2W

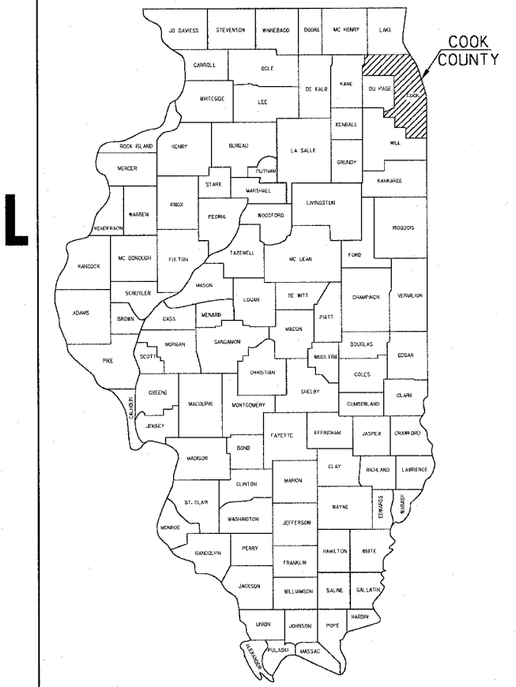
3-10-06 Letting, Item 02W

STATE OF ILLINOIS
DEPARTMENT OF NATURAL RESOURCES
OFFICE OF WATER RESOURCES

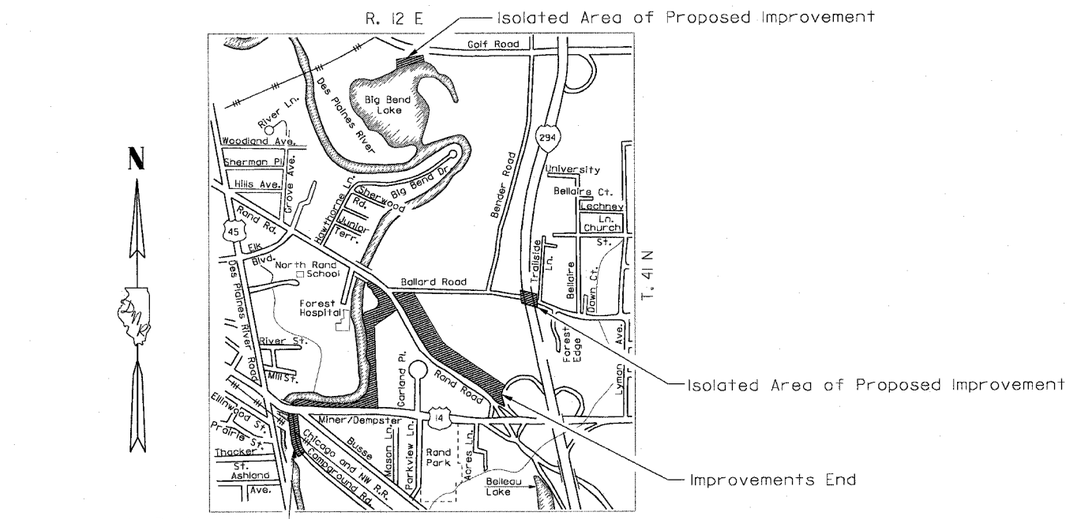
DES PLAINES RIVER – RAND PARK FLOOD CONTROL
PHASE III
FLOODWALL, BERM AND BIKE TRAIL

DES PLAINES, ILLINOIS
COOK COUNTY

FR–416
2006



REGIONAL MAP



Areas of Proposed Improvements
Indicated by hatching

LOCATION MAP

SCALE

200' 1000' 1500' 2000' 3000'

100' 200' 300' 1"= 100'
0 10' 20' 30' 1"= 10'
0 50' 100' 1"= 50'
0 50' 100' 1"= 40'
0 50' 100' 1"= 30'
0 50' 100' 1"= 20'

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.

CTE | AECOM

CTE
303 East Wacker Drive, Suite 600, Chicago, Illinois 60601-5276
T 312.938.0300 F 312.938.1109 www.cte.aecom.com

DAVID R. HANDWERK 062-054930 REGISTERED PROFESSIONAL ENGINEER OF ILLINOIS

DAVID R. HANDWERK — PROJECT MANAGER — 11/30/07 EXPIRES 01/31/06 DATE

PATRICK J. O'BRIEN 062-049239 REGISTERED PROFESSIONAL ENGINEER OF ILLINOIS

PATRICK J. O'BRIEN — 1 – 88 SHEET NOS. — 11/30/07 EXPIRES 01/31/06 DATE

BRIAN J. MALONE 081-006002 LICENSED STRUCTURAL ENGINEER STATE OF ILLINOIS

BRIAN J. MALONE — 92 – 94, 97 – 106, 120 – 154 SHEET NOS. — 11/30/06 EXPIRES 01/31/06 DATE

KIRK H. HIPPS 062-044028 REGISTERED PROFESSIONAL ENGINEER OF ILLINOIS

KIRK H. HIPPS — 89 – 91 SHEET NOS. — 11/30/07 EXPIRES 01/31/06 DATE

DONALD E. SIERACKI 062-039379 REGISTERED PROFESSIONAL ENGINEER OF ILLINOIS

DONALD E. SIERACKI — 155 – 167 SHEET NOS. — 11/30/07 EXPIRES 01/31/06 DATE

SAFDAR A. GILL 081-003062 LICENSED STRUCTURAL ENGINEER STATE OF ILLINOIS

SAFDAR A. GILL — 95 – 96, 107 – 119 SHEET NOS. — 11/30/06 EXPIRES 01/31/06 DATE

SUBMITTED BY William J. Schuch MANAGER, DIVISION OF PROJECT IMPLEMENTATION DATE 2/2/06

APPROVED BY Larry R. Clerk DIRECTOR DATE 2/3/2006

FOR INDEX OF SHEETS AND STANDARDS, SEE SHEET G-2

INDEX OF DRAWINGS

UTILITY REFERENCE TABLE

J.U.L.I.E.	CALL 48 HOURS PRIOR TO CONSTRUCTION	(800) 892-0123
ELECTRICITY	COMMONWEALTH EDISON TERRI BLECK CUSTOMER FACILITIES REPRESENTATIVE 1500 FRANKLIN BLVD LIBERTYVILLE, IL 60048	(847) 816-5239
SEWER	METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO JOHN C. FARNAN 111 EAST ERIE STREET CHICAGO, IL 60611	(312) 751-5600
	CITY OF DES PLAINES TIM WATKINS 1420 MINER STREET DES PLAINES, ILLINOIS 60016	(847) 391-5468
WATER	CITY OF DES PLAINES MIKE GRACZYK 1420 MINER STREET DES PLAINES, ILLINOIS 60016	(847) 391-5469
COMMUNICATIONS	SBC AMERITECH 2004 MINER STREET, FLOOR #1 DES PLAINES, IL 60016	
	JON DOLES (UNDERGROUND)	(847) 759-5507
	DIERDRE SIMO-KEHL (AERIAL)	(847) 759-5503
	MCI WORLDCOM JIM TODD 7719 W. 60TH PLACE SUMMIT, IL 60501	(708) 458-6410
	LEVEL 3 COMMUNICATIONS MATTHEW WILLIAMS GLOBAL NETWORK SERVICES 1025 ELDORADO BLVD, 33A-523 BROOMFIELD CO 80021	(720) 888-3813
	DAN NICHOLSON(FIELD REPRESENTATIVE)	(630) 620-8942
	ISHTA FIBER OPTICS PATRICIA MATHEZ 2700 OGDEN AVENUE DOWNERS GROVE, IL 60515	(630) 739-0546
GAS	NICOR GAS DAN APEL EN ENGINEERING 7135 JANES AVENUE WOODRIDGE, IL 60517	(630) 353-4013
CABLE TELEVISION	COMCAST CORNELIO DELACERDA 1575 ROHLWING ROAD ROLLING MEADOWS, IL 60008	(847) 725-6747
	WIDE OPEN WEST BRIAN HURD 1674 FRONTENAC ROAD NAPERVILLE, IL 60563	(630) 536-3127
RAILROAD	UNION PACIFIC RAILROAD TIM NEUMAIER (CONSTRUCTION COORDINATOR) 1144 ROLLING LANE LAKE GENEVA, WI 53147	(815) 341-9068

LEGEND — Existing — Proposed

Storm Sewer

Sanitary Sewer

GENERAL NOTES

All elevations refer to 1929 N.A.V.D. (North American Vertical Datum).

The Contractor shall furnish, erect, and when directed by the Engineer, completely remove two construction signs. The exact location of the signs shall be determined by the Engineer in the field.

All lateral drainage that exists prior to construction shall be restored as shown on the plans and as directed by the Engineer. Unless otherwise specified all costs of restoration shall be considered incidental to the Contract and no additional compensation will be allowed.

All excess excavation and unsuitable materials shall be disposed of at locations provided by the Contractor at his expense and at locations inspected and approved by the Engineer.

All construction operations shall be contained within the easement area or work limits as indicated on the plans.

Class SI Concrete shall be used throughout. All exposed edges of concrete shall be beveled 3/4 ".

Reinforcement bars shall conform to the requirements of AASHTO M-31, M-42, or M-53 Grade 60.

All reinforcement bars shall be marked by bar designation and name of structure.

All structural steel shall be galvanized in accordance with AASHTO M-111 and ASTM A-385.

Plan dimensions and details relative to the existing structure have been taken from existing plans and/or past surveys and reports and are subject to nominal construction variations. It shall be the Contractor's responsibility to verify such dimensions and details in the field 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 the scope of the work; however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.

The Contractor is reminded to protect and restore at his expense, in accordance with Article 107.20 of the Standard Specifications, any private or public properly, including access roads, which may be damaged or destroyed due to construction operations.

All utilities affected by the improvement shall be adjusted by others except as noted in the plans. Prior to beginning work in the vicinity of the utilities, the Contractor shall contact the respective owners as shown on this sheet, and he shall schedule his work so as not to interfere with these adjustments.

Unless otherwise specified, all utilities shall be protected and not disturbed. All costs of protection shall be considered incidental to the contract, and no additional compensation will be allowed.

All open excavations are to be surrounded with a four feet construction fence during non-working hours. The fence material shall be approved by the Engineer. The cost shall be incidental to the contract.

All material excavated, except rock, from the bottom of the existing channel must be deposited in a self-contained area in compliance with all State statutes, regulations, and permit requirements with no discharge to public waters unless a permit has been issued by the Illinois E.P.A.

The location, maintenance, removal, and restoration to original condition of all haul roads shall be as approved by the Engineer and all cost shall be incidental to the Contract.

The Contractor shall notify the City of Des Plaines and the Township concerning the closing of City streets and conform to all requirements so specified without additional cost to the State.

Elevation 0.0 NAVD (1929) = 0.3 USGS (1988)

STATE STANDARDS

280001-02	TEMPORARY EROSION CONTROL SYSTEMS
420401-05	BRIDGE APPROACH PAVEMENT
424001-03	CURB RAMPS FOR SIDEWALKS
542301	PRECAST REINFORCED CONCRETE FLARED END SECTION
542311	GRATING FOR CONCRETE FLARED END SECTION (FOR 24" THRU 54" PIPE)
602001	CATCH BASIN TYPE A
602011	CATCH BASIN TYPE C
602301	INLET TYPE A
602401	MANHOLE TYPE A
602406-01	MANHOLE TYPE A 72" DIAMETER
602601	PRECAST REINFORCED CONCRETE FLAT SLAB TOP
602701	CAST IRON STEPS
604001-02	FRAME AND LIDS TYPE 1
604306-01	GRATE TYPE 8
606001-02	CONCRETE CURB TYPE B AND COMBINATION CONCRETE CURB AND GUTTER
630001-05	STEEL PLATE BEAM GUARDRAIL
664001-01	CHAIN LINK FENCE
702001-05	TRAFFIC CONTROL DEVICES
704001-02	TEMPORARY CONCRETE BARRIER
720001	SIGN PANEL MOUNTING DETAILS
720006	SIGN PANEL ERECTION DETAILS
720011	METAL POSTS FOR SIGNS, MARKERS & DELINEATORS
729001	APPLICATIONS OF TYPES A & B METAL POSTS (FOR SIGNS & MARKERS)
814001	CONCRETE HANDHOLES

EARTHWORK SUMMARY TABLE

(ALL UNITS IN CUBIC YARDS)

LOCATIONS	STRUCTURE EXCAVATION	EARTH EXCAVATION (INCLUDES TOP SOIL EXCAVATION)	EMBANKMENT (NOT PAID FOR)	BALANCE TOTAL EXCAVATION – (EMBANKMENT X 125%)	LEVEE EMBANKMENT (CLAY)
BIKE TRAIL AND CAMP GROUND ROAD (SOUTH OF MINER STREET)	15	989	300	629	0
BIKE TRAIL CULVERT	1,695	0	0	1,695	0
BIKE TRAIL AND FLOODWALL (MINER STREET TO END OF FLOOD WALL)	1,343	3,952	1,668	3,210	0
BIKE TRAIL EXTENSION TO RAND ROAD	0	96	654	-722	0
BIKE TRAIL AND WITTBOLD LEVEE (END OF FLOODWALL TO RAND ROAD)	0	2,906	289	2,545	8,308
RAND LEVEE (RAND ROAD TO TOLLWAY)	0	5,306	31	5,267	8,064
RAND ROAD AND BALLARD ROAD GATE STRUCTURES	168	0	130	6	0
TOTALS	3,221	13,249	3,072	12,630	16,372

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DESIGNED BY: _____
DRAWN BY: _____

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FR-416

SUMMARY OF QUANTITIES

CODE NO.	PAY ITEM	UNIT	QUANTITY TOTAL	FC	T	C	DP
20100500	TREE REMOVAL, ACRES	ACRE	5.3	3.9	1.4		
20101100	TREE TRUNK PROTECTION	EACH	7	7			
20200100	EARTH EXCAVATION	CU YD	13,249	8,008	4,557	684	
20800150	TRENCH BACKFILL	CU YD	842	805	7	30	
21101625	TOPSOIL FURNISH AND PLACE, 6"	SQ YD	25,400	23,160	1,640	600	
21301048	EXPLORATION TRENCH 48" DEPTH	FOOT	450	450			
25100630	EROSION CONTROL BLANKET	SQ YD	15,991	14,361	1,630		
28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	1,000	1,000			
28000300	TEMPORARY DITCH CHECKS	EACH	6	6			
28000400	PERIMETER EROSION BARRIER	FOOT	3,999	3,278	721		
28000500	INLET AND PIPE PROTECTION	EACH	9	6	2	1	
28100705	STONE DUMPED RIPRAP, CLASS A3	SQ YD	3,200		3,200		
31101100	SUB-BASE GRANULAR MATERIAL, TYPE B	CU YD	450	450			
31101200	SUB-BASE GRANULAR MATERIAL, TYPE B 4"	SQ YD	4,940		4,940		
31101400	SUB-BASE GRANULAR MATERIAL, TYPE B 8"	SQ YD	882			882	
42001400	BRIDGE APPROACH PAVEMENT (SPECIAL)	SQ YD	358	358			
42001420	BRIDGE APPROACH PAVEMENT CONNECTOR (PCC)	SQ YD	61	61			
44001700	COMBINATION CONCRETE CURB AND GUTTER REMOVAL AND REPLACEMENT	FOOT	165	165			
42400200	PORTLAND CEMENT CONCRETE SIDEWALK 5 INCH	SQ FT	6,765	6,765			
42400410	PORTLAND CEMENT CONCRETE SIDEWALK 8 INCH	SQ FT	150		150		
42400200	TEMPORARY SIDEWALK	SQ FT	410	410			
44000100	PAVEMENT REMOVAL	SQ YD	950			950	
44000500	COMBINATION CURB AND GUTTER REMOVAL	FOOT	134	134			
44000600	SIDEWALK REMOVAL	SQ FT	3,880	3,880			
44000700	APPROACH SLAB REMOVAL	SQ YD	419	419			
44100100	PAVEMENT REPLACEMENT	SQ YD	735	735			
48100300	AGGREGATE SHOULDERS, TYPE A 4"	SQ YD	1,046	218	240	257	331
50100200	REMOVAL OF EXISTING STRUCTURES	L SUM	1	1			
50104400	CONCRETE HEADWALL REMOVAL	EACH	4	4			
50200100	STRUCTURE EXCAVATION	CU YD	3,221	3,125			96
50300225	CONCRETE STRUCTURES	CU YD	1,754	1,672	12		70
50300255	CONCRETE SUPERSTRUCTURE	CU YD	8	8			
50300300	PROTECTIVE COAT	SQ YD	10,696	5,546	4,943		207
50500505	STUD SHEAR CONNECTORS	EACH	17,283	16,427	116		740
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	168,983	164,414	729		3,840
51204900	STEEL SHEET PILING	SQ FT	90,473	84,273	6,200		
51205200	TEMPORARY SHEET PILING	SQ FT	2,030	2,030			
54003000	CONCRETE BOX CULVERTS	CU YD	147	147			
54213657	PRECAST REINFORCED CONCRETE FLARED END SECTIONS 12"	EACH	5	3	2		
54213660	PRECAST REINFORCED CONCRETE FLARED END SECTIONS 15"	EACH	2	2			
54215415	CAST-IN-PLACE REINFORCED CONCRETE END SECTIONS 15"	EACH	2	2			
54215424	CAST-IN-PLACE REINFORCED CONCRETE END SECTIONS 24"	EACH	1	1			

SUMMARY OF QUANTITIES

CODE NO.	PAY ITEM	UNIT	QUANTITY TOTAL	FC	T	C	DP
54247100	GRATING FOR CONCRETE FLARED END SECTION 15"	EACH	1	1			
55019500	STORM SEWERS, TYPE 1, REINFORCED CONCRETE CULVERT, STORM DRAIN, AND SEWER PIPE, CLASS IV 12	FOOT	71	17		54	
55019600	STORM SEWERS, TYPE 1, REINFORCED CONCRETE CULVERT, STORM DRAIN, AND SEWER PIPE, CLASS IV 15	FOOT	8			8	
55021600	STORM SEWERS, TYPE 2, REINFORCED CONCRETE CULVERT, STORM DRAIN, AND SEWER PIPE, CLASS III 12	FOOT	1,010	964	46		
55021700	STORM SEWERS, TYPE 2, REINFORCED CONCRETE CULVERT, STORM DRAIN, AND SEWER PIPE, CLASS III 15	FOOT	70	70			
55021800	STORM SEWERS, TYPE 2, REINFORCED CONCRETE CULVERT, STORM DRAIN, AND SEWER PIPE, CLASS III 18	FOOT	42	42			
55022000	STORM SEWERS, TYPE 2, REINFORCED CONCRETE CULVERT, STORM DRAIN, AND SEWER PIPE, CLASS III 24	FOOT	131	131			
55022400	STORM SEWERS, TYPE 2, REINFORCED CONCRETE CULVERT, STORM DRAIN, AND SEWER PIPE, CLASS III 36	FOOT	118	118			
55037700	STORM SEWERS TO BE CLEANED 10"	FOOT	70	70			
55037800	STORM SEWERS TO BE CLEANED 12"	FOOT	38	38			
55038000	STORM SEWERS TO BE CLEANED 18"	FOOT	70	70			
55038200	STORM SEWERS TO BE CLEANED 24"	FOOT	66	66			
55100400	STORM SEWER REMOVAL 10"	FOOT	100	100			
55100500	STORM SEWER REMOVAL 12"	FOOT	100	100			
55101200	STORM SEWER REMOVAL 24"	FOOT	20	20			
58100200	WATERPROOFING MEMBRANE SYSTEM	SQ YD	119	119			
60200805	CATCH BASINS, TYPE A, 4'-DIAMETER, TYPE 8 GRATE	EACH	1			1	
60206905	CATCH BASINS, TYPE C, TYPE 1 FRAME, OPEN LID	EACH	2	2			
60207605	CATCH BASINS, TYPE C, TYPE 8 GRATE	EACH	2		2		
60218400	MANHOLES, TYPE A, 4'-DIAMETER, TYPE 1 FRAME, CLOSED LID	EACH	5	5			
60221100	MANHOLES, TYPE A, 5'-DIAMETER, TYPE 1 FRAME, CLOSED LID	EACH	2	1	1		
60223600	MANHOLES, TYPE A, 6'-DIAMETER, TYPE 1 FRAME, CLOSED LID	EACH	2	2			
60224085	MANHOLES, TYPE A, 6'-DIAMETER, WITH SALVAGED FRAME AND LID	EACH	2	2			
60236400	INLETS, TYPE A, TYPE 8 GRATE (24" DEPTH)	EACH	3	3			
60500040	REMOVING MANHOLES	EACH	6	6			
60603800	COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.12	FOOT	149	149			
60608300	COMBINATION CONCRETE CURB AND GUTTER, TYPE M-2.12	FOOT	371	371			
63000000	STEEL PLATE BEAM GUARD RAIL, TYPE A	FOOT	86			86	
63000130	STEEL PLATE BEAM GUARD RAIL, TYPE A (SPECIAL)	FOOT	200			200	
63200310	GUARDRAIL REMOVAL	FOOT	386	286		100	
66400305	CHAIN LINK FENCE, 6'	FOOT	118	118			
66410300	CHAIN LINK FENCE REMOVAL	FOOT	1,016	1,016			
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	22	22			
67100100	MOBILIZATION	L SUM	1	1			
70101800	TRAFFIC CONTROL AND PROTECTION (SPECIAL)	L SUM	1	1			
70300510	PAVEMENT MARKING TAPE, TYPE III - LETTERS AND SYMBOLS	SQ FT	36	36			
70300520	PAVEMENT MARKING TAPE, TYPE III 4"	FOOT	14,000	14,000			
70300540	PAVEMENT MARKING TAPE, TYPE III 6"	FOOT	1,256	1,256			
70301000	WORK ZONE PAVEMENT MARKING REMOVAL	SQ FT	5,230	5,230			
70400100	TEMPORARY CONCRETE BARRIER	FOOT	240	240			
70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	480	480			
72000100	SIGN PANEL - TYPE 1	SQ FT	56		18		38

QUANTITY LEGEND

TOTAL – TOTAL PROJECT QUANTITY
FC – IDNR FLOOD CONTROL QUANTITY
T – IDNR TRAILS QUANTITY
C – CAMPGROUND ROAD QUANTITY
DP – CITY OF DES PLAINES QUANTITY

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SUMMARY OF QUANTITIES

CODE NO.	PAY ITEM	UNIT	QUANTITY TOTAL	FC	T	C	DP
72900200	METAL POST - TYPE B	FOOT	125		50		75
78000200	THERMOPLASTIC PAVEMENT MARKING - LINE .4"	FOOT	10,728		10,728		
78000650	THERMOPLASTIC PAVEMENT MARKING - LINE .24"	FOOT	12		12		
78008110	POLYUREA PAVEMENT MARKING - LINE .4"	FOOT	5,012	3,600		1412	
78008120	POLYUREA PAVEMENT MARKING - LINE .5"	FOOT	1,106	1,106			
78008180	POLYUREA PAVEMENT MARKING - LINE .24"	FOOT	11			11	
Z0000990	AGGREGATE FOR TEMPORARY ACCESS	TON	20	20			
Z0002600	BAR SPLICERS	EACH	72	72			
Z0013825	CONTROLLED LOW-STRENGTH MATERIAL	CU YD	440	440			
Z0030010	IMPACT ATTENUATORS (TEMPORARY)	EACH	2	2			
X0000830	PIPE UNDERDRAINS, PERFORATED PVC 6 INCH	FOOT	350		350		
X0003967	TURBIDITY CURTAIN	FOOT	2,506	2,506			
X0321156	HIGH VISIBILITY TEMPORARY FENCING	FOOT	1,815	1,815			
X0321561	FURNISHING AND INSTALLING TRAFFIC BARRIER TERMINAL, TYPE 1 SPECIAL	EACH	1			1	
X0322415	TEMPORARY SOIL RETENTION SYSTEM	SQ FT	1,050	1,050			
X0712400	TEMPORARY PAVEMENT	SQ YD	228	228			
X3550200	BITUMINOUS BASE COURSE SUPERPAVE 5"	SQ YD	863			863	
X4066414	BITUMINOUS CONCRETE SURFACE COURSE, SUPERPAVE, MIX "C", N50	TON	99			99	
X4066614	BITUMINOUS CONCRETE BINDER COURSE, SUPERPAVE, IL-19.0, N50	TON	111			111	
	CONSTRUCTION STAKING	L SUM	1	1			
	PORTLAND CEMENT CONCRETE BIKE TRAIL 6 INCH	SQ FT	44,452		44,452		
	SEEDING, MULCHING, AND FERTILIZING	ACRE	5.6	5.1	0.5		
	LEVEE EMBANKMENT	CU YD	16,372	16,372			
	HANDRAIL 54"	FOOT	2,118		2,118		
	HANDRAIL 24"	FOOT	270	270			
	GRATING FOR CONCRETE FLARED END SECTION 12"	EACH	1	1			
	REMOVE, STORE AND REERECT TRAFFIC SIGN	EACH	10	7		3	
	REMOVE, STORE AND REERECT TRAFFIC SIGN WITH LIGHT	EACH	1	1			
	REMOVE, STORE AND REERECT CAMPGROUND ROAD CLOSURE SWING GATE	EACH	1			1	
	BIG BEND LAKE PIPE EXTENSIONS	L SUM	1	1			
	WHEELS PUMP STATION STRUCTURE	L SUM	1	1			
	WHEELS PUMP STATION ELECTRICAL WORK	L SUM	1	1			
	WHEELS PUMP STATION PUMPS, PUMP CONTROLS, PIPING AND APPURTANCES	LSUM	1	1			
	MINER STREET PUMP STATION STRUCTURE	L SUM	1	1			
	ELECTRIC SERVICE CONNECTION - MINER STREET PUMP STATION	L SUM	1	1			
	ELECTRIC SERVICE INSTALLATION - MINER STREET PUMP STATION	L SUM	1	1			
	MINER STREET PUMP STATION ELECTRICAL WORK	L SUM	1	1			
	MINER STREET PUMP STATION PUMPS, PUMP CONTROLS, PIPING AND APPURTANCES	LSUM	1	1			
	RAND ROAD FLOOD GATE	L SUM	1	1			
	BALLARD ROAD FLOOD GATE	L SUM	1	1			
	TIDEFLEX FOR 6" DUCTILE IRON PIPE	EACH	1	1			
	TIDEFLEX FOR 12" REINFORCED CONCRETE PIPE	EACH	3	3			
	TIDEFLEX FOR 15" REINFORCED CONCRETE PIPE	EACH	2	2			
	TIDEFLEX FOR 24" REINFORCED CONCRETE PIPE	EACH	2	2			
	TIDEFLEX FOR 36" REINFORCED CONCRETE PIPE	EACH	1	1			
	TIDEFLEX FOR 96" REINFORCED CONCRETE PIPE	EACH	1	1			
	MICROPILE	EACH	8	8			
	MICROPILE, TENSION TEST PILE	EACH	1	1			

SUMMARY OF QUANTITIES

CODE NO.	PAY ITEM	UNIT	QUANTITY TOTAL	FC	T	C	DP
	ARCHITECTURAL CONCRETE FORM LINER FINISH	SQ FT	24,602	23,998			604
	MINER STREET GATE STRUCTURE	L SUM	1	1			
	ELECTRIC SERVICE CONNECTION - BIKE TRAIL LIGHTING SYSTEM	L SUM	1	1			
	ELECTRIC SERVICE INSTALLATION - BIKE TRAIL LIGHTING SYSTEM	L SUM	1	1			
	BIKE TRAIL LIGHTING SYSTEM - FLOOD CONTROL	L SUM	1	1			
	BIKE TRAIL LIGHTING SYSTEM - DES PLAINES	L SUM	1				1
	MINER STREET WATER MAIN RELOCATION	L SUM	1				1
	INTERCEPTOR NO. 9 STRUCTURE	L SUM	1	1			
	TEMPORARY CURB AND GUTTER	FOOT	20	20			
	1842 E. MINER STREET DEMOLITION AND MODIFICATIONS	L SUM	1				1
	1844 E. MINER STREET DEMOLITION AND MODIFICATIONS	L SUM	1				1
	MINER ST. STAIRS	L SUM	1				1

QUANTITY LEGEND

TOTAL – TOTAL PROJECT QUANTITY
FC – IDNR FLOOD CONTROL QUANTITY
T – IDNR TRAILS QUANTITY
C – CAMPGROUND ROAD QUANTITY
DP – CITY OF DES PLAINES QUANTITY

DESIGNED BY: _____ CHECKED BY: _____
DRAWN BY: _____ CHECKED BY: _____

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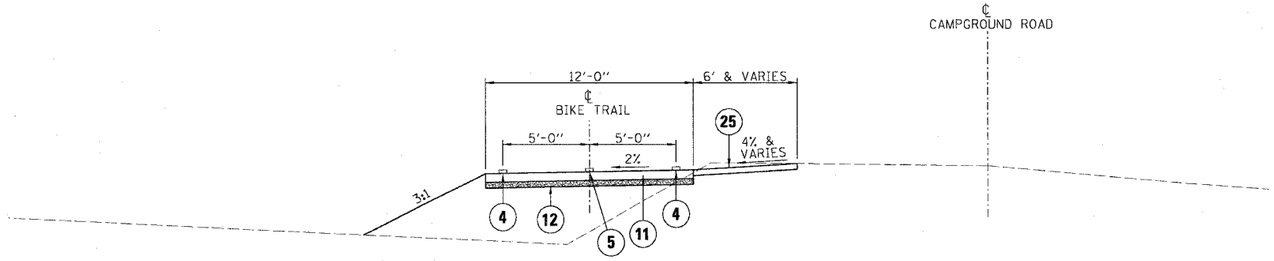
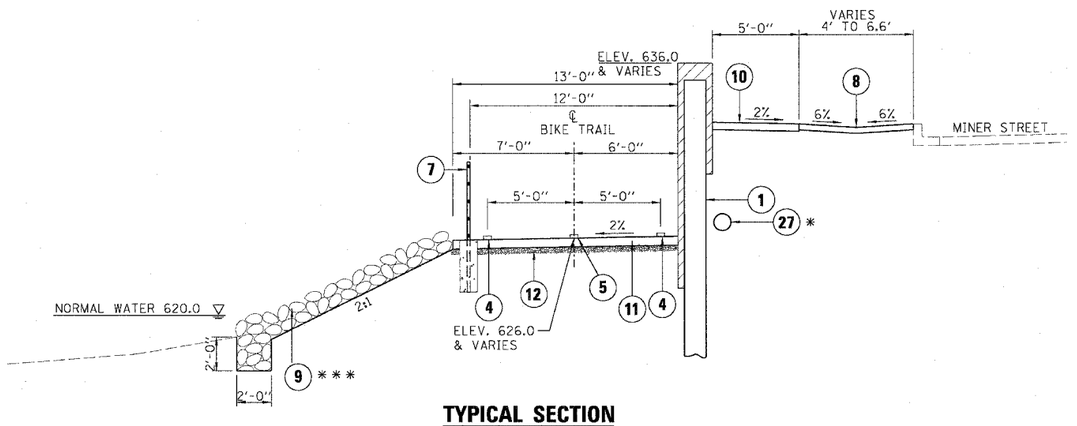
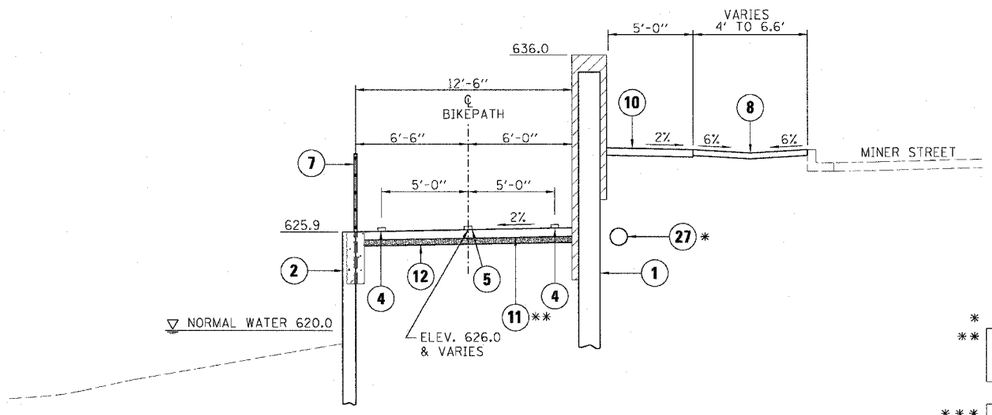


TYPICAL SECTION
STA. 4+24 TO STA. 8+00

SEE SHEET G-9 FOR TYPICAL SECTION STA. 8+00 TO STA. 11+65



TYPICAL SECTION
STA. 13+00 TO STA. 17+50



TYPICAL SECTION
STA. 17+50 TO STA. 22+00

* STA. 16+52 TO STA. 25+00

** THE BIKE TRAIL PAVEMENT THICKNESS SHALL BE 12" FROM STATION 21+50 TO 21+80. NO ADDITIONAL COMPENSATION WILL BE MADE FOR THE INCREASED THICKNESS. SEE FLOODWALL DRAWINGS FOR MORE DETAILS.

*** PER IDOT STANDARD ART. 281.04 (d), MINIMUM 12" THICKNESS PLACED ON FILTER FABRIC, NO ADDITIONAL COMPENSATION WILL BE MADE FOR THE INCREASED THICKNESS OF THE STONE DUMPED RIP RAP, CLASS A-3 AT THE LOCATION OF THE TOE TRENCH.

LEGEND

1. FLOODWALL
2. STEEL SHEET PILE RETAINING WALL
3. M-2.12 CURB AND GUTTER
4. 4" WHITE THERMOPLASTIC PAVEMENT MARKING
5. 4" YELLOW THERMOPLASTIC PAVEMENT MARKING
6. 24" HANDRAIL
7. 54" HANDRAIL
8. 6" TOPSOIL AND SEED
9. STONE DUMPED RIPRAP, CLASS A3 (12" MIN THICKNESS)
10. 5" PCC SIDEWALK
11. 6" PCC BIKE TRAIL
12. 4" SUBBASE GRANULAR MATERIAL, TYPE B
13. 2" BITUMINOUS CONCRETE SURFACE COURSE
14. 2¼" BITUMINOUS CONCRETE BINDER COURSE
15. 5" BITUMINOUS BASE COURSE
16. 6" SUBBASE GRANULAR MATERIAL, TYPE B
17. PAVEMENT REPLACEMENT
18. EARTH EXCAVATION
19. 48" EXPLORATION TRENCH
20. LEVEE EMBANKMENT
21. STEEL PLATE BEAM GUARDRAIL, TYPE A (SPECIAL)
22. 4" WHITE POLYUREA PAVEMENT MARKING
23. 4" DOUBLE YELLOW POLYUREA PAVEMENT MARKING
24. 6" PIPE UNDERDRAIN
25. 4" AGGREGATE SHOULDER
26. STEEL PLATE BEAM GUARDRAIL, TYPE A
27. 12" RCP STORM SEWER, TYPE 2, CLASS III

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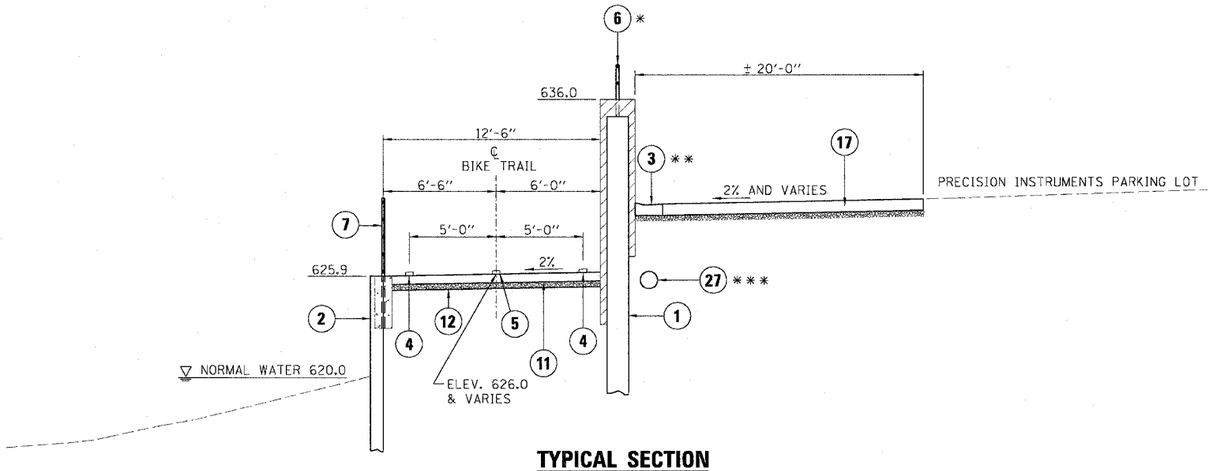
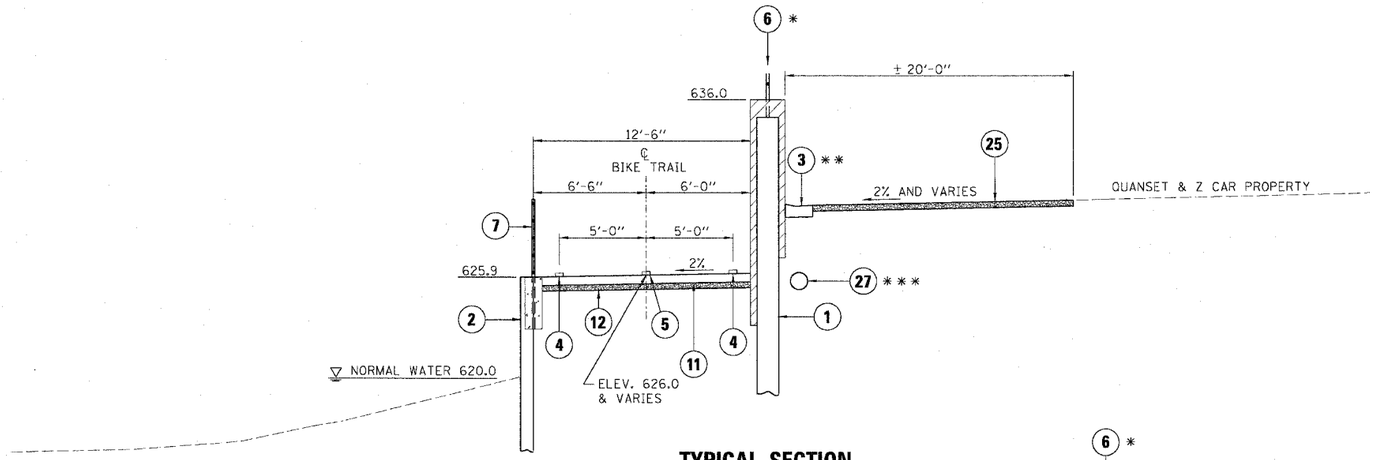
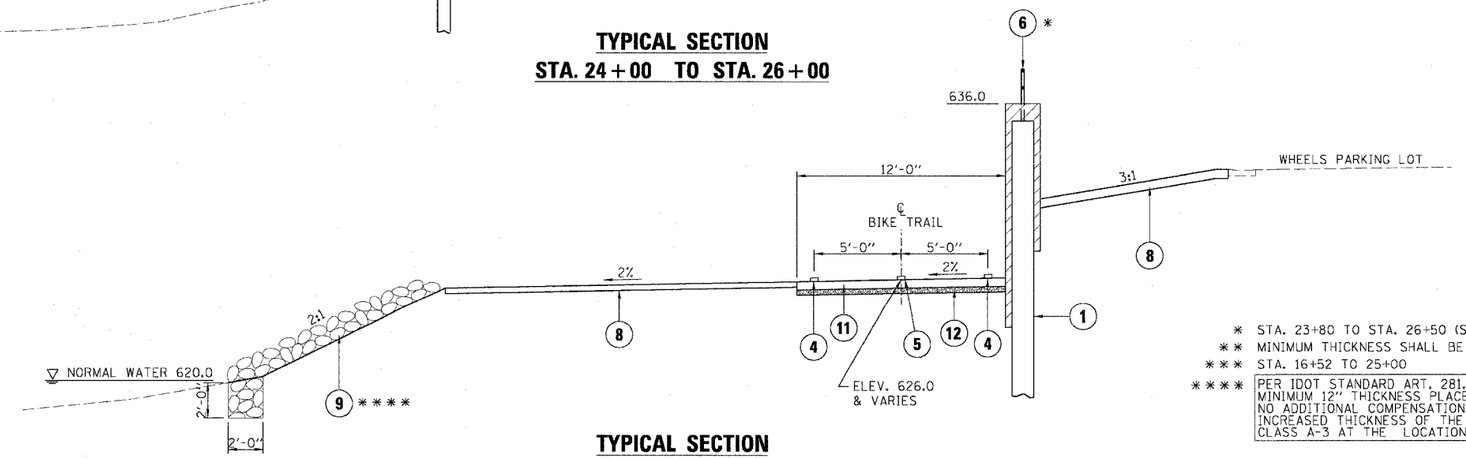


TYPICAL SECTION
STA. 22+00 TO STA. 24+00



TYPICAL SECTION
STA. 24+00 TO STA. 26+00



TYPICAL SECTION
STA. 26+00 TO STA. 29+00

LEGEND

1. FLOODWALL
2. STEEL SHEET PILE RETAINING WALL
3. M-2.12 CURB AND GUTTER
4. 4" WHITE THERMOPLASTIC PAVEMENT MARKING
5. 4" YELLOW THERMOPLASTIC PAVEMENT MARKING
6. 24" HANDRAIL
7. 54" HANDRAIL
8. 6" TOPSOIL AND SEED
9. STONE DUMPED RIPRAP, CLASS A3 (12" MIN THICKNESS)
10. 5" PCC SIDEWALK
11. 6" PCC BIKE TRAIL
12. 4" SUBBASE GRANULAR MATERIAL, TYPE B
13. 2" BITUMINOUS CONCRETE SURFACE COURSE
14. 2¼" BITUMINOUS CONCRETE BINDER COURSE
15. 5" BITUMINOUS BASE COURSE
16. 6" SUBBASE GRANULAR MATERIAL, TYPE B
17. PAVEMENT REPLACEMENT
18. EARTH EXCAVATION
19. 48" EXPLORATION TRENCH
20. LEVEE EMBANKMENT
21. STEEL PLATE BEAM GUARDRAIL, TYPE A (SPECIAL)
22. 4" WHITE POLYUREA PAVEMENT MARKING
23. 4" DOUBLE YELLOW POLYUREA PAVEMENT MARKING
24. 6" PIPE UNDERDRAIN
25. 4" AGGREGATE SHOULDER
26. STEEL PLATE BEAM GUARDRAIL, TYPE A
27. 12" RCP STORM SEWER, TYPE 2, CLASS III

* STA. 23+80 TO STA. 26+50 (SEE FLOOD WALL PLANS)
** MINIMUM THICKNESS SHALL BE 8"
*** STA. 16+52 TO 25+00
**** PER IDOT STANDARD ART. 281.04 (d), MINIMUM 12" THICKNESS PLACED ON FILTER FABRIC, NO ADDITIONAL COMPENSATION WILL BE MADE FOR THE INCREASED THICKNESS OF THE STONE DUMPED RIP RAP, CLASS A-3 AT THE LOCATION OF THE TOE TRENCH.

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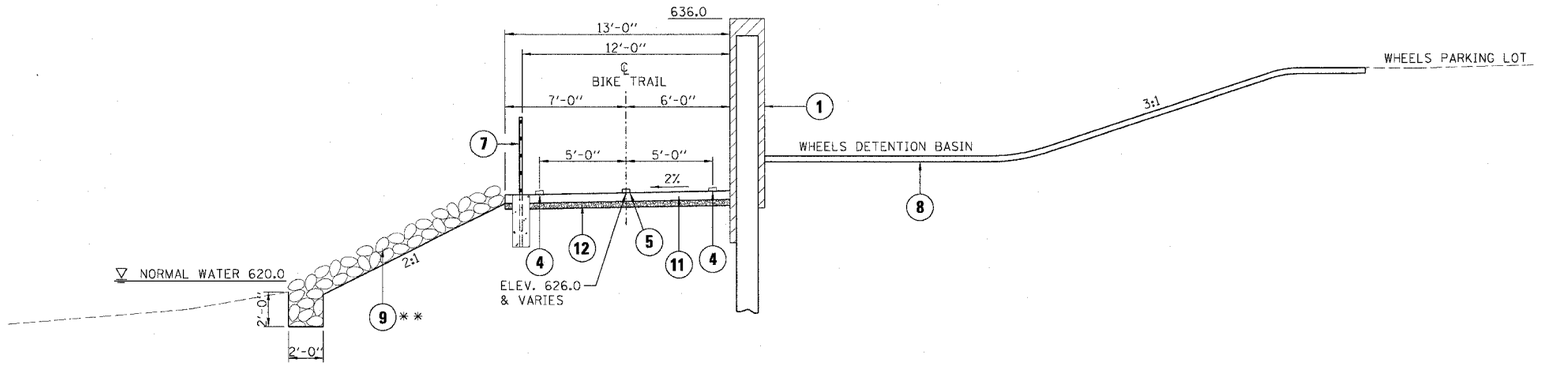
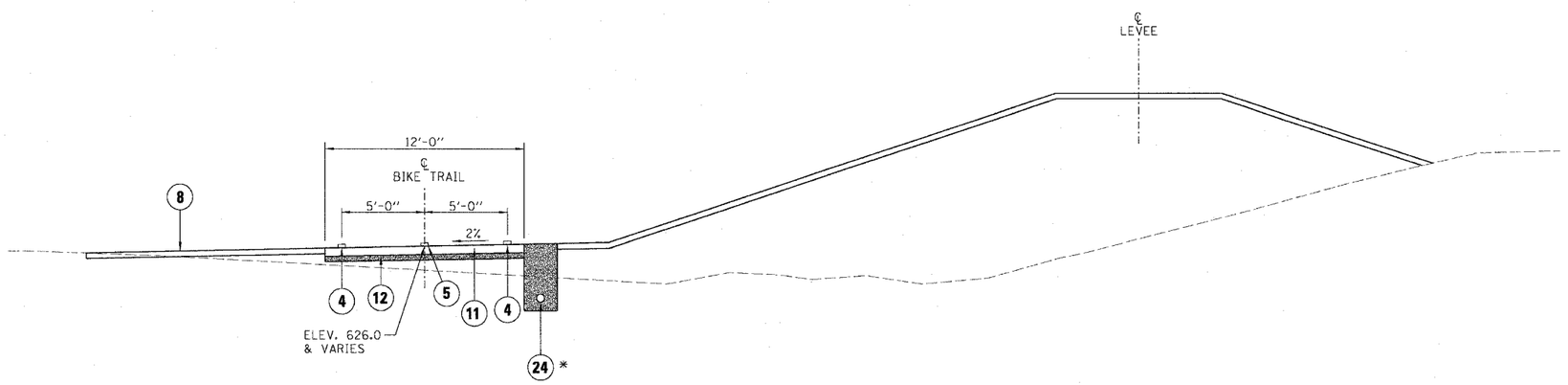


TYPICAL SECTION
STA. 29+00 TO STA. 33+00



TYPICAL SECTION
STA. 33+00 TO STA. 40+00.18

* STA. 34+00 TO STA. 37+50

** PER IDOT STANDARD ART. 281.04 (d), MINIMUM 12" THICKNESS PLACED ON FILTER FABRIC, NO ADDITIONAL COMPENSATION WILL BE MADE FOR THE INCREASED THICKNESS OF THE STONE DUMPED RIP RAP, CLASS A-3 AT THE LOCATION OF THE TOE TRENCH.

LEGEND

1. FLOODWALL
2. STEEL SHEET PILE RETAINING WALL
3. M-2.12 CURB AND GUTTER
4. 4" WHITE THERMOPLASTIC PAVEMENT MARKING
5. 4" YELLOW THERMOPLASTIC PAVEMENT MARKING
6. 24" HANDRAIL
7. 54" HANDRAIL
8. 6" TOPSOIL AND SEED
9. STONE DUMPED RIPRAP, CLASS A3 (12" MIN THICKNESS)
10. 5" PCC SIDEWALK
11. 6" PCC BIKE TRAIL
12. 4" SUBBASE GRANULAR MATERIAL, TYPE B
13. 2" BITUMINOUS CONCRETE SURFACE COURSE
14. 2¼" BITUMINOUS CONCRETE BINDER COURSE
15. 5" BITUMINOUS BASE COURSE
16. 6" SUBBASE GRANULAR MATERIAL, TYPE B
17. PAVEMENT REPLACEMENT
18. EARTH EXCAVATION
19. 48" EXPLORATION TRENCH
20. LEVEE EMBANKMENT
21. STEEL PLATE BEAM GUARDRAIL, TYPE A (SPECIAL)
22. 4" WHITE POLYUREA PAVEMENT MARKING
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24. 6" PIPE UNDERDRAIN
25. 4" AGGREGATE SHOULDER
26. STEEL PLATE BEAM GUARDRAIL, TYPE A
27. 12" RCP STORM SEWER, TYPE 2, CLASS III

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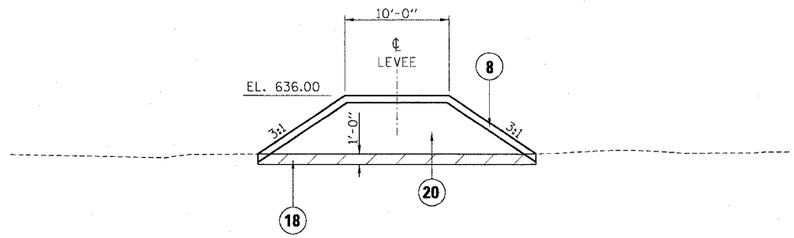
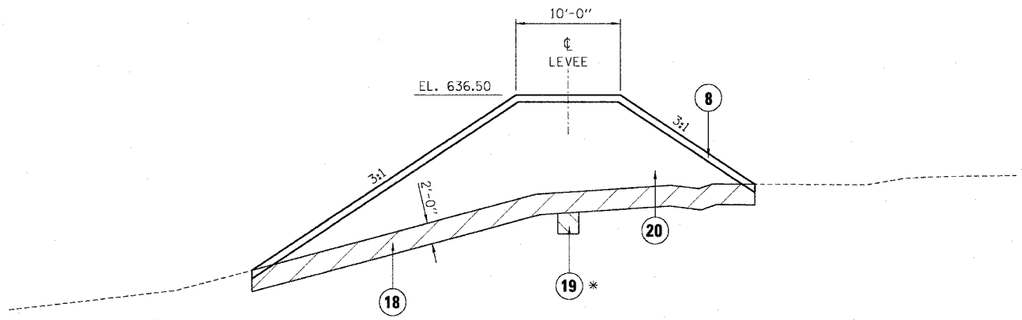
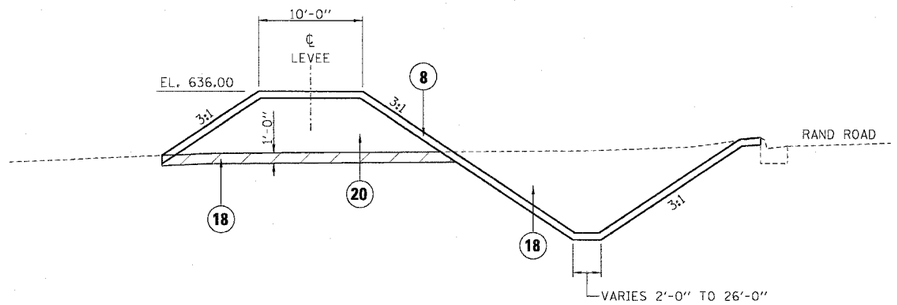


TYPICAL SECTION
STA. 10+00 TO STA. 10+50
STA. 13+50 TO STA. 14+50
STA. 29+50 TO 33+60



TYPICAL SECTION
STA. 10+50 TO STA. 13+50



TYPICAL SECTION
STA. 15+25 TO STA. 29+50

* THE EXPLORATION TRENCH SHALL BE FROM STA. 10+00 TO STA. 14+50

LEGEND

1. FLOODWALL
2. STEEL SHEET PILE RETAINING WALL
3. M-2.12 CURB AND GUTTER
4. 4" WHITE THERMOPLASTIC PAVEMENT MARKING
5. 4" YELLOW THERMOPLASTIC PAVEMENT MARKING
6. 24" HANDRAIL
7. 54" HANDRAIL
8. 6" TOPSOIL AND SEED
9. STONE DUMPED RIPRAP, CLASS A3 (12" MIN THICKNESS)
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11. 6" PCC BIKE TRAIL
12. 4" SUBBASE GRANULAR MATERIAL, TYPE B
13. 2" BITUMINOUS CONCRETE SURFACE COURSE
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21. STEEL PLATE BEAM GUARDRAIL, TYPE A (SPECIAL)
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24. 6" PIPE UNDERDRAIN
25. 4" AGGREGATE SHOULDER
26. STEEL PLATE BEAM GUARDRAIL, TYPE A
27. 12" RCP STORM SEWER, TYPE 2, CLASS III

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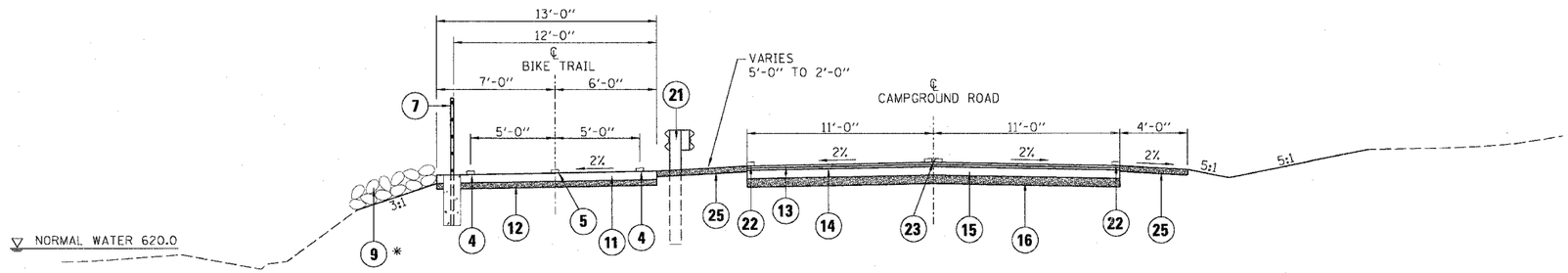
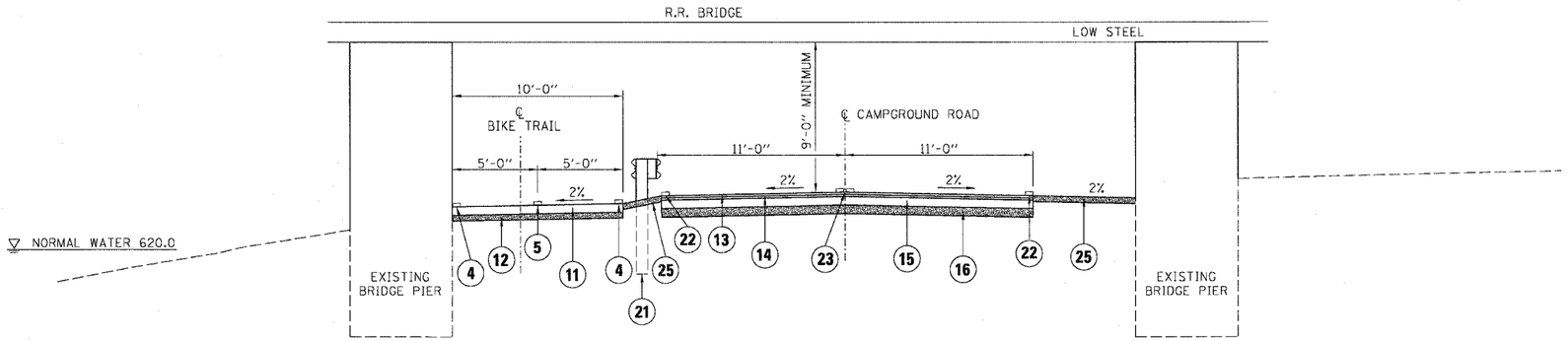
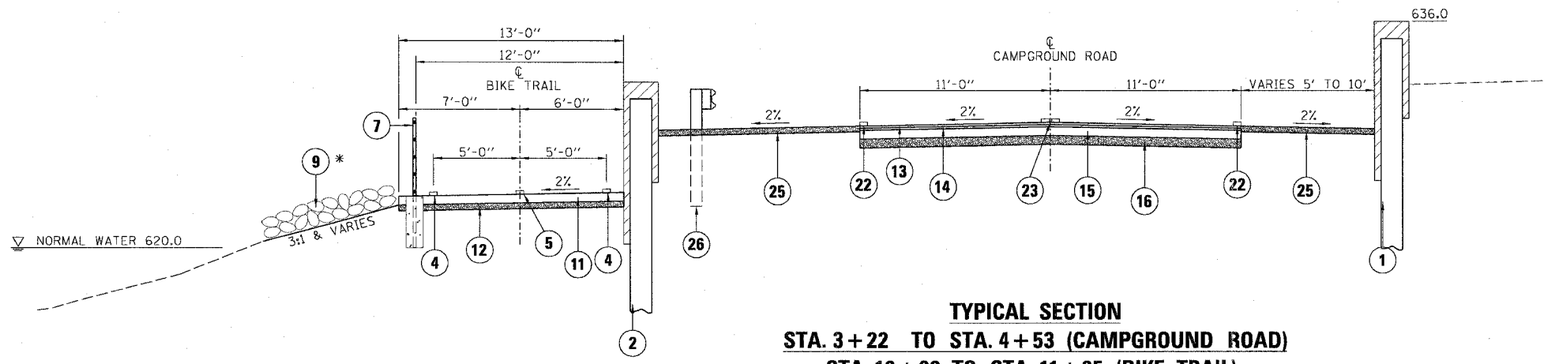


TYPICAL SECTION
STA. 1+00 TO STA. 2+60 (CAMPGROUND ROAD)
STA. 8+00 TO 9+60 (BIKE TRAIL)



TYPICAL SECTION
STA. 2+60 TO STA. 3+22 (CAMPGROUND ROAD)
STA. 9+80 TO STA. 10+60 (BIKE TRAIL)



TYPICAL SECTION
STA. 3+22 TO STA. 4+53 (CAMPGROUND ROAD)
STA. 10+60 TO STA. 11+65 (BIKE TRAIL)

LEGEND

1. FLOODWALL
2. STEEL SHEET PILE RETAINING WALL
3. M-2.12 CURB AND GUTTER
4. 4" WHITE THERMOPLASTIC PAVEMENT MARKING
5. 4" YELLOW THERMOPLASTIC PAVEMENT MARKING
6. 24" HANDRAIL
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8. 6" TOPSOIL AND SEED
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24. 6" PIPE UNDERDRAIN
25. 4" AGGREGATE SHOULDER
26. STEEL PLATE BEAM GUARDRAIL, TYPE A
27. 12" RCP STORM SEWER, TYPE 2, CLASS III

CAMPGROUND ROAD MIXTURE REQUIREMENTS

ITEM	AC TYPE	VOIDS	RAP %
BITUMINOUS CONCRETE BINDER COURSE, SUPERPAVE, IL-19.0, N50	PG 58-22	4% @ 50 Gry	25
BITUMINOUS BASE COURSE, SUPERPAVE	PG 58-22	2% @ 50 Gry	50
BITUMINOUS CONCRETE SURFACE COURSE, SUPERPAVE, MIX "C", N50	PG 64-22	4% @ 50 Gry	15

* PER IDOT STANDARD ART. 281.04 (d), MINIMUM 12" THICKNESS PLACED ON FILTER FABRIC, NO ADDITIONAL COMPENSATION WILL BE MADE FOR THE INCREASED THICKNESS OF THE STONE DUMPED RIP RAP, CLASS A-3 AT THE LOCATION OF THE TOE TRENCH.

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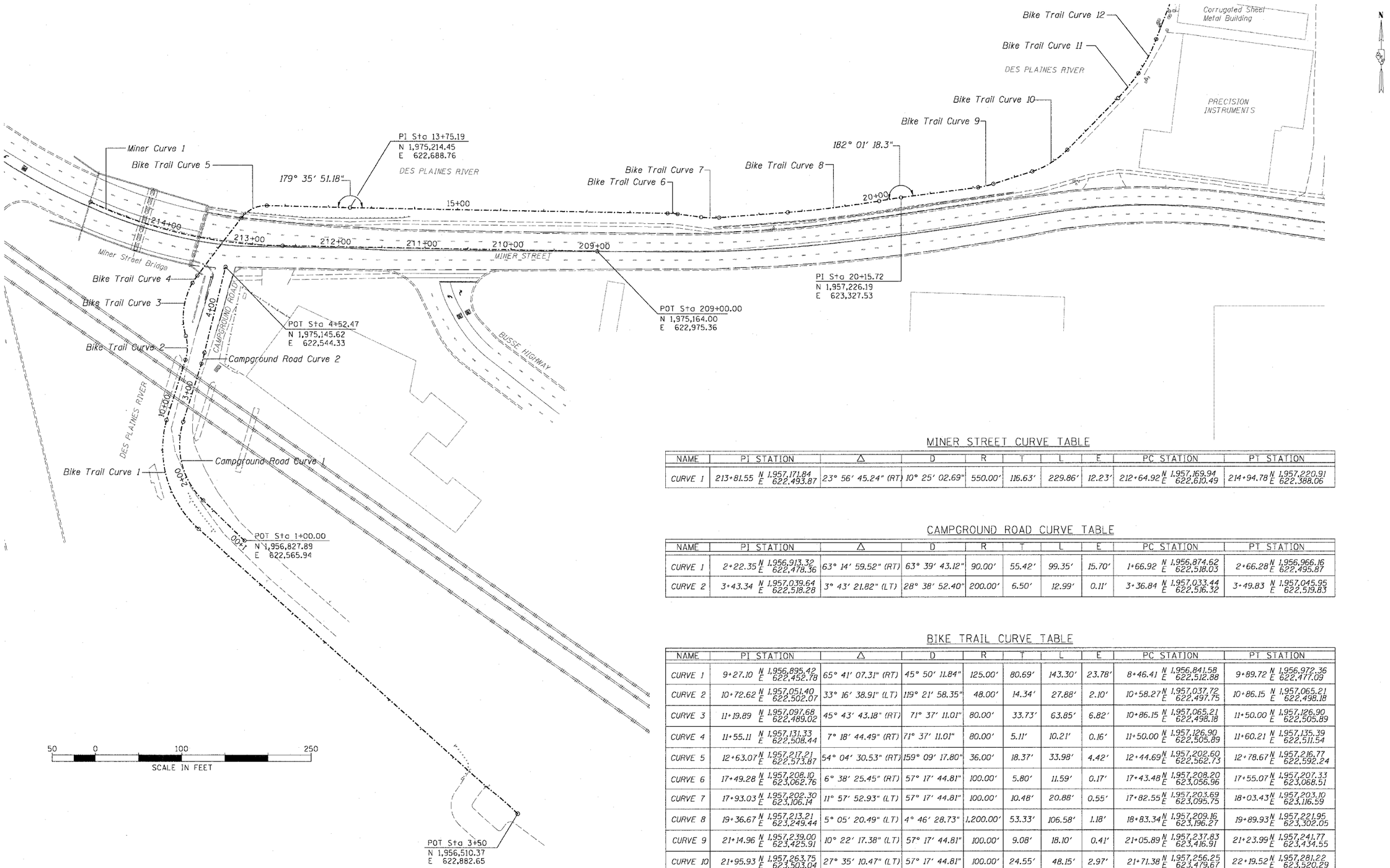

MINER STREET CURVE TABLE

NAME	PI STATION	Δ	D	R	T	L	E	PC STATION	PT STATION
CURVE 1	213+81.55 N 1,957,171.84 E 622,493.87	23° 56' 45.24" (RT)	10° 25' 02.69"	550.00'	116.63'	229.86'	12.23'	212+64.92 N 1,957,169.94 E 622,610.49	214+94.78 N 1,957,220.91 E 622,388.06

CAMPGROUND ROAD CURVE TABLE

NAME	PI STATION	Δ	D	R	T	L	E	PC STATION	PT STATION
CURVE 1	2+22.35 N 1,956,913.32 E 622,478.36	63° 14' 59.52" (RT)	63° 39' 43.12"	90.00'	55.42'	99.35'	15.70'	1+66.92 N 1,956,874.62 E 622,518.03	2+66.28 N 1,956,966.16 E 622,495.87
CURVE 2	3+43.34 N 1,957,039.64 E 622,518.28	3° 43' 21.82" (LT)	28° 38' 52.40"	200.00'	6.50'	12.99'	0.11'	3+36.84 N 1,957,033.44 E 622,516.32	3+49.83 N 1,957,045.95 E 622,519.83

BIKE TRAIL CURVE TABLE

NAME	PI STATION	Δ	D	R	T	L	E	PC STATION	PT STATION
CURVE 1	9+27.10 N 1,956,895.42 E 622,452.78	65° 41' 07.31" (RT)	45° 50' 11.84"	125.00'	80.69'	143.30'	23.78'	8+46.41 N 1,956,841.58 E 622,512.88	9+89.72 N 1,956,972.36 E 622,477.09
CURVE 2	10+72.62 N 1,957,051.40 E 622,502.07	33° 16' 38.91" (LT)	119° 21' 58.35"	48.00'	14.34'	27.88'	2.10'	10+58.27 N 1,957,037.72 E 622,497.75	10+86.15 N 1,957,065.21 E 622,498.18
CURVE 3	11+19.89 N 1,957,097.68 E 622,489.02	45° 43' 43.18" (RT)	71° 37' 11.01"	80.00'	33.73'	63.85'	6.82'	10+86.15 N 1,957,065.21 E 622,498.18	11+50.00 N 1,957,126.90 E 622,505.89
CURVE 4	11+55.11 N 1,957,131.33 E 622,508.44	7° 18' 44.49" (RT)	71° 37' 11.01"	80.00'	5.11'	10.21'	0.16'	11+50.00 N 1,957,126.90 E 622,505.89	11+60.21 N 1,957,135.39 E 622,511.54
CURVE 5	12+63.07 N 1,957,217.21 E 622,573.87	54° 04' 30.53" (RT)	159° 09' 17.80"	36.00'	18.37'	33.98'	4.42'	12+44.69 N 1,957,202.60 E 622,562.73	12+78.67 N 1,957,216.77 E 622,592.24
CURVE 6	17+49.28 N 1,957,208.10 E 623,062.76	6° 38' 25.45" (RT)	57° 17' 44.81"	100.00'	5.80'	11.59'	0.17'	17+43.48 N 1,957,208.20 E 623,056.96	17+55.07 N 1,957,207.33 E 623,068.51
CURVE 7	17+93.03 N 1,957,202.30 E 623,106.14	11° 57' 52.93" (LT)	57° 17' 44.81"	100.00'	10.48'	20.88'	0.55'	17+82.55 N 1,957,203.69 E 623,095.75	18+03.43 N 1,957,203.10 E 623,116.59
CURVE 8	19+36.67 N 1,957,213.21 E 623,249.44	5° 05' 20.49" (LT)	4° 46' 28.73"	1,200.00'	53.33'	106.58'	1.18'	18+83.34 N 1,957,209.16 E 623,196.27	19+89.93 N 1,957,221.95 E 623,302.05
CURVE 9	21+14.96 N 1,957,239.00 E 623,425.91	10° 22' 17.38" (LT)	57° 17' 44.81"	100.00'	9.08'	18.10'	0.41'	21+05.89 N 1,957,237.83 E 623,416.91	21+23.99 N 1,957,241.77 E 623,434.55
CURVE 10	21+95.93 N 1,957,263.75 E 623,503.04	27° 35' 10.47" (LT)	57° 17' 44.81"	100.00'	24.55'	48.15'	2.97'	21+71.38 N 1,957,256.25 E 623,479.67	22+19.52 N 1,957,281.22 E 623,520.29
CURVE 11	23+21.91 N 1,957,354.39 E 623,591.90	7° 58' 52.64" (LT)	21° 34' 00.07"	265.67'	18.53'	37.01'	0.65'	23+03.37 N 1,957,340.90 E 623,579.19	23+40.38 N 1,957,369.51 E 623,602.62

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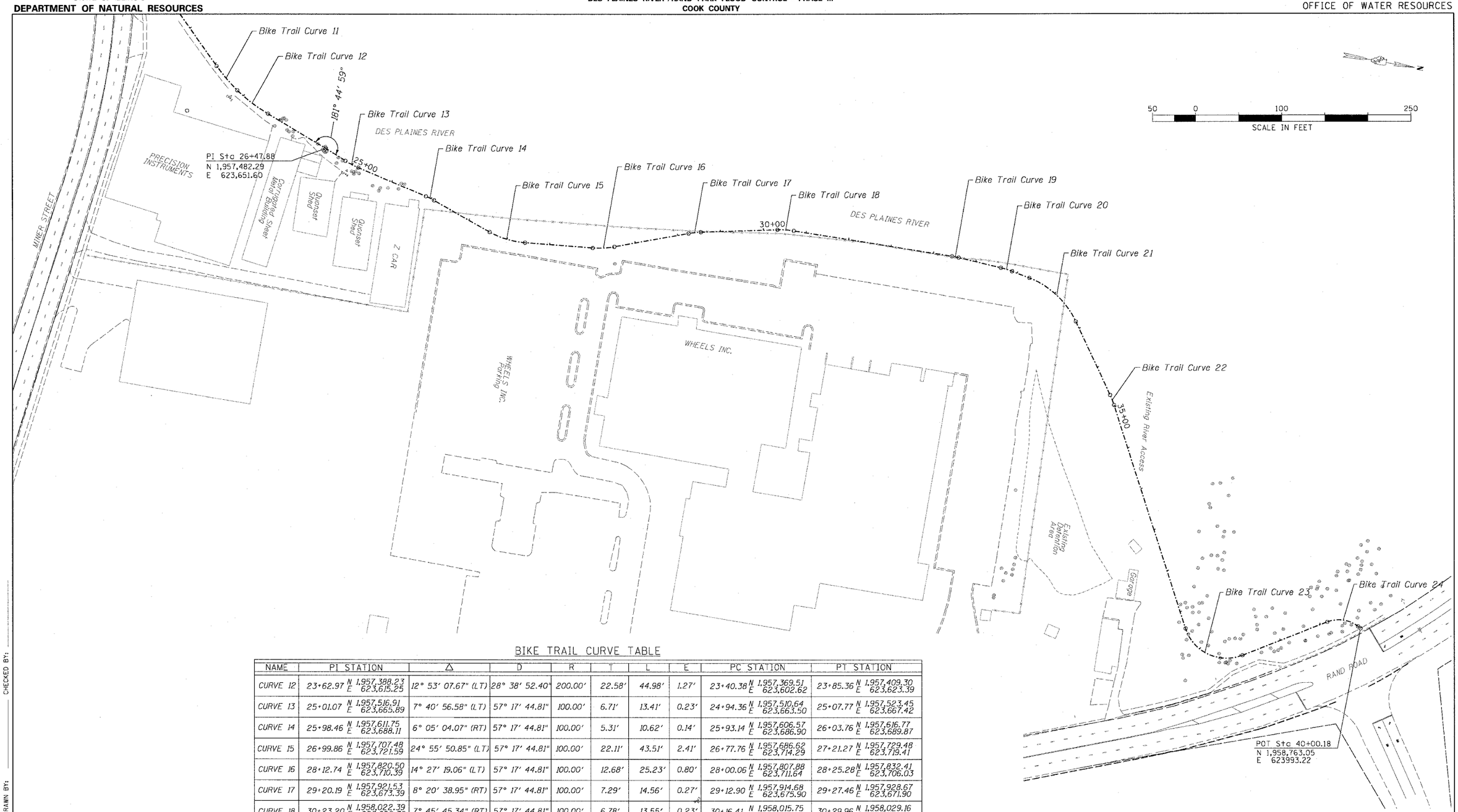

BIKE TRAIL CURVE TABLE

NAME	PI STATION	Δ	D	R	T	L	E	PC STATION	PT STATION
CURVE 12	23+62.97 N 1,957,388.23 E 623,615.25	12° 53' 07.67" (LT)	28° 38' 52.40"	200.00'	22.58'	44.98'	1.27'	23+40.38 N 1,957,369.51 E 623,602.62	23+85.36 N 1,957,409.30 E 623,623.39
CURVE 13	25+01.07 N 1,957,516.91 E 623,665.89	7° 40' 56.58" (LT)	57° 17' 44.81"	100.00'	6.71'	13.41'	0.23'	24+94.36 N 1,957,510.64 E 623,663.50	25+07.77 N 1,957,523.45 E 623,667.42
CURVE 14	25+98.46 N 1,957,611.75 E 623,688.11	6° 05' 04.07" (RT)	57° 17' 44.81"	100.00'	5.31'	10.62'	0.14'	25+93.14 N 1,957,606.57 E 623,686.90	26+03.76 N 1,957,616.77 E 623,689.87
CURVE 15	26+99.86 N 1,957,707.48 E 623,721.59	24° 55' 50.85" (LT)	57° 17' 44.81"	100.00'	22.11'	43.51'	2.41'	26+77.76 N 1,957,686.62 E 623,714.29	27+21.27 N 1,957,729.48 E 623,719.41
CURVE 16	28+12.74 N 1,957,820.50 E 623,710.39	14° 27' 19.06" (LT)	57° 17' 44.81"	100.00'	12.68'	25.23'	0.80'	28+00.06 N 1,957,807.88 E 623,711.64	28+25.28 N 1,957,832.41 E 623,706.03
CURVE 17	29+20.19 N 1,957,921.53 E 623,673.39	8° 20' 38.95" (RT)	57° 17' 44.81"	100.00'	7.29'	14.56'	0.27'	29+12.90 N 1,957,914.68 E 623,675.90	29+27.46 N 1,957,928.67 E 623,671.90
CURVE 18	30+23.20 N 1,958,022.39 E 623,652.38	7° 45' 45.34" (RT)	57° 17' 44.81"	100.00'	6.78'	13.55'	0.23'	30+16.41 N 1,958,015.75 E 623,653.76	30+29.96 N 1,958,029.16 E 623,651.90
CURVE 19	32+25.58 N 1,958,224.75 E 623,648.83	4° 30' 50.74" (RT)	57° 17' 44.81"	100.00'	3.94'	7.88'	0.08'	32+21.64 N 1,958,220.81 E 623,648.89	32+29.51 N 1,958,228.69 E 623,649.09
CURVE 20	32+86.94 N 1,958,285.99 E 623,652.75	7° 51' 35.54" (RT)	57° 17' 44.81"	100.00'	6.87'	13.72'	0.24'	32+80.07 N 1,958,279.14 E 623,652.31	32+93.79 N 1,958,292.73 E 623,654.12
CURVE 21	33+55.07 N 1,958,352.77 E 623,666.36	43° 31' 33.16" (RT)	57° 17' 44.81"	100.00'	39.92'	75.97'	7.67'	33+15.15 N 1,958,313.65 E 623,658.39	33+91.11 N 1,958,375.64 E 623,699.08
CURVE 22	34+91.62 N 1,958,433.23 E 623,781.46	7° 15' 44.55" (RT)	57° 17' 44.81"	100.00'	6.35'	12.68'	0.20'	34+85.27 N 1,958,429.59 E 623,776.25	34+97.95 N 1,958,436.18 E 623,787.07
CURVE 23	38+24.24 N 1,958,587.81 E 624,075.99	93° 52' 53.21" (LT)	114° 35' 29.61"	50.00'	53.51'	81.93'	23.23'	37+70.73 N 1,958,562.95 E 624,028.61	38+52.66 N 1,958,633.40 E 624,047.98
CURVE 24	39+79.53 N 1,958,741.49 E 623,981.55	60° 00' 00.00" (RT)	159° 09' 17.80"	36.00'	20.78'	37.70'	5.57'	39+58.74 N 1,958,723.78 E 623,992.43	39+96.44 N 1,958,759.77 E 623,991.44

DESIGNED BY: _____ CHECKED BY: _____
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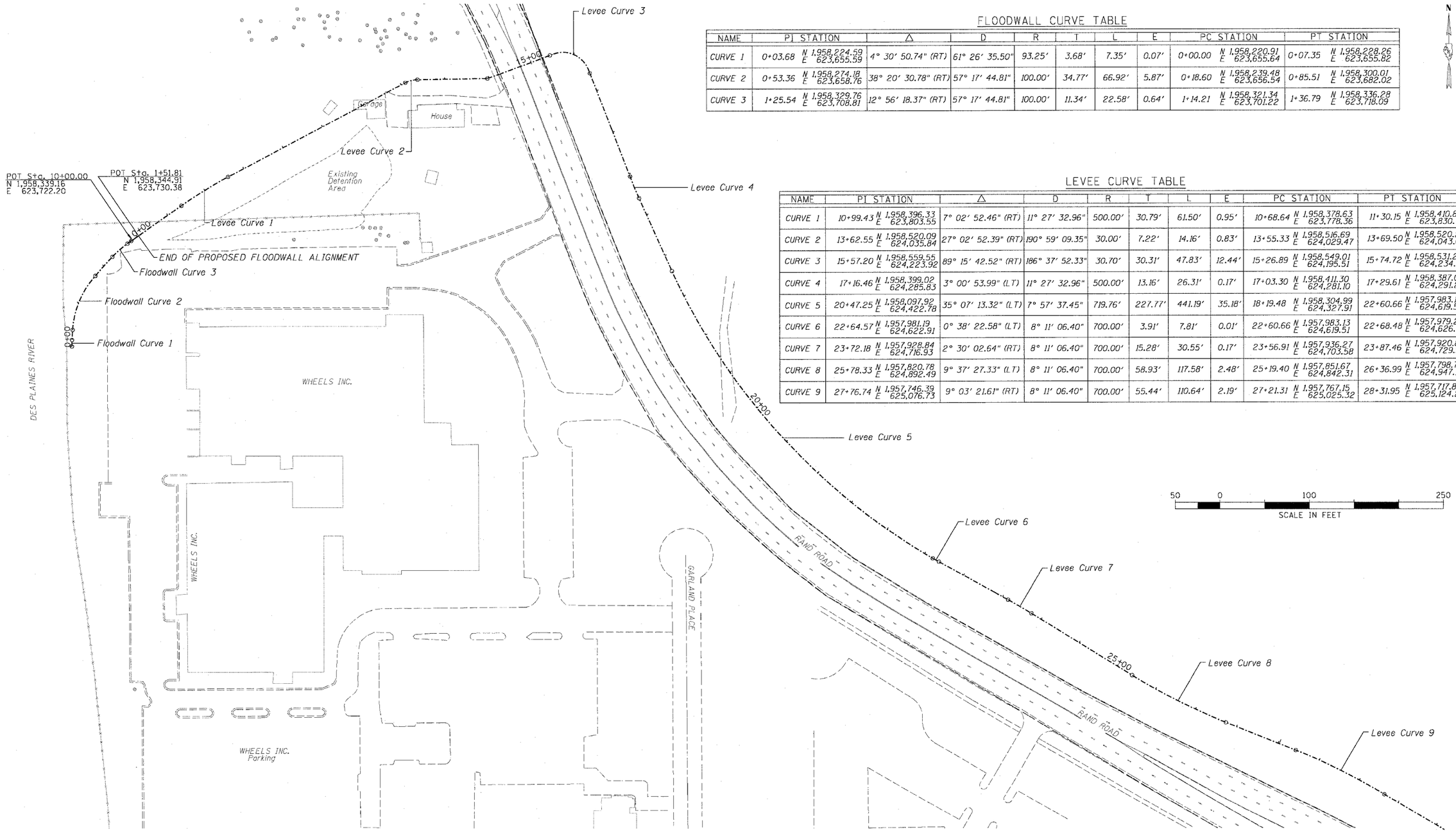
FR-416



FLOODWALL CURVE TABLE

NAME	PI STATION	△	D	R	T	L	E	PC STATION	PT STATION
CURVE 1	0+03.68 N 1,958,224.59 E 623,655.59	4° 30′ 50.74" (RT)	61° 26′ 35.50"	93.25′	3.68′	7.35′	0.07′	0+00.00 N 1,958,220.91 E 623,655.64	0+07.35 N 1,958,228.26 E 623,655.82
CURVE 2	0+53.36 N 1,958,274.18 E 623,658.76	38° 20′ 30.78" (RT)	57° 17′ 44.81"	100.00′	34.77′	66.92′	5.87′	0+18.60 N 1,958,239.48 E 623,656.54	0+85.51 N 1,958,300.01 E 623,682.02
CURVE 3	1+25.54 N 1,958,329.76 E 623,708.81	12° 56′ 18.37" (RT)	57° 17′ 44.81"	100.00′	11.34′	22.58′	0.64′	1+14.21 N 1,958,321.34 E 623,701.22	1+36.79 N 1,958,336.28 E 623,718.09

LEVEE CURVE TABLE

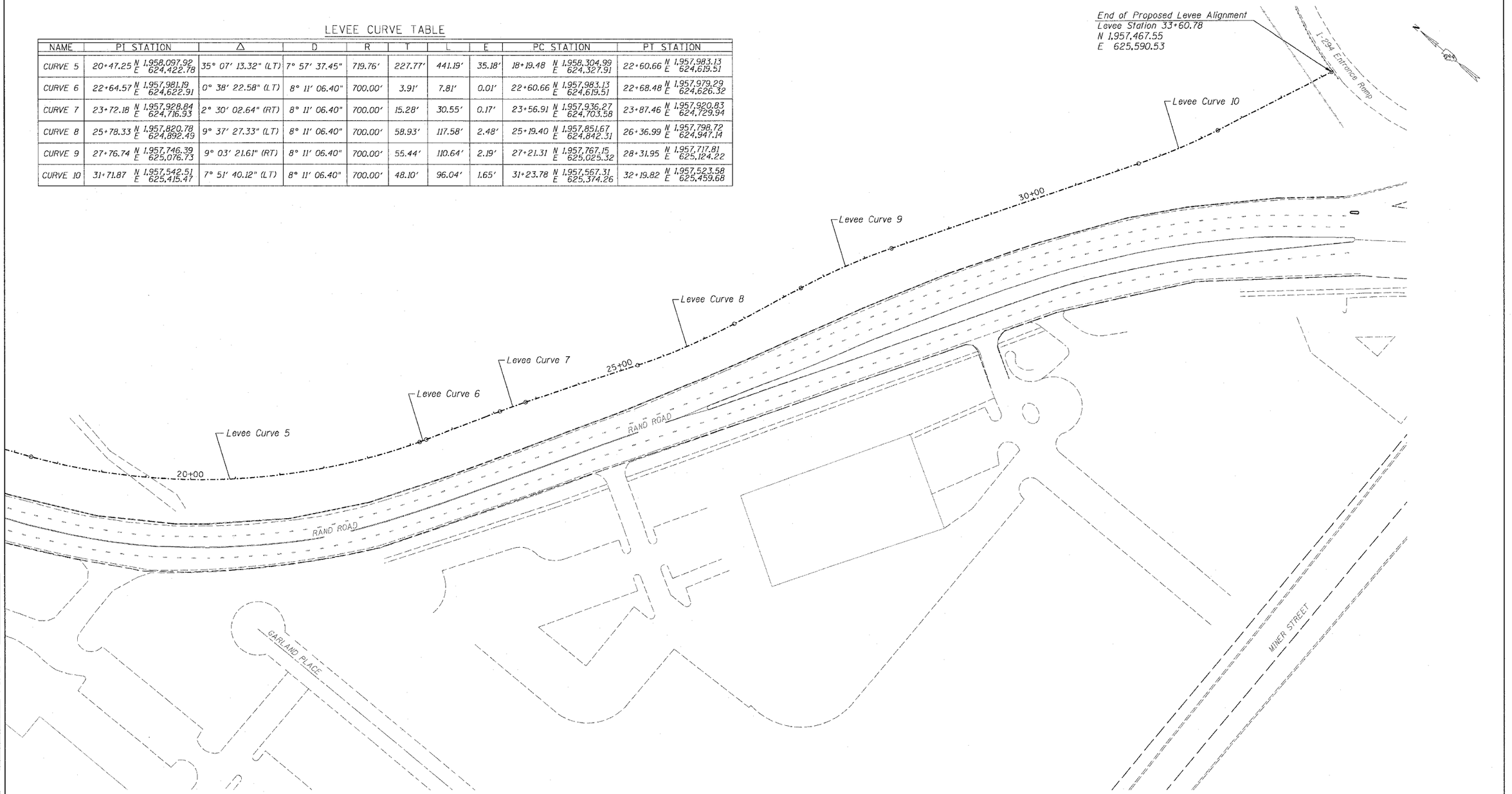
NAME	PI STATION	△	D	R	T	L	E	PC STATION	PT STATION
CURVE 1	10+99.43 N 1,958,396.33 E 623,803.55	7° 02′ 52.46" (RT)	11° 27′ 32.96"	500.00′	30.79′	61.50′	0.95′	10+68.64 N 1,958,378.63 E 623,778.36	11+30.15 N 1,958,410.81 E 623,830.73
CURVE 2	13+62.55 N 1,958,520.09 E 624,035.84	27° 02′ 52.39" (RT)	190° 59′ 09.35"	30.00′	7.22′	14.16′	0.83′	13+55.33 N 1,958,516.69 E 624,029.47	13+69.50 N 1,958,520.21 E 624,043.05
CURVE 3	15+57.20 N 1,958,559.56 E 624,223.92	89° 15′ 42.52" (RT)	186° 37′ 52.33"	30.70′	30.31′	47.83′	12.44′	15+26.89 N 1,958,549.01 E 624,195.51	15+74.72 N 1,958,531.27 E 624,234.83
CURVE 4	17+16.46 N 1,958,399.02 E 624,285.83	3° 00′ 53.99" (LT)	11° 27′ 32.96"	500.00′	13.16′	26.31′	0.17′	17+03.30 N 1,958,411.30 E 624,281.10	17+29.61 N 1,958,387.01 E 624,291.21
CURVE 5	20+47.25 N 1,958,097.92 E 624,422.78	35° 07′ 13.32" (LT)	7° 57′ 37.45"	719.76′	227.77′	441.19′	35.18′	18+19.48 N 1,958,304.99 E 624,327.91	22+60.66 N 1,957,983.13 E 624,619.51
CURVE 6	22+64.57 N 1,957,981.19 E 624,622.91	0° 38′ 22.58" (LT)	8° 11′ 06.40"	700.00′	3.91′	7.81′	0.01′	22+60.66 N 1,957,983.13 E 624,619.51	22+68.48 N 1,957,979.29 E 624,626.32
CURVE 7	23+72.18 N 1,957,928.84 E 624,716.93	2° 30′ 02.64" (RT)	8° 11′ 06.40"	700.00′	15.28′	30.55′	0.17′	23+56.91 N 1,957,936.27 E 624,703.58	23+87.46 N 1,957,920.83 E 624,729.94
CURVE 8	25+78.33 N 1,957,820.78 E 624,892.49	9° 37′ 27.33" (LT)	8° 11′ 06.40"	700.00′	58.93′	117.58′	2.48′	25+19.40 N 1,957,851.67 E 624,842.31	26+36.99 N 1,957,798.72 E 624,947.14
CURVE 9	27+76.74 N 1,957,746.39 E 625,076.73	9° 03′ 21.61" (RT)	8° 11′ 06.40"	700.00′	55.44′	110.64′	2.19′	27+21.31 N 1,957,767.15 E 625,025.32	28+31.95 N 1,957,717.81 E 625,124.22

DESIGNED BY: _____ CHECKED BY: _____
DRAWN BY: _____ CHECKED BY: _____

FR-416

LEVEE CURVE TABLE

NAME	PI STATION	△	D	R	T	L	E	PC STATION	PT STATION
CURVE 5	20+47.25 N 1,958,097.92 E 624,422.78	35° 07' 13.32" (LT)	7° 57' 37.45"	719.76'	227.77'	441.19'	35.18'	18+19.48 N 1,958,304.99 E 624,327.91	22+60.66 N 1,957,983.13 E 624,619.51
CURVE 6	22+64.57 N 1,957,981.19 E 624,622.91	0° 38' 22.58" (LT)	8° 11' 06.40"	700.00'	3.91'	7.81'	0.01'	22+60.66 N 1,957,983.13 E 624,619.51	22+68.48 N 1,957,979.29 E 624,626.32
CURVE 7	23+72.18 N 1,957,928.84 E 624,716.93	2° 30' 02.64" (RT)	8° 11' 06.40"	700.00'	15.28'	30.55'	0.17'	23+56.91 N 1,957,936.27 E 624,703.58	23+87.46 N 1,957,920.83 E 624,729.94
CURVE 8	25+78.33 N 1,957,820.78 E 624,892.49	9° 37' 27.33" (LT)	8° 11' 06.40"	700.00'	58.93'	117.58'	2.48'	25+19.40 N 1,957,851.67 E 624,842.31	26+36.99 N 1,957,798.72 E 624,947.14
CURVE 9	27+76.74 N 1,957,746.39 E 625,076.73	9° 03' 21.61" (RT)	8° 11' 06.40"	700.00'	55.44'	110.64'	2.19'	27+21.31 N 1,957,767.15 E 625,025.32	28+31.95 N 1,957,717.81 E 625,124.22
CURVE 10	31+71.87 N 1,957,542.51 E 625,415.47	7° 51' 40.12" (LT)	8° 11' 06.40"	700.00'	48.10'	96.04'	1.65'	31+23.78 N 1,957,567.31 E 625,374.26	32+19.82 N 1,957,523.58 E 625,459.68



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FR-416

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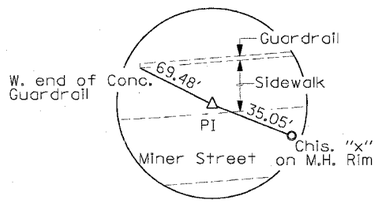

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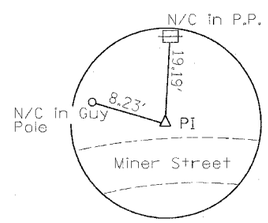

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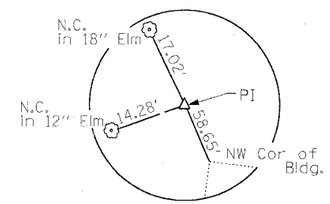

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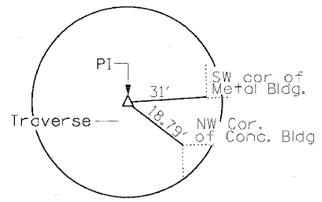

BENCHMARK #1
Chiseled "□" on W. End of E. Upstream Wingwall of Miner/Northwest Hwy. Bridge over Des Plaines River
Elev. 639.04

BENCHMARK #2
Chiseled "X" on M.H. Rim
N. Side of Miner/Northwest Hwy. @ S.W. Corner of Precision Instruments
Elev. 631.30

BENCHMARK #3
Chiseled "X" on M.H. Rim
N. Side of Miner/Northwest Hwy. @ Entrance to Z Car Service Center
Elev. 630.99

BENCHMARK #4
D.O.W. Disk Set in Concrete @ S.E. Corner of Rand Rd. and Railrad Rd. 40'± S. of Ballard and 118'± E. of Rand Rd.
Elev. 633.266

BENCHMARK #5
Chiseled "X" on Signal Base
N.W. Corner of Bender Rd. and Ballard Rd. 200'± West of Tri-State Tollway
Elev. 633.10

CP#5

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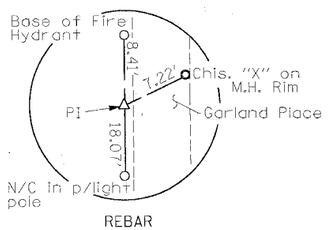

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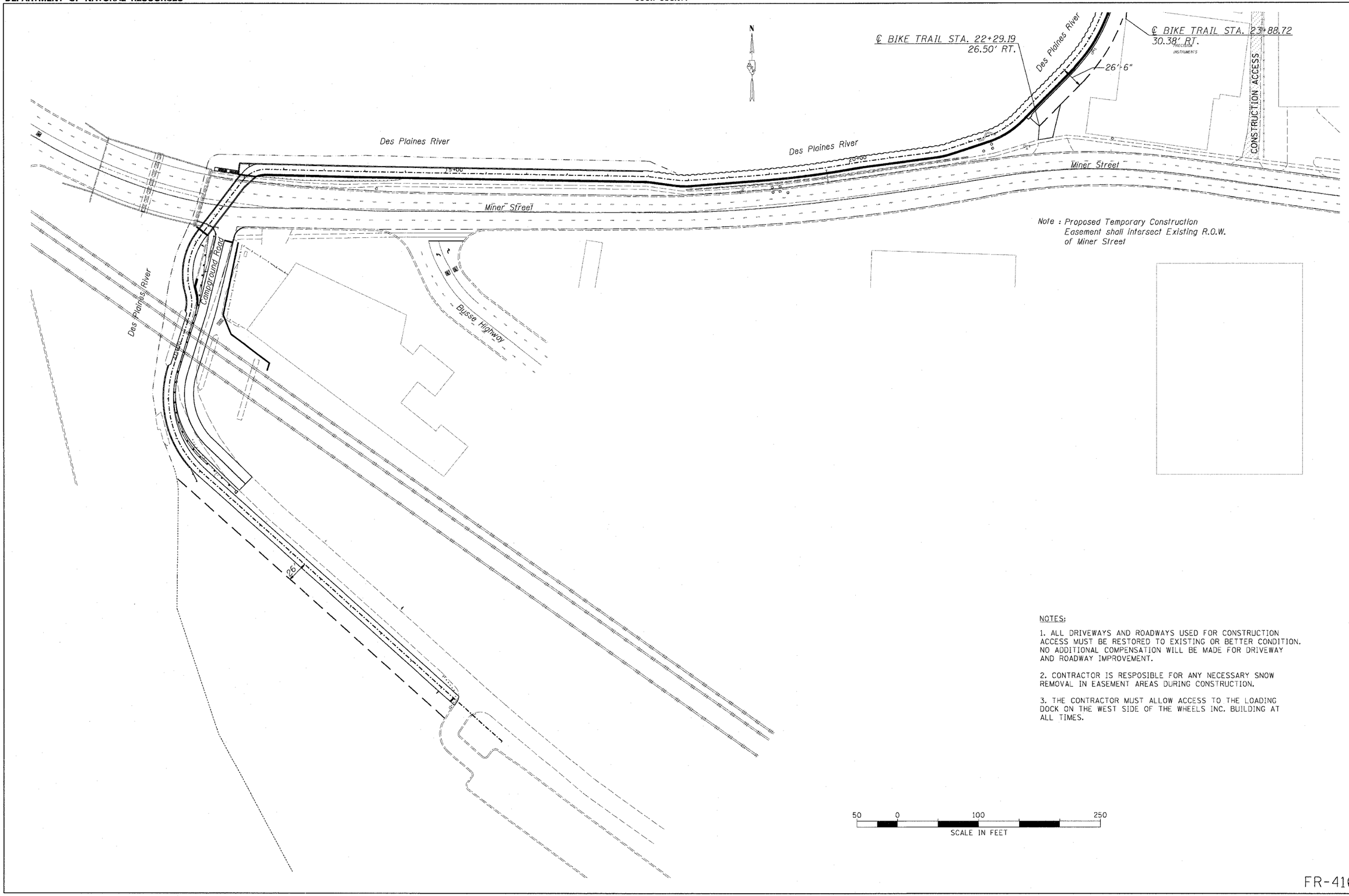

NOTES:

1. ALL DRIVEWAYS AND ROADWAYS USED FOR CONSTRUCTION ACCESS MUST BE RESTORED TO EXISTING OR BETTER CONDITION. NO ADDITIONAL COMPENSATION WILL BE MADE FOR DRIVEWAY AND ROADWAY IMPROVEMENT.

2. CONTRACTOR IS RESPOSIBLE FOR ANY NECESSARY SNOW REMOVAL IN EASEMENT AREAS DURING CONSTRUCTION.

3. THE CONTRACTOR MUST ALLOW ACCESS TO THE LOADING DOCK ON THE WEST SIDE OF THE WHEELS INC. BUILDING AT ALL TIMES.

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FR-416

℄ LEVEE STA. 15+31.11
30.09' LT.

℄ LEVEE STA. 15+29.03
71.60 ' LT.

℄ LEVEE STA. 13+60.46
25.84' RT.

℄ LEVEE STA. 13+86.87
55.83' RT.

CONSTRUCTION EASEMENT

℄ LEVEE STA. 12+58.22
115.83' RT. (EXISTING FENCE)

℄ LEVEE STA. 10+98.70
37.59' RT. (EXISTING FENCE)

CONSTRUCTION EASEMENT

℄ LEVEE STA. 13+06.98
30.88' RT.

℄ LEVEE STA. 10+51.21
50.41' RT.

℄ LEVEE STA. 10+17.31
61.38' RT.

℄ Proposed Earthen Levee

℄ LEVEE STA. 10+03.78
86.05' RT.

℄ Proposed Bike Trail

℄ BIKE TRAIL STA. 30+15.69
78.70' RT.

℄ BIKE TRAIL STA. 28+26.21
27.00' RT.

CONSTRUCTION EASEMENT

ACCESS

℄ LEVEE STA. 10+14.32
27.56' RT.

℄ BIKE TRAIL STA. 32+78.47
63.14' RT.

℄ BIKE TRAIL STA. 33+63.63
25' LT.

℄ BIKE TRAIL STA. 25+91.86
15.84' RT.

℄ BIKE TRAIL STA. 25+30.98
24.84' RT.

℄ BIKE TRAIL STA. 25+09.75
26.68' RT.

℄ BIKE TRAIL STA. 24+94.89
24.41' RT.

℄ BIKE TRAIL STA. 24+69.57
16.76' RT.

℄ BIKE TRAIL STA. 23+87.78
26.59' RT.

℄ BIKE TRAIL STA. 22+29.19
26.50 RT.

END FLOODWALL
℄ LEVEE STA. 10+10
OFFSET 0.0'

PROPOSED ℄ BIKE TRAIL

℄ BIKE TRAIL STA. 34+87.05
85.07' RT.

℄ BIKE TRAIL STA. 30+22.64
64.58' RT.

℄ BIKE TRAIL STA. 25+94.50
26.50' RT. (EXISTING FENCE)

℄ BIKE TRAIL STA. 25+31.14
30.96' RT.

℄ BIKE TRAIL STA. 25+10.80
30.00' RT.

℄ BIKE TRAIL STA. 24+94.86
26.75' RT.

℄ BIKE TRAIL STA. 24+89.75
26.80' RT.

℄ BIKE TRAIL STA. 24+72.52
26.76' RT.

℄ BIKE TRAIL STA. 24+39.84
16.75' RT.

℄ BIKE TRAIL STA. 23+88.71
30.37' RT.

CONSTRUCTION ACCESS

GARLAND PLACE

NOTES:

1. ALL DRIVEWAYS AND ROADWAYS USED FOR CONSTRUCTION ACCESS MUST BE RESTORED TO EXISTING OR BETTER CONDITION. NO ADDITIONAL COMPENSATION WILL BE MADE FOR DRIVEWAY AND ROADWAY IMPROVEMENT.

2. CONTRACTOR IS RESPOSIBLE FOR ANY NECESSARY SNOW REMOVAL IN EASEMENT AREAS DURING CONSTRUCTION.

3. THE CONTRACTOR MUST ALLOW ACCESS TO THE LOADING DOCK ON THE WEST SIDE OF THE WHEELS INC. BUILDING AT ALL TIMES.

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SCALE IN FEET

Note : Proposed Temporary Construction Easement shall intersect Existing R.O.W. of Miner Street

FR-416

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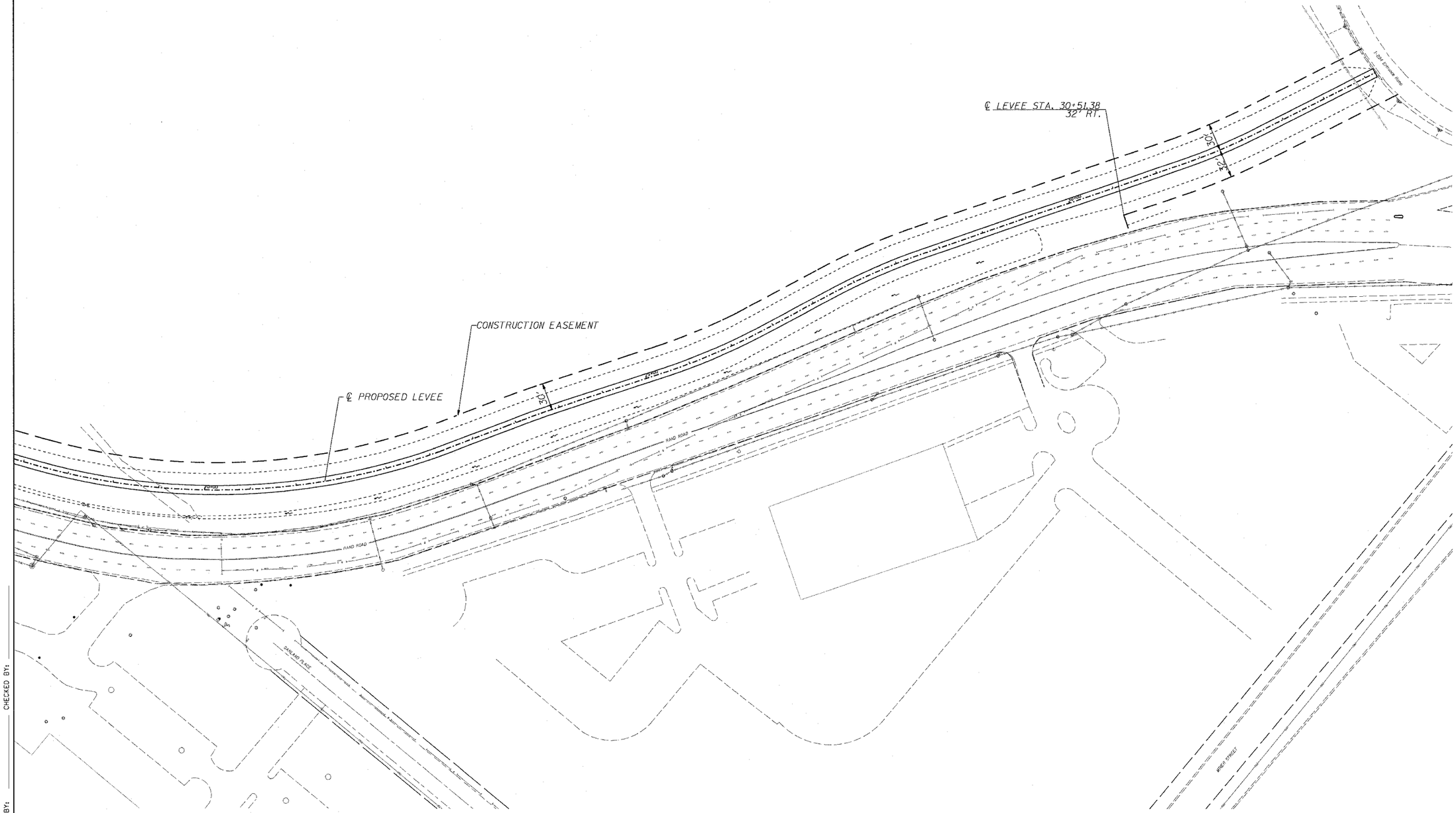

NOTES:

1. ALL DRIVEWAYS AND ROADWAYS USED FOR CONSTRUCTION ACCESS MUST BE RESTORED TO EXISTING OR BETTER CONDITION. NO ADDITIONAL COMPENSATION WILL BE MADE FOR DRIVEWAY AND ROADWAY IMPROVEMENT.

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3. THE CONTRACTOR MUST ALLOW ACCESS TO THE LOADING DOCK ON THE WEST SIDE OF THE WHEELS INC. BUILDING AT ALL TIMES.

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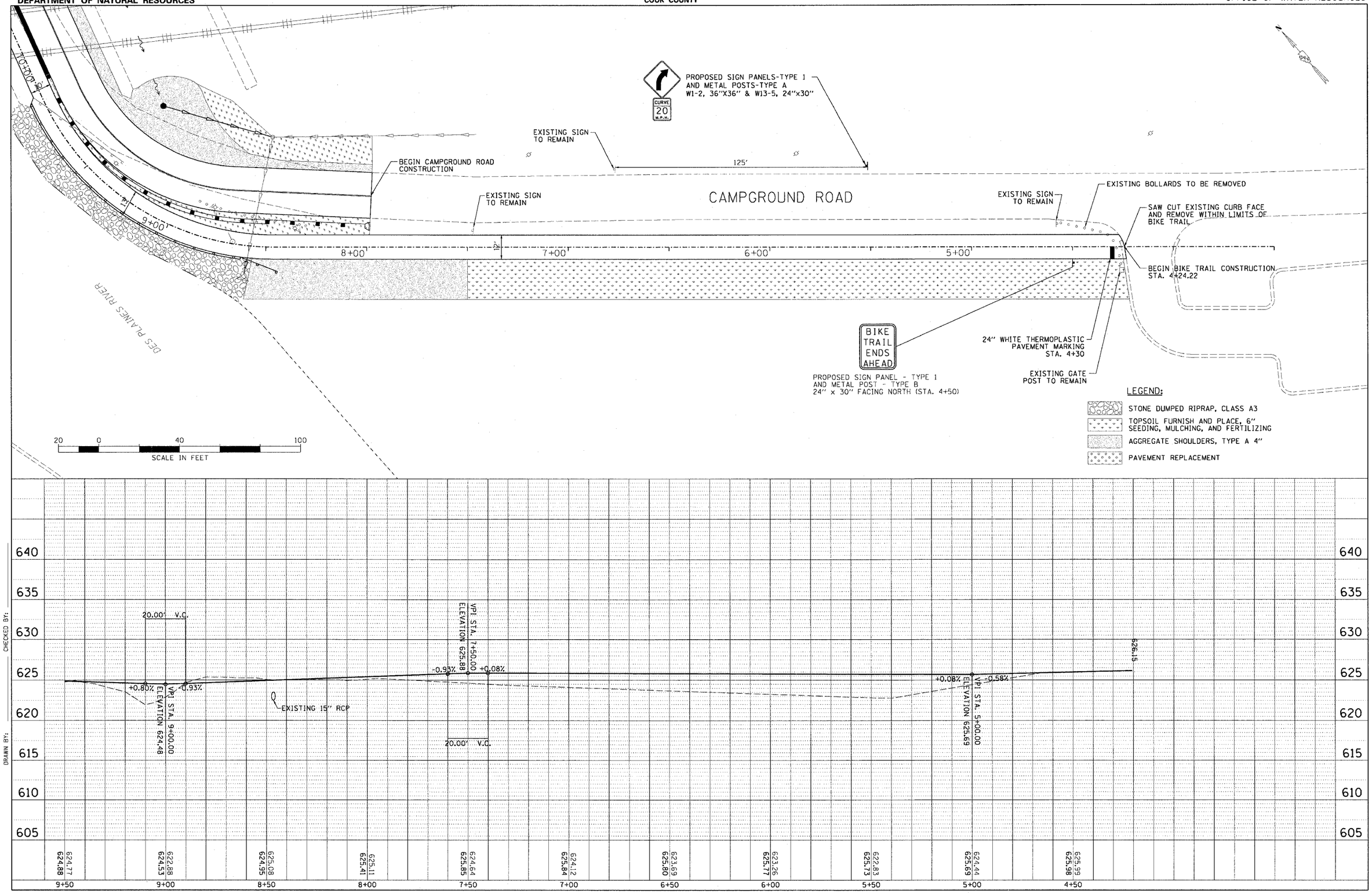
FR-416

STATE OF ILLINOIS
DEPARTMENT OF NATURAL RESOURCES

DES PLAINES RIVER /RAND PARK FLOOD CONTROL – PHASE III
COOK COUNTY

OFFICE OF WATER RESOURCES



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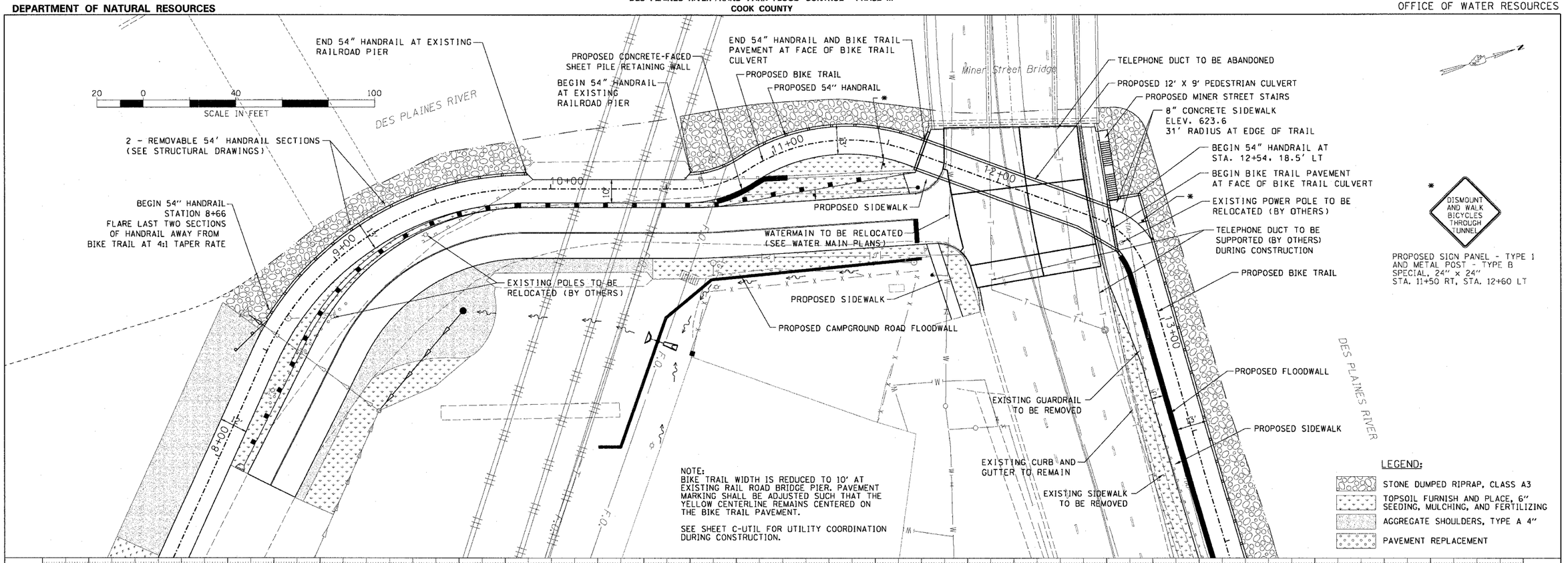
C-1

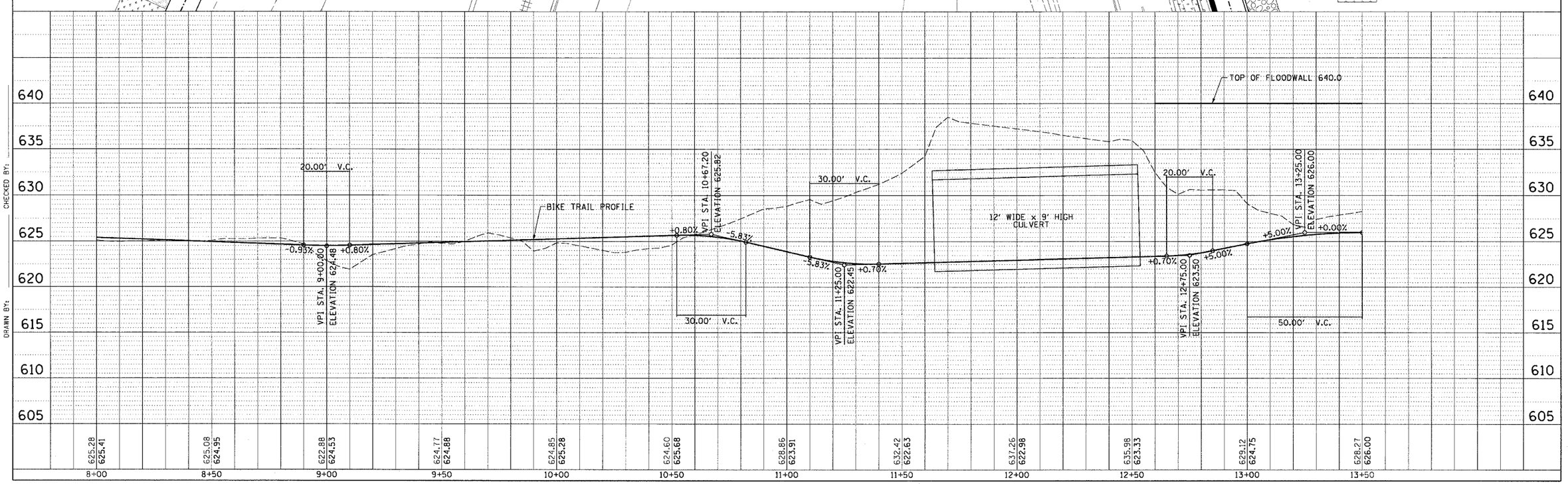
BIKE TRAIL AND FLOODWALL PLAN AND PROFILE

STATE OF ILLINOIS
DEPARTMENT OF NATURAL RESOURCES

DES PLAINES RIVER /RAND PARK FLOOD CONTROL – PHASE III
COOK COUNTY

OFFICE OF WATER RESOURCES





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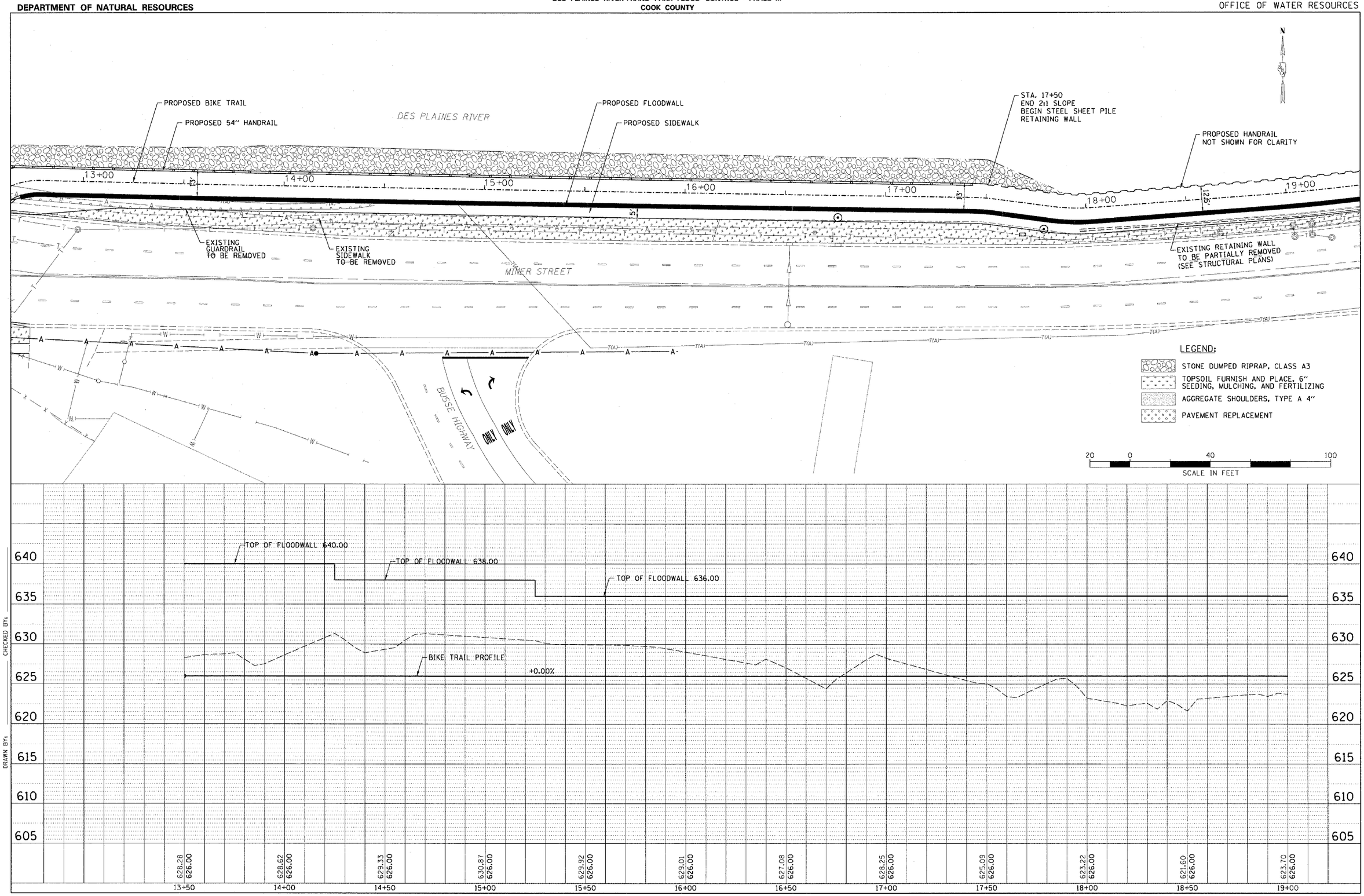
C-2

BIKE TRAIL AND FLOODWALL PLAN AND PROFILE



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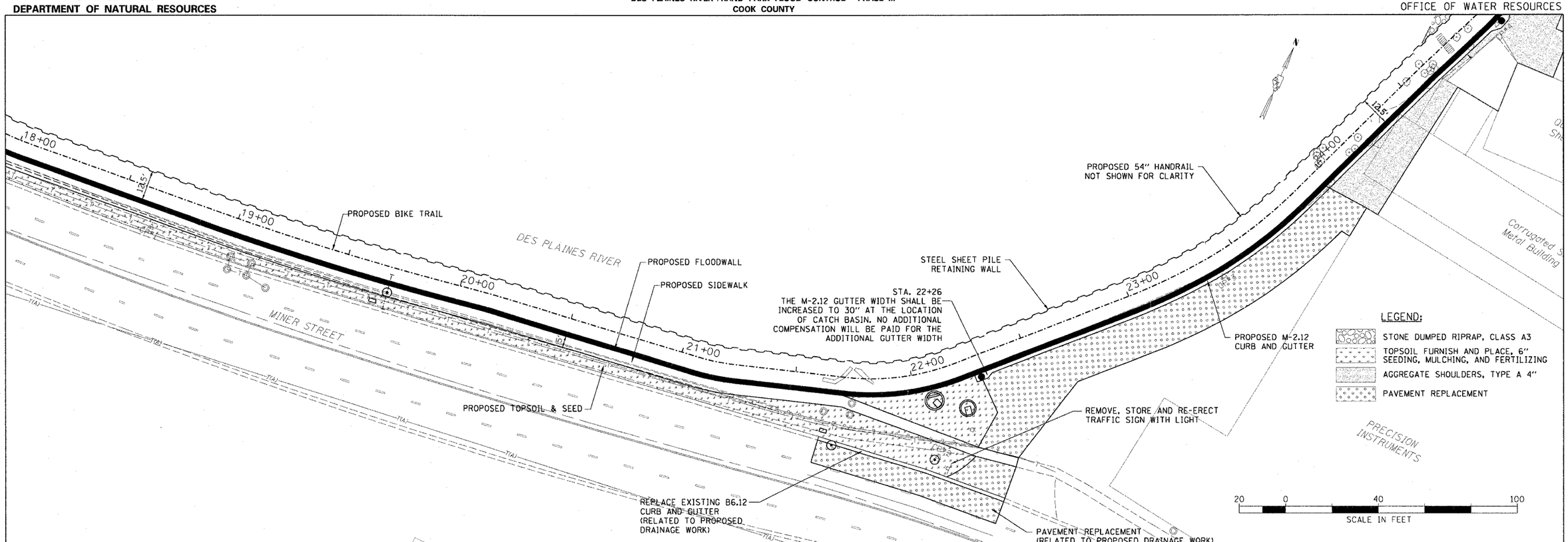
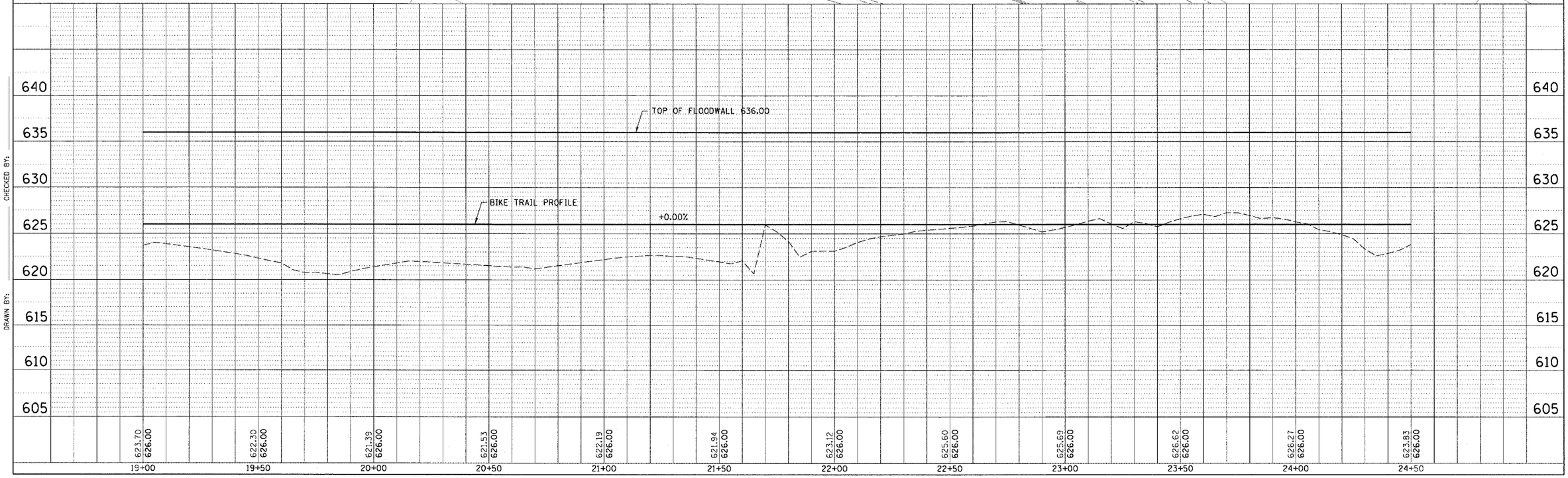
BIKE TRAIL AND FLOODWALL PLAN AND PROFILE





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LEGEND:
- STONE DUMPED RIPRAP, CLASS A3
- TOPSOIL FURNISH AND PLACE, 6" SEEDING, MULCHING, AND FERTILIZING
- AGGREGATE SHOULDERS, TYPE A 4"
- PAVEMENT REPLACEMENT

PROPOSED 54" HANDRAIL NOT SHOWN FOR CLARITY
STA. 25+00 END STEEL SHEET PILE RETAINING WALL BEGIN 2:1 SLOPE
BUILDING DEMOLITION (SEE SBM SHEETS)
DES PLAINES RIVER
END PROPOSED M-2.12 CURB AND GUTTER STA. 25+97
PROPOSED 54" HANDRAIL
PROPOSED 6' CHAIN LINK FENCE WITH 3' GATE
END 54" HANDRAIL STA. 26+45 FLARE LAST TWO SECTIONS OF HANDRAIL AWAY FROM BIKE TRAIL AT 4:1 TAPER RATE
CHAIN LINK FENCE REMOVAL
BEGIN 54" HANDRAIL STA. 29+05 FLARE FIRST TWO SECTIONS OF HANDRAIL AWAY FROM BIKE TRAIL AT 4:1 TAPER RATE
PROPOSED BIKE TRAIL
24+00
25+00
26+00
27+00
28+00
29+00
30+00
24'
631.0
630.0
629.0
BUILDING DEMOLITION (SEE SBM SHEETS)
5" PCC SIDEWALK
THE M-2.12 GUTTER WIDTH SHALL BE INCREASED TO 30" AT THE LOCATION OF CATCH BASINS. NO ADDITIONAL COMPENSATION WILL BE PAID FOR THE ADDITIONAL GUTTER WIDTH.
PROPOSED M-2.12 CURB AND GUTTER
Corrugated Sheet Metal Building
Quonset Shed
Quonset Shed
Z CAR
(N) 1957619
(E) 623736
(N) 1957649
(E) 623744
PROPOSED FLOODWALL
EXISTING LIGHT POLE TO REMAIN
EXISTING CURB AND GUTTER TO REMAIN
EXISTING LIGHT POLE TO REMAIN
CONTRACTOR TO PROTECT TREE
(N) 1957836
(E) 623725
EXISTING LIGHT POLE TO REMAIN
PROPOSED WHEELS DETENTION BASIN
EXISTING LIGHT POLE TO REMAIN
CONTRACTOR TO PROTECT THESE TREES
WHEELS INC.

20 0 40 100
SCALE IN FEET

CHECKED BY:
CHECKED BY:
DESIGNED BY:
DRAWN BY:

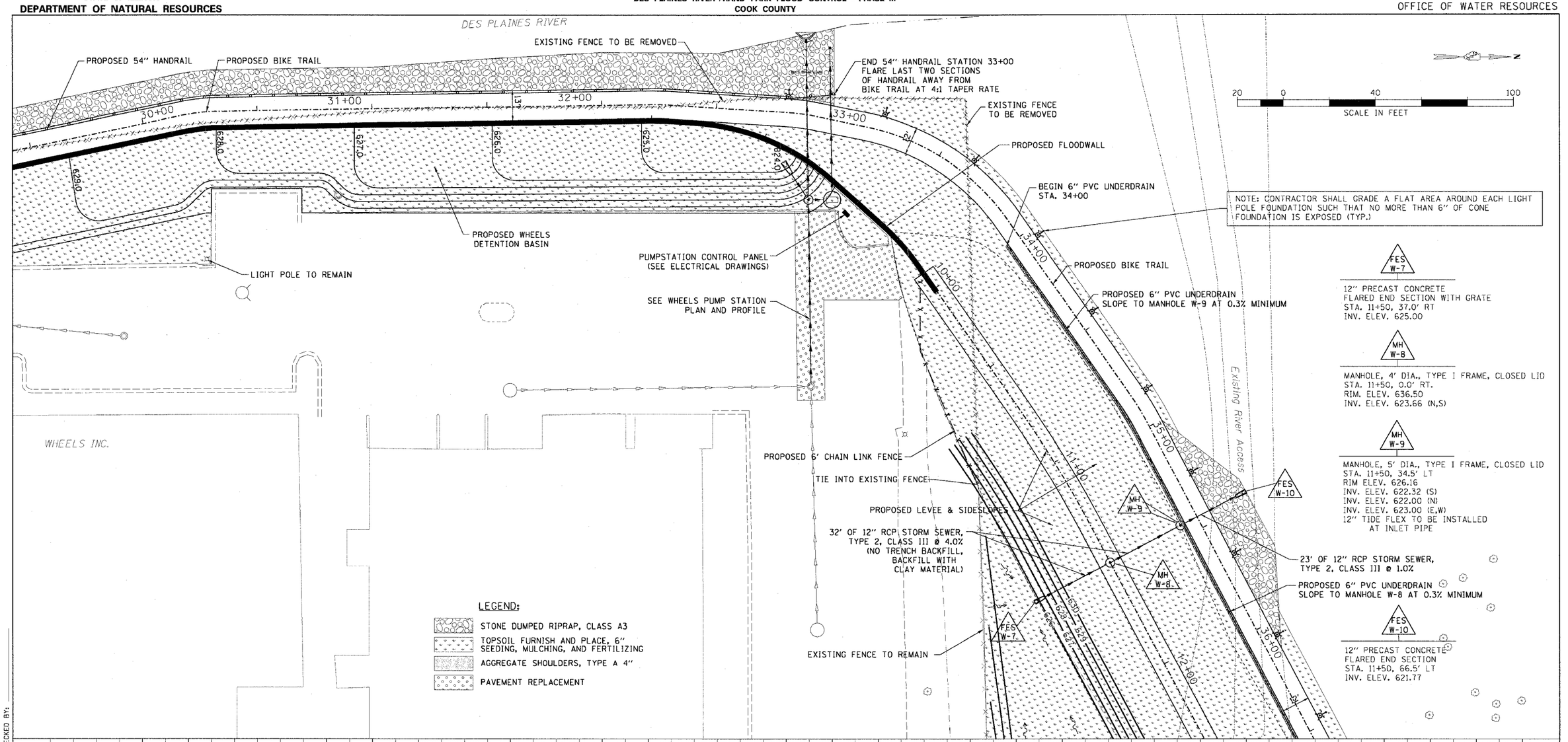
TOP OF FLOODWALL 636.00
BIKE TRAIL PROFILE
+0.00%

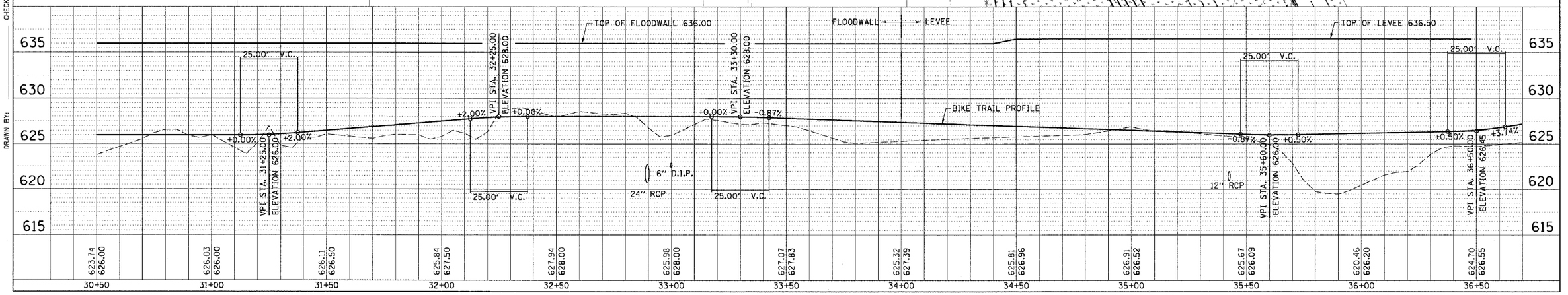
640 635 630 625 620 615 610 605

623.83 626.00 | 627.17 626.00 | 622.36 626.00 | 631.26 626.00 | 627.16 626.00 | 626.57 626.00 | 630.65 626.00 | 629.28 626.00 | 628.29 626.00 | 623.95 626.00 | 625.96 626.00 | 625.97 626.00 | 623.74 626.00

24+50 25+00 25+50 26+00 26+50 27+00 27+50 28+00 28+50 29+00 29+50 30+00 30+50

BIKE TRAIL AND FLOODWALL PLAN AND PROFILE





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N

20 0 40 100
SCALE IN FEET

NOTE: CONTRACTOR SHALL GRADE A FLAT AREA AROUND EACH LIGHT POLE FOUNDATION SUCH THAT NO MORE THAN 6" OF CONE FOUNDATION IS EXPOSED (TYP.)

Existing River Access

EXISTING BOAT CHANNEL TO BE FILLED

PROPOSED 6" PVC UNDERDRAIN SLOPE TO MANHOLE W-8 AT 0.3% MINIMUM

END 6" PVC UNDERDRAIN STA. 37+50

PROPOSED LEVEE & SIDESLOPES

24' OF 12" RCP STORM SEWER, TYPE 2, CLASS III @ 0.5%

EXISTING POWER POLE TO REMAIN

PROPOSED SIGN PANEL - TYPE 1 AND METAL POST - TYPE B W11-1, 24" x 24" FACING NORTH

24" WHITE THERMOPLASTIC PAVEMENT MARKING

END BIKE TRAIL AT EDGE OF EXISTING SIDEWALK

22' OF 12" RCP STORM SEWER, TYPE 2, CLASS III @ 0.5%

BIKE TRAIL ENDS AHEAD

PROPOSED SIGN PANEL - TYPE 1 AND METAL POST - TYPE B 24" x 30" FACING SOUTH (STA. 39+60)

EXISTING POWER POLE TO REMAIN

EXISTING SIDEWALK TO REMAIN

BALLARD ROAD

PROPOSED SIGN PANEL - TYPE 1 AND METAL POST - TYPE B W11-1, 24" x 24" FACING SOUTH

RAND ROAD

EXISTING POWER POLE TO REMAIN

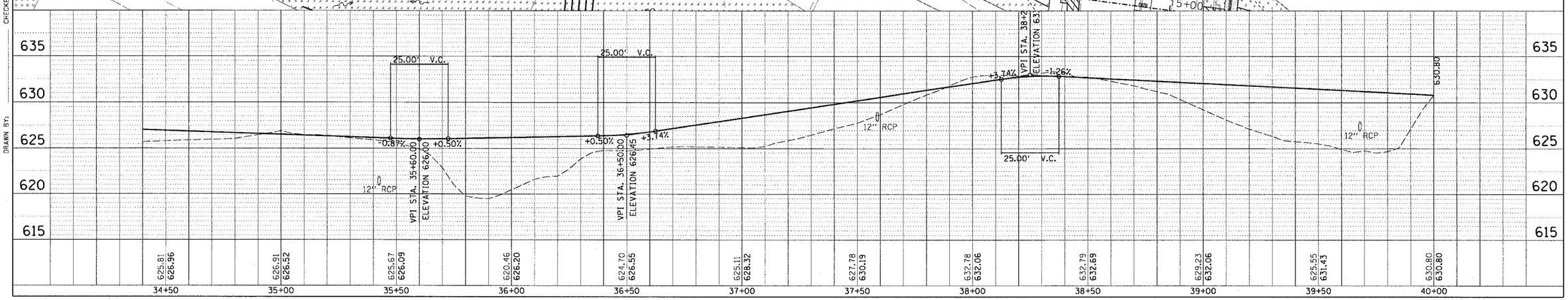
CB W-10
CATCH BASIN, TYPE C
TYPE 8 GRATE
STA. 37+59, 17.6' RT
RIM ELEV. 629.3
INV. ELEV. 627.8

CB W-12
CATCH BASIN, TYPE C
TYPE 8 GRATE
STA. 39+68, 14.3' RT
RIM ELEV. 628.5
INV. ELEV. 627.0

FES W-11
12" PRECAST CONCRETE FLARED END SECTION
STA. 37+59, 12.3' LT
INV. 628.0

FES W-13
12" PRECAST CONCRETE FLARED END SECTION
STA. 39+68, 12.5' LT
INV. 626.9

LEGEND:
- STONE DUMPED RIPRAP, CLASS A3
- TOPSOIL FURNISH AND PLACE, 6" SEEDING, MULCHING, AND FERTILIZING
- AGGREGATE SHOULDERS, TYPE A 4"
- PAVEMENT REPLACEMENT



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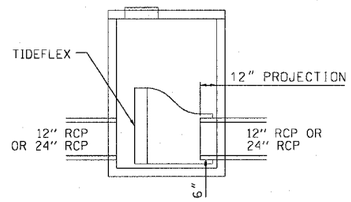
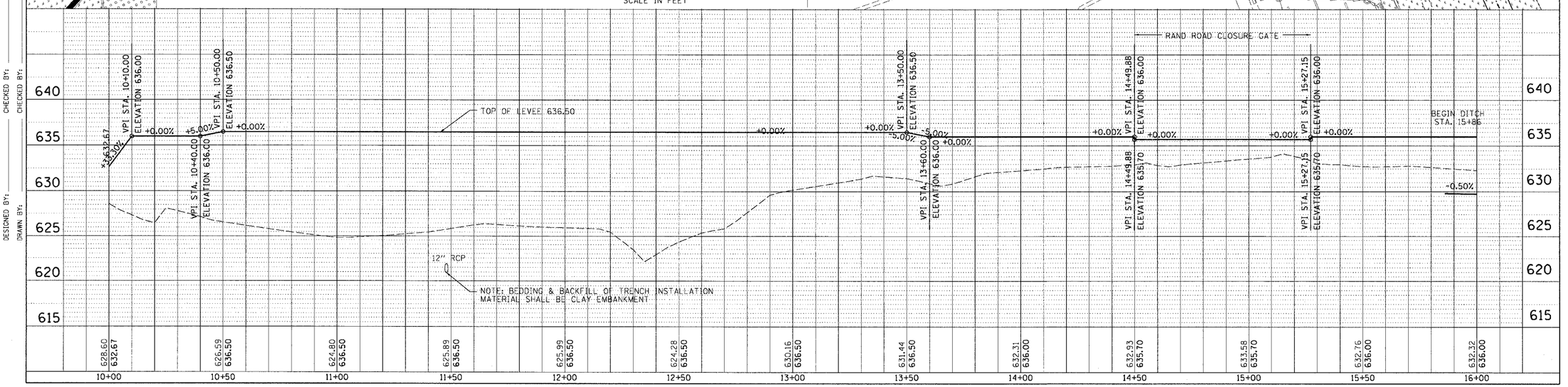
MH R-1 & MH R-2 DETAIL
NOT TO SCALE



NOTE: THE TIDEFLEX MAY BE TOO LARGE TO FIT THROUGH THE 2' MANHOLE OPENING. IF SO, INSTALL THE TIDEFLEX PRIOR TO INSTALLING FLAT SLAB TOP.

MH R-1
MANHOLE, 6' DIA.
SALVAGED FRAME AND LID
12" TIDEFLEX INSTALLED ON INLET PIPE (SOUTH PIPE)
STA. 14+58.03, 30.64' LT
RIM ELEV. 633.1
TO BE FIELD VERIFIED
INV. ELEV. 626.5 (N,S)
TO BE FIELD VERIFIED

MH R-2
MANHOLE, 6' DIA.
SALVAGED FRAME AND LID
24" TIDEFLEX INSTALLED ON INLET PIPE (SOUTH PIPE)
STA. 15+18.40, 41.49' LT
RIM ELEV. 634.5
TO BE FIELD VERIFIED
INV. ELEV. 625.3 (N, S)
TO BE FIELD VERIFIED



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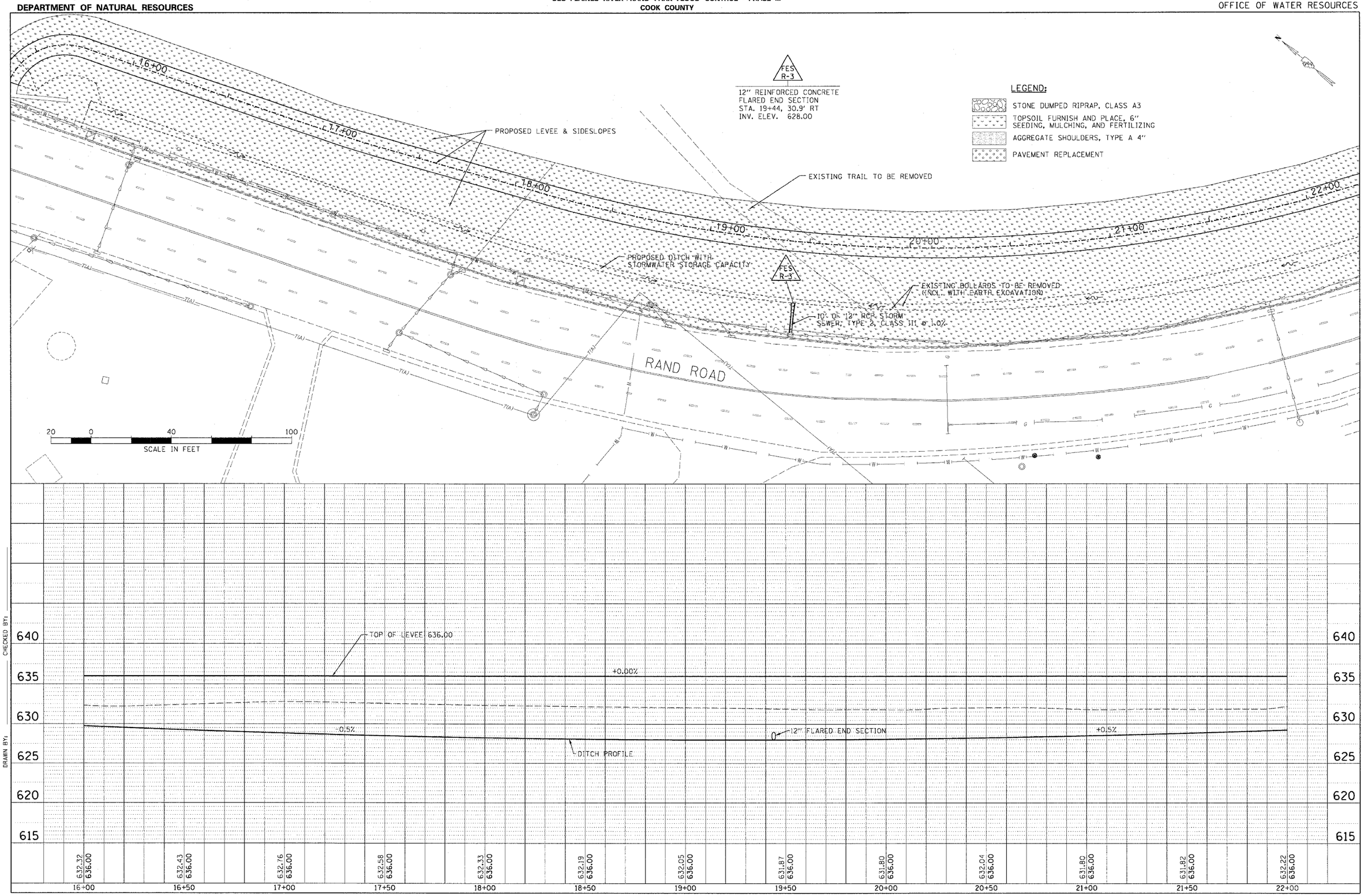

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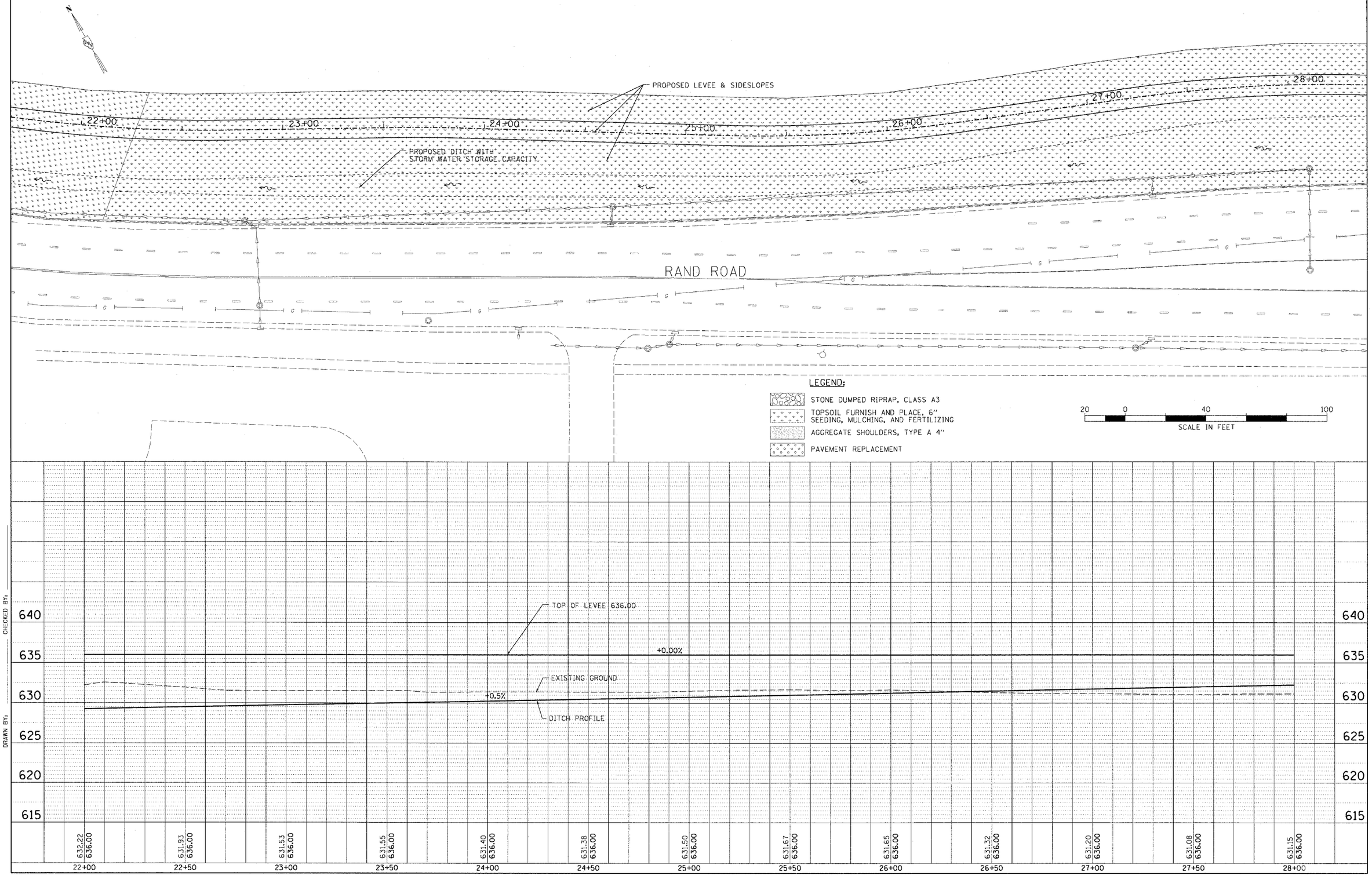

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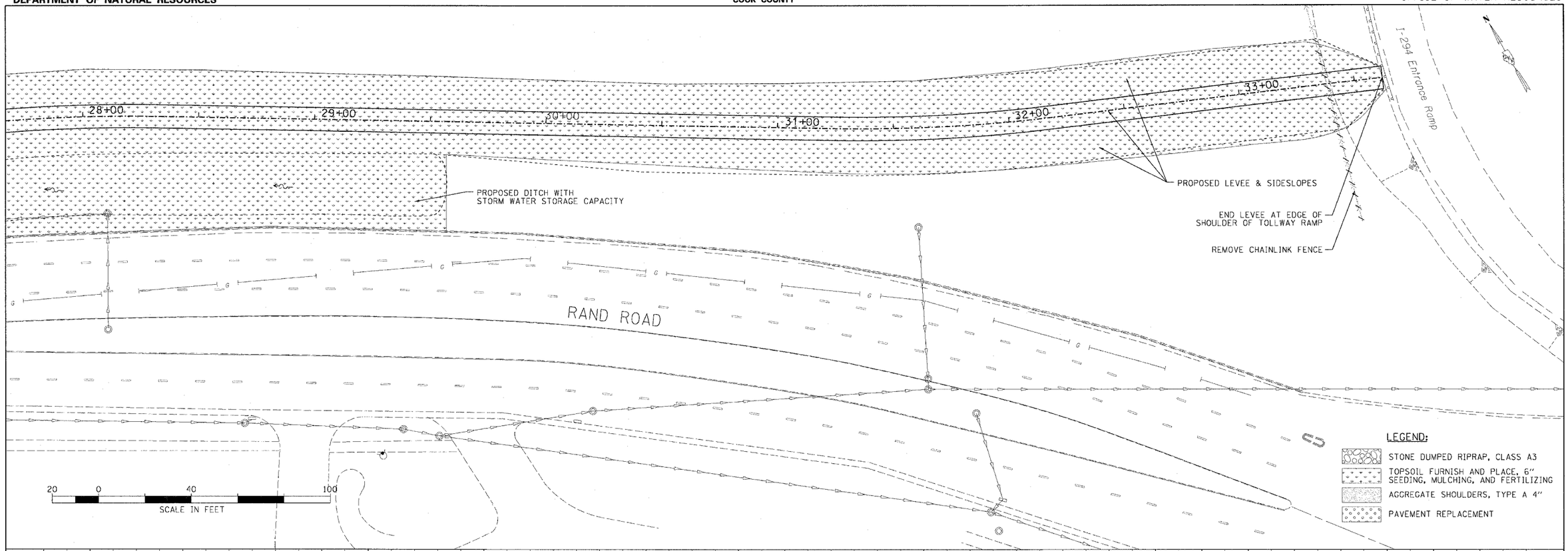

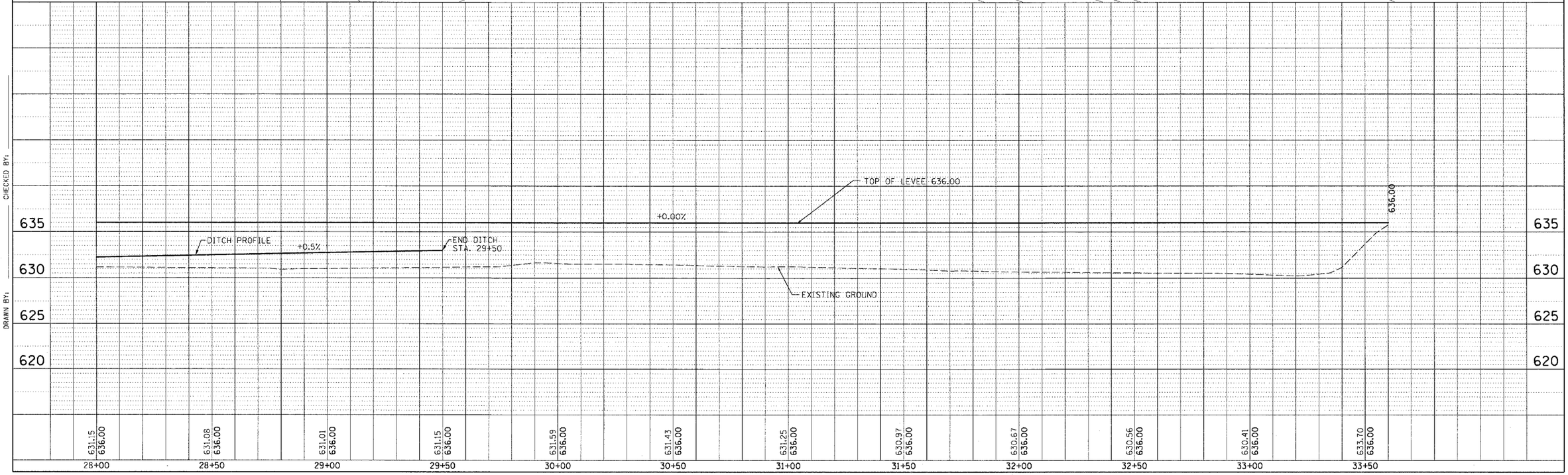

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CB C-1
CATCH BASIN, TYPE A, TYPE 8 GRATE
STA. 2+26, 27.7' RT
RIM ELEV. 623.14
INV. ELEV. 621.28

FES EX-1
SALVAGED 15" PRECAST CONCRETE FLARED END SECTION
PLACED AT END OF PIPE EXTENSION
.04' LOWER THAN EXISTING
(THE COST OF THIS ITEM IS CONSIDERED INCLUDED IN THE CONTRACT UNIT PRICE OF THE 15" RCP STORM SEWER)

FES C-3
15" PRECAST CONCRETE FLARED END SECTION
STA. 3+32, 50.0' RT
INV. ELEV. 630.28

7.5' (1 PIECE) OF 15' RCP STORM SEWER, TYPE 1, CLASS IV AT 0.5%

HW C-4
CONCRETE HEADWALL FOR 15" RCP W/ TIDEFLEX
STA. 3+19, 45.4' RT
INV. ELEV. 630.24

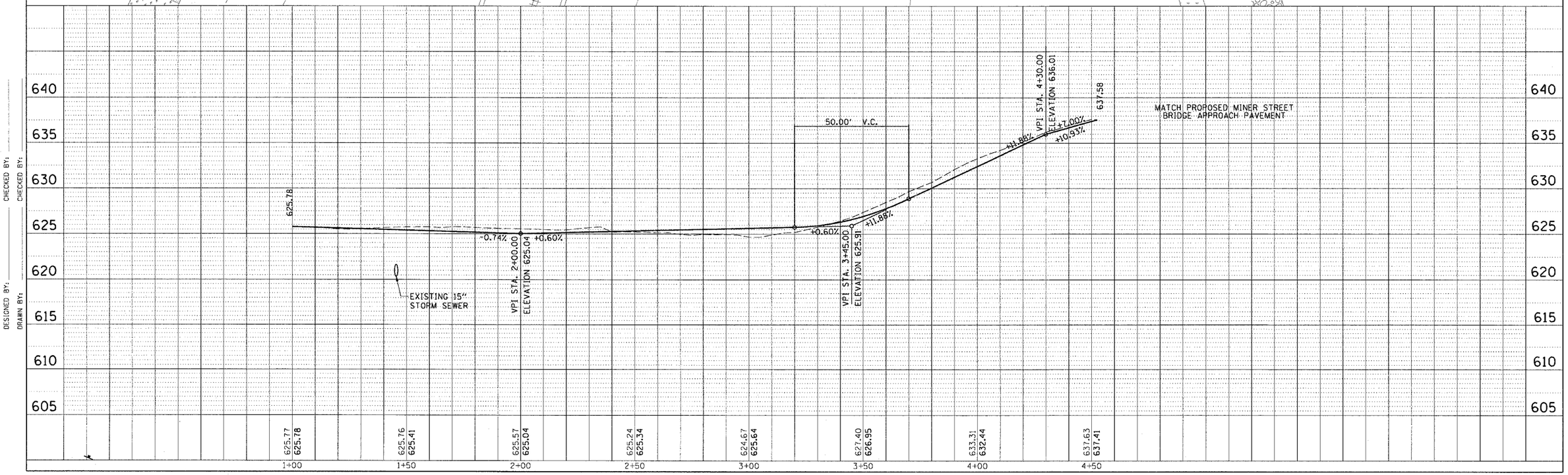
MH EX-1
EXISTING 4' DIA. MANHOLE WITH EXISTING CLOSED LID
INV. ELEV. 620.64 (EXISTING 15" OUTFALL)
INV. ELEV. 620.66 (EXISTING 15" INLET)
INV. ELEV. 620.74 (PROP. 12")
VERIFY EXISTING INVERTS

LOW HEAD DAM
DES PLAINES RIVER

CURVE 20 M.P.H.

CONNECT GUARDRAIL TO EXISTING CONCRETE WING WALL WITH END SHOE
REMOVE, STORE AND RE-ERECT SWING GATE AND CLOSURE BOLLARD
STEEL PLATE BEAM GUARDRAIL, TYPE A STA. 3+50 TO STA. 4+35
PROPOSED SIGN PANELS-TYPE 1 AND METAL POSTS-TYPE A W1-2, 36"X36" & W13-5, 24"x30" STA. 3+92, 13.5' LT
EXISTING POWER POLE TO BE RELOCATED (BY OTHERS)
END STEEL PLATE BEAM GUARDRAIL, TYPE A (SPECIAL)
BEGIN STEEL PLATE BEAM GUARDRAIL, TYPE A STA. 3+50, 11.0' LT
EXISTING POWER POLE TO BE RELOCATED (BY OTHERS)
PROPOSED CAMPGROUND ROAD REALIGNMENT
EXISTING GUARDRAIL TO BE REMOVED
STEEL PLATE BEAM GUARDRAIL, TYPE A (SPECIAL) STA. 1+50 TO STA. 3+50
RELOCATE EXISTING SIGN (TO NEW EDGE OF PAVEMENT)
REMOVE EXISTING BOLLARDS (INCLUDED IN EARTH EXCAVATION)
PROPOSED SWALE
EXISTING POWER POLE TO BE RELOCATED (BY OTHERS)
REMOVE AND REPLACE SIDEWALK
CONCRETE STAIRS TO BE REMOVED (INCLUDED IN EARTH EXCAVATION)
54' OF 12" RCP STORM SEWER, TYPE 1, CLASS IV @ 1.0%
EXISTING EDGE OF PAVEMENT
4" DOUBLE YELLOW POLYUREA PAVEMENT MARKING
4' OF 15" RCP STORM SEWER, TYPE 2, CLASS III @ 1.0%
AREA BEHIND FLOODWALL SHALL BE GRADED TO DRAIN TO 15" FLARED END SECTION
PROPOSED CAMPGROUND ROAD FLOODWALL
EXISTING POWER POLE TO REMAIN
GUARDRAIL TERMINAL SECTION TYPE 1 (SPECIAL) STA. 1+00 TO STA. 1+50, 15.0' LT
BEGIN CAMPGROUND ROAD CONSTRUCTION FULL DEPTH SAW CUT STA. 1+00
PROPOSED REMOVAL AND REPLACEMENT OF BRIDGE APPROACH PAVEMENT SEE MINER STREET ROADWAY PLANS
24" WHITE POLYUREA PAVEMENT MARKING
EXISTING STOP SIGN TO REMAIN
EXISTING POWER POLE TO BE RELOCATED (BY OTHERS)
MINER STREET
DES PLAINES RIVER
15' R
PC
PT
11.0'
22.0'
4.0'
SCALE IN FEET: 20 0 40 100

LEGEND:
- STONE DUMPED RIPRAP, CLASS A3
- TOPSOIL FURNISH AND PLACE, 6" SEEDING, MULCHING, AND FERTILIZING
- AGGREGATE SHOULDERS, TYPE A 4"
- PAVEMENT REPLACEMENT



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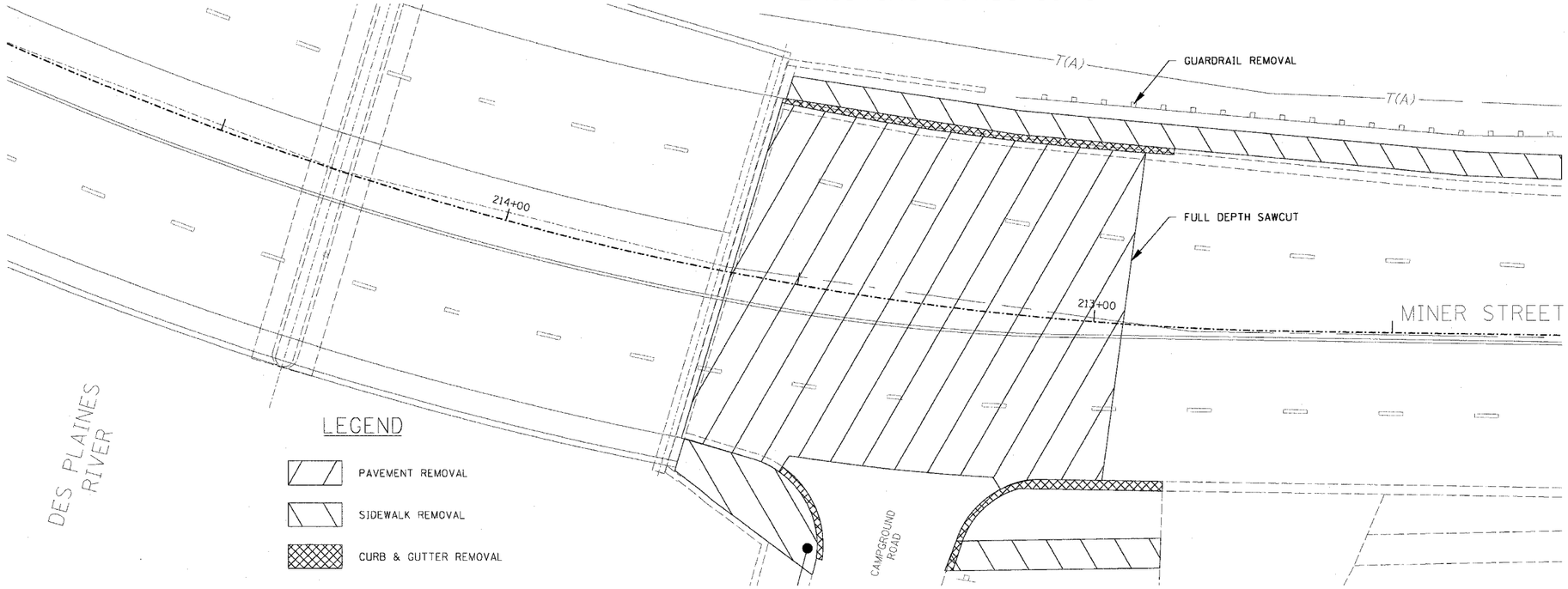
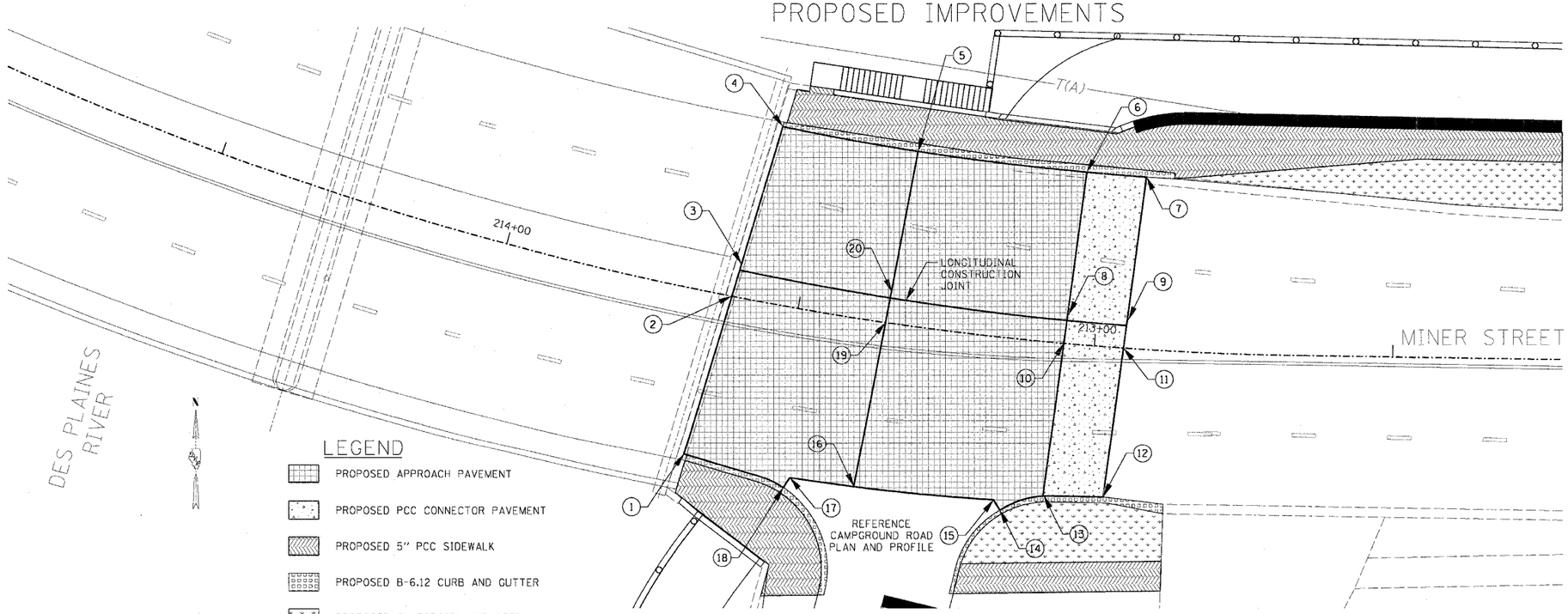
C-12

CAMPGROUND ROAD PLAN AND PROFILE

EXISTING CONDITIONS



PROPOSED IMPROVEMENTS



PROPOSED PAVEMENT LAYOUT AND ELEVATIONS

POINT	STATION	OFFSET	ELEVATION
1	213+63.97	27.81' L	638.26
2	213+61.29	0.00'	637.50
3	213+60.82	4.57' R	637.50
4	213+58.12	29.53' R	636.37
5	213+33.79	29.16' R	636.03
6	213+03.75	28.88' R	635.69
7	212+93.99	28.51' R	635.57
8	213+04.95	3.88' R	636.35
9	212+94.87	3.83' R	636.24
10	213+05.13	0.00'	636.48
11	212+95.10	0.00'	636.34
12	212+96.66	25.42' L	636.93
13	213+06.15	25.98' L	637.10
14	213+12.89	29.10' L	637.21
15	213+14.06	27.52' L	637.19
16	213+36.41	28.37' L	637.80
17	213+46.68	28.58' L	637.90
18	213+47.46	30.41' L	637.96
19	213+35.18	0.00	636.96
20	213+34.99	4.17' R	636.84

10 0 20
SCALE IN FEET

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FR-416

INL EX-1
EXISTING INLET
STA. 16+52, 24.2' RT
RIM ELEV. 629.70
INV. ELEV. TO BE FIELD DETERMINED

INL EX-2
EXISTING INLET
STA. 16+76, 24.1' RT
RIM ELEV. 629.76
INV. ELEV. TO BE FIELD DETERMINED

MH M-1
MANHOLE, 4' DIA.
TYPE 1 FRAME, CLOSED LID
STA. 16+76, 11.1' RT
RIM ELEV. 630.68
INV. ELEV. TO BE FIELD DETERMINED (W)
INV. ELEV. TO BE FIELD DETERMINED (S)
INV. ELEV. 624.30 (E)

MH M-2
MANHOLE, 4' DIA.
TYPE 1 FRAME, CLOSED LID
STA. 17+81, 11.8' RT
RIM ELEV. 630.58
INV. ELEV. 623.80 (W, E)

INL M-3
INLET, TYPE A
TYPE B GRATE
STA. 17+70, 15.9' RT
RIM ELEV. 630.50
INV. ELEV. 628.50

N

DES PLAINES RIVER

PROPOSED STORM SEWER TO CROSS EXISTING TELEPHONE DUCT BANK

25' OF 12" RCP STORM SEWER, TYPE 2, CLASS III @ 0.5%

100' OF 12" RCP STORM SEWER, TYPE 2, CLASS III @ 0.5%

7' OF 12" RCP STORM SEWER, TYPE 1, CLASS IV @ 0.5%

EXISTING RETAINING WALL TO BE PARTIALLY DEMOLISHED (SEE STRUCTURAL PLANS)

13+00 14+00 15+00 16+00 17+00 18+00 19+00

MINER STREET

12' OF 12" RCP STORM SEWER, TYPE 1, CLASS IV @ 0.5%

185' OF 12" RCP STORM SEWER, TYPE 2, CLASS III @ 0.5%

STORM SEWER TO BE INSTALLED BETWEEN THE EXISTING RETAINING WALL AND PROPOSED FLOODWALL

BUSSE HIGHWAY

ONLY ONLY

20 0 40 100
SCALE IN FEET

PROPOSED SIDEWALK PROFILE

INV. TO BE FIELD DETERMINED

25' OF 12" RCP STORM SEWER @ 0.5%

INV. TO BE FIELD DETERMINED

INV. 624.30

INV. TO BE FIELD DETERMINED

100' OF 12" RCP STORM SEWER @ 0.5%

7' OF 12" RCP STORM SEWER @ 30.0%

INV. 623.80

185' OF 12" RCP STORM SEWER @ 0.5%

640 635 630 625 620 615 610 605

13+50 14+00 14+50 15+00 15+50 16+00 16+50 17+00 17+50 18+00 18+50 19+00

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MH M-4
MANHOLE, 4' DIA.
TYPE 1 FRAME, CLOSED LID
STA. 19+70, 11.1' RT
RIM ELEV. 630.30
INV. ELEV. 622.85 (W,E)
INV. ELEV. TO BE FIELD DETERMINED (S)

INL M-5
INLET, TYPE A
TYPE 8 FRAME
STA. 19+65, 16.2' RT
RIM ELEV. 630.30
INV. ELEV. 628.30

MH M-6
MANHOLE, 5' DIA.
SALVAGED FRAME AND GRATE
STA. 21+69, 30.0' RT
RIM ELEV. 630.17
INV. ELEV. TO BE FIELD DETERMINED (S)
INV. ELEV. 623.00 (E)

INL M-7
INLET, TYPE A
TYPE 8 FRAME
STA. 21+64, 24.1' RT
RIM ELEV. 630.50
INV. ELEV. 628.50

MH M-8
MANHOLE, 6' DIA.
TYPE 1 FRAME, CLOSED LID
STA. 22+03, 37.7' RT
RIM ELEV. 630.80
INV. ELEV. 622.79 (W)
INV. ELEV. TO BE FIELD DETERMINED (S)
INV. ELEV. TO BE FIELD DETERMINED (E)
INV. ELEV. 620.61 (N)

GS M-9
MINER STREET GATE STRUCTURE
STA. 22+07, 12.8' RT
FLAT SLAB TOP WITH HATCH ELEV. 631.00
INV. ELEV. 621.70 (W)
INV. ELEV. 620.55 (S,N)
INV. ELEV. 625.00 (12" E)
INV. ELEV. 624.00 (15" E)
(SEE STRUCTURAL PLANS)

CB P-1
CATCH BASIN, TYPE C,
TYPE 1 FRAME, OPEN LID
STA. 22+28, 9.6' RT
RIM ELEV. 630.54
INV. ELEV. 625.82 (N, S)

PS M-10
MINER STREET PUMP STATION
SEE MECHANICAL &
ELECTRICAL DRAWINGS

EXISTING RETAINING WALL TO BE PARTIALLY DEMOLISHED (SEE STRUCTURAL PLANS)

18+00 19+00 20+00 21+00 22+00 23+00 24+00

5' OF 12" RCP STORM SEWER, TYPE 1, CLASS IV @ 30.0%

DES PLAINES RIVER

MINER STREET

PROPOSED 36" STORM SEWER SHALL PROJECT 8" FROM FACE OF SHEET PILE WALL TO FACILITATE TIDEFLEX CONNECTION
PROPOSED OUTFALL INVERT ELEVATION 620.50

25' OF 12" DUCTILE IRON OUTFALL FROM PUMP STATION WITH TIDE FLEX

18' OF 36" RCP STORM SEWER, TYPE 2, CLASS III @ 0.3%

STRUCTURES AND SEWER TO BE REMOVED (SEE SHEET SMWRD-1)

275' OF 12" RCP STORM SEWER, TYPE 2, CLASS III @ 0.5% (TO BE INSTALLED PARALLEL TO FLOODWALL)

NOTE: THE MWRD LOCAL SEWER SYSTEMS SECTION FIELD OFFICE MUST BE NOTIFIED AT LEAST TWO (2) WORKING DAYS PRIOR TO THE COMMENCEMENT OF ANY WORK WITHIN THE AREA OF THE MINER STREET PUMP STATION (CALL 708-588-4055).

185' OF 12" RCP STORM SEWER, TYPE 2, CLASS III @ 0.5%

STORM SEWER TO BE INSTALLED BETWEEN THE EXISTING RETAINING WALL AND PROPOSED FLOODWALL

8' OF 12" RCP STORM SEWER, TYPE 2, CLASS III @ 0.5%

232' OF 12" RCP STORM SEWER, TYPE 2, CLASS III @ 0.5%

5' OF 12" RCP STORM SEWER, TYPE 1, CLASS IV @ 30.0%

20' OF 12" RCP STORM SEWER, TYPE 2, CLASS III @ 4.6%

6' OF 15" RCP, TYPE 2, CLASS III @ 1.0%

22' OF 36" RCP, TYPE 2, CLASS III @ 0.3%

STORM SEWER TO BE REMOVED.

55' OF 24" RCP STORM SEWER @ 0.5% (SIZE OF EXISTING PIPE TO BE FIELD VERIFIED)

REMOVE EXISTING CATCH BASIN DIRECT CONNECT EXISTING 10" STORM SEWER TO PROPOSED 18" STORM SEWER

PROPOSED B-6.12 CURB AND GUTTER

42' OF 18" RCP STORM SEWER, TYPE 2, CLASS III @ 0.5%

PRECISION INSTRUMENTS

Corrugated S Metal Building

20 0 40 100
SCALE IN FEET

640 635 630 625 620 615 610 605

BEGIN M-2.12 CURB AND GUTTER STA. 22+26

PROPOSED SIDEWALK PROFILE

PROPOSED GROUND PROFILE STA. 21+71

PROPOSED GUTTER PROFILE

+0.50%

STA. 23+20 ELEV. 631.0

+2.50%

STA. 24+00 ELEV. 633.0

-1.00%

INV. 625.93

INV. 625.82

INV. 625.00

INV. 621.70

INV. 620.51

INV. TO BE FIELD DETERMINED

INV. 622.85

185' OF 12" RCP STORM SEWER @ 0.5%

232' OF 12" RCP STORM SEWER @ 0.5%

20' OF 12" RCP STORM SEWER @ 4.6%

275' OF 12" RCP STORM SEWER @ 0.5%

19+00 19+50 20+00 20+50 21+00 21+50 22+00 22+50 23+00 23+50 24+00 24+50

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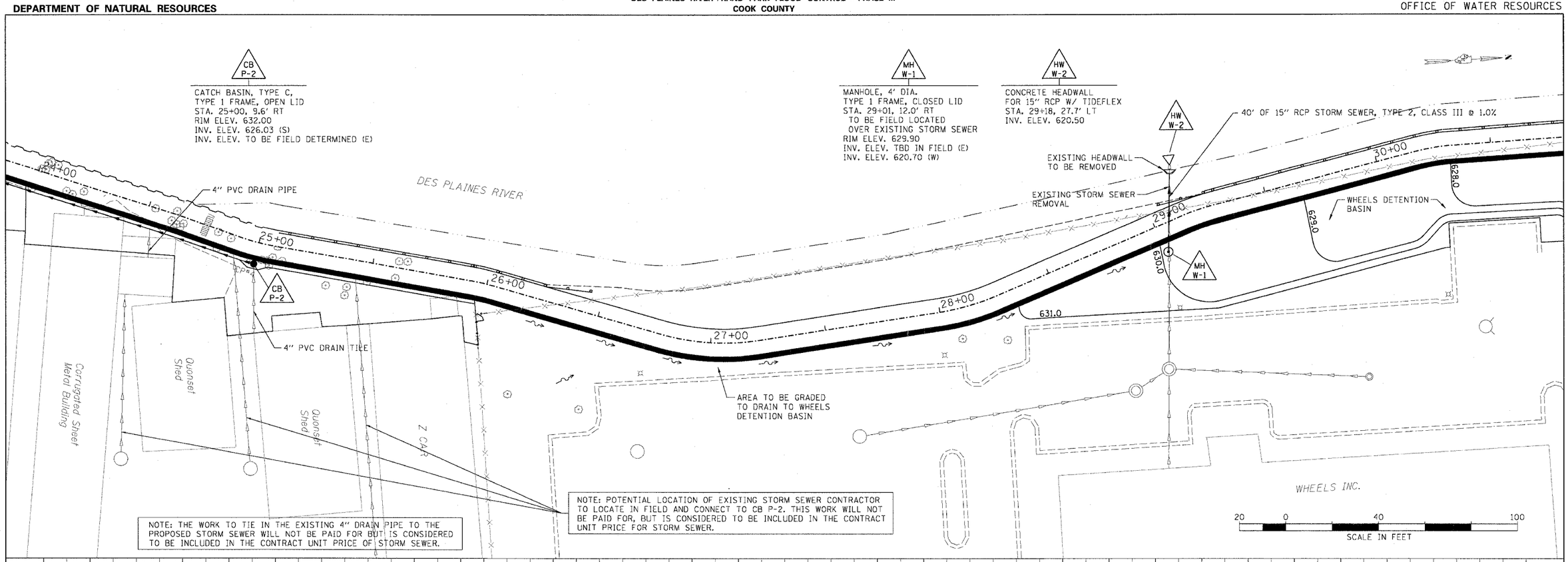
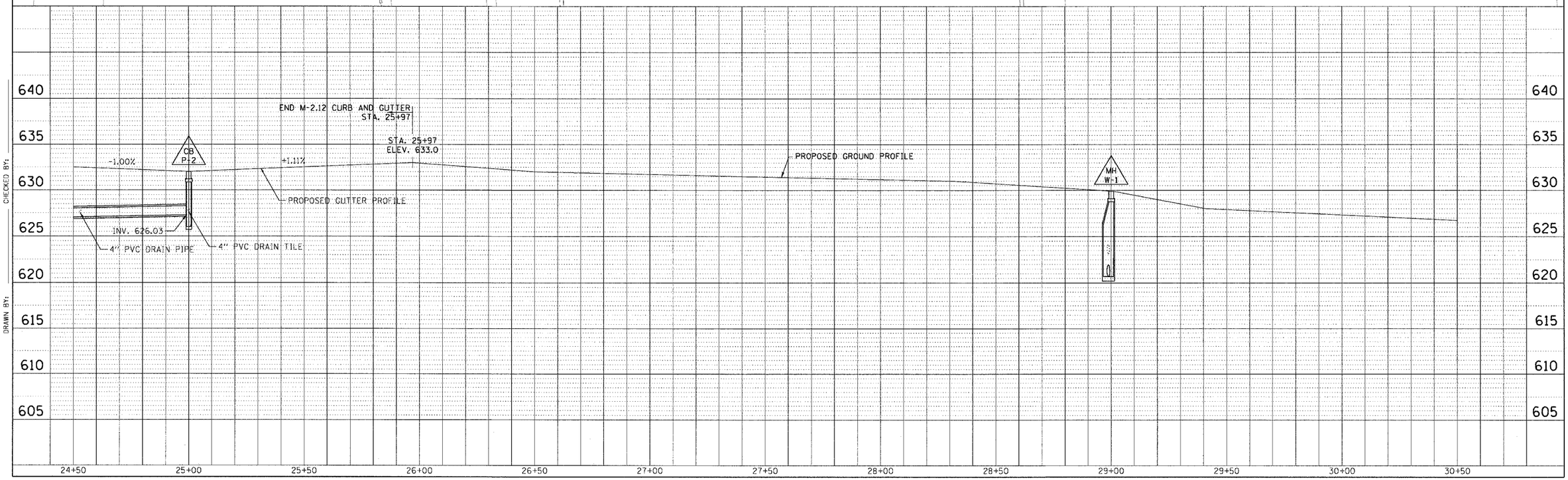
CB P-2
CATCH BASIN, TYPE C,
TYPE 1 FRAME, OPEN LID
STA. 25+00, 9.6' RT
RIM ELEV. 632.00
INV. ELEV. 626.03 (S)
INV. ELEV. TO BE FIELD DETERMINED (E)

MH W-1
MANHOLE, 4' DIA.
TYPE 1 FRAME, CLOSED LID
STA. 29+01, 12.0' RT
TO BE FIELD LOCATED
OVER EXISTING STORM SEWER
RIM ELEV. 629.90
INV. ELEV. TBD IN FIELD (E)
INV. ELEV. 620.70 (W)

HW W-2
CONCRETE HEADWALL
FOR 15" RCP W/ TIDEFLEX
STA. 29+18, 27.7' LT
INV. ELEV. 620.50





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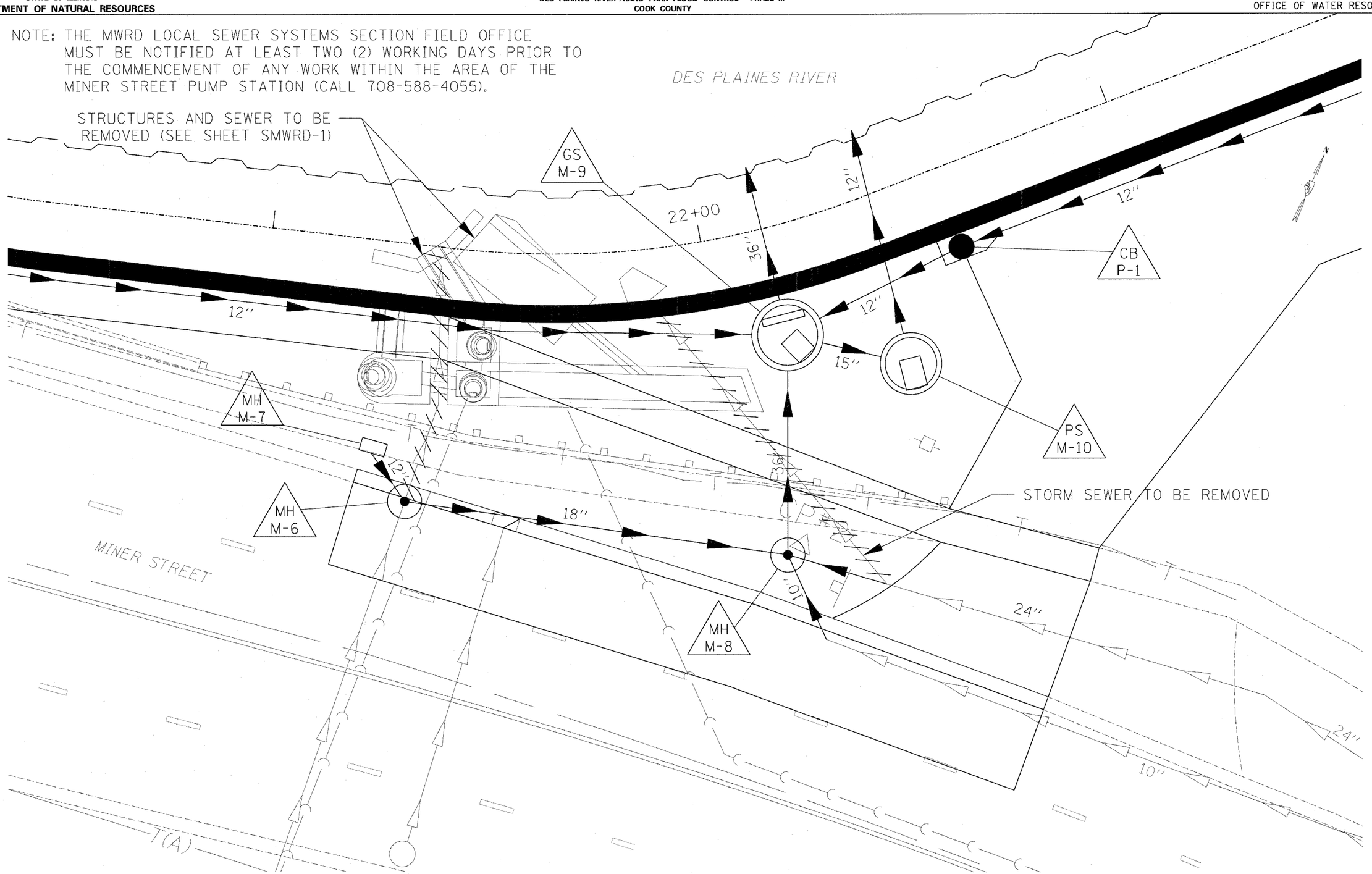
NOTE: THE MWRD LOCAL SEWER SYSTEMS SECTION FIELD OFFICE MUST BE NOTIFIED AT LEAST TWO (2) WORKING DAYS PRIOR TO THE COMMENCEMENT OF ANY WORK WITHIN THE AREA OF THE MINER STREET PUMP STATION (CALL 708-588-4055).



SEE SHEET C-15 FOR DIMENSIONS, SIZES AND ELEVATIONS OF SEWERS AND STRUCTURES.

FR-416

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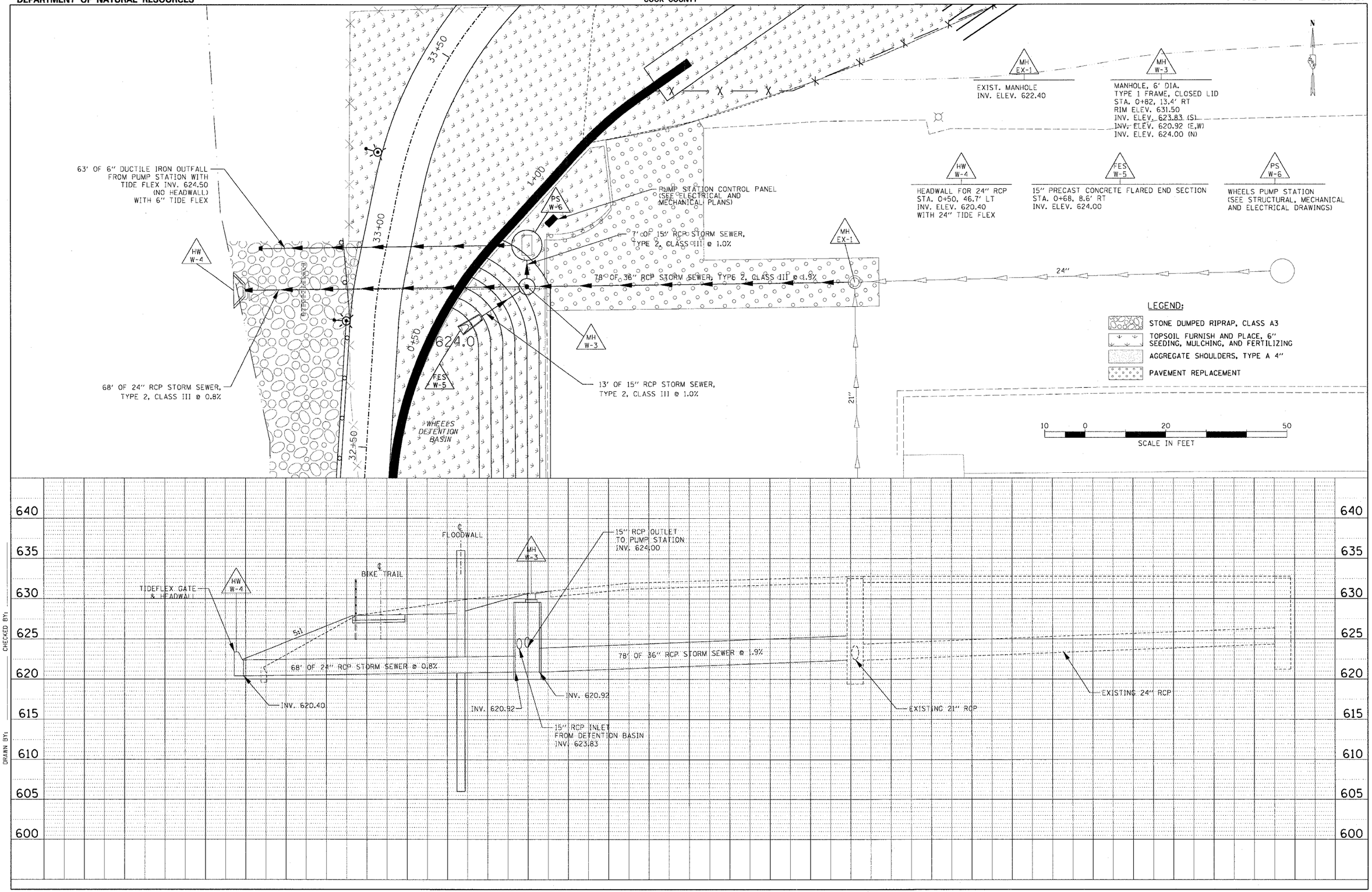

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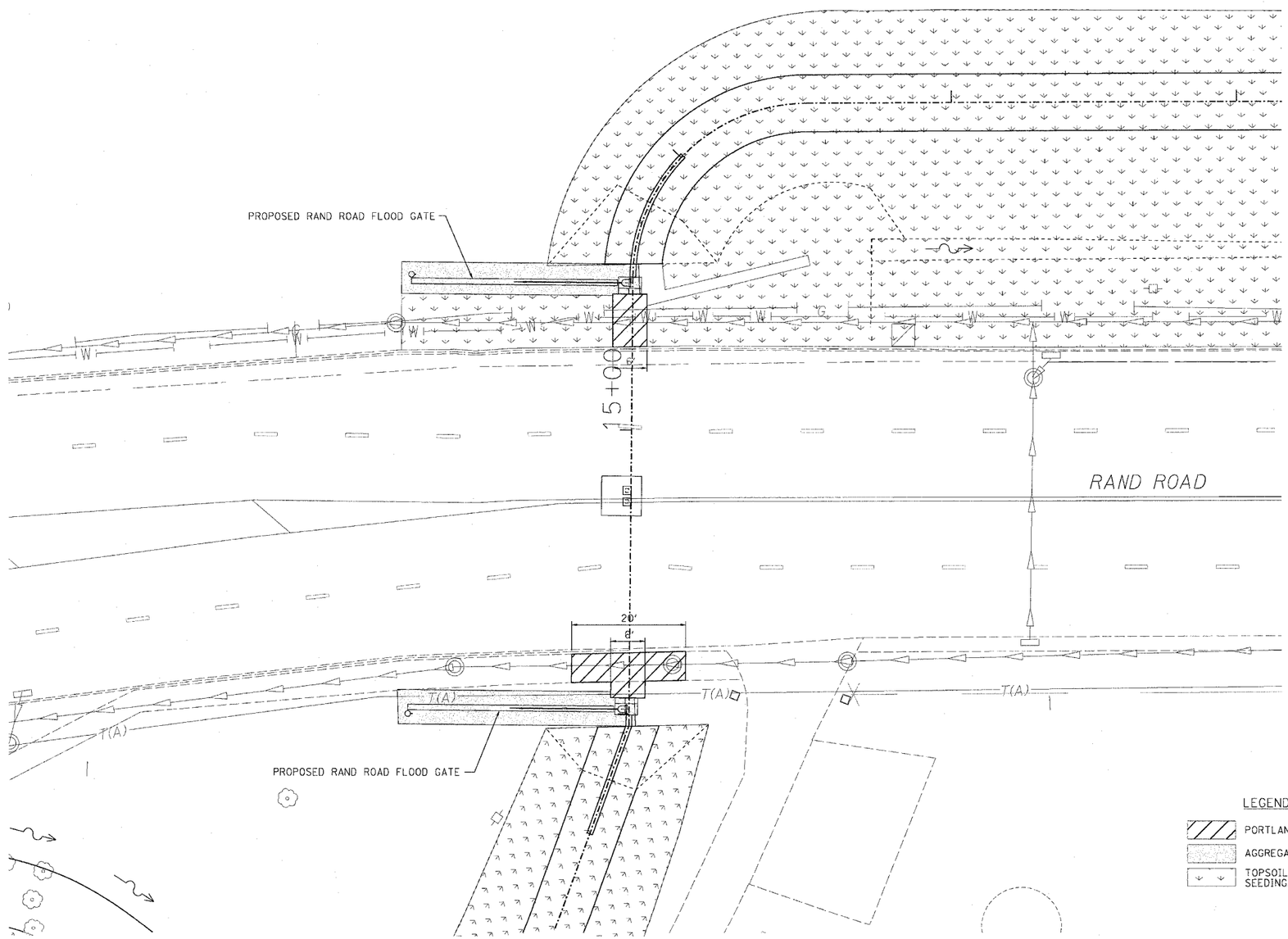

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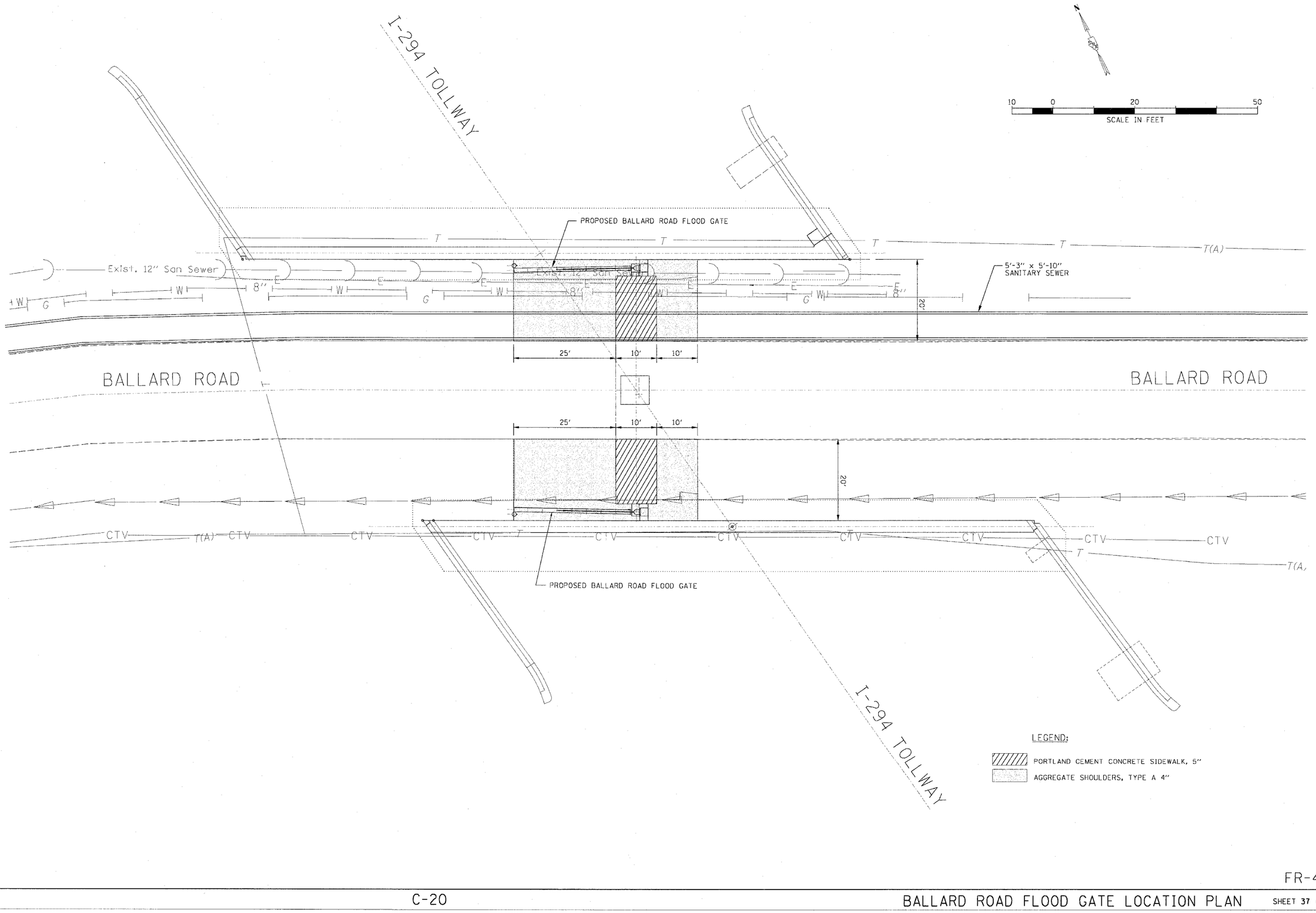
FR-416



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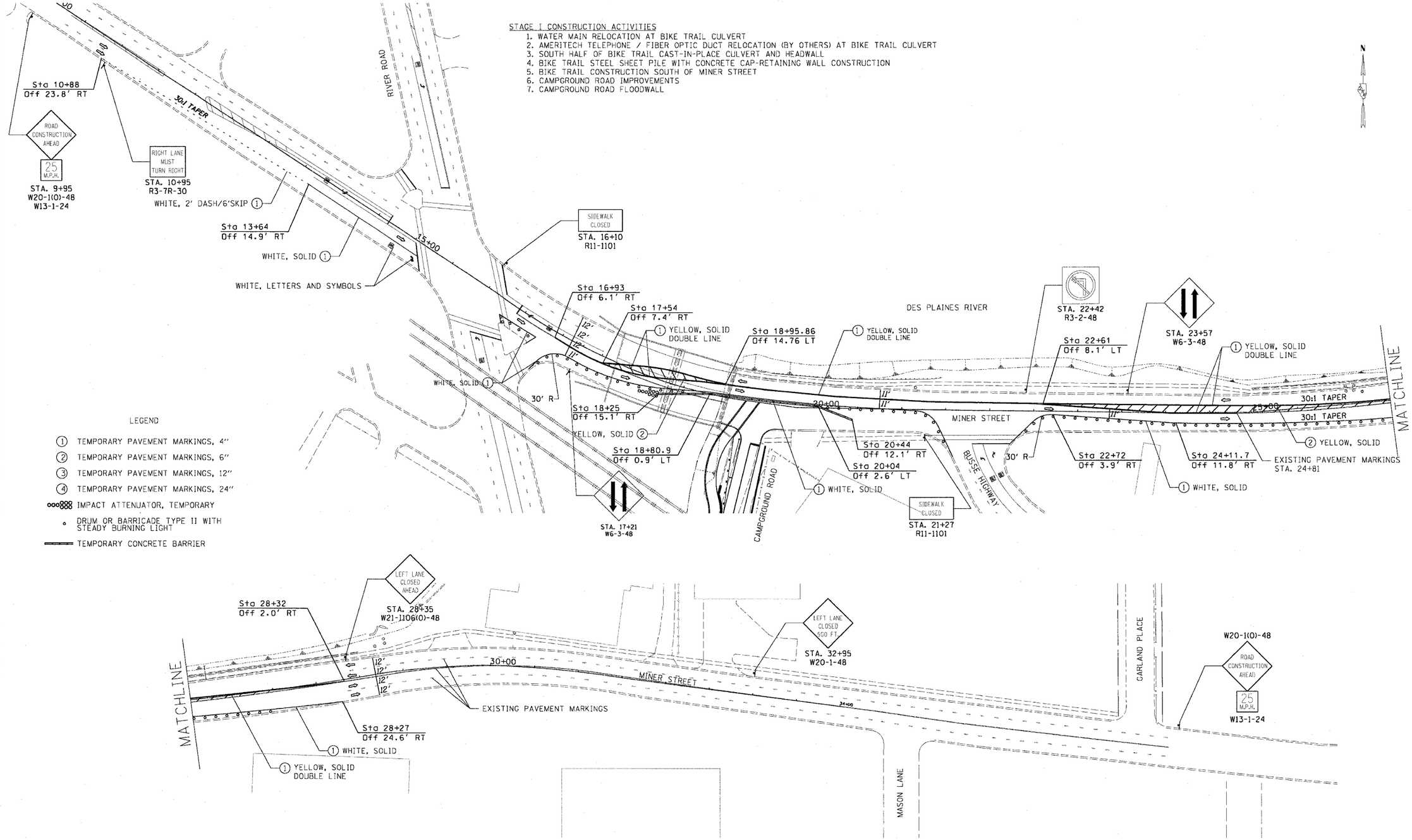
FR-416

STAGE I CONSTRUCTION ACTIVITIES
1. WATER MAIN RELOCATION AT BIKE TRAIL CULVERT
2. AMERITECH TELEPHONE / FIBER OPTIC DUCT RELOCATION (BY OTHERS) AT BIKE TRAIL CULVERT
3. SOUTH HALF OF BIKE TRAIL CAST-IN-PLACE CULVERT AND HEADWALL
4. BIKE TRAIL STEEL SHEET PILE WITH CONCRETE CAP-RETAINING WALL CONSTRUCTION
5. BIKE TRAIL CONSTRUCTION SOUTH OF MINER STREET
6. CAMPGROUND ROAD IMPROVEMENTS
7. CAMPGROUND ROAD FLOODWALL



LEGEND

(1) TEMPORARY PAVEMENT MARKINGS, 4"
(2) TEMPORARY PAVEMENT MARKINGS, 6"
(3) TEMPORARY PAVEMENT MARKINGS, 12"
(4) TEMPORARY PAVEMENT MARKINGS, 24"
IMPACT ATTENUATOR, TEMPORARY
DRUM OR BARRICADE TYPE II WITH STEADY BURNING LIGHT
TEMPORARY CONCRETE BARRIER

MINER STREET MAINTENANCE OF TRAFFIC MIXTURE REQUIREMENTS

	ITEM	AC TYPE	VOIDS	RAP %
*	BITUMINOUS BASE COURSE, SUPERPAVE	PG 58-22	2% @ 50 Gry	50

* TEMPORARY PAVEMENT

NOTE: NO COORDINATE INFORMATION HAS BEEN PROVIDED FOR THE ALIGNMENT SHOWN ON THIS SHEET. THIS ALIGNMENT WAS CREATED USING AERIAL SURVEY THAT HAS NO CONTROL. THIS ALIGNMENT IS USED TO SHOW THE APPROXIMATE LOCATION OF TRAFFIC CONTROL ITEMS.

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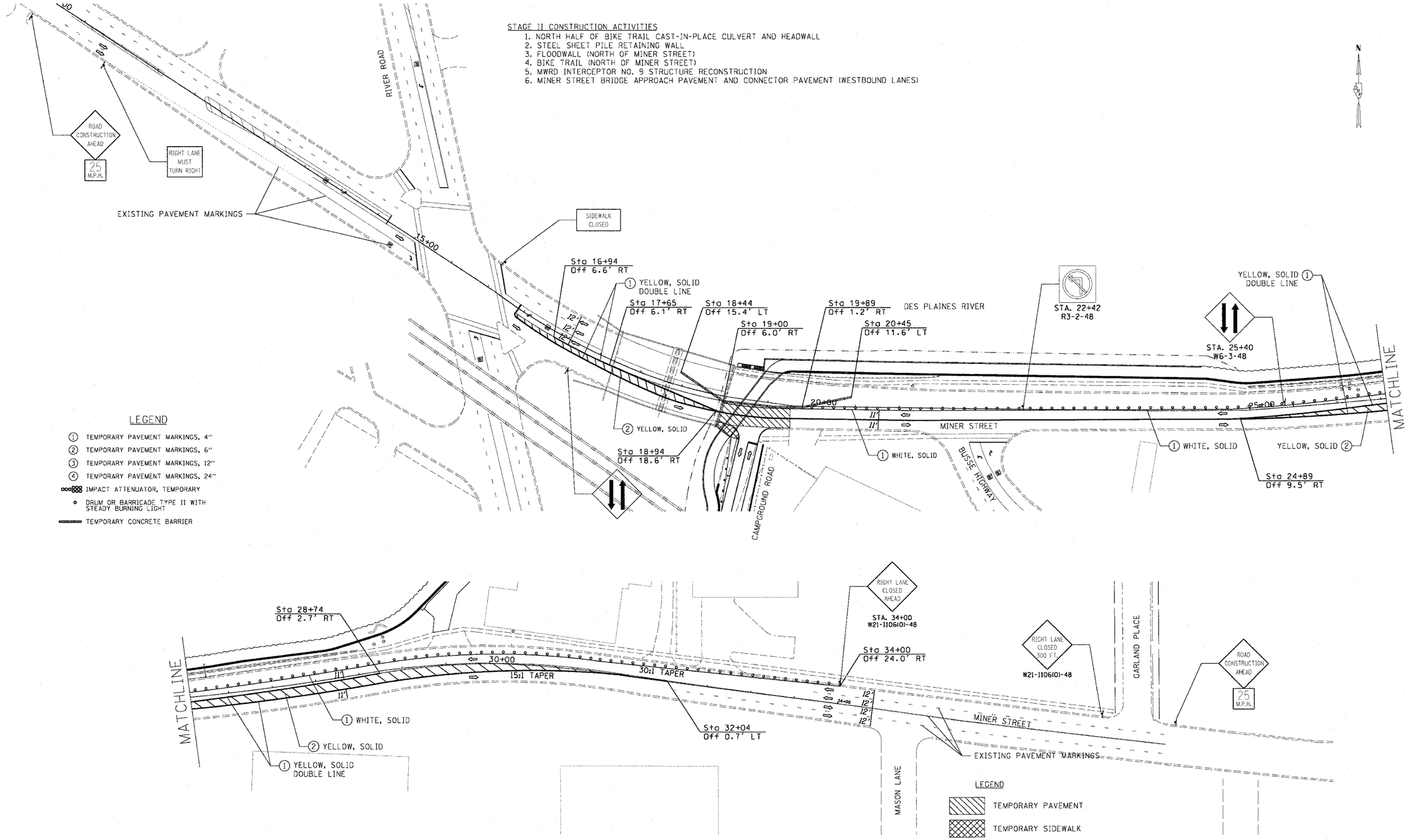
STAGE II CONSTRUCTION ACTIVITIES
1. NORTH HALF OF BIKE TRAIL CAST-IN-PLACE CULVERT AND HEADWALL
2. STEEL SHEET PILE RETAINING WALL
3. FLOODWALL (NORTH OF MINER STREET)
4. BIKE TRAIL (NORTH OF MINER STREET)
5. MWRD INTERCEPTOR NO. 9 STRUCTURE RECONSTRUCTION
6. MINER STREET BRIDGE APPROACH PAVEMENT AND CONNECTOR PAVEMENT (WESTBOUND LANES)



MINER STREET MAINTENANCE OF TRAFFIC MIXTURE REQUIREMENTS

	ITEM	AC TYPE	VOIDS	RAP %
*	BITUMINOUS BASE COURSE, SUPERPAVE	PG 58-22	2% @ 50 Gry	50

* TEMPORARY PAVEMENT

NOTE: NO COORDINATE INFORMATION HAS BEEN PROVIDED FOR THE ALIGNMENT SHOWN ON THIS SHEET. THIS ALIGNMENT WAS CREATED USING AERIAL SURVEY THAT HAS NO CONTROL. THIS ALIGNMENT IS USED TO SHOW THE APPROXIMATE LOCATION OF TRAFFIC CONTROL ITEMS.

CONTRACTOR SHALL ALLOW ACCESS FOR THE BUSINESSES AT 1842-1846 MINER STREET AT ALL TIMES.

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DRAWN BY: _____ CHECKED BY: _____

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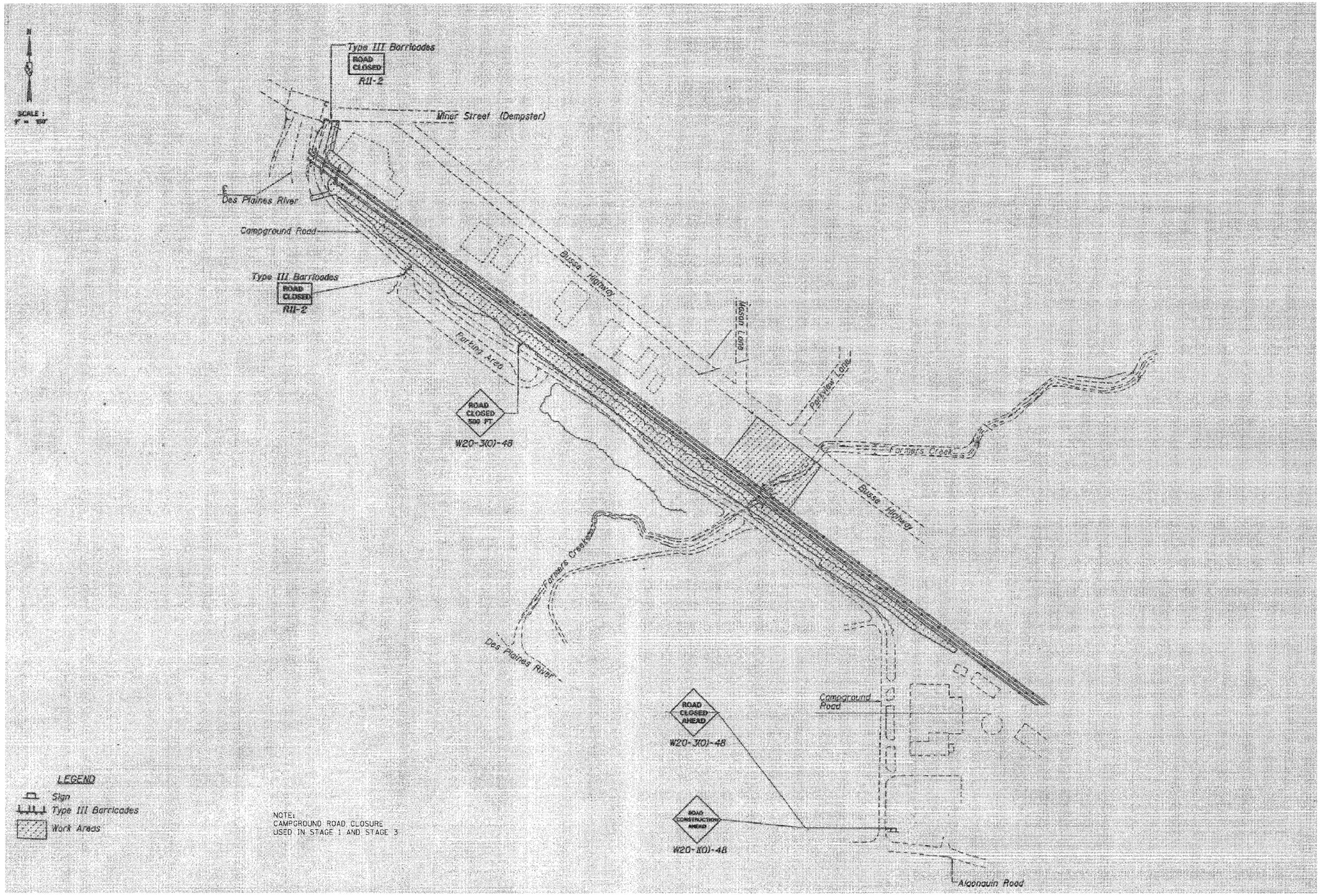

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DRAWN BY: _____ CHECKED BY: _____

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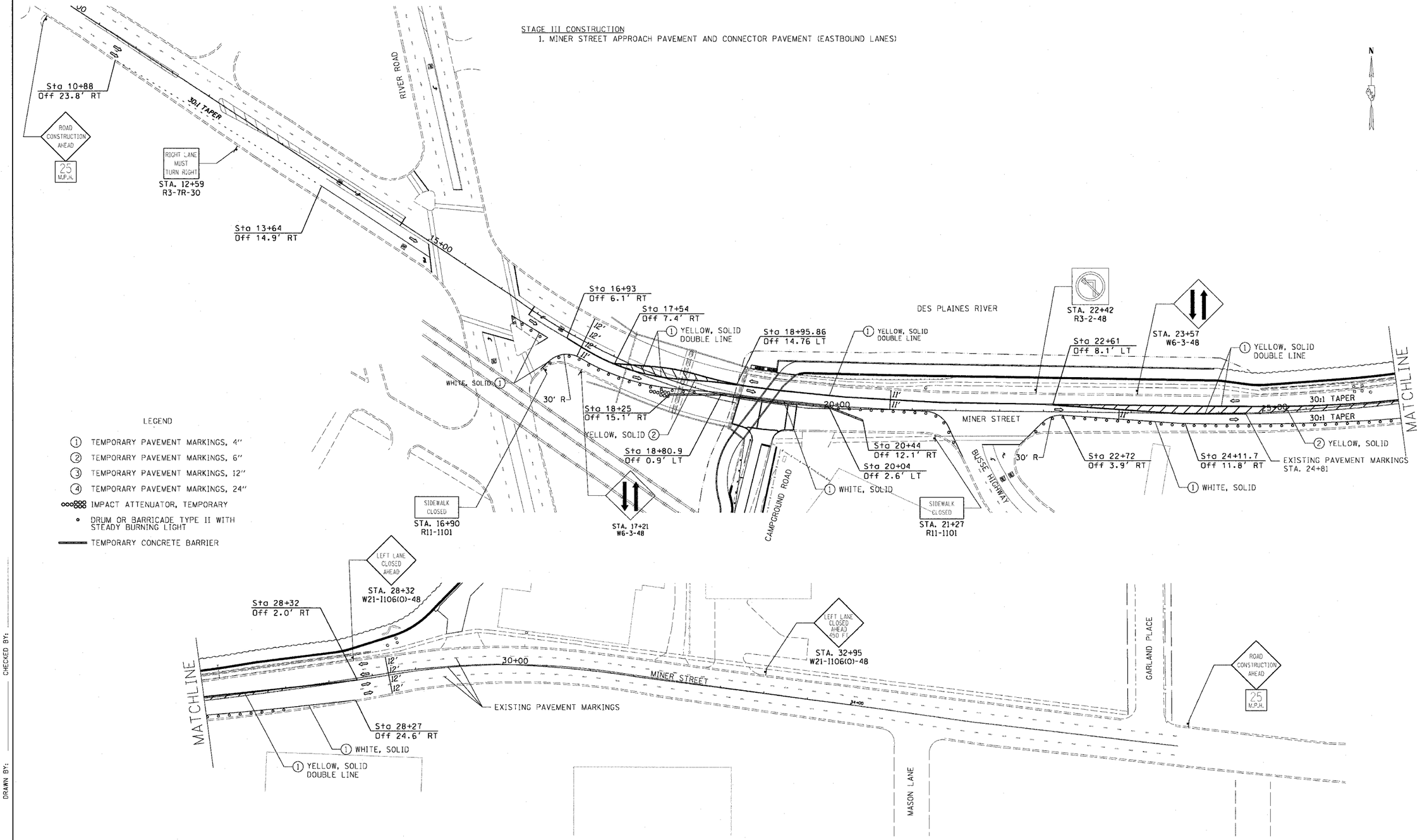
FR-416

STAGE III CONSTRUCTION
1. MINER STREET APPROACH PAVEMENT AND CONNECTOR PAVEMENT (EASTBOUND LANES)



LEGEND

1. TEMPORARY PAVEMENT MARKINGS, 4"
2. TEMPORARY PAVEMENT MARKINGS, 6"
3. TEMPORARY PAVEMENT MARKINGS, 12"
4. TEMPORARY PAVEMENT MARKINGS, 24"
- IMPACT ATTENUATOR, TEMPORARY
- DRUM OR BARRICADE TYPE II WITH STEADY BURNING LIGHT
- TEMPORARY CONCRETE BARRIER

MINER STREET MAINTENANCE OF TRAFFIC MIXTURE REQUIREMENTS

	ITEM	AC TYPE	VOIDS	RAP %
*	BITUMINOUS BASE COURSE, SUPERPAVE	PG 58-22	2% @ 50 Gry	50

* TEMPORARY PAVEMENT

NOTE: NO COORDINATE INFORMATION HAS BEEN PROVIDED FOR THE ALIGNMENT SHOWN ON THIS SHEET. THIS ALIGNMENT WAS CREATED USING AERIAL SURVEY THAT HAS NO CONTROL. THIS ALIGNMENT IS USED TO SHOW THE APPROXIMATE LOCATION OF TRAFFIC CONTROL ITEMS.

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DRAWN BY: _____ CHECKED BY: _____

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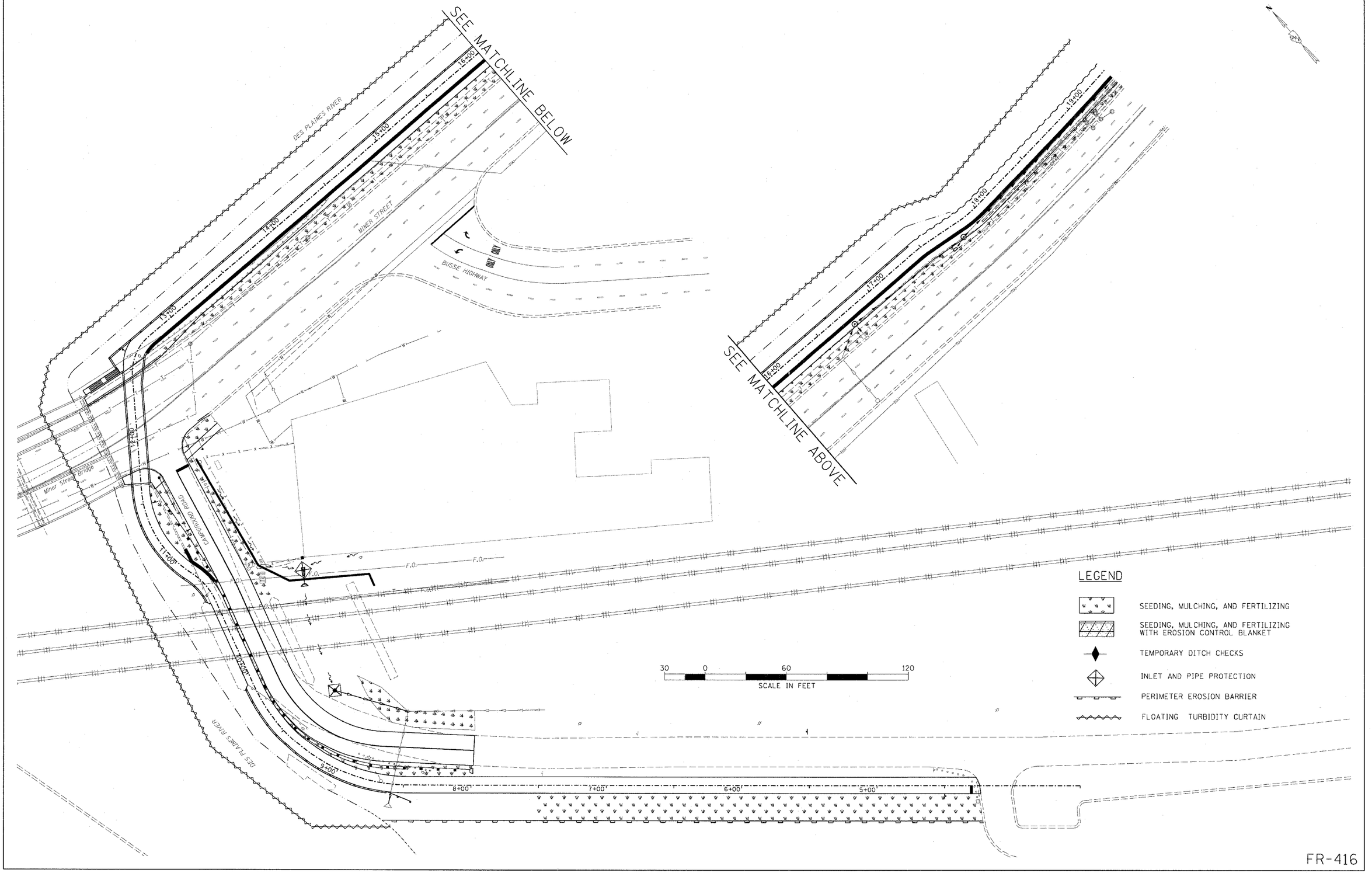
FR-416



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DRAWN BY: _____ CHECKED BY: _____

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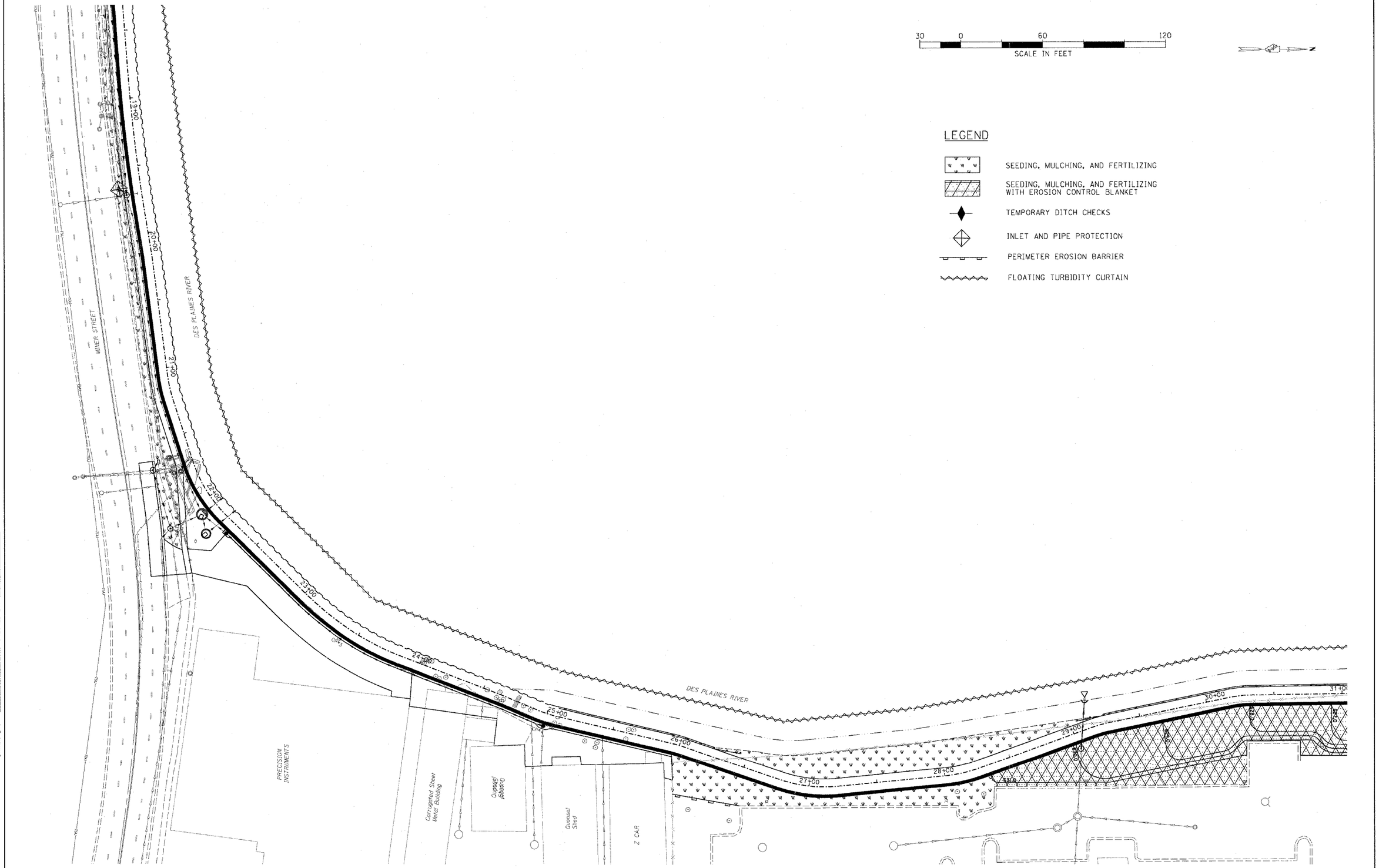
FR-416

30 0 60 120
SCALE IN FEET

N

LEGEND

- SEEDING, MULCHING, AND FERTILIZING
- SEEDING, MULCHING, AND FERTILIZING WITH EROSION CONTROL BLANKET
- TEMPORARY DITCH CHECKS
- INLET AND PIPE PROTECTION
- PERIMETER EROSION BARRIER
- FLOATING TURBIDITY CURTAIN



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DRAWN BY: _____ CHECKED BY: _____

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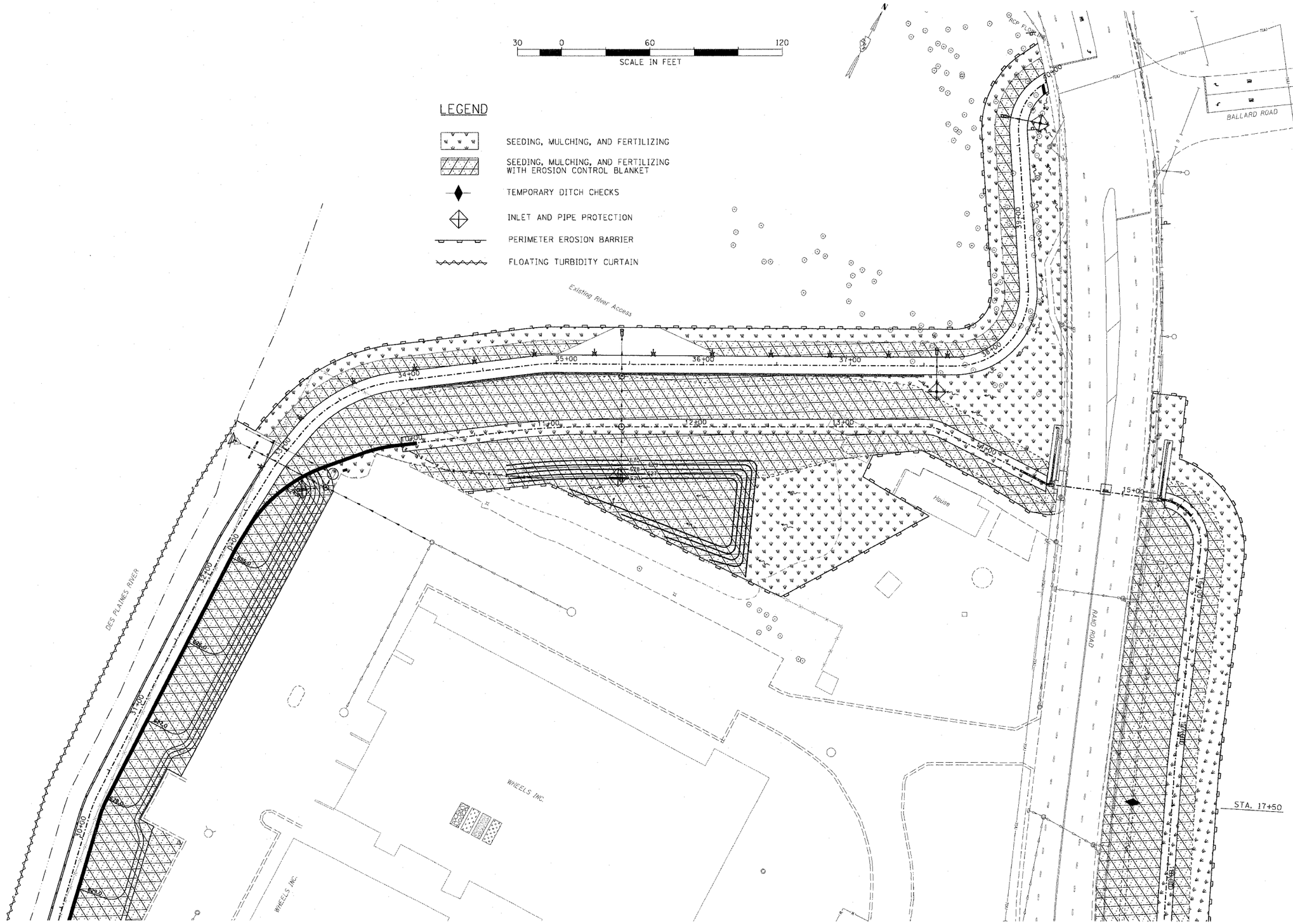
FR-416

30 0 60 120
SCALE IN FEET

LEGEND

- SEEDING, MULCHING, AND FERTILIZING
- SEEDING, MULCHING, AND FERTILIZING WITH EROSION CONTROL BLANKET
- TEMPORARY DITCH CHECKS
- INLET AND PIPE PROTECTION
- PERIMETER EROSION BARRIER
- FLOATING TURBIDITY CURTAIN



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FR-416

30 0 60 120
SCALE IN FEET

LEGEND

- SEEDING, MULCHING, AND FERTILIZING
- SEEDING, MULCHING, AND FERTILIZING WITH EROSION CONTROL BLANKET
- TEMPORARY DITCH CHECKS
- INLET AND PIPE PROTECTION
- PERIMETER EROSION BARRIER
- FLOATING TURBIDITY CURTAIN

STA. 17+50
STA. 21+50
STA. 23+50
STA. 25+50
17+00
18+00
19+00
20+00
21+00
22+00
23+00
24+00
25+00
26+00
RAND ROAD
RAND ROAD
GARLAND PLACE
WHEELS INC.

DESIGNED BY: _____ CHECKED BY: _____
DRAWN BY: _____ CHECKED BY: _____

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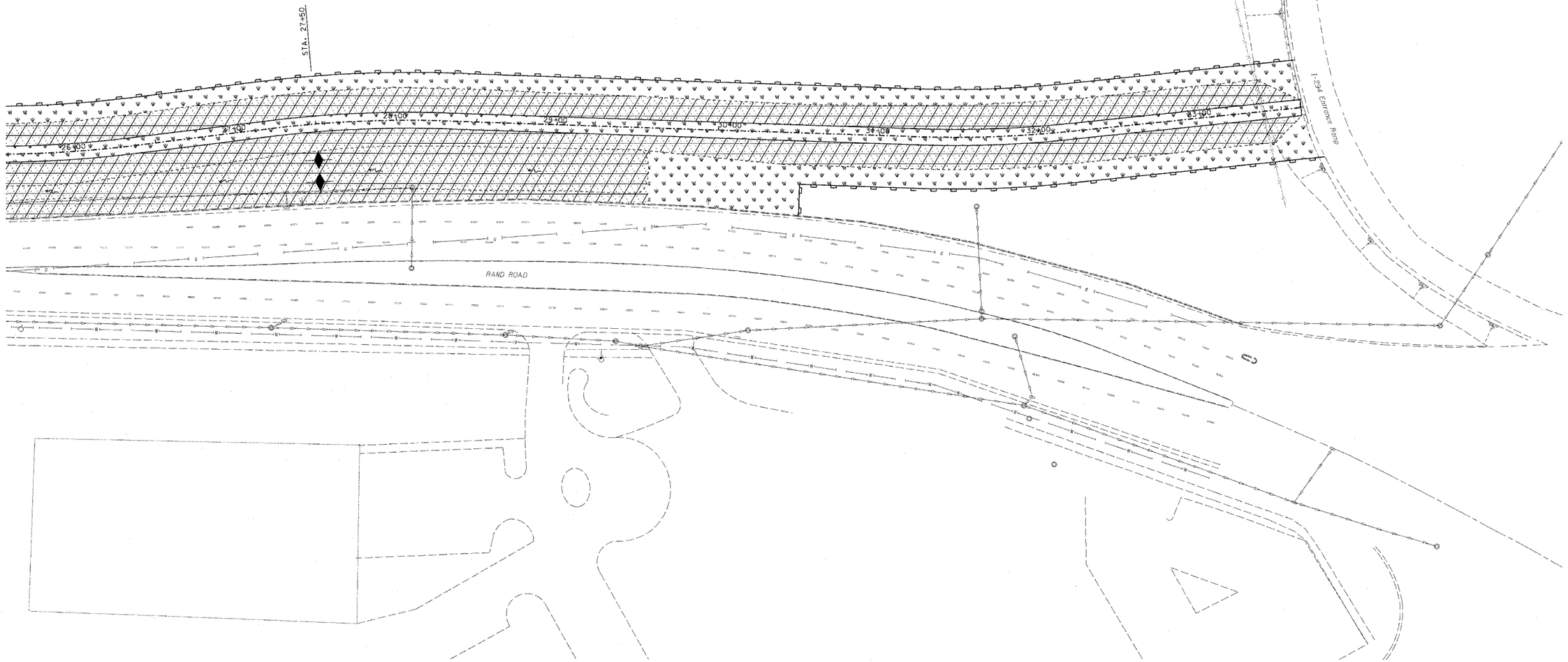
FR-416

30 0 60 120
SCALE IN FEET

LEGEND

- SEEDING, MULCHING, AND FERTILIZING
- SEEDING, MULCHING, AND FERTILIZING WITH EROSION CONTROL BLANKET
- TEMPORARY DITCH CHECKS
- INLET AND PIPE PROTECTION
- PERIMETER EROSION BARRIER
- FLOATING TURBIDITY CURTAIN



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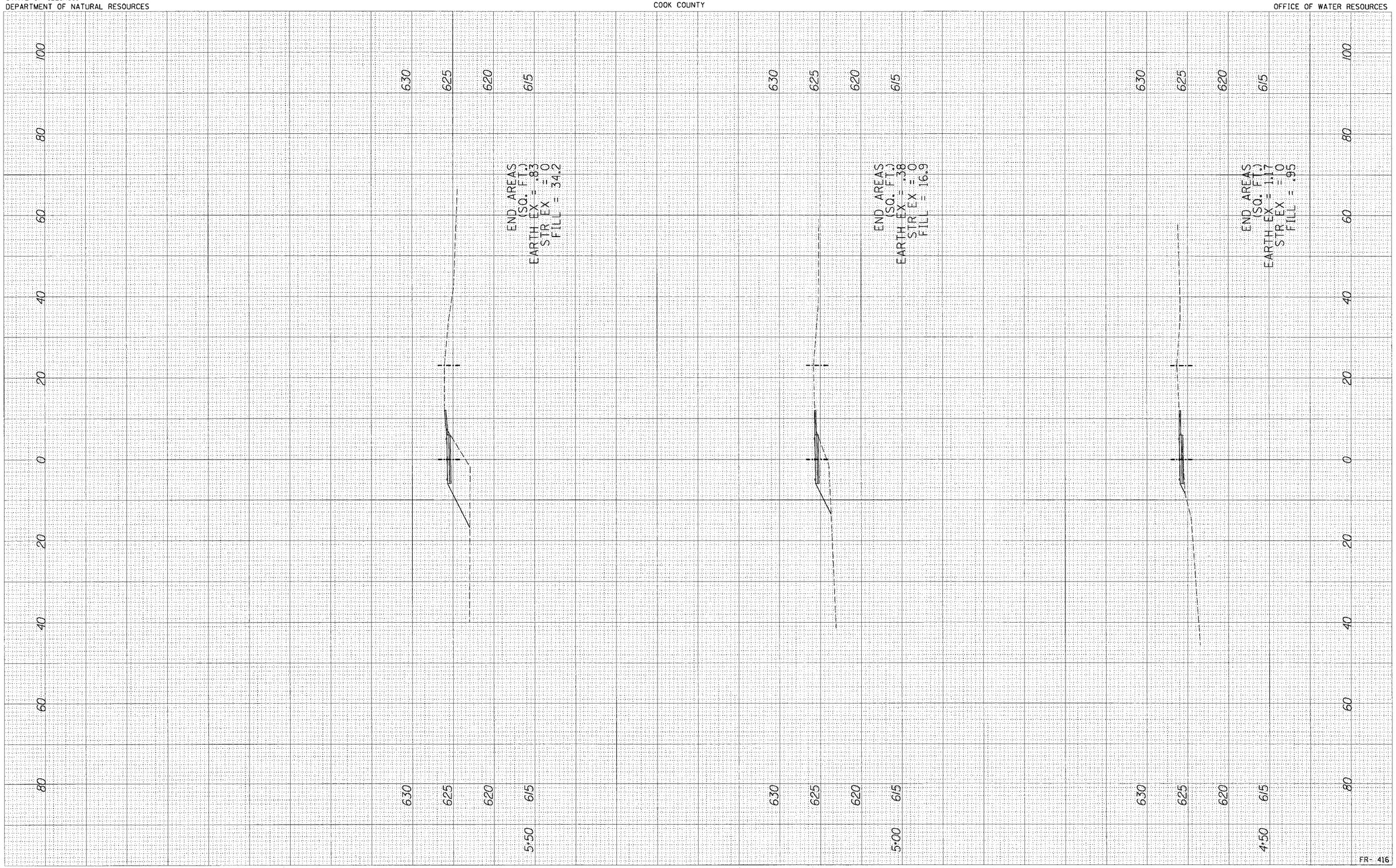

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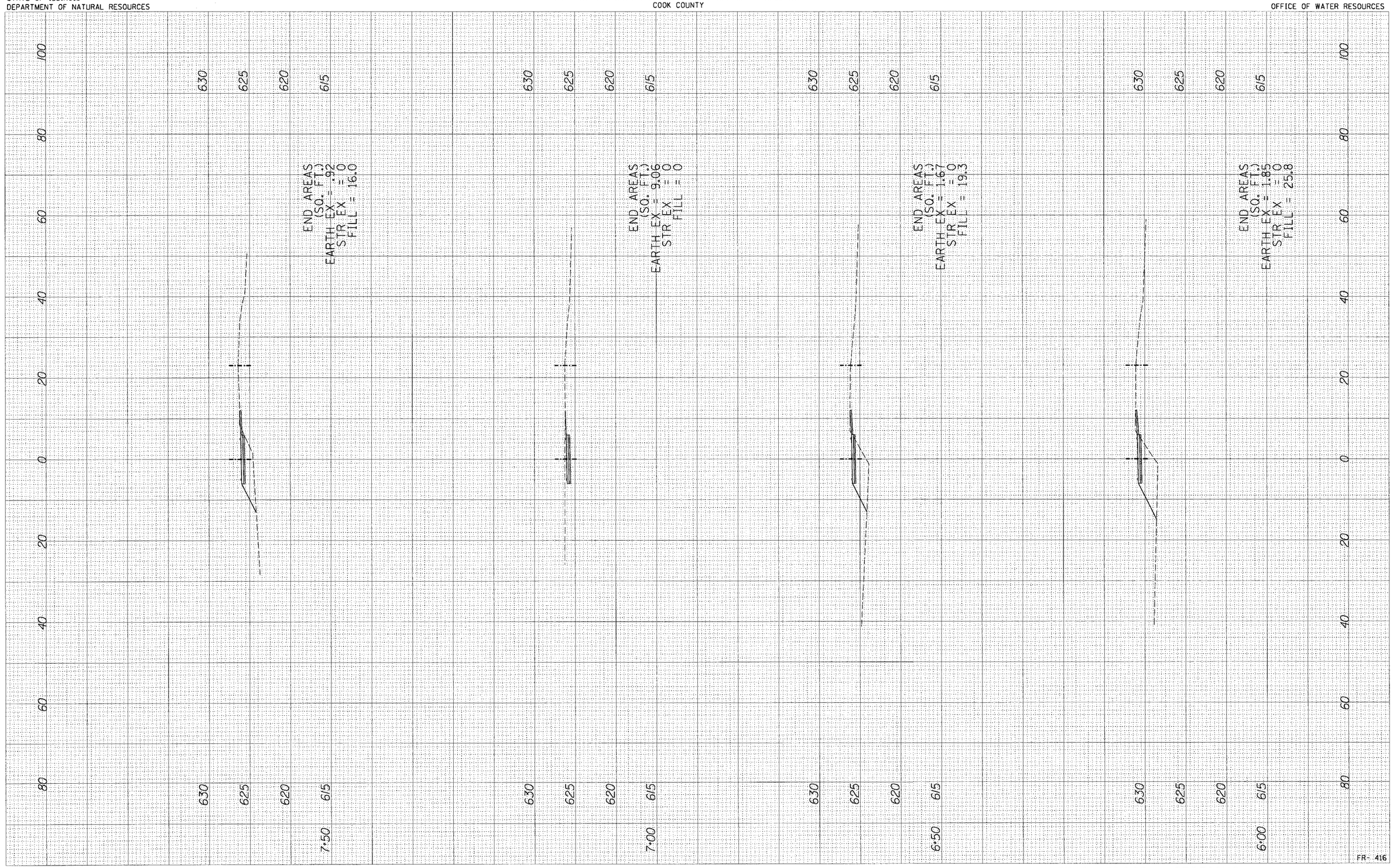
DRAWN BY: CHECKED BY:

FR- 416

C-30

TRAIL CROSS - SECTIONS



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DRAWN BY: _____ CHECKED BY: _____

FR- 416

END AREAS
(SQ. FT.)
EARTH EX = 19.4
STR EX = 0
FILL = 0

END AREAS (SQ. FT.)
SEE TRAIL CROSS SECTIONS

END AREAS
(SQ. FT.)
EARTH EX = 47.7
STR EX = 0
FILL = .62

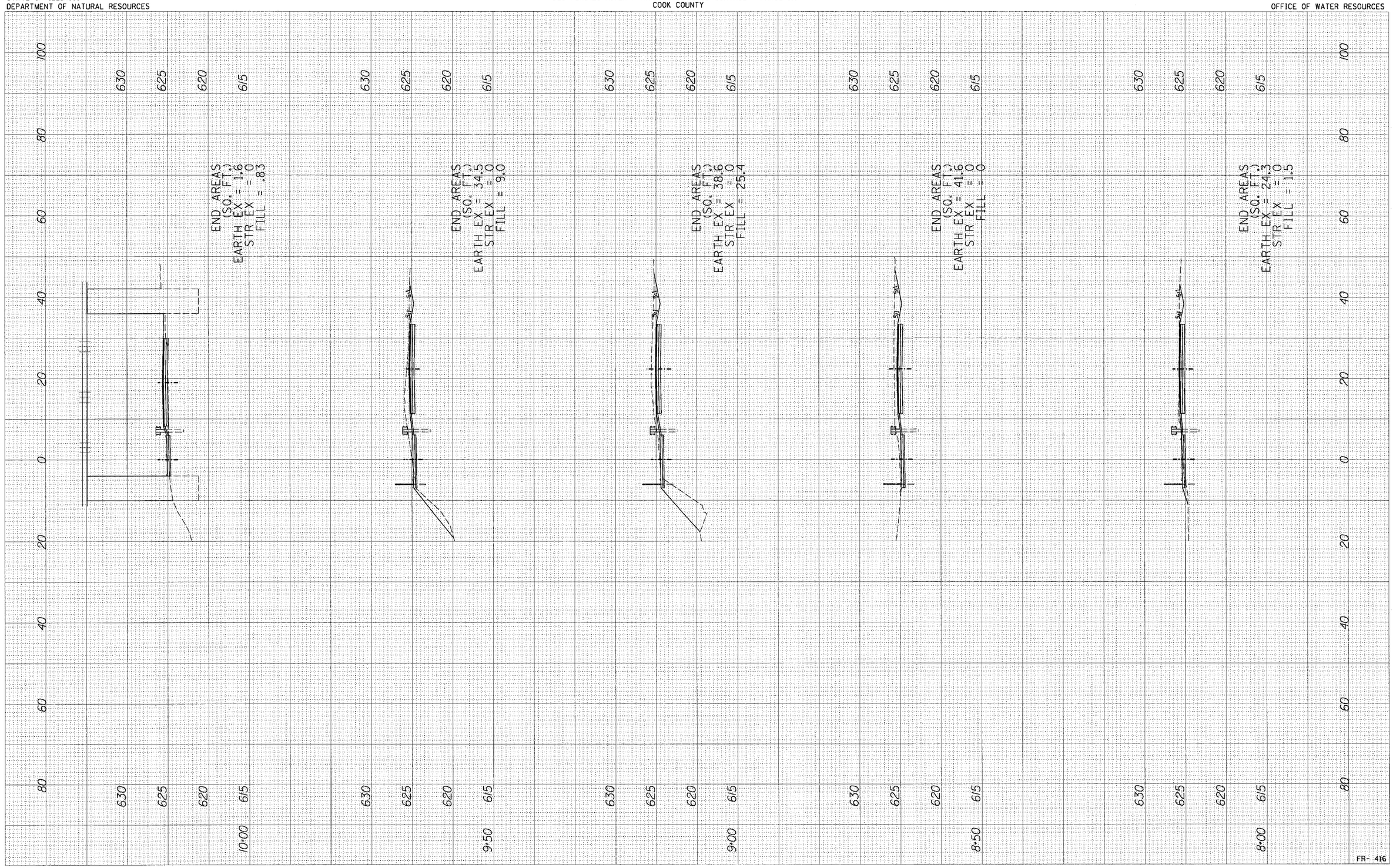
END AREAS (SQ. FT.)
SEE TRAIL CROSS SECTIONS

END AREAS
(SQ. FT.)
EARTH EX = 43.3
STR EX = 0
FILL = 1.9

END AREAS (SQ. FT.)
SEE TRAIL CROSS SECTIONS

DESIGNED BY: _____ CHECKED BY: _____
DRAWN BY: _____ CHECKED BY: _____

FR- 416



DESIGNED BY: _____ CHECKED BY: _____
DRAWN BY: _____ CHECKED BY: _____

FR- 416

END AREAS (SQ. FT.)
SEE CAMPGROUND ROAD
CROSS SECTIONS

END AREAS
(SQ. FT.)
EARTH EX = 209.5
STR EX = 0
FILL = 0

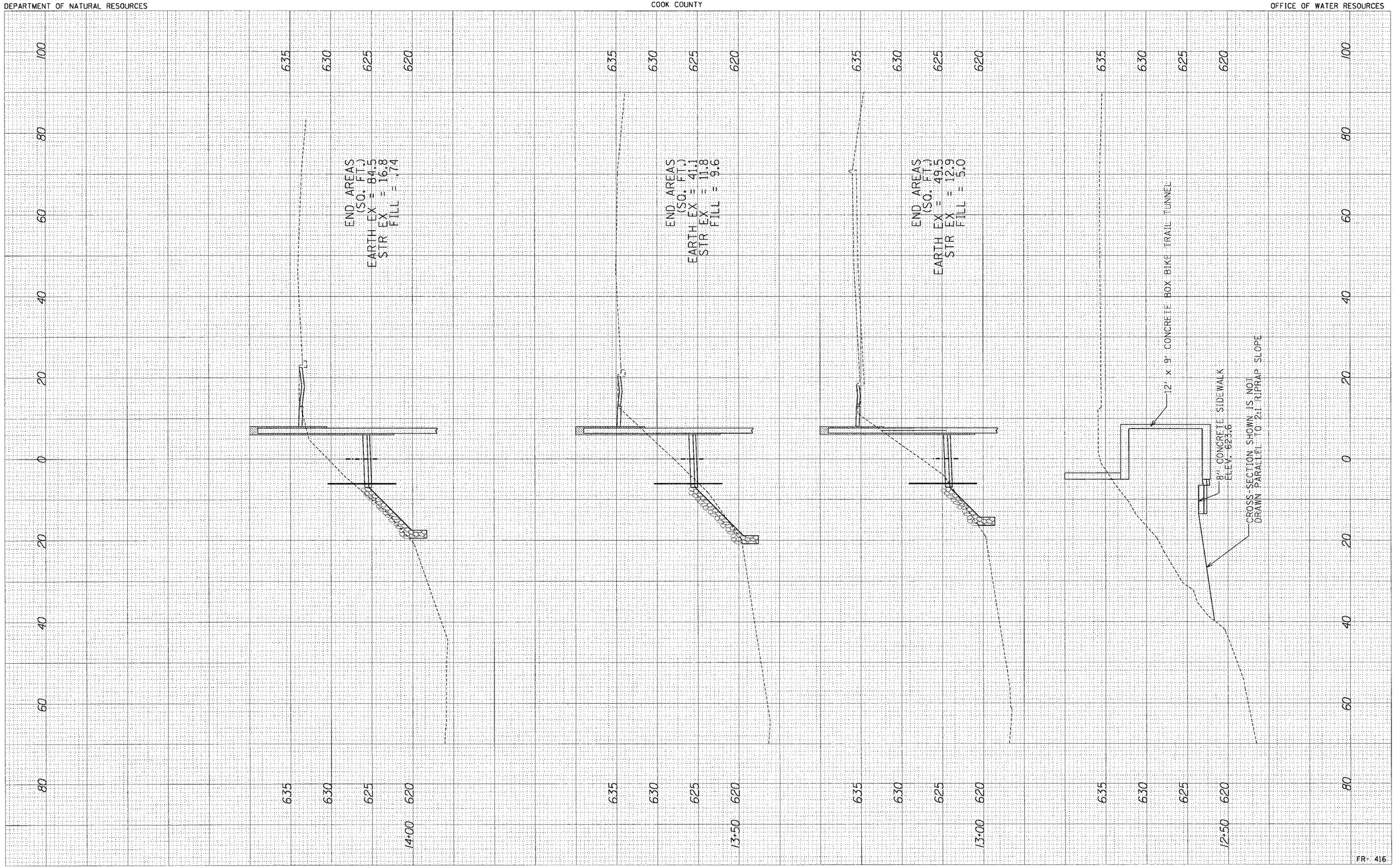
Existing Southeast Wingwall
Miner Street Bridge.

END AREAS
(SQ. FT.)
EARTH EX = 106.7
STR EX = 0
FILL = 0

END AREAS
(SQ. FT.)
EARTH EX = 10.6
STR EX = 0
FILL = 9.8

DRAWN BY: _____ CHECKED BY: _____

FR- 416

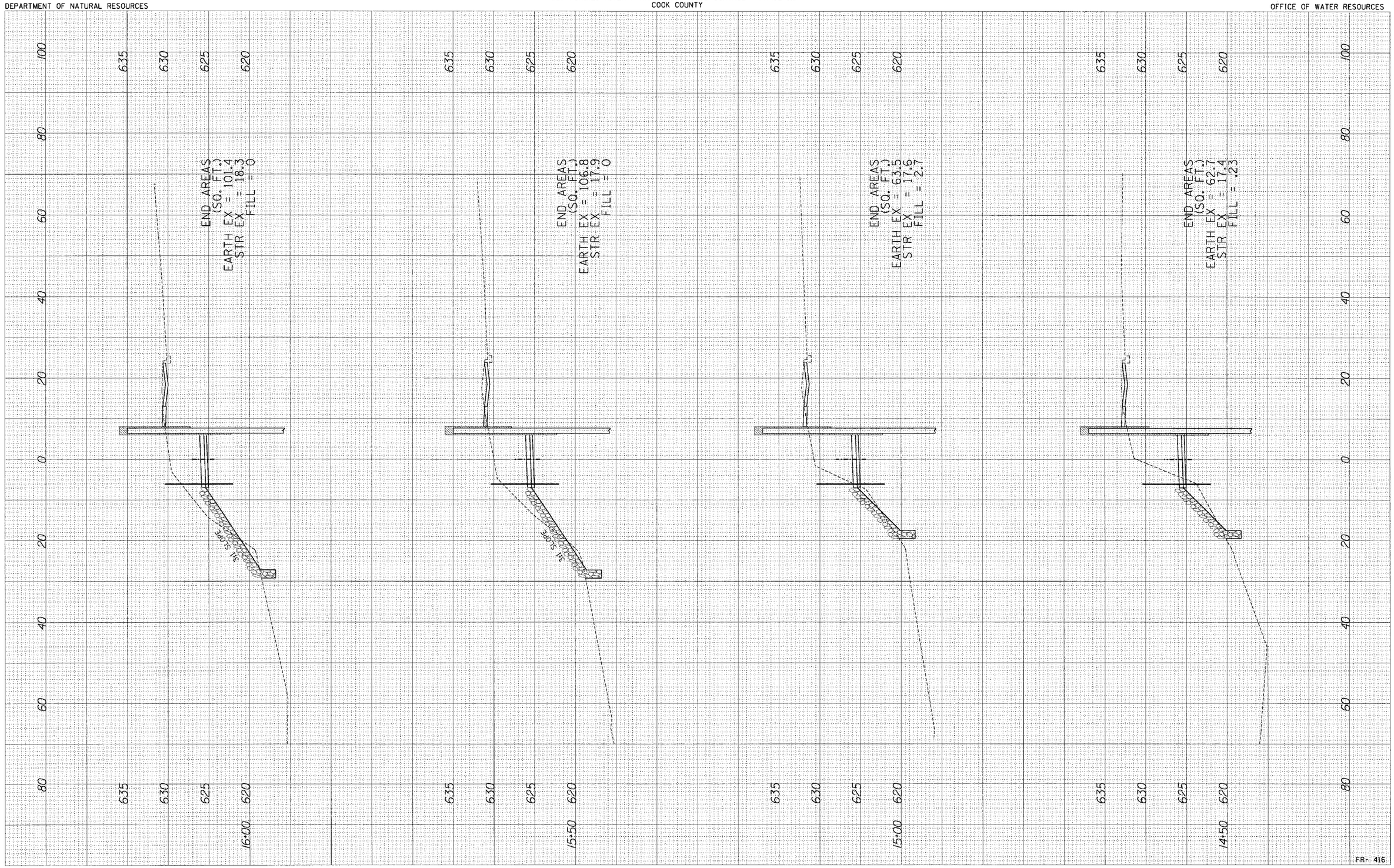


DESIGNED BY: _____ CHECKED BY: _____
DRAWN BY: _____ CHECKED BY: _____

FR- 416

C-35

TRAIL CROSS - SECTIONS



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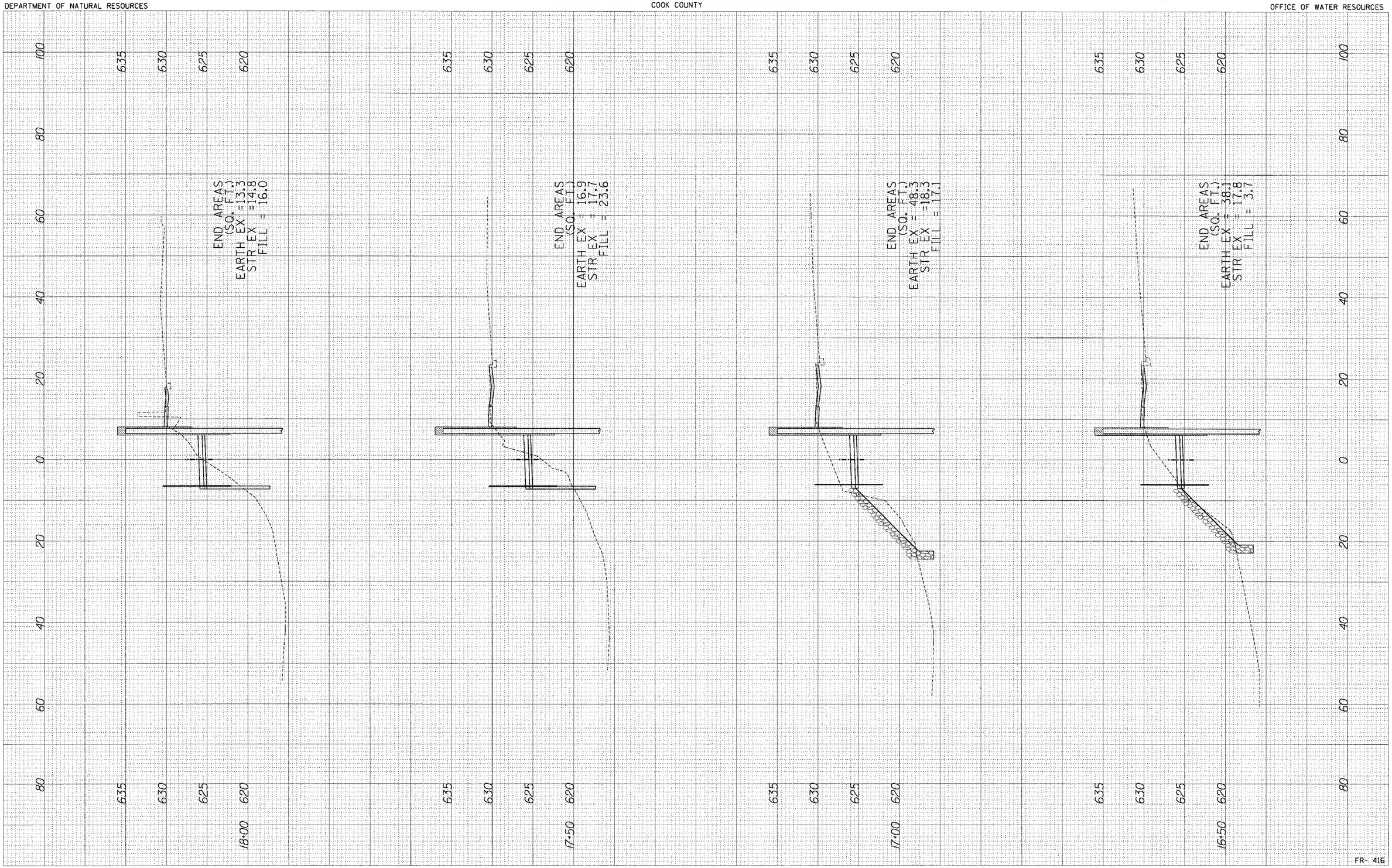
DRAWN BY: _____ CHECKED BY: _____



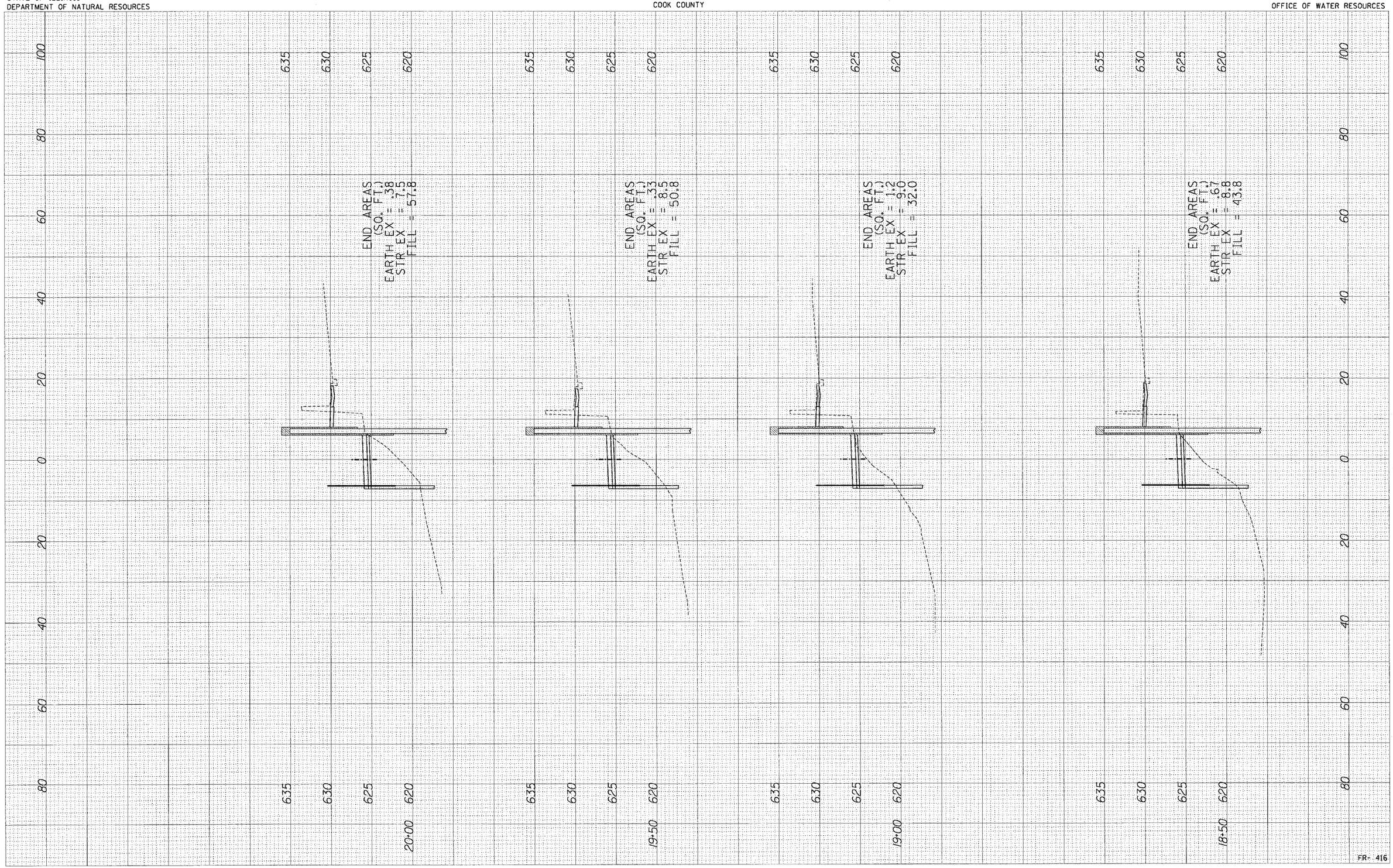
DESIGNED BY: _____ CHECKED BY: _____
DRAWN BY: _____ CHECKED BY: _____

FR- 416

STATE OF ILLINOIS
DEPARTMENT OF NATURAL RESOURCES

DES PLAINES RIVER / RAND PARK FLOOD CONTROL - PHASE III
COOK COUNTY

OFFICE OF WATER RESOURCES



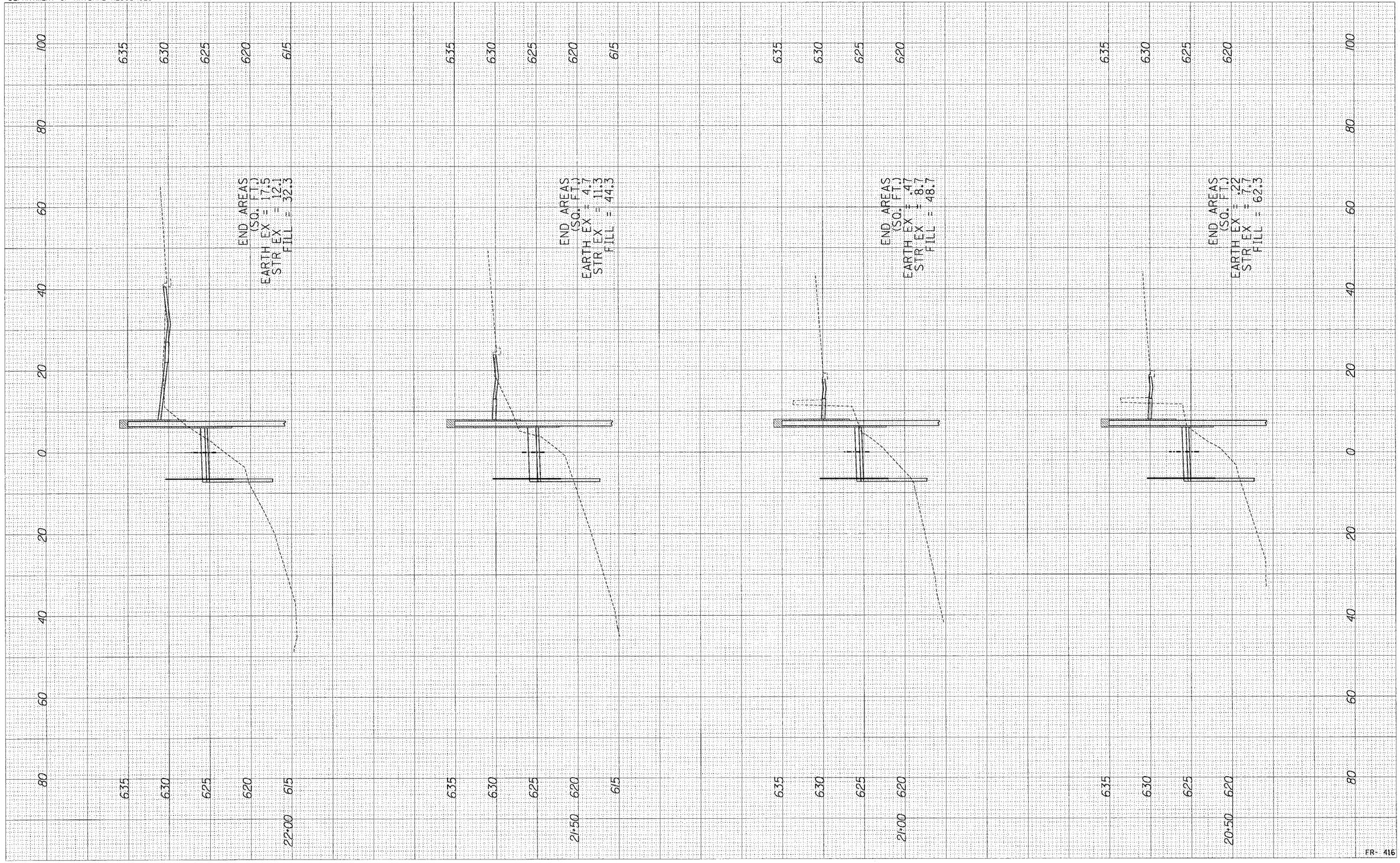
DESIGNED BY: _____ CHECKED BY: _____
DRAWN BY: _____ CHECKED BY: _____

FR-416

C-38

TRAIL CROSS - SECTIONS

SHEET 55 OF 167



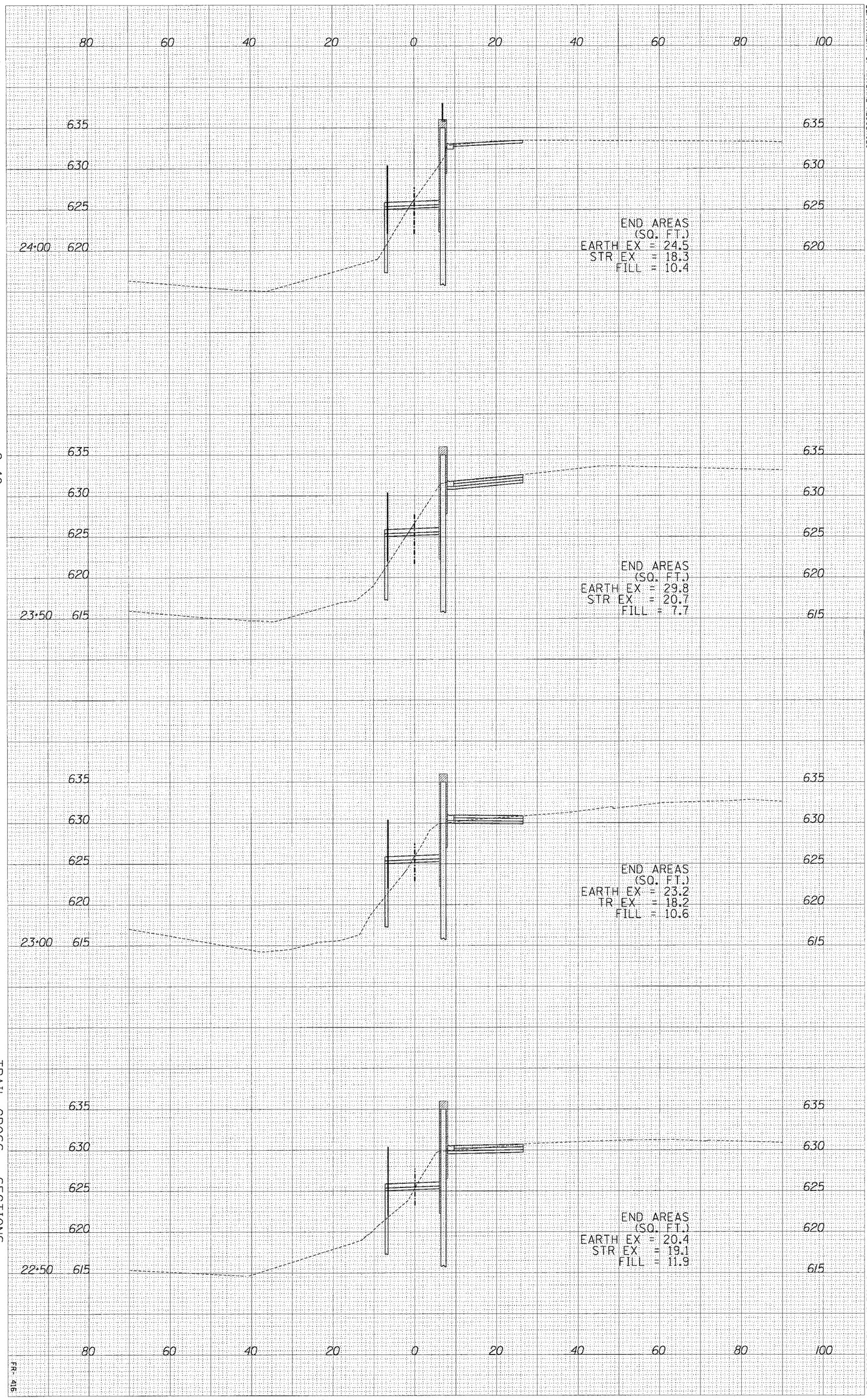
DESIGNED BY: _____ CHECKED BY: _____
DRAWN BY: _____ CHECKED BY: _____

FR- 416

TRAIL CROSS - SECTIONS

DESIGNED BY: _____ CHECKED BY: _____

DRAWN BY: _____ CHECKED BY: _____



C-40

TRAIL CROSS - SECTIONS

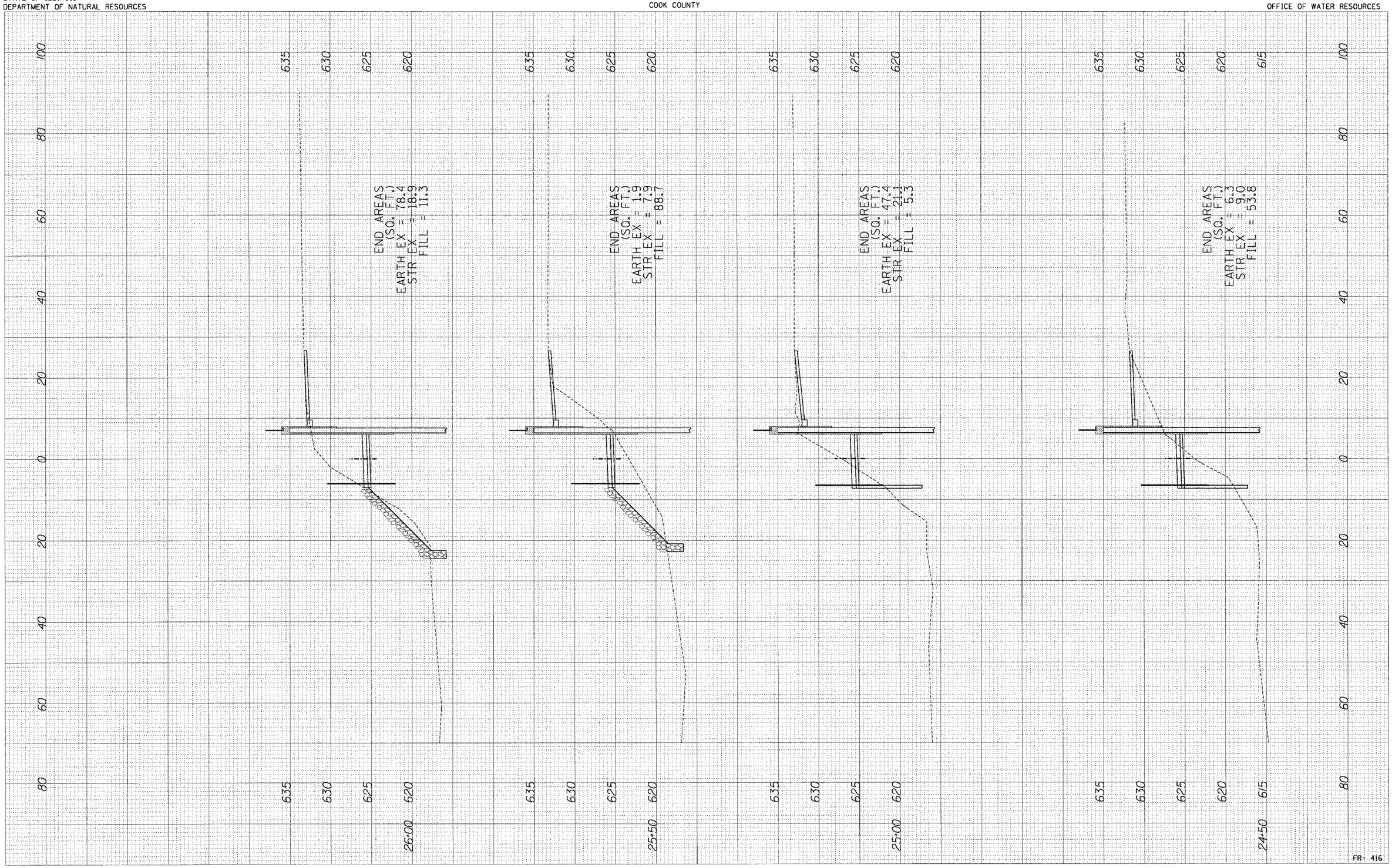
STATE OF ILLINOIS
DEPARTMENT OF NATURAL RESOURCES

DES PLAINES RIVER / RAND PARK FLOOD CONTROL - PHASE III
COOK COUNTY

OFFICE OF WATER RESOURCES

SHEET 57 OF 167

FR- 416



DESIGNED BY: _____ CHECKED BY: _____
DRAWN BY: _____ CHECKED BY: _____

FR-416

DESIGNED BY: _____ CHECKED BY: _____

DRAWN BY: _____ CHECKED BY: _____

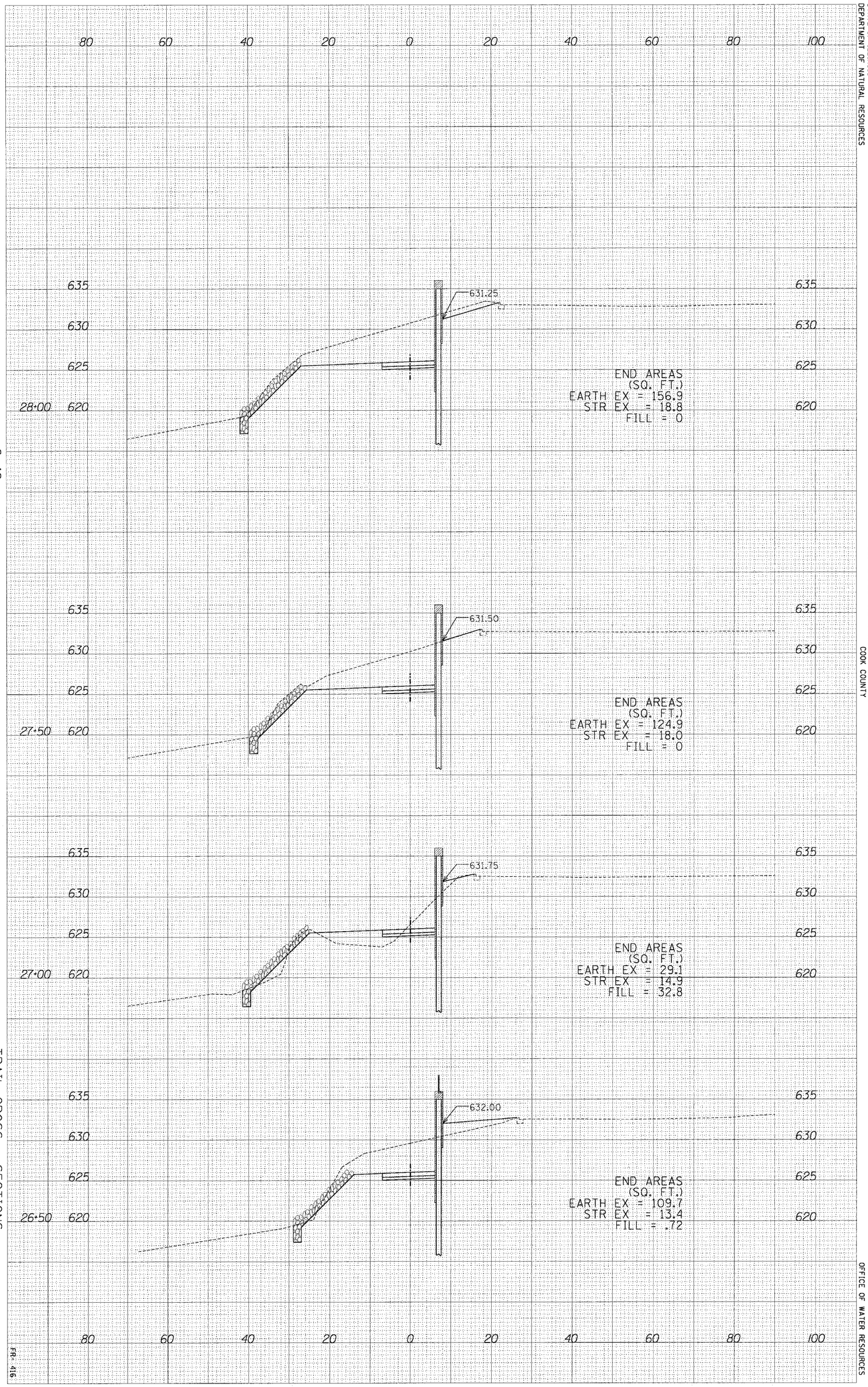
STATE OF ILLINOIS
DEPARTMENT OF NATURAL RESOURCES

DES PLAINES RIVER / RAND PARK FLOOD CONTROL - PHASE III
COOK COUNTY

OFFICE OF WATER RESOURCES

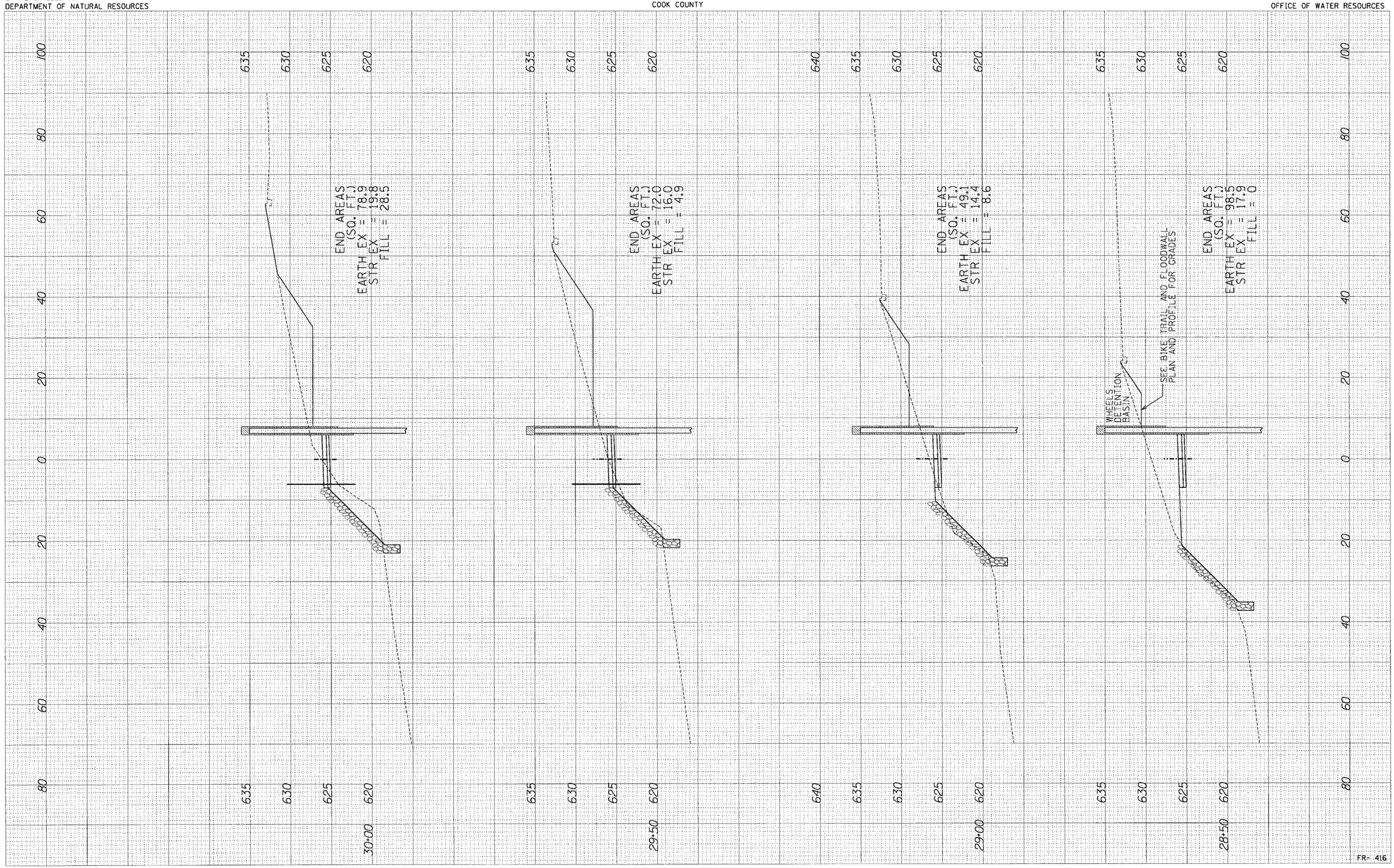
C-42

TRAIL CROSS - SECTIONS



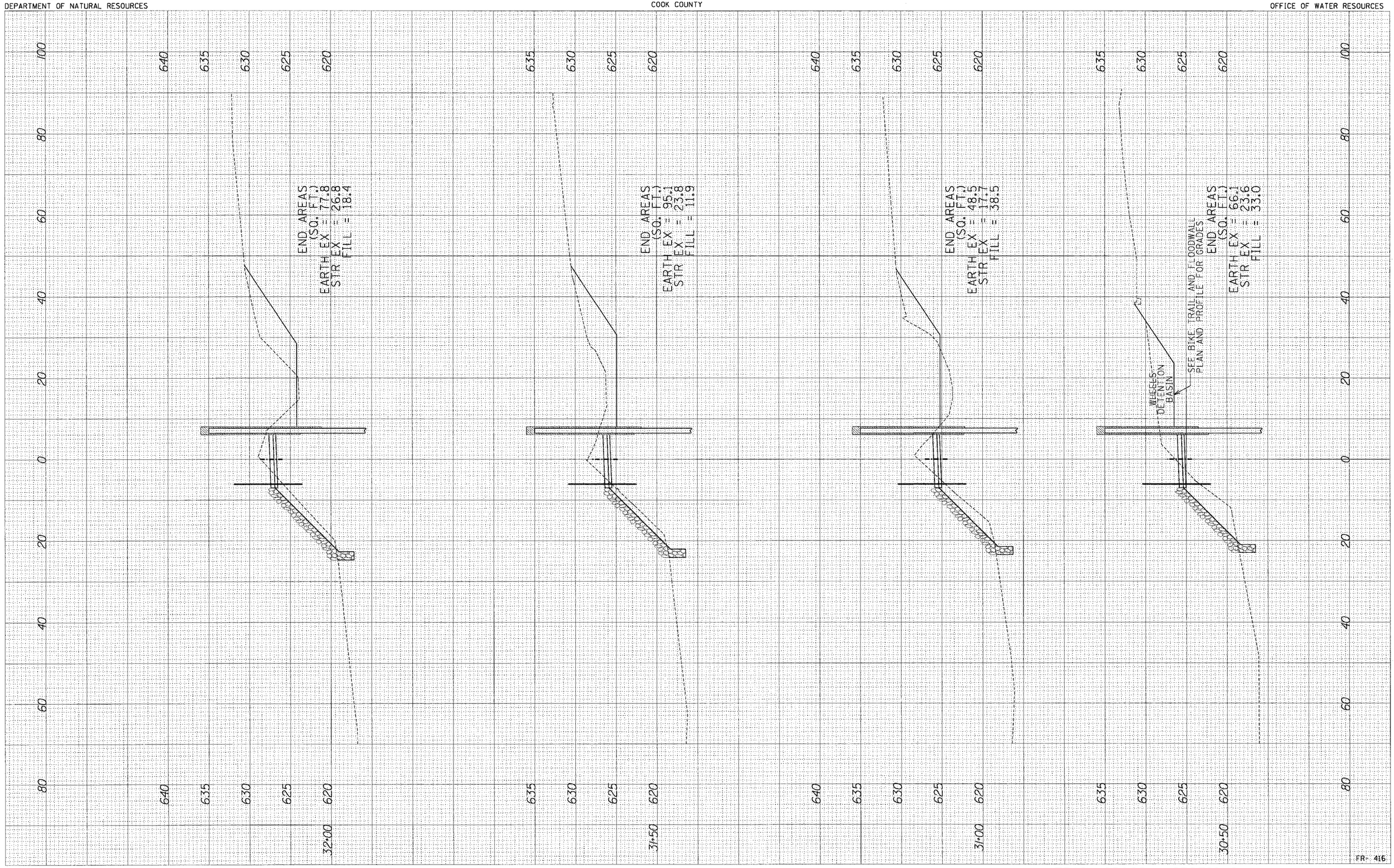
SHEET 59 OF 167

FR: 416



DESIGNED BY: _____ CHECKED BY: _____
DRAWN BY: _____ CHECKED BY: _____

FR- 416



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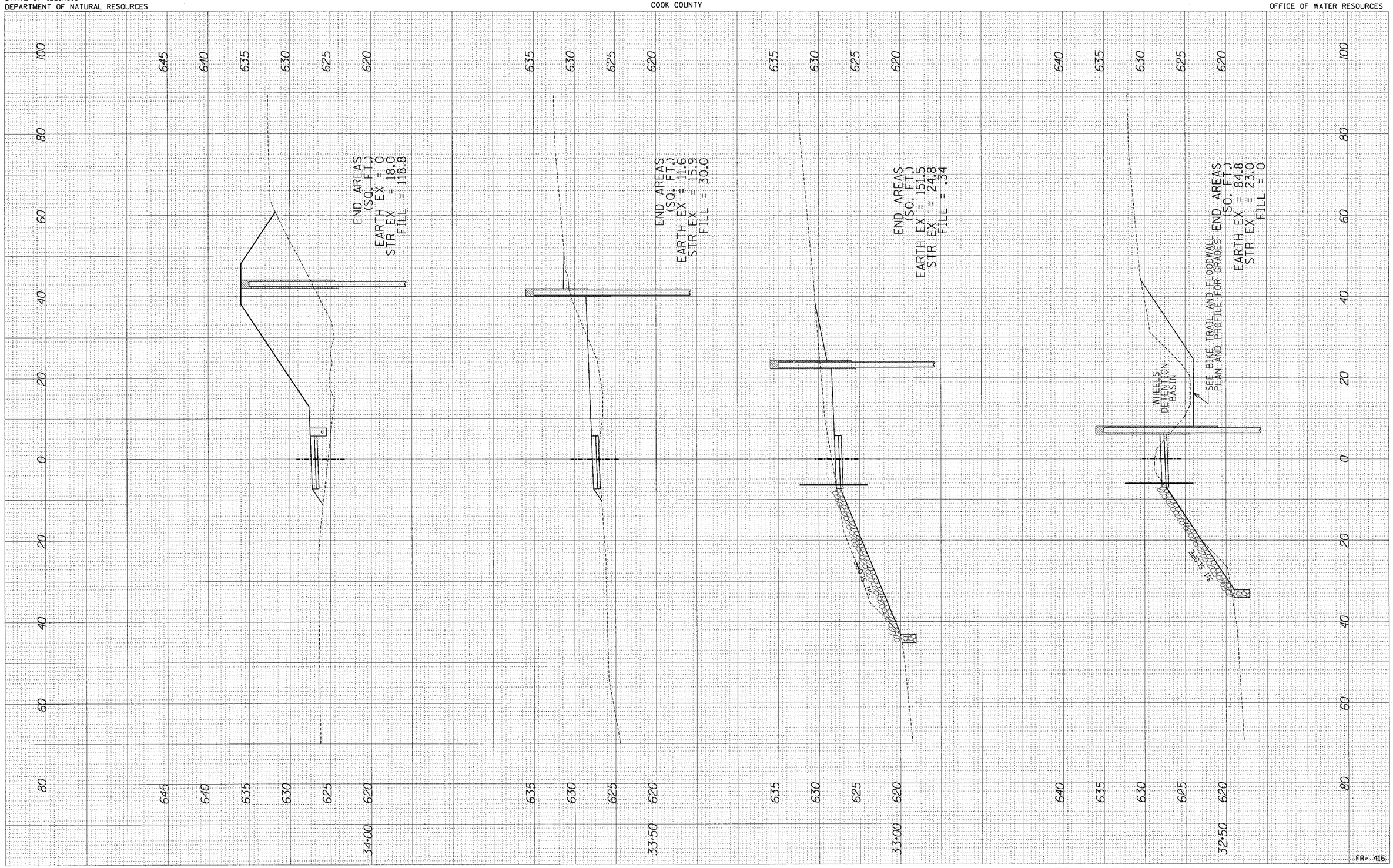
DRAWN BY: _____ CHECKED BY: _____



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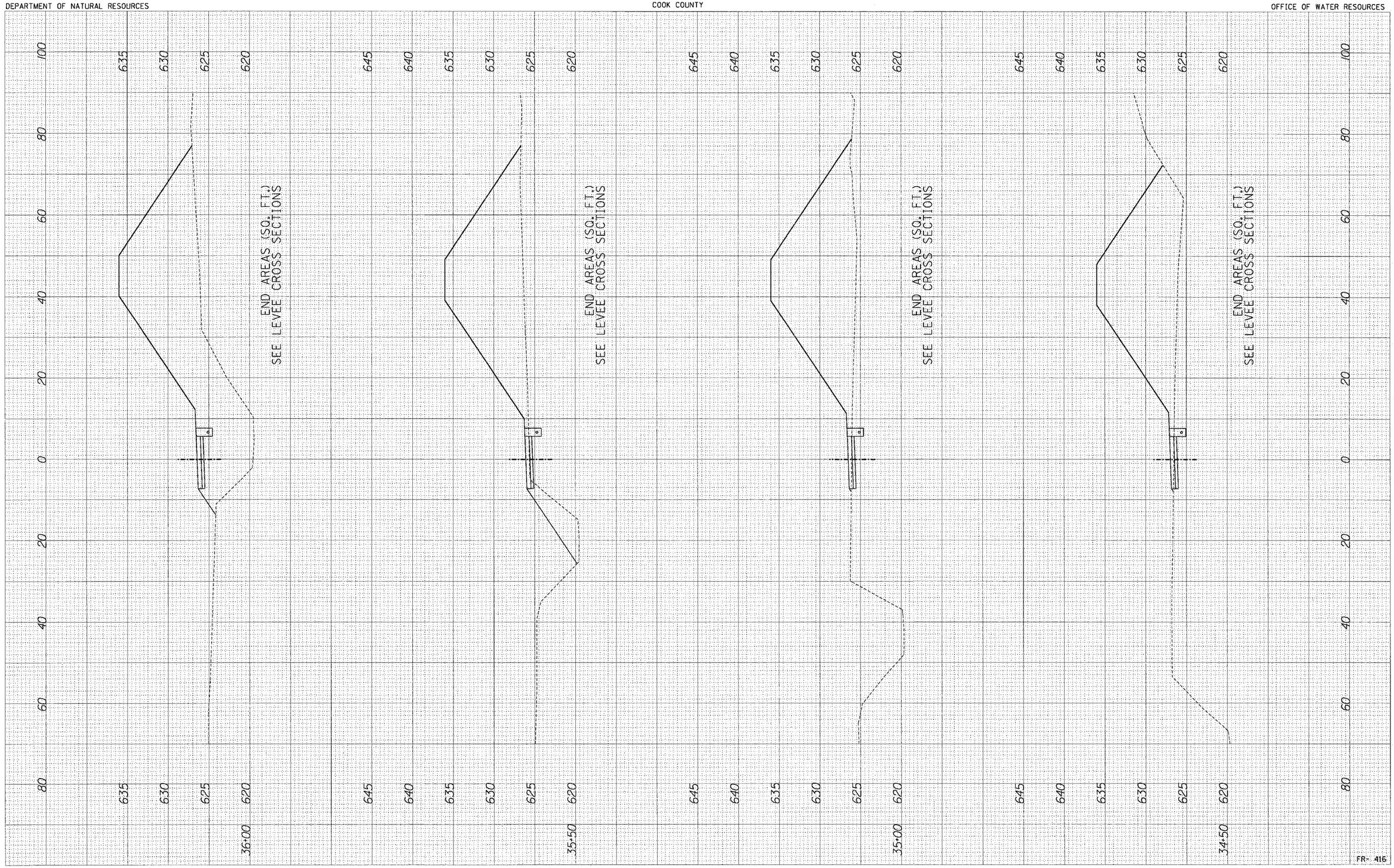


DESIGNED BY: _____ CHECKED BY: _____
DRAWN BY: _____ CHECKED BY: _____

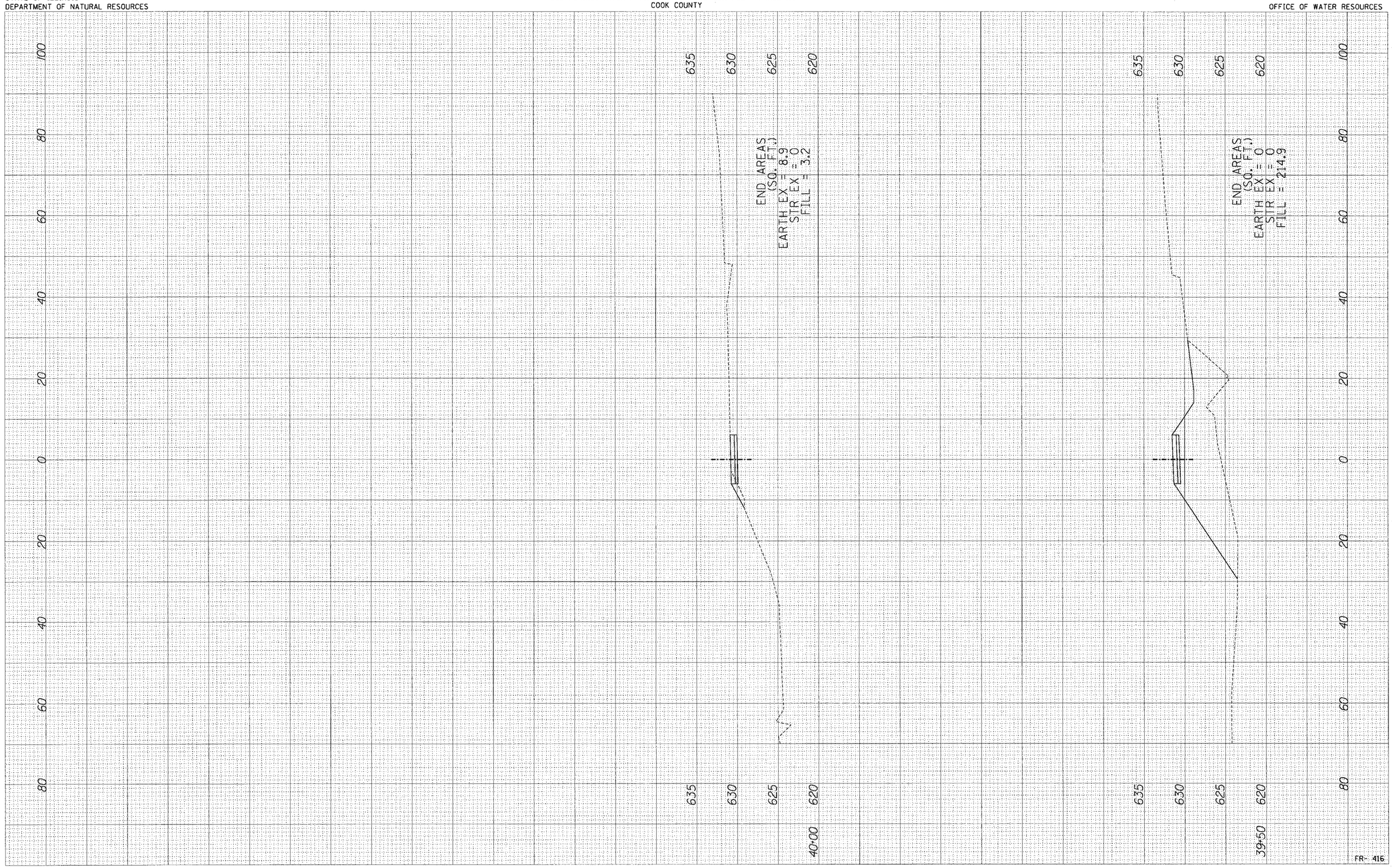
FR- 416

DESIGNED BY: _____ CHECKED BY: _____
DRAWN BY: _____ CHECKED BY: _____

FR- 416

DESIGNED BY: _____ CHECKED BY: _____
DRAWN BY: _____ CHECKED BY: _____

FR- 416



DESIGNED BY: _____ CHECKED BY: _____
DRAWN BY: _____ CHECKED BY: _____

FR- 416

DESIGNED BY: CHECKED BY: DRAWN BY: CHECKED BY:

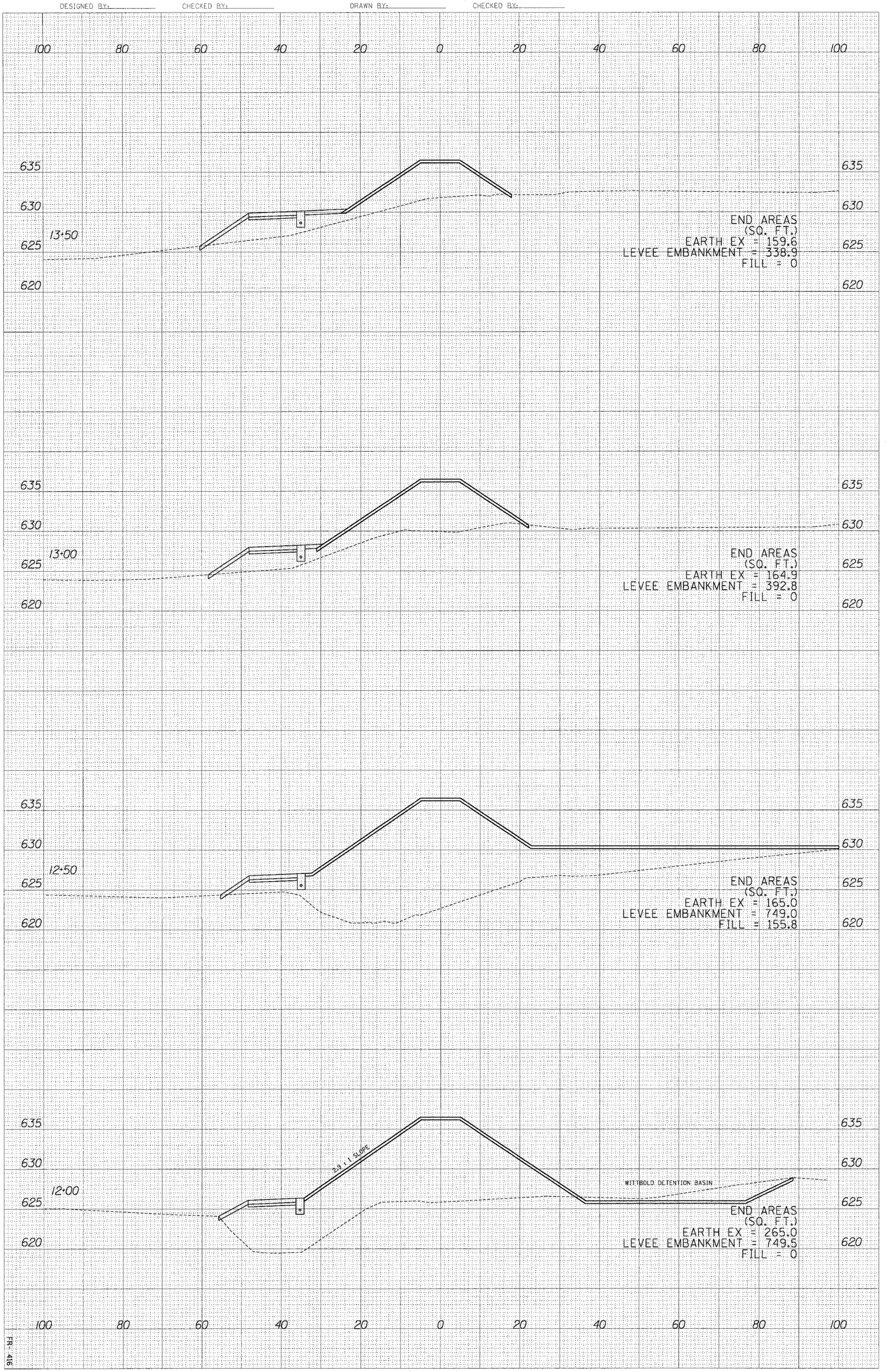
FR- 416

C-50

LEVEE CROSS - SECTIONS

SHEET 67 OF 167

DESIGNED BY: CHECKED BY: DRAWN BY: CHECKED BY:



C-51

LEVEE CROSS - SECTIONS

FR-416

DESIGNED BY: _____ CHECKED BY: _____ DRAWN BY: _____ CHECKED BY: _____

C-52

LEVEE CROSS - SECTIONS

100 80 60 40 20 0 20 40 60 80 100

635
630
625
620

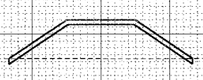
15+50

END AREAS
(SQ. FT.)
EARTH EX = 30.1
LEVEE EMBANKMENT = 88.4
FILL = 0

RAND ROAD

15+00

14+50



END AREAS
(SQ. FT.)
EARTH EX = 53.3
LEVEE EMBANKMENT =94.2
FILL = 0

14+00

END AREAS
(SQ. FT.)
EARTH EX = 63.4
LEVEE EMBANKMENT =129.0
FILL = 0

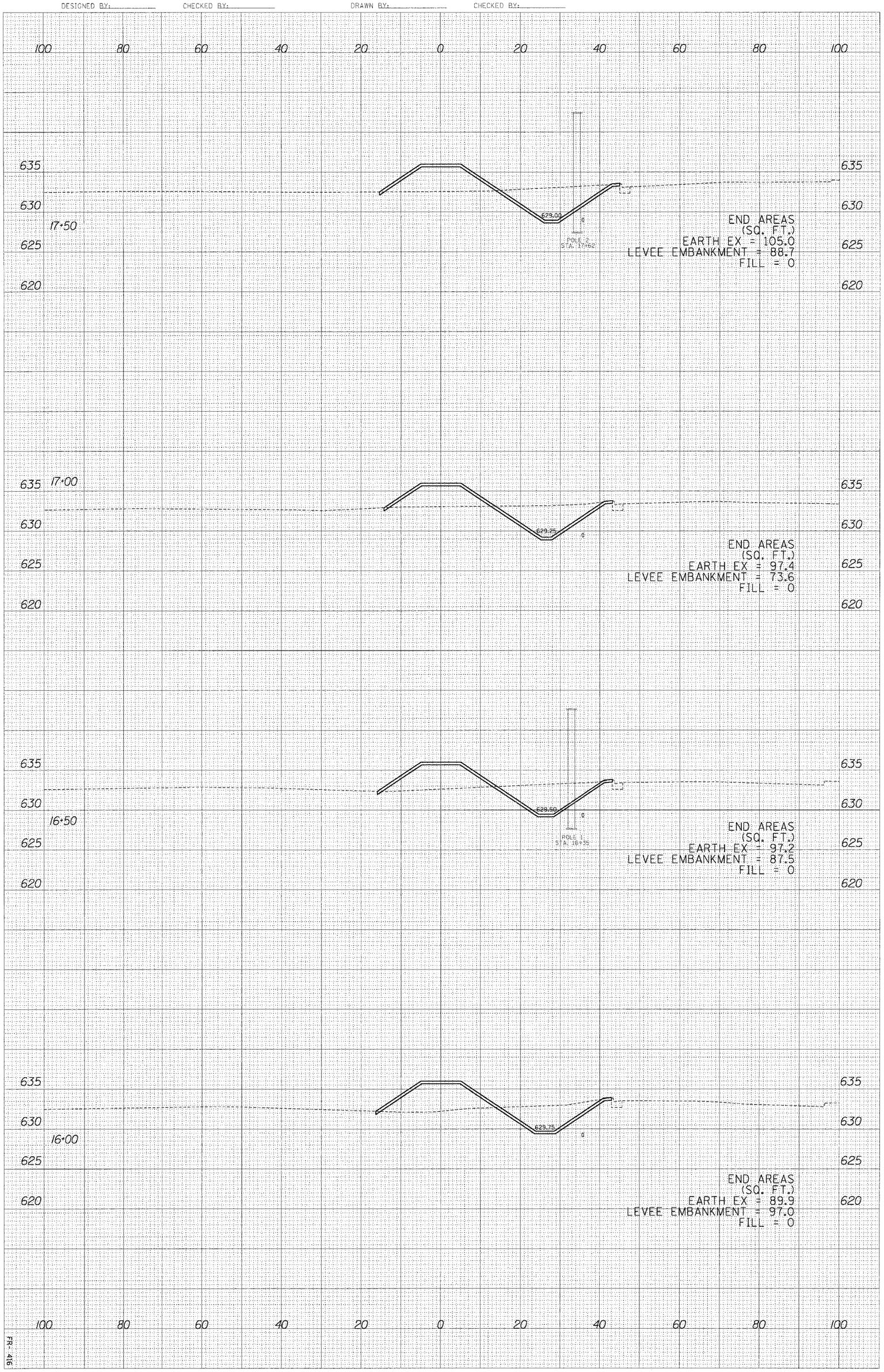
100 80 60 40 20 0 20 40 60 80 100

FR-416

DESIGNED BY:_____ CHECKED BY:_____ DRAWN BY:_____ CHECKED BY:_____

C-53

LEVEE CROSS - SECTIONS

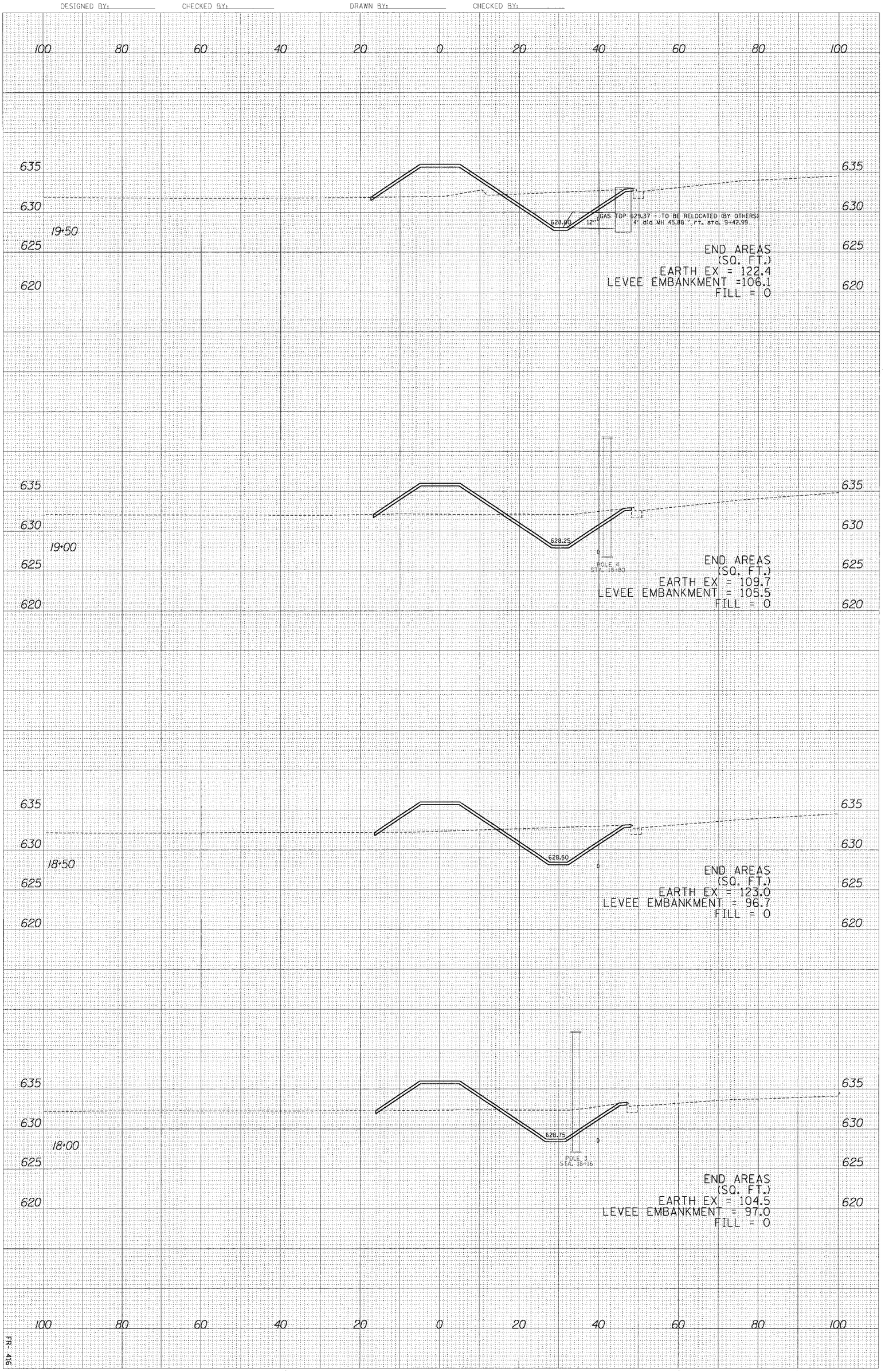


FR-416

DESIGNED BY: CHECKED BY: DRAWN BY: CHECKED BY:

C-54

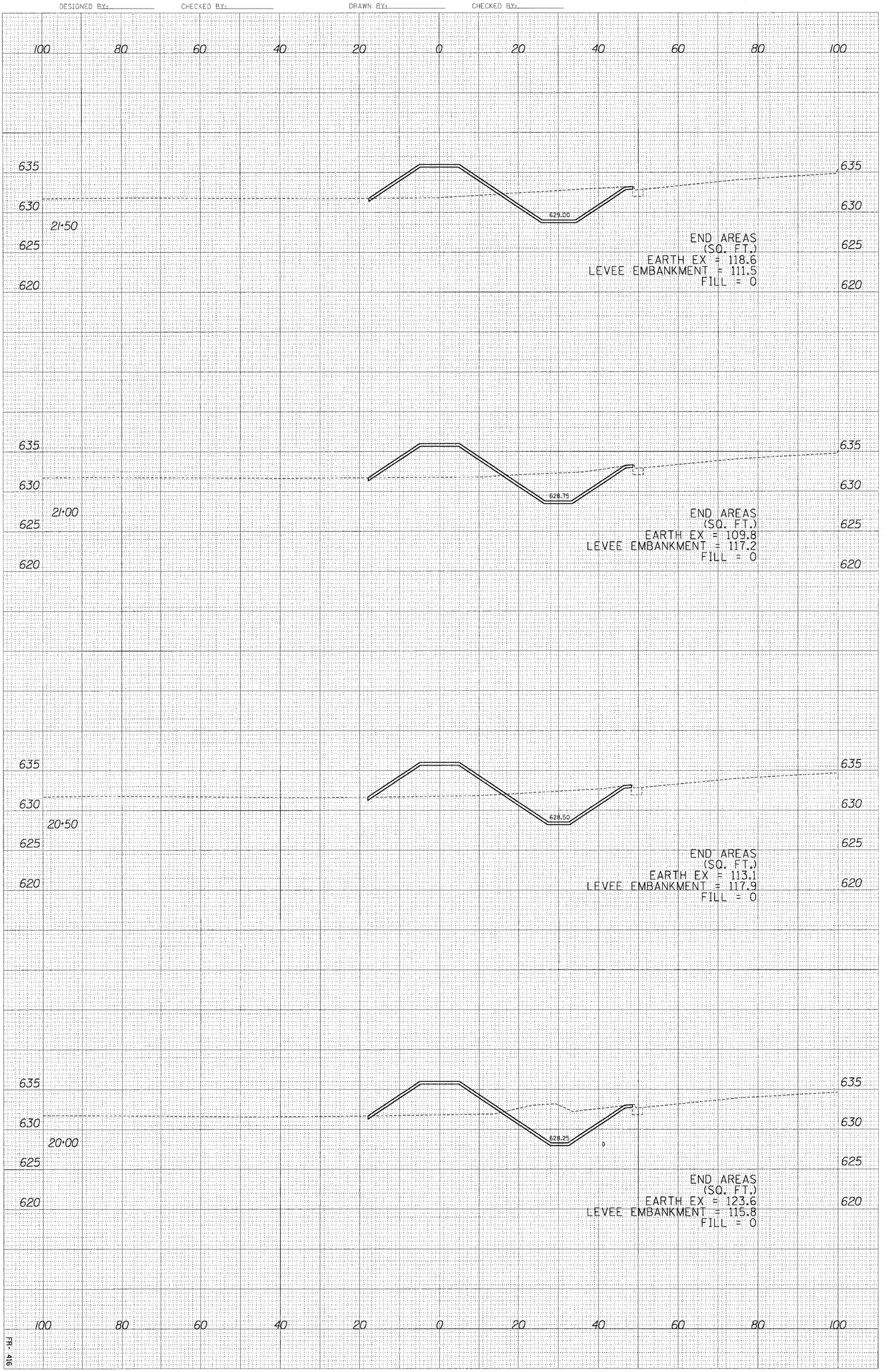
LEVEE CROSS - SECTIONS



SHEET 71 OF 167

FR- 416

DESIGNED BY: CHECKED BY: DRAWN BY: CHECKED BY:

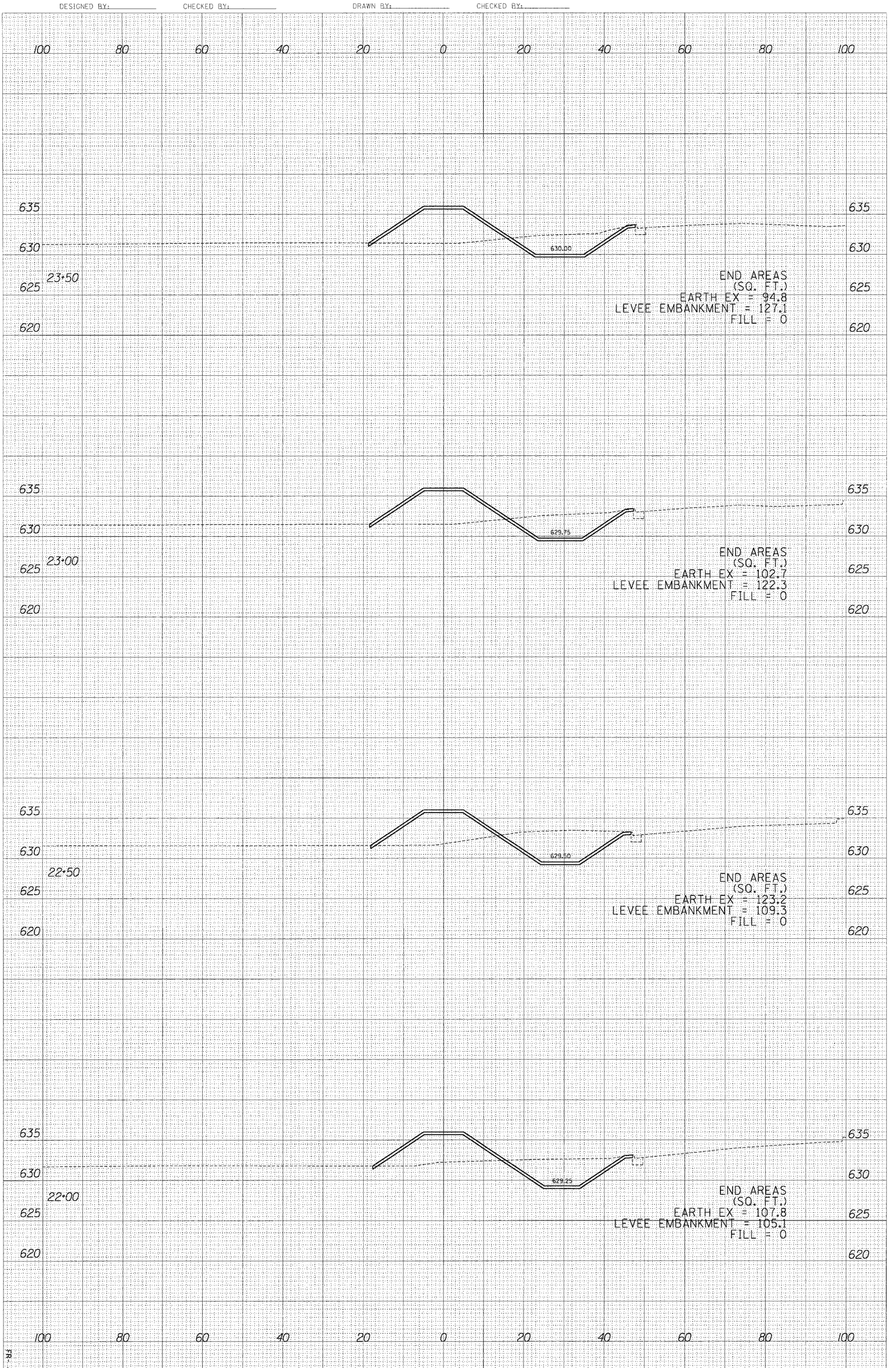


C-55

LEVEE CROSS - SECTIONS

FR-416

DESIGNED BY: _____ CHECKED BY: _____ DRAWN BY: _____ CHECKED BY: _____



C-56

LEVEE CROSS - SECTIONS

FR-416

DESIGNED BY:_____ CHECKED BY:_____ DRAWN BY:_____ CHECKED BY:_____

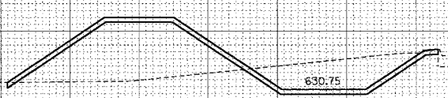
100 80 60 40 20 0 20 40 60 80 100

635
630
625
620

25+50

END AREAS
(SQ. FT.)
EARTH EX = 78.6
LEVEE EMBANKMENT = 115.8
FILL = 0

25+00

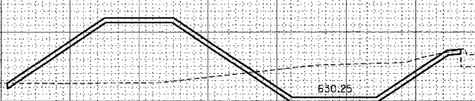


END AREAS
(SQ. FT.)
EARTH EX = 84.0
LEVEE EMBANKMENT =123.7
FILL = 0

24+50

END AREAS
(SQ. FT.)
EARTH EX = 87.9
LEVEE EMBANKMENT = 127.7
FILL = 0

24+00



END AREAS
(SQ. FT.)
EARTH EX = 92.0
LEVEE EMBANKMENT = 129.2
FILL = 0

100 80 60 40 20 0 20 40 60 80 100

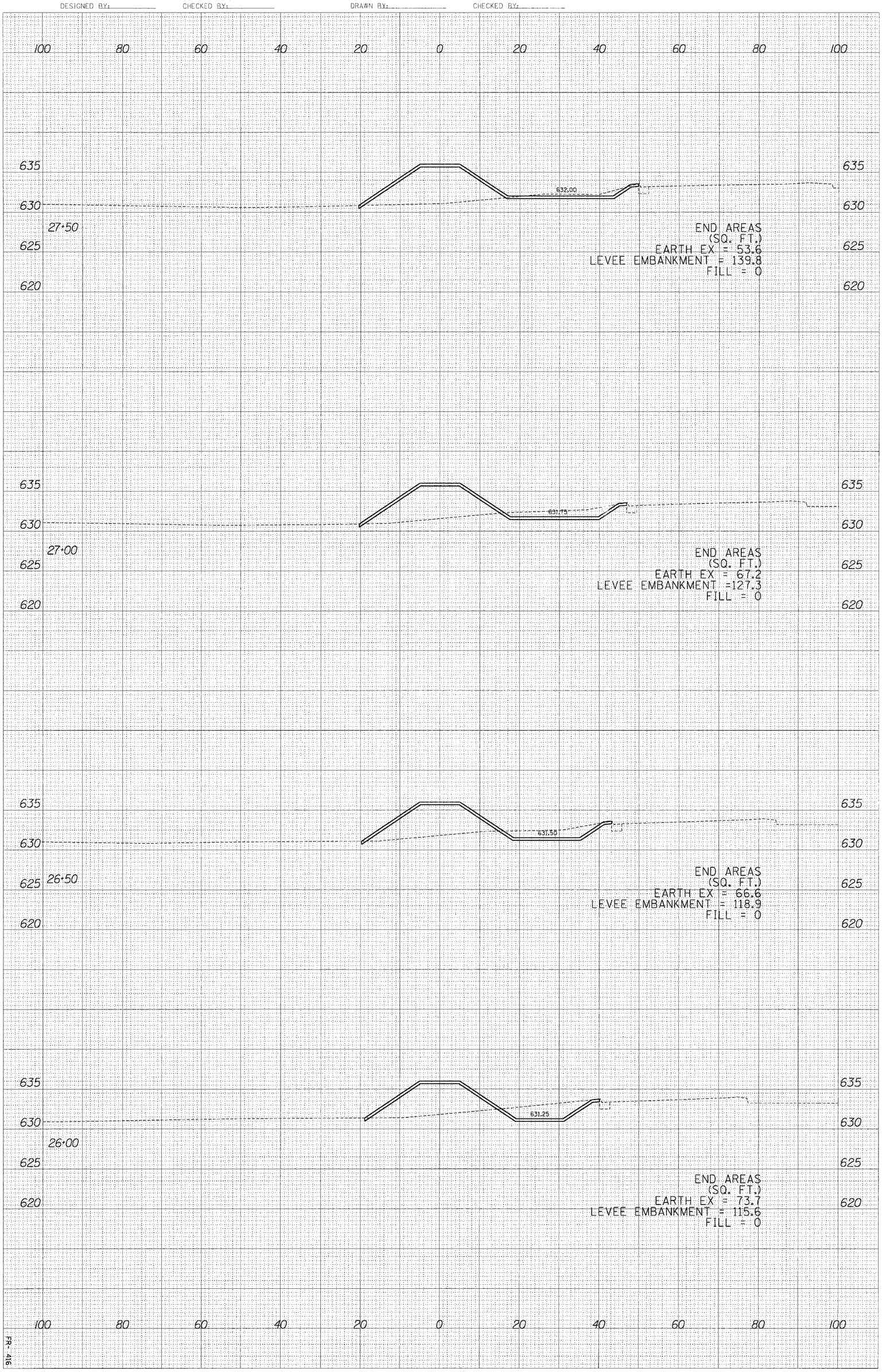
C-57

LEVEE CROSS - SECTIONS

SHEET 74 OF 167

FR-416

DESIGNED BY: CHECKED BY: DRAWN BY: CHECKED BY:



C-58

LEVEE CROSS - SECTIONS

FR- 416

DESIGNED BY: _____ CHECKED BY: _____ DRAWN BY: _____ CHECKED BY: _____

LEVEE CROSS - SECTIONS

100 80 60 40 20 0 20 40 60 80 100

635
630
625
620

633.00

29+50

END AREAS
(SQ. FT.)
EARTH EX = 38.3
LEVEE EMBANKMENT = 130.8
FILL = 16.1

632.75

29+00

END AREAS
(SQ. FT.)
EARTH EX = 48.8
LEVEE EMBANKMENT = 129.7
FILL = .216

632.50

28+50

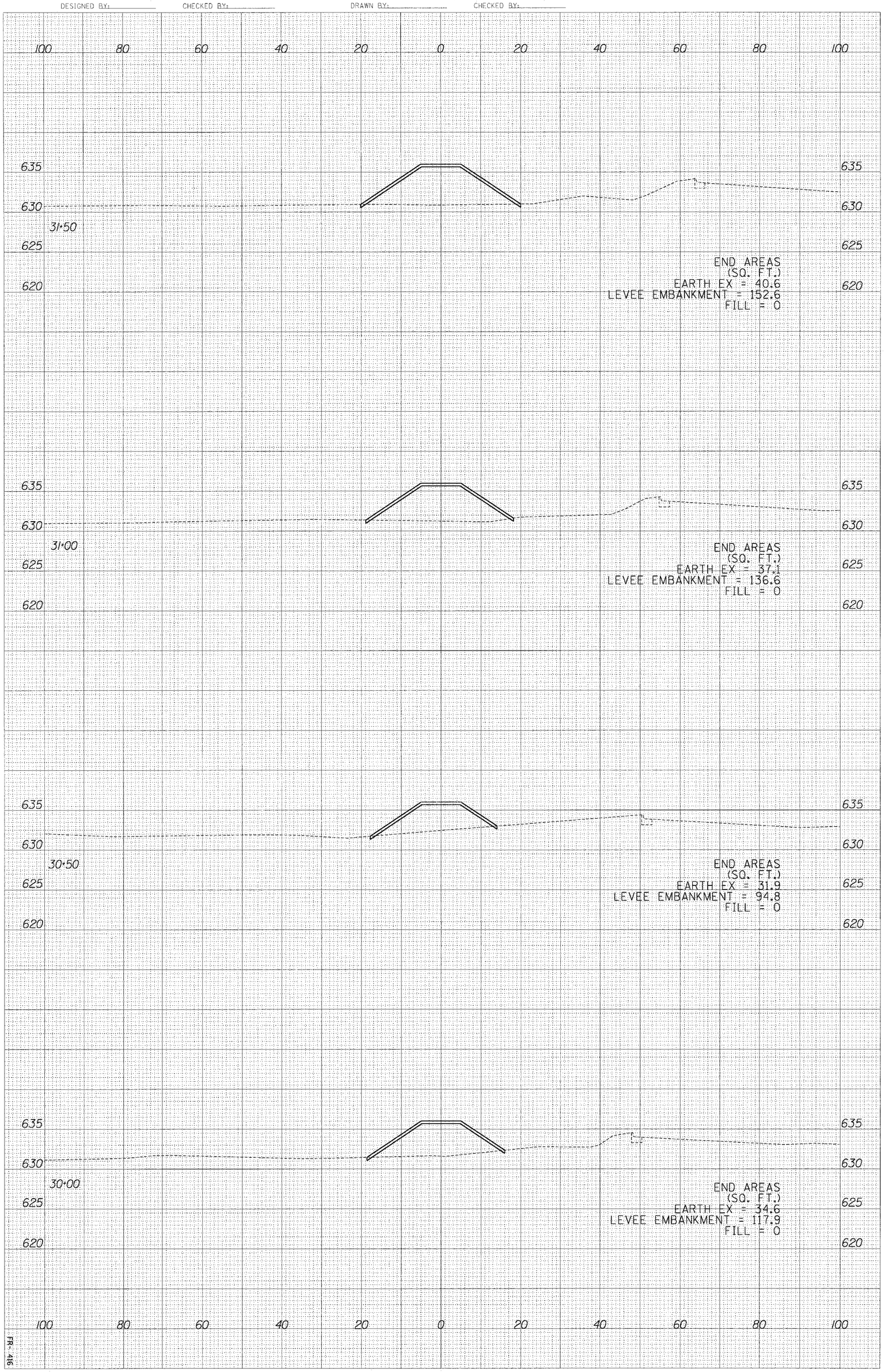
END AREAS
(SQ. FT.)
EARTH EX = 53.4
LEVEE EMBANKMENT = 134.5
FILL = .139

632.25

28+00

END AREAS
(SQ. FT.)
EARTH EX = 58.8
LEVEE EMBANKMENT = 140.8
FILL = .187

DESIGNED BY: CHECKED BY: DRAWN BY: CHECKED BY:

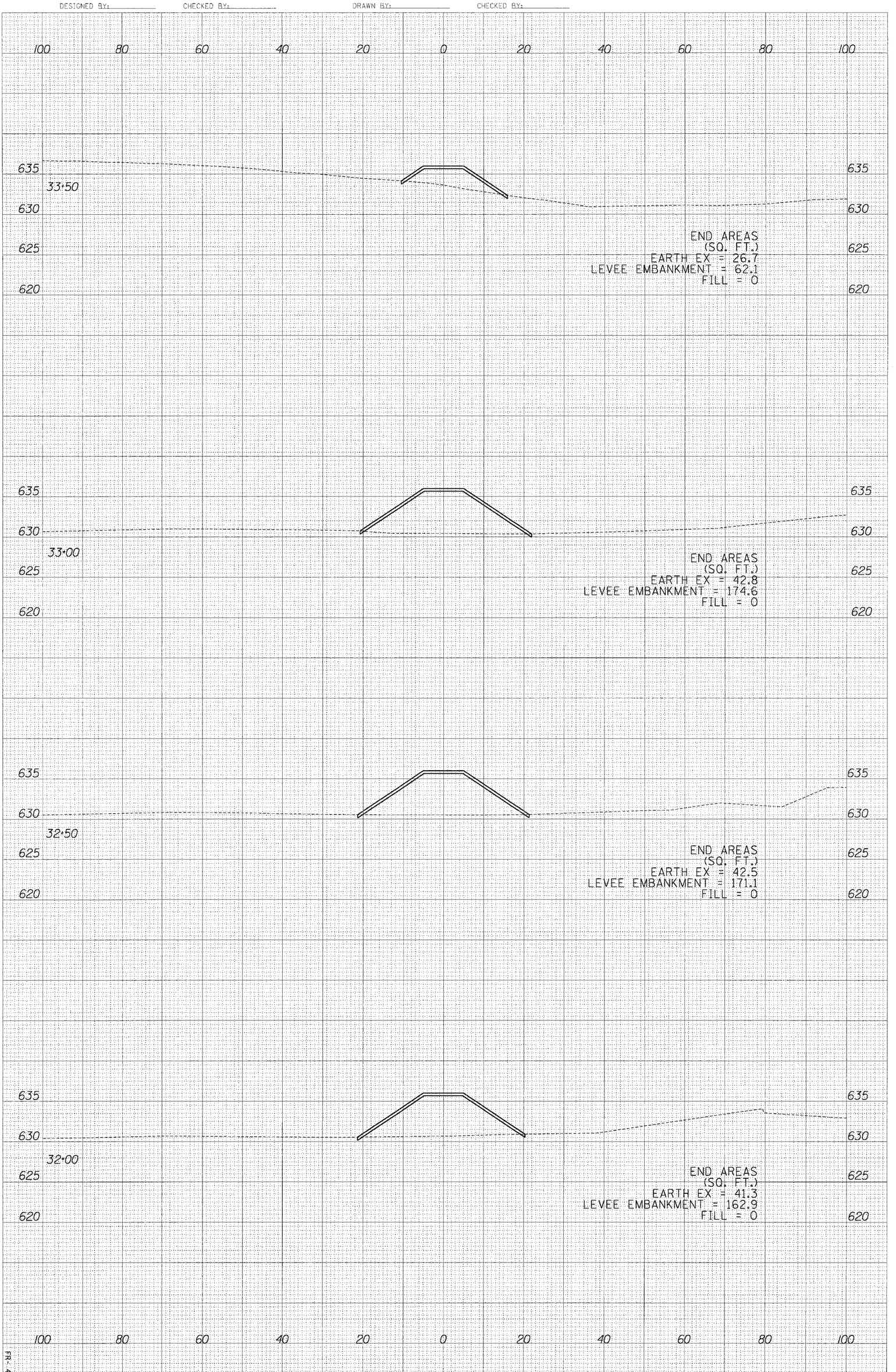


C-60

LEVEE CROSS - SECTIONS

FR-416

DESIGNED BY: CHECKED BY: DRAWN BY: CHECKED BY:

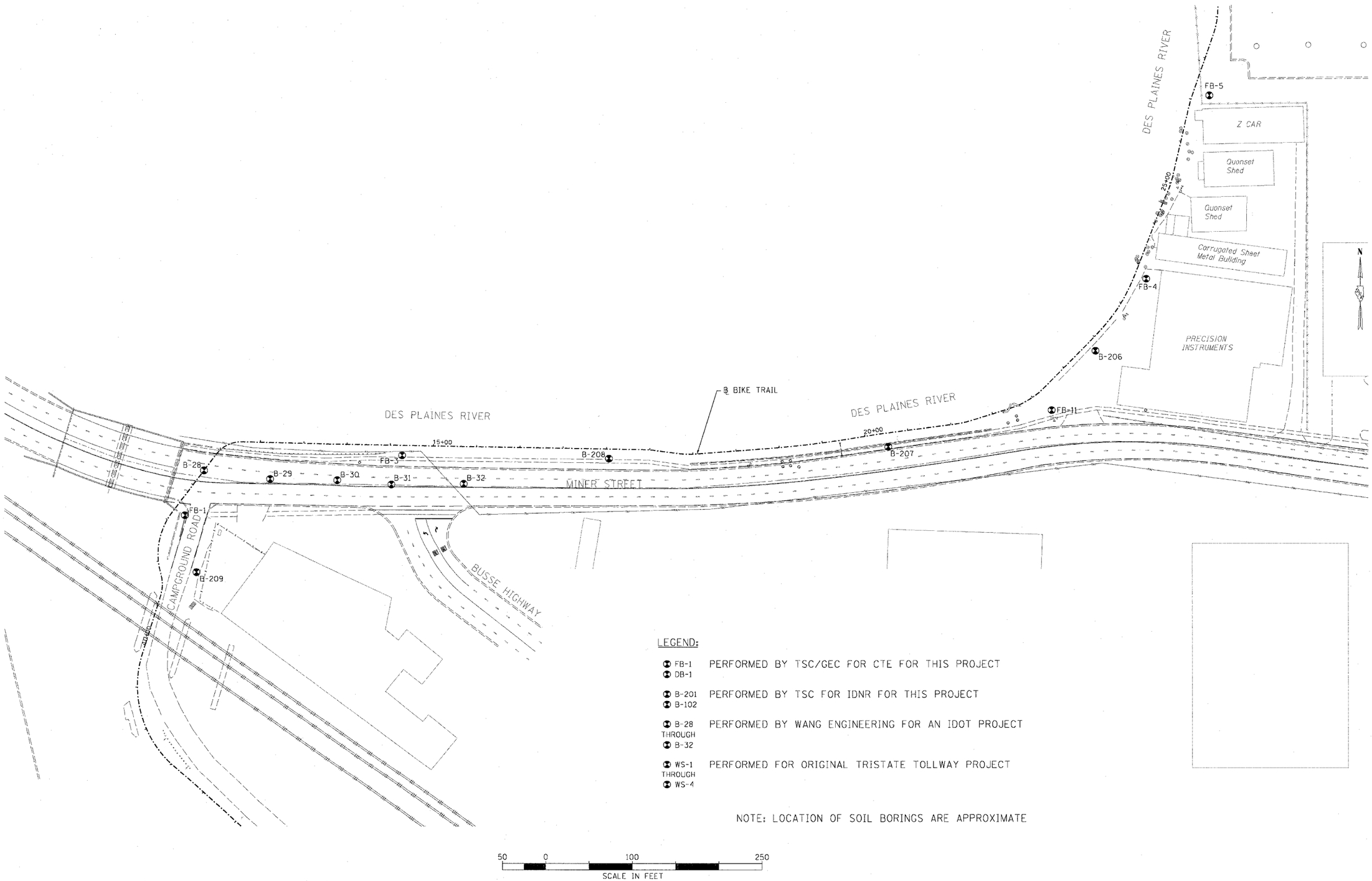


C-61

LEVEE CROSS - SECTIONS

SHEET 78 OF 167

FR-416



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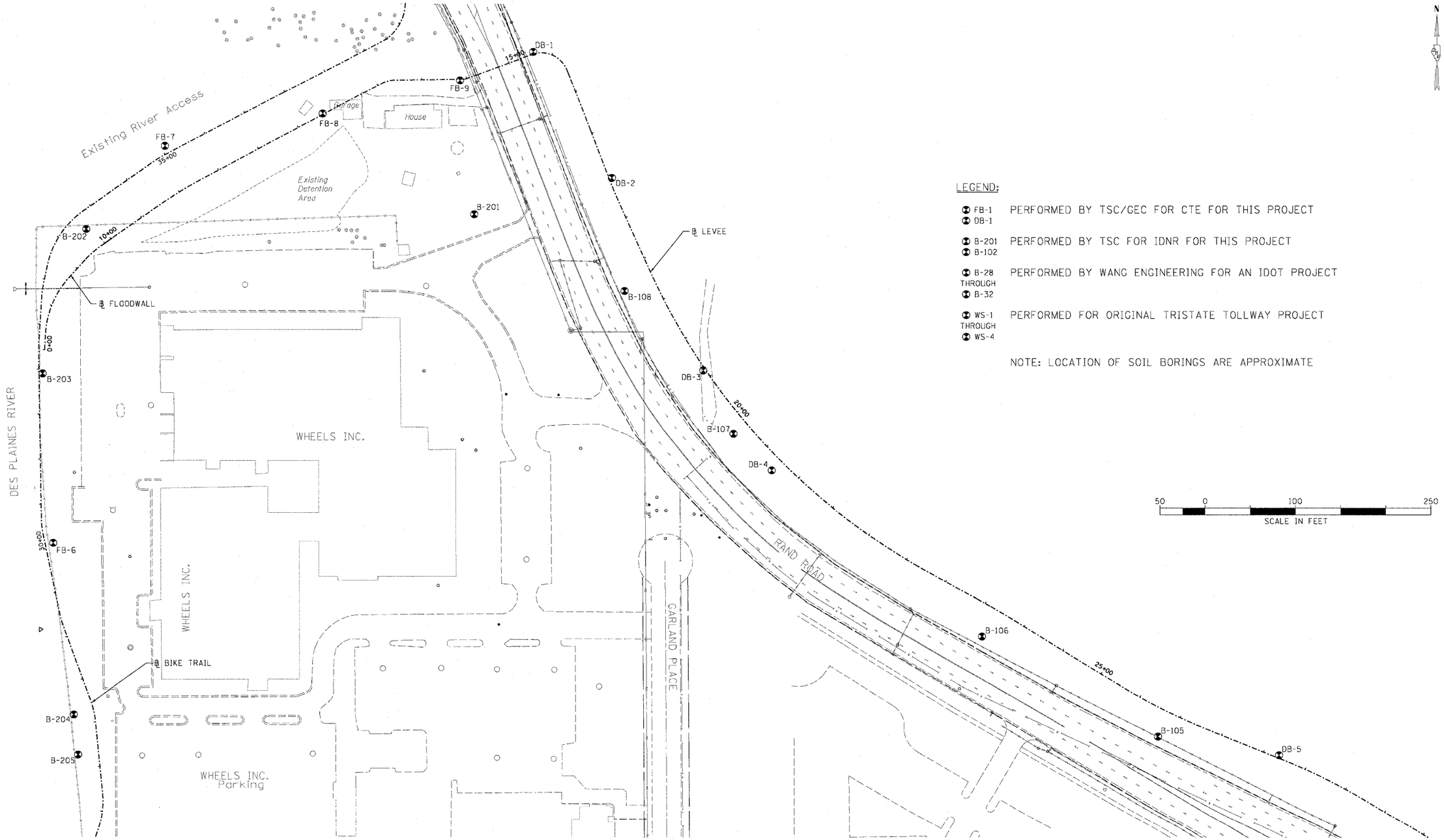
SB 1 OF 9

FR-416

SOIL BORING LOCATION PLAN



LEGEND:

FB-1 DB-1	PERFORMED BY TSC/CEC FOR CTE FOR THIS PROJECT
B-201 B-102	PERFORMED BY TSC FOR IDNR FOR THIS PROJECT
B-28 THROUGH B-32	PERFORMED BY WANG ENGINEERING FOR AN IDOT PROJECT
WS-1 THROUGH WS-4	PERFORMED FOR ORIGINAL TRISTATE TOLLWAY PROJECT

NOTE: LOCATION OF SOIL BORINGS ARE APPROXIMATE

DESIGNED BY: _____ CHECKED BY: _____
DRAWN BY: _____ CHECKED BY: _____

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SB 2 OF 9

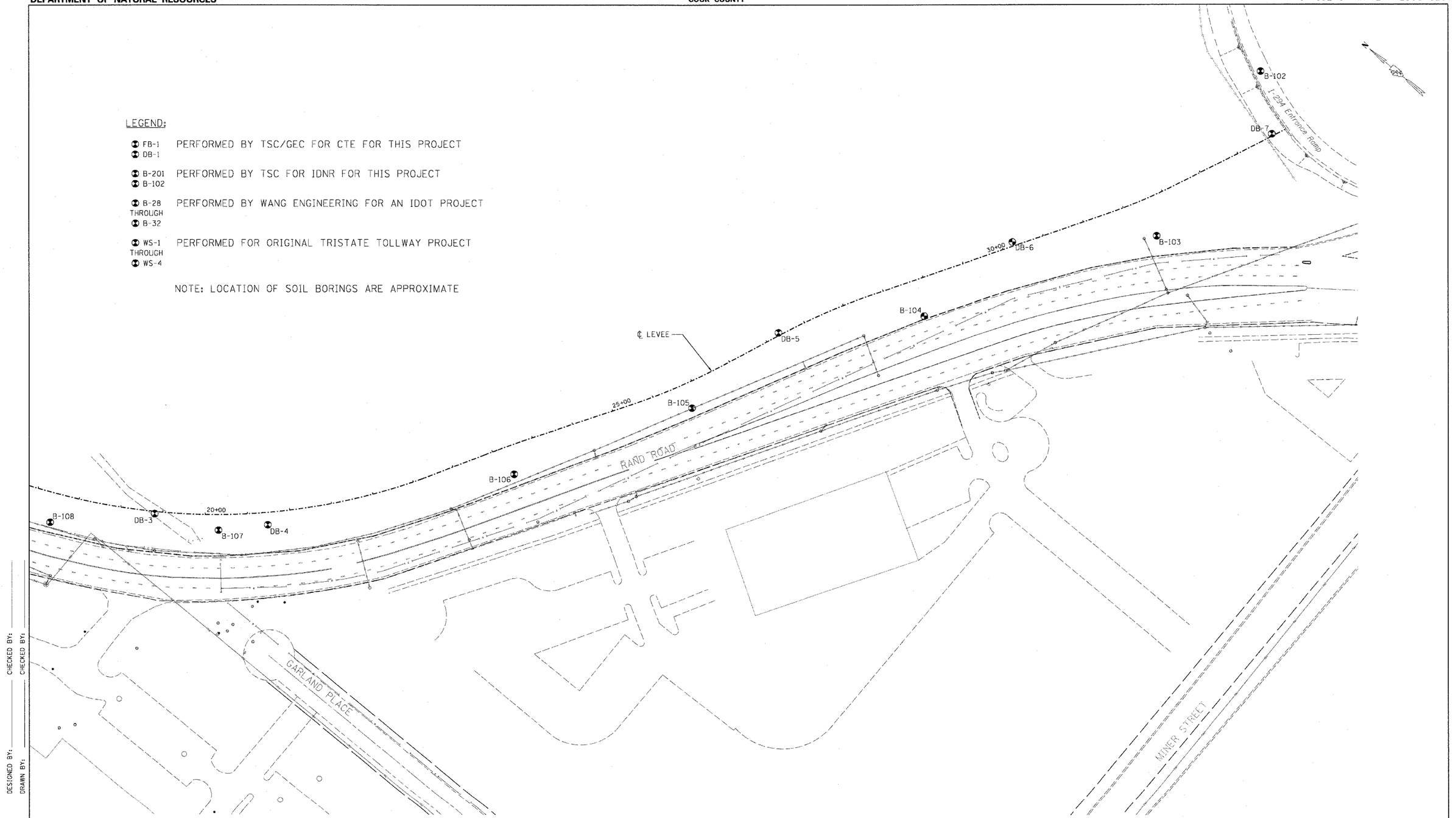
FR-416

SOIL BORING LOCATION PLAN

LEGEND:

- FB-1, DB-1 — PERFORMED BY TSC/GEC FOR CTE FOR THIS PROJECT
- B-201, B-102 — PERFORMED BY TSC FOR IDNR FOR THIS PROJECT
- B-28 THROUGH B-32 — PERFORMED BY WANG ENGINEERING FOR AN IDOT PROJECT
- WS-1 THROUGH WS-4 — PERFORMED FOR ORIGINAL TRISTATE TOLLWAY PROJECT

NOTE: LOCATION OF SOIL BORINGS ARE APPROXIMATE



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CHECKED BY:
DESIGNED BY:
DRAWN BY:

SB 3 OF 9

FR-416

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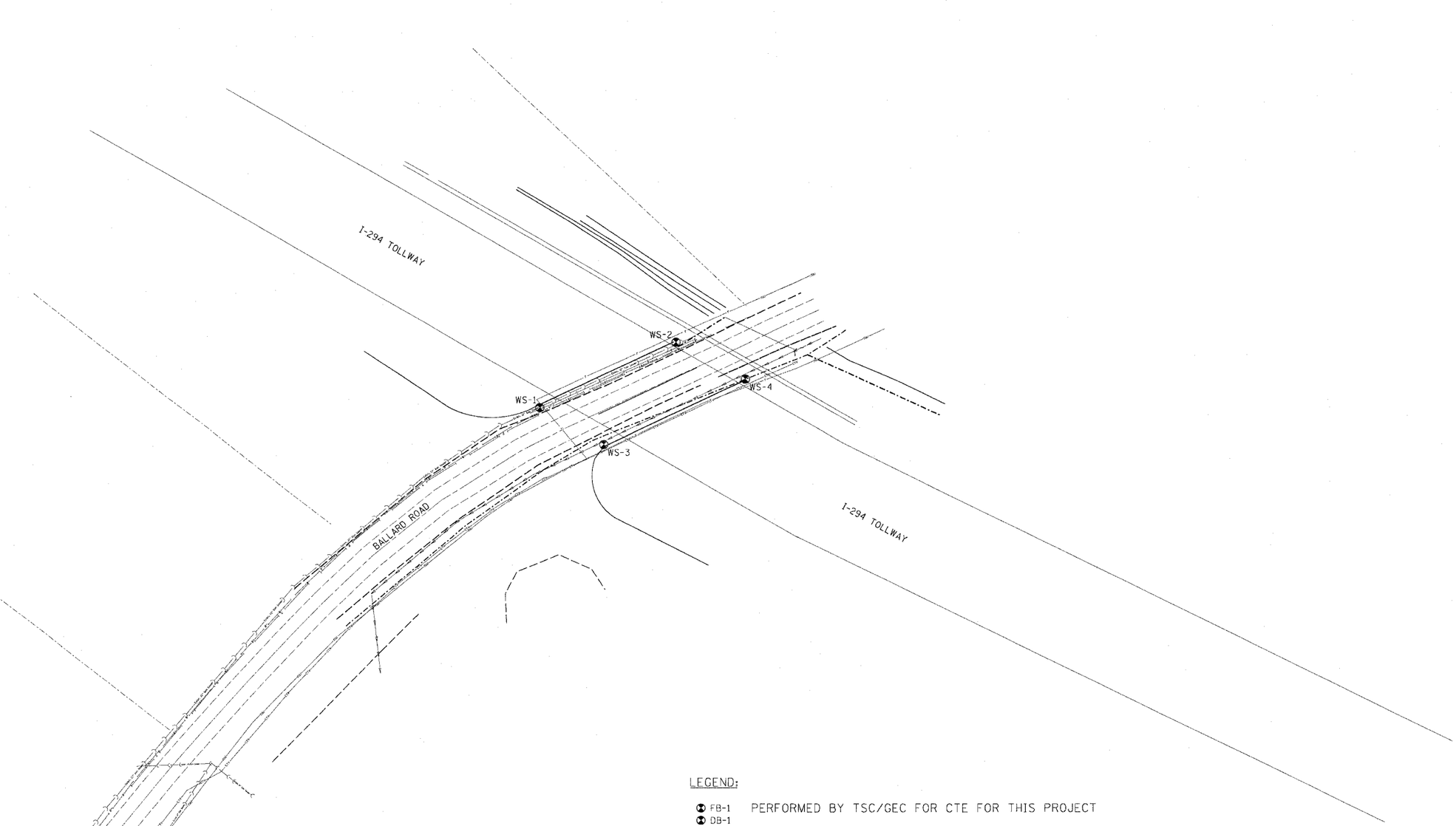

LEGEND:

- FB-1 / DB-1 — PERFORMED BY TSC/GEC FOR CTE FOR THIS PROJECT
- B-201 / B-102 — PERFORMED BY TSC FOR IDNR FOR THIS PROJECT
- B-28 THROUGH B-32 — PERFORMED BY WANG ENGINEERING FOR AN IDOT PROJECT
- WS-1 THROUGH WS-4 — PERFORMED FOR ORIGINAL TRISTATE TOLLWAY PROJECT

NOTE: LOCATION OF SOIL BORINGS ARE APPROXIMATE

50 0 100 250
SCALE IN FEET

DESIGNED BY: _____ CHECKED BY: _____
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SB 4 OF 9

FR-416

SOIL BORING LOCATION PLAN

PROJECT Rand Park Flood Control, Des Plaines, Illinois
CLIENT Ground Engineering Consultants, Inc.
BORING DB-1 DATE STARTED 9-22-04 DATE COMPLETED 9-22-04 JOB L-61,651
ELEVATIONS — GROUND SURFACE 633.1 — END OF BORING 613.1
WATER LEVEL OBSERVATIONS — WHILE DRILLING 12.0 ' — ▼ AT END OF BORING 12.0 ' — 24 HOURS

LENGTH RECOVERY	SAMPLE NO.	SAMPLE TYPE	N	WC	Qu	DRY	DEPTH	ELEV.	SOIL DESCRIPTIONS
	A			16.0			0.5	632.6	Dark brown clayey TOPSOIL, moist (OL)
	1	MC							Very tough to hard brown silty CLAY, trace sand, trace organics, moist (CL/CH)
	B			17.0	4.5+				
	A						4.0	629.1	
	2	MC		15.1					Firm brown and grey SILT, little sand, damp (ML)
	B			21.9	2.0+		6.0	627.1	
	A								Tough to very tough brown and gray silty CLAY, little sand, occasional silt seams, moist (CL)
	3	MC							
	B						9.0	624.1	
	A			17.3	3.25+		10.0	623.1	Firm reddish-brown SAND and GRAVEL, damp (SP-GP)
	4	MC		16.0	2.5+				
	B			18.0	3.5+				Tough to very tough brown and gray silty CLAY, trace sand and gravel, moist (CL)
	A			18.8	2.0+				
	5	MC							
	B			20.3	1.75+				

End of Boring at 20.0'
• Approximate unconfined compressive strength based on measurements with a calibrated pocket penetrometer.
GeoProbe on ATV Carrier (*294)
MC = Continuous Macro-core samples 0.5" diam.) using ATV GeoProbe rig
Survey Locations:
N 1958552.0
E 627497.2

DRILL RIG NO. 294
Division lines between deposits represent approximate boundaries between soil types; in situ, the transition may be gradual.

PROJECT Rand Park Flood Control, Des Plaines, Illinois
CLIENT Ground Engineering Consultants, Inc.
BORING DB-2 DATE STARTED 9-22-04 DATE COMPLETED 9-22-04 JOB L-61,651
ELEVATIONS — GROUND SURFACE 632.7 — END OF BORING 612.7
WATER LEVEL OBSERVATIONS — WHILE DRILLING 14.0 ' — ▼ AT END OF BORING 14.0 ' — 24 HOURS

LENGTH RECOVERY	SAMPLE NO.	SAMPLE TYPE	N	WC	Qu	DRY	DEPTH	ELEV.	SOIL DESCRIPTIONS
	A			15.3			0.5	632.2	Dark brown clayey TOPSOIL, moist (OL)
	1	MC							Very tough to hard brown silty CLAY, trace sand, trace organics, moist (CL/CH)
	B			16.4	4.5+		2.0	630.7	
	A			20.0	2.0+				Tough to very tough brown and gray silty CLAY, trace sand, moist (CL)
	2	MC		18.3	2.0+		4.0	628.7	
	B			20.8	2.0+				
	A								Tough brown and gray very silty CLAY, little sand, occasional silt seams, moist (CL)
	3	MC		21.5	1.5+		10.0	622.7	
	B						12.0	620.7	
	A								Firm brown SAND and GRAVEL, very moist to damp (SP-GP)
	4	MC					14.0	618.7	
	B			18.1	2.0+		16.0	617.1	Tough to very tough brown and gray silty CLAY, trace sand and gravel, moist (CL)
	A								
	5	MC		13.4			18.0	614.7	Firm brown SAND, trace clay, saturated (SC)
	B			15.4	2.0+				Tough to very tough gray silty CLAY, little sand, trace gravel, moist (CL)

End of Boring at 20.0'
• Approximate unconfined compressive strength based on measurements with a calibrated pocket penetrometer.
GeoProbe on ATV Carrier (*294)
MC = Continuous Macro-core samples 4.5" diam.) using ATV GeoProbe rig
Survey Locations:
N 1958418.9
E 627428.2

DRILL RIG NO. 294
Division lines between deposits represent approximate boundaries between soil types; in situ, the transition may be gradual.

PROJECT Rand Park Flood Control, Des Plaines, Illinois
CLIENT Ground Engineering Consultants, Inc.
BORING DB-3 DATE STARTED 9-22-04 DATE COMPLETED 9-22-04 JOB L-61,651
ELEVATIONS — GROUND SURFACE 633.9 — END OF BORING 613.9
WATER LEVEL OBSERVATIONS — WHILE DRILLING 14.0 ' — ▼ AT END OF BORING 14.0 ' — 24 HOURS

LENGTH RECOVERY	SAMPLE NO.	SAMPLE TYPE	N	WC	Qu	DRY	DEPTH	ELEV.	SOIL DESCRIPTIONS
	A			13.1	4.5+		0.3	633.6	Dark brown clayey TOPSOIL, moist (OL)
	1	MC							Very tough to hard brown silty CLAY, trace sand, trace organics, moist (CL/CH)
	B			14.8	4.5+				
	A			16.6	4.5+		6.0	625.9	
	2	MC		19.9	3.0+				Very tough brown to gray silty CLAY, little sand, moist (CL)
	B								
	A			12.2	2.25+				
	3	MC					10.0	621.9	Tough to very tough brown and gray very silty CLAY, little sand, trace gravel, moist (CL)
	B			24.8	1.25+				
	A			16.8	2.5+				
	4	MC					14.0	617.9	
	B			11.0	3.0+				Tough to very tough brown to gray silty CLAY, little sand, trace gravel, moist (CL)
	A								
	5	MC		12.5	1.5+		16.0	613.9	
	B			12.5					Firm brown to gray clayey SILT, trace sand, damp (ML)

End of Boring at 20.0'
• Approximate unconfined compressive strength based on measurements with a calibrated pocket penetrometer.
GeoProbe on ATV Carrier (*294)
MC = Continuous Macro-core samples 4.5" diam.) using ATV GeoProbe rig
Survey Location:
N 1958198.3
E 624385.2

DRILL RIG NO. 294
Division lines between deposits represent approximate boundaries between soil types; in situ, the transition may be gradual.

PROJECT Rand Park Flood Control, Des Plaines, Illinois
CLIENT Ground Engineering Consultants, Inc.
BORING DB-4 DATE STARTED 9-22-04 DATE COMPLETED 9-22-04 JOB L-61,651
ELEVATIONS — GROUND SURFACE 634.9 — END OF BORING 614.9
WATER LEVEL OBSERVATIONS — WHILE DRILLING 14.0 ' — ▼ AT END OF BORING 14.0 ' — 24 HOURS

LENGTH RECOVERY	SAMPLE NO.	SAMPLE TYPE	N	WC	Qu	DRY	DEPTH	ELEV.	SOIL DESCRIPTIONS
	A			17.2	4.5+		0.5	634.4	Dark brown clayey TOPSOIL, moist (OL)
	1	MC		14.0	4.5+		2.0	632.9	Very tough to hard dark brown silty CLAY, trace sand, trace organics, moist (CL/CH)
	B								
	A			17.3	4.5+				Very tough to hard brown and gray silty CLAY, trace sand, moist (CL)
	2	MC		17.0	2.75+				
	B						8.0	626.9	
	A			22.3	2.5+				Tough to very tough brown and gray very silty CLAY, trace sand, occasional silt seams, moist (CL)
	3	MC		25.0	1.75+		10.0	624.9	
	B								
	A			16.4	2.5+				Tough to very tough brown to gray silty CLAY, trace sand and gravel, moist (CL)
	4	MC							
	B			18.8	1.25+		16.0	618.9	
	A			17.4					Firm brown to gray clayey SILT, trace sand and gravel, moist (ML)
	5	MC					18.0	616.9	
	B			15.4	1.0+				Tough brown to gray silty CLAY, little sand, trace gravel, moist (CL)

End of Boring at 20.0'
• Approximate unconfined compressive strength based on measurements with a calibrated pocket penetrometer.
GeoProbe on ATV Carrier (*294)
MC = Continuous Macro-core samples 4.5" diam.) using ATV GeoProbe rig
Survey Location:
N 1958087.5
E 624416.0

DRILL RIG NO. 294
Division lines between deposits represent approximate boundaries between soil types; in situ, the transition may be gradual.

PROJECT Rand Park Flood Control, Des Plaines, Illinois
CLIENT Ground Engineering Consultants, Inc.
BORING DB-5 DATE STARTED 9-23-04 DATE COMPLETED 9-23-04 JOB L-61,651
ELEVATIONS — GROUND SURFACE 631.2 — END OF BORING 611.2
WATER LEVEL OBSERVATIONS — WHILE DRILLING 7.0 ' — ▼ AT END OF BORING 7.0 ' — 24 HOURS

LENGTH RECOVERY	SAMPLE NO.	SAMPLE TYPE	N	WC	Qu	DRY	DEPTH	ELEV.	SOIL DESCRIPTIONS
	A			17.8	4.5+		0.7	630.5	Black clayey TOPSOIL, moist (OL)
	1	MC					2.0	629.2	Very tough to hard brown and gray silty CLAY, little sand, trace organics, moist (CL)
	B			16.5	4.5+				
	A								Very tough to hard brown and gray silty CLAY, trace sand and gravel, moist (CL)
	2	MC		14.7	4.5+				
	B			21.3	4.5+		8.0	623.2	
	A								Firm brown SAND and GRAVEL, saturated (SP-GP)
	3	MC		17.1	4.25+		10.0	621.2	
	B								Very tough gray silty CLAY, little sand, trace gravel, moist (CL)
	A			18.2	2.75+				
	4	MC							
	B			17.0	3.0+		14.0	617.2	
	A								Firm gray fine SAND, trace gravel, saturated (SP)
	5	MC					16.0	615.2	
	B			8.2					Firm gray clayey SAND and GRAVEL, saturated (SC-GC)

End of Boring at 20.0'
• Approximate unconfined compressive strength based on measurements with a calibrated pocket penetrometer.
GeoProbe on ATV Carrier (*294)
MC = Continuous Macro-core samples 0.5" diam.) using ATV GeoProbe rig
Survey Locations:
N 1957771.1
E 625022.7

DRILL RIG NO. 294
Division lines between deposits represent approximate boundaries between soil types; in situ, the transition may be gradual.

PROJECT Rand Park Flood Control, Des Plaines, Illinois
CLIENT Ground Engineering Consultants, Inc.
BORING DB-6 DATE STARTED 9-23-04 DATE COMPLETED 9-23-04 JOB L-61,651
ELEVATIONS — GROUND SURFACE 630.3 — END OF BORING 610.3
WATER LEVEL OBSERVATIONS — WHILE DRILLING 12.0 ' — ▼ AT END OF BORING 12.0 ' — 24 HOURS

LENGTH RECOVERY	SAMPLE NO.	SAMPLE TYPE	N	WC	Qu	DRY	DEPTH	ELEV.	SOIL DESCRIPTIONS
	A			17.7	4.5+		0.9	630.4	Black clayey TOPSOIL, moist (OL)
	1	MC					2.0	629.3	Very tough to hard brown silty CLAY, trace sand, trace organics, moist (CL/CH)
	B			HU					
	A			20.5	4.5+				Very tough to hard brown and gray silty CLAY, trace sand, moist (CL)
	2	MC		22.2	2.5+		6.0	625.3	
	B			20.4	2.0+				
	A								Tough to very tough brown to gray silty CLAY, little sand, trace gravel, moist (CL)
	3	MC					10.0	621.3	
	B								Firm brown and gray SAND, little gravel, saturated (SP)
	A						13.5	617.8	
	4	MC		17.0	3.0+				
	B			17.8	3.25+				Very tough brown to gray silty CLAY, little sand, trace gravel, moist (CL)
	A								
	5	MC		16.5	2.5+				
	B								

End of Boring at 20.0'
• Approximate unconfined compressive strength based on measurements with a calibrated pocket penetrometer.
GeoProbe on ATV Carrier (*294)
MC = Continuous Macro-core samples 3.5" diam.) using ATV GeoProbe rig
Survey Location:
N 1957678.6
E 625282.0

DRILL RIG NO. 294
Division lines between deposits represent approximate boundaries between soil types; in situ, the transition may be gradual.

PROJECT Rand Park Flood Control, Des Plaines, Illinois
CLIENT Ground Engineering Consultants, Inc.
BORING DB-7 DATE STARTED 9-23-04 DATE COMPLETED 9-23-04 JOB L-61,651
ELEVATIONS — GROUND SURFACE 632.1 — END OF BORING 607.1
WATER LEVEL OBSERVATIONS — WHILE DRILLING 10.0 ' — ▼ AT END OF BORING 10.0 ' — 24 HOURS

LENGTH RECOVERY	SAMPLE NO.	SAMPLE TYPE	N	WC	Qu	DRY	DEPTH	ELEV.	SOIL DESCRIPTIONS
	A			13.1			0.9	631.2	FILL - Black clayey TOPSOIL, moist (OL)
	1	MC					2.0	630.1	FILL - Brown silty CLAY, trace sand, moist (CL)
	B			26.6	LS+				Tough dark brown silty CLAY, little sand, trace gravel, moist (CL)
	A						4.0	628.1	
	2	MC		20.8	4.5+				Very tough to hard brown and gray silty CLAY, little sand, moist (CL)
	B			20.8	3.0+				
	A			26.6	LS+				
	3	MC					10.0	622.1	Firm brown medium to coarse SAND, trace gravel, saturated (SP)
	B						12.0	620.1	Firm brown fine SAND, saturated (SP)
	A						13.0	619.1	
	4	MC							Firm brown medium to coarse SAND, little gravel, saturated (SP)
	B								
	A								
	5	MC					16.0	616.1	Tough to very tough brown to gray moist (CL)
	B			17.3	3.5+				

End of Boring at 20.0'
• Approximate unconfined compressive strength based on measurements with a calibrated pocket penetrometer.
GeoProbe on ATV Carrier (*294)
MC = Continuous Macro-core samples (1.5" diam.) using ATV GeoProbe rig
Survey Locations:
N 1957476.1
E 625576.7

DRILL RIG NO. 294
Division lines between deposits represent approximate boundaries between soil types; in situ, the transition may be gradual.

PROJECT Rand Park Flood Control, Des Plaines, Illinois
CLIENT Ground Engineering Consultants, Inc.
BORING FB-1 DATE STARTED 9-9-04 DATE COMPLETED 9-9-04 JOB L-61,651
ELEVATIONS — GROUND SURFACE 637.0 — END OF BORING 614.0
WATER LEVEL OBSERVATIONS — WHILE DRILLING 16.0 ' — ▽ AT END OF BORING 16.0 ' — ▼ 24 HOURS

LENGTH RECOVERY	SAMPLE NO.	SAMPLE TYPE	N	WC	Qu	%DRY	DEPTH	ELEV.	SOIL DESCRIPTIONS
	1A						0.5	636.5	FILL - Crushed Limestone, damp (GP)
	1B	MC					2.0	635.0	FILL - Brown and gray CLAY, moist (CL)
	2A						4.5	632.5	FILL - Crushed Limestone, damp (GP)
	2B	MC							FILL - Brown fine to medium SAND, damp (SP)
	3A								
	3B	MC					10.0	627.0	FILL - Brown fine to medium SAND, trace gravel, clay, cinders, wood, damp (SP)
	4A						12.0	625.0	
	4B	MC							▽
	5A								FILL - Brown fine to medium SAND, saturated @ 16'
	5B	MC							
	6A								
	6B	MC							

End of Boring at 23.0'
Refusal @ 23' on Possible Concrete Footing.
GeoProbe on ATV Carrier (*294)
MC = Continuous Macro-core samples 6.5" diam.) using ATV GeoProbe rig
Survey Location
N 1957519.3
E 625252.2

DRILL RIG NO. 294
Division lines between deposits represent approximate boundaries between soil types; in situ, the transition may be gradual.

DESIGNED BY: _____ CHECKED BY: _____
DRAWN BY: _____ CHECKED BY: _____

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PROJECT Rand Park Flood Control, Des Plaines, Illinois
CLIENT Ground Engineering Consultants, Inc.
BORING FB-3 DATE STARTED 9-9-04 DATE COMPLETED 9-9-04 JOB L-61,651
ELEVATIONS
GROUND SURFACE 632.5
END OF BORING 602.5
WATER LEVEL OBSERVATIONS
WHILE DRILLING 16.0 '
▽ AT END OF BORING 16.0 '
▼ 24 HOURS

LENGTH RECOVERY	SAMPLE NO.	TYPE	N	WC	Qu	γDRY	DEPTH	ELEV.	SOIL DESCRIPTIONS
	1			10.9			2.0	630.5	FILL - Brown, gray and black CLAY, trace organic, moist (CL)
	1B	MC					3.0	629.5	FILL - Gray Crushed Limestone, damp (GP)
	2						4.0	628.5	FILL - Brown and black clayey SAND, trace gravel, trace organic, damp (SC)
	2A			21					FILL - Dark brown CLAY, little sand, trace organic, moist (CL)
	2B	MC		13.1			6.0	626.5	
	3						8.0	624.5	FILL - Brown and gray clayey SAND, trace organic, damp (SC)
	3A			22.1	3.0+				
	3B	MC		27.5	1.5+				Tough to very tough dark brown sandy CLAY, trace organic, very moist to moist (CL)
	4			28.5	1.0+		12.0	620.5	
	4A	MC		23.8	0.5+				Stiff brown and gray CLAY, trace organic, very moist to moist (CL)
	4B						16.0	616.5	
	5								Firm brown and gray clayey SAND, trace gravel, saturated (SC)
	5A	MC							
	5B								
	6	MC		16.6	2.0+		26.0	602.5	
	6A			15.9	1.75+				Tough gray CLAY, little sand, trace gravel, moist (CL)
	6B	MC		20.5	1.75+				
	7			13.6	2.0+		28.0	600.5	MC = Continuous Macro-core samples (1.5' diam.) using ATV GeoProbe rig
	7A	MC		15.6	4.5++				
	7B								Very tough to hard gray CLAY, little sand, trace gravel, occasional silt seams, moist (CL)
	8	MC							

End of Boring at 30.0'

* Approximate unconfined compressive strength based on measurements with a calibrated pocket penetrometer.

GeoProbe on ATV Carrier (#294)

Survey Location
N 1957210.2
E 1627771

DRILL RIG NO. 294

Division lines between deposits represent approximate boundaries between soil types; in situ, the transition may be gradual.

PROJECT Rand Park Flood Control, Des Plaines, Illinois
CLIENT Ground Engineering Consultants, Inc.
BORING FB-4 DATE STARTED 9-15-04 DATE COMPLETED 9-15-04 JOB L-61,651
ELEVATIONS
GROUND SURFACE 633.1
END OF BORING 603.1
WATER LEVEL OBSERVATIONS
WHILE DRILLING 8.0 '
▽ AT END OF BORING 8.0 '
▼ 24 HOURS

LENGTH RECOVERY	SAMPLE NO.	TYPE	N	WC	Qu	γDRY	DEPTH	ELEV.	SOIL DESCRIPTIONS
	1	SS	16				0.3	632.8	Asphaltic Concrete
							0.5	632.6	Gray Crushed Limestone Subbase, damp (GP)
	2	SS	14	15.4			3.0	630.1	FILL - Reddish-brown Sand and Bricks, damp
	3	SS	25	14.5		115.5			FILL - Brown, gray and black clayey Sand and Gravel, trace brick and asphalt, damp (SC)
	4	SS	18	16.8		108.8	6.0	627.1	
	5	SS	13	22.0			10.0	623.1	FILL - Brown, gray and black sandy CLAY, little to some gravel, moist (CL)
	6	SS	5	22.4		105.0			FILL - Brown clayey Sand and Cinders, very moist (SC)
	7	SS	3	19.1			13.0	620.1	
	8	SS	3	17.6	1.5+		15.5	617.6	FILL - Brown, gray and black sandy CLAY, trace gravel, moist to very moist (CL)
	9	SS	16	16.8	1.25+		18.0	615.1	
	10	SS	13	16.4	1.5+				Loose gray clayey SAND, trace shells, saturated (SC)
	11	SS	16	13.4	2.5+		24.5	608.6	
	12	SS	28	21.3	2.5+		28.0	605.1	Tough gray very silty CLAY, little sand, trace gravel, moist (CL)
									Tough to very tough gray silty CLAY, little sand, trace gravel, moist (CL)
									Very tough gray silty CLAY, little sand, trace gravel, occasional silt seams, moist (CL)

End of Boring at 30.0'

* Approximate unconfined compressive strength based on measurements with a calibrated pocket penetrometer.

CME-75 Truck Rig (#256)
CME Automatic Hammer

Survey Location
N 1957435.5
E 1623636.9

DRILL RIG NO. 256

Division lines between deposits represent approximate boundaries between soil types; in situ, the transition may be gradual.

PROJECT Rand Park Flood Control, Des Plaines, Illinois
CLIENT Ground Engineering Consultants, Inc.
BORING FB-5 DATE STARTED 9-10-04 DATE COMPLETED 9-10-04 JOB L-61,651
ELEVATIONS
GROUND SURFACE 632.3
END OF BORING 602.3
WATER LEVEL OBSERVATIONS
WHILE DRILLING 28.0 '
▽ AT END OF BORING 28.0 '
▼ 24 HOURS

LENGTH RECOVERY	SAMPLE NO.	TYPE	N	WC	Qu	γDRY	DEPTH	ELEV.	SOIL DESCRIPTIONS
	1A								FILL - Dark brown and black Sand with Cinders and Glass, damp
	1B	MC					8.0	624.3	
	2A						10.0	622.3	FILL - Black Sand, Cinders and Brick, damp
	2B	MC							
	3A								FILL - Dark brown and black Sand, Slag and Brick, trace glass, damp
	3B	MC							
	4A								
	4B	MC		21.3			15.0	617.3	FILL - Brown and gray CLAY, little sand seams, trace cinders, very moist to moist (CL)
	5						16.0	616.3	Soft gray SAND and GRAVEL, very moist to moist (SC)
	5A	MC		22.1	0.25+		18.5	613.8	
	5B			17.4	4.5+		26.0	606.3	Very tough to hard gray silty CLAY, little sand, trace gravel, occasional silt seams, moist (CL/ML)
	6			17.4	4.5+		28.0	604.3	
	6A	MC		13.6	2.25+				
	6B			15.4	1.75+				Very tough gray silty CLAY, little sand, trace gravel, occasional silt seams, moist (CL)
	7A								
	7B	MC		17.2	1.5+				MC = Continuous Macro-core samples (1.5' diam.) using ATV GeoProbe rig
	8			22.8	3.25+				

End of Boring at 30.0'

* Approximate unconfined compressive strength based on measurements with a calibrated pocket penetrometer.

saturated

Survey Location
N 1957617.5
E 1623703.9

DRILL RIG NO. 294

Division lines between deposits represent approximate boundaries between soil types; in situ, the transition may be gradual.

PROJECT Rand Park Flood Control, Des Plaines, Illinois
CLIENT Ground Engineering Consultants, Inc.
BORING FB-6 DATE STARTED 9-13-04 DATE COMPLETED 9-13-04 JOB L-61,651
ELEVATIONS
GROUND SURFACE 629.1
END OF BORING 598.1
WATER LEVEL OBSERVATIONS
WHILE DRILLING 12.0 '
▽ AT END OF BORING 12.0 '
▼ 24 HOURS

LENGTH RECOVERY	SAMPLE NO.	TYPE	N	WC	Qu	γDRY	DEPTH	ELEV.	SOIL DESCRIPTIONS
	1A						1.0	627.1	FILL - Brown fine to medium SAND, trace gravel and clay, moist (CL)
	1B	MC		19.9					
	2A			15.8			6.0	623.1	FILL - Brown silty CLAY, little sand, trace gravel, moist (CL)
	2B	MC		50.2+	0.25+		8.0	621.1	Soft to very soft brown silty CLAY, trace sand, trace organic, trace Peat, moist (CL/CH)
	3A			36.5	0.5+		10.0	619.1	
	3B	MC							▽
	4A								Soft gray silty CLAY, trace sand, moist (CL)
	4B	MC		19.6	2.25+				
	5			17.4	2.5+				Firm brown SAND, trace gravel, saturated (SP)
	5A	MC		17.9	1.5+		16.0	613.1	
	5B			18.3	2.0+		22.0	606.6	MC = Continuous Macro-core samples (1.5' diam.) using ATV GeoProbe rig
	6			18.4	3.5+		24.0	604.1	
	6A	MC		13.0	4.5++				Tough to very tough brown and gray CLAY, moist (CL)
	6B			14.9	4.5++				
	7								Tough to very tough gray very silty CLAY, little sand, trace gravel, moist (CL-ML)
	7A	MC							
	7B								
	8	MC							

End of Boring at 30.0'

* Approximate unconfined compressive strength based on measurements with a calibrated pocket penetrometer.

GeoProbe on ATV Carrier (#294)

Survey Location
N 1958006.3
E 1623664.9

DRILL RIG NO. 294

Division lines between deposits represent approximate boundaries between soil types; in situ, the transition may be gradual.

PROJECT Rand Park Flood Control, Des Plaines, Illinois
CLIENT Ground Engineering Consultants, Inc.
BORING FB-7 DATE STARTED 9-13-04 DATE COMPLETED 9-13-04 JOB L-61,651
ELEVATIONS
GROUND SURFACE 626.6
END OF BORING 601.6
WATER LEVEL OBSERVATIONS
WHILE DRILLING 8.0 '
▽ AT END OF BORING 8.0 '
▼ 24 HOURS

LENGTH RECOVERY	SAMPLE NO.	TYPE	N	WC	Qu	γDRY	DEPTH	ELEV.	SOIL DESCRIPTIONS
	1A			29.0	1.5+		1.0	625.6	Dark brown clayey Topsoil, moist (OL)
	1B	MC		30.9	1.75+				Tough dark brown silty CLAY, trace sand, very moist (CL/OH)
	2A			30.3	1.0+				
	2B	MC		29.0	0.5+		6.0	620.6	
	3A			29.5	<0.25+				▽ Soft to very soft brown silty CLAY, little sand, very moist to moist (CL)
	3B	MC		23.6	0.25+		10.0	616.6	Soft to very soft brown and gray silty CLAY, little to some sand, trace gravel, very moist to moist (CL)
	4A			28.4	0.25+		12.0	614.6	
	4B	MC		15.7	1.75+				Soft to very soft brown silty CLAY, little sand, little organic, very moist (CL-OL)
	5			16.7	1.75+		14.5	612.1	
	5A	MC		18.2	2.5+				Tough to very tough brown and gray silty CLAY, little sand, trace gravel, moist (CL)
	5B			10.1	3.0+		22.0	606.6	
	6	MC		12.6	2.5+				Very tough gray silty CLAY, little to some sand, trace gravel, moist (CL)
	6A						24.0	604.6	
	6B	MC		14.5					Firm gray silty SAND, trace gravel, moist (SM)
	7								
	7A								End of Boring at 25.0'
	7B	MC							
	8								

Refusal @ 25 feet

* Approximate unconfined compressive strength based on measurements with a calibrated pocket penetrometer.

GeoProbe on ATV Carrier (#294)

MC = Continuous Macro-core samples (1.5' diam.) using ATV GeoProbe rig

Survey Location
N 1958446.8
E 623788.9

DRILL RIG NO. 294

Division lines between deposits represent approximate boundaries between soil types; in situ, the transition may be gradual.

PROJECT Rand Park Flood Control, Des Plaines, Illinois
CLIENT Ground Engineering Consultants, Inc.
BORING FB-8 DATE STARTED 9-13-04 DATE COMPLETED 9-13-04 JOB L-61,651
ELEVATIONS
GROUND SURFACE 627.0
END OF BORING 607.0
WATER LEVEL OBSERVATIONS
WHILE DRILLING 12.0 '
▽ AT END OF BORING 12.0 '
▼ 24 HOURS

LENGTH RECOVERY	SAMPLE NO.	TYPE	N	WC	Qu	γDRY	DEPTH	ELEV.	SOIL DESCRIPTIONS
	1			26.4			2.0	625.0	FILL - Brown clayey SAND, trace gravel and cinders, damp (SC)
	1B	MC					4.0	623.0	FILL - Brown silty CLAY, trace sand, moist (CL)
	2			17.4					
	2A			20.0	2.0+				Tough to very tough dark brown silty CLAY, trace sand, moist (CL)
	2B	MC		26.9	0.25+		8.0	619.0	
	3A			18.6	1.75+		10.0	617.0	Tough brown and gray silty CLAY, little to some sand, moist (CL)
	3B	MC		13.9					▽ Firm brown clayey SILT, Black clayey TOPSOIL (OL) moist (ML)
	4A			20.0			13.0	614.0	
	4B	MC		15.4					Firm gray SILT, trace root seams, trace gravel, moist (ML)
	5						16.0	611.0	Tough gray silty CLAY, little sand, trace gravel, moist (CL)
	5A	MC		12.2	1.0+		18.0	609.0	
	5B			15.5					Firm gray clayey SILT, little sand and gravel, moist (ML)

End of Boring at 20.0'

* Approximate unconfined compressive strength based on measurements with a calibrated pocket penetrometer.

GeoProbe on ATV Carrier (#294)

MC = Continuous Macro-core samples (1.5' diam.) using ATV GeoProbe rig

Survey Location
N 1958482.1
E 623963.7

DRILL RIG NO. 294

Division lines between deposits represent approximate boundaries between soil types; in situ, the transition may be gradual.

PROJECT Rand Park Flood Control, Des Plaines, Illinois
CLIENT Ground Engineering Consultants, Inc.
BORING FB-9 DATE STARTED 9-10-04 DATE COMPLETED 9-10-04 JOB L-61,651
ELEVATIONS
GROUND SURFACE 637.8
END OF BORING 612.8
WATER LEVEL OBSERVATIONS
WHILE DRILLING 16.0 '
▽ AT END OF BORING 16.0 '
▼ 24 HOURS

LENGTH RECOVERY	SAMPLE NO.	TYPE	N	WC	Qu	γDRY	DEPTH	ELEV.	SOIL DESCRIPTIONS
	1A						0.2	637.3	FILL - Black clayey Topsoil moist (OL)
	1B	MC		20.8			2.0	635.8	FILL - Dark brown CLAY, trace organic, trace organic and aluminum, moist (CL)
	2						3.5	634.3	Hard brown silty CLAY, little sand, moist (CL)
	2A			18.2	4.5++		5.0	632.8	Firm brown and gray clayey SILT, little sand, moist (ML)
	2B	MC		23.4	1.5+				Tough to very tough brown and gray very silty CLAY, little sand, trace organic, occasional silt seams, moist (CL)
	3A			24.0	2.25+		8.0	629.8	
	3B	MC		11.9	4.5++				Very tough to hard brown and gray silty CLAY, little sand, trace gravel, moist (CL)
	4A			19.1	2.5+		12.0	625.8	
	4B	MC		11.5	1.75+				Tough to very tough gray silty CLAY, little sand, trace gravel, moist (CL)
	5			21.0	2.5+		16.0	621.8	▽
	5A	MC		17.5			18.0	619.8	Firm gray clayey SAND and clayey SILT, saturated (SC/ML)
	5B								Firm gray SAND and GRAVEL, saturated (SP-SM)

End of Boring at 20.0'

* Approximate unconfined compressive strength based on measurements with a calibrated pocket penetrometer.

GeoProbe on ATV Carrier (#294)

MC = Continuous Macro-core samples (1.5' diam.) using ATV GeoProbe rig

Survey Location
N 1958520.2
E 624961

DRILL RIG NO. 294

Division lines between deposits represent approximate boundaries between soil types; in situ, the transition may be gradual.

PROJECT Rand Park Flood Control, Des Plaines, Illinois
CLIENT Ground Engineering Consultants, Inc.
BORING FB-11 DATE STARTED 9-10-04 DATE COMPLETED 9-10-04 JOB L-61,651
ELEVATIONS
GROUND SURFACE 630.6
END OF BORING 610.6
WATER LEVEL OBSERVATIONS
WHILE DRILLING 8.0 '
▽ AT END OF BORING 16.0 '
▼ 24 HOURS

LENGTH RECOVERY	SAMPLE NO.	TYPE	N	WC	Qu	γDRY	DEPTH	ELEV.	SOIL DESCRIPTIONS
	1A			17.2			0.5	630.1	FILL - Black and gray silty CLAY, little sand, trace gravel, moist (CL)
	1B	MC							Firm dark brown fine to medium SAND, trace clay, damp (SP/SC) [Possible Fill]
	2A			10.2					
	2B	MC					7.0	623.6	Firm gray fine to medium SAND, damp (SP)
	3A			18.6			9.0	622.6	
	3B	MC		15.4	4.25+		11.0	619.6	Firm gray CLAY, fine to medium SAND, damp (CL-ML) saturated (SC)
	4A			17.4	4.25+				
	4B	MC		19.4	4.5++				Very tough to hard gray silty CLAY, little sand, trace gravel, moist (CL)
	5			15.5			16.0	614.6	▽
	5A	MC		14.3	4.5++		18.0	612.6	Firm gray clayey SILT, moist (ML)
	5B								Very tough to hard gray very silty CLAY, little sand, trace gravel, occasional silt seams, moist (CL-ML)

End of Boring at 20.0'

* Approximate unconfined compressive strength based on measurements with a calibrated pocket penetrometer.

GeoProbe on ATV Carrier (#294)

MC = Continuous Macro-core samples (1.5' diam.) using ATV GeoProbe rig

Survey Location
N 1961254.1
E 624527.6

DRILL RIG NO. 294

Division lines between deposits represent approximate boundaries between soil types; in situ, the transition may be gradual.

DESIGNED BY: _____ CHECKED BY: _____
DRAWN BY: _____ CHECKED BY: _____

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PROJECT Rand Road Flood Control, Rand Road & I-294, Des Plaines, Illinois
CLIENT Christopher B. Burke Engineering, Ltd., 9575 W. Higgins Rd., Rosemont
BORING 101 DATE STARTED 12-15-97 DATE COMPLETED 12-15-97 JOB L-43,618

HAND AUGER BORING

ELEVATION
LOCATION Along SB Entr. Ramp from WB Rand Rd. GROUNDWATER 5.0 / 6.0

SAMPLE DEPTH (feet)	WC	Q_U (tsf)	DRY (pcf)	DEPTH	ELEV.	SOIL DESCRIPTIONS
0.5	30.9	1.75•	91.8	0.8		Black clayey TOPSOIL, moist (OL)
2.0	20.6	3.5•	104.6	3.0		Very tough brown and gray silty CLAY, trace to little sand and gravel, trace root seams, moist (CL)
4.5	20.9	4.75•	101.7	5.0		Tough brown silty CLAY, little to some sand and gravel, numerous silt and sand seams, moist (CL)
7.0	15.3					Brown and gray SAND and GRAVEL, trace clay, wet (SP/SC)
7.5	15.7	2.25•	118.3	7.5		Very tough gray silty CLAY, little to some sand and gravel, moist (CL)
						Boring Terminated at 8.0' due to a gravelly layer.

• Approximate unconfined compressive strength based on measurements with a calibrated pocket penetrometer.

DISTANCE BELOW SURFACE IN FEET

INSPECTOR RS

PROJECT Rand Road Flood Control, Rand Road & I-294, Des Plaines, Illinois
CLIENT Christopher B. Burke Engineering, Ltd., 9575 W. Higgins Rd, Rosemont, IL
BORING 102 DATE STARTED 12-15-97 DATE COMPLETED 12-15-97 JOB L-43,618

HAND AUGER BORING

ELEVATION 634.3
LOCATION Along Entr. Ramp, S. of B-101 GROUNDWATER 6.5 / 5.5

SAMPLE DEPTH (feet)	WC	Q_U (tsf)	DRY (pcf)	DEPTH	ELEV.	SOIL DESCRIPTIONS
1.0	35.2	1.75•	86.4	1.5	632.8	Black clayey TOPSOIL, moist (OL)
2.0	25.1	2.5•	94.0			
3.0	20.8	4.5•	100.9			Very tough to hard brown and gray silty CLAY, trace to little sand and gravel, trace root seams, moist (CL)
6.0	25.5	3.5•	96.2	5.5	628.8	
6.0	17.9	3.5•	113.6	6.5	627.8	Very tough brown and gray silty CLAY, little to some sand and gravel, occasional silt seams, moist (CL)
7.0	23.4					
9.0	16.9					Brown and gray silty CLAY, SAND and SILT layers, very moist to wet (CL/SP/ML)
10.0	17.7	2.0•	114.0	9.5	624.8	Tough to very tough gray silty CLAY, little to some sand and gravel, moist (CL)
11.0	15.7	3.75•	118.3			
						Boring terminated at 11.5' due to cave-ins

• Approximate unconfined compressive strength based on measurements with a calibrated pocket penetrometer.

DISTANCE BELOW SURFACE IN FEET

INSPECTOR RS

PROJECT Rand Road Flood Control, Rand Road & I-294, Des Plaines, Illinois
CLIENT Christopher B. Burke Engineering, Ltd., 9575 W. Higgins Rd, Rosemont, IL
BORING 103 DATE STARTED 4-29-98 DATE COMPLETED 4-29-98 JOB L 43,618

ELEVATIONS
GROUND SURFACE 633.9
END OF BORING 618.9

WATER TABLE
▼ WHILE DRILLING 10.0'
▽ AT END OF BORING 4.0'
▼ 24 HOURS

SAMPLE NO.	TYPE	N	WC	Q_U	ØRY	DEPTH	ELEV.	SOIL DESCRIPTIONS
1	SS	9	17.1	3.0•	114.9	3.0	630.9	FILL - Black, brown and gray silty CLAY, little to some sand and gravel, trace organic, moist (CL)
2	SS	11	25.5	2.5•				▽ Dark brown and black clayey TOPSOIL, trace sand, very moist (OL)
3	SS	9	22.9	1.25 2.0•		5.5	628.4	
4	ST		25.8	2.5•	98.4			Tough to very tough brown and gray silty CLAY, little to some sand and gravel, occasional silt seams, moist (CL) ▼
5	SS	11	16.6	1.75 2.25•		10.5	623.4	
6	SS	13	16.5	3.75•				Tough to very tough gray silty CLAY, little to some sand and gravel, moist (CL)
								End of Boring at 15.0'

• Approximate unconfined compressive strength based on measurements with a calibrated pocket penetrometer.

Hammer Type: CME Automatic

DISTANCE BELOW SURFACE IN FEET

Division lines between deposits represent approximate boundaries between soil types; in situ, the transition may be gradual.

DRILL RIG NO. 53

PROJECT Rand Road Flood Control, Rand Road & I-294, Des Plaines, Illinois
CLIENT Christopher B. Burke Engineering, Ltd., 9575 W. Higgins Rd, Rosemont, IL
BORING 104 DATE STARTED 4-28-98 DATE COMPLETED 4-28-98 JOB L - 43,618

ELEVATIONS
GROUND SURFACE 633.6
END OF BORING 618.6

WATER TABLE
▼ WHILE DRILLING 10.5'
▽ AT END OF BORING 5.5'
▼ 24 HOURS

SAMPLE NO.	TYPE	N	WC	Q_U	ØRY	DEPTH	ELEV.	SOIL DESCRIPTIONS
						0.9	632.7	FILL - Black silty CLAY, trace concrete
1	SS	15	8.8	4.0•	111.8	3.0	630.6	FILL - Brown and gray silty CLAY and SAND layers, trace gravel, moist
2	SS	10	10.1	1.75•				Tough dark gray silty CLAY, trace sand, trace organic seams, moist (CL/CH) ▽
3	SS	10	23.6	1.75 2.5•		6.5	628.1	
4	SS	6	24.8	1.25 1.5•				Tough to very tough gray with some brown silty CLAY, trace to little sand, trace organic, moist to very moist (CL) ▼
5	SS	15	11.4			10.5	623.1	
								Firm brown SAND, some gravel, saturated (SP/SM)
6	SS	14	16.9	3.60 2.75•		13.0	620.6	
								Very tough gray silty CLAY, trace to little sand, moist (CL)
								End of Boring at 15.0'

• Approximate unconfined compressive strength based on measurements with a calibrated pocket penetrometer.

Hammer Type: Conventional safety hammer with rope and cathead.

DISTANCE BELOW SURFACE IN FEET

Division lines between deposits represent approximate boundaries between soil types; in situ, the transition may be gradual.

DRILL RIG NO. 138

PROJECT Rand Road Flood Control, Rand Road & I-294, Des Plaines, Illinois
CLIENT Christopher B. Burke Engineering, Ltd., 9575 W. Higgins Rd, Rosemont, IL
BORING 105 DATE STARTED 4-28-98 DATE COMPLETED 4-28-98 JOB L - 43,618

ELEVATIONS
GROUND SURFACE 633.3
END OF BORING 618.3

WATER TABLE
▼ WHILE DRILLING 10.5'
▽ AT END OF BORING 4.0'
▼ 24 HOURS

SAMPLE NO.	TYPE	N	WC	Q_U	ØRY	DEPTH	ELEV.	SOIL DESCRIPTIONS
1	SS	12	23.2	2.75•	93.1	3.0	630.3	FILL - Black and brown silty CLAY, SAND, GRAVEL and TOPSOIL, moist
2	SS	13	24.3	1.49 2.0•				▽ Tough to very tough brown silty CLAY, trace to little sand, trace root seams, moist (CL)
3	SS	10	24.2	2.81 3.25•		5.5	627.8	
4	SS	11	20.4	4.0•				Very tough to hard brown and gray silty CLAY, trace to little sand, moist (CL)
5	SS	25	16.3			10.5	622.8	▼
6	SS	23	10.2					Firm brown and gray SAND, some gravel, saturated (SP)
								End of Boring at 15.0'

• Approximate unconfined compressive strength based on measurements with a calibrated pocket penetrometer.

Hammer Type: Conventional safety hammer with rope and cathead.

DISTANCE BELOW SURFACE IN FEET

Division lines between deposits represent approximate boundaries between soil types; in situ, the transition may be gradual.

DRILL RIG NO. 138

PROJECT Rand Road Flood Control, Rand Road & I-294, Des Plaines, Illinois
CLIENT Christopher B. Burke Engineering, Ltd., 9575 W. Higgins Rd, Rosemont, IL
BORING 106 DATE STARTED 4-28-98 DATE COMPLETED 4-28-98 JOB L - 43,618

ELEVATIONS
GROUND SURFACE 632.6
END OF BORING 617.6

WATER TABLE
▼ WHILE DRILLING 8.0'
▽ AT END OF BORING 3.0'
▼ 24 HOURS

SAMPLE NO.	TYPE	N	WC	Q_U	ØRY	DEPTH	ELEV.	SOIL DESCRIPTIONS
						0.5	632.1	Black clayey TOPSOIL (OL)
1	SS	14	25.3	1.89 2.0•		3.0	629.6	Tough to very tough brown and gray silty CLAY, trace sand, trace organic, moist (CL/CH) ▽
2	SS	13	20.1	2.75•				
3	SS	13	21.2	2.68 2.5•				Very tough brown and gray silty CLAY, little to some sand and gravel, trace root seams, moist (CL)
4	SS	25	16.8			8.0	624.6	▼
5	SS	21	17.7	2.88 3.25•		10.5	622.1	Firm brown SAND and GRAVEL, saturated (SP/GP)
6	SS	25	19.2	4.95•				Very tough to hard gray silty CLAY, trace to little sand and gravel, moist (CL)
								End of Boring at 15.0'

• Approximate unconfined compressive strength based on measurements with a calibrated pocket penetrometer.

Hammer Type: Conventional safety hammer with rope and cathead.

DISTANCE BELOW SURFACE IN FEET

Division lines between deposits represent approximate boundaries between soil types; in situ, the transition may be gradual.

DRILL RIG NO. 138

PROJECT Rand Road Flood Control, Rand Road & I-294, Des Plaines, Illinois
CLIENT Christopher B. Burke Engineering, Ltd., 9575 W. Higgins Rd, Rosemont, IL
BORING 107 DATE STARTED 4-28-98 DATE COMPLETED 4-28-98 JOB L - 43,618

ELEVATIONS
GROUND SURFACE 632.4
END OF BORING 617.4

WATER TABLE
▼ WHILE DRILLING 10.5'
▽ AT END OF BORING 4.5'
▼ 24 HOURS

SAMPLE NO.	TYPE	N	WC	Q_U	ØRY	DEPTH	ELEV.	SOIL DESCRIPTIONS
						0.2	632.2	Black clayey TOPSOIL (OL)
1	SS	10	27.9	1.95 1.5•		3.0	629.4	Tough brown silty CLAY, trace sand, moist (CL/CH)
2	SS	10	25.0	1.16 0.75•				▽ Stiff to tough brown and gray silty CLAY, trace to little sand and gravel, very moist (CL)
3	SS	7	23.5	2.25•		5.5	626.9	
4	SS	19	24.1	2.02 2.0•				Very tough brown and gray very silty CLAY, little to some sand, little silt seams, moist (CL) ▼
5	SS	18	16.7	3.5•		10.5	621.9	
6	SS	23	16.8	3.75•				Very tough gray silty CLAY, little to some sand and gravel, moist (CL)
								End of Boring at 15.0'

• Approximate unconfined compressive strength based on measurements with a calibrated pocket penetrometer.

Hammer Type: Conventional safety hammer with rope and cathead.

DISTANCE BELOW SURFACE IN FEET

Division lines between deposits represent approximate boundaries between soil types; in situ, the transition may be gradual.

DRILL RIG NO. 138

PROJECT Rand Road Flood Control, Rand Road & I-294, Des Plaines, Illinois
CLIENT Christopher B. Burke Engineering, Ltd., 9575 W. Higgins Rd, Rosemont, IL
BORING 108 DATE STARTED 5-1-98 DATE COMPLETED 5-1-98 JOB L - 43,618

ELEVATIONS
GROUND SURFACE 632.8
END OF BORING 628.3

WATER TABLE
▼ WHILE DRILLING Dry
▽ AT END OF BORING Dry
▼ 24 HOURS

SAMPLE NO.	TYPE	N	WC	Q_U	ØRY	DEPTH	ELEV.	SOIL DESCRIPTIONS
						0.3	632.5	FILL - Black clayey TOPSOIL (OL)
A	SS	6	6.0	1.0•	116.7	2.0	630.8	FILL - Black, gray and brown silty CLAY, little sand and gravel, trace organic, moist (CL)
B			6.6					FILL - Brown medium to fine SAND, some gravel, moist (SP)
2	SS	6	8.8					Boring discontinued at 4.5' due to presence of an underground obstruction (possible utility)

• Approximate unconfined compressive strength based on measurements with a calibrated pocket penetrometer.

Hammer Type: Conventional safety hammer with rope and cathead.

DISTANCE BELOW SURFACE IN FEET

Division lines between deposits represent approximate boundaries between soil types; in situ, the transition may be gradual.

DRILL RIG NO. 138

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CHECKED BY:
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PROJECT Rand Road Flood Control, Rand Road & I-294, Des Plaines, Illinois
CLIENT Christopher B. Burke Engineering, Ltd., 9575 W. Higgins Rd, Rosemont, IL
BORING 201 DATE STARTED 4-29-98 DATE COMPLETED 4-29-98 JOB L - 43,618
ELEVATIONS: GROUND SURFACE 633.7; END OF BORING 613.7
WATER TABLE: ▼ WHILE DRILLING 10.0'; ▽ AT END OF BORING 10.0'; ▼ 24 HOURS

SAMPLE NO.	TYPE	N	WC	Q_u	ØRY	DEPTH	ELEV.	SOIL DESCRIPTIONS
						0		Dark brown clayey TOPSOIL (OL)
1	SS	5	20.8	1.0S 1.5•		1.0	632.6	Tough to very tough brown silty CLAY, trace to little sand and gravel, moist (CL)
2	SS	15	20.7	2.0•		3.0	630.7	Tough to very tough brown and gray very silty CLAY, trace to little sand and gravel, moist (CL)
3	SS	10	22.3			5.5	628.2	Loose to firm brown and gray clayey SILT, trace to little sand, very moist (ML)
4	SS	14	24.9	1.0•		8.0	625.7	Stiff to tough brown very silty CLAY, SILT and fine SAND layers, moist to wet (CL/ML/SP)
5	SS	10	19.7	2.4S 2.0•		10.5	623.2	Tough to very tough brown and gray silty CLAY, little to some sand and gravel, occasional sand seams, moist (CL)
6	SS	12	15.5	2.5•		13.0	620.7	Very tough gray silty CLAY, little to some sand and gravel, moist (CL)
7	SS	20	17.7	4.25•		15.5	618.2	Stiff to tough gray very silty CLAY, little to some sand and gravel, occasional Cobbles, very moist (CL)
8	SS	15	16.7	1.0•				End of Boring at 20.0'

• Approximate unconfined compressive strength based on measurements with a calibrated pocket penetrometer.

Hammer Type: CME Automatic

DRILL RIG NO. 53

Division lines between deposits represent approximate boundaries between soil types ; in-situ, the transition may be gradual.

PROJECT Rand Road Flood Control, Rand Road & I-294, Des Plaines, Illinois
CLIENT Christopher B. Burke Engineering, Ltd., 9575 W. Higgins Rd, Rosemont, IL
BORING 202 DATE STARTED 4-29-98 DATE COMPLETED 4-29-98 JOB L - 43,618
ELEVATIONS: GROUND SURFACE 630.0; END OF BORING 610.0
WATER TABLE: ▼ WHILE DRILLING 9.0'; ▽ AT END OF BORING 12.0'; ▼ 24 HOURS

SAMPLE NO.	TYPE	N	WC	Q_u	ØRY	DEPTH	ELEV.	SOIL DESCRIPTIONS
1	SS	8	16.9	3.75• 4.5•	17.9			FILL - Brown, grey and black silty CLAY, trace to little sand and gravel, little organic, moist to very moist (CL)
2	SS	13	21.2	4.25•				
3	ST		20.7	3.0•	103.7	6.5	623.5	
			19.7	1.0•				Black ORGANIC CLAY, very moist (OH) (Possible Fill)
4	SS	5	27.4	0.5•		8.0	622.0	▼ Soft dark brown silty CLAY, trace to little sand and gravel, little organic, very moist (CL) (Possible Fill)
5	SS	2	26.6	0.5•				▽
6	SS	4	30.2	<0.25•		10.5	619.5	Soft to very soft dark gray sandy CLAY and SAND layers, little organic, very moist to wet (CL/SC)
7	SS	9	15.1	4.0S 4.25•		15.5	614.5	Stiff to tough gray silty CLAY, little to some sand and gravel, very moist (CL)
8	SS	13	18.7	2.0•		18.0	612.0	Tough to very tough gray silty CLAY, little to some sand and gravel, moist (CL)
								End of Boring at 20.0'

• Approximate unconfined compressive strength based on measurements with a calibrated pocket penetrometer.

Hammer Type: CME Automatic

DRILL RIG NO. 53

Division lines between deposits represent approximate boundaries between soil types ; in-situ, the transition may be gradual.

PROJECT Rand Road Flood Control, Rand Road & I-294, Des Plaines, Illinois
CLIENT Christopher B. Burke Engineering, Ltd., 9575 W. Higgins Rd, Rosemont, IL
BORING 203 DATE STARTED 4-29-98 DATE COMPLETED 4-29-98 JOB L - 43,618
ELEVATIONS: GROUND SURFACE 627.2; END OF BORING 607.2
WATER TABLE: ▼ WHILE DRILLING 11.0'; ▽ AT END OF BORING 6.5'; ▼ 24 HOURS

SAMPLE NO.	TYPE	N	WC	Q_u	ØRY	DEPTH	ELEV.	SOIL DESCRIPTIONS
1	SS	6	16.4	1.0•	92.1			FILL - Black brown and gray sandy CLAY, little gravel, little topsoil, moist to very moist (CL)
2	SS	5	18.5	1.25•	92.4			
						5.5	621.7	▽ Dark brown clayey TOPSOIL, trace sand, moist (OL) (Possible Fill)
3	SS	7	26.4			8.0	619.2	Stiff to tough gray silty CLAY, trace sand, trace organic, moist (CL/OH)
4	SS	6	31.3	1.0•		10.5	616.7	▼ Gray organic silty SAND, little shells and wood, very moist to wet (SM-PT)
5	ST		45.5			11.5	615.7	Loose gray SAND, trace gravel, little clay layers, saturated (SP)
			29.5	Tv= 0.25	92.6	13.0	614.2	Firm gray SAND, trace silt, saturated (SM-SP)
6	SS	14	19.6			15.5	611.7	Tough gray silty CLAY, little to some sand and gravel, moist to very moist (CL)
7	SS	13	16.8	1.5S 1.75•		16.0	609.2	Very tough gray silty CLAY, little to some sand and gravel, moist (CL)
8	SS	19	19.7	2.5S 2.5•				End of Boring at 20.0'

• Approximate unconfined compressive strength based on measurements with a calibrated pocket penetrometer.

Hammer Type: CME Automatic

DRILL RIG NO. 53

Division lines between deposits represent approximate boundaries between soil types ; in-situ, the transition may be gradual.

PROJECT Rand Road Flood Control, Rand Road & I-294, Des Plaines, Illinois
CLIENT Christopher B. Burke Engineering, Ltd., 9575 W. Higgins Rd, Rosemont, IL
BORING 204 DATE STARTED 4-29-98 DATE COMPLETED 4-29-98 JOB L - 43,618
ELEVATIONS: GROUND SURFACE 630.3; END OF BORING 610.3
WATER TABLE: ▼ WHILE DRILLING 11.0'; ▽ AT END OF BORING 12.0'; ▼ 24 HOURS

SAMPLE NO.	TYPE	N	WC	Q_u	ØRY	DEPTH	ELEV.	SOIL DESCRIPTIONS
1	SS	10	21.5	1.75•	104.5			FILL - Brown, black and gray silty CLAY, little to some sand and gravel, numerous topsoil layers, moist (CL/OL)
2	SS	7	20.6	1.5•	95.3			
3	SS	12	27.3	3.25•	94.6			
						8.0	622.3	Stiff to tough gray silty CLAY, trace sand, trace organic, moist (CL/CH)
4	SS	5	16.8	1.0•				▽ Very loose gray SAND, some gravel, saturated (SP/SW)
5	SS	3	18.7			13.0	617.3	Firm gray silty SAND and GRAVEL, saturated (SM)
6	SS	15	17.8			15.5	614.8	Tough to very tough gray silty CLAY, little to some sand and gravel, moist to very moist (CL)
7	SS	15	16.4	2.0•				
8	ST							End of Boring at 20.0'

• Approximate unconfined compressive strength based on measurements with a calibrated pocket penetrometer.

Hammer Type: CME Automatic

DRILL RIG NO. 53

Division lines between deposits represent approximate boundaries between soil types ; in-situ, the transition may be gradual.

PROJECT Rand Road Flood Control, Rand Road & I-294, Des Plaines, Illinois
CLIENT Christopher B. Burke Engineering, Ltd., 9575 W. Higgins Rd, Rosemont, IL
BORING 205 DATE STARTED 4-29-98 DATE COMPLETED 4-29-98 JOB L - 43,618
ELEVATIONS: GROUND SURFACE 631.0; END OF BORING 611.0
WATER TABLE: ▼ WHILE DRILLING 10.0'; ▽ AT END OF BORING 6.0'; ▼ 24 HOURS

SAMPLE NO.	TYPE	N	WC	Q_u	ØRY	DEPTH	ELEV.	SOIL DESCRIPTIONS
1	SS	6	20.1					FILL - Brown and black silty SAND with varying amounts of gravel, cinders, slag, bricks, cobbles, glass and organics, moist
2	SS	4	18.4					
3	SS	6	16.4					
4	SS	12	16.7					▼
						10.5	620.5	▽ Black ORGANIC CLAY, very moist (OH)
5	SS	4	39.2	1.0•		13.0	618.0	Firm dark brown silty, clayey SAND, little gravel, saturated (SM-SC)
6	SS	13	23.2			15.5	616.5	
7	SS	13	17.2					Firm gray clayey SILT, trace sand and gravel, very moist (ML)
8	SS	12	16.6					End of Boring at 20.0'

• Approximate unconfined compressive strength based on measurements with a calibrated pocket penetrometer.

Hammer Type: CME Automatic

DRILL RIG NO. 53

Division lines between deposits represent approximate boundaries between soil types ; in-situ, the transition may be gradual.

PROJECT Rand Road Flood Control, Rand Road & I-294, Des Plaines, Illinois
CLIENT Christopher B. Burke Engineering, Ltd., 9575 W. Higgins Rd, Rosemont, IL
BORING 206 DATE STARTED 4-30-98 DATE COMPLETED 4-30-98 JOB L - 43,618
ELEVATIONS: GROUND SURFACE 629.7; END OF BORING 609.7
WATER TABLE: ▼ WHILE DRILLING 8.0'; ▽ AT END OF BORING 8.5'; ▼ 24 HOURS

SAMPLE NO.	TYPE	N	WC	Q_u	ØRY	DEPTH	ELEV.	SOIL DESCRIPTIONS
						0.3	629.4	4" Bituminous Concrete
1	SS	13	17.0	2.5•	114.3	1.0	628.7	Sand and Gravel Base
2	SS	3	15.0	4.0•	117.7			FILL - Brown and gray silty CLAY, little to some sand and gravel, trace organic, occasional cobbles, moist (CL)
3	SS	9	19.2	1.75•	115.6			
						8.0	621.7	▼ ▽
4	SS	17	35.9			10.5	619.2	Black silty SAND, some peat, saturated (SM-PT) (Possible Fill)
5	SS	9	18.6	1.0•		13.0	616.7	Stiff to tough brown and gray silty CLAY, little to some sand, very moist (CL)
6	SS	21	20.0	4.0S 4.0•		15.5	614.2	Very tough to hard gray silty CLAY, trace to little sand and gravel, moist (CL)
7	ST		16.8		114.8	18.0	611.7	Gray clayey SILT, little to some gravel, moist (ML)
8	SS	29	17.2	1.5S 2.25•				Tough to very tough gray silty CLAY, little to some sand and gravel, moist (CL)
								End of Boring at 20.0'

• Approximate unconfined compressive strength based on measurements with a calibrated pocket penetrometer.

Hammer Type: Mobile Automatic

DRILL RIG NO. 190

Division lines between deposits represent approximate boundaries between soil types ; in-situ, the transition may be gradual.

PROJECT Rand Road Flood Control, Rand Road & I-294, Des Plaines, Illinois
CLIENT Christopher B. Burke Engineering, Ltd., 9575 W. Higgins Rd, Rosemont, IL
BORING 207 DATE STARTED 4-30-98 DATE COMPLETED 4-30-98 JOB L - 43,618
ELEVATIONS: GROUND SURFACE 629.9; END OF BORING 609.9
WATER TABLE: ▼ WHILE DRILLING 3.0'; ▽ AT END OF BORING 5.5'; ▼ 24 HOURS

SAMPLE NO.	TYPE	N	WC	Q_u	ØRY	DEPTH	ELEV.	SOIL DESCRIPTIONS
A	SS	16	17.2	1.5•	111.8	1.2	628.7	4" Bituminous over P.C.C.
B			18.7			2.0	627.9	FILL - Brown silty CLAY, some sand, moist (CL)
						3.0	626.9	FILL - Brown SAND, little gravel, damp (SP)
2	SS	4	15.3					▽ Loose brown medium to fine SAND, some gravel, trace silt, moist to saturated (SP)
3	SS	6	23.2					
A			16.9			9.0	620.9	
4	SS	23	20.2	4.5•+				Hard brown and gray silty CLAY, occasional silt seams, trace to little sand, moist (CL)
B						10.5	619.4	
5	SS	26	18.9	4.0S 4.25•				Hard gray silty CLAY, trace to little sand and gravel, moist (CL)
6	ST		15.1	4.5•+	114.8			
7	SS	27	12.8	3.4S 4.0•		16.5	613.4	
8	SS	44	14.5	3.25•				Very tough to hard gray silty CLAY, little to some sand and gravel, occasional Cobbles, moist (CL)
								End of Boring at 20.0'

• Approximate unconfined compressive strength based on measurements with a calibrated pocket penetrometer.

Hammer Type: Mobile Automatic

DRILL RIG NO. 190

Division lines between deposits represent approximate boundaries between soil types ; in-situ, the transition may be gradual.

PROJECT Rand Road Flood Control, Rand Road & I-294, Des Plaines, Illinois
CLIENT Christopher B. Burke Engineering, Ltd., 9575 W. Higgins Rd, Rosemont, IL
BORING 208 DATE STARTED 4-30-98 DATE COMPLETED 4-30-98 JOB L - 43,618
ELEVATIONS: GROUND SURFACE 629.8; END OF BORING 609.8
WATER TABLE: ▼ WHILE DRILLING 5.5'; ▽ AT END OF BORING 9.0'; ▼ 24 HOURS

SAMPLE NO.	TYPE	N	WC	Q_u	ØRY	DEPTH	ELEV.	SOIL DESCRIPTIONS
1	SS	12	17.0	3.25•	118.3	1.0	628.8	FILL - Black clayey TOPSOIL (OL)
2	SS	26	19.0	2.5•	103.6			FILL - Brown and gray silty CLAY, little to some sand and gravel, trace organic, moist (CL)
						5.5	624.3	▼
3	SS	17	26.5			8.0	621.8	Firm brown silty SAND, some gravel, trace organics, saturated (SM)
4	SS	34	18.0	3.0•				
5	ST		16.3	4.5•	114.5			
6	SS	20	18.6	4.2S 4.0•				Very tough to hard gray silty CLAY, little to some sand and gravel, occasional silt seams, occasional Cobbles, moist (CL)
7	SS	28	18.7	3.5•				
8	SS	33	17.7	4.0S 4.25•				End of Boring at 20.0'

• Approximate unconfined compressive strength based on measurements with a calibrated pocket penetrometer.

Hammer Type: Mobile Automatic

DRILL RIG NO. 190

Division lines between deposits represent approximate boundaries between soil types ; in-situ, the transition may be gradual.

DESIGNED BY: _____ CHECKED BY: _____
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PROJECT Rand Road Flood Control, Rand Road & I-294, Des Plaines, Illinois

CLIENT Christopher B. Burke Engineering, Ltd., 9575 W. Higgins Rd, Rosemont, IL

BORING 209 DATE STARTED 5-1-98 DATE COMPLETED 5-1-98 JOB L - 43,618

ELEVATIONS

GROUND SURFACE 630.1

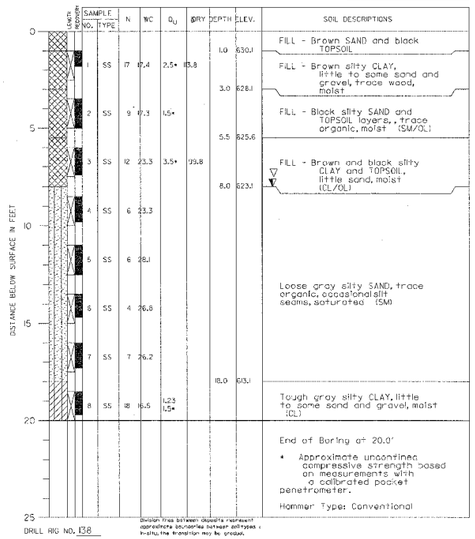
END OF BORING 611.1

WATER TABLE

▼ WHILE DRILLING 8.0'

▽ AT END OF BORING 7.5'

▼ 24 HOURS



DRILL RIG NO. 138

Division lines between deposits represent approximate boundaries between soil types : in situ, the transition may be gradual.

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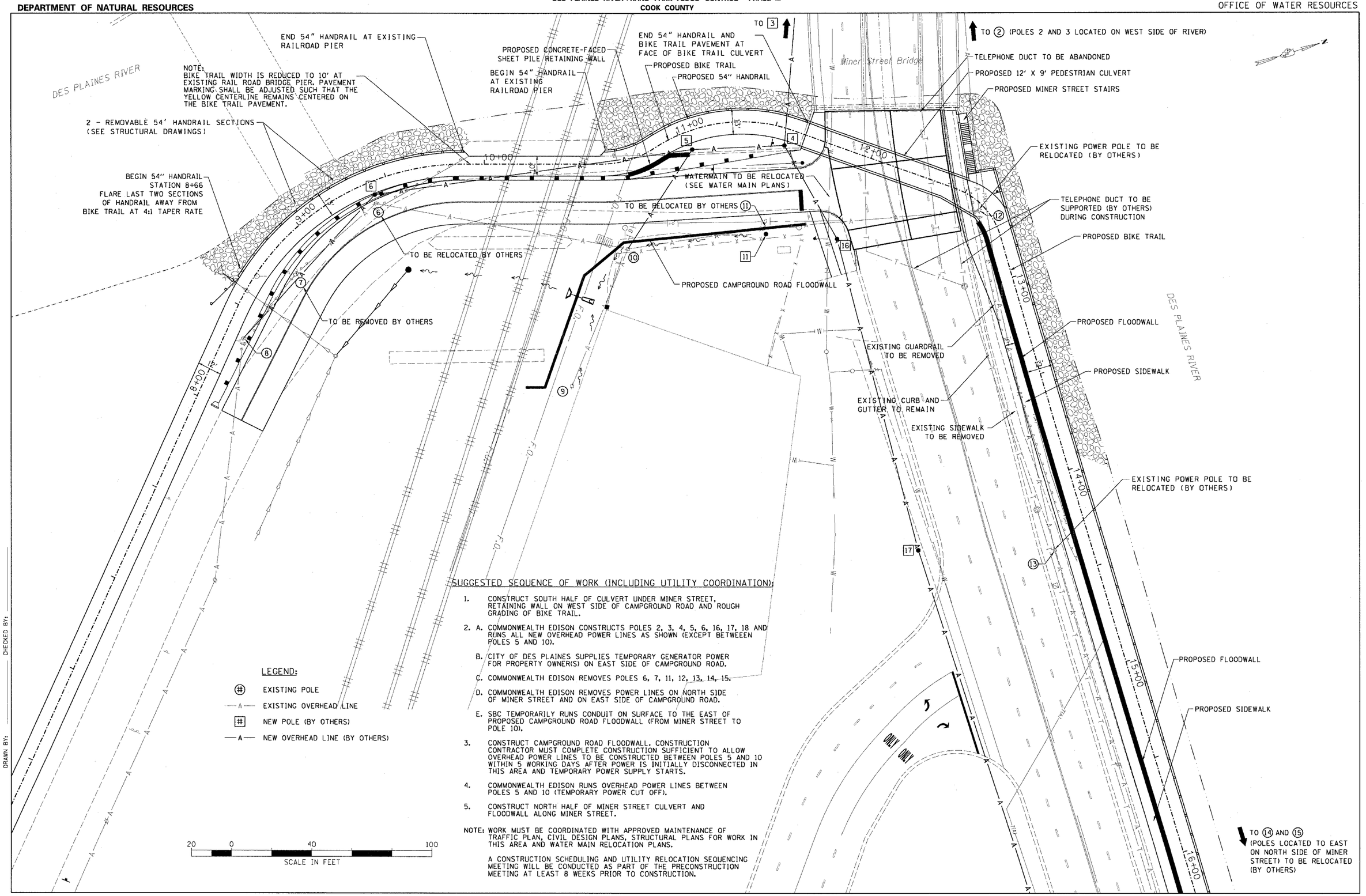
SB 9 OF 9

FR-416



LEGEND:

- (#) EXISTING POLE
- —A— EXISTING OVERHEAD LINE
- [#] NEW POLE (BY OTHERS)
- —A— NEW OVERHEAD LINE (BY OTHERS)

SUGGESTED SEQUENCE OF WORK (INCLUDING UTILITY COORDINATION):

1. CONSTRUCT SOUTH HALF OF CULVERT UNDER MINER STREET. RETAINING WALL ON WEST SIDE OF CAMPGROUND ROAD AND ROUGH GRADING OF BIKE TRAIL.
2. A. COMMONWEALTH EDISON CONSTRUCTS POLES 2, 3, 4, 5, 6, 16, 17, 18 AND RUNS ALL NEW OVERHEAD POWER LINES AS SHOWN (EXCEPT BETWEEEN POLES 5 AND 10).
   B. CITY OF DES PLAINES SUPPLIES TEMPORARY GENERATOR POWER FOR PROPERTY OWNER(S) ON EAST SIDE OF CAMPGROUND ROAD.
   C. COMMONWEALTH EDISON REMOVES POLES 6, 7, 11, 12, 13, 14, 15.
   D. COMMONWEALTH EDISON REMOVES POWER LINES ON NORTH SIDE OF MINER STREET AND ON EAST SIDE OF CAMPGROUND ROAD.
   E. SBC TEMPORARILY RUNS CONDUIT ON SURFACE TO THE EAST OF PROPOSED CAMPGROUND ROAD FLOODWALL (FROM MINER STREET TO POLE 10).
3. CONSTRUCT CAMPGROUND ROAD FLOODWALL. CONSTRUCTION CONTRACTOR MUST COMPLETE CONSTRUCTION SUFFICIENT TO ALLOW OVERHEAD POWER LINES TO BE CONSTRUCTED BETWEEN POLES 5 AND 10 WITHIN 5 WORKING DAYS AFTER POWER IS INITIALLY DISCONNECTED IN THIS AREA AND TEMPORARY POWER SUPPLY STARTS.
4. COMMONWEALTH EDISON RUNS OVERHEAD POWER LINES BETWEEN POLES 5 AND 10 (TEMPORARY POWER CUT OFF).
5. CONSTRUCT NORTH HALF OF MINER STREET CULVERT AND FLOODWALL ALONG MINER STREET.

NOTE: WORK MUST BE COORDINATED WITH APPROVED MAINTENANCE OF TRAFFIC PLAN, CIVIL DESIGN PLANS, STRUCTURAL PLANS FOR WORK IN THIS AREA AND WATER MAIN RELOCATION PLANS.

A CONSTRUCTION SCHEDULING AND UTILITY RELOCATION SEQUENCING MEETING WILL BE CONDUCTED AS PART OF THE PRECONSTRUCTION MEETING AT LEAST 8 WEEKS PRIOR TO CONSTRUCTION.

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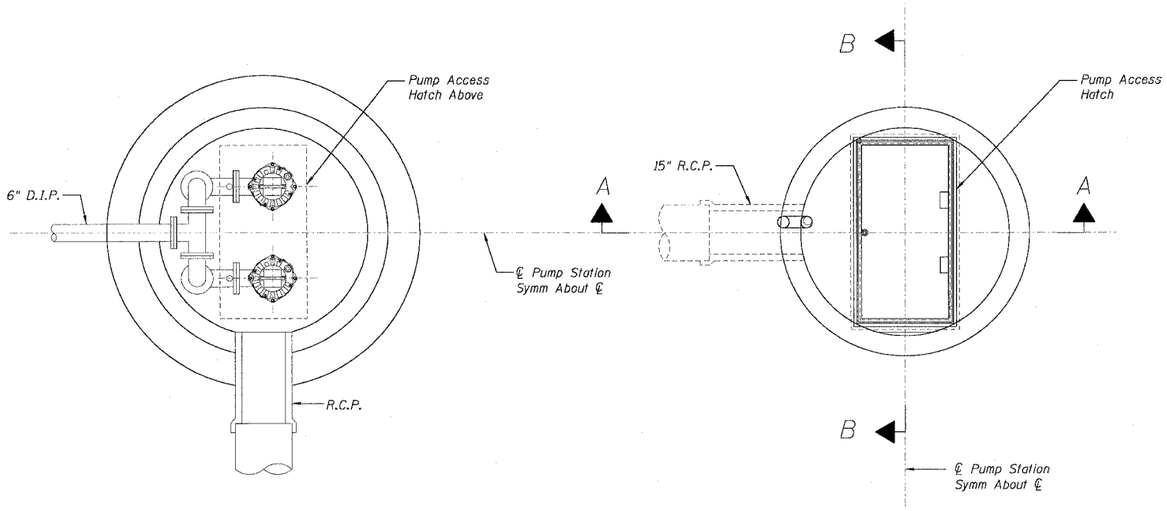
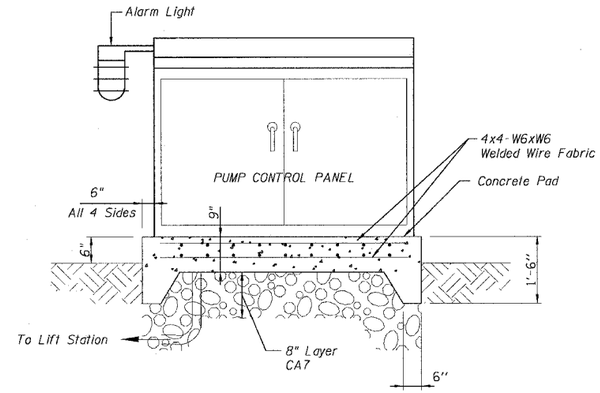
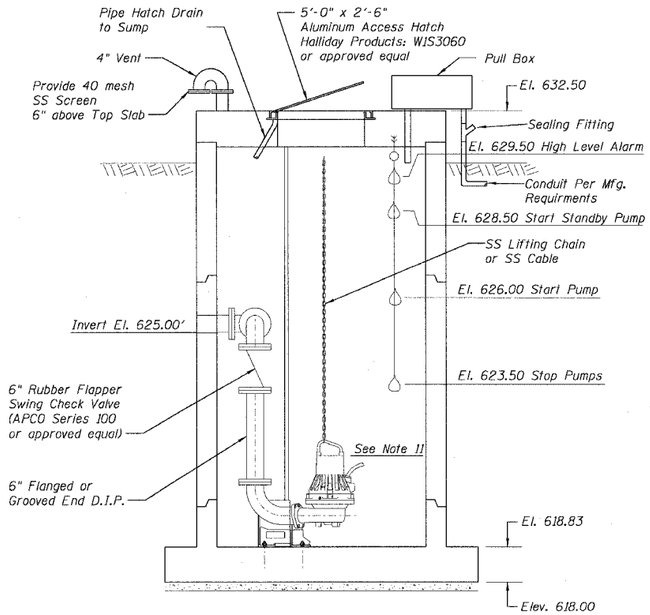


BASE PLAN

TOP PLAN

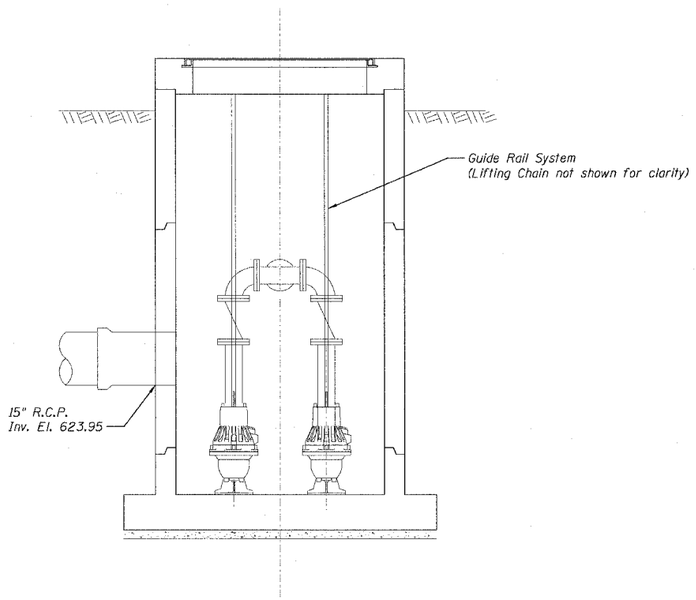


CONTROL ENCLOSURE



SECTION A-A

Invert El. 625.00'



SECTION B-B

NOTES:

1. Contractor to order control & power cords of sufficient length to reach Control Panel from point of origin on pumps without splicing.
2. All piping and valves are to be provided by the Contractor unless otherwise noted.
3. The Contractor is to verify all dimensions, elevations, piping layout and orientation of inlet, discharge and conduits.
4. All excavation for structures shall be kept dewatered during construction operations until backfill is in place. Provisions shall be made to prevent the bottom of all excavations from freezing or flooding at all times.
5. Refer to Equipment Manufacturer's drawing for size and location of all openings, anchor bolts and other miscellaneous embedded items to be incorporated into the Work and for verification of all dimensions prior to construction. Any changes shall be brought to the attention of the Engineer and shall be done at no addition cost to the Owner. All anchor bolts and embedded items shall be stainless steel Type 316 unless otherwise noted.
6. Aluminum in contact with concrete shall be isolated from the concrete with a heavy coating of asphalt or other approved bituminous material.
7. (*) denotes dimensions to be coordinated with Pump Manufacturer.
8. SS - denotes Stainless Steel.
9. See Project Specifications for requirements specific to pump, controls, and electrical components.
10. SS Victaulic Couplings may be used in place of Flanged Jointing
11. The electrical installation in the wet well shall be explosion-proof in accordance with the requirements of the National Electrical Code for Class 1, Division 2 Areas.
12. See Sheet SWPS-1 for structural details and dimensions of pump station.

DESIGNED BY: _____ CHECKED BY: _____
DRAWN BY: _____ CHECKED BY: _____

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PLANS PREPARED BY:

CTE | AECOM

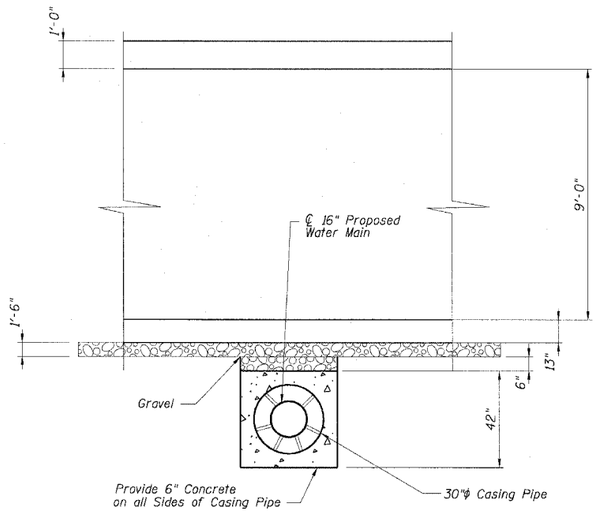
CTE
303 East Wacker Drive, Suite 600, Chicago, Illinois 60601-5276
T 312.938.0300 F 312.938.1109 www.cte.aecom.com

REVISION	
DATE	DESCRIPTION

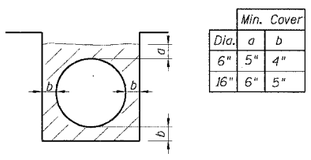
FR-416

General Notes and Suggested Sequence of Work

1. The alignment of the existing 16" water main in Miner Street is in conflict with the future alignment of the box culvert and must be lowered. In order to minimize interruption of service to the City this relocation must be accomplished in stages. Any shut down of this water main must be coordinated with the City of Des Plaines and shall be for no more than four hours. Provisions have been made within the design of this water main relocation to vent the water main during filling at both the west and east end of the pipe. It should be noted that the water main has minimal coverage at the bridge abutment. Therefore, insulation must be provided for any water main until the pipes are greater than 4 feet below the bottom of the approach slab. All work related to the relocation of the water main is to be paid under the lump sum pay item unless otherwise noted.
2. There is an existing 16" diameter water valve located within the intersection of River Road and Miner Street. A second shut-off valve is on the 12" section of pipe immediately east of the east tie-in point. These two valves were installed in about 1989, are reportedly in operating condition, and are to be used to shut off the pipe when required. The City of Des Plaines will operate all water system valves.
3. All water main to be polyethylene encased Class 52 ductile iron pipe with the exception of the pipe within the casing pipe. All pipe and fittings provided are to be provided with mechanical joints and each joint is to be restrained with Megalugs. In addition, some of the existing pipe joints are to be exposed and Megalugs Series 1100 HD are to be installed over those push joints.
4. The water main under the culvert pipe is to be installed in a 30" diameter steel casing pipe. The casing pipe is to be installed by trench method and then the trench backfilled with concrete to limits shown to provide a minimum of 6" of cover around the pipe. Provide casing spacers and end seals at ends of casing pipe. The contractor is to provide support for and protect existing water main during insulation of the by pass section of water main.
5. At east end of the proposed water main relocation a new fire hydrant is to be installed using a pressure tap so that it is ready to be used to bleed air from the system during filling. See detail this sheet.
6. A suggested sequence of work is presented in the special provisions for this pay item.

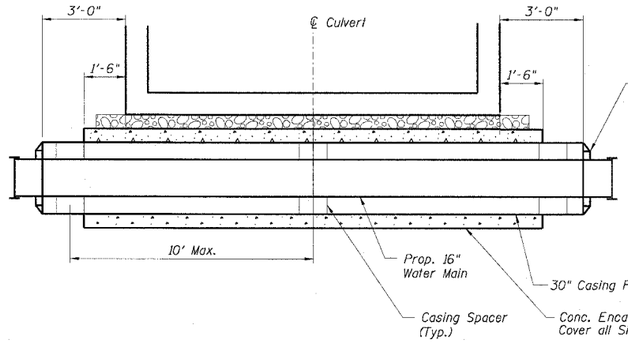


SECTION B-B

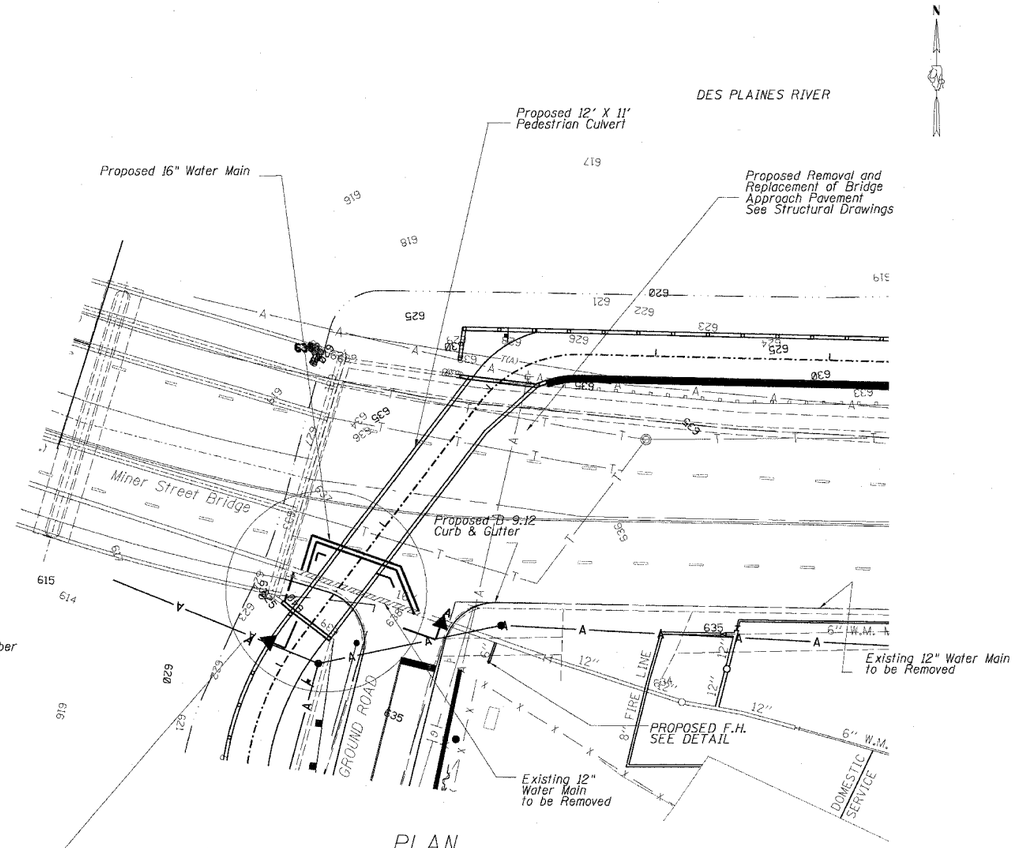


	Min. Cover	
Dia.	a	b
6"	5"	4"
16"	6"	5"

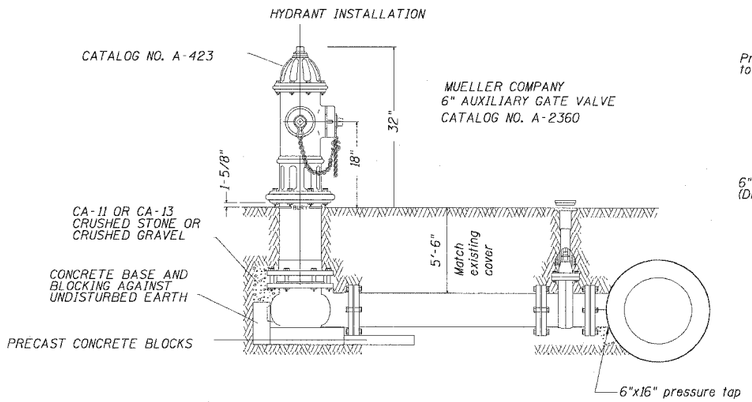
INSULATION DETAIL



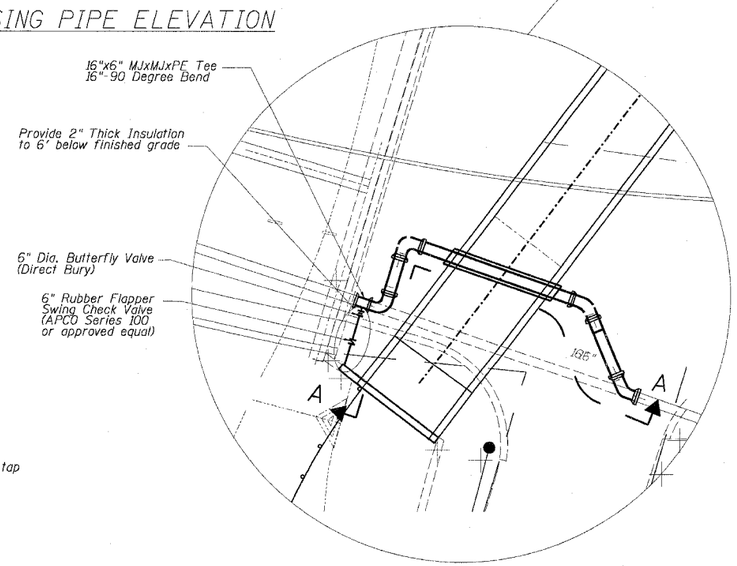
CASING PIPE ELEVATION

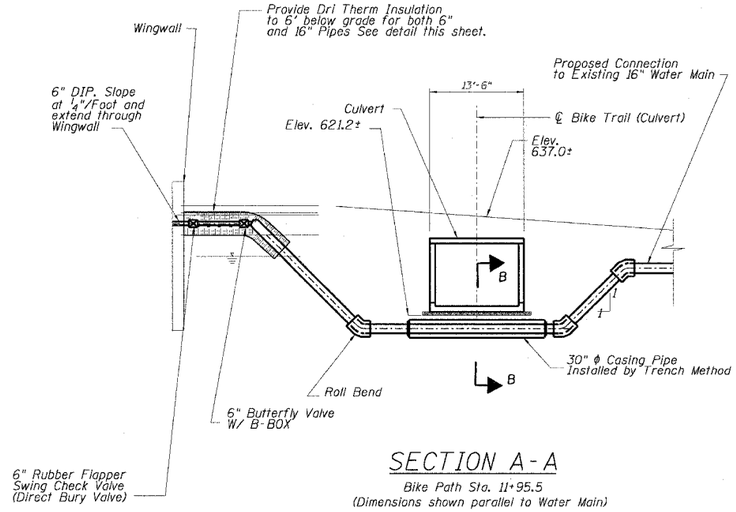


PLAN



FIRE HYDRANT DETAIL





SECTION A-A

Bike Path Sta. 11+95.5
(Dimensions shown parallel to Water Main)

CHECKED BY:
DESIGNED BY:
CHECKED BY:
DRAWN BY:

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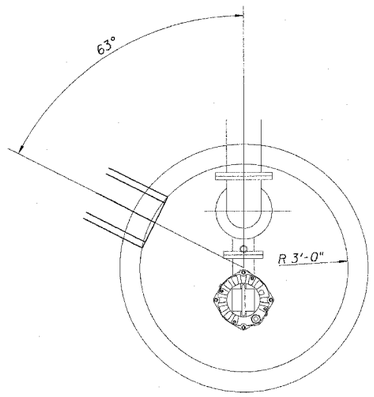
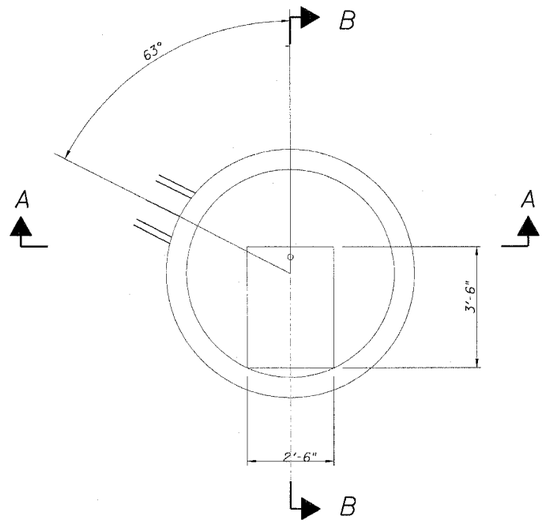
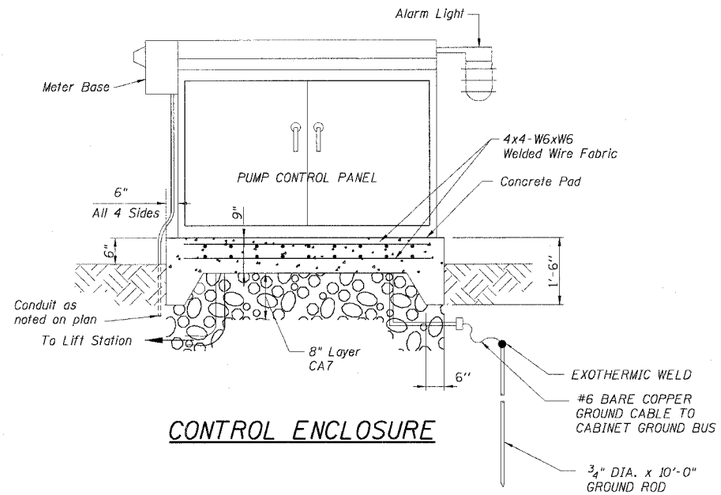


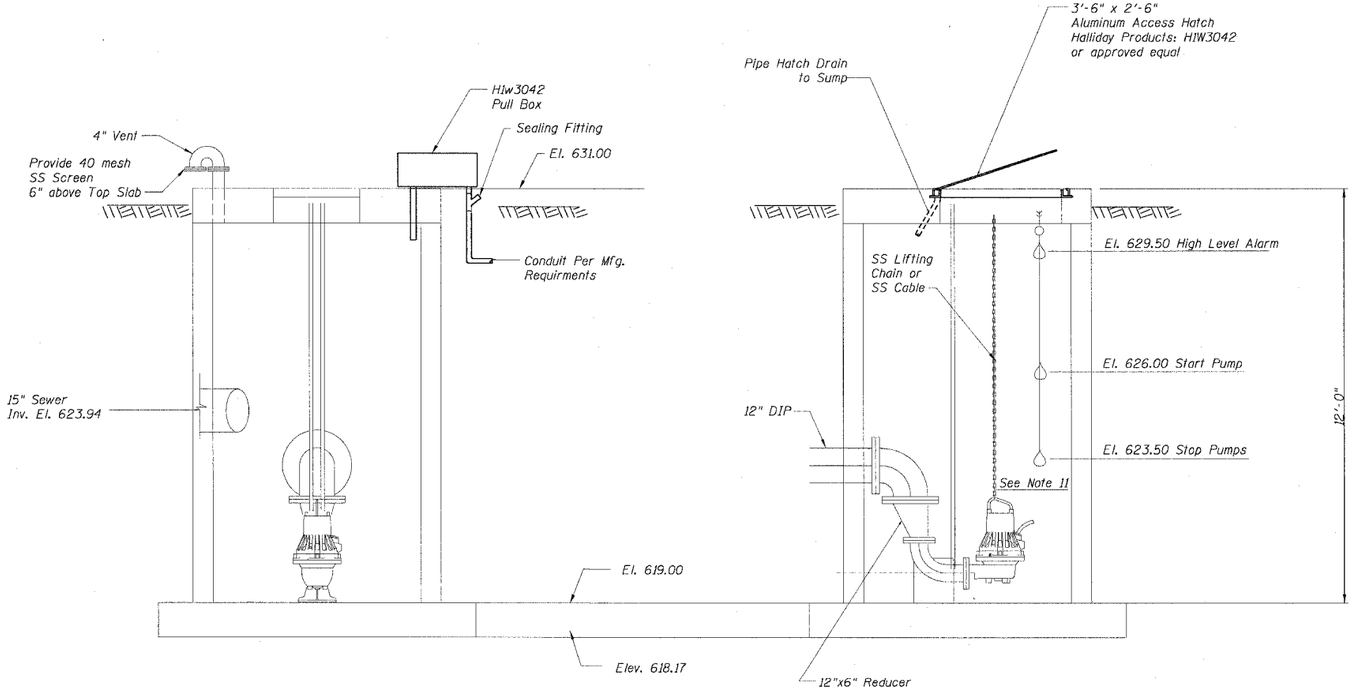
BASE PLAN



TOP PLAN



CONTROL ENCLOSURE



SECTION B-B

SECTION A-A

NOTES:

1. Contractor to order control & power cords of sufficient length to reach Control Panel from point of origin on pumps without splicing.
2. All piping and valves are to be provided by the Contractor unless otherwise noted.
3. The Contractor is to verify all dimensions, elevations, piping layout and orientation of inlet, discharge and conduits.
4. All excavation for structures shall be kept dewatered during construction operations until backfill is in place. Provisions shall be made to prevent the bottom of all excavations from freezing or flooding at all times.
5. Refer to Equipment Manufacturer's drawing for size and location of all openings, anchor bolts and other miscellaneous embedded items to be incorporated into the Work and for verification of all dimensions prior to construction. Any changes shall be brought to the attention of the Engineer and shall be done at no addition cost to the Owner. All anchor bolts and embedded items shall be stainless steel Type 316 unless otherwise noted.
6. Aluminum in contact with concrete shall be isolated from the concrete with a heavy coating of asphalt or other approved bituminous material.
7. (*) denotes dimensions to be coordinated with Pump Manufacturer.
8. SS - denotes Stainless Steel.
9. See Project Specifications for requirements specific to pump, controls, and electrical components.
10. SS Victaulic Couplings may be used in place of Flanged Jointing.
11. The electrical installation in the wet well shall be explosion-proof in accordance with the requirements of the National Electrical Code for Class I, Division 2 Areas.
12. See Sheet SWPS-1 for structural details and dimensions of pump station.
13. An Illinois licensed Structural Engineer, employed by the Contractor, shall design the Miner Street Pump Station and he shall submit sealed and signed structural calculations and drawings for review and approval. Design and construction shall conform to the Special Provision for the "MINER STREET PUMP STATION STRUCTURE".
14. Provide minimum 3" sand cushion below pump station base slab.
15. Maintain excavation dewatering to minimum 2 feet below bottom of excavation until top slab and all backfill around structure is in place.

REVISION	
DATE	DESCRIPTION

DESIGNED BY: CHECKED BY:
DRAWN BY: CHECKED BY:

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GENERAL NOTES:

1. All dimensions and elevations shown to existing construction and all existing conditions shall be assumed to be (±) and shall be verified by the Contractor prior to fabrication of material. The Contractor shall visit the site and familiarize himself with all existing conditions prior to bidding the work.

2. All elevations refer to N.A.V.D. (North American Vertical Datum).

3. All excess excavation and unsuitable materials shall be disposed of at locations provided by the Contractor at his expense and at locations inspected that have all necessary comprehensive environmental review process (CERP) approvals and have been approved by the Engineer.

4. All construction operations shall be contained within the easement area or work limits as indicated on the plans.

5. The Contractor shall submit his proposed method of maintaining channel flows to the Engineer for approval prior to beginning construction.

6. The Contractor is reminded to protect and restore at his expense, in accordance with Article 107.20 of the Standard Specifications, any private or public property, including access roads, which may be damaged or destroyed due to construction operations.

7. All utilities affected by the improvement shall be adjusted by others except as noted in the plans. Prior to beginning work in the vicinity of the utilities, the Contractor shall contact the respective owners and he shall schedule his work so as not to interfere with these adjustments.

8. Unless otherwise specified, all utilities shall be protected and not disturbed. All costs of protection shall be considered incidental to Structure Excavation, and no additional compensation will be allowed.

9. All open excavations are to be surrounded with a four feet construction fence during non-working hours. The fence material shall be approved by the Engineer. The cost shall be incidental to Structure Excavation and no additional conpensation will be allowed.

10. Contractor is responsible for the design and installation of all temporary construction required for, but not limited to, shoring, underpinning and bracing, for the protection of the existing structures or utilities whether or not shown on the contract drawings. The contractor must provide all measures and precautions necessary to prevent damage and settlement of existing or new construction inside or outside the project limits during excavation. Any damage to new or existing construction inside or outside of the project limits, caused by construction techniques or movements of the soil or structure retention system, is the responsibility of the contractor.

11. Plan Dimensions and Details relating to Existing Structures have been taken from Existing Plans and are subject to Nominal Construction Variations. It shall be The Contractor's responsibility to verify such Dimensions and Details in the Field and make necessary approved adjustments prior to Construction or ordering of Materials. Such variations shall not be cause for additional compensation or a change in the Scope of Work. However The Contractor will be paid for the Quantity actually furnished at the Unit Price for the Work.

12. Design and construction must conform to the Illinois Department of Transportation Standard Specifications for Road and Bridge Construction 2002.

13. The back face of concrete retaining walls and the flood side of flood walls below grade shall be waterproofed according to Article 503.18 of the Standard Specifications.

14. A protective coat shall be applied according to Article 503.19 of the Standard Specifications to all concrete surfaces not in contact with soil.

15. Refer to equipment Manufacturer's drawings for size and location of all openings and miscellaneous embedded items to be incorporated into the work and for verification of all dimensions prior to construction. Any changes shall be brought to the attention of the Engineer and shall be at no additional cost to the owner. All anchor bolts and embedded items shall be stainless steel Type 316 unless otherwise noted.

16. Aluminum in contact with concrete shall be isolated from the concrete with a heavy coating of asphalt or other approved bituminous material.

17. Brace all walls until concrete slabs at top of walls have been in place for minimum 14 days and test cylinders show a minimum strength of 3500 psi or more in compression.

18. (*) - Dimensions noted thus indicate dimensions to be determined by equipment Manufacturer or dimensions to be verified in field based on existing contruction.

REINFORCED CONCRETE:

1. Design and construction shall conform to the latest Building Code Requirements for structural concrete of the American Concrete Institute (ACI 318) unless otherwise noted.

2. Arrangement and details of reinforcing steel, including bar supports and spacers, shall be in accordance with the latest A.C.I. Detailing Manual unless otherwise noted.

3. All slab and beam reinforcement shall have a minimum extension into the support in accordance with the latest A.C.I. Code. If such extention is not possible, bars shall terminate in standard hooks.

4. Reinforcing bars shall conform to the requirements of AASHTO M31, or M322 grade 60. All reinforcing bars shall be epoxy coated unless otherwise noted.

5. Unless otherwise shown, the cover for reinforcing steel shall be as follows:

concrete cast against and permanently exposed to earth.....3"
primary reinforcement in walls and slabs.....2"
primary reinforcement in beams and columns.....2½"
stirrups, ties, and spirals.....2"

6. Horizontal and vertical construction joints shown or noted on the plans are recommended. Any deviation from those shown must have approval of the Engineer.

7. Class SI concrete shall be used, unless otherwise noted. Concrete shall have a minimum compressive strength of 4000 psi at 28 days unless otherwise noted.

8. All exposed edges of slabs, walls, and curbs must be chamfered ¾" unless other members are erected flush with them.

9. Any stop in framed concrete work must be made in the center of the span and incorporate an approved keyway. Reinforcement shall extend through these joints if required for continuity.

10. Concrete walls and slabs shall be poured in maximum lengths of 50 feet between construction joints, except where otherwise noted.

11. Allow minimum 72 hours to elapse prior to placing concrete in adjacent wall and slab pours.

STRUCTURAL STEEL

1. Structural steel shall conform to the latest AISC "Specification for the design, fabrication and erection of structural steel for buildings" and the Illinois Department of Transportation Standard Specifications for Road and Bridge Construction 2002.

2. All structural steel must be AASHTO M 183 grade 36.

3. Hollow structural steel tubes (HSS) shall be ASTM A500, grade B, Fy = 46 KSI.

4. Fasteners shall be galvanized high strength bolts M20, ⅞" diameter, unless otherwise noted.

5. Field connections shall be bolted except as otherwise shown or noted.

6. All welding shall conform to the latest specification of the American Welding Society, AWS D1.1 or D1.6 except as otherwise shown or noted. All welded connections shall be made with AWS A5.1 or A5.5 E70xx electrodes or low carbon content electrodes for welding stainless steel to stainless steel or stainless steel to low carbon steel, minimum 70 ksi tensile strength, E309L or E316L. All welding must be continuous unless otherwise noted.

7. Anchor bolts and miscellaneous embedded steel.....ASTM A36 except as otherwise shown or noted.

8. The inorganic zinc rich primer/acrylic paint system shall be used for shop and field painting of new structural steel except where otherwise noted. The color of the final finish coat for all steel surfaces shall be dark gray, munsel No N 3.75, unless otherwise noted.

9. Dissimilar metals shall be separated from each other with approved gaskets or coatings to prevent galvanic corrosion.

10. All equipment, anchor bolt dimensions and locations shall be verified from certified vender drawings, prior to construction.

FOUNDATIONS:

1. Allowable soil bearing pressure, excavation and backfill for foundations and structures shall be as shown on the contract drawings and specifications.

2. Groundwater information at this location is included in the geotechnical report. All excavation for structures must be kept dewatered during construction operations until backfill is in place and provisions must be made to prevent the bottom of all excavations from freezing or flooding at all times. The Contractor will be responsible for protecting the structure against floatation or uplift during construction.

3. Backfill material, placing and compaction of backfill shall be in accordance with the contract drawings and specifications. Place backfill equally on both sides of foundation walls, sheet piling and structures and/or excavate equally on all sides of existing structures to prevent imposing unbalanced forces on structures.

4. Backfill shall be hand tamped to achieve a degree of compaction greater than or equal to that specified for the levee embankment.

TEMPORARY SHEET PILING AND TEMPORARY SOIL RETENTION SYSTEM:

1. The contractor must design all temporary sheet piling and temporay soil retention systems and submit drawings and design calculations prepared by a structural engineer licensed in the State of Illinois for the Engineer's review according to section 105.04 of the Illinois Department of Transportation Standard Specifications. The submittal must also include the contractor's method of installation and removal of sheeting.

2. Minimum section modulus and estimated tip elevations of temporary sheet piling shall be as shown on the plans. The top of the sheeting must be at least 6 inches above existing pavement, unless otherwise noted.

3. Miner St. Culvert: Stay-in-place lagging is required when construction is switched from stage I to stage II. It is the contractor's responsibility to provide a design for the stay-in-place lagging complete with calculations and drawings, signed and stamped by a structural engineer licensed in the State of Illinois, for the Engineer's review according to Article 105.04 of the Standard Specifications. The cost of designing, furnishing and installing the stay-in-place lagging is included in the cost of Temporary Soil Retention System.

4. The Contractor shall monitor vibration and movement of existing structures and utilities and limit the Pile Hammer size selected considering the relative proximity of existing structures and utilities.

FLOODWALL:

1. Stations and offsets are measured from ℄ Bikepath to the back face (River side) of Flood Wall.

2. All construction joints shall be bonded.

3. The Contractor shall monitor vibration and movement of existing structures and utilities and limit the Pile Hammer size selected considering the relative proximity of existing structures and utilities.

4. The Contractor must be responsible for all temporary bracings required to maintain structural stability until completion of the project. The Contractor is required to provide temporary support of the sheet pile wall and modular concrete retaining wall during construction with supplemental bracing and supports.

5. The contractor may encounter obstructions along sheet pile driving line. Refer to the specifications for driving sheet piles in these situations and coordinate work with the Engineer.

6. All metal sheet piling shall conform to the requirements of ASTM A-328, Grade 50 (AASHTO M202).

7. See specification for waterstop material for sheet pile walls. The Contractor must submit the procedure for installing waterstop material and installation of the sheeting for approval.

8. The Contractor must field verify all utility locations. Sheet piling locations may need to be adjusted, if necessary to avoid utility interference in accordance with specifications and as approved by the Engineer. See Civil drawing for utilities.

9. All welding must be performed by certified welders in accordance with the latest specification of the American Welding Society Standard, AWS D1.1. All welding connections must be made with AWS A5.1 or A5.5 E70xx electrodes.

SUGGESTED FLOODWALL CONSTRUCTION SEQUENCE:

1. As required, clean site in general by removing obstructions from sheet pile driving line.

2. Drive sheet pile wall.

3. Excavate up to bottom of the concrete cap elevation along both sides of the sheet-pile wall. Temporary sheet pile or temporary soil retention system may be required along both sides. Install temporary sheeting as required to enclose portion of floodwall receiving concrete caps. Enclosed area between temporary sheeting and sheet pile wall may need to be dewatered to construct concrete cap. Cost of temporary sheeting and any dewatering, as necessary, will not be measured for payment and is included in Cost of the Steel Sheet Piling.

4. Construct concrete caps along both sides of the sheet pile wall.

5. Backfill up to the elevations shown on the Civil Plans on both sides of the sheet pile Floodwall. Place backfill equally on both sides of sheet piling where backfill exists on both sides.

DESIGNED BY: AAG/DPV CHECKED BY: AAG/DPV
DRAWN BY: RJ CHECKED BY: AAG/DPV

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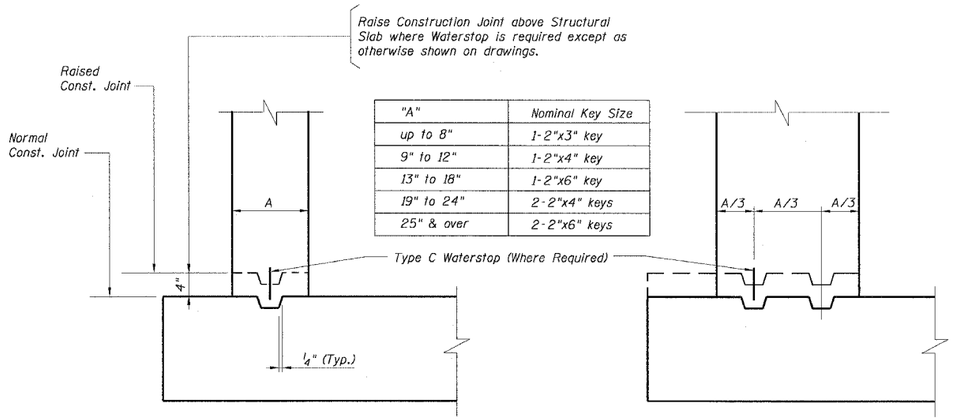
DATE	DESCRIPTION

SCALE: NONE

SGND-1

FR-416

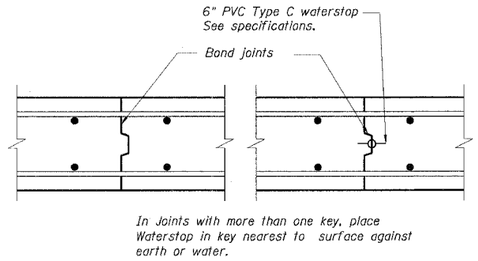
STRUCTURAL GENERAL NOTES



"A"	Nominal Key Size
up to 8"	1-2"x3" key
9" to 12"	1-2"x4" key
13" to 18"	1-2"x6" key
19" to 24"	2-2"x4" keys
25" & over	2-2"x6" keys

Number and size of keys shown apply to joints in slabs and to both vertical and horizontal joints in walls except otherwise noted on drawings.

CONSTRUCTION JOINTS
KEY DETAILS

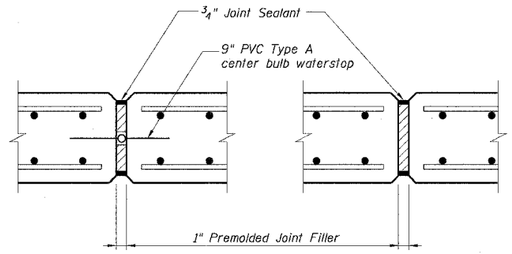


In Joints with more than one key, place Waterstop in key nearest to surface against earth or water.

Reinforcing steel is continuous through Construction Joint

TYPE C1 TYPE C2

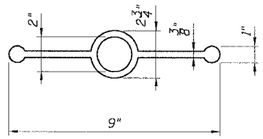
CONSTRUCTION JOINTS



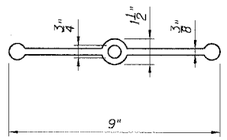
Chamfer expansion joints in walls and ceilings for floor joints use edger instead of chamfering

TYPE E1 TYPE E2

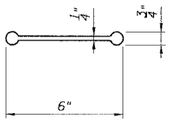
EXPANSION JOINTS



TYPE A
FOR EXPANSION JOINTS



TYPE B
FOR CONTRACTION JOINTS



TYPE C
FOR CONSTRUCTION JOINTS

WATERSTOP DETAILS

ABBREVIATIONS:

Add'l.	Additional	Min.	Minimum
Alt.	Alternate	Mtl.	Metal
Arch.	Architectural	Opng.	Opening
Brg.	Bearing	PL	Plate
Bm.	Beam	P.V.C	Polyvinyl Chloride
Bot.	Bottom	R	Radius
Bldg.	Building	Reinf.	Reinforcement
Col.	Column	Sect.	Section
Cont.	Continuous	Std.	Standard
Det.	Detail	Stl.	Steel
Dia.	Diameter	S.S.	Stainless Steel
Dwg.	Drawing	Sym.	Sysmmetrical
Dwl.	Dowel	Typ.	Typical
O.A.	Overall	Vert.	Vertical
℄	Center line	W.W.F.	Welded Wire Fabric
Conc.	Concrete	T/	Top of
Ctr'd.	Centered	B/	Bottom of
E.F.	Each Face	U.O.N.	Unless Otherwise Noted
E.W	Each Way	V.I.F.	Verify in Field
El.	Elevation		
Exp.	Expansion		
Ext.	Exterior		
Ftg.	Footing		
H.P.	High point		
I.D.	Inside Diameter		
I.F.	Inside Face		
O.F.	Outside Face		
Int.	Interior		
L.P.	Low Point		
Max.	Maximum		
Mech.	Mechanical		
Mfr.	Manufacturer		

LEGEND

- Existing concrete structure
- New concrete structure
- Existing structure to be removed

DESIGNED BY: AAC/DPV CHECKED BY: DPV/AAC
DRAWN BY: RJ CHECKED BY: AAC/DPV

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PLANS PREPARED BY:
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REVISION	
DATE	DESCRIPTION

SCALE: NONE

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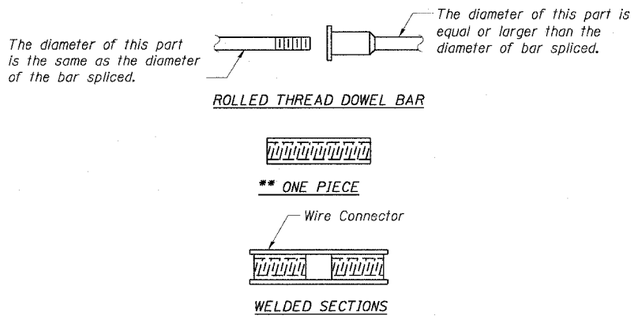
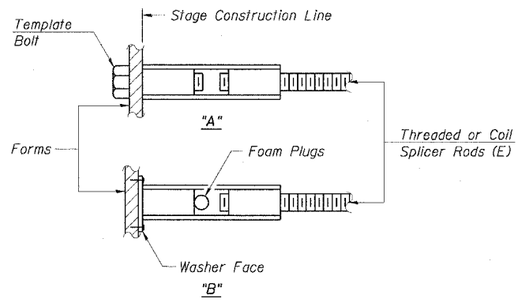


BAR SPLICER ASSEMBLY ALTERNATIVES

** Heavy Hex Nuts conforming to ASTM A 563, Grade C, D or DH may be used.



INSTALLATION AND SETTING METHODS

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

NOTES

Bar splicer assemblies shall be of an approved type and shall develop in tension at least 125 percent of the yield strength of the lapped reinforcement bars.

Splicer rods shall be of minimum 60 ksi yield strength, threaded or coiled full length.

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

Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars.

Other systems of similar design may be submitted to the Engineer for approval. Approval shall be based on certified test results from an approved testing laboratory that the proposed bar splicer assembly satisfies the following requirements:

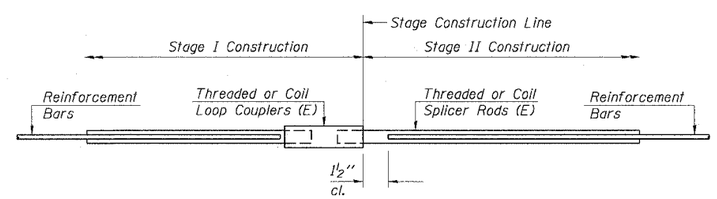
① Minimum Capacity (Tension in kips) = $1.25 \times fy \times A_t$

② Minimum *Pull-out Strength (Tension in kips) = $1.25 \times fs_{allow} \times A_t$

Where fy = Yield strength of lapped reinforcement bars in ksi.
fs_{allow} = Allowable tensile stress in lapped reinforcement bars in ksi (Service Load)
A_t = Tensile stress area of lapped reinforcement bars.
* = 28 day concrete

BAR SPLICER ASSEMBLIES			
Bar Size to be Spliced	Splicer Rod or Dowel Bar Length	Strength Requirements	
		Min. Capacity kips - tension	Min. Pull-Out Strength kips - tension
#4	1'-8"	14.7	5.9
#5	2'-0"	23.0	9.2
#6	2'-7"	33.1	13.3
#7	3'-5"	45.1	18.0
#8	4'-6"	58.9	23.6
#9	5'-9"	75.0	30.0
#10	7'-3"	95.0	38.0
#11	9'-0"	117.4	46.8

Bar splicer assemblies shall be according to Section 508 of the Standard Specifications, except as noted. The furnishing and installation of bar splicer assemblies will be measured and paid for at the contract unit price each for "BAR SPLICERS unless otherwise noted."



STANDARD

Bar Size	No. Assemblies Required	Location
#4	12	Appr. Slab
#5	48	Appr. Slab
#5	24	Conc. Pad
#4	13	Culvert
#5	26	Culvert
#6	20	Culvert
#7	13	Culvert

BAR SPLICER ASSEMBLY DETAILS

DESIGNED BY: MWB CHECKED BY: DC
DRAWN BY: RJ CHECKED BY: DC

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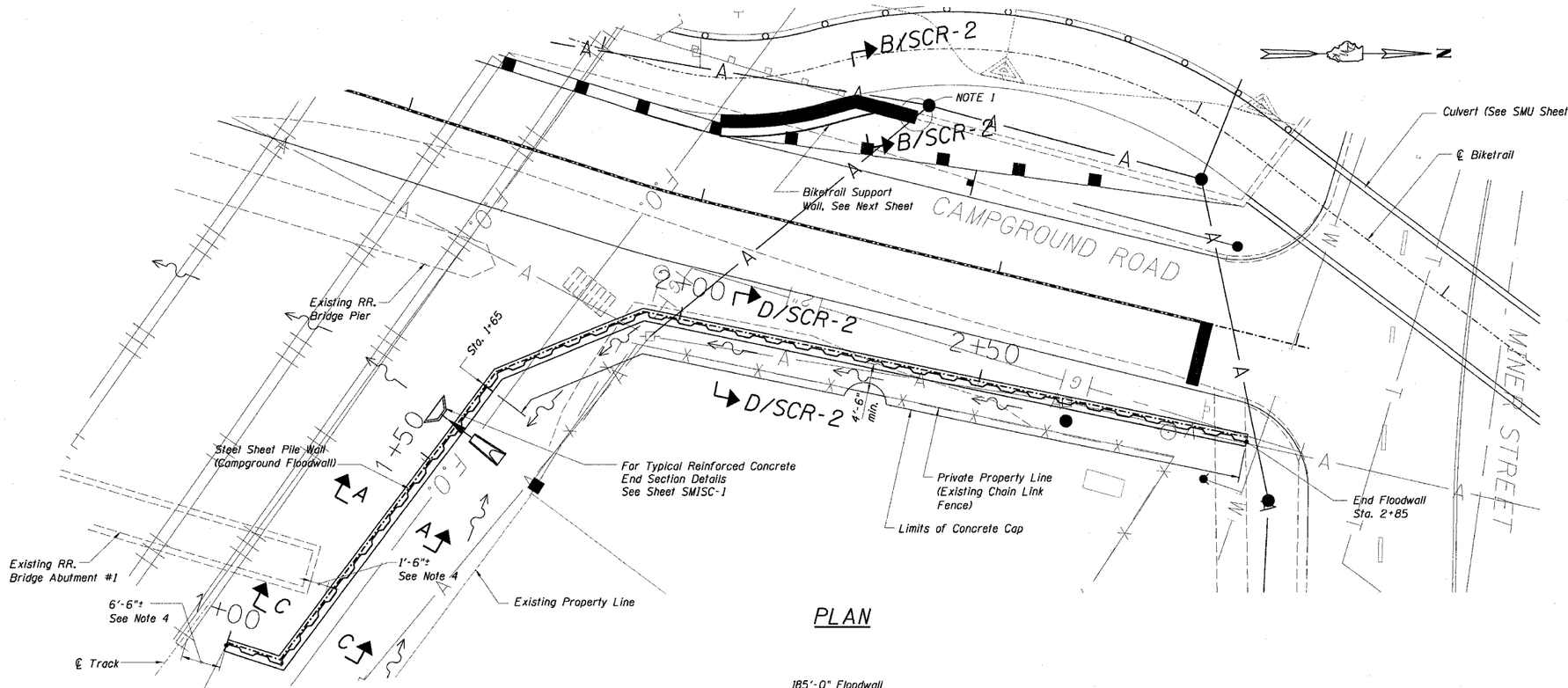
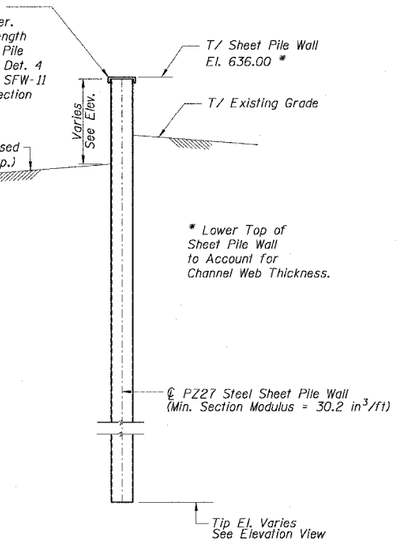
DATE	DESCRIPTION

SCALE: NONE

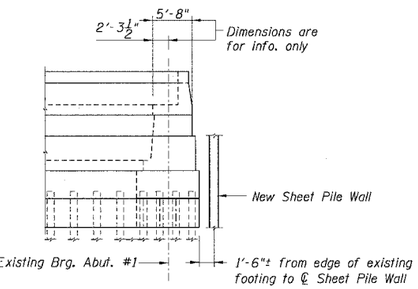
SGND-3 FR-416



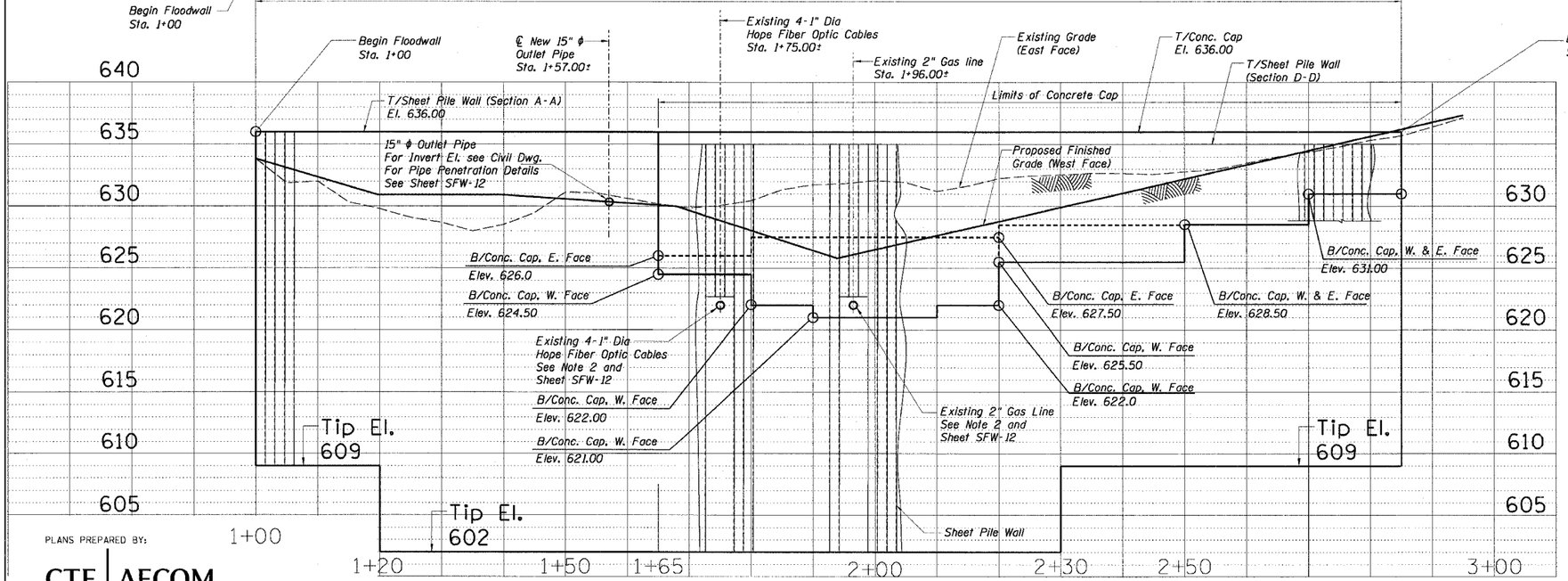
PLAN



SECTION A-A



SECTION C-C



PROFILE GRADE
CAMPGROUND ROAD FLOODWALL

NOTES:

1. See Detail 1 on SFW-10 for a similar Joint between Bike Trail Support Wall and Existing Retaining Wall.
2. The location and depth of fiber optic cables and gas line are approximate. The Contractor shall locate the cables and gas line before beginning work on Sheet Pile Retaining wall and shall avoid damaging cable. Sheet piling shall be driven to 18" clear of cable and gas line vertically and horizontally. City of Des Plaines and Utilities must be contacted before any work begins around gas main or fiber optic cables. City of Des Plaines shall coordinate work between the Utilities.
3. Provide steel walers and connections at locations shown in the Plan. Cost of walers and connections is considered included with steel sheet piling.
4. Union Pacific Railroad must be contacted and work must be coordinated with this Agency before performing any work near railroad tracks.
5. For Floodwall Details see SFW Sheets.

LEGEND:

West Face (T/Ground)
East Face (T/Ground)

REVISION	
DATE	DESCRIPTION

DESIGNED BY: GEC/OPV CHECKED BY: GEC/OPV
DRAWN BY: RJ/EMT CHECKED BY: OPV

PLANS PREPARED BY:

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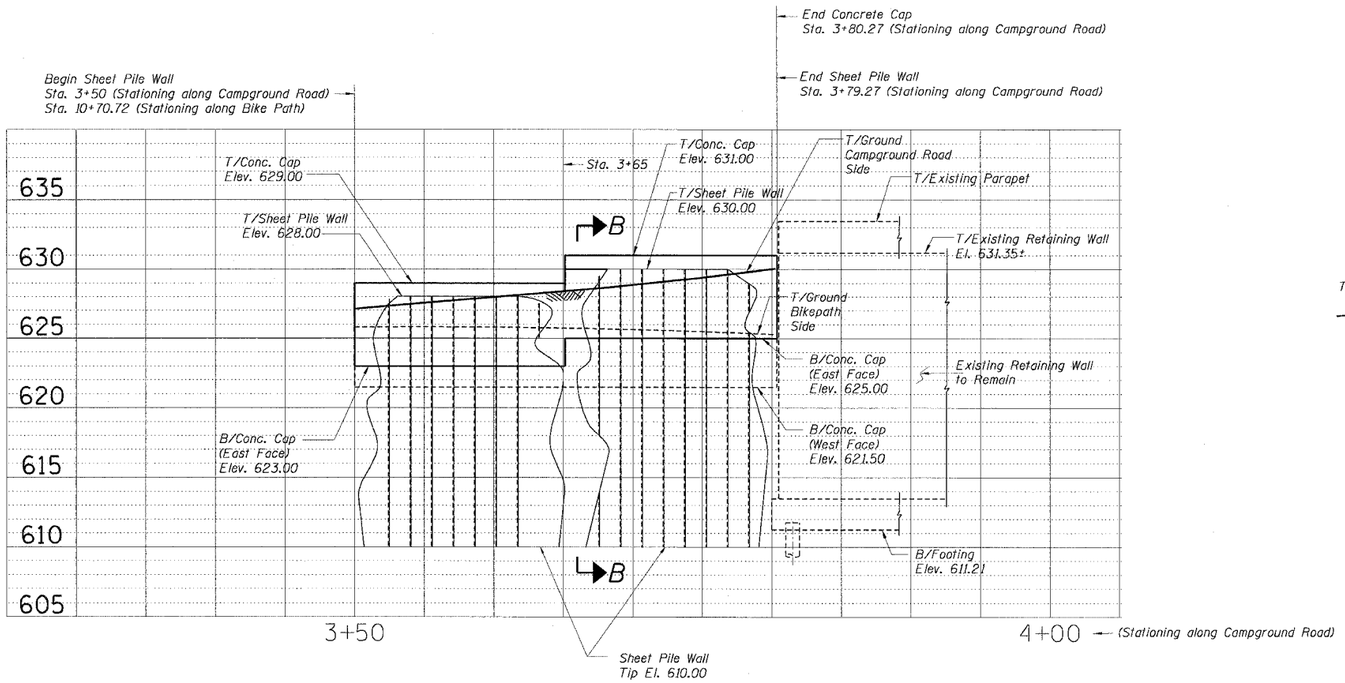
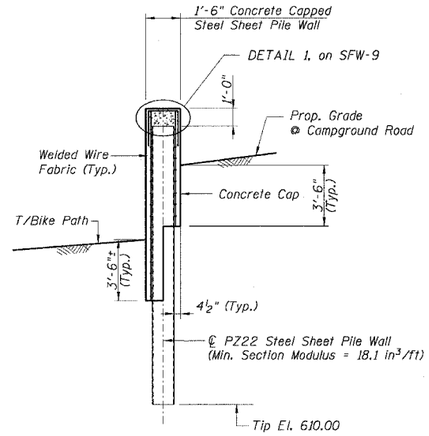
SCR-1

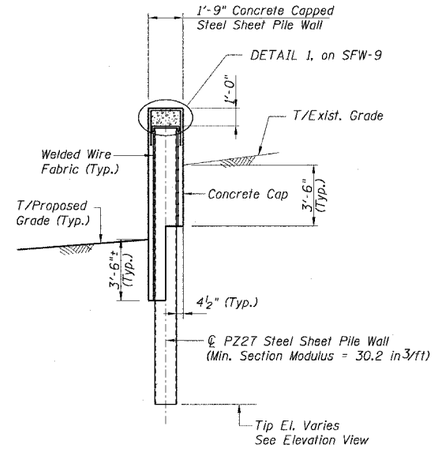
FR-416



PROFILE GRADE
BIKE TRAIL SUPPORT WALL FOR CAMPGROUND ROAD



SECTION B-B



SECTION D-D

NOTES:

1. For Welded Wire Fabric and Shear Studs Details for Concrete Cap, See Floodwall Sheets.
2. For Form Liner Finish, Limits and Details see Floodwall Sheets. Apply Form Liner Finish on both sides of Concrete Cap.

BILL OF MATERIAL

Item	Units	Quantity
Structure Excavation	Cu. Yd.	95
Concrete Structures	Cu. Yd.	82
Architectural Concrete Form Liner Finish	Sq. Ft.	605
Protective Coat	Sq. Yd.	210
Steel Sheet Piling	Sq. Ft.	6200
Reinforcement Bars, Epoxy Coated (Icluding Welded Wire Fabric)	Pound	4570
Stud Shear Connectors	Each	860

DESIGNED BY: GEC/DVP CHECKED BY: DPV
DRAWN BY: RJ/EMT CHECKED BY: DPV

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SCR-2
FR-416

CAMPGROUND ROAD FLOODWALL SECTIONS AND DETAILS

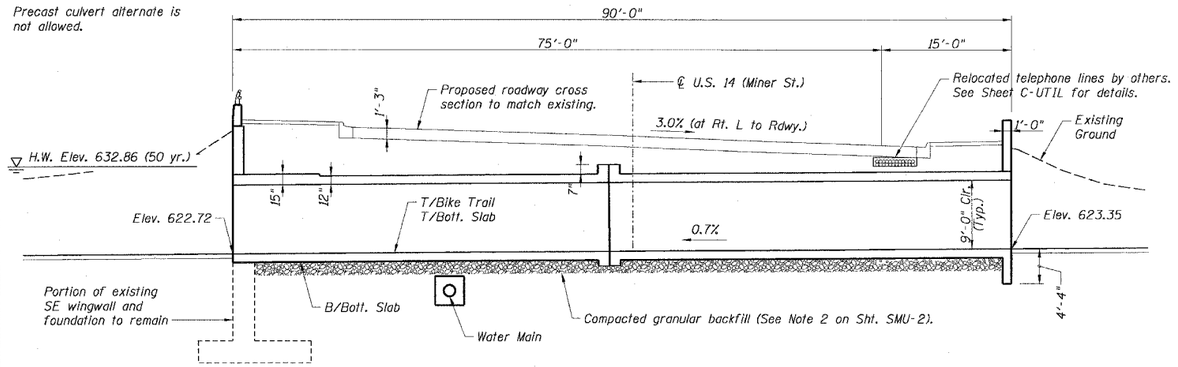
Bench Mark: T.B.M. #1 Chiseled "□" on W. End of E. Upstream Wingwall of Miner/Northwest Hwy. Bridge over Des Plaines River
Elev. 639.04

Existing Structure: Existing SE wingwall and East Approach Pavement of Miner St. bridge will be partially demolished to accomodate culvert.

Salvage: Remove and reuse aluminum railing on SE wingwall. Costs of removing and erecting salvaged railing shall be considered incidental to Concrete Superstructure.

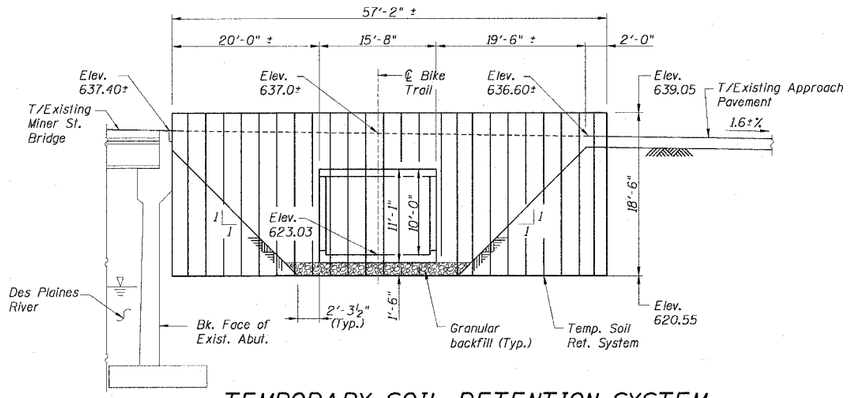
Culvert will be constructed in stages.

Precast culvert alternate is not allowed.



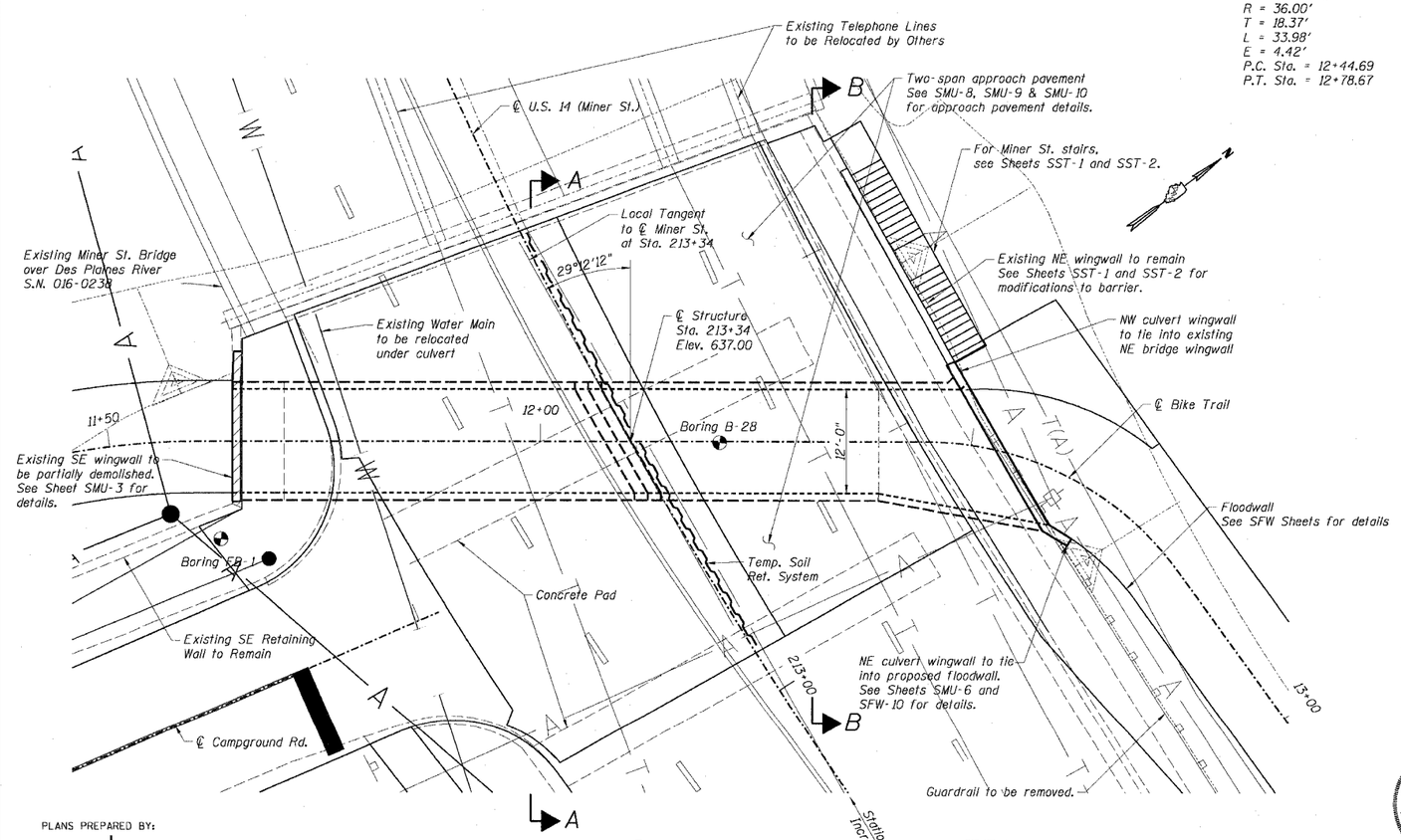
LONGITUDINAL SECTION

(Looking West)



TEMPORARY SOIL RETENTION SYSTEM

Dimensions measured along skewed stage line. (Looking North)



PLAN

NOTES:

1. See Sheet SMU-10 for Sections A-A and B-B.
2. See Sheet C-UTIL for utility coordination.

CURVE DATA BIKE TRAIL

P.I. Sta. = 12+63.07
Δ = 54°04'31"
D = 159°09'18"
R = 36.00'
T = 18.37'
L = 33.98'
E = 4.42'
P.C. Sta. = 12+44.69
P.T. Sta. = 12+78.67

CURVE DATA MINER ST.

P.I. Sta. = 213+81.55
Δ = 23°56'45"
D = 10°25'03"
R = 550.00'
T = 116.63'
L = 229.86'
E = 12.23'
P.C. Sta. = 212+64.92
P.T. Sta. = 214+94.78
S.E. = 3.0%

DESIGN SPECIFICATIONS

2002 AASHTO "Standard Specifications for Highway Bridges"

DESIGN STRESSES

FIELD UNITS
f 'c = 3,500 psi
f y = 60,000 psi (Reinforcement)

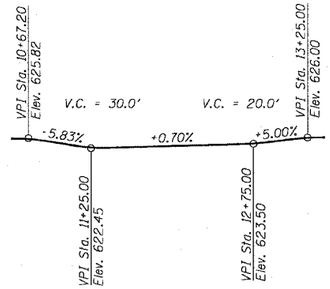
LOADING HS20-44

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

WATERWAY INFORMATION

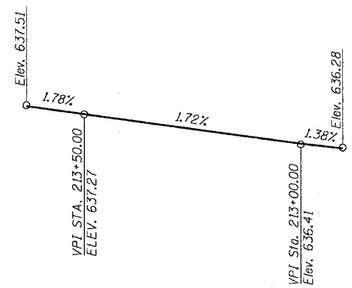
Drainage Area = 400 sq. mi. Low Grade Elev. = 641.12

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft. Exist.	Opening Sq. Ft. Prop.	Nat. H.W.E.	Head - Ft. Exist.	Head - Ft. Prop.	Headwater El. Exist.	Headwater El. Prop.
	10	4487	1617	1710	631.11	0.00	0.00	631.11	631.11
Design	50	5765	1800	1908	632.86	0.11	0.07	632.97	632.93
Base	100	6223	1800	1908	633.43	0.14	0.10	633.57	633.53
Overtopping	<500								
Max. Calc.	500	7144	1800	1908	634.68	0.21	0.16	634.89	634.84



PROFILE GRADE

Along ℄ Bike Trail



PROFILE GRADE

℄ Miner St.

LICENSED STRUCTURAL ENGINEER
BRIAN J. MALONE
081-006002
STATE OF ILLINOIS

Brian J. Malone
BRIAN J. MALONE

11 / 30 /06
EXPIRES
01 /31 /06
DATE

REVISION	
DATE	DESCRIPTION

SMU–1

SCALE: NONE

FR-416

PLANS PREPARED BY:

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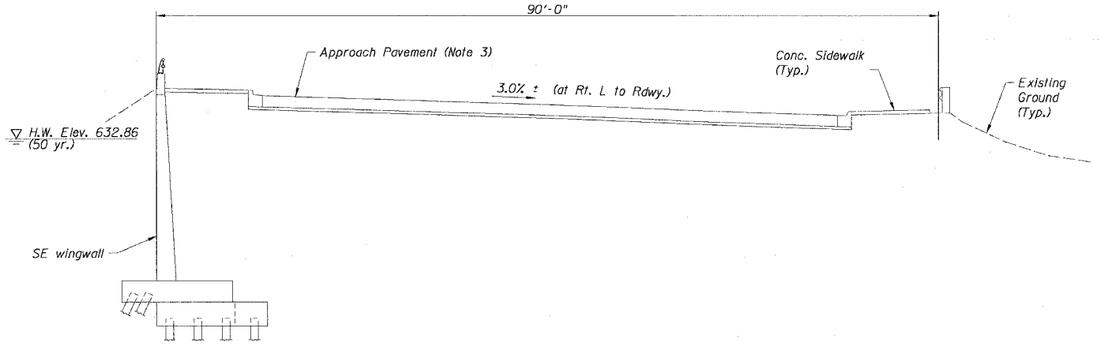
DRAWN BY: MMB/RJ CHECKED BY: BJM

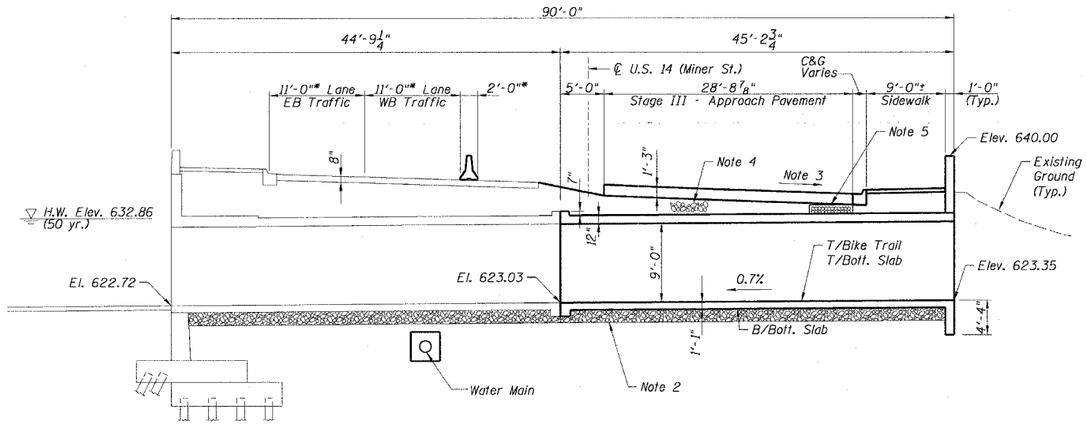
01/31/2006 11:05:13 AM p:\p60003332\structsht\03s097-SMU-1.sht

MINER ST. CULVERT GENERAL PLAN AND ELEVATION



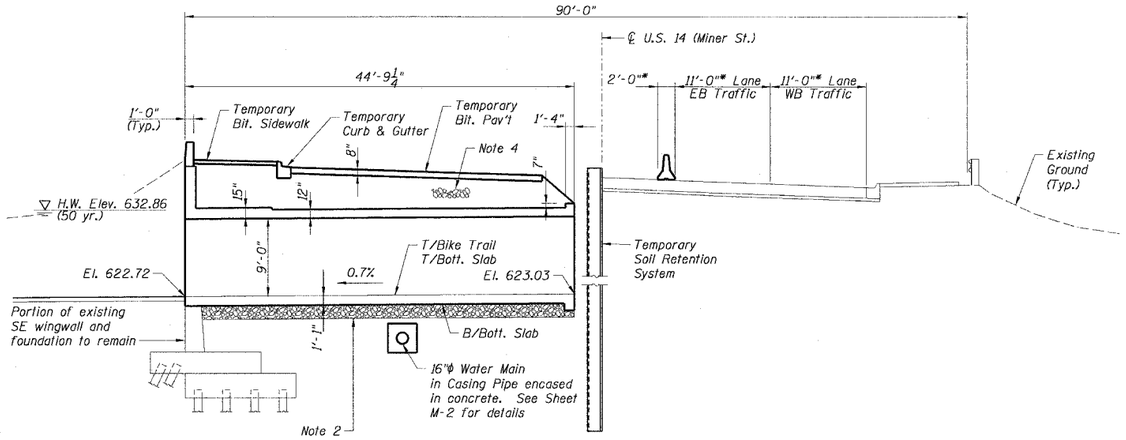
EXISTING CONDITIONS THRU ℄ PROPOSED CULVERT

(Looking West)



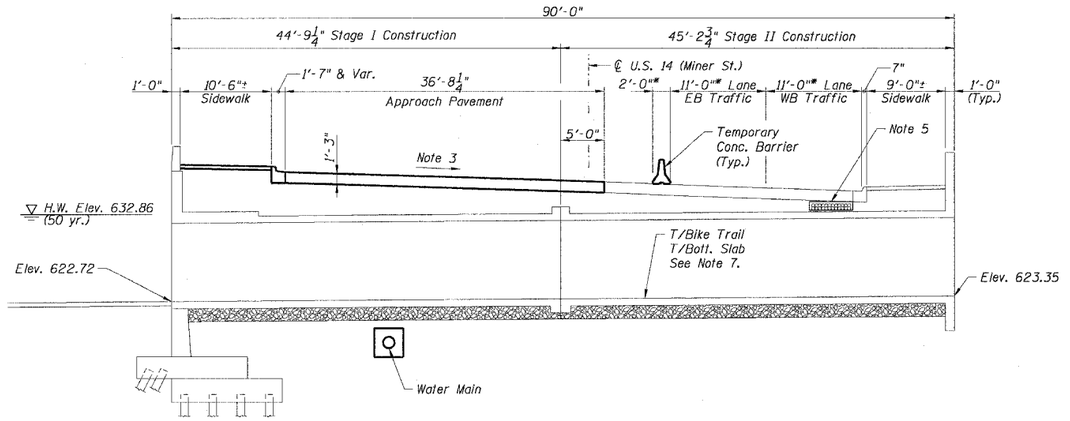
STAGE II CROSS SECTION THRU ℄ PROPOSED CULVERT

(Looking West)



STAGE I CROSS SECTION THRU ℄ PROPOSED CULVERT

(Looking West)



STAGE III CROSS SECTION THRU ℄ PROPOSED CULVERT

(Looking West)

*Dimensions shown at Right Angles to Roadway

NOTES:

1. See Sheets C-21 thru C-22 for Maintenance of Traffic plans.
2. Excavate 1'-6" below bottom of bottom slab and replace with 1'-6" compacted granular backfill meeting IDOT gradation CA-6. Backfill shall be placed in 9" lifts and compacted to 90% of ASTM D-1557 density. Place geotextile with the following properties on subgrade before placing backfill: Grab Tensile = 160 lbs. Mullen Burst Burst = 280 psi. Trapezoidal tear = 60 lbs. A.O.S. 70. The quantity and cost of over-excavation below bottom of bottom slab shall be included in Structure Excavation. Backfill and geotextile will not be measured for payment. Cost of backfill and geotextile shall be included with cost of Concrete Box Culverts.
3. See Sheet C-13 for approach pavement elevations. Coordinate roadway and sidewalks with Civil sheets.
4. See Sheet SMU-10 for pay limits of Sub-base Granular Material, Type B.
5. Relocated telephone lines by others. Not all utilities are shown on this sheet. See Sheet C-UTIL for utility coordination.
6. Waterproofing Membrane System shall be applied to outside faces of culvert walls, top of culvert top slab and back face of wingwalls.
7. Broom finish the top of the bottom slab to match the broom finish of the adjacent bike trail pavement.

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DRAWN BY: MMB/RJ CHECKED BY: BJM

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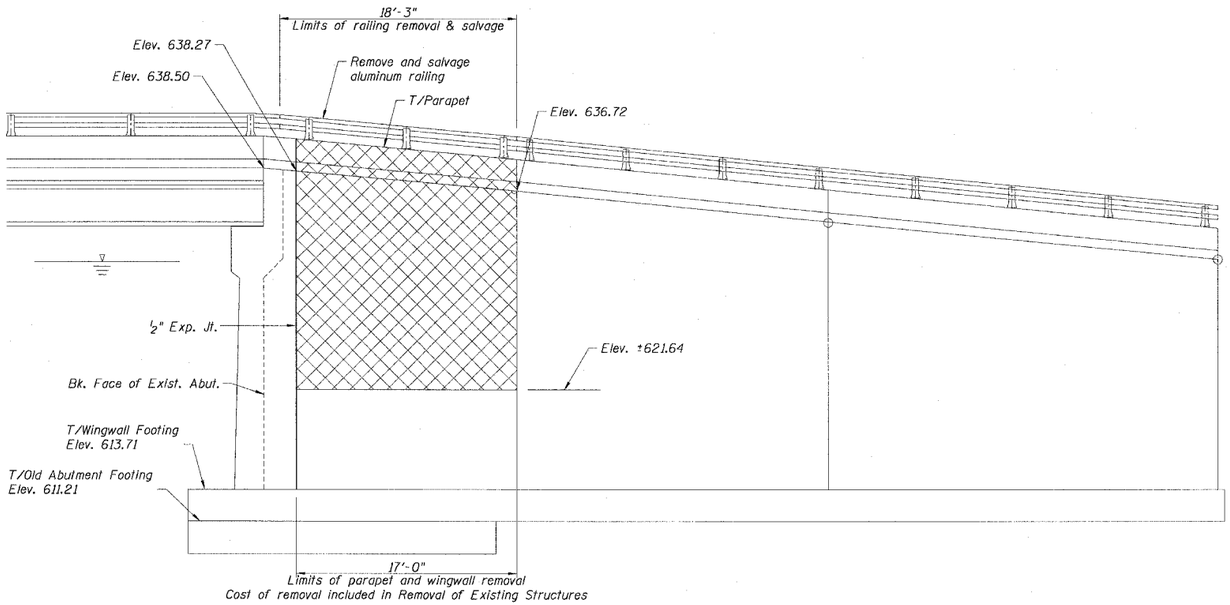
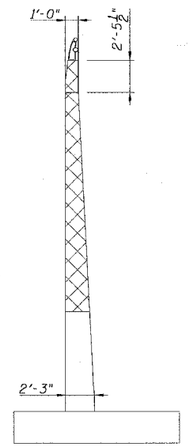
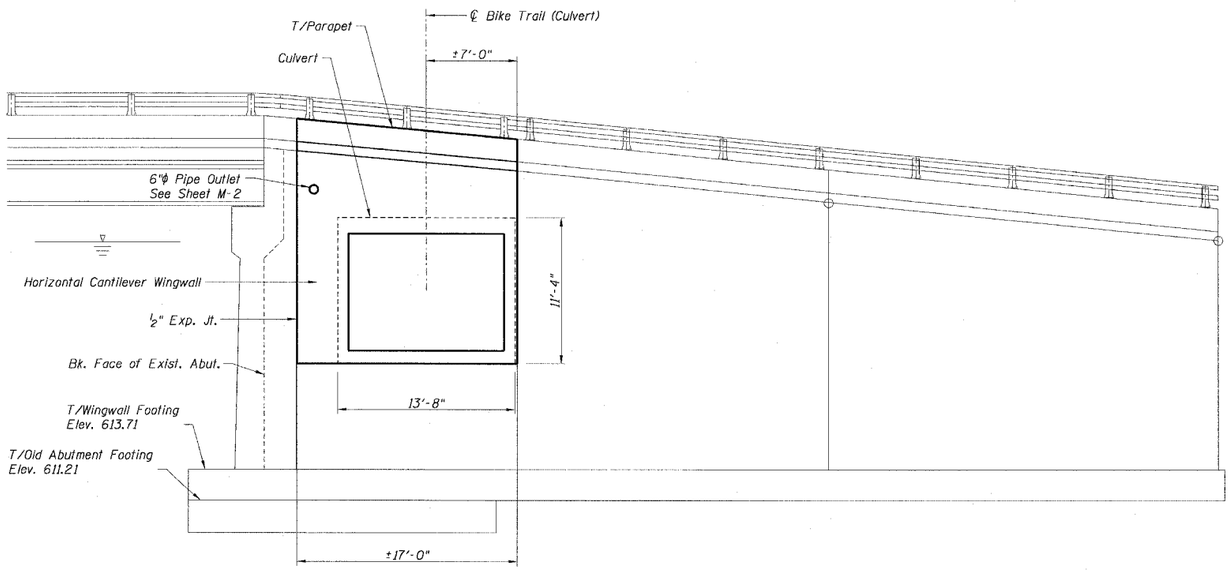
MINER ST. CULVERT CONSTRUCTION STAGING



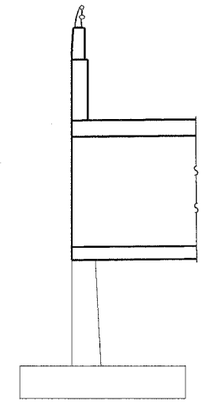
EXISTING SOUTHEAST WINGWALL ELEVATION - DEMOLITION



EXISTING SOUTHEAST WINGWALL SECTION - DEMOLITION



EXISTING SOUTHEAST WINGWALL ELEVATION PROPOSED CULVERT, HEADWALL & PARAPET



EXISTING SOUTHEAST WINGWALL SECTION - PROPOSED CULVERT

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DRAWN BY: MWB/RJ CHECKED BY: BJM

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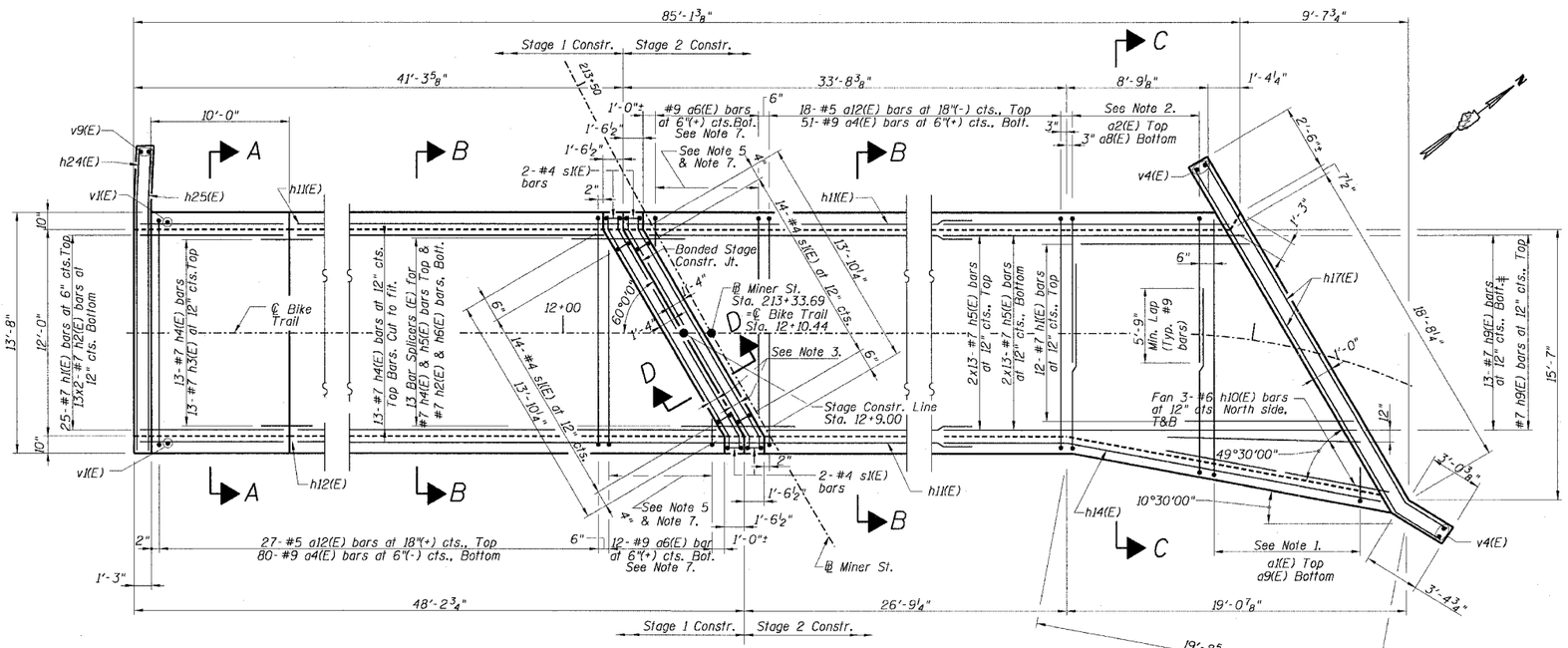
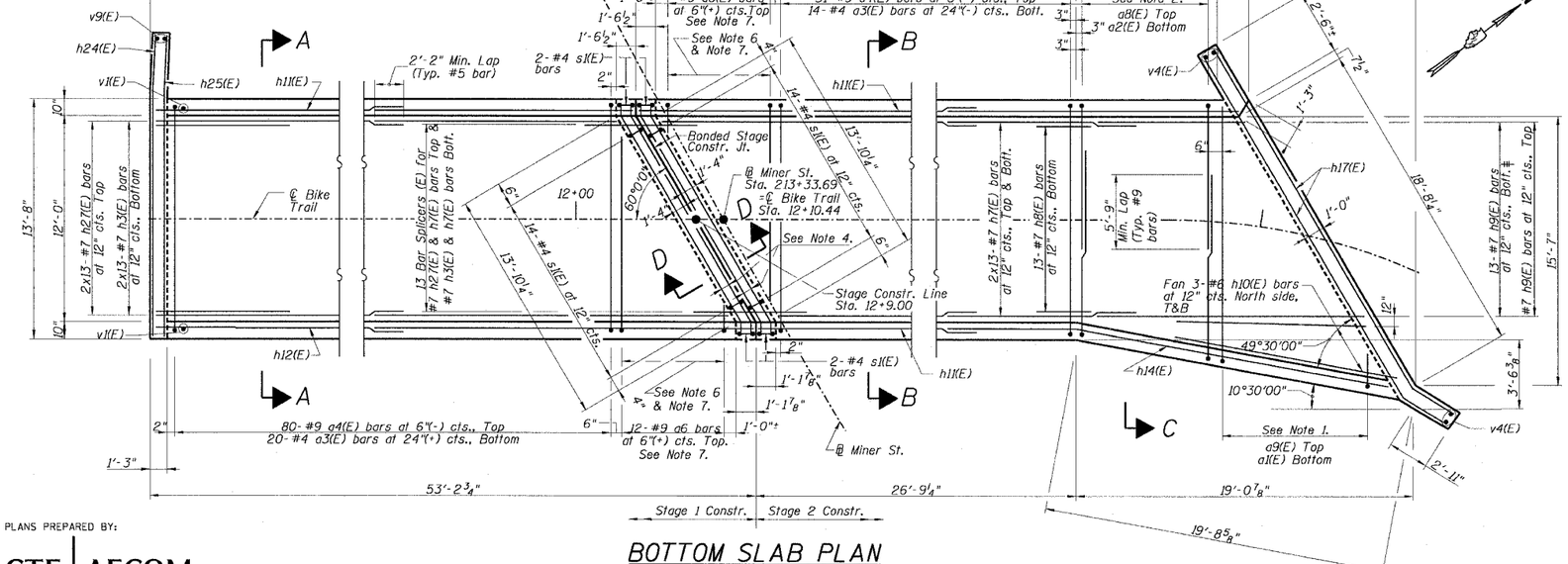
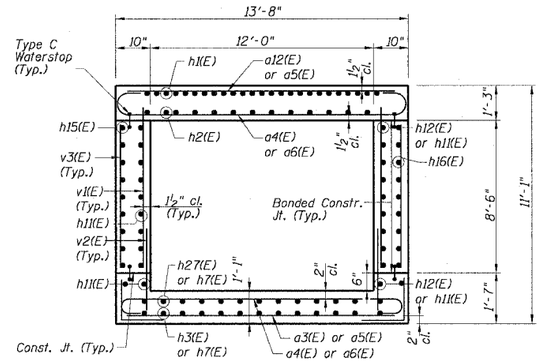
SMU-3 FR-416



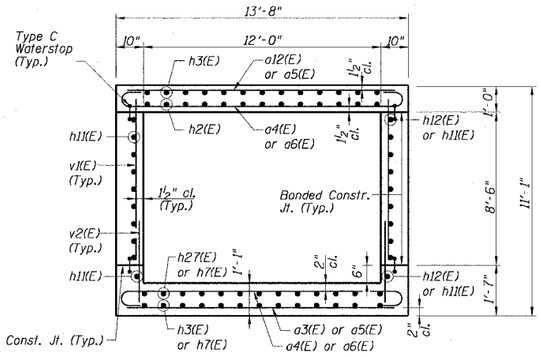
TOP SLAB PLAN



BOTTOM SLAB PLAN



SECTION A-A



SECTION B-B

NOTES:

1. Order full length of a1(E) and a9(E) bars. Using the cutting diagram on Sheet SMU-7, place 6-#5 a1(E) bars at 18" cts. as top reinf. and 19-#9 a9(E) at 6" cts. as bottom reinf. in the top slab. Place remaining a1(E) at 18" cts. as bottom reinf. and remaining a9(E) bars at 6" cts. as top reinf. in the bottom slab.
2. Order full length of a2(E). Using the cutting diagram on Sheet SMU-7, place 7-#5 a2(E) bars at 18" cts. as top reinf. and 2 x 18-#9 a8(E) at 6" cts. as bottom reinf. in the top slab. Place remaining a2(E) at 18" cts. as bottom reinf. and 2 x 18-#9 a8(E) bars at 6" cts. as top reinf. in the bottom slab.
3. 2-#6 a10(E) Top, 4-#10 a1(E) Bottom.
4. 2-#6 a10(E) Bottom, 4-#10 a1(E) Top.
5. 4-#5 a5(E) bars, at 22"(+) cts., Top
6. 4-#5 a5(E) bars, at 22"(+) cts., Bottom
7. a5(E) & a6(E) bars shall be ordered full length and cut to fit. Balance of bar to be used on opposite side of Stage Constr. Joint. See Cutting Diagram on Sheet SMU-7.
8. h9(E) bars shall be ordered full length. Balance of bar to be used in the top layer. See Cutting Diagram on Sheet SMU-7.
9. For Sections C-C and D-D, See Sheet SMU-5.
10. For Waterstop Details, see Sheet SGND-2.

REVISION	
DATE	DESCRIPTION

DESIGNED BY: MMB CHECKED BY: BJM
DRAWN BY: RJ CHECKED BY: BJM

PLANS PREPARED BY:

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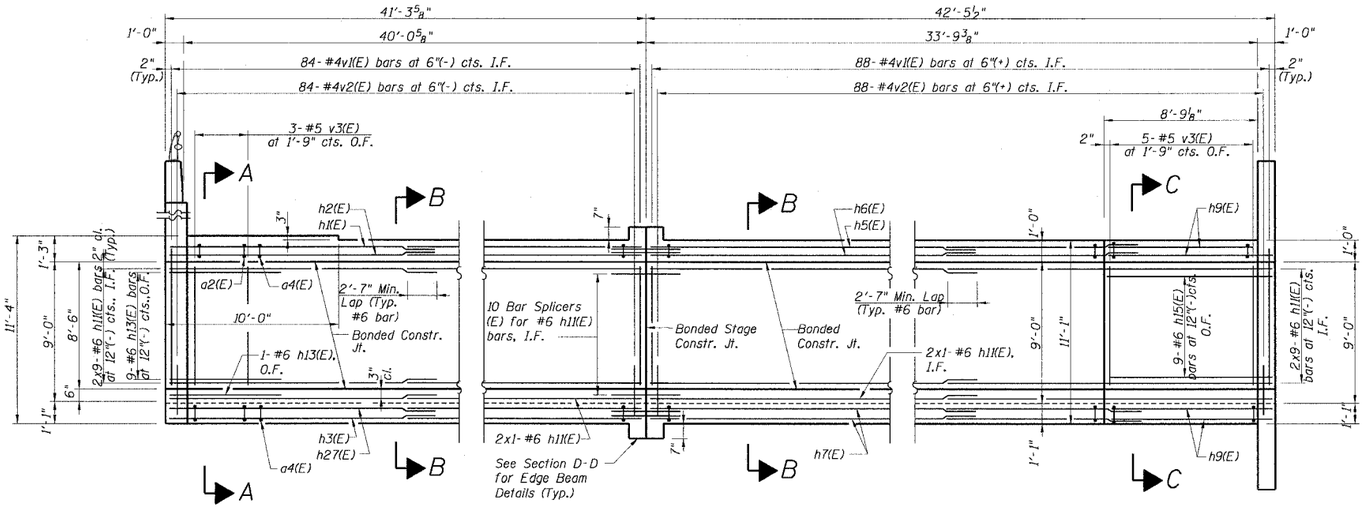
SCALE: NONE

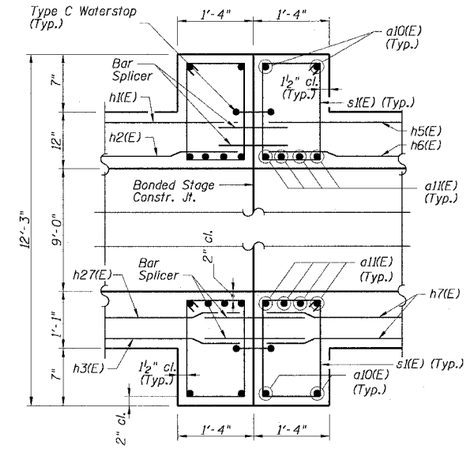
SMU–4 FR-416

MINER ST. CULVERT SECTIONS AND DETAILS



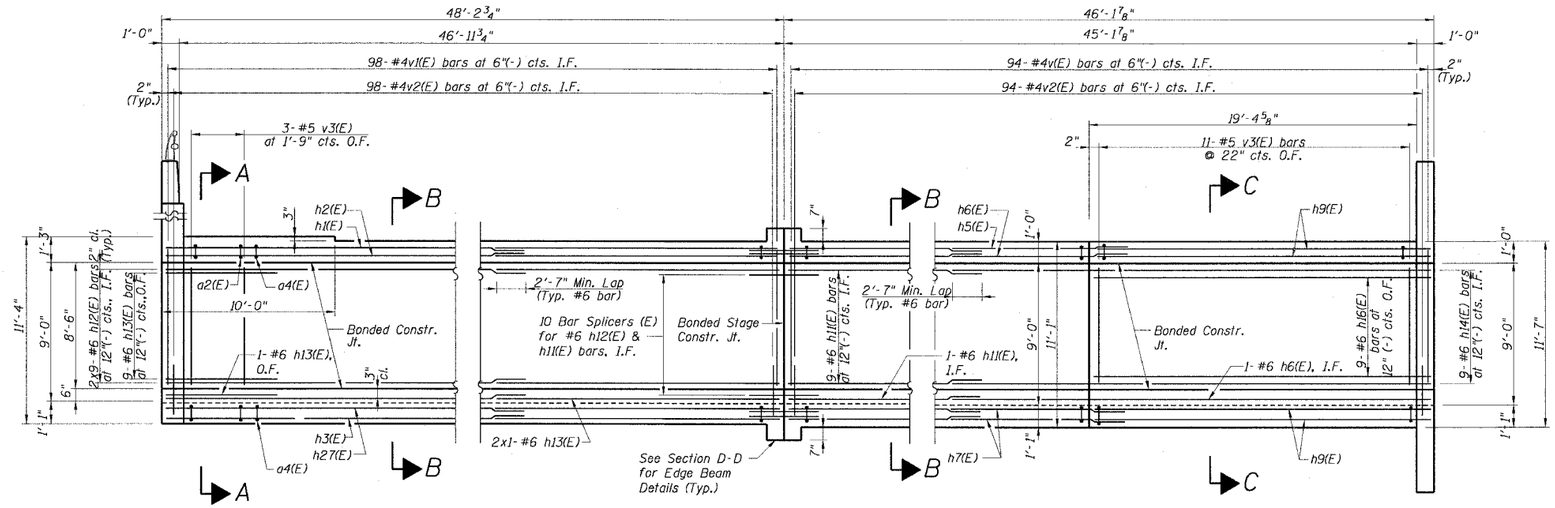
WEST WALL ELEVATION

(Looking West)
Dimensions shown along skew
Headwall reinforcement not shown for clarity.



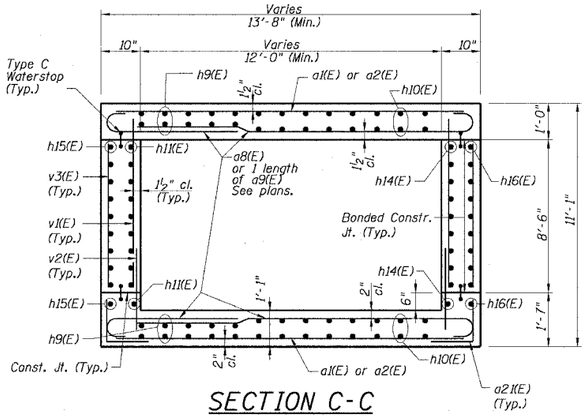
SECTION D-D

Type C Waterstop shall also be installed in vertical construction joints at stage construction line.



EAST WALL ELEVATION

(Looking West)
Dimensions shown along skew
Headwall reinforcement not shown for clarity.



SECTION C-C

(Wall dimensions measured perpendicular to walls)

NOTES:

1. O.F. denotes Outside Face
2. I.F. denotes Inside Face
3. E.F. denotes Each Face
4. For Sections A-A & B-B, see sheet SMU-4.
5. For Location of Section D-D, see Sheet SMU-4.
6. For Waterstop Details, see Sheet SGND-2.

REVISION	
DATE	DESCRIPTION

DESIGNED BY: MWB CHECKED BY: BJM
DRAWN BY: RJ CHECKED BY: BJM

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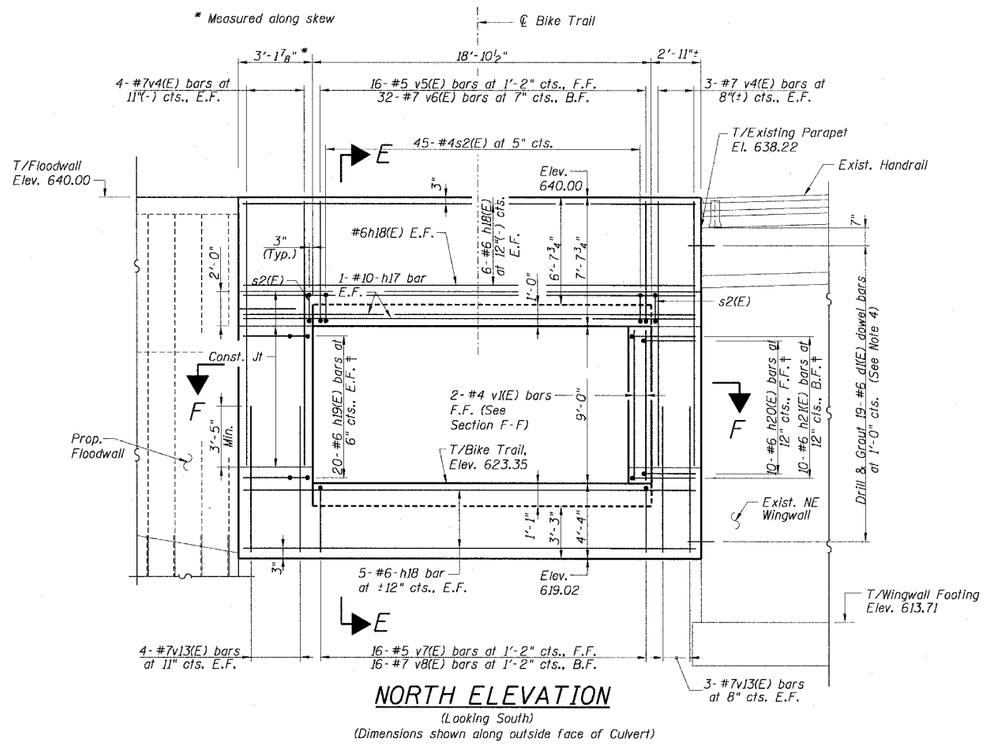
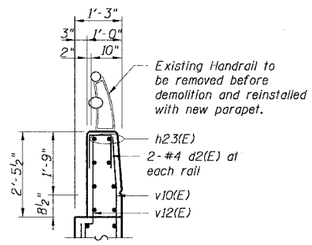
SMU-5 FR-416

MINER ST. CULVERT SECTIONS AND DETAILS

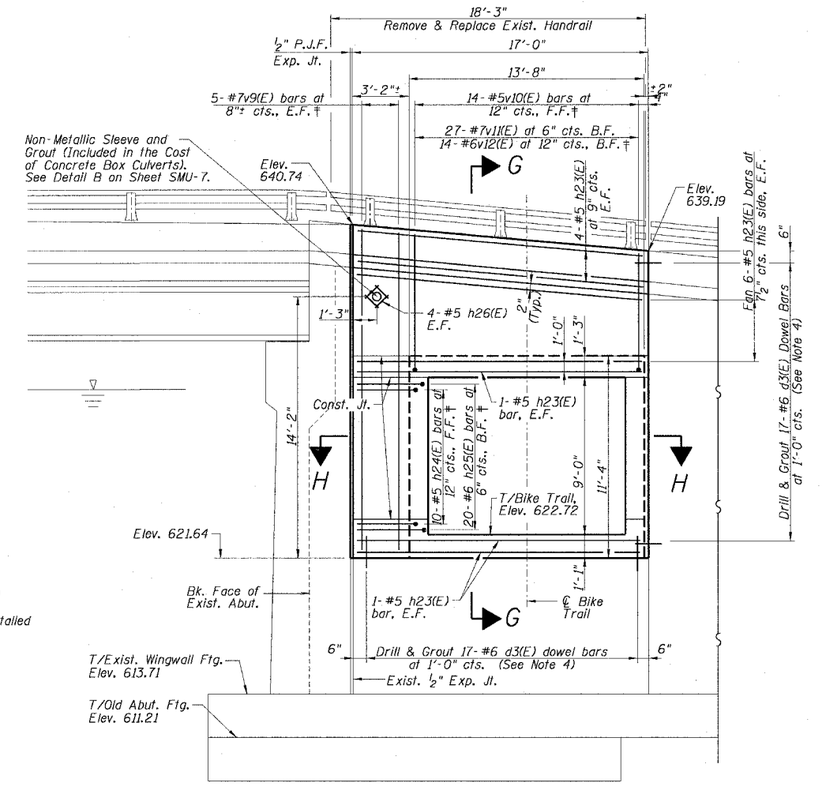


NORTH ELEVATION

(Looking South)
(Dimensions shown along outside face of Culvert)

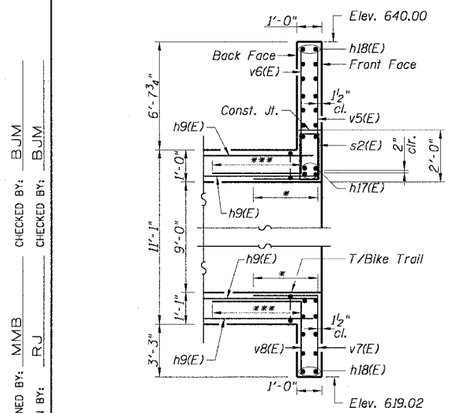


DETAIL A

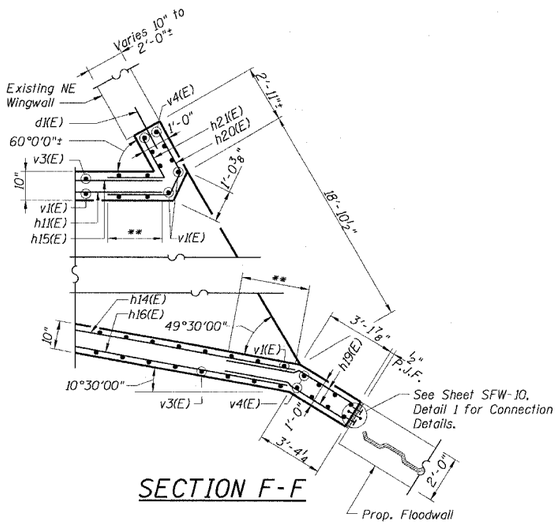


SOUTH ELEVATION

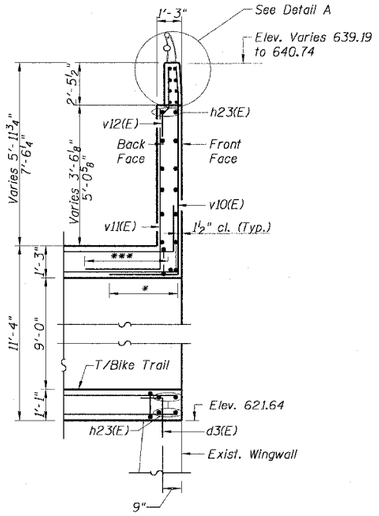
(Looking North)
(Dimensions shown along front face of Culvert)



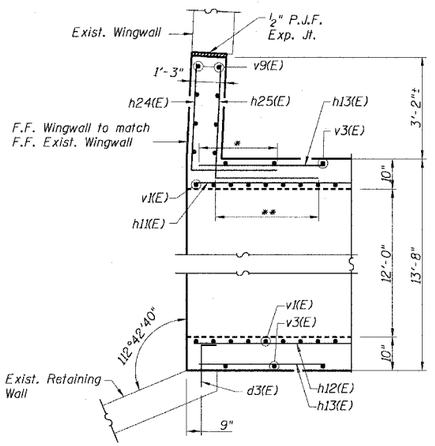
SECTION E-E



SECTION F-F



SECTION G-G



SECTION H-H

* 2'-2" Min. Lap #5 bar (Typ.)
** 2'-7" Min. Lap #6 bar (Typ.)
*** 3'-5" Min. Lap #7 bar (Typ.)
† Cut to fit in Field

NOTES:

1. E.F. denotes "Each Face"
2. F.F. denotes "Front Face"
3. B.F. denotes "Back Face"
4. Cost of drilling and grouting d1(E) & d3(E) bars shall be included in cost of Concrete Structures.

REVISION	
DATE	DESCRIPTION

DESIGNED BY: MMB CHECKED BY: BJM
DRAWN BY: RJ CHECKED BY: BJM

PLANS PREPARED BY:

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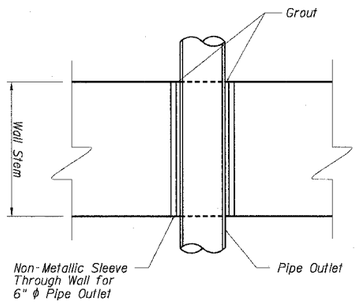
SCALE: NONE

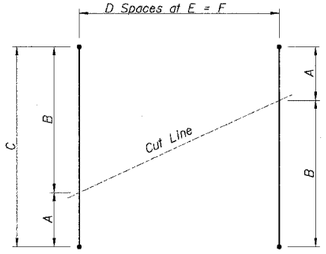
SMU-6 FR-416

MINER ST. CULVERT WINGWALL ELEVATIONS AND DETAILS



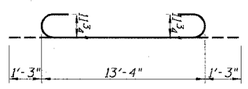
DETAIL B

Furnishing and installing Non-Metallic Sleeve and Non-Shrink Grout is included in the cost of "Concrete Box Culverts". See Sheet M-2 for pipe details.

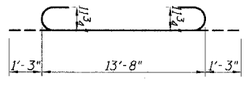


CUTTING DIAGRAM

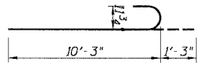
Bar	A	B	C	D	E	F
a1(E)	2'-0"	14'-0"	16'-0"	5	18"	7'-6"
a2(E)	12'-4"	14'-0"	26'-4"	6	18"	9'-0"
a5(E)	2'-1"	12'-3"	14'-4"	3	22"	5'-6"
a6(E)	1'-8"	12'-0"	16'-2"	12	6"	6'-0"
a9(E)	3'-0"	15'-0"	20'-6"	18	6"	9'-0"
h9(E)	9'-10"	18'-1"	27'-11"	12	12"	12'-0"



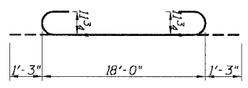
BAR a4(E)



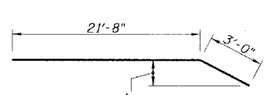
BAR a6(E)



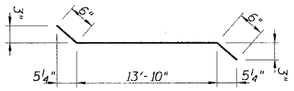
BAR a8(E)



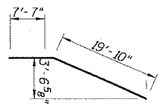
BAR a9(E)



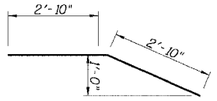
BARS h17(E). h18(E)



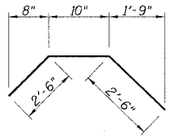
BARS a10(E) & a11(E)



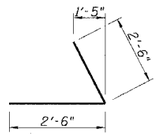
BAR h14(E)



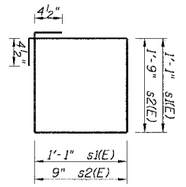
BAR h19(E)



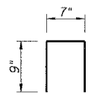
BAR h20(E)



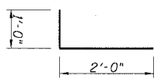
BAR h21(E)



BARS s1(E), s2(E)



BAR d2(E)



BAR d3(E)

BILL OF MATERIAL

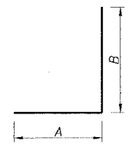
Bar	No.	Size	Length	Shape
a1(E)	6	#5	16'-0"	
a2(E)	7	#5	26'-4"	
a3(E)	34	#4	12'-3"	
a4(E)	262	#9	15'-10"	
a5(E)	8	#5	14'-4"	
a6(E)	26	#9	16'-2"	
a7(E)	12	#4	3'-0"	
a8(E)	72	#9	11'-6"	
a9(E)	19	#9	20'-6"	
a10(E)	8	#6	14'-10"	
a11(E)	16	#10	14'-10"	
a12(E)	45	#5	12'-3"	
d1(E)	19	#6	3'-0"	
d2(E)	6	#4	2'-3"	
d3(E)	34	#6	3'-0"	
h1(E)	26	#4	22'-3"	
h2(E)	80	#7	25'-8"	
h3(E)	26	#7	22'-6"	
h4(E)	13	#7	8'-6"	
h5(E)	26	#4	17'-6"	
h6(E)	26	#7	18'-5"	
h7(E)	52	#7	17'-9"	
h9(E)	26	#7	27'-11"	
h10(E)	6	#6	12'-0"	
h11(E)	50	#6	21'-9"	
h12(E)	20	#6	25'-3"	
h13(E)	20	#6	8'-0"	
h14(E)	10	#6	27'-5"	
h15(E)	10	#6	8'-5"	
h16(E)	10	#6	19'-5"	
h17(E)	4	#10	24'-8"	
h18(E)	24	#6	24'-8"	
h19(E)	40	#6	5'-8"	

BILL OF MATERIAL (cont.)

Bar	No.	Size	Length	Shape
h20(E)	10	#6	5'-10"	
h21(E)	10	#6	5'-0"	
h22(E)	4	#9	16'-8"	
h23(E)	24	#5	16'-8"	
h24(E)	10	#5	4'-8"	
h25(E)	20	#6	7'-0"	
h26(E)	8	#5	2'-6"	
h27(E)	26	#7	25'-0"	
s1(E)	64	#4	5'-1"	
s2(E)	47	#4	5'-9"	
v1(E)	364	#4	9'-3"	
v2(E)	364	#4	2'-7"	
v3(E)	22	#5	8'-4"	
v4(E)	14	#7	15'-11"	
v5(E)	16	#5	9'-4"	
v6(E)	32	#7	10'-7"	
v7(E)	16	#5	6'-1"	
v8(E)	16	#7	7'-4"	
v9(E)	10	#7	18'-11"	
v10(E)	14	#5	10'-9"	
v11(E)	27	#7	12'-0"	
v12(E)	14	#6	5'-0"	
v13(E)	14	#7	7'-8"	

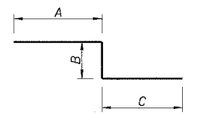
Bar Splicers	Ea	72
Concrete Box Culverts	Cu. Yd.	147
Concrete Superstructure	Cu. Yd.	8
Controlled Low-Strength Material	Cu. Yd.	440
Protective Coat	Sq. Yd.	18
Reinforcement Bars, Epoxy Coated	Pound	48,430
Removal of Existing Structures	L Sum	1
Structure Excavation	Cu. Yd.	1695
Sub-base Granular Material, Type B	Cu. Yd.	450
Temporary Soil Retention System	Sq. Ft.	1050
Waterproofing Membrane System	Sq. Yd.	119

Reinforcement bars designated (E) shall be epoxy coated.



BARS a7(E), h24(E), h25(E), v5(E), v6(E), v7(E), v8(E), v10(E) & v11(E)

Bar	A	B
a7(E)	1'-6"	1'-6"
a13(E)	1'-3"	1'-3"
h24(E)	2'-2"	2'-6"
h25(E)	3'-6"	3'-6"
v5(E)	2'-2"	7'-2"
v6(E)	3'-5"	7'-2"
v7(E)	2'-2"	3'-11"
v8(E)	3'-5"	3'-11"
v10(E)	2'-2"	8'-7"
v11(E)	3'-5"	8'-7"



BARS h4(E) & v12(E)

Bar	A	B	C
h4(E)	4'-8"	3"	3'-5"
v12(E)	2'-6"	3"	2'-3"

DESIGNED BY: MMB CHECKED BY: BJM
DRAWN BY: RJ CHECKED BY: BJM

PLANS PREPARED BY:
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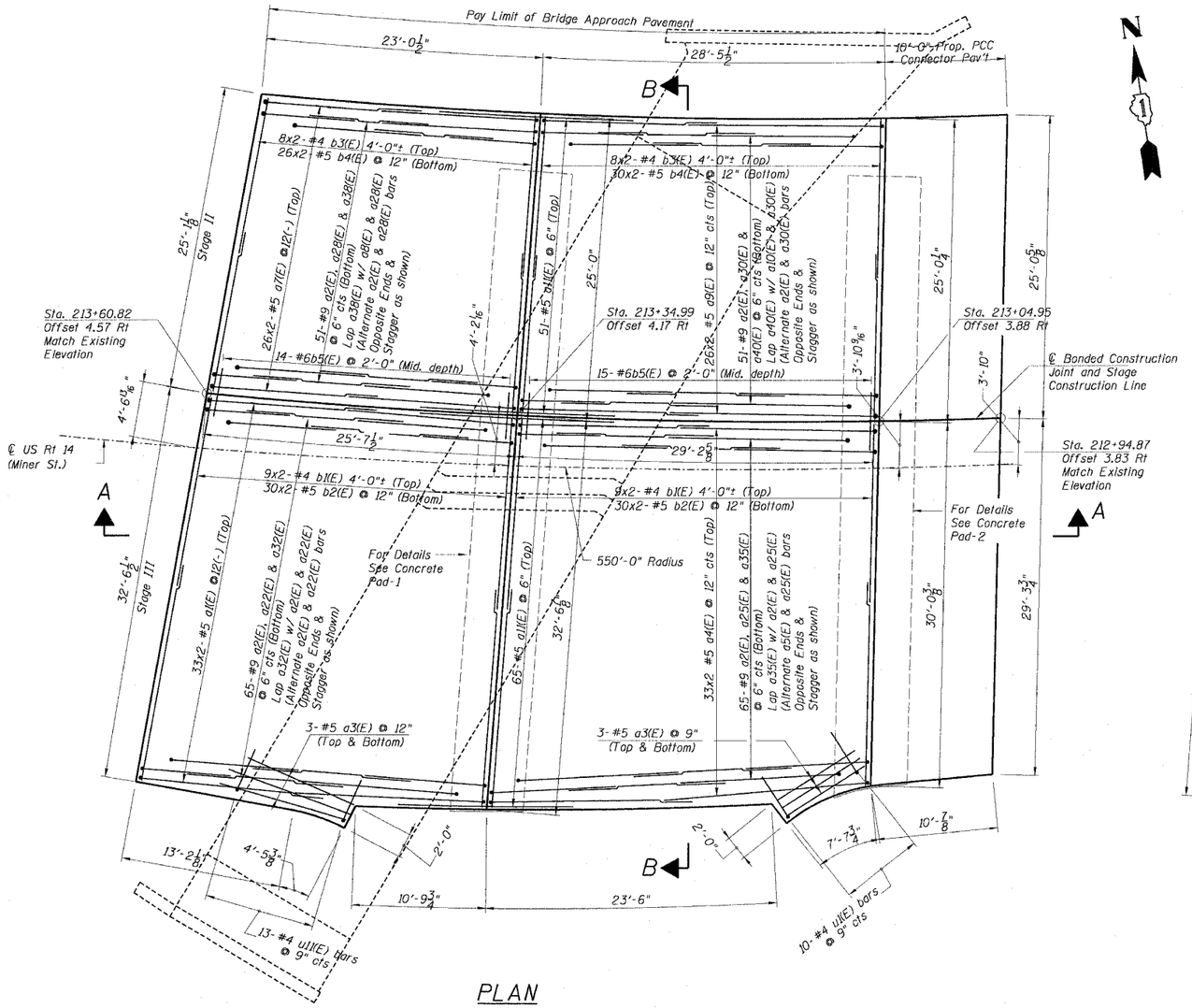
REVISION	
DATE	DESCRIPTION

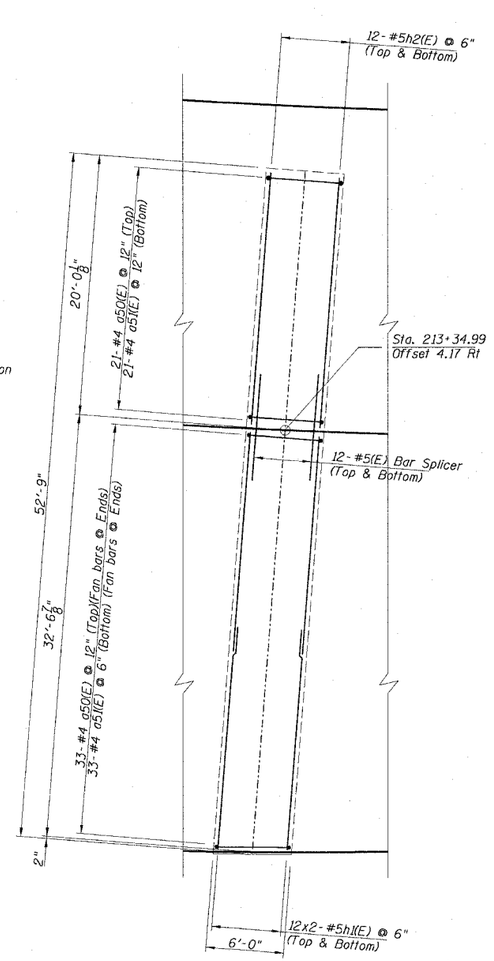
SCALE: NONE

SMU-7 FR-416

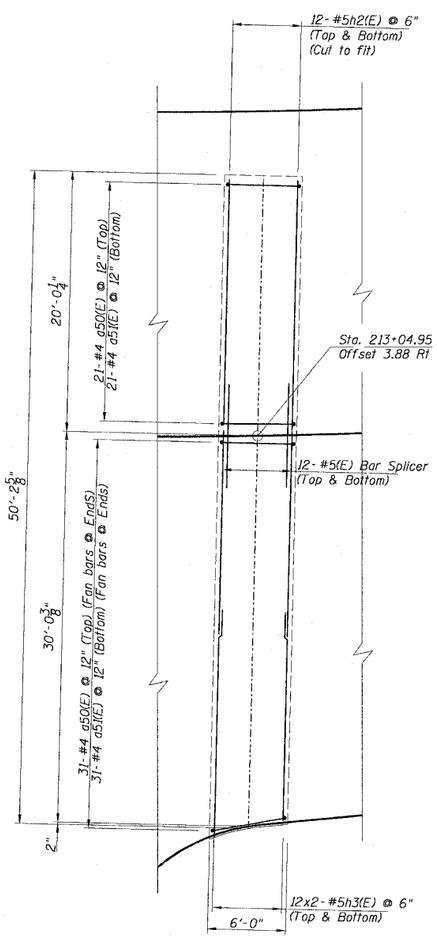
MINER ST. CULVERT BILL OF MATERIALS AND MISCELLANEOUS DETAILS



PLAN



CONCRETE PAD-1



CONCRETE PAD-2

NOTES:

1. All construction joints shall be bonded.
2. Reinforcement Bars designated (E) shall be Epoxy Coated.
3. Existing reinforcing steel which is exposed by the concrete removal process, but which is to remain partially embedded in the existing structure shall be cleaned to be free of existing concrete & rust. Strengthened if necessary and recast into the new concrete. Existing reinforcing steel which is cut, stretched or damaged by the concrete removal process shall be replaced by embedded reinforcing steel or anchorage, equal to or greater than the original reinforcing steel at no additional cost.
4. Minimum lap lengths for horizontal bars shall be as follows:
   for #4 bars - 1'-8"
   for #5 bars - 2'-5"
   for #9 bars - 4'-7"
5. Bars indicated thus 18x2-#5 etc. indicates 18 lines of bars with 2 lengths per line.
6. For Sections A-A & B-B, See Sheet SMU-9.
7. Work Drawings SMU-1 thru SMU-10 together.
8. Refer to Civil Drawings for Bridge Approach Pavement and PPC Connector Pavement Layout, Stations, Offsets and Elevations.

DESIGNED BY: MWB CHECKED BY:
DRAWN BY: RJ CHECKED BY:

PLANS PREPARED BY:
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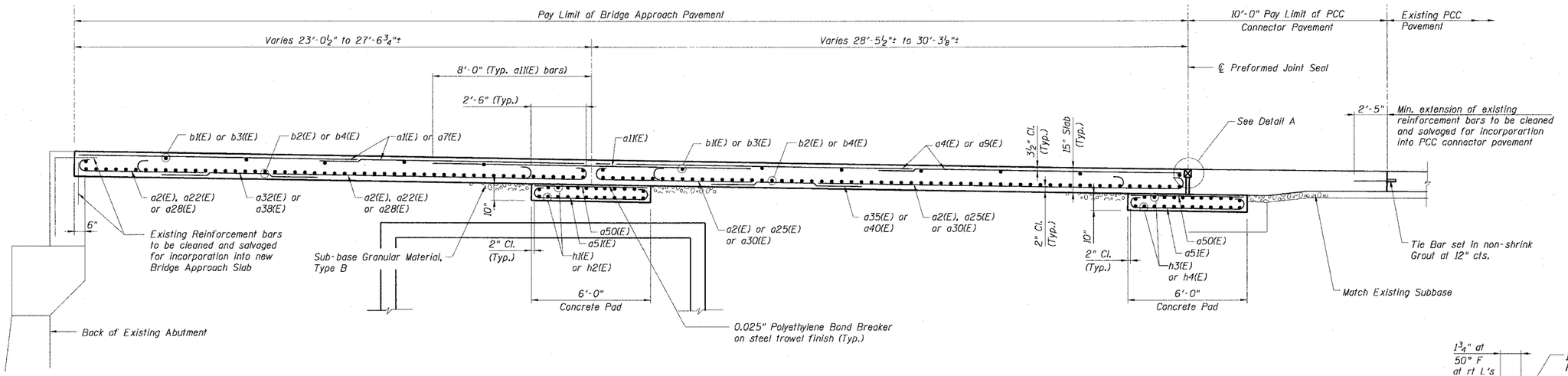
REVISION	
DATE	DESCRIPTION

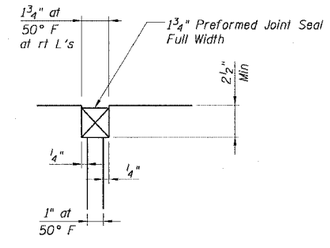
SMU–8

SCALE: NONE
FR-416

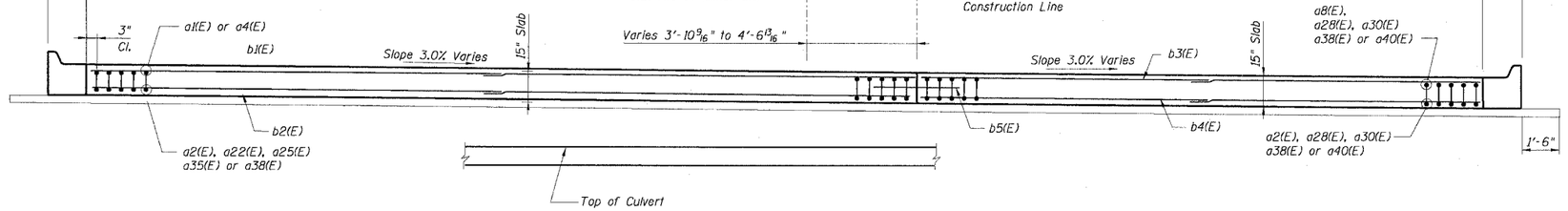
MINER ST. APPROACH SLAB PLAN & DETAILS



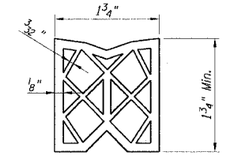
SECTION A-A



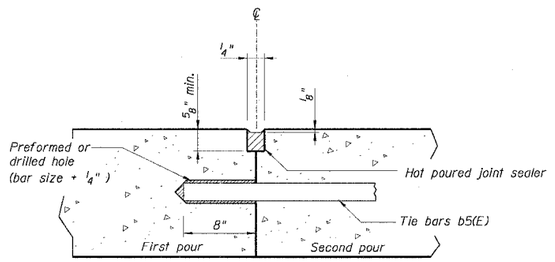
DETAIL A



SECTION B-B



PREFORMED JOINT SEAL



LONGITUDINAL CONSTRUCTION JOINT

(Tie Bar Grouted in place)

DESIGNED BY: DGC CHECKED BY: BJM
DRAWN BY: RJ CHECKED BY: BJM

PLANS PREPARED BY:

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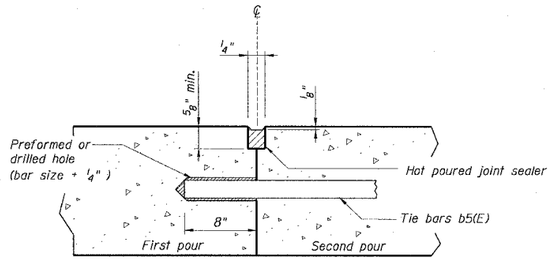
REVISION	
DATE	DESCRIPTION

SCALE: NONE

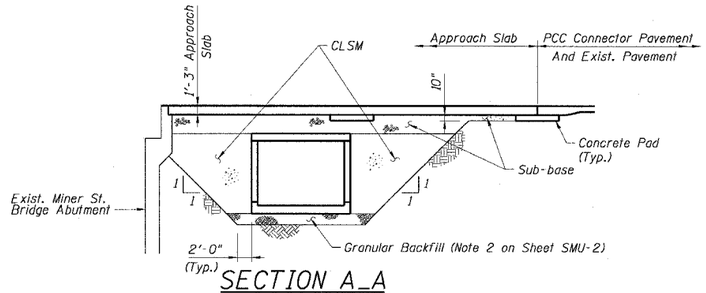
SMU-9 FR-416

MINER ST. APPROACH SLAB DETAILS

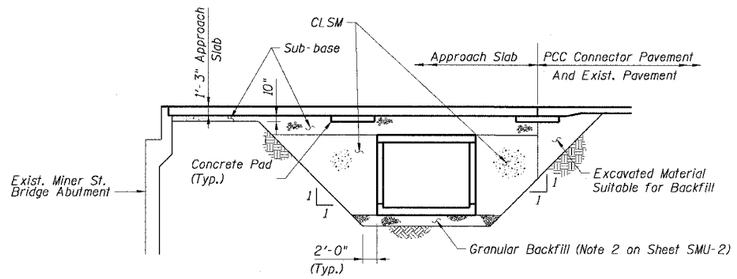


LONGITUDINAL CONSTRUCTION JOINT

(Tie Bar Grouted in place)



SECTION A_A

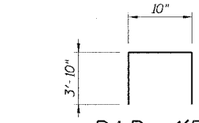


SECTION B-B

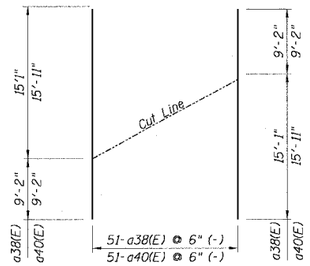
LIMITS OF EXCAVATION AND BACKFILL

CLSM denotes Controlled Low-Strength Material. Upper pay limit of CLSM shall be the top of culvert top slab. Unit weight of CLSM shall be between 110 pcf and 130 pcf. Side slopes shall be stepped or serrated to prevent wedging action of the backfill against the structure.

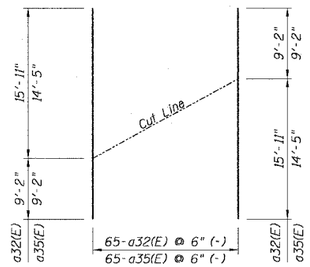
Sub-base denotes Sub-base Granular Material, Type B.



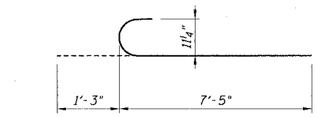
BAR u1(E)



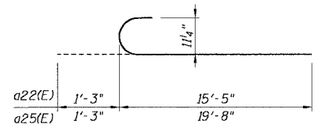
BARS a38(E) & a40(E) CUTTING DIAGRAM WEST BOUND



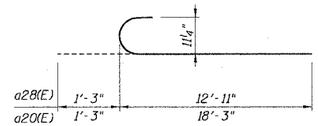
BARS a32(E) & a35(E) CUTTING DIAGRAM EAST BOUND



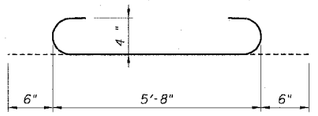
BAR a2(E)



BARS a22(E) & a25(E)



BARS a28(E) & a30(E)



BARS a51(E)

NOTE:

Rotate a10(E) and a30(E) bar hooks in field to maintain required bar clearances.

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a1(E)	66	#5	16'-0"	
a2(E)	283	#9	8'-8"	
a3(E)	6	#5	17'-6"	
a4(E)	25	#5	17'-2"	
a6(E)	6	#5	27'-3"	
a7(E)	52	#5	14'-2"	
a9(E)	52	#5	16'-4"	
a11(E)	115	#4	16'-0"	
a22(E)	65	#9	16'-8"	
a25(E)	65	#9	20'-11"	
a28(E)	51	#9	14'-2"	
a30(E)	51	#9	19'-6"	
a32(E)	33	#9	25'-1"	
a35(E)	33	#9	23'-7"	
a38(E)	26	#9	24'-3"	
a40(E)	26	#4	25'-1"	
a50(E)	106	#4	5'-8"	
a51(E)	106	#4	6'-8"	
b1(E)	36	#4	17'-5"	
b2(E)	120	#5	17'-5"	
b3(E)	34	#4	13'-9"	
b4(E)	112	#5	13'-9"	
b5(E)	116	#6	2'-0"	
h1(E)	48	#5	17'-6"	
h2(E)	48	#5	19'-5"	
h3(E)	48	#5	16'-2"	
u1(E)	23	#4	8'-6"	

Bridge Approach Pavement (Special)	Sq. Yd.	358
Bridge Approach Pavement Connector (PPC)	Sq. Yd.	61
Protective Coat	Sq. Yd.	419
For Information Only		
Reinforcement Bars, Epoxy Coated	Pound	44110
Bar Splicer	Each	48

DESIGNED BY: DGC CHECKED BY: BJM
DRAWN BY: RJ CHECKED BY: BJM

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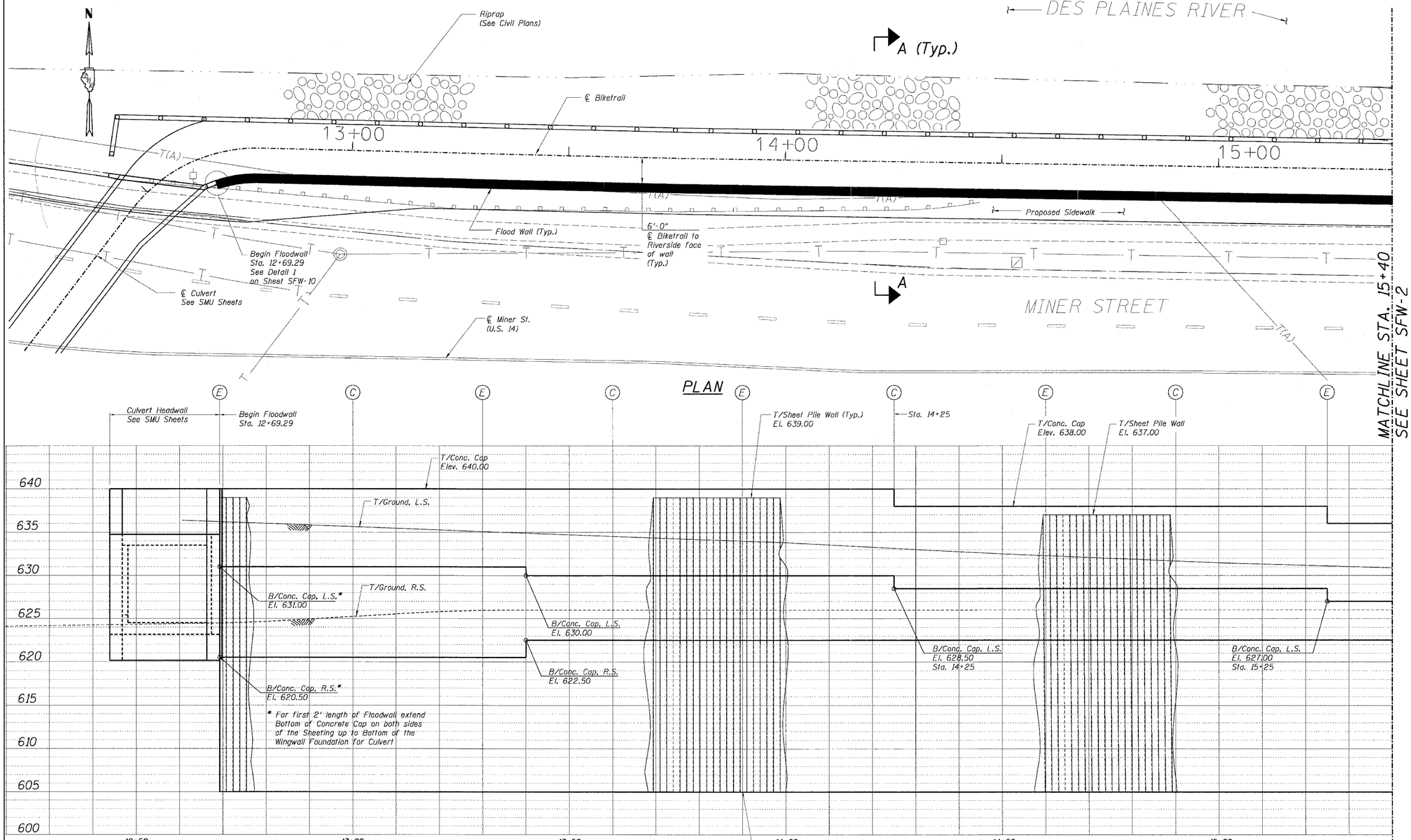
DATE	DESCRIPTION

SCALE: NONE

SMU-10 FR-416



PLAN

DESIGNED BY: GEC/DPV CHECKED BY: DPV
DRAWN BY: RJ /EMT CHECKED BY: GEC/DPV

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NOTES:

1. Stations and offsets are measured from ℄ bikepath to back face (River Side) of the Floodwall.
2. For Sections See Sheet SFW-9.
3. See Civil plans for Typical Sections & Grade Elevations.
4. Maximum spacing of Expansion Joint is 60' and maximum spacing of Contraction Joint is 30', unless otherwise noted on Elevation. For Expansion and Contraction Joint Details, see Sheet SFW-11.

LEGEND:

L.S. = Land Side

R.S. = River Side

(E) = Expansion Joint

(C) = Contraction Joint

REVISION	
DATE	DESCRIPTION

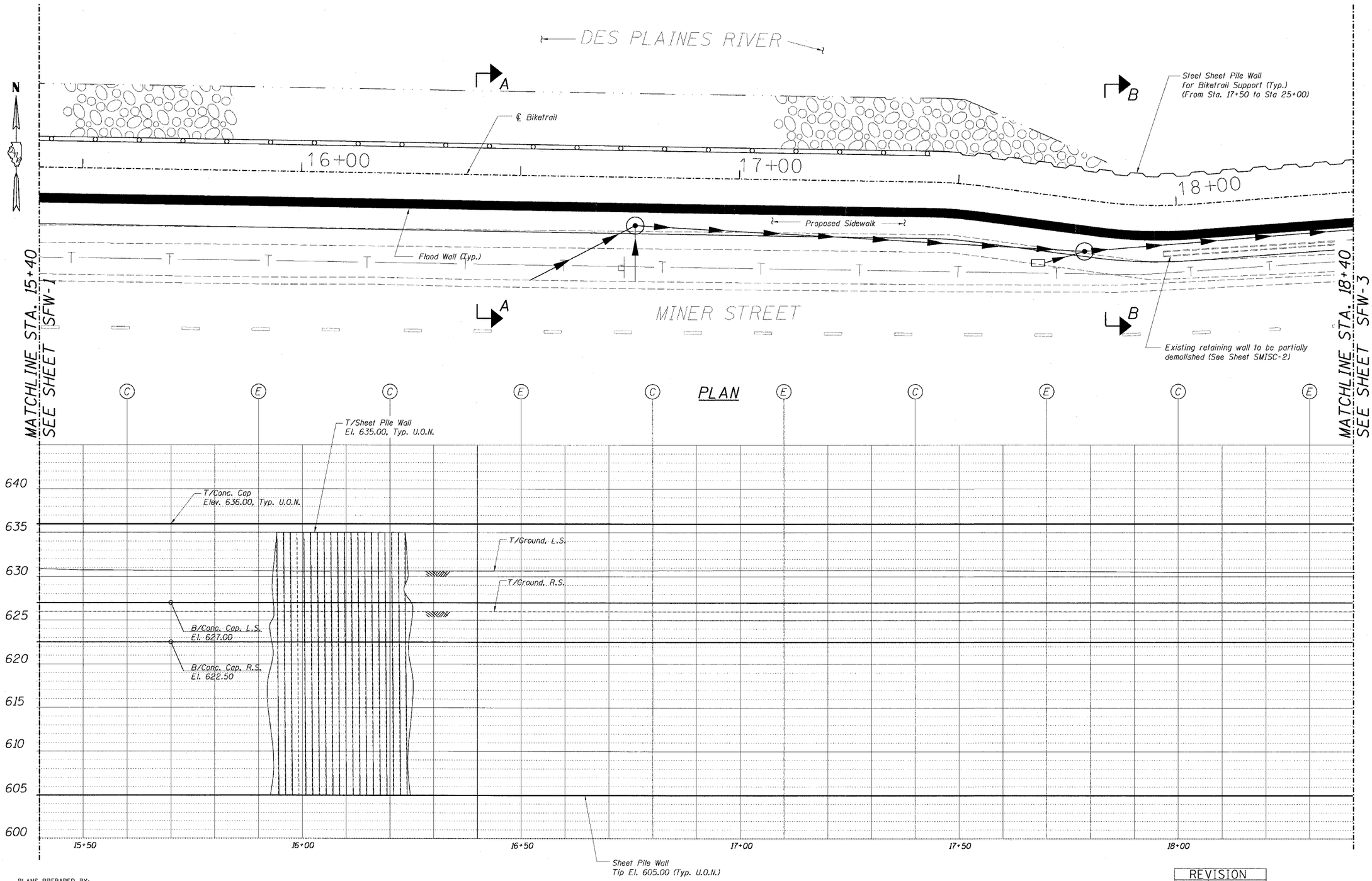
FLOODWALL ELEVATION

SFW-1

SCALE: NONE

FR-416

FLOODWALL PLAN & ELEVATION



DESIGNED BY: GEC/DPV CHECKED BY: GEC/DPV
DRAWN BY: RJ /EMT CHECKED BY: DPV

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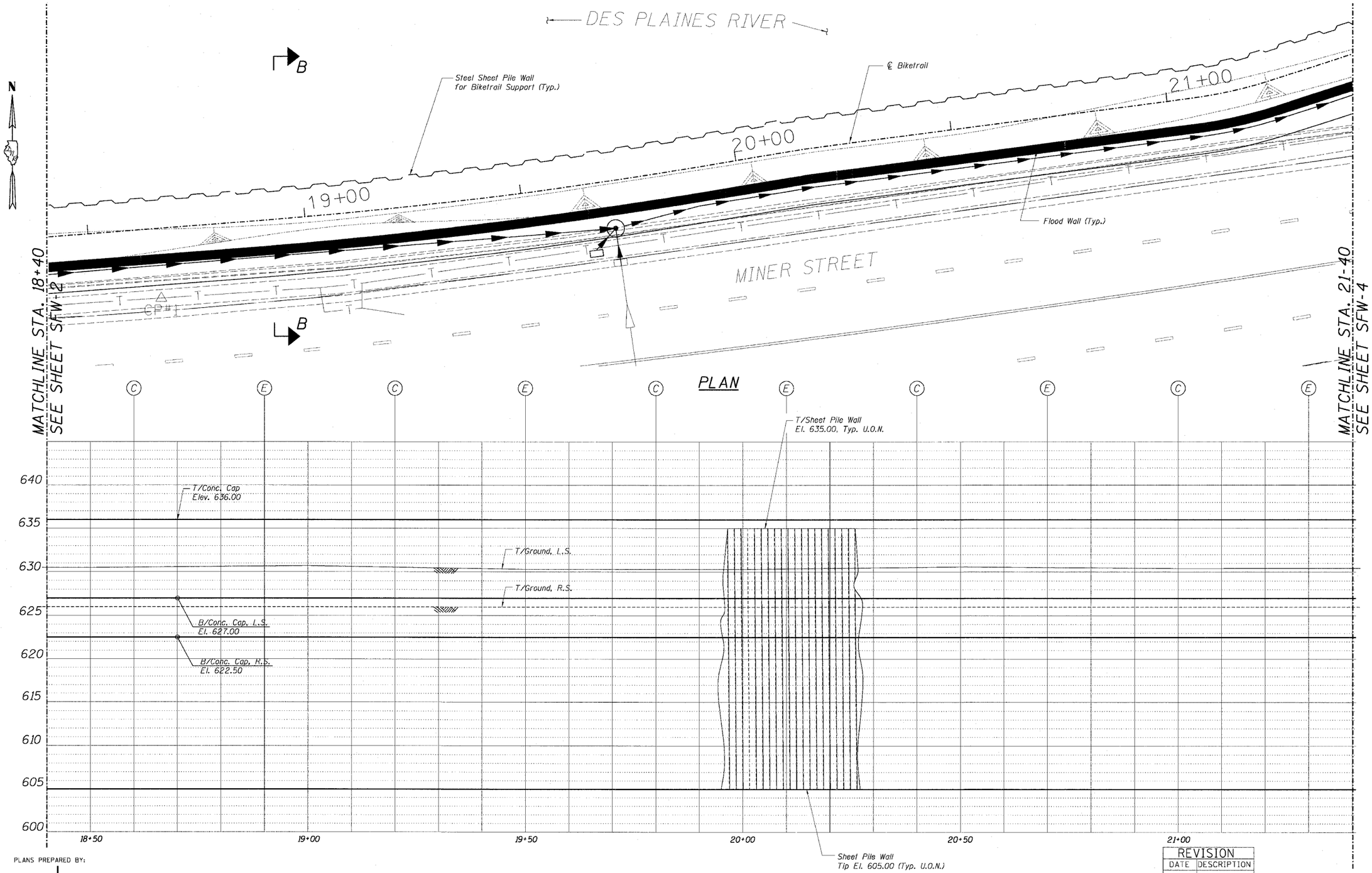
FLOODWALL ELEVATION

REVISION	
DATE	DESCRIPTION

SCALE: NONE

SFW–2 FR-416

FLOODWALL PLAN & ELEVATION



DESIGNED BY: SEC/DPV CHECKED BY: SEC/DPV
DRAWN BY: RJ /EMT CHECKED BY: DPV

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FLOODWALL ELEVATION

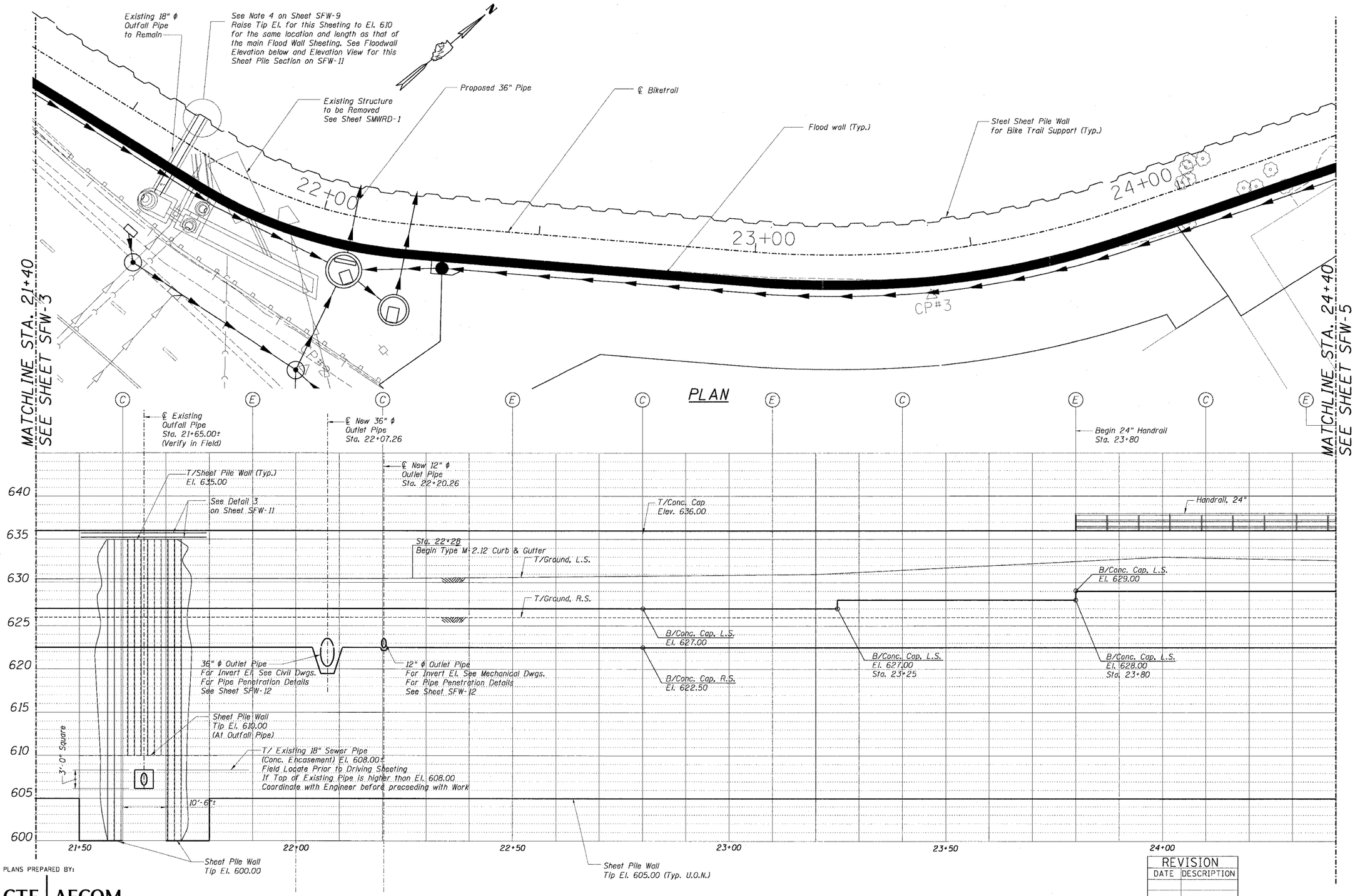
REVISION	
DATE	DESCRIPTION

SCALE: NONE

SFW–3

FR-416

FLOODWALL PLAN & ELEVATION



DESIGNED BY: GEC/DPV CHECKED BY: GEC/DPV
DRAWN BY: RJ /EMT CHECKED BY: DPV

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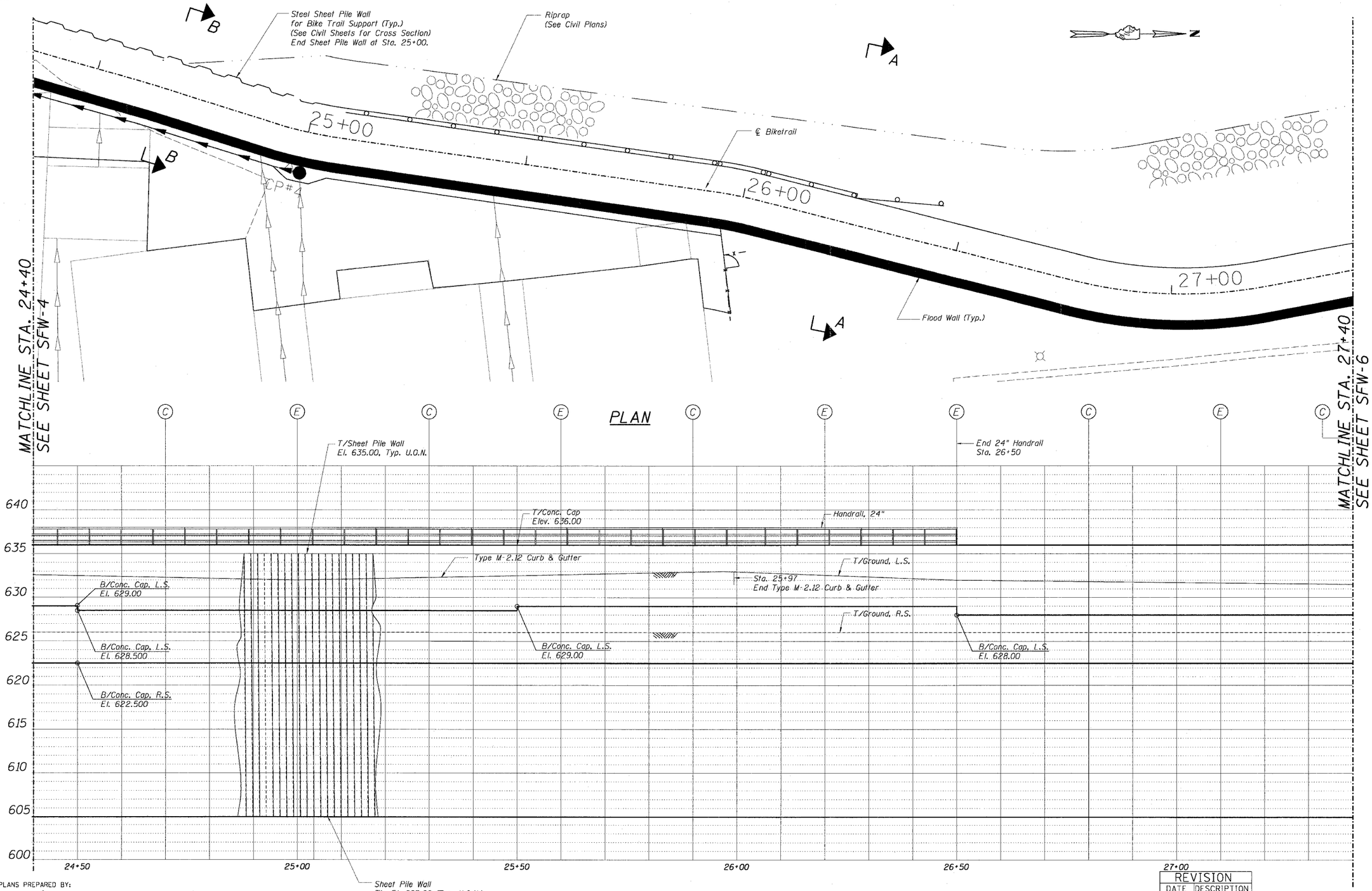
DATE	DESCRIPTION

SCALE: NONE

SFW-4 FR-416

FLOODWALL PLAN & ELEVATION



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DRAWN BY: RJ /EMT CHECKED BY: DPV

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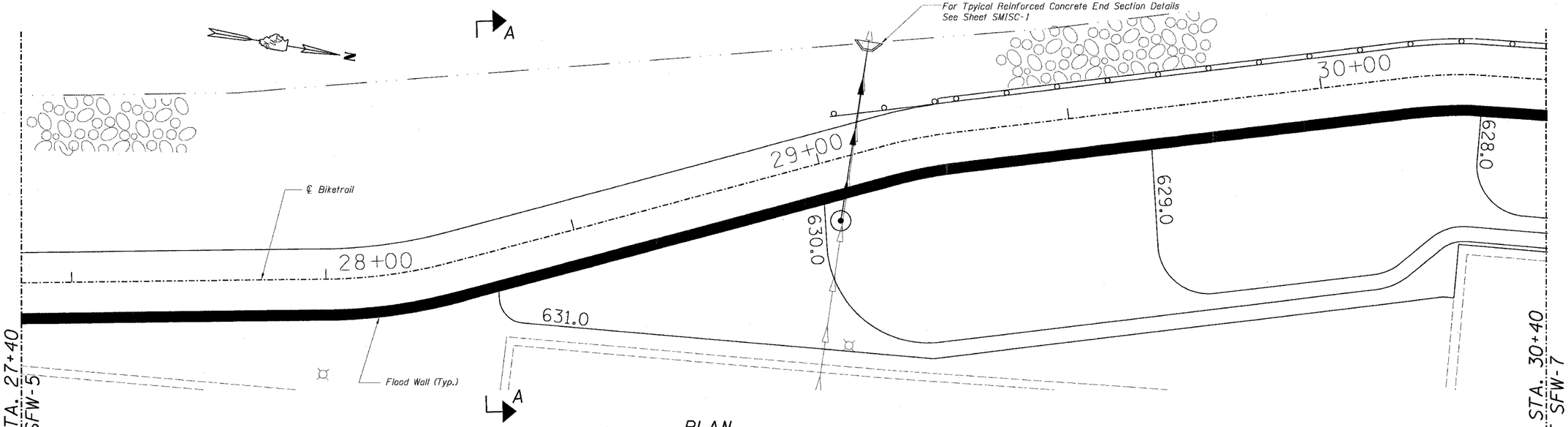
FLOODWALL ELEVATION

REVISION	
DATE	DESCRIPTION

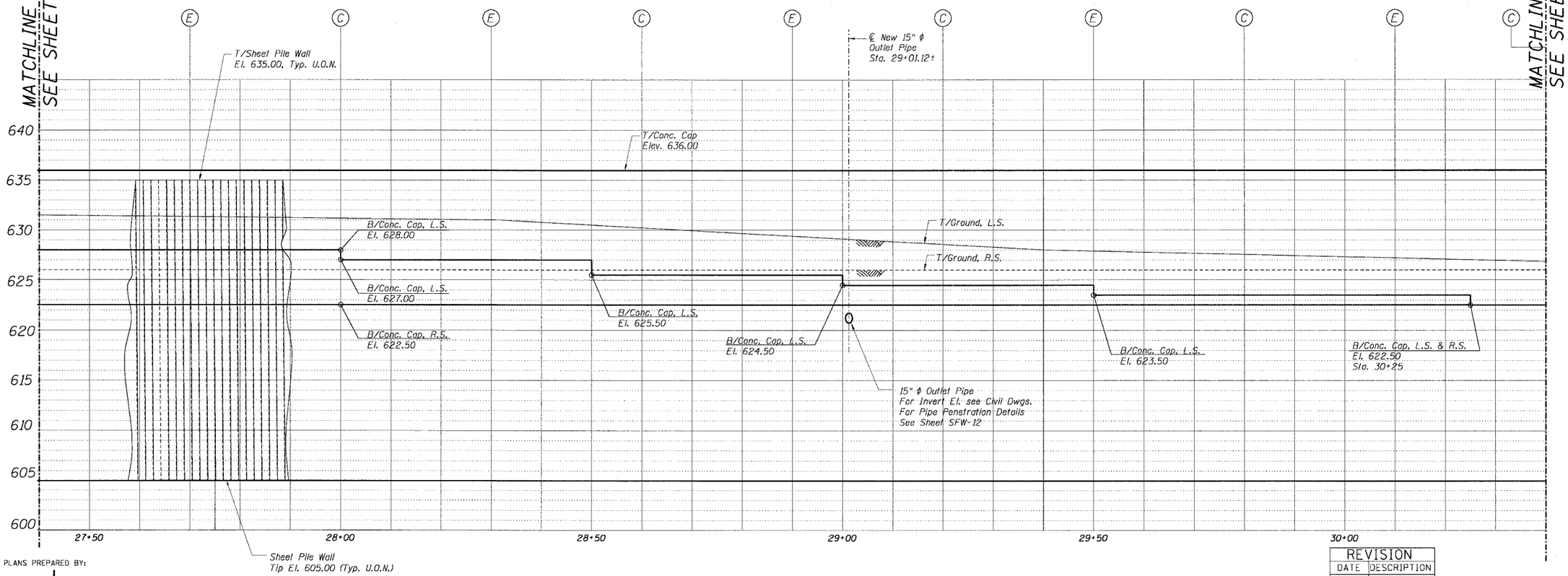
SCALE: NONE

SFW–5 FR-416

FLOODWALL & PLAN ELEVATION SHEET 111 OF 167



PLAN



DESIGNED BY: QEC/OPV CHECKED BY: QEC/OPV
DRAWN BY: RJ /EMT CHECKED BY: OPV

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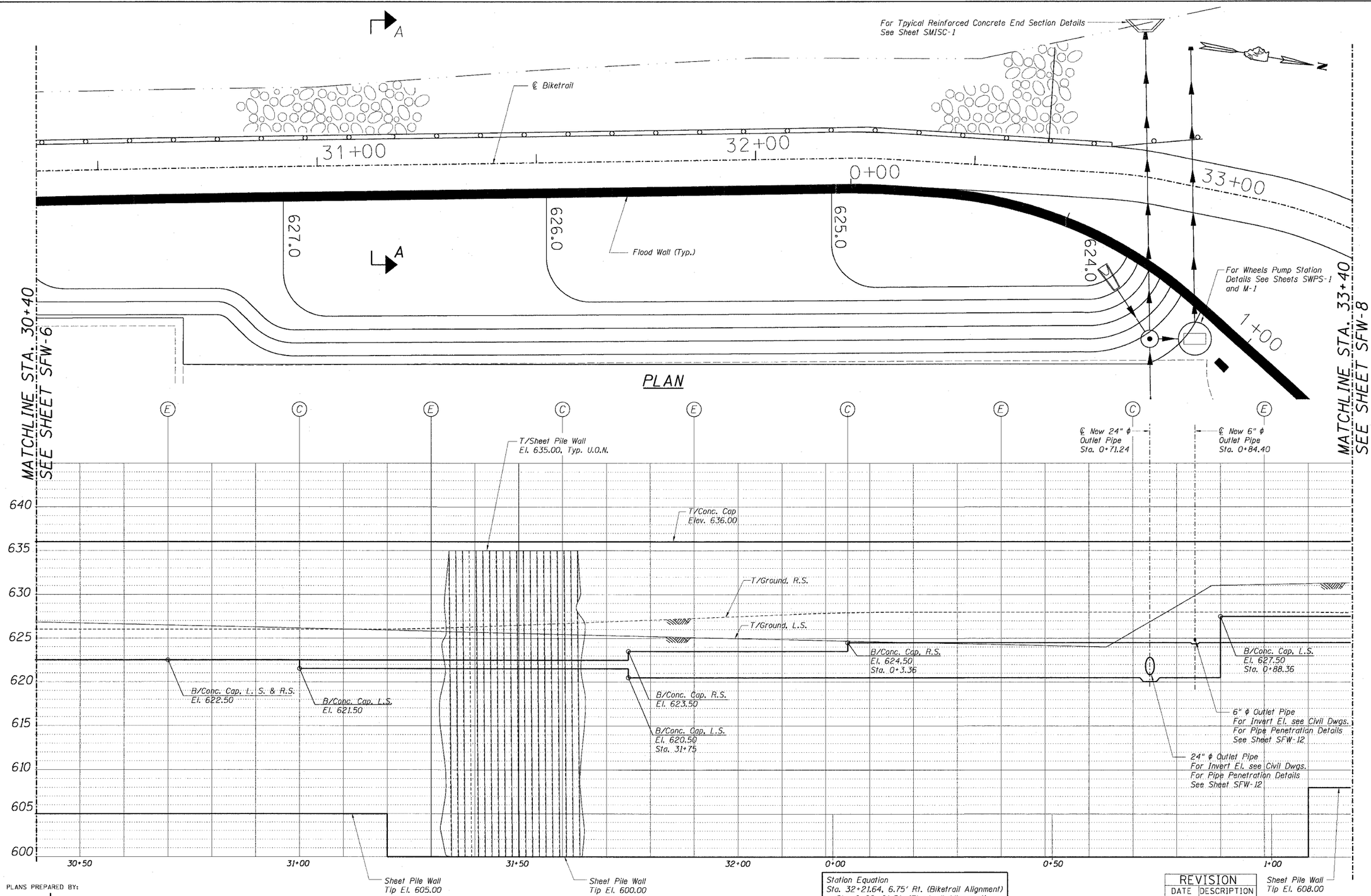
FLOODWALL ELEVATION

REVISION	
DATE	DESCRIPTION

SCALE: NONE

SFW–6 FR-416



Station Equation
Sta. 32+21.64, 6.75' Rt. (Biketrail Alignment)
= Sta. 0+00, 0' Rt. (Floodwall Alignment)

FLOODWALL ELEVATION

DESIGNED BY: GEC/DPV CHECKED BY: GEC/DPV
DRAWN BY: RJ /ZMT CHECKED BY: DPV

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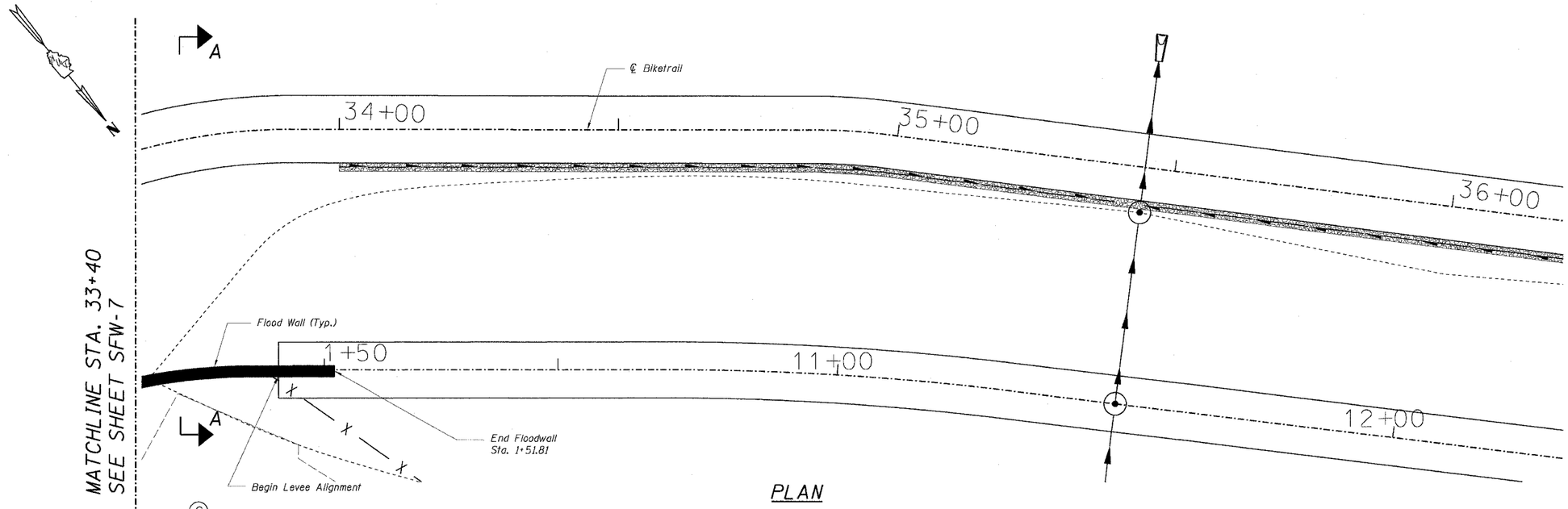
DATE	DESCRIPTION

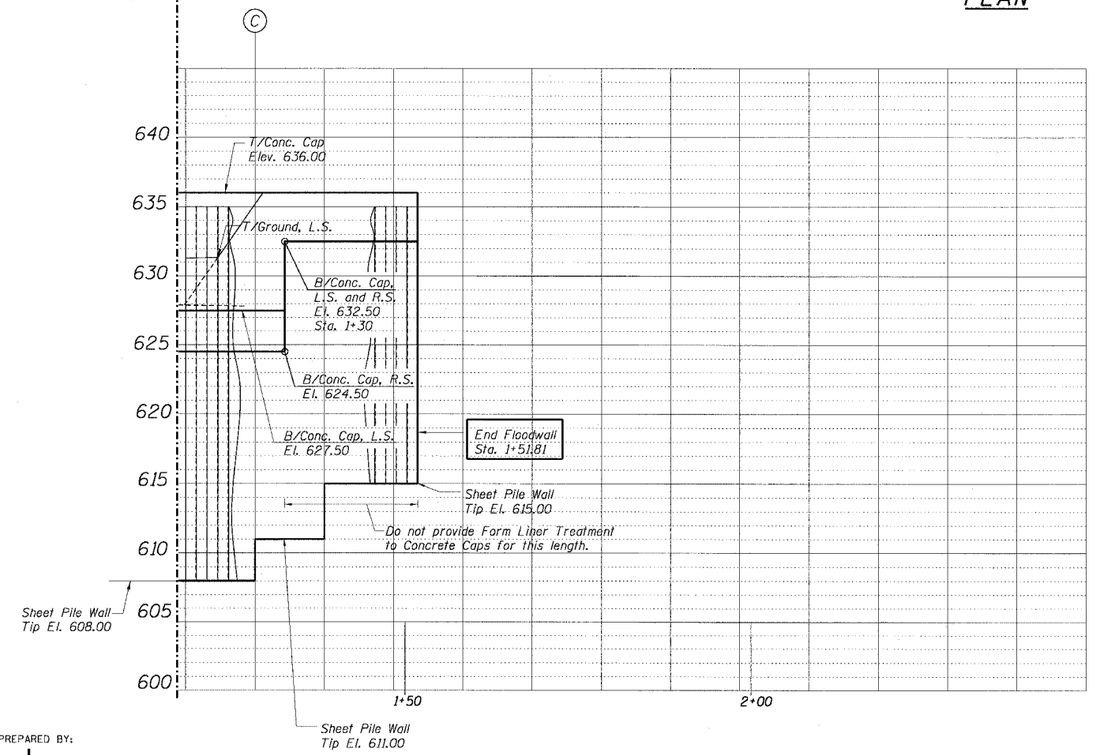
SCALE: NONE

SFW-7 FR-416

FLOODWALL PLAN & ELEVATION



PLAN



Station Equation
Sta. 1+41.81 (Floodwall Alignment)
= 10+00.00 (Levee Alignment)

FLOODWALL ELEVATION

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DRAWN BY: RJ /EMT CHECKED BY: DPV

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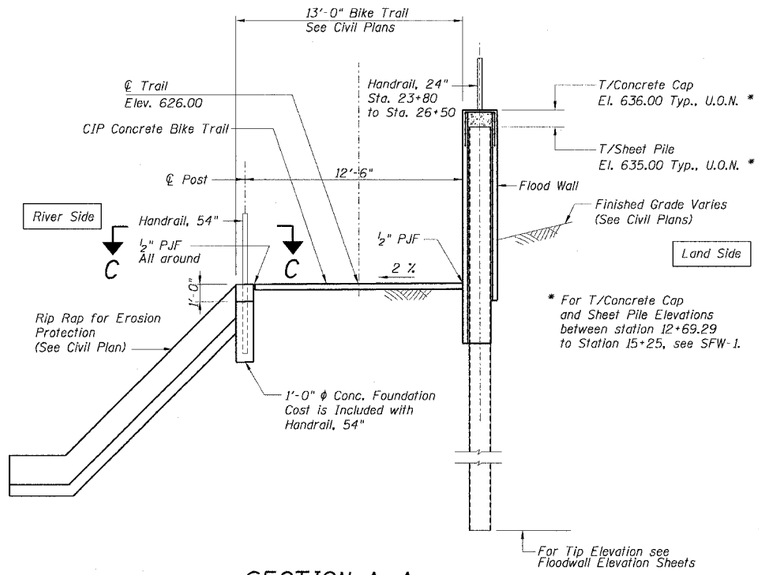
DATE	DESCRIPTION

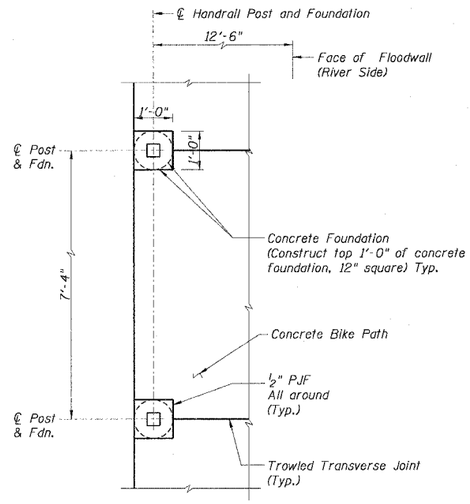
SCALE: NONE

SFW–8 FR-416

FLOODWALL PLAN & ELEVATION



SECTION A-A



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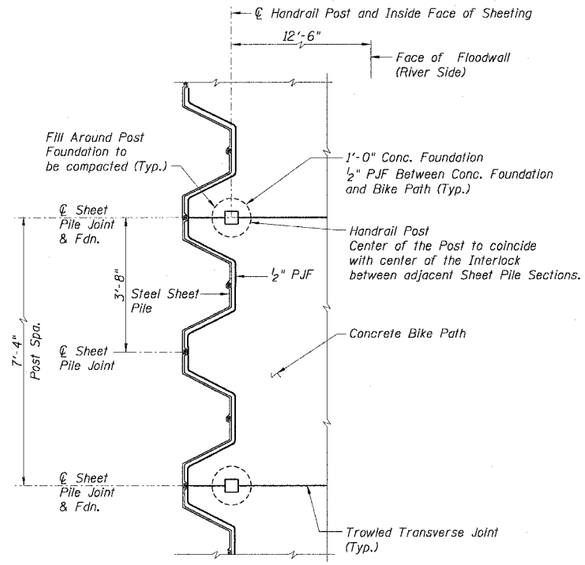

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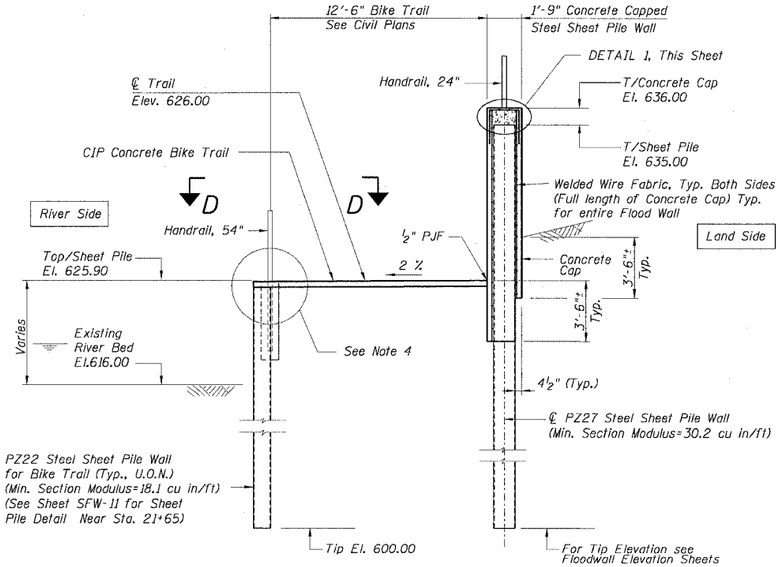
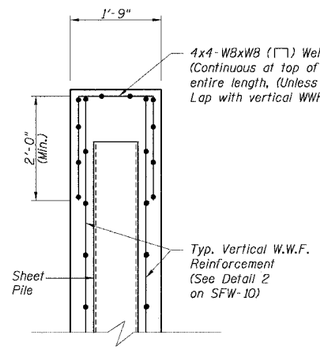


SECTION B-B



DETAIL 1

NOTES:

1. Sheet Pile driving, Concrete Foundation for Handrail Post and other Work may require dewatering to keep construction area dry, cost of which is considered included with Steel Sheet Piling.
2. For Bottom of Concrete Cap Elevations, see Sheets SFW-1 thru SFW-8.
3. Coordinate handrail post spacing with sheet pile work. The spacing may need to be adjusted based on final sheet pile section. Do not begin fabrication of handrail until final post spacing is approved.
4. Provide a single row of Shear Studs for 37'-6" length of the Sheet Pile Wall centered at the center line of existing Outfall Pipe. See Sheet SFW-4 for location. See Sheet SFW-10 for Details of Shear Studs. Provide Shear Studs 6" below top of the Sheet Pile Wall. Provide Shear Studs only on the Concrete side face of the Sheet Pile Wall.
5. Provide steel waters and connections at locations shown in the Plans. Cost of waters and connections is considered included with STEEL SHEET PILING.

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DRAWN BY: RJ/EMT CHECKED BY: DPV

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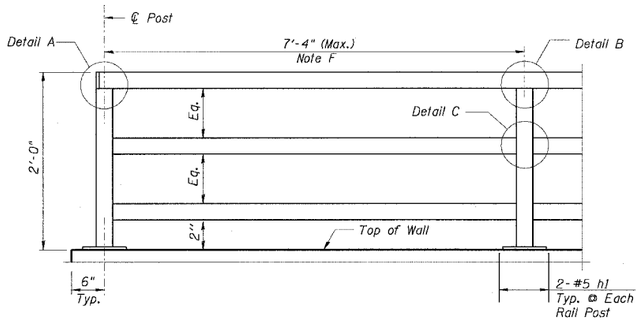
DATE	DESCRIPTION

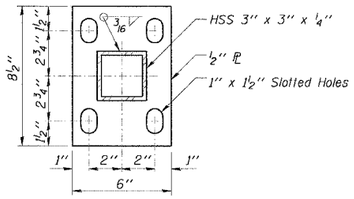
SFW-9

SCALE: NONE

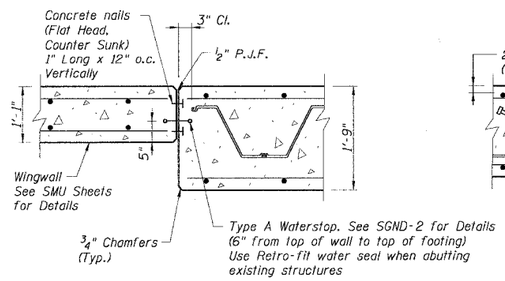
FR-416



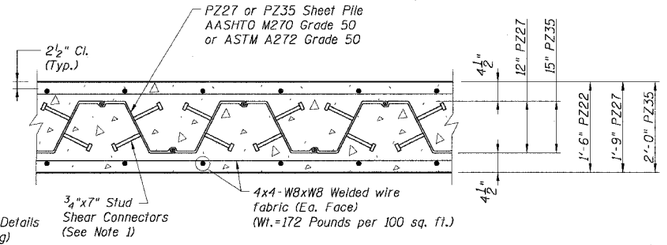
ELEVATION, HANDRAIL, 24"



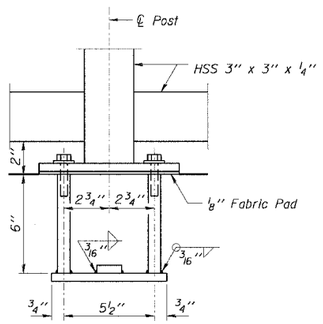
BASE PL

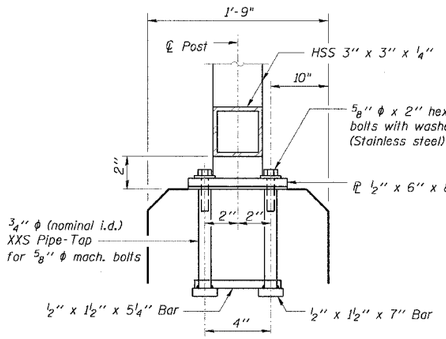


DETAIL 1



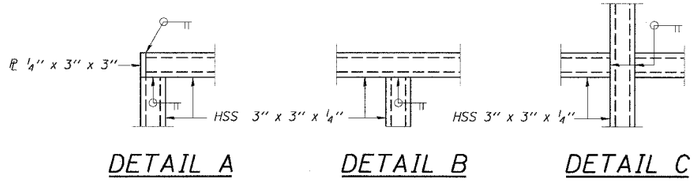
DETAIL 2





ANCHOR BOLT DETAILS

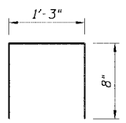
In lieu of the cast-in-place anchor device shown, the Contractor has the option of drilling and epoxy grouting ⅝" ϕ anchor rods. Embedment shall be according to the manufacturer's specifications.



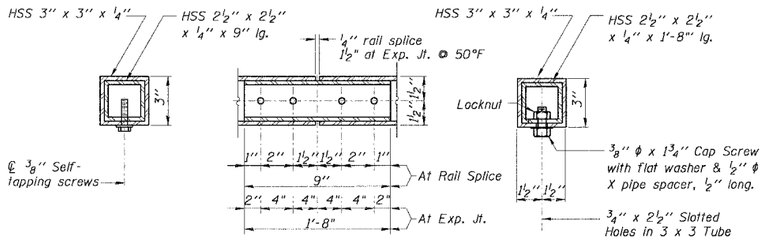
DETAIL A

DETAIL B

DETAIL C



BAR h1

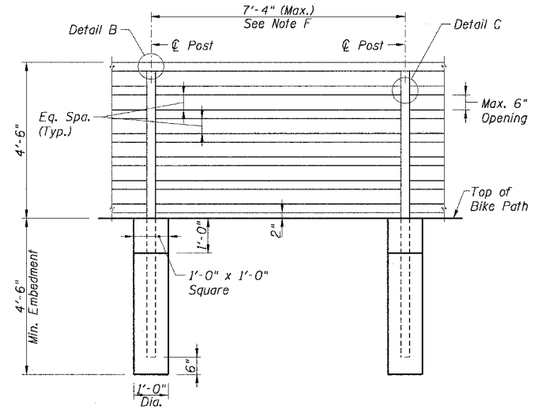


DETAIL AT RAIL SPLICE

PLAN VIEW

DETAIL AT EXPANSION JT.

RAIL SPLICE DETAILS



ELEVATION-HANDRAIL, 54"

NOTES FOR HANDRAIL:

A. *Railing shall be according to Section 509 of the Standard Specifications, except as noted, and will be paid for at the Contract Unit Price per foot for Handrail, 24", and Handrail, 54".*

B. *Hollow structural sections shall conform to the requirements of ASTM designation A 500, Grade B, structural steel tubing.*
All other steel shapes and plates shall conform to the requirements of AASHTO M 270 Grade 36.

C. *If the option of drilling and epoxy grouting the anchor rods is chosen, the Contractor shall use the capsule or the adhesive cartridge type anchor rods that have been previously tested and given a prior approval by the Engineer. The Contractor shall install these anchor rods in pre-drilled holes according to the manufacturer's recommendations and procedures. The capsule or the adhesive cartridge shall be sealed with pre-measured amounts of the adhesive chemical.*

D. *Space reinforcement to miss anchor rods.*

E. *All posts, railing, splices, anchor devices, and bent plates shall be galvanized after shop fabrication according to AASHTO M 111 and ASTM A 385. All bolts, nuts, washers, and anchor rods shall be galvanized according to AASHTO M 232 except stainless steel bolts as noted.*
Vent holes for galvanizing shall be placed in the posts and rails at locations that will not allow the accumulation of moisture in the members.

F. *Contractor shall prepare and submit layout of steel railing for Engineer's review and approval. Post spacing shown is maximum allowed.*

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h1	180	#5	2'-7"	⊓
h2	6	#8	30'-0"	———
Items			Units	Quantity
Structure Excavation			Cu. Yd.	*
Concrete Structures			Cu. Yd.	1,550
Architectural Concrete Form Liner Finish			Sq. Ft.	24,000
Protective Coat			Sq. Yd.	4,250
Steel Sheet Piling			Sq. Ft.	84,275
Reinforcement Bars, Epoxy Coated (Including Welded Wire Fabric)			Pound	104,780
Stud Shear Connectors			Each	16,430
Handrail, 24"			Lin. Ft.	270
Handrail, 54"			Lin. Ft.	*

* *Quantity Included with Civil work*

NOTES:

1. *3/4" x 7" Granular or solid flux filled headed studs conforming to Artical 710.38 of the Standard Specifications. Automatically end welded @ 12" alternate centers along vertical height of the concrete caps. Install shear studs up to 6" at either ends, top and bottom.*

2. *All reinforcement bars, including welded wire fabric shall be epoxy coated.*

REVISION	
DATE	DESCRIPTION

DESIGNED BY: GEC/DPV CHECKED BY: GEC/DPV
DRAWN BY: RJ/ET CHECKED BY: DPV

PLANS PREPARED BY:

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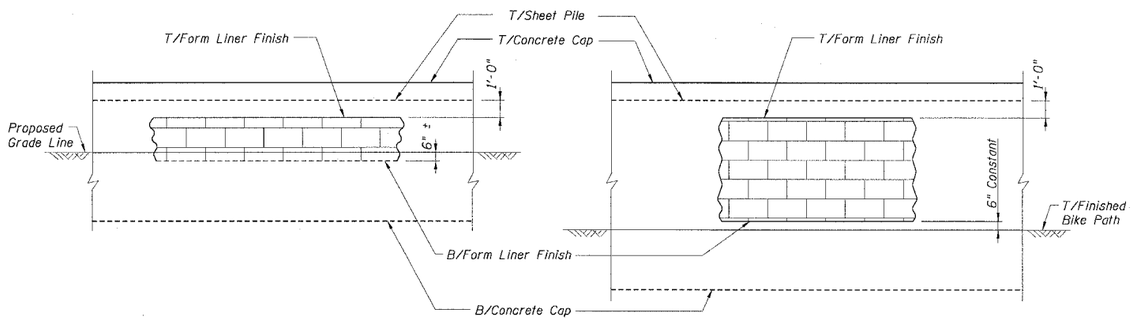
SCALE: NONE

SFW-10 FR-416

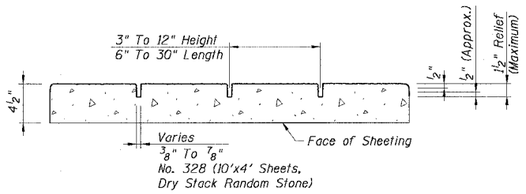
FLOODWALL SECTIONS, ELEVATIONS AND DETAILS



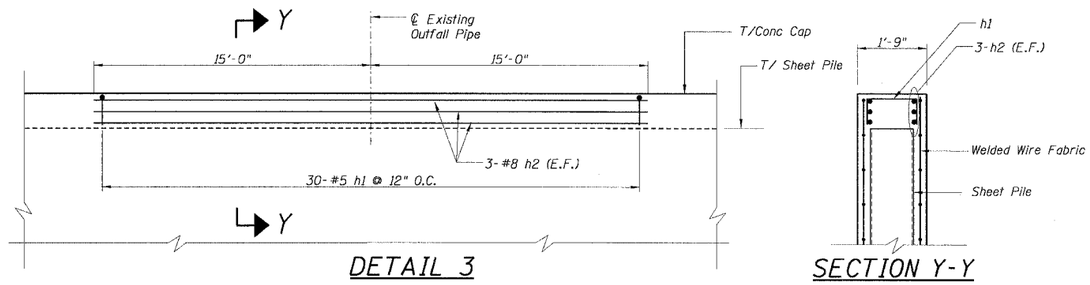
LAND SIDE — RIVER SIDE (BIKE TRAIL SIDE)

LIMITS OF FORM LINER FINISH FOR FLOOD WALL

(For Form Liner Finish Details, See Specifications)



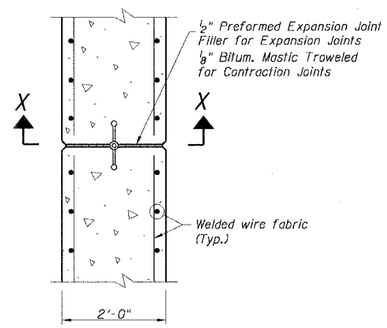
TYP. DETAIL FOR FORM LINER



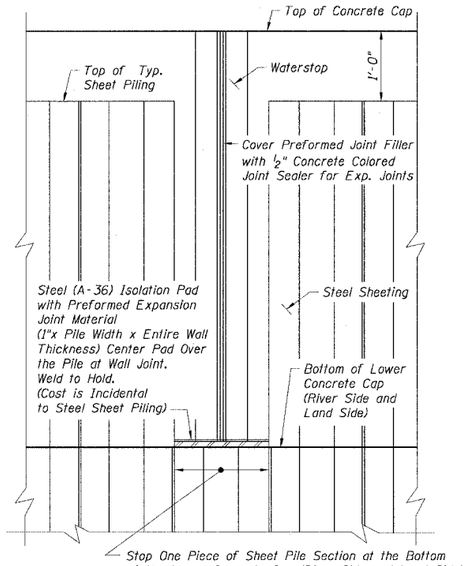
DETAIL 3

(Concrete Cap Detail for Floodwall near Sta. 21+65±)

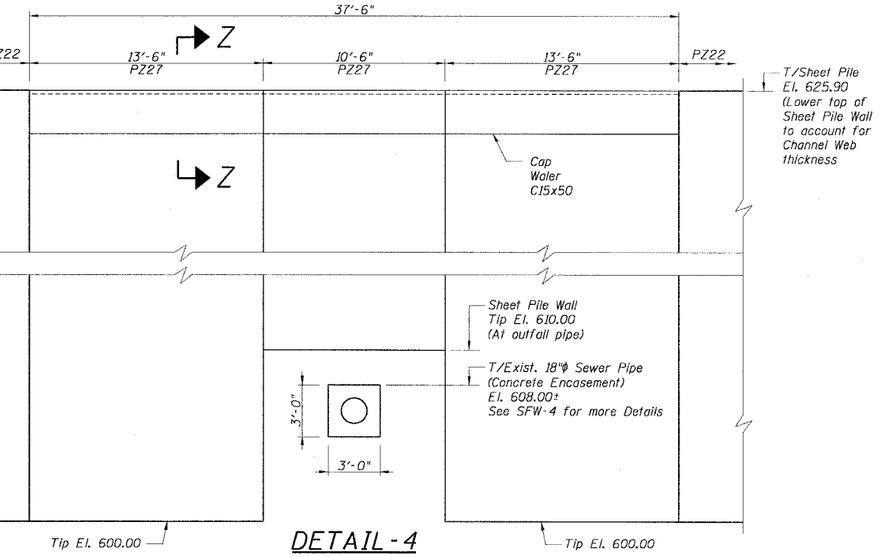
SECTION Y-Y



PLAN

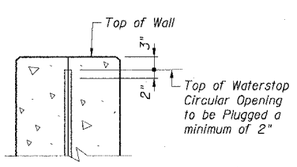


TYP. JOINT DETAIL ELEVATION

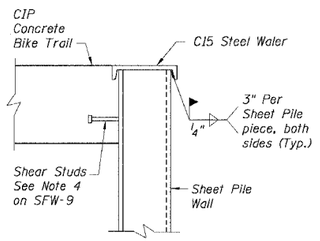


DETAIL-4

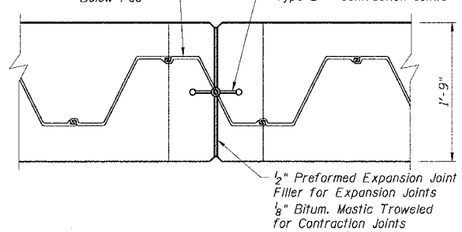
(ELEVATION LOOKING SOUTH)
Waler Detail for Sheet Pile Wall for Bike Trail Support near Sta. 21+65±



SECTION X-X
JOINT DETAIL - TOP OF WALL



SECTION Z-Z



TYP. JOINT DETAIL PLAN VIEW

NOTES:

1. Contraction and Expansion Joint Spacing may be varied to Center joints over the center of the Steel Sheeting.
2. Stop Reinforcement a maximum of 4" and minimum of 2" from center line of Contraction Joints and Expansion Joints.
3. See Sheet SGND-2 for Waterstop Details.

REVISION	
DATE	DESCRIPTION

DESIGNED BY: GEC/DPV CHECKED BY: GEC/DPV
DRAWN BY: RJ/EMT CHECKED BY: DPV

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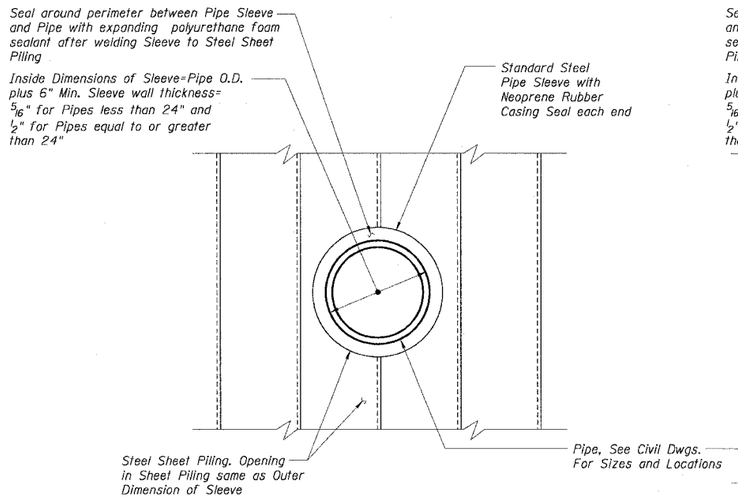
SCALE: NONE

SFW-11 FR-416



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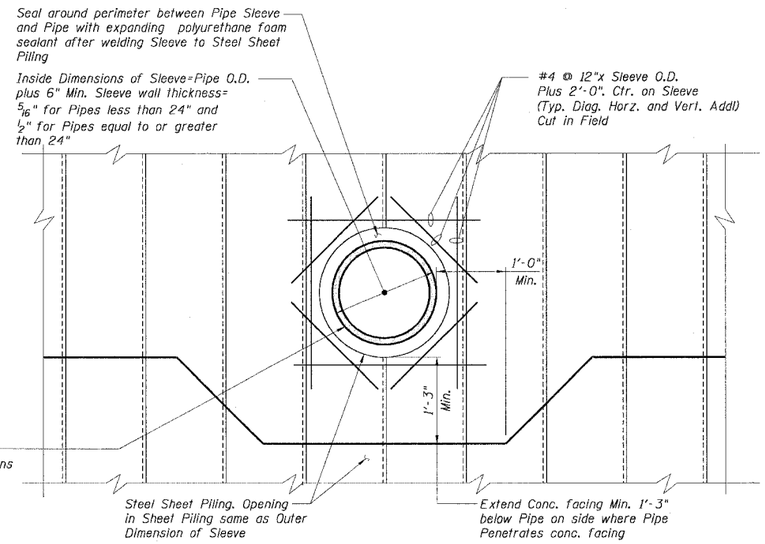

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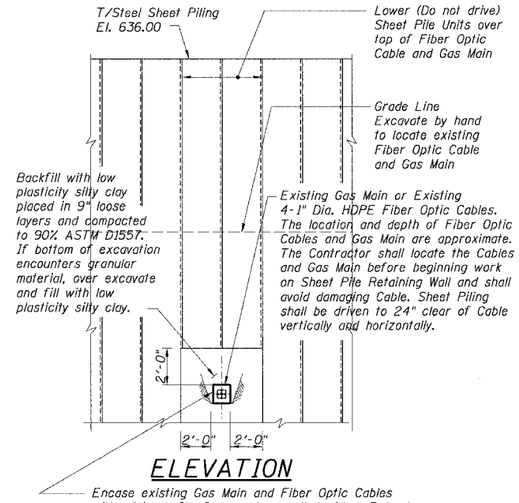
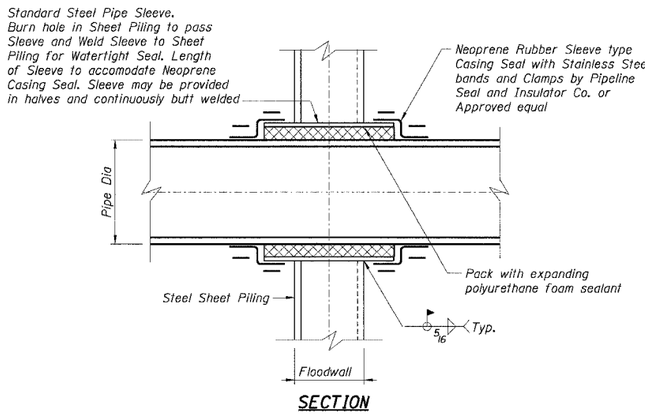


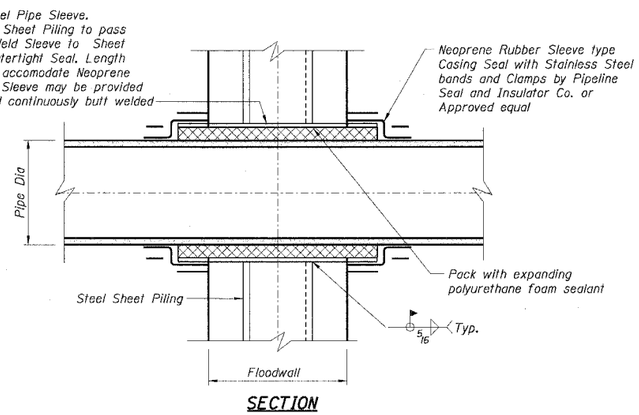
ELEVATION

EXISTING GAS MAIN AND FIBER OPTIC CABLE PENETRATION THRU STEEL SHEET PILING



SECTION

TYPICAL UTILITY PIPE PENETRATION THROUGH STEEL SHEET PILING



SECTION

TYPICAL UTILITY PIPE PENETRATION THROUGH CONCRETE FACED STEEL SHEET PILING

NOTES:

1. Utility Pipe Penetration cost shall be included in the Pay Item for Steel Sheet Piling.

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DRAWN BY: RJ/EMT CHECKED BY: AAG

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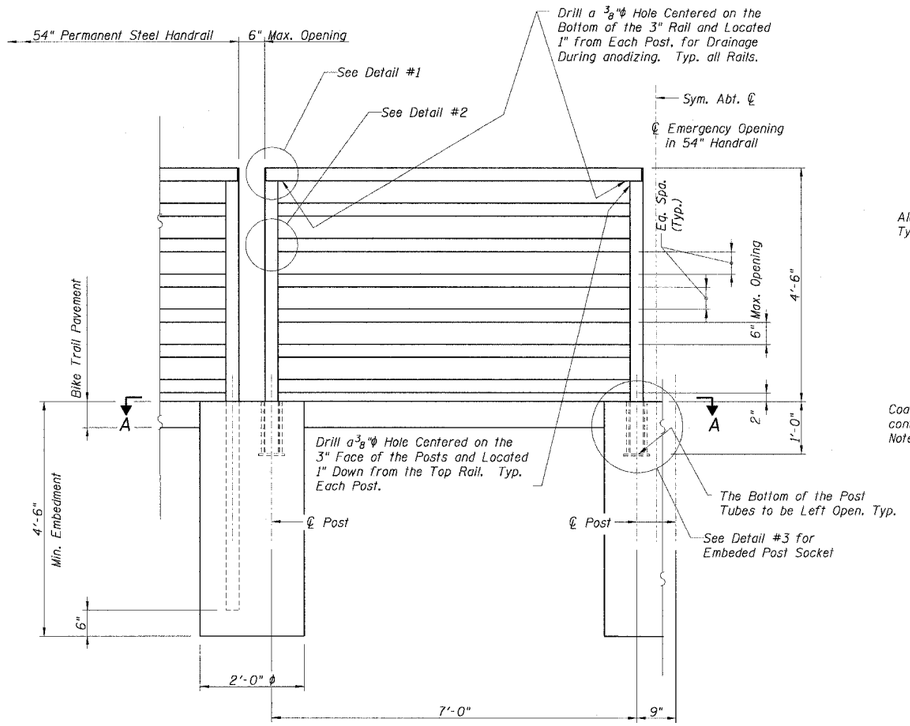
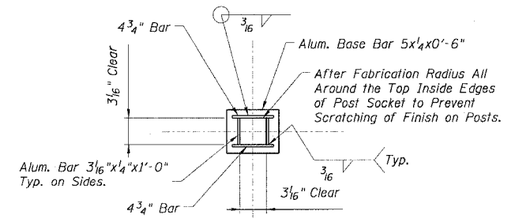
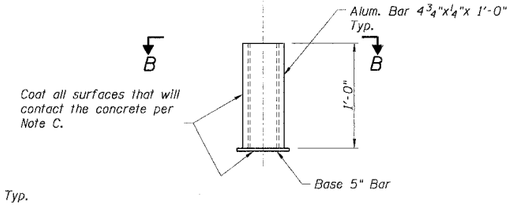


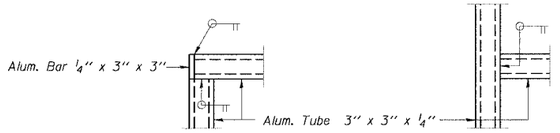
PARTIAL ELEVATION - REMOVABLE HANDRAIL, 54"



SECTION B-B

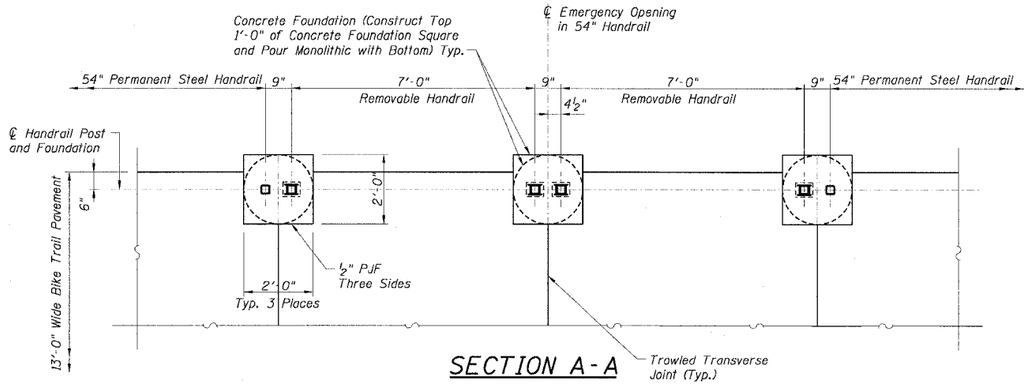


DETAIL #3



DETAIL #1

DETAIL #2



SECTION A-A

NOTES FOR REMOVABLE HANDRAIL:

A. Railing shall be according to Section 509 of the Standard Specifications, except as noted. No additional cost will be paid for the difference in unit cost between aluminum railing with their socket pieces and the steel railing, and the cost is to be included in the Pay Item, Handrail, 54".

B. Aluminum tube sections as well as the bars shall conform to the requirements of ASTM Designation B 221, Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles and Tubes, Alloy 6061-T6. Use ER5356 Alloy, aluminum electrode for welding.

C. After fabrication, the aluminum handrail and socket pieces shall be given a caustic etch followed by a Class I, anodic coating, Aluminum Association Designation AA-MIOC22A41.

D. Apply two coats of bituminous paint to concealed aluminum surfaces in contact with cementitous materials.

E. Contractor shall prepare and submit layout and shop drawings of the railing for the Engineer's review and approval. Use the post spacing shown, for the removable handrail sections.

F. For the location of removable handrail see Civil Sheet C-2.

DESIGNED BY: DAS CHECKED BY: DPV
DRAWN BY: DAS CHECKED BY: DPV

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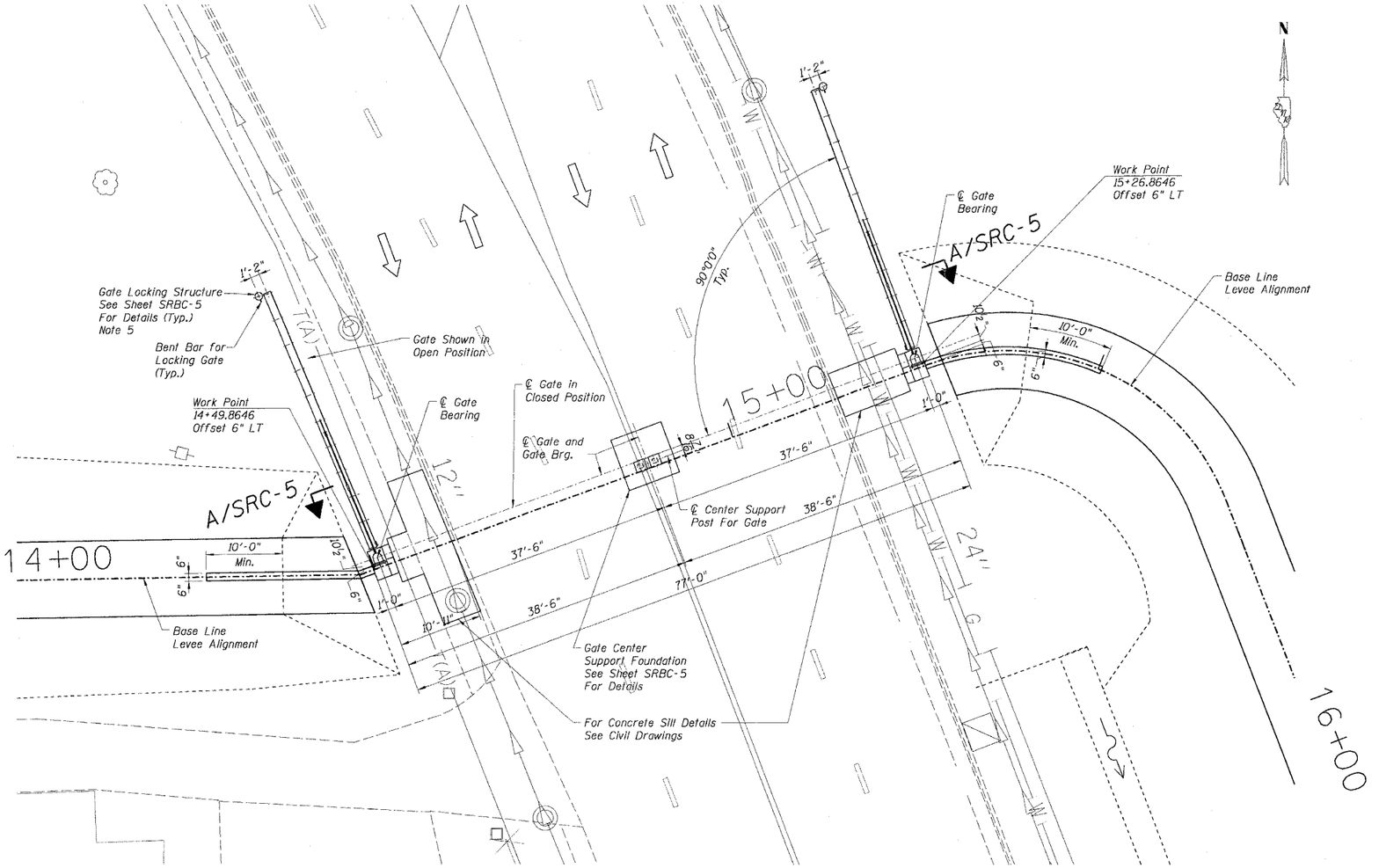
SFW-13 FR-416

REMOVABLE HANDRAIL, ELEVATION AND DETAILS



PLAN AT RAND ROAD FLOOD GATE CLOSURE STRUCTURE

LEGEND:

⇨ - *Indicates Direction of Traffic*

NOTES:

1. *See Civil Drawings - RAND ROAD FLOOD GATE LOCATION PLAN for additional information.*
2. *For Gate Foundation Details, see Sheets SRC-2 thru SRC-4.*
3. *For Gate Elevation, Elevation A-A see Sheet SRC-5.*
4. *For miscellaneous Gate Details, see Sheets SRBC-1 through SRBC-5.*
5. *Locate Gate Locking Structure so Gate will be parallel to Sidewalk when Gate is open position.*

DESIGNED BY: AAG CHECKED BY: DPV
DRAWN BY: RJ/EMT CHECKED BY: DPV/DAS

01/31/2006 08:50:42 AM p:\60003332\struct\sht\03s120-SRC-1.sht

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SRC-1

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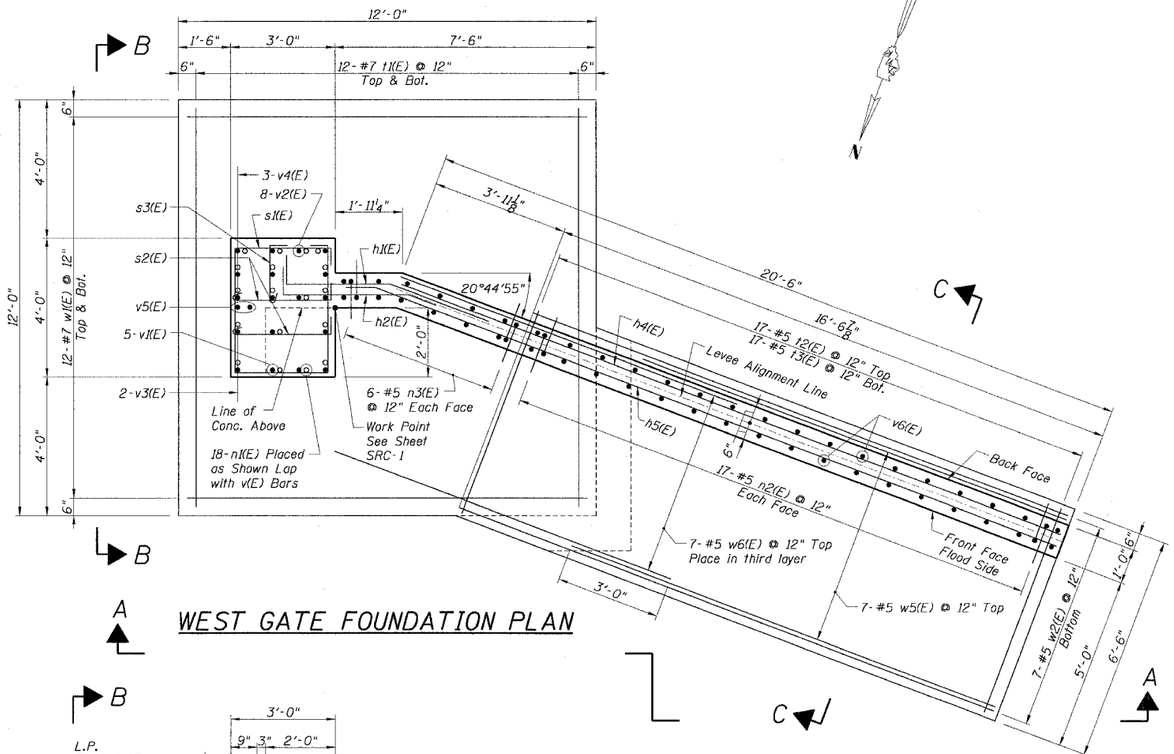
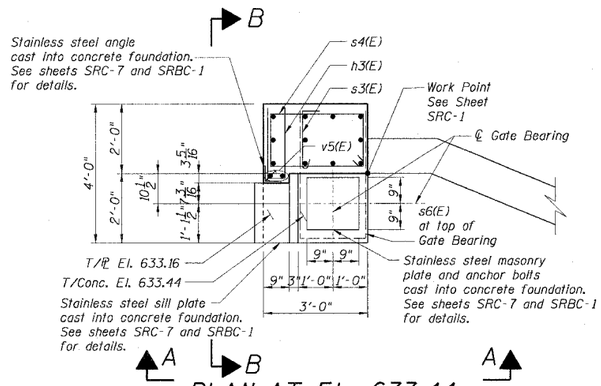
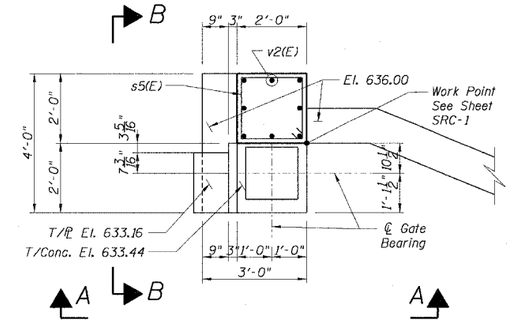


WEST GATE FOUNDATION PLAN



PLAN AT EL. 633.44



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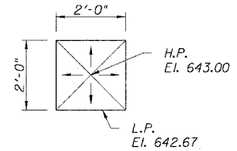


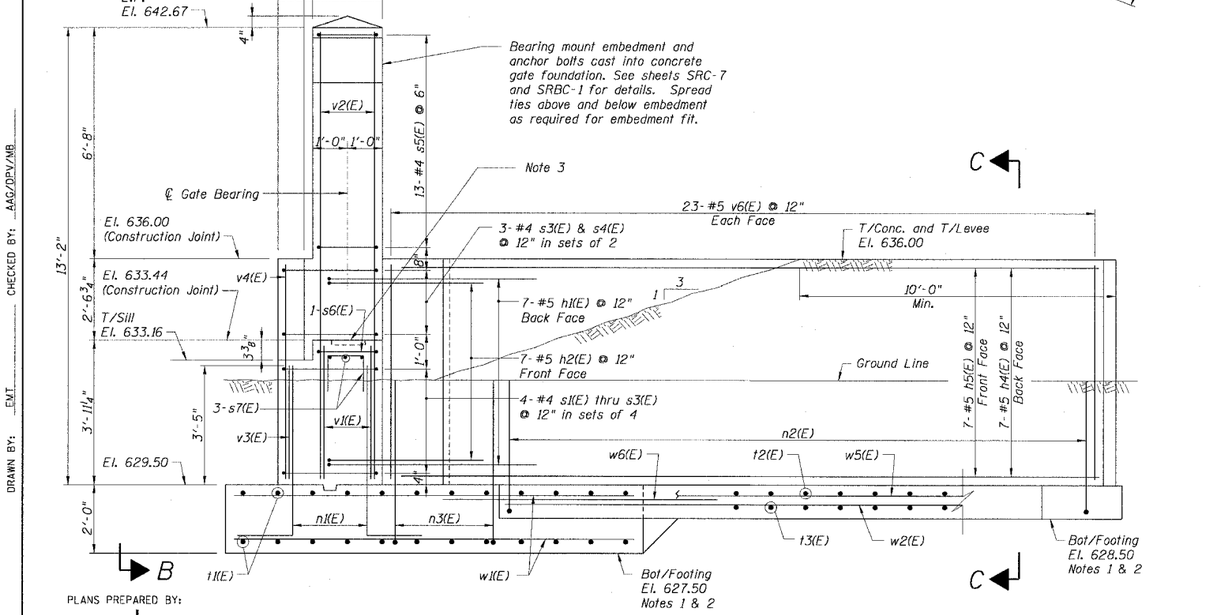
TOP PLAN

NOTES:

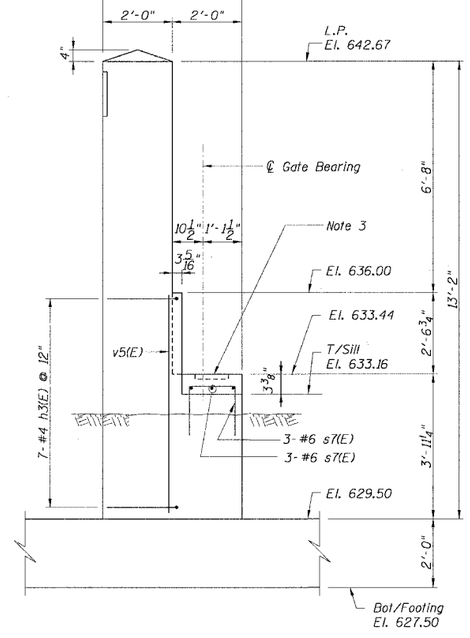
1. Assumed Net Design Soil Bearing Pressure = 2500 Psf
Verify in field with Independent Geotechnical Engineer.

2. If excavation for footings encounter granular material, overcut excavation one foot and backfill with low plasticity silty clay placed in 9" loose layers and compacted to 90% ASTM D1557. This work will not be measured for payment but will be included in the contract unit price for "STRUCTURE EXCAVATION".

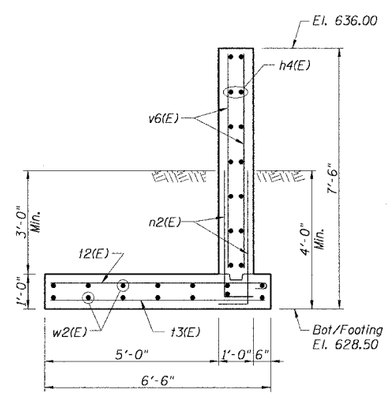
3. For size and location of pocket in top of foundation for shear lugs welded to masonry plate see sheet SRBC-1.



ELEVATION A-A



ELEVATION B-B



SECTION C-C

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DESIGNED BY: AAG CHECKED BY: DPV
DRAWN BY: CMT CHECKED BY: AAG/DPV/MB

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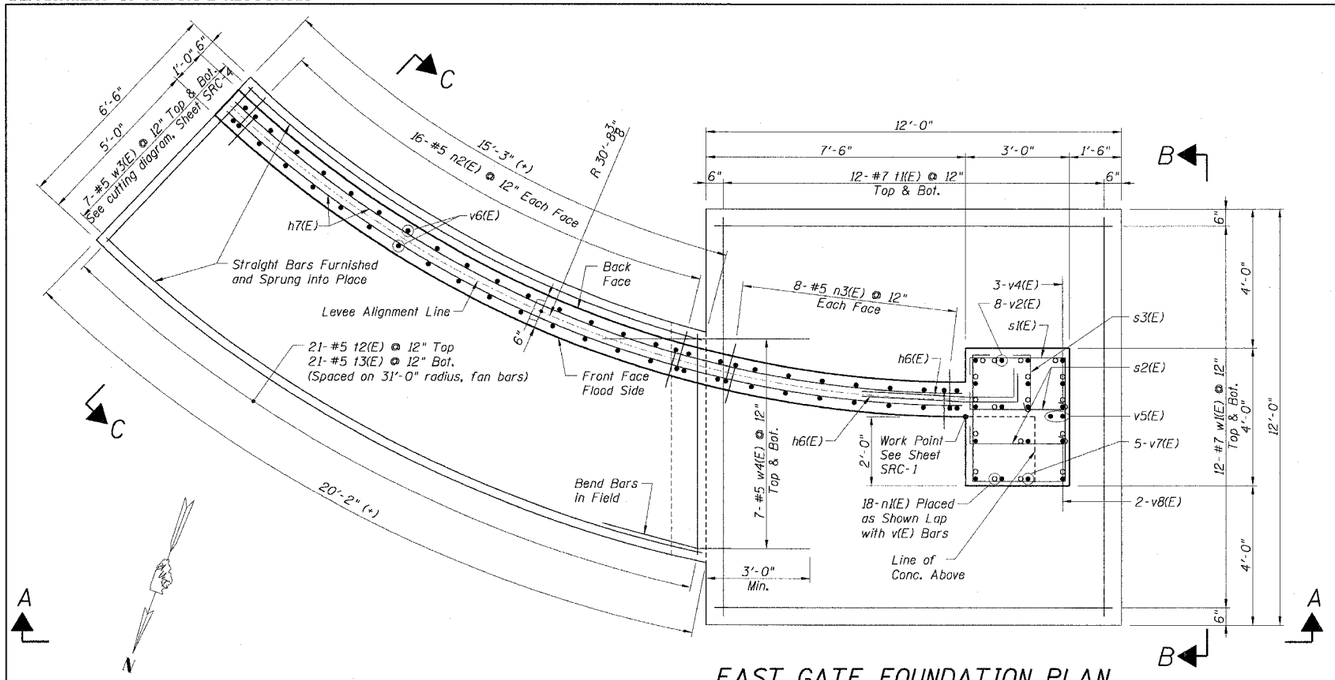
SCALE: NONE

SRC-2 FR-416

RAND ROAD FLOOD GATE CLOSURE STRUCTURE WEST GATE FOUNDATION, PLANS, SECTION AND ELEVATIONS



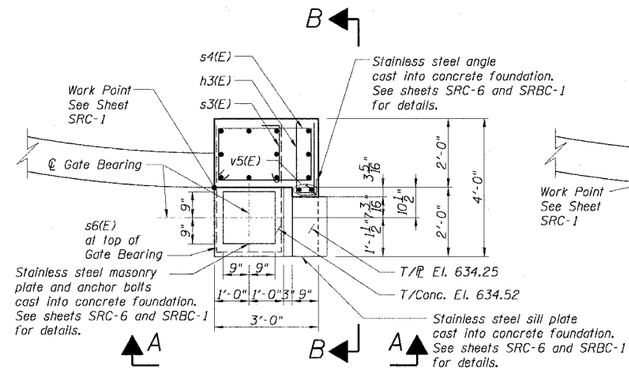
EAST GATE FOUNDATION PLAN

NOTES:

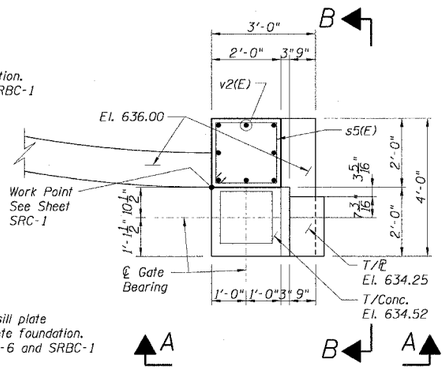
1. Assumed Net Design Soil Bearing Pressure = 2500 Psf
Verify in field with Independent Geotechnical Engineer.

2. If excavation for footings encounter granular material, overcut excavation one foot and backfill with low plasticity silty clay placed in 9" loose layers and compacted to 90% ASTM D1557. This work will not be measured for payment but will be included in the contract unit price for "STRUCTURE EXCAVATION".

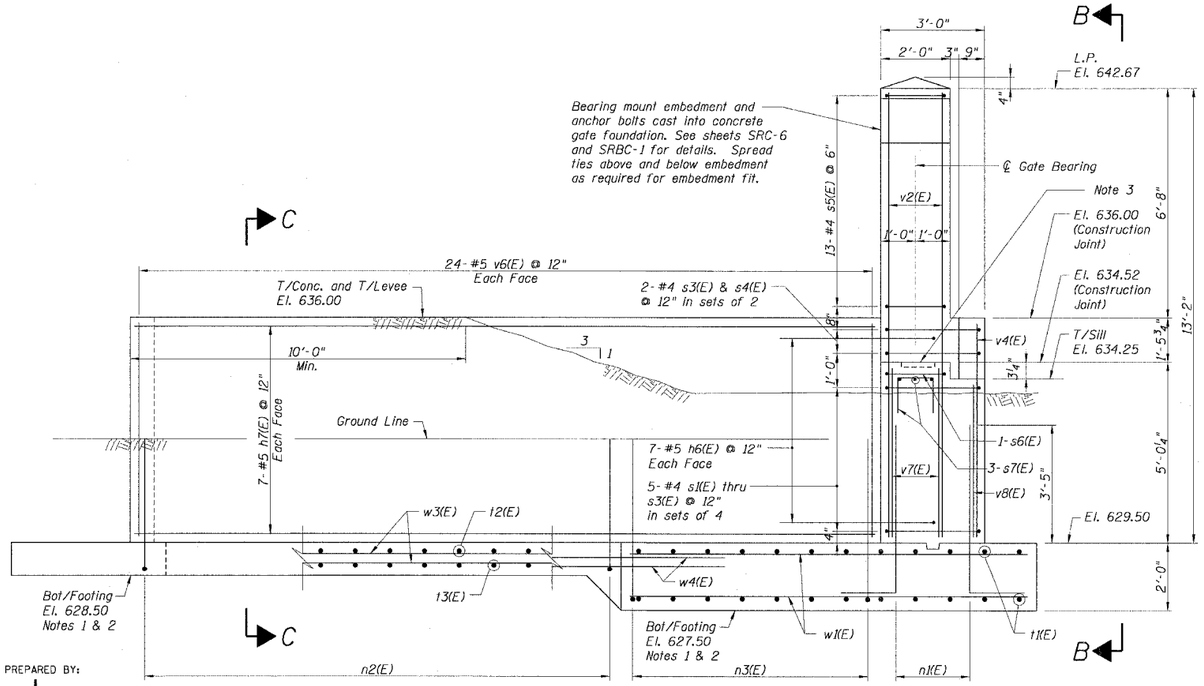
3. For size and location of pocket in top of foundation for shear lugs welded to masonry plate see sheet SRBC-1.



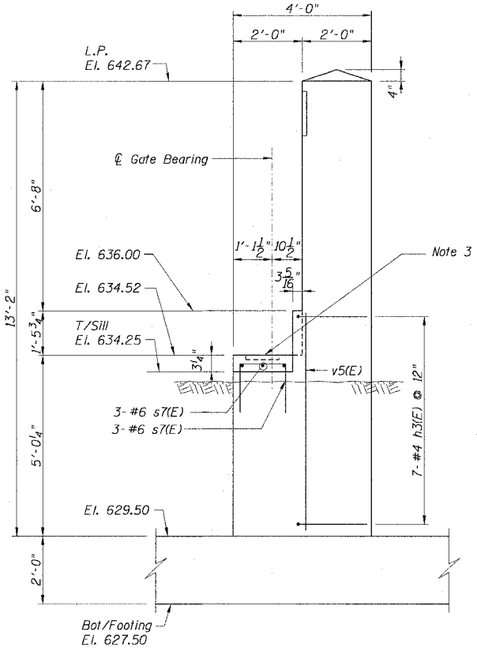
PLAN AT EL. 634.52



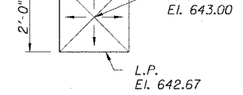
PLAN AT EL. 636.00



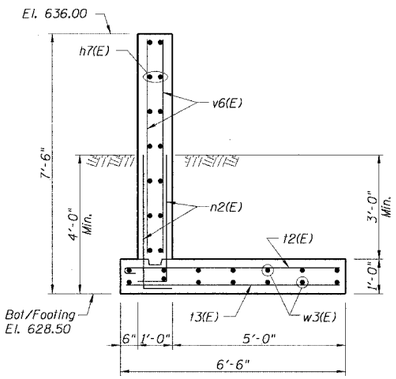
ELEVATION A-A



ELEVATION B-B



TOP PLAN



SECTION C-C

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SCALE: NONE

SRC-3 FR-416

RAND ROAD FLOOD GATE CLOSURE STRUCTURE EAST GATE FOUNDATION, PLANS, SECTION AND ELEVATIONS

DESIGNED BY: AAG CHECKED BY: DPV
DRAWN BY: EMT CHECKED BY: AAG/DPV/MB

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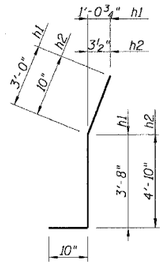
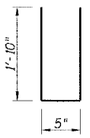
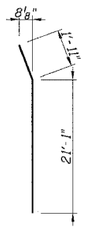


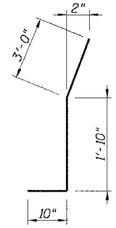
BARS h1(E) & h2(E)



BAR h3(E)



BAR h5(E)



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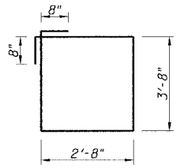
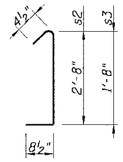


BAR s1(E)



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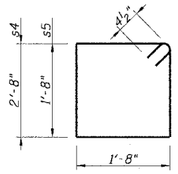

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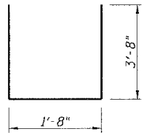
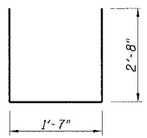
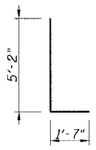


BAR s6(E)



BAR s7(E)



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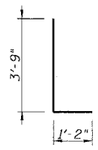
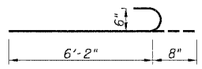
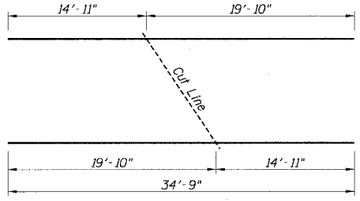


BAR n2(E)

BAR n3(E)



BAR t2(E)



BAR w3(E) - CUTTING DIAGRAM

Order w3(E) bars full length. Cut to fit as shown at top of footing and use remainder of bars at bottom of footing.

BILL OF MATERIAL FOR EAST GATE FOUNDATION

Bar	No.	Size	Length	Shape
h3(E)	7	#4	4'-1"	
h6(E)	14	#5	5'-8"	
h7(E)	14	#5	23'-0"	
n1(E)	18	#9	6'-9"	
n2(E)	32	#5	4'-11"	
n3(E)	16	#5	5'-7"	
s1(E)	5	#4	14'-0"	
s2(E)	10	#4	3'-9"	
s3(E)	7	#4	2'-9"	
s4(E)	2	#4	9'-5"	
s5(E)	13	#4	7'-5"	
s6(E)	1	#4	9'-0"	
s7(E)	6	#6	6'-11"	
t1(E)	24	#7	11'-8"	
t2(E)	21	#5	6'-10"	
t3(E)	21	#5	6'-2"	
v2(E)	8	#9	13'-0"	
v4(E)	3	#9	6'-4"	
v5(E)	2	#6	6'-4"	
v6(E)	48	#5	6'-4"	
v7(E)	5	#9	4'-10"	
v8(E)	2	#9	4'-7"	
w1(E)	24	#7	11'-8"	
w3(E)	7	#5	34'-9"	
w4(E)	14	#5	6'-0"	
Structure Excavation			Cu. Yd.	78
Concrete Structures			Cu. Yd.	24
Reinforcement Bars, Epoxy Coated			Pound	3980
Protective Coat			Sq. Yd.	16

Reinforcement bars designated (E) shall be epoxy coated.

BILL OF MATERIAL FOR WEST GATE FOUNDATION

Bar	No.	Size	Length	Shape
h1(E)	7	#5	7'-6"	
h2(E)	7	#5	6'-6"	
h3(E)	7	#4	4'-1"	
h4(E)	7	#5	20'-6"	
h5(E)	7	#5	23'-0"	
n1(E)	18	#9	6'-9"	
n2(E)	34	#5	4'-11"	
n3(E)	12	#5	5'-7"	
s1(E)	4	#4	14'-0"	
s2(E)	8	#4	3'-9"	
s3(E)	7	#4	2'-9"	
s4(E)	3	#4	9'-5"	
s5(E)	13	#4	7'-5"	
s6(E)	1	#4	9'-0"	
s7(E)	6	#6	6'-11"	
t1(E)	24	#7	11'-8"	
t2(E)	17	#5	6'-10"	
t3(E)	17	#5	6'-2"	
v1(E)	5	#9	3'-9"	
v2(E)	8	#9	13'-0"	
v3(E)	2	#9	3'-5"	
v4(E)	3	#9	6'-4"	
v5(E)	2	#6	6'-4"	
v6(E)	46	#5	6'-4"	
w1(E)	24	#7	11'-8"	
w2(E)	7	#5	16'-4"	
w5(E)	7	#5	13'-0"	
w6(E)	7	#5	10'-4"	
Structure Excavation			Cu. Yd.	72
Concrete Structures			Cu. Yd.	23
Reinforcement Bars, Epoxy Coated			Pound	3820
Protective Coat			Sq. Yd.	16

Reinforcement bars designated (E) shall be epoxy coated.

DESIGNED BY: AAG CHECKED BY: DPV
DRAWN BY: EMT CHECKED BY: MB/AAG

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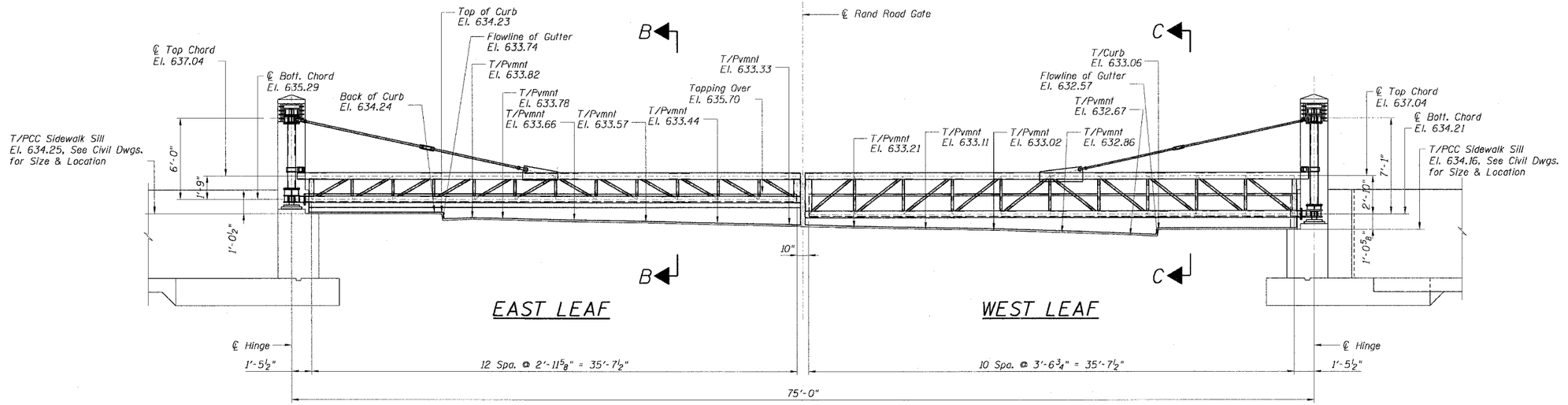
DATE	DESCRIPTION

SRC-4

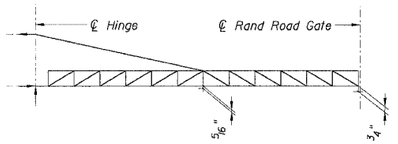
SCALE: NONE

FR-416

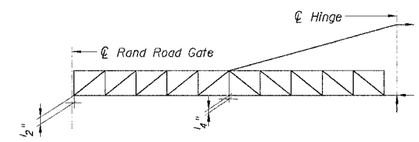
RAND ROAD FLOOD GATE CLOSURE STRUCTURE FOUNDATIONS, BILL OF MATERIALS



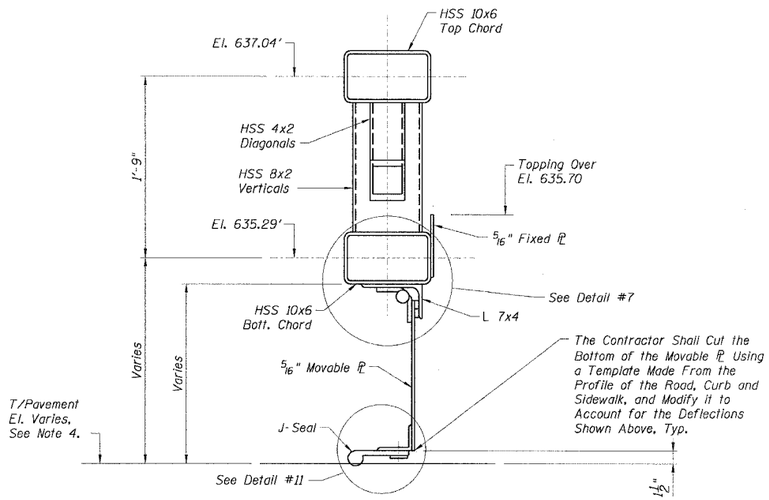
ELEVATION A-A - LOOKING SOUTH



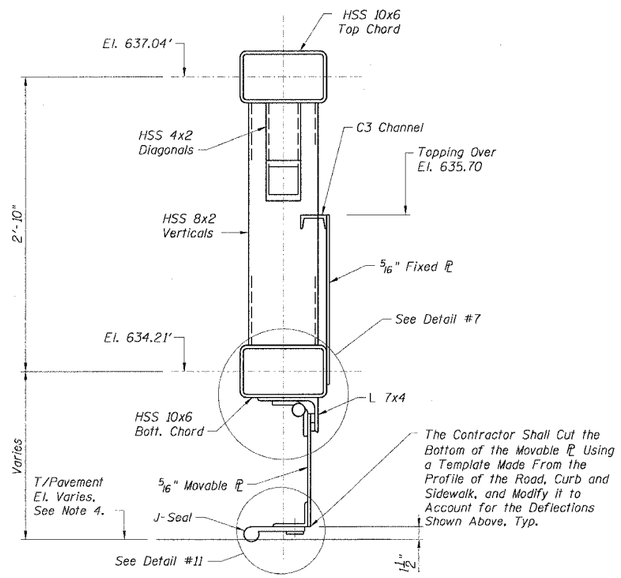
EAST LEAF - THEORETICAL DEFLECTION DIAGRAM



WEST LEAF - THEORETICAL DEFLECTION DIAGRAM



SECTION B-B - EAST LEAF NEAR ℄ RAND ROAD



SECTION C-C - WEST LEAF AT GUTTER LINE

NOTES:

1. For Plan and Detail Elevations, see Sheets SRC-6 & SRC-7.
2. For Details #7 & #11, see Sheet SRBC-2.
3. For General Notes, see Sheet SGND-1.
4. Top of Pavement Elevations shown are Approximate and must be verified in Field by Contractor prior to Fabrication of Movable Plate in bottom of Gate.

DESIGNED BY: DAS CHECKED BY: AAG
DRAWN BY: DAS/RJ CHECKED BY: AAG/DAS

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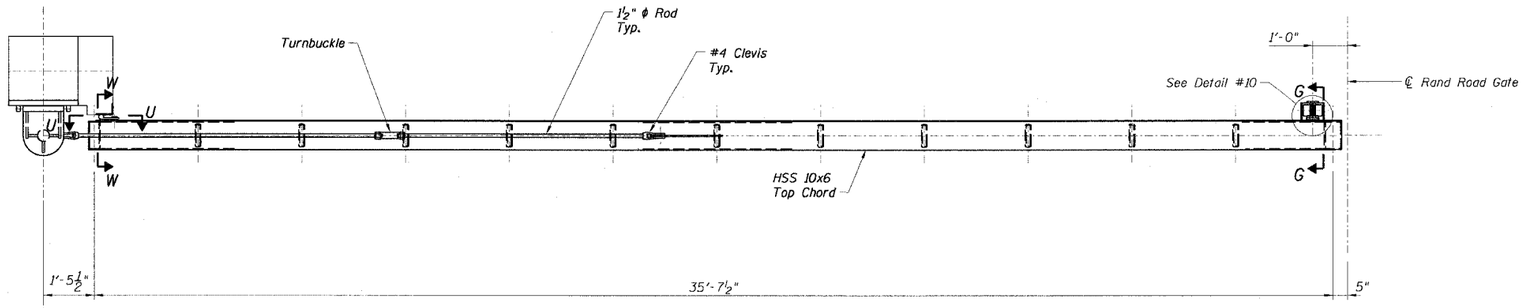
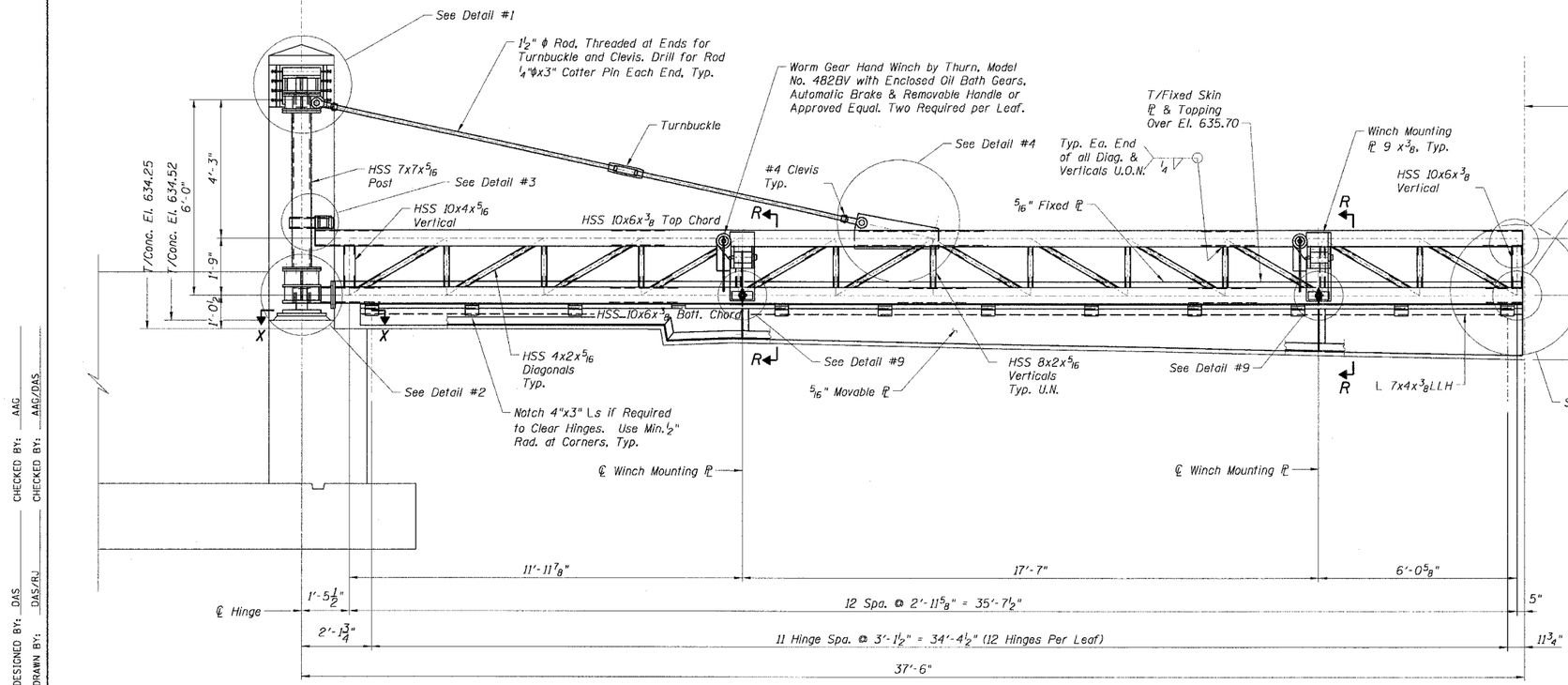
SCALE: NONE

SRC-5 FR-416

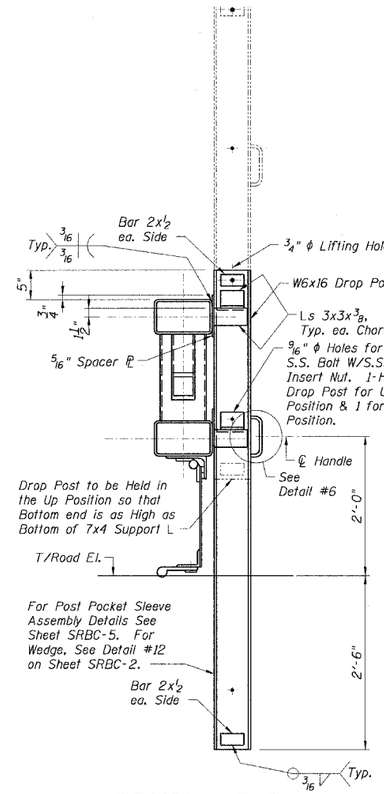
RAND ROAD FLOOD GATE CLOSURE STRUCTURE ELEVATION AND SECTIONS



PLAN - EAST LEAF



ELEVATION - EAST LEAF LOOKING SOUTH



SECTION G-G

NOTES:

1. For Details and Sections, see Sheets SRBC-1 Through SRBC-5.
2. For General Notes, see Sheet SGND-1.

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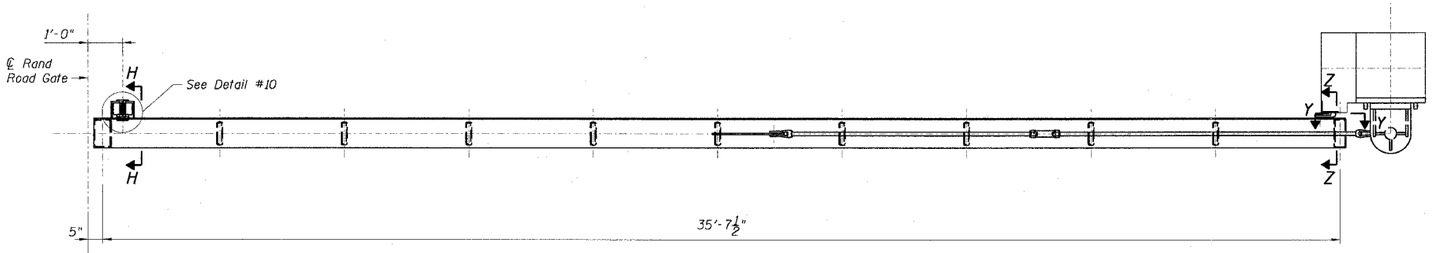
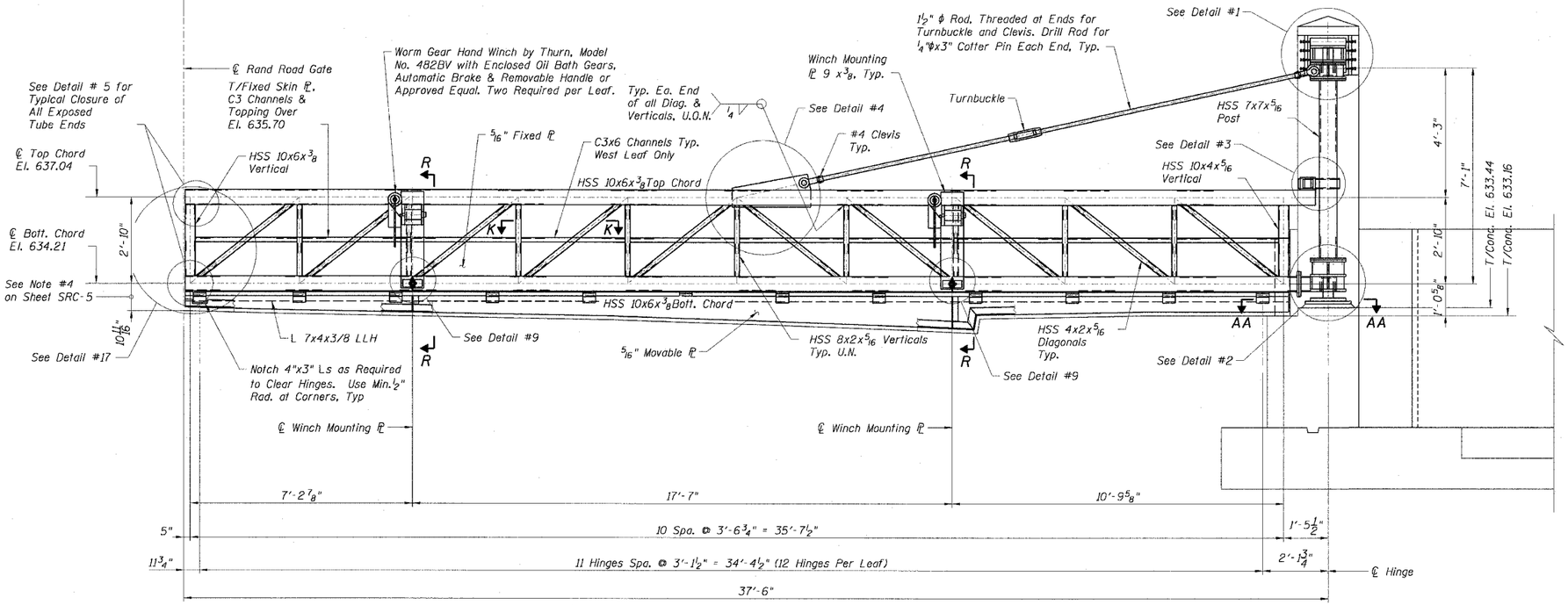
SCALE: NONE

SRC-6 FR-416

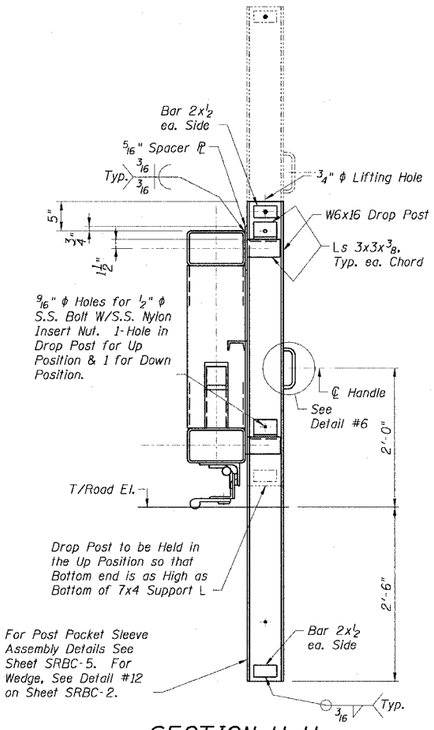
RAND ROAD FLOOD GATE CLOSURE STRUCTURE PLAN, ELEVATION AND SECTION



PLAN - WEST LEAF



ELEVATION - WEST LEAF LOOKING SOUTH



SECTION H-H

NOTES:

1. For Details and Sections, see Sheets SRBC-1 Through SRBC-5.
2. For General Notes, see Sheet SGND-1.

DESIGNED BY: DAS CHECKED BY: AAG
DRAWN BY: DAS/RJ CHECKED BY: AAG/DAS

01/31/2006 09:39:35 AM P:\P60003332\Struct\Sht\03s126-SRC-7.sht

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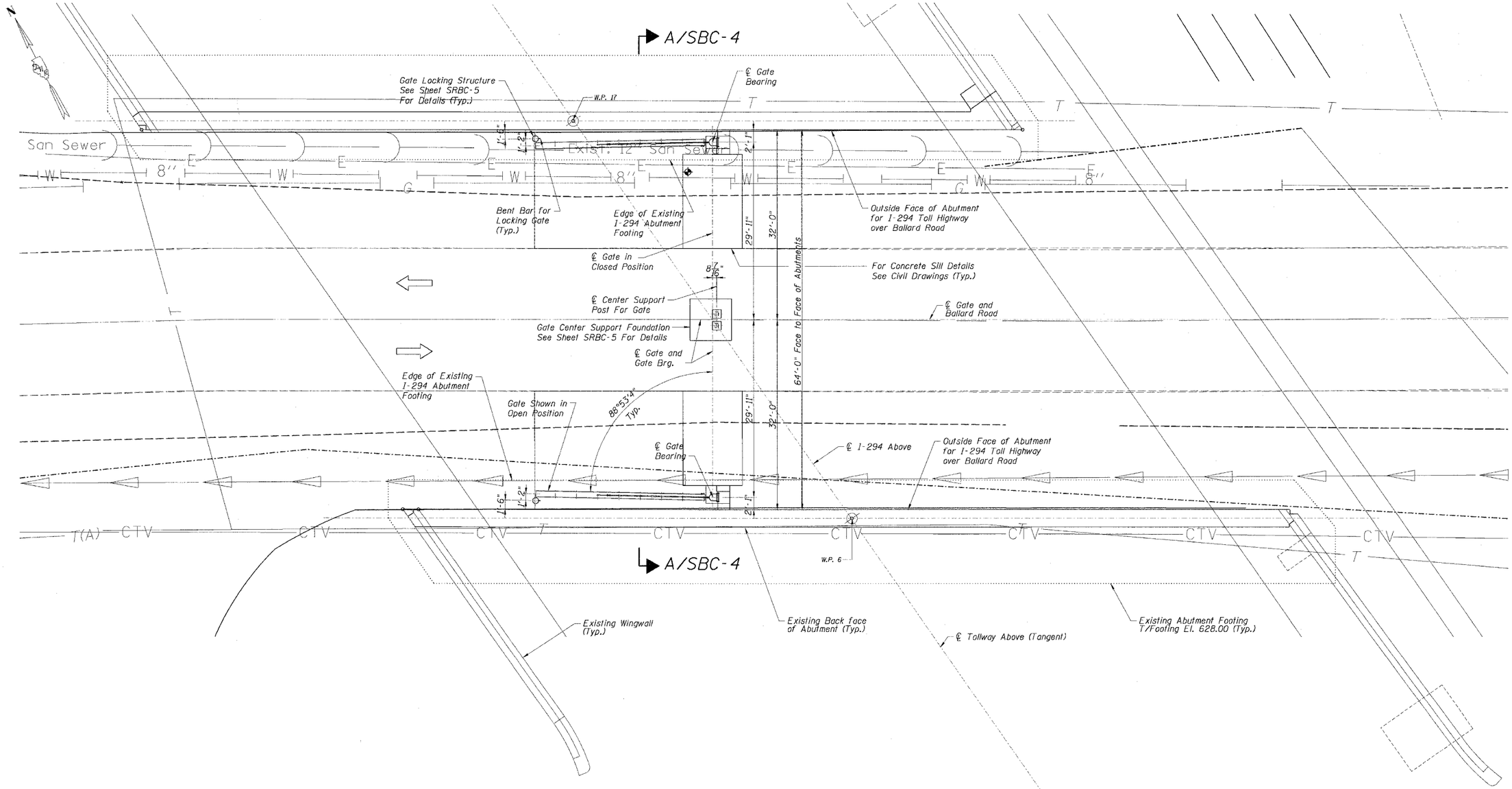
DATE	DESCRIPTION

SCALE: NONE

SRC-7 FR-416

RAND ROAD FLOOD CLOSURE STRUCTURE PLAN, ELEVATION AND SECTION



PLAN AT BALLARD ROAD FLOOD GATE CLOSURE STRUCTURE

LEGEND:

- Indicates Micropile Tension Test Pile. Do not core through existing abutment footing. Locate pile outside of footing limits.
- Indicates Direction of Traffic

NOTES:

1. See Civil Drawing-BALLARD ROAD FLOOD GATE LOCATION PLAN For addition information.
2. For Gate Foundation Details, See Sheet SBC-2.
3. For Soil Boring Logs, See Sheet SBC-3.
4. For Gate Elevation, Elevation A-A See Sheet SBC-4.
5. For miscellaneous Gate Details, See Sheets SRBC-1 Through SBRC-5.

DESIGNED BY: AAG CHECKED BY: DPV
DRAWN BY: EMT CHECKED BY: DPV/AAG

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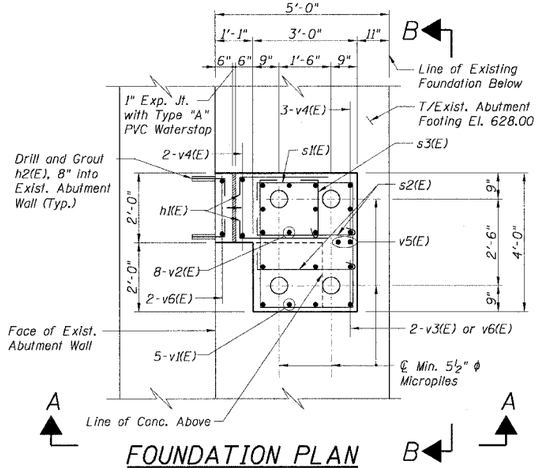
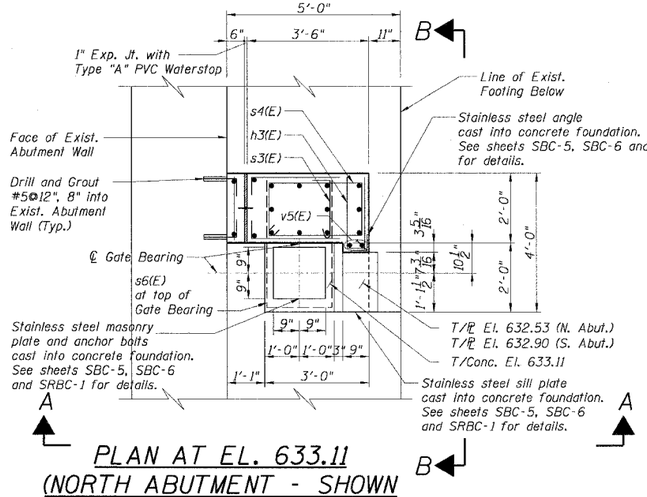
SCALE: NONE

SBC–1 FR-416

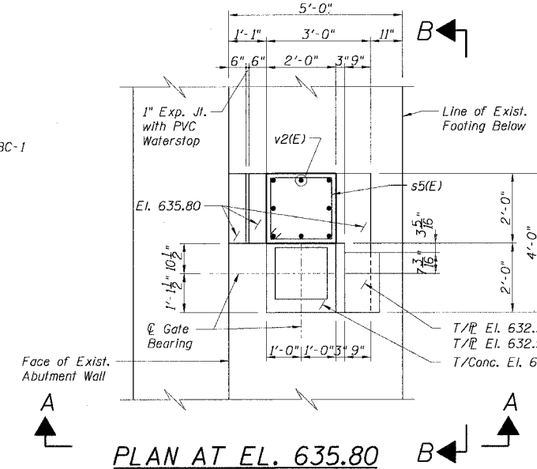
BALLARD ROAD FLOOD GATE CLOSURE STRUCTURE GENERAL PLAN



FOUNDATION PLAN (NORTH ABUTMENT - SHOWN (SOUTH ABUTMENT - OPP. HAND)



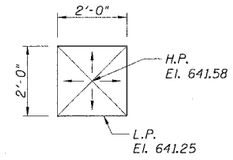
PLAN AT EL. 633.11 (NORTH ABUTMENT - SHOWN (SOUTH ABUTMENT - OPP. HAND)



PLAN AT EL. 635.80 (NORTH ABUTMENT - SHOWN (SOUTH ABUTMENT - OPP. HAND)

NOTE:

1. For size and location of pocket in top of foundation for shear lugs welded to masonry plate see sheet SRBC-1.

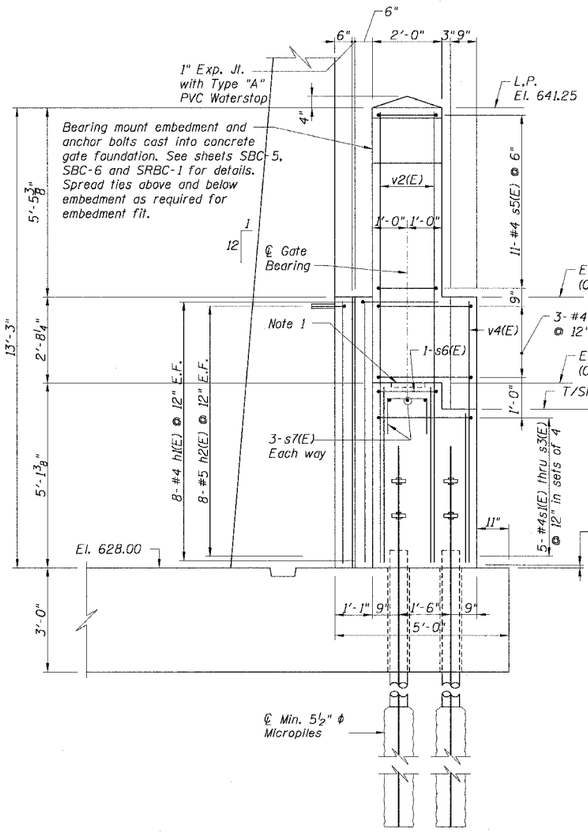


TOP PLAN

BILL OF MATERIAL FOR NORTH AND SOUTH FOUNDATIONS

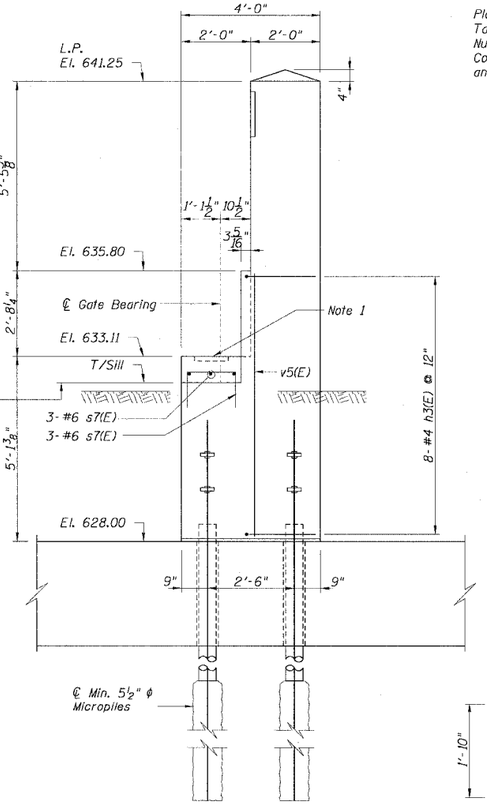
Bar	No.	Size	Length	Shape
h1(E)	32	#4	3'-5"	
h2(E)	32	#5	1'-8"	
h3(E)	16	#4	4'-1"	
s1(E)	10	#4	14'-0"	
s2(E)	20	#4	3'-9"	
s3(E)	16	#4	2'-9"	
s4(E)	6	#4	9'-5"	
s5(E)	22	#4	7'-5"	
s6(E)	2	#4	9'-0"	
s7(E)	12	#6	6'-11"	
v1(E)	10	#9	4'-11"	
v2(E)	16	#9	12'-10"	
v3(E)	4	#9	4'-6"	
v4(E)	10	#9	7'-7"	
v5(E)	4	#6	7'-7"	
v6(E)	4	#9	7'-7"	
Structure Excavation		Cu. Yd.	18	
Concrete Structures		Cu. Yd.	7	
Reinforcement Bars, Epoxy Coated		Pound	1970	
Micropiles		Each	8	
Test Piles		Each	1	
Protective Coat		Sq. Yd.	20	

Reinforcement bars designated (E) shall be epoxy coated.

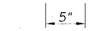


ELEVATION A-A

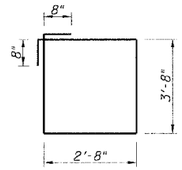
BAR h1(E) & h2(E)



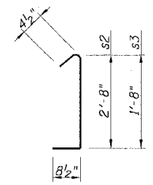
ELEVATION B-B



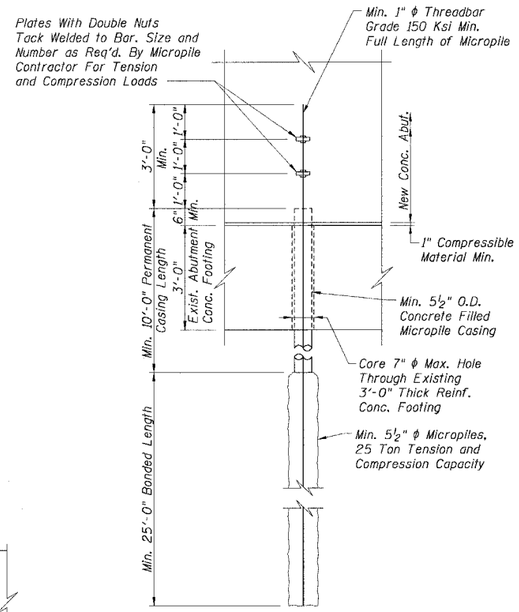
BAR h3(E)



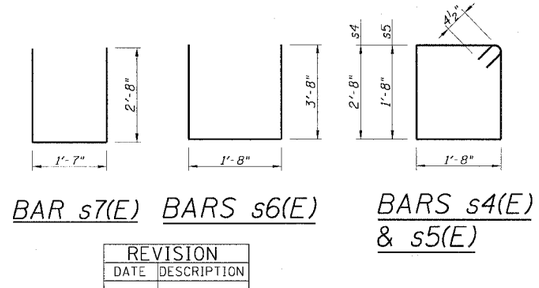
BARS s1(E)



BARS s2(E) & s3(E)



TYPICAL MICROPILE DETAIL



BAR s7(E) BARS s6(E) BARS s4(E) & s5(E)

REVISION	
DATE	DESCRIPTION

DESIGNED BY: AAG CHECKED BY: DPV
DRAWN BY: EMT CHECKED BY: DPV/AAG/MB

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SCALE: NONE

SBC–2 FR-416

BORING NO. WS-1

Elev. 631.1'	N	Description
629.4	18	Dk. brn. ORGANIC silty CLAY little c-f sand.
626.8	21	Yell. brn. c-f SAND and m-f Gravel, trace Silt; medium to dense.
624.4	15	Stratum of clayey Silty hard.
621.6	23	
619.4	25	
616.8	32	
614.4	36	Gray brn. clayey SILT, some c-f SAND, little f GRAVEL; very stiff to hard or very dense.
611.8	30	
610.4	32	
608.4	38	
600.4	180	
595.4	200	Gray brn. SILT, trace Clay, some f Sand; very dense.

BORING NO. WS-2

Elev. 631.3'	N	Description
629.6	10	Brn. c-f SAND, little Silt; medium
627.0	22	Gray brn. silty CLAY (-) little of Sand; hard.
624.8	27	
622.0	23	Brn. c-f SAND, trace m-f Gravel, trace Silt; medium.
619.6	27	
617.0	21	
614.6	93	
612.0	36	
610.6	87	
605.6	60	Gray brn. SILT, trace Clay, little m-f Sand; dense to very dense with increasing depth. (hard)
602.6	111	
598.6	64	
590.6	57	Gray brn. clayey SILT, little c-f Sand; hard.
585.6	52	
580.6	60	

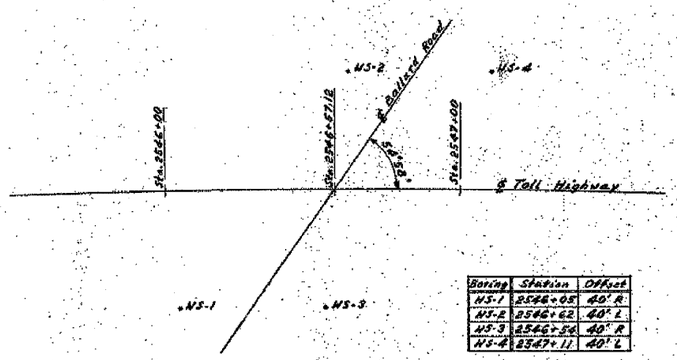
BORING NO. WS-3

Elev. 630.4'	N	Description
628.7	9	Brn. ORGANIC silty Clay; some c-f sand
626.1	8	Gray brn. silt, trace Clay, some c-f Sand, little GRAVEL; medium or very stiff
623.7	16	
621.1	25	
618.7	18	
616.1	36	Gray brn. clayey SILT, some c-f Sand, very stiff
613.7	37	
611.1	28	
608.7	20	Gray brn. silty CLAY, little c-f Sand; hard
604.7	40	
599.7	97	Gray SILT, trace Clay, some c-f Sand; very dense.
594.7	41	Gray SILT, trace Clay, some c-f Sand; very dense.
589.7	154	Gray brn. clayey SILT, little c-f Sand, trace Gravel; hard or very dense.
584.7	78	
579.7	82	

BORING NO. WS-4

Elev. 632.0'	N	Description
631.2	9	Dk. brn. ORGANIC silty CLAY some c-f Sand
628.6	6	Yell. brn. c-f SAND, some m-f GRAVEL; trace loose to medium.
626.2	14	
623.6	18	Gray brn. silty CLAY, some c-f Sand; very stiff.
621.2	22	
618.6	19	Yell. brn. m-f GRAVEL, and c-f Sand; medium.
616.2	20	
612.6	25	
612.2	27	Gray brn. clayey SILT, some c-f Sand, trace f Gravel; very stiff to hard (very dense).
607.2	44	
601.2	60	

NOTE:
"N" Relative Density = Number of blows required to drive 1⅜" I.D. x 2" O.D. sample spoon 12" with 140 lb weight falling 30"



Boring	Station	Offset
WS-1	2546+05	40' R
WS-2	2546+62	40' L
WS-3	2546+56	40' R
WS-4	2547+11	40' L

LOCATION OF BORINGS
Scale: 1"=20'

Designed By:	
Drawn By:	W.K.
Checked By:	D.S.T.

ILLINOIS STATE TOLL HIGHWAY COMMISSION
NORTHERN ILLINOIS TOLL HIGHWAY
TRI-STATE ROUTE
BRIDGE T9-8
ARRYING TOLL HIGHWAY
OVER BALLARD ROAD
STATION 2546 +57.12
BORING LOGS
CONTRACT T 9-B
H.W. LOCHNER, INC.
Consulting Engineers
CHICAGO, ILLINOIS

REVISIONS | SCALE AS SHOWN | DATE NOV. 25, 1956 | SHEET 16 of 16 | DWG. NO. T 9-8

DESIGNED BY: AAG CHECKED BY: DPV
DRAWN BY: RJ CHECKED BY: AAG/DPV

PLANS PREPARED BY:

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NOTES:

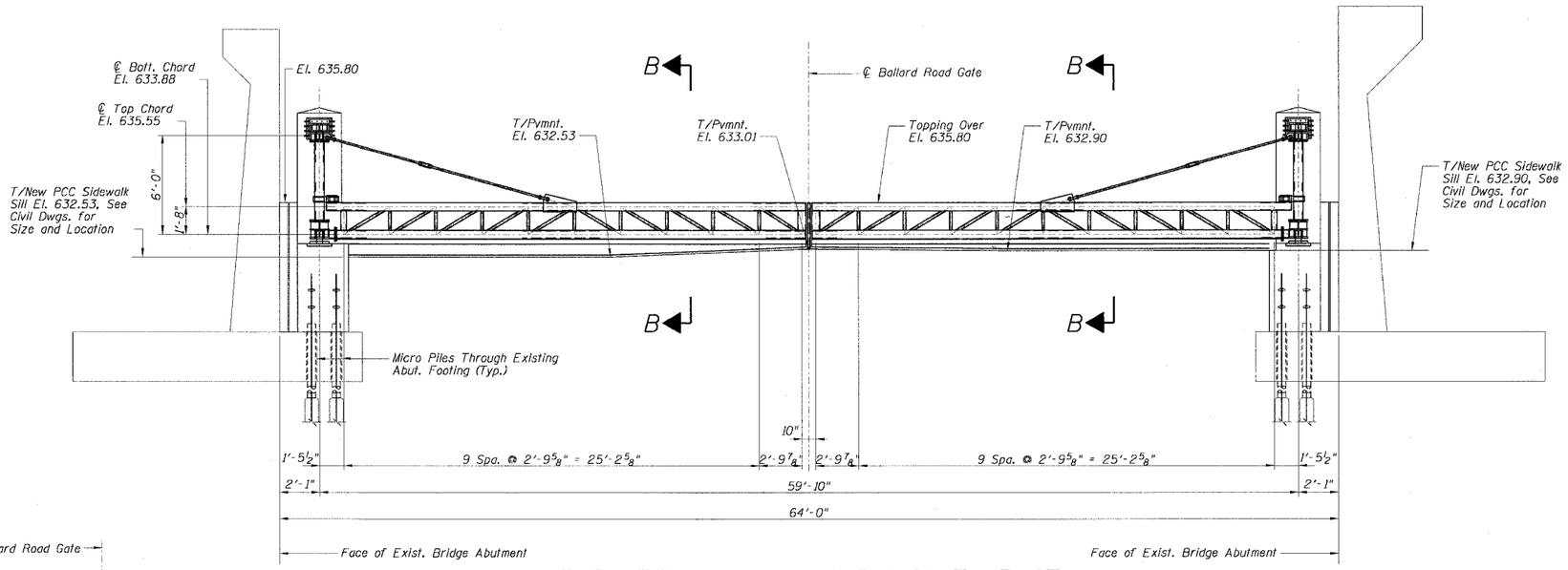
The soil borings were taken during the original construction of I-294 over Ballard Road in the 1950s. The soil borings set forth the subsurface ground conditions at the location of the test boring at the time the boring was obtained. This soil boring information is being made available for the convenience of the prospective bidders; however, the Contractor shall plan his work based on his own subsurface information or knowledge of such.

REVISION	
DATE	DESCRIPTION

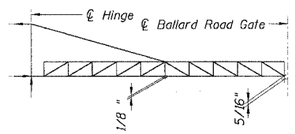
SCALE: NONE

SBC-3

FR-416

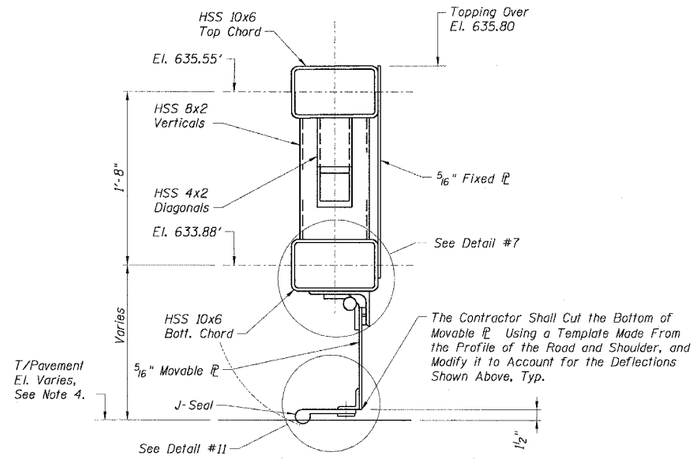


ELEVATION A-A - LOOKING SOUTH EAST



THEORETICAL DEFLECTION DIAGRAM

(Typ. Both Leaves)



SECTION B-B

NOTES:

1. For General Notes, see Sheet SGND-1.
2. For Plan and Detail Elevations, see Sheets SBC-5 & SBC-6.
3. For Detail #7 and Detail #11, see Sheet SRBC-2.
4. Top of Pavement Elevations Shown are Approximate and Must be Verified in the Field by the Contractor Prior to Fabrication of Movable Plate on Bottom of Gate.

DESIGNED BY: DAS CHECKED BY: AAG
DRAWN BY: DAS/RJ CHECKED BY: AAG/DAS

PLANS PREPARED BY:

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DATE	DESCRIPTION

SCALE: NONE

SBC-4

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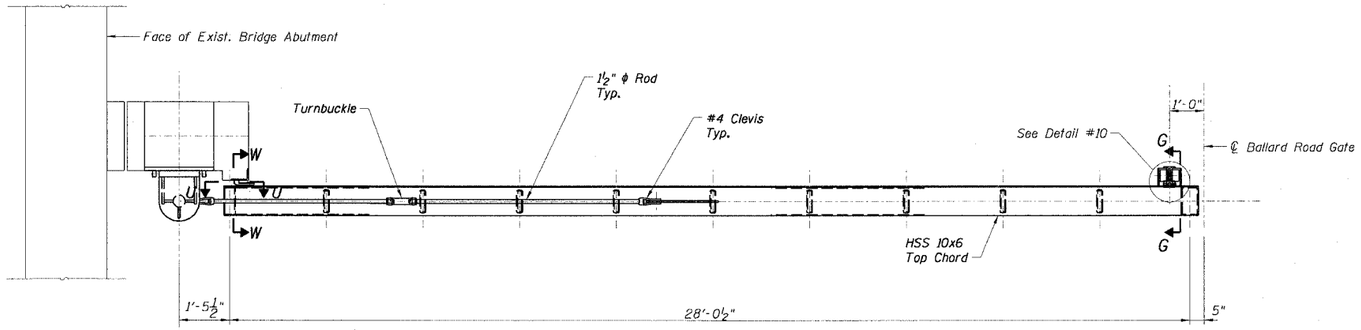
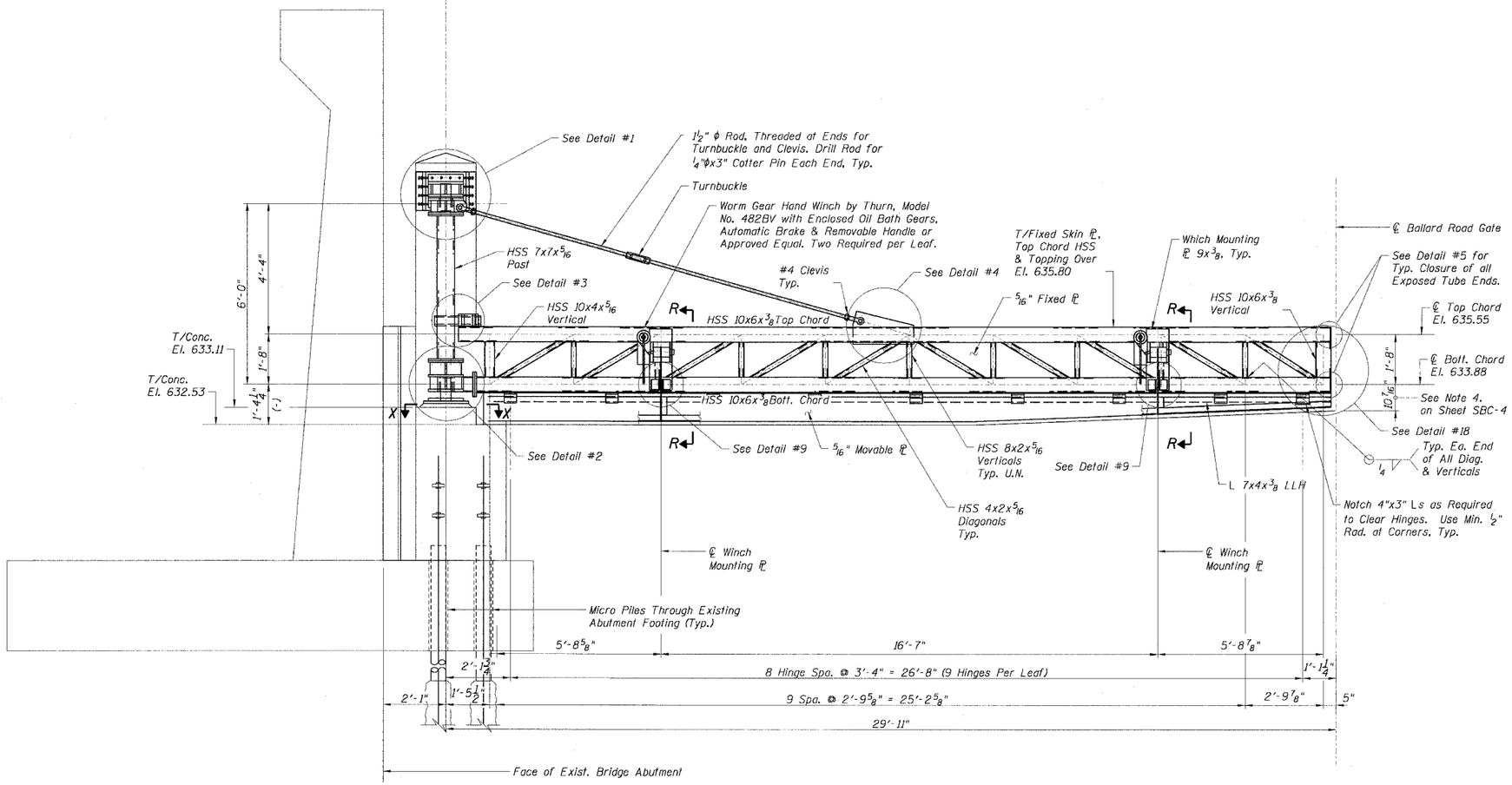
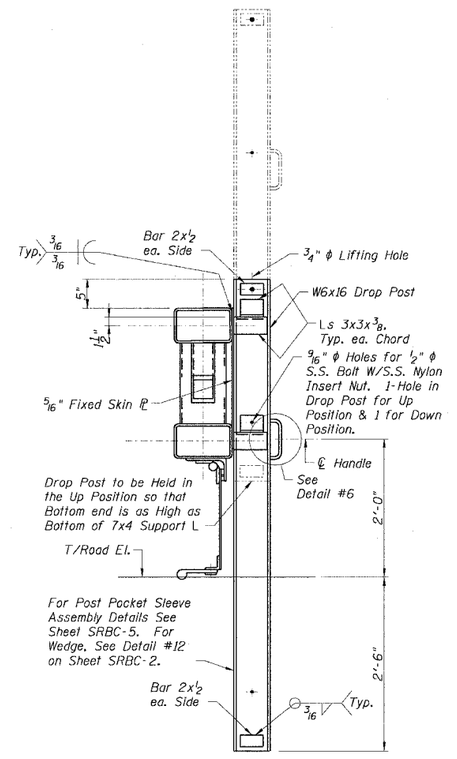
BALLARD ROAD FLOOD GATE CLOSURE STRUCTURE ELEVATION AND SECTION



PLAN - NORTH LEAF



ELEVATION - NORTH LEAF LOOKING EAST



SECTION G-G

NOTES:

1. For General Notes, see Sheet SGND-1.
2. For Details and Sections, see Sheets SRBC-1 Through SRBC-5.

DESIGNED BY: DAS CHECKED BY: AAG
DRAWN BY: DAS/RJ CHECKED BY: AAG/DAS

01/31/2006 08:51:00 AM p:\p6900332\struct\shit\03s131-SBC-5.shit

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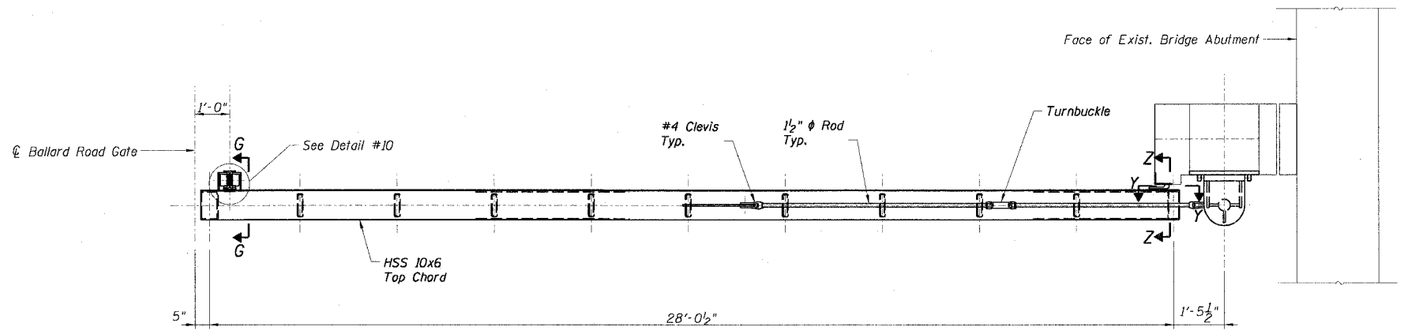
REVISION	
DATE	DESCRIPTION

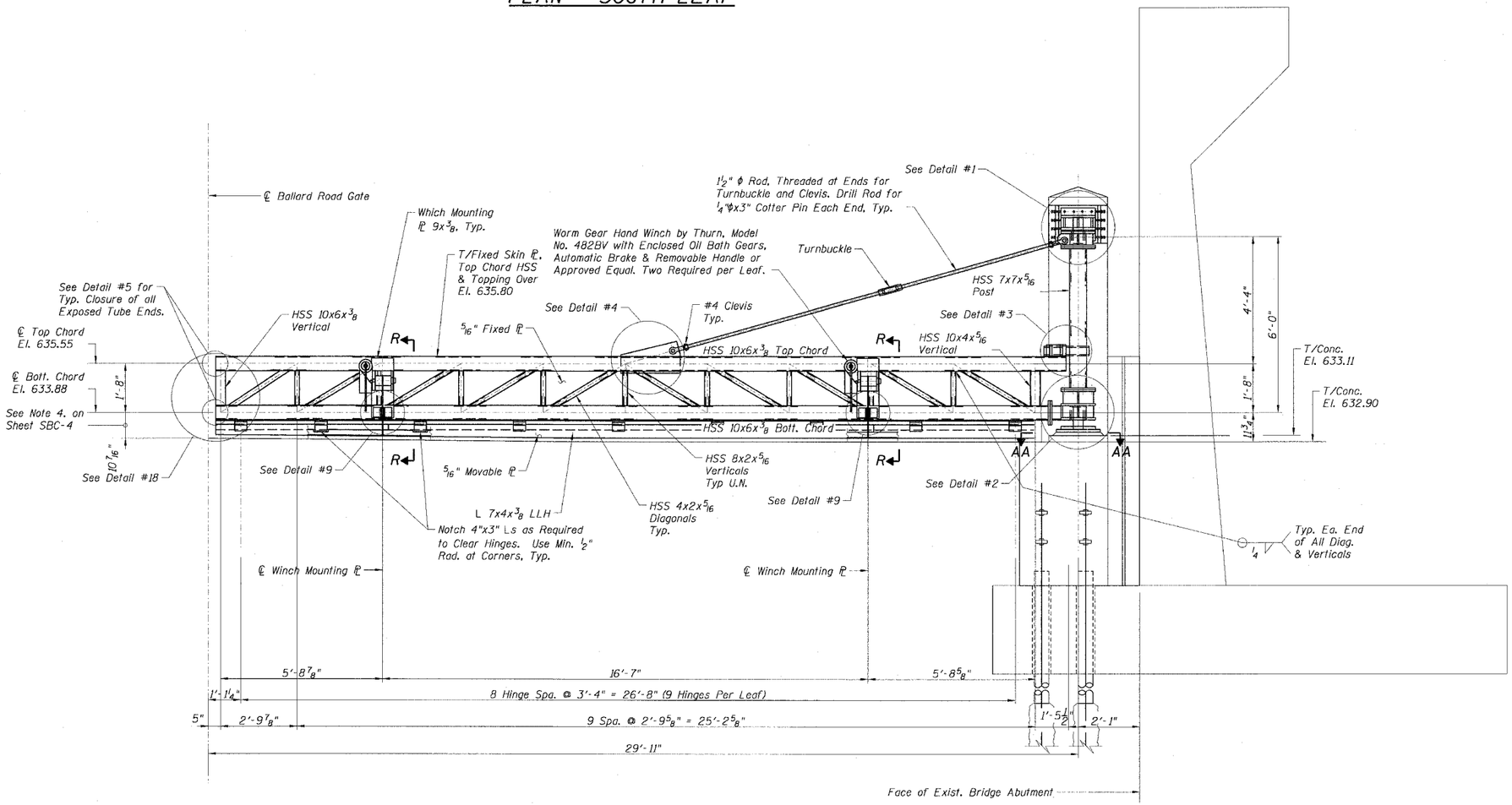
SCALE: NONE

SBC-5 FR-416

BALLARD ROAD FLOOD GATE CLOSURE STRUCTURE PLAN, ELEVATION AND SECTION



PLAN - SOUTH LEAF



ELEVATION - SOUTH LEAF LOOKING EAST

NOTES:

1. For General Notes, see Sheet SGND-1.
2. For Section G, see Sheet SBC-5.
3. For Details and Sections, see Sheets SRBC-1 Through SRBC-5.

DESIGNED BY: DAS CHECKED BY: AAG
DRAWN BY: DAS/RJ CHECKED BY: AAG/DAS

PLANS PREPARED BY:

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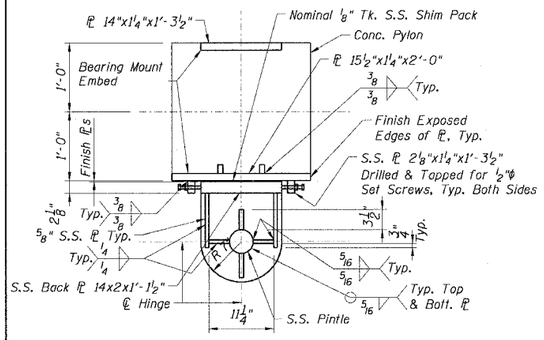
REVISION	
DATE	DESCRIPTION

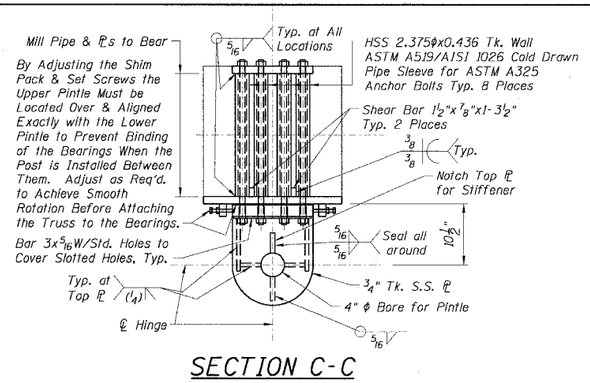
SCALE: NONE

SBC–6 FR-416

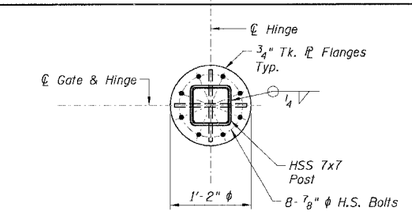
BALLARD ROAD FLOOD GATE CLOSURE STRUCTURE PLAN, ELEVATION AND SECTION



SECTION B-B



SECTION C-C



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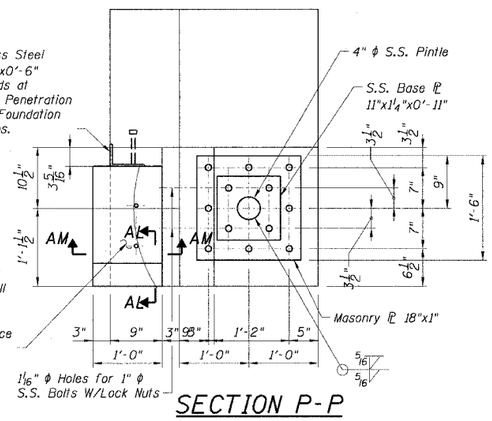
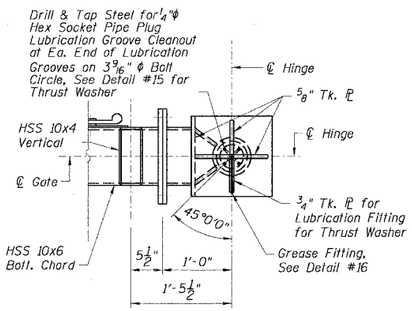
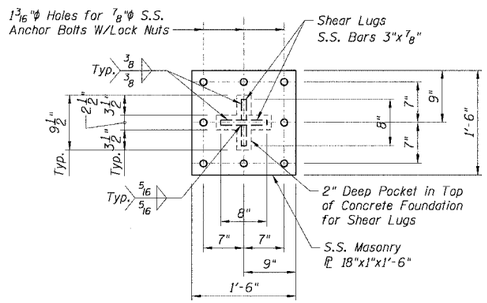


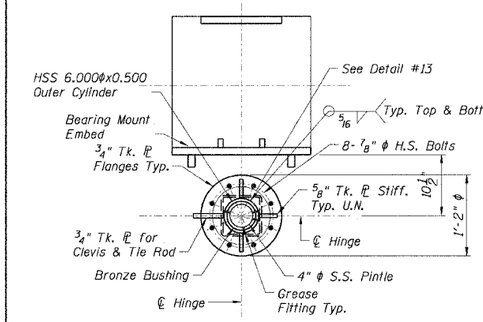
SECTION P-P



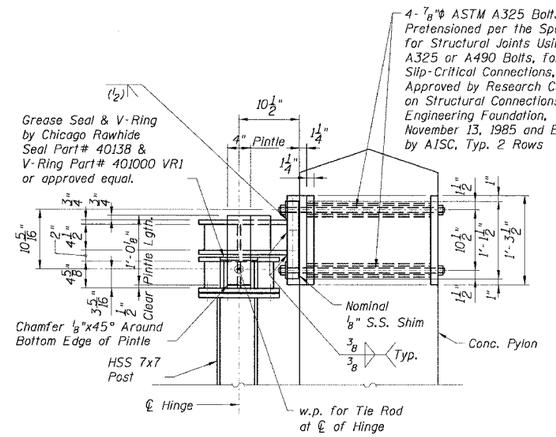
SECTION E-E



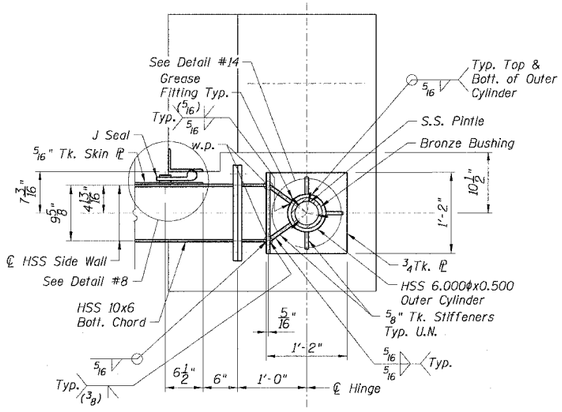
SECTION Q-Q



SECTION A-A

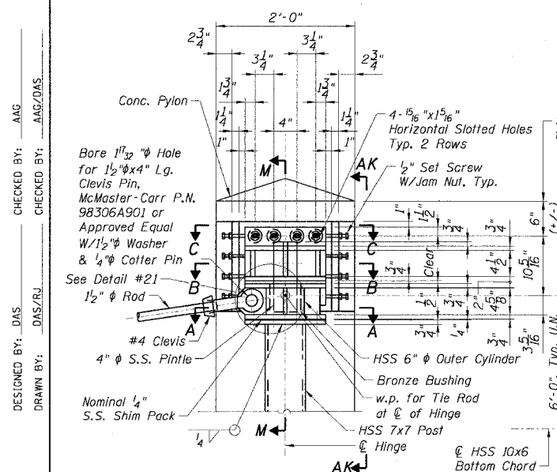


SECTION M-M

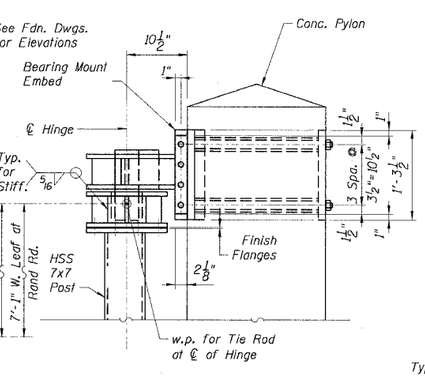


SECTION D-D

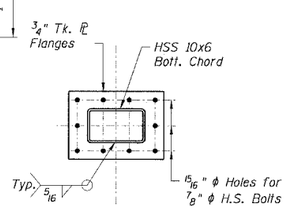
SECTION L-L



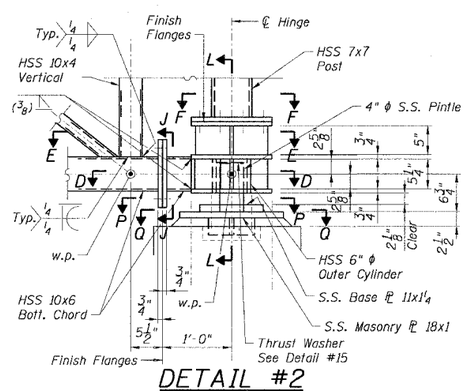
DETAIL #1



VIEW AK-AK



SECTION J-J



DETAIL #2

NOTES:

1. Work Sheets SRBC-1 thru SRBC-5 Together.
2. Fits & Finishes for Bearings Shall be in Accordance with the American Association of State Highway and Transportation Officials (AASHTO) Standard Specifications for Movable Highway Bridges and American National Standards Institute (ANSI) B4.1 and B46.1.
3. √ Indicates Surface Finish Requirements.

REVISION	
DATE	DESCRIPTION

SCALE: NONE

SRBC-1 FR-416

DESIGNED BY: DAS CHECKED BY: AAG
DRAWN BY: DAS/RJ CHECKED BY: AAG/DAS

01/31/2006 08:51:04 AM p:\pg0003332\struct\sht\03s133-SRBC-1.sht

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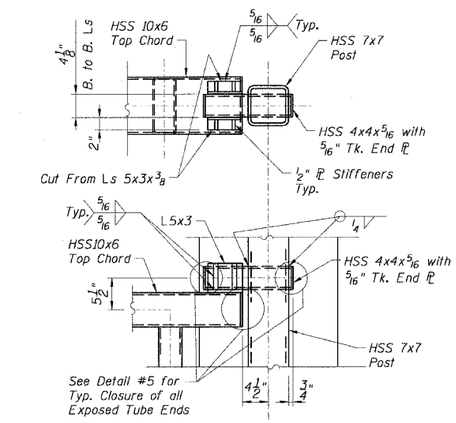

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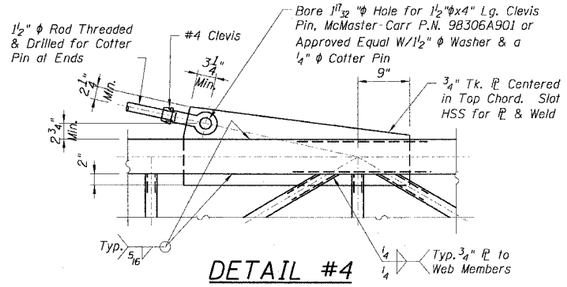

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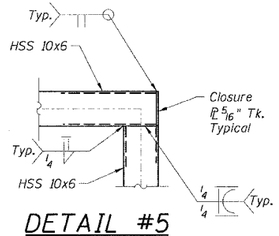

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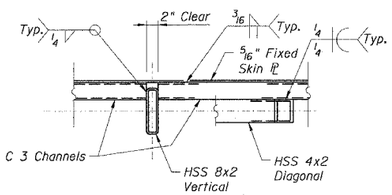
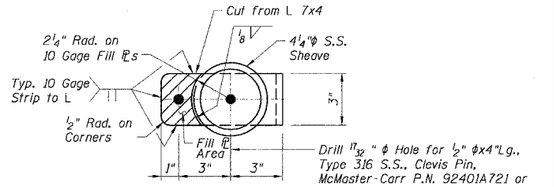


SECTION K-K



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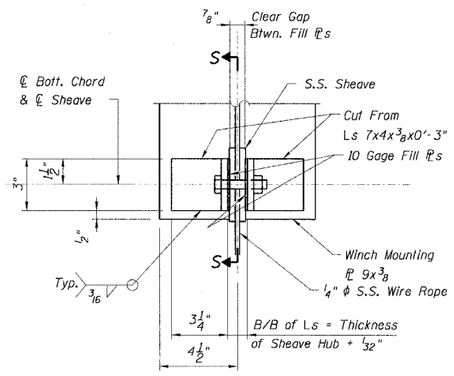

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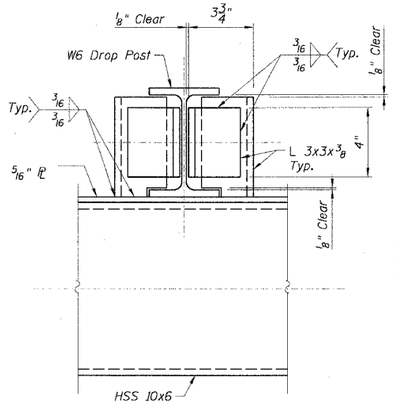

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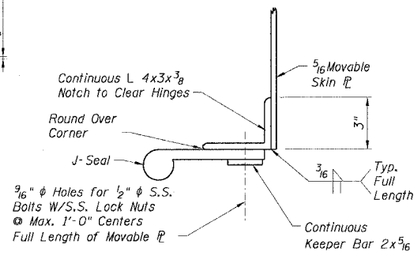

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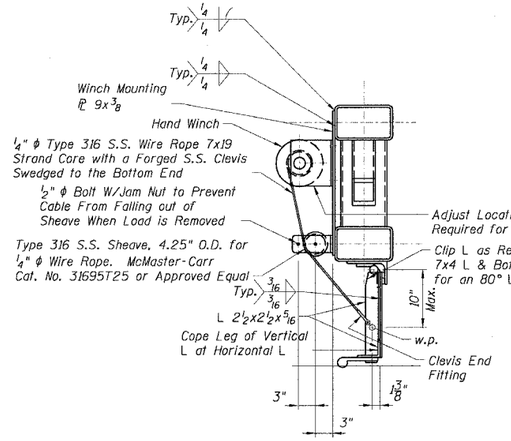
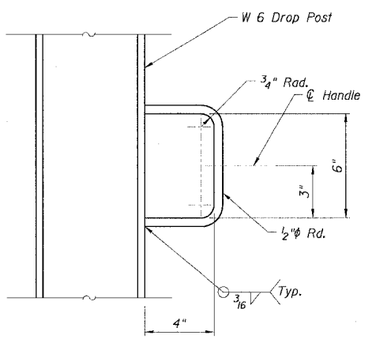


SECTION R-R



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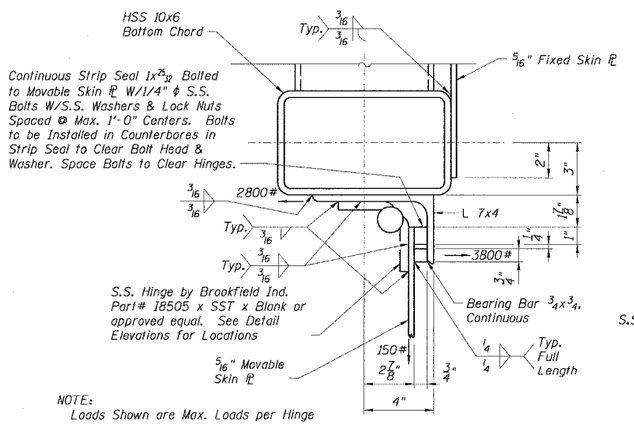

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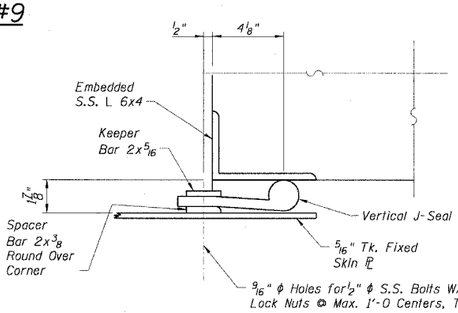

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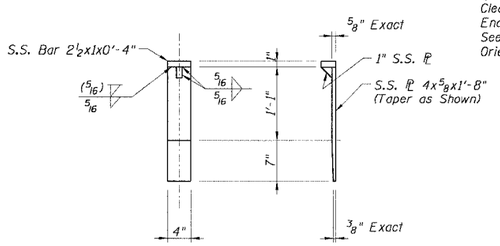

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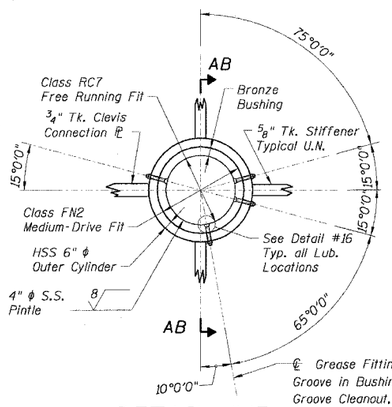

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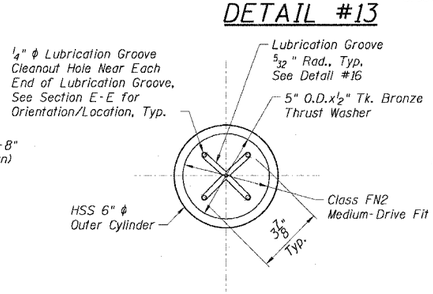

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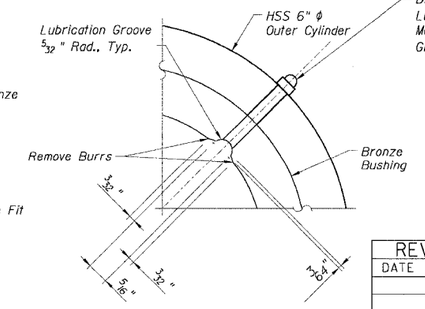

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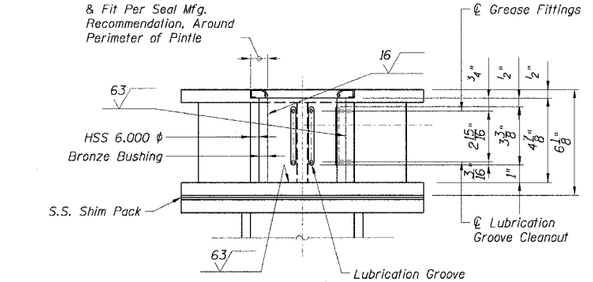

SECTION AB-AB

NOTES:

1. Work Sheets SRBC-1 thru SRBC-5 Together.
2. Fits & Finishes for Bearings Shall be in Accordance with the American Association of State Highway and Transportation Officials (AASHTO) Standard Specifications for Movable Highway Bridges and American National Standards Institute (ANSI) B4.1 and B46.1.
3. √ Indicates Surface Finish Requirements.

REVISION	
DATE	DESCRIPTION

DESIGNED BY: DAS CHECKED BY: AAG
DRAWN BY: DAS/RJ CHECKED BY: AAG/DAS

01/31/2006 08:51:07 AM p:\p60003332\struct\sht\03sj3l-SRBC-2.sht

PLANS PREPARED BY:

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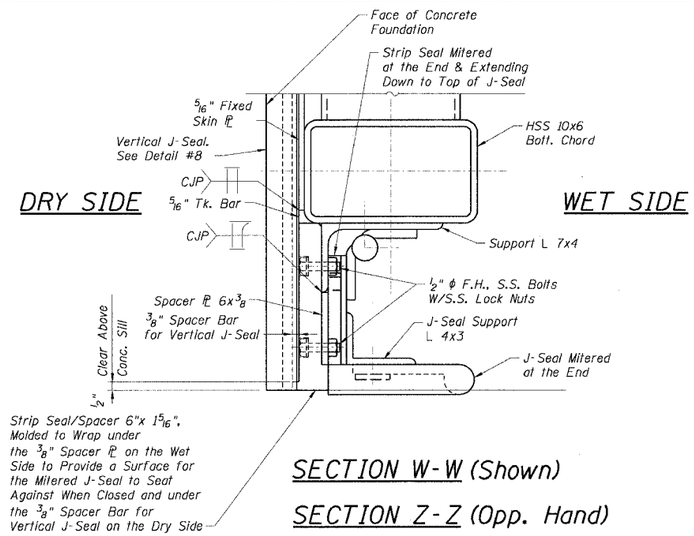
SCALE: NONE

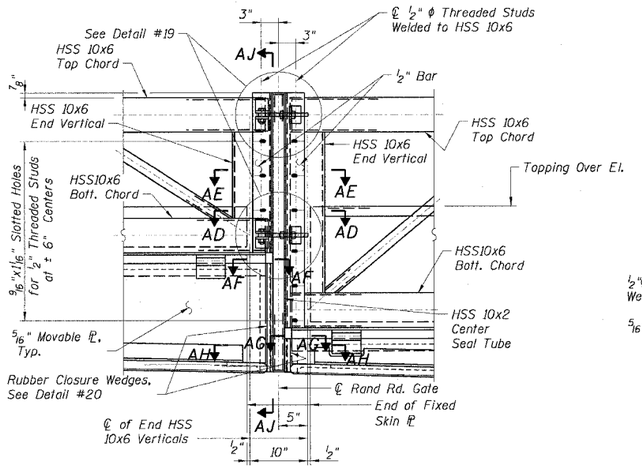
SRBC–2 FR-416

FLOOD GATE CLOSURE STRUCTURES MISCELLANEOUS SECTIONS AND DETAILS



SECTION W-W (Shown)

SECTION Z-Z (Opp. Hand)



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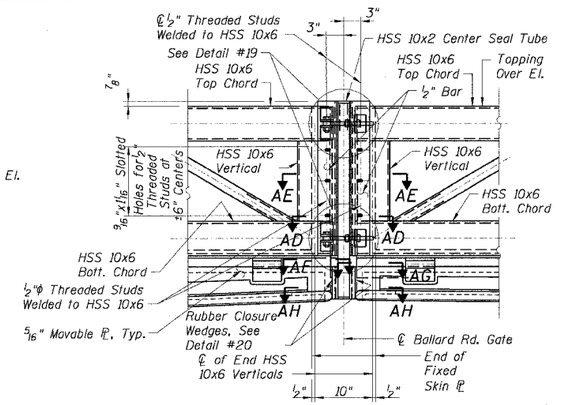
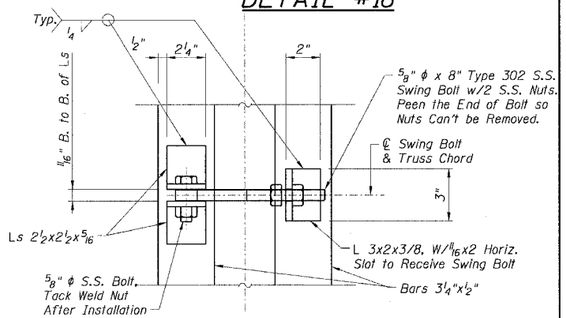
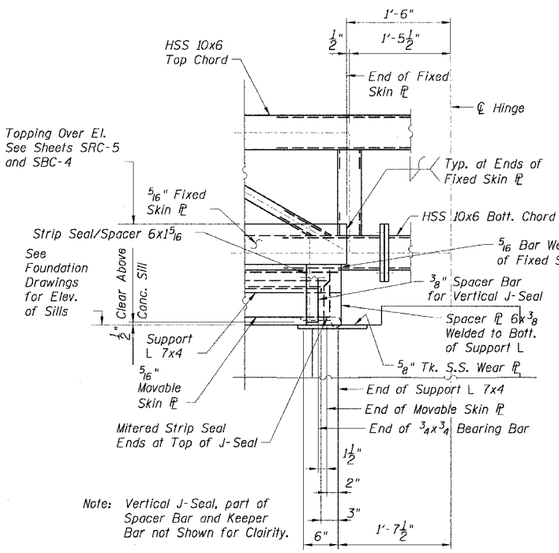


DETAIL #18

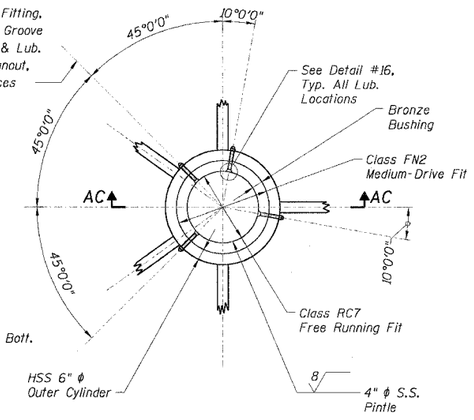


DETAIL #19



SECTION U-U (Shown)

SECTION Y-Y (Opp. Hand)



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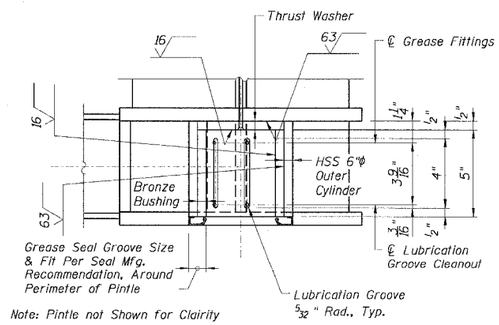
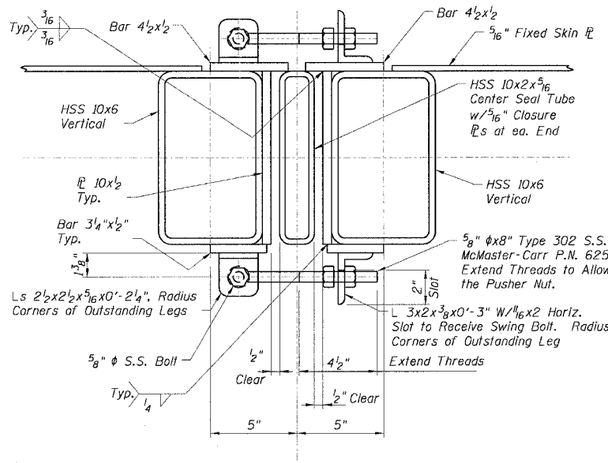
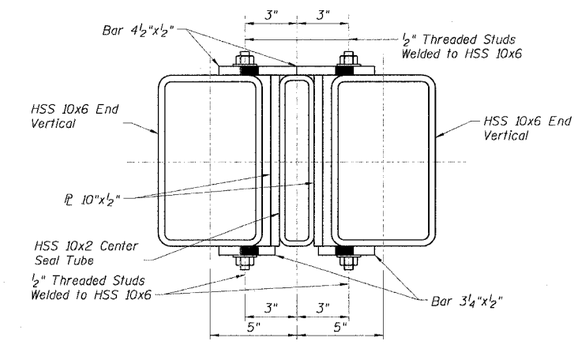


SECTION AC-AC



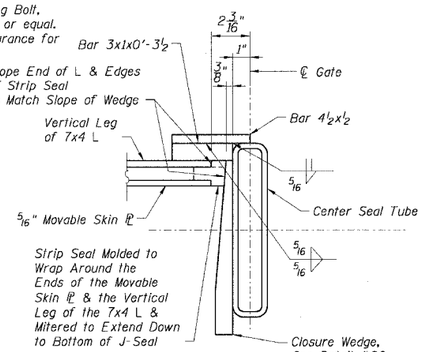
SECTION AD-AD

(Shown W/Movable End Pieces in Retracted Position)



SECTION AE-AE

(Shown W/Movable End Pieces in Extended Position)



SECTION AF-AF (Shown)

SECTION AG-AG (Opp. Hand)

NOTES:

1. Work Sheets SRBC-1 thru SRBC-5 Together.
2. Fits & Finishes for Bearings Shall be in Accordance with the American Association of State Highway and Transportation Officials (AASHTO) Standard Specifications for Movable Highway Bridges and American National Standards Institute (ANSI) B4.1 and B46.1.
3. √ Indicates Surface Finish Requirements.

REVISION	
DATE	DESCRIPTION

DESIGNED BY: DAS CHECKED BY: AAG
DRAWN BY: DAS/RJ CHECKED BY: AAG/DAS

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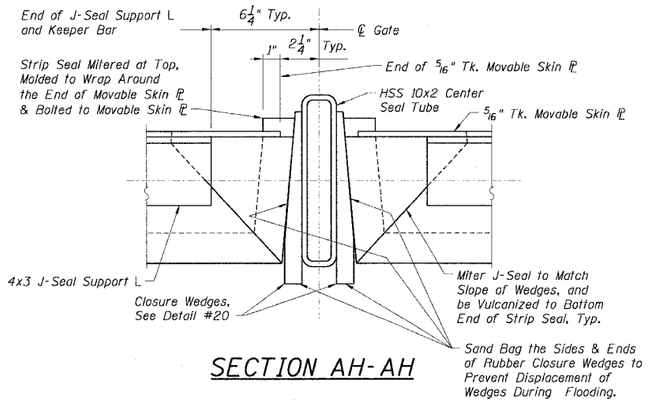
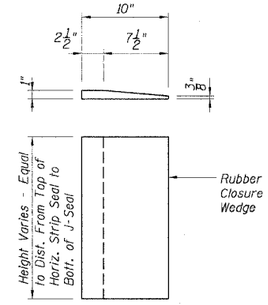
SCALE: NONE

SRBC–3 FR-416

FLOOD GATE CLOSURE STRUCTURES MISCELLANEOUS SECTIONS AND DETAILS



SECTION AH-AH



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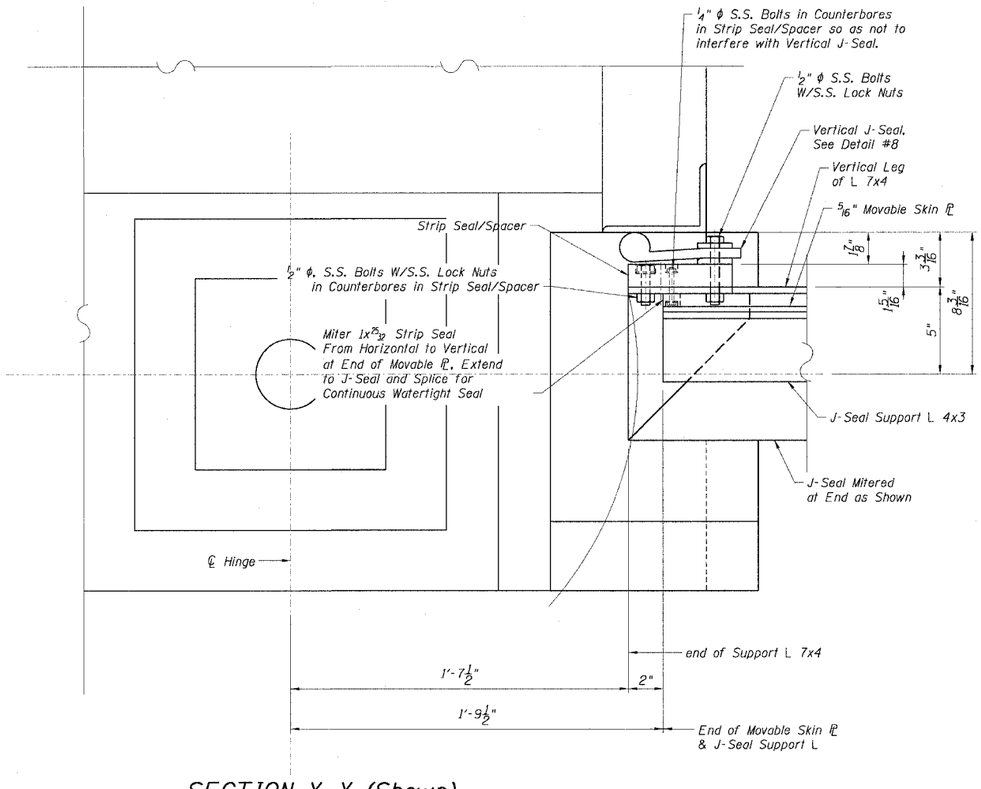
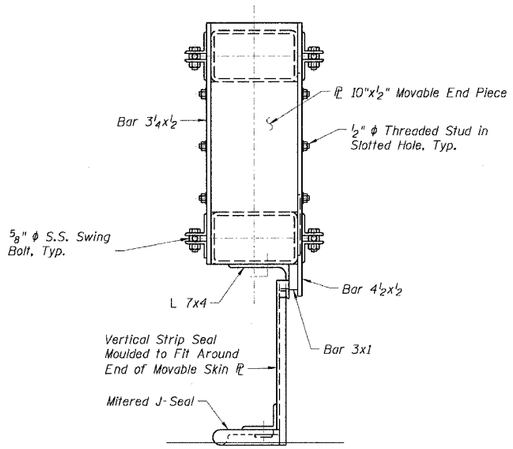
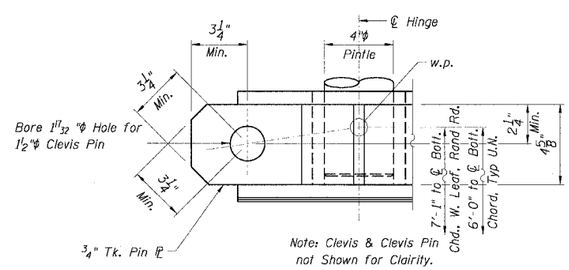


SECTION X-X (Shown)

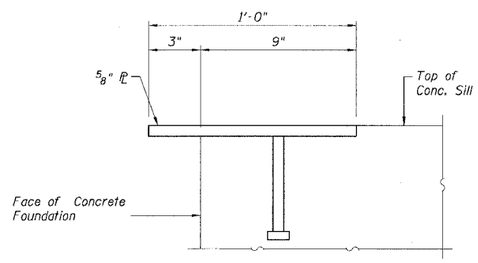
SECTION AA-AA (Opp. Hand)



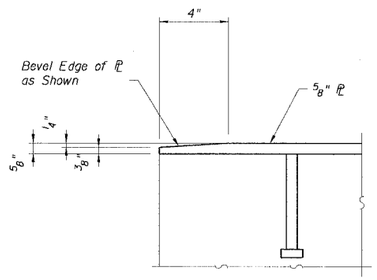
SECTION AJ-AJ



DETAIL #21



SECTION AM-AM



SECTION AL-AL

NOTE:

Work Sheets SRBC-1 thru SRBC-5 Together.

DESIGNED BY: DAS CHECKED BY: AAG
DRAWN BY: DAS/RJ CHECKED BY: AAG/DAS

01/31/2006 08:51:11 AM p:\p60003332\struct\sht\03s136-SRBC-4.sht

PLANS PREPARED BY:

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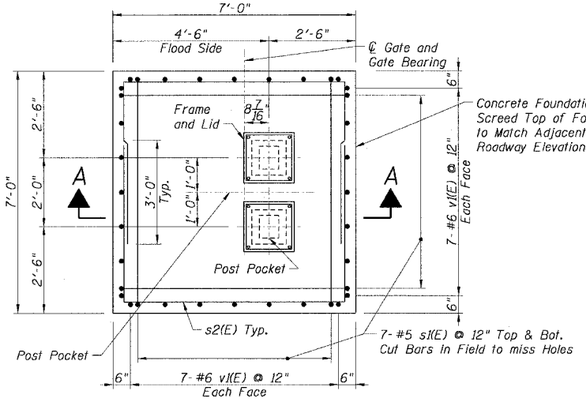
DATE	DESCRIPTION

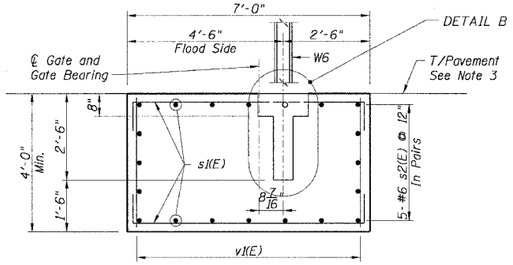
SCALE: NONE

SRBC-4

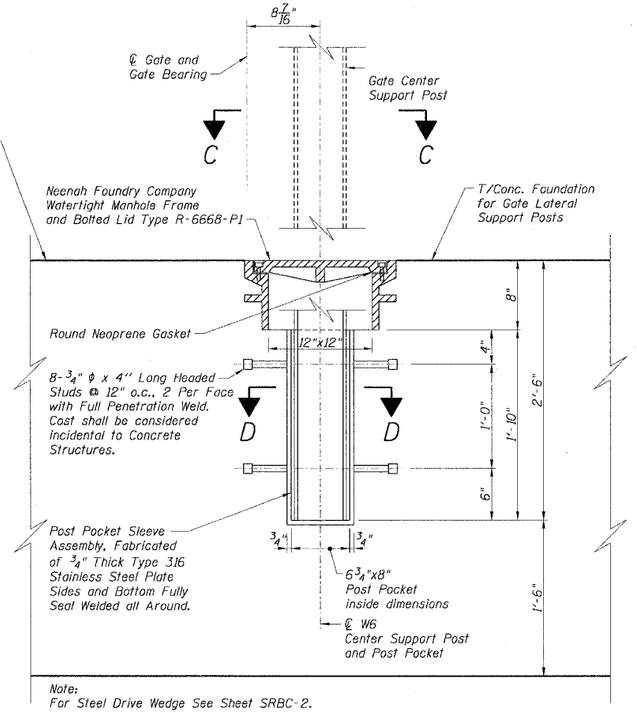
FR-416



PLAN



SECTION A-A



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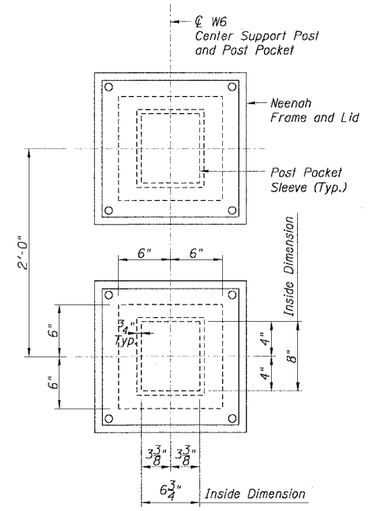
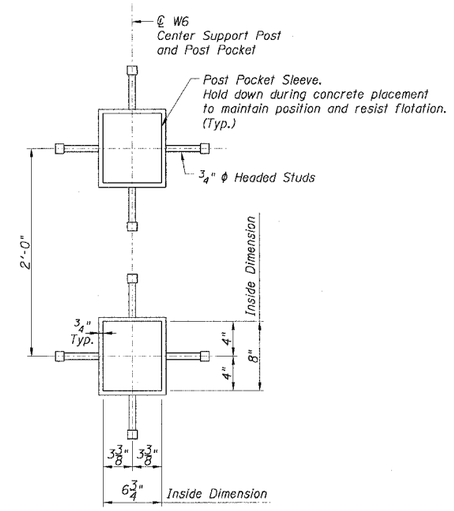


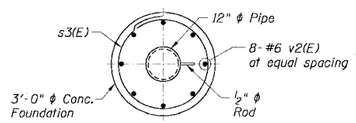
TOP VIEW C-C



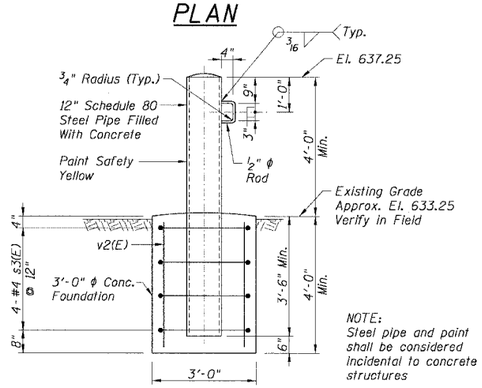
SECTION D-D

GATE CENTER SUPPORT FOUNDATION

(2 THUS)



PLAN



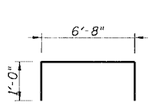
ELEVATION
GATE LOCKING STRUCTURE

(4 THUS)

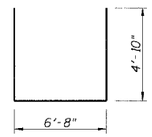
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
s1(E)	56	#6	8'-8"	⌐¬
s2(E)	20	#6	16'-4"	▭
s3(E)	16	#4	10'-6"	○
v1(E)	56	#6	3'-7"	—
v2(E)	32	#6	3'-7"	—

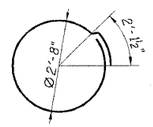
Reinforcement bars designated (E) shall be epoxy coated.



BAR s1(E)



BAR s2(E)



BAR s3(E)

NOTES:

1. Assumed Net Design Soil Bearing Pressure = 2000 Psf Verify in field with Independent Geotechnical Engineer.

2. Backfill around structures with low plasticity silty clay placed in 9" loose layers and compacted to 90% ASTM D1557.

3. Pavement removal shall be in accordance with Section 440 of the Standard Specifications and shall include saw cutting of the Existing Pavement.

4. Gate Center Support Foundation and Gate Locking Structures are included in the pay items for the Rand Road Flood Gate and the Ballard Road Flood Gate and will not be measured for payment separately.

REVISION	
DATE	DESCRIPTION

SCALE: NONE

SRBC–5 FR-416

FLOOD GATE CLOSURE STRUCTURES MISCELLANEOUS SECTIONS AND DETAILS

SHEET 137 OF 167

DESIGNED BY: AAG CHECKED BY: DPV
DRAWN BY: EMT CHECKED BY: DPV/AAG/MB

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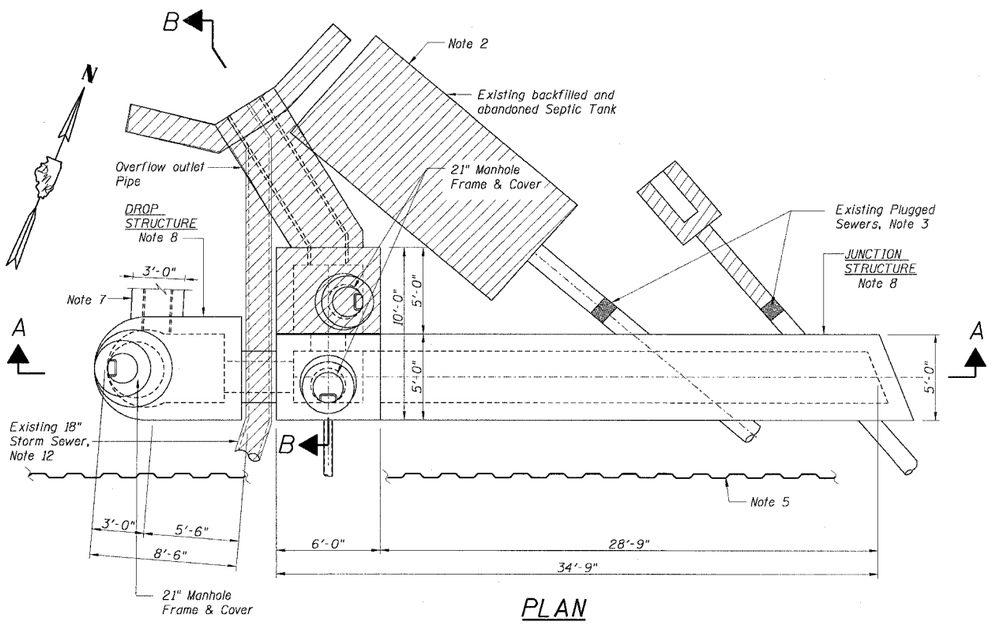

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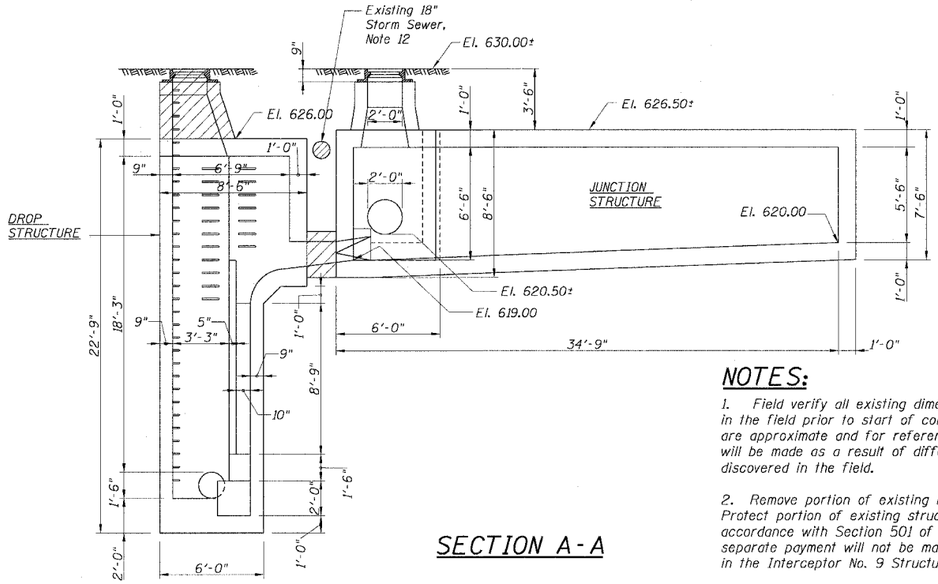


SECTION A-A

NOTES:

1. Field verify all existing dimensions, elevations and conditions in the field prior to start of construction. Dimensions indicated are approximate and for reference only. No additional payment will be made as a result of differing dimensions or elevations discovered in the field.

2. Remove portion of existing MWRDGC structure as shown. Protect portion of existing structure to remain. Removal shall be in accordance with Section 501 of the Standard Specifications except separate payment will not be made for this Work. Cost is included in the Interceptor No. 9 Structure lump sum.

3. Where existing sewer pipes have been plugged, the Contractor shall not disturb the existing plugs. Where these plugs do not interfere with the alignment of the new 12" Storm Sewer. Where interference occurs, the Contractor must remove pipe flush with wall and plug openings watertight. No extra payment will be made for this work Any leakage observed must be repaired watertight by the Contractor.

4. Prior to start of demolition and excavation on the north side of the structure, the Contractor shall remove earth fill evenly from both the north and south sides of the structure, and maintain excavation dewatering so work can be completed in the dry. Earth shall be removed to approximate Elevation 620.00 on the south side of the existing structure to prevent imposing unbalanced forces on the existing structure, including overturning and sliding.

5. The Contractor must provide a temporary soil retention system to protect the existing adjacent roadway, existing utilities and structures. The Contractor must provide additional temporary earth retention systems, whether or not shown on the drawings, as required for this protection. Refer to the GENERAL NOTES on Drawing SGN-1. This work will not be measured for payment but is included in the interceptor No. 9 structure lump sum pay item.

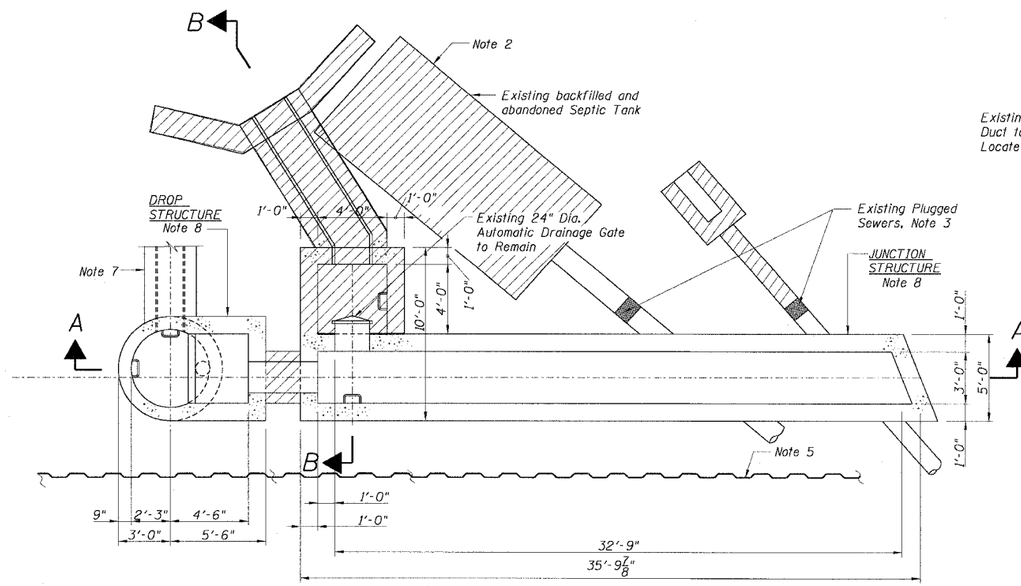
6. Backfill evenly both sides of structure to prevent imposing unbalanced lateral soil loads on the existing structure.

7. Field verify location and elevation of existing pipe prior to driving steel sheeting for the new sheet pile flood wall.

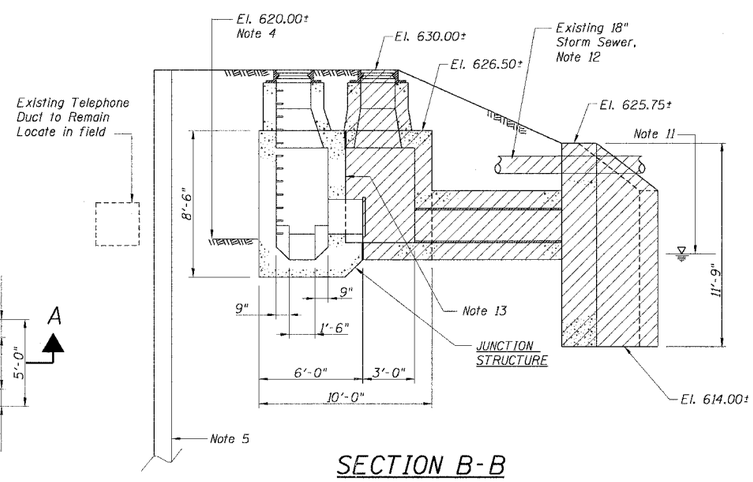
8. The actual orientation of the Junction Structure to the Drop Structure is unknown and must be measured in the field prior to fabrication of the isolation gate that is to be inserted between these two structures. Thus, an exploratory dig will be required so that these measurements can be taken and the gate can be fabricated prior to demolition of the pipe connection between the two structures. Temporary bypass pumping will be required in order to remove the pipe segment connecting the Junction Structure to the Drop Structure.

9. For suggested sequence of construction refer to the Special Provision for the "INTERCEPTOR NO. 9 STRUCTURE."

10. The Contractor must provide a temporary soil retention system to protect the Interceptor No. 9 Structure when excavating for the New Miner Street Gate Structure which is at a lower elevation. Refer to the General Notes on drawing SGN-1. This work will not be measured for payment but is included in the Interceptor No. 9 structure lump sum pay item.



SECTIONAL PLAN



SECTION B-B

NOTES (CONT.):

11. Normal water level Elevation 620.3' (+/-).

12. An existing 18" storm sewer runs between the junction structure and the drop structure. This storm sewer is to be re-routed to the east around the junction structure and the demolition of this pipe is included in the Interceptor No. 9 Structure lump sum pay item. The intercepting manhole and new sewer is paid for separately. No drawings have been found related to this storm sewer. It is unknown whether earth or concrete was placed as backfill between the two structures.

13. Cut existing reinforcing bars 2" back from finished concrete surface and patch surface smooth with non-shrink, non-metallic grout.

BILL OF MATERIAL

Interceptor No. 9 Structure	L. Sum	1

LEGEND:

- Indicates existing concrete to be Demolished.

DESIGNED BY: AAG/KHH CHECKED BY: BJM
DRAWN BY: RJ CHECKED BY: BJM/AAG/KHH

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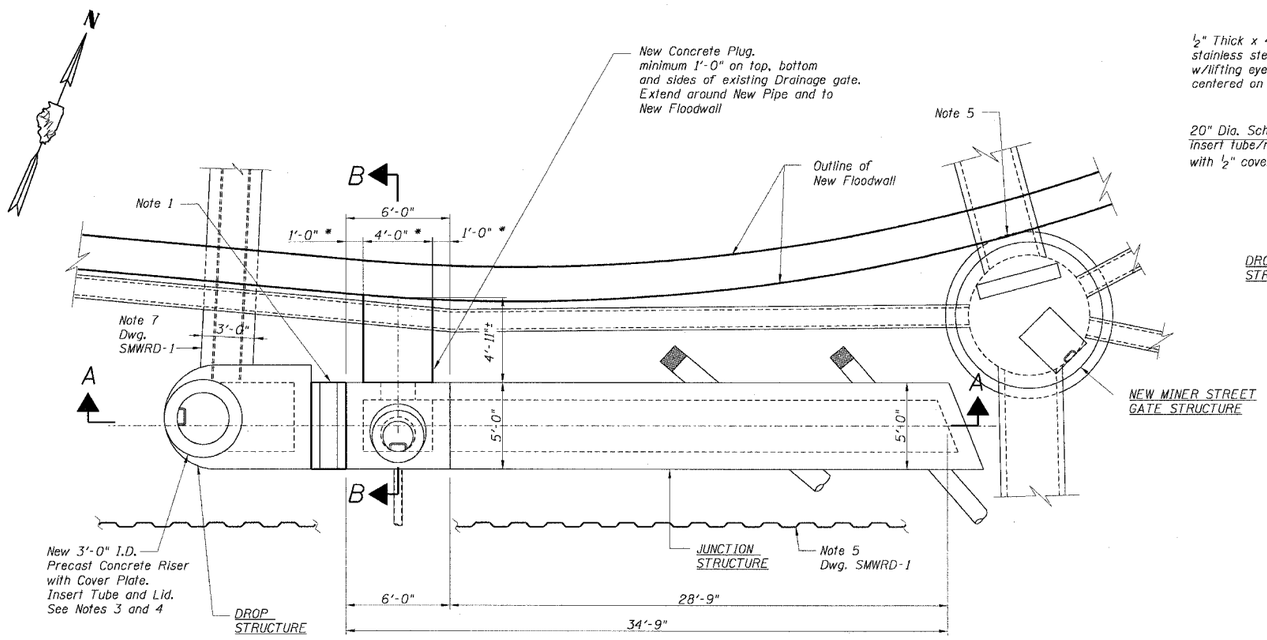
DATE	DESCRIPTION

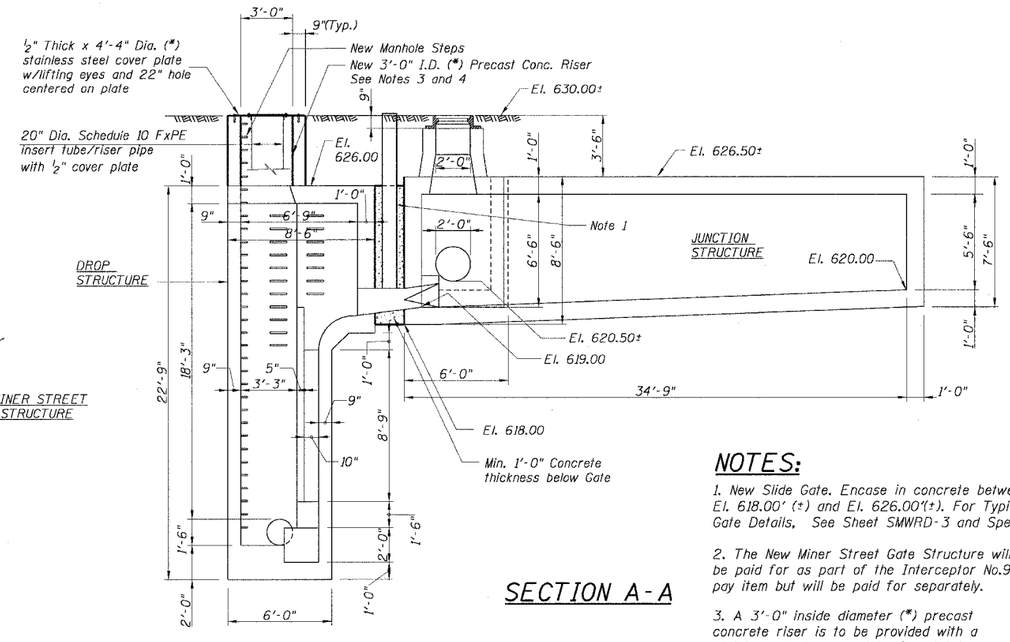
SCALE: NONE

SMWRD-1 FR-416

INTERCEPTOR NO. 9 STRUCTURE DEMOLITION - PLANS AND SECTIONS



PLAN



SECTION A-A

NOTES:

1. New Slide Gate. Encase in concrete between El. 618.00' (±) and El. 626.00'(±). For Typical Gate Details, See Sheet SMWRD-3 and Specifications.

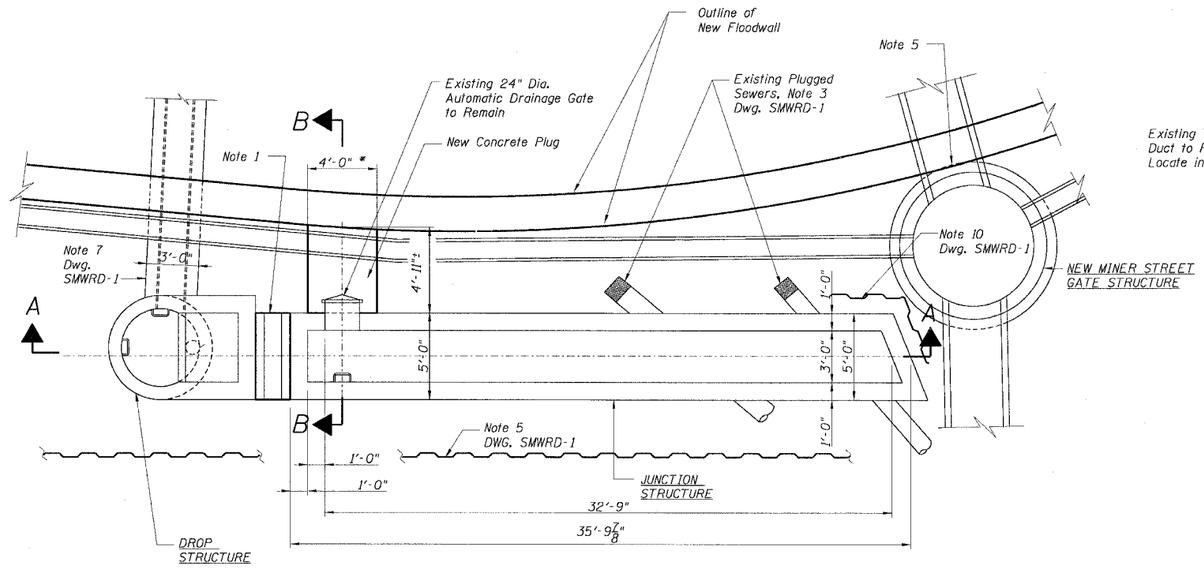
2. The New Miner Street Gate Structure will not be paid for as part of the Interceptor No.9 Structure pay item but will be paid for separately.

3. A 3'-0" inside diameter (*) precast concrete riser is to be provided with a stainless steel cover plate, insert tube, and a second smaller cover plate (a lid) all fabricated of 316 stainless steel. These items are provided as part of the Interceptor No. 9 Structure pay item. The insert tube is to act as a standpipe when inverted. The flange for the insert tube is to have bolt holes to match the fabricated cover so that in the stored position, the lid of can be bolted down through the holes in the flange. In the standpipe position, the same bolts will be used to secure it in position. Provide stainless steel bolts welded to the manhole cover plate with adequate length to bolt through both the combined thickness of the standpipe/insert tube flange and lid. Standpipe/insert tube flange, manhole cover plate and lid shall be fabricated of 316 stainless steel. Tube shall be 20" diameter schedule 10 stainless steel and shall be 6 feet long. The flange shall be minimum ½" thick and welded to the tube. Provide ½" thick cover plate and lid with bolt holes matching the insert tube flange. Provide two lifting eyes mounted 180 degrees apart on both ends of the insert tube.

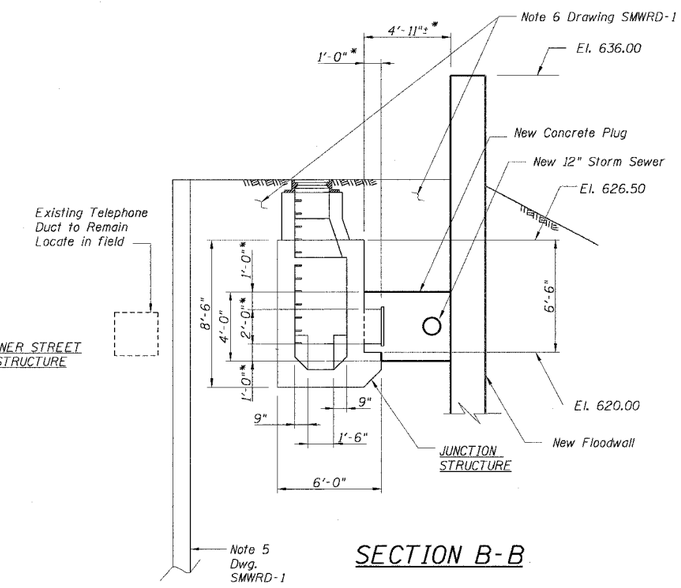
4. Riser section and seals shall be 3'-0" inside diameter precast reinforced concrete pipe in accordance with ASTM C478, with an inner and outer cage of circular reinforcement. Provide six (6) - $\frac{5}{8}$" diameter stainless steel all-thread rods at 60 degrees, cast into top of riser by Precaster for anchoring stainless steel plate. Anchor rods shall be 16" long with minimum 12" embedment into precast and with stainless steel nuts and washers each end.

5. Field verify Base Slab fit with Floodwall prior to fabrication of Gate Structure.

6. Maintain excavation dewatering to minimum 2 feet below bottom of excavation until all backfill is in place.



SECTIONAL PLAN



SECTION B-B

LEGEND:

* - Indicates Dimension to be Determined or Verified in Field.

REVISION	
DATE	DESCRIPTION

SCALE: NONE

SMWRD–2 FR-416

PLANS PREPARED BY:

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DESIGNED BY: AAG/KHH CHECKED BY: BJM
DRAWN BY: RJ CHECKED BY: BJM/AAG/KHH

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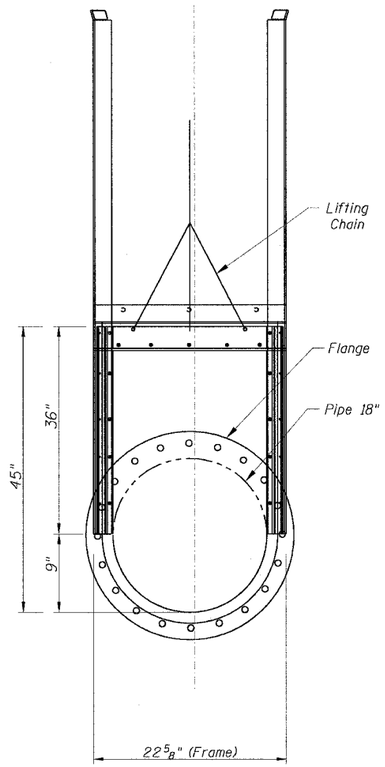
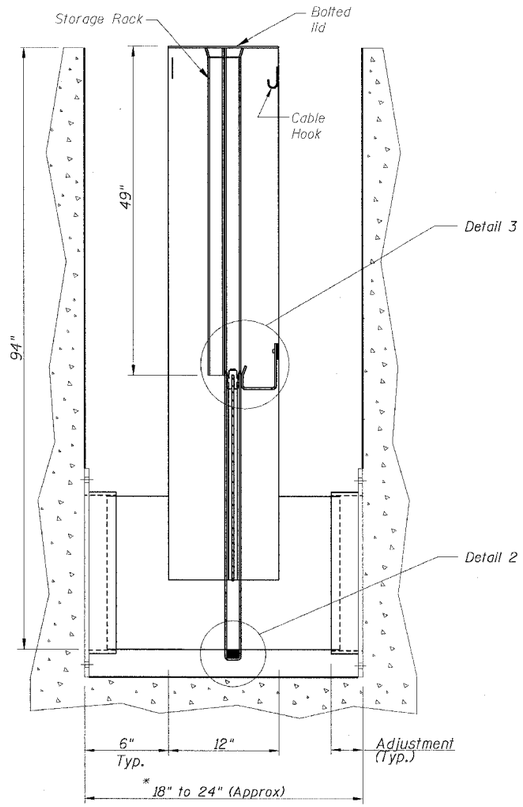
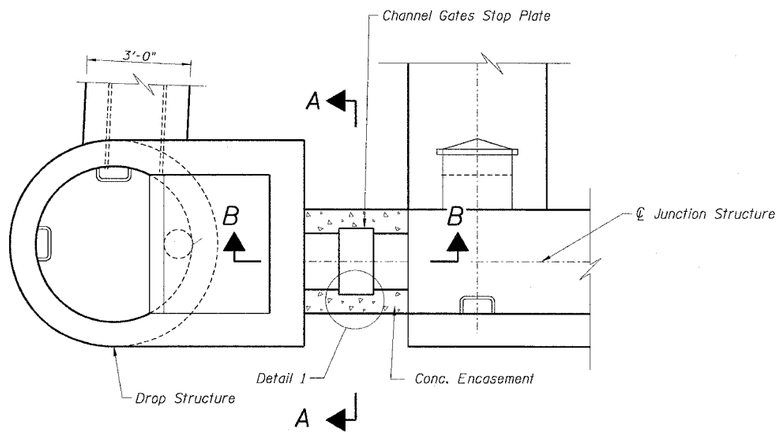


SECTION A-A

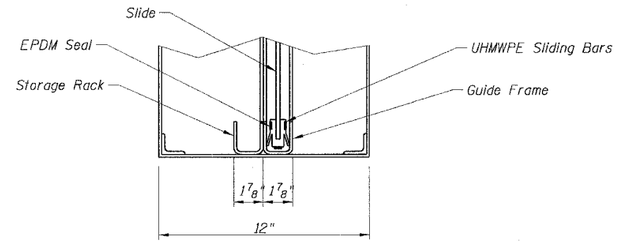


SECTION B-B

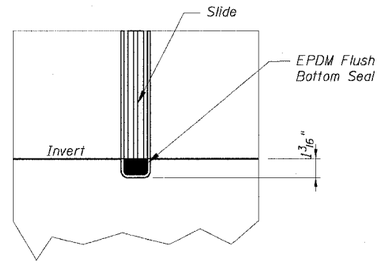
CHANNEL GATES STOP PLATE



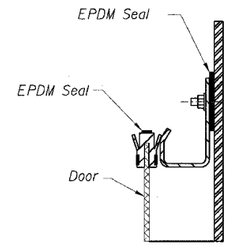
PLAN



DETAIL 1



DETAIL 2



DETAIL 3

NOTE:

*Exact face to face measurement between structures appears to be on a slight skew. Contractor is to confirm this length prior to fabrication of gate.

DESIGNED BY: KHH CHECKED BY: KHH
DRAWN BY: CD CHECKED BY: KHH

PLANS PREPARED BY:

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DATE	DESCRIPTION

SCALE: NONE

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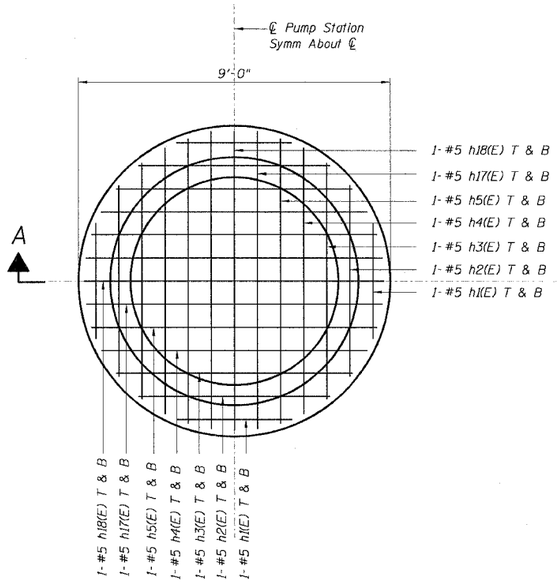
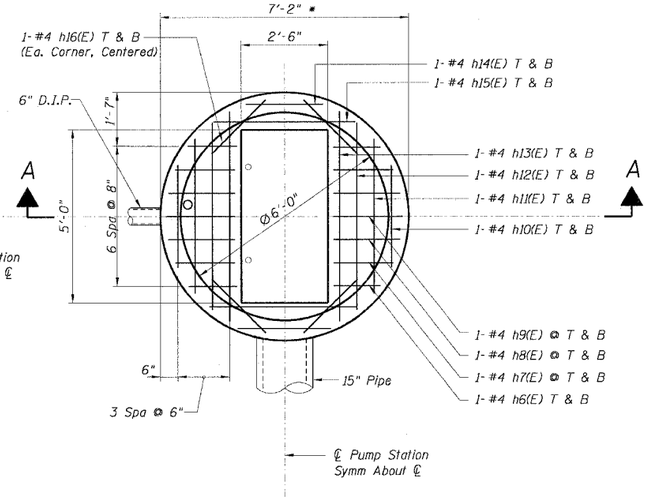
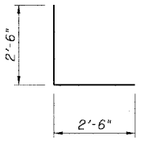


BASE PLAN



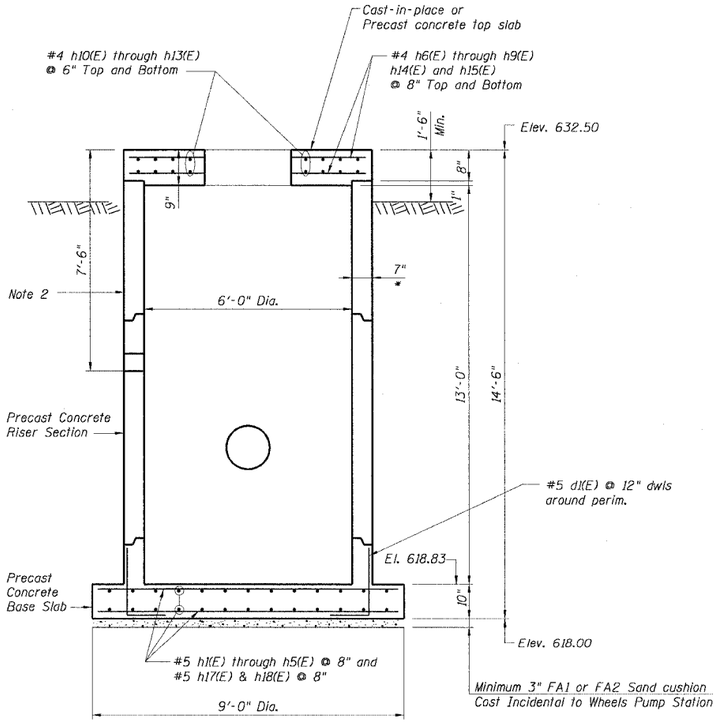
TOP PLAN



BAR d1(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
d1(E)	28	#5	5'-0"	
h1(E)	8	#5	3'-4"	
h2(E)	8	#5	5'-6"	
h3(E)	8	#5	6'-10"	
h4(E)	8	#5	7'-8"	
h5(E)	8	#5	8'-3"	
h6(E)	8	#4	1'-4"	
h7(E)	8	#4	1'-8"	
h8(E)	8	#4	1'-11"	
h9(E)	8	#4	2'-0"	
h10(E)	4	#4	2'-11"	
h11(E)	4	#4	4'-5"	
h12(E)	4	#4	5'-5"	
h13(E)	4	#4	6'-0"	
h14(E)	4	#4	2'-0"	
h15(E)	4	#4	4'-3"	
h16(E)	8	#4	2'-6"	
h17(E)	8	#5	8'-6"	
h18(E)	4	#5	8'-8"	
Wheels Pump Station Structure			L. Sum	1



SECTION A-A

NOTES:

1. (*)- Indicates Dimensions to be verified by Precaster.
2. Risers Sections and Seals in Accordance with Section 602 of the Standard Specifications and the Special Provision for the Wheels Pump Station Structure.
3. Reinforcement bars designated (E) shall be Epoxy Coated.
4. Maintain excavation dewatering to minimum 2 feet below bottom of excavation until top slab and all backfill around Structure is in place.
5. For pipe inverts and additional information, See Sheet M-1.

DESIGNED BY: AAG CHECKED BY: BJM
DRAWN BY: RJ CHECKED BY: BJM/AAG

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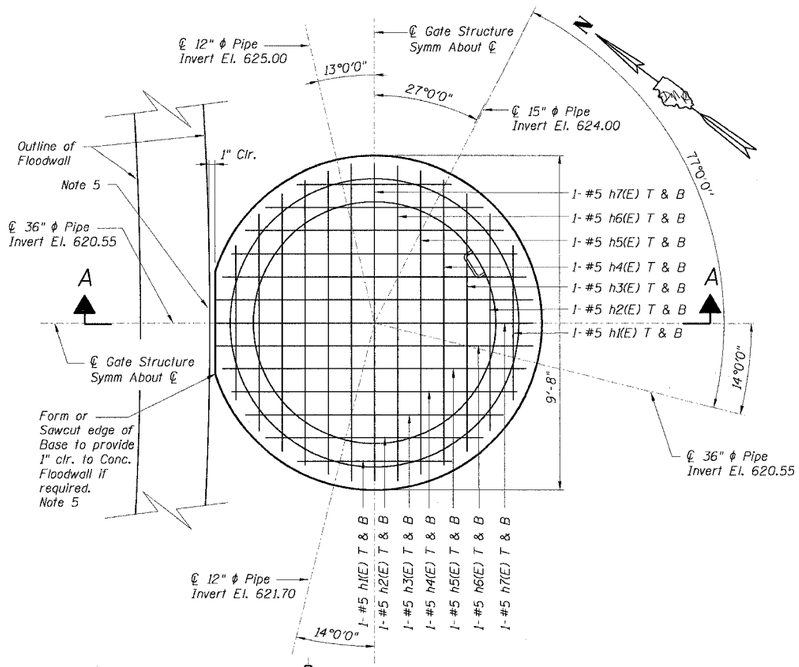
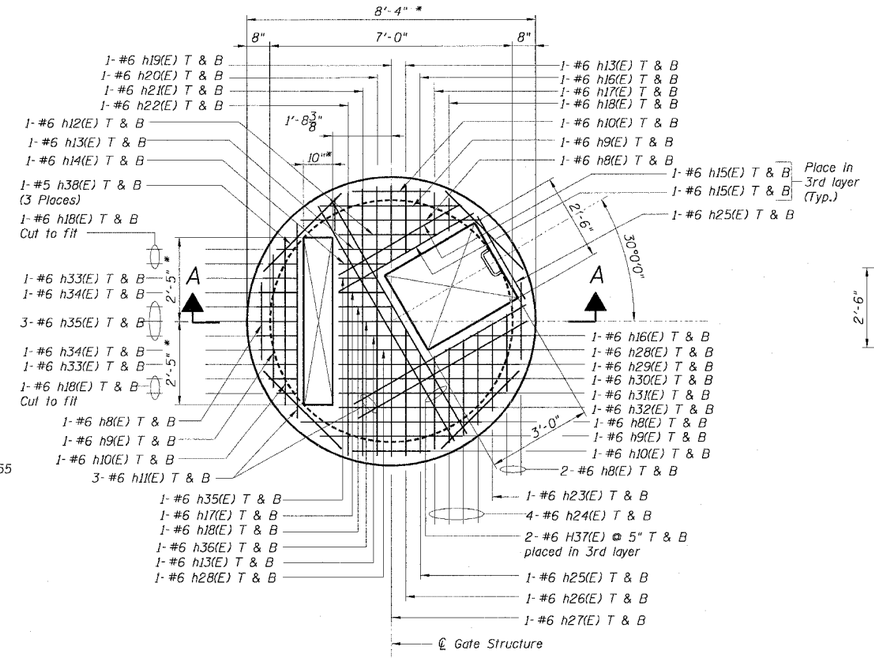
DATE	DESCRIPTION

SCALE: NONE

SWPS-1 FR-416



BASE PLAN



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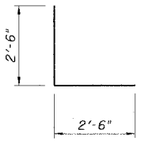
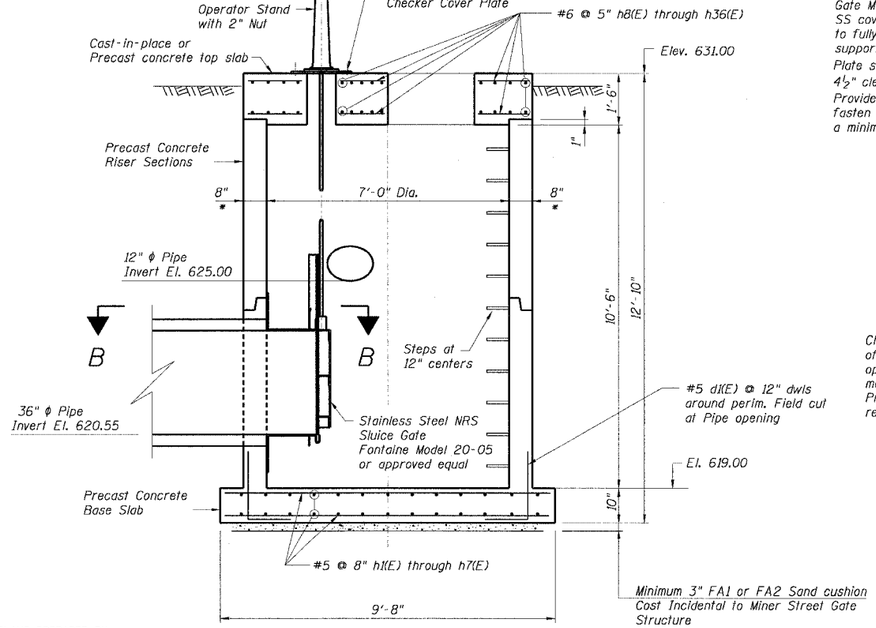


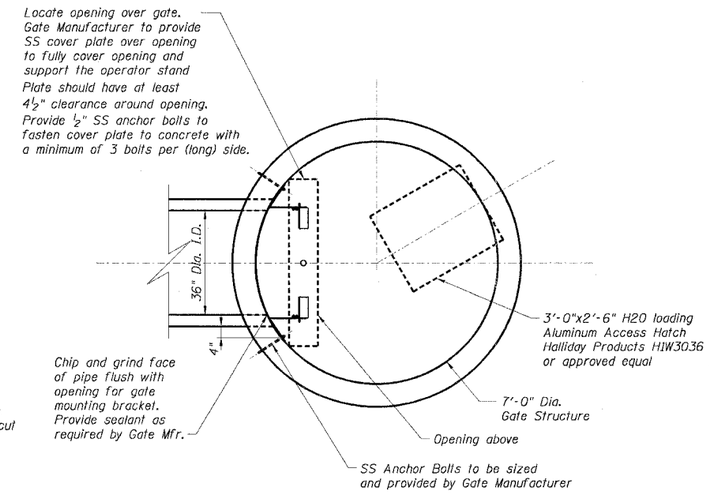
BAR d1(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
d1(E)	28	#5	5'-0"	
h1(E)	10	#5	4'-6"	
h2(E)	8	#5	6'-6"	
h3(E)	8	#5	7'-8"	
h4(E)	8	#5	8'-4"	
h5(E)	8	#5	8'-10"	
h6(E)	8	#5	9'-2"	
h7(E)	8	#5	9'-3"	
h8(E)	10	#6	2'-4"	
h9(E)	6	#6	4'-2"	
h10(E)	6	#6	5'-3"	
h11(E)	6	#6	6'-1"	
h12(E)	2	#6	2'-8"	
h13(E)	4	#6	2'-0"	
h14(E)	2	#6	1'-3"	
h15(E)	4	#6	4'-0"	
h16(E)	2	#6	1'-8"	
h17(E)	4	#6	1'-4"	
h18(E)	10	#6	1'-7"	
h19(E)	5	#6	2'-3"	
h20(E)	2	#6	7'-9"	
h21(E)	4	#6	7'-8"	
h22(E)	2	#6	7'-7"	
h23(E)	2	#6	2'-7"	
h24(E)	6	#6	2'-9"	
h25(E)	4	#6	2'-11"	
h26(E)	2	#6	3'-8"	
h27(E)	2	#6	4'-5"	
h28(E)	2	#6	2'-4"	
h29(E)	2	#6	5'-3"	
h30(E)	2	#6	5'-1"	
h31(E)	2	#6	4'-10"	
h32(E)	4	#6	4'-7"	
h33(E)	4	#6	1'-0"	
h34(E)	4	#6	1'-1"	
h35(E)	6	#6	1'-2"	
h36(E)	2	#6	1'-10"	
h37(E)	4	#6	7'-10"	
h38(E)	6	#5	4'-0"	
h39(E)	4	#6	5'-0"	
Miner Street Gate Structure		L. Sum	1	



SECTION A-A



INTERMEDIATE PLAN

NOTES:

1. (*) - Indicates dimensions to be verified by precaster. Coordinate with shop drawings from Gate Manufacturer. Actual location and size of opening through slab shall be adequate to remove gate slide and shall be centered on gate stem.

2. Riser sections shall be 7'-0" inside diameter precast reinforced concrete pipe. In accordance with ASTM C478, with wall thickness and reinforcing conforming to minimum requirements of ASTM C76 pipe, Class III, Wall B. At Contractor's option, Contractor may provide concrete pipe riser sections to meet the requirements of ASTM C76 pipe, Class III, Wall B. Pipe riser sections must have an inner and outer cage of circular reinforcement. All other requirements must conform to Section 602 of the Standard Specifications and the Special Provision for the Miner Street Gate Structure.

3. Reinforcement bars designated (E) shall be Epoxy Coated.

4. Maintain excavation dewatering to minimum 2 feet below the bottom of the excavation until top slab and all backfill around the structure is in place.

5. Prior to Fabrication of Manhole, Field verify Structure location to avoid Base Slab conflict with Floodwall.

REVISION	
DATE	DESCRIPTION

DESIGNED BY: AAG/KHH CHECKED BY: BJM
DRAWN BY: RJ CHECKED BY: BJM/AAG

PLANS PREPARED BY:
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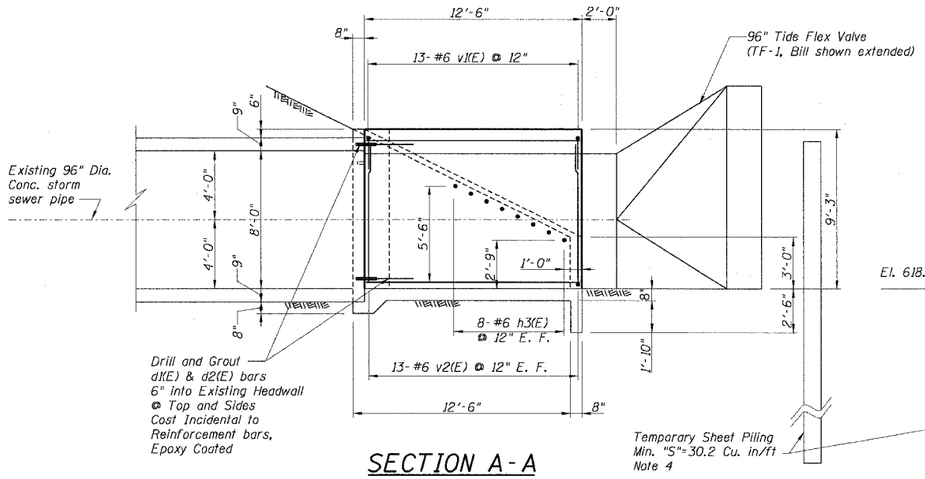
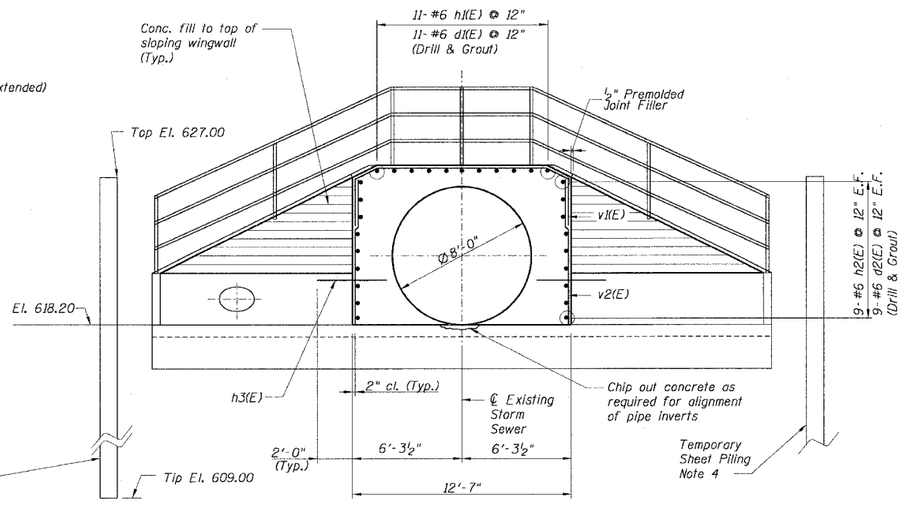
SCALE: NONE

SGS-1 FR-416



SECTION A-A

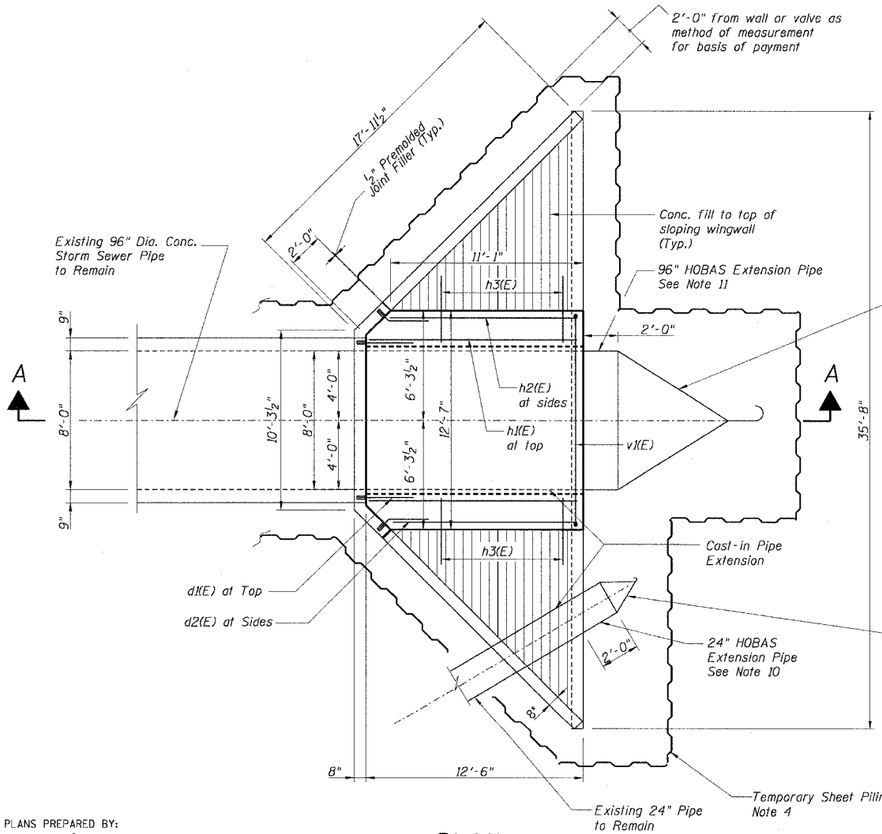


END ELEVATION

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
d1(E)	11	#6	3'-0"	
d2(E)	18	#6	3'-1"	
h1(E)	11	#6	12'-2"	
h2(E)	18	#6	10'-10"	
h3(E)	16	#6	4'-0"	
v1(E)	13	#6	18'-6"	
v2(E)	26	#6	8'-11"	
Concrete Structures			Cu. Yd.	72
Reinforcement Bars, Epoxy Coated			Pound	1432
Temporary Sheet Piling			Sq. Ft.	2030
96" Tideflex Valve			Ea.	1
24" Tideflex Valve			Ea.	1
Big Bend Lake Pipe Extensions			L.Sum	1
Protective Coat			Sq. Yd.	60

Reinforcement bars designated (E) shall be Epoxy Coated.



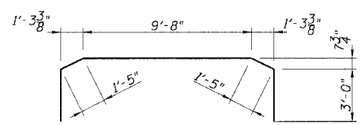
PLAN

GENERAL NOTES AND SUGGESTED SEQUENCE OF WORK (CONT'D.):

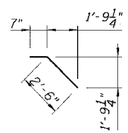
10. The 24" storm sewer to be extended at Big Bend Lake penetrates the existing headwall at an unknown angle. In addition, the end condition of the pipe is unknown. Provide 24" diameter minimum stiffness Habas pipe 8 ft long and then trim to match the existing alignment at the wall. In order to keep the extension pipe in alignment during the concrete pour it is suggested that a 23.5" diameter 2 ft. long fabricated insertion nipple be inserted inside the existing 24" storm sewer such that it extends out from the about 12". The nipple can then be affixed to the inside of the existing storm sewer to prevent it from moving during the pour. The extension pipe can then be fitted over the exposed nipple and sealant injected into the joint to prevent seepage of concrete during concrete placement. The contractor is required to adequately support and restrain the pipe to prevent movement and/or flotation during placement of concrete.

11. Provide 96" diameter minimum stiffness Habas pipe 14'-6" long as the extension piece. The end condition of the existing 96" pipe is unknown. It is likely that the bottom slab of the headwall was poured flush with the invert of the pipe. Chip out concrete from the bottom slab as necessary to align the proposed pipe with the existing pipe invert. In order to keep the extension pipe in alignment during the concrete pour it is suggested that internal braces or angle irons be inserted inside the existing 96" storm sewer and that the joint between the two pipes be wrapped with Synko Flex or other appropriate sealant to prevent seepage of concrete into the pipe during placement. The contractor is required to adequately support and restrain the pipe to prevent movement and/or flotation during placement of concrete. Before mounting the Tideflex valve, Contractor is to remove internal alignment bracing.

12. Cost for installation of both 96" and 24" extension pipes including any field modifications necessary for alignment, support or restraint of pipes and concrete demolition is included in the lump sum cost for Big Bend Lake Pipe Extensions.



BAR v1(E)



BAR d2(E)

GENERAL NOTES AND SUGGESTED SEQUENCE OF WORK

1. The existing headwall was constructed in the late 1970's as part of an overall drainage improvement project that extended along Golf Road almost four miles to the east. Two storm sewers tie into the headwall. One is a 24" storm sewer that takes flow from a 3' x 2' box culvert crossing Golf Road. The second storm sewer is a 96" sewer that also crosses Golf Road and extends nearly 4 miles to the east, varying in size up to 120" in diameter. The service area for the storm sewers is significant and storm water flow must be maintained. Should storm flow occur during construction, the Contractor is required to maintain unimpeded flow of water into the lake.

2. The proposed modifications to the headwall include removal of the existing grating over the end of the 96" pipe opening and surface mounted steel plates on the water side of the headwall, placement of new concrete on the water side of the headwall tied into the existing concrete, installation of 96" and 24" pipes to be used as mounting thimbles, and installation of both a 96" diameter and a 24" diameter Tideflex valve. Cost of removal of existing grating and steel plate shall be included in the pay item for Concrete Structures and will not be paid for separately.

3. The normal water level in the lake is established by an existing spillway at Elevation 626.0'. As a result, the existing 96" pipe is normally submerged.

4. Permit requirements for construction of these modifications stipulate that this work shall be performed between October 15th of any year and the April 1 of the following year. The proposed modifications must be completed under dry conditions. Temporary Sheet Piling is to be driven in Big Bend Lake around the existing headwall to isolate the headwall from the lake. The Contractor is to provide temporary pumping to maintain dry conditions for construction of the required headwall modifications. Included with the sheeting should be a removable section or single or multiple openings that can be controlled with valves or gates with a minimum total cross sectional area of 55 square feet at a minimum invert elevation of Elevation 622.0' to allow free flow of water into the lake under storm conditions. Temporary Sheet Piling shall be removed when the work is complete. Sheet Piling top elevation 627.00'. Estimated Tip elevation 609.00. Minimum Section Modulus is 30.2 Cu in/ft. Cost of Dewatering and opening in Sheeting shall be included in the pay item for Temporary Sheet Piling and will not be paid for separately.

5. At the Contractor's option, the contractor may install temporary bulkheads within the two influent storm sewers. These temporary bulkheads must be removed to allow free flow of storm water under storm conditions.

6. The temporary steel sheeting must not be removed until after the temporary bulkheads in the pipes have been removed and/or the differential head between the two sides of the sheeting equalizes.

7. Clean and roughen existing concrete surface to bond new concrete to existing. Cost shall be included in the pay item for Concrete Structures and will not be paid for separately.

8. Excavation and/or cleaning of the structure in order to place the new concrete is included in the pay item for Concrete Structures and will not be paid for separately.

9. For location of Storm Sewer, see Location Map on Cover Sheet.

DESIGNED BY: AAG/KHH CHECKED BY: BJM
DRAWN BY: RJ CHECKED BY: BJM/AAG/KHH

PLANS PREPARED BY:
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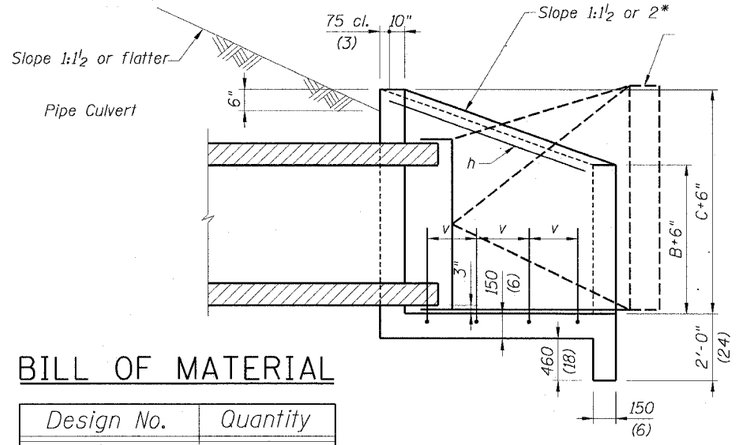
REVISION	
DATE	DESCRIPTION

SCALE: NONE

SBB-1

FR-416

BIG BEND LAKE HEADWALL PLAN, SECTION, ELEVATION AND DETAILS

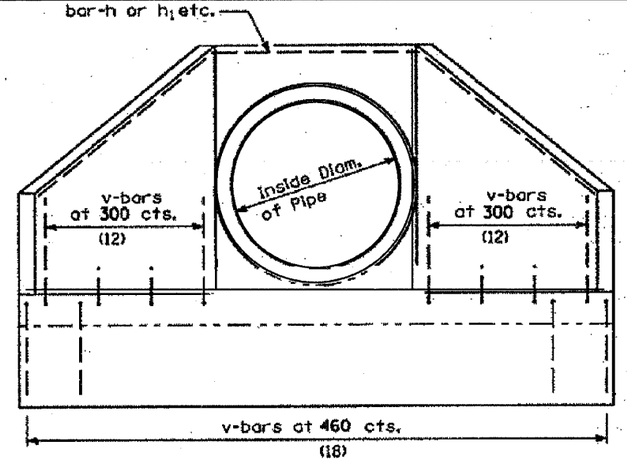


SECTION A-A

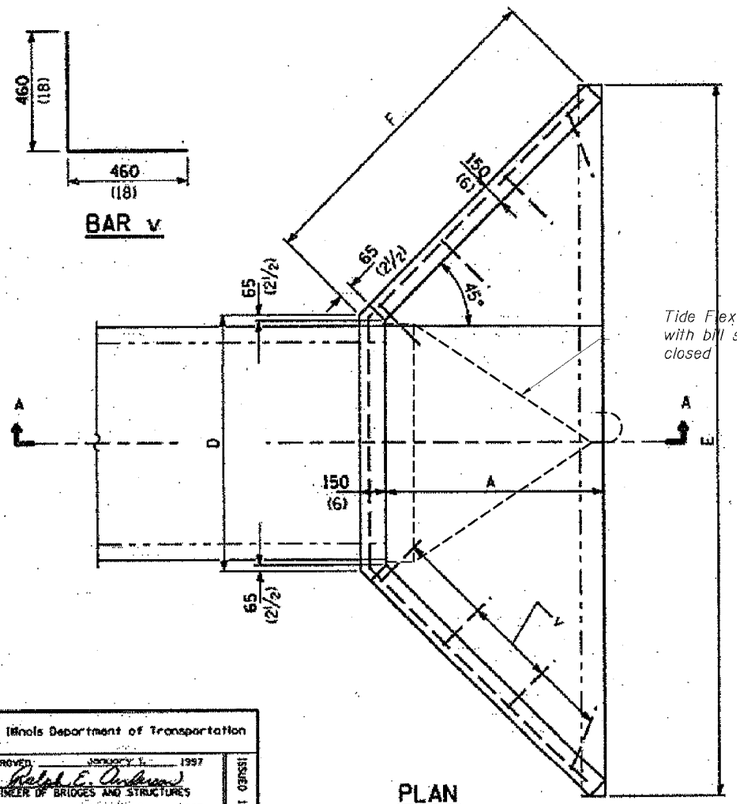
BILL OF MATERIAL

Design No.	Quantity
D15-2	2
D24-2	1

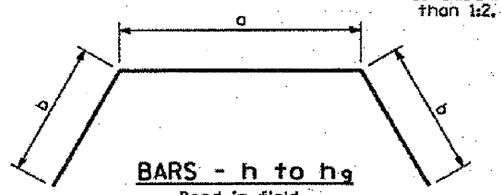
Mark	a	b
h	560 (22)	750 (29½)
h_1	560 (22)	980 (38½)
h_2	640 (25)	750 (29½)
h_3	640 (25)	980 (38½)
h_4	840 (33)	990 (39)
h_5	840 (33)	1.26 m (4'-1½")
h_6	990 (39)	1.18 m (3'-10½")
h_7	990 (39)	1.50 m (4'-10½")
h_8	1.19 m (3'-11")	1.42 m (4'-8")
h_9	1.19 m (3'-11")	1.77 m (5'-9½")



END VIEW



PLAN



BARS - h to h_9
Bend in field
one required in each headwall

TABLE OF DIMENSIONS

DESIGN NO.	NOMINAL INSIDE DIAM. of PIPE	SLOPE of FILL	Dimensions A	B	C	D	E	F	Concrete 2 End Secs. m^3 (cu. yds.)	Reinforcement Bars - No. 15 (No. 4) h-Bars Mark	h-Bars Length	v-Bars No.	Total Wt. 2 End Secs. kg (lbs.)
D375-1½ (D15-1½)	375 (15)	1:1½	485 (19)	260 (10)	590 (23)	610 (24)	1.67 m (5'-5½")	750 (29½)	0.7 (0.9)	h	2.06 m (6'-9")	16	30 (40)
D375-2 (D15-2)	375 (15)	1:2	660 (26)	260 (10)	590 (23)	610 (24)	2.02 m (6'-7½")	1 m (3'-3¼")	0.9 (1.2)	h_1	2.52 m (8'-3")	22	40 (60)
D450-1½ (D18-1½)	450 (18)	1:1½	485 (19)	330 (13)	660 (26)	690 (27)	1.75 m (5'-8½")	750 (29½)	1.0 (1.3)	h_2	2.14 m (7'-0")	16	30 (40)
D450-2 (D18-2)	450 (18)	1:2	660 (26)	330 (13)	660 (26)	690 (27)	2.11 m (6'-10½")	1 m (3'-3¼")	1.0 (1.3)	h_3	2.6 m (8'-6")	22	40 (60)
D600-1½ (D24-1½)	600 (24)	1:1½	640 (25)	410 (16)	840 (33)	890 (35)	2.26 m (7'-4½")	970 (38)	1.1 (1.5)	h_4	2.82 m (9'-3")	22	40 (60)
D600-2 (D24-2)	600 (24)	1:2	865 (34)	410 (16)	840 (33)	890 (35)	2.72 m (8'-10½")	1.29 m (4'-2½")	1.5 (2.0)	h_5	3.24 m (11'-0")	28	50 (70)
D750-1½ (D30-1½)	750 (30)	1:1½	770 (30)	480 (19)	990 (39)	1.05 m (3'-5")	2.68 m (8'-8½")	1.15 m (3'-9")	1.5 (2.0)	h_6	3.39 m (11'-0")	28	50 (70)
D750-2 (D30-2)	750 (30)	1:2	1.01 m (3'-4")	480 (19)	990 (39)	1.05 m (3'-5")	3.17 m (10'-4½")	1.5 m (4'-11")	2.0 (2.6)	h_7	3.99 m (13'-0")	34	60 (80)
D900-1½ (D36-1½)	900 (36)	1:1½	915 (36)	560 (22)	1.17 m (3'-10")	1.25 m (4'-1")	3.17 m (10'-4½")	1.36 m (4'-5½")	2.0 (2.6)	h_8	4.03 m (13'-3")	30	60 (80)
D900-2 (D36-2)	900 (36)	1:2	1.22 m (4'-0")	560 (22)	1.17 m (3'-10")	1.25 m (4'-1")	3.78 m (12'-4½")	1.79 m (5'-10½")	2.7 (3.5)	h_9	4.73 m (15'-6")	40	70 (100)

* If embankment slope above headwall is flatter than 1:2, provide wings for 1:2 slope.

All slope ratios are expressed as units of vertical displacement to units of horizontal displacement (V:H).

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

Illinois Department of Transportation

APPROVED January 1, 1997
ENGINEER OF BRIDGES AND STRUCTURES

APPROVED January 1, 1997
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

DATE	REVISIONS
1-1-97	Renum. Standard 1976-1.
6-15-94	Added slope note.
	Added Metric.

REINFORCED CONCRETE END SECTIONS FOR PIPE CULVERTS 375 mm (15") THRU 900 mm (36") DIA. AT RIGHT angles WITH ROADWAY

STANDARD 542101

DESIGNED BY: AAG CHECKED BY: AAG/AAG
DRAWN BY: RJ CHECKED BY: AAG/DPV

PLANS PREPARED BY:

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NOTES:

1. All reinforcing bars epoxy coated.
2. Concrete Headwalls will be paid for at the Contract unit price for each. Quantities shown on this Drawing are approximate.
3. Tide Flex valves will not be paid for as part of the pay item for Concrete Headwalls, but will be paid for separately.
4. At Contractor's option Precast Concrete Headwalls may be provided subject to submittal of calculations and Engineer Approval.

REVISION DATE	DESCRIPTION

SCALE: NONE

SMISC-1 FR-416

REINFORCED CONCRETE END SECTIONS, PLAN, SECTION, ELEVATION AND DETAILS

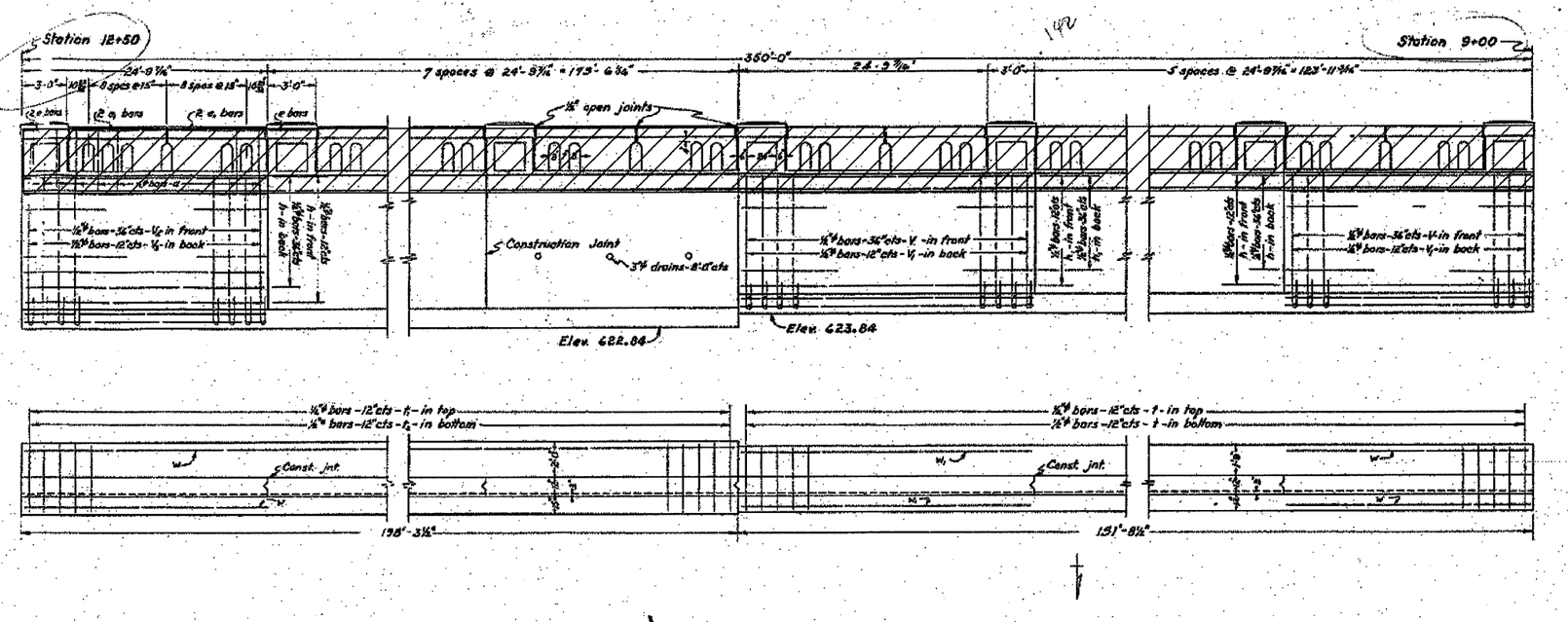
U.S.G.S. B.M. – NW corner Rand and Dempster No. 44 W Elev. 632.00

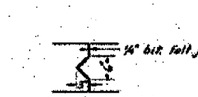
STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

STATE AID ROUTE NO.	SEC	COUNTY	TOTAL SHEETS	SHEET NO.
123	0101-NRS-1	Cook	18	16

FED. ROAD DIST. NO. 9 ILLINOIS | FED. AID PROJECT STA. NRS

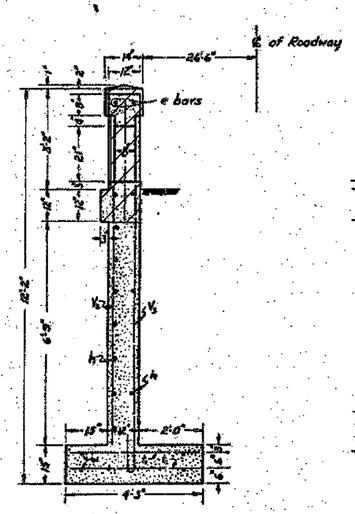
SHEET NO. 1
1 SHEETS

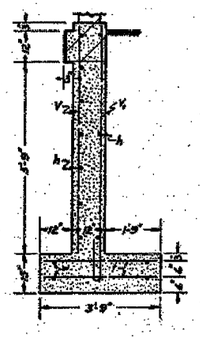




DETAIL OF CONSTRUCTION JOINT

Class X Concrete to be used throughout.
All reinforcing steel to be wired securely in place before concrete is poured.
Wall to be built parallel to ℄ of roadway.





BILL OF MATERIAL

Bar	No.	Size	Length
V	153	1/4"	6'-8"
V1	153	"	8'-9"
V2	200	"	7'-9"
V3	200	"	9'-9"
h	145	1/4"	24'-8"
h1	9	"	27'-6"
e	30	1/2"	5'-0"
a	54	"	10'-6"
d	207	"	3'-9"
f	298	1/2"	3'-6"
g	206	"	4'-0"
h	202	1/2"	4'-0"
w	52	"	24'-0"
w1	4	"	27'-6"

Reinforcing Steel	Lbs.	11,110
Handrail Concrete	Cu. Yds.	31.6
Class X Concrete	Cu. Yds.	166.6

STANDARD	COMPUTED	—
	CHECKED	—
	DRAWN	—
	CHECKED	—
SPECIAL	ASSEMBLED	—
	CHECKED	—

EXAMINED 2-16-34
PASSED H. E. Jungerson, Director
APPROVED Chas. P. Johnson

NO 203-E
RETAINING WALL
STATE AID RTE. 123 — SEC. 0101-NRS-1
COOK COUNTY
STA. 9+00 to 12+50

DESIGNED BY: NA CHECKED BY: AAG
DRAWN BY: RJ CHECKED BY: AAG

01/31/2006 08:46:21 AM P:\P60003332\Struct\Shts\03s45-SMISC-2.sht

PLANS PREPARED BY:

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NOTE:

Removal of Existing Structure as shown on this sheet is included in the pay item for Removal of Existing Structures.

LEGEND:

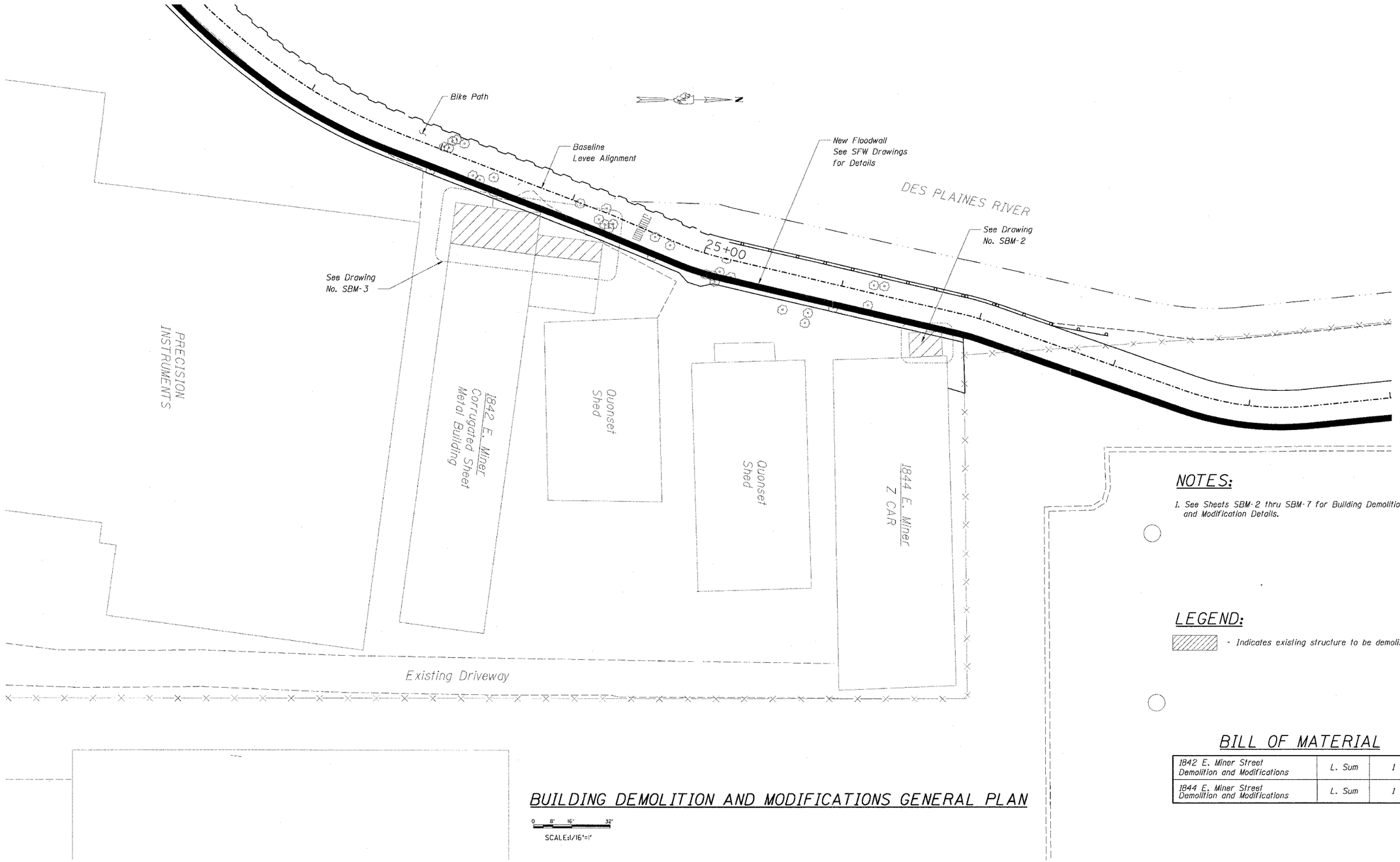
- Indicates existing concrete to be Demolished.

REVISION	
DATE	DESCRIPTION

SCALE: NONE

SMISC-2 FR-416

MINER STREET RETAINING WALL PARAPET DEMOLITION



NOTES:

1. See Sheets SBM-2 thru SBM-7 for Building Demolition and Modification Details.

LEGEND:

▨ - Indicates existing structure to be demolished

BILL OF MATERIAL

1842 E. Miner Street Demolition and Modifications	L. Sum	1
1844 E. Miner Street Demolition and Modifications	L. Sum	1

BUILDING DEMOLITION AND MODIFICATIONS GENERAL PLAN

0 8' 16' 32'
SCALE:1/16"=1'

DESIGNED BY: AAG CHECKED BY: DPV
DRAWN BY: CHD CHECKED BY: AAG

PLANS PREPARED BY:

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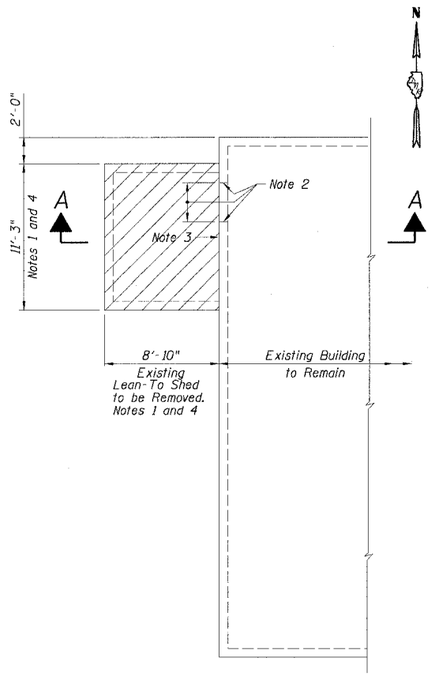
REVISION	
DATE	DESCRIPTION

SCALE: NONE

SBM–1

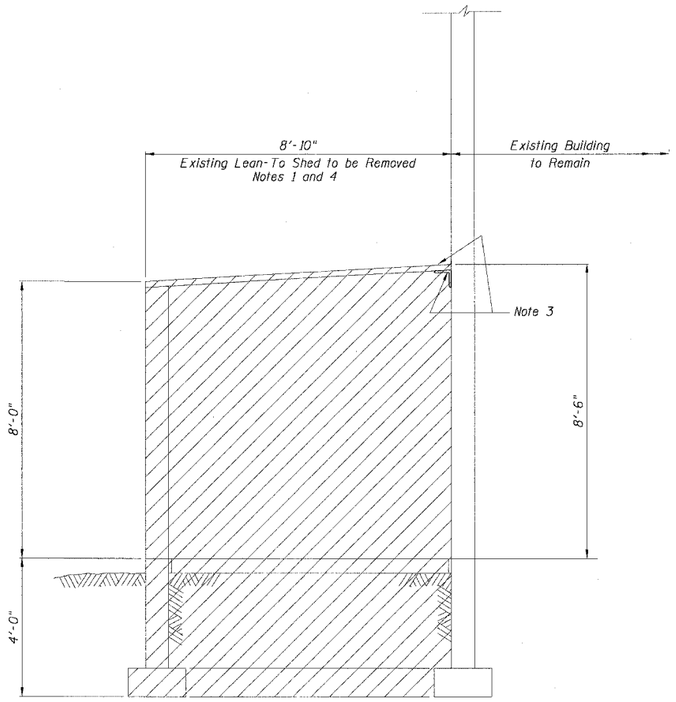
FR-416



ROOF PLAN

0 5' 10'

SCALE: 3/16"=1'



SECTION A-A

0 1' 2' 4'

SCALE: 1/2"=1'

NOTES:

1. Remove existing load bearing masonry wall, metal sided lean-to shed, complete with existing slab on grade and foundation wall and footing. Contents of building, including all electrical and mechanical equipment, will be removed by owner.

2. Remove existing door frame and block up opening in west wall of building to remain. Tooth-in masonry at existing masonry wall jambs. Masonry infill at door opening shall be 8" hollow concrete block and shall match existing wall thickness and adjacent surfaces. Verify wall thickness in field. Install flush with adjacent exterior surfaces.

3. Remove existing roof support and flashing on west wall of building to remain. Patch and tuck point masonry wall to match existing adjacent masonry wall surfaces.

4. Conditions shown on the set of drawings are approximate and are based on limited information based solely on visual field observations and field measurements, as much as site observations could allow, without disturbing existing construction and may not show the actual conditions or exact dimensions. All dimensions and elevations shown to existing construction and all existing conditions shall be assumed to be +/- and shall be verified by the contractor prior to fabrication of material and construction. The contractor must visit the site and familiarize himself with all existing conditions prior to bidding the work.

5. The contractor shall be responsible for the design and installation of all temporary construction including, but not limited to, sheeting, shoring, bracing and underpinning for the protection of existing structures and utilities whether or not such temporary construction is specifically shown on the drawings. The contractor shall provide all measures and precautions necessary to prevent damage, settlement or movement of existing structure, structural members and utilities.

LEGEND:

- Indicates existing structure to be demolished

DESIGNED BY: AAG CHECKED BY: DPV
DRAWN BY: CHD CHECKED BY: AAG

PLANS PREPARED BY:

CTE | AECOM

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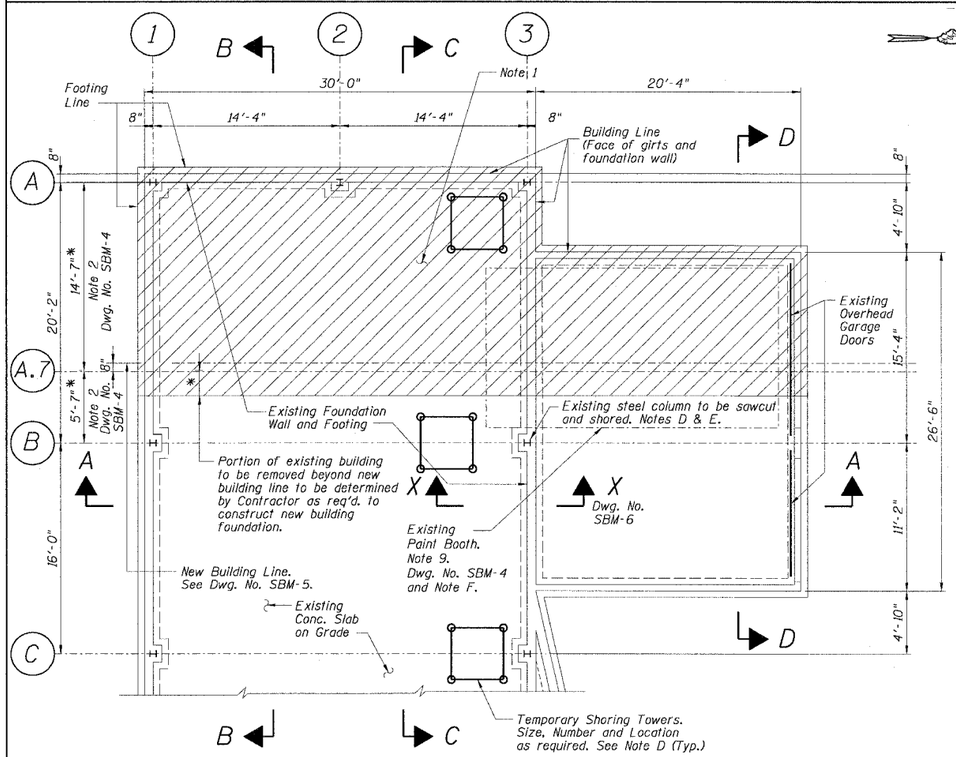
REVISION	
DATE	DESCRIPTION

SBM-2

SCALE: NONE

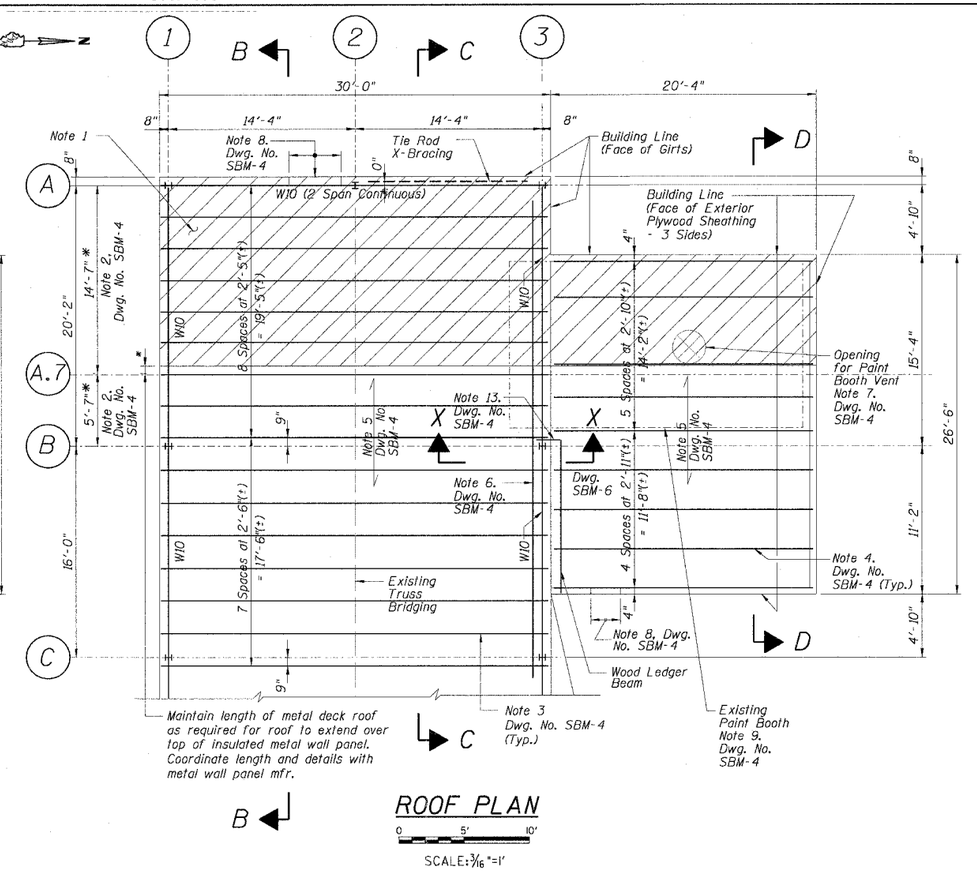
FR-416



FOUNDATION PLAN

0 5' 10'

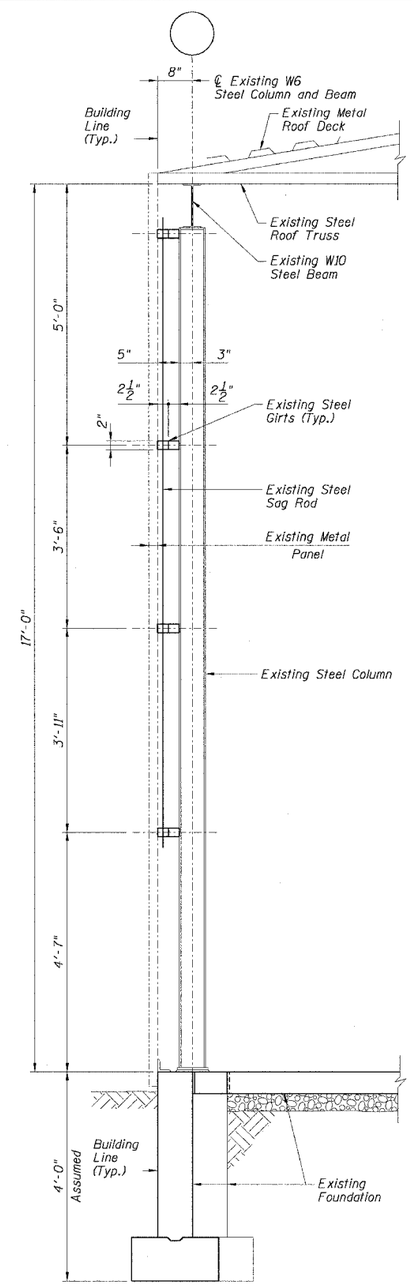
SCALE: 3/16"=1'



ROOF PLAN

0 5' 10'

SCALE: 3/16"=1'



DETAIL 1

0 1' 2' 3'

SCALE: 3/4"=1'

SUGGESTED SEQUENCE OF CONSTRUCTION NOTES:

A. The Contractor shall relocate and/or provide temporary supports for all existing utilities (electrical, HVAC, plumbing, fixtures, etc.) as necessary to maintain existing building operations in service and to perform work prior to start of any demolition.

B. The existing roof, wood stud wall, columns, beams and tie-rod X-bracing on the existing west wall of the building must not be removed until the new tie rod X-bracing has been fully installed, the existing steel roof truss has been welded to the new steel beam on column line A.7, and the existing roof deck has been bolted to the new wood stud wall.

C. The Contractor shall control temperature (minimum 65 degrees F.) and weathertightness in the existing building to permit continued Owner occupancy of the existing building. The portion of the existing building that is to be removed shall remain in place as much as possible, except for portions that must be removed to install the modifications, until such modifications to the existing building are complete and the modified portion of the building is enclosed. Coordinate all work and/or temporary shut-downs that may be required with the building Owner and Occupant.

D. To accommodate the new location of the spray paint booth, the Contractor shall provide and install temporary shoring supports and structural protection for the existing roof, wall and portion of existing steel column B3 to remain prior to start of any demolition work. Temporary shoring supports and protection shall include, but shall not be limited to, shoring towers, beams, needling of the existing roof, wall and column. After new work is fully installed, Contractor shall remove all temporary shoring and protection and patch and repair all construction disturbed or damaged by the Contractor. Means and methods of providing the temporary shoring supports, structural protection and/or needling beam sizes and locations shall be the Contractor's responsibility and shall be designed by the Contractor's Illinois licensed Structural Engineer. Submit calculations, drawings, details and sequence of installation and removal of temporary shoring supports and structural protection sealed and signed by the Contractor's Illinois licensed Structural Engineer. See Dwg. No. SBM-6 for suggested required temporary shoring detail.

E. After all required shoring supports and structural protection for the existing roof, wall and portion of existing steel column B3 that must remain are in place, cut existing steel roof column to required height to allow installation of new transfer beam to support existing modified steel column. Existing modified steel column must be fully supported on the new transfer beam. Confirm fit of new beam over existing paint booth prior to fabrication of material.

F. Relocate existing spray paint booth and vent by moving or by disassembling and reassembling existing spray paint booth and vent to the east as shown on Drawing Nos. SBM-5 and SBM-6.

G. Sawcut and remove a portion of the existing reinforced concrete slab on grade, foundation walls and footings and building walls as required to install new underpinning, reinforced concrete slab on grade, foundation walls and footings and steel columns. Confirm fit of new construction with existing prior to moving paint booth.

H. Install new steel columns, beams, X-bracing and girts.

I. Install new steel transfer beam, spanning between the new and existing steel columns, to support existing modified column B3 that was cut to accommodate the new location of the spray paint booth.

J. Install new load-bearing wood stud walls and metal wall panels. Seal all new construction watertight.

K. Relocate and re-install existing exhaust fans. Install new curbs for roof mounted fans or vents as necessary.

L. Relocate and re-install permanent electrical, HVAC, and plumbing service and fixtures.

M. Remove remainder of existing building to the west. Shore existing steel beams and girts and wood ledger prior to cutting. Remove temporary shoring only after all new connections of existing to new construction are fully in place.

N. Patch roofing watertight to match existing adjacent roofing construction.

O. Install new gutters and downspouts that were removed or damaged. Tie into the existing gutters and downspouts. Provide concrete splash blocks at spillouts.

NOTES:

For Demolition Notes and Demolition Sections see Drawing No. SBM-4.

* - indicates dimensions to be determined in field by Contractor

LEGEND:

- Indicates existing structure to be demolished

DESIGNED BY: AAG CHECKED BY: DPV
DRAWN BY: CHD CHECKED BY: AAG

PLANS PREPARED BY:

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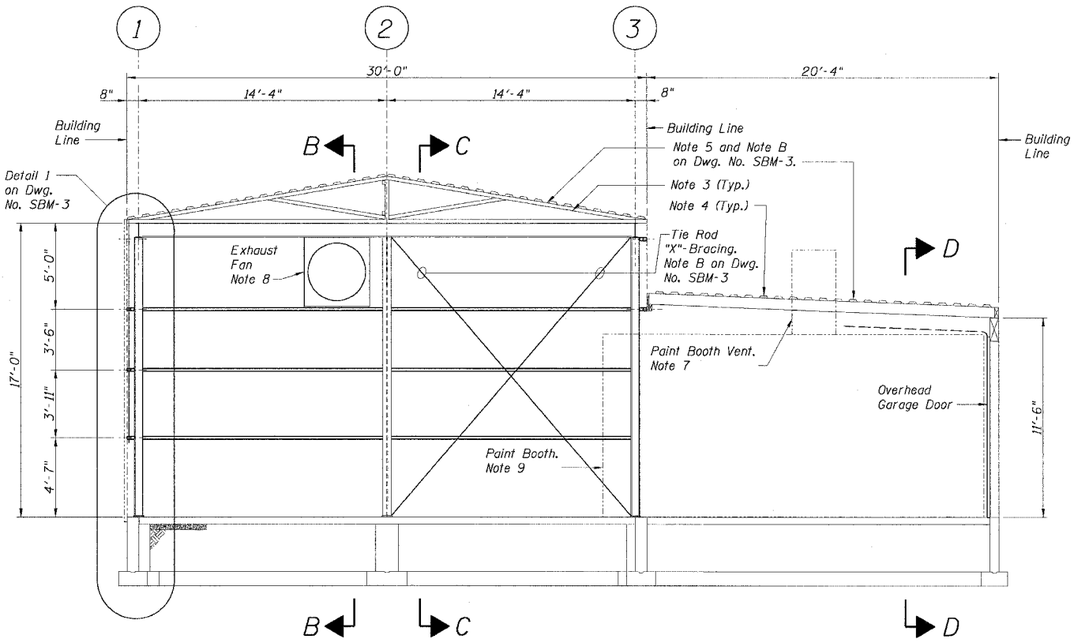
REVISION	
DATE	DESCRIPTION

SCALE: NONE

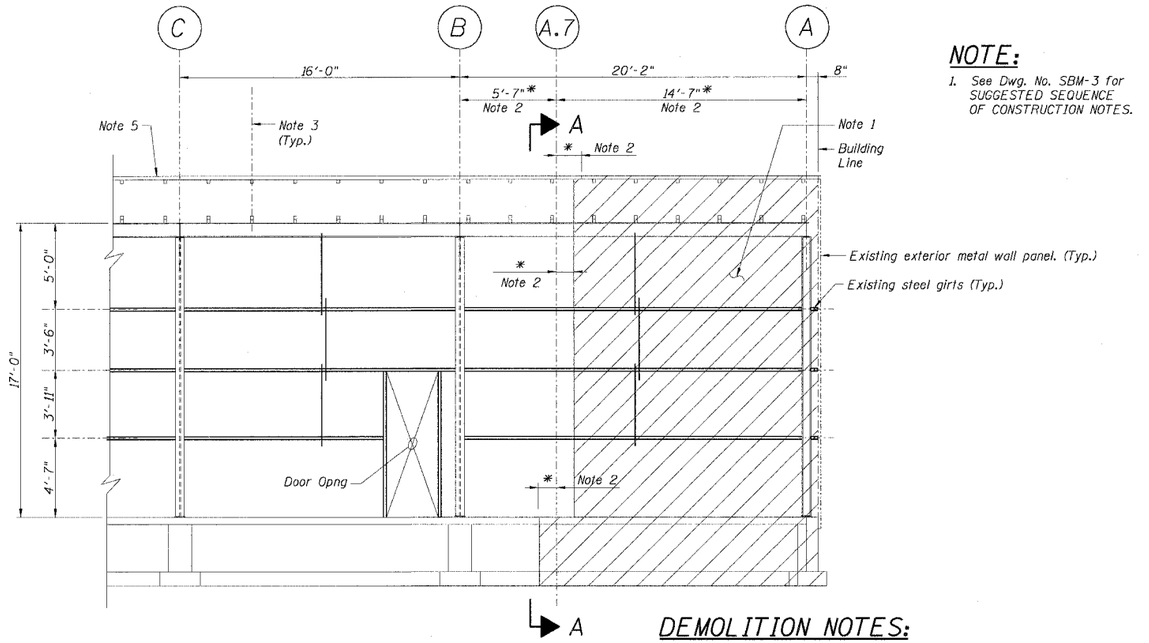
SBM-3

FR-416



SECTION A-A

SCALE:1/4"=1'

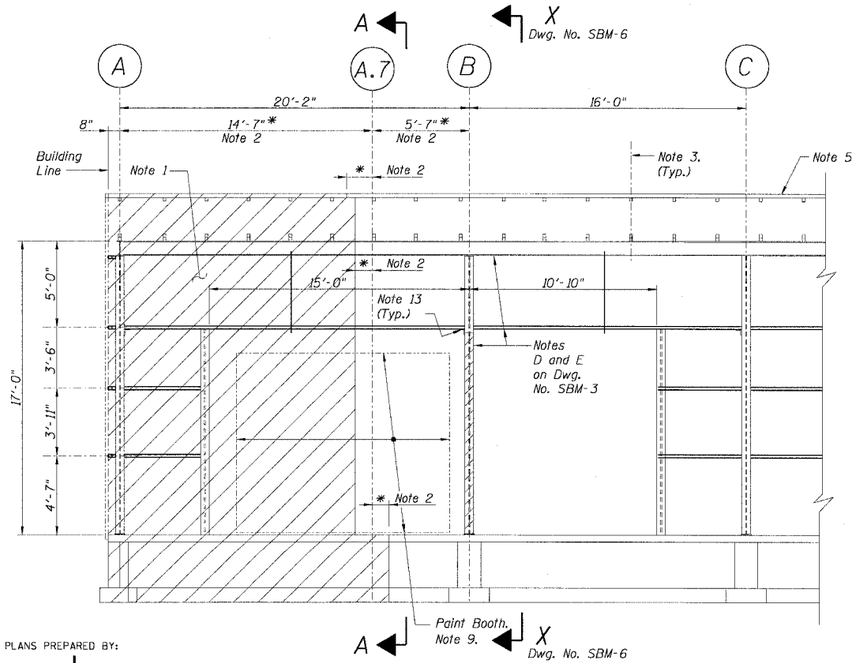


SECTION B-B

SCALE:1/4"=1'

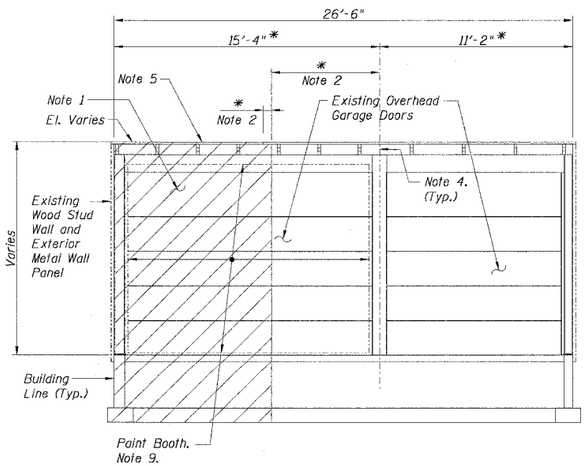
NOTE:

1. See Dwg. No. SBM-3 for SUGGESTED SEQUENCE OF CONSTRUCTION NOTES.



SECTION C-C

SCALE:1/4"=1'



SECTION D-D

SCALE:1/4"=1'

DEMOLITION NOTES:

1. Remove a portion of the steel framed building, load-bearing wood stud building, concrete slab on grade and concrete building foundation as shown on the Drawings. Existing building must remain in service during construction. Refer to SUGGESTED SEQUENCE OF CONSTRUCTION on Dwg. No. SBM-3.
2. The exact length of building to be removed and portion of building to remain shall be determined in the field such that the centerline of the new steel beams and columns are located directly under the existing steel roof truss as shown on the drawings. See Drawing No. SBM-5. The Contractor shall sawcut and remove existing foundation wall, footings, and slab as required to install new foundation wall, footings and slab. All removal work for concrete, steel and metal deck shall be accomplished by sawcutting. Existing roofing to extend over top of exterior metal wall panel in finished condition.
3. Existing steel roof trusses.
4. Existing steel roof purlins.
5. Existing metal deck. Contractor shall determine size and type in field and max. span.
6. New steel shoring supports and structural protection for the existing roof, wall and portion of existing steel column B3 to remain. Install prior to start of any demolition work. Refer to SUGGESTED SEQUENCE OF CONSTRUCTION on Dwg. No. SBM-3.
7. Existing vent for spray paint booth to be salvaged and stored for relocation and reinstallation. Refer to SUGGESTED SEQUENCE OF CONSTRUCTION on Dwg. No. SBM-3.
8. Existing wall fans to be salvaged and stored for relocation and reinstallation at location designated by Owner. Refer to SUGGESTED SEQUENCE OF CONSTRUCTION on Dwg. No. SBM-3.
9. Existing spray paint booth shall be moved in its entirety or dismantled and moved to the new location shown on the Drawings after the temporary steel shoring is in place and the existing column B3 has been cut to the required length and supported on the new temporary shoring system designed by the Contractor's Illinois licensed Structural Engineer Refer to SUGGESTED SEQUENCE OF CONSTRUCTION on Dwg. No. SBM-3.
10. Existing utilities shall be relocated. Refer to SUGGESTED SEQUENCE OF CONSTRUCTION on Dwg. No. SBM-3.
11. Conditions shown on the set of drawings are approximate and are based on limited information based solely on visual field observations and field measurements, as much as site observations could allow, without disturbing existing construction and may not show the actual conditions or exact dimensions. All dimensions and elevations shown to existing construction and all existing conditions shall be assumed to be +/- and shall be verified by the contractor prior to fabrication of material and construction. All new construction shall be field verified for fit prior to fabrication of material. Any changes or modifications required shall be brought to the attention of the Engineer. The Contractor MUST visit the site and familiarize himself with all existing conditions prior to bidding the work.
12. The contractor shall be responsible for the design and installation of all temporary construction including, but not limited to, sheeting, shoring, bracing and underpinning for the protection of existing structures and utilities whether or not such temporary construction is specifically shown on the drawings. The contractor shall provide all measures and precautions necessary to prevent damage, settlement or movement of existing structure, structural members and utilities.
13. Existing angle support for existing wood ledger welded to existing steel columns to remain (typ.).
14. * - Indicates dimensions to be determined or field verified by Contractor. See Note 11.

LEGEND:

▨ - Indicates existing structure to be demolished

REVISION	
DATE	DESCRIPTION

DESIGNED BY: AAG CHECKED BY: DPV
DRAWN BY: CHD CHECKED BY: AAG

PLANS PREPARED BY:

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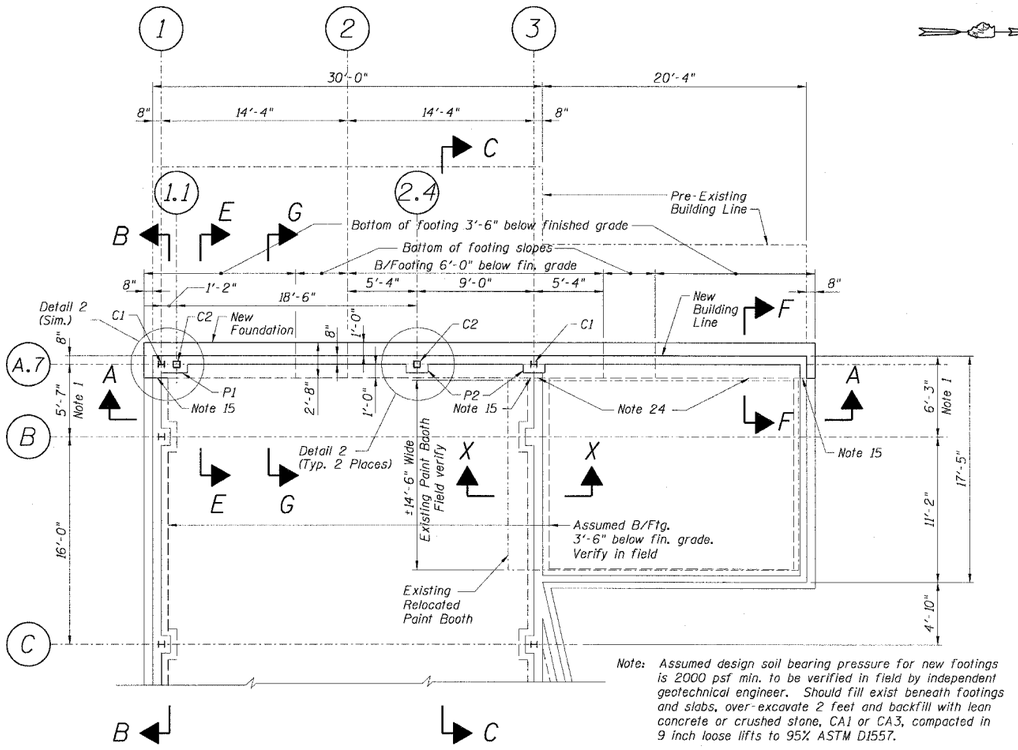
SCALE: NONE

SBM-4 FR-416

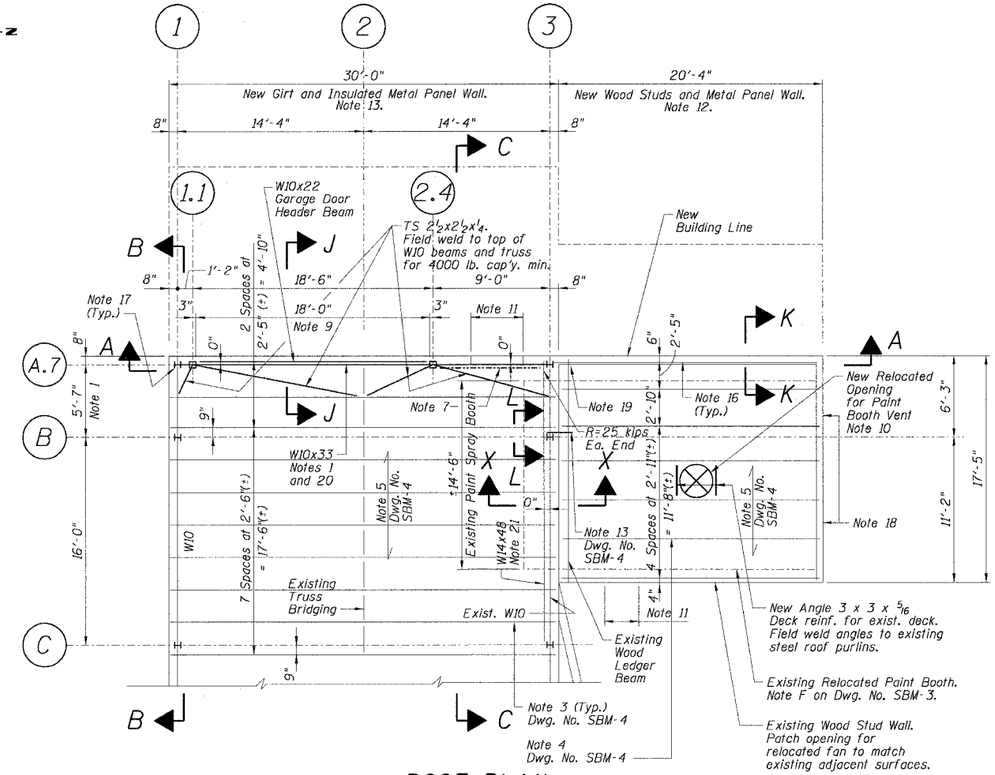


Note: Assumed design soil bearing pressure for new footings is 2000 psf min. to be verified in field by independent geotechnical engineer. Should fill exist beneath footings and slabs, over-excavate 2 feet and backfill with lean concrete or crushed stone, CA1 or CA3, compacted in 9 inch loose lifts to 95% ASTM D1557.

FOUNDATION PLAN

0 5' 10'

SCALE: 3/16"=1'



ROOF PLAN

0 5' 10'

SCALE: 3/16"=1'

MODIFICATION NOTES:

1. The centerline of the new steel beams and columns shall be located directly under the existing steel roof truss as shown on the drawings. The dimension shown is approximate and the exact dimension shall be verified in the field.
2. C1 - Indicates new W6x20 steel column with ¾" x 11" x 11" base plate with 4-3/4" diameter anchor bolts and ¾" thick cap plate. See Dwg. No. SBM-7.
3. C2 - Indicates new HSS 6 x 6 x ⅜" steel column with ¾" x 11" x 11" base plate with 4-3/4" diameter anchor bolts and ¾" thick cap plate. See Dwg. No. SBM-7.
4. P1 - Indicates 16" x 32" concrete pilaster reinforced with 6 - #6 vertical and #4 @ 12" ties. Hook vertical bars at top of pilaster and at bottom of footing. See Dwg. No. SBM-7.
5. G1 - Indicates new steel girt HSS 5 x 5 x ¼". See Dwg. No. SBM-7.
6. P2 - Indicates 16" x 20" concrete pilaster reinforced with 4 - #6 vertical and #4 @12" ties. Hook vertical bars at top of pilaster and at bottom of footing. See Dwg. No. SBM-7.
7. New 1½" diameter tie rod x-bracing with turnbuckles and No. 4 clevises. New tie-rod x-bracing must be fully installed prior to removal of any existing roof deck and the existing tie-rod x-bracing at the west end of the existing building. The structural steel detailer shall design the connections for the axial forces in tension (T) or compression (C) shown on the drawings. Minimum number of bolts shall be two (2). Minimum gusset plate thickness shall be ½". Connect gusset plate to column and beam at top of column and to column and base plate at bottom of colum for loads shown on Dwg. No. SBM-6.
8. Beam connections to support one-half of the AISC maximum uniform load for the indicated beam size and span (or beam reactions as indicated on the roof plan, whichever is greater) and axial forces (T) or (C) shown on the drawings.
9. New 18 feet wide x 14 feet high overhead garage door.
10. Reinstall existing salvaged vent for spray paint booth to pre-existing condition.
11. Reinstall existing salvaged wall fans to pre-existing condition. If wall fan will not fit between x-bracing between columns A.7-2.4 and A.7-3, relocate fan to another location as directed in field.
12. New 2" x 6" wood stud wall with ⅜" exterior grade plywood sheathing each side of wall and exterior metal wall panel to match existing. Tie new metal panel into existing for watertight seal as recommended by panel manufacturer. Interior wall finishes to match existing adjacent wall surfaces.
13. New insulated exterior metal wall panel to match existing. Fasten to girts as required by panel manufacturer. Provide additional framing clips as required, sized and located as required by the panel manufacturer and panel manufacturer's Illinois licensed Structural Engineer. Tie new metal wall panel into existing for watertight seal as recommended by panel manufacturer. Interior wall finishes to match existing adjacent wall surfaces.
14. Restore, repair or replace all portions of the building damaged by the Contractor in executing his work or where required to tie new construction into existing construction to match pre-existing conditions.
15. Dowel new foundation wall and footings to existing foundation walls and footings with #5 @ 12" x 3'-0" long dowels placed at center of walls and footings and grouted 12" into existing with a chemical adhesive grout by Sika or approved equal.
16. Where new steel roof deck is required to patch openings, provide new steel roof deck to match existing adjacent steel roof deck in profile, gage and height and as required to span between existing steel purlins and/or trusses. Deck shall be hot dipped galvanized. (Typical).
17. Field cut existing steel girts and beams and wood ledger beam at modified construction as required or provide new girts and beams to match existing and to connect to new columns. Shore existing construction as required prior to cutting any structural members and maintain shoring in place until new structural supports are in place.
18. Remove existing wood garage doors on the north side of the building and infill openings with new wood stud walls. See Note 12.
19. Support existing wood ledger beam on new 2 x 6 wood stud wall.
20. New W10x33 steel beam shall be continuous over Col. A.7-2.4 and Col. A.7-1.1 and shall frame into existing beams over top of Cols. A.7-1 and A.7-3. See Typical Column Cap Plate Detail on Dwg. No. SBM-7.
21. New W14x48 transfer beam to support existing Column B3 over Paint Booth. Field verify fit of beam and Paint Booth prior to fabrication of material. See Dwg. No. SBM-3, Notes E and G.
22. All wood shall be Spruce Pine Fir No. 2 grade or better. Wood sills in contact with concrete shall be pressure treated.
23. All nailing shall be in accordance with the International Building Code 2000, Table 2304.9.1.
24. Underpin existing footings and slab on grade as required to construct new footings and foundation walls. Underpin and backfill all excavations beneath existing slab on grade and footing foundations with superplasticized concrete placed under head to ensure full contact with underside of existing slab and foundations. Submit underpinning design, calculations and details sealed and signed by a Structural Engineer licensed in the State of Illinois for review.

NOTES:

For modification elevations, sections and details see Dwg. Nos. SBM-6 and SBM-7.

MINIMUM DESIGN LOADS INTERNATIONAL BUILDING CODE 2000

1. FLOOR LIVE LOADS
   A. Garage Floor Slab on Grade - 600 PSF
2. ROOF LIVE LOAD = 20 PSF
3. ROOF SNOW LOAD
   A. Flat Roof Snow Load, Pf = 30 PSF
   B. Snow Exposure Factor, Ce = 0.9
   C. Snow Load Importance Factor, I = 1.0
   D. Thermal Factor, Ct = 1.0
   E. Snow Drifting on Lower Roofs
4. WIND LOAD DATA
   A. Basic Wind Speed (3 Second Gust), Miles Per Hour = 90 MPH
   B. Fastest Mile Wind Speed, Miles Per Hour = 75 MPH
   C. Wind Load Importance Factor = 1.0
   D. Wind Exposure = B
   E. Main Wind Force Resisting System = 15 PSF
   F. Components and Cladding = 25 PSF

REVISION	
DATE	DESCRIPTION

PLANS PREPARED BY:

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DESIGNED BY: AAC CHECKED BY: DPV
DRAWN BY: CHD CHECKED BY: AAC

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SCALE: NONE

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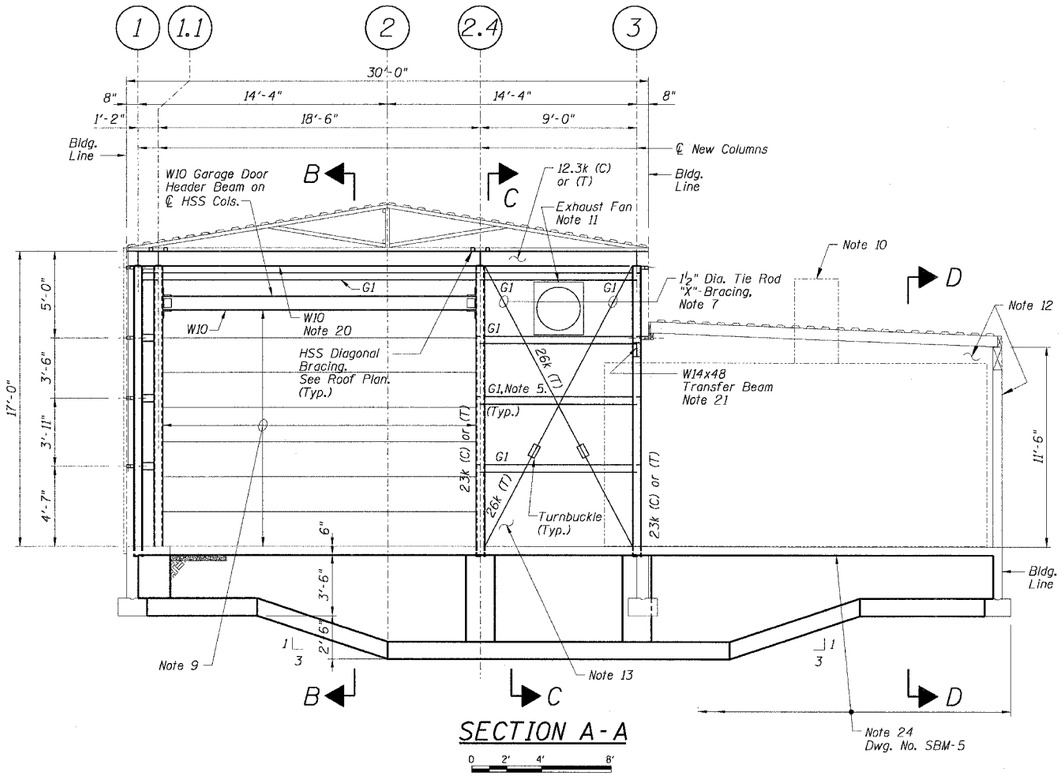

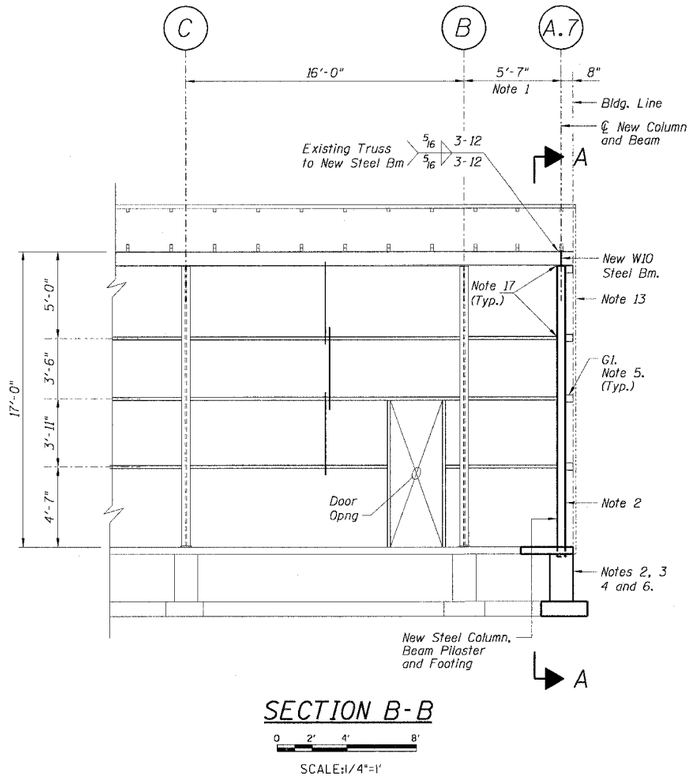

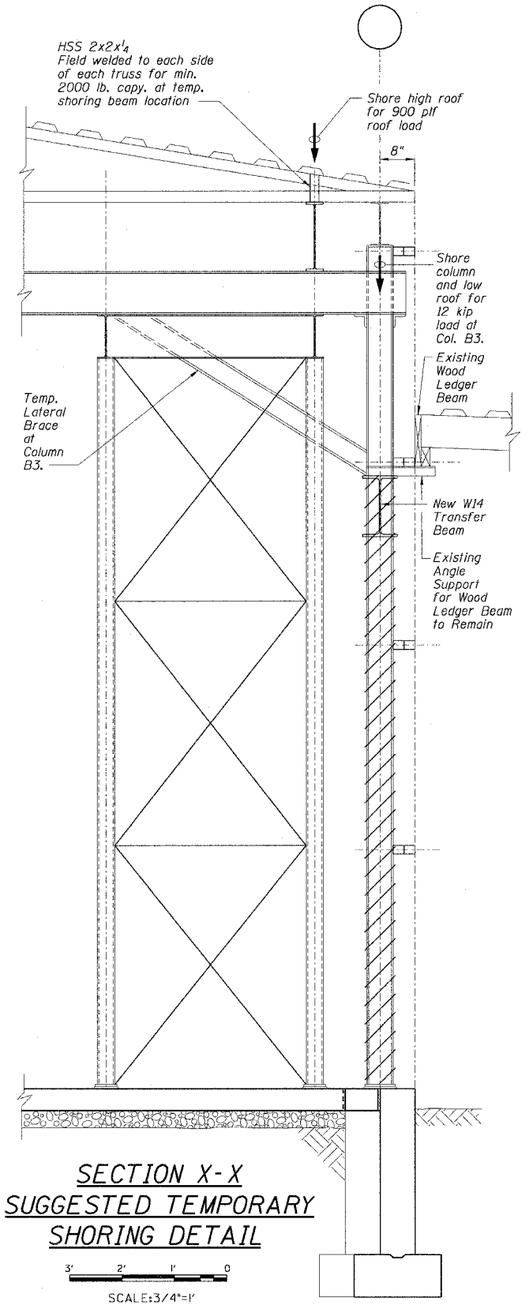

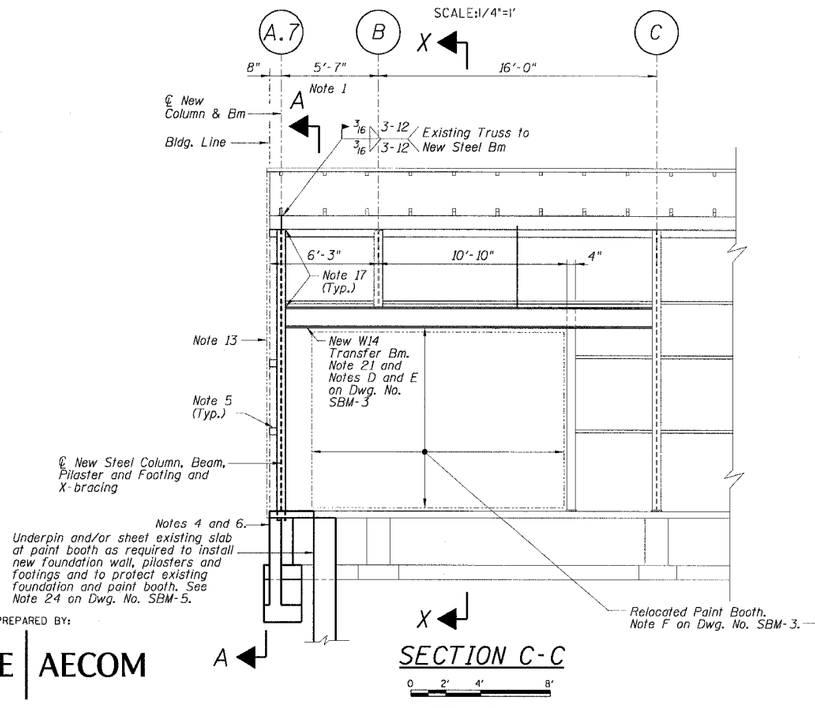

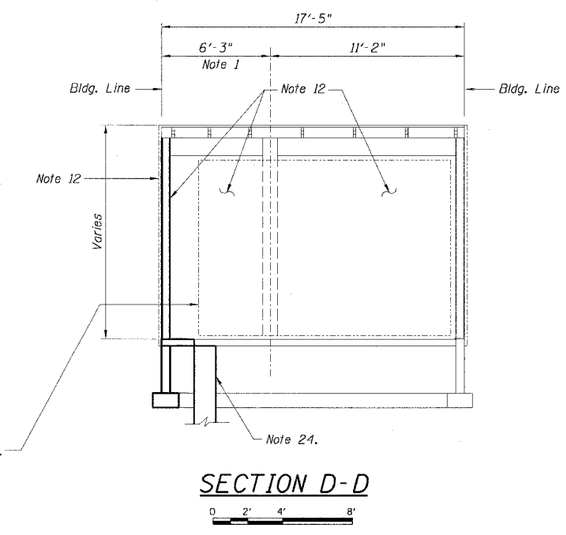

NOTES:

1. See Dwg. No. SBM-5 for Notes U.O.N.
2. See Dwg. No. SBM-3 for SUGGESTED SEQUENCE OF CONSTRUCTION Notes.

REVISION	
DATE	DESCRIPTION

DESIGNED BY: AAG CHECKED BY: DPV
DRAWN BY: CHD CHECKED BY: AAG

PLANS PREPARED BY:
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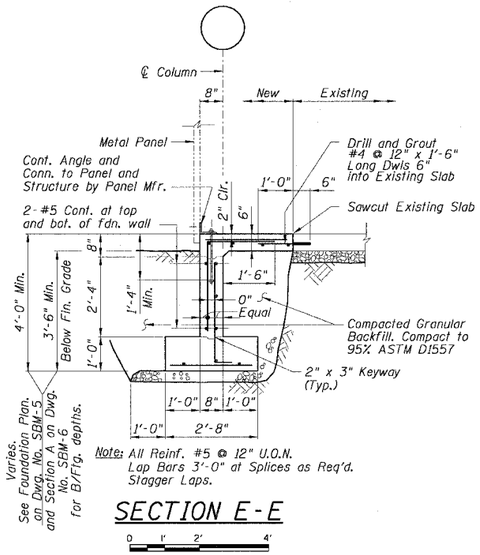
SCALE: NONE

SBM-6

FR-416

1842 E. MINER ST. BUILDING MODIFICATIONS, SECTIONS AND DETAILS

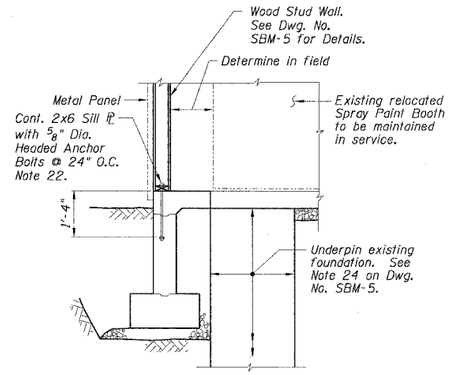


Note: All Reinf. #5 @ 12" U.O.N. Lap Bars 3'-0" at Splices as Req'd. Stagger Laps.

SECTION E-E

0 1' 2' 4'

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



Note: See Section E-E for Reinf. and Add'l. Details

SECTION F-F

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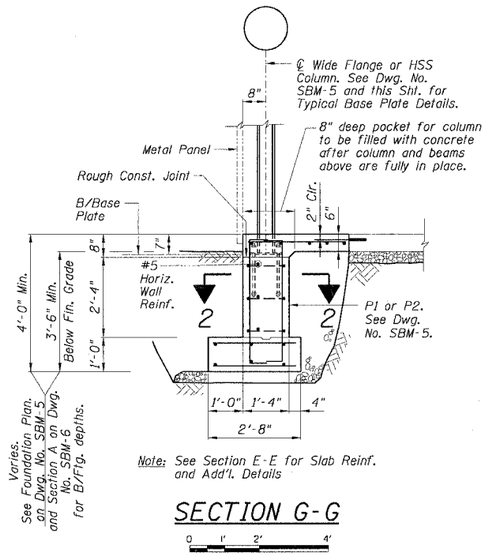
SCALE:1/2"=1'-0"



Note: See Section E-E for Slab Reinf. and Add'l. Details

SECTION G-G

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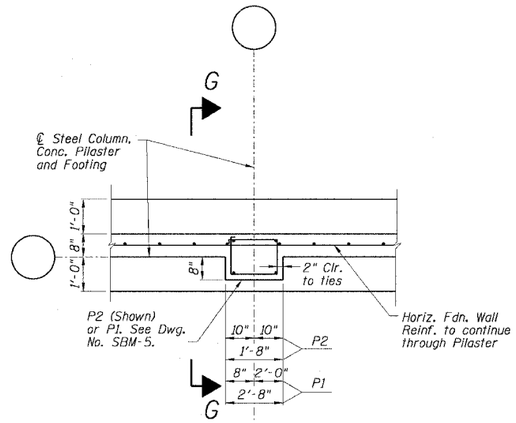
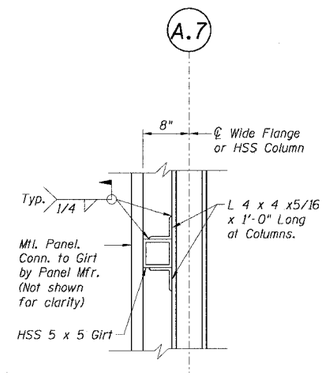


TYPICAL CONC. PILASTER AND FOOTING DETAILS

DETAIL 2

0 1' 2' 4'

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

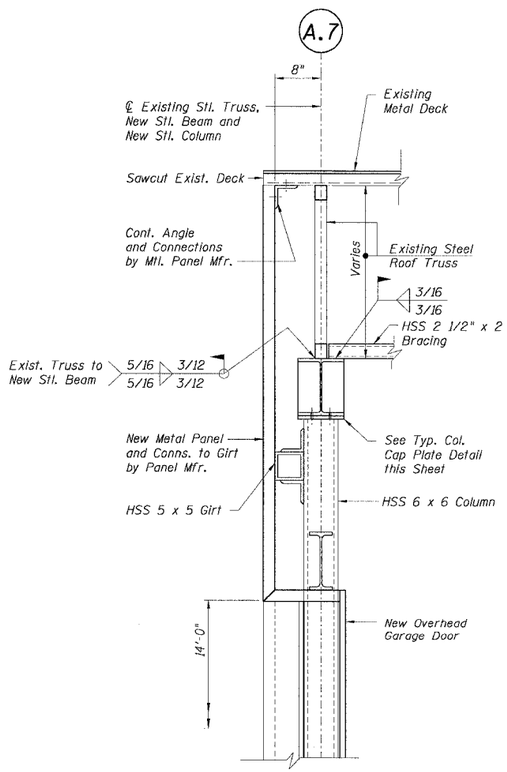


TYPICAL GIRT CONNECTION TO COLUMN

SECTION H-H

0 1" 2"

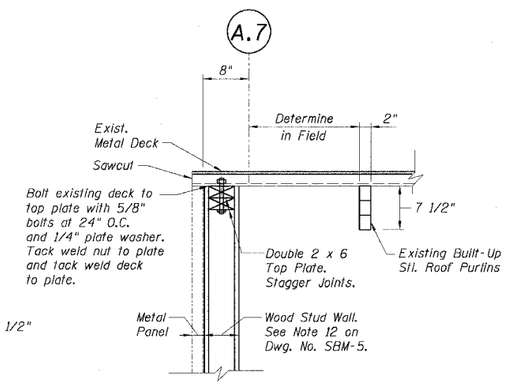
SCALE:1"=1"



SECTION J-J

0 1" 2"

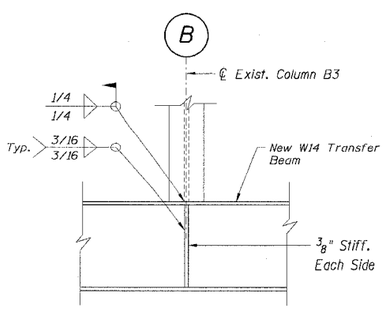
SCALE:1"=1"



SECTION K-K

0 1" 2"

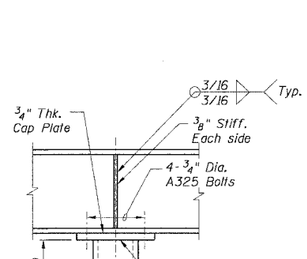
SCALE:1"=1"



SECTION L-L

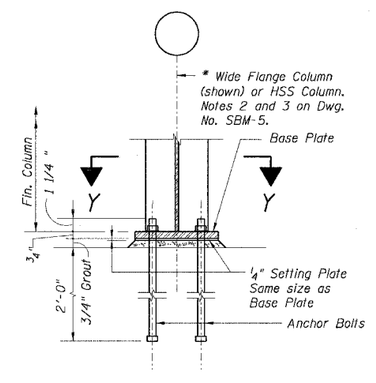
0 1" 2"

SCALE:1"=1"



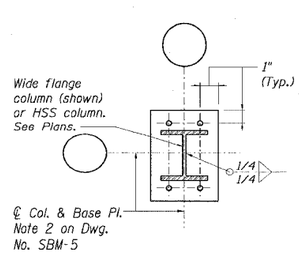
TYPICAL COLUMN CAP PLATE

SCALE: None



TYPICAL COLUMN BASE PLATE

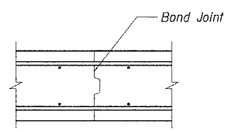
SCALE: None



SECTION Y-Y TYPICAL COLUMN BASE PLATE PLAN

0 1" 2"

SCALE: None



CONSTRUCTION JOINT

0 1' 2' 3'

SCALE:None

REVISION	
DATE	DESCRIPTION

DESIGNED BY: AAG CHECKED BY: DPV
DRAWN BY: CHD CHECKED BY: AAG

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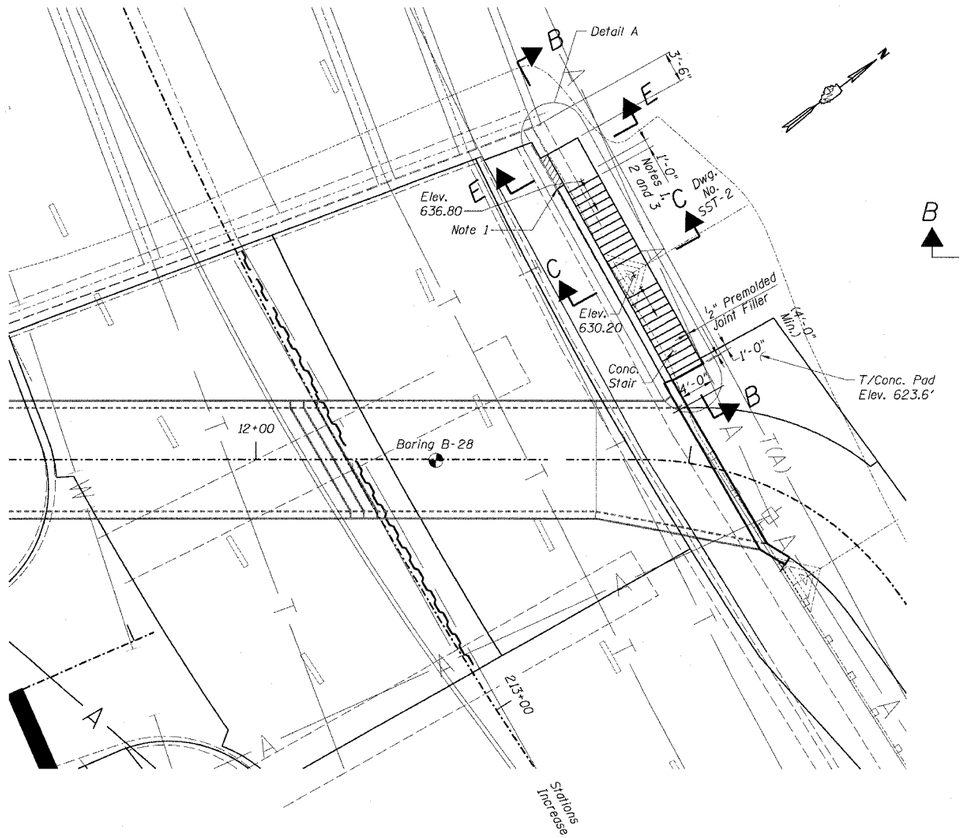
SCALE: NONE

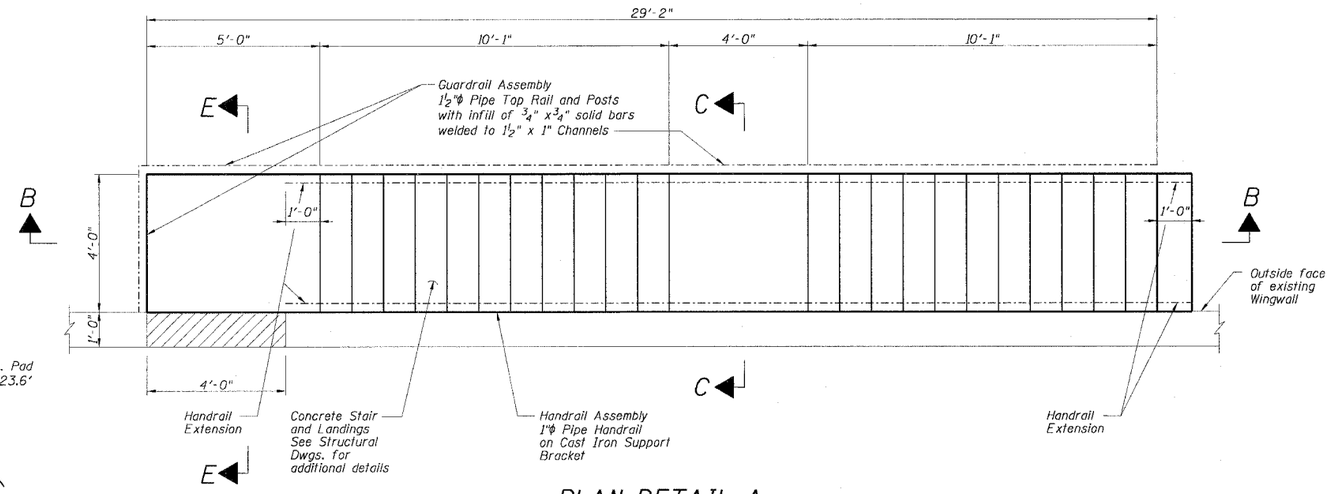
SBM-7

FR-416



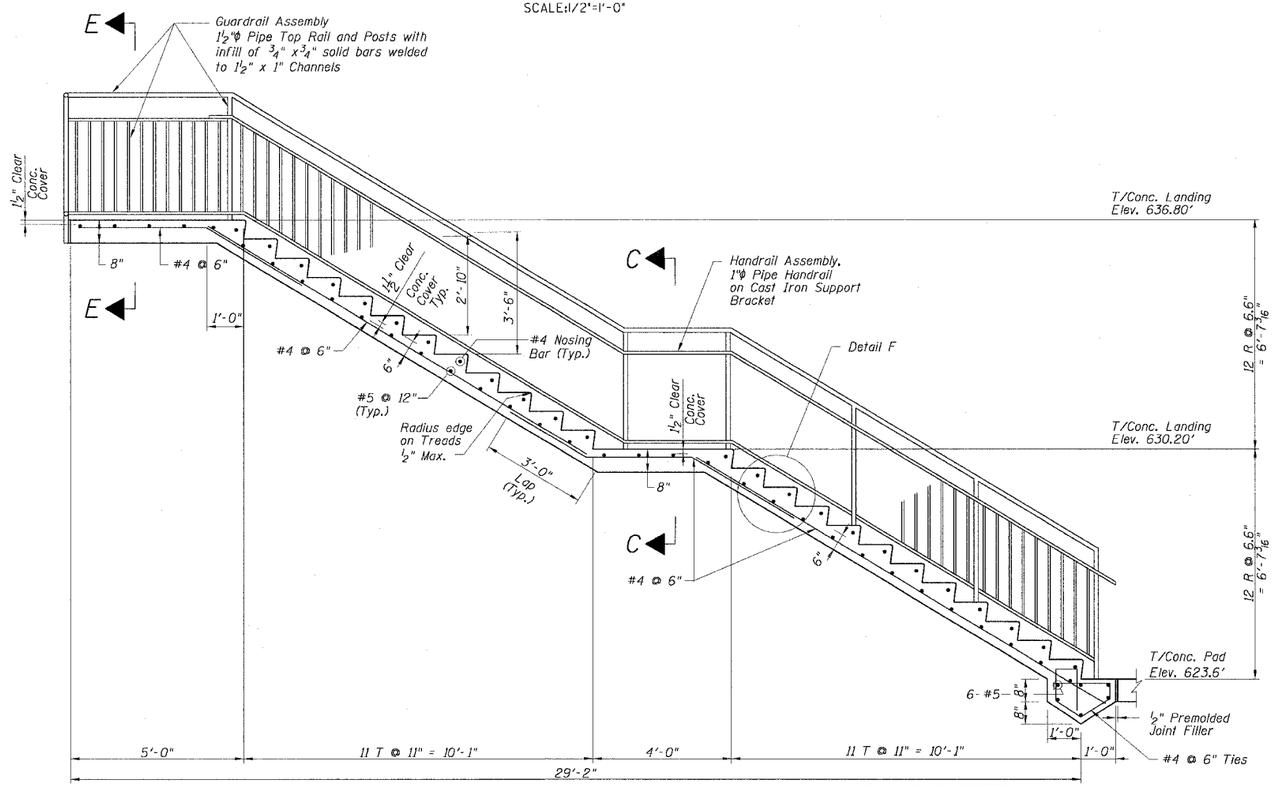
PLAN

SCALE: 1/8"=1'



PLAN DETAIL A

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



SECTION B-B

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

DESIGNED BY: AAG/CLT CHECKED BY: BJM
DRAWN BY: CHD CHECKED BY: AAG/CLT

NOTES:

1. Sawcut and remove parapet and aluminum guardrail between existing guardrail posts. Existing plaque to remain. Field verify exact location.
2. Cut parapet reinf. bars back 2" from finished face of concrete and patch with non-shrink, non-metallic grout. Grind existing concrete corners to 3/4" chamfer.
3. Cap guardrail rails with field welded 3/8" cap plates. Grind weld all edges smooth.
4. All reinf. bars shall be epoxy coated.
5. For Sections and Details, see Dwg. No. SST-2.

LEGEND:

- Indicates existing structure to be removed

BILL OF MATERIAL

Miner Street Stairs	L. Sum	1

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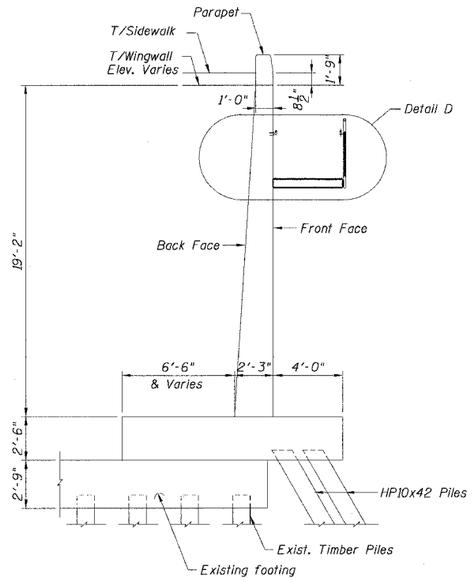
DATE	DESCRIPTION

SST-1 FR-416

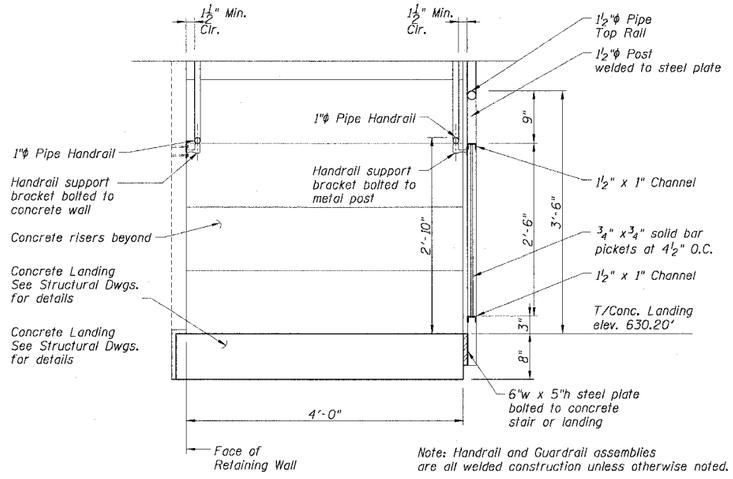
MINER ST. STAIR PLAN, SECTIONS AND DETAILS



SECTION C-C

0 2' 4' 8'

SCALE:1/4"=1'

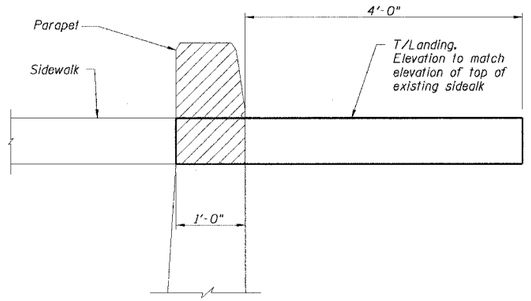


Note: Handrail and Guardrail assemblies are all welded construction unless otherwise noted.

DETAIL D

0 1' 2'

SCALE:1"=1'

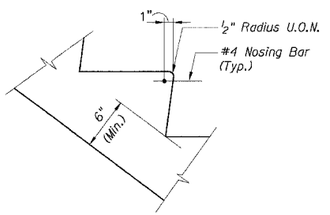


Note: Handrail not shown.
See Detail D and Section B-B for details.

SECTION E-E

0 1' 2'

SCALE:1"=1'



TYPICAL STAIR TREAD DETAIL F

0 1' 2'

SCALE:1"=1'

NOTES:

1. For Plan and Sections, see Dwg. No. SST-1.
2. Do not cut existing wingwall reinforcing bars when drilling holes for drilled and epoxied reinforcing bars. Locate reinforcing bars prior to drilling holes by use of a pachometer or by chipping concrete away to expose face of reinforcing bars.
3. Use a two part epoxy adhesive, Hit Re 500 Adhesive Anchor System as manfactured by Hilti for anchoring reinforcing bars in holes drilled into the existing wingwall.
4. Do not remove forms, shoring and falsework for stairs until concrete has attained a minimum compressive strength of 4000 psi at 28 days and the concrete has been in place for a minimum of 28 days.

DESIGNED BY: AAG/CLT CHECKED BY: BJM
DRAWN BY: CHD CHECKED BY: AAG/CLT

PLANS PREPARED BY:

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DATE	DESCRIPTION

SST-2 FR-416

MINER ST. STAIR SECTIONS AND DETAILS

LEGEND

- UNDERPASS LUMINAIRE, SURFACE MOUNTED 100 WATT METAL HALIDE UNDERPASS LUMINAIRE
- FLOOD WALL LUMINAIRE, SEMI-RECESSED 100 WATT METAL HALIDE LUMINAIRE
- BIKE TRAIL LIGHTING UNIT
- CABLE INSTALLED IN CONDUIT EMBEDDED IN RETAINING WALL
- CABLE INSTALLED IN CONDUIT ATTACHED TO STRUCTURE
- UNIT DUCT IN TRENCH
- (A) CABLE AND UNIT DUCT GROUPING TAG SEE CABLE GROUPINGS SCHEDULE BELOW
- LIGHTING CONTROLLER
- [H] LIGHTING HANDHOLE
- ¾" DIA. x 10' GROUND ROD
- EXPANSION FITTING

CABLE GROUPINGS SCHEDULE

(A) 6-1/C #6 & 1-1/C #8 GROUND IN 2" PVC CONDUIT EMBEDDED IN FLOOD WALL

(B) 3-1/C #2, 3-1/C #6 & 1-1/C #2 GROUND IN 2" PVC CONDUIT EMBEDDED IN FLOOD WALL

(C) 2-1/C #10 & 1-1/C #10 GROUND IN 1" RGS CONDUIT ATTACHED TO STRUCTURE

(D) 3-1/C #8, 3-1/C #6 & 1-1/C #8 GROUND IN 2" RGS CONDUIT AND 2 3-1/C #6 & 1-1/C #8 GROUND IN 2" RGS CONDUIT IN COMMON TRENCH.

(E) 3-1/C #2 & 1-1/C #2 GROUND IN 2" PVC CONDUIT EMBEDDED IN FLOOD WALL

(F) 3-1/C #2 & 1-1/C #2 GROUND IN 1¼" POLYETHYLENE UNIT DUCT IN TRENCH

ABBREVIATIONS

CKT	CIRCUIT NUMBER
DEG	DEGREES
HEX	HEXAGON
HPS	HIGH PRESSURE SODIUM
ID	INSIDE DIAMETER
LF	LINEAR FOOT
OD	OUTSIDE DIAMETER
PH	PHASE
PVC	POLYVINYL CHLORIDE
RGS	RIGID GALVANIZED STEEL
SS	STAINLESS STEEL
V	VOLT
W	WIRE

GENERAL NOTES

1. THE CONTRACTOR SHALL VERIFY ALL OF THE DATA SHOWN ON THE CONTRACT PLANS WHICH WOULD AFFECT HIS/HER WORK UNDER THIS CONTRACT.
2. IT IS THE CONTRACTORS RESPONSIBILITY TO ASCERTAIN EXISTING FIELD CONDITIONS BEFORE BIDDING ON THIS PROJECT, SPECIFICALLY AS THEY RELATE TO LUMP SUM ITEMS.
3. ALL NEW CONDUIT, HANDHOLES, JUNCTION BOXES, APPURTENANCES ARE ILLUSTRATED DIAGRAMATICALLY, THE ACTUAL LOCATION IN THE FIELD SHALL MEET WITH THE APPROVAL OF THE ENGINEER.
4. THE SCALE SHOWN ON THE PLANS APPLIES ONLY TO THE FULL SIZE PLANS AND NOT TO REDUCED SIZE PLANS.
5. ELECTRICAL MATERIALS AND WORK IN THIS PROJECT SHALL CONFORM TO THE LATEST APPLICABLE SPECIFICATIONS, SUPPLEMENTAL SPECIFICATIONS, AND RECURRING SPECIAL PROVISIONS USED BY THE ILLINOIS DEPARTMENT OF TRANSPORTATION AND ALSO APPROVED BY THE FOLLOWING ORGANIZATIONS:

   NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
   INSTITUTE OF ELECTRICAL AND ELECTRONIC ENGINEERS
   ILLUMINATING ENGINEERING SOCIETY AMERICAN
   ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION
   OFFICIALS U.S. DEPARTMENT OF TRANSPORTATION
   UNDERWRITERS LABORATORIES, INC.
   AMERICAN NATIONAL STANDARDS INSTITUTE

6. CONDUIT SHALL BE POSITIONED IN THE FIELD TO AVOID CONFLICT WITH DRAINS AND OTHER UTILITIES.
7. THE CONTRACTOR SHALL PREPARE A PRELIMINARY SCHEDULE WHEN THE CONTRACT COMMENCES WHICH ESTABLISHES THE DATE WHEN THE ELECTRICAL SERVICES WILL BE REQUIRED. THIS SCHEDULE SHALL BE FORWARDED IN WRITING TO COMED SUBSEQUENT UPDATING OF THE SCHEDULE SHALL BE FORWARDED TO COMED AS CHANGES MAY OCCUR TO THE DATE OF SERVICE REQUIREMENT. FIVE (5) DAYS BEFORE THE ELECTRICAL SERVICES ARE REQUIRED, THE CONTRACTOR SHALL NOTIFY COMED BY TELEPHONE AND CONFIRM THE REQUEST IN WRITING.

DESIGNED BY: D.E.S. CHECKED BY:
DRAWN BY: H.A.R. CHECKED BY:

PLANS PREPARED BY:

CTE | AECOM

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DATE	DESCRIPTION

SCALE: NONE

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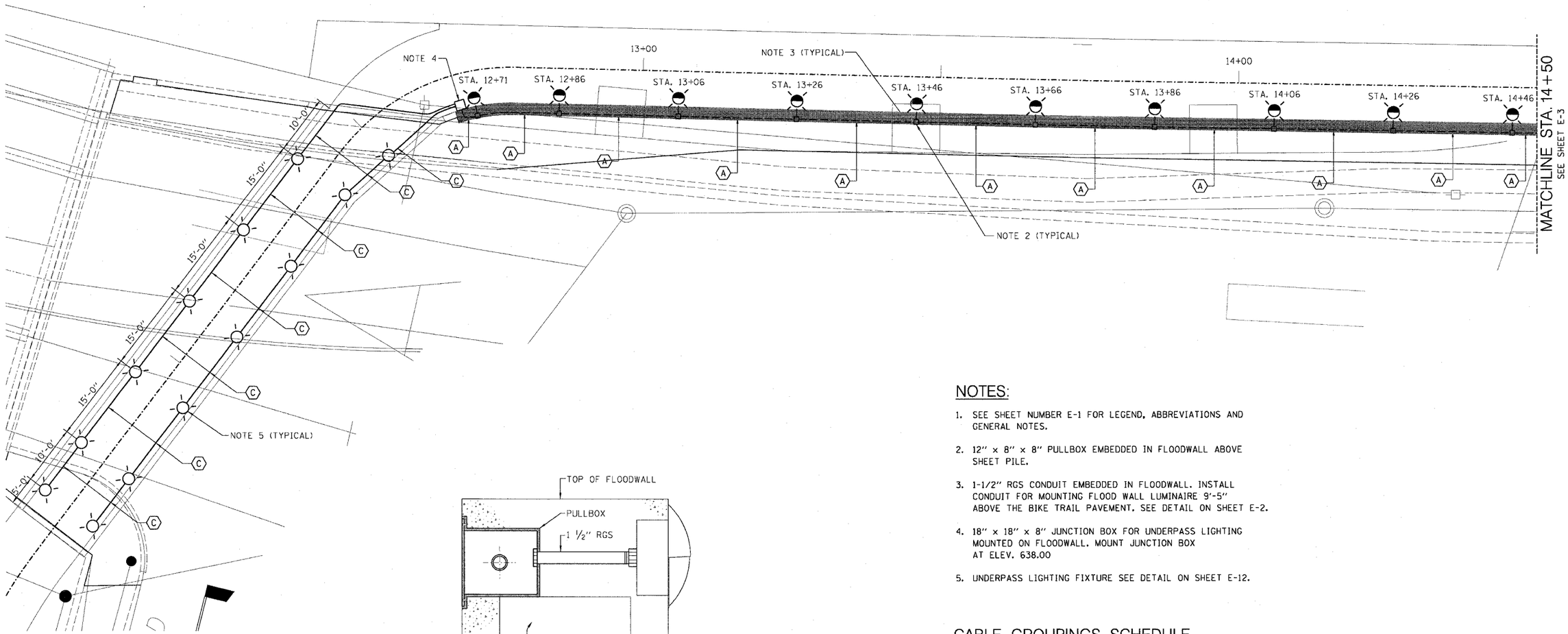

WALL MOUNTED FIXTURE
INSTALLATION DETAIL
NO SCALE

NOTES:

1. SEE SHEET NUMBER E-1 FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES.
2. 12" x 8" x 8" PULLBOX EMBEDDED IN FLOODWALL ABOVE SHEET PILE.
3. 1-1/2" RGS CONDUIT EMBEDDED IN FLOODWALL. INSTALL CONDUIT FOR MOUNTING FLOOD WALL LUMINAIRE 9'-5" ABOVE THE BIKE TRAIL PAVEMENT. SEE DETAIL ON SHEET E-2.
4. 18" x 18" x 8" JUNCTION BOX FOR UNDERPASS LIGHTING MOUNTED ON FLOODWALL. MOUNT JUNCTION BOX AT ELEV. 638.00
5. UNDERPASS LIGHTING FIXTURE SEE DETAIL ON SHEET E-12.

CABLE GROUPINGS SCHEDULE

(A) 6-1/C #6 & 1-1/C #8 GROUND IN 2" PVC CONDUIT EMBEDDED IN FLOOD WALL

(C) 2-1/C #10 & 1-1/C #10 GROUND IN 1" RGS CONDUIT ATTACHED TO STRUCTURE

4 0 4 8 12
SCALE IN FEET

REVISION	
DATE	DESCRIPTION

DESIGNED BY: D.E.S. CHECKED BY:
DRAWN BY: H.A.R. CHECKED BY:

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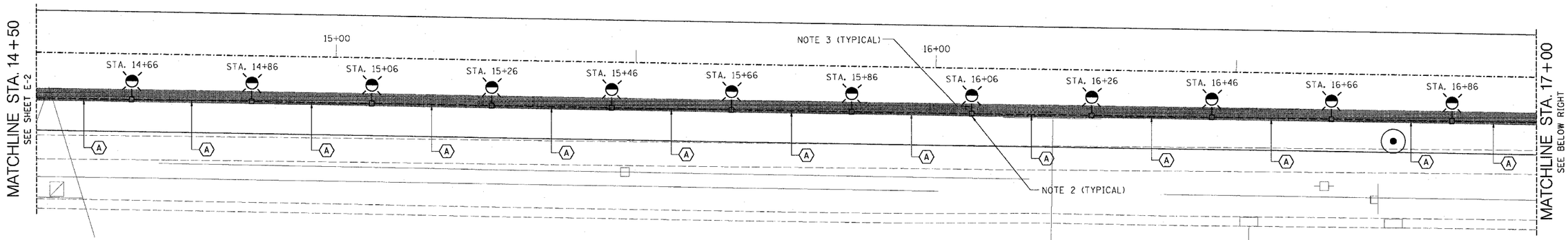
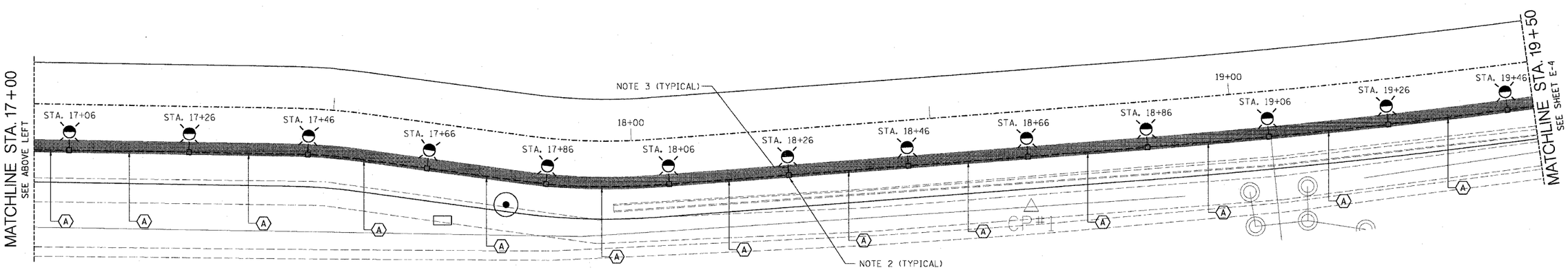
DES PLAINES RIVER





NOTES:

1. SEE SHEET NUMBER E-1 FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES.
2. 12" x 8" x 8" PULLBOX EMBEDDED IN FLOODWALL ABOVE SHEET PILE.
3. 1-1/2" RGS CONDUIT EMBEDDED IN FLOODWALL. INSTALL CONDUIT FOR MOUNTING FLOOD WALL LUMINAIRE 9'-5" ABOVE THE BIKE TRAIL PAVEMENT. SEE DETAIL ON SHEET E-2.

CABLE GROUPINGS SCHEDULE

(A)	6-1/C #6 & 1-1/C #8 GROUND IN 2" PVC CONDUIT EMBEDDED IN FLOOD WALL

4 0 4 8 12
SCALE IN FEET

REVISION	
DATE	DESCRIPTION

D.E.S. CHECKED BY:
H.A.R. CHECKED BY:
DESIGNED BY: DRAWN BY:

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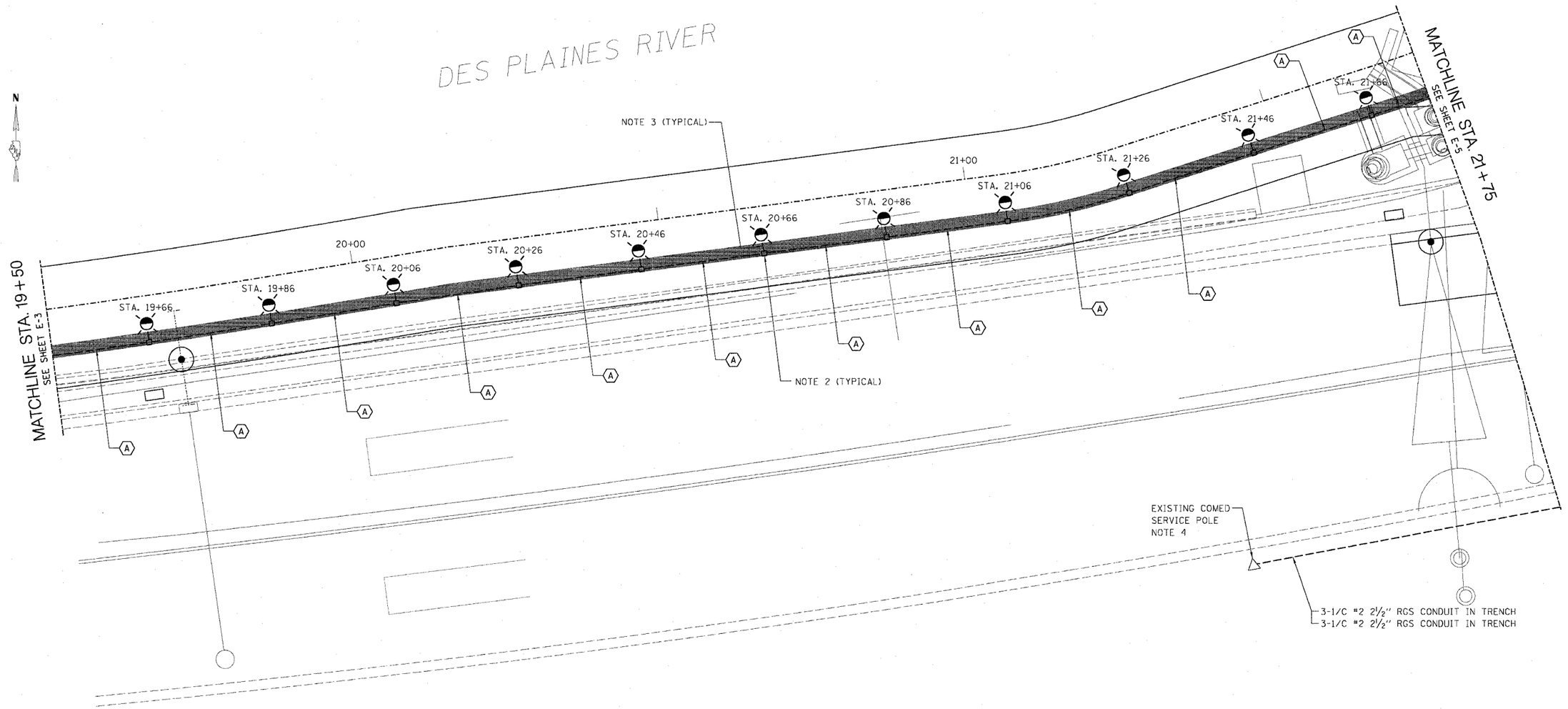

DESIGNED BY: D.E.S. CHECKED BY:
DRAWN BY: H.A.R. CHECKED BY:

NOTES:

1. SEE SHEET NUMBER E-1 FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES.
2. 12" x 8" x 8" PULLBOX EMBEDDED IN FLOODWALL ABOVE SHEET PILE.
3. 1-1/2" RGS CONDUIT EMBEDDED IN FLOODWALL. INSTALL CONDUIT FOR MOUNTING FLOOD WALL LUMINAIRE 9'-5" ABOVE THE BIKE TRAIL PAVEMENT. SEE DETAIL ON SHEET E-2.
4. COORDINATE ELECTRIC SERVICE WITH COMWE.

CABLE GROUPINGS SCHEDULE

(A)	6-1/C #6 & 1-1/C #8 GROUND IN 2" PVC CONDUIT EMBEDDED IN FLOOD WALL

4 0 4 8 12
SCALE IN FEET

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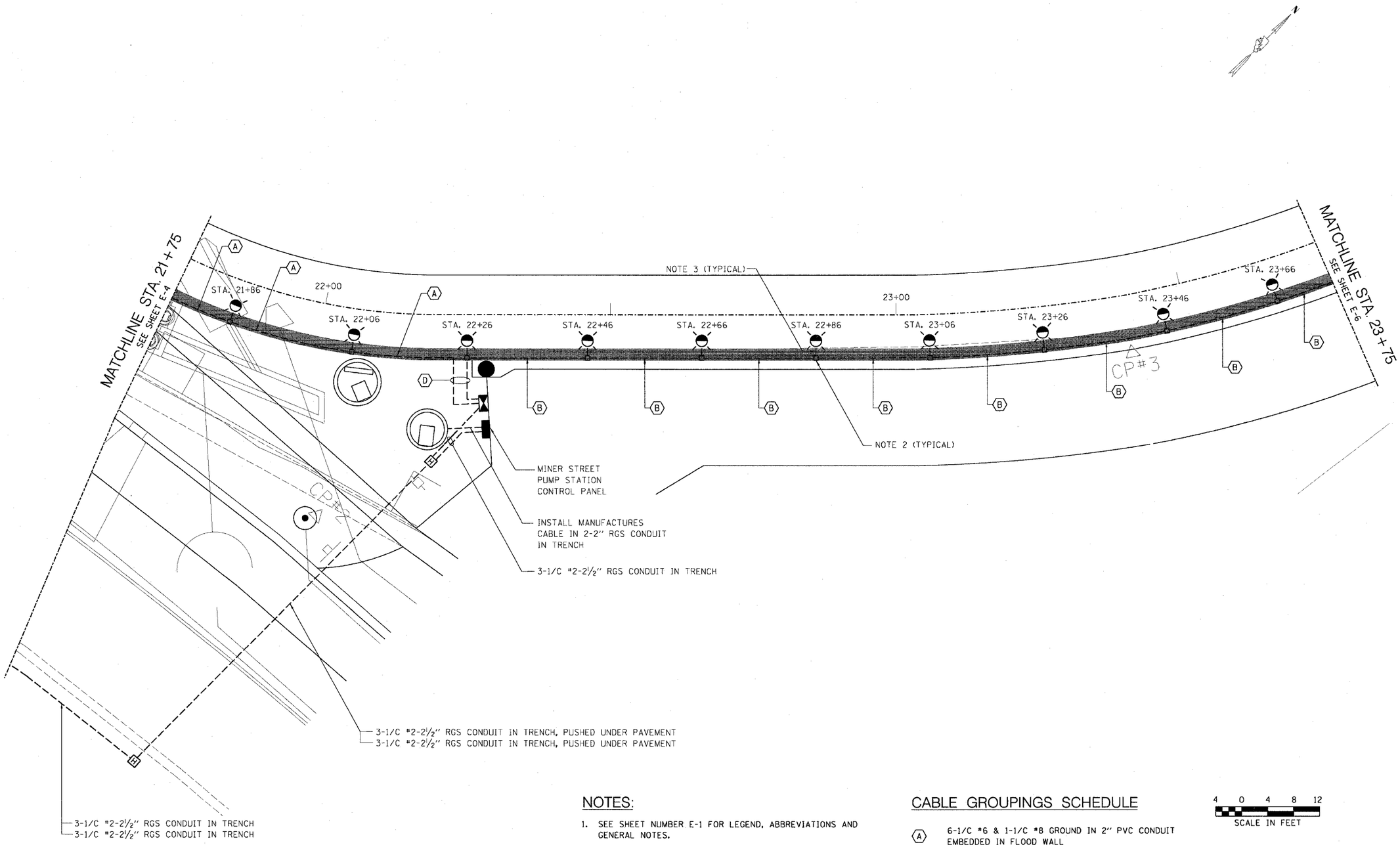

DESIGNED BY: D.E.S. CHECKED BY:
DRAWN BY: H.A.R. CHECKED BY:

NOTES:

1. SEE SHEET NUMBER E-1 FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES.
2. 12" x 8" x 8" PULLBOX EMBEDDED IN FLOODWALL ABOVE SHEET PILE.
3. 1-1/2" RGS CONDUIT EMBEDDED IN FLOODWALL. INSTALL CONDUIT FOR MOUNTING FLOOD WALL LUMINAIRE 9'-5" ABOVE THE BIKE TRAIL PAVEMENT. SEE DETAIL ON SHEET E-2.

CABLE GROUPINGS SCHEDULE

(A) 6-1/C #6 & 1-1/C #8 GROUND IN 2" PVC CONDUIT EMBEDDED IN FLOOD WALL

(B) 3-1/C #2, 3-1/C #6 & 1-1/C #2 GROUND IN 2" PVC CONDUIT EMBEDDED IN FLOOD WALL

(D) 3-1/C #2, 3-1/C #6 & 1-1/C #2 GROUND IN 2" RGS CONDUIT AND 6-1/C #6 & 1-1/C #8 GROUND IN 2" RGS CONDUIT IN COMMON TRENCH.

4 0 4 8 12
SCALE IN FEET

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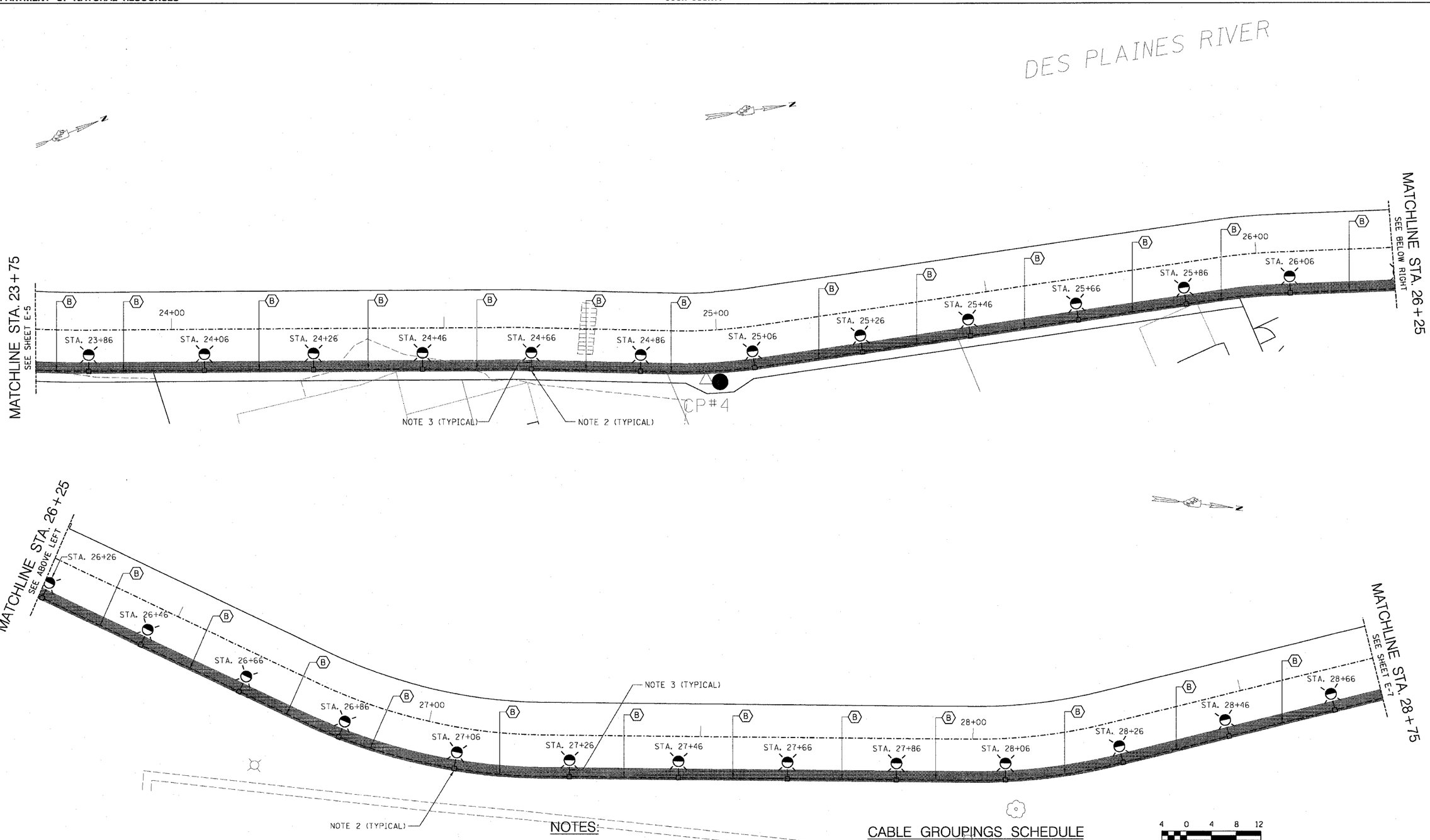

D.E.S. CHECKED BY:
H.A.R. CHECKED BY:
DESIGNED BY:
DRAWN BY:

NOTES:

1. SEE SHEET NUMBER E-1 FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES.
2. 12" x 8" x 8" PULLBOX EMBEDDED IN FLOODWALL ABOVE SHEET PILE.
3. 1-1/2" RGS CONDUIT EMBEDDED IN FLOODWALL. INSTALL CONDUIT FOR MOUNTING FLOOD WALL LUMINAIRE 9'-5" ABOVE THE BIKE TRAIL PAVEMENT. SEE DETAIL ON SHEET E-2.

CABLE GROUPINGS SCHEDULE

(B) 3-1/C #2, 3-1/C #6 & 1-1/C #2 GROUND IN 2" PVC CONDUIT EMBEDDED IN FLOOD WALL

4 0 4 8 12
SCALE IN FEET

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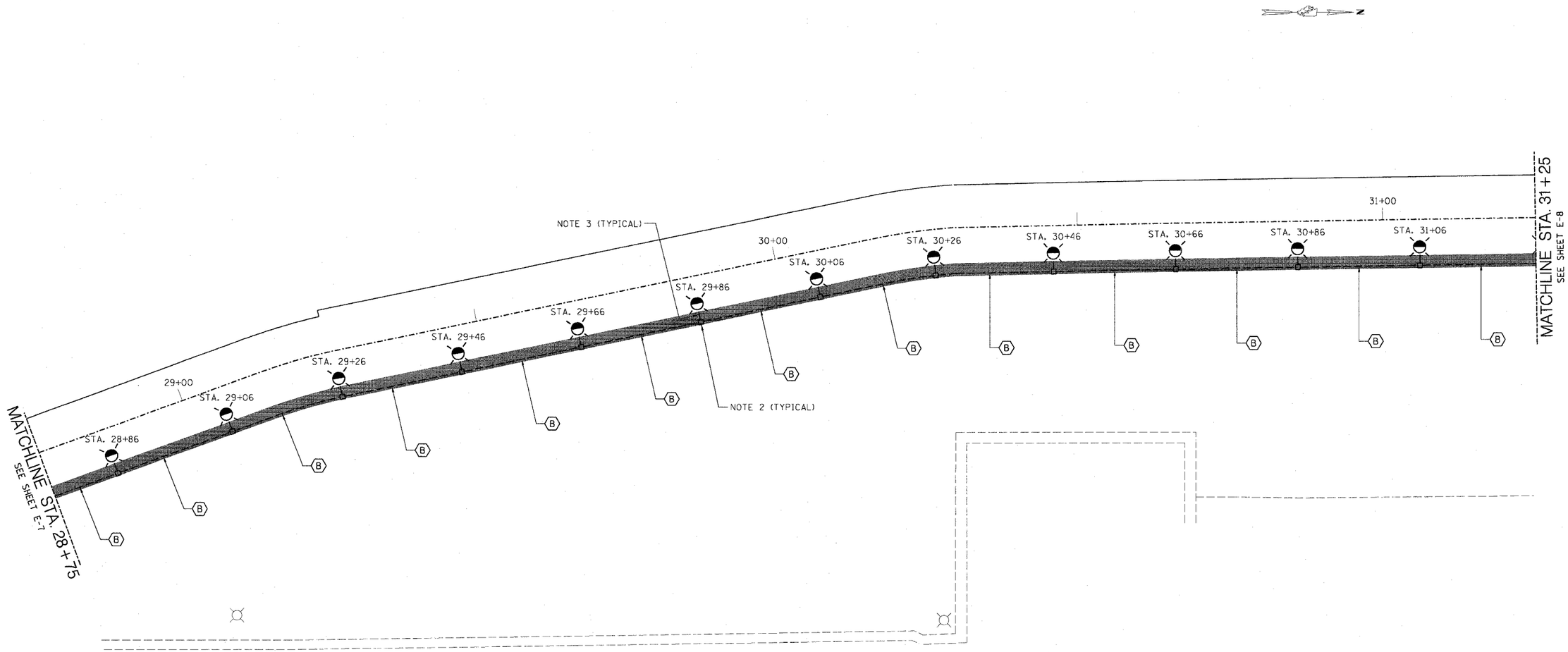
BIKE TRAIL LIGHTING



DESIGNED BY: _____ D.E.S. _____ CHECKED BY: _____
DRAWN BY: _____ H.A.R. _____ CHECKED BY: _____

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NOTES:

1. SEE SHEET NUMBER E-1 FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES.
2. 12" x 8" x 8" PULLBOX EMBEDDED IN FLOODWALL ABOVE SHEET PILE.
3. 1-1/2" RGS CONDUIT EMBEDDED IN FLOODWALL. INSTALL CONDUIT FOR MOUNTING FLOOD WALL LUMINAIRE 9'-5" ABOVE THE BIKE TRAIL PAVEMENT. SEE DETAIL ON SHEET E-2.

CABLE GROUPINGS SCHEDULE

(B)	3-1/C #2, 3-1/C #6 & 1-1/C #2 GROUND IN 2" PVC CONDUIT EMBEDDED IN FLOOD WALL

4 0 4 8 12
SCALE IN FEET

REVISION	
DATE	DESCRIPTION

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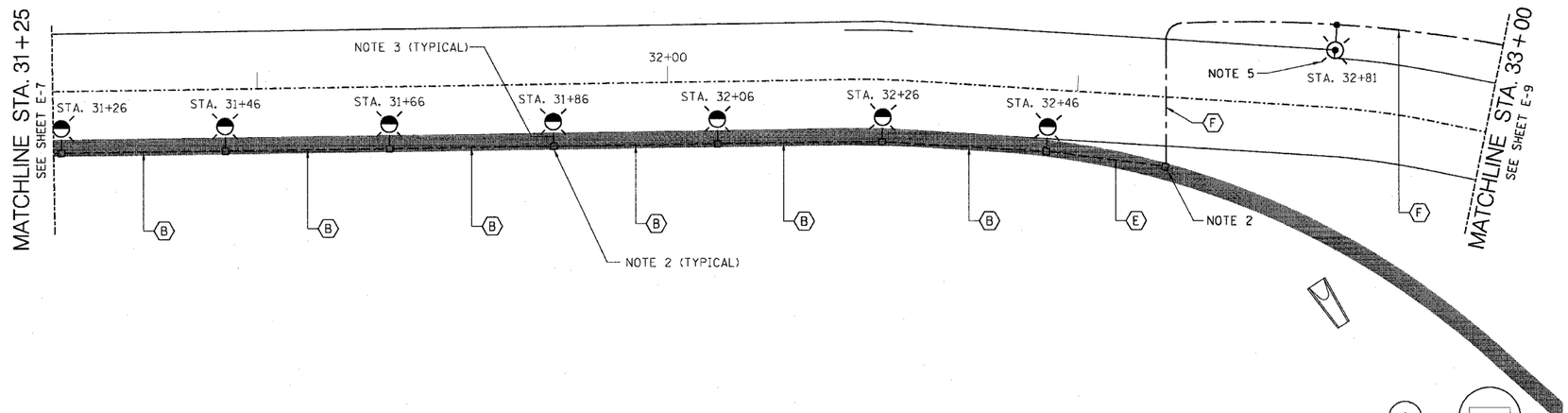

CABLE GROUPINGS SCHEDULE

(B) 3-1/C #2, 3-1/C #6 & 1-1/C #2 GROUND IN 2" PVC CONDUIT EMBEDDED IN FLOOD WALL

(E) 3-1/C #2 & 1-1/C #2 GROUND IN 2" PVC CONDUIT EMBEDDED IN FLOOD WALL

(F) 3-1/C #2 & 1-1/C #2 GROUND IN 1¼" POLYETHYLENE UNIT DUCT IN TRENCH

NOTES:

1. SEE SHEET NUMBER E-1 FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES.
2. 12" x 8" x 8" PULLBOX EMBEDDED IN FLOODWALL ABOVE SHEET PILE.
3. 1-1/2" RGS CONDUIT EMBEDDED IN FLOODWALL. INSTALL CONDUIT FOR MOUNTING FLOOD WALL LUMINAIRE 9'-5" ABOVE THE BIKE TRAIL PAVEMENT. SEE DETAIL ON SHEET E-2.
4. INSTALL NEW 3 POLE, 40 A. CIRCUIT BREAKER IN EXISTING PANEL EDP-1. COORDINATE WORK FOR WHEELS PUMP STATION FEEDERWITH WHEELS, INC. THE CONTRACTOR SHALL OBTAIN APPROVAL FROM WHEELS, INC. BEFORE BEGINNING WORK.
5. SEE SHEET E-13 FOR BIKE TRAIL LIGHTING UNIT DETAILS.

4 0 4 8 12
SCALE IN FEET

REVISION	
DATE	DESCRIPTION

DESIGNED BY: D.E.S. CHECKED BY:
DRAWN BY: H.A.R. CHECKED BY:

PLANS PREPARED BY:
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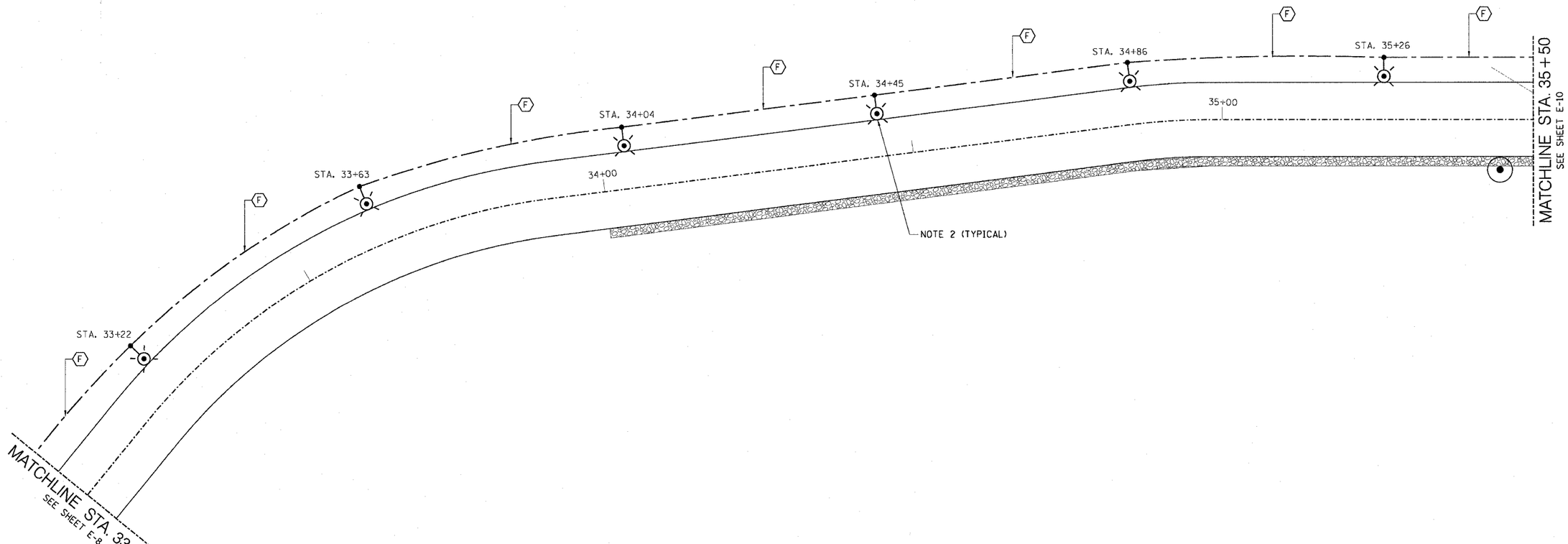

DESIGNED BY: _____ D.E.S. _____ CHECKED BY: _____
DRAWN BY: _____ H.A.R. _____ CHECKED BY: _____

NOTES:

1. SEE SHEET NUMBER E-1 FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES.
2. SEE SHEET E-13 FOR BIKE TRAIL LIGHTING UNIT DETAILS.

CABLE GROUPINGS SCHEDULE

(F) 3-1/C #2 & 1-1/C #2 GROUND IN 1¼" POLYETHYLENE UNIT DUCT IN TRENCH

4 0 4 8 12
SCALE IN FEET

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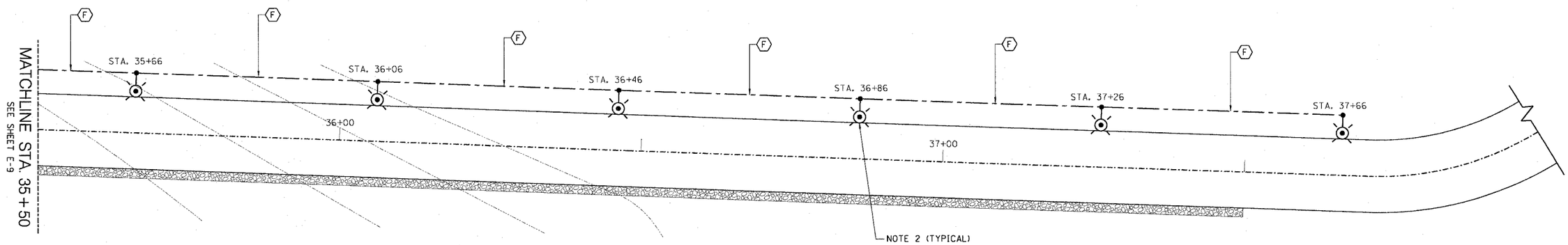

DESIGNED BY: D.E.S. CHECKED BY:
DRAWN BY: H.A.R. CHECKED BY:

PLANS PREPARED BY:

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NOTES:

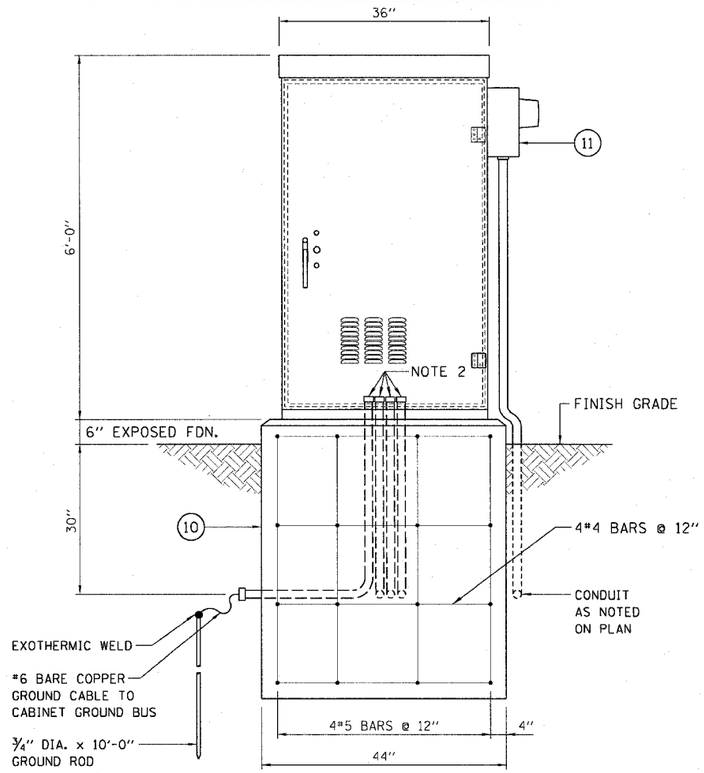
1. SEE SHEET NUMBER E-1 FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES.
2. SEE SHEET E-13 FOR BIKE TRAIL LIGHTING UNIT DETAILS.

CABLE GROUPINGS SCHEDULE

F	3-1/C #2 & 1-1/C #2 GROUND IN 1¼" POLYETHYLENE UNIT DUCT IN TRENCH

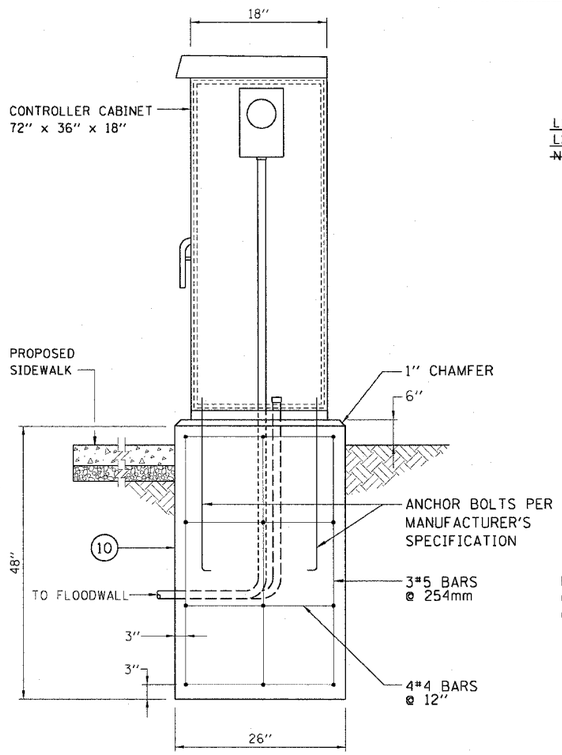
4 0 4 8 12
SCALE IN FEET

REVISION	
DATE	DESCRIPTION



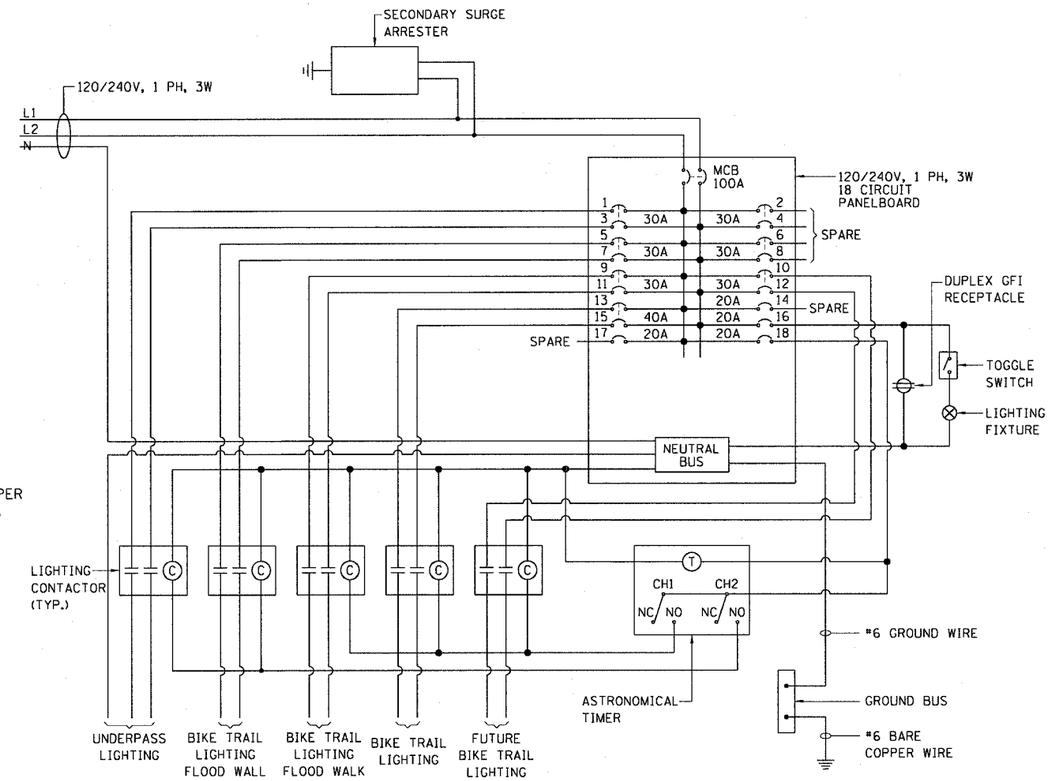
LIGHTING CONTROLLER – FRONT VIEW

NOT TO SCALE



LIGHTING CONTROLLER – SIDE VIEW

NOT TO SCALE



CONTROLLER WIRING SCHEMATIC

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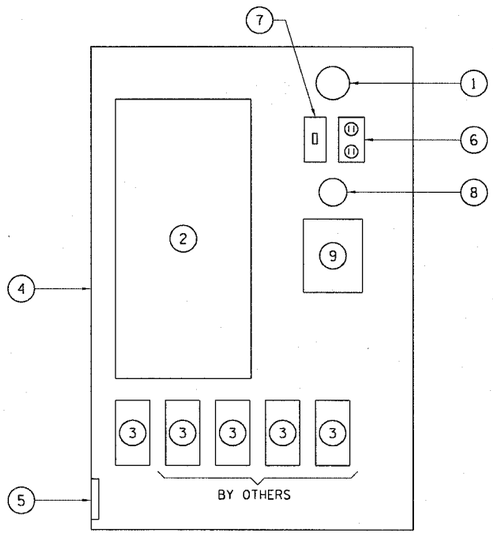

LIGHTING CONTROLLER EQUIPMENT LAYOUT

NOT TO SCALE

LIGHTING CONTROLLER EQUIPMENT – BILL OF MATERIAL		
ITEM	QUANTITY	DESCRIPTION
1	1	SECONDARY SURGE ARRESTER, 2 POLE, 650 VOLT, IS TO BE MANUFACTURED BY JOSLYN MANUFACTURING COMPANY
2	1	PANELBOARD, 120/240 VOLT, 1 PHASE, 3 WIRE, 100 AMP, 3 POLE, 18 CIRCUITS, IS TO BE MANUFACTURED BY CUTLER-HAMMER PANELBOARD TYPE POW-R-LINE 1a
3	1 (4 BY OTHERS)	LIGHTING CONTACTOR, TYPE 8903, SMO 10V02, 2 POLE, 30 AMP CONTACTOR, 120 VOLT CONTROL, IS TO BE MANUFACTURED BY SQUARE D
4	1	BACK PANELBOARD, 65" x 27" x ½" MADE OF ARBORON
5	1	GROUND BUS, ¼" x 1" x 12" LONG MOUNTED ON PANEL WITH LUGS AND SPARE LUGS
6	1	DUPLEX GFI RECEPTACLE, 15 AMP, 120 VOLT, IS TO BE MANUFACTURED BY HUBBELL, CATALOG NUMBER GF5362W
7	1	TOGGLE SWITCH, 120 VOLT, SINGLE PHASE, IS TO BE MANUFACTURED BY HUBBELL, CATALOG NUMBER HBL1201
8	1	PORCELAIN SOCKET WITH 60-WATT INCANDESCENT LIGHT BULB, 120 VOLT, IS TO BE MANUFACTURED BY LEVITON
9	1	ASTRONOMICAL TIMER, MODEL NUMBER DZS200A, IS TO BE MANUFACTURED BY TORK
10	1	REINFORCED CONCRETE FOUNDATION, 48" x 44" x 26", WITH CONDUIT SLEEVES AS SHOWN ON PLANS, AND CONCRETE PAD
11	1	METER BASE

GENERAL NOTES

1. SEE SHEET E-1 FOR ELECTRICAL SYMBOLS AND ABBREVIATIONS.
2. PROVIDE 4 - 2" LARGE RADIUS RIGID GALVANIZED STEEL CONDUIT ELBOWS.
3. SEE SHEET E-5 FOR LIGHTING CONTROLLER LOCATION.

REVISION	
DATE	DESCRIPTION

DESIGNED BY: D.E.S. CHECKED BY:
DRAWN BY: H.A.R. CHECKED BY:

PLANS PREPARED BY:
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SCALE: NONE

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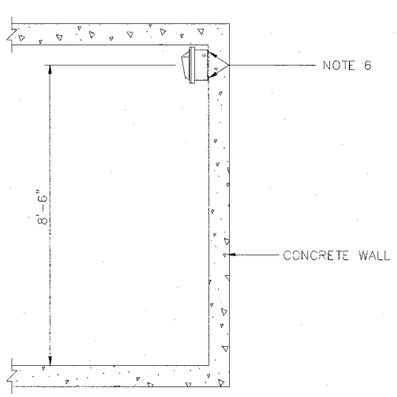
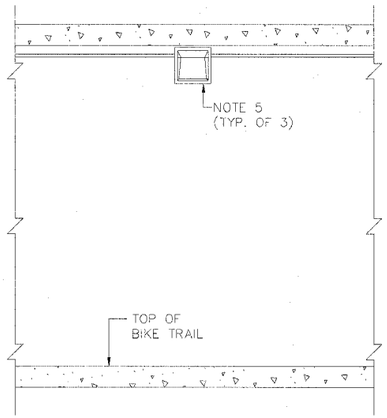
NOTES:

1. SEE DRAWING NO. E-1 FOR LEGEND, CABLE GROUPINGS SCHEDULE, ABBREVIATIONS AND GENERAL NOTES.
2. ALL CONDUIT RUNS FOR UNDERPASS LIGHTING UNITS SHALL CONTAIN 2-1/C #10 AND 1-1/C #10 GROUND, UNLESS NOTED OTHERWISE.
3. ALL EXPOSED CONDUITS, FOR UNDERPASS LIGHTING SHOWN ON STRUCTURE SHALL BE 1 INCH RGS CONDUIT, UNLESS NOTED OTHERWISE. THE CONTRACTOR SHALL PROVIDE ANY LABOR AND EQUIPMENT DEEMED NECESSARY TO MOUNT THE CONDUIT ATTACHED TO STRUCTURE.
4. NOT USED
5. UNDERPASS LUMINAIRE, WITH MOUNTING BRACKET, SHALL BE A 55-WATT LPS UNIT, AS MANUFACTURED BY NUART MANUFACTURING INC., OR APPROVED EQUAL. VOLTAGE FOR UNDERPASS LUMINAIRE SHALL BE 240V, SINGLE PHASE.
6. EXPANSION ANCHORS, TYPICAL. POWDER ACTUATED FASTENERS WILL NOT BE ALLOWED. PROVIDE EXPANSION ANCHORS AS REQUIRED.



SECTION



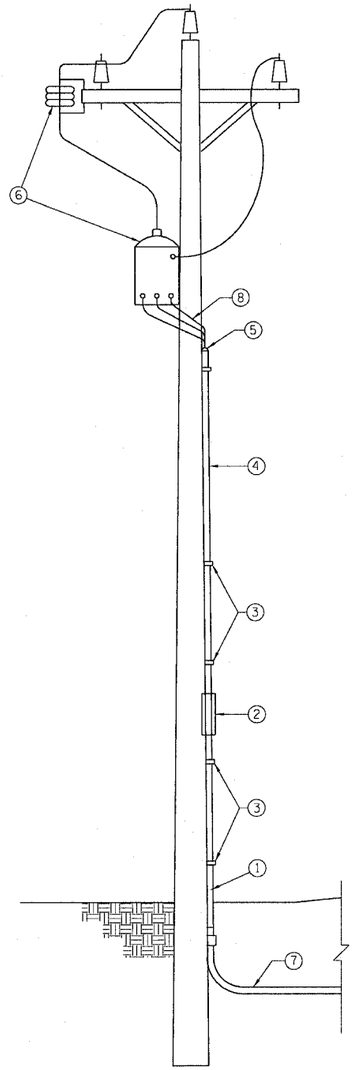
ELEVATION

UNDERPASS LIGHTING DETAILS

NOT TO SCALE

LEGEND

1. CONDUIT - 2 1/2: DIA., IF REQUIRED. ONE 10' SECTION AND ONE 90 ELBOW.
2. OUTDOOR ADAPTER COUPLING FOR METALLIC TO NON-METALLIC CONDUIT.
3. GALVANIZED CONDUIT STRAPS AND LAG SCREWS.
4. 2½" DIA. NON-METALLIC, RIGID CONDUIT, APPROXIMATELY 17' LONG.
5. WEATHERPROOF SERVICE HEAD.
6. ELECTRIC SERVICE INSTALLATION: TRANSFORMER, CUT-OUT SWITCH, LIGHTNING ARRESTER, GROUNDING EQUIPMENT, INSULATORS, WIRES, POLE, MAST ARM, HARDWARE AND ANY OTHER EQUIPMENT.
7. CONDUIT IN TRENCH - 2½" DIA.
8. ELECTRIC CABLE AS NOTED ON PLANS.



ELECTRIC SERVICE INSTALLATION

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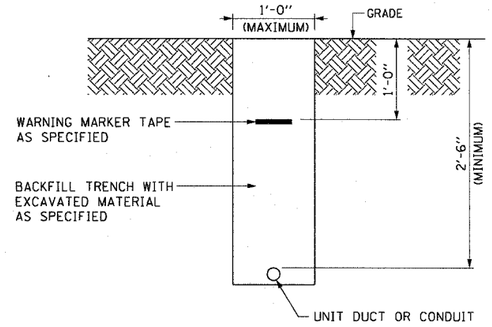

TYPICAL UNIT DUCT AND CONDUIT IN TRENCH

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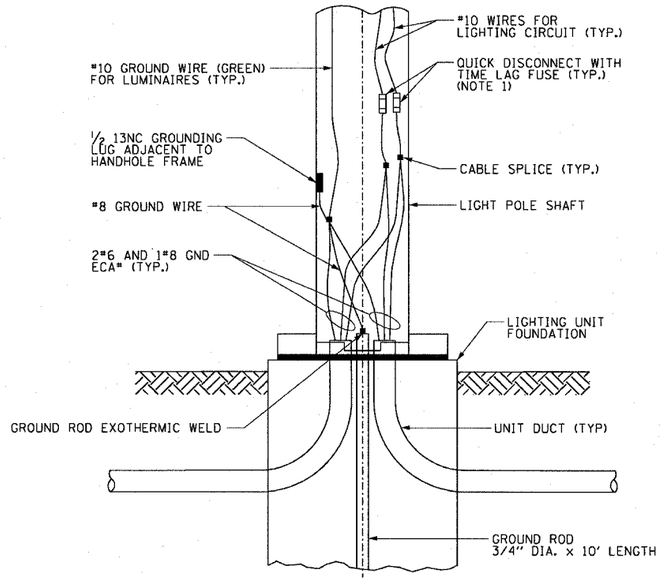

POLE BASE WIRING

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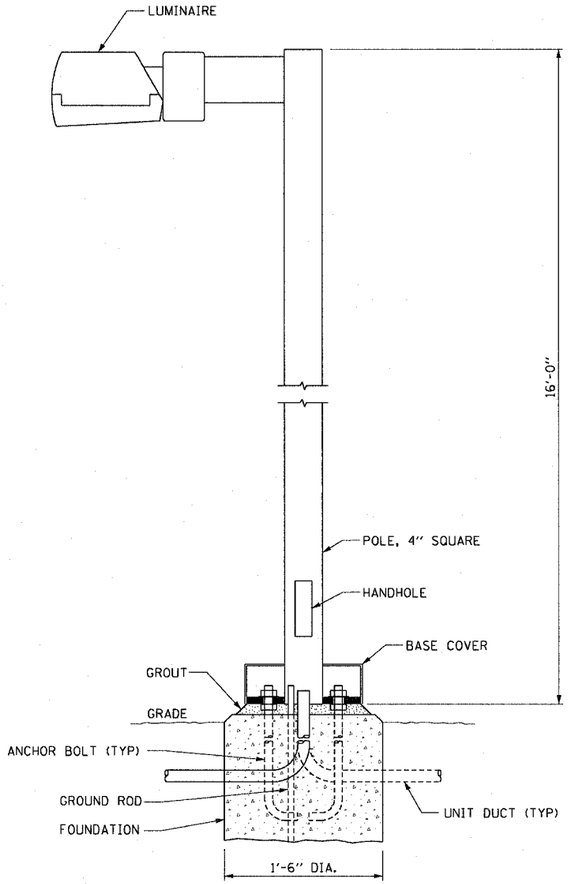

BASE DETAIL

BIKE TRAIL LIGHTING UNIT

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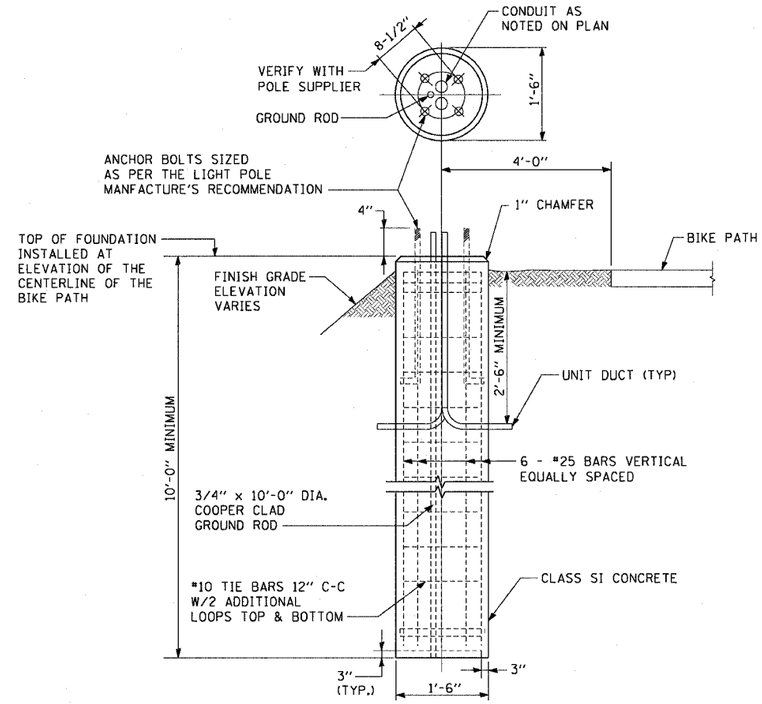
NOTES:

1. PROVIDE A TIME LAG FUSE TYPE KTK FOR PHASE WIRES IN A WATERPROOF FUSE HOLDER WITH QUICK DISCONNECT. THE FUSE RATING: 3 AMP FUSE.



FOUNDATION & CONDUITS DETAIL

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REVISION	
DATE	DESCRIPTION

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H.A.R. CHECKED BY:
DESIGNED BY:
DRAWN BY:

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PLANS PREPARED BY:

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