

# MINNESOTA DEPARTMENT OF TRANSPORTATION ANOKA COUNTY

## CONSTRUCTION PLAN FOR LANE WIDENING, MILLING, & BITUMINOUS OVERLAY

LOCATED ON C.S.A.H. 1 BETWEEN A POINT 125' NORTH OF AVOCET ST. AND A POINT 250' SOUTH OF 103RD AVE. NW. (IN THE CITY OF COON RAPIDS)

COUNTY PROJ. NO. 94-40-01	STATE AID PROJ. NO.
GROSS LENGTH 3121.00 FEET 0.591 MILES	GROSS LENGTH FEET MILES
BRIDGES-LENGTH 0.00 FEET 0.000 MILES	BRIDGES-LENGTH FEET MILES
EXCEPTIONS-LENGTH 0.00 FEET 0.000 MILES	EXCEPTIONS-LENGTH FEET MILES
NET LENGTH 3121.00 FEET 0.591 MILES	NET LENGTH FEET MILES

MINN. PROJ. NO. ....  
MINN. PROJ. NO. ....

**GOVERNING SPECIFICATIONS**  
THE 1988 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" AS AMENDED BY SUPPLEMENTAL SPECIFICATIONS, DATED MAY 2, 1994 SHALL GOVERN.

### INDEX

SHEET NO.	DESCRIPTION
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THIS PLAN CONTAINS 14 SHEETS

### DESIGN DESIGNATION

§N1820 NA  
 R VALUE NA  
 ADT (1995)= 17,995  
 Proj. ADT (2015)= 30,592  
 Proj. HCADT (2015)= 2,294  
 Soil Factor 50%  
 NA TON DESIGN  
 Shoulder Width NA  
  
 Functional Classification ARTERIAL-HIGH DENSITY  
 No. of Traffic Lanes 3 No. of Parking Lanes 0  
 Design Speed 45 MPH  
 Based on Stopping Sight Distance  
 Height of eye 3.5 Height of object 0.5  
 Design Speed not achieved at NA  
 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 4-27-95 REG. NO. 20235 ENGR. *[Signature]* DESIGN ENGINEER

DESIGN SQUAD G. ANDERSON

Approved *[Signature]* 7/7, 1995  
 Recommended for Approval *[Signature]* 4/20, 1995  
 Recommended for Approval *[Signature]* 4/22, 1995  
 Approved *[Signature]* 4/20/95

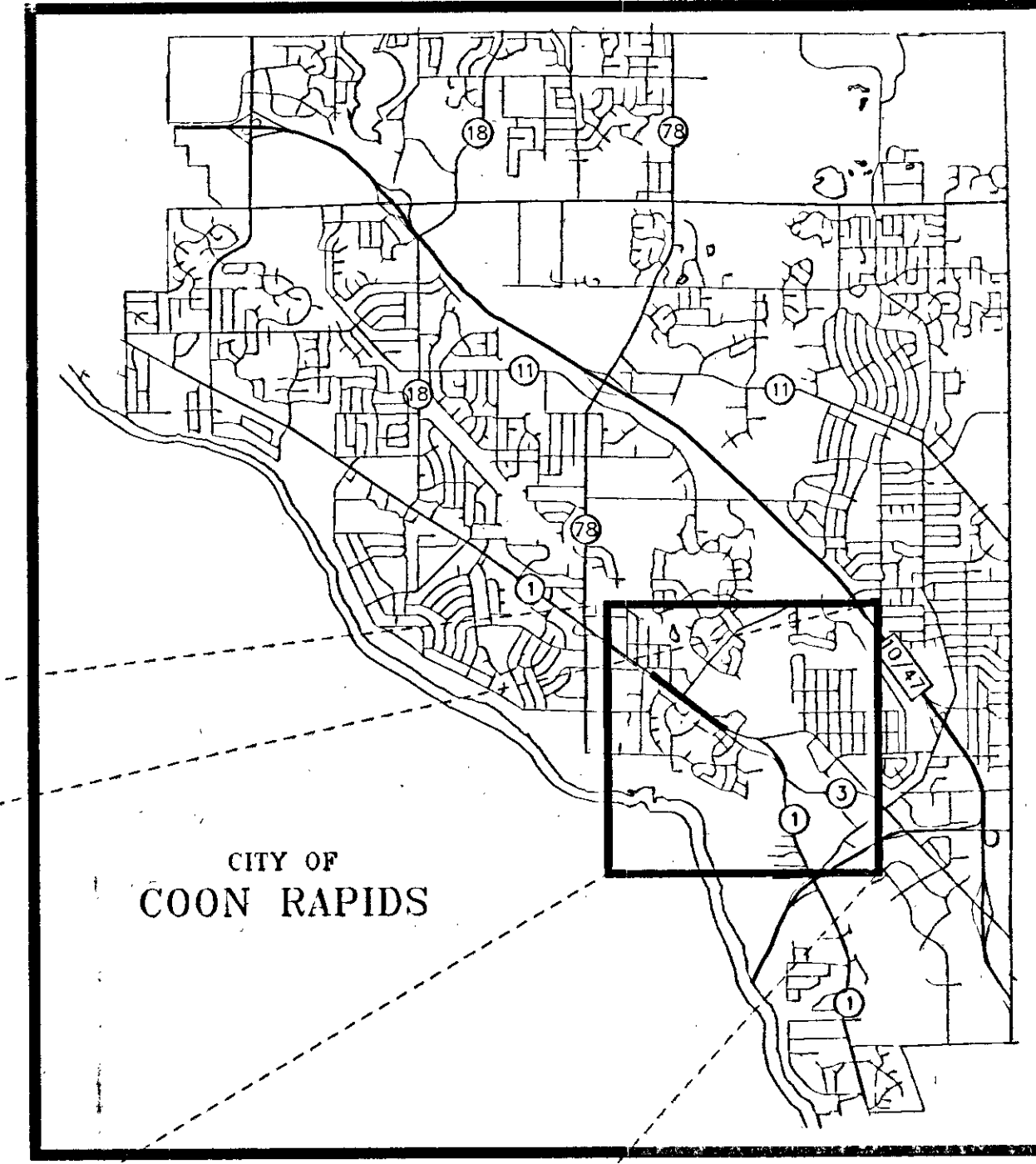
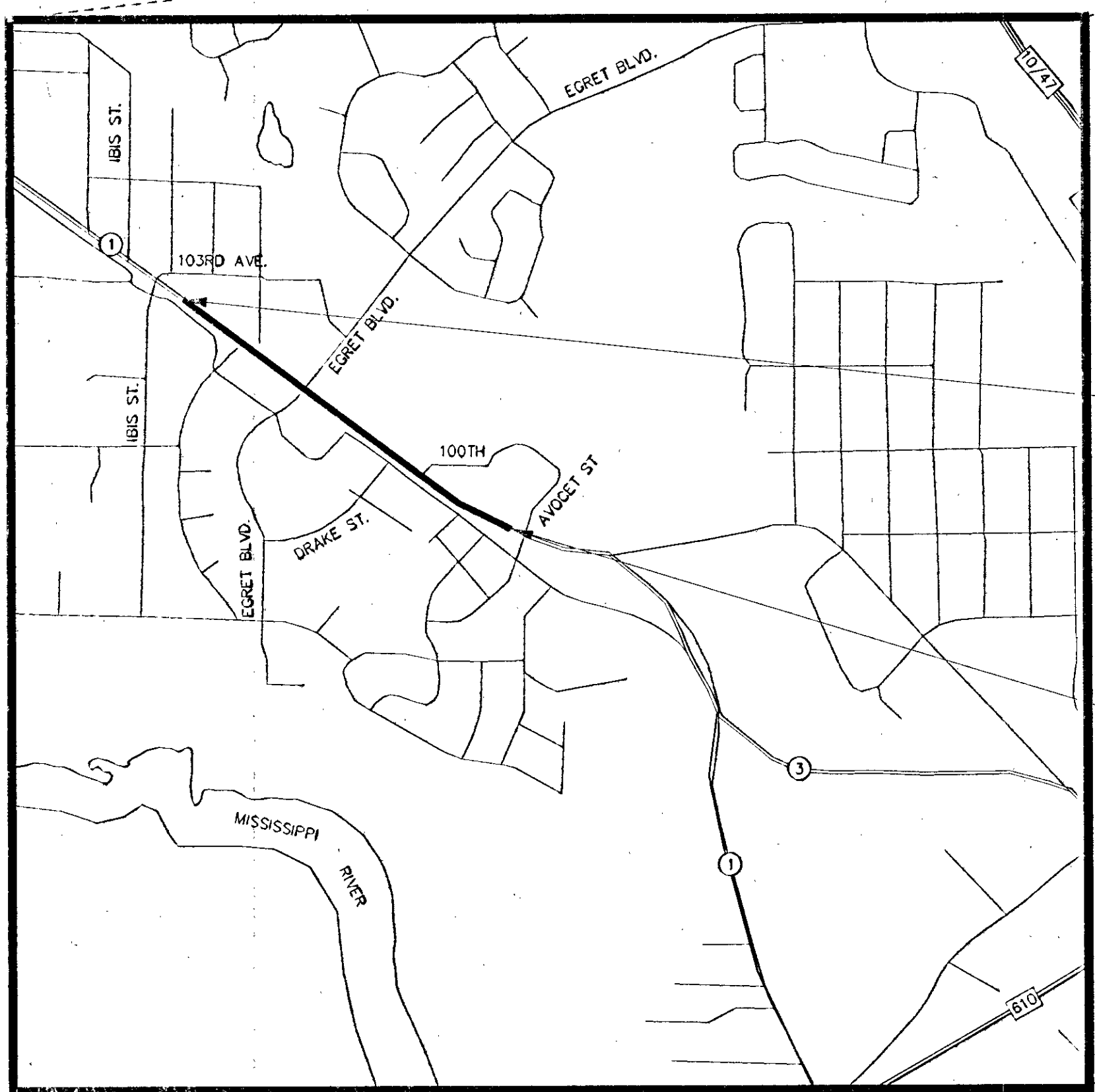
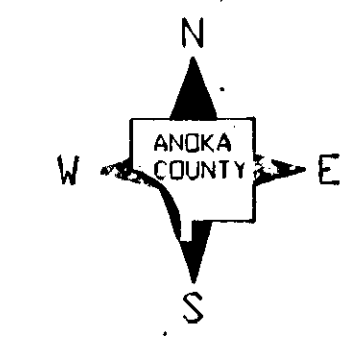
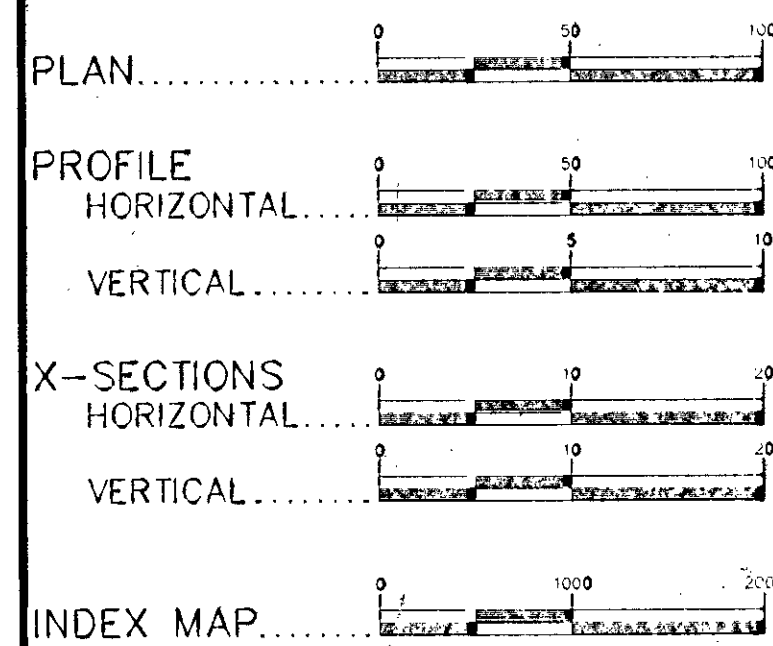
### PLAN SYMBOLS

- 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 .....
- GAUPE RAIL .....
- BARBED WIRE FENCE .....
- WOVEN WIRE FENCE .....
- CHAIN LINK FENCE .....
- WOOD FENCE .....
- STONE WALL OR FENCE .....
- HEDGE .....
- LOWLAND .....
- TIMBER ORCHARD BRUSH NURSERY .....
- CATTLE GAUPD .....
- 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 .....
- WATERMAIN .....
- TELEPHONE CABLE IN CONDUIT .....
- ELECTRIC CABLE IN CONDUIT .....
- TELEPHONE MANHOLE .....
- ELECTRIC MANHOLE .....
- BURIED TELEPHONE CABLE T-BUR .....
- BURIED ELECTRIC CABLE P-BUR .....
- AERIAL TELEPHONE CABLE T-AE .....
- SEWER (Sanitary or Storm) .....
- SEWER MANHOLE .....

### SCALES



END C.P. 94-40-01  
STATION 829+76.00

BEGIN C.P. 94-40-01  
STATION 798+55.00

COUNTY PROJ. NO. 94-40-01  
STATE PROJ. NO. .... SHEET NO. 1 OF 14 SHEETS

STATEMENT OF ESTIMATED QUANTITIES

CHART NO.	NOTE	ITEM NO.	ITEM	UNIT	CP 94-40-01		NON-PARTICIPATING		TOTAL	
					ESTIMATED	FINAL	ESTIMATED	FINAL	ESTIMATED	FINAL
		2021.501	MOBILIZATION	LUMP SUM	1				1	
	1	2102.502	PAVEMENT MARKING REMOVAL	LIN FT	650				650	
I	2	2104.501	REMOVE PIPE SEWER (STORM)	LIN FT	25				25	
A	2	2104.501	REMOVE CURB AND GUTTER	LIN FT	1,473				1,473	
C		2104.505	REMOVE BITUMINOUS PAVEMENT	SQ YD	439				439	
B		2104.505	REMOVE CONCRETE PAVEMENT	SQ YD	227				227	
I		2104.509	REMOVE CATCH BASIN	EACH	4				4	
		2104.509	REMOVE LOOP DETECTOR	EACH	1				1	
D		2104.511	SAVING CONCRETE PAVEMENT	LIN FT	77				77	
D		2104.513	SAVING BITUMINOUS PAVEMENT	LIN FT	629				629	
		2104.523	SALVAGE SIGN TYPE C	EACH	6				6	
		2105.501	COMMON EXCAVATION	CU YD	569(P)				569(P)	
K		2211.503	AGGREGATE BASE (CV) CL-5A	CU YD	171(P)				171(P)	
E		2232.501	MILL BITUMINOUS SURFACE	SQ YD	3,550				3,550	
K		2340.508	TYPE 47 WEARING COURSE MIXTURE	TON	346				346	
K		2340.510	TYPE 47 BINDER COURSE MIXTURE	TON	46				46	
K		2340.514	TYPE 31 BASE COURSE MIXTURE	TON	116				116	
K		2357.502	BITUMINOUS MATERIAL FOR TACK COAT	GALLON	234				234	
I		2503.541	12" RC PIPE SEWER, DESIGN 3006	LIN FT	35				35	
I		0503.602	CONNECT TO EXISTING STORM SEWER	EACH	6				6	
I		2506.501	CONSTRUCT DRAINAGE STRUCTURE DESIGN H	LIN FT	8.0				8.0	
I		2506.501	CONSTRUCT DRAINAGE STRUCTURE DESIGN C OR G	LIN FT	9.3				9.3	
I, J		2506.516	CASTING ASSEMBLY	EACH	6				6	
I		0506.602	ADJUST FRAME AND RING CASTING	EACH	2				2	
G		2531.501	CONCRETE CURB & GUTTER DESIGN B-618	LIN FT	1,029				1,029	
G		2531.501	CONCRETE CURB & GUTTER DESIGN B-624	LIN FT	390				390	
F		2531.507	8" CONCRETE DRIVEWAY PAVEMENT	SQ YD	93				93	
		0557.601	TRAFFIC CONTROL STAGE 1	LUMP SUM	1				1	
		0563.603	ONE-WAY RAISED PAVT MARKER, TEMP	EACH	200				200	
	3	0563.603	REPLACEMENT ONE-WAY RPM, TEMP	EACH	30				30	
		0564.602	INSTALL SIGN TYPE SPECIAL	EACH	2				2	
		0565.602	LOOP DETECTOR 6'x 6'	EACH	3				3	
H		2575.505	SODDING TYPE LAWN	SQ YD	1,138				1,138	
H		2575.532	COMMERCIAL FERTILIZER, ANALYSIS 10-10-10	POUND	117				117	
	4	2581.501	4" REMOVABLE PREFORMED PLASTIC MARKING	LIN FT	3,000				3,000	

- NOTES:
1. 500 LIN FT 4" WHITE SKIP, 150 LIN FT 4" SOLID WHITE.
  2. INCLUDES ALL TYPES AND SIZES.
  3. 15% ESTIMATED.
  4. 3000 LIN FT 4" WHITE.

STANDARD PLATES

PLATE NO.	DESCRIPTION
0005 A	SPECIFICATION REFERENCE TO STANDARD PLATES
3000 L	REINFORCED CONCRETE PIPE
3006 G	GASKET JOINT FOR R.C. PIPE
4006 K	MANHOLE OR CATCH BASIN (DESIGN G AND 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
7100 G	CONCRETE CURB & GUTTER (DESIGN B)
7111 H	INSTALLATION & REINFORCEMENT OF CATCH BASIN CASTINGS
8000 I	STANDARD BARRICADES

BASIS OF PLANNED QUANTITIES

2340	TYPE 47 PLANT MIXED WEARING COURSE MIXTURE: 110 LBS./SQ. YD. PER 1" THICKNESS BITUMINOUS MIXTURE DESIGNATION: 47WEA75070X
2340	TYPE 47 PLANT MIXED BINDER COURSE MIXTURE: 110 LBS./SQ. YD. PER 1" THICKNESS BITUMINOUS MIXTURE DESIGNATION: 47BIB50070X
2340	TYPE 31 PLANT MIXED BASE COURSE MIXTURE: 110 LBS./SQ. YD. PER 1" THICKNESS BITUMINOUS MIXTURE DESIGNATION: 31BBB50000Y
2357	BITUMINOUS MATERIAL FOR TACK: 0.05 GALLONS/SQ. YD.
2575	COMMERCIAL FERTILIZER, ANALYSIS 10-10-10 500 LBS./ACRE ON ALL SOD AREAS.

INDEX OF TABULATION CHARTS

CHART	SHEET NO.	DESCRIPTION
A	3	CURB & GUTTER REMOVAL
B	3	CONCRETE REMOVAL
C	3	BITUMINOUS REMOVAL
D	3	SAW CONCRETE/BITUMINOUS PAVEMENT
E	3	MILL BITUMINOUS SURFACE
F	3	DRIVEWAY CONSTRUCTION CHART
G	3	CURB & GUTTER-MEDIAN-SIDEWALK CHART
H	3	SODDING
I	4	DRAINAGE TABULATION
J	4	DRAINAGE CASTING SCHEDULE
K	4	BITUMINOUS & AGGREGATE BASE SUMMARY

REVISIONS	DATE	BY

STATEMENT OF ESTIMATED QUANTITIES



CURB & GUTTER REMOVAL (A)				
STATION - STATION	LOCATION	TYPE	LIN. FT.	
799+09 - 802+43	26'-38' RT	B-624	331	
801+04	38'-57' RT	B-618	28	
801+28	38'-57' RT	B-618	25	
802+06 - 802+36	14' LT	B-624	30	
802+06 - 802+36	26' LT	B-624	30	
803+25 - 803+61	26' RT	B-618	36	
804+29 - 804+65	26' RT	B-618	36	
820+19 - 829+76	22' RT	B-618	957	
TOTAL			1,473	

MILL BITUMINOUS SURFACE (E)				
STATION - STATION	LOCATION	DEPTH/IN.	SQ. YDS.	
798+55 - 806+67	12'-24.5' RT	1.5	1018	
807+24 - 819+59	12'-24.5' RT	1.5	1643	
* 815+49 - 815+61	12' LT-12' RT	1.5	32	
820+19 - 822+39	12'-20.5' RT	1.5	207	
822+51 - 824+23	12'-20.5' RT	1.5	160	
824+35 - 826+03	12'-20.5' RT	1.5	157	
826+15 - 827+82	12'-20.5' RT	1.5	157	
827+94 - 829+76	12'-24.5' RT	1.5	176	
TOTAL			3,550	

\* FOR LOOP DETECTOR REMOVAL.

CONCRETE REMOVAL (B)			
STATION - STATION	LOCATION	DESCRIPTION	SQ. YDS.
802+16	RT.	CONCRETE ENTRANCE	24
802+22	LT.	MEDIAN PEDESTRIAN X-ING	31
803+43	RT.	CONCRETE ENTRANCE	16
804+47	RT.	CONCRETE ENTRANCE	16
820+35	RT.	CONCRETE ENTRANCE	13
821+67	RT.	CONCRETE ENTRANCE	33
823+38	RT.	CONCRETE ENTRANCE	32
825+01	RT.	CONCRETE ENTRANCE	21
826+16	RT.	CONCRETE ENTRANCE	23
827+50	RT.	CONCRETE ENTRANCE	18
TOTAL			227

DRIVEWAY CONSTRUCTION CHART (F)														
STATION/LOC.	ADDRESS	REMARKS	EXIST WIDTH	REMOVE		CONC. PAVEMENT DRIVEWAY SQ. YD.			BIT. PAVEMENT DRIVEWAY SQ. YD.			AGGREGATE ENTRANCE		
				CONC. SQ. YD.	BIT. SQ. YD.	WIDTH	REPLMT 6' 8"	NEW 6' 8"	WIDTH	REPLMT	NEW	WIDTH	CU. YD.	
801+16 / RT	COON RAPIDS CITY HALL	OBLITERATE ENTRANCE	24		60									
802+16 / RT	SENIOR CENTER	OBLITERATE ENTRANCE	36	24										
803+43 / RT	LILLI-PUT GOLF	OBLITERATE ENTRANCE	24	16										
804+47 / RT	LILLI-PUT GOLF	OBLITERATE ENTRANCE	24	16										
820+35 / RT	1547		19	13		19	10							
821+67 / RT	1557		24	33		24	22							
823+38 / RT	VACANT LOT		23	32		23	21							
825+01 / RT	1615		14	21		14	13							
826+16 / RT	1615		16	23		16	15							
827+50 / RT	COLDWELL BANKER		24	18		24	12							
TOTALS				196	60	93								

① QUANTITY INCLUDED IN CONCRETE REMOVAL CHART.  
 ② QUANTITY INCLUDED IN BITUMINOUS REMOVAL CHART.

BITUMINOUS REMOVAL (C)			
STATION - STATION	LOCATION	DESCRIPTION	SQ. YDS.
799+09 - 802+43	22'-36' RT	FOR REALIGNMENT OF CONCRETE C&G	316
801+04 - 801+28	38'-57' RT	ENTRANCE TO BE OBLITERATED	60
820+19 - 820+70	20.5-24.5' RT		9
822+39 - 822+51	12'-20.5' RT	FOR STORM SEWER RECONSTRUCTION	11
824+23 - 824+35	12'-20.5' RT	FOR STORM SEWER RECONSTRUCTION	11
826+03 - 826+15	12'-20.5' RT	FOR STORM SEWER RECONSTRUCTION	11
827+82 - 827+94	12'-20.5' RT	FOR STORM SEWER RECONSTRUCTION	11
829+20 - 829+76	20.5-24.5' RT		10
TOTAL			439

CURB & GUTTER - MEDIAN - SIDEWALK CHART (G)						
STATION - STATION	LOC.	B624 C&G LIN. FT.	B618 C&G LIN. FT.	4" CONC. WALK SQ. FT.	CONC. MEDIAN NOSE EACH	CONC. PED. RAMP EACH
799+09 - 802+43	RT	330				
802+06 - 802+36	LT	30				
802+06 - 802+36	LT	30				
803+25 - 803+61	RT		36			
804+29 - 804+65	RT		36			
820+19 - 829+76	RT		957			
TOTALS		390	1,029			

SAWING CONC./BIT. PAVEMENT (D)				
STATION - STATION	LOCATION	CONCRETE LIN. FT.	BITUMINOUS LIN. FT.	
799+09	22'-24' RT		2	
799+09 - 802+43	22' RT		343	
801+04 - 801+28	57' RT		24	
801+21	22'-24' RT		2	
820+19 - 820+70	20.5' RT		51	
820+27 - 820+43	33' RT		16	
822+39	12'-20.5' RT		8.5	
822+39 - 822+51	12' RT		12	
822+51	12'-20.5' RT		8.5	
824+23	12'-20.5' RT		8.5	
824+23 - 824+35	12' RT		12	
824+35	12'-20.5' RT		8.5	
826+03	12'-20.5' RT		8.5	
826+03 - 826+15	12' RT		12	
826+15	12'-20.5' RT		8.5	
827+38 - 827+62	30' RT		24	
827+82	12'-20.5' RT		8.5	
827+82 - 827+94	12' RT		12	
827+94	12'-20.5' RT		8.5	
829+20 - 829+76	20.5' RT		61	
821+55 - 821+79	33' RT	24		
823+26 - 823+49	33' RT	23		
824+24 - 825+08	33' RT	14		
826+08 - 826+24	33' RT	16		
TOTAL		77	629	

SODDING (H)				
STATION - STATION	LOCATION	SQ. YDS.	FERT. /LB.	REMARKS
799+09 - 802+43	RT	392	40	
803+25 - 803+61	RT	46	5	
804+29 - 804+65	RT	51	5	
820+44 - 821+54	RT	89	9	
821+79 - 823+26	RT	123	13	
823+50 - 824+95	RT	122	13	
825+08 - 826+08	RT	84	9	
826+24 - 827+39	RT	82	8	
827+62 - 829+76	RT	149	15	
TOTAL		1,138	117	

TABULATION CHARTS

REVISIONS  
 DATE BY DATE BY

**DRAINAGE TABULATION** ①

STRUCT NO.	STATION	LOCATION	REMARKS	MH. OR CB.	EXISTING				STRUCT DESIGN	PAY HEIGHT LIN FT	TOP OF CASTING ELEVATION	OUTLET ELEVATION	DRAINS TO		GRADE IN %	F&I CAST ASSY	FURNISH & INSTALL				
					REMOVE		ADJUST	RE-CONST					EXIST	NEW			12"RCP	LIN FT			
					STRUCT EACH	PIPE LIN FT	CAST EACH	CONST LIN FT													
1	822+45	21'RT C/L LWB	TO REMAIN INPLACE	CB	1	5			H		862.60	859.60	2		0.89						
2	829+79	17'RT C/L LWB	TO REMAIN INPLACE	MH			1		F		858.17	863.37	4								
3	823+79	46'RT C/L LWB	TO REMAIN INPLACE	APRON									2		1.67						
4	823+79	70'LT C/L LWB	TO REMAIN INPLACE	CB					SP-2		863.20	843.39									
5	824+22	21'RT C/L LWB	TO REMAIN INPLACE	CB	1	8			H		862.77	859.77	2		2.74						
6	826+09	21'RT C/L LWB	TO REMAIN INPLACE	CB	1				H		863.14	860.24	7		1.52						
7	826+09	65'LT C/L LWB	TO REMAIN INPLACE	CB					G		863.13	858.93									
8	827+88	31'LT C/L LWB	TO REMAIN INPLACE	CB		4	1		H		862.79	860.39	9		2.40						
9	827+88	21'RT C/L LWB	TO REMAIN INPLACE	CB	1	8			G		863.25	859.90	10		1.94						
10	827+88	65'LT C/L LWB	TO REMAIN INPLACE	CB					F		863.23	858.23									
100	822+12	24.9'RT C/L LWB	CONNECT TO EXISTING 12" PVC	CB					H	2.5	862.52	859.80		101	2.00	A	5				
101	822+45	21.0'RT C/L LWB	CONNECT TO EXISTING STORM SEWER	MH					G	3.2	862.70	859.60	2		0.89	B					
102	824+34	24.9'RT C/L LWB	CONNECT TO EXISTING STORM SEWER	CB					H	2.6	862.69	859.93		103	1.00	A	6				
103	824+22	21.0'RT C/L LWB	CONNECT TO EXISTING STORM SEWER	MH					G	3.1	862.77	859.77	2		2.74	B					
104	826+09	24.9'RT C/L LWB	CONNECT TO EXISTING STORM SEWER	CB					H	2.9	863.06	860.30	7		1.52	C	12				
105	827+88	24.9'RT C/L LWB	2-CONNECT TO EXIST. STORM SEWER	CB					G	3.0	863.17	859.98	10		1.94	A	12				
TOTAL						4	25	2					17.3			6	35				

**DRAINAGE CASTING SCHEDULE** ①

ASS'Y. TYPE	NO. REQ'D.	FRAME CASTING	GRATE CASTING	CURB BOX CASTING	RING CASTING	COVER CASTING
A	3	801	810	821-B		
B	2				700-7	716
C	1				700-7	810

**BITUMINOUS AND AGGREGATE BASE SUMMARY** ①

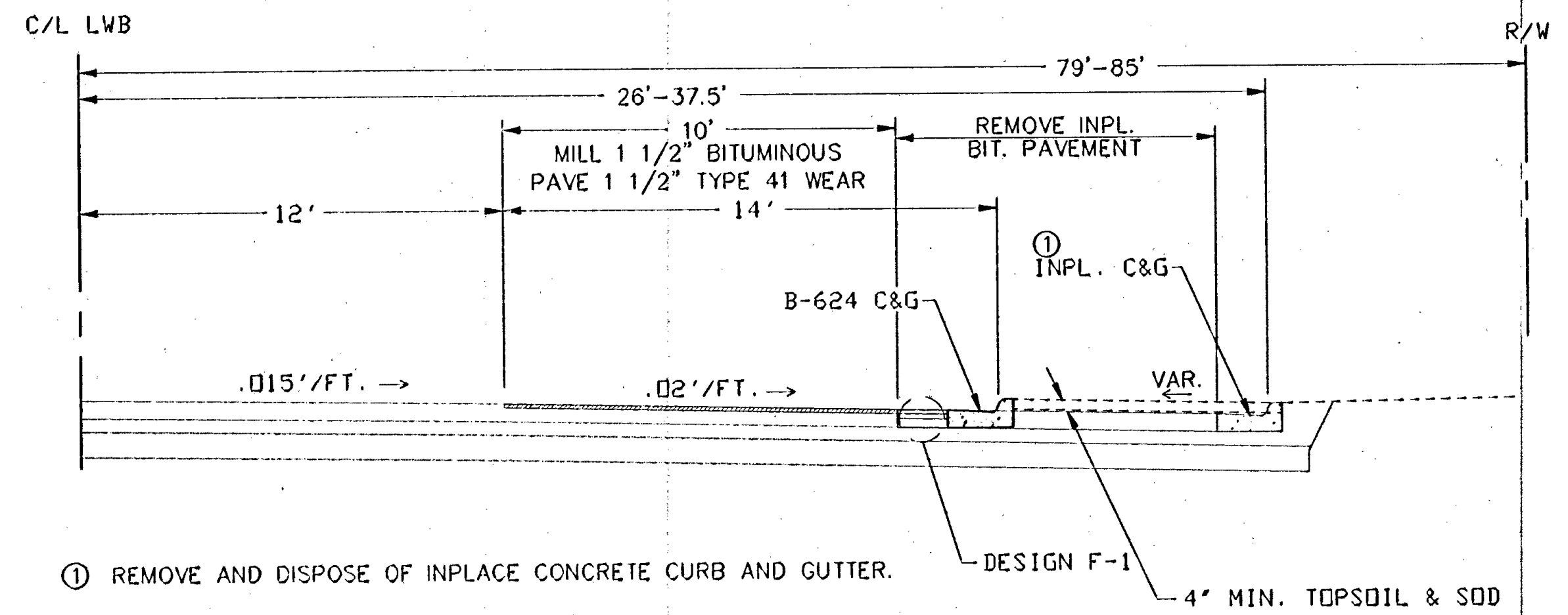
STATION - STATION	TYPE 31 BASE			TYPE 47 BINDER			TYPE 47 WEAR			TACK COAT (GALLON)	AGGREGATE BASE CLASS 5A		
	DEPTH (IN.)	AREA (SQ.YDS.)	WEIGHT (TON)	DEPTH (IN.)	AREA (SQ.YDS.)	WEIGHT (TON)	DEPTH (IN.)	AREA (SQ.YDS.)	WEIGHT (TON)		DEPTH (IN.)	AREA (SQ.YDS.)	VOLUME (CU.YDS.)
798+55 - 806+67							1.5	1018	84	51			
799+09 - 802+43	4.0	74	16	1.5	74	6	1.5	74	6	7			
802+10 - 802+33							2.0	31	4		4.0	31	4
807+24 - 819+59							1.5	1643	136	82			
815+49 - 815+61							1.5	32	3	2			
820+19 - 829+76							1.5	887	73	44			
820+19 - 822+39	4.0	91	20	1.5	91	8	1.5	91	8	10	7.5	169	35
822+39 - 822+51	4.0	17	4	1.5	17	2	1.5	17	2	2	7.5	21	5
822+51 - 824+23	4.0	78	17	1.5	78	7	1.5	78	7	8	7.5	139	29
824+23 - 824+35	4.0	17	4	1.5	17	2	1.5	17	2	2	7.5	21	5
824+35 - 826+03	4.0	76	17	1.5	76	6	1.5	76	6	8	7.5	136	28
826+03 - 826+15	4.0	17	4	1.5	17	2	1.5	17	2	2	7.5	21	5
826+15 - 827+82	4.0	71	16	1.5	71	6	1.5	71	6	8	7.5	130	27
827+82 - 827+94	4.0	17	4	1.5	17	2	1.5	17	2	2	7.5	21	5
827+94 - 829+76	4.0	65	14	1.5	65	5	1.5	65	5	6	7.5	130	28
TOTALS			116		46				346	234			171

- ① 1 1/2" BITUMINOUS OVERLAY.
- ② FULL DEPTH BITUMINOUS CONSTRUCTION.
- ③ BITUMINOUS MEDIAN RECONSTRUCTION.
- ④ LOOP DETECTOR CONSTRUCTION.
- ⑤ STORM SEWER TRENCH RESTORATION.

REVISIONS  
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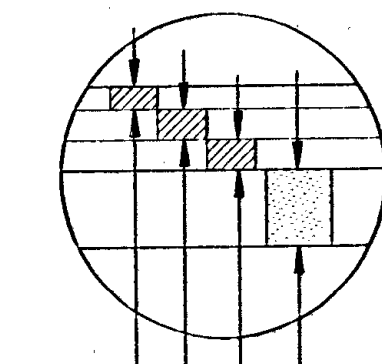


**C.S.A.H. 1**  
(STA. 799+09 TO STA. 802+43)



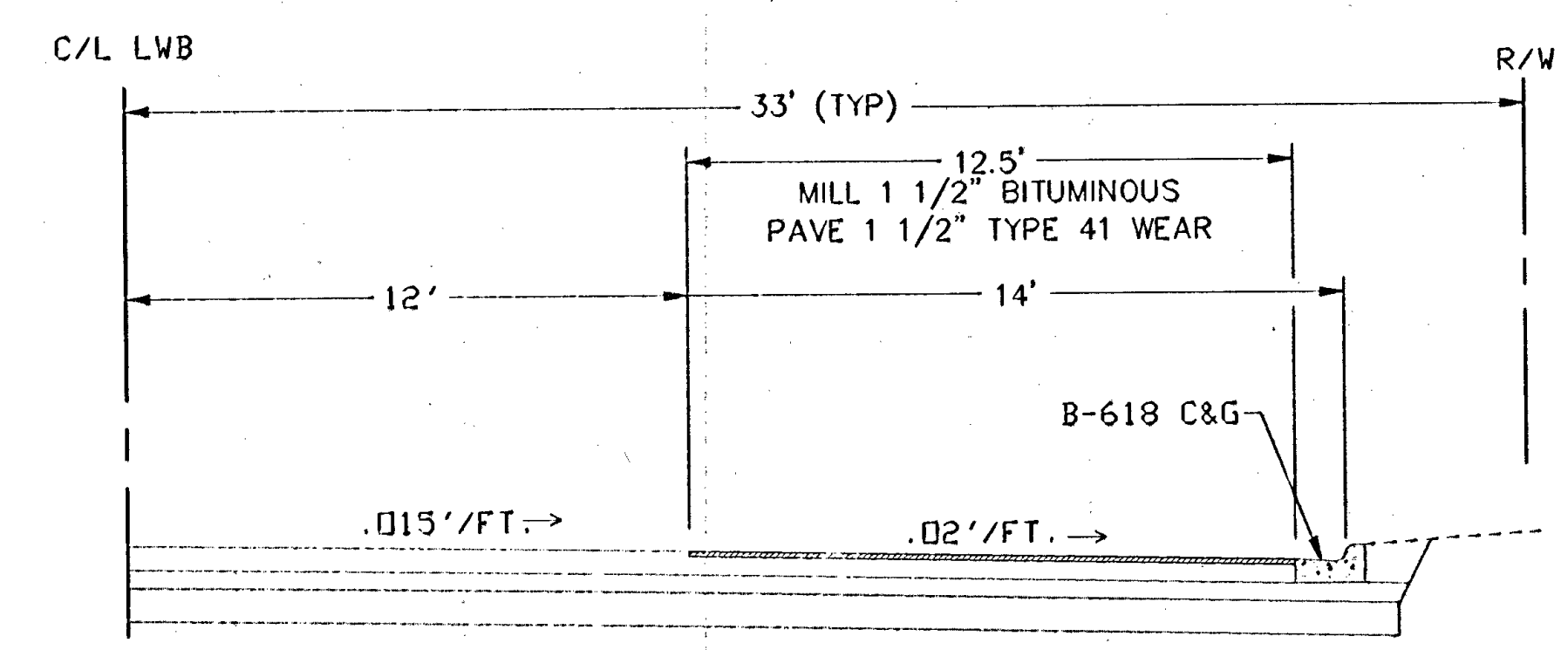
① REMOVE AND DISPOSE OF INPLACE CONCRETE CURB AND GUTTER.

**DESIGN F-1**

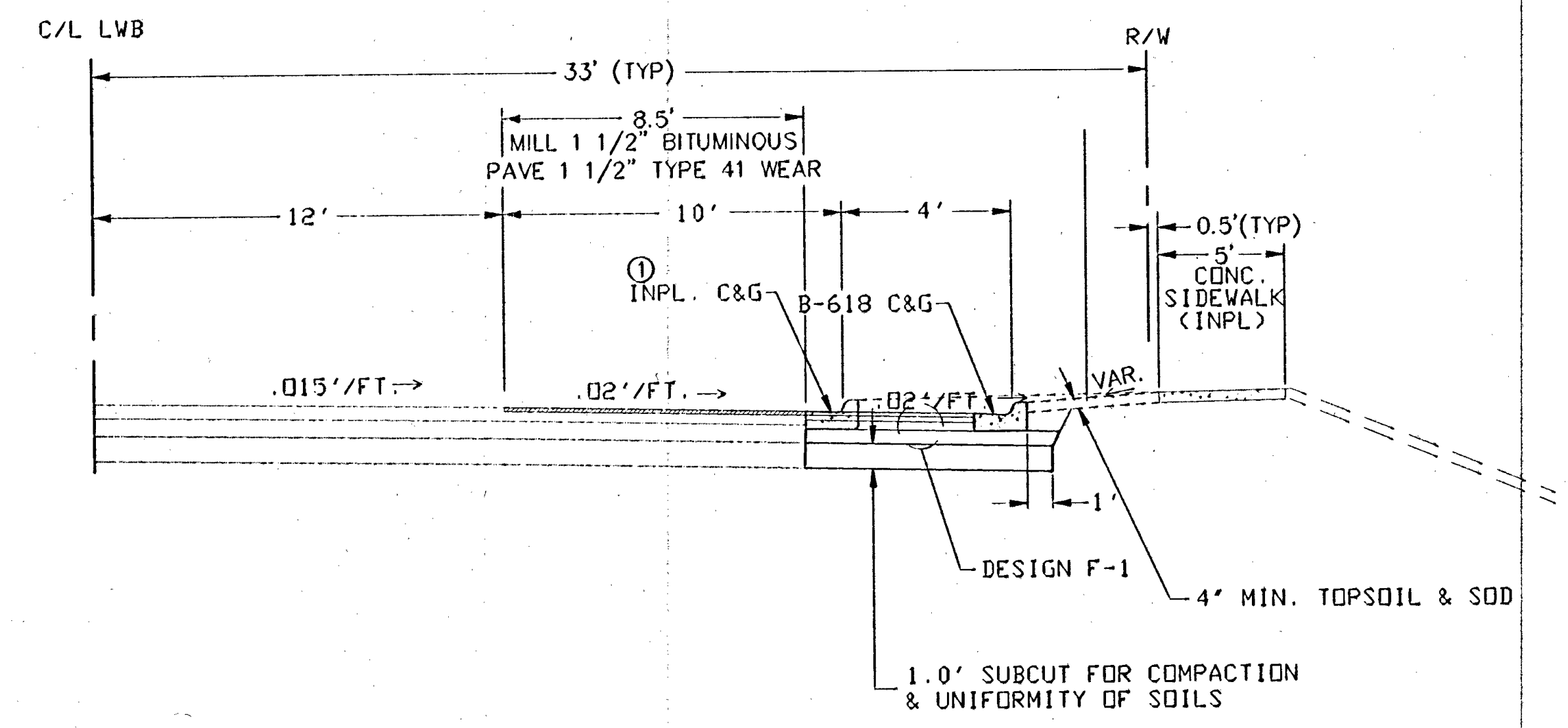


- 1 1/2" TYPE 47 WEAR (47WEA75070X)
- 1 1/2" TYPE 47 BINDER (47BIB50070X)
- 4" TYPE 31 BASE (31BBB50000Y)
- 7 1/2" AGGREGATE BASE CLASS 5

**C.S.A.H. 1**  
(STA. 798+55 TO STA. 799+09)  
(STA. 802+43 TO STA. 819+59)



**C.S.A.H. 1**  
(STA. 820+19 TO STA. 829+76)


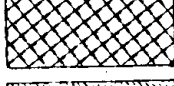
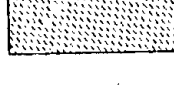


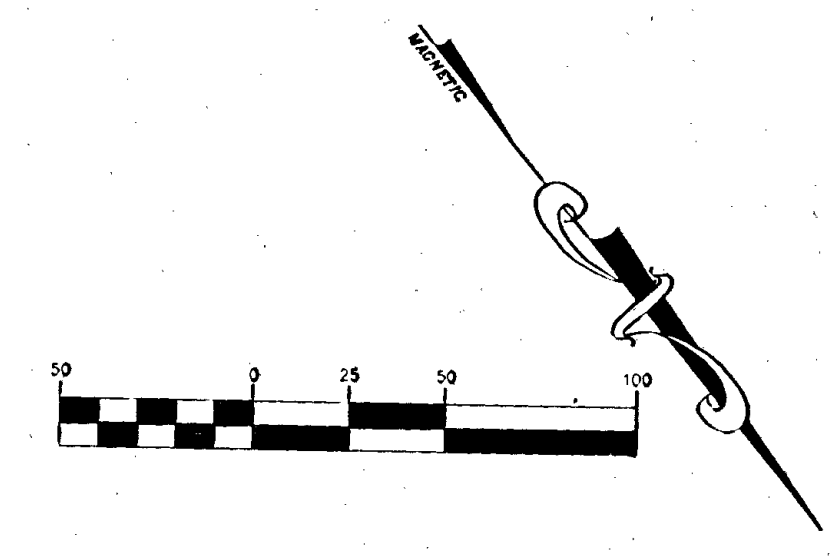
① REMOVE AND DISPOSE OF INPLACE CONCRETE CURB AND GUTTER.

TYPICAL SECTIONS

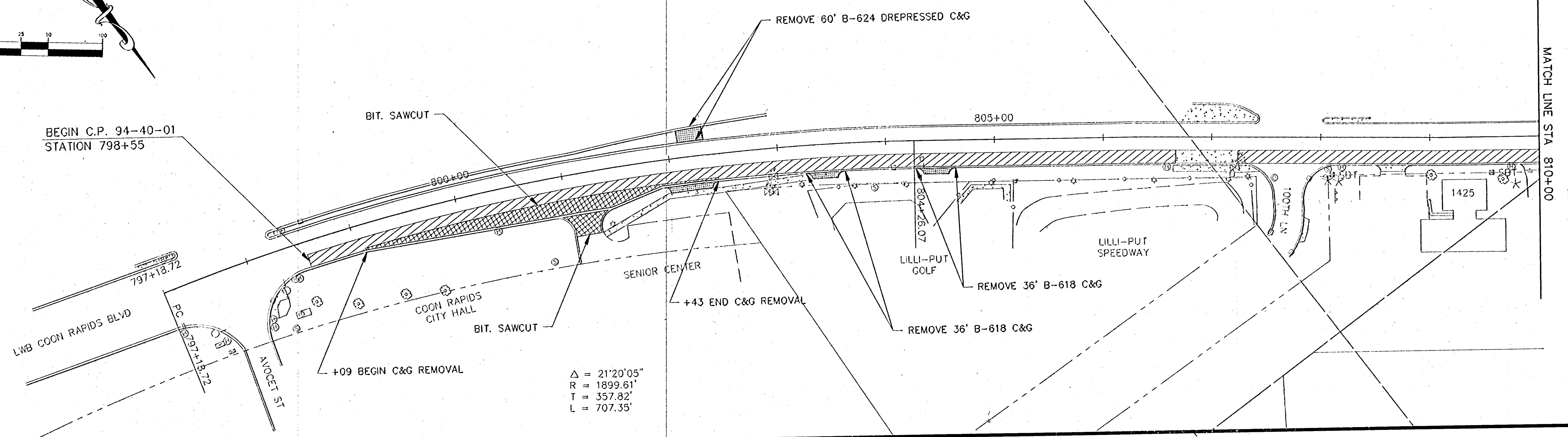
REVISIONS	DATE	BY

FILE NAME: P:\XXXXXXXX\00000.DWG NK: 110-28-942

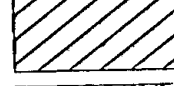


 DENOTES 1 1/2" BITUMINOUS MILLING  
 DENOTES FULL DEPTH BITUMINOUS REMOVAL  
 DENOTES CONCRETE REMOVAL

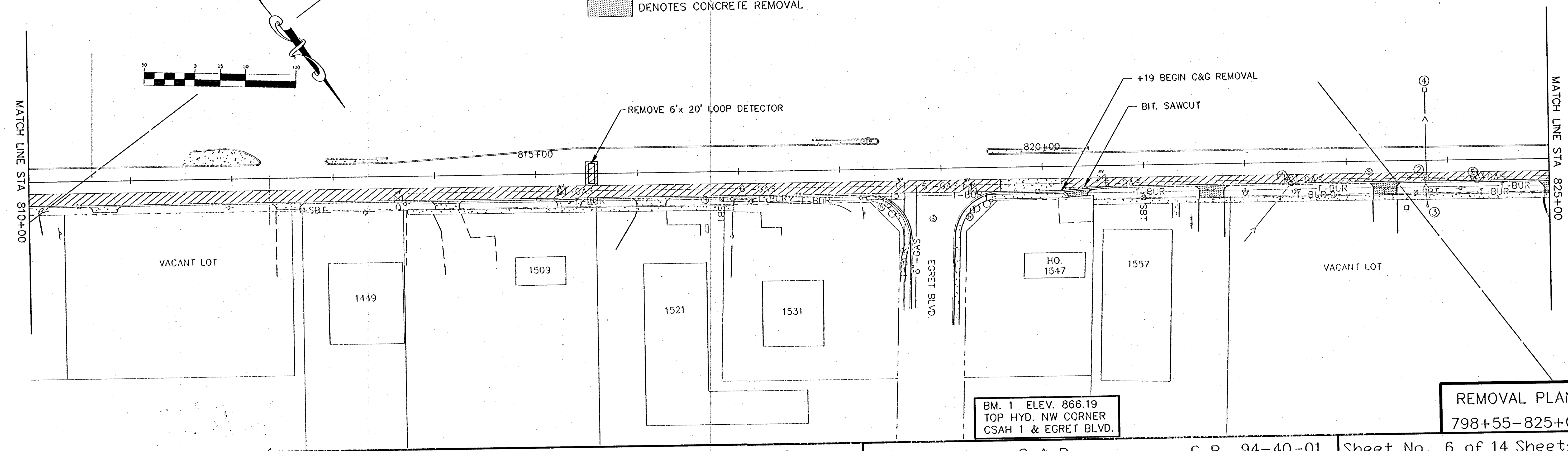
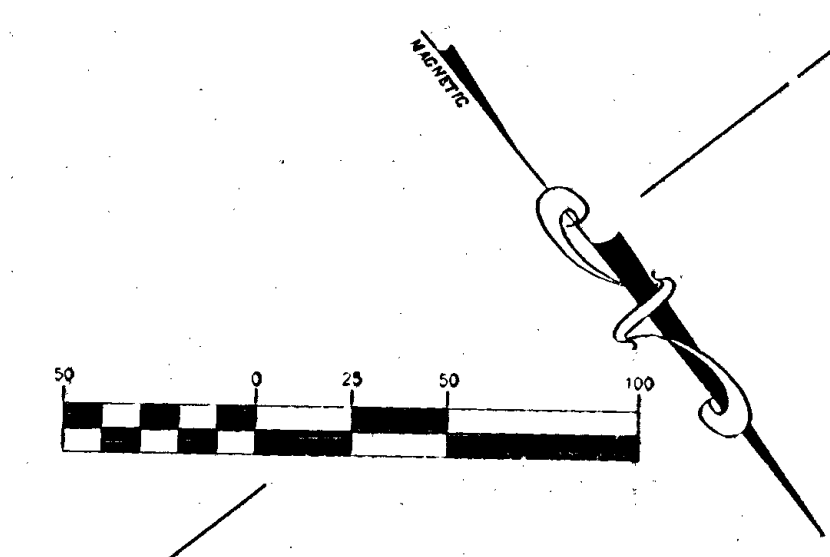


BEGIN C.P. 94-40-01  
STATION 798+55



$\Delta = 21'20''05''$   
 $R = 1899.61'$   
 $T = 357.82'$   
 $L = 707.35'$

 DENOTES 1 1/2" BITUMINOUS MILLING  
 DENOTES FULL DEPTH BITUMINOUS REMOVAL  
 DENOTES CONCRETE REMOVAL

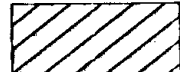




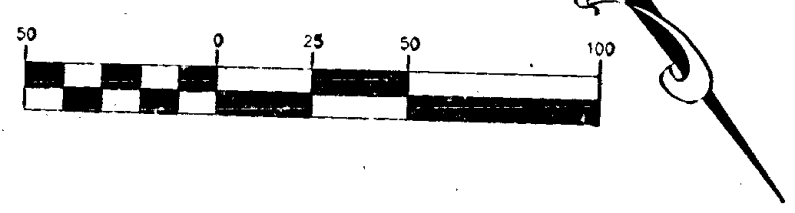
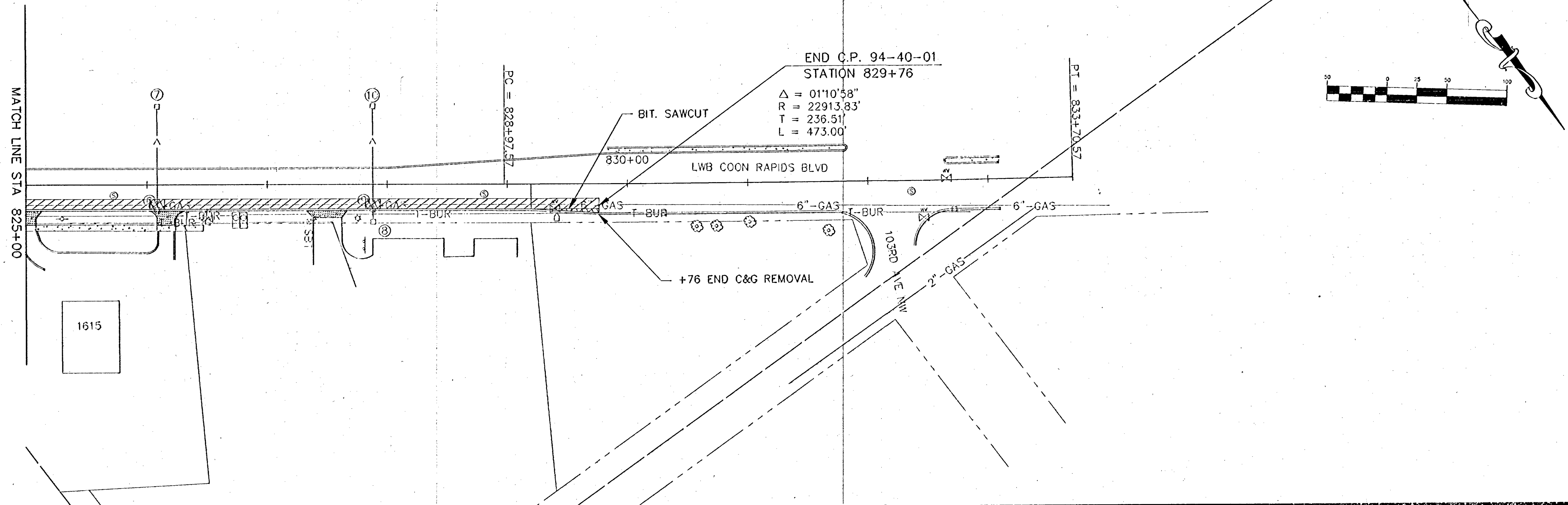
BM. 1 ELEV. 866.19  
 TOP HYD. NW CORNER  
 CSAH 1 & EGRET BLVD.

**REMOVAL PLAN**  
 798+55-825+00

REVISIONS	DATE	BY

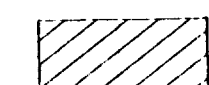

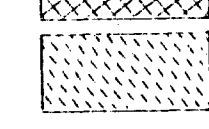


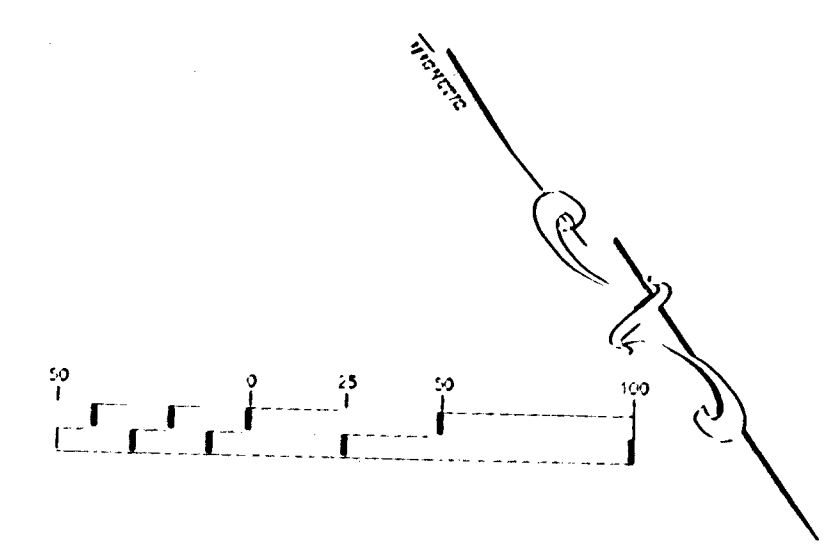
-  DENOTES 1 1/2" BITUMINOUS MILLING
-  DENOTES FULL DEPTH BITUMINOUS REMOVAL
-  DENOTES CONCRETE REMOVAL



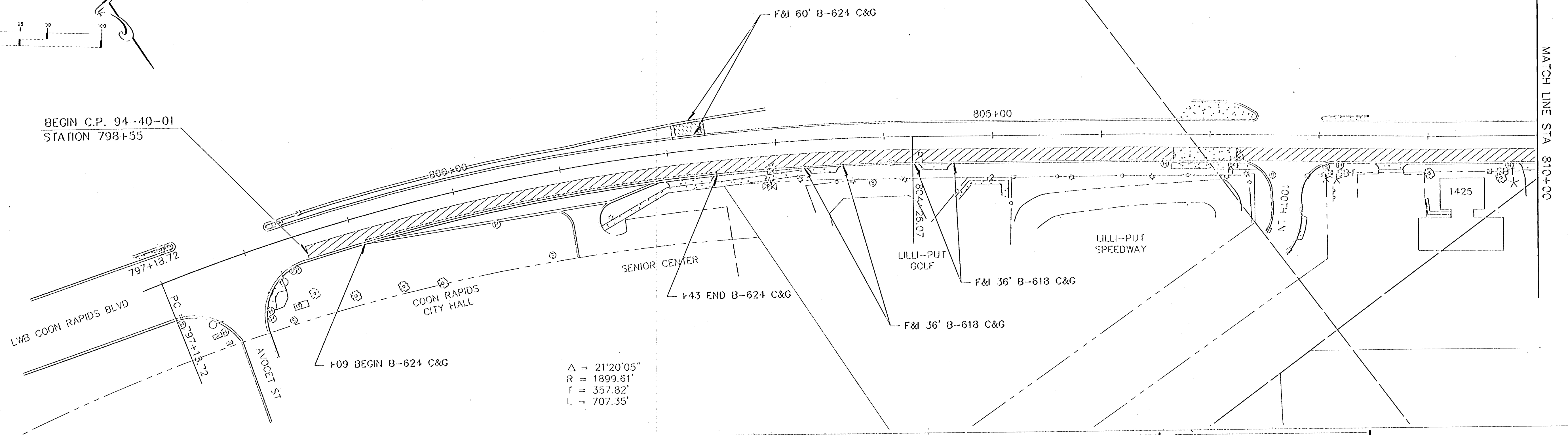
REVISIONS	DATE	BY

REMOVAL PLAN  
825+00-829+76



 DENOTES 1 1/2" BITUMINOUS OVERLAY  
 DENOTES FULL DEPTH BITUMINOUS CONSTRUCTION  
 DENOTES 4" AGGREGATE BASE, 2" BITUMINOUS WEAR

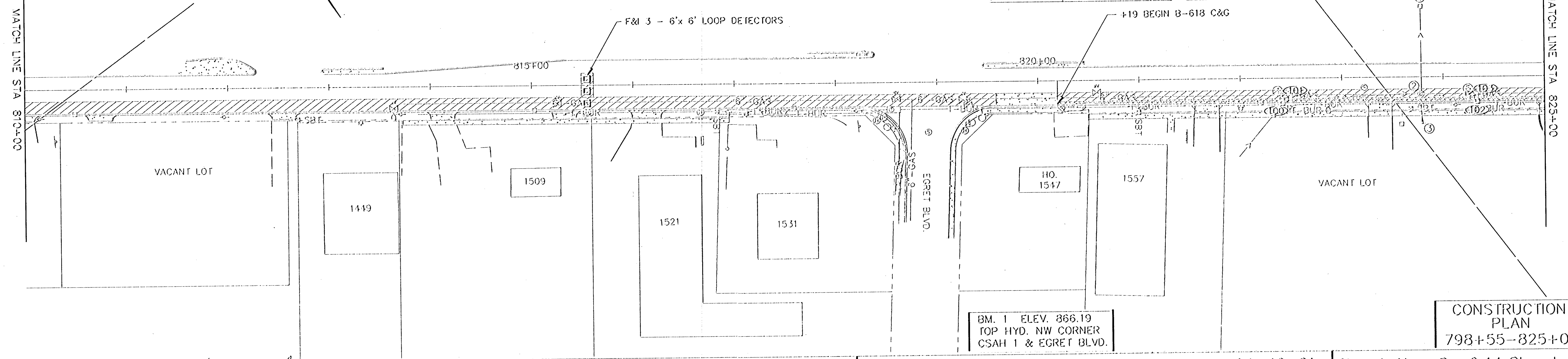
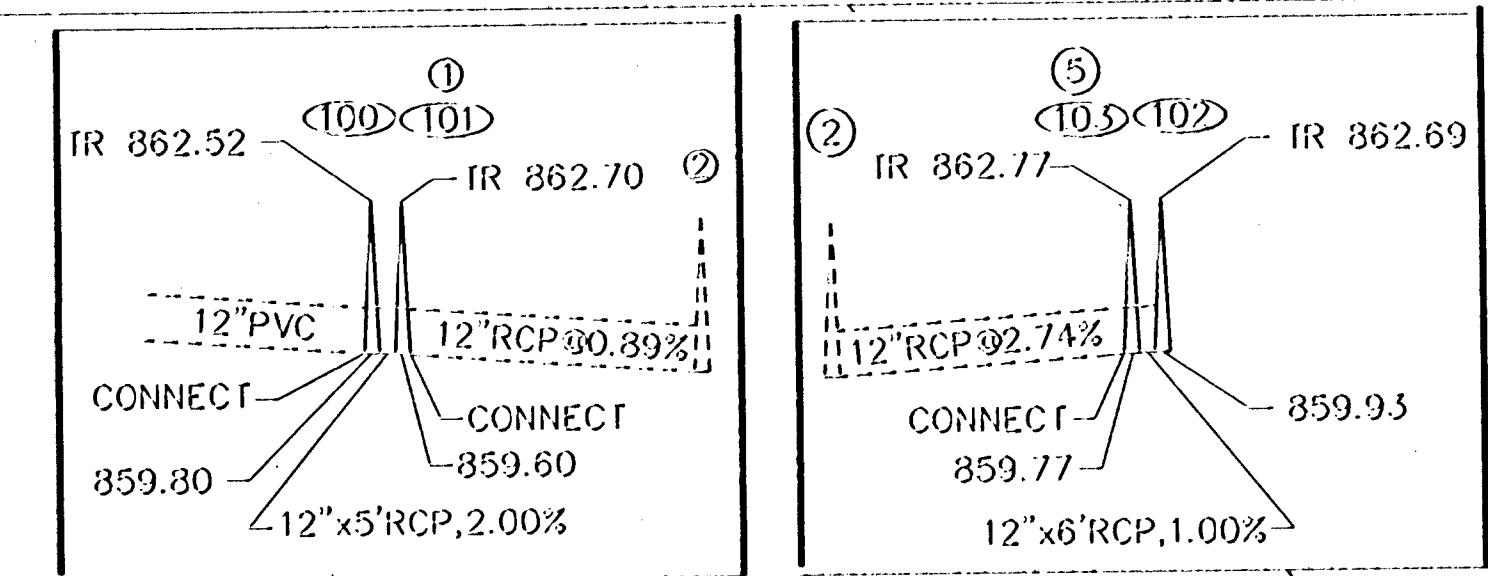
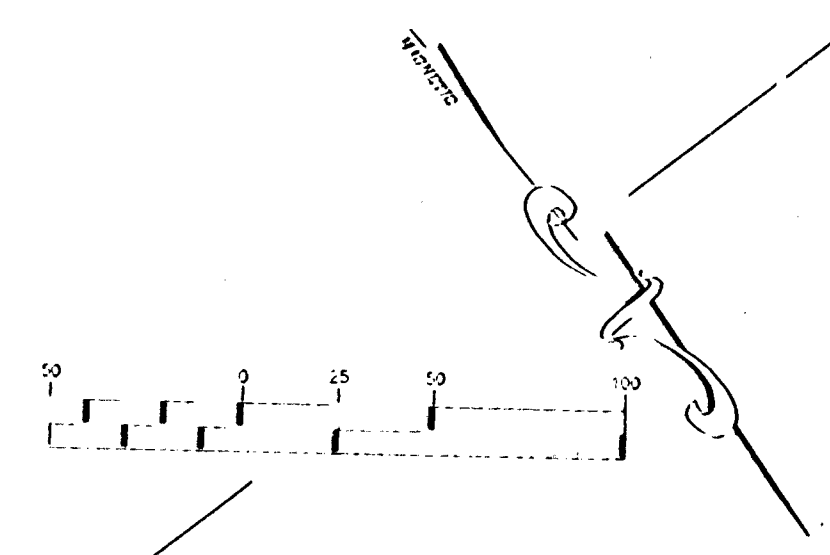


BEGIN C.P. 94-40-01  
STATION 798+55



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 $L = 707.35'$

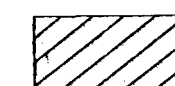

 DENOTES 1 1/2" BITUMINOUS OVERLAY  
 DENOTES FULL DEPTH BITUMINOUS CONSTRUCTION

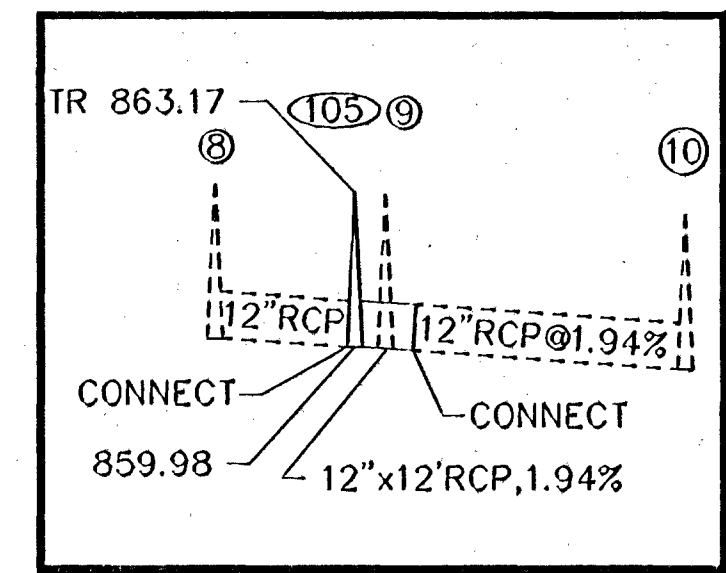
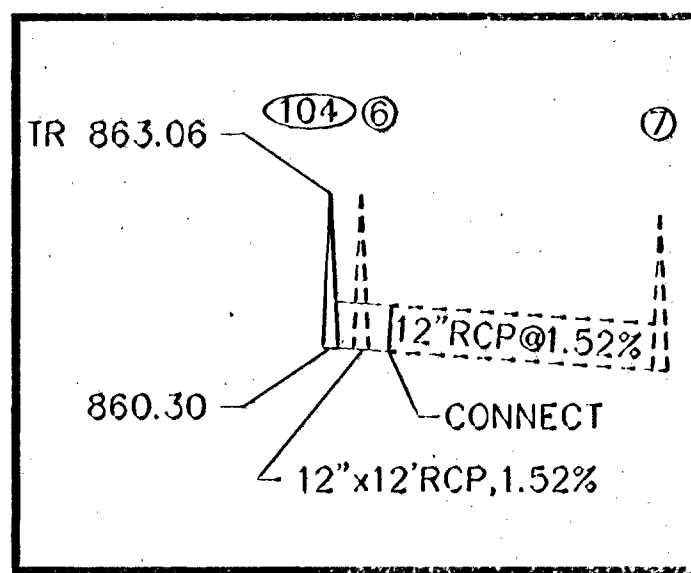


REVISIONS	DATE	BY

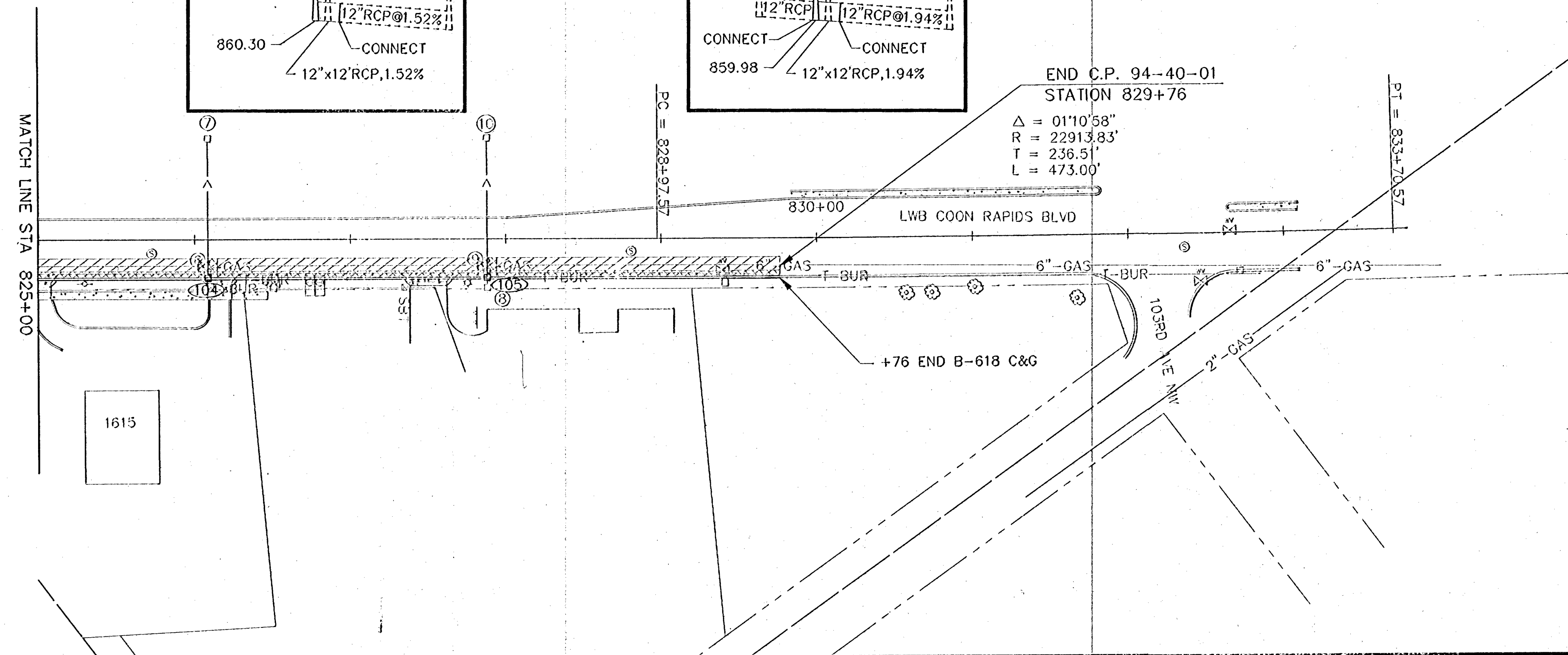
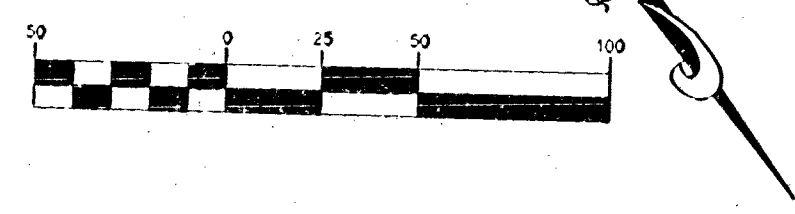
CONSTRUCTION PLAN  
798+55-825+00



 DENOTES 1 1/2" BITUMINOUS OVERLAY  
 DENOTES FULL DEPTH BITUMINOUS CONSTRUCTION

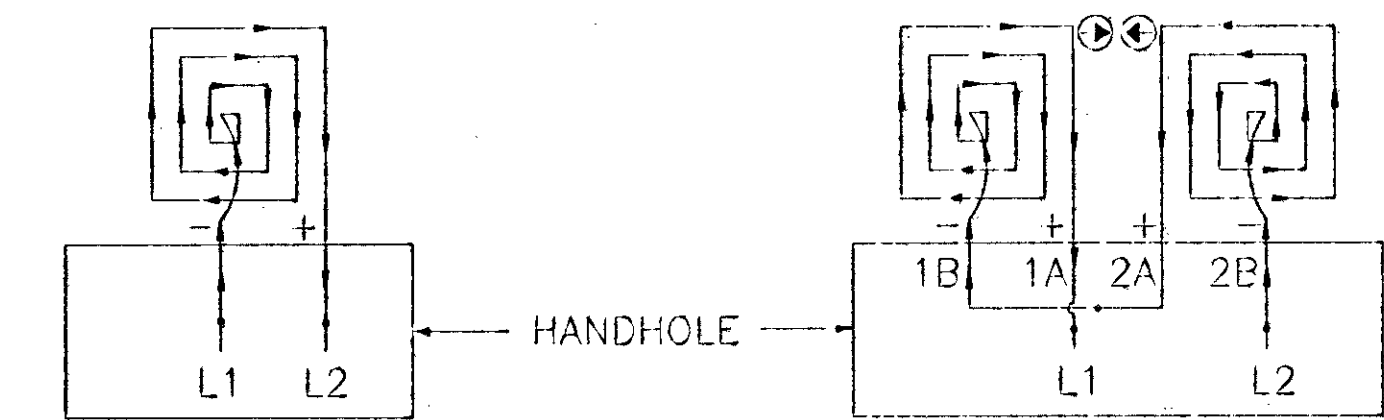
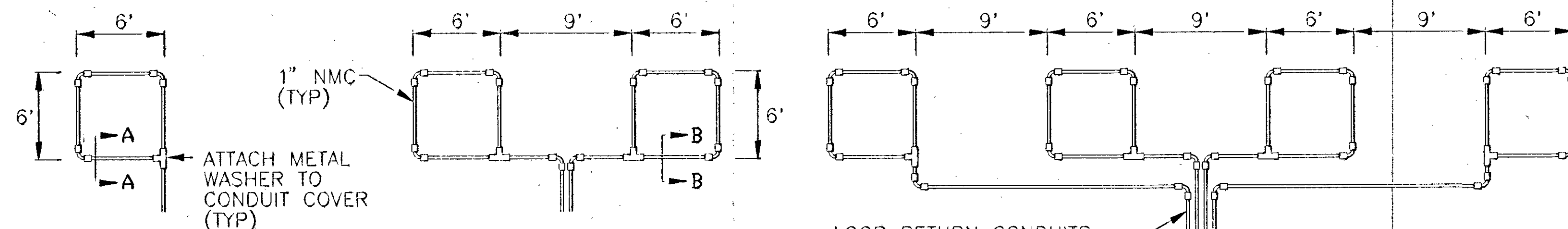


END C.P. 94-40-01  
 STATION 829+76  
 $\Delta = 01'10.58"$   
 $R = 22913.83'$   
 $T = 236.51'$   
 $L = 473.00'$



REVISIONS	DATE	BY

CONSTRUCTION  
 PLAN  
 825+00-829+76



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

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

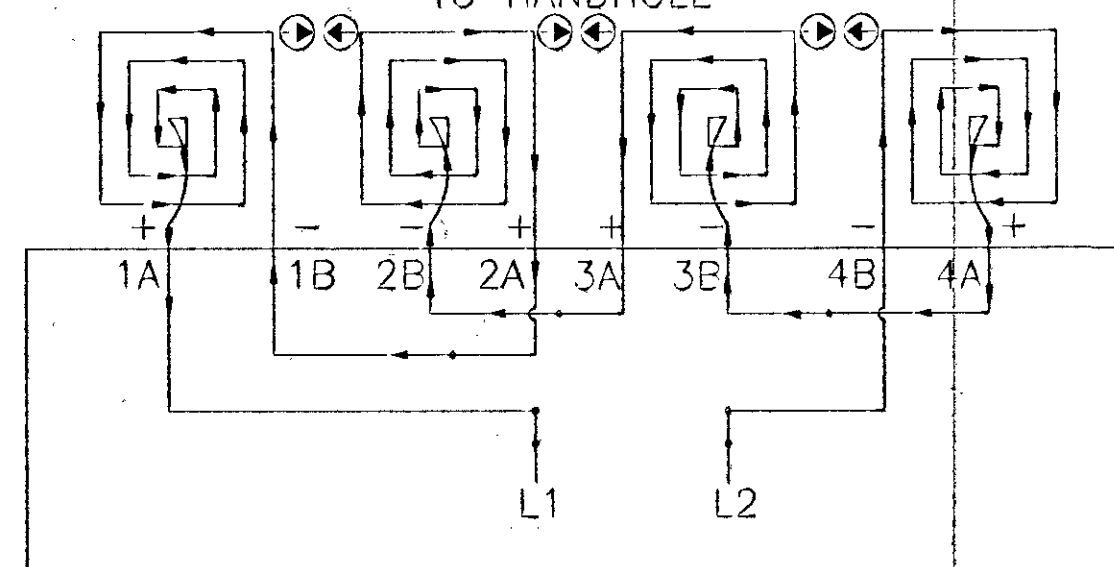
**LOOP DETECTOR  
DETAIL 'A'**

(LOOP PHASING FOR  
SINGLE CONNECTION)

**LOOP DETECTOR  
DETAIL 'B'**

(LOOP PHASING FOR  
SERIES CONNECTION)

LOOP RETURN CONDUITS  
MAY BE PLACED IN COMMON  
TRENCH (TYP)  
TO HANDHOLE



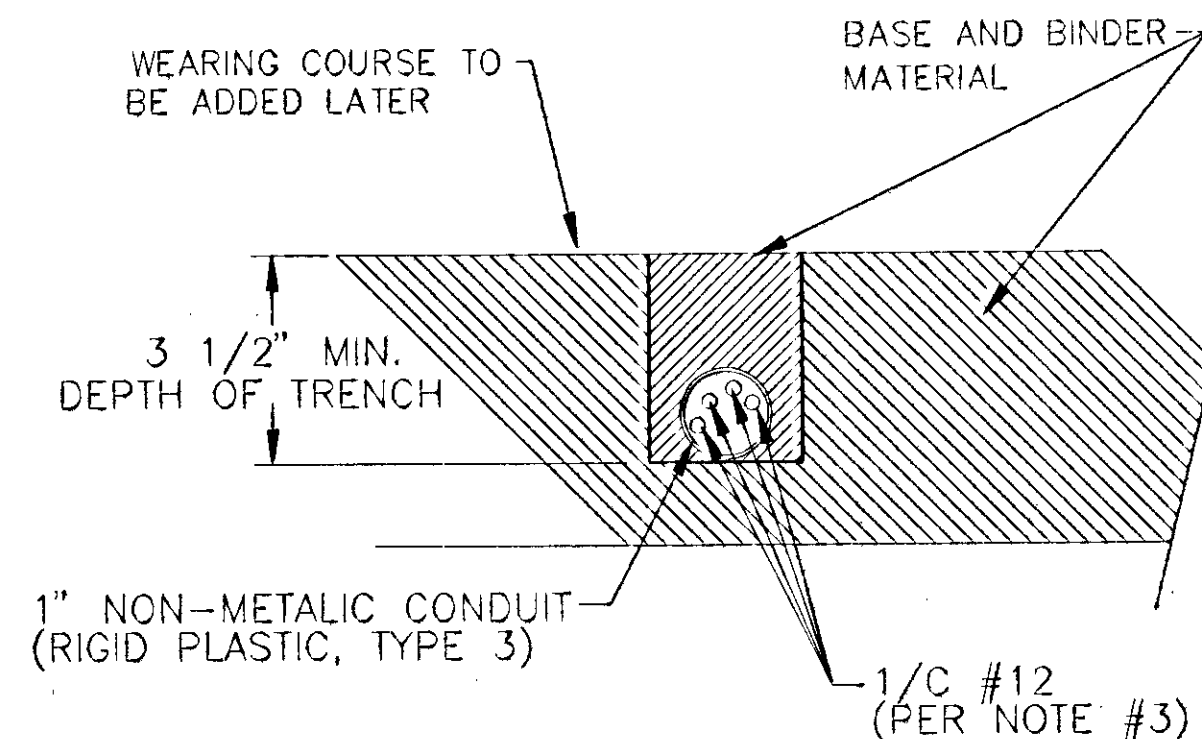
LOOP CONNECTIONS SHALL BE LABELED AND SPLICED  
IN THE HANDHOLE AS FOLLOWS:

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

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

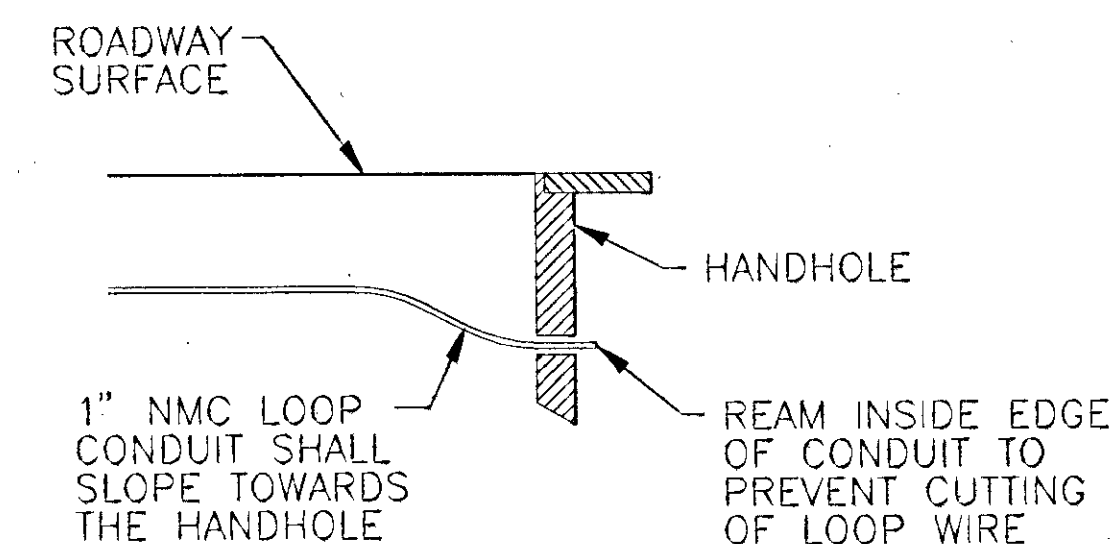
**LOOP DETECTOR  
DETAIL 'C'**

(LOOP PHASING FOR  
SERIES CONNECTION)



**SECTION A-A**

DETAIL FOR LOOP INSTALLATION  
IN NEW ROADWAY



**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	(Symbol: circle with 'A')
SIGNAL BASE NO.	(Symbol: circle with 'B')
SIGNAL FACE NO.	(Symbol: circle with 'C')
LUMINAIRE NO.	(Symbol: circle with 'D')
CONTROLLER AND CABINET	(Symbol: square)
CONTROLLER AND CABINET - IN PLACE	(Symbol: square with diagonal line)
HANDHOLE	(Symbol: square with 'H')
HANDHOLE - IN PLACE	(Symbol: square with 'H' and diagonal line)
RIGID STEEL CONDUIT (RSC)	(Symbol: double line)
RIGID STEEL CONDUIT (RSC) - IN PLACE	(Symbol: double line with diagonal line)
SIGNAL FACE WITH BACKGROUND SHIELD	(Symbol: arrow with shield)
SIGNAL FACE W/O BACKGROUND SHIELD	(Symbol: arrow)
SIGNAL FACE - IN PLACE	(Symbol: arrow with diagonal line)
PEDESTRIAN INDICATORS	(Symbol: circle with 'P')
PEDESTRIAN INDICATORS - IN PLACE	(Symbol: circle with 'P' and diagonal line)
PEDESTRIAN PUSH BUTTONS ON PEDESTAL OR POLE	(Symbol: circle with 'PB')
PEDESTRIAN PUSH BUTTON STATION	(Symbol: circle with 'PB' and diagonal line)
TRAFFIC SIGNAL PEDESTAL	(Symbol: circle with 'TS')
TRAFFIC SIGNAL PEDESTAL - IN PLACE	(Symbol: circle with 'TS' and diagonal line)
TRAFFIC SIGNAL POLE AND MAST ARM	(Symbol: circle with 'TSM')
TRAFFIC SIGNAL POLE AND MAST ARM - IN PLACE	(Symbol: circle with 'TSM' and diagonal line)
STREET LIGHT POLE AND LUMINAIRE	(Symbol: circle with 'SLP')
STREET LIGHT POLE AND LUMINAIRE - IN PLACE	(Symbol: circle with 'SLP' and diagonal line)
MAST ARM AND LUMINAIRE	(Symbol: circle with 'MAL')
MAST ARM AND LUMINAIRE - IN PLACE	(Symbol: circle with 'MAL' and diagonal line)
WOOD POLE	(Symbol: circle with 'W')
WOOD POLE - IN PLACE	(Symbol: circle with 'W' and diagonal line)
SOURCE OF POWER	(Symbol: circle with 'S')
RAILROAD SIGNAL - IN PLACE	(Symbol: circle with 'R' and diagonal line)
RIGHT OF WAY LINE	(Symbol: double line with 'R')
CENTERLINE	(Symbol: double line with 'C')
EDGE OF ROADWAY	(Symbol: single line with 'E')
SHOULDERLINE	(Symbol: dashed line with 'S')
CURB LINE	(Symbol: solid line with 'C')
STOP BAR	(Symbol: thick solid line with 'S')

**ABBREVIATIONS**

3-1(EG)	SIGNAL HEAD PHASE "3" - NO. "1"	P1-(EG)	PEDESTRIAN INDICATION PHASE "2"-NO."1"
BR. GR.	BARE GROUND	PB	PUSH BUTTON
CH. SW.	CHECK SWITCH	PB-2(EG)	PUSH BUTTON PHASE "2"-NO. "1"
CLR	CLEAR	PEC	PHOTOELECTRIC CELL
D2-1(EG)	DETECTOR PHASE "2" - NO. "1"	PED	PEDESTRIAN
DWK	DON'T WALK	R	RED
EQ	EQUIPMENT GROUND	R&S	REMOVE AND SALVAGE
EVP	EMERGENCY VEHICLE PRE-EMPTION	RLTA	RED LEFT TURN ARROW
F&I	FURNISH AND INSTALL	RRTA	RED RIGHT TURN ARROW
FL	FLASH/FLASHING	RSC	RIGID STEEL CONDUIT
G	GREEN	SOP	SOURCE OF POWER
GLTA	GREEN LEFT TURN ARROW	SPR	SPARE
GRN	GREEN	ST. LHT.	STREET LIGHT
GR. R.	GROUND ROD	STA	STATION
GRTA	GREEN RIGHT TURN ARROW	SW	SWITCH
GTHA	GREEN THRU ARROW	SWD	SWITCHED
HH	HANDHOLE	TOW	TELEPHONE DROP WIRE
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

**CONDUCTOR COLOR CODE**

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

**LOOP DETECTOR DETAIL**

REVISIONS	BY	DATE

\* - APPLIES TO THIS PROJECT

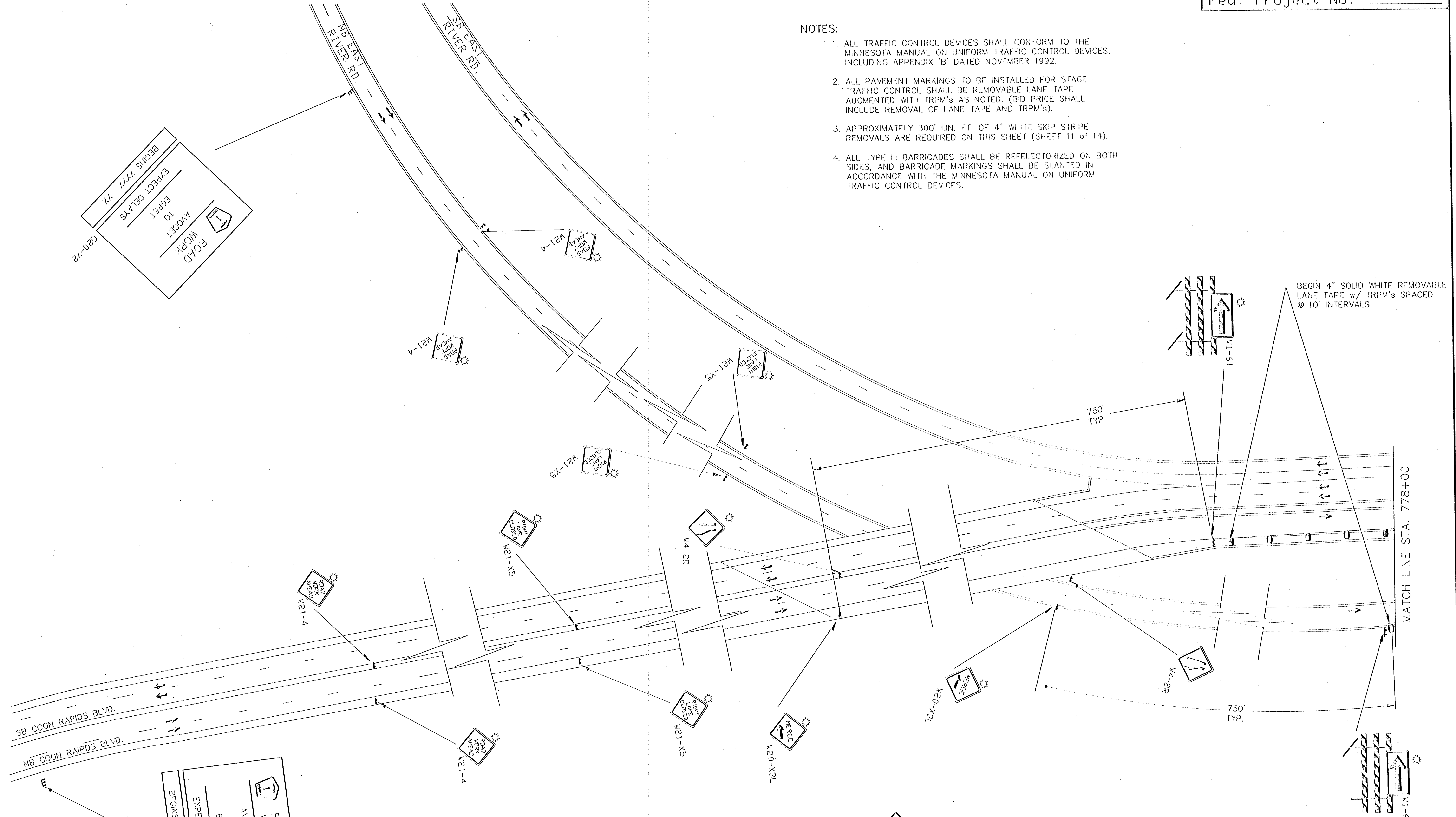


NOTES:

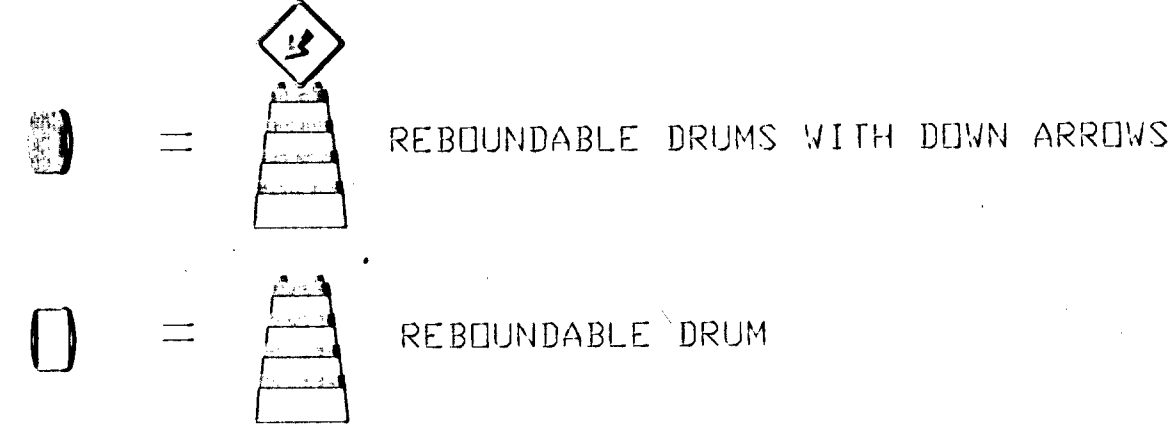
1. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING APPENDIX 'B' DATED NOVEMBER 1992.
2. ALL PAVEMENT MARKINGS TO BE INSTALLED FOR STAGE I TRAFFIC CONTROL SHALL BE REMOVABLE LANE TAPE AUGMENTED WITH TRPM's AS NOTED. (BID PRICE SHALL INCLUDE REMOVAL OF LANE TAPE AND TRPM's).
3. APPROXIMATELY 300' LIN. FT. OF 4" WHITE SKIP STRIPE REMOVALS ARE REQUIRED ON THIS SHEET (SHEET 11 of 14).
4. ALL TYPE III BARRICADES SHALL BE REFELECTORIZED ON BOTH SIDES, AND BARRICADE MARKINGS SHALL BE SLANTED IN ACCORDANCE WITH THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

ROAD WORK  
AVOCET TO  
EGRET  
EXPECT DELAYS  
W/M  
BEGINS W/M  
620-72

ROAD WORK  
AVOCET TO  
EGRET  
EXPECT DELAYS  
XXXX XX  
620-X2



BEGIN 4" SOLID WHITE REMOVABLE LANE TAPE w/ TRPM's SPACED @ 10' INTERVALS

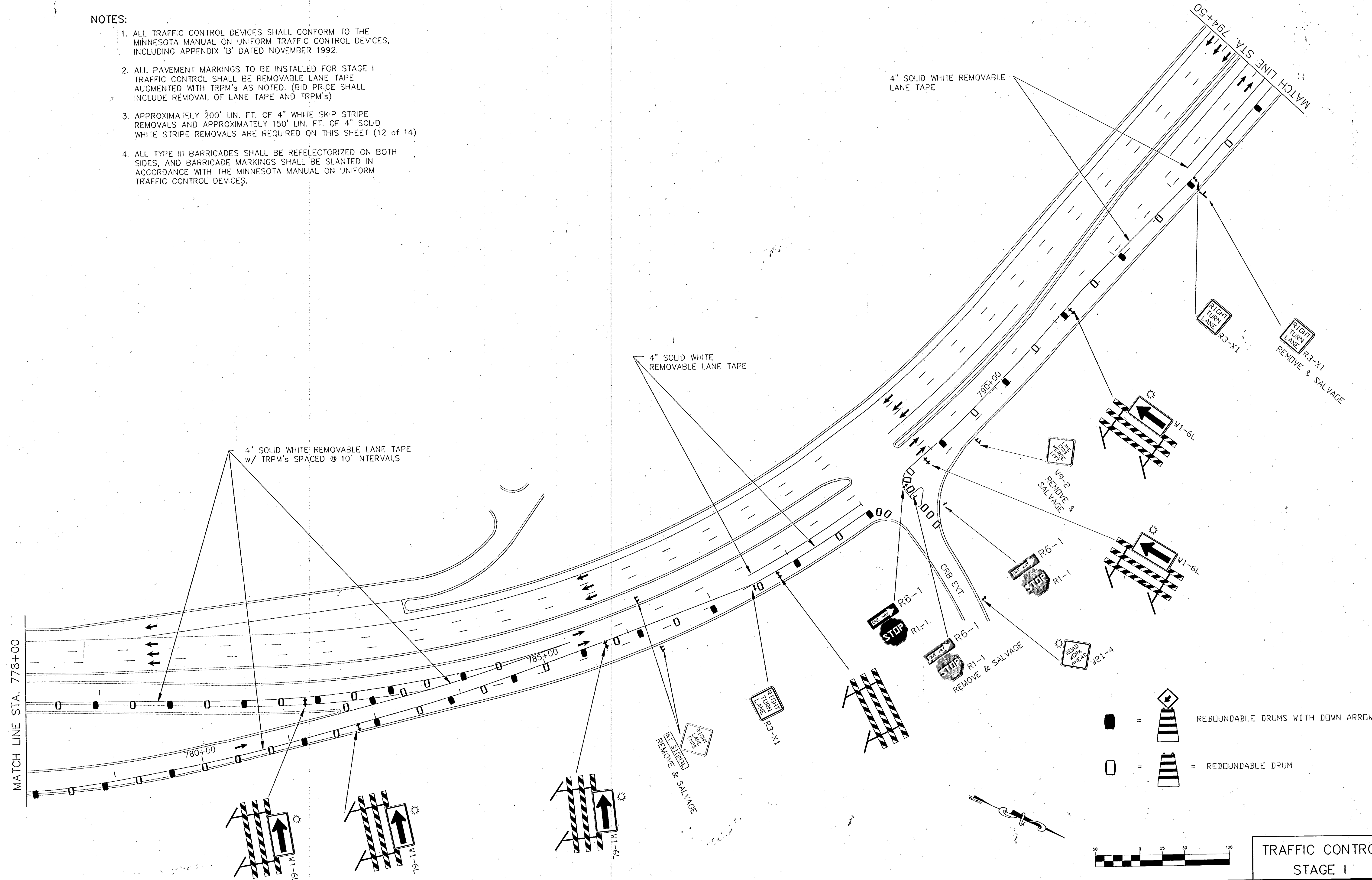


TRAFFIC CONTROL  
STAGE I

REVISIONS	DATE	BY

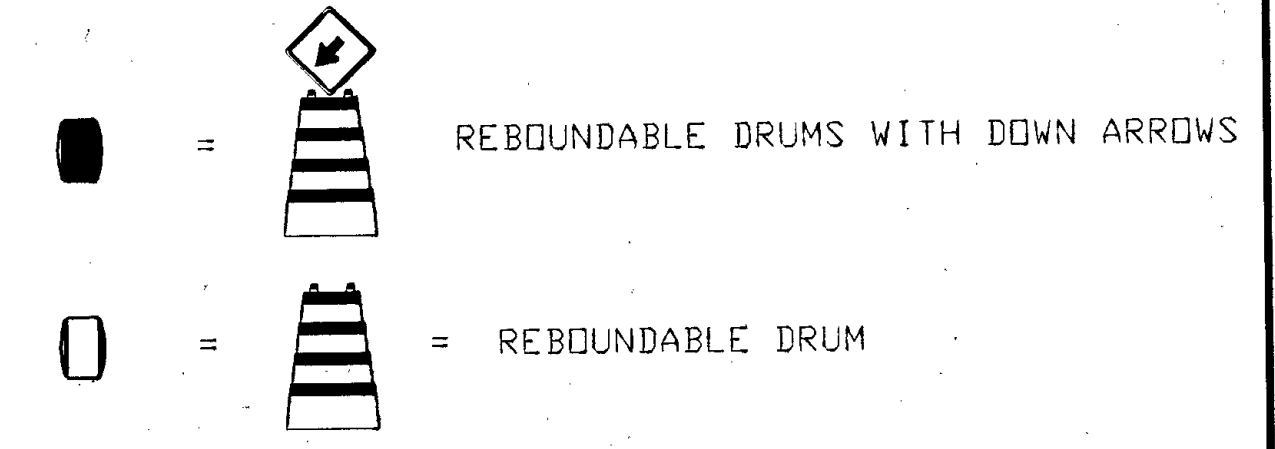
**NOTES:**

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2. ALL PAVEMENT MARKINGS TO BE INSTALLED FOR STAGE I TRAFFIC CONTROL SHALL BE REMOVABLE LANE TAPE AUGMENTED WITH TRPM's AS NOTED. (BID PRICE SHALL INCLUDE REMOVAL OF LANE TAPE AND TRPM's)
3. APPROXIMATELY 200' LIN. FT. OF 4" WHITE SKIP STRIPE REMOVALS AND APPROXIMATELY 150' LIN. FT. OF 4" SOLID WHITE STRIPE REMOVALS ARE REQUIRED ON THIS SHEET (12 of 14)
4. ALL TYPE III BARRICADES SHALL BE REFLECTORIZED ON BOTH SIDERS, AND BARRICADE MARKINGS SHALL BE SLANTED IN ACCORDANCE WITH THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

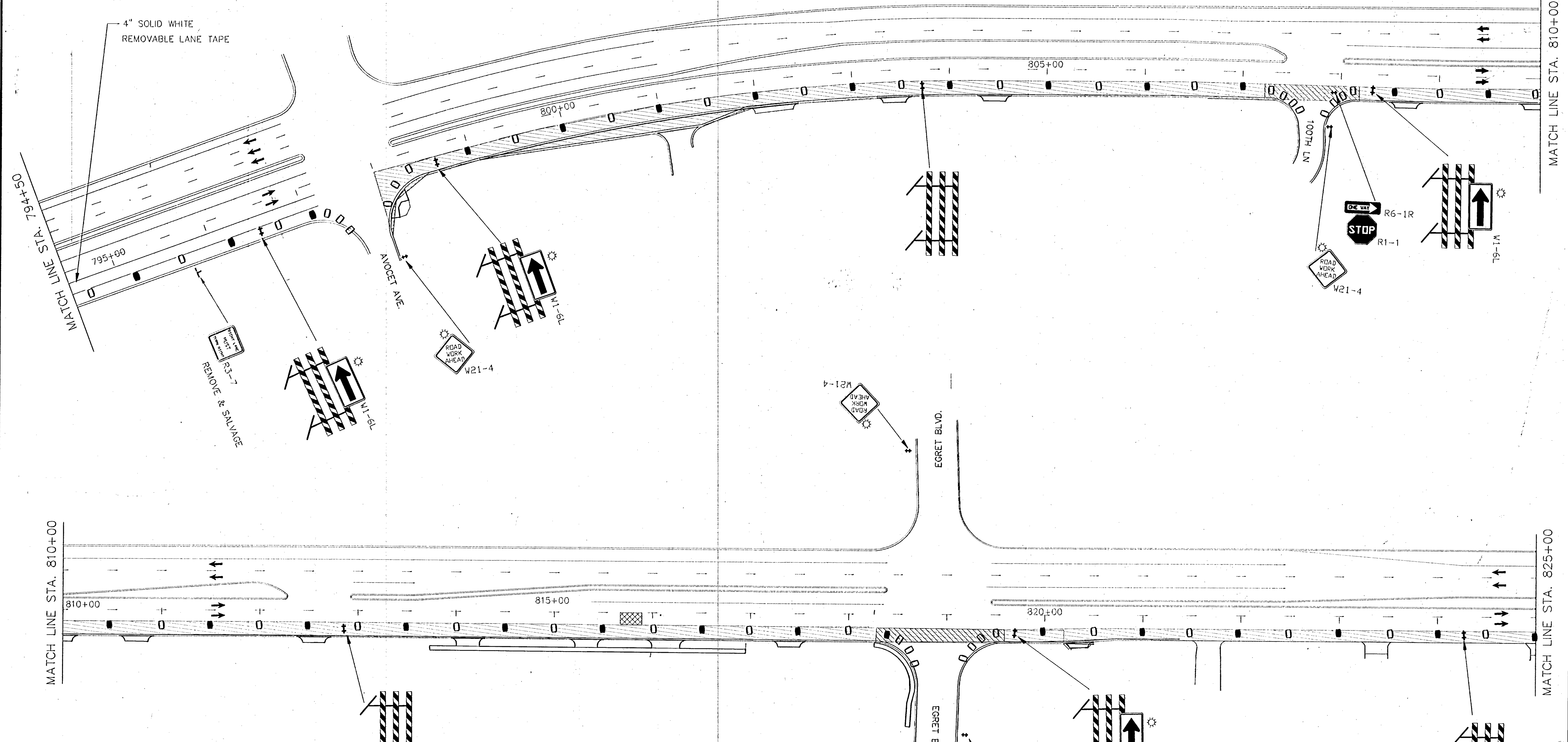


REVISIONS	BY	DATE

TRAFFIC CONTROL  
STAGE I

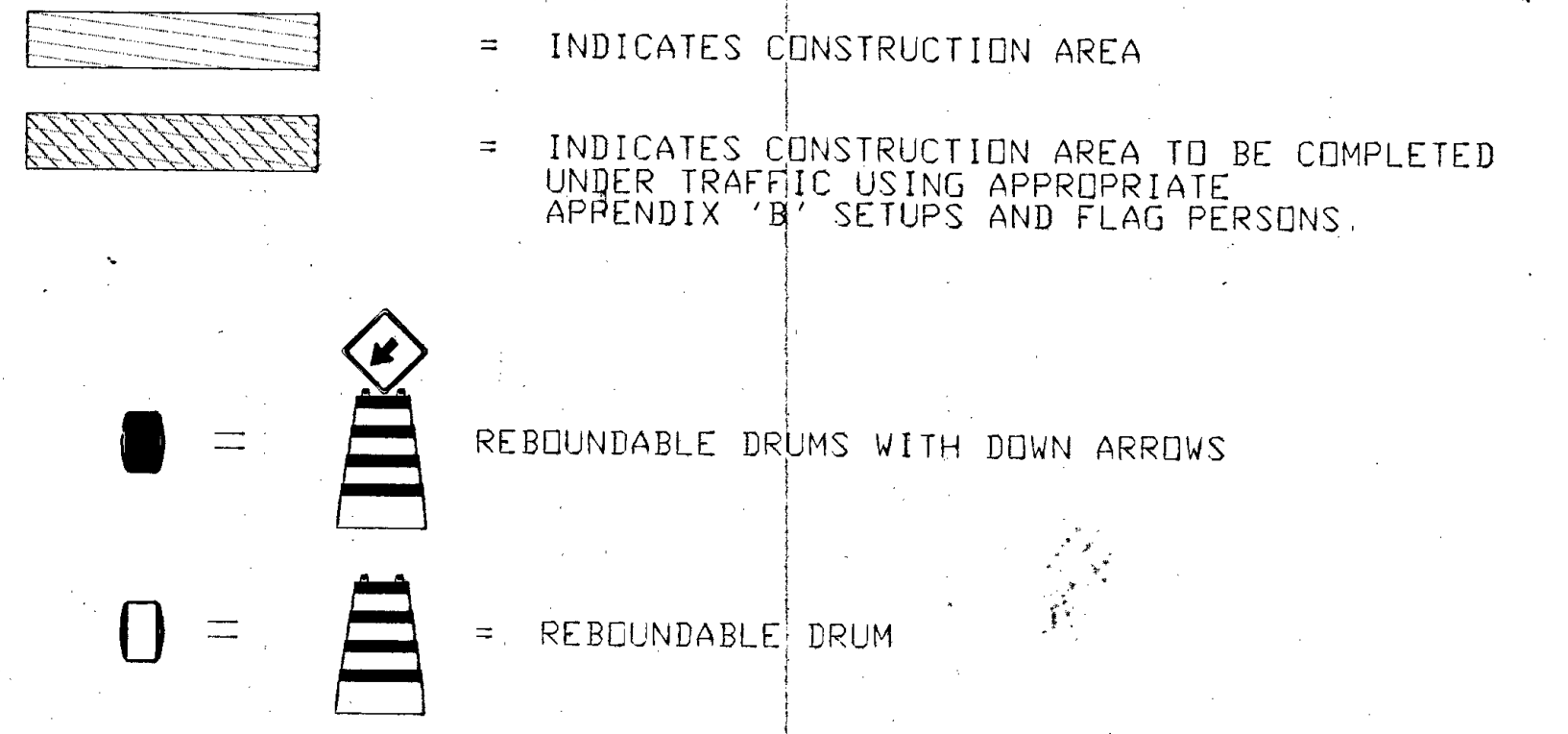






NOTES:

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REVISIONS	BY	DATE

CERTIFIED BY *Douglas W. Finch*

P.E. REG NO. 20235 4-27 19 75

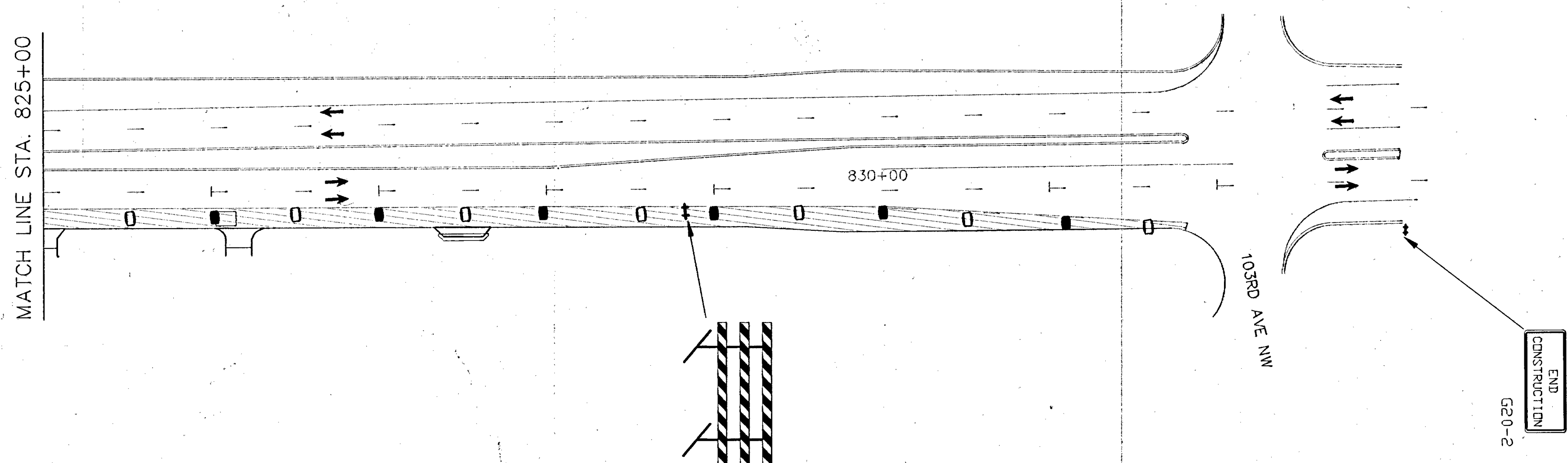
S.P. S.A.P.

C.P. 94-40-01

Sheet No. 13 of 14 Sheets

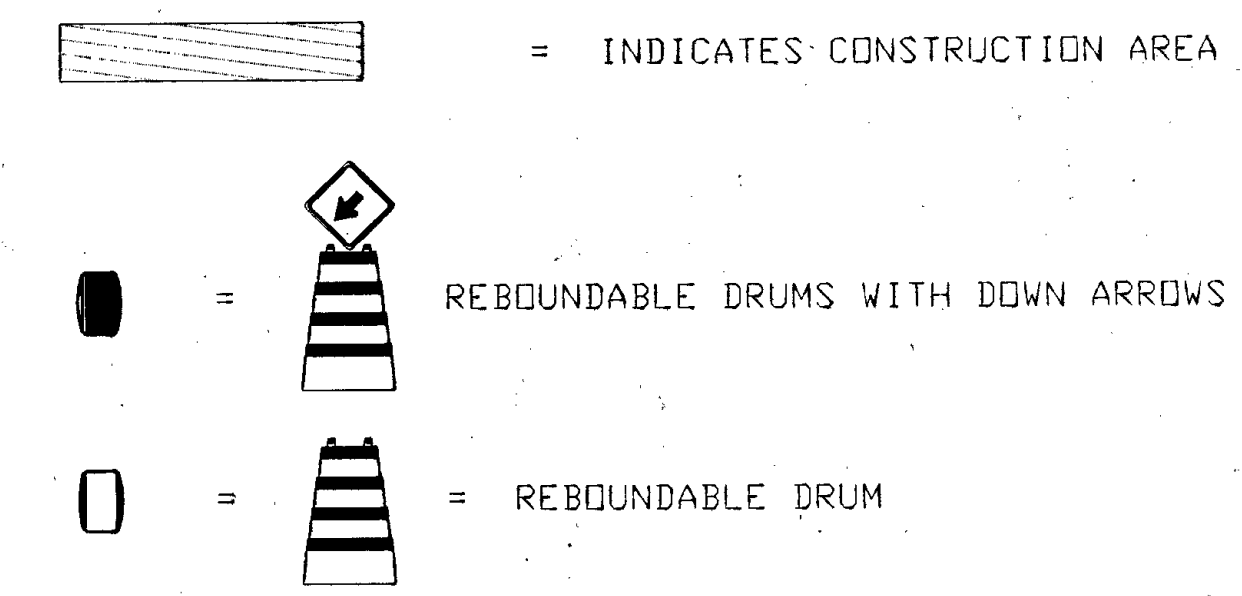
TRAFFIC CONTROL  
STAGE I





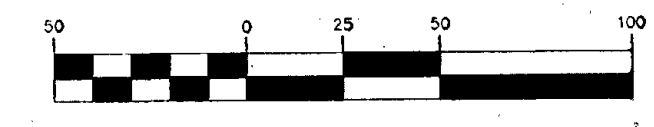
NOTES:

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M. U. T. C. D. CODE	SIZE	INSERT	QTY
R6-1R	36" x 12"		
R1-1	30" x 30"		• 2
W4-2R	48" x 48"	FLASHER 	• 2
W21-X5	48" x 48"	FLASHER 	• 4
W21-4	48" x 48"	FLASHER 	• 9
W20-X3L	48" x 48"	FLASHER 	• 2
G20-2	48" x 24"		• 1
W1-6L	24" x 48"	FLASHER 	• 11
	TYPE III 8 FOOT		• 5
W14-X7	18" x 18"		• 63
	REBOUNDABLE DRUM		• 89
	REBOUNDABLE DRUM		• 2
G20-X2 MOD.	SIZE TO BE DETERMINED BY FABRICATOR		• 2

REVISIONS	BY	DATE



TRAFFIC CONTROL  
STAGE I