MINNESOTA DEPARTMENT OF TRANSPORTATION

THE COUNTY OF OLMSTED

CONSTRUCTION PLAN FOR GRADING, CONCRETE SURFACING, BIT. PAVING, STORM SEWER, & BRIDGE 55551

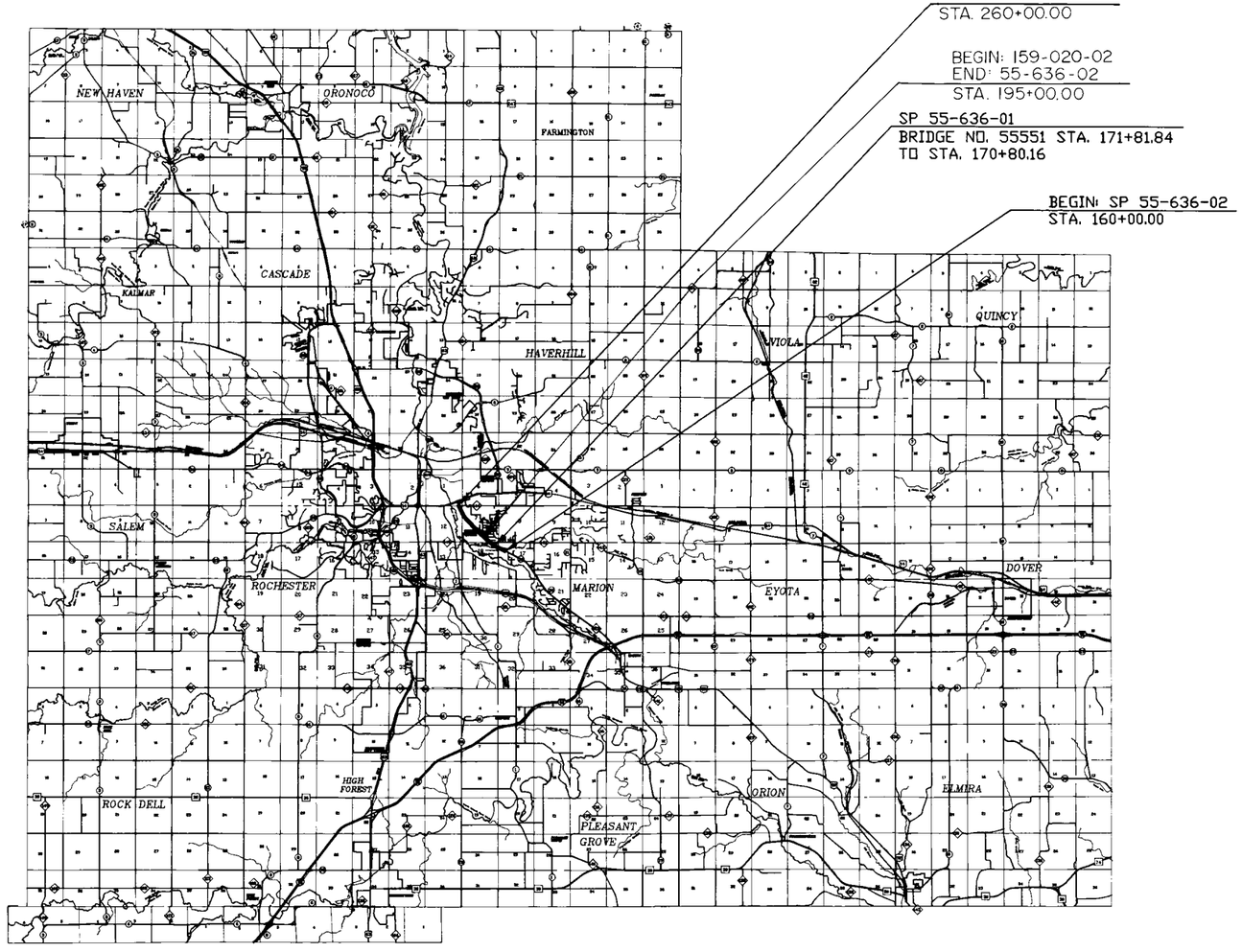
LOCATED ON C.S.A.H. 36 BETWEEN 840' SOUTH OF 30TH AVE.SE. IN ROCHESTER AND 600' S. T.H. 14 (GEOGRAPHIC DESCRIPTION)

FROM 587.0' N. & 1,657' N.W. OF CENTER SECTION 17 T106-N-R13W TO 467.7' N. & 317' N.W. OF S.E. SEC. CORNER SEC. 1 T106-N-R14W (LEGAL DESCRIPTION)

STATE PROJ. NO. 55-636-01			
GROSS LENGTH	101.68	FEET	0.019 MILES
BRIDGE-LENGTH	101.68	FEET	0.019 MILES
EXCEPTIONS-LENGTH		FEET	MILES
NET LENGTH	101.68	FEET	0.019 MILES

STATE PROJ. NO. 55-636-02			
GROSS LENGTH	3500.00	FEET	0.663 MILES
BRIDGE-LENGTH	101.68	FEET	0.019 MILES
EXCEPTIONS-LENGTH		FEET	MILES
NET LENGTH	3398.32	FEET	0.644 MILES

STATE PROJ. NO. 159-020-02			
GROSS LENGTH	6,500.00	FEET	1.231 MILES
BRIDGE LENGTH		FEET	MILES
EXCEPTIONS LENGTH		FEET	MILES
NET LENGTH	6,500.00	FEET	1.231 MILES



PLAN SYMBOLS

STATE LINE
COUNTY LINE
TOWNSHIP OR RANGE LINE
SECTION LINE
QUARTER LINE
SIXTEENTH LINE
RIGHT-OF-WAY LINE
PRESENT RIGHT-OF-WAY LINE
CONTROL OF ACCESS LINE
PROPERTY LINE (Except Land Lines)
VACATED PLATTED PROPERTY
CORPORATE OR CITY LIMITS
TRUNK HIGHWAY CENTER LINE
RETAINING WALL
RAILROAD
RAILROAD RIGHT-OF-WAY
RIVER OR CREEK
DRY RUN
DRAINAGE DITCH
DRAIN TILE
CULVERT
DROP INLET
GUARD RAIL
BARBED WIRE FENCE
WOVEN WIRE FENCE
CHAIN LINK FENCE
RAILROAD SNOW FENCE
STONE WALL OR FENCE
HEDGE
RAILROAD CROSSING SIGN
RAILROAD CROSSING BELL
ELECTRIC WARNING SIGN
CROSSING GATE
MEANDER CORNER
SPRINGS
MARSH
TIMBER, ORCHARD, BRUSH, NURSERY
CATCH BASIN
FIRE HYDRANT
CATTLE GUARD
OVERPASS (HIGHWAY OVER)
UNDERPASS (HIGHWAY UNDER)
BRIDGE
BUILDING (ONE STORY FRAME)
F - FRAME C - CONCRETE
S - STONE T - TILE
B - BRICK ST - STUCCO
IRON PIPE OR ROD
MONUMENT (STONE, CONCRETE, OR METAL)
WOODEN HUB
GRAVEL PIT
SAND PIT
BORROW PIT
ROCK QUARRY
SLOPE EASEMENT

UTILITIES SYMBOLS

POWER POLE LINE
TELEPHONE OR TELEGRAPH POLE LINE
JOINT TELEPHONE AND POWER ON POWER POLE
ON TELEPHONE POLES
ANCHOR
STEEL TOWER
STREET LIGHT
PEDESTAL (TELEPHONE CABLE TERMINAL)
GAS MAIN
WATER MAIN
CONDUIT
TELEPHONE CABLE IN CONDUIT
ELECTRICAL CABLE IN CONDUIT
TELEPHONE MANHOLE
ELECTRICAL MANHOLE
BURIED TELEPHONE CABLE
BURIED ELECTRICAL CABLE
AERIAL TELEPHONE CABLE
SEWER (SANITARY OR SEWER)
SEWER MANHOLE

EROSION CONTROL SYMBOLS

TEMPORARY SILT FENCE
RIP RAP DITCH CHECKS

SCALES

PLAN 0 50'
PROFILE 0 50' HORIZ. 0 10' VERT.
INDEX MAP 0 10560'
CROSS SECTIONS 0 10'

MINN. PROJ. NO. BR/STP 5577 (002)

GOVERNING SPECIFICATIONS

THE 1988 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" AS AMENDED BY THE JANUARY 2, 1991, SUPPLEMENTAL SPECIFICATION SHALL GOVERN.

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SHEET NO. 109 - 140	BRIDGE PLAN (S.P. 55-636-01)

PLAN SHEET 129 HAS BEEN DELETED

THIS PLAN CONTAINS 139 SHEETS.

Recommended For Approved 2/18 1994 David M Rosaman 10372
CITY TRAFFIC ENGINEER
CITY OF ROCHESTER

Recommended For Approved 19
DIRECTOR, OFFICE OF TRAFFIC ENGINEERING

Approved 2/18 1994 Ruth W. Freeman
DIRECTOR OF PUBLIC WORKS DEPT.
CITY OF ROCHESTER

DESIGN DESIGNATION

R ΣN18 (20)
ADT (Current Year) = 13,316 (1994) Design Speed 55 MPH
ADT (Future Year) = 22,739 (2014) Based on STOPPING Sight Distance
DHV (Design Hr. Vol.) = Height of eye 3.5 Height of object 0.5
D (Directional Distr.) = Design Speed not achieved at
T (Heavy Commercial) = EST. 6% STA. TO STA. MPH
SUBGRADE = K=300 STA. TO STA. MPH
10 TON DESIGN SHOULDER WIDTH 8 FT. STA. 160+00 TO STA. 222+40 MPH
A 'NO PARKING' RESOLUTION WILL BE REQUIRED STA. 222+40 TO STA. 260+00 MPH
4 TRAFFIC LANES, 0 PARKING LANES, HIGH DENSITY ARTERIAL
SOIL FACTOR = 130%

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

DATE 2/17/94 REG. NO. 9397 ENGR Michael J Sheehan
COUNTY Olmsted

Recommended for Approval M E Krumbholz 2/20 19 94
DISTRICT STATE AID ENGINEER

Recommended for Approval Carl A Otto 4/12 19 94
FOR STATE AID DIVISION

Approved 4/12 1994 Julie Skallman
for STATE AID ENGINEER

REC. FOR APPROVAL P.E. Englund 4-7 1994
DIRECTOR, OFFICE OF TRAFFIC ENGINEERING

REC. FOR APPROVAL Donald W Flemming 4-7 1994
STATE BRIDGE ENGINEER

STATE PROJ. NO. 159-020-02
STATE PROJ. NO. 55-636-01 & 55-636-02 SHEET NO. 1 OF 140 SHEETS

ESTIMATED QUANTITIES

	SPECIFICATION NO.	ITEM	UNIT	TOTAL ESTIMATED QUANTITIES	S.P. 55-636-02		S.P. 159-020-02			30TH AVE. S.E.
					PARTICIPATING RURAL	NON PARTICIPATING RURAL	PARTICIPATING URBAN	NON PARTICIPATING URBAN	STORM SEWER URBAN	
	0041.606	TRAINEES	HOUR	1,500	750		750			
	2031.503	FIELD LABORATORY, TYPE D	EACH	1	0.36		0.50	0.05	0.07	0.02
①	2101.502	CLEARING	TREE	168	66		102			
①	2101.507	GRUBBING	TREE	152	64		88			
②	2103.501	BUILDING REMOVAL	LUMP SUM	1						1
	2104.501	REMOVE PIPE CULVERTS	LIN. FT.	2,558	258		2,264			36
	2104.501	REMOVE SEWER PIPE (STORM)	LIN. FT.	154			154			
	2104.501	REMOVE CURB AND GUTTER	LIN. FT.	360			360			
③	2104.501	REMOVE GUARD RAIL - PLATE BEAM	LIN. FT.	600	600					
⑲	2104.501	REMOVE CHAIN LINK FENCE	LIN. FT.	100			100			
⑯	2104.501	REMOVE WOOD FENCE	LIN. FT.	164			164			
⑰	2104.505	REMOVE CONCRETE PAVEMENT	SQ. YD.	22,051(P)	7,607		14,444			
⑱	2104.505	REMOVE BITUMINOUS PAVEMENT	SQ. YD.	11,774(P)	3,107		8,667			
④	2104.509	REMOVE BOX CULVERT	EACH	2	1		1			
	2104.509	REMOVE CATCH BASIN	EACH	1			1			
⑳	2104.509	REMOVE CONCRETE STRUCTURE	EACH	1	1					
	2104.511	SAWING CONCRETE PAVEMENT	LIN. FT.	64	20		44			
	2104.513	SAWING BITUMINOUS PAVEMENT	LIN. FT.	1,589	144		1,397			48
⑤	2104.523	SALVAGE CONCRETE APRON	EACH	1			1			
⑥	2105.515	UNCLASSIFIED EXCAVATION	CU. YD.	77,055(P)	29,827		44,917			2,311
	2105.523	COMMON BORROW (LV)	CU. YD.	10,585	1,281		9,304			
⑦	2105.525	TOPSOIL BORROW (LV)	CU. YD	2,196			2,196			
⑧	2123.503	MOTOR GRADER	HOUR	18	14		4			
⑧	2123.508	15 CU. YD. SCRAPER	HOUR	24	18		6			
⑧	2123.509	DOZER	HOUR	24	18		6			
⑨	2130.501	WATER	M-GALLONS	110	38		72			
⑩	2211.503	AGGREGATE BASE, PLACED, CLASS 5	CU. YD.	22,973(P)	6,122	174	14,288	804		1,585
⑪	2221.501	AGGREGATE SHOULDERING, CLASS 2	TON	4,163	2,272		1,761			130
	2301.502	CONCRETE PAVEMENT, STANDARD WIDTH	SQ. YD.	48,788(P)	12,179		36,609			
	2301.503	CONCRETE PAVEMENT, IRREGULAR WIDTH	SQ. YD.	19,859(P)	7,800		12,059			
⑮	2301.511	STRUCTURAL CONCRETE	CU. YD.	15,259(P)	4,443		10,816			
	2301.531	EXPANSION JOINTS DESIGN E2-1	LIN. FT.	5	5					
	2301.538	DOWEL BAR	EACH	34,694	10,690		24,004			
	2301.541	INTEGRANT CURB DESIGN B6	LIN. FT.	6,118			6,118			
⑫	2301.551	BRIDGE APPROACH PANEL	EACH	2	2					
	0301.604	TEMPORARY TERMINAL HEADER	LIN. FT.	64			64			
	0301.604	PERMANENT TERMINAL HEADER	LIN. FT.	24	24					
⑬	2340.508	TYPE 41 WEARING COURSE MIXTURE	TON	3,751	1,019		2,363			369
⑭	2340.514	TYPE 41 BASE COURSE MIXTURE	TON	2,009	312		1,205			492
	2340.516	TYPE 41 SHOULDER MIXTURE	TON	1,111	598		513			
	2340.518	TYPE 41 BIT. MIXTURE FOR PATHS	TON	841	141		700			
	0412.601	RELOCATE BUS SHELTER	LUMP SUM	1				1		
㉒	2442.501	REMOVE OLD BRIDGE B	LUMP SUM	1						1
	2451.507	GRANULAR BEDDING (LV)	CU. YD	188				188		
	2501.511	18" C.S. PIPE CULVERT	LIN. FT.	612	206		252			154
	2501.511	24" C.S. PIPE CULVERT	LIN. FT.	96			18			78
	2501.511	24" R.C. PIPE CULVERT, CLASS III	LIN. FT.	56						56
	2501.515	12" R.C. PIPE APRON	EACH	3					3	
	2501.515	15" R.C. PIPE APRON	EACH	5					5	
	2501.515	24" R.C. PIPE APRON	EACH	2						2
	2501.515	36" R.C. PIPE APRON	EACH	1					1	
	2501.521	21" SPAN C.S. PIPE-ARCH CULVERT	LIN. FT.	456	144		284			28
	2501.521	28" SPAN C.S. PIPE-ARCH CULVERT	LIN. FT.	70	70					
	2501.521	44" SPAN R.C. PIPE-ARCH CULVERT, CLASS IIA	LIN. FT.	200			200			
	2501.521	58" SPAN R.C. PIPE-ARCH CULVERT, CLASS IIA	LIN. FT.	120	120					
	2501.521	65" SPAN R.C. PIPE-ARCH CULVERT, CLASS IIA	LIN. FT.	228	228					
	2501.525	28" SPAN R.C. PIPE-ARCH APRON	EACH	2					2	
	2501.525	36" SPAN R.C. PIPE-ARCH APRON	EACH	2					2	
	2501.525	44" SPAN R.C. PIPE-ARCH APRON	EACH	4			2		2	
	2501.525	51" SPAN R.C. PIPE-ARCH APRON	EACH	1					1	
	2501.525	58" SPAN R.C. PIPE-ARCH APRON	EACH	4	4					
	2501.525	65" SPAN R.C. PIPE-ARCH APRON	EACH	4	4					
	2501.567	28" SPAN C.S. PIPE-ARCH SAFETY APRON & GRATE	EACH	2	2					
	2501.569	LIGHT DUTY SAFETY GRATE FOR 12" R.C. PIPE APRON	EACH	3					3	
	2501.569	LIGHT DUTY SAFETY GRATE FOR 15" R.C. PIPE APRON	EACH	4					4	
⑤	2501.573	INSTALL CONCRETE APRON	EACH	1			1			
㉓	0501.602	18" C.S. SAFETY APRON	EACH	24	8		10			6
㉔	0501.602	24" C.S. SAFETY APRON	EACH	4			2			2
㉕	0501.602	21" SPAN C.S. SAFETY APRON	EACH	24	8		14			2
	2503.511	12" R.C. PIPE SEWER, CLASS IV	LIN. FT.	657					657	
	2503.511	15" R.C. PIPE SEWER, CLASS III	LIN. FT.	540					540	
	2503.511	18" R.C. PIPE SEWER, CLASS III	LIN. FT.	290					290	
	2503.511	21" R.C. PIPE SEWER, CLASS III	LIN. FT.	736					736	
	2503.511	24" R.C. PIPE SEWER, CLASS III	LIN. FT.	837					837	
	2503.511	27" R.C. PIPE SEWER,	LIN. FT.	537					537	
	2503.511	36" R.C. PIPE SEWER	LIN. FT.	30					30	
	2503.521	28" SPAN R.C. PIPE-ARCH SEWER, CLASS IIA	LIN. FT.	82					82	
	2503.521	36" SPAN R.C. PIPE-ARCH SEWER, CLASS IIA	LIN. FT.	368					368	
	2503.521	44" SPAN R.C. PIPE-ARCH SEWER CLASS IIA	LIN. FT.	438					438	
	2503.521	51" SPAN R.C. PIPE-ARCH SEWER, CLASS IIA	LIN. FT.	26					26	
	0504.602	RECONNECT WATER SERVICE	EACH	5			5			
	0504.602	RELOCATE HYDRANT	EACH	8	1		7			
	0504.602	ADJUST HYDRANT	EACH	8			8			
	0504.602	HYDRANT	EACH	4				4		
	0504.602	ADJUST VALVE BOX	EACH	51				51		
	0504.602	WATER SERVICE	EACH	9				9		
	0504.602	INSTALL PLUG	EACH	5				5		
	0504.602	REMOVE PLUG	EACH	3				3		
	0504.602	8"x 8" WET TAP	EACH	1				1		
	0504.602	6" GATE VALVE & BOX	EACH	6				6		
	0504.602	8" GATE VALVE & BOX	EACH	3				3		
	0504.602	12" GATE VALVE & BOX	EACH	8				8		
	0504.620	DUCTILE IRON FITTINGS	POUND	5,200				5,200		
	0504.603	6" WATERMAIN DUCT IRON CL. 52	LIN. FT.	166				166		
	0504.603	8" WATERMAIN DUCT IRON CL. 52	LIN. FT.	1,127				1,127		
	0504.603	12" WATERMAIN DUCT IRON CL. 52	LIN. FT.	2,155				2,155		
	0504.605	4" POLYSTYRENE INSULATION	SQ. YD.	93				93		

QUANTITY NOTES

① TREES FOR REMOVAL WILL BE DESIGNATED BY THE ENGINEER.

② BUILDING LOCATED RIGHT STA. 20+50 ON 30TH AVE. S.E.

③ INCLUDES ANCHORAGE ASSEMBLIES, TWISTED ENDS, AND TANGENT PLATE BEAM.

④ INCLUDES 5'x5'x50' CONCRETE BOX CULVERT AT STA. 194+62 AND 4'x6'x49'CONCRETE BOX CULVERT AT STA. 242+61.

⑤ 18" S.C. PIPE APRON

⑥ UNCLASSIFIED EXCAVATION INCLUDES SUBGRADE TREATMENT AS SHOWN IN TYPICAL SECTIONS AND CROSS SECTIONS 5,584 CU. YDS. UNCLASSIFIED EXCAVATION, TO BE USED AS SALVAGE TOPSOIL AND PLACED AS SHOWN IN THE PLANS FROM STA. 160+00 TO STA. 222+40.

⑦ TOPSOIL BORROW (LV) TO BE USED ON BERMS AND SLOPES FROM STA. 222+40 TO STA. 260+00

⑧ EQUIPMENT HOURS ARE FOR OBLITERATING OLD ROAD AS DIRECTED BY THE ENGINEER.

⑨ WATER TO BE USED AS A DUST PREVENTATIVE AS DIRECTED BY THE ENGINEER.

⑩ INCLUDES 14,288 CU. YDS. FOR MAINLINE, 1,585 CU. YDS. ON 30TH AVE. S.E. (INCLUDING APPROACHES, FRONTAGE ROAD AND CUL-DE-SAC), 439 CU. YDS. C.R. 143, 267 CU. YDS. WHYNAUCHT COURT S.E., 963 CU. YDS. ON PARK LANE S.E., 76 CU. YDS. ON 17TH ST. S.E., 93 CU. YDS ON 16TH ST. S.E., 159 CU. YDS. 15TH ST. S.E., 140 CU. YDS. ON 14TH ST. S.E., 311 CU. YDS. ON C.R. 144, 444 CU. YDS. ON 9 TURN LANES, 978 CU. YDS. ON FOR 8' WIDE PATH, AND 3,208 CU. YDS. FOR 52 APPROACHES.

⑪ INCLUDES 3,769 TON FOR MAINLINE, 130 TON FOR 30TH AVE. S.E., 62 TON FOR C.R. 143, 38 TON FOR WHYNAUCHT COURT, 137 TON FOR PARK LANE S.E., AND 27 TON FOR 16TH ST., 15 ST., AND 14TH ST. S.E..

⑫ INCLUDES ALL REQUIRED DRAINAGE AS SHOWN IN THE PLANS.

⑬ INCLUDES 369 TON FOR 30TH AVE. S.E. (INCLUDING APPROACHES, FRONTAGE ROAD AND CUL-DE-SAC), 123 TON FOR FOR C.R. 143, 57 TON FOR WHYNAUCHT COURT S.E., 187 TON FOR PARK LANE S.E., 26 TON FOR 17TH ST. S.E., 48 TON FOR 16TH ST. S.E., 64 TON FOR 15TH ST. S.E. 58 TON FOR 14TH ST. S.E., 88 TON FOR C.R.144, 487 TON FOR 39 APPROACHES AND 2244 TONS FOR CONSTRUCTING 12' TEMPORARY LANE IN CONJUNCTION WITH TRAFFIC CONTROL.

⑭ INCLUDES 492 TON FOR 30TH AVE. S.E.(INCLUDING APPROACHES, FRONTAGE ROAD AND CUL-DE-SAC), 164 TON FOR C.R. 143, 76 TON FOR WHYNAUCHT COURT S.E., 249 TON FOR PARK LANE S.E., 35 TON FOR 17TH ST. S.E., 63 TON FOR 16TH ST. S.E., 84 TON FOR 15TH ST. S.E., 75 TON FOR 14TH ST. S.E., 114 TON FOR C.R. 144, AND 657 TON FOR 39 APPROACHES.

⑮ STRUCTURAL CONCRETE HE TO BE USED IN AREA'S DESIGNATED BY THE ENGINEER.

⑯ FENCE LOCATED RIGHT STA. 197+25 TO 198+60.

⑰ CONCRETE PAVEMENT 20' WIDE x 9,923' IN LENGTH.

⑱ PROVIDED TO REMOVE TEMPORARY DRIVING LANE FROM RIGHT STA. 171+00 TO STA. 260+00

⑲ FENCE LOCATED LEFT STA. + 605+00 ON PARK LANE.

⑳ PROVIDED TO REMOVE CONCRETE DISPLAY PLATFORM RIGHT OF STA. 185+50

㉑ STANDARD PLATE 3128, NO GRATE REQUIRED.

㉒ BRIDGE 3078

BASIS OF PLANNED QUANTITIES

AGGREGATE BASE CLASS 5 -	140 LBS / CU. FT. COMPACTED
AGGREGATE SHOULDER CLASS 2 -	140 LBS / CU. FT. COMPACTED
BITUMINOUS MIXTURE -	110 LBS / SQUARE YARD / 1 INCH DEPTH
BITUMINOUS MATERIAL FOR TACK -	0.05 GALLON / SQUARE YARD
SEED MIXTURE 500 -	50 LBS / ACRE
SEED MIXTURE 1100 -	80 LBS / ACRE
MULCH MATERIAL -	2 TONS / ACRE
DISC ANCHOR -	ALL SEEDING AREA'S
COMMERCIAL FERTILIZER -	200 LBS / ACRE

STANDARD PLATES

THE FOLLOWING STANDARD PLATES AS, APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION SHALL APPLY ON THIS PROJECT.

PLATE NO.	DESCRIPTION
0005 A	SPECIFICATION REFERENCE TO STANDARD PLATES.
1070 K	REINFORCED PANEL OVER CULVERTS
1103 J	TYPICAL DOWEL BAR ASSEMBLY
1141 D	PAVEMENT KEYWAY FOR KEYED JOINT CONSTRUCTION
1150 P	CONSTRUCTION OF HEADER JOINTS
3000 L	REINFORCED CONCRETE PIPE
3014 B	REINFORCED CONCRETE PIPE ARCH
3040 F	CORRUGATED METAL PIPE CULVERT
3100 G	CONCRETE APRON FOR REINFORCED CONCRETE PIPE
3110 G	CONCRETE APRON FOR REINFORCED CONCRETE PIPE ARCH
3128 F	SAFETY APRON
3145 E	CONCRETE PIPE TIES
3221 C	CORRUGATED STEEL PIPE COUPLING BAND
4000 I	DRAINAGE STRUCTURE OR CATCH BASIN
4002 E	DRAINAGE STRUCTURE OR CATCH BASIN
4006 K	DRAINAGE STRUCTURE OR CATCH BASIN
4008 E	CATCH BASIN
4010 G	CONC. SHORT CONE & ADJUSTING RING
4011 D	PRECAST CONCRETE BASE
4110 E	COVER CASTING FOR DRAINAGE STRUCTURE
4019 E	DRAINAGE STRUCTURE OR CATCH BASIN
4020 E	DRAINAGE STRUCTURE OR CATCH BASIN
4101 C	RING CASTING FOR DRAINAGE STRUCTURE OR CATCH BASIN
4129 F	CATCH BASIN FRAME CASTING
4140 D	SPECIAL GRATE CASTINGS FOR CATCH BASIN
4154 B	CATCH BASIN GRATE CASTING
4160 D	CURB BOX CASTING FOR CATCH BASIN
4180 H	DRAINAGE STRUCTURE OR CATCH BASIN STEP
7000 E	INTEGRANT CURBS
7035 J	CONCRETE WALK & CURB RETURNS AT ENTRANCES
7036 D	PEDESTRIAN CURB RAMP
7100 F	CONCRETE CURB & GUTTERS
7110 E	CURB AND GUTTER CONSTRUCTION AT CATCH BASIN
7111 G	INSTALLATION & REINFORCEMENT OF CATCH BASIN CASTINGS
7112 A	INSTALLATION & REINFORCEMENT OF CATCH BASINS & MANHOLES
8000 I	STANDARD BARRICADES
9000 B	APPROACHES AND ENTRANCES

ESTIMATED QUANTITIES

	SPECIFICATION NO.	ITEM	UNIT	TOTAL ESTIMATED QUANTITIES	S.P.N. 55-636-02		S.P.N. 159-020-02			30TH AVE. S.E.
					PARTICIPATING RURAL	NON PARTICIPATING RURAL	PARTICIPATING URBAN	NON PARTICIPATING URBAN	STORM SEWER URBAN	
	2506.502	CONSTRUCT DRAINAGE STRUTURE, DESIGN A	EACH	2					2	
	2506.502	CONSTRUCT DRAINAGE STRUCTURE, DESIGN C	EACH	27					27	
	2506.502	CONSTRUCT DRAINAGE STRUCTURE, DESIGN G	EACH	7					7	
	2506.502	CONSTRUCT DRAINAGE STRUCTURE, DESIGN I	EACH	2					2	
	2506.502	CONSTRUCT DRAINAGE STRUCTURE, DESIGN 54-4019	EACH	2					2	
	2506.502	CONSTRUCT DRAINAGE STRUCTURE, DESIGN 60-4019	EACH	3					3	
	2506.502	CONSTRUCT DRAINAGE STRUCTURE, DESIGN 72-4019	EACH	2					2	
	2506.502	CONSTRUCT DRAINAGE STRUCTURE, DESIGN 90-4019	EACH	2					2	
	2506.502	CONSTRUCT DRAINAGE STRUCTURE, DESIGN 54-4020	EACH	1					1	
	2506.502	CONSTRUCT DRAINAGE STRUCTURE, DESIGN 78-4020	EACH	2					2	
	2506.503	RECONSTRUCT DRAINAGE STRUCTURE	LIN. FT.	18.3		3.0		15.3		
	2506.522	ADJUST FRAME AND RING CASTING	EACH	9				8	1	
(23)	0506.602	CONNECT INTO EXISTING MANHOLE	EACH	1					1	
(25)	2511.501	RANDOM RIPRAP, CLASS II	CU. YD.	50	30					20
	2511.507	GROUTED RIPRAP	CU. YD.	73	14		59			
	2521.501	4' CONCRETE WALK	SQ. FT.	21,615			21,615			
	2531.501	CONCRETE CURB AND GUTTER, DESIGN B624	LIN. FT.	2,768			2,768			
	2545.521	4' RIGID STEEL CONDUIT	LIN. FT.	225	225					
	0563.601	TRAFFIC CONTROL	LUMP SUM	1	0.36		0.50	0.05	0.07	0.02
(26)	0563.603	TWO-WAY RAISED PAVEMENT MARKERS TEMPORARY	EACH	2,100	735		1,365			
	0564.602	PAVEMENT MESSAGE (LEFT ARROW) EPOXY	EACH	78	13		65			
	0564.603	4' DOUBLE SOLID LINE YELLOW - PAINT	LIN. FT.	10,500	9,887		613			
	0564.603	4' SOLID LINE WHITE - EPOXY	LIN. FT.	17,830	9,000		8,830			
	0564.603	4' BROKEN LINE WHITE - EPOXY	LIN. FT.	3,600	1,000		2,600			
	0564.603	4' SOLID LINE YELLOW - EPOXY	LIN. FT.	16,300	3,300		13,000			
	0564.603	4' DOUBLE SOLID LINE YELLOW - EPOXY	LIN. FT.	4,800	3,900		900			
	0564.603	4' BROKEN LINE YELLOW - EPOXY	LIN. FT.	3,160	560		2,600			
	2565.511	FULL T. ACTUATED T. CONTROL SIGNAL SYSTEM	SYSTEM	1			1			
	0565.602	P.V.C. HANDHOLE (CONCRETE COVER)	EACH	6	6					
	2573.501	BALE CHECK	EACH	80	20		36			24
(24)	2573.503	SILT FENCE, PREASSEMBLED	LIN. FT.	2,780	960		1,820			
	2575.501	SEEDING	ACRE	14(P)	6.95		4.65			2.4
	2575.502	SEED MIXTURE 500	LB	700	348		232			120
	2575.502	SEED MIXTURE 1100	LB.	1,120	556		372			192
	2575.505	SODDING TYPE LAWN	SQ. YD.	25,211	1,392		23,197			622
	2575.511	MULCH MATERIAL, TYPE 1	TON	28	13.9		9.3			4.8
	2575.519	DISK ANCHORING	ACRE	14(P)	6.95		4.65			2.4
	2575.532	COMMERCIAL FERTILIZER, ANALYSIS 12-12-12	LB.	2,800	1,390		930			480

QUANTITY NOTES

(23) LOCATED AT INPLACE MANHOLE 87' RIGHT STA. 256+99.

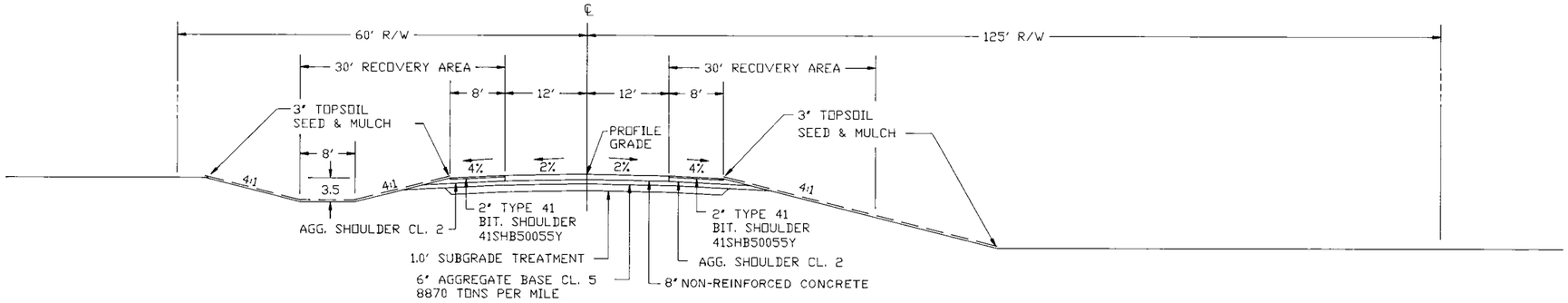
(24) SILT FENCE AS DIRECTED BY THE ENGINEER SHALL BE LEFT INPLACE.

(25) 6 INCHES OF GRANULAR BEDDING OR GEOTEXTILE FILTER UNDER RIPRAP WILL BE CONSIDERED TO BE INCIDENTAL AND NO DIRECT COMPENSATION WILL BE MADE THEREFOR.

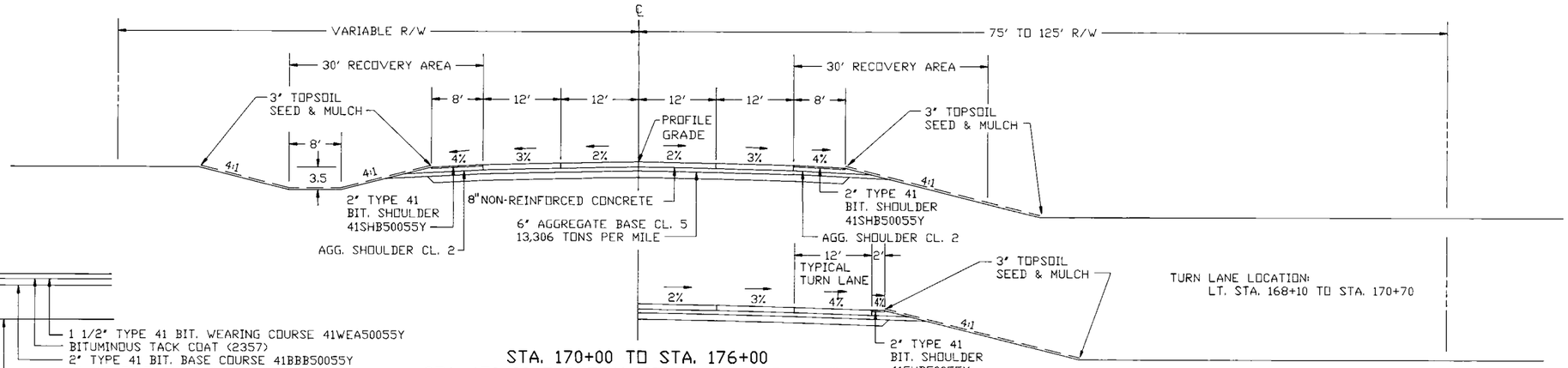
(26) INCLUDES 2,000 YELLOW TWO-WAY TEMPORARY RAISED PAVEMENT MARKERS AND 100 REPLACEMENT YELLOW TWO-WAY TEMPORARY RAISED PAVEMENT MARKERS.

NOTE: EMBANKMENT QUANTITIES SHOWN IN THE BALANCE POINT SUMMARIES AND ON THE CROSS SECTION SHEETS HAVE BEEN INCREASED BY 1.38% TO ADJUST FOR SHRINKAGE.

TYPICAL SECTIONS

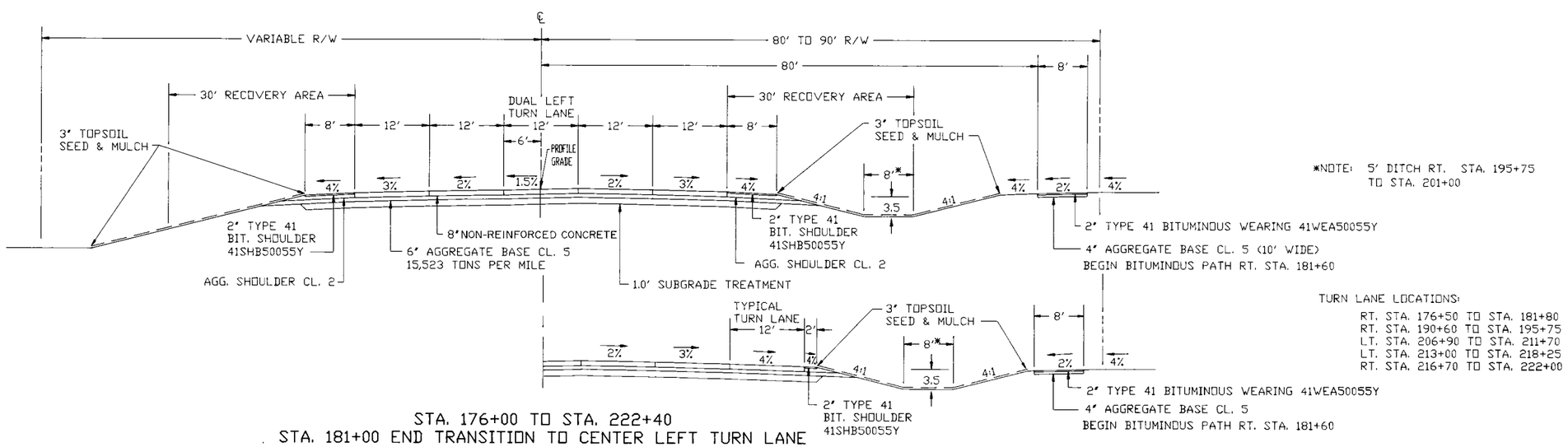


STA. 160+00 TO STA. 170+00
STA. 161+00 BEGIN TRANSITION TO FOUR LANES



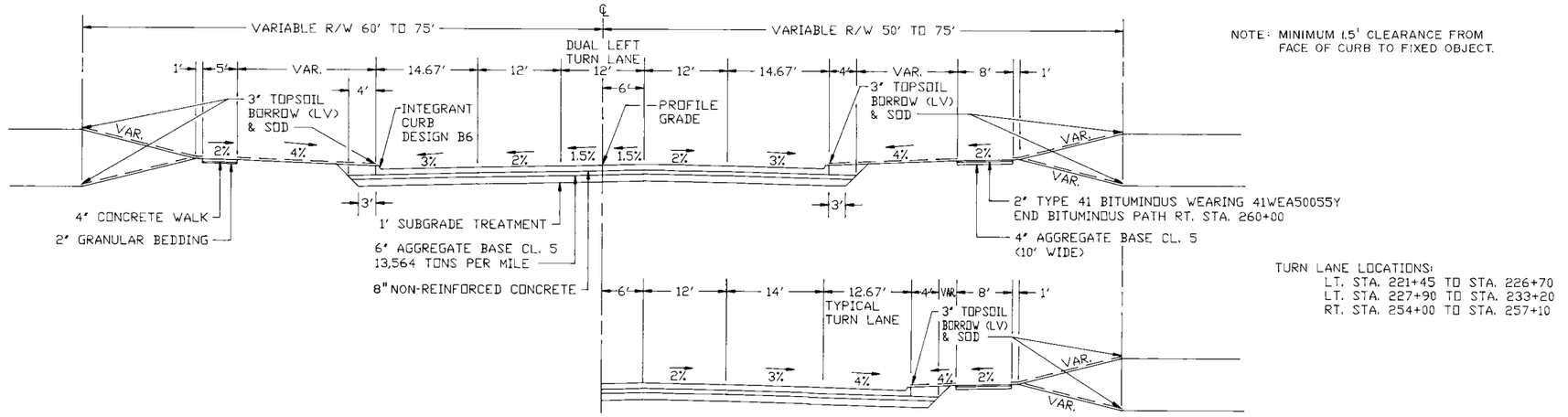
STA. 170+00 TO STA. 176+00
STA. 170+00 END TRANSITION TO FOUR LANES
STA. 176+00 BEGIN TRANSITION FOR CENTER LEFT TURN LANE

TYPICAL APPROACH SECTIONS



STA. 176+00 TO STA. 222+40
STA. 181+00 END TRANSITION TO CENTER LEFT TURN LANE

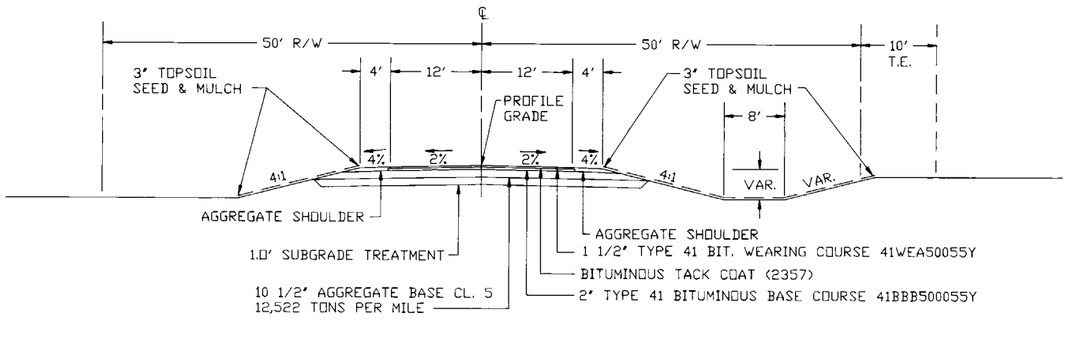
TYPICAL SECTIONS



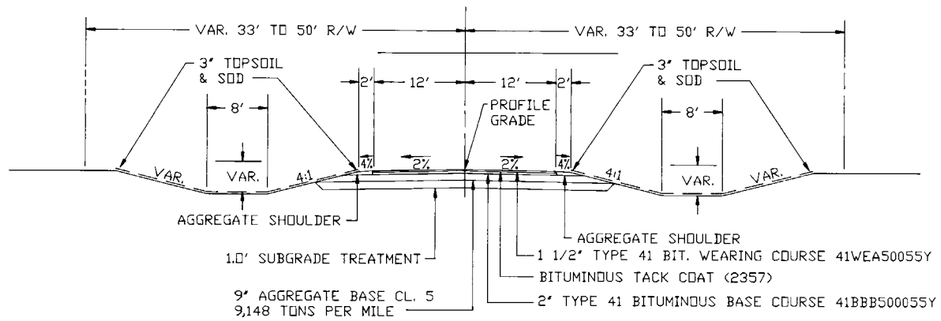
NOTE: MINIMUM 1.5' CLEARANCE FROM FACE OF CURB TO FIXED OBJECT.

TURN LANE LOCATIONS:
LT. STA. 221+45 TO STA. 226+70
LT. STA. 227+90 TO STA. 233+20
RT. STA. 254+00 TO STA. 257+10

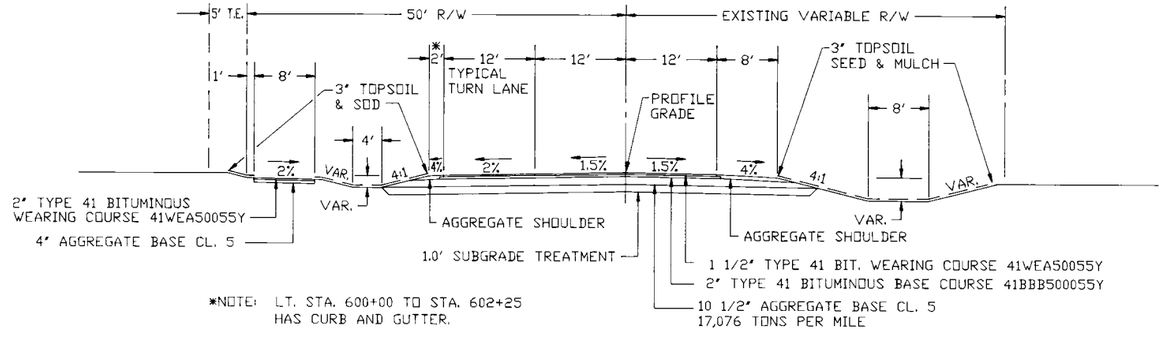
STA. 222+40 TO STA. 260+00



30TH AVE. S.E. STA. 18+50 TO STA. 25+28
C.R. 143 STA. 398+23 TO STA. 401+50
WHYNAUCHT CT. S.E. STA. 499+02 TO STA. 501+00

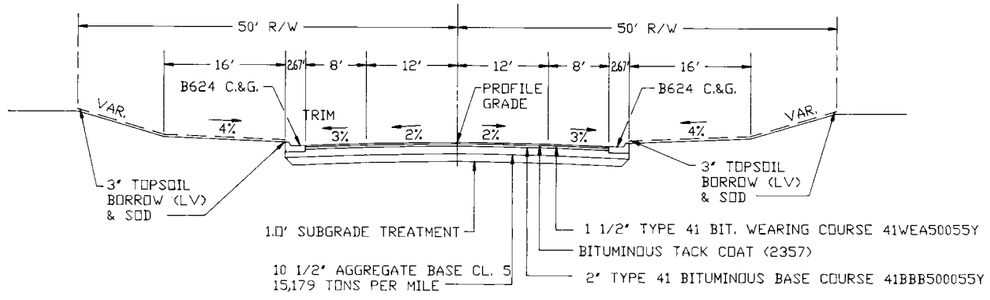


14TH ST. S.E. STA. 900+45 TO STA. 902+00
15TH ST. S.E. STA. 800+44 TO STA. 802+00
16TH ST. S.E. STA. 700+44 TO STA. 701+50



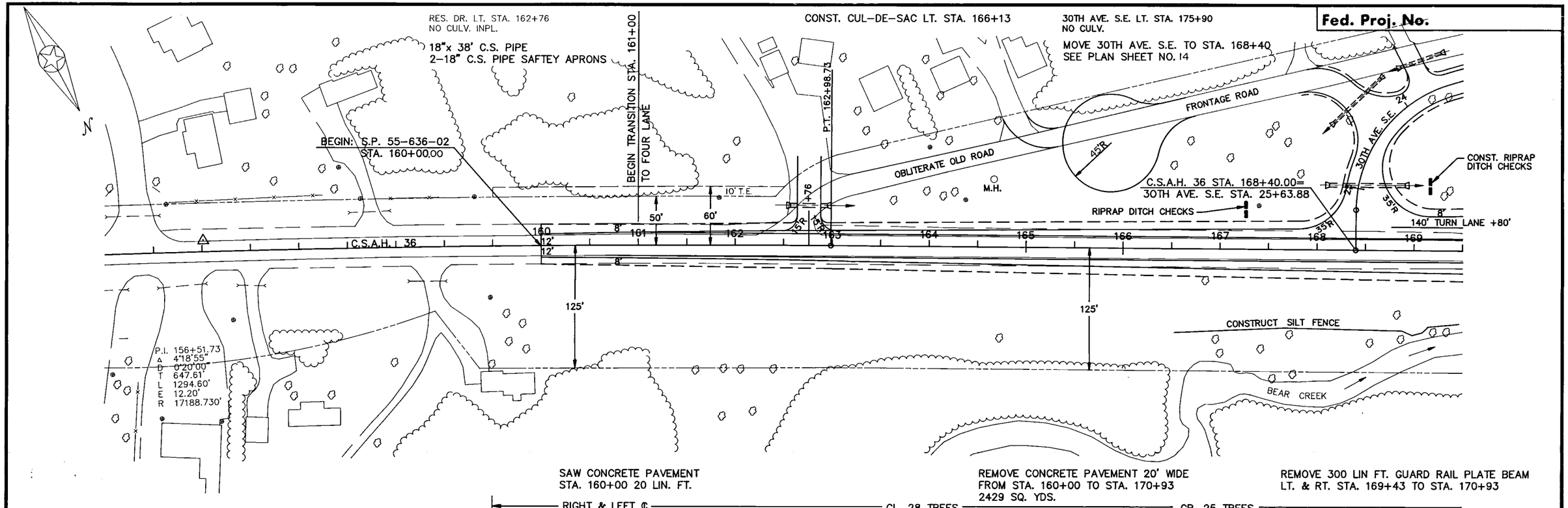
*NOTE: LT. STA. 600+00 TO STA. 602+25 HAS CURB AND GUTTER.

PARK LANE S.E. STA. 600+45 TO STA. 606+00



C.R. 144 STA. 1000+50 TO STA. 1002+38

Fed. Proj. No.

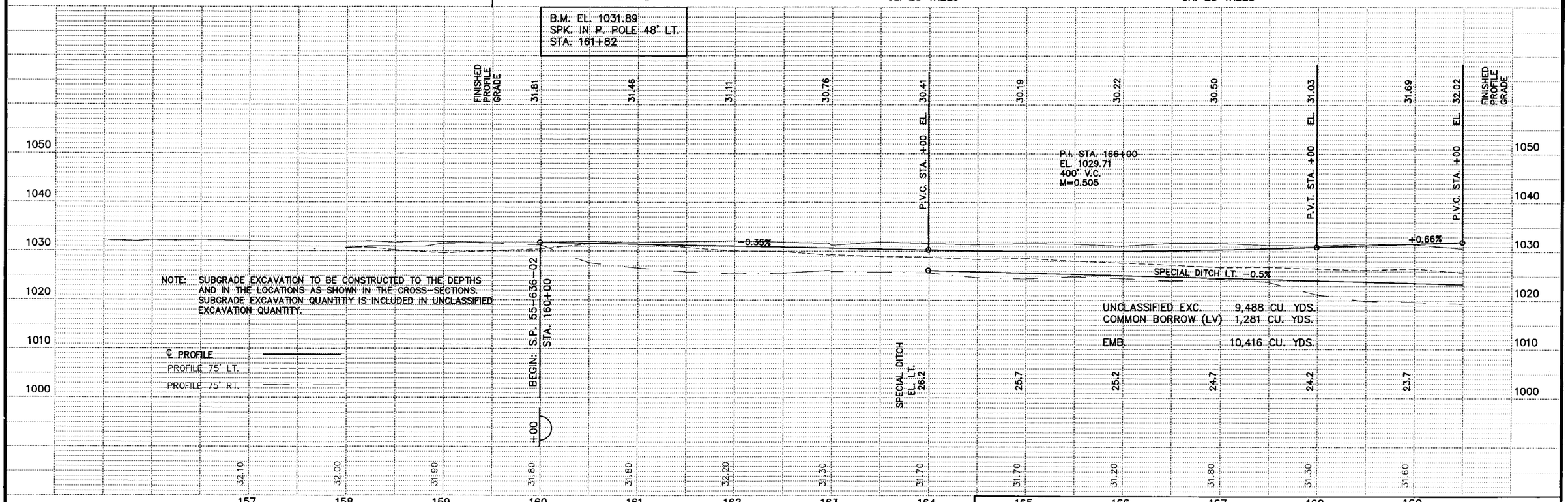


SAW CONCRETE PAVEMENT
STA. 160+00 20 LIN. FT.

REMOVE CONCRETE PAVEMENT 20' WIDE
FROM STA. 160+00 TO STA. 170+93
2429 SQ. YDS.

REMOVE 300 LIN FT. GUARD RAIL PLATE BEAM
LT. & RT. STA. 169+43 TO STA. 170+93

RIGHT & LEFT ℄ — CL. 28 TREES — GR. 25 TREES



NOTE: SUBGRADE EXCAVATION TO BE CONSTRUCTED TO THE DEPTHS AND IN THE LOCATIONS AS SHOWN IN THE CROSS-SECTIONS. SUBGRADE EXCAVATION QUANTITIY IS INCLUDED IN UNCLASSIFIED EXCAVATION QUANTITY.

℄ PROFILE
PROFILE 75' LT.
PROFILE 75' RT.

UNCLASSIFIED EXC.	9,488 CU. YDS.
COMMON BORROW (LV)	1,281 CU. YDS.
EMB.	10,416 CU. YDS.

GRADING AND EROSION CONTROL

State Proj. No. 55-636-01 & 55-636-02 Sheet No. 6 of 140 Sheets

Copy Equipment Form #2

Fed. Proj. No.

30TH AVE. S.E. LT. STA. 175+90
NO CULV. INPL.

REMOVE BRIDGE NO. 3078 & OBITERATE OLD ROAD
MOVE 30TH AVE. S.E. TO STA. 168+40
SEE PLAN SHEET NO. 14

BR. NO. 3078 OBLITERATE OLD ROAD

BEGIN TRANSITION FOR CENTER LEFT TURN LANE STA. 176+00

STA. 180+60
45.5' RT. F. & I. P.V.C. HANDHOLE WITH CONCRETE COVER
39.5' LT. F. & I. P.V.C. HANDHOLE WITH CONCRETE COVER
45.5' RT. TO 39.5' LT. F. & I. 4" RIGID STEEL CONDUIT

STA. 182+10
40' RT. F. & I. P.V.C. HANDHOLE WITH CONCRETE COVER
40' LT. F. & I. P.V.C. HANDHOLE WITH CONCRETE COVER
40' RT. TO 40' LT. F. & I. 4" RIGID STEEL CONDUIT

STA. 181+08 75' RT. F.& I. P.V.C. HANDHOLE WITH CONCRETE COVER
STA. 181+68 75' RT F. & I. P.V. C. HANDHOLE WITH CONCRETE COVER
STA. 181+08 TO STA. 181+68 75' RT. F. & I. 4" RIGID STEEL CONDUIT

P.I. 183+34.69
Δ 8°15'54"
D 0°45'00"
T 551.96'
L 1102.00'
E 19.91'
R 7639.440'
NORMAL CROWN

P.C. 177+82.73

CONST. RIPRAP DITCH CHECKS

+90 END TRANSITION STA. 170+00

BEGIN BR. 55551 STA. 170+80.16

CONST. RIPRAP DITCH CHECKS

END BR. 55551 STA. 171+81.84

NEW BRIDGE NO. 55551

CONSTRUCT SILT FENCE

M.H.

M.H.

+70

+00

+75

8' SIDEWALK

80'

140' TURN LANE +80'

169 170 171 172 173 174 175 176 177 178 179 180 181 182 183

8'
12'
12'
12'
8'

BR. NO.5094

END TRANSITION STA. 181+00

C.S.A.H. 36 STA. 181+50 =
20TH ST. S.E. STA. 397+85.85

CONSTRUCT SILT FENCE

BEAR CREEK

CONST. SILT FENCE

125'

CONST. RIPRAP DITCH CHECKS

75'

+50

300' TURN LANE +180'

12'

2'

+27

+30

35'R

35'R

398

75'

8' BIT. PATH

10' T.E.

SECTION 18

SECTION 17

CLOSE CHURCH ENT.

+00

50'

399

20TH ST. S.E. (C.R. 143) SECTION 18

400

60' R/W

C.R. 143

REMOVE BRIDGE 5094
SEE PLAN SHEET 109 THRU 140
FOR BRIDGE 55551

REMOVE CONCRETE PAVEMENT 20' WIDE
FROM STA. 171+70 TO STA. 260+00
19,622 SQ. YDS.

REMOVE 300 LIN. FT. GUARD RAIL PLATE BEAM
LT. & RT. STA. 171+70 TO STA. 173+20

ENT. RT. STA. 178+27
INPL. 18"x30' C.M.P. W/APRONS

REMOVE 35 LIN. FT.
CLOSE ENT.

20TH ST. S.E. (C.R. 143) RT. STA. 183+20
NO CULV. INPL.

MOVE 20TH ST. S.E. TO STA. 181+50
NO CULV. REQUIRED
SEE PLAN SHEET NO. 18

RIGHT & LEFT ℄ — CLEAR 22 TREES — GRUB 22 TREES

℄ PROFILE
PROFILE 75' LT.
PROFILE 75' RT.

B.M. EL. 1027.95
X ON N.W. COR. BR. 3078
LT. STA. 175+27

FINISHED PROFILE GRADE

P.V.C. STA. +00 EL. 31.69
P.I. STA 170+80
EL. 1032.88
360' V.C.
M = 0.80
P.V.T. STA. +60 EL. 30.86
P.V.C. STA. +00 EL. 30.42
P.V.T. STA. +00 EL. 29.77
P.I. STA. 173+50
EL. 1029.86
100' V.C.
M = 0.12

-1.12%
-0.18%

BRIDGE NO. 55551

SPECIAL DITCH LT. -0.5%
SPECIAL DITCH RT. +0.4%
SPECIAL DITCH RT. -0.35%

SPECIAL DITCH EL. LT.
SPECIAL DITCH EL. RT.
SPECIAL DITCH EL. RT.

+98
+63

1060 1050 1040 1030 1020 1010 1000

32.10 32.02 31.45 29.59 29.41 29.23 29.05 28.87 28.69 28.51 28.33 28.15
23.7 23.2 22.7 20.0 20.2 20.6 21.0 21.4 21.8 22.2 22.6 23.0 23.4 23.8 24.2 23.8
31.60 30.80 18.20 30.50 30.40 29.80 30.10 29.60 29.30 29.20 29.00 28.40 28.60 28.80 28.40

UNCLASSIFIED EXC. 67,567 CU. YDS
COMMON BORROW 9,304 CU. YDS.
EMB. 74,310 CU. YDS.

GRADING AND EROSION CONTROL

State Proj. No. 55-636-01 & 55-636-02 **Sheet No.** 7 **of** 140 **Sheets**

Copy Equipment from #2

RES. DR. LT. STA. 183+50
INPL. 18"x 26' C.M.P. W/APRONS
REMOVE 31 LIN. FT.

MOVE RES. DR. TO STA. 186+50

RES. DR. LT. STA. 184+67
INPL. 15"x 34' C.M.P.
REMOVE

CLOSE ENTRANCE

RES. DR. LT. STA. 186+95
INPL. 15"x 34' C.M.P.
REMOVE

MOVE RES. DR. TO STA. 186+50
18"x 56' C.S. PIPE
2 – 18" C.S. PIPE SAFETY APRONS

RES. DR. LT. STA. 191+28
INPL. 15"x 32' C.M.P. W/APRONS
REMOVE 37 LIN. FT.

18"x 68' C.S. PIPE
2 – 18" C.S. PIPE SAFETY APRONS

RES. DR. LT. STA. 195+18
INPL. 15"x 32' C.M.P. W/APRON (ONE)
REMOVE 34 LIN. FT.

MOVE DR. TO STA. 195+46
18"x 56' C.S. PIPE
2 – 18" C.S. PIPE SAFETY APRONS

Fed. Proj. No.

RES. DR LT STA. 196+37
INPL. 15"x 32' C.M.P.
REMOVE

CLOSE RES. DR.

C.S.A.H. 36 STA. 188+50=
WHYNAUCHT CT. S.E. STA. 498+88.52

P.T. 188+84.73

NOTE: GROUTED RIPRAP TO BE LOCATED BY ENGINEER IN THE FIELD.

P.I. 183+34.69
Δ 8°15'54"
D 0°45'00"
T 551.96'
L 1102.00'
E 19.91'
R 7639.440'
NORMAL CROWN

OBLITERATE OLD ROAD

FENCE MOVED BY OTHER

8' BIT. PATH

20TH ST. S.E. (C.R. 143) RT STA. 183+20
NO CULV. INPL.

MOVE 20TH ST. S.E. TO STA. 181+50
NO. CULV. REQUIRED
SEE PLAN SHEET 18.

WHYNAUCHT CT. S.E. RT STA. 189+10
INPL. 18"x 82'C.M.P. W/APRON
REMOVE 87 LIN. FT.

MOVE WHYNAUCHT CT. S.E. TO STA. 188+50
28" SPAN x 70' C.S. PIPE-ARCH
2 – 28" SPAN C.S. PIPE-ARCH SAFTY APRONS
SEE PLAN SHEET 18.

FENCE MOVED BY OTHER

300' TURN LANE +180'

MARVALLE AVE. S.E. RT STA. 195+46
INPL. 2–30" C.M.P. W/APRON ON INLET
REMOVE 123 LIN. FT.

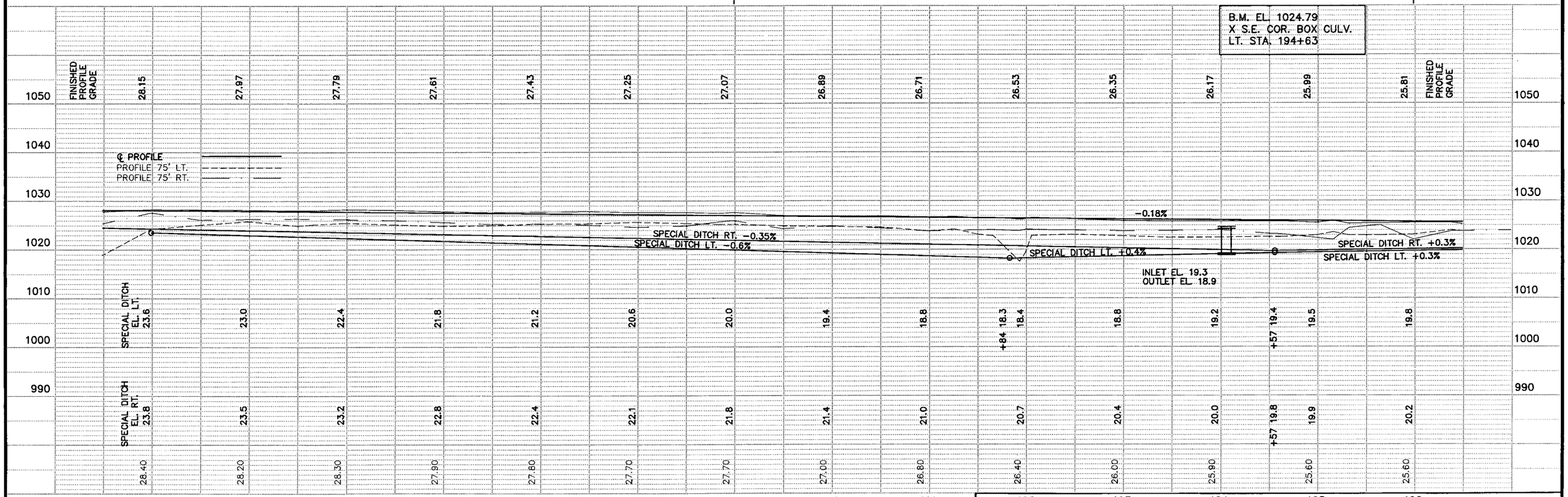
2–58" SPAN x 60' R.C. PIPE-ARCH CL.IIA
4–58" SPAN R.C. PIPE-ARCH APRONS
PLACE CULVERTS ON "B" BEDDING
SAW BIT. PAVEMENT 24 LIN. FT.

℄ CULV. STA. 194+63
INPL. 5'x 5'x 50' CONC. BOX CULV.
REMOVE CONC. BOX

CONST. CULV. AT STA. 194+52 & STA. 194+62
2 – 65" SPAN x 114' R.C. PIPE-ARCH CL. IIA
4 – 65" SPAN R.C. PIPE-ARCH APRONS
PLACE CULVERTS ON CL. "B" BEDDING

RIGHT & LEFT ℄ — CLEAR 13 TREES — GRUB 13 TREES

B.M. EL. 1024.79
X S.E. COR. BOX CULV.
LT. STA. 194+63



GRADING AND EROSION CONTROL

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Clay Equipment Form #3

RES. DR. LT. STA. 199+50
INPL. 15"x 26" C.M.P.
REMOVE

MOVE DR. TO STA. 198+94
18"x 38' C.S. PIPE
2–18"C.S. PIPE SAFETY APRONS

RES. DR. LT. STA. 201+95
NO CULV. INPL.

MOVE DR. TO STA. 201+80
NO CULV. REQ'D

RES. DR LT. STA. 204+00
NO CULV. INPL.

MOVE DR. TO STA. 203+85
18"x 44' C.S. PIPE
2–18"C.S. PIPE SAFETY APRONS

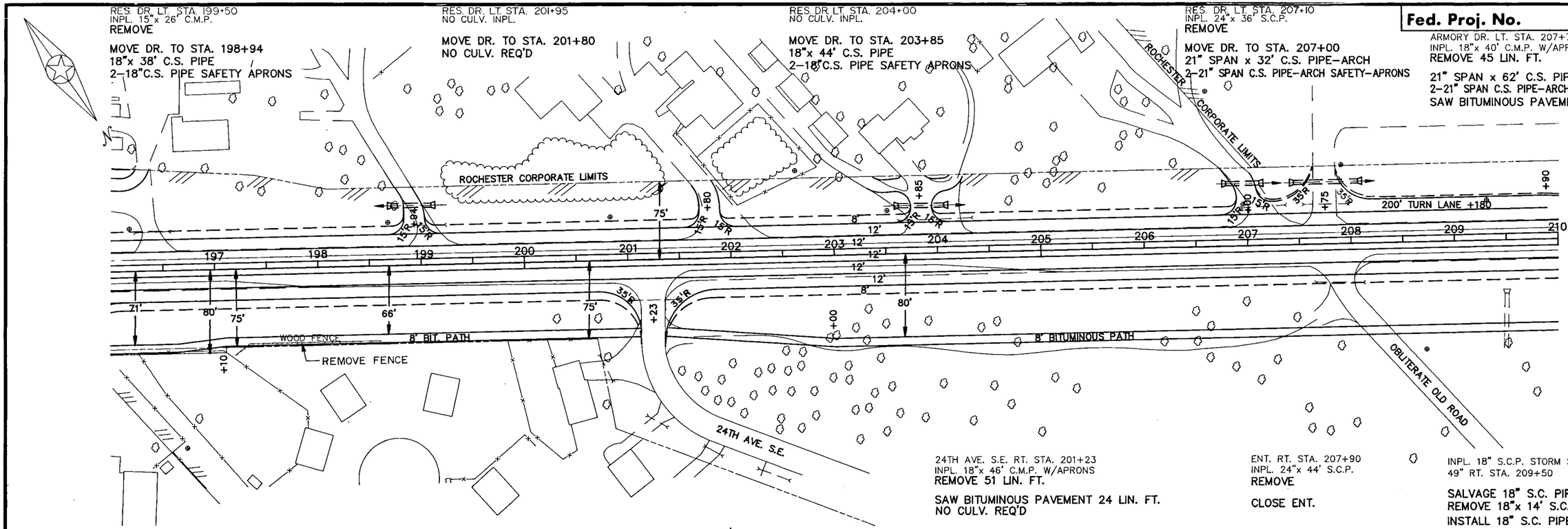
RES. DR. LT. STA. 207+10
INPL. 24"x 36" S.C.P.
REMOVE

MOVE DR. TO STA. 207+00
21" SPAN x 32' C.S. PIPE–ARCH
2–21" SPAN C.S. PIPE–ARCH SAFETY–APRONS

Fed. Proj. No.

ARMORY DR. LT. STA. 207+75
INPL. 18"x 40' C.M.P. W/APRONS
REMOVE 45 LIN. FT.

21" SPAN x 62' C.S. PIPE–ARCH
2–21" SPAN C.S. PIPE–ARCH SAFETY–APRON
SAW BITUMINOUS PAVEMENT 24 LIN. FT.



24TH AVE. S.E. RT. STA. 201+23
INPL. 18"x 46' C.M.P. W/APRONS
REMOVE 51 LIN. FT.

SAW BITUMINOUS PAVEMENT 24 LIN. FT.
NO CULV. REQ'D

ENT. RT. STA. 207+90
INPL. 24"x 44' S.C.P.
REMOVE

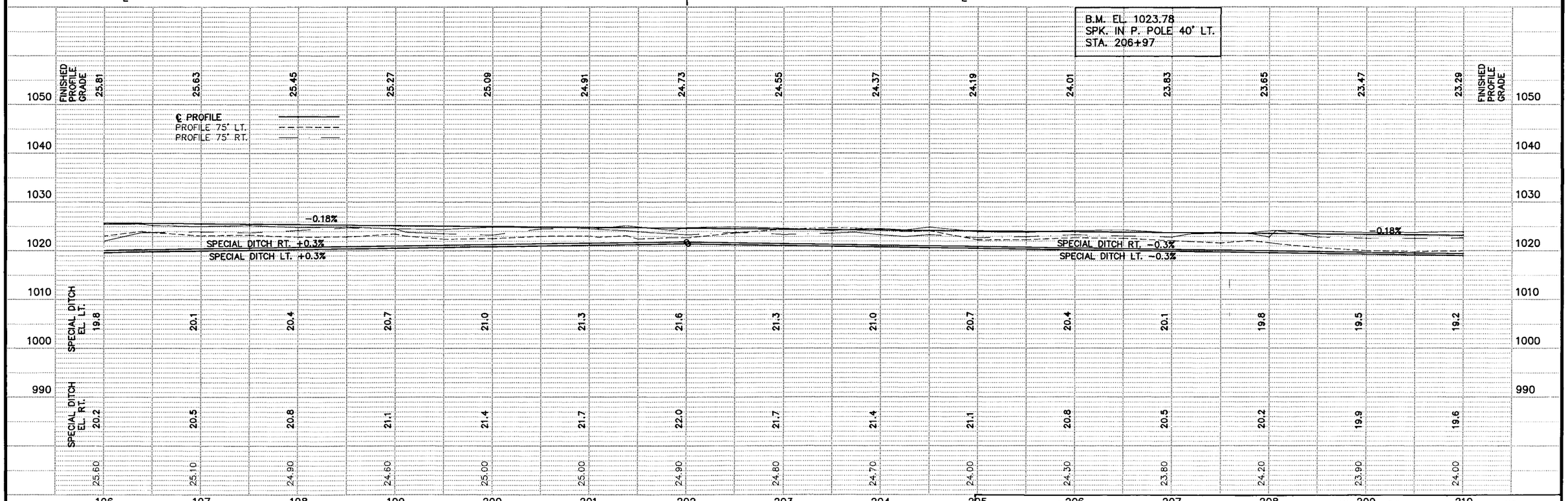
CLOSE ENT.

INPL. 18" S.C.P. STORM SEWER OUTLET
49" RT. STA. 209+50

SALVAGE 18" S.C. PIPE APRON
REMOVE 18"x 14' S.C. PIPE
INSTALL 18" S.C. PIPE APRON

RIGHT & LEFT ℄ — CLEAR 19 TREES — GRUB 15 TREES — RIGHT & LEFT ℄ — CLEAR 30 TREES — GRUB 30 TREES

B.M. EL. 1023.78
SPK. IN P. POLE 40' LT.
STA. 206+97



GRADING AND EROSION CONTROL

State Proj. No. 55–636–01 & 55–636–02 **Sheet No.** 9 **of** 140 **Sheets**

Copy Equipment Form #1

ARMORY DR. LT. STA. 213+36
INPL. 24"x 44' S.C. PIPE W/APRONS
REMOVE 56 LIN. FT.

18"x 60' C.S. PIPE
2-18" C.S. PIPE SAFTY APRONS
SAW BITUMINOUS PAVEMENT 20 LIN. FT.

N

CONSTRUCT SILT FENCE

5' CONCRETE WALK

200' TURN LANE +180

300' TURN LANE +180'

C.S.A.H. 36 STA. 221+74=
PARK LANE S.E. STA. 600+00

PARK LANE S.E.

8' BITUMINOUS PATH

INPL. 18" S.C. PIPE STORM SEWER
105' RT. STA. 217+41
NO CHANGE

F. & I. CULVERT UNDER 8' BITUMINOUS PATH
RT. STA. 217+40
24" x 18' C.S. PIPE CULV.
2-24" C.S. SAFETY APRONS

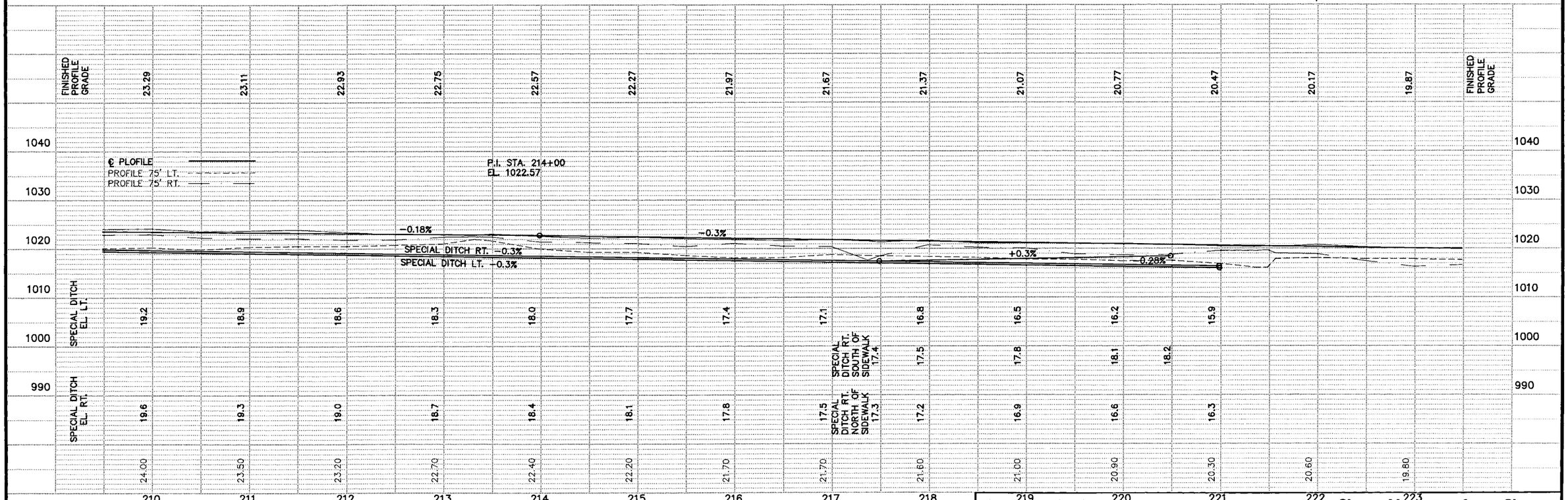
Fed. Proj. No.

PARK LANE S.E. LT. STA. 221+74
NO CULV. INPL.

NO CULV. REQ'D
SAW BITUMINOUS PAVEMENT 24. LIN FT.

PARK LANE S.E. RT. STA. 221+70
INPL. 29" SPAN x 87" C.S. PIPE
REMOVE

MOVE PARK LANE TO STA. 221+74
SEE SHEET NO. 15



GRADING AND EROSION CONTROL

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Copy Equipment Form #2

Fed. Proj. No.

PARKING LOT ENT. LT STA 225+26
INPL. 30"x 38' C.M.P. W/APRONS
REMOVE 46 LIN. FT.
CLOSE ENT.

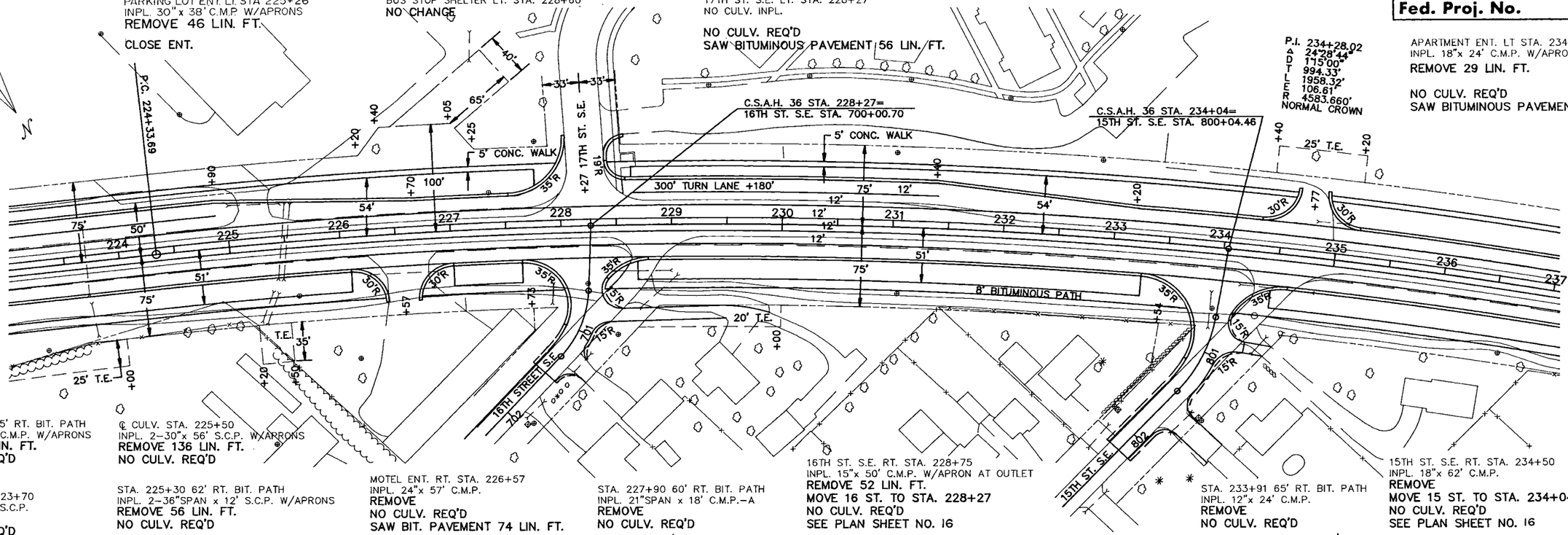
BUS STOP SHELTER LT. STA. 228+60
NO CHANGE

17TH ST. S.E. LT. STA. 228+27
NO CULV. INPL.
NO CULV. REQ'D
SAW BITUMINOUS PAVEMENT 56 LIN./FT.

P.I. 234+28.02
Δ 24°28'44"
D 11°00'
T 994.33'
L 1958.32'
R 4583.660'
NORMAL CROWN

APARTMENT ENT. LT STA. 234+77
INPL. 18"x 24' C.M.P. W/APRONS
REMOVE 29 LIN. FT.

NO CULV. REQ'D
SAW BITUMINOUS PAVEMENT 24 LIN. FT.



STA. 223+70 55' RT. BIT. PATH
INPL. 24"x 24' C.M.P. W/APRONS
REMOVE 31 LIN. FT.
NO CULV. REQ'D

℄ CULV. STA. 223+70
INPL. 30"x 60' S.C.P.
REMOVE
NO CULV. REQ'D

℄ CULV. STA. 225+50
INPL. 2–30"x 56' S.C.P. W/APRONS
REMOVE 136 LIN. FT.
NO CULV. REQ'D

STA. 225+30 62' RT. BIT. PATH
INPL. 2–36"SPAN x 12' S.C.P. W/APRONS
REMOVE 56 LIN. FT.
NO CULV. REQ'D

MOTEL ENT. RT. STA. 226+57
INPL. 24"x 57' C.M.P.
REMOVE
NO CULV. REQ'D
SAW BIT. PAVEMENT 74 LIN. FT.

STA. 227+90 60' RT. BIT. PATH
INPL. 21"SPAN x 18' C.M.P.–A
REMOVE
NO CULV. REQ'D

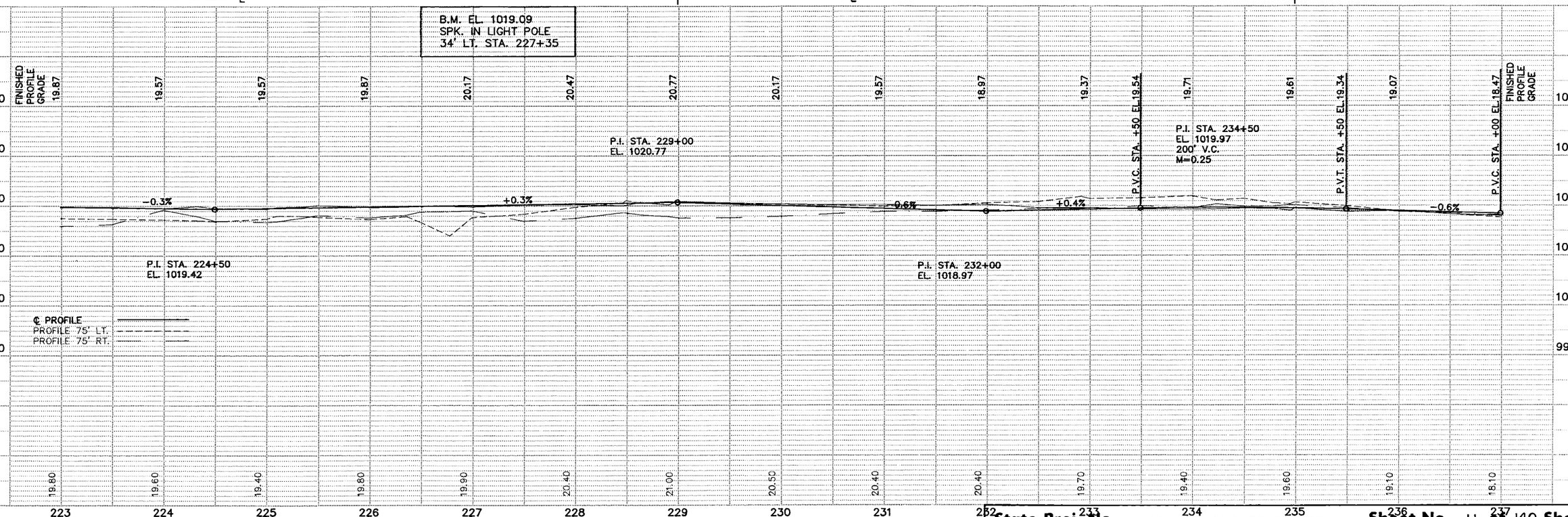
16TH ST. S.E. RT. STA. 228+75
INPL. 15"x 50' C.M.P. W/APRON AT OUTLET
REMOVE 52 LIN. FT.
MOVE 16 ST. TO STA. 228+27
NO CULV. REQ'D
SEE PLAN SHEET NO. 16

STA. 233+91 65' RT. BIT. PATH
INPL. 12"x 24' C.M.P.
REMOVE
NO CULV. REQ'D

15TH ST. S.E. RT. STA. 234+50
INPL. 18"x 62' C.M.P.
REMOVE
MOVE 15 ST. TO STA. 234+04
NO CULV. REQ'D
SEE PLAN SHEET NO. 16

RIGHT & LEFT ℄ — CLEAR 1 TREE — GRUB 1 TREE — RIGHT & LEFT ℄ — CLEAR 3 TREE — GRUB 3 TREE

B.M. EL. 1019.09
SPK. IN LIGHT POLE
34' LT. STA. 227+35



GRADING AND EROSION CONTROL

State Proj. No. 55–636–01 & 55–636–02

Sheet No. 11 **of** 140 **Sheets**

Copy, Equipment Form #2

Fed. Proj. No.

RES. DR. LT. STA. 239+30
INPL. 18"x 32' C.M.P.
REMOVE

MOVE DR. TO STA. 239+46
NO CULV. REQ'D
SAW BITUMINOUS PAVEMENT 56 LIN. FT.

RES. DR. LT. STA. 240+78
INPL. 18"x 65' C.M.P. W/APRONS
REMOVE 70 LIN. FT.

MOVE DR. TO STA. 241+05
NO CULV. REQ'D
SAW BITUMINOUS PAVEMENT 26 LIN. FT.

TRAILER CT. LT. STA. 244+03
INPL. 18"x 48' C.M.P. W/APRONS
REMOVE 53 LIN. FT.

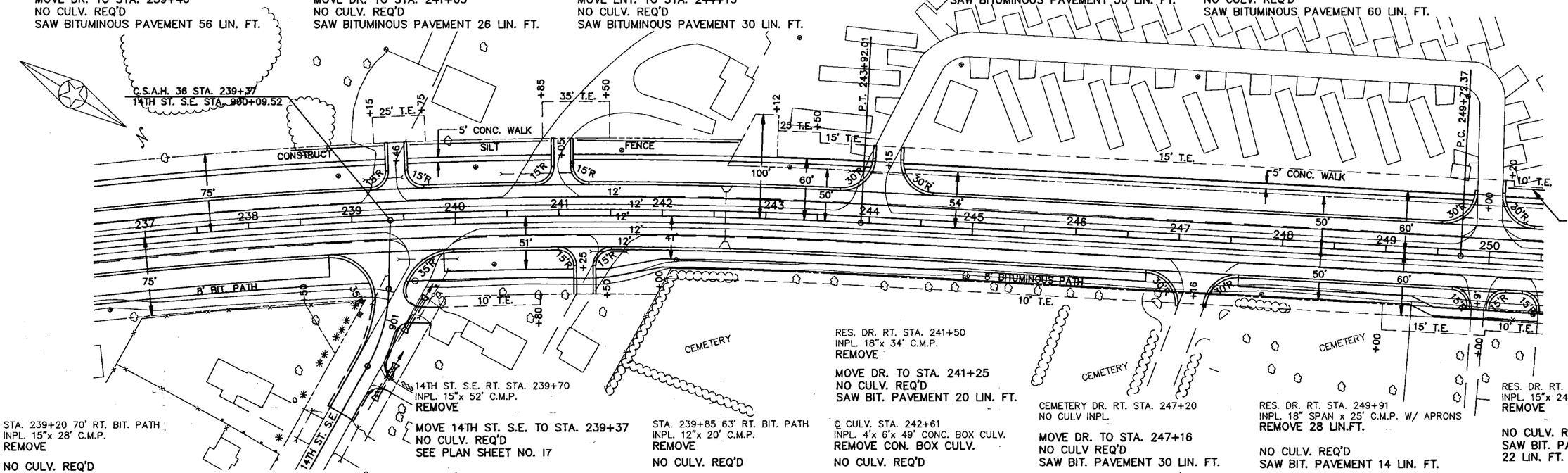
MOVE ENT. TO STA. 244+15
NO CULV. REQ'D
SAW BITUMINOUS PAVEMENT 30 LIN. FT.

TRAILER CT. LT. STA. 250+00
NO CULV. INPL.

NO CULV. REQ'D
SAW BITUMINOUS PAVEMENT 30 LIN. FT.

BUSINESS ENT. LT. STA. 251+27
NO. CULV. INPL.

MOVE ENT. TO STA. 251+22
NO CULV. REQ'D
SAW BITUMINOUS PAVEMENT 60 LIN. FT.



14TH ST. S.E. RT. STA. 239+70
INPL. 15"x 52' C.M.P.
REMOVE

MOVE 14TH ST. S.E. TO STA. 239+37
NO CULV. REQ'D
SEE PLAN SHEET NO. 17

STA. 239+20 70' RT. BIT. PATH
INPL. 15"x 28' C.M.P.
REMOVE

NO CULV. REQ'D

STA. 239+85 63' RT. BIT. PATH
INPL. 12"x 20' C.M.P.
REMOVE

NO CULV. REQ'D

RES. DR. RT. STA. 241+50
INPL. 18"x 34' C.M.P.
REMOVE

MOVE DR. TO STA. 241+25
NO CULV. REQ'D
SAW BIT. PAVEMENT 20 LIN. FT.

℄ CULV. STA. 242+61
INPL. 4'x 6'x 49' CONC. BOX CULV.
REMOVE CON. BOX CULV.

NO CULV. REQ'D

CEMETERY DR. RT. STA. 247+20
NO CULV INPL.

MOVE DR. TO STA. 247+16
NO CULV REQ'D
SAW BIT. PAVEMENT 30 LIN. FT.

RES. DR. RT. STA. 249+91
INPL. 18" SPAN x 25' C.M.P. W/ APRONS
REMOVE 28 LIN.FT.

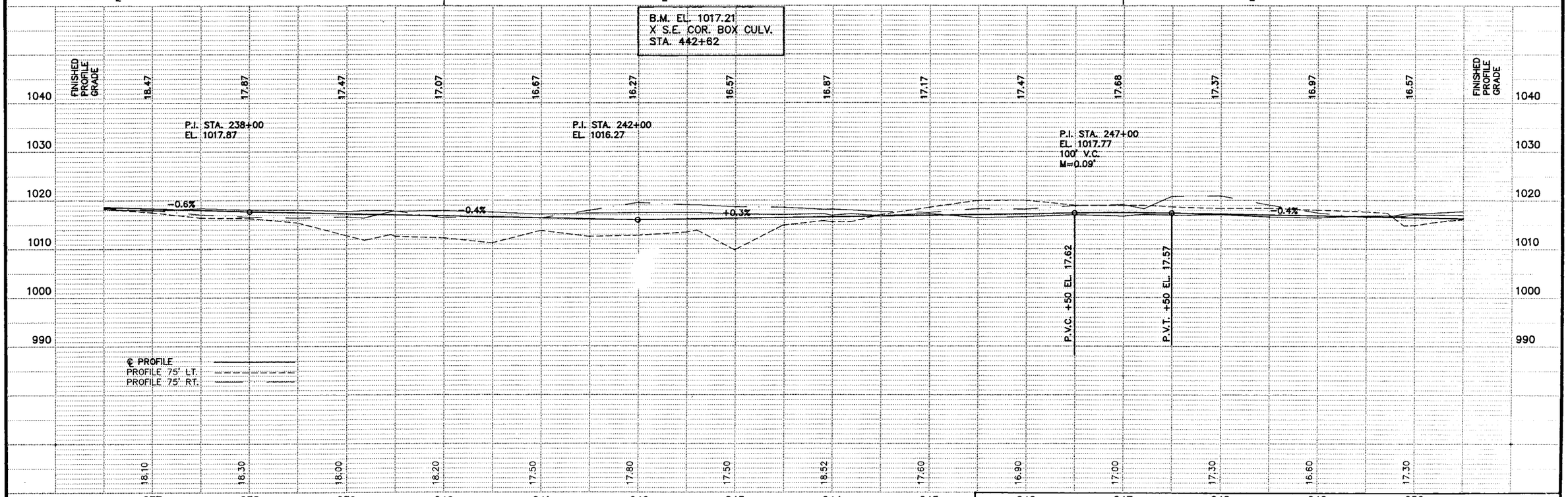
NO CULV. REQ'D
SAW BIT. PAVEMENT 14 LIN. FT.

RES. DR. RT. STA. 250+60
INPL. 15"x 24' C.M.P.
REMOVE

NO CULV. REQ'D
SAW BIT. PAVEMENT
22 LIN. FT.

— RIGHT & LEFT ℄ — CLEAR 6 TREES — GRUB 2 TREES — RIGHT & LEFT ℄ — CLEAR 7 TREES — GRUB 6 TREES — RIGHT & LEFT ℄ — CLEAR 16 TREES — GRUB 10 TREES —

B.M. EL. 1017.21
X S.E. COR. BOX CULV.
STA. 442+62



GRADING AND EROSION CONTROL

State Proj. No. 55-636-01 & 55-636-02 Sheet No. 12 of 140 Sheets

Copy Equipment Form #2

Fed. Proj. No.

BUSINESS ENT. LT. STA. 251+27
NO CULV. INPL.

MOVE ENT. TO STA. 251+22
NO CULV. REQ'D
SAW BIT. PAVEMENT
60 LIN. FT.

BUSINESS ENT. LT. STA. 252+23
NO CULV. INPL.

NO CULV. REQ'D
SAW BIT. PAVEMENT
36 LIN. FT.

BUSINESS ENT. LT. STA. 252+55
NO CULV. INPL.

NO CULV. REQ'D
SAW BIT. PAVEMENT
26 LIN. FT.

P.I. 253+38.17
Δ 5°28'58"
D 0°45'00"
T 365.80'
L 731.05'
E 8.75'
R 7639.440'

RES. DR. LT. STA. 253+30
INPL. 15"x 40' C.M.P.
REMOVE

MOVE DR. TO STA. 253+47
NO CULV. REQ'D
SAW BIT. PAVEMENT
26 LIN. FT.

BUSINESS ENT. LT. STA. 254+90
INPL. 18"x 48' C.M.P.
REMOVE

NO CULV. REQ'D
SAW BIT. PAVEMENT
100 LIN. FT.

P.T. 257+03.42

BEAR CREEK PARK ENT. LT. STA. 255+86
NO CULV. INPL.

NO CULV. REQ'D
SAW BIT. PAVEMENT
26 LIN. FT.

℄ CULV. STA. 256+51
INPL. 30"x 73' S.C.P.
REMOVE

NO CULV. REQ'D

BUSINESS ENT. LT. STA. 257+18
NO CULV. INPL.

MOVE ENT. TO STA. 257+32
NO CULV. REQ'D
SAW BIT. PAVEMENT
122 LIN. FT.

P.C. 259+83.10

P.I. 263+52.05
Δ 21°52'03"
D 3°00'00"
T 368.95'
L 728.91'
E 35.31'
R 1909.860'

BUSINESS ENT. LT. STA. 258+57
NO CULV. INPL.

NO CULV. REQ'D
SAW BIT. PAVEMENT
76 LIN. FT.

BUSINESS ENT. LT. STA. 259+35
INPL. 18"x 70' C.M.P. W APRONS
REMOVE STORM SEWER & CATCH BASIN
NO CULV. REQ'D
SAW BIT. PAVEMENT
85 LIN. FT.

CONST. SILT FENCE

CONST. SILT FENCE

REMOVE FENCE BY OTHER

*NOTE:
TRANSITION AT END OF PROJECT TO MARKED IN THE FIELD BY ENGINEER. TRANSITION FOR NEW ROADWAY WILL STAY INSIDE EXIST. R/W FROM P.T STA. 259+83.10 TO END PROJECT.

100' TURN LANE +120'

8' BIT. PATH

C.S.A.H. 36 STA. 256+71=
C.R. 144 STA. 1000+01.26

END: S.P. 55-636-02
STA. 260+00.00

RES. DR. RT. STA. 251+35
INPL. 15"x 24' C.M.P.
REMOVE

NO CULV. REQ'D
SAW BIT. PAVEMENT
16 LIN. FT.

RES. DR. RT. STA. 251+97
INPL. 18"x 24' C.M.P.
REMOVE

NO CULV. REQ'D
SAW BIT. PAVEMENT
16 LIN. FT.

RES. DR. RT. STA. 253+36
INPL. 18"x 46' C.M.P.
REMOVE

MOVE DR. STA. 253+25
NO CULV. REQ'D
SAW BIT. PAVEMENT
22 LIN. FT.

STA. 256+46 45' RT. BIT. PATH
INPL. 24"x 14' S.C.P.
REMOVE

NO CULV. REQ'D

EASTWOOD RD. (C.R. 144) RT. STA. 256+80
NO CULV. INPL.

MOVE EASTWOOD RD. (C.R. 144)
TO STA. 256+71
NO CULV. REQ'D
SEE PLAN SHEET NO. 17

SAW CONCRETE PAVEMENT
STA. 260+00
44 LIN. FT.

RIGHT & LEFT ℄ — CLEAR 7 TREES — GRUB 6 TREES

B.M. EL. 1018.80
TOP NUT FIRE HYD.
N.E. COR. INT. C.R. 144

FINISHED PROFILE GRADE

P.I. STA. 259+50
EL. 1015.17
200' V.C.
M=0.365

P.V.C. +50 EL. 14.77

P.V.T. +50 EL. 14.11

-0.4%

+0.4%

-1.06%

℄ PROFILE
PROFILE 75' LT.
PROFILE 75' RT.

P.I. STA. 256+50
EL. 1013.97

Copy Equipment Form #2

Fed. Proj. No.

CONST. ℄ CULV. STA. 22+00
24"x 56' R.C. PIPE CL.III
2–24" R.C. PIPE APRONS
PLACE CULV. ON "B" BEDDING
CONST. OUTLET DITCH TO BEAR CREEK

STA. 19+86 LT. 22 ST. S.E.
INPL. 15"x 36' C.M.P.
REMOVE

18"x 44' C.S. PIPE
2–18" C.S. PIPE SAFETY APRONS
SAW BIT. PAVEMENT 24 LIN. FT.

STA. 17+97 LT. RES. DR.
NO CULV. INPL.

NO CHANGE

STA. 17+48 LT. RES. DR.
NO CULV. INPL.

NO CHANGE

BEAR CREEK
CONST. DITCH
CONSTRUCT DITCH CHECKS
OBLITERATE OLD ROAD
22 ST. S.E. +86
BUSH
BEGIN CONSTRUCTION STA. 18+50
STA. 0+00 = W. 1/4 COR. SEC 17 T106N–R13W

P.I. 24+50.33
Δ 73°30'00"
D 42°26'00"
T 100.83'
L 173.21'
R 135.03'

P.C. 23+49.50
P.T. 25+22.71
24 30TH AVE. S.E.
90D0'16"
35'R

P.I. 22+15.42
Δ 105°27'00"
D 26°39'00"
T 282.47'
L 395.68'
R 214.99'
P.T. 23+28.63
P.C. 19+32.95

STA. 19+01 ENT. RT.
NO CULV. INPL.

21" SPAN x 28' C.S. PIPE–ARCH
2–21" SPAN C.S. PIPE–ARCH
SAFETY–APRONS

STA. 18+50 SAW BIT. PAVEMENT
24 LIN. FT.

C.S.A.H. 36 168+40.00=
30TH AVE S.E. STA. 25+63.88
C.S.A.H. 36
FRONTAGE ROAD
45'R

CONST. DR. RT. 22+58
NO CULV. REQ'D

CONST. DR. RT. STA. 23+75
18"x 44' C.S. PIPE
2–18" C.S. PIPE SAFETY APRONS

CONST. TWP. RD. RT. STA. 24+30
18"x 66' C.S. PIPE
2–18" C.S. PIPE SAFETY APRONS

CONSTRUCT ℄ CULV. STA. 24+97
24"x 78' C.S. PIPE
2–24" C.S. PIPE SAFETY APRONS

STA. 17+81 RT. PARKING LOT ENT.
INPL. 15"x 28' C.M.P.

NO CHANGE

B.M. EL. 1022.90
SPK. IN P. POLE 44' LT.
STA. 20+22

FINISHED PROFILE GRADES

P.I. STA. 20+00
EL. 1025.02
100' V.C.
M=0.287
P.V.C. +50
P.V.T. +50
–1.1%
+1.2%

P.I. STA. 24+00
EL. 1029.82
100' V.C.
M=0.087
P.V.C. +50
P.V.C. +50 EL. 29.22
+0.26%

	16		17		18		19		20		21		22		23		24		25	
	27.40		27.20	27.30	27.20	27.20	26.70	26.10	25.20	25.31	25.62	26.22	27.42	28.62	29.22	29.73	30.07	30.20	30.28	30.76
									25.00										+27	+41.92
									24.90										+42	+52
									24.70										SHLD C.S.A.H. 36	31.05
									24.60										+64 ℄ C.S.A.H. 36	31.29
	+50	+48	+97	+81	+50	+50	+63	+76	+86	+97	+50	+50			+50		+50			

1040
1030
1020

104
103
102

UNCLASSIFIED EXC. 2,311 CU. YDS.
EMB. 2,807 CU. YDS.

EXCAVATION & EMBANKMENT QUANTITIES ARE INCLUDED IN QUANTITIES ON C.S.A.H. 36.

INLET EL. 22.0
OUTLET EL. 20.4

INLET EL. 24.2
OUTLET EL. 23.8

NOTE: SUBGRADE EXCAVATION TO BE CONSTRUCTED TO DEPTHS AND IN LOCATIONS AS SHOWN IN THE CROSS–SECTIONS. SUBGRADE EXCAVATION QUANTITY IS INCLUDED IN UNCLASSIFIED EXCAVATION QUANTITY.

30TH AVE. S.E. GRADING AND EROSION CONTROL

State Proj. No. 55–636–01 & 55–636–02 **Sheet No.** 14 **of** 140 **Sheets**

Copy Equipment Form #3

REMOVE 350 LIN. FT.
CONCRETE CURB & GUTTER
LT. & RT. STA. 600+22
TO STA. 601+85

TRAILER COURT ENT. LT. STA. 601+44
INPL. 22" SPAN x 55' C.M.P. W/APRONS
REMOVE 59 LIN. FT.

21" SPAN x 62' C.S. PIPE
2-21" SPAN C.S. PIPE-ARCH SAFETY APRON
SAW BIT. PAVEMENT 38 LIN. FT.

BUS STOP ENT. LT. STA. 602+75
INPL. 22" SPAN x 20' C.M.P.
REMOVE CULV.

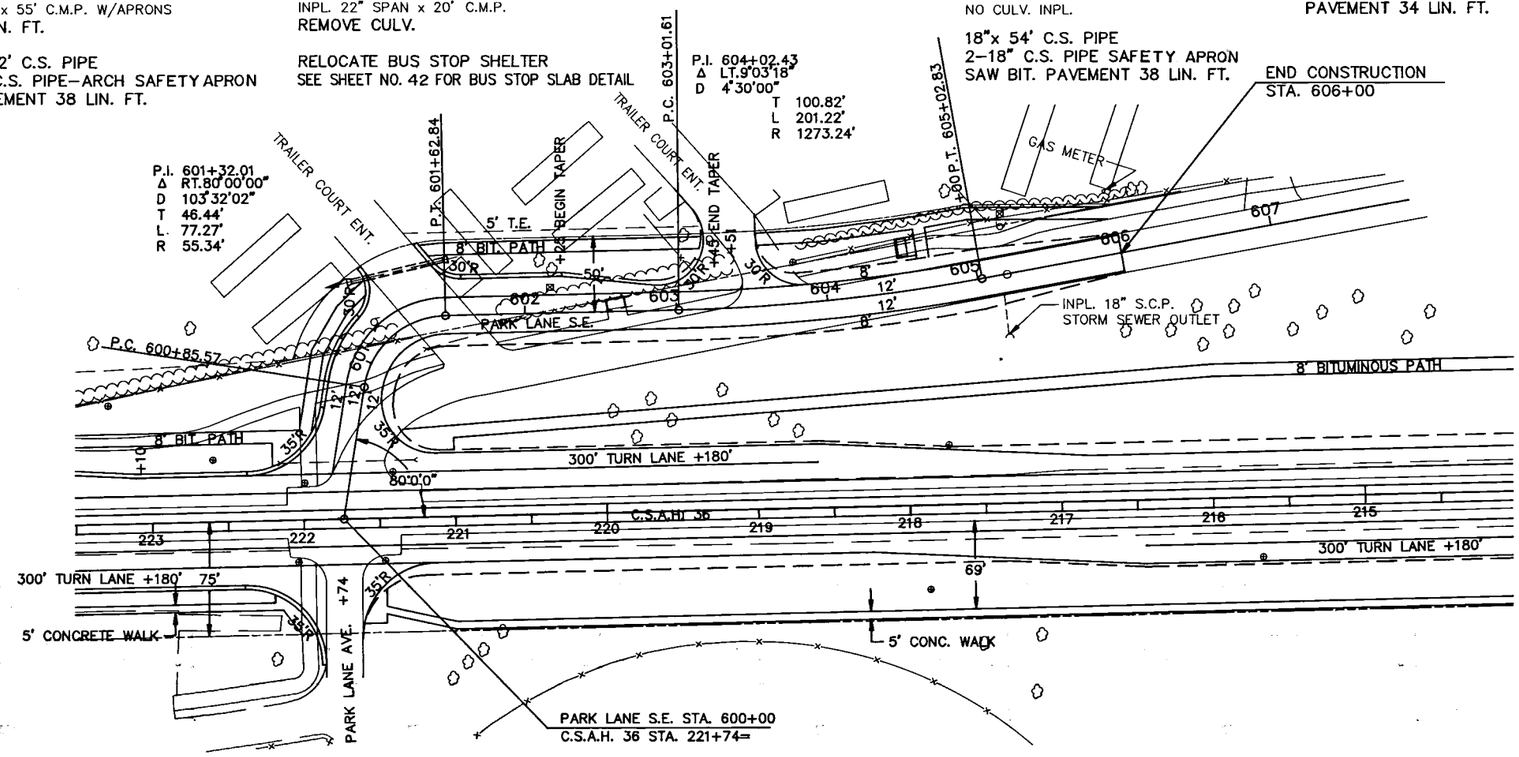
RELOCATE BUS STOP SHELTER
SEE SHEET NO. 42 FOR BUS STOP SLAB DETAIL

TRAILER COURT ENT. LT. STA. 603+51
NO CULV. INPL.

18"x 54' C.S. PIPE
2-18" C.S. PIPE SAFETY APRON
SAW BIT. PAVEMENT 38 LIN. FT.

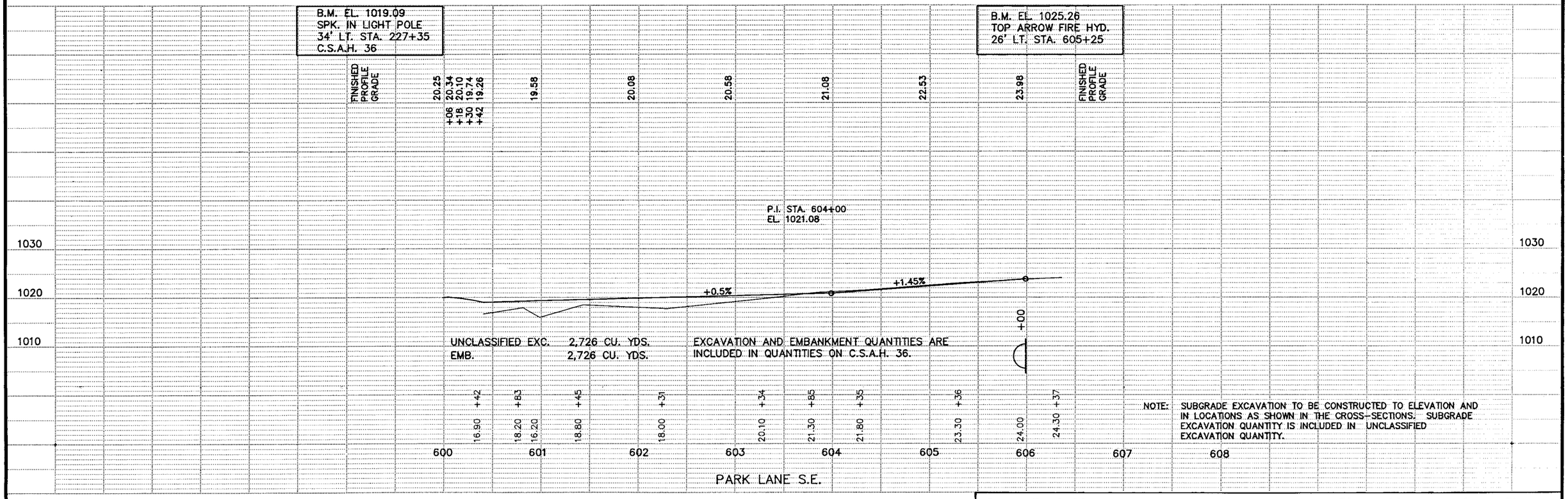
STA. 606+00 SAW BITUMINOUS
PAVEMENT 34 LIN. FT.

Fed. Proj. No.



B.M. EL. 1019.09
SPK. IN LIGHT POLE
34' LT. STA. 227+35
C.S.A.H. 36

B.M. EL. 1025.26
TOP ARROW FIRE HYD.
26' LT. STA. 605+25



UNCLASSIFIED EXC. 2,726 CU. YDS.
EMB. 2,726 CU. YDS.

EXCAVATION AND EMBANKMENT QUANTITIES ARE INCLUDED IN QUANTITIES ON C.S.A.H. 36.

NOTE: SUBGRADE EXCAVATION TO BE CONSTRUCTED TO ELEVATION AND IN LOCATIONS AS SHOWN IN THE CROSS-SECTIONS. SUBGRADE EXCAVATION QUANTITY IS INCLUDED IN UNCLASSIFIED EXCAVATION QUANTITY.

GRADING AND EROSION CONTROL

State Proj. No. 55-636-01 & 55-636-02 **Sheet No.** 15 **of** 140 **Sheets**

Copy Equipment Form #2

RES. DR. LT. STA. 701+20
INPL. 15"x 20' C.M.P.
REMOVE

21" SPAN x 32' C.S. PIPE-ARCH
2-21" SPAN C.S. PIPE-ARCH
SAFETY APRONS

RES. DR. LT. STA. 700+62
INPL. 15"x 42' C.M.P.
REMOVE

MOVE DR. TO STA. 700+80
NO CULV. REQ'D

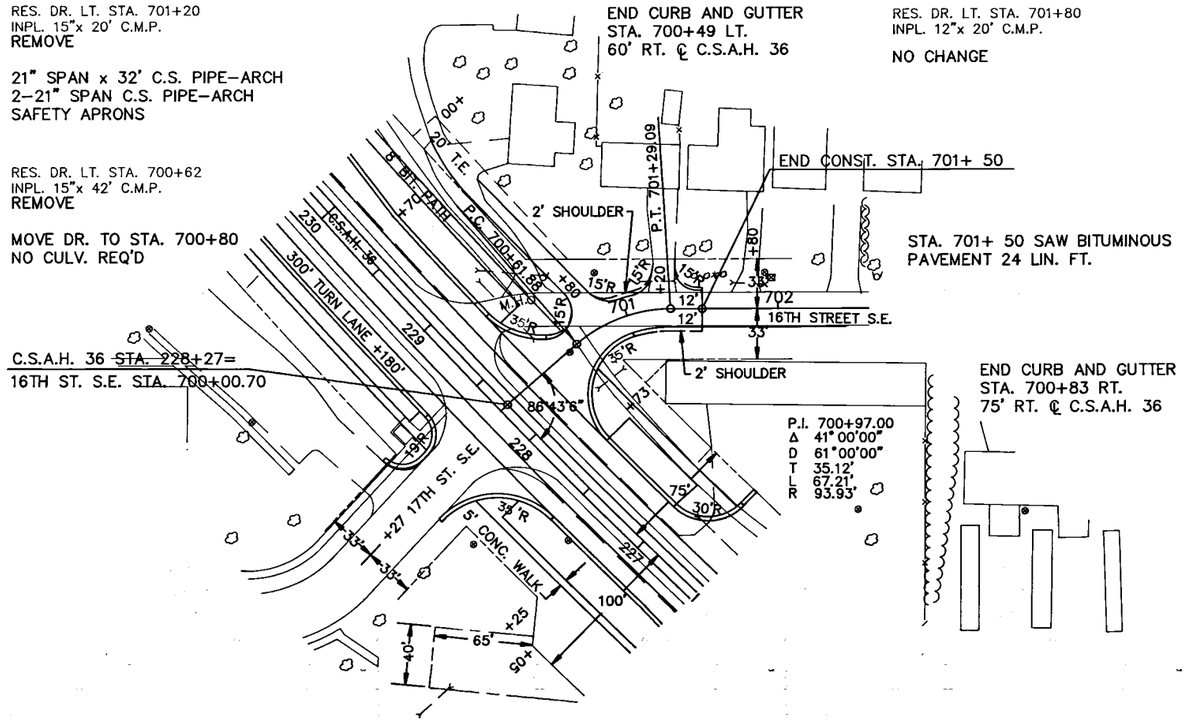
END CURB AND GUTTER
STA. 700+49 LT.
60' RT. ℄ C.S.A.H. 36

RES. DR. LT. STA. 701+80
INPL. 12"x 20' C.M.P.

NO CHANGE

END CONST. STA. 701+ 50

STA. 701+ 50 SAW BITUMINOUS
PAVEMENT 24 LIN. FT.

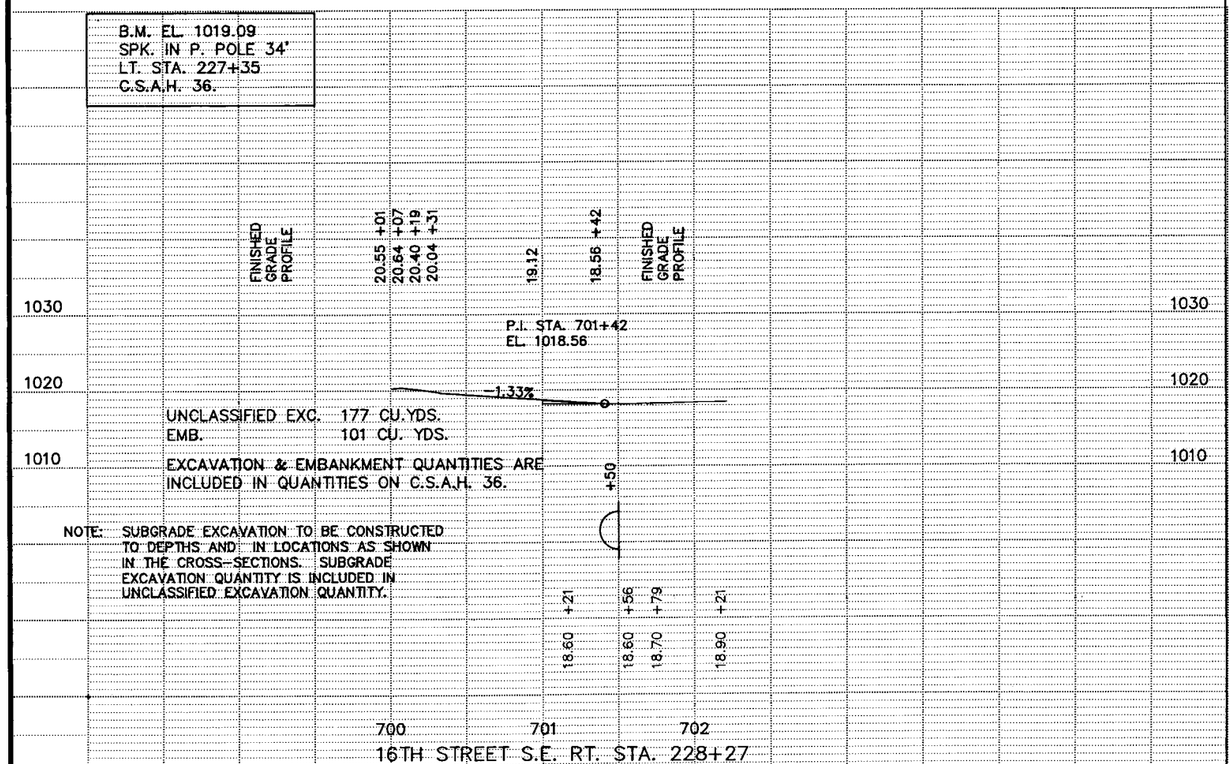


C.S.A.H. 36 ~~STA. 228+27=~~
16TH ST. S.E. STA. 700+00.70

P.I. 700+97.00
Δ 41°00'00"
D 61°00'00"
T 35.12'
L 67.21'
R 93.93'

END CURB AND GUTTER
STA. 700+83 RT.
75' RT. ℄ C.S.A.H. 36

B.M. EL. 1019.09
SPK. IN P. POLE 34'
LT. STA. 227+35
C.S.A.H. 36.



UNCLASSIFIED EXC. 177 CU.YDS.
EMB. 101 CU. YDS.

EXCAVATION & EMBANKMENT QUANTITIES ARE INCLUDED IN QUANTITIES ON C.S.A.H. 36.

NOTE: SUBGRADE EXCAVATION TO BE CONSTRUCTED TO DEPTHS AND IN LOCATIONS AS SHOWN IN THE CROSS-SECTIONS. SUBGRADE EXCAVATION QUANTITY IS INCLUDED IN UNCLASSIFIED EXCAVATION QUANTITY.

RES. DR. LT. STA. 800+75
INPL. 15"x 16' C.M.P.
REMOVE

MOVE DR. TO STA. 800+89
NO CULV. REQ'D
SAW BITUMINOUS PAVEMENT
10 LIN. FT.

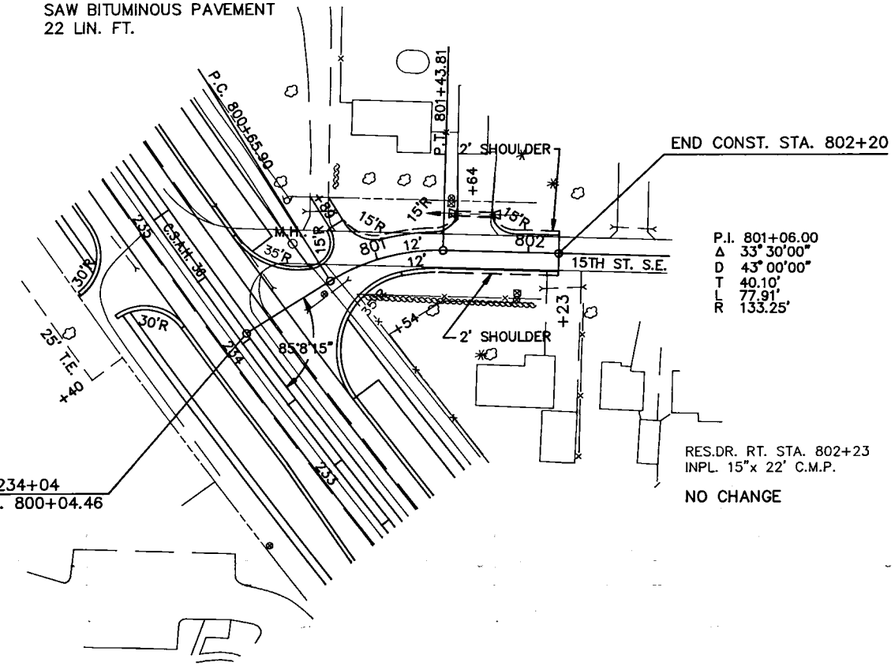
RES. DR. LT. STA. 801+64
INPL. 12"x 26' C.M.P.
REMOVE

21" SPAN x 32' C.M. PIPE-ARCH
2-21" SPAN C.S. PIPE-ARCH SAFETY APRONS
SAW BITUMINOUS PAVEMENT
22 LIN. FT.

Fed. Proj. No.

STA. 802+20 SAW BITUMINOUS
PAVEMENT 24 LIN. FT.

END CONST. STA. 802+20



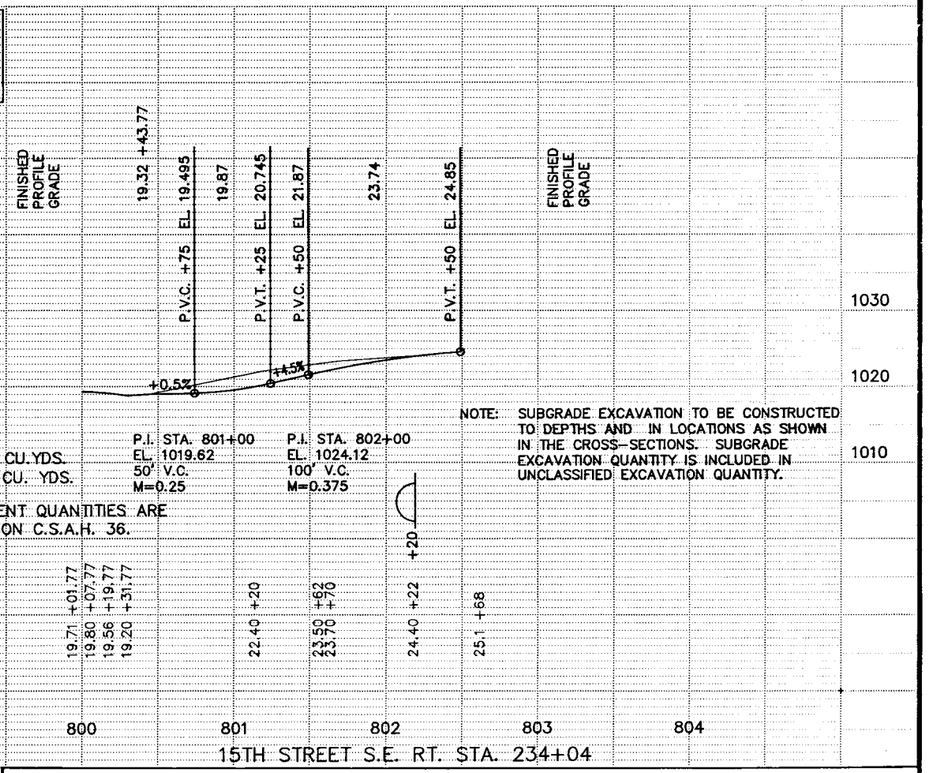
C.S.A.H. 36 STA. 234+04
15TH ST. S.E. STA. 800+04.46

P.I. 801+06.00
Δ 33°30'00"
D 43°00'00"
T 40.10'
L 77.91'
R 133.25'

RES.DR. RT. STA. 802+23
INPL. 15"x 22' C.M.P.

NO CHANGE

B.M. EL. 1019.09
SPK. IN P. POLE 34'
LT. STA. 227+35
C.S.A.H. 36.



P.I. STA. 801+00
EL. 1019.62
50' V.C.
M=0.25

P.I. STA. 802+00
EL. 1024.12
100' V.C.
M=0.375

UNCLASSIFIED EXC. 459 CU.YDS.
EMB. 213 CU. YDS.

EXCAVATION & EMBANKMENT QUANTITIES ARE INCLUDED IN QUANTITIES ON C.S.A.H. 36.

NOTE: SUBGRADE EXCAVATION TO BE CONSTRUCTED TO DEPTHS AND IN LOCATIONS AS SHOWN IN THE CROSS-SECTIONS. SUBGRADE EXCAVATION QUANTITY IS INCLUDED IN UNCLASSIFIED EXCAVATION QUANTITY.

Copy Equipment Form #1

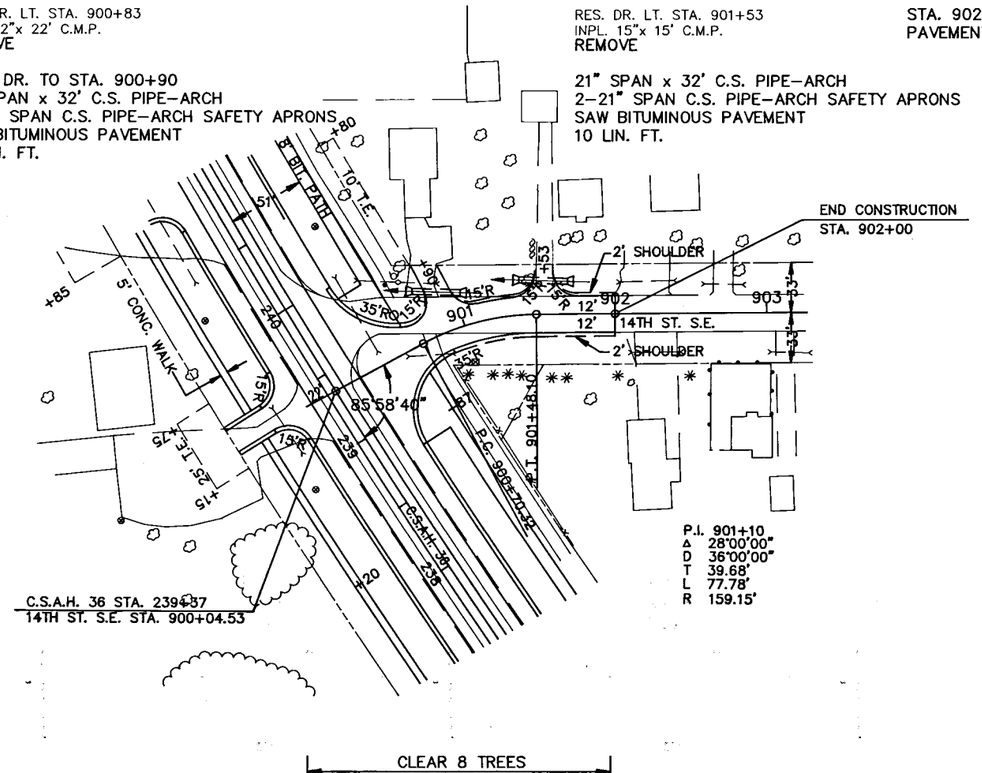
RES. DR. LT. STA. 900+83
INPL. 12"x 22' C.M.P.
REMOVE

MOVE DR. TO STA. 900+90
21" SPAN x 32' C.S. PIPE-ARCH
2-21" SPAN C.S. PIPE-ARCH SAFETY APRONS
SAW BITUMINOUS PAVEMENT
16 LIN. FT.

RES. DR. LT. STA. 901+53
INPL. 15"x 15' C.M.P.
REMOVE

21" SPAN x 32' C.S. PIPE-ARCH
2-21" SPAN C.S. PIPE-ARCH SAFETY APRONS
SAW BITUMINOUS PAVEMENT
10 LIN. FT.

STA. 902+00 SAW BIT.
PAVEMENT 24 LIN. FT.



STORM SEWER M.H. INPL. 39' LT. STA. 1000+85
INPL. 18"x 70' S.C.P. OUTLET TO S.W.
REMOVE 18"x 70' S.C.P. STORM SEWER

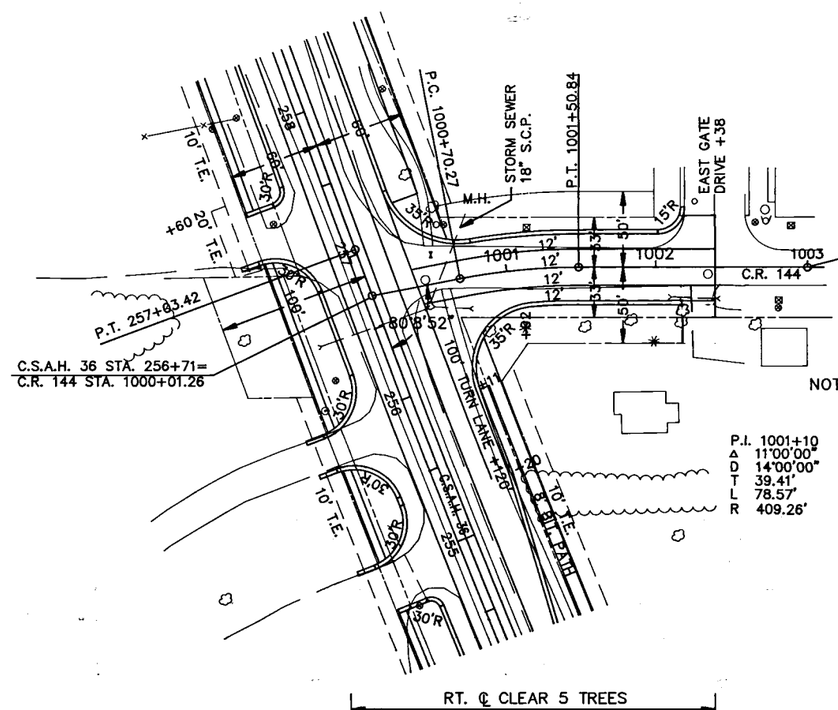
Fed. Proj. No.

EASTGATE DR. S.E. LT. STA. 1002+38
NO CULV. INPL.
NO CULV.REQ'D

REMOVE 10 LIN. FT. CURB & GUTTER FROM WEST SIDE OF EASTGATE DR. S.E.

STA. 1022+38 SAW BITUMINOUS PAVEMENT 62 LIN. FT.

END CONSTRUCTION
STA. 1003+00



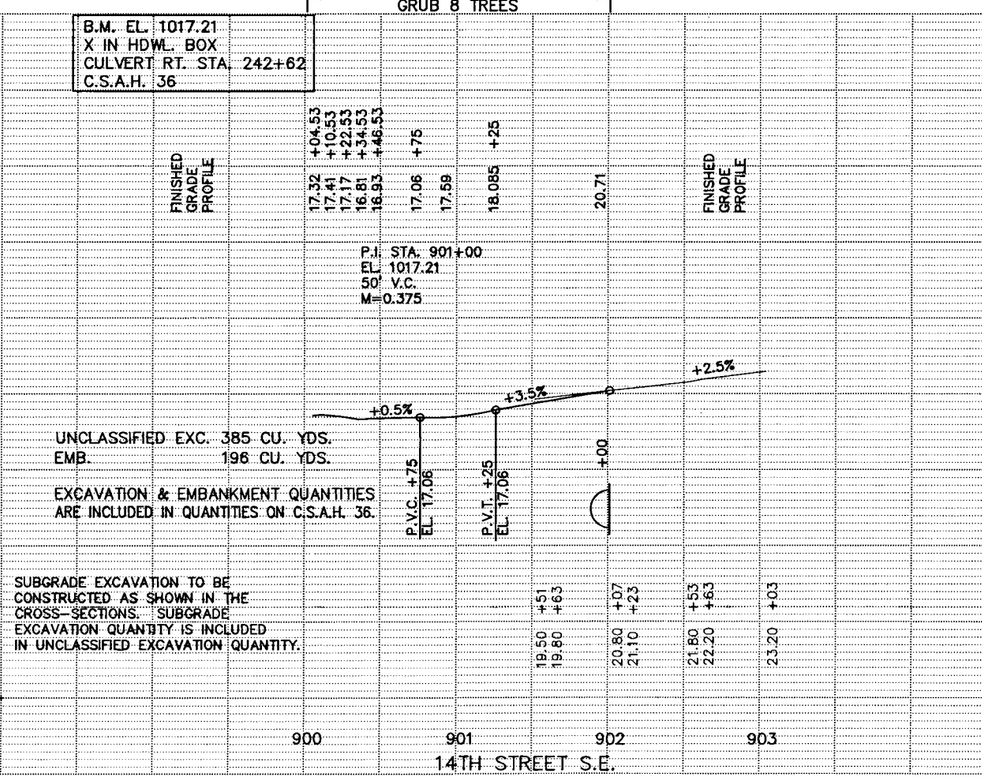
NOTE: SHAPE RT. DITCH FROM STA. 1002+38 TO STA. 1003+00 TO PROVIDE DRAINAGE.

RES. DR. RT. STA. 1002+26
INPL. 18"x 20' C.M.P.
REMOVE

NO CULV. REQ'D
SAW BITUMINOUS PAVEMENT
22 LIN. FT.

CLEAR 8 TREES
GRUB 8 TREES

B.M. EL. 1017.21
X IN HDWL. BOX
CULVERT RT. STA. 242+62
C.S.A.H. 36



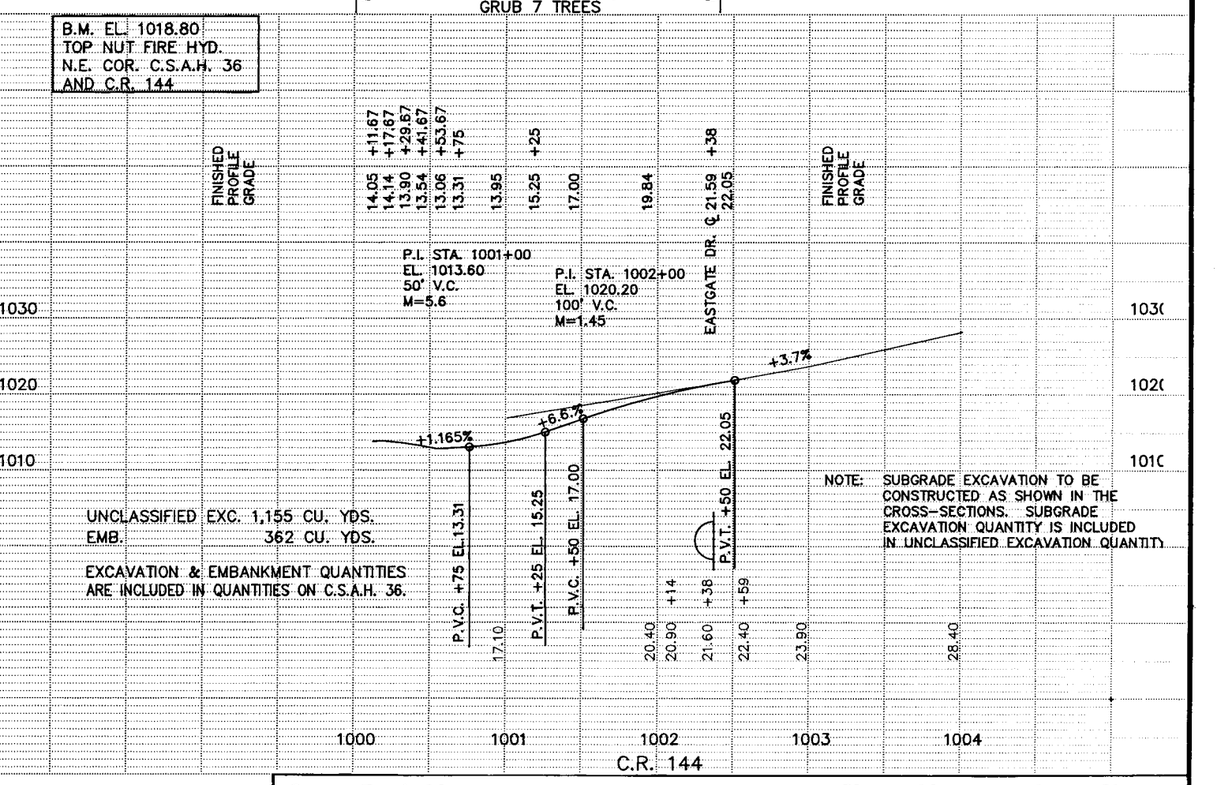
UNCLASSIFIED EXC. 385 CU. YDS.
EMB. 196 CU. YDS.

EXCAVATION & EMBANKMENT QUANTITIES ARE INCLUDED IN QUANTITIES ON C.S.A.H. 36.

NOTE: SUBGRADE EXCAVATION TO BE CONSTRUCTED AS SHOWN IN THE CROSS-SECTIONS. SUBGRADE EXCAVATION QUANTITY IS INCLUDED IN UNCLASSIFIED EXCAVATION QUANTITY.

RT. ℄ CLEAR 5 TREES
GRUB 7 TREES

B.M. EL. 1018.80
TOP NUT FIRE HYD.
N.E. COR. C.S.A.H. 36
AND C.R. 144



UNCLASSIFIED EXC. 1,155 CU. YDS.
EMB. 362 CU. YDS.

EXCAVATION & EMBANKMENT QUANTITIES ARE INCLUDED IN QUANTITIES ON C.S.A.H. 36.

NOTE: SUBGRADE EXCAVATION TO BE CONSTRUCTED AS SHOWN IN THE CROSS-SECTIONS. SUBGRADE EXCAVATION QUANTITY IS INCLUDED IN UNCLASSIFIED EXCAVATION QUANTITY.

Copy Equipment Form #2

Fed. Proj. No.

RES. DR.LT. STA. 399+10
NO CULV INPL.

MOVE DR. TO STA. 399+50
21" SPAN x 32' C.S. PIPE-ARCH
2-21" SPAN C.S. PIPE-ARCH
SAFETY APRONS.

RES. DR.LT. STA. 400+05
NO CULV INPL.

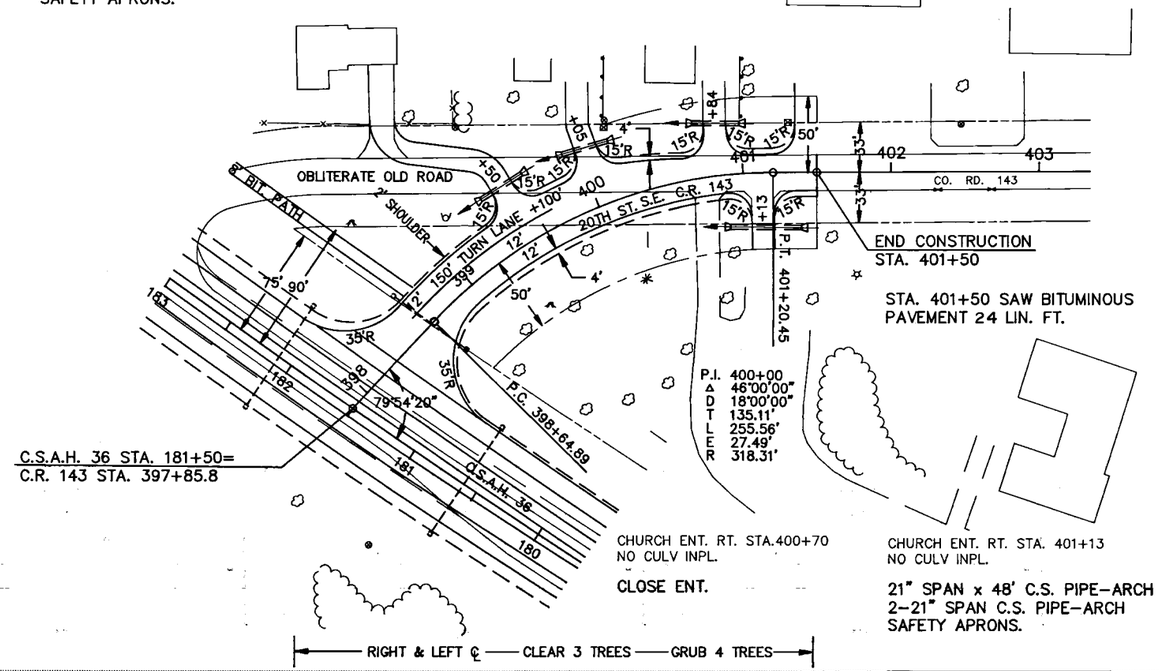
21" SPAN x 32' C.S. PIPE-ARCH
2-21" SPAN C.S. PIPE-ARCH
SAFETY APRONS.

RES. DR.LT. STA. 400+84
NO CULV INPL.

21" SPAN x 32' C.S. PIPE-ARCH
2-21" SPAN C.S. PIPE-ARCH
SAFETY APRONS.

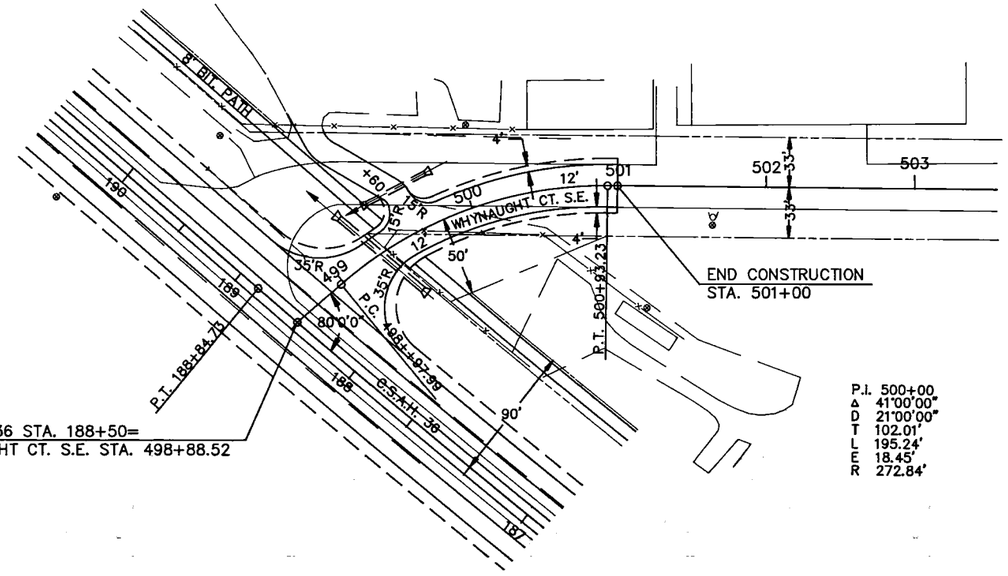
BUS. ENT. LT. STA. 401+83
NO CULV INPL.

NO CHANGE



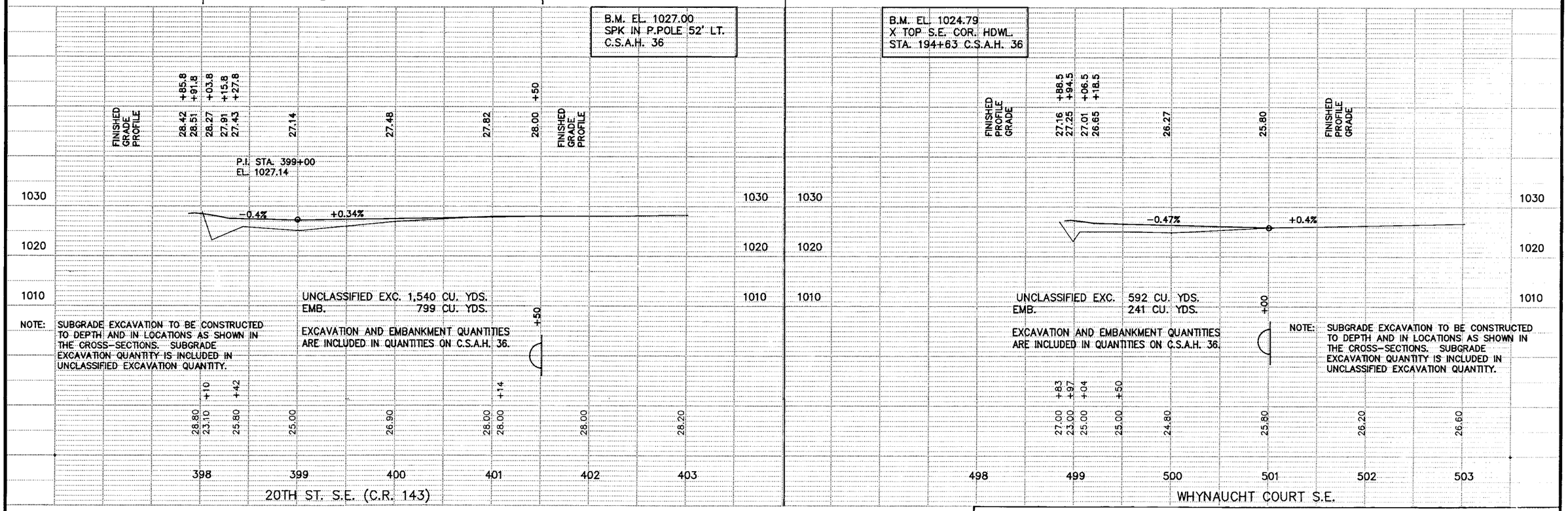
CONST. ENT. LT. STA. 499+60
18"x 44' C.S. PIPE
2-18" C.S. PIPE SAFETY APRONS

STA. 501+00 SAW BITUMINOUS PAVEMENT
28 LIN. FT.



B.M. EL. 1027.00
SPK IN P.POLE 52' LT.
C.S.A.H. 36

B.M. EL. 1024.79
X TOP S.E. COR. HDWL.
STA. 194+63 C.S.A.H. 36



NOTE: SUBGRADE EXCAVATION TO BE CONSTRUCTED TO DEPTH AND IN LOCATIONS AS SHOWN IN THE CROSS-SECTIONS. SUBGRADE EXCAVATION QUANTITY IS INCLUDED IN UNCLASSIFIED EXCAVATION QUANTITY.

UNCLASSIFIED EXC. 1,540 CU. YDS.
EMB. 799 CU. YDS.

EXCAVATION AND EMBANKMENT QUANTITIES ARE INCLUDED IN QUANTITIES ON C.S.A.H. 36.

UNCLASSIFIED EXC. 592 CU. YDS.
EMB. 241 CU. YDS.

EXCAVATION AND EMBANKMENT QUANTITIES ARE INCLUDED IN QUANTITIES ON C.S.A.H. 36.

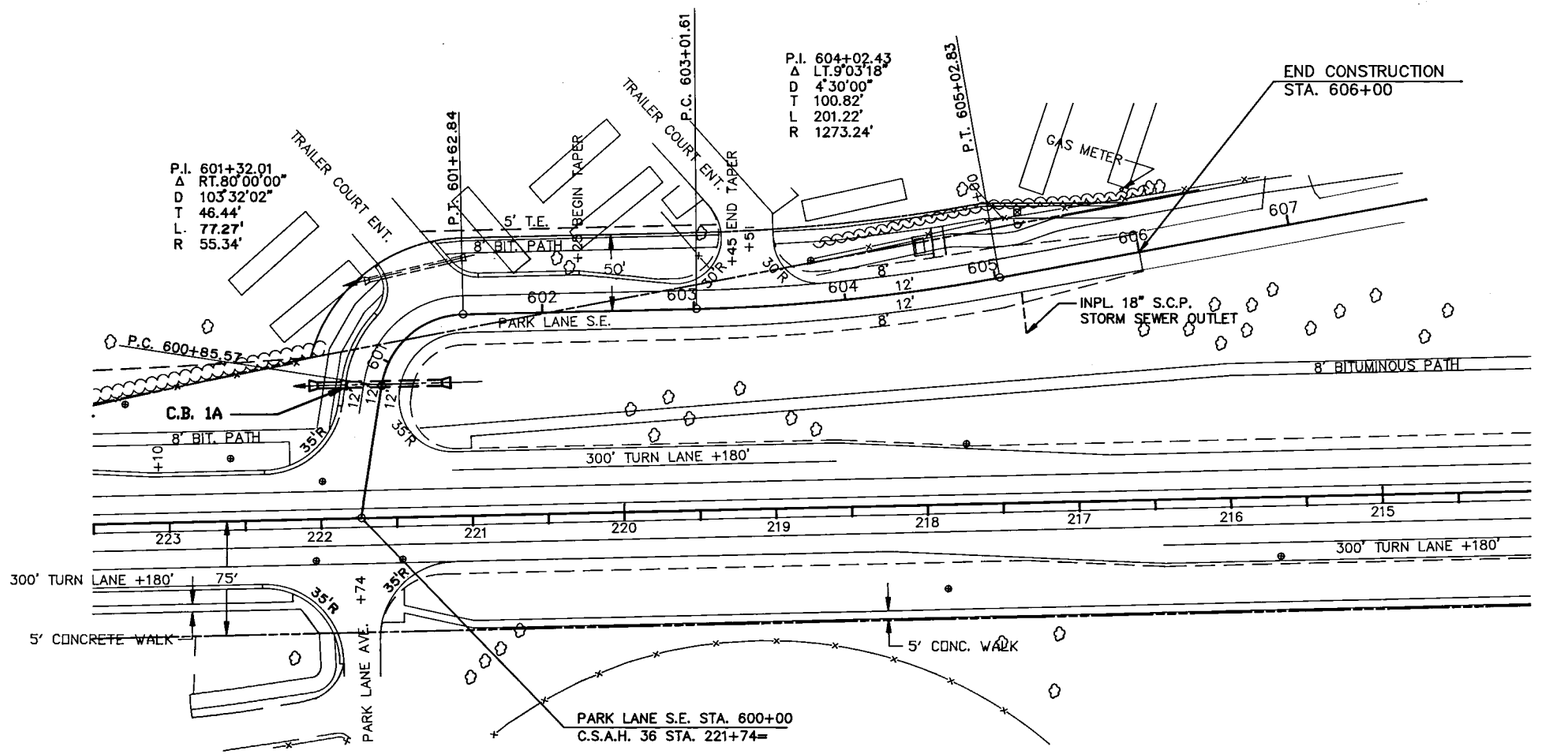
NOTE: SUBGRADE EXCAVATION TO BE CONSTRUCTED TO DEPTH AND IN LOCATIONS AS SHOWN IN THE CROSS-SECTIONS. SUBGRADE EXCAVATION QUANTITY IS INCLUDED IN UNCLASSIFIED EXCAVATION QUANTITY.

GRADING AND EROSION CONTROL

State Proj. No. 55-636-01 & 55-636-02 **Sheet No.** 18 **of** 140 **Sheets**

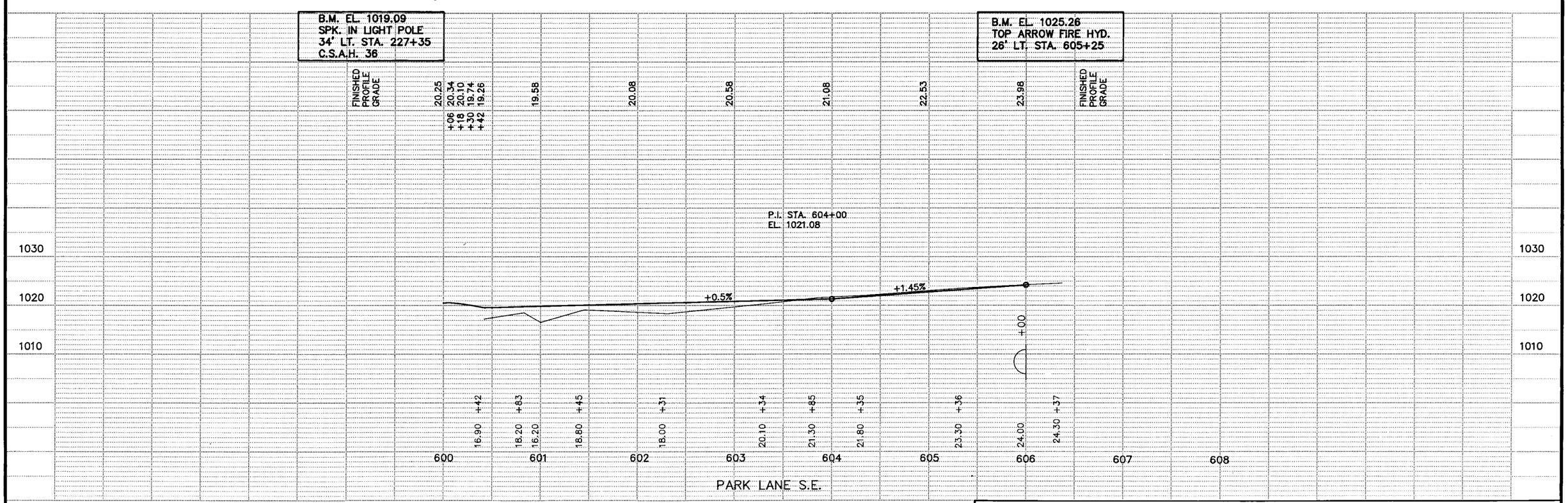
Copy Equipment Form #1

Fed. Proj. No.



B.M. EL. 1019.09
SPK. IN LIGHT POLE
34' LT. STA. 227+35
C.S.A.H. 36

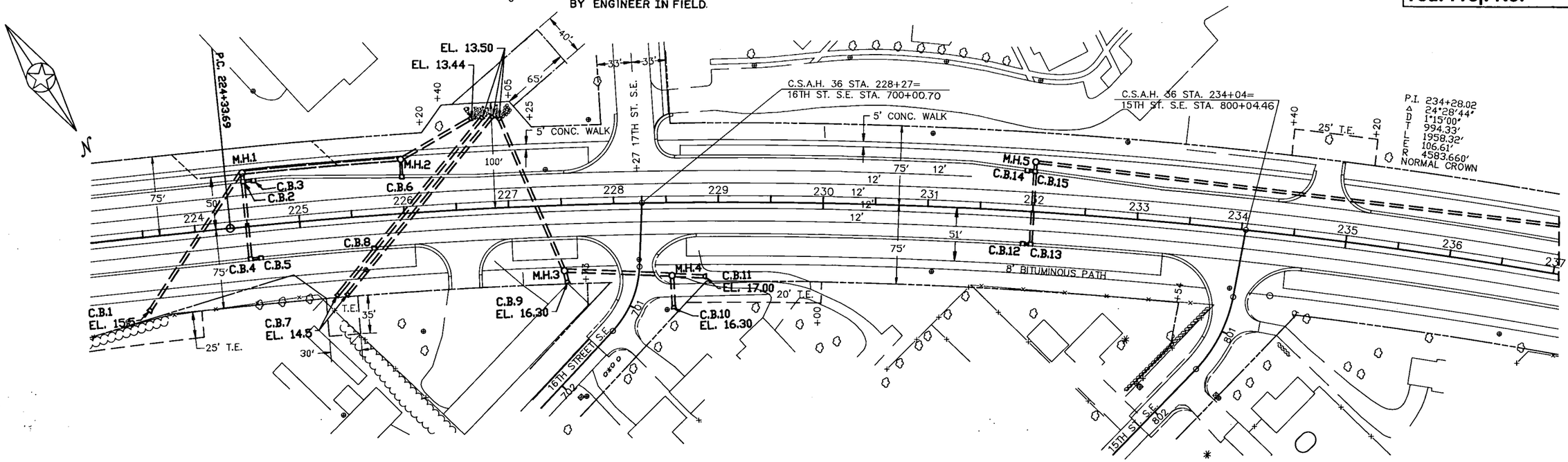
B.M. EL. 1025.26
TOP ARROW FIRE HYD.
26' LT. STA. 605+25

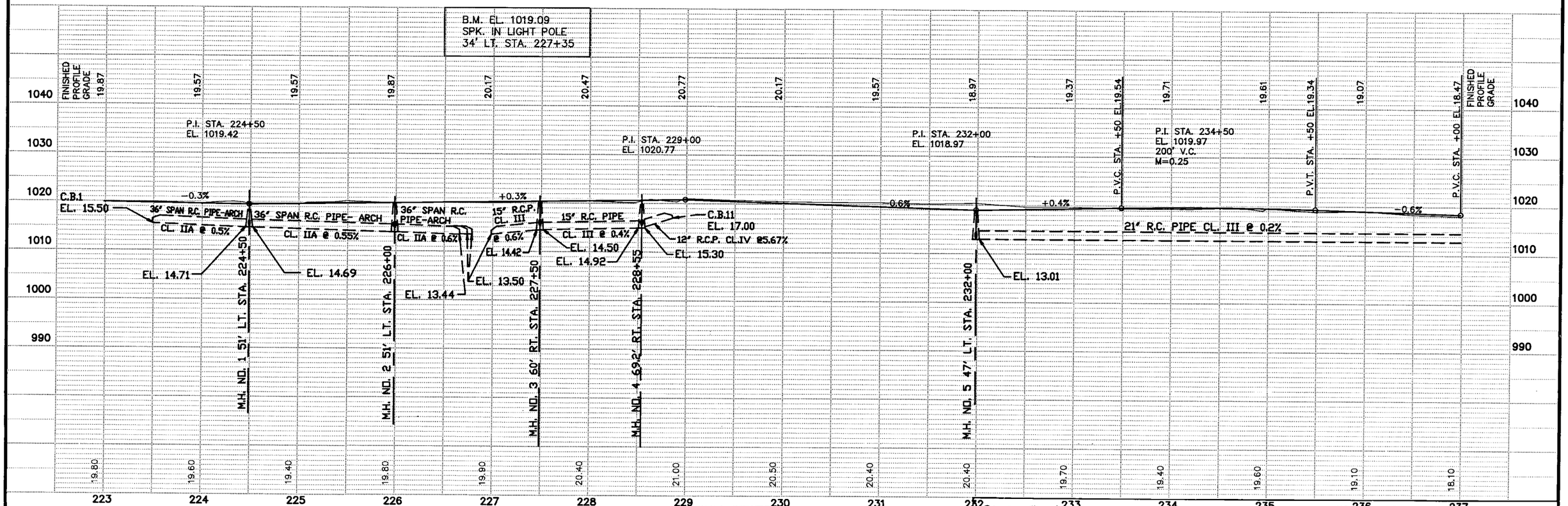


Copy Equipment Form #3

Fed. Proj. No.

NOTE: GROUTED RIPRAP TO BE LOCATED BY ENGINEER IN FIELD.





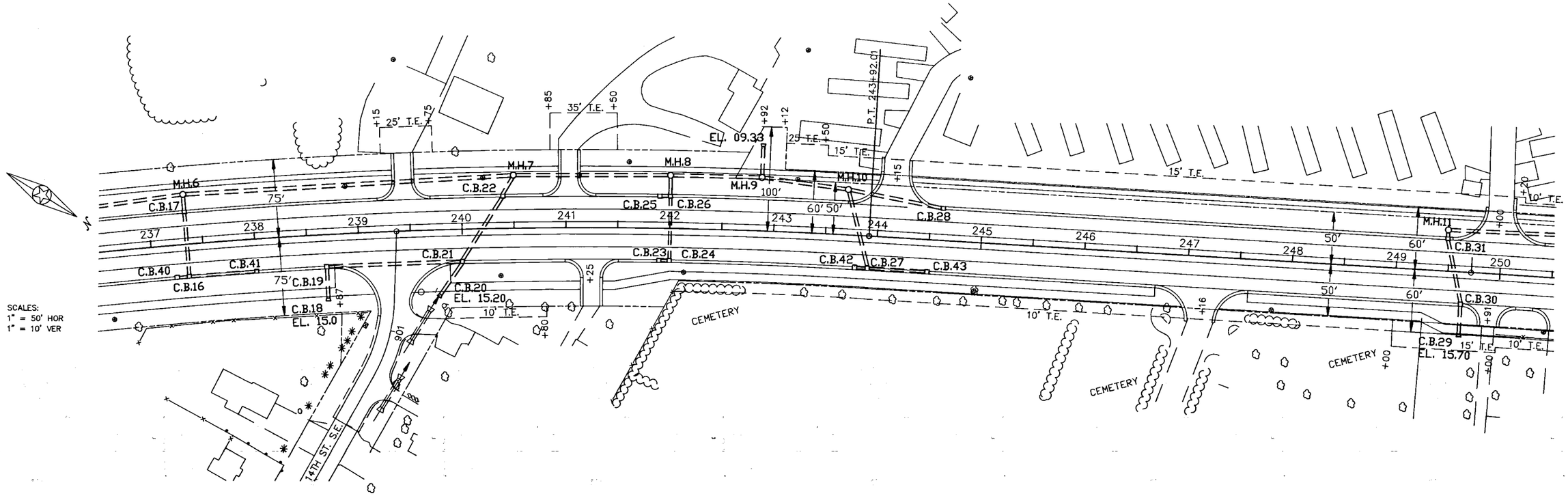
STORM SEWER

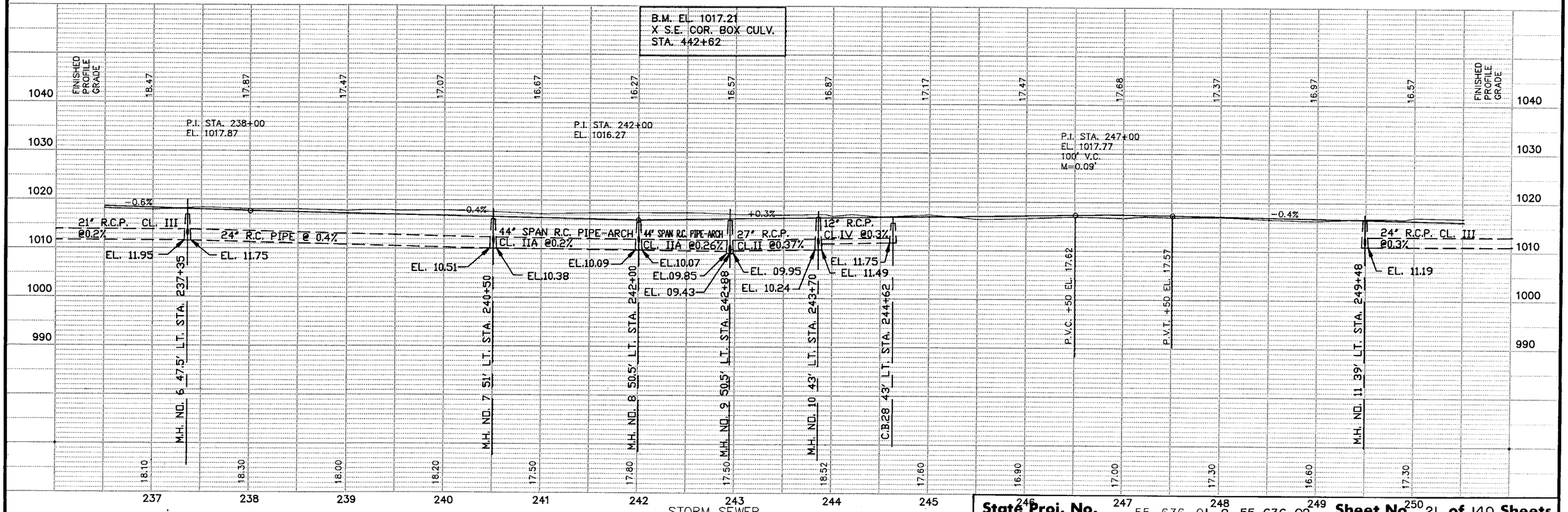
State Proj. No. 55-636-01 & 55-636-02

Sheet No. 20 of 140 Sheets

Clay Equipment Form #2

Fed. Proj. No.



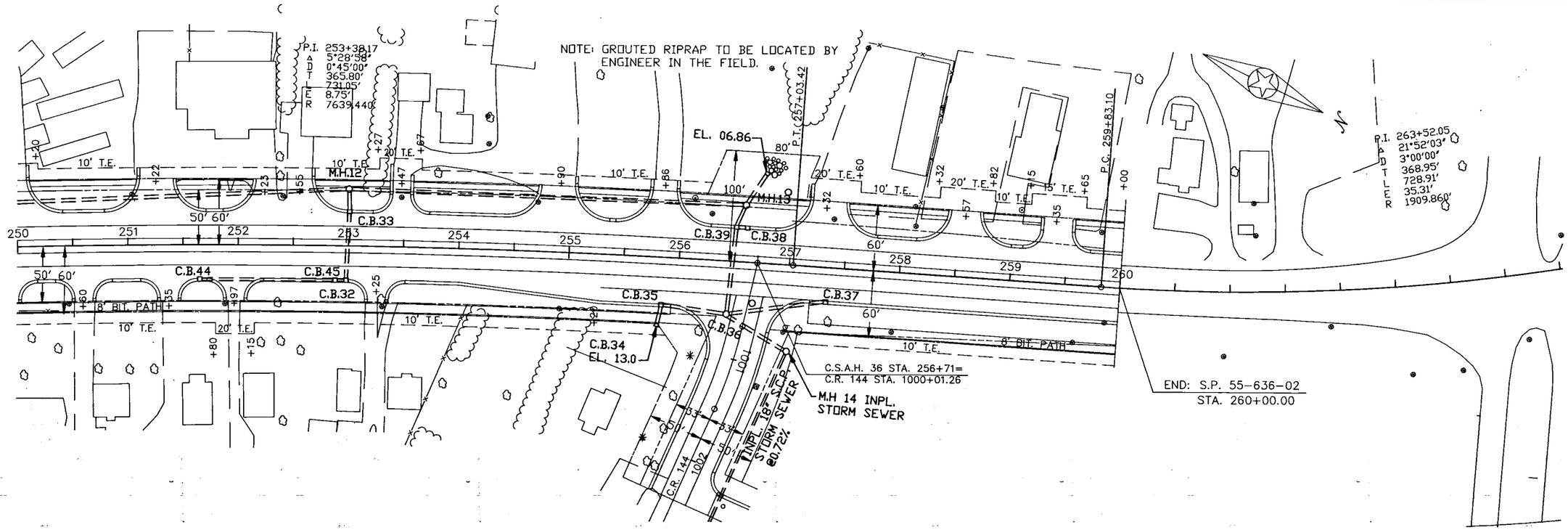


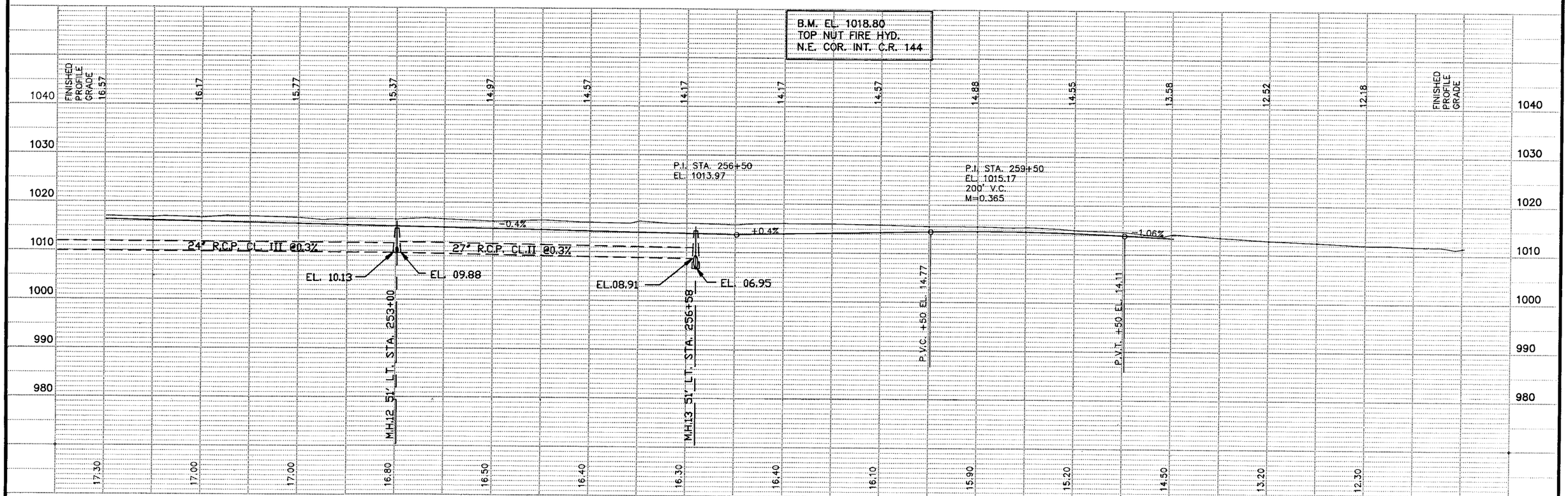
STORM SEWER

State Proj. No. 55-636-01 & 55-636-02 Sheet No. 21 of 140 Sheets

Copy Equipment Form #3

Fed. Proj. No.





STORM SEWER

State Proj. No. 55-636-01 & 55-636-02

Sheet No. 22 of 140 Sheets

Copy Equipment Form #2

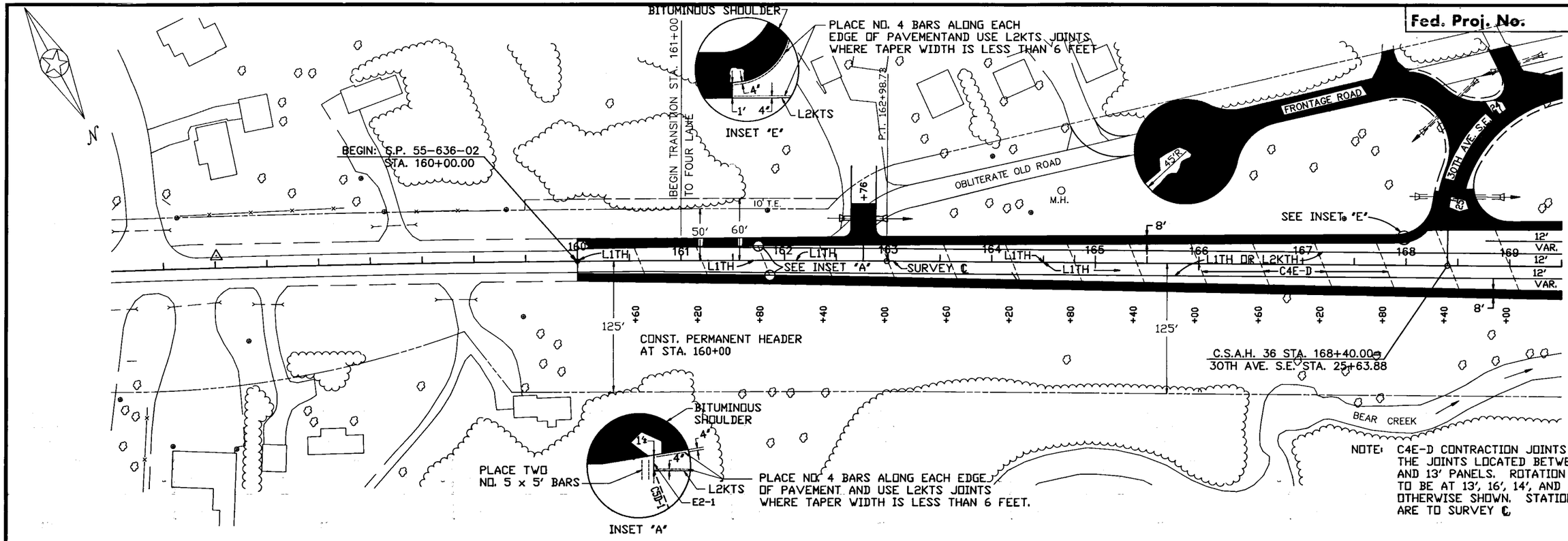
STORM SEWER

STRUCTURE NO.	STATION	LOCATION	CONSTRUCTION DESIGN M.H.	CONSTRUCTION DESIGN C.B.	CONSTRUCTION QUANTITY E.S.T.	CONSTRUCTION QUANTITY FINAL	TOP CASTING ELEV.	INLET ELEV.	INLET ELEV.	INLET ELEV.	OUTLET ELEV.	FRAME CASTING NO.	GRATE NO.	CURB BOX NO.	RING CASTING NO.	COVER CASTING NO.	12" R.C.PIPE LIN.FT.	15" R.C.PIPE LIN.FT.	18" R.C.PIPE LIN.FT.	21" R.C.PIPE LIN.FT.	24" R.C.PIPE LIN.FT.	27" R.C.PIPE LIN.FT.	36" R.C.PIPE LIN.FT.	28"SPAN R.C.PIPE ARCH LIN.FT.	36"SPAN R.C.PIPE ARCH LIN.FT.	44"SPAN R.C.PIPE ARCH LIN.FT.	51"SPAN R.C.PIPE ARCH LIN.FT.	APRON INLET	APRON OUTLET	FLOWS TO	% GRADE	CLASS
C.B.1A	600+64	25' LT.		I	1		1018.73	1016.01 S.			1016.00 N.	802 A	816	823 A										82				1	1	OUTLET		II A
C.B.1	223+50	73' RT.						1015.50 W.																	152			1		M.H. 1	0.5	II A
C.B.2	224+50	43' LT.		C	1		1018.09	1015.45 E.	1015.45 N.		1015.41 W.	802 A	816	823 A			8													M.H. 1	1.1	IV
C.B.3	224+58	43' LT.		C	1		1018.13				1015.47 S.	802 A	816	823 A			8													C.B. 2	0.08	IV
C.B.4	224+50	31' RT.		C	1		1018.78	1015.63 N.			1015.61 W.	802 A	816	823 A			74													C.B. 2	0.22	IV
C.B.5	224+58	31' RT.		C	1		1018.80				1015.65 S.	802 A	816	823 A			8													C.B. 4	0.03	IV
M.H.1	224+50	51' LT.	90-4019		1		1018.90	1014.71 SE.	1015.37 E.		1014.69 N.				700-7	715									150					M.H. 2	0.55	II A
C.B.6	226+00	35.7' LT.		C	1		1018.86				1014.84 W.	802 A	816	823 A			15													M.H. 2	0.11	IV
M.H.2	226+00	51' LT.	60-4019		1		1019.88	1013.89 S.	1014.82 E.		1013.87 W.				700-7	715									66				1	OUTLET	0.6	II A
C.B.7	225+30	74' RT.						1014.50 E.																		54		1		C.B. 8	0.45	II A
C.B.7	225+48.03	74' RT.						1014.50 E.			1013.5 W.															200 **		1	1	OUTLET	0.45	II A
C.B.8	225+70	31' RT.		I	1		1017.14	1014.32 E.			1014.30 W.	802 A	816	823 A												156			1	OUTLET	0.45	II A
M.H.3	227+50	60' RT.	C		1		1021.08	1014.52 N.	1015.30 E.		1014.42 W.				700-7	715		149											1	OUTLET	0.6	III
C.B.9	227+50	72' RT.						1016.30 W.									6											* 1		M.H. 3	10.0	IV
C.B.10	228+55	104' RT.						1016.30 W.									29											* 1		M.H. 4	3.03	IV
M.H.4	228+55	69.2' RT.	G		1		1019.50	1015.30 E.	1015.30 N.		1014.92 S.				700-7	715		105												M.H. 3	0.4	III
C.B.11	228+87	72' RT.						1017.00 S.									26											* 1		M.H. 4	5.67	IV
C.B.12	231+92	31' RT.		C	1		1018.38				1013.87 N.	802 A	816	823 A			8													C.B. 13	0.3	IV
C.B.13	232+00	31' RT.		G	1		1018.33	1013.85 S.			1013.45 W.	802 A	816	823 A					70											C.B. 15	0.3	III
C.B.14	231+92	39.5' LT.		C	1		1017.87				1013.87 N.	802 A	816	823 A			8													C.B. 15	0.3	IV
C.B.15	232+00	39' LT.		G	1		1017.82	1013.25 E.	1013.85 S.		1013.23 W.	802 A	816	823 A					8											M.H. 5	0.5	III
M.H.5	232+00	47' LT.	A		1		1018.56	1013.21 E.			1013.01 N.				700-7	715				535										M.H. 6	0.2	III
C.B.16	237+35	31' RT.		C	1		1017.62	1013.17 S.	1013.22 N.		1013.12 W.	802 A	816	823 A					62											C.B. 17	0.3	III
C.B.17	237+35	31' LT.		C	1		1017.44	1012.95 E.			1012.93 W.	802 A	816	823 A					17											M.H. 6	0.5	III
M.H.6	237+35	47.5' LT.	A		1		1018.48	1011.95 S.	1012.86 E.		1011.75 N.				700-7	715					315									M.H. 7	0.4	III
C.B.18	238+71	68' RT.						1015.00 W.										31										* 1		C.B. 19	5.78	III
C.B.19	238+71	31' RT.		G	1		1016.95	1012.86 E.			1012.46 N.	802 A	816	823 A						129										C.B. 21	0.3	III
C.B.20	240+38	67' RT.						1015.20 W.										37										* 1		C.B. 21	6.2	III
C.B.21	240+00	31' RT.	54-4020		1		1016.43	1012.13 S.	1013.00 E.		1011.97 W.	802 A	816	823 A							70									C.B. 22	0.60	III
C.B.22	240+40	31' LT.		G	1		1016.09	1011.55 E.			1011.53 W.	802 A	816	823 A							22									M.H. 7	0.54	III
M.H.7	240+50	51' LT.	72-4019		1		1016.30	1010.51 S.	1011.41 E.		1010.38 N.				700-7	715										150				M.H. 8	0.2	II A
C.B.23	241+92	31' RT.		C	1		1015.66				1011.76 N.	802 A	816	823 A			8													C.B. 24	0.3	IV
C.B.24	242+00	31' RT.		C	1		1015.63	1011.74 S.			1011.57 W.	802 A	816	823 A				62												C.B. 26	0.3	III
C.B.25	241+92	31' LT.		C	1		1015.48				1011.59 N.	802 A	816	823 A			8													C.B. 26	0.3	IV
C.B.26	242+00	31 LT.		C	1		1015.45	1011.40 E.	1011.57 S.		1011.37 W.	802 A	816	823 A				20												M.H. 8	0.6	III
M.H.8	242+00	50.5' LT.	72-4019		1		1016.63	1010.09 S.	1011.27 E.		1010.07 N.				700-7	715										88				M.H. 9	0.26	II A
C.B.27	243+90	31' RT.		C	1		1016.20	1011.75 S.	1011.85 N.		1011.70 W.	802 A	816	823 A							77									M.H. 10	0.65	III
C.B.28	244+62	31' LT.		C	1		1016.24				1011.75 S.	802 A	816	823 A			92													M.H. 10	0.3	IV
M.H.10	243+70	43' LT.	60-4019		1		1016.84	1011.23 E.	1011.49 N.		1010.24 S.				700-7	715						83								M.H. 9	0.37	II
M.H.9	242+88	50.5' LT.	90-4019		1		1016.89	1009.85 S.	1009.95 N.		1009.43 W.				700-7	715											26		1	OUTLET	0.3	II A
C.B.29	249+64	65' RT.						1015.70 W.										28										* 1		C.B. 30	10.63	III
C.B.30	249+64	31' RT.		G	1		1016.13	1012.30 E.			1011.80 W.	802 A	816	823 A						64										C.B. 31	0.5	III
C.B.31	249+48	31' LT.		G	1		1015.95	1011.50 E.			1011.47 W.	802 A	816	823 A						8										M.H. 11	0.6	III
M.H.11	249+48	39' LT.	54-4019		1		1016.70	1011.44 E.			1011.19 N.				700-7	715					353									M.H. 12	0.3	III
C.B.32	252+96	31' RT.		C	1		1014.73	1010.89 S.			1010.79 W.	802 A	816	823 A				64												C.B. 33	0.65	III
C.B.33	253+00	31' LT.		C	1		1014.55	1010.40 E.			1010.36 W.	802 A	816	823 A				20												M.H. 12	1.0	III
M.H.12	253+00	51' LT	54-4019		1		1015.75	1010.20 E.	1010.13 S.		1009.88 N.				700-7	715						358								M.H. 13	0.3	II
C.B.34	255+88	63' RT.						1013.00 W.										14										* 1		C.B. 35	15.8	III
C.B.35	255+88	43' RT.		C	1		1013.09	1010.00 E.			1009.09	802 A	816	823 A					62											C.B. 36	0.5	III
C.B.37	257+34	31' RT.		C	1		1013.73				1009.67	802 A	816	823 A			85													C.B. 36	1.0	IV
M.H.14	256+99	87' RT.	EXISTING M.H.				NEW1014.08	OLD1010.83E.			NEW1010.80S.W.								71	(CONNECT INTO EXISTING MANHOLE)										C.B. 36	3.22	III
C.B.36	256+50	43' RT.	78-4020		1		1012.84	1008.80 S.	1008.64 NE.	1009.38 N.	1008.04 W.		721		700-9							74								C.B. 39	0.35	II
C.B.38	256+58	31' LT.		C	1		1013.18				1009.19 S.	802 A	816	823 A			8													C.B. 39	0.3	IV
C.B.39	256+50	31' LT.	78-4020		1		1018.15	1007.79 E.	1009.17 E.		1007.77 W.	802 A	816	823 A								22								M.H. 13	0.4	II
M.H.13	256+58	51' LT.	60-4019		1		1014.35	1008.82 S.	1007.70 E.		1006.95 W.				700-7	715							30						1	OUTLET	0.26	II
C.B.40	237+25	31' RT.		C	1		1017.68				1013.20 N.	802 A	816	823 A			10													C.B. 16	0.3	IV
C.B.41	238+00	31' RT.		C	1		1017.23				1013.48 S.	802 A	816	823 A			65													C.B. 16	0.3	IV
C.B.42	243+80	31' RT.		C	1		1016.17				1011.78 N.	802 A	816	823 A			10													C.B. 27	0.3	IV
C.B.43	244+50	31' RT.		C	1		1016.20				1012.03 S.	802 A	816	823 A			60													C.B. 27	0.3	IV
C.B.44	251+65	31' RT.		C	1		1015.27				1011.36 N.	802 A	816	823 A			121													C.B. 45	0.2	IV
C.B.45	252+86	31' RT.		C	1		1014.77	1011.00 S.			1010.91 N.	802 A	816	823 A				10												C.B. 32	0.3	IV

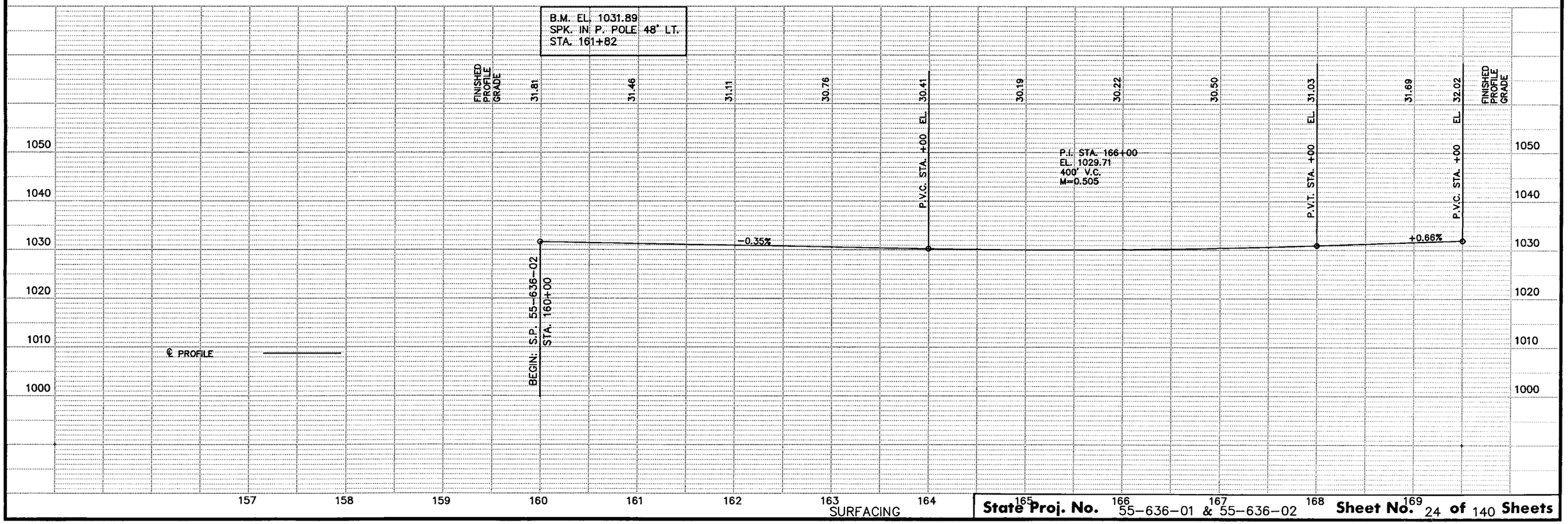
* R.C. PIPE APRON WITH LIGHT DUTY SAFETY GRATE

** PAID FOR AS CULVERT

Fed. Proj. No.

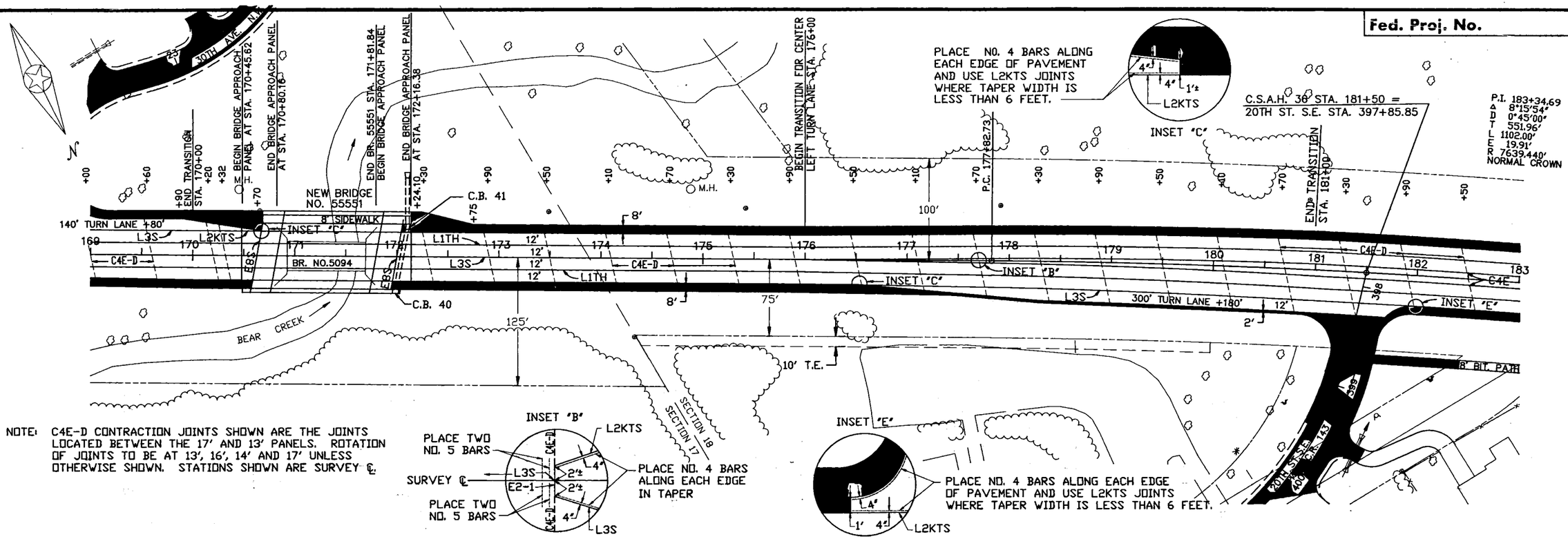


NOTE: C4E-D CONTRACTION JOINTS SHOWN ARE THE JOINTS LOCATED BETWEEN THE 17' AND 13' PANELS. ROTATION OF JOINTS TO BE AT 13', 16', 14', AND 17' UNLESS OTHERWISE SHOWN. STATIONS SHOWN ARE TO SURVEY ℄.

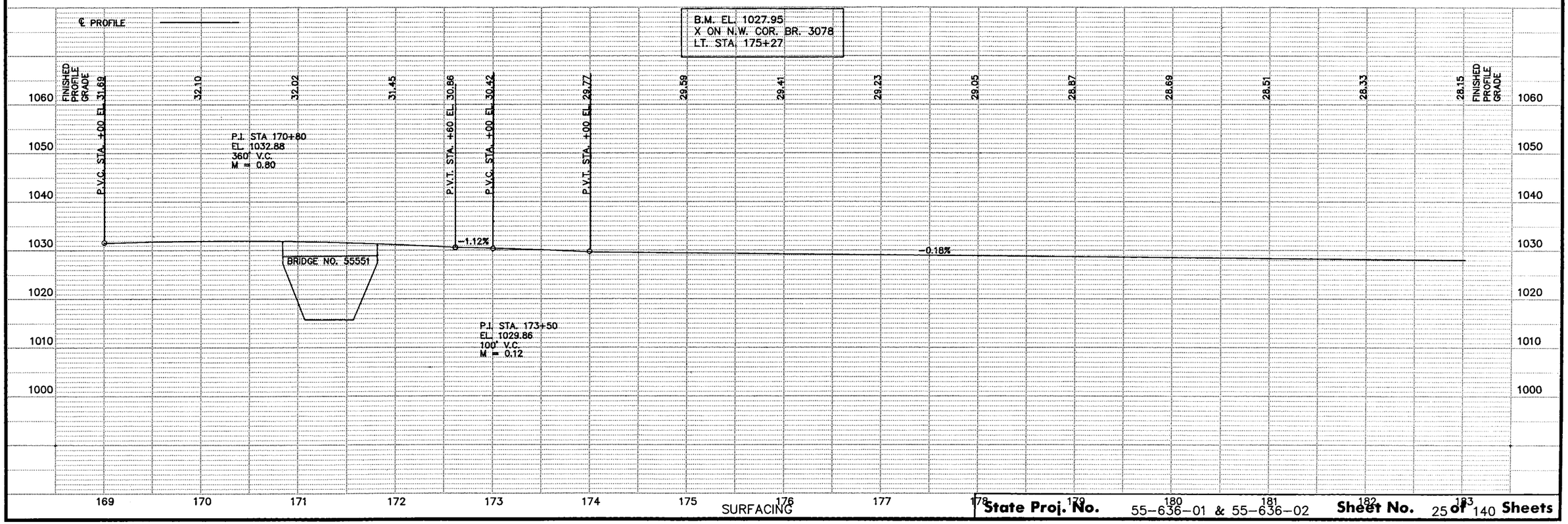


Copy Equipment Form #2

Fed. Proj. No.



NOTE: C4E-D CONTRACTION JOINTS SHOWN ARE THE JOINTS LOCATED BETWEEN THE 17' AND 13' PANELS. ROTATION OF JOINTS TO BE AT 13', 16', 14' AND 17' UNLESS OTHERWISE SHOWN. STATIONS SHOWN ARE SURVEY ℄.



SURFACING

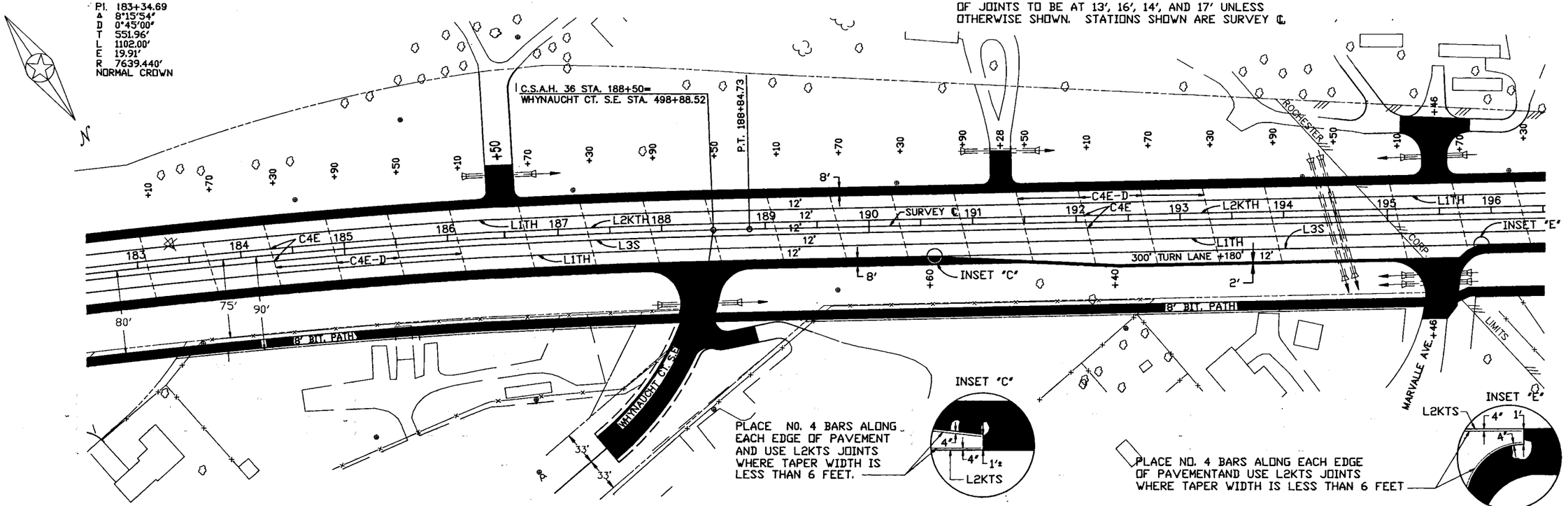
State Proj. No. 55-636-01 & 55-636-02 Sheet No. 25 of 140 Sheets

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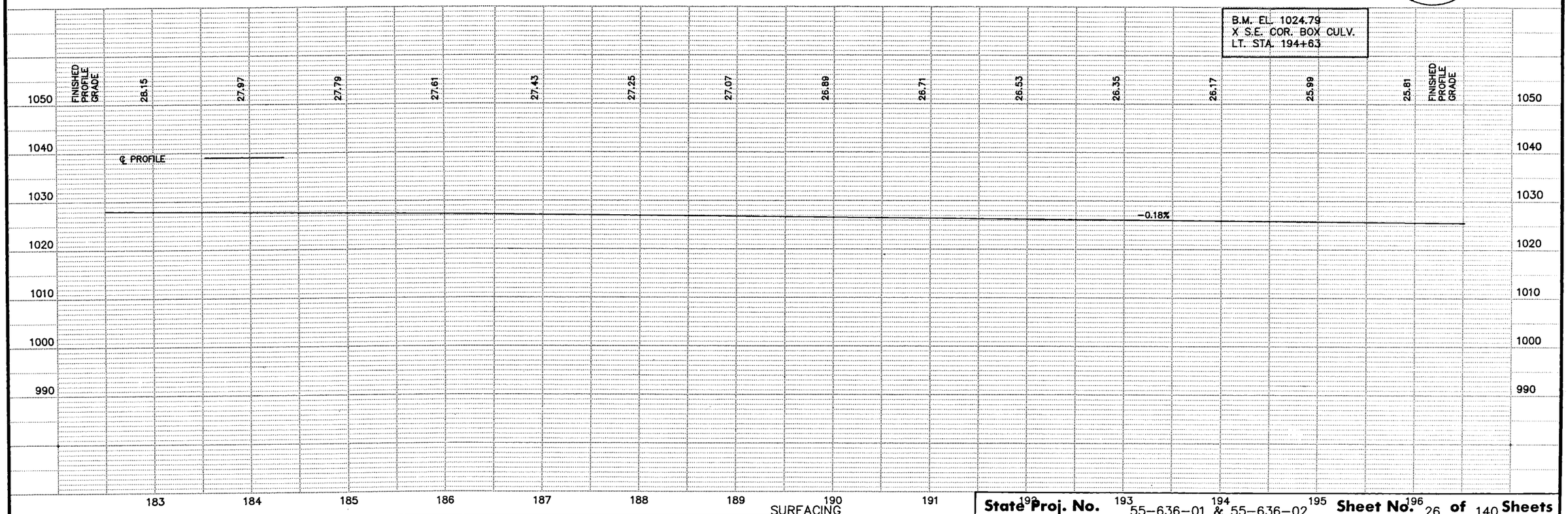
Fed. Proj. No.

NOTE: C4E-D CONTRACTION JOINTS SHOWN ARE THE JOINTS LOCATED BETWEEN THE 17' AND 13' PANELS. ROTATION OF JOINTS TO BE AT 13', 16', 14', AND 17' UNLESS OTHERWISE SHOWN. STATIONS SHOWN ARE SURVEY ℄.

P.I. 183+34.69
Δ 8°15'54"
D 0°45'00"
T 551.96'
L 1102.00'
E 19.91'
R 7639.440'
NORMAL CROWN



B.M. EL. 1024.79
X S.E. COR. BOX CULV.
LT. STA. 194+63



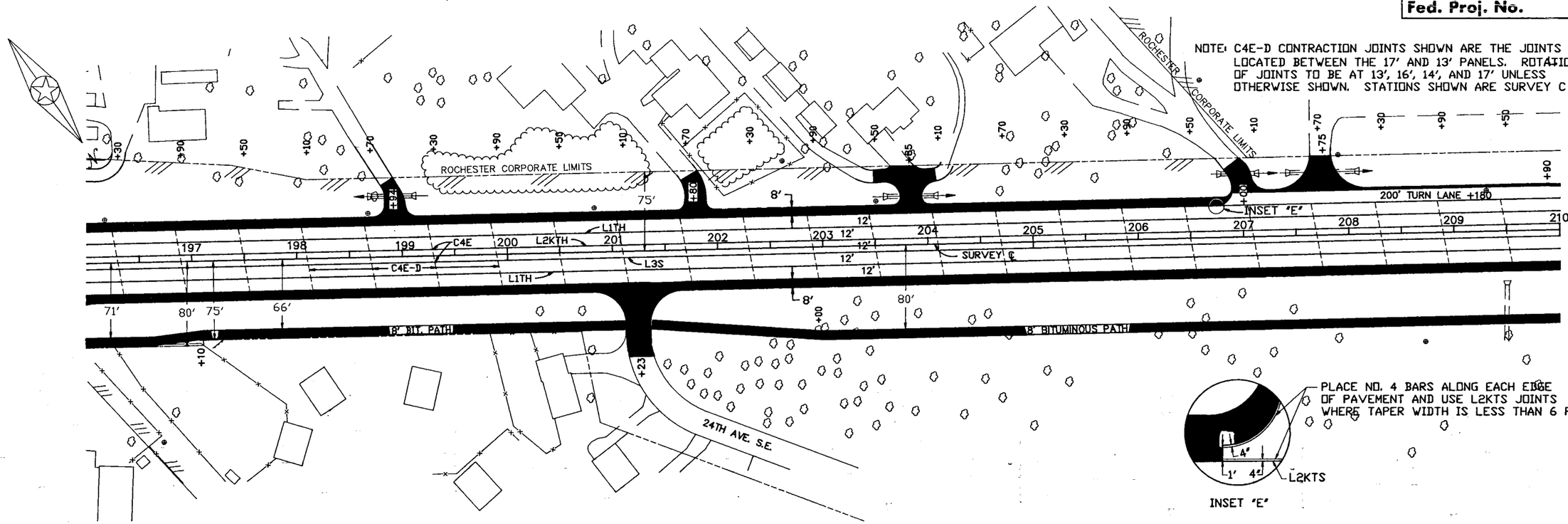
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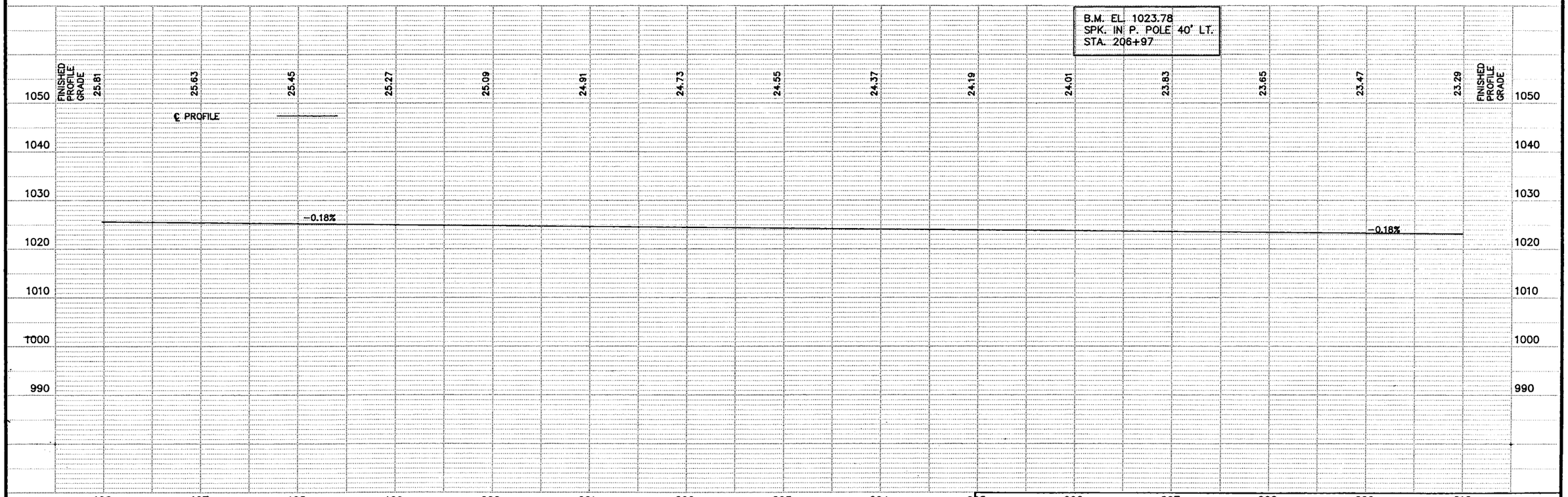
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NOTE: C4E-D CONTRACTION JOINTS SHOWN ARE THE JOINTS LOCATED BETWEEN THE 17' AND 13' PANELS. ROTATION OF JOINTS TO BE AT 13', 16', 14', AND 17' UNLESS OTHERWISE SHOWN. STATIONS SHOWN ARE SURVEY C



INSET 'E'

B.M. EL. 1023.78
SPK. IN P. POLE 40' LT.
STA. 206+97



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Copy Equipment Form #3

Fed. Proj. No.

NOTE: C4E-D CONTRACTION JOINTS SHOWN ARE THE JOINTS BETWEEN THE 17' AND 13' PANELS. ROTATION OF JOINTS TO BE AT 13', 16', 14', & 17' UNLESS OTHERWISE SHOWN. STATIONS ARE TO BE SURVEY ℄.

INSET 'E'

PLACE NO. 4 BARS ALONG EACH EDGE OF PAVEMENT WHERE TAPER WIDTH IS LESS THAN 6 FEET

L4' 1' 4' L2KTS

N

+10 +70 +30 +90 +50 +10 +70 +30 +90 +50 +10 +70 +30 +90 +50 +10 +70 +30 +90 +50 +10 +70 +30

C.S.A.H. 36 STA. 221+74= PARK LANE S.E. STA. 600+00

+74 PARK LANE S.E.

CONST. B624 CURB & GUTTER PARK LANE AVE. LT. 87 LIN. FT.

+36 5' CONCRETE WALK

INTEGRANT CURB

35' R

+90 75' +70 INSET 'E' 2' +45 +25 8' 69' INSET 'I' 12' 75' 300' TURN LANE +180'

200' TURN LANE +180' INSET 'C' C4-E C4E-D 12' L3S INSET 'C' 14' 12' INSET 'G' 54' 14'

210 211 212 213 214 215 L1TH 216 L2KTH 217 218 219 12' 220 221 222 223

C4E-D L3S L1TH INSET 'C' L3S SURVEY ℄ 12' 12' 14' 12' 300' TURN LANE +180' 14' 12' INSET 'H' 12' INTEGRANT CURB

80' 8' +00 +70 +50 2' 35' R INSET 'G'

8' BITUMINOUS PATH

PARK LANE S.E. 601 8' BIKE PATH CONST. B624 CURB & GUTTER PARK LANE AVE. RT. 230 LIN. FT.

605 604 603 602 50'

INSET 'H' C4E-D 1' MIN. 3' MAX. L2KTS 4" 4" PLACE NO. 5x5' BARS 6" INTEGRANT CURB

PLACE NO. 4 BARS ALONG EACH EDGE OF PAVEMENT AND USE L2KTS WHERE TAPER WIDTH IS LESS THAN 6 FEET. 4" L4' 1½ L2KTS INSET 'C'

PLACE NO. 4 BARS ALONG EACH EDGE OF PAVEMENT AND USE L2KTS JOINTS WHERE TAPER WIDTH IS LESS THAN 6 FEET

5' T.E.

INSET 'G' C4E-D PLACE NO. 5x5'BARS 6' B624 INTEGRANT CURB

PLACE NO. 4 BARS ALONG EACH EDGE OF PAVEMENT AND USE L2KTS JOINTS WHERE TAPER LENGTH IS LESS THAN 6'.

12' 14' ℄ LANE

PLACE NO. 5 x 5' BARS INSET 'I'

FINISHED PROFILE GRADE

23.29 23.11 22.93 22.75 22.57 22.27 21.97 21.67 21.37 21.07 20.77 20.47 20.17 19.87

FINISHED PROFILE GRADE

1040 1030 1020 1010 1000 990

℄ PLOFILE

P.I. STA. 214+00 EL. 1022.57

-0.18% -0.3%

210 211 212 213 214 215 216 217 218 219 220 221 222 223

SURFACING

State Proj. No. 55-636-01 & 55-636-02 Sheet No. 28 of 140 Sheets

Copy Equipment Form #2

Fed. Proj. No.

INSET 'D'

INTEGRANT CURB

PLACE NO. 4 BARS ALONG EACH EDGE OF PAVEMENT AND USE L2KTS WHERE TAPER WIDTH IS LESS THAN 6 FEET.

PLACE NO. 5x5' BARS

1' MIN. 3' MAX.

C4E-D

L2KTS

CONST. B624 CURB & GUTTER
17 STREET S.E.
120 LIN. FT.

CONST. B624 CURB & GUTTER
ENT. LT. STA. 234+77
70 LIN. FT.

P.I. 234+28.02
Δ 24°28'44"
D 1°15'00"
L 994.33'
T 506.61'
R 4583.660'
NORMAL CROWN

17TH ST. S.E.

C.S.A.H. 36 STA. 228+27=
16TH ST. S.E. STA. 700+00.70

C.S.A.H. 36 STA. 234+04=
15TH ST. S.E. STA. 800+04.46

5' CONC. WALK

INTEGRANT CURB

INSET 'F'

INSET 'G'

INSET 'D'

300' TURN LANE +180'

L3S

C4E-D

C4E-E

L1TH

L2KTH

8' BITUMINOUS PATH

T.E.

25' T.E.

20' T.E.

CONST. 14', 17', 13', 16', 14', 17', & 13' REINF. PANELS STA. 223+59 TO STA. 224+63.

CONST. 14', 17', 13', 16', 14', 17', 18' & 16' REINF. PANELS STA. 225+39 TO STA. 226+59.

CONST. 16', 14', & 17' REINF. PANELS STA. 227+03 TO STA. 227+50.

CONST. B624 CURB & GUTTER
16 STREET S.E.
152 LIN. FT.

CONST. 13', 16', 14', & 17' REINF. PANELS STA. 231+70 TO STA. 232+30.

CONST. B624 CURB & GUTTER
15 STREET S.E.
204 LIN. FT.

CONST. B624 CURB & GUTTER
ENT. RT. STA. 226+57
94 LIN. FT.

CONST. PEDESTRIAN CURB RAMP AT ALL ENTRANCES.

INSET 'G'

C4E-D

PLACE NO. 5x5'BARS

INTEGRANT CURB

B624

NOTE: C4E-D CONTRACTION JOINTS SHOWN ARE THE JOINTS BETWEEN THE 17' AND 13' PANELS. ROTATION OF JOINTS TO BE AT 13', 16', 14', & 17' UNLESS OTHERWISE SHOWN. STATION SHOWN ARE TO BE SURVEY ℄.

B.M. EL. 1019.09
SPK. IN LIGHT POLE
34' LT. STA. 227+35

FINISHED PROFILE GRADE

19.87 19.57 19.57 19.87 20.17 20.47 20.77 20.17 19.57 18.97 19.37 P.V.C. STA. +50 EL. 19.57 19.70 19.60 P.V.T. STA. +50 EL. 19.37 19.07 P.V.C. STA. +00 EL. 18.47 FINISHED PROFILE GRADE

P.I. STA. 229+00
EL. 1020.77

P.I. STA. 234+50
EL. 1019.97
200' V.C.
M=0.25

P.I. STA. 224+50
EL. 1019.42

P.I. STA. 232+00
EL. 1018.97

-0.3% +0.3% -0.6% +0.4% -0.6%

℄ PROFILE

1040 1030 1020 1010 1000 990

223 224 225 226 227 228 229 230 231 232 233 234 235 236 237

SURFACING

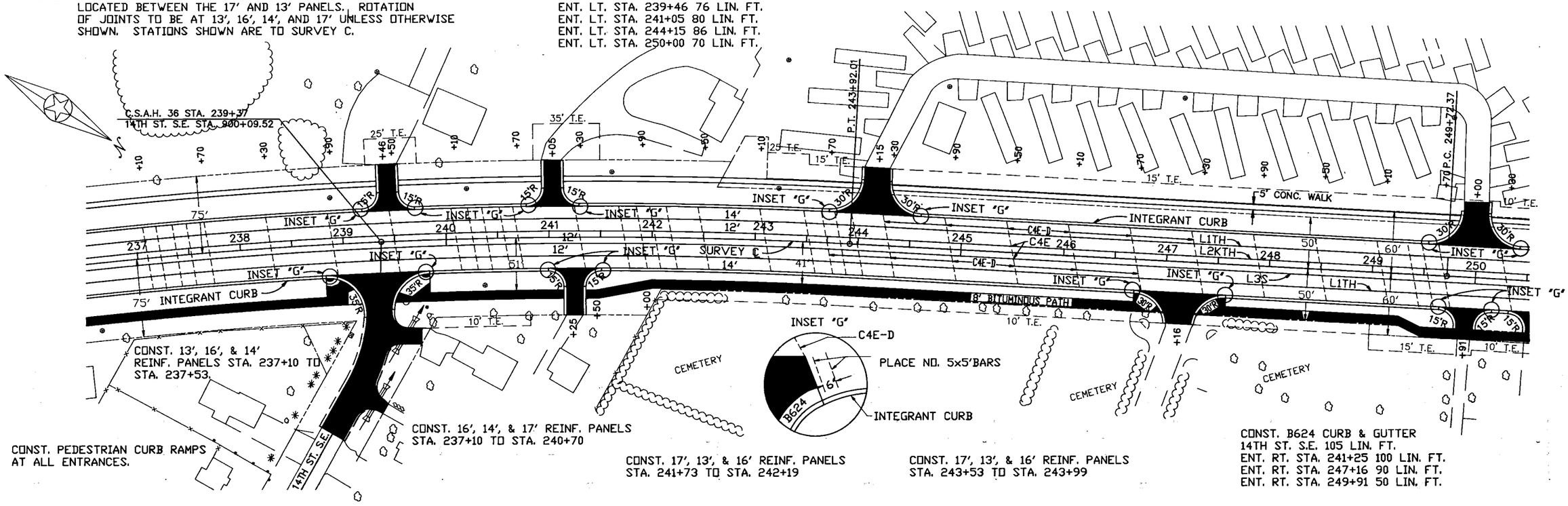
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Copy Equipment Form #2

Fed. Proj. No.

NOTE: C4E-D CONTRACTION JOINTS SHOWN ARE THE JOINTS LOCATED BETWEEN THE 17' AND 13' PANELS. ROTATION OF JOINTS TO BE AT 13', 16', 14', AND 17' UNLESS OTHERWISE SHOWN. STATIONS SHOWN ARE TO SURVEY C.

CONST. B624 CURB & GUTTER
ENT. LT. STA. 239+46 76 LIN. FT.
ENT. LT. STA. 241+05 80 LIN. FT.
ENT. LT. STA. 244+15 86 LIN. FT.
ENT. LT. STA. 250+00 70 LIN. FT.



CONST. 13', 16', & 14' REINF. PANELS STA. 237+10 TO STA. 237+53.

CONST. 16', 14', & 17' REINF. PANELS STA. 237+10 TO STA. 240+70

CONST. PEDESTRIAN CURB RAMPS AT ALL ENTRANCES.

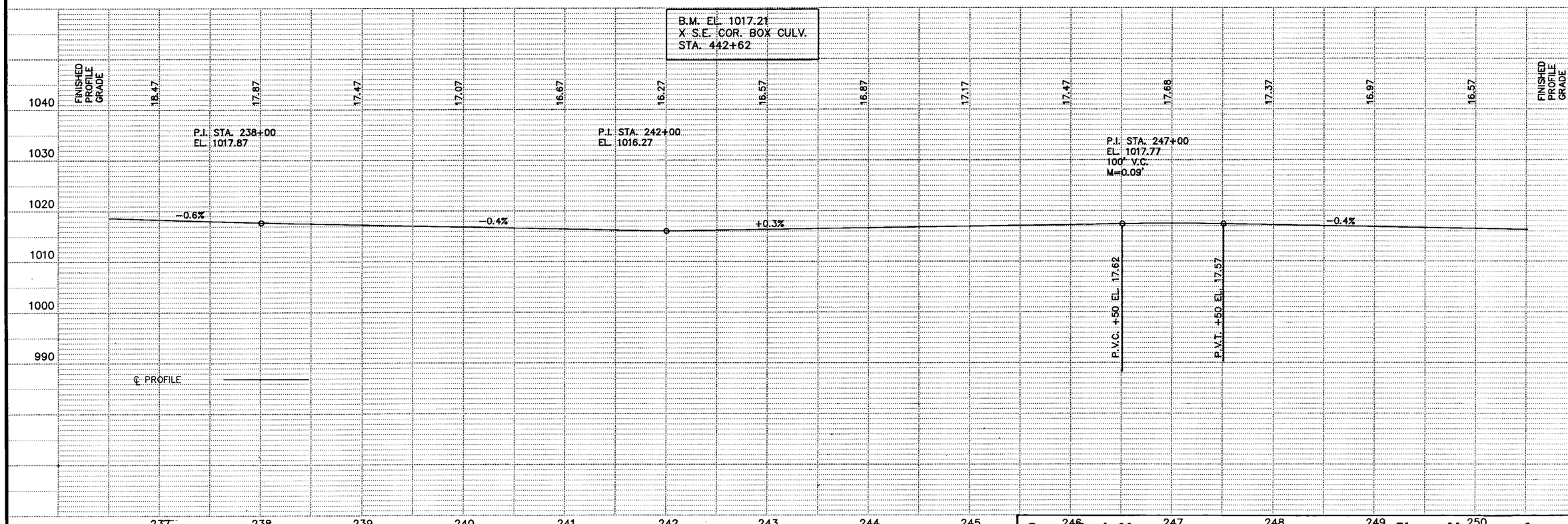
14TH ST. S.E.

CONST. 17', 13', & 16' REINF. PANELS STA. 241+73 TO STA. 242+19

CONST. 17', 13', & 16' REINF. PANELS STA. 243+53 TO STA. 243+99

CONST. B624 CURB & GUTTER
14TH ST. S.E. 105 LIN. FT.
ENT. RT. STA. 241+25 100 LIN. FT.
ENT. RT. STA. 247+16 90 LIN. FT.
ENT. RT. STA. 249+91 50 LIN. FT.

B.M. EL. 1017.21
X S.E. COR. BOX CULV.
STA. 442+62



SURFACING

State Proj. No. 55-636-01 & 55-636-02 Sheet No. 30 of 140 Sheets

Copy Equipment Form #2

Fed. Proj. No.

CONST. PEDESTRIAN CURB RAMPS AT ALL ENTRANCES.

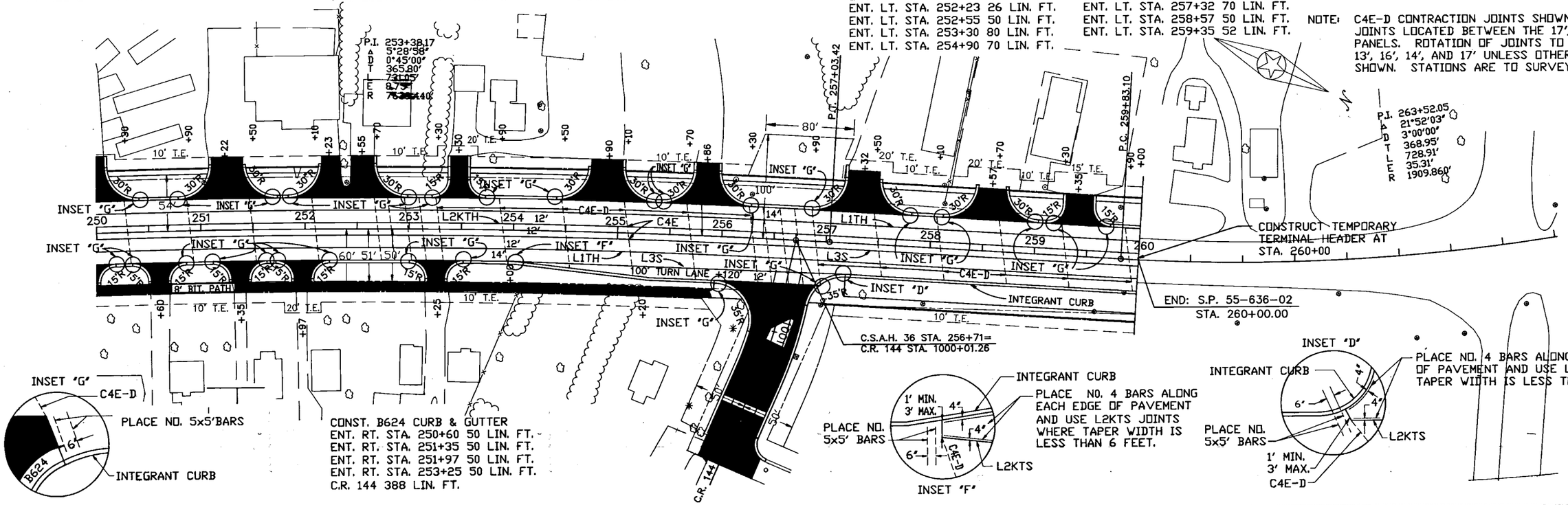
CONST. 16', & 14' REINF. PANELS. STA. 252+83 TO STA. 253+13

CONST. 13', 16', & 14' REINF. PANELS. STA. 256+30 TO STA. 256+73

CONST. B624 CURB & GUTTER
ENT. LT. STA. 251+22 76 LIN. FT.
ENT. LT. STA. 252+23 26 LIN. FT.
ENT. LT. STA. 252+55 50 LIN. FT.
ENT. LT. STA. 253+30 80 LIN. FT.
ENT. LT. STA. 254+90 70 LIN. FT.

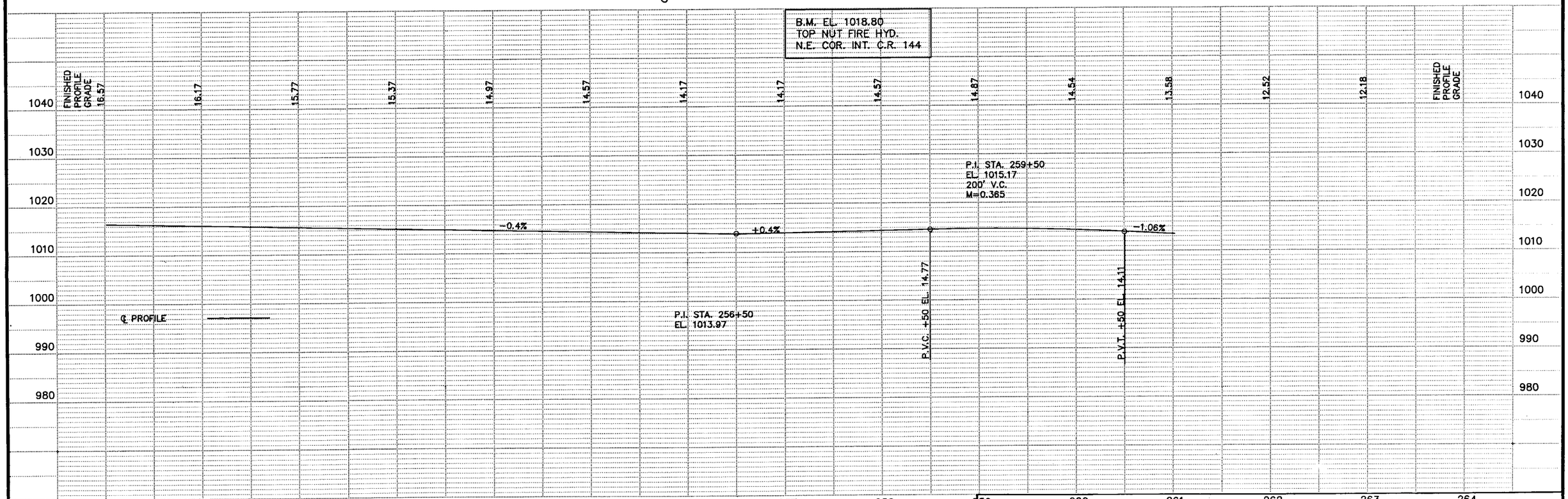
CONST. B624 CURB & GUTTER
ENT. LT. STA. 255+86 92 LIN. FT.
ENT. LT. STA. 257+32 70 LIN. FT.
ENT. LT. STA. 258+57 50 LIN. FT.
ENT. LT. STA. 259+35 52 LIN. FT.

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CONST. B624 CURB & GUTTER
ENT. RT. STA. 250+60 50 LIN. FT.
ENT. RT. STA. 251+35 50 LIN. FT.
ENT. RT. STA. 251+97 50 LIN. FT.
ENT. RT. STA. 253+25 50 LIN. FT.
C.R. 144 388 LIN. FT.

B.M. EL. 1018.80
TOP NUT FIRE HYD.
N.E. COR. INT. C.R. 144

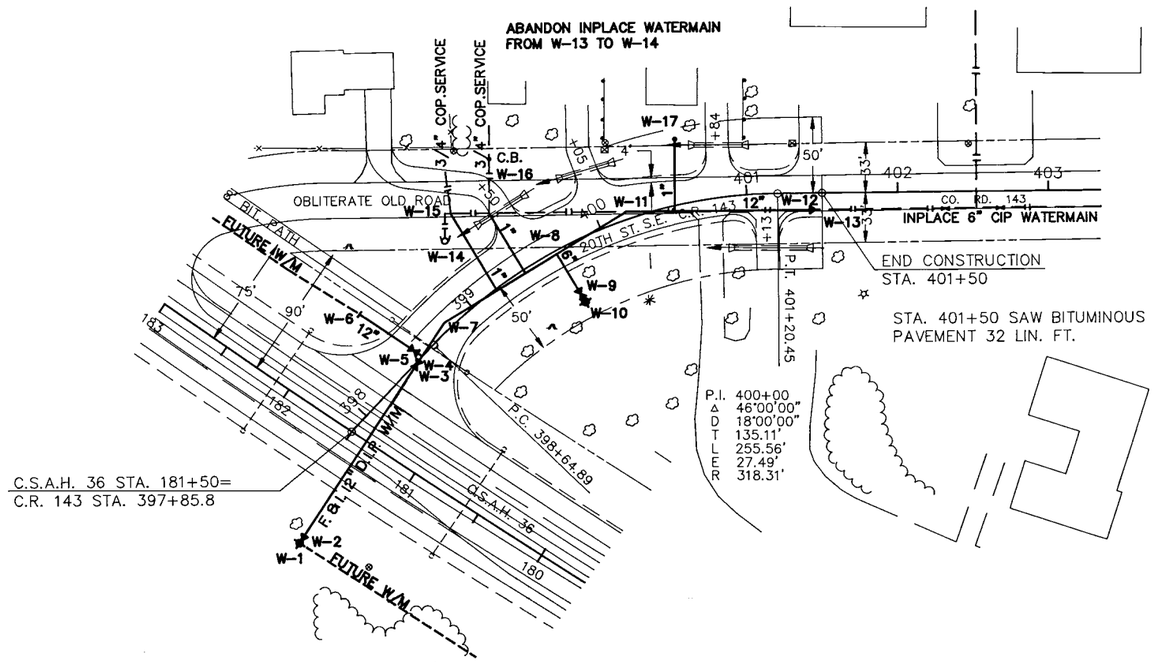


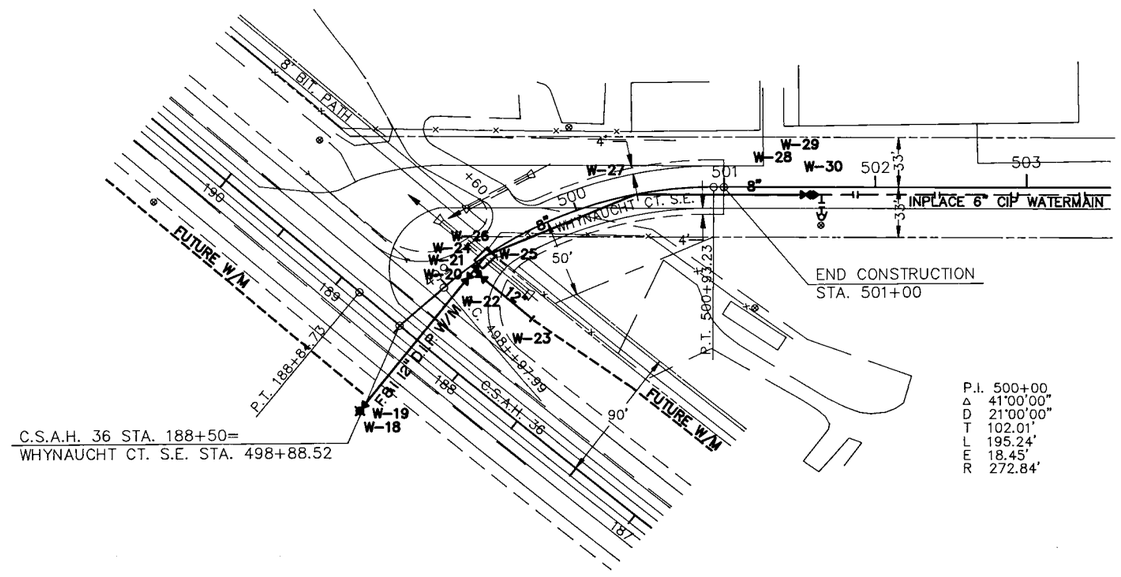
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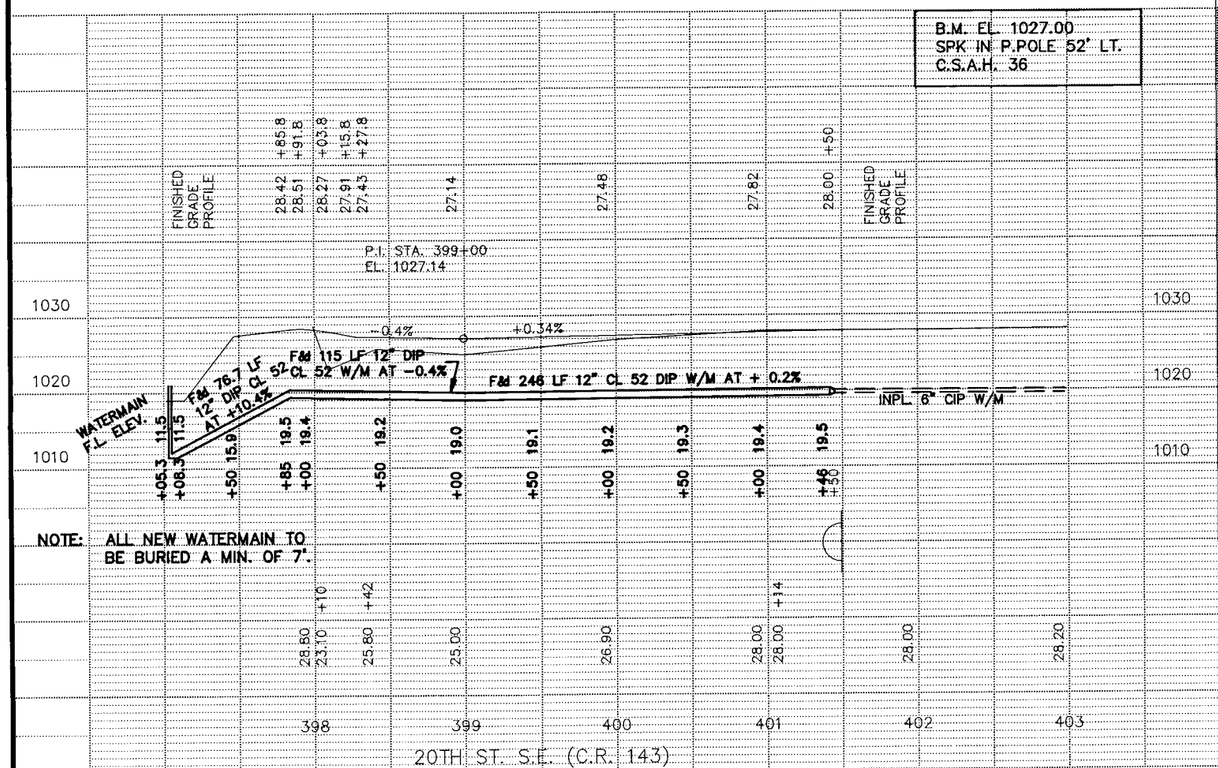
State Proj. No. 55-636-01 & 55-636-02 Sheet No. 31 of 140 Sheets

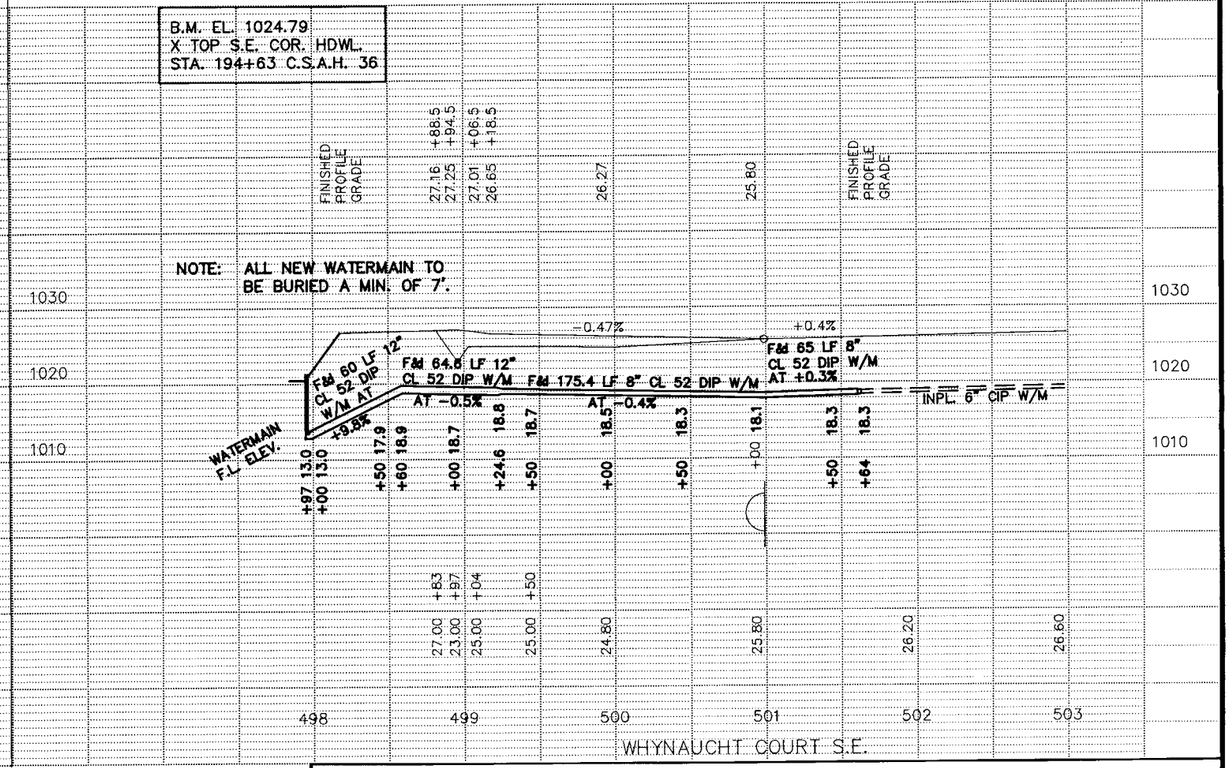
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Fed. Proj. No.







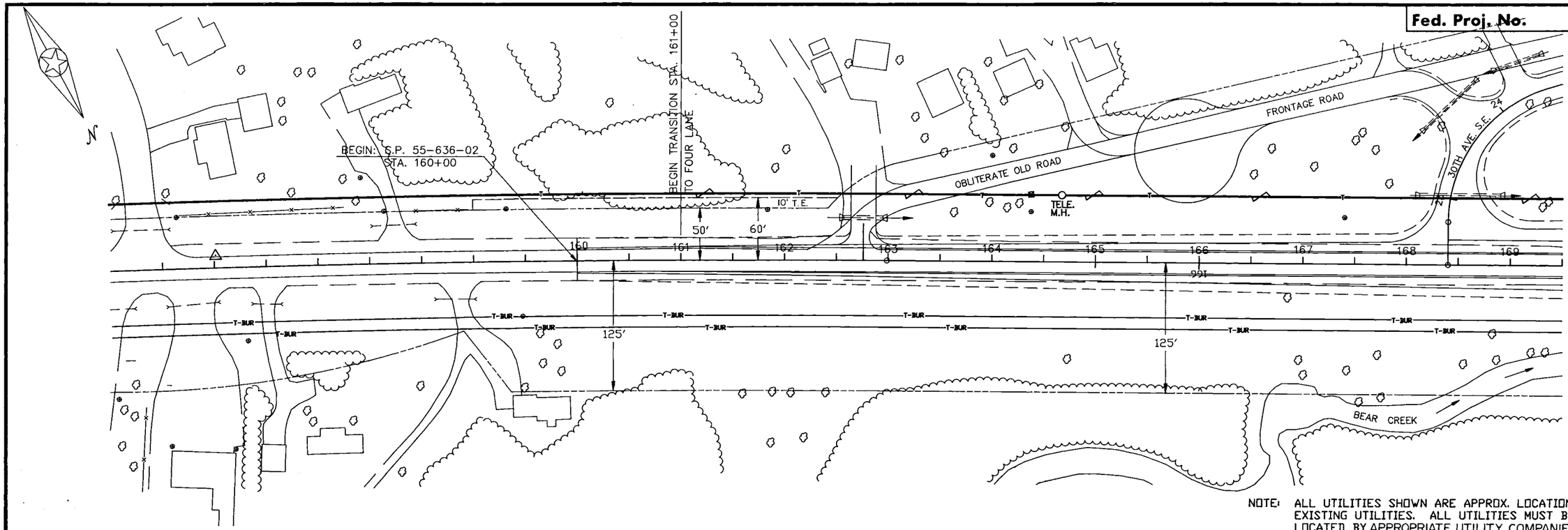


FUTURE WATERMAIN, NEW WATERMAIN, & EXIST. UTILITIES

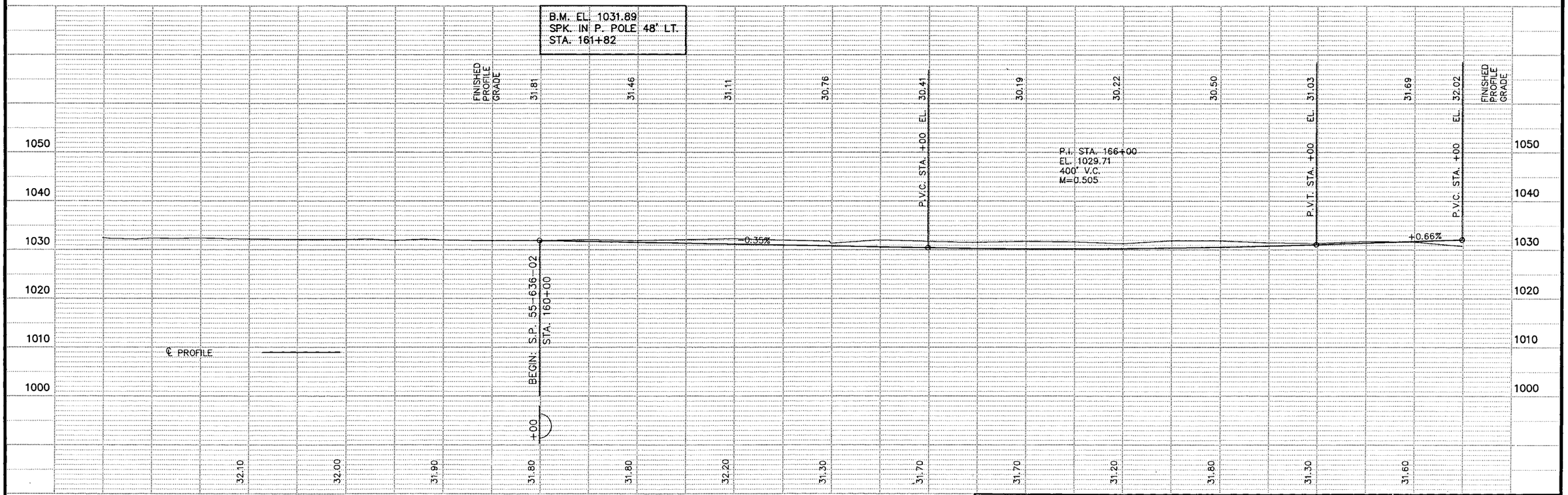
State Proj. No. 55-636-01 & 55-636-02 **Sheet No.** 32 **of** 140 **Sheets**

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Fed. Proj. No.



NOTE: ALL UTILITIES SHOWN ARE APPROX. LOCATIONS OF EXISTING UTILITIES. ALL UTILITIES MUST BE LOCATED BY APPROPRIATE UTILITY COMPANIES.

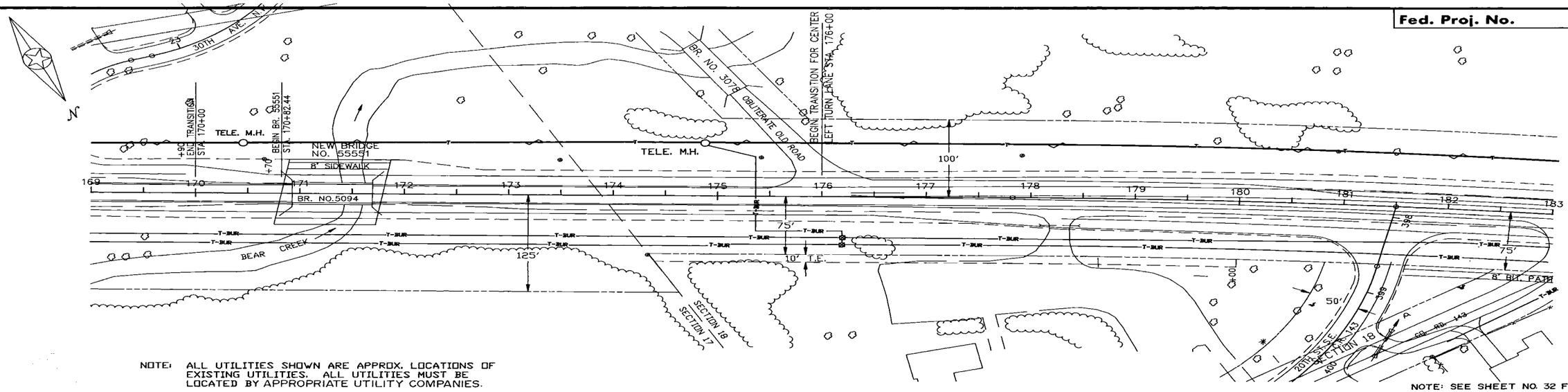


EXISTING UTILITIES

State Proj. No. 55-636-01 & 55-636-02 Sheet No. 33 of 140 Sheets

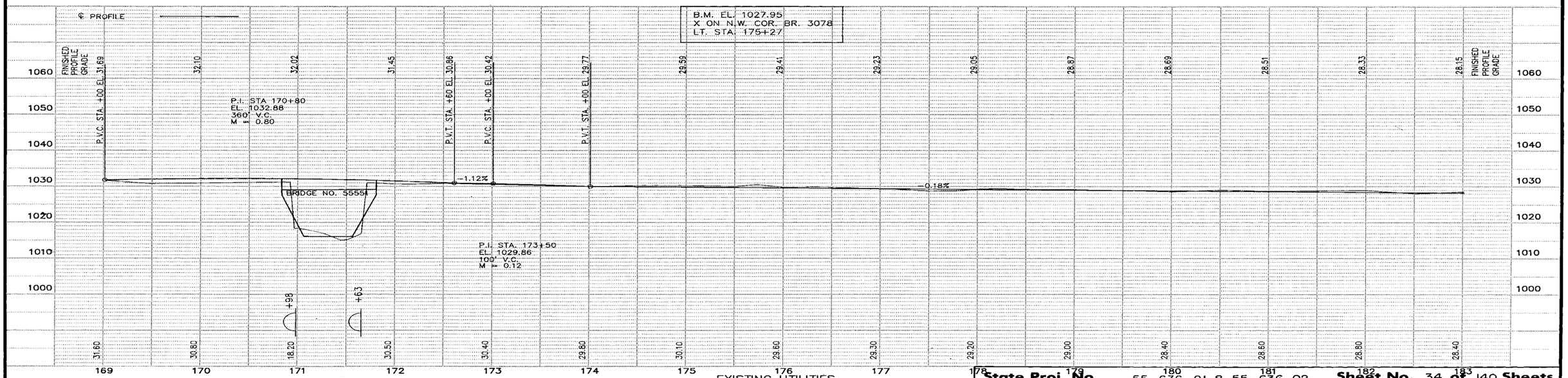
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Fed. Proj. No.



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NOTE: SEE SHEET NO. 32 FOR WATERMAIN INFORMATION.

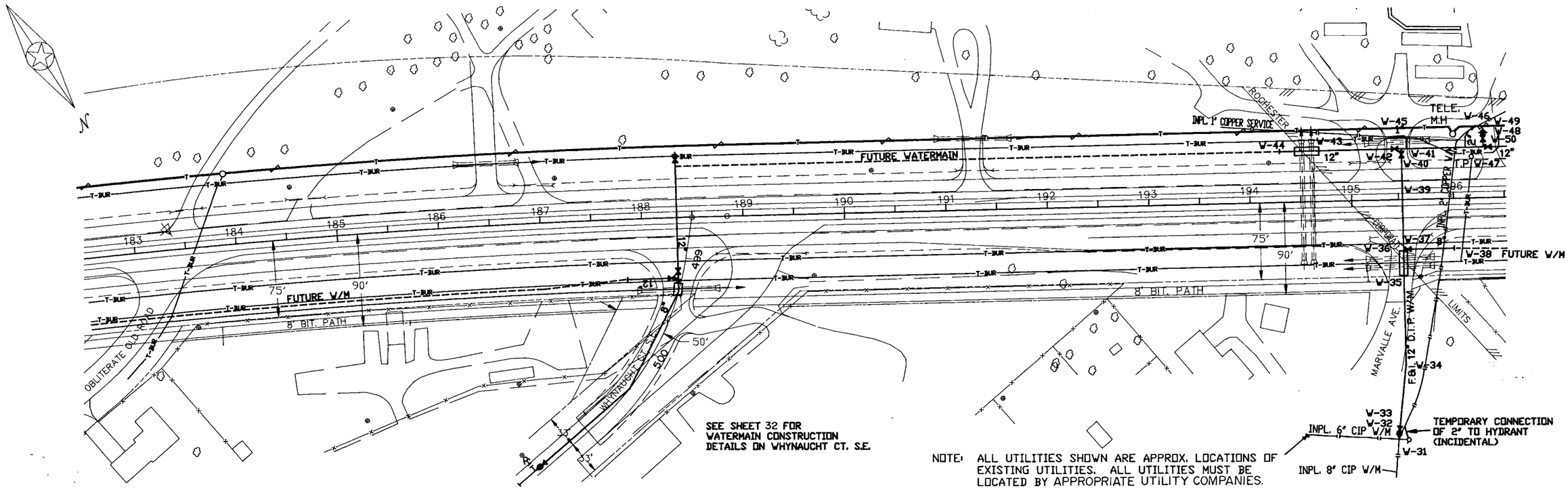


EXISTING UTILITIES

State Proj. No. 55-636-01 & 55-636-02 Sheet No. 34 of 140 Sheets

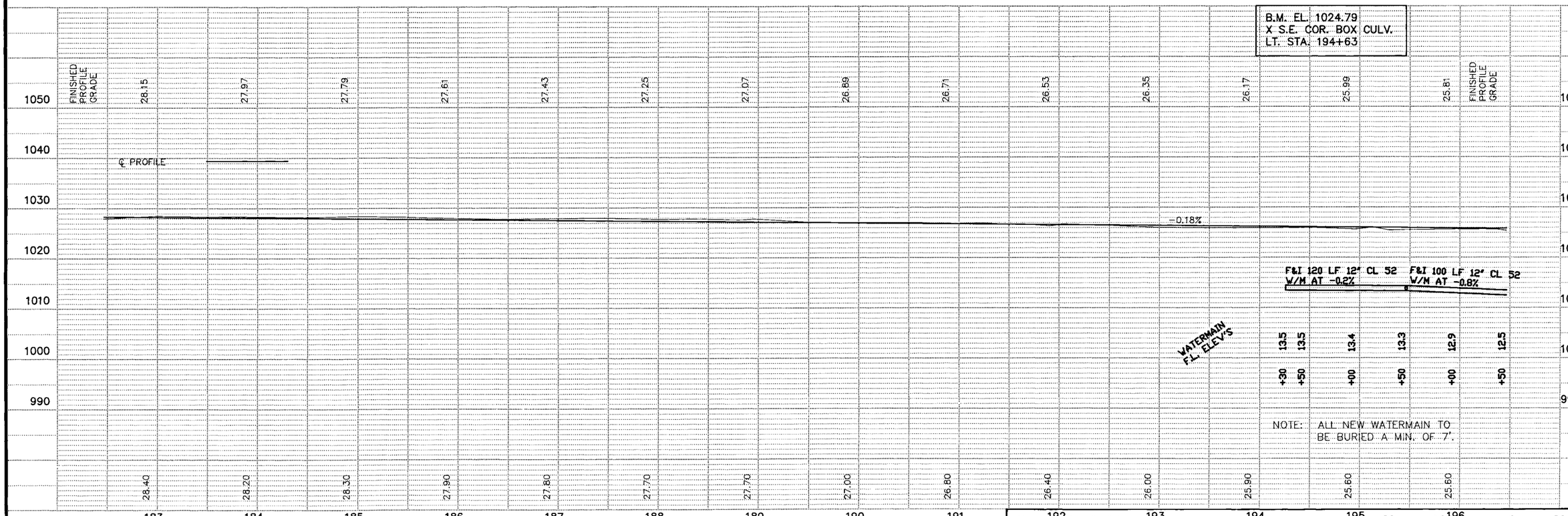
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Fed. Proj. No.



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B.M. EL. 1024.79
X S.E. COR. BOX CULV.
LT. STA. 194+63



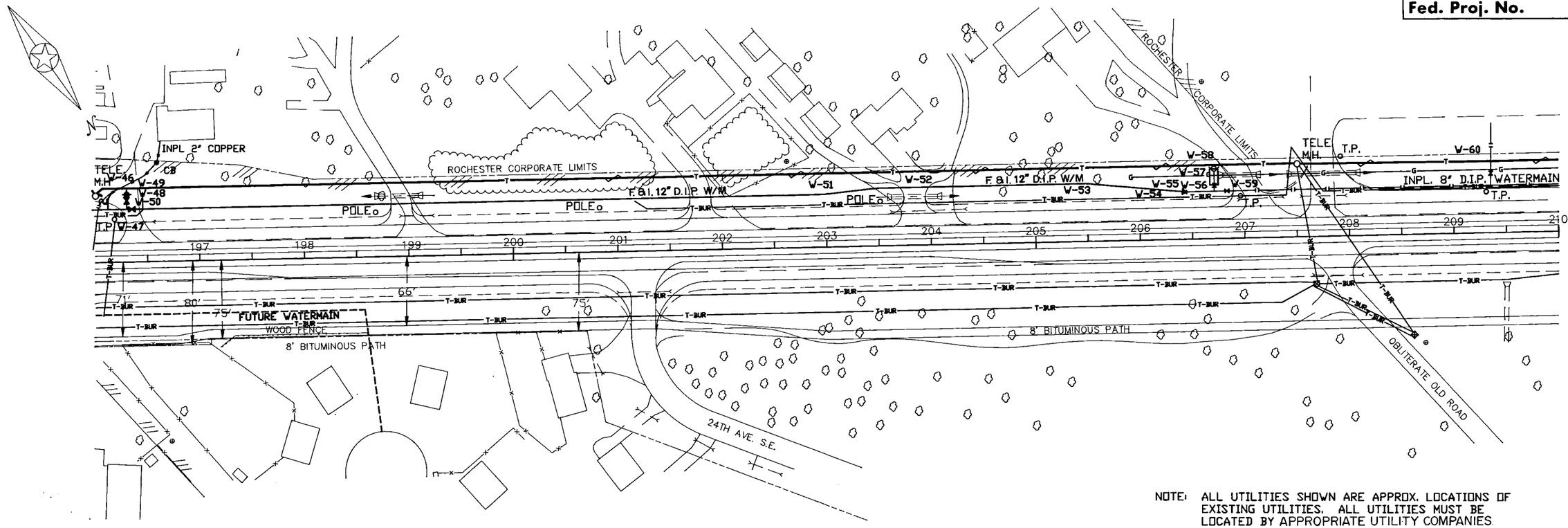
NOTE: ALL NEW WATERMAIN TO BE BURIED A MIN. OF 7'.

FUTURE WATERMAIN, NEW WATERMAIN, & EXISTING UTILITIES

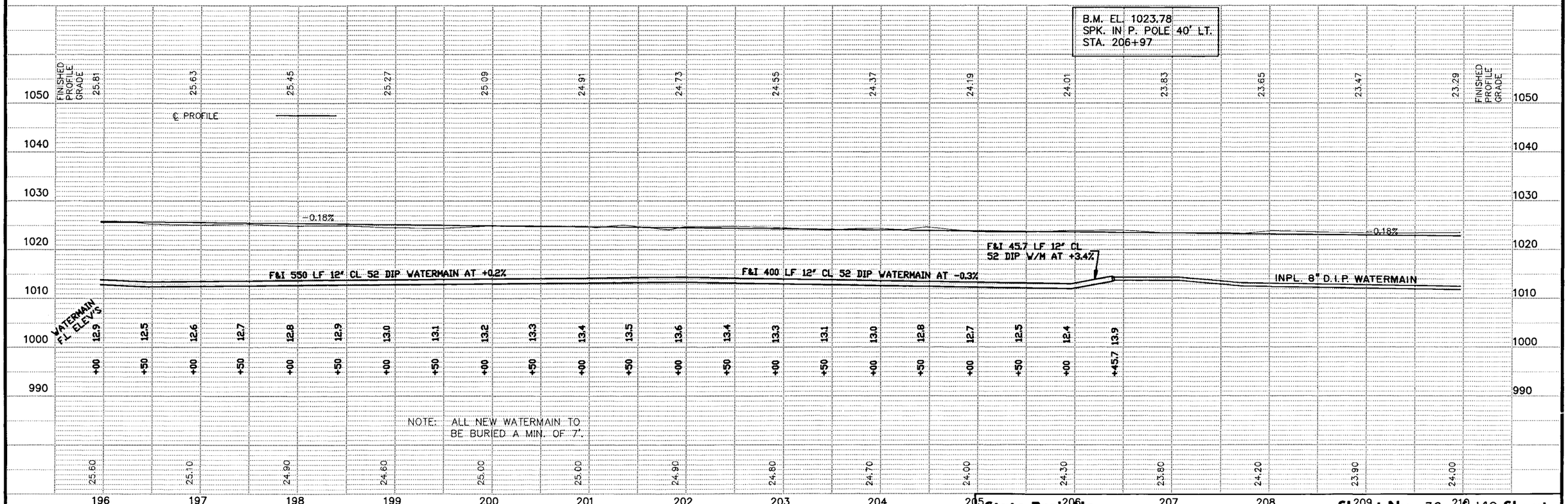
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Conn Equipment Form #2

Fed. Proj. No.



NOTE: ALL UTILITIES SHOWN ARE APPROX. LOCATIONS OF EXISTING UTILITIES. ALL UTILITIES MUST BE LOCATED BY APPROPRIATE UTILITY COMPANIES.



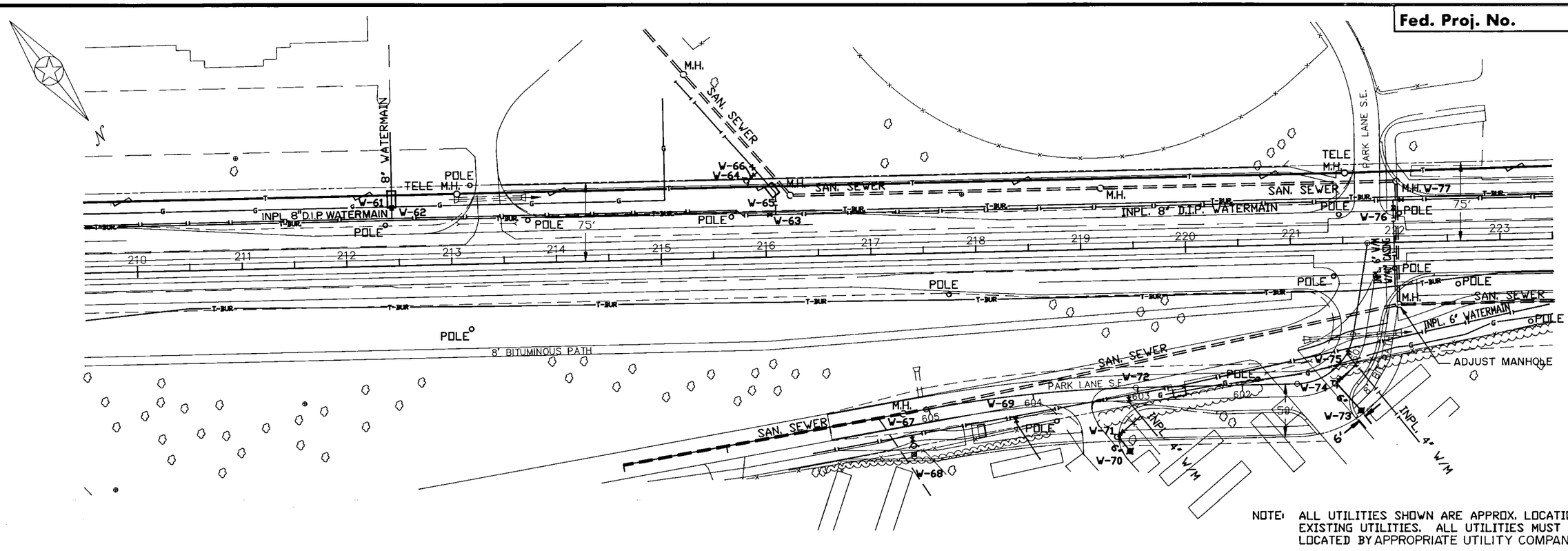
NOTE: ALL NEW WATERMAIN TO BE BURIED A MIN. OF 7'.

FUTURE WATERMAIN, NEW WATERMAIN, & EXISTING UTILITIES

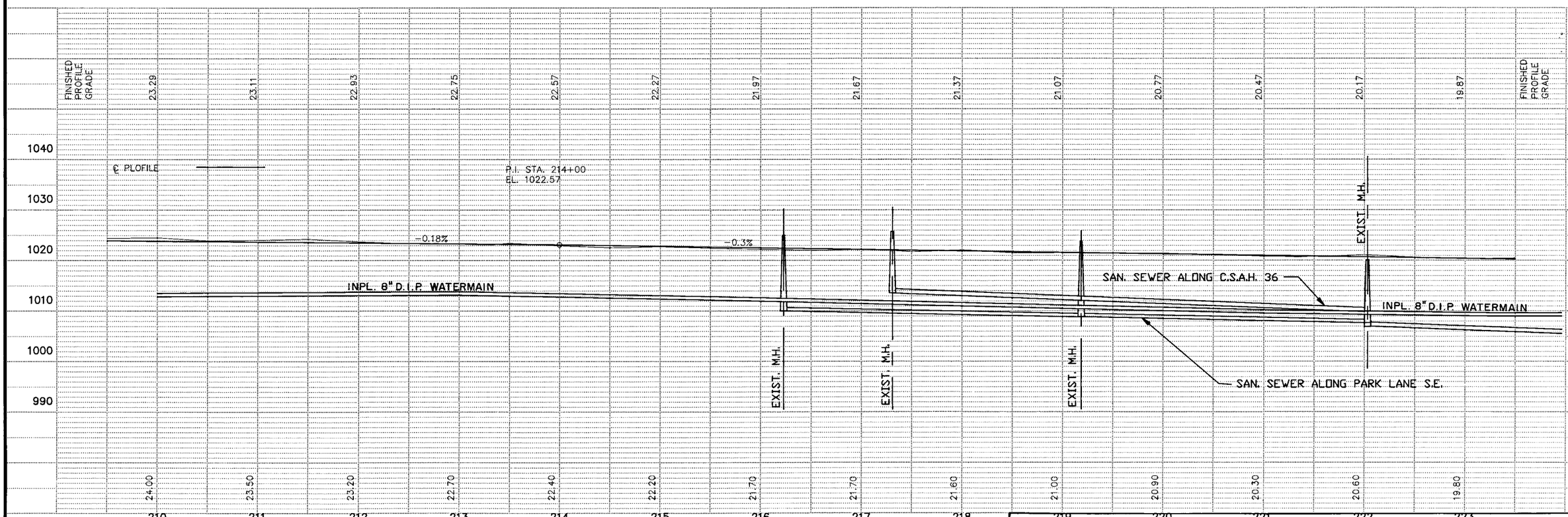
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Fed. Proj. No.



NOTE: ALL UTILITIES SHOWN ARE APPROX. LOCATIONS OF EXISTING UTILITIES. ALL UTILITIES MUST BE LOCATED BY APPROPRIATE UTILITY COMPANIES.

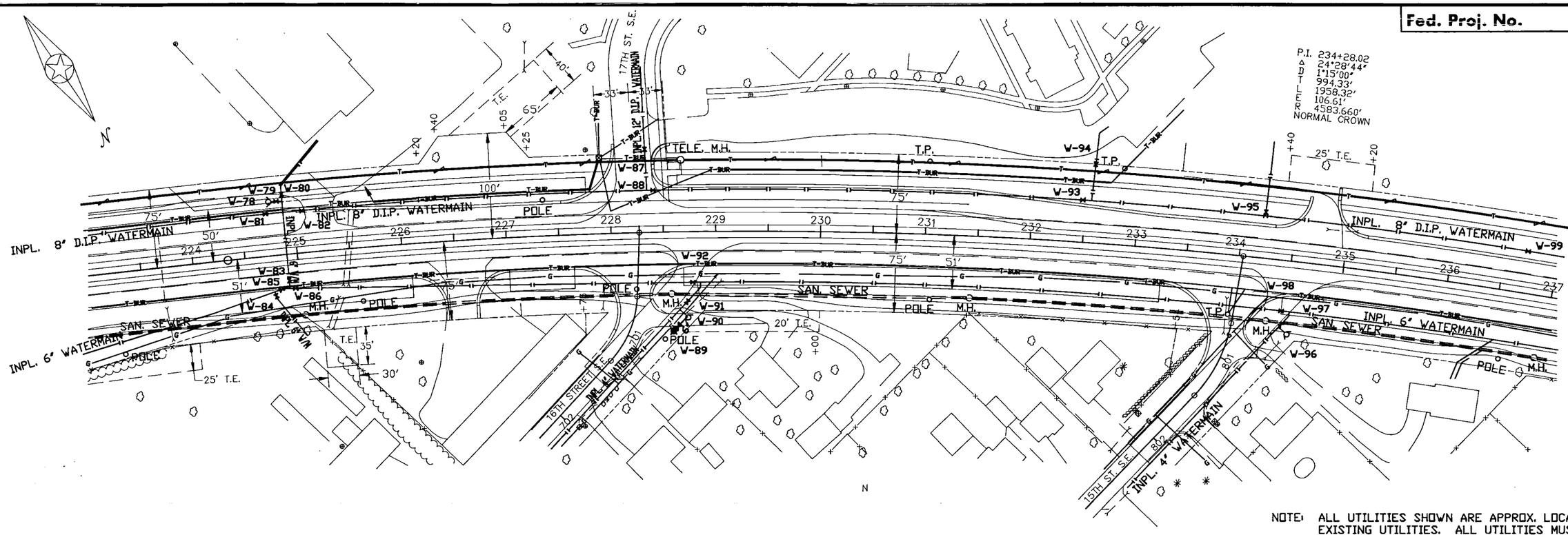


FUTURE WATEMAIN, NEW WATERMAIN, & EXISTING UTILITIES

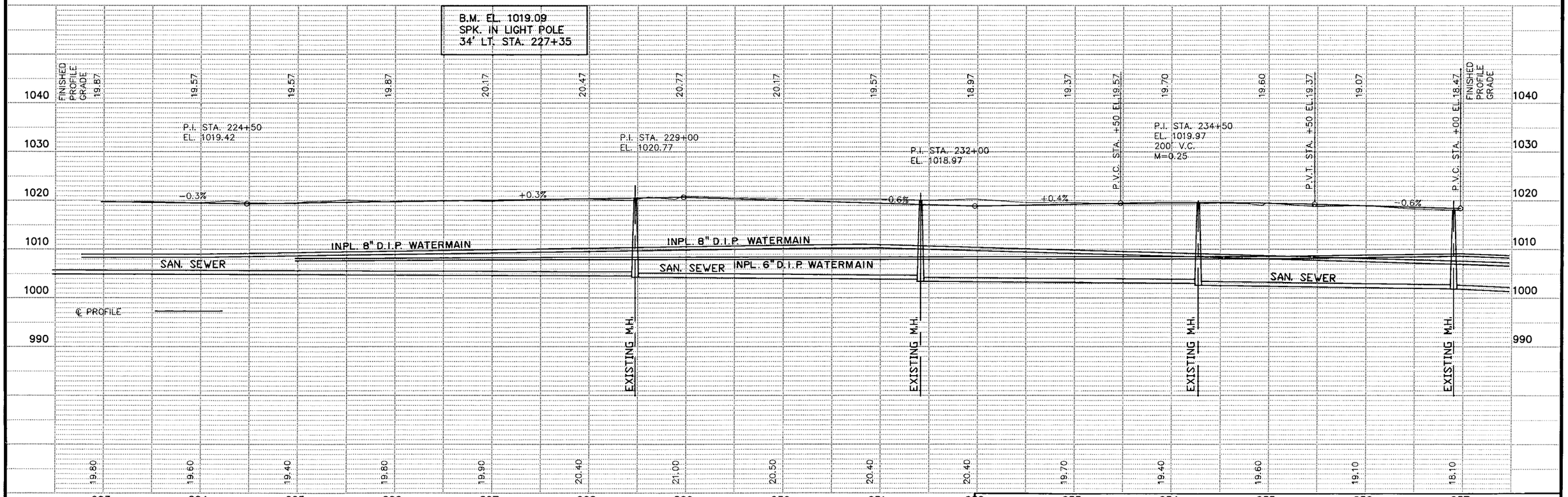
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Copy Equipment Form #2

Fed. Proj. No.



NOTE: ALL UTILITIES SHOWN ARE APPROX. LOCATIONS OF EXISTING UTILITIES. ALL UTILITIES MUST BE LOCATED BY APPROPRIATE UTILITY COMPANIES.

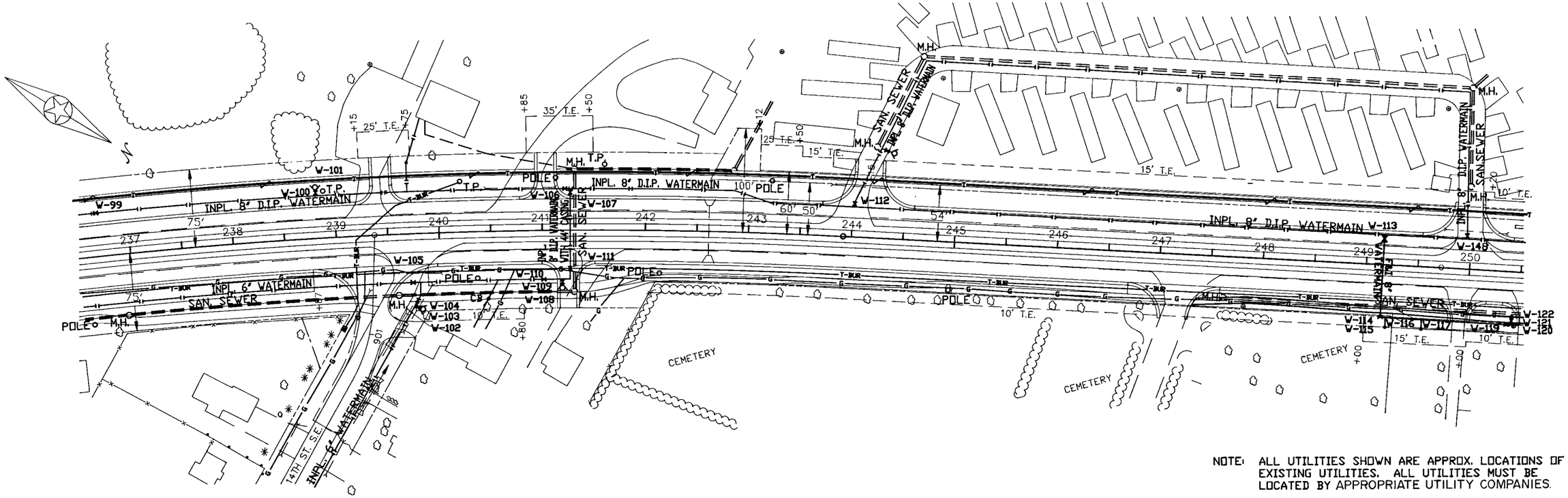


FUTURE WATERMAIN, NEW WATERMAIN & EXISTING UTILITIES

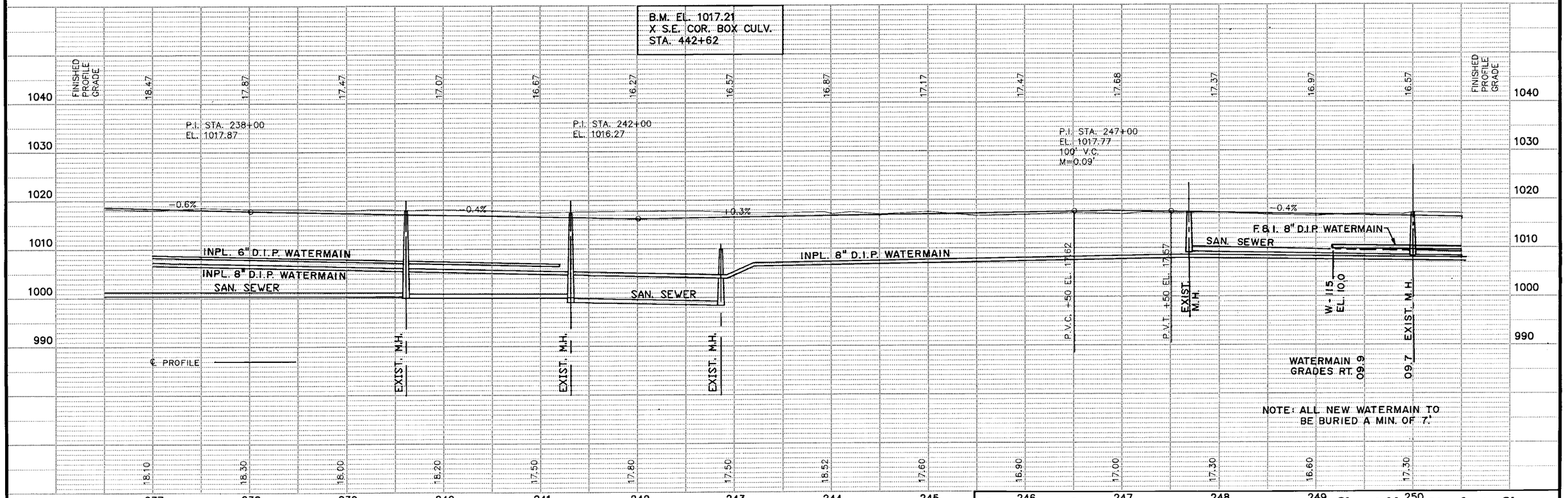
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Copy Equipment Form #3

Fed. Proj. No.



NOTE: ALL UTILITIES SHOWN ARE APPROX. LOCATIONS OF EXISTING UTILITIES. ALL UTILITIES MUST BE LOCATED BY APPROPRIATE UTILITY COMPANIES.



NOTE: ALL NEW WATERMAIN TO BE BURIED A MIN. OF 7'.

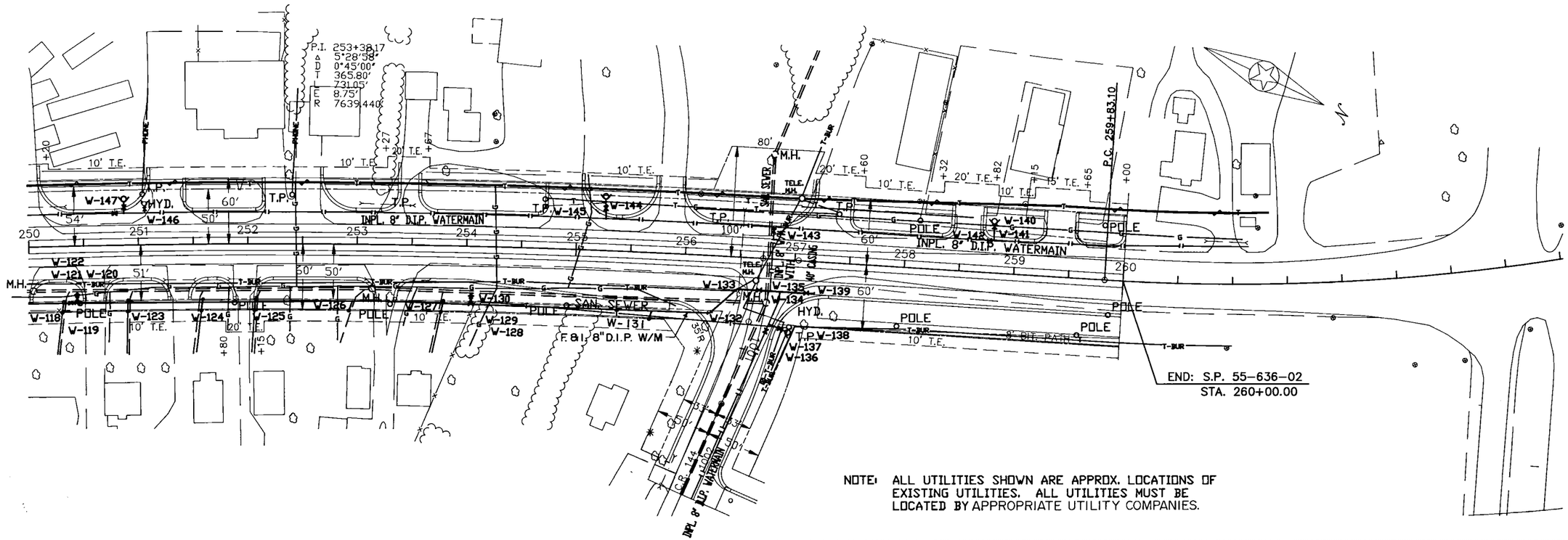
F

NEW WATERMAIN & EXISTING UTILITIES

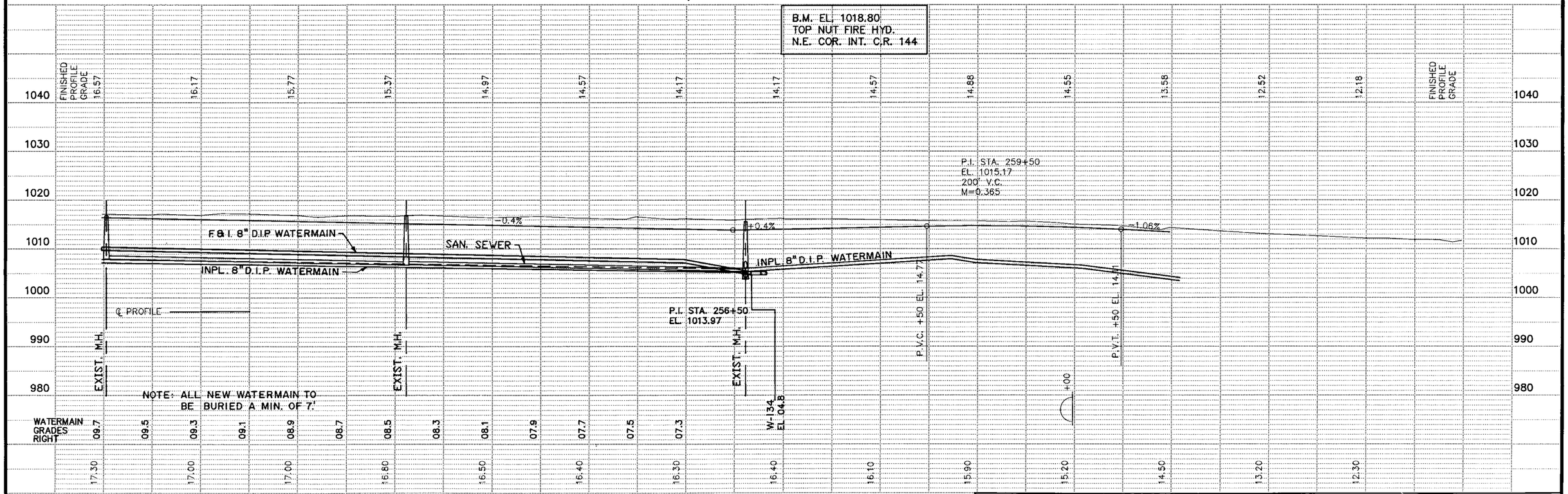
State Proj. No. 55-636-01 & 55-636-02 Sheet No. 39 of 140 Sheets

Copy Equipment Form #2

Fed. Proj. No.



B.M. EL. 1018.80
TOP NUT FIRE HYD.
N.E. COR. INT. C.R. 144



State Proj. No. 55-636-01 & 55-636-02

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Copy Equipment Form #2

WATERMAIN SCHEDULE

FITTING NO.	CENTERLINE STA.	WATERMAIN ALIGNMENT STATION	DESCRIPTION	FITTING WGT.(LBS)	LINEAR FEET	FLOWLINE ELEVATION	REMARKS
W-1	181+38.2 - 80' LT.	397+05.3	HYDRANT	—	—	1011.57	RELOCATE FROM W-14
W-2	181+38.2 - 77' LT.	397+08.3	12" x 6" REDUCER	150	3'-6" TO W-1	1011.78	FURNISH & INSTALL
W-3	398+51.3 - 0.5' RT.	398+49.7	12" GATE VALVE & BOX	—	141.4'-12" TO W-2	1019.2	FURNISH & INSTALL
W-4	398+54.3 - 0.1' LT.	398+52.7	12" x 12" TEE	410	3'-12" TO W-3	1019.2	FURNISH & INSTALL
W-5	398+53.8 - 3.0' LT.	398+52.7 - 3' LT.	12" GATE VALVE & BOX	—	3'-12" TO W-4	1019.2	FURNISH & INSTALL
W-6	398+45.6 - 49.3' LT.	398+52.7 - 50' LT.	12" PLUG	85	26.4'-12" TO W-4	1019.1	FURNISH & INSTALL
W-7	398+80.0 - 5.0' LT.	398+79.1	12" BEND - 22 1/2°	220	47'-12" TO W-5	1019.1	FURNISH & INSTALL
W-8	399+66.8 - 2.4' RT.	399+66.2	12" x 6" TEE	325	87.1'-12" TO W-7	1019.13	FURNISH & INSTALL
W-9	———	399+66.2 - 33.8' RT.	6" GATE VALVE & BOX	—	33.8'-6" TO W-8	± 1017.0	FURNISH & INSTALL
W-10	399+69 - 39' RT.	399+66.2 - 36.8' RT.	HYDRANT	—	3'-6" TO W-9	± 1017.0	F. & I. BREAKOFF 2" ABOVE FINISHED GRADE
W-11	400+18.8 - 5.0' LT.	400+20.1	12" BEND - 22 1/2°	220	53.9'-12" TO W-8	1019.2	FURNISH & INSTALL
W-12	401+46 - 11' RT.	401+46	12" x 6" REDUCER	150	125.9'-12" TO W-11	1019.5	FURNISH & INSTALL
W-13	401+46 - 11' RT.	401+46	———	—	———	1019.7	CONNECT INTO INPL. 6" C.I.P.
W-14	399+12.7 - 45.6' LT.	———	INPLACE HYDRANT	—	———	± 1018.0	RELOCATE TO W-1
W-15	———	399+20 ± 60' LT. TO ℄	1" COPPER SERVICE	—	APPROX. 60' - 1"	± 1012	F.&I., CONNECT TO INPL. 3/4" SERVICE
W-16	———	399+42 ± 46' LT. TO ℄	1" COPPER SERVICE	—	APPROX. 46' - 1"	± 1012	F.&I., CONNECT TO INPL. 3/4" SERVICE
W-17	C.B. - 400+60.4-43' LT.	400+53.8 - 47.4' LT. TO ℄	1" COPPER SERVICE	—	47.4' - 1"	1019.8	FURNISH & INSTALL
W-18	188+35 - 60' LT.	497+97	HYDRANT	—	———	± 1013.0	RELOCATE FROM W-108
W-19	188+35 - 57' LT.	498+00	12" x 6" REDUCER	150	3'-6" TO W18	± 1013.0	FURNISH & INSTALL
W-20	499+17.8 - 4.4' RT.	499+13.2	12" GATE VALVE & BOX	—	113.2'-12" TO W-19	1018.6	FURNISH & INSTALL
W-21	499+20.7 - 3.6' RT.	499+21.6	12" x 12" TEE	410	3-12" TO W-20	1018.6	FURNISH & INSTALL
W-22	499+21.5 - 6.5' RT.	499+21.6 - 3' RT.	12" GATE VALVE & BOX	—	3-12" TO W-21	1018.6	FURNISH & INSTALL
W-23	499+36.4 - 51.6' RT.	499+21.6 - 50' RT.	12" PLUG	85	47'-12" TO W-22	1014.5	FURNISH & INSTALL
W-24	499+23.6 - 2.9' RT.	499+24.9	12" x 8" REDUCER	165	3'-12" TO W-21	1018.6	FURNISH & INSTALL
W-25	———	499+27 - 499+39	4" POLYSTYRENE INSULATION	—	96 S.F. (12' x 8')	——	FURNISH & INSTALL
W-26	499+33.3 - ℄	499+34.7	12" BEND - 22 1/2°	110	10.1'-8" TO W-24	1018.8	FURNISH & INSTALL
W-27	499+33.3 - ℄	500+41.6	12" BEND - 22 1/2°	110	106.9'-8" TO W-26	1018.7	FURNISH & INSTALL
W-28	500+62 - 5' RT.	501+62	8" GATE VALVE & BOX	—	120.4'-8" TO W-27	1018.3	FURNISH & INSTALL
W-29	501+64 - 5' RT.	501+62	8"x 6" M.J. TO PLAIN REDUCER	95	2'-8" TO W-28	1018.1	FURNISH & INSTALL
W-30	501+64 - 5' RT.	501+64	6" PLUG	—	———	1018.4	REMOVE-CONNECT W/M INTO TEE
W-31	195+41.3 - 233.5' RT.	10+00	8" PLUG	—	———	1015.7	REMOVE-CONNECT W/M INTO TEE
W-32	195+41.6 - 231.5' RT.	9+98	12" x 8" REDUCER	165	2'-8" TO W-31	1015.5	FURNISH & INSTALL
W-33	195+41.9 - 228.5' RT.	9+95	12" GATE VALVE & BOX	—	3'-12" TO W-32	1015.5	FURNISH & INSTALL
W-34	195+50 - 160.8' RT.	9+26.8	———	—	68.2'-12" TO W-33	1015.8	HORIZONTAL P.I.-NO. BEND NEEDED
W-35	195+50 - 50' TO 74' RT.	8+16 TO 8+40	4" POLYSTYRENE INSULATION	—	192 S.F. (24'x 8')	——	FURNISH & INSTALL
W-36	195+50 - 48.6' RT.	8+14.6	12"x 8" TEE	340	112.2-12" TO W-34	1016.3	FURNISH & INSTALL
W-37	195+53 - 48.6 RT.	8+14.6 - 3' LT.	8" GATE VALVE & BOX	—	3'-8" TO W-36	1016.1	FURNISH & INSTALL
W-38	196+00 - 48.6' RT.	8+14.6 - 50' LT.	8" PLUG	45	47'-8" TO W-37	1013.5	FURNISH & INSTALL
W-39	195+50 - ℄	7+66	———	—	48.6-12" TO W-36	1017.0	VERTICAL P.I.-NO. BEND NEEDED
W-40	195+50 - 47' LT.	7+19	12" GATE VALVE & BOX	—	47'-12" TO W-39	1013.4	FURNISH & INSTALL
W-41	195+50 - 50' LT.	7+16 - 195+50	12"x 12" TEE	410	3'-12" TO W-40	1013.3	FURNISH & INSTALL
W-42	195+47 - 501 LT.	195+47	12" GATE VALVE & BOX	—	3'-12" TO W-41	1013.3	FURNISH & INSTALL
W-43	194+45 TO 194+69-50' LT.	194+45 TO 194+69	4" POLYSTYRENE INSULATION	—	192 S.F. (24'x 8')	——	FURNISH & INSTALL
W-44	194+30 - 50' LT.	194+30	12" PLUG	85	117'-12" TO W-42	1013.5	FURNISH & INSTALL
W-45	195+55 - 50' LT.	195+55	1" COPPER SERVICE	—	APPROX. 30' - 1"	1014.0	CONNECT TO INPL. SERVICE TO S.
W-46	196+13 - 50' TO 65' LT.	196+13 - ℄ TO 15' LT.	2" COPPER SERVICE	—	15' - 2"	1013.3	CONNECT TO INPL. SERVICE
W-47	196+30.7 - 50' LT.	196+30.7	12"x 6" TEE	325	80.7'-12" TO W-41	1012.7	FURNISH & INSTALL
W-48	196+30.7 - 61' LT.	196+30.7 - 11' LT.	6" GATE VALVE & BOX	—	11'-6" TO W-47	1013.0	FURNISH & INSTALL
W-49	196+30.7 - 64' LT.	196+30.7 - 14' LT.	HYDRANT	—	3'-6" TO W-48	1013.0	FURNISH & INSTALL
W-50	196+33.7 - 50' LT.	196+33.7	12" GATE VALVE & BOX	—	3'-12" TO W-49	1012.6	FURNISH & INSTALL
W-51	203+00 - 50' LT.	203+00	———	—	666.3'-12" TO W-50	1013.1	HORIZONTAL P.I.-NO. BEND NEEDED
W-52	203+50 - 55' LT.	203+50.2	———	—	50.2'-12" TO W-51	1013.1	HORIZONTAL P.I.-NO. BEND NEEDED
W-53	205+50 - 55' LT.	205+50.2	———	—	200'-12" TO W-52	1012.5	HORIZONTAL P.I.-NO. BEND NEEDED
W-54	206+45 ±45'LT.	206+45.7	12" x 8" REDUCER	165	95.5'-12" TO W-53	1013.9	FURNISH & INSTALL
W-55	206+45 ±45' LT.	206+45.7	8" PLUG	—	———	1014.1	REMOVE-CONNECT INTO INPL.-NO BEND
W-56	206+72 ±50' LT.	———	GATE VALVE & BOX	—	———	——	ADJUST TO GRADE
W-57	206+72	———	4" POLYSTYRENE INSULATION	—	±128 S.F. (±16'x8')	1014.2	F.&I. WHEN 6.5' COVER AT FL. NOT ACHIEVED
W-58	206+72 ±67' LT.	———	HYDRANT	—		1015.1	ADJUST TO GRADE OR MOVE TO AVOID DITCH
W-59	206+84 ±45' LT.	———	GATE VALVE & BOX	—		1015.1	ADJUST TO GRADE
W-60	209+35 ±55' LT.	———	GATE VALVE & BOX	—		1012.6	ADJUST TO GRADE
W-61	212+44	———	4" POLYSTYRENE INSULATION	—	±128 S.F. (±16'x8')	1012.5	F.&I. WHEN 6.7' COVER AT FL. NOT ACHIEVED
W-62	212+44 ±54' LT.	———	GATE VALVE & BOX	—		1012.3	ADJUST TO GRADE
W-63	216+04 ±40' LT.	———	GATE VALVE & BOX	—		1011.4	ADJUST TO GRADE
W-64	215+83 ±73' LT.	———	HYDRANT	—		1011.7	ADJUST TO GRADE
W-65	216+08	———	4" POLYSTYRENE INSULATION	—	±96 S.F. (+16'x8')	1011.5	F.&I. WHEN 6.5' COVER AT FL. NOT ACHIEVED
W-66	215+85 ±74' LT.	———	GATE VALVE & BOX	—		1011.7	ADJUST TO GRADE
W-67	605+36 ±29' LT.	———	GATE VALVE & BOX	—		——	ADJUST TO GRADE
W-68	605+36 ±32' LT.	———	HYDRANT	—		——	ADJUST TO GRADE
W-69	604+35 ±21' LT.	———	GATE VALVE & BOX	—		——	ADJUST TO GRADE
W-70	603+23 - 60' LT.	———	HYDRANT	—	±18'-6" TO BEND	——	RELOCATE WITH 6" 90° BEND
W-71	603+33 ±44' LT.	———	GATE VALVE & BOX	—		——	ADJUST TO GRADE
W-72	603+23 ±8' LT.	———	GATE VALVE & BOX	—		——	ADJUST TO GRADE
W-73	601+26 - 46.5' LT.	———	HYDRANT	—	±35.5-6" TO BEND	——	RELOCATE WITH 6" 90° BEND
W-74	601+26 ±11' LT.	———	GATE VALVE & BOX	—		——	ADJUST TO GRADE
W-75	601+00 ±℄	———	GATE VALVE & BOX	—		——	ADJUST TO GRADE
W-76	221+99 ±35' LT.	———	GATE VALVE & BOX	—		1008.2	ADJUST TO GRADE
W-77	222+02 ±40' LT.	———	GATE VALVE & BOX	—		1011.7	ADJUST TO GRADE
W-78	224+78 ±51' LT.	———	HYDRANT	—		——	ADJUST TO GRADE
W-79	224+85 ±51' LT.	———	GATE VALVE & BOX	—		——	ADJUST TO GRADE

WATERMAIN SCHEDULE

FITTING NO.	CENTERLINE STA.	WATERMAIN ALIGNMENT STATION	DESCRIPTION	FITTING WGT.(LBS)	LINEAR FEET	FLOWLINE ELEVATION	REMARKS
W-80	224+90 ±80' LT.	———	GATE VALVE & BOX	—		——	ADJUST TO GRADE
W-81	224+74 ±40' LT.	———	GATE VALVE & BOX	—		——	ADJUST TO GRADE
W-82	225+09 ±40' LT.	———	GATE VALVE & BOX	—		——	ADJUST TO GRADE
W-83	224+90 ±25' RT.	———	GATE VALVE & BOX	—		——	ADJUST TO GRADE
W-84	224+76 ±39' RT.	———	GATE VALVE & BOX	—		——	ADJUST TO GRADE
W-85	224+82 ±33' LT.	———	GATE VALVE & BOX	—		——	ADJUST TO GRADE
W-86	224+95 ±33' RT.	———	GATE VALVE & BOX	—		——	ADJUST TO GRADE
W-87	228+34 ±79' LT.	———	GATE VALVE & BOX	—		——	ADJUST TO GRADE
W-88	228+41 ±40' LT.	———	GATE VALVE & BOX	—		——	ADJUST TO GRADE
W-89	228+58 ±94' RT.	———	HYDRANT	—	3'-6" TO W-90	——	RELOCATE WITH 6"- 90° BEND
W-90	228+60 ±92' RT.	———	6" GATE VALVE & BOX	—	±15' -6" TO BEND	——	F.&I. 3' FROM W-89
W-91	228+72 ±67' RT.	———	GATE VALVE & BOX	—		——	ADJUST TO GRADE
W-92	228+78 ±48' RT.	———	GATE VALVE & BOX	—		——	ADJUST TO GRADE
W-93	232+47 ±40' LT.	———	GATE VALVE & BOX	—		± ——	ADJUST TO GRADE
W-94	232+58 ±75' LT.	———	GATE VALVE & BOX	—		± ——	ADJUST TO GRADE
W-95	234+21 ±43' LT.	———	GATE VALVE & BOX	—		± ——	ADJUST TO GRADE
W-96	234+53 ±69' RT.	———	HYDRANT	—		——	ADJUST TO GRADE
W-97	234+50 ±56' RT.	———	GATE VALVE & BOX	—		——	ADJUST TO GRADE
W-98	234+46 ±48' RT.	———	GATE VALVE & BOX	—		——	ADJUST TO GRADE
W-99	236+70 ±40' LT.	———	GATE VALVE & BOX	—		——	ADJUST TO GRADE
W-100	238+82 ±44' LT.	———	GATE VALVE & BOX	—		——	ADJUST TO GRADE
W-101	238+82 ±47' LT.	———	HYDRANT	—		——	ADJUST TO GRADE
W-102	239+82 ±73' RT.	———	HYDRANT	—		——	ADJUST TO GRADE
W-103	239+80 ±71' RT.	———	6" GATE VALVE & BOX	—	———	——	F.&I. 3' FROM W-102
W-104	239+77 ±65' RT.	———	GATE VALVE & BOX	—		——	ADJUST TO GRADE
W-105	239+74 ±47' RT.	———	GATE VALVE & BOX	—		——	ADJUST TO GRADE
W-106	241+22 ±40' LT.	———	GATE VALVE & BOX	—		——	ADJUST TO GRADE
W-107	241+27 ±37' LT.	———	GATE VALVE & BOX	—		——	ADJUST TO GRADE
W-108	241+19 ±53' RT.	———	HYDRANT	—	———	——	RELOCATE TO W-18
W-109	241+19 ±50' RT.	———	GATE VALVE & BOX	—	———	——	REMOVE, F.&I. 6" PLUG TO TEE
W-110	241+01 ±47' RT.	———	GATE VALVE & BOX	—		——	ADJUST TO GRADE
W-111	241+27 ±37' RT.	———	GATE VALVE & BOX	—		——	ADJUST TO GRADE
W-112	244+02 ±31' LT.	———	GATE VALVE & BOX	—		——	ADJUST TO GRADE
W-113	249+16.2 - 29' LT.	———	8"x 8" TAPPING SLEEVE & VALVE	—		——	WET TAP
W-114	249+16.2 - 51' RT.	———	8" PLUG °	50		1010.0	FURNISH & INSTALL
W-115	249+16.2 - 51' RT.	249+16.2	8"x 8" TEE	185	80'-8" TO W-113	1010.0	FURNISH & INSTALL
W-116	249+21.2 - 51' RT.	———	1" WATER SERVICE	—	APPROX. 10' -1"	——	STUB TO R.O.W. C105.704
W-117	249+56.2 - 51' RT.	———	1" WATER SERVICE	—	APPROX. 10' -1"	——	STUB TO R.O.W. C105.704
W-118	250+31 - 51' LT.	———	RECONNECT EXIST. SERVICE	—	———	——	EXIST. 3/4" COPPER WATER SERVICE
W-119	250+42.6 - 51' RT.	250+40.2	8" GATE VALVE & BOX	—	124'-8" TO W-115	——	FURNISH & INSTALL
W-120	250+43.6 - 51' RT.	250+43.2	8"x 6" TEE	175	3'-8" TO W-119	——	FURNISH & INSTALL
W-121	250+43.6 - 48' RT.	———	6" GATE VALVE & BOX	—	3'-6" TO W-120	——	FURNISH & INSTALL
W-122	250+43.6 - 43' RT	———	6" HYDRANT	—	3'-6" TO W-121	——	FURNISH & INSTALL
W-123	250+90 - 52' RT.	———	RECONNECT EXIST. SERVICE			——	EXIST. 3/4" COPPER WATER SERVICE
W-124	251+58 - 52' RT.	———	RECONNECT EXIST. SERVICE	—		——	EXIST. 1" COPPER WATER SERVICE
W-125	252+08 - 52' RT.	———	RECONNECT EXIST. SERVICE	—		——	EXIST. 3/4" COPPER WATER SERVICE
W-126	252+96 - 51.2' RT.	———	1" WATER SERVICE		APPROX. 10' -1"	——	SUB TO R.O.W. C150.704
W-127	253+80 - 52' RT.	———	RECONNECT EXIST. SERVICE	—		——	EXIST. 3/4" COPPER WATER SERVICE
W-128	254+05.2 - 52.5' RT.	———	8"x 6" TEE	175	358.9-8" TO W-120	——	FURNISH & INSTALL
W-129	254+05.2 - 49.5' RT.	———	6" GATE VALVE & BOX	—	3'-6" TO W-128	——	FURNISH & INSTALL
W-130	254+05.2 - 46.5' RT.	———	6" HYDRANT	—	3'-6" TO W-128	——	FURNISH & INSTALL
W-131	255+72.2 - 52.7' LT.	———	1" WATER SERVICE	—	APPROX. 10' -1"	——	STUB TO R.O.W. C150.704
W-132	256+50 - 52' RT.	256+20.5	8" - 45° BEND	110	218.4'-8" TO W-128	——	FURNISH & INSTALL
W-133	256+49 - 29' RT.	256+53.7	8" - 45 BEND	110	33.2'-8" TO W-132	——	FURNISH & INSTALL
W-134	256+69 - 29' RT.	256+73.7	8" PLUG	50	20'-8" TO W-133	1004.8	FURNISH & INSTALL
W-135	256+69 - 29' RT.	———	GATE VALVE & BOX	—	———	——	ADJUST TO GRADE
W-136	256+81 - 65' RT.	———	GATE VALVE & BOX	—	———	——	ADJUST TO GRADE
W-137	256+94 - 63' RT.	———	GATE VALVE & BOX	—	———	——	ADJUST TO GRADE
W-138	257+03 - 63' RT.	———	HYDRANT	—	9'-6" TO BEND	——	RELOCATE WITH 6"- 45° BEND
W-139	257+12 - 29' RT.	———	GATE VALVE & BOX	—	———	——	ADJUST TO GRADE
W-140	258+80 - 47' LT.	———	HYDRANT	—	———	——	ADJUST TO GRADE
W-141	258+80 - 44' LT.	———	GATE VALVE & BOX	—	———	——	ADJUST TO GRADE
W-142	258+76 - 29' LT.	———	GATE VALVE & BOX	—	———	——	ADJUST TO GRADE
W-143	256+80 - 26' LT.	———	GATE VALVE & BOX	—	———	——	ADJUST TO GRADE
W-144	255+20 - 44' LT.	———	HYDRANT	—	4'-6" TO BEND	——	RELOCATE WITH 6"- 45° BEND
W-145	255+18 - 35' LT.	———	GATE VALVE & BOX	—	———	——	ADJUST TO GRADE
W-146	251+05 - 34' LT.	———	HYDRANT	—	———	——	RELOCATE TO W-147
W-147	250+87 - 42' LT.	———	HYDRANT	—	———	——	RELOCATE FROM W-146
W-148	249+96 - 31' LT.	———	GATE VALVE & BOX	—	———	——	ADJUST TO GRADE

S206.203 RECONSTRUCT DRAINAGE STRUCTURE

LIN. FT.	PROPOSED LOCATION EL.	EXISTING LOCATION EL.
-5.84	80.6101 RT. 21A. S26+63	80.6101 RT. 21A. S26+63
+3.10	2.6101 LT. 21A. S41+35	2.6101 LT. 21A. S41+35
+0.60	00.7101 LT. 21A. S45+83	00.7101 LT. 21A. S45+83
+5.40	30.1501 RT. 21A. S58+22	30.1501 RT. 21A. S58+22

S206.255 ADJUST FRAME & RING CASTING

EXISTING LOCATION EL.	PROPOSED LOCATION EL.
2a, RT. 21A. S52+03 101.720	2a, RT. 21A. S52+03 101.932
2a, RT. 21A. S55+05 101.808	2a, RT. 21A. S55+05 101.910
2a, RT. 21A. S31+44 101.806	2a, RT. 21A. S31+44 101.910
2a, RT. 21A. S39+22 101.855	2a, RT. 21A. S39+22 101.810
2a, RT. 21A. S41+35 101.730	2a, RT. 21A. S41+35 101.940
4a, RT. 21A. S47+83 101.806	4a, RT. 21A. S47+83 101.656
4a, RT. 21A. S20+05 101.714	4a, RT. 21A. S20+05 101.836
4a, RT. 21A. S23+17 101.700	4a, RT. 21A. S23+17 101.214
*3a, LT. 21A. 1000+82 101.214	3a, LT. 21A. 1000+82 101.404

* STORM SEWER MANHOLE PARTICIPATING.

LIGHT DUTY GATTER GRATE FOR R. C. PIPE APRON

HOT DIP GALVANIZED PER MN/DOT 3392 OR A218M-A123

BAR SIZES							
STANDARD DESIGN					HEAVY DESIGN			
PIPE SIZE	HOLE DIA.	BOLT DIA.	BAR SIZE		PIPE SIZE	HOLE DIA.	BOLT DIA.	BAR SIZE
15"-54"	3\4"	2\8"	2\8"	GRADE	15"-18"	3\4"	2\8"	3\4"
21"-48"	1 1\8"	3\4"	3\4"		21"-48"	1 1\8"	3\4"	1"
24"-30"	1 1\8"	1"	1"		24"-30"	1 1\8"	1"	1 1\4"
54"	3\4"	2\8"	3\4"	HDPA	54"	3\4"	2\8"	3\4"
36"-42"	1\8"	3\4"	1"		36"-42"	1\8"	3\4"	1"
48"-88"	1 1\8"	1"	1 1\4"		48"-88"	1 1\8"	1"	1 1\4"

BOLT LG. = PIPE WALL THK. + 5 1\2"

NOTES FOR ROCK DITCH CHECKS:

1. DITCH CHECKS SHALL BE LEFT IN PLACE.
2. BASIS OF PAYMENT FOR DITCH CHECK SHALL BE UNDER ITEM NO. 5211.201 RANDOM RIPRAP CLASS II.
3. DITCH CHECKS SHALL BE CONSTRUCTED AT LOCATIONS DESIGNATED BY THE ENGINEER DURING CONSTRUCTION.
4. APPROXIMATELY 10 DITCH CHECKS TO BE CONSTRUCTED ON PROJECT.

SECTIONS
ROCK OR STONE DITCH CHECK

BUS SHELTER
CONCRETE SLAB DETAIL FOR RELOCATION

NOTE: FURNISHING AND INSTALLING BUS SHELTER AND NO DIRECT COMPENSATION AT THE LOCATIONS DESIGNATED BY THE ENGINEER. ALL GRANULAR BEDDING AND CONCRETE SLAB WILL BE CONSIDERED TO BE INCIDENTAL TO RELOCATING THE

2 ANCHOR FOR C.S.P. SAFETY APRON

1.5, ANCHORS MAY BE EITHER BOLTED WITH 3-1\2" DIA. BOLTS OR WELDED TO THE APRON.

1.5, ANCHOR SHALL BE MIN. 1\8" THICK AND GALVANIZED AS PER MN\DOT SPEC. 3392.

FURNISHING AND INSTALLING THE 1.5, ANCHOR WILL BE CONSIDERED TO BE INCIDENTAL TO SAFETY APRON INSTALLATION. AND NO DIRECT COMPENSATION WILL BE MADE THEREFOR.

SEED MIXTURE 200 - SEED MIXTURE 1100 - MULCH - DISC ANCHOR - & FERTILIZER

ACRES	LOCATION					
1.0	DITCH & SLOPES	LT. & RT.	21A.	160+00 TO 21A. 555+40		
0.1	DITCH & SLOPES	LT. & RT.	21A.	398+20 TO 21A. 401+20	CR 143	
0.3	DITCH & SLOPES	LT. & RT.	21A.	499+00 TO 21A. 501+00	APPROACH CT 2.E.	
0.3	DITCH & SLOPES		RT. 21A.	600+20 TO 21A. 608+00	PARK LANE 2.E.	
0.2	ABANDONED OLD ROAD	LT.	21A.	1814+00		
0.9	ABANDONED OLD ROAD	LT.	21A.	1749+00		
0.3	ABANDONED OLD ROAD		RT. 21A.	1831+00		
0.1	ABANDONED OLD ROAD		RT. 21A.	1781+00		
0.7	ABANDONED OLD ROAD		RT. 21A.	1731+00		
0.2	ABANDONED OLD ROAD		RT. 21A.	508+00		
14.0	TOTAL 2D. YD2.					

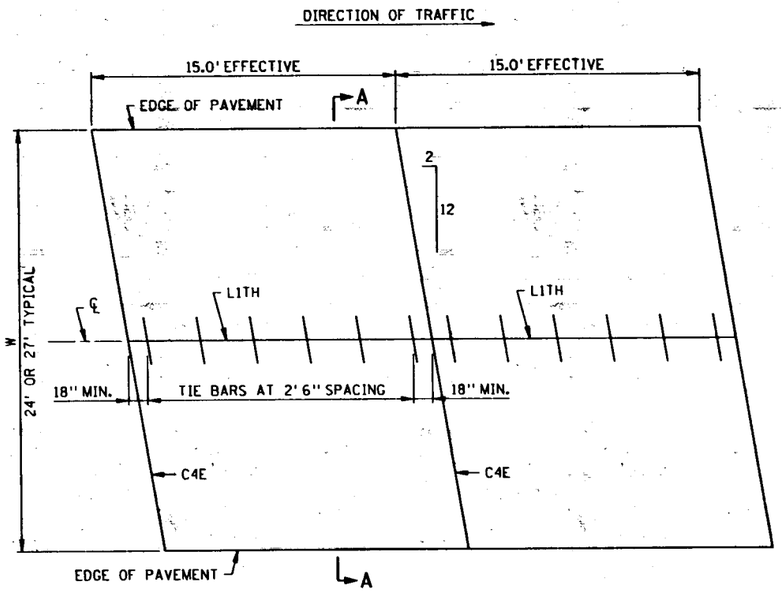
ADDING LOCATIONS

2D. YD.	LOCATIONS				
855	DITCH & SLOPES	LT.	21A.	18+20 TO 21A. 51+00	30 AVE. 2.E.
895	DITCH & SLOPES	LT.	21A.	398+20 TO 21A. 401+20	CR 143
200	DITCH & SLOPES		RT. 21A.	400+00 TO 21A. 401+20	CR 143
1,358	DITCH & SLOPES	LT.	21A.	600+20 TO 21A. 608+00	PARK LANE 2.E.
491	DITCH & SLOPES	LT. & RT.	21A.	1700+20 TO 21A. 1701+20	18 STREET 2.E.
201	DITCH & SLOPES	LT. & RT.	21A.	800+20 TO 21A. 805+50	19 STREET 2.E.
335	DITCH & SLOPES	LT. & RT.	21A.	900+20 TO 21A. 905+00	14 STREET 2.E.
805	DITCH & SLOPES	LT. & RT.	21A.	1000+20 TO 21A. 1005+38	CR 144
19,366	BANK & SLOPES	LT. & RT.	21A.	555+00 TO 21A. 560+00	CZAH 3E
52,511	TOTAL AREAS				

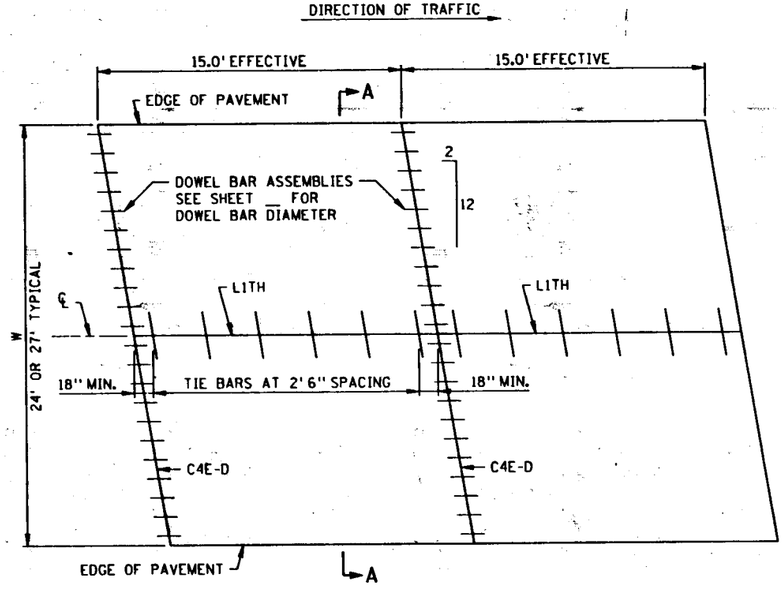
UTILITY LOCATIONS

NOTE: CONTRACTOR SHALL VERIFY ALL UNDERGROUND UTILITIES LOCATIONS AND ELEVATIONS PRIOR TO CONSTRUCTION. ALL INPLACE UTILITIES MAY NOT BE SHOWN ON THIS PLAN.

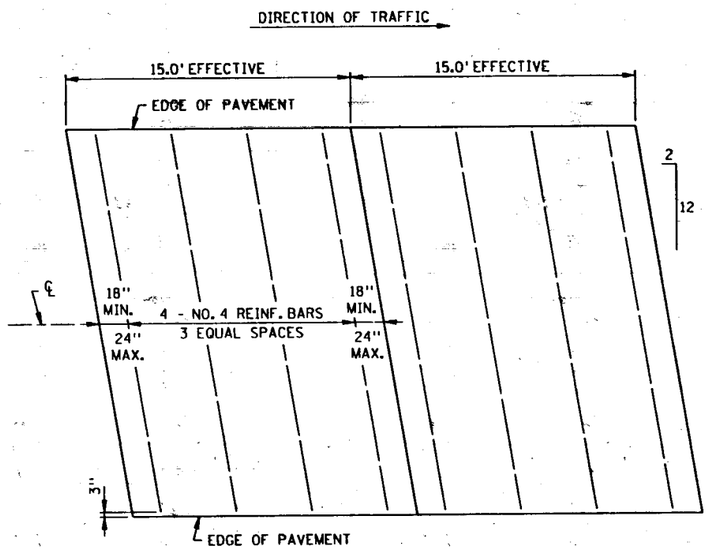
GOPHER STATE ONE CALL 1-800-525-1166



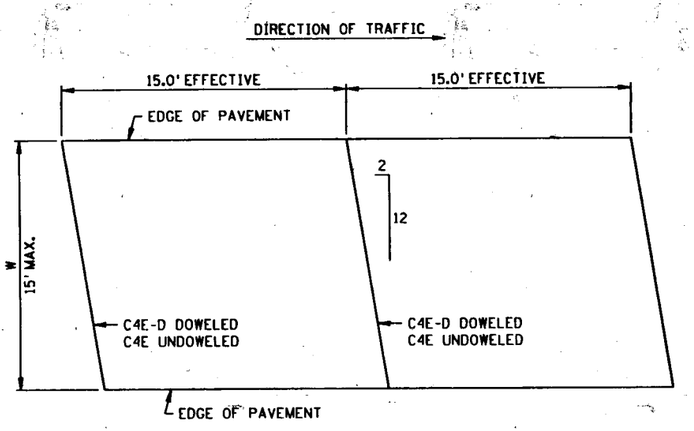
MAINLINE PAVEMENT
UNDOWELED



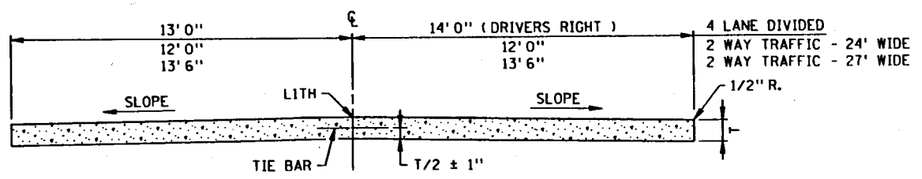
MAINLINE PAVEMENT
DOWELED



SUPPLEMENTAL PANEL REINFORCEMENT



PAVEMENT 2 FT. THRU 15 FT. WIDTH



SECTION A-A

GENERAL NOTES:

WHEN THE PAVEMENT WIDTH EXCEEDS 27 FT., THE LONGITUDINAL JOINT SHALL BE L1TH OR L2KTH AS DESIGNATED.

SEE TYPICAL SECTIONS AND PLAN SHEETS FOR CROSS SLOPES AND PAVEMENT THICKNESS T.

WHEN RIGID PAVEMENT ADJOINS FLEXIBLE PAVEMENT, BRIDGE APPROACHES, R. R. CROSSINGS OR OTHER TYPES OF FREE ENDS, THE FOLLOWING MODIFICATIONS SHALL BE MADE: THE FIRST OR LAST 10 JOINTS SHALL BE DOWELED CONTRACTION JOINTS, C4E-D (SKEWED). TIE BARS SHALL BE SPACED AS SHOWN, EXCEPT THE FIRST AND LAST TIE BAR OF EACH PANEL SHALL BE 18 IN. FROM AND PARALLEL TOTHE CONTRACTION JOINT.

15.0 FT. EFFECTIVE JOINT SPACING IS ACTUAL 13 FT., 16 FT., 14 FT., 17 FT. AND REPEAT JOINT SPACING.

DOWEL BAR ASSEMBLIES, WHEN REQUIRED, SHALL BE SIMILAR TO THOSE SHOWN ON STANDARD PLATE 1103.

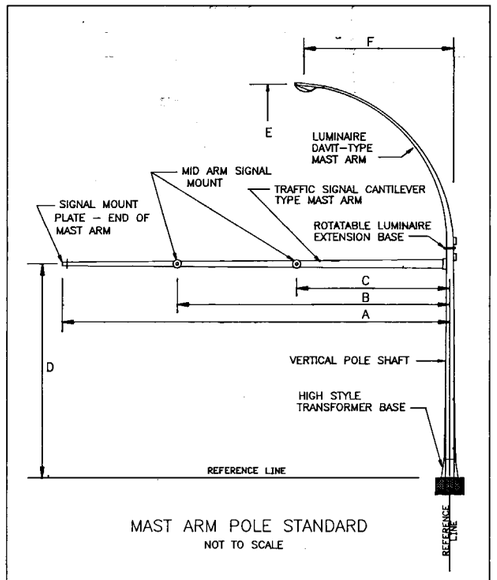
ALL REINFORCING BARS SHALL BE EPOXY COATED IN ACCORDANCE WITH SPEC. 3301 AND SHALL MEET THE REQUIREMENTS OF GRADE 60 FOR AASHTO M-31 OR M-53. FOR ADDITIONAL REINFORCEMENT OVER CULVERTS, SEE STANDARD PLATE 1070.

TIE BARS:
USE NO. 4 BARS 2'6" LONG, AT 2'6" SPACING.

SUPPLEMENTAL PANEL REINFORCEMENT:
PLACE NO. 4 BARS IN PANELS WHERE PAVEMENT WIDTHS EXCEED 16 FT. WITHOUT A LONGITUDINAL JOINT, AND IN THE MIDDLE LANE WHERE TIED PAVEMENT WIDTHS EXCEED 30 FT. PLACEMENT DEPTH SHALL BE PLANNED T/2 ± 1 IN.

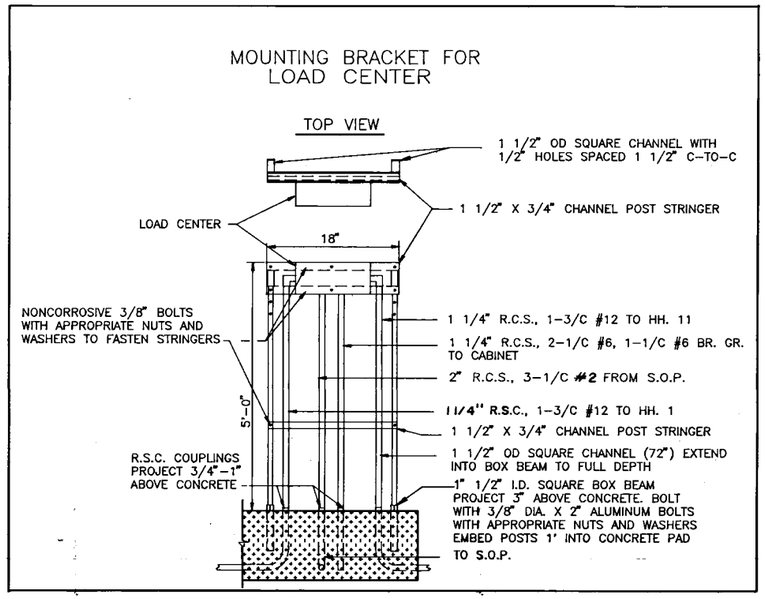
STANDARD SHEET NO. 5-297.217 (1 OF 2)	TITLE: NON-REINFORCED CONCRETE MAINLINE PAVEMENT WITH SKEWED JOINTS
STANDARD APPROVED: JANUARY 25, 1993	15.0 FT. EFFECTIVE PANELS (T = 10 IN. OR LESS)
STATE PROJ. NO. 55-636-01 & 55-636-02	SHEET NO. 43 OF 140 SHEETS

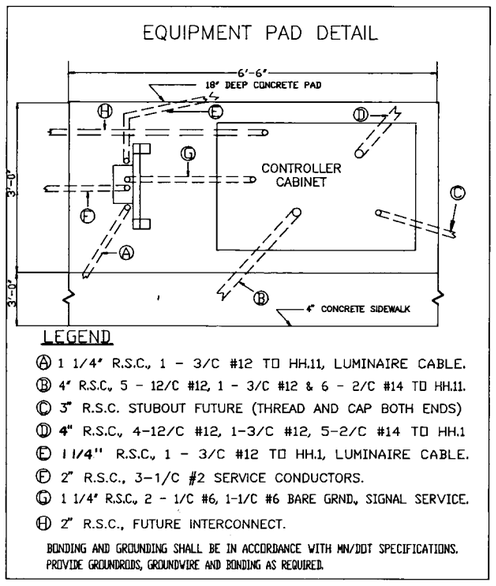
SERVER CA64S1:/USR/STANDARDS FILE NAME S2171A93.SPN



MAST ARM POLE STANDARD
NOT TO SCALE

QTY.	POLE	A	B	C	D	E	F
1	R100-A35-D40-12	35'0"	12'0"	—	19'6"	40'0"	12'0"
1	R100-A30-D40-12	30'0"	12'0"	—	19'6"	40'0"	12'0"
2	R100-A30-D40-12	30'0"		—	19'6"	40'0"	12'0"

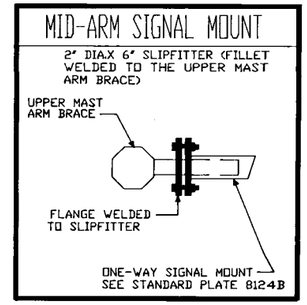




LEGEND

Ⓐ 1 1/4" R.S.C., 1 - 3/C #12 TO HH.11, LUMINAIRE CABLE.
Ⓑ 4" R.S.C., 5 - 12/C #12, 1 - 3/C #12 & 6 - 2/C #14 TO HH.11.
Ⓒ 3" R.S.C. STUBOUT FUTURE (THREAD AND CAP BOTH ENDS)
Ⓓ 4" R.S.C., 4-12/C #12, 1-3/C #12, 5-2/C #14 TO HH.1
Ⓔ 1 1/4" R.S.C., 1 - 3/C #12 TO HH.1, LUMINAIRE CABLE.
Ⓕ 2" R.S.C., 3-1/C #2 SERVICE CONDUCTORS.
Ⓖ 1 1/4" R.S.C., 2 - 1/C #6, 1-1/C #6 BARE GRND., SIGNAL SERVICE.
Ⓗ 2" R.S.C., FUTURE INTERCONNECT.

BONDING AND GROUNDING SHALL BE IN ACCORDANCE WITH MN/DOT SPECIFICATIONS. PROVIDE GROUNDRODS, GROUNDWIRE AND BONDING AS REQUIRED.



THE FOLLOWING STANDARD PLATES, APPROVED BY THE FEDRAL HIGHWAY ADMINISTRATION, SHALL APPLY ON THIS PROJECT

STANDARD PLATES	
PLATE NO.	DESCRIPTION
8110 C	TRAFFIC SIGNAL BRACKETING (POLE MOUNTED)
8111 B	TRAFFIC SIGNAL BRACKETING (PEDESTAL MOUNTED)
8112 C	PEDESTAL FOUNDATION
8115 C	PEDESTRIAN PUSH BUTTON INSTALLATION
8119 C	GROUND MOUNTED CABINET FOUNDATION
8120 J	PA85 & PA90 POLE FOUNDATION
8122 C	PEDESTAL & PEDESTAL BASE
8123 C	POLE & MAST ARM (LUMINAIRE & TRAFFIC LIGHTS)
8124 D	SIGNAL HEAD MOUNTS
8126 E	PA100 POLE FOUNDATION
8130 D	SAW CUT LOOP DETECTORS
0005 A	SPECIFICATION REFERENCE TO STEEL POLE

CONSTRUCTION NOTES:

1. THE EXACT LOCATION OF ALL INSTALLATIONS WILL BE MADE IN THE FIELD, BY THE ENGINEER.
2. NEW HANDHOLES SHALL BE P.V.C. WITH CONCRETE COVERS.(SEE SPECIAL PROVISIONS)
3. DETECTOR LOOPS TO BE SAW CUT IN ROADWAY SURFACE AND SHALL BE APPROXIMATELY OF SIZE AND SHAPE SHOWN.
4. CITY TO SUPPLY TO THE CONTRACTOR, AT NO EXPENSE TO THE CONTRACTOR, CONTROLLER CABINET, AND ALL NECESSARY CONTROL EQUIPMENT.
5. CONTRACTOR SHALL REMOVE AND SALVAGE EXISTING SIGNAL SYSTEM AS SPECIFIED IN THE SPECIAL PROVISIONS AND SHOWN IN THE PLAN.
6. CONTRACTOR SHALL FURNISH AND INSTALL ALL OTHER NEW SIGNAL EQUIPMENT, CONDUIT, CABLE, HANDHOLES, MOUNTING HARDWARE, MAST ARM POLE STANDARDS AND ALL OTHER NECESSARY MATERIALS.
7. CONTRACTOR SHALL SUPPLY AND MAINTAIN ALL SIGNS AND BARRICADES AS NECESSARY TO PROTECT THE SIGNAL CONSTUCTION WORK AREA.
8. CONTRACTOR SHALL WORK IN FULL COOPERATION WITH "ROCHESTER PUBLIC UTILITIES" OF ROCHESTER FOR INSTALLATION OF THE NEW SIGNAL AND STREET LIGHTING SERVICE.
9. ALL NEW PERMANENT SIGNS WILL BE SUPPLIED AND INSTALLED BY OTHERS.

DETAILS

MARION ROAD SE. @ PARK LANE SE.

(1) TYPE R100 – A30 – D40 – 12 (DAVIT AT 350°)
PA90 POLE FOUNDATION (MIN. 10 FT. DEPTH)
ONE-WAY SIGNAL (OVERHEAD, END MOUNTED)
TYPE 10 B (POLE MOUNTED, 0°)
TYPE 10 A (POLE MOUNTED, 270°)
1 – PEDESTRIAN PUSHBUTTON AND SIGN (R10–4C)
LUMINAIRE – 250 WATT H.P.S. W/P.E.C.

EXTEND INTO H.H.3
1 – 3 IN. R.S.C.
2 – 12/C #12
2 – 3/C #12

(2) TYPE R100 – A30 – D40 – 12 (DAVIT AT 350°)
PA90 POLE FOUNDATION (MIN. 10 FT. DEPTH)
ONE-WAY SIGNAL (OVERHEAD, END MOUNTED)
ONE-WAY SIGNAL (OVERHEAD, MIDARM MOUNTED AT 12 FT.FROM END)
TYPE 10 A (POLE MOUNTED, 270°)
LUMINAIRE – 250 WATT H.P.S. W/P.E.C.

EXTEND INTO H.H.6
1 – 3 IN. R.S.C.
2 – 12/C #12
1 – 3/C #12

(3) TYPE 10 FT. PEDESTAL POLE
PEDESTAL FOUNDATION (STANDARD PLATE 8112–C)
TYPE 1B
PEDESTRIAN PUSHBUTTON AND SIGN (R10–4C)

EXTEND INTO H.H.7
1 – 3 IN. R.S.C.
1 – 12/C #12
1 – 3/C #12

(4) TYPE R100 – A30 – D40 – 12 (DAVIT AT 350°)
PA90 POLE FOUNDATION (MIN. 10 FT. DEPTH)
ONE-WAY SIGNAL (OVERHEAD, END MOUNTED)
2 – TYPE 10 B (POLE MOUNTED, 0° & 270°)
2 – PEDESTRIAN PUSHBUTTON AND SIGN (R10–4C)
LUMINAIRE – 250 WATT H.P.S. W/P.E.C.

EXTEND INTO H.H.8
1 – 3 IN. R.S.C.
2 – 12/C #12
4 – 3/C #12

(5) TYPE R100 – A35 – D40 – 12 (DAVIT AT 350°)
PA 90 POLE FOUNDATION (MIN. 10 FT. DEPTH)
ONE-WAY SIGNAL (OVERHEAD, END MOUNTED)
ONE-WAY SIGNAL (OVERHEAD, MIDARM MOUNTED AT 12 FT.FROM END)
2–TYPE 10 B (POLE MOUNTED, 0° & 270°)
2–PEDESTRIAN PUSHBUTTON AND SIGN (R10–4C)
LUMINAIRE – 250 WATT H.P.S. W/P.E.C.

EXTEND INTO H.H.1
1 – 3 IN. R.S.C.
2 – 12/C #12
4 – 3/C #12

(A) EQUIPMENT PAD (SEE DETAIL)
CONTROLLER AND CABINET
LOAD CENTER (PAD MOUNTED)

CABINET TO HH.1
1 – 4 IN. R.S.C.
4 – 12/C #12
1 – 3/C #12
5 – 2/C #14

LOAD CENTER TO CABINET
1 – 1 1/4 IN. R.S.C.
2 – 1/C #6
1 – 1/C #6 BR.GRND.

CABINET TO HH.11
1 – 4 IN. R.S.C.
5 – 12/C #12
1 – 3/C #12
6 – 2/C #14

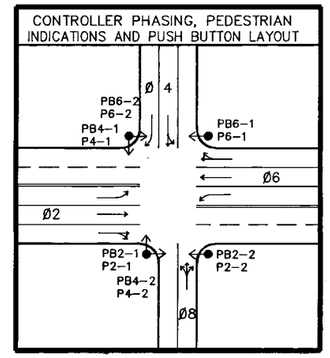
LOAD CENTER TO HH.1
1-1 1/4 IN. R.S.C.
1 – 3/C #12

LOAD CENTER TO HH.11
1 – 1 1/4 IN. R.S.C.
1 – 3/C #12

(B) SOURCE OF POWER
ROCHESTER PUBLIC UTILITIES POWER POLE
FURNISH AND INSTALL 2 IN. RISER WITH WEATHERHEAD
EXTEND INTO LOAD CENTER ON EQUIPMENT PAD.
1 – 2 IN. R.S.C.
3 – 1/C #2

DETECTOR CHART				
LOOP	PHASE	SIZE	FUNCTION	LOCATION
D1–1	6	MULTIPLE	1	———
D2–1	2	6'X 6'	1	250'
D2–2	2	6'X 6'	1	250'
D2–3	2	6'X 6'	1	250'
D4–1	4	6'X 6'	1	STOPLINE
D4–2	4	MULTIPLE	1	———
D5–1	2	MULTIPLE	1	———
D6–1	6	6'X 6'	1	250'
D6–2	6	6'X 6'	1	250'
D6–3	6	6'X 6'	1	250'
D8–1	8	MULTIPLE	1	———

FUNCTION= 1 = CALL AND EXTEND
LOCATION= DISTANCE FROM STOP BAR TO DETECTOR



NOTE:

1. EACH VEHICLE SIGNAL FACE SHALL BE 3 SECTION 12 INCH R–Y–G
2. EACH VEHICLE SIGNAL FACE SHALL HAVE A BACKGROUND SHIELD AND TUNNEL TYPE VISORS.
3. ALL PEDESTRIAN INDICATIONS SHALL BE 12 INCH x 12 INCH WITH WALK AND DON'T WALK MESSAGES.
4. S.O.P. WOOD POLE INPLACE – FURNISH AND INSTALL 2 INCH R.S.C. RISER AND WEATHERHEAD.
5. PAD MOUNTED SERVICE EQUIPMENT SHALL INCLUDE:
   A. LOAD CENTER AS PER MN/DOT 3837.2
   B. 3 – 1/C #2 COPPER CONDUCTORS FROM LOAD CENTER THRU WEATHERHEAD.
   C. GROUNDING AND BONDING AS PER ELECTRICAL CODE.
   D. 1 EACH 100 AMP 2 – POLE MAIN BREAKER
   E. 1 EACH 50 AMP 1 – POLE SIGNAL SERVICE
   F. 2 EACH 20 AMP 1 – POLE STREET LIGHT SERVICE
6. SIGNAL SYSTEM FLASH MODE IS ALL RED
7. ALL VEHICLE AND PEDESTRIAN SIGNAL FACES SHALL BE COVERED UNTIL ENTIRE SYSTEM IS ENERGIZED BY THE ENGINEER.

INTERSECTION LAYOUT

MARION ROAD SE @ PARK LANE SE

PROJ. NO. 55-636-01 & 55-636-02 SHEET 47 OF 140 SHEETS

ABBREVIATIONS

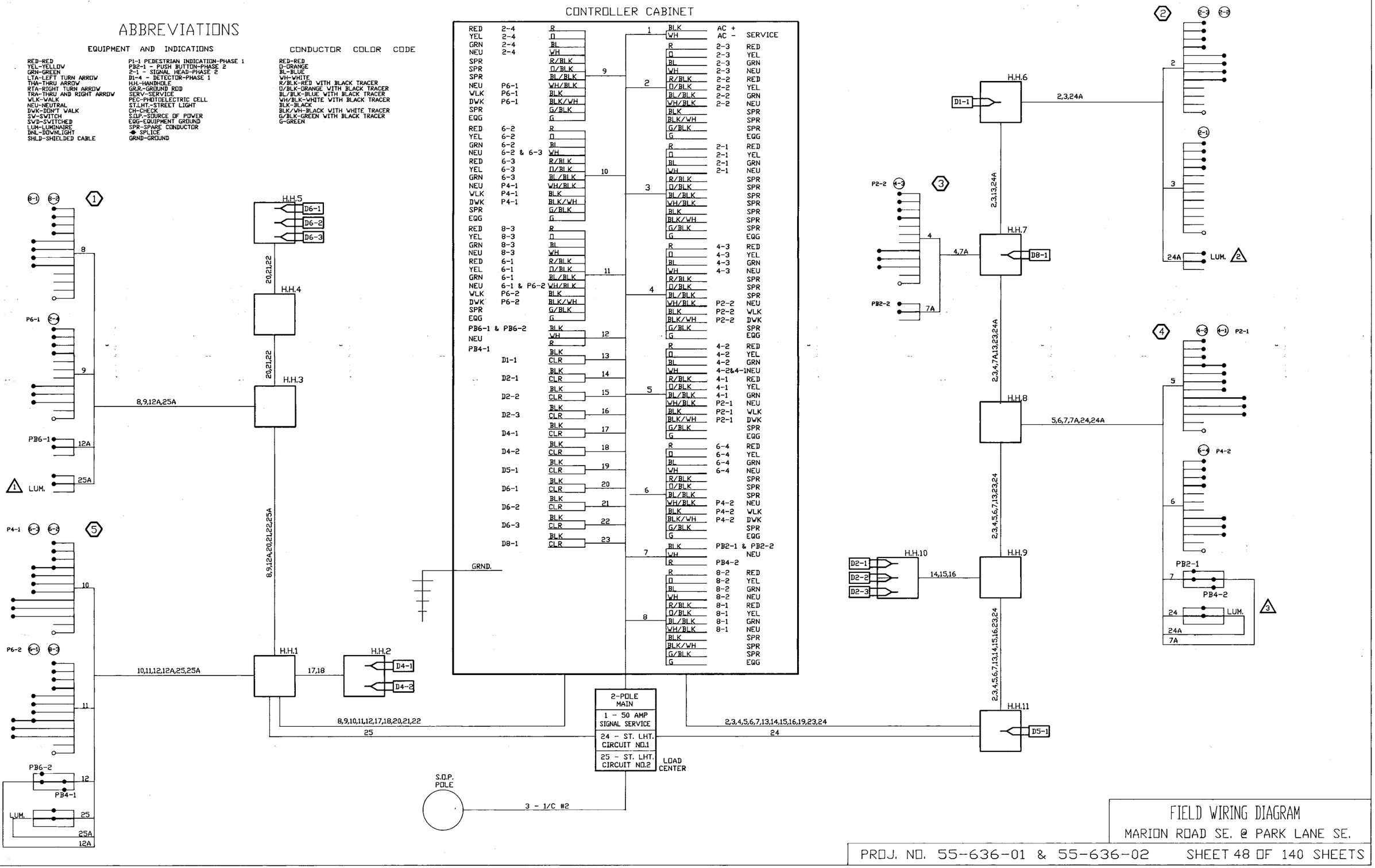
EQUIPMENT AND INDICATIONS

RED-RED
YEL-YELLOW
GRN-GREEN
LTA-LEFT TURN ARROW
THA-THRU ARROW
RTA-RIGHT TURN ARROW
TRA-THRU AND RIGHT ARROW
WLK-WALK
NEU-NEUTRAL
DWK-DON'T WALK
SW-SWITCH
SWD-SWITCHED
LUM-LUMINAIRE
DNL-DOWNLIGHT
SHLD-SHIELDED CABLE

P1-1 PEDESTRIAN INDICATION-PHASE 1
PB2-1 - PUSH BUTTON-PHASE 2
2-1 - SIGNAL HEAD-PHASE 2
D1-4 - DETECTOR-PHASE 1
H.H.-HANDHOLE
GR.R.-GROUND ROD
SERV-SERVICE
PEC-PHOTOELECTRIC CELL
ST.LHT.-STREET LIGHT
CH-CHECK
S.O.P.-SOURCE OF POWER
EQG-EQUIPMENT GROUND
SPR-SPARE CONDUCTOR
◆ SPLICE
GRND-GROUND

CONDUCTOR COLOR CODE

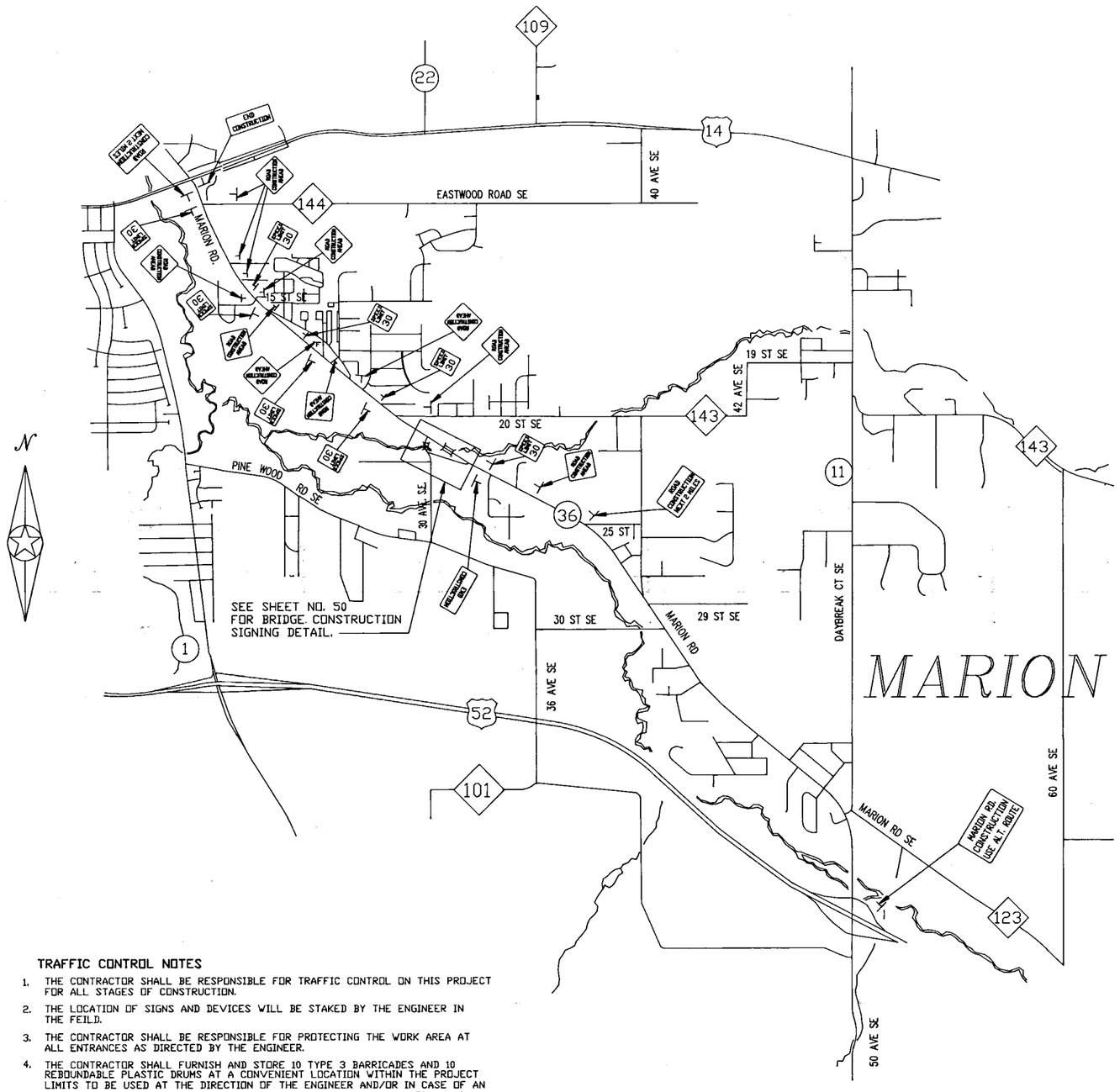
RED-RED
O-ORANGE
BL-BLUE
WH-WHITE
R/BLK-RED WITH BLACK TRACER
O/BLK-ORANGE WITH BLACK TRACER
BL/BLK-BLUE WITH BLACK TRACER
WH/BLK-WHITE WITH BLACK TRACER
BLK-BLACK
BLK/WH-BLACK WITH WHITE TRACER
G/BLK-GREEN WITH BLACK TRACER
G-GREEN



FIELD WIRING DIAGRAM

MARION ROAD SE. @ PARK LANE SE.

PROJ. NO. 55-636-01 & 55-636-02 SHEET 48 OF 140 SHEETS



TRAFFIC CONTROL NOTES

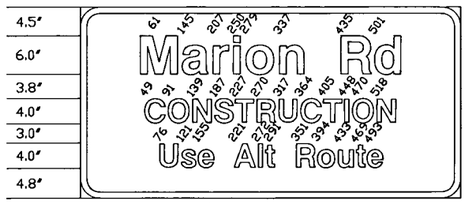
1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TRAFFIC CONTROL ON THIS PROJECT FOR ALL STAGES OF CONSTRUCTION.
2. THE LOCATION OF SIGNS AND DEVICES WILL BE STAKED BY THE ENGINEER IN THE FEILD.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING THE WORK AREA AT ALL ENTRANCES AS DIRECTED BY THE ENGINEER.
4. THE CONTRACTOR SHALL FURNISH AND STORE 10 TYPE 3 BARRICADES AND 10 REBOUNDABLE PLASTIC DRUMS AT A CONVENIENT LOCATION WITHIN THE PROJECT LIMITS TO BE USED AT THE DIRECTION OF THE ENGINEER AND/OR IN CASE OF AN EMERGENCY. THESE ITEMS ARE INCLUDED IN THE ESTIMATE OF TRAFFIC CONTROL DEVICES.
5. TRAFFIC CONTROL FOR ALL DROP-OFFS AND HIGH/LOW SHOULDERS, ETC. SHALL BE PROVIDED AS DETAILED ON THE NEXT SHEET. THESE ITEMS ARE NOT INCLUDED IN THE ESTIMATE OF TRAFFIC CONTROL DEVICES.
6. THE CONTRACTOR SHALL COVER, REMOVE, OR CHANGE INPLACE SIGNS THAT CONFLICT WITH THE TRAFFIC PATTERNS AS DIRECTED BY THE ENGINEER. ALL SIGNS ALTERED BY THE CONTRACTOR SHALL BE RETURNED TO THEIR ORIGINAL STATUS UPON COMPLETION OF THE PROJECT.
7. ALL BARRICADES ON THIS PROJECT SHALL BE REFLECTORIZED ON BOTH SIDES.
8. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES INCLUDING APPENDIX 'B' DATED NOV. 1992
9. CONSTRUCTION ZONE SIGNING SHALL ALSO BE THE RESPONSIBILITY OF THE CONTRACTOR AND WILL INCLUDE, BUT NOT LIMITED TO, SIGNS FOR LANE CLOSURE, MACHINERY AHEAD, BUMP, DIP, LOOSE GRAVEL, ETC. THE NUMBER AND LOCATION WILL BE DETERMINED BY THE CONTRACTORS OPERATIONS.

TRAFFIC CONTROL LEGEND

⊥ POST OR STAND MOUNTED SIGN
⊔ TYPE III BARRICADE

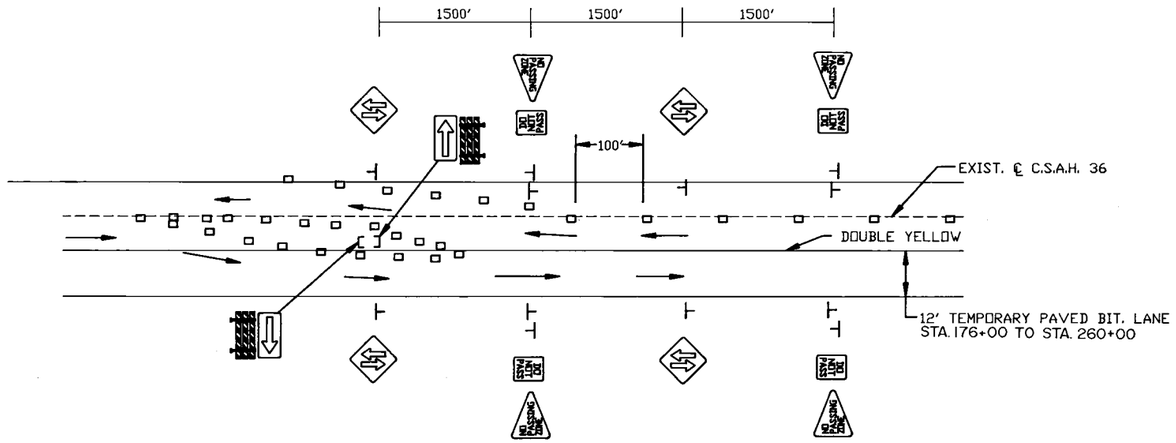
ESTIMATE OF TRAFFIC CONTROL DEVICES

DEVICE	NUMBER	SIZE	COLOR	QUANTITY	DEVICE	NUMBER	SIZE	COLOR	QUANTITY
ROAD CONSTRUCTION NEXT 2 MILES	G20-1	60 x 36	BLK/OR	2		W3-1A	36 x 36	BLK/RD/OR	1
END CONSTRUCTION	G20-2	60 x 24	BLK/OR	2	NARROW BRIDGE	W5-2AP	36 x 36	BLK/OR	2
DETOUR	M4-9T	30 x 24	BLK/OR	3		W6-3	36 x 36	BLK/OR	8
DETOUR	M4-10L	48 x 18	BLK/OR	1	10 M.P.H.	W13-1	18 x 18	BLK/OR	6
DETOUR	M4-10R	48 x 18	BLK/OR	1	20 M.P.H.	W13-1	18 x 18	BLK/OR	2
STOP	R1-1	30 x 30	WH/RD	11	NO PASSING ZONE	W14-3	36 x 48 x 48	BLK/OR	8
SPEED LIMIT 30	R2-1	24 x 30	BLK/WH	8	ROAD CONSTRUCTION AHEAD	W20-1	36 x 36	BLK/OR	12
DO NOT PASS	R4-1	24 x 30	BLK/WH	8	DETOUR AHEAD	W20-2	36 x 36	BLK/OR	2
ROAD CLOSED	R11-2	48 x 30	BLK/WH	22	ROAD CLOSED AHEAD	W20-3	36 x 36	BLK/OR	2
	W1-1L	36 x 36	BLK/OR	1	MARION RD. CONSTRUCTION USE ALT. ROUTE	SPECIAL	60 x 30	BLK/OR	1
	W1-1R	36 x 36	BLK/OR	1		TYPE III	MIN. 6'	OR & BLK	92
	W1-3L	36 x 36	BLK/OR	2		DRUM LIKE CHANNELIZER	APPROX. 36"	WHT & OR	170
	W1-6	48 x 24	BLK/OR	2					

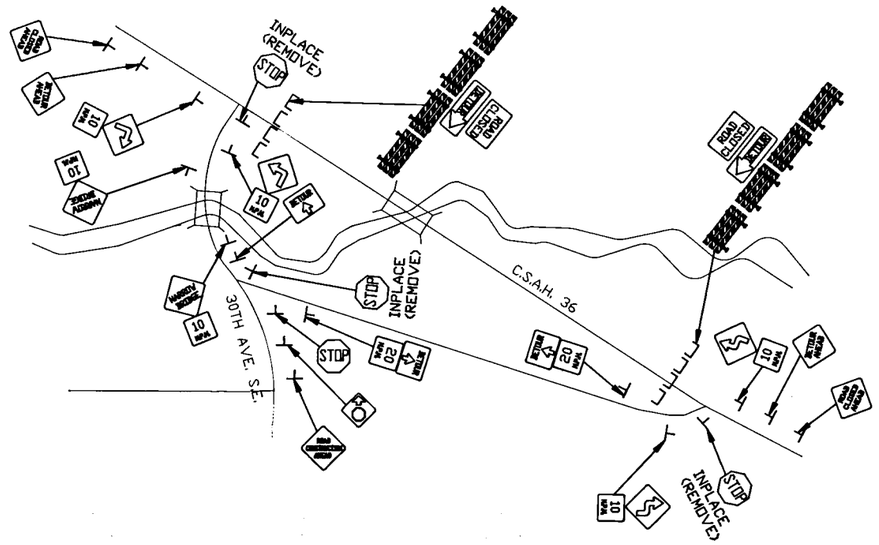


60"x 30", 3"R. 1.0"B.
LINE 1 47.8 : 6'-4" E MOD.
LINE 2 50.2 : 4" E MOD.
LINE 3 44.8 : 4'-3" E MOD.

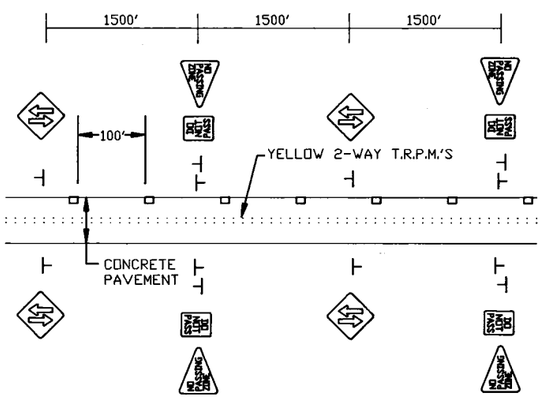
TRAFFIC CONTROL PLAN



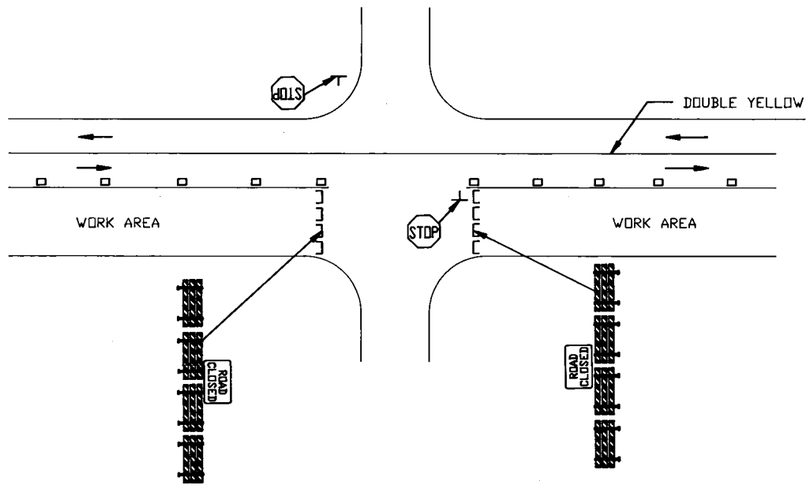
STAGE 1 TYPICAL TWO-WAY SECTION



SIGNING DETAIL
FOR CONSTRUCTION OF BRIDGE



STAGE II TYPICAL TWO-WAY SECTION



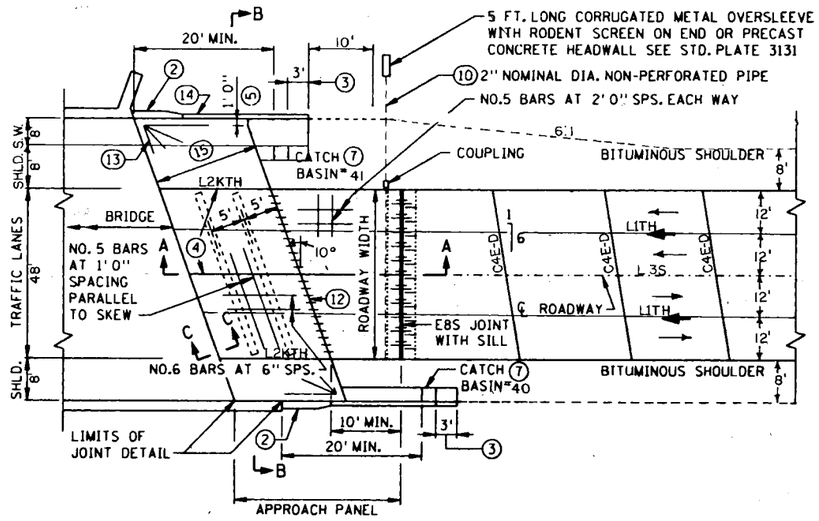
TYPICAL SIGNING
FOR PUBLIC ROAD INTERSECTIONS

NOTE: INSTALL YELLOW 2-WAY TEMPORARY RAISED PAVEMENT MARKERS TO SIMULATE A DOUBLE SOLID YELLOW CENTERLINE. THIS WILL REQUIRE PLACING THE T.R.P.M.'S SIDE BY SIDE AT 10' SPACING ALONG THE CENTERLINE. (APPROX. 2,000 T.R.P.M.'S)

TRAFFIC CONTROL LEGEND

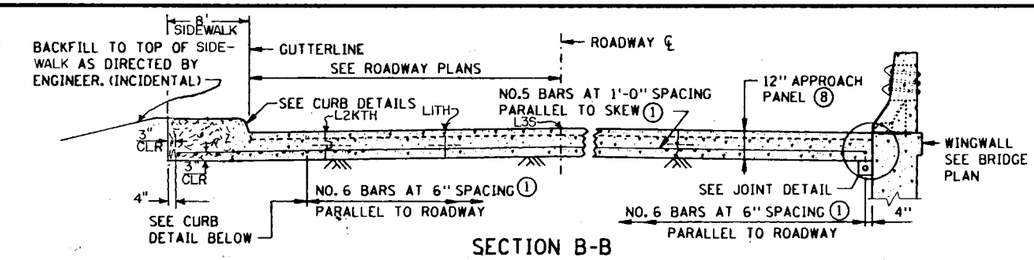
⊥ POST OR STAND MOUNTED SIGN
□ TYPE III BARRICADE
□ BARREL

TRAFFIC CONTROL PLAN



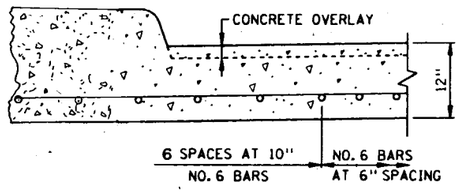
NON – DIVIDED-URBAN ROADWAY PLAN

PARALLEL & NONPARALLEL WINGWALLS



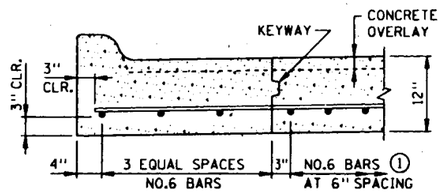
SECTION B-B

(SEE ROADWAY PLAN VIEW)



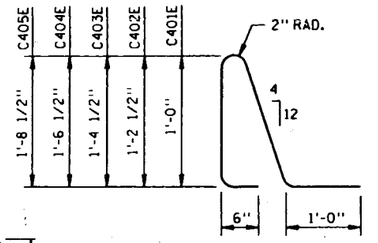
CURB DETAIL

(B4 INTEGRANT CURB)

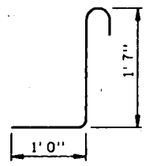


CURB DETAIL

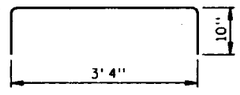
(B424 MODIFIED CURB AND GUTTER)



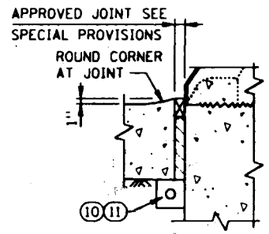
C401E- C405E (1)



S406E

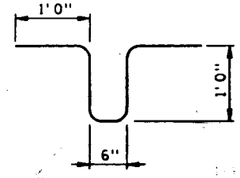


S407E

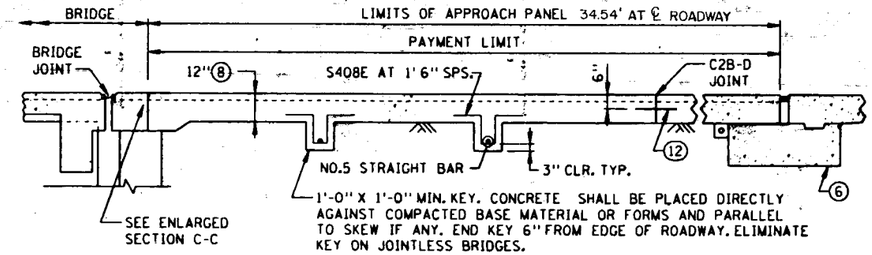


JOINT DETAIL

(AT PARALLEL WINGWALLS)

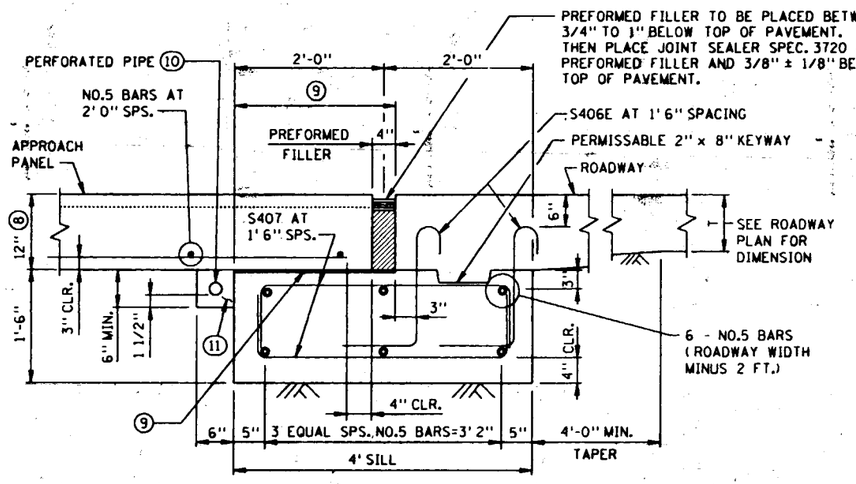


S408E

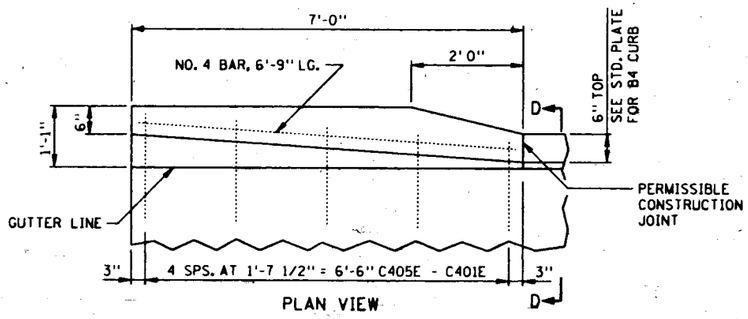


SECTION A-A

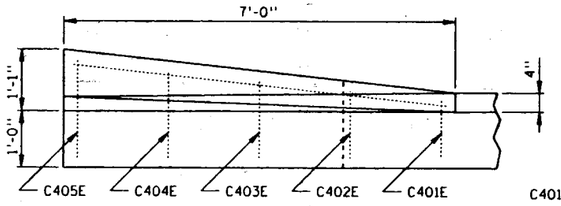
(SOME REINFORCEMENT NOT SHOWN)



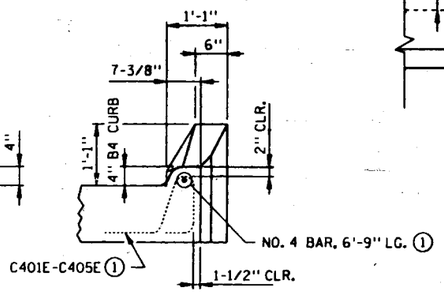
E8S JOINT DETAIL (6)



PLAN VIEW

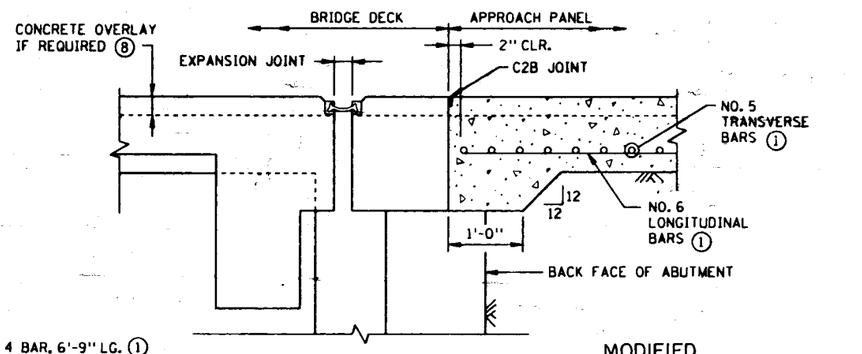


INSIDE ELEVATION



SECTION D-D

CURB TRANSITION DETAILS



SECTION C-C

(PARAPET ABUTMENT SHOWN)

NOTES:

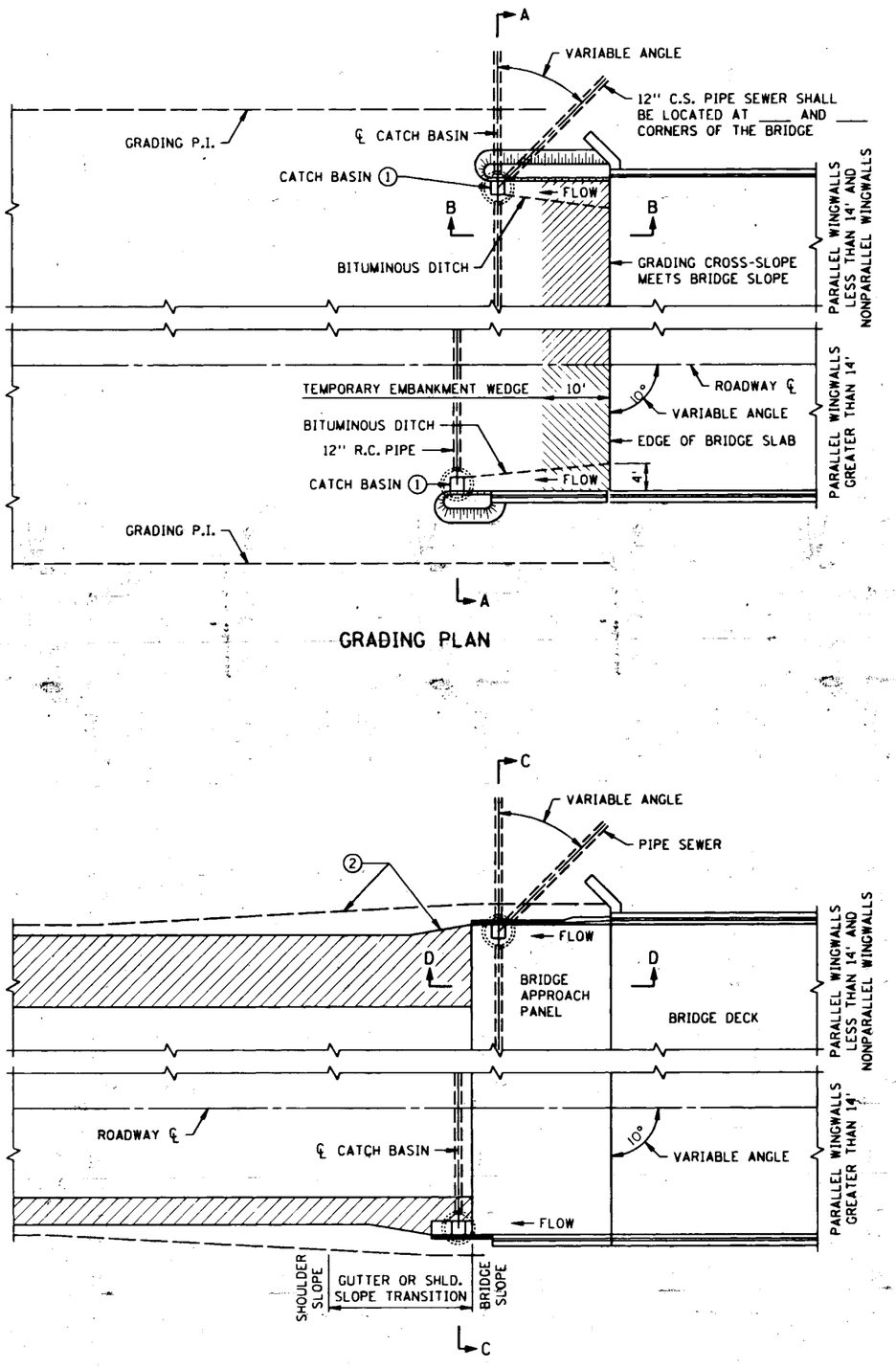
1. ALL REINFORCEMENT IN APPROACH PANEL, SILL CURB AND SIDEWALK SHALL BE GRADE 60 AND EPOXY COATED AS PER SPEC. 3301.
2. TRANSITION FACE OF 4" CURB INTO PROFILE OF BRIDGE RAILING. SEE CURB TRANSITION DETAILS.
3. TRANSITION APPROACH PANEL CURB HEIGHT 4" TO 0" WHERE THERE IS NO ROADWAY CURB.
4. L2KTH OR L1TH LONGITUDINAL JOINTS AS REQUIRED SEE STANDARD PAVEMENT JOINT SHEET FOR DETAILS.
5. EDGE OF PANEL PERPENDICULAR TO GUTTER FOR SKEWS OVER 45°.
6. 1'6" X 4' CONCRETE SILL UNDER TRAFFIC LANES ONLY WHEN MAINLINE ROADWAY PAVEMENT IS CONCRETE. CONCRETE SILL AND CURBING IF REQUIRED IS INCLUDED IN APPROACH PANEL PAY ITEM.
7. LOCATION MAY BE ON OR OFF THE APPROACH PANEL AS DETERMINED BY THE DESIGNER. SEE ROAD DESIGN MANUAL CHAPTER 7 FOR CATCH BASIN INFORMATION. CB#40-31' RIGHT STA. 171+95.09 AND CB#41 31' LEFT STA. 172+14.61.
8. APPROACH SLAB THICKNESS SHOWN INCLUDES ANY CONCRETE OVERLAY THAT MAY BE REQUIRED. CHECK BRIDGE PLANS FOR OVERLAYS. CONCRETE OVERLAYS TO BE INCLUDED IN BRIDGE QUANTITIES AND DONE AT THE SAME TIME BY BRIDGE CONTRACTOR.
9. 1/8" THICK PLASTIC SHEETING SPEC. 3756 TO BREAK BOND. COVER AREA SHOWN IN DETAIL.
10. 2" NOMINAL DIA. THERMOPLASTIC PIPE, AS PER ASTM 1785, 1120, OR 2120, SCHEDULE 80. SLOPE PIPE TO DITCH ON LOW SIDE. FURNISHING AND INSTALLING DRAIN SYSTEM SHALL BE INCIDENTAL, WITH NO DIRECT PAYMENT. WRAP PERFORATED PIPE WITH GEOTEXTILE AS PER SPEC. 3733. 1/8" PER FT. MINIMUM SLOPE.
11. BACKFILL WITH FINE AGGREGATE, SPEC. 3149. MODIFIED TO 0-3% PASSING A NO. 200 SIEVE.
12. CONTRACTION JOINT C2B-D WITH 1-1/2" DIA. X 1'6" LG. EPOXY COATED DOWEL BARS AT 1'0" SPACING PARALLEL TO ℄ OF ROADWAY. CAGES NOT REQUIRED.
13. FAN 4 - NO.5 BARS 8 FEET LONG AS SHOWN FOR SKEWS OVER 45°.
14. SEE STANDARD PLAN SHEET FOR BRIDGE APPROACH TRANSITION INFORMATION.
15. 20 FEET TO 40°, 15 FEET OVER 40°.

MODIFIED

STANDARD SHEET NO.	TITLE:
5-297.223	BRIDGE APPROACH PANEL WITH OR WITHOUT CONCRETE OVERLAY CONCRETE ROADWAY
STANDARD APPROVED: NOVEMBER 25, 1992	

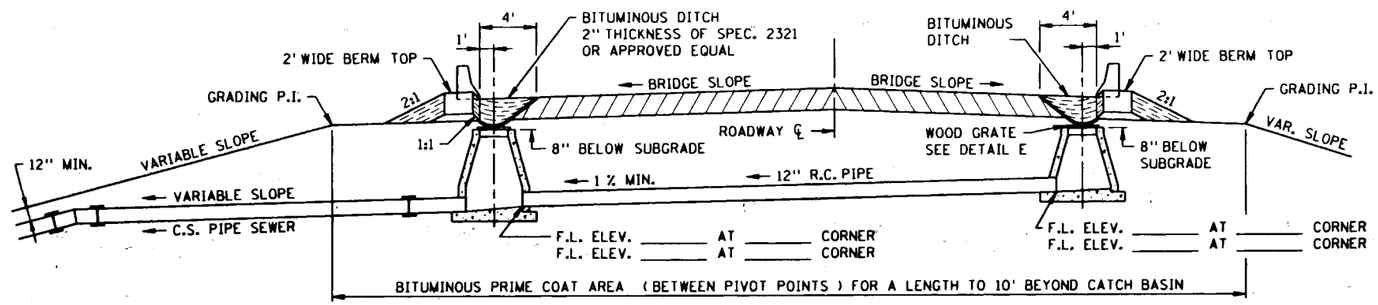
STATE PROJ. NO. 55-636-01 & 55-636-02 SHEET NO. 107 OF 140 SHEETS

SERVER CA645I:/USR/STANDARDS FILE NAME S223K92.SPN

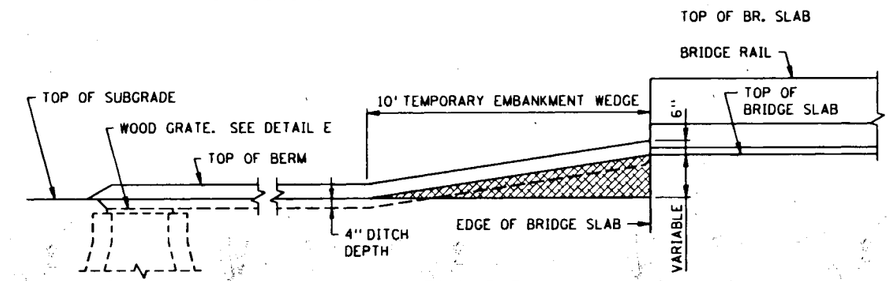


GRADING PLAN

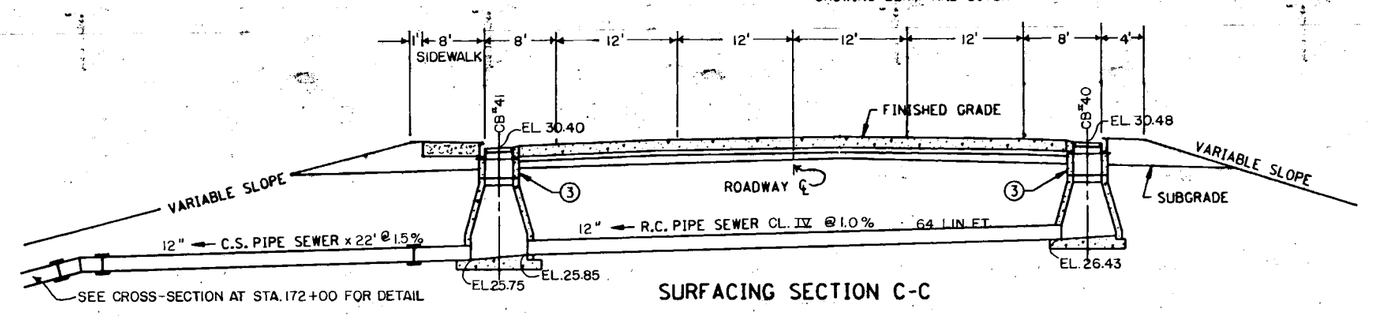
SURFACING PLAN



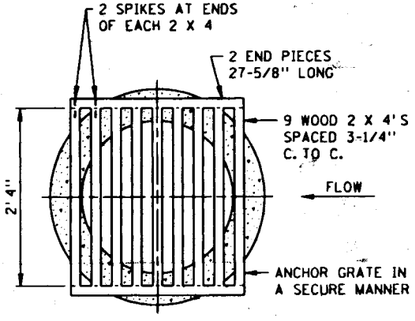
GRADING SECTION A-A



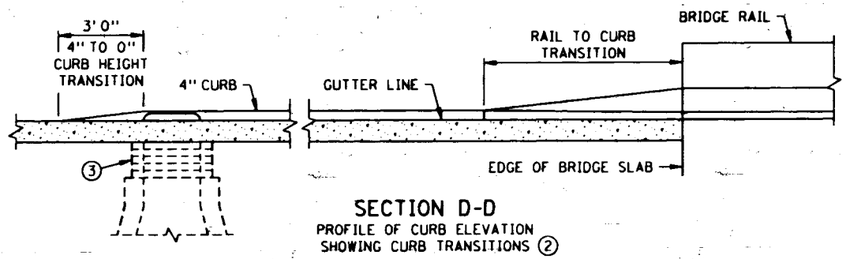
SECTION B-B
PROFILE OF TEMPORARY EMBANKMENT WEDGE SHOWING BERM AND DITCH



SURFACING SECTION C-C



DETAIL E
PLAN OF TEMPORARY WOOD GRATE



SECTION D-D
PROFILE OF CURB ELEVATION SHOWING CURB TRANSITIONS (2)

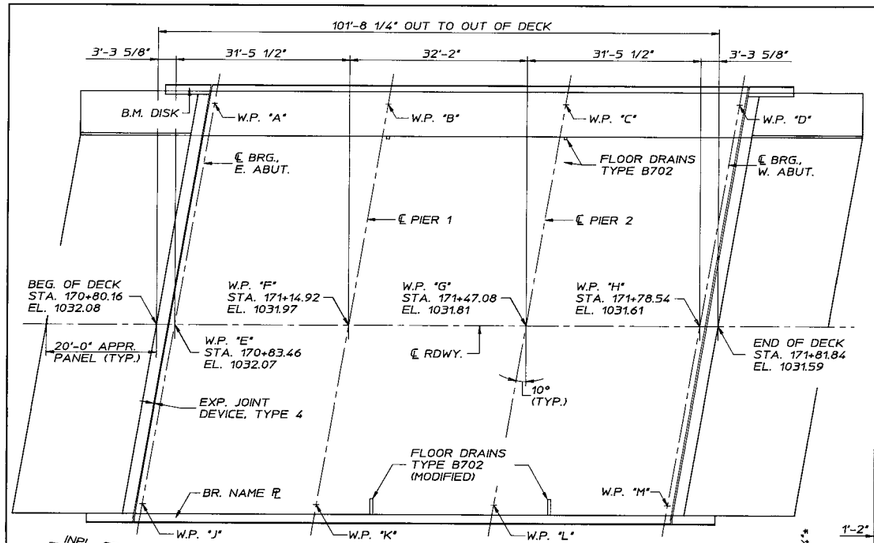
NOTES:
1. (1) SEE BRIDGE APPROACH PANEL SHEET FOR FURTHER INFORMATION.
2. (2) SEE BRIDGE APPROACH AREA SHEET FOR SHOULDER AND TAPER INFORMATION.
3. (3) ADJUST AS REQUIRED PER SPEC. 2506, WITH 2" CONC. ADJUSTING RINGS. SEE STANDARD PLATE 4010.

MODIFIED

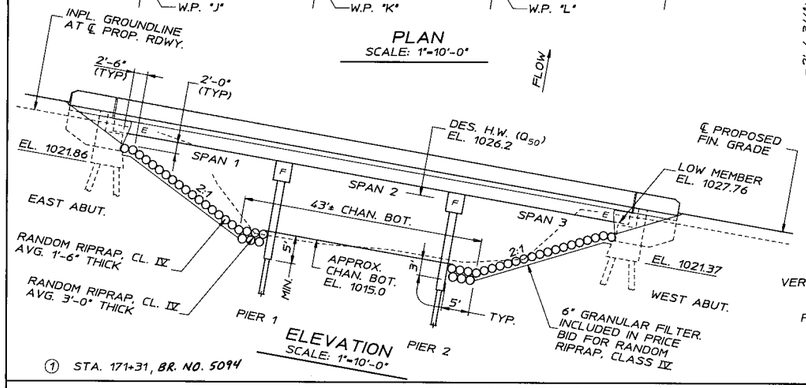
STANDARD SHEET NO. 5-297.401	TITLE: DRAINAGE AT BRIDGE APPROACHES
~~STANDARD APPROVED: JULY 5, 1979~~	

STATE PROJ. NO. 55-636-01 & 55-636-02 SHEET NO. 108 OF 140 SHEETS

VAX780 QSA3:[45,100] FILE NAME S401G79.SPN



PLAN
SCALE: 1"=10'-0"



ELEVATION
SCALE: 1"=10'-0"

① STA. 171+31, BR. NO. 5094

B.M. ELEV. 1031.18 (M.S.L. 1929 ADJ.)

LOCATION: TOP OF PAINTED BOLT ON TOP OF CURB @ NW CORNER OF BR. 5094

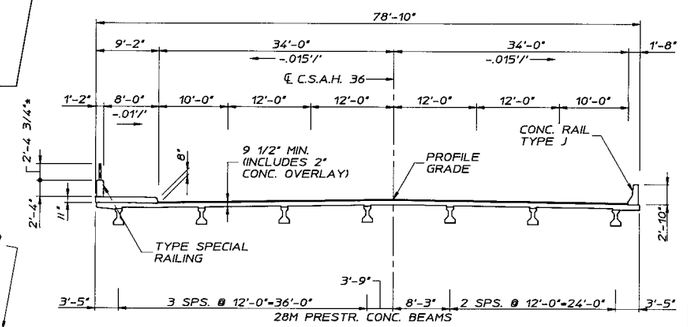
CONSTRUCTION NOTES

THE 1988 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" AS AMMENDED BY THE JANUARY 2,1991 SUPPLEMENTAL SPECIFICATIONS SHALL GOVERN.

THE FIRST DIGIT OR THE FIRST TWO DIGITS OF EACH BAR MARK INDICATE THE BAR SIZE.

BARS MARKED WITH THE SUFFIX "E" SHALL BE EPOXY COATED.

BRIDGE SEAT REINFORCEMENT SHALL BE CAREFULLY PLACED TO AVOID INTERFERENCE WITH DRILLING HOLES FOR ANCHOR RODS. THE SUPERSTRUCTURE BEAMS SHALL BE PLACED IN THEIR FINAL POSITION PRIOR TO DRILLING HOLES FOR ANCHOR RODS.



TRANSV. SECTION THRU DECK
SCALE: 1/8"=1'-0"

VERTICAL CURVE DATA:
360' V.C.
M = -0.80'
P.I. STA. 170+80.00
EL. 1032.88
G_1 = +0.66%
G_2 = -1.12%

NOTE:
ABUTMENT PILES ARE TO BE HP10X42 STEEL H-PILES.
PIER PILES ARE TO BE HP10X42 STEEL H-PILES ENCASED IN 16"@ STEEL PILE SHELLS.

DESIGN DATA

1992 & INTERIM. A.A.S.H.T.O. DESIGN SPECS.
LOAD FACTOR DESIGN METHOD ~ HS25 LOADING
INCLUDES 17 PSF DEAD LOAD ALLOWANCE FOR FUTURE WEARING COURSE MODIFICATIONS.

MAXIMUM ALLOWABLE DESIGN STRESSES:
REINFORCED CONCRETE:
f'c = 4000 PSI n = 8
fy = 60000 PSI REINFORCEMENT
PRESTRESSED CONCRETE:
f'c = 7000 PSI n = 6
f's = 270000 PSI STRANDS
STRUCTURAL STEEL:
fy = 36000 PSI SPEC. 3306
DESIGN SPEED 40 MPH
DECK AREA = 8000 S.F. A.D.T.=22100 PROJ. 2014
OPERATING RATING HS 40

LIST OF SHEETS

NO.	TITLE
1	TITLE SHEET
2-108	GRADING PLANS
109	GENERAL PLAN & ELEVATION
110	BRIDGE LAYOUT
111-118	ABUTMENT DETAILS
119-120	PIER DETAILS
121	FRAMING DETAILS
122-123	SUPERSTRUCTURE DETAILS
124	PRESTR. CONC. BEAM DETAILS
125	CONC. RAIL (TYPE J)
126	CONC. RAIL (TYPE SPEC.)
127-128	EXPANSION DEVICE
129	**DELETED**
130-138	DETAILS
139-140	BRIDGE SURVEY

APPROVED:
COUNTY ENGINEER
OLMSTED COUNTY
DATE: 4-4-94

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Dale Drawe
REG. NO. 20666
DATE: 4-4-94

PLANS PREPARED BY:
ERICKSON ENGINEERING
3340 REPUBLIC AVENUE
ST.LOUIS PARK, MN 55426

C.S.A.H. 36 OLMSTED COUNTY
MINNESOTA DEPARTMENT OF TRANSPORTATION

BRIDGE NO. 55551

LOCATED 1.4 MILES SOUTHEAST OF ROCHESTER, MINNESOTA ON C.S.A.H. 36 OVER BEAR CREEK.

3-32' PRESTRESSED CONC. BEAM SPANS
68 FT. RDWY. ~ 1-8 FT. SDWK. ~ 10° SKEW
SPAN IDENTIFICATION NO. 501

GENERAL PLAN & ELEVATION

SEC. 17 TWP. 106N R 13W

TOWNSHIP: MARION
COUNTY: OLMSTED

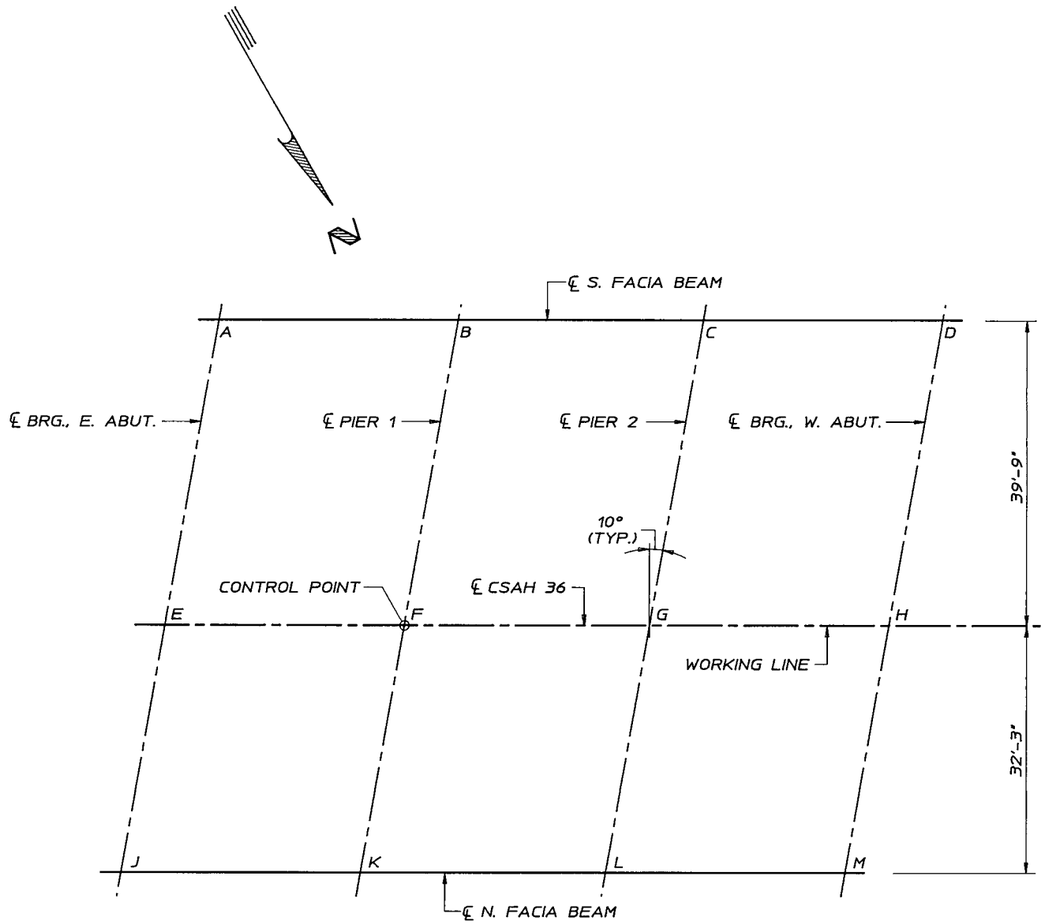
APPROVED: Donald J. Flemming
4-7-94 STATE BRIDGE ENGINEER

S.P. 55-636-02 | 55551 | DM
SHEET 109 OF 140 SHTS | DAD

SCHEDULE OF QUANTITIES FOR THE ENTIRE BRIDGE

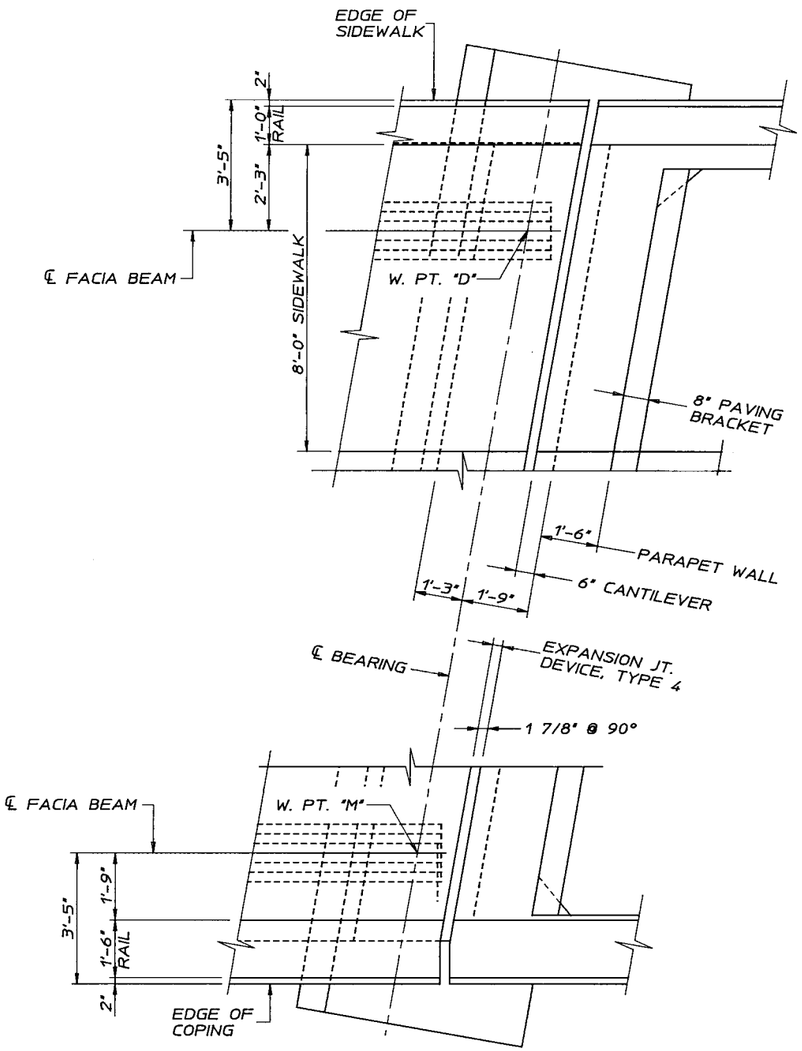
NO.	2021.501	2401.501	2401.501	2401.512	2401.513	2401.513	2401.515	2401.541	2401.541		2402.546	2402.546	2402.583	2402.591	2402.595	2404.501
ITEM	MOBILIZATION	STRUCTURE CONCRETE (1A43)	STRUCTURE CONCRETE (3Y43)	BRIDGE SLAB CONCRETE (3Y36)	TYPE J RAILING CONCRETE (3Y46A)	TYPE SPECIAL RAILING CONCRETE (3Y46A)	SIDEWALK CONCRETE (3Y46A)	REIN-FORCEMENT BARS (EPOXY COATED)	REIN-FORCEMENT BARS		FLOOR DRAIN TYPE B702	FLOOR DRAIN TYPE B702 (MOD)	ORNAMENTAL METAL RAILING	EXPANSION JOINT DEVICES TYPE 4	BEARING ASSEMBLY	CONCRETE OVERLAY (3U17A)
QTY	1	105 (P)	201 (P)	8000 (P)	113 (P)	113 (P)	932 (P)	102100 (P)	4060 (P)		4	2	113 (P)	138 (P)	42	6915 (P)
UNIT	LUMP SUM	CU.YD.	CU.YD.	SQ. FT.	LIN. FT.	LIN. FT.	SQ. FT.	POUND	POUND		EACH	EACH	LIN. FT.	LIN. FT.	EACH	SQ. FT.

NO.	2405.502	2405.511	2442.501	2452.510	2452.511	2452.520	2511.501		0401.601	0401.601	0452.602	0452.604				
ITEM	PRESTR. CONCRETE BEAMS 28M	DIAPH. FOR TYPE 28M PRESTR. BEAMS	REMOVE OLD BRIDGE 'A' ①	STEEL H- PILING DRIVEN 10X42	STEEL H- PILING DELIVERED 10X42	STEEL H- TEST PILES, 60 FT. LONG 10X42	RANDOM RIPRAP, CLASS IV		STRUCTURE EXCAVATION	SLOPE PREP-ARATION	PILE TIP PROTECTION 10'	16" STEEL PILE SHELLS				
QTY	672 (P)	292 (P)	1	2200	2200	8	420		1	1	52	300				
UNIT	LIN. FT.	LIN. FT.	LUMP SUM	LIN. FT.	LIN. FT.	EACH	CU. YD.		LUMP SUM	LUMP SUM	EACH	LIN. FT.				



LAYOUT SHOWING WORKING POINTS

SCALE: 1"=10'-0"



TYPICAL CORNER DETAILS

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

TOP OF SLAB TO BRIDGE SEAT

	S. ABUT.	PIER 1	PIER 2	N. ABUT.
SLAB THICKNESS	9 1/2"	9 1/2"	9 1/2"	9 1/2"
STOOL HEIGHT	2"	2"	2"	2"
BEAM	2'-4"	2'-4"	2'-4"	2'-4"
BEARING HEIGHT	4 5/8"	4"	4"	4 5/8"
TOTAL	3'-8 1/8"	3'-7 1/2"	3'-7 1/2"	3'-8 1/8"

① SEE SHEET 122 FOR LOCATION OF ELEVATIONS AT THESE WORKING POINTS.

DIMENSIONS BETWEEN WORKING POINTS

POINT	STATION	A	B	C	D	E	F	G	H	J	K	L	M
A	170+90.47		31.46			40.36	46.67	69.17			74.41		
B	171+21.93			32.17		55.32	40.36	47.04	69.17	84.46		74.58	
C	171+54.09				31.46	81.05	55.81	40.36	46.67		84.83		74.41
D	171+85.55						81.05	55.32	40.36			84.46	
E	170+83.46						31.46			32.75	41.28	66.31	
F	171+14.92							32.17		49.19	32.75	41.72	66.31
G	171+47.08								31.46	76.44	49.72	32.75	41.28
H	171+78.54										76.44	49.19	32.75
J	170+77.77										31.46		
K	171+09.23											32.17	
L	171+41.39												31.46
M	171+72.85												

ELEVATIONS

TOP OF SLAB	SLAB TO BRIDGE SEAT	BRIDGE SEAT	POINT
1031.54 ①	3.68	1027.86	A
1031.43 ①	3.63	1027.80	B
1031.26 ①	3.63	1027.63	C
1031.05 ①	3.68	1027.37	D
			E
			F
			G
			H
1031.60	3.68	1027.92	J
1031.51	3.63	1027.88	K
1031.36	3.63	1027.73	L
1031.17	3.68	1027.49	M

MINNESOTA DEPARTMENT OF TRANSPORTATION

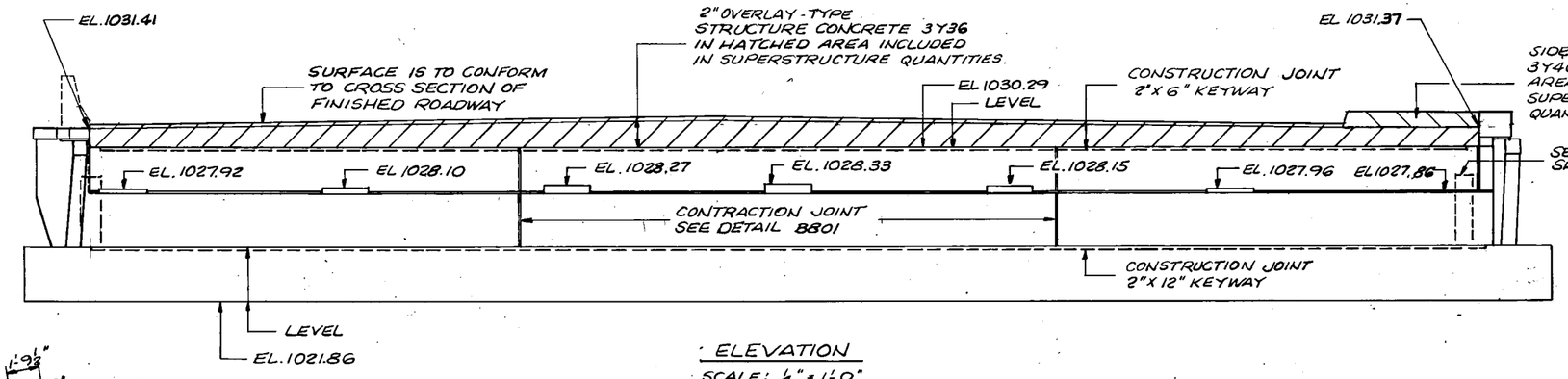
BRIDGE NO. 55551

BRIDGE LAYOUT

APPROVED: 4-7-94

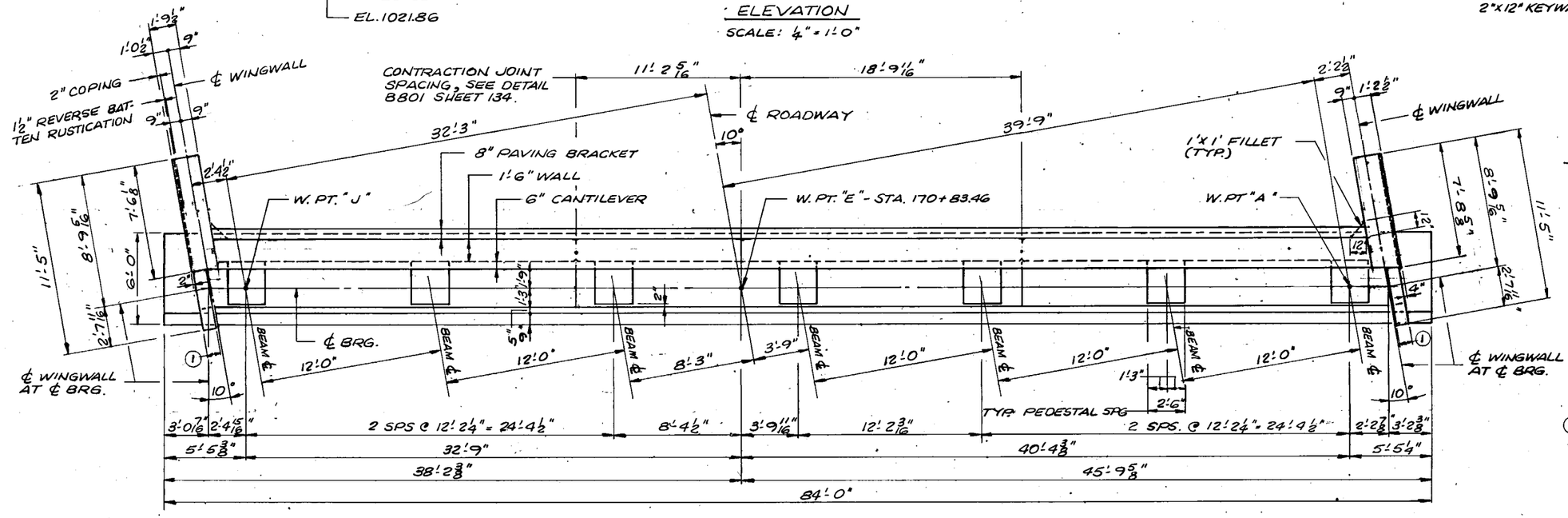
S.P. 55-636-02 | 55551 | DM

SHEET 110 OF 140 SHTS | | DAD



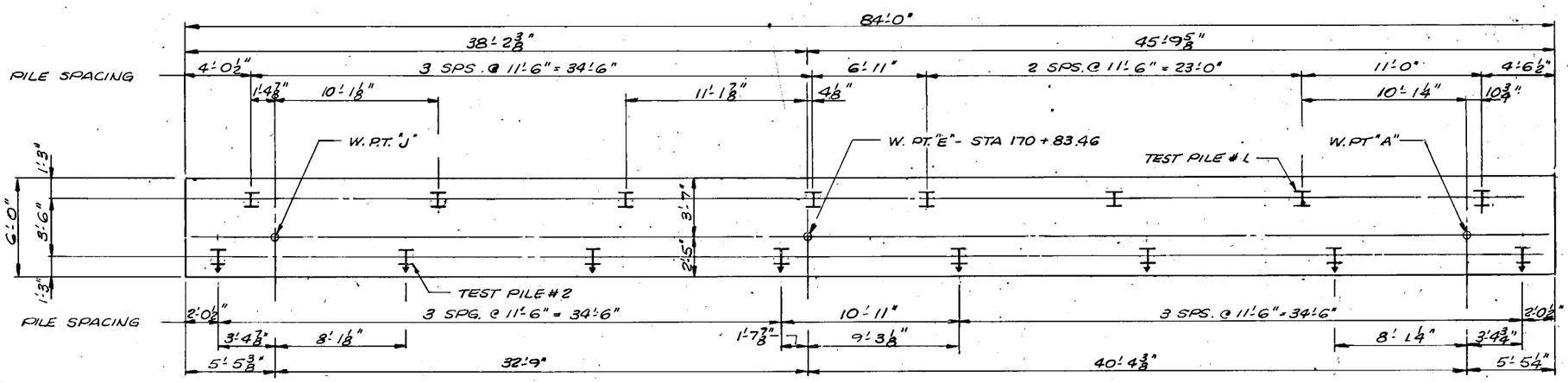
ELEVATION

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



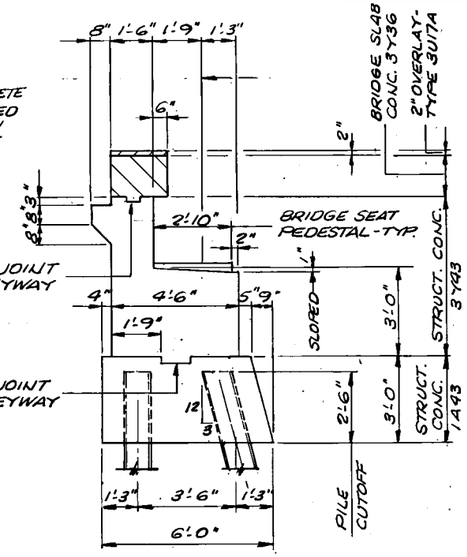
PLAN

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



FOOTING PLAN

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



SECTION THRU ABUTMENT

SCALE: 3/8" = 1'-0"

① 10" CURTAINWALL, SEE SHEET 116 FOR ADDITIONAL DETAILS OF WINGWALL AND CURTAINWALL

MINNESOTA DEPARTMENT OF TRANSPORTATION

BRIDGE NO. 55551

EAST ABUTMENT DETAILS

APPROVED 4-7-94

S.P. 55-636-02	55551	W.N.J.
SHEET 111 OF 140 SHEETS		D.A.D.

SIDEWALK CONCRETE 3Y46A IN HATCHED AREA, INCLUDED IN SUPER-STRUCTURE QUANTITIES.

EL. 1030.87

SURFACE IS TO CONFORM TO CROSS SECTION OF FINISHED ROADWAY

2" OVERLAY-TYPE 3U17A & STRUCTURE CONCRETE 3Y36 IN HATCHED AREA INCLUDED IN SUPERSTRUCTURE QUANTITIES.

EL. 1029.79 LEVEL

CONSTRUCTION JOINT 2"x 6" KEYWAY

EL. 1030.97

TOP OF 1'x1' FILLET AT BASE OF PAVING BRACKET.

EL. 1027.37 EL. 1027.48 EL. 1027.68 EL. 1027.87 EL. 1027.82 EL 1027.65 EL 1027.49

CONTRACTION JOINT SEE DETAIL 8801

CONSTRUCTION JOINT 2"x 12" KEYWAY

LEVEL

EL. 1021.37

ELEVATION

SCALE: 4" = 1'-0"

2" COPING

1'-11½"

1'-2½"

9"

2" COPING

℄ WINGWALL

1½" REVERSE BATTEN RUSTICATION

9"

9"

CONTRACTION JOINT SPACING, SEE DETAIL 8801 SHEET 134

18'-9 11/16"

11'-2 5/16"

39'-9"

10"

℄ ROADWAY

32'-3"

2'-4½"

9"

1'-0½"

℄ WINGWALL

1'x1' FILLET (TYP.)

2'-2½"

8" PAVING BRACKET

1'-6" WALL

6" CANTILEVER

W. PT. "D"

W. PT. "H" - 171+78.54

W. PT "M"

11'-5"

8'-9½"

7'-1½"

6'-0"

4"

2'-7½"

12"

7'-6½"

8'-9½"

2'-7½"

11'-5"

12"

12"

℄ BRG.

5" 9"

1'-3"

℄ WINGWALL AT ℄ BRG.

12'-0"

12'-0"

12'-0"

3'-9"

8'-3"

12'-0"

1'-3"

12'-0"

℄ WINGWALL AT ℄ BRG.

10"

2'-6"

TYP PEDESTAL SPG

10"

3'-2⅜" 2'-2⅞"

2 SPS. @ 12'-2¼" = 24'-4½"

12'-2 3/16"

3'-9 11/16"

8'-4½"

2 SPS. @ 12'-2¼" = 24'-4½"

2'-4 15/16" 3'-0 7/16"

5'-5⅝"

40'-4⅜"

32'-9"

5'-5⅝"

45'-9⅝"

38'-2⅜"

84'-0"

① 10" CURTAINWALL SEE SHEET 116 FOR ADDITIONAL DETAILS AT WINGWALL & CURTAINWALL.

PLAN

SCALE: 4" = 1'-0"

84'-0"

45'-9⅝"

38'-2⅜"

PILE SPACING

4'-0½"

3 SPS. @ 11'-6" = 34'-6"

6'-11"

2 SPS. @ 11'-6" = 23'-0"

11'-0"

4'-6½"

1'-4¾"

10'-1¼"

4½"

11'-1⅞"

10'-1⅛"

10⅞"

W. PT. "D"

TEST PILE # 8

W. PT. "H" 171+78.54

W. PT "M"

1'-3"

6'-0"

3'-6"

1'-3"

8'-7"

2'-5"

TEST PILE # 7

PILE SPACING

2'-0½"

3 SPS. @ 11'-6" = 34'-6"

10'-11"

3'-3½"

1'-7⅞"

3 SPS. @ 11'-6" = 34'-6"

8'-1⅛"

2'-0½"

3'-4¾"

8'-1¼"

5'-5⅝"

40'-4⅜"

32'-9"

5'-5⅝"

FOOTING PLAN

SCALE: 4" = 1'-0"

8" 1'-6" 1'-9" 1'-3"

℄ BEARING

6"

2"

BRIDGE SLAB CONC. 3Y36

8'-3⅜"

8'-2⅜"

2'-10"

BRIDGE SEAT PEDESTAL - TYP.

2"

CONST. JOINT 2"x6" KEYWAY

4"

4'-6"

5"

1'-9"

SLOPED

3'-0"

STRUCT. CONC. 3Y43

CONST. JOINT 2"x12" KEYWAY

12"

3"

2'-6"

3'-0"

STRUCT. CONC. 1A43

1'-3"

3'-6"

1'-3"

6'-0"

PILE CUTOFF

SECTION THRU ABUTMENT

SCALE: 3/8" = 1'-0"

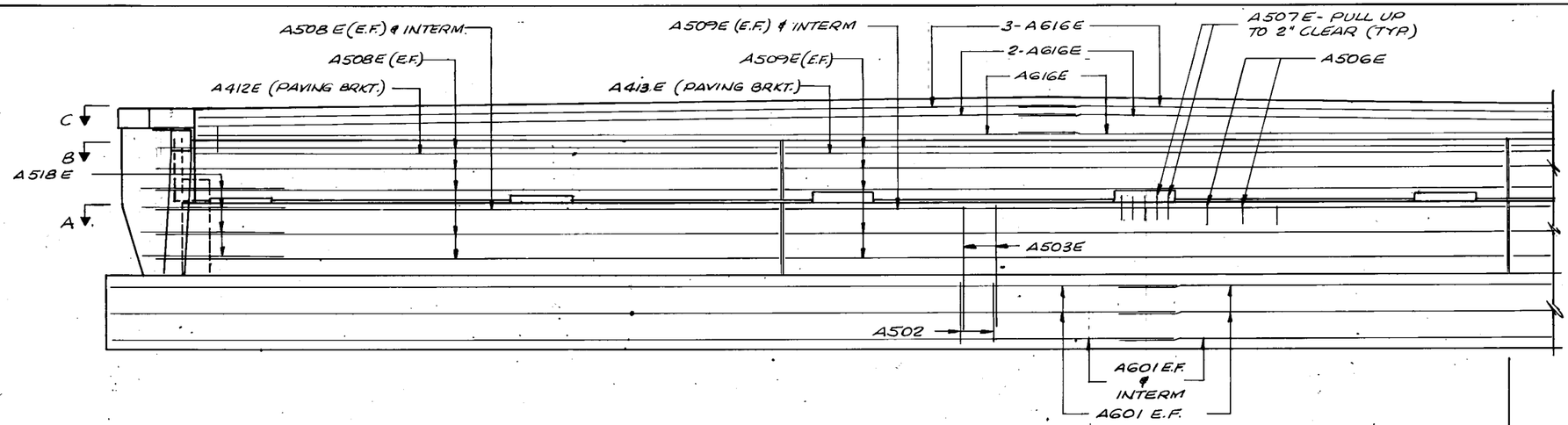
MINNESOTA. DEPARTMENT OF TRANSPORTATION

BRIDGE NO. 55551

WEST ABUTMENT DETAILS

APPROVED 4-7-94

S.P. 55-636-02	55551.	WNJ
SHEET 112 OF 140 SHEETS		D.A.D

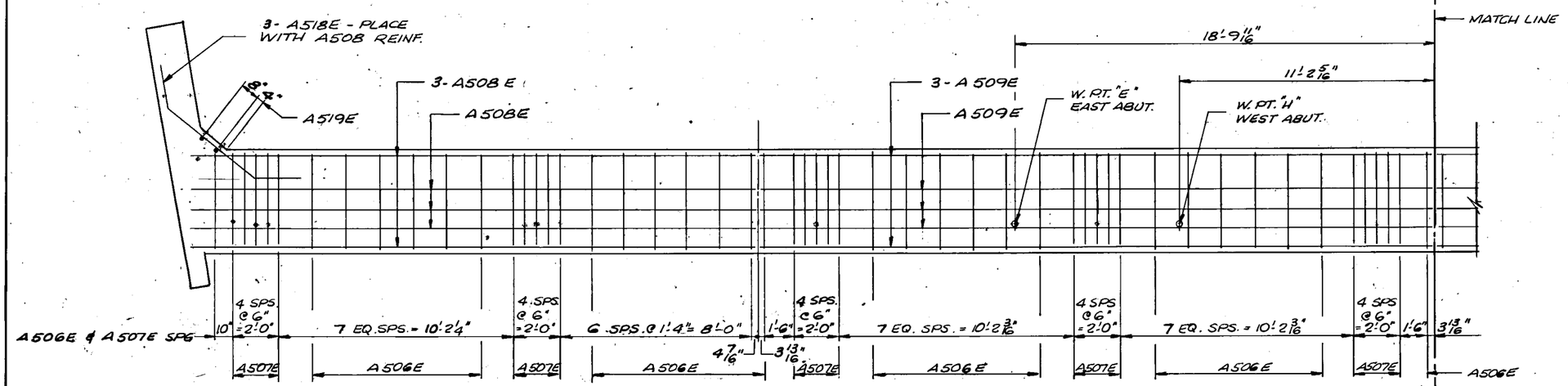


NOTE:

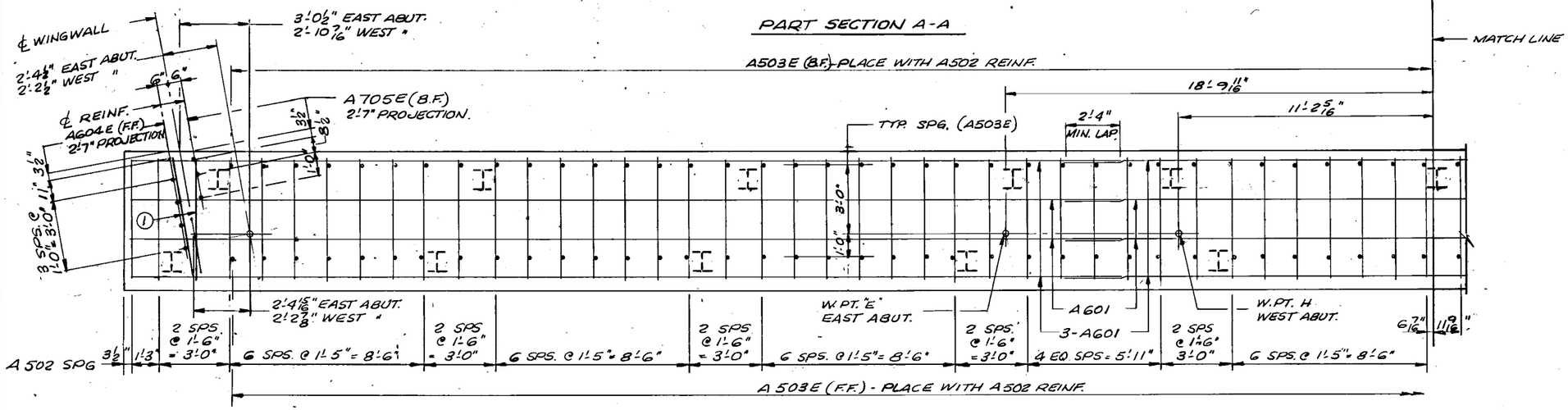
SEE SHEET 114 FOR REMAINING PORTION OF ELEVATION, SECTION A-A, & FOOTING PLAN. SEE SHEET 115 FOR SECTION B-B & C-C.

F.F. = FRONT FACE
B.F. = BACK FACE
E.F. = EACH FACE

PART ELEVATION



PART SECTION A-A



PART FOOTING PLAN

(1) ADD EXTRA STIRRUP (A502) FOR TYING DOWELS, POSITION STIRRUPS AS NEEDED FOR TYING AG04E & A705E.

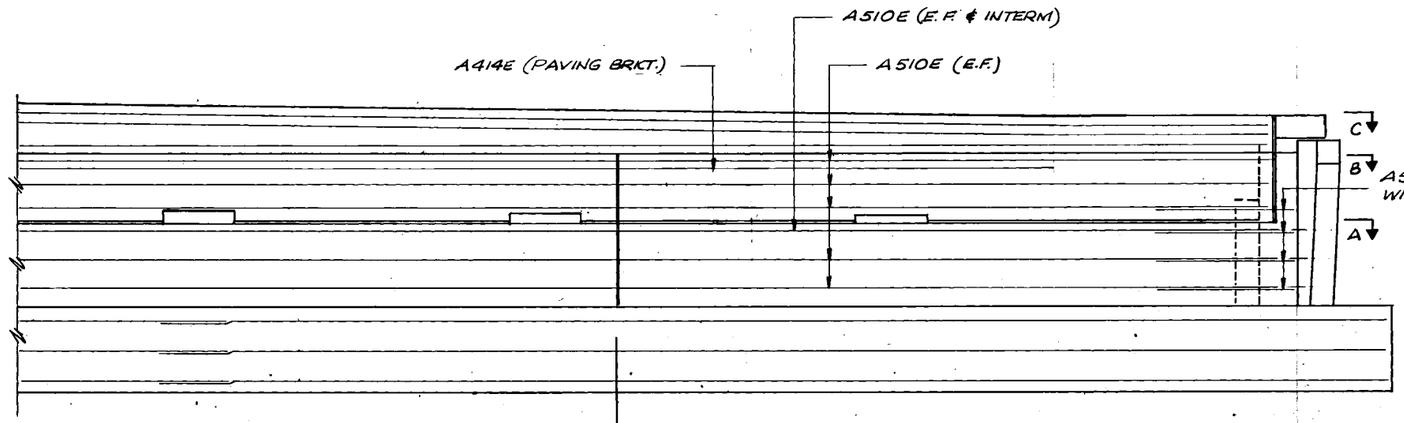
MINNESOTA DEPARTMENT OF TRANSPORTATION

BRIDGE NO. 55551

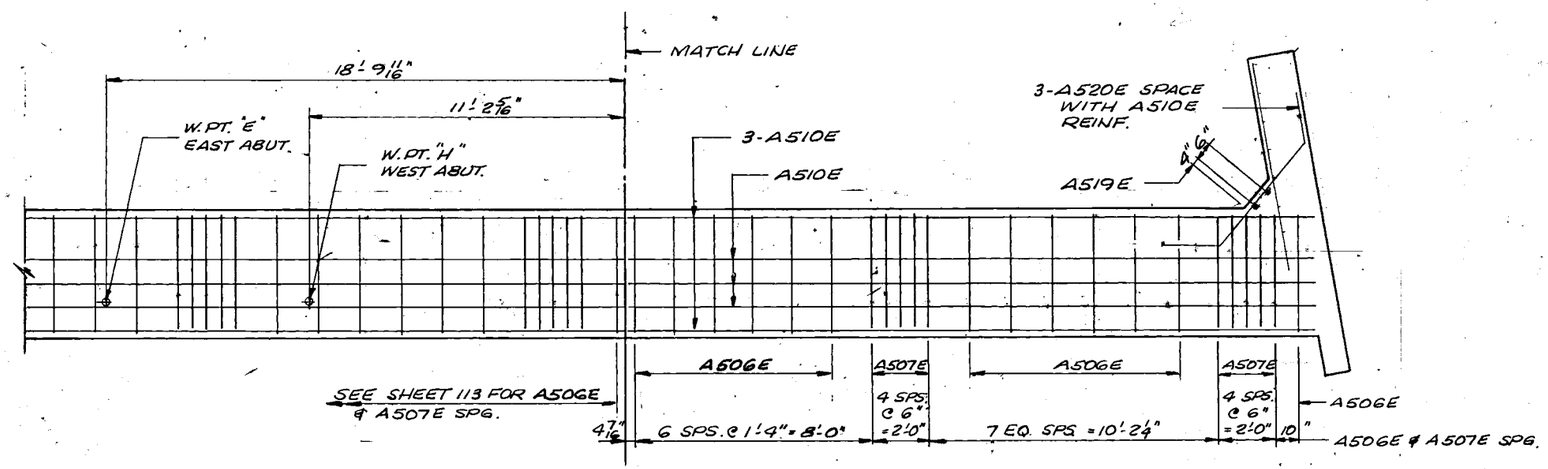
ABUTMENT REINFORCEMENT

APPROVED 4-7-94

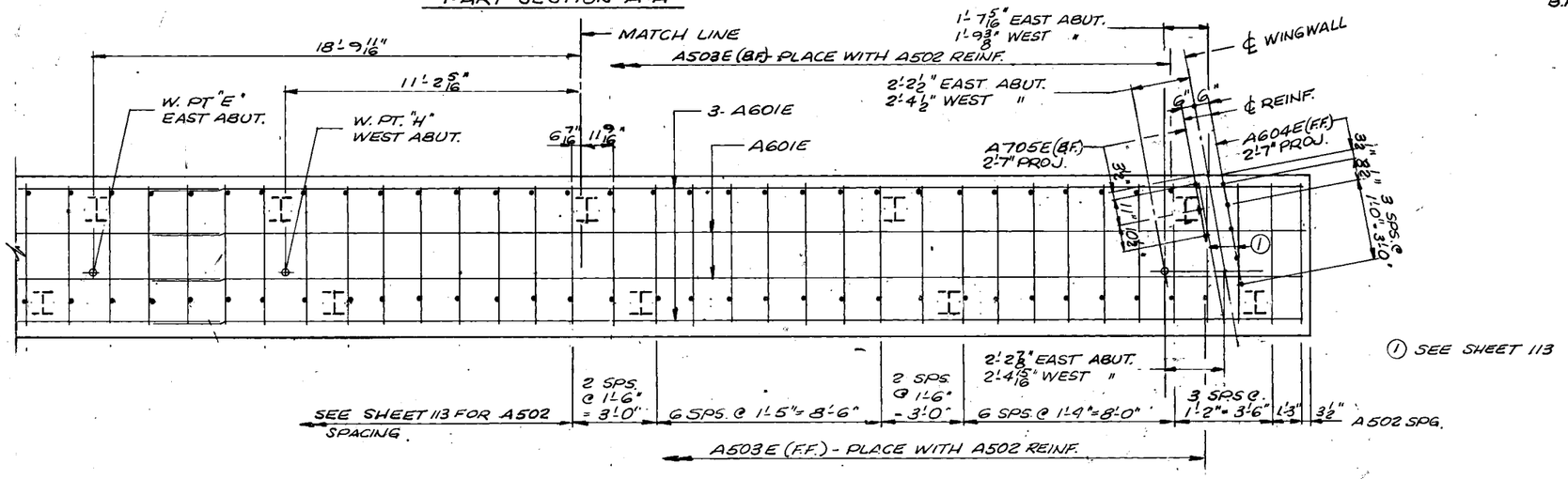
S.P. 55-636-02	55551	W.N.J.
SHEET 113 OF 140 SHEETS		O.A.D.



PART ELEVATION



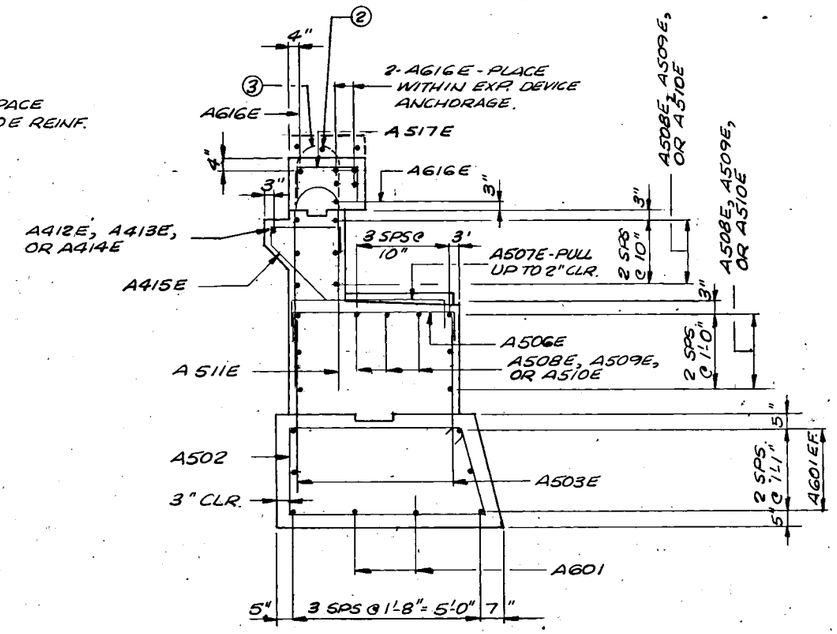
PART SECTION A-A



PART FOOTING PLAN

② 1 ADDITIONAL S411E

③ PULL UP A511E AT SIDEWALK FOR 3" MIN. CLEAR.



SECTION THRU ABUTMENT

NOTE:

SEE SHEET 113 FOR REMAINING PORTION OF ELEVATION, SECTION A-A, & FOOTING PLAN. SEE SHEET 115 FOR SECTION B-B & C-C.

E.F. = EACH FACE
F.F. = FRONT FACE
B.F. = BACK FACE

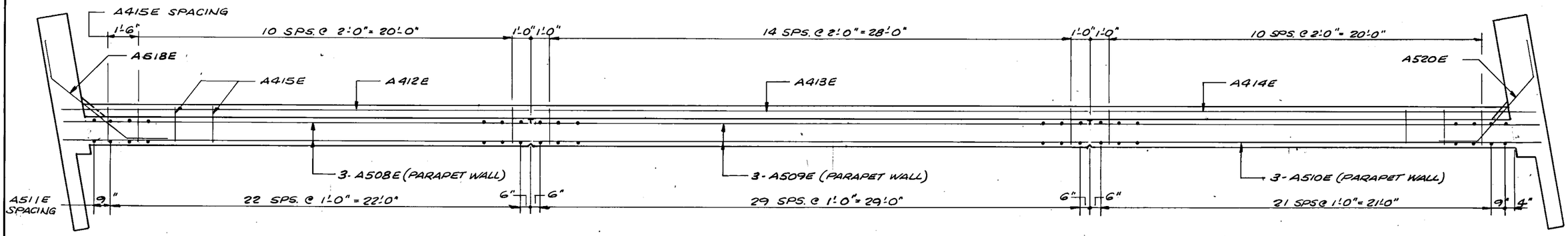
MINNESOTA DEPARTMENT OF TRANSPORTATION

BRIDGE NO. 55551

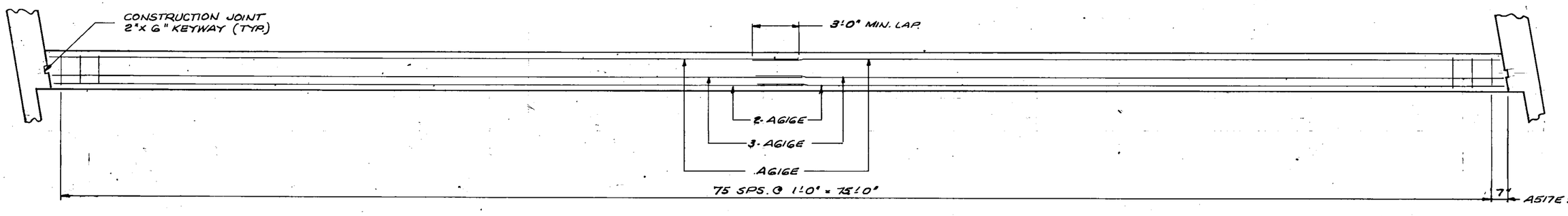
ABUTMENT REINFORCEMENT

APPROVED 4-7-94

S.P. 55-636-02	55551	W.N.J.
SHEET 114 OF 140 SHEETS		D.A.D.



SECTION B-B



SECTION C-C

NOTE:
SEE SHEETS 113 & 114 FOR LOCATION OF SECTIONS B-B & C-C.

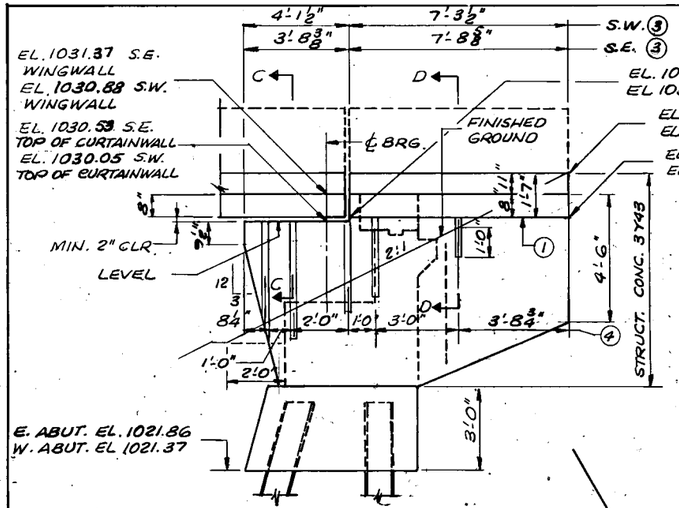
MINNESOTA DEPARTMENT OF TRANSPORTATION

BRIDGE NO. 55551

ABUTMENT REINFORCEMENT

APPROVED 4-7-94

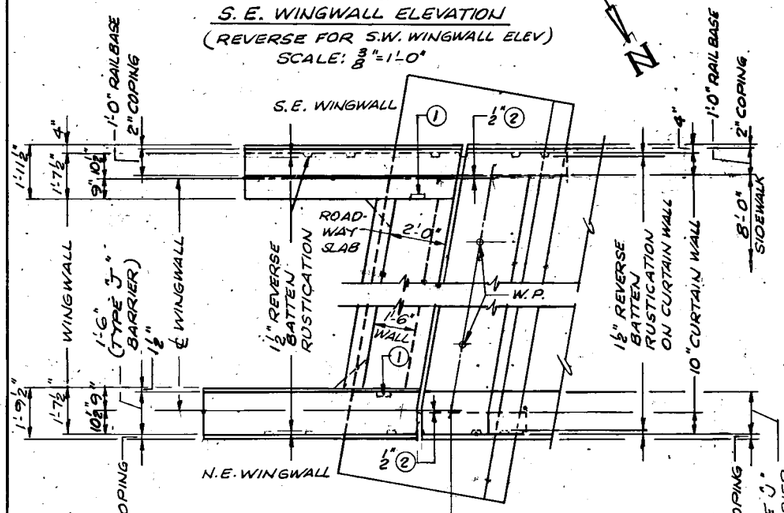
S.P. 55-636-02	55551	W.N.J.
SHEET 115 OF 140 SHEETS		O.A.D.



S. E. WINGWALL ELEVATION

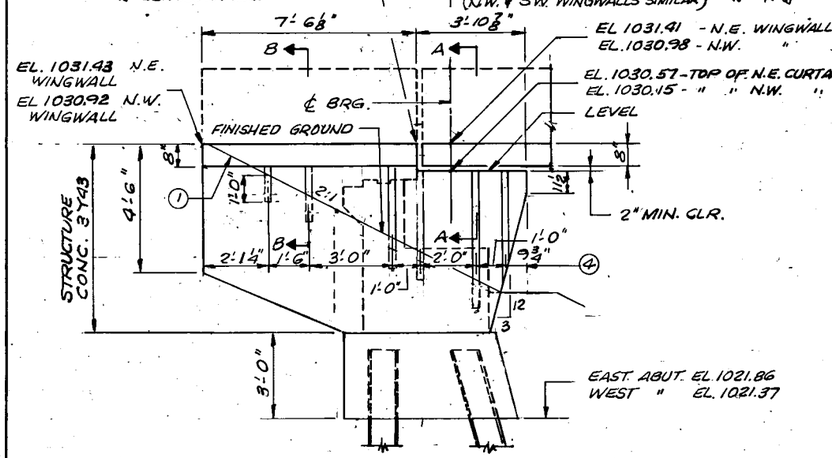
(REVERSE FOR S.W. WINGWALL ELEV)

SCALE: ⅜"=1'-0"



PART PLAN

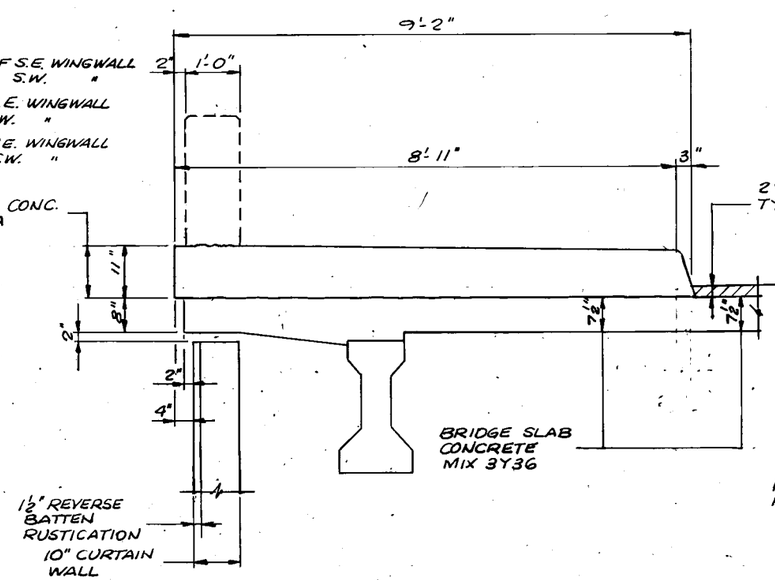
(N.W. & S.W. WINGWALLS SIMILAR)



N.E. WINGWALL ELEVATION

(REVERSE FOR N.W. WINGWALL ELVATION)

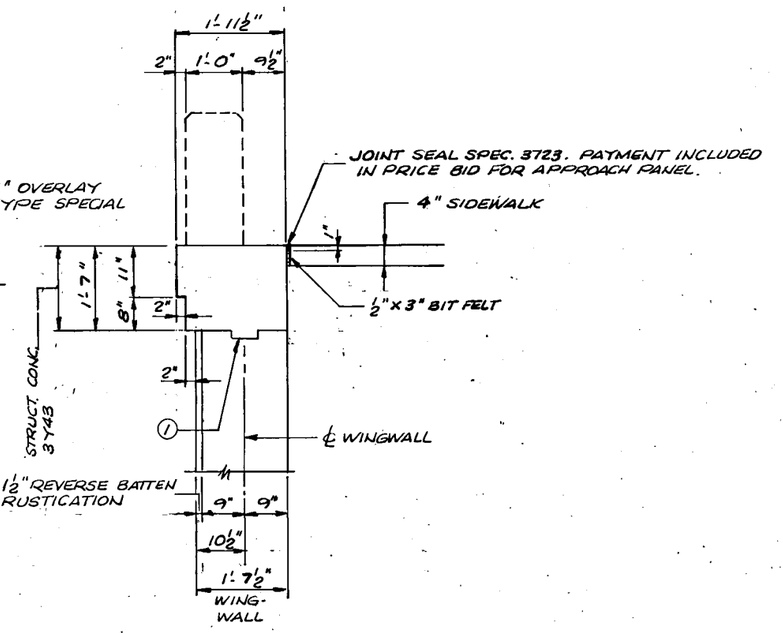
SCALE: ⅜"=1'-0"



SECTION C-C

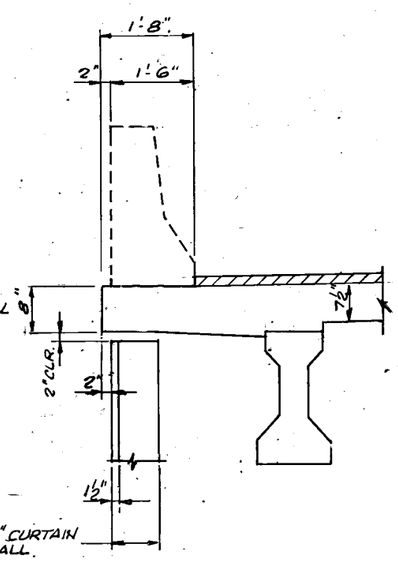
SCALE: ¾"=1'-0"

1. 2"x6" CONSTRUCTION JOINT KEYWAY
2. ℄ WINGWALL TO CURTAINWALL
3. ALONG OUTSIDE FACE OF COPING AND COPING LINE EXTENDED.
4. 1½" REVERSE BATTEN RUSTICATION SPACING. SEE DETAIL AT RIGHT



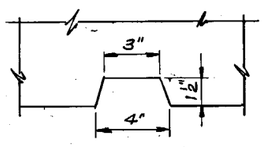
SECTION D-D

SCALE: ¾"=1'-0"

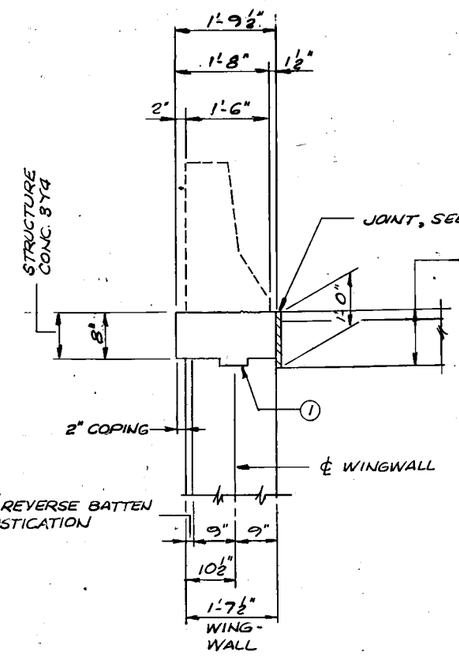


SECTION A-A

SCALE: ¾"=1'-0"



REVERSE BATTEN RUSTICATION DETAIL



SECTION B-B

SCALE: ¾"=1'-0"

MINNESOTA DEPARTMENT OF TRANSPORTATION

BRIDGE NO. 55551

ABUTMENT WINGWALL DETAILS

APPROVED 4-7-94

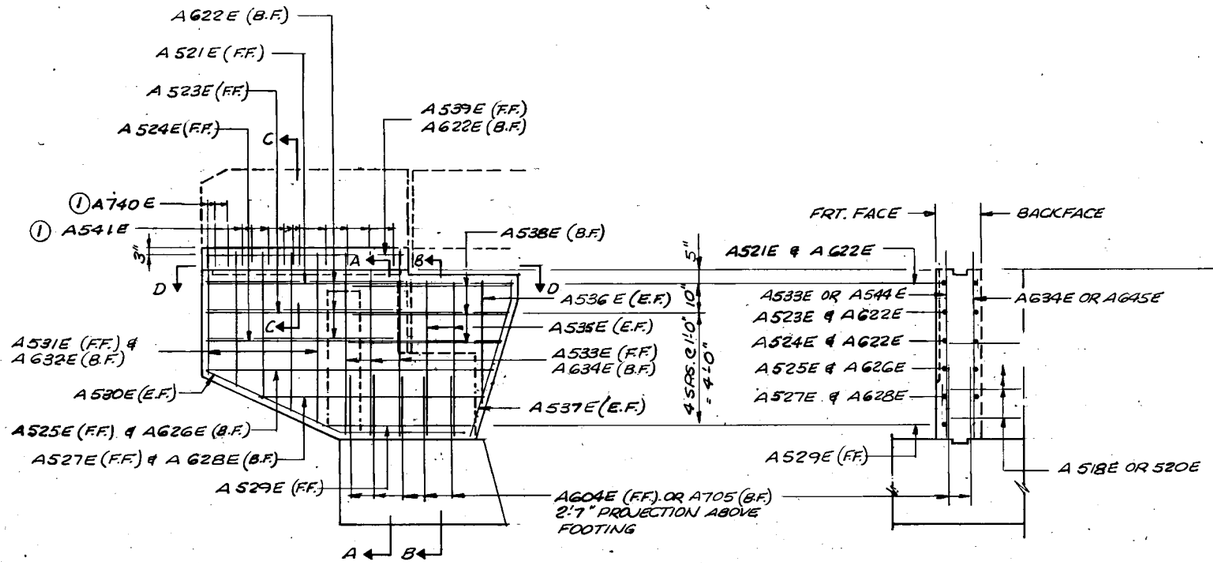
S.P. 55-636-02	55551	WNJ.
SHEET 116 OF 140 SHEETS		D.A.D.

(1) SEE CONC. RAILING TYPE J SHEET FOR SPACING. (SHEET 125)

(2) SEE TYPE SPECIAL CONC. RAILING FOR SPACING, SHEET 126. INCLUDED IN TYPE SPECIAL CONCRETE RAILING QUANTITY.

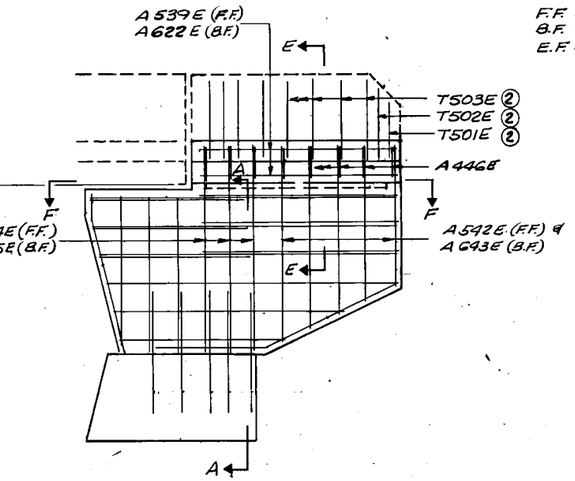
NOTES:

F.F. = FRONT FACE
B.F. = BACK FACE
E.F. = EACH FACE



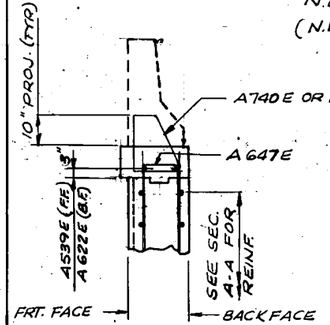
N.E. WINGWALL ELEVATION
(N.W. WINGWALL OPPOSITE HAND)

SECTION A-A

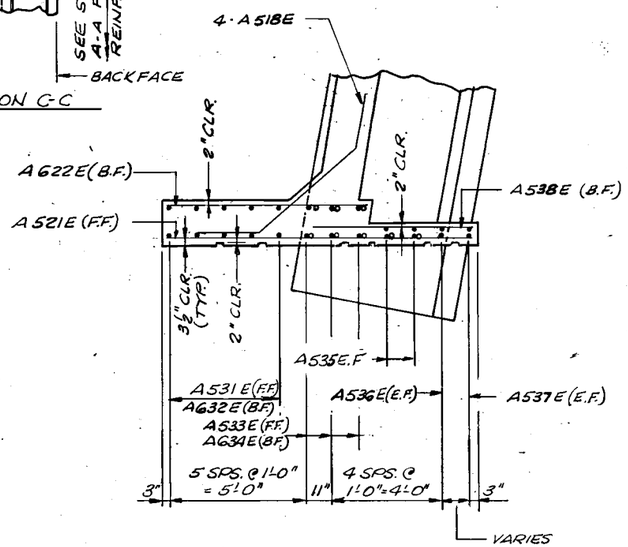


S.E. WINGWALL ELEVATION
(S.W. WINGWALL - OPPOSITE HAND)

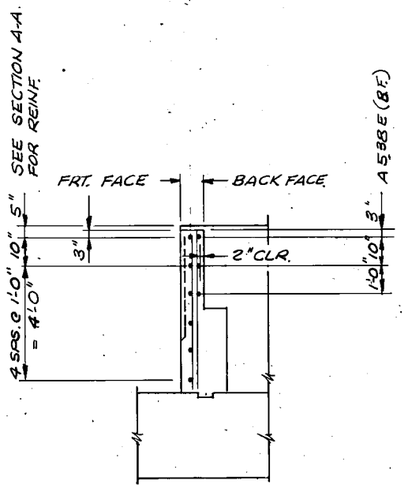
(REINFORCEMENT NOT SHOWN IS THE SAME AS AT N.E. & S.W. WINGWALLS.)



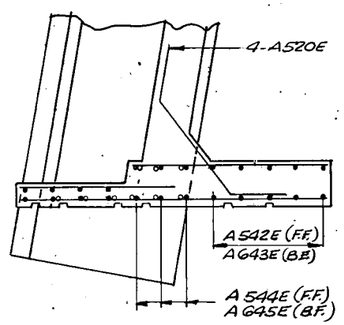
SECTION C-C



SECTION D-D

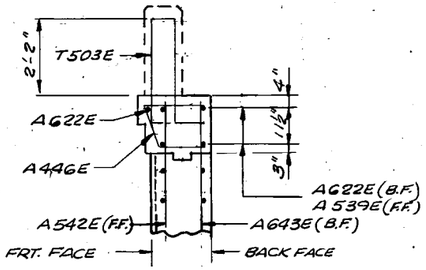


SECTION B-B



SECTION F-F

(REINFORCEMENT NOT SHOWN IS THE SAME AS SHOWN AT PLAN VIEW - N.E. & S.W. WINGWALLS)



SECTION E-E

MINNESOTA DEPARTMENT OF TRANSPORTATION

BRIDGE NO. 55551

ABUTMENT WINGWALL REINF.

APPROVED 4-7-94

S.P. 55-636-02	55551	WNJ.
SHEET 117 OF 140 SHEETS		D.A.O.

SUMMARY OF QUANTITIES FOR 2 ABUTMENTS

	STRUCTURE CONCRETE (1A43)	105	CU.YD.
	STRUCTURE CONCRETE (3Y43)	116	CU.YD.
(2)	STRUCTURE EXCAVATION	1	LUMP SUM
	REINFORCEMENT BARS	4060	POUND
	REINFORCEMENT BARS, EPOXY COATED	10880	POUND
	PILE TIP PROTECTION, 10"	32	EACH
	STEEL H-TEST PILES, 60 FT. LONG, 10"	4	EACH
(1)	STEEL H-PILING DELIVERED, 10"	1400	LIN. FT.
(1)	STEEL H-PILING DRIVEN, 10"	1400	LIN.FT.

(1) DOES NOT INCLUDE TEST PILES

(2) SEE SPECIAL PROVISIONS

PILE NOTES

4 - STEEL H-TEST PILES 60 FT. LONG

28 - STEEL H-PILES EST. LENGTH 50 FT.

32 - " " " REQ'D FOR 2 ABUTMENTS

ALL PILES TO BE HP 10X42 STEEL H-PILES.

PILES MARKED ⊢ TO BE BATTERED 3" PER FT. IN DIRECTION SHOWN

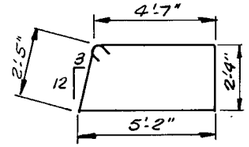
PILE SPACING SHOWN IS AT BOTTOM OF FOOTING

FOR SPLICE DETAILS SEE DETAIL B202

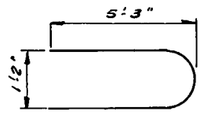
SEE SHEET 140 FOR TEST PILE LOCATIONS.

ALL PILES SHALL HAVE PILE TIP PROTECTION

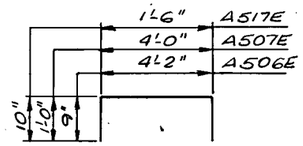
COMPUTED ABUTMENT PILE LOADS TONS PER PILE.	
DEAD LOAD + EARTH PRESSURE	29.1
LIVE LOAD	9.8
TOTAL	38.9



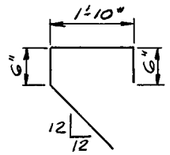
A502



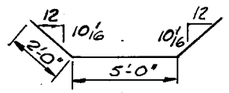
A511E



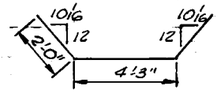
A506E, A507E, & A517E



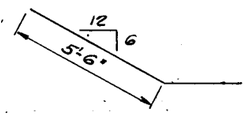
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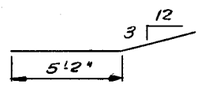
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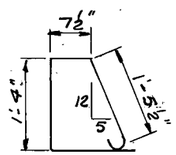
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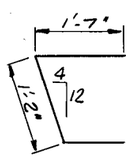
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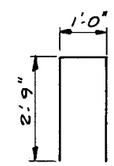
A537E



A740E & A541E



A44GE



A647E & A748E

BILL OF REINFORCEMENT FOR 2 ABUTMENTS

BAR	NO.	LENGTH	SHAPE	LOCATION
A601	32	43'-0"	STR.	FOOTING - LONG
A502	124	15'-5"	BENT	" - STIRRUPS
A503E	214	5'-0"	STR	" - DOWELS
A604E	20	5'-3"	"	" - "
A705E	12	5'-3"	"	" - "
A506E	80	5'-8"	BENT	BRIDGE SEAT - TIES
A507E	70	6'-0"	"	" " - "
A508E	30	24'-0"	STR.	" " - LONG
A509E	30	29'-10"	"	" " - "
A510E	30	23'-8"	"	" " - "
A511E	154	11'-2"	BENT	PARAPET WALL - VERT
A412E	2	24'-11"	STR.	PAVING BRACKET - LONG
A413E	2	29'-10"	"	" " - "
A414E	2	23'-7"	"	" " - "
A415E	78	5'-0"	BENT	" " - TIES
AG16E	24	39'-6"	STR.	ROADWAY SLAB - LONG.
A517E	152	3'-2"	BENT	" " - TIES
A518E	8	9'-0"	"	FILLET - TIES
A519E	8	3'-6"	STR.	" - VERT
A520E	8	8'-3"	BENT	" - TIES
A521E	4	11'-1"	STR.	WINGWALL - LONG
AG22E	20	7'-1"	"	" - "
A523E	4	11'-0"	"	" - "
A524E	4	10'-8"	"	" - "
A525E	4	10'-5"	"	" - "
AG26E	4	7'-0"	"	" - "
A527E	4	8'-6"	"	" - "
AG28E	4	5'-0"	"	" - "
A529E	4	5'-9"	"	" - "
A530E	8	8'-0"	BENT	" - "
A531E	2 SERIES OF 5 BARS	FROM 6'-2" TO 5'-10"	STR.	" - VERT
AG32E	"	"	"	" - "
A533E	6	6'-3"	"	" - "
AG34E	6	6'-3"	"	" - "
A535E	16	5'-0"	"	" - "
A536E	8	4'-7"	"	" - "
A537E	8	5'-9"	BENT.	" - TIES.
A538E	12	5'-6"	STR.	" - LONG
A539E	6	7'-0"	"	" - "
A740E	6	5'-3"	BENT	" - TIES
A541E	28	5'-3"	"	" - "
A542E	2 SERIES OF 5 BARS	FROM 6'-11" TO 6'-9"	STR	" - VERT.
AG43E	"	"	"	" - "
A544E	6	7'-1"	"	" - "
AG45E	6	7'-1"	"	" - "
A446E	16	3'-11"	BENT	" - TIES.
AG47E	22	6'-6"	"	" - "
A748E	6	6'-6"	"	" - "

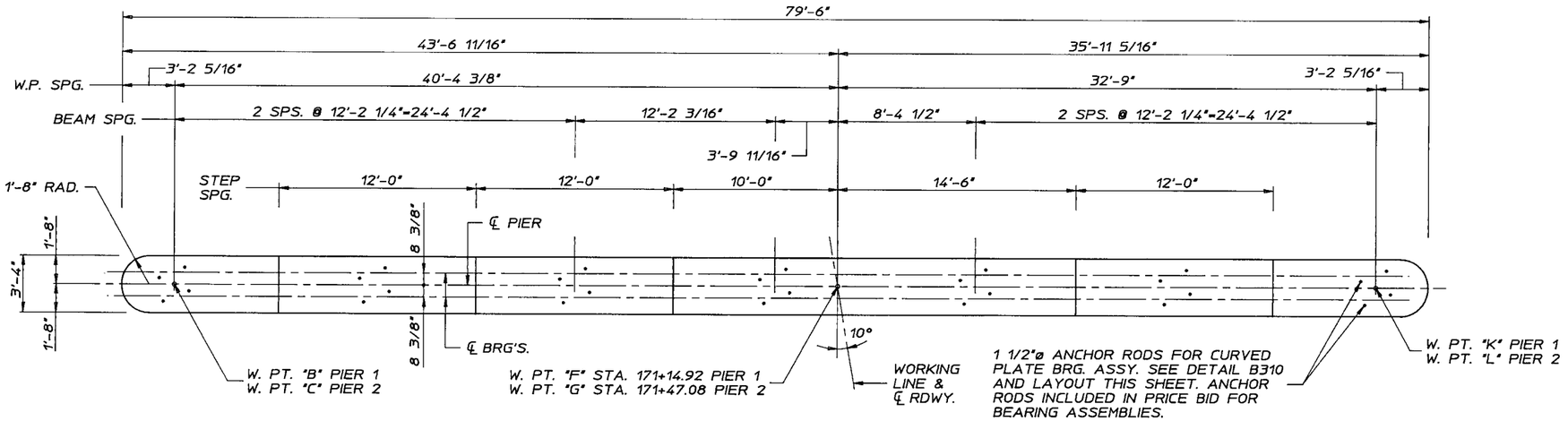
MINNESOTA DEPARTMENT OF TRANSPORTATION

BRIDGE NO. 55551

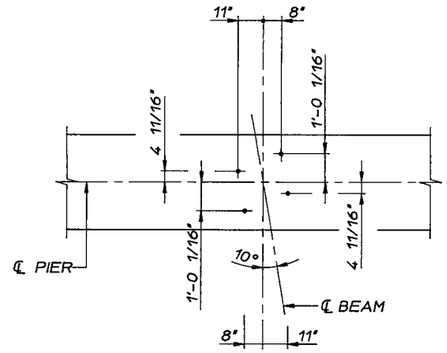
ABUTMENT REINFORCEMENT

APPROVED 4-7-94

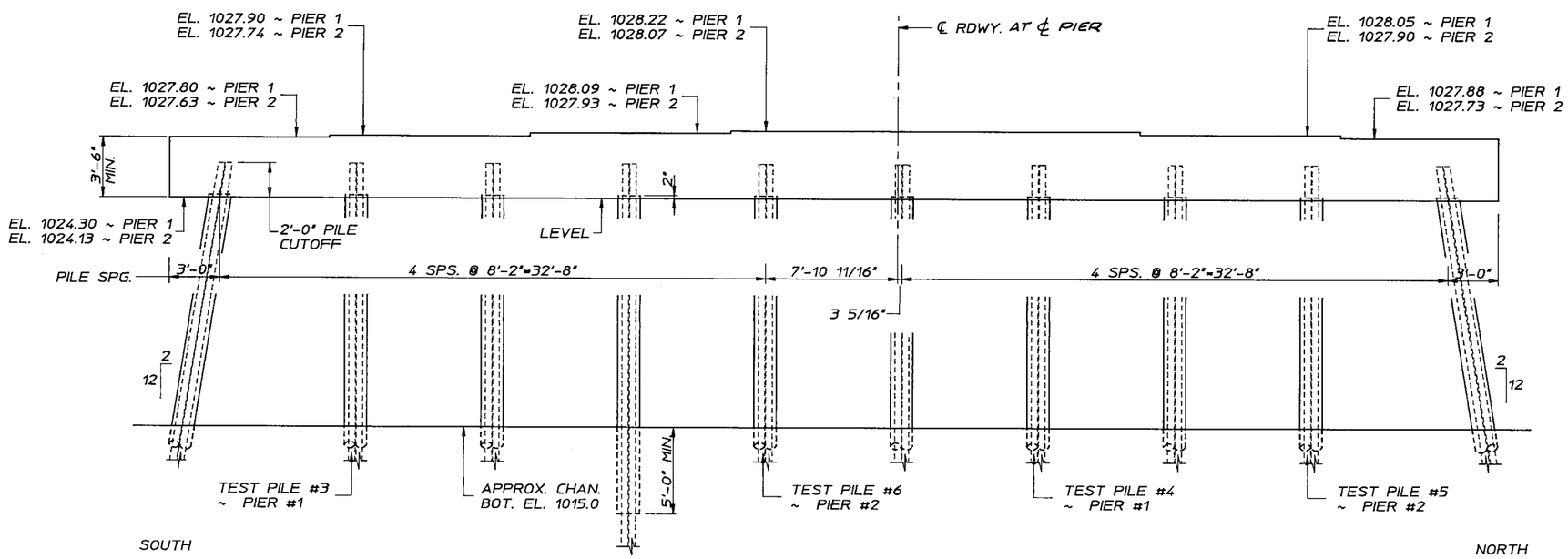
S.P. 55-636-02	55551	WNJ
SHEET 118 OF 190 SHEETS		D.A.D



PLAN
SCALE: 1/4"=1'-0"



ANCHOR ROD LAYOUT
SCALE: 3/8"=1'-0"



ELEVATION
SCALE: 1/4"=1'-0"

COMPUTED PILE LOADS TONS PER PILE ~ PIERS	
DEAD LOAD	31.6
LIVE LOAD	11.8
TOTAL	43.4

PILE NOTES

16 - STEEL H-PILES. 50' LONG, EST. LENGTH
4 - STEEL H-TEST PILES, 60' LONG
20 - STEEL H-PILES REQ'D ~ 2 PIERS

20 - STEEL PILE SHELLS (16"ø) 15' LONG

ALL PILES ARE TO BE HP 10X42 STEEL H-PILES ENCASED IN 16"ø STEEL PILE SHELLS.
PILE SPACING SHOWN IS AT BOTTOM OF CAP.
END PILES ARE TO BE BATTERED 2" PER FOOT IN DIRECTION SHOWN.
SEE DETAIL B202 FOR SPLICES.
SEE SURVEY SHEETS FOR TEST PILE LOCATIONS.
ALL PILES TO HAVE PILE TIP PROTECTION.
ALL PIER PILES TO BE DRIVEN TO EL. 991.0 OR BELOW.

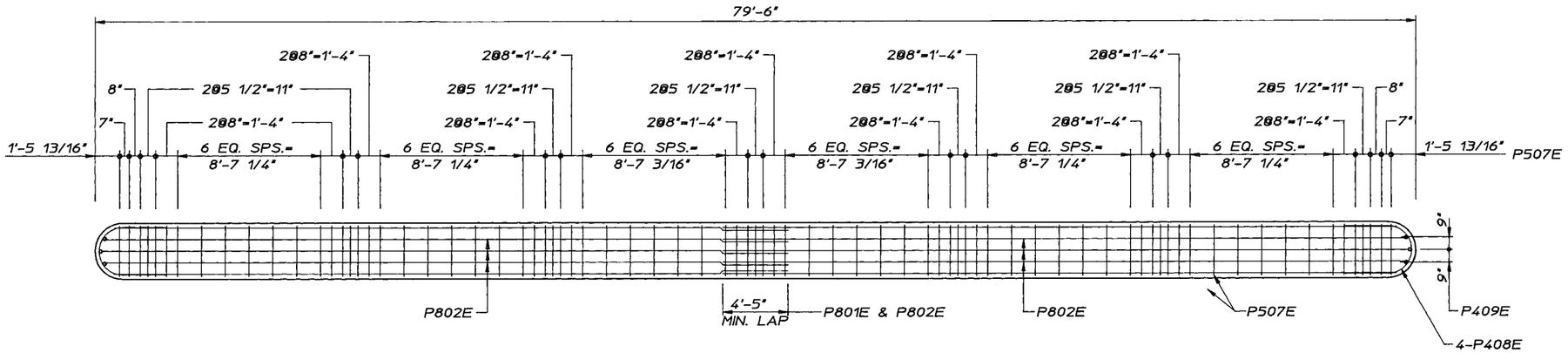
MINNESOTA DEPARTMENT OF TRANSPORTATION

BRIDGE NO. 55551

PIER DETAILS

APPROVED: 4-7-94

S.P. 55-636-02	55551	DM
SHEET 119 OF 140 SHTS		DAD



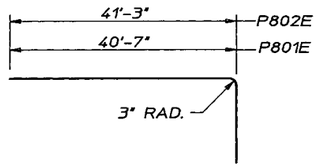
PLAN
SCALE: 1/4"=1'-0"

BILL OF REINFORCEMENT ~ 2 PIERS				
BAR	NO.	LENGTH	SHAPE	LOCATION
① P801E	8	43'-7"	BENT.	CAP ~ LONGITUDINAL
① P802E	12	44'-3"	BENT.	CAP ~ LONGITUDINAL
⑤ P803E	8	40'-4"	STRT.	CAP ~ LONGITUDINAL
② P704E	40	41'-0"	STRT.	CAP ~ LONGITUDINAL
③ P505E	8	25'-0"	STRT.	CAP ~ LONGITUDINAL
P506E	116	10'-3"	BENT	CAP ~ STIRRUP
P507E	198	5'-0"	BENT	CAP ~ TIE
P408E	16	9'-8"	BENT	CAP ~ TIE AT ENDS
P409E	12	3'-2"	STRT.	CAP ~ VERT. AT ENDS

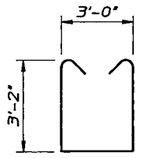
① 4'-5" MIN. LAP
② 4'-11" MIN. LAP
③ 2'-0" MIN. LAP
⑤ 3'-11" MIN. LAP

SUMMARY OF QUANTITIES ~ 2 PIERS		
STRUCTURE CONCRETE (3Y43)	73	CU. YD.
REINFORCEMENT BARS, EPOXY COATED	9170	POUND
④ STEEL H-PILING DRIVEN, 10"	800	LIN. FT.
④ STEEL H-PILING DELIVERED, 10"	800	LIN. FT.
STEEL H-TEST PILES, 60' LONG, 10"	4	EACH
PILE TIP PROTECTION, 10"	20	EACH
STEEL PILE SHELLS, 16"	300	LIN.FT.

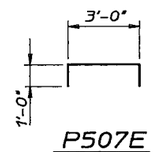
④ DOES NOT INCLUDE TEST PILES.



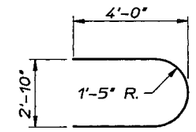
P801E & P802E



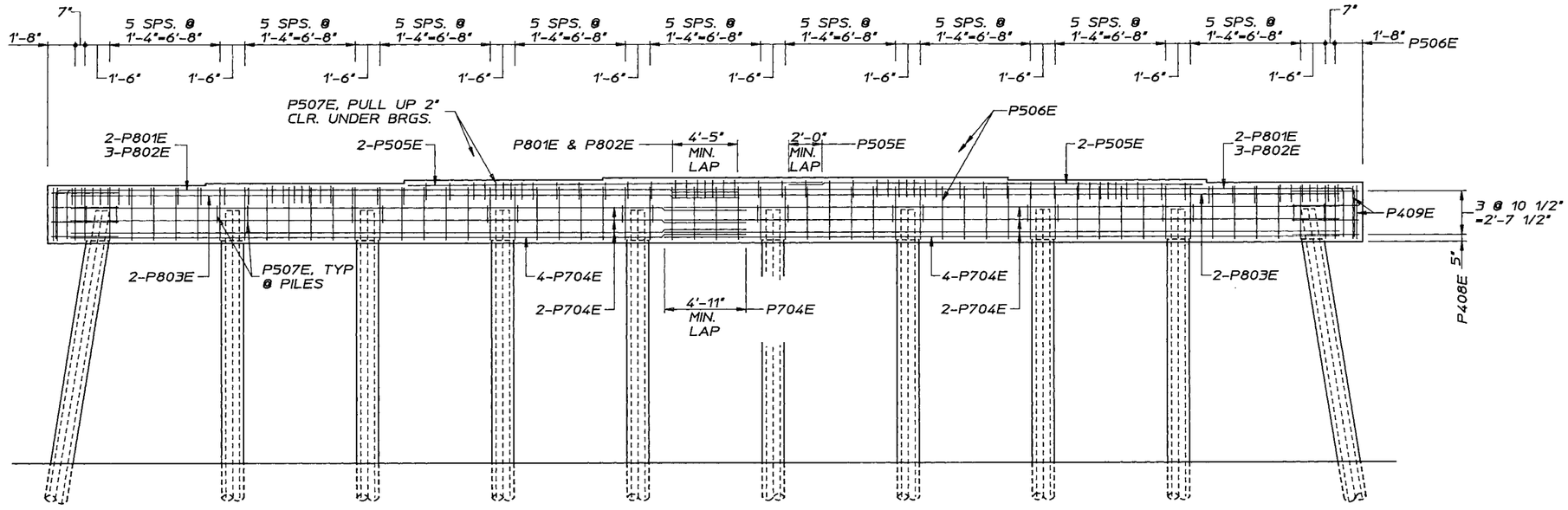
P506E



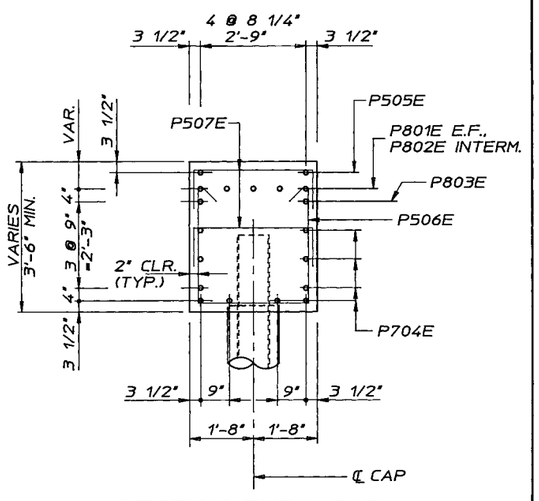
P507E



P408E



ELEVATION
SCALE: 1/4"=1'-0"



SECTION THRU CAP
SCALE: 1/2" = 1'-0"

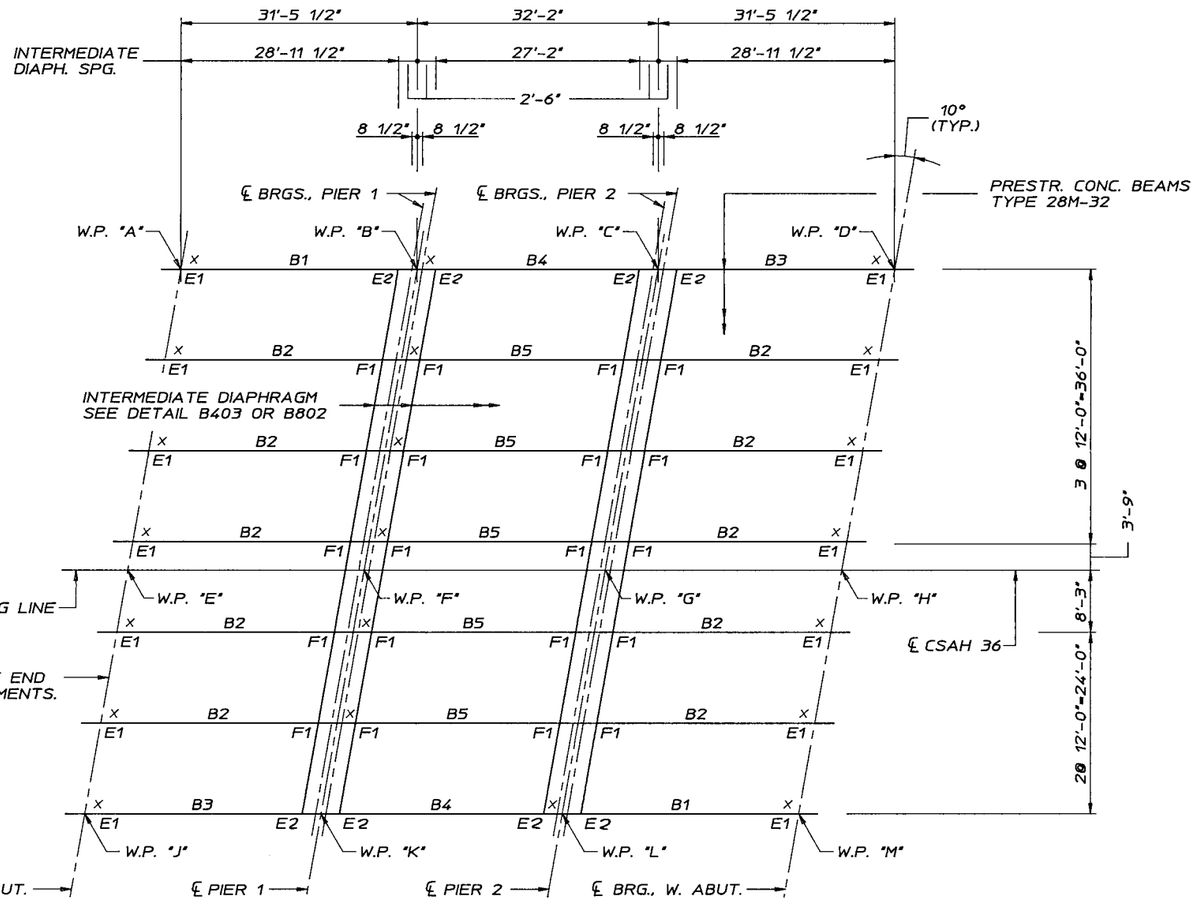
MINNESOTA DEPARTMENT OF TRANSPORTATION

BRIDGE NO. 55551

PIER DETAILS

APPROVED: 4-7-94

S.P. 55-636-02	55551	DM
SHEET 120 OF 140 SHTS		DAD



FRAMING PLAN

SCALE: 1"=10'-0"

NOTE:

E1= EXPANSION CURVED PLATE BEARING ASSEMBLY TYPE 1. SEE DETAIL B311.

F1= FIXED CURVED PLATE BEARING ASSEMBLY TYPE 1. SEE DETAIL B310.

E2= EXPANSION CURVED PLATE BEARING ASSEMBLY TYPE 2. SEE DETAIL B 311.

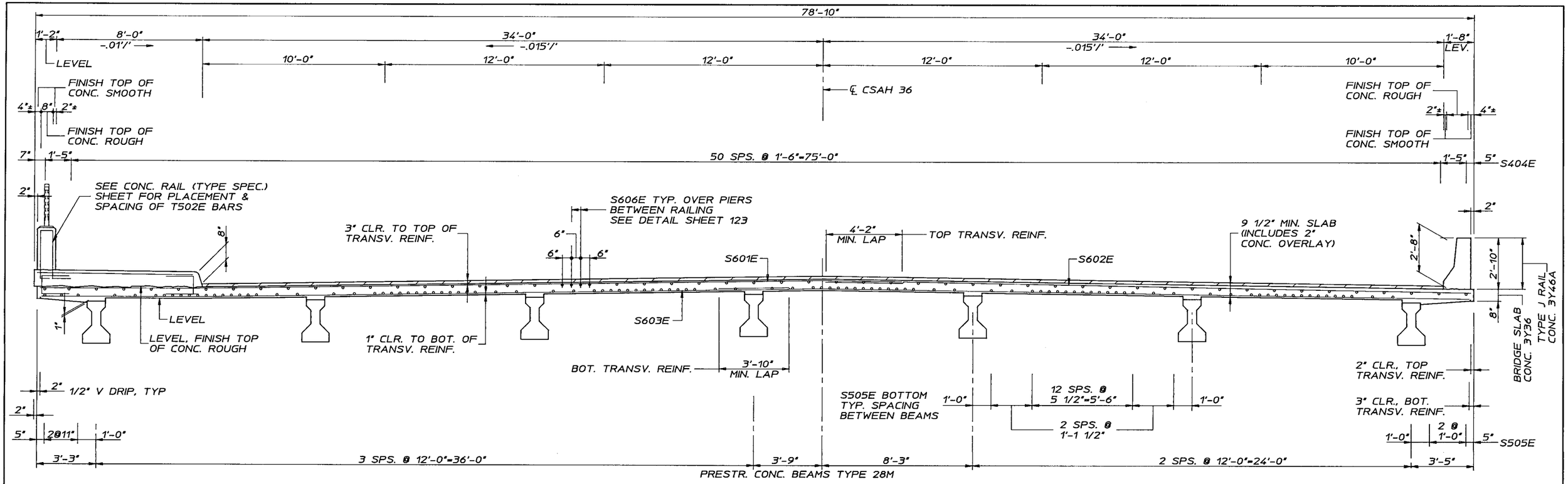
MINNESOTA DEPARTMENT OF TRANSPORTATION

BRIDGE NO. 55551

FRAMING PLAN

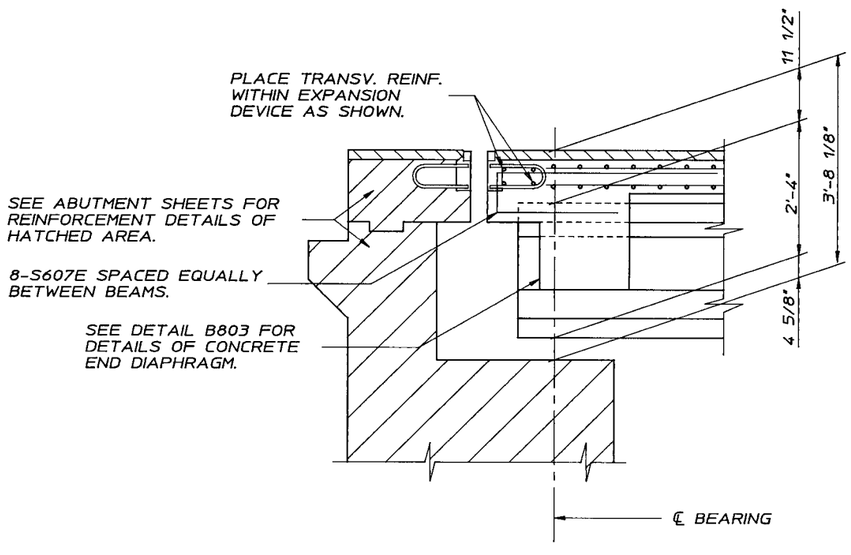
APPROVED: 4-7-94

S.P. 55-636-02	55551	DM
SHEET 121 OF 140 SHTS		DAD



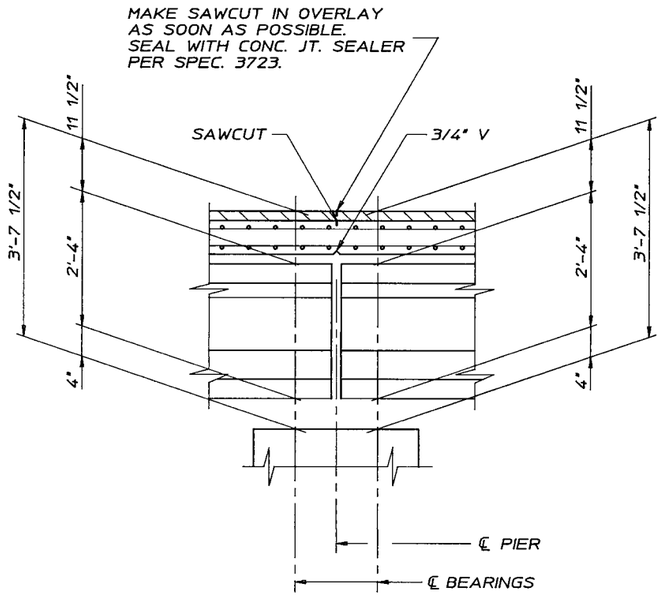
TRANSV. SECTION THRU DECK

SCALE: 3/8"=1'-0"



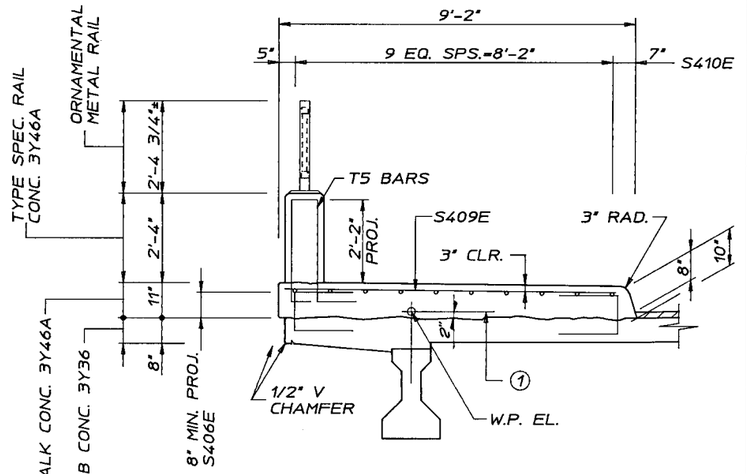
PART LONGIT. SECTION AT ABUTS.

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



PART LONGIT. SECTION AT PIERS

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



SECTION THRU SIDEWALK

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

① LOCATION OF EL. GIVEN ON SHEET 110 FOR WORKING POINT EL. AT FACIA BEAMS.

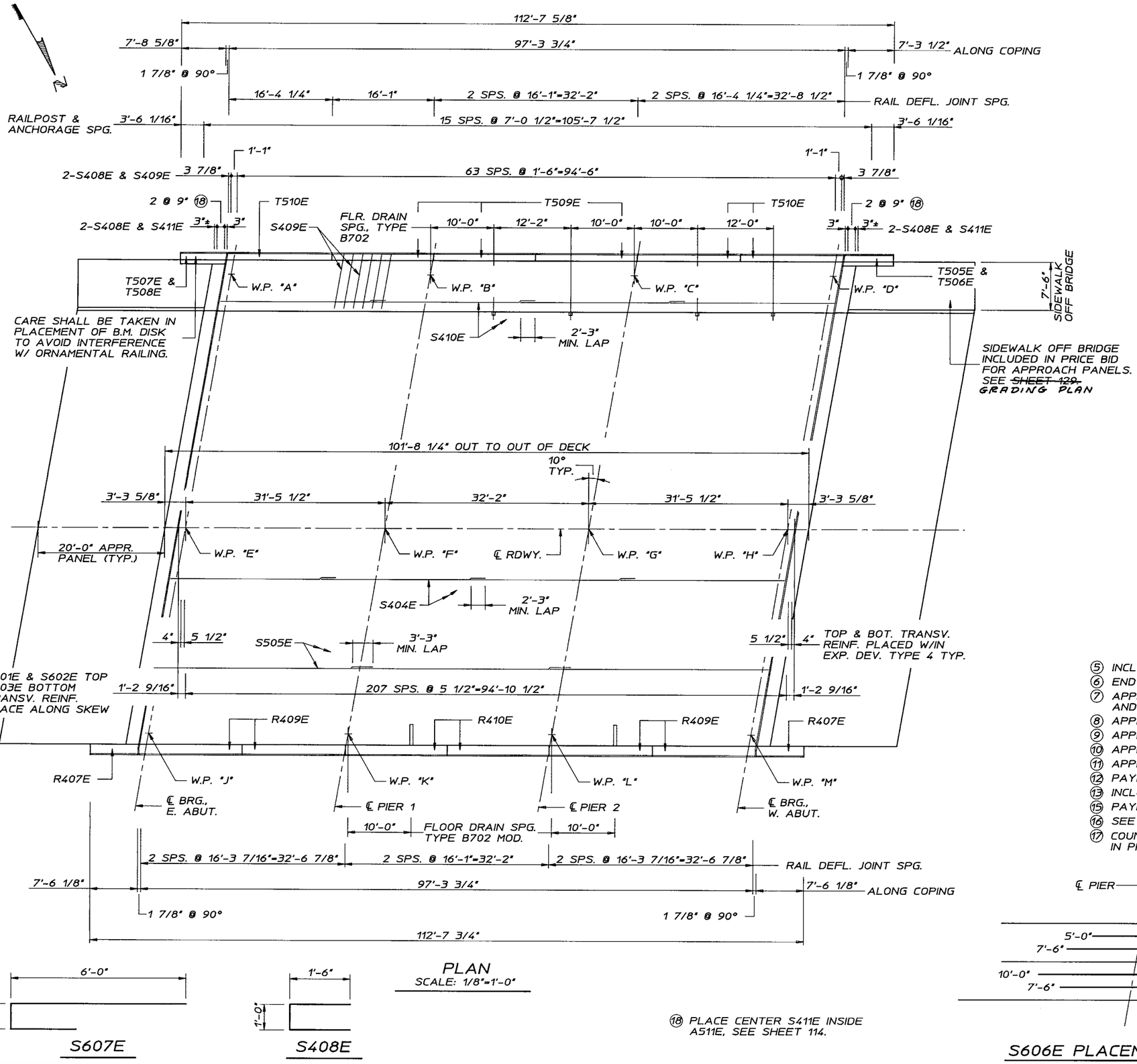
MINNESOTA DEPARTMENT OF TRANSPORTATION

BRIDGE NO. 55551

SUPERSTRUCTURE DETAILS

APPROVED: 4-7-94

S.P. 55-636-02	55551	DM
SHEET 122 OF 140 SHTS.		DAD

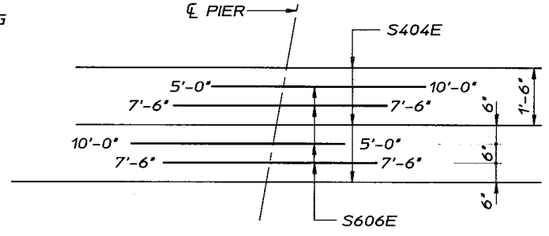


PLAN
SCALE: 1/8"=1'-0"

S607E

S408E

(18) PLACE CENTER S411E INSIDE A511E, SEE SHEET 114.



S606E PLACEMENT DIAGRAM

BILL OF REINFORCEMENT ~ SUPERSTRUCTURE

	BAR	NO.	LENGTH	SHAPE	LOCATION
(1)	S601E	212	47'-11"	STRT.	SLAB ~ TRANSV. TOP, S.SIDE
(1)	S602E	212	35'-9"	STRT.	SLAB ~ TRANSV. TOP, N.SIDE
(2)	S603E	424	41'-9"	STRT.	SLAB ~ TRANSV. BOTTOM
(3)	S404E	212	26'-0"	STRT.	SLAB ~ LONGITUDINAL TOP
(4)	S505E	324	34'-6"	STRT.	SLAB ~ LONGITUDINAL BOTTOM
	S606E	200	15'-0"	STRT.	SLAB ~ LONGIT. OVER PIERS
	S607E	96	8'-6"	BENT	SLAB ~ BETWEEN BEAMS
	S408E	140	4'-0"	BENT	SIDEWALK TIE
	S409E	66	8'-7"	STRT.	SIDEWALK TRANSVRSE
(3)	S410E	40	26'-0"	STRT.	SIDEWALK LONGITUDINAL
	S411E	6	6'-7"	STRT.	SIDEWALK TRANSVERSE

(1) 4'-2" MIN. LAP
(2) 3'-10" MIN. LAP
(3) 2'-3" MIN. LAP ~ 4 LINES
(4) 3'-3" MIN. LAP ~ 3 LINES

(5) SUMMARY OF QUANTITIES ~ SUPERSTRUCTURE

(6)	STRUCTURE CONCRETE (3Y43)	12 CU. YD.
(7)	BRIDGE SLAB CONCRETE (3Y36)	8000 SQ. FT.
(8)	CONCRETE OVERLAY TYPE (3U17A)	6915 SQ. FT.
(9)	TYPE J RAILING CONCRETE (3Y46A)	113 LIN. FT.
(10)	TYPE SPECIAL RAILING CONCRETE (3Y46A)	113 LIN. FT.
(11)	SIDEWALK CONCRETE (3Y46A)	932 SQ. FT.
	REINFORCEMENT BARS, EPOXY COATED	82050 POUND
	ORNAMENTAL METAL RAILING	113 LIN. FT.
(12)	PRESTRESSED CONCRETE BEAMS, TYPE 28M-32	21 EACH
	PRESTRESSED CONCRETE BEAMS 28M	672 LIN. FT.
	DIAPH. FOR TYPE 28M PRESTR. CONC. BEAMS	292 LIN. FT.
	FLOOR DRAINS, TYPE B702	4 EACH
	FLOOR DRAINS, TYPE B702 MODIFIED	2 EACH
(13)	NAME PLATE (SEE DETAIL B103)	1
	BEARING ASSEMBLY	42 EACH
	EXP. CURVED PLATE BRG. ASSEMBLY, TYPE 2	8 EACH
(15)	EXP. CURVED PLATE BRG. ASSEMBLY, TYPE 1	14 EACH
(15)	FIXED CURVED PLATE BRG. ASSEMBLY, TYPE 1	20 EACH
(16)	EXPANSION JOINT DEVICE, TYPE 4	138 LIN. FT.
(13)(16)	CORK ~ 1"X11" (TYPE J RAILING)	8 LIN. FT.
(13)(16)	CORK ~ 1"X12" (TYPE SPECIAL RAILING)	12 LIN. FT.
(17)	B.M. DISK (STD. PLATE NO. 9300)	1

(5) INCLUDES RAILING AND END DIAPHRAGM QUANTITIES.
(6) END DIAPHRAGM CONCRETE.
(7) APPROX. VOL.= 193 CU. YDS. BASED ON AN AVG. STOOL HT. OF 1 1/2" AND A STRUCTURAL SLAB DEPTH OF 7 1/2"
(8) APPROX. VOL.= 43 CU. YDS.
(9) APPROX. VOL.= 13 CU. YDS.
(10) APPROX. VOL.= 10 CU. YDS.
(11) APPROX. VOL.= 31 CU. YDS.
(12) PAYMENT FOR BEAMS INCLUDED IN ITEM PRESTR. CONC. BEAMS 28M/LIN. FT.
(13) INCLUDED IN PRICE BID FOR OTHER ITEMS.
(15) PAYMENT FOR BRGS. INCLUDED IN ITEM BRG. ASSY'S./EACH.
(16) SEE SPECIAL PROVISIONS.
(17) COUNTY WILL FURNISH DISK. PAYMENT FOR PLACING IS TO BE INCLUDED IN PRICE BID FOR OTHER ITEMS. SEE STD. ℄ NO. 9301 FOR PLACING.

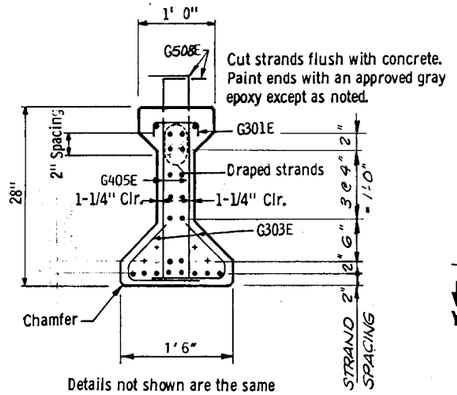
MINNESOTA DEPARTMENT OF TRANSPORTATION

BRIDGE NO. 55551

SUPERSTRUCTURE DETAILS

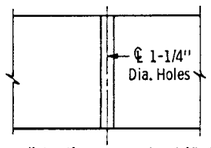
APPROVED: 4-7-94

S.P. 55-636-02	55551	DM
SHEET 123 OF 140 SHTS		DAD



Details not shown are the same as the SECTION AT ℄ BEAM

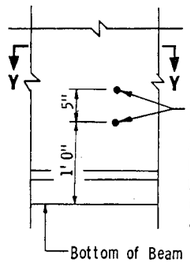
END VIEW



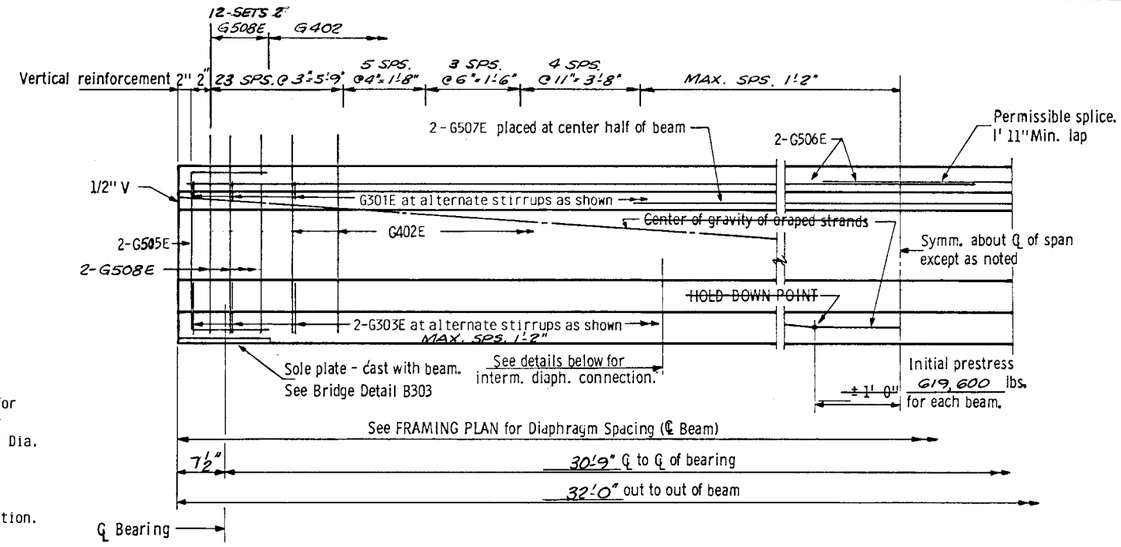
Intermediate stirrups may be shifted the minimum distance required to clear holes or inserts for intermediate diaphragms.

SECTION Y-Y

USE AT INTERIOR BEAM WITH STEEL DIAPHRAGM



FOR USE WITH STEEL INTERMEDIATE DIAPHRAGM

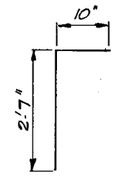


HALF ELEVATION

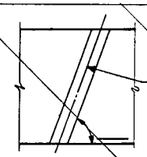
Bar	Wt.
G 301E	.41 lb.
G 402E	3.56 lb.
G303E	.70 lb.
G505E	4.17 lb.
G506E	
G507E	
G508E	3.56

Girder Section Data	
Wt./Ft. = 307 lbs.	
Cross sec. area at ℄ of span = 285 in.²	
C. G. (from bottom) = 12.26 in.	
I = 23,687 in.⁴	
S_B = 1,932 in.³	
1/2" Dia. 270k strand wt./ft. = .525 lb.	
1/2" dia. 270k strand area = .1531 sq. in.	

ALL REINF. SHALL BE EPOXY COATED.



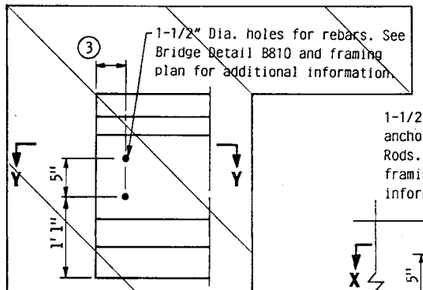
G508E



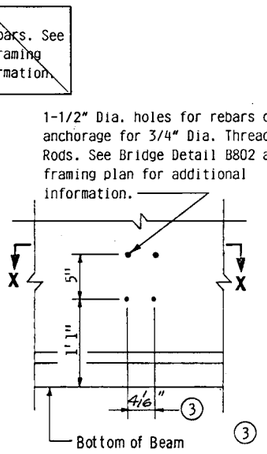
See FRAMING PLAN for skew direction. Intermediate stirrups may be shifted the minimum distance required to clear holes or inserts for intermediate diaphragms.

SECTION Y-Y

FOR USE WITH CONCRETE END DIAPHRAGMS WITH PILE BENT ABUTMENTS

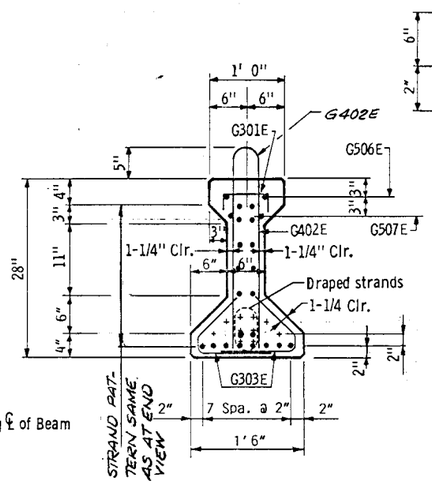


CONCRETE END DIAPHRAGMS PILE BENT ABUTMENT

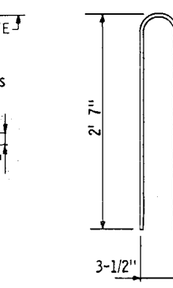


③ Along ℄ of Beam

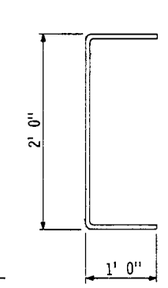
FOR USE WITH CONCRETE INTERMEDIATE DIAPHRAGM



SECTION AT ℄ BEAM



G303E



G301E

G402E & G508E

G505E

First digit of bar mark indicates bar size.
All bar dimensions are out-to-out.

GENERAL NOTES:

Bars marked with the suffix "E" shall be epoxy coated as per Spec. 3301.

Tops of beams shall be rough floated and broomed transversely for bond.

Provide handling hooks or devices as required by Contractor. Hooks or devices provided will be subject to approval of Engineer and shall be installed within 4'-0" of the end of beam.

A modified strand pattern or a bundled strand pattern which does not change center of gravity of strands may be submitted to the Engineer for approval.

Each beam shall be marked, showing bridge number, casting date, and individual identification letters and numbers. Markings shall be made on the face of the beam, near the end, so located that they will be exposed after the end diaphragms have been cast. Fascia beams shall be marked on an inside face. All markings shall be stencilled and be clearly legible. For location of beams, see framing plan.

All material and work shown or noted on this sheet shall be included in unit price bid for prestressed concrete beams. See Spec. 2405.

See framing plan for beam ends marked "X".

Approximate weight of beam 49 tons.

As an alternate to the diaphragm anchorages shown, the contractor may submit details of a cast-in-place anchorage to the engineer for approval. Anchorage must provide an ultimate pull out strength of 15 kips per anchorage.

Y DISTANCES (IN INCHES)			
	NO.	℄ SPAN	END
Straight strands	—	—	
Draped strands	20	10.0	10.0 [a]
Total strands	20	10.0	

Y = distance of Center of Gravity of strands from bottom of beam. All strands spaced 2" c-c, horizontally and vertically except as noted.

All strands 1/2" Dia. 270 Kip, ultimate strength low relaxation strand.

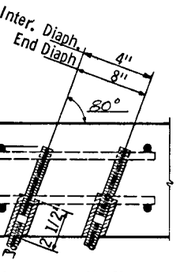
[a] A tolerance of ± 2" will be permitted in this dimension.

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MINIMUM CONCRETE STRENGTH - P.S.I.		
	① f'ci	② f'c
Required min. Concrete Strength	5000	7000

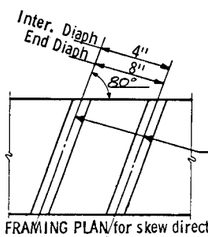
① Minimum concrete strength at time of prestress transfer.

② Minimum concrete strength when curing can be discontinued and beam transported and installed.



SECTION X-X

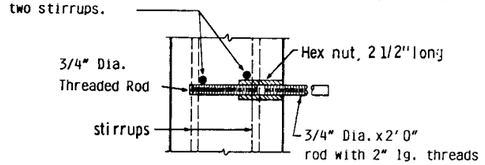
USE AT FASCIA BEAM ~~AND INTERIOR BEAM WITH STAGGERED DIAPHRAGMS~~



See FRAMING PLAN for skew direction. Intermediate stirrups may be shifted the minimum distance required to clear holes or inserts for intermediate diaphragms.

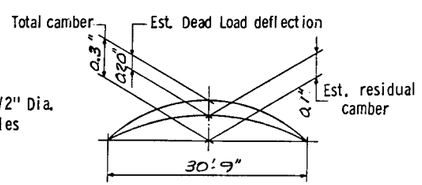
SECTION X-X

USE AT INTERIOR BEAM WITH CONTINUOUS CONCRETE DIAPHRAGM



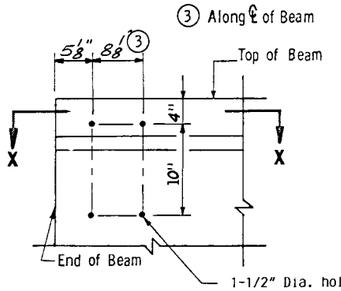
Nuts and rods per Spec. 3306. No paint

SECTION Z-Z



Deflections shown are for weight of slab, wearing course, railing, sidewalk, ~~median~~ and diaphragms only. Engineer will take elevations at top of beams after erection and will allow for deflections shown to enable contractor to build forms to correct grade and specified slab thickness.

CAMBER DIAGRAM

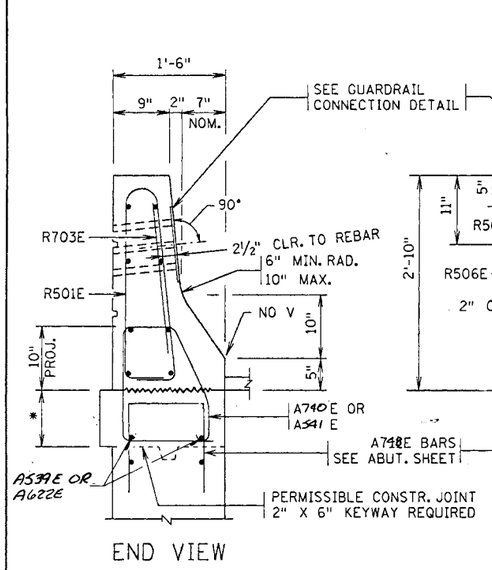


CONCRETE END DIAPHRAGMS PARAPET ABUTMENT

BEAMS B1-B5

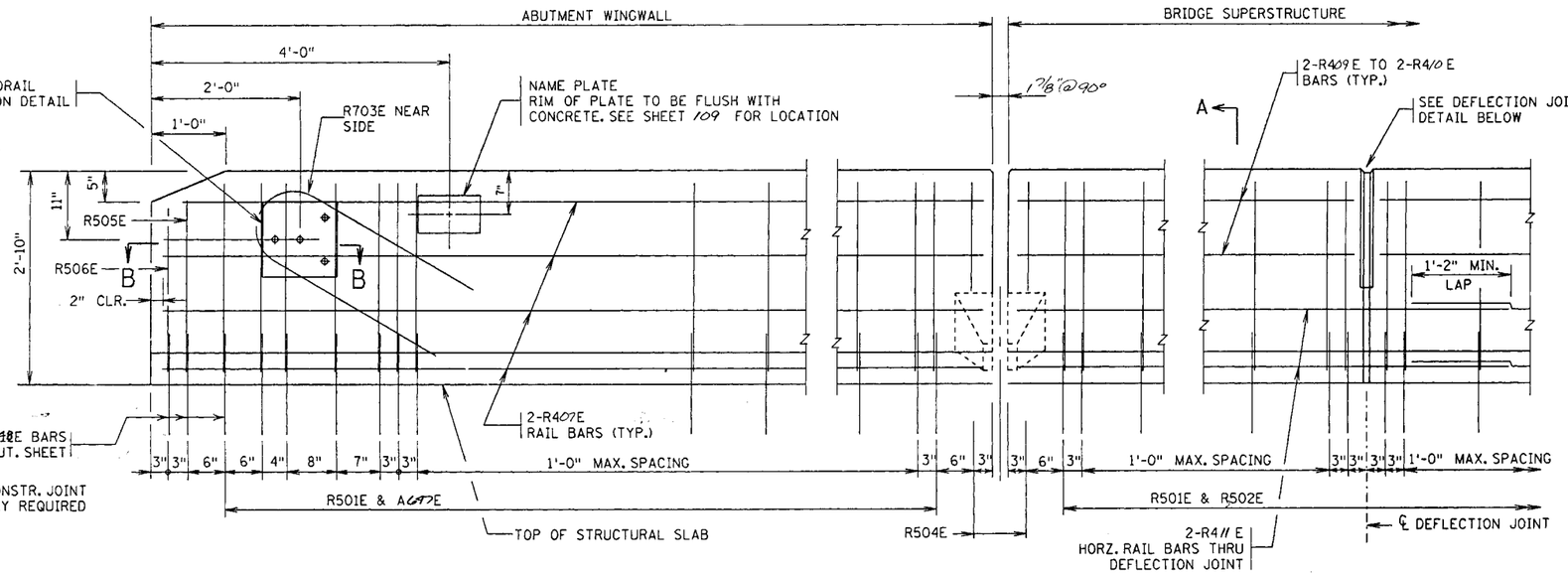
REVISED:	APPROVED: June 5, 1989	FIG. 5-397.506

TITLE: 28" PRESTRESSED CONCRETE BEAM (PRETENSIONED) TYPE 28M-32	DES:	DR:	APPROVED: 4-7-94	Bridge No. 55551
	CHK:	CHK:	Sheet No. 124 of 140 Sheets	



END VIEW

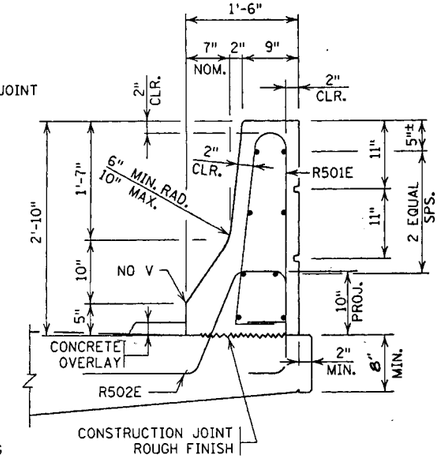
* THICKNESS TO BE THE SAME AS SLAB IN SECTION A-A



INSIDE ELEVATION OF RAILING

EXPANSION JOINT
EXPANSION DEVICE NOT SHOWN

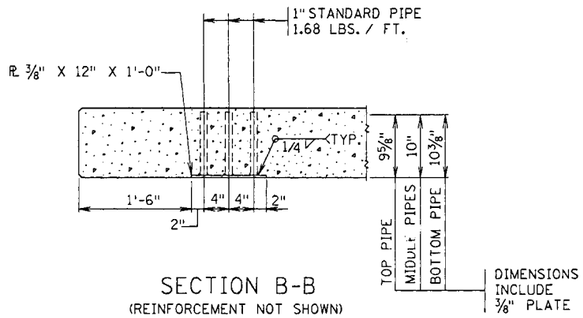
A ↓ A DEFLECTION JOINT



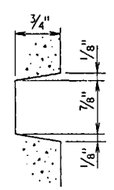
SECTION A-A

BILL OF REINFORCEMENT FOR RAILING				
BAR	NO.	LENGTH	SHAPE	LOCATION
R501E	134	6'-7"	BENT	RAIL VERT.
R502E	112	5'-6"	BENT	RAIL VERT.
R703E	2	6'-7"	BENT	RAIL VERT.
R504E	4	5'-4"	BENT	RAIL VERT.
R505E	2	6'-2"	BENT	RAIL VERT.
R506E	2	5'-11"	BENT	RAIL VERT.
R407E	16	7'-1"	STR'T.	RAIL HORZ.
~~R408E~~	~~-~~	~~-~~	~~STR'T.~~	~~RAIL HORZ.~~
R409E	16	15'-10"	STR'T.	RAIL HORZ.
R410E	8	15'-8"	STR'T.	RAIL HORZ.
① R411E	16	25'-2"	STR'T.	RAIL HORZ.

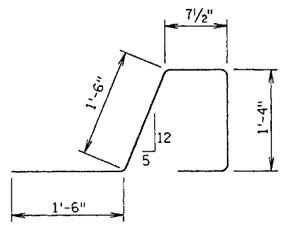
① 4 LINES, MIN. 1'-2" LAP



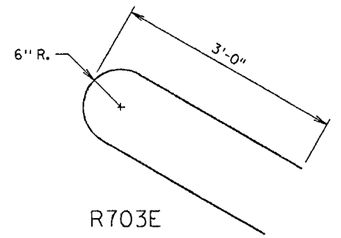
SECTION B-B
(REINFORCEMENT NOT SHOWN)



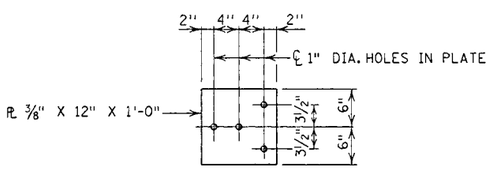
RAIL RUSTICATION



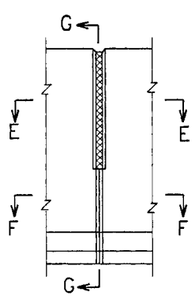
R502E



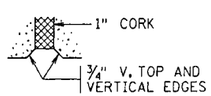
R703E



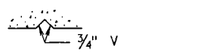
GUARDRAIL CONNECTION DETAIL
GALVANIZE AFTER FABRICATION PER SPEC. 3394
ESTIMATED WEIGHT = 20 LBS.



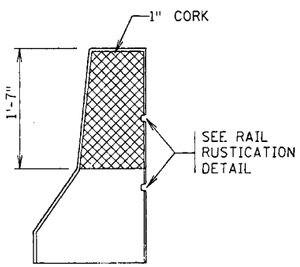
ELEVATION



SECTION E-E

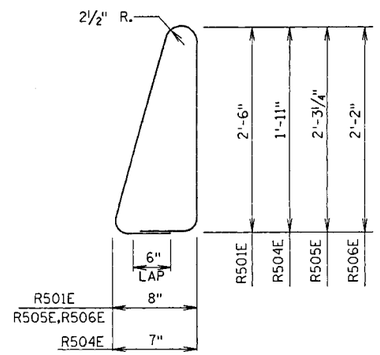


SECTION F-F



SECTION G-G

DEFLECTION JOINT



R501E, R504E, R505E & R506E

GENERAL NOTES:

CONCRETE RAILING = 440 LBS./FT. (.109 CU. YDS./FT.)

GUARDRAIL CONNECTION TO BE STRUCTURAL STEEL, SPEC. 3306.

FINISH ALL EDGES OF RAIL WITH ½" VEE, EXCEPT WHERE OTHERWISE NOTED.

SEE SUPERSTRUCTURE SHEET FOR JOINT SPACING.

GUARDRAIL CONNECTION TO BE INCLUDED IN PRICE BID FOR OTHER ITEMS.

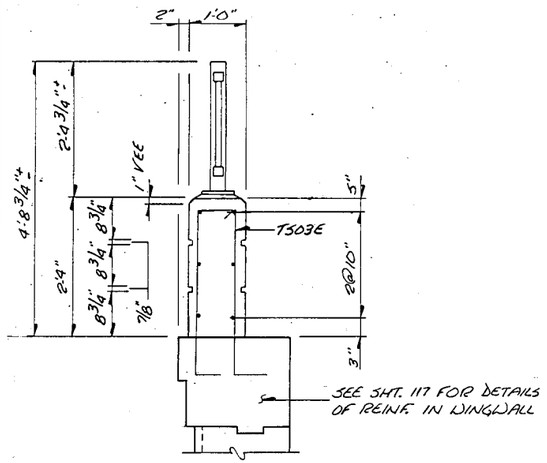
RAIL QUANTITIES ARE INCLUDED IN SUMMARY OF QUANTITIES FOR SUPERSTRUCTURE.

MAXIMUM SPACING OF CONCRETE DEFLECTION JOINTS SHALL BE 20'-0".

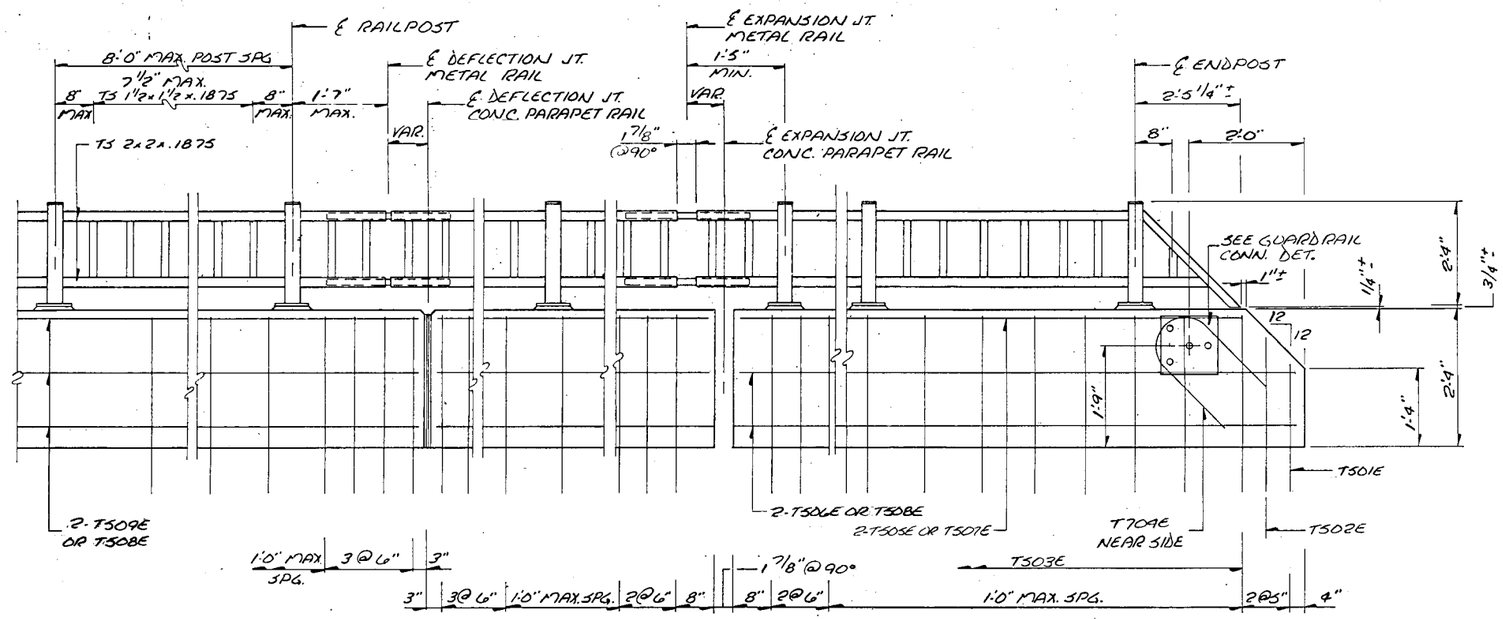
S.P. 55-636-02

APPROVED: 8/31/91	FIG. 5-397.117

TITLE: CONCRETE RAILING (TYPE J) WITH INTEGRAL END POST	DES:	DR:	APPROVED: 4-7-94	Bridge No. 55551
	CHK:	CHK:	Sheet 125 of 140 Sheets	

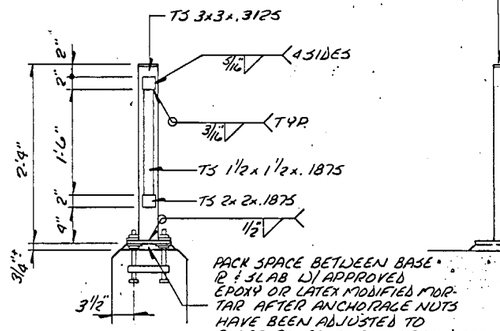


SECTION THRU RAIL
(ON WINGWALL)

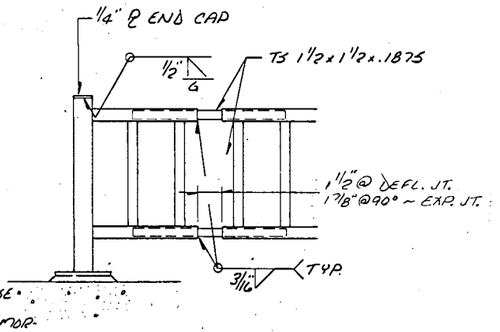


DEFLECTION JT. EXPANSION JT.

INSIDE ELEVATION OF RAILING

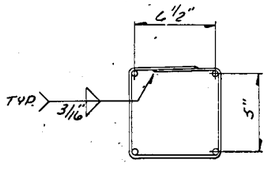


JOINT DETAIL

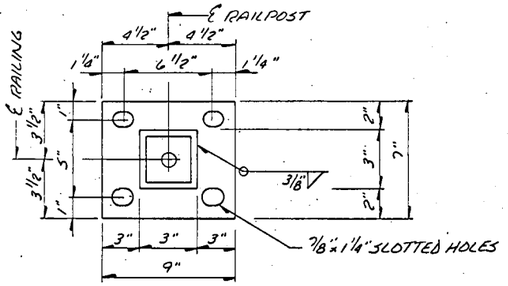


PACK SPACE BETWEEN BASE PL & SLAB W/ APPROVED EPOXY OR LATEX MODIFIED MORTAR AFTER ANCHORAGE NUTS HAVE BEEN ADJUSTED TO PLUMB RAILPOSTS, ALIGN RAIL & ARE TIGHTENED IN FINAL POSITION.

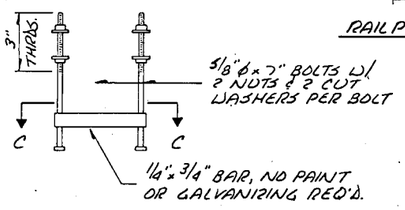
TYPICAL RAILPOST



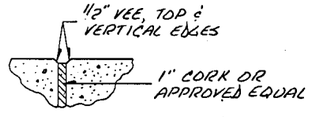
SECTION C-C



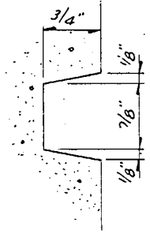
RAILPOST BASE PLATE



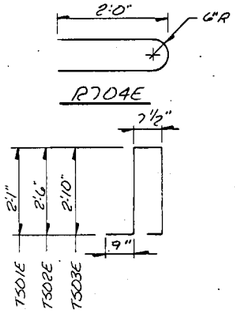
RAILPOST ANCHORAGE



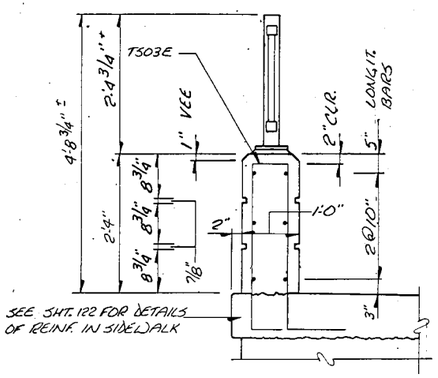
DEFLECTION JT. DETAIL



RAIL RUSTICATION DETAIL



T501E, T502E & T503E



SEE SHT. 122 FOR DETAILS OF REINF. IN SIDEWALK

SECTION THRU RAIL
(ON BRIDGE)

GENERAL NOTES:

CONCRETE IN RAIL BASE SHALL BE MIX NO. 3946.A.

ALL MAT'L IN CONCRETE BASE IS INCLUDED IN SUPERSTRUCTURE QUANT.

MAX. SPACING OF RAIL DEFLECTION JOINTS SHALL BE 20'.

LENGTH OF CONCRETE & ORNAMENTAL METAL RAILING FOR PAYMENT IS MEASURED BETWEEN THE OUTSIDE FACES OF THE CONCRETE PARAPET.

GUARDRAIL CONNECTION TO BE INCLUDED IN PRICE BID FOR TYPE SPECIAL CONCRETE RAIL.

PRICE BID FOR ORNAMENTAL METAL RAILING INCLUDES ALL STRUCTURAL TUBING, ANCHORAGES, PLATES, ETC. & PLACEMENT OF ITEMS.

GALVANIZE, AFTER FABRICATION, ALL HARDWARE PER SPEC. 3392 & STRUCTURAL SHAPES PER SPEC. 3394.

STRUCTURAL TUBE RAILING & RAILPOST ANCHORAGE TO BE STRUCTURAL STEEL SPEC. 3306.

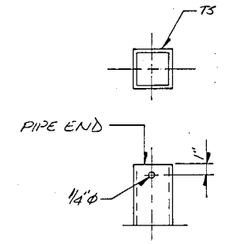
ALL RAILPOSTS TO BE SET PLUMB.

ANCHORAGES SHALL BE ACCURATELY PLACED TO PROVIDE CORRECT ALIGNMENT OF RAILING, SET VERTICALLY. DRILLED IN CONCRETE ANCHORAGES MAY BE USED. SEE SPECIAL PROVISIONS.

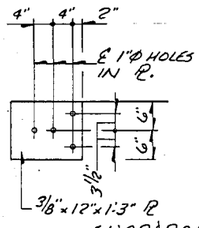
ALL HORIZONTAL TUBES SHALL HAVE A WEEP HOLE AT EACH END, VERTICAL TUBES SHALL HAVE A WEEP HOLE AT THE BASE END.

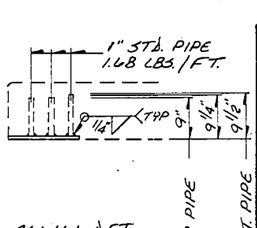
BILL OF REINFORCEMENT ~ RAILING

BAR	NO.	LENGTH	SHAPE	LOCATION
T501E	2	6'-9"	BENT	VERTICAL
T502E	2	7'-2"	"	"
T503E	134	7'-7"	"	"
T704E	2	4'-7"	"	"
T505E	2	5'-10"	STRT.	LONGITUDINAL
T506E	4	6'-10"	"	"
T507E	2	6'-2"	"	"
T508E	4	7'-2"	"	"
T509E	18	15'-8"	"	"
T510E	18	15'-11"	"	"



WEEP HOLE DETAIL





GUARDRAIL CONN. DET.
EST. WEIGHT 23 LBS.

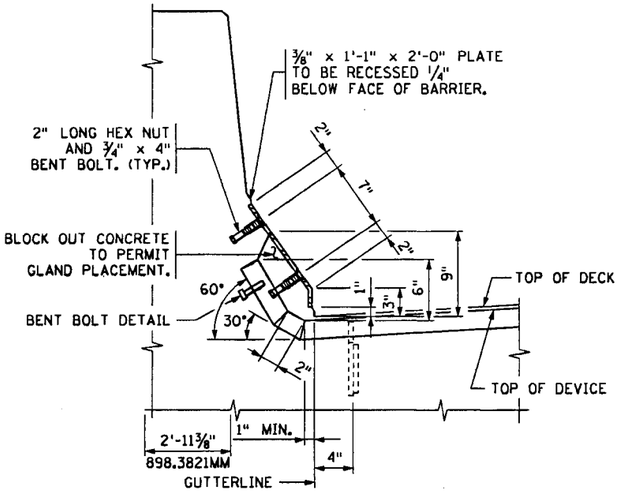
MINNESOTA DEPARTMENT OF TRANSPORTATION

BRIDGE NO. 55551

TYPE SPECIAL CONCRETE RAILING

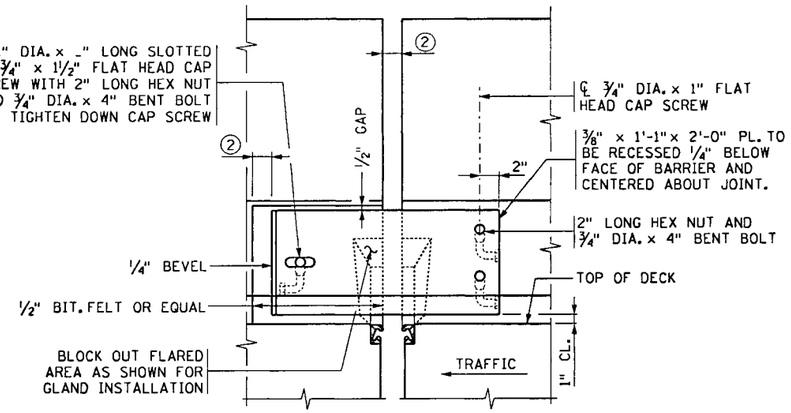
4-7-94

S.P. 55-634-02	55551	DM
SHEET 126 OF 140 SHEETS		DAD

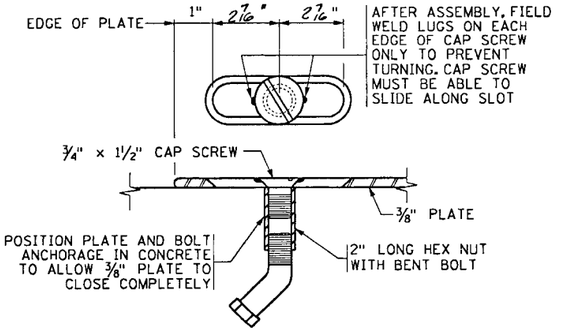


SECTION THROUGH RAILING

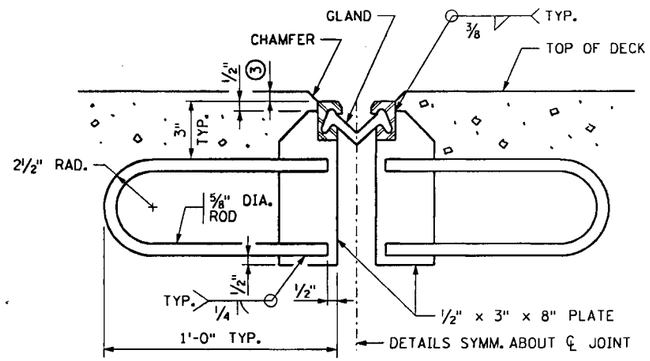
(TYPE J RAILING)



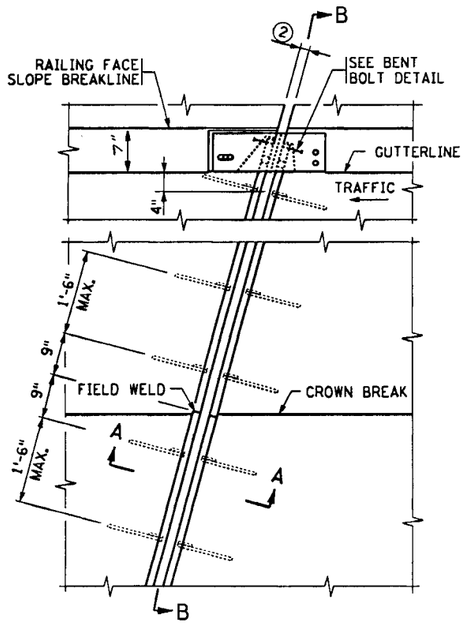
RAILING ELEVATION



DETAIL "A"

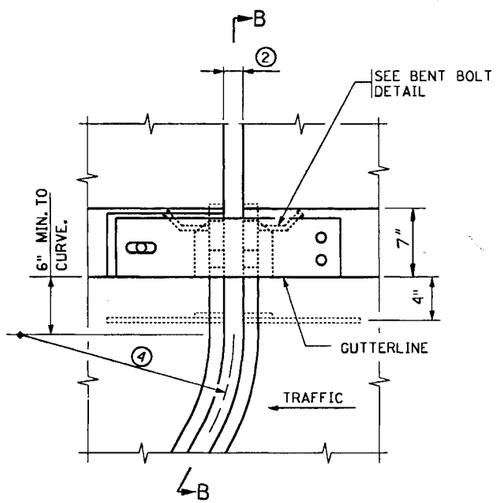


SECTION A-A



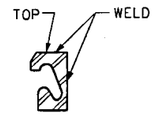
PLAN VIEW @ EXP. DEVICE

(WITH STRAIGHT DEVICE)

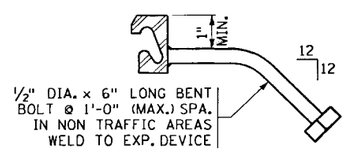


PLAN VIEW @ EXP. DEVICE

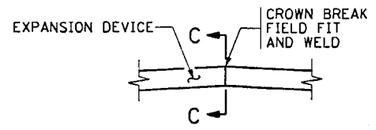
(WITH CURVED DEVICE ALTERNATE)



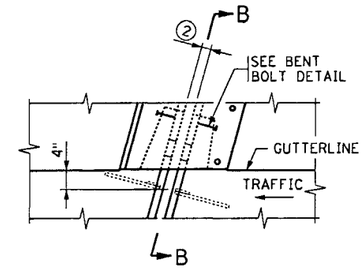
SECTION C-C



BENT BOLT DETAIL

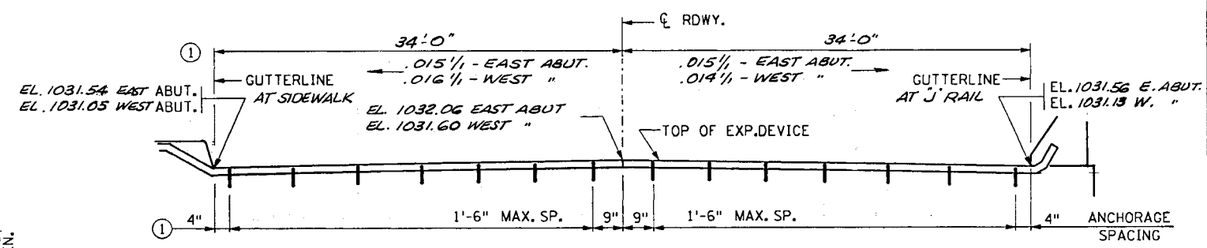


DETAIL B



PLAN VIEW @ EXP. DEVICE

(MEDIAN OR SIDEWALK ALTERNATE)



SECTION B-B ~ ALONG ℄ JOINT

(ELEVATIONS SHOWN ARE 1/8" BELOW TOP OF SLAB @ ℄ JT.)

~~(ELEVATIONS SHOWN ARE 1/2" BELOW TOP OF SLAB @ ℄ JT.)~~

NOTES

GALVANIZE STRUCTURAL STEEL AFTER FABRICATION AS PER SPEC. 3394.

JOINTS IN ROADWAY PLATE OR EXTRUSION SHALL BE LOCATED AT BREAKS IN TRANSVERSE PROFILE AND AS OTHERWISE REQUIRED. JOINTS SHALL BE CLOSE FIT AND WELDED. REPAIR AFTER WELDING AS PER SPEC. 2471.3L.

STRUCTURAL STEEL SHALL COMPLY WITH SPEC. 3306, SPEC. 3307, OR SPEC. 3309.

EXPANSION DEVICE SHALL BE STRAIGHTENED TO A TOLERANCE OF 1/8" IN 10 FEET.

CAP SCREWS SHALL BE COUNTERSUNK 1/16" BELOW TOP OF PLATE.

LENGTH OF PAYMENT FOR DEVICE IS FROM GUTTERLINE TO GUTTERLINE.

(1) DIMENSIONS ARE ALONG CENTERLINE OF JOINT.

(2) 2 1/16" AT 45°; 2 7/8" AT 90°

(3) 1/8" (1/4" MAX.).
1/2" (5/8" MAX.) WHEN SNOWPLOW FINGERS ARE USED.

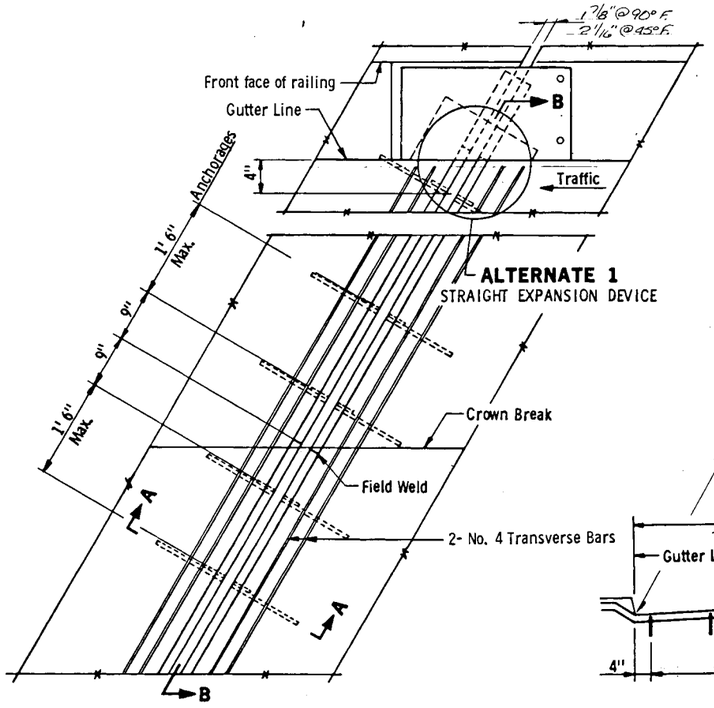
(4) SEE SUPERSTRUCTURE DETAILS FOR RADIUS.

4-7-94

APPROVED: MODIFIED	FIG. 5-397.627

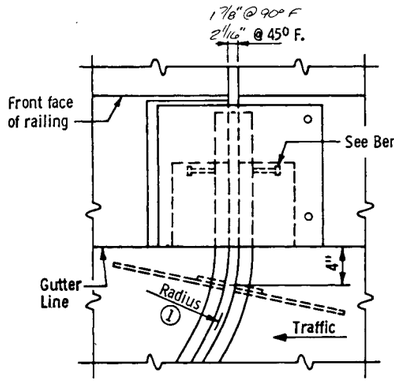
TITLE: WATERPROOF EXPANSION DEVICE (WITH TYPE J BARRIER)	DES:	DR:	APPROVED:	Bridge No. 55551
	CHK:	CHK:		
	Sheet No. 127 of 140 Sheets			

S.P. 55-636-02

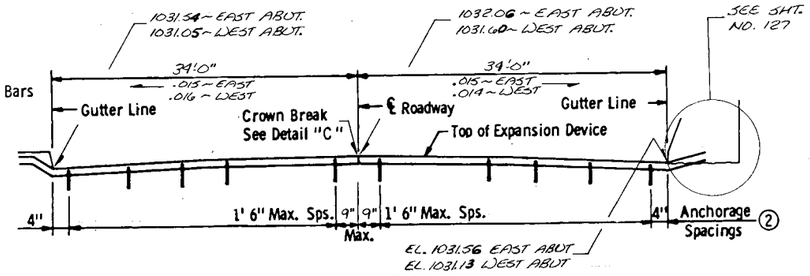


PLAN VIEW AT EXPANSION DEVICE

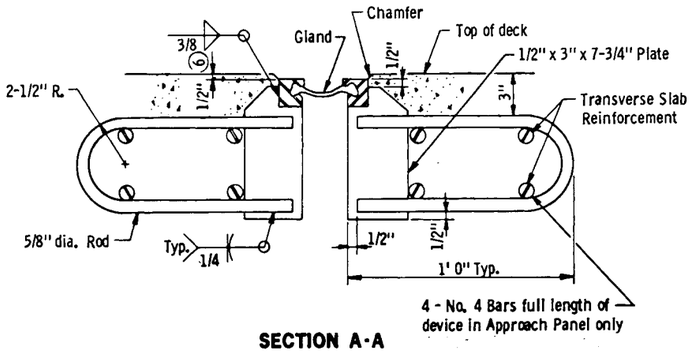
ALTERNATE 1
STRAIGHT EXPANSION DEVICE



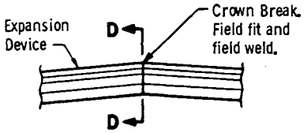
ALTERNATE 2
CURVED EXPANSION DEVICE



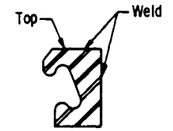
SECTION B-B



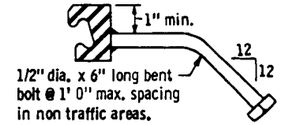
SECTION A-A
ANCHORAGE



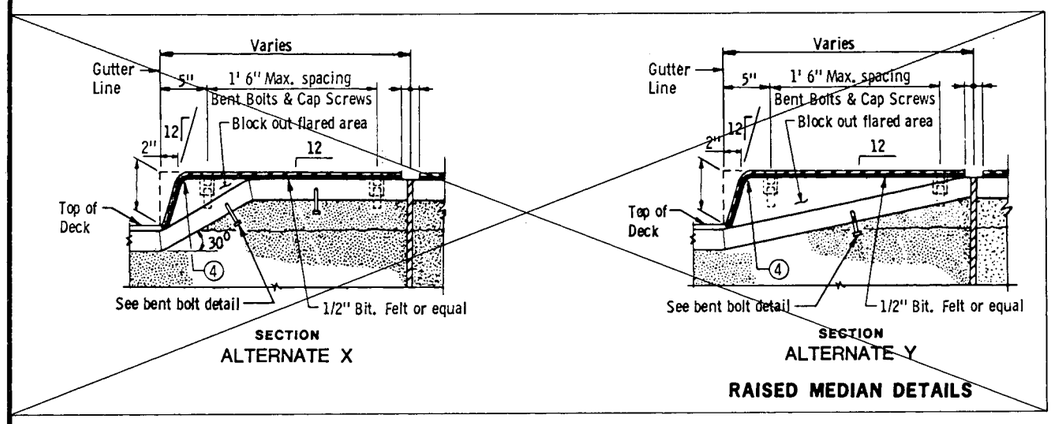
DETAIL C



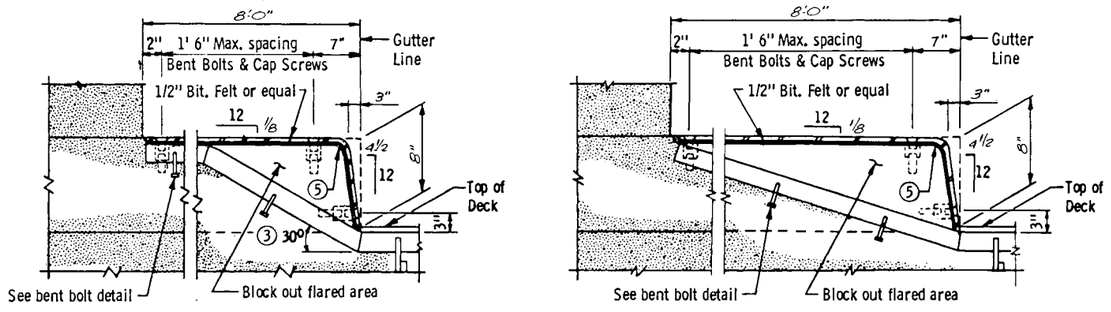
SECTION D-D



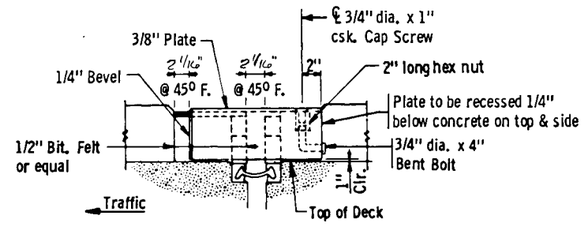
BENT BOLT DETAIL



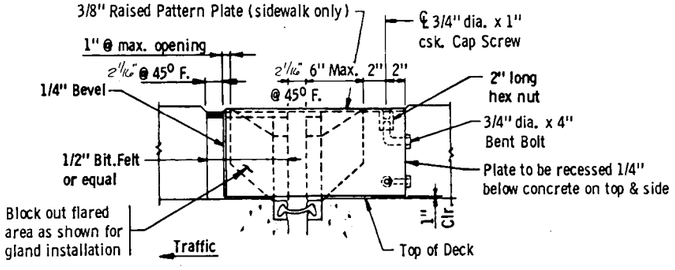
RAISED MEDIAN DETAILS



SIDEWALK DETAILS



ELEVATION



INSIDE ELEVATION

NOTES:

Galvanize structural steel after fabrication as per Spec. 3394.

Joints in roadway plate or extrusion shall be located at breaks in transverse profile and as otherwise required. Joints shall be close fit and welded. Repair after welding as per Spec. 2471.3L.

Structural steel shall comply with Spec. 3306, Spec. 3307 & Spec. 3309.

Expansion device shall be straightened to a tolerance of 1/8" in 10 ft.

Cap screws shall be countersunk 1/16" below top of plate.

Galvanize screws and nuts as per Spec. 3392.

See superstructure sheets for expansion device alternate at railing.

When expansion devices are used at ends of bridge, the bridge contractor shall furnish expansion device and gland. The roadway contractor shall install the part of the expansion device which includes the gland as shown on this sheet.

① Varies 18" to 24"

② Dimension along centerline of joint.

③ For roadway skews over 25° use 45°.

④ 2-3/4" outside radius of steel plate

⑤ 3" outside radius of steel plate

⑥ 5/8" max. when Snowplow Fingers are used. Use 1/8" (with 1/4" max.) when Snowplow Fingers are not used.

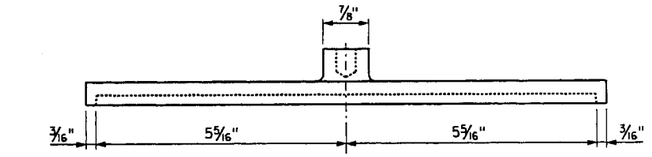
SP. 55-636-02

FIG. 5-397.630

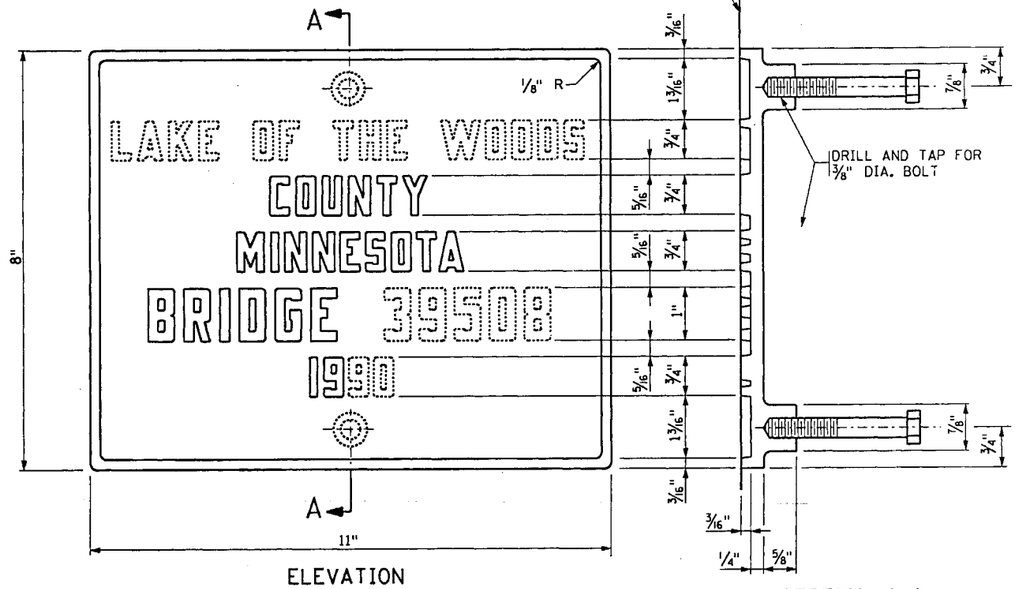
Revised: October 15, 1982 Approved: July 16, 1982

TITLE: WATERPROOF EXPANSION DEVICE WITH SIDEWALK OR RAISED MEDIAN	DES:	DR:	APPROVED: 4-7-94	Bridge No. 55551
	CHK:	CHK:	Sheet No. 128 of 140 Sheets	

17M



PLAN VIEW



ELEVATION

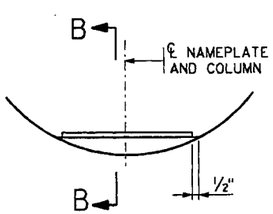
SECTION A-A

THE DASHED NUMBERS SHOWN ABOVE ARE FOR ILLUSTRATION.
DATA TO BE SHOWN ON NAMEPLATE IS AS FOLLOWS:

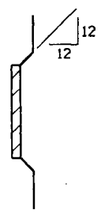
COUNTY OLMSTED
BRIDGE 55551
YEAR 1994



LETTERS AND NUMBERS FOR NAMEPLATE



NAMEPLATE PLACEMENT
(ROUND CONCRETE PIER COLUMNS)



SECTION B-B

NOTES:

NO SHOP DRAWING REQUIRED.

MATERIAL SHALL COMPLY WITH SPEC. 3327.

LETTERS AND NUMBERS SHALL CONFORM TO THOSE SHOWN.

DRAFT ON LETTERS AND NUMBERS SHALL NOT BE MORE THAN 3" IN 12".

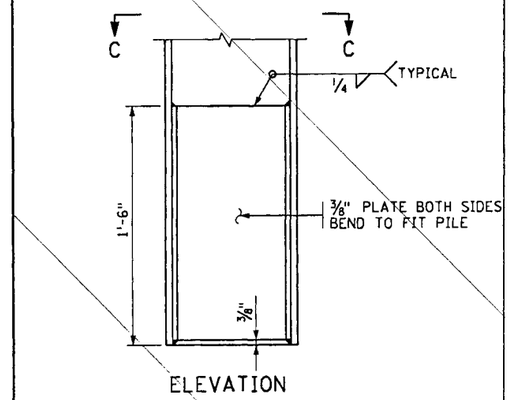
HORIZONTAL SPACING OF LETTERS AND NUMBERS SHALL PRODUCE A BALANCED LAYOUT IN PROPORTION TO SPACING SHOWN.

TOP SURFACE OF LETTERS, NUMBERS AND FRAME SHALL BE BURNISHED.

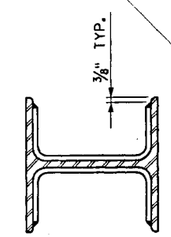
FURNISH 2 STEEL BOLTS 3/8" DIA. x 3" LONG WITH EACH PLATE.

ALL DIMENSIONS FOR 3/4" HIGH LETTERS AND NUMBERS SHALL BE IN DIRECT PROPORTION TO THOSE SHOWN FOR THE 1" HIGH LETTERS AND NUMBERS.

APPROVED: SEPT. 8, 1992 OFFICE of BRIDGES and STRUCTURES	STATE OF MINNESOTA DEPARTMENT OF TRANSPORTATION BRIDGE NAMEPLATE COUNTY BRIDGES	DATE: DR: CHK:	DETAIL NO. B103



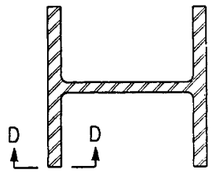
ELEVATION



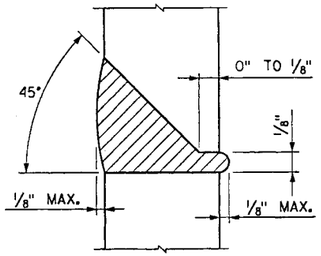
SECTION C-C

DETAIL OF PILE TIP REINFORCEMENT

USE PILE TIP DETAIL ONLY WHEN PERMITTED BY SPECIAL PROVISIONS.



SECTION AT JOINT



SECTION D-D

100% BUTT WELDED PILE SPLICE

NOTES:

A.W.S. TYPE E7016 OR E7018 (LOW-HYDROGEN) ELECTRODES SHALL BE USED FOR 100% BUTT WELDED SPLICES.

LOW-HYDROGEN ELECTRODES SHALL BE SUPPLIED IN HERMETICALLY (AIR-TIGHT) SEALED CONTAINERS.

LOW-HYDROGEN ELECTRODES SHALL BE STORED IN HOLDING OVENS AT A TEMPERATURE OF NOT LESS THAN 250°F.

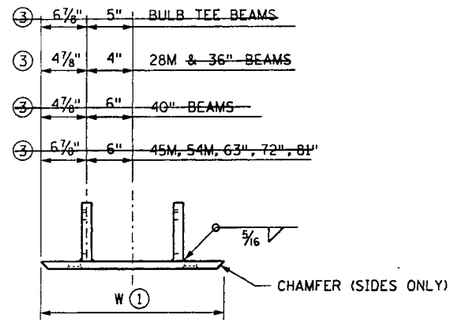
LOW-HYDROGEN ELECTRODES SHALL BE PLACED IN A HOLDING OVEN FOR AT LEAST 8 HOURS, IF THEY HAVE BEEN EXPOSED TO THE ATMOSPHERE FOR MORE THAN 2 HOURS.

ELECTRODES WHICH HAVE BECOME WET, SOILED OR DAMAGED SHALL NOT BE USED.

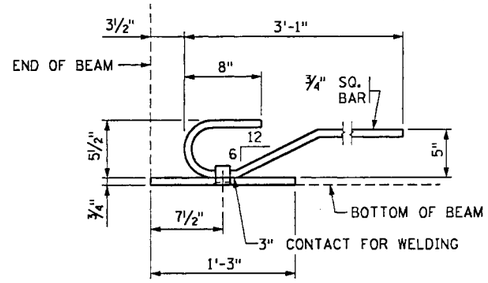
WELDING SHALL NOT BE DONE WHEN THE AMBIENT TEMPERATURE IS LOWER THAN 0°F. OR WHEN THE PILE IS WET OR EXPOSED TO FALLING RAIN OR SNOW. WHEN THE PILE METAL TEMPERATURE IS BELOW 32°F., THE PILE METAL IN THE AREA OF THE WELD SHALL BE HEATED TO A MINIMUM TEMPERATURE OF 70°F. AND MAINTAINED AT THIS TEMPERATURE DURING WELDING.

APPROVED: AUGUST 4,1992 OFFICE of BRIDGES and STRUCTURES	STATE OF MINNESOTA DEPARTMENT OF TRANSPORTATION PILE SPLICE AND TIP REINFORCEMENT STEEL H BEARING PILES 10" TO 14"	DATE: DR: CHK:	DETAIL NO. B202

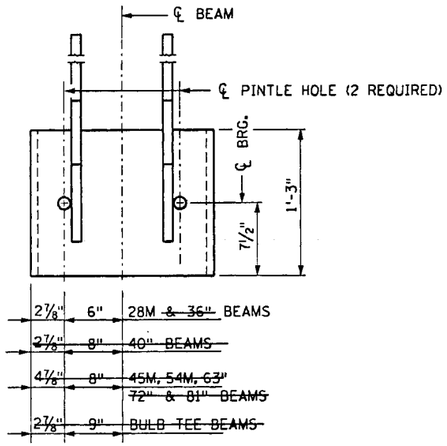
TITLE: MISC. BRIDGE DETAILS	DRWN: CAD CHK: DAD	APPROVED: 4-7-94	BRIDGE NO. 55551
	S.P. 55-636-02		
	SHEET 130 OF 140 SHEETS		



FRONT VIEW

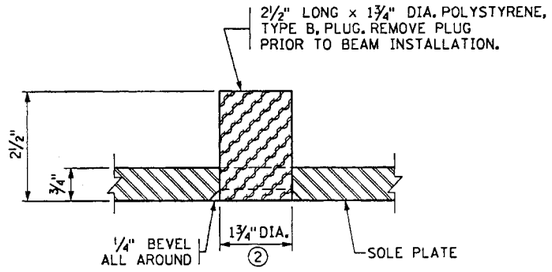


SIDE VIEW



TOP VIEW

BEAM SIZE	W VALUE
28M, ~~36"~~	1'-5¾"
~~40"~~	~~1'-9¾"~~
~~45M, 54M 63", 72", 81"~~	~~2'-1¾"~~
~~BULB TEES~~	~~1'-11¾"~~



PINTLE HOLE DETAIL

NOTES:

MATERIAL TO BE STRUCTURAL STEEL PER SPEC. 3306.

SOLE PLATE FOR BEARING ASSEMBLY TO BE HOT DIPPED GALVANIZED PER SPEC. 3394 AFTER FABRICATION.

PINTLE HOLES SHALL BE FREE OF ZINC BUILD UP FROM GALVANIZING.

PAYMENT FOR SOLE PLATES TO BE INCLUDED IN PRICE BID FOR PRESTRESSED CONCRETE BEAMS.

(1) DIMENSION "W" TO BE THE WIDTH AT THE BOTTOM FLANGE OF THE BEAM MINUS ¼".

(2) FOR 1½" DIA. PINTLES.

(3) THESE DIMENSIONS MAY BE MODIFIED TO CLEAR PRESTRESSED STRANDS, HOWEVER, CHANGES MUST BE APPROVED BY THE ENGINEER.

APPROVED: SEPT. 8, 1992

OFFICE of BRIDGES and STRUCTURES

STATE OF MINNESOTA
DEPARTMENT OF TRANSPORTATION

SOLE PLATE

PRESTRESSED CONCRETE BEAMS
(FOR BEARINGS WITH PINTLES)

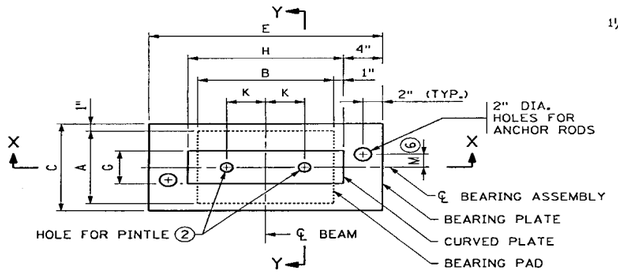
REVISION 11/19/92 KLW

DETAIL NO. B303

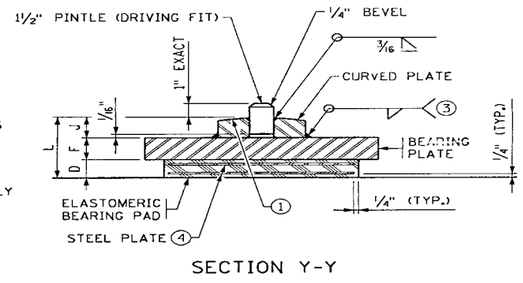
TITLE: MISC. BRIDGE DETAILS

DRWN.: CAD | APPROVED: 4-7-94
CHK.: DAD
S.P. 55-636-02
SHEET 131 OF 140 SHEETS

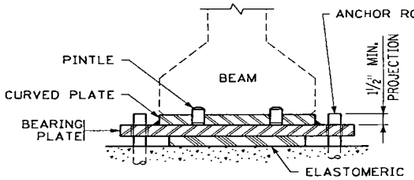
BRIDGE NO. 55551



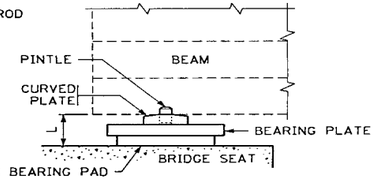
PLAN



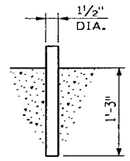
SECTION Y-Y



SECTION X-X



END ELEVATION
(ANCHOR RODS NOT SHOWN)



ANCHOR ROD DETAIL

TABLE

ASSEMBLY TYPE	LOCATION	BEAM SIZE	BEARING PAD SIZE			STEEL PLATES		LAMINATES		SHAPE FACTOR	BEARING PLATE SIZE			CURVED PLATE SIZE			PINTLE DIA.	PINTLE DISTANCE	ANCHOR ROD OFFSET	ASSY. HEIGHT
			A	B	D	NO.	THICK.	NO.	THICK.		C	E	F	G	H	J		K (5)	M (6)	L
F1	PIERS	28	14"	14"	1¼"	2	⅛"	1	½"	7.0	16"	24"	14"	6"	16"	1⅛"	1½"	6"	2"	4"

NOTES:

ELASTOMERIC MATERIALS & PAD CONSTRUCTION SHALL COMPLY WITH SPEC. 3741.

ALL STEEL PLATES & ANCHOR RODS SHALL COMPLY WITH SPEC. 3306.

ALL PLATES SHALL BE FLAT AFTER FABRICATION AND GALVANIZING. WELDING DISTORTION OF BEARING PLATES SHALL BE STRAIGHTENED TO WITHIN 1/16" OF FLATNESS BY MECHANICAL MEANS WITHOUT DAMAGE TO THE ZINC COATING.

PINTLES SHALL COMPLY WITH SPEC. 3314, TYPE II.

GALVANIZE ANCHOR RODS AND STRUCTURAL STEEL BEARING ASSEMBLY AFTER FABRICATION PER SPEC. 3394, EXCEPT AS NOTED.

PAYMENT FOR BEARING ASSEMBLY SHALL INCLUDE ALL MATERIAL ON THIS DETAIL.

(1) THE RADIUS OF THE CURVED PLATE SHALL BE 1'-0" MINIMUM AND 1'-6" MAXIMUM. FINISH TO 250 MICRO. THE FINISHED THICKNESSES OF THE PLATE MAY BE 1/16" LESS THAN SHOWN.

(2) 2 PINTLES, 1½" DIA. FOR TOTAL LOADS TO 390 KIPS.

(3) FOR BEARING AND CURVED PLATE THICKNESSES UP TO 1½" USE 5/16" FILLET WELDS; FOR THICKNESSES OVER 1½" TO 2¼" USE ⅜" FILLET WELDS; FOR THICKNESSES OVER 2¼" USE ½" FILLET WELDS. USE MINIMUM PREHEAT OF 300° F.

(4) DO NOT GALVANIZE THESE PLATES.

(5) SEE DETAIL B303 FOR PINTLE DISTANCE K.

(6) OFFSET MAY BE OPPOSITE OF THAT SHOWN. SEE ANCHOR ROD LAYOUT FOR DETAILS.

APPROVED: JANUARY 12, 1993

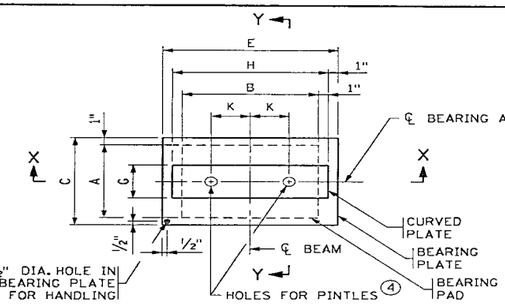
OFFICE of BRIDGES and STRUCTURES

STATE OF MINNESOTA
DEPARTMENT OF TRANSPORTATION

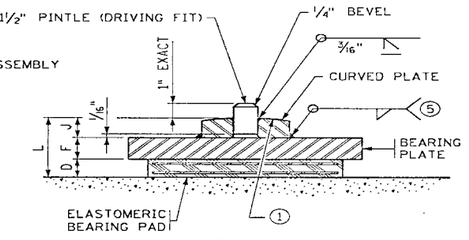
CURVED PLATE BEARING ASSEMBLY

PRESTRESSED CONCRETE BEAMS
(FIXED)

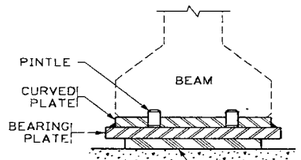
DETAIL NO. B310



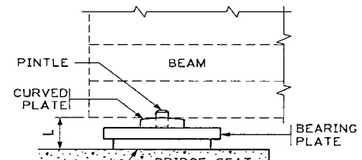
PLAN



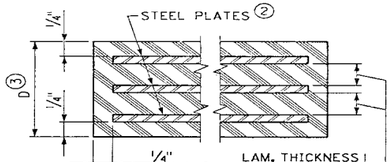
SECTION Y-Y
(ENLARGED BEARING ASSEMBLY)



SECTION X-X



END ELEVATION



SECTION THRU BEARING PAD

TABLE

ASSEMBLY TYPE	LOCATION	BEAM SIZE	BEARING PAD SIZE			STEEL PLATES		LAMINATES		SHAPE FACTOR	BEARING PLATE SIZE			CURVED PLATE SIZE			PINTLE DIA.	PINTLE DISTANCE	ASSY. HEIGHT
			A	B	D	NO.	THICK.	NO.	THICK.		C	E	F	G	H	J		K (6)	L
E1	ABUTMENTS	28	14"	14"	1⅞"	3	⅛"	2	½"	7.0	16"	18"	14"	6"	16"	1½"	1½"	6"	4⅝"
E2	PIERS	28	14"	14"	1¼"	2	⅛"	1	½"	7.0	16"	18"	14"	6"	16"	1½"	1½"	6"	4"

NOTES:

ELASTOMERIC MATERIALS & PAD CONSTRUCTION. SHALL COMPLY WITH SPEC. 3741

ALL STEEL PLATES SHALL COMPLY WITH SPEC. 3306

ALL PLATES SHALL BE FLAT AFTER FABRICATION AND GALVANIZING. WELDING DISTORTION OF BEARING PLATES SHALL BE STRAIGHTENED TO WITHIN 1/16" OF FLATNESS BY MECHANICAL MEANS WITHOUT DAMAGE TO THE ZINC COATING.

PINTLES SHALL COMPLY WITH SPEC. 3314, TYPE II.

GALVANIZE STRUCTURAL STEEL BEARING ASSEMBLY AFTER FABRICATION PER SPEC. 3394, EXCEPT AS NOTED.

PAYMENT FOR BEARING ASSEMBLY SHALL INCLUDE ALL MATERIAL ON THIS DETAIL.

(1) THE RADIUS OF THE CURVED PLATE SHALL BE 1'-0" MINIMUM AND 1'-6" MAXIMUM. FINISH TO 250 MICRO. THE FINISHED THICKNESS OF THE PLATE MAY BE 1/16" LESS THAN SHOWN.

(2) DO NOT GALVANIZE THESE PLATES.

(3) THE TOTAL THICKNESS SHOWN INCLUDES THE STEEL PLATES.

(4) 2 PINTLES, 1½" DIA. FOR TOTAL LOADS TO 390 KIPS.

(5) FOR BEARING AND CURVED PLATE THICKNESSES UP TO 1½" USE 5/16" FILLET WELDS; FOR THICKNESSES OVER 1½" TO 2¼" USE ⅜" FILLET WELDS; FOR THICKNESSES OVER 2¼" USE ½" FILLET WELDS. USE MINIMUM PREHEAT OF 300°F.

(6) SEE DETAIL B303 FOR PINTLE DISTANCE K.

APPROVED: AUGUST 4, 1992

OFFICE of BRIDGES and STRUCTURES

STATE OF MINNESOTA
DEPARTMENT OF TRANSPORTATION

CURVED PLATE BEARING ASSEMBLY

PRESTRESSED CONCRETE BEAMS
(EXPANSION)

DATE:
DR:
CHK:

DETAIL NO. B311

TITLE: MISC. BRIDGE DETAILS

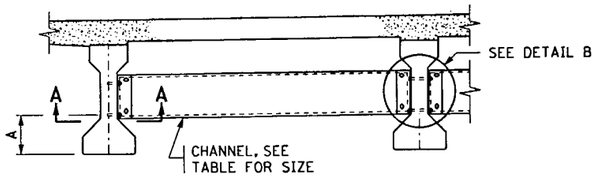
DRWN: CAD CHK: DAD APPROVED: 4-7-94

S.P. 55-636-02

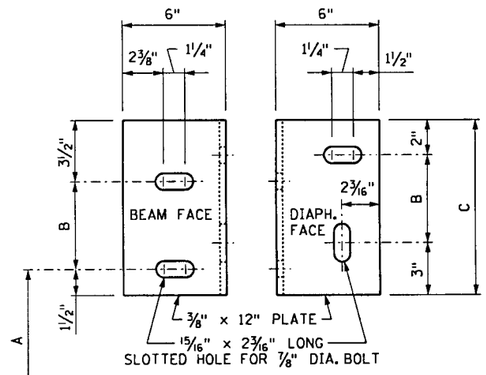
SHEET 132 OF 140 SHEETS

BRIDGE NO. 55551

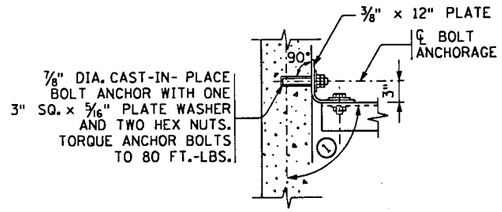
TABLE					
	BEAM HEIGHT	DISTANCE A	DISTANCE B	DISTANCE C	CHANNEL SIZE
	28M	1'-0"	5"	10"	C10×15.3
BULB TEE	30"	1'-2"	7"	1'-0"	C12×20.7
BULB TEE	36"	1'-3"	7"	1'-0"	C12×20.7
BULB TEE	40"	1'-5"	7"	1'-0"	C12×20.7
BULB TEE	45M	1'-3¾"	1'-1"	1'-6"	MC18×42.7



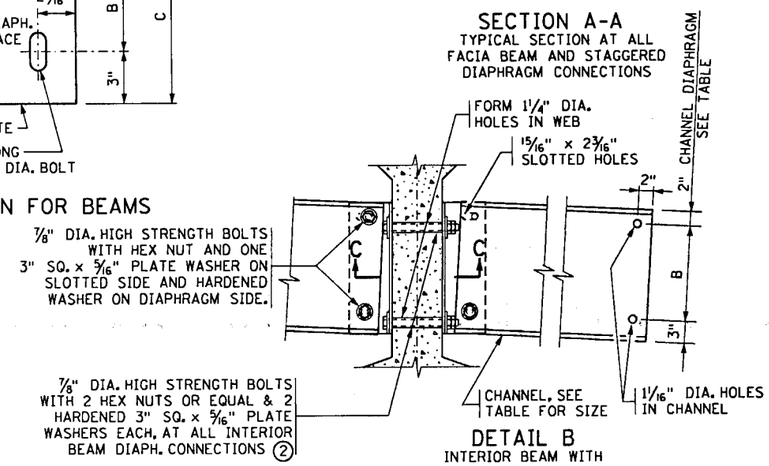
PART TRANSVERSE SECTION AT DIAPHRAGM



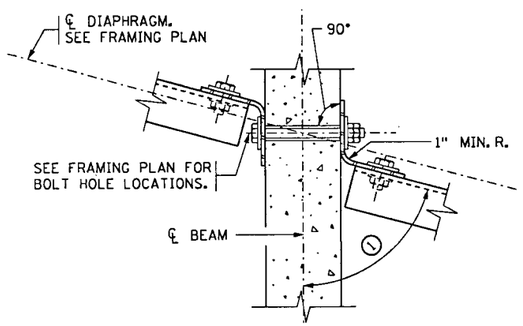
DIAPHRAGM CONNECTION FOR BEAMS



SECTION A-A
TYPICAL SECTION AT ALL FACIA BEAM AND STAGGERED DIAPHRAGM CONNECTIONS



DETAIL B
INTERIOR BEAM WITH CONTINUOUS LINE OF DIAPHRAGMS



SECTION C-C
TYPICAL SECTION AT CONTINUOUS INTERIOR DIAPHRAGMS

(1) FOR SKEW ANGLES UNDER 20°, USE 90° LESS THE SKEW ANGLE. FOR SKEW ANGLES OVER 20°, USE 90°.

(2) AS AN ALTERNATIVE TO THE ⅞" BOLT CONNECTION THE CONTRACTOR MAY SUBMIT DETAILS OF A CAST-IN-PLACE ANCHORAGE TO THE ENGINEER FOR APPROVAL.

GENERAL NOTES:

SEE SPEC. 2405.3M FOR INSTALLATION

THE LEG OF THE 12" PLATE SHALL BE SHOP BENT TO CONFORM TO THE DIAPHRAGM. A ⅜" × 6" × 6" ANGLE MAY BE USED FOR DIAPHRAGMS PERPENDICULAR TO BEAMS.

FOR BOLT LENGTHS GREATER THAN 9", USE HIGH STRENGTH BOLTS PER SPEC. SAE GRADE 5 OR BETTER.

ALL STRUCTURAL STEEL SHOWN ON THIS DETAIL, INCLUDING BOLTS AND WASHERS, SHALL BE INCLUDED IN THE PAYMENT FOR DIAPHRAGMS FOR PRESTRESSED BEAMS.

DIAPHRAGMS OVER THE PIERS ARE CONSIDERED TO BE INTERMEDIATE IF THE SLAB IS CONTINUOUS.

APPROVED: AUGUST 4,1992
OFFICE of BRIDGES and STRUCTURES

STATE OF MINNESOTA
DEPARTMENT OF TRANSPORTATION
STEEL INTERMEDIATE DIAPHRAGM
(FOR 28M - 45M PRESTRESSED CONC. BEAM SPANS AND 30" BULB TEE BEAMS)

DETAIL NO. B403

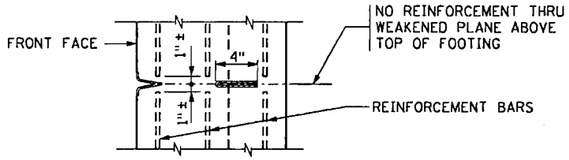
TITLE: MISC. BRIDGE DETAILS

DRWN.: CAD | CHK.: DAD | APPROVED: 4-7-94

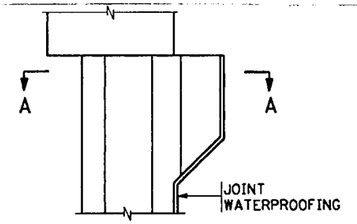
S.P. 55-636-02

SHEET 133 OF 140 SHEETS

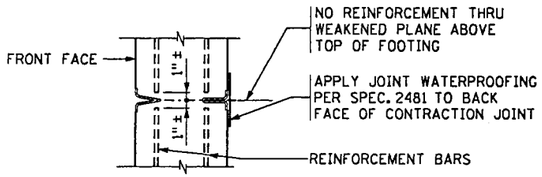
BRIDGE NO. 55551



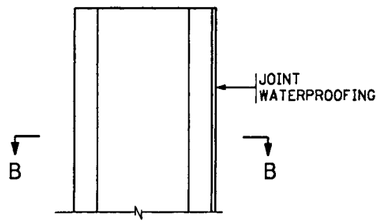
SECTION A-A



SECTION THRU WALL
(WITH END BLOCK)



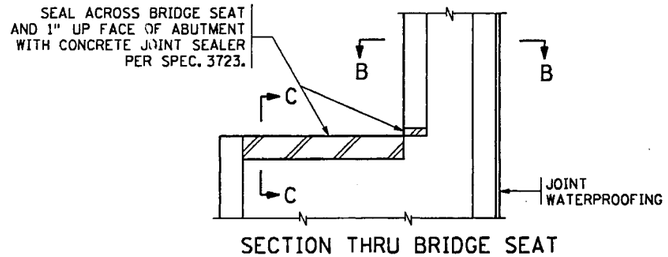
SECTION B-B



SECTION THRU WALL
(WITHOUT END BLOCK)

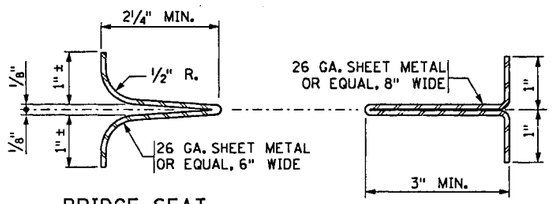


SECTION C-C



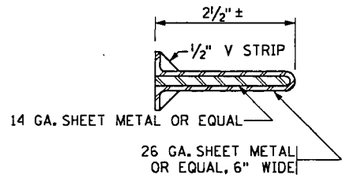
SECTION THRU BRIDGE SEAT

PART SECTION
THRU ABUTMENT AT JOINT



BRIDGE SEAT
AND FRONT STRIP

BACK STRIP



ALTERNATE BRIDGE SEAT
AND FRONT STRIP

NOTES:

THE METHODS AND MATERIALS INDICATED ON THIS SHEET SHALL BE CONSIDERED AS SUGGESTED ONLY. VARIATIONS WILL BE PERMITTED, SUBJECT TO APPROVAL BY THE ENGINEER, BUT MUST PROVIDE DUMMY JOINTS OF A DEPTH SHOWN, AND A WIDTH AT THE FRONT FACE OF THE ABUTMENT OF NOT GREATER THAN 5/16". THE SEPARATION OF THE HORIZONTAL REINFORCEMENT BARS SHALL NOT BE LESS THAN 1½" NOR MORE THAN 3", CENTERED AS SHOWN, REGARDLESS OF THE PROCEDURE USED FOR FORMING THE DUMMY JOINT.

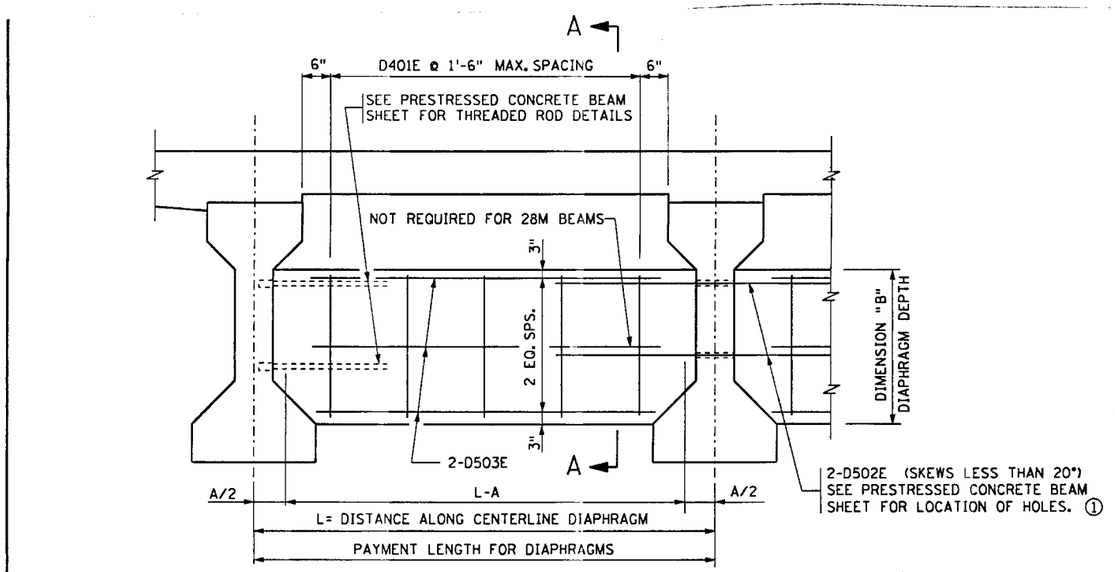
IF THE FRONT AND BRIDGE SEAT STRIPS ARE GALVANIZED METAL, THEY SHALL BE SECURELY FASTENED TO THE FORMS SO THAT THEY WILL BE REMOVED WITH THE FORMS. IF SUITABLE PLASTIC OR OTHER DURABLE MATERIAL, SATISFACTORY TO THE ENGINEER, IS USED, THE MATERIAL MAY BE LEFT IN PLACE.

THE BACK STRIP MAY BE GALVANIZED METAL, A SUITABLE PLASTIC, OR OTHER DURABLE MATERIAL SATISFACTORY TO THE ENGINEER. THE BACK STRIP SHALL REMAIN IN PLACE AFTER THE FORMS ARE REMOVED.

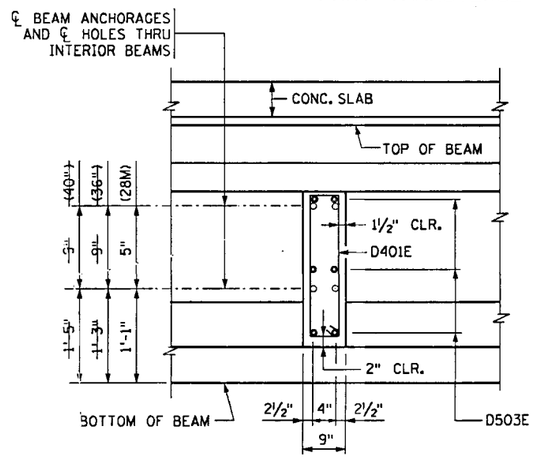
THE COST OF FORMING THE JOINT SHALL BE INCLUDED IN THE PRICE BID FOR OTHER ITEMS.

APPROVED: AUGUST 4,1992 OFFICE of BRIDGES and STRUCTURES	STATE OF MINNESOTA DEPARTMENT OF TRANSPORTATION CONTRACTION JOINT	DATE: DR: CHK:	DETAIL NO. B801

TITLE: MISC. BRIDGE DETAILS	DRWN.: CAD CHK.: DAD APPROVED: 4-7-94 S.P. 55-636-02 SHEET 139 OF 140 SHEETS		BRIDGE NO. 55551



PART TRANSVERSE SECTION



SECTION A-A

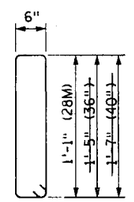
BEAM HEIGHT	DIM. "A" VOLUME COMP.	DIM. "B" DIAPHRAGM DEPTH	D401E LENGTH
28M	8"	1'-5"	3'-11"
~~36"~~	~~7¾"~~	~~1'-9"~~	~~4'-7"~~
~~40"~~	~~8¾"~~	~~1'-11"~~	~~4'-11"~~

CONCRETE VOLUME PER DIAPHRAGM

$$\frac{(L-A)\times B \times 0.75}{27} = \text{CUBIC YARDS}$$

BILL OF REINFORCEMENT FOR DIAPHRAGMS

BAR	NO.	LENGTH	SHAPE	LOCATION
D401E	192	3'-11"	▭	TIE-VERTICAL
D502E	80	5'-0"	——	HORIZONTAL-THRU BEAM
D503E	96	10'-8"	——	HORIZONTAL



D401E

NOTES:

DIAPHRAGM CONCRETE TO BE MIX NO. 3Y43.

ALL DIAPHRAGM CONCRETE AND REINFORCEMENT BARS SHOWN ON THIS DETAIL TO BE INCLUDED IN PAYMENT FOR DIAPHRAGMS FOR PRESTRESSED BEAMS. THREADED RODS ARE INCLUDED IN PAYMENT FOR PRESTRESSED CONCRETE BEAMS.

① FOR DIAPHRAGM SKEWS 20° AND OVER, USE THREADED RODS AS SHOWN ON PRESTRESSED CONCRETE BEAM SHEETS.

APPROVED: AUGUST 4,1992

OFFICE of BRIDGES and STRUCTURES

STATE OF MINNESOTA
DEPARTMENT OF TRANSPORTATION

CONCRETE INTERMEDIATE DIAPHRAGM
(28M - 40" PRESTRESSED CONCRETE BEAM SPANS)

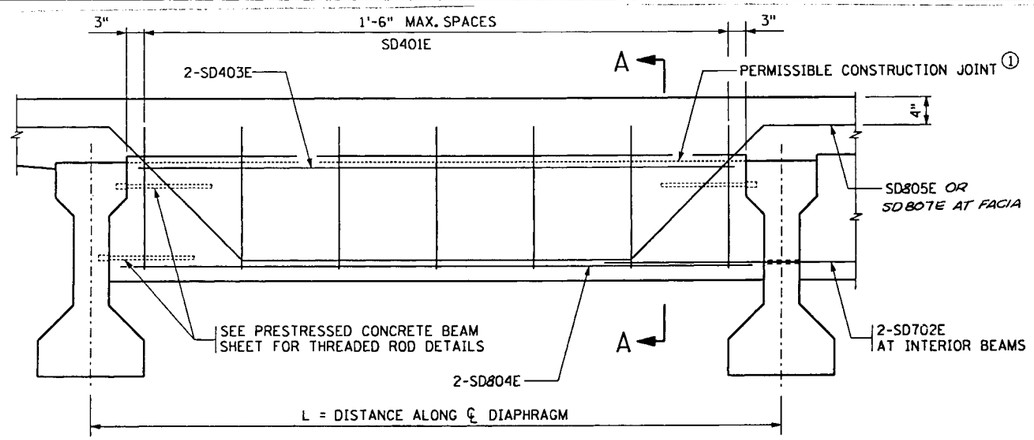
DATE:
DR:
CHK:

DETAIL NO. B802

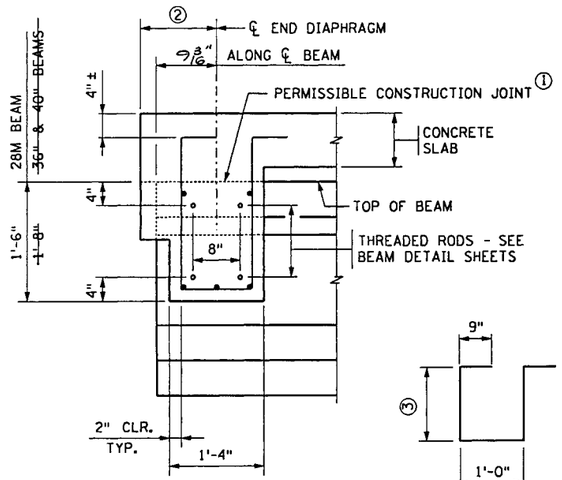
TITLE: MISC. BRIDGE DETAILS

DRWN.: CAD
CHK.: DAD
APPROVED: 4-7-94
S.P. 55-636-02
SHEET 135 OF 140 SHEETS

BRIDGE NO. 55551

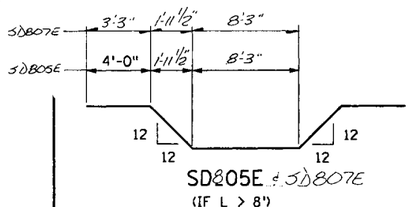


PART TRANSVERSE SECTION
(L > 8' SHOWN)

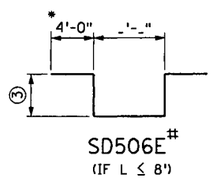


SECTION A-A

SD401E



SD805E & SD807E
(IF L > 8')



SD506E #
(IF L ≤ 8')

* CHECK LENGTH OVER FACIA BEAM

LONGITUDINAL REINFORCEMENT IN BOTTOM OF DIAPHRAGM					
DISTANCE "L" ALONG ℄ OF DIAPHRAGM	BARS REQUIRED				
	STRAIGHT		BENT		
	NO.	SIZE	NO.	SIZE	
UP TO 8'-0"	2	6	1	5	#
OVER 8' TO 11'	2	7	1	6	
→ OVER 11' TO 13'	2	8	1	8	
OVER 13' TO 15'	2	9	1	10	
OVER 15' TO 18'	2	11	1	11	

BILL OF REINFORCEMENT
FOR END DIAPHRAGM

	BAR	NO.	LENGTH	SHAPE	LOCATION
	SD401E	108	6'-5"	⊓	VERTICAL TIE
	SD702E	20	5'-0"	—	LONG. THRU BEAM
	SD403E	24	10'-10"	—	LONG. TOP
	SD804E	24	11'-9"	—	LONG. BOTTOM
④	SD805E	8	21'-10"	⎍	LONGITUDINAL
	~~SD506E~~				~~LONGITUDINAL~~
⑤	SD807E	4	21'-1"	⎍	LONGITUDINAL

④ AT INTERIOR BEAMS
⑤ AT FACIA BEAMS

NOTES:

DIAPHRAGM CONCRETE TO BE MIX NO. 3Y43.

ALL DIAPHRAGM CONCRETE AND REINFORCEMENT BARS SHOWN ON THIS DETAIL TO BE INCLUDED IN PAYMENT FOR SUPERSTRUCTURE QUANTITIES.

THREADED RODS ARE INCLUDED IN PAYMENT FOR PRESTRESSED CONCRETE BEAMS.

① USE OF CONSTRUCTION JOINT REQUIRES CLEARANCE FOR EXPANSION DEVICE. WHEN CONSTRUCTION JOINT IS USED AT THIS LOCATION, DIAPHRAGM FALSEWORK SHALL REMAIN IN PLACE UNTIL COMPLETION OF SLAB CURING PERIOD.

② PERPENDICULAR TO CENTERLINE OF DIAPHRAGM. SEE PLANS FOR DIMENSIONS.

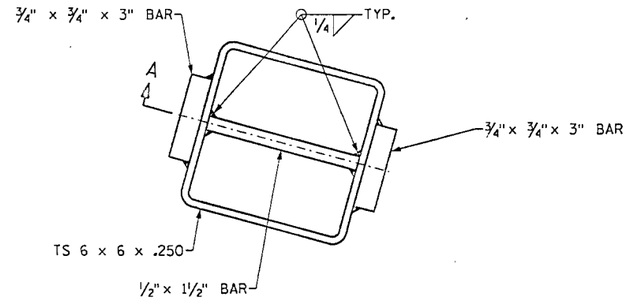
③ 2'-0" (28M); 2'-2" (36", 40") BASED ON 3" STOOL AND 9" DECK.

APPROVED: APRIL 6, 1993
OFFICE of
BRIDGES and STRUCTURES

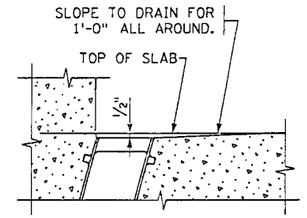
STATE OF MINNESOTA
DEPARTMENT OF TRANSPORTATION
CONCRETE END DIAPHRAGM
(28M - 40" PRESTRESSED CONCRETE BEAM SPANS)
(PARAPET ABUTMENTS)

DETAIL NO.
B803

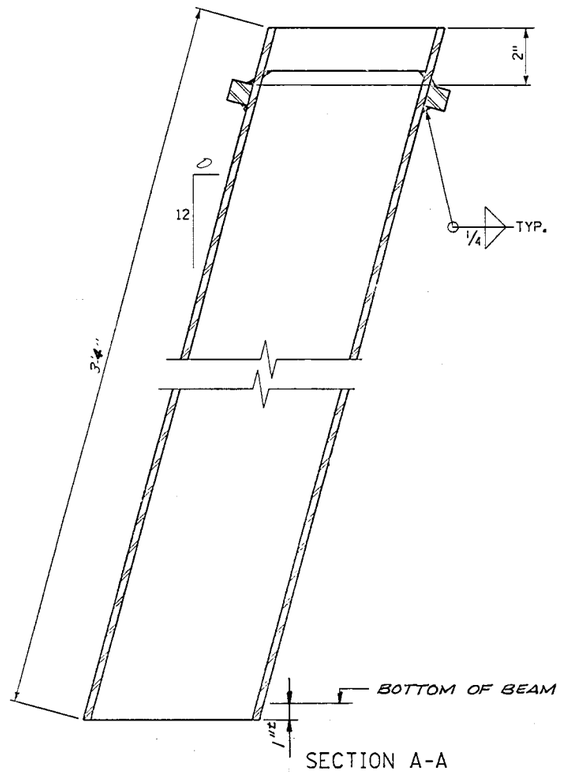
TITLE: MISC. BRIDGE DETAILS
DRWN.: CAD
CHK.: DAD
APPROVED: 4-7-94
S.P. 55-636-02
SHEET 136 OF 140 SHEETS
BRIDGE NO. 55551



PLAN VIEW



PLACEMENT DIAGRAM



SECTION A-A

NOTES:

MATERIAL TO BE STRUCTURAL STEEL PER SPEC. 3306.

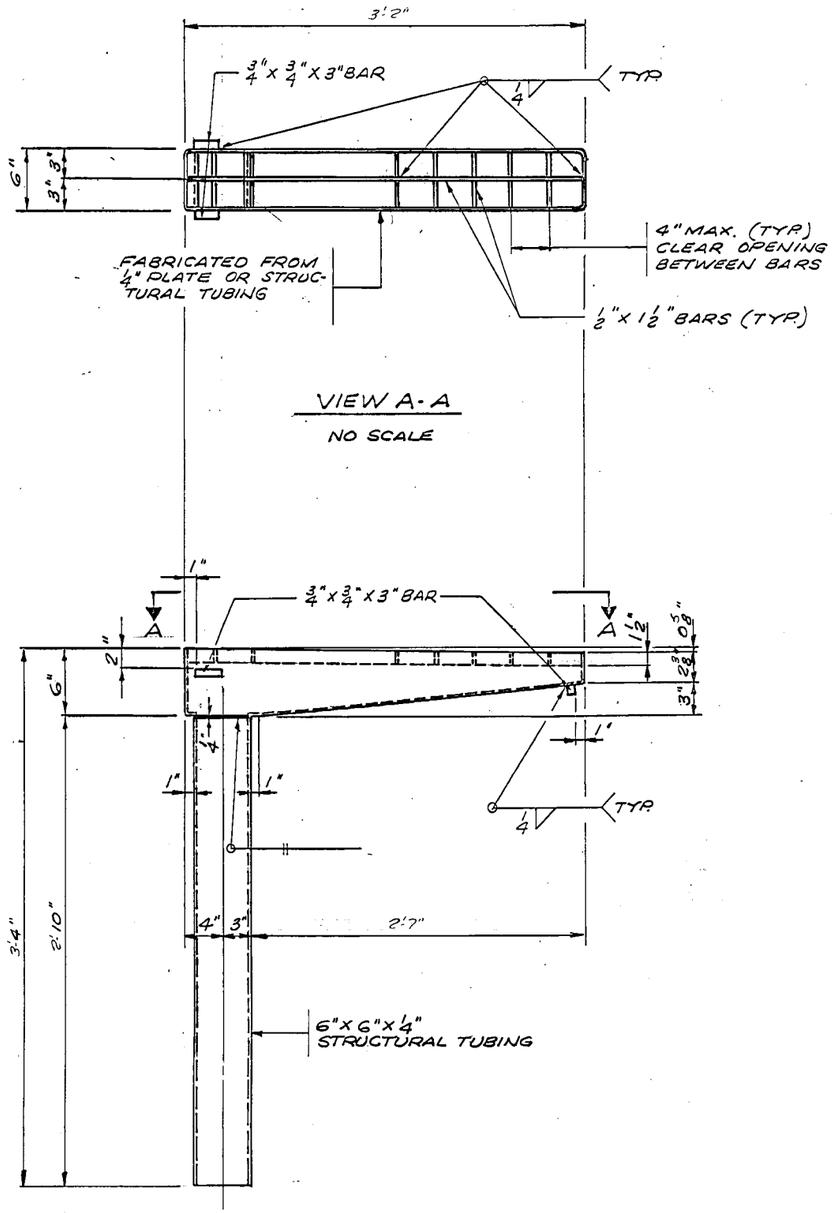
GALVANIZE BOLTS AND WASHER PER SPEC. 3392.

GALVANIZE OTHER MATERIALS PER SPEC. 3394 AFTER FABRICATION.

PAYMENT FOR FLOOR DRAIN TYPE B702 SHALL INCLUDE ALL MATERIAL SHOWN ON THIS DETAIL.

APPROVED: AUGUST 4,1992 OFFICE of BRIDGES and STRUCTURES	STATE OF MINNESOTA DEPARTMENT OF TRANSPORTATION BRIDGE FLOOR DRAIN STRUCTURAL TUBING	DATE: DR: CHK:	DETAIL NO. B702

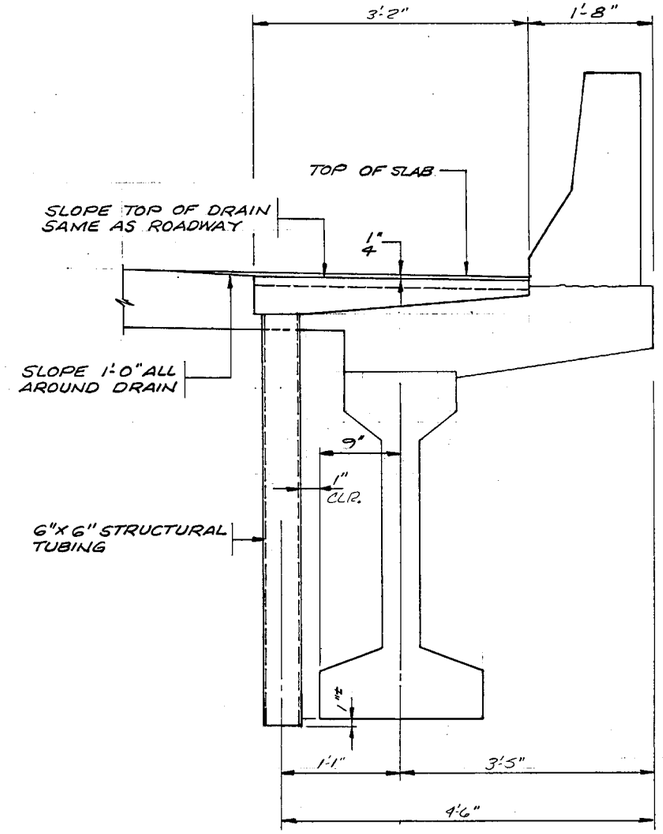
TITLE: MISC. BRIDGE DETAILS	DRWN: CAD CHK: DAD	APPROVED: 4-7-94	BRIDGE NO. 55551
	S.P. 55-636-02		
	SHEET 137 OF 140 SHEETS		



ELEVATION - 8702 MOD.

NO SCALE

GALVANIZE AFTER FABRICATION PER MN. SPEC. 3394.



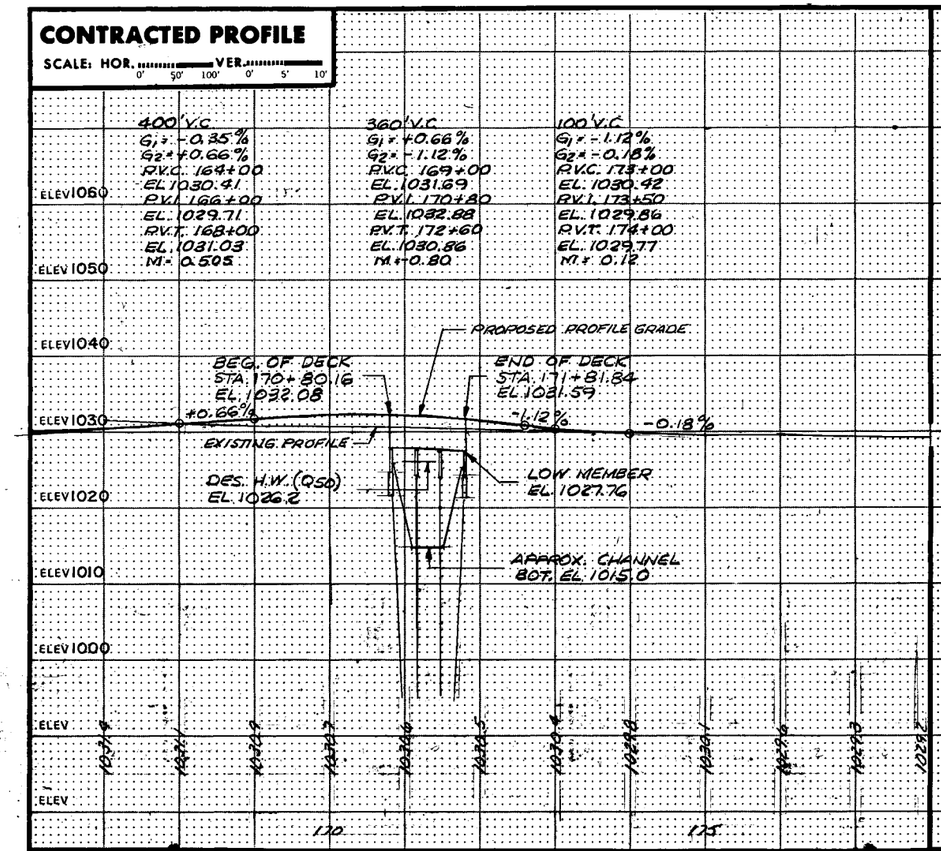
FLOOR DRAIN PLACEMENT DIAGRAM

S.P. 55-636-02

FLOOR DRAIN DETAIL (8702 MODIFIED)	DRAWN W.N.J.	CHECKED	APPROVED 4-7-94	BRIDGE NO. 55551
	SHEET 138 OF 140 SHEETS			

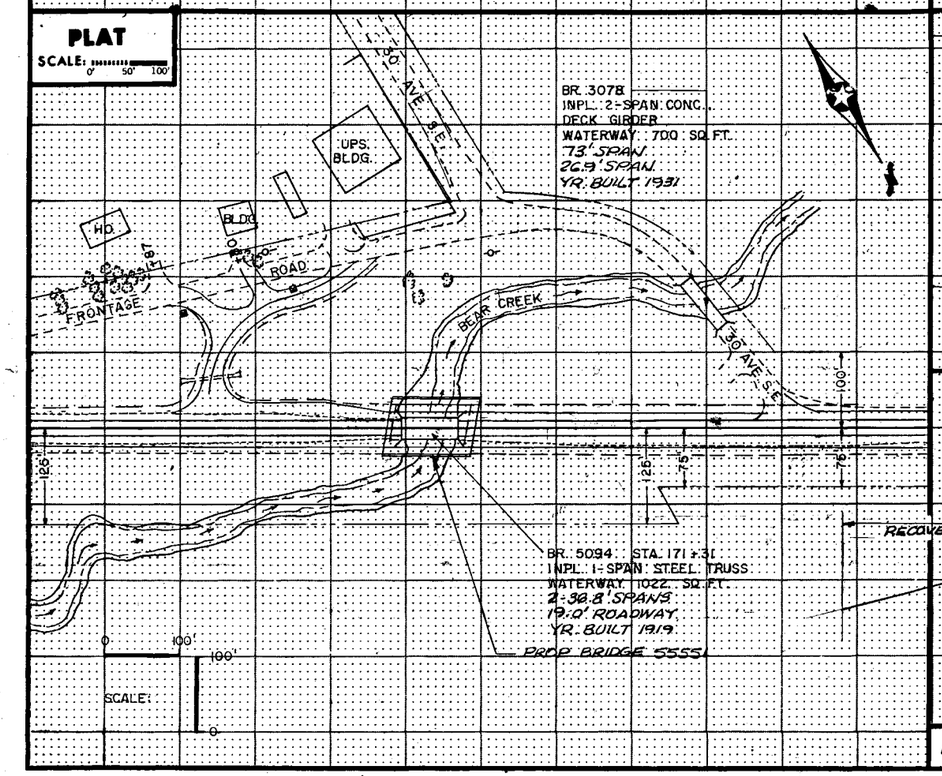
CONTRACTED PROFILE

SCALE: HOR. 0' 50' 100' VER. 0' 5' 10'



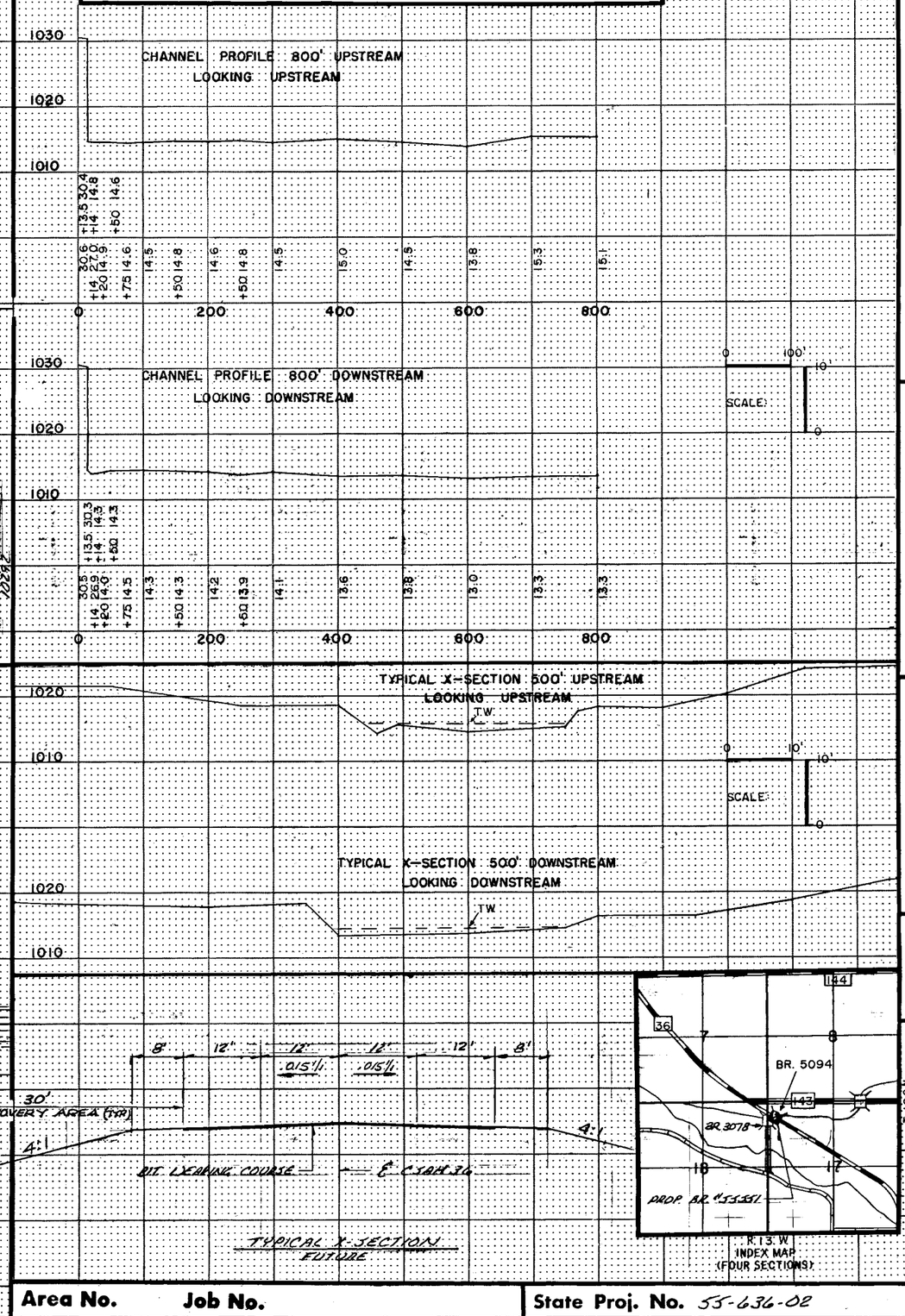
PLAT

SCALE: 0' 50' 100'



TYPICAL SECTIONS & PERTINENT DATA

SCALES AS SHOWN



Fed. Proj. No.

LOCATION ENGINEER'S OBSERVATIONS AT BRIDGE SITE

1. Special Features: Waterfalls, dams, floods, ice, debris, sliding banks, recreational boating.

2. Other bridges or culverts over the same stream (particularly structures which carry high water without overflow of roadway) :Given location, type, length, height above high water, cross-sectional area etc.

3. Apparent highwater elevation..... Obtained from.....

4. Other data: Approx. velocity of water at time of survey.....

HYDRAULIC ENGINEERS RECOMMENDATION

DATE 10-18-93

Stream or ditch designation BEAR CREEK

Drainage area 31.6 SQ. MI.

Max. flood on record UNK. Design flood (..50.. yr. freq.) 4500 C.F.S.

Max. observed highwater elevation UNK Design highwater elevation 1026.2

Design mean velocity through structure 6.7 F.P.S.

Low superstructure at or above elevation 1027.5

Flowline elevation 1015.0 Skew angle 10°

Waterway area req'd. below elevation 1026.2 = 668 Sq. Ft. at Rt. angles to channel

In the interest of flood plain zoning the regional flood (100 yr. freq.) is 5400 C.F.S. at stage 1027.3 and mean velocity of 7.1 F.P.S. with 0.3 Ft. swellhead. The above recommendation will provide a structure of adequate waterway to pass the regional flood within criteria established by the Dept. of Natural Resources.

EST. SCOUR ELEV'S PIERS = 1003.0

ENGINEERS RECOMMENDATION

DATE 10-12-93

3-32 FT. PRESTR. CONC. BEAM SPANS
68 FT. ROADWAY 10° SKEW.

Bridge survey sheets made from: BRIDGE SURVEY CONDUCTED BY OLMSTED COUNTY

Bench mark elevation...1031.18.. (M.S.L. 1929 Adj.)

Location: TOP OF PAINTED BOLT ON TOP OF CURB AT N.W. CORNER OF BR. 5094.

MINNESOTA
DEPARTMENT OF TRANSPORTATION

BRIDGE SURVEY

AT MILE POINT 3.0 ON C.S.A.H. 36 (T.H., C.S.A.H., C.R. etc.)

PROPOSED BRIDGE LOCATED 1.4 MILES S.E. OF ROCHESTER

SEC. 17 TWP. 106 N R. 13 W

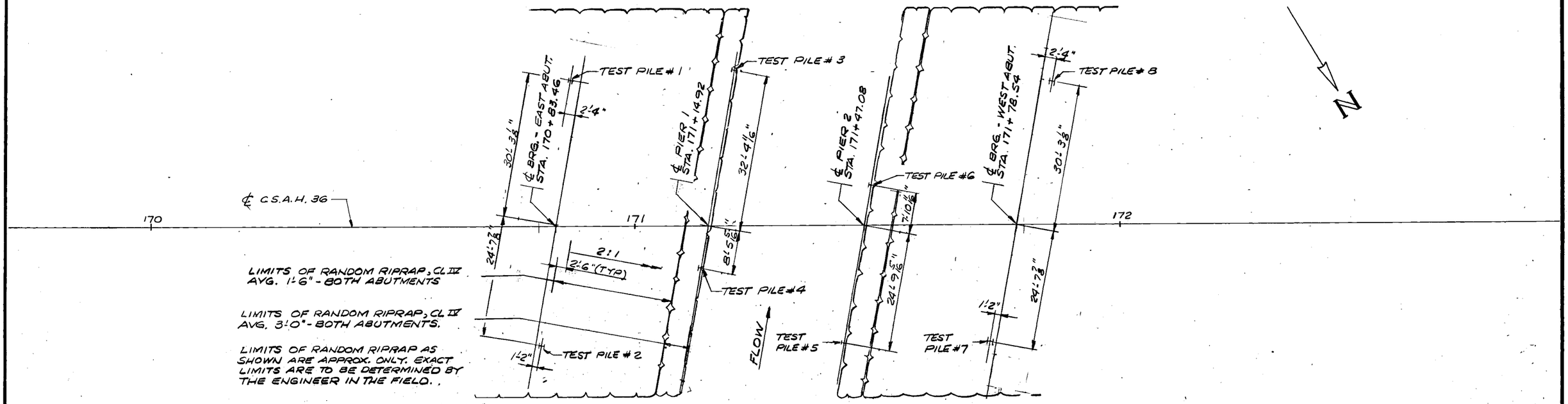
TOWNSHIP MARION COUNTY OLMSTED

BRIDGE NO. 55551

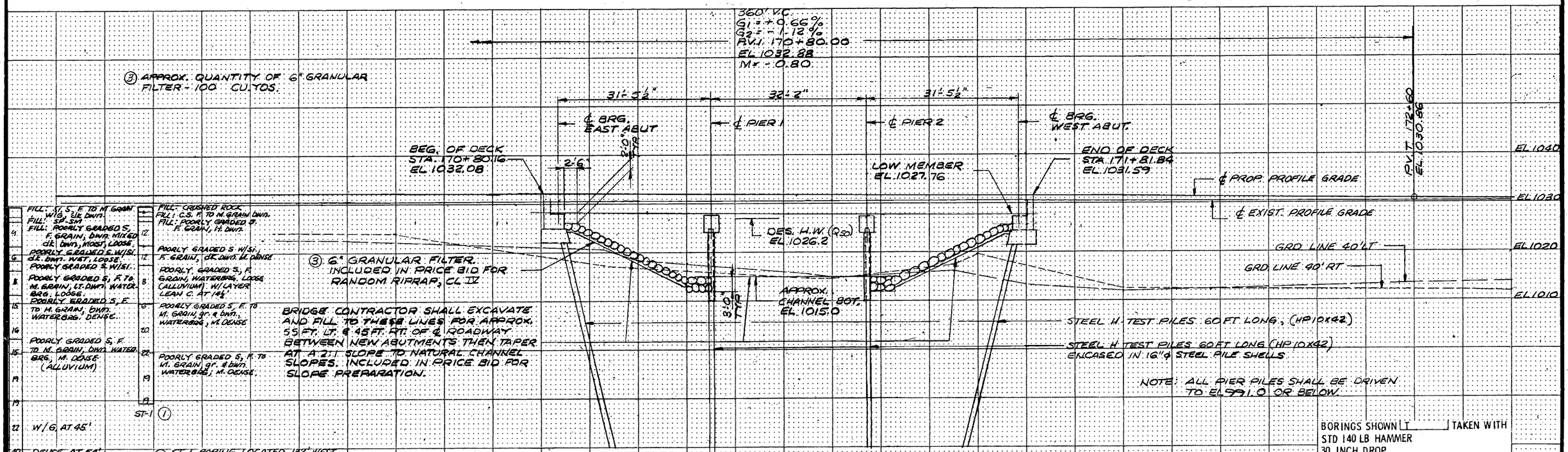
4-7-94

Area No. Job No. State Proj. No. 55-636-02 Sheet No. 139 of 140 Sheets

Fed. Proj. No.



APPROACH GRADING UNDER SAME CONTRACT



BRIDGE SURVEY PLAN AND PROFILE	DES:	DR:	APPROVED: 4-7-94	Bridge No. 55551
State Proj. No. 55-636-02	CHK:	CHK:	Sheet No. 140 of 140 Sheets	