

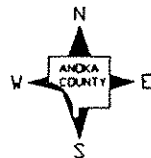
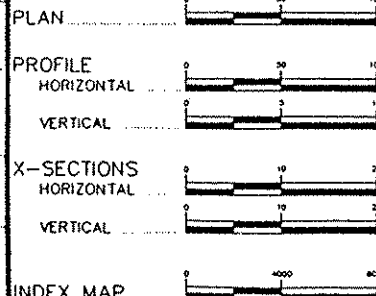
PLAN SYMBOLS

COUNTY LINE	-----
TOWNSHIP OR RANGE LINE	-----
SECTION LINE	-----
QUARTER LINE	-----
SIXTEENTH LINE	-----
RIGHT OF WAY LINE	-----
SLOPE EASEMENT	-----
PRESENT RIGHT OF WAY	-----
PROPERTY LINE	-----
CORPORATE OR CITY LIMITS	-----
RETAINING WALL	-----
RAILROAD	-----
RAILROAD RIGHT OF WAY	-----
RIVER OR CREEK	-----
DRAINAGE DITCH	-----
CULVERT	-----
DROP INLET	-----
GAIRD RAIL	-----
BARBED WIRE FENCE	-----
WOVEN WIRE FENCE	-----
CHAIN LINK FENCE	-----
WOOD FENCE	-----
STONE WALL OR FENCE	-----
HEDGE	-----
LOWLAND	-----
TIMBER	-----
ORCHARD	-----
BRUSH	-----
NURSERY	-----
CATTLE CAURD	-----
OVERPASS (Highway Over)	-----
UNDERPASS (Highway Under)	-----
BRIDGE	-----
BUILDING (One Story Frame)	-----
F-FRAME C-CONCRETE	-----
S-STONE T-TILE	-----
B-BRICK ST-STUCCO	-----
RAILROAD CROSSING BELL	-----
RAILROAD CROSSING GATE	-----
MANHOLE	-----
CATCH BASIN	-----
FIRE HYDRANT	-----
CAST IRON MONUMENT	-----
IRON PIN	-----
GRAVEL PIT	-----
SAND PIT	-----
BORROW PIT	-----
ROCK QUARRY	-----

UTILITY SYMBOLS

POWER POLE LINE	-----
TELEPHONE OR TELEGRAPH POLE LINE	-----
JOINT TELEPHONE & POWER ON POWER POLES	-----
ON TELEPHONE POLES	-----
ANCHOR	-----
STEEL TOWER	-----
STREET LIGHT	-----
PEDESTAL (Cable Terminal)	-----
GAS MAIN	-----
WATER MAIN	-----
TELEPHONE CABLE IN CONDUIT	-----
ELECTRIC CABLE IN CONDUIT	-----
TELEPHONE MANHOLE	-----
ELECTRIC MANHOLE	-----
BURIED TELEPHONE CABLE	-----
BURIED ELECTRIC CABLE	-----
AERIAL TELEPHONE CABLE	-----
SEWER (Sanitary or Storm)	-----
SEWER MANHOLE	-----

SCALES



# MINNESOTA DEPARTMENT OF TRANSPORTATION

## ANOKA COUNTY

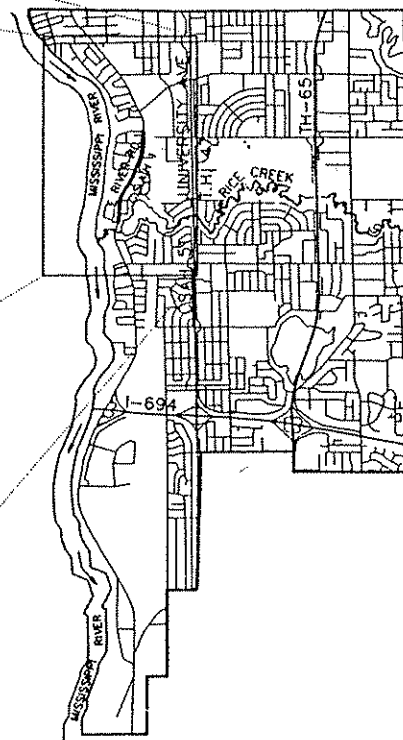
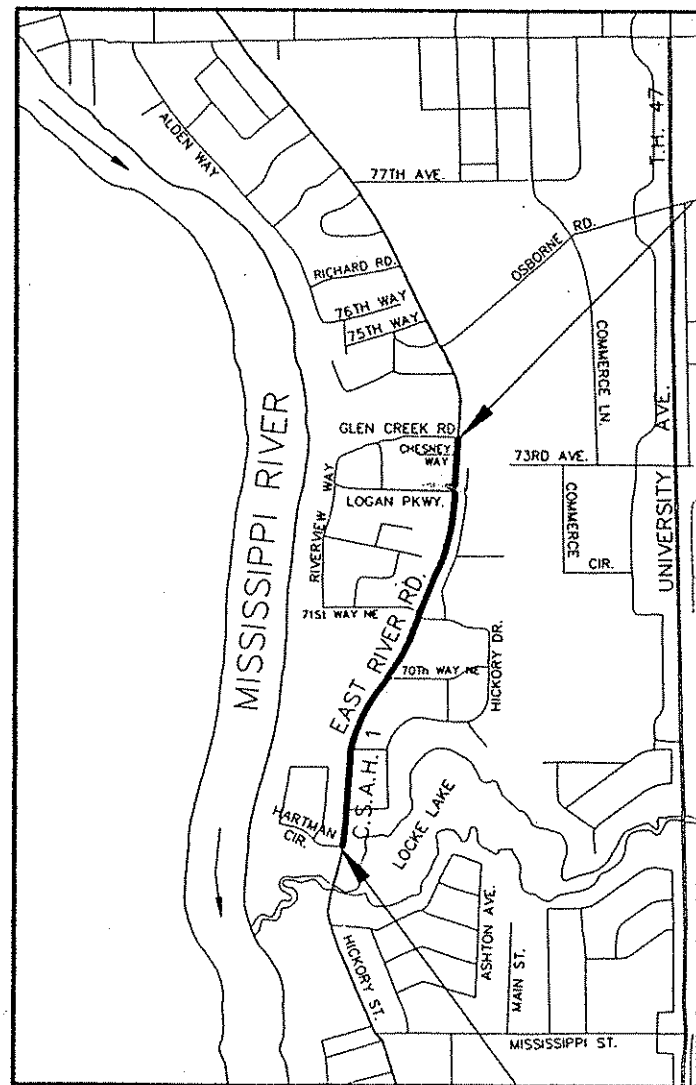
### CONSTRUCTION PLAN FOR GRADING, DRAINAGE, AGGREGATE BASE, BITUMINOUS SURFACING, CURB & GUTTER AND SIGNAL SYSTEM.

LOCATED ON C.S.A.H. 1 BETWEEN HARTMAN CIRCLE AND GLEN CREEK RD. (Geographic Description)

STATE PROJ. NO. 02-601-36 STATE PROJ. NO. 127-020-13

GROSS LENGTH 4000.94 FEET 0.758 MILES GROSS LENGTH 4000.94 FEET 0.758 MILES  
 BRIDGES-LENGTH FEET MILES BRIDGES-LENGTH FEET MILES  
 EXCEPTIONS-LENGTH FEET MILES EXCEPTIONS-LENGTH FEET MILES  
 NET LENGTH 4000.94 FEET 0.758 MILES NET LENGTH 4000.94 FEET 0.758 MILES

NOTE: PROJECT LENGTH IS BASED ON LNB. NOTE: PROJECT LENGTH IS BASED ON LNB.



BEGIN S.P. 02-601-36, S. P. 127-020-13  
LNB. STA. 86+04.16

END S.P. 02-601-36, S. P. 127-020-13  
LNB. STA. 126+05.10

MINN. PROJ. NO. STP.5007.(012)  
MINN. PROJ. NO.

GOVERNING SPECIFICATIONS

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

INDEX

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2 - 3	STATEMENT OF ESTIMATED QUANTITIES
4 - 6	TABULATION CHARTS
7	EARTHWORK SUMMARY & CONSTRUCTION NOTES
8	STANDARD DETAILS
9 - 13	RETAINING WALL DETAILS
14 - 15	EROSION CONTROL DETAILS
16 - 17	TYPICAL SECTIONS
18 - 19	ALIGNMENT PLAN AND TABULATION
20 - 21	EXISTING CONDITIONS AND REMOVAL PLAN
22 - 23	SUPERELEVATION CHARTS
24 - 26	PLAN AND PROFILE SHEETS
27 - 31	DRAINAGE PLAN AND TABULATION
32 - 35	TRAFFIC SIGNAL SYSTEM
36 - 39	SIGNING & STRIPING PLAN AND TAB
40 - 52	CROSS-SECTION
53 - 54	DETOUR LAYOUT
55 - 70	TRAFFIC CONTROL PLANS

THIS PLAN CONTAINS 70 SHEETS

DESIGN DESIGNATION

EN18<sub>20</sub> 3,518,500  
 R VALUE 65  
 ADT (1994)= 19,746  
 Proj. ADT (2014)= 33,568  
 Proj. HCADT (2014)= 1,571  
 Soil Factor N/A  
 10 TON DESIGN  
 Shoulder Width 8 FT.

Functional Classification ARTERIAL-HIGH DENSITY  
 No. of Traffic Lanes 4 No. of Parking Lanes 0  
 Design Speed 50 MPH  
 Based on Stopping Sight Distance  
 Height of eye 3.5 Height of object 0.5  
 Design Speed not achieved at: N/A  
 STA. TO STA. MPH  
 STA. TO STA. MPH  
 STA. TO STA. MPH

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 2/2/94 REG. NO. 20235 ENGR. Douglas M. Jensen DESIGN ENGINEER  
 DESIGN SQUAD K. JOHNSON

Recommended for Approval Michael R. Kelly 7/23, 1994  
 Recommended for Approval James Penke 2/23, 1994  
 Recommended for Approval Steve Jensen 2/24, 1994  
 Recommended for Approval Jon Wilson 2/23, 1994  
 Approved 2/24, 1994 Paul K. Jensen ANOKA COUNTY ENGINEER  
 Approved 3/23, 1994 Steve Jensen CITY OF FRIDLEY ENGINEER  
 Recommended for Approval Mary Brennan 3/25, 1994  
 Recommended for Approval Michael Kelly 8/26, 1994  
 Recommended for Approval Steve Jensen 9/7, 1994  
 Approved 9-7, 1994 Patricia S. Murphy STATE AID ENGINEER

STATE PROJ. NO. 127-020-13  
 STATE PROJ. NO. (02-601-36) SHEET NO. 1 OF 70 SHEETS



STATEMENT OF ESTIMATED QUANTITIES

CHART NO.	ITEM NO.	ITEM	UNIT	TOTAL QUANTITIES		ANOKA COUNTY				CITY OF FRIDLEY				STORM SEWER (10)	
				EST.	FINAL	S.P. 02-601-36		NON-PARTICIPATING		S.P. 127-020-13		NON-PARTICIPATING		EST.	FINAL
						EST.	FINAL	EST.	FINAL	EST.	FINAL	EST.	FINAL		
②	F 2557.501	WIRE FENCE DESIGN 72-9322	LIN FT	420		420									
	F 0557.603	INSTALL FENCE	LIN FT	1862		1862									
	0563.601	DETOUR SIGNING	LUMP SUM	1.00		0.70			0.15		0.03		0.12		
	0563.601	TRAFFIC CONTROL, STAGE 2	LUMP SUM	1.00		0.70			0.15		0.03		0.12		
	0563.601	TRAFFIC CONTROL, STAGE 3	LUMP SUM	1.00		0.70			0.15		0.03		0.12		
	0563.601	TRAFFIC CONTROL, STAGE 4	LUMP SUM	1.00		0.70			0.15		0.03		0.12		
	0563.603	ONE-WAY RAISED PAVT. MARKER, TEMP.	EACH	990		990									
	0563.603	REPLACEMENT ONE-WAY RAISED PAVT. MARKER, TEMP.	EACH	150		150									
	DD 2564.513	CONCRETE FOOTING	EACH	28		28									
	DD 2564.531	F&I SIGN PANEL TYPE C	EACH	302		302									
	0564.602	INSTALL SIGN TYPE C	EACH	4		4									
	0564.602	INTERMEDIATE SIGN - TYPE D	EACH	4		4			4						
	0564.602	PAVEMENT MESSAGE (LEFT ARROW) PAINT	EACH	12		12									
	0564.602	PAVEMENT MESSAGE (RIGHT ARROW) PAINT	EACH	13		13									
	0564.602	PAVEMENT MESSAGE (RIGHT ARROW) POLYMER PREFORMED	EACH	1		1									
	0564.602	PAVEMENT MESSAGE (ONLY) PAINT	EACH	12		12									
	0564.603	4" SOLID LINE WHITE-PAINT	LIN FT	11900		11900									
	0564.603	4" SOLID LINE YELLOW-PAINT	LIN FT	7200		7200									
	0564.603	4" BROKEN LINE WHITE-PAINT	LIN FT	1660		1660									
	0564.603	4" DOUBLE SOLID LINE YELLOW-PAINT	LIN FT	600		600									
	0564.603	24" SOLID LINE WHITE-POLYMER PREFORMED	LIN FT	147		147									
	0564.603	36" SOLID LINE WHITE-POLYMER PREFORMED	LIN FT	276		276									
	2565.511	FULL-TRAF-ACT TRAFFIC CONTROL SIGNAL SYSTEM	SIG SYS	1		0.25			0.25		0.5				
	0565.601	EMERGENCY VEHICLE PRE-EMPTION SYSTEM	LUMP SUM	1					0.5		0.5				
⑧	2573.501	BALE CHECK	EACH	350		350									
⑨	2573.503	SILT FENCE, PREASSEMBLED	LIN FT	1100		1100									
	D 2575.501	SEEDING	ACRE	0.2		0.2									
	D 2575.502	SEED MIXTURE 600	POUND	15		15									
	D 2575.505	SODDING TYPE LAWN	SQ YD	9039		9039									
	D 2575.523	WOOD FIBER BLANKET TYPE REGULAR	SQ YD	726		726									
	D 2575.532	COMM FERT ANALYSIS 10-10-10	POUND	1034		1034									
	2580.501	TEMPORARY LANE MARKING	RD STA	80		80									
	2581.501	REMOVABLE PREFORMED PLASTIC MARKING	LIN FT	8700		8700									

STANDARD PLATES	
THESE STANDARD PLATES AS APPROVED BY THE FHWA SHALL APPLY.	
PLATE NO.	DESCRIPTION
0005 A	SPECIFICATION REFERENCE TO STANDARD PLATES
3000 L	REINFORCED CONCRETE PIPE
3006 F	GASKET JOINT FOR R.C. PIPE
3100 G	CONCRETE APRON FOR REINFORCED CONCRETE PIPE
3133 B	RIPRAP AT R.C.P. OUTLET
3145 E	CONCRETE PIPE TIES
4005 K	MANHOLE OR CATCH BASIN (DESIGN F)
4006 K	MANHOLE OR CATCH BASIN (DESIGN G OR DESIGN H)
4010 G	CONCRETE SHORT CONE & ADJUSTING RING
4101 C	RING CASTING FOR MANHOLE OR CATCH BASIN
4110 E	COVER CASTING FOR MANHOLE
4126 F	CATCH BASIN FRAME CASTING
4149 C	GRATE CASTING FOR CATCH BASIN
4161 F	CURB BOX CASTING FOR CATCH BASIN
4180 H	MANHOLE OR CATCH BASIN STEP
7035 J	CONCRETE WALK & CURB RETURNS AT ENTRANCES
7036 D	PEDESTRIAN CURB RAMP (FOR THE HANDICAPPED)
7100 G	CONCRETE CURB & GUTTER (DES. B)
7110 E	CURB & GUTTER CONSTRUCTION AT CATCH BASIN
7111 G	INSTALLATION & REINFORCEMENT OF CATCH BASIN CASTINGS
8000 I	STANDARD BARRICADES
8117 F	PRECAST CONCRETE HANDHOLE (OR PULL BOX)
9102 D	TURF ESTABLISHMENT AREAS (AT PIPE CULVERT ENDS)
9322 J	CHAIN LINK FENCE

SEE TRAFFIC SIGNAL PLAN SHEETS FOR ADDITIONAL STANDARD PLATES

NOTES

- ① FOR DUST CONTROL AS DIRECTED BY THE ENGINEER.
- ② FOR PROJECT TERMINI TO CONSTRUCT SMOOTH TRANSITION.
- ③ FOR DRIVEWAY CONSTRUCTION, SEE CHART ⑧. FOR BIT. PATH, SEE CHART ⑧
- ④ FOR RECONSTRUCTION AND ADJUSTMENT OF SANITARY MANHOLES.
- ⑤ FOR PRIVATE ENTRANCE CONSTRUCTION INCLUDING APRONS.
- ⑥ FOR BUS PAD CONSTRUCTION
- ⑦ FOR CONCRETE RETAINING WALL
- ⑧ FOR EROSION CONTROL AT DRAINAGE STRUCTURES AND AS DIRECTED BY ENGINEERS.
- ⑨ FOR EROSION CONTROL ALONG TOE-OF-SLOPE, STA. 95+00 TO STA. 106+00, LEFT.
- ⑩ PARTICIPATION IN STORM SEWER IS AS FOLLOWS:  
 S.P. 02-601-36 = 0.881  
 S.P. 127-020-13 = 0.119
- ⑪ WATERMAIN INSULATION IN AREAS OF EXCESSIVE PROFILE LOWERING. ESTIMATE BASED ON 1500 FEET FROM STA. 103+00 TO STA. 118+00. ACTUAL AREAS TO BE DETERMINED IN FIELD.

REVISIONS	DATE	BY

FILE NAME: 02660136-01EST-DWG MW (04-28-94)

STATEMENT OF ESTIMATED QUANTITIES







EARTHWORK SUMMARY (Y)

SOILS AND CONSTRUCTION NOTES:

EXCAVATION

EMBANKMENT (CV)

BORROW (LV)/EXCESS (EV)

COMMON EXCAVATION . . . 26,324 CU.YD.	{ REGULAR . . . 18,889 CU.YD. ① SUBCUT . . . . 11,760 CU.YD. TOPSOIL . . . . 1,639 CU.YD.	GRANULAR . . . 16,825 CU.YD. { MAINLINE. . . . 5,065 CU.YD. SUBCUT . . . . 11,760 CU.YD.	GRANULAR EXCESS . . . 3,482 CU.YD. (EV)  TOPSOIL BORROW . . . . 783 CU.YD. (LV)
---------------------------------------	--	--	---

NOTES:

- 140% SWELL FACTOR FOR REGULAR GRADING (CV TO EV)
- 150% SWELL FACTOR FOR TRUCK HAUL (CV TO LV)
- 120% SWELL FACTOR FOR SUBCUT COMPACTION (CV TO EV)

① INCLUDES 5,964 CU. YD. CONCRETE AND BITUMINOUS REMOVAL. CONCRETE AND BITUMINOUS PAVEMENT REMOVALS WILL BE PAID UNDER ITEM 2104.

1. TOP OF GRADING GRADE IS DEFINED AS THE BOTTOM OF THE AGGREGATE BASE.
2. IN FILL AREAS, THE SUBGRADE SHALL BE CONSTRUCTED WITH SELECTED GRADING MATERIAL.
3. SELECTED GRADING MATERIALS SHALL CONSIST OF GRANULAR MATERIALS.
4. GRANULAR MATERIAL, REGARDLESS OF SOURCE, SHALL MEET THE REQUIREMENTS OF SPEC. 3149.2A.
5. COMPACTION OF THE GRADING PORTION OF THIS PROJECT SHALL BE BY THE "SPECIFIED DENSITY METHOD".
6. TEST ROLLING WILL NOT BE REQUIRED.
7. BITUMINOUS OR CONCRETE ITEMS REMOVED BY CONSTRUCTION SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE EITHER RECYCLED OR DISPOSED OF IN ACCORDANCE WITH THE REQUIREMENTS OF 2104.3C3.
8. DISPOSITION OF EXCESS EXCAVATED MATERIAL SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF 2105.3D WITH NO DIRECT COMPENSATION THEREFORE.
9. WHERE MATCHING INTO THE INPLACE ROADWAY AT THE ENDS OF CONSTRUCTION, CUT VERTICALLY TO THE TOP OF THE GRADING GRADE, AND THEN AT A 20:1 TAPER TO THE BOTTOM OF THE RECOMMENDED SUBGRADE EXCAVATION.
10. WHERE CONNECTING NEW SURFACING TO AN INPLACE PAVEMENT, THE EXCAVATION SHALL BE BACKFILLED PROMPTLY TO AVOID UNDERMINING THE INPLACE PAVEMENT.
11. USE TACK COAT BETWEEN ALL BITUMINOUS MIXTURES PRIOR TO PLACING BITUMINOUS MIXTURES AND PRIOR TO PLACING ANY BITUMINOUS MIXTURES ON EXISTING CONCRETE OR BITUMINOUS SURFACES. THE BITUMINOUS TACK COAT MATERIAL SHALL BE APPLIED AT UNIFORM RATE OF 0.03 TO 0.05 GALLONS PER SQUARE YARD BETWEEN BITUMINOUS LAYERS. THE APPLICATION RATES ARE FOR UNDILUTED EMULSION (AS SUPPLIED FROM THE REFINERY); ASPHALT EMULSION MAY BE FURTHER DILUTED IN THE FIELD IN ACCORDANCE WITH SPEC. 2357.
12. COMPACTION OF THE BITUMINOUS BASE AND BINDER SHALL BE BY THE "SPECIFIED DENSITY METHOD". COMPACTION OF THE WEAR COURSE SHALL BE BY THE "ORDINARY COMPACTION METHOD".
13. COMPACTION OF THE AGGREGATE BASE LAYERS SHALL BE BY THE "SPECIFIED DENSITY METHOD".
14. PLACE MINIMUM 4 INCHES TOPSOIL OR SLOPE DRESSING ON ALL AREAS DISTURBED BY CONSTRUCTION AND SCHEDULED FOR PERMANENT TURF ESTABLISHMENT. FERTILIZE WITH COMMERCIAL FERTILIZER, ANALYSIS 10-10-10, AT A RATE OF 500 POUND PER ACRE.
15. USE MIXTURE 600 SEED AND TYPE 1 MULCH IN AREAS TO BE SEEDED.
16. SOD ALL PERMANENT BOULEVARD AREAS.
17. ALL SOD UTILIZED WITHIN THE PROJECT LIMITS SHALL MEET THE REQUIREMENTS OF SPEC. 3878.2A (LAWN AND BOULEVARD SOD).
18. ORGANIC AND NONGRANULAR EXCAVATED MATERIAL MAY BE USED IN EMBANKMENT CONSTRUCTION IN AREAS OUTSIDE OF A 1 1/2:1 SLOPE FROM THE BACK OF CURB, OR GRADING P.I.
19. BITUMINOUS REMOVAL QUANTITY BASED ON SQUARE YARDS REMOVED. IN PLACE SURFACE ASSUMED TO BE 8 INCHES IN DEPTH. CONTRACTOR SHALL INVESTIGATE AND MAKE OWN DETERMINATION OF ACTUAL PAVEMENT DEPTH.

BASE AND BITUMINOUS QUANTITIES CHART (FF)

LOCATION	DESCRIPTION	BIT. WEARING COURSE			BIT. BINDER COURSE			BIT. BASE COURSE			AGG. BASE CLASS 5			TACK COAT			
		SO. YD.	DEPTH	TONS	SO. YD.	DEPTH	TONS	SO. YD.	DEPTH	TONS	SO. YD.	DEPTH	CU. YD.	SO. YD.	LIFTS	GALLON	
LNB. 88+05	125+83.42	18.5' LT. & 13' RT.	13095	1.5"	1080.3	13095	2.5"	1800.6	13095	4.5"	3241.0	15445	4"	1814.2	13095	3	1964.3
LSB. 87+75	125+46.28	18.5' LT. & 13' RT.	13070	1.5"	1078.3	13070	2.5"	1797.1	13070	4.5"	3234.8	15393	4"	1807.2	13070	3	1960.5
LOCKE LAKE RD.																	
LNB. 88+00	92+56	LEFT TURN LANE	178	1.5"	14.7	178	2.5"	24.5	178	4.5"	44.1	195	4"	22.4	178	3	26.7
LNB. 89+87	96+15	RIGHT TURN LANE & BUS PAD	555	1.5"	45.8	555	2.5"	76.3	555	4.5"	137.4	555	4"	61.7	555	3	83.3
69TH WAY																	
LNB. 91+24	93+71	LEFT TURN LANE	286	1.5"	21.9	286	2.5"	39.3	286	4.5"	70.1	286	4"	31.8	286	3	42.9
LSB. 93+65	95+75	BUS PAD	248	1.5"	20.5	248	2.5"	34.1	248	4.5"	61.4	248	4"	27.6	248	3	37.2
LSB. 93+71	98+96	LEFT TURN LANE	43	1.5"	3.5	43	2.5"	5.9	43	4.5"	10.6	43	4"	4.8	43	3	6.5
LNB. 97+55	103+87	RIGHT TURN LANE	566	1.5"	46.7	566	2.5"	77.7	566	4.5"	140.1	566	4"	62.9	566	3	84.9
LNB. 70TH WAY NE.																	
LSB. 102+74	107+84	LEFT TURN LANE	198	1.5"	16.3	198	2.5"	27.2	198	4.5"	49.0	198	4"	22.0	198	3	29.7
LSB. 107+84	112+99	LEFT TURN LANE	242	1.5"	20.0	242	2.5"	33.3	242	4.5"	59.9	288	4"	33.9	242	3	36.3
LNB. 103+87	110+09	RIGHT TURN LANE & BUS PAD	602	1.5"	50.0	602	2.5"	82.8	602	4.5"	149.0	602	4"	66.9	602	3	90.3
HICKORY DRIVE																	
LSB. 105+92	111+78	RIGHT TURN LANE & BUS PAD	534	1.5"	44.1	534	2.5"	73.4	534	4.5"	132.2	534	4"	59.3	534	3	80.2
71ST. WAY NE.																	
LSB. 114+64	120+46	LEFT TURN LANE	260	1.5"	21.5	260	2.5"	35.8	260	4.5"	64.3	260	4"	28.9	260	3	39.0
LOGAN PARKWAY																	
LSB. 117+81	125+46	BUS PAD	630	1.5"	52.0	630	2"	69.3	630	4.5"	157.4	636	4"	70.7	636	3	95.5
LNB. 120+05	121+85	BUS PAD	258	1.5"	21.3	258	2.5"	35.5	258	4.5"	63.9	258	4"	28.7	258	3	38.7
CHESNEY WAY																	
LNB. 120+05	121+85	BUS PAD	680	1.5"	56.1	680	2"	74.7	680	4.5"	157.4	636	4"	70.7	636	3	95.5
GLEN CREEK RD.																	
			204	1.5"	16.8	204	2.5"	28.1	204	4.5"	50.5	246	4"	29.1	204	3	30.6
			73	1.5"	6.0	73	2.5"	10.0	73	4.5"	18.1	73	4"	8.1	73	3	11.0
			58	1.5"	4.8	58	2.5"	8.0	58	4.5"	14.3	58	4"	6.4	58	3	8.7
			198	1.5"	16.3	198	2.5"	27.2	198	4.5"	49.0	239	4"	28.3	198	3	29.7
TOTAL					2743			4535			7903			4524			4856

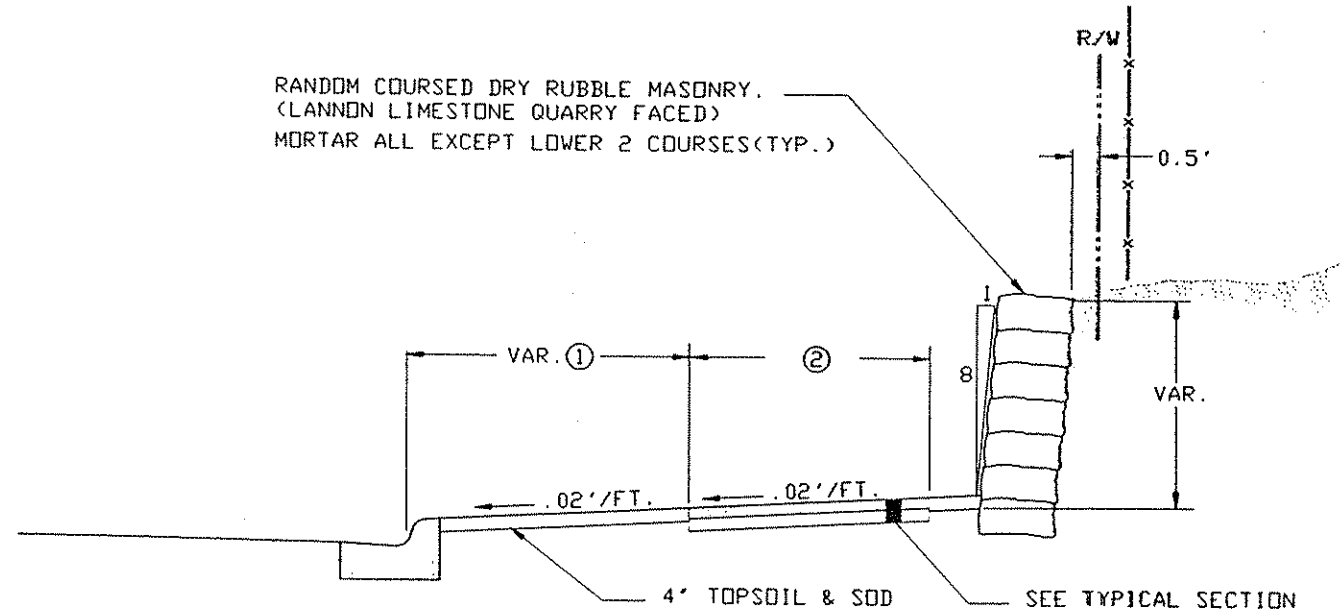
- ① TYPICAL DEPTHS ARE LISTED. ACTUAL DEPTHS VARY UNDER AND BEHIND CURB AND GUTTER.
- ② BASE COURSE TO BE PLACED IN TWO LIFTS.

EARTHWORK SUMMARY AND CONSTRUCTION NOTES  
BASE AND BITUMINOUS QUANTITIES CHART

REVISIONS	BY	DATE

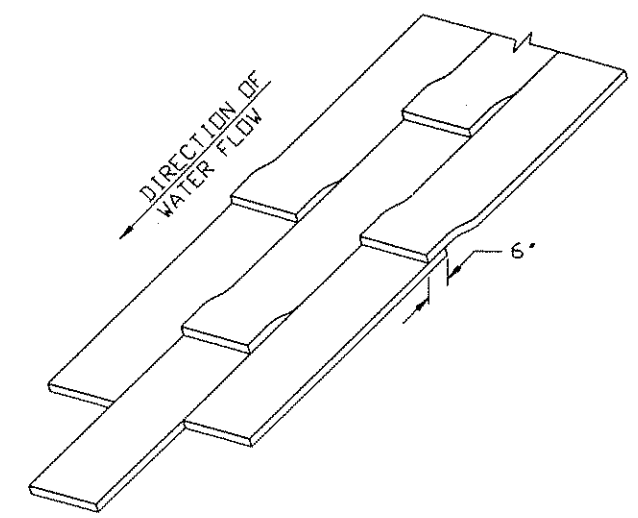
CERTIFIED BY Douglas M. Fincher P.E. REG NO. 20235 8/19 19 94

STONE RETAINING WALL DETAIL®



- ① SEE PLANS AND X-SECTION FOR BOULEVARD WIDTHS.
- ② 8' BIT. PATH OR LAWN BOULEVARD
- ③ SEE TABULATION CHART (V) FOR LOCATION.

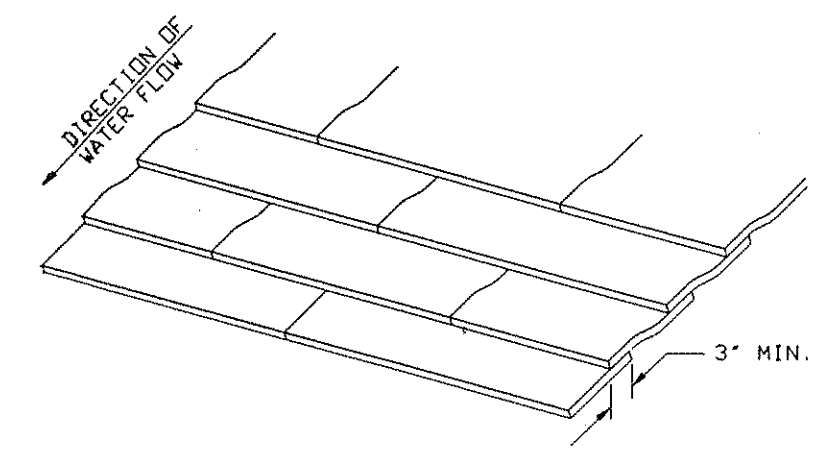
OVERLAPPING SOD



WHERE THE FLOW OF WATER IS CONCENTRATED, PLACE SOD STRIPS PARALLEL TO THE DIRECTION OF WATER FLOW.

SPECIAL SOD PLACEMENT TECHNIQUES

SHINGLING SOD



WHERE THE FLOW OF WATER IS SHEETING, PLACE SOD STRIPS PERPENDICULAR TO THE DIRECTION OF WATER FLOW.

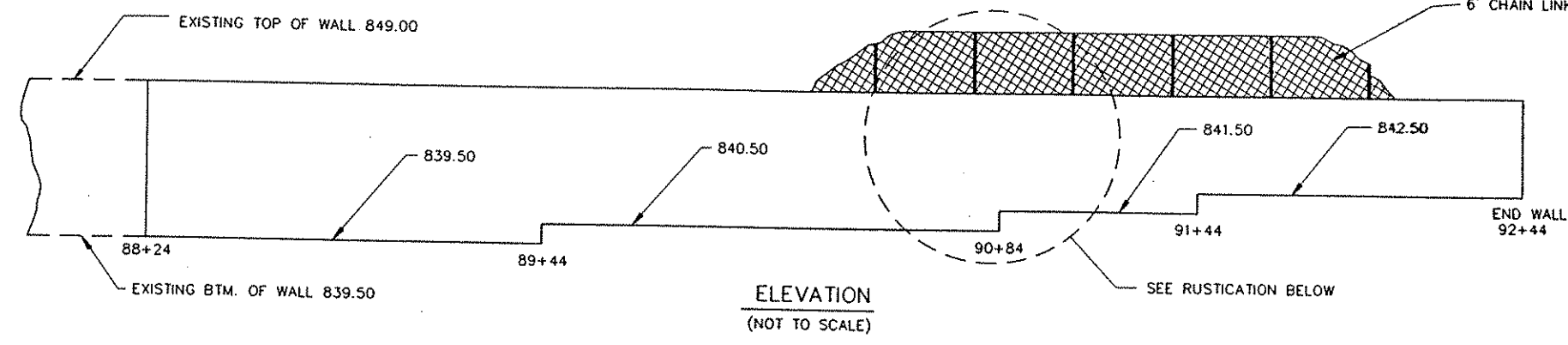
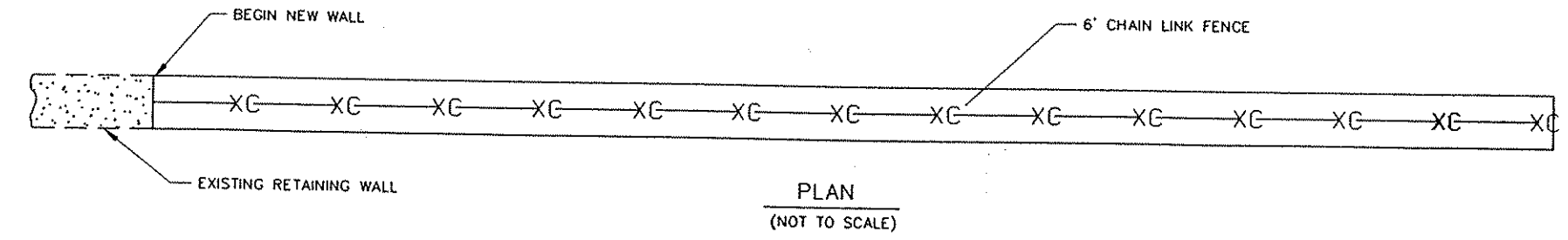
REVISIONS	DATE	BY

CERTIFIED BY Douglas W. Finkbeiner P.E. REG NO. 20235 8/19 19 94

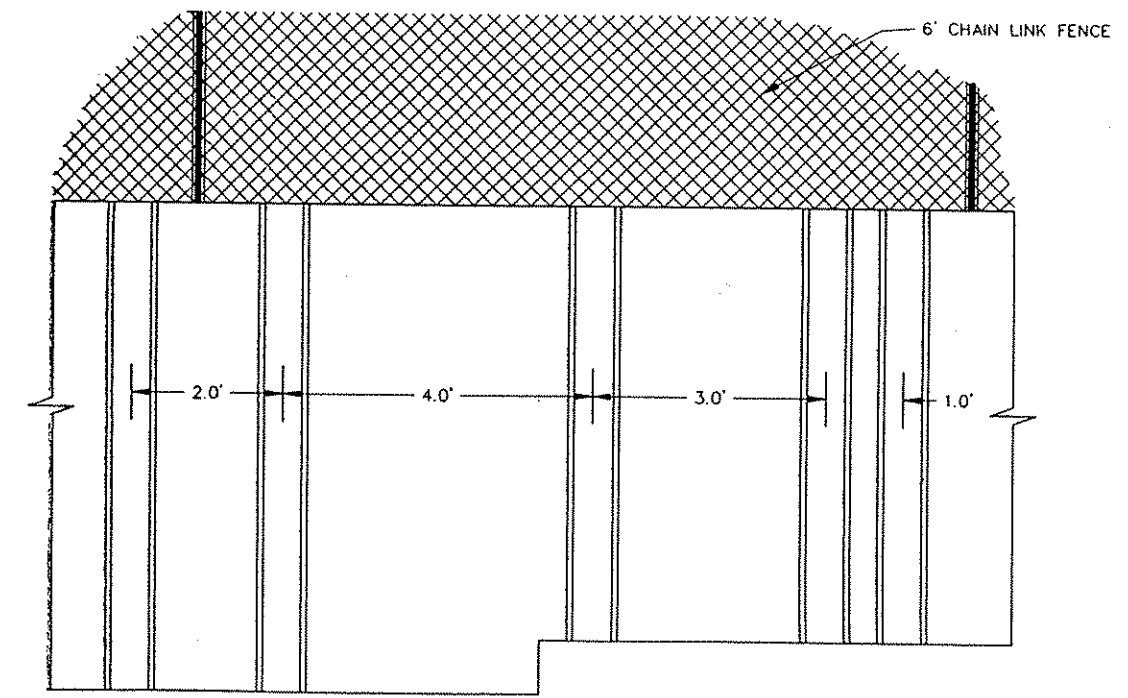
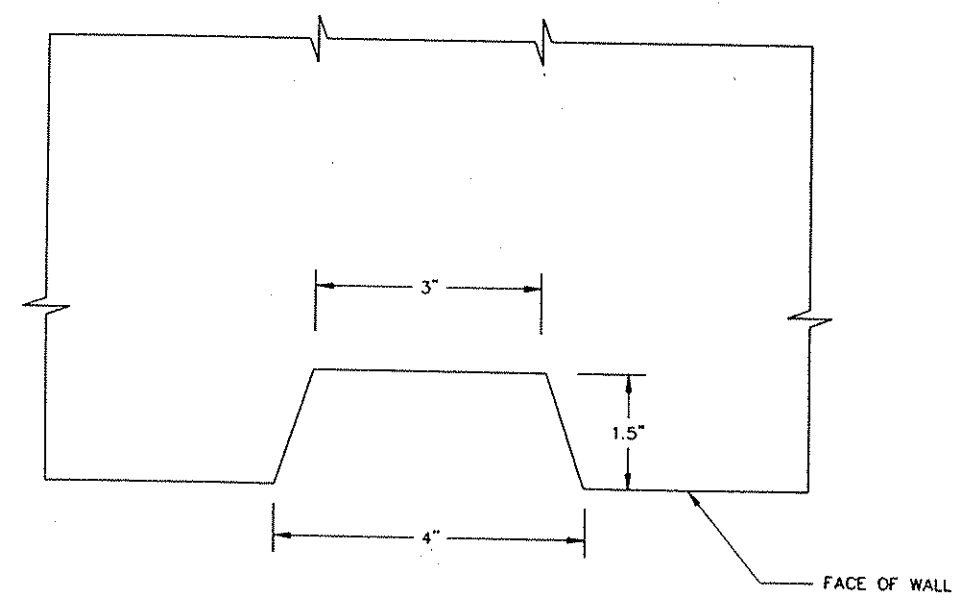
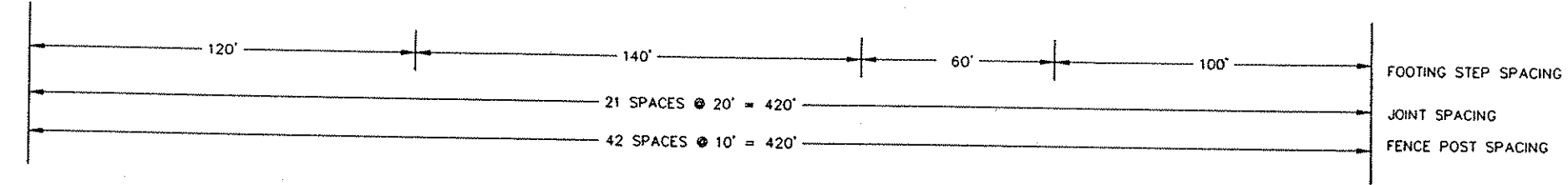
S.P. 02-601-36 S. P. 127-020-13 C.P. \_\_\_\_\_

FILE NAME: 026013\01TAB-CH.DWG MN. (04-26-94)





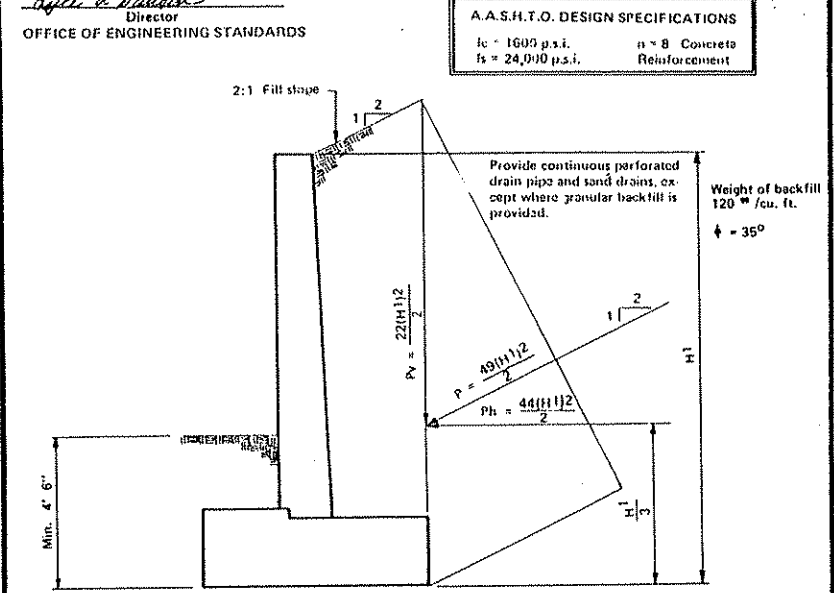
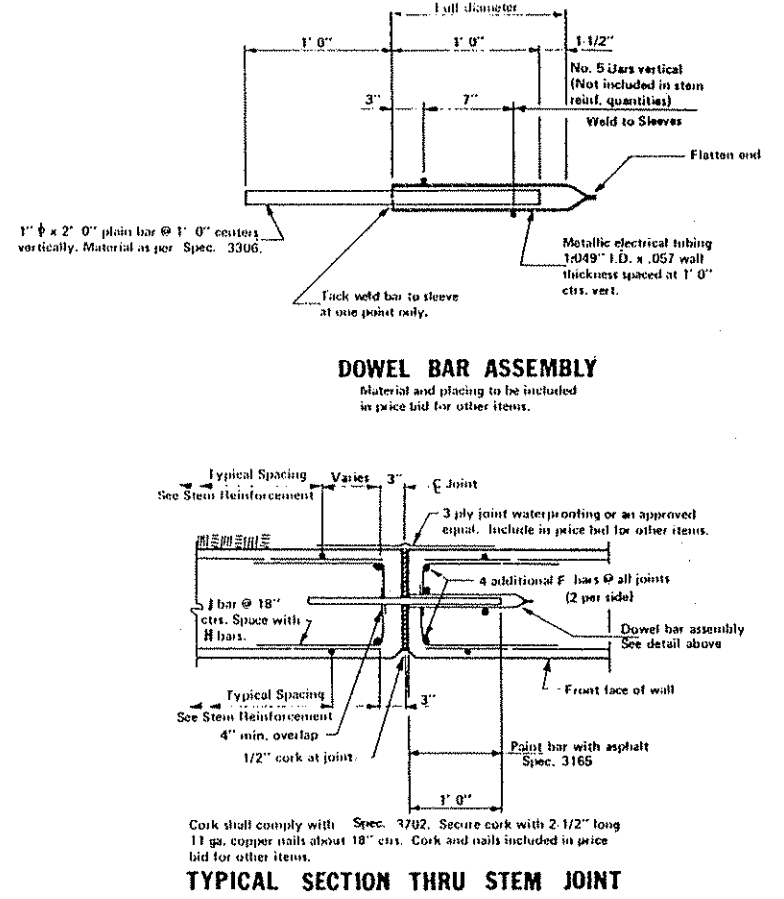
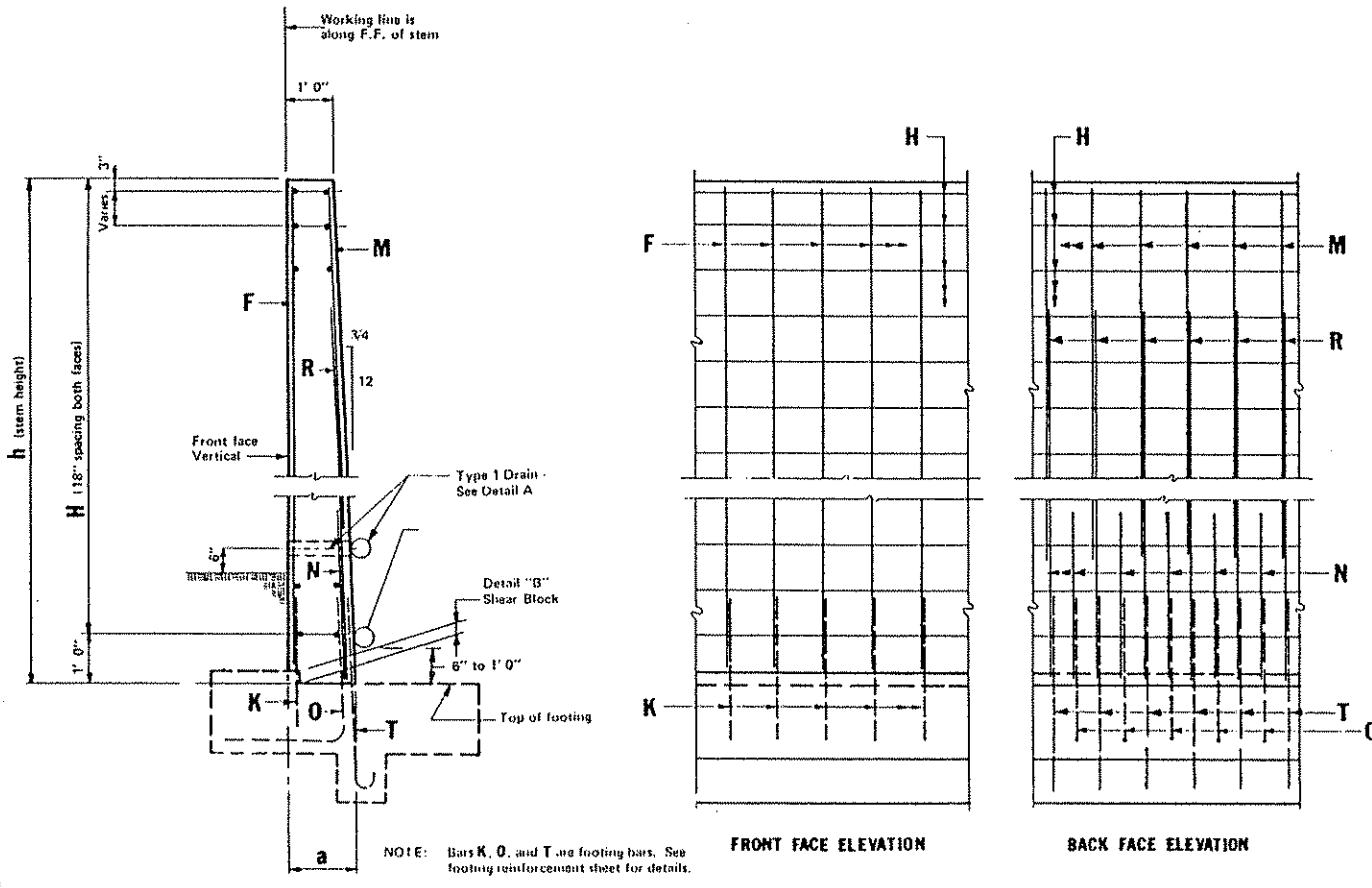
NOTES:  
 FOR RETAINING WALL DIMENSIONS, FOOTING DETAILS AND REINFORCEMENT, SEE SHEETS 10 TO 12.  
 FOR FENCE DETAILS, SEE SHEET 13.



FILE NAME: 020101.DWG

REVISIONS	DATE	BY

CONCRETE RETAINING WALL DETAILS



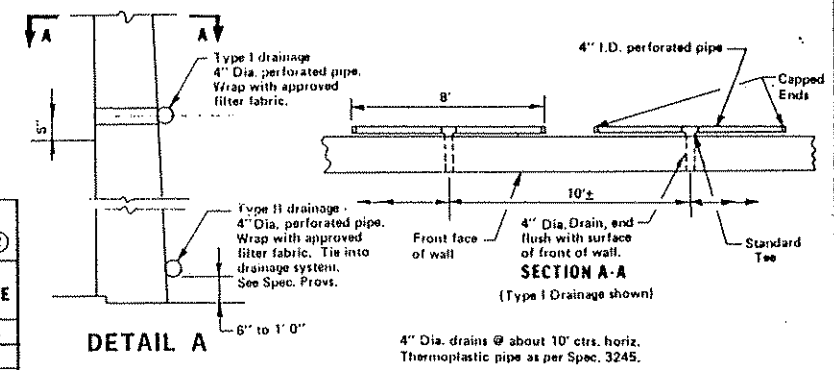
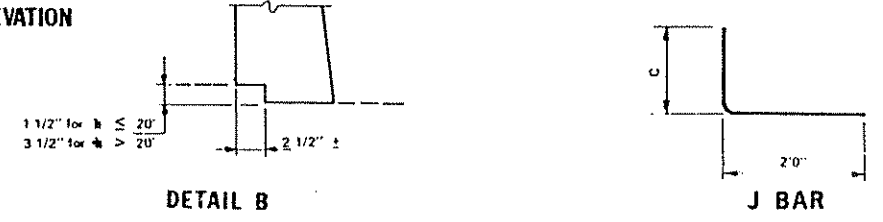
**DRAINAGE:** For Type II drainage provide drainage through stem every 200' ± 50' with appropriate outlet. Contact Materials Engineering Section for recommendations on the type of drainage system required.

**SPREAD FTGS:** If soil studies indicate that the in-place soils below the footing cannot support the base pressures shown this design shall not be used.

**PILE FTGS:** Lateral resistance is equal to horizontal component of battered piles plus bending resistance of:  
 6.0k per pile for timber with a vertical load of 24 tons.  
 7.5k per pile for timber with a vertical load of 30 tons.  
 9.0k per pile for cast-in place with a vertical load of 40 tons.  
 13.0k per pile for cast-in place with a vertical load of 60 tons.  
 12.0k per pile for steel with a vertical load of 55 tons.

If soil studies indicate that material in place below footing cannot offer the lateral resistance required this design shall not be used.

- The smallest "C" dimension bar to be placed at the top of wall and increases downward with wall depth.
- Use "J" Bars and 4 additional "F" Bars at dowel joints. These bars are not included in quantities per linear foot of stem. (See stem joint detail)
- Weight includes "J" bars and four "F" bars per stem joint.



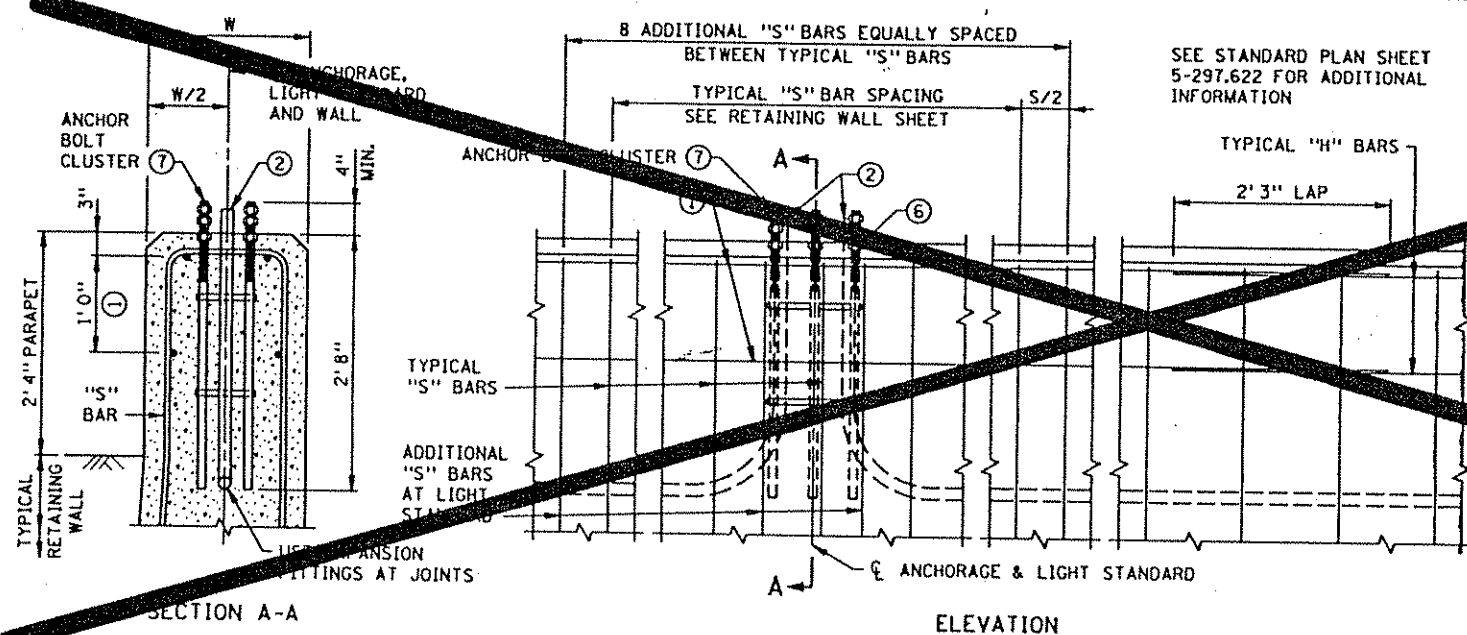
STEM GEOMETRICS		STEM REINFORCEMENT BARS												QUANTITIES / LIN. FT. OF STEM									
Ht.	Width	J (BARS) ①②					F ② (VERTICAL)			H (HORIZONTAL)			M (VERTICAL)			N (VERTICAL)			R (VERTICAL)			REINF. POUND	CONCRETE CU. YDS.
		SIZE	LENGTH	7"	10"	16"	SIZE	LENGTH	SPAC.	SIZE	NO.	MAX. SP.	SIZE	LENGTH	SPAC.	SIZE	LENGTH	SPAC.	SIZE	LENGTH	SPAC.		
6'	1' 3 3/4"	6	2' 0"	C	19	4	4' 8"	12"	5	8	18"	4	4' 10"	14 1/2"								14.1	.213
6'	1' 4 1/2"	6	2' 0"	C	19	4	5' 8"	12"	5	10	18"	4	5' 10"	14 1/2"								17.4	.263
7'	1' 5 1/4"	8	2' 0"	C	19	4	6' 8"	12"	5	10	18"	4	6' 10"	14 1/2"								18.7	.315
8'	1' 6"	8	2' 0"	C	19	8	7' 8"	12"	5	12	18"	4	7' 10"	14 1/2"								22.0	.369
9'	1' 6 3/4"	8	2' 0"	C	19	12	8' 8"	12"	5	14	18"	4	8' 10"	14 1/2"								25.3	.426
10'	1' 7 1/2"	8	2' 0"	C	19	12	9' 8"	12"	5	14	18"	5	9' 10"	14 1/2"								29.6	.485
11'	1' 8 1/4"	8	2' 0"	C	19	16	10' 8"	12"	5	16	18"	5	10' 10"	14 1/2"								33.2	.546
12'	1' 9"	8	2' 0"	C	19	20	11' 8"	12"	5	18	18"	5	11' 10"	14 1/2"								38.0	.610
13'	1' 9 3/4"	8	2' 0"	C	19	20	12' 8"	12"	5	18	18"	5	12' 0"	14 1/2"	6	5' 0"	14 1/2"					43.8	.676
14'	1' 10 1/2"	8	2' 0"	C	19	20	13' 8"	12"	5	20	18"	5	12' 0"	14 1/2"	7	5' 0"	14 1/2"					48.8	.744
16'	1' 11 1/4"	8	2' 0"	C	19	20	14' 8"	12"	5	22	18"	5	12' 0"	14 1/2"	7	5' 0"	14 1/2"					51.6	.815
16'	2' 0"	8	2' 0"	C	19	20	15' 8"	12"	5	22	18"	5	12' 0"	14 1/2"	8	6' 0"	14 1/2"					57.0	.888
17'	2' 0 3/4"	8	2' 0"	C	19	20	16' 8"	12"	5	24	18"	5	12' 0"	14 1/2"	8	7' 0"	14 1/2"					60.3	.963
18'	2' 1 1/2"	8	2' 0"	C	19	20	17' 8"	12"	6	26	18"	5	12' 0"	14 1/2"	8	8' 0"	14 1/2"					69.9	1.041
19'	2' 1 3/4"	8	2' 0"	C	19	20	18' 8"	12"	6	26	18"	5	12' 0"	14 1/2"	7	7' 0"	14 1/2"					70.8	1.121
20'	2' 2"	8	2' 0"	C	19	20	19' 8"	12"	6	28	18"	5	12' 0"	14 1/2"	7	8' 0"	14 1/2"					80.5	1.203
21'	2' 2 3/4"	8	2' 0"	C	19	24	20' 8"	12"	5	30	18"	5	12' 0"	14 1/2"	8	8' 0"	14 1/2"					88.6	1.287
22'	2' 3 1/2"	8	2' 0"	C	19	24	21' 8"	12"	5	30	18"	5	12' 0"	14 1/2"	8	8' 0"	14 1/2"					100.2	1.373
23'	2' 4 1/4"	8	2' 0"	C	19	24	22' 8"	12"	5	32	18"	5	12' 0"	14 1/2"	8	9' 0"	14 1/2"					107.4	1.462
24'	2' 4 3/4"	8	2' 0"	C	19	24	23' 8"	12"	5	34	18"	5	12' 0"	14 1/2"	9	9' 0"	14 1/2"					117.8	1.554
26'	2' 5 3/4"	8	2' 0"	C	19	24	24' 8"	12"	5	34	18"	5	12' 0"	14 1/2"	9	9' 0"	14 1/2"					129.7	1.648
27'	2' 6 1/2"	8	2' 0"	C	19	24	25' 8"	12"	5	36	18"	5	12' 0"	14 1/2"	9	10' 0"	14 1/2"					138.1	1.743
27'	2' 6 3/4"	8	2' 0"	C	19	24	26' 8"	12"	5	36	18"	5	12' 0"	14 1/2"	9	10' 0"	14 1/2"					153.6	1.842
28'	2' 7"	8	2' 0"	C	19	24	27' 8"	12"	5	38	18"	5	12' 0"	14 1/2"	9	11' 0"	14 1/2"					169.1	1.942
29'	2' 7 3/4"	8	2' 0"	C	19	24	28' 8"	12"	6	40	18"	5	12' 0"	14 1/2"	9	11' 0"	14 1/2"					185.7	2.046
30'	2' 10 1/2"	8	2' 0"	C	19	24	29' 8"	12"	5	42	18"	5	12' 0"	14 1/2"	10	12' 0"	14 1/2"					207.7	2.151

- STEM NOTES:**
- Maximum spacing of stem joints (panels) is 32 feet. Use dowel assemblies at all joints. No reinf. thru joint.
  - Concrete in stems to be Concrete Mix No. 3Y43.
  - Reinforcement bars shall be deformed billet steel bars conforming to ASTM A615 Grade 60.
  - Bar lap at authorized splices: 36 diameters for No. 4 to No. 7 bars and 40 diameters for No. 8 to No. 11 bars except as noted.
  - All reinforcement bars to have a 2" minimum cover. When 1" or less rustication is used, move front face reinf. bars in to maintain 2" cover. For rustication over 1" in depth, increase stem width to depth of rustication to maintain minimum reinforcement cover.
  - Edges of concrete on all exposed joints and top of stem wall shall be formed with 1/2" vee unless otherwise noted.
  - Construction to be in accordance with Spec. 2411 except as noted.
  - When stem heights vary by less than four feet in any panel, the rebar shall be sized and spaced for the maximum height in the panel.
  - When stem heights at the ends of any panel differ by more than four feet, but less than eight feet, the panel shall be divided into two approximately equal parts for rebar design. The bars for each portion of the panel shall be sized and spaced for the maximum stem height in that portion.
  - When stem heights vary by more than eight feet, the panel shall be divided into 3 parts for rebar design. The maximum stem height in each portion shall be used for determining rebar sizing and spacing in that portion.
  - When stem heights are five feet or less, the rebar shall be sized and spaced as required for h = 5 feet.
  - Vertical bars F and M in stems or varying heights and transverse bars O, P, and Q in footings of varying widths shall vary in length in accordance with the dimensions of the structure.

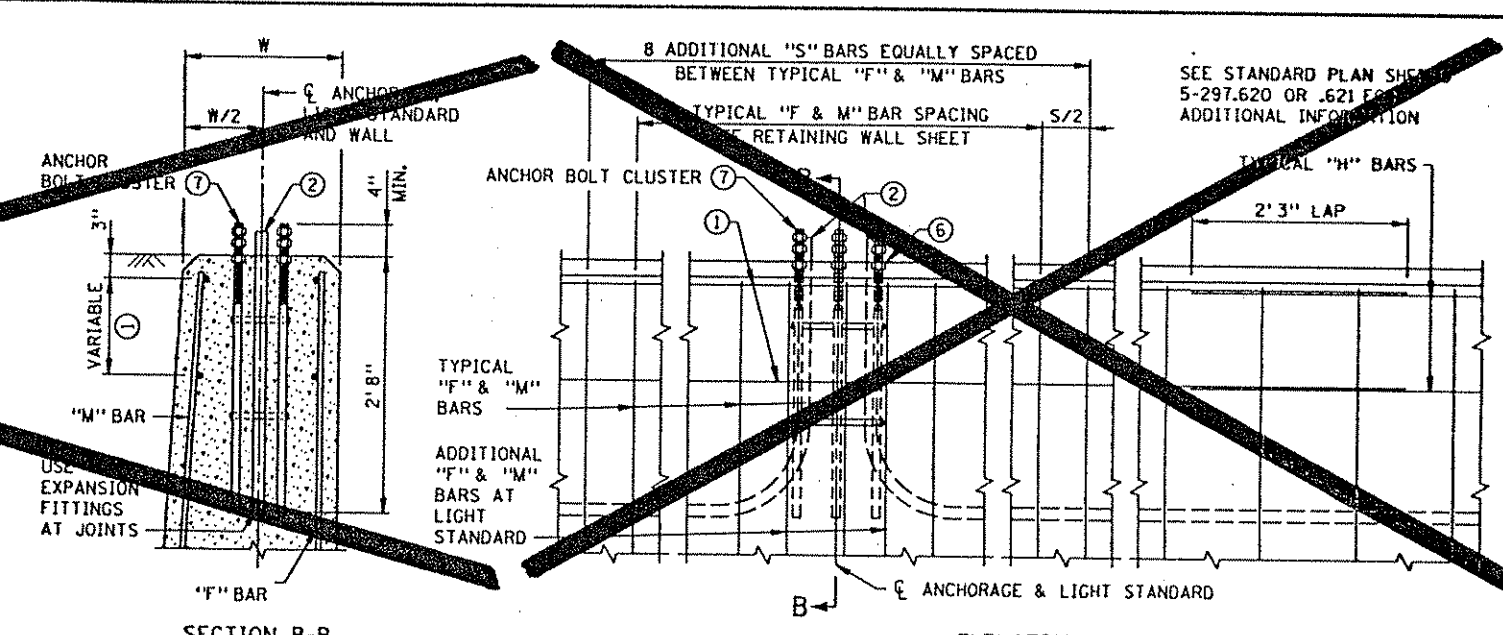
**RETAINING WALL - 2:1 FILL SLOPE**  
 (STEM DETAILS)







SECTION A-A  
ELEVATION  
LIGHT STANDARD ON RETAINING WALL WITH PARAPET



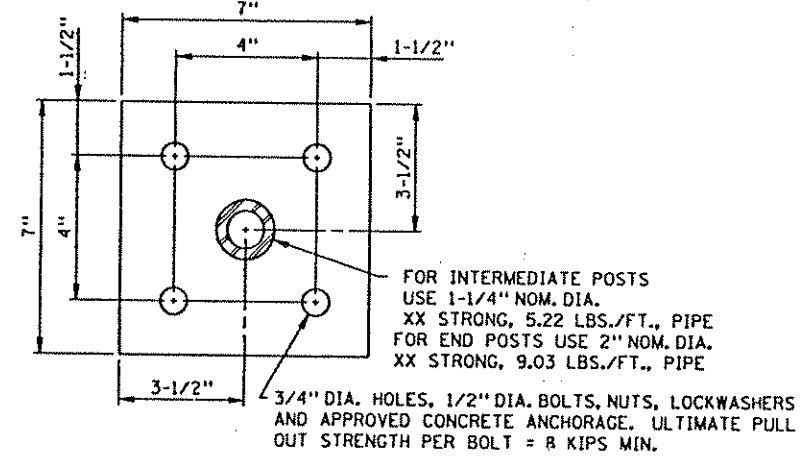
SECTION B-B  
ELEVATION  
LIGHT STANDARD ON RETAINING WALL WITHOUT PARAPET

**BILL OF REINFORCEMENT PER LIGHT BASE WITH PARAPET TYPE RETAINING WALL**

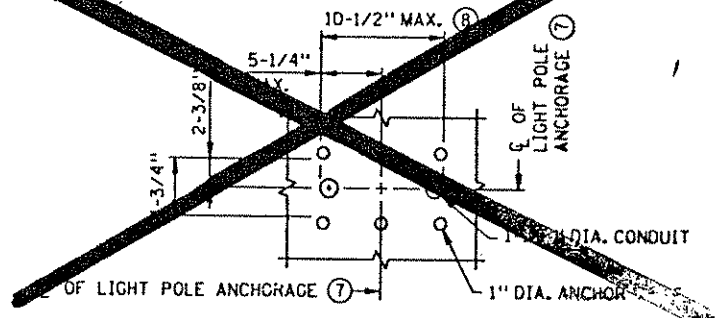
BAR	SHAPE	NUMBER	LENGTH	LOCATION
"S"	BENT	8 ADDITIONAL	9' 11"	PARAPET - VERT. AT LIGHT
NO. 6	STRAIGHT	4		PARAPET - HORIZ. AT LIGHT
ADDITIONAL REINFORCEMENT BARS 140 POUNDS				

**BILL OF REINFORCEMENT PER LIGHT BASE WITHOUT PARAPET TYPE RETAINING WALL**

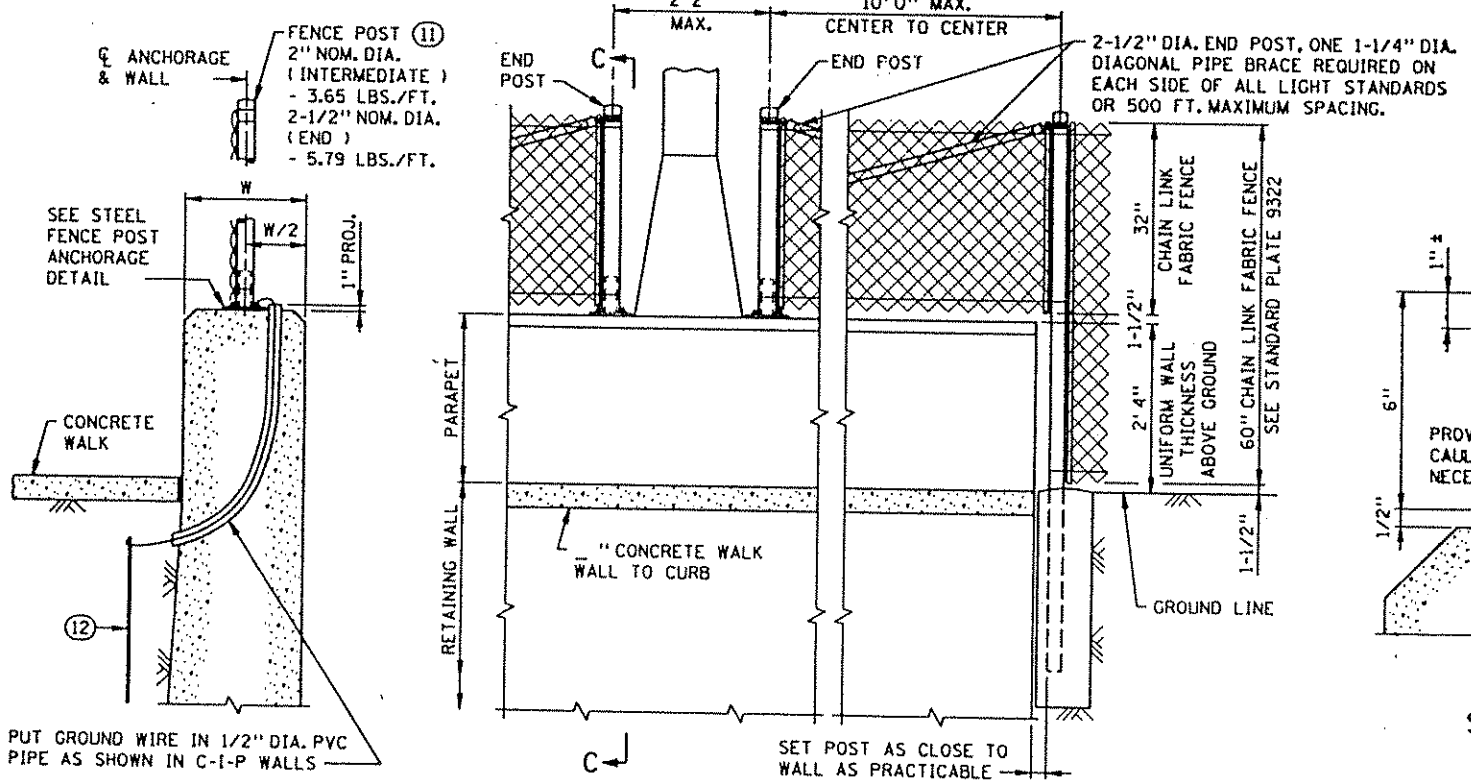
BAR	SHAPE	NUMBER	LENGTH	LOCATION
NO. 6	STRAIGHT	8 ADDITIONAL	10' 0"	WALL - HORIZ. AT LIGHT
"F"	STRAIGHT	8 ADDITIONAL		WALL - F.F., VERT. AT LIGHT
"M"	STRAIGHT	8 ADDITIONAL		WALL - B.F., VERT. AT LIGHT
ADDITIONAL REINFORCEMENT BARS 60 POUNDS				



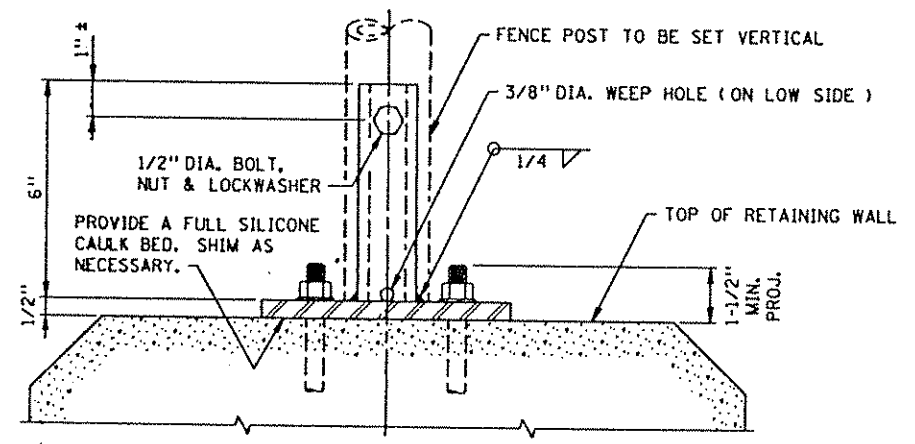
PLAN VIEW



CONDUIT PLACEMENT DETAIL



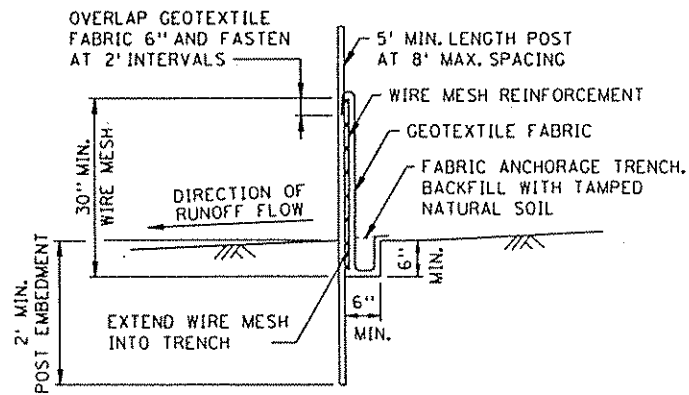
SECTION C-C  
ELEVATION  
CHAIN LINK FENCE ON RETAINING WALL WITH PARAPET



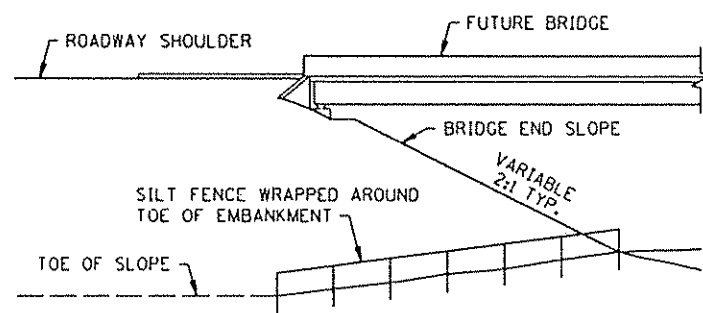
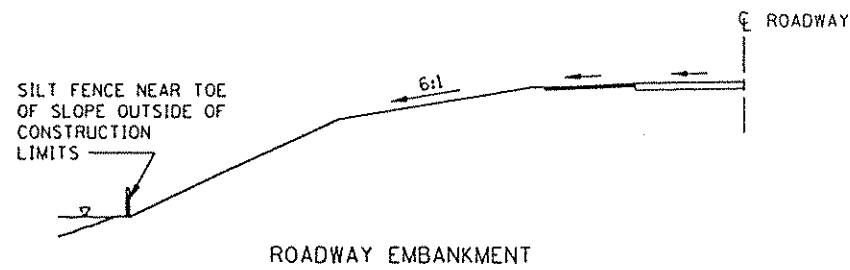
STEEL FENCE POST ANCHORAGE DETAIL

- NOTES:**
- ⑨  $\phi$  OF ANCHORAGE SHALL BE 6" MIN. FROM DEFLECTION JOINTS.
  - ⑩ ESTIMATED WEIGHT = 10 OR 12 LBS. STRUCT. STEEL PER SPEC. 3306 - STRUCT. PIPE PER SPEC. 3362. GALVANIZE THE FENCE POST ANCHORAGE AFTER FABRICATION PER SPEC. 3394. GALVANIZE THE FASTENERS PER SPEC. 3392.
  - ⑪ INSTALL FENCE PER SPEC. 2557.
  - ⑫ PROVIDE ELECTRICAL GROUNDS FOR FENCING PER SPEC. 2557 AND AS MODIFIED BELOW:
    - a. WALLS WITHOUT SIDEWALKS ADJACENT TO WALL: INSTALL PER SPEC. 2557.
    - b. WALLS WITH SIDEWALKS ADJACENT TO WALL: PLACE GROUNDING RODS BELOW SIDEWALK ELEVATION. LOCATE CONNECTING WIRE (FROM FENCE TO GROUND ROD) DOWN THRU WALL TO BELOW SIDEWALK ELEVATION AND THEN OUT TO ROD.
    - c. GROUNDING SHALL NOT BE CONNECTED TO THE LIGHTING SYSTEM WHEN LIGHTING IS REQUIRED ON THE WALL. USE EITHER "a" OR "b" ABOVE.

SERVER CAG4511/USR/STANDARDS FILE NAME S623J93.SPN

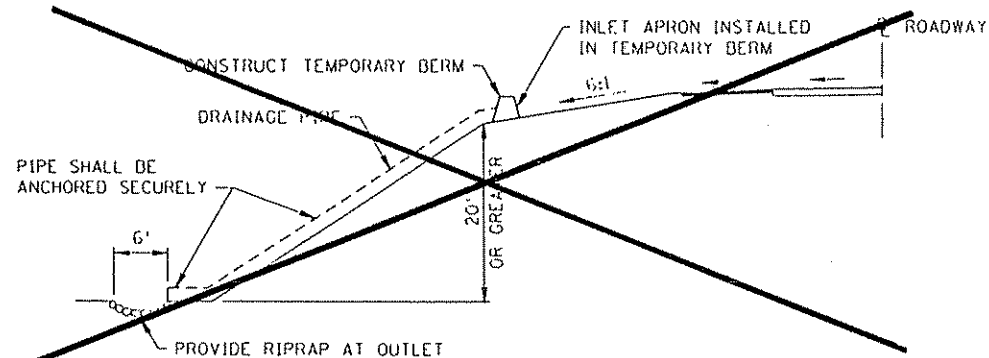


SILT FENCE DETAIL

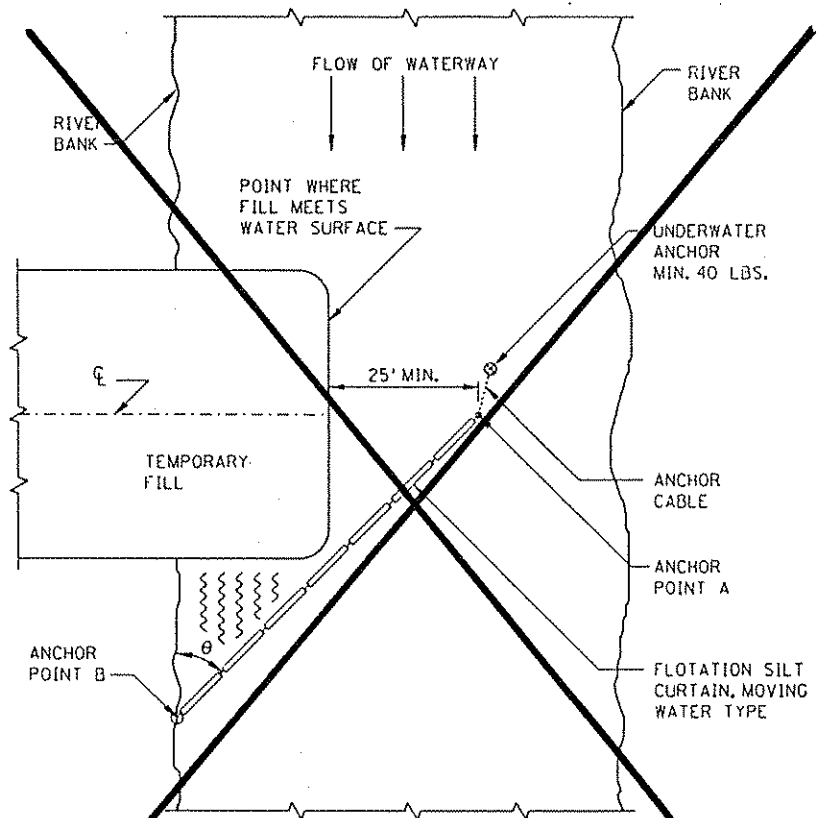


BRIDGE ABUTMENT

SILT FENCE OR BALE CHECK TO PROTECT ADJACENT CRITICAL AREAS

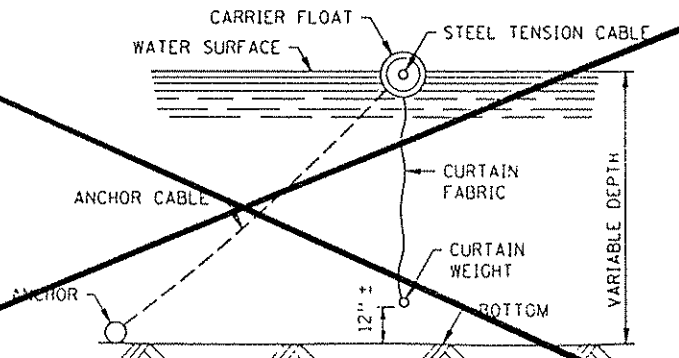


TEMPORARY DRAIN ON FILL SLOPE

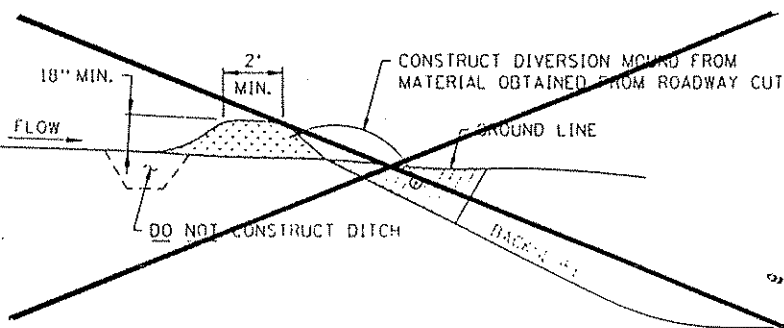


$\angle \theta$	RIVER VELOCITY
45°	SLOW, LESS THAN 5 FT./SEC.
35°	MODERATE, 5 TO 7 FT./SEC.

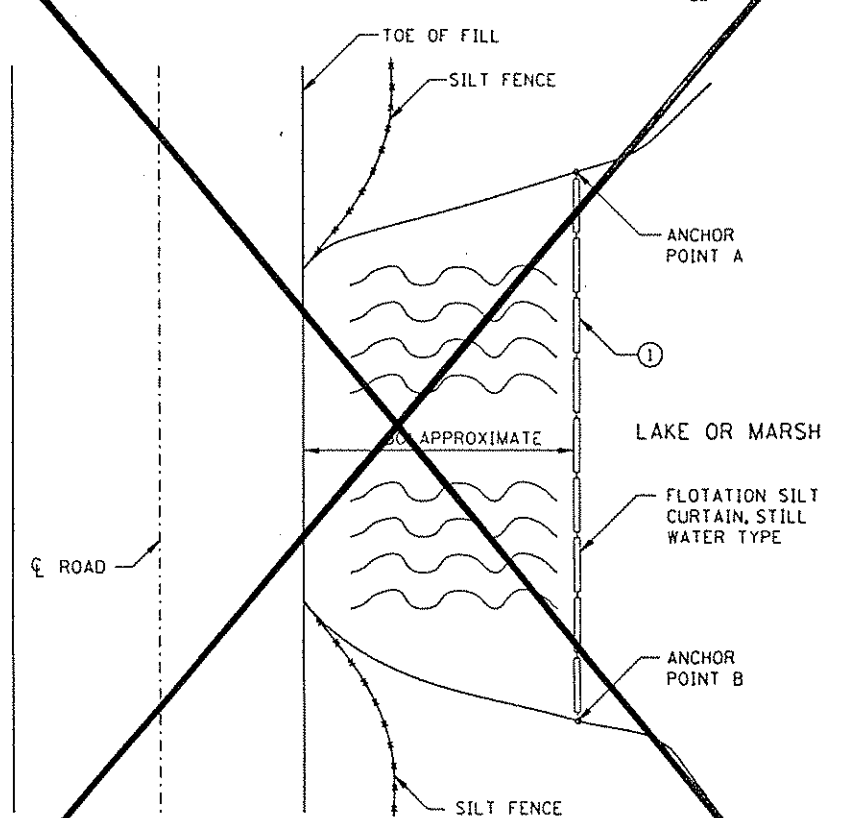
PLAN VIEW OF SILT CURTAIN - MOVING WATER



FLOTATION SILT CURTAIN

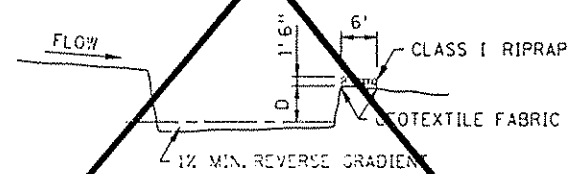
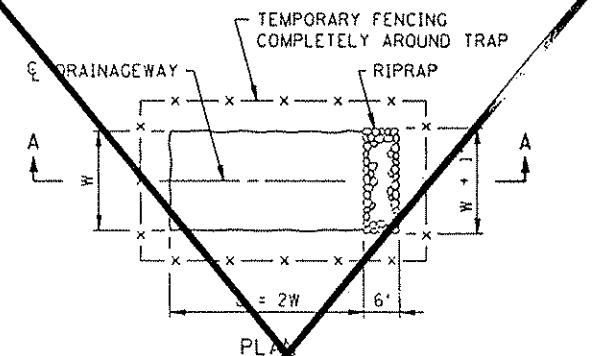


DIVERSION MOUND



PLAN VIEW OF SILT CURTAIN - STILL WATER

① CURTAIN 1 FT. FROM BOTTOM



NOTE:  
D = 3' MIN., 6' MAX.  
W = 10' MIN., 20' MAX.

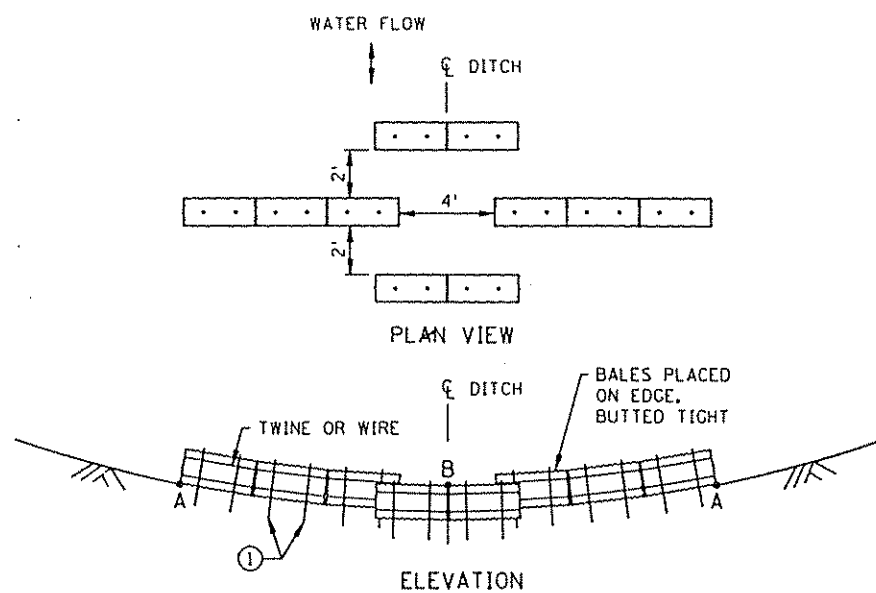
SECTION A-A  
TEMPORARY SEDIMENT TRAP

STANDARD SHEET NO.  
5-297.405 (1 OF 2)

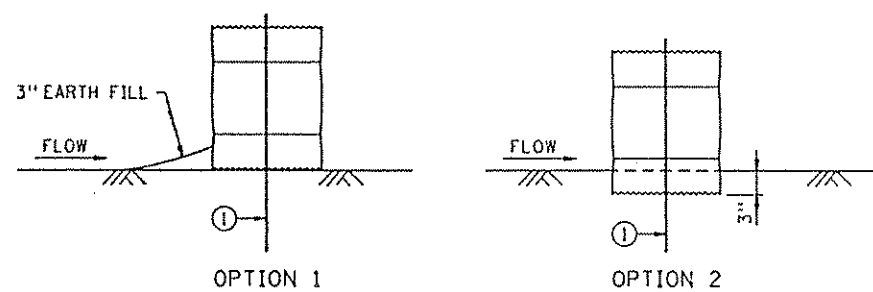
STANDARD APPROVED:  
AUGUST 2, 1993

TITLE:  
TEMPORARY EROSION CONTROL

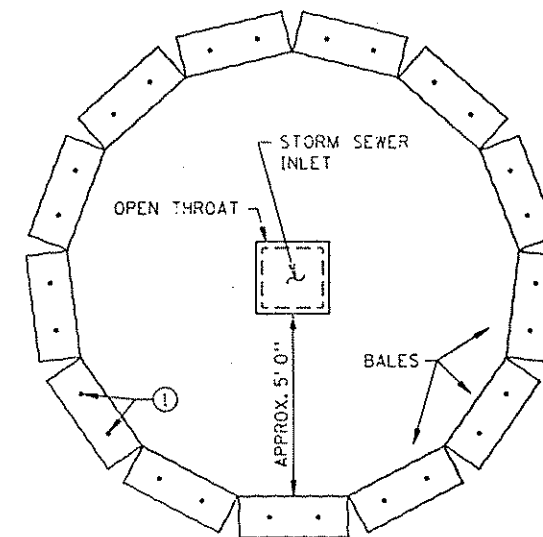
SERVER C64511/USR/STANDARDS FILE NAME S4051H93.SPN



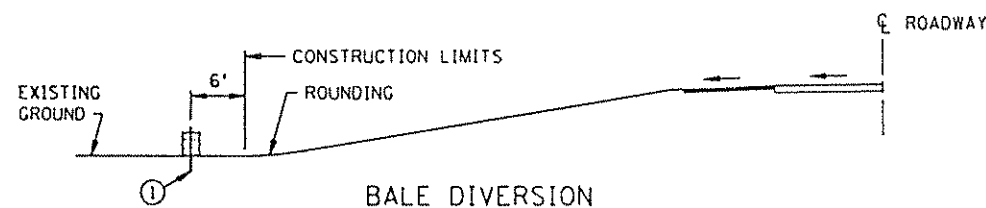
NOTE:  
POINT A MUST BE HIGHER THAN POINT B  
**BALE DITCH VELOCITY CHECKS**  
(WILL REQUIRE A MINIMUM OF 10 BALES PER SITE)



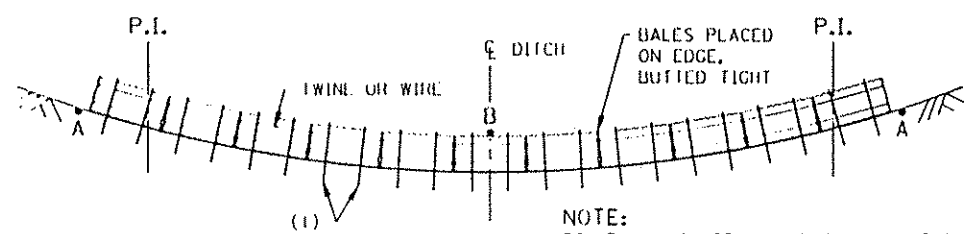
**BALE CHECK DETAILS**



**BALE CHECK TO PROTECT STORM SEWER INLETS**



**BALE DIVERSION**



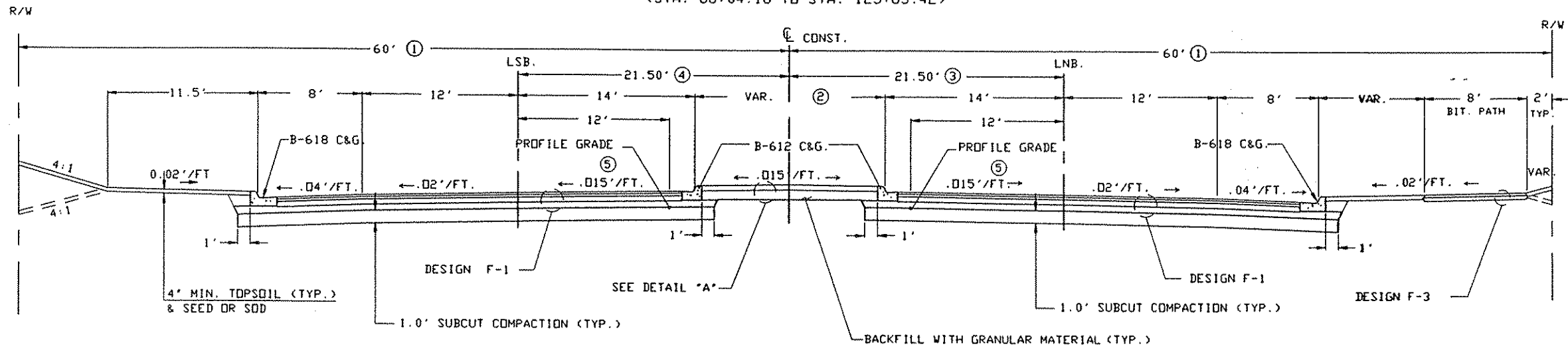
**BALE DITCH SEDIMENT CHECK**

RECOMMENDED SPACING BETWEEN BALE DITCH CHECKS	
DITCH GRADE (%)	SPACING (FT.)
2	100
4	75
6	50
8	40
10	25

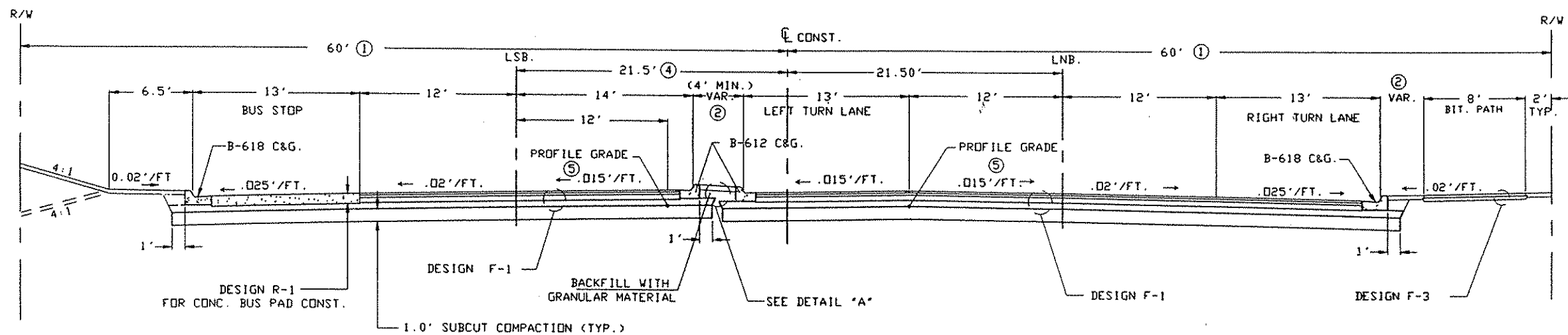
NOTE:  
① TWO 2" X 2" WOOD STAKES OR REINFORCING BARS IN EACH BALE AND EMBEDDED IN THE GROUND 10" MINIMUM.

**EAST RIVER ROAD (CSAH 1)-MAINLINE**

(STA. 86+04.16 TO STA. 125+83.42)



**EAST RIVER ROAD (CSAH 1)-TURNBAYS OR BUS STOP**



**SPECIFIC NOTES**

- ① SEE PLAN & PROFILE SHEETS FOR EXCEPTIONS
- ② VARIABLE FROM 4' MIN. TO 16' MAX.
- ③ 24' STA. 86+00 TO STA. 88+05.13, TAPERS FROM 24' TO 21.5' STA. 88+05.12 TO STA. 91+05.12 LNB
- ④ 20' STA. 86+00 TO STA. 87+96.25, TAPERS FROM 20' TO 21.5' STA. 87+96.25 TO STA. 90+96.25 LSB
- ⑤ PROFILE GRADE IS THE SAME AS GRADING GRADE.

**GENERAL NOTES**

- 1. 10' OBSTACLE FREE ZONE REQUIRED FROM EDGE OF TRAVELLED LANE.

**LT. & RT. TURN LANE OR BUS STOP LOCATION**

STA. TO	STA.	LOCATION	DESCRIPTION
LNB.	88+83	91+33	LT. LEFT TURN LANE
LNB.	90+52	93+32	RT. RIGHT TURN LANE
LSB.	92+56	93+20	RT. LEFT TURN LANE
LSB.	94+40	95+00	LT. BUS STOP
LSB.	94+20	97+31	RT. LEFT TURN LANE
LSB.	94+80	95+40	LT. BUS STOP
LNB.	98+30	101+29	RT. RIGHT TURN LANE
LNB.	104+30	107+35	LT. LEFT TURN LANE
LNB.	104+62	107+62	RT. RIGHT TURN LANE
LSB.	106+67	107+27	LT. BUS STOP
LNB.	108+73	109+33	RT. BUS STOP
LSB.	108+03	111+03	LT. RIGHT TURN LANE
LSB.	108+30	111+36	RT. LEFT TURN LANE
LNB.	116+31	119+25	LT. LEFT TURN LANE
LSB.	118+56	119+16	LT. BUS STOP
LNB.	120+65	121+25	RT. BUS STOP
LSB.	119+93	124+63	LT. RIGHT TURN LANE

TYPICAL SECTIONS

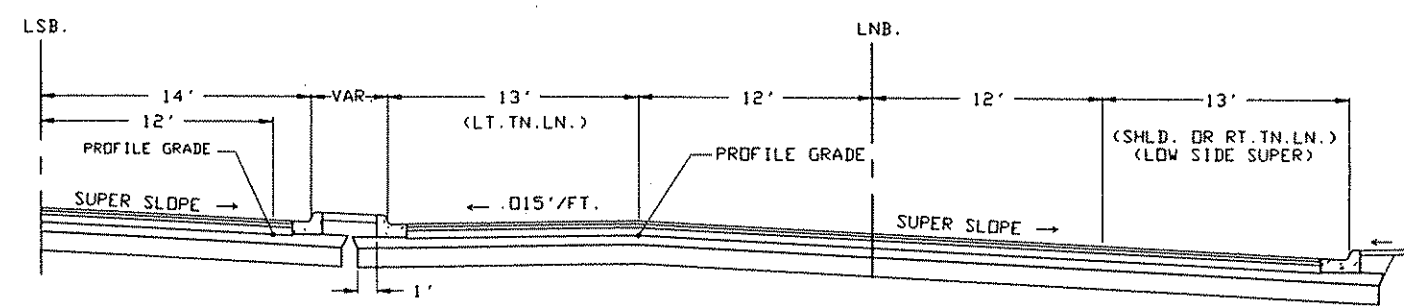
FILE NAME: 0260136\_01TYP.DWG MN. (02-16-94)

REVISIONS	DATE	BY



**EAST RIVER ROAD (CSAH 1)**

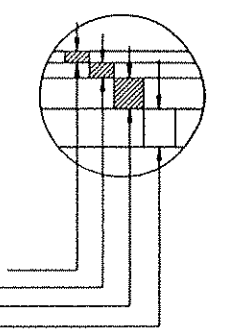
(LT.TN.LN. HIGH SIDE SUPER, RT.TN.LN. LOW SIDE SUPER)



**DESIGN F-1**

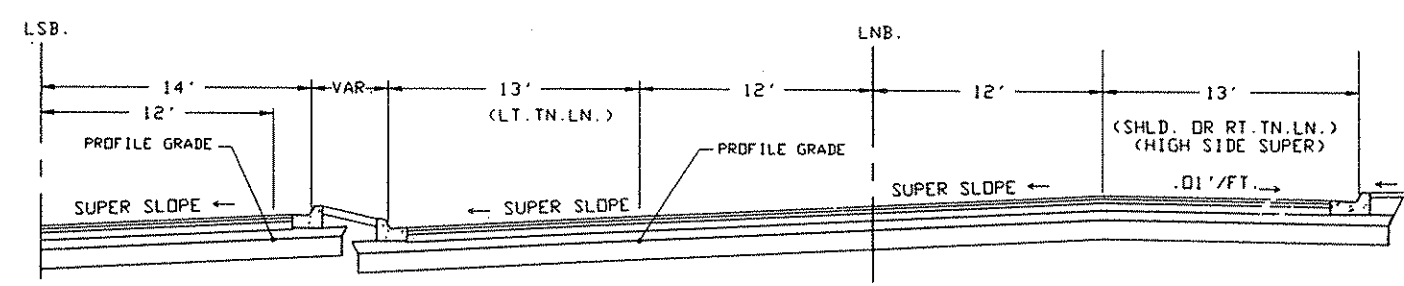
CSAH. 1

- 1 1/2" TYPE 41 WEARING COURSE
- 2 1/2" TYPE 41 OR 42 BINDER COURSE
- 4 1/2" TYPE 31 OR 32 BASE COURSE
- 4" AGGREGATE BASE CLASS 5A



**EAST RIVER ROAD (CSAH 1)**

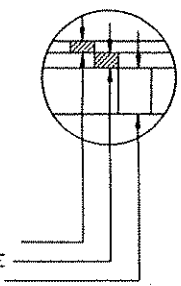
(LT.TN.LN. LOW SIDE SUPER, RT.TN.LN. HIGH SIDE SUPER)



**DESIGN F-2**

(CITY STREET)

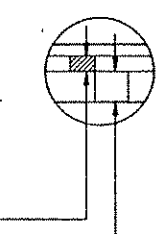
- 1 1/2" TYPE 41 WEARING COURSE
- 2" TYPE 41 OR 42 BINDER COURSE
- 6" AGGREGATE BASE CLASS 5A



**DESIGN F-3**

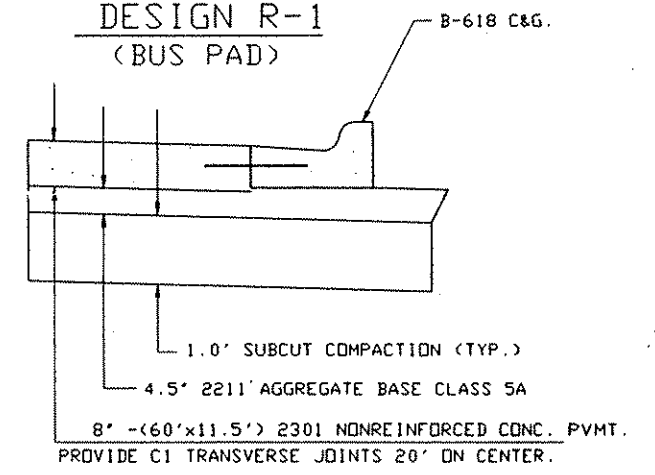
BITUMINOUS PATH

- 2" TYPE 41 OR 42 WEARING COURSE
  - 3" AGGREGATE BASE CLASS 5 \*
- \* 3" INCLUDED INPAYMENT FOR 2" BIT. WEAR COURSE.



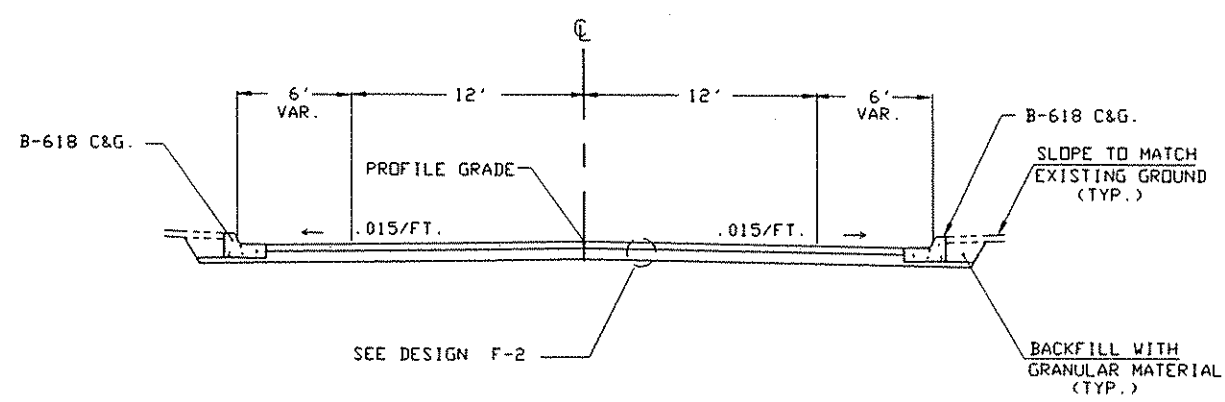
**DESIGN R-1**

(BUS PAD)

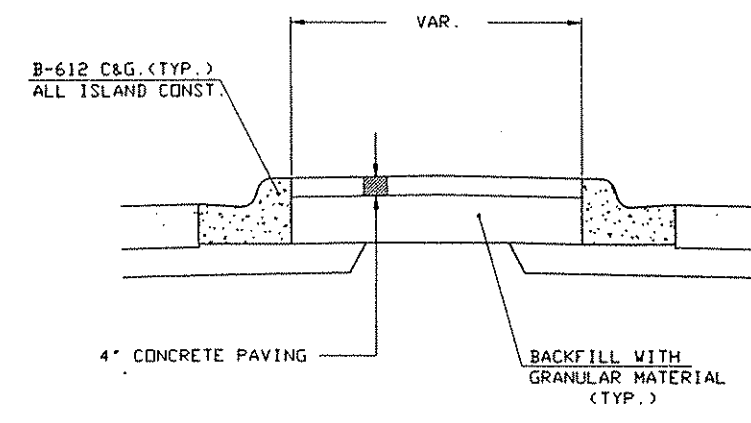


**CITY STREET CONSTRUCTION**

END OF RADIUS TO MATCH POINT.  
(70TH. WAY NE., 71ST. WAY & HICKORY DRIVE)



**DETAIL "A"**

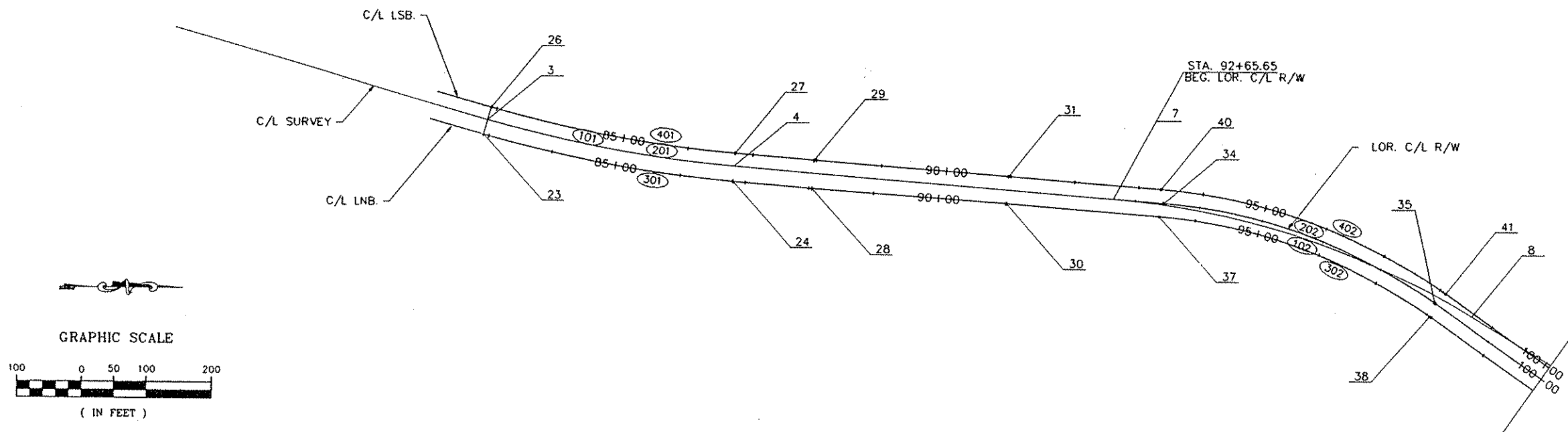


TYPICAL SECTIONS

REVISIONS	DATE	BY

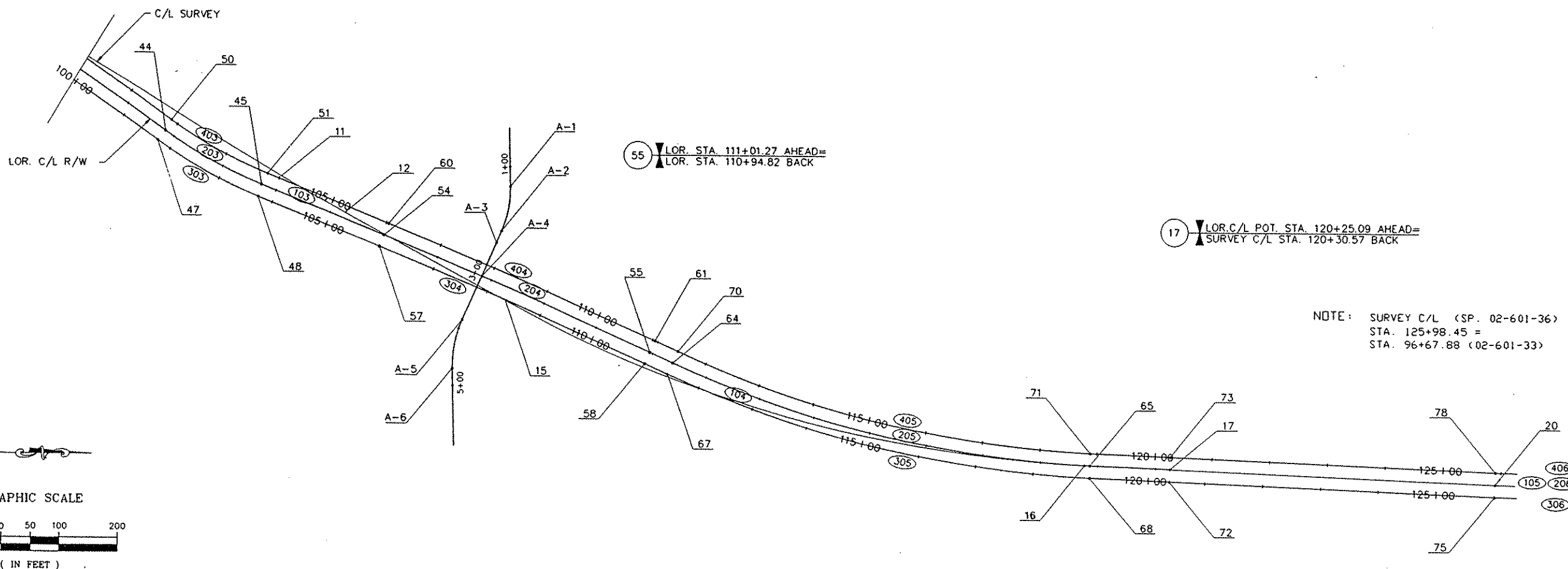
FILE NAME: 0260136\_01TYP.DWG MW: 02-16-94

4 L.S. STA. 86+76.18 AHEAD=  
L.S. STA. 86+75.90 BACK



55 LOR. STA. 111+01.27 AHEAD=  
LOR. STA. 110+94.82 BACK

17 LOR. C/L POT. STA. 120+25.09 AHEAD=  
SURVEY C/L STA. 120+30.57 BACK



NOTE: SURVEY C/L (SP. 02-601-36)  
STA. 125+98.45 =  
STA. 96+67.88 (02-601-33)

FILE NAME: 0260136\01A\CHK.DWG M.N. (7-22-94)

REVISIONS	DATE	BY

CERTIFIED BY Douglas W. Fincher P.E. REG NO. 20235 8/19 19 94

S.P. 02-601-36 S. P. 127-020-13 C.P.

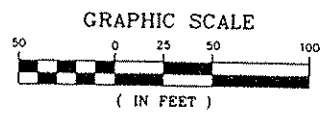
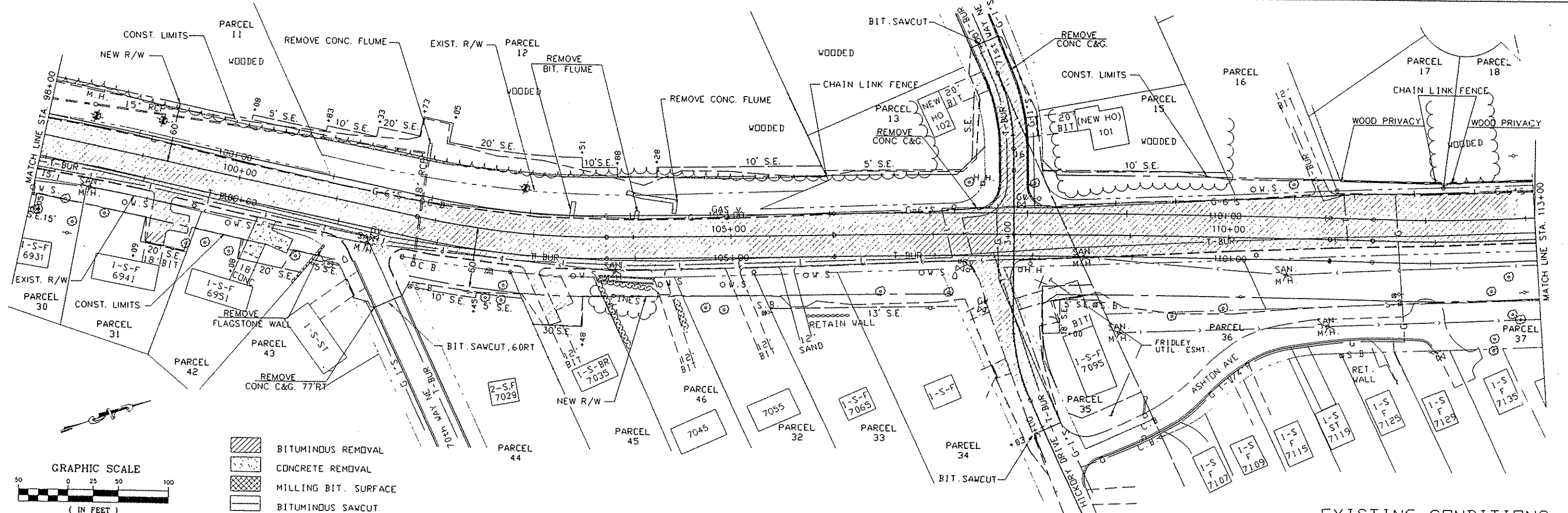
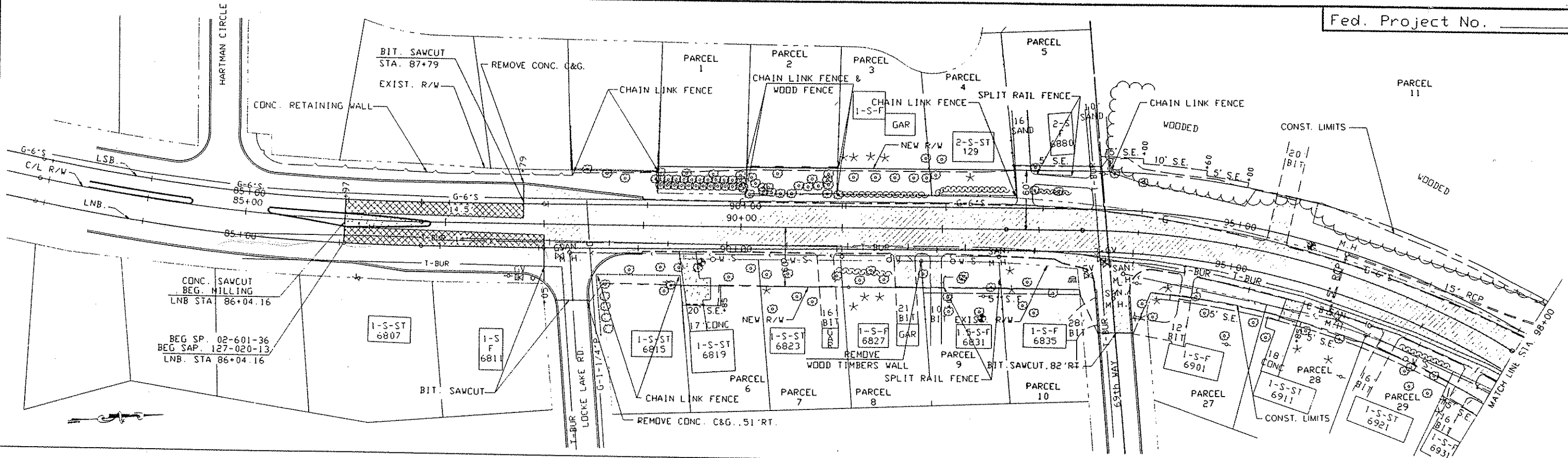
REVISIONS table with columns DATE, BY, DATE, BY

FILE NAME: 0260136\01\ALIGN.DWG MN. (7-22-94)

Main data table with columns: CURVE/POINT NO., POINT TYPE, LOCATION, DELTA, DEGREE, RADIUS, TANGENT, LENGTH, COORDINATES X, Y, AZIMUTH

CERTIFIED BY [Signature] P.E. REG NO. 20235 8/19 19 94 S.P. 02-601-36 S. P. 127-020-13 C.P.

ALIGNMENT TABULATION



- BITUMINOUS REMOVAL
- CONCRETE REMOVAL
- MILLING BIT. SURFACE
- BITUMINOUS SAWCUT
- CONCRETE SAWCUT

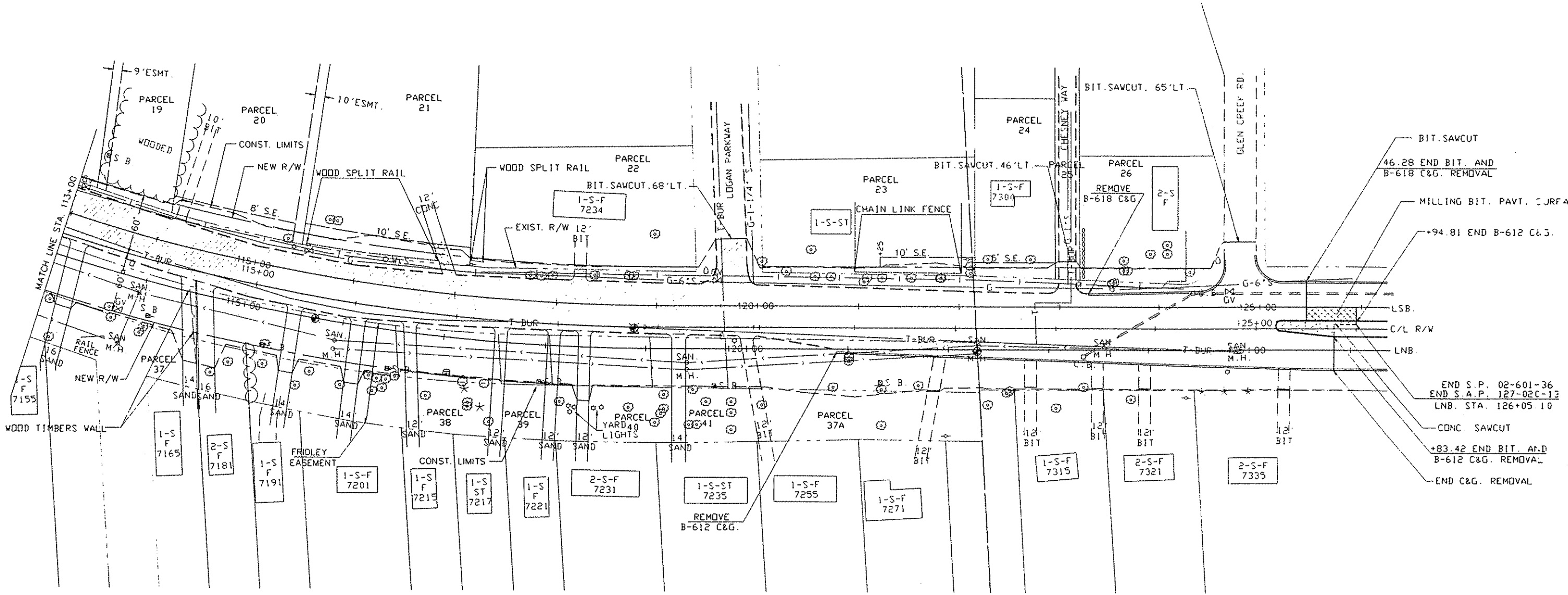
REVISIONS	DATE	DESCRIPTION
1	7-20-94	M.N. CONST. LIMITS

CERTIFIED BY *Douglas W. ...* P.E.

REG NO. 20235 8/19 19 94

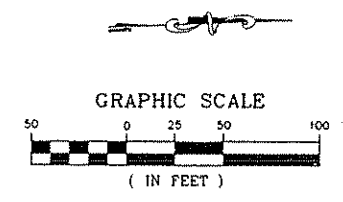
S.P. 02-601-36 S. P. 127-020-13 C.P. \_\_\_\_\_

EXISTING CONDITIONS AND REMOVAL PLAN



FILE NAME: 0260136\01E1ST.DWG MW: (04-26-94)

REVISIONS	DATE	BY	DESCRIPTION
	7-20-94	M.N.	CONST. LIMITS



- BITUMINOUS REMOVAL
- CONCRETE REMOVAL
- MILLING BIT. SURFACE
- BITUMINOUS SAWCUT
- CONCRETE SAWCUT

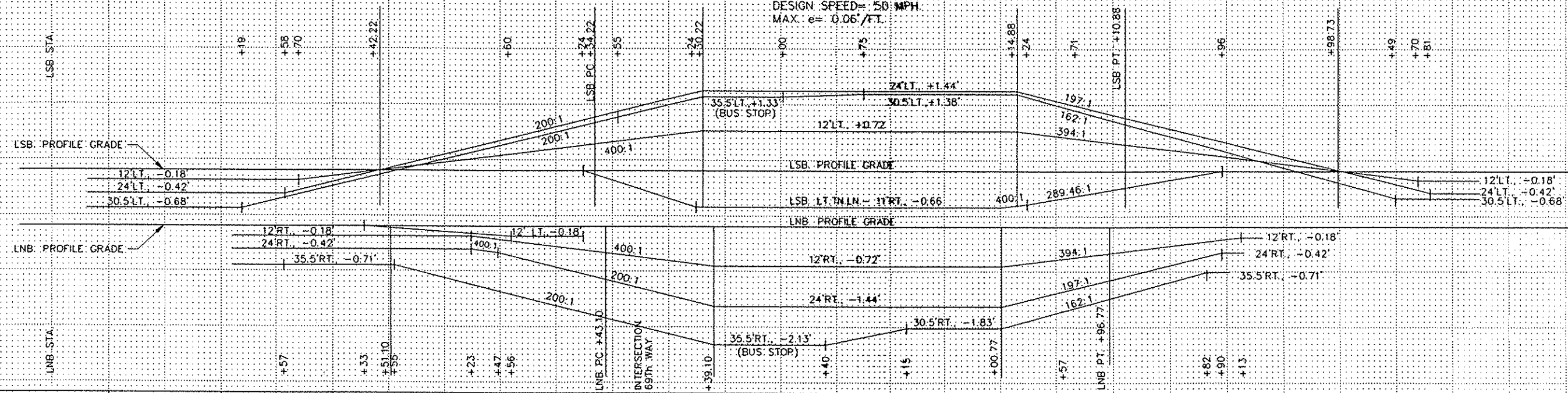
EXISTING CONDITIONS AND REMOVAL PLAN

CERTIFIED BY *Douglas McTimber* P.E. REG NO. 20235 8/19 19 94

S.P. 02-601-36 S. P. 127-020-13 C.P. \_\_\_\_\_

Sheet No. 21 of 70 Sheets

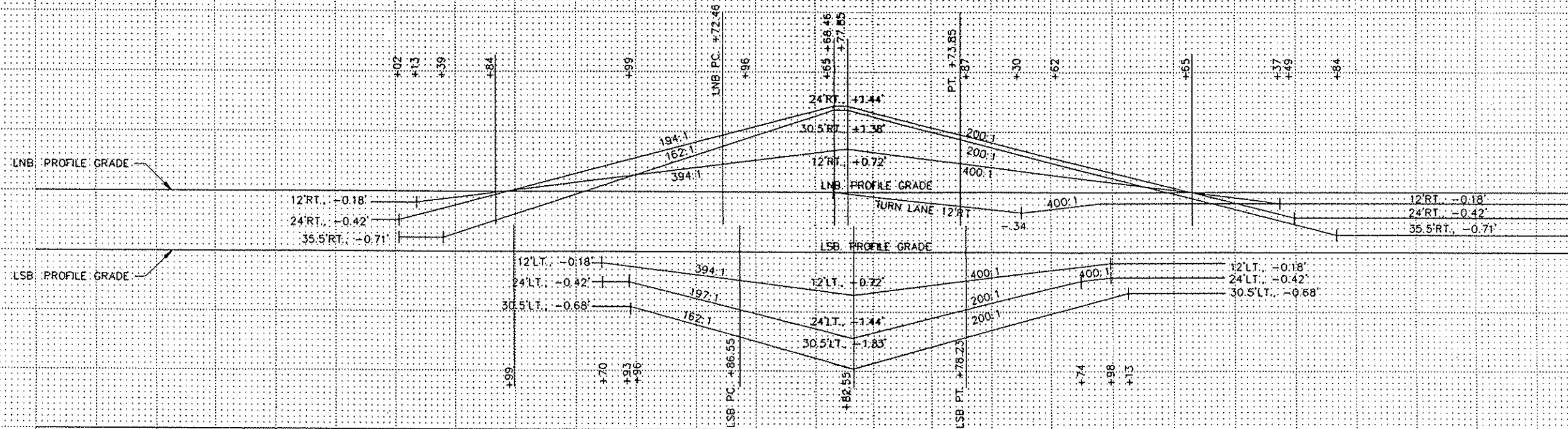
LSB  
 CURVE NO. 402  
 DEGREE = 6° 25' 28"  
 DESIGN SPEED = 50 MPH  
 MAX. e = 0.06'/FT.



LNB  
 CURVE NO. 302  
 DEGREE = 6° 45' 00"  
 DESIGN SPEED = 50 MPH  
 MAX. e = 0.06'/FT.

LNB  
 CURVE NO. 303  
 DEGREE = 6° 25' 28"  
 DESIGN SPEED = 50 MPH  
 MAX. e = 0.06'/FT.

NOTE: STATIONING BASED ON CONST. LNB & LSB

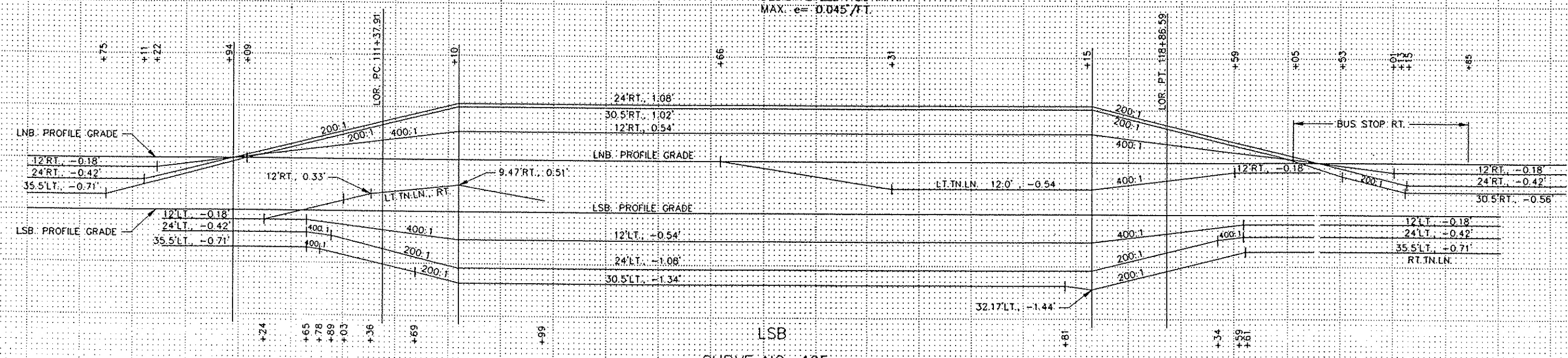


LSB  
 CURVE NO. 403  
 DEGREE = 6° 45' 00"  
 DESIGN SPEED = 50 MPH  
 MAX. e = 0.06'/FT.

REVISIONS	DATE	BY

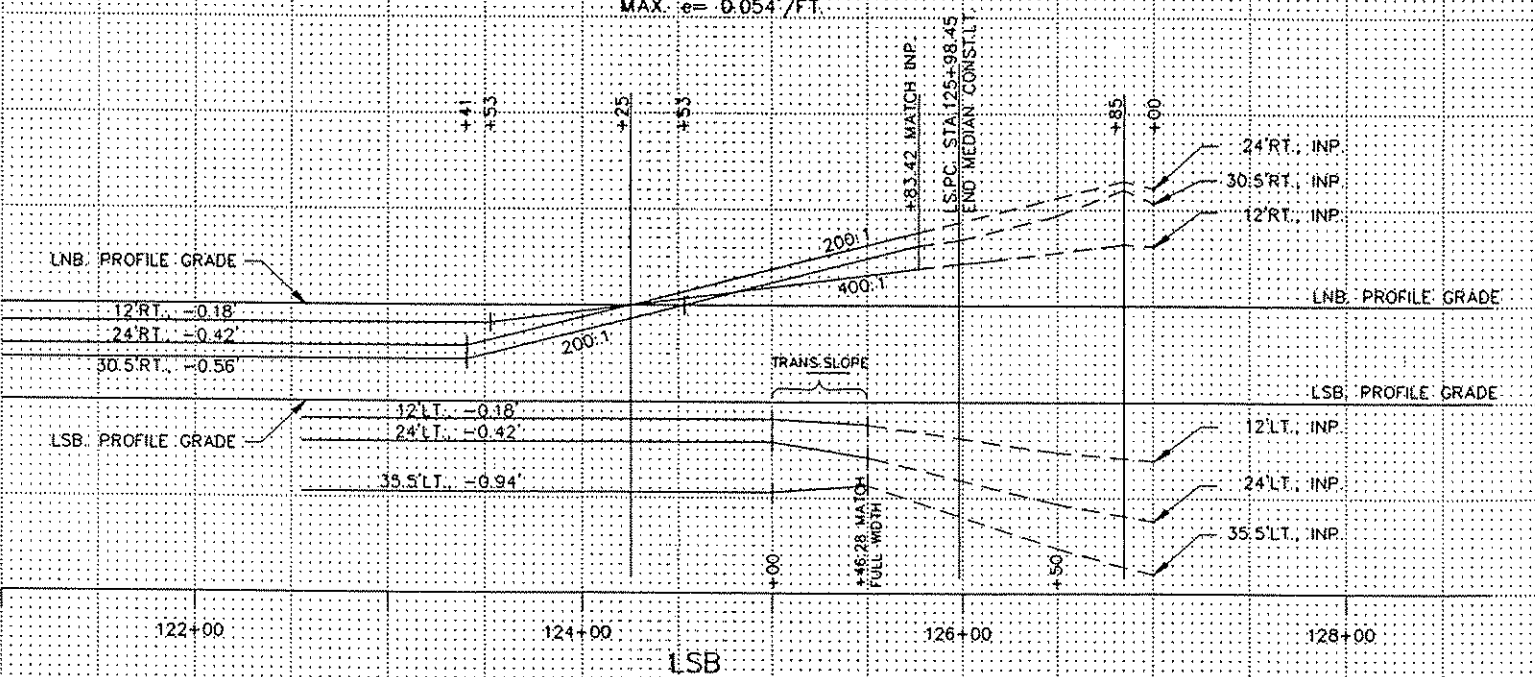
SUPERELEVATION CHARTS

LNB  
 CURVE NO. 305  
 DEGREE= 2° 58' 00"  
 DESIGN SPEED= 50 MPH  
 MAX. e= 0.045'/FT.



LSB  
 CURVE NO. 405  
 DEGREE= 3° 02' 03"  
 DESIGN SPEED= 50 MPH  
 MAX. e= 0.045'/FT.

LNB  
 CURVE NO. 306  
 DEGREE= 4° 25' 31"  
 DESIGN SPEED= 50 MPH  
 MAX. e= 0.054'/FT.



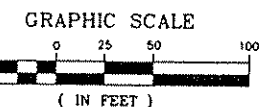
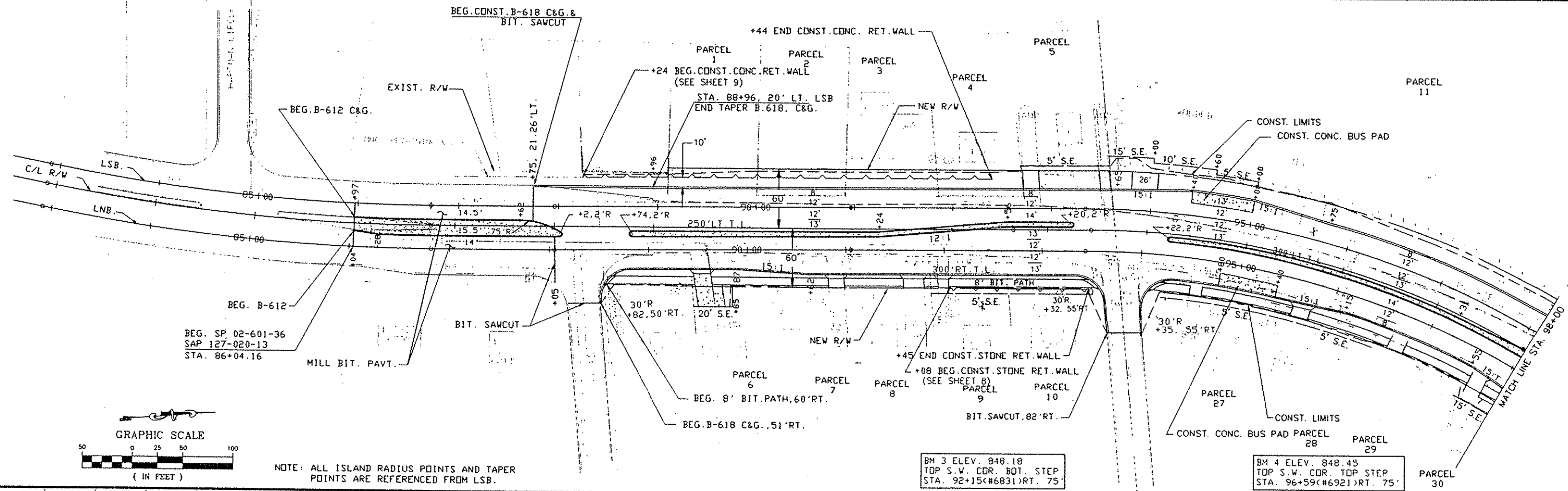
LSB  
 CURVE NO. 406  
 DEGREE= 4° 34' 38"  
 DESIGN SPEED= 50 MPH  
 MAX. e= 0.054'/FT.

REVISIONS	DATE	BY

CERTIFIED BY Douglas W. Linch P.E. REG NO. 20235 8/19 19 94

S.P. 02-601-36 S. P. 127-020-13 C.P. \_\_\_\_\_

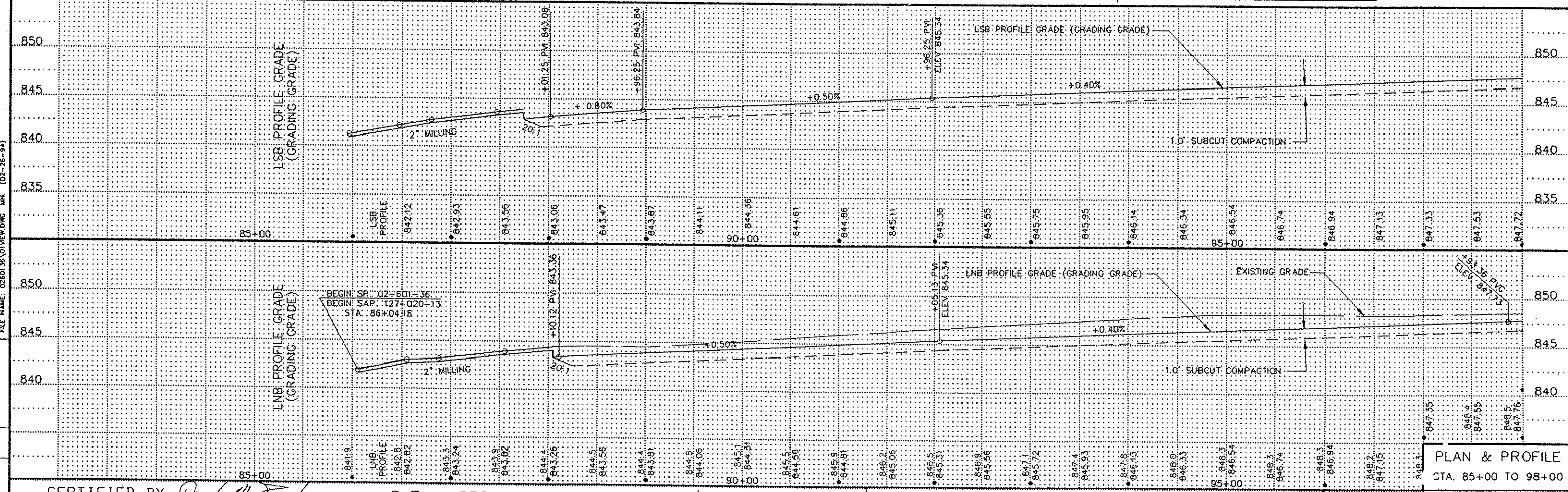
SUPERELEVATION CHARTS



NOTE: ALL ISLAND RADIUS POINTS AND TAPER POINTS ARE REFERENCED FROM LSB.

BM 3 ELEV. 848.18  
TOP S.W. CDR. BOT. STEP  
STA. 92+15(±6831) RT. 75'

BM 4 ELEV. 848.45  
TOP S.W. CDR. TOP STEP  
STA. 96+59(±6921) RT. 75'



PLAN & PROFILE  
STA. 85+00 TO 98+00

DATE	REVISIONS	DESCRIPTION
7-20-94	M.N.	CONST. LIMITS

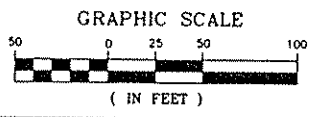
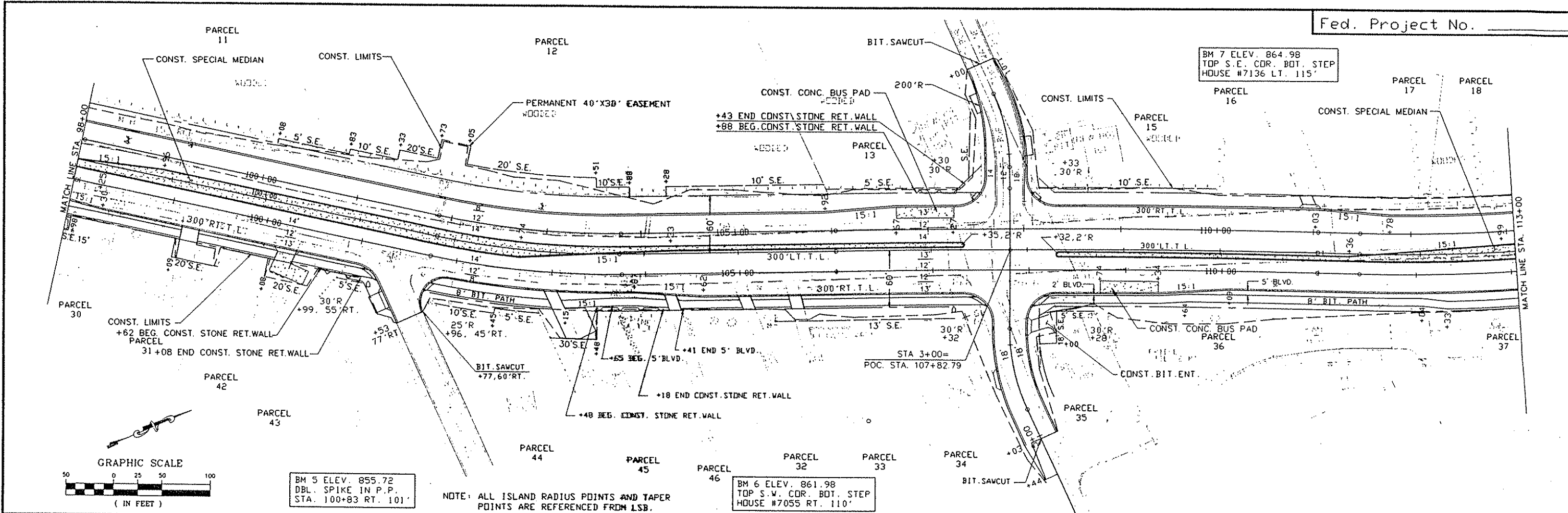
FILE NAME: 0260136(0)VIEW.DWG MN. (02-26-94)

CERTIFIED BY Douglas W. Fincher P.E. REG NO. 20235 8/19 19 94

S.P. 02-601-36 S. P. 127-020-13 C.P. \_\_\_\_\_



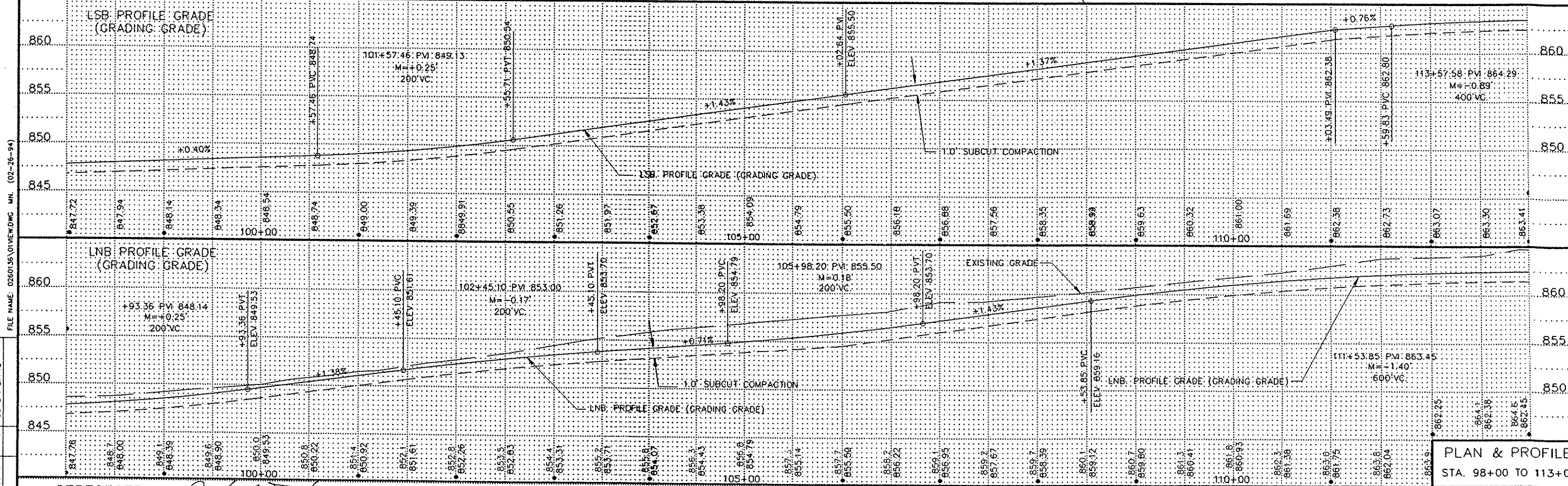
BM 7 ELEV. 864.98  
TOP S.E. COR. BOT. STEP  
HOUSE #7136 LT. 115'



BM 5 ELEV. 855.72  
DBL. SPIKE IN P.P.  
STA. 100+83 RT. 101'

BM 6 ELEV. 861.98  
TOP S.W. COR. BOT. STEP  
HOUSE #7055 RT. 110'

NOTE: ALL ISLAND RADIUS POINTS AND TAPER POINTS ARE REFERENCED FROM LSB.



REVISIONS	DATE	BY	DESCRIPTION
7-20-94	M.N.		CONST. LIMITS

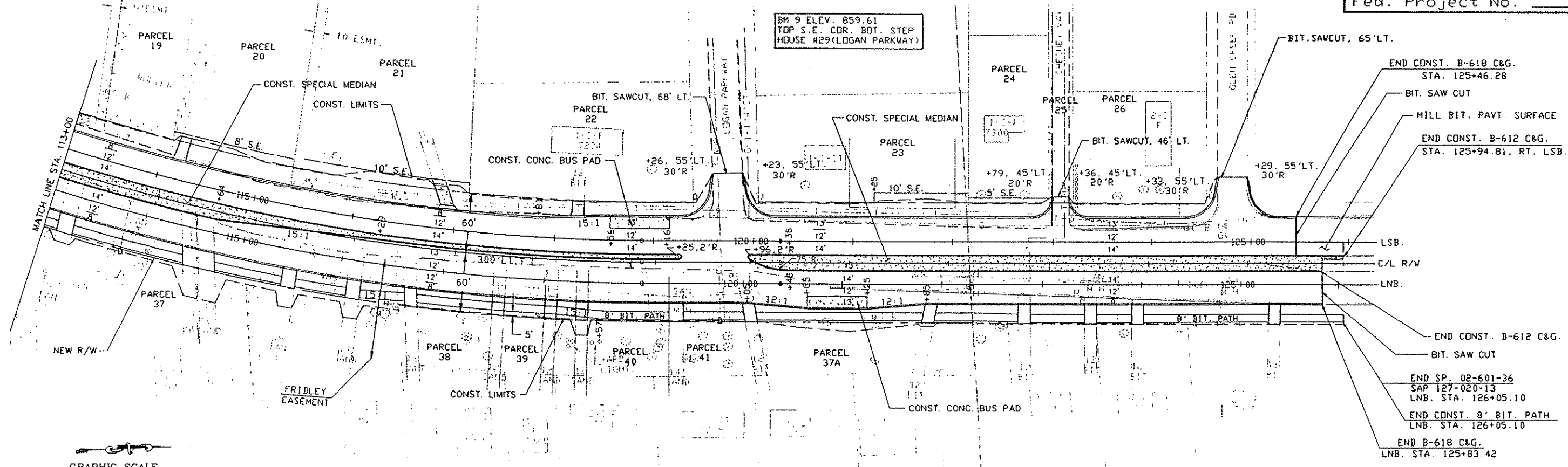
FILE NAME: 0260136\01VIEW.DWG M.N. (02-26-94)

CERTIFIED BY Douglas M. Trench P.E. REG. NO. 20235 8/19 19 94

S.P. 02-601-36 S. P. 127-020-13 C.P.

Sheet No. 25 of 70 Sheets

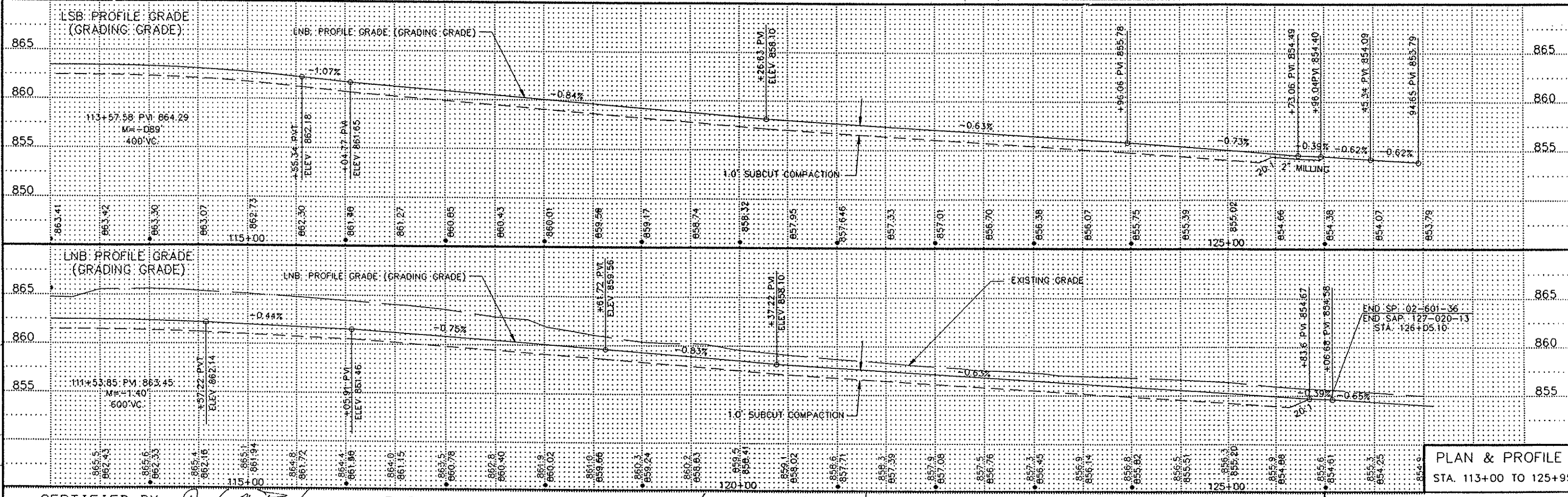
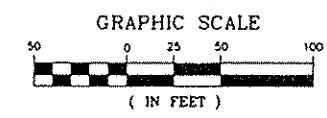
PLAN & PROFILE  
STA. 98+00 TO 113+00



BM 8 ELEV. 864.59  
N.W. COR. CONC. SLAB  
STA. 115+26 (N7191) RT. 119'

NOTE: ALL ISLAND RADIUS POINTS AND TAPER POINTS ARE REFERENCED FROM LSB.

BM 10 ELEV. 858.21  
TOP S.W. COR. BOT. STEP  
STA. 123+68 (N7321) RT. 120'



REVISIONS	
DATE	DESCRIPTION
7-20-94	M.N. CONST. LIMITS
7-20-94	M.N. BIT. PATH

PLAN & PROFILE  
STA. 113+00 TO 125+95

**DRAINAGE TABULATION**

BB

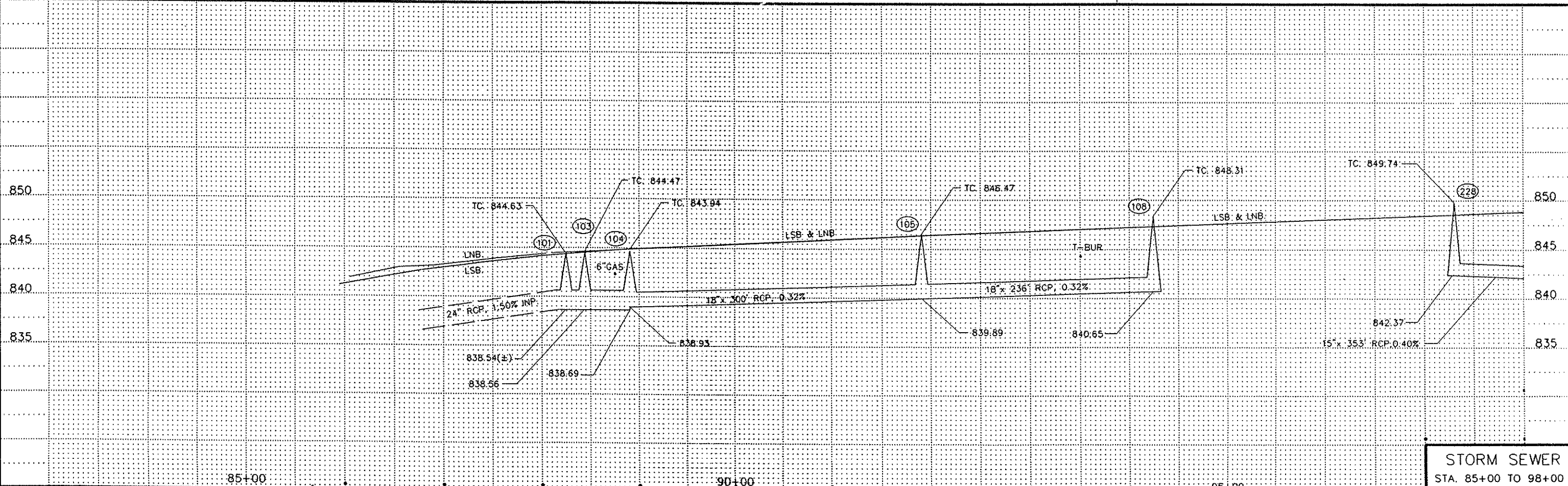
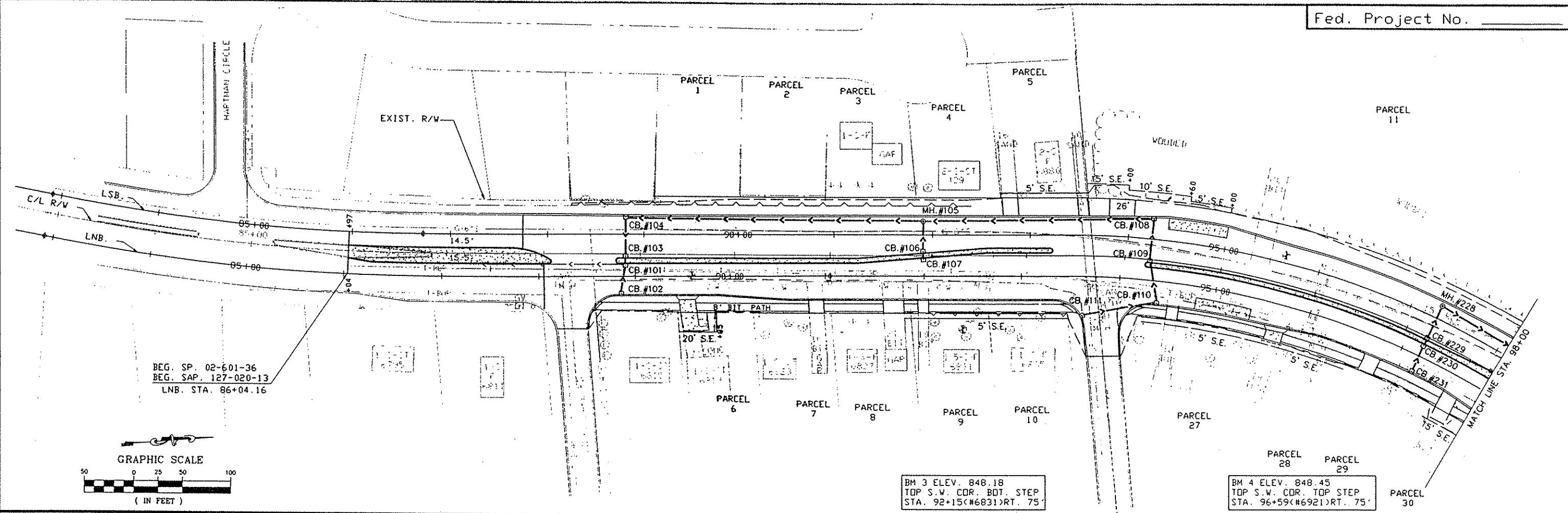
STRUCT NO.	STATION	LOCATION	REMARKS	MH/CB	DESIGN	PAY HT L.IN.FT	TOP OF CASTING ELEVATION	OUTLET ELEVATION	DRAINS TO	GRADE IN %	INLET ELEV.	INSTALL CAST.	F&I CAST. ASSY	FURNISH & INSTALL					GRouted RIPRAP CU. YD.	CLASS OF PIPE ②	STRUCT NO.		
														12" RCP.	15" RCP.	18" RCP.	24" RCP.	RCP APRON					
102	88+86	18.9' RT. LNB		CB	H	3.5	843.89	840.22	CB.# 101	0.40			A	32									102
101	88+90	12.9' LT. LNB		CB	F	5.9	844.63	838.54	INP. -24'	1.50	838.56		A										101
103	88+90	23.9' RT. LSB		CB	F	5.7	844.47	838.56	CB.# 101	0.30	838.69		A										103
104	88+90	18.9' LT. LSB		CB	F	5.1	843.94	838.69	CB.# 103	0.30	839.89		A										104
105	91+90	14.0' LT. LSB	③	MH	F	6.7	846.47	839.89	CB.# 104	0.32	840.65		B				300						105
107	91+99	18.4' LT. LNB		CB	H	3.5	845.99	842.32	CB.# 106	0.40			A	6									107
106	91+90	18.4' RT. LSB		CB	H	3.5	845.99	842.30	MH.# 105	0.40	842.32		A	34									106
111	93+50	41.5' RT. LNB		CB	H	3.5	845.11	841.43	CB.# 110	0.40			A	79									111
109	94+24	23.9' RT. LSB		CB	F	5.4	846.41	840.84	CB.# 108	0.40	840.99		A				47						109
108	94+24	23.6' LT. LSB		CB	F	7.5	848.31	840.65	MH.# 105	0.32	840.84		A				236						108
110	94+39	23.9' RT. LNB		CB	G	3.8	844.99	840.99	CB.# 109	0.40	841.11		A				38						110
228	97+30	14.0' LT. LSB	③	MH	F	7.5	849.74	842.37	CB.# 201	0.40	842.62		B				353						228
229	97+30	23.9' RT. LSB		CB	F	4.7	847.66	842.77	MH.# 228	0.40	842.79		A	38									229
230	97+20	18.9' LT. LNB		CB	F	5.4	848.34	842.79	CB.# 229	0.40	842.91		A	6									230
231	97+20	18.9' RT. LNB		CB	H	3.5	846.53	842.91	CB.# 230	0.40			A	32									231
203	100+44	12.9' LT. LNB		CB	H	3.5	851.09	847.39	CB.# 202	8.53			A	17									203
202	100+58	12.9' RT. LSB		CB	G	3.5	849.62	845.94	CB.# 201	1.63	847.39		A	40									202
201	100+83	18.9' LT. LSB		CB	F	7.9	848.98	840.96	CB.# 204	0.50	842.37		A				107						201
205	101+90	12.9' RT. LSB		CB	H	3.5	850.61	846.94	CB.# 204	4.28	847.98		A	32									205
206	101+76	12.9' LT. LNB		CB	F	4.7	852.86	847.98	CB.# 205	6.12	850.37		A	17									206
204	101+90	18.9' LT. LSB	RIPRAP CONSTRUCTION AT OUTLET	CB	F	10.1	849.30	839.01	OUTLET	1.50	840.53		A				28			1	4.4		204
207	101+99	18.9' RT. LNB		CB	H	3.6	854.13	850.37	CB.# 206	6.12			A	39									207
208	103+75	14.0' LT. LSB	③	MH	G	4.0	851.78	847.87	CB.# 204	1.50	851.38		B				181						208
209	103+70	19.9' LT. LNB		CB	G	4.2	854.41	849.99	MH.# 208	4.45	851.90		A	42									209
210	103+70	18.9' RT. LNB		CB	H	3.5	855.58	851.90	CB.# 209	4.45			A	43									210
213	105+74	23.9' LT. LNB		CB	G	4.1	856.11	851.87	CB.# 212	0.63	852.17		A	6									213
214	105+74	23.9' RT. LNB		CB	H	3.6	855.95	852.17	CB.# 213	0.63			A	48									214
212	105+78	12.9' RT. LSB		CB	G	4.0	856.02	851.83	CB.# 211	0.63	851.87		A	32									212
211	105+78	18.9' LT. LSB		CB	G	3.7	855.30	851.38	MH.# 208	1.73	854.01		A				203						211
220	107+62	55.0 RT. LNB		CB	H	3.5	858.63	854.96	CB.# 219	0.40			A	39									220
219	107+99	47.5' RT. LNB		CB	G	4.2	859.13	854.80	CB.# 218	0.40	854.96		A	44									219
218	108+33	23.9' RT. LNB		CB	G	4.3	859.08	854.62	CB.# 217	0.40	854.80		A	37									218
215	108+38	23.9' LT. LSB		CB	F	4.8	858.99	854.01	CB.# 211	1.01	858.06		A				261						215
217	108+35	12.9' LT. LNB		CB	F	5.1	859.76	854.47	CB.# 216	0.40	854.62		A	6									217
216	108+35	23.9' RT. LSB		CB	F	4.9	859.53	854.45	CB.# 215	0.40	854.47		A	48									216
223	111+05	12.9' LT. LNB		CB	H	3.5	862.61	858.91	CB.# 222	0.40	859.30		A	6									223
224	111+05	18.9' RT. LNB		CB	H	3.6	863.03	859.30	CB.# 223	1.22			A	32									224
222	111+11	23.9' RT. LSB		CB	G	4.5	863.55	858.89	MH.# 221	0.40	858.91		A	42									222
221	111+11	17.9' LT. LSB	③	MH	G	4.7	862.60	858.06	CB.# 215	1.48	858.74		B				273						221
225	111+11	23.9' LT. LSB		CB	H	3.6	862.37	858.64	MH.# 221	0.40			A	6									225
226	112+25	14.0' LT. LSB	③	MH	G	4.3	862.96	858.74	MH.# 221	0.60	859.24		B				113						226
227	112+20	12.9' LT. LNB		CB	H	3.5	863.13	859.44	MH.# 226	0.40			A	49									227
317	114+36	14.0' LT. LSB	③	MH	G	4.2	862.88	858.77	MH.# 320	0.93	859.02		B				203						317
319	114+36	18.9' RT. LNB		CB	G	4.5	864.05	859.35	CB.# 318	0.40			A	32									319
318	114+36	12.9' LT. LNB		CB	G	3.6	863.02	859.22	MH.# 317	0.40	859.35		A	49									318
320	116+37	17.9' LT. LSB	③	MH	G	4.4	861.19	856.88	MH.# 301	0.67	858.77		B				291						320
322	116+37	23.9' LT. LNB		CB	H	3.5	861.57	857.87	CB.# 321	0.40	859.39		A	6									322
323	116+42	18.9' RT. LNB		CB	H	3.5	863.05	859.39	CB.# 322	3.43			A	43									323
321	116+37	12.9' RT. LSB		CB	G	4.3	862.28	857.85	MH.# 320	0.40	857.87		A	26									321
324	116+37	18.9' LT. LSB		CB	H	3.5	860.83	857.16	MH.# 320	0.40			A	6									324
301	119+28	17.9' LT. LSB	③	MH	G	4.4	859.18	854.94	MH.# 306	0.34	856.88		B				87						301
304	119+12	18.9' RT. LNB		CB	H	3.5	860.44	856.80	CB.# 303	1.92			A	48									304
303	119+23	23.9' LT. LNB		CB	H	3.6	859.64	855.88	CB.# 302	0.40	856.80		A	6									303
302	119+23	12.9' RT. LSB		CB	G	3.8	859.85	855.86	MH.# 301	0.40	855.88		A	31									302
305	119+22	23.9' LT. LSB		CB	H	3.5	858.91	855.21	MH.# 301	0.40			A	7									305
306	120+15	17.9' LT. LSB	③	MH	G	4.0	858.56	854.64	MH.# 308	0.79	854.94		B				259						306
307	120+25	19.7' LT. LNB		CB	H	3.5	858.82	855.15	MH.# 306	0.55			A	47									307
310	122+67	12.9' LT. LNB		CB	G	4.3	857.52	853.01	CB.# 309	0.40	853.14		A	6									310
311	122+67	18.9' RT. LNB		CB	H	3.5	856.80	853.14	CB.# 310	0.40			A	32									311
309	122+56	12.9' RT. LSB		CB	G	4.4	857.53	852.99	MH.# 308	0.40	853.01		A	35									309
308	122+74	17.9' LT. LSB	③	MH	G	4.4	856.91	852.60	MH.# 407	1.34	854.64		B				160						308
312	122+74	23.9' LT. LSB		CB	H	3.5	856.67	852.98	MH.# 308	0.40			A	6									312
313	124+31	12.9' RT. LSB		CB	G	3.9	856.40	852.34	MH.# 407	0.40	852.41		A	29									313
314	124+42	12.9' LT. LNB		CB	G	3.8	856.41	852.41	CB.# 313	0.40	852.54		A	17									314
315	124+42	18.9' RT. LNB	INSTALL CASTING FROM STRUCT.#406	CB	H	3.5	856.22	852.54	CB.# 314	0.40			A	32									315
316	124+28	23.9' LT. LSB	INSTALL CASTING FROM STRUCT.#407	CB	H	3.5	855.44	851.74	MH.# 407	0.40			A	7									316
TOTAL						286.2						2	64 ①	1317	2576	564	49	1	4.4				

① SEE CHART X, SHEET 6, FOR CASTING INFORMATION  
 ② ALL PIPE CLASS 11, UNLESS OTHERWISE NOTED.  
 ③ ONE ADJUSTMENT SHALL BE REQUIRED PRIOR TO PLACEMENT OF WEAR COURSE. PAYMENT SHALL BE MADE UNDER ITEM 2506.522.

**EXISTING DRAINAGE TABULATION**

CC

STRUCT NO.	STATION	LOCATION	REMARKS	MH/CB	TOP OF CASTING ELEVATION	OUTLET ELEVATION	EXISTING DRAINS TO	NEW DRAINS TO	RECONST. CB/MH LIN. FT.	REMOVE			SALVAGE CASTING EACH	INSTALL CASTING EACH
										PIPE SEWER LIN. FT.	DRAINAGE STRUCTURE	R.C.P. APRON		
401	96+07	37.4' RT. LSB		CB	855.99	844.38	402				62		1	
402	96+07	24.0' LT. LSB	SALVAGE 9' CASTING	CB	847.87	844.07	403				238			1



REVISIONS	DATE	BY	DESCRIPTION
7-20-94	M.N.	CONST. LIMITS	

FILE NAME: 0260136\01STORM.DWG M.N. (TILEMODE)

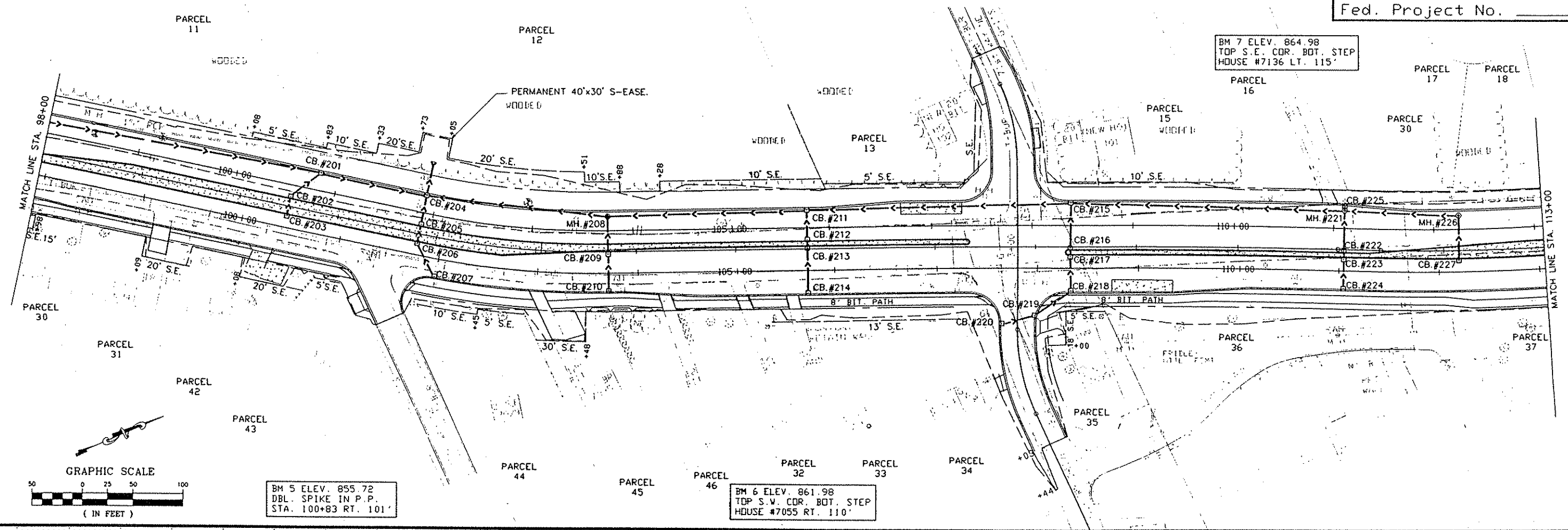
CERTIFIED BY Douglas M. Fincher P.E. REG NO. 20235 8/9 19 94

S.P. 02-601-36 S. P. 127-020-13 C.P. \_\_\_\_\_

Sheet No. 28 of 70 Sheets

STORM SEWER  
STA. 85+00 TO 98+00

BM 7 ELEV. 864.98  
TOP S.E. COR. BOT. STEP  
HOUSE #7136 LT. 115'

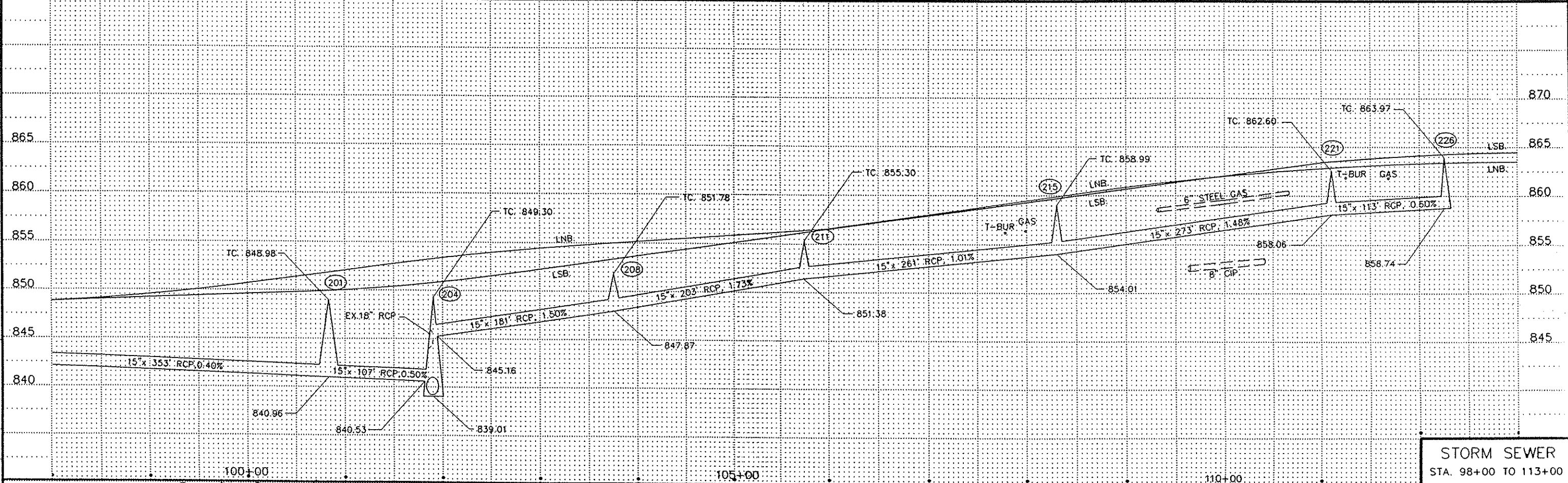


BM 5 ELEV. 855.72  
DBL. SPIKE IN P.P.  
STA. 100+83 RT. 101'

BM 6 ELEV. 861.98  
TDP S.V. COR. BOT. STEP  
HOUSE #7055 RT. 110'

FILE NAME: 0260136101STORM.DWG MN. (TILEMODE)

REVISIONS	DATE	BY	DESCRIPTION
7-20-94	M.N.	CONST. LIMITS	

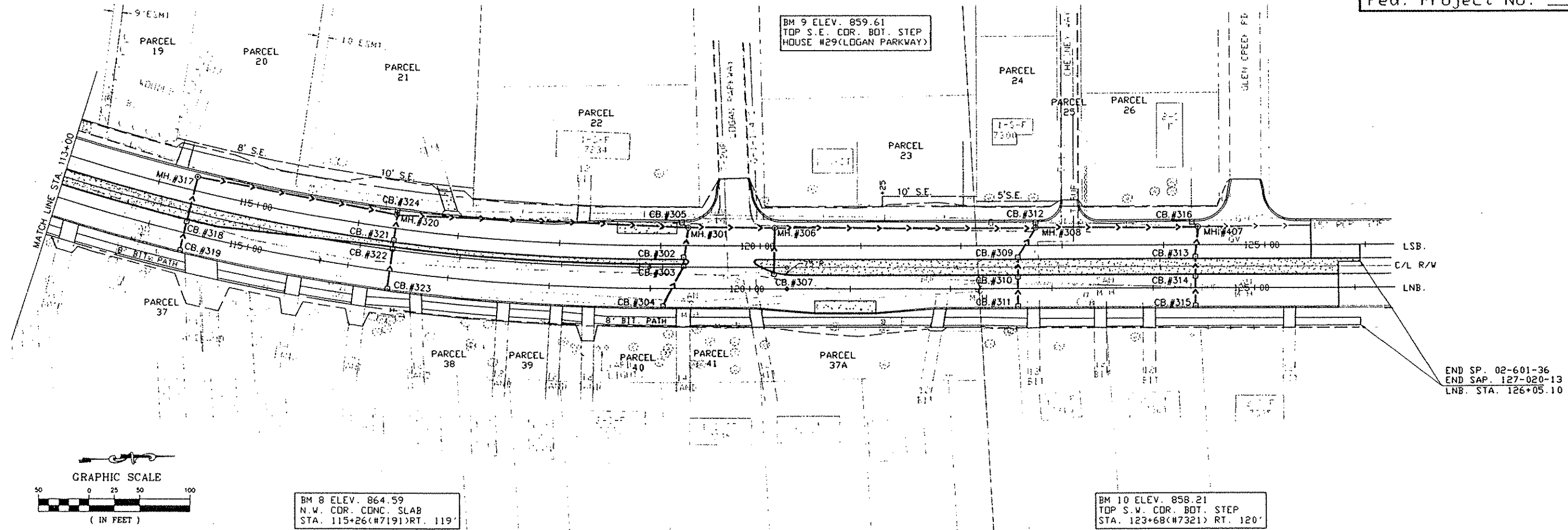


STORM SEWER  
STA. 98+00 TO 113+00

CERTIFIED BY *Douglas M. ...* P.E. REG NO. 20235 8/19 19 94

S.P. 02-601-36 S. P. 127-020-13 C.P.

Sheet No. 29 of 70 Sheets

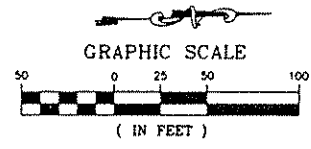


BM 9 ELEV. 859.61  
TOP S.E. COR. BOT. STEP  
HOUSE #29 (LOGAN PARKWAY)

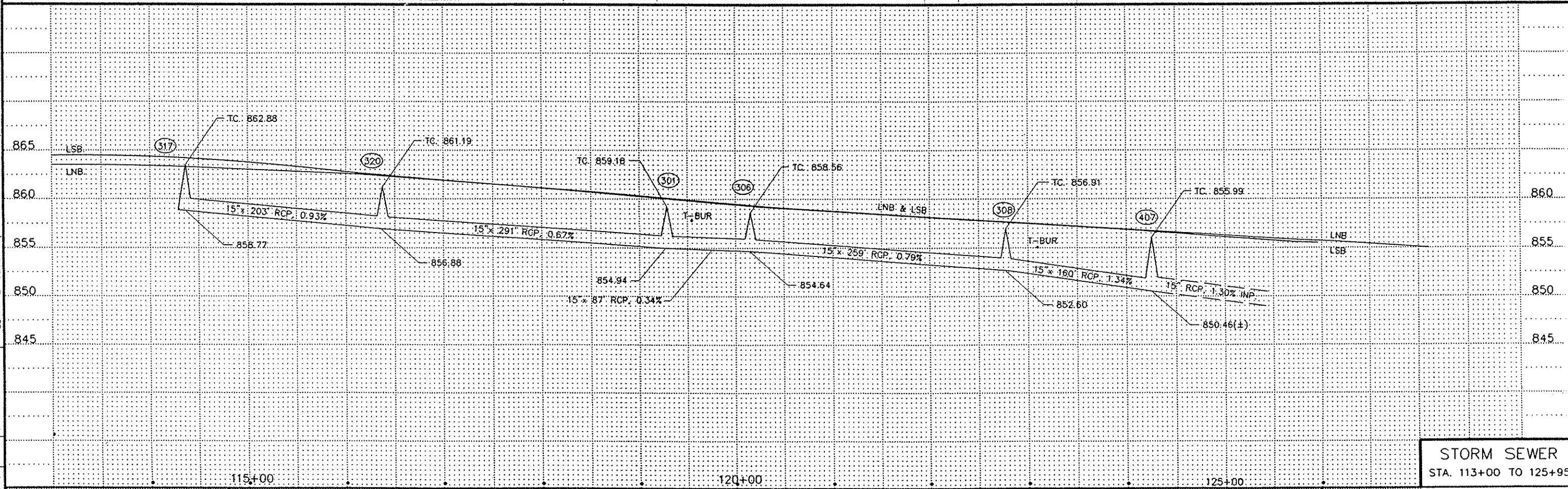
BM 8 ELEV. 864.59  
N.W. COR. CONC. SLAB  
STA. 115+26 (#719) RT. 119'

BM 10 ELEV. 858.21  
TOP S.W. COR. BOT. STEP  
STA. 123+68 (#7321) RT. 120'

END SP. 02-601-36  
END SAP. 127-020-13  
LNB. STA. 126+05.10



FILE NAME: 0260136\01STORM.DWG MN. (TILEMODE)



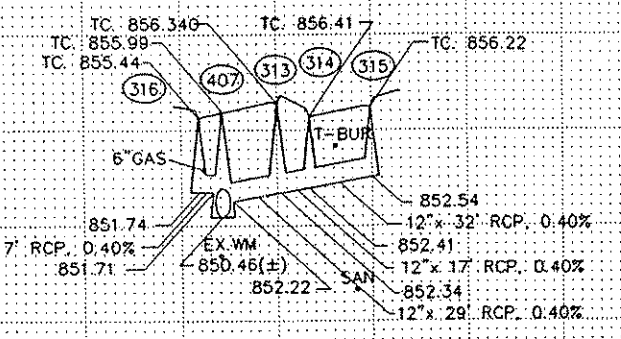
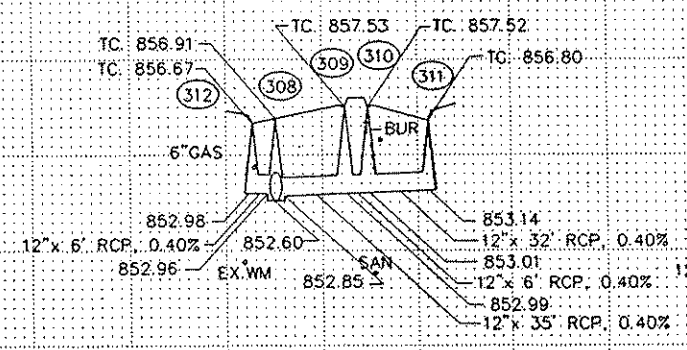
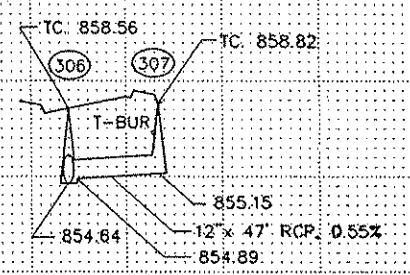
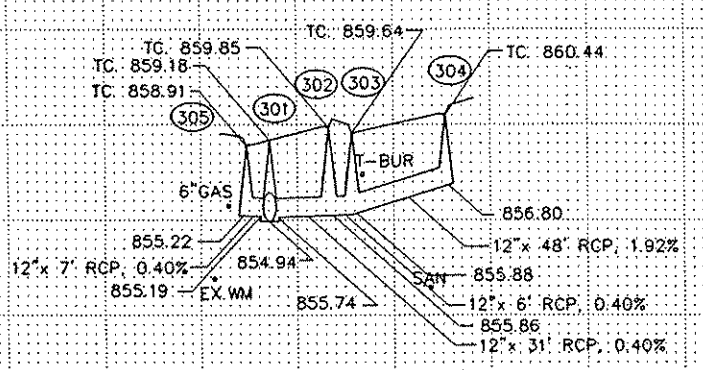
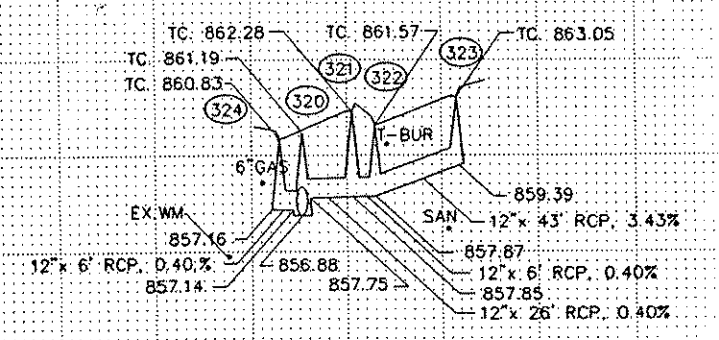
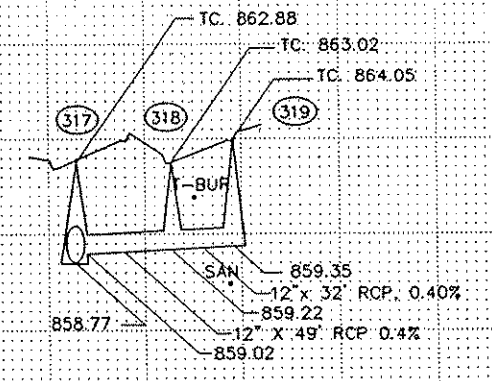
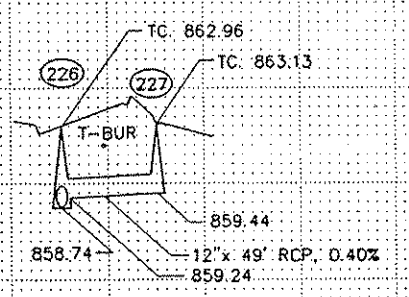
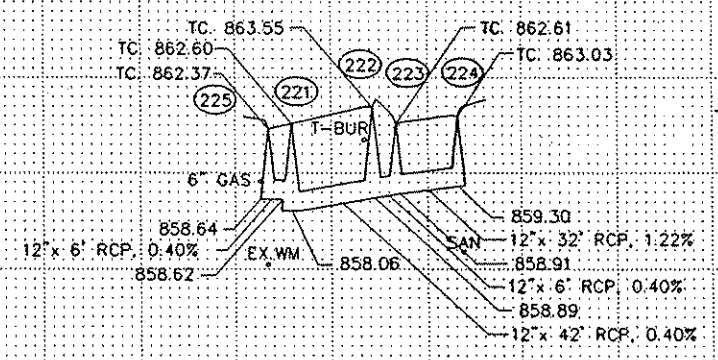
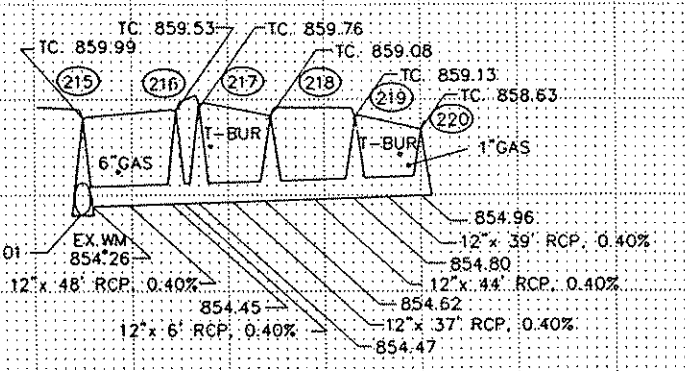
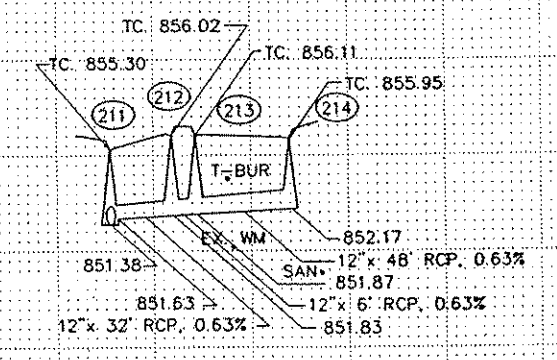
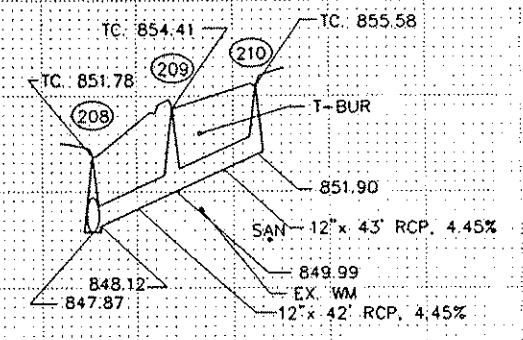
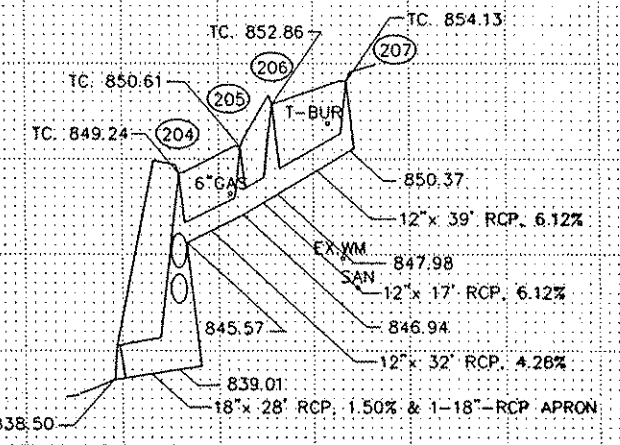
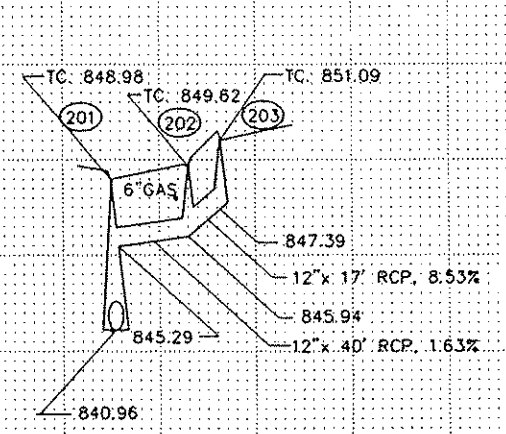
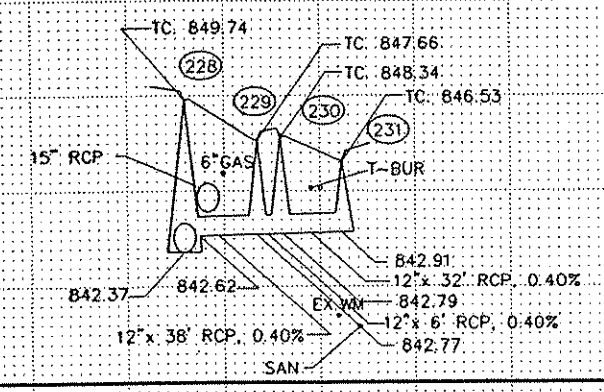
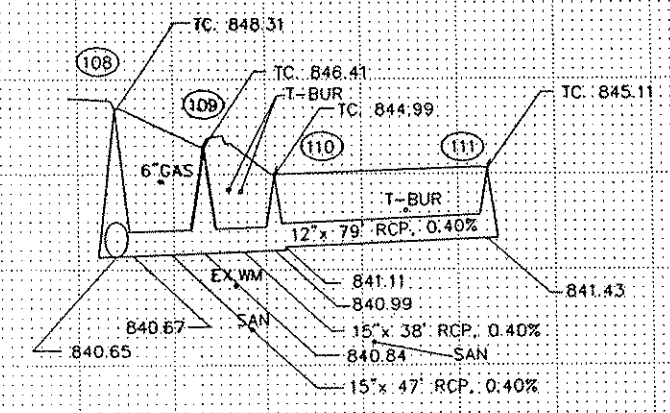
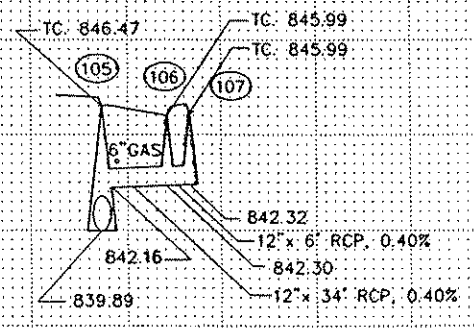
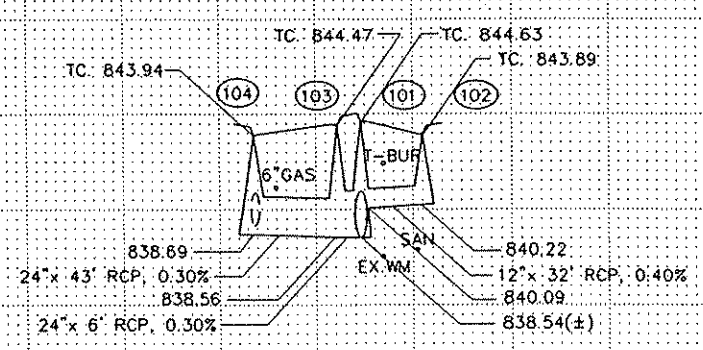
REVISIONS	DATE	BY	DESCRIPTION
	7-20-94	M.N.	CONST. LIMITS
	7-20-94	M.N.	BIT. PATH

CERTIFIED BY Douglas McJannet P.E. REG NO. 20235 8/19 19 94

S.P. 02-601-36 S. P. 127-020-13 C.P. \_\_\_\_\_

Sheet No. 30 of 70 Sheets

**STORM SEWER**  
STA. 113+00 TO 125+95



REVISIONS	DATE	BY

**STORM SEWER  
LATERALS**

*LOOP DETECTORS			
NUMBER	SIZE	FUNCTION	LOCATION
D1-1	2-6' X 6'	1	5'
D1-2	2-6' X 6'	1	AS SHOWN
D2-1	6' X 6'	1	300'
D2-2	6' X 6'	1	300'
D4-1	6' X 6'	3/8	120'
D4-2	6' X 6'	7	5'
D4-3	6' X 6'	1	5'
D5-1	2-6' X 6'	1	5'
D5-2	2-6' X 6'	1	AS SHOWN
D6-1	6' X 6'	1	300'
D6-2	6' X 6'	1	300'
D8-1	6' X 6'	3/8	120'
D8-2	6' X 6'	7	5'

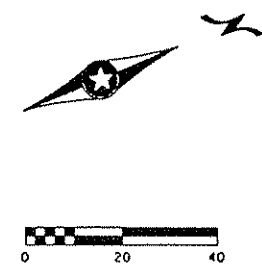
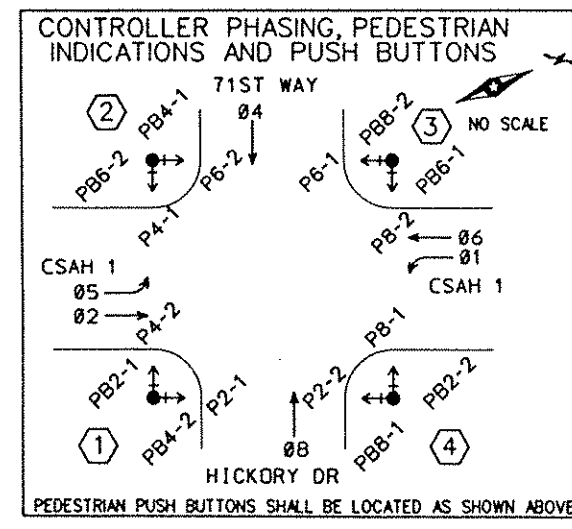
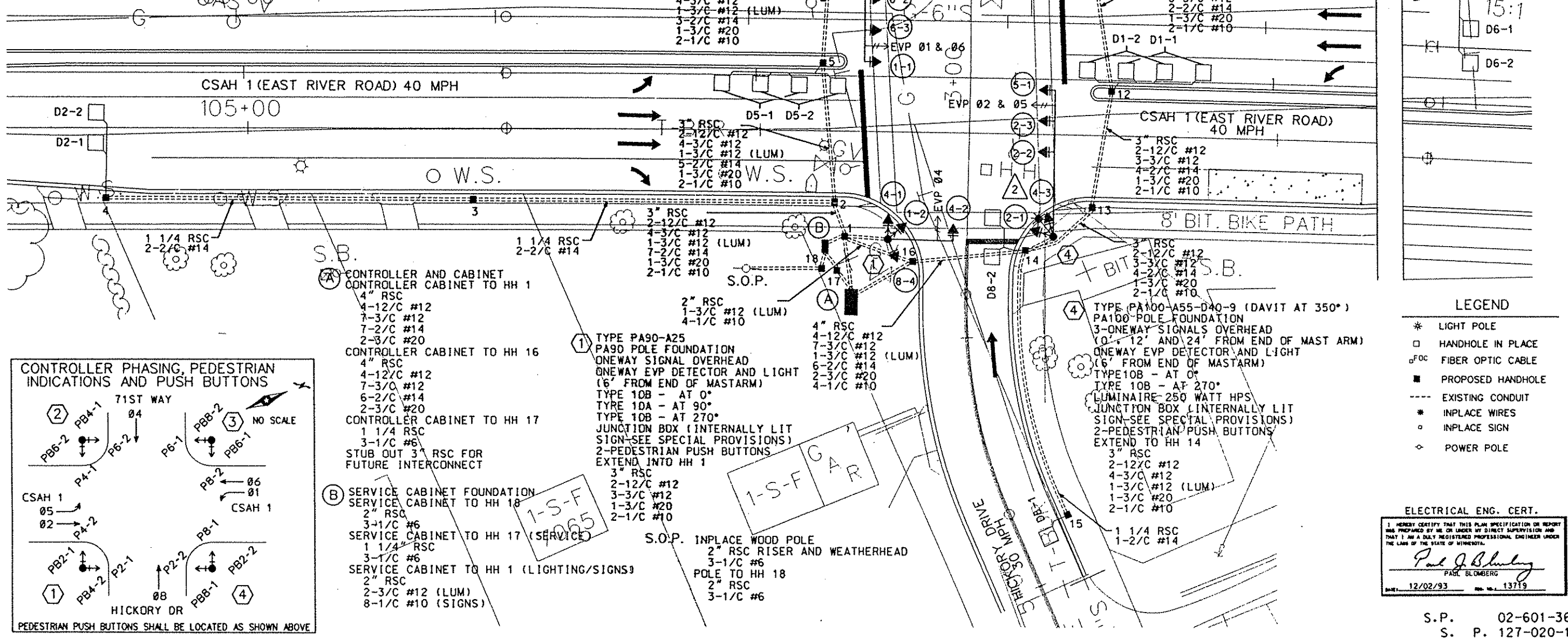
\* NOTE : ALL DETECTORS IN NMC CONDUIT (SEE DETAILS)

LOCATION-DISTANCE FROM STOP LINE TO DETECTOR

- FUNCTIONS:
- 1 - CALL AND EXTEND
  - 2 - CALL ONLY
  - 3 - EXTEND ONLY
  - 4 - CALL ONLY DENS
  - 5 - DLY CALL ONLY
  - 6 - DLY CALL ONLY DENSITY
  - 7 - DLY CALL IMMED EXTEND
  - 8 - CARRY OVER
  - 9 - ADVISORY
  - 10 - CALL DURING Ø 2 YELLOW
  - 11 - CALL DURING Ø 6 YELLOW

- NOTES:
- 1) SEE SPECIAL PROVISIONS FOR COUNTY FURNISHED MATERIALS.
  - 2) EACH SIGNAL FACE SHALL HAVE A BACKGROUND SHIELD.
  - 3) EACH LUMINAIRE SHALL HAVE A PEC AND CHECK SWITCH.
  - 4) SEE SHEET NO. 5 AND SPECIAL PROVISIONS FOR SERVICE CABINET DETAILS.
  - 5) DIRECTIONAL SIGNS (TYPE D) TO BE FURNISHED AND INSTALLED ON MAST ARM (SEE SHEET 34)
  - 6) SEE SPECIAL PROVISIONS FOR HANDHOLE TYPE.
  - 7) SEE SPECIAL PROVISIONS FOR CONTRACTORS RESPONSIBILITY
  - 8) ALL PEDESTRIAN INDICATIONS SHALL BE 12" X 12".
  - 9) ALL SIGNAL FACES SHALL BE 12 INCH 3 SECTION R-Y-G, EXCEPT FACES (1-1) (1-2) (5-1) (5-2) WHICH SHALL BE 12 INCH 3 SECTION RLTA-YLTA-GLTA.
  - 10) ALL VEHICLE SIGNAL INDICATIONS SHALL USE GLASS LENSES.

- (2) TYPE PA100-A55-D40-9 (DAVIT AT 350°)  
 PA100 POLE FOUNDATION  
 3-ONEWAY SIGNALS OVERHEAD (0', 12' AND 24' FROM END OF MAST ARM)  
 ONEWAY EVP DETECTOR AND LIGHT (6' FROM END OF MASTARM)  
 TYPE 10B - AT 0°  
 TYPE 10B - AT 270°  
 LUMINAIRE 250 WATT HPS  
 JUNCTION BOX (INTERNALLY LIT SIGN-SEE SPECIAL PROVISIONS)  
 2-PEDESTRIAN PUSH BUTTONS  
 EXTEND TO HH 6  
 3" RSC  
 2-12/C #12  
 4-3/C #12  
 1-3/C #12 (LUM)  
 1-3/C #20  
 2-1/C #10



- LEGEND
- \* LIGHT POLE
  - HANDHOLE IN PLACE
  - FOC FIBER OPTIC CABLE
  - PROPOSED HANDHOLE
  - EXISTING CONDUIT
  - \* INPLACE WIRES
  - INPLACE SIGN
  - ◇ POWER POLE

ELECTRICAL ENG. CERT.  
 I HEREBY CERTIFY THAT THIS PLAN SPECIFICATION OR REPORT 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.  
*Paul J. Blomberg*  
 PAUL BLOMBERG  
 DATE: 12/02/93 REG. NO.: 13719

INTERSECTION LAYOUT  
 CSAH 1 (EAST RIVER RD)  
 AND 71ST WAY / HICKORY DR  
 FRIDLEY, MINNESOTA

ORR Schelen & Associates, Inc.  
 Engineers & Architects • Planners • Surveyors  
 500 Park Place East • 5725 Wapata Boulevard  
 Minneapolis, MN 55416-1228 • 612-596-9775

REVISION NO. 02/17/94  
 DATE 04/28/94  
 EXPLANATION INTERNALLY LIT SIGN WIRING  
 MNDOT CO COMMENTS

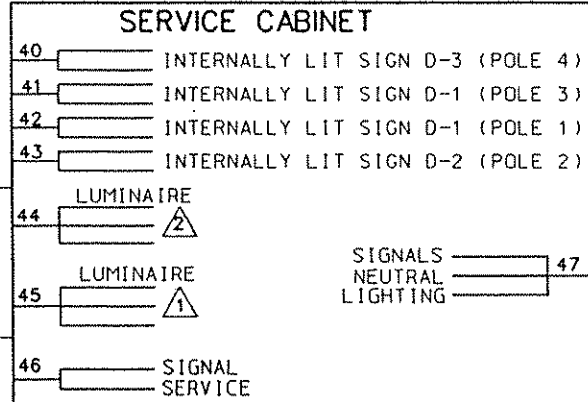
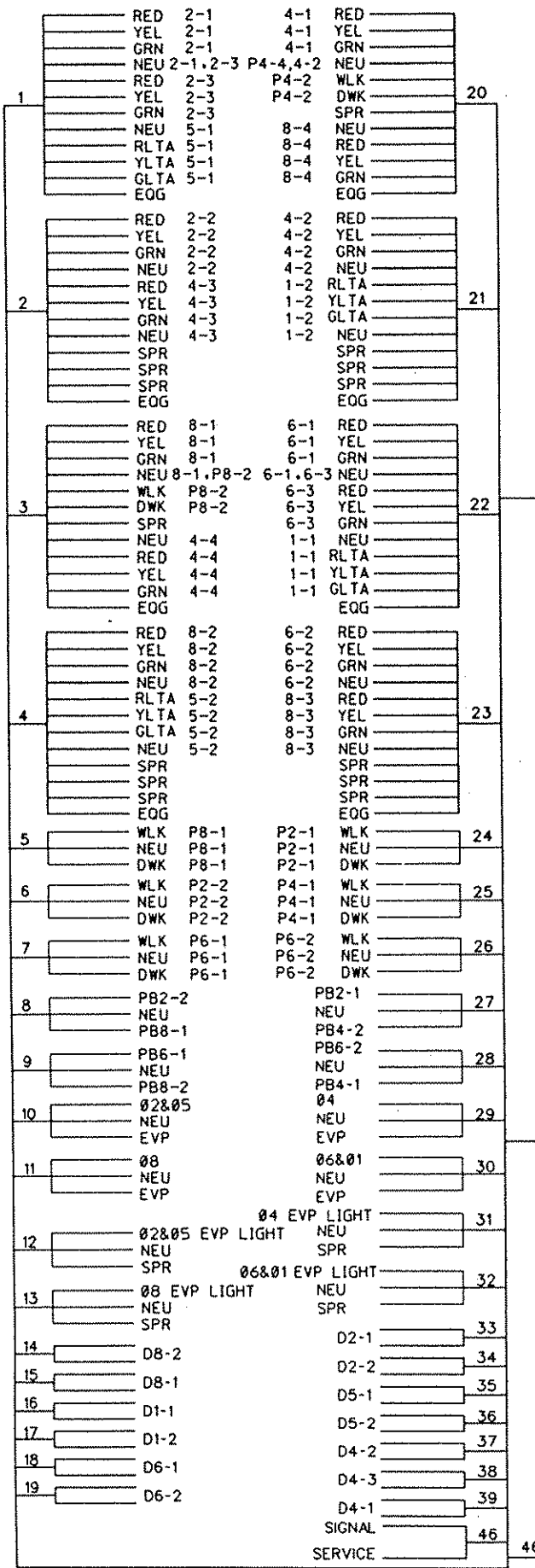
SCALE: AS NOTED  
 DESIGNED BY: [blank]  
 DRAWN BY: [blank]  
 CHECKED BY: [blank]  
 RECORD COPY BY: [blank]

DATE: 12/02/93 REG. NO.: 18327

PLAN NO 32 OF 70



### CONTROLLER CABINET



### CONDUCTOR COLOR CODING

R	BLK
O	WH 2-1/C#10
BL	WH
WH	R
R/BLK	WH 3/C#12
O/BLK	WH
BL/BLK	BLK
WH/BLK	R OR O
BLK	WH OR YEL 3/C#20
BLK/WH	BLK OR BL
G/BLK	
G	
BLK	BLK CLEAR 2/C#14
3-1/C#4	WH
	BR, GR

NOTE: ALL TERMINAL BLOCK CONNECTIONS SHALL BE ARRANGED AS SPECIFIED ABOVE

ELECTRICAL ENG. CERT.  
 I HEREBY CERTIFY THAT THIS PLAN SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DAILY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.  
*Paul J. Blomberg*  
 PAUL BLOMBERG  
 DATE: 12/02/93 REG NO: 13719

S.P. 02-601-36  
 S. P. 127-020-13

PLAN NO 33 OF 70

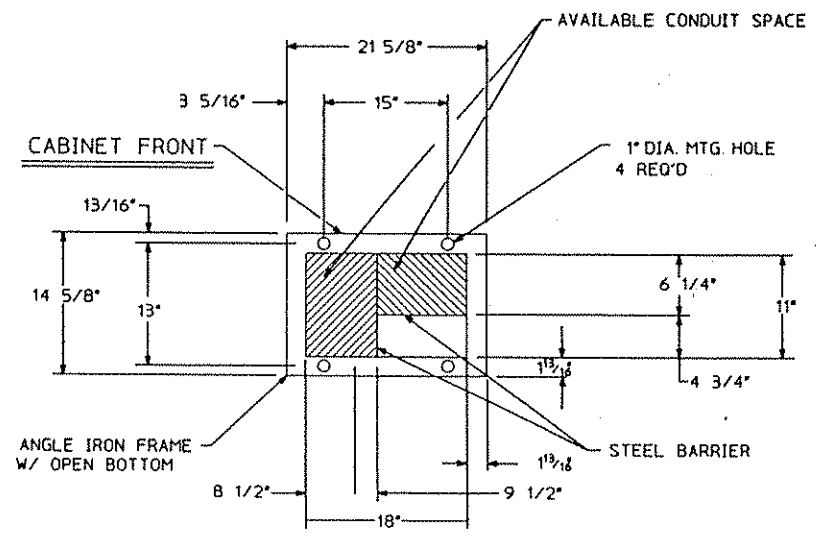
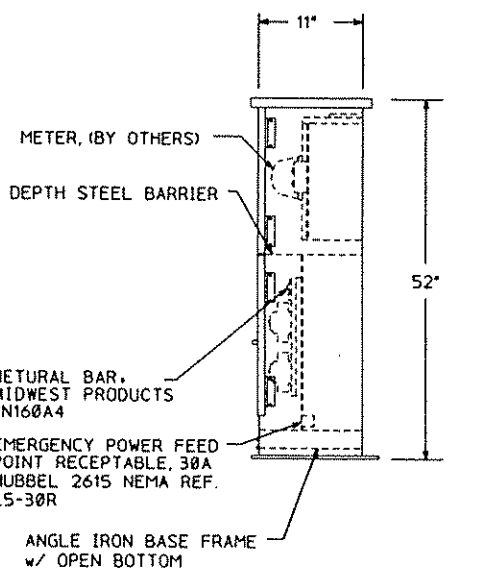
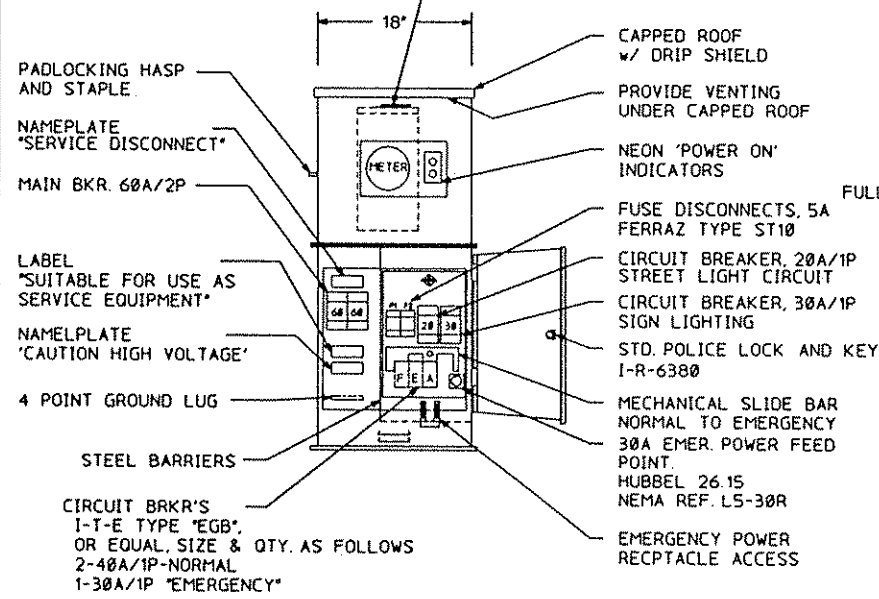
Ort Schelen & Associates, Inc.  
 Engineers • Architects • Planners • Surveyors  
 500 Park Place Center • 5775 Wayzata Boulevard  
 Minneapolis, MN 55416-1228 • 612-596-9770

WIRING DIAGRAM  
 CSAH 1 (EAST RIVER RD)  
 AND TIST WAY / HICKORY DR  
 S.P. 02-601-36  
 FRIDLEY, MINNESOTA

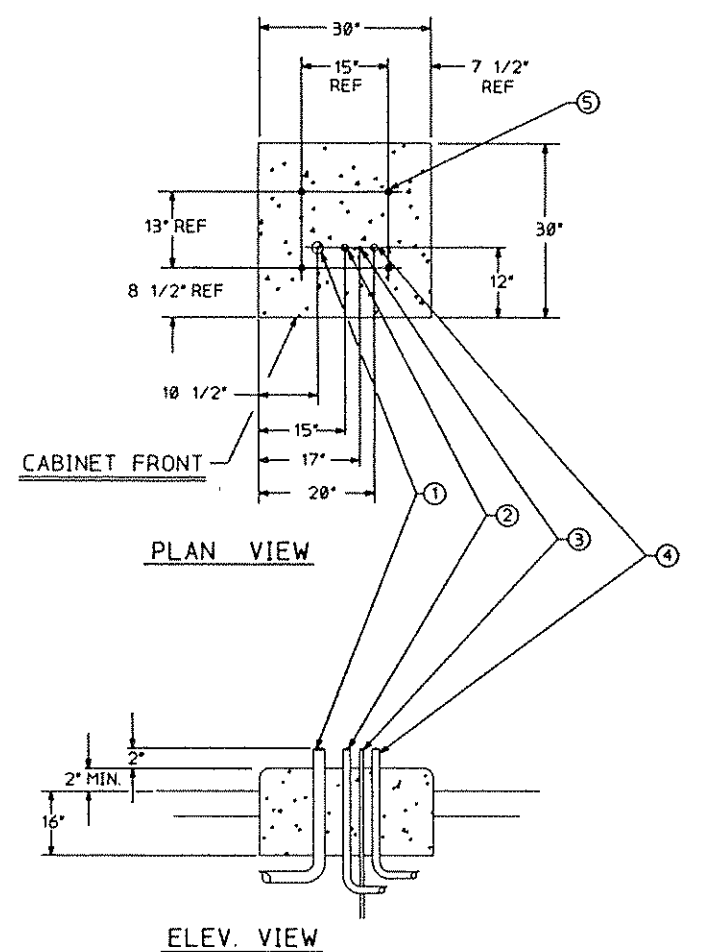
REVISION NO. 02/17/94  
 DATE 02/17/94  
 EXPLANATION INTERNALLY LIT SIGN WIRING  
 AS NOTED  
 SCALE: AS NOTED  
 DESIGN BY: CTR  
 CHECKED BY: RBK  
 DRAWN BY: RBK  
 RECORD COPY BY: DATE  
 511405  
 RONALD B. BRAY  
 DATE: 12/02/93 REG NO: 18327

**SIGNAL SERVICE CABINET**

N.S.P. METER SOCKET, 5-TERMINAL  
w/POSTIVE BY-PASS MECHANISM  
MILBANK CAT. No. U-2272-RL.



**SERVICE CABINET FOUNDATION**

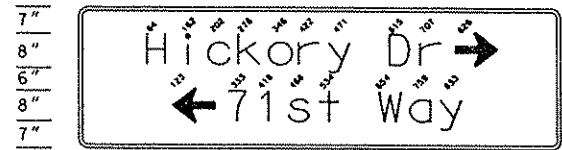
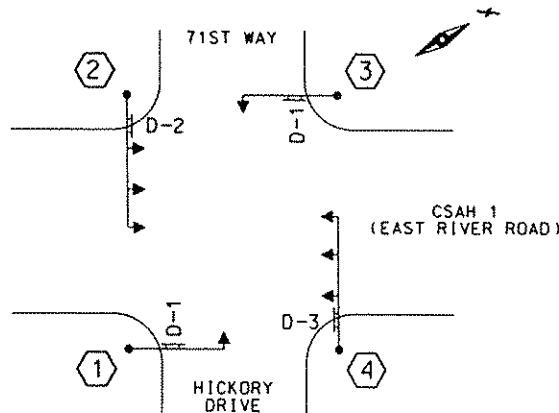


- ELEV. VIEW**
- ① 2" RSC FROM SOURCE OF POWER (VIA HANDHOLE 18)
  - ② 1 1/4" RSC TO CONTROLLER CABINET (VIA HANDHOLE 17)
  - ③ GROUNDING ROD
  - ④ 2" RSC TO HANDHOLE 1 (STREET LIGHTING/SIGNS)
  - ⑤ ANCHOR BOLT LOCATIONS (4 REQUIRED)

**CONSTRUCTION NOTES**

ENCLOSURE SHALL BE FABRICATED FROM #12 GA. ALL WELDED COLD ROLLED STEEL FOR OUTDOOR WEATHER PROOF SERVICE. DOORS TO BE GASKETED, ALL HINGES, PINS AND LOCKS TO BE OF NON CORRODING CONSTRUCTION. CABINET TO BE PRIMED INSIDE AND OUT WITH RUST INHIBITTING PRIMER. FINISH PER MN/DOT #3527

**SIGN PANEL LAYOUT**

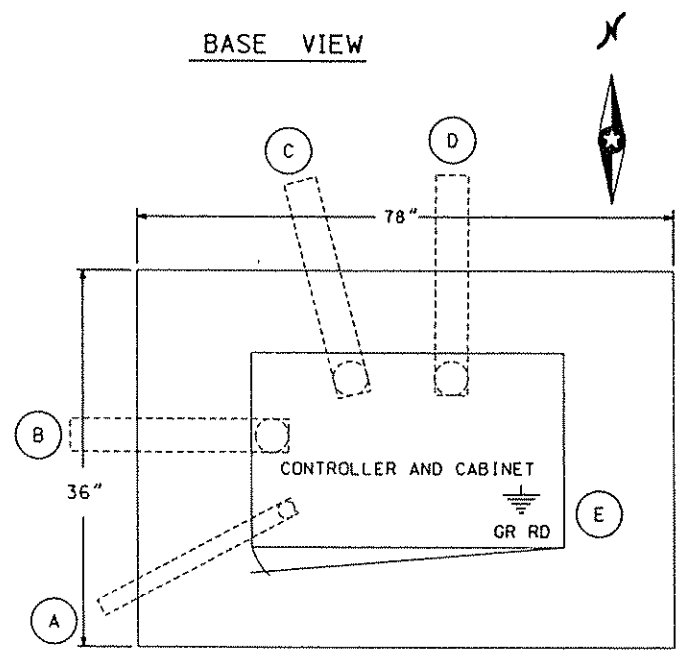


**INTERNALLY ILLUMINATED SIGNS**

Sign Panel	Size	No. Req.	No. Posts per Sign	Post Spacing	Sq. Ft. per Sign	Pole No.	Location on Mastarm ①
							a b
D-1	102"x24"	2	(SEE NOTE 2)	(SEE NOTE 2)	17	1	6.5
D-2	102"x36"	1	(SEE NOTE 2)	(SEE NOTE 2)	25.5	3	6.5
D-3	102"x36"	1	(SEE NOTE 2)	(SEE NOTE 2)	25.5	2	41.5
						4	41.5

**NOTES:**

1. COLOR: D-1 SIGNS SHALL BE WHITE LEGEND AND BORDER ON BLUE BACKGROUND. D-2 SIGNS SHALL BE WHITE LEGEND AND BORDER ON GREEN BACKGROUND.
2. INTERNALLY LIT SIGN - SEE SPECIAL PROVISIONS FOR STRUCTURAL AND MOUNTING DETAILS, WIRING DETAILS, AND ETC.



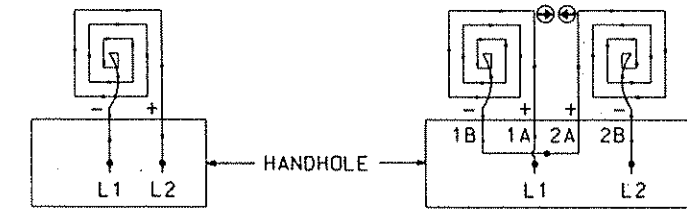
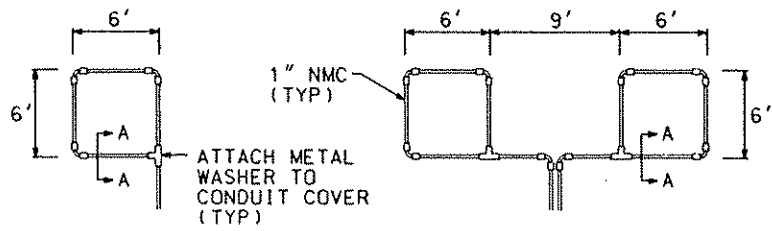
- A 1 1/4" R.S.C. FOR SERVICE CONNECTION TO HH 17
- B 4" R.S.C. TO HH 1
- C 4" R.S.C. TO HH 16
- D 3" R.S.C. STUBOUT, THREAD & CAP BOTH ENDS (FOR FUTURE INTERCONNECT).
- E 5/8" DIA X 15' GROUND ROD

**CONTROLLER CABINET PAD LAYOUT**  
NO SCALE

**ELECTRICAL ENG. CERT.**  
I HEREBY CERTIFY THAT THIS PLAN SPECIFICATION OR REPORT 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.  
*Paul J. Blumberg*  
PAUL BLOMBERG  
DATE: 12/02/93 REG. NO.: 13719

**SIGNING AND EQUIPMENT DETAIL**  
CSAH 1 (EAST RIVER RD)  
AND 71ST WAY / HICKORY DR  
S.P. 02-601-36  
FRIDLEY, MINNESOTA

**CSM**  
Ort Schelen  
Mayeron &  
Associates, Inc.  
Engineers - Architects - Planners - Surveyors  
300 Park Place Center # 5775 Wayzata Boulevard  
Minneapolis, MN 55416-1228 # 612-995-5773

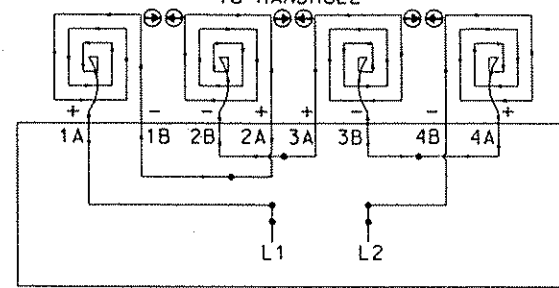
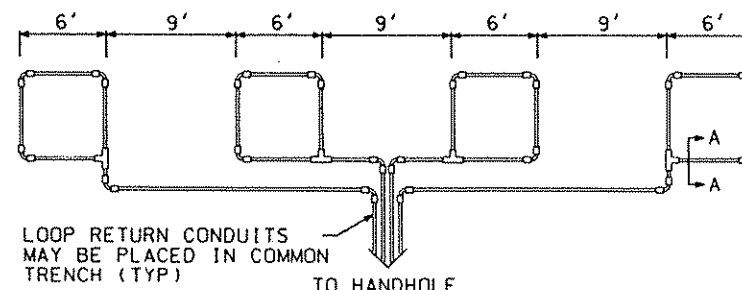


LOOP CONNECTIONS SHALL BE LABELED AND SPLICED IN THE HANDHOLE AS FOLLOWS:

L1 TO 1A  
1B TO 2A  
2B TO L2

**LOOP DETECTOR  
DETAIL 'A'**  
(LOOP PHASING FOR  
SINGLE CONNECTION)

**LOOP DETECTOR  
DETAIL 'B'**  
(LOOP PHASING FOR  
SERIES CONNECTION)

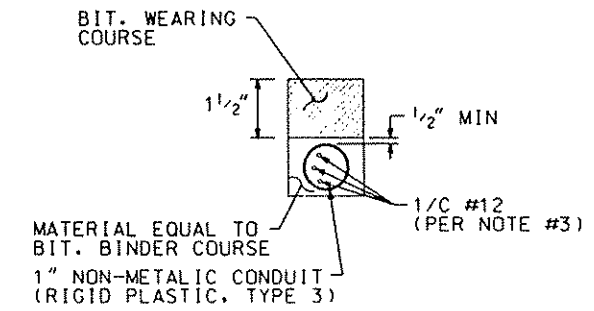


LOOP CONNECTIONS SHALL BE LABELED AND SPLICED IN THE HANDHOLE AS FOLLOWS:

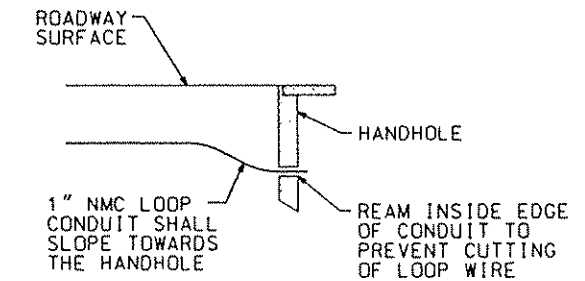
L1 TO 1A  
1B TO 2A  
2B TO 3A  
3B TO 4A  
4B TO L2

SPLICE CONTROL CABLE TO L1 & L2 IN HANDHOLE. ALL CONDUCTORS SHALL BE TAGGED IN HANDHOLE (1A, 1B, ECT)

**LOOP DETECTOR  
DETAIL 'C'**  
(LOOP PHASING FOR  
SERIES CONNECTION)



**SECTION A-A**



**DRAINAGE DETAIL**

**LOOP DETECTOR WIRING**

- 1) ALL CORNERS SHALL BE 90° CONDUIT BENDS.
- 2) CONNECT WIRES IN HANDHOLES USING SPLICE KIT METHOD DESCRIBED IN THE SPECIAL PROVISIONS.
- 3) LOOP DETECTOR WIRES SHALL BE #12 AWG CROSSED LINKED POLYETHYLENE (XLP). SEE SPECIAL PROVISIONS.
- 4) LOOP LEAD IN WIRES SHALL BE TWISTED A MIN. OF (5) TURNS PER FOOT THROUGH THE CONDUIT TO THE HANDHOLE.
- 5) NMC DESIGNATES NON-METALLIC CONDUIT (SPEC. 3803)
- 6) LOOPS 6' x 6' THRU 6' x 14' SHALL HAVE (4) TURNS.
- 7) LOOPS 6' x 15' AND LARGER SHALL HAVE (2) TURNS.

**LEGEND OF SYMBOLS**

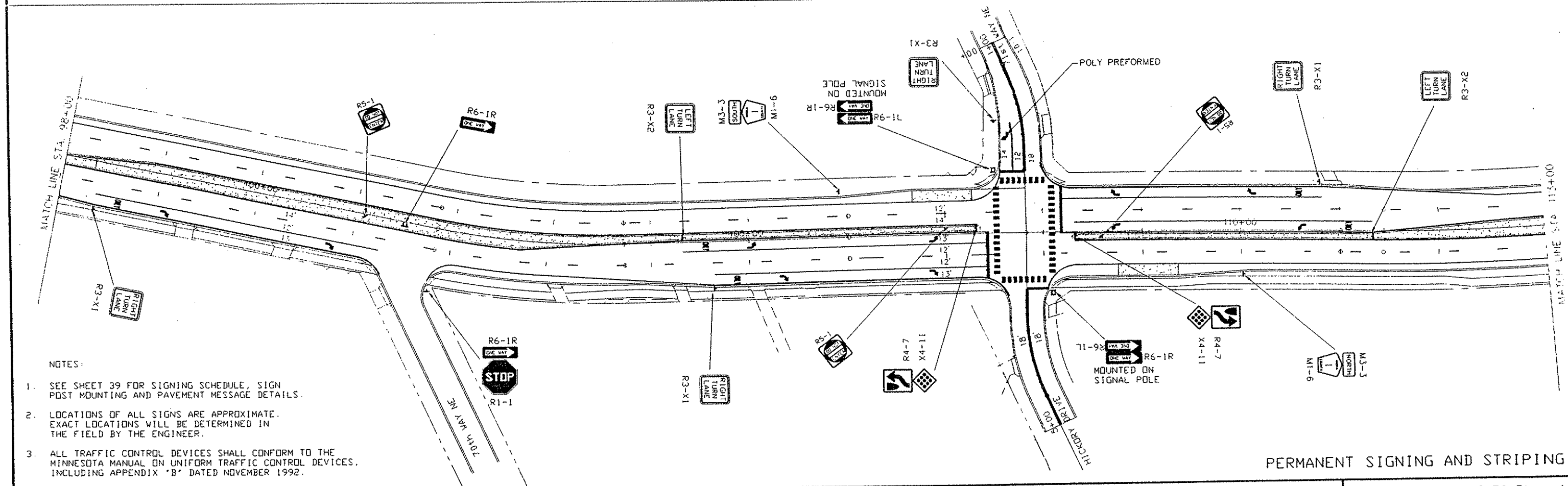
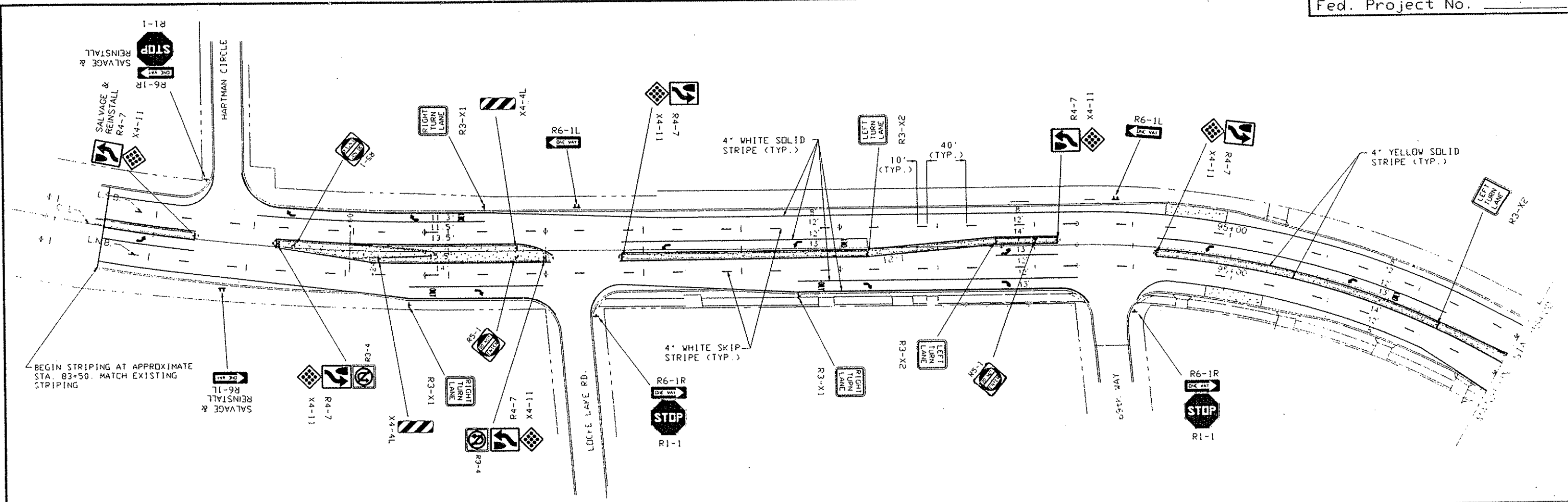
CONTROLLER AND SERVICE EQUIP. NO's	(A)
SIGNAL BASE NO.	(1)
SIGNAL FACE NO.	(1)
LUMINAIRE NO.	(1)
CONTROLLER AND CABINET	(1)
CONTROLLER AND CABINET - IN PLACE	(1)
HANDHOLE	(1)
HANDHOLE - IN PLACE	(1)
RIGID STEEL CONDUIT (RSC)	(1)
RIGID STEEL CONDUIT (RSC) - IN PLACE	(1)
SIGNAL FACE WITH BACKGROUND SHIELD	(1)
SIGNAL FACE W/O BACKGROUND SHIELD	(1)
SIGNAL FACE - IN PLACE	(1)
PEDESTRIAN INDICATORS	(1)
PEDESTRIAN INDICATORS - IN PLACE	(1)
PEDESTRIAN PUSH BUTTONS ON PEDESTAL OR POLE	(1)
PEDESTRIAN PUSH BUTTON STATION	(1)
TRAFFIC SIGNAL PEDESTAL	(1)
TRAFFIC SIGNAL PEDESTAL - INPLACE	(1)
TRAFFIC SIGNAL POLE AND MAST ARM	(1)
TRAFFIC SIGNAL POLE AND MAST ARM - IN PLACE	(1)
STREET LIGHT POLE AND LUMINAIRE	(1)
STREET LIGHT POLE AND LUMINAIRE - IN PLACE	(1)
MAST ARM AND LUMINAIRE	(1)
MAST ARM AND LUMINAIRE - INPLACE	(1)
WOOD POLE	(1)
WOOD POLE - IN PLACE	(1)
SOURCE OF POWER	(1)
RAILROAD SIGNAL - IN PLACE	(1)
RIGHT OF WAY LINE	(1)
CENTERLINE	(1)
EDGE OF ROADWAY	(1)
SHOULDERLINE	(1)
CURB LINE	(1)
STOP BAR	(1)

**ABBREVIATIONS**

3-1(EG)	SIGNAL HEAD PHASE "3" - NO. "1"	O	ORANGE
BL	BLUE	O/BLK	ORANGE WITH BLACK TRACER
BL/BLK	BLUE WITH BLACK TRACER	P1-(EG)	PEDESTRIAN INDICATION PHASE "2"-NO. "1"
BLK	BLACK	PB	PUSH BUTTON
BLK/WH	BLACK WITH WHITE TRACER	PB-2(EG)	PUSH BUTTON PHASE "2"-NO. "1"
BR. GR.	BARE GROUND	PEC	PHOTOELECTRIC CELL
CH. SW.	CHECK SWITCH	PED	PEDESTRIAN
CLR	CLEAR	R	RED
D2-1(EG)	DETECTOR PHASE "2" - NO. "1"	R&S	REMOVE AND SALVAGE
DWK	DON'T WALK	R/BLK	RED WITH BLACK TRACER
EOG	EQUIPMENT GROUND	RLTA	RED LEFT TURN ARROW
EVP	EMERGENCY VEHICLE PRE-EMPTION	RRTA	RED RIGHT TURN ARROW
F&I	FURNISH AND INSTALL	RSC	RIGID STEEL CONDUIT
FL	FLASH/FLASHING	SOP	SOURCE OF POWER
G	GREEN	SPR	SPARE
G/BLK	GREEN WITH BLACK TRACER	ST. LHT.	STREET LIGHT
GLTA	GREEN LEFT TURN ARROW	STA	STATION
GRN	GREEN	SW	SWITCH
GR. R.	GROUND ROD	SWD	SWITCHED
GRTA	GREEN RIGHT TURN ARROW	TDW	TELEPHONE DROP WIRE
GTHA	GREEN THRU ARROW	WH	WHITE
HH	HANDHOLE	WH/BLK	WHITE WITH BLACK TRACER
HPS	HIGH PRESSURE SODIUM	WLK	WALK
JB	JUNCTION BOX	YEL	YELLOW
LUM	LUMINAIRE	YLTA	YELLOW LEFT TURN ARROW
NEU	NEUTRAL	YRTA	YELLOW RIGHT TURN ARROW
NMC	NONMETALLIC CONDUIT	YTHA	YELLOW THRU ARROW

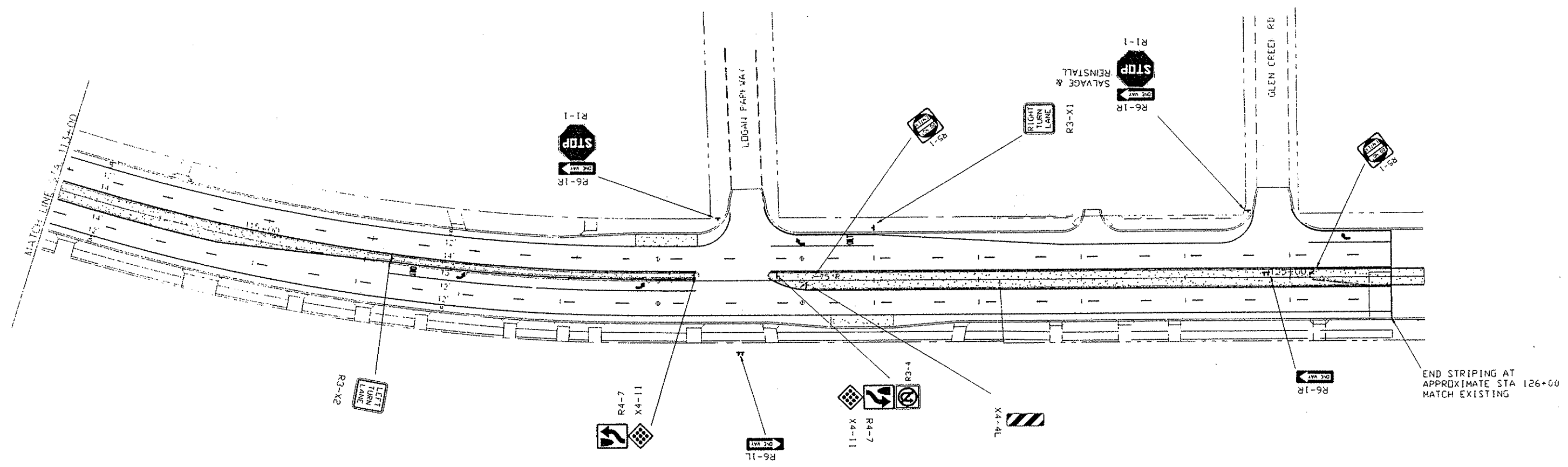
STANDARD PLATES	
PLATE NO.	DESCRIPTION
* 8110 C	TRAFFIC SIGNAL BRACKETING - POLE MOUNTED
8111 B	TRAFFIC SIGNAL BRACKETING - PEDESTAL MOUNTED
8112 C	PEDESTAL FOUNDATION
8113 C	MAGNETIC VEHICLE DETECTOR INSTALLATION
* 8115 C	PEDESTRIAN PUSH BUTTON INSTALLATION
* 8117 F	PRECAST CONCRETE HANDHOLE
8118 C	SERVICE EQUIPMENT AND POLE
* 8119 C	GROUND MOUNTED CABINET FOUNDATION
* 8120 J	PA85 AND PA90 POLE FOUNDATION
* 8121 C	TRANSFORMER BASE WITH POLE BASE
8122 C	PEDESTAL AND PEDESTAL BASE
* 8123 C	POLE AND MAST ARM
* 8124 B	SIGNAL HEAD MOUNTS
* 8126 D	PA100 POLE FOUNDATION
0004 A	SPECIFICATION REFERENCE
3124 B	METAL APRON CONNECTION
3221 C	CORRUGATED STEEL PIPE COUPLING BAND
7035 J	CONCRETE WALK AND CURB RETURNS AT ENTRANCES
7100 F	CONCRETE CURB AND GUTTERS

\* - APPLIES TO THIS PROJECT



- NOTES:
1. SEE SHEET 39 FOR SIGNING SCHEDULE, SIGN POST MOUNTING AND PAVEMENT MESSAGE DETAILS.
  2. LOCATIONS OF ALL SIGNS ARE APPROXIMATE. EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.
  3. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING APPENDIX "B" DATED NOVEMBER 1992.

PERMANENT SIGNING AND STRIPING



- NOTES:
1. SEE SHEET 39 FOR SIGNING SCHEDULE, SIGN POST MOUNTING AND PAVEMENT MESSAGE DETAILS.
  2. LOCATIONS OF ALL SIGNS ARE APPROXIMATE. EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.
  3. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING APPENDIX "B" DATED NOVEMBER 1992.

PERMANENT SIGNING AND STRIPING

M.U.T.C.D. CODE	SIZE (INCHES)	AREA (SQ.FT.)	QTY. GROUND POST MOUNT INSTALLATIONS	QTY. ISLAND MOUNT INSTALLATIONS	SIGN PANEL	#POST/INSTALLATION	MOUNTING HEIGHT
R1-1	30' x 30'	6.25	4	0	STOP	1	7.0'
X4-4L	12' x 36'	3.00	0	3	OBJECT MARKER	1	4.0'
M1-6	24' x 24'	4.00	2	0		1	
M3-1	24' x 12'	2.18	1	0	NORTH		
M3-3	24' x 12'	2.18	1	0	SOUTH		
R3-4	24' x 24'	4.00	0	3	NO U TURN		7.0'
R3-X1	30' x 30'	6.25	8	0	RIGHT TURN LANE	1	7.0'
R3-X2	30' x 30'	6.25	0	6	LEFT TURN LANE	1	7.0'
R4-7	24' x 30'	5.00	0	9	KEEP RIGHT	1	7.0'
X4-2	18' x 18'	2.25	0	3	HAZARD MARKER		
R5-1	30' x 30'	6.25	0	8	DO NOT ENTER	1	7.0'
R6-1R	36' x 12'	3.00	6	2	ONE WAY (RIGHT)	2	7.0'
R6-1L	36' x 12'	3.00	5	0	ONE WAY (LEFT)	2	7.0'

(MOUNTED ABOVE M1-6)

(MOUNTED ON SAME POST AS R4-7/X4-2)

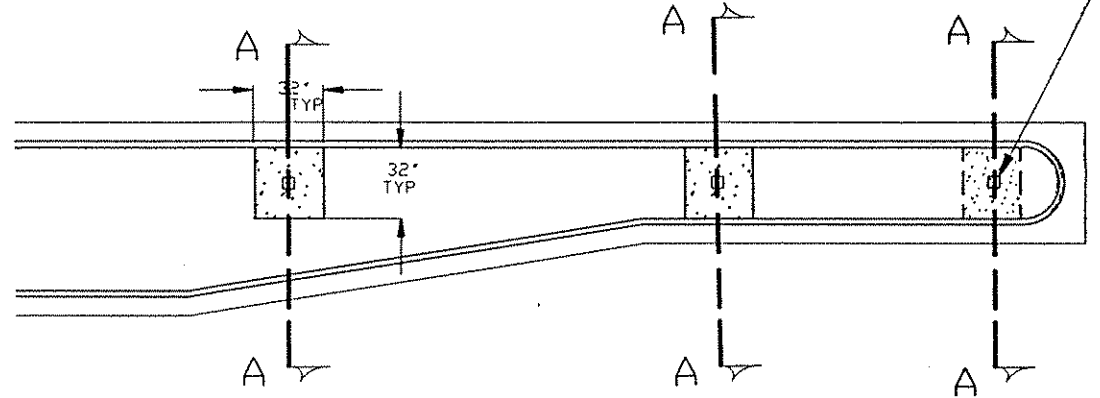
( 4 R6-1R MOUNTED ABOVE R1-1)

CHART DD

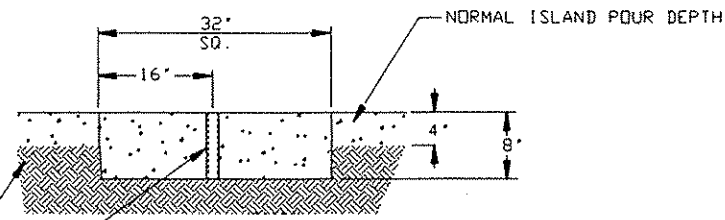
- NOTES:
- SEE SHEET 39 FOR SIGNING SCHEDULE, SIGN POST MOUNTING AND PAVEMENT MESSAGE DETAILS.
  - LOCATIONS OF ALL SIGNS ARE APPROXIMATE. EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.
  - ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING APPENDIX "B" DATED NOVEMBER 1992.

PERMANENT SIGNING QUANTITIES

INSTALL 1 3/4" x 1 3/4" x 8" SOLID GALVANIZED SQUARE TUBING IN ISLAND NOSE DURING CONCRETE POUR, PLUMB AS REQUIRED. TAPE BOTTOM OF TUBING TO PREVENT CONCRETE FROM ENTERING TUBING.



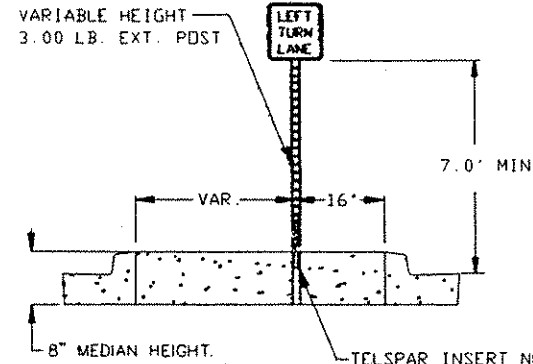
1 1/2" x 1 1/2" 8" SOLID GALVANIZED TUBING WITH 7/16" DIA. HOLES 1" ON CENTER, ON ALL 4 SIDES. WALL THICKNESS GAUGE #12 (.105 IN.) INSERTED AT THE TIME OF SIGN INSTALLATION TYPICAL.



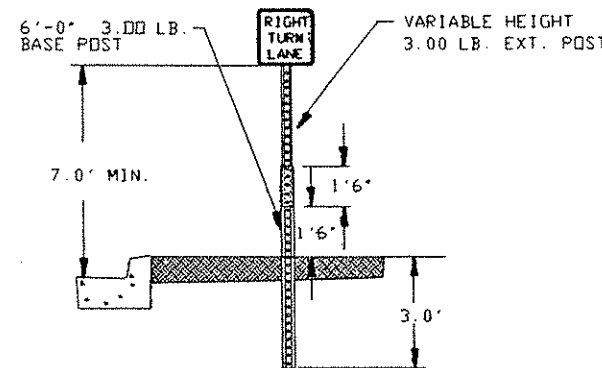
SECTION A-A

INSTALL 1 3/4" x 1 3/4" x 8" SOLID WALL GALVANIZED SQUARE TUBING TAPE BOTTOM OF TUBING TO PREVENT CONCRETE FROM ENTERING TUBE. PLUMB AND ALIGN AT TIME OF POUR AS REQUIRED. TYPICAL.

ISLAND MOUNT BREAK-AWAY SIGN POST INSTALLATION TYPICAL



GROUND POST MOUNT SIGN INSTALLATION TYPICAL



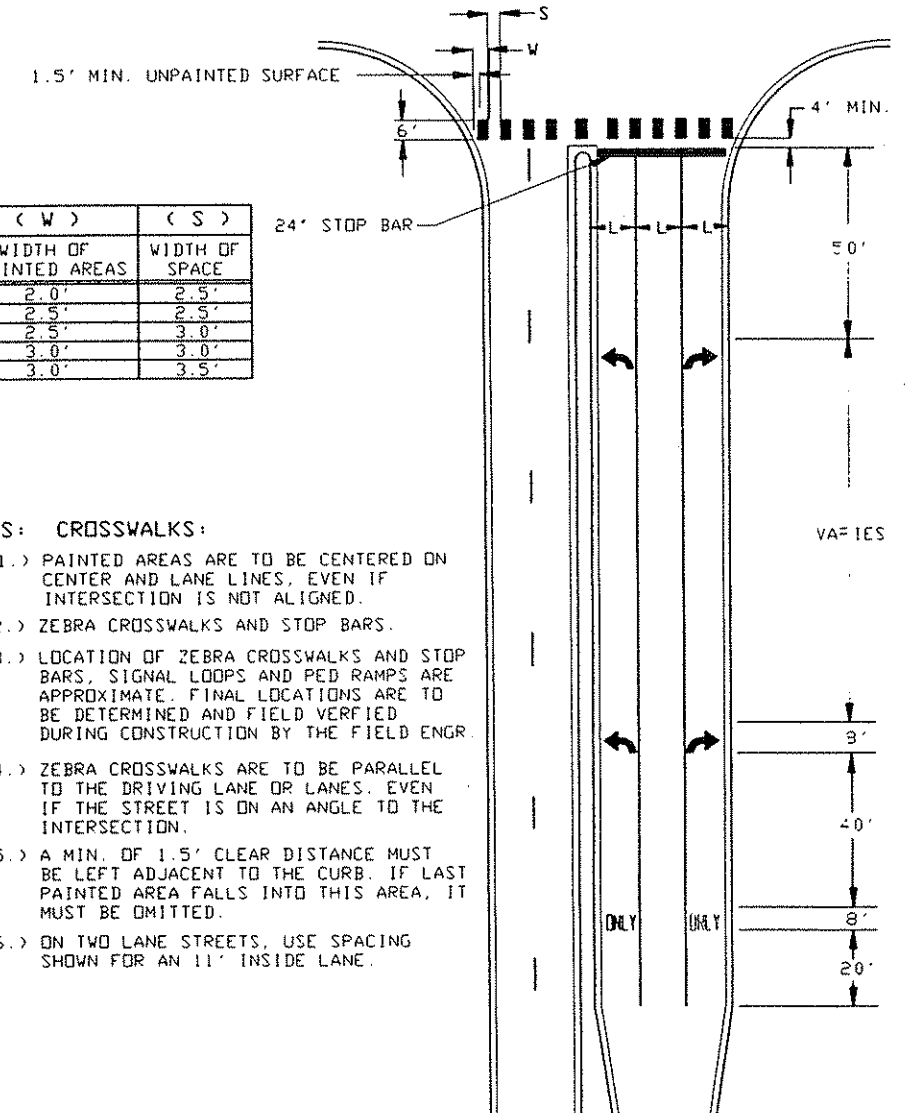
DOUBLE POST FOOTINGS

ISLAND MOUNT BREAK-AWAY SIGN POST INSTALLATIONS REQUIRING MORE THAN ONE POST

( L )	( W )	( S )
WIDTH OF INSIDE LANE	WIDTH OF PAINTED AREAS	WIDTH OF SPACE
9'	2.0'	2.5'
10'	2.5'	2.5'
11'	2.5'	3.0'
12'	3.0'	3.0'
13'	3.0'	3.5'

NOTES: CROSSWALKS:

- 1.) PAINTED AREAS ARE TO BE CENTERED ON CENTER AND LANE LINES, EVEN IF INTERSECTION IS NOT ALIGNED.
- 2.) ZEBRA CROSSWALKS AND STOP BARS.
- 3.) LOCATION OF ZEBRA CROSSWALKS AND STOP BARS, SIGNAL LOOPS AND PED RAMPS ARE APPROXIMATE. FINAL LOCATIONS ARE TO BE DETERMINED AND FIELD VERIFIED DURING CONSTRUCTION BY THE FIELD ENGR.
- 4.) ZEBRA CROSSWALKS ARE TO BE PARALLEL TO THE DRIVING LANE OR LANES. EVEN IF THE STREET IS ON AN ANGLE TO THE INTERSECTION.
- 5.) A MIN. OF 1.5' CLEAR DISTANCE MUST BE LEFT ADJACENT TO THE CURB. IF LAST PAINTED AREA FALLS INTO THIS AREA, IT MUST BE OMITTED.
- 6.) ON TWO LANE STREETS, USE SPACING SHOWN FOR AN 11' INSIDE LANE.

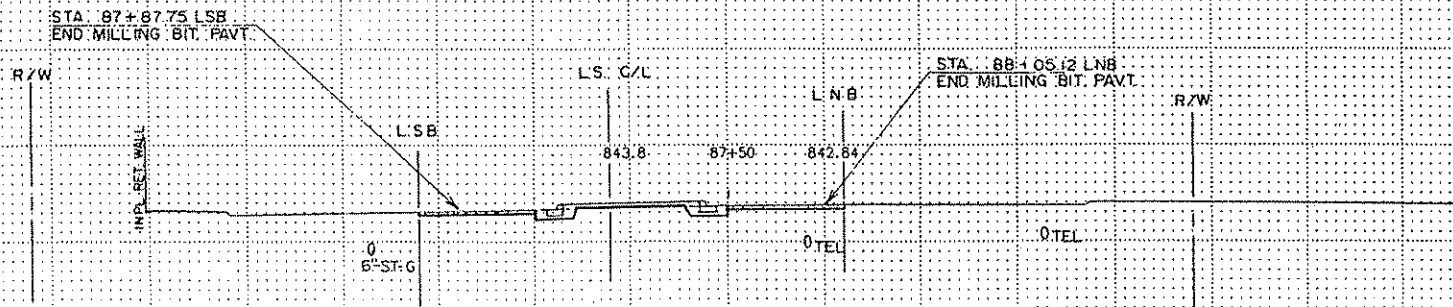


EXCAVATION EMBANKMENT

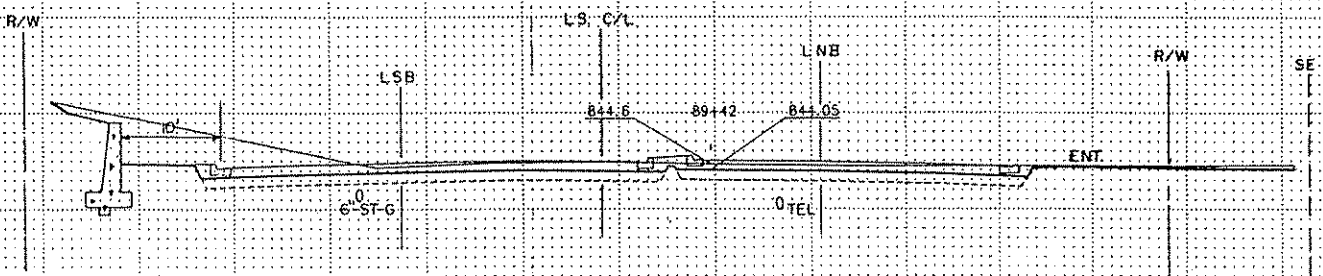
SUB-TOTALS CU.YDS. SUB-TOTALS CU.YDS.

EXCAVATION EMBANKMENT

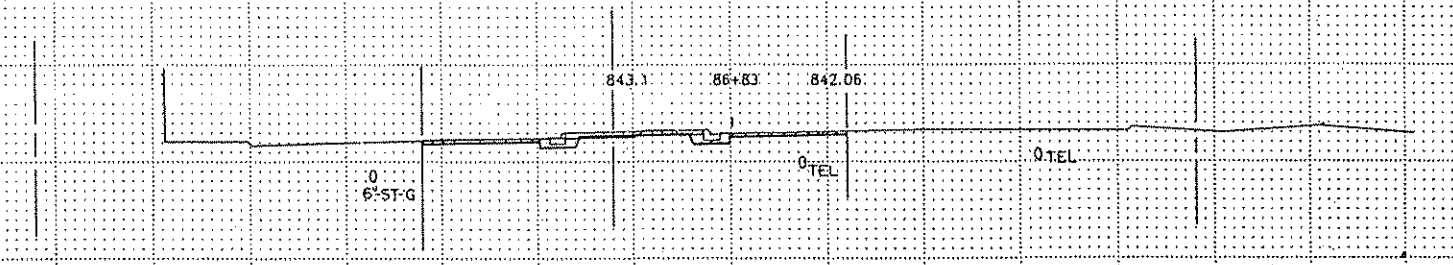
SUB-TOTALS CU.YDS. SUB-TOTALS CU.YDS.



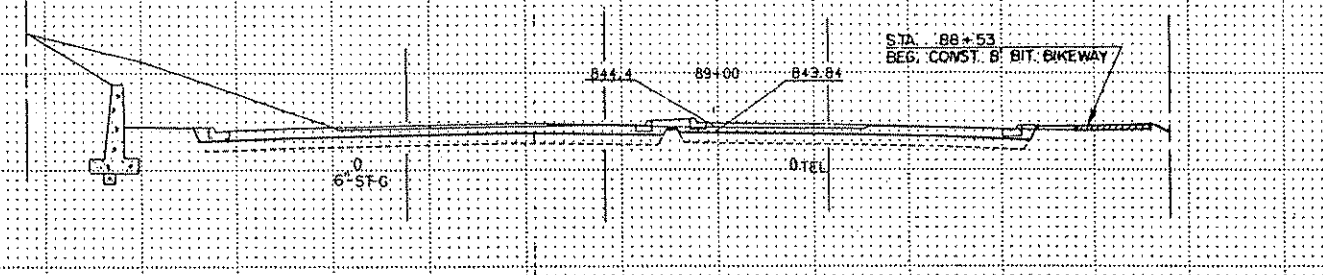
REGULAR	20	2	REGULAR
SUBCUT	0		TOPSOIL



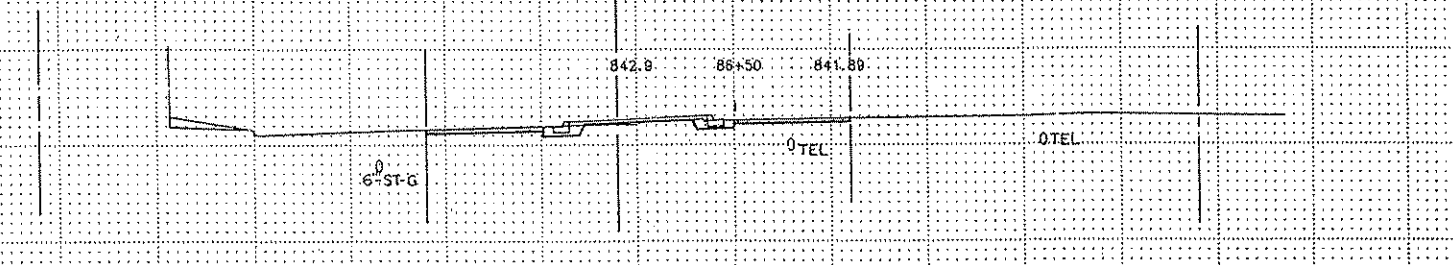
REGULAR	226	140	REGULAR
SUBCUT	155		TOPSOIL



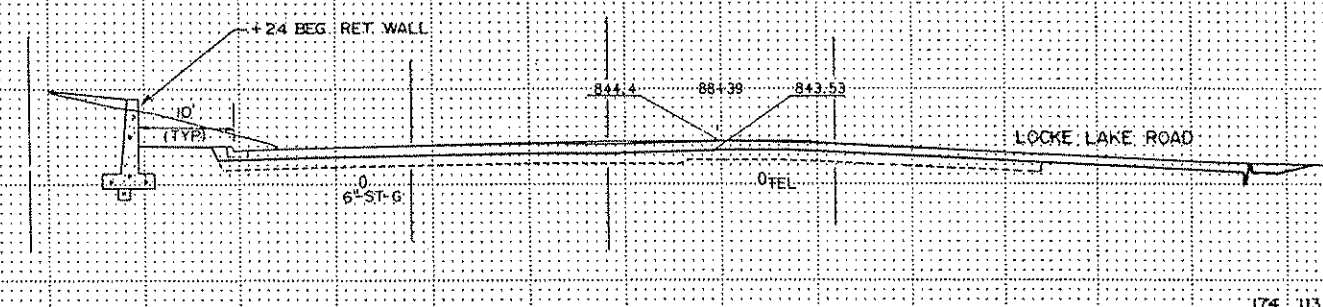
11	1
0	



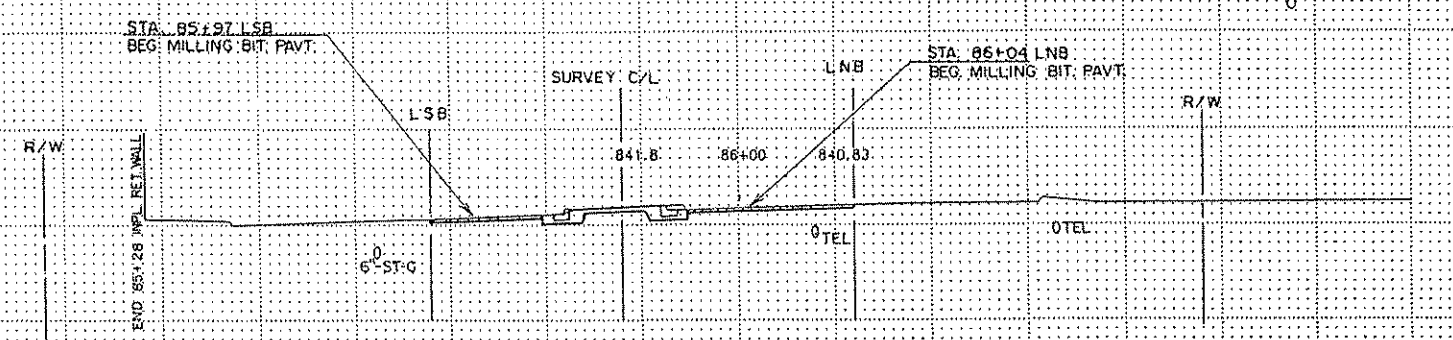
314	205
198	



18	1
0	

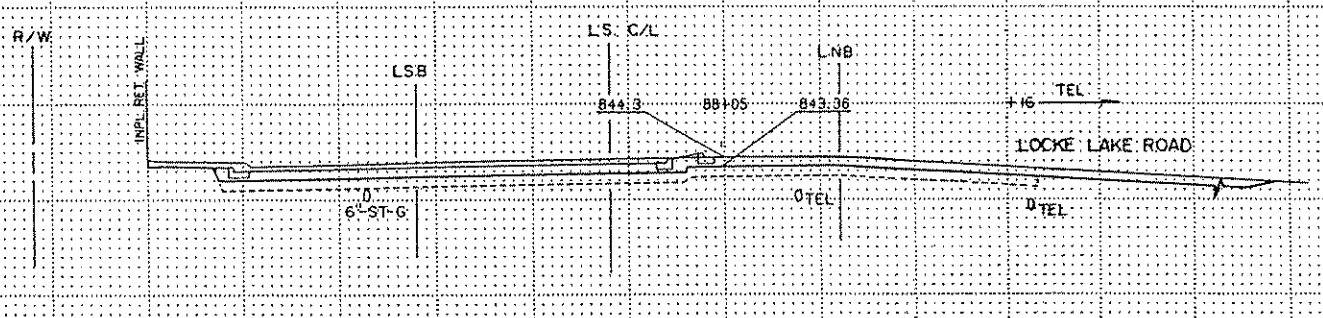


174	113
113	



LSB STA 86+04 BEG CONST.  
C&G B-812 AND MEDIAN

NOTE: EARTHWORK QUANTITIES INCLUDE  
BITUMINOUS AND CONCRETE  
REMOVAL ITEMS.



NOTE: UTILITY ELEVATIONS ASSUMED  
NOT ACTUAL.

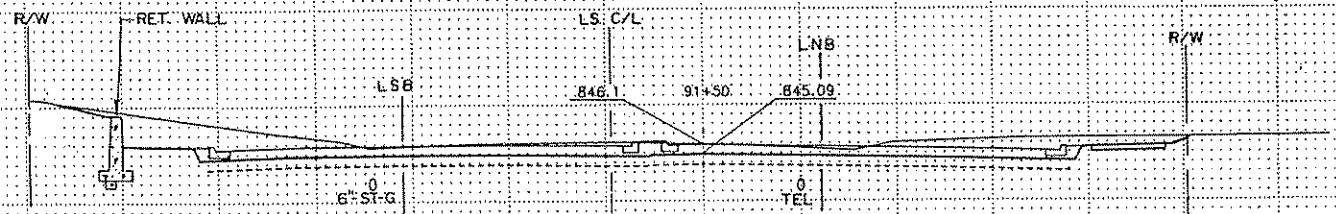
155	94
93	

CROSS-SECTION  
STA: 86+00 TO STA: 89+42

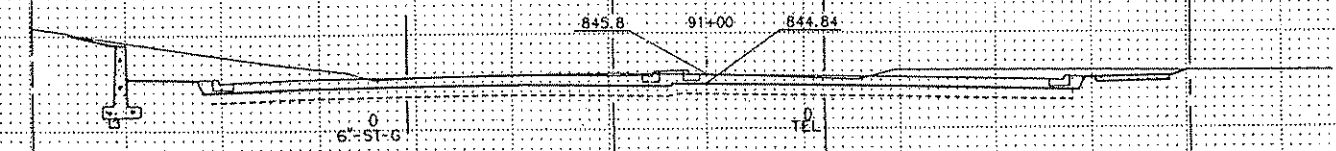


EXCAVATION EMBANKMENT  
SUB-TOTALS CU.YDS. SUB-TOTALS CU.YDS.

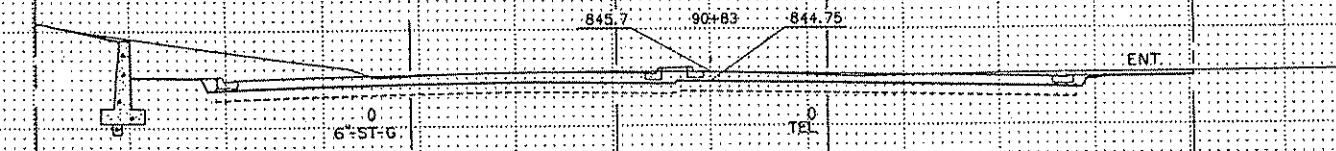
EXCAVATION EMBANKMENT  
SUB-TOTALS CU.YDS. SUB-TOTALS CU.YDS.



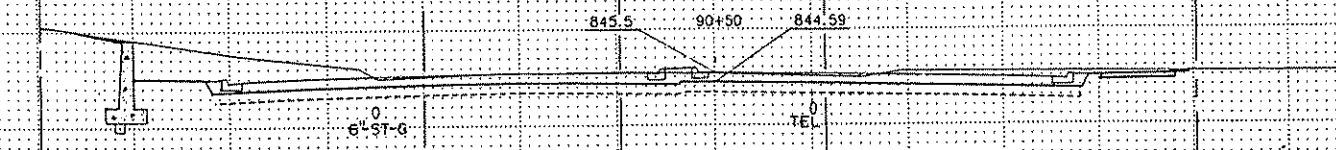
REGULAR 387 169  
SUBCUT 169 TOPSOIL



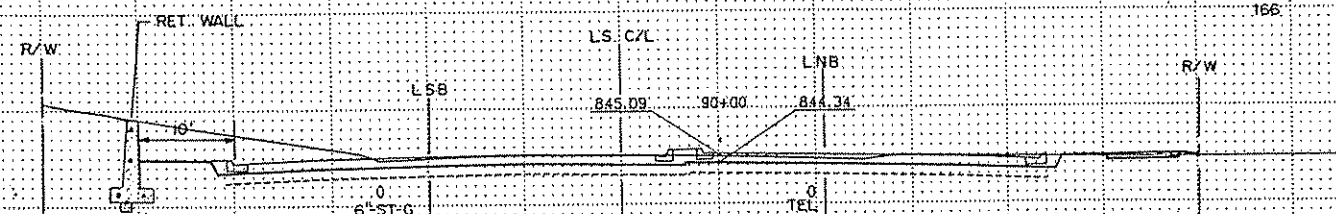
128 56  
57



244 111  
111

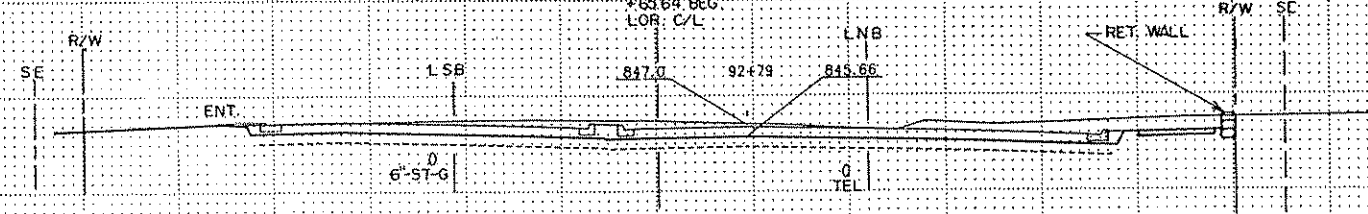


333 168  
168

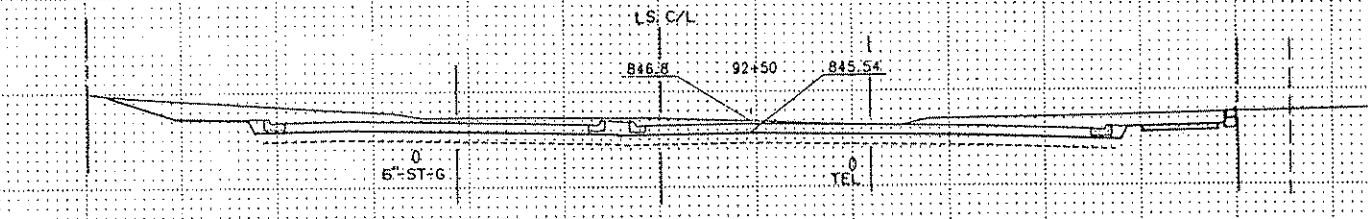


325 190  
188

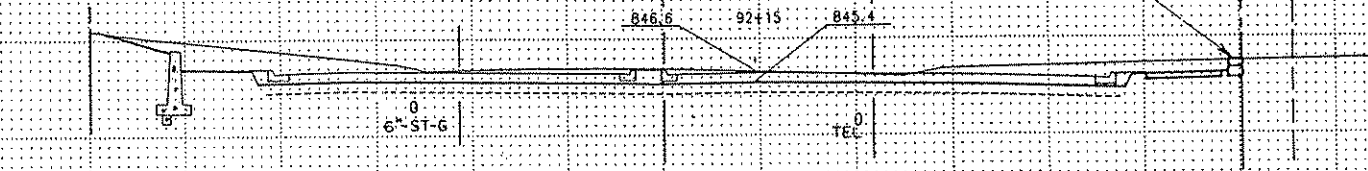
NOTE: EARTHWORK QUANTITIES INCLUDE BITUMINOUS AND CONCRETE REMOVAL ITEMS



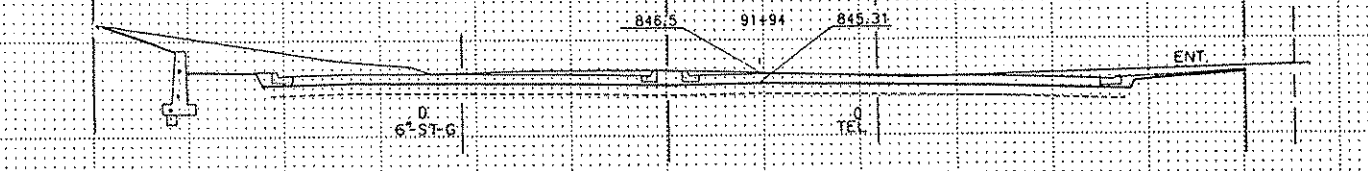
REGULAR 198 98  
SUBCUT 98 TOPSOIL



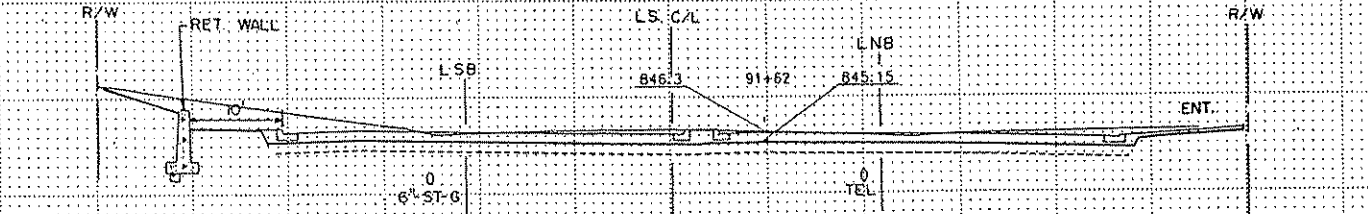
275 118  
118



164 71  
71



232 108  
108



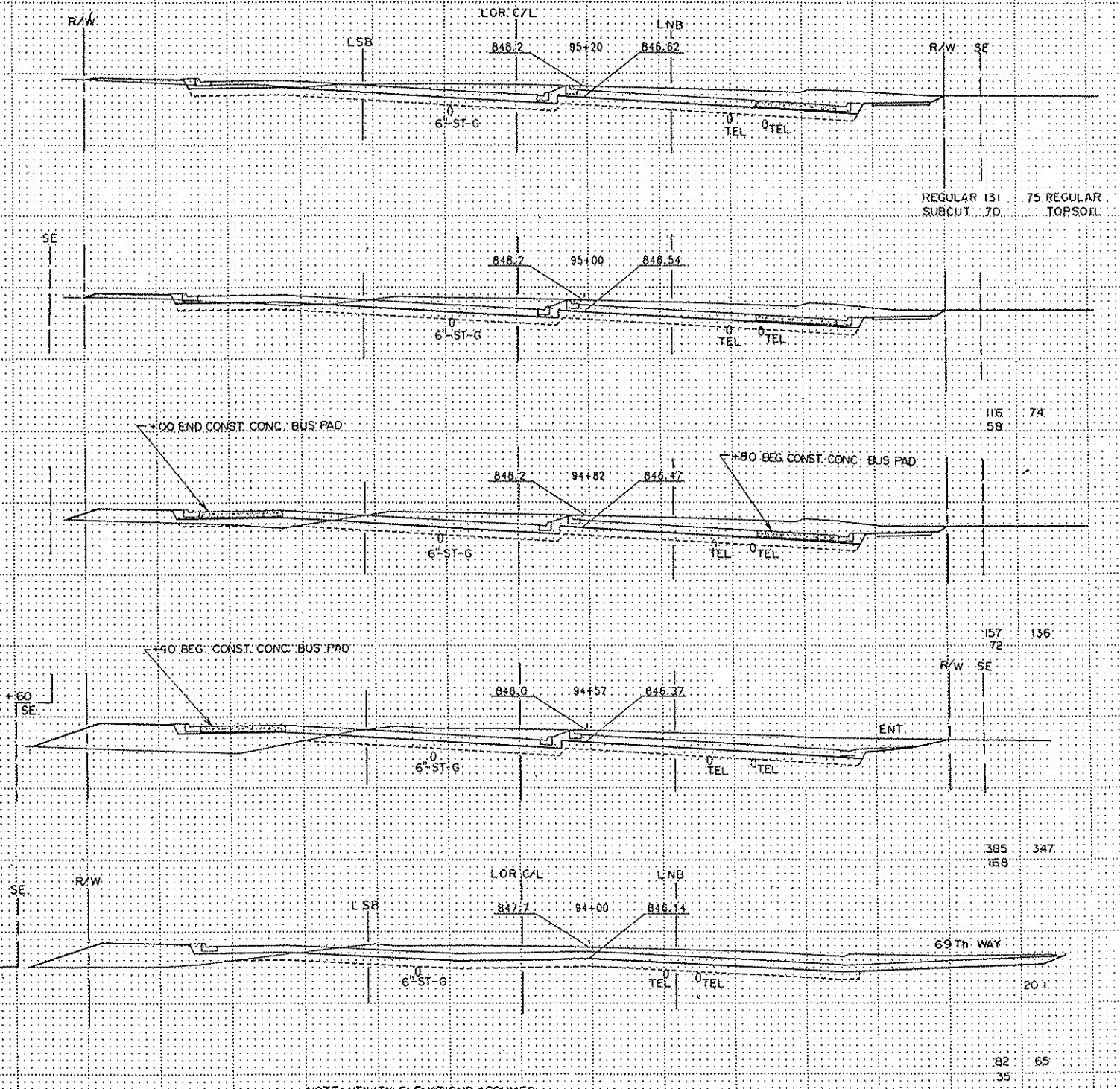
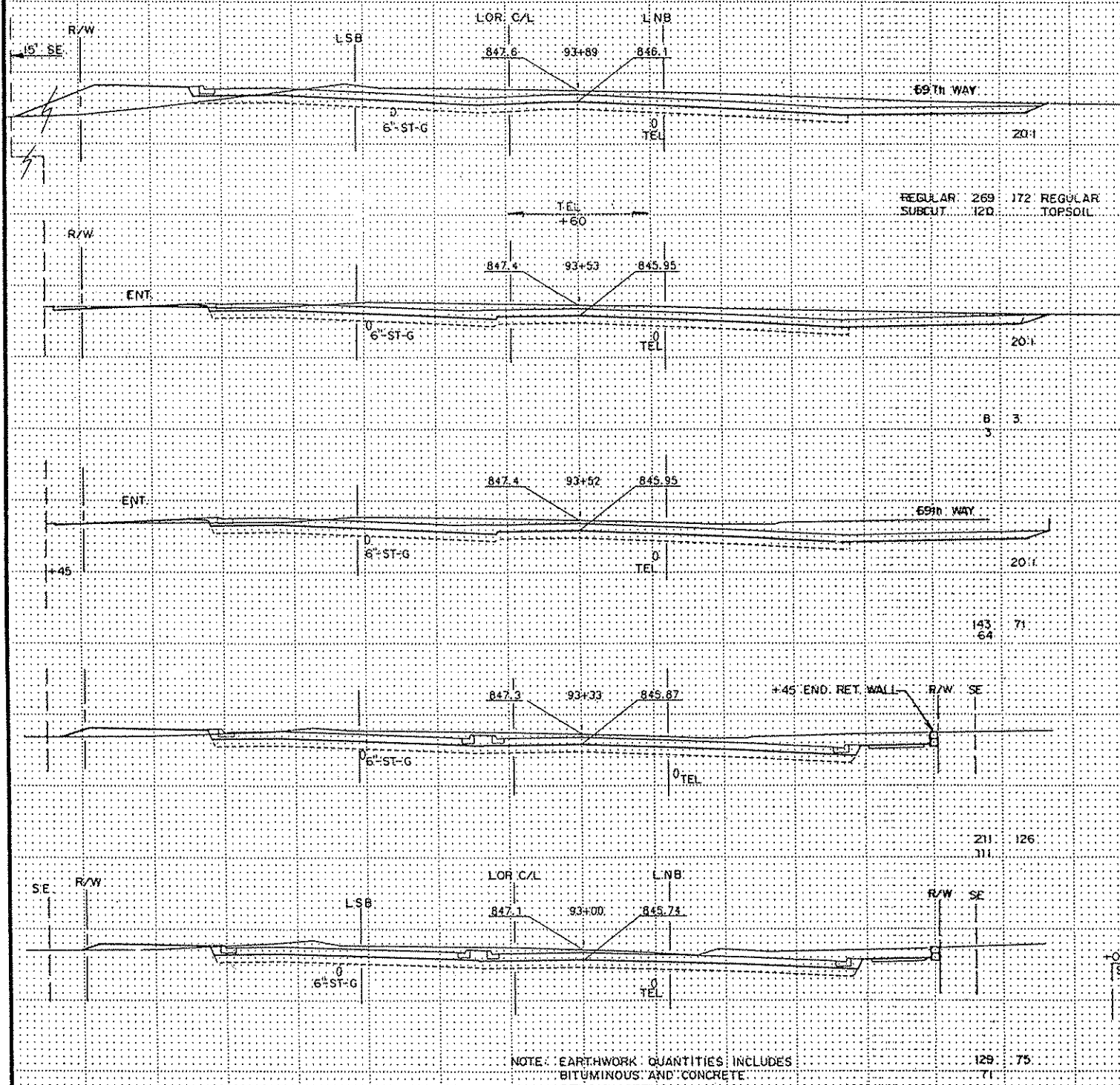
87 40  
40

NOTE: UTILITY ELEVATIONS ASSUMED NOT ACTUAL

CROSS-SECTION  
STA. 90+00 TO 92+79

EXCAVATION EMBANKMENT  
SUB-TOTALS CU.YDS. SUB-TOTALS CU.YDS.

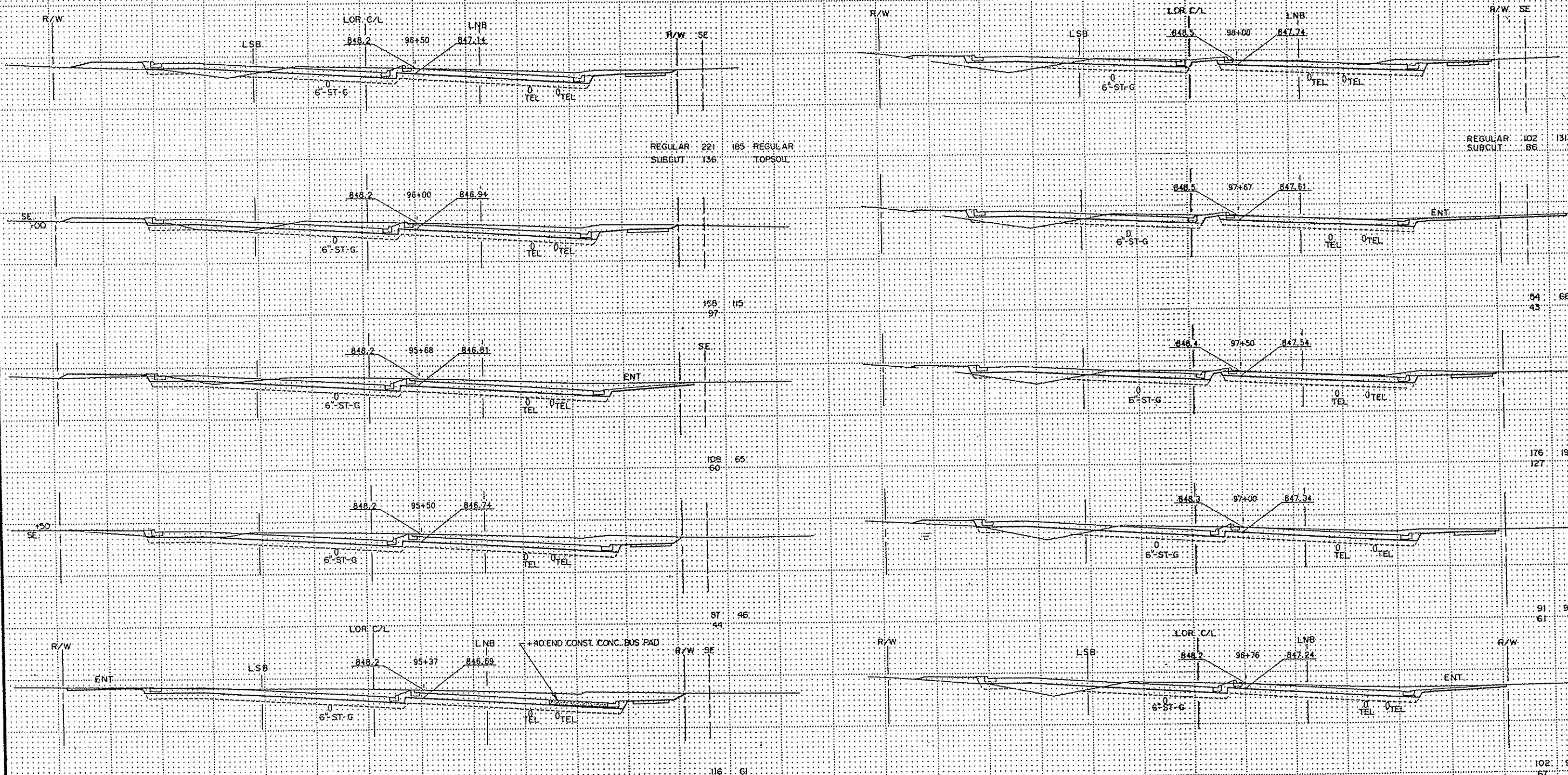
EXCAVATION EMBANKMENT  
SUB-TOTALS CU.YDS. SUB-TOTALS CU.YDS.



CROSS-SECTION  
STA. 93+00 TO 95+20

EXCAVATION EMBANKMENT  
SUB: TOTALS: CU. YDS. SUB: TOTALS: CU. YDS.

EXCAVATION EMBANKMENT  
SUB: TOTALS: CU. YDS. SUB: TOTALS: CU. YDS.



REGULAR 221 165 REGULAR  
SUBCUT 136 TOPSOIL

REGULAR 102 131 REGULAR  
SUBCUT 86 TOPSOIL

NOTE: EARTHWORK QUANTITIES INCLUDE  
BITUMINOUS AND CONCRETE  
REMOVAL ITEMS.

NOTE: UTILITY ELEVATIONS ASSUMED  
NOT ACTUAL.

CROSS-SECTION  
STA. 95+37 TO 98+00

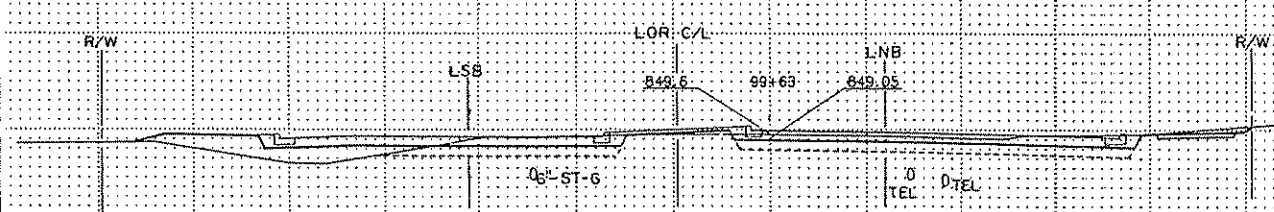
Copy Equipment Form #1 11/15/57

EXCAVATION EMBANKMENT

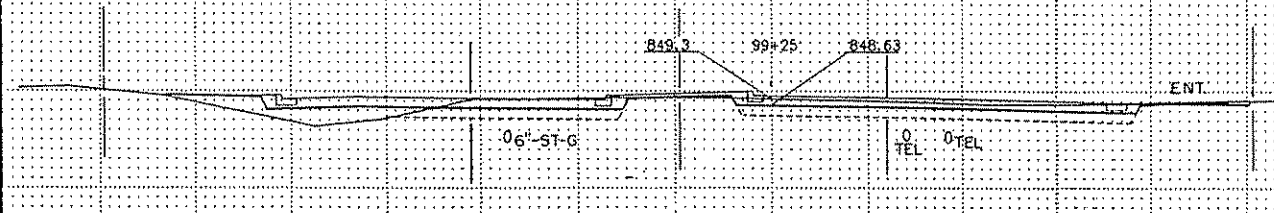
SUB-TOTALS CU.YDS. SUB-TOTALS CU.YDS.

EXCAVATION EMBANKMENT

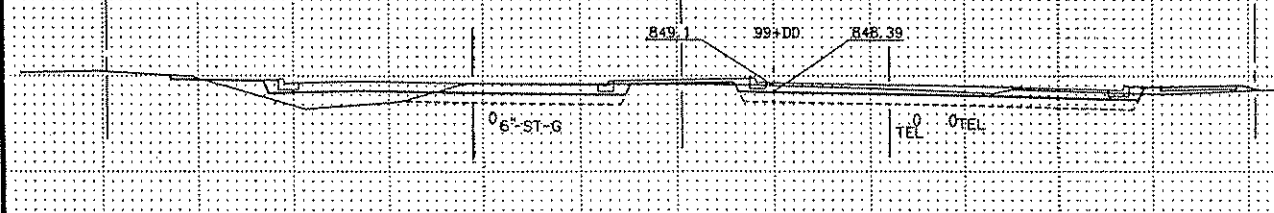
SUB-TOTALS CU.YDS. SUB-TOTALS CU.YDS.



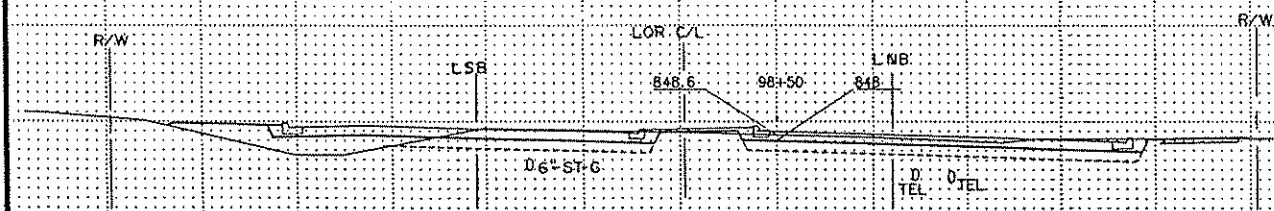
REGULAR SUBCUT	75	157	REGULAR TOPSOIL
	106		



	47	100	
	69		

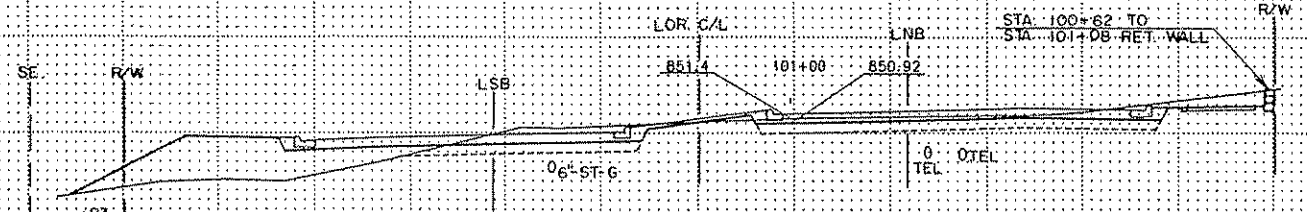


	102	209	
	140		

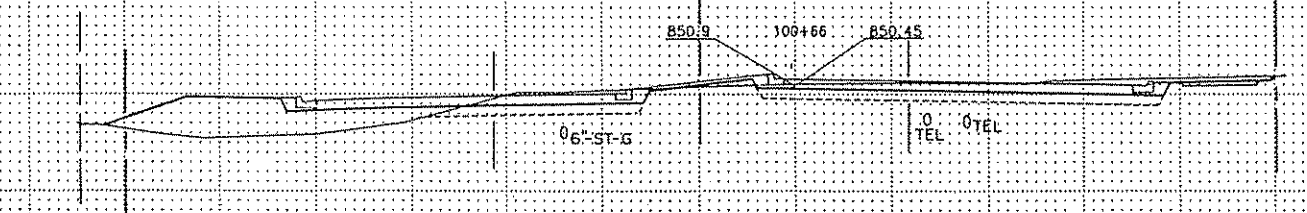


NOTE: EARTHWORK QUANTITIES INCLUDE BITUMINOUS AND CONCRETE REMOVAL ITEMS.

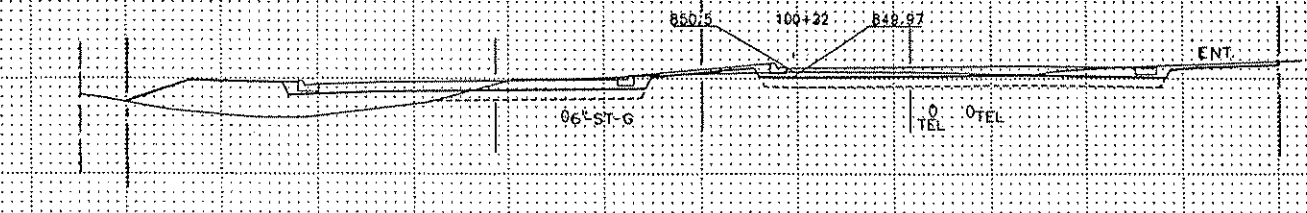
	133	208	
	137		



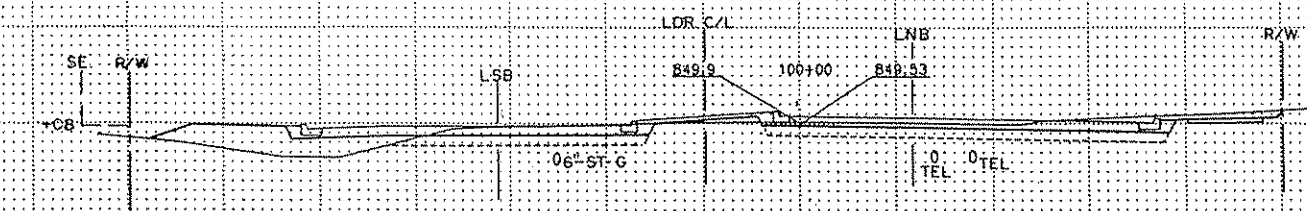
REGULAR SUBCUT	88	216	REGULAR TOPSOIL
	94		



	76	198	
	91		

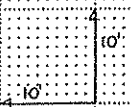


	67	166	
	88		



NOTE: UTILITY ELEVATIONS ASSUMED. NOT ACTUAL.

	81	167	
	104		



CROSS-SECTION STA. 98+50 TO 101+00

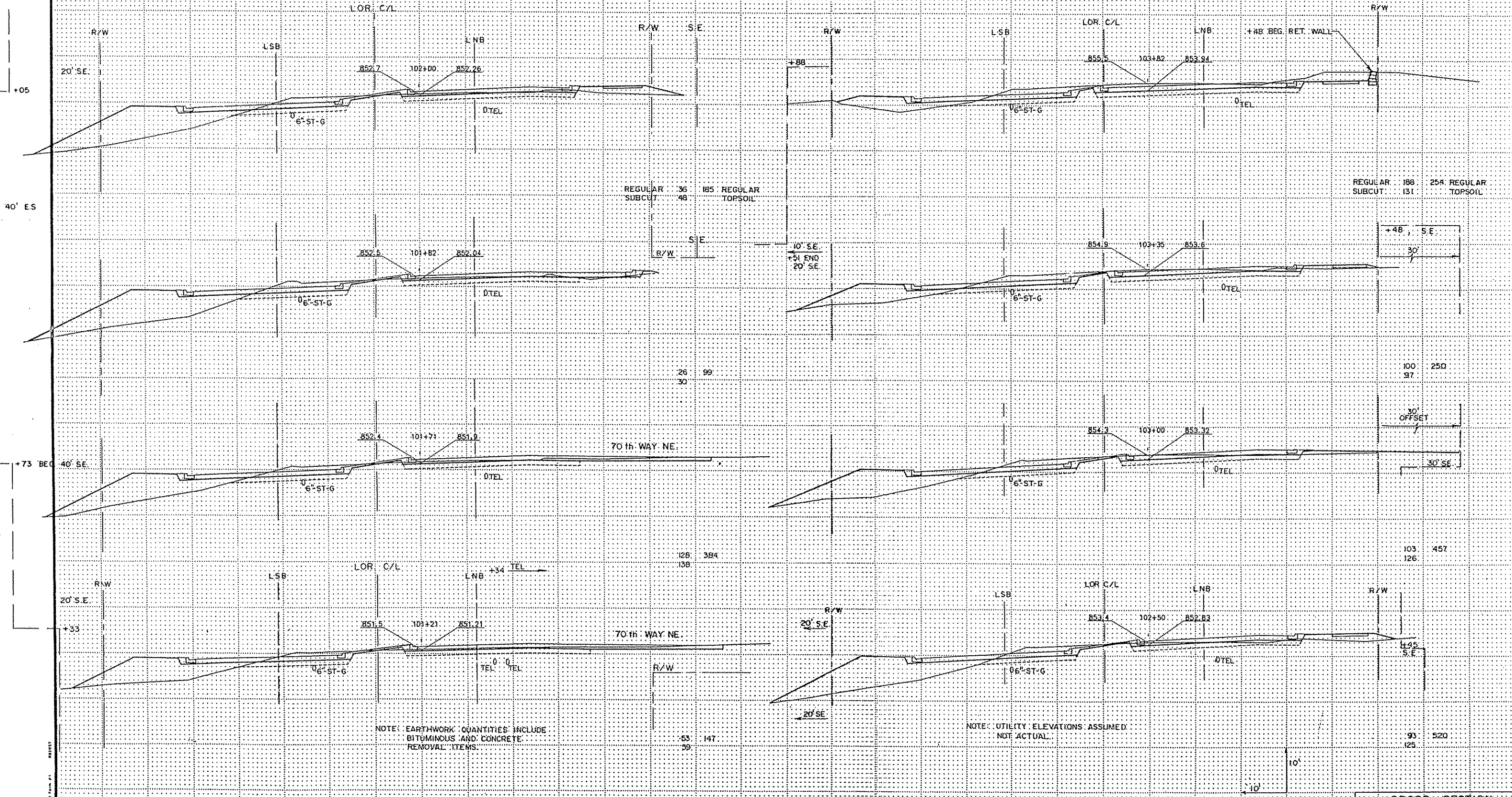
Drawn by: [illegible]

EXCAVATION EMBANKMENT

SUB-TOTALS CU.YDS. SUB-TOTALS CU.YDS.

EXCAVATION EMBANKMENT

SUB-TOTALS CU.YDS. SUB-TOTALS CU.YDS.



REGULAR	36	185	REGULAR
SUBCUT	48		TOPSOIL

REGULAR	188	254	REGULAR
SUBCUT	131		TOPSOIL

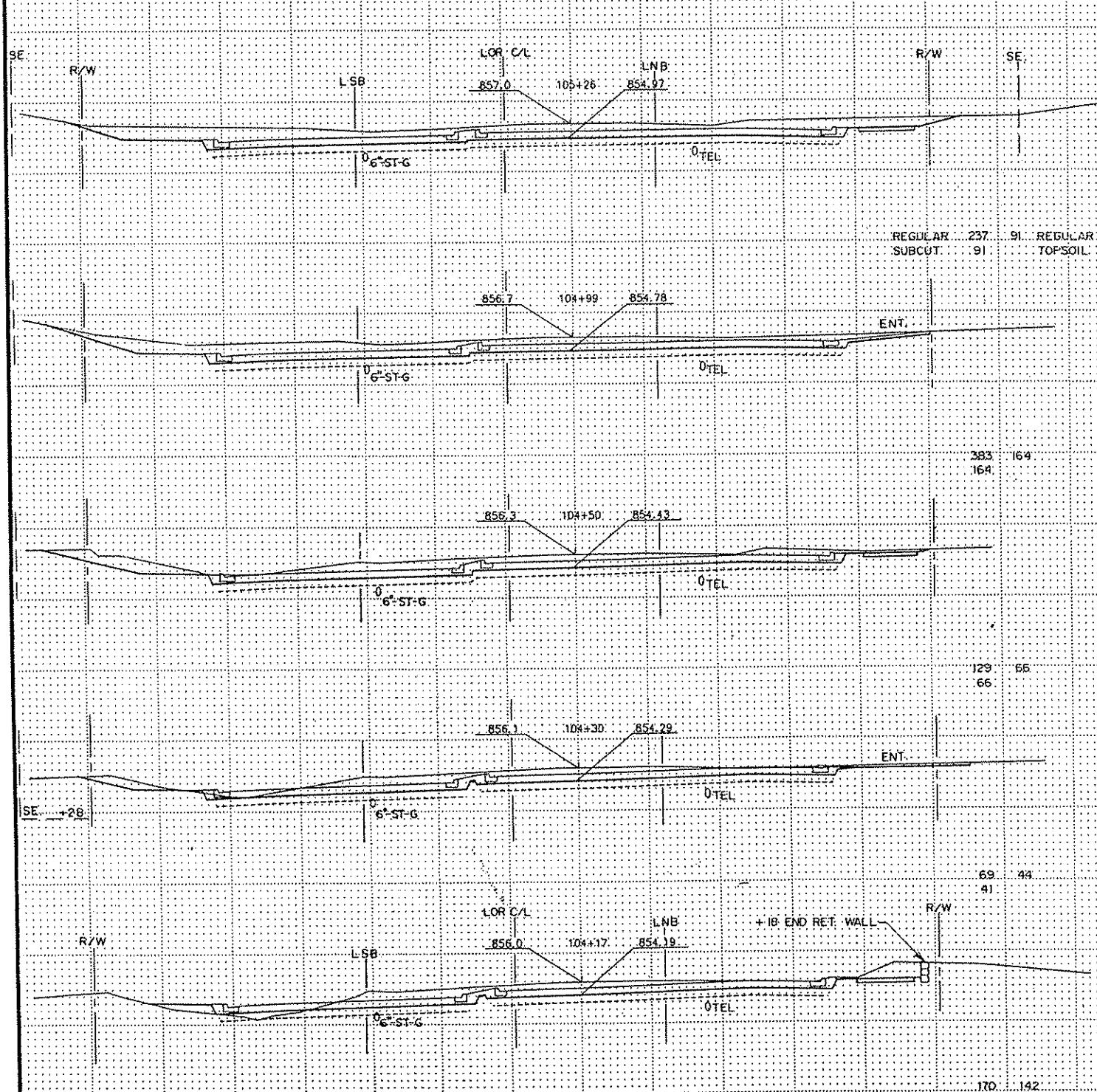
NOTE: EARTHWORK QUANTITIES INCLUDE BITUMINOUS AND CONCRETE REMOVAL ITEMS.

NOTE: UTILITY ELEVATIONS ASSUMED NOT ACTUAL.

CROSS-SECTION  
STA: 101+21 TO STA: 103+82

**EXCAVATION EMBANKMENT**  
SUB: TOTALS CU YDS. SUB: TOTALS CU YDS.

**EXCAVATION EMBANKMENT**  
SUB: TOTALS CU YDS. SUB: TOTALS CU YDS.



REGULAR	237	91	REGULAR
SUBCUT			TOPSOIL

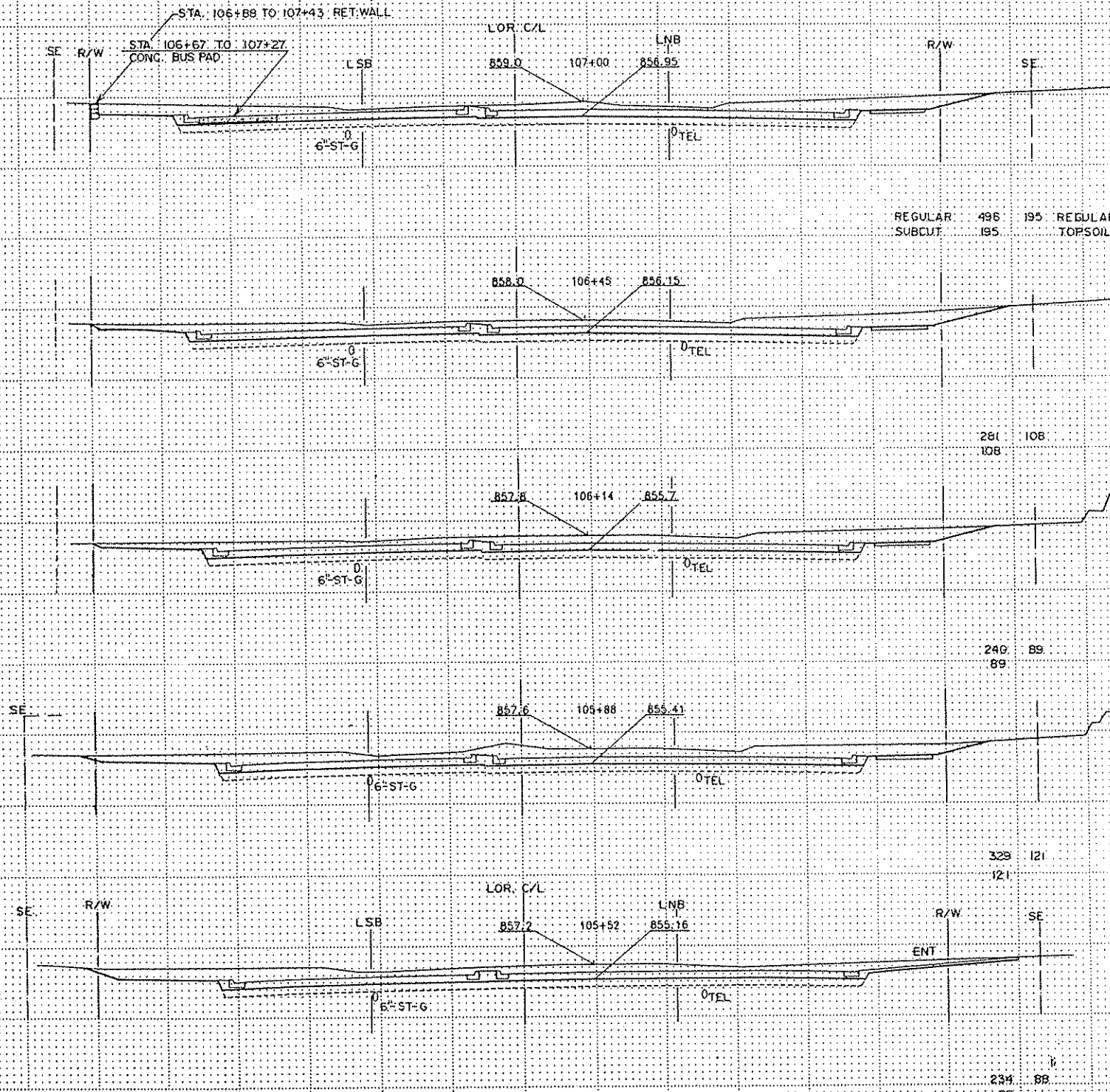
383	164
164	

129	66
66	

69	44
41	

170	142
101	

NOTE: EARTHWORK QUANTITIES INCLUDE BITUMINOUS AND CONCRETE REMOVAL ITEMS.



REGULAR	496	195	REGULAR
SUBCUT			TOPSOIL

281	108
108	

240	89
89	

329	121
121	

234	88
88	

NOTE: UTILITY ELEVATIONS ASSUMED NOT ACTUAL.

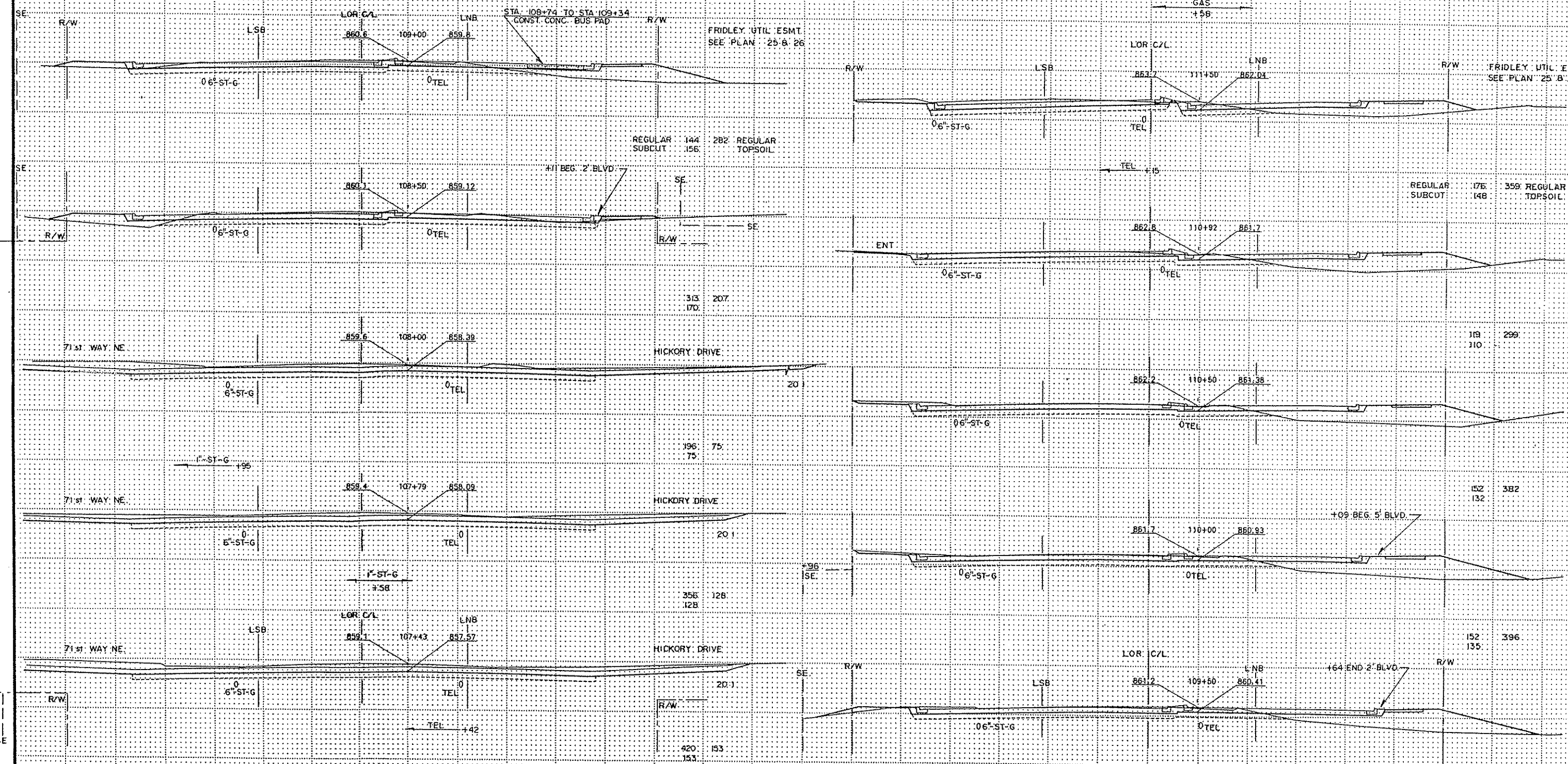
CROSS-SECTION  
STA. 104+17 TO STA. 107+00

EXCAVATION EMBANKMENT

SUB-TOTALS CU.YDS. SUB-TOTALS CU.YDS.

EXCAVATION EMBANKMENT

SUB-TOTALS CU.YDS. SUB-TOTALS CU.YDS.



REGULAR 144 282 REGULAR  
SUBCUT 156 TOPSOIL

REGULAR 175 359 REGULAR  
SUBCUT 148 TOPSOIL

313 207  
170

119 299  
110

196 75  
75

152 382  
132

356 128  
128

152 396  
135

420 153  
153

148 363  
144

NOTE: EARTHWORK QUANTITIES INCLUDE BITUMINOUS AND CONCRETE REMOVAL ITEMS.

NOTE: UTILITY ELEVATIONS ASSUMED NOT ACTUAL.

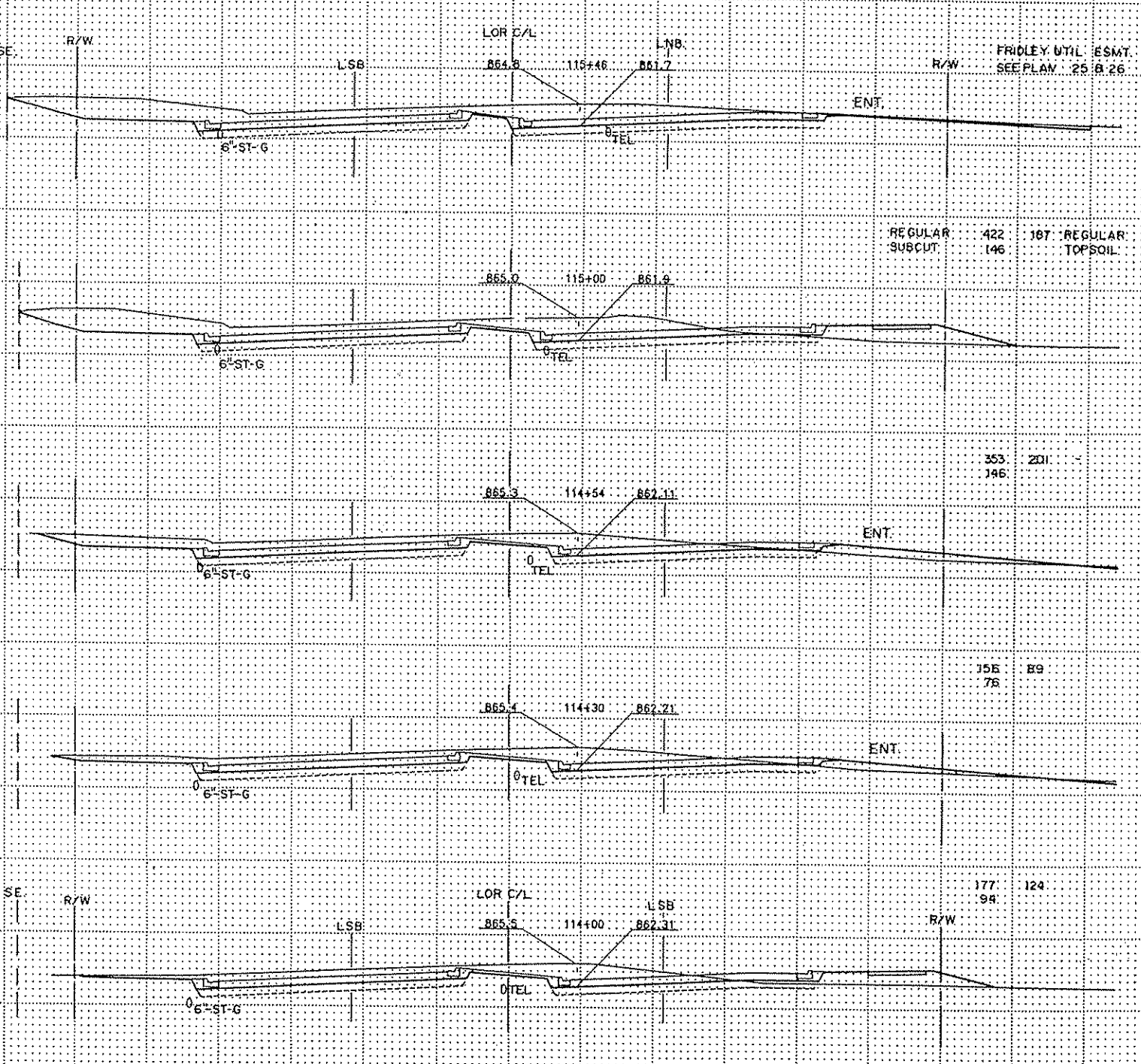
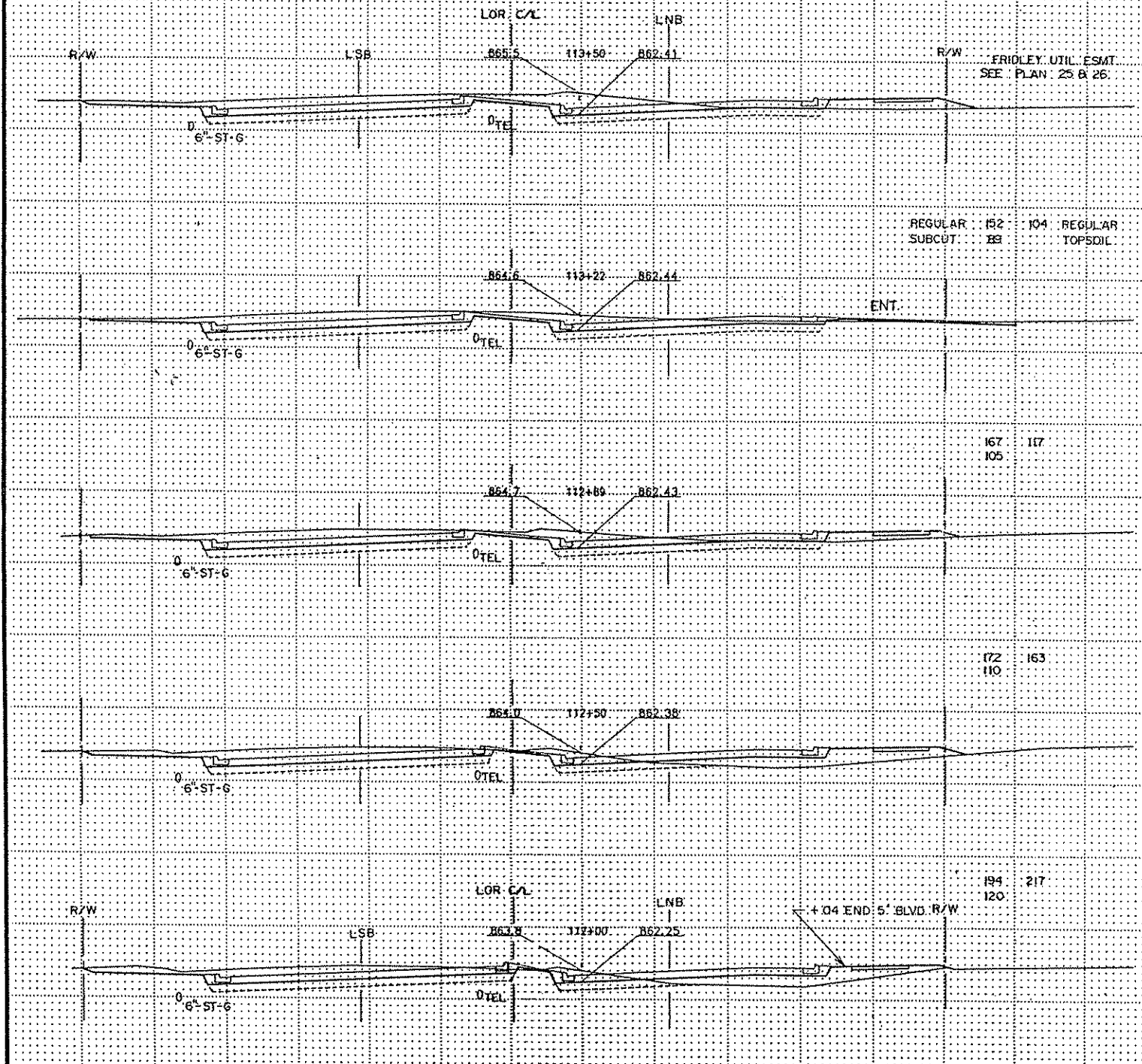


CROSS SECTION  
STA. 107+43 TO STA. 111+60

City of Minneapolis Form 51 8/13/57

EXCAVATION EMBANKMENT  
SUB-TOTALS CU.YDS. SUB-TOTALS CU.YDS.

EXCAVATION EMBANKMENT  
SUB-TOTALS CU.YDS. SUB-TOTALS CU.YDS.



REGULAR 152 104  
SUBCUT 33 TOPSOIL

REGULAR 422 187  
SUBCUT 146 TOPSOIL

167 117  
105

353 201  
146

172 163  
110

155 89  
76

194 217  
120

177 124  
94

180 242  
121

277 218  
156

NOTE: EARTHWORK QUANTITIES INCLUDE BITUMINOUS AND CONCRETE REMOVAL ITEMS.

NOTE: UTILITY ELEVATIONS ASSUMED NOT ACTUAL.

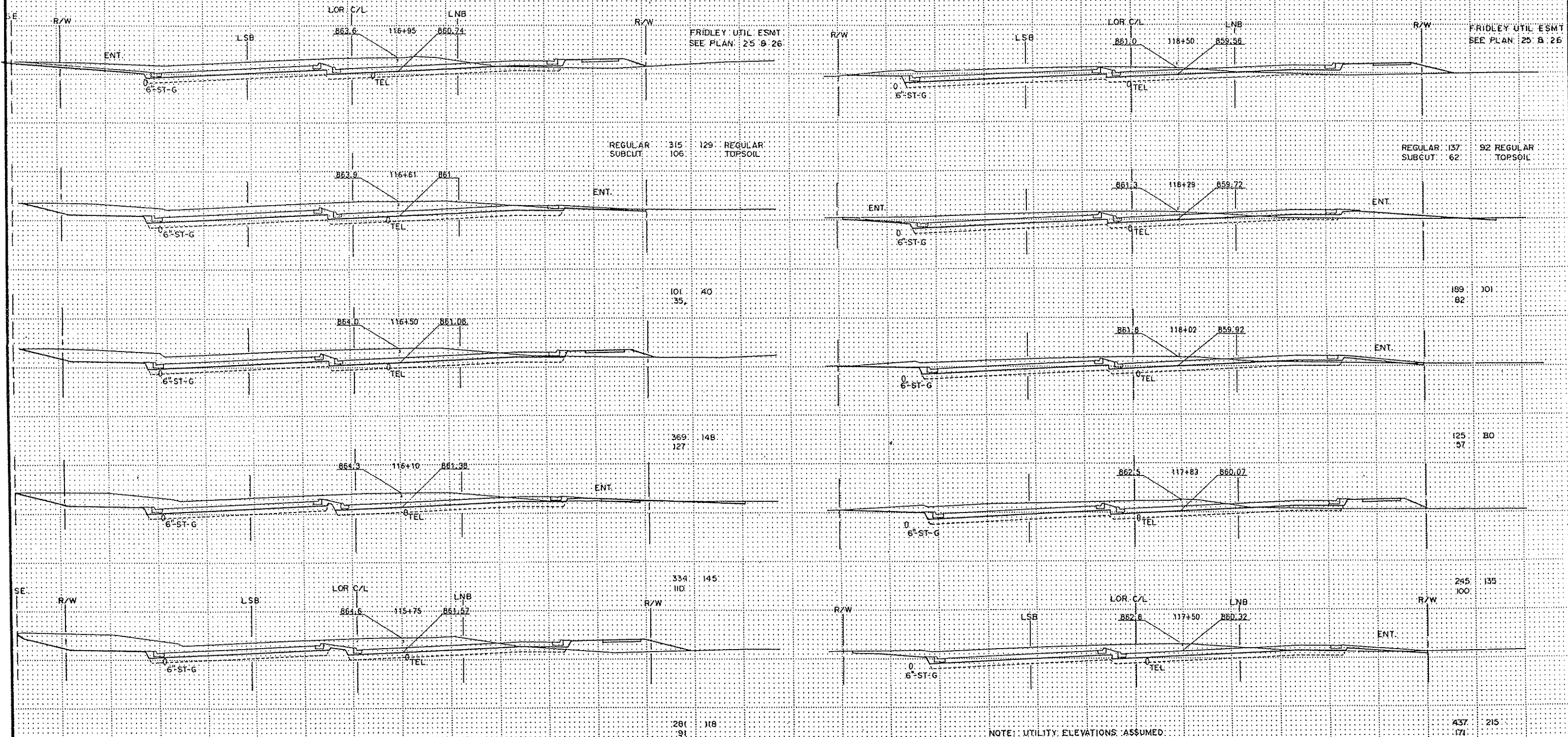
+04 END: 5' BLVD. R/W

Draw. (Embankment) Form #1



EXCAVATION EMBANKMENT  
SUB: TOTALS: CU. YDS. SUB: TOTALS: CU. YDS.

EXCAVATION EMBANKMENT  
SUB: TOTALS: CU. YDS. SUB: TOTALS: CU. YDS.



REGULAR SUBCUT: 315 106 129 REGULAR TOPSOIL

REGULAR SUBCUT: 137 62 92 REGULAR TOPSOIL

101 35 40

189 82 301

369 127 148

125 57 80

334 110 145

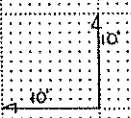
245 100 135

281 91 118

437 171 215

NOTE: EARTHWORK QUANTITIES INCLUDE BITUMINOUS AND CONCRETE REMOVAL ITEMS.

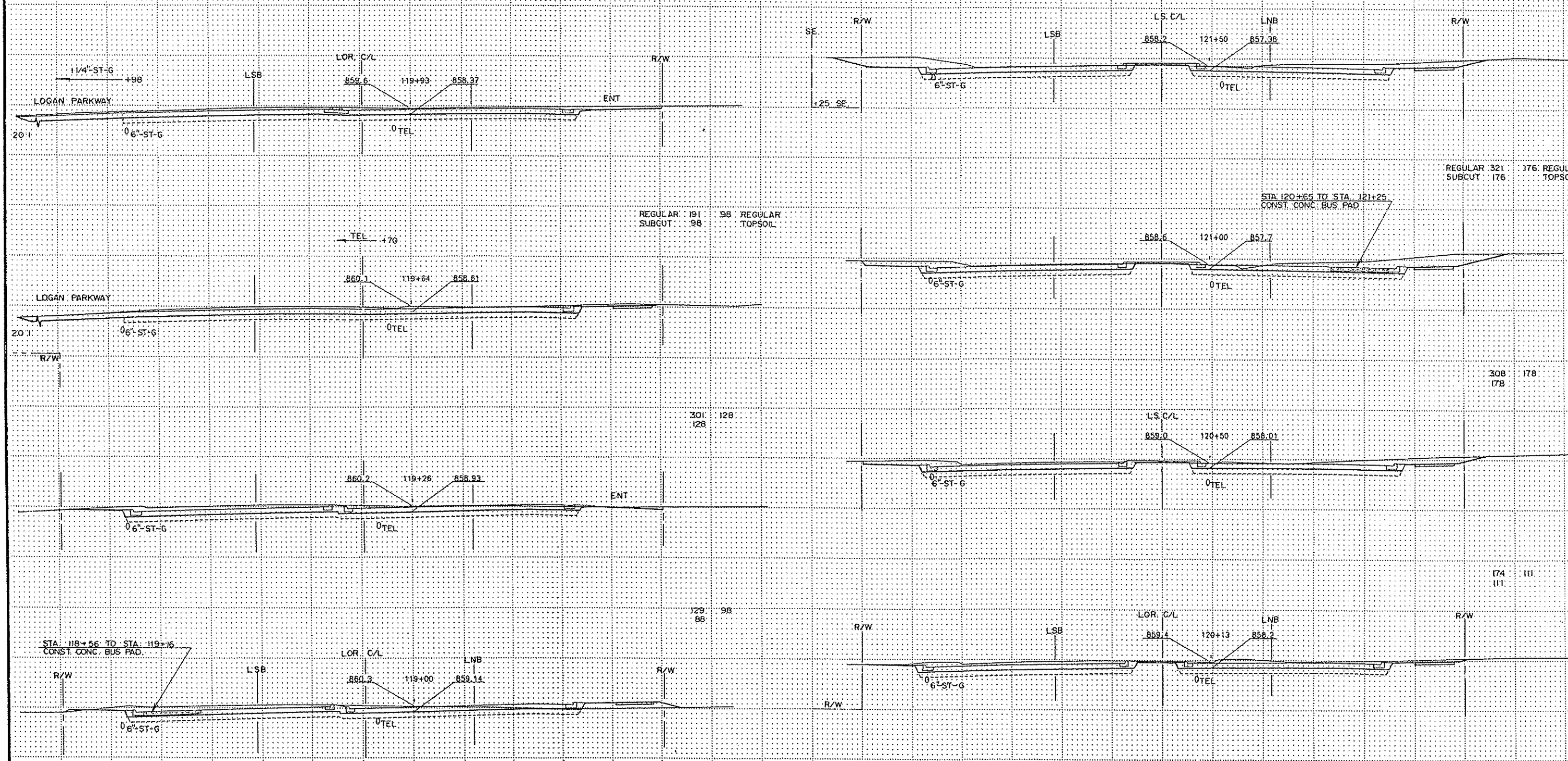
NOTE: UTILITY ELEVATIONS ASSUMED NOT ACTUAL.



CROSS-SECTION  
STA. 115+75 TO 118+50

EXCAVATION EMBANKMENT  
SUB-TOTALS CU.YDS. SUB-TOTALS CU.YDS.

EXCAVATION EMBANKMENT  
SUB-TOTALS CU.YDS. SUB-TOTALS CU.YDS.



REGULAR 191  
SUBCUT 98

98 REGULAR  
TOPSOIL

REGULAR 321  
SUBCUT 176

176 REGULAR  
TOPSOIL

308  
178

301  
128

128

174  
111

129  
88

98

121  
69

247  
157

227

NOTE: EARTHWORK QUANTITIES INCLUDE  
BITUMINOUS AND CONCRETE  
REMOVAL ITEMS.

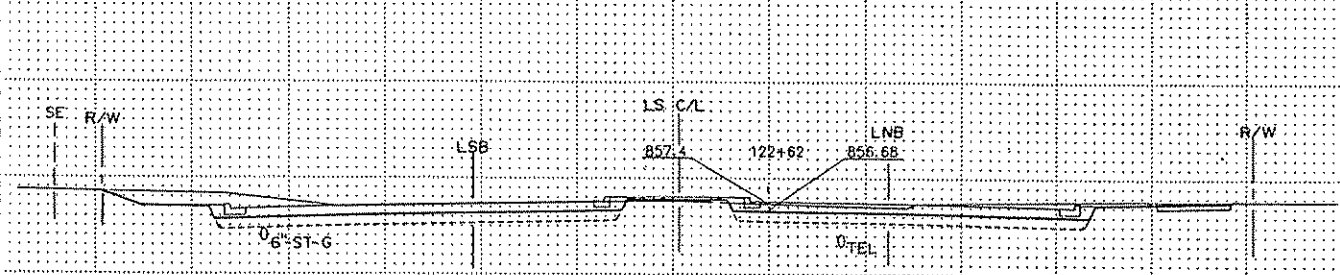
NOTE: UTILITY ELEVATIONS ASSUMED.  
NOT ACTUAL.

10'  
10'

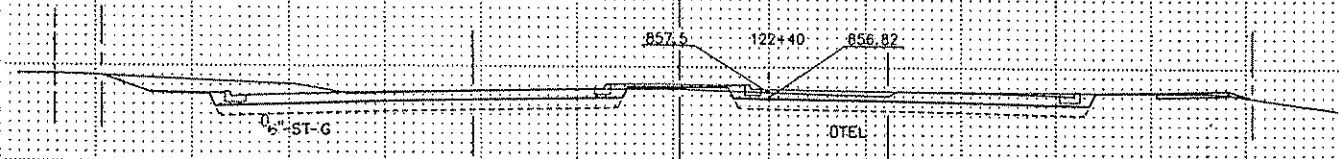
CROSS-SECTION  
STA. 119+00 TO STA. 121+50

EXCAVATION EMBANKMENT  
SUB: TOTALS 'CU.YDS. SUB: TOTALS 'CU.YDS.

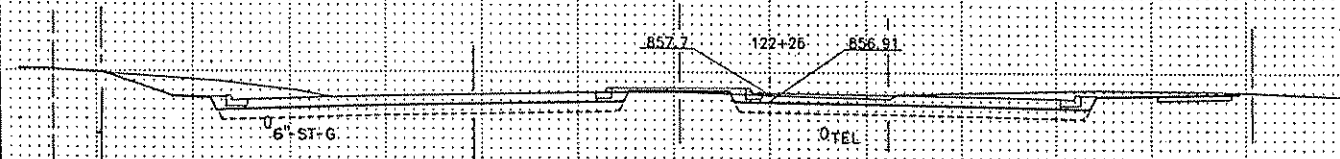
EXCAVATION EMBANKMENT  
SUB: TOTALS 'CU.YDS. SUB: TOTALS 'CU.YDS.



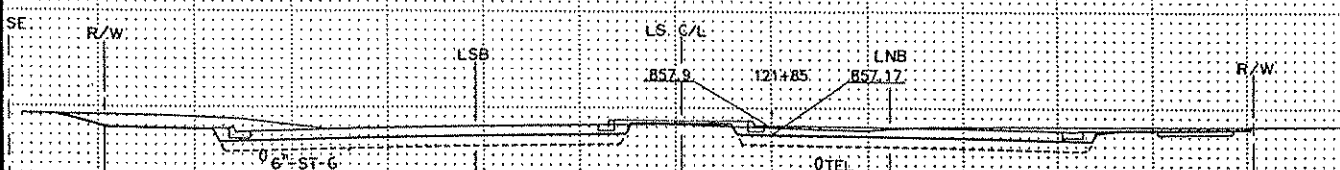
REGULAR 91  
SUBCUT 74 76 REGULAR  
TOPSOIL



68  
50 51

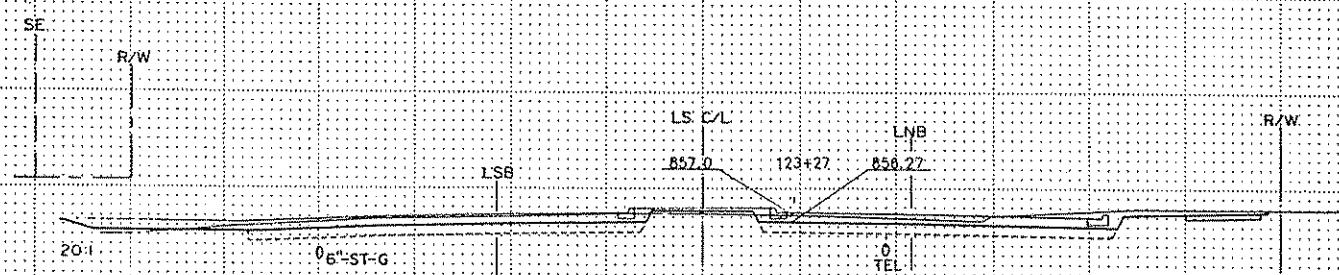


187  
135 135

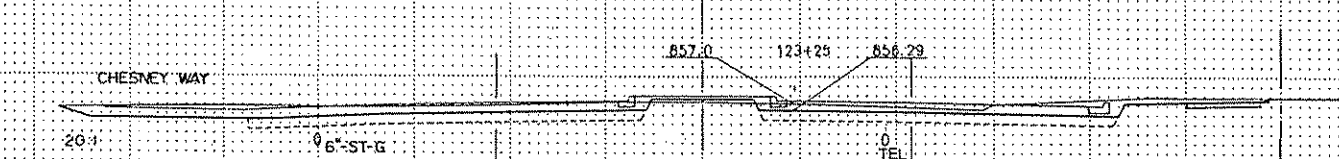


186  
120 120

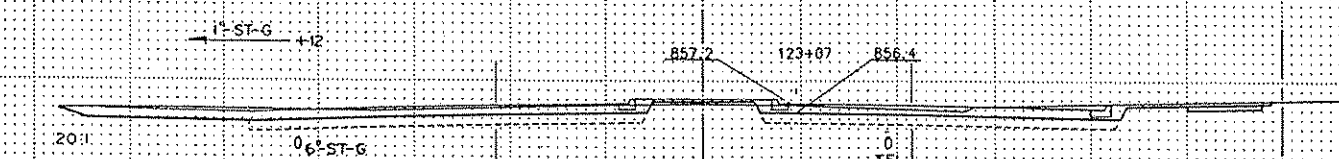
NOTE: EARTHWORK QUANTITIES INCLUDE  
BITUMINOUS AND CONCRETE  
REMOVAL ITEMS.



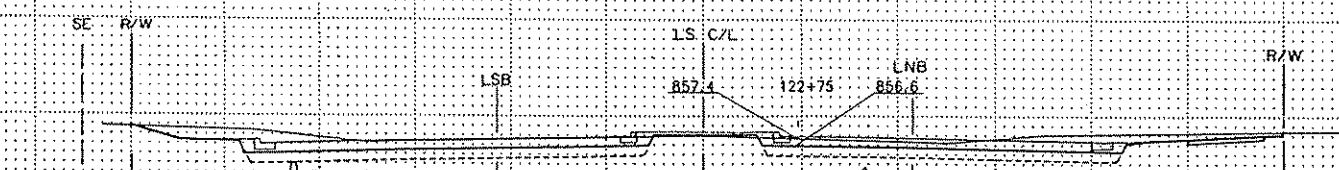
REGULAR 7  
SUBCUT 7 7 REGULAR  
TOPSOIL



73  
60 61



136  
107 108



55  
44 44

NOTE: UTILITY ELEVATIONS ASSUMED  
NOT ACTUAL.

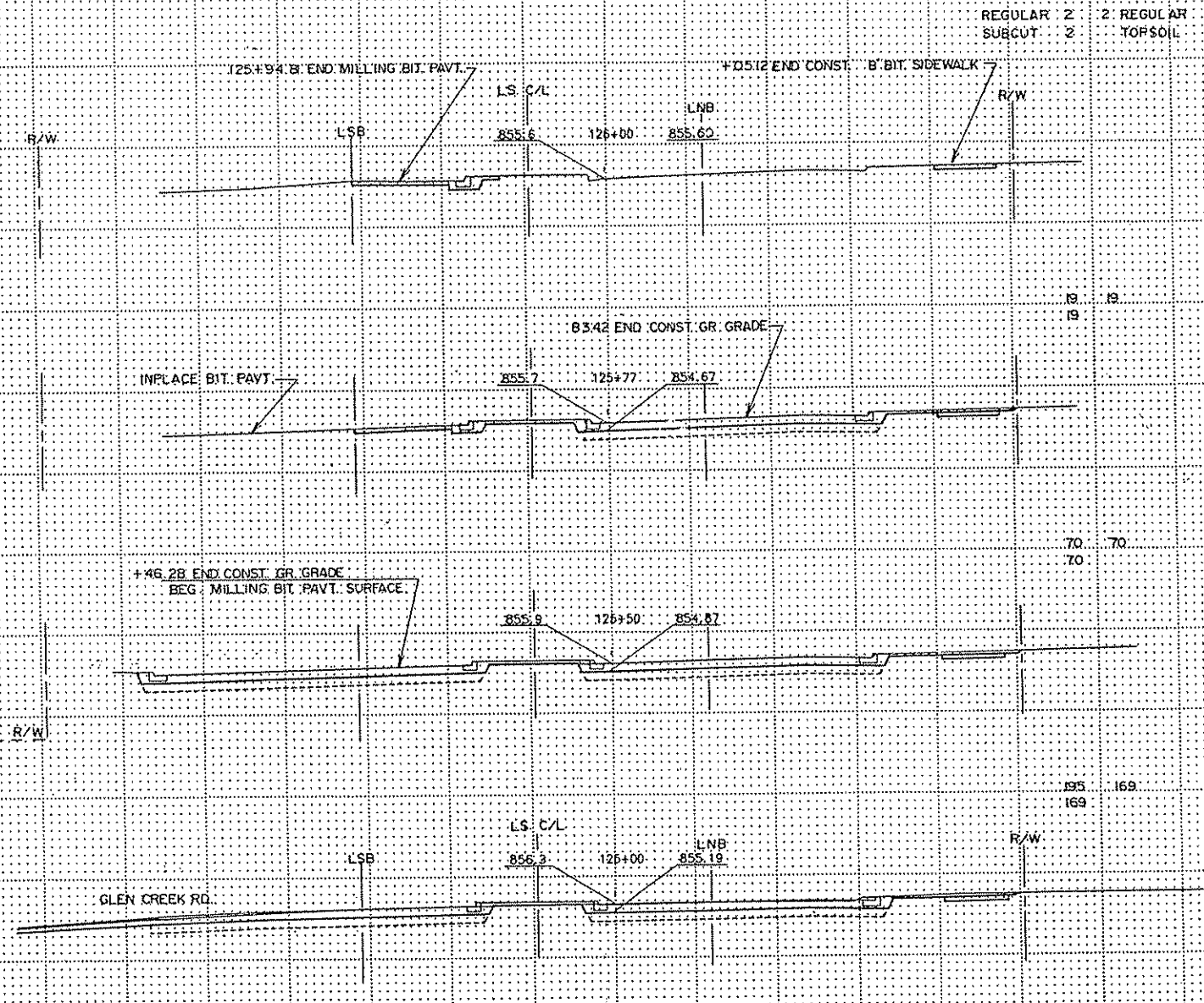
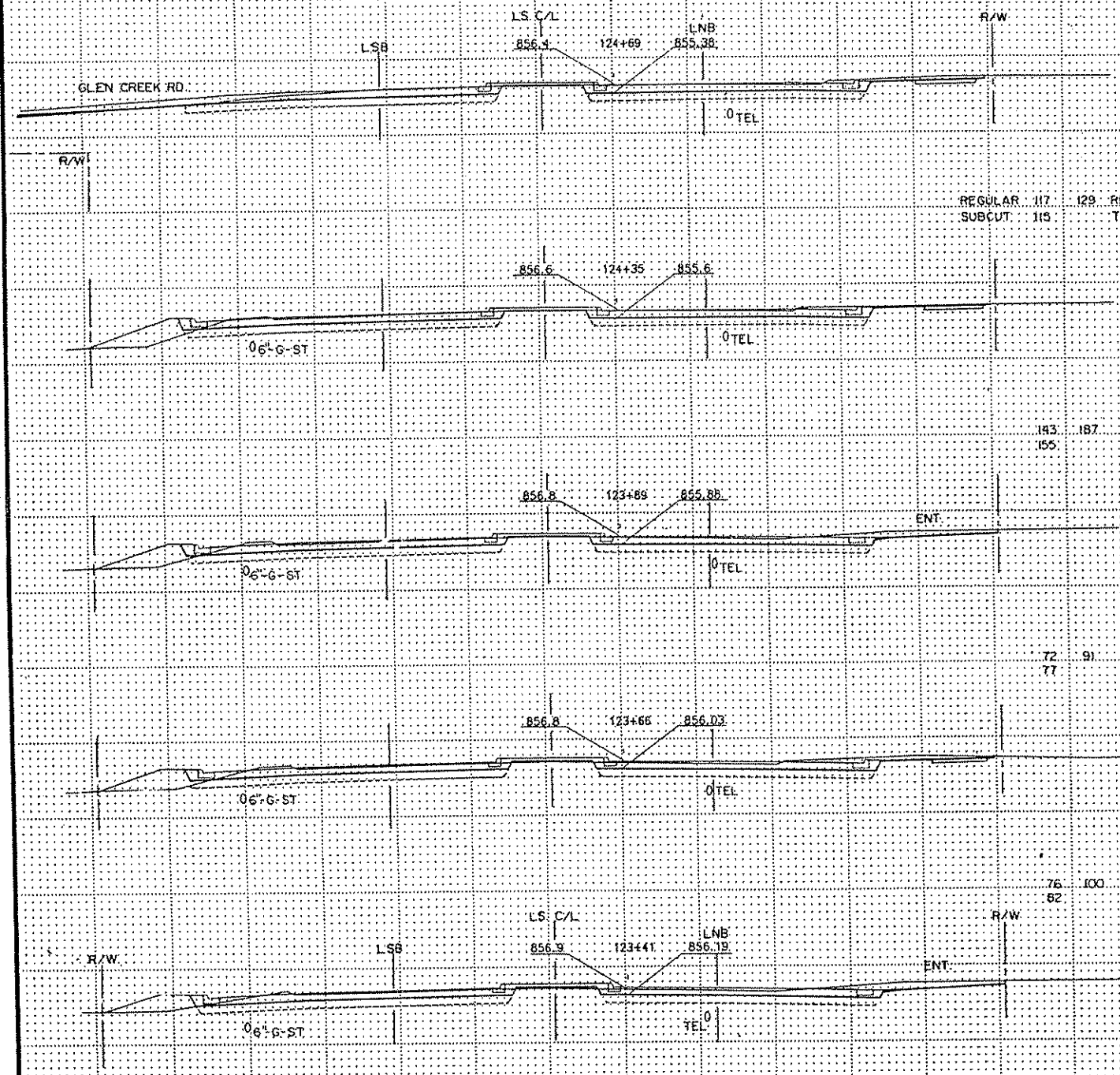


CROSS-SECTION  
STA. 121+85 TO STA. 123+27

City Engineer's Plan 41 88487

EXCAVATION EMBANKMENT  
SUB-TOTALS CU.YDS. SUB-TOTALS CU.YDS.

EXCAVATION EMBANKMENT  
SUB-TOTALS CU.YDS. SUB-TOTALS CU.YDS.



NOTE: EARTHWORK QUANTITIES INCLUDES BITUMINOUS AND CONCRETE REMOVAL ITEMS.

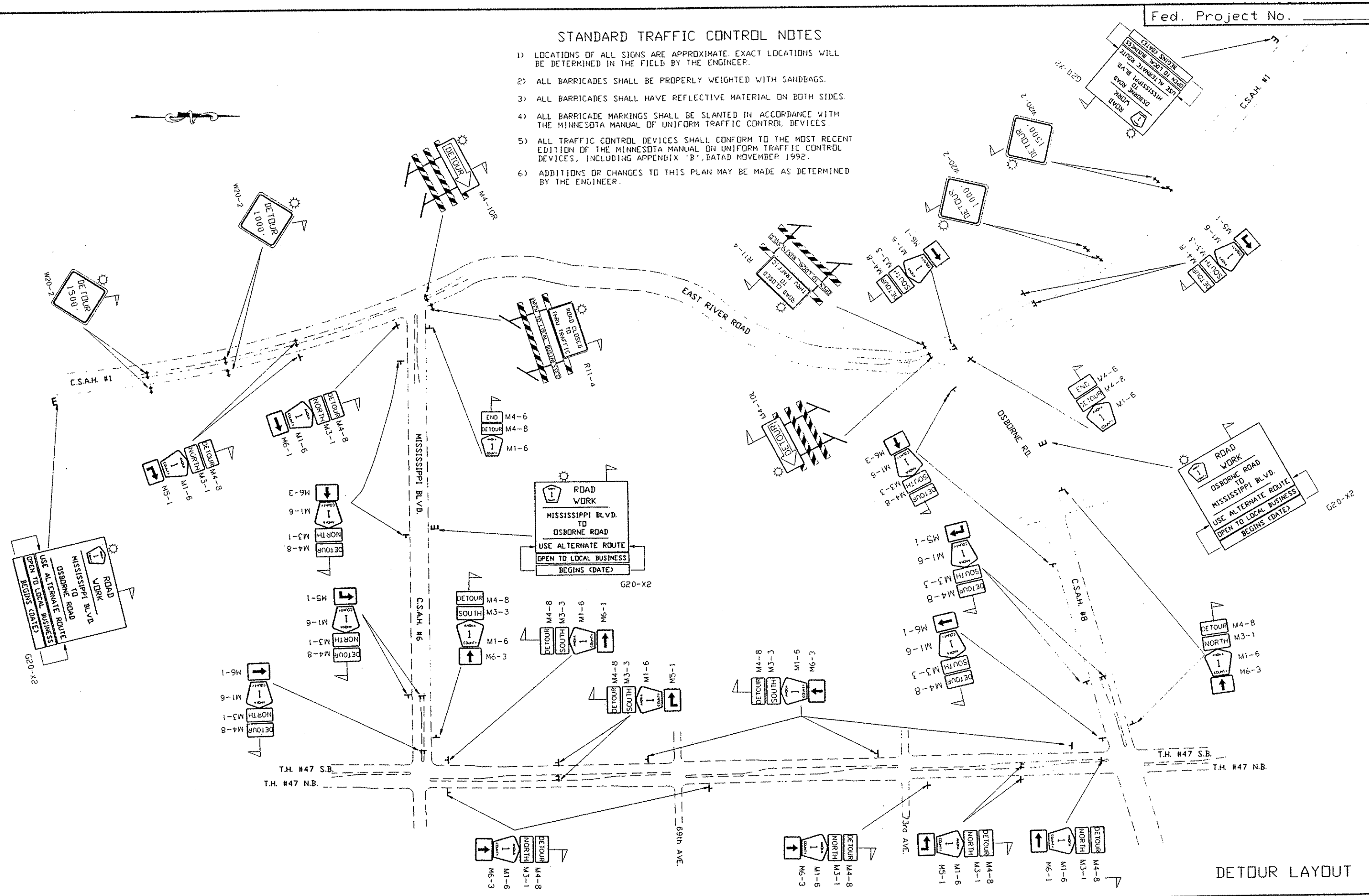
NOTE: UTILITY ELEVATIONS ASSUMED NOT ACTUAL.

CROSS-SECTION  
STA. 123+41 TO STA. 126+00

Clear Equipment Form #1

### STANDARD TRAFFIC CONTROL NOTES

- 1) LOCATIONS OF ALL SIGNS ARE APPROXIMATE. EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.
- 2) ALL BARRICADES SHALL BE PROPERLY WEIGHTED WITH SANDBAGS.
- 3) ALL BARRICADES SHALL HAVE REFLECTIVE MATERIAL ON BOTH SIDES.
- 4) ALL BARRICADE MARKINGS SHALL BE SLANTED IN ACCORDANCE WITH THE MINNESOTA MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
- 5) ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MOST RECENT EDITION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING APPENDIX 'B', DATED NOVEMBER 1992.
- 6) ADDITIONS OR CHANGES TO THIS PLAN MAY BE MADE AS DETERMINED BY THE ENGINEER.



REVISIONS	DATE	BY

M.U.T.C.D. CODE	SIZE	INSERT	QUANTITY
W20-3	48' x 48'		• 4 • 4
G20-X2	132' x 108'		• 2
	12' x 132'		
	12' x 132'		
G20-X2	132' x 108'		• 2
	12' x 132'		
	12' x 132'		
R11-3	60' x 30'		• 2
TYPE III	8 FOOT		
M4-10L	48' x 18'		• 1
TYPE III	4 FOOT		
M4-10R	48' x 18'		• 1
TYPE III	4 FOOT		

TO BE INSTALLED AT START OF CONSTRUCTION  
TO BE REMOVED AT START OF CONSTRUCTION

TO BE INSTALLED AT START OF CONSTRUCTION  
TO BE REMOVED AT START OF CONSTRUCTION

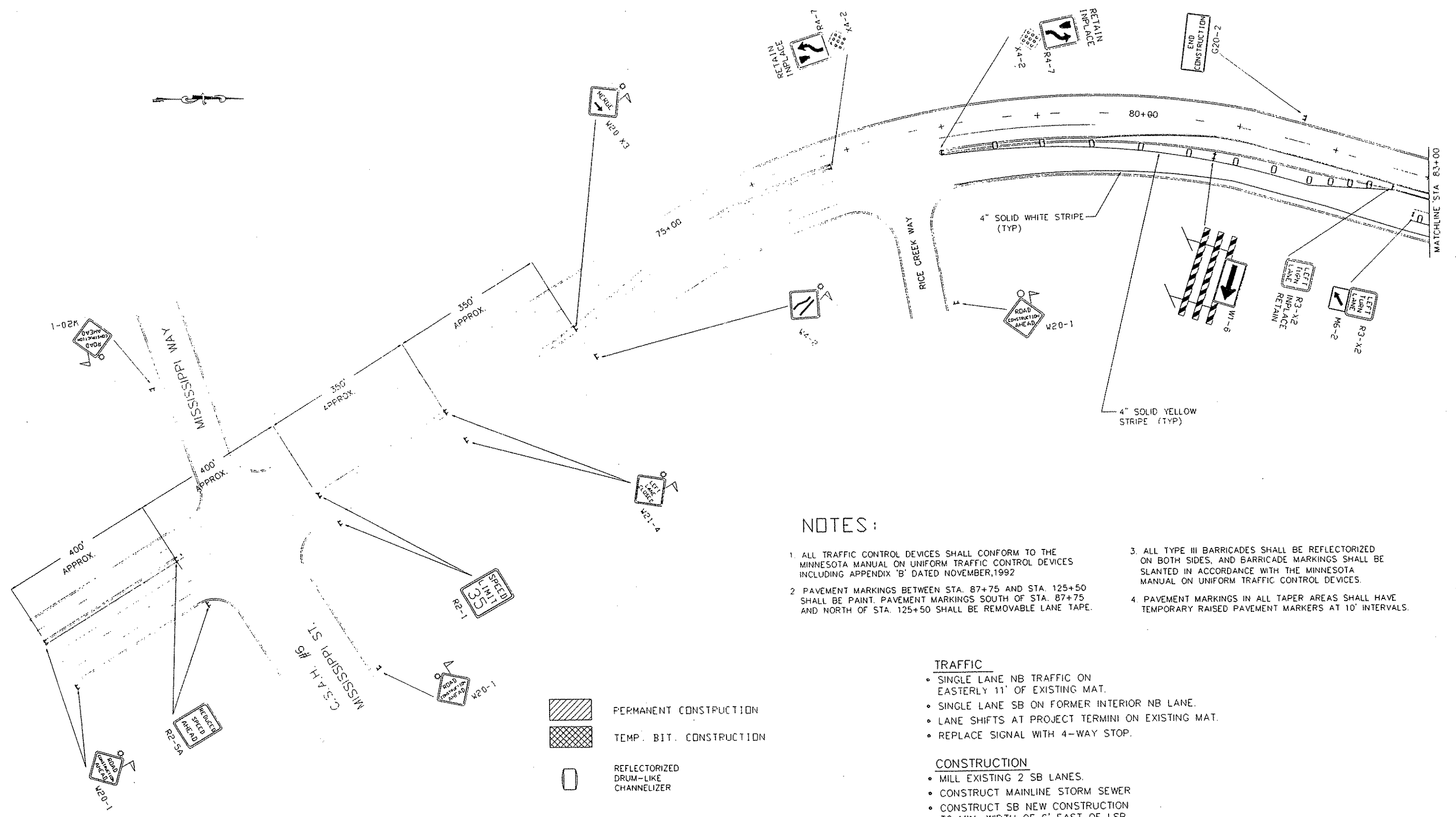
M.U.T.C.D. CODE	SIZE	INSERT	QUANTITY
		M5-1L	• 4
M4-8	24' x 12'		• 2
M3-1	21' x 12'		
M1-6	24' x 24'		• 2
	21' x 15'		
		M6-1L	• 1
		M6-1R	• 1
		M6-3	• 7
		M5-1L	• 2
M4-8	24' x 12'		• 4
M3-3	21' x 12'		
M1-6	24' x 24'		• 1
	21' x 15'		
		M6-1L	• 2
		M6-1R	• 2
		M6-3	• 6
M4-6	24' x 12'		
M4-8	24' x 12'		• 2
M1-6	24' x 24'		

STANDARD TRAFFIC CONTROL NOTES

- 1) LOCATIONS OF ALL SIGNS ARE APPROXIMATE. EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.
- 2) ALL BARRICADES SHALL BE PROPERLY WEIGHTED WITH SAND-BAGS.
- 3) ALL BARRICADES SHALL HAVE REFLECTIVE MATERIAL ON BOTH SIDES.
- 4) ALL BARRICADE MARKINGS SHALL BE SLANTED IN ACCORDANCE WITH THE MINNESOTA MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
- 5) ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MDS' RECENT EDITION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING APPENDIX 'B', DATED NOVEMBER 1992.
- 6) ADDITIONS OR CHANGES TO THIS PLAN MAY BE MADE AS DETERMINED BY THE ENGINEER.

DETOUR QUANTITIES

REVISIONS	BY	DATE



NOTES:

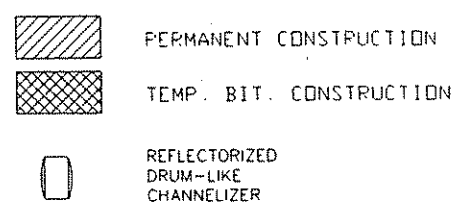
1. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES INCLUDING APPENDIX 'B' DATED NOVEMBER, 1992
2. PAVEMENT MARKINGS BETWEEN STA. 87+75 AND STA. 125+50 SHALL BE PAINT. PAVEMENT MARKINGS SOUTH OF STA. 87+75 AND NORTH OF STA. 125+50 SHALL BE REMOVABLE LANE TAPE.
3. ALL TYPE III BARRICADES SHALL BE REFLECTORIZED ON BOTH SIDES, AND BARRICADE MARKINGS SHALL BE SLANTED IN ACCORDANCE WITH THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
4. PAVEMENT MARKINGS IN ALL TAPER AREAS SHALL HAVE TEMPORARY RAISED PAVEMENT MARKERS AT 10' INTERVALS.

TRAFFIC

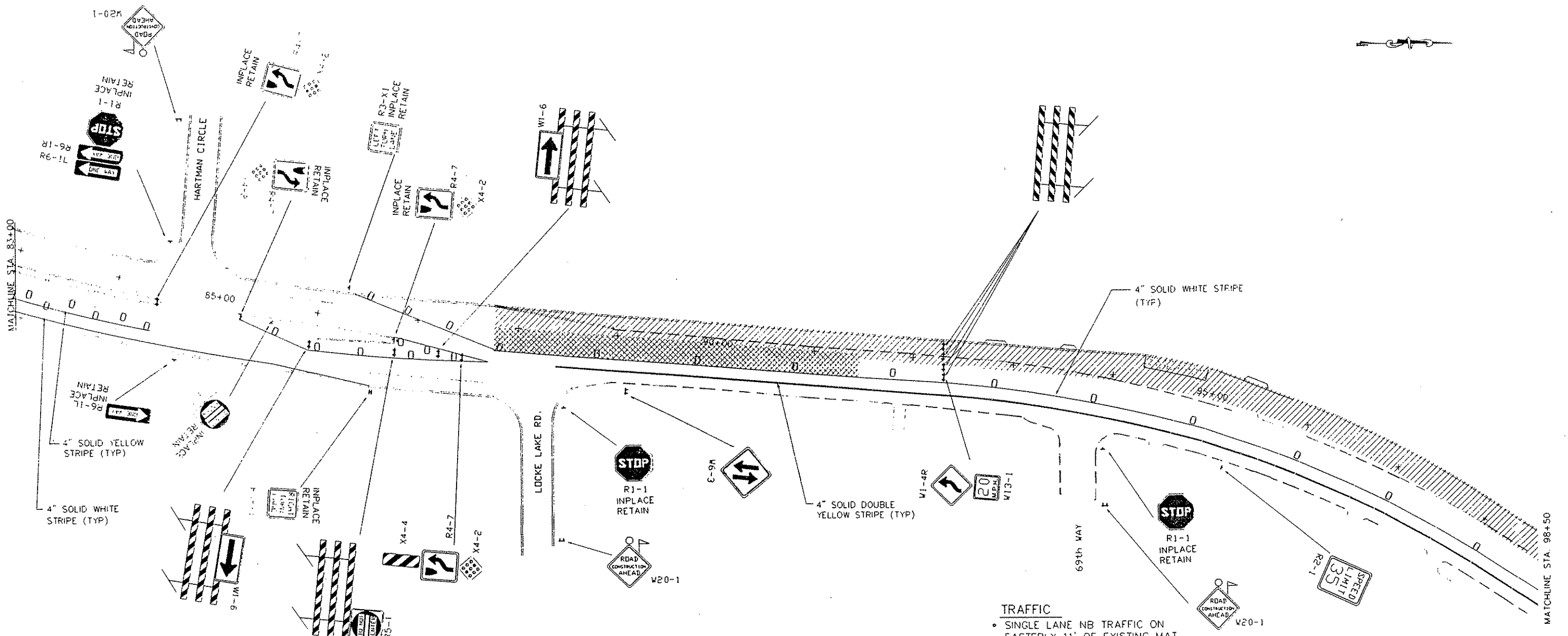
- SINGLE LANE NB TRAFFIC ON EASTERLY 11' OF EXISTING MAT.
- SINGLE LANE SB ON FORMER INTERIOR NB LANE.
- LANE SHIFTS AT PROJECT TERMINI ON EXISTING MAT.
- REPLACE SIGNAL WITH 4-WAY STOP.

CONSTRUCTION

- MILL EXISTING 2 SB LANES.
- CONSTRUCT MAINLINE STORM SEWER
- CONSTRUCT SB NEW CONSTRUCTION TO MIN. WIDTH OF 6' EAST OF LSB.
- CONSTRUCT TEMP. BIT. PAVEMENT ON PROJECT TERMINI FOR STAGE 3 TRAFFIC CROSS-OVERS.



REVISIONS	DATE	BY



**NOTES:**

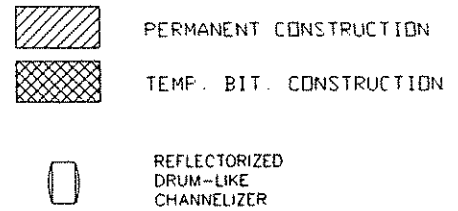
1. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES INCLUDING APPENDIX 'B' DATED NOVEMBER, 1992
2. PAVEMENT MARKINGS BETWEEN STA. 87+75 AND STA. 125+50 SHALL BE PAINT. PAVEMENT MARKINGS SOUTH OF STA. 87+75 AND NORTH OF STA. 125+50 SHALL BE REMOVABLE LANE TAPE.
3. ALL TYPE III BARRICADES SHALL BE REFLECTORIZED ON BOTH SIDES, AND BARRICADE MARKINGS SHALL BE SLANTED IN ACCORDANCE WITH THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
4. PAVEMENT MARKINGS IN ALL TAPER AREAS SHALL HAVE TEMPORARY RAISED PAVEMENT MARKERS AT 10' INTERVALS.

**TRAFFIC**

- SINGLE LANE NB TRAFFIC ON EASTERLY 11' OF EXISTING MAT.
- SINGLE LANE SB ON FORMER INTERIOR NB LANE.
- LANE SHIFTS AT PROJECT TERMINI ON EXISTING MAT.
- REPLACE SIGNAL WITH 4-WAY STOP.

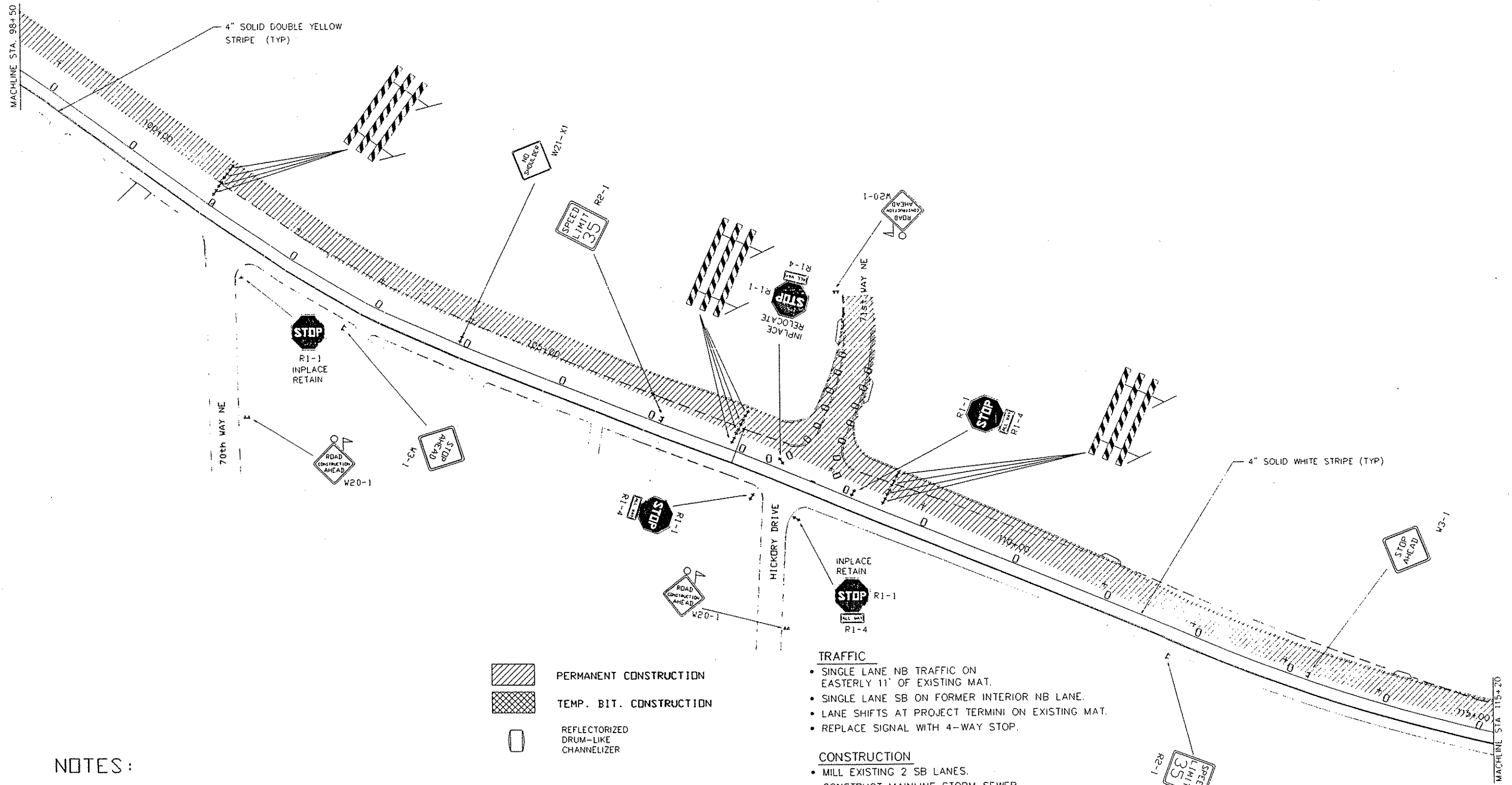
**CONSTRUCTION**

- MILL EXISTING 2 SB LANES.
- CONSTRUCT MAINLINE STORM SEWER
- CONSTRUCT SB NEW CONSTRUCTION TO MIN. WIDTH OF 6' EAST OF LSB.
- CONSTRUCT TEMP. BIT. PAVEMENT ON PROJECT TERMINI FOR STAGE 3 TRAFFIC CROSS-OVERS.



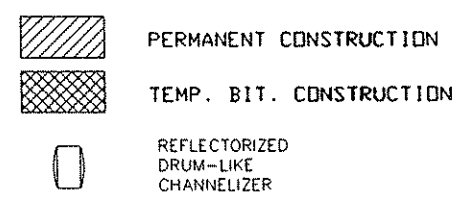
REVISIONS	DATE	BY





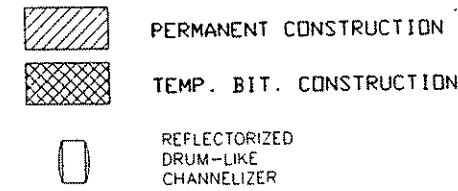
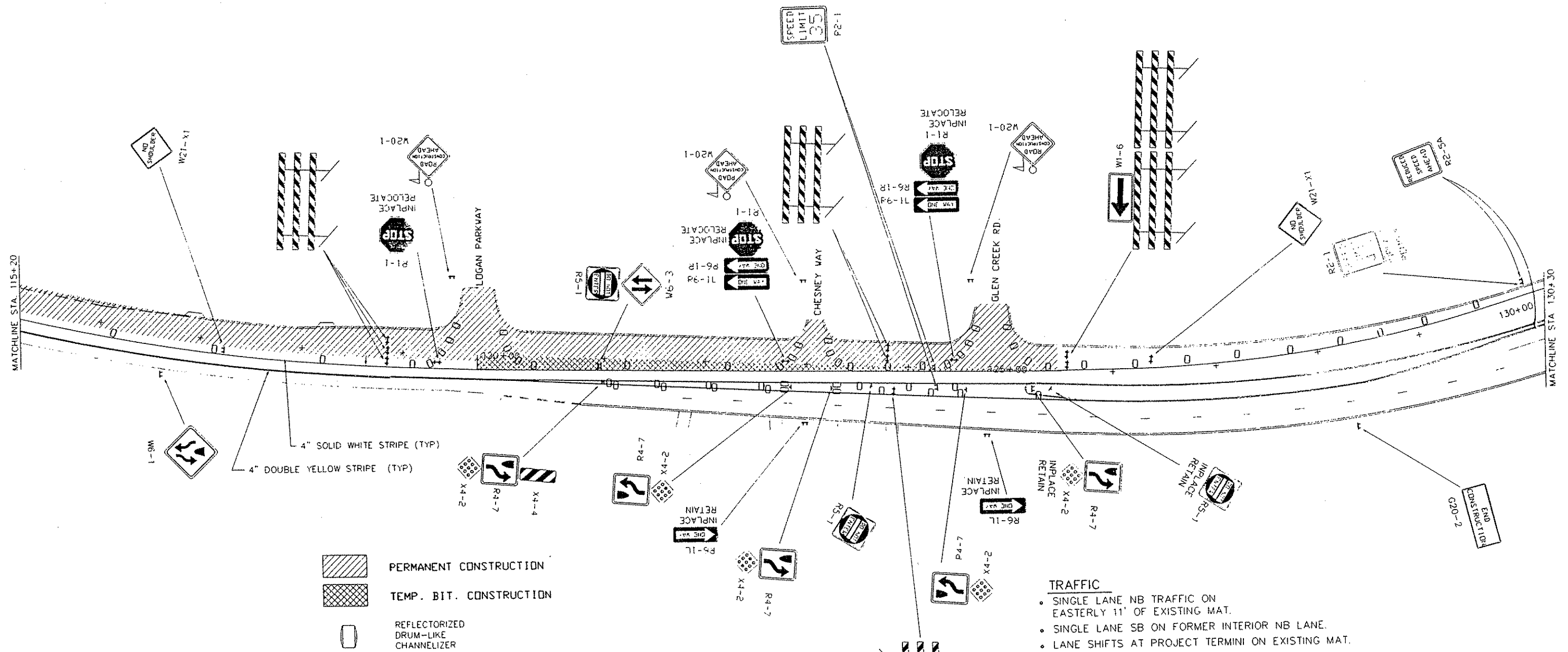
**NOTES:**

1. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES INCLUDING APPENDIX 'B' DATED NOVEMBER, 1992
2. PAVEMENT MARKINGS BETWEEN STA. 87+75 AND STA. 125+50 SHALL BE PAINT. PAVEMENT MARKINGS SOUTH OF STA. 87+75 AND NORTH OF STA. 125+50 SHALL BE REMOVABLE LANE TAPE.
3. ALL TYPE III BARRICADES SHALL BE REFLECTORIZED ON BOTH SIDES, AND BARRICADE MARKINGS SHALL BE SLANTED IN ACCORDANCE WITH THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
4. PAVEMENT MARKINGS IN ALL TAPER AREAS SHALL HAVE TEMPORARY RAISED PAVEMENT MARKERS AT 10' INTERVALS.



- TRAFFIC**
- SINGLE LANE NB TRAFFIC ON EASTERLY 11' OF EXISTING MAT.
  - SINGLE LANE SB ON FORMER INTERIOR NB LANE.
  - LANE SHIFTS AT PROJECT TERMINI ON EXISTING MAT.
  - REPLACE SIGNAL WITH 4-WAY STOP.
- CONSTRUCTION**
- MILL EXISTING 2 SB LANES.
  - CONSTRUCT MAINLINE STORM SEWER
  - CONSTRUCT SB NEW CONSTRUCTION TO MIN. WIDTH OF 6' EAST OF LSB.
  - CONSTRUCT TEMP. BIT. PAVEMENT ON PROJECT TERMINI FOR STAGE 3 TRAFFIC CROSS-OVERS.

REVISIONS	DATE	BY

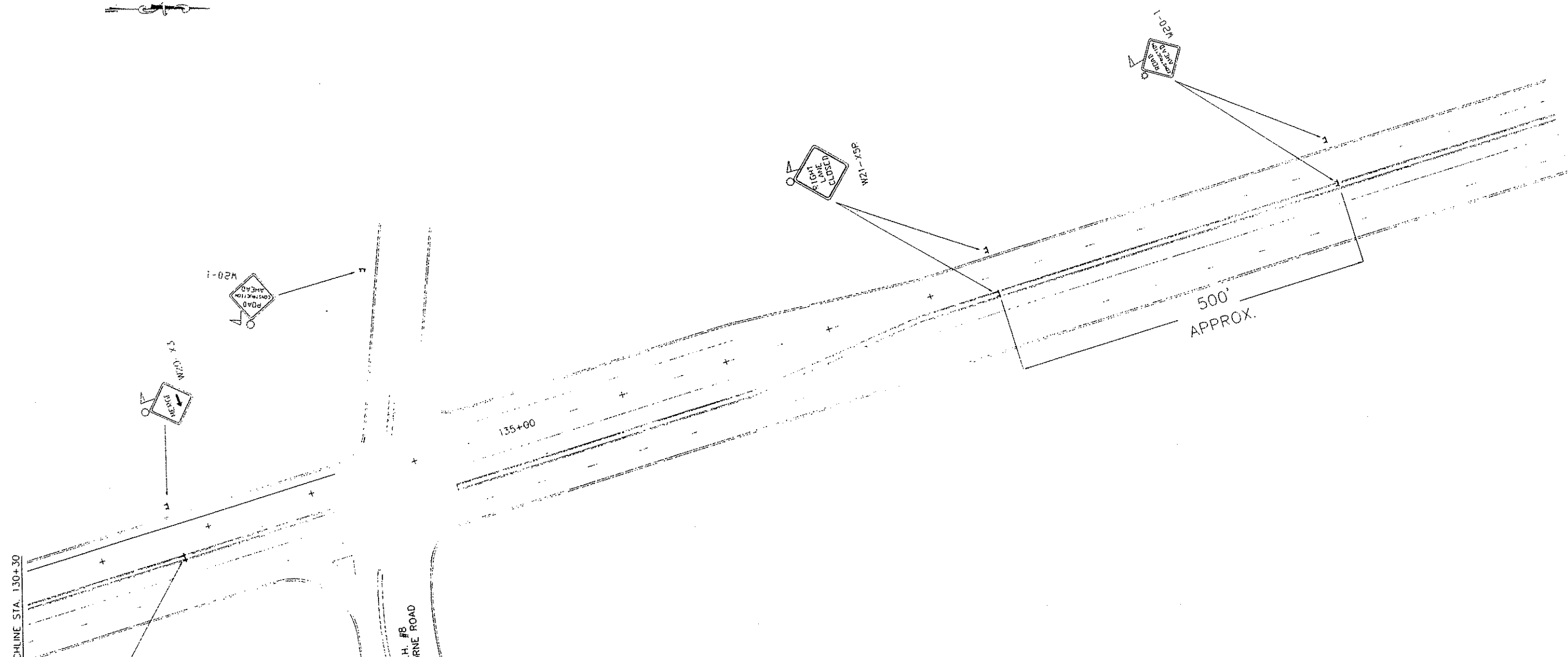





- TRAFFIC**
  - SINGLE LANE NB TRAFFIC ON EASTERLY 11' OF EXISTING MAT.
  - SINGLE LANE SB ON FORMER INTERIOR NB LANE.
  - LANE SHIFTS AT PROJECT TERMINI ON EXISTING MAT.
  - REPLACE SIGNAL WITH 4-WAY STOP.
- CONSTRUCTION**
  - MILL EXISTING 2 SB LANES.
  - CONSTRUCT MAINLINE STORM SEWER
  - CONSTRUCT SB NEW CONSTRUCTION TO MIN. WIDTH OF 6' EAST OF LSB.
  - CONSTRUCT TEMP. BIT. PAVEMENT ON PROJECT TERMINI FOR STAGE 3 TRAFFIC CROSS-OVERS.

**NOTES:**

- ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES INCLUDING APPENDIX 'B' DATED NOVEMBER, 1992
- PAVEMENT MARKINGS BETWEEN STA. 87+75 AND STA. 125+50 SHALL BE PAINT. PAVEMENT MARKINGS SOUTH OF STA. 87+75 AND NORTH OF STA. 125+50 SHALL BE REMOVABLE LANE TAPE.
- ALL TYPE III BARRICADES SHALL BE REFLECTORIZED ON BOTH SIDES, AND BARRICADE MARKINGS SHALL BE SLANTED IN ACCORDANCE WITH THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
- PAVEMENT MARKINGS IN ALL TAPER AREAS SHALL HAVE TEMPORARY RAISED PAVEMENT MARKERS AT 10' INTERVALS.

REVISIONS		
DATE	BY	
8/8/94	DM	



 PERMANENT CONSTRUCTION  
 TEMP. BIT. CONSTRUCTION  
 REFLECTORIZED DRUM-LIKE CHANNELIZER

- TRAFFIC**
- SINGLE LANE NB TRAFFIC ON EASTERLY 11' OF EXISTING MAT.
  - SINGLE LANE SB ON FORMER INTERIOR NB LANE.
  - LANE SHIFTS AT PROJECT TERMINI ON EXISTING MAT.
  - REPLACE SIGNAL WITH 4-WAY STOP.

- CONSTRUCTION**
- MILL EXISTING 2 SB LANES.
  - CONSTRUCT MAINLINE STORM SEWER
  - CONSTRUCT SB NEW CONSTRUCTION TO MIN. WIDTH OF 6' EAST OF LSB.
  - CONSTRUCT TEMP. BIT. PAVEMENT ON PROJECT TERMINI FOR STAGE 3 TRAFFIC CROSS-OVERS.

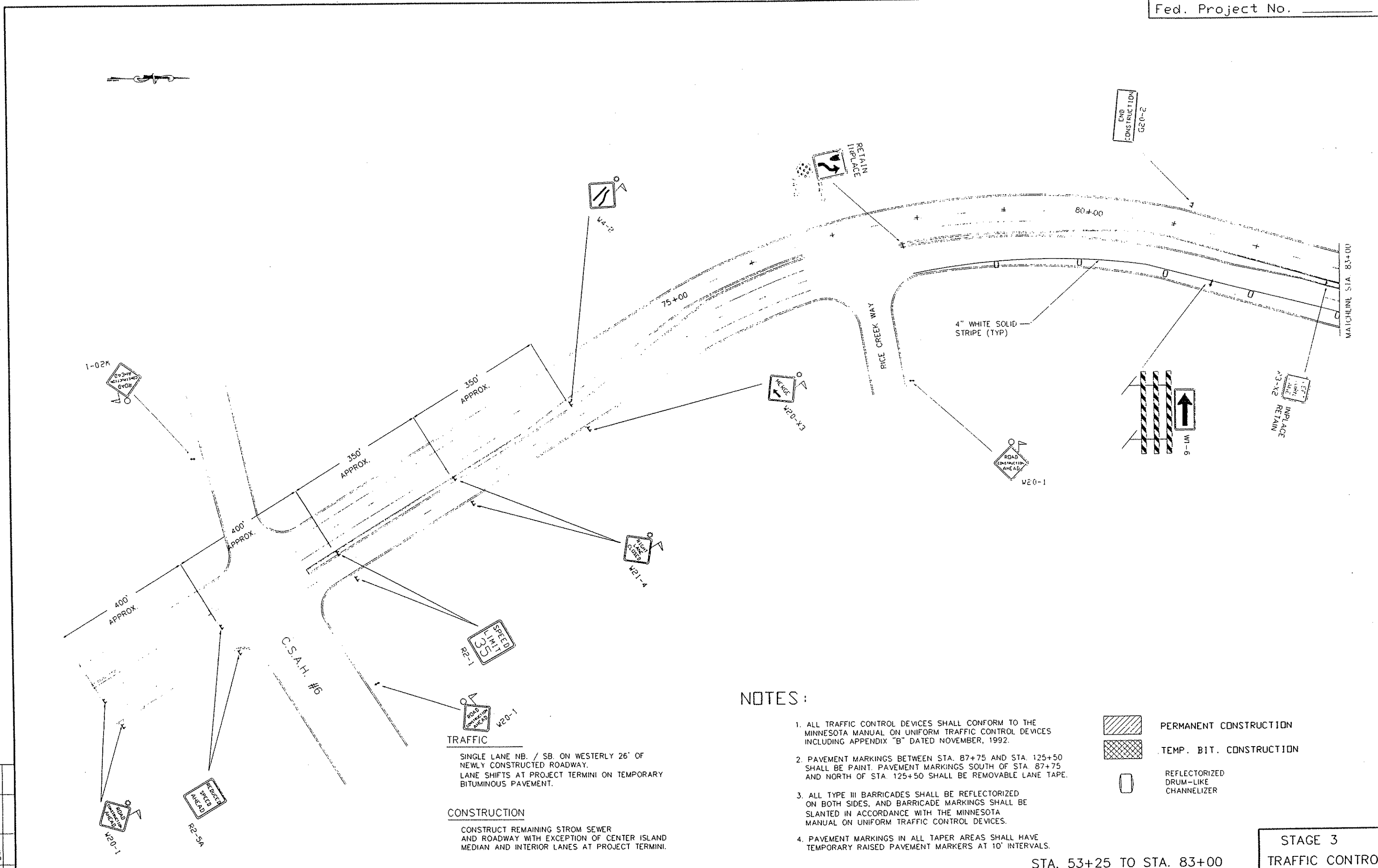
**NOTES:**

- ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES INCLUDING APPENDIX 'B' DATED NOVEMBER, 1992
- PAVEMENT MARKINGS BETWEEN STA. 87+75 AND STA. 125+50 SHALL BE PAINT. PAVEMENT MARKINGS SOUTH OF STA. 87+75 AND NORTH OF STA. 125+50 SHALL BE REMOVABLE LANE TAPE.
- ALL TYPE III BARRICADES SHALL BE REFLECTORIZED ON BOTH SIDES, AND BARRICADE MARKINGS SHALL BE SLANTED IN ACCORDANCE WITH THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
- PAVEMENT MARKINGS IN ALL TAPER AREAS SHALL HAVE TEMPORARY RAISED PAVEMENT MARKERS AT 10' INTERVALS.

REVISIONS	BY	DATE

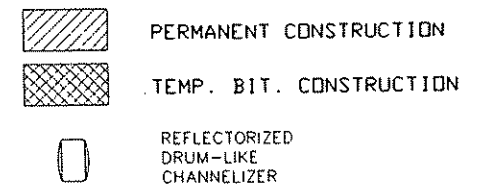
STA. 130+30 TO STA. 154+70

STAGE 2  
TRAFFIC CONTROL



NOTES:

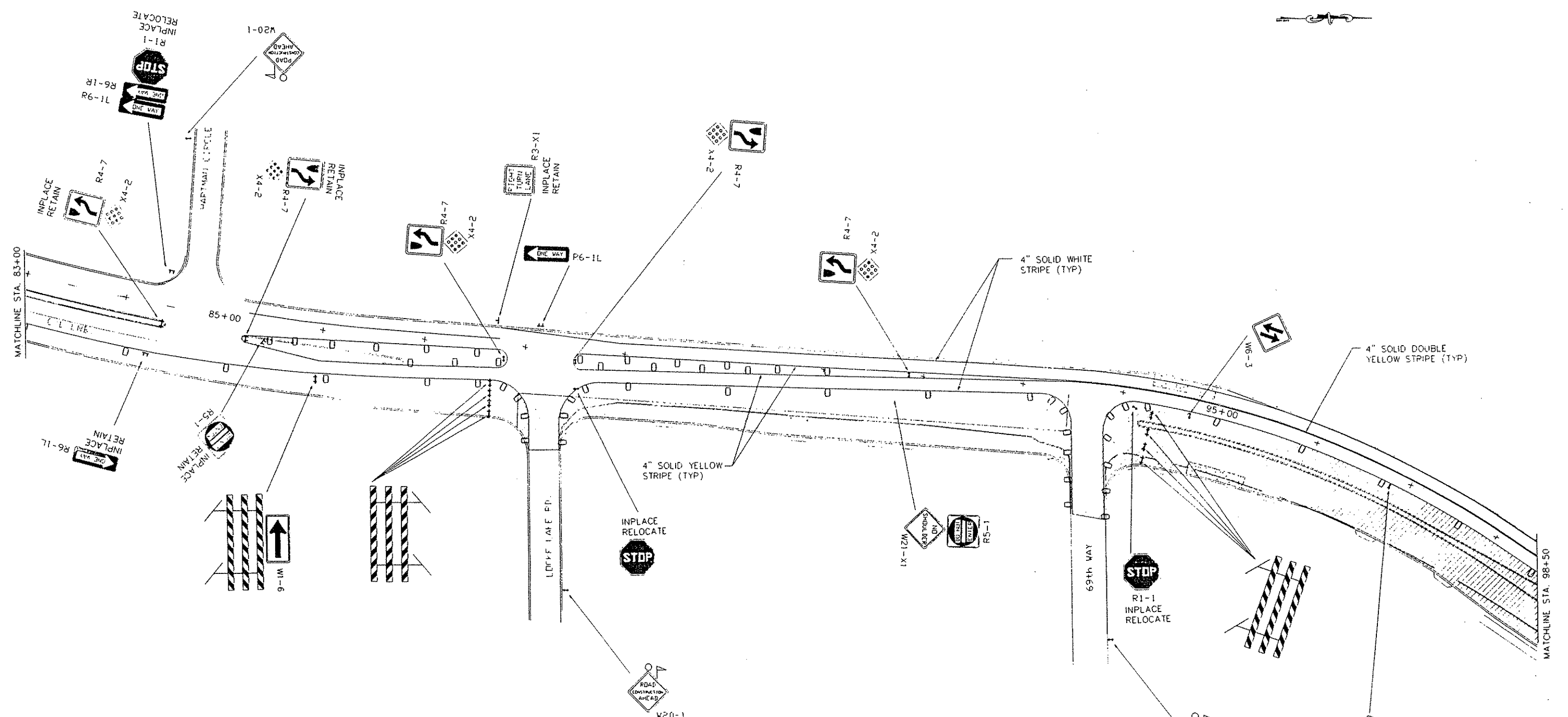
1. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES INCLUDING APPENDIX "B" DATED NOVEMBER, 1992.
2. PAVEMENT MARKINGS BETWEEN STA. 87+75 AND STA. 125+50 SHALL BE PAINT. PAVEMENT MARKINGS SOUTH OF STA. 87+75 AND NORTH OF STA. 125+50 SHALL BE REMOVABLE LANE TAPE.
3. ALL TYPE III BARRICADES SHALL BE REFLECTORIZED ON BOTH SIDES, AND BARRICADE MARKINGS SHALL BE SLANTED IN ACCORDANCE WITH THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
4. PAVEMENT MARKINGS IN ALL TAPER AREAS SHALL HAVE TEMPORARY RAISED PAVEMENT MARKERS AT 10' INTERVALS.



**TRAFFIC**  
 SINGLE LANE NB. / SB. ON WESTERLY 26' OF NEWLY CONSTRUCTED ROADWAY.  
 LANE SHIFTS AT PROJECT TERMINI ON TEMPORARY BITUMINOUS PAVEMENT.

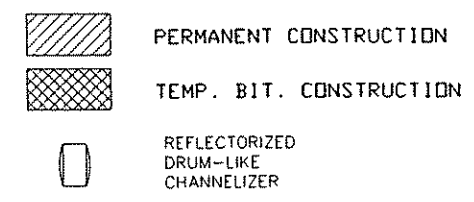
**CONSTRUCTION**  
 CONSTRUCT REMAINING STROM SEWER AND ROADWAY WITH EXCEPTION OF CENTER ISLAND MEDIAN AND INTERIOR LANES AT PROJECT TERMINI.

REVISIONS	DATE	BY
1	8/9/94	DM



**NOTES:**

1. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES INCLUDING APPENDIX "B" DATED NOVEMBER, 1992.
2. PAVEMENT MARKINGS BETWEEN STA. 87+75 AND STA. 125+50 SHALL BE PAINT. PAVEMENT MARKINGS SOUTH OF STA. 87+75 AND NORTH OF STA. 125+50 SHALL BE REMOVABLE LANE TAPE.
3. ALL TYPE III BARRICADES SHALL BE REFLECTORIZED ON BOTH SIDES, AND BARRICADE MARKINGS SHALL BE SLANTED IN ACCORDANCE WITH THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
4. PAVEMENT MARKINGS IN ALL TAPER AREAS SHALL HAVE TEMPORARY RAISED PAVEMENT MARKERS AT 10' INTERVALS.



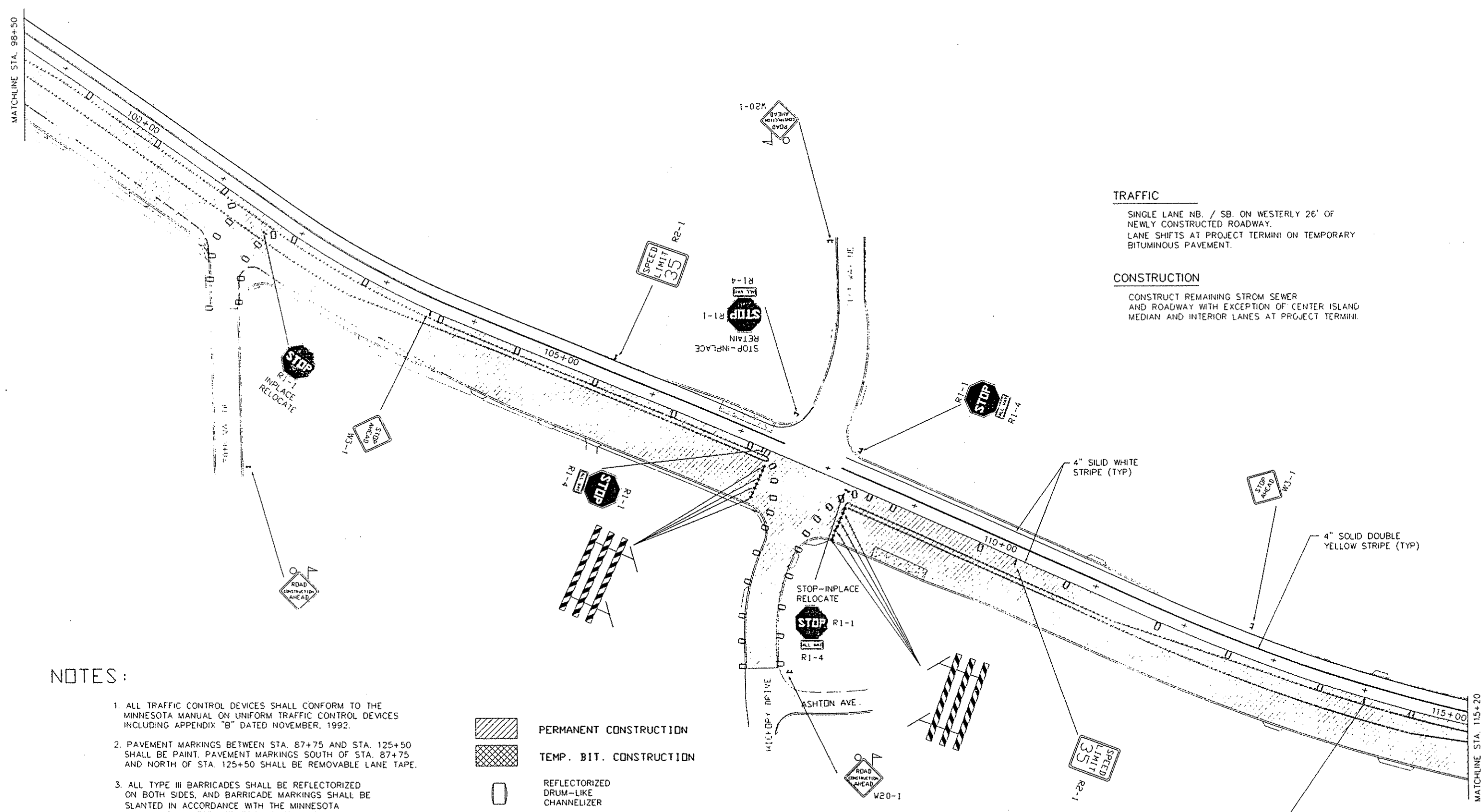
**TRAFFIC**

SINGLE LANE NB. / SB. ON WESTERLY 26' OF NEWLY CONSTRUCTED ROADWAY. LANE SHIFTS AT PROJECT TERMINI ON TEMPORARY BITUMINOUS PAVEMENT.

**CONSTRUCTION**

CONSTRUCT REMAINING STORM SEWER AND ROADWAY WITH EXCEPTION OF CENTER ISLAND MEDIAN AND INTERIOR LANES AT PROJECT TERMINI.

REVISIONS	DATE	BY



**TRAFFIC**




SINGLE LANE NB. / SB. ON WESTERLY 26' OF NEWLY CONSTRUCTED ROADWAY. LANE SHIFTS AT PROJECT TERMINI ON TEMPORARY BITUMINOUS PAVEMENT.

**CONSTRUCTION**

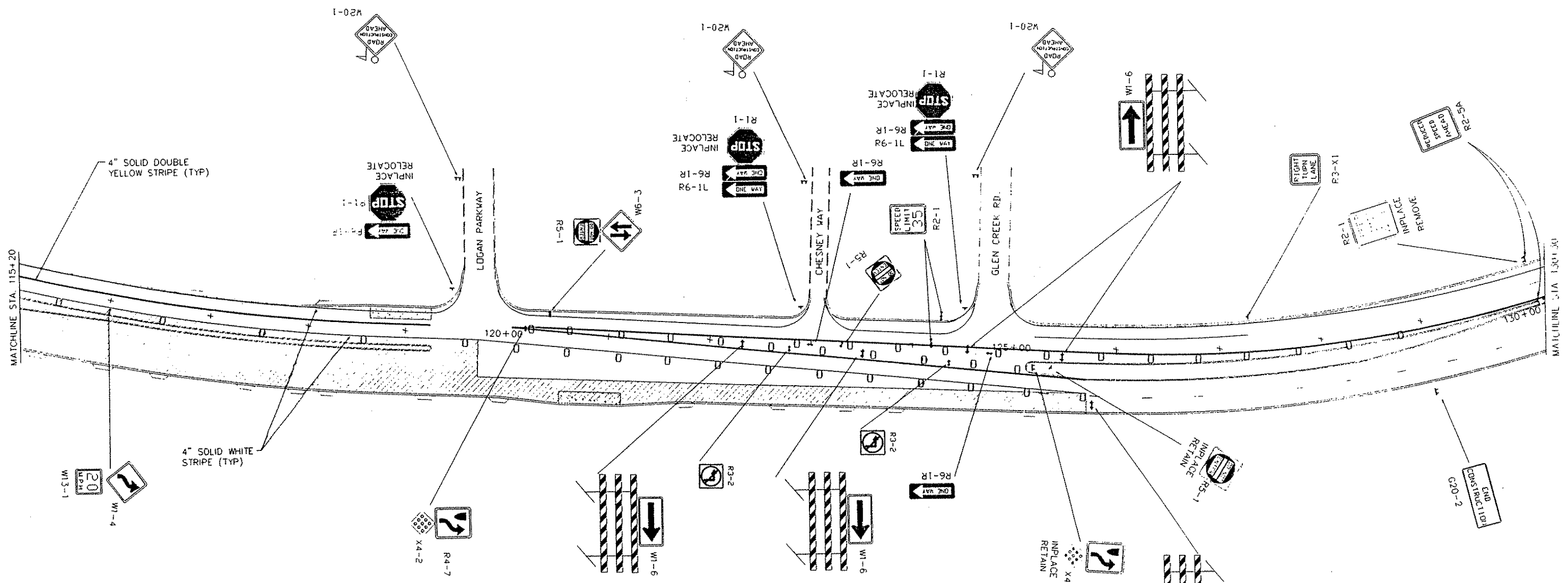
CONSTRUCT REMAINING STORM SEWER AND ROADWAY WITH EXCEPTION OF CENTER ISLAND MEDIAN AND INTERIOR LANES AT PROJECT TERMINI.

**NOTES:**

1. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES INCLUDING APPENDIX "B" DATED NOVEMBER, 1992.
2. PAVEMENT MARKINGS BETWEEN STA. 87+75 AND STA. 125+50 SHALL BE PAINT. PAVEMENT MARKINGS SOUTH OF STA. 87+75 AND NORTH OF STA. 125+50 SHALL BE REMOVABLE LANE TAPE.
3. ALL TYPE III BARRICADES SHALL BE REFLECTORIZED ON BOTH SIDES, AND BARRICADE MARKINGS SHALL BE SLANTED IN ACCORDANCE WITH THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
4. PAVEMENT MARKINGS IN ALL TAPER AREAS SHALL HAVE TEMPORARY RAISED PAVEMENT MARKERS AT 10' INTERVALS.

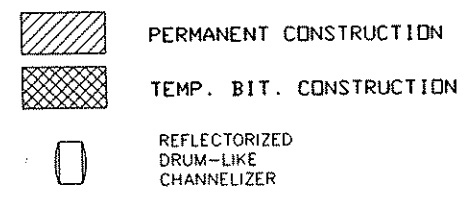
	PERMANENT CONSTRUCTION
	TEMP. BIT. CONSTRUCTION
	REFLECTORIZED DRUM-LIKE CHANNELIZER

REVISIONS	DATE	BY



NOTES:

1. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES INCLUDING APPENDIX "B" DATED NOVEMBER, 1992.
2. PAVEMENT MARKINGS BETWEEN STA. 87+75 AND STA. 125+50 SHALL BE PAINT. PAVEMENT MARKINGS SOUTH OF STA. 87+75 AND NORTH OF STA. 125+50 SHALL BE REMOVABLE LANE TAPE.
3. ALL TYPE III BARRICADES SHALL BE REFLECTORIZED ON BOTH SIDES, AND BARRICADE MARKINGS SHALL BE SLANTED IN ACCORDANCE WITH THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
4. PAVEMENT MARKINGS IN ALL TAPER AREAS SHALL HAVE TEMPORARY RAISED PAVEMENT MARKERS AT 10' INTERVALS.



TRAFFIC

SINGLE LANE NB. / SB. ON WESTERLY 26' OF NEWLY CONSTRUCTED ROADWAY. LANE SHIFTS AT PROJECT TERMINI ON TEMPORARY BITUMINOUS PAVEMENT.

CONSTRUCTION

CONSTRUCT REMAINING STORM SEWER AND ROADWAY WITH EXCEPTION OF CENTER ISLAND MEDIAN AND INTERIOR LANES AT PROJECT TERMINI.

REVISIONS	DATE	BY
1	8/9/94	DM

CERTIFIED BY *Douglas Mc...*

P.E. REG. NO. 20235

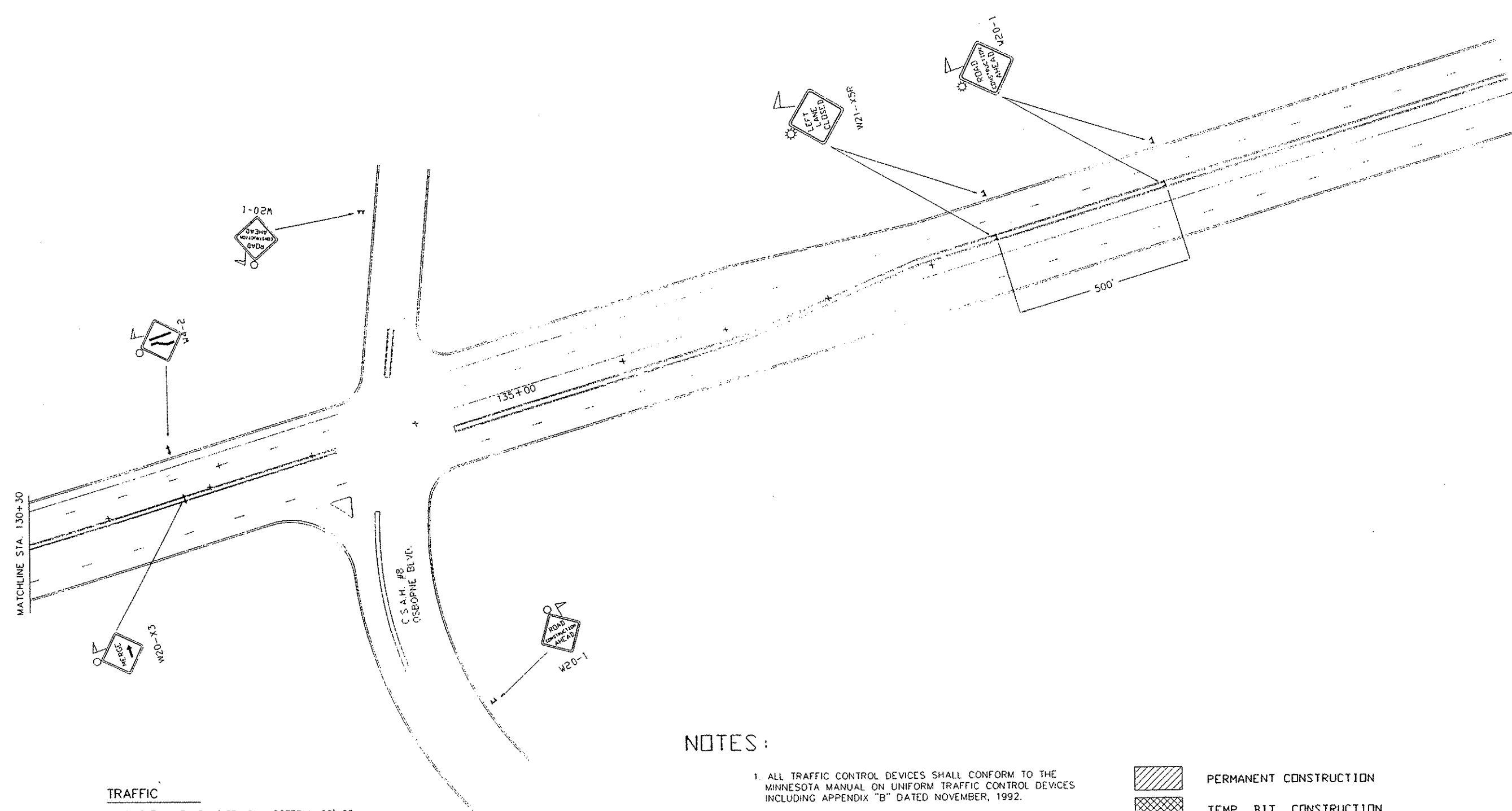
8/19 19 94

S.P. 02-601-36 S. P. 127-020-13 C.P.

STA. 115+20 TO STA. 130+30

STAGE 3  
TRAFFIC CONTROL

Sheet No. 63 of 70 Sheets

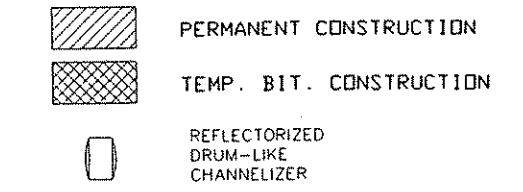


**TRAFFIC**  
 SINGLE LANE NB. / SB. ON WESTERLY 26' OF NEWLY CONSTRUCTED ROADWAY.  
 LANE SHIFTS AT PROJECT TERMINI ON TEMPORARY BITUMINOUS PAVEMENT.

**CONSTRUCTION**  
 CONSTRUCT REMAINING STROM SEWER AND ROADWAY WITH EXCEPTION OF CENTER ISLAND MEDIAN AND INTERIOR LANES AT PROJECT TERMINI.

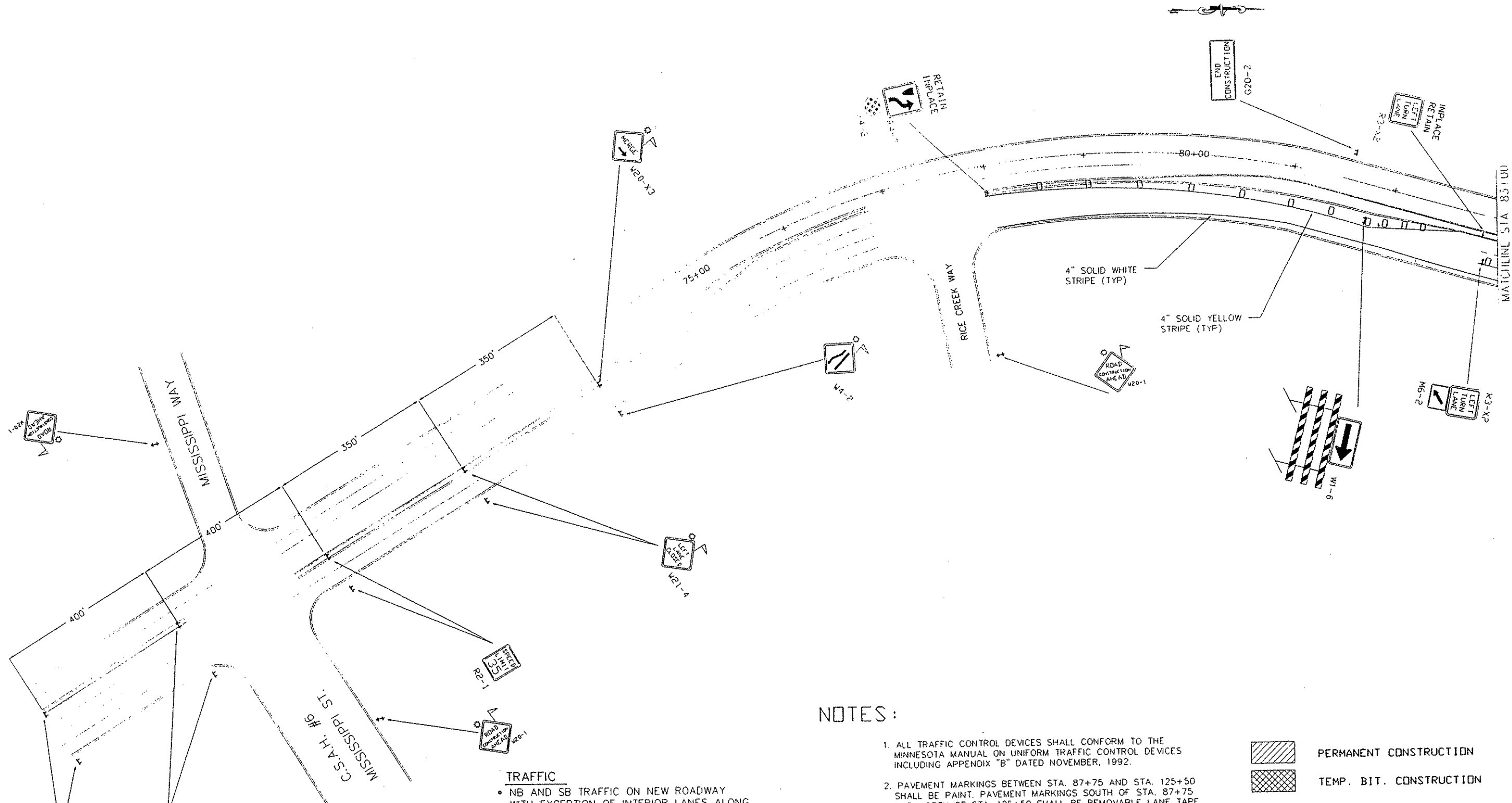
**NOTES:**

1. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES INCLUDING APPENDIX "B" DATED NOVEMBER, 1992.
2. PAVEMENT MARKINGS BETWEEN STA. 87+75 AND STA. 125+50 SHALL BE PAINT. PAVEMENT MARKINGS SOUTH OF STA. 87+75 AND NORTH OF STA. 125+50 SHALL BE REMOVABLE LANE TAPE.
3. ALL TYPE III BARRICADES SHALL BE REFLECTORIZED ON BOTH SIDES, AND BARRICADE MARKINGS SHALL BE SLANTED IN ACCORDANCE WITH THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
4. PAVEMENT MARKINGS IN ALL TAPER AREAS SHALL HAVE TEMPORARY RAISED PAVEMENT MARKERS AT 10' INTERVALS.






REVISIONS	DATE	BY
1	8/9/94	DM





**NOTES:**

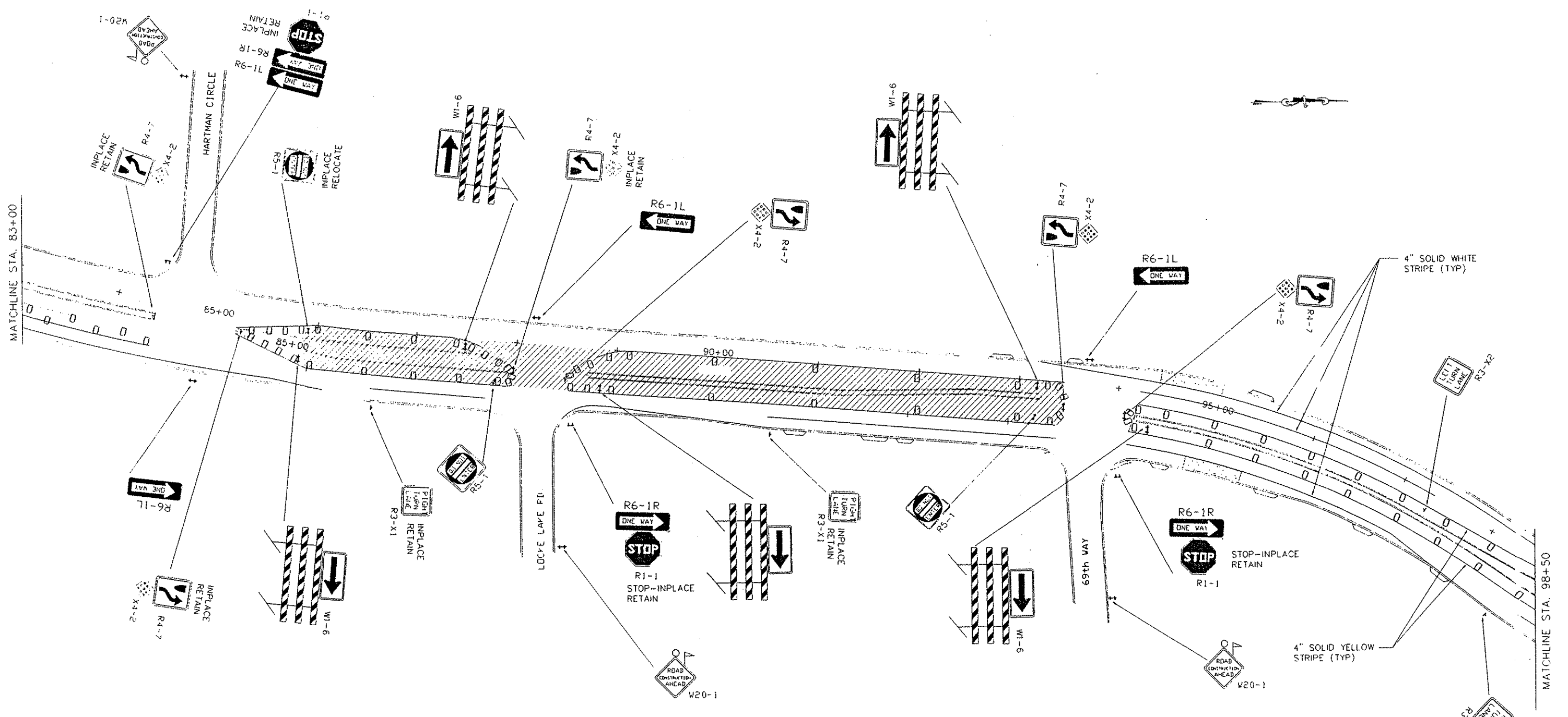
1. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES INCLUDING APPENDIX "B" DATED NOVEMBER, 1992.
  2. PAVEMENT MARKINGS BETWEEN STA. 87+75 AND STA. 125+50 SHALL BE PAINT. PAVEMENT MARKINGS SOUTH OF STA. 87+75 AND NORTH OF STA. 125+50 SHALL BE REMOVABLE LANE TAPE.
  3. ALL TYPE III BARRICADES SHALL BE REFLECTORIZED ON BOTH SIDES, AND BARRICADE MARKINGS SHALL BE SLANTED IN ACCORDANCE WITH THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
  4. PAVEMENT MARKINGS IN ALL TAPER AREAS SHALL HAVE TEMPORARY RAISED PAVEMENT MARKERS AT 10' INTERVALS.
- STA. 53+25 TO STA. 83+00

	PERMANENT CONSTRUCTION
	TEMP. BIT. CONSTRUCTION
	REFLECTORIZED DRUM-LIKE CHANNELIZER

- TRAFFIC**
- NB AND SB TRAFFIC ON NEW ROADWAY WITH EXCEPTION OF INTERIOR LANES ALONG
  - CENTER ISLAND MEDIANS AT PROJECT TERMINI.
- CONSTRUCTION**
- CONSTRUCT CENTER ISLAND MEDIANS AND INTERIOR LANES AT PROJECT TERMINI. MEDIAN AND INTERIOR LANES AT PROJECT TERMINI

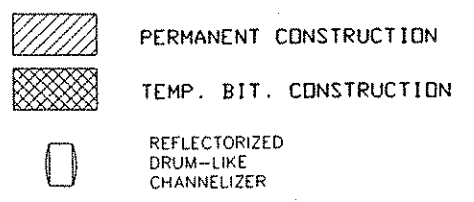
STAGE 4  
TRAFFIC CONTROL

REVISIONS	DATE	BY



**NOTES :**

1. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES INCLUDING APPENDIX "B" DATED NOVEMBER, 1992.
2. PAVEMENT MARKINGS BETWEEN STA. 87+75 AND STA. 125+50 SHALL BE PAINT. PAVEMENT MARKINGS SOUTH OF STA. 87+75 AND NORTH OF STA. 125+50 SHALL BE REMOVABLE LANE TAPE.
3. ALL TYPE III BARRICADES SHALL BE REFLECTORIZED ON BOTH SIDES, AND BARRICADE MARKINGS SHALL BE SLANTED IN ACCORDANCE WITH THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
4. PAVEMENT MARKINGS IN ALL TAPER AREAS SHALL HAVE TEMPORARY RAISED PAVEMENT MARKERS AT 10' INTERVALS.



**TRAFFIC**

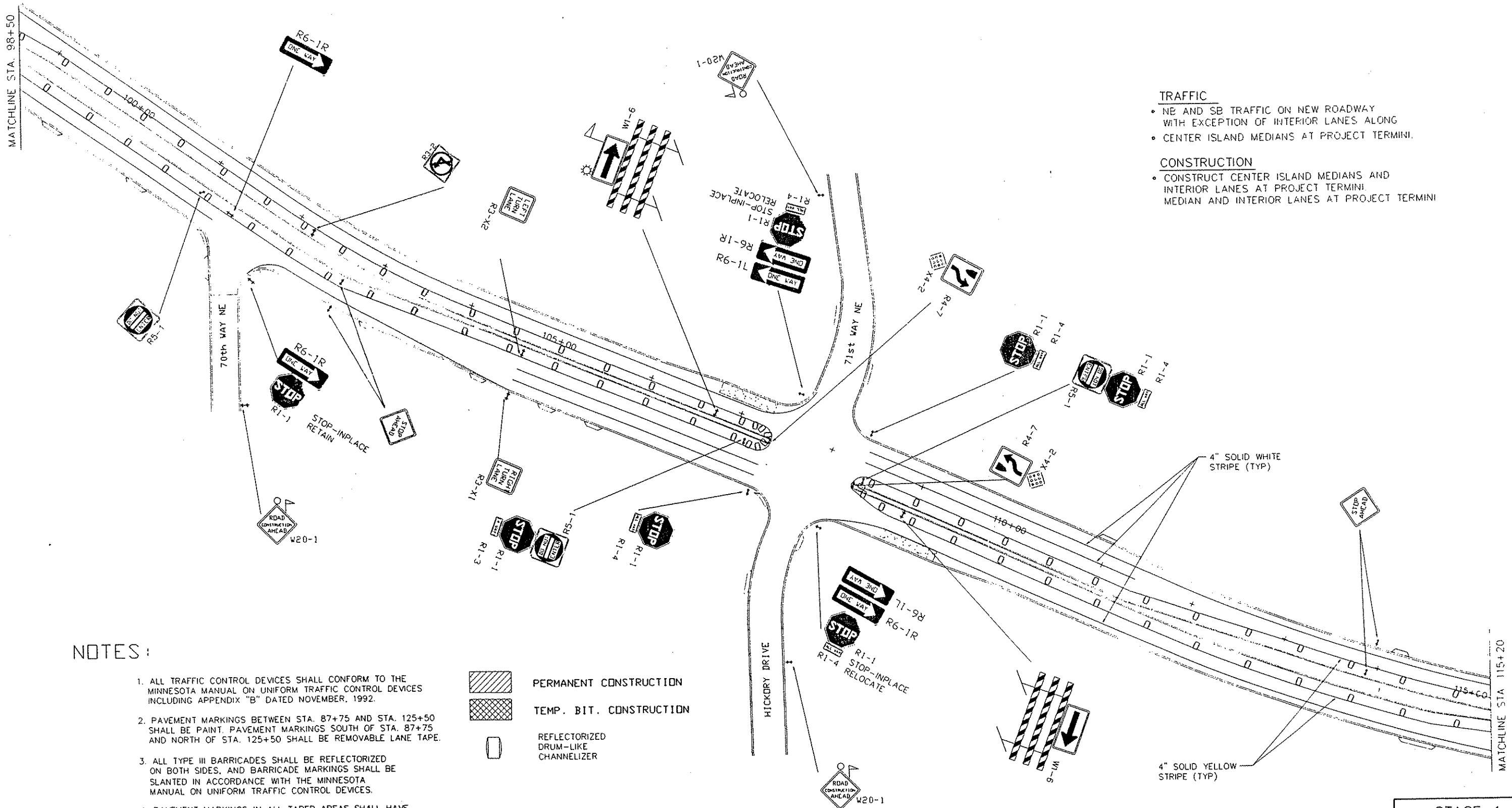
- NB AND SB TRAFFIC ON NEW ROADWAY WITH EXCEPTION OF INTERIOR LANES ALONG
- CENTER ISLAND MEDIANS AT PROJECT TERMINI.

**CONSTRUCTION**

- CONSTRUCT CENTER ISLAND MEDIANS AND INTERIOR LANES AT PROJECT TERMINI.
- MEDIAN AND INTERIOR LANES AT PROJECT TERMINI

REVISIONS	BY	DATE




STAGE 4  
TRAFFIC CONTROL



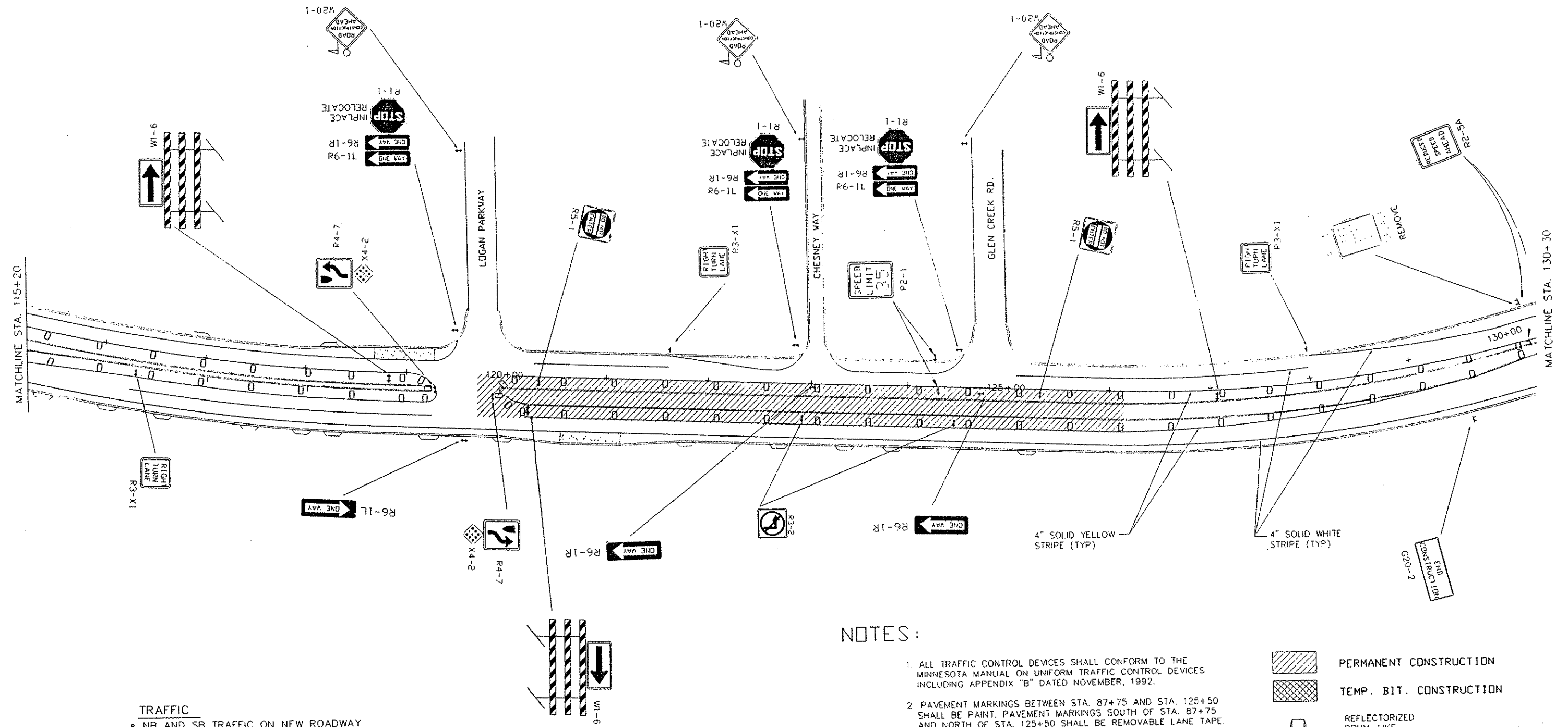
- TRAFFIC**
- NE AND SB TRAFFIC ON NEW ROADWAY WITH EXCEPTION OF INTERIOR LANES ALONG
  - CENTER ISLAND MEDIANS AT PROJECT TERMINI.
- CONSTRUCTION**
- CONSTRUCT CENTER ISLAND MEDIANS AND INTERIOR LANES AT PROJECT TERMINI
  - MEDIAN AND INTERIOR LANES AT PROJECT TERMINI

**NOTES:**

1. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES INCLUDING APPENDIX "B" DATED NOVEMBER, 1992.
2. PAVEMENT MARKINGS BETWEEN STA. 87+75 AND STA. 125+50 SHALL BE PAINT. PAVEMENT MARKINGS SOUTH OF STA. 87+75 AND NORTH OF STA. 125+50 SHALL BE REMOVABLE LANE TAPE.
3. ALL TYPE III BARRICADES SHALL BE REFLECTORIZED ON BOTH SIDES, AND BARRICADE MARKINGS SHALL BE SLANTED IN ACCORDANCE WITH THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
4. PAVEMENT MARKINGS IN ALL TAPER AREAS SHALL HAVE TEMPORARY RAISED PAVEMENT MARKERS AT 10' INTERVALS.

 PERMANENT CONSTRUCTION  
 TEMP. BIT. CONSTRUCTION  
 REFLECTORIZED DRUM-LIKE CHANNELIZER




REVISIONS	DATE	BY
1	8/9/94	DM



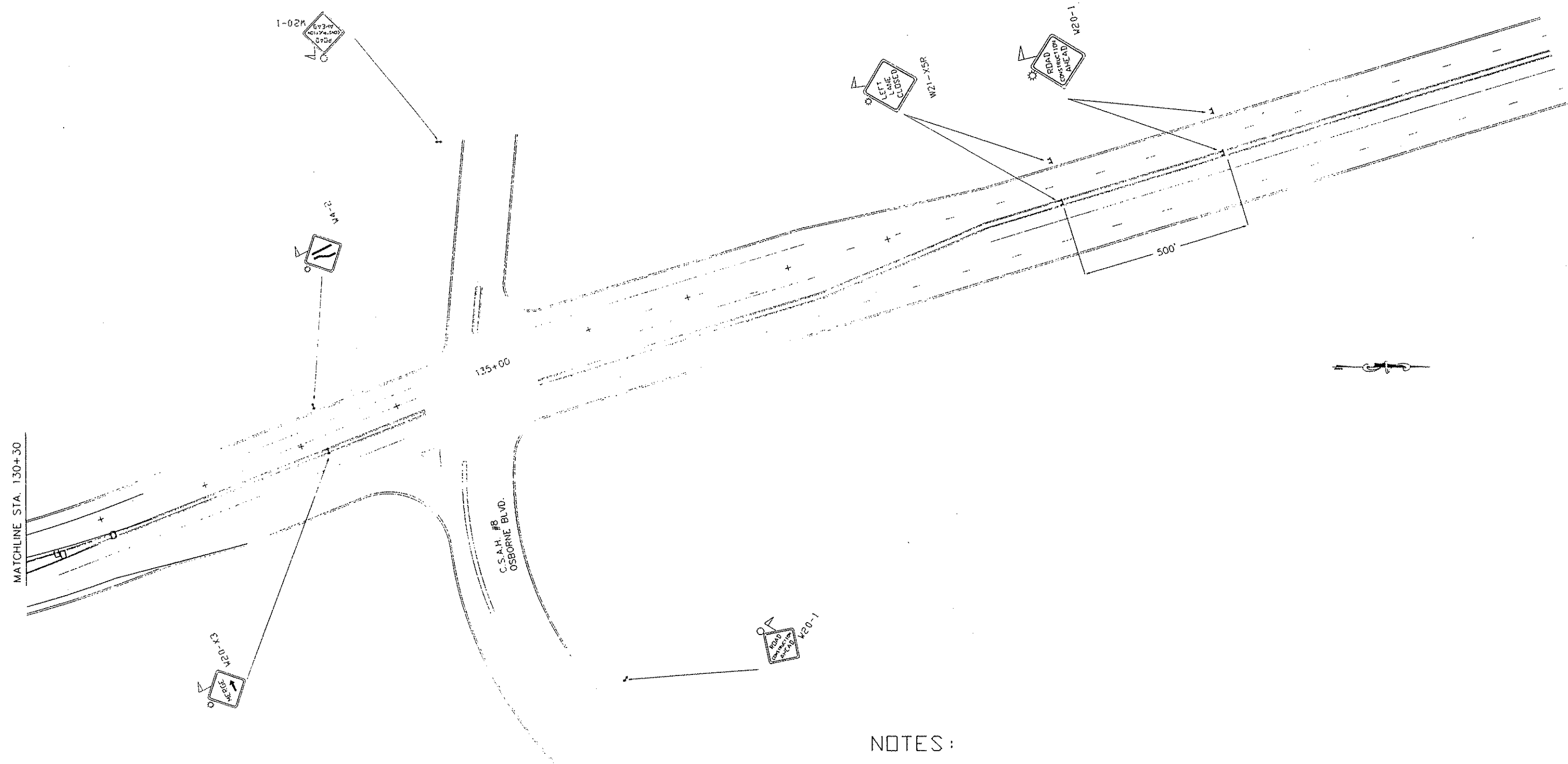
- TRAFFIC**
- NB AND SB TRAFFIC ON NEW ROADWAY WITH EXCEPTION OF INTERIOR LANES ALONG
  - CENTER ISLAND MEDIANS AT PROJECT TERMINI.
- CONSTRUCTION**
- CONSTRUCT CENTER ISLAND MEDIANS AND INTERIOR LANES AT PROJECT TERMINI.
  - MEDIAN AND INTERIOR LANES AT PROJECT TERMINI

**NOTES:**

1. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES INCLUDING APPENDIX "B" DATED NOVEMBER, 1992.
  2. PAVEMENT MARKINGS BETWEEN STA. 87+75 AND STA. 125+50 SHALL BE PAINT. PAVEMENT MARKINGS SOUTH OF STA. 87+75 AND NORTH OF STA. 125+50 SHALL BE REMOVABLE LANE TAPE.
  3. ALL TYPE III BARRICADES SHALL BE REFLECTORIZED ON BOTH SIDES, AND BARRICADE MARKINGS SHALL BE SLANTED IN ACCORDANCE WITH THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
  4. PAVEMENT MARKINGS IN ALL TAPER AREAS SHALL HAVE TEMPORARY RAISED PAVEMENT MARKERS AT 10' INTERVALS.
- STA. 115+20 TO STA. 130+30

	PERMANENT CONSTRUCTION
	TEMP. BIT. CONSTRUCTION
	REFLECTORIZED DRUM-LIKE CHANNELIZER




REVISIONS	DATE	BY



- TRAFFIC**
- NB AND SB TRAFFIC ON NEW ROADWAY WITH EXCEPTION OF INTERIOR LANES ALONG
  - CENTER ISLAND MEDIANS AT PROJECT TERMINI.
- CONSTRUCTION**
- CONSTRUCT CENTER ISLAND MEDIANS AND INTERIOR LANES AT PROJECT TERMINI. MEDIAN AND INTERIOR LANES AT PROJECT TERMINI

**NOTES:**

1. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES INCLUDING APPENDIX "B" DATED NOVEMBER, 1992.
2. PAVEMENT MARKINGS BETWEEN STA. 87+75 AND STA. 125+50 SHALL BE PAINT. PAVEMENT MARKINGS SOUTH OF STA. 87+75 AND NORTH OF STA. 125+50 SHALL BE REMOVABLE LANE TAPE.
3. ALL TYPE III BARRICADES SHALL BE REFLECTORIZED ON BOTH SIDES, AND BARRICADE MARKINGS SHALL BE SLANTED IN ACCORDANCE WITH THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
4. PAVEMENT MARKINGS IN ALL TAPER AREAS SHALL HAVE TEMPORARY RAISED PAVEMENT MARKERS AT 10' INTERVALS. STA. 130+30 TO STA. 154+70

	PERMANENT CONSTRUCTION
	TEMP. BIT. CONSTRUCTION
	REFLECTORIZED DRUM-LIKE CHANNELIZER

REVISIONS		
DATE	BY	BY
8/9/94	DM	

M.U.T.C.D. CODE	SIZE	INSERT	STAGE II QTY	STAGE III QTY	STAGE IV QTY	M.U.T.C.D. CODE	SIZE	INSERT	STAGE II QTY	STAGE III QTY	STAGE IV QTY
R1-1	48"x48"		• 2	• 2	• 4	FLAG / FLASHER					
R1-4	18"x16"		• 4	• 4	• 6	W4-2L	48"x48"		• 1	• 1	• 2
R2-1	24"x30"		• 7	• 8	• 5	W6-1	48"x48"		• 1	• 1	• 0
R2-5a	24"x30"		• 4	• 4	• 4	W6-3	48"x48"		• 2	• 2	• 0
R3-2	24"x24"		• 0	• 2	• 2	FLAG / FLASHER					
R4-7	30"x36"		• 5	• 4	• 7	W20-1	48"x48"		• 18	• 18	• 18
X4-2	18"x18"		• 5	• 4	• 7	FLAG / FLASHER					
R3-X1	30"x30"		• 1	• 1	• 5	W20-X1L	48"x48"		• 2	• 2	• 4
R3-X2	30"x30"		• 1	• 0	• 3	FLAG / FLASHER					
R5-1	30"x30"		• 3	• 3	• 7	W20-X1R	48"x48"		• 2	• 2	• 0
R6-1R	36"x12"		• 0	• 1	• 8	FLAG / FLASHER					
R6-1L	36"x12"		• 3	• 4	• 11	W20-X3L	48"x48"		• 1	• 1	• 0
W1-6L	48"x24"		• 1	• 2	• 0	FLAG / FLASHER					
TYPE III	8 FT.		• 23	• 10	• 0	W20-X3R	48"x48"		• 1	• 1	• 2
W1-6R	48"x24"		• 4	• 3	• 11	W21-X1	48"x48"		• 3	• 1	• 0
TYPE III	8 FT.		• 5	• 12	• 11	X4-4R	12"x36"		• 2	• 0	• 0
M6-2	21"x15"		• 1	• 0	• 1	G20-2	60"x24"		• 2	• 2	• 2
W1-4R	48"x48"		• 1	• 1	• 0	REBOUNDABLE DRUM REFLECTORIZED			• 130	• 154	• 220
W13-1	24"x24"		• 1	• 1	• 0						
W3-1	48"x48"		• 2	• 3	• 4						
FLAG / FLASHER											
W4-2R	48"x48"		• 1	• 1	• 0						

STANDARD TRAFFIC CONTROL NOTES

- 1) LOCATIONS OF ALL SIGNS ARE APPROXIMATE. EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.
- 2) ALL BARRICADES AND SIGNS SHALL BE PROPERLY WEIGHTED WITH SANDBAGS.
- 3) ALL BARRICADES SHALL HAVE REFLECTIVE MATERIAL ON BOTH SIDES.
- 4) ALL BARRICADE MARKINGS SHALL BE SLANTED IN ACCORDANCE WITH THE MINNESOTA MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
- 5) ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MOST RECENT EDITION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING APPENDIX 'B', DATED NOVEMBER, 1992.
- 6) ADDITIONS OR CHANGES TO THIS PLAN MAY BE MADE AS DETERMINED BY THE ENGINEER.

REVISIONS  
BY DATE  
DM 8/9/94

C.S.A.H. # 1

STAGE QUANTITIES  
TRAFFIC CONTROL