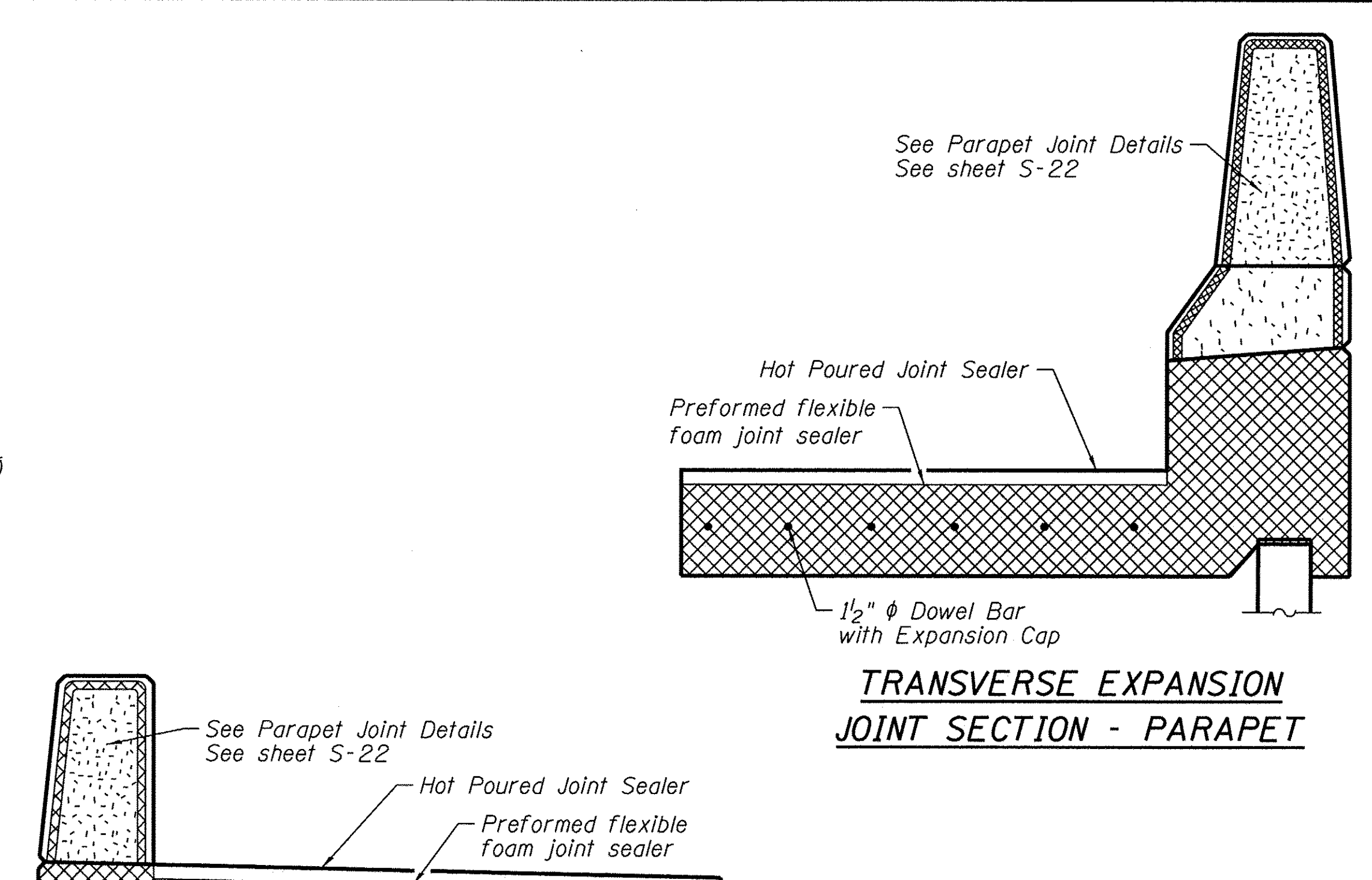
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FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT			CONTRACT NO. 61D63 M-BRM-400313911	



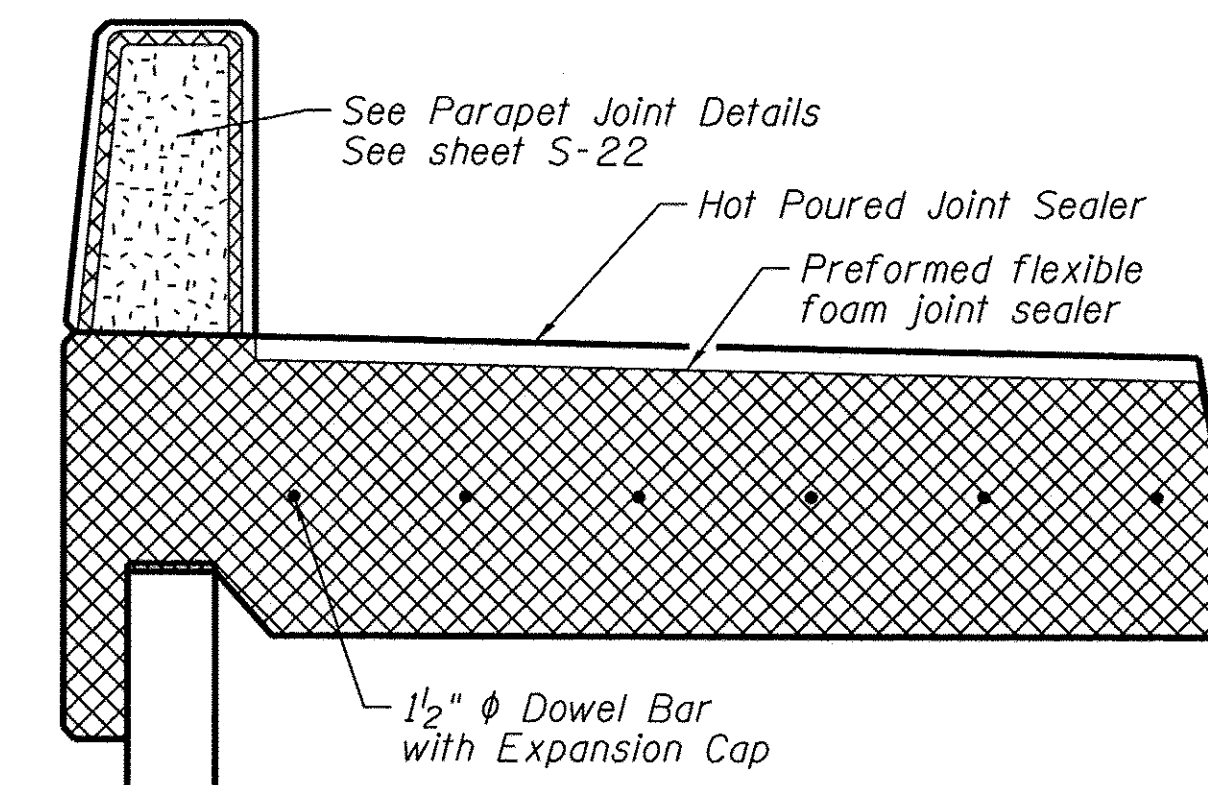
**SECTION C-C**  
3'-6" Parapet



**SECTION B-B**  
2'-10" Parapet



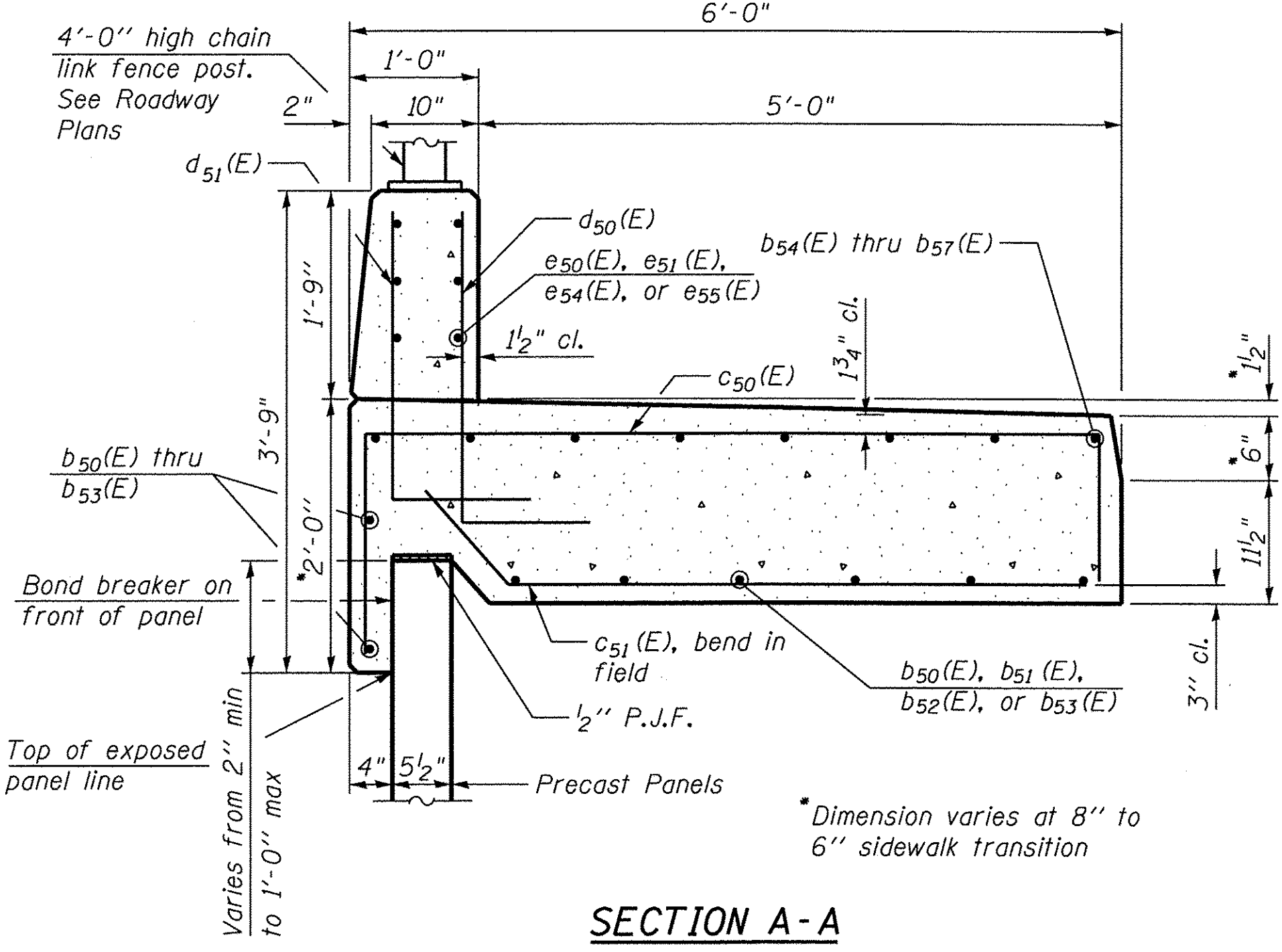
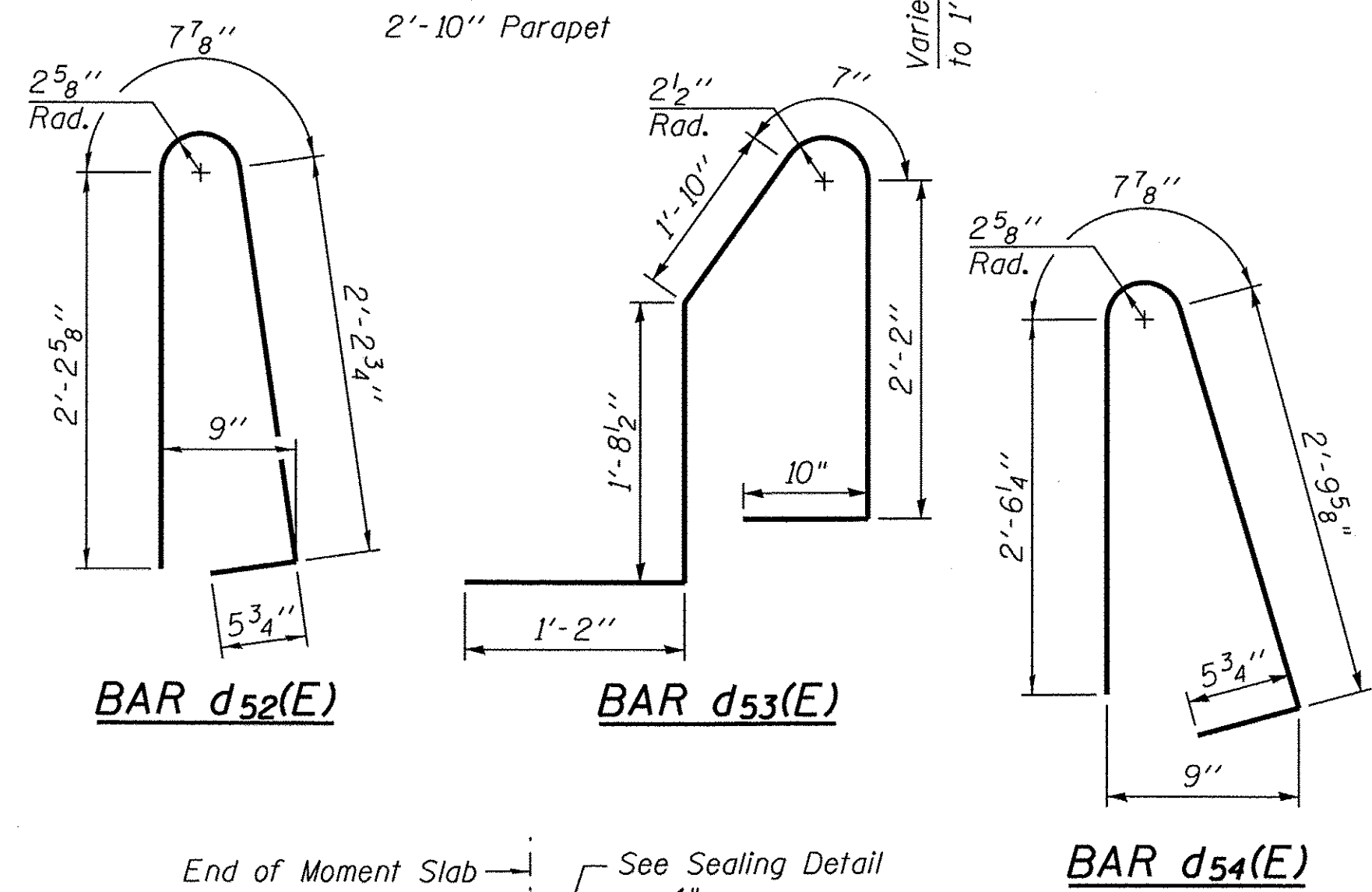
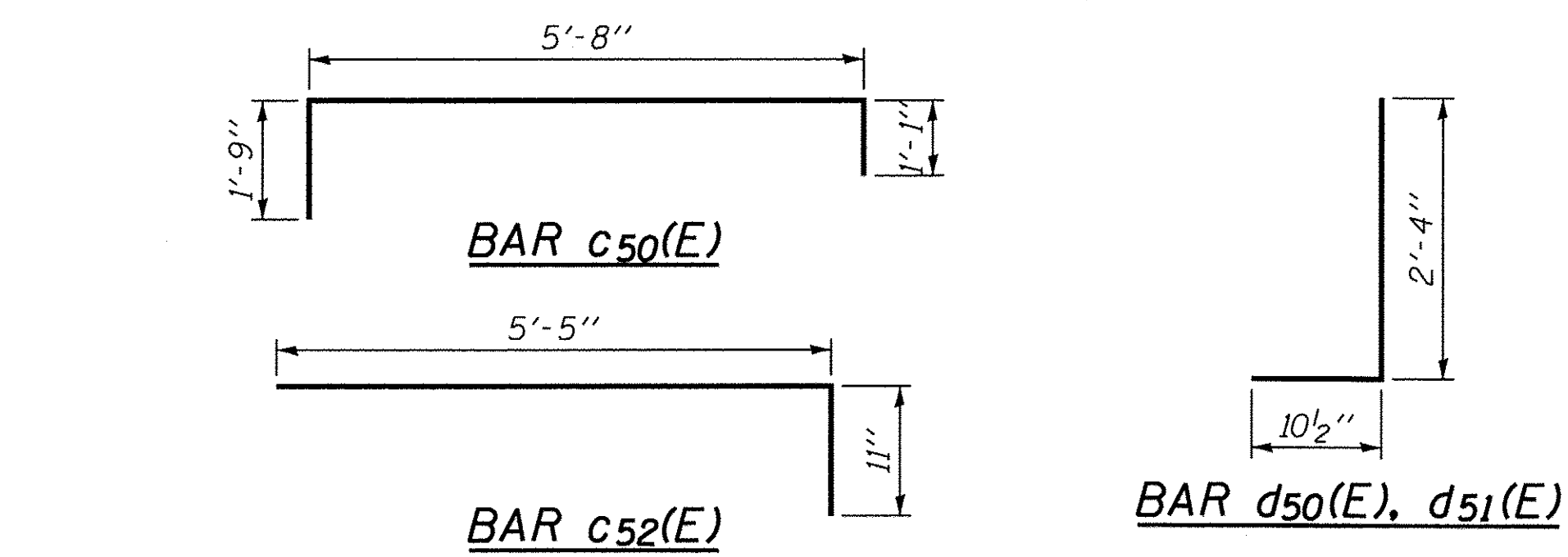
**TRANSVERSE EXPANSION JOINT SECTION - PARAPET**



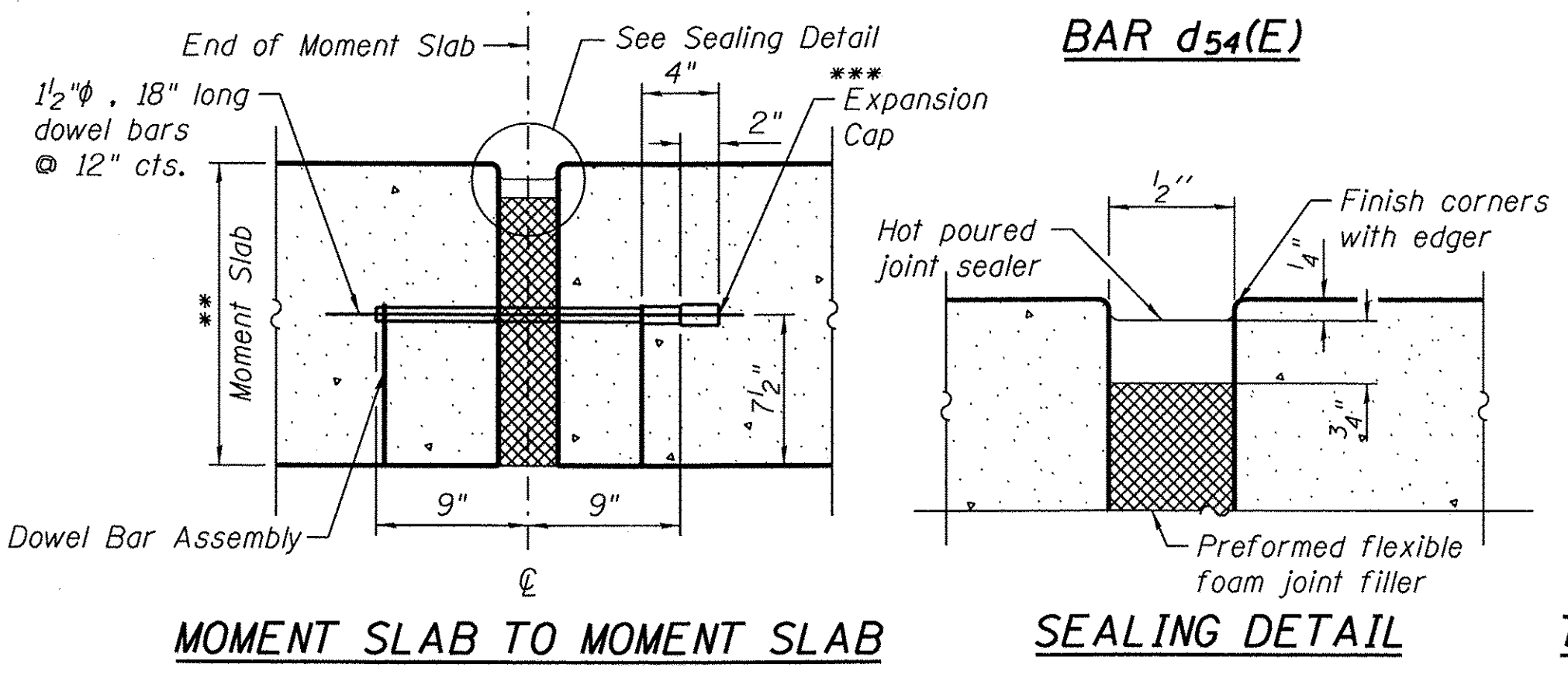
**TRANSVERSE EXPANSION JOINT SECTION - SIDEWALK MOMENT SLAB**

**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
a50(E)	16	# 4	4'-8"	—
b50(E)	48	# 4	29'-2"	—
b51(E)	24	# 4	13'-4"	—
b52(E)	24	# 4	14'-5"	—
b53(E)	24	# 4	18'-1"	—
b54(E)	14	# 5	29'-2"	—
b55(E)	7	# 5	13'-4"	—
b56(E)	7	# 5	14'-5"	—
b57(E)	7	# 5	18'-1"	—
c50(E)	108	# 5	8'-6"	—
c51(E)	108	# 4	5'-6"	—
c52(E)	184	# 6	6'-4"	—
c53(E)	108	# 4	6'-1"	—
d(E)	41	# 5	6'-10"	—
d50(E)	108	# 6	3'-3"	—
d51(E)	108	# 4	3'-3"	—
d52(E)	71	# 5	5'-7"	—
d53(E)	119	# 5	8'-3"	—
d54(E)	7	# 5	6'-6"	—
e50(E)	52	# 4	14'-5"	—
e51(E)	14	# 4	13'-4"	—
e52(E)	2	# 8	29'-2"	—
e53(E)	2	# 4	29'-2"	—
e54(E)	14	# 4	18'-1"	—
e55(E)	14	# 4	14'-5"	—
e56(E)	1	# 8	18'-1"	—
e57(E)	1	# 8	14'-5"	—
e58(E)	1	# 8	13'-4"	—
Concrete Superstructure		Cu. Yd.	86.3	
Reinforcement Bars, Epoxy Coated		Pound	9,810	

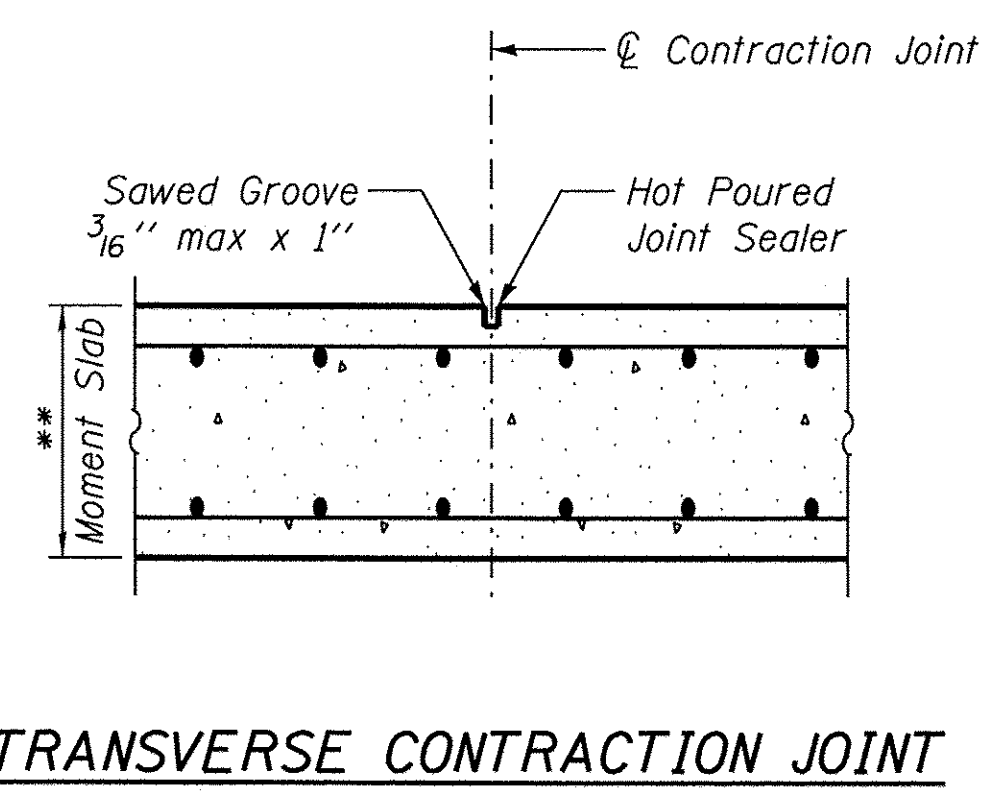


**SECTION A-A**



**MOMENT SLAB TO MOMENT SLAB**

**SEALING DETAIL**



**TRANSVERSE CONTRACTION JOINT**

**TRANSVERSE EXPANSION JOINT**

Expansion Joint and Dowel Bars included in the cost of Concrete Superstructure.

\*\*\* Expansion caps shall be installed on the exposed end of each dowel bar once the header has been removed and the joint filler material has been installed.

**NOTES:**

1. For bar bending detail for bar d(E), see sheet S-22.

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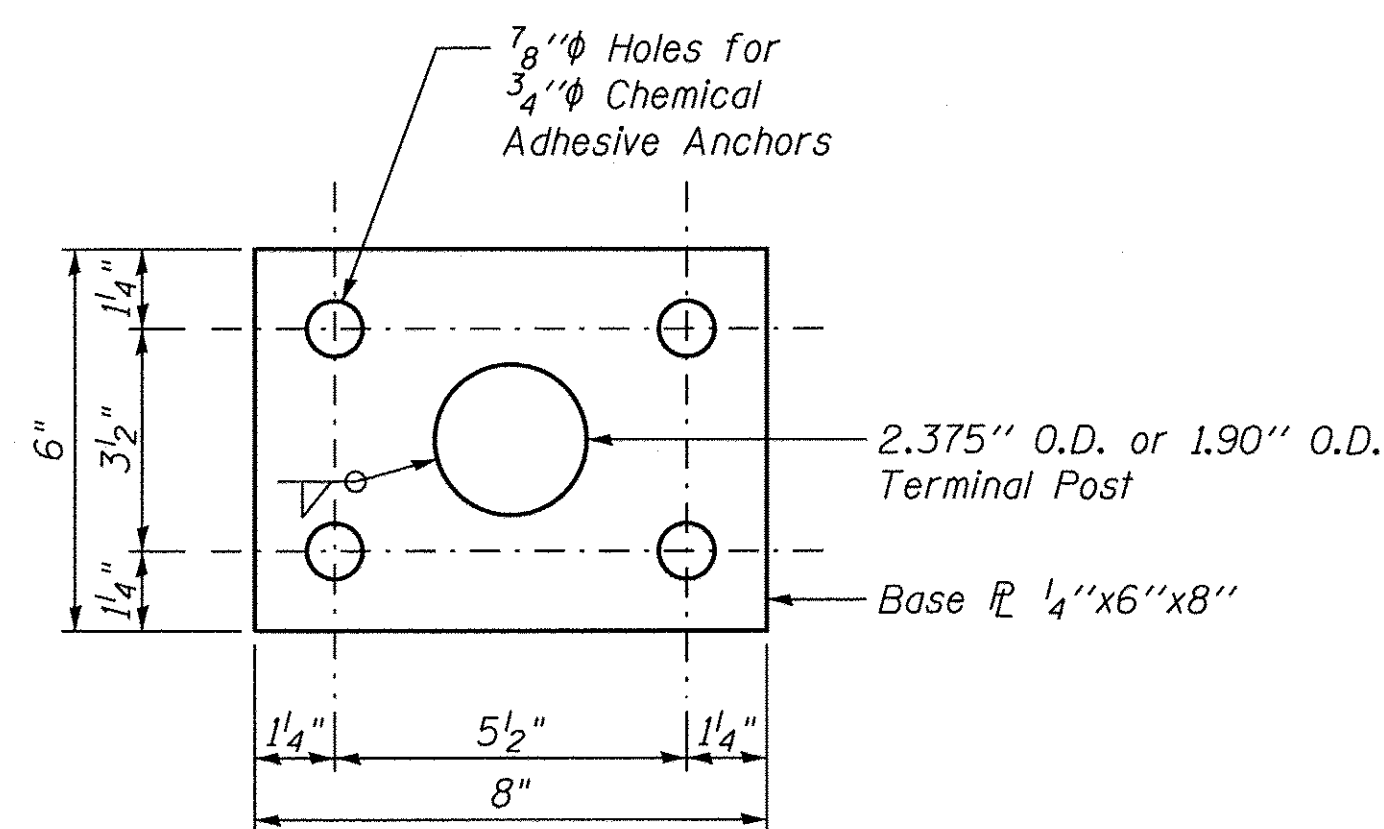
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	CHECKED - BWS	REVISED -

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

**MOMENT SLAB DETAILS**  
**STRUCTURE NO. 049-6003**

SHEET NO. S-15 OF S-33 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3699	14-00098-00-BR	LAKE	102	63
FED. ROAD DIST. NO. 1   ILLINOIS FED. AID PROJECT			CONTRACT NO. 61D63	
			M-BRM-4003(3/91)	



**FENCE POST BASE PLATE DETAIL**

**BASE PLATE NOTES:**

Base plate shall have angle to conform to the slope of top of wall.

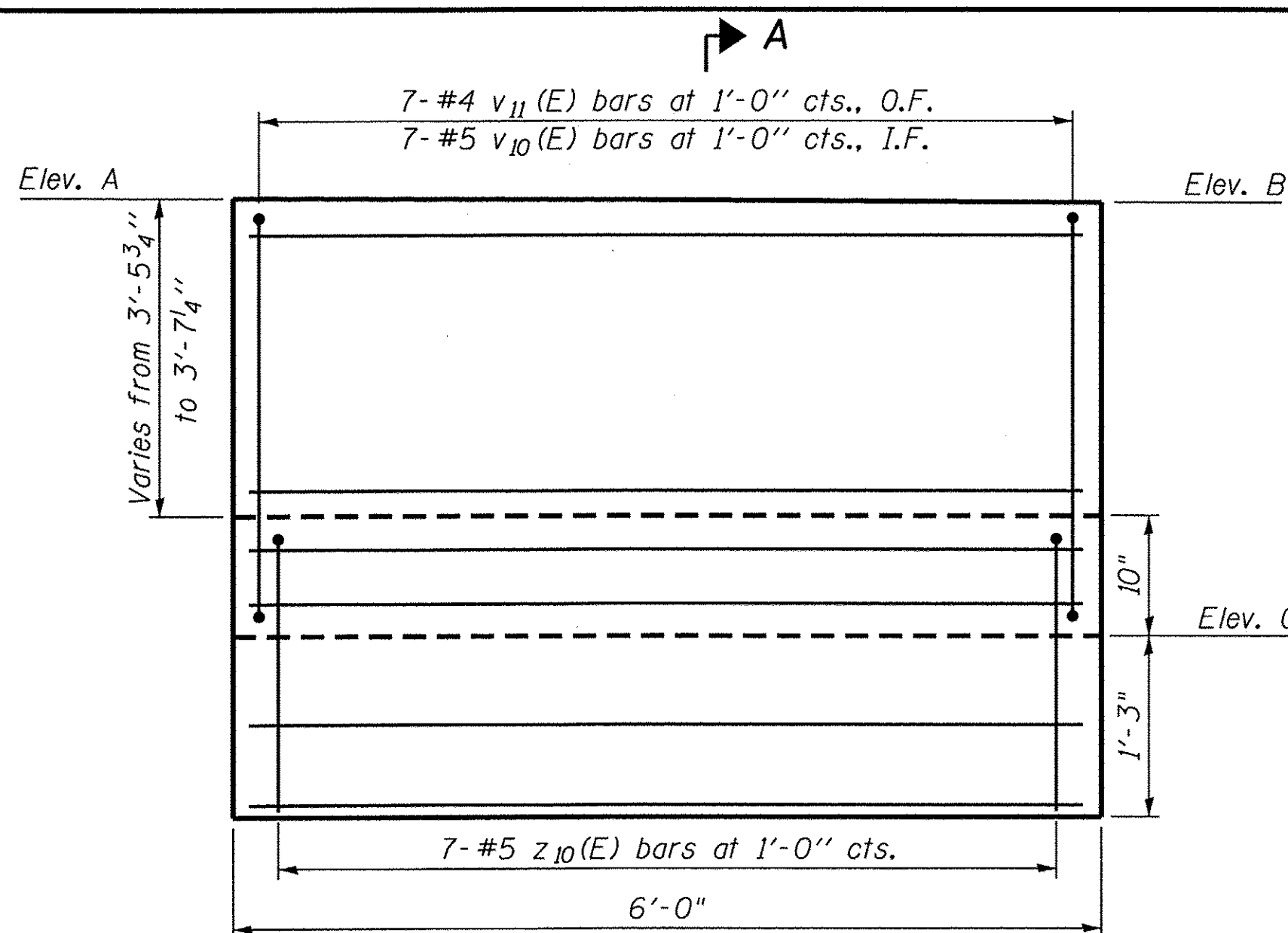
Anchor bolts, nuts and washers shall be 304 Stainless Steel.

Drill 1/2" drainage hole through center of each base plate.

Base plate shall be cleaned with power wire brush and the weld shall be ground smooth. Grind corners and edges to 1/8" radius. Apply 2 coats of galvanizing.

See Standard 664001-02 for fencing and post details.

See Roadway Plans for location and quantity of Chain Link Fence. Cost included with cost of Chain Link Fence, 4'.



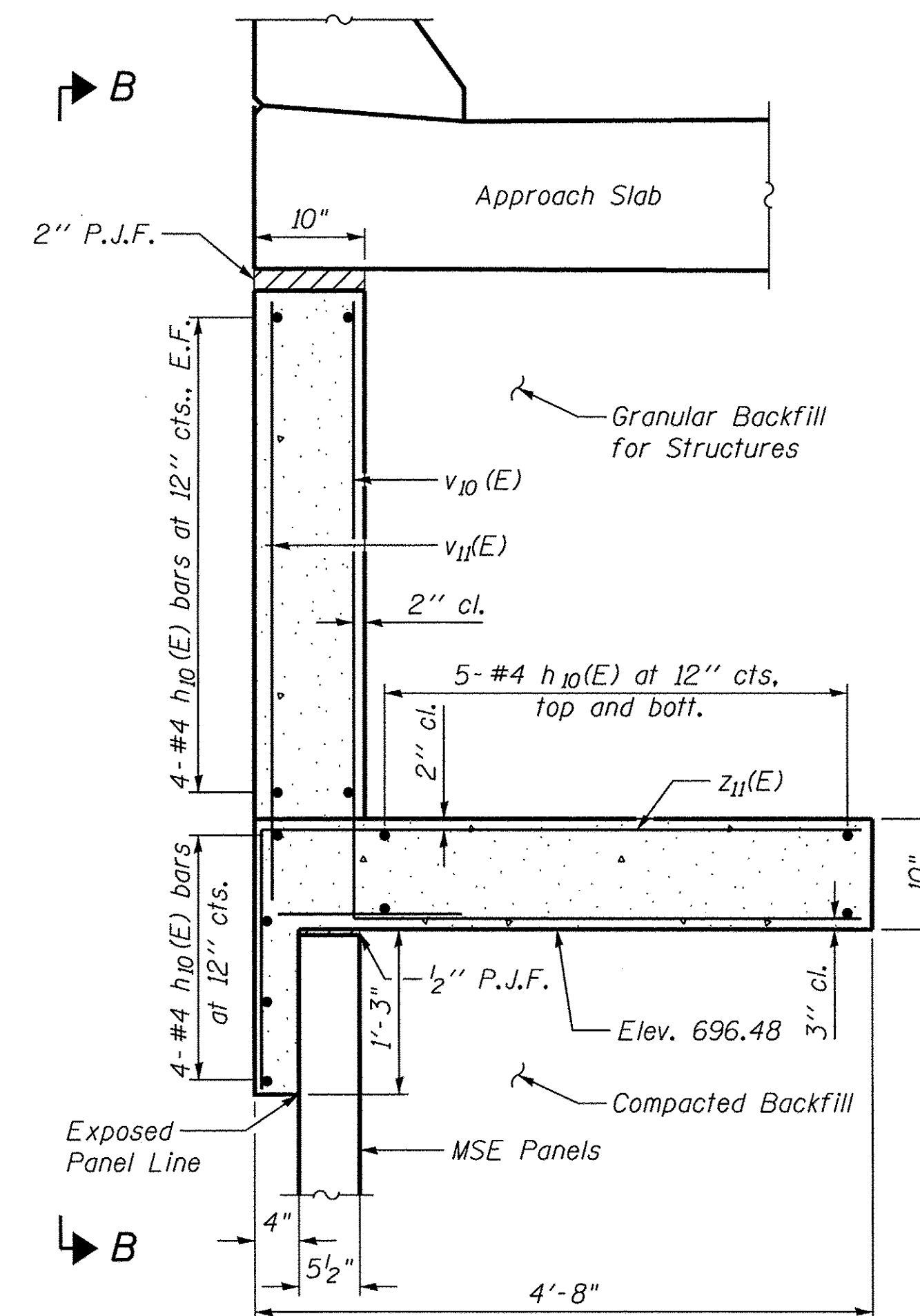
**WINGWALL ELEVATION**

Looking at Outside Elevation  
(South wall shown, North wall similar opposite hand)

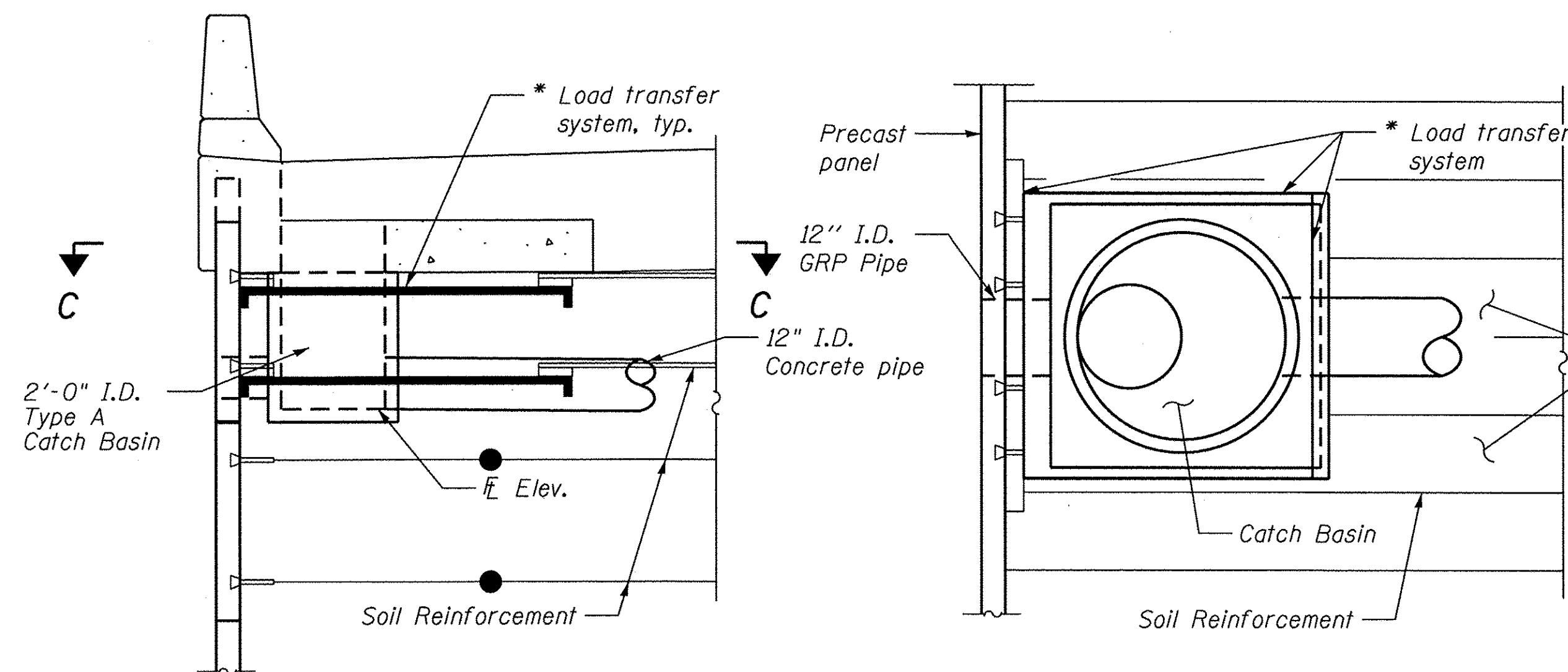
	Elev. A	Elev. B	Elev. C
North Wall	700.81	700.92	696.48
South Wall	700.90	700.79	696.48

	D	E
v <sub>10</sub> (E)	3'-11"	1'-0"
v <sub>11</sub> (E)	3'-11"	4'-4"
z <sub>11</sub> (E)	4'-4"	1'-9"

v<sub>10</sub>(E), v<sub>11</sub>(E), and z<sub>11</sub>(E)



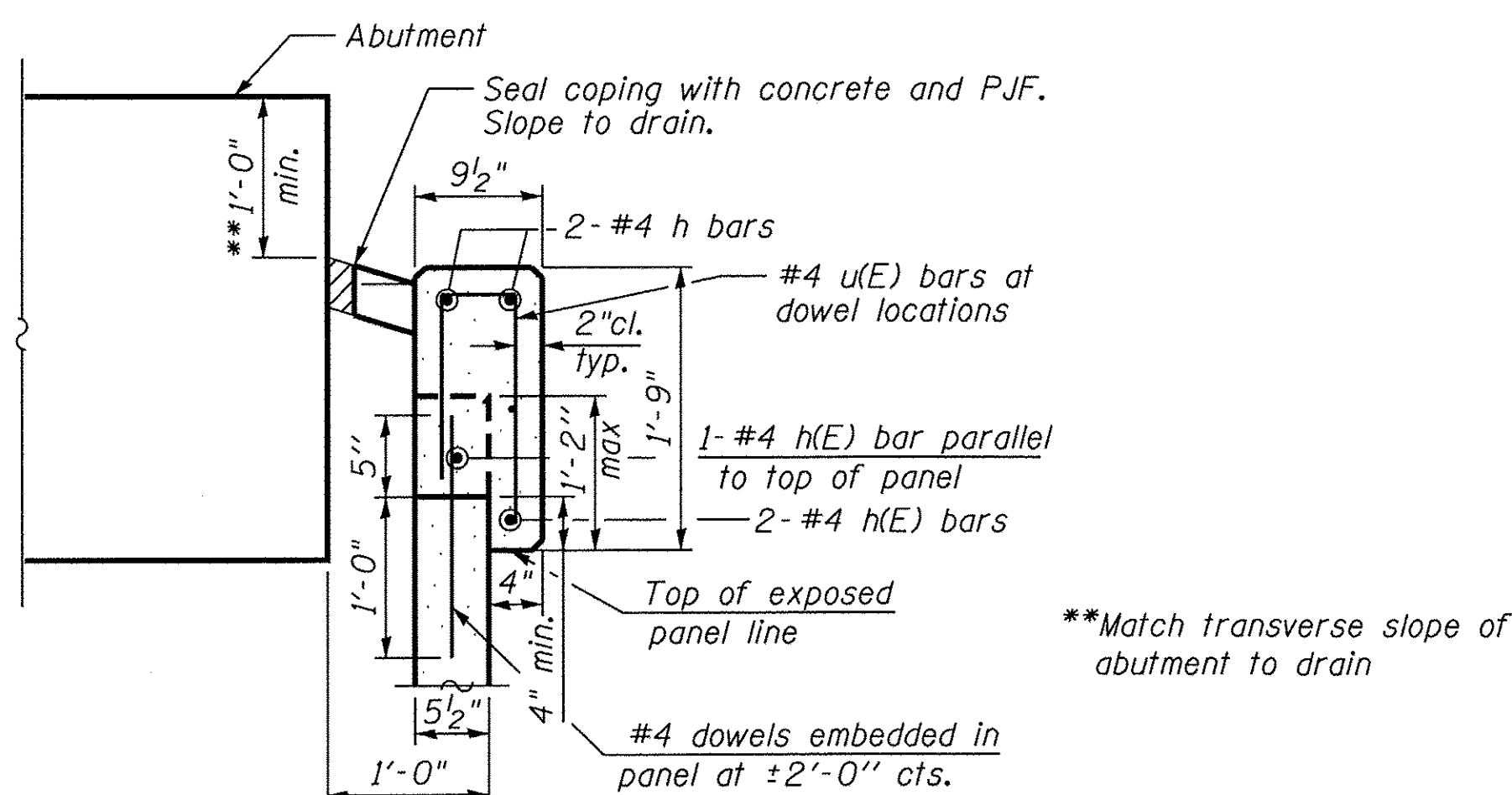
**SECTION A-A**



**DETAIL C**

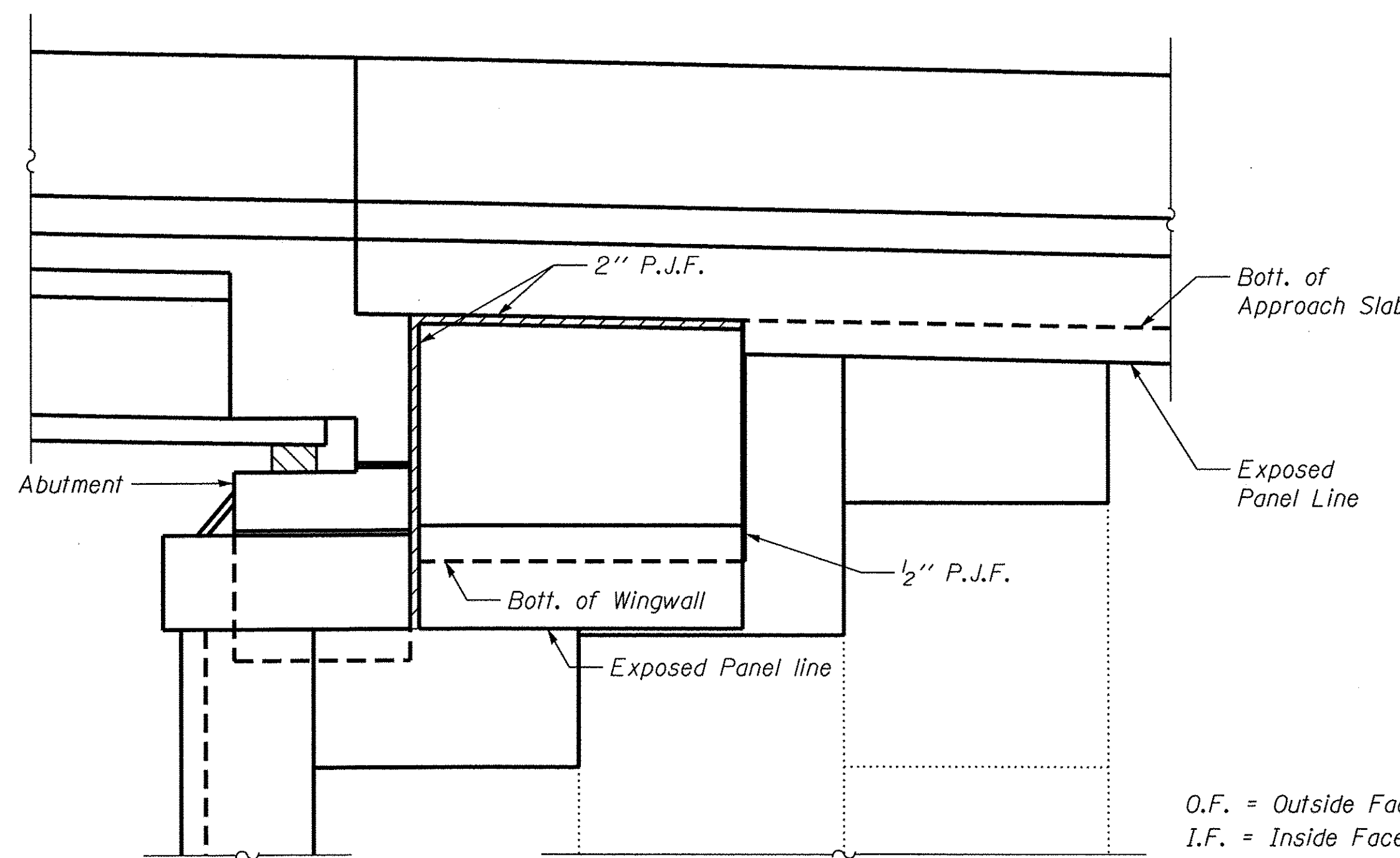
\* M.S.E. supplier to design load transfer system to accommodate concrete pipe and manhole

**SECTION C-C**



**CAST IN PLACE COPING FOR M.S.E. WALL**

Cost of concrete and reinforcing steel for coping included with cost of Mechanically Stabilized Earth Retaining Wall



**WINGWALL VIEW B-B**  
(East Abutment)

**BILL OF MATERIAL**

(Two Wingwalls)

Bar	No.	Size	Length	Shape	
v <sub>10</sub> (E)	14	#5	4'-11"	L	
v <sub>11</sub> (E)	14	#4	8'-3"	L	
z <sub>11</sub> (E)	14	#5	6'-1"	L	
h <sub>10</sub> (E)	44	#4	5'-4"	—	
Concrete Structures				Cu. Yd.	3.3
Reinforcement Bars, Epoxy Coated				Pound	400

O.F. = Outside Face  
I.F. = Inside Face  
E.F. = Each Face

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REVISIONS  
REVISOR  
DATE

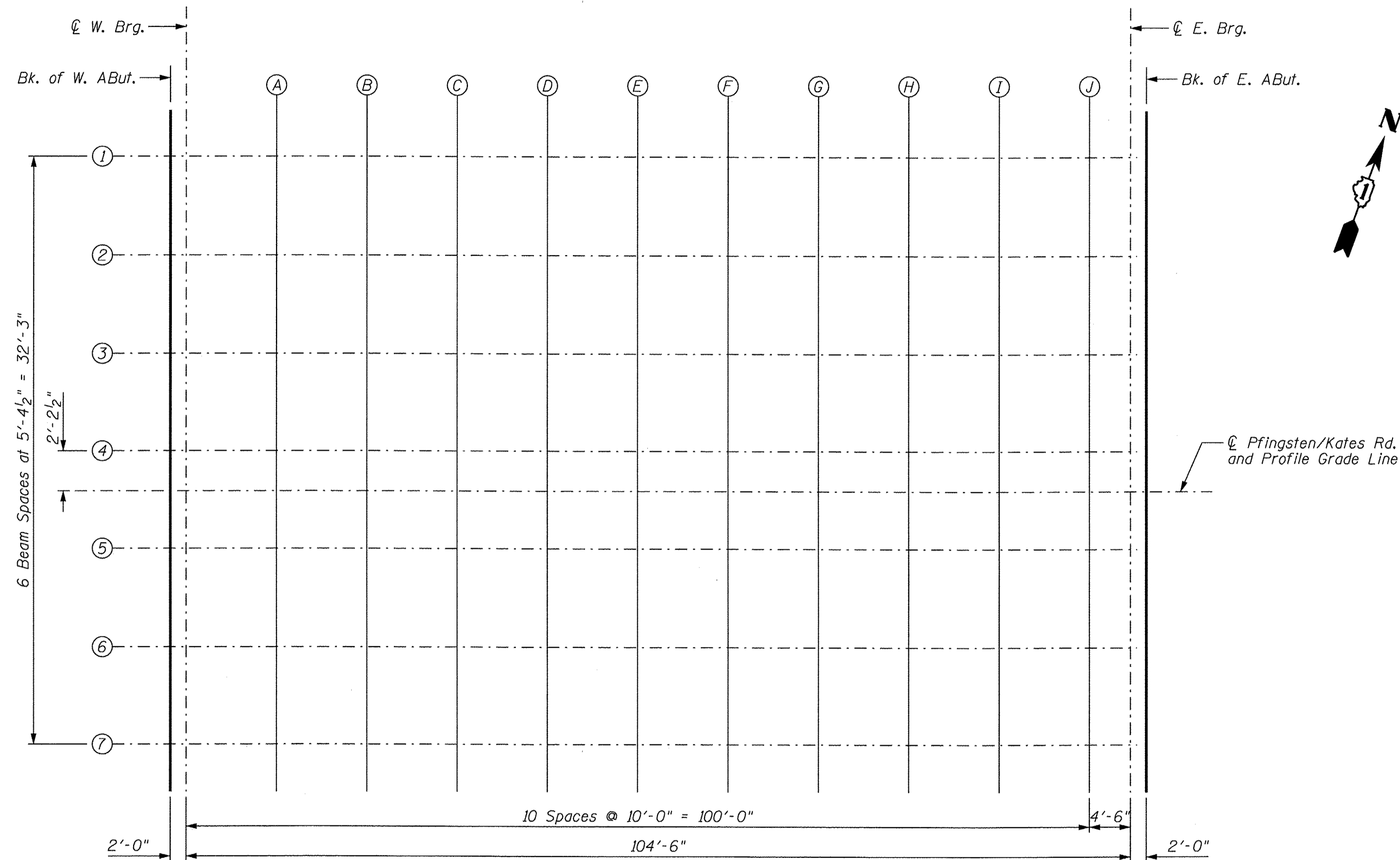
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

WINGWALL AND MSE WALL DETAILS  
STRUCTURE NO. 049-6003

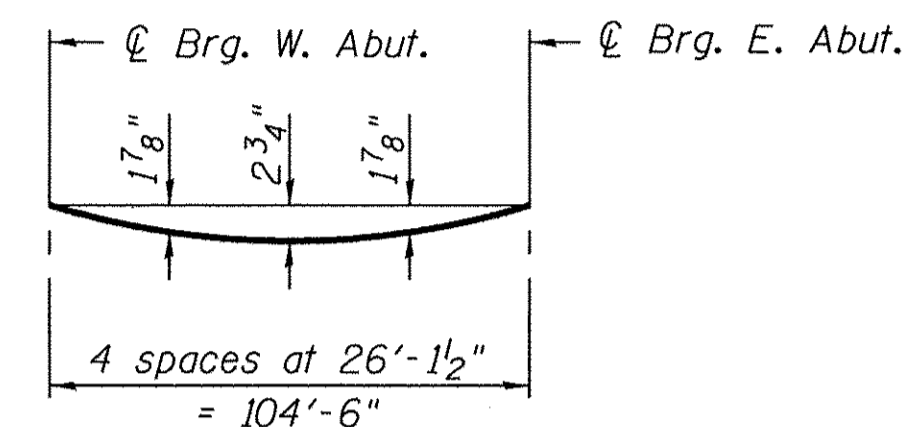
SHEET NO. S-16 OF S-33 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 61D63				
FED. ROAD DIST. NO. 1   ILLINOIS FED. AID PROJECT   M-BRM-4003(391)				





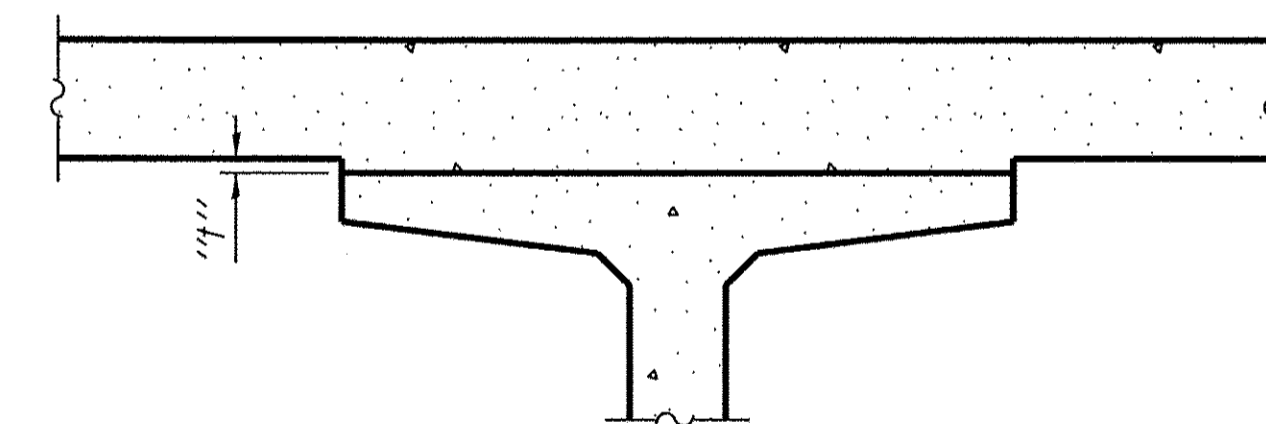
**PLAN**



**DEAD LOAD DEFLECTION DIAGRAM**

(Includes weight of concrete only.)

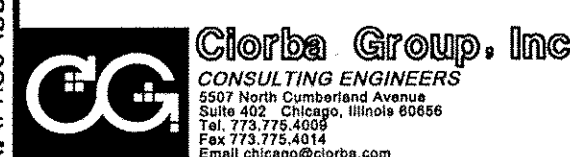
*Note:*  
The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown on sheet S-18.



To determine "t": After all precast prestressed beams have been erected, elevations of the top flanges of the beams shall be taken at intervals shown on sheet 18. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflections" shown on sheet S-18, minus slab thickness, equals the fillet heights "t" above top flanges of beams.

**FILLET HEIGHTS**

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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**TOP OF SLAB ELEVATIONS 1  
STRUCTURE NO. 049-6003**

SHEET NO. S-17 OF S-33 SHEETS

F.A.U. RTE. 3699	SECTION 14-00098-00-BR	COUNTY LAKE	TOTAL SHEETS 102	SHEET NO. 65
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT			CONTRACT NO. 61D63 M-BRM-4003(391)	

**BEAM 1**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
BK. W. Abut.	42+25.75	-18.33	702.23	702.23
CL W. Brg	42+27.75	-18.33	702.26	702.26
A	42+37.75	-18.33	702.42	702.49
B	42+47.75	-18.33	702.55	702.68
C	42+57.75	-18.33	702.65	702.83
D	42+67.75	-18.33	702.71	702.92
E	42+77.75	-18.33	702.74	702.97
F	42+87.75	-18.33	702.73	702.96
G	42+97.75	-18.33	702.70	702.90
H	43+07.75	-18.33	702.63	702.78
I	43+17.75	-18.33	702.53	702.63
J	43+27.75	-18.33	702.39	702.42
CL E. Brg	43+32.25	-18.33	702.32	702.32
BK. E. Abut.	43+34.25	-18.33	702.29	702.29

**BEAM 2**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
BK. W. Abut.	42+25.75	-12.96	702.31	702.31
CL W. Brg	42+27.75	-12.96	702.34	702.34
A	42+37.75	-12.96	702.50	702.57
B	42+47.75	-12.96	702.63	702.76
C	42+57.75	-12.96	702.73	702.91
D	42+67.75	-12.96	702.79	703.00
E	42+77.75	-12.96	702.82	703.05
F	42+87.75	-12.96	702.81	703.04
G	42+97.75	-12.96	702.78	702.98
H	43+07.75	-12.96	702.71	702.87
I	43+17.75	-12.96	702.61	702.71
J	43+27.75	-12.96	702.47	702.50
CL E. Brg	43+32.25	-12.96	702.40	702.40
BK. E. Abut.	43+34.25	-12.96	702.37	702.37

**BEAM 3**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
BK. W. Abut.	42+25.75	-7.58	702.39	702.39
CL W. Brg	42+27.75	-7.58	702.42	702.42
A	42+37.75	-7.58	702.58	702.65
B	42+47.75	-7.58	702.71	702.84
C	42+57.75	-7.58	702.81	702.99
D	42+67.75	-7.58	702.87	703.08
E	42+77.75	-7.58	702.90	703.13
F	42+87.75	-7.58	702.90	703.12
G	42+97.75	-7.58	702.86	703.06
H	43+07.75	-7.58	702.79	702.95
I	43+17.75	-7.58	702.69	702.79
J	43+27.75	-7.58	702.55	702.59
CL E. Brg	43+32.25	-7.58	702.48	702.48
BK. E. Abut.	43+34.25	-7.58	702.45	702.45

**BEAM 4**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
BK. W. Abut.	42+25.75	-2.21	702.47	702.47
CL W. Brg	42+27.75	-2.21	702.50	702.50
A	42+37.75	-2.21	702.66	702.73
B	42+47.75	-2.21	702.79	702.92
C	42+57.75	-2.21	702.89	703.07
D	42+67.75	-2.21	702.95	703.17
E	42+77.75	-2.21	702.98	703.21
F	42+87.75	-2.21	702.98	703.20
G	42+97.75	-2.21	702.94	703.14
H	43+07.75	-2.21	702.87	703.03
I	43+17.75	-2.21	702.77	702.87
J	43+27.75	-2.21	702.63	702.67
CL E. Brg	43+32.25	-2.21	702.56	702.56
BK. E. Abut.	43+34.25	-2.21	702.53	702.53

**PGL**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
BK. W. Abut.	42+25.75	0.00	702.50	702.50
CL W. Brg	42+27.75	0.00	702.54	702.54
A	42+37.75	0.00	702.70	702.77
B	42+47.75	0.00	702.83	702.96
C	42+57.75	0.00	702.92	703.10
D	42+67.75	0.00	702.98	703.20
E	42+77.75	0.00	703.01	703.24
F	42+87.75	0.00	703.01	703.23
G	42+97.75	0.00	702.97	703.17
H	43+07.75	0.00	702.90	703.06
I	43+17.75	0.00	702.80	702.90
J	43+27.75	0.00	702.67	702.70
CL E. Brg	43+32.25	0.00	702.60	702.60
BK. E. Abut.	43+34.25	0.00	702.56	702.56

**BEAM 5**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
BK. W. Abut.	42+25.75	+3.17	702.45	702.45
CL W. Brg	42+27.75	+3.17	702.49	702.49
A	42+37.75	+3.17	702.65	702.72
B	42+47.75	+3.17	702.78	702.91
C	42+57.75	+3.17	702.87	703.06
D	42+67.75	+3.17	702.94	703.15
E	42+77.75	+3.17	702.96	703.20
F	42+87.75	+3.17	702.96	703.19
G	42+97.75	+3.17	702.93	703.12
H	43+07.75	+3.17	702.86	703.01
I	43+17.75	+3.17	702.75	702.85
J	43+27.75	+3.17	702.62	702.65
CL E. Brg	43+32.25	+3.17	702.55	702.55
BK. E. Abut.	43+34.25	+3.17	702.51	702.51

**BEAM 6**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
BK. W. Abut.	42+25.75	+8.54	702.37	702.37
CL W. Brg	42+27.75	+8.54	702.41	702.41
A	42+37.75	+8.54	702.57	702.64
B	42+47.75	+8.54	702.70	702.83
C	42+57.75	+8.54	702.79	702.97
D	42+67.75	+8.54	702.85	703.07
E	42+77.75	+8.54	702.88	703.11
F	42+87.75	+8.54	702.88	703.11
G	42+97.75	+8.54	702.84	703.04
H	43+07.75	+8.54	702.78	702.93
I	43+17.75	+8.54	702.67	702.77
J	43+27.75	+8.54	702.54	702.57
CL E. Brg	43+32.25	+8.54	702.47	702.47
BK. E. Abut.	43+34.25	+8.54	702.43	702.43

**BEAM 7**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
BK. W. Abut.	42+25.75	+13.92	702.29	702.29
CL W. Brg	42+27.75	+13.92	702.33	702.33
A	42+37.75	+13.92	702.49	702.56
B	42+47.75	+13.92	702.62	702.75
C	42+57.75	+13.92	702.71	702.89
D	42+67.75	+13.92	702.77	702.99
E	42+77.75	+13.92	702.80	703.03
F	42+87.75	+13.92	702.80	703.02
G	42+97.75	+13.92	702.76	702.96
H	43+07.75	+13.92	702.69	702.85
I	43+17.75	+13.92	702.59	702.69
J	43+27.75	+13.92	702.46	702.49
CL E. Brg	43+32.25	+13.92	702.39	702.39
BK. E. Abut.	43+34.25	+13.92	702.35	702.35

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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**TOP OF SLAB ELEVATIONS 2  
STRUCTURE NO. 049-6003**

F.A.U. RTE. 3699	SECTION 14-00098-00-BR	COUNTY LAKE	TOTAL SHEETS 102	SHEET NO. 66
CONTRACT NO. 61D63			M-BRM-4003(391)	

**NORTH EDGE OF APPROACH PAVEMENT**

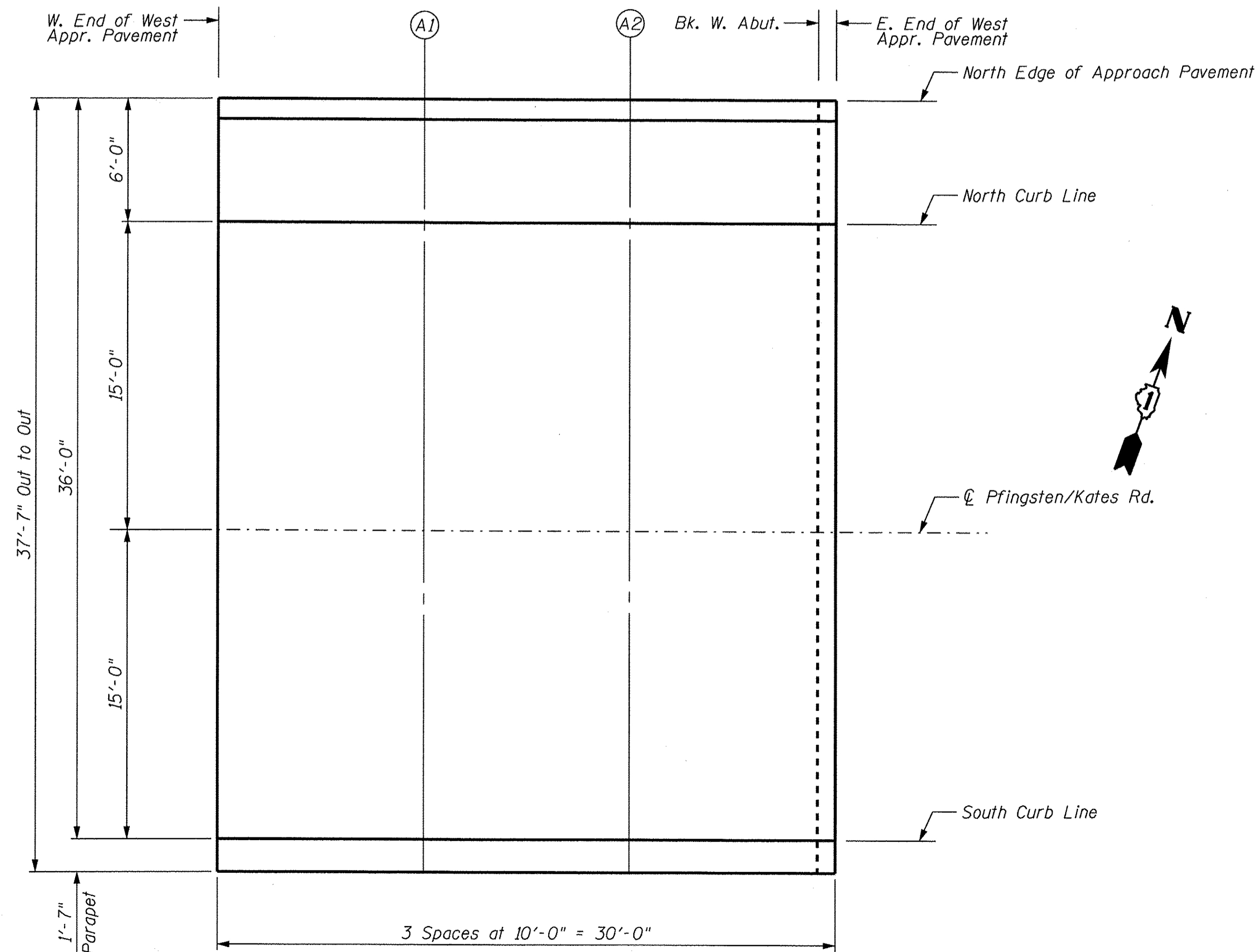
Location	Station	Offset	Theoretical Grade Elevations
W. End of West Appr. Pavment	41+96.75	-21.00	701.61
A1	42+06.75	-21.00	701.87
A2	42+16.75	-21.00	702.10
E. End of West Appr. Pavment	42+26.75	-21.00	702.29

**NORTH CURB LINE**

Location	Station	Offset	Theoretical Grade Elevations
W. End of West Appr. Pavment	41+96.75	-15.00	701.61
A1	42+06.75	-15.00	701.87
A2	42+16.75	-15.00	702.10
E. End of West Appr. Pavment	42+26.75	-15.00	702.29

**☉ ROADWAY AND PGL**

Location	Station	Offset	Theoretical Grade Elevations
W. End of West Appr. Pavment	41+96.75	0.00	701.83
A1	42+06.75	0.00	702.09
A2	42+16.75	0.00	702.32
E. End of West Appr. Pavment	42+26.75	0.00	702.52



**PLAN**

**SOUTH CURB LINE**

Location	Station	Offset	Theoretical Grade Elevations
W. End of West Appr. Pavment	41+96.75	15.00	701.61
A1	42+06.75	15.00	701.87
A2	42+16.75	15.00	702.10
E. End of West Appr. Pavment	42+26.75	15.00	702.29

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**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**TOP OF W. APPROACH SLAB ELEVATIONS  
 STRUCTURE NO. 049-6003**

SHEET NO. S-19 OF S-33 SHEETS

F.A.U. RTE. 3699	SECTION 14-00098-00-BR	COUNTY LAKE	TOTAL SHEETS 102	SHEET NO. 67
FED. ROAD DIST. NO. 1   ILLINOIS FED. AID PROJECT			CONTRACT NO. 61D63 M-BRM-4003(391)	

**NORTH EDGE OF APPROACH PAVEMENT**

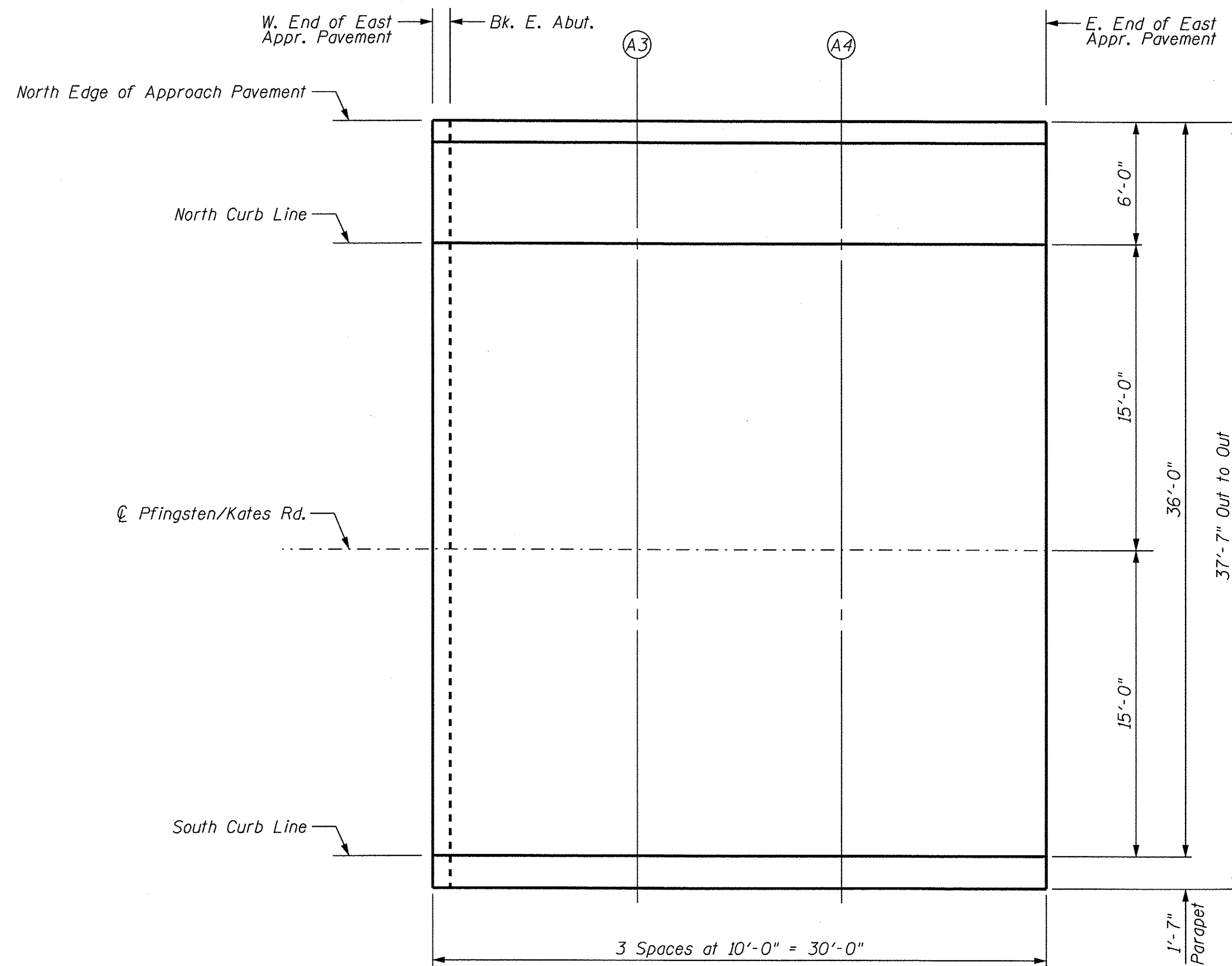
Location	Station	Offset	Theoretical Grade Elevations
W. End of East Appr. Pavment	43+33.25	-21.00	702.35
A3	43+43.25	-21.00	702.17
A4	43+53.25	-21.00	701.95
E. End of East Appr. Pavment	43+63.25	-21.00	701.70

**NORTH CURB LINE**

Location	Station	Offset	Theoretical Grade Elevations
W. End of East Appr. Pavment	43+33.25	-15.00	702.35
A3	43+43.25	-15.00	702.17
A4	43+53.25	-15.00	701.95
E. End of East Appr. Pavment	43+63.25	-15.00	701.70

**☉ ROADWAY AND PGL**

Location	Station	Offset	Theoretical Grade Elevations
W. End of East Appr. Pavment	43+33.25	0.00	702.58
A3	43+43.25	0.00	702.39
A4	43+53.25	0.00	702.18
E. End of East Appr. Pavment	43+63.25	0.00	701.92



**PLAN**

**SOUTH CURB LINE**

Location	Station	Offset	Theoretical Grade Elevations
W. End of East Appr. Pavment	43+33.25	15.00	702.35
A3	43+43.25	15.00	702.17
A4	43+53.25	15.00	701.95
E. End of East Appr. Pavment	43+63.25	15.00	701.70

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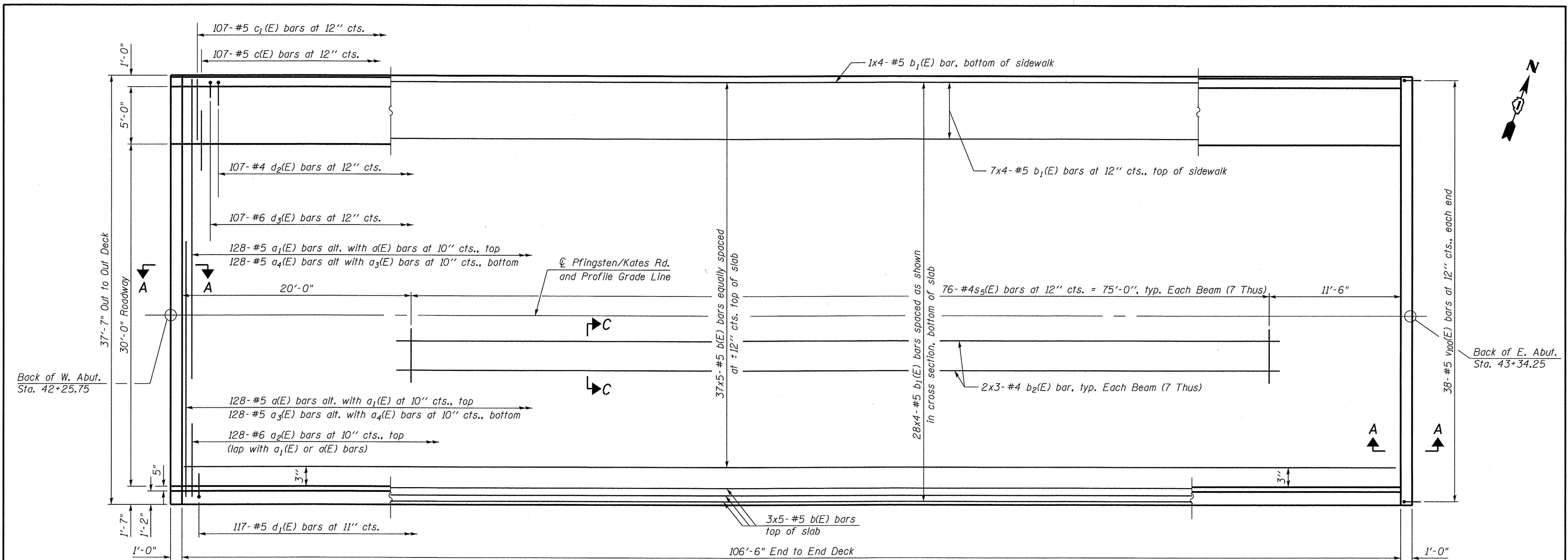
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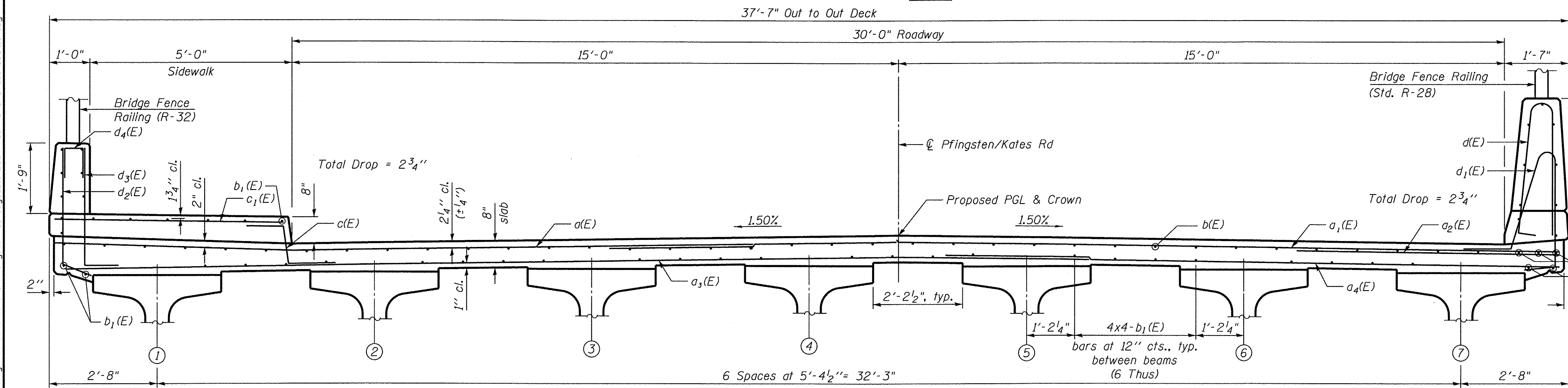
**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**TOP OF E. APPROACH SLAB ELEVATIONS  
 STRUCTURE NO. 049-6003**

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3699	14-00098-00-BR	LAKE	102	68
FED. ROAD DIST. NO. 1   ILLINOIS FED. AID PROJECT			CONTRACT NO. 61D63	
SHEET NO. S-20 OF S-33 SHEETS			M-BRM-4003(391)	



**PLAN**



**CROSS SECTION**  
(Looking East)

**MINIMUM BAR LAP**

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

**NOTES:**  
See sheets S-22 and S-23 for superstructure details and Bill of Material. Bars indicated thus 20 x 3-#5 etc. indicates 20 lines of bars with 3 lengths per line.  
See sheets S-26 and S-27 for parapet mounted bridge fence railing details.  
For section A-A see sheet 23 of 33.  
For section C-C see sheet 23 of 33.

N:\PROJECTS\2020\05\36\00\02\0536\01\Design\Structure\CAD\Profile\Profile.dgn



USER NAME = jattanesoo  
DESIGNED - RA  
CHECKED - LM  
DRAWN - RA  
PLOT SCALE = 4:4 " / 1" =  
PLOT DATE = 12/5/2016

DESIGNED - RA  
CHECKED - LM  
DRAWN - RA  
CHECKED - BWS

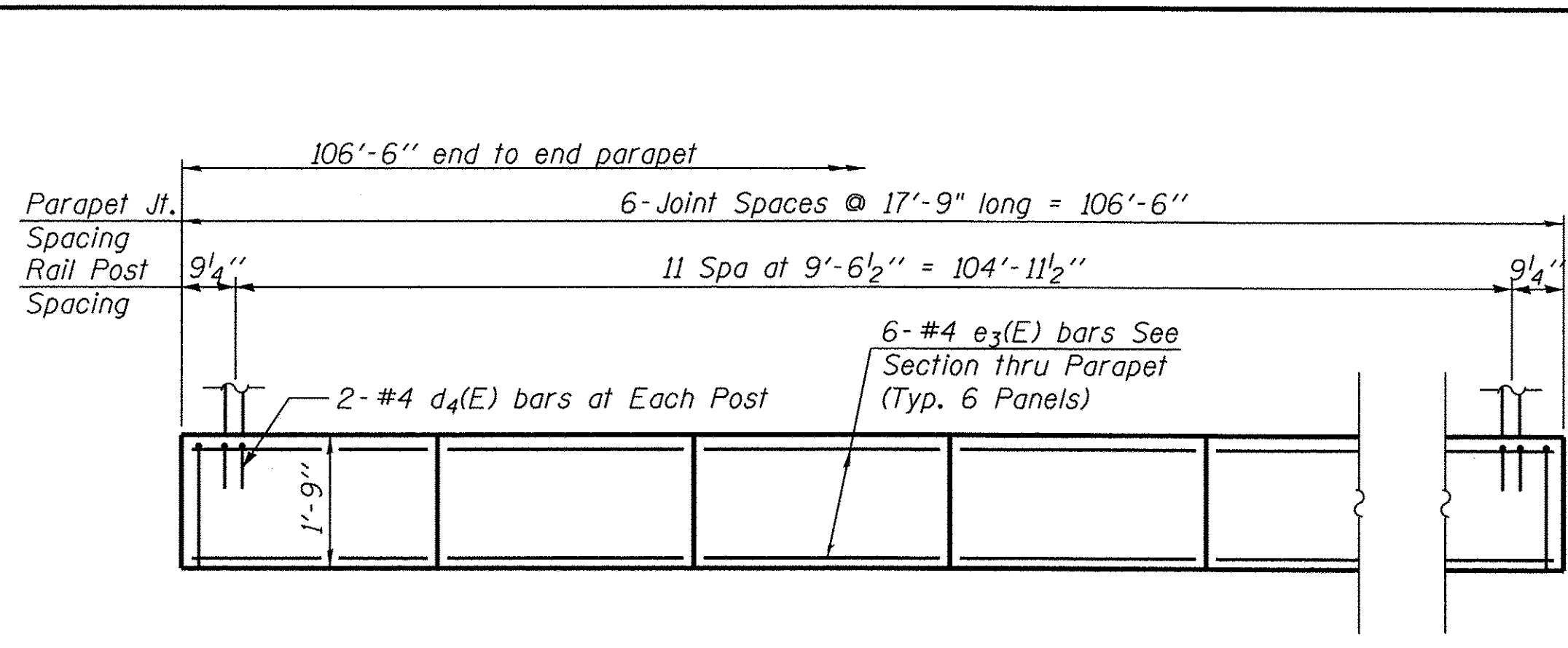
REVISED -  
REVISED -  
REVISED -  
REVISED -

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

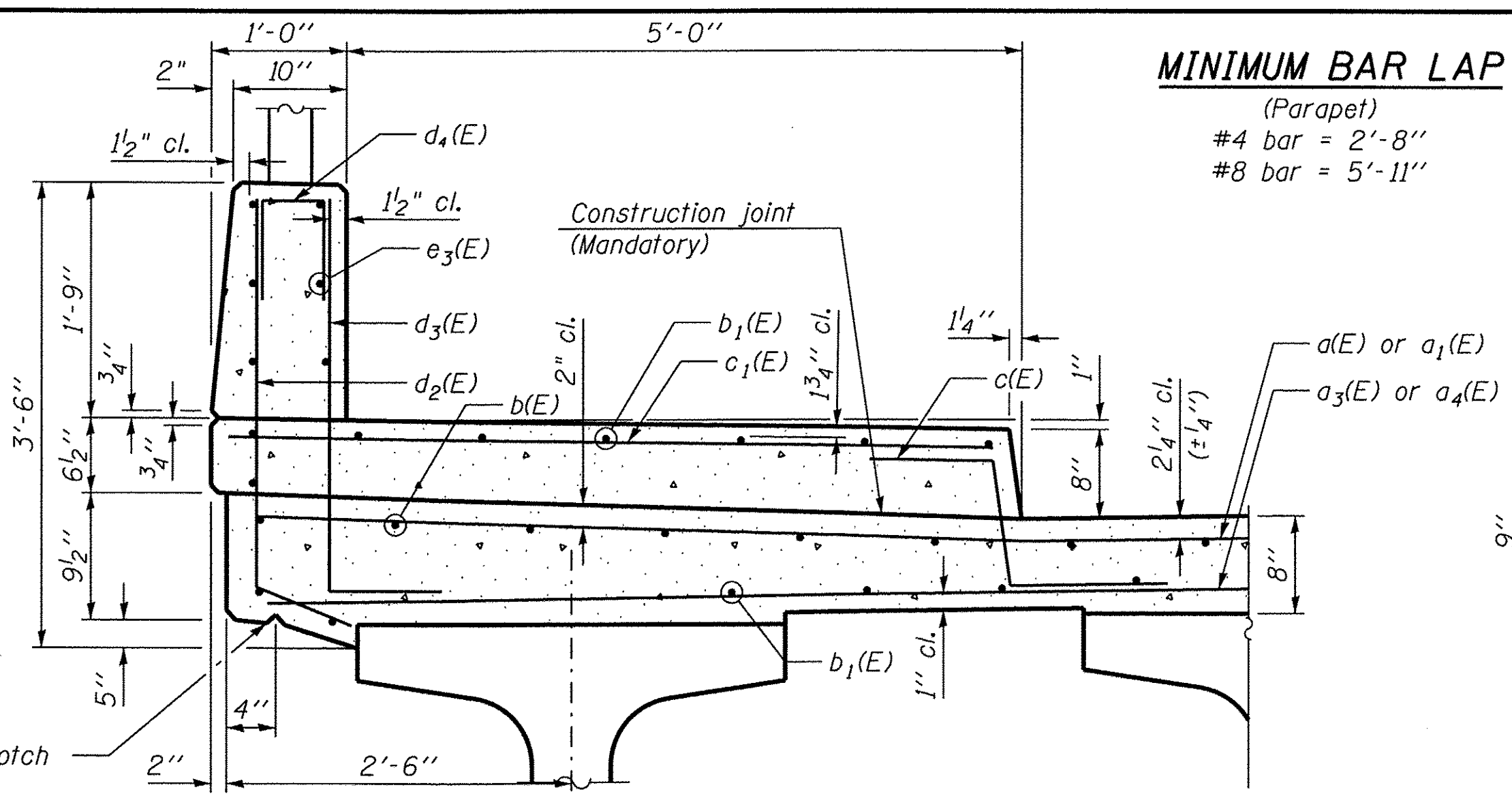
**DECK PLAN AND CROSS SECTION**  
**STRUCTURE NO. 049-6003**

SHEET NO. S-21 OF S-33 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3699	14-00098-00-BR	LAKE	102	69
CONTRACT NO. 61D63				
FED. ROAD DIST. NO. 1   ILLINOIS FED. AID PROJECT M-BRM-4003(391)				



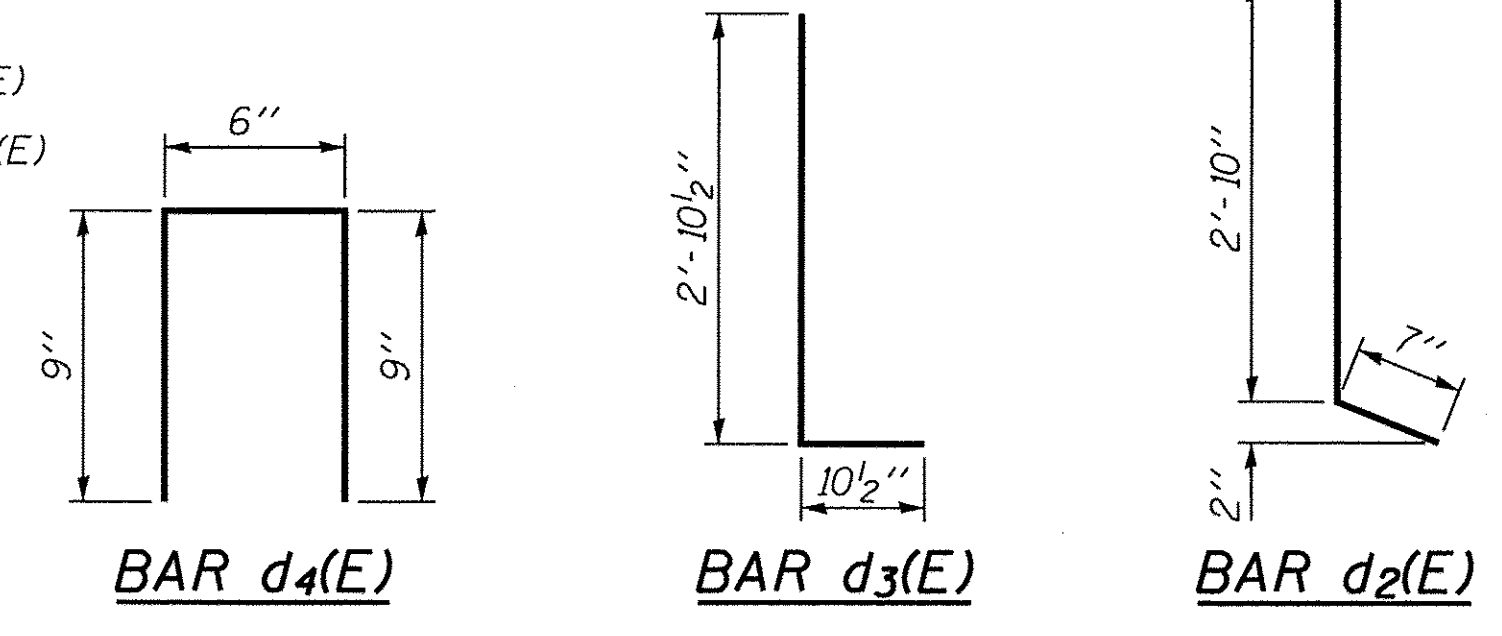
**INSIDE ELEVATION OF NORTH PARAPET**



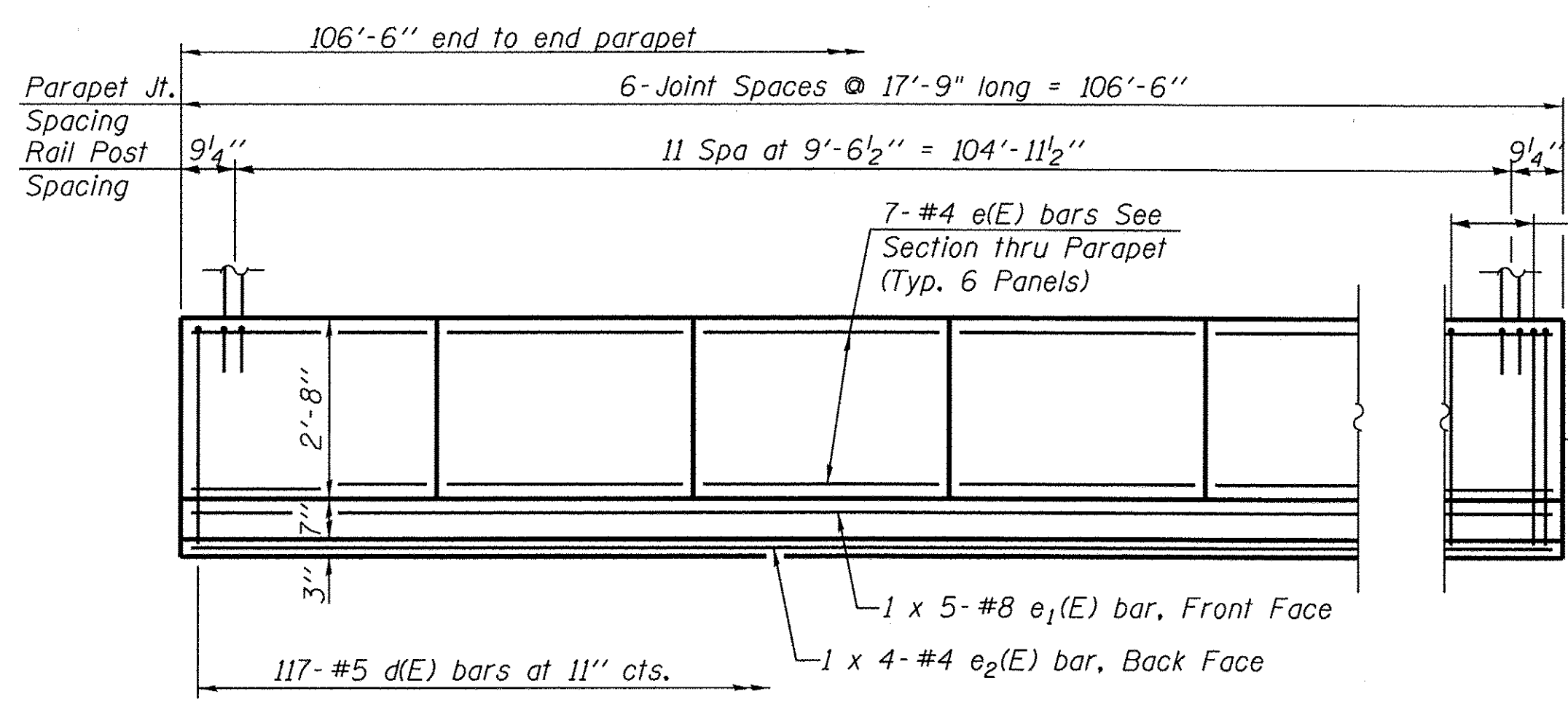
**SECTION THRU NORTH SIDEWALK**

**MINIMUM BAR LAP**  
(Parapet)  
#4 bar = 2'-8"  
#8 bar = 5'-11"

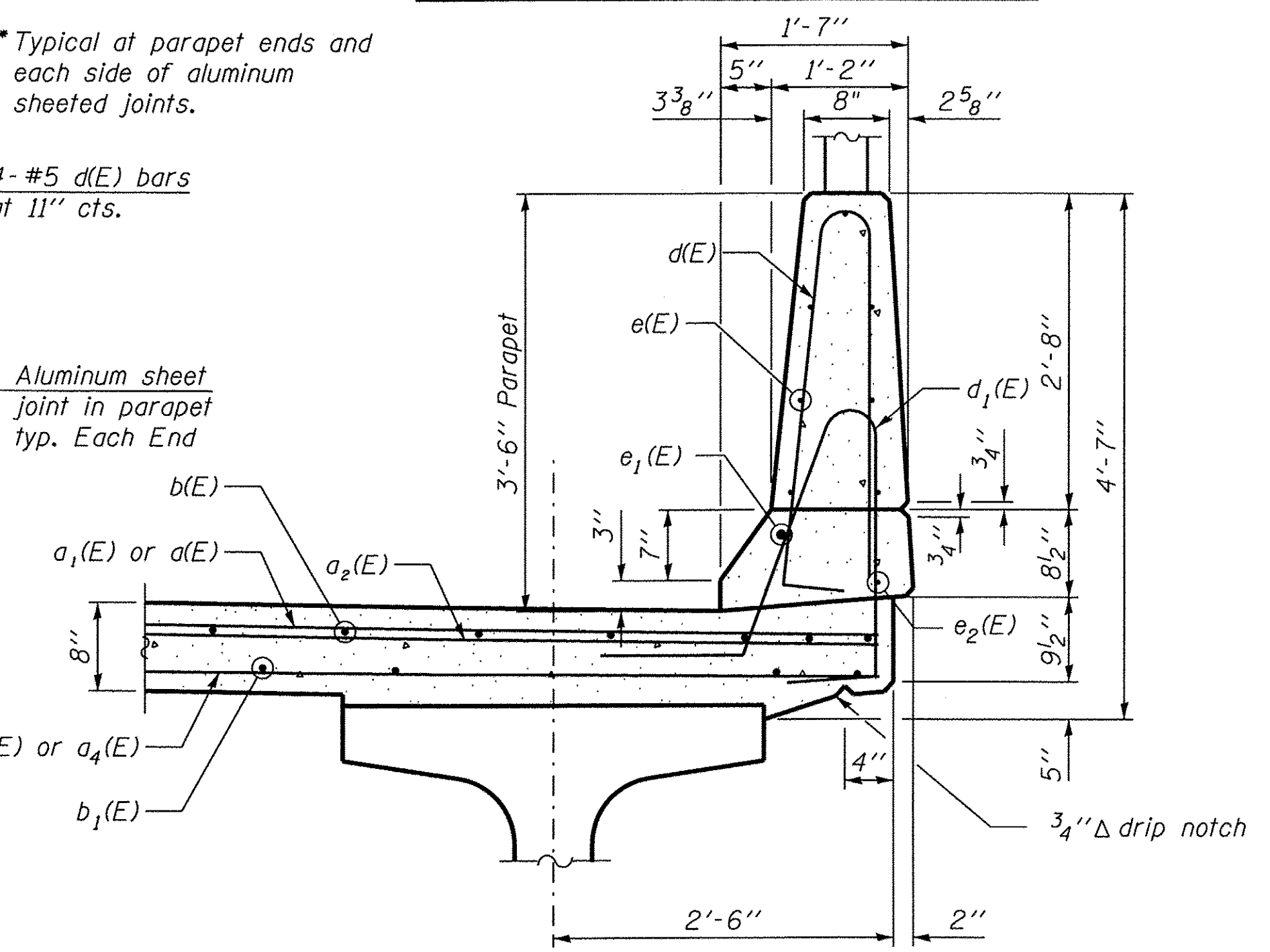
**NOTES**  
Headed bars shall conform to ASTM A970 Class HA. Cost included with Reinforcement Bars, Epoxy Coated.  
For diaphragm reinforcement details see sheet S-23 of S-33.  
For fillet reinforcement details see sheet S-23 of S-33  
Bars indicated thus 1 x 2-#8 etc. indicates 1 line of bars with 2 lengths per line.



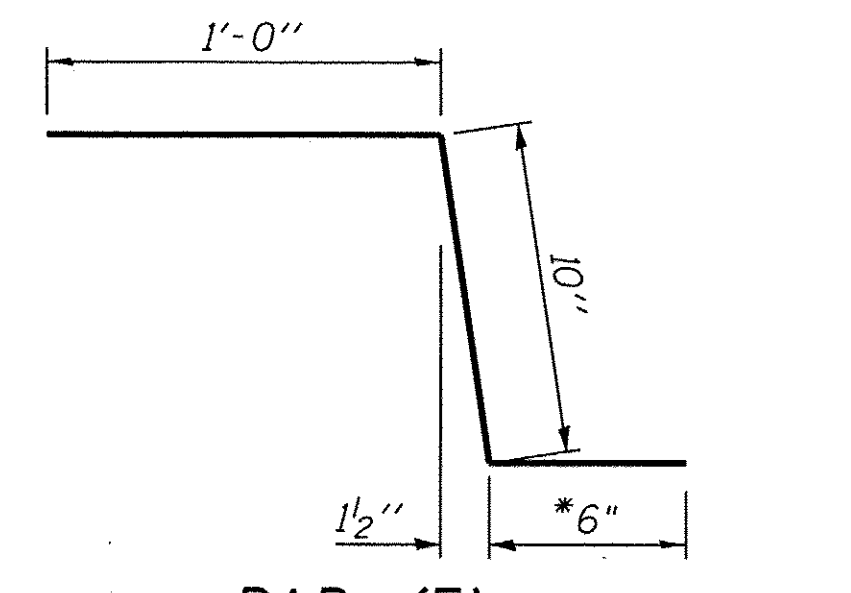
\* In lieu of bottom leg, c(E) bars may be cored and set according to Article 509.06 of the Standard Specifications. Cored holes shall be roughened or scored per manufacturer's recommendations. Maximum depth of cored hole shall not exceed 6".



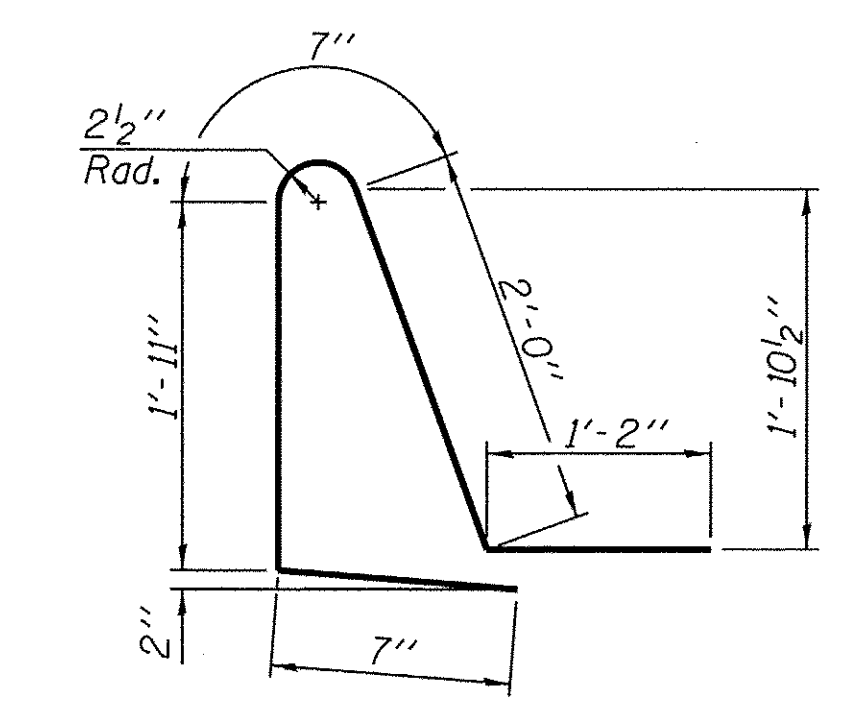
**INSIDE ELEVATION OF SOUTH PARAPET**



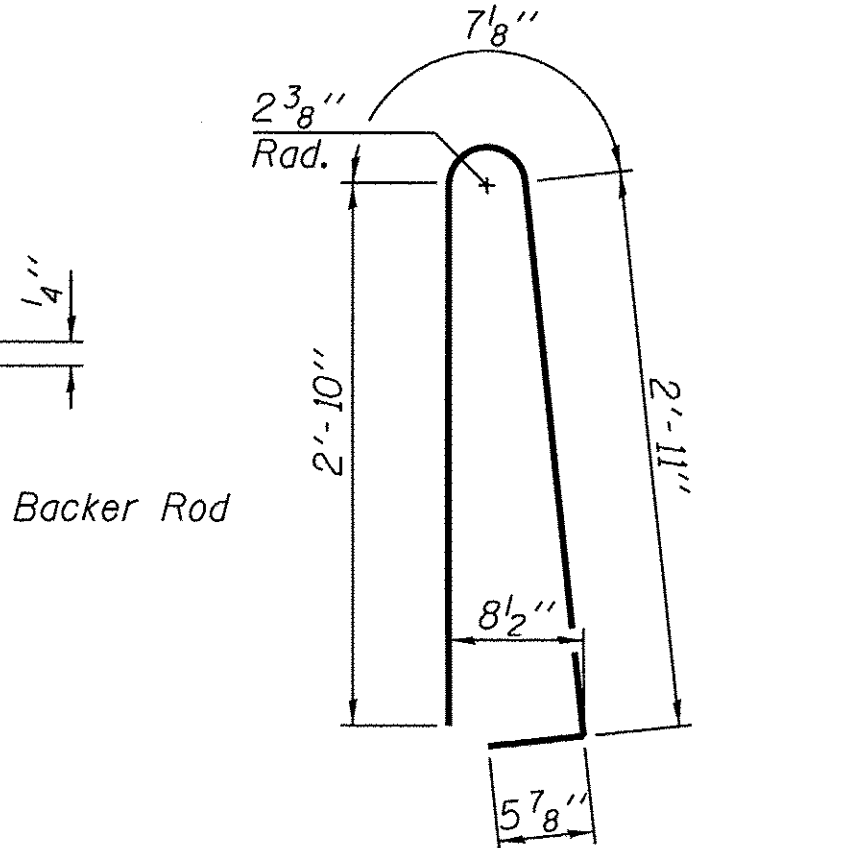
**SECTION THRU SOUTH PARAPET**



**BAR c(E)**



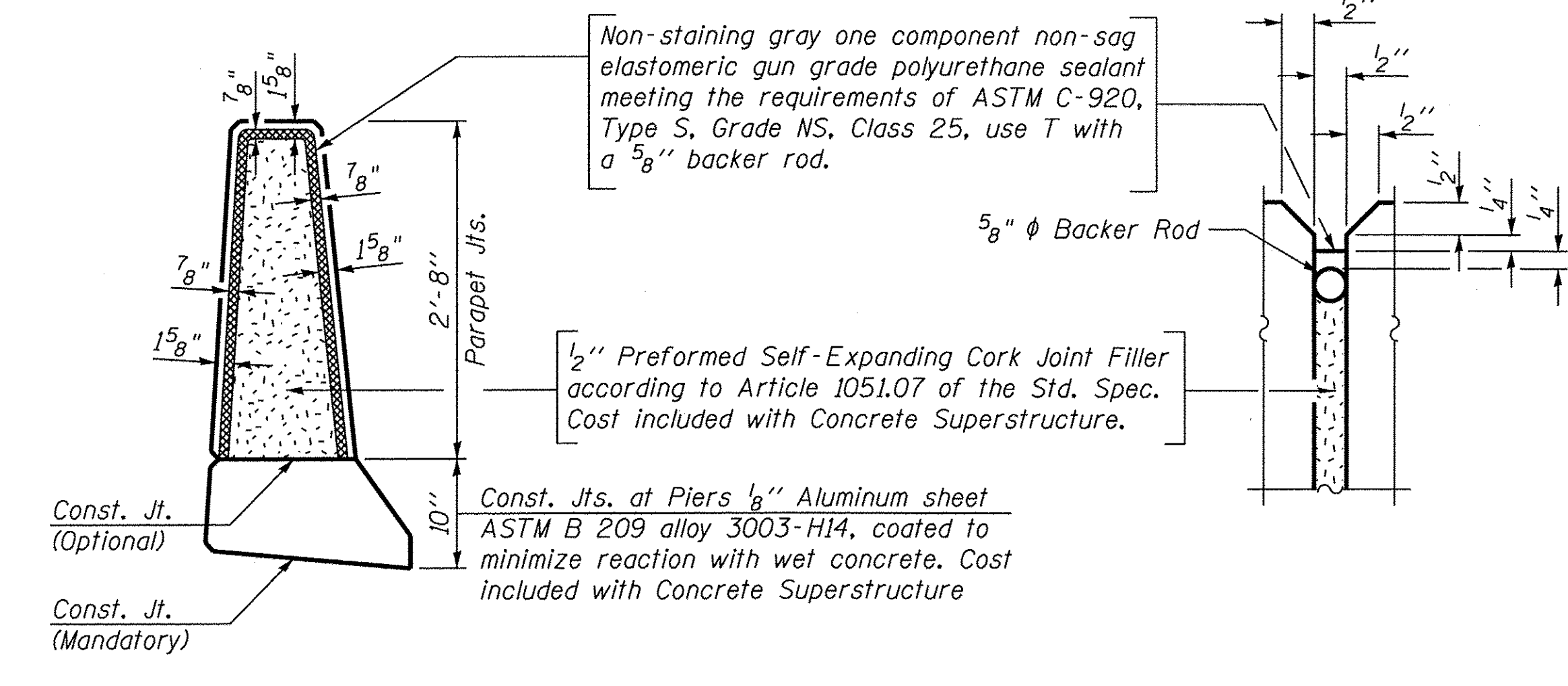
**BAR d1(E)**



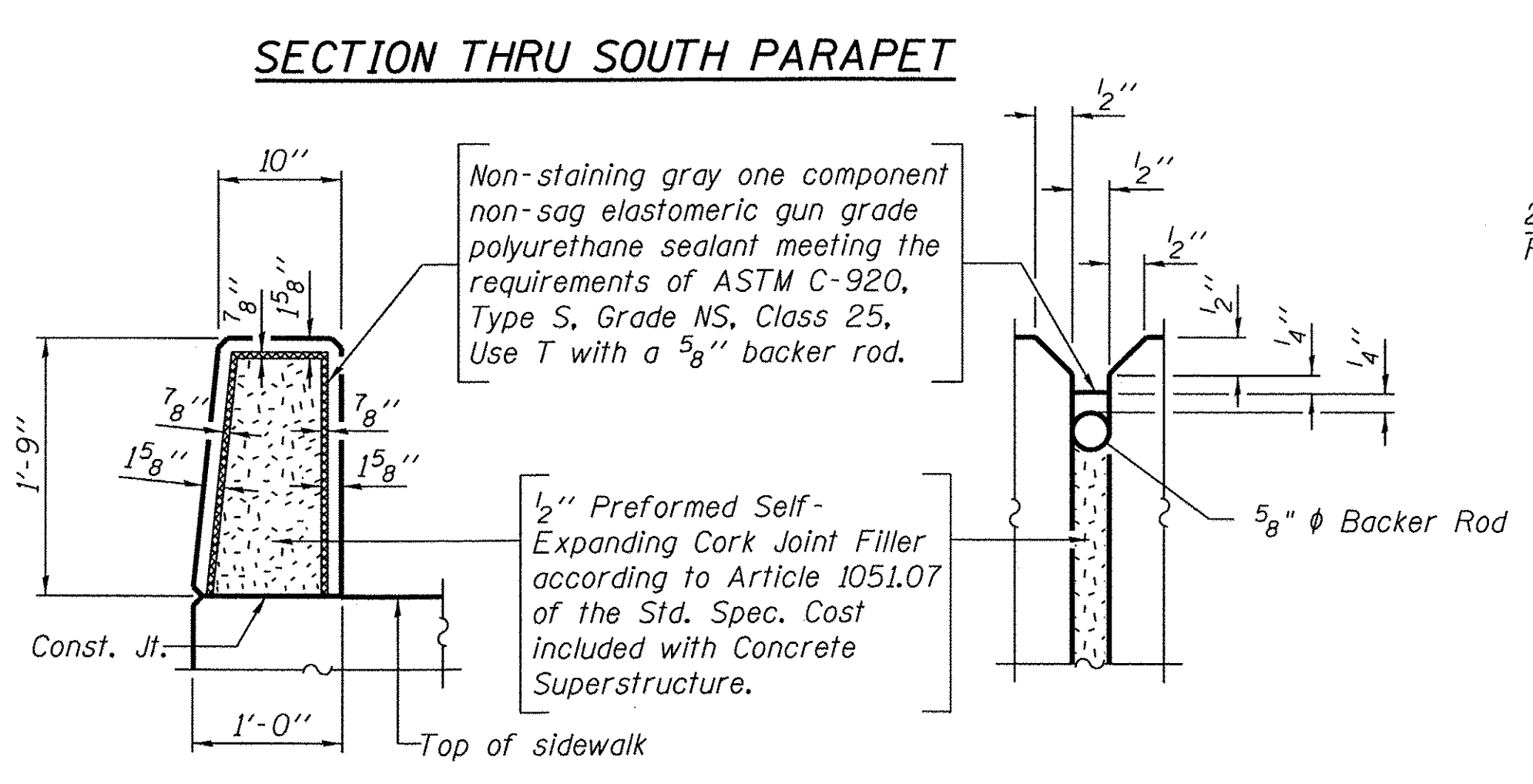
**BAR d(E)**

**SUPERSTRUCTURE BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
a(E)	128	# 5	19'-3"	—
a1(E)	128	# 5	21'-6"	—
a2(E)	128	# 6	6'-6"	—
a3(E)	128	# 5	21'-6"	—
a4(E)	128	# 5	19'-3"	—
b(E)	200	# 5	24'-2"	—
b1(E)	144	# 5	29'-3"	—
b2(E)	42	# 4	26'-8"	—
c(E)	107	# 5	2'-4"	—
c1(E)	107	# 5	5'-8"	—
d(E)	125	# 5	6'-10"	—
d1(E)	117	# 5	6'-3"	—
d2(E)	107	# 4	3'-5"	—
d3(E)	107	# 6	3'-9"	—
d4(E)	24	# 4	2'-0"	—
e(E)	42	# 4	17'-5"	—
e1(E)	5	# 8	26'-0"	—
e2(E)	4	# 4	28'-7"	—
e3(E)	36	# 4	17'-5"	—
m(E)	24	# 6	21'-2"	—
m1(E)	36	# 6	3'-2"	—
m2(E)	12	# 6	1'-6"	—
m3(E)	28	# 5	4'-0"	—
s3(E)	44	# 5	7'-7"	—
s4(E)	44	# 5	8'-8"	—
s5(E)	532	# 4	4'-11"	—
u2(E)	74	# 4	5'-0"	—
v00(E)	76	# 5	3'-7"	—
Concrete Superstructure		Cu. Yds.	179.2	
Reinforcement Bars, Epoxy Coated		Lbs.	31,180	
Bridge Deck Grooving		Sq. Yds.	519	
Protective Coat		Sq. Yds.	788	



**SOUTH PARAPET JOINT DETAILS**



**NORTH PARAPET JOINT DETAILS**

N:\PROJ\0220536.00\0220536.01\Design\Structure\CAD\Fringsten - Bridge.22 - Superstructure Details.dwg



USER NAME = jattanesco	DESIGNED - RA	REVISED -
PLOT SCALE = 0:1' = 1/4"	CHECKED - APD	REVISED -
PLOT DATE = 12/5/2016	DRAWN - RA	REVISED -
	CHECKED - BWS	REVISED -

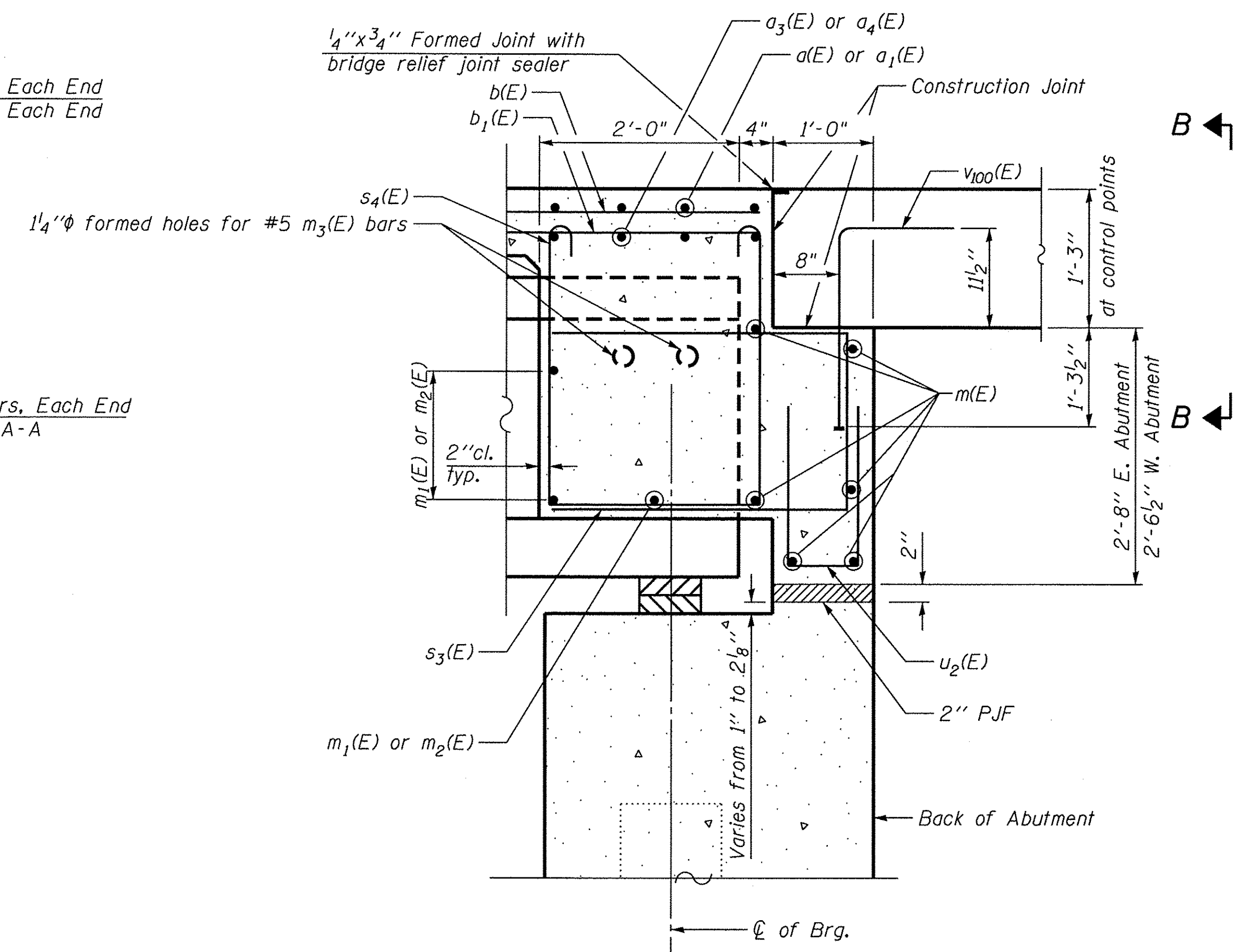
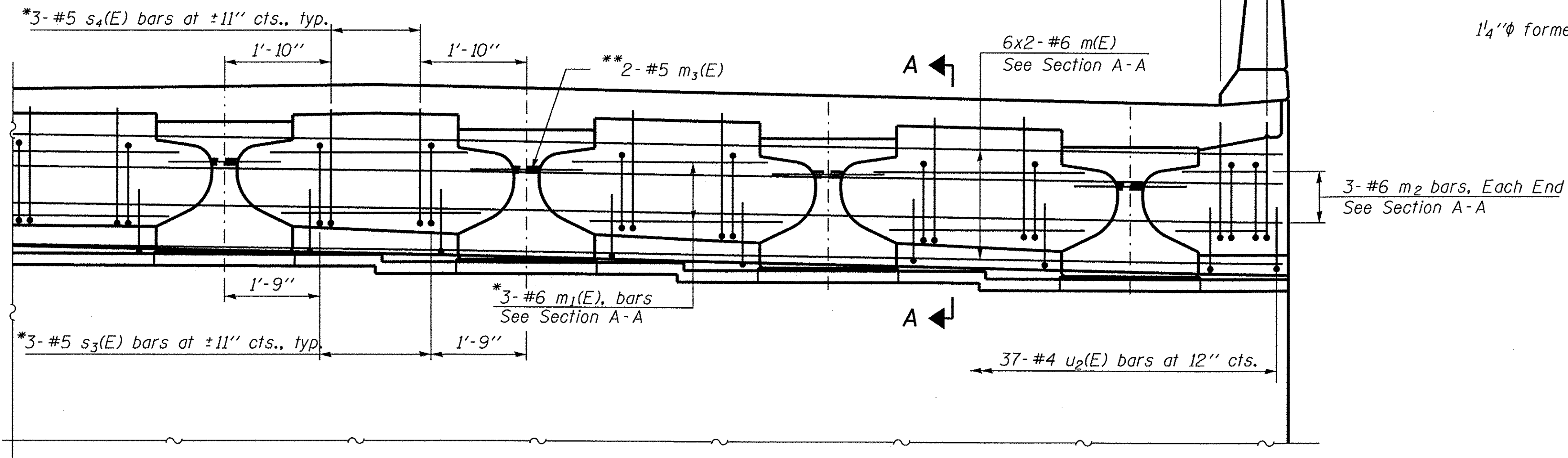
**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**

**SUPERSTRUCTURE DETAILS 1  
STRUCTURE NO. 049-6003**

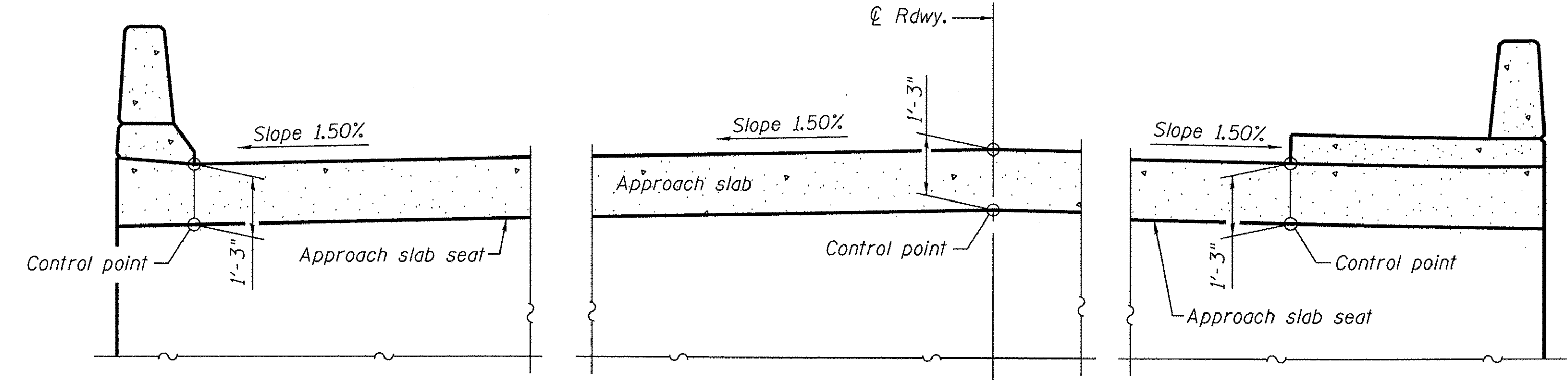
SHEET NO. S-22 OF S-33 SHEETS

F.A.U. RTE. 3699	SECTION 14-00098-00-BR	COUNTY LAKE	TOTAL SHEETS 102	SHEET NO. 70
CONTRACT NO. 61D63			FED. ROAD DIST. NO. 1   ILLINOIS FED. AID PROJECT M-BRM-4003(391)	

\* Typical between beams  
 \*\* Typical thru each beam  
 Secure bars such that they remain centered and level during pouring of the concrete



**DIAPHRAGM AT ABUTMENT**  
 (West Abutment Shown - Looking East, East Abutment similar)

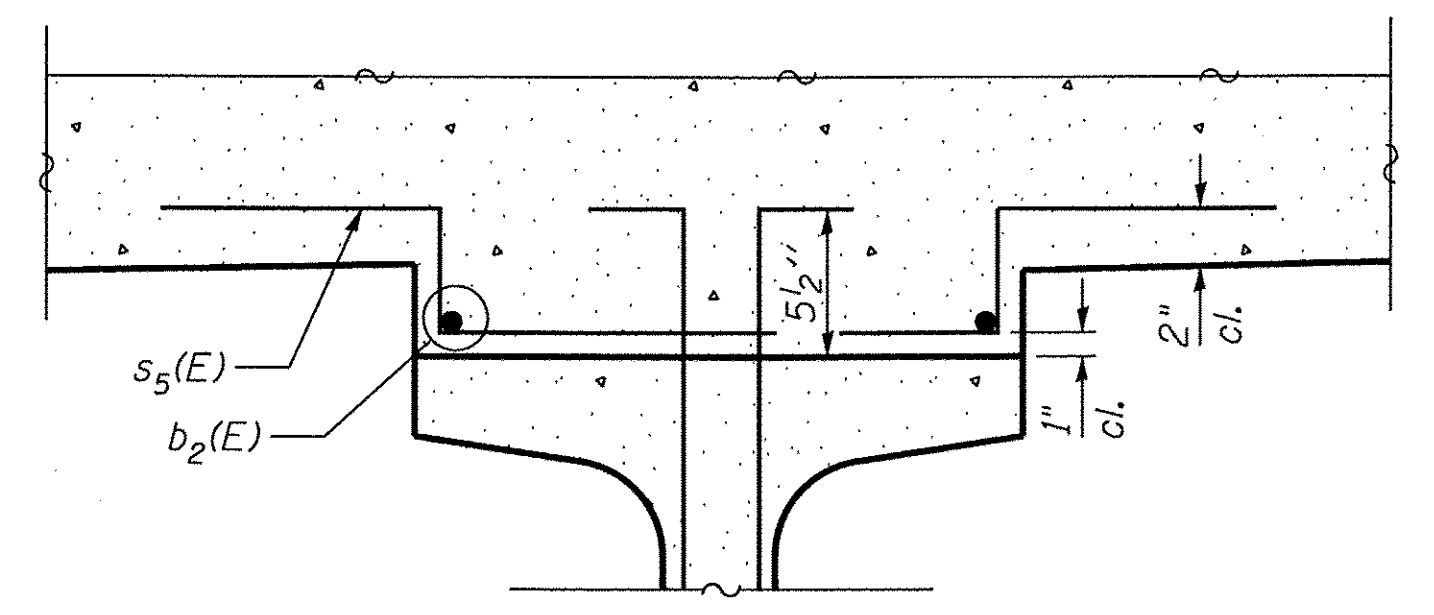


**SECTION B-B**

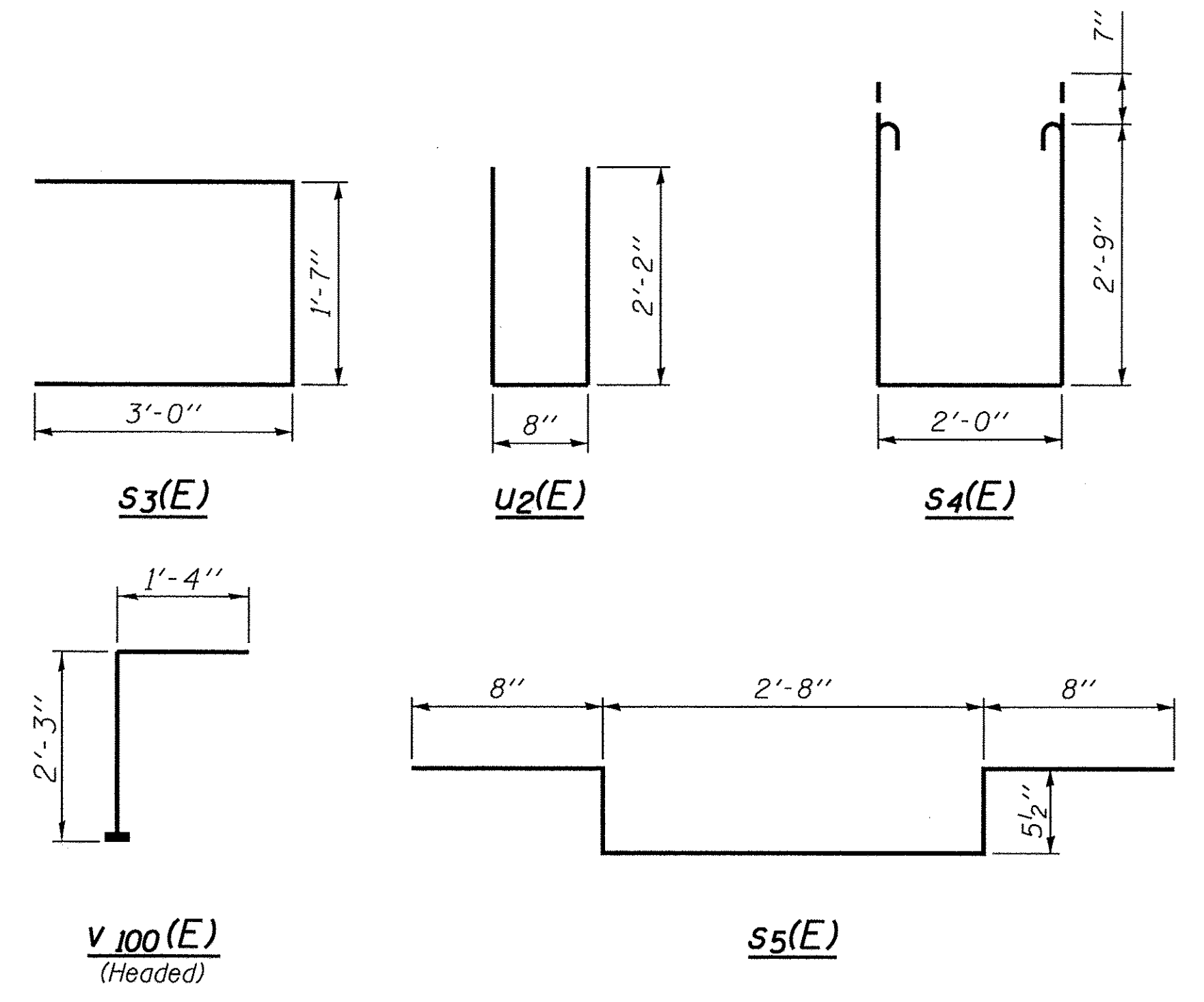
**NOTES:**

Fillet and diaphragm reinforcement bars are billed with superstructure on sheet S-22 of S-33.  
 Concrete in diaphragm is included with Concrete Superstructure on sheet S-22 of S-33.  
 The approach slab seat shall have a constant slope determined from the control points shown.  
 Beams shall be braced for stability during erection and remain braced until deck is poured and cured.

**MINIMUM BAR LAP**  
 #6 bar = 5'-0"



**SECTION C-C**



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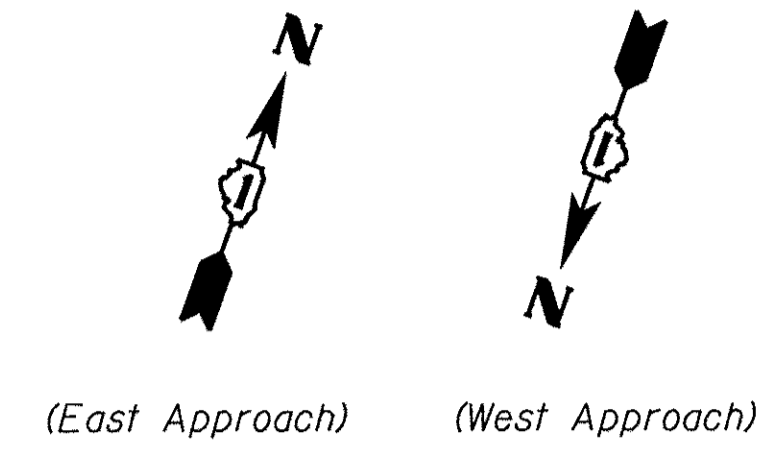
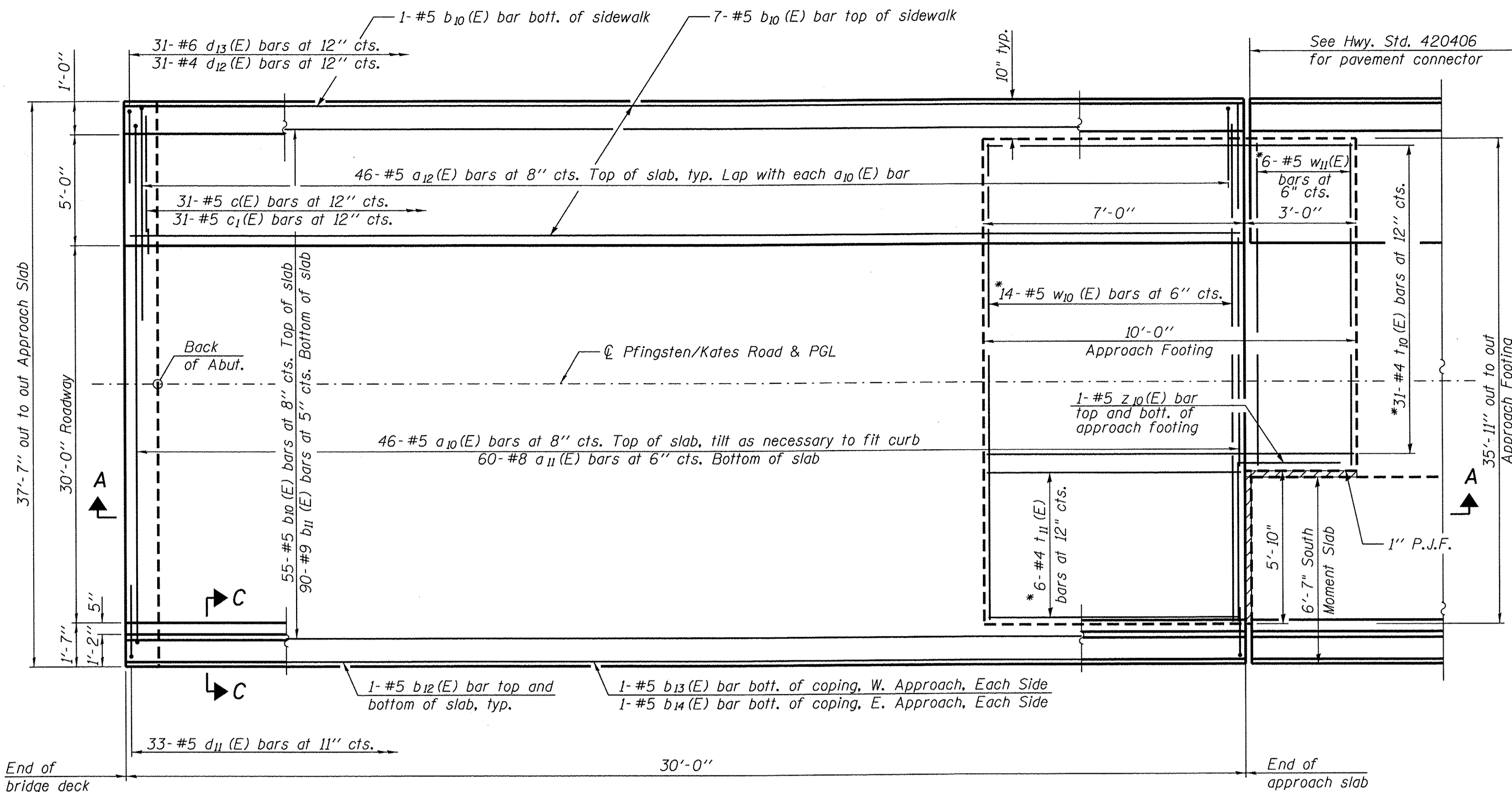
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PLOT SCALE = 0:1' = 1/4\"/>		
PLOT DATE = 12/5/2016	CHECKED - BWS	REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**SUPERSTRUCTURE DETAILS 2  
 STRUCTURE NO. 049-6003**

SHEET NO. S-23 OF S-33 SHEETS

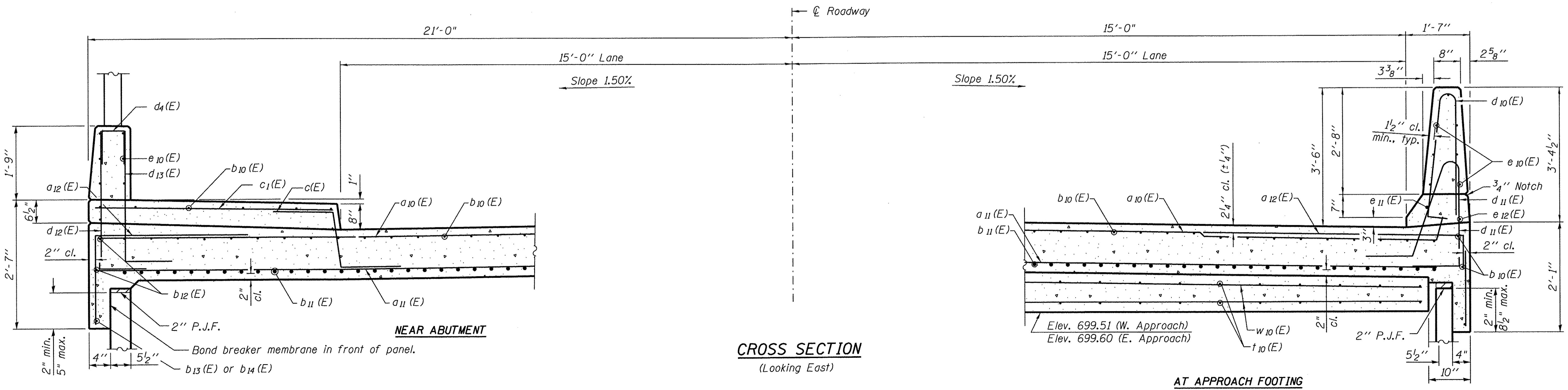
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FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT			CONTRACT NO. 61D63 M-BRM-4003(391)	



\* Top and bottom of Approach Footing, See Sec. A-A

**NOTES:**  
See sheet S-25 of S-33 for Section C-C.

**PLAN**  
(East Approach shown. West Approach similar)



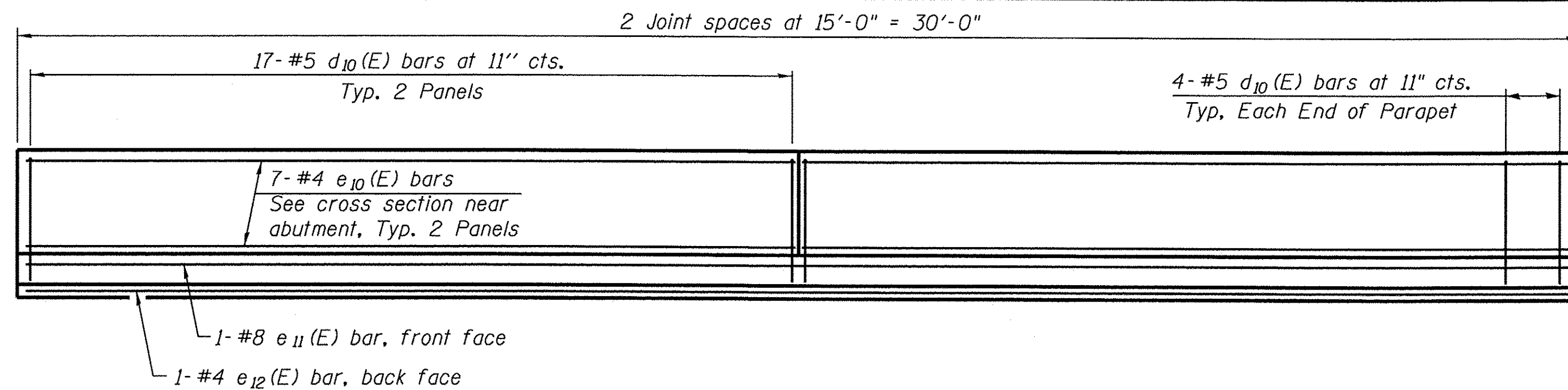
**CROSS SECTION**  
(Looking East)

**AT APPROACH FOOTING**

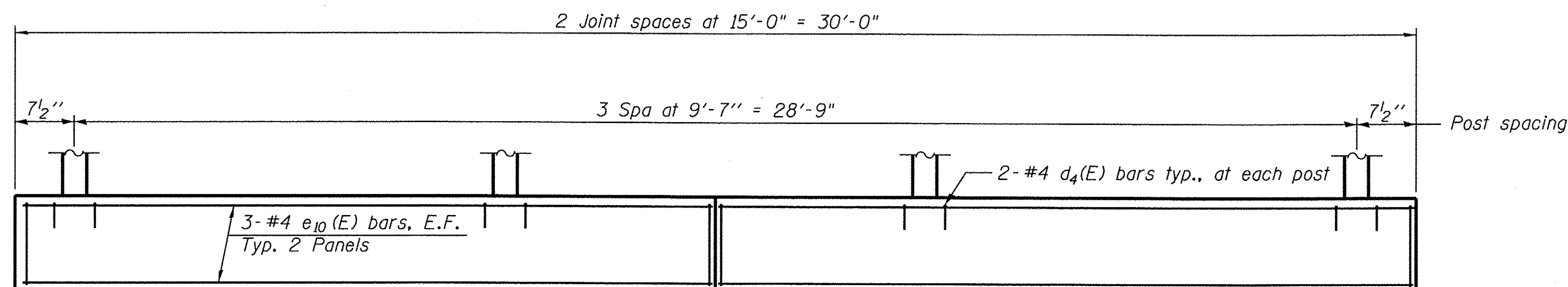
N:\PROJECTS\02020536\00\02020536.01\Design\Structural\CAD\Bridge Approach Slab Details 1.dgn

<p><b>Clorba Group, Inc.</b> CONSULTING ENGINEERS 5807 North Cumberland Avenue Suite 402 Chicago, Illinois 60630 Tel: 773.778.4242 Fax: 773.778.4214 Email: clorba@clorba.com</p>	USER NAME = jatonaseo	DESIGNED - APD	REVISED -	<p><b>STATE OF ILLINOIS</b> <b>DEPARTMENT OF TRANSPORTATION</b></p>	<p><b>BRIDGE APPROACH SLAB DETAILS 1</b> <b>STRUCTURE NO. 049-6003</b></p>	F.A.U. RTE. 3699	SECTION 14-00098-00-BR	COUNTY LAKE	TOTAL SHEETS 102	SHEET NO. 72	
	PLOT SCALE = 0.0833 sf / 1in.	DRAWN - SBA	REVISED -			SHEET NO. S-24 OF S-33 SHEETS		CONTRACT NO. 61D63		<p>FED. ROAD DIST. NO. 1   ILLINOIS   FED. AID PROJECT</p>	
	PLOT DATE = 12/5/2016	CHECKED - BWS	REVISED -			M-BRM-4003(391)					





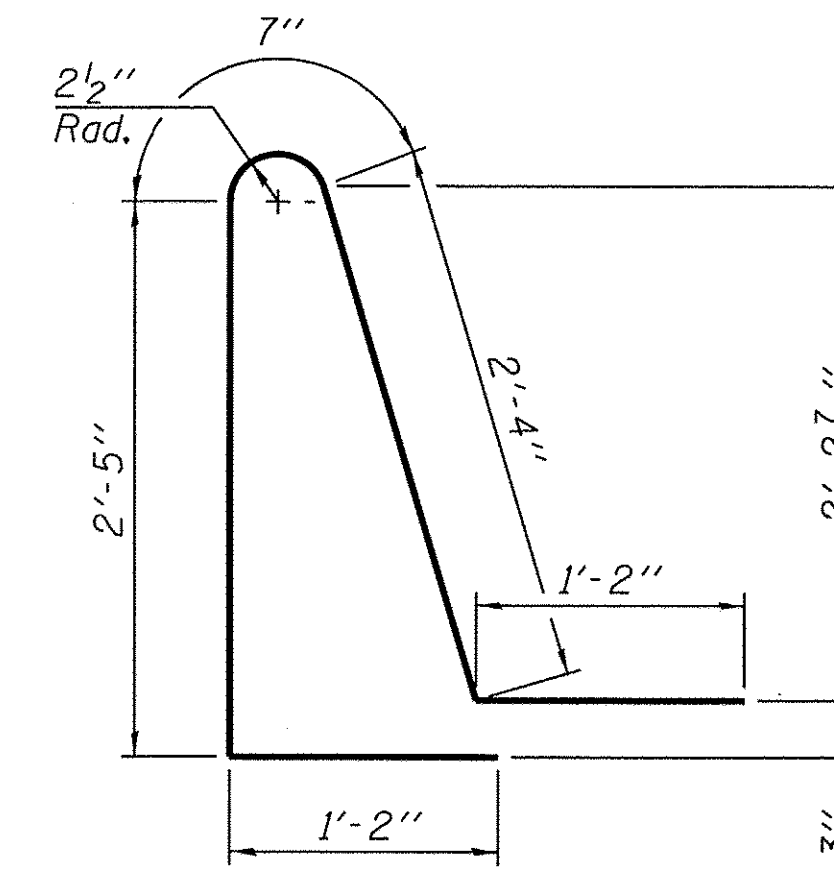
**INSIDE ELEVATION OF SOUTH PARAPET**



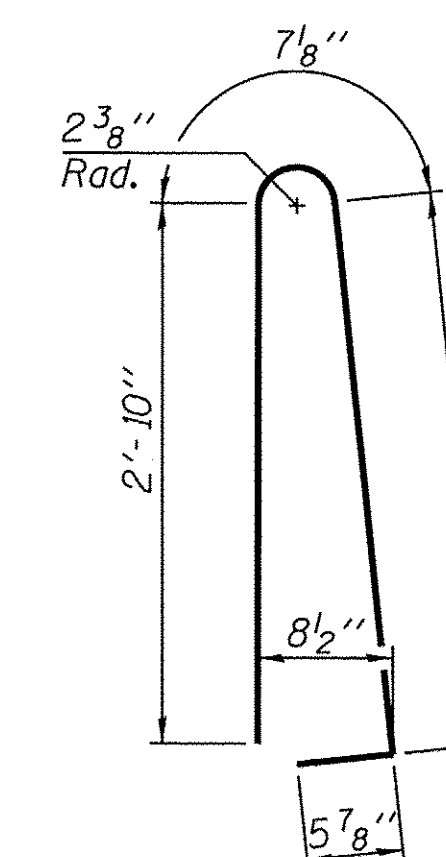
**INSIDE ELEVATION OF NORTH PARAPET**

**NOTES:**

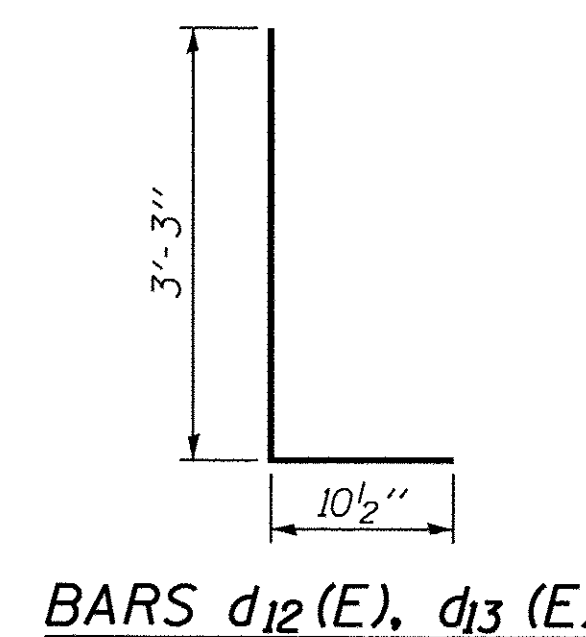
1. Parapet and sidewalk concrete shall be paid for as Concrete Superstructure.
2. Approach slab shall be paid for as Concrete Superstructure (Approach Slab).
3. Approach footing concrete shall be paid for as Concrete Structures.
4. The approach footing maximum applied service bearing pressure ( $Q_{max}$ ) = 2.0 ksf. The MSE Wall contractor shall verify that the MSE Wall can support the load.
5. Cost of excavation for approach footing included with Concrete Structures.
6. For Granular Backfill for Structures and drainage treatment details, see sheet S-2 of S-33.
7. See Sheet S-20 of S-33 for parapet joint details.



**BAR d11(E)**



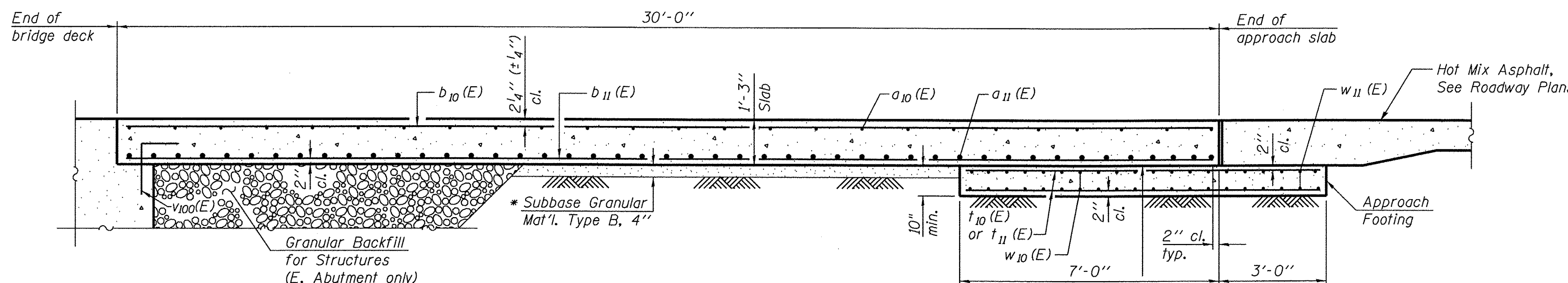
**BAR d10(E)**



**BARS d12(E), d13(E)**

**TWO APPROACHES  
BILL OF MATERIAL**

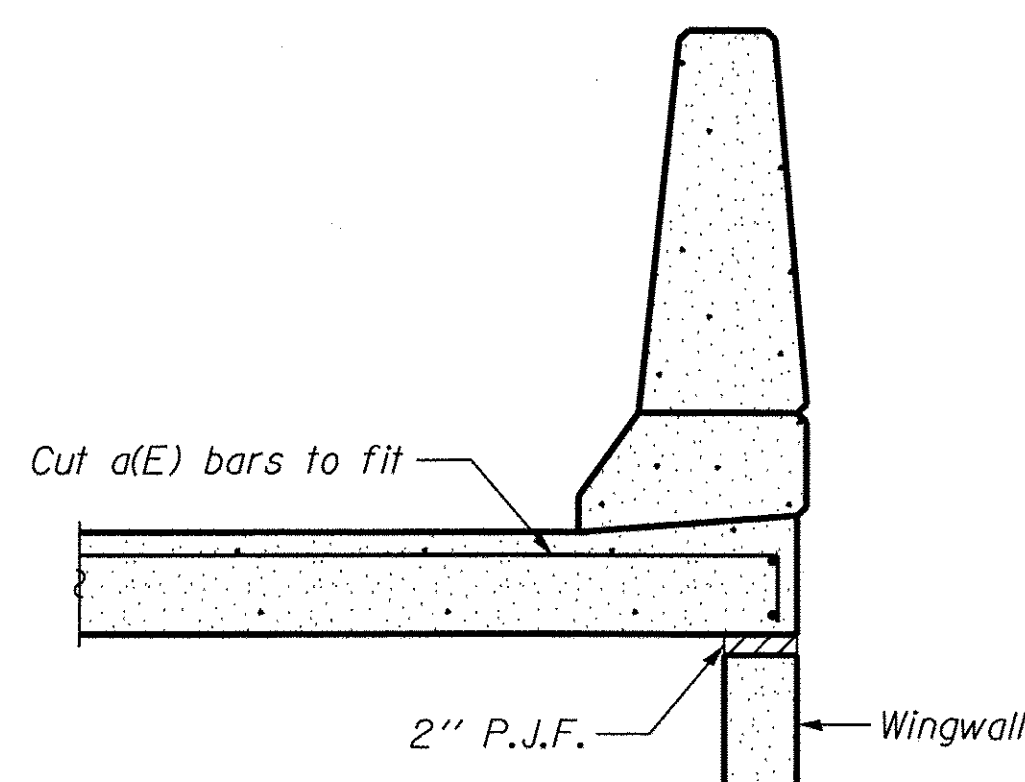
Bar	No.	Size	Length	Shape
a10(E)	92	# 5	37'-2"	U
a11(E)	120	# 8	37'-3"	U
a12(E)	184	# 5	8'-1"	U
b10(E)	126	# 5	29'-8"	U
b11(E)	180	# 9	29'-8"	U
b12(E)	8	# 5	29'-8"	U
b13(E)	2	# 5	26'-11"	U
b13(E)	2	# 5	22'-8"	U
c(E)	62	# 5	2'-4"	S
c1(E)	62	# 5	5'-8"	U
d4(E)	16	# 4	2'-0"	L
d10(E)	84	# 5	6'-10"	U
d11(E)	66	# 5	7'-8"	U
d12(E)	62	# 4	4'-2"	L
d13(E)	62	# 6	4'-2"	L
e10(E)	52	# 4	14'-8"	U
e11(E)	2	# 8	29'-8"	U
e12(E)	2	# 4	29'-8"	U
t10(E)	124	# 4	9'-8"	U
t11(E)	24	# 4	6'-8"	U
w10(E)	56	# 5	35'-7"	U
w11(E)	24	# 5	29'-9"	U
z10(E)	4	# 5	8'-10"	U
Concrete Superstructure		Cu. Yd.	19.4	
Concrete Superstructure (Approach Slab)		Cu. Yd.	114.5	
Concrete Structures		Cu. Yd.	23.1	
Reinforcement Bars, Epoxy Coated		Pound	46,160	



**SECTION A-A**

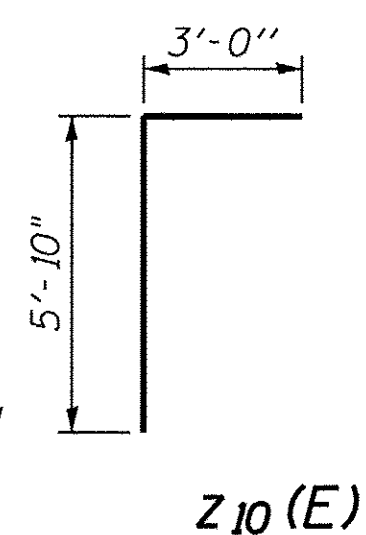
\* 10 mil. Polyethylene bond breaker on steel trowel finish

\*Cost included with Concrete Superstructure

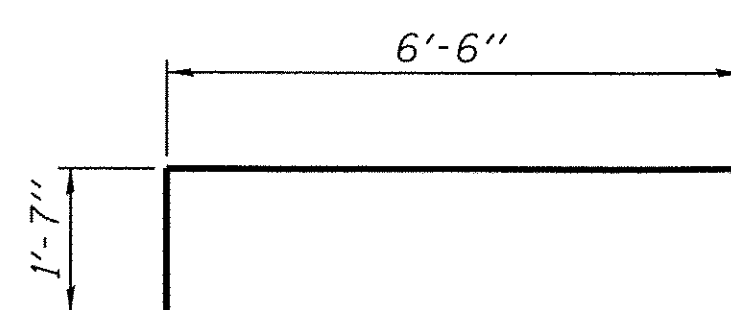


**SECTION C-C**

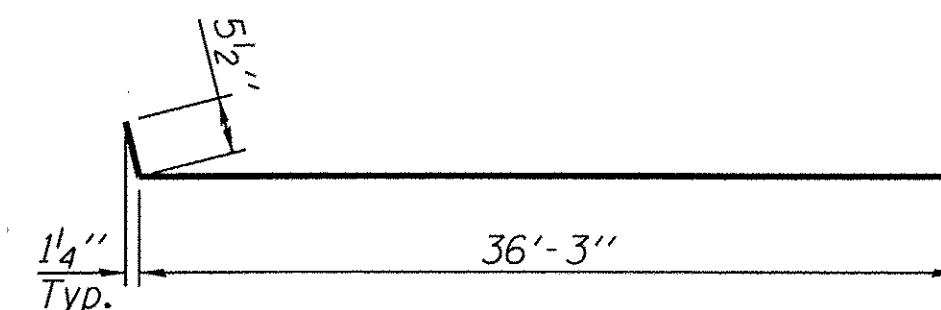
Wingwall at East Abutment Only



**z10(E)**



**BAR a12(E)**



**BAR a10(E)**

N:\PRD\10020536.00\0020536.01\Design\Structure\CAD\PFingsten\_Bridge\_25\_Bridge Approach Slab Details 2.dgn



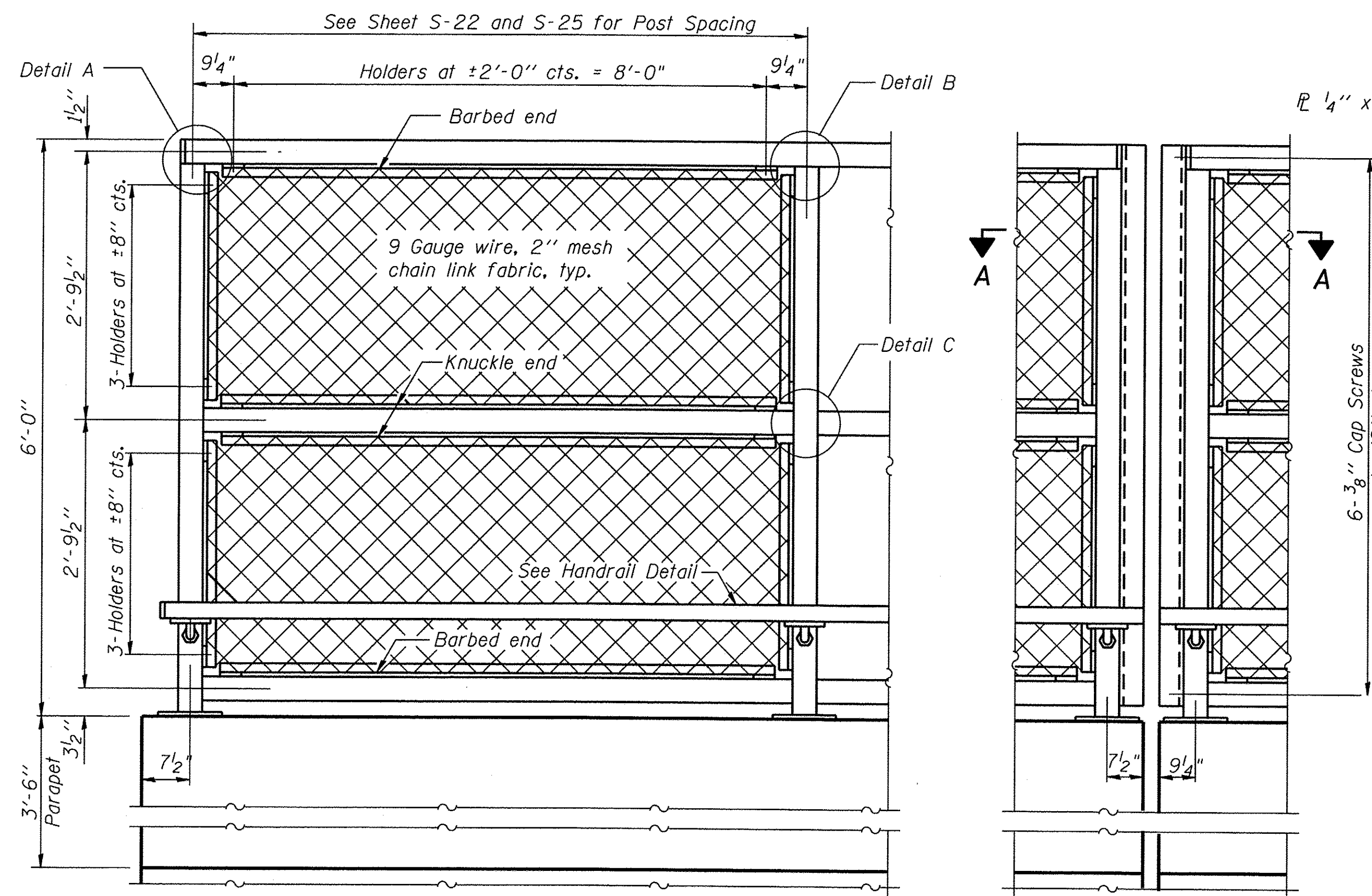
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PLOT DATE = 12/5/2016	DRAWN - SBA	REVISED -
	CHECKED - BWS	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**BRIDGE APPROACH SLAB DETAILS 2  
STRUCTURE NO. 049-6003**

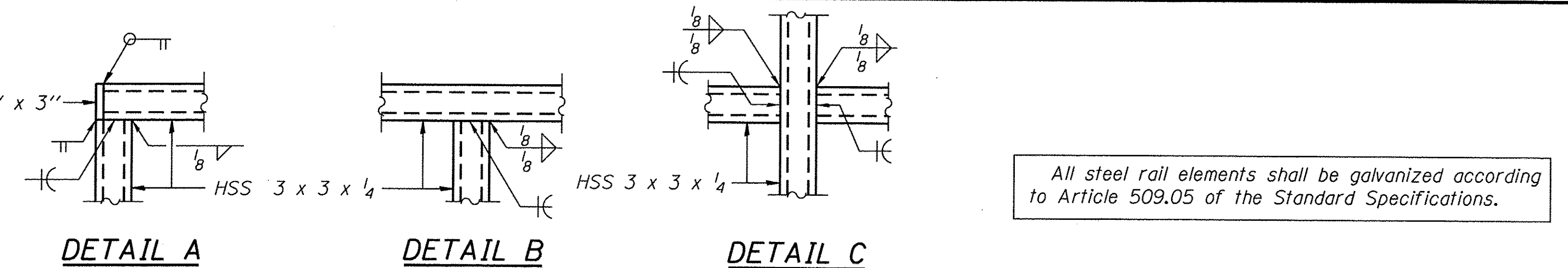
SHEET NO. S-25 OF S-33 SHEETS

F.A.U. RTE. 3699	SECTION 14-00098-00-BR	COUNTY LAKE	TOTAL SHEETS 102	SHEET NO. 73
FED. ROAD DIST. NO. 1			ILLINOIS FED. AID PROJECT	
			CONTRACT NO. 61D63	
			M-BRM-4003(391)	

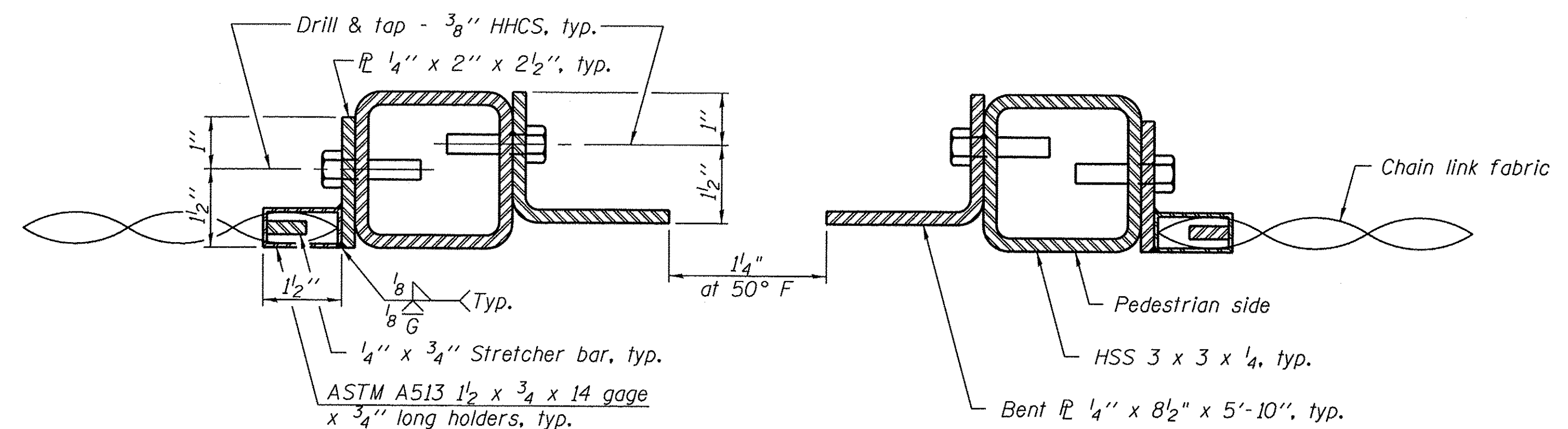


**ELEVATION**  
(Inside Face)  
(South Side only)

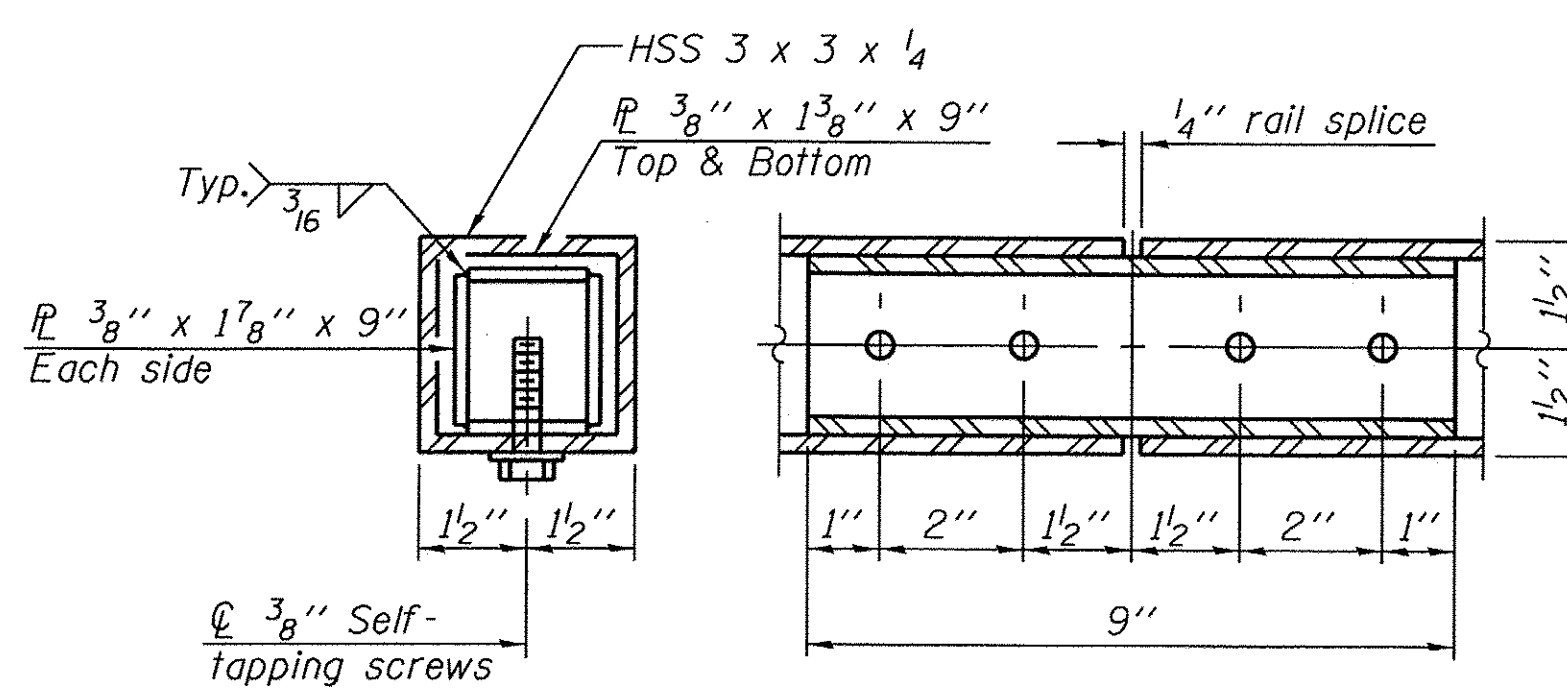
**ELEVATION**  
(At Expansion Joint)



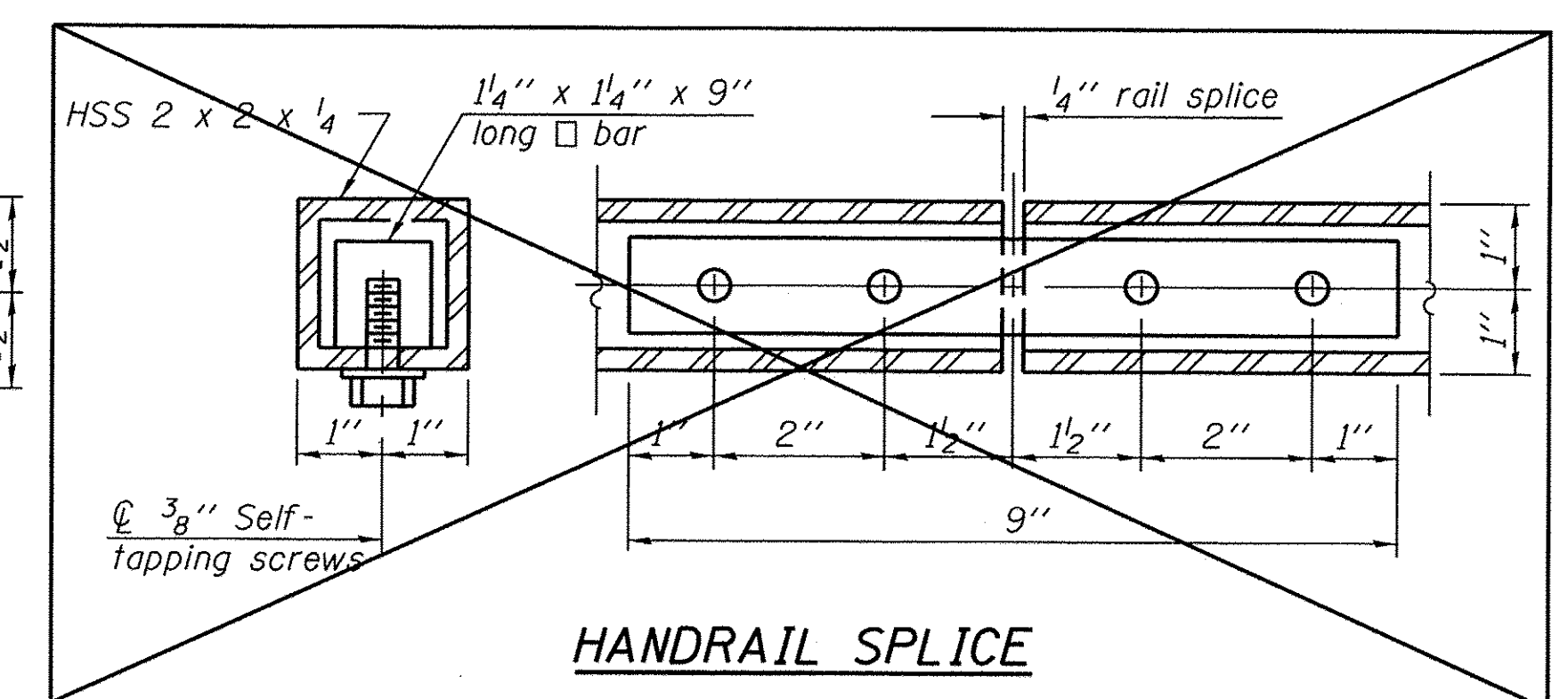
**DETAIL A**      **DETAIL B**      **DETAIL C**



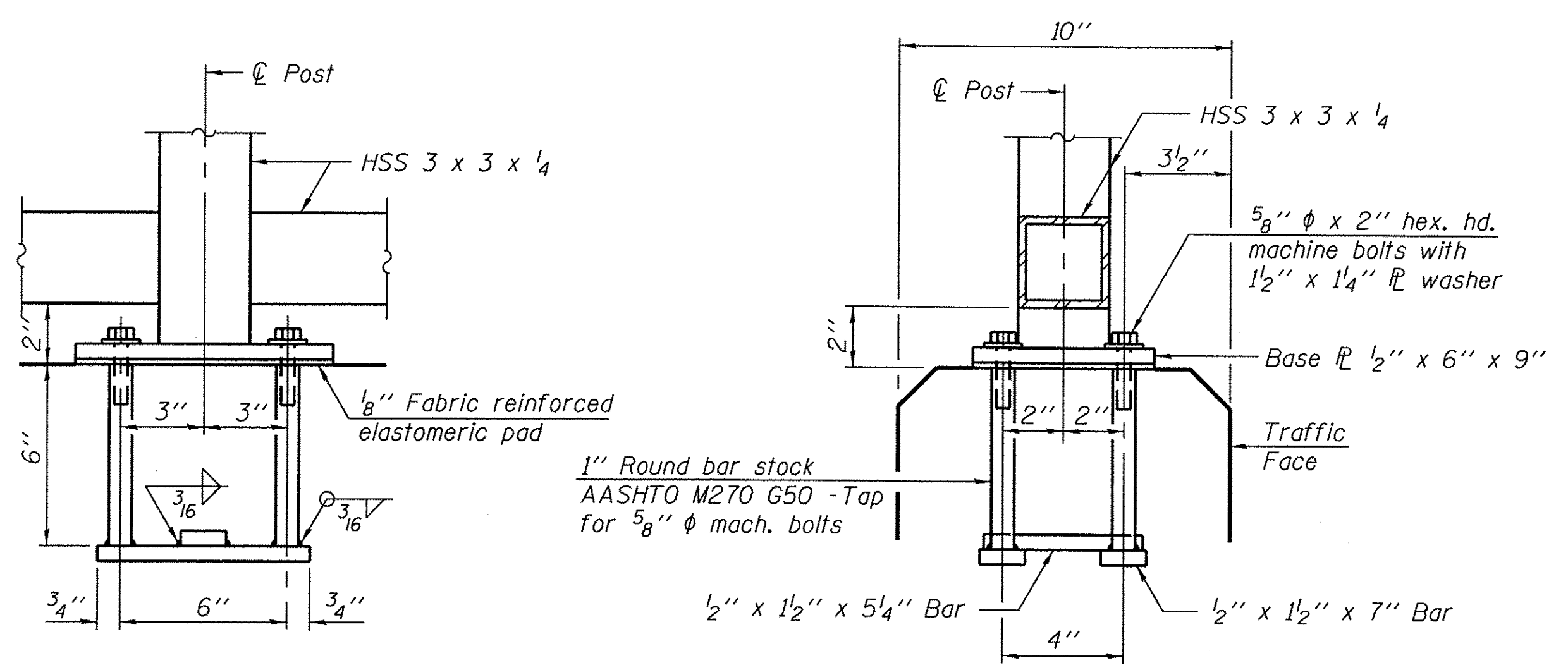
**SECTION A-A**



**RAIL SPLICE**

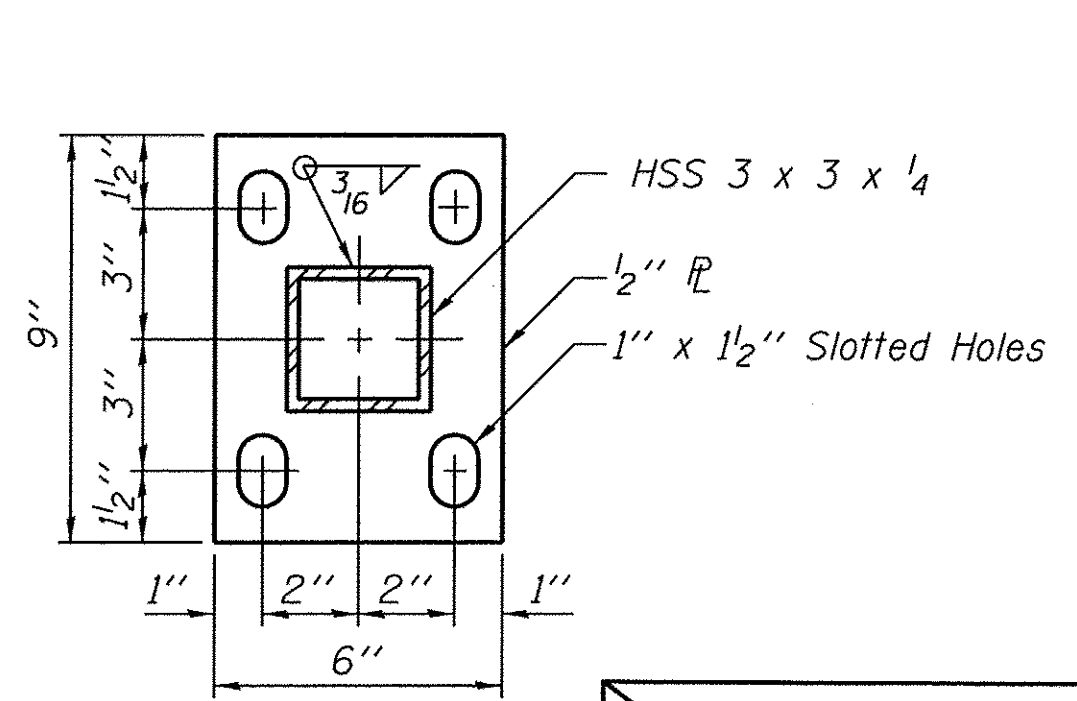


**HANDRAIL SPLICE**

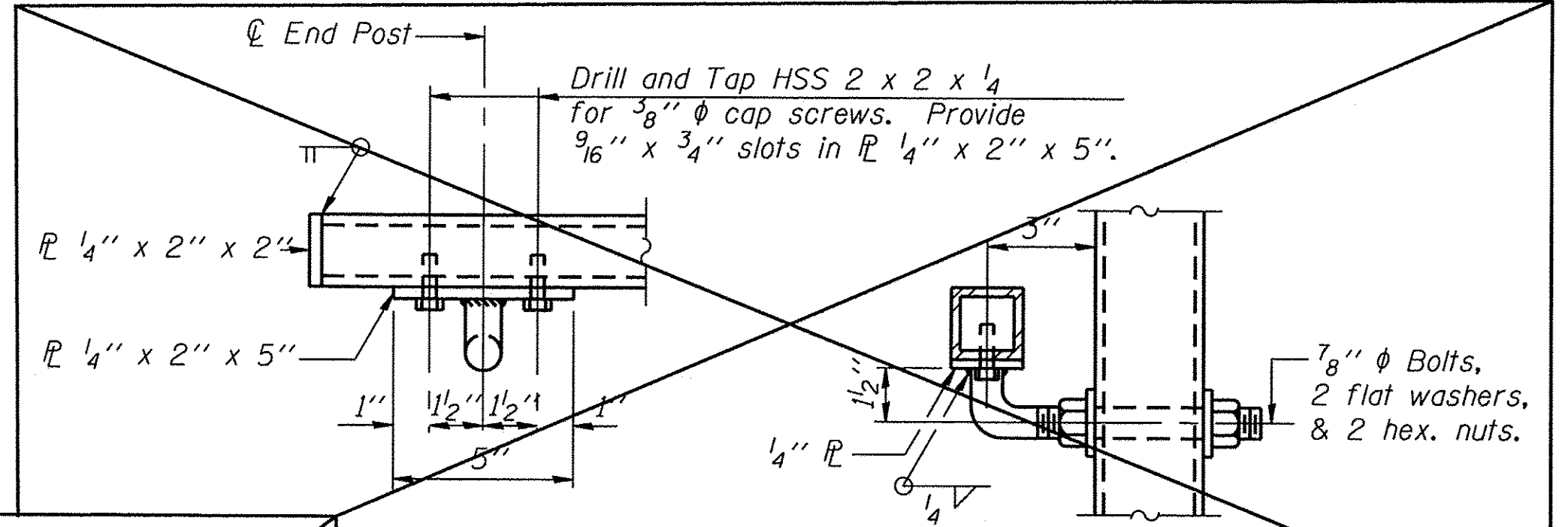


**ANCHOR BOLT DETAILS**

In lieu of the cast-in-place anchor device shown, the Contractor has the option of drilling and setting 5/8" diameter anchor rods according to Article 509.06 of the Standard Specifications. Embedment shall be according to the manufacturer's specifications.



**BASE PLATE**  
(Handrail)



**HANDRAIL DETAIL**

**BILL OF MATERIAL**

Item	Unit	Quantity
Bridge Fence Railing	Foot	167

R-28

(10'-0" Maximum Post Spacing)

N:\PROJ\10020536\00\020536\01\Design\Structural\CAD\Fencing\26\_Bridge Fence railing.dgn



USER NAME = jattanasoo	DESIGNED - APD	REVISED -
PLOT SCALE = 0.0833 sf / in.	CHECKED - BWS	REVISED -
PLOT DATE = 12/5/2016	DRAWN - RA	REVISED -
	CHECKED - BWS	REVISED -

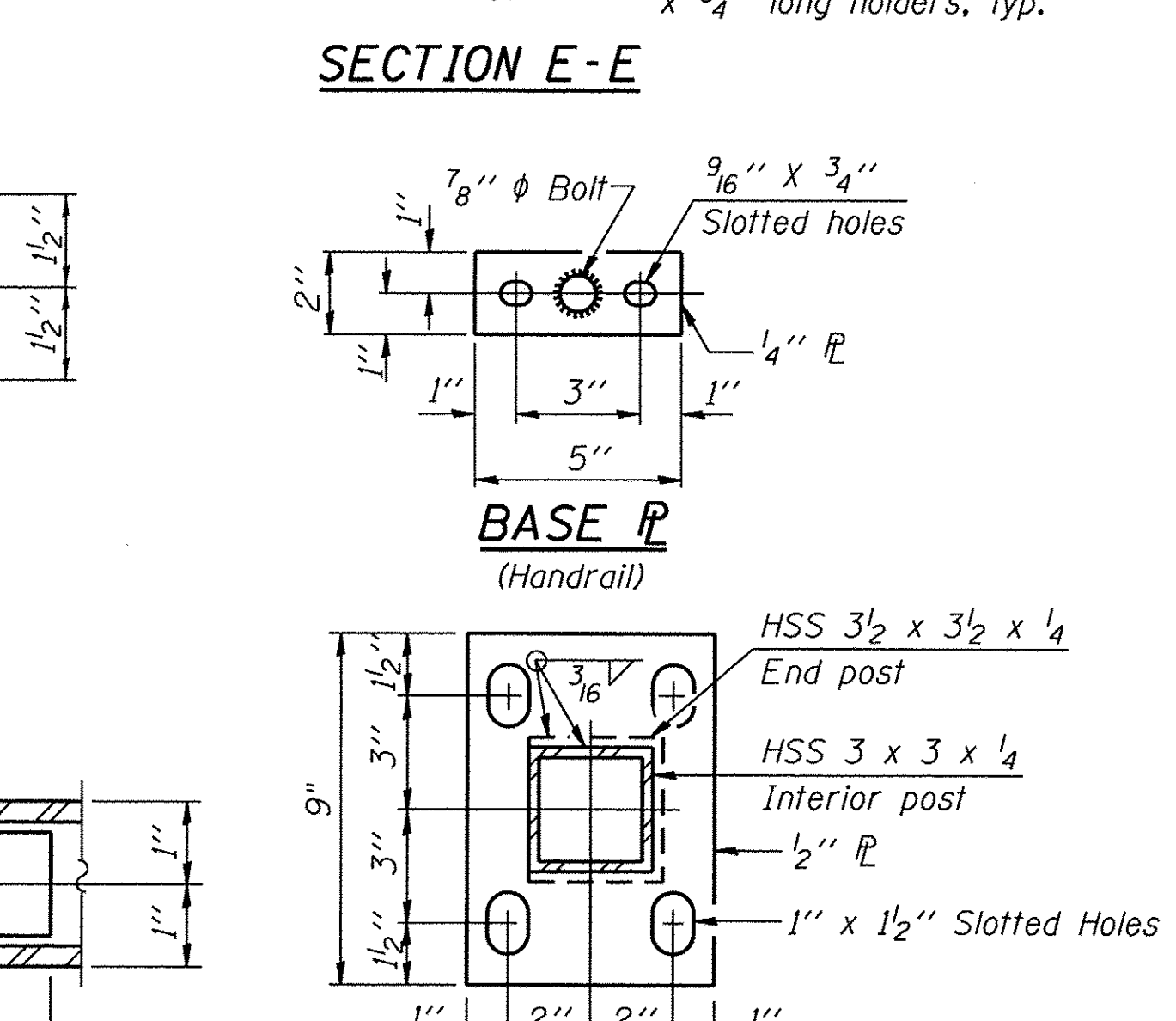
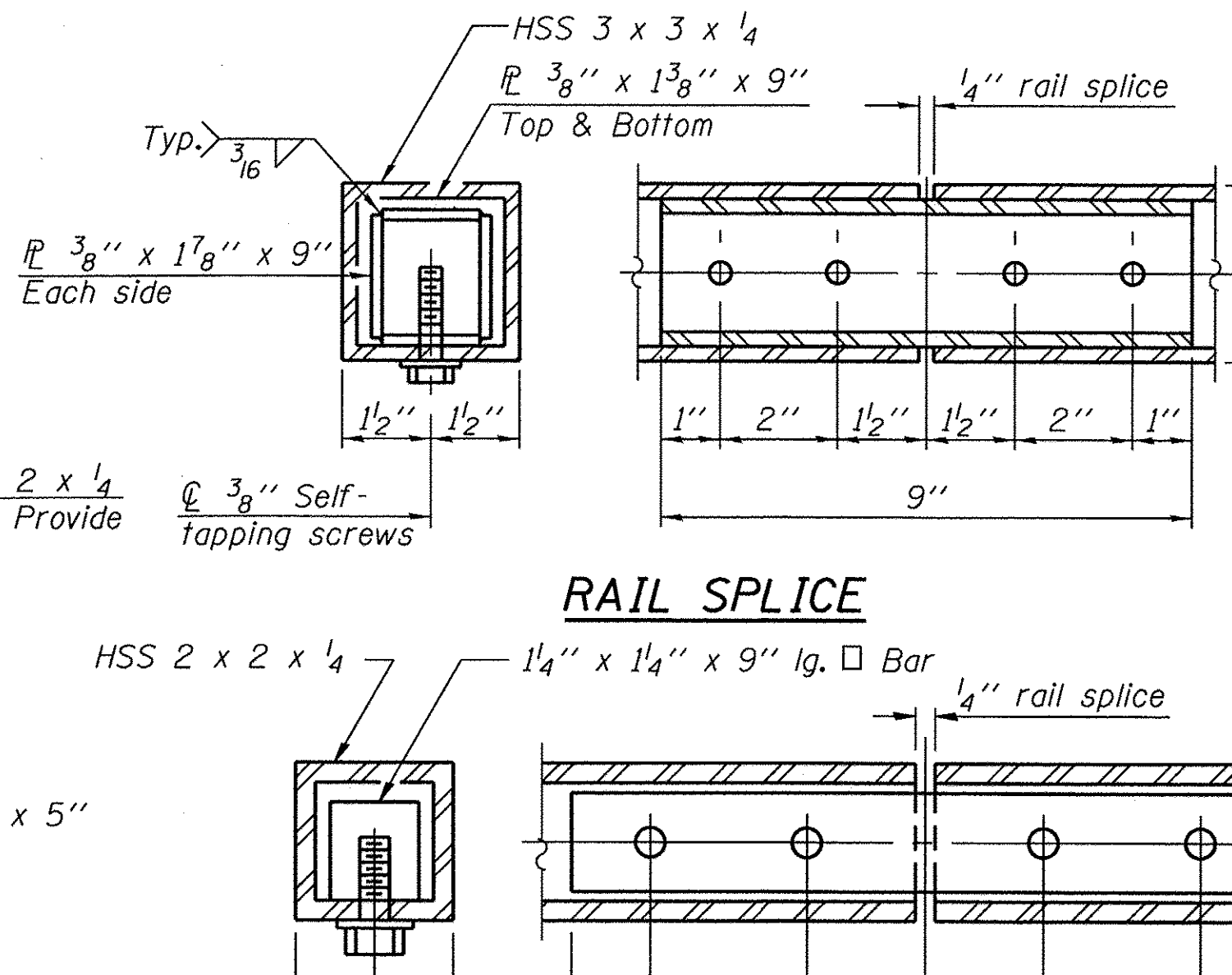
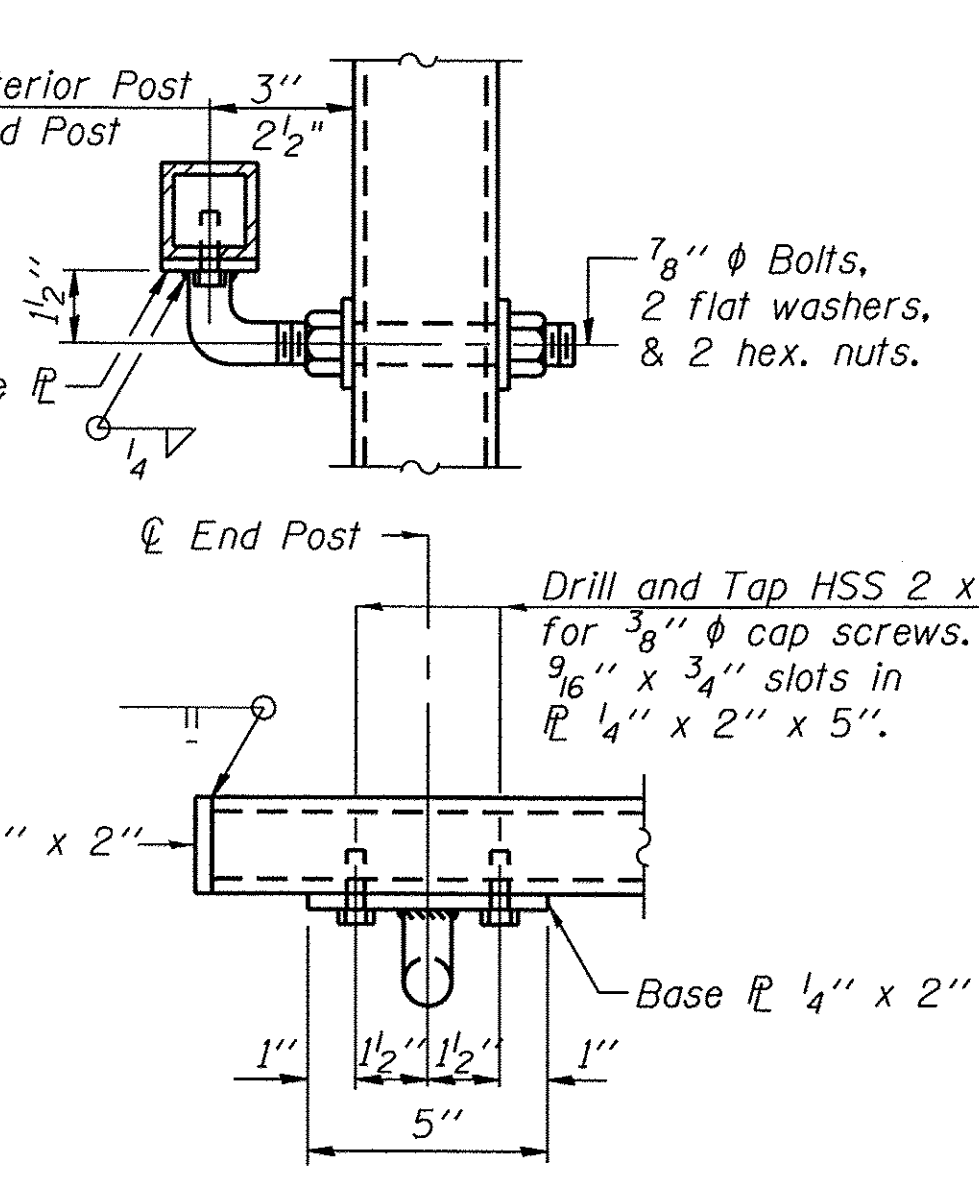
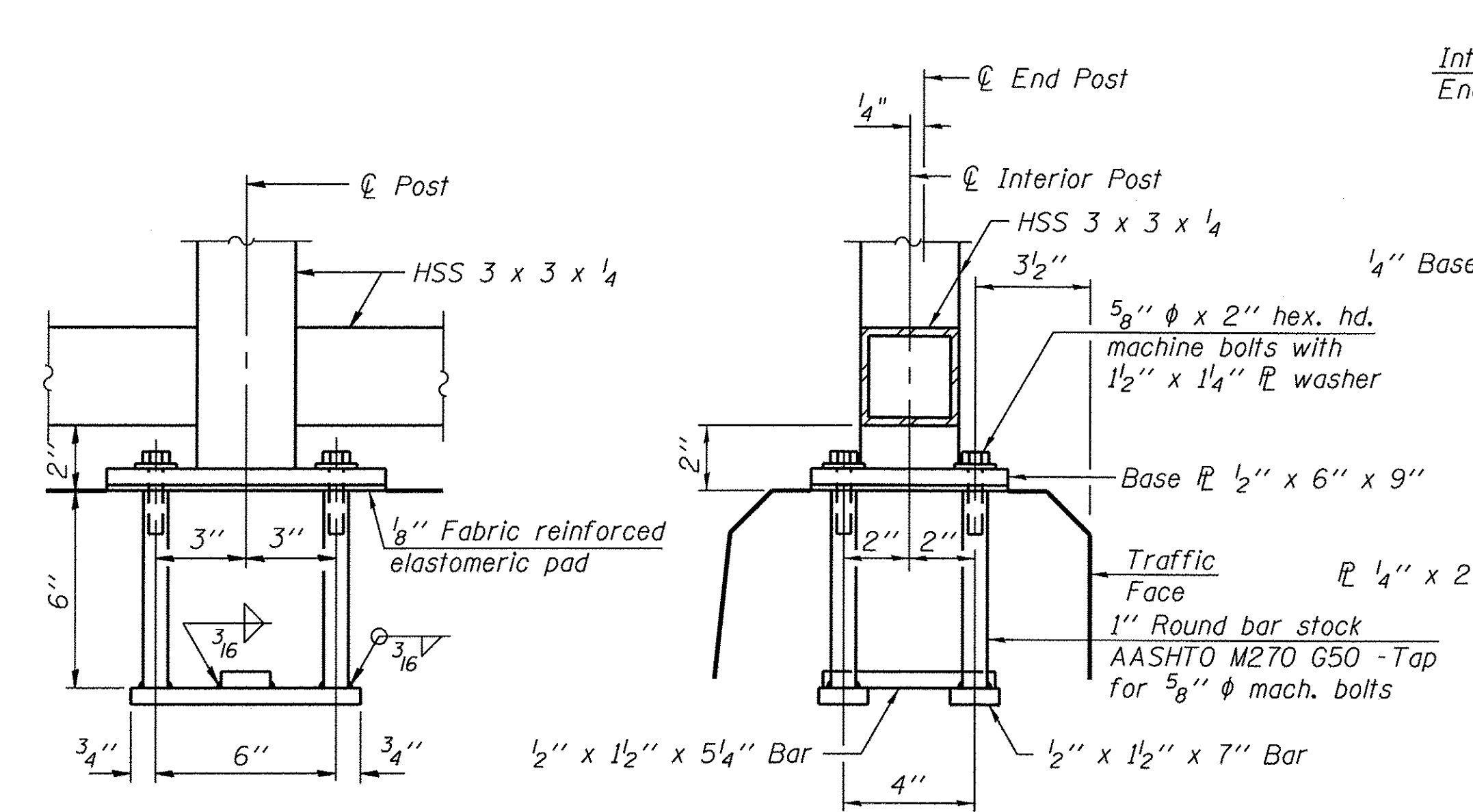
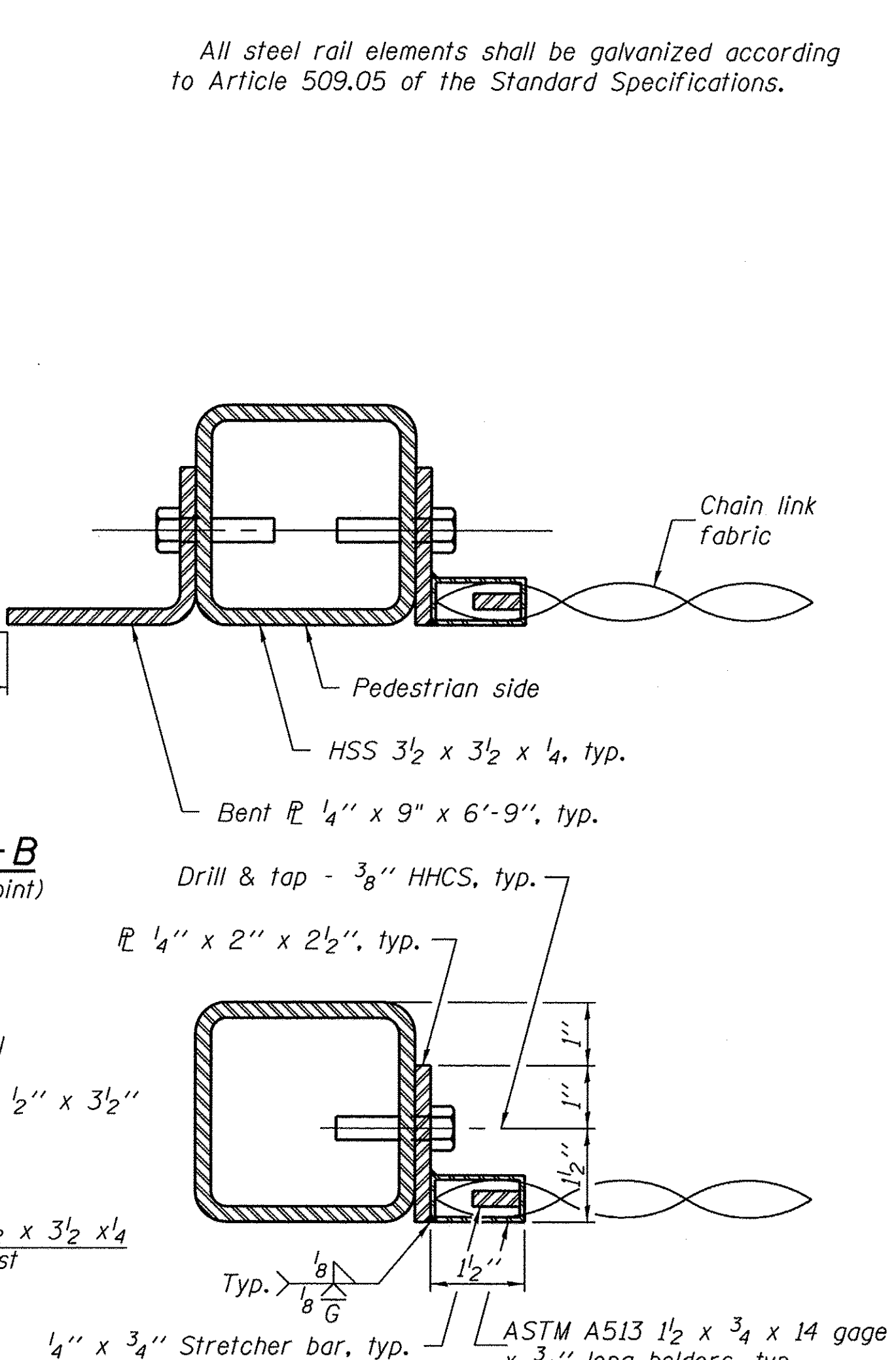
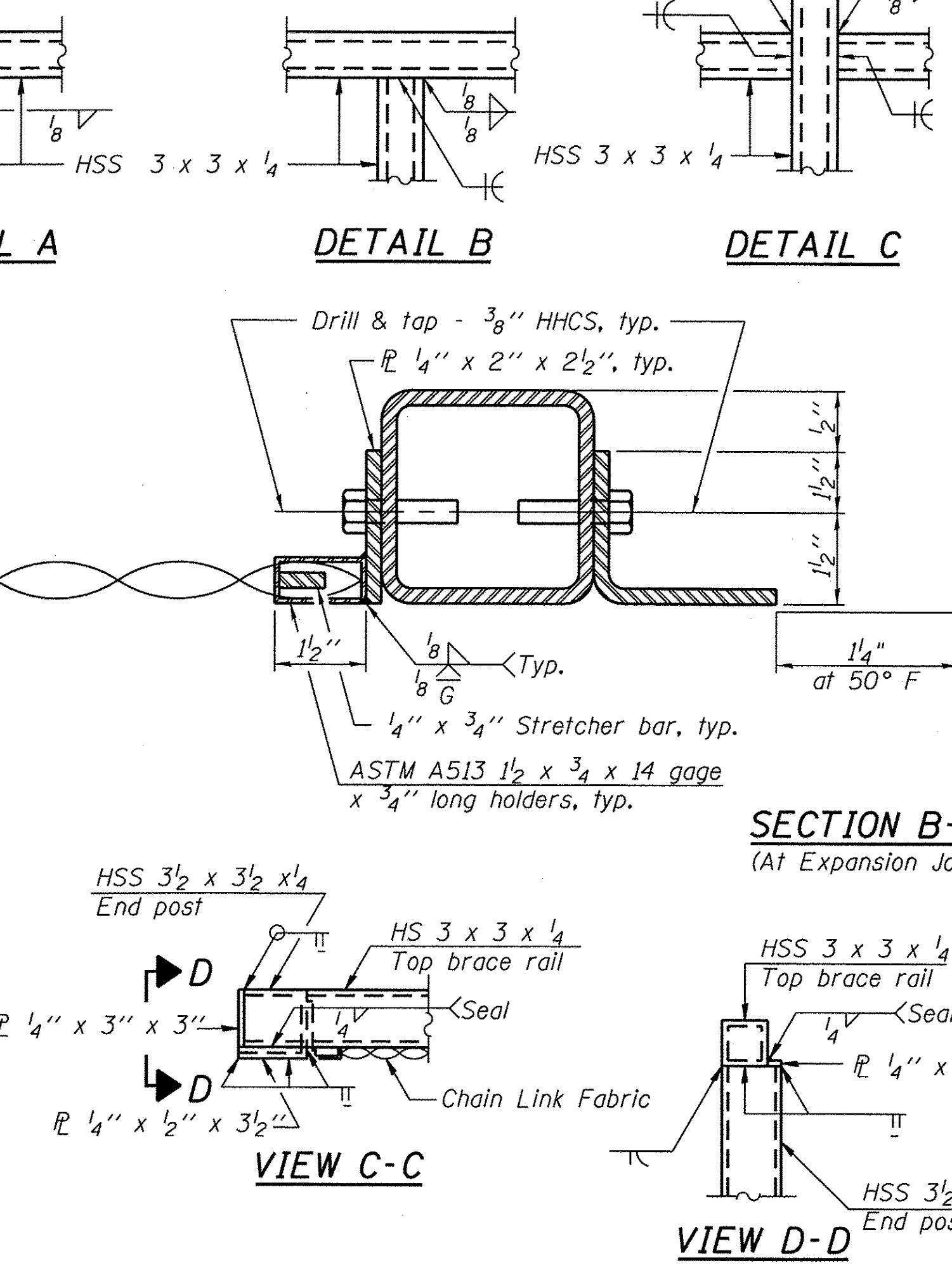
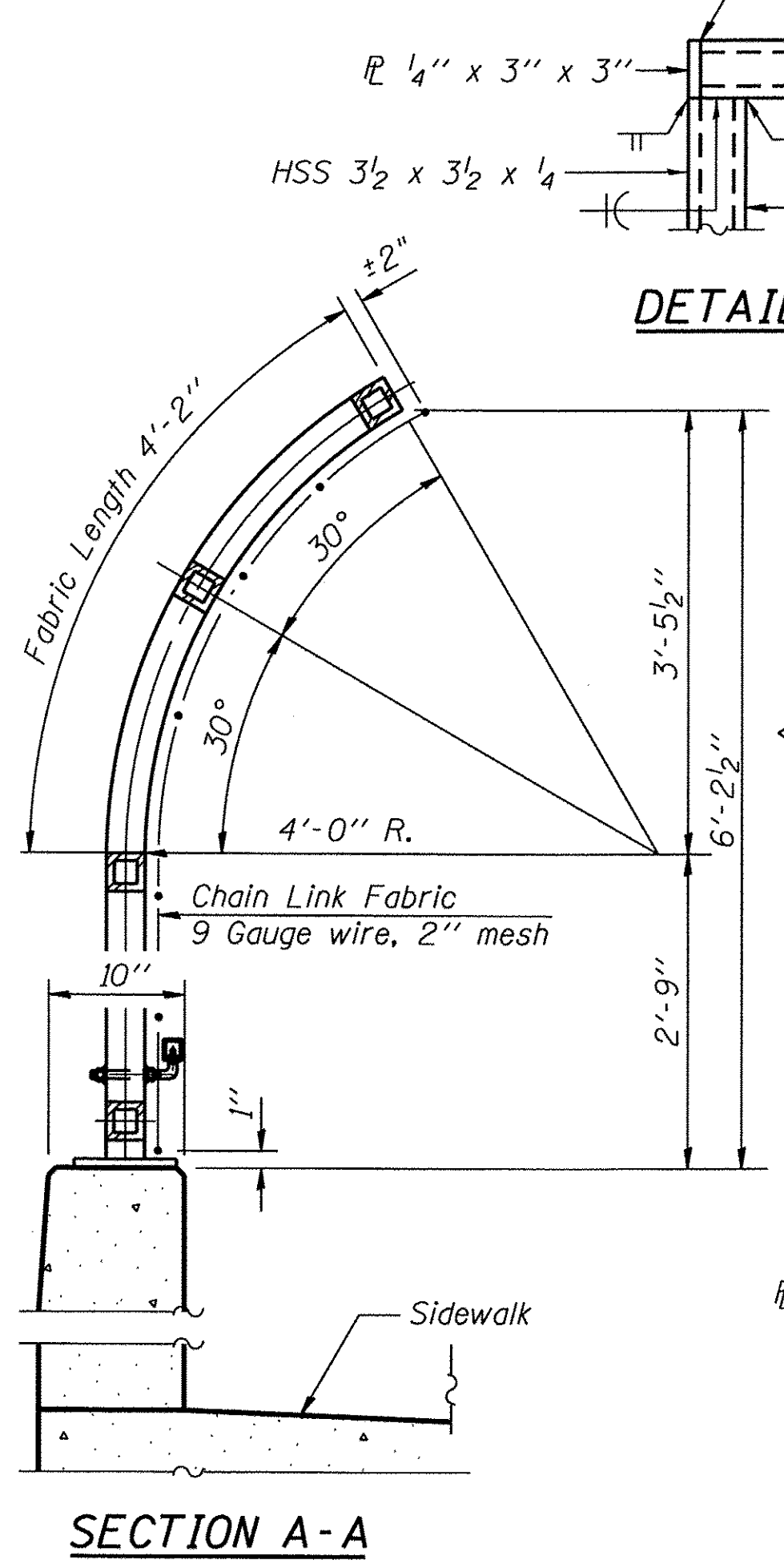
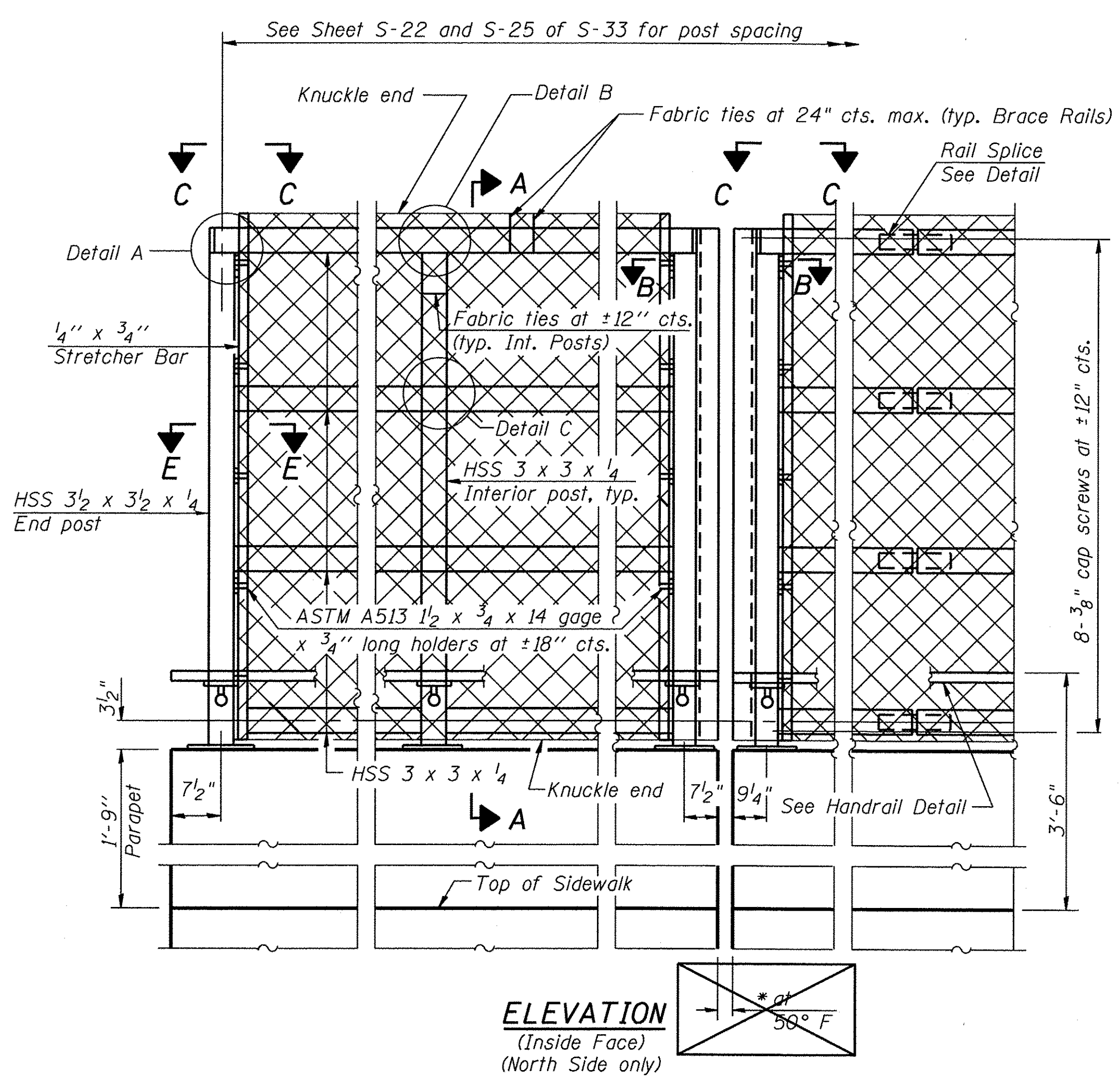
**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**BRIDGE FENCE RAILING, PARAPET MOUNTED 1**  
**STRUCTURE NO. 049-6003**

SHEET NO. S-26 OF S-33 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3699	14-00098-00-BR	LAKE	102	74
CONTRACT NO. 61D63				
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				M-BRM-40031391

N:\PROJ\0020536.00\0020536.01\Design\Structural\CAD\Fringsten - Bridge.27 - Bridge Fence railing2.dgn



**ANCHOR BOLT DETAILS**  
 In lieu of the cast-in-place anchor device shown, the Contractor has the option of drilling and setting 5/8" φ anchor rods according to Article 509.06 of the Standard Specifications. Embedment shall be according to the manufacturer's specifications.

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

R-32



USER NAME = jattanosco	DESIGNED - APD	REVISED -
PLOT SCALE = 0.0833 sf / in.	CHECKED - BWS	REVISED -
PLOT DATE = 12/5/2016	DRAWN - RA	REVISED -
	CHECKED - BWS	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**BRIDGE FENCE RAILING, PARAPET MOUNTED 2  
STRUCTURE NO. 049-6003**

F.A.U. RTE. 3699	SECTION 14-00098-00-BR	COUNTY LAKE	TOTAL SHEETS 102	SHEET NO. 75
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT			CONTRACT NO. 61D63 M-BRM-4003/3911	

**BILL OF MATERIAL**

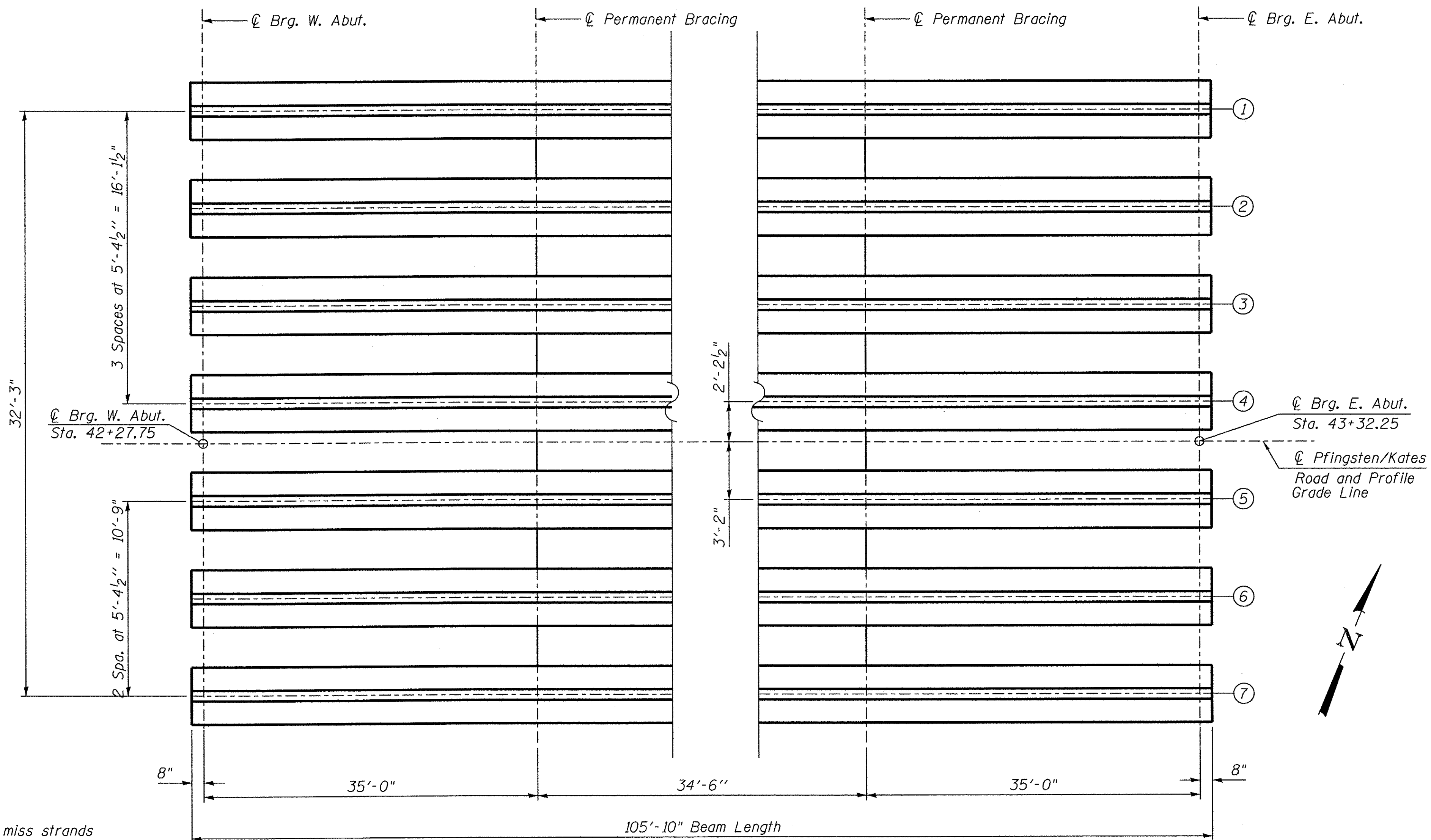
Item	Unit	Quantity
Bridge Fence Railing	Foot	167

SHEET NO. S-27 OF S-33 SHEETS

INTERIOR BEAM MOMENT TABLE		
0.5 Sp. 1		
I	(in <sup>4</sup> )	124,639
I'	(in <sup>4</sup> )	275,216
S <sub>b</sub>	(in <sup>3</sup> )	7,563
S <sub>b</sub> '	(in <sup>3</sup> )	11,316
S <sub>t</sub>	(in <sup>3</sup> )	6,385
S <sub>t</sub> '	(in <sup>3</sup> )	13,985
DC1	(k/ft)	1.51
M <sub>DC1</sub>	(k)	2,067
DC2	(k/ft)	0.21
M <sub>DC2</sub>	(k)	283
DW	(k/ft)	0.21
M <sub>DW</sub>	(k)	292
M <sub>L + IM</sub>	(k)	1,177

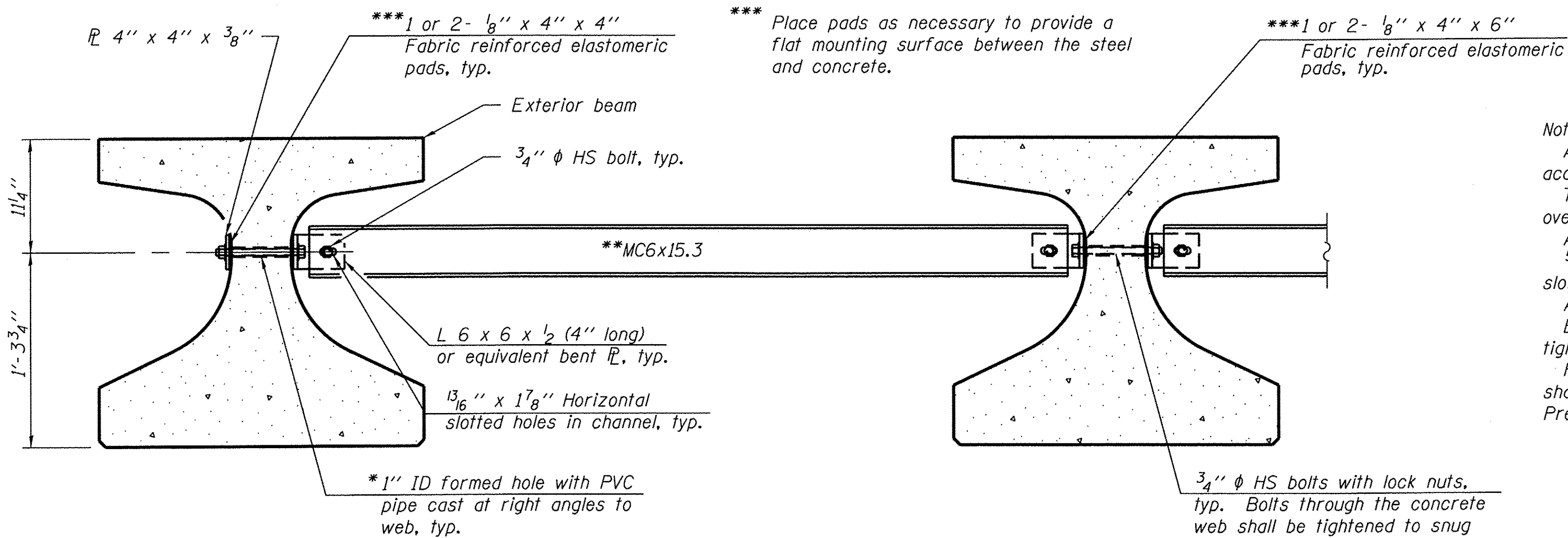
INTERIOR BEAM REACTION TABLE		
East & West Abut.		
R <sub>DC1</sub>	(k)	98.9
R <sub>DC2</sub>	(k)	13.3
R <sub>DW</sub>	(k)	11.2
R <sub>L + IM</sub>	(k)	81.5
R <sub>Total</sub>	(k)	204.9

I: Non-composite moment of inertia of beam section (in.<sup>4</sup>).  
 I': Composite moment of inertia of beam section (in.<sup>4</sup>).  
 S<sub>b</sub>: Non-composite section modulus for the bottom fiber of the prestressed beam (in.<sup>3</sup>).  
 S<sub>b</sub>': Composite section modulus for the bottom fiber of the prestressed beam (in.<sup>3</sup>).  
 S<sub>t</sub>: Non-composite section modulus for the top fiber of the prestressed beam (in.<sup>3</sup>).  
 S<sub>t</sub>': Composite section modulus for the top fiber of the prestressed beam (in.<sup>3</sup>).  
 DC1: Un-factored non-composite dead load (kips/ft.).  
 M<sub>DC1</sub>: Un-factored moment due to non-composite dead load (kip-ft.).  
 DC2: Un-factored long-term composite (superimposed excluding future wearing surface) dead load (kips/ft.).  
 M<sub>DC2</sub>: Un-factored moment due to long-term composite (superimposed excluding future wearing surface) dead load (kip-ft.).  
 DW: Un-factored long-term composite (superimposed future wearing surface only) dead load (kips/ft.).  
 M<sub>DW</sub>: Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load (kip-ft.).  
 M<sub>L + IM</sub>: Un-factored live load moment plus dynamic load allowance (impact) (kip-ft.).



**FRAMING PLAN**

\* Fabricator shall locate to miss strands within permissible tolerances.  
 \*\* Alternate MC6x18 channels are permitted to facilitate material acquisition.



**PERMANENT BRACING DETAILS**

Notes:  
 All material for bracing shall be hot dip galvanized according to AASHTO M111 unless otherwise noted.  
 Two hardened washers are required for each set of oversized holes.  
 All holes shall be 15/16" φ unless otherwise noted.  
 5/16" x 3" x 3" plate washers are required over all slotted holes.  
 All bolts shall be galvanized according to AASHTO M232.  
 Bracing shall be installed as beams are erected and tightened as soon as possible during erection.  
 Permanent bracing shall not be paid for separately, but shall be included in the cost of Furnishing and Erecting Precast Prestressed Concrete Beams.

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PLOT DATE = 12/5/2016	DRAWN - RA	REVISED -
	CHECKED - BWS	REVISED -

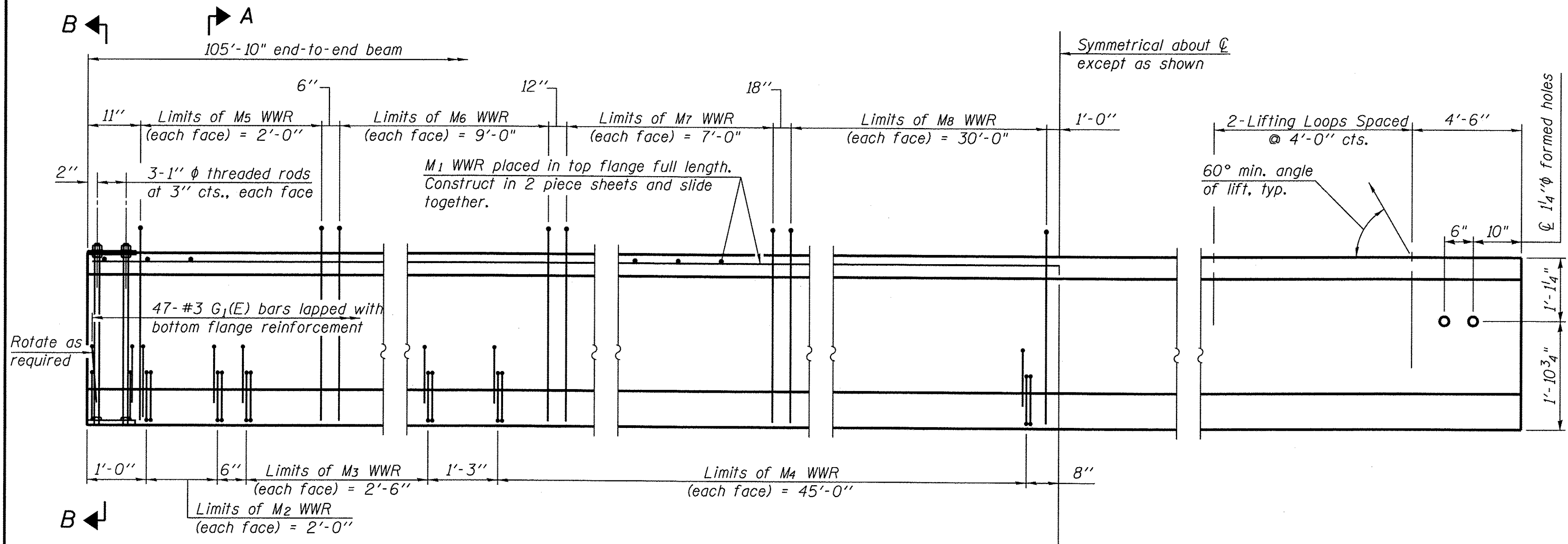
**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**FRAMING PLAN  
 STRUCTURE NO. 049-6003**

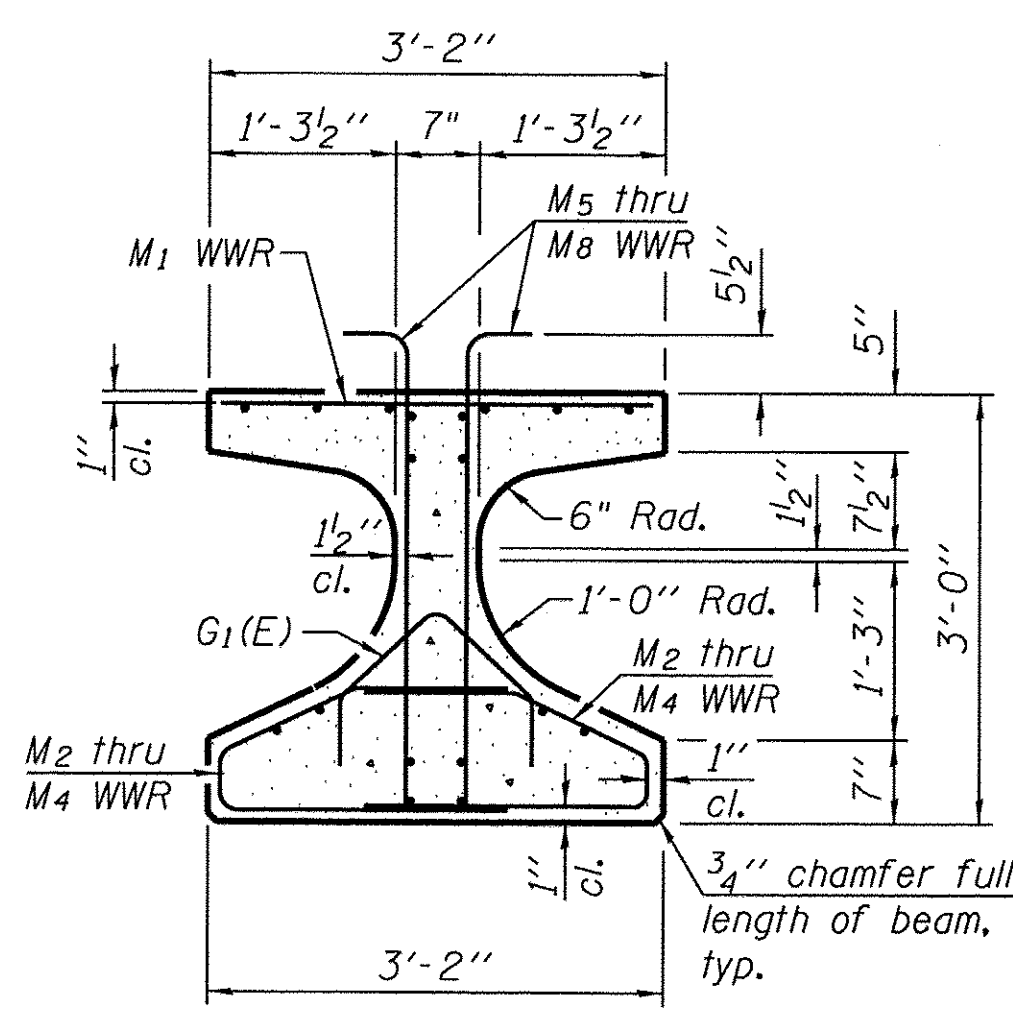
SHEET NO. S-28 OF S-33 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3699	14-00098-00-BR	LAKE	102	76
CONTRACT NO. 61D63				
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT M-BRM-4003(391)				

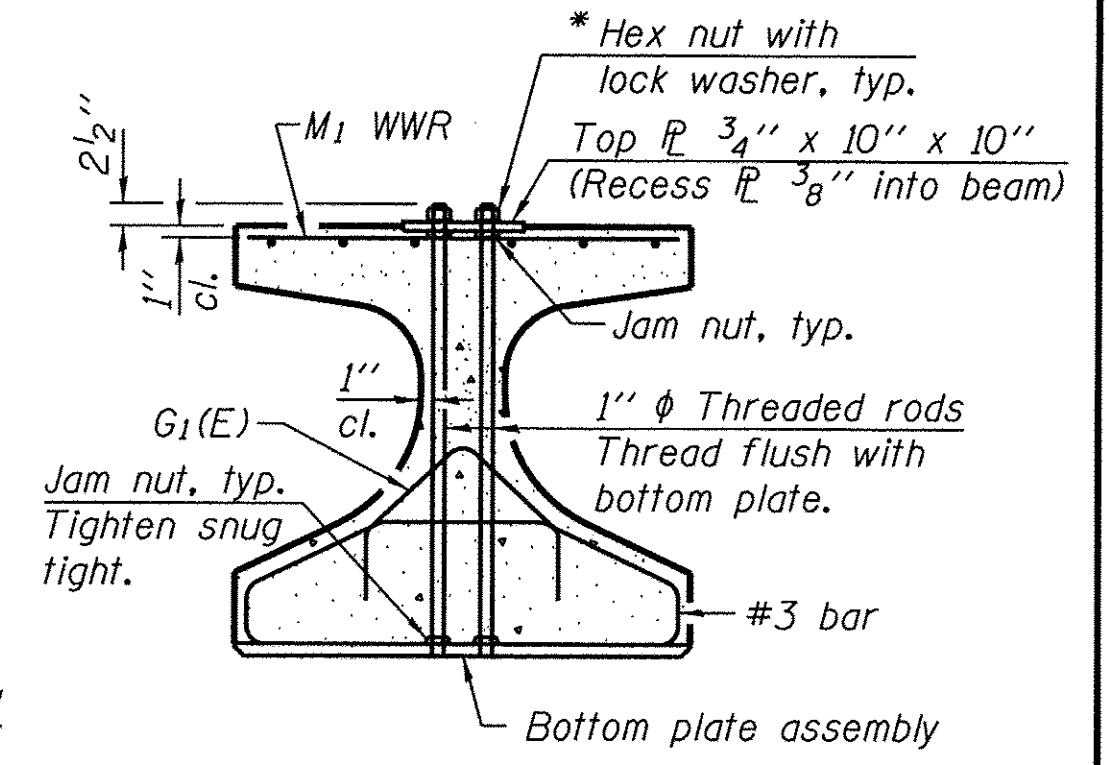
N:\PROJ\10220536\00\0020536\01\Design\Structural\CAD\VP\Fingsten\_Bridges\29\_Prestressed Beam Details I.dgn  
 500 North Commonwealth Avenue  
 Suite 402 Chicago, Illinois 60654  
 Tel: 773.775.1000  
 Fax: 773.775.4814  
 Email: chicago@clorba.com



**ELEVATION OF BEAM**  
(Showing reinforcement & dimensions)

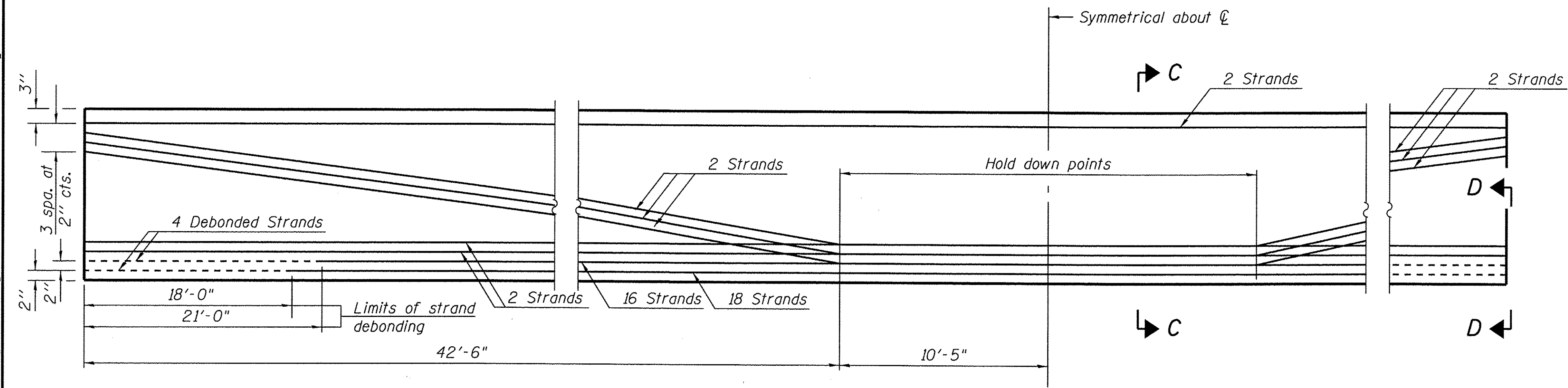


**SECTION A-A**

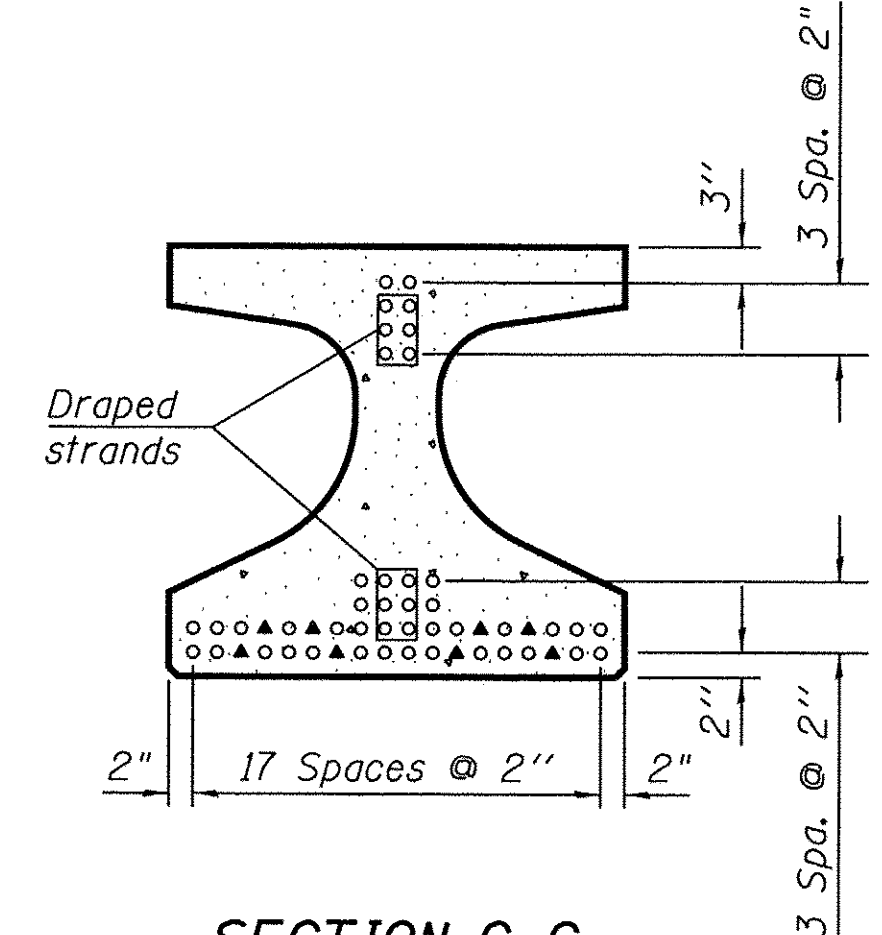


**SECTION B-B**

\* Only tighten sufficiently to compress lock washers

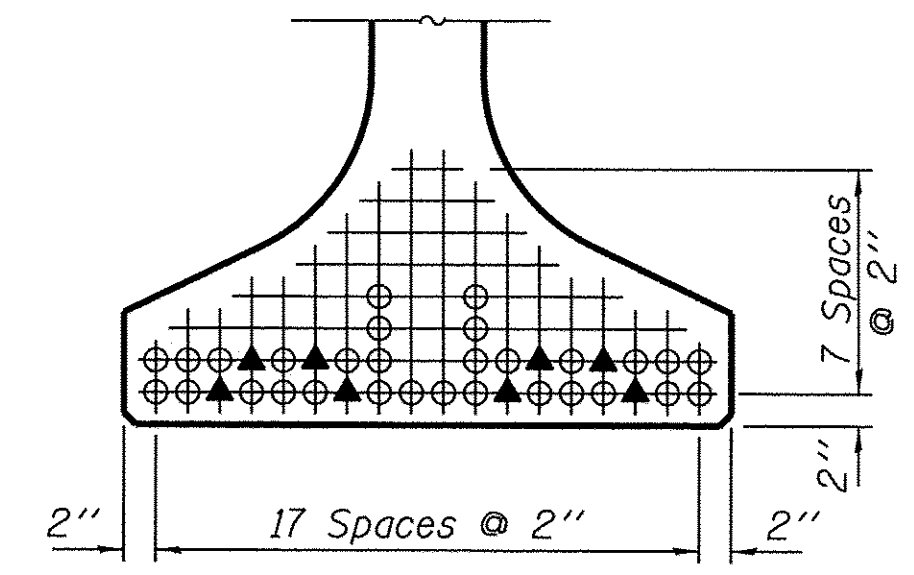


**ELEVATION OF BEAM**  
(Showing prestressing steel)



**SECTION C-C**

(46-0.6"  $\phi$  270 ksi strands)



**VIEW D-D**

- Fully bonded strand
- ▲ Partially debonded strand

**NOTES:**

See sheet S-30 of S-33 for additional details and Bill of Material.



USER NAME = jettanaseo  
 PLOT SCALE = 0:1.0000 "/>

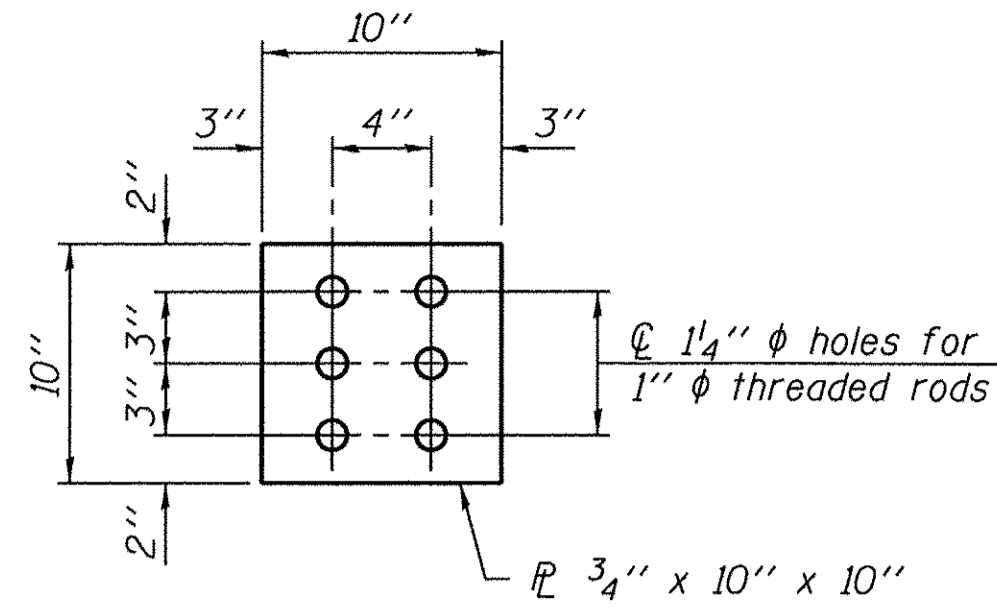
DESIGNED - RA  
 CHECKED - APD  
 DRAWN - RA  
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 REVISED -  
 REVISED -  
 REVISED -  
 REVISED -

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

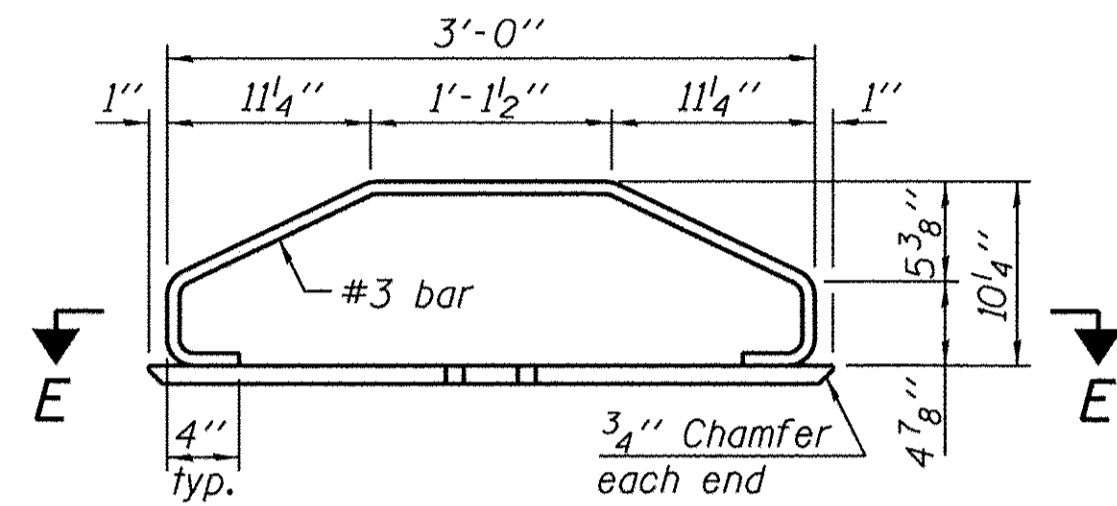
**PRESTRESSED BEAM DETAILS 1**  
**STRUCTURE NO. 049-6003**

SHEET NO. S-29 OF S-33 SHEETS

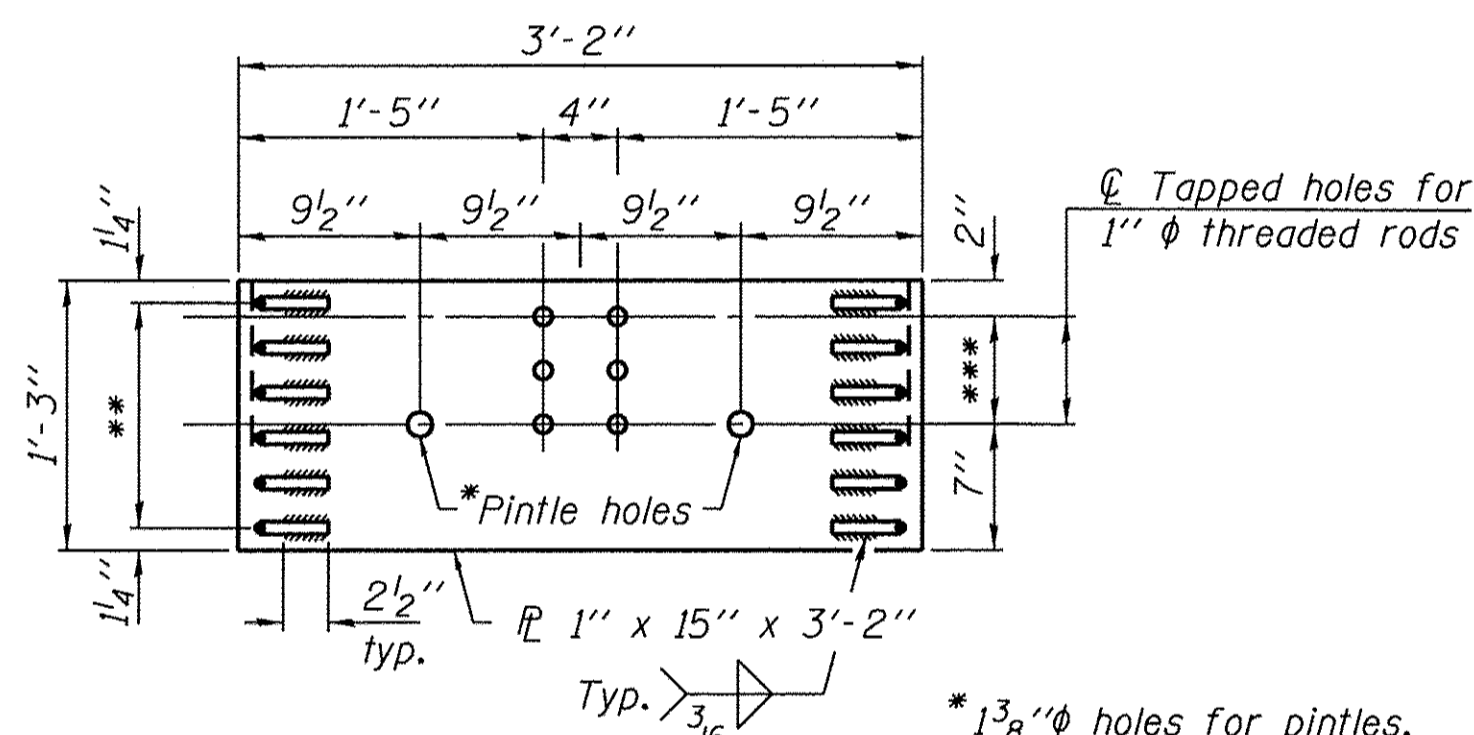
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3699	14-00098-00-BR	LAKE	102	77
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT			CONTRACT NO. 61D63	
			M-BRM-4003(391)	



PLAN - TOP PLATE

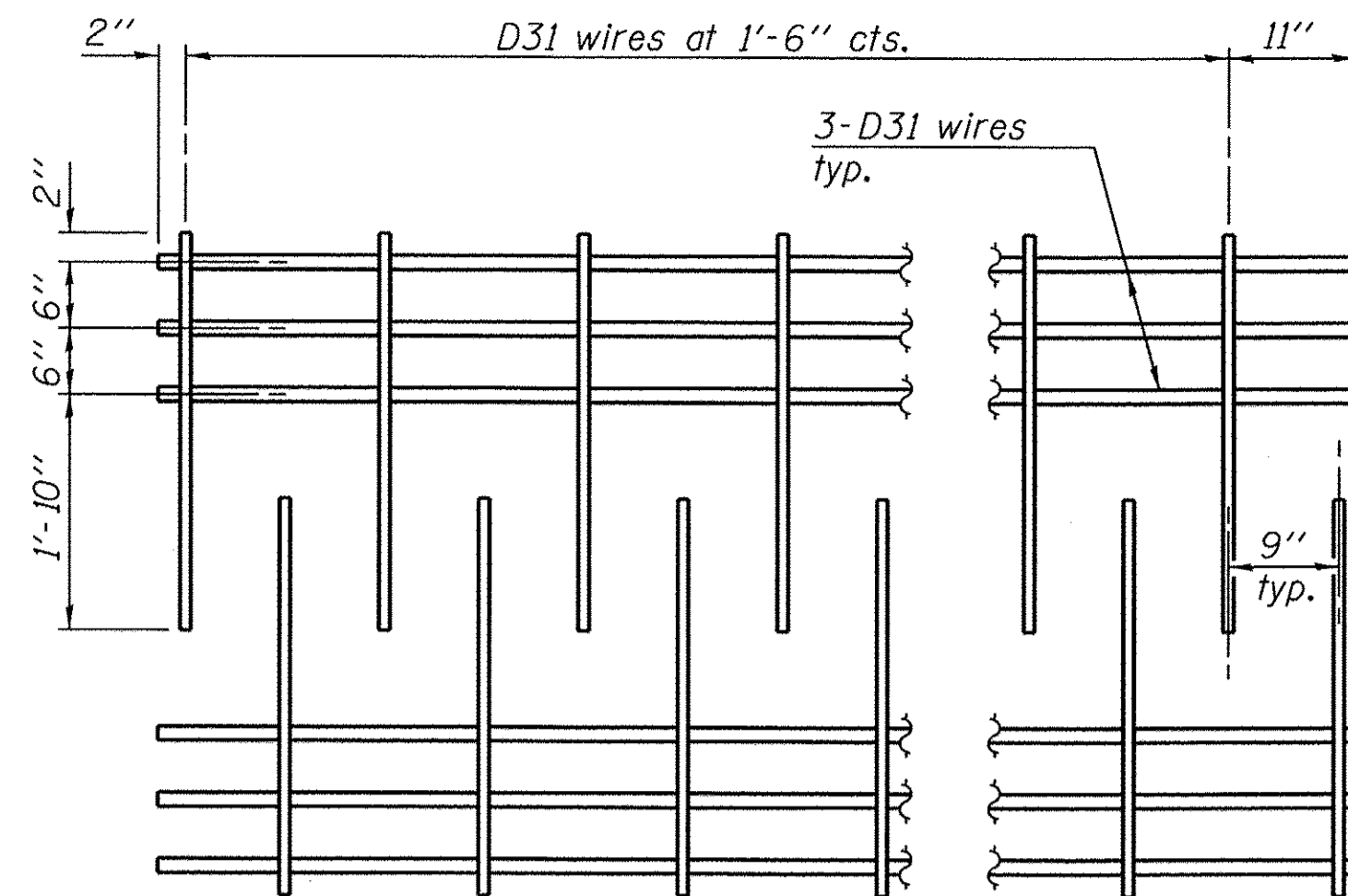


ELEVATION - BOTTOM PLATE ASSEMBLY



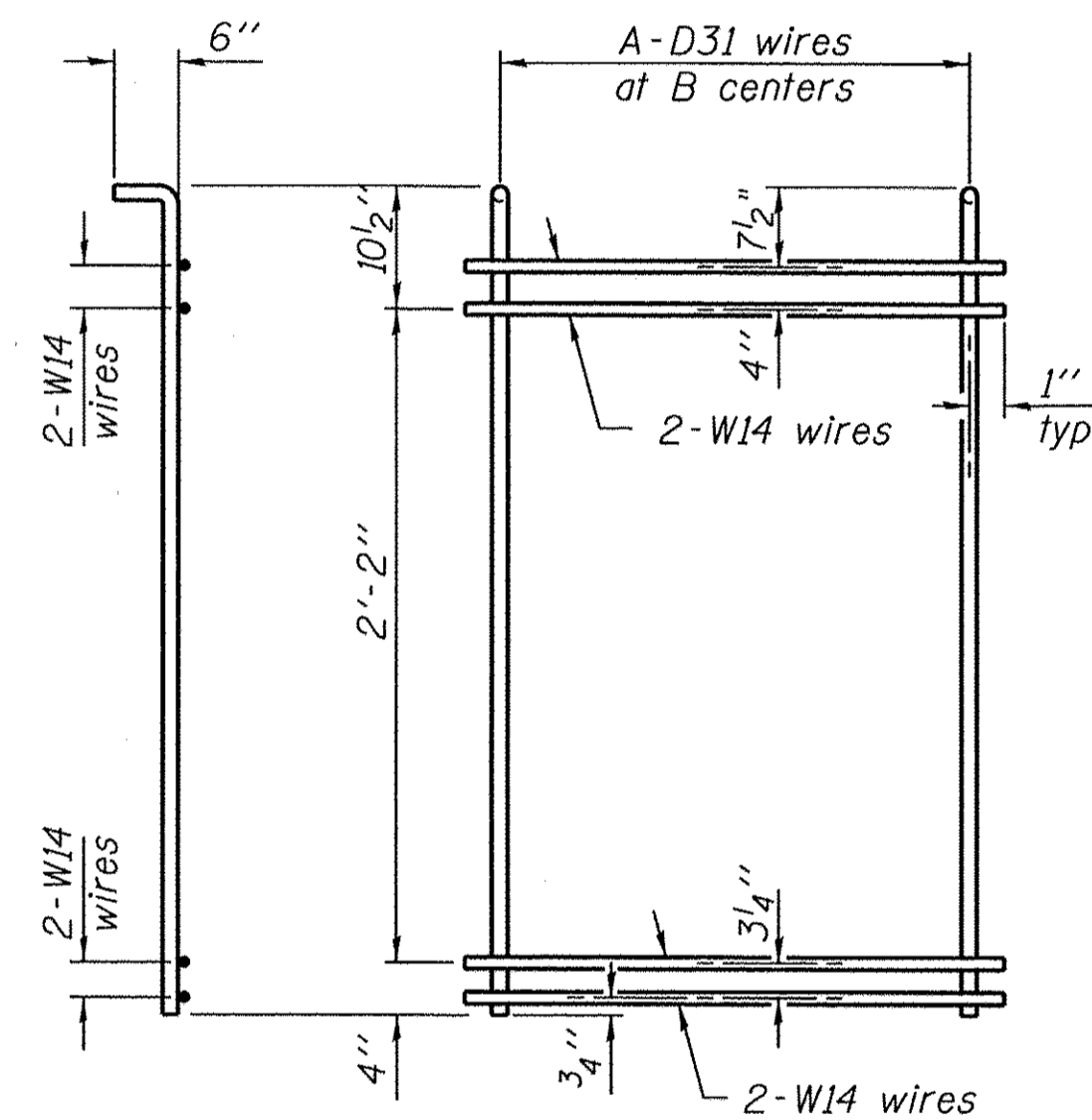
SECTION E-E

\*\* 5 Spaces at 2 1/2" = 1'-0 1/2"  
 \*\*\* 2 Spaces at 3" = 6"



M1 WWR DETAIL

When multiple sheets of M1 WWR are required along the beam length, #5(E) bars (5'-0" long) shall be used to splice the longitudinal D31 wires together. (Min. Lap 2'-2")

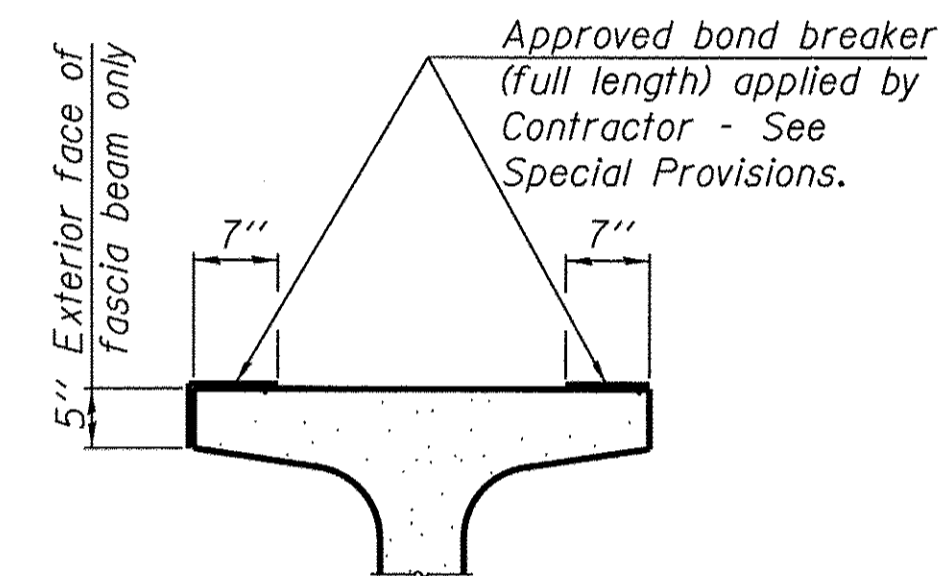


M5 THRU M8 WWR DETAIL

(See Table of Dimensions)

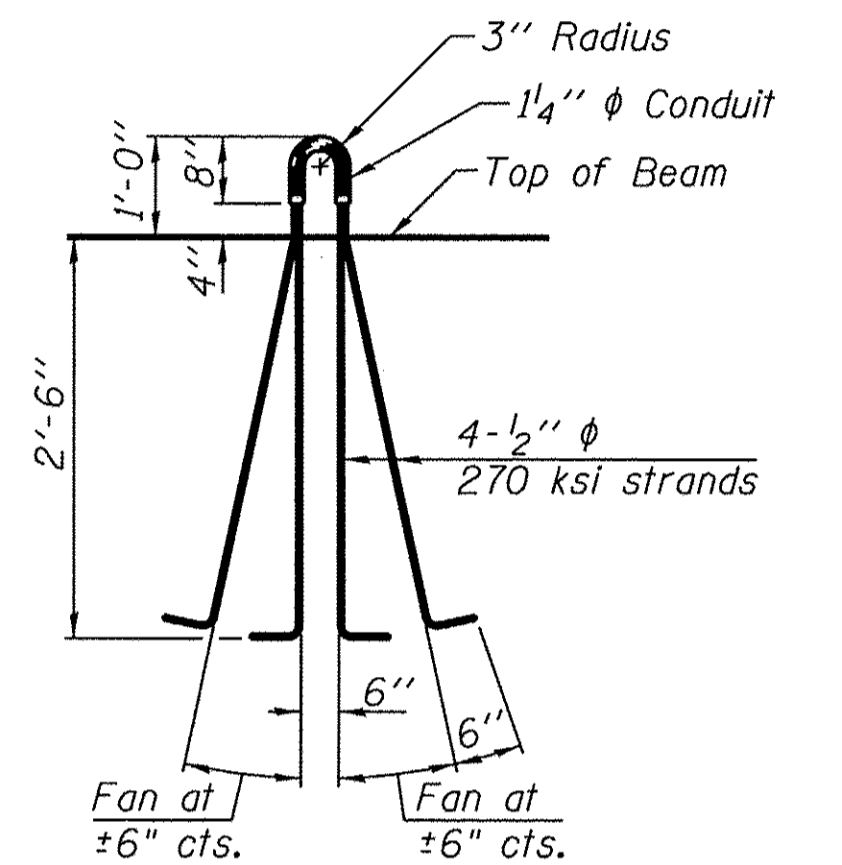
TABLE OF DIMENSIONS

WWR	A	B
M2	9	3"
M3	6	6"
M4	31	1'-6"
M5	9	3"
M6	31	6"
M7	11	1'-0"
M8	12	2'-0"



SECTION THRU TOP FLANGE

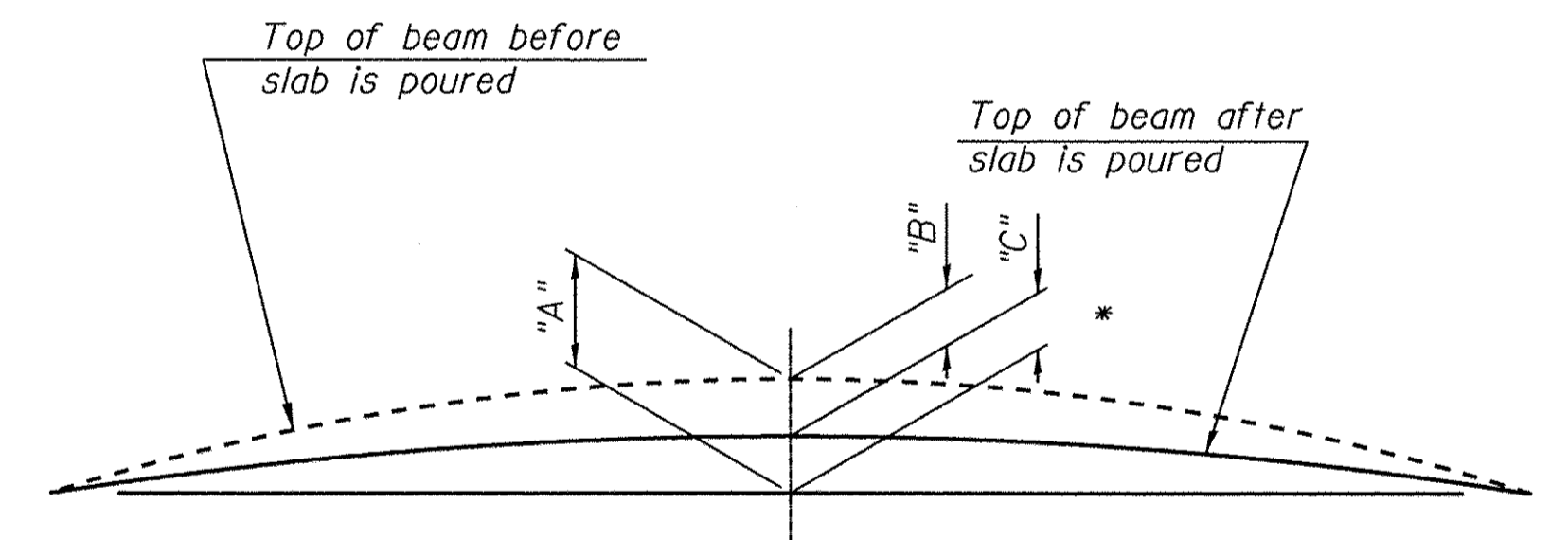
(Showing limits of bond breaker)



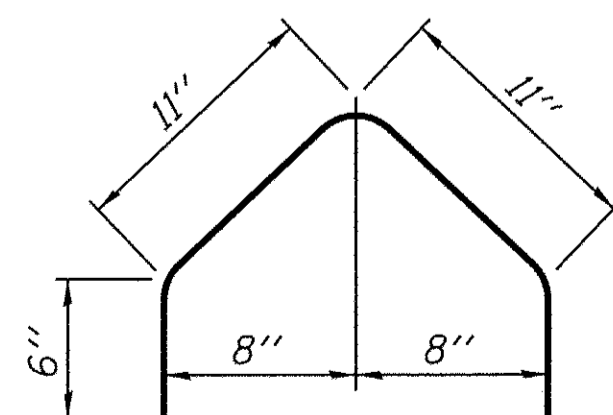
LIFTING LOOP DETAIL

- \* "A" = Prestress Camber
- \* "B" = Dead Load Deflection
- \* "C" = Residual Camber
- \* Round off to the nearest 1/8"

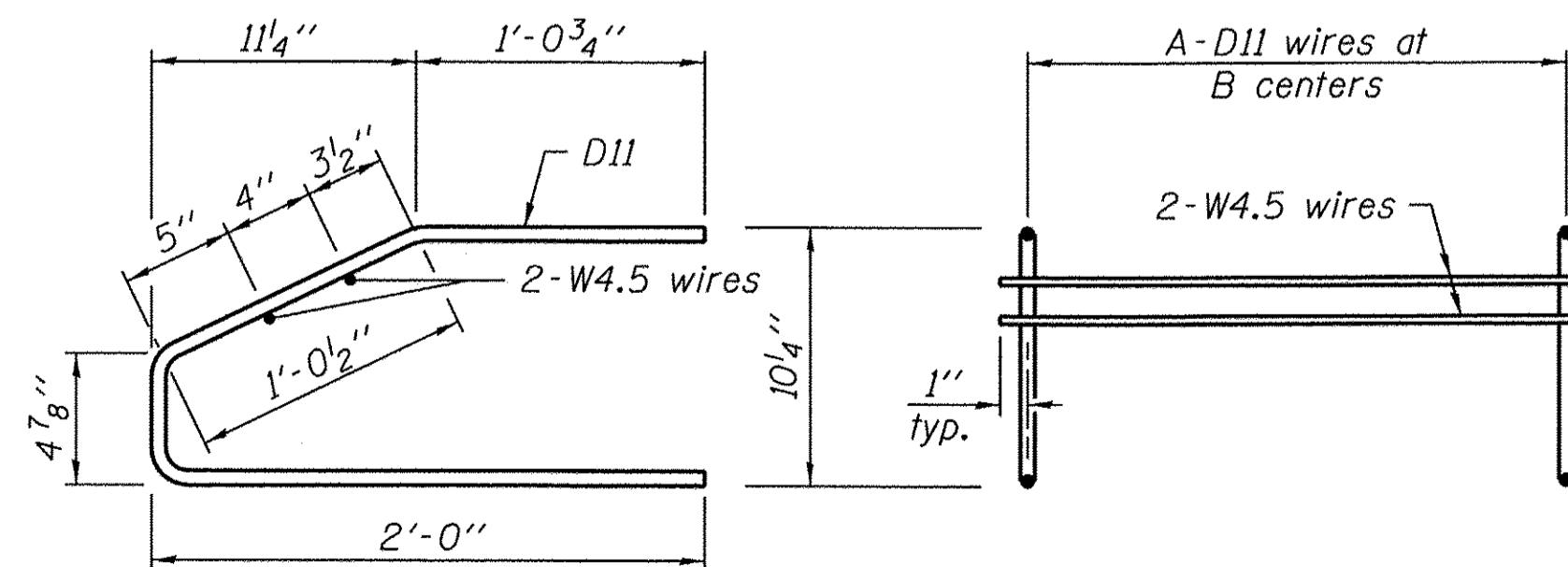
A	B	C
4 1/8"	2 3/4"	1 3/8"



CAMBER & DEFLECTION DIAGRAM



BAR G1(E)



M2 THRU M4 WWR DETAIL

(See Table of Dimensions)

BILL OF MATERIAL

Item	Unit	Total
Furnishing and Erecting Precast Prestressed Concrete Beams, IL36	Ft.	741

N:\PROJ\0020536\00\0020536-01\Design\Structural\CAD\Prefingstem\_Br.dwg\_30-Prestressed Beam Details 2.dgn



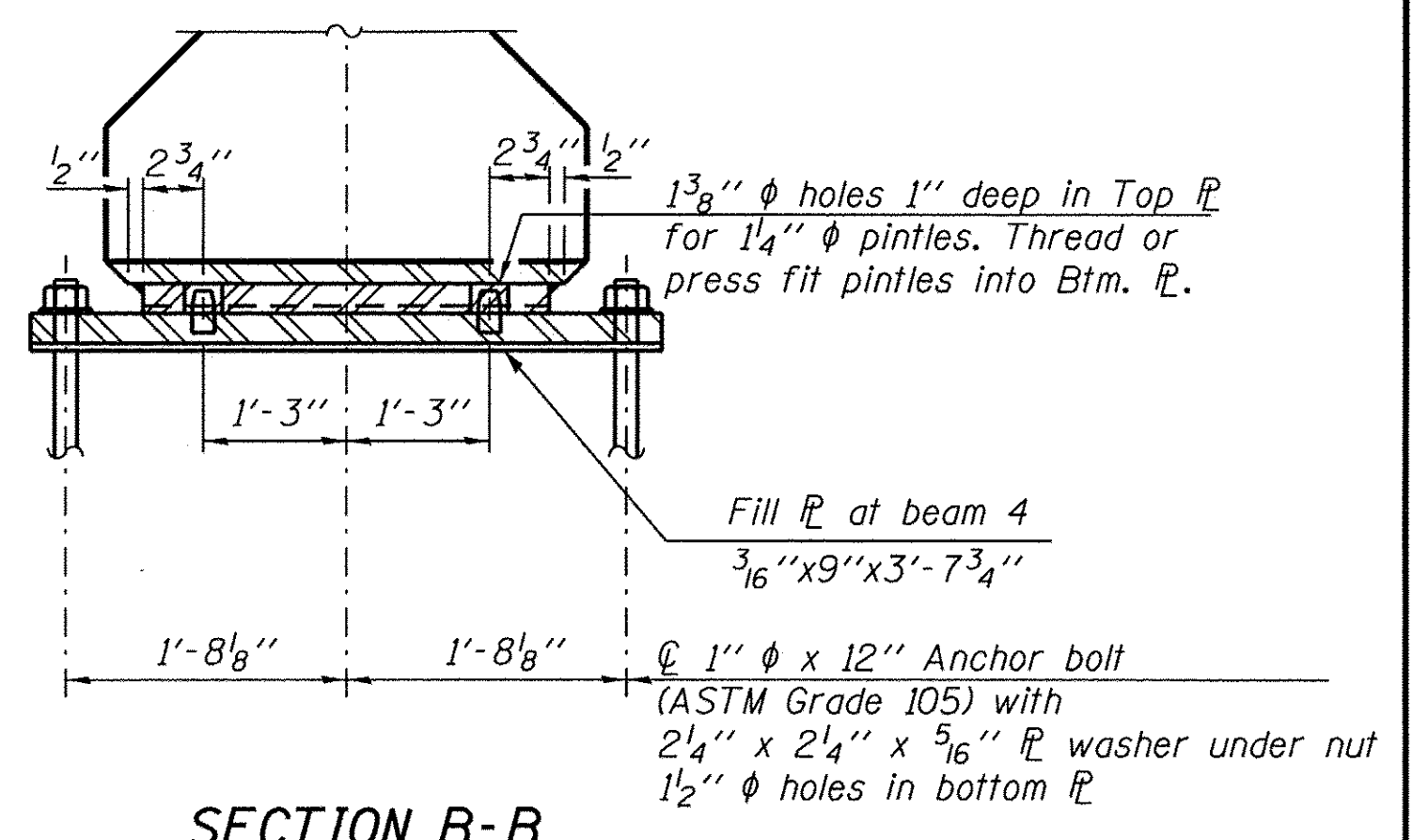
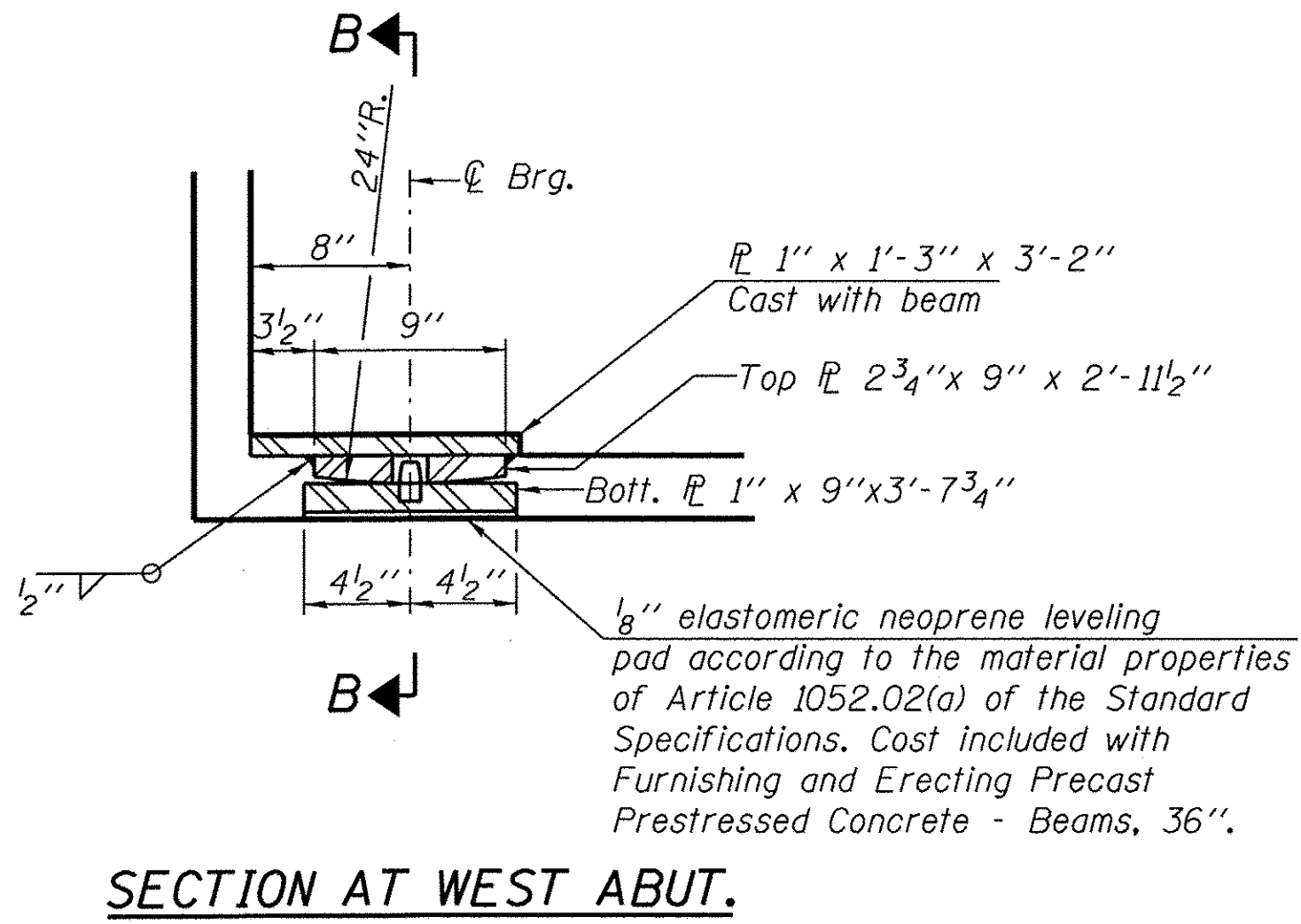
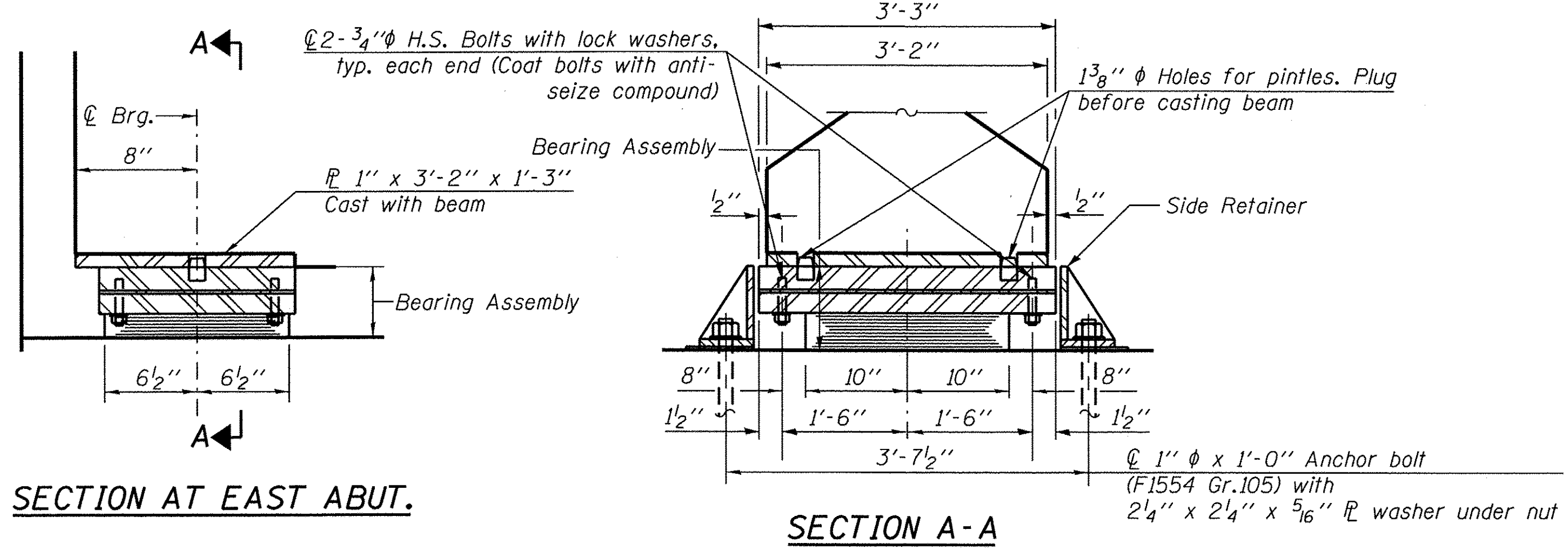
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	CHECKED - BWS	REVISED -

STATE OF ILLINOIS  
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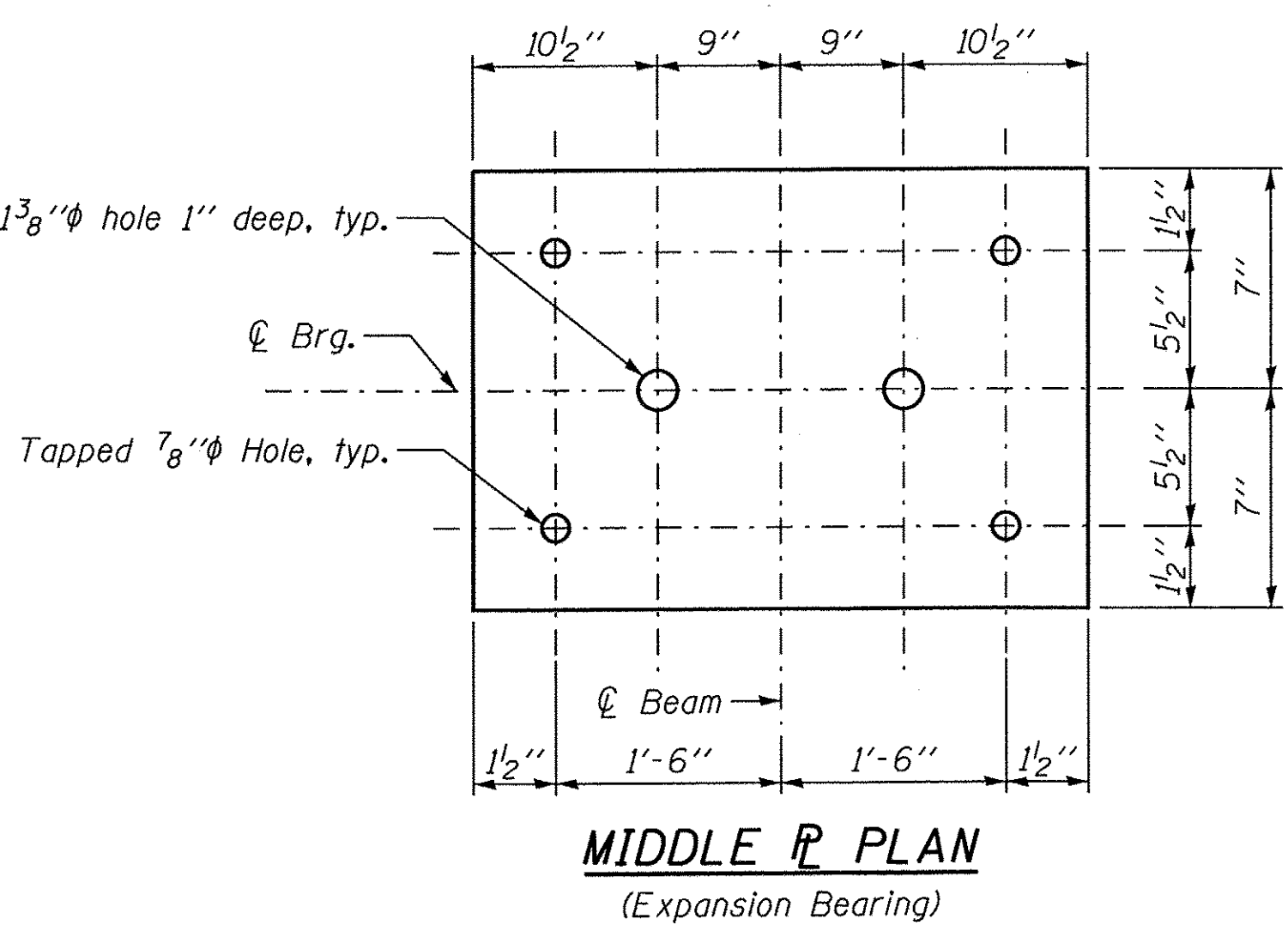
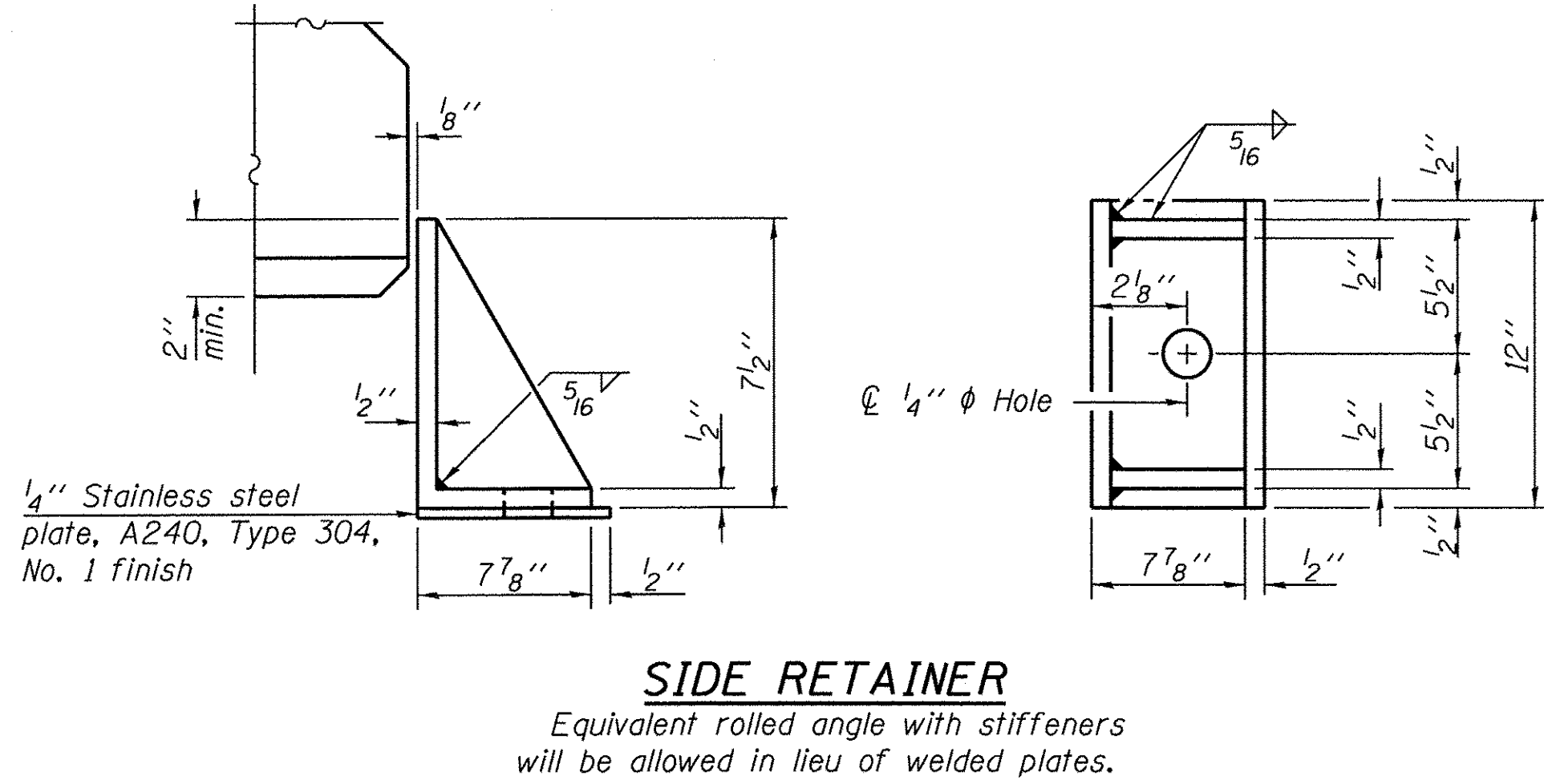
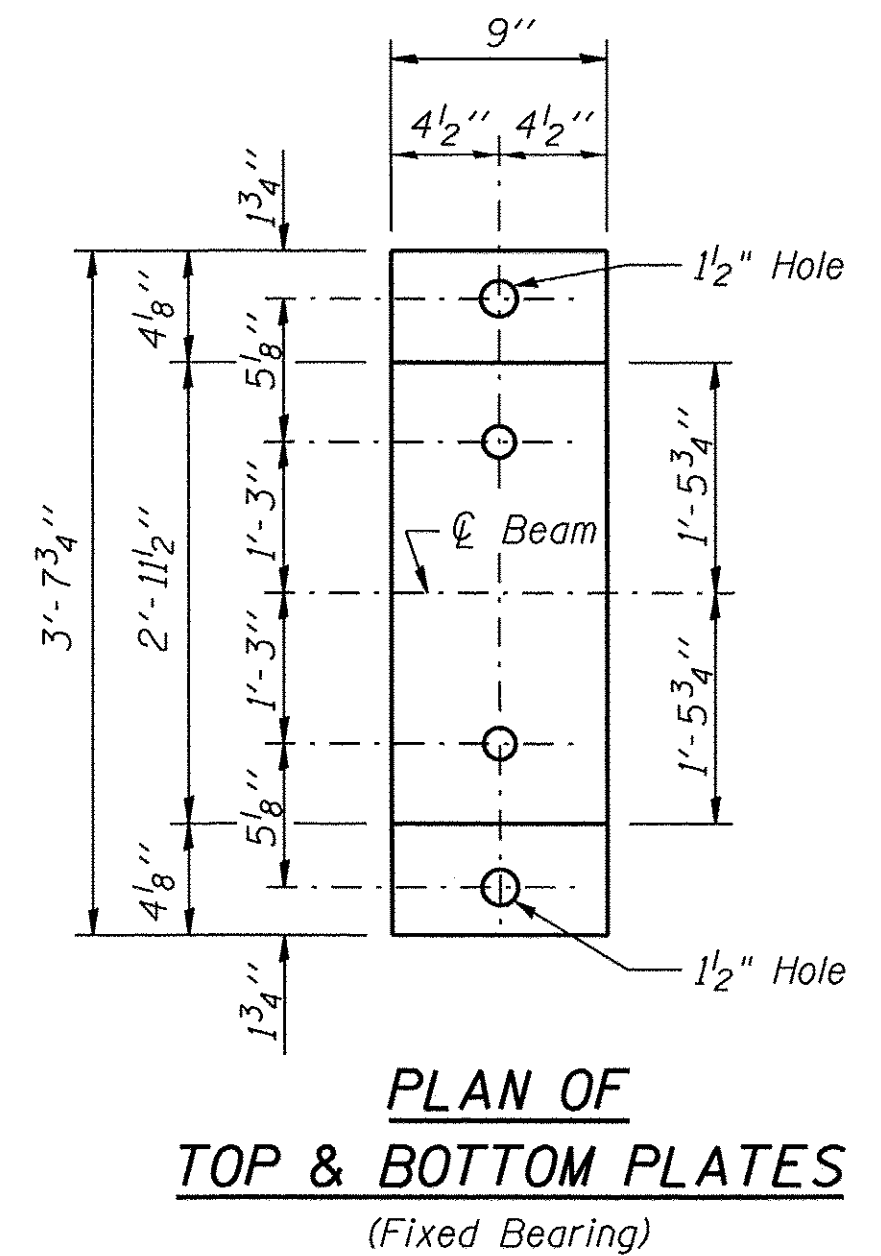
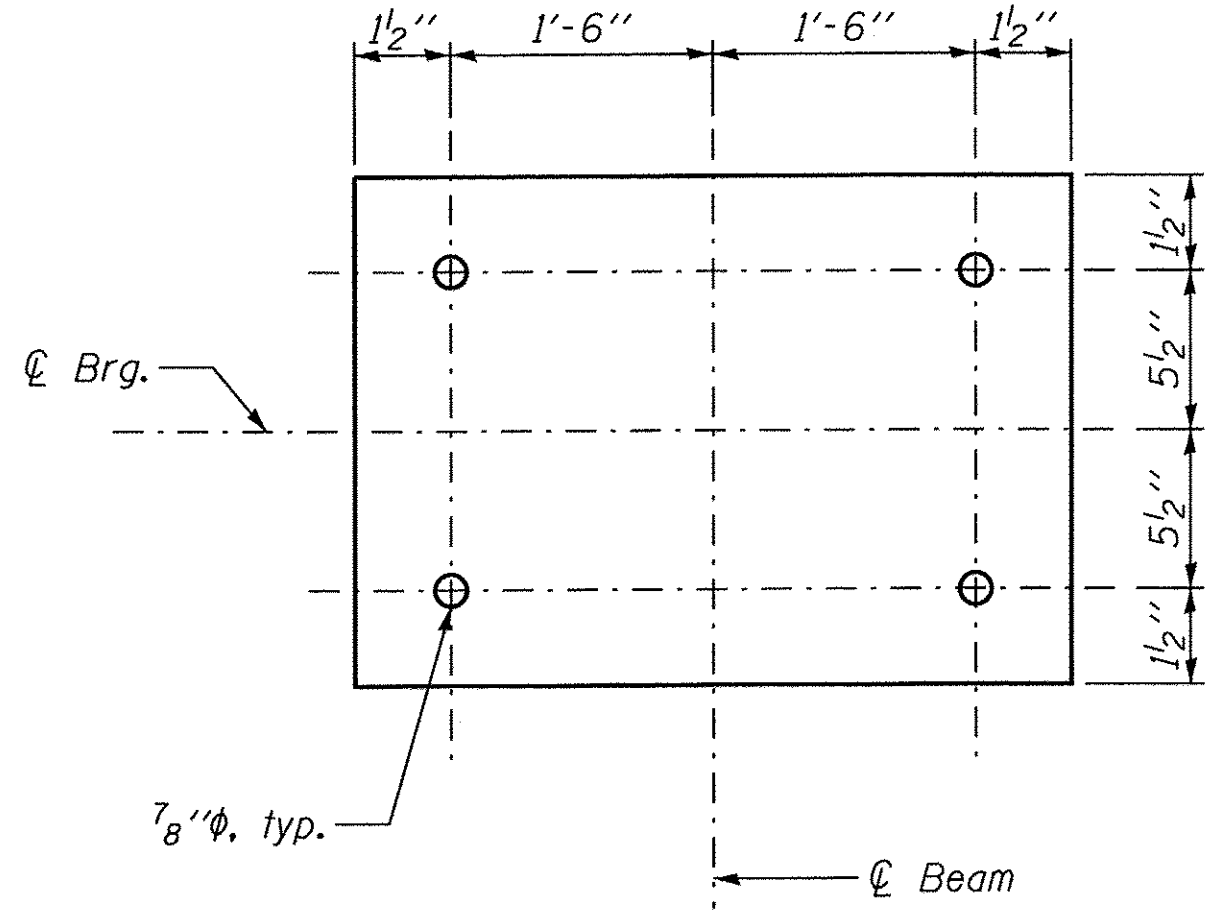
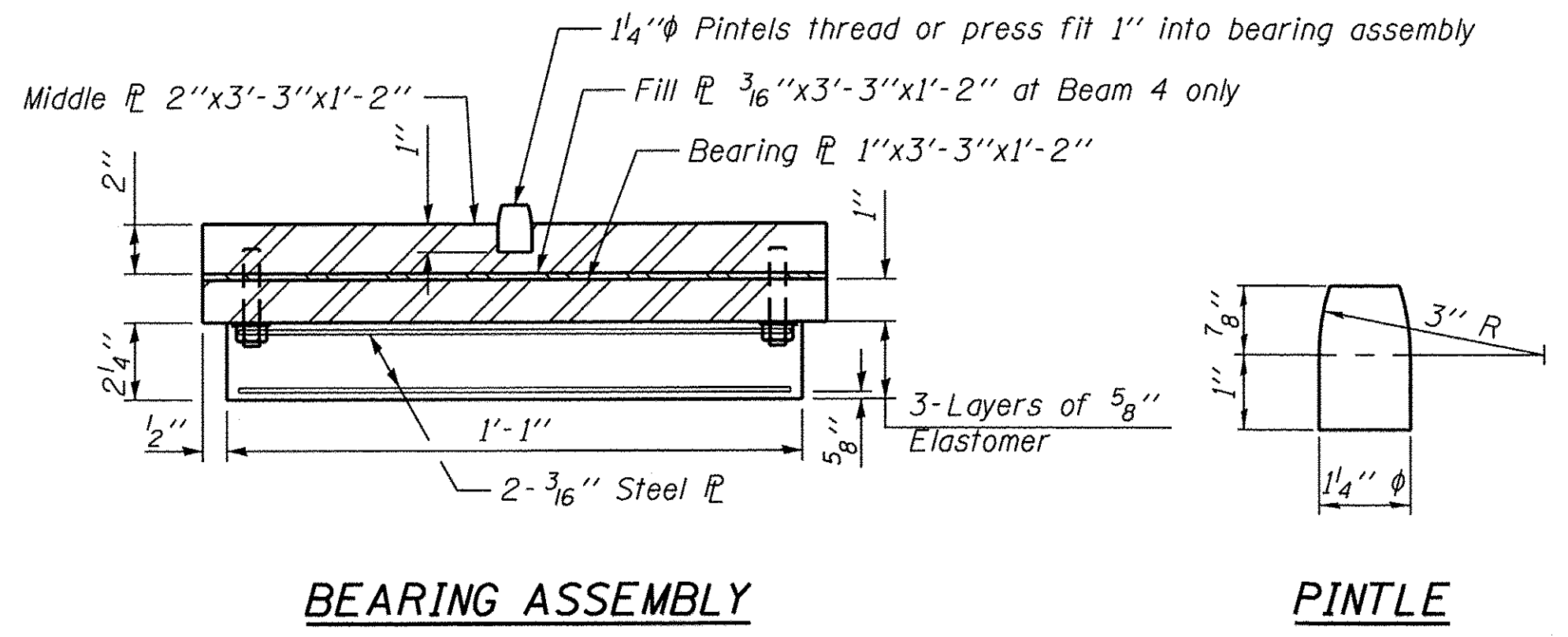
PRESTRESSED BEAM DETAILS 2  
 STRUCTURE NO. 049-6003

SHEET NO. S-30 OF S-33 SHEETS

F.A.U. RTE. 3699	SECTION 14-00098-00-BR	COUNTY LAKE	TOTAL SHEETS 102	SHEET NO. 78
FED. ROAD DIST. NO. 1			CONTRACT NO. 61D63	
ILLINOIS FED. AID PROJECT			M-BRM-4003(391)	



TYPE I ELASTOMERIC EXP. BRG.



NOTES:

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

Beams shall be braced for stability during erection and remain braced until deck is poured and cured.

See sheet S-30 of S-33 for additional details of plate cast with beam.

Side retainers and other steel members required for the bearing assembly shall be included in the cost of Elastomeric Bearing Assembly, Type I.

Anchor bolts and side retainers at all supports shall be installed as each member is erected unless an equivalent temporary means of lateral restraint is used.

All structural steel shall be Grade 50 ksi

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly, Type I	Each	7
Anchor Bolts, 1"	Each	28
Furnishing and Erecting Structural Steel	Pound	2,470

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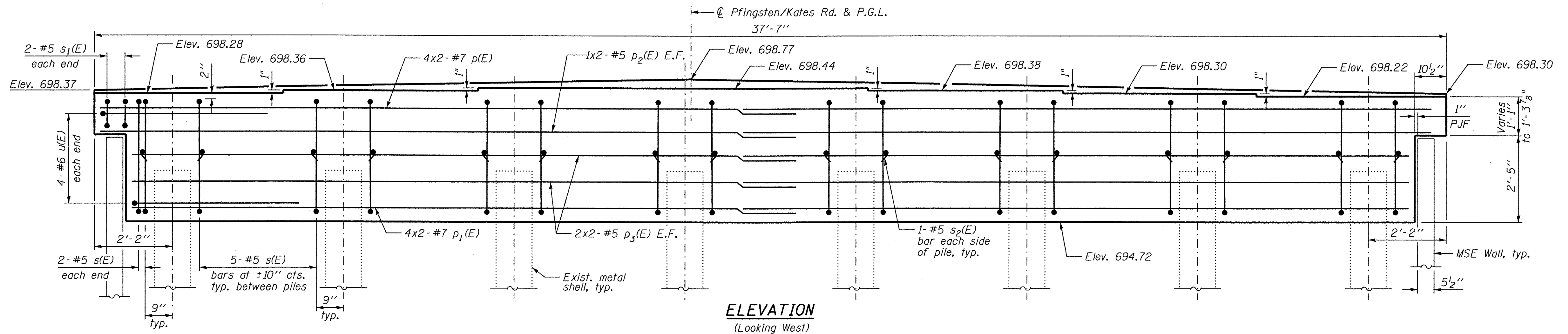
**Clorba Group, Inc.**  
CONSULTING ENGINEERS  
3017 North Cumberland Avenue  
Suite 402, Chicago, Illinois 60658  
Tel: 773.776.4000  
Fax: 773.776.4814  
Email: cgroup@clorba.com

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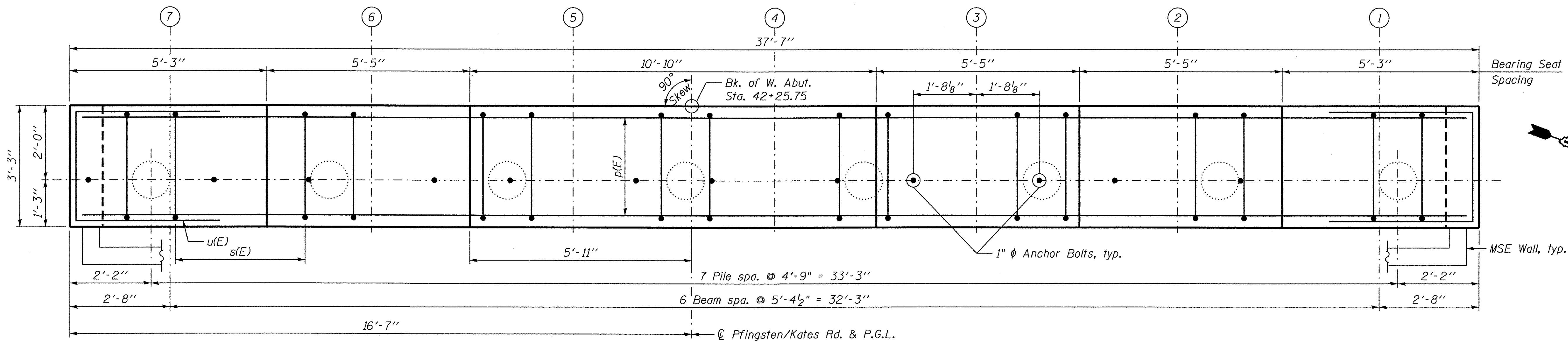
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

BEARING DETAILS  
STRUCTURE NO. 049-6003  
SHEET NO. S-31 OF S-33 SHEETS

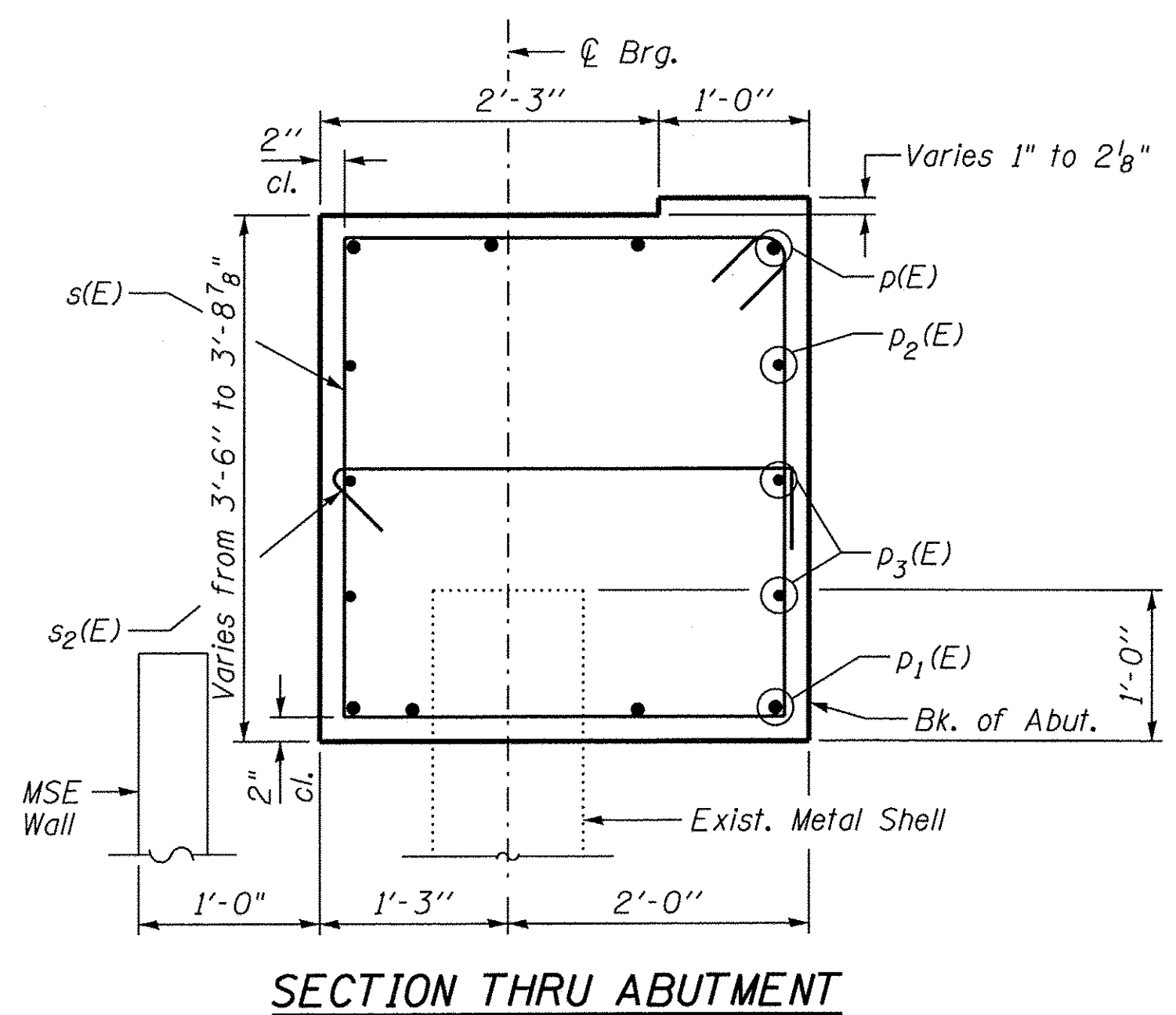
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CONTRACT NO. 61D63				FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT M-BRM-4003(391)



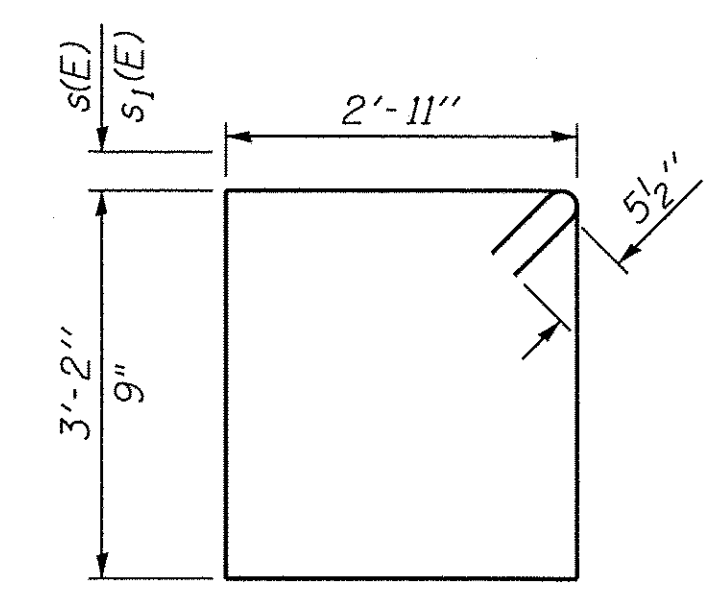
**ELEVATION**  
(Looking West)



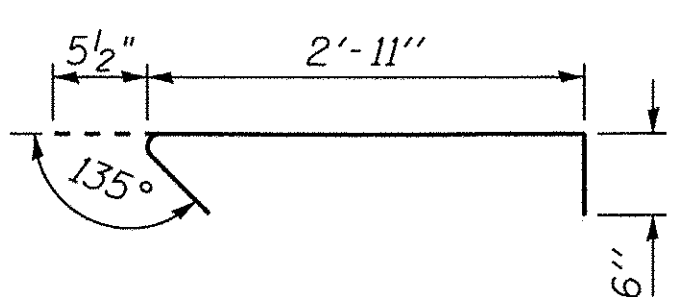
**PLAN**



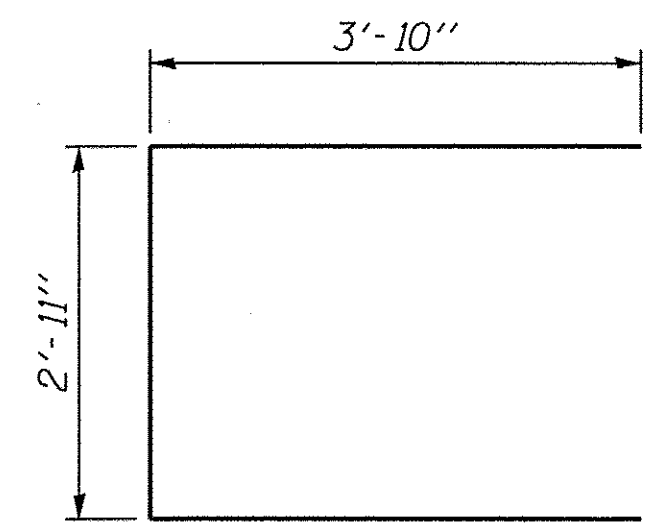
**SECTION THRU ABUTMENT**



**BARS s(E), s1(E)**



**BAR s2(E)**



**BAR u(E)**

**MINIMUM BAR LAP**

#5 bar = 3'-9"  
#7 bar = 5'-0"

**NOTES:**

- For limits of removal see sheet S-3.
- Existing pile capacity based on original plans is 45 tons.
- Bar indicated thus 2x2-#5 etc. indicates 2 lines of bars with 2 lengths per line.

**BILL OF MATERIAL**  
(Both W. & E. Abut.)

Bar	No.	Size	Length	Shape
p(E)	16	# 7	21'-2"	—
p1(E)	16	# 7	20'-3"	—
p2(E)	8	# 5	20'-6"	—
p3(E)	16	# 5	19'-8"	—
s(E)	78	# 5	13'-1"	□
s1(E)	8	# 5	8'-3"	□
s2(E)	32	# 5	3'-11"	└┘
u(E)	16	# 6	10'-7"	└┘
Concrete Structures			Cu. Yd.	32.7
Reinforcement Bars, Epoxy Coated			Pound	3380
Granular Backfill For Structures			Cu. Yd.	22

N:\PROJ\00220536\01\Design\Structure\CAD\Fingsten\_Br.dwg\_32.W. Abutment.dgn



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PLOT DATE = 12/5/2016	DRAWN - RA	REVISED -
	CHECKED - BWS	REVISED -

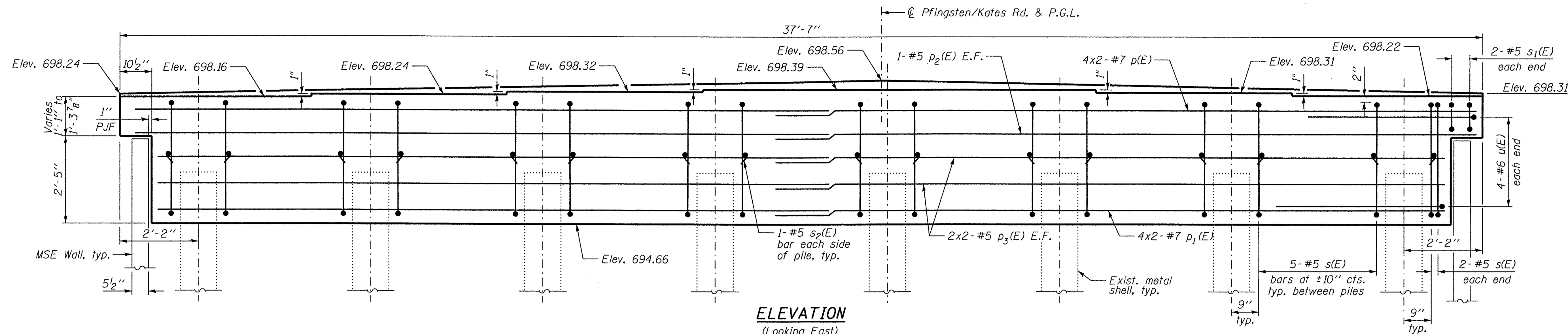
**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**WEST ABUTMENT**  
**STRUCTURE NO. 049-6003**

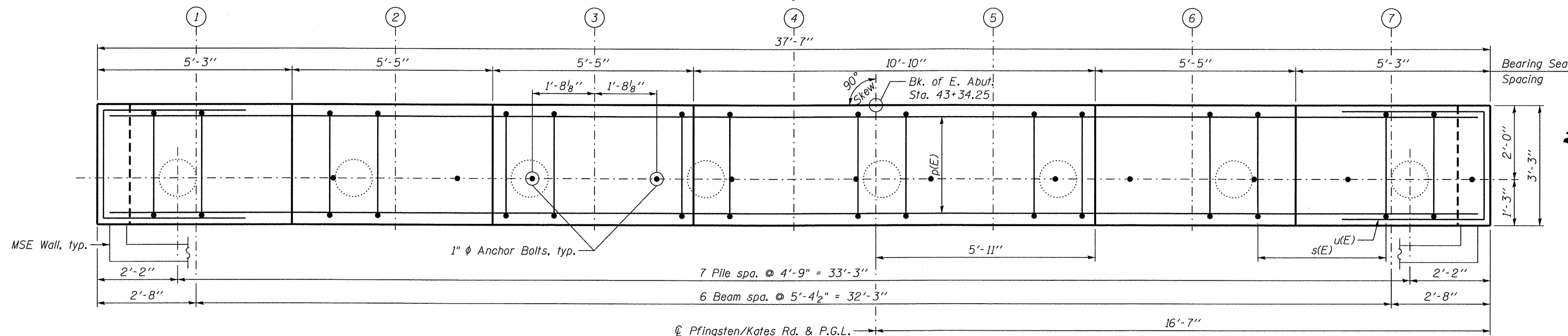
SHEET NO. S-32 OF S-33 SHEETS

F.A.U. RTE. 3699	SECTION 14-00098-00-BR	COUNTY LAKE	TOTAL SHEETS 102	SHEET NO. 80
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT			CONTRACT NO. 61D63	
			M-BRM-4003(391)	

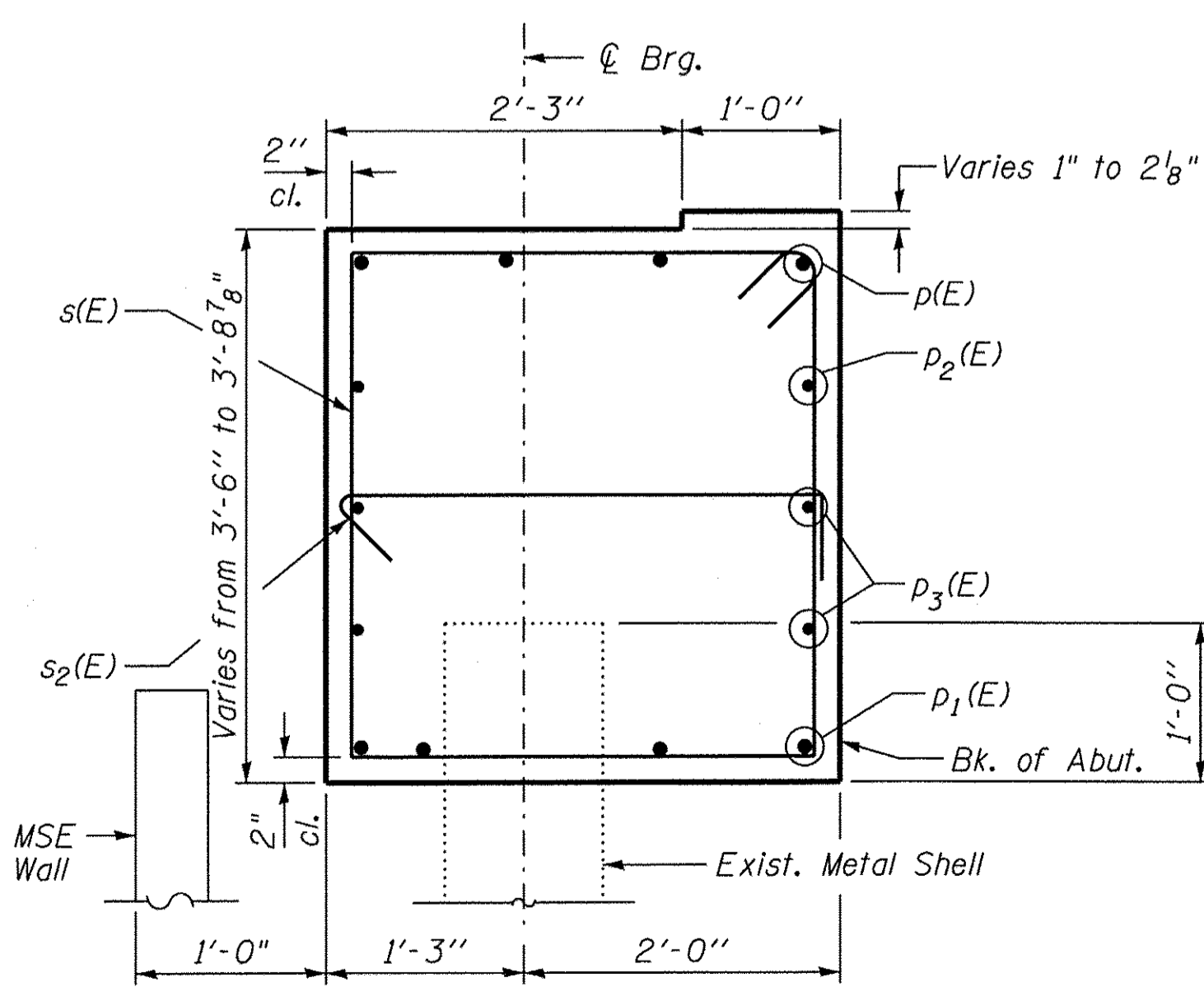




**ELEVATION**  
(Looking East)



**PLAN**



**SECTION THRU ABUTMENT**

**NOTES:**

1. For limits of removal see sheet S-3.
2. For bar bending details and Bill of Material, see sheet S-32.
3. Existing pile capacity based on original plans is 45 tons.
4. For details behind abutment, see sheet S-2.

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PLOT DATE = 12/5/2016	DRAWN - RA	REVISED -
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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

**EAST ABUTMENT  
STRUCTURE NO. 049-6003**

SHEET NO. S-33 OF S-33 SHEETS

F.A.U. RTE. 3699	SECTION 14-00098-00-BR	COUNTY LAKE	TOTAL SHEETS 102	SHEET NO. 81
CONTRACT NO. 61D63			M-BRM-4003(391)	
FED. ROAD DIST. NO. 1   ILLINOIS FED. AID PROJECT				

VARIABLE - TO MEET EXISTING DIMENSIONS AND FIELD CONDITIONS (SEE NOTE ②)

PROP. CONC. CURB OR CURB AND GUTTER REPLACEMENT IN ACCORDANCE WITH STATE STANDARD 606001. (SEE NOTE ②)

SAW CUT FULL DEPTH - INCLUDED IN THE COST OF SIDEWALK, DRIVEWAY OR MEDIAN SURFACE REMOVAL PAY ITEM.

SEE STATE STANDARD 606001  
EXISTING OR PROPOSED HMA SURFACE (IF APPLICABLE)

18" (450) MAX.

1/4" (5) \*\*

EXISTING SIDEWALK, DRIVEWAY, MEDIAN SURFACE, SOD OR GROUND.

PROPOSED SIDEWALK, DRIVEWAY PAVEMENT, MEDIAN SURFACE OR SODDING, SALT TOLERANT AND TOPSOIL FURNISH AND PLACE, VARIABLE DEPTH SOD RESTORATION (SEE NOTE ①).

EXISTING CONCRETE PAVEMENT, CONCRETE BASE COURSE OR FLEXIBLE PAVEMENT

3" (75) MIN.

SUITABLE BACKFILL MATERIAL (INCLUDED IN THE COST OF CURB OR CURB AND GUTTER REMOVAL AND REPLACEMENT)

\* 3" (75) MINIMUM FROM TOP AND BOTTOM OF THE CONCRETE PAVEMENT OR BASE COURSE.

\*\* IF THE FINAL SURFACE OF THE PAVEMENT IS CONCRETE, THE GUTTER IS TO BE FLUSH WITH THE PAVEMENT.

PROPOSED 3/4" (20) PREFORMED EXPANSION JOINT AT CONCRETE SIDEWALKS, DRIVEWAYS, AND MEDIANS. (INCLUDED IN THE COST OF CURB OR CURB AND GUTTER REMOVAL AND REPLACEMENT.)

NOTE: ① SIDEWALK, DRIVEWAY PAVEMENT OR MEDIAN SURFACE SHALL BE SIMILAR TO THE MATERIAL BEING REMOVED AND WILL BE PAID FOR SEPARATELY.

SODDING, SALT TOLERANT, AND TOPSOIL FURNISH AND PLACE, VARIABLE DEPTH SHALL BE PAID FOR SEPARATELY.

UNSUITABLE SUB-BASE MATERIAL TO BE REMOVED, IF DIRECTED BY THE ENGINEER, SHALL BE REPLACED WITH EITHER SUB-BASE GRANULAR MATERIAL, TYPE B OR ADDITIONAL THICKNESS OF CONCRETE.

REMOVAL AND REPLACEMENT 4" (100) OR LESS IS INCLUDED IN THE COST OF CURB OR CURB AND GUTTER REMOVAL AND REPLACEMENT.

REMOVAL AND REPLACEMENT IN EXCESS OF 4" (100) WILL BE PAID FOR IN ACCORDANCE WITH ARTICLE 109.04 OF THE STANDARD SPECIFICATIONS.

② FERTILIZER FOR THE PLACEMENT OF THE SOD IS NOT REQUIRED

③ CURB OR CURB AND GUTTER REPLACEMENT SHALL MATCH THE SHAPE OF THE EXISTING CURB OR CURB AND GUTTER UNLESS OTHERWISE SPECIFIED.

④ FOR CURB OR CURB AND GUTTER REMOVAL AND REPLACEMENT ADJACENT TO FLEXIBLE PAVEMENT DELETE EPOXY COATED TIE BARS.

⑤ LONGITUDINAL BARS, IF ENCOUNTERED IN THE EXISTING CURB OR CURB AND GUTTER, ARE NOT TO BE REPLACED. CUTTING AND REMOVING LONGITUDINAL BARS SHALL BE INCLUDED IN THE COST OF CURB OR CURB AND GUTTER REMOVAL AND REPLACEMENT.

PROPOSED #6 (20) EPOXY COATED TIE BARS 24" (600) LONG AT 24" (600) CENTERS WILL NOT BE PAID FOR SEPARATELY. DELETE EPOXY COATED TIE BARS IF EXISTING TIE BARS ARE USUABLE AS DETERMINED BY THE ENGINEER. (SEE NOTE ③).

⑥ THE COST OF HMA SURFACE REMOVAL IN THE EXISTING GUTTER FLAG SHALL BE INCLUDED IN THE COST OF THE CURB AND GUTTER REMOVAL AND REPLACEMENT.

**BASIS OF PAYMENT:**

THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER FOOT (METER) FOR "CURB REMOVAL AND REPLACEMENT" OR "COMBINATION CONCRETE CURB AND GUTTER REMOVAL AND REPLACEMENT".

⑦ THE REMOVAL AND REPLACEMENT OF THE EXISTING CURB OR CURB AND GUTTER SHALL BE DONE IN ACCORDANCE WITH THE APPLICABLE PORTIONS OF SECTION 440 AND 606 OF THE STANDARD SPECIFICATIONS.

⑧ THE LOCATIONS OF REMOVAL AND REPLACEMENT OF EXISTING CURB OR CURB AND GUTTER SHALL BE DETERMINED BY THE RESIDENT ENGINEER AT THE TIME OF CONSTRUCTION.

# CURB OR CURB AND GUTTER REMOVAL AND REPLACEMENT

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

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**ENGINEERING CONSULTANT**  
**Clorba Group, Inc.**  
CONSULTING ENGINEERS  
5507 North Cumberland Avenue, Suite 402  
Chicago, Illinois 60656  
Tel: 773.775.4009 Fax: 773.775.4014  
Email: chicago@clorba.com

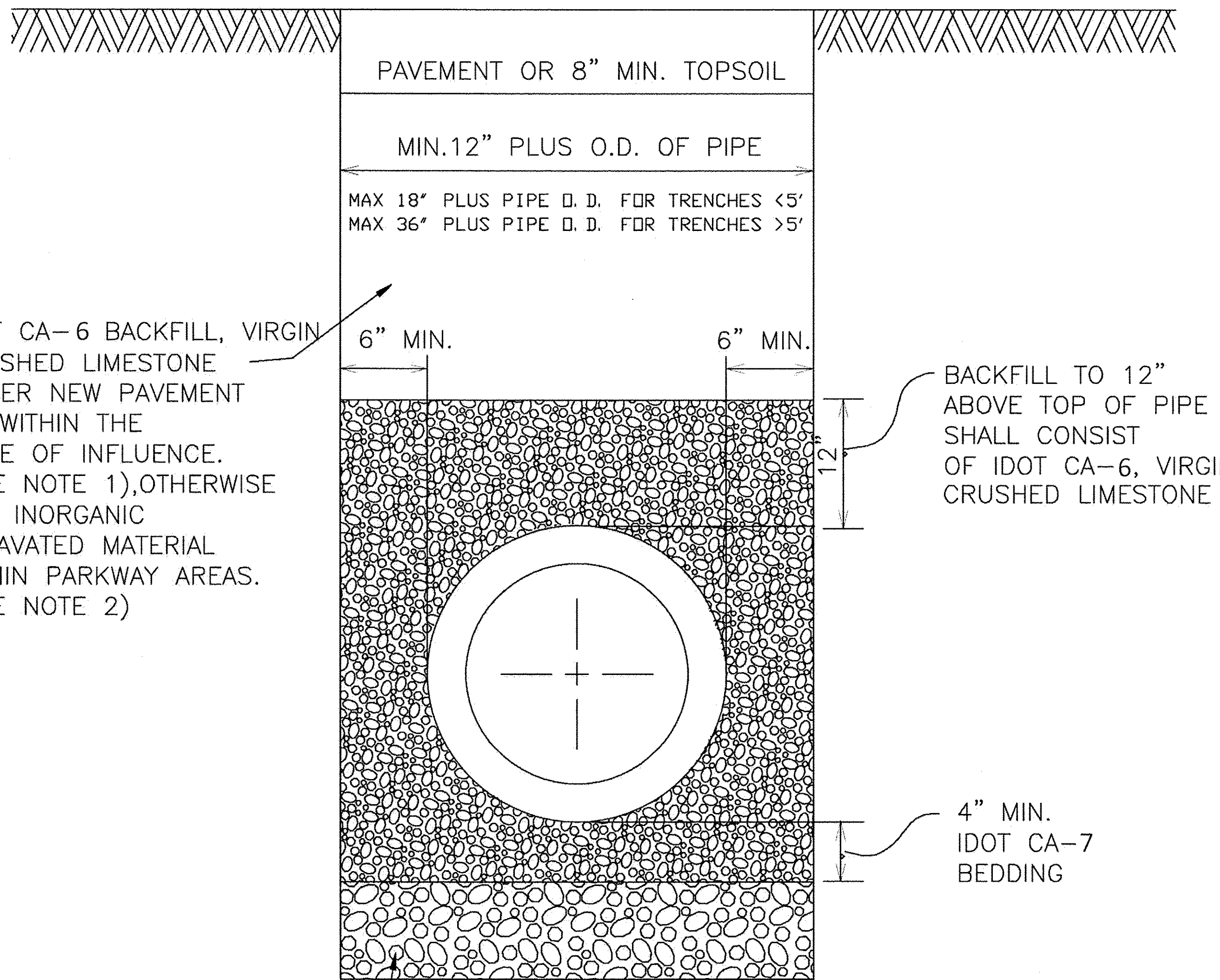
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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**PFGINGSTENKATES ROAD IMPROVEMENTS  
CURB REMOVAL AND REPLACEMENT DETAIL**

SCALE: 1" = 20' SHEET NO. 1 OF 1 SHEETS STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3699	14-00098-00-BR	LAKE	102	82
CONTRACT NO. 61D63				
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT M-BRM-4003 (391)				



IDOT CA-6 BACKFILL, VIRGIN CRUSHED LIMESTONE UNDER NEW PAVEMENT OR WITHIN THE ZONE OF INFLUENCE. (SEE NOTE 1), OTHERWISE USE INORGANIC EXCAVATED MATERIAL WITHIN PARKWAY AREAS. (SEE NOTE 2)

UNDERCUT UNSUITABLE AREAS WHERE DIRECTED AND REPLACE WITH IDOT AGGREGATE SUBGRADE IMPROVEMENT (PGE)

**NOTES:**

1. ALL TRENCHES WITHIN PARKWAY AREAS SHALL BE BACKFILLED WITH FA-6 (CLEAN BEACH SAND) MATERIAL, NO LIMESTONE WILL BE ALLOWED IN PARKWAY AREAS. THE LAST TWO FEET OF TRENCH WILL BE TOPPED WITH EXISTING CONDITIONAL ORGANIC MATERIAL
2. ALL TRENCH EXCAVATIONS SHALL MEET OSHA REQUIREMENTS.

NOT TO SCALE

**PIPE TRENCH DETAIL**

REVISED 2-26-15

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**ENGINEERING CONSULTANT**

**Clorba Group, Inc.**  
 CONSULTING ENGINEERS  
 5507 North Cumberland Avenue, Suite 402  
 Chicago, Illinois 60659  
 Tel. 773.775.4009 Fax 773.775.4014  
 Email: cgc@clorba.com

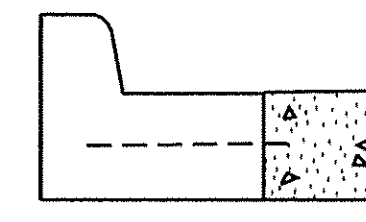
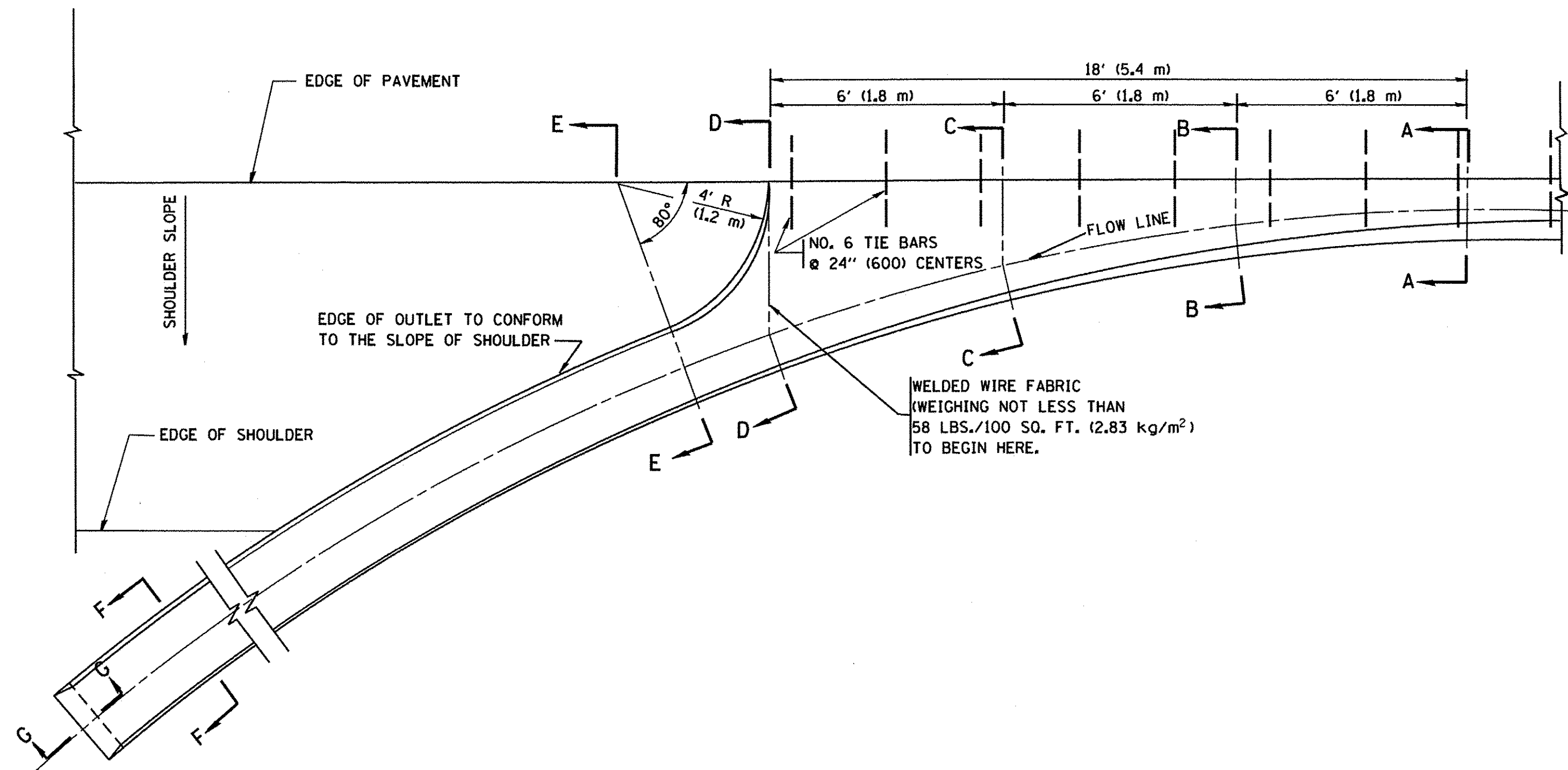
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**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**PFINGSTENKATES ROAD IMPROVEMENTS**  
**DRAINAGE DETAIL**

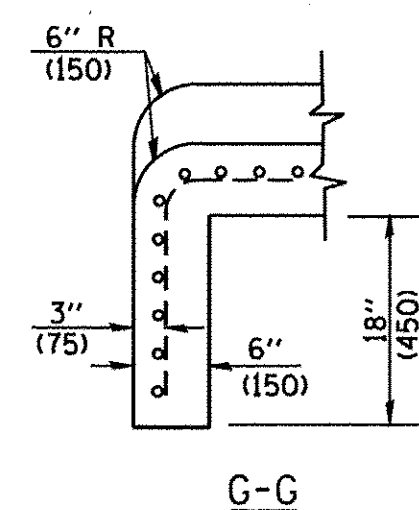
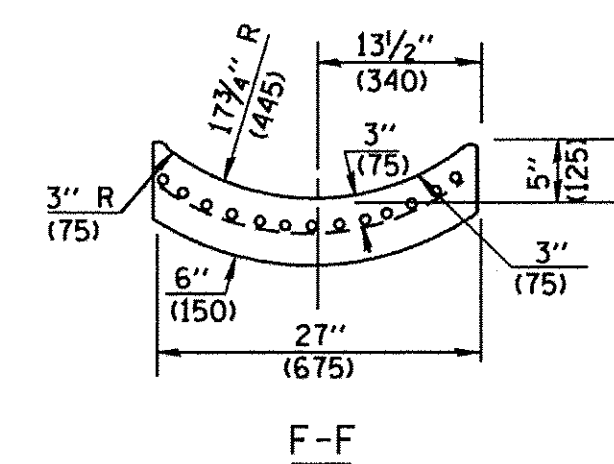
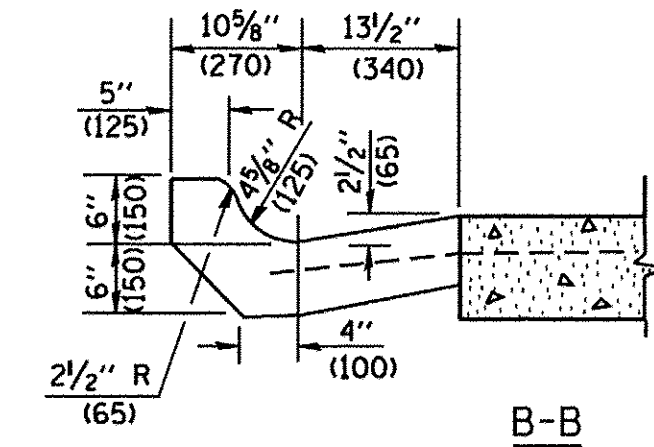
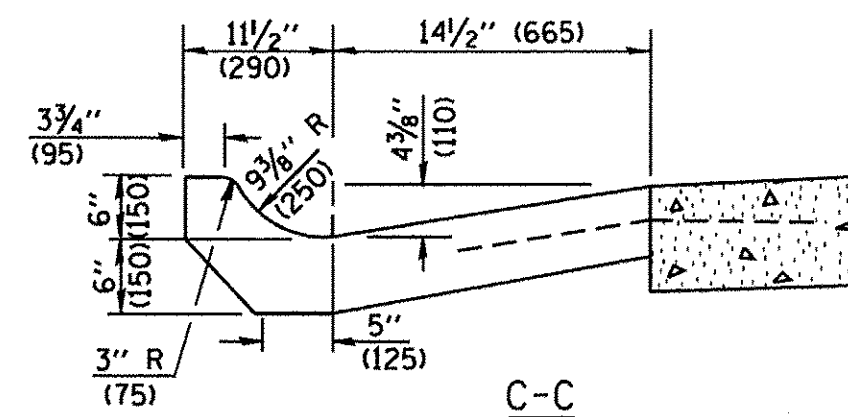
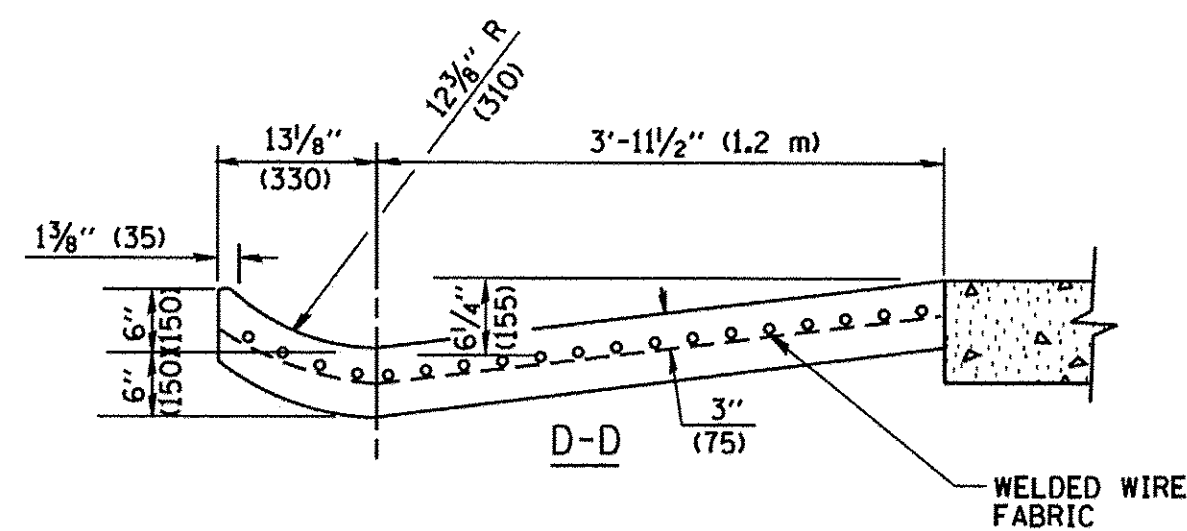
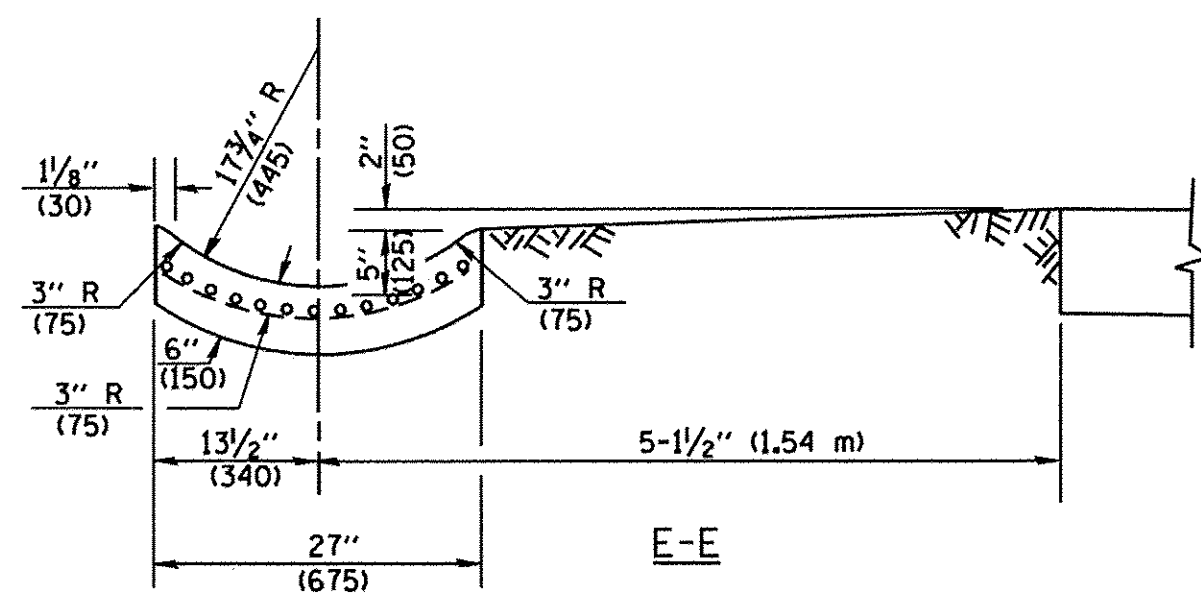
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F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3699	14-00098-00-BR	LAKE	102	83
CONTRACT NO. 61D63				
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT M-BRM-4003 (391)				



A-A \*

\* DIMENSIONS OF THE CURB & GUTTER AT SECTION A-A ARE SHOWN ON STATE STANDARD 606001. FOR DETAILS OF OUTLET FOR CONCRETE CURB & GUTTER, TYPE B-6.24 (B-15.60) SEE STATE STANDARD 606006.



**GENERAL NOTES**

GUTTER OUTLET SHALL BE TIED TO THE PAVEMENT IN ACCORDANCE WITH DETAILS FOR LONGITUDINAL CONSTRUCTION JOINT SHOWN ON STANDARD 420001.

TIE BARS SHALL BE NO. 20 (NO.6) AT 24" (600) CENTERS UNLESS OTHERWISE SHOWN.

IF THE AVERAGE GRADE OF PAVEMENT FOR THE DISTANCE FROM SECTION A-A TO D-D EXCEEDS 2%, THIS DISTANCE SHALL BE INCREASED 6' (1.8 m) FOR EACH 1% INCREASE IN GRADE.

**QUANTITIES**

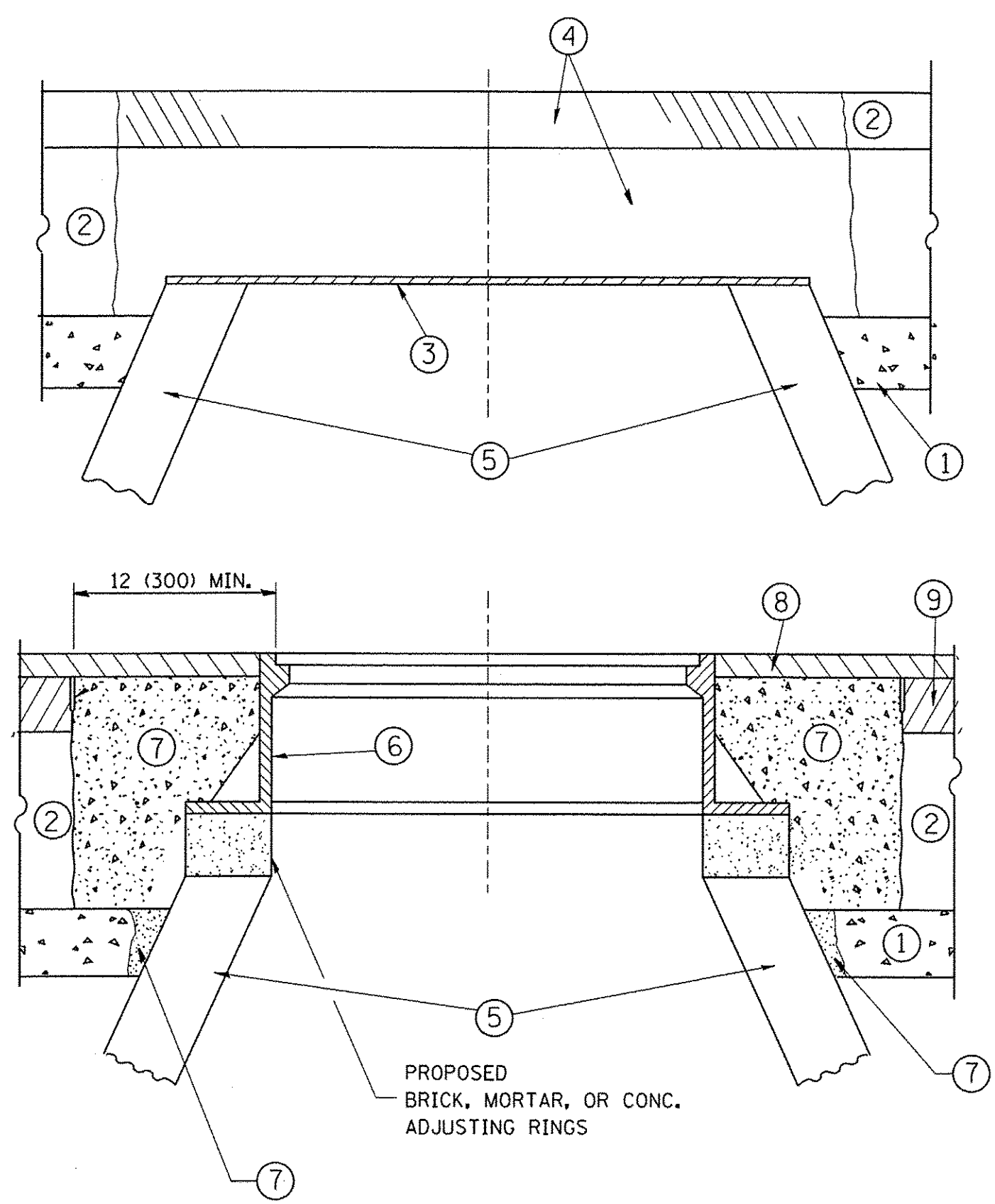
FOR SECTION A-A TO E-E AND CURTAIN WALL =  
 1.25 CU. YDS. (0.96 m<sup>3</sup>) CLASS SI CONCRETE (OUTLET) FOR 9" (225) PAV'T.  
 1.27 CU. YDS. (0.96 m<sup>3</sup>) CLASS SI CONCRETE (OUTLET) FOR 10" (250) PAV'T.  
 FOR SECTION F-F =  
 0.045 CU. YDS. (0.03 m<sup>3</sup>) CLASS SI CONCRETE PER FT. (m).

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

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**CONSTRUCTION PROCEDURES**

**STAGE 1 (BEFORE PAVEMENT MILLING)**

- A) REMOVE A MINIMUM OF 12 (300) OF THE PAVEMENT FROM AROUND THE STRUCTURE.
- B) REMOVE THE EXISTING FRAME AND LID FROM THE STRUCTURE.
- C) COVER THE STRUCTURE OPENING WITH A 36 (900) DIAMETER METAL PLATE.
- D) BACKFILL WITH CRUSHED STONE AND A MINIMUM 1/2 (40) THICK HMA SURFACE MIX APPROVED BY THE ENGINEER.

**STAGE 2 (AFTER PAVEMENT MILLING)**

- A) REMOVE THE HMA SURFACE MIX AND CRUSHED STONE.
- B) INSTALL THE FRAME AND LID; ADJUST THE FRAME TO ITS FINAL SURFACE ELEVATION.
- C) THE SURROUNDING SPACE SHALL BE FILLED WITH CLASS PP-1\* CONCRETE TO THE ELEVATION OF THE SURFACE OF THE EXISTING BASE COURSE OR THE BINDER COURSE.

\* UNLESS OTHERWISE SPECIFIED IN THE PLANS.

THE PROCEDURE EXPLAINED ABOVE SHALL CONFORM TO THE APPLICABLE PORTIONS OF SECTIONS 353, 406, 602, AND 603 OF THE STANDARD SPECIFICATIONS EXCEPT THAT "THE CONTRACTOR SHALL ADJUST THE STRUCTURES TO THE FINISHED PAVEMENT ELEVATION NO MORE THAN 5 CALENDAR DAYS PRIOR TO PLACEMENT OF THE FINAL LIFT OF SURFACE UNLESS APPROVED BY THE ENGINEER."

**LEGEND**

- ① SUB-BASE GRANULAR MATERIAL
- ② EXISTING PAVEMENT
- ③ 36 (900) DIAMETER METAL PLATE
- ④ PROPOSED CRUSHED STONE AND HMA SURFACE MIX
- ⑤ EXISTING STRUCTURE
- ⑥ FRAME AND LID (SEE NOTES)
- ⑦ CLASS PP-1\* CONCRETE
- ⑧ PROPOSED HMA SURFACE COURSE
- ⑨ PROPOSED HMA BINDER COURSE

**LOCATION OF STRUCTURES:**

THE CONTRACTOR WILL BE REQUIRED TO KEEP A RECORD OF THE LOCATIONS OF THE BURIED STRUCTURES ACCORDING TO THE STATION AND DISTANCE LEFT OR RIGHT OF THE CENTERLINE OF PAVEMENT. UPON COMPLETION OF THE WORK, THE CONTRACTOR WILL DELIVER THE RECORD TO THE ENGINEER.

**BASIS OF PAYMENT:**

REMOVING FRAMES AND LIDS ON DRAINAGE AND UTILITY STRUCTURES IN THE PAVEMENT PRIOR TO MILLING, AND ADJUSTING TO FINAL GRADE PRIOR TO PLACING THE SURFACE COURSE, WILL BE PAID FOR AT THE CONTRACT UNIT PRICE EACH FOR "FRAMES AND LIDS TO BE ADJUSTED (SPECIAL)."

THIS WORK WILL NOT BE PAID FOR WHEN DRAINAGE AND UTILITY STRUCTURES ARE SPECIFIED FOR PAYMENT AS STRUCTURE RECONSTRUCTION.

NEW FRAMES AND LIDS, WHEN SPECIFIED, WILL BE PAID FOR SEPARATELY.

**NOTES:**

EXISTING BROKEN FRAMES AND LIDS SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR AND SHALL BE REPLACED AS DIRECTED BY THE ENGINEER. REPLACEMENT FRAMES AND LIDS WILL BE PAID FOR IN ACCORDANCE WITH ARTICLE 109.04 OF THE STANDARD SPECIFICATIONS UNLESS A SEPARATE PAY ITEM HAS BEEN PROVIDED.

IF THE EXISTING LIDS ARE OPEN, THE FRAME WILL BE ADJUSTED TO THE ELEVATION OF THE MILLED PAVEMENT SURFACE PRIOR TO THE MILLING OPERATION. THE FRAME WILL NOT BE REMOVED AND COVERED BY THE METAL PLATE.

CITY OF CHICAGO CASTINGS ARE THE PROPERTY OF THE CITY AND THE CONTRACTOR SHALL NOTIFY THE CITY FOR REMOVAL AND DISPOSITION OF THE CASTINGS.

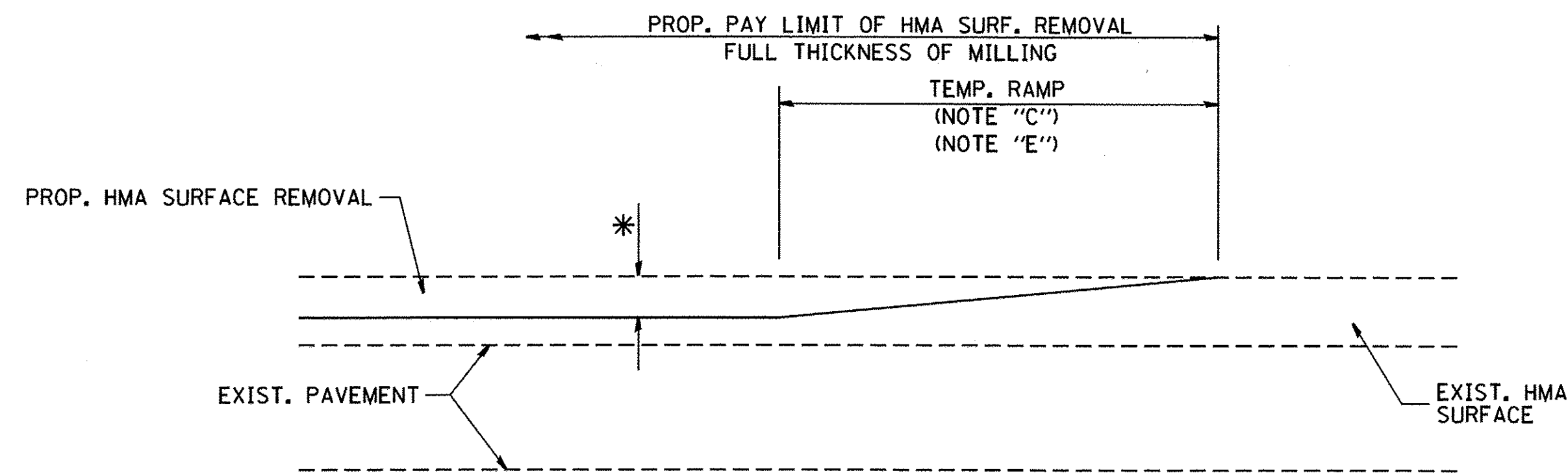
THE METAL PLATE USED TO COVER THE STRUCTURE SHALL REMAIN THE PROPERTY OF THE CONTRACTOR.

WHEN STRUCTURES ARE TO BE ADJUSTED OR RECONSTRUCTED, THE LOWERING AND RAISING OF THE FRAMES AND LIDS WILL NOT BE PAID FOR SEPARATELY BUT WILL BE INCLUDED IN THE COST OF THE CORRESPONDING PAY ITEM.

**DETAILS FOR FRAMES AND LIDS ADJUSTMENT WITH MILLING**

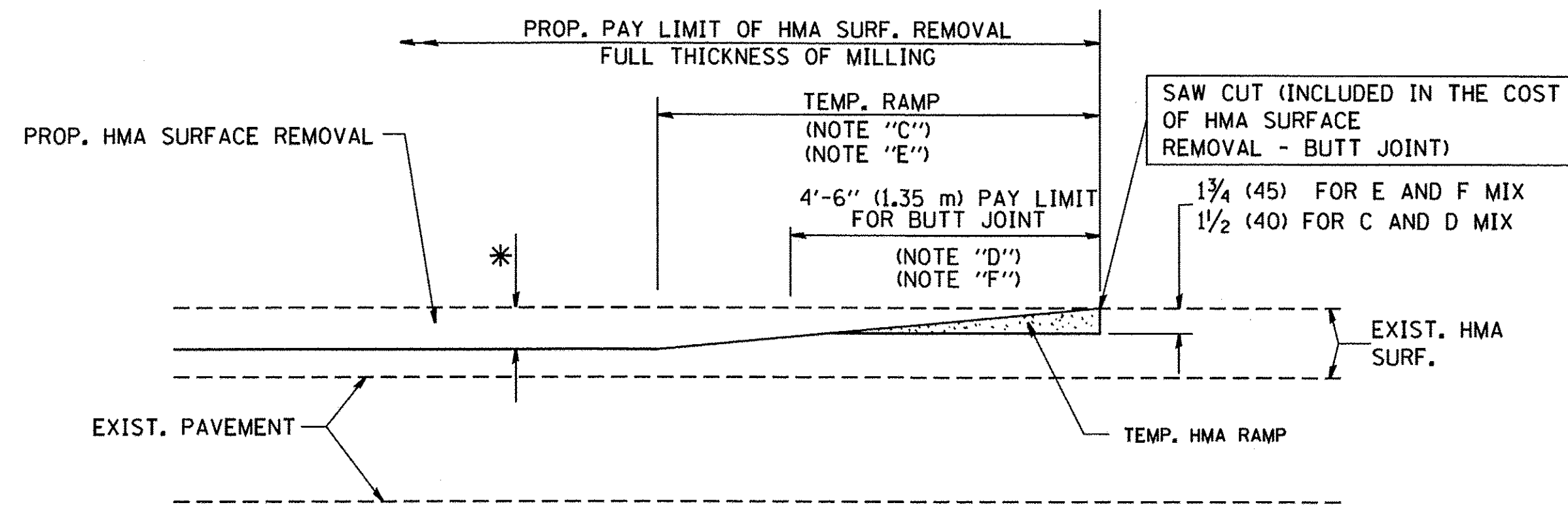
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MILLED TEMPORARY RAMP  
(FOR BUTT JOINT AND HMA TAPER SEE DETAIL BELOW)

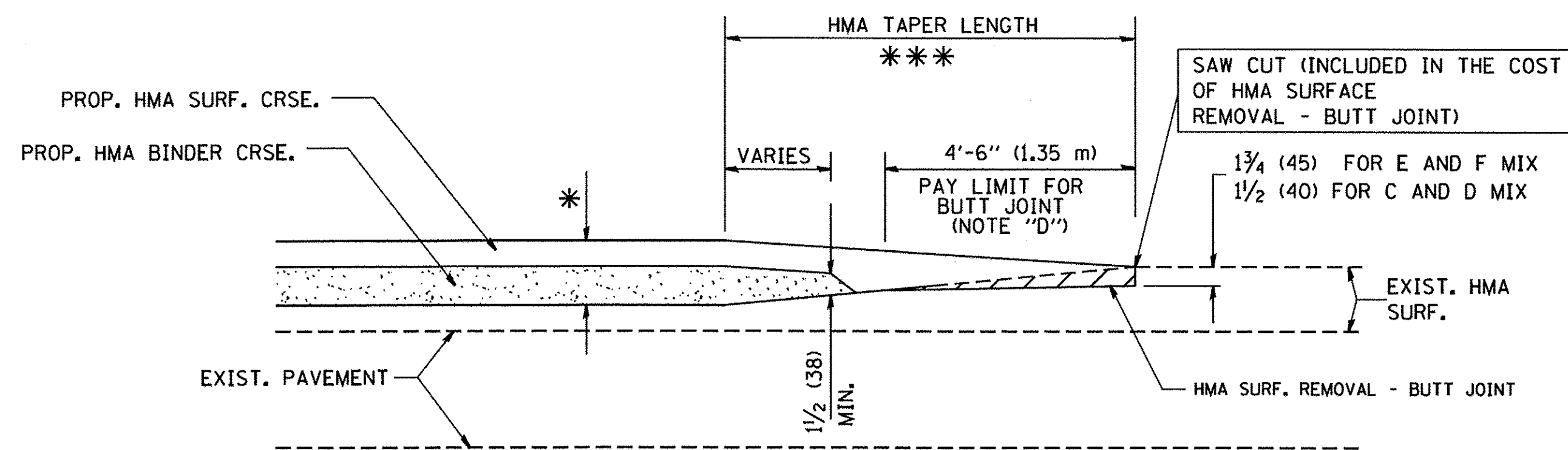
**OPTION 1**



HMA CONSTRUCTED TEMPORARY RAMP  
(FOR BUTT JOINT AND HMA TAPER SEE DETAIL BELOW)

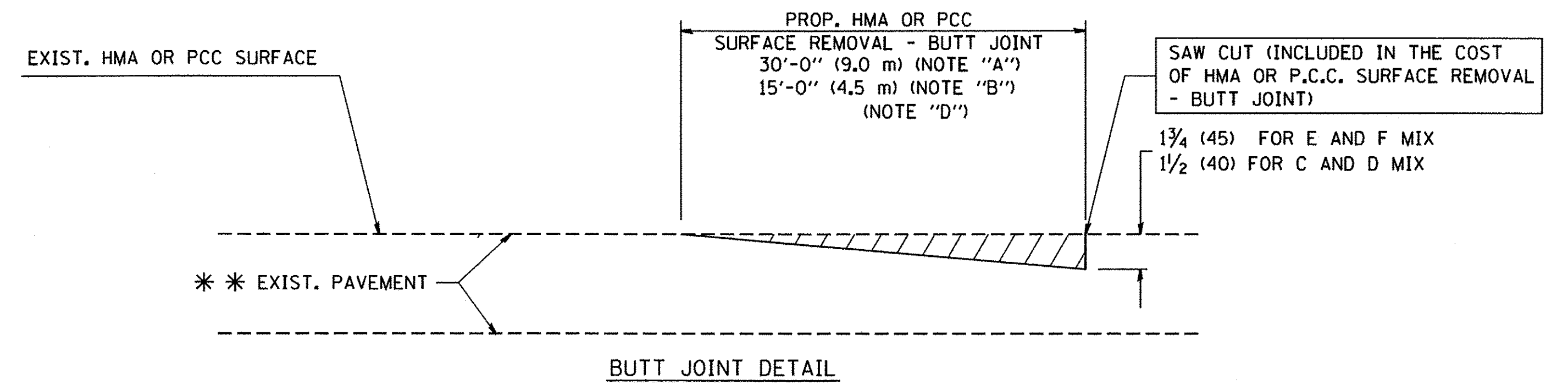
**OPTION 2**

**TYPICAL TEMPORARY RAMP**

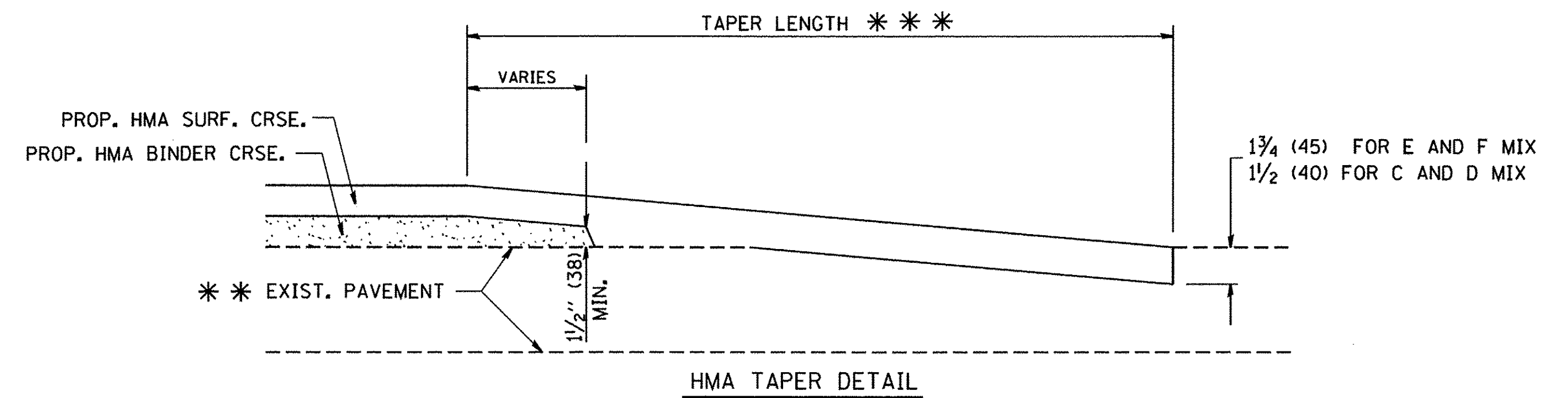


BUTT JOINT AND  
HMA TAPER

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



BUTT JOINT DETAIL



HMA TAPER DETAIL

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

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

**NOTES**

- A: MAINLINE ROADWAYS AND MAJOR SIDE ROADS.
- 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'-0" (900 mm) PER 1 INCH (25 mm) OF MILLING THICKNESS.
- F: INSTALLATION AND REMOVAL OF THE 4'-6" (1.35 m) TEMP. RAMP IS INCLUDED IN COST OF HMA SURFACE REMOVAL - BUTT JOINT
- G: SEE ARTICLE 406.08 AND 406.14 OF THE STANDARD SPECIFICATIONS FOR "HMA AND/OR PCC SURFACE REMOVAL, BUTT JOINT".

\* SEE TYPICAL SECTIONS FOR MILLING THICKNESS.

\*\*\* 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:**

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".

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

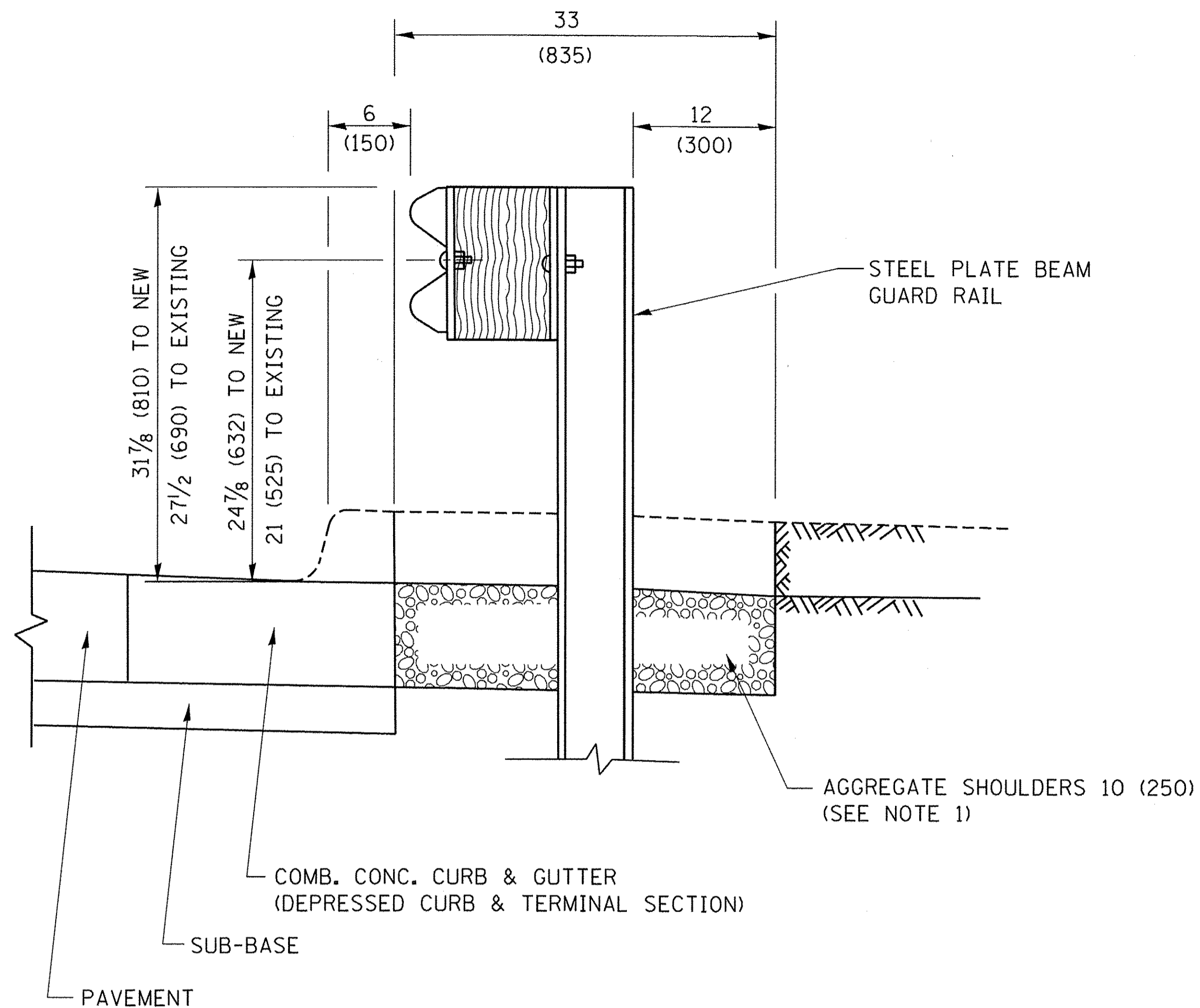
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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

BUTT JOINT AND HMA TAPER DETAILS		F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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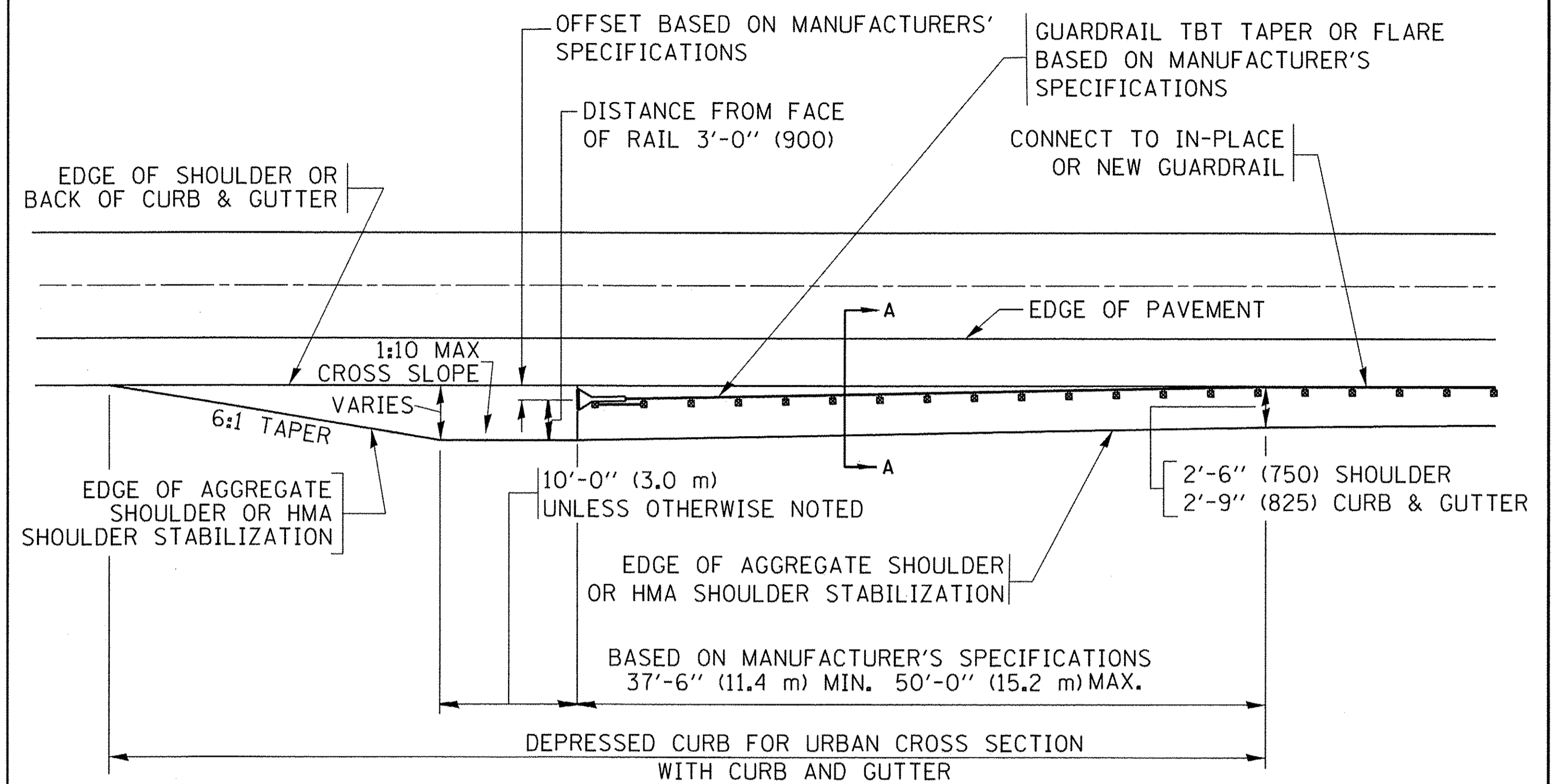


SECTION A-A

- NOTES:
1. THE AGGREGATE SHOULDER, 10 (250) OR HMA SHOULDER, 6 (150) (IF REQUIRED) SHALL EXTEND UNDER THE TRAFFIC BARRIER TERMINAL.
  2. "EXISTING" GUARDRAIL REFERS TO CONNECTING TERMINAL SECTION TO GUARD RAILING PRIOR TO THE MIDWEST GUARDRAIL SYSTEM.
  3. THE CONTRACTOR SHALL VERIFY THE TYPE/HEIGHT OF GUARDRAIL IN-PLACE BEFORE ORDERING THE NEW TERMINAL SECTION. COST INCLUDED WITH THE COST OF THE TERMINAL. THE TERMINAL SECTION HEIGHT TO BE PLACED MUST MATCH THE HEIGHT OF THE IN-PLACE GUARDRAIL.

**DETAILS FOR STEEL PLATE BEAM  
GUARD RAIL ADJACENT TO CURB AND GUTTER**

[FOR ROADWAY SPEED 35 MPH (60 kmh) TO 45 MPH (70 kmh)]



**DEPRESSED CURB AND GUTTER AND  
SHOULDER TREATMENT AT TBT TY. 1 SPL.**

AGGREGATE SHOULDER, 10 (250) WILL BE PAID ACCORDING TO SECTION 481.

HMA SHOULDERS 6 (150) (IF REQUIRED) WILL BE PAID ACCORDING TO SECTION 482.

COMB. CONC. C&G, STEEL PLATE BEAM GUARD RAIL AND TRAFFIC BARRIER TERMINAL, OF THE TYPE SPECIFIED WILL BE PAID FOR SEPARATELY.

TBT = TRAFFIC BARRIER TERMINAL  
ALL DIMENSIONS ARE IN INCHES (MILLIMETERS)  
UNLESS OTHERWISE SHOWN.

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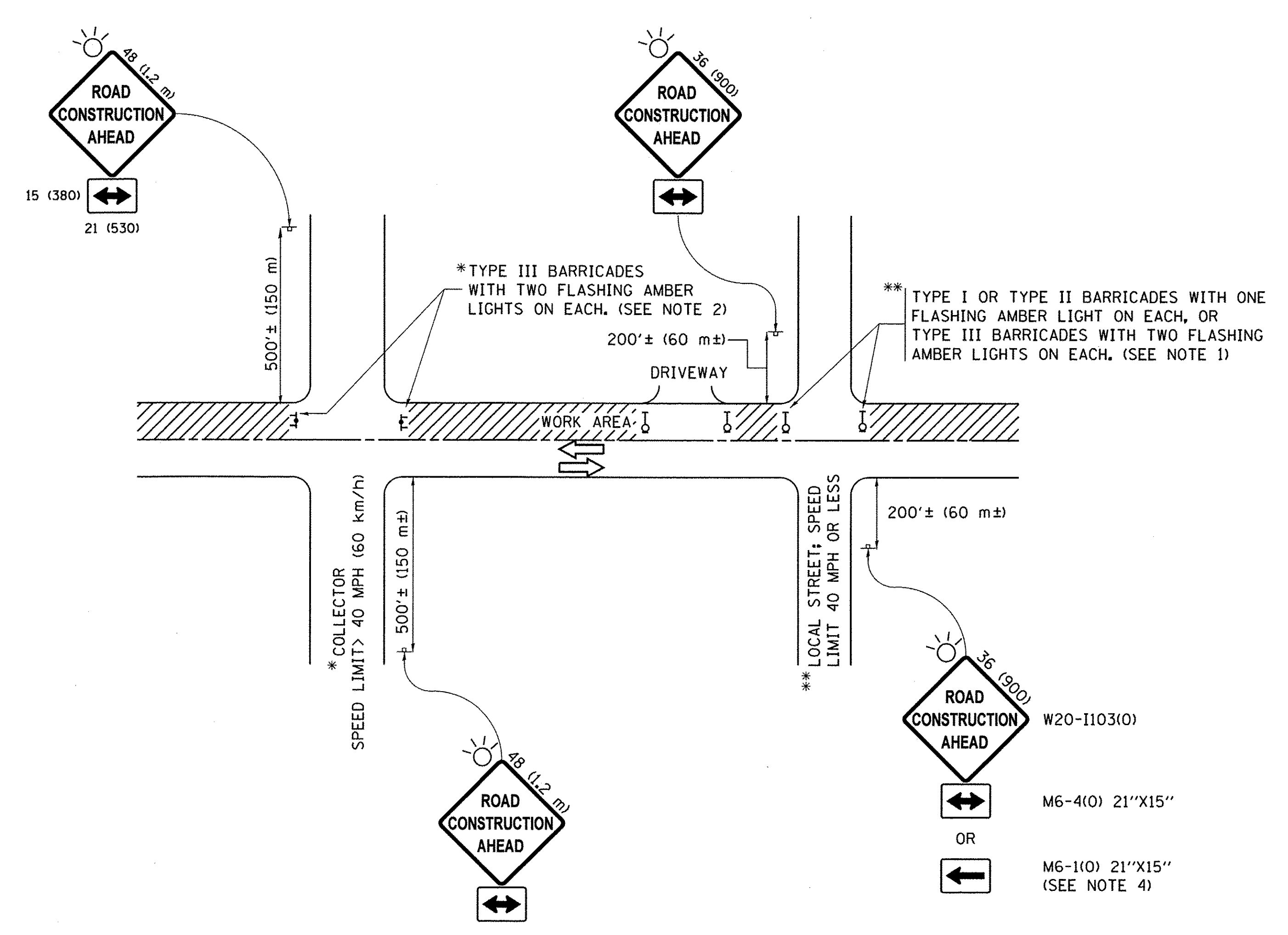
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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

DETAILS FOR DEPRESSED CURB & GUTTER AND SHOULDER TREATMENT AT TBT TY. 1 SPL.			
SCALE: NONE	SHEET 1	OF 1 SHEETS	STA. TO STA.

F.A.J. RIE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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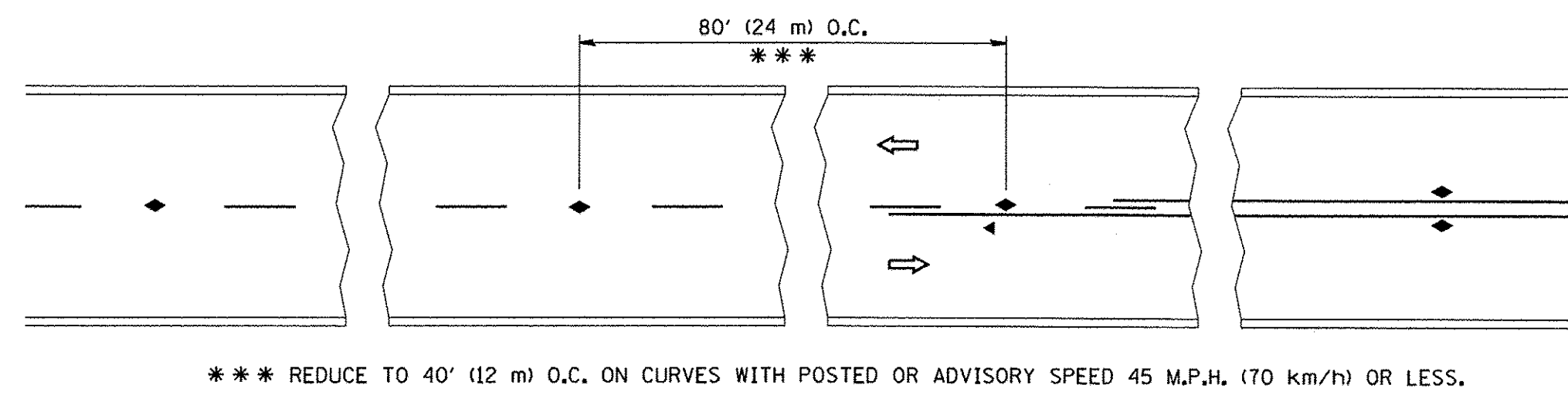
**NOTES:**

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) THE CLOSED PORTION OF THE MAIN ROUTE SHALL BE PROTECTED BY 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. WHEN THE SIDE ROAD LIES BETWEEN THE BEGINNING OF THE MAINLINE SIGNING AND THE WORK ZONE, A SINGLE HEADED ARROW (M6-1) SHALL BE USED IN LIEU OF THE DOUBLE HEADED ARROW (M6-4).
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.

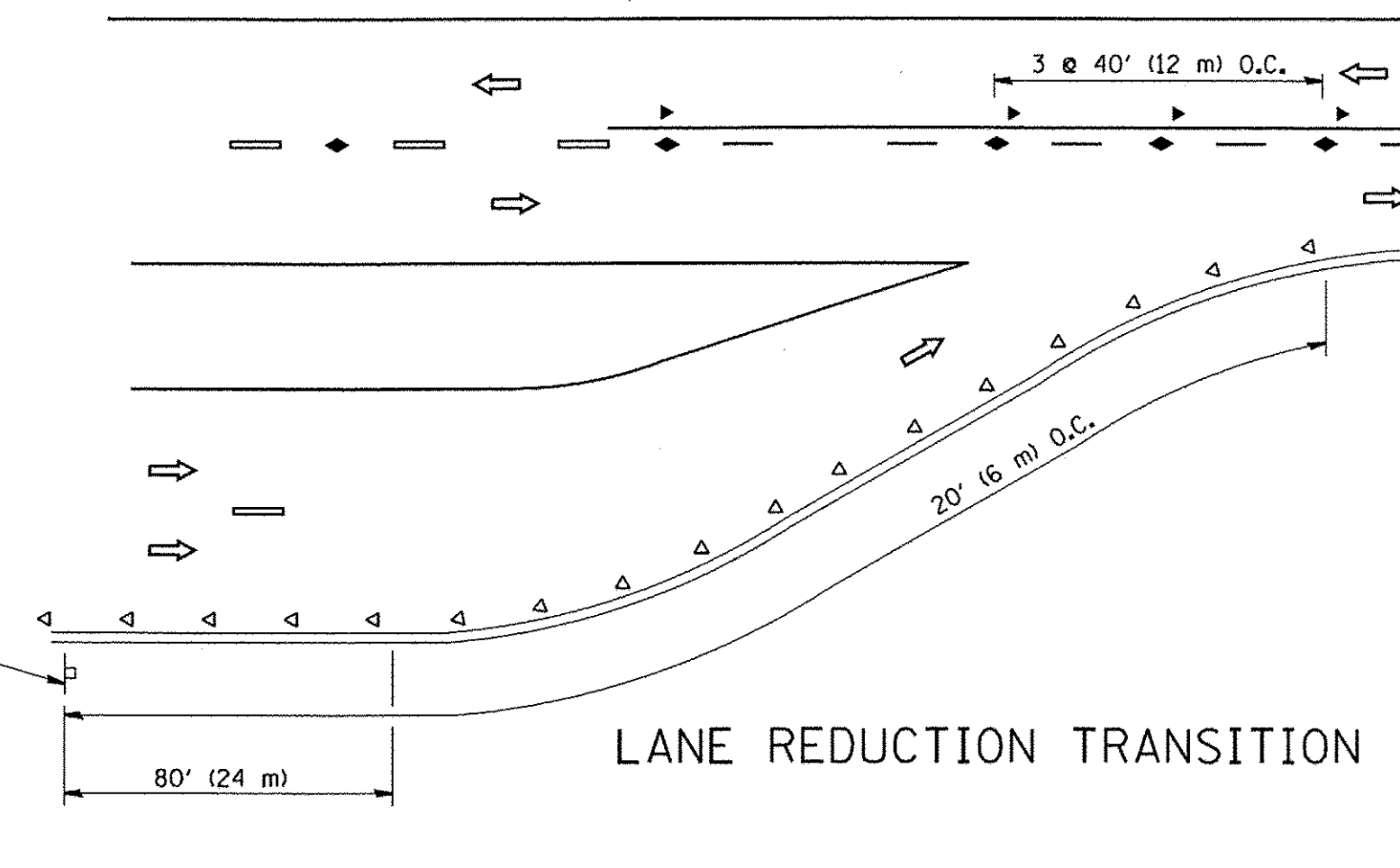
All dimensions are in inches (millimeters) unless otherwise shown.

FILE NAME =	USER NAME = footenj	DESIGNED - L.H.A.	REVISED - A. HOUSEH 10-15-96	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>TRAFFIC CONTROL AND PROTECTION FOR SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS</b>			F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
pwc:\I1084EBIDINTEG\Illinois.gov\PI00T\Documents\IDOT Offices\District 1\Projects\Dist 1\DRAWN\CADD\cadd\CADsheets\tc10.dgn		CHECKED -	REVISED - T. RAMMACHER 01-06-00					3699	14-00098-00-BR	LAKE	102	88
Default	PLOT SCALE = 50.000 / 1 in.	DATE - 06-89	REVISED - A. SCHUETZE 07-01-13					<b>TC-10</b>			<b>CONTRACT NO. 61D63</b>	
	PLOT DATE = 9/15/2016	DATE - 06-89	REVISED - A. SCHUETZE 09-15-16					SCALE: NONE SHEET 1 OF 1 SHEETS STA. TO STA.			FED. ROAD DIST. NO. 1   ILLINOIS   FED. AID PROJECT M-BRW-4003391D	

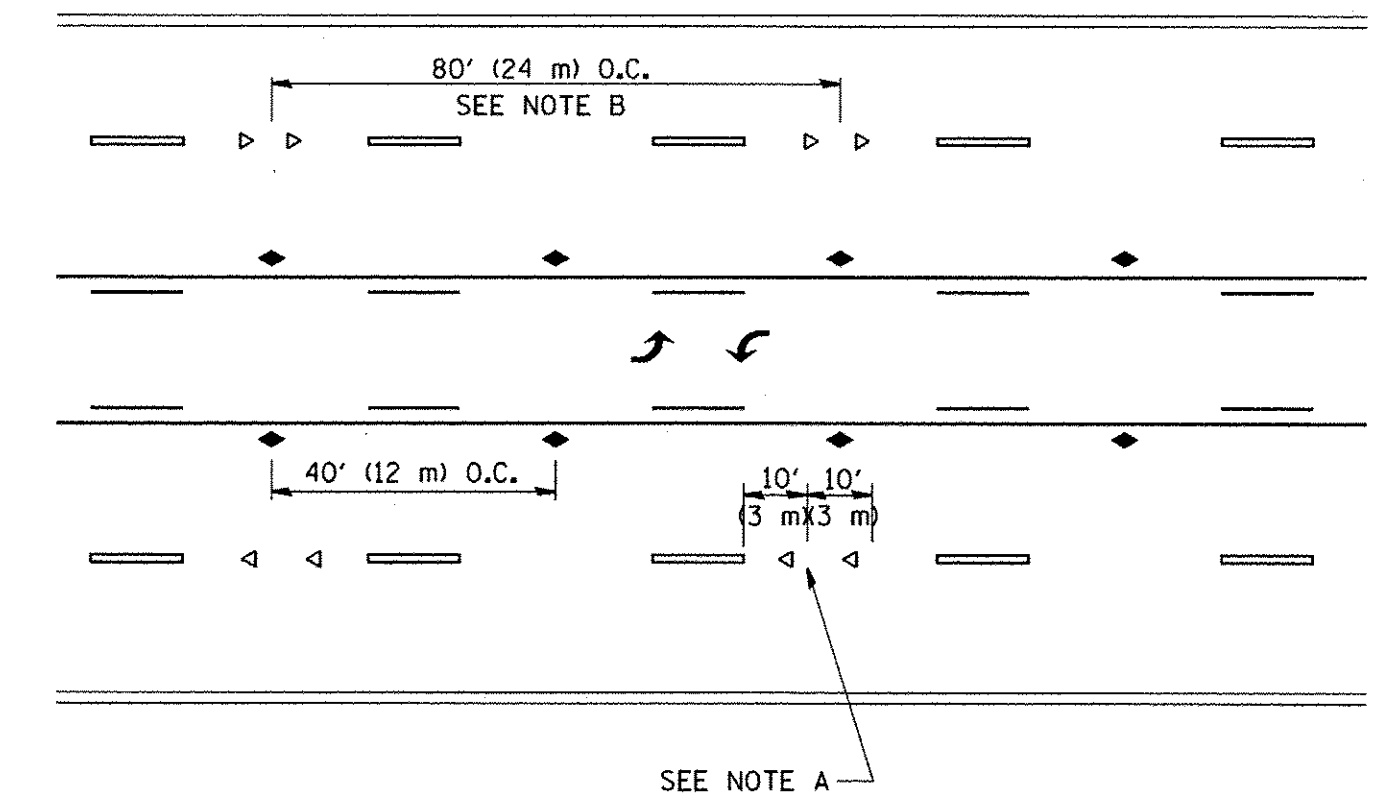




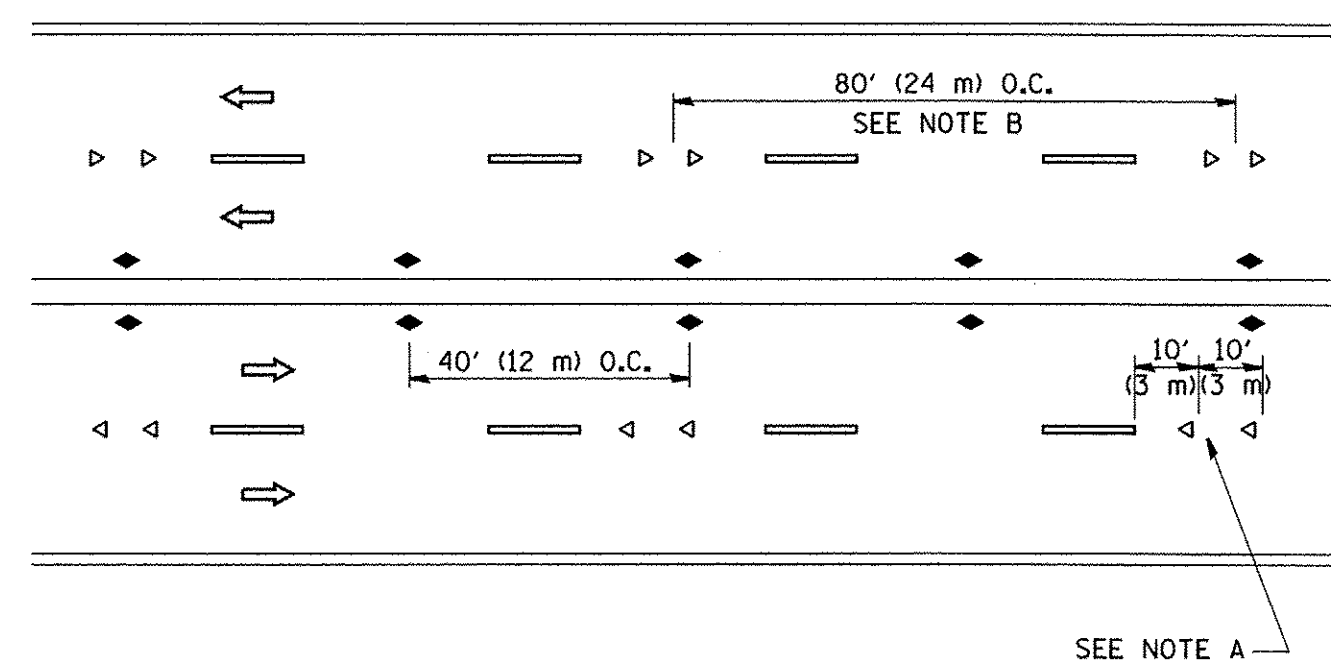
TWO-LANE/TWO-WAY



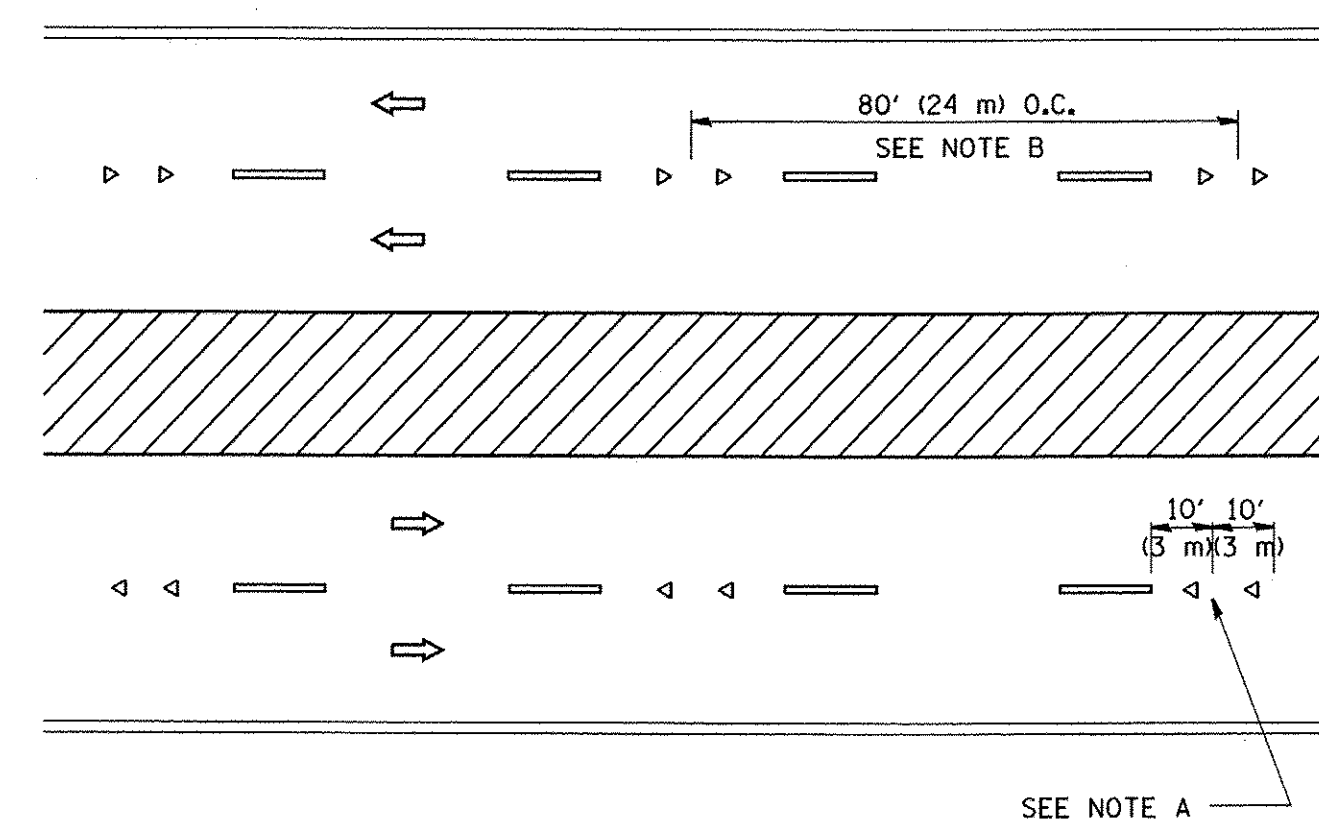
LANE REDUCTION TRANSITION



TWO-WAY LEFT TURN



MULTI-LANE/UNDIVIDED



MULTI-LANE/DIVIDED

GENERAL NOTES

1. MARKERS USED WITH DASHED LINES SHALL BE CENTERED IN THE GAP BETWEEN SEGMENTS.
2. MARKERS USED ADJACENT TO SOLID LINES SHALL BE OFFSET 2 TO 3 (50 TO 75) TOWARD TRAFFIC AS SHOWN.
3. MARKERS THROUGH TANGENTS LESS THAN 500' (150 m) IN LENGTH BETWEEN CURVES SHALL BE INSTALLED AT THE LESSER OF THE TWO CURVE SPACINGS.

SYMBOLS

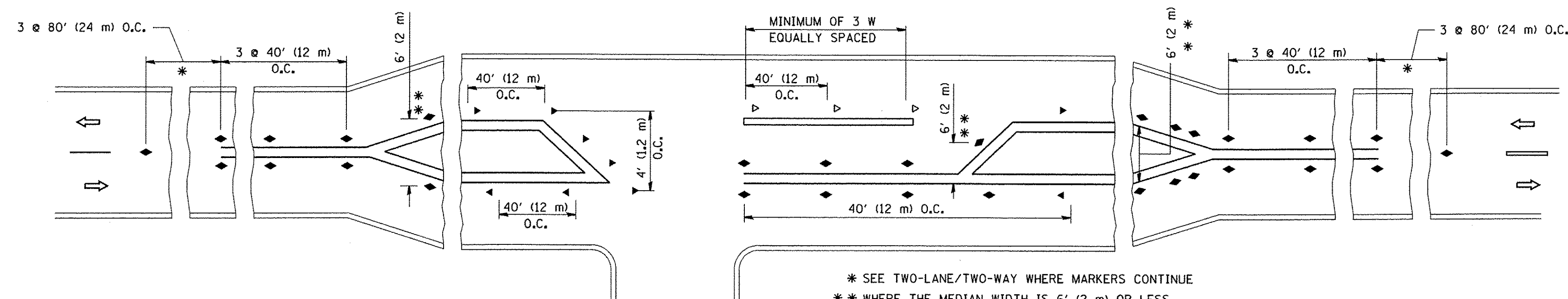
- YELLOW STRIPE
- WHITE STRIPE
- ◀ ONE-WAY AMBER MARKER
- ◁ ONE-WAY CRYSTAL MARKER (W/O)
- ◆ TWO-WAY AMBER MARKER

LANE MARKER NOTES

- A. USE DOUBLE LANE LINE MARKERS SPACED AS SHOWN.
- B. REDUCE TO 40' (12 m) O.C. ON CURVES WHERE ADVISORY SPEEDS ARE 10 M.P.H (20 km/h) LOWER THAN POSTED SPEEDS.

DESIGN NOTES

1. DOUBLE LANE LINE MARKERS SHALL BE USED UNLESS SPECIFIED OTHERWISE.
2. EXCEPT AS SHOWN ON THE LANE REDUCTION TRANSITION AND FREEWAY EXIT RAMP DETAIL, MARKERS ARE NOT TO BE SPECIFIED ON RIGHT EDGE LINES.
3. THE EXACT MARKER LIMITS, SPACING, AND COLOR SHALL BE INCLUDED IN THE PLANS WHEN STANDARD SPECIFICATIONS ARE NOT BEING USED.
4. MARKERS SHOULD NOT BE USED ALONGSIDE CURBS EXCEPT FOR EXTREMELY SHORT SECTIONS OF CURBS WHERE NOT MORE THAN TWO MARKERS WOULD BE INVOLVED.



LEFT TURN

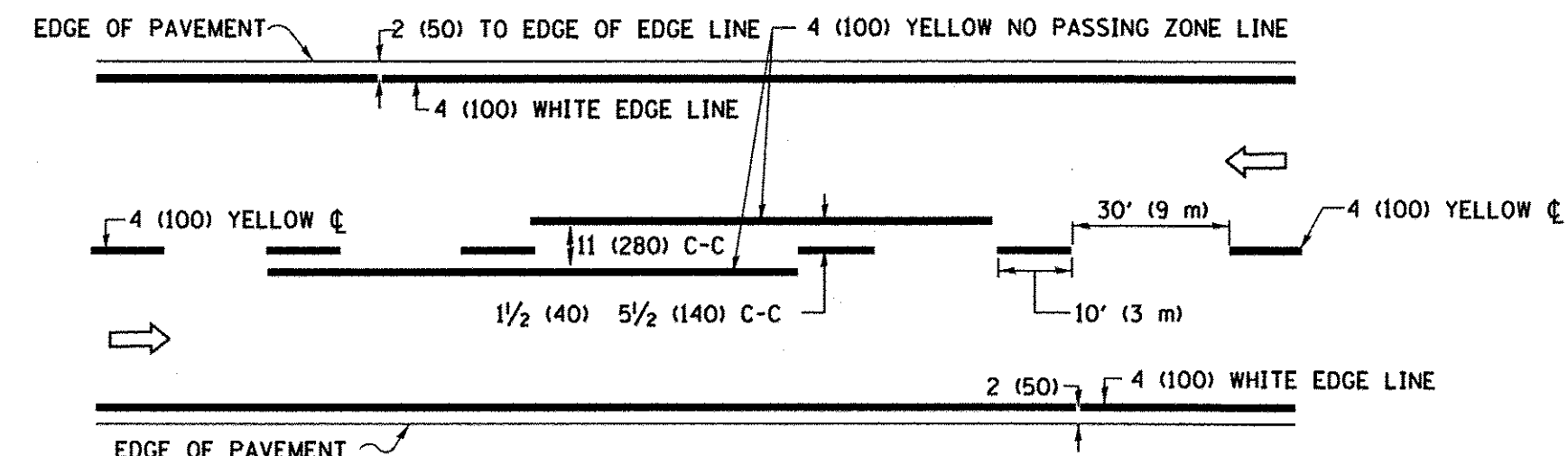
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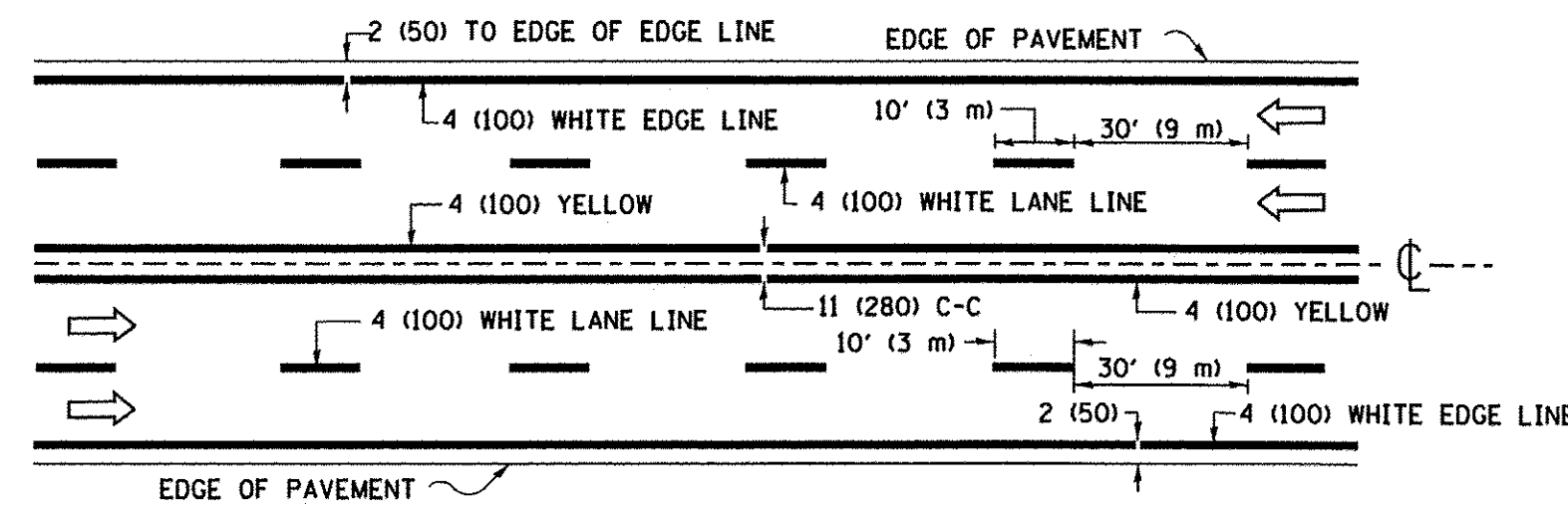
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

TYPICAL APPLICATIONS		F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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SCALE: NONE		TC-11		CONTRACT NO. 61D63		
SHEET NO. 1 OF 1 SHEETS		FED. ROAD DIST. NO. 1		ILLINOIS FED. AID PROJECT M-BRM-4003391J		

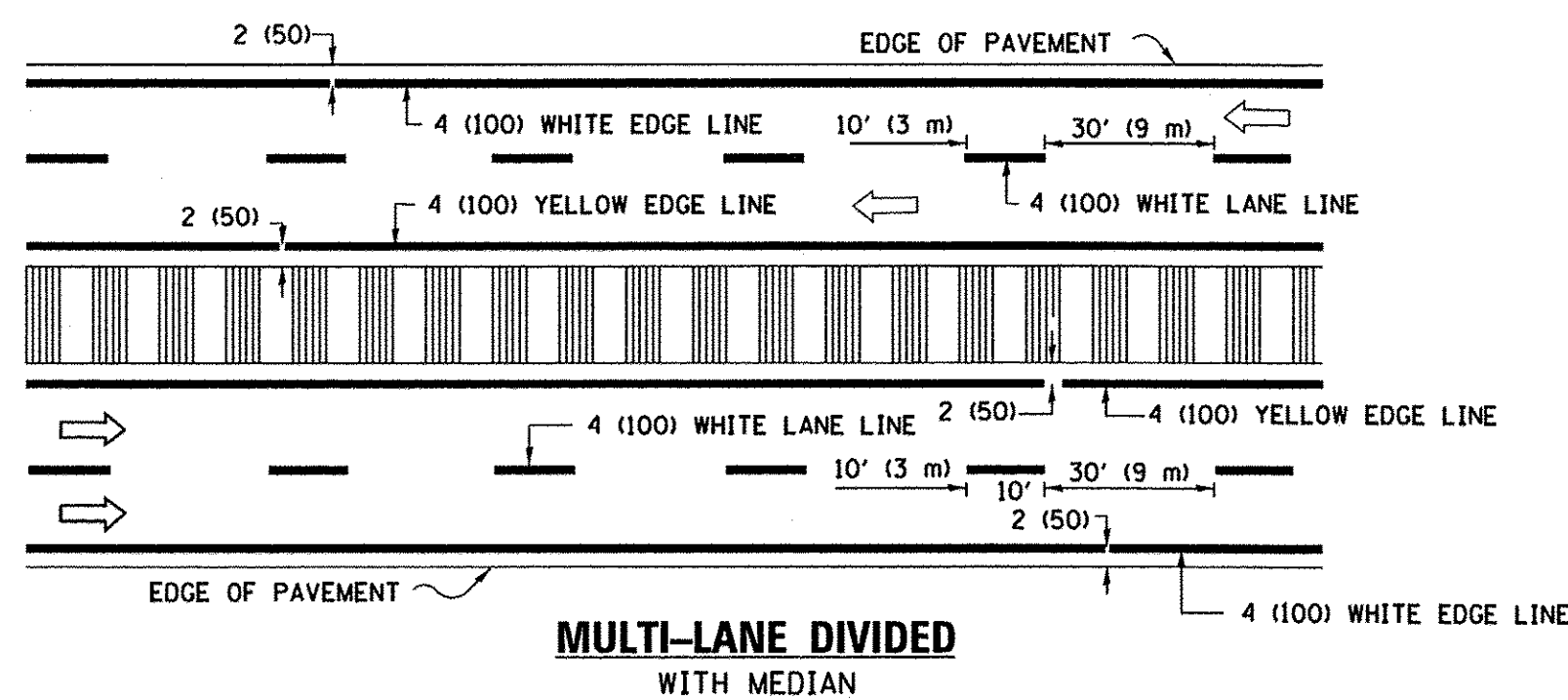
All dimensions are in inches (millimeters) unless otherwise shown.



**2-LANE ROADWAY**

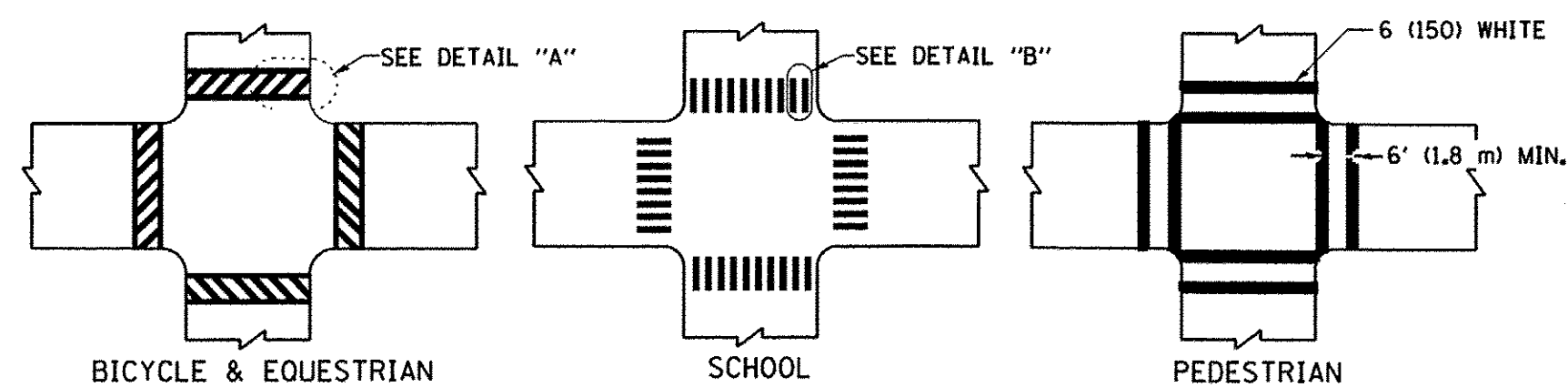


**MULTI-LANE UNDIVIDED**



**MULTI-LANE DIVIDED WITH MEDIAN**

**TYPICAL LANE AND EDGE LINE MARKING**

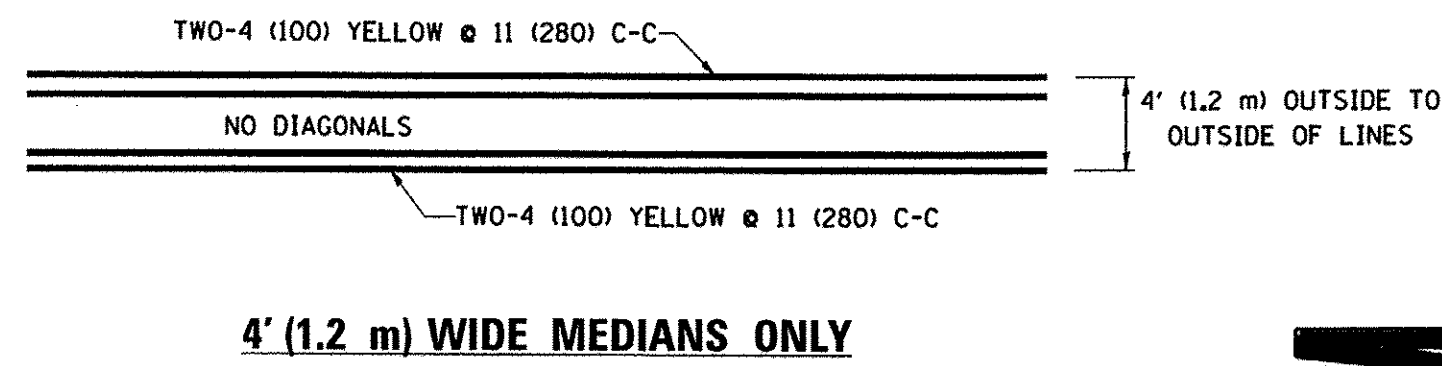


**DETAIL "A"**

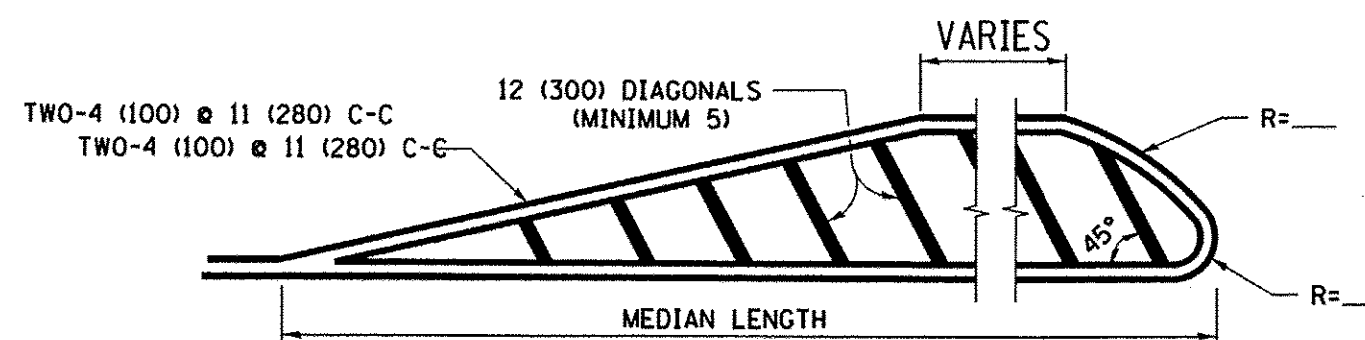
**DETAIL "B"**

**TYPICAL CROSSWALK MARKING**

\* MARKINGS SHALL BE INSTALLED PARALLEL TO THE CENTERLINE OF THE ROAD WHICH IT CROSSES

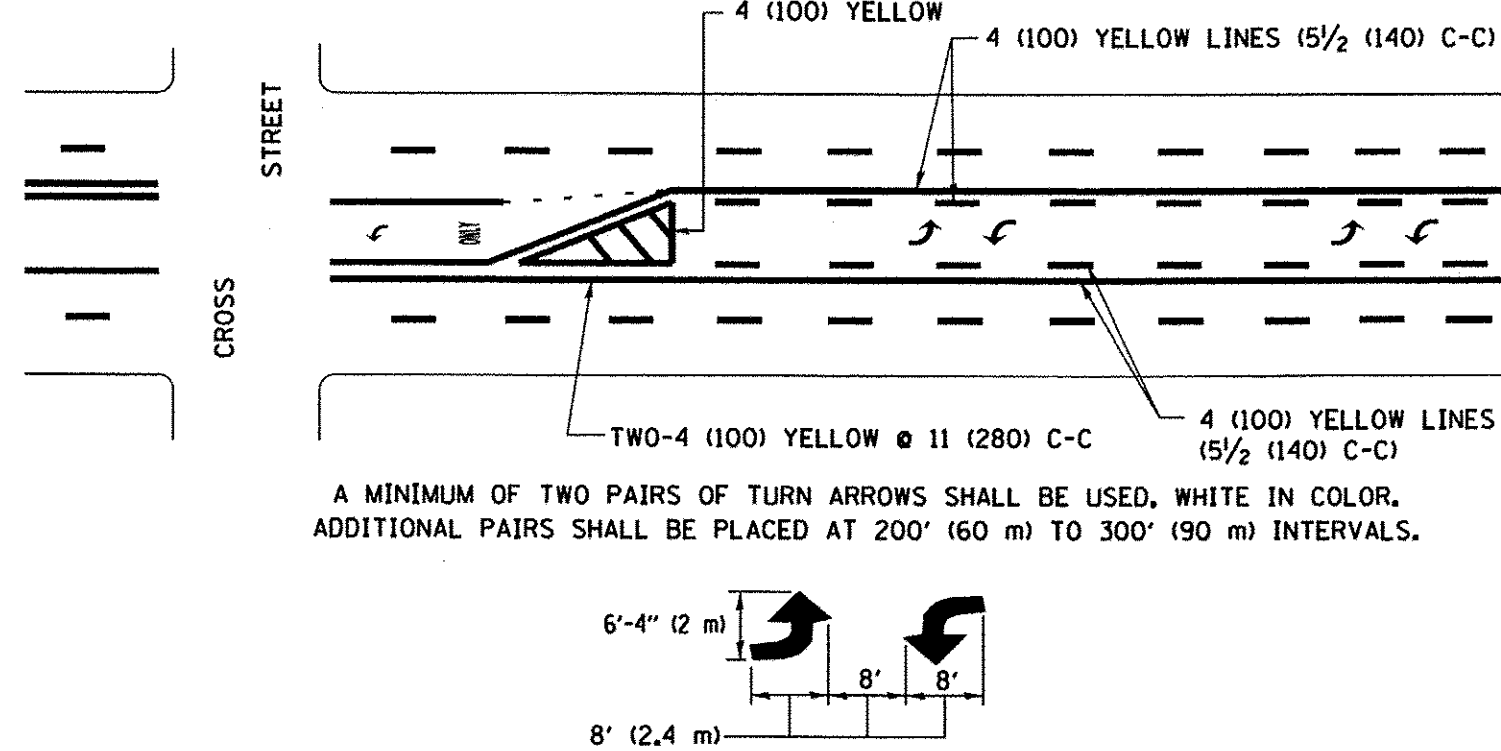


**4' (1.2 m) WIDE MEDIANS ONLY**

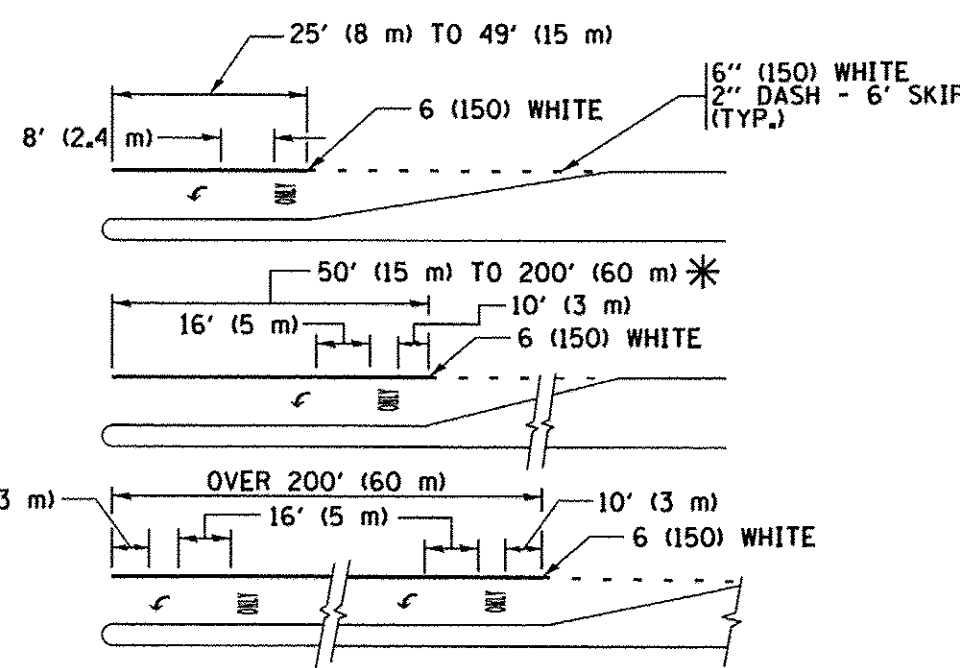


**MEDIANS OVER 4' (1.2 m) WIDE**

DIAGONAL LINE SPACING: 50' (15 m) C-C (LESS THAN 30MPH (50 km/h))  
75' (25 m) C-C 30MPH (50 km/h) TO 45MPH (70 km/h)  
150' (45 m) C-C (MORE THAN 45MPH (70 km/h))



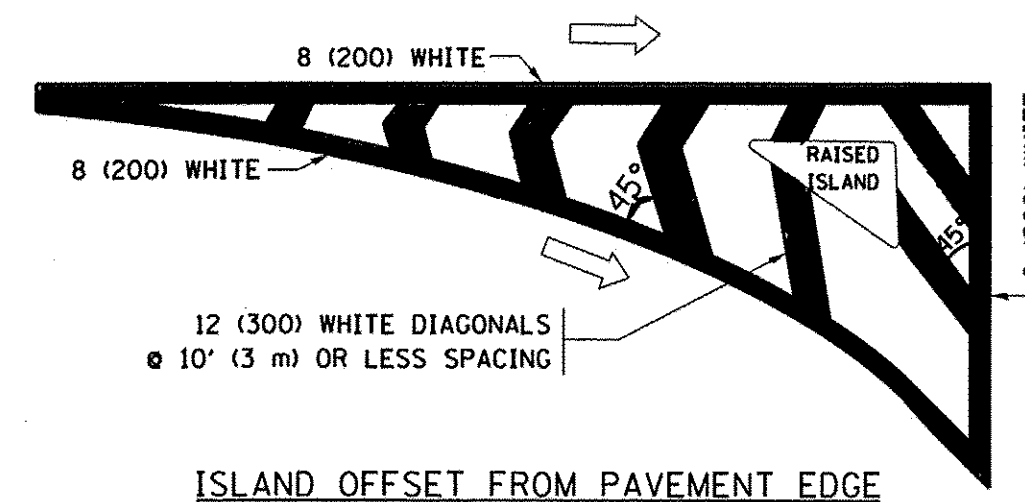
**MEDIAN WITH TWO-WAY LEFT TURN LANE  
TYPICAL PAINTED MEDIAN MARKING**



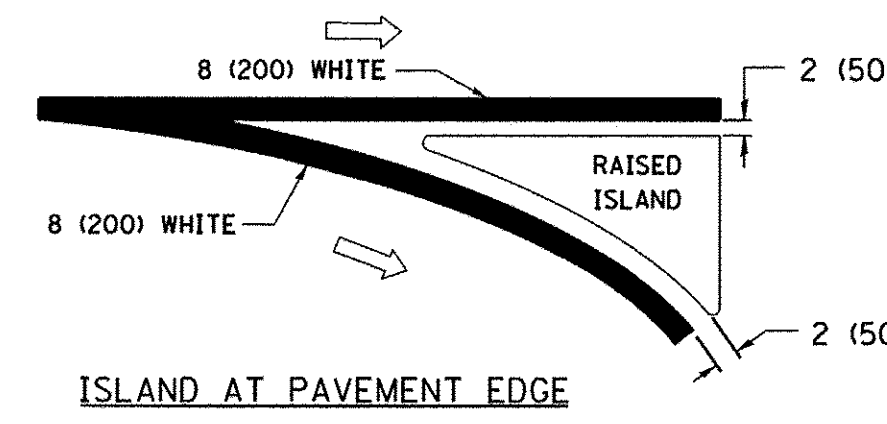
**TYPICAL LEFT (OR RIGHT) TURN LANE**

**TYPICAL TURN LANE MARKING**

FULL SIZE LETTERS 8' (2.4 m) AND ARROWS SHALL BE USED.  
AREA = 15.6 SQ. FT. (1.5 m<sup>2</sup>) ONLY AREA = 20.8 SQ. FT. (1.9 m<sup>2</sup>)  
\* TURN LANES IN EXCESS OF 400' (120 m) IN LENGTH MAY HAVE AN ADDITIONAL SET OF ARROW - "ONLY" INSTALLED MIDWAY BETWEEN THE OTHER TWO SETS OF ARROW - "ONLY".

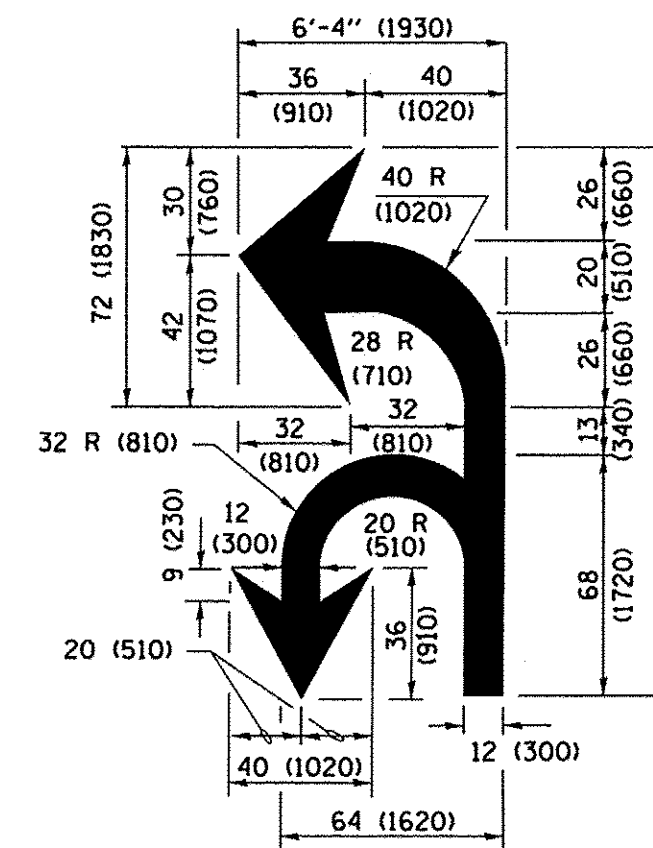


**ISLAND OFFSET FROM PAVEMENT EDGE**

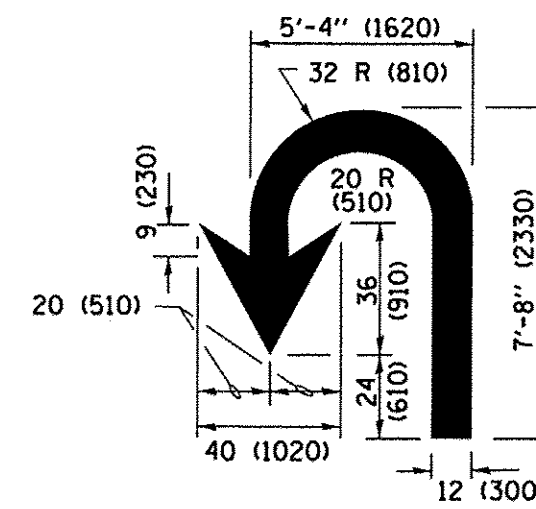


**ISLAND AT PAVEMENT EDGE**

**TYPICAL ISLAND MARKING**



**COMBINATION LEFT AND U-TURN**



**U-TURN**

**LANE REDUCTION TRANSITION**  
\* LANE REDUCTION ARROWS REQUIRED AT SPEEDS OF 45 MPH OR GREATER OR WHEN SPECIFIED IN PLANS.

D(FT)	SPEED LIMIT
345	30
425	35
500	40
580	45
665	50
750	55

TYPE OF MARKING	WIDTH OF LINE	PATTERN	COLOR	SPACING /REMARKS
CENTERLINE ON 2 LANE PAVEMENT	4 (100)	SKIP-DASH	YELLOW	10' (3 m) LINE WITH 30' (9 m) SPACE
CENTERLINE ON MULTI-LANE UNDIVIDED PAVEMENT	2 @ 4 (100)	SOLID	YELLOW	11 (280) C-C
NO PASSING ZONE LINES: FOR ONE DIRECTION FOR BOTH DIRECTIONS	4 (100) 2 @ 4 (100)	SOLID SOLID	YELLOW YELLOW	5 1/2 (140) C-C FROM SKIP-DASH CENTERLINE 11 (280) C-C OMIT SKIP-DASH CENTERLINE BETWEEN
LANE LINES	4 (100) 5 (125) ON FREEWAYS	SKIP-DASH SKIP-DASH	WHITE WHITE	10' (3 m) LINE WITH 30' (9 m) SPACE
DOTTED LINES (EXTENSIONS OF CENTER, LANE OR TURN LANE MARKINGS)	SAME AS LINE BEING EXTENDED	SKIP-DASH	SAME AS LINE BEING EXTENDED	2' (600) LINE WITH 6' (1.8 m) SPACE
EDGE LINES	4 (100)	SOLID	YELLOW-LEFT WHITE-RIGHT	OUTLINE MEDIANS IN YELLOW
TURN LANE MARKINGS	6 (150) LINE; FULL SIZE LETTERS & SYMBOLS (8' (2.4m))	SOLID	WHITE	SEE TYPICAL TURN LANE MARKING DETAIL
TWO WAY LEFT TURN MARKING	2 @ 4 (100) EACH DIRECTION 8' (2.4m) LEFT ARROW	SKIP-DASH AND SOLID IN PAIRS	YELLOW WHITE	10' (3 m) LINE WITH 30' (9 m) SPACE FOR SKIP-DASH; 5 1/2 (140) C-C BETWEEN SOLID LINE AND SKIP-DASH LINE SEE TYPICAL TWO-WAY LEFT TURN MARKING DETAIL
CROSSWALK LINES (PEDESTRIAN) A. DIAGONALS (BIKE & EQUESTRIAN) B. LONGITUDINAL BARS (SCHOOL)	2 @ 6 (150) 12 (300) @ 45° 12 (300) @ 90°	SOLID SOLID SOLID	WHITE WHITE WHITE	NOT LESS THAN 6' (1.8 m) APART 2' (600) APART 2' (600) APART SEE TYPICAL CROSSWALK MARKING DETAILS.
STOP LINES	24 (600)	SOLID	WHITE	PLACE 4' (1.2 m) IN ADVANCE OF AND PARALLEL TO CROSSWALK, IF PRESENT. OTHERWISE, PLACE AT DESIRED STOPPING POINT. PARALLEL TO CROSSROAD CENTERLINE, WHERE POSSIBLE
PAINTED MEDIANS	2 @ 4 (100) WITH 12 (300) DIAGONALS @ 45° NO DIAGONALS USED FOR 4' (1.2 m) WIDE MEDIANS	SOLID	YELLOW; WHITE; WHITE	11 (280) C-C FOR THE DOUBLE LINE SEE TYPICAL PAINTED MEDIAN MARKING.
GORE MARKING AND CHANNELIZING LINES	8 (200) WITH 12 (300) DIAGONALS @ 45°	SOLID	WHITE	DIAGONALS: 15' (4.5 m) C-C (LESS THAN 30MPH (50 km/h)) 20' (6 m) C-C 30MPH (50 km/h) TO 45MPH (70 km/h) 30' (9 m) C-C (OVER 45MPH (70 km/h))
RAILROAD CROSSING	24 (600) TRANSVERSE LINES; "RR" IS 6' (1.8 m) LETTERS; 16 (400) LINE FOR "X"	SOLID	WHITE	SEE STATE STANDARD 780001 AREA OF: "R"=3.6 SQ. FT. (0.33 m <sup>2</sup> ) EACH "X"=54.0 SQ. FT. (5.0 m <sup>2</sup> )
SHOULDER DIAGONALS (REQUIRED FOR SHOULDERS ≥ 8')	12 (300) @ 45°	SOLID	WHITE - RIGHT YELLOW - LEFT	50' (15 m) C-C (LESS THAN 30MPH (50 km/h)) 75' (25 m) C-C (30 MPH (50 km/h) TO 45MPH (70 km/h)) 150' (45 m) C-C (OVER 45MPH (70 km/h))
U TURN ARROW	SEE DETAIL	SOLID	WHITE	16.3 SF
2 ARROW COMBINATION LEFT AND U TURN	SEE DETAIL	SOLID	WHITE	30.4 SF

FOR FURTHER DETAILS ON PAVEMENT MARKING REFER TO STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AND STATE STANDARD 780001.

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

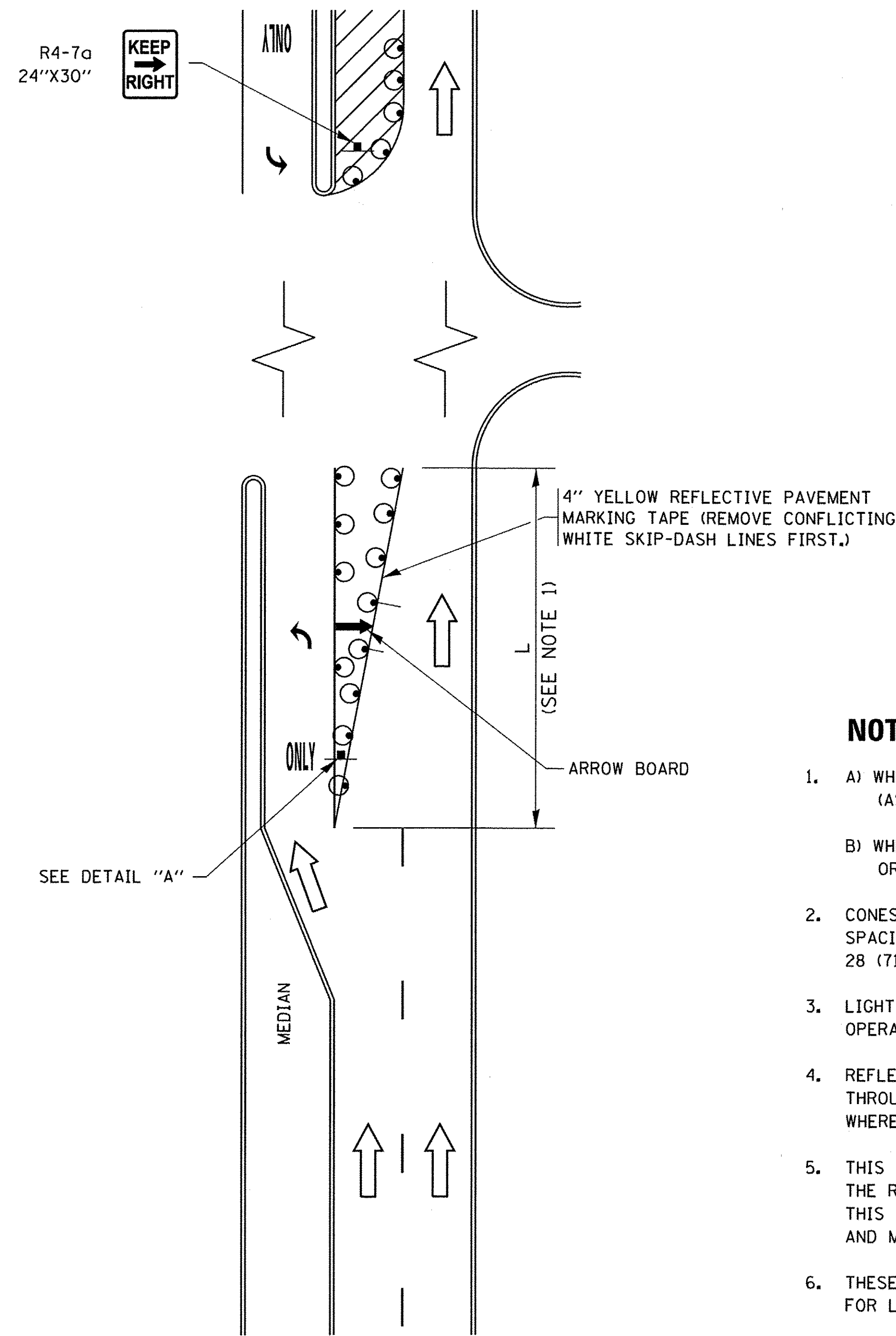
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PLOT DATE = 4/13/2016			REVISED - C. JUCIUS 04-12-16

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

DISTRICT ONE		F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TYPICAL PAVEMENT MARKINGS		3699	14-00098-00-BR	LAKE	102	90
SCALE: NONE		TC-13		CONTRACT NO. 61D63		
SHEET 1 OF 1 SHEETS		FED. ROAD DIST. NO. 1		ILLINOIS FED. AID PROJECT		

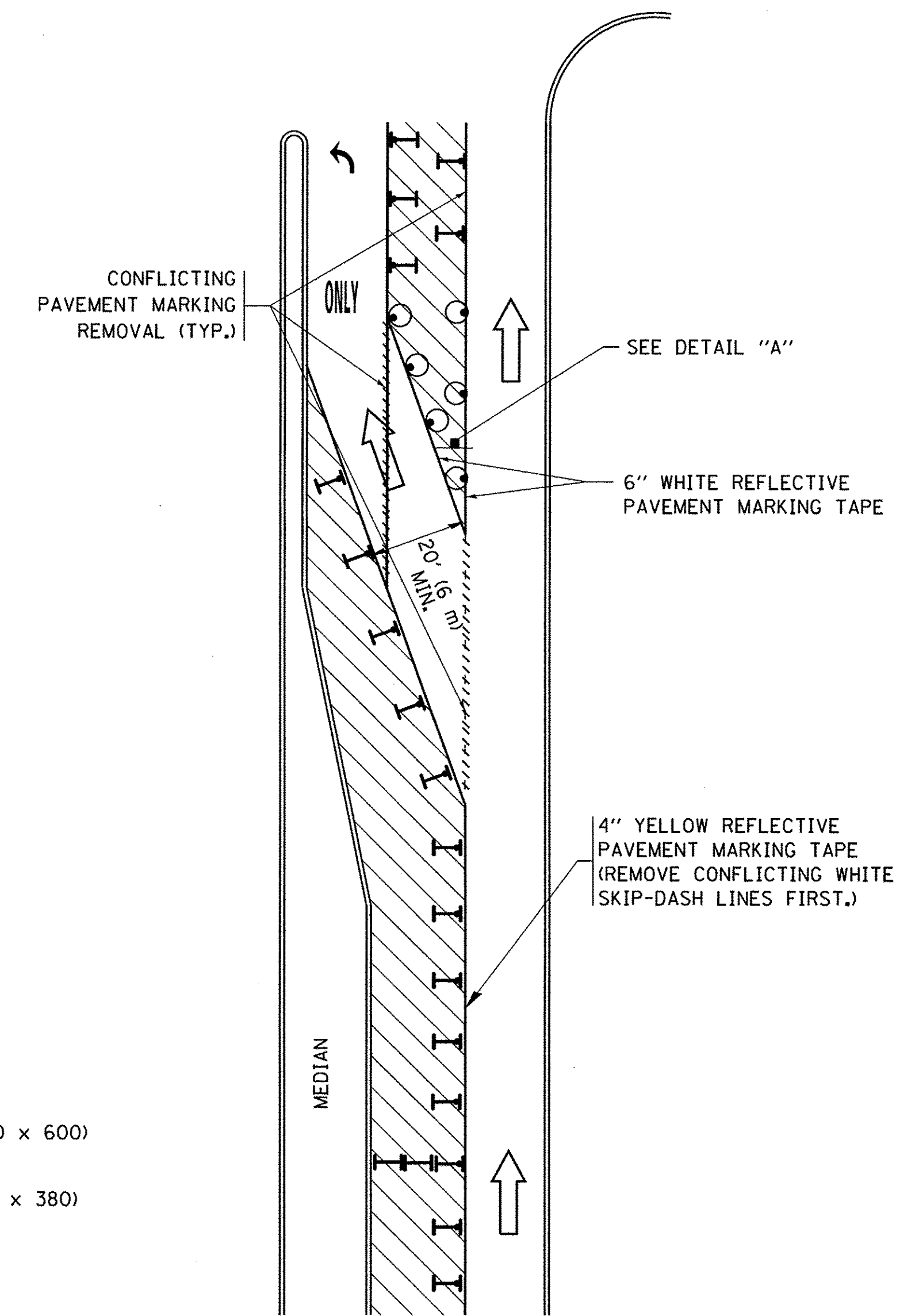
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# TURN BAY ENTRANCE AT START OF LANE CLOSURE TAPER



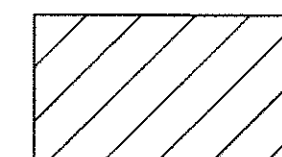
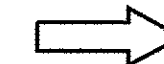





**FIGURE 1**

# TURN BAY ENTRANCE WITHIN A LANE CLOSURE



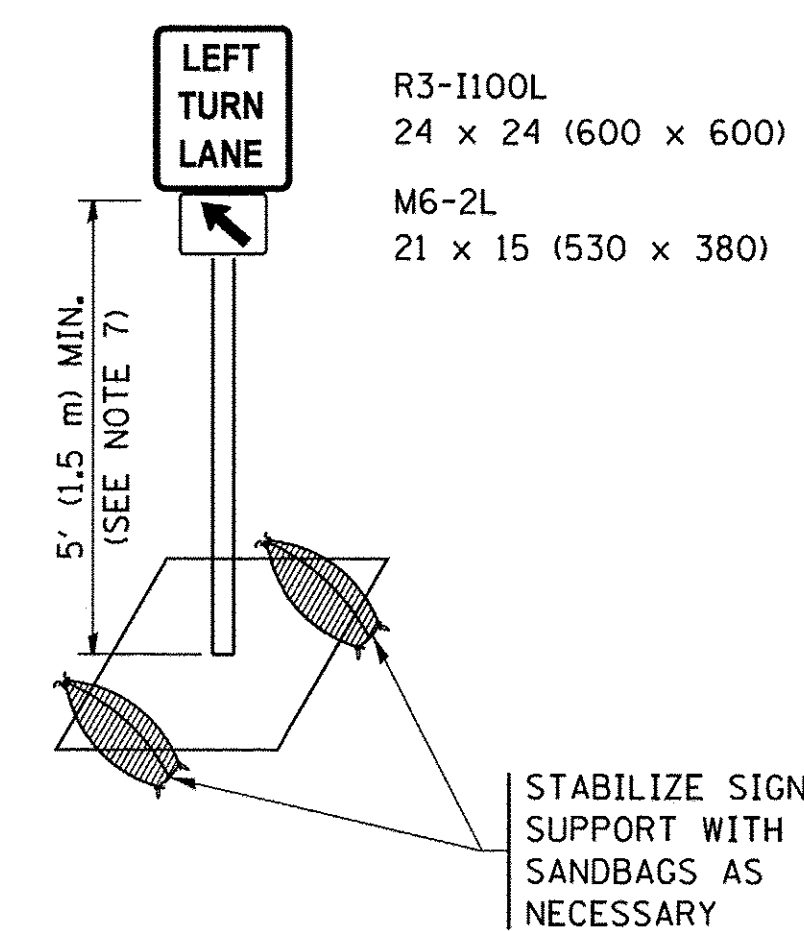
**FIGURE 2**

## LEGEND

-  WORK AREA
-  LANE OPEN TO TRAFFIC
-  ARROW BOARD
-  TYPE I OR II BARRICADE OR DRUM WITH STEADY BURN LIGHT
-  DRUM WITH STEADY BURN LIGHT
-  SIGN ASSEMBLY
-  TYPE I OR II CHECK BARRICADE WITH FLASHING LIGHT

## NOTES:

1. A) WHEN "L" IS  $\leq$  THE STORAGE LENGTH OF THE TURN LANE (AS SHOWN IN FIG. 1), USE FIGURE 1.  
B) WHEN "L" IS  $>$  THE STORAGE LENGTH OF THE TURN LANE OR THE TURN LANE IS WITHIN THE LANE CLOSURE, USE FIGURE 2.
2. 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.
3. LIGHTS WILL NOT BE REQUIRED ON BARRICADES OR DRUMS FOR DAY OPERATIONS. ALL LIGHTS SHALL BE MONODIRECTIONAL.
4. REFLECTIVE TEMPORARY PAVEMENT MARKINGS SHALL BE PLACED THROUGHOUT THE BARRICADED AREAS OF EACH TURN BAY AS SHOWN WHERE THE CLOSURE TIME IS GREATER THAN FOURTEEN (14) DAYS.
5. THIS APPLICATION ALSO APPLIES WHEN WORK IS BEING PERFORMED IN THE RIGHT LANE(S) AND THE RIGHT TURN BAY IS TO REMAIN OPEN. UNDER THIS CONDITION, "RIGHT TURN LANE" R3-I100R 24 x 24 (600 x 600) AND M6-2R 21 x 15 (530 x 380) SHALL BE USED.
6. THESE CONTROLS SHALL SUPPLEMENT MAINLINE TRAFFIC CONTROL FOR LANE CLOSURES.
7. THE SIGNS SHALL BE MOUNTED ABOVE THE BARRICADES/DRUMS ON SEPARATE SIGN SUPPORTS THAT MEET NCHRP 350 OR MASH PREUIREMENTS.
8. TRAFFIC CONTROL AND PROTECTION AT TURN BAYS (TO REMAIN OPEN TO TRAFFIC) SHALL BE INCLUDED IN THE COST OF SPECIFIED TRAFFIC CONTROL STANDARDS OR ITEMS.



**DETAIL A**

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

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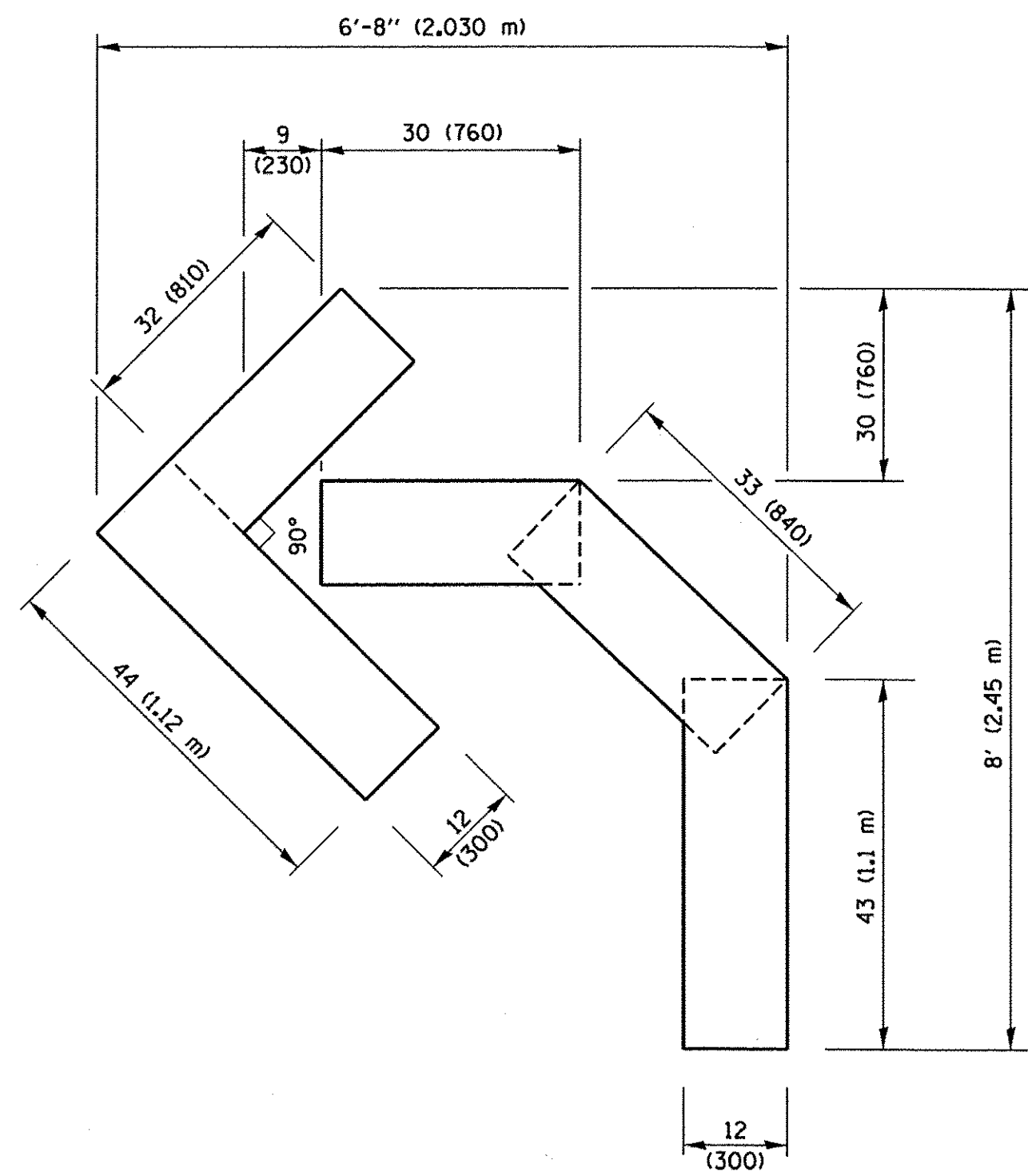
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PLOT SCALE = 50.0000' / 1"	PLOT DATE = 9/15/2016	REVISED - T. RAMMACHER 01-06-00	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

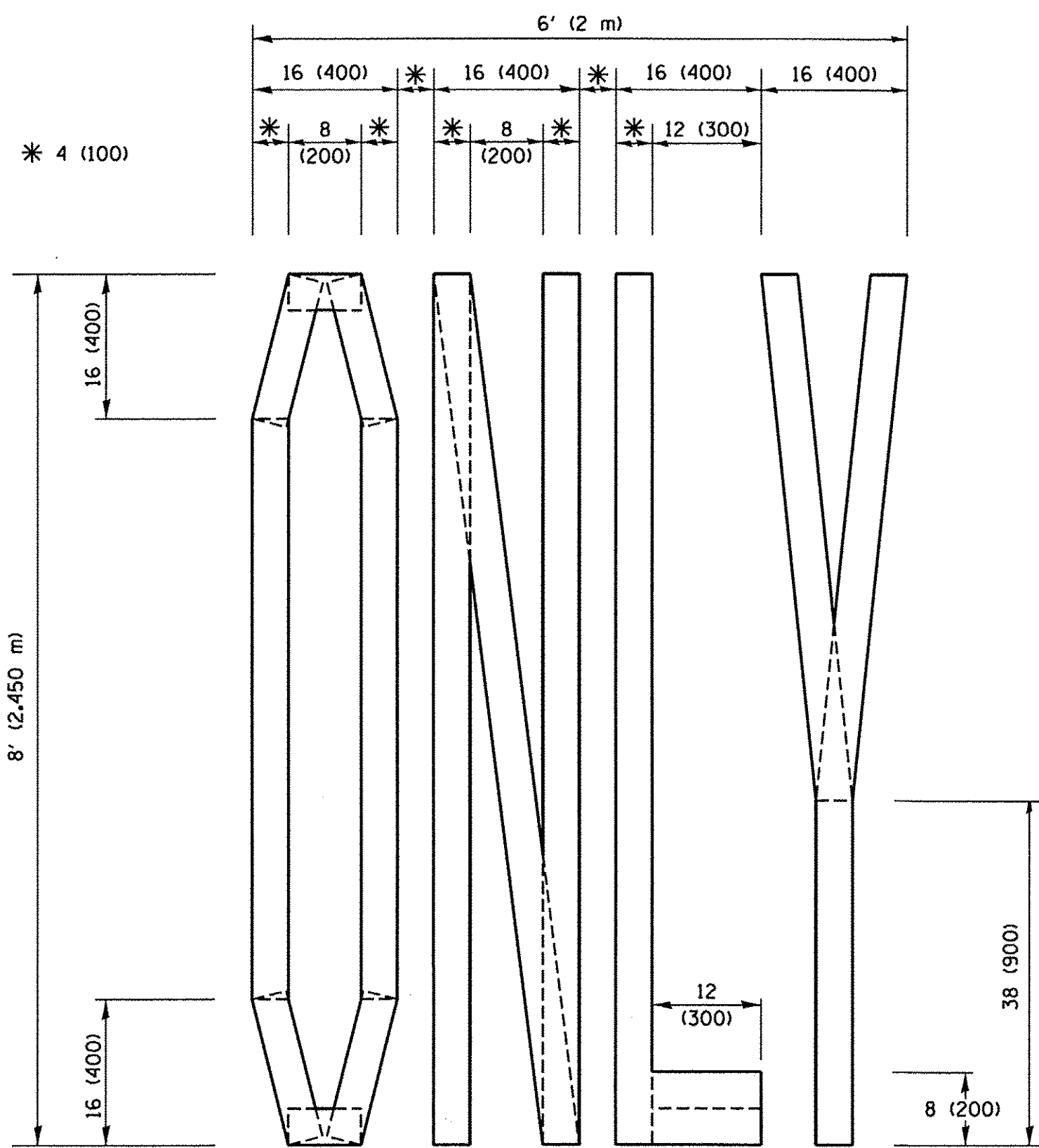
**TRAFFIC CONTROL AND PROTECTION AT TURN BAYS  
(TO REMAIN OPEN TO TRAFFIC)**

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

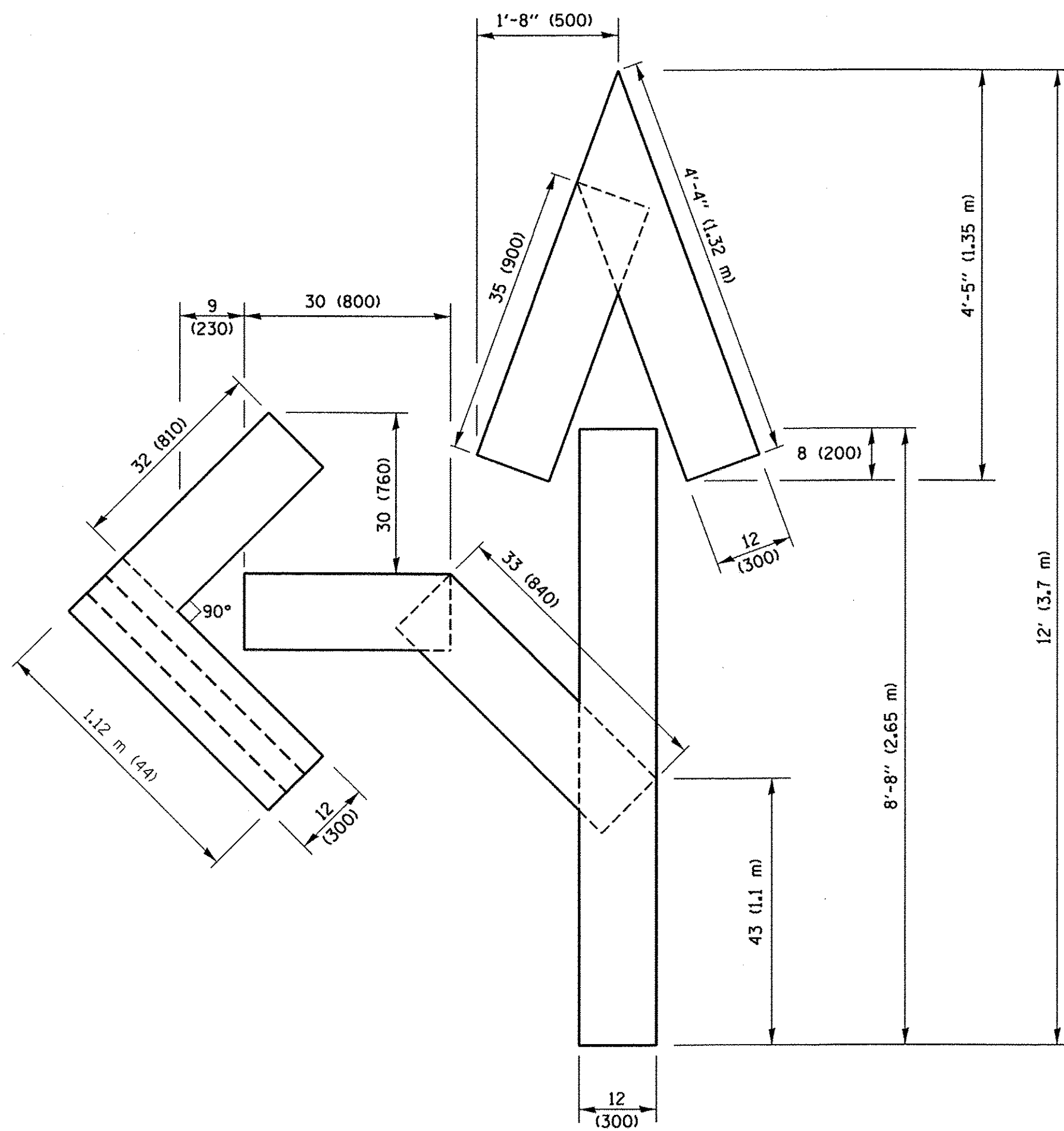
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TC-14		CONTRACT NO. 61D63		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT M-BRM-4003(391)				



**QUANTITY**  
 4 (100) LINE = 45.5 ft. (13.9 m)  
 15.2 sq. ft. (1.41 sq. m)



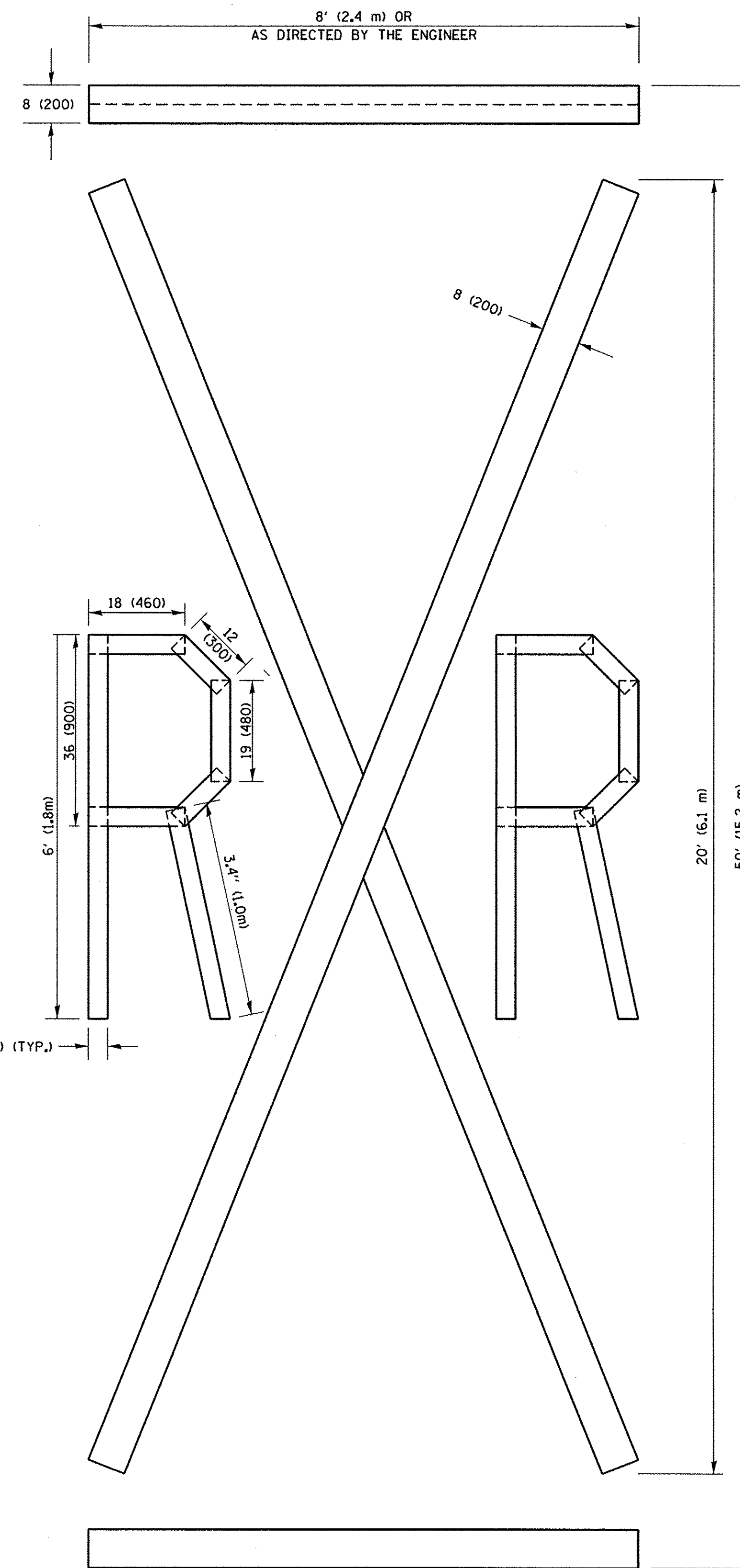
**QUANTITY**  
 4 (100) LINE = 64.1 ft. (19.5 m)  
 21.4 sq. ft. (1.99 sq. m)



**QUANTITY**  
 4 (100) LINE = 82.5 ft. (25.1 m)  
 27.5 sq. ft. (2.53 sq. m)

**NOTE:**

ALL QUANTITIES OF PLACEMENT ARE REPRESENTED IN LINEAR FEET OF 4" LINES TO MATCH THE 4" TEMPORARY TAPE PAY ITEM AND REPRESENTS THE TOTAL QUANTITY OF 4" TAPE REQUIRED.



**QUANTITY**  
 4 (100) LINE = 225.9 ft. (68.9 m)  
 75.3 sq. ft. (6.99 sq. m)

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

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		DATE - 09-18-94	REVISED - E. GOMEZ 08-28-00
			REVISED - A. SCHUETZE 09-15-16


**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**


**SHORT TERM PAVEMENT MARKING LETTERS AND SYMBOLS**


SCALE: NONE SHEET NO. 1 OF 1 SHEETS STA. TO STA.

F.A.U. RTE. 3699	SECTION 14-00098-00-BR	COUNTY LAKE	TOTAL SHEETS 102	SHEET NO. 92
TC-16		CONTRACT NO. 61D63		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT M-BRM-4003(391)				


**ROUTE MARKERS**


 FOR U.S. ROUTES  
M1-40-2424


 FOR ILLINOIS ROUTES  
M1-50-2424

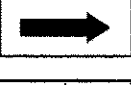
 R.R. UNMARKED ROUTES  
SPECIAL 24" x 18" VARIABLE  
4" BLACK LETTERS ON WHITE  
REFLECTIVE BACKGROUND


**ARROWS SIGNS**

 M5-1L-2115

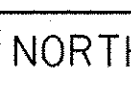
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 M6-1-2115

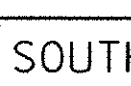
 M6-1-2115


 M6-3-2115

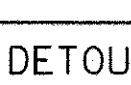
**CARDINAL DIRECTION & DETOUR SIGNS**

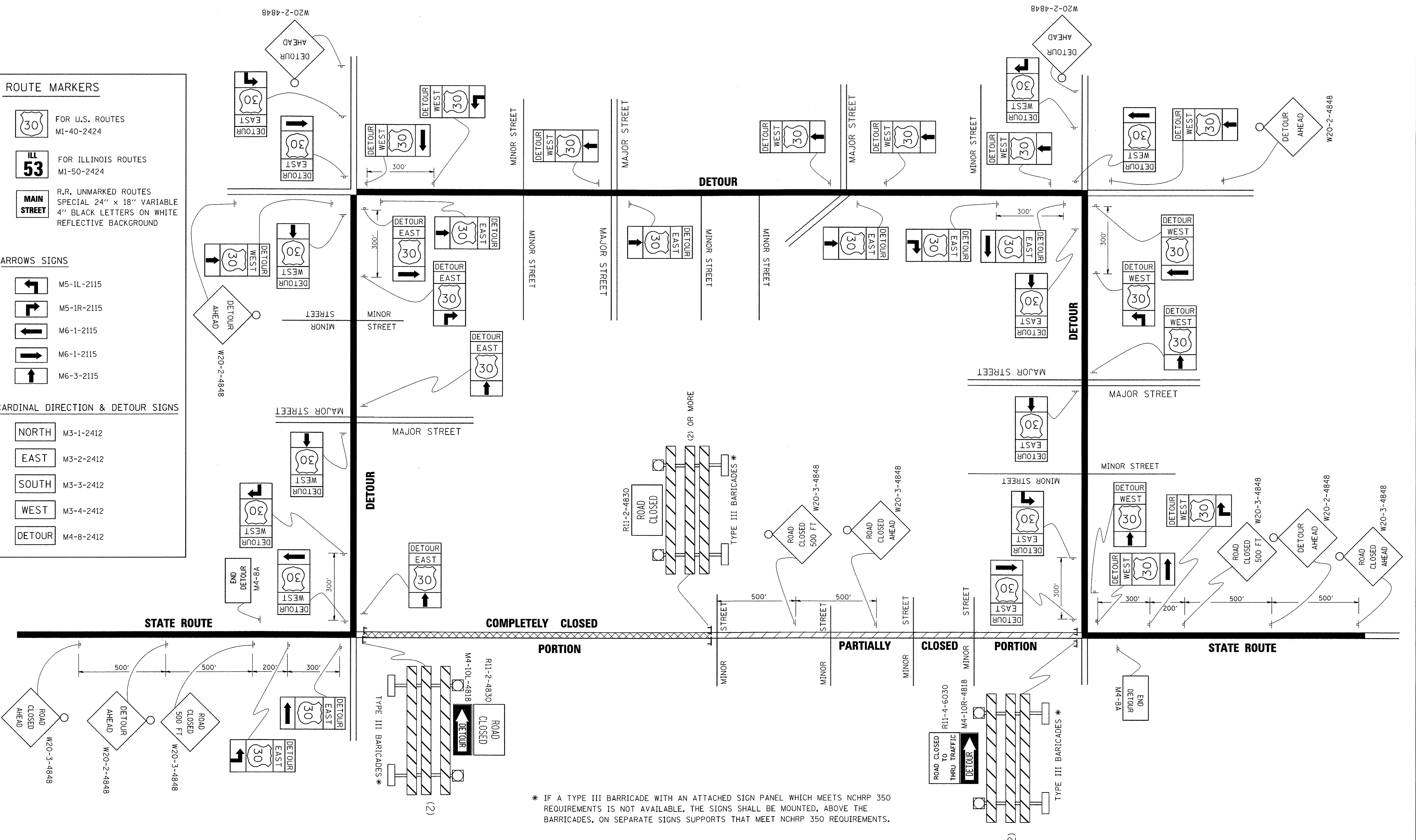
 NORTH M3-1-2412

 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.

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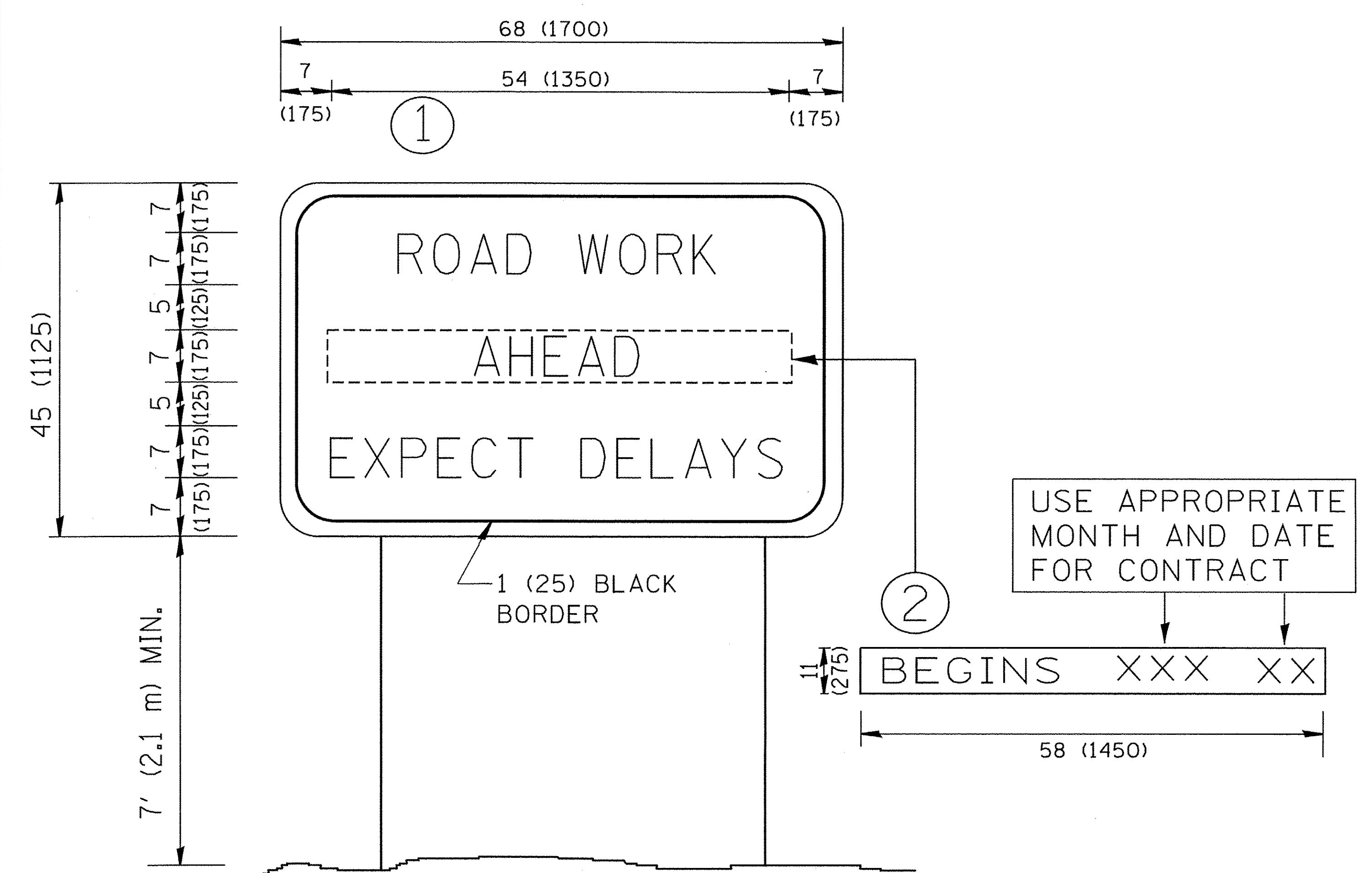
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		PLOT SCALE = 49.9999 / IN.	REVISED -
		DATE = 9/14/2009	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

<b>DETOUR SIGNING FOR CLOSING STATE HIGHWAYS</b>	
SCALE: NONE	SHEET NO. 1 OF 1 SHEETS STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3699	14-00098-00-BR	LAKE	102	93
<b>TC-21</b>		CONTRACT NO. 61D63		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT M-BRM-4003(391)				

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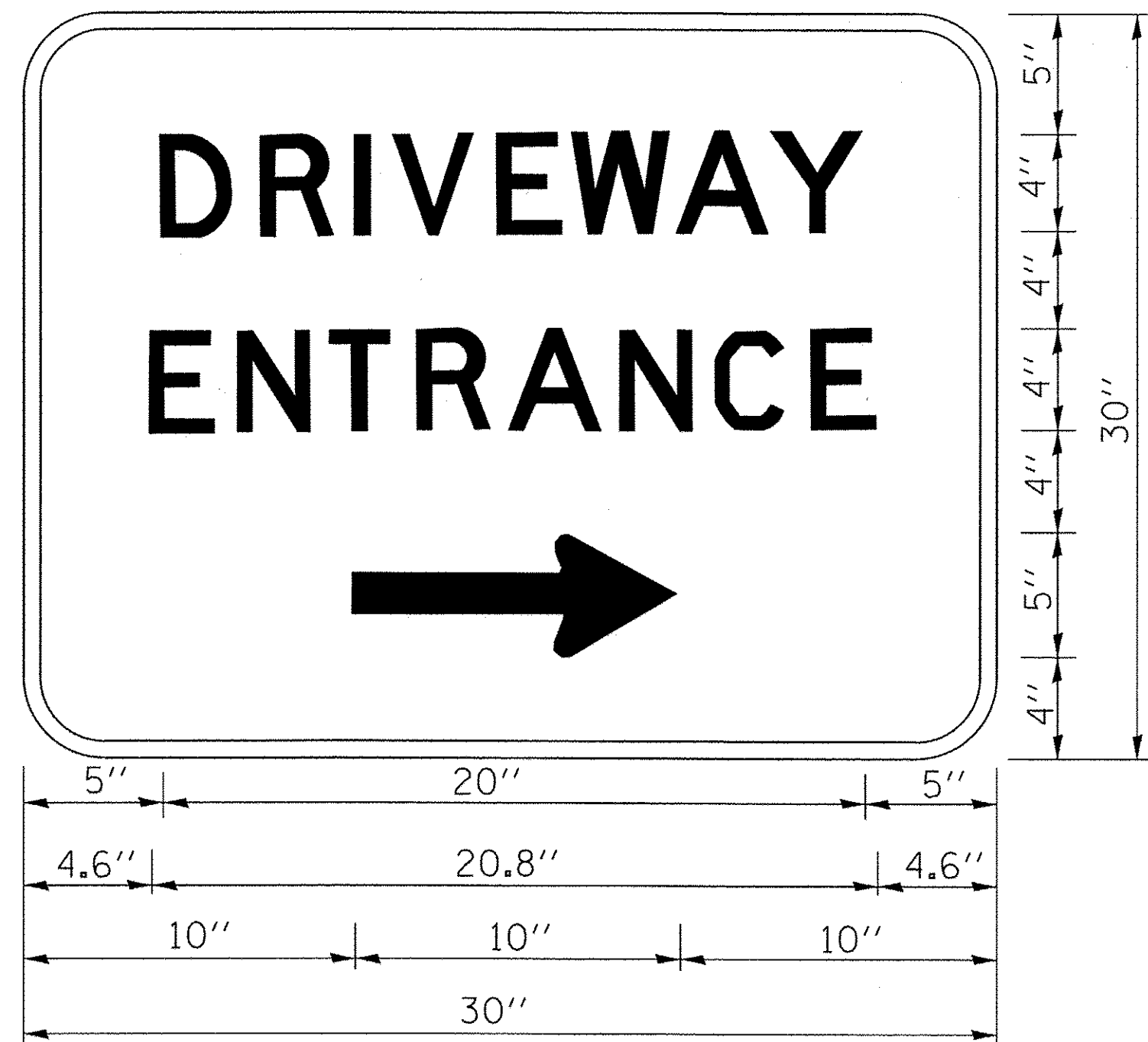


**NOTES:**

1. USE BLACK LETTERING ON ORANGE BACKGROUND.
2. ERECT SIGNS IN ADVANCE OF THE LOCATION FOR THE "ROAD CONSTRUCTION AHEAD" SIGN AT LOCATIONS AS DIRECTED BY THE ENGINEER.
3. ERECT SIGN ① WITH INSTALLED PANEL ② ONE WEEK PRIOR TO THE START OF CONSTRUCTION.
4. REMOVE PANEL ② SOON AFTER THE START OF CONSTRUCTION.
5. SEE SPECIAL PROVISION FOR "TEMPORARY INFORMATION SIGNING" FOR ADDITIONAL INFORMATION.
6. ONE SIGN ASSEMBLY EQUALS 25.70 SQ. FT. (2.3 SQ. M.)
7. SHALL BE PAID FOR AS TEMPORARY INFORMATION SIGNING.

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

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	PLOT SCALE = 50.000 / / IN.	CHECKED -	REVISED - T. RAMMACHER 02-02-99			SCALE: NONE	SHEET NO. 1 OF 1 SHEETS	STA.	TO STA.	TC-22 FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT CONTRACT NO. 61D63 M-BRM-4003(391)		
	PLOT DATE = 1/4/2008	DATE -	REVISED - C. JUCIUS 01-31-07									



3.0" RADIUS, 0.5" BORDER, WHITE ON GREEN; REFLECTORIZED  
 "DRIVEWAY" D; "ENTRANCE" D; STANDARD ARROW CUSTOM 12.0" x 5.0"

**NOTES:**

1. HALF OF THE SIGNS WILL REQUIRE A LEFT HAND FACING ARROW.
2. TWO SIGNS SHALL BE USED AT EACH COMMERCIAL ENTRANCE PLACED BACK-TO-BACK: ONE WITH A RIGHT HAND ARROW (SHOWN) SHALL BE PLACED ON THE NEAR RIGHT SIDE THE DRIVEWAY AND ONE WITH A LEFT HAND ARROW SHALL BE PLACED ON THE FAR LEFT SIDE OF THE DRIVEWAY.
3. SIGNS TO BE PAID FOR AS ITEM "TEMPORARY INFORMATION SIGNING".

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**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**DRIVEWAY ENTRANCE SIGNING**

SCALE: NONE SHEET NO. 1 OF 1 SHEETS STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3699	14-00098-00-BR	LAKE	102	95
<b>TC-26</b>			CONTRACT NO. 61D63	
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT M-BRM-4003(391)				

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 PLOT SCALE = 5.0000' / 1"  
 PLOT DATE = 12/5/2016

DESIGNED -  
 DRAWN -  
 CHECKED -  
 DATE - 12/5/2016

REVISED -  
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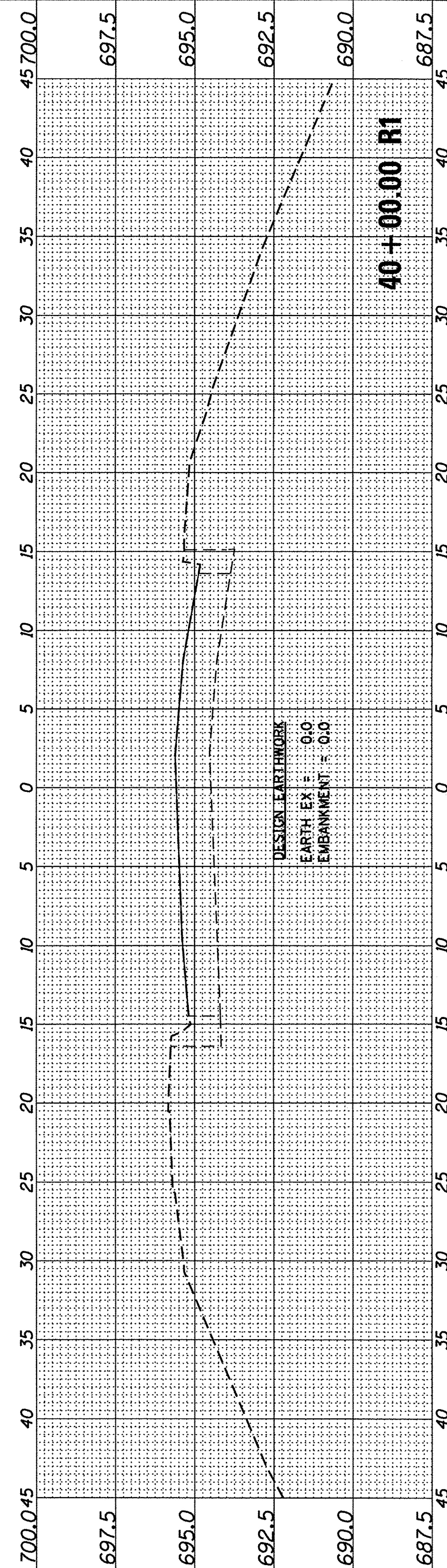
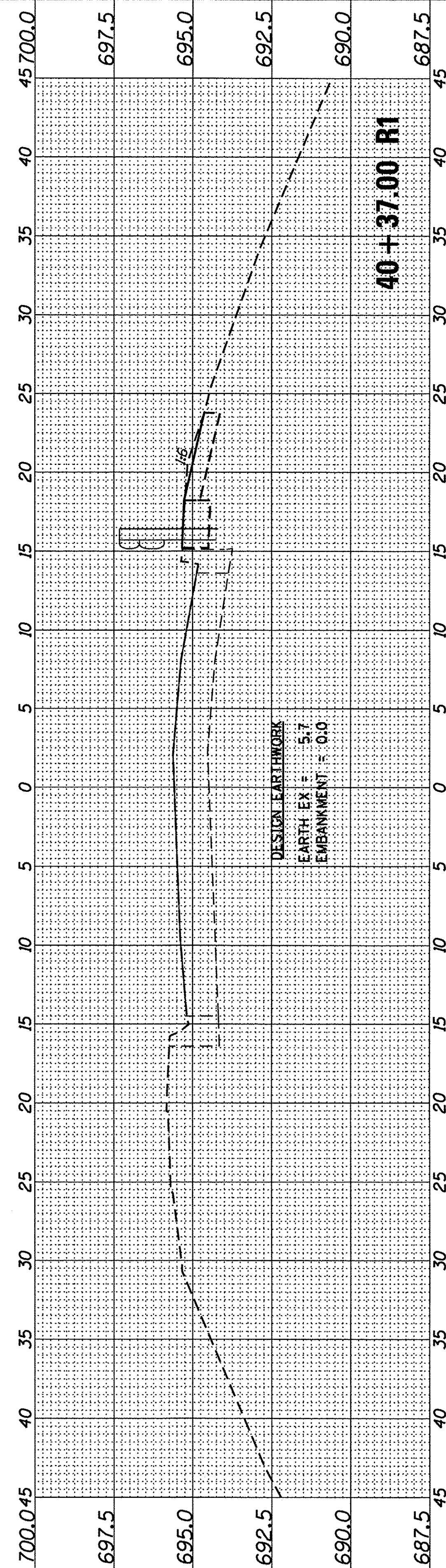
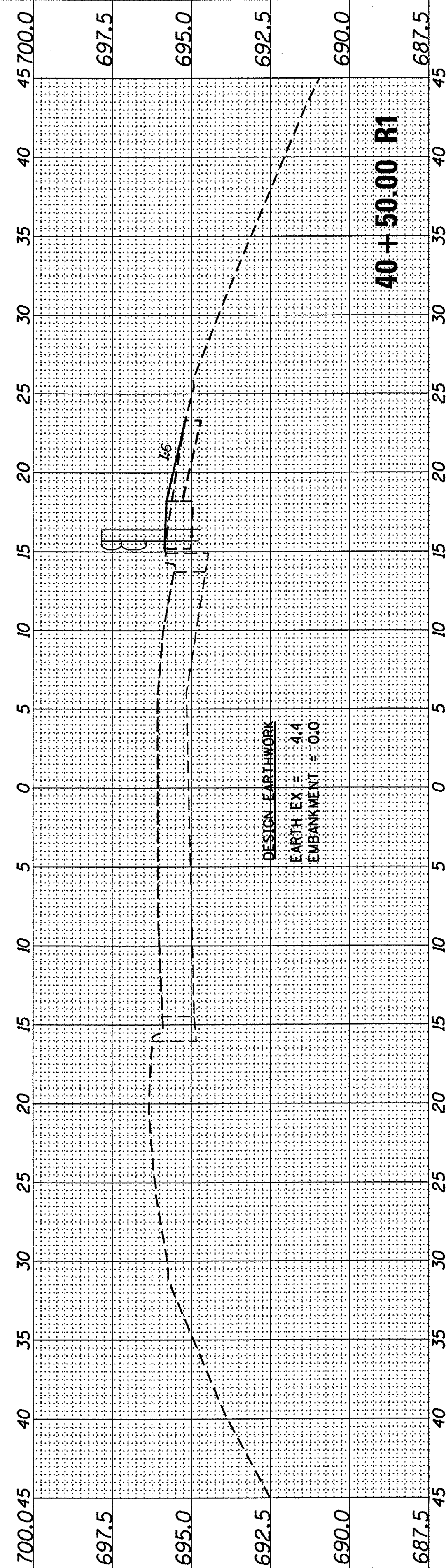
STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

PFINGSTENKATES ROAD IMPROVEMENTS  
 CROSS SECTIONS

SCALE: 1" = 5'

SHEET NO. OF SHEETS 40+37.00 R1 TO STA. 40+50.00 R1

F.A.U. RATE: 3699	SECTION: 14-00098-00-BR	COUNTY: LAKE	TOTAL SHEETS: 102	SHEET NO.: 96
CONTRACT NO. 61D63			ILLINOIS FED. AID PROJECT M-BRM-4003(391)	





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**ENGINEERING CONSULTANT**  
**Ciorba Group, Inc.**  
 CONSULTING ENGINEERS  
 857 North Cumberland Avenue, Suite 402  
 Chicago, Illinois 60688  
 Tel: 773.775.7000 Fax: 773.775.4014  
 Email: chicago@ciorba.com

USER NAME = jattanasoo  
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 PLOT DATE = 12/5/2016

DESIGNED -  
 DRAWN -  
 CHECKED -  
 DATE = 12/5/2016

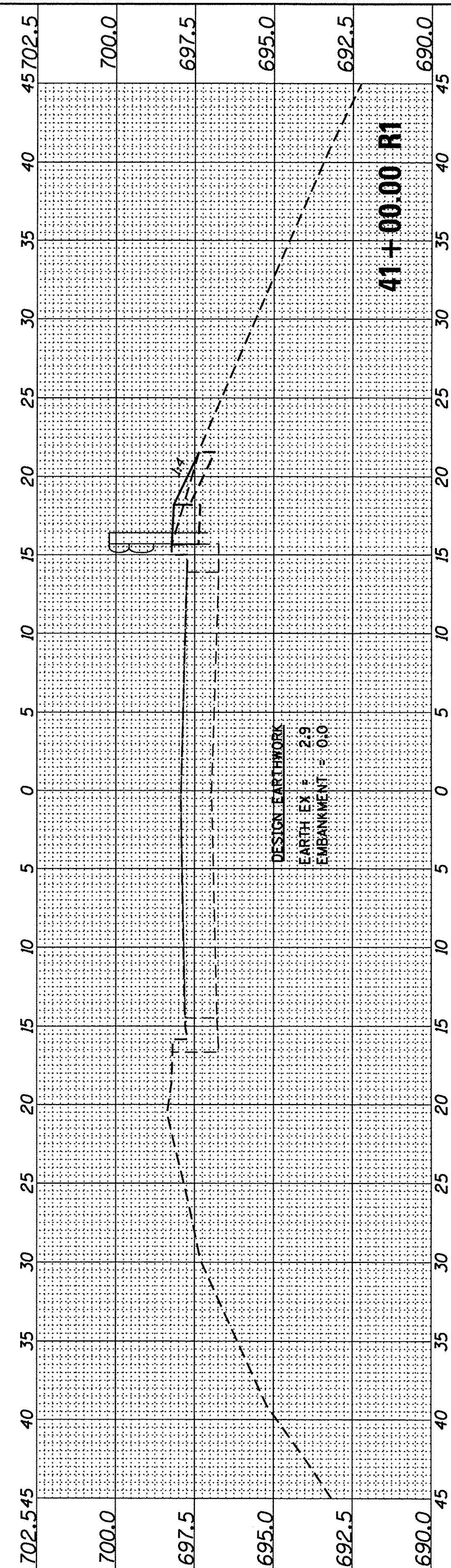
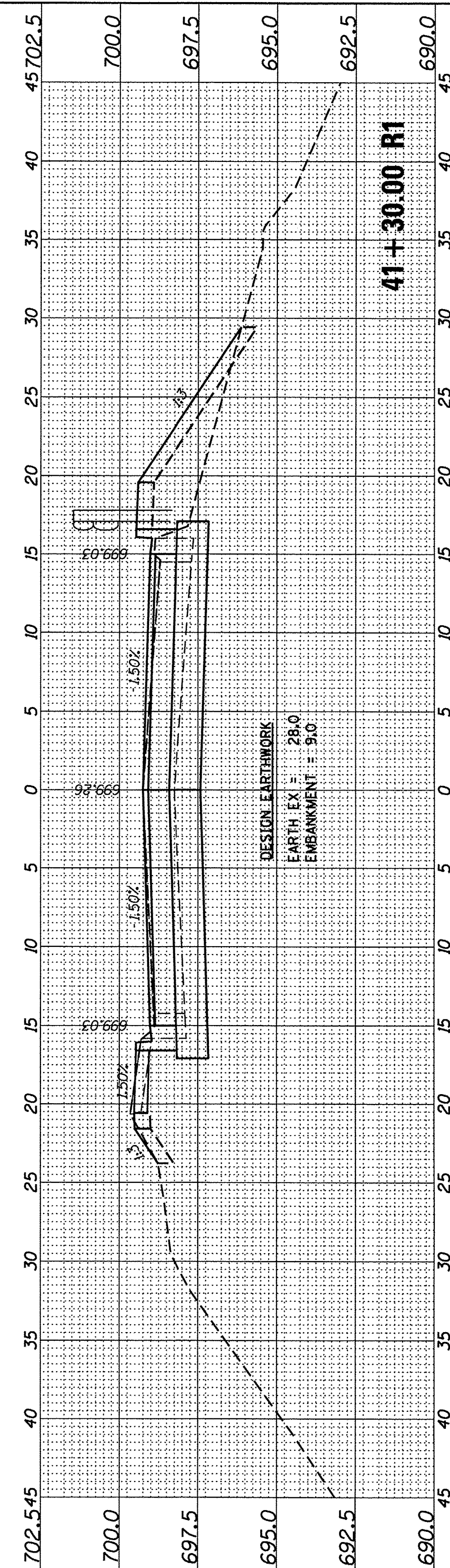
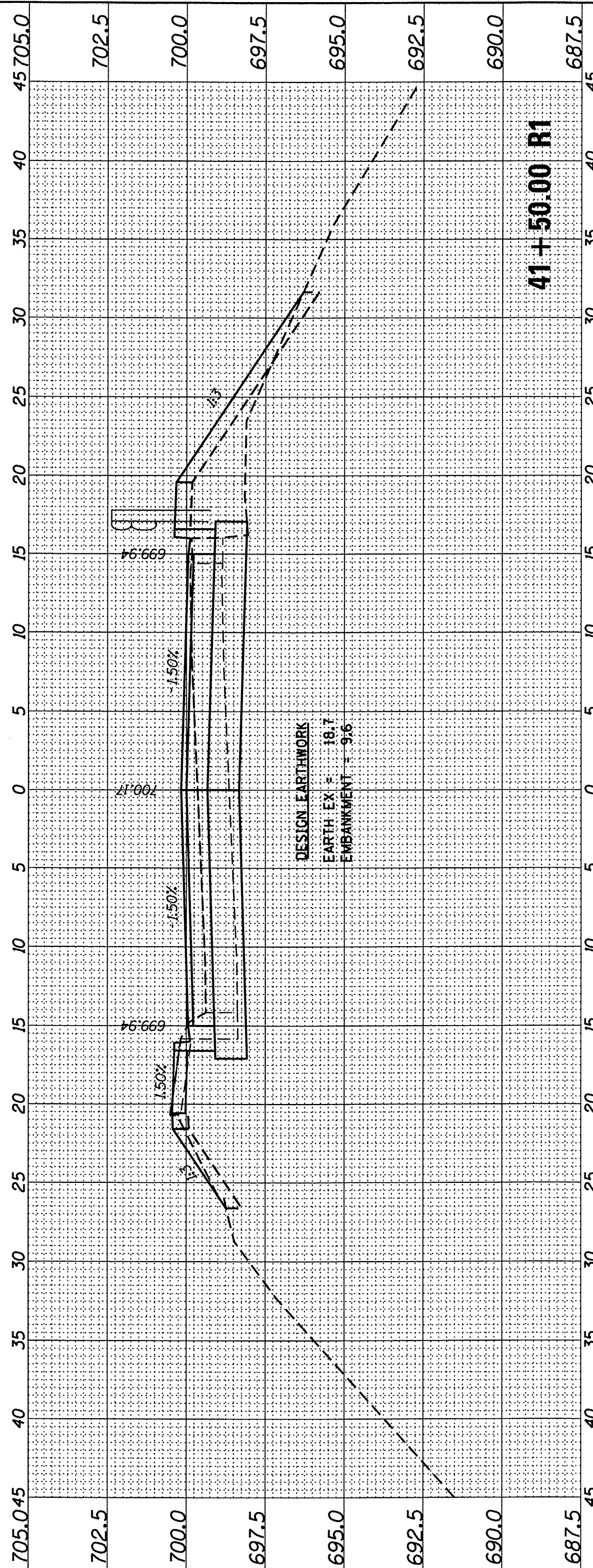
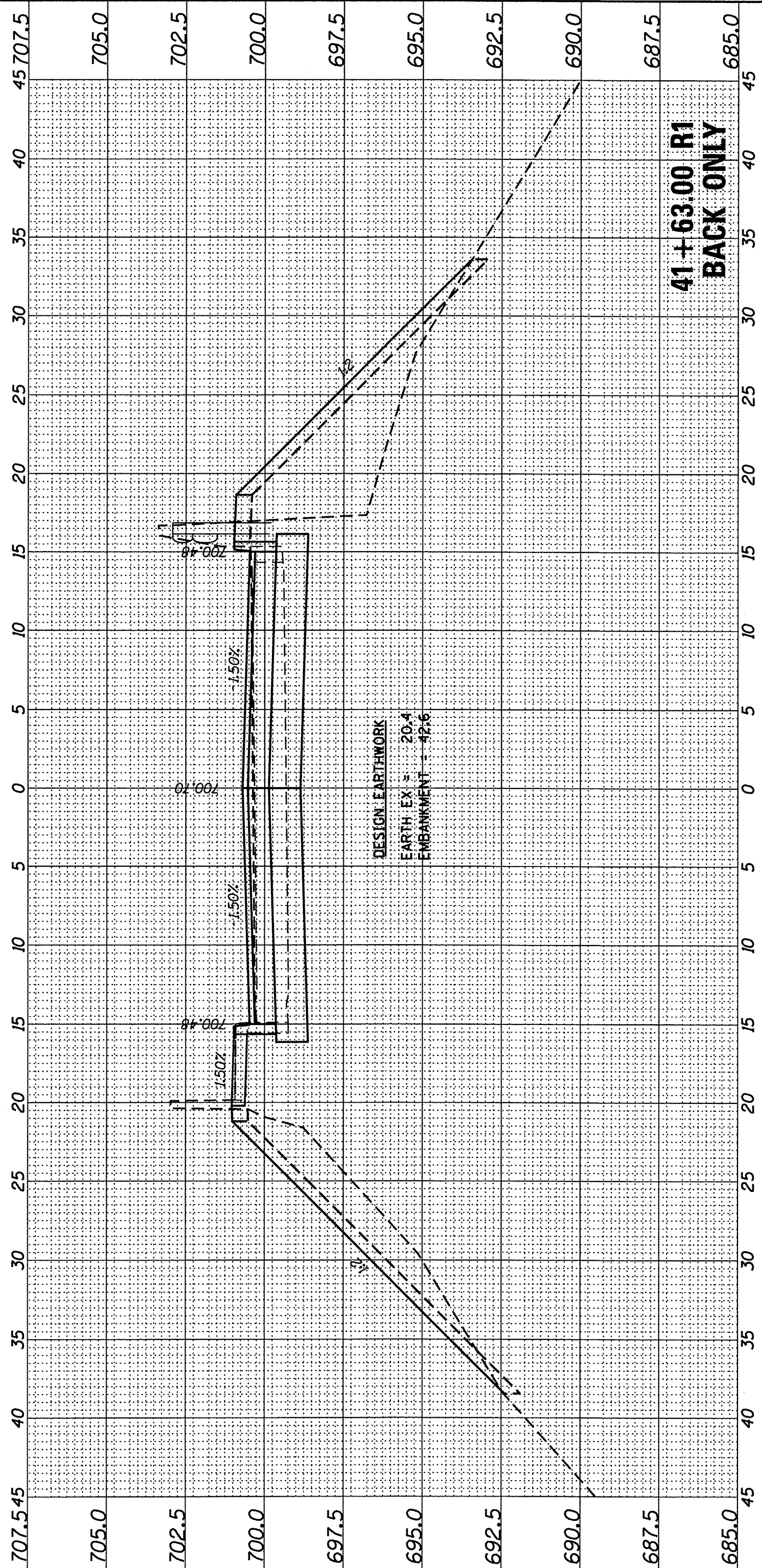
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**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**PFGINGSTENKATES ROAD IMPROVEMENTS  
 CROSS SECTIONS**

SCALE: 1" = 5' SHEET NO. OF SHEETS STA. 41+00.00 R1 TO STA. 41+63.00 R1

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3699	14-00098-00-BR	LAKE	102	97
CONTRACT NO. 61D63				
FED. ROAD DIST. NO. 1   ILLINOIS FED. AID PROJECT M-BRM-400313911				



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 DATE - 12/5/2016

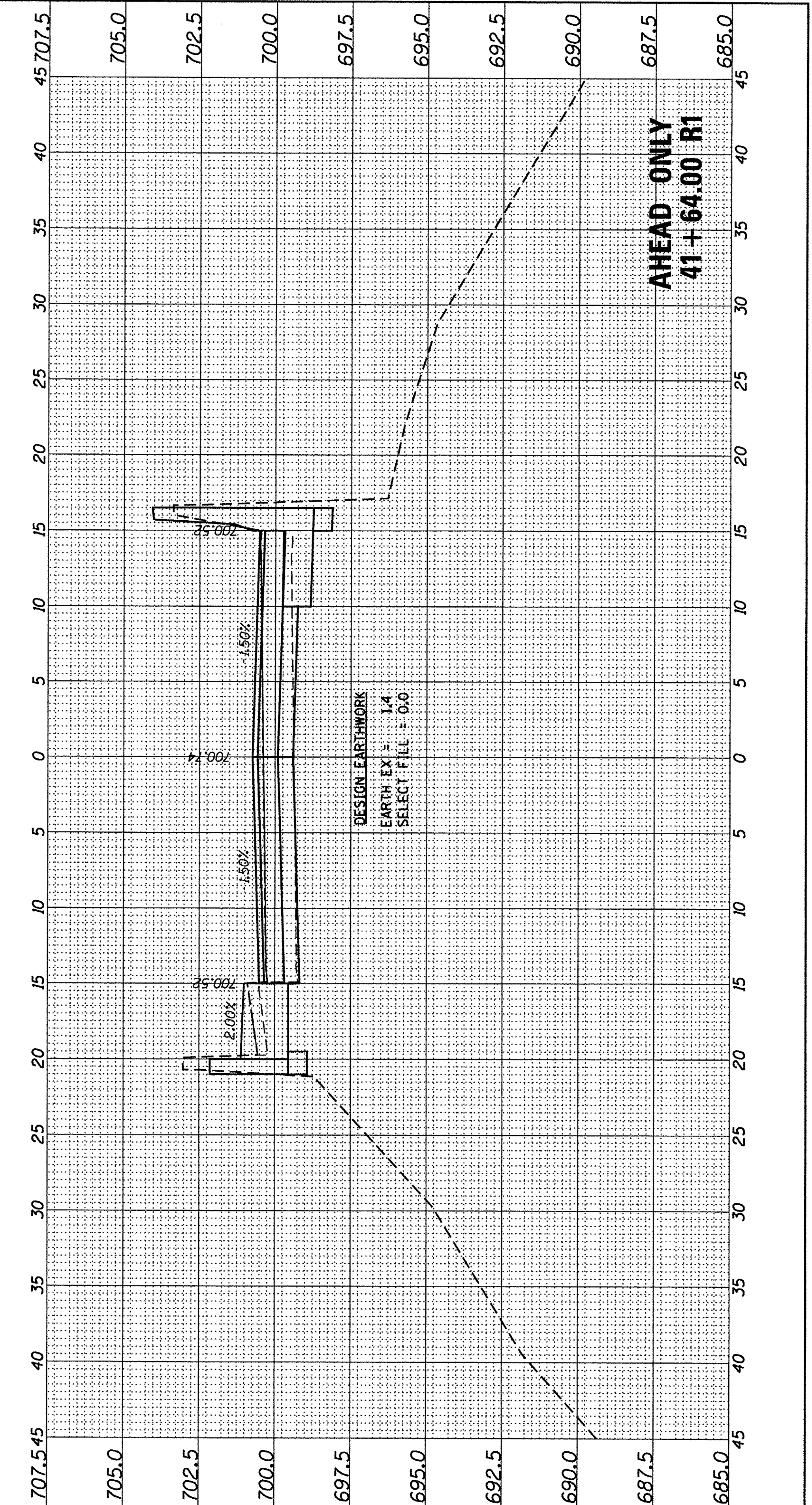
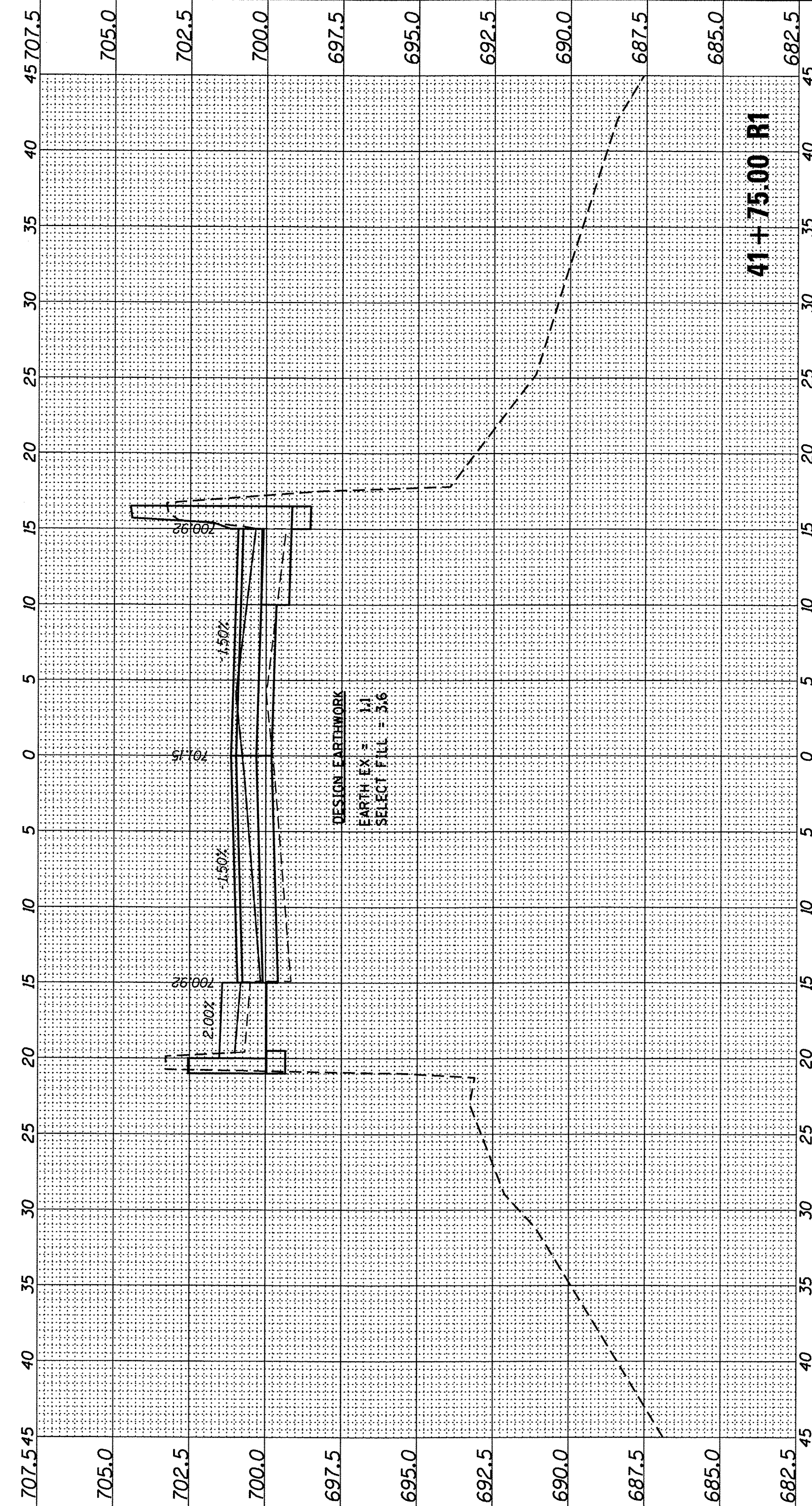
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STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

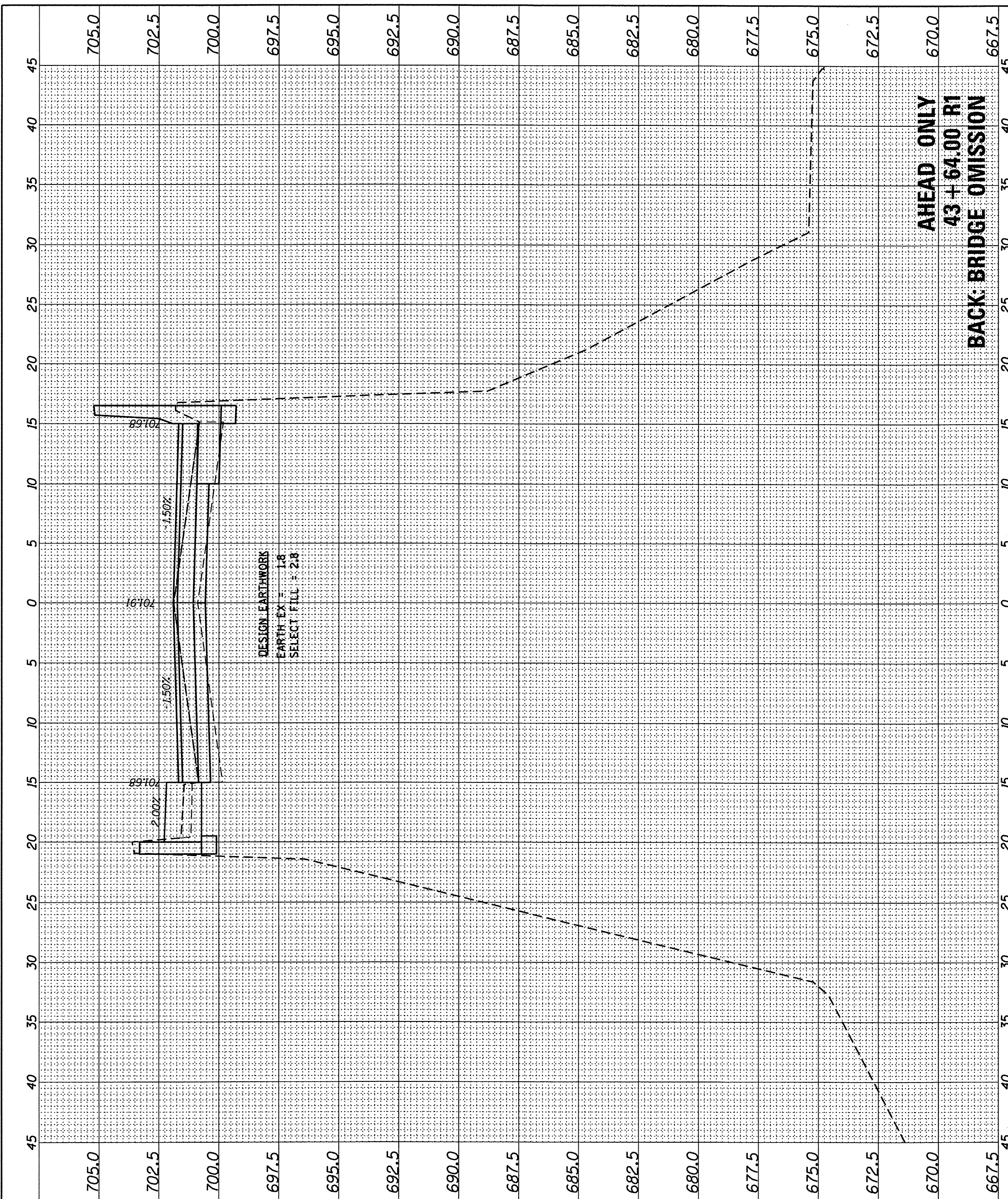
SCALE: 1" = 5'  
 SHEET NO. OF SHEETS STA. 41+64.00 R1 TO STA. 41+75.00 R1

PFINGSTEN/KATES ROAD IMPROVEMENTS  
 CROSS SECTIONS

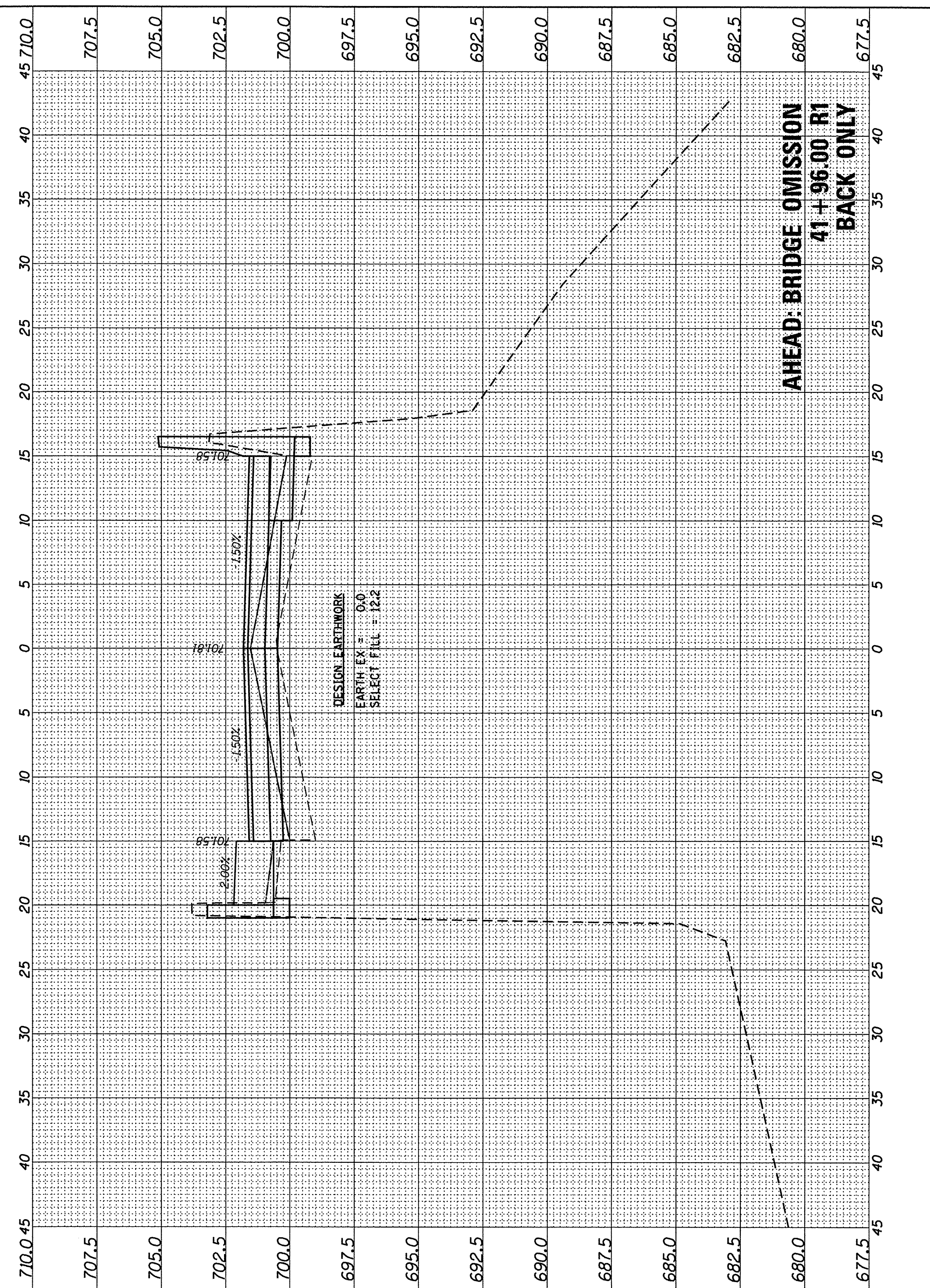
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FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT			CONTRACT NO. 61D63 M-BRM-4003(391)	



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**AHEAD ONLY**  
**43 + 64.00 R1**  
**BACK: BRIDGE OMISSION**



**AHEAD: BRIDGE OMISSION**  
**41 + 96.00 R1**  
**BACK ONLY**

**ENGINEERING CONSULTANT**  
**Clorba Group, Inc.**  
 CONSULTING ENGINEERS  
 6507 North Cumberland Avenue, Suite 402  
 Chicago, Illinois 60631  
 Tel: 773.775.4009 Fax: 773.775.4014  
 Email: clorba@clorba.com

USER NAME = jattensee  
 PLOT SCALE = 5.0000' / 1"  
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DESIGNED -	REVISED -
DRAWN -	REVISED -
CHECKED -	REVISED -
DATE - 12/5/2016	REVISED -

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

**PFINGSTENKATES ROAD IMPROVEMENTS**  
**CROSS SECTIONS**  
 SCALE: 1" = 5'  
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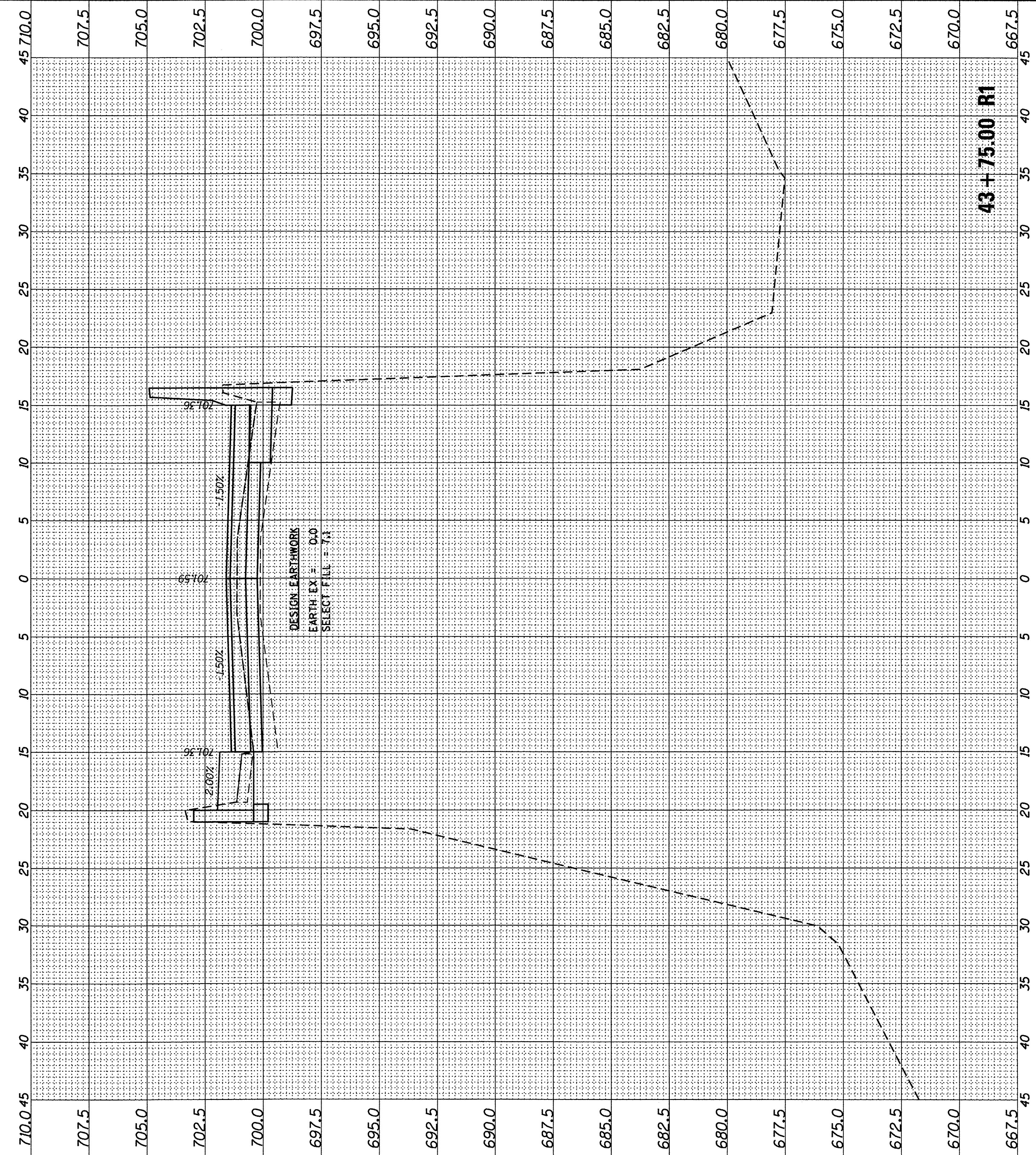
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3699	14-00098-00-BR	LAKE	102	99
CONTRACT NO. 61D63			M-BRM-4003(391)	

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**ENGINEERING CONSULTANT**  
  
 CONSULTING ENGINEERS  
 5607 North Cumberland Avenue, Suite 402  
 Chicago, Illinois 60658  
 Tel: 773.775.4009 Fax: 773.775.4014  
 Email: chicago@clorba.com

USER NAME = jatonasoo  
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 PLOT DATE = 12/15/2016

DESIGNED -	REVISED -
DRAWN -	REVISED -
CHECKED -	REVISED -
DATE - 12/15/2016	REVISED -



**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**PFINGSTENKATES ROAD IMPROVEMENTS  
 CROSS SECTIONS**

SCALE: 1" = 5' SHEET NO. OF SHEETS STA. 43+75.00 R1 TO STA. 43+75.00 R1

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3699	14-00098-00-BR	LAKE	102	100
CONTRACT NO. 61D63				
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT M-BRM-4003(391)				

43 + 75.00 R1

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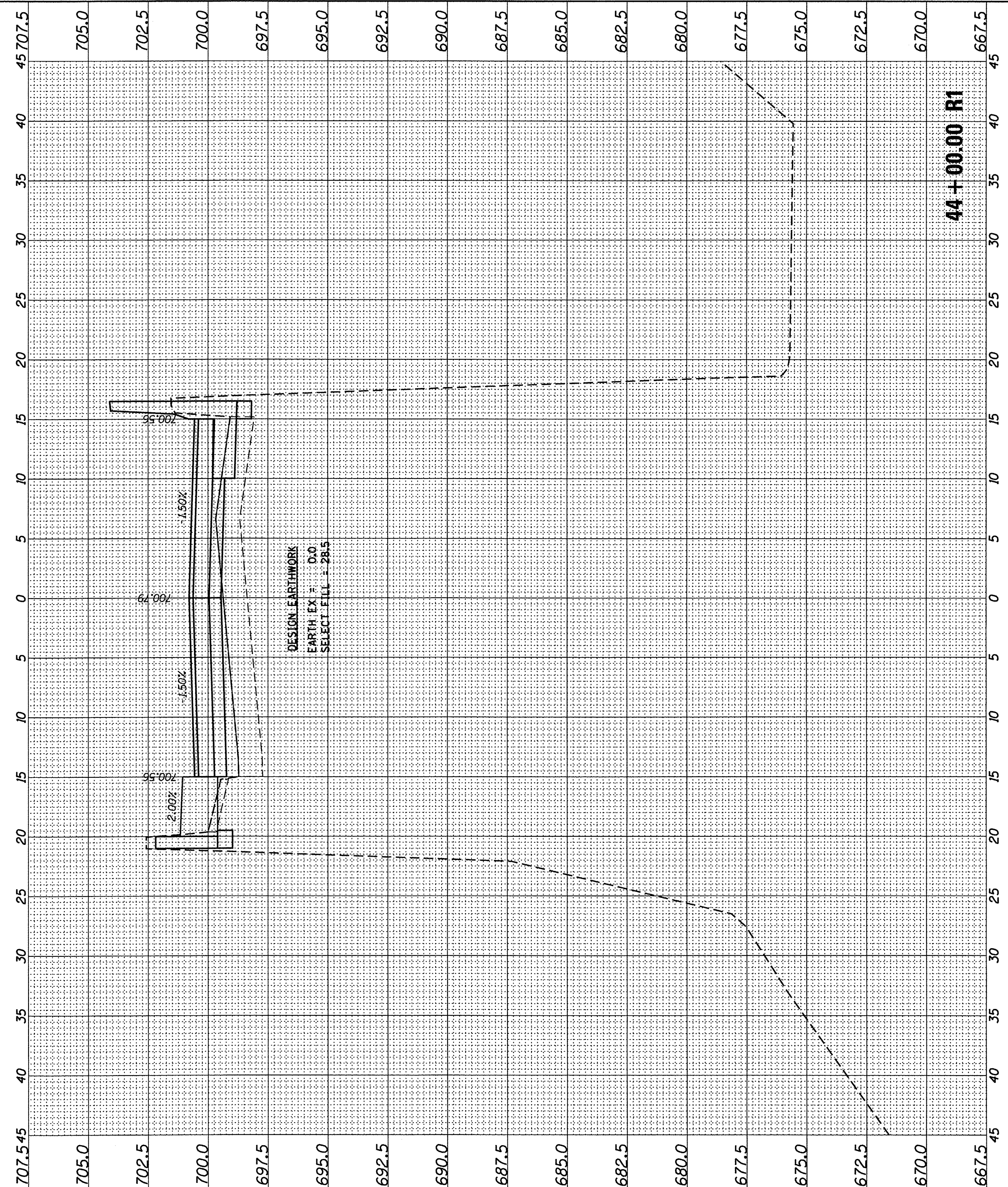
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STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

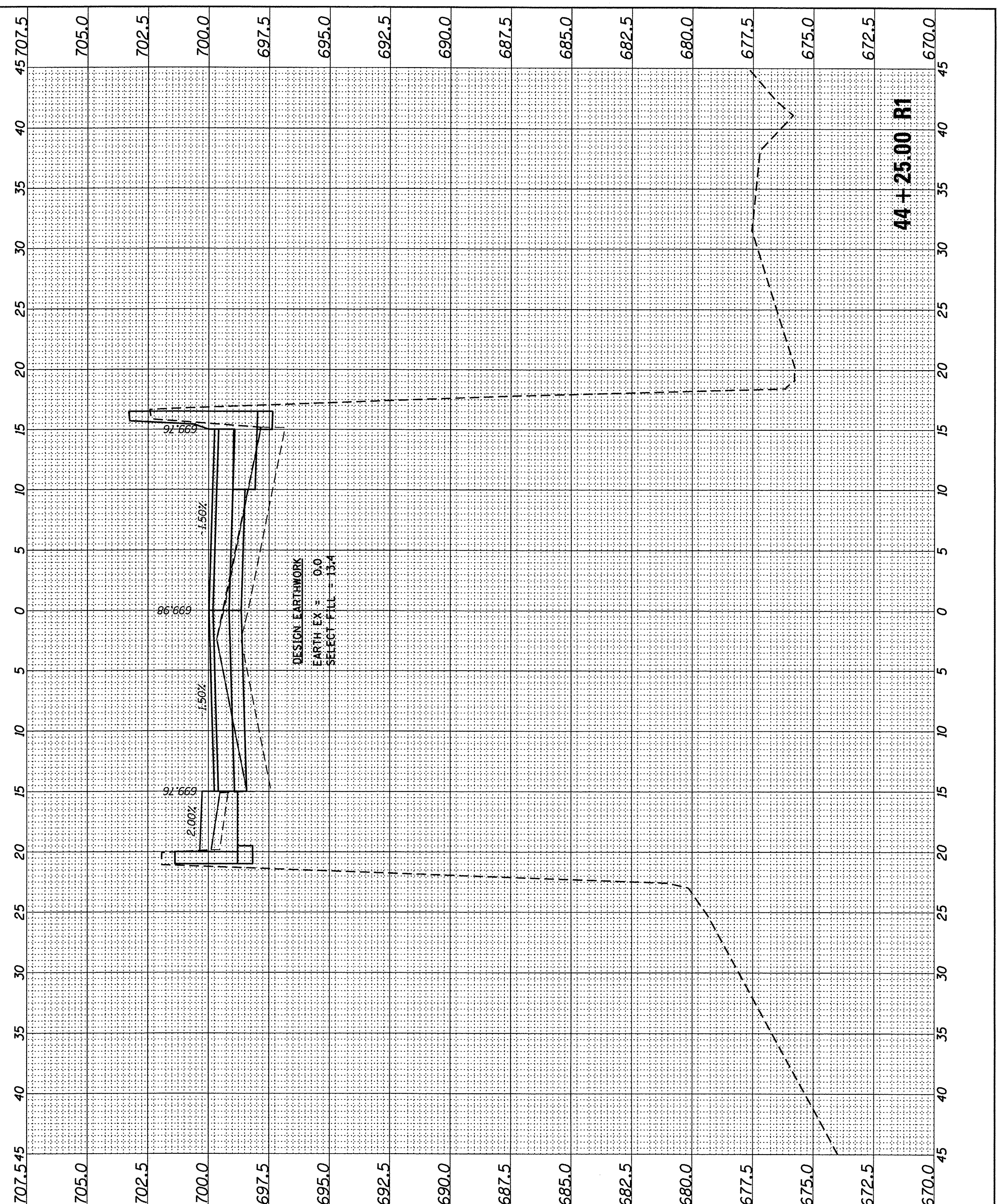
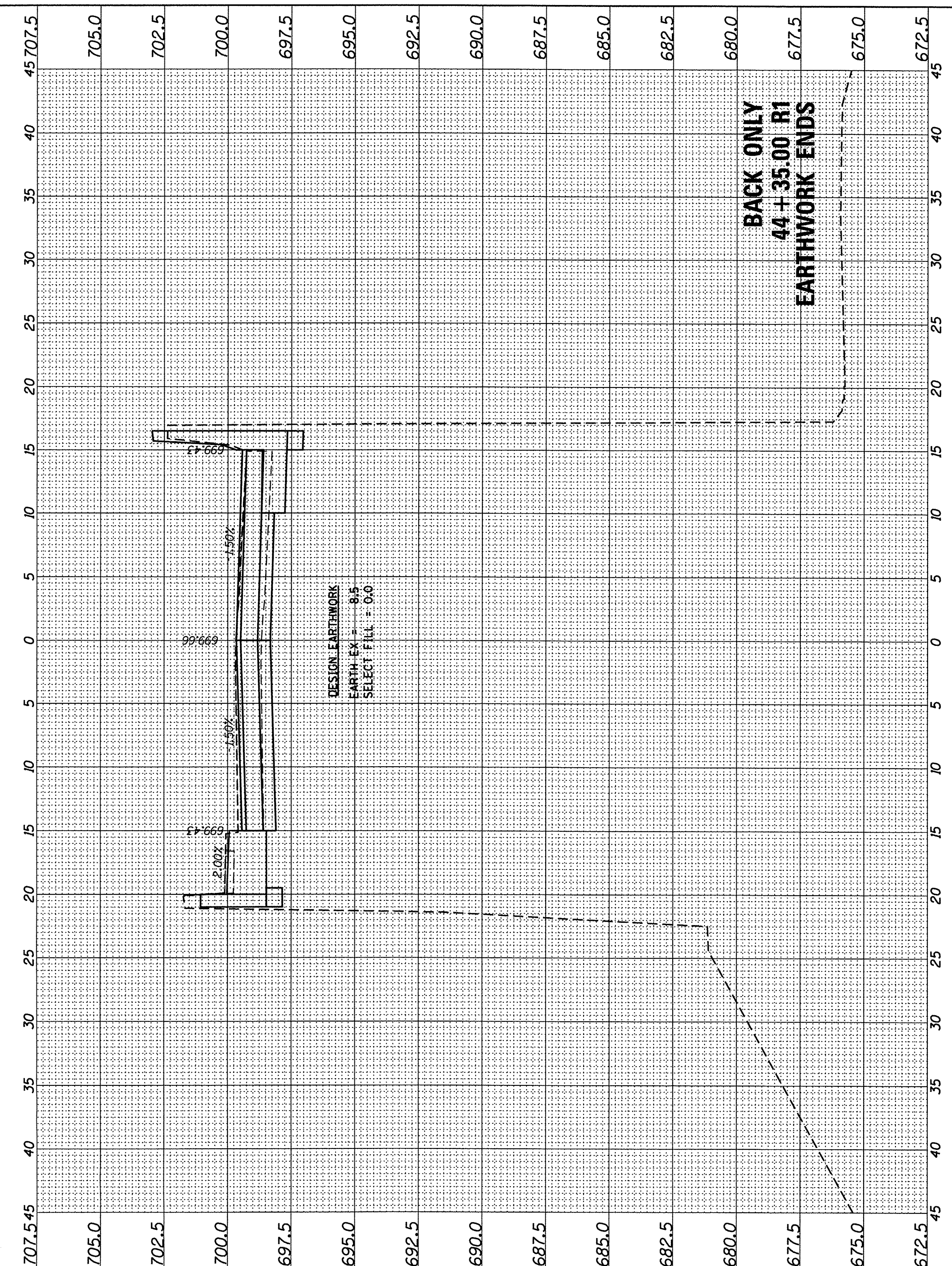
PFINGSTEN/KATES ROAD IMPROVEMENTS  
 CROSS SECTIONS

SCALE: 1" = 5' SHEET NO. OF SHEETS STA. 44+00.00 R1 TO STA. 44+00.00 R1

F.A.I. RTE. 3699	SECTION 14-00098-00-BR	COUNTY LAKE	TOTAL SHEETS 102	SHEET NO. 101
CONTRACT NO. 61D63			FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT M-BRM-4003(391)	



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PLOT DATE = 12/5/2016	CHECKED -	REVISED -
	DATE - 12/5/2016	REVISED -

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

SCALE: 1" = 5'		SHEET NO. OF SHEETS		STA. 44+25.00 R1 TO STA. 44+35.00 R1
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PFINGSTENKATES ROAD IMPROVEMENTS  
 CROSS SECTIONS

F.A.U. RTE. 3699	SECTION 14-00098-00-BR	COUNTY LAKE	TOTAL SHEETS 102	SHEET NO. 102
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT			CONTRACT NO. 61D63	
M-BRM-4003(391)				