

# ANOKA COUNTY HIGHWAY DEPARTMENT

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

LOCATED ON C.S.A.H. 12 BETWEEN C.S.A.H. 51 AND T.H. 65 (Geographic Description)  
 (109 TH. AVE. N.E.) (UNIVERSITY AV. N.E.)

FROM A POINT BEING 10.287m S. & 12.026m W. OF S.W. COR. SEC. 18 T 31 N, R 23 W. TO A POINT BEING 6.401m N. & 11.487m W. OF THE S. 1/4 COR SEC. 17 T 31 N, R 23 W. (Legal Description)

CONSTRUCTION  
 STATE AID PROJ. NO. 02-612-08  
 STATE AID PROJ. NO. 106-020-14  
 STATE AID PROJ. NO. 106-117-04

GROSS LENGTH 2 415.774 m  
 BRIDGES-LENGTH \_\_\_\_\_ m  
 EXCEPTIONS-LENGTH \_\_\_\_\_ m  
 NET LENGTH 2 415.774 m

### PLAN SYMBOLS

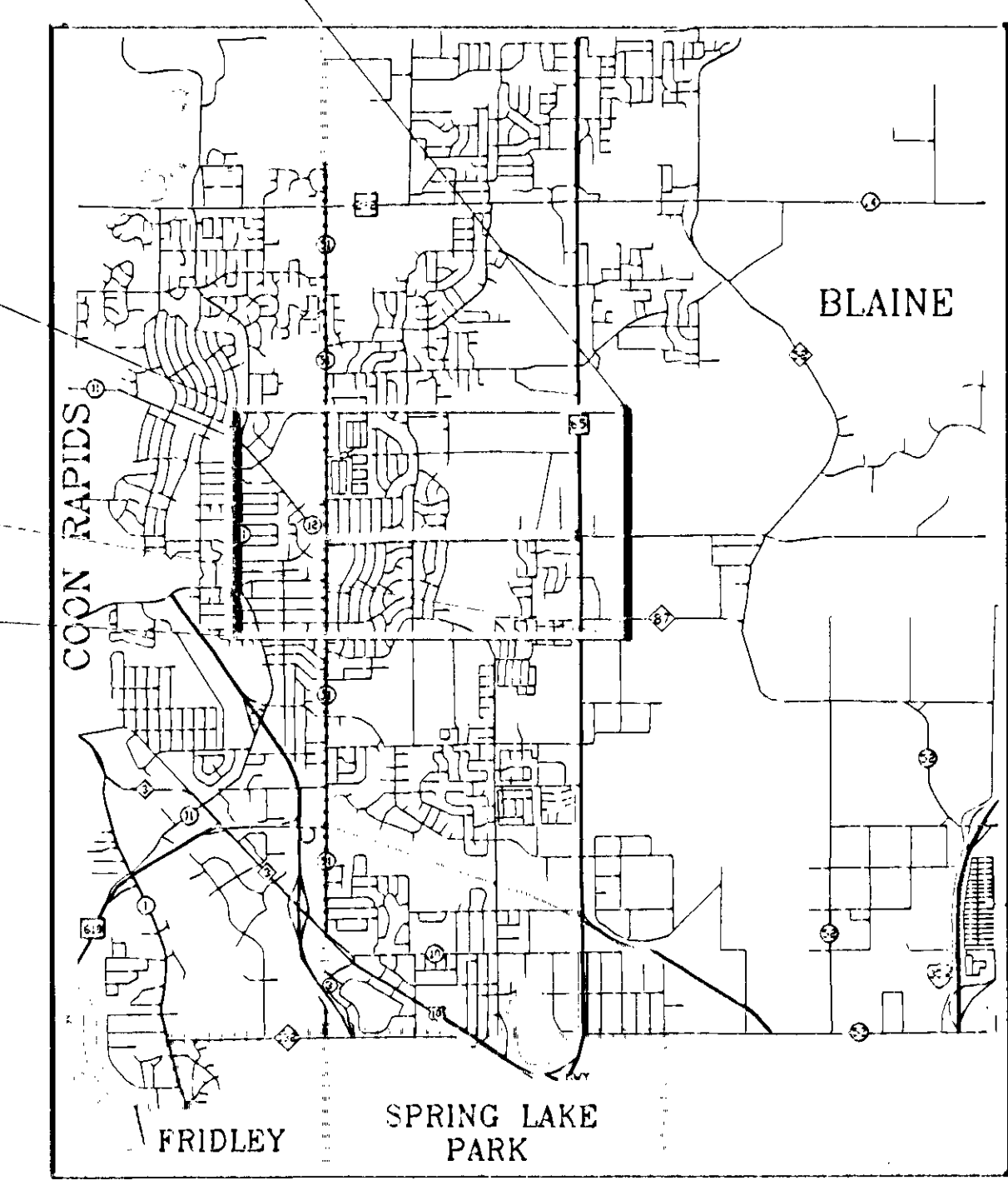
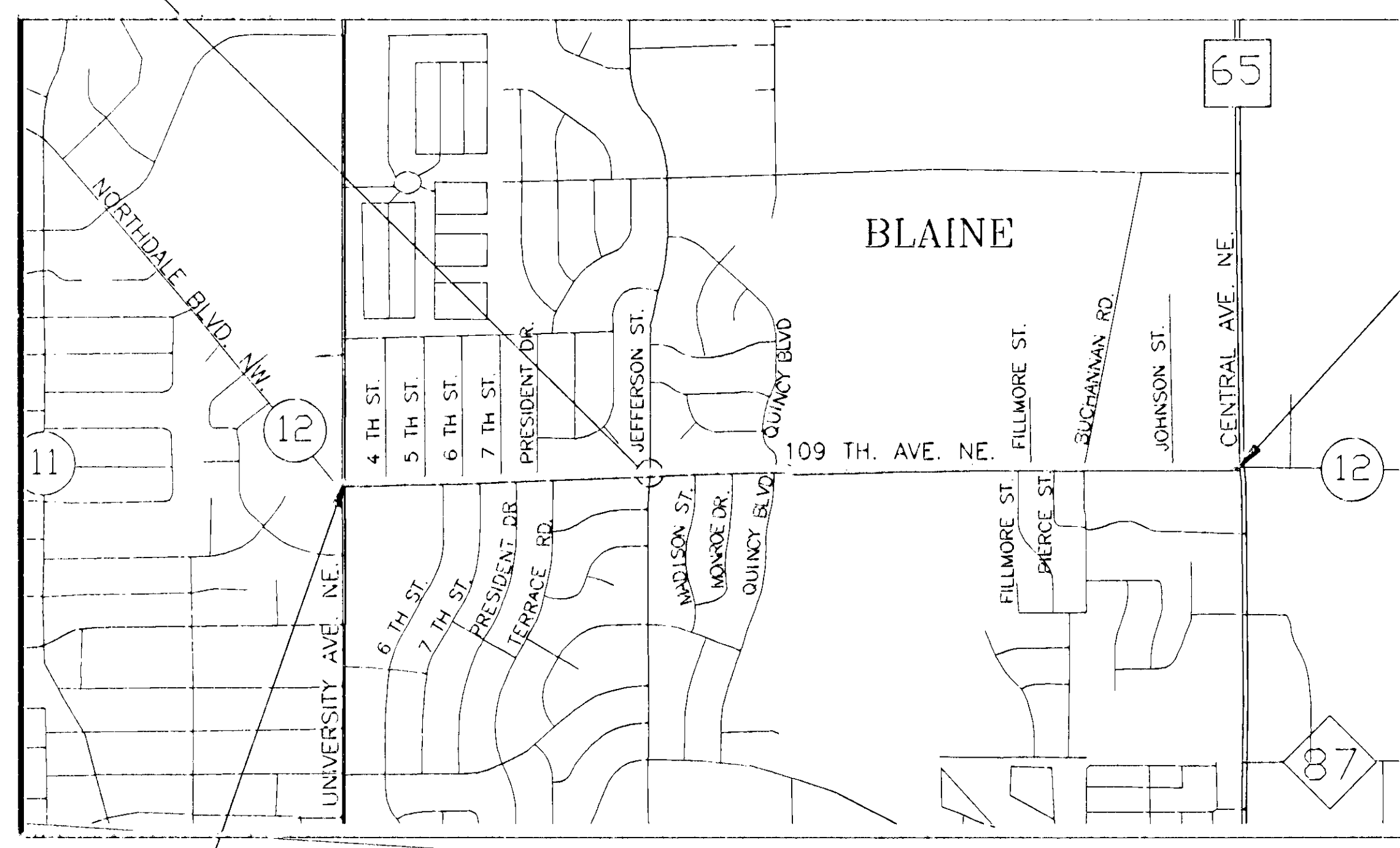
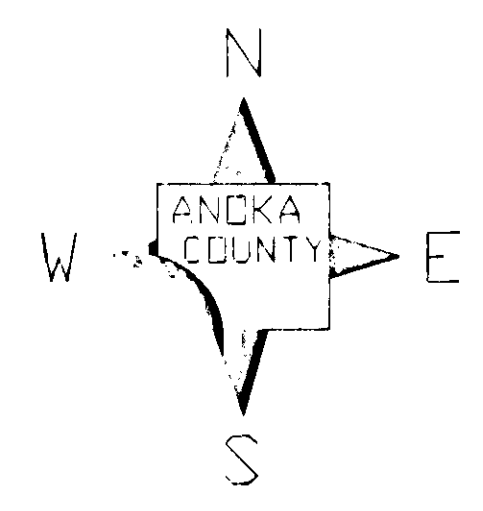
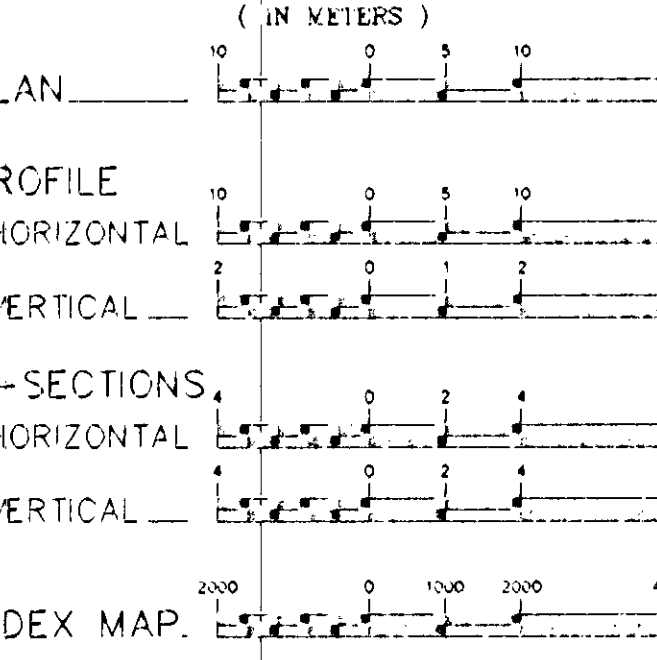
- \_\_\_\_ COUNTY LINE
- \_\_\_\_ TOWNSHIP OR RANGE LINE
- \_\_\_\_ SECTION LINE
- \_\_\_\_ QUARTER LINE
- \_\_\_\_ SIXTEENTH LINE
- \_\_\_\_ RIGHT OF WAY LINE
- \_\_\_\_ SLOPE EASEMENT
- \_\_\_\_ PRESENT RIGHT OF WAY
- \_\_\_\_ PROPERTY LINE
- \_\_\_\_ CORPORATE OR CITY LIMITS
- \_\_\_\_ RETAINING WALL
- \_\_\_\_ RAILROAD
- \_\_\_\_ RAILROAD RIGHT OF WAY
- \_\_\_\_ RIVER OR CREEK
- \_\_\_\_ DRAINAGE DITCH
- \_\_\_\_ CULVERT
- \_\_\_\_ DROP INLET
- \_\_\_\_ GAUGE RAIL
- \_\_\_\_ BARBED WIRE FENCE
- \_\_\_\_ WOVEN WIRE FENCE
- \_\_\_\_ CHAIN LINK FENCE
- \_\_\_\_ WOOD FENCE
- \_\_\_\_ STONE WALL OR FENCE
- \_\_\_\_ HEDGE

- \_\_\_\_ LOWLAND
- \_\_\_\_ TWIG
- \_\_\_\_ ORCHARD
- \_\_\_\_ BRUSH
- \_\_\_\_ NURSERY
- \_\_\_\_ CATTLE CAIRO
- \_\_\_\_ 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
- \_\_\_\_ BURIED ELECTRIC CABLE
- \_\_\_\_ AERIAL TELEPHONE CABLE
- \_\_\_\_ SEWER (Sanitary or Storm)
- \_\_\_\_ SEWER MANHOLE

### SCALES (IN METERS)



MINN. PROJ. NO. \_\_\_\_\_  
 MINN. PROJ. NO. \_\_\_\_\_

### GOVERNING SPECIFICATIONS

THE 1995 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN, AND ALL SUPPLEMENTS THERETO. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MMUTCD, INCLUDING "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS JANUARY 1998".

### INDEX

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2 - 3	STATEMENT OF ESTIMATED QUANTITIES
4 - 8	TABULATION CHARTS
9	STANDARD DETAILS PLAN
10	EARTHWORK SUMMARY & CONSTRUCTION NOTES
11	TEMPORARY EROSION CONTROL DETAILS
12	PERMANENT EROSION CONTROL DETAILS
13 - 14	TYPICAL SECTIONS
15 - 16	ALIGNMENT PLAN AND TABULATION CHART
17 - 20	EXISTING CONDITIONS AND REMOVAL PLAN
21 - 27	PLAN AND PROFILE
28 - 29	STORM SEWER TABULATION
30 - 36	DRAINAGE PLAN AND PROFILE
37 - 39	STORM SEWER PROFILE
40 - 42	BOX CULVERT DETAILS
43 - 63	CROSS-SECTION
64 - 68	TRAFFIC SIGNAL SYSTEM
69 - 74	SIGNING AND STRIPING PLANS
75 - 77	DETOUR LAYOUT
78 - 94	TRAFFIC CONTROL PLAN

THIS PLAN CONTAINS 94 SHEETS  
 DESIGN DESIGNATION

EN18 <sub>20</sub>	<u>3 002 533</u>
R VALUE	<u>60</u>
ADT (1999) =	<u>16 021</u>
Proj. ADT (2019) =	<u>25 634</u>
Proj. HCADT (2019) =	<u>250</u>
Soil Factor	<u>NA</u>
Shoulder Width	<u>N.A.</u>
Functional Classification	<u>ARTERIAL (LOW DENSITY)</u>
No. of Traffic Lanes	<u>4</u>
No. of Parking Lanes	<u>0</u>
Design Speed	<u>60 km/h CSAH 51 TO QUINCY BLVD.</u>
Design Speed	<u>70 km/h QUINCY BLVD. TO TH 65</u>
Based on:	<u>Stopping Sight Distance</u>
Height of eye	<u>1070 mm</u>
Height of object	<u>150 mm</u>
Design Speed not achieved at:	
STA <u>0+630.326</u> TO STA <u>0+682.491</u>	km/h <u>50</u>
STA _____ TO STA _____	km/h _____
STA _____ TO STA _____	km/h _____

Approved \_\_\_\_\_, 19\_\_\_\_ ANOKA COUNTY ENGINEER  
 Approved \_\_\_\_\_, 19\_\_\_\_ CITY OF BLAINE ENGINEER  
 Recommended for Approval \_\_\_\_\_, \_\_\_\_\_ DATE: \_\_\_\_\_  
METRO-ASSISTANT DIVISION ENGINEER-STATE AID; REVIEWED FOR COMPLIANCE WITH STATE AID RULES/POLICY.  
 Approved \_\_\_\_\_, \_\_\_\_\_ DATE: \_\_\_\_\_  
APPROVED FOR STATE AID FUNDING; STATE AID ENGINEER

NO.	DATE	BY	CHK	AFFR	REVISION

FILE NAME: 01-TITLE.dwg 4-8-99 9:21:12 pm EST

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 04-07-99 REG. NO. 25066

DRAWN BY \_\_\_\_\_ DATE 04-07-99  
 DESIGN BY KGJ DATE 04-07-99  
 CHECKED BY LR DATE 04-07-99



**ANOKA COUNTY  
HIGHWAY DEPT.**

STATE AID PROJECT NO. 02-612-08  
 STATE AID PROJECT NO. 106-117-04  
 STATE AID PROJECT NO. 106-020-14  
 COUNTY PROJECT NO. \_\_\_\_\_

TITLE SHEET  
 Sheet 1 of 94 Sheets

STATEMENT OF ESTIMATED QUANTITIES

67% SAP 02-612-08 (ANOKA COUNTY) 33% LOCAL FUNDS (CITY OF BLAINE) STORM SEWER

Fed. Project No.

Main quantity table with columns: CHART NO., ITEM NO., ITEM, UNIT, TOTAL QUAN. (EST, FINAL), ANOKA COUNTY S.A.P. 02-612-08, CITY OF BLAINE S.A.P. 06-020-14, CITY OF BLAINE S.A.P. 106-117-04, CITY OF BLAINE LOCAL FUND, EST, FINAL.

STANDARD PLATES

Table of standard plates with columns: PLATE NO., DESCRIPTION. Includes items like M3000 L REINFORCED CONCRETE PIPE, M4100 D RING CASTING FOR MANHOLE, etc.

BASIS OF PLANNED QUANTITIES

- 2331 SAWED SEALED JOINT QUANT. BASED ON AVERAGE FULL WIDTH EVERY 10 m INCLUDING MEDIAN TURN LANES PLUS 10%
2350 TYPE MV 4 PLANT MIXED WEARING COURSE BITUMINOUS MIXTURE 2.35 kg/m /mm THICKNESS
2350 TYPE HV 4 PLANT MIXED WEARING COURSE BITUMINOUS MIXTURE 2.35 kg/m /mm THICKNESS
2350 TYPE HV 3 PLANT MIXED NON WEARING COURSE BITUMINOUS MIXTURE 2.35 kg/m /mm THICKNESS
2350 TYPE MV 3 PLANT MIXED NON WEARING COURSE BITUMINOUS MIXTURE 2.35 kg/m /mm THICKNESS
2357 BITUMINOUS MATERIAL FOR TACK, 0.23 L/m PER LIFT APPLIED
2575 MULCH MATERIAL TYPE 1, 4.5 t/ha
2575 COMMERCIAL FERTILIZER, ANALYSIS 10-10-10 (OR EQUIVALENT) 560 kg/ha ON ALL SEED AREAS
2575 ROADSIDE SEEDING BASED ON HORIZONTAL MEASUREMENT +10% SEED MIXTURE NO. 70A, 50 kg/ha

INDEX OF TABULATION CHARTS

Index of tabulation charts with columns: CHART SHEET No., DESCRIPTION. Lists charts A through HH with their corresponding descriptions.





REMOVE CONCRETE PAVEMENT (I)

REMOVE CONCRETE CURB AND GUTTER (J)

SAWING CONCRETE PAVEMENT (M)

REMOVE BITUMINOUS CURB (K)

WATERMAIN (GG)

1 IF STUBS ARE WET-TAPPED, IT IS SATISFACTORY TO HAVE G.V. AT WET-TAP LOCATION. 2 LOWER WATERMAIN INCLUDES ALL NEW D.I.P. AND FITTINGS AS NECESSARY TO ACCOMPLISH THE WORK.

CULVERT TABULATION (L)

SILT FENCE LOCATION (N)

TABULATION CHARTS

REMOVE CONCRETE PAVEMENT SAWING CONCRETE PAVEMENT CULVERT TABULATION REMOVE CONCRETE CURB AND GUTTER REMOVE BITUMINOUS CURB WATERMAIN SILT FENCE LOCATION

DRIVEWAY CONSTRUCTION

Table with columns: STATION, ADDRESS, LOCATION, DESCRIPTION, SAWCUT (BIT, CONC), REMOVAL (LENGTH, WIDTH, BIT, CONC, GRAVEL, APRON), REPLACEMENT (LENGTH, WIDTH, 50 mm BIT, 150 mm CONC, 200 mm CONC, APRON), and APRON (50 mm CONC). Includes UNADJUSTED TOTAL and ADJUSTED TOTAL rows.

REMOVE BITUMINOUS PAVEMENT

Table with columns: STATION TO STATION, LOCATION, DESCRIPTION, and m2. Includes a TOTAL row at the bottom.

SAWING BITUMINOUS PAVEMENT

Table with columns: STATION TO STATION, LOCATION, DESCRIPTION, and m. Includes a TOTAL row at the bottom.

MILLING SHALL BE USED IN LIEU OF SAW CUTTING AT THE DIRECTION OF THE ENGINEER IN THE FIELD.

TABULATION CHARTS
DRIVEWAY BITUMINOUS PAVEMENT
REMOVE BITUMINOUS PAVEMENT
SAWING BITUMINOUS PAVEMENT



Table: CONSTRUCT CONC. PEDESTRIAN RAMP. Columns: STATION, LOCATION, DESCRIPTION, EACH. Includes stationing from 0+707.10 to 1+788.60.

Table: PUBLIC UTILITY OWNED BY US WEST. Columns: STATION, LOCATION, TO STATION, LOCATION, DESCRIPTION. Includes stationing from 0+639.35 to 2+704.09.

Table: PUBLIC UTILITY OWNED BY NORTHERN STATE POWER. Columns: STATION, LOCATION, SIZE, NO. Includes stationing from 0+720.60 to 1+430.30.

Table: PUBLIC UTILITY OWNED BY MINNEGASCO. Columns: STATION, LOCATION, TO STATION, LOCATION, SIZE AND ITEM. Includes stationing from 0+610.00 to 3+007.54.

Table: PUBLIC UTILITY OWNED BY GREAT RIVER ENERGY. Columns: STATION, LOCATION, SIZE, NO. Includes stationing from 1+450.81 to 3+019.00.

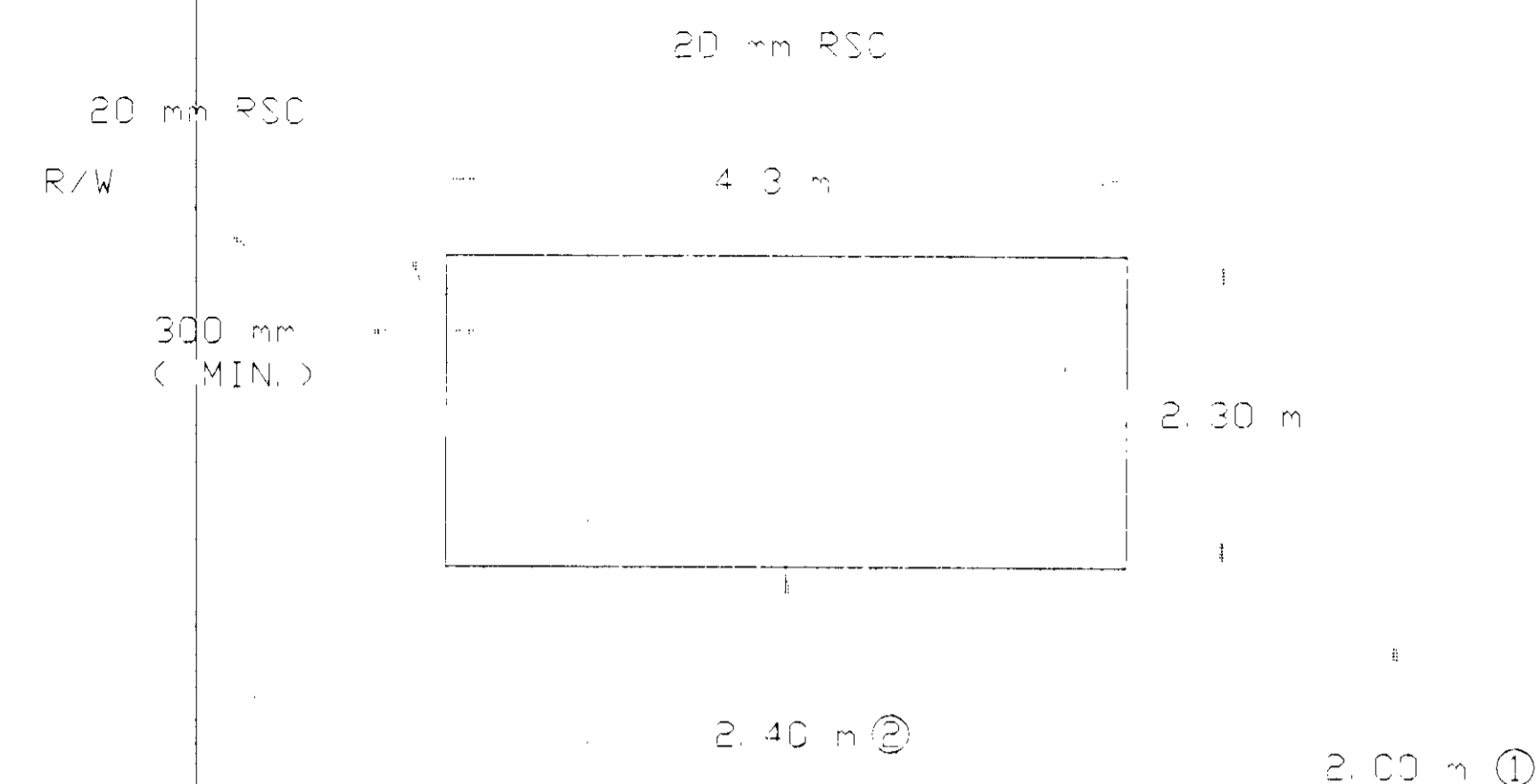
ANTICIPATED RELOCATION BY OTHERS. ALL DISTANCES ARE IN METERS. LOCATIONS OF UTILITIES ARE APPROXIMATE ONLY. ACTUAL LOCATIONS ARE TO BE DETERMINED IN THE FIELD DURING CONSTRUCTION.

PUBLIC UTILITIES TABULATION

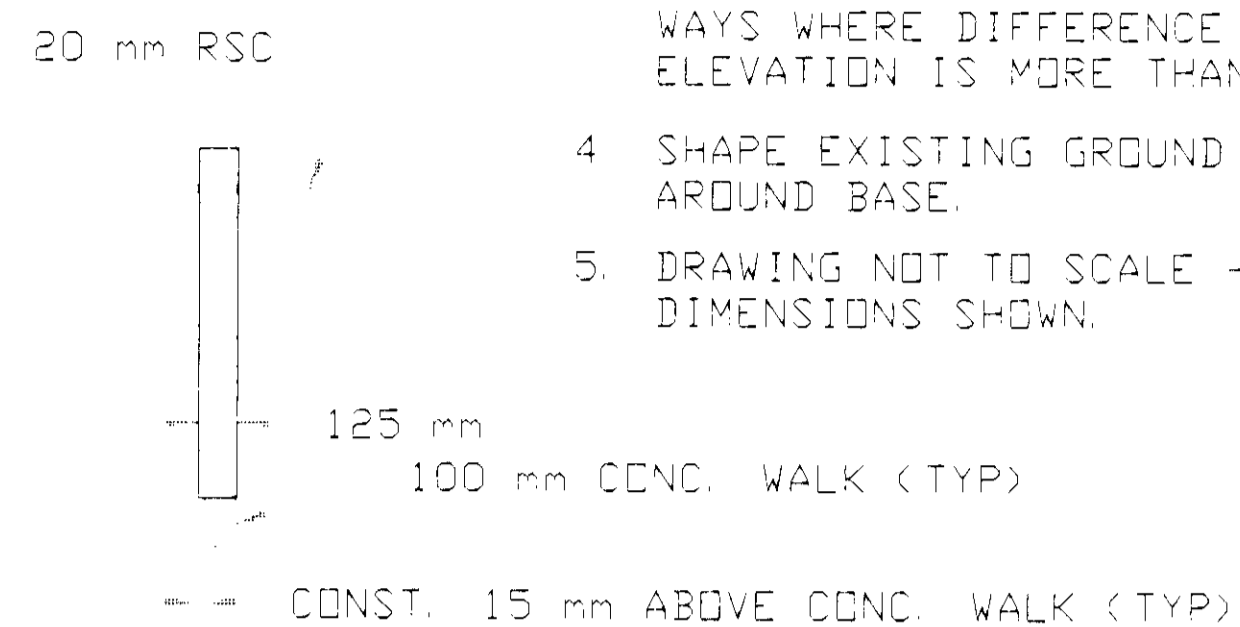
CONSTRUCT CONC. PEDESTRIAN RAMP. PUBLIC UTILITY OWNED BY MINNEGASCO. PUBLIC UTILITY OWNED BY NORTHERN STATES POWER. PUBLIC UTILITY OWNED BY U.S. WEST. PUBLIC UTILITY OWNED BY GREAT RIVER ENERGY.



**PASSENGER SHELTER PAD**  
FOR LOCATION SEE CHART S



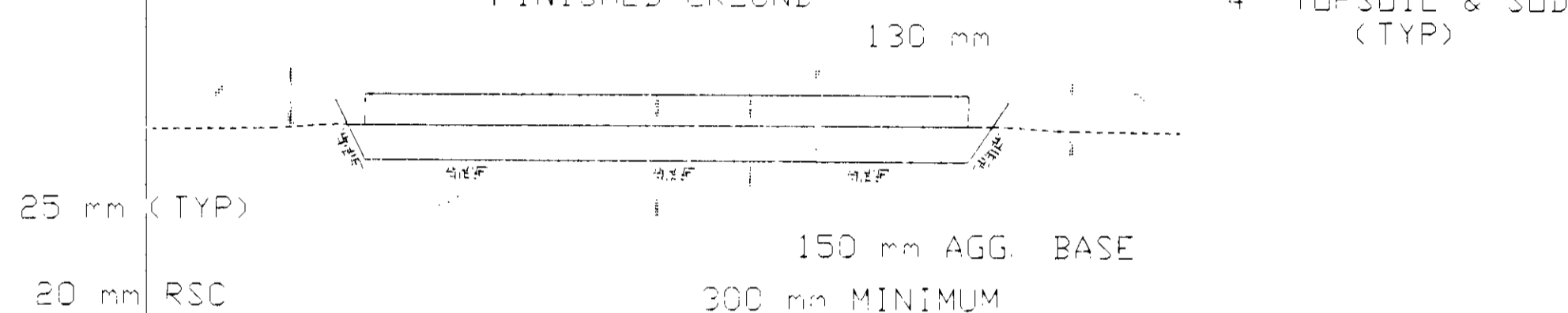
SEE CORNER DETAIL



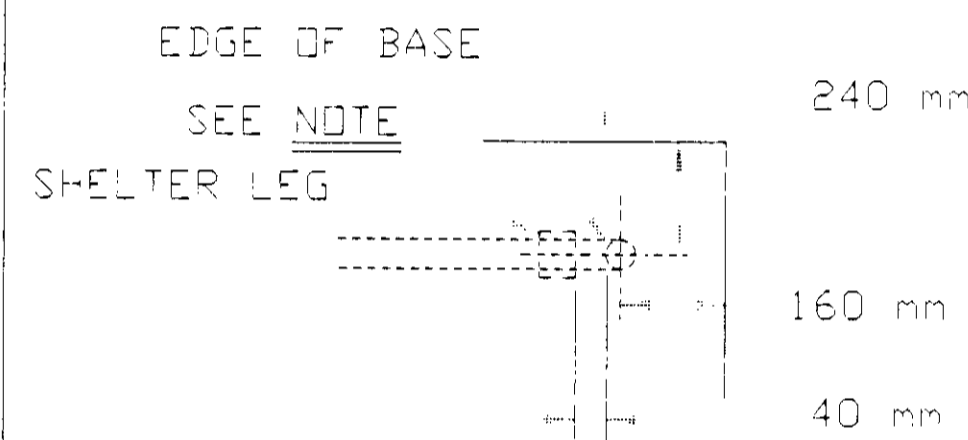
- NOTES:**
1. SAWCUT OPENINGS IN EXISTING CONCRETE OR ASPHALT 40 mm WIDER THAN CAST-IN-PLACE SLAB ON ALL SIDES.
  2. SET BASE AT LEAST 13 mm HIGHER THAN ADJACENT CONCRETE OR ASPHALT.
  3. INSTALL ASPHALT RAMP AT DOORWAYS WHERE DIFFERENCE IN ELEVATION IS MORE THAN 13 mm.
  4. SHAPE EXISTING GROUND TO DRAIN AROUND BASE.
  5. DRAWING NOT TO SCALE - USE DIMENSIONS SHOWN.

B-618 C & G (TYP.)

- 1 BOARDING PADS TO BE 2.00 m X 2.00 m (EXCEPT WHERE R/W PROHIBITS)
- 2 OPTIMUM CONDITION EXCEPT WHERE R/W PROHIBITS FINISHED GROUND

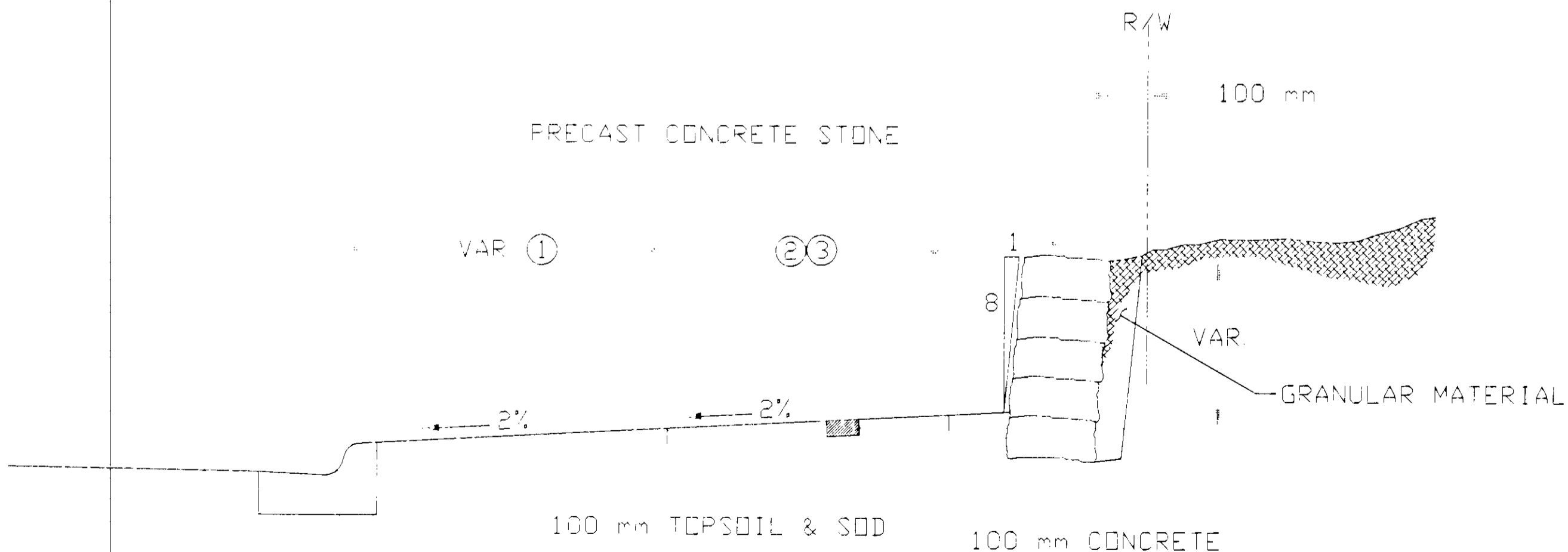


**CORNER DETAIL**



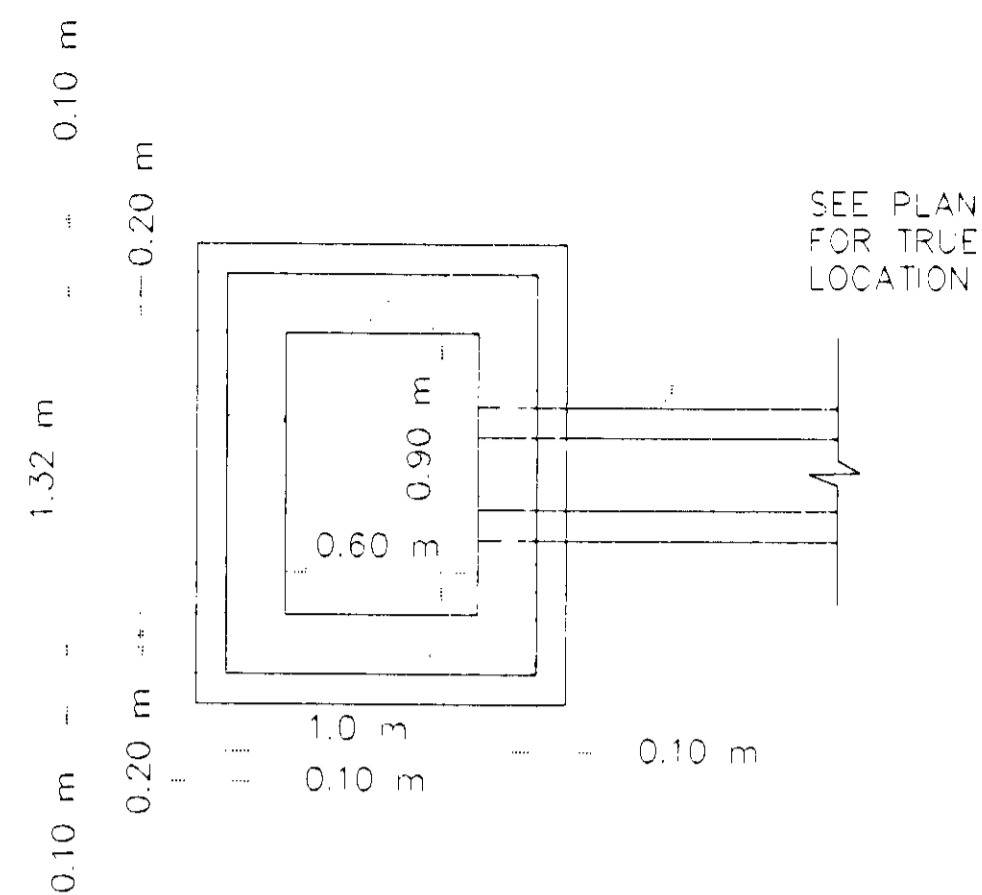
20 mm RSC MUST BE LAYED AND POSITIONED PRIOR TO POURING THE CONCRETE. THE CONCRETE MAY BE POURED AROUND THE RSC.

**PRECAST CONCRETE STONE RETAINING WALL DETAIL**  
FOR LOCATION SEE CHART W



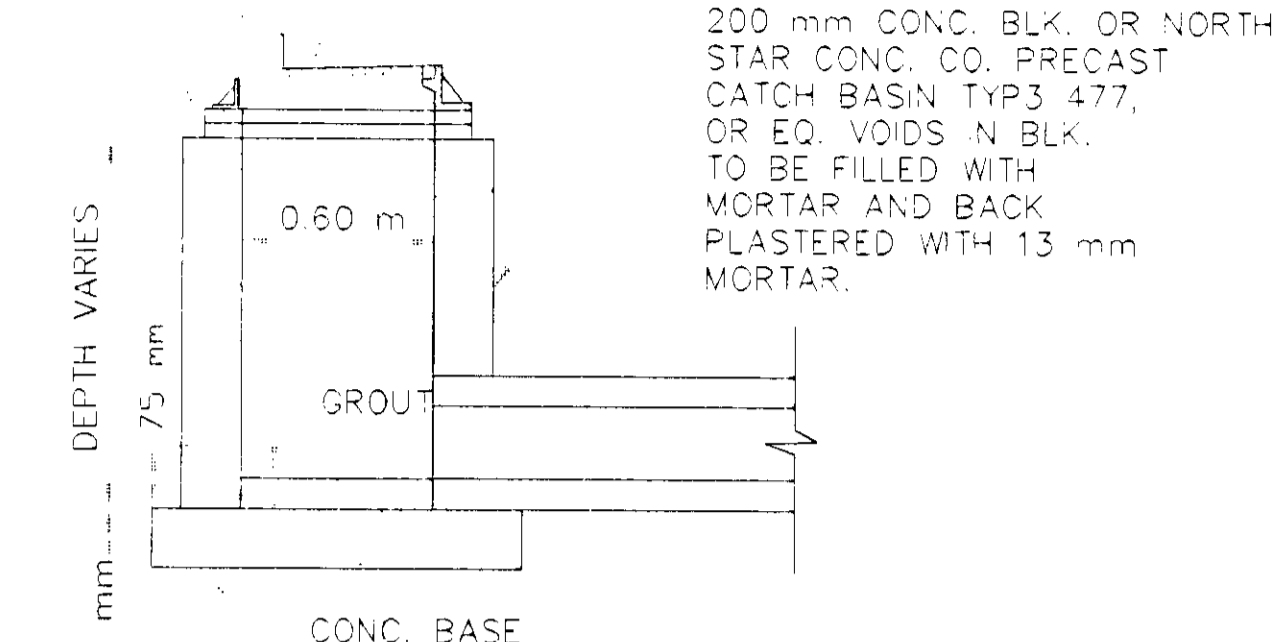
- 1 SEE PLANS AND X-SECTION FOR BOULEVARD WIDTHS.
- 2 1.50 m CONC. SIDEWALK
- 3 SEE TYPICAL SEC FOR LOC. SPECIAL SLOPE

**TYPICAL BOX CATCH BASIN**  
DESIGN SPECIAL NO. 1



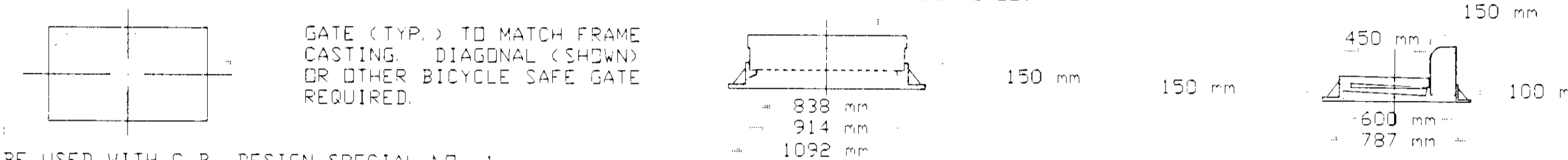
MIN. 2 ROWS COMMON BRCK. MAX 3 ROWS

TYPE OF CASTING NEENAH R-3067 OR APPROVED EQUIVALENT TOP GRATE ELEV. SEE DRAINAGE PLAN



200 mm CONC. BLK. OR NORTH STAR CONC. CO. PRECAST CATCH BASIN TYP 3 477, OR EQ. VOIDS IN BLK. TO BE FILLED WITH MORTAR AND BACK PLASTERED WITH 13 mm MORTAR.

**C.B. CASTING DETAIL DESIGN SPECIAL NO. 1**

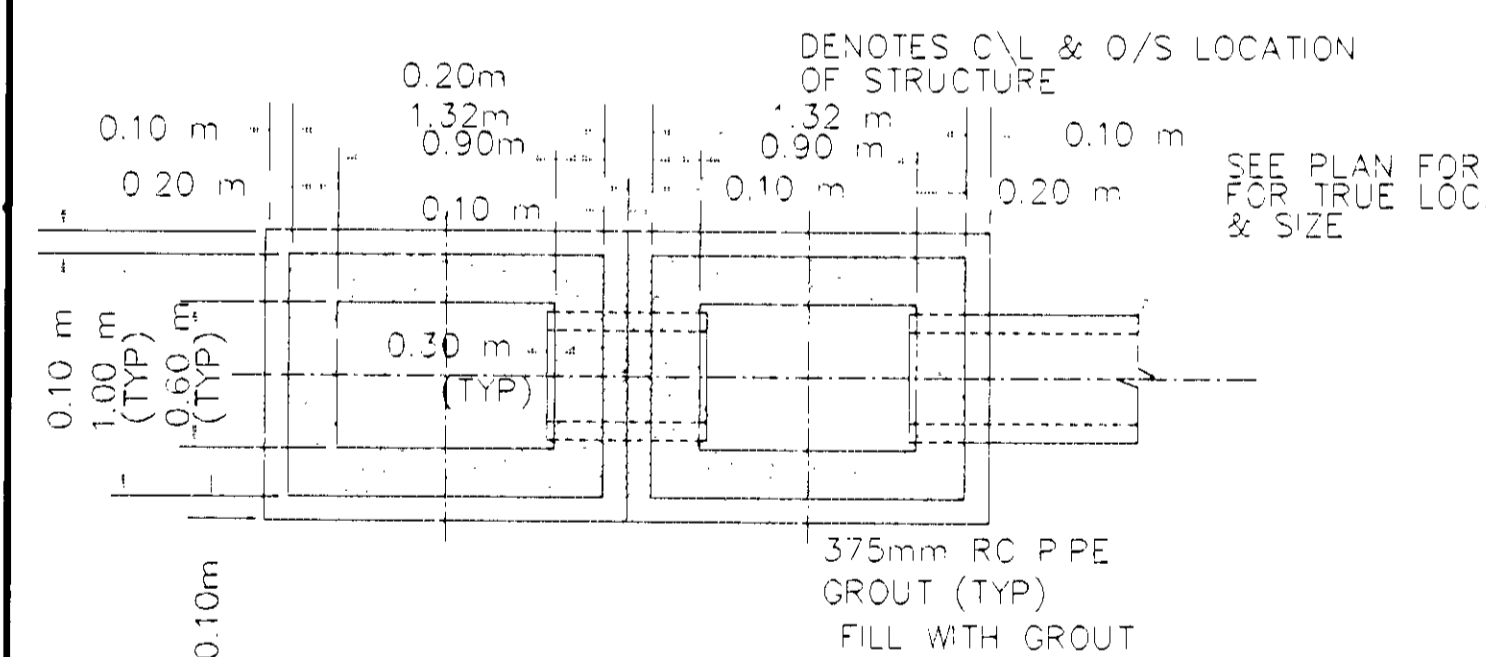


NOTE: TO BE USED WITH C.B. DESIGN SPECIAL NO. 1

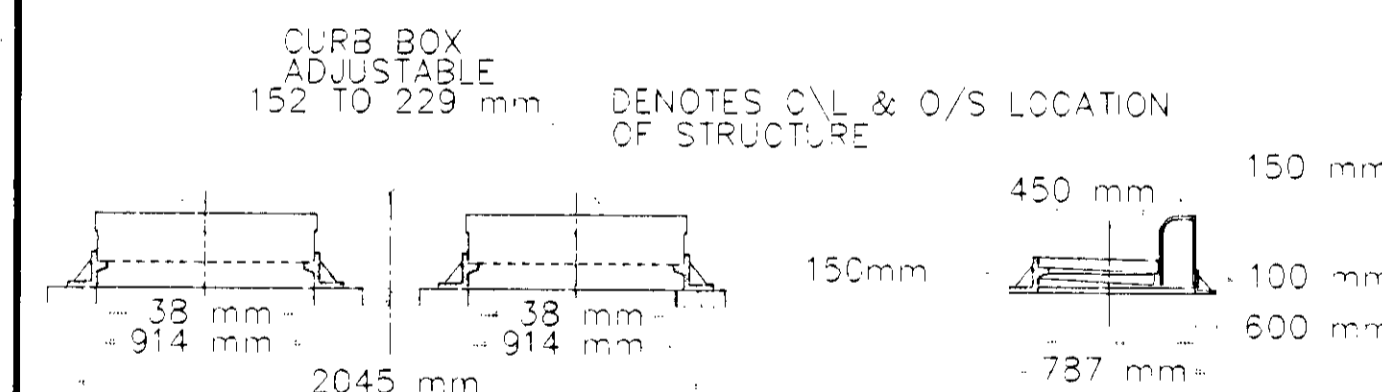
**STORM SEWER CASTING SCHEDULE**

ASS'Y TPE	NO. REQ'D.	FRAME CASTING	GRATE CASTING	CURB BOX CASTING	RING CASTING	COVER CASTING
A	86	801	810	821-B		
B	46	DESIGN SPECIAL - 1 & 2			700-7	716
C	28				700-7	720
D	4					

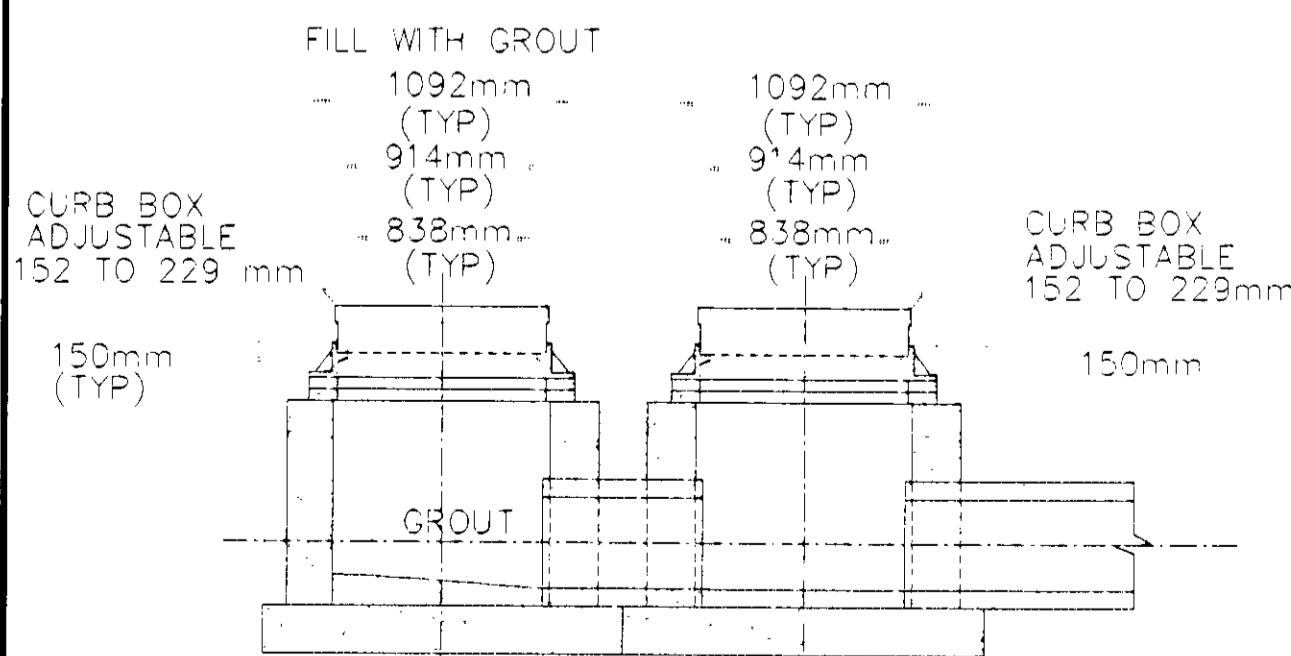
**TYPICAL BOX CATCH BASIN**  
DESIGN SPECIAL NO. 2



**C.B. CASTING DETAIL DESIGN SPECIAL NO. 2**



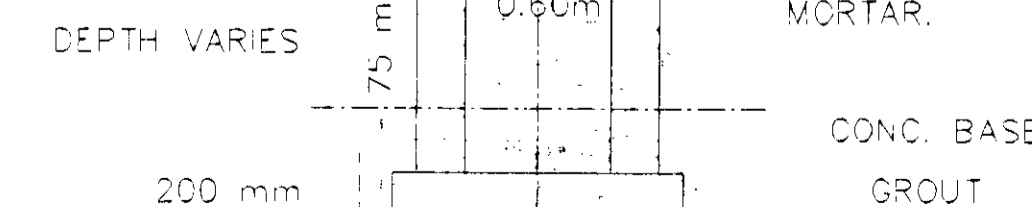
NOTE: TO BE USED WITH C.B. DESIGN SPECIAL NO. 2



MIN. 2 ROWS COMMON BRCK. MAX 3 ROWS

TYPE OF CASTING NEENAH R-3067 OR APPROVED EQUIVALENT TOP GRATE ELEV. SEE DRAINAGE PLAN

200 mm CONC. BLK. OR NORTH STAR CONC. CO. PRECAST CATCH BASIN TYP 3 477, OR EQ. VOIDS IN BLK. TO BE FILLED WITH MORTAR AND BACK PLASTERED WITH 13 mm MORTAR.

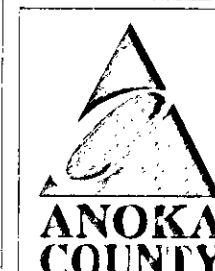


NO.	DATE	BY	CHKD	APPR	REVISION

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DATE 04-07-99 REG. NO. 25066

DRAWN BY: MN DATE: 04-07-99  
 DESIGN BY: KDJ DATE: 04-07-99  
 CHECKED BY: LR DATE: 04-07-99



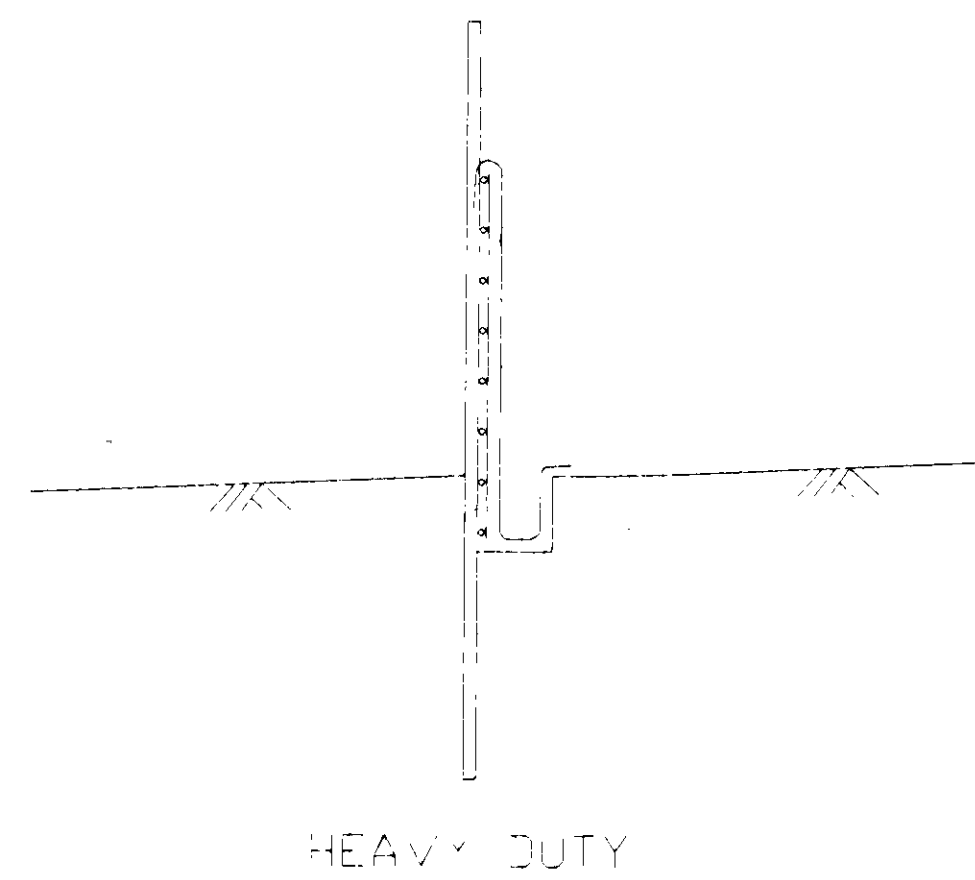
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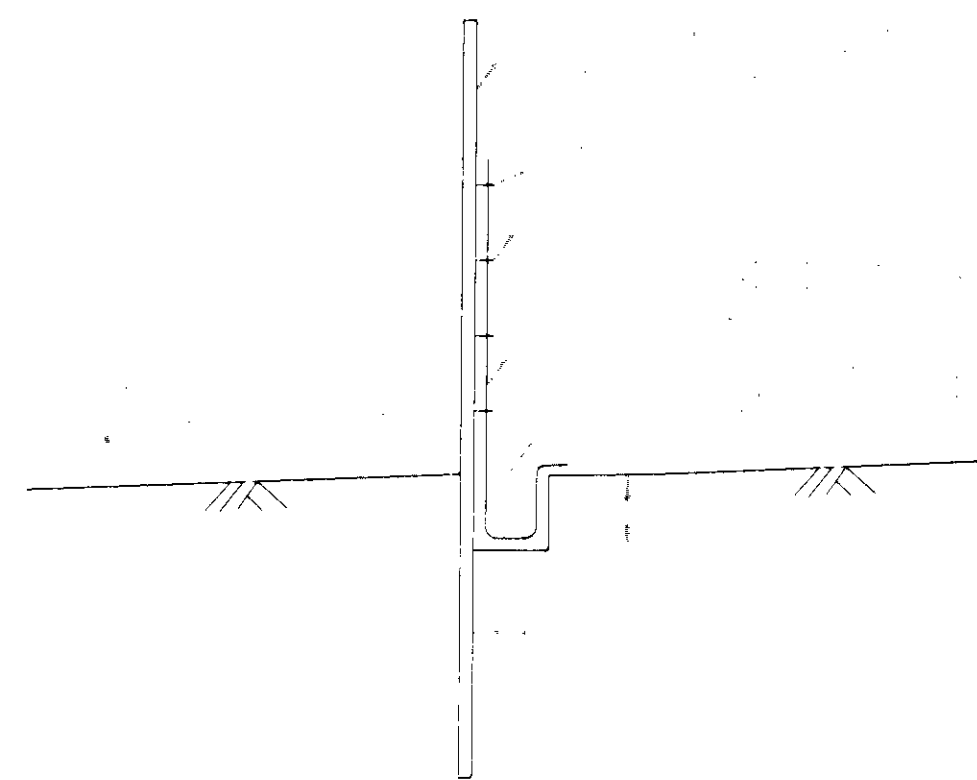
**STANDARD DETAILS**  
**PLAN**

Sheet 9 of 94 Sheets

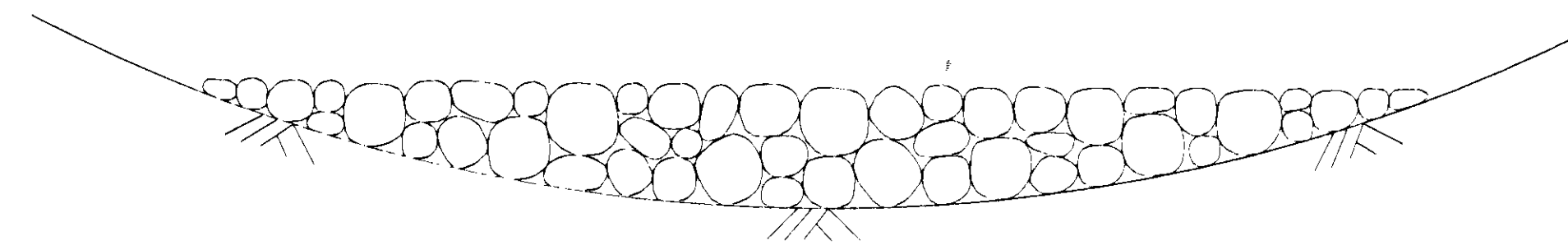




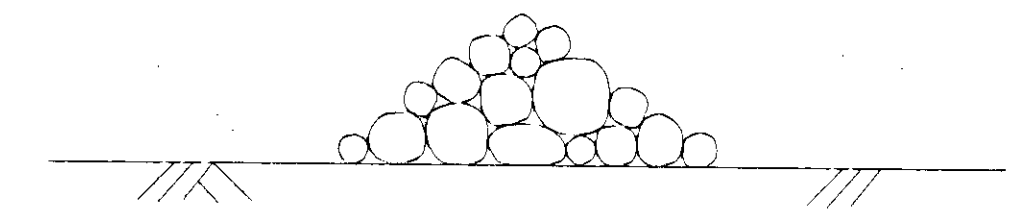
HEAVY DUTY



SELF SUPPORTING



CROSS SECTION



PROFILE VIEW

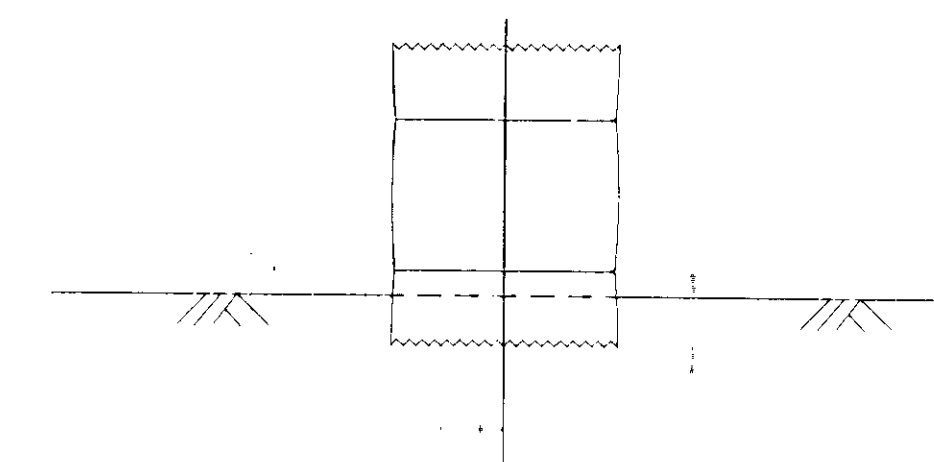
SILT FENCE DETAILS  
TO PROTECT AREAS FROM SHEET FLOW  
(SEE SPEC. 3886)

DESIGN CRITERIA:  
MAXIMUM CONTRIBUTING AREA: 12 ha

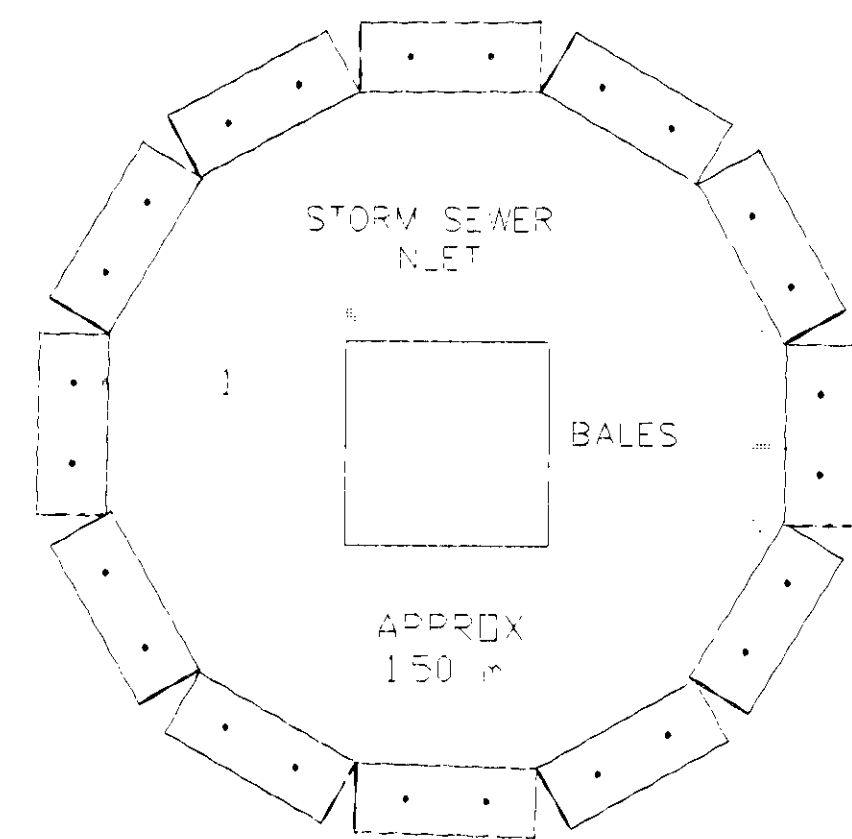
ROCK DITCH CHECK



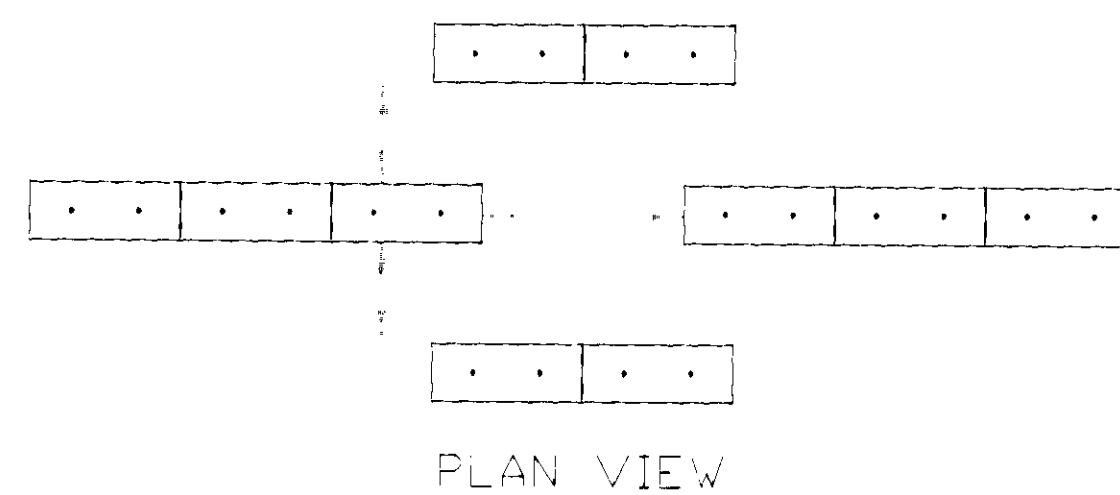
ROADWAY EMBANKMENT



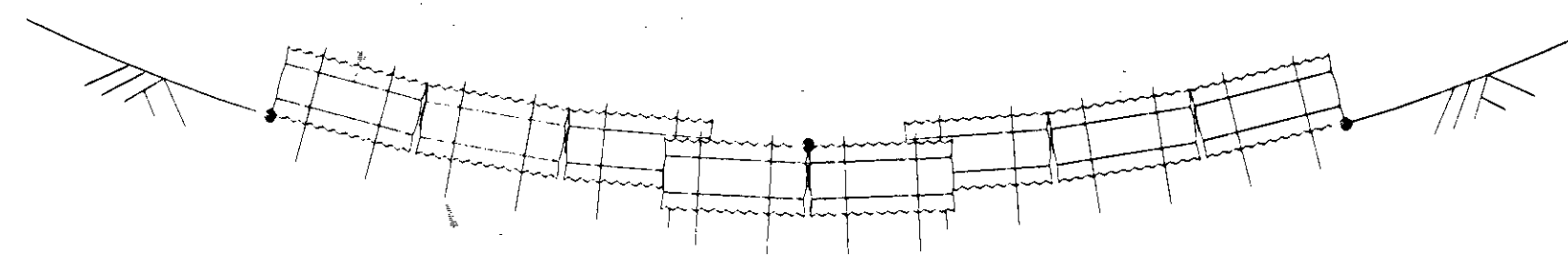
BALE CHECK DETAIL



BALE CHECK  
TO PROTECT STORM SEWER INLETS



PLAN VIEW



ELEVATION

RECOMMENDED SPACING BETWEEN DITCH CHECKS	
DITCH GRADE (%)	SPACING (m)
2	30
4	23
6	15
8	12
10	8

DESIGN CRITERIA:

	BALE	ROCK
STORM FREQUENCY:	2 YR. - 24 HR.	10 YR. - 24 HR.
MAX. FLOW VELOCITY:	1.5 m/s	3.6 m/s
MAX. DITCH GRADE:	5%	—
MAX. DRAINAGE AREA:	0.8 ha	2.0 ha

NOTE:  
POINT A MUST BE HIGHER THAN POINT B

BALE DITCH VELOCITY CHECKS  
(WILL REQUIRE A MINIMUM OF 10 BALES PER SITE)

NOTE:

TWO 50 mm X 50 mm WOOD STAKES OR REINFORCING BARS IN EACH BALE AND EMBEDDED IN THE GROUND 250 mm MINIMUM.

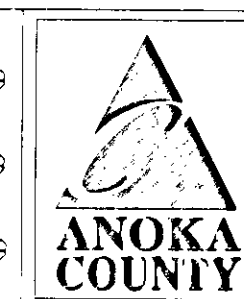
NOTE: ALL DIMENSIONS ARE IN MILLIMETERS, EXCEPT AS NOTED.

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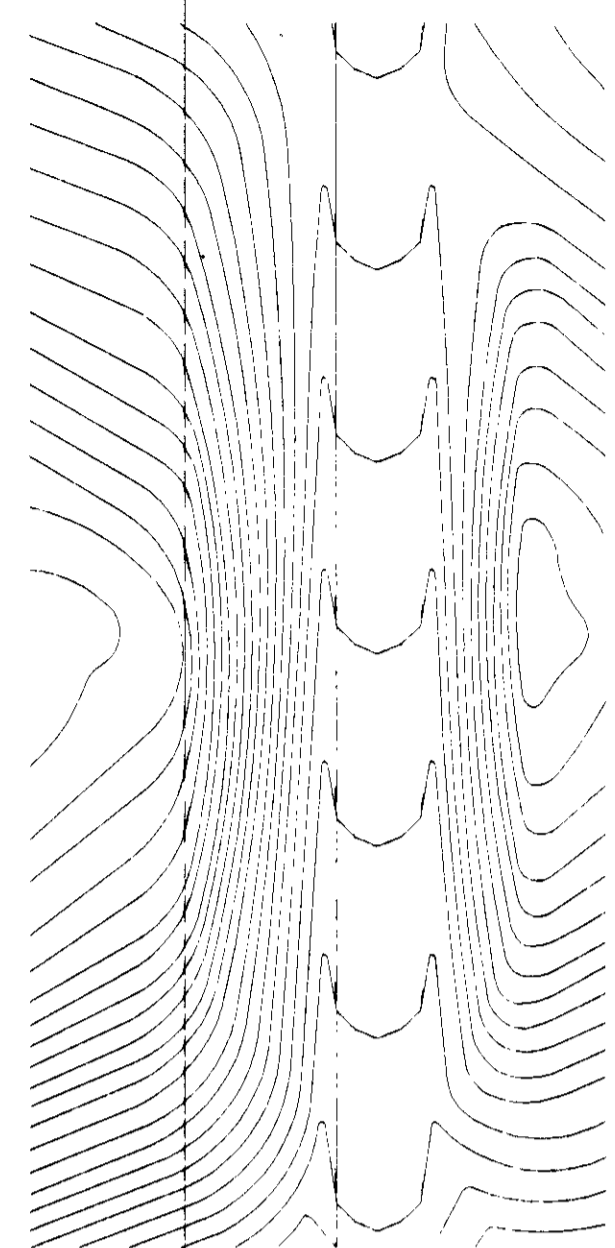
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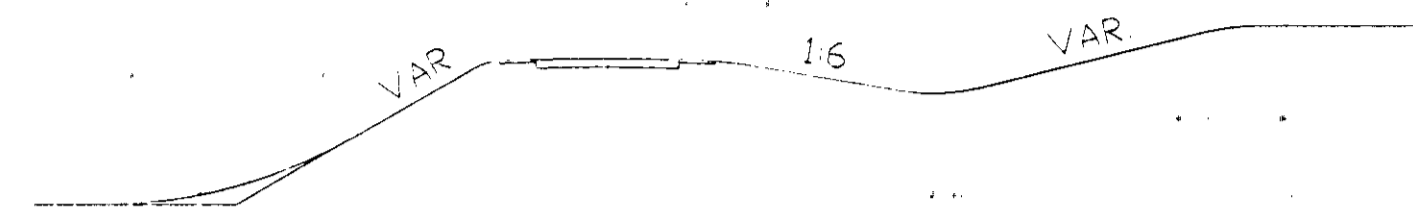
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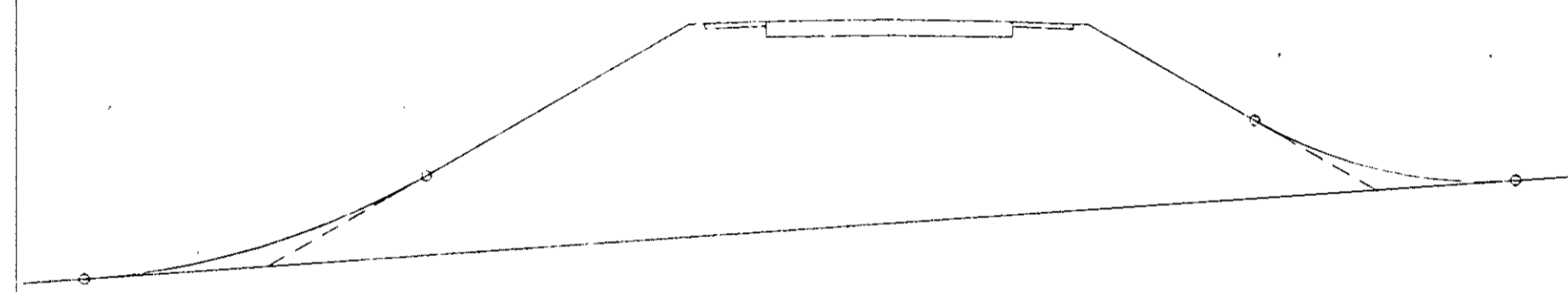
TEMPORARY EROSION CONTROL  
Sheet 11 of 94 Sheets



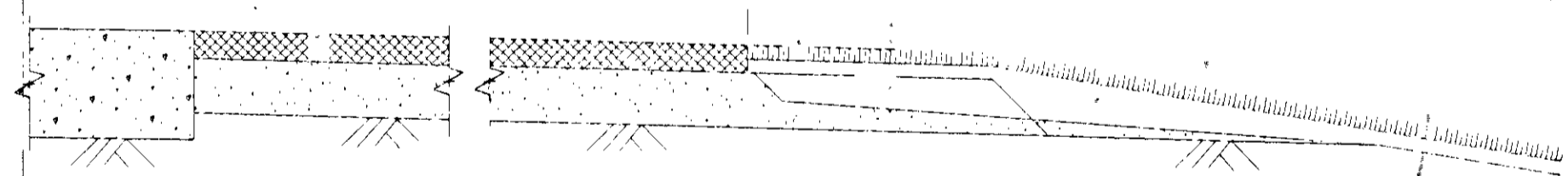
CONTOURING ROAD CUTS



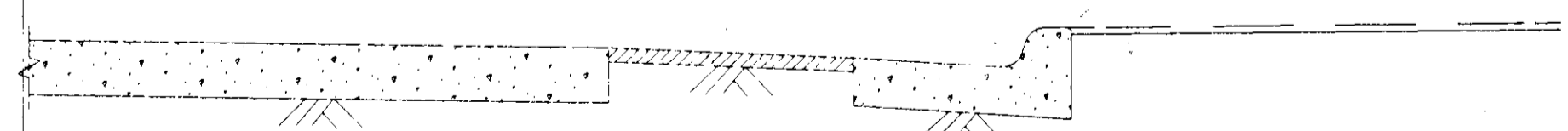
ROUNDING SHOULDERS AND BACKSLOPES



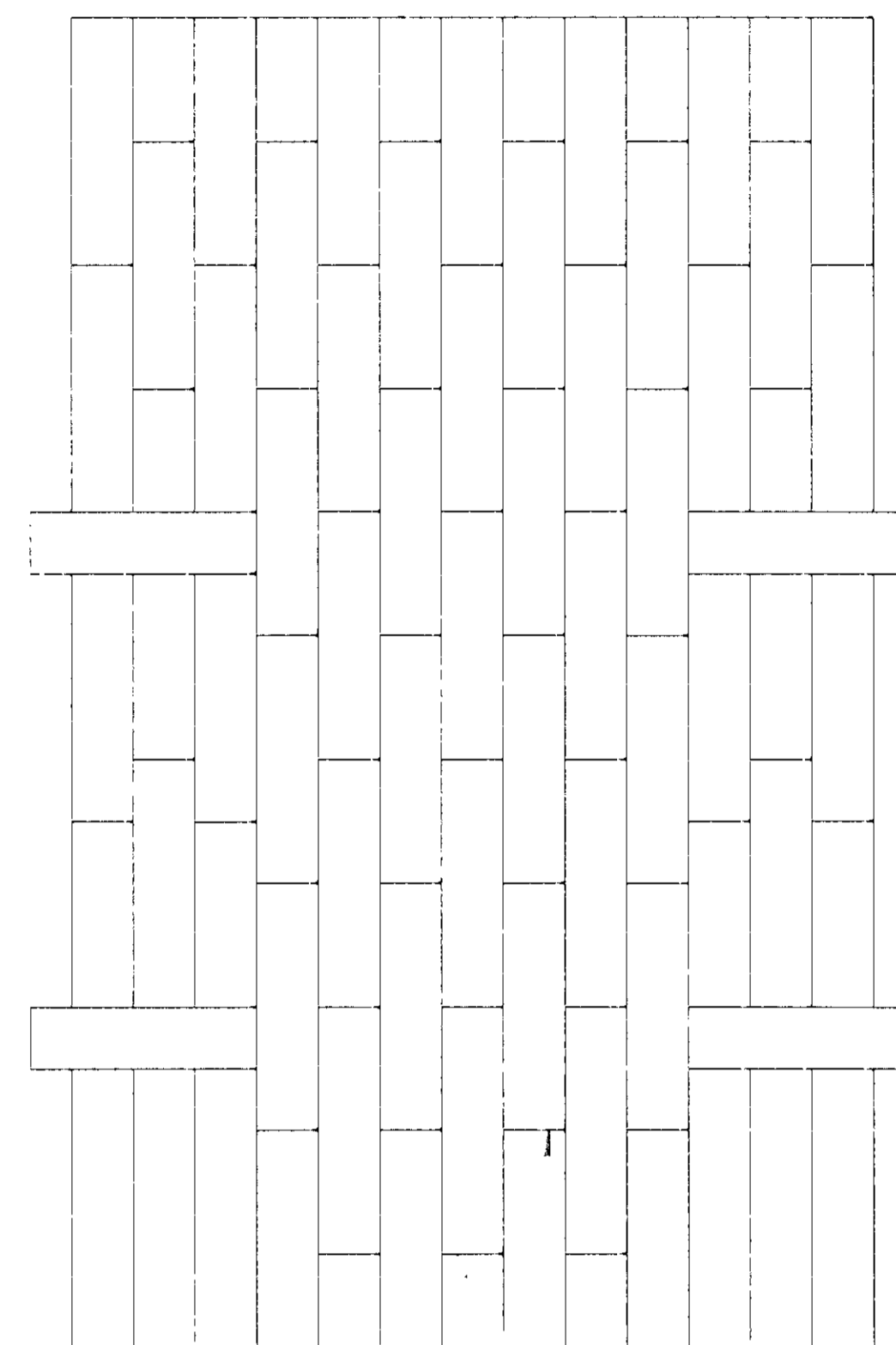
SHAPING FOR DRAINAGE ALONG THE TOE OF FILL SLOPES



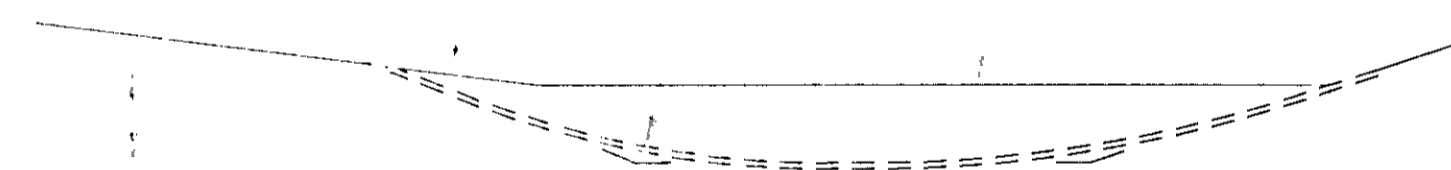
SHAPING AND TOPSOILING INSLOPES



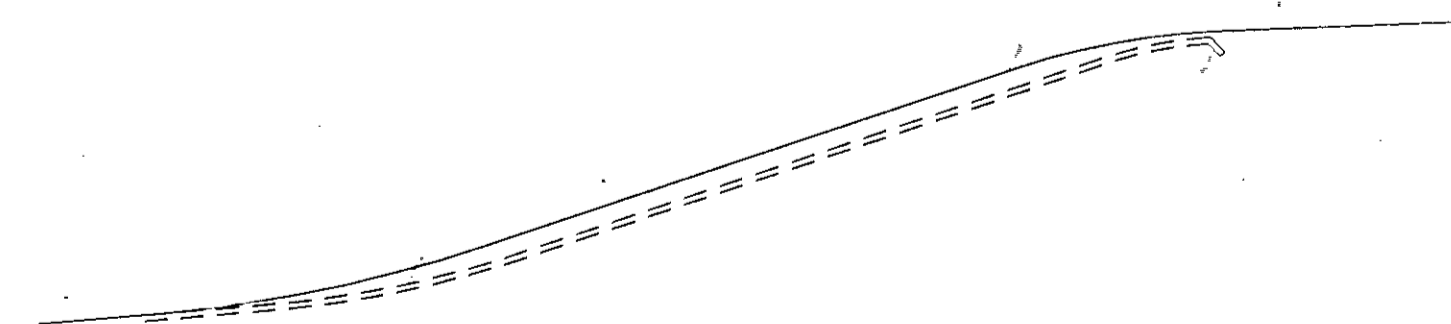
SHAPING ADJACENT TO CURBS WHEN SOD IS PLACED



PLAN VIEW

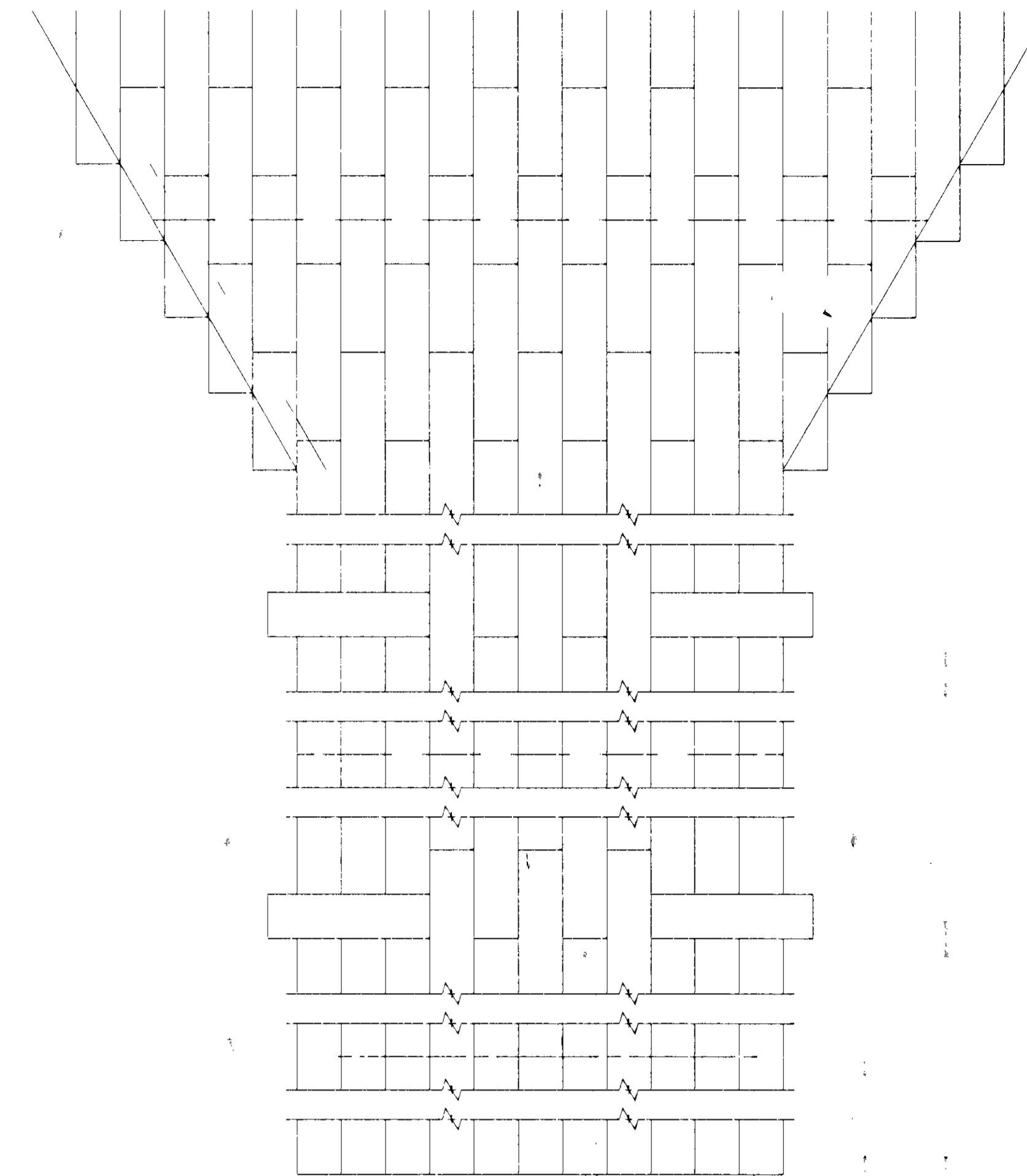


SODDED DITCH CROSS SECTION  
WHERE FRONT OR BACK SLOPE IS FLAT (LESS THAN 0.04 m/m).  
FIRST NOTCH DITCH AND THEN PROVIDE ROUNDING.

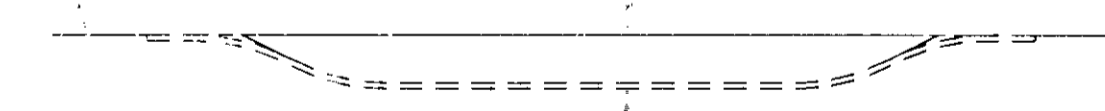


DITCH PROFILE

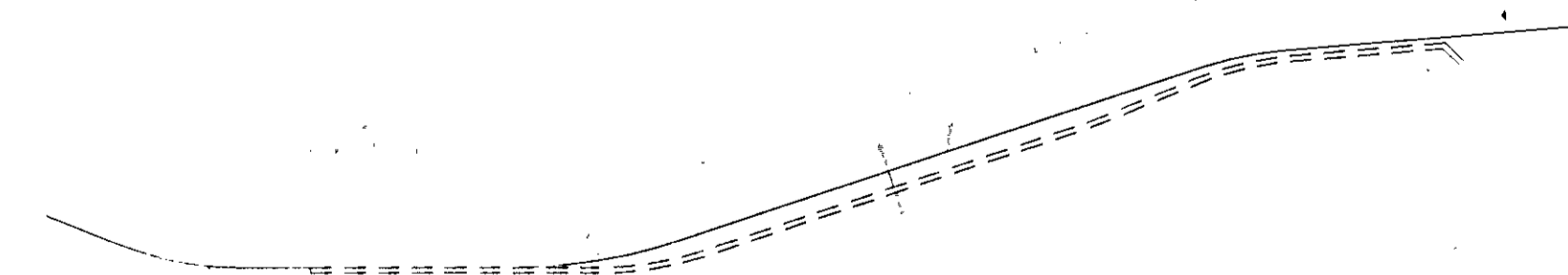
SODDED DITCH DETAILS



PLAN VIEW



SECTION A-A



SECTION B-B

SODDED FLUME DETAILS

- NOTES:  
SEE SPEC. 25753 FOR ADDITIONAL INFORMATION  
① FOR ROUNDING, SEE ROAD DESIGN MANUAL.  
② CONSTRUCT TAPER AS DIRECTED BY THE ENGINEER.

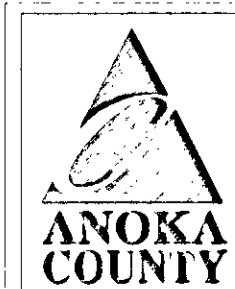
NOTE: ALL DIMENSIONS ARE IN MILLIMETERS, EXCEPT AS NOTED.

STANDARD SHEET No. 5-297404

NO.	DATE	BY	CHKD	APPR	REVISION

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 04-07-99 REG NO. 25066

DRAWN BY: MN DATE 04-07-99  
DESIGN BY: KGJ DATE 04-07-99  
CHECKED BY: LR DATE 04-07-99



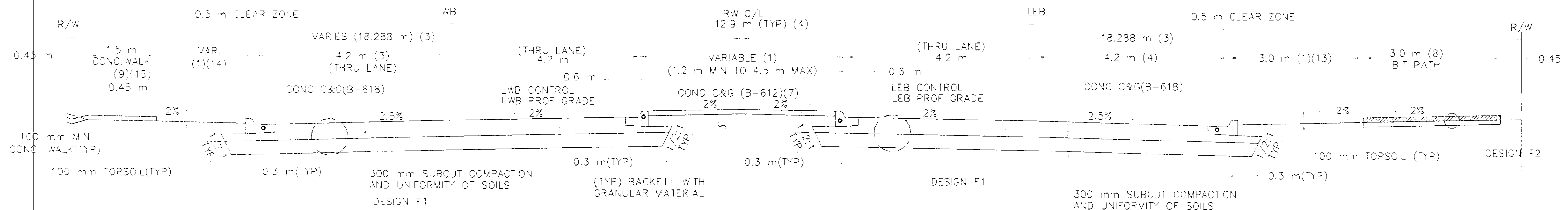
ANOKA COUNTY  
HIGHWAY DEPT.

STATE AID PROJECT NO. 02-612-08  
STATE AID PROJECT NO. 106-020-14  
STATE AID PROJECT NO. 106-117-04  
COUNTY PROJECT NO.

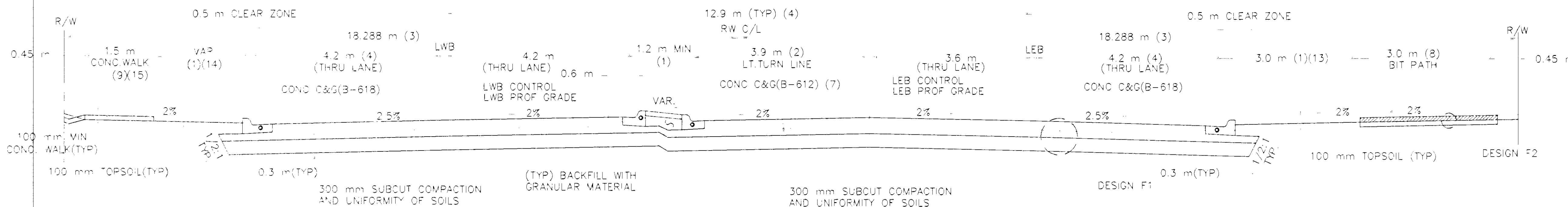
PERMANENT EROSION CONTROL  
ALONG ROADWAYS, DITCHES AND FLUME  
Sheet 12 of 94 Sheets

**TYPICAL MAINLINE CONSTRUCTION**

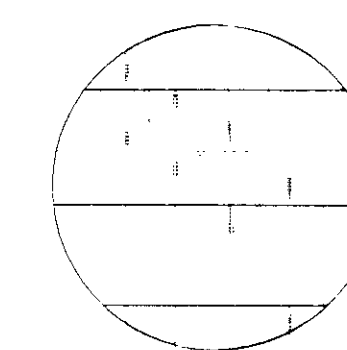
BEGINNING OF PROJ. TO LEB STA. 0+736.600  
LEB STA. 1+808.000 TO STA. 3+037.000



**TYPICAL TURN BAY CONSTRUCTION**



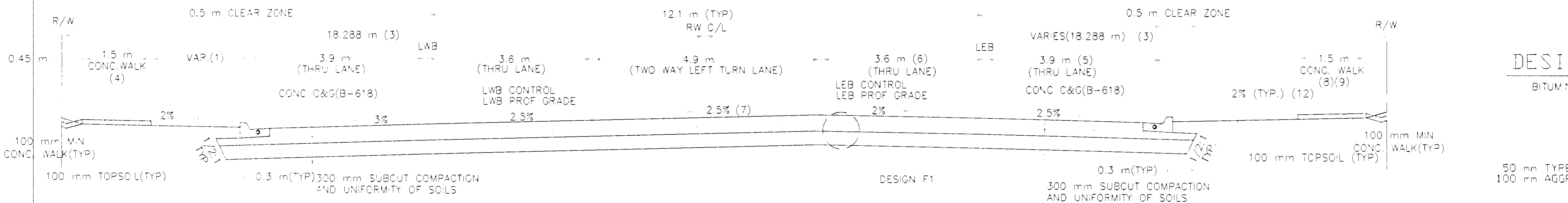
**DESIGN F-1**



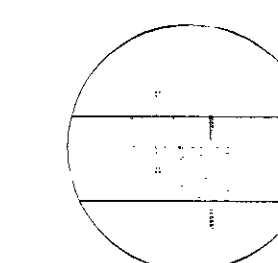
40 mm TYPE HVWE47540E  
40 mm TYPE HVNW37540E  
110 mm TYPE MVNW35035B  
150 mm AGGREGATE BASE CLASS 5

**SPECIAL CROSS SLOPE SECTION**

LEB STA. 0+736.600 TO STA. 1+020.000



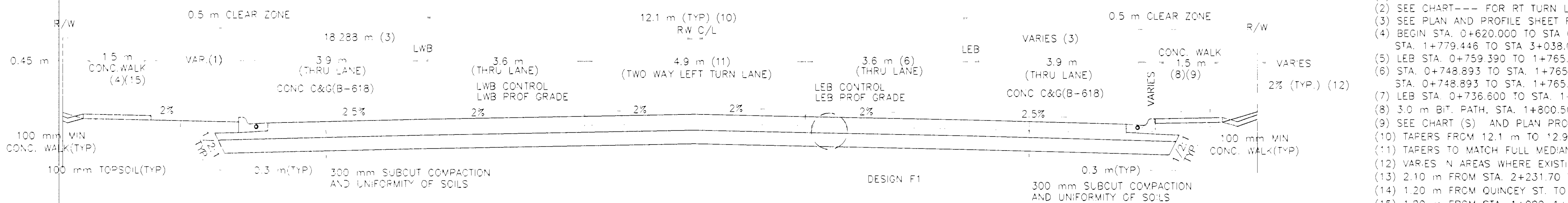
**DESIGN F-2**



50 mm TYPE MVWE47540E  
100 mm AGGREGATE BASE CLASS 5

**CONST. TWO WAY LEFT TURN LANE**

LEB STA. 1+020.000 TO STA. 1+800.000

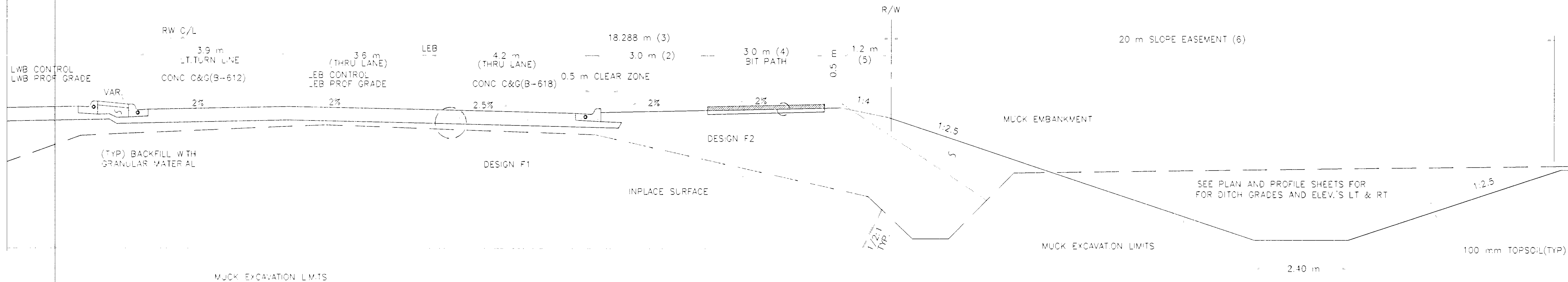


**NOTE**

- (1) SEE PLAN AND PROFILE SHEET FOR LOCATION.
- (2) SEE CHART --- FOR RT TURN LINE LOCATION.
- (3) SEE PLAN AND PROFILE SHEET FOR VAR. R/W WIDTHS LOCATIONS.
- (4) BEGIN STA. 0+620.000 TO STA 0+734.888 AND STA. 1+779.446 TO STA 3+038.000
- (5) LEB STA. 0+759.390 TO 1+765.441
- (6) STA. 0+748.893 TO STA. 1+765.441 AND STA. 0+748.893 TO STA. 1+765.280
- (7) LEB STA. 0+736.600 TO STA. 1+020.000
- (8) 3.0 m BIT. PATH. STA. 1+800.500 TO STA. 2+888.620.
- (9) SEE CHART (S) AND PLAN PROFILE SHEET FOR CONC. WALK CONST.
- (10) TAPERS FROM 12.1 m TO 12.9 m LEB STA. 1+765.441 - 1+779.446
- (11) TAPERS TO MATCH FULL MEDIAN WTDH AT LEB STA. 1+808.000
- (12) VARIES IN AREAS WHERE EXISTING SIDEWALK IS TO REMAIN.
- (13) 2.10 m FROM STA. 2+231.70 TO PIERCE ST.
- (14) 1.20 m FROM QUINCEY ST. TO STA. 2+874.00 LT.
- (15) 1.80 m FROM STA. 1+020-1+840 LT.

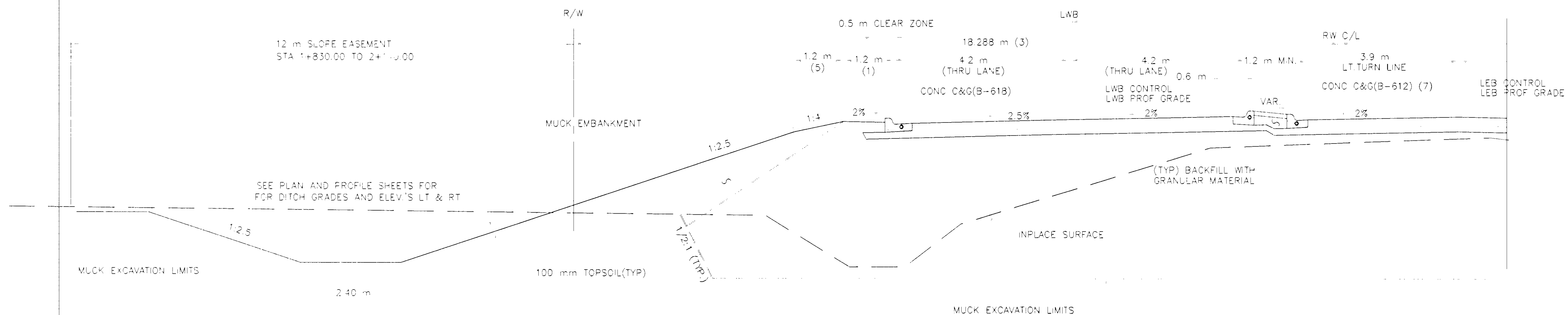
**TYPICAL DITCH CONSTRUCTION**

FROM LEB STA. 1+830.00 TO STA 2+140.00



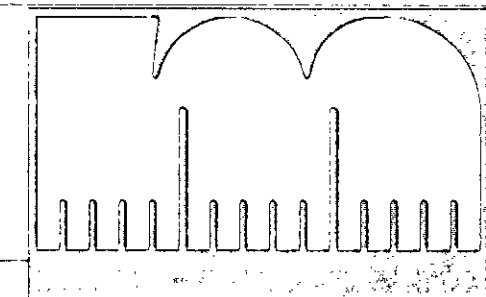
**TYPICAL DITCH CONSTRUCTION**

FROM LWB STA. 1+830.00 TO STA 2+140.00



- (1) 1.20 m FROM QUINCEY ST. TO STA. 2+874.00 LT.
- (2) LEB STA. 1+868.90 TO STA. 2+200.23' 70.
- (3) SEE PLAN AND PROFILE SHEET FOR VAR. R/W WIDTHS LOCATIONS.
- (4) LEB STA. 1+799.40 TO STA. 2+390.60
- (5) SEE PLAN AND CROSS SECTION SHEET FOR DITCH LOCATION
- (6) STA 1+843.520 TO 2+014.400 VARY FROM 17.03 m TO 20 m SLOPE EASEMENT

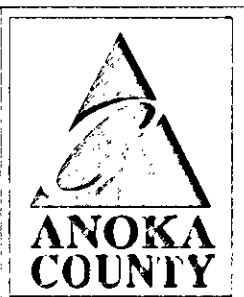
NO	DATE	BY	CHKD	APPR	REVISION



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DATE 04-07-99 REG NO 25066

DRAWN BY MN DATE 03-24-99  
 DESIGN BY KGJ DATE 03-24-99  
 CHECKED BY LR DATE 03-24-99

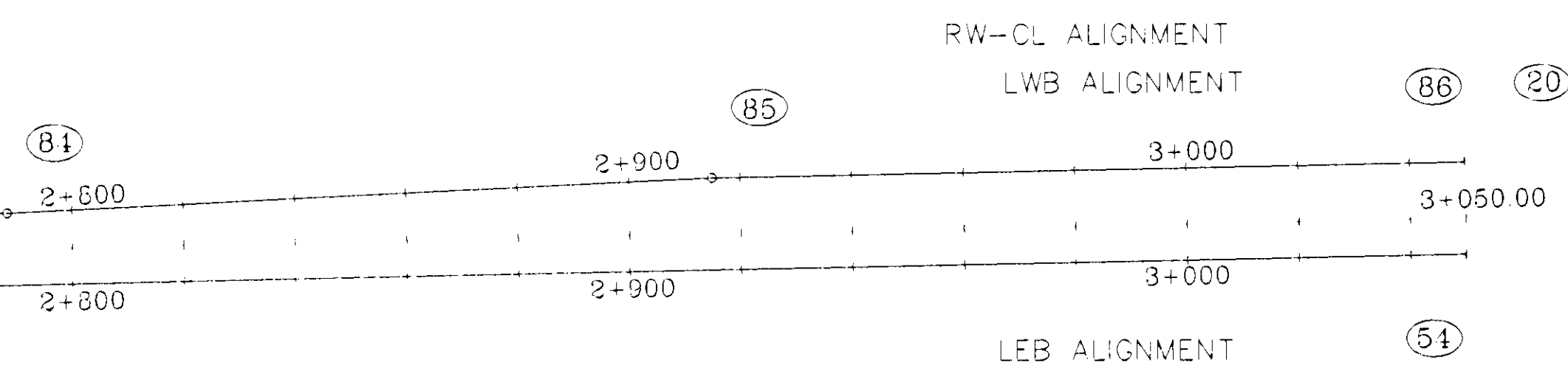
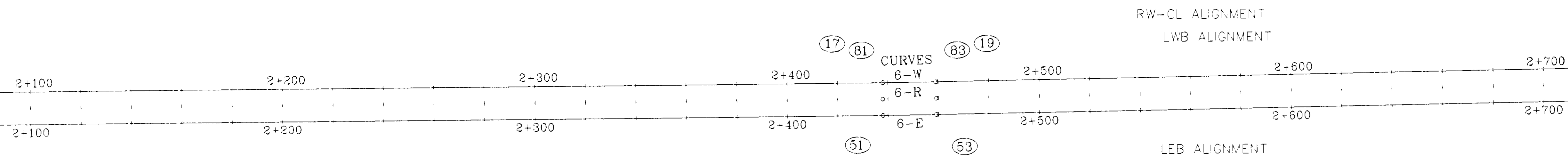
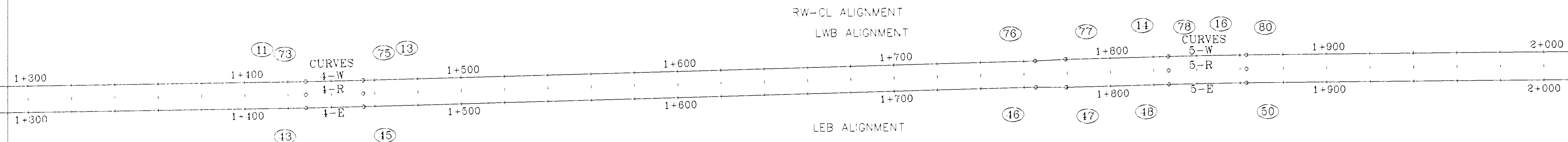
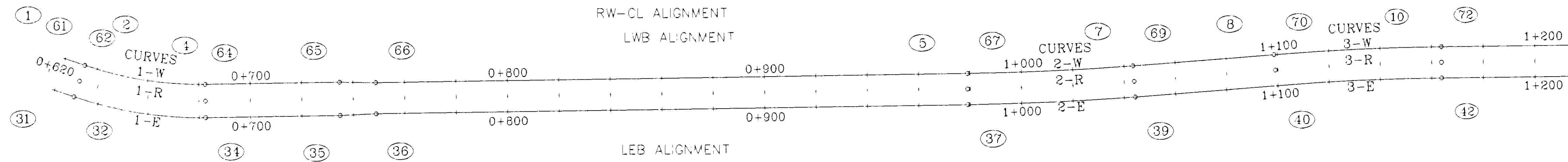


**ANOKA COUNTY  
 HIGHWAY DEPT.**

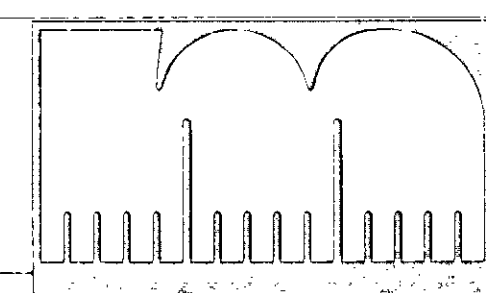
STATE AID PROJECT NO. 02-612-08  
 STATE AID PROJECT NO. 106-020-14  
 STATE AID PROJECT NO. 106-117-04  
 COUNTY PROJECT NO.

**TYPICAL SECTIONS**

Sheet 14 of 94 Sheets



NO.	DATE	BY	CKD	APPR	REVISION



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 DATE 04-07-99 REG. NO. 25066

DRAWN BY: MN DATE 04-07-99  
 DESIGN BY: KGJ DATE 04-07-99  
 CHECKED BY: LR DATE 04-07-99



ANOKA COUNTY  
 HIGHWAY DEPT.

STATE AID PROJECT NO. 02-612-08  
 STATE AID PROJECT NO. 106-020-14  
 STATE AID PROJECT NO. 106-117-04  
 COUNTY PROJECT NO.

ALIGNMENT TABULATION													
CURVE NO.	POINT NO.	POINT TYPE	LOCATION	CURVE DATA					NORTHING	EASTING	AZIMUTH		
				COURSE	DELTA	RADIUS(m)	TANGENT(m)	LENGTH(m)					
												R/W CENTERLINE ALIGNMENT	
1-R	1	PI	LEB STA. 0+620.000	S 70°48'54" E					27827.9885	271119.3441			
	2	PC	LEB STA. 0+632.566						27823.8590	271131.2126			
	3	PI	LEB STA. 0+657.782	N 89°15'33" E	19°55'32"	143.55	LT	25.216	49.922	27815.5726	271155.0279		
	4	PT	LEB STA. 0+682.499							27815.8986	271180.2415		
	5	PC	LEB STA. 0+979.062							27819.7325	271476.7897		
2-R	6	PI	LEB STA. 1+011.482	N 85°32'44" E	03°42'50"	1000.00	LT	32.421	64.819	27820.1516	271509.2077		
	7	PT	LEB STA. 1+043.880							27822.6697	271541.5305		
	8	PC	LEB STA. 1+099.039							27826.9537	271596.5223		
3-R	9	PI	LEB STA. 1+131.459	N 89°15'33" E	03°42'50"	1000.00	RT	32.421	64.819	27829.4718	271628.8451		
	10	PT	LEB STA. 1+163.857							27829.8909	271661.2632		
	11	PC	LEB STA. 1+428.202							27833.3082	271925.5858		
4-R	12	PI	LEB STA. 1+441.490	N 88°29'53" E	00°45'41"	2000.00	LT	13.288	26.575	27833.4800	271938.8723		
	13	PT	LEB STA. 1+454.777							27833.8283	271952.1553		
	14	PC	LEB STA. 1+826.935							27843.5833	272324.1854		
5-R	15	PI	LEB STA. 1+844.918	N 89°31'42" E	01°01'49"	2000.00	RT	17.983	35.965	27844.0547	272342.1623		
	16	PT	LEB STA. 1+862.900							27844.2027	272360.1449		
6-R	17	PC	LEB STA. 2+438.070	N 88°55'29" E	00°36'13"	2000.00	LT	10.533	21.066	27848.9377	272935.2953		
	18	PI	LEB STA. 2+448.603							27849.0244	272945.8280		
	19	PT	LEB STA. 2+459.136							27849.2221	272956.3593		
	20	PI	LEB STA. 3+049.573							27860.3012	273546.6926		
LEB ALIGNMENT													
1-E	31	PI	LEB STA. 0+622.326	S 70°48'54" E						27820.3961	271121.5373		
	32	PC	LEB STA. 0+630.326							27817.7672	27129.0930		
	33	PI	LEB STA. 0+656.675	N 89°15'33" E	19°55'32"	150.00	LT	26.349	52.165	27809.1085	271153.9784		
	34	PT	LEB STA. 0+682.491							27809.4491	271180.3249		
	35	PC	LEB STA. 0+734.888	N 87°37'22" E						27810.1265	271232.7170		
2-E	36	PI	LEB STA. 0+748.893	N 89°15'33" E						27810.7074	271246.7106		
	37	PC	LEB STA. 0+979.070							27813.6830	271476.8679		
	38	PI	LEB STA. 1+011.687	N 85°32'44" E	03°42'50"	1006.050	LT	32.617	65.211	27814.1046	271509.4821		
	39	PT	LEB STA. 1+044.281							27816.6379	271542.0004		
3-E	40	PC	LEB STA. 1+099.439							27820.9220	271596.9922		
	41	PI	LEB STA. 1+131.664	N 89°15'33" E	03°42'50"	993.950	RT	32.225	64.427	27823.4248	271629.1195		
	42	PT	LEB STA. 1+163.866							27823.8414	271661.3414		
4-E	43	PC	LEB STA. 1+428.211	N 88°29'63" E	00°45'41"	2006.050	LT	13.328	26.655	27827.2587	271925.6641		
	44	PI	LEB STA. 1+441.538							27827.4310	271938.9907		
	45	PT	LEB STA. 1+454.866							27827.7803	271952.3139		
5-E	46	PI	LEB STA. 1+765.441	S 89°51'56" E						27835.9211	272262.7819		
	47	PI	LEB STA. 1+779.446	N 88°29'53" E						27835.8883	272276.7876		
	48	PC	LEB STA. 1+827.029							27837.1355	272324.3544		
	49	PI	LEB STA. 1+844.955	N 89°31'42" E	01°01'49"	1993.550	RT	17.925	35.849	27837.6054	272342.2734		
	50	PT	LEB STA. 1+862.879							27837.7529	272360.1979		
6-E	51	PC	LEB STA. 2+438.049	N 88°55'29" E	00°36'13"	2006.45	LT	10.567	21.134	27842.4879	272935.3484		
	52	PI	LEB STA. 2+448.616							27842.5749	272945.9151		
	53	PT	LEB STA. 2+459.183							27842.7732	272956.4803		
	54	PI	LEB STA. 3+049.473	N 89°13'36" E						27853.8496	273546.6668		
LWB ALIGNMENT													
1-W	61	PI	LWB STA. 0+626.812	S 70°48'54" E						27832.5797	271125.7765		
	62	PC	LWB STA. 0+634.812							27829.9508	271133.3322		
	63	PI	LWB STA. 0+658.895	N 89°15'33" E	19°55'32"	137.100	LT	24.083	47.679	27822.0367	271156.0774		
	64	PT	LWB STA. 0+682.491							27822.3480	271180.1582		
	65	PC	LWB STA. 0+734.887	S 89°06'15" E						27823.0254	271232.5502		
2-W	66	PI	LWB STA. 0+748.893	N 89°15'33" E						27822.8064	271246.5542		
	67	PC	LWB STA. 0+979.070							27825.7820	271476.7115		
	68	PI	LWB STA. 1+011.294	N 85°32'44" E	03°42'50"	993.950	LT	32.225	64.427	27826.1986	271508.9334		
	69	PT	LWB STA. 1+043.496							27828.7014	271541.0606		
3-W	70	PC	LWB STA. 1+099.655							27832.9854	271596.0524		
	71	PI	LWB STA. 1+131.272	N 89°15'33" E	03°42'50"	1006.050	RT	32.617	65.211	27835.5187	271628.5708		
	72	PT	LWB STA. 1+163.866							27835.9404	271661.1850		
4-W	73	PC	LWB STA. 1+428.210	N 88°29'53" E	00°45'41"	1993.950	LT	13.247	26.494	27839.3577	271925.5076		
	74	PI	LWB STA. 1+441.458							27839.5289	271938.7539		
	74	PT	LWB STA. 1+454.705							27839.8762	271951.9967		
5-W	76	PI	LWB STA. 1+765.280	N 86°51'41" E						27848.0170	272262.4647		
	77	PI	LWB STA. 1+779.285	N 88°29'53" E						27848.7838	272276.4494		
	78	PC	LWB STA. 1+826.868							27850.0311	272324.0163		
	79	PI	LWB STA. 1+844.910	N 89°31'42" E	01°01'49"	2006.450	RT	18.041	36.081	27850.5040	272342.0512		
	80	PT	LWB STA. 1+862.950							27850.6525	272360.0918		
6-W	81	PC	LWB STA. 2+438.120	N 88°55'29" E	00°36'13"	1993.550	LT	10.499	20.998	27855.3875	272935.2422		
	82	PI	LWB STA. 2+448.619							27855.4739	272945.7410		
	83	PT	LWB STA. 2+459.118							27855.6709	272956.2382		
	84	PI	LWB STA. 2+788.452	N 87°17'44" E						27861.8507	273285.5150		
	85	PI	LWB STA. 2+915.064	N 88°55'29" E						27867.8249	273411.2852		
	86	PI	LWB STA. 3+049.828							27870.3536	273546.7259		



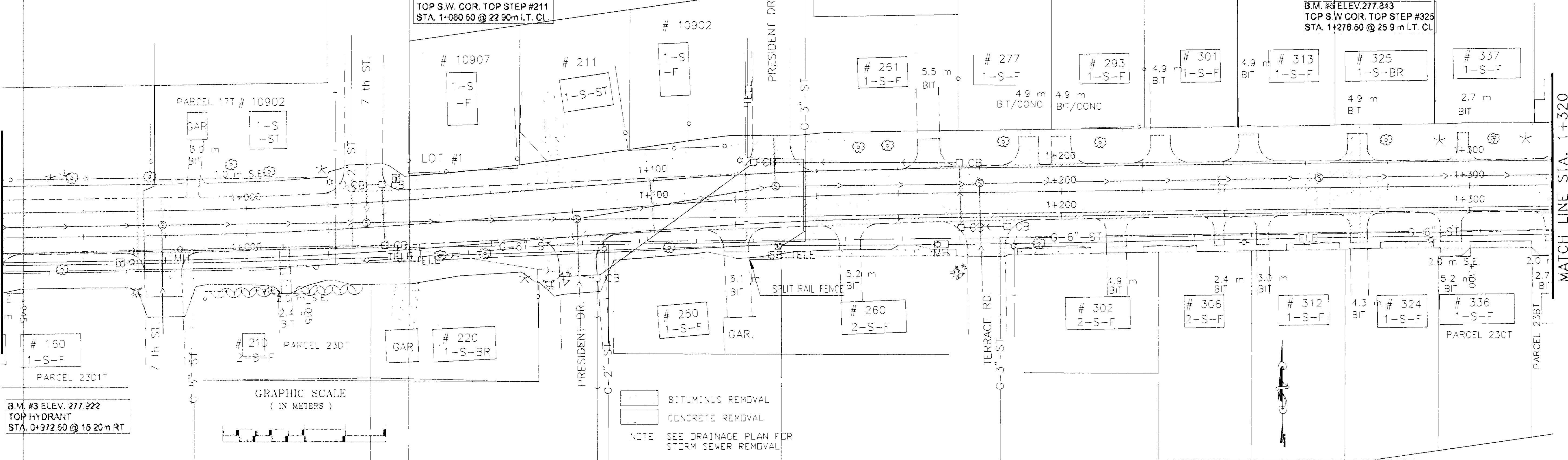
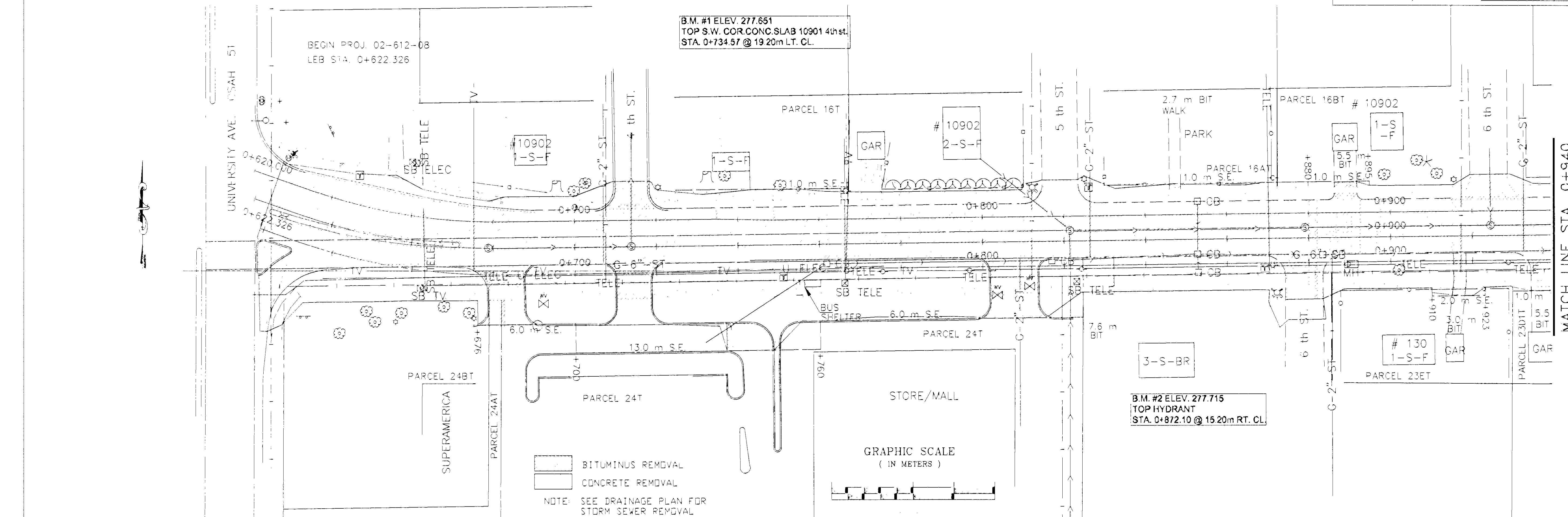
B.M. #1 ELEV. 277.651  
TOP S.W. COR. CONC. SLAB 10901 4th ST.  
STA. 0+734.57 @ 19.20m LT. CL.

BEGIN PROJ. 02-612-08  
LEB STA. 0+622.326

B.M. #2 ELEV. 277.715  
TOP HYDRANT  
STA. 0+872.10 @ 15.20m RT. CL.

TOP S.W. COR. TOP STEP #211  
STA. 1+080.50 @ 22.90m LT. CL.

B.M. #3 ELEV. 277.843  
TOP S.W. COR. TOP STEP #325  
STA. 1+276.50 @ 25.9 m LT. CL.

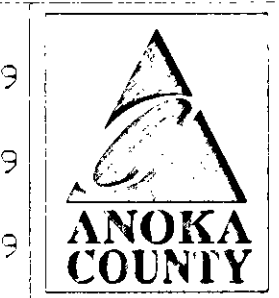


BITUMINUS REMOVAL  
CONCRETE REMOVAL  
NOTE: SEE DRAINAGE PLAN FOR STORM SEWER REMOVAL

BITUMINUS REMOVAL  
CONCRETE REMOVAL  
NOTE: SEE DRAINAGE PLAN FOR STORM SEWER REMOVAL

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DATE 04-07-99 REG. NO. 25066  
DRAWN BY MN DATE 04-07-99  
DESIGN BY KJG DATE 04-07-99  
CHECKED BY LR DATE 04-07-99

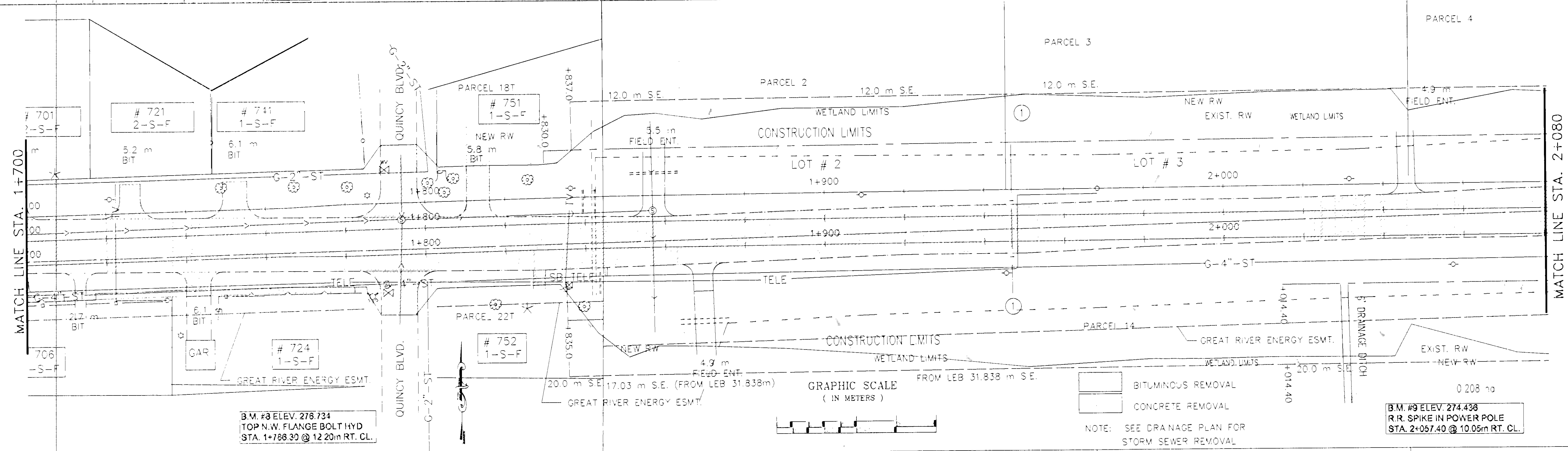
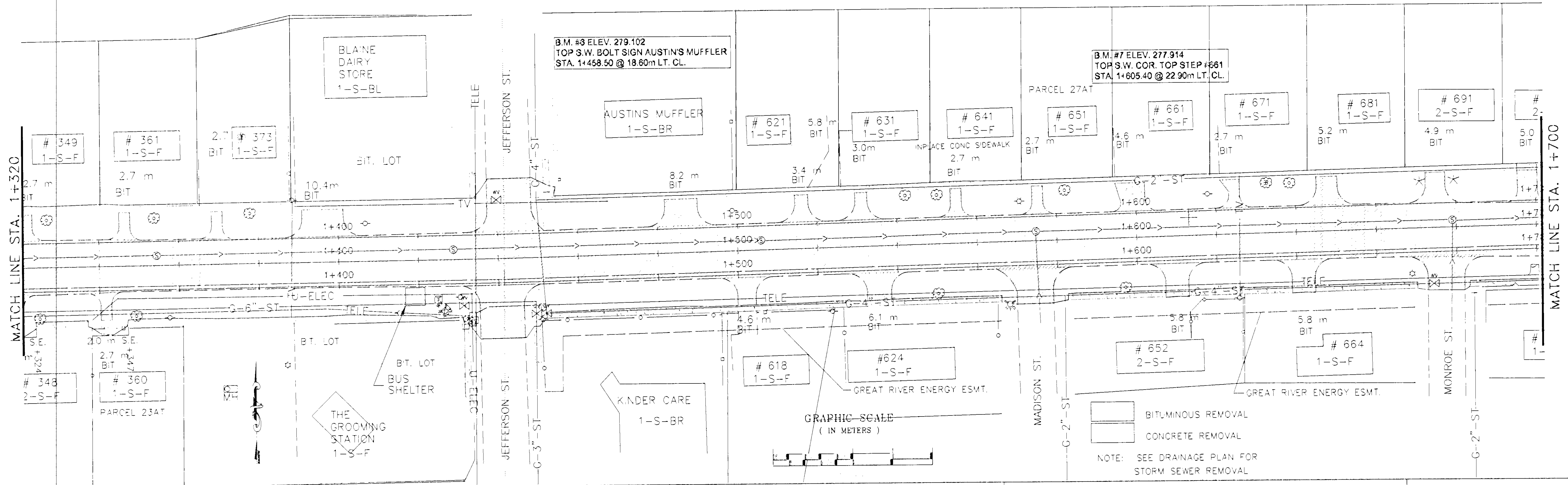


ANOKA COUNTY HIGHWAY DEPT.

STATE AID PROJECT NO. 02-612-08  
STATE AID PROJECT NO. 106-020-14  
STATE AID PROJECT NO. 106-117-04  
COUNTY PROJECT NO.

EXISTING CONDITIONS AND REMOVALS  
STA 0+619.10 TO 1+320.00  
Sheet 17 of 94 Sheets

NO.	DATE	BY	CHKD	APPR	REVISION

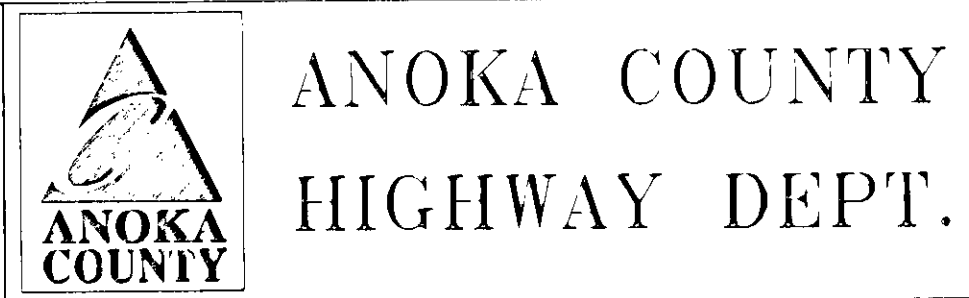


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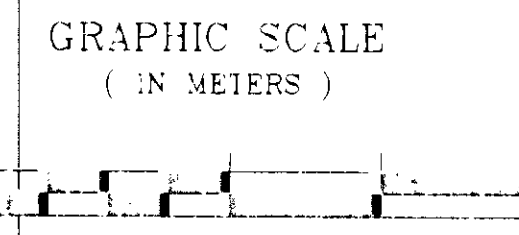
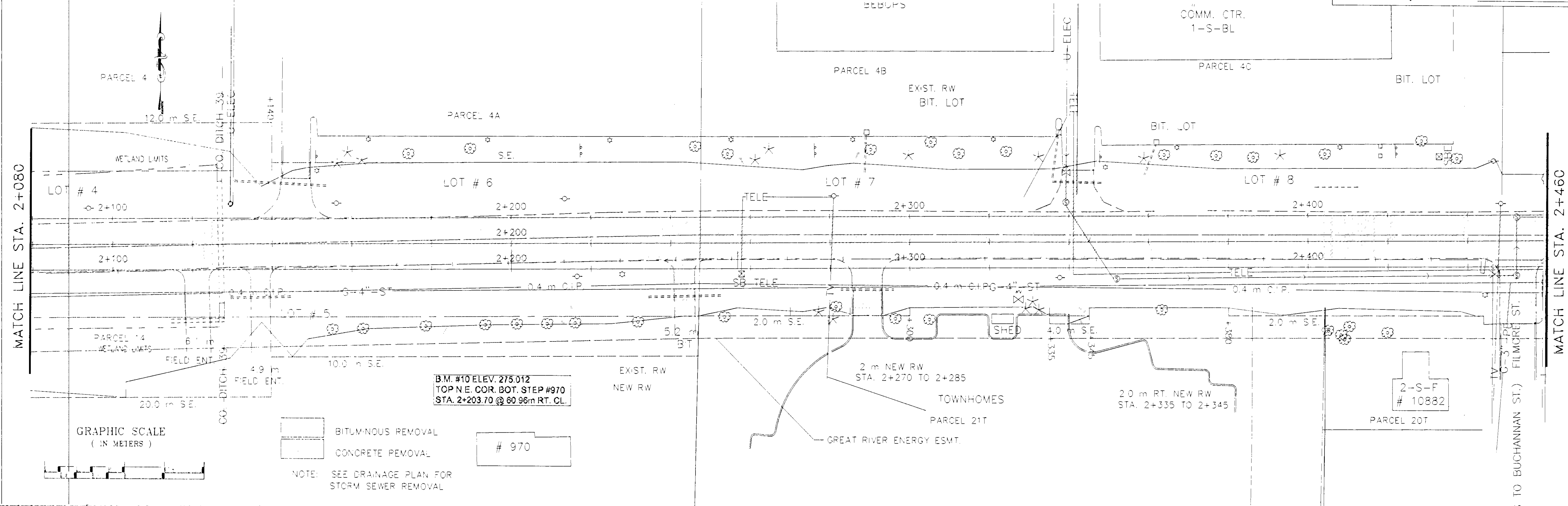
DATE 04-07-99 REG. NO. 25066

DRAWN BY: MN DATE 04-07-99  
 DESIGN BY: KJG DATE 04-07-99  
 CHECKED BY: LR DATE 04-07-99



STATE AID PROJECT NO. 02-612-08  
 STATE AID PROJECT NO. 106-020-14  
 STATE AID PROJECT NO. 106-117-04  
 COUNTY PROJECT NO. \_\_\_\_\_

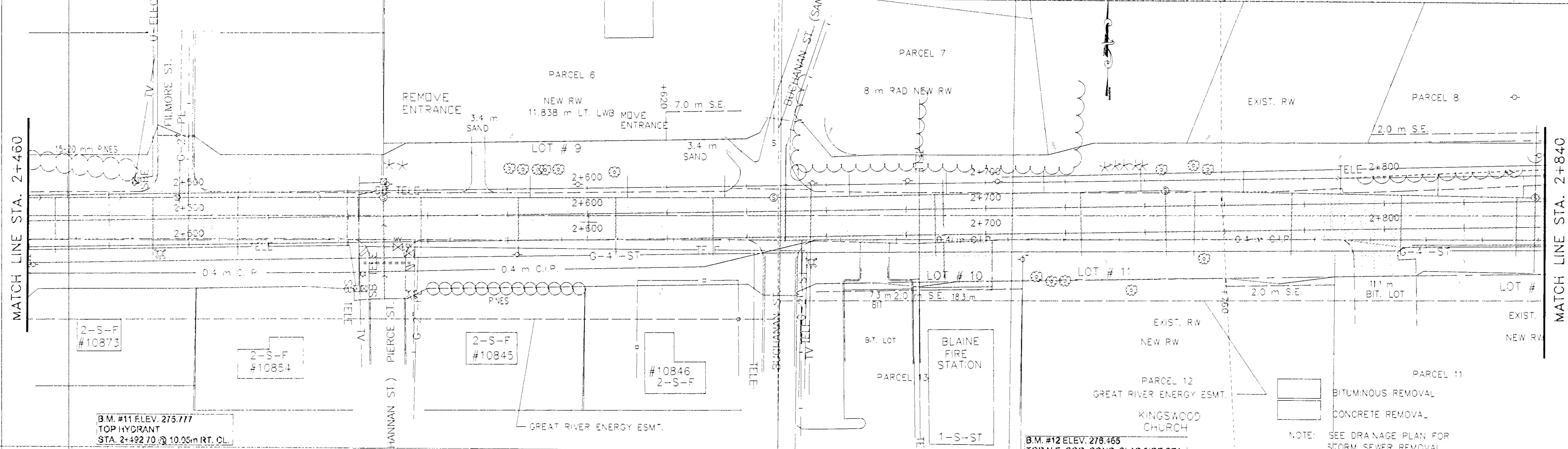
**EXISTING CONDITIONS AND REMOVALS**  
 STA 1+320.00 TO 2+080.00  
 Sheet 18 of 94 Sheets



BITUMINOUS REMOVAL  
 CONCRETE REMOVAL  
 NOTE: SEE DRAINAGE PLAN FOR STORM SEWER REMOVAL

B.M. #10 ELEV. 275.012  
 TOP N.E. COR. BOT. STEP #970  
 STA. 2+203.70 @ 60.96m RT. CL.

# 970

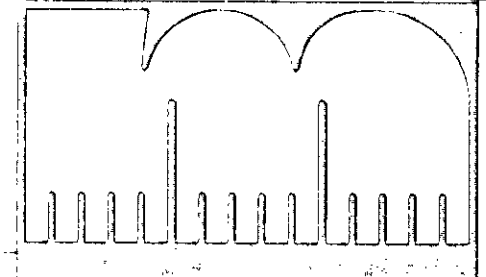


B.M. #11 ELEV. 275.777  
 TOP HYDRANT  
 STA. 2+492.70 @ 10.95m RT. CL.

BITUMINOUS REMOVAL  
 CONCRETE REMOVAL  
 NOTE: SEE DRAINAGE PLAN FOR STORM SEWER REMOVAL

B.M. #12 ELEV. 278.465  
 TOP N.E. COR. CONC. SLAB FIRE STA.

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 04-07-99  
 REG. NO. 25066



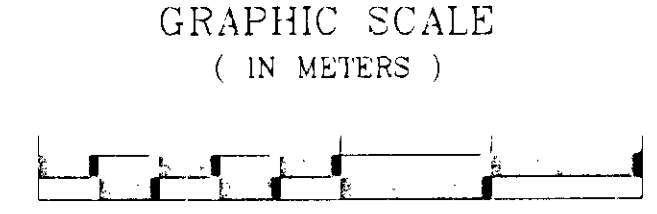
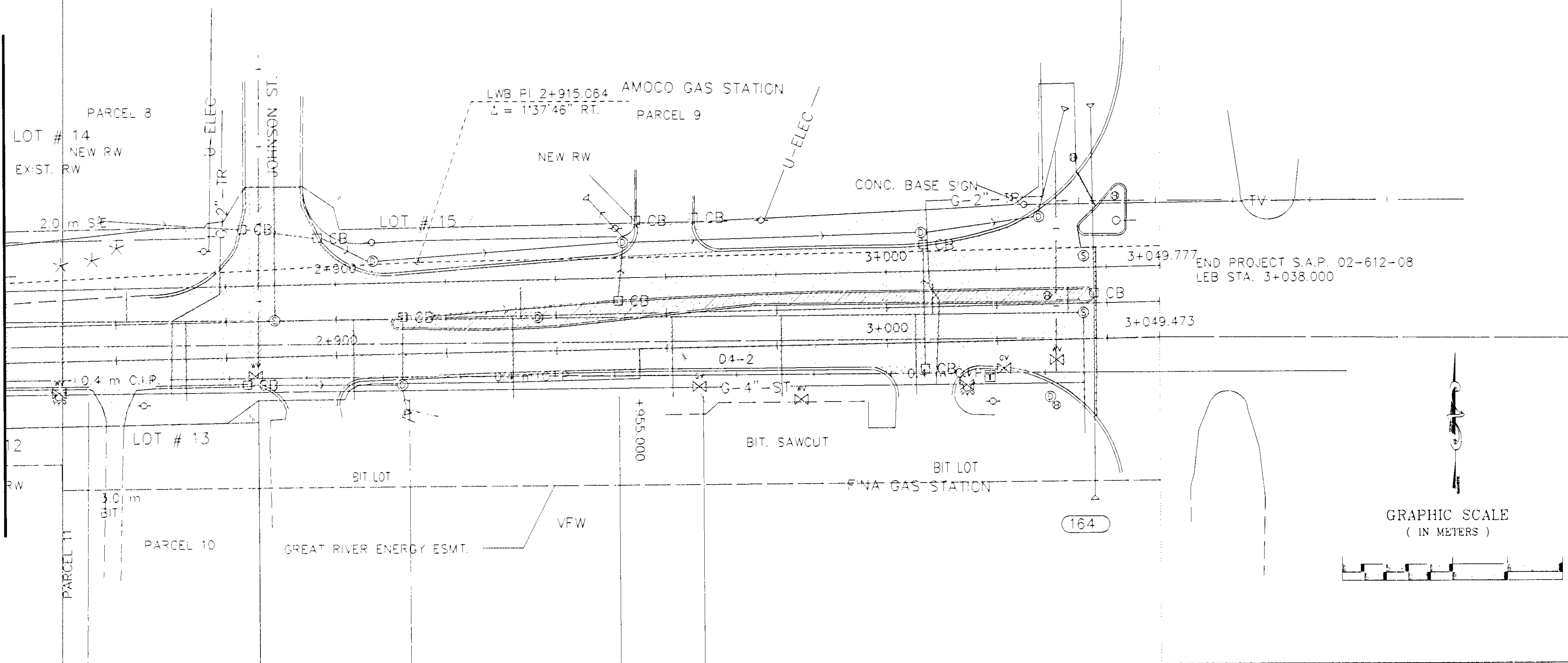
ANOKA COUNTY  
 HIGHWAY DEPT.


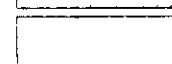
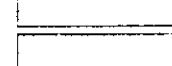
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 STATE AID PROJECT NO. 106-020-14  
 STATE AID PROJECT NO. 106-117-04  
 COUNTY PROJECT NO.

EXISTING CONDITIONS AND REMOVALS  
 STA 2+080.00 TO 2+840.00  
 Sheet 19 of 94 Sheets

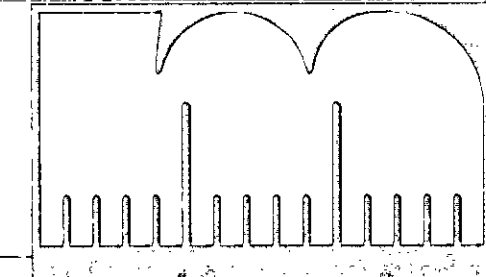
NO.	DATE	BY	CHKD	APPR	REVISION

MATCH LINE STA. 2+840



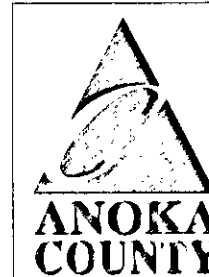
-  BITUMINOUS REMOVAL
  -  CONCRETE REMOVAL
  -  BITUMINOUS MILLING
- NOTE: SEE DRAINAGE PLAN FOR STORM SEWER REMOVAL

NO.	DATE	BY	CHKD	APPR	REVISION



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 DATE 04-07-99 REG. NO. 25066

DRAWN BY MN DATE 04-07-99  
 DESIGN BY KGJ DATE 04-07-99  
 CHECKED BY LR DATE 04-07-99



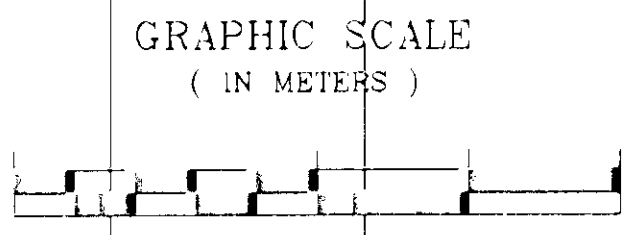
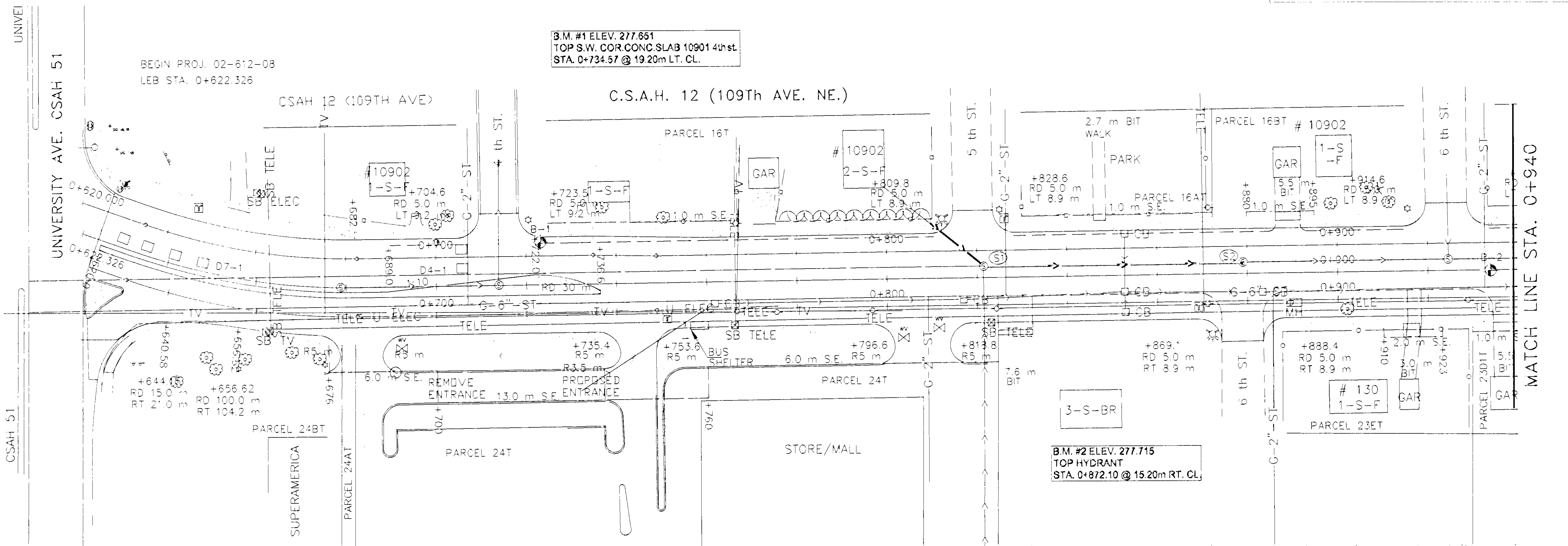
**ANOKA COUNTY**  
**HIGHWAY DEPT.**

STATE AID PROJECT NO. 02-612-08  
 STATE AID PROJECT NO. 106-020-14  
 STATE AID PROJECT NO. 106-117-04  
 COUNTY PROJECT NO.

**EXISTING CONDITIONS AND REMOVALS**  
 STA 2+840.00 TO 3+100.00  
 Sheet 20 of 94 Sheets

B.M. #1 ELEV. 277.651  
TOP S.W. COR. CONC. SLAB 10901 4th ST.  
STA. 0+734.57 @ 19.20m LT. CL.

BEGIN PROJ. 02-612-08  
LEB STA. 0+622.326



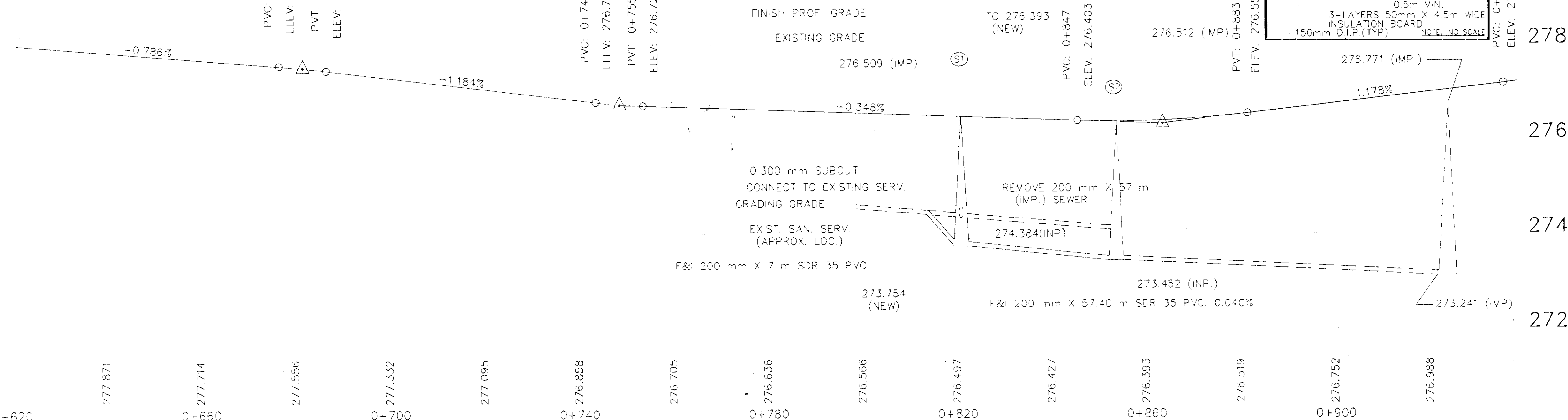
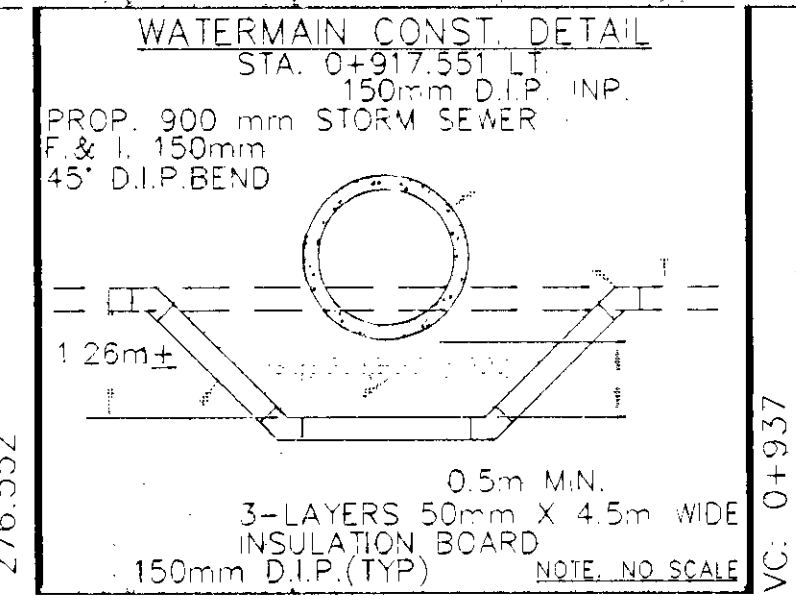
280  
278  
276  
274  
272

BEGIN PROJ. 02-612-08  
LEB STA. 0+622.326

PVI STA = 0+683  
PVI ELEV = 277.533  
A.D. = -0.397  
VC = 10 m

PVI STA = 0+750  
PVI ELEV = 276.740  
A.D. = 0.836  
VC = 10 m

LOW POINT ELEV = 276.388  
LOW POINT STA = 0+855.208  
PVI STA = 0+865  
PVI ELEV = 276.340  
A.D. = 1.526  
VC = 36 m

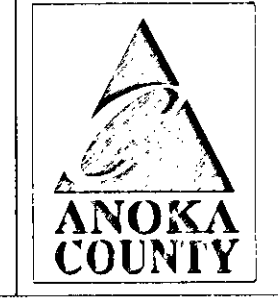


0+620    277.871    0+660    277.714    0+700    277.556    277.332    277.095    276.858    276.705    0+740    276.636    276.566    0+780    276.497    276.427    0+820    276.393    276.519    0+860    276.752    0+900    276.988

NO.	DATE	BY	CHKD	APPD	REVISION

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 04-07-99 REG. NO. 25066

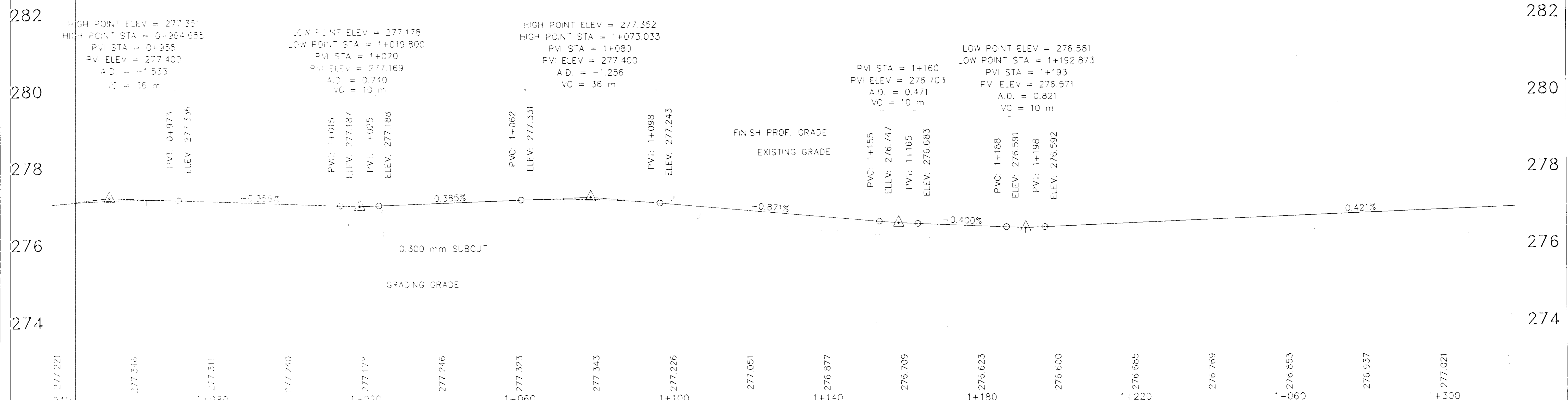
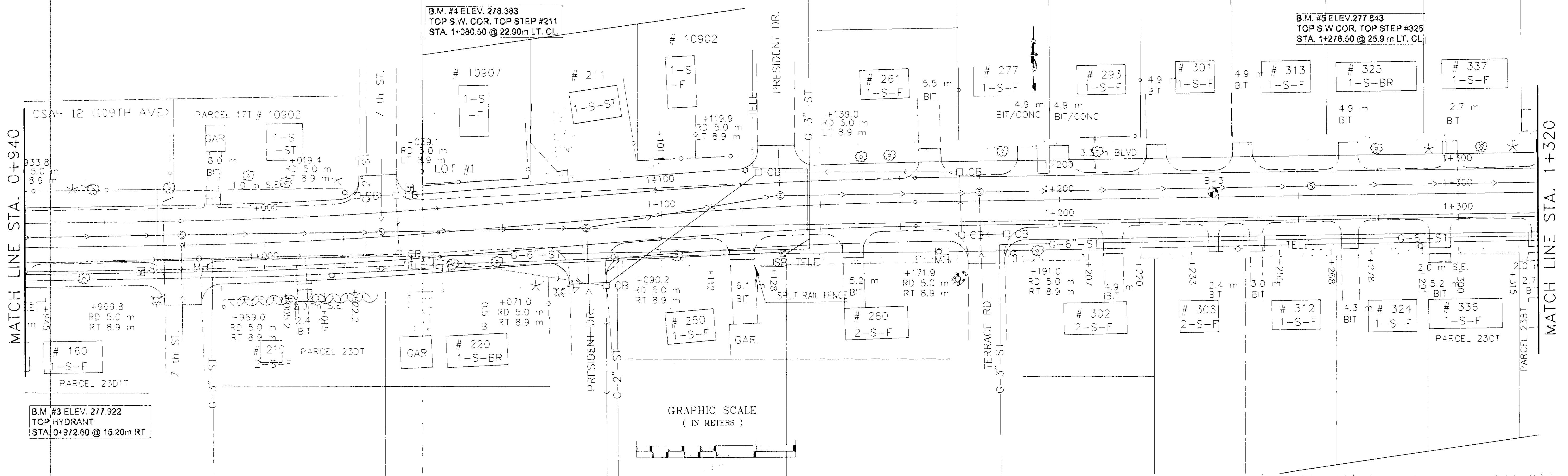
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DESIGN BY: KGJ DATE 04-07-99  
CHECKED BY: LR DATE 04-07-99



**ANOKA COUNTY**  
**HIGHWAY DEPT.**

STATE AID PROJECT NO. 02-612-08  
STATE AID PROJECT NO. 106-020-14  
STATE AID PROJECT NO. 106-117-04  
COUNTY PROJECT NO. \_\_\_\_\_

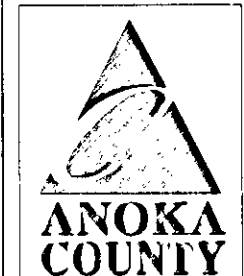
PLAN AND PROFILE  
STA 0+619.10 TO 0+940.00  
Sheet 21 of 94 Sheets



NO	DATE	BY	CHKD	APPR	REVISION

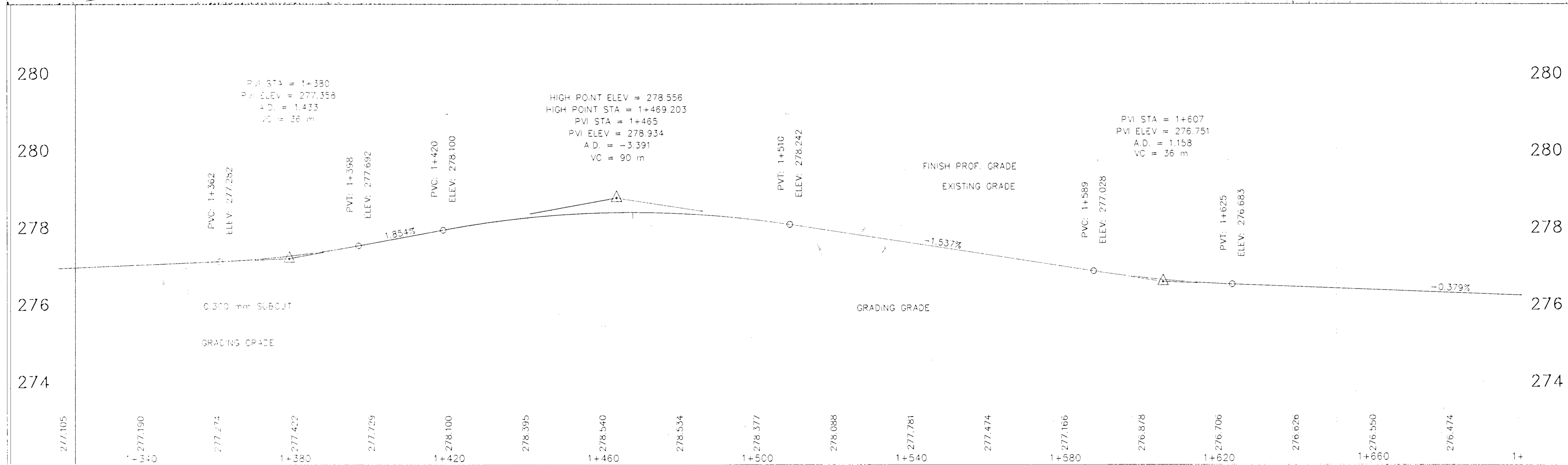
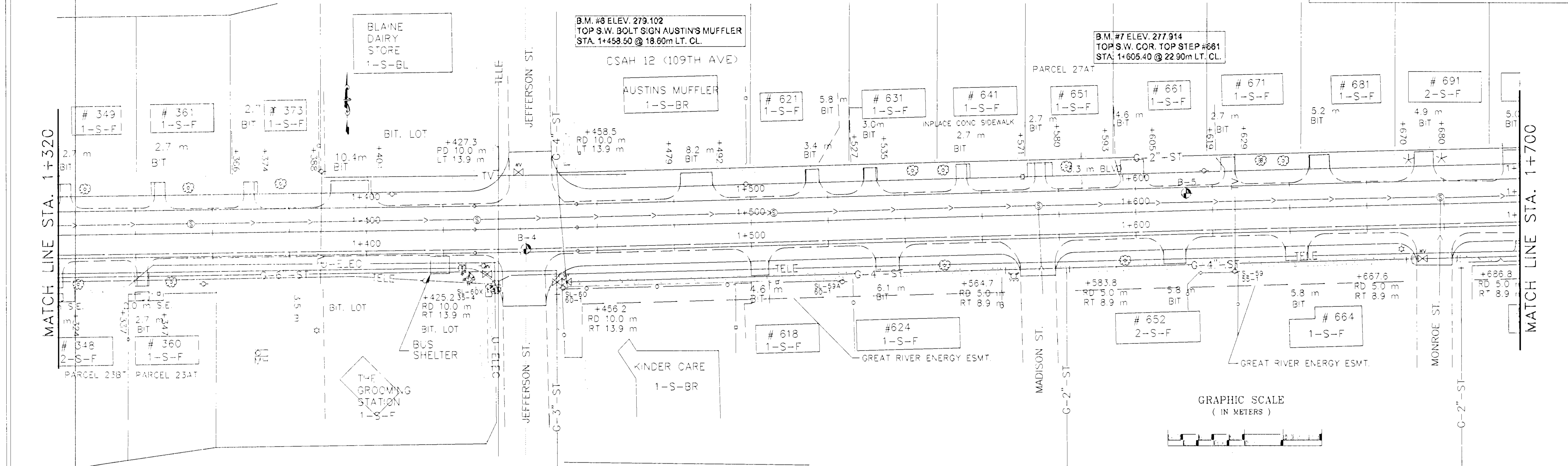
HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

DATE 04-07-99 REG. NO. 25066



**ANOKA COUNTY**  
HIGHWAY DEPT.

STATE AID PROJECT NO. 02-612-08  
STATE AID PROJECT NO. 106-020-14  
STATE AID PROJECT NO. 106-117-04  
COUNTY PROJECT NO.



NO.	DATE	BY	APP'D	REVISION

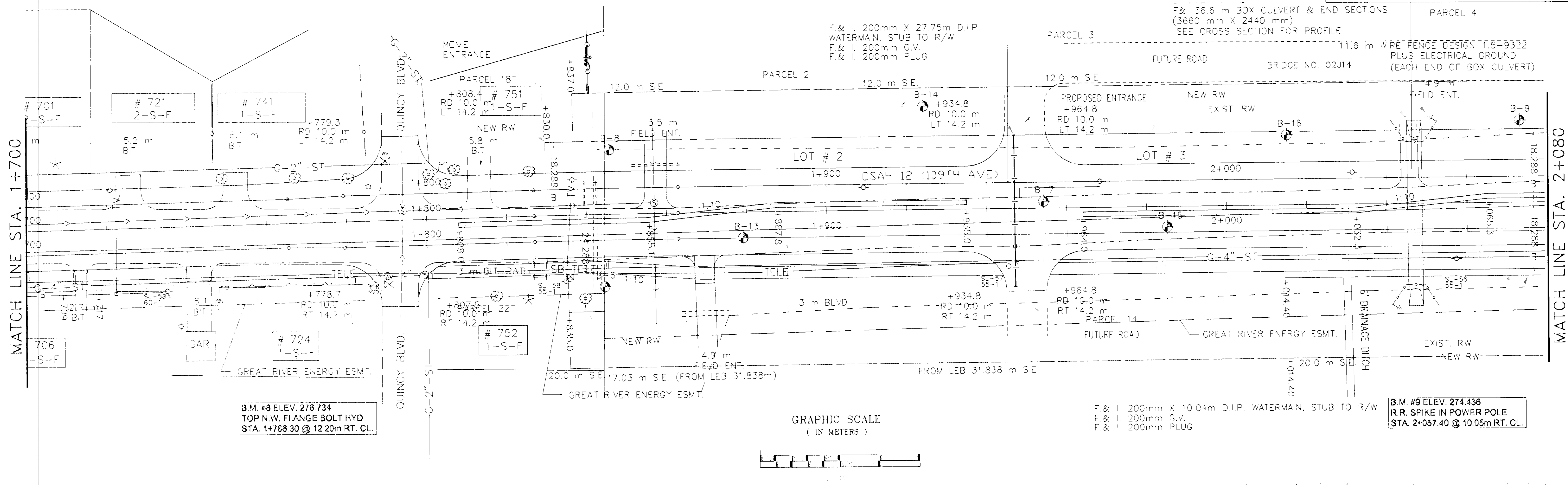
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DRAWN BY	MN	DATE	04-07-99
DESIGN BY	KGJ	DATE	04-07-99
CHECKED BY	LR	DATE	04-07-99

STATE AID PROJECT NO.	02-612-08
STATE AID PROJECT NO.	106-020-14
STATE AID PROJECT NO.	106-117-04
COUNTY PROJECT NO.	

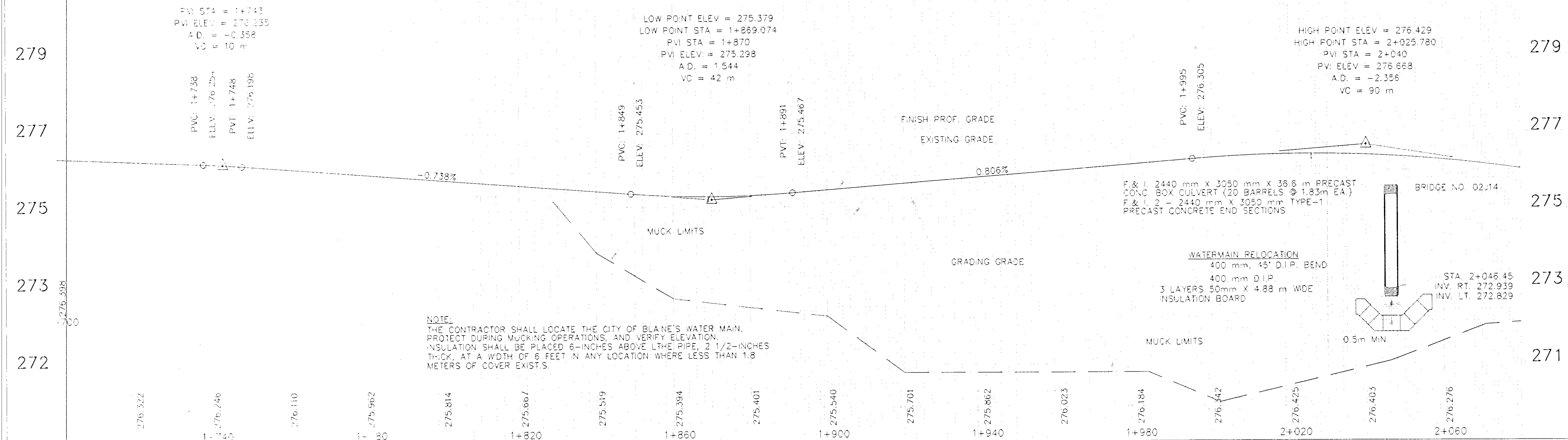
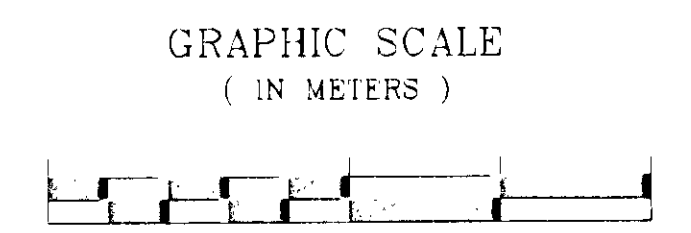
ANOKA COUNTY HIGHWAY DEPT.	PLAN AND PROFILE
	STA 1+320.00 TO 1+700.00
	Sheet 23 of 94 Sheets



B.M. #8 ELEV. 276.734  
TOP N.W. FLANGE BOLT HYD  
STA. 1+786.30 @ 12.20m RT. CL.

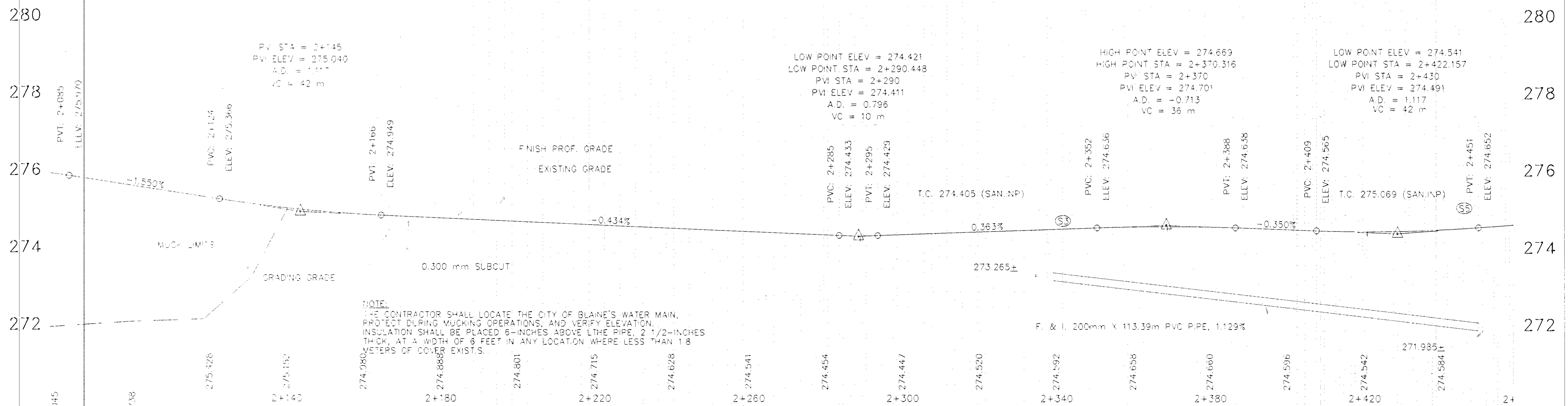
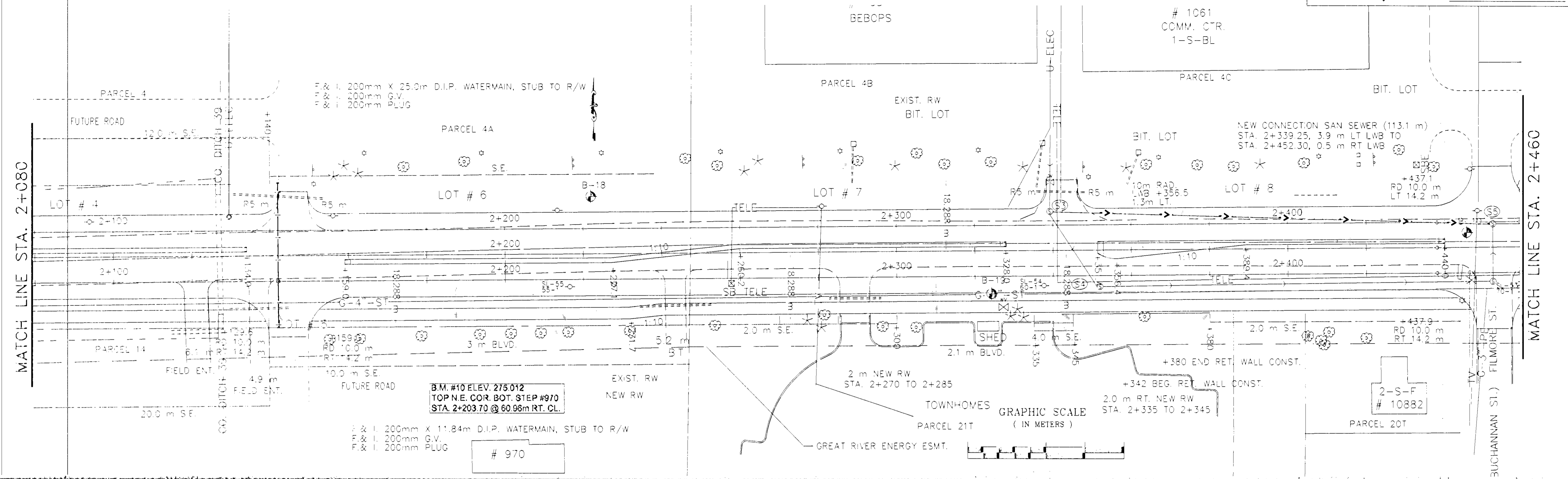
F. & I. 200mm X 10.04m D.I.P. WATERMAIN, STUB TO R/W  
F. & I. 200mm G.V.  
F. & I. 200mm PLUG

B.M. #9 ELEV. 274.436  
R.R. SPIKE IN POWER POLE  
STA. 2+057.40 @ 10.05m RT. CL.



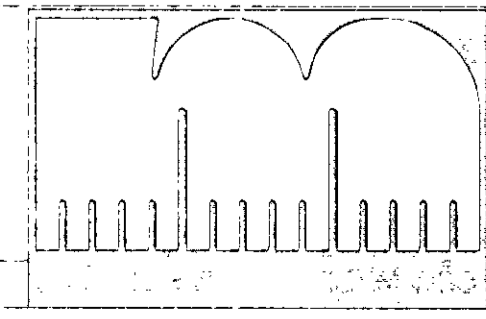
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.					DATE 04-07-99 REG. NO. 25066		ANOKA COUNTY HIGHWAY DEPT.	STATE AID PROJECT NO. 02-612-08	PLAN AND PROFILE STA 1+700.00 TO 2+080.00 Sheet 24 of 94 Sheets
NO.	DATE	BY	CHKD	APPR	REVISION	CHECKED BY LR DATE 04-07-99		STATE AID PROJECT NO. 106-020-14 STATE AID PROJECT NO. 106-117-04 COUNTY PROJECT NO.	





**NOTE:**  
 THE CONTRACTOR SHALL LOCATE THE CITY OF BLAINE'S WATER MAIN, PROTECT DURING MUCKING OPERATIONS, AND VERIFY ELEVATION. INSULATION SHALL BE PLACED 6-INCHES ABOVE THE PIPE, 2 1/2-INCHES THICK, AT A WIDTH OF 6 FEET IN ANY LOCATION WHERE LESS THAN 18 METERS OF COVER EXISTS.

NO.	DATE	BY	APP'D	REVISION



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DATE 04-07-99 REG. NO. 25066

DRAWN BY: MN DATE 04-07-99  
 DESIGN BY: KGJ DATE 04-07-99  
 CHECKED BY: LR DATE 04-07-99

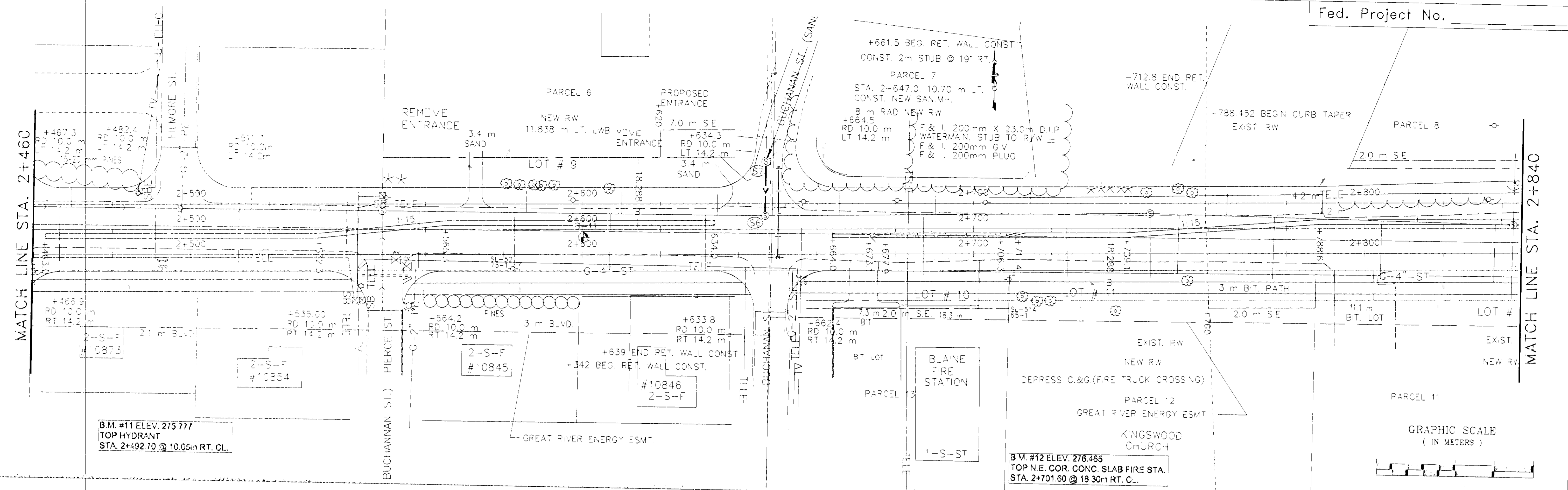
**ANOKA COUNTY HIGHWAY DEPT.**

STATE AID PROJECT NO. 02--612-08  
 STATE AID PROJECT NO. 106-020-14  
 STATE AID PROJECT NO. 106-117-04  
 COUNTY PROJECT NO. \_\_\_\_\_

**PLAN AND PROFILE**  
 STA 2+080.00 TO 2+460.00  
 Sheet 25 of 94 Sheets

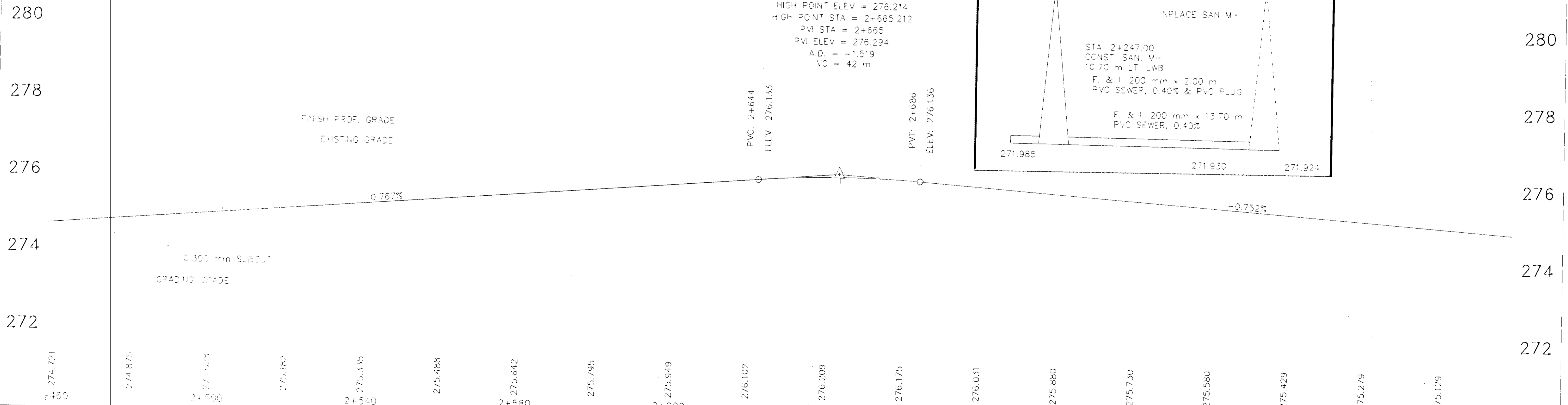
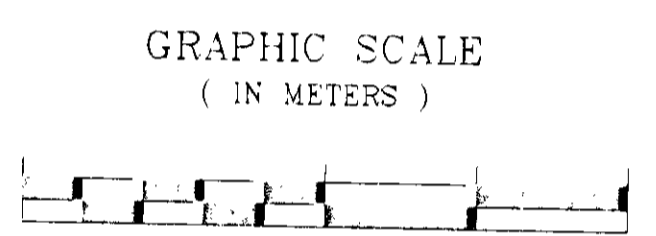
MATCH LINE STA. 2+460

MATCH LINE STA. 2+840

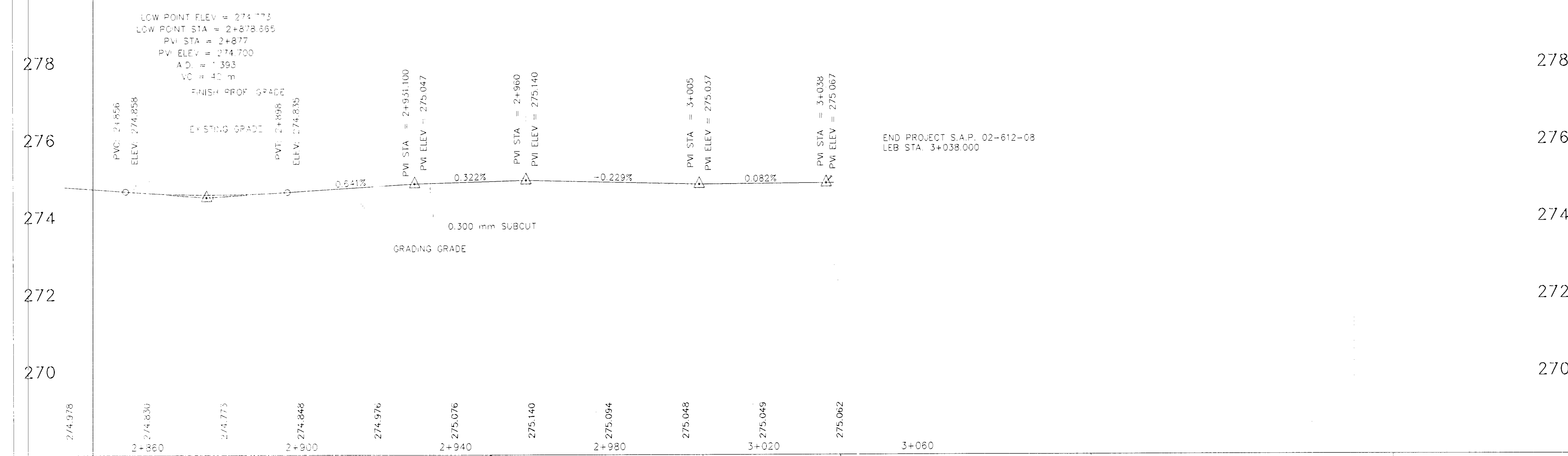
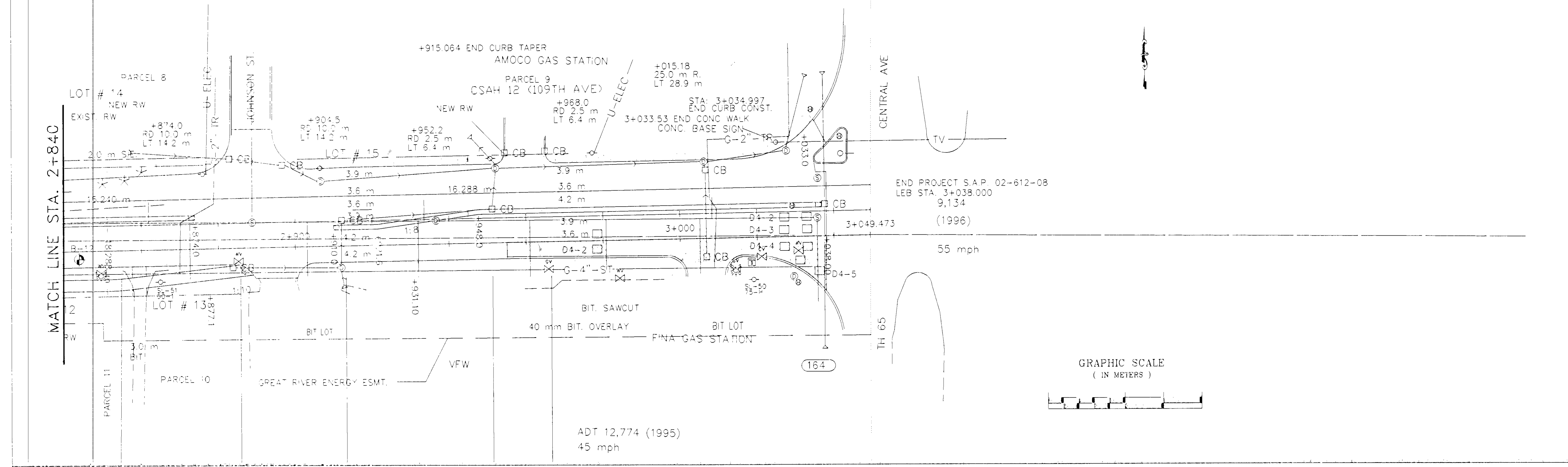


B.M. #11 ELEV. 275.777  
TOP HYDRANT  
STA. 2+492.70 @ 10.05m RT. CL.

B.M. #12 ELEV. 276.465  
TOP N.E. COR. CONC. SLAB FIRE STA.  
STA. 2+701.60 @ 18.30m RT. CL.



<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%;">NO.</th> <th style="width: 10%;">DATE</th> <th style="width: 10%;">BY</th> <th style="width: 10%;">APP.</th> <th style="width: 10%;">REVISION</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	NO.	DATE	BY	APP.	REVISION							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 04-07-99 REG. NO. 25066	DRAWN BY: VH DATE 04-07-99 DESIGN BY: KGJ DATE 04-07-99 CHECKED BY: LR DATE 04-07-99	<p><b>ANOKA COUNTY HIGHWAY DEPT.</b></p>	STATE AID PROJECT NO. 02-612-08 STATE AID PROJECT NO. 106-020-14 STATE AID PROJECT NO. 106-117-04 COUNTY PROJECT NO.	<p><b>PLAN AND PROFILE</b> STA 2+460.00 TO 2+840.00</p> <p>Sheet 26 of 94 Sheets</p>
NO.	DATE	BY	APP.	REVISION												



NO	DATE	BY	CHKD	APPR	REVISION

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 04-07-99 REG. NO. 25066

DRAWN BY: MN DATE 04-07-99  
 DESIGN BY: KGJ DATE 04-07-99  
 CHECKED BY: LR DATE 04-07-99



**ANOKA COUNTY  
 HIGHWAY DEPT.**

STATE AID PROJECT NO. 02-612-08  
 STATE AID PROJECT NO. 106-020-14  
 STATE AID PROJECT NO. 106-117-04  
 COUNTY PROJECT NO.

**PLAN AND PROFILE**  
 STA 2+840.00 TO 3+100.00  
 Sheet 27 of 94 Sheets

DRAINAGE TABULATION

Table with columns: STRUCT NO, STATION, LOCATION, MH OR CB, STRUCT DESIGN, PAY HEIGHT, CENTER CASTING ELEVATION, LOW STRUCTURE ELEVATION, DRAINS TO STRUCT, PIPE SLOPE %, F&I CAST ASSY, 300MM RCP M, 375MM RCP M, 450MM RCP M, 600MM RCP M, 760MM RCP M, 900MM RCP M, 1050MM RCP M, 1200MM RCP M, 1350MM RCP M, 500MM SPAN RCP ARCH M, 725MM SPAN RCP ARCH M, 920MM SPAN RCP ARCH M, 1110MM SPAN RCP ARCH M, RCP APRON DIAM. MM, GROUDED RIPRAP M2, 100MM THICK INSULATION M2, CLASS OF PIPE, NOTES.

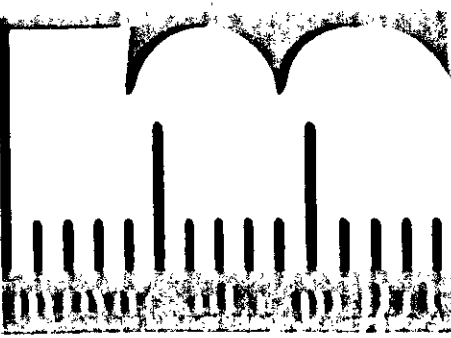
NOTE (1) LOCATIONS AND OFFSETS ARE TO CENTER OF CASTING FOR ALL CATCH BASINS AND TO CENTER OF STRUCTURE FOR ALL MANHOLE. (2) IF PIPE ELEVATIONS DICTATE CONC SECTION CAN NOT BE CONSTRUCTED PER MNDOT PLATE 4005 F OR 4010H THE STRUCTURE SHALL BE CONSTRUCTED PER MNDOT PLATE 4020 G. (3) PROPOSED MANHOLE BUILD MAY NOT ALLOW FOR PRECAST CONSTRUCTION.

CASTING NOTES: TYPE A: MNDOT PLATE 4126F, 4146G AND 4101F TYPE B: SPECIAL-1, SPECIAL-2 TYPE C: MNDOT PLATE 4101D AND 4110F TYPE D: MNDOT PLATE 4101D AND 4146G (NO 720-CORR/EX GRATE)

PLOT DATE: Apr 01, 1999 9:44am DISK FILE NAME: (14.01) R:\33528\33528011\PP110458\109-tcb1.dwg

Table with columns: NO, DATE, BY, CKO, APPR. Rows: 4 (3-31-99), 3 (2-12-99), 2 (12-17-98), 1 (10-18-93).

MODIFICATIONS PER COUNTY REQUEST MODIFICATIONS PER COUNTY REQUEST MODIFICATIONS PER COUNTY REQUEST MODIFICATIONS PER COUNTY REQUEST MODIFICATIONS PER COUNTY REQUEST MODIFICATIONS PER COUNTY REQUEST MODIFICATIONS PER COUNTY REQUEST



I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A FULLY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. Ken P. Smith DATE 3/23/99 REG. NO. 23211

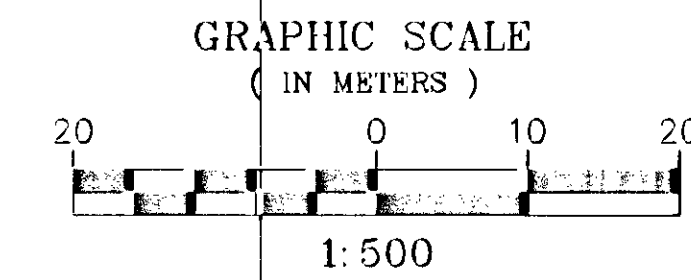
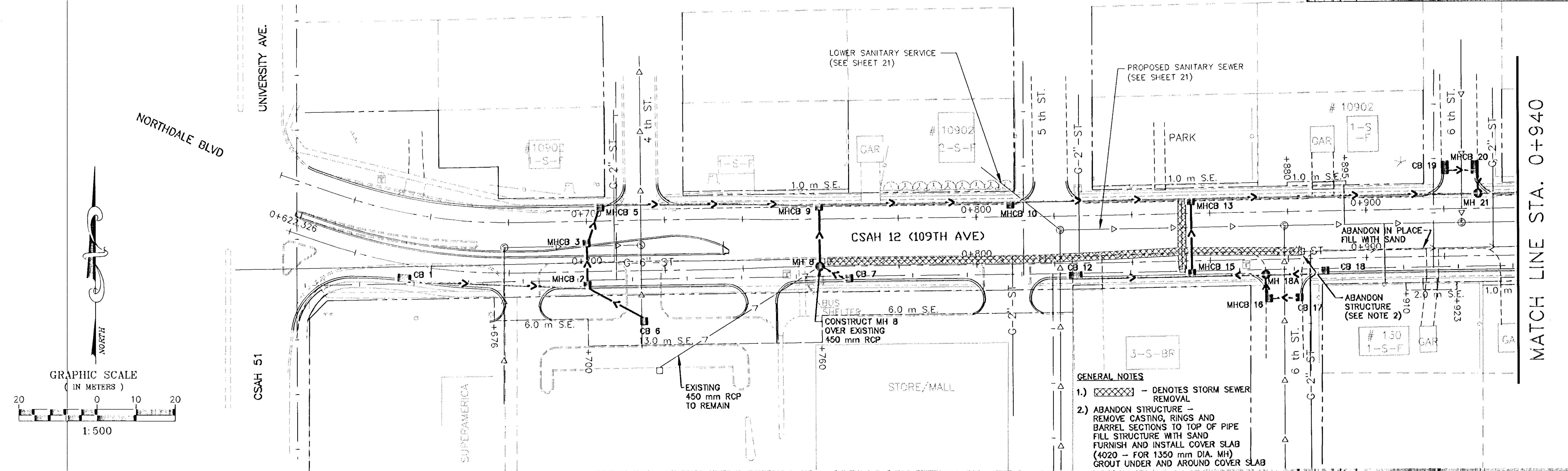
DRAWN BY: FF DESIGN BY: SAM CHECKED BY: KFK

BRW logo and address: BRW, 720 THIRD STREET SOUTH, MINNEAPOLIS, MN 55415, (612)370-0700 (FAX) (612)370-1378 (EXT)

STATE AID PROJECT NO. 02-612-08 STATE AID PROJECT NO. 106-020-14 STATE AID PROJECT NO. 106-117-04 COUNTY PROJECT NO.

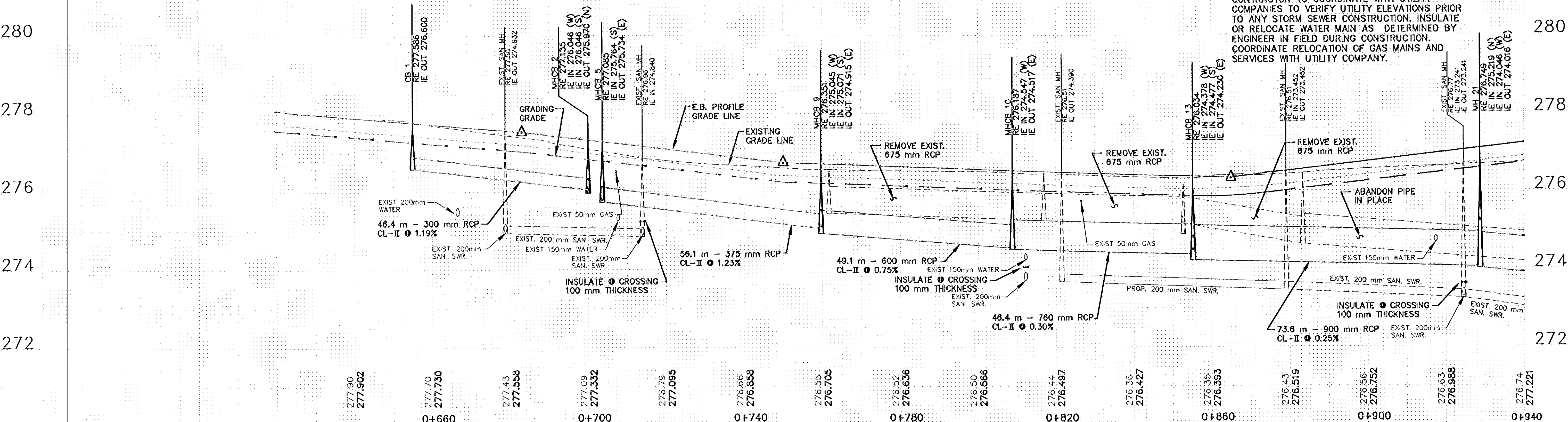
STORM SEWER TABULATIONS Sheet 28 of 24 Sheets





- GENERAL NOTES**
- 1.) [Symbol] - DENOTES STORM SEWER REMOVAL
  - 2.) ABANDON STRUCTURE - REMOVE CASTING, RINGS AND BARREL SECTIONS TO TOP OF PIPE. FILL STRUCTURE WITH SAND, FURNISH AND INSTALL COVER SLAB (4020 - FOR 1350 mm DIA. MH) GROUT UNDER AND AROUND COVER SLAB

**NOTES:**  
 WATER MAIN SHOWN AT ASSUMED 2.3m COVER.  
 GAS MAIN SHOWN AT ASSUMED 0.76m COVER.  
 CONTRACTOR TO COORDINATE WITH UTILITY COMPANIES TO VERIFY UTILITY ELEVATIONS PRIOR TO ANY STORM SEWER CONSTRUCTION. INSULATE OR RELOCATE WATER MAIN AS DETERMINED BY ENGINEER IN FIELD DURING CONSTRUCTION. COORDINATE RELOCATION OF GAS MAINS AND SERVICES WITH UTILITY COMPANY.



4	3-31-99				MODIFICATIONS PER COUNTY REQUEST
3	2-15-99				MODIFICATIONS PER COUNTY REQUEST
2	12-17-98				MODIFICATIONS PER COUNTY STAGING
1	10-16-98				PLAN
					MODIFICATIONS PER COUNTY REQUEST
NO	DATE	BY	CKD	APPR	REVISION



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.  
*Ken P. J...*  
 DATE 3/19/99 REG. NO. 23211

DRAWN BY PF  
 DESIGN BY SAW  
 CHECKED BY KPK

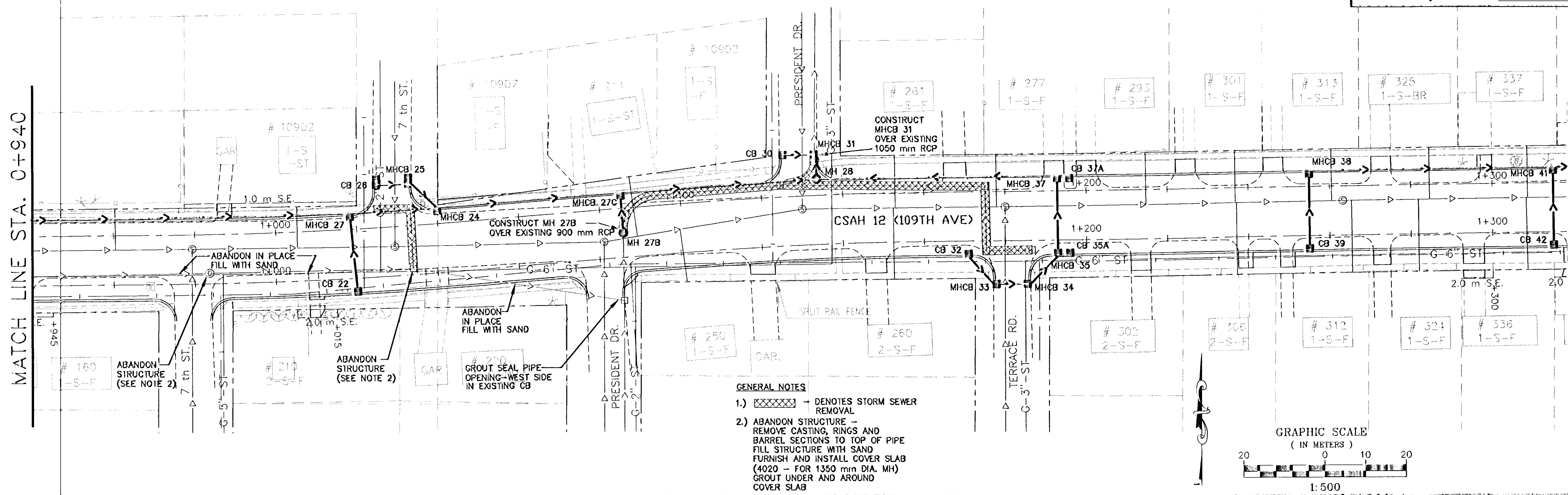
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 STATE AID PROJECT NO. 106-020-14  
 STATE AID PROJECT NO. 106-117-04  
 COUNTY PROJECT NO. \_\_\_\_\_

**DRAINAGE PLAN AND PROFILE**  
 STA 0+640 TO 0+940  
 Sheet 30 of 94 Sheets

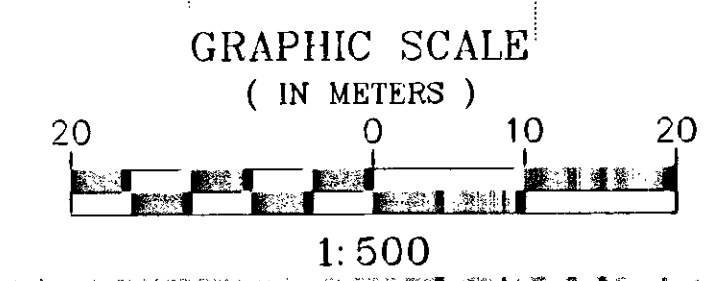
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MATCH LINE STA. 0+940

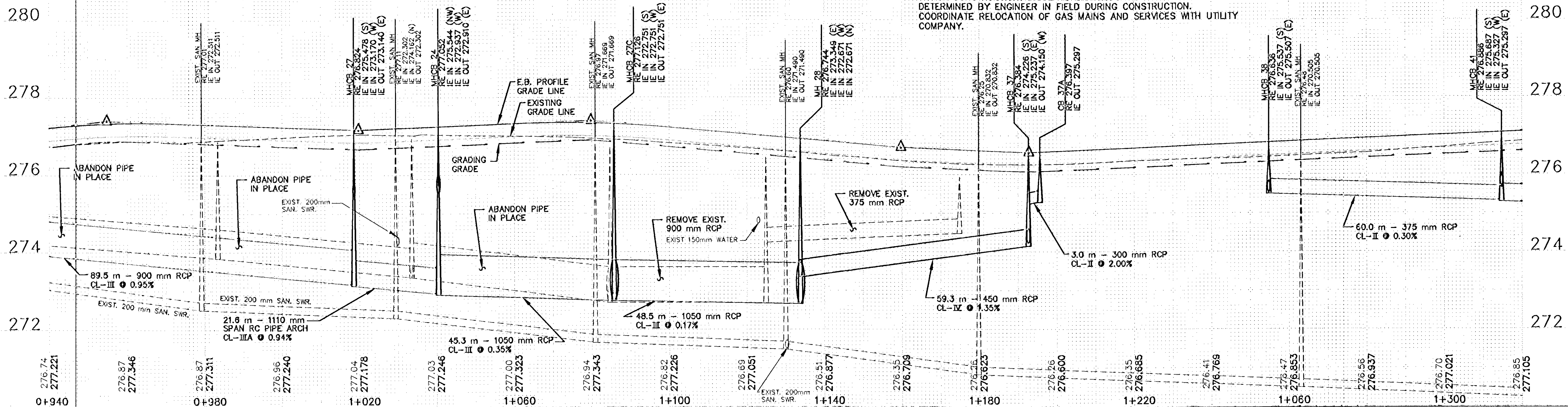
MATCH LINE STA. 1+320



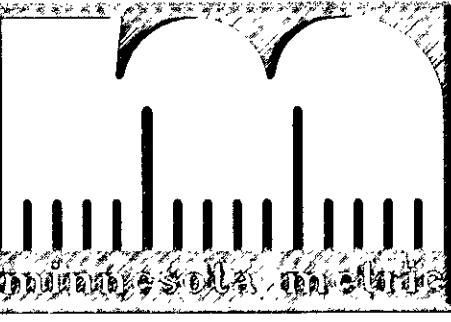
- GENERAL NOTES**
- 1.) [Symbol] - DENOTES STORM SEWER REMOVAL
  - 2.) ABANDON STRUCTURE - REMOVE CASTING, RINGS AND BARREL SECTIONS TO TOP OF PIPE. FILL STRUCTURE WITH SAND. FURNISH AND INSTALL COVER SLAB (4020 - FOR 1350 mm DIA. MH). GROUT UNDER AND AROUND COVER SLAB.



**NOTES:**  
 WATER MAIN SHOWN AT ASSUMED 2.3m COVER. GAS MAIN SHOWN AT ASSUMED 0.76m COVER. CONTRACTOR TO COORDINATE WITH UTILITY COMPANIES TO VERIFY UTILITY ELEVATIONS PRIOR TO ANY STORM SEWER CONSTRUCTION. INSULATE OR RELOCATE WATER MAIN AS DETERMINED BY ENGINEER IN FIELD DURING CONSTRUCTION. COORDINATE RELOCATION OF GAS MAINS AND SERVICES WITH UTILITY COMPANY.



NO	DATE	BY	CKD	APPR	REVISION
4	3-31-99				MODIFICATIONS PER COUNTY REQUEST
3	2-15-99				MODIFICATIONS PER COUNTY REQUEST
2	12-17-98				MODIFICATIONS PER COUNTY STAGING PLAN
1	10-16-98				MODIFICATIONS PER COUNTY REQUEST



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.  
 Kevin P. Stein  
 DATE 3/19/99 REG. NO. 23211

DRAWN BY: PF  
 DESIGN BY: SAW  
 CHECKED BY: KFK

**BRW**  
 A DAMES & MOORE GROUP COMPANY  
 THRESHER SQUARE  
 700 THIRD STREET SOUTH  
 MINNEAPOLIS, MN 55415  
 (612)370-0700 (TEL)  
 (612)370-1378 (FAX)

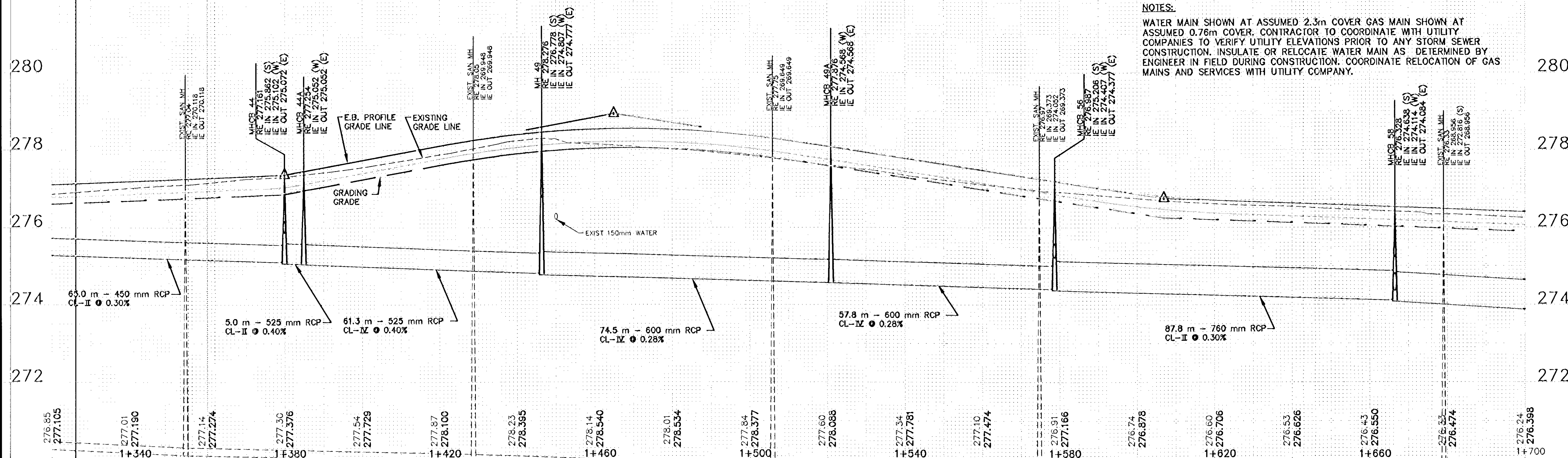
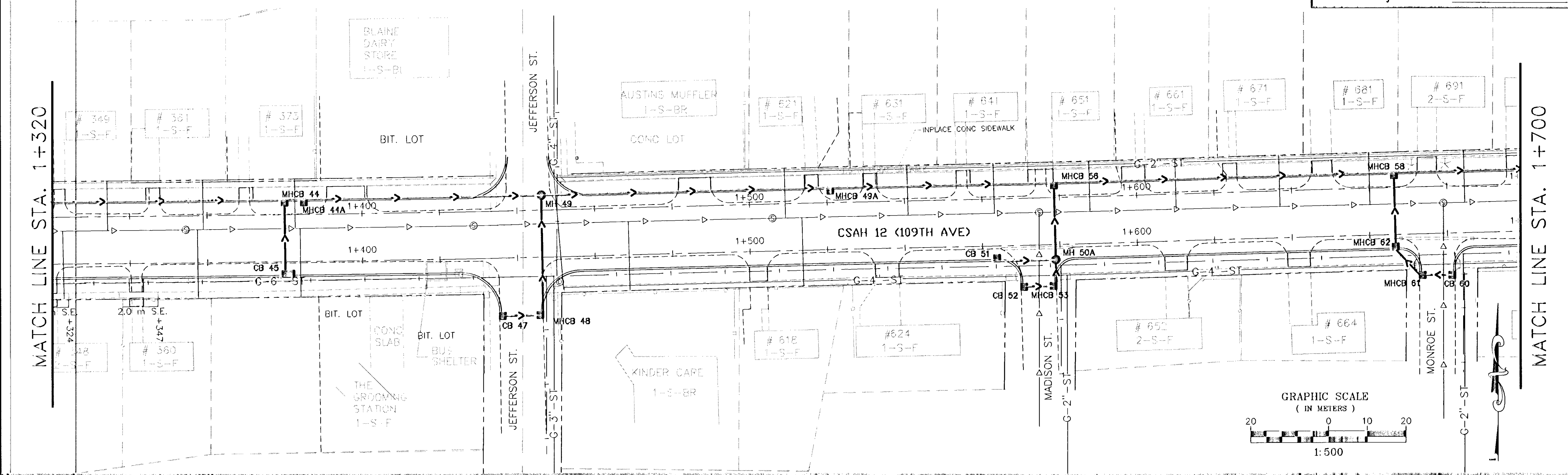
STATE AID PROJECT NO. 02-612-08  
 STATE AID PROJECT NO. 106-020-14  
 STATE AID PROJECT NO. 106-117-04  
 COUNTY PROJECT NO. \_\_\_\_\_

**DRAINAGE PLAN AND PROFILE**  
 STA 0+940 TO 1+320  
 Sheet 31 of 94 Sheets

PLOT DATE: Jun 08, 1999 6:43am DISK FILE NAME: (14.01) R:\33928\33928011\PP110498\109-stm2.dwg

MATCH LINE STA. 1+320

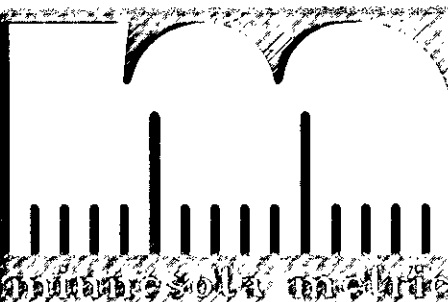
MATCH LINE STA. 1+700



**NOTES:**  
 WATER MAIN SHOWN AT ASSUMED 2.3m COVER GAS MAIN SHOWN AT ASSUMED 0.76m COVER. CONTRACTOR TO COORDINATE WITH UTILITY COMPANIES TO VERIFY UTILITY ELEVATIONS PRIOR TO ANY STORM SEWER CONSTRUCTION. INSULATE OR RELOCATE WATER MAIN AS DETERMINED BY ENGINEER IN FIELD DURING CONSTRUCTION. COORDINATE RELOCATION OF GAS MAINS AND SERVICES WITH UTILITY COMPANY.

4	3-31-99				MODIFICATIONS PER COUNTY REQUEST
3	2-15-99				MODIFICATIONS PER COUNTY REQUEST
2	12-17-98				MODIFICATIONS PER COUNTY STAGING
					PLAN
1	10-16-98				MODIFICATIONS PER COUNTY REQUEST
NO	DATE	BY	CKD	APPR	REVISION

NO	DATE	BY	CKD	APPR	REVISION
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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.  
 Kevin P. Ryan  
 DATE 3/19/99 REG. NO. 23211

DRAWN BY: PF  
 DESIGN BY: SAW  
 CHECKED BY: KPK

STATE AID PROJECT NO. 02-612-08  
 STATE AID PROJECT NO. 106-020-14  
 STATE AID PROJECT NO. 106-117-04  
 COUNTY PROJECT NO. \_\_\_\_\_

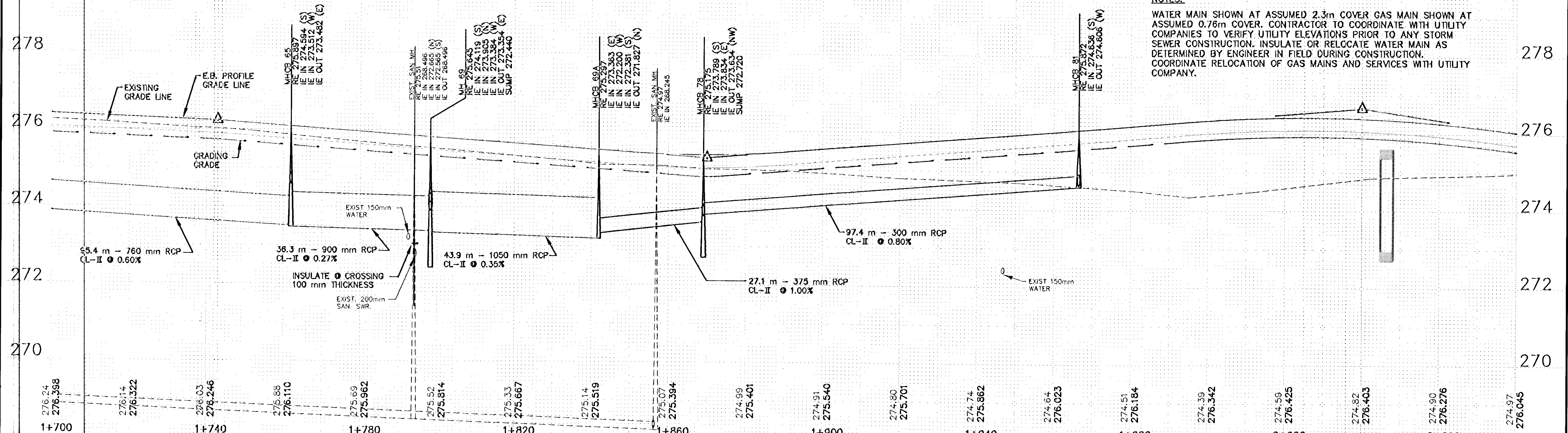
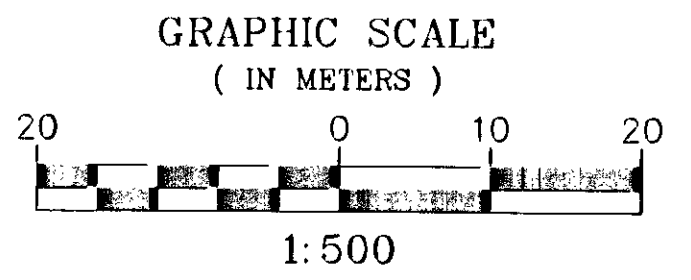
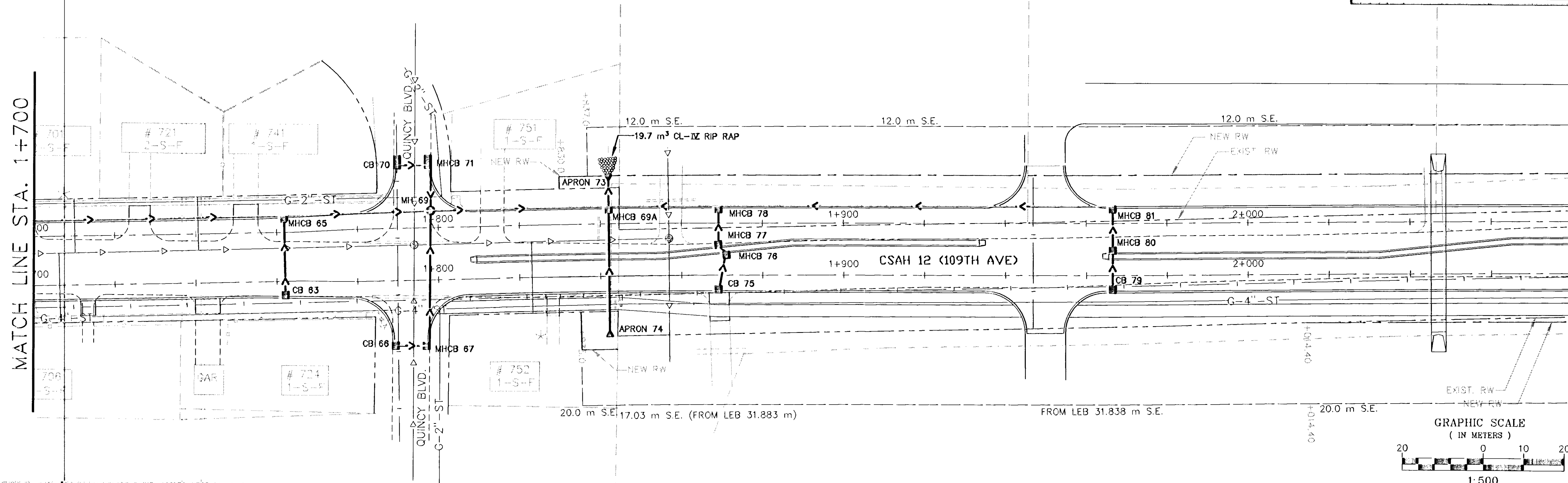
**DRAINAGE PLAN AND PROFILE**  
 STA 1+320 TO 1+700  
 Sheet 32 of 94 Sheets

PLOT DATE: Feb 08, 1999 3:57pm DISK FILE NAME: (14.01) R:\33928\33928011\PP110498\109-STM3.DWG



MATCH LINE STA. 1+700

MATCH LINE STA. 2+080



NOTES:  
WATER MAIN SHOWN AT ASSUMED 2.3m COVER GAS MAIN SHOWN AT ASSUMED 0.76m COVER. CONTRACTOR TO COORDINATE WITH UTILITY COMPANIES TO VERIFY UTILITY ELEVATIONS PRIOR TO ANY STORM SEWER CONSTRUCTION. INSULATE OR RELOCATE WATER MAIN AS DETERMINED BY ENGINEER IN FIELD DURING CONSTRUCTION. COORDINATE RELOCATION OF GAS MAINS AND SERVICES WITH UTILITY COMPANY.

NO	DATE	BY	CKD	APPR	REVISION
4	3-31-99				MODIFICATIONS PER COUNTY REQUEST
3	2-15-99				MODIFICATIONS PER COUNTY REQUEST
2	12-17-98				MODIFICATIONS PER COUNTY STAGING
1	10-16-98				MODIFICATIONS PER COUNTY REQUEST

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.  
*Kevin P. Hill*  
DATE 3/12/99 REG. NO. 23211

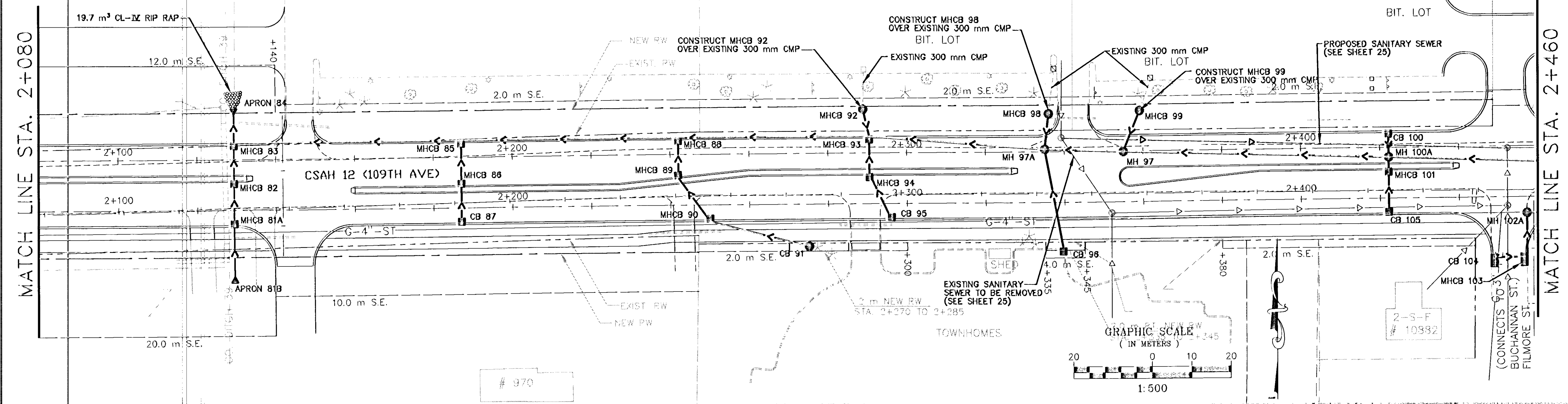
DRAWN BY: PF  
DESIGN BY: SAW  
CHECKED BY: KPK



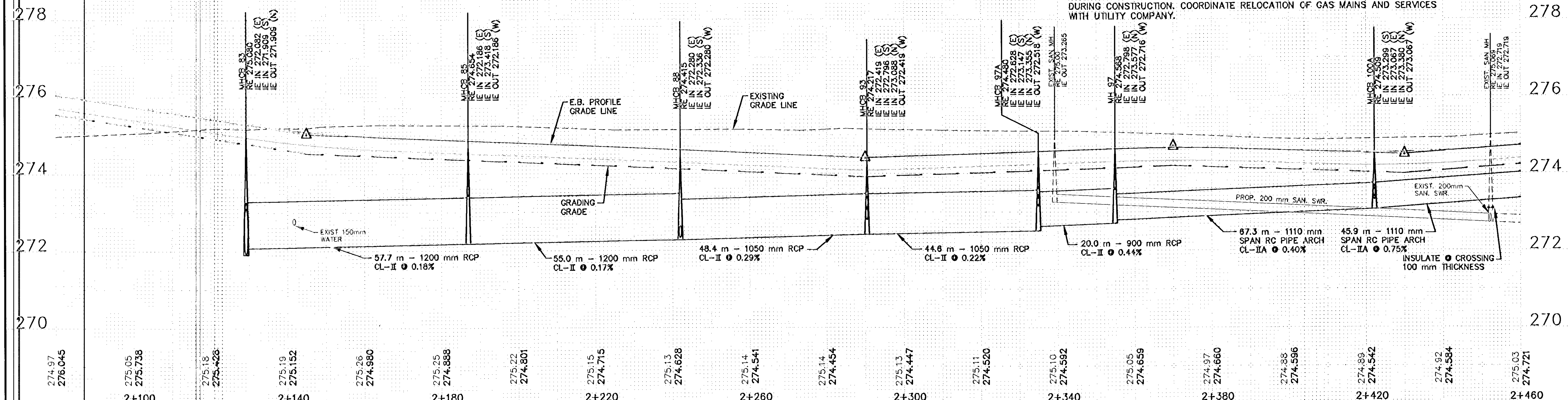
STATE AID PROJECT NO. 02-612-08  
STATE AID PROJECT NO. 106-020-14  
STATE AID PROJECT NO. 106-117-04  
COUNTY PROJECT NO. \_\_\_\_\_

**DRAINAGE PLAN AND PROFILE**  
STA 1+700 TO 2+080  
Sheet 33 of 94 Sheets

PLOT DATE: Feb 08, 1999 3:58pm DISK FILE NAME: (14.01) R:\33928\33928011\PP110498\109-STM4.DWG



**NOTES:**  
 WATER MAIN SHOWN AT ASSUMED 2.3m COVER GAS MAIN SHOWN AT ASSUMED 0.76m COVER. CONTRACTOR TO COORDINATE WITH UTILITY COMPANIES TO VERIFY UTILITY ELEVATIONS PRIOR TO ANY STORM SEWER CONSTRUCTION. INSULATE OR RELOCATE WATER MAIN AS DETERMINED BY ENGINEER IN FIELD DURING CONSTRUCTION. COORDINATE RELOCATION OF GAS MAINS AND SERVICES WITH UTILITY COMPANY.



NO	DATE	BY	CKD	APPR	REVISION
4	3-31-99				MODIFICATIONS PER COUNTY REQUEST
3	2-15-99				MODIFICATIONS PER COUNTY REQUEST
2	12-17-98				MODIFICATIONS PER COUNTY STAGING PLAN
1	10-16-98				MODIFICATIONS PER COUNTY REQUEST

274.97 276.045	275.05 275.738	275.18 275.426	275.19 275.152	275.26 274.980	275.25 274.888	275.22 274.801	275.15 274.715	275.13 274.628	275.14 274.541	275.14 274.454	275.13 274.447	275.11 274.520	275.10 274.582	275.05 274.689	274.97 274.660	274.88 274.586	274.89 274.542	274.92 274.584	275.03 274.721
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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.  
*Kevin P. Kuhl*  
 DATE 3/17/99 REG. NO. 23211

DRAWN BY: PF  
 DESIGN BY: SAW  
 CHECKED BY: KPK

THRESHER SQUARE  
 700 THIRD STREET SOUTH  
 MINNEAPOLIS, MN 55415  
 (612)370-0700 (TEL)  
 (612)370-1378 (FAX)

A DAMES & MOORE GROUP COMPANY

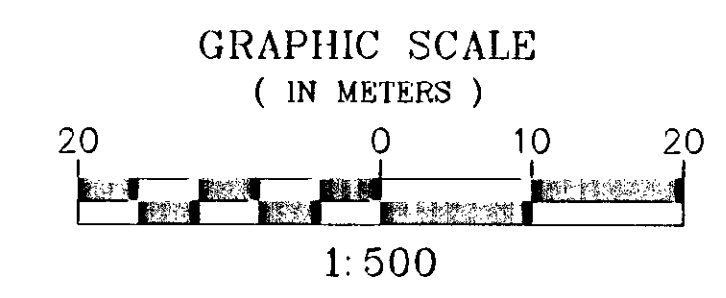
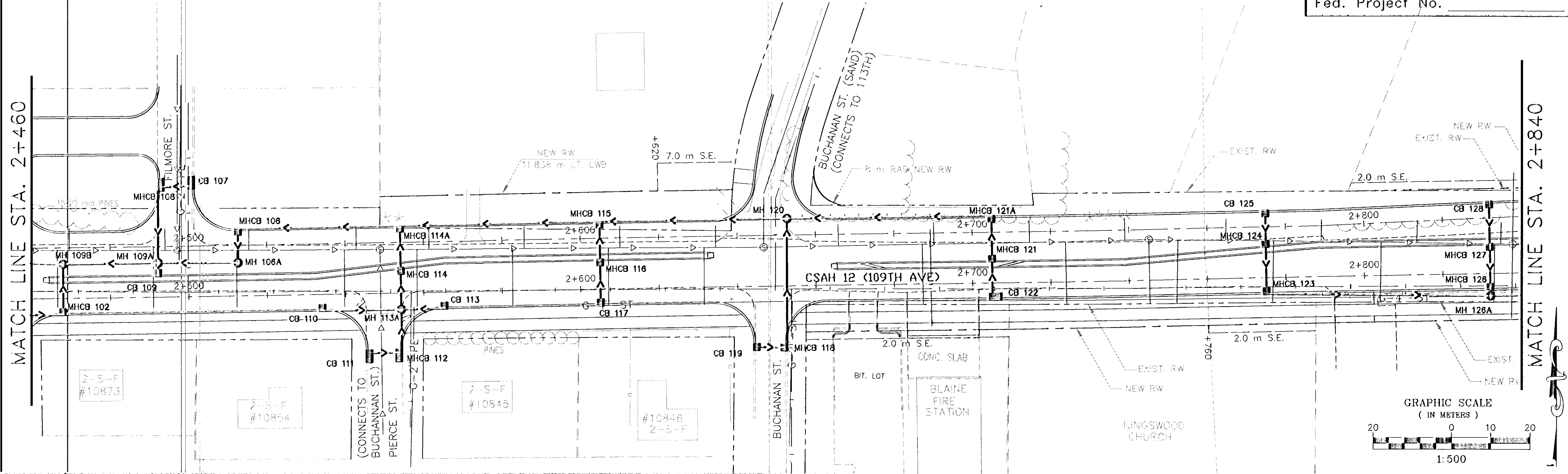
STATE AID PROJECT NO. 02-612-08  
 STATE AID PROJECT NO. 106-020-14  
 STATE AID PROJECT NO. 106-117-04  
 COUNTY PROJECT NO. \_\_\_\_\_

**DRAINAGE PLAN AND PROFILE**  
 STA 2+080 TO 2+460  
 Sheet 34 of 94 Sheets

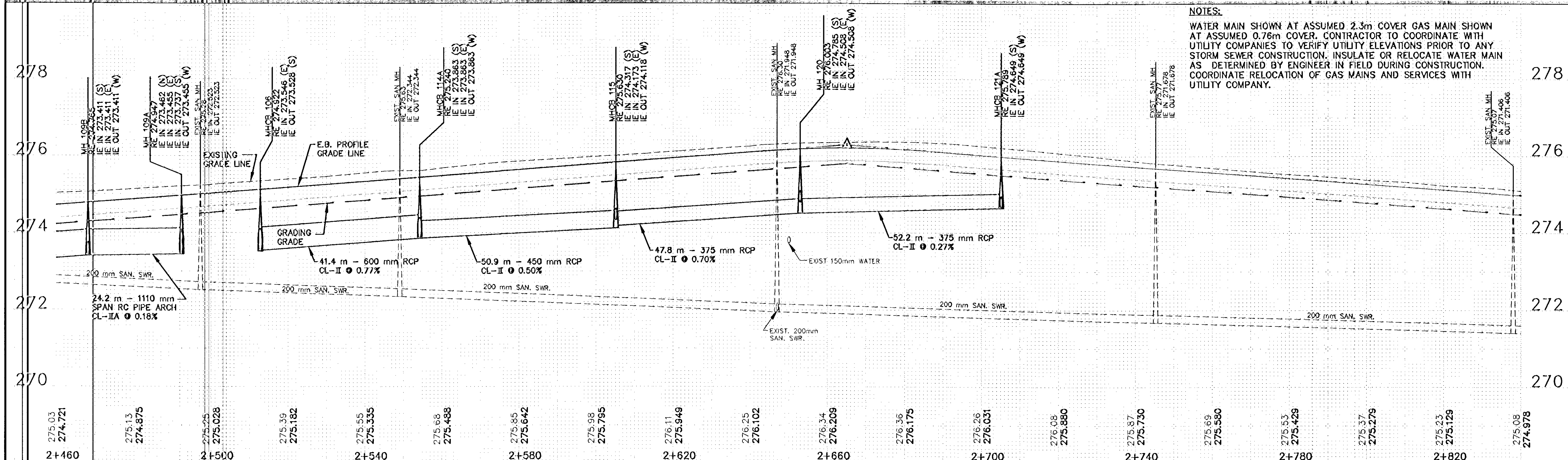
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MATCH LINE STA. 2+460

MATCH LINE STA. 2+840



**NOTES:**  
 WATER MAIN SHOWN AT ASSUMED 2.3m COVER GAS MAIN SHOWN AT ASSUMED 0.76m COVER. CONTRACTOR TO COORDINATE WITH UTILITY COMPANIES TO VERIFY UTILITY ELEVATIONS PRIOR TO ANY STORM SEWER CONSTRUCTION. INSULATE OR RELOCATE WATER MAIN AS DETERMINED BY ENGINEER IN FIELD DURING CONSTRUCTION. COORDINATE RELOCATION OF GAS MAINS AND SERVICES WITH UTILITY COMPANY.



275.03 274.721	275.13 274.875	275.25 275.028	275.39 275.182	275.55 275.335	275.68 275.488	275.85 275.642	275.98 275.795	276.11 275.949	276.25 276.102	276.34 276.209	276.56 276.175	276.76 276.631	276.88 275.880	275.87 275.730	275.69 275.590	275.53 275.429	275.37 275.279	275.23 275.129	275.08 274.978
2+460		2+500		2+540		2+580		2+620		2+660		2+700		2+740		2+780		2+820	

1	3-31-99																		
2	2-15-99																		
3	12-17-98																		
4	10-16-98																		
NO	DATE	BY	CKD	APPR	REVISION														

1	MODIFICATIONS PER COUNTY REQUEST	
2	MODIFICATIONS PER COUNTY REQUEST	
3	MODIFICATIONS PER COUNTY STAGING	
4	PLAN	
5	MODIFICATIONS PER COUNTY REQUEST	

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.  
*Ken Pfeiffer*  
 DATE 3/1/99 REG. NO. 23211

DRAWN BY PF  
 DESIGN BY SAW  
 CHECKED BY KPK

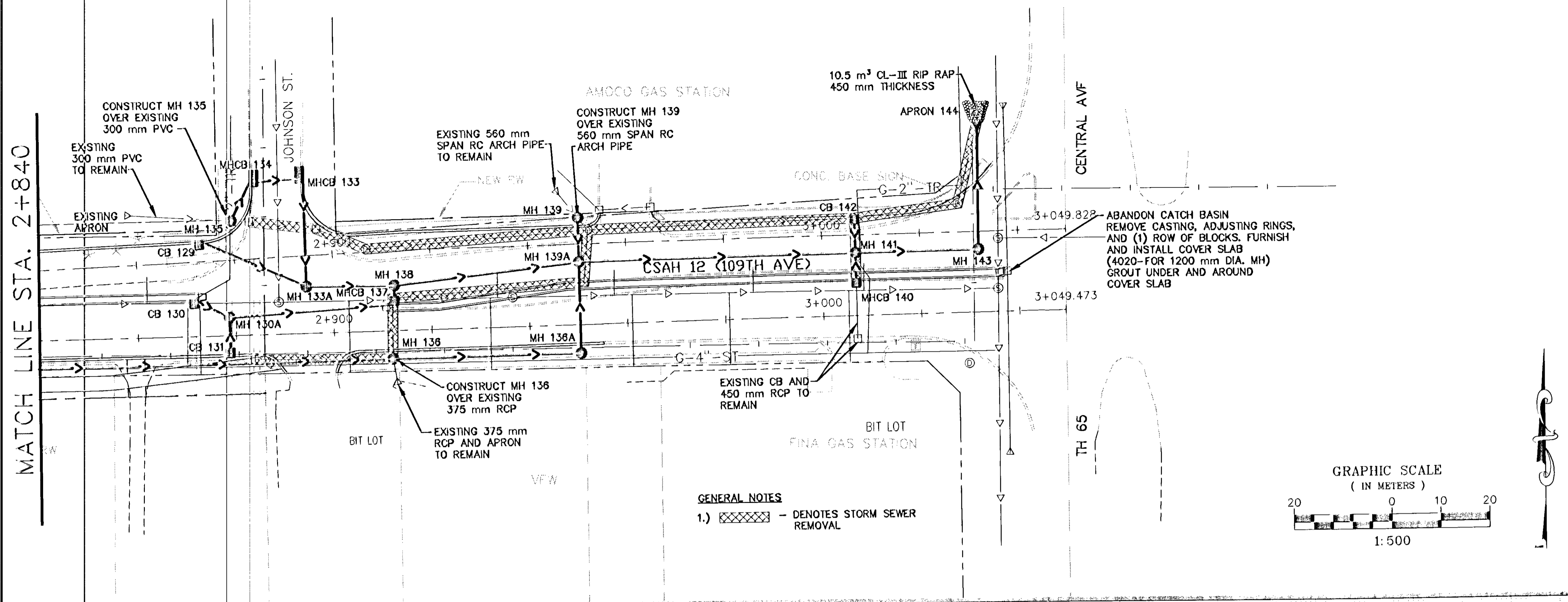
**BRW**  
 A DAMES & MOORE GROUP COMPANY  
 700 THIRD STREET SOUTH  
 MINNEAPOLIS, MN 55415  
 (612)370-0789 (TEL)  
 (612)370-1378 (FAX)

STATE AID PROJECT NO. 02-612-08  
 STATE AID PROJECT NO. 106-020-14  
 STATE AID PROJECT NO. 106-117-04  
 COUNTY PROJECT NO. \_\_\_\_\_

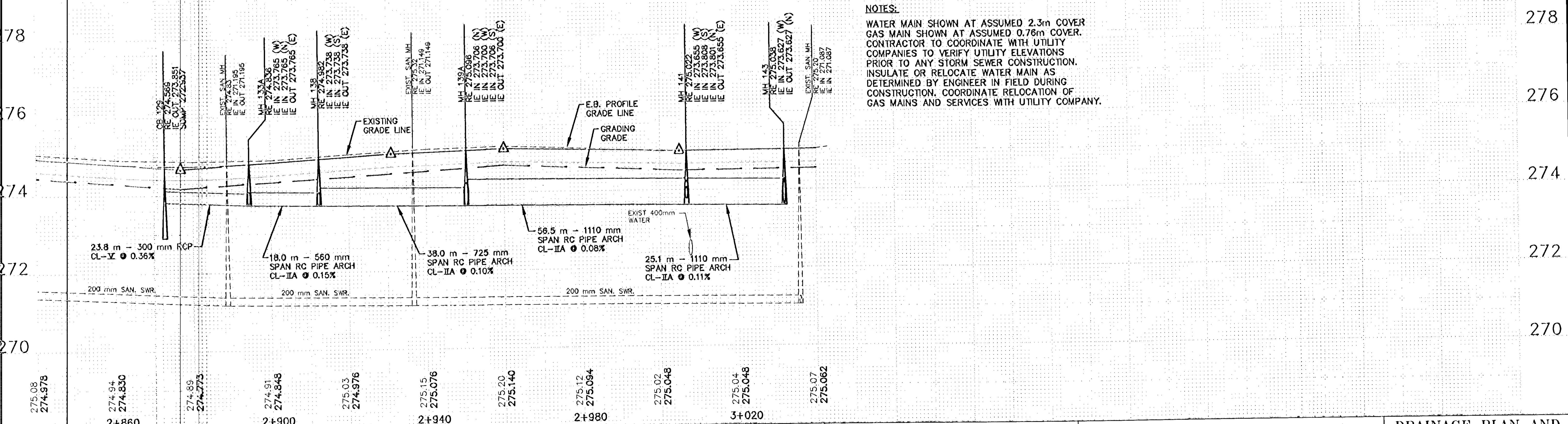
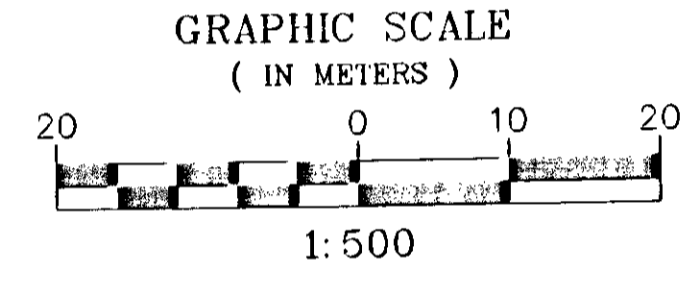
**DRAINAGE PLAN AND PROFILE**  
 STA 2+460 TO 2+840  
 Sheet 35 of 94 Sheets

PLOT DATE: Feb 08, 1999 4:02pm DISK FILE NAME: (14-01) R:\33928\33928011\PP110498\109-STM6.DWG

PLOT DATE: Feb 08, 1999 4:04pm DISK FILE NAME: (14.01) R:\33928\33928011\PP110498\109-STM7.DWG



**GENERAL NOTES**  
 1.) - DENOTES STORM SEWER REMOVAL



**NOTES:**  
 WATER MAIN SHOWN AT ASSUMED 2.3m COVER  
 GAS MAIN SHOWN AT ASSUMED 0.76m COVER.  
 CONTRACTOR TO COORDINATE WITH UTILITY COMPANIES TO VERIFY UTILITY ELEVATIONS PRIOR TO ANY STORM SEWER CONSTRUCTION. INSULATE OR RELOCATE WATER MAIN AS DETERMINED BY ENGINEER IN FIELD DURING CONSTRUCTION. COORDINATE RELOCATION OF GAS MAINS AND SERVICES WITH UTILITY COMPANY.

NO	DATE	BY	CKD	APPR	REVISION
14	3-31-99				MODIFICATIONS PER COUNTY REQUEST
13	2-15-99				MODIFICATIONS PER COUNTY REQUEST
12	12-17-98				MODIFICATIONS PER COUNTY STAGING
11	10-16-98				MODIFICATIONS PER COUNTY REQUEST

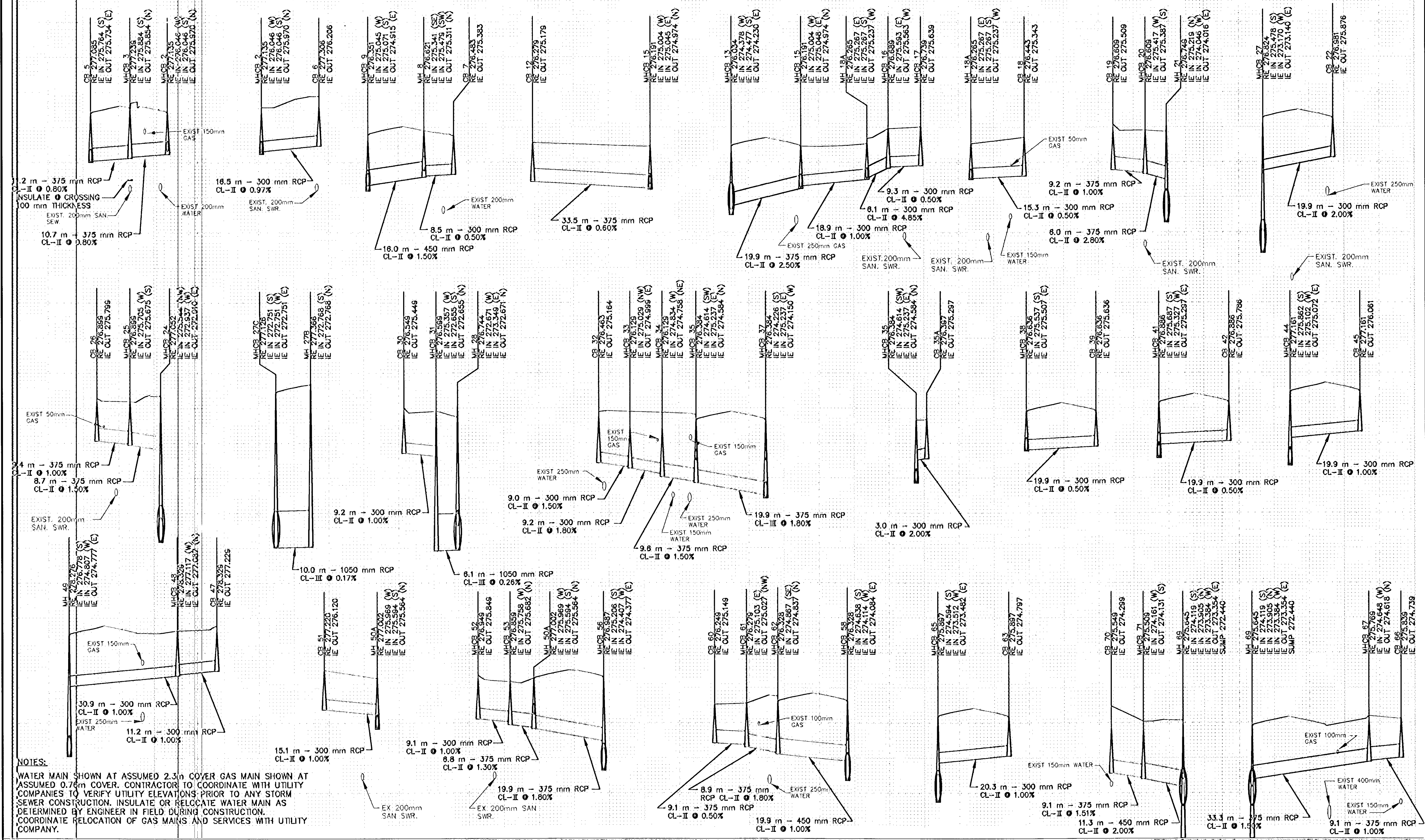
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.  
*Kevin P. Kiefer*  
 DATE 3/13/97 REG. NO. 23211

DRAWN BY: PF  
 DESIGN BY: SAW  
 CHECKED BY: KFK

STATE AID PROJECT NO. 02-612-08  
 STATE AID PROJECT NO. 106-020-14  
 STATE AID PROJECT NO. 106-117-04  
 COUNTY PROJECT NO. \_\_\_\_\_

**DRAINAGE PLAN AND PROFILE**  
 STA 2+840 TO 3+038  
 Sheet 36 of 94 Sheets

PLOT DATE: Feb 08, 1999 4:06pm DISK FILE NAME: (14.01) R:\33928\33928011\PP110498\109-STM8.DWG



NOTES:  
 WATER MAIN SHOWN AT ASSUMED 2.3m COVER GAS MAIN SHOWN AT ASSUMED 0.76m COVER. CONTRACTOR TO COORDINATE WITH UTILITY COMPANIES TO VERIFY UTILITY ELEVATIONS PRIOR TO ANY STORM SEWER CONSTRUCTION. INSULATE OR RELOCATE WATER MAIN AS DETERMINED BY ENGINEER IN FIELD DURING CONSTRUCTION. COORDINATE RELOCATION OF GAS MAINS AND SERVICES WITH UTILITY COMPANY.

3-31-99					MODIFICATIONS PER COUNTY REQUEST
2-15-99					MODIFICATIONS PER COUNTY REQUEST
12-17-98					MODIFICATIONS PER COUNTY STAGING
					PLAN
10-16-98					MODIFICATIONS PER COUNTY REQUEST
NO	DATE	BY	CKD	APPR	REVISION

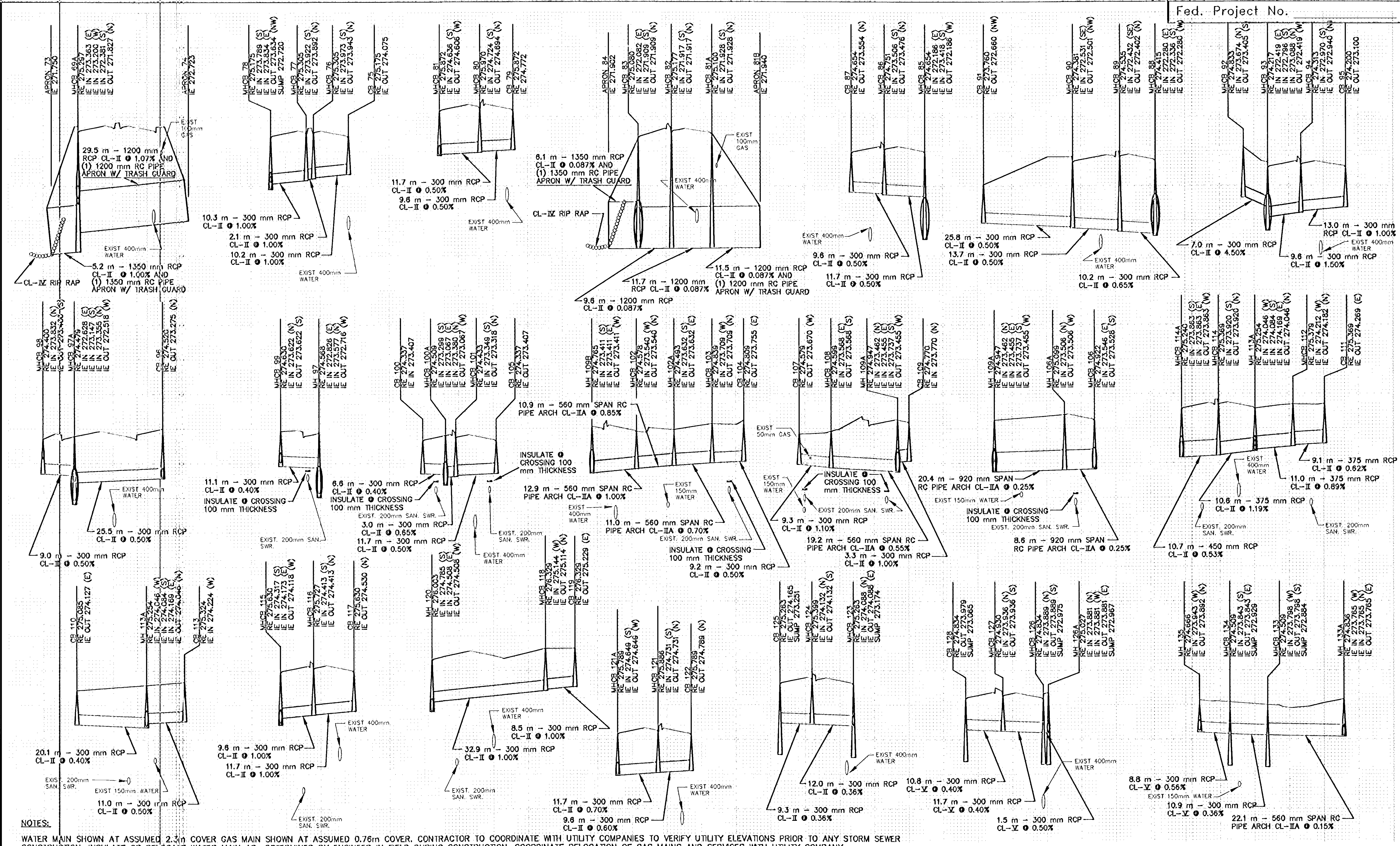
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.  
 Date *3/13/99* REG. NO. 23211

DRAWN BY: PF  
 DESIGN BY: SAW  
 CHECKED BY: KFK

THRESHER SQUARE  
 700 THIRD STREET SOUTH  
 MINNEAPOLIS, MN 55415  
 (612)370-0700 (TEL)  
 (612)370-1378 (FAX)

STATE AID PROJECT NO. 02-612-08  
 STATE AID PROJECT NO. 106-020-14  
 STATE AID PROJECT NO. 106-117-04  
 COUNTY PROJECT NO. \_\_\_\_\_

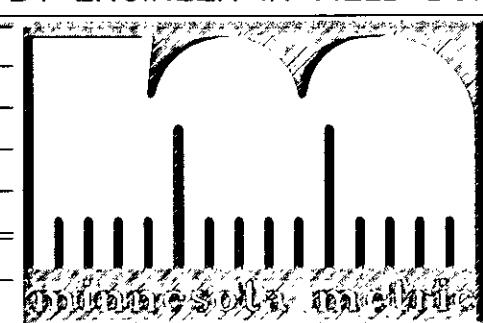
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NOTES:

WATER MAIN SHOWN AT ASSUMED 2.3m COVER GAS MAIN SHOWN AT ASSUMED 0.76m COVER. CONTRACTOR TO COORDINATE WITH UTILITY COMPANIES TO VERIFY UTILITY ELEVATIONS PRIOR TO ANY STORM SEWER CONSTRUCTION. INSULATE OR RELOCATE WATER MAIN AS DETERMINED BY ENGINEER IN FIELD DURING CONSTRUCTION. COORDINATE RELOCATION OF GAS MAINS AND SERVICES WITH UTILITY COMPANY.

4	3-31-99				MODIFICATIONS PER COUNTY REQUEST
3	2-15-99				MODIFICATIONS PER COUNTY REQUEST
2	12-17-98				MODIFICATIONS PER COUNTY STAGING
					PLAN
1	10-16-98				MODIFICATIONS PER COUNTY REQUEST
NO	DATE	BY	CKD	APPR	REVISION



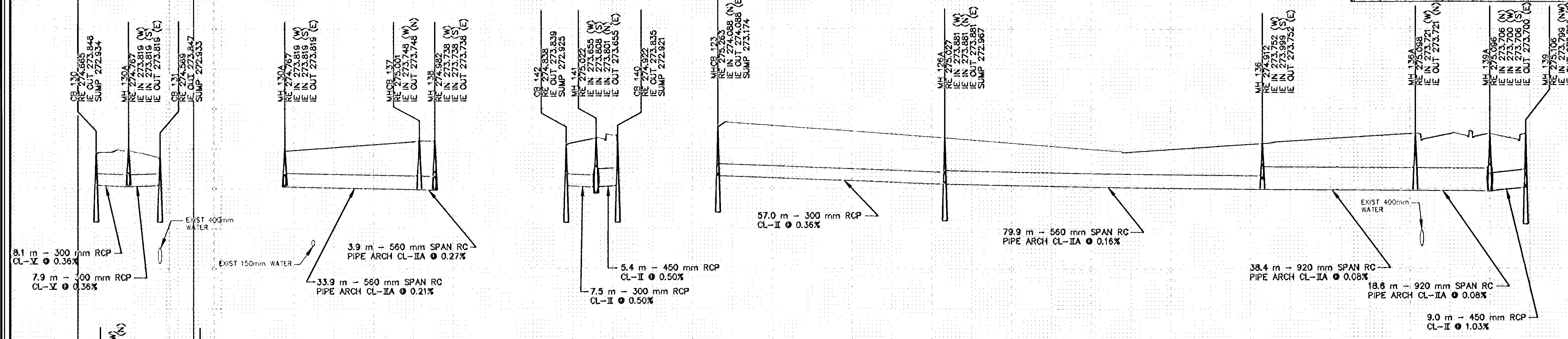
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.  
 Kevin P. Kelly  
 DATE 3/19/99 REG. NO. 23211

DRAWN BY: PF  
 DESIGN BY: SAW  
 CHECKED BY: KPK

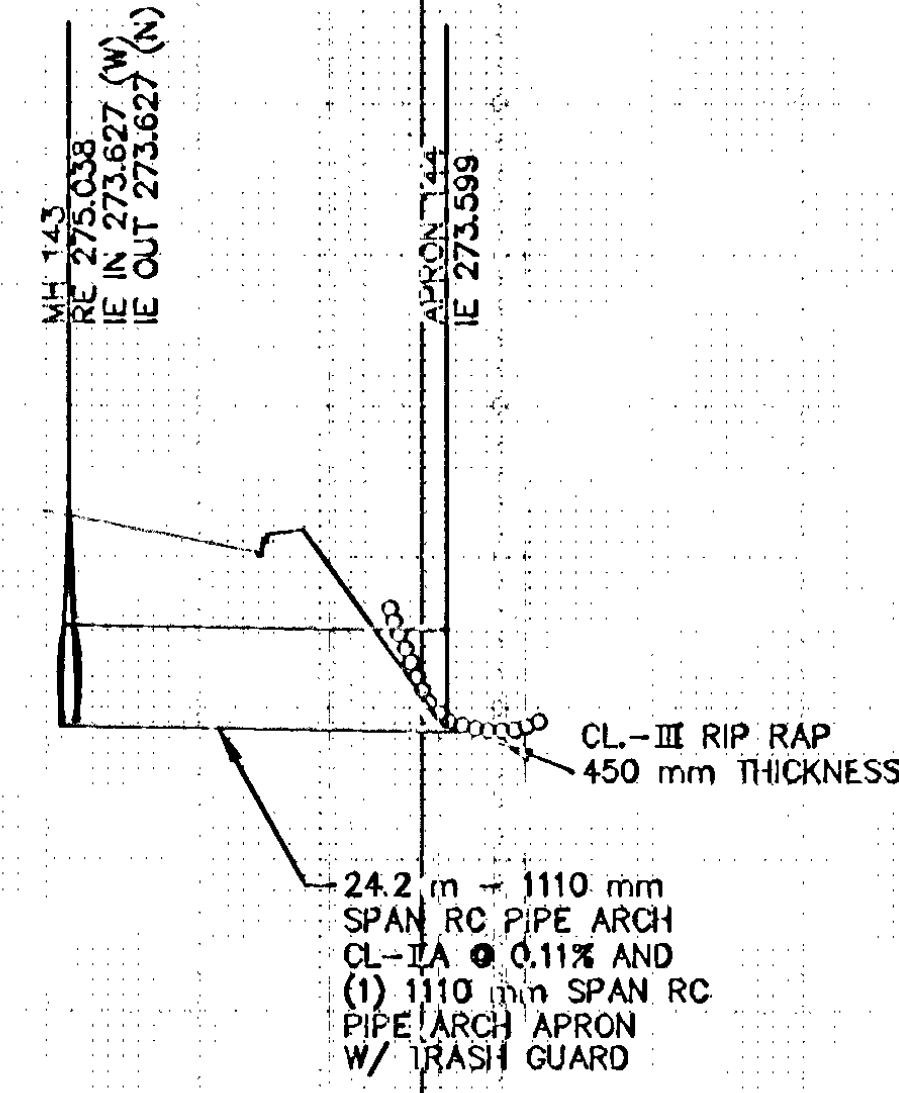
**BRW**  
 A DAMES & MOORE GROUP COMPANY  
 700 THRESHER SQUARE  
 MINNEAPOLIS, MN 55415  
 (612)370-0700 (TEL)  
 (612)370-1378 (FAX)

STATE AID PROJECT NO. 02-612-08  
 STATE AID PROJECT NO. 106-020-14  
 STATE AID PROJECT NO. 106-117-04  
 COUNTY PROJECT NO.

STORM SEWER PROFILES  
 Sheet 38 of 94 Sheets



**NOTES:**  
 WATER MAIN SHOWN AT ASSUMED 2.3m COVER  
 GAS MAIN SHOWN AT ASSUMED 0.76m COVER.  
 CONTRACTOR TO COORDINATE WITH UTILITY COMPANIES TO VERIFY UTILITY ELEVATIONS PRIOR TO ANY STORM SEWER CONSTRUCTION.  
 INSULATE OR RELOCATE WATER MAIN AS DETERMINED BY ENGINEER IN FIELD DURING CONSTRUCTION. COORDINATE RELOCATION OF GAS MAINS AND SERVICES WITH UTILITY COMPANY.



4	3-31-99				MODIFICATIONS PER COUNTY REQUEST
3	2-15-99				MODIFICATIONS PER COUNTY REQUEST
2	12-17-98				MODIFICATIONS PER COUNTY STAGING
					PLAN
1	10-16-98				MODIFICATIONS PER COUNTY REQUEST
NO	DATE	BY	CKD	APPR	REVISION



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 3/14/99 REG. NO. 23211

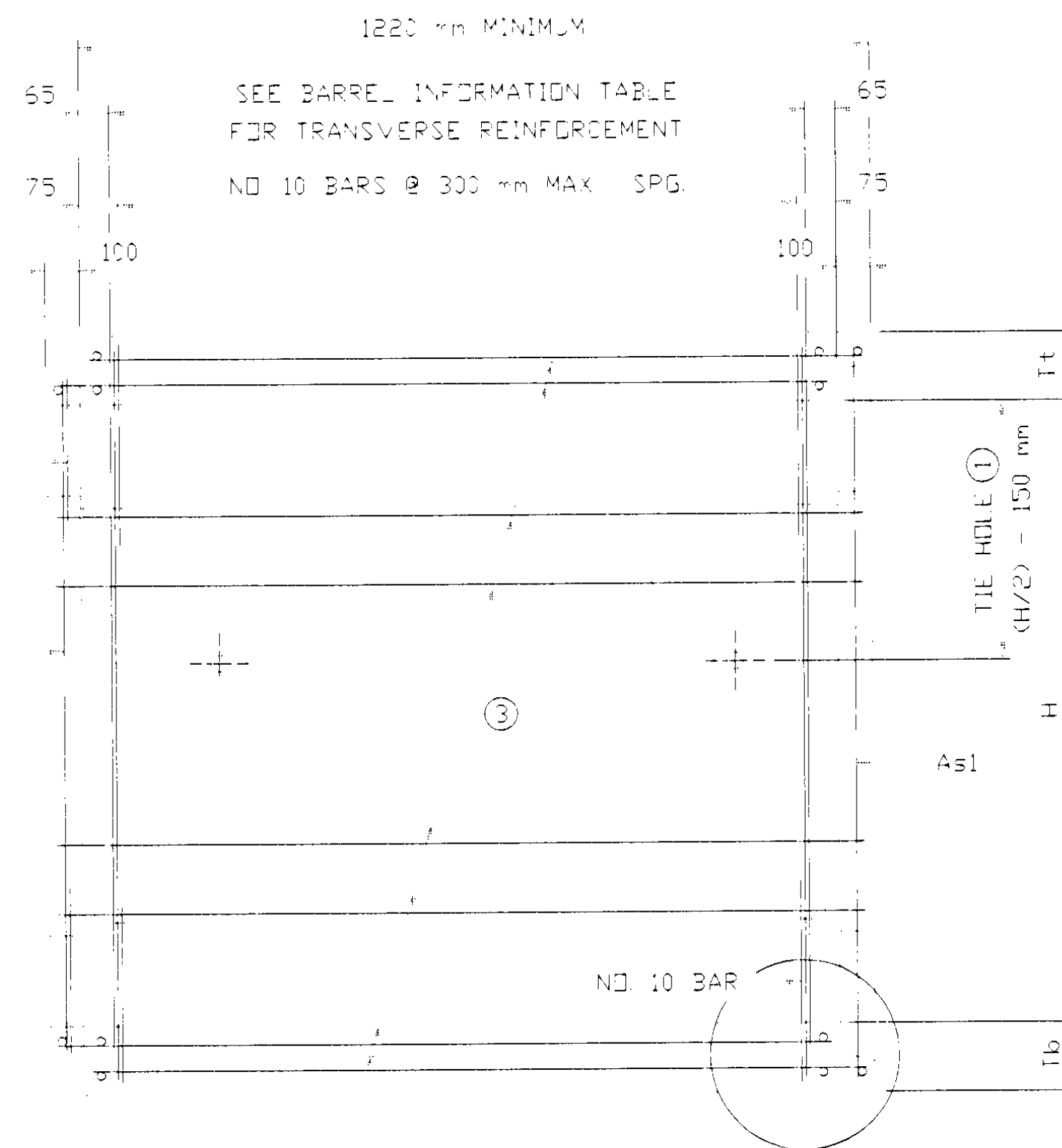
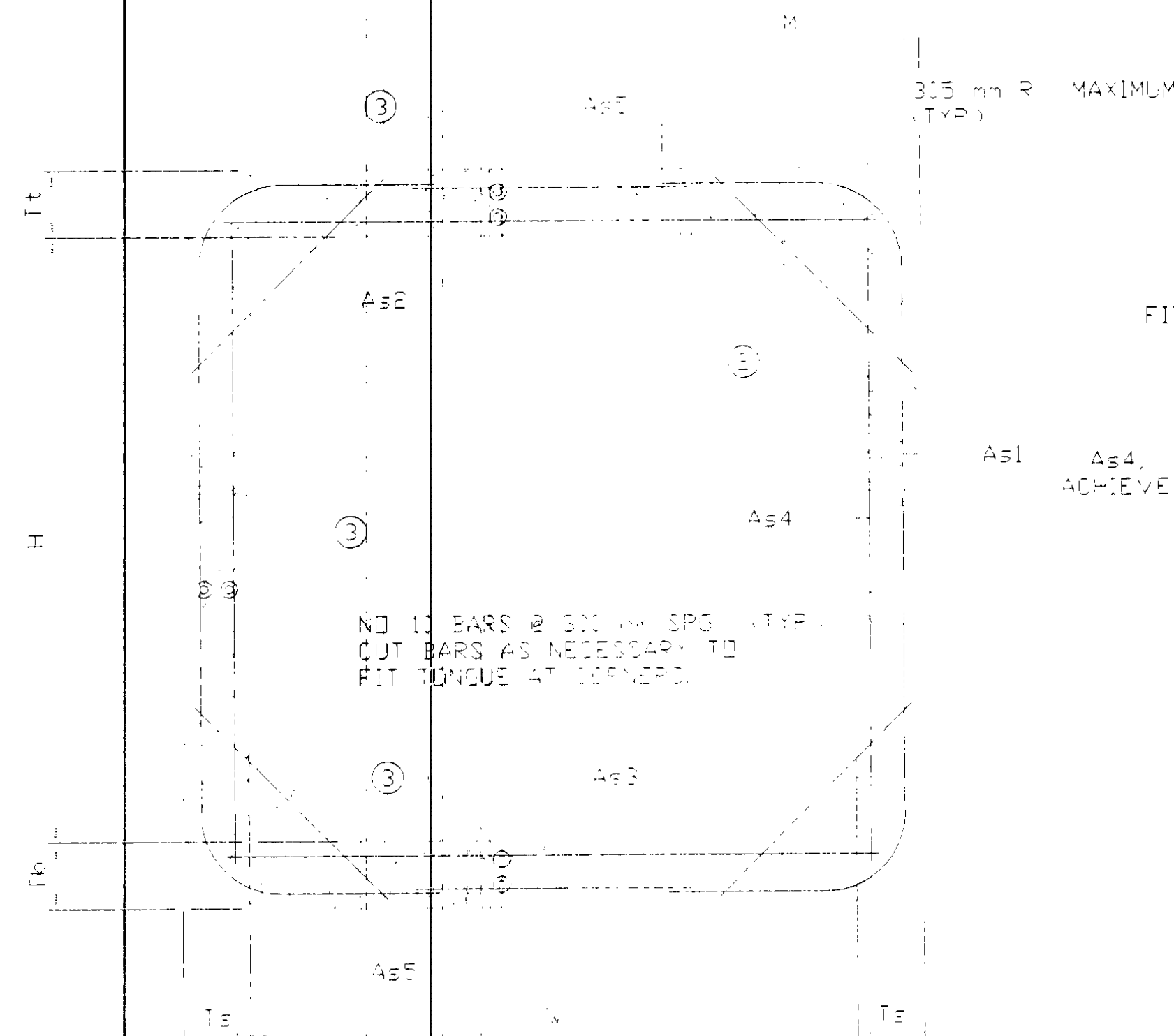
DRAWN BY PF  
 DESIGN BY SAW  
 CHECKED BY KPK

**BRW**  
 A DAMES & MOORE GROUP COMPANY  
 THRESHOLD SQUARE  
 700 THIRD STREET SOUTH  
 MINNEAPOLIS, MN 55415  
 (612)370-0700 (TEL)  
 (612)370-1378 (FAX)

STATE AID PROJECT NO. 02-612-08  
 STATE AID PROJECT NO. 106-020-14  
 STATE AID PROJECT NO. 106-117-04  
 COUNTY PROJECT NO. \_\_\_\_\_

**STORM SEWER PROFILES**  
 Sheet 39 of 94 Sheets

PLOT DATE: Feb 08, 1999 4:09pm DISK FILE NAME: (14.01) R:\33928\33928011\PP110+98\109-ST110.DWG

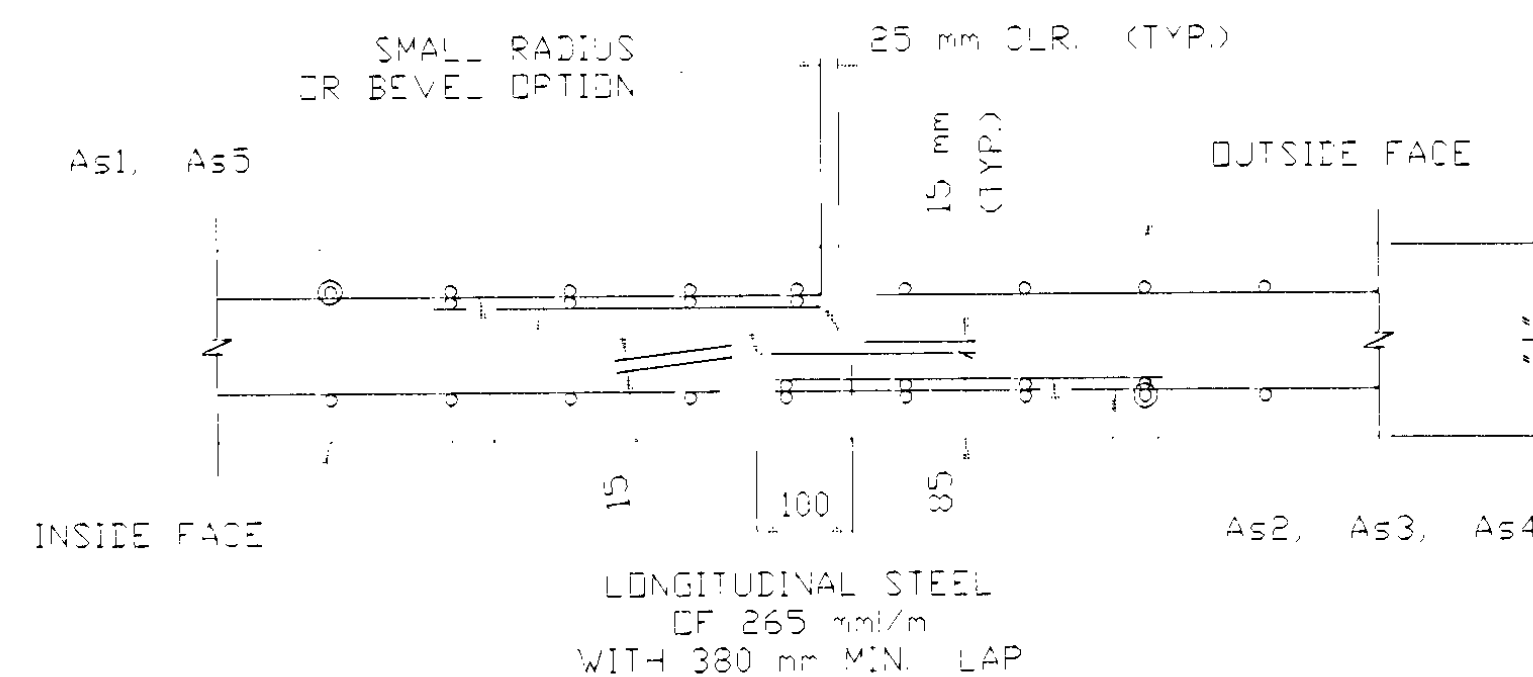
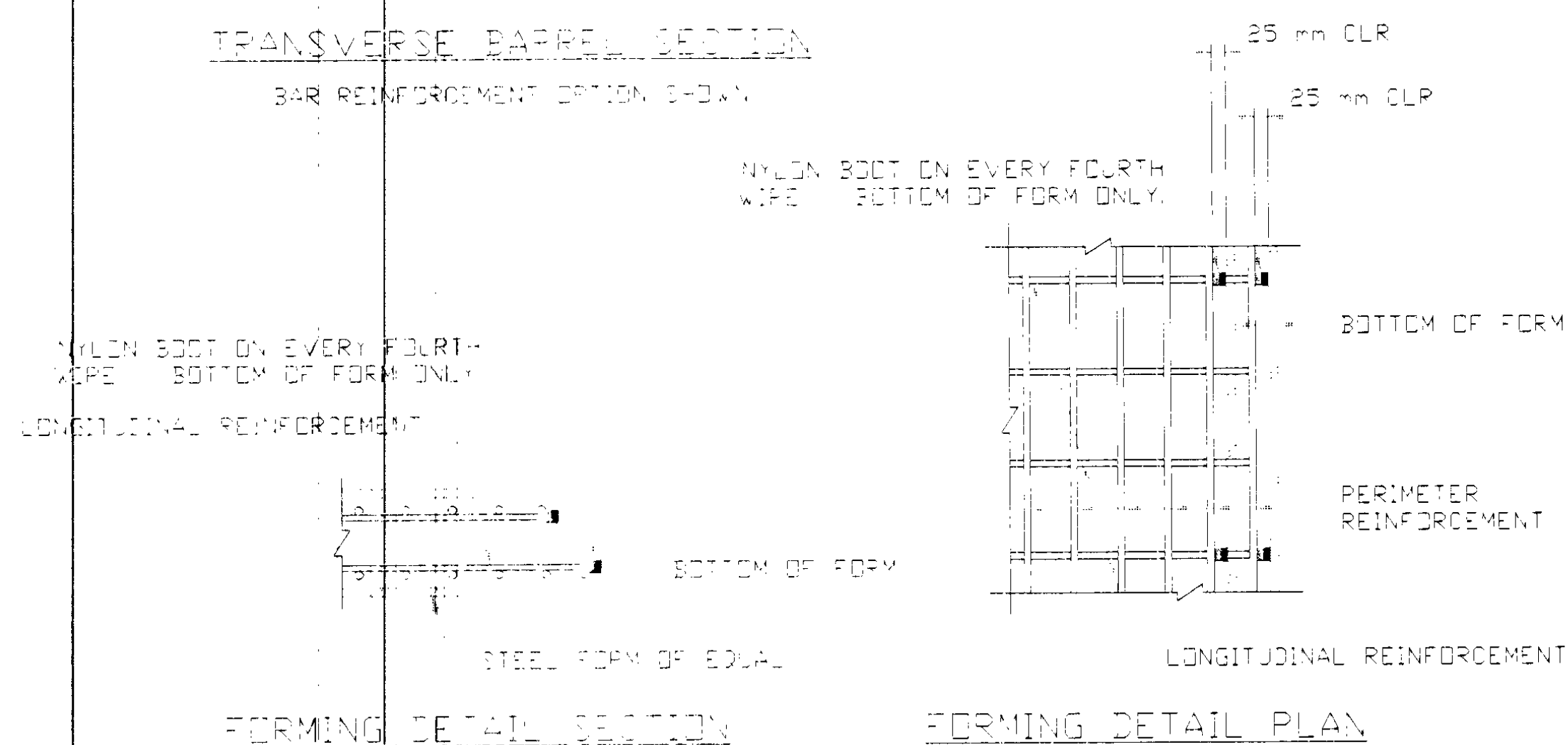


**CONSTRUCTION NOTES**

- CULVERTS TO BE CONSTRUCTED AS PER Mn/DOT SPEC. 2412 EXCEPT AS NOTED
- FILL HEIGHTS OF LESS THAN 600 mm REQUIRE A DISTRIBUTION SLAB.
- THE STEEL FABRIC, SHEAR REINFORCEMENT AND REINFORCEMENT BARS SHALL CONFORM TO APPLICABLE REQUIREMENTS OF AASHTO M259
- 40 mm MINIMUM AND 80 mm MAXIMUM CONCRETE COVER ON ALL REINFORCEMENT, INCLUDING SHEAR REINFORCEMENT, EXCEPT FOR TONGUE AND GROOVE DETAIL.
- ANY OF THE FOLLOWING COMBINATIONS OF STEEL REINFORCEMENT MAY BE USED
  - (a) 1 OR 2 LAYERS OF MESH, OR
  - (b) 1 LAYER OF MESH AND 1 LAYER OF REINFORCEMENT BARS, OR
  - (c) 1 LAYER OF REINFORCEMENT BARS
- THE REINFORCEMENT SHALL BE DEVELOPED IN ACCORDANCE WITH AASHTO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES". IF BAR REINFORCEMENT IS SUBSTITUTED FOR WIRE MESH, THE AREAS OF REINFORCEMENT SHALL BE INCREASED BY 8%.
- THE MAXIMUM SIZE OF REINFORCEMENT BARS SHALL BE NO. 19. THE MAXIMUM MESH SIZE SHALL BE 15 mm DIAMETER PER LAYER (MAXIMUM OF 2 LAYERS)
- THE SPACING CENTER TO CENTER OF THE TRANSVERSE WIRES SHALL NOT BE LESS THAN 50 mm NOR MORE THAN 100 mm. THE SPACING CENTER TO CENTER OF THE LONGITUDINAL WIRES SHALL NOT BE MORE THAN 200 mm.
- WELDING WILL NOT BE ALLOWED ON REINFORCEMENT BARS OR STEEL FABRIC, EXCEPT THAT THE ORIGINAL WELDING REQUIRED TO MANUFACTURE WIRE FABRIC IS ACCEPTABLE.
- WHEN REINFORCEMENT IS CUT, ADDITIONAL REINFORCEMENT SHALL BE ADDED ON BOTH SIDES OF THE CUT MEMBER TO REPLACE OR EXCEED THE CUT STEEL.
- CONCRETE SHALL BE MIX NO. 3W36 WITH NO CALCIUM CHLORIDE ALLOWED.
- ① CULVERT TIES ARE TO BE 25 mm DIAMETER RODS. SEE STANDARD PLATE NO. M3145 FOR CONNECTION DETAILS
- ② HAUNCH SIZE AS FOLLOWS
  - 1830 mm AND 2440 mm WIDTHS - 150 mm TO 305 mm
  - 3050 mm WIDTH - 250 mm TO 305 mm
  - 3660 mm WIDTH - 305 mm
- ③ MINIMUM LONGITUDINAL STEEL SHALL BE 130 mm/m
- SHOP DRAWING APPROVAL PER Mn/DOT SPEC. 3238.2A IS NOT REQUIRED UNLESS OPENINGS OR ATTACHMENTS ARE PLACED ON A BARREL SEGMENT.

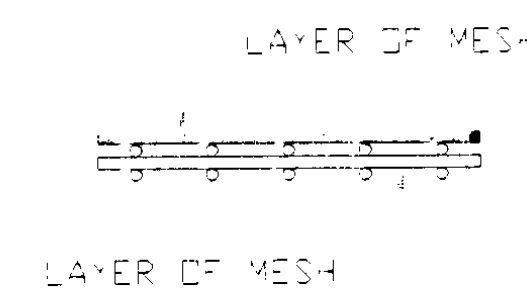
TRANSVERSE BARREL SECTION  
BAR REINFORCEMENT OPTION SHOWN

LONGITUDINAL BARREL SECTION  
BAR REINFORCEMENT OPTION SHOWN



**FABRIC LAYER DETAIL**

WHEN MORE THAN ONE LAYER OF STEEL FABRIC IS USED TO OBTAIN THE REQUIRED REINFORCEMENT AREAS, THE WIRES OF THE STEEL FABRIC SHALL BE PLACED AS SHOWN



**BASIS OF DESIGN**

DESIGNED IN ACCORDANCE WITH AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, 1998 AND Mn/DOT BRIDGE DESIGN MANUAL  
 WEIGHT OF SOIL = 20.4 kN/m<sup>3</sup>  
 CONCRETE STRENGTH = 35 MPa MINIMUM  
 STEEL REINFORCEMENT YIELD STRENGTH = 483 MPa  
 LATERAL PRESSURE  
 47.4% OF DEPTH MINIMUM  
 9.1% OF DEPTH MAXIMUM  
 MS 225 LIVE LOAD  
 40 mm MINIMUM CONCRETE COVER TO REINFORCEMENT  
 CLEAR DISTANCE BETWEEN MULTIPLE BARRELS IS 2,600 mm.

BARREL INFORMATION																					
LOCATION	SIZE	CLASS	f'c (MPa)	FILL HEIGHT RANGE (mm)	DIMENSIONS					MASS (kg/m)	STEEL FABRIC REINFORCEMENT										
					W (mm)	H (mm)	Tt (mm)	Tb (mm)	Ts (mm)		As1		As2		As3		As4		As5		
											AREA (mm <sup>2</sup> /m)	LENGTH (mm)	AREA (mm <sup>2</sup> /m)	LENGTH (mm)	AREA (mm <sup>2</sup> /m)	LENGTH (mm)	AREA (mm <sup>2</sup> /m)	LENGTH (mm)	AREA (mm <sup>2</sup> /m)	LENGTH (mm)	
L58 12+046.45	3050x2440	2	35	600-2400	3050	2440	225	250	200	6530	1020	4200	250	1910	3200	1570	3200	420	2600	130	2360

REVISION 03-04-99  
 APPROVED SEPTEMBER 13, 1996  
 State Bridge Engineer

**BARREL DETAILS**

FIG. 5-395.101M (1 of 2)

NO. DATE BY C.D. APPR. REVISION DATE 04-07-99 REG. NO. 25066

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ANOKA COUNTY HIGHWAY DEPT.

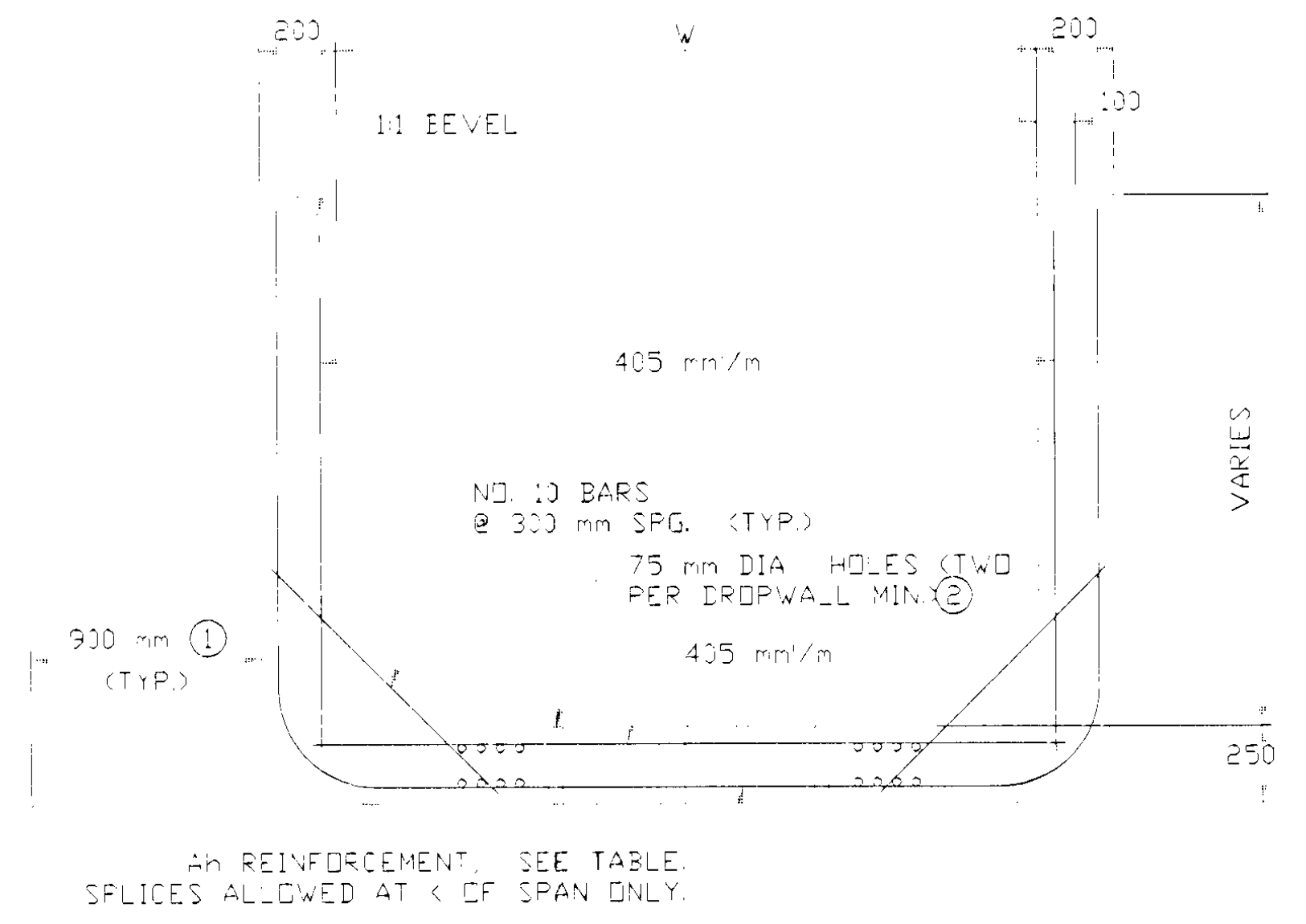
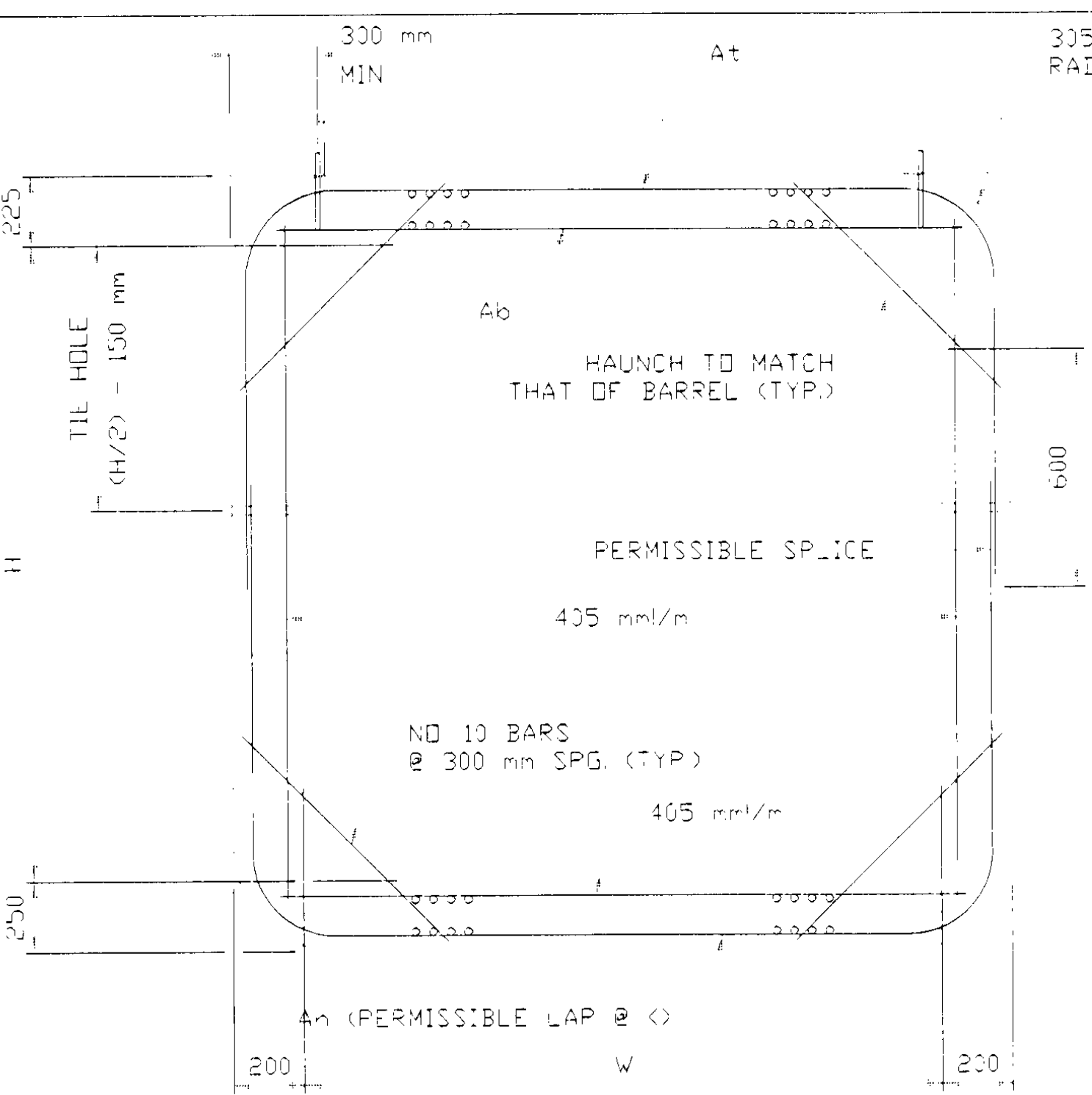
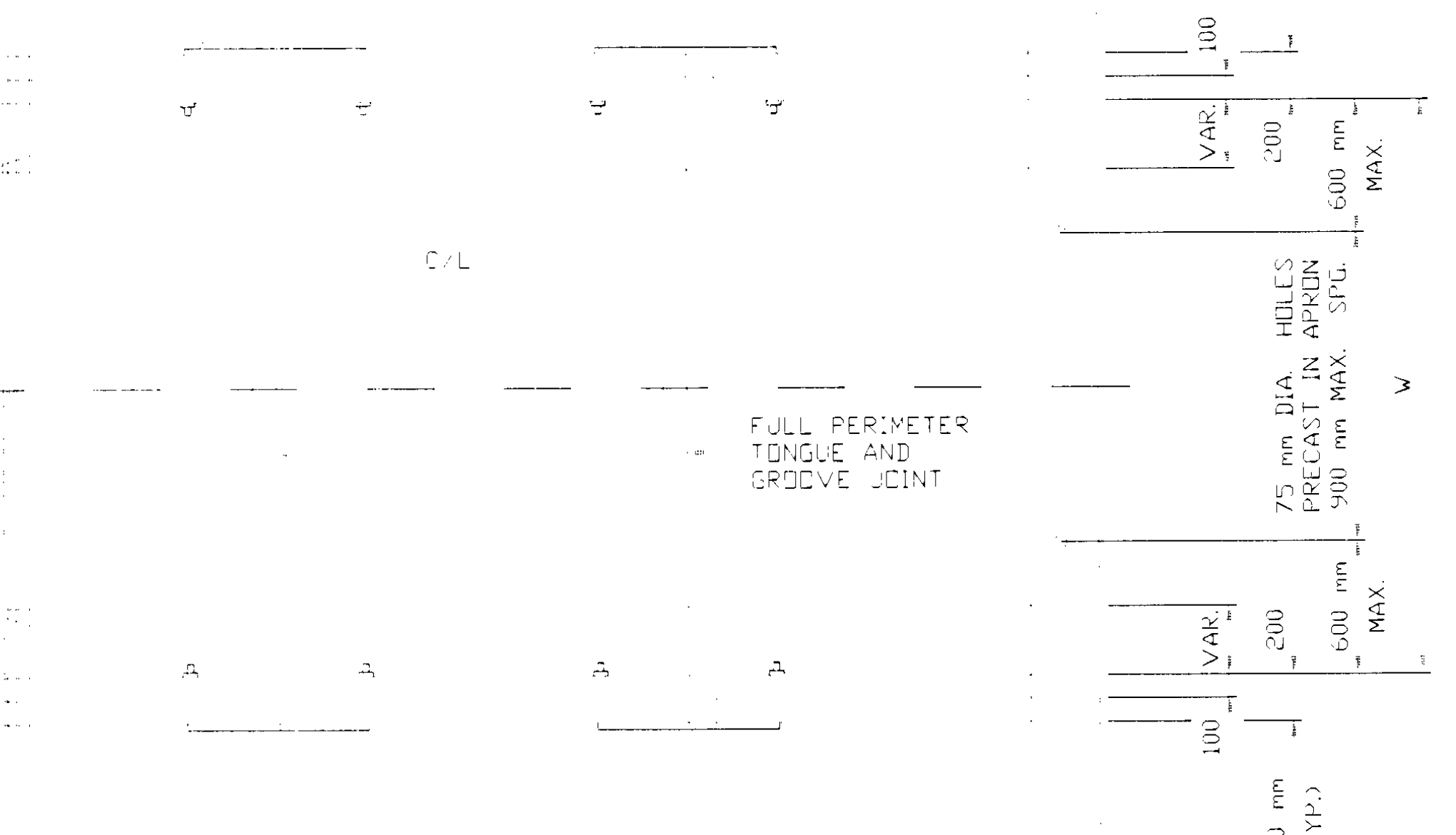
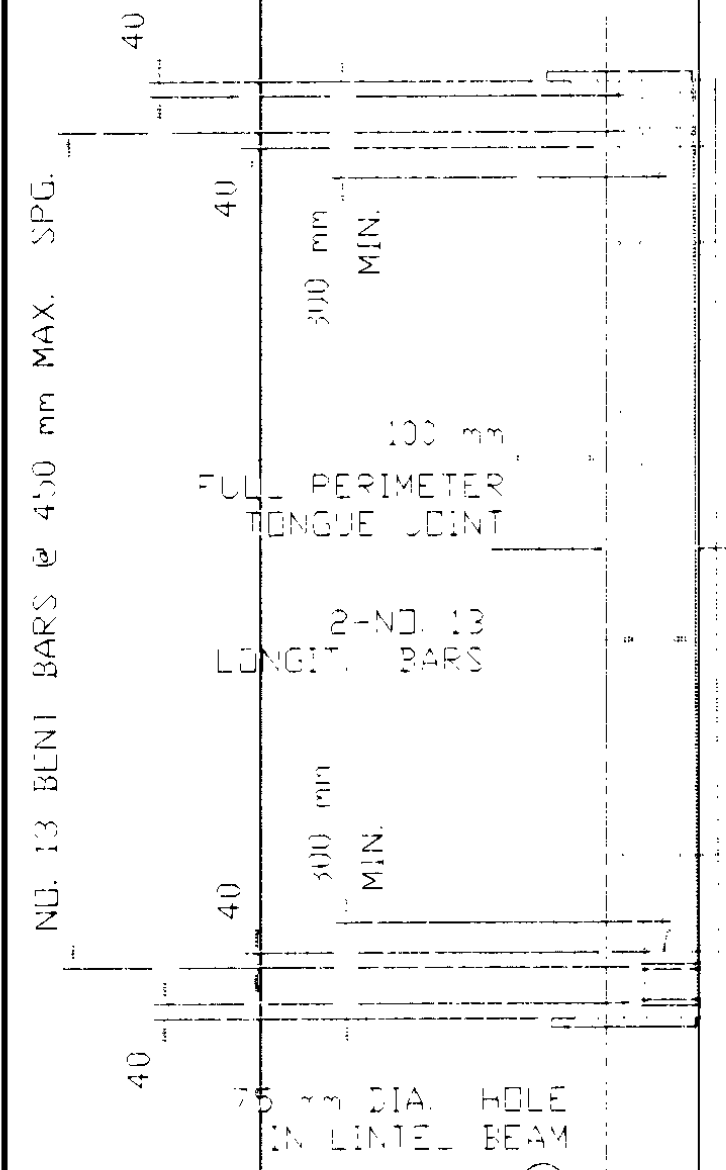
STATE AID PROJECT NO. 02-612-08  
 STATE AID PROJECT NO. 106-020-14  
 STATE AID PROJECT NO. 106-117-04  
 COUNTY PROJECT NO.

BOX CULVERT DETAILS  
 BRIDGE NO. 02J14  
 LEB STA 2+046.450

Sheet 40 of 94 Sheets



CULVERT TIES ARE TO BE 25 mm DIA. RODS  
 THE STANDARD PLATE NO. M3145 FOR CONNECTION  
 DETAILS (TYP.)

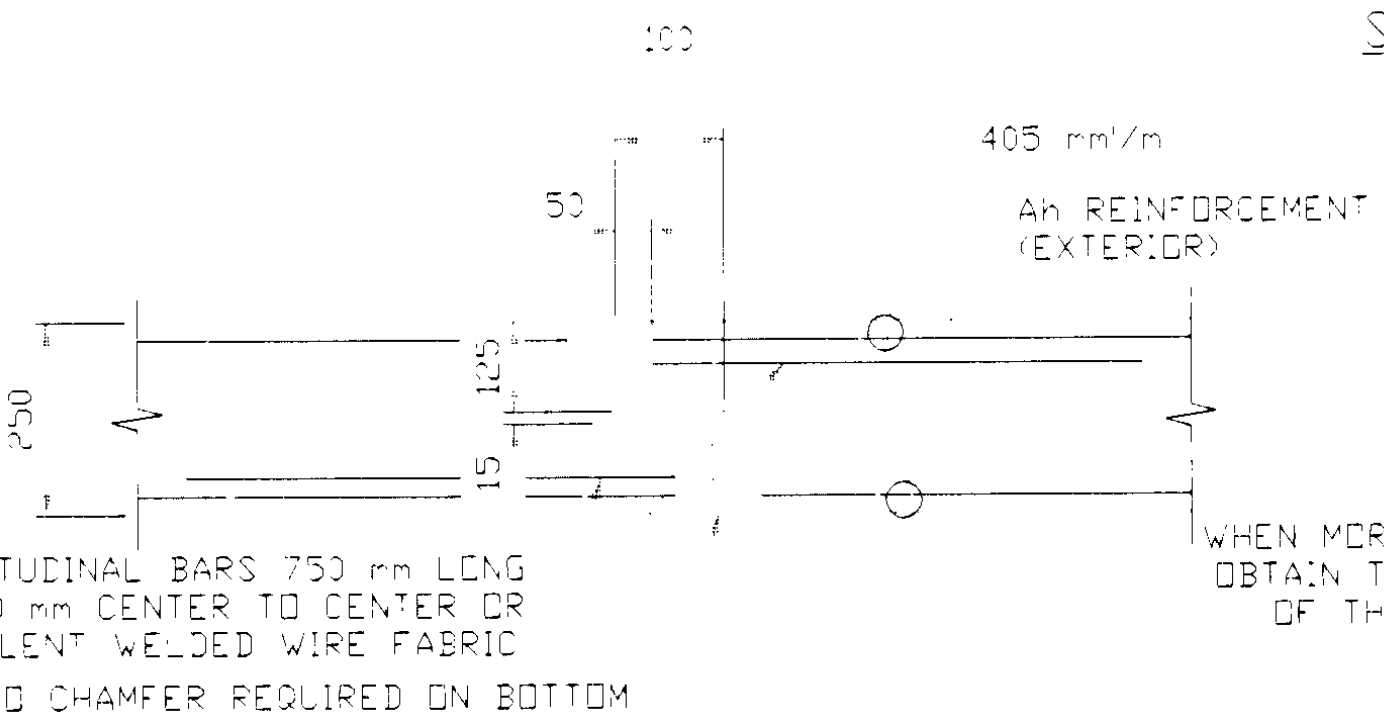


REINFORCEMENT, SEE TABLE.  
 SPLICES ALLOWED AT < OF SPAN ONLY.

DROPWALL (CAST-IN-PLACE OR PRECAST)

GENERAL NOTES

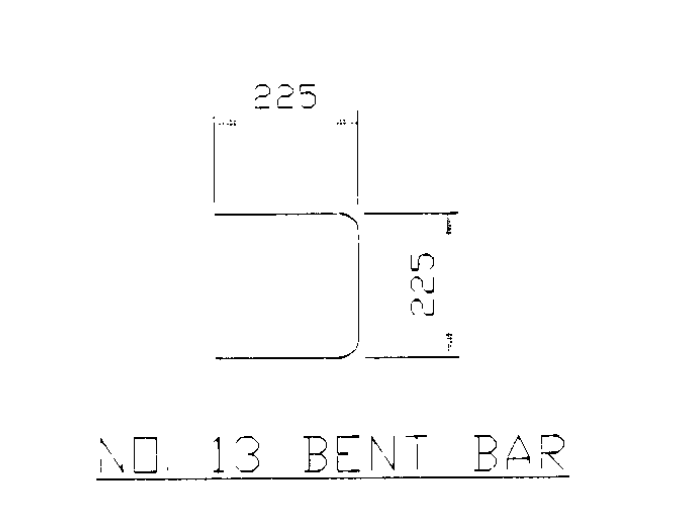
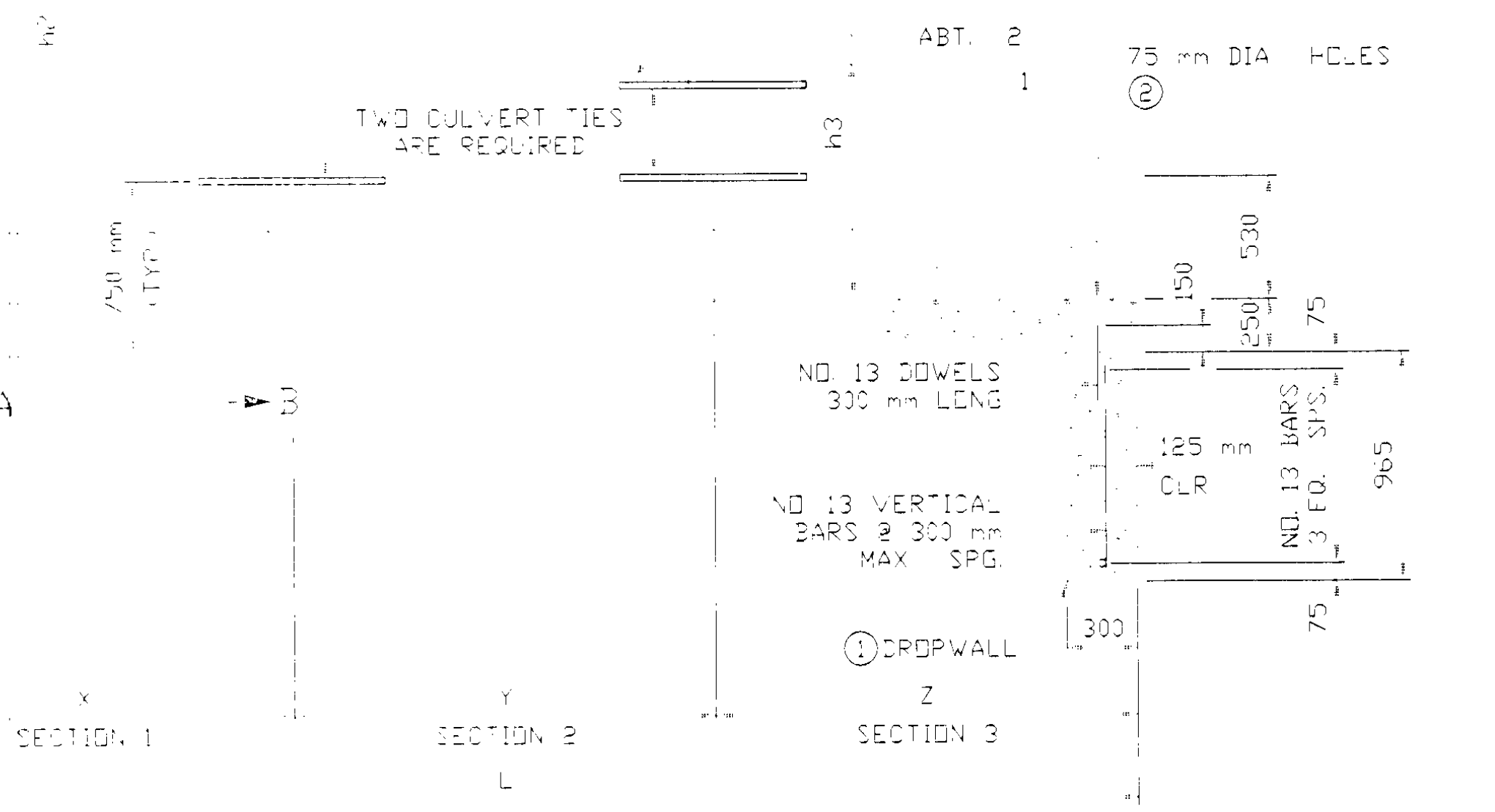
- SEE FIG. 5-395.102M FOR DIMENSIONS AND CONSTRUCTION NOTES, EXCEPT AS NOTED.
- LONGITUDINAL REINFORCEMENT PARALLEL TO THE AXIS OF THE CULVERT SHALL HAVE A MINIMUM OF 130 mm PERIPHERAL ON ALL FACES OF THE BARREL, EXCEPT IN THE TONGUE AND GROOVE AREA.
- SEE FIG. 5-395.115M FOR EMBANKMENT PROTECTION.
- FINISH ALL EXPOSED EDGES OF CONCRETE WITH 15 mm OR 20 mm CHAMFER OR RADIUS UNLESS OTHERWISE NOTED.
- ① WITH MULTIPLE BOXES LOCATE DROPWALL JOINTS BETWEEN END SECTIONS. SEE FIG. 5-395.111M FOR ALTERNATE DROPWALLS. LIMITS OF EXCAVATION FOR DROPWALL TO BE APPROXIMATELY THE SAME AS DROPWALL DIMENSIONS. DROPWALL TO BE CONCRETE MIX NO. 1A43 OR 3Y43. FURNISHING AND INSTALLATION OF DROPWALL TO BE INCLUDED IN PRICE BID FOR END SECTIONS. DROPWALL NOT REQUIRED FOR NON-WATERWAY USE.
- ② FILL HOLE WITH GROUT. GROUT SHALL CONSIST OF 1 PART CEMENT AND 2 PARTS SAND. USE TYPE 1A AIR ENTRAINED PORTLAND CEMENT. GROUT MIX SHALL HAVE A MAXIMUM SLUMP OF 100 mm.



WHEN MORE THAN ONE LAYER OF STEEL FABRIC IS USED TO OBTAIN THE REQUIRED REINFORCEMENT AREAS, THE WIRES OF THE STEEL FABRIC SHALL BE PLACED AS SHOWN.

TONGUE AND GROOVE JOINT DETAIL  
 BETWEEN END SECTIONS

NOT REQUIRED IF HEIGHT h IS LESS THAN 1220 mm



At, Ab REINFORCEMENT

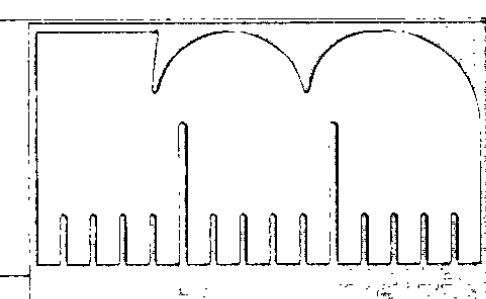
WIDTH (mm)	At (mm/m)	Ab (mm/m)
3350	1310	1570

APRON DIMENSIONS & A<sub>h</sub> REINFORCEMENT

h4 (mm)	L (mm)	SECTION 1		h2 (mm)	SECTION 2		h3 (mm)	SECTION 3		h4 (mm)	SECTION 4		h5 (mm)
		X (mm)	A <sub>h</sub>		Y (mm)	A <sub>h</sub>		Z (mm)	A <sub>h</sub>		ZZ (mm)	A <sub>h</sub>	
2440	4880	1830	420	2063	1830	410	1150	1220	410	530			

REVISION: 03-04-99  
 APPROVED SEPTEMBER 19, 1996  
 Donald J. Blumley  
 STATE BRIDGE ENGINEER

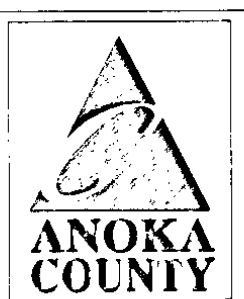
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DATE: 04-07-99 REG. NO. 25066

DRAWN BY: KGU DATE: 04-07-99  
 DESIGN BY: KGU DATE: 04-07-99  
 CHECKED BY: LR DATE: 04-07-99



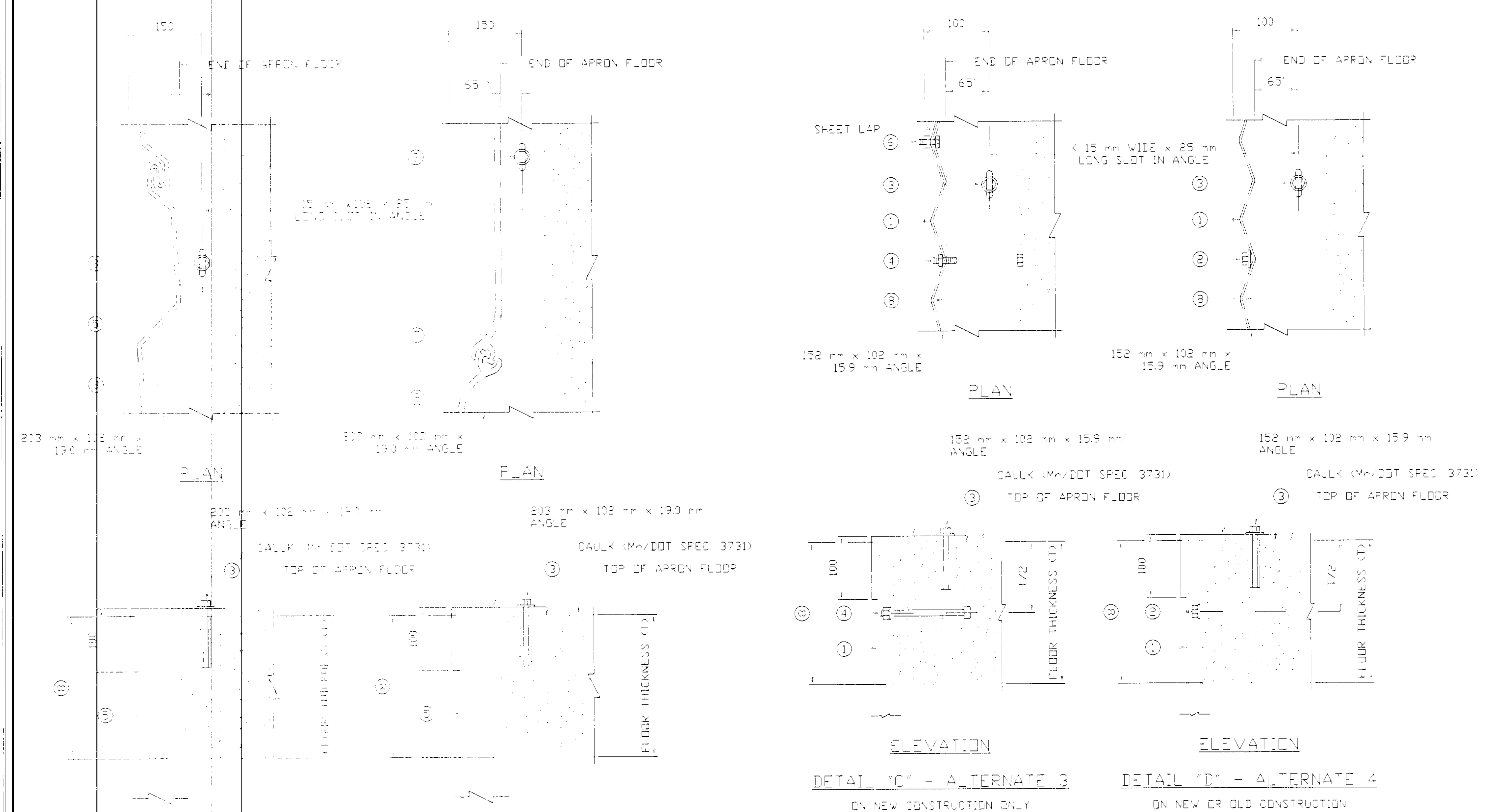
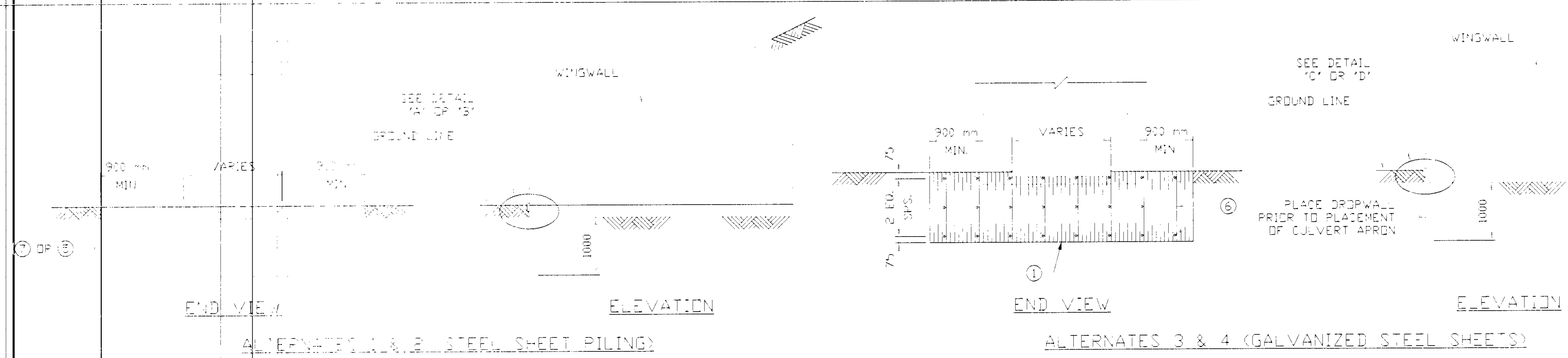
ANOKA COUNTY  
 HIGHWAY DEPT.

STATE AID PROJECT NO. 02-612-08  
 STATE AID PROJECT NO. 106-020-14  
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 COUNTY PROJECT NO.

PRECAST CONCRETE  
 END SECTION  
 TYPE 1 - SINGLE / MULTI-BARREL  
 FOR SKEWS UP TO 7 1/2'

FIG. 5-395.102M

BOX CULVERT DETAILS  
 BRIDGE NO. 02J14  
 LEB STA 2+046.450



**GENERAL NOTES**

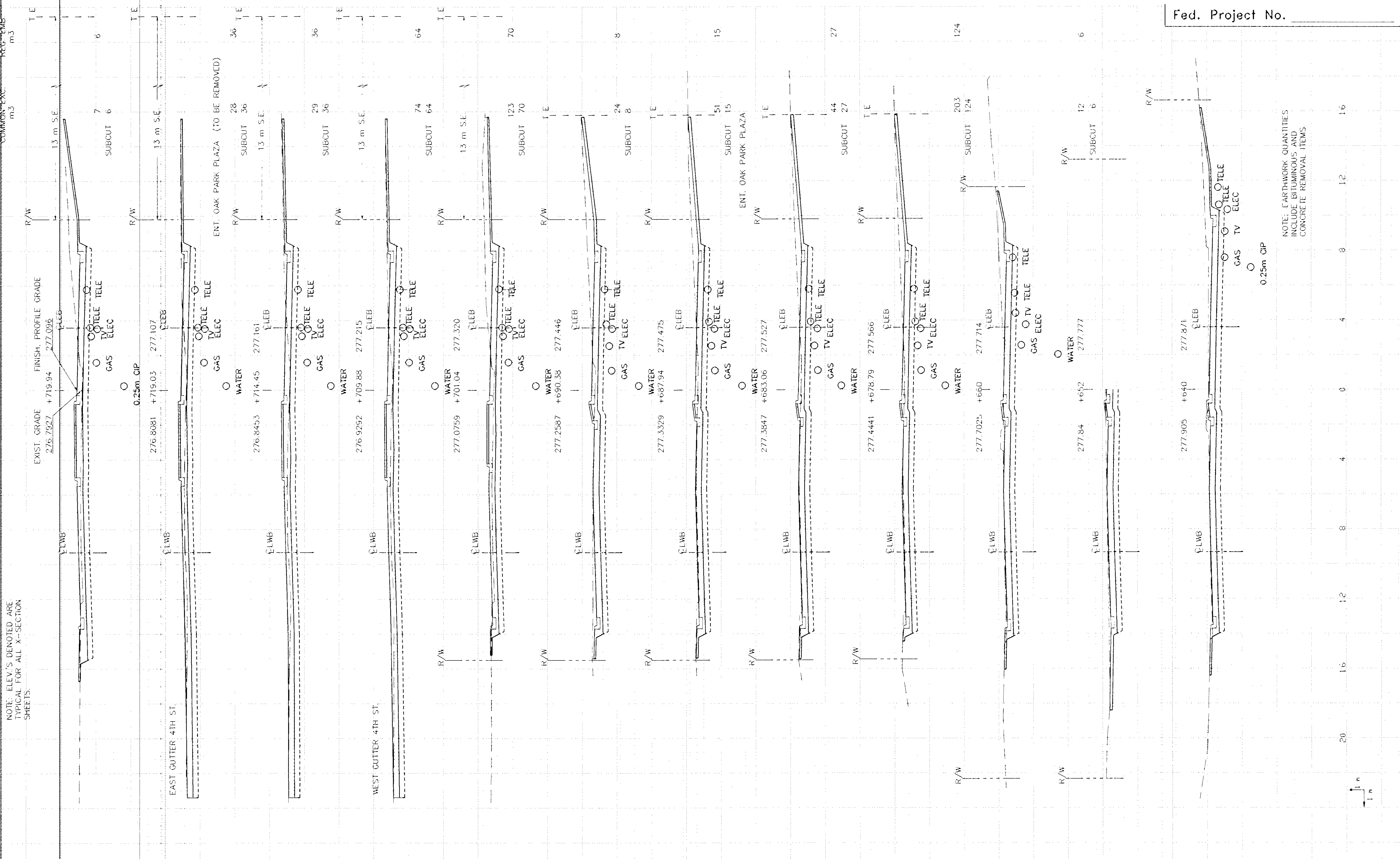
- GALVANIZE ALL FASTENERS AS PER M/DOT SPEC. 3392
- THE DISTRICT SOIL ENGINEER, BEFORE CULVERT PLANS ARE PREPARED, SHALL TAKE SAMPLES FROM THE DRAINAGE AREA FOR PH DETERMINATION. THE SOIL AND WATER SHOULD HAVE A PH OF 6.5 OR MORE IF SHEET STEEL IS USED.
- ① 64 mm x 13 mm DR 67 mm x 13 mm CORRUGATED (28 mm) OR HEAVIER GALVANIZED STEEL SHEETS
- ② FASTEN THE STEEL SHEETS TO THE FRONT EDGE OF THE APRON WITH 10 mm DIAMETER x 100 mm LONG BOLTS AND APPROVED ANCHORAGES (250 mm CENTER TO CENTER, TO THE NEAREST VALLEY).
- ③ FASTEN THE 203 mm x 102 mm x 190 mm DR 152 mm x 102 mm x 15.9 mm ANGLE WITH 10 mm DIAMETER x 100 mm LONG BOLTS, 25 mm DD. WASHER AND AN APPROVED ANCHORAGE (600 mm SPACING)
- ④ FASTEN THE STEEL SHEETS TO THE FRONT EDGE OF THE APRON WITH 10 mm DIAMETER x 125 mm LONG BOLTS, NUT AND LOCK WASHER (250 mm CENTER TO CENTER, TO THE NEAREST VALLEY).
- ⑤ (28 mm) GALVANIZED CORRUGATED STEEL SHEET PILING, INTERLOCKING TYPE A
- ⑥ 10 mm DIAMETER x 25 mm LONG BOLT WITH NUT, TO LAP STEEL SHEETS.
- ⑦ STEEL SHEET PILING, SECTION NO MP-112 OR EQUAL.
- ⑧ FILL THE VOIDS AS SHOWN, WITH CONCRETE OR CONCRETE GROUT, AS APPROVED BY THE ENGINEER.

**ALTERNATE DROPWALLS**

FIG. 5-395 111M

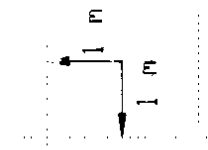
NO.		DATE		BY		CHKD		APPR		REVISION				STATE AID PROJECT NO. 02-612-08 STATE AID PROJECT NO. 106-020-14 STATE AID PROJECT NO. 106-117-04 COUNTY PROJECT NO.		BOX CULVERT DETAILS BRIDGE NO. 02J14 LEB STA 2+046.450	
HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A FULLY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.												ANOKA COUNTY HIGHWAY DEPT.		Sheet 42 of 94 Sheets			
DRAWN BY: KGJ DATE: 04-07-99 DESIGN BY: KGJ DATE: 04-07-99 CHECKED BY: LR DATE: 04-07-99												ANOKA COUNTY		DATE: 04-07-99 REG. NO.: 25066			

NOTE: ELEV.'S DENOTED ARE TYPICAL FOR ALL X-SECTION SHEETS.

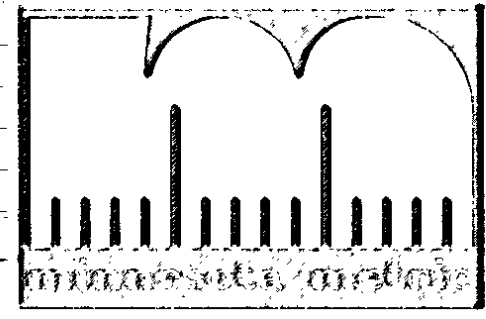


NOTE: EARTHWORK QUANTITIES INCLUDE BITUMINOUS AND CONCRETE REMOVAL ITEMS.

0.25m CIP

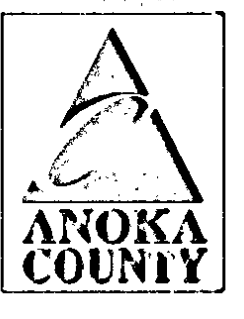


NO	DATE	BY	CKD	APPR	REVISION



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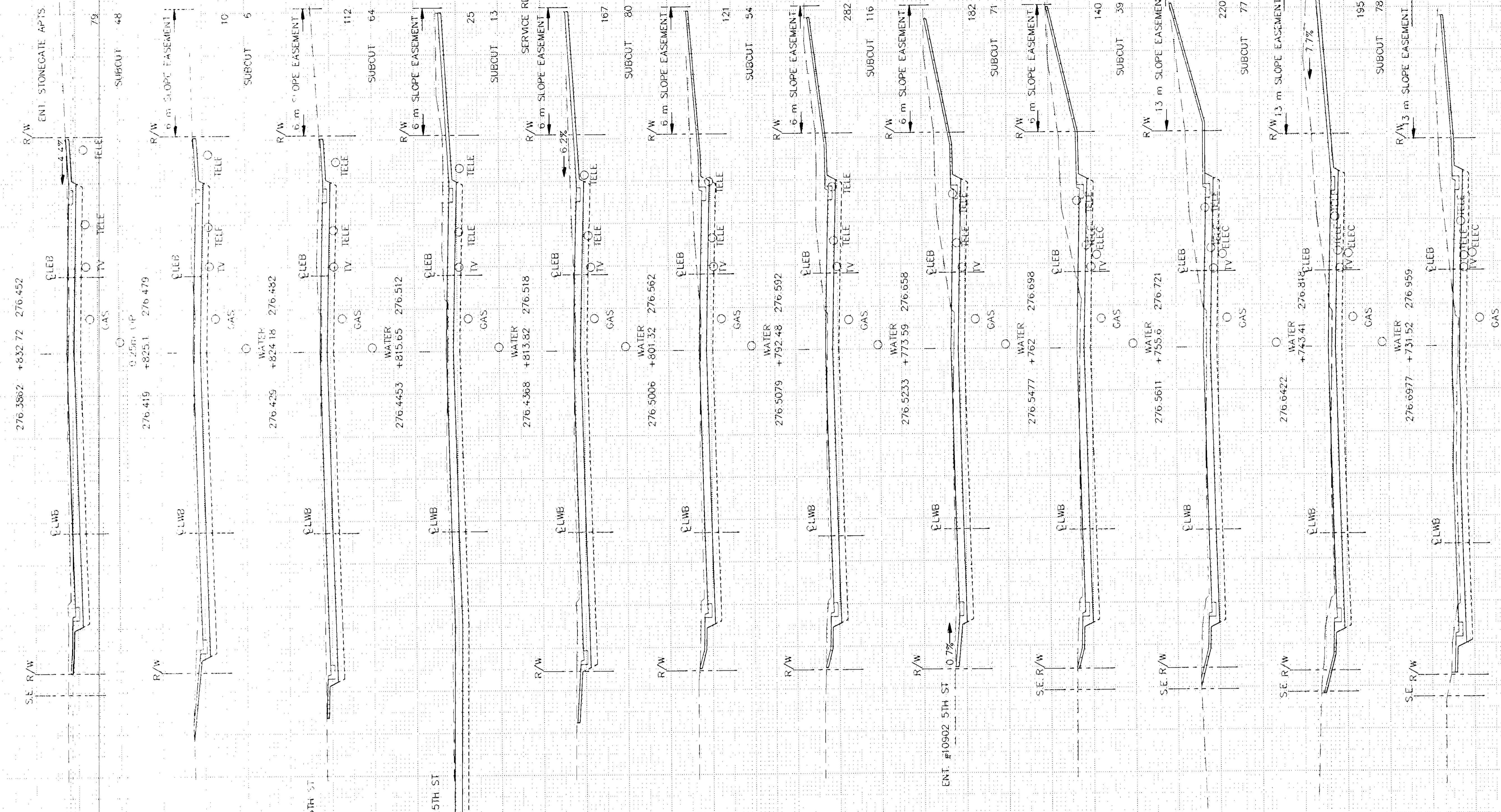
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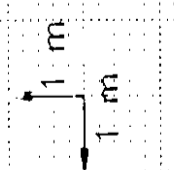
ANOKA COUNTY HIGHWAY DEPT.

STATE AID PROJECT NO. 02-612-08  
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 STATE AID PROJECT NO. 106-117-04  
 COUNTY PROJECT NO. \_\_\_\_\_

CROSS-SECTION  
 STA 0+640.00 TO 0+719.94  
 Sheet 43 of 94 Sheets



48  
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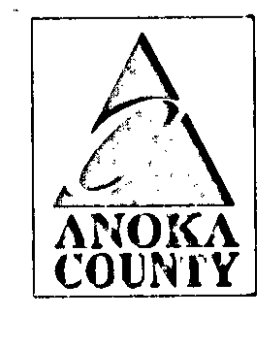


NO	DATE	BY	CHKD	APPR	REVISION
1	4-8-99	LR	LR	LR	



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 DATE 04-07-99 REG. NO. 25066

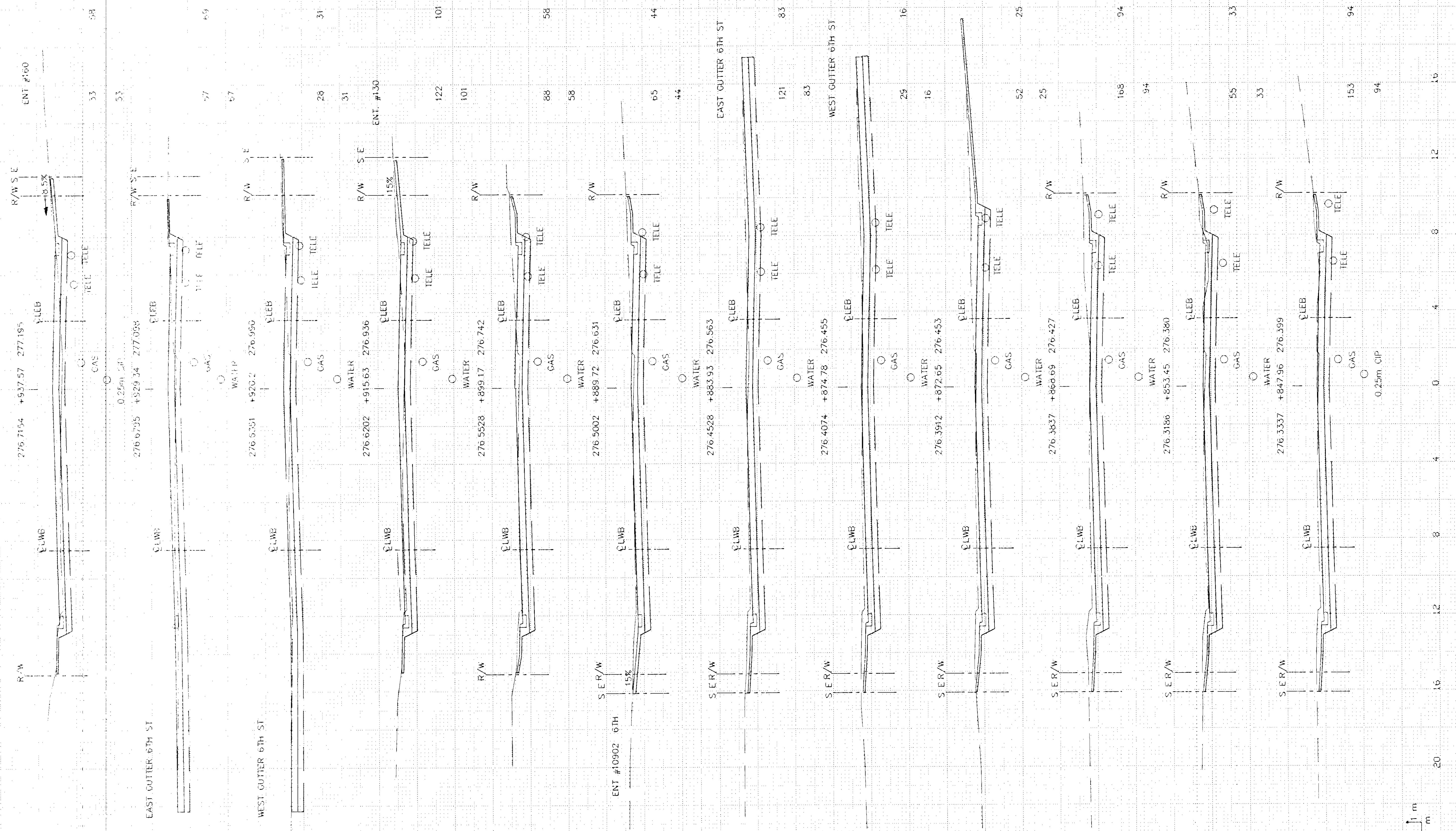
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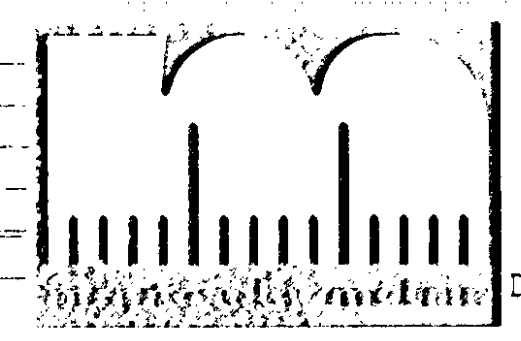
ANOKA COUNTY  
 HIGHWAY DEPT.

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 STATE AID PROJECT NO. 106-020-14  
 STATE AID PROJECT NO. 106-117-04  
 COUNTY PROJECT NO. \_\_\_\_\_

CROSS-SECTION  
 STA 0+731.52 TO 0+832.72  
 Sheet 44 of 94 Sheets



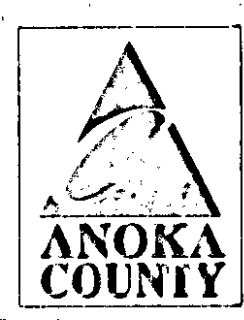
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1	4-8-99	ksj	134	42	pr



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DATE 04-07-99 REG. NO. 25066

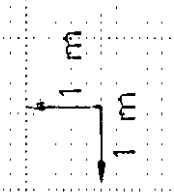
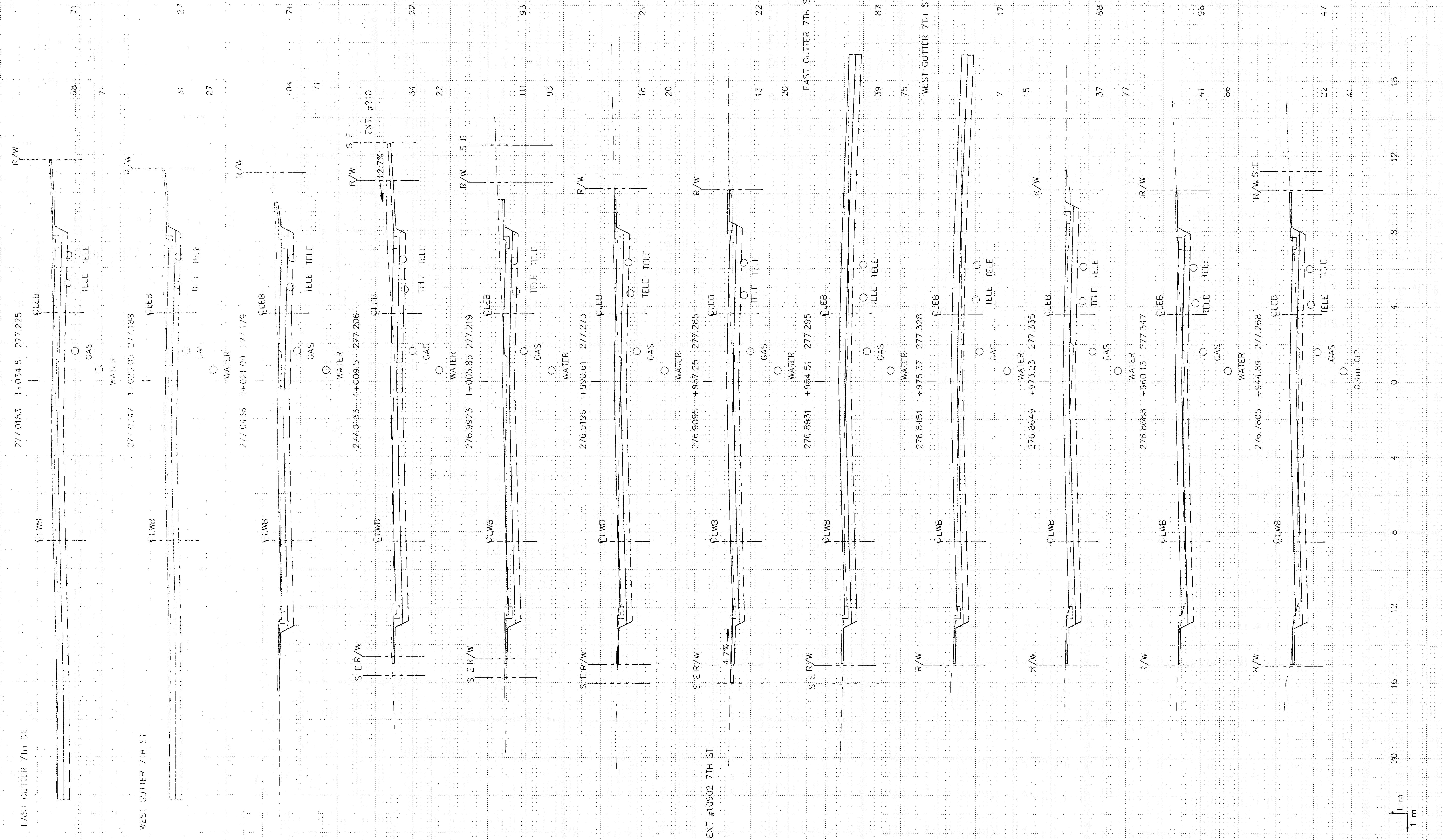
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 DESIGN BY KSJ DATE 04-07-99  
 CHECKED BY LR DATE 04-07-99



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CROSS-SECTION  
 STA 0+847.960 TO 0+937.507  
 Sheet 15 of 94 Sheets



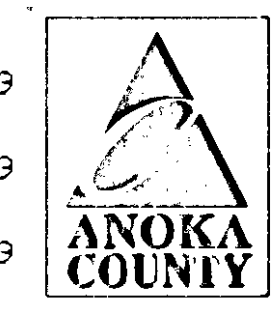
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1	04-07-99	KJD		



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DATE 04-07-99 REG. NO. 25066

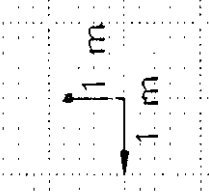
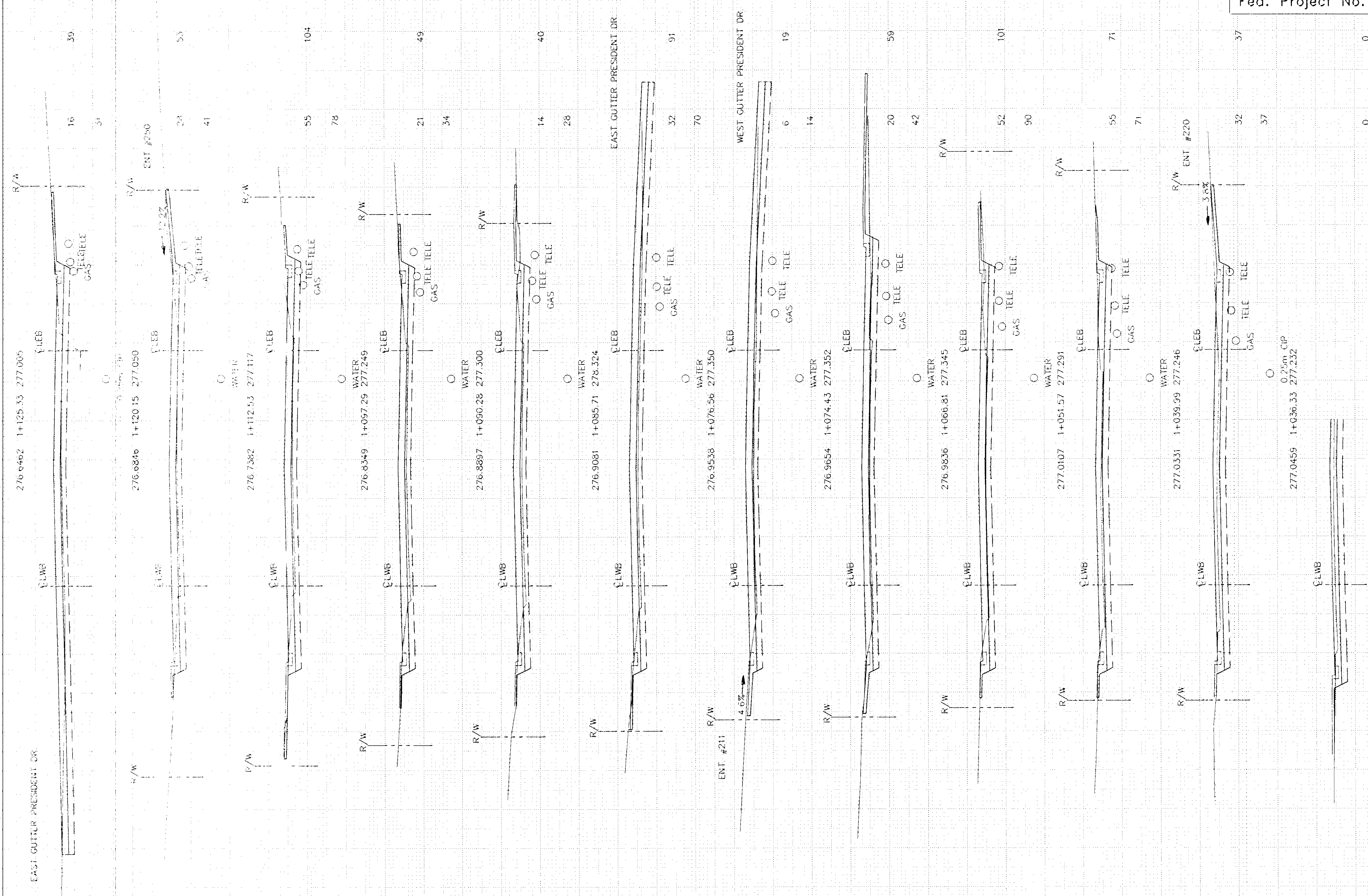
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 CHECKED BY LR DATE 04-07-99



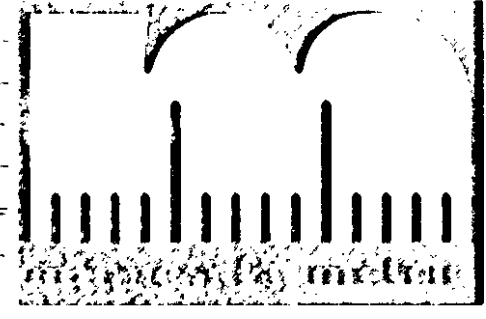
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 STATE AID PROJECT NO. 106-020-14  
 STATE AID PROJECT NO. 106-117-04  
 COUNTY PROJECT NO. \_\_\_\_\_

CROSS-SECTION  
 STA 0+944.89 TO 1+034.500  
 Sheet 16 of 94 Sheets



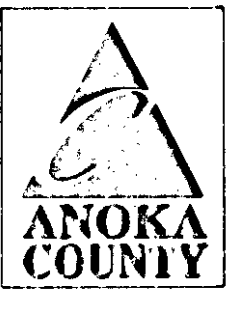
NO.	DATE	BY	CHKD.	APPR.



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DATE 04-07-99 REG. NO. 25066

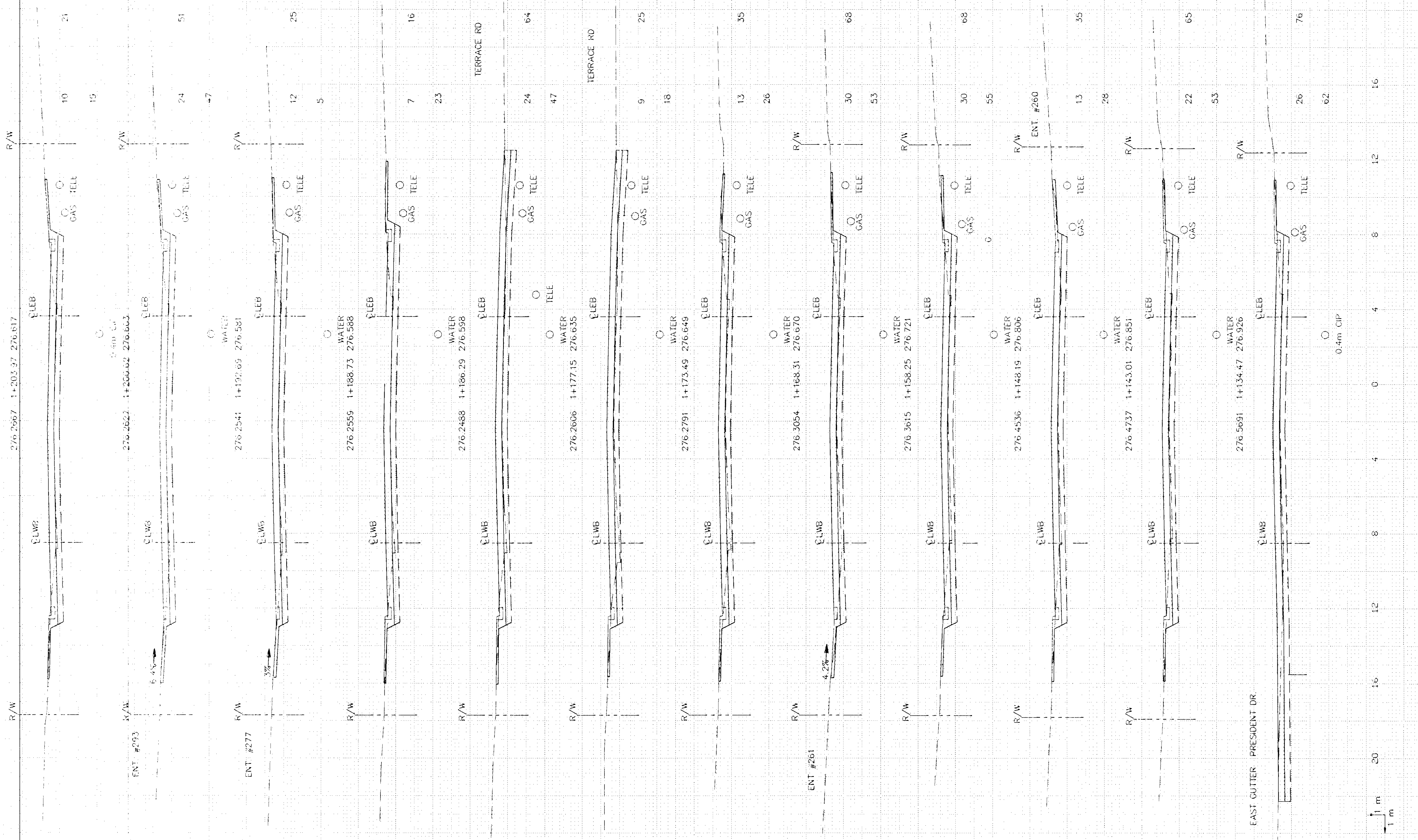
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 CHECKED BY LR DATE 04-07-99



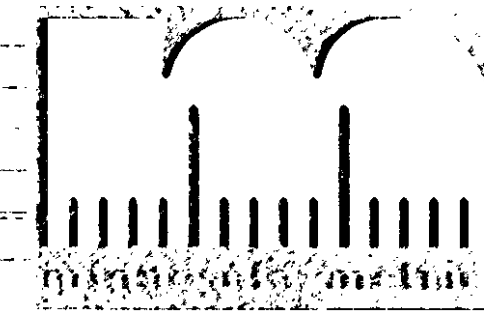
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 COUNTY PROJECT NO. \_\_\_\_\_

**CROSS-SECTION**  
 STA 1+036.330 TO 1+125.330  
 Sheet 17 of 94 Sheets



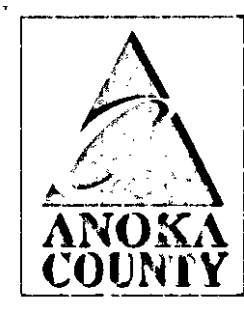
NO.	DATE	BY	CKD	APPR	REVISION
1	04-07-99	CKD			



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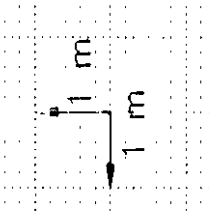
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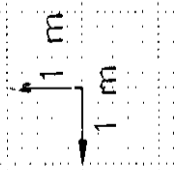
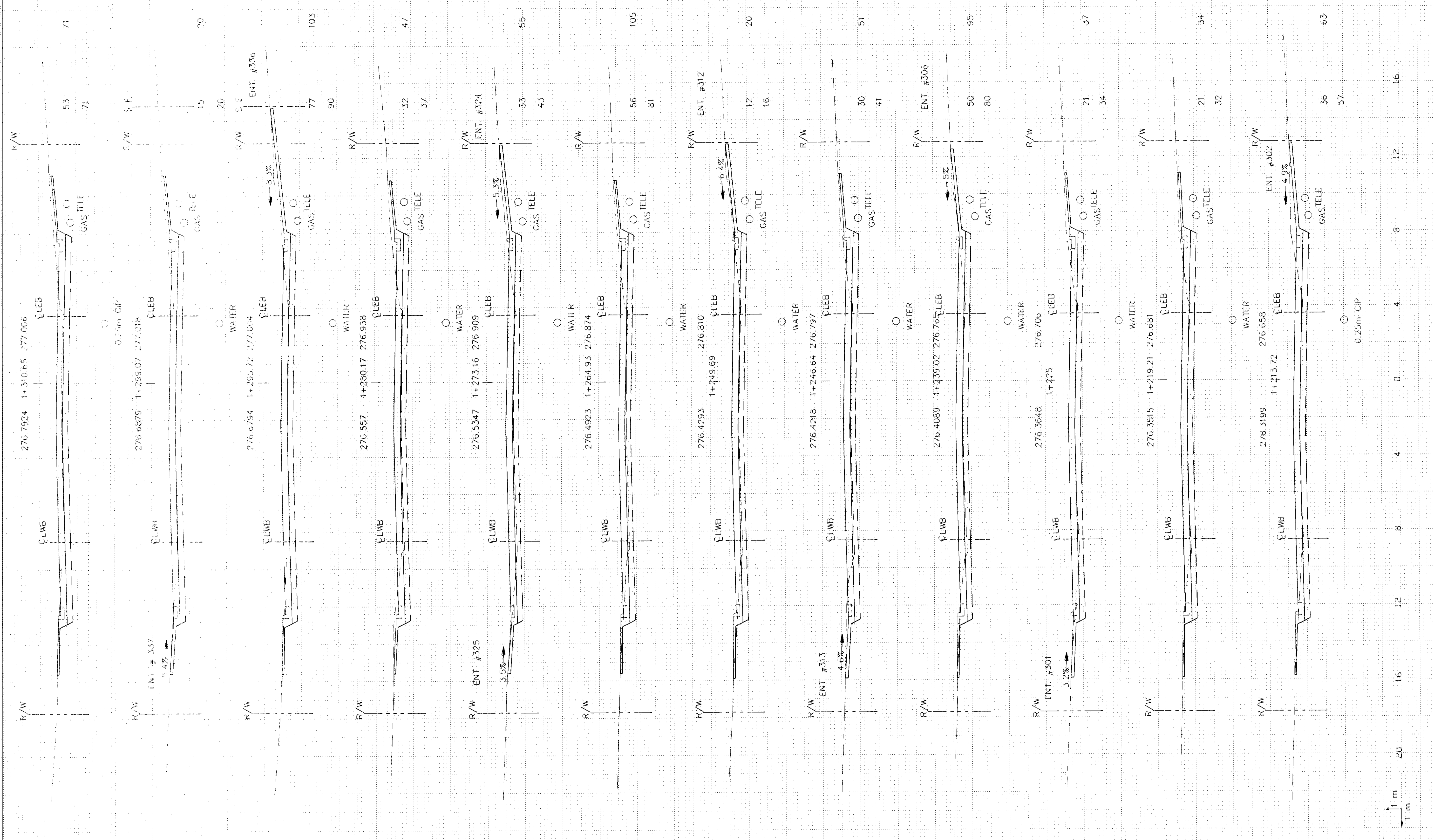
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 STATE AID PROJECT NO. 106-020-14  
 STATE AID PROJECT NO. 106-117-04  
 COUNTY PROJECT NO. \_\_\_\_\_

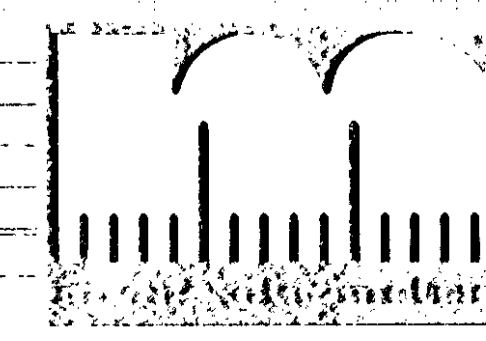
CROSS-SECTION  
 STA 1+134.470 TO 1+203.970  
 Sheet 18 of 94 Sheets







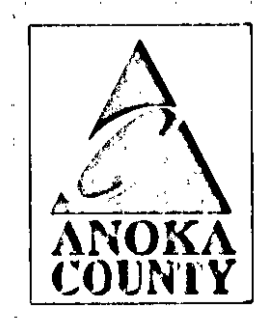
NO.	DATE	BY	CHKD	APPR	REVISION



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DATE 04-07-99 REG. NO. 25066

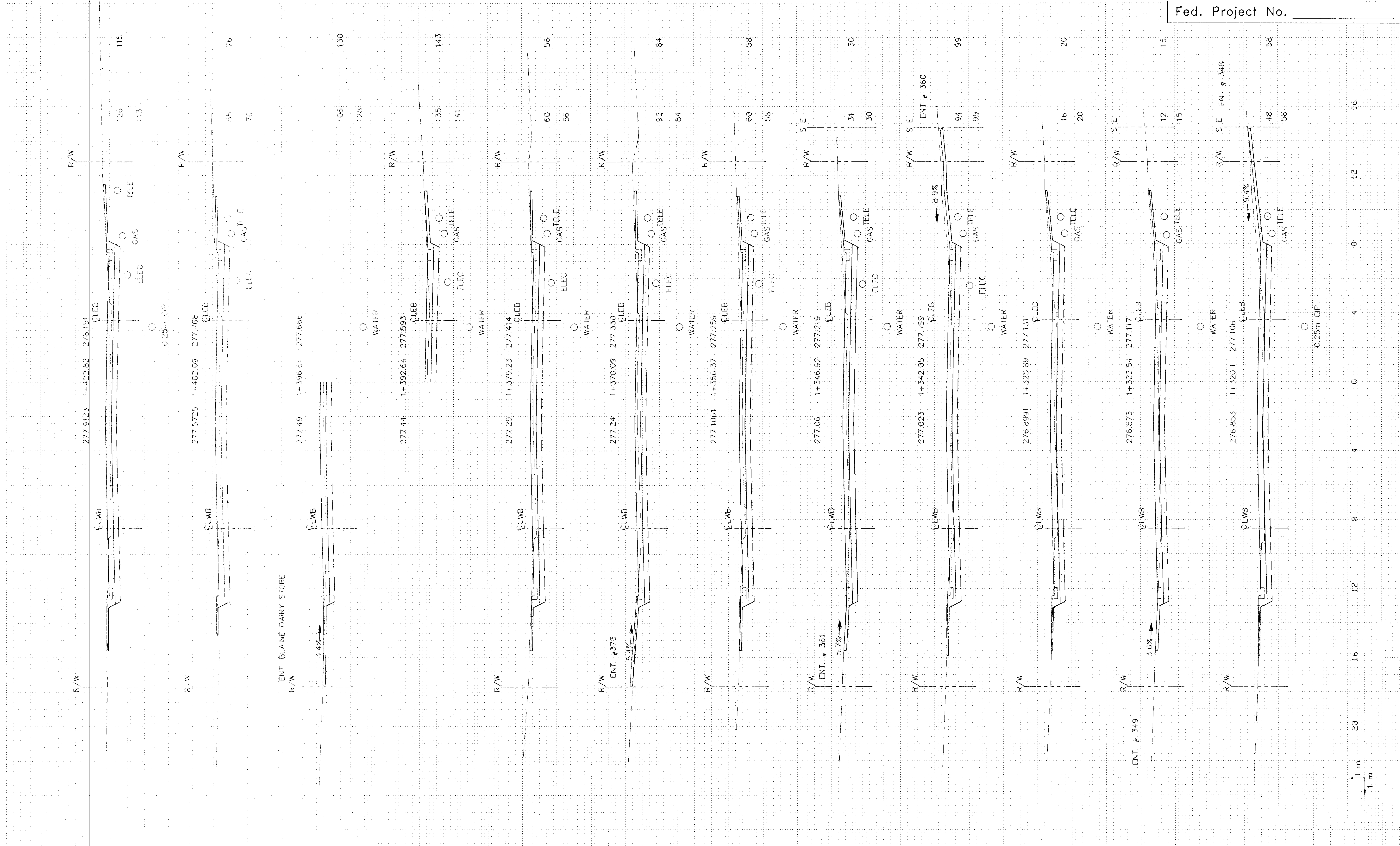
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 DESIGN BY KGL DATE 04-07-99  
 CHECKED BY LR DATE 04-07-99



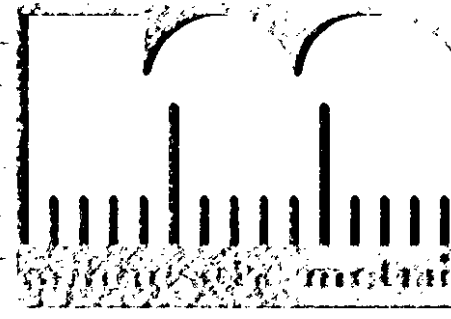
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 STATE AID PROJECT NO. 106-020-14  
 STATE AID PROJECT NO. 106-117-04  
 COUNTY PROJECT NO. \_\_\_\_\_

CROSS- SECTION  
 STA 1+213.720 TO 1+310.650  
 Sheet 19 of 94 Sheets



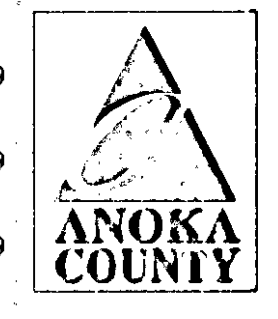
NO	DATE	BY	CHKD	APPR	REVISION
1	04-07-99	KS	CS	EL	



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DATE 04-07-99 REG. NO. 25066

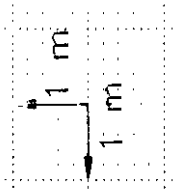
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 DESIGN BY: K.G.J. DATE 04-07-99  
 CHECKED BY: L.R. DATE 04-07-99

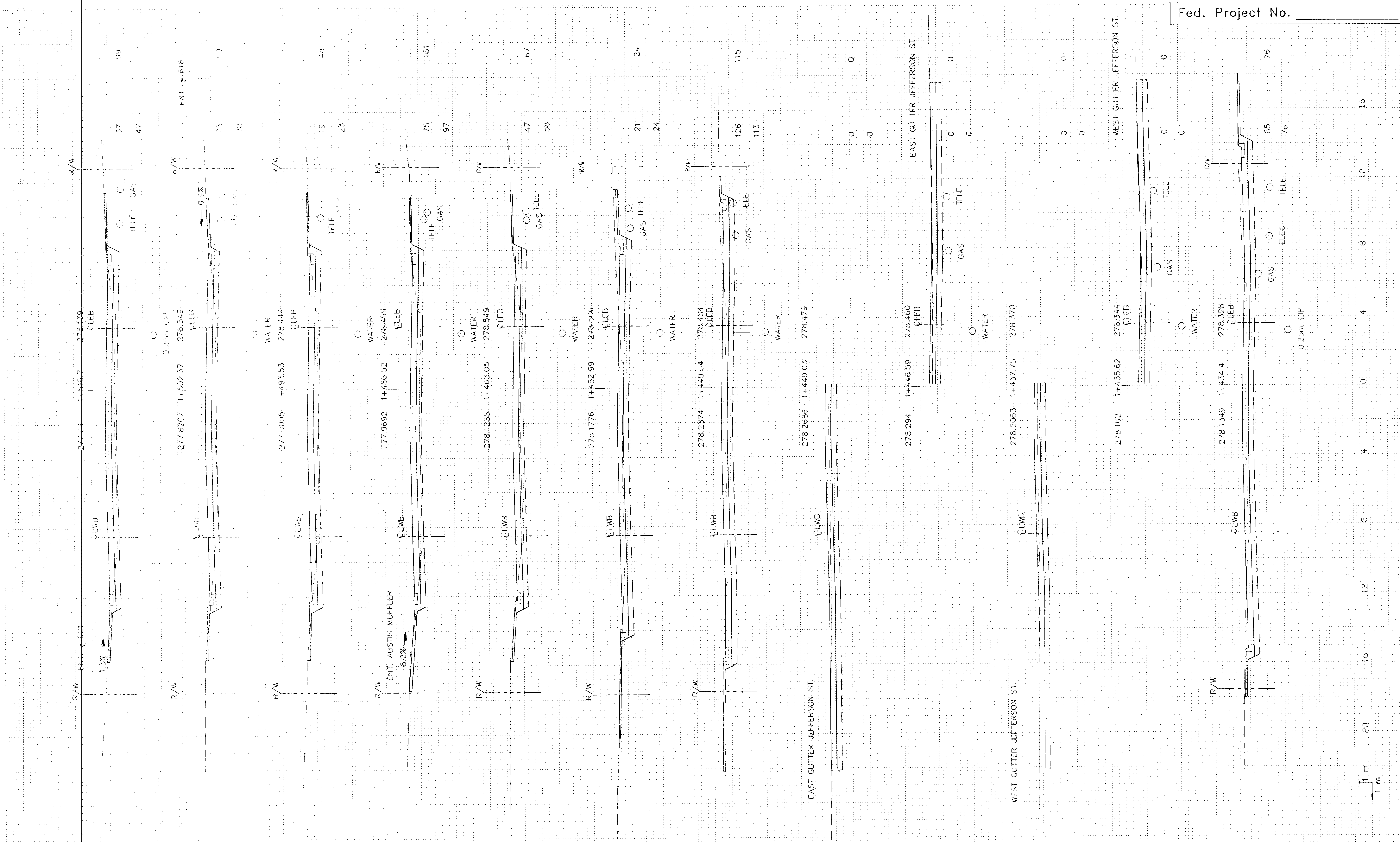


**ANOKA COUNTY  
 HIGHWAY DEPT.**

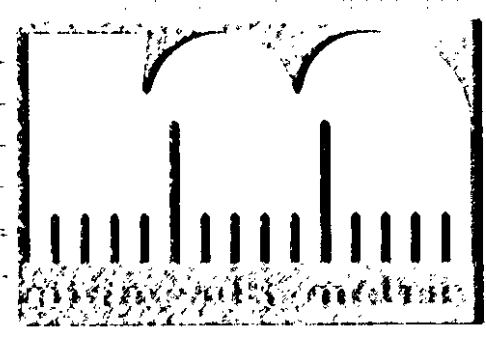
STATE AID PROJECT NO. 02-612-08  
 STATE AID PROJECT NO. 106-020-14  
 STATE AID PROJECT NO. 106-117-04  
 COUNTY PROJECT NO. \_\_\_\_\_

CROSS- SECTION  
 STA 1+320.100 TO 1+422.820  
 Sheet 50 of 94 Sheets





NO.	DATE	BY	CHKD	APPR	REVISION
1	04-07-99	LR	LR	LR	



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

DATE 04-07-99 REG. NO. 25066

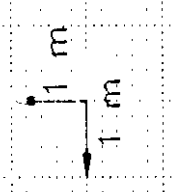
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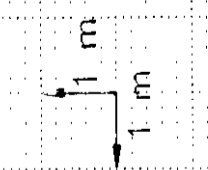
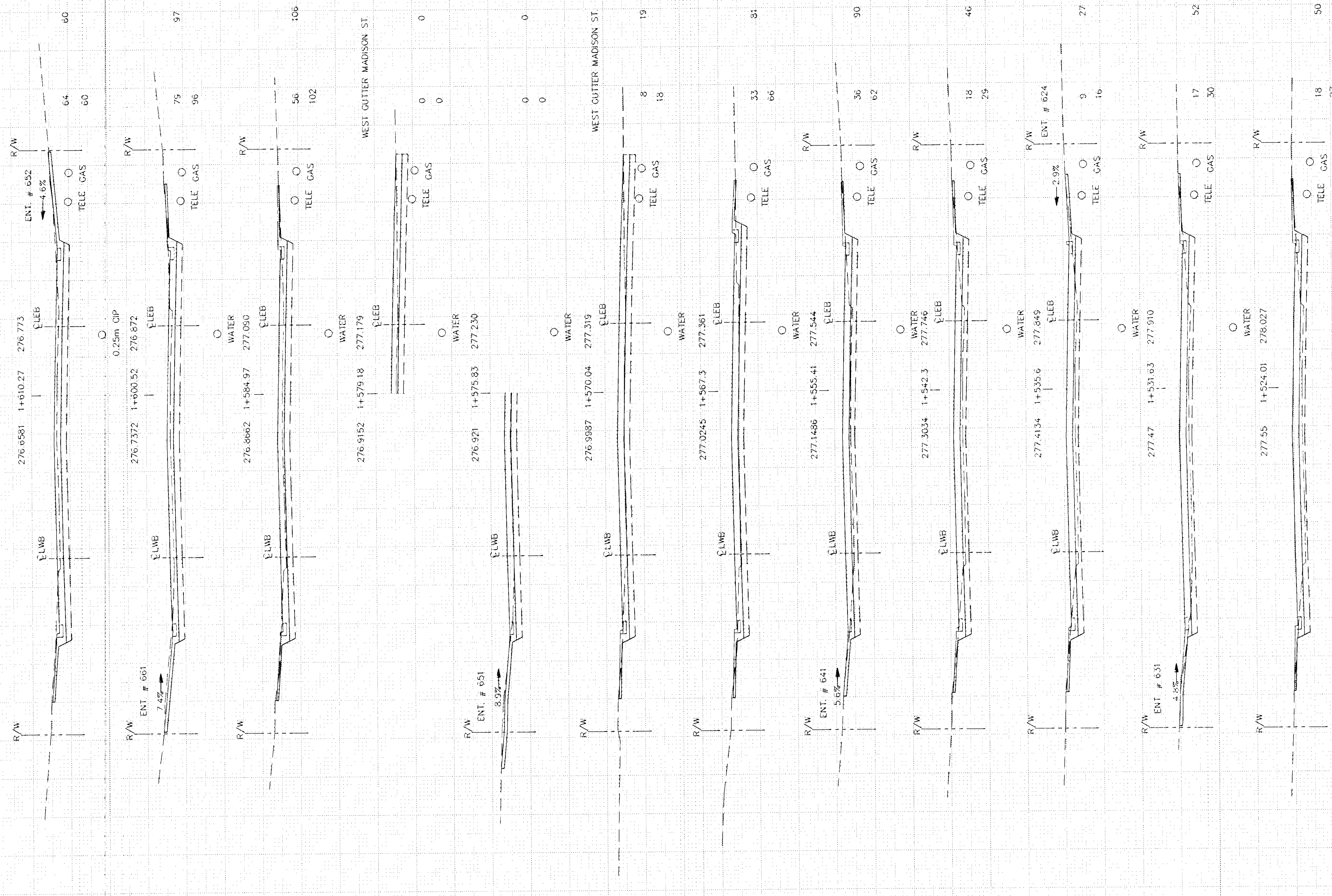


**ANOKA COUNTY  
HIGHWAY DEPT.**

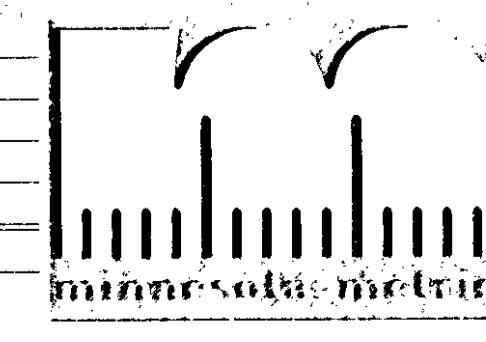
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 STATE AID PROJECT NO. 106-020-14  
 STATE AID PROJECT NO. 106-117-04  
 COUNTY PROJECT NO. \_\_\_\_\_

CROSS- SECTION  
 STA 1+314.00 TO 1+516.700  
 Sheet 51 of 94 Sheets





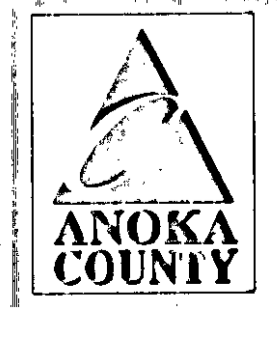
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4899			33524		



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 04-07-99 REG. NO. 25066

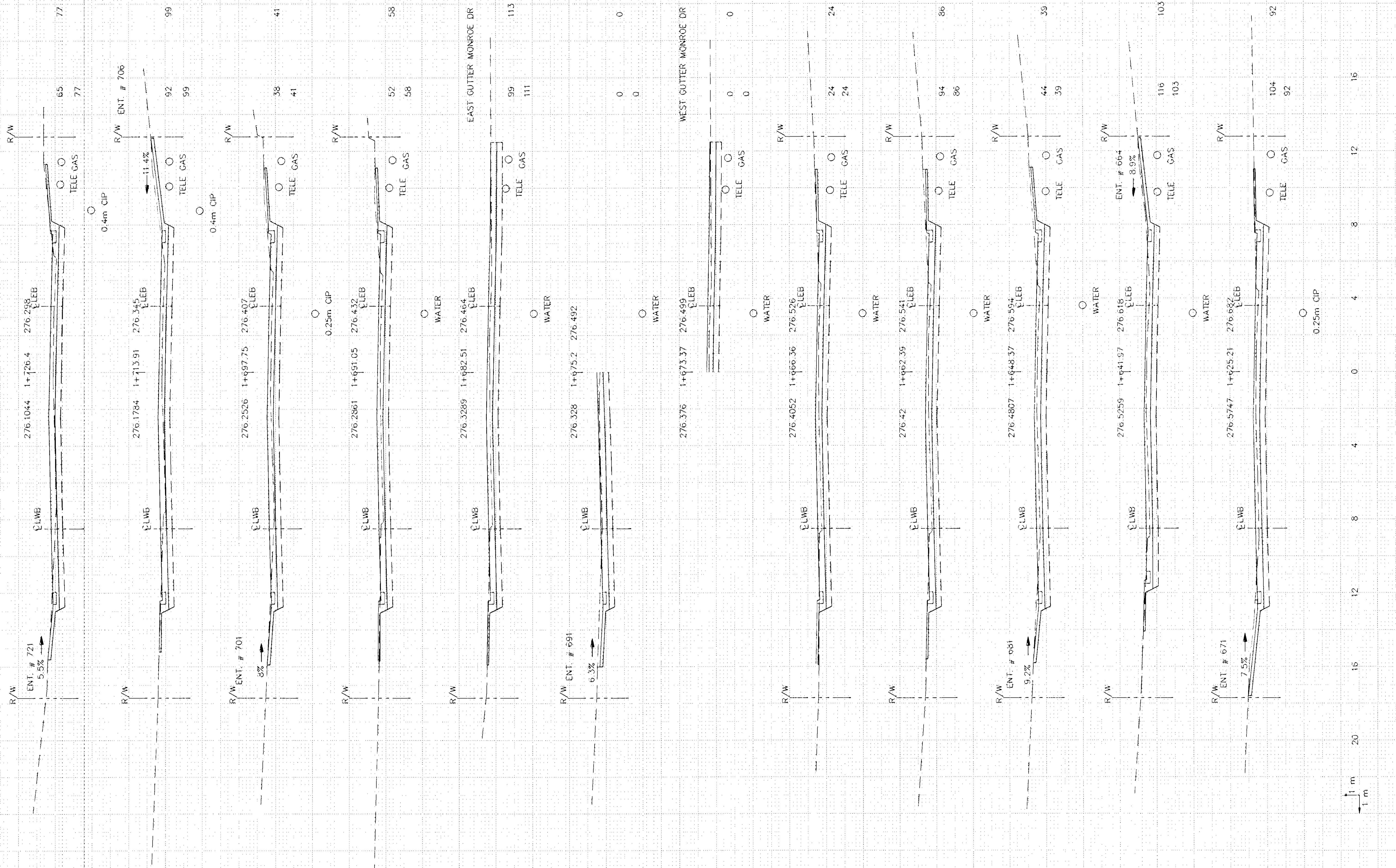
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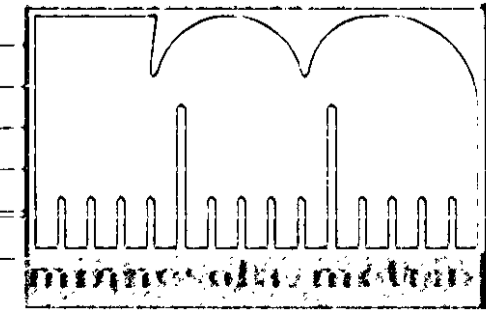
ANOKA COUNTY  
 HIGHWAY DEPT.

STATE AID PROJECT NO. 02-612-08  
 STATE AID PROJECT NO. 106-020-14  
 STATE AID PROJECT NO. 106-117-04  
 COUNTY PROJECT NO. \_\_\_\_\_

CROSS- SECTION  
 STA 1+524.010 TO 1+610.270  
 Sheet 52 of 94 Sheets



NO	DATE	BY	CKD	APPR	REVISION



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 DATE 04-07-99 REG. NO. 25066

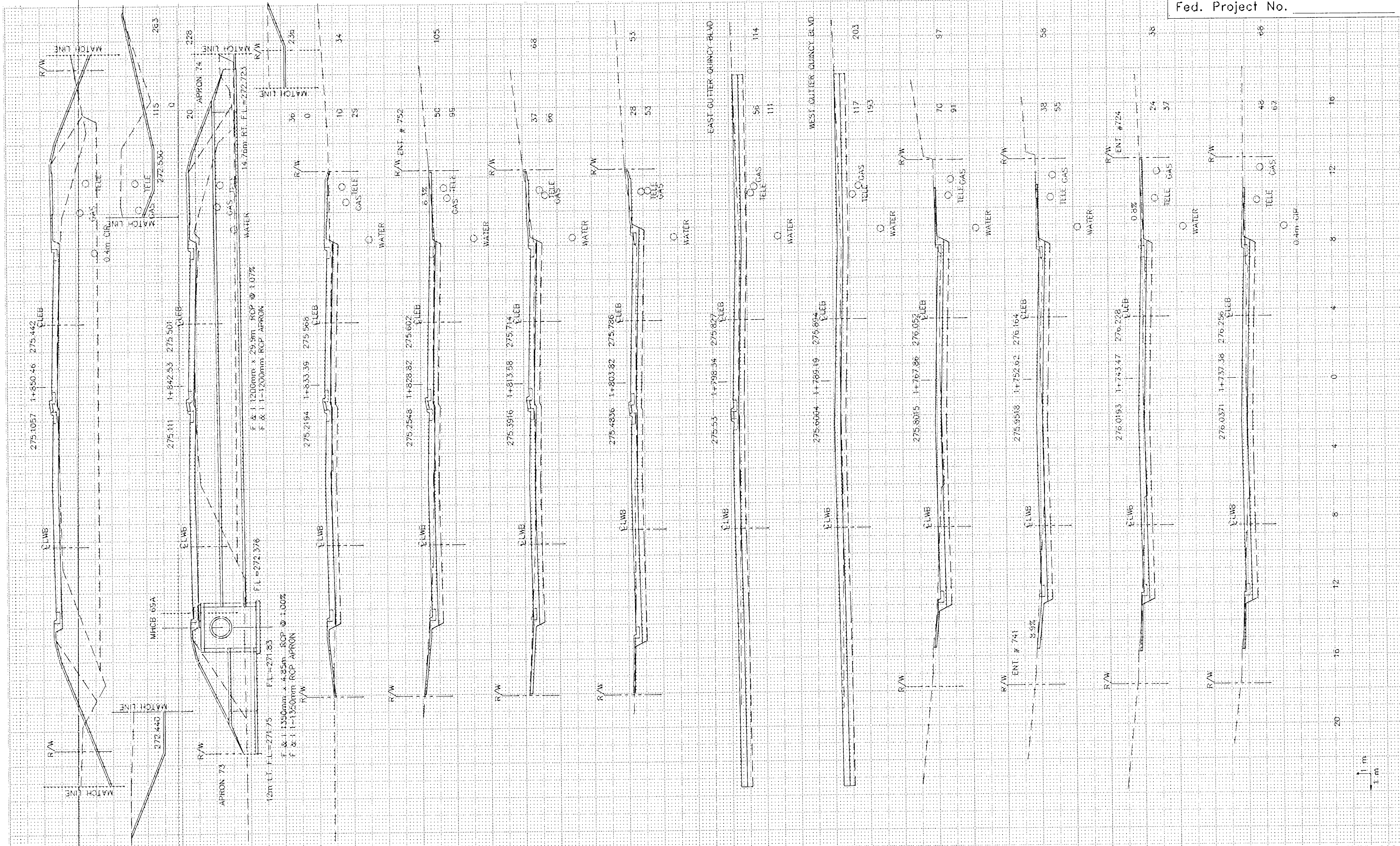
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 CHECKED BY: LR DATE 04-07-99



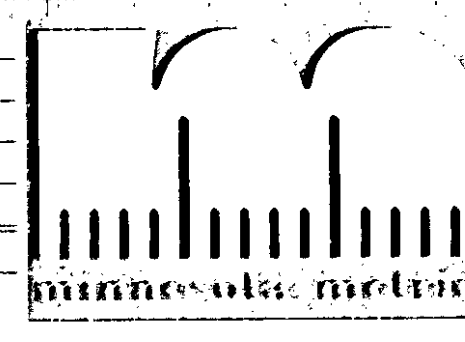
ANOKA COUNTY  
 HIGHWAY DEPT.

STATE AID PROJECT NO. 02-612-08  
 STATE AID PROJECT NO. 106-020-14  
 STATE AID PROJECT NO. 106-117-04  
 COUNTY PROJECT NO. \_\_\_\_\_

CROSS-SECTION  
 STA 1+625.210 TO 1+726.400  
 Sheet 53 of 91 Sheets



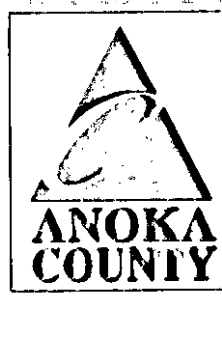
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DATE 04-07-99 REG. NO. 25066

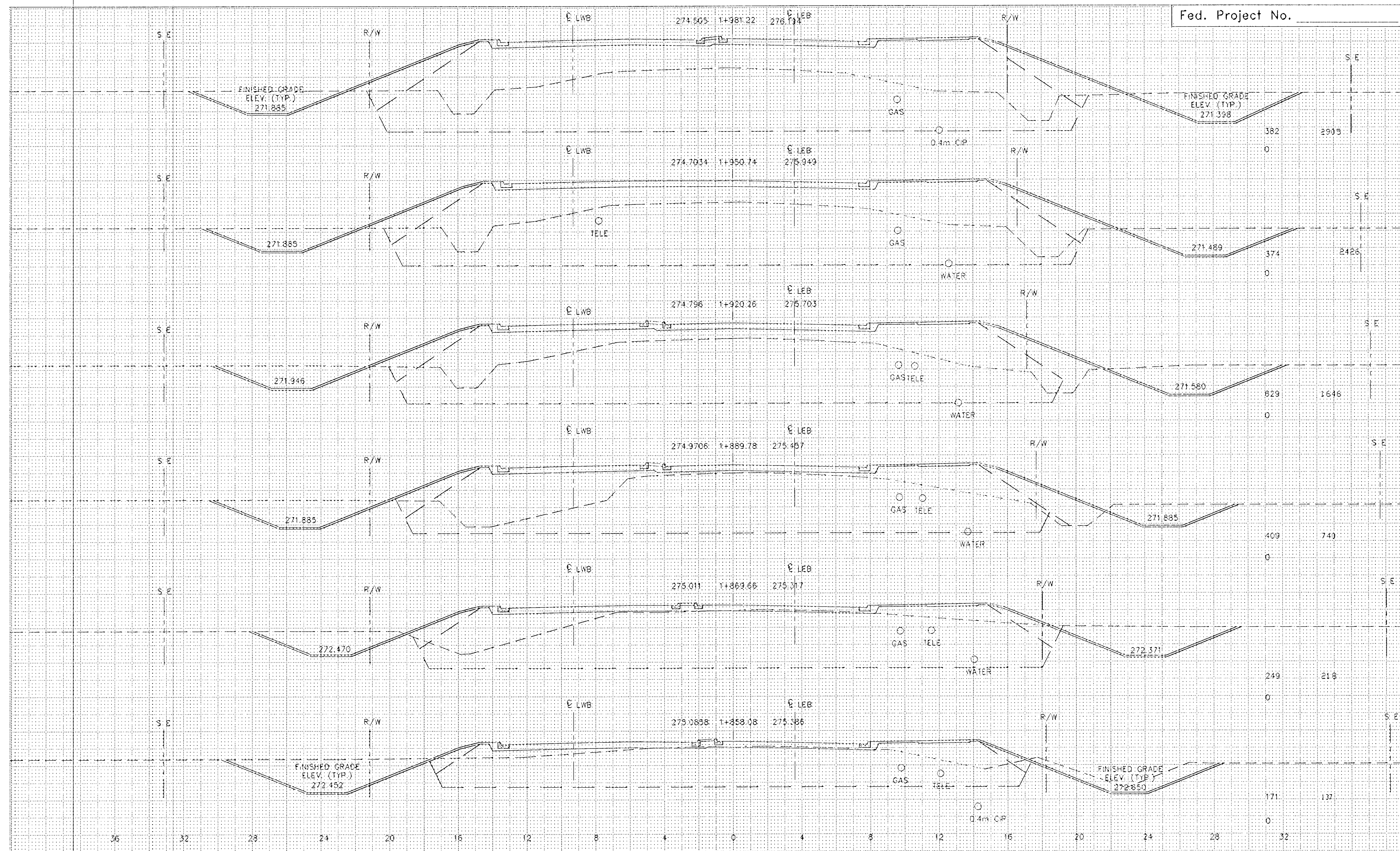
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 DESIGN BY KQJ DATE 04-07-99  
 CHECKED BY LR DATE 04-07-99



**ANOKA COUNTY  
 HIGHWAY DEPT.**

STATE AID PROJECT NO. 02-612-08  
 STATE AID PROJECT NO. 106-020-14  
 STATE AID PROJECT NO. 106-117-04  
 COUNTY PROJECT NO. \_\_\_\_\_

CROSS- SECTION  
 STA 1+737.380 10 TO 1+850.160  
 Sheet 54 of 94 Sheets

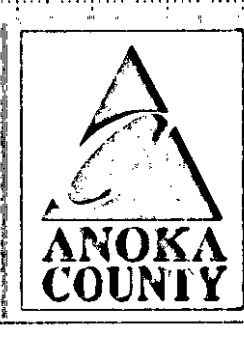


NO	DATE	BY	CKD	APPR	REVISION
1	4-9-99				
2	9-31-02				am EST

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 04-07-99 REG. NO. 25066

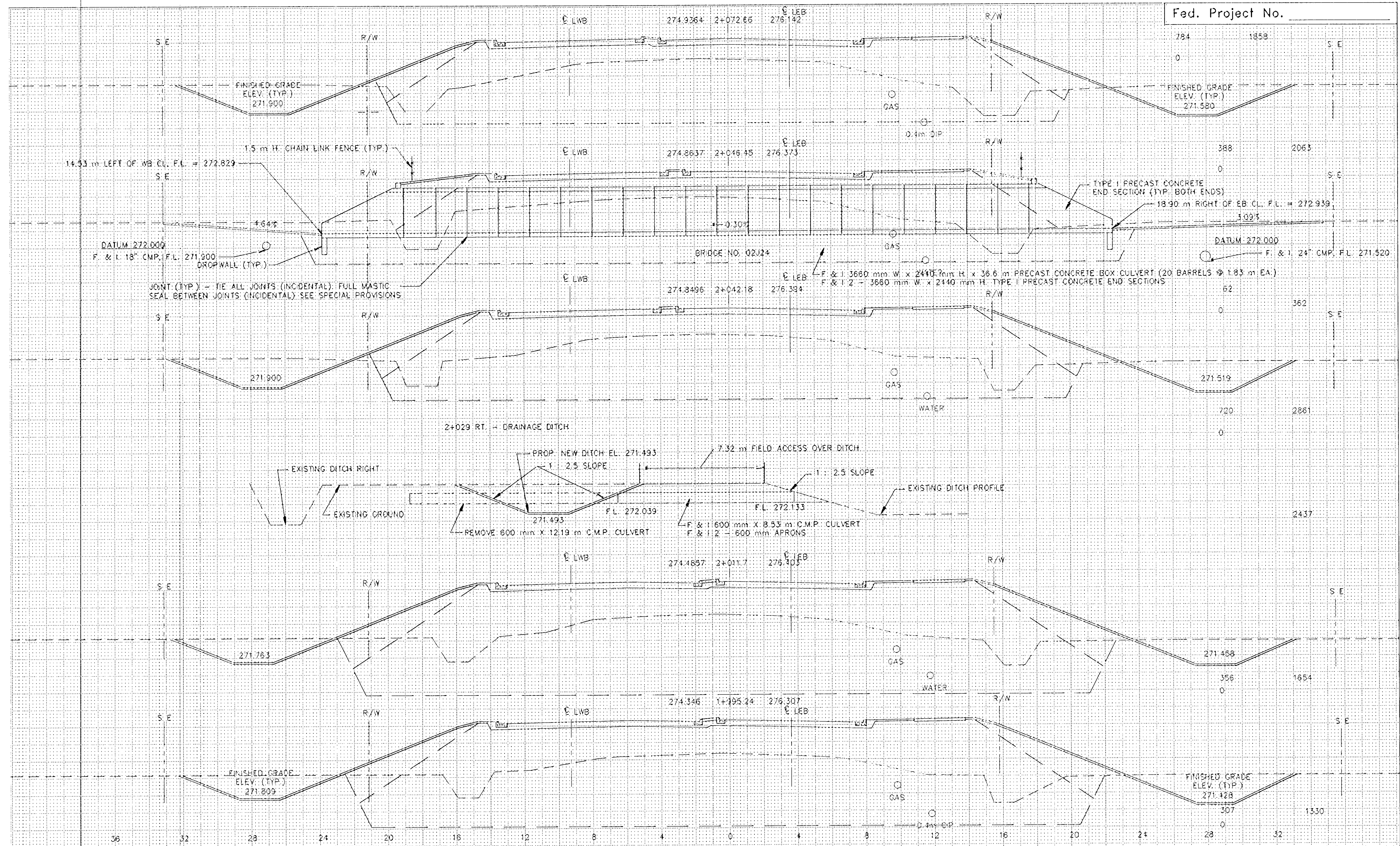
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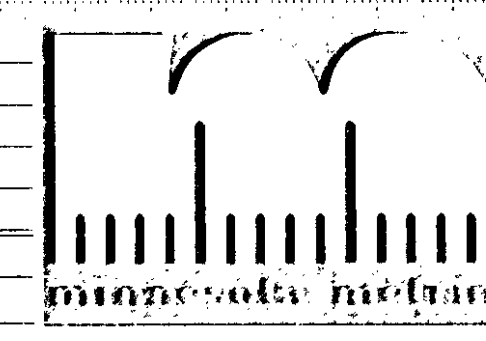
**ANOKA COUNTY**  
**HIGHWAY DEPT.**

STATE AID PROJECT NO. 02-612-08  
 STATE AID PROJECT NO. 106-020-14  
 STATE AID PROJECT NO. 106-117-04  
 COUNTY PROJECT NO. \_\_\_\_\_

CROSS-SECTION  
 STA 1+858.080 TO 1+981.220  
 Sheet 55 of 94 Sheets



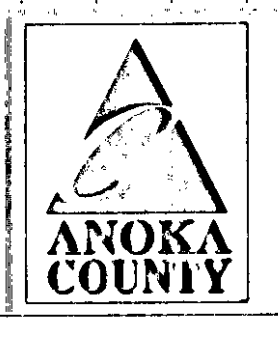
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1	4-9-99	931:02	an	EST	



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 04-07-99 REG. NO. 25066

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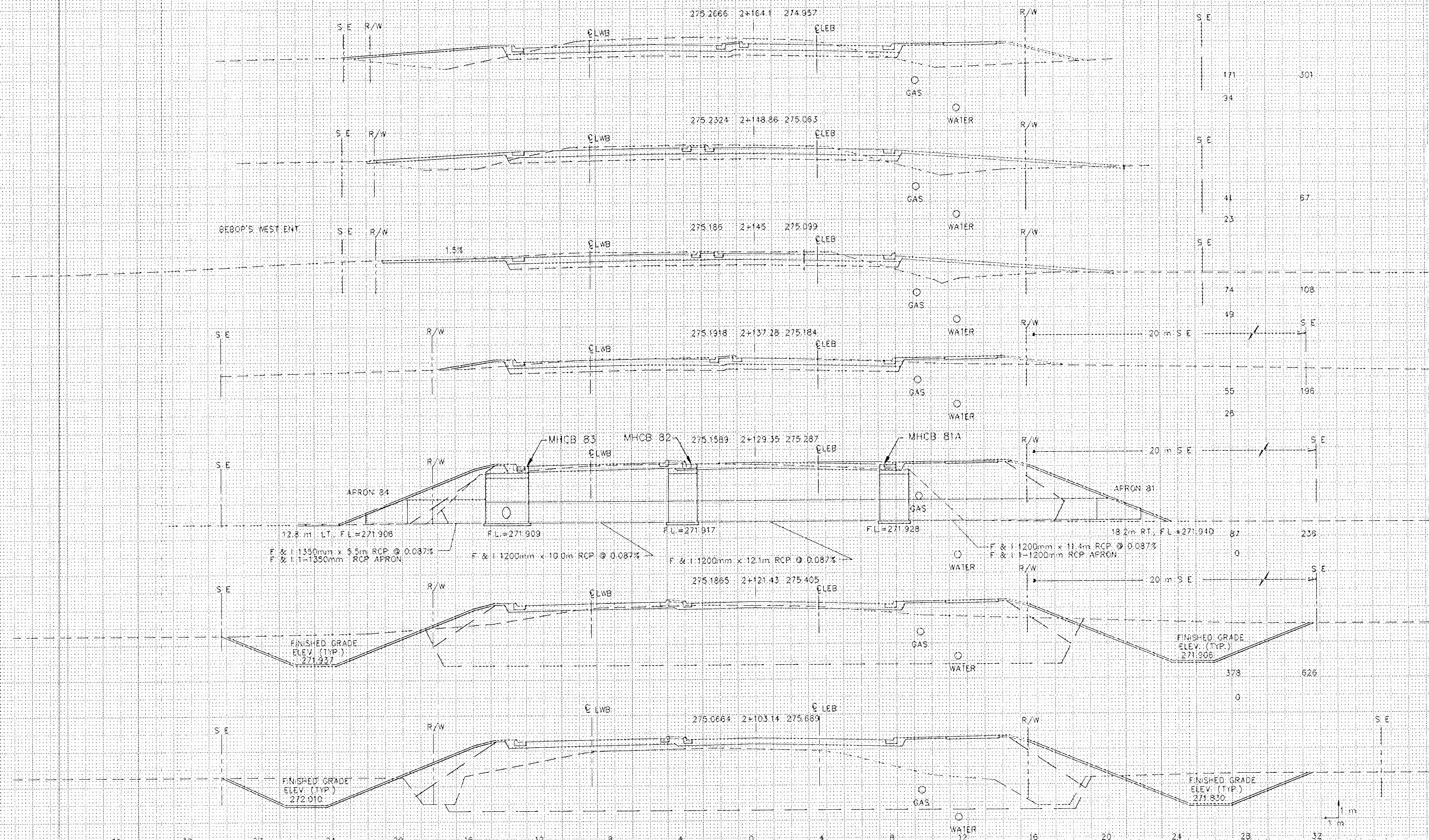


**ANOKA COUNTY**  
**HIGHWAY DEPT.**

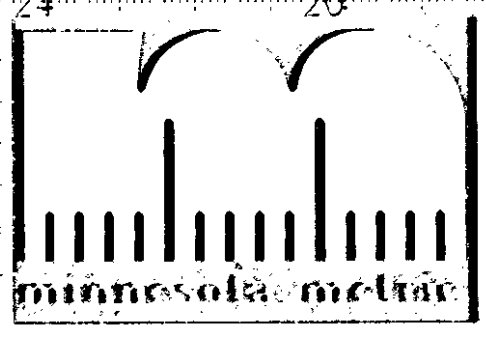
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 STATE AID PROJECT NO. 106-020-14  
 STATE AID PROJECT NO. 106-117-04  
 COUNTY PROJECT NO. \_\_\_\_\_

CROSS-SECTION  
 STA 1+995.240 TO 2+103.140  
 Sheet 56 of 94 Sheets





NO	DATE	BY	CKD	APPR	REVISION



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DATE 04-07-99 REG. NO. 25066

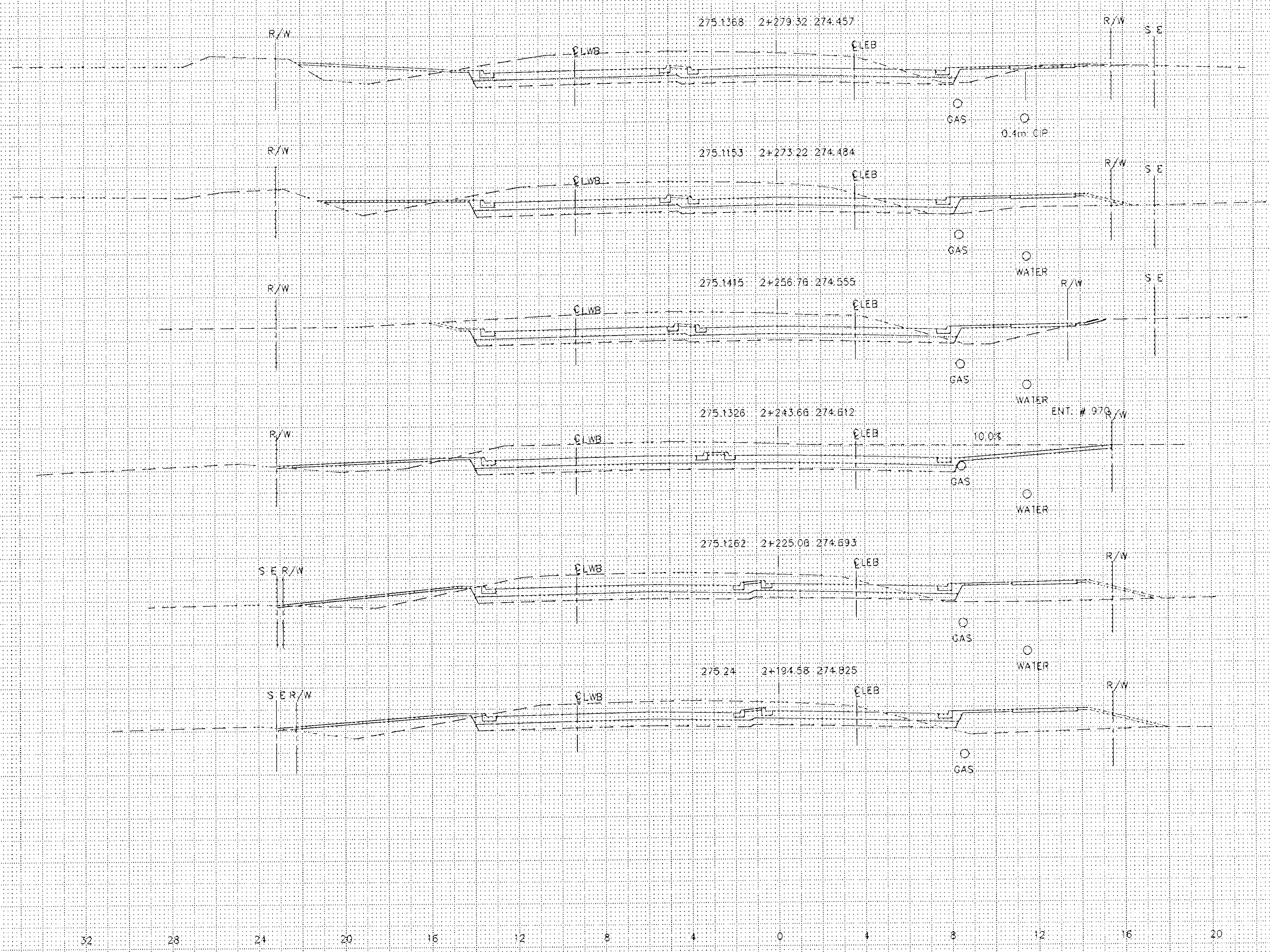
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 CHECKED BY LR DATE 04-07-99



**ANOKA COUNTY  
 HIGHWAY DEPT.**

STATE AID PROJECT NO. 02-612-08  
 STATE AID PROJECT NO. 106-020-14  
 STATE AID PROJECT NO. 106-117-04  
 COUNTY PROJECT NO. \_\_\_\_\_

CROSS-SECTION  
 STA 2+121.430 TO 2+164.100  
 Sheet 57 of 94 Sheets

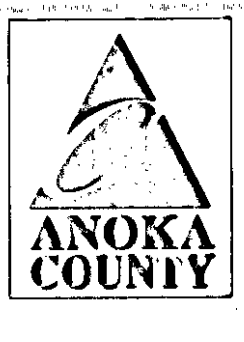


NO	DATE	BY	CKD	APPR	REVISION



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 04-07-99 REG. NO. 25066

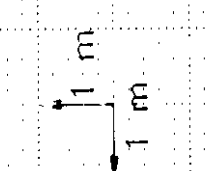
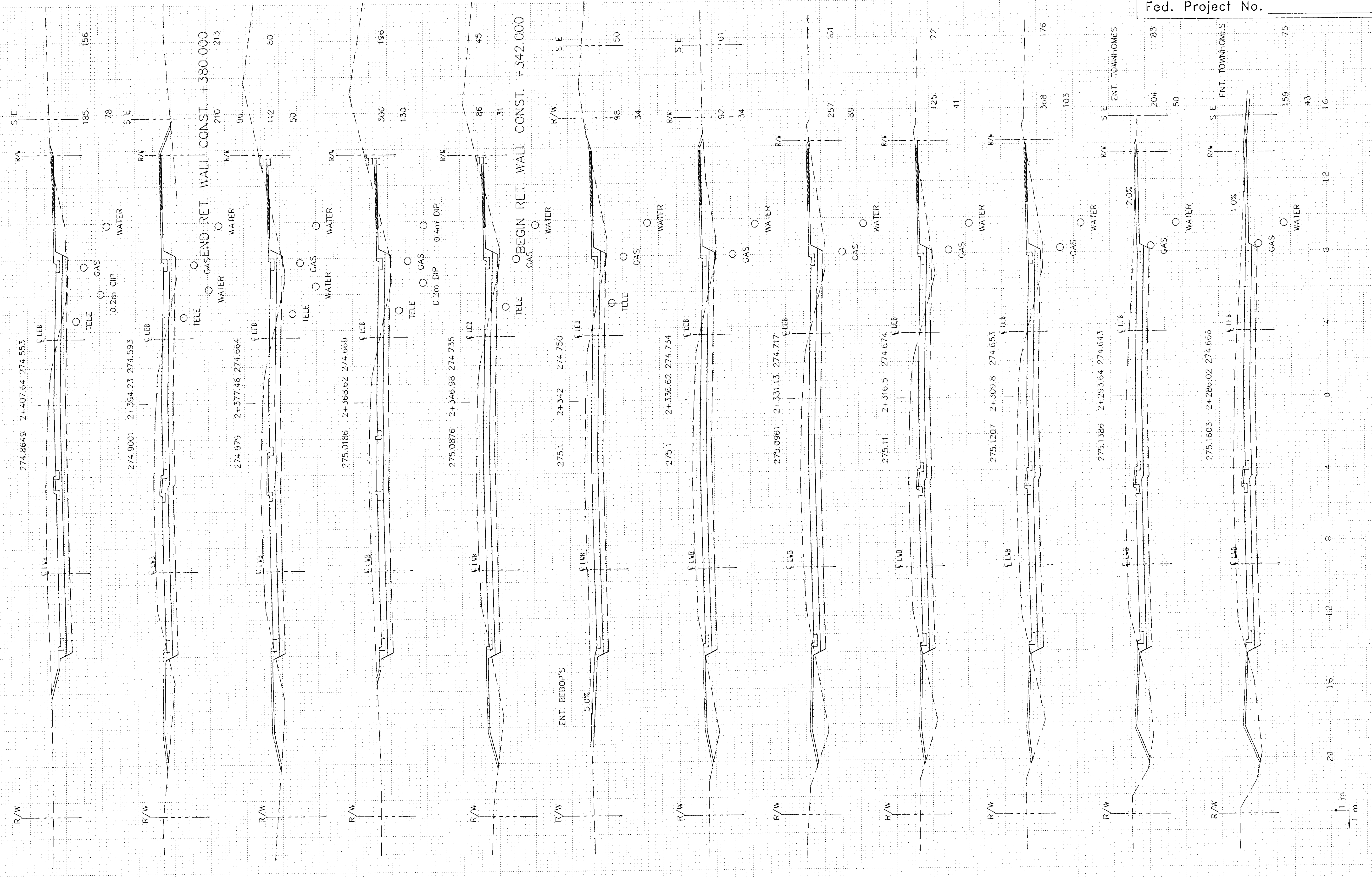
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 CHECKED BY LR DATE 04-07-99



ANOKA COUNTY  
 HIGHWAY DEPT.

STATE AID PROJECT NO. 02-612-08  
 STATE AID PROJECT NO. 106-020-14  
 STATE AID PROJECT NO. 106-117-04  
 COUNTY PROJECT NO. \_\_\_\_\_

CROSS-SECTION  
 STA 2+194.580 TO 2+279.320  
 Sheet 58 of 91 Sheets

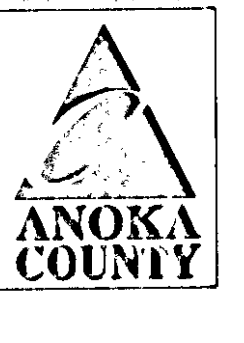


NO	DATE	BY	CKD	AFPR	REVISION

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 00/00/00 REG. NO. 25066

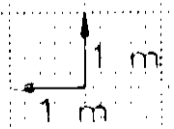
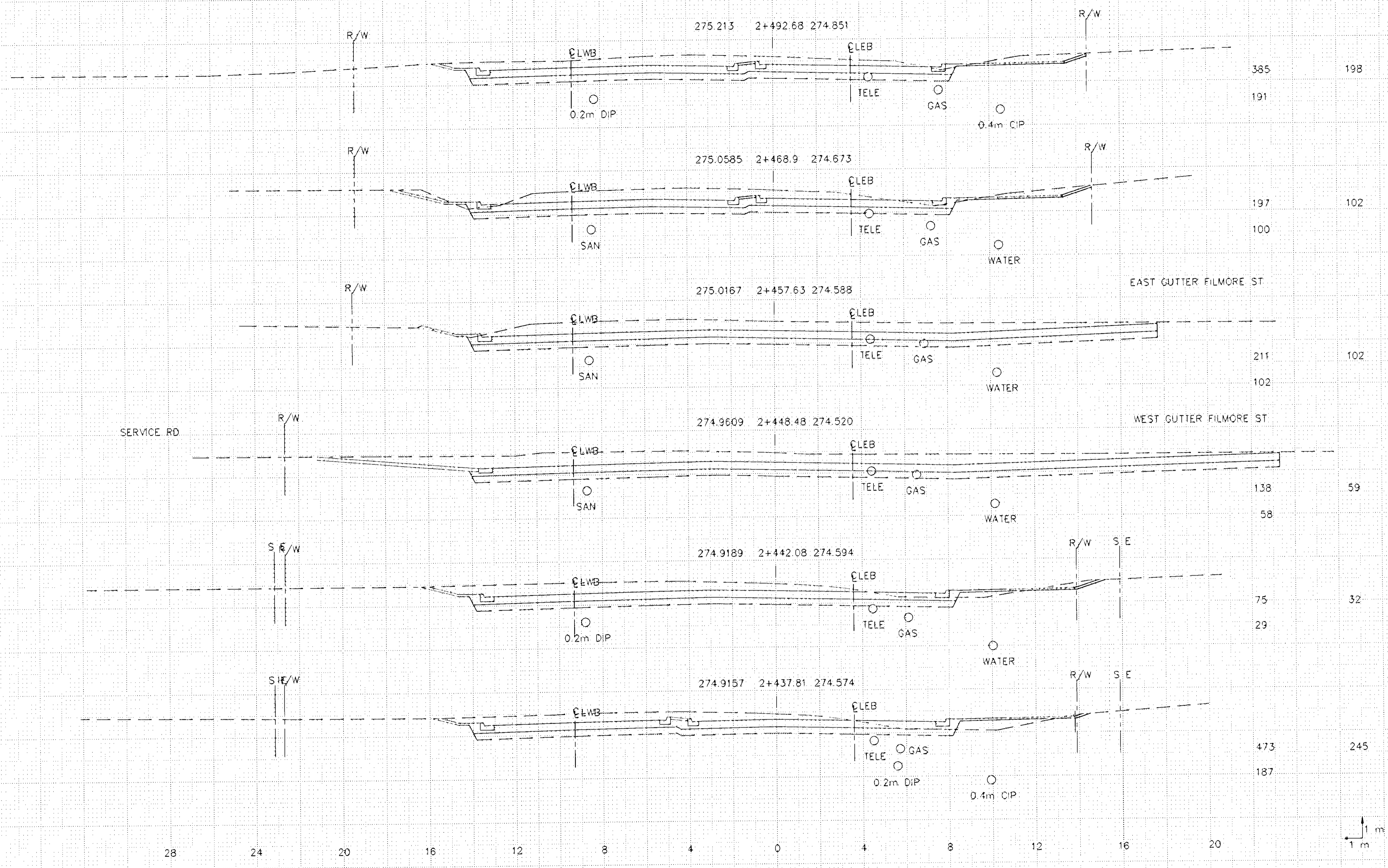
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 DESIGN BY K.G.J. DATE 04-07-99  
 CHECKED BY LR DATE 04-07-99



**ANOKA COUNTY  
 HIGHWAY DEPT.**

STATE AID PROJECT NO. 02-612-08  
 STATE AID PROJECT NO. 106-020-14  
 STATE AID PROJECT NO. 106-117-04  
 COUNTY PROJECT NO. \_\_\_\_\_

CROSS- SECTION  
 STA 2+286.020 TO 2+407.610  
 Sheet 59 of 94 Sheets



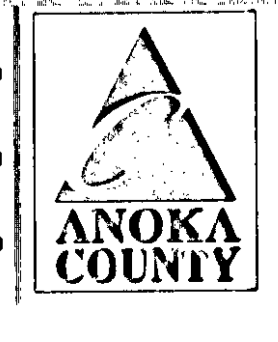
NO	DATE	BY	CKD	APPR	REVISION
1	4-8-99	7:18:01 pm	EST		



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 04-07-99 REG. NO. 25066

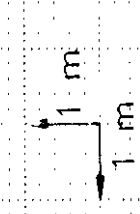
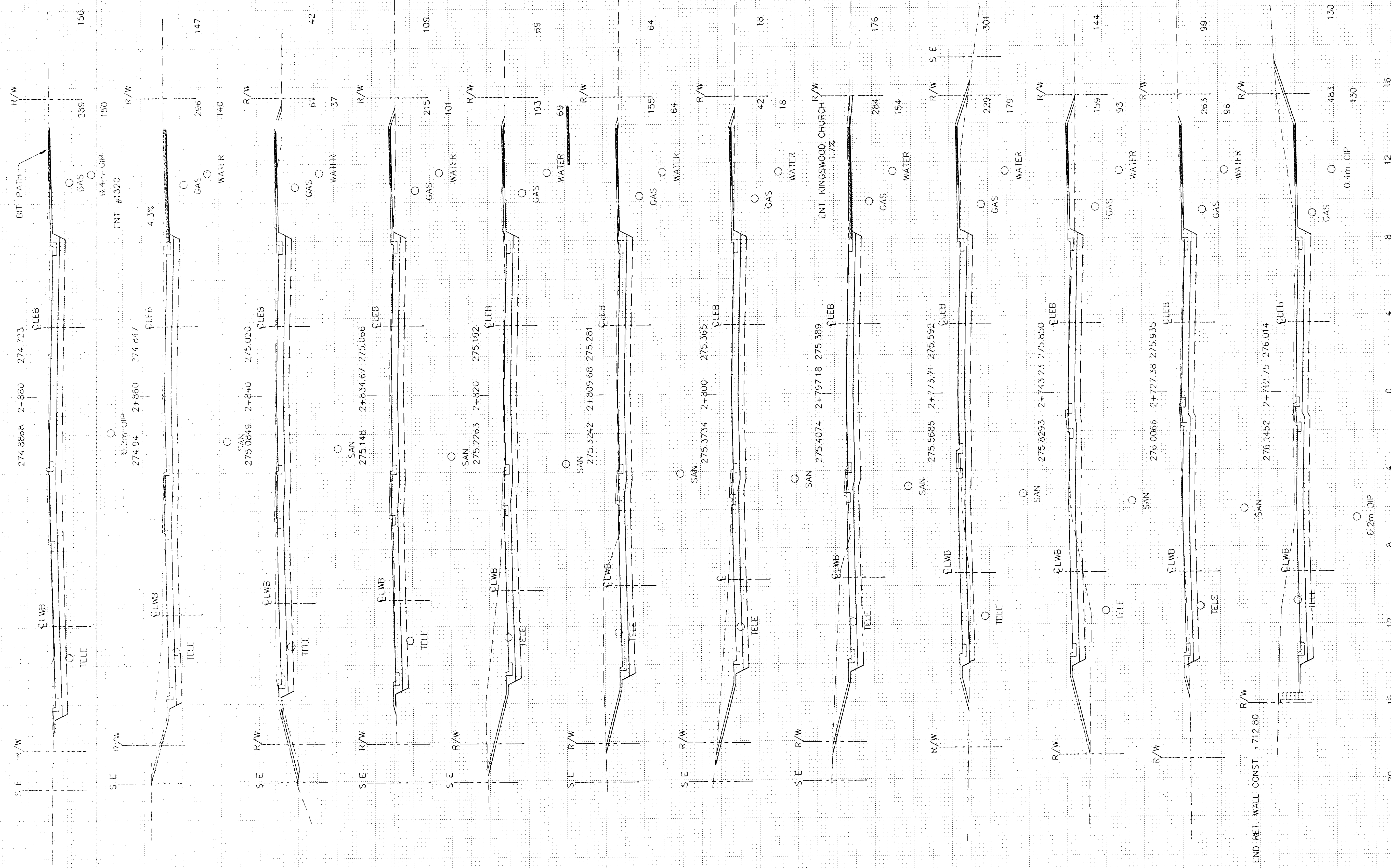
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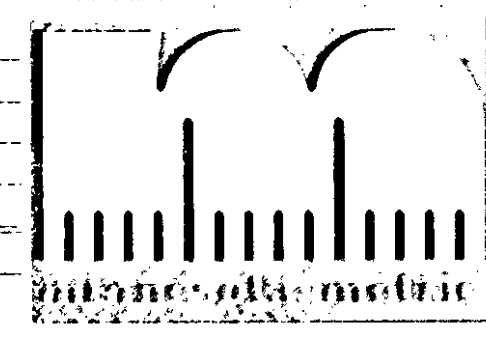
**ANOKA COUNTY  
HIGHWAY DEPT.**

STATE AID PROJECT NO. 02-612-08  
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 STATE AID PROJECT NO. 106-117-04  
 COUNTY PROJECT NO. \_\_\_\_\_

**CROSS-SECTION**  
 STA 2+437.81 TO 2+492.68  
 Sheet 60 of 94 Sheets



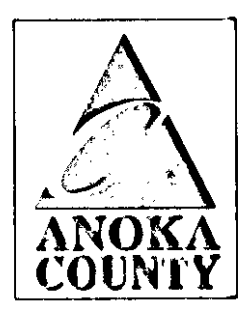
NO.	DATE	BY	CHKD	APPR	REVISION
1	5-27-99	CKD	APPR		



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 04-07-99 REG. NO. 25066

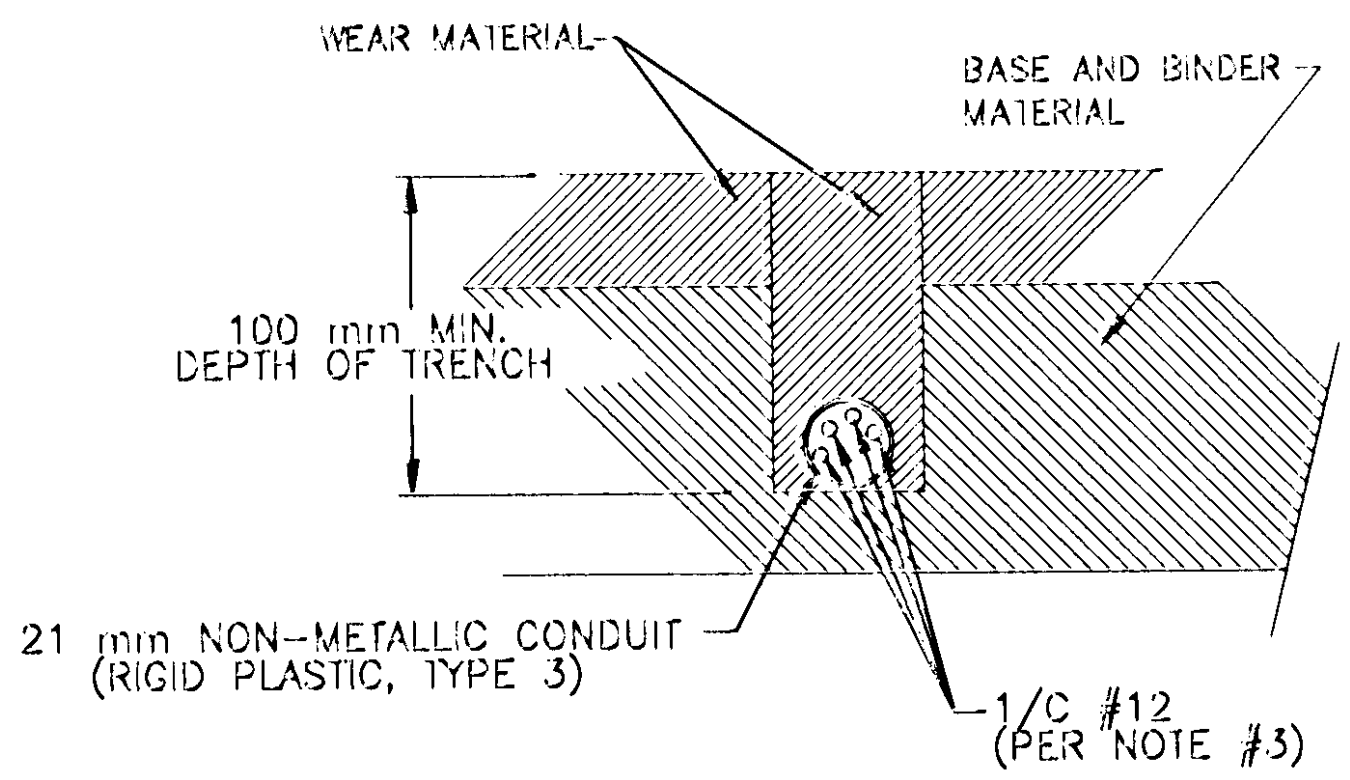
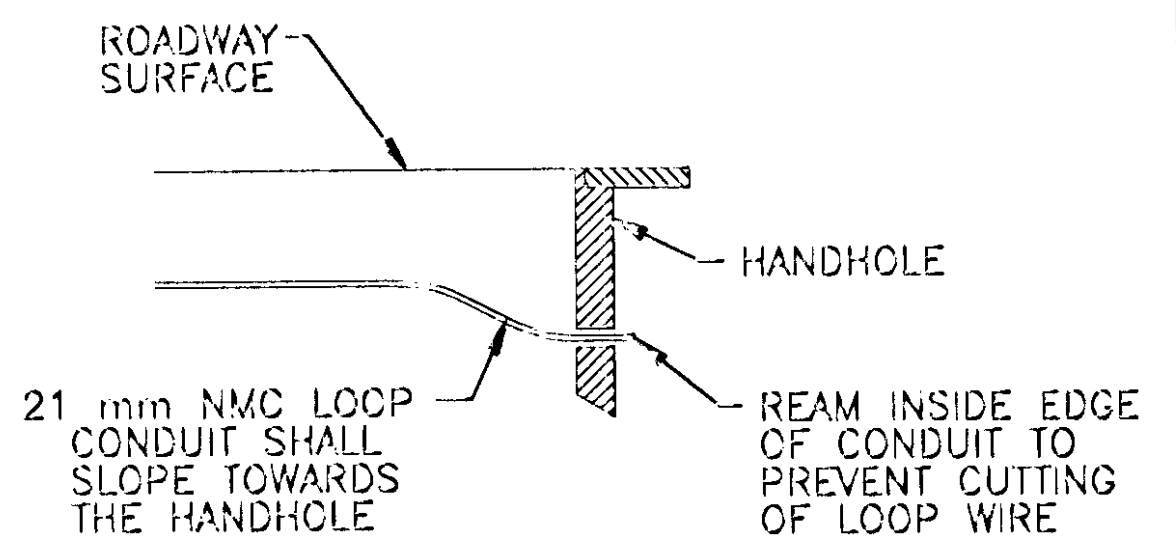
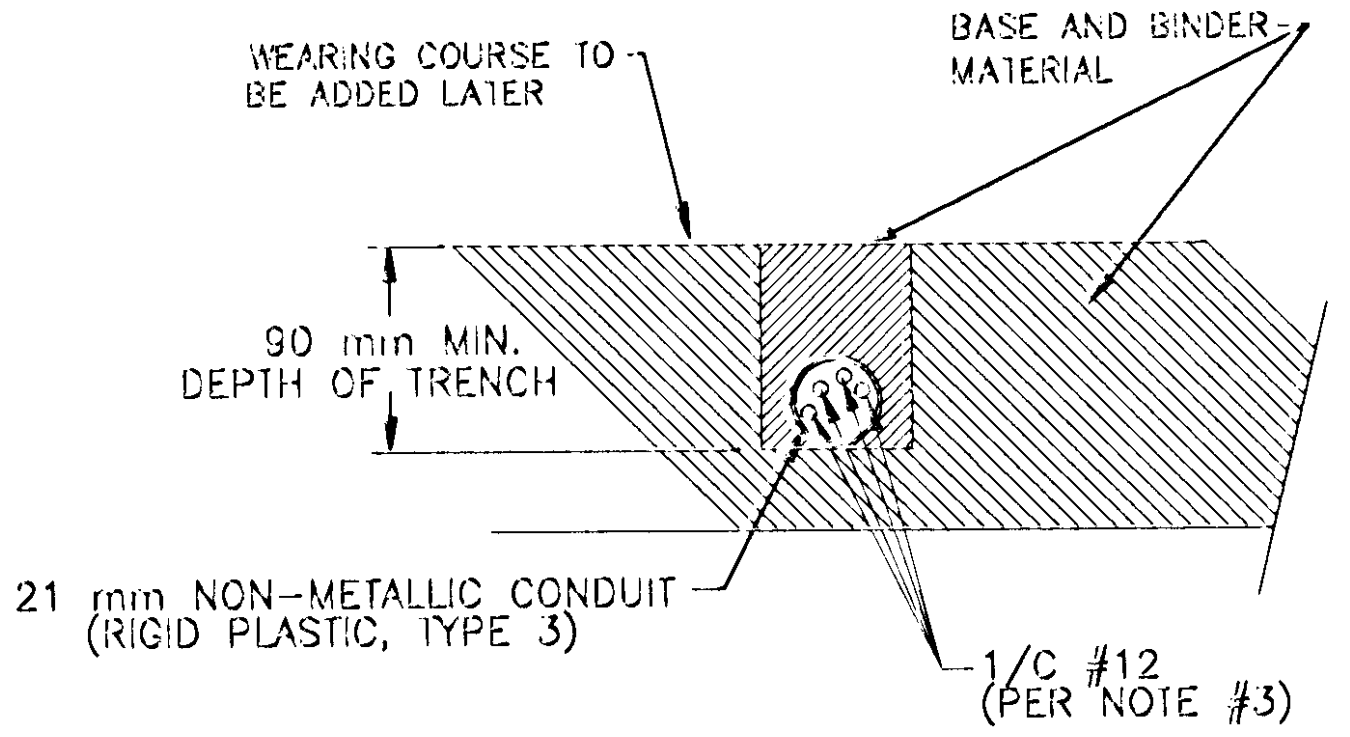
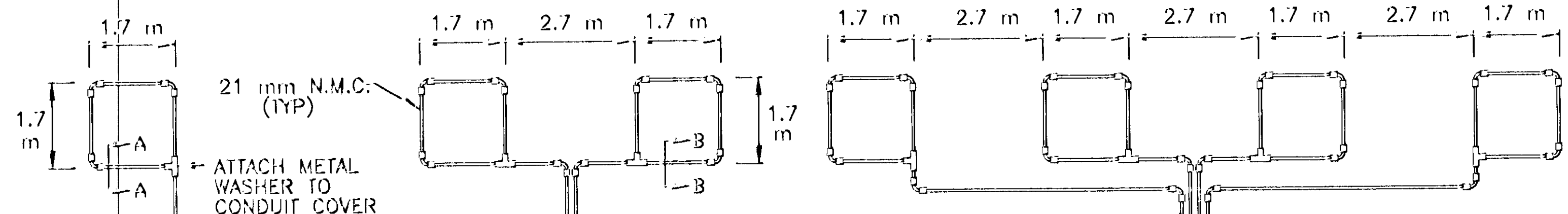
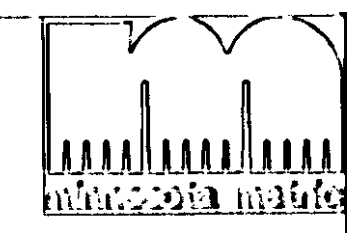
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**ANOKA COUNTY  
HIGHWAY DEPT.**

STATE AID PROJECT NO. 02-612-08  
 STATE AID PROJECT NO. 106-020-14  
 STATE AID PROJECT NO. 106-117-04  
 COUNTY PROJECT NO. \_\_\_\_\_

**CROSS-SECTION**  
 STA 2+712.750 TO 2+880.000  
 Sheet 62A of 91 Sheets



- ### 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 0.3 METER (1 FOOT) THROUGH THE CONDUIT TO THE HANDHOLE.
  - 5) NMC DESIGNATES NON-METALLIC CONDUIT (SPEC. 3803)
  - 6) LOOPS 1.7 m x 1.7 m THRU 1.7 m x 4.3 m SHALL HAVE (4) TURNS.
  - 7) LOOPS 1.7 m x 4.6 m AND LARGER SHALL HAVE (2) TURNS.

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

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

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

**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)

**LEGEND OF SYMBOLS**

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

**ABBREVIATIONS**

3-1(EG)	SIGNAL HEAD PHASE '3' - NO. '1'	P2-1(EG)	PEDESTRIAN INDICATION PHASE '2' - NO. '1'
BR. GR.	BARE GROUND	PB	PUSH BUTTON
CH. SW.	CHECK SWITCH	PB2-1(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
EGG	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	SDP	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	SV	SWITCH
GTHA	GREEN THRU ARROW	SWD	SWITCHED
HH	HANDHOLE	S&R	SALVAGE AND REINSTALL
HPS	HIGH PRESSURE SODIUM	T&W	TELEPHONE DROP WIRE
JB	JUNCTION BOX	WLK	WALK
LUM	LUMINAIRE	YEL	YELLOW
NEU	NEUTRAL	YLTA	YELLOW LEFT TURN ARROW
NMC	NONMETALLIC CONDUIT	YRTA	YELLOW RIGHT TURN ARROW
		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

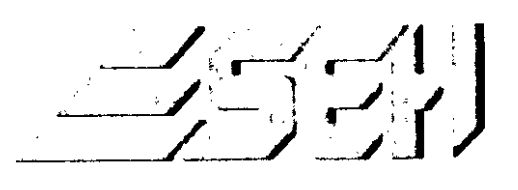
THESE STANDARD PLATES AS APPROVED BY FRMA SHALL APPLY:

PLATE NO.	DESCRIPTION
* M8110 D	TRAFFIC SIGNAL BRACKETING - POLE MOUNTED
M8111 C	TRAFFIC SIGNAL BRACKETING - PEDESTAL MOUNTED
M8112 C	PEDESTAL FOUNDATION
* M8114 A	PVC HANDHOLE/PULLBOX
M8115 D	PEDESTRIAN PUSH BUTTON INSTALLATION
* M8118 C	SERVICE EQUIPMENT AND POLE-TRAFFIC CONTROL SIGNALS
* M8119 C	GROUND MOUNTED CABINET FOUNDATION
* M8120 K	PASS POLE FOUNDATION
* M8121 D	TRANSFORMER BASE AND POLE BASE PLATE
M8122 C	PEDESTAL AND PEDESTAL BASE
* M8123 D	POLE AND MAST ARM
* M8124 E	MAST ARM SIGNAL HEAD MOUNTS
* M8126 F	PASO AND PATCO POLE FOUNDATION

\* APPLIES TO THIS PROJECT

NO.	BY	DATE	REVISIONS	ITEM	DESIGN	CHECKED	DATE

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: 7/18/98 Reg. No. 22457

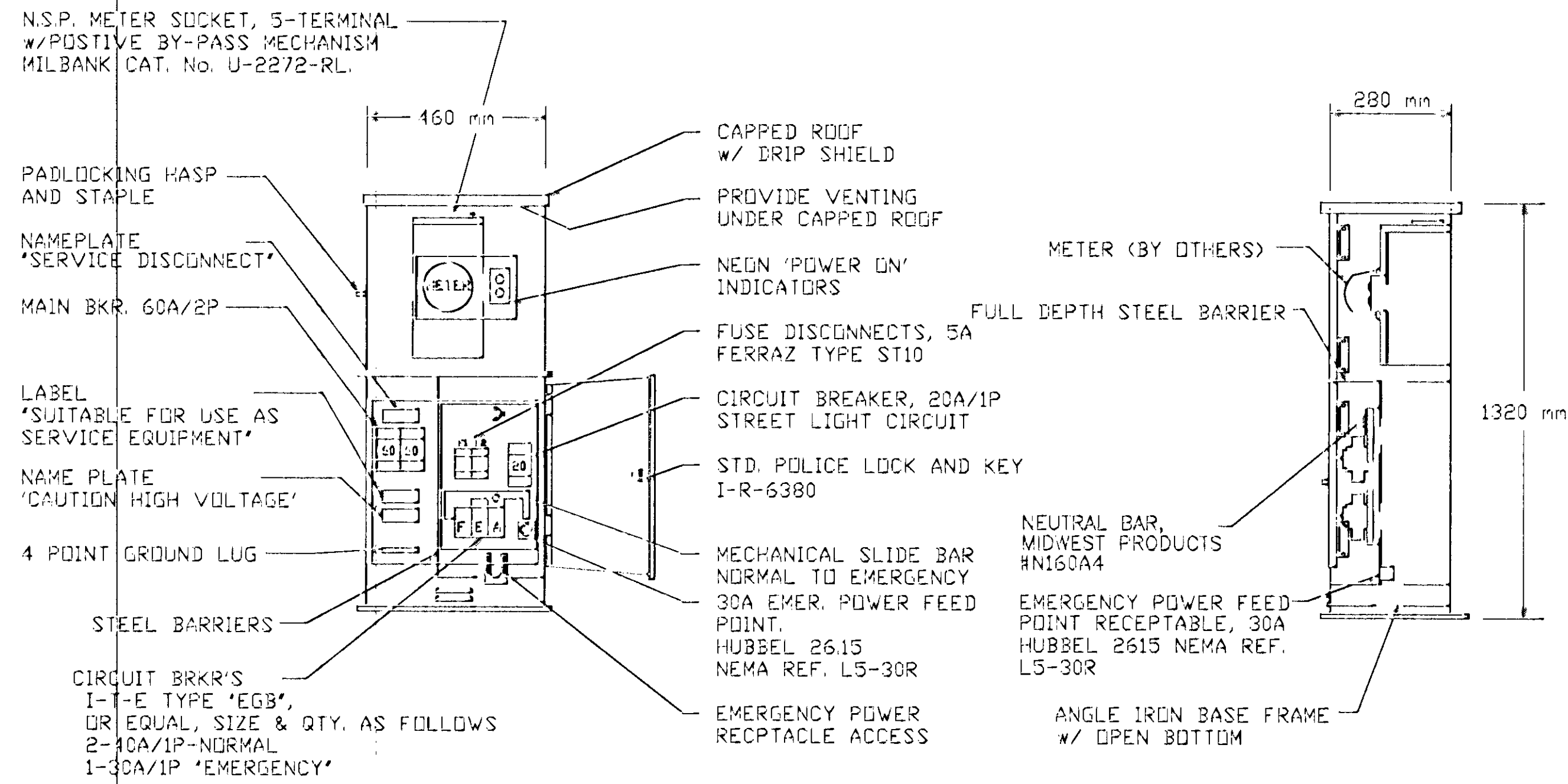


**ANOKA COUNTY, MINNESOTA**  
 CITY OF BLAINE  
 STATE AID PROJECT NO. 02-612-08  
 STATE AID PROJECT NO. 106-117-04

**TRAFFIC SIGNAL SYSTEM**  
 DETAILS & STANDARD PLATES  
 CSAH 12 (109TH AVE NE) AT JEFFERSON STREET NE

FILE NO. ANKCC9901  
 DATE 9/18/98  
**64**  
**94**

**SIGNAL SERVICE CABINET**



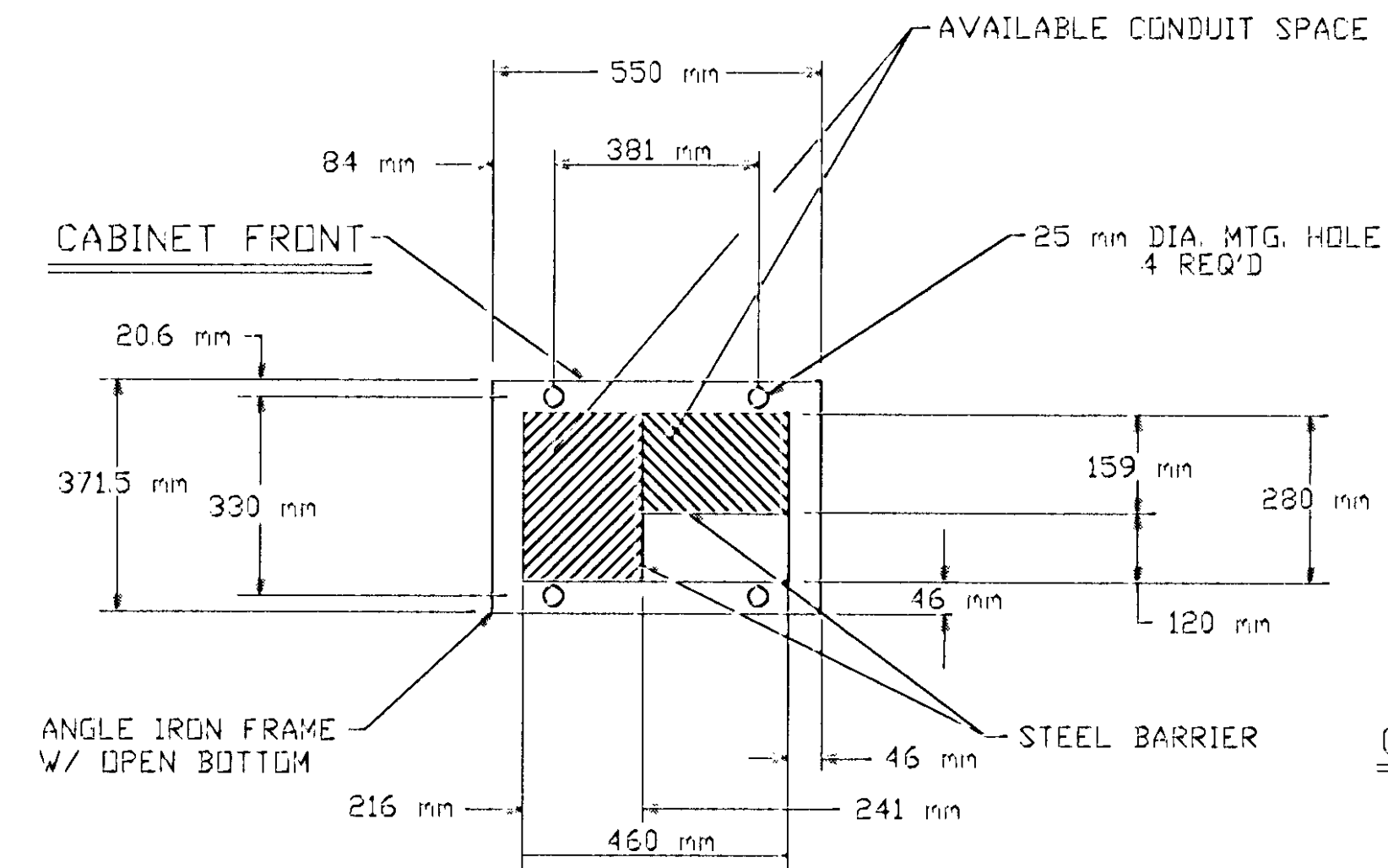
**FRONT ELEV.**

**RIGHT SIDE ELEV.**

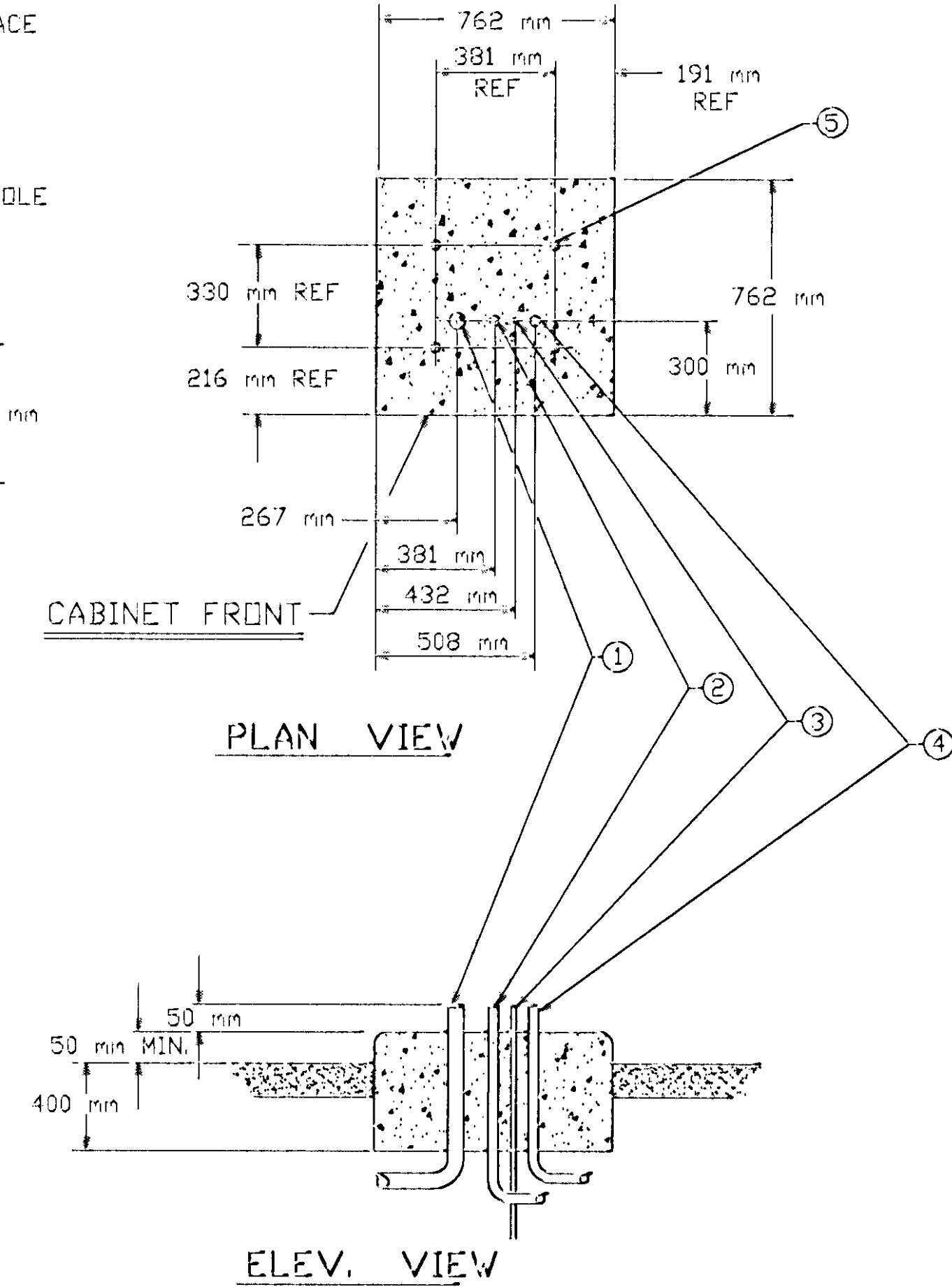
**CONSTRUCTION NOTES**

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 INHIBITING PRIMER. FINISH PER MN/DDT #3527. ENCLOSURE SHALL BE 'UL' APPROVED

**SERVICE CABINET FOUNDATION**

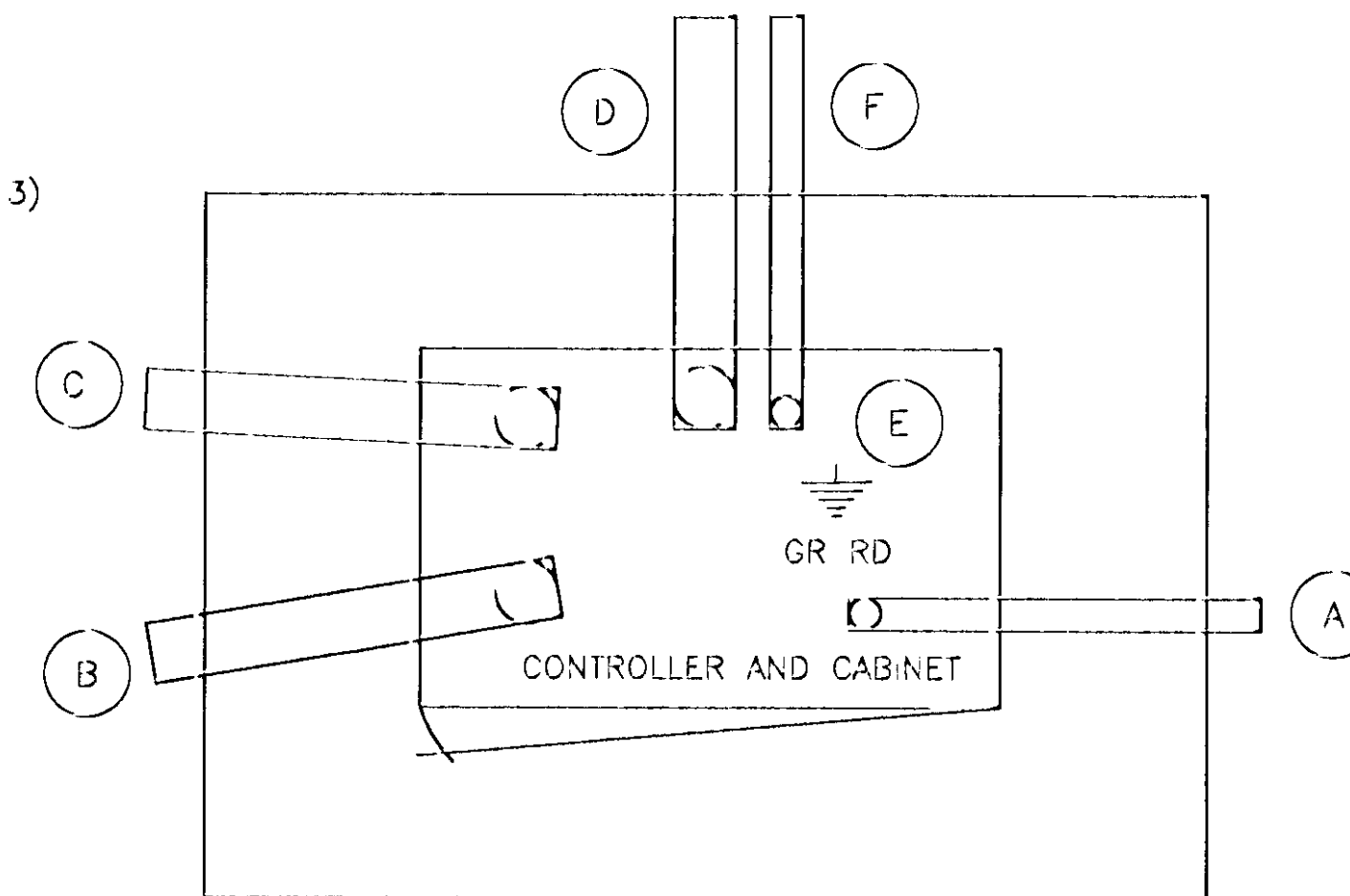


**BASE VIEW**



- ① 53 mm RSC TO HANDHOLE 14 (FOR SCP)
- ② 53 mm RSC TO CONTROLLER CABINET (VIA HH 13)
- ③ GROUNDING ROD
- ④ 53 mm RSC TO HANDHOLE 12 (FOR STREET LIGHTING)
- ⑤ ANCHOR BOLT LOCATIONS (4 REQUIRED)

- Ⓐ 53 mm R.S.C. FOR SERVICE CONNECTION (VIA HH 13)
- Ⓑ 103 mm R.S.C. TO HH 1
- Ⓒ 103 mm R.S.C. TO HH 12
- Ⓓ 78 mm R.S.C. STUBOUT, THREAD & CAP BOTH ENDS (FOR FUTURE USE).
- Ⓔ 15.8 mm DIA X 4.6 m GROUND ROD
- Ⓕ 53 mm R.S.C. STUBOUT, THREAD & CAP BOTH ENDS (FOR FUTURE USE).



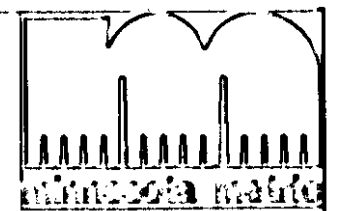
CONCRETE FOUNDATION  
SEE MN/DOT STANDARD PLATE NO. M8119C FOR DIMENSIONS.

SEE INTERSECTION LAYOUT FOR  
CONDUIT & CABLE INFORMATION

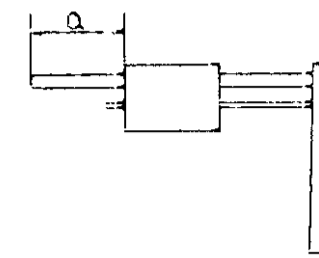
**TYPICAL CONTROLLER CABINET PAD LAYOUT**  
NO SCALE

					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.			<b>ANOKA COUNTY, MINNESOTA</b> CITY OF BLAINE STATE AID PROJECT NO. 02-612-08 STATE AID PROJECT NO. 106-117-04	<b>TRAFFIC SIGNAL SYSTEM</b> CABINET AND PAD DETAILS CSAH 12 (109TH AVE NE) AT JEFFERSON STREET NE		FILE NO. ANOKC9901	65 94
NO.	BY	DATE	REVISIONS	ITEM	DESIGN	CHECKED			Date: 7/16/98 Reg. No. 22457	DATE 9/18/98		

MAST ARM MOUNTED SIGNING



TYPE 'D' SIGNS - F & I								
SIGN PANEL	SIZE (Inches)	SIZE (meters)	NO. REQ.	NO. POSTS PER SIGN	POST SPACING (mm)	AREA (sq.m.) PER SIGN	POLE NO.	a
D-1	102x18	2.59x0.46	1	3	1145	1.18	1	3.0 m
D-2	96x18	2.44x0.46	1	2	1375	1.11	2	6.0 m
D-3	102x18	2.59x0.46	1	3	1145	1.18	3	3.0 m
D-4	96x18	2.44x0.46	1	2	1375	1.11	4	6.0 m
TYPE 'C' SIGNS - F & I								
RI0-12	36x43	0.91x1.22	2	2	610	1.11	2,4	0.5 m

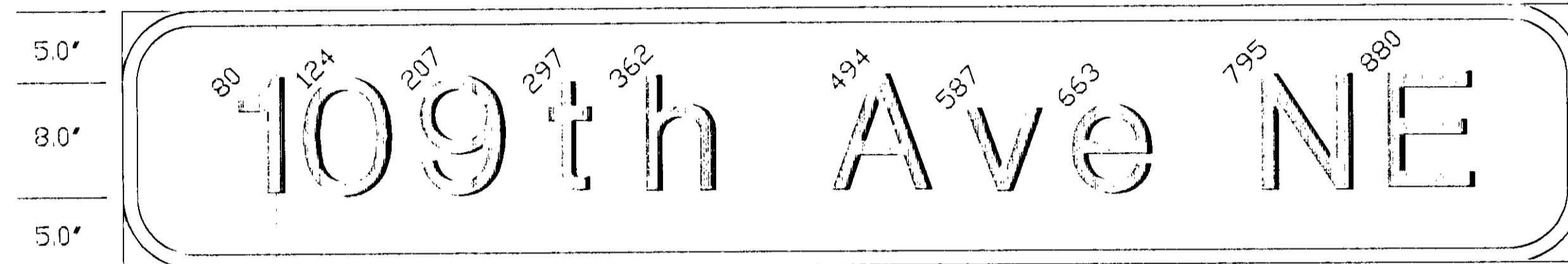


NOTES:

- 1) TYPE 'D' SIGN COLOR-WHITE LEGEND AND BORDER ON GREEN BACKGROUND, FULLY REFLECTORIZED.
- 2) CORNERS EXTENDING BEYOND THE BORDER SHALL NOT BE TRIMMED.
- 3) FOR STRUCTURAL DETAILS, TYPE 'C' AND 'D' SIGNS, SEE DETAILS AND STANDARD SIGNS MANUAL.
- 4) FOR TYPE 'D' STRINGER AND PANEL-JOINT DETAIL, SEE DETAILS AND STANDARD SIGNS MANUAL.
- 5) TYPE 'C' AND 'D' SIGN PANELS SHALL BE FURNISHED AND INSTALLED BY SIGNAL CONTRACTOR INCIDENTAL TO ITEM NO. 2565.511 FOR SIGNAL SYSTEM. SEE SPECIAL PROVISIONS.

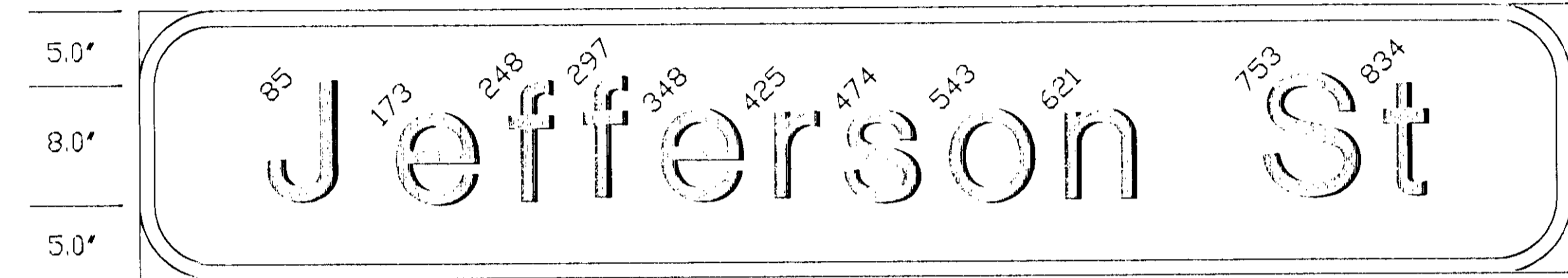
NOTE: ALL DIMENSIONS OF DETAILED SIGN PANELS ARE IN INCHES.

D-1, D-3



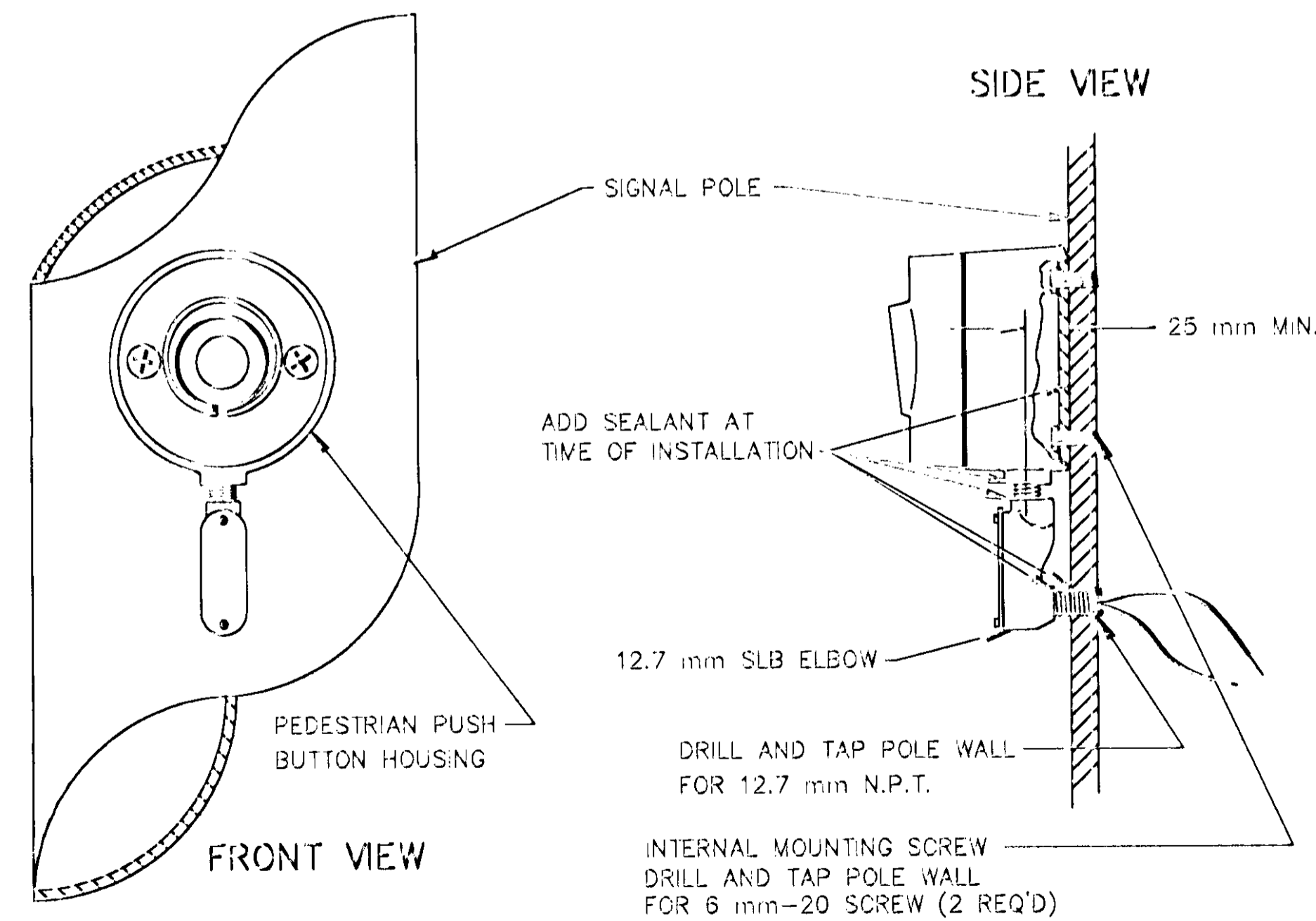
102"x18", 3"R, 1.0"B.  
Line 1 85.9: 8'-6" E MOD.

D-2, D-4

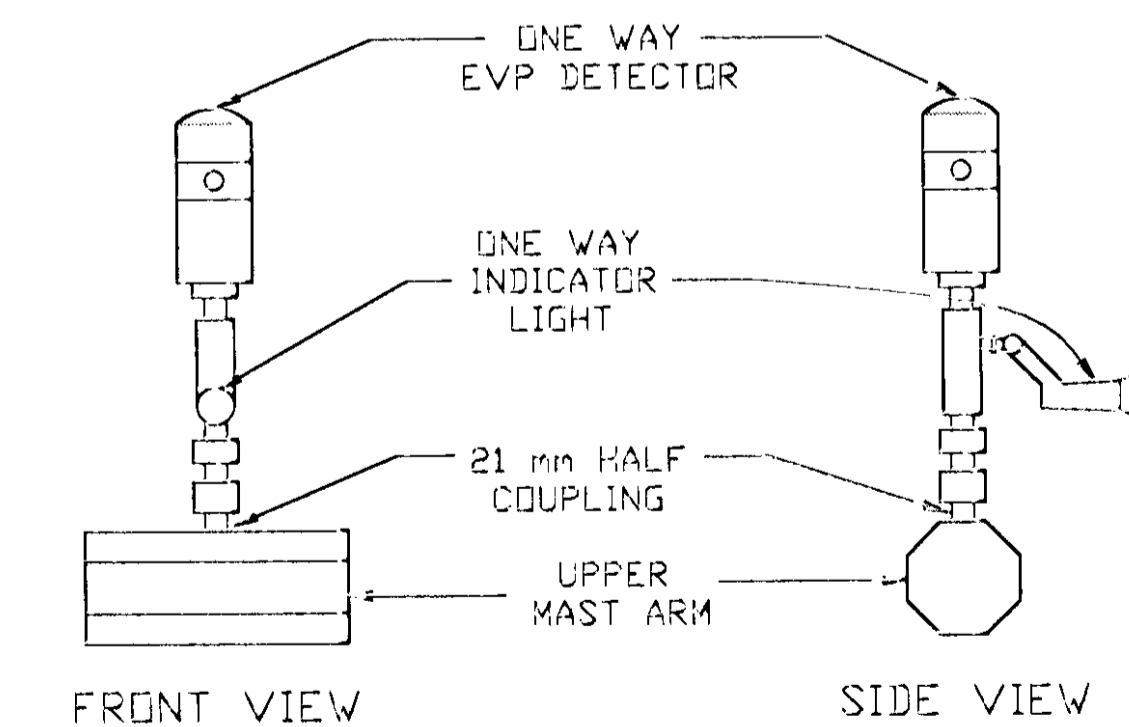


96"x18", 3"R, 1.0"B.  
Line 1 79.0: 8'-6" E MOD.

MAST ARM POLE PEDESTRIAN PUSH BUTTON DETAIL

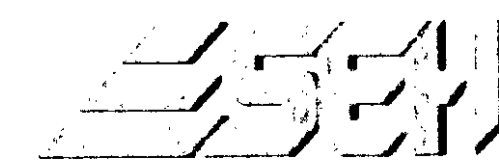


EVP DETECTOR AND LIGHT MOUNTING DETAIL ON MAST ARM



NO.	BY	DATE	REVISIONS	ITEM	DESIGN	CHECKED

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Date: 9/18/98 Reg. No. 22457



ANOKA COUNTY, MINNESOTA  
CITY OF BLAINE  
STATE AID PROJECT NO. 02-612-08  
STATE AID PROJECT NO. 106-117-04

TRAFFIC SIGNAL SYSTEM  
DETAILS AND SIGNING  
CSAH 12 (109TH AVE NE) AT JEFFERSON STREET NE

FILE NO.  
ANEKC9901  
DATE  
9/18/98

66  
94



NOTES:

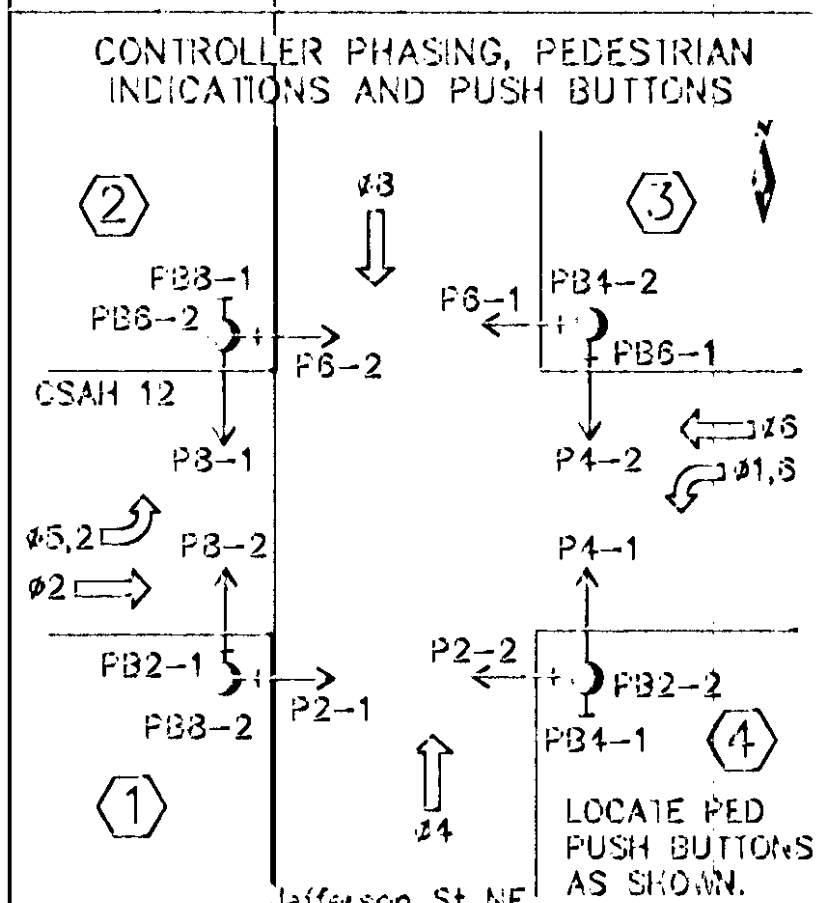
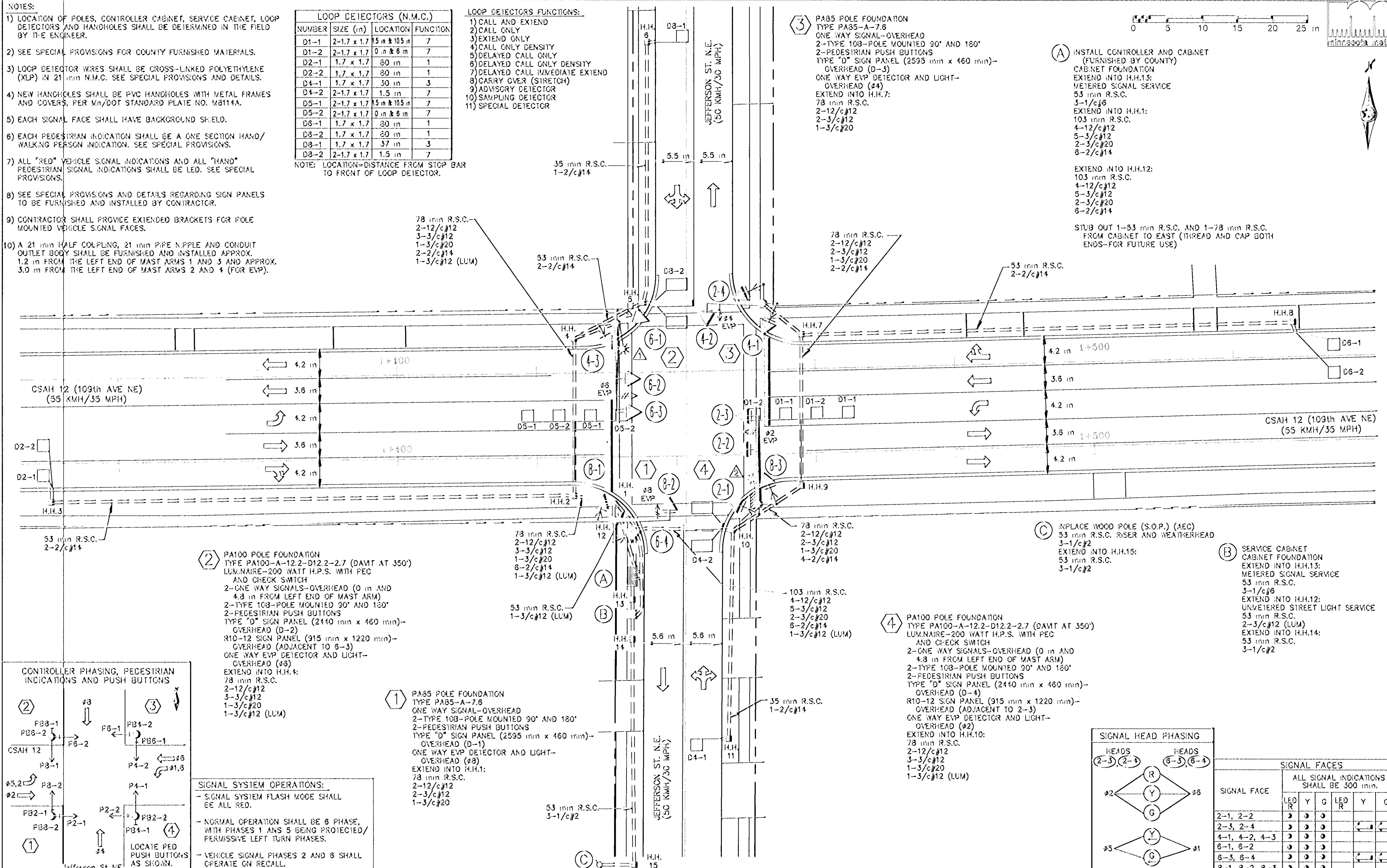
- 1) LOCATION OF POLES, CONTROLLER CABINET, SERVICE CABINET, LOOP DETECTORS AND HANDHOLES SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
- 2) SEE SPECIAL PROVISIONS FOR COUNTY FURNISHED MATERIALS.
- 3) LOOP DETECTOR WRES SHALL BE CROSS-LINKED POLYETHYLENE (XLP) IN 21 mm N.M.C. SEE SPECIAL PROVISIONS AND DETAILS.
- 4) NEW HANDHOLES SHALL BE PVC HANDHOLES WITH METAL FRAMES AND COVERS, PER Mn/DOT STANDARD PLATE NO. M8114A.
- 5) EACH SIGNAL FACE SHALL HAVE BACKGROUND SHIELD.
- 6) EACH PEDESTRIAN INDICATION SHALL BE A ONE SECTION HAND/WALKING PERSON INDICATION. SEE SPECIAL PROVISIONS.
- 7) ALL "RED" VEHICLE SIGNAL INDICATIONS AND ALL "HAND" PEDESTRIAN SIGNAL INDICATIONS SHALL BE LED. SEE SPECIAL PROVISIONS.
- 8) SEE SPECIAL PROVISIONS AND DETAILS REGARDING SIGN PANELS TO BE FURNISHED AND INSTALLED BY CONTRACTOR.
- 9) CONTRACTOR SHALL PROVIDE EXTENDED BRACKETS FOR POLE MOUNTED VEHICLE SIGNAL FACES.
- 10) A 21 mm HALF COUPLING, 21 mm PIPE NIPPLE AND CONDUIT OUTLET BODY SHALL BE FURNISHED AND INSTALLED APPROX. 1.2 m FROM THE LEFT END OF MAST ARMS 1 AND 3 AND APPROX. 3.0 m FROM THE LEFT END OF MAST ARMS 2 AND 4 (FOR EVP).

LOOP DETECTORS (N.M.C.)			
NUMBER	SIZE (in)	LOCATION	FUNCTION
D1-1	2-1.7 x 1.7	15 m ± 105 in	7
D1-2	2-1.7 x 1.7	0 in ± 6 m	7
D2-1	1.7 x 1.7	80 in	1
D2-2	1.7 x 1.7	80 in	1
D4-1	1.7 x 1.7	30 in	3
D4-2	2-1.7 x 1.7	1.5 m	7
D5-1	2-1.7 x 1.7	15 m ± 105 in	7
D5-2	2-1.7 x 1.7	0 in ± 6 m	7
D6-1	1.7 x 1.7	80 in	1
D6-2	1.7 x 1.7	80 in	1
D8-1	1.7 x 1.7	37 in	3
D8-2	2-1.7 x 1.7	1.5 m	7

NOTE: LOCATION=DISTANCE FROM STOP BAR TO FRONT OF LOOP DETECTOR.

LOOP DETECTORS FUNCTIONS:

- 1) CALL AND EXTEND
- 2) CALL ONLY
- 3) EXTEND ONLY
- 4) CALL ONLY DENSITY
- 5) DELAYED CALL ONLY
- 6) DELAYED CALL ONLY DENSITY
- 7) DELAYED CALL IMMEDIATE EXTEND
- 8) CARRY OVER (STRETCH)
- 9) ADVISORY DETECTOR
- 10) SAMPLING DETECTOR
- 11) SPECIAL DETECTOR



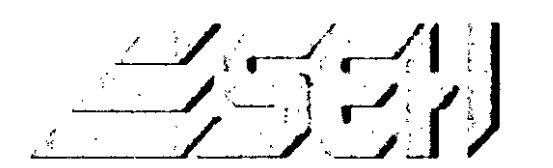
**SIGNAL SYSTEM OPERATIONS:**

- SIGNAL SYSTEM FLASH MODE SHALL BE ALL RED.
- NORMAL OPERATION SHALL BE 6 PHASE, WITH PHASES 1 AND 5 BEING PROTECTED/PERMISSIVE LEFT TURN PHASES.
- VEHICLE SIGNAL PHASES 2 AND 6 SHALL OPERATE ON RECALL.

NO.	BY	DATE	REVISIONS	ITEM	DESIGN	CHECKED

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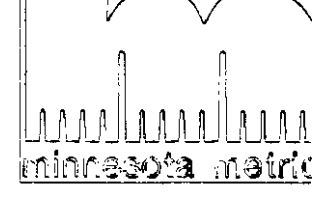
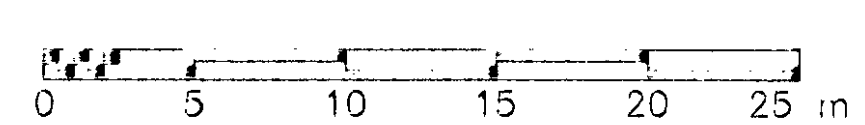
Date: 9/18/98 Reg. No. 22457



**ANOKA COUNTY, MINNESOTA**  
**CITY OF BLAINE**  
 STATE AID PROJECT NO. 02-612-08  
 STATE AID PROJECT NO. 106-117-04

**TRAFFIC SIGNAL SYSTEM**  
**INTERSECTION LAYOUT**  
 CSAH 12 (109TH AVE NE) AT JEFFERSON STREET NE

FILE NO. ANOKC9901  
 DATE 9/18/98  
**67**  
**94**



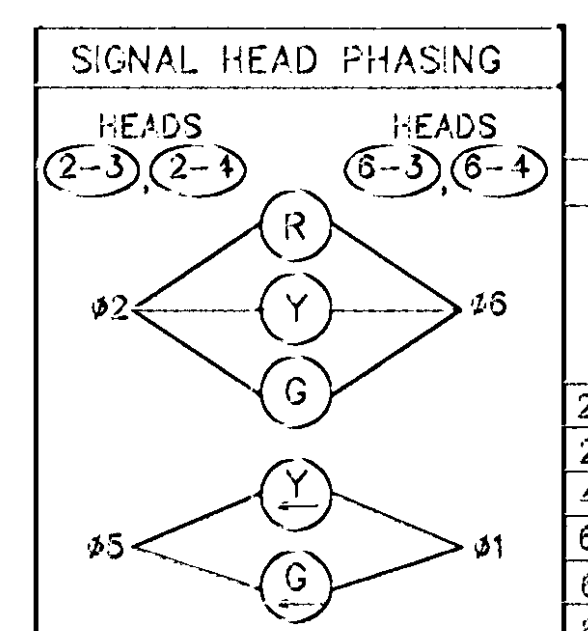
**(A) INSTALL CONTROLLER AND CABINET (FURNISHED BY COUNTY)**  
 CABINET FOUNDATION  
 EXTEND INTO H.H.13:  
 METERED SIGNAL SERVICE  
 53 mm R.S.C.  
 3-1/c#6  
 EXTEND INTO H.H.1:  
 103 mm R.S.C.  
 4-12/c#12  
 5-3/c#12  
 2-3/c#20  
 6-2/c#14

EXTEND INTO H.H.12:  
 103 mm R.S.C.  
 4-12/c#12  
 5-3/c#12  
 2-3/c#20  
 6-2/c#14

STUB OUT 1-53 mm R.S.C. AND 1-78 mm R.S.C. FROM CABINET TO EAST (THREAD AND CAP BOTH ENDS-FOR FUTURE USE)

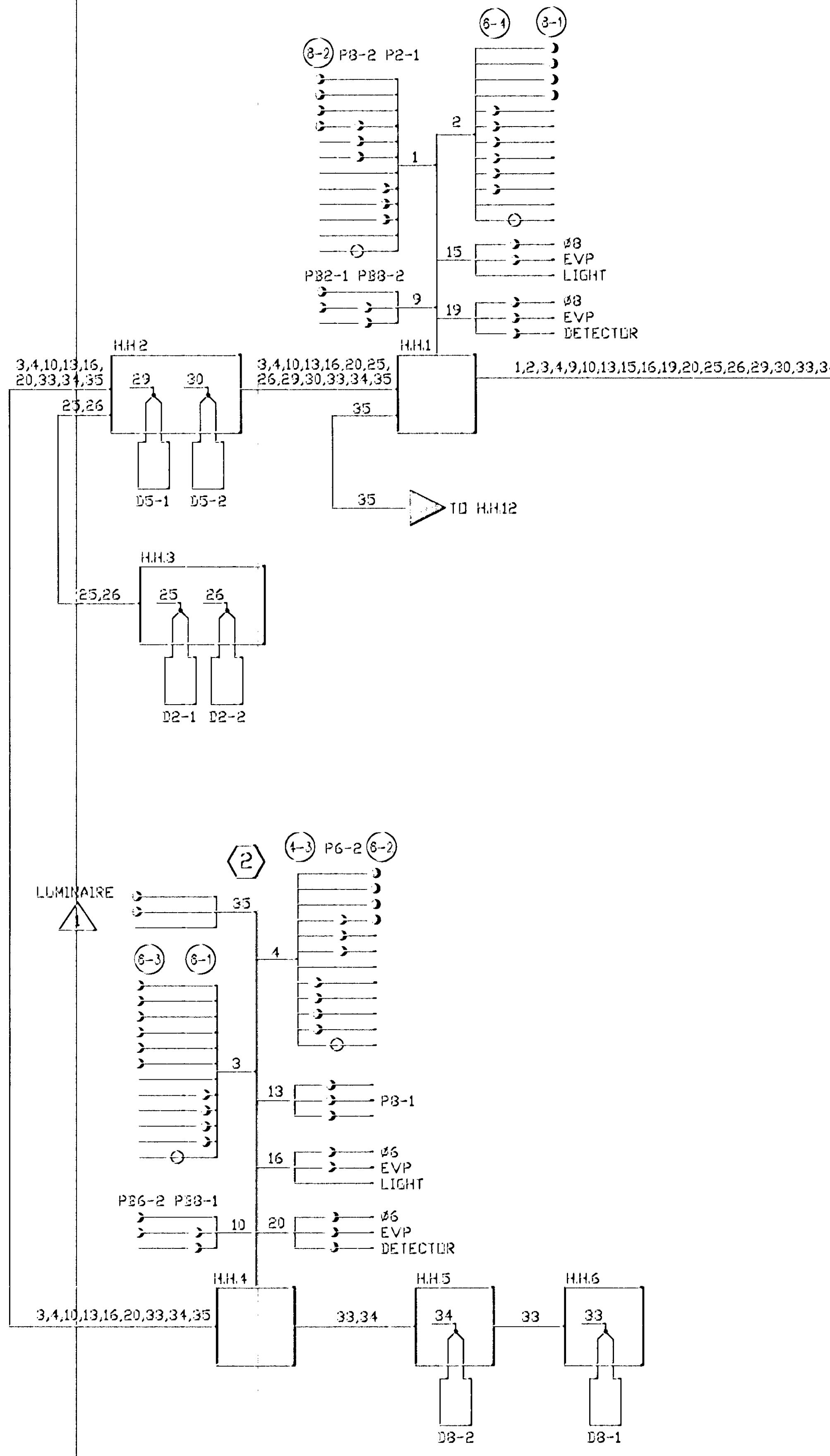
**(C) INPLACE WOOD POLE (S.O.P.) (AEC)**  
 53 mm R.S.C. RISER AND WEATHERHEAD  
 3-1/c#2  
 EXTEND INTO H.H.15:  
 53 mm R.S.C.  
 3-1/c#2

**(B) SERVICE CABINET**  
 CABINET FOUNDATION  
 EXTEND INTO H.H.13:  
 METERED SIGNAL SERVICE  
 53 mm R.S.C.  
 3-1/c#6  
 EXTEND INTO H.H.12:  
 UNMETERED STREET LIGHT SERVICE  
 53 mm R.S.C.  
 2-3/c#12 (LUM)  
 EXTEND INTO H.H.14:  
 53 mm R.S.C.  
 3-1/c#2



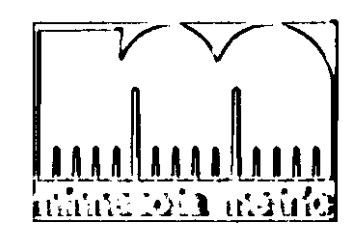
SIGNAL FACE	ALL SIGNAL INDICATIONS SHALL BE 300 mm.					
	LED R	Y	G	LED R	Y	G
2-1, 2-2	→	→	→			
2-3, 2-4	→	→	→	←	←	←
4-1, 4-2, 4-3	→	→	→			
6-1, 6-2	→	→	→			
6-3, 6-4	→	→	→	←	←	←
8-1, 8-2, 8-3	→	→	→			

1



CONTROLLER CABINET

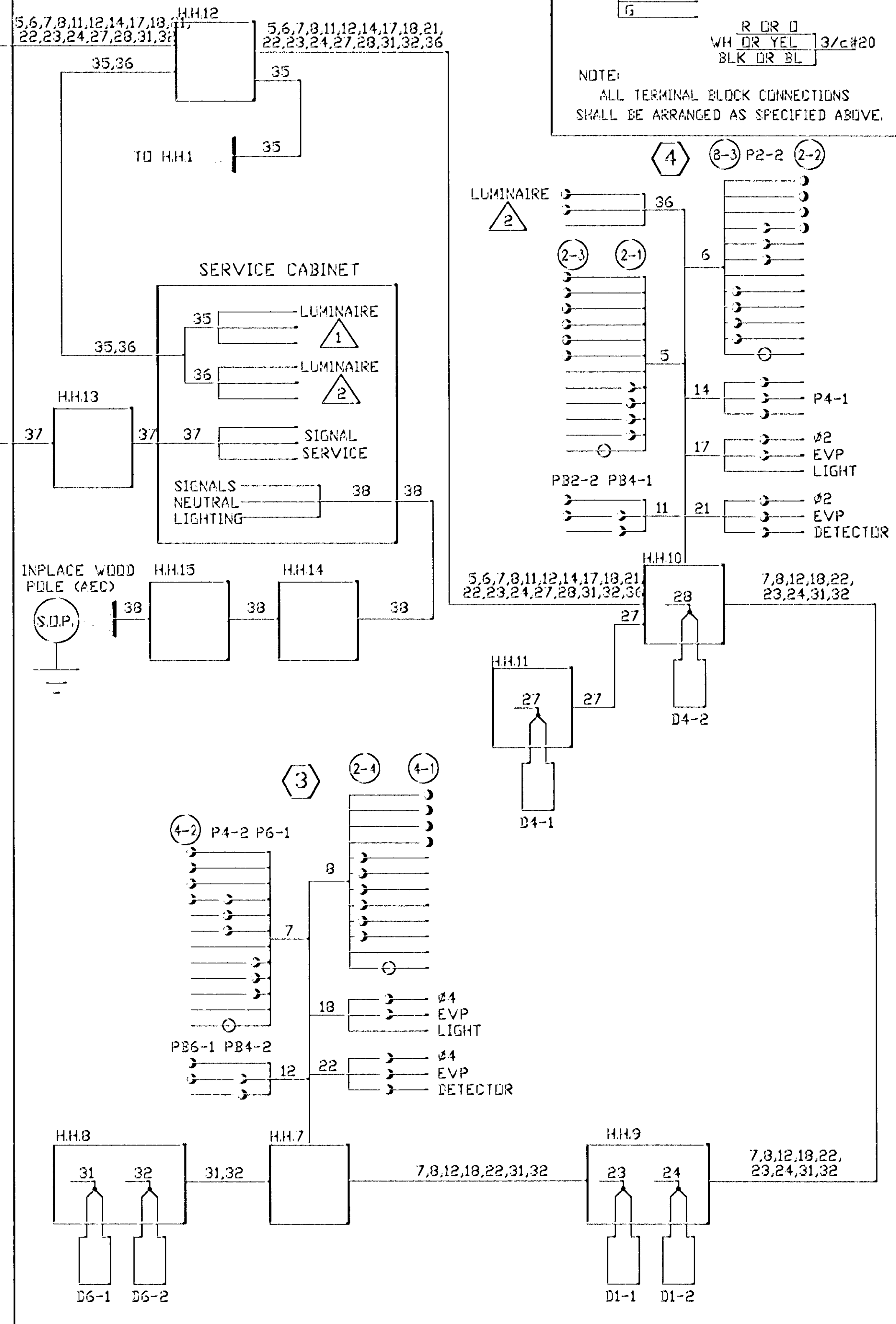
- 4-1 RED
- 4-1 YEL
- 4-1 GRN
- 4-1 NEU
- 2-4 RED
- 2-4 YEL
- 2-4 GRN
- 2-4 NEU
- 2-4 YLTA
- 2-4 GLTA
- SPR
- EQG
- P82-1
- NEU
- P83-2
- NEU
- P82-2
- NEU
- P84-1
- NEU
- P86-1
- NEU
- P84-2
- NEU
- P8-1
- WLK
- P8-1
- NEU
- P8-1
- DWK
- P4-1
- WLK
- P4-1
- NEU
- P4-1
- DWK
- #8
- EVP LIGHT
- NEU
- SPR
- #6
- EVP LIGHT
- NEU
- SPR
- #2
- EVP LIGHT
- NEU
- SPR
- #4
- EVP LIGHT
- NEU
- SPR
- #8
- DETECTOR
- NEU
- #6
- DETECTOR
- NEU
- #2
- DETECTOR
- NEU
- #4
- DETECTOR
- NEU
- D1-1
- D1-2
- D2-1
- D2-2
- D4-1
- D4-2
- D5-1
- D5-2
- D6-1
- D6-2
- D8-1
- D8-2
- SIGNAL
- SERVICE



CONDUCTOR COLOUR CODING

R	BLK	2-1/c#6
D	WH	
BL		
WH		
R/BLK	R	
D/BLK	WH	3/c#12
BL/BLK	BLK	
WH/BLK		
BLK	BLK	2/c#14
BLK/WH	CLEAR	
G/BLK		
G		
R GR D		
WH DR YEL		3/c#20
BLK DR BL		

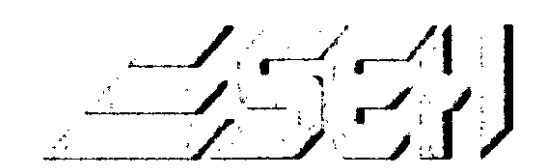
NOTE:  
ALL TERMINAL BLOCK CONNECTIONS  
SHALL BE ARRANGED AS SPECIFIED ABOVE.



NO.	BY	DATE	REVISIONS	ITEM	DESIGN	CHECKED

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.

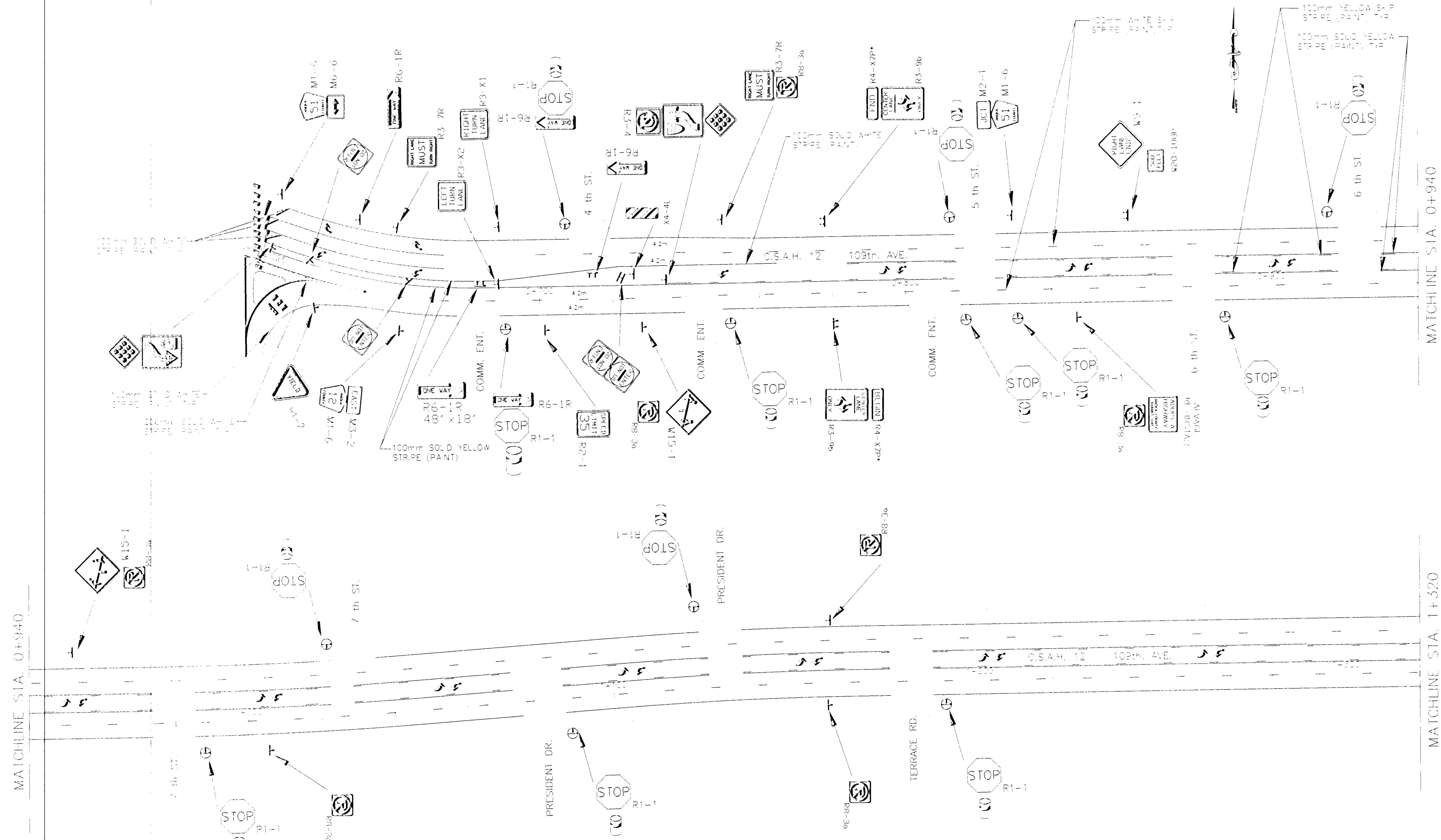
*[Signature]*  
Date: 7/15/98 Reg. No. 22457



ANOKA COUNTY, MINNESOTA  
CITY OF BLAINE  
STATE AID PROJECT NO. 02-612-08  
STATE AID PROJECT NO. 106-117-04

TRAFFIC SIGNAL SYSTEM  
FIELD WIRING DIAGRAM  
CSAH 12 (109TH AVE NE) AT JEFFERSON STREET NE

FILE NO. ANUKC9901  
DATE 9/18/98  
68  
94



MATCHLINE STA. 0+940

MATCHLINE STA. 0+940

MATCHLINE STA. 1+320

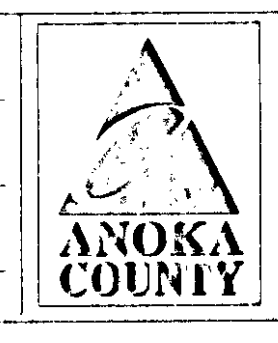
PERMANENT

NO.	DATE	BY	CHKD	APPR	REVISION

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 04-27-22 REG. NO. 25266

DRAWN BY: DM DATE: 9/22  
 DESIGN BY: DM DATE: 9/22  
 CHECKED BY: RB DATE: 11/22



ANOKA COUNTY  
 HIGHWAY DEPT.

STATE AID PROJECT NO. 02-612-08  
 STATE AID PROJECT NO. 106-20-14  
 STATE AID PROJECT NO. 106-117-04  
 COUNTY PROJECT NO. \_\_\_\_\_

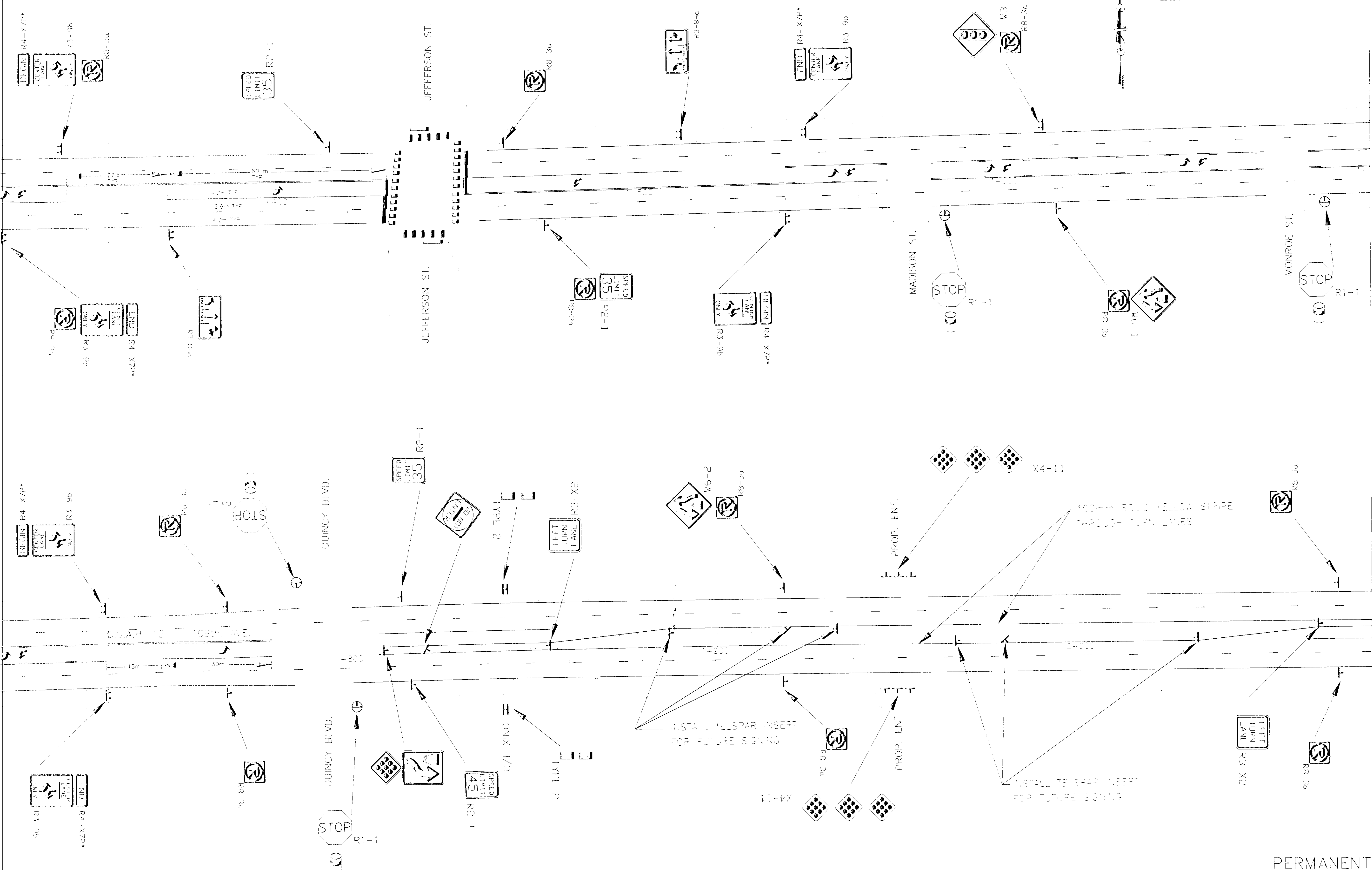
SIGNING/STRIPING  
 STA 0+623 TO 1+320  
 Sheet 69 of 94 Sheets

MATCHLINE STA. 1+520

MATCHLINE STA. 1+700

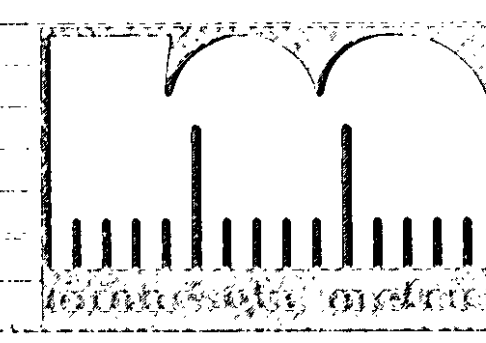
MATCHLINE STA. 1+700

MATCHLINE STA. 2+080



PERMANENT

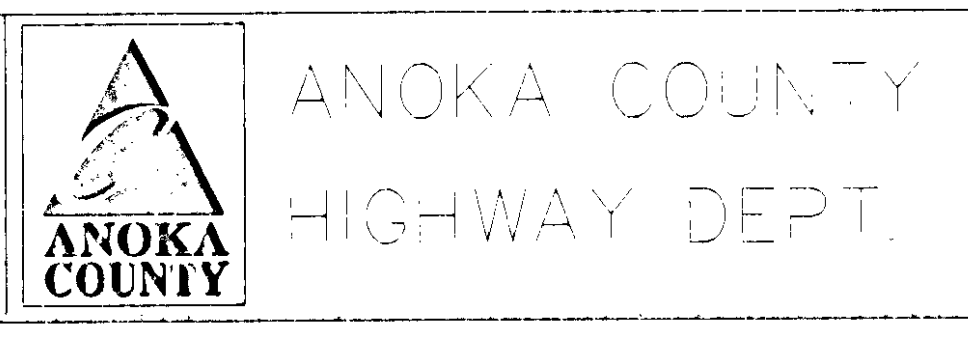
NO.	DATE	BY	CHKD.	APPR.	REVISION



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DATE 04-27-22 REG. NO. 66026

DRAWN BY: DW DATE: 9.98  
 DESIGN BY: DM DATE: 9.98  
 CHECKED BY: PB DATE: 11.98



STATE AID PROJECT NO. 02-612-08  
 STATE AID PROJECT NO. 106-20-14  
 STATE AID PROJECT NO. 106-117-04  
 COUNTY PROJECT NO. \_\_\_\_\_

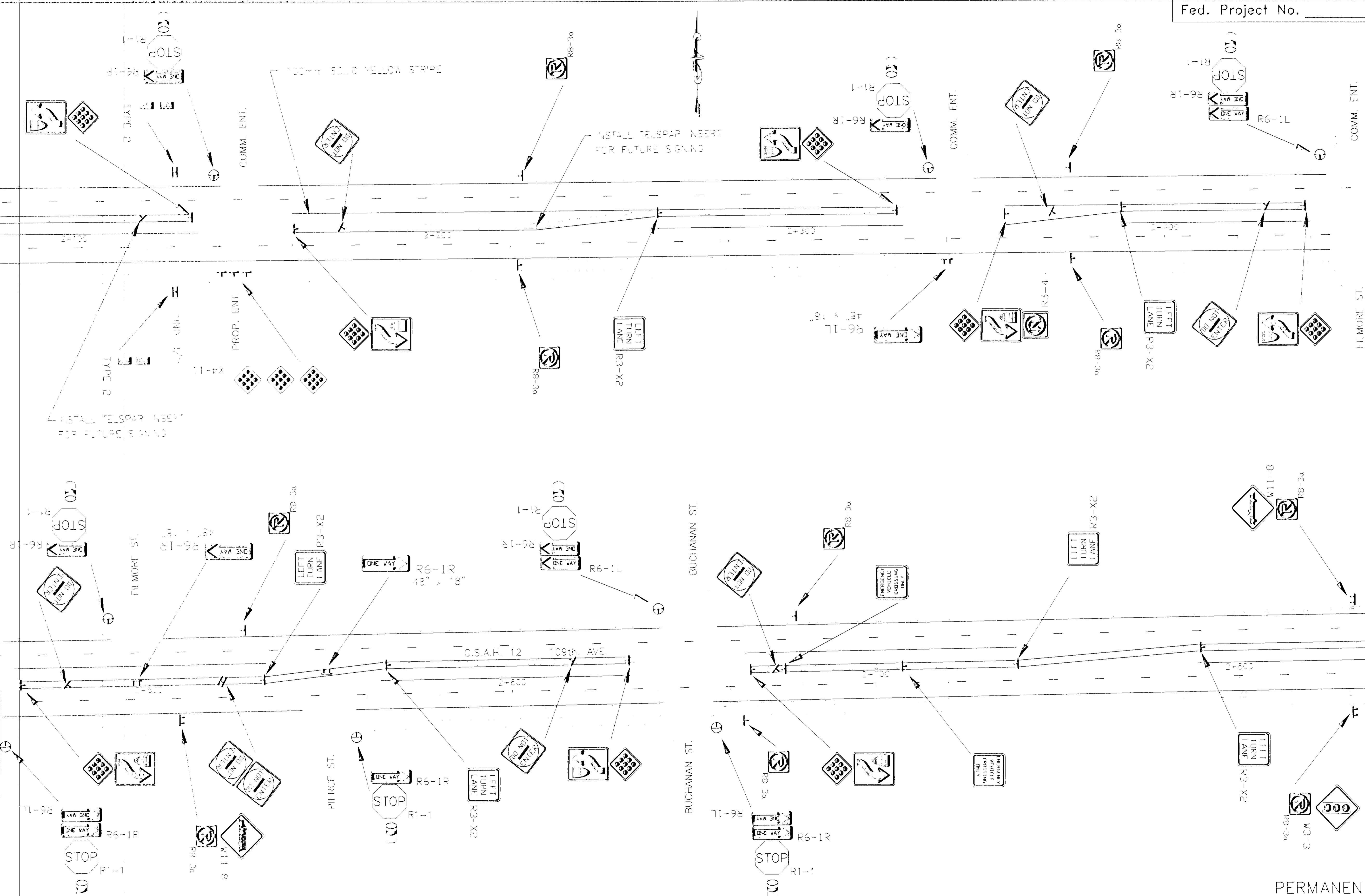
SIGNING/STRIPING  
 STA. 1+320 TO 2+080  
 Sheet 70 of 94 Sheets

MATCHLINE STA. 2+080

MATCHLINE STA. 2+460

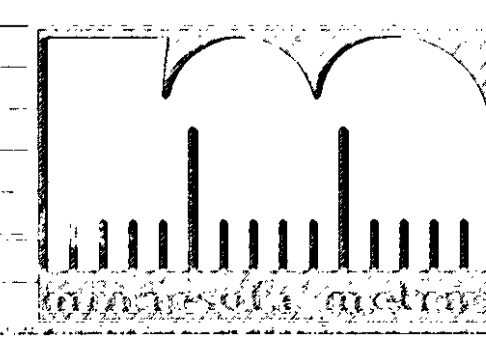
MATCHLINE STA. 2+460

MATCHLINE STA. 2+840



PERMANENT

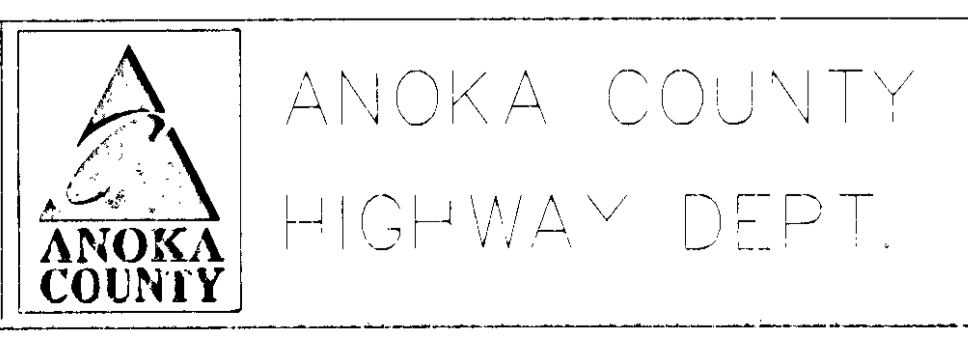
NO.	DATE	BY	CHKD	APPR	REVISION



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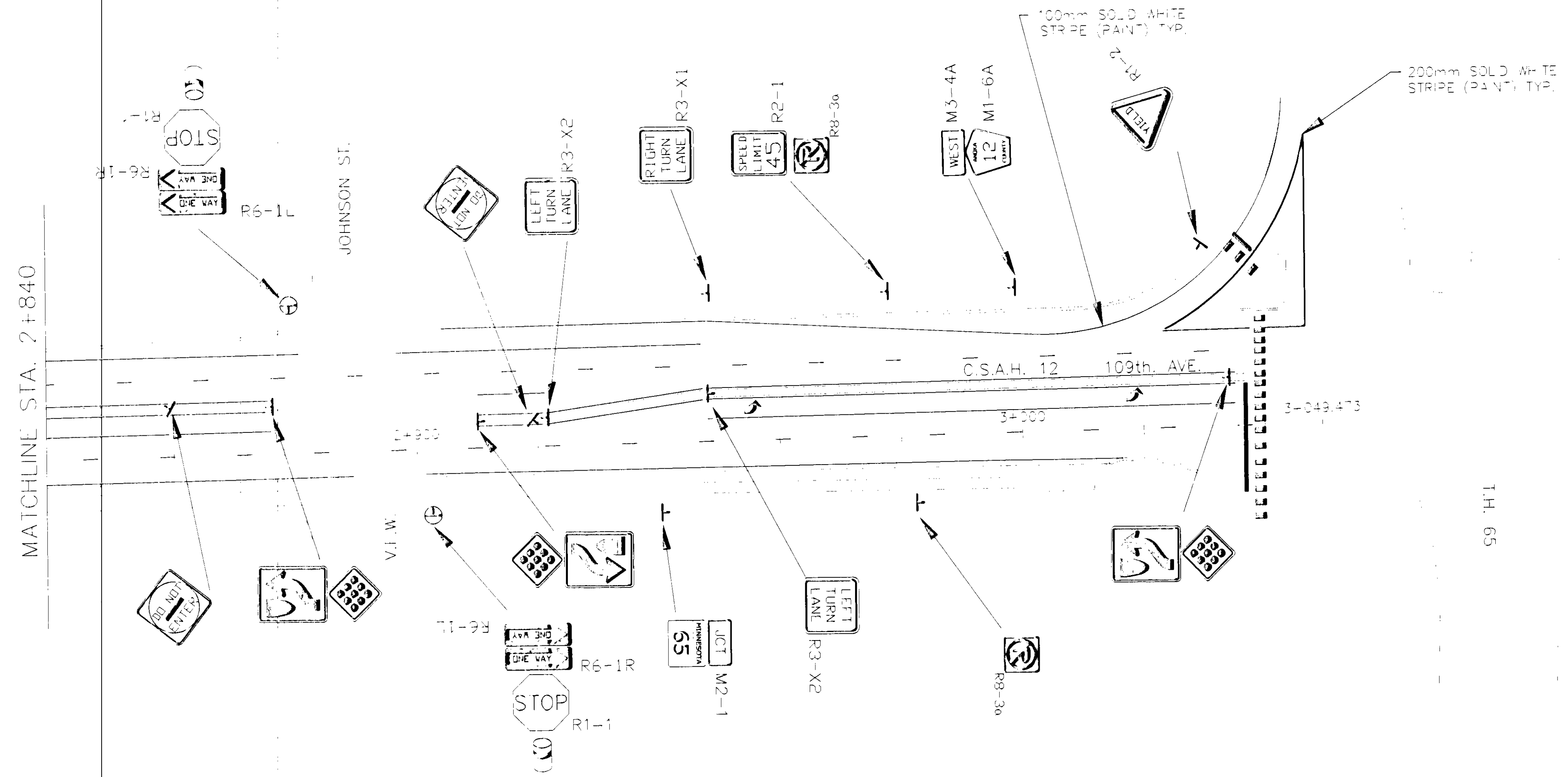
DATE 2-27-99 REG. NO. 25225

DRAWN BY D.M. DATE 3/98  
 DESIGN BY D.M. DATE 9/98  
 CHECKED BY P.B. DATE 1/98



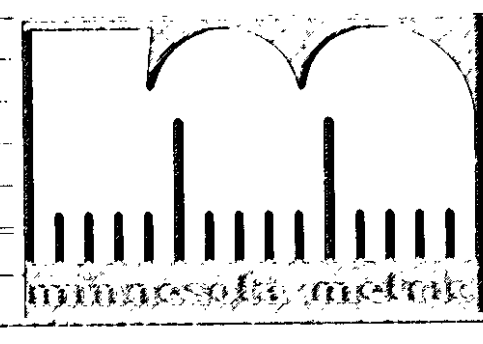
STATE AID PROJECT NO. 02-612-08  
 STATE AID PROJECT NO. 106-20-14  
 STATE AID PROJECT NO. 106-117-04  
 COUNTY PROJECT NO. \_\_\_\_\_

SIGNING/STRIPING  
 STA 2+080 TO 2+840  
 Sheet 71 of 94 Sheets



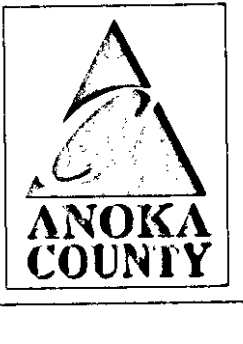
PERMANENT

NO	DATE	BY	CKD	APPR	REVISION



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 DATE 04-07-93 REG. NO. 25066

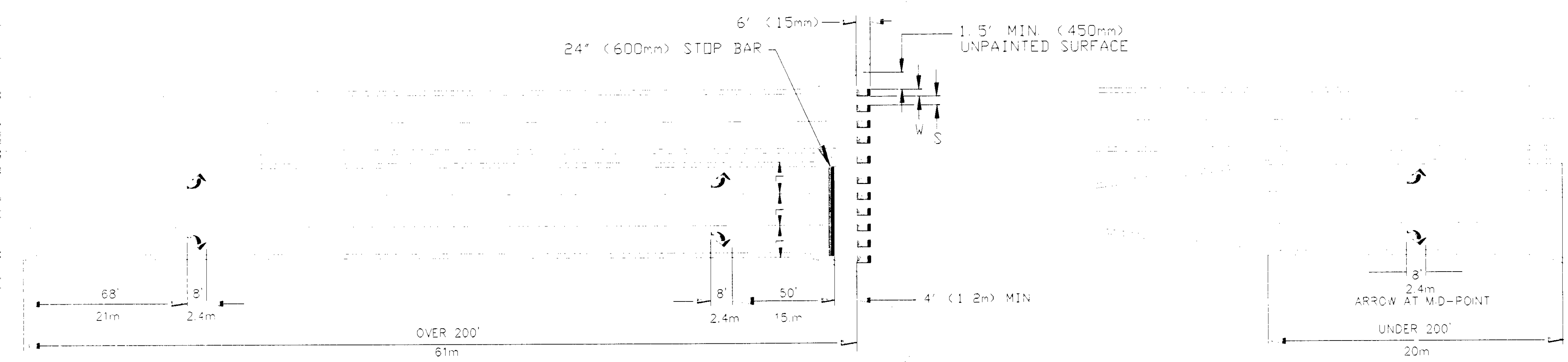
DRAWN BY: DM DATE: 9/98  
 DESIGN BY: DM DATE: 9/98  
 CHECKED BY: RB DATE: 11/98



ANOKA COUNTY  
 HIGHWAY DEPT.

STATE AID PROJECT NO. 02-612-08  
 STATE AID PROJECT NO. 106-20-14  
 STATE AID PROJECT NO. 106-117-04  
 COUNTY PROJECT NO. \_\_\_\_\_

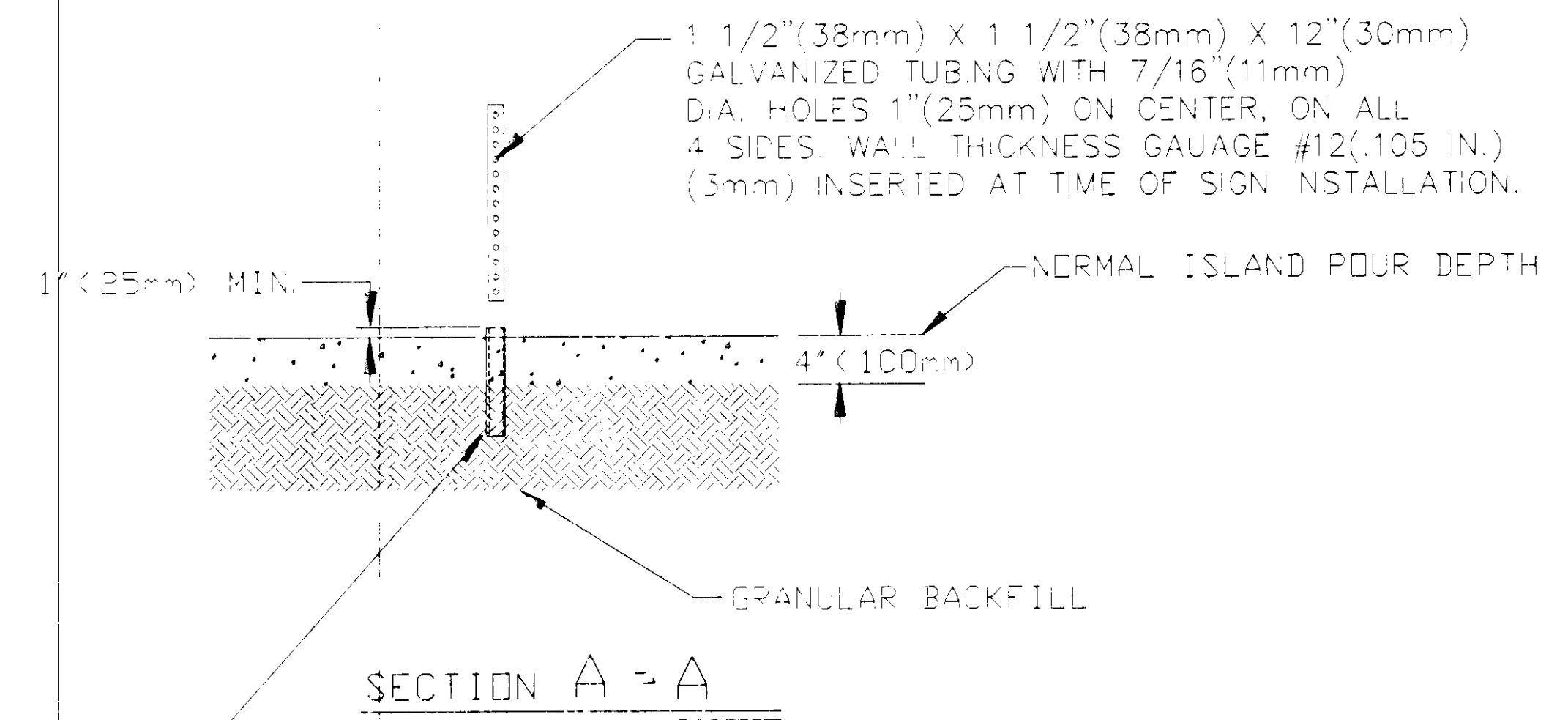
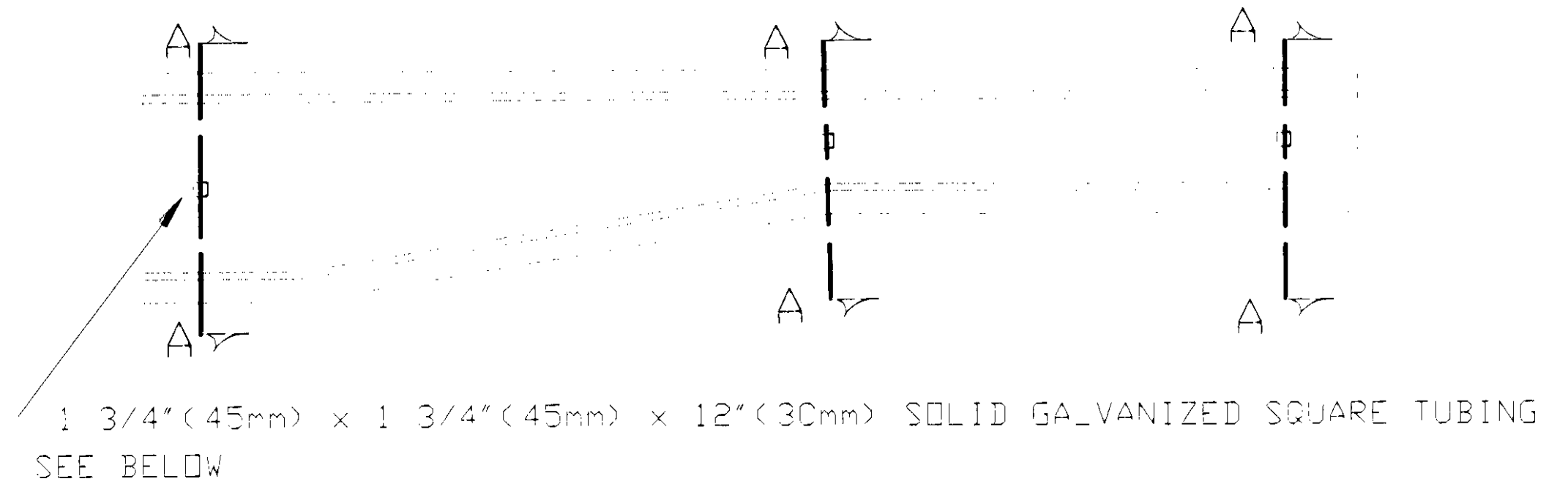
SIGNING/STRIPING  
 STA 2+840 TO 3+036  
 Sheet 72 of 94 Sheets



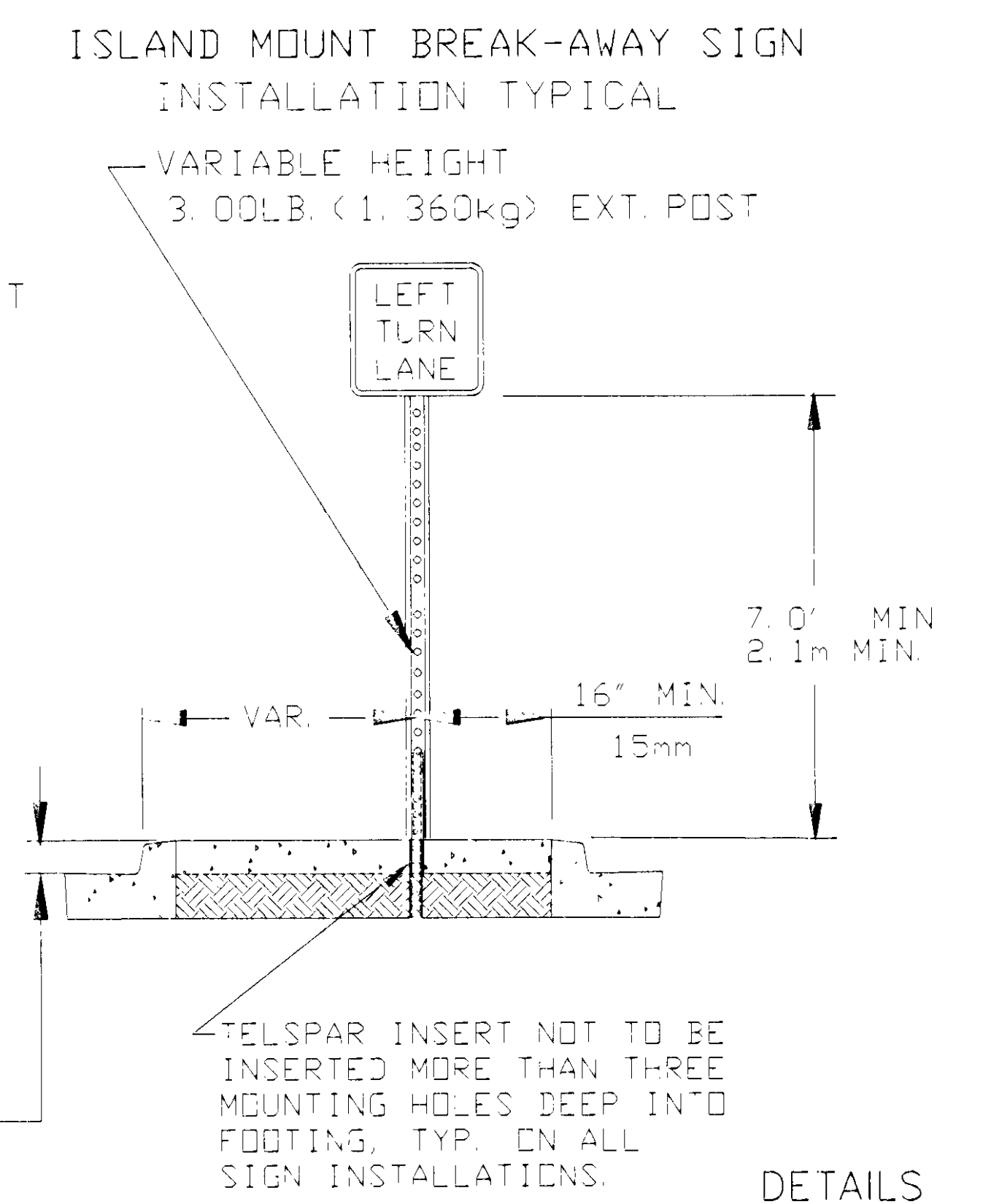
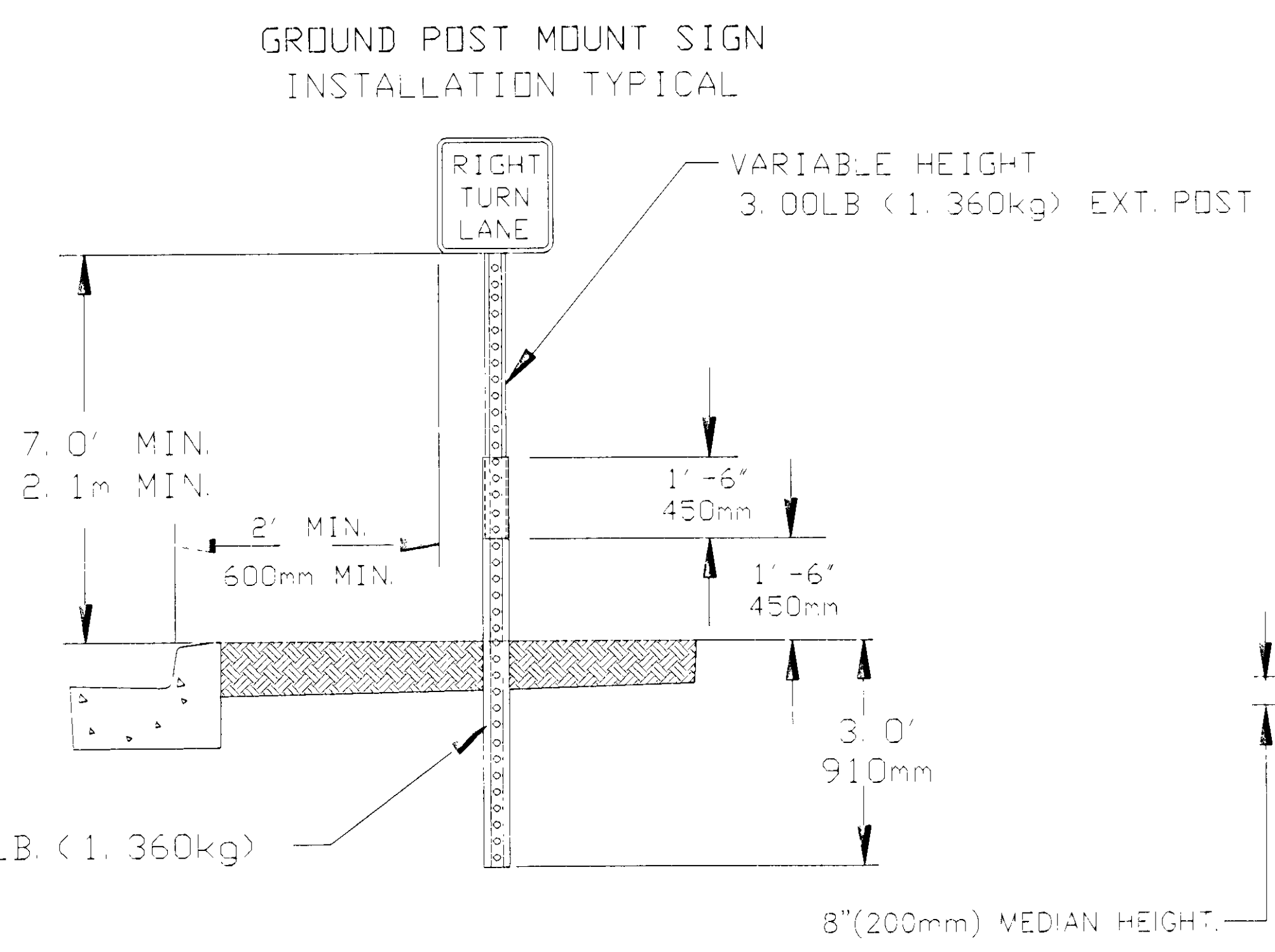
< L >	< W >	< S >
WIDTH OF INSIDE LANE	WIDTH OF PAINTED AREAS	WIDTH OF SPACE
9'	2' 0"	2' 3"
10'	2' 5"	2' 5"
11'	2' 5"	3' 0"
12'	3' 0"	3' 0"
13'	3' 0"	3' 5"

- NOTES: CROSSWALKS:
- 1.) PAINTED AREAS ARE TO BE CENTERED ON CENTER AND LANE LINES, EVEN IF INTERSECTION IS NOT ALIGNED.
  - 2.) 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.
  - 3.) ZEBRA CROSSWALKS ARE TO BE PARALLEL TO THE DRIVING LANE OR LANES, EVEN IF THE STREET IS ON AN ANGLE TO THE INTERSECTION.
  - 4.) A MIN. OF 1.5' (450mm) CLEAR DISTANCE MUST BE LEFT ADJACENT TO THE CURB. IF LAST PAINTED AREA FALLS INTO THIS AREA, IT MUST BE OMITTED.
  - 5.) ON TWO LANE STREETS, USE SPACING SHOWN FOR AN 11' (3.3m) INSIDE LANE.

< L >	< W >	< S >
WIDTH OF INSIDE LANE	WIDTH OF PAINTED AREAS	WIDTH OF SPACE
2.7m	600mm	750mm
3.0m	750mm	750mm
3.3m	750mm	900mm
3.6m	900mm	900mm
4.0m	900mm	1100mm



INSTALL 1 3/4" (45mm) x 1 3/4" (45mm) x 12" (25mm) SOLID WALL GALVANIZED SQUARE TUBING BEFORE CONCRETE POUR. HAMMER INTO GROUND SO THAT 1" (25mm) OF TUBE IS ABOVE TOP OF CURB. RE-PLUMB AT TIME OF POUR.



DETAILS

NO	DATE	BY	CHKD	APPR	REVISION



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 04-07-93 REG. NO. 25066

DRAWN BY: D.V. DATE: 9/98  
 DESIGN BY: D.V. DATE: 9/98  
 CHECKED BY: P.B. DATE: 11/98



ANOKA COUNTY  
 HIGHWAY DEPT.

STATE AID PROJECT NO. 02-612-08  
 STATE AID PROJECT NO. 106-20-14  
 STATE AID PROJECT NO. 106-117-04  
 COUNTY PROJECT NO. \_\_\_\_\_

SIGNING / STRIPING  
 Sheet 73 of 94 Sheets

M. U. T. C. D. CODE	SIZE	PANEL AREA		INSERT	No. of ISLAND MOUNT INSTALL	No. GROUND POST MOUNT INSTALL	No. POST	MOUNTING HEIGHT		M. U. T. C. D. CODE	SIZE	PANEL AREA		INSERT	No. of ISLAND MOUNT INSTALL	No. GROUND POST MOUNT INSTALL	No. POST	MOUNTING HEIGHT		M. U. T. C. D. CODE	SIZE	PANEL AREA		INSERT	No. of ISLAND MOUNT INSTALL	No. GROUND POST MOUNT INSTALL	No. POST	MOUNTING HEIGHT		
		FT. <sup>2</sup>	m <sup>2</sup>					FT.	m			FT. <sup>2</sup>	m <sup>2</sup>					FT.	m			FT. <sup>2</sup>	m <sup>2</sup>					FT.	m	
R1-1	30' x 30'	6.25	580	STOP	0	27	1	7.0'	2.13	R5-1	30' x 30'	6.25	580	DO NOT ENTER	13	0	1	7.0'	2.13	TYPE 2	12' x 6'	0.50			0	4	1	4.0'	1.22	
	mm	762 x 762									mm	762 x 762			2	0	4			mm	304 x 152		.046							
R1-2	36' x 36' x 36'	3.90	362	YIELD	0	2	1	7.0'	2.13	R6-1R	36' x 12'	3.00	279	ONE WAY	0	15	1	7.0'	2.13	DELINEATOR	4" DIA x 15'	1.91			0	25	3	0	0	
	mm	914 x 914 x 914									mm	914 x 305			0	2	1			mm	010 x 381		.111							
R2-1	36' x 48'	12.00	1115	SPEED LIMIT 35	0	4	2	7.0'	2.13	R6-1L	36' x 12'	3.00	279	ONE WAY	0	6	1				24' x 15'	2.18								
	mm	914 x 1219									mm	914 x 305			0	6	1			mm	610 x 457		0.20							
R2-1	36' x 48'	12.00	1115	SPEED LIMIT 45	0	2	2	7.0'	2.13	R6-1R	48' x 18'	4.00	557	ONE WAY	3	0	2	7.0'	2.13	M1-6A	24' x 24'	4.00								
	mm	914 x 1219									mm	1219 x 457			0	0	2			mm	610 x 304		0.19							
R3-7R	30' x 30'	6.25	580	RIGHT LANE MUST TURN RIGHT	0	1	1	7.0'	2.13	R6-1L	48' x 18'	4.00	557	ONE WAY	0	1	2	7.0'	2.13	M1-6A	24' x 24'	4.00				0	3	1	7.0'	2.13
	mm	762 x 762									mm	1219 x 457			0	1	2			mm	610 x 610		0.37							
R3-4	24' x 24'	4.00	372	NO U-TURN	2	0	1			R3-8b	24' x 24'	3.00	372	RIGHT TURN	0	19	1	7.0'	2.13											
	mm	609 x 609									mm	914 x 305			0	13	1			mm	610 x 610		0.37							
R3-8a	48' x 30'	10.00	930	LANE ONLY	0	2	2	7.0'	2.13	W3-3	36' x 36'	9.00	836	ALTERNATE	0	2	1	7.0'	2.13											
	mm	1219 x 762									mm	914 x 914			0	2	1													
R3-9B	36' x 48'	12.00	1115	CENTER LANE ONLY	0	3	2	7.0'	2.13	W6-1	36' x 36'	9.00	836	LANE	0	1	1	7.0'	2.13											
	mm	914 x 1219									mm	914 x 914			0	1	1													
R3-X1	30' x 30'	6.25	580	RIGHT TURN LANE	0	20	1	7.0'	2.13	W6-2	36' x 36'	9.00	836	LANE	0	1	1	7.0'	2.13											
	mm	762 x 762									mm	914 x 914			0	1	1													
R3-X2	30' x 30'	6.25	580	LEFT TURN LANE	10	0	1	7.0'	2.13	W9-1	36' x 36'	9.00	836	RIGHT LANE ENDS	0	1	1	7.0'	2.13											
	mm	762 x 762									mm	914 x 914			0	1	1													
R4-7	24' x 30'	5.00	465	RIGHT TURN	14	0	1	7.0'	2.13	W11-B	36' x 36'	9.00	836	LANE	0	2	1	7.0'	2.13											
	mm	609 x 762									mm	914 x 914			0	2	1													
R4-X7P	36' x 12'	3.00	290	END	4	0	1			W15-1	36' x 36'	9.00	836	LANE	0	2	1	7.0'	2.13											
	mm	914 x 304									mm	914 x 914			0	2	1													
R4-X7F	36' x 12'	3.00	290	BEGIN	4	0	1			X4-2	18' x 18'	2.25	209	LANE	13	0	1													
	mm	914 x 304									mm	457 x 457																		
	30' x 30'	6.25	580	EMERGENCY VEHICLE CROSSING DAILY	2	0	1	7.0'	2.13	X4-11	18' x 18'	2.25	209	LANE	0	9	1	4.0'	1.22											
	mm	762 x 762									mm	457 x 457																		
										X4-4	12' x 36'	3.00	279	LANE	1	0	1	4.0'	1.22											
											mm	304 x 914																		

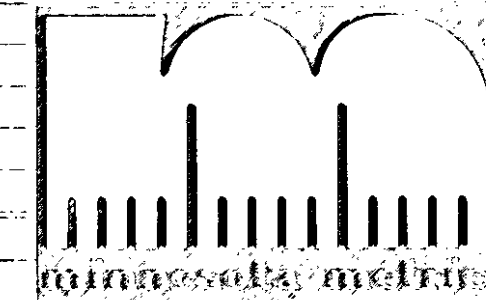
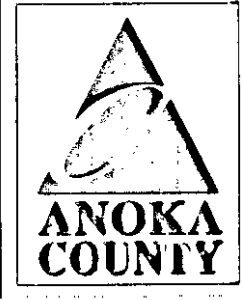
\* 2 SIGNS BACK TO BACK PER ASSEMBLY

- \*1 MOUNTED BACK TO BACK w/R4-7
- \*2 (1) MOUNTED BACK TO BACK w/R3-X2
- \*3 MOUNTED ABOVE R3-9b
- \*4 (2) MOUNTED BACK TO BACK w/R5-1
- \*5 MOUNTED ABOVE R1-1
- \*6 MOUNTED BELOW OTHER GROUND MOUNT SIGN POST SEE PERMANENT SIGNING/STRIPING PAGES FOR EXACT LOCATIONS.
- \*7 MOUNTED BELOW R4-7
- \*8 MOUNTED BELOW R1-1

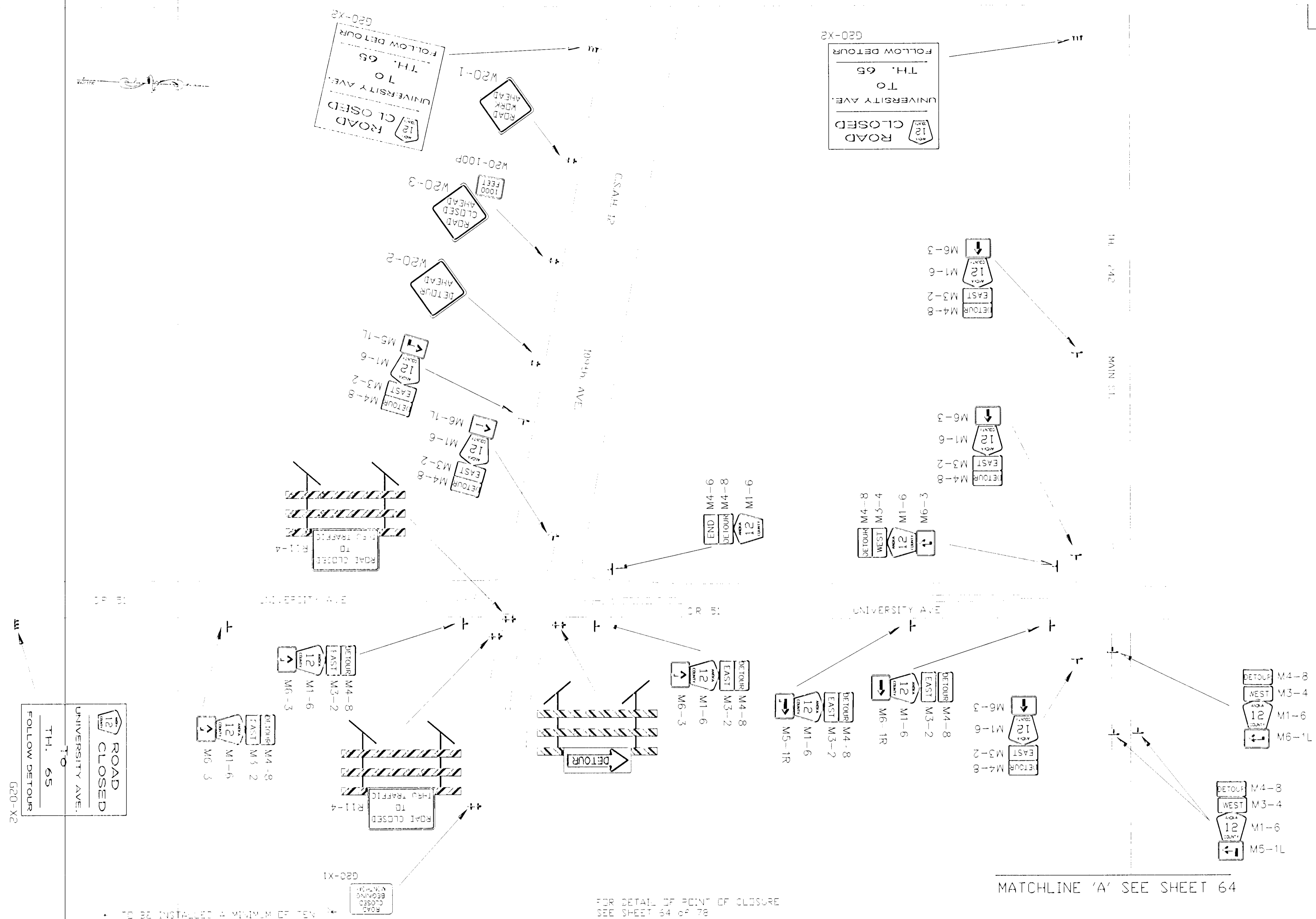
NOTES:

1.) ALL TRAFFIC CONTROL DEVICES SHALL CONFORM THE MOST RECENT EDITION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING THE FIELD MANUAL DATED JANUARY 1998.

PERMANENT SIGN QUANTITIES

				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.				DRAWN BY: D.M. DATE: 9/98		 ANOKA COUNTY HIGHWAY DEPT.	STATE AID PROJECT NO. 02-612-08	
								DESIGN BY: D.M. DATE: 9/98			STATE AID PROJECT NO. 106-20-14	
								CHECKED BY: R.B. DATE: 11/98			STATE AID PROJECT NO. 106-117-04	
NO.	DATE	BY	CKD	APPR	REVISION	DATE	REG. NO.			COUNTY PROJECT NO. _____		
										Sheet 74 of 94 Sheets		





ROAD CLOSED TO TRAFFIC  
UNIVERSITY AVE.  
TH. 65  
FOLLOW DETOUR  
G20-X2

TO BE INSTALLED A MINIMUM OF TEN DAYS PRIOR TO ACTUAL CLOSING DATE

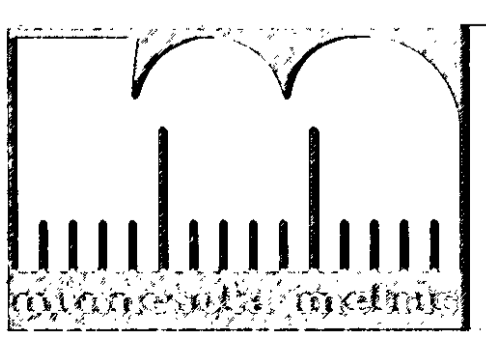
MATCHLINE 'B' SEE SHEET 64

FOR DETAIL OF POINT OF CLOSURE SEE SHEET 64 OF 78

MATCHLINE 'A' SEE SHEET 64

C.S.A.H. 12

NO	DATE	BY	CHKD	APPR	REVISION



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 07-27-99 REG. NO. 25266

DRAWN BY: DM DATE: 10/98  
 DESIGN BY: DM DATE: 10/98  
 CHECKED BY: RB DATE: 11/98



ANOKA COUNTY  
HIGHWAY DEPT.

STATE AID PROJECT NO. 02-612-08  
 STATE AID PROJECT NO. 106-20-14  
 STATE AID PROJECT NO. 106-117-04  
 COUNTY PROJECT NO. \_\_\_\_\_

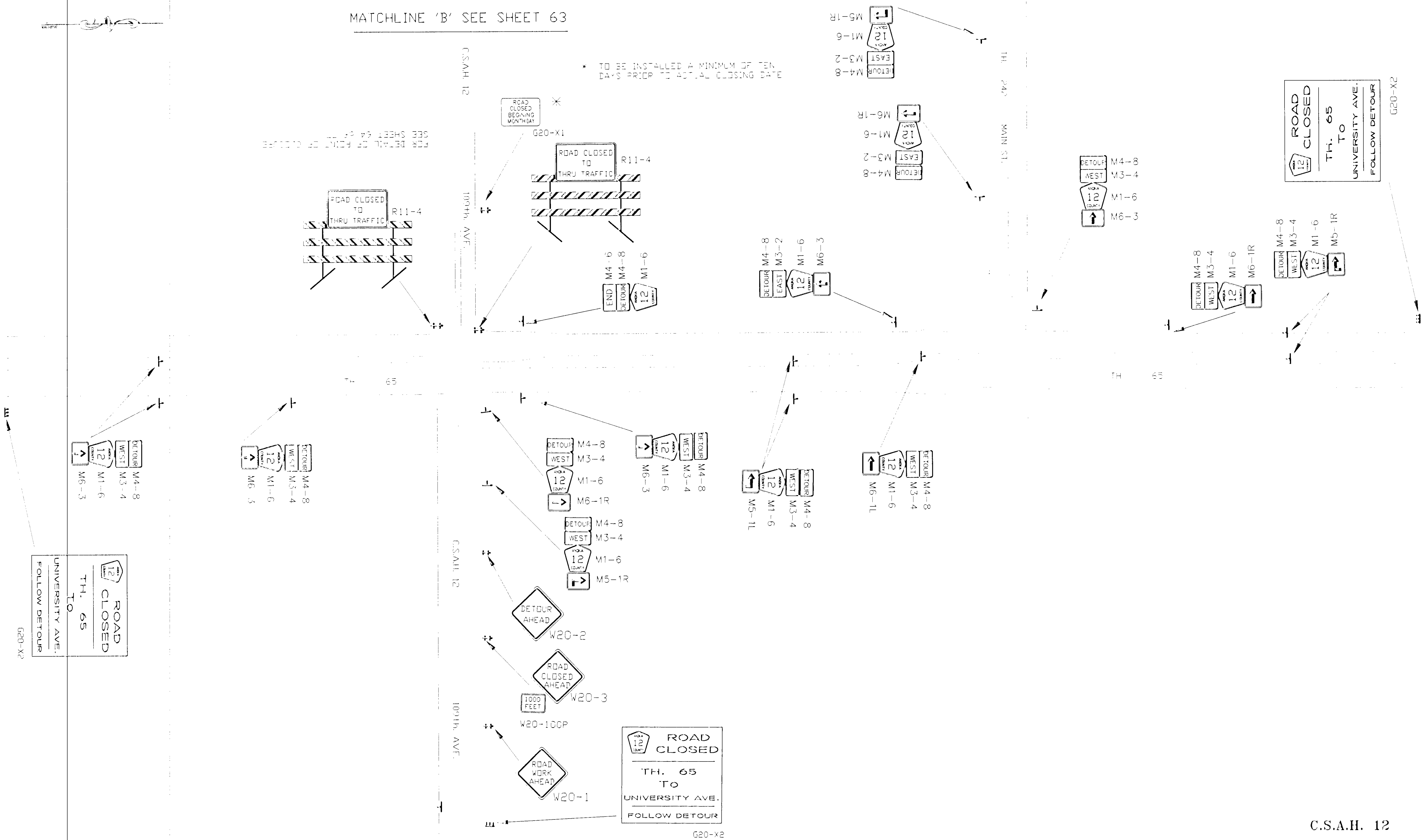
DETOUR LAYOUT  
 Sheet 75 of 94 Sheets

MATCHLINE 'A' SEE SHEET 63

MATCHLINE 'B' SEE SHEET 63

\* TO BE INSTALLED A MINIMUM OF TEN DAYS PRIOR TO ACTUAL CLOSING DATE

FOR DETAIL OF POINT OF CLOSURE SEE SHEET 64 OF THIS PROJECT



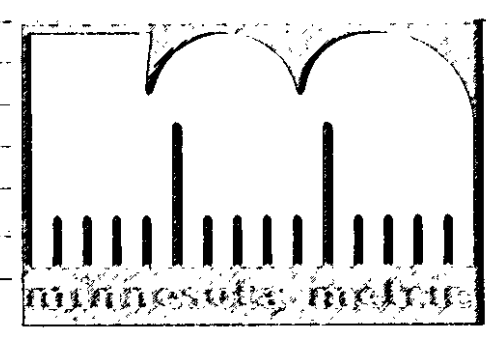
ROAD CLOSED  
TH. 65  
TO  
UNIVERSITY AVE.  
FOLLOW DETOUR  
G20-X2

ROAD CLOSED  
TH. 65  
TO  
UNIVERSITY AVE.  
FOLLOW DETOUR  
G20-X2

ROAD CLOSED  
TH. 65  
TO  
UNIVERSITY AVE.  
FOLLOW DETOUR

C.S.A.H. 12

NO.	DATE	BY	CHKD	APPR	REVISION



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 07-27-98 REG. NO. 25166

DRAWN BY DM DATE 12/98  
DESIGN BY DM DATE 12/98  
CHECKED BY PE DATE 11/98



ANOKA COUNTY  
HIGHWAY DEPT.

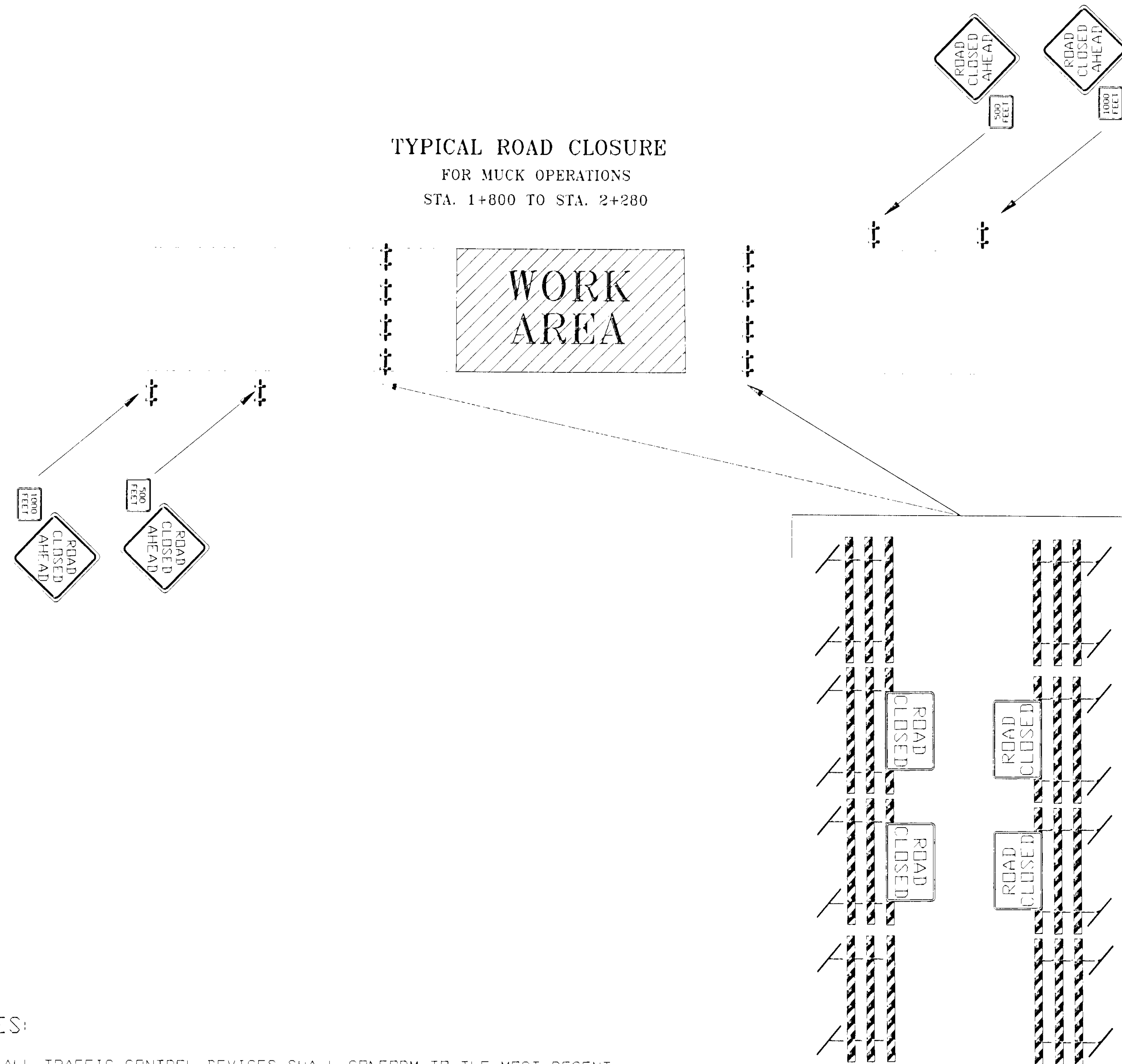
STATE AID PROJECT NO. 02-612-08  
STATE AID PROJECT NO. 106-20-14  
STATE AID PROJECT NO. 106-117-04  
COUNTY PROJECT NO. \_\_\_\_\_

DETOUR LAYOUT  
Sheet 76 of 94 Sheets

M. U. T. C. D. CODE	SIZE	INSERT	QTY	M. U. T. C. D. CODE	SIZE	INSERT	QTY
W20-1	48" x 48"	ROAD WORK AHEAD	• 2	W20-X1	60" x 48"	ROAD CLOSED BEGINNING MONTHDAY	• 2
W20-2	48" x 48"	DETOUR AHEAD	• 2	W20-X2	96" x 84"	ROAD CLOSED UNIVERSITY AVE. TO TH. 65 FOLLOW DETOUR	• 3
W20-3	48" x 48"	ROAD CLOSED AHEAD	• 6	W20-X2	96" x 84"	ROAD CLOSED TH. 65 TO UNIVERSITY AVE. FOLLOW DETOUR	• 3
W20-10CP	24" x 18"	500 FEET	• 2				
W20-10CP	24" x 18"	1000 FEET	• 4				
M4-10L TYPE III	48" x 18" 8 FOOT	DETOUR	• 1	M5-1R			• 2
				M4-8	24" x 12"	DETOUR EAST	• 1
				M3-2	24" x 12"		• 1
				M1-6	24" x 24"	ANOKA COUNTY 12	• 2
R11-4 TYPE III	60" x 30" 8 FOOT	ROAD CLOSED TO THRU TRAFFIC	• 3		21" x 15"		• 1
							• 7
				M5-1R			• 3
R11-4 TYPE III	60" x 30" 8 FOOT	ROAD CLOSED TO THRU TRAFFIC	• 1	M4-8	24" x 12"	DETOUR WEST	• 4
				M3-4	24" x 12"		• 2
				M1-6	24" x 24"	ANOKA COUNTY 12	• 2
					21" x 15"		• 2
				M5-1R			• 6
R11-2 TYPE III	48" x 30" 8 FOOT	ROAD CLOSED	• 4	M4-6	24" x 12"	END	• 2
				M3-8+	24" x 12"	DETOUR	
				M1-6	24" x 24"	ANOKA COUNTY 12	
TYPE III	8 FOOT		• 4				

\* SIGN TO BE INSTALLED A MINIMUM OF TEN DAYS PRIOR TO ACTUAL CLOSING DATE OF ROAD CLOSURE AND IMPLEMENTATION OF DETOUR SIGNS. SIGNS TO BE REMOVED AT TIME OF DETOUR INSTALLATION.

TYPICAL ROAD CLOSURE FOR MUCK OPERATIONS STA. 1+800 TO STA. 2+280

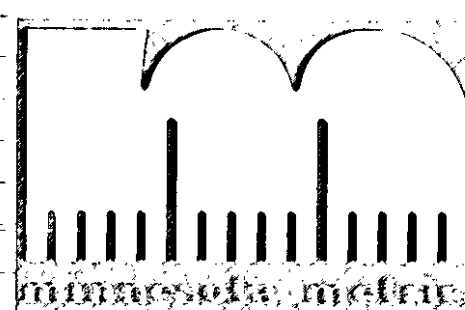


NOTES:

- 1) ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MOST RECENT EDITION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING THE FIELD MANUAL DATED APRIL 1995.
- 2) ALL TYPE III BARRICADES SHALL BE REFLECTORIZED ON BOTH SIDES. BARRICADE MARKINGS SHALL BE SLANTED IN ACCORDANCE WITH THE M. U. T. C. D.

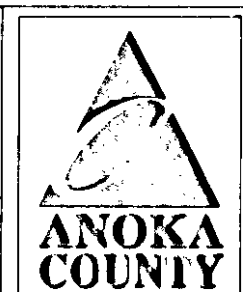
C.S.A.H. 12

NO.	DATE	BY	CHKD	APPR	REVISION



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 07-07-99 REG. NO. 25269

DRAWN BY DM DATE 10/98  
 DESIGN BY DM DATE 10/98  
 CHECKED BY RB DATE 11/98



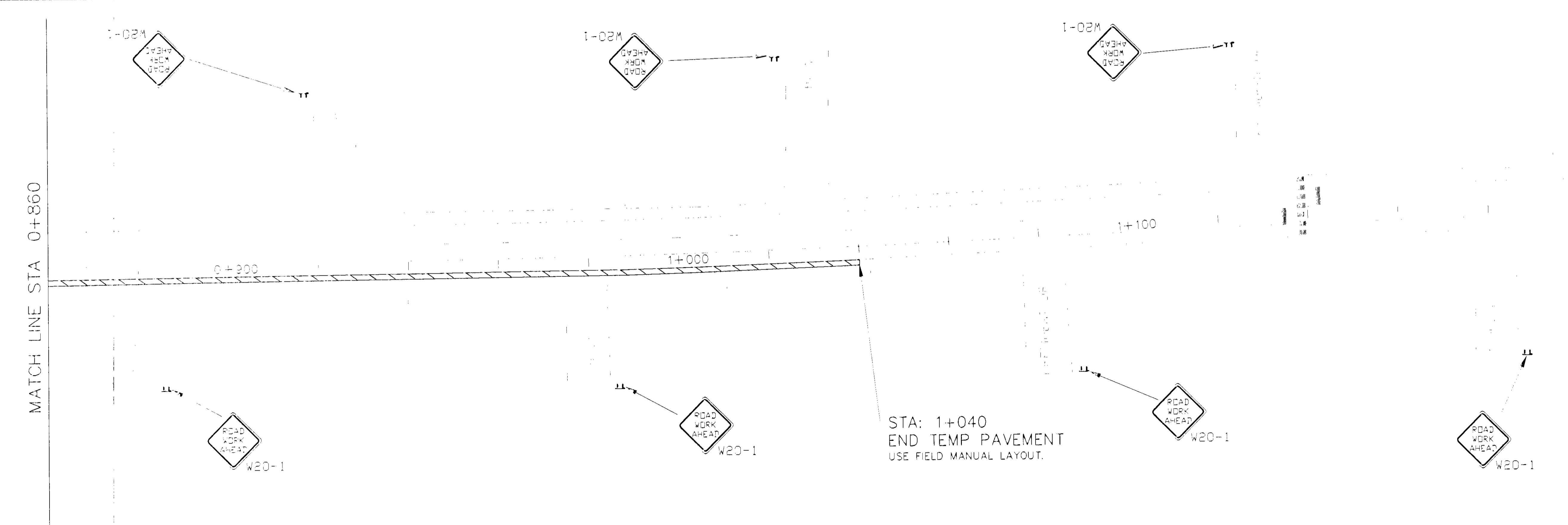
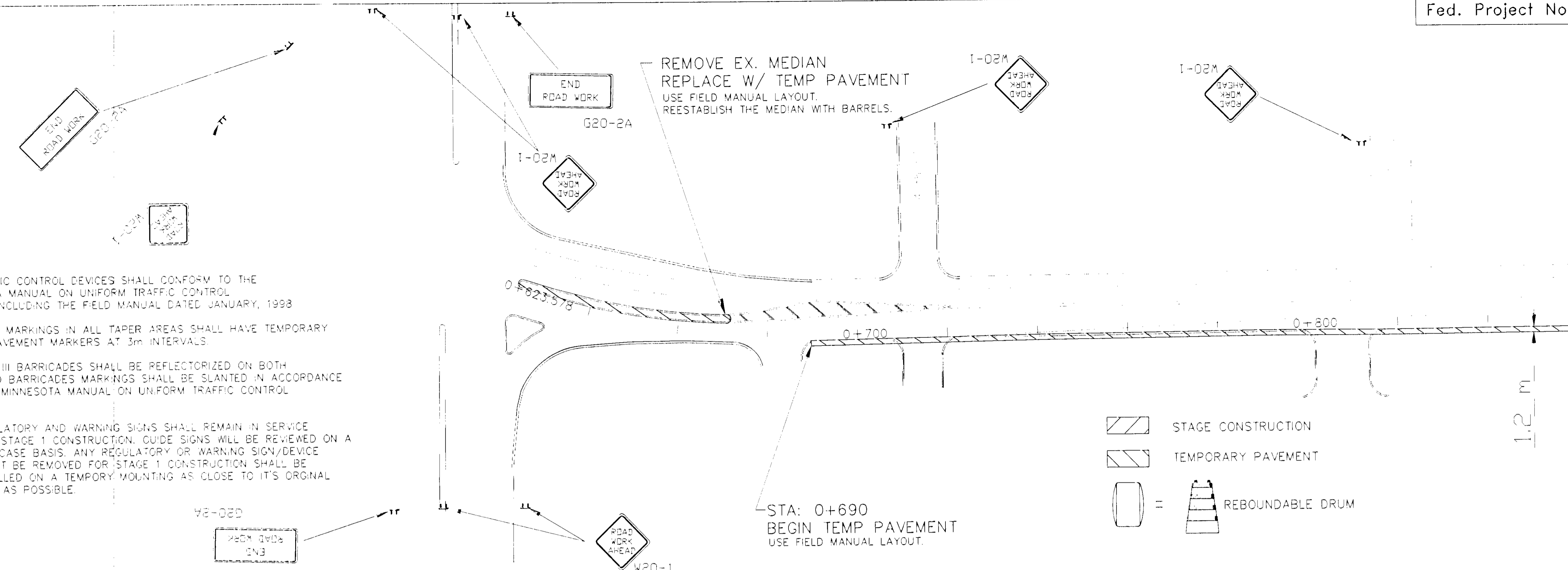
ANOKA COUNTY HIGHWAY DEPT.

STATE AID PROJECT NO. 02-612-08  
 STATE AID PROJECT NO. 106-20-14  
 STATE AID PROJECT NO. 106-117-04  
 COUNTY PROJECT NO. \_\_\_\_\_

DETOUR LAYOUT  
 Sheet 77 of 94 Sheets

NOTES:

1. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING THE FIELD MANUAL DATED JANUARY, 1998
2. PAVEMENT MARKINGS IN ALL TAPER AREAS SHALL HAVE TEMPORARY RAISED PAVEMENT MARKERS AT 3m INTERVALS
3. ALL TYPE III BARRICADES SHALL BE REFLECTORIZED ON BOTH SIDES AND BARRICADES MARKINGS SHALL BE SLANTED IN ACCORDANCE WITH THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES
4. ALL REGULATORY AND WARNING SIGNS SHALL REMAIN IN SERVICE THROUGH STAGE 1 CONSTRUCTION. GUIDE SIGNS WILL BE REVIEWED ON A CASE BY CASE BASIS. ANY REGULATORY OR WARNING SIGN/DEVICE THAT MUST BE REMOVED FOR STAGE 1 CONSTRUCTION SHALL BE RE-INSTALLED ON A TEMPORARY MOUNTING AS CLOSE TO IT'S ORIGINAL LOCATION AS POSSIBLE.

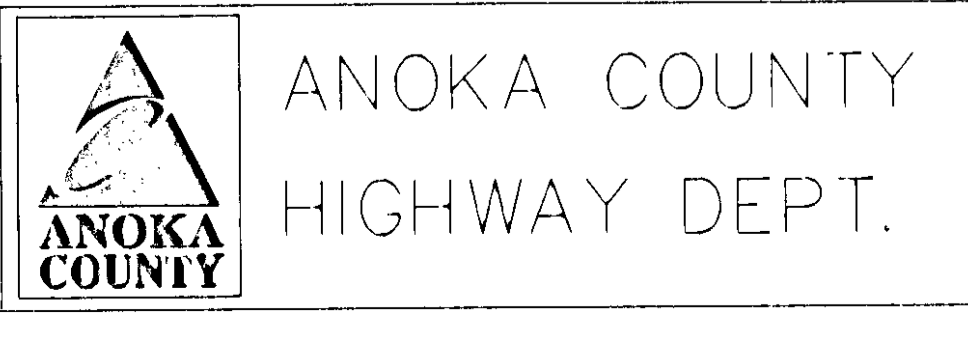


NO	DATE	BY	CHKD	APPR	REVISION

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 4/7/99 REG. NO. 25066

DRAWN BY: RLB DATE: 4/1/99  
 DESIGN BY: RDB DATE: 4/1/99  
 CHECKED BY: JKP DATE: 4/1/99

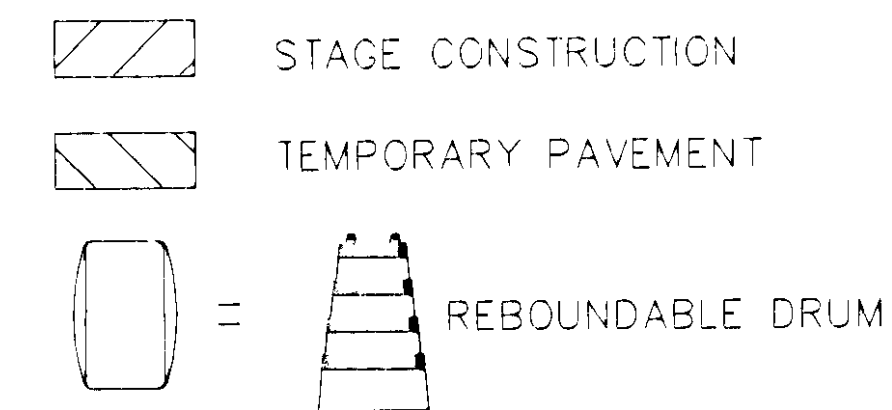


STATE AID PROJECT NO. 02-612-08  
 STATE AID PROJECT NO. 106-020-14  
 STATE AID PROJECT NO. 106-117-04  
 COUNTY PROJECT NO. \_\_\_\_\_

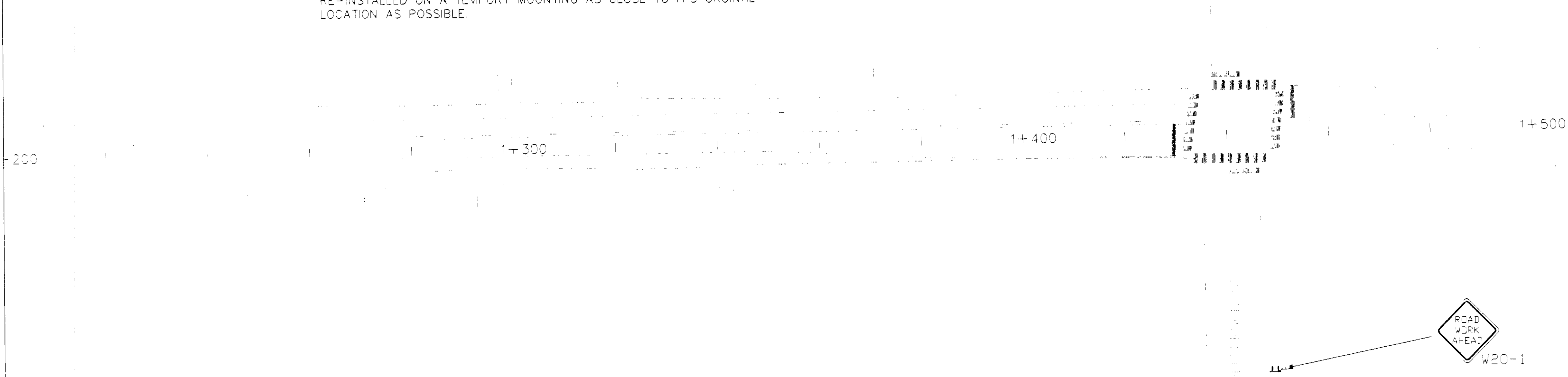
TRAFFIC CONTROL PLAN  
 STA 0+622.326 TO 1+200.000  
 Sheet 78 of 94 Sheets

NOTES:

1. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING THE FIELD MANUAL DATED JANUARY, 1998.
2. PAVEMENT MARKINGS IN ALL TAPER AREAS SHALL HAVE TEMPORARY RAISED PAVEMENT MARKERS AT 3m INTERVALS.
3. ALL TYPE III BARRICADES SHALL BE REFLECTORIZED ON BOTH SIDES AND BARRICADES MARKINGS SHALL BE SLANTED IN ACCORDANCE WITH THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
4. ALL REGULATORY AND WARNING SIGNS SHALL REMAIN IN SERVICE THROUGH STAGE 1 CONSTRUCTION. GUIDE SIGNS WILL BE REVIEWED ON A CASE BY CASE BASIS. ANY REGULATORY OR WARNING SIGN/DEVICE THAT MUST BE REMOVED FOR STAGE 1 CONSTRUCTION SHALL BE RE-INSTALLED ON A TEMPORY MOUNTING AS CLOSE TO IT'S ORIGINAL LOCATION AS POSSIBLE.



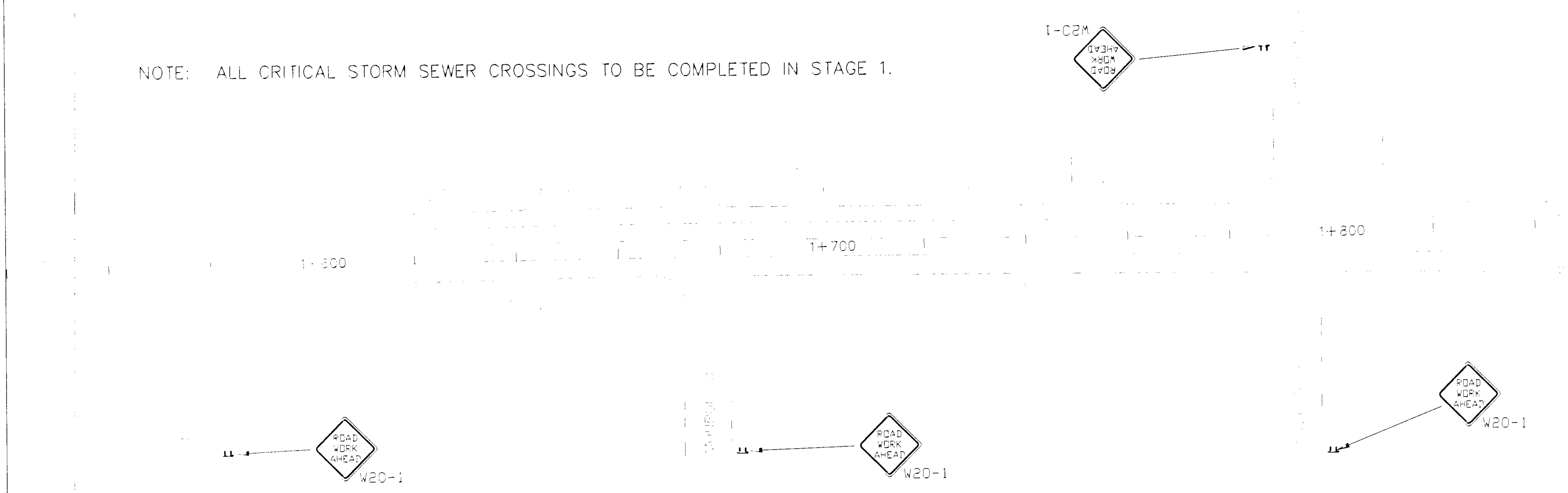
MATCH LINE STA 1+200



MATCH LINE STA 1+540

NOTE: ALL CRITICAL STORM SEWER CROSSINGS TO BE COMPLETED IN STAGE 1.

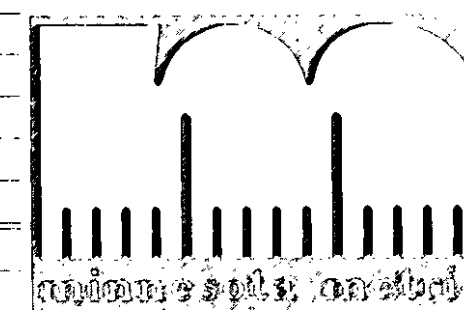
MATCH LINE STA 1+540



MATCH LINE STA 1+880

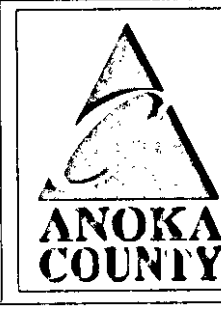
STAGE 1

NO	DATE	BY	CHKD	APPR	REVISION



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 4/7/99 REG. NO. 25066

DRAWN BY: RLB DATE: 4/1/99  
 DESIGN BY: RDB DATE: 4/1/99  
 CHECKED BY: JKP DATE: 4/1/99



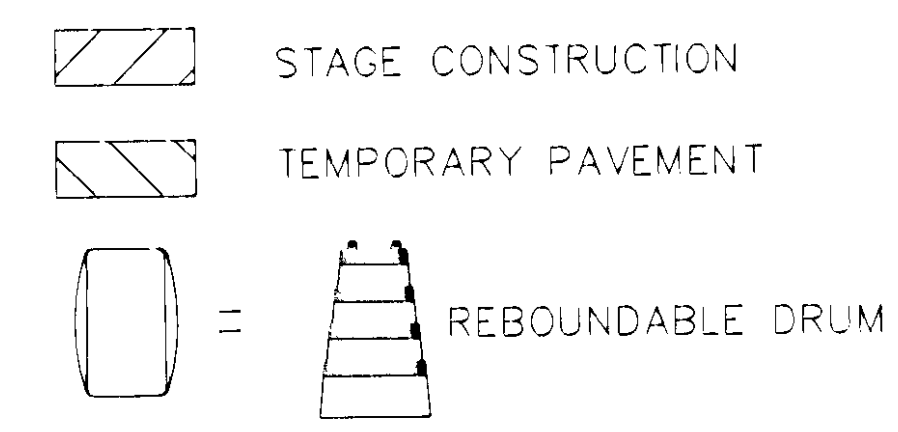
ANOKA COUNTY  
HIGHWAY DEPT.

STATE AID PROJECT NO. 02-612-08  
 STATE AID PROJECT NO. 106-020-14  
 STATE AID PROJECT NO. 106-117-04  
 COUNTY PROJECT NO. \_\_\_\_\_

TRAFFIC CONTROL PLAN  
 STA 1+200.000 TO 1+880.000  
 Sheet 79 of 94 Sheets

NOTES:

1. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING THE FIELD MANUAL DATED JANUARY, 1998.
2. PAVEMENT MARKINGS IN ALL TAPER AREAS SHALL HAVE TEMPORARY RAISED PAVEMENT MARKERS AT 3m INTERVALS.
3. ALL TYPE III BARRICADES SHALL BE REFLECTORIZED ON BOTH SIDES AND BARRICADES MARKINGS SHALL BE SLANTED IN ACCORDANCE WITH THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
4. ALL REGULATORY AND WARNING SIGNS SHALL REMAIN IN SERVICE THROUGH STAGE 1 CONSTRUCTION. GUIDE SIGNS WILL BE REVIEWED ON A CASE BY CASE BASIS. ANY REGULATORY OR WARNING SIGN/DEVICE THAT MUST BE REMOVED FOR STAGE 1 CONSTRUCTION SHALL BE RE-INSTALLED ON A TEMPORARY MOUNTING AS CLOSE TO IT'S ORIGINAL LOCATION AS POSSIBLE.

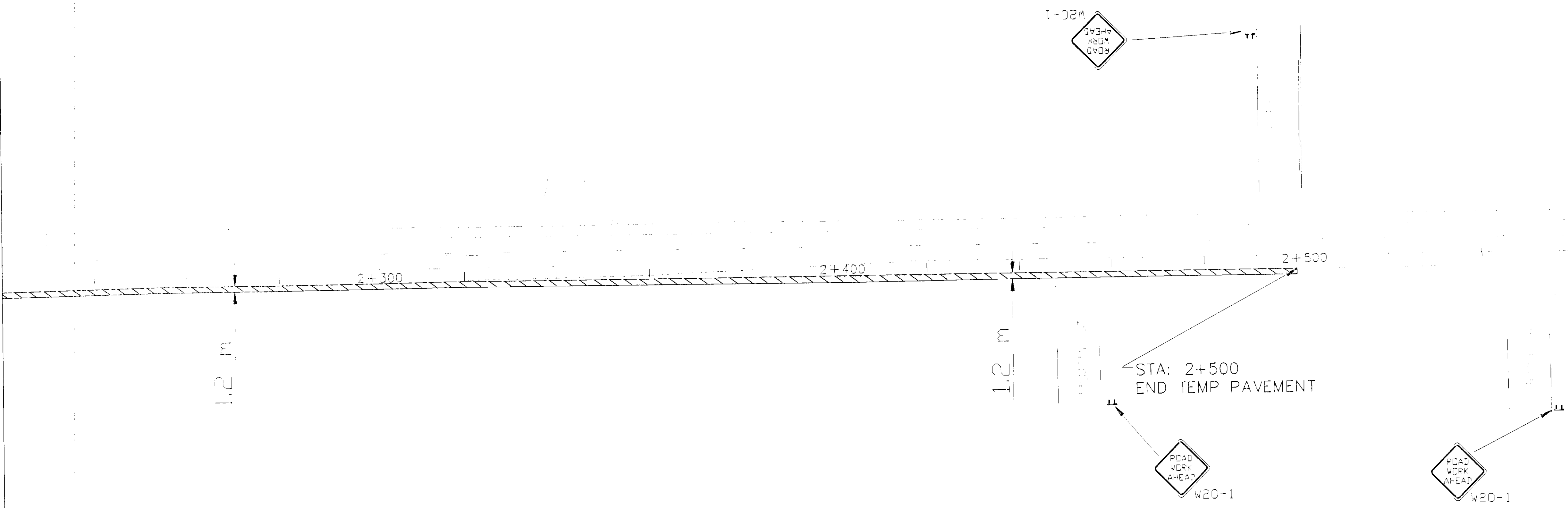


MATCH LINE STA 1+880



MATCH LINE STA 2+220

MATCH LINE STA 2+220



MATCH LINE STA 2+560

STAGE 1

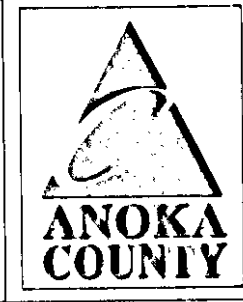
NO	DATE	BY	CHKD	APPR	REVISION



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 4/7/99 REG. NO. 25066

DRAWN BY RLB DATE 4/1/99  
 DESIGN BY RDB DATE 4/1/99  
 CHECKED BY JKP DATE 4/1/99



ANOKA COUNTY  
HIGHWAY DEPT.

STATE AID PROJECT NO. 02-612-08  
 STATE AID PROJECT NO. 106-020-14  
 STATE AID PROJECT NO. 106-117-04  
 COUNTY PROJECT NO. \_\_\_\_\_

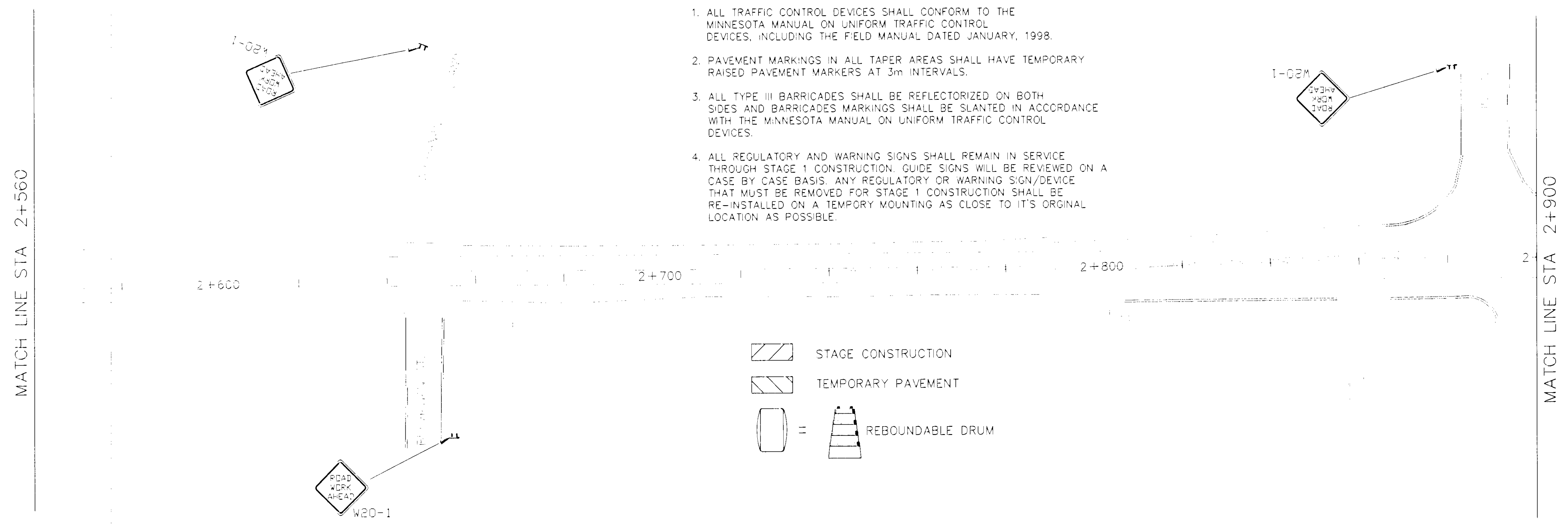
TRAFFIC CONTROL PLAN  
 STA 1+880.000 TO 2+560.000  
 Sheet 80 of 94 Sheets

NOTES:

1. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING THE FIELD MANUAL DATED JANUARY, 1998.
2. PAVEMENT MARKINGS IN ALL TAPER AREAS SHALL HAVE TEMPORARY RAISED PAVEMENT MARKERS AT 3m INTERVALS.
3. ALL TYPE III BARRICADES SHALL BE REFLECTORIZED ON BOTH SIDES AND BARRICADES MARKINGS SHALL BE SLANTED IN ACCORDANCE WITH THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
4. ALL REGULATORY AND WARNING SIGNS SHALL REMAIN IN SERVICE THROUGH STAGE 1 CONSTRUCTION. GUIDE SIGNS WILL BE REVIEWED ON A CASE BY CASE BASIS. ANY REGULATORY OR WARNING SIGN/DEVICE THAT MUST BE REMOVED FOR STAGE 1 CONSTRUCTION SHALL BE RE-INSTALLED ON A TEMPORARY MOUNTING AS CLOSE TO IT'S ORIGINAL LOCATION AS POSSIBLE.

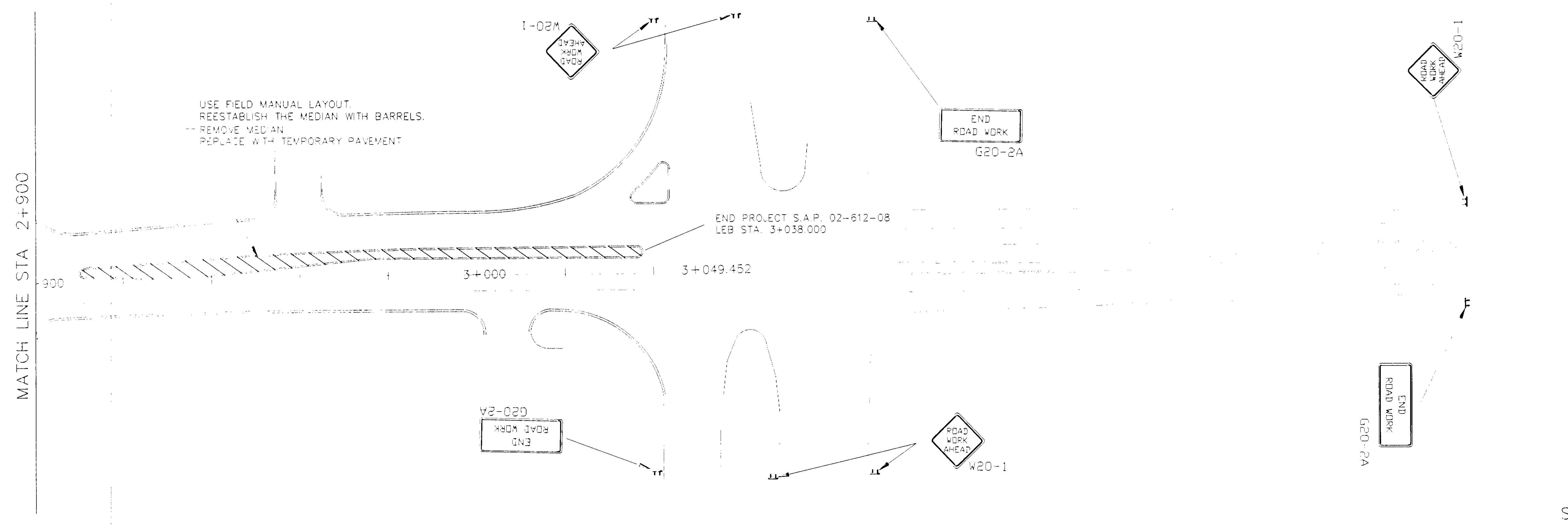
MATCH LINE STA 2+560

MATCH LINE STA 2+900



MATCH LINE STA 2+900

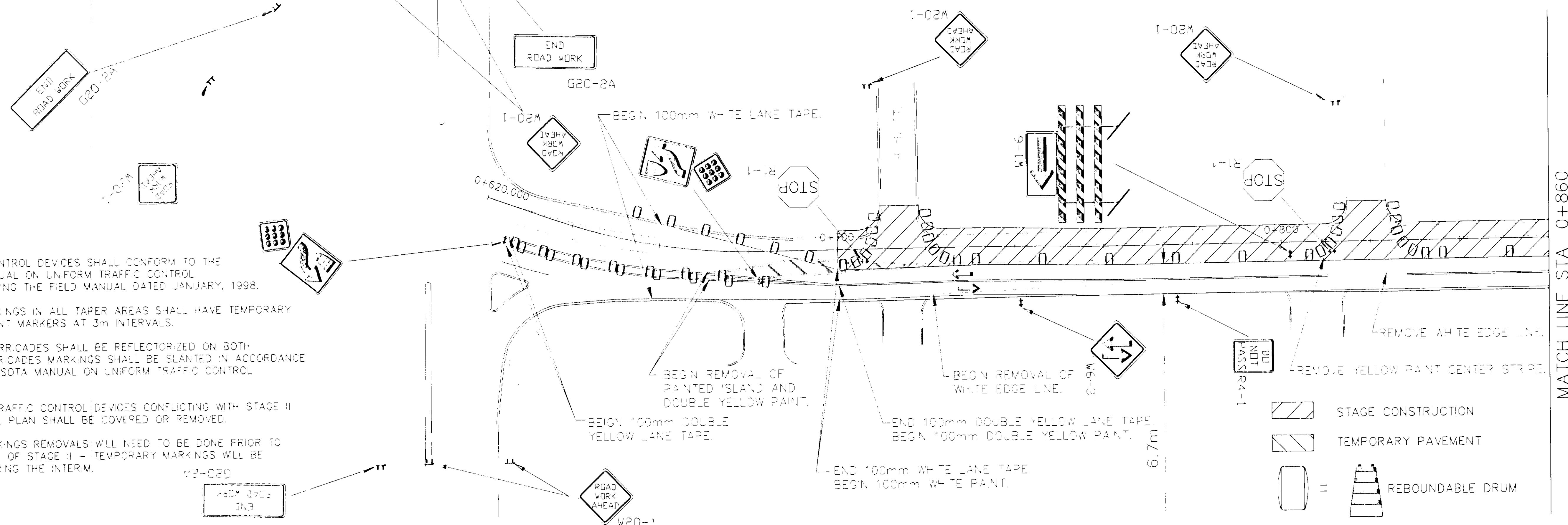
STAGE 1



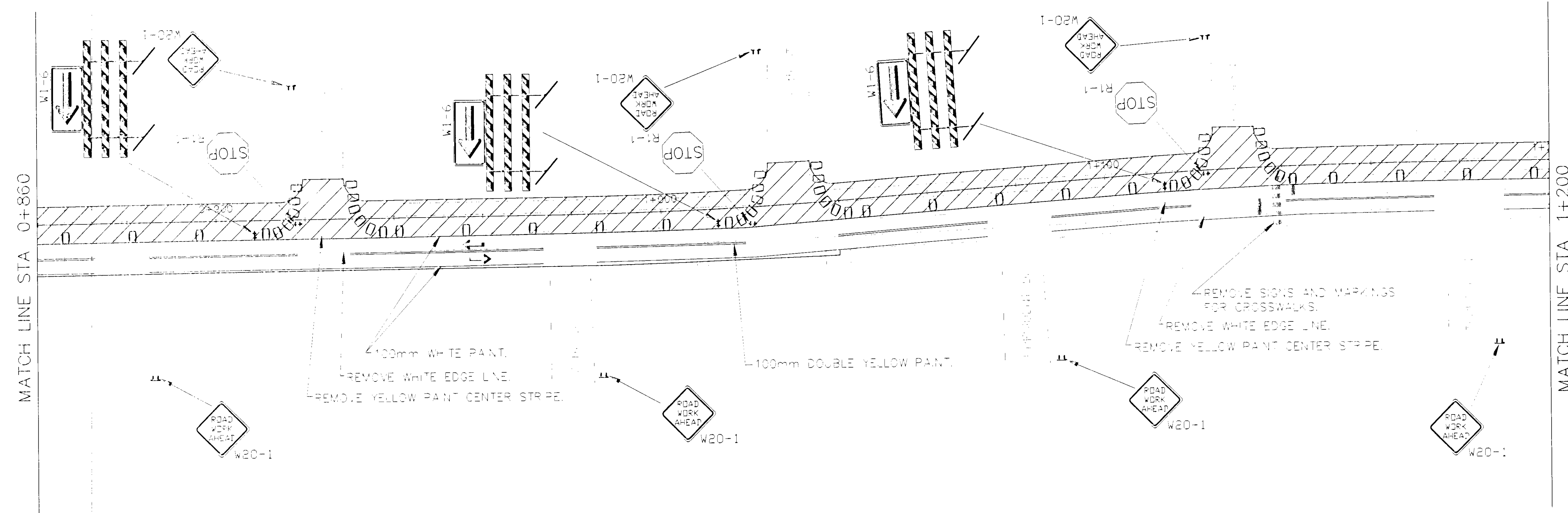
<p>I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.</p>					<p>ANOKA COUNTY HIGHWAY DEPT.</p>	<p>STATE AID PROJECT NO. <u>02-612-08</u> STATE AID PROJECT NO. <u>106-020-14</u> STATE AID PROJECT NO. <u>106-117-04</u> COUNTY PROJECT NO. _____</p>	<p>TRAFFIC CONTROL PLAN STA 2+560.000 TO 3+038.000 Sheet <u>81</u> of <u>94</u> Sheets</p>
NO.	DATE	BY	CKD	APPR			

NOTES:

1. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING THE FIELD MANUAL DATED JANUARY, 1998.
2. PAVEMENT MARKINGS IN ALL TAPER AREAS SHALL HAVE TEMPORARY RAISED PAVEMENT MARKERS AT 3m INTERVALS.
3. ALL TYPE III BARRICADES SHALL BE REFLECTORIZED ON BOTH SIDES AND BARRICADES MARKINGS SHALL BE SLANTED IN ACCORDANCE WITH THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
4. ANY EXISTING TRAFFIC CONTROL DEVICES CONFLICTING WITH STAGE II TRAFFIC CONTROL PLAN SHALL BE COVERED OR REMOVED.
5. PAVEMENT MARKINGS REMOVALS WILL NEED TO BE DONE PRIOR TO IMPLEMENTATION OF STAGE I - TEMPORARY MARKINGS WILL BE NECESSARY DURING THE INTERIM.



MATCH LINE STA 0+860



MATCH LINE STA 1+200

STAGE 2

NO.	DATE	BY	CHKD	APPR	REVISION

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 4/7/99 REG. NO. 25066

DRAWN BY: RLB DATE 4/1/99  
 DESIGN BY: RDB DATE 4/1/99  
 CHECKED BY: JKP DATE 4/1/99

**ANOKA COUNTY**  
 HIGHWAY DEPT.

STATE AID PROJECT NO. 02-612-08  
 STATE AID PROJECT NO. 106-020-14  
 STATE AID PROJECT NO. 106-117-04  
 COUNTY PROJECT NO. \_\_\_\_\_

TRAFFIC CONTROL PLAN  
 STA 0+622.326 TO 1+200.000  
 Sheet 82 of 94 Sheets

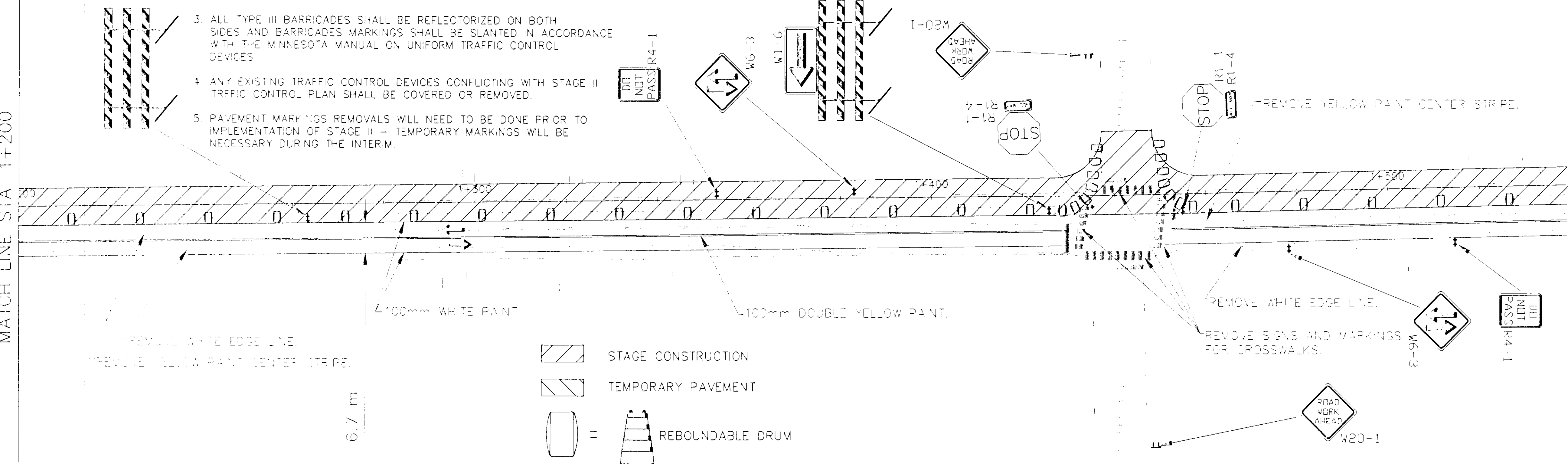


NOTES:

1. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING THE FIELD MANUAL DATED JANUARY, 1998.
2. PAVEMENT MARKINGS IN ALL TAPER AREAS SHALL HAVE TEMPORARY RAISED PAVEMENT MARKERS AT 3m INTERVALS.
3. ALL TYPE III BARRICADES SHALL BE REFLECTORIZED ON BOTH SIDES AND BARRICADES MARKINGS SHALL BE SLANTED IN ACCORDANCE WITH THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
4. ANY EXISTING TRAFFIC CONTROL DEVICES CONFLICTING WITH STAGE II TRAFFIC CONTROL PLAN SHALL BE COVERED OR REMOVED.
5. PAVEMENT MARKINGS REMOVALS WILL NEED TO BE DONE PRIOR TO IMPLEMENTATION OF STAGE II - TEMPORARY MARKINGS WILL BE NECESSARY DURING THE INTERM.

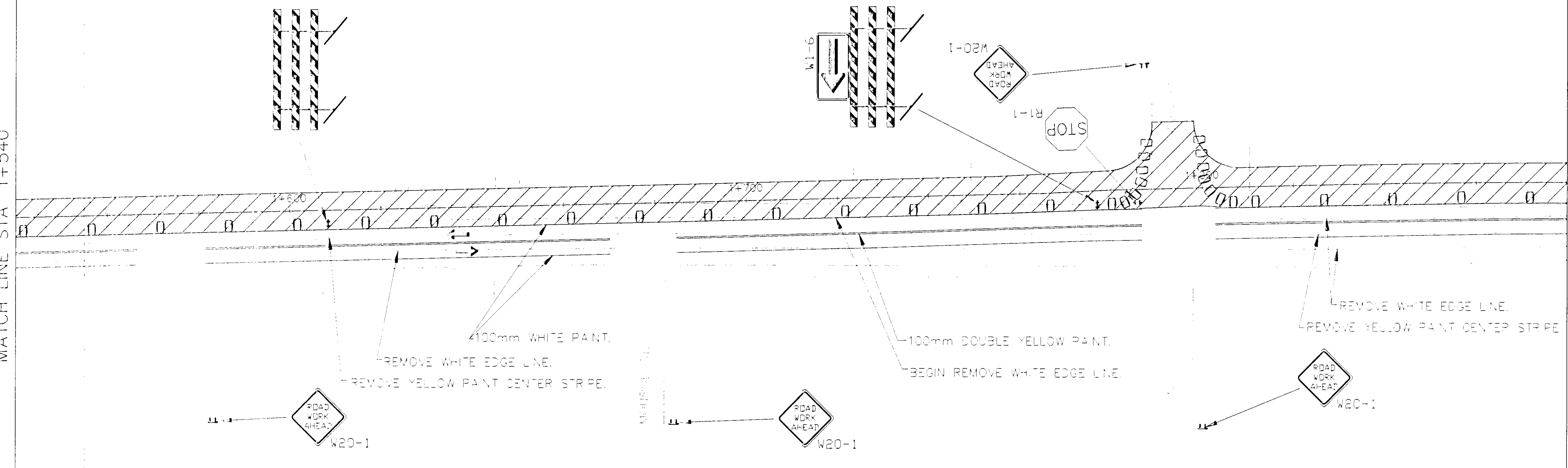
MATCH LINE STA 1+200

MATCH LINE STA 1+540



MATCH LINE STA 1+540

MATCH LINE STA 1+880

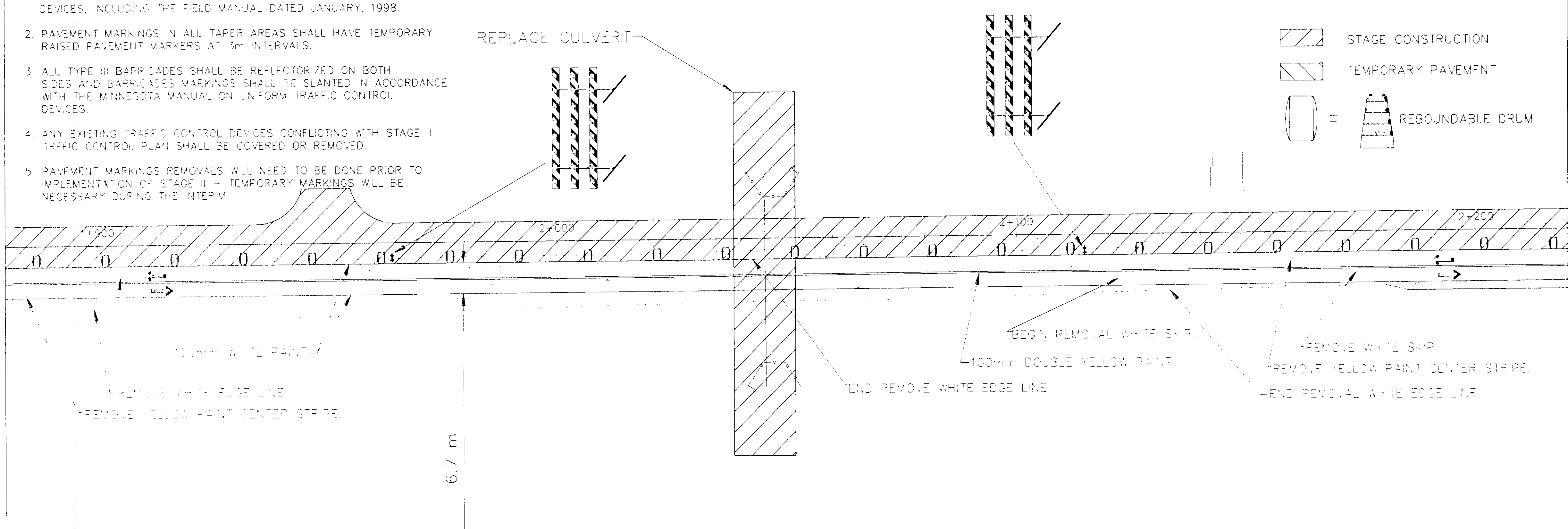


STAGE 2

NOTES:

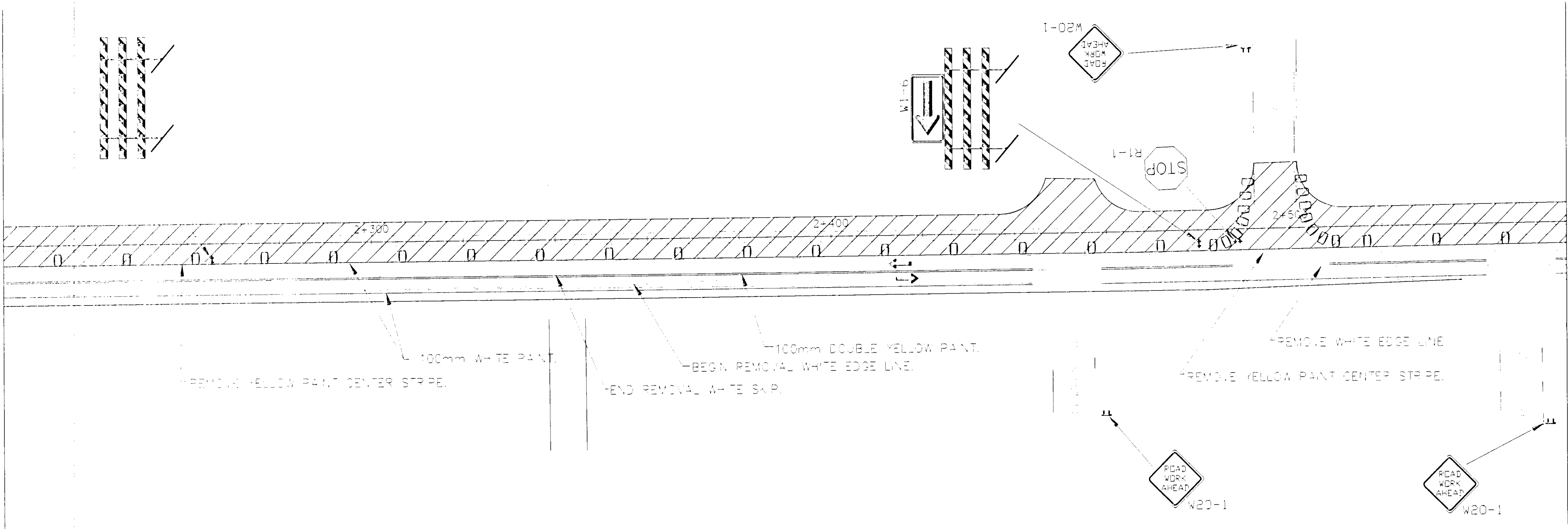
1. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING THE FIELD MANUAL DATED JANUARY, 1998.
2. PAVEMENT MARKINGS IN ALL TAPER AREAS SHALL HAVE TEMPORARY RAISED PAVEMENT MARKERS AT 3m INTERVALS.
3. ALL TYPE III BARRICADES SHALL BE REFLECTORIZED ON BOTH SIDES AND BARRICADES MARKINGS SHALL BE SLANTED IN ACCORDANCE WITH THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
4. ANY EXISTING TRAFFIC CONTROL DEVICES CONFLICTING WITH STAGE II TRAFFIC CONTROL PLAN SHALL BE COVERED OR REMOVED.
5. PAVEMENT MARKINGS REMOVALS WILL NEED TO BE DONE PRIOR TO IMPLEMENTATION OF STAGE II - TEMPORARY MARKINGS WILL BE NECESSARY DURING THE INTERIM.

MATCH LINE STA 1+880



MATCH LINE STA 2+220

MATCH LINE STA 2+220



MATCH LINE STA 2+560

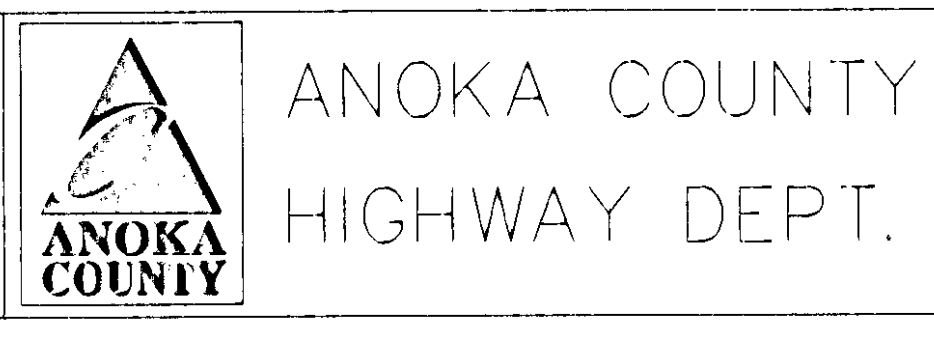
STAGE 2

NO	DATE	BY	CHKD	APPR	REVISION

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.

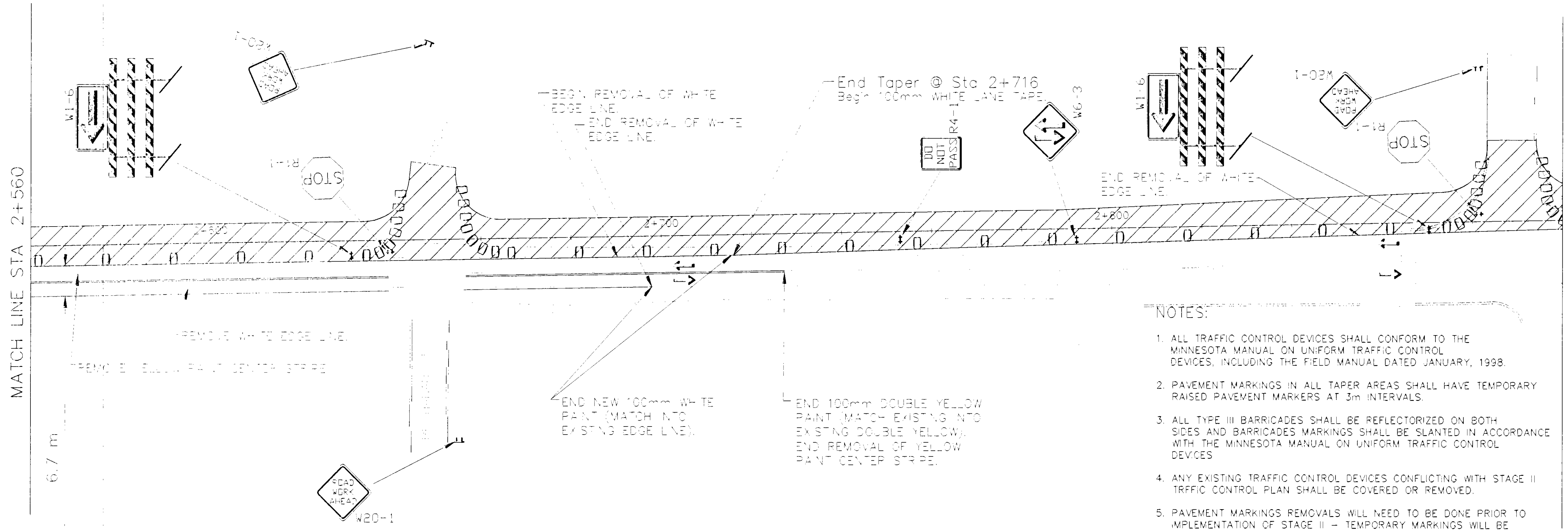
DATE 4/7/99 REG. NO. 25066

DRAWN BY RLB DATE 4/1/99  
 DESIGN BY RDB DATE 4/1/99  
 CHECKED BY JRP DATE 4/1/99

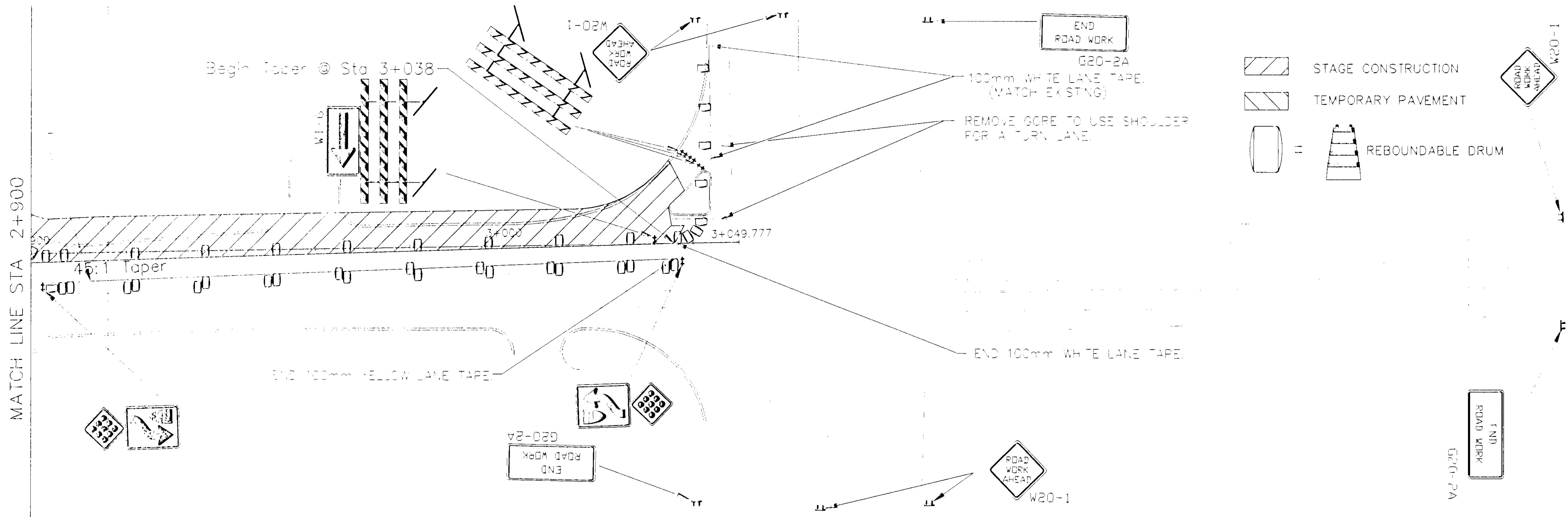


STATE AID PROJECT NO. 02-612-08  
 STATE AID PROJECT NO. 106-020-14  
 STATE AID PROJECT NO. 106-117-04  
 COUNTY PROJECT NO. \_\_\_\_\_

TRAFFIC CONTROL PLAN  
 STA 1+880.000 TO 2+560.000  
 Sheet 84 of 94 Sheets



- NOTES:**
1. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING THE FIELD MANUAL DATED JANUARY, 1998.
  2. PAVEMENT MARKINGS IN ALL TAPER AREAS SHALL HAVE TEMPORARY RAISED PAVEMENT MARKERS AT 3m INTERVALS.
  3. ALL TYPE III BARRICADES SHALL BE REFLECTORIZED ON BOTH SIDES AND BARRICADES MARKINGS SHALL BE SLANTED IN ACCORDANCE WITH THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
  4. ANY EXISTING TRAFFIC CONTROL DEVICES CONFLICTING WITH STAGE II TRAFFIC CONTROL PLAN SHALL BE COVERED OR REMOVED.
  5. PAVEMENT MARKINGS REMOVALS WILL NEED TO BE DONE PRIOR TO IMPLEMENTATION OF STAGE II - TEMPORARY MARKINGS WILL BE NECESSARY DURING THE INTERIM.



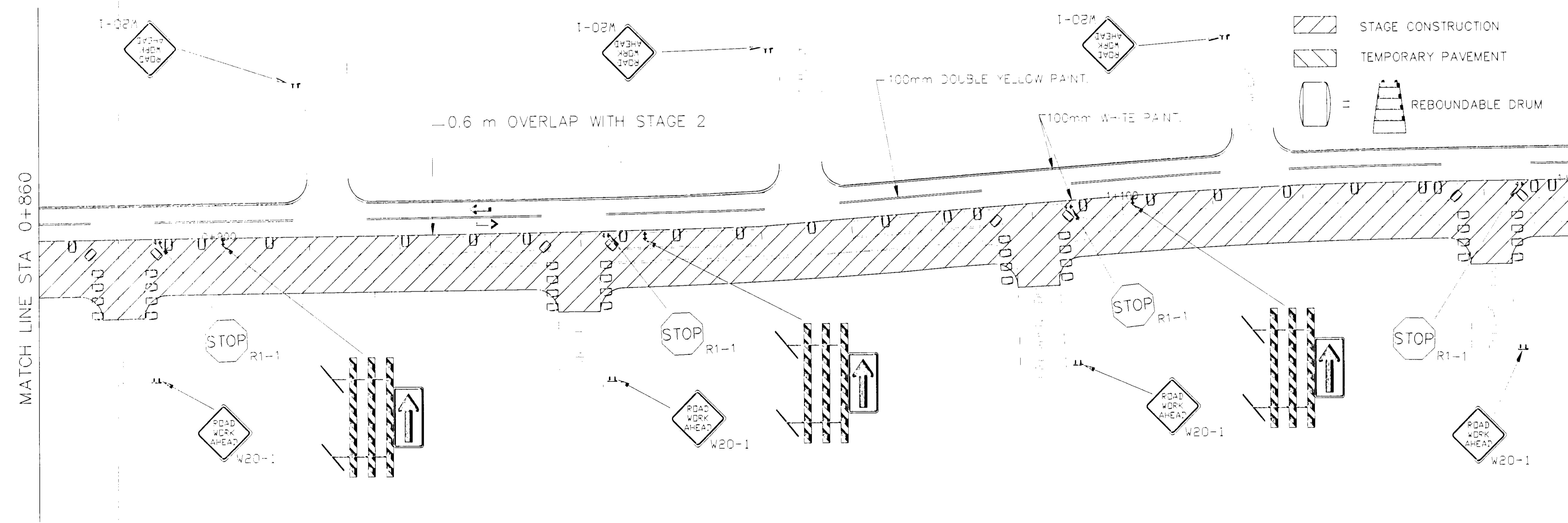
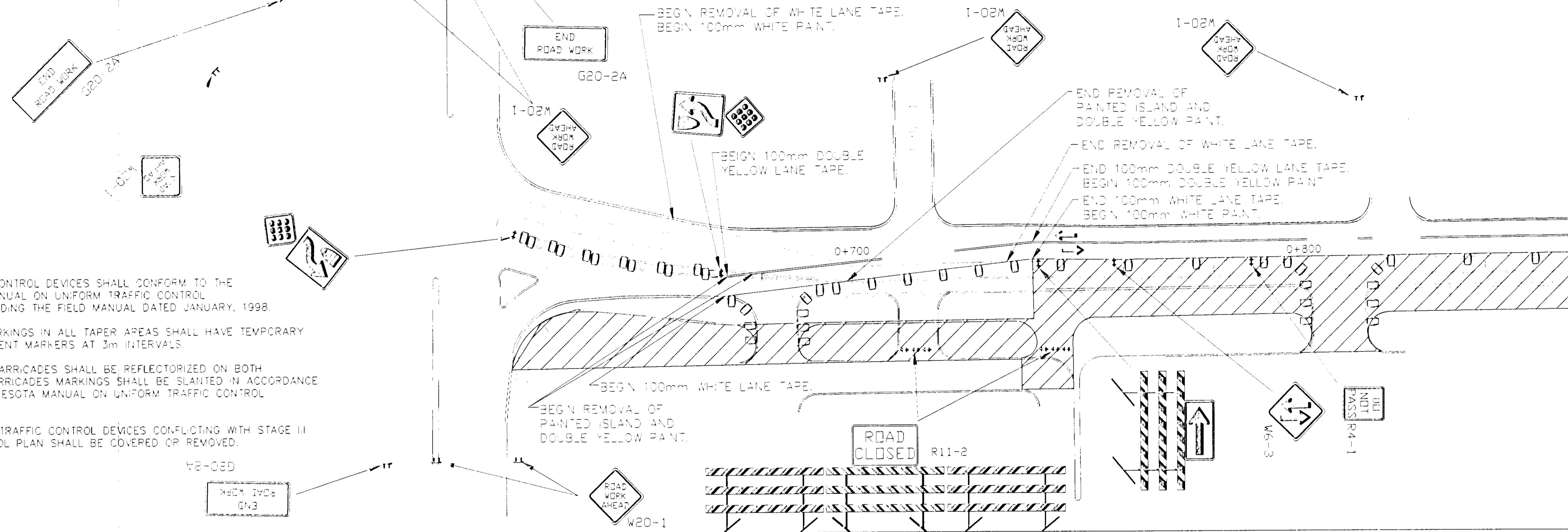
- [Hatched Area] STAGE CONSTRUCTION
- [Diagonal Lines] TEMPORARY PAVEMENT
- [Drum Symbol] = [Drum Symbol] REBOUNDABLE DRUM

STAGE 2

					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.		DRAWN BY: RLB DATE: 4/1/99 DESIGN BY: RCB DATE: 4/1/99 CHECKED BY: JKP DATE: 4/1/99		ANOKA COUNTY HIGHWAY DEPT.		STATE AID PROJECT NO. 02-612-08 STATE AID PROJECT NO. 106-020-14 STATE AID PROJECT NO. 106-117-04 COUNTY PROJECT NO. _____		TRAFFIC CONTROL PLAN STA 2+560.000 TO 3+038.000 Sheet 85 of 94 Sheets	
NO	DATE	BY	CHK	APPR	REVISION	DATE	REG. NO.							
						4/7/99	25066							

NOTES:

1. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING THE FIELD MANUAL DATED JANUARY, 1998.
2. PAVEMENT MARKINGS IN ALL TAPER AREAS SHALL HAVE TEMPORARY RAISED PAVEMENT MARKERS AT 3m INTERVALS.
3. ALL TYPE III BARRICADES SHALL BE REFLECTORIZED ON BOTH SIDES AND BARRICADES MARKINGS SHALL BE SLANTED IN ACCORDANCE WITH THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
4. ANY EXISTING TRAFFIC CONTROL DEVICES CONFLICTING WITH STAGE II TRAFFIC CONTROL PLAN SHALL BE COVERED OR REMOVED.



NO.	DATE	BY	CHKD.	APPR.	REVISION

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 4/7/99 REG. NO. 25066

ANOKA COUNTY HIGHWAY DEPT.

DRAWN BY: RLB DATE 4/1/99  
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 CHECKED BY: JKP DATE 4/1/99

STATE AID PROJECT NO. 02-612-08  
 STATE AID PROJECT NO. 106-020-14  
 STATE AID PROJECT NO. 106-117-04  
 COUNTY PROJECT NO. \_\_\_\_\_

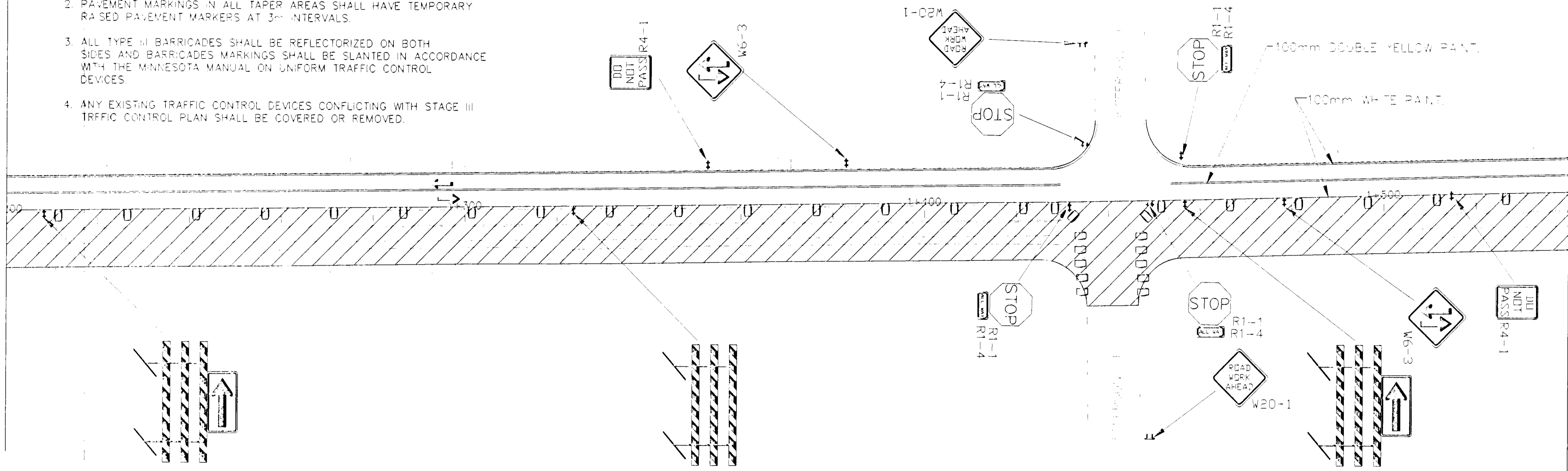
TRAFFIC CONTROL PLAN  
 STA 0+622.326 TO 1+200.000  
 Sheet 86 of 94 Sheets

NOTES:

1. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING THE FIELD MANUAL DATED JANUARY, 1998.
2. PAVEMENT MARKINGS IN ALL TAPER AREAS SHALL HAVE TEMPORARY RAISED PAVEMENT MARKERS AT 3m INTERVALS.
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4. ANY EXISTING TRAFFIC CONTROL DEVICES CONFLICTING WITH STAGE III TRAFFIC CONTROL PLAN SHALL BE COVERED OR REMOVED.

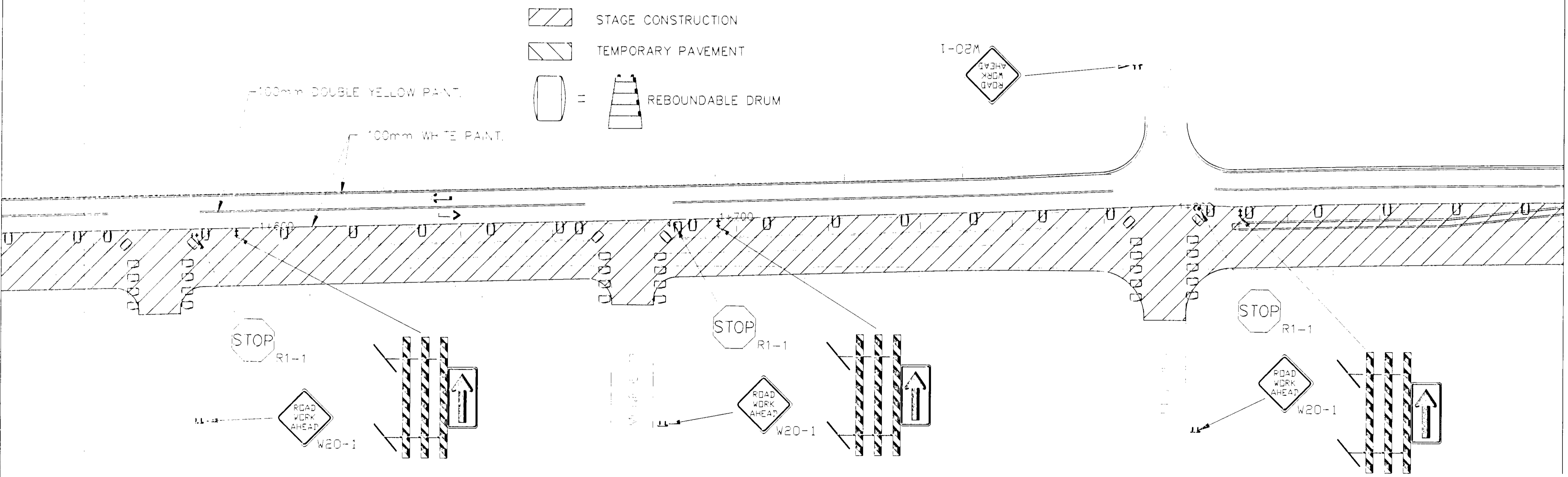
MATCH LINE STA 1+200

MATCH LINE STA 1+540



MATCH LINE STA 1+540

MATCH LINE STA 1+880

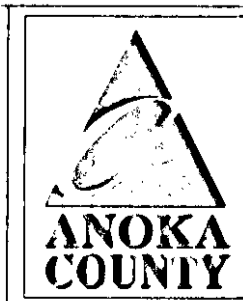


STAGE 3

NO	DATE	BY	CHKD	APPR	REVISION

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 4/7/99 REG. NO. 25066

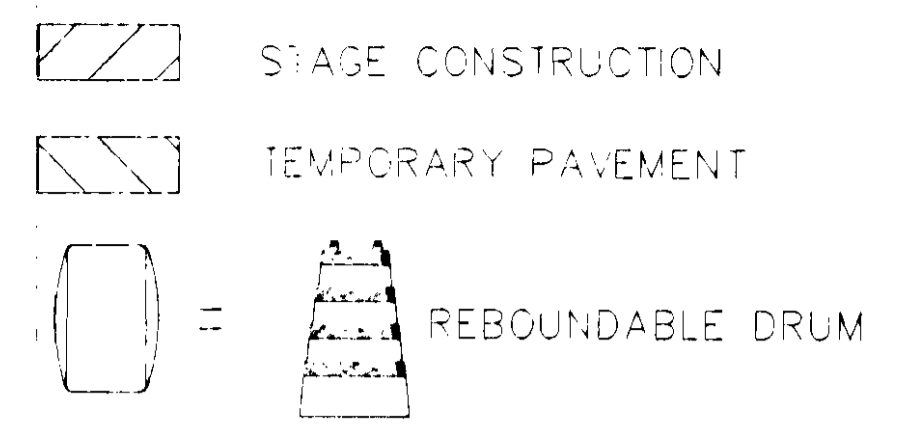
DRAWN BY: RLB DATE: 4/1/99  
 DESIGN BY: RDB DATE: 4/1/99  
 CHECKED BY: JKP DATE: 4/1/99



ANOKA COUNTY  
 HIGHWAY DEPT.

STATE AID PROJECT NO. 02-612-08  
 STATE AID PROJECT NO. 106-020-14  
 STATE AID PROJECT NO. 106-117-04  
 COUNTY PROJECT NO. \_\_\_\_\_

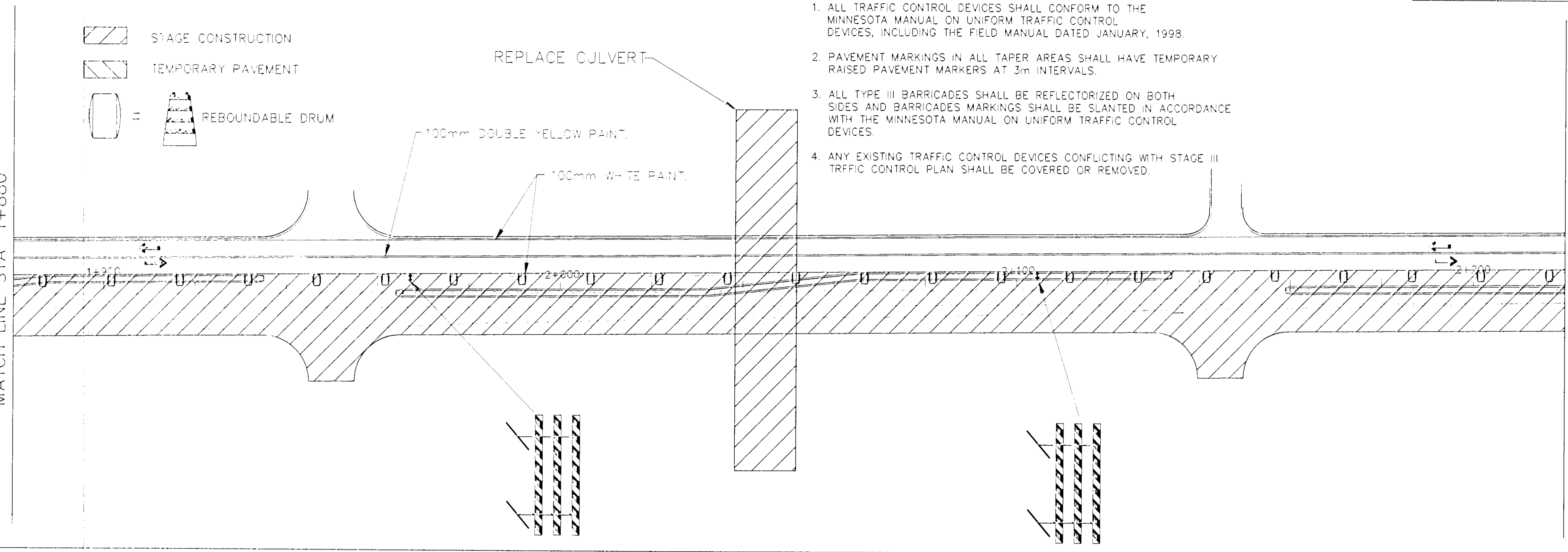
TRAFFIC CONTROL PLAN  
 STA 1+200.000 TO 1+880.000  
 Sheet 87 of 94 Sheets



NOTES:

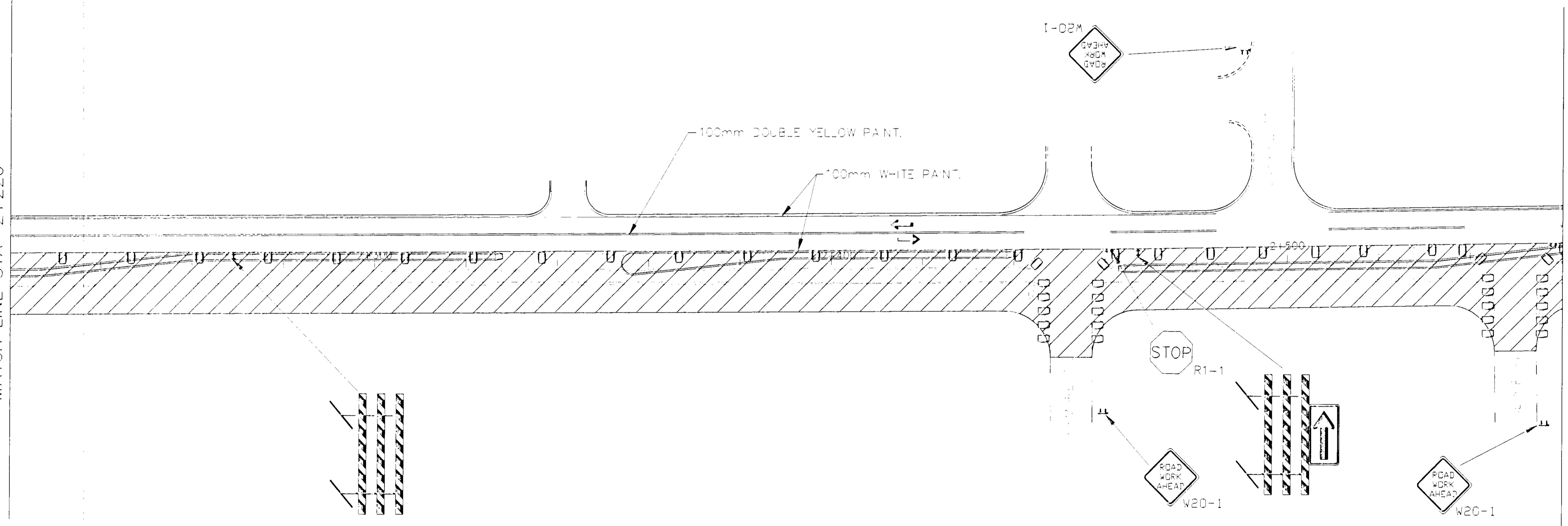
1. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING THE FIELD MANUAL DATED JANUARY, 1998.
2. PAVEMENT MARKINGS IN ALL TAPER AREAS SHALL HAVE TEMPORARY RAISED PAVEMENT MARKERS AT 3m INTERVALS.
3. ALL TYPE III BARRICADES SHALL BE REFLECTORIZED ON BOTH SIDES AND BARRICADES MARKINGS SHALL BE SLANTED IN ACCORDANCE WITH THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
4. ANY EXISTING TRAFFIC CONTROL DEVICES CONFLICTING WITH STAGE III TRAFFIC CONTROL PLAN SHALL BE COVERED OR REMOVED.

MATCH LINE STA 1+880



MATCH LINE STA 2+220

MATCH LINE STA 2+220



MATCH LINE STA 2+560

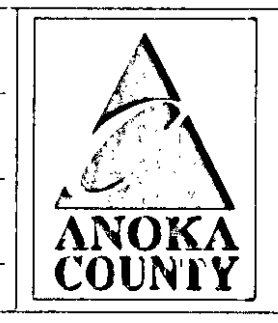
STAGE 3

NO	DATE	BY	CHKD	APPR	REVISION

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 4/7/99 REG. NO. 25066

DRAWN BY: RLB DATE: 4/1/99  
 DESIGN BY: RDB DATE: 4/1/99  
 CHECKED BY: JKP DATE: 4/1/99



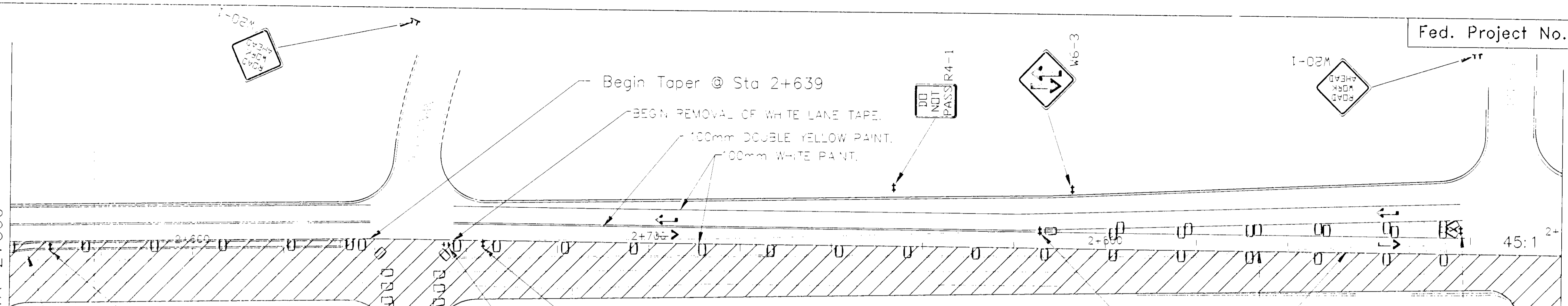
ANOKA COUNTY  
HIGHWAY DEPT.

STATE AID PROJECT NO. 02-612-08  
 STATE AID PROJECT NO. 106-020-14  
 STATE AID PROJECT NO. 106-117-04  
 COUNTY PROJECT NO. \_\_\_\_\_

TRAFFIC CONTROL PLAN  
 STA 1+880.000 TO 2+560.000  
 Sheet 88 of 94 Sheets

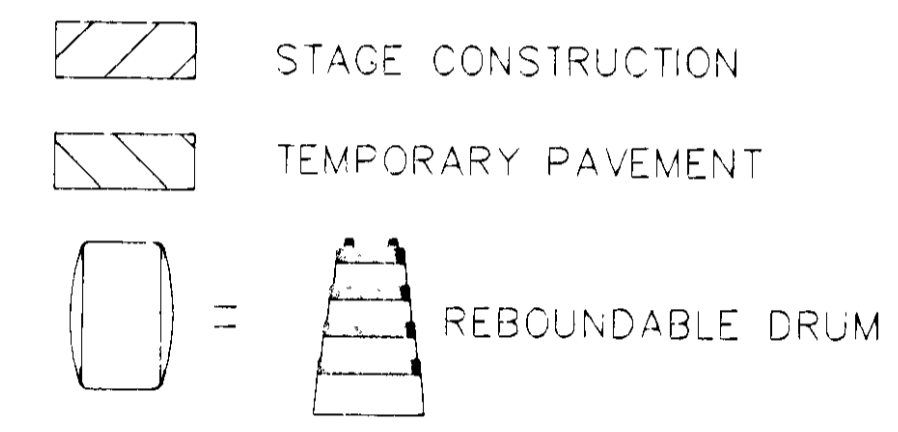
MATCH LINE STA 2+560

MATCH LINE STA 2+900

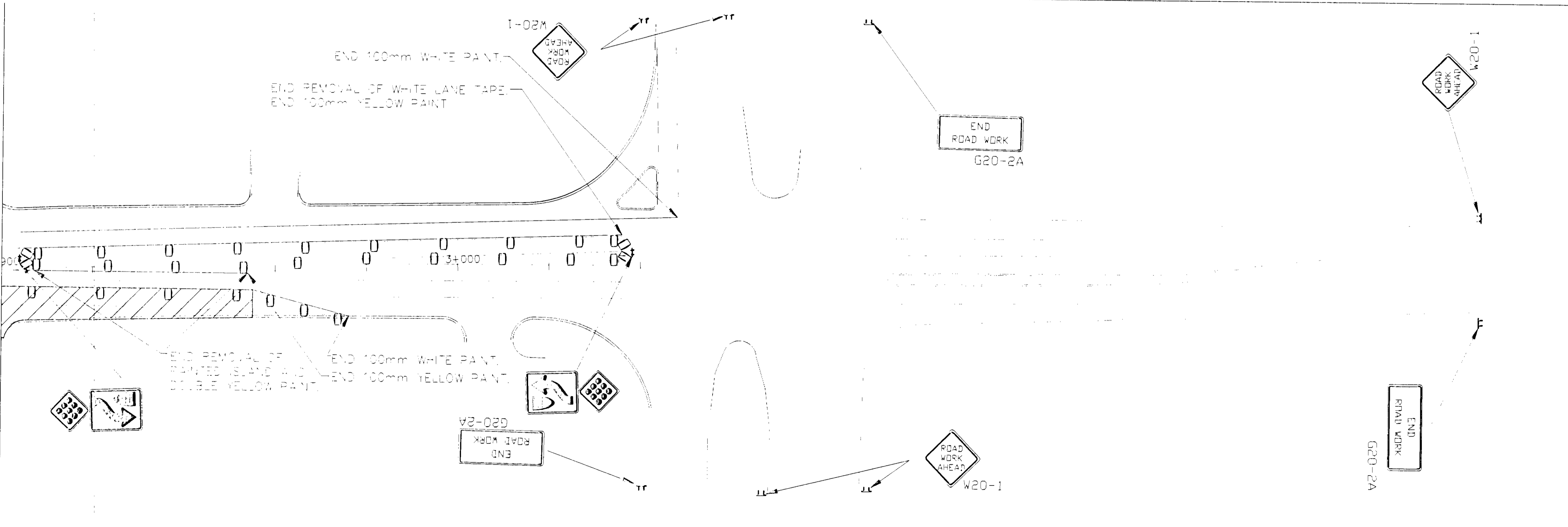


NOTES:

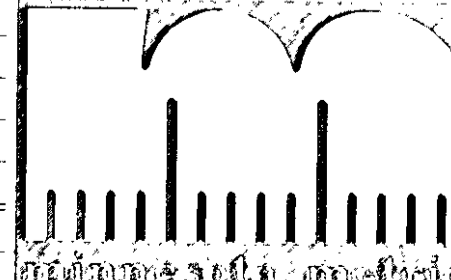
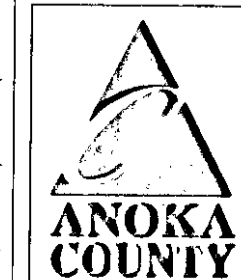
1. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING THE FIELD MANUAL DATED JANUARY, 1998.
2. PAVEMENT MARKINGS IN ALL TAPER AREAS SHALL HAVE TEMPORARY RAISED PAVEMENT MARKERS AT 3m INTERVALS.
3. ALL TYPE III BARRICADES SHALL BE REFLECTORIZED ON BOTH SIDES AND BARRICADES MARKINGS SHALL BE SLANTED IN ACCORDANCE WITH THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
4. ANY EXISTING TRAFFIC CONTROL DEVICES CONFLICTING WITH STAGE III TRAFFIC CONTROL PLAN SHALL BE COVERED OR REMOVED.



MATCH LINE STA 2+900



STAGE 3

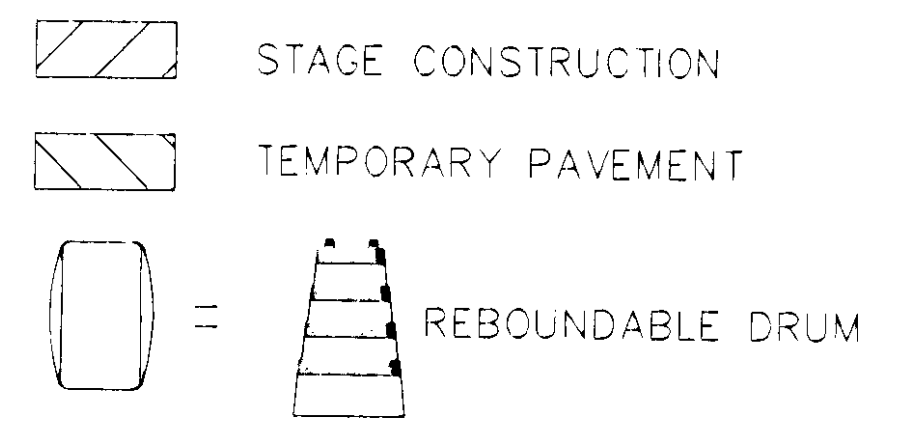
					I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. DATE <u>4/7/99</u> REG. NO. <u>25068</u>		 ANOKA COUNTY HIGHWAY DEPT.		STATE AID PROJECT NO. <u>02-612-08</u> STATE AID PROJECT NO. <u>106-020-14</u> STATE AID PROJECT NO. <u>106-117-04</u> COUNTY PROJECT NO. _____		TRAFFIC CONTROL PLAN STA 2+560.000 TO 3+038.000 Sheet <u>89</u> of <u>94</u> Sheets						
NO	DATE	BY	CKD	APPR	REVISION	DRAWN BY	RLB	DATE	4/7/99	DESIGN BY	RDB	DATE	4/7/99	CHECKED BY	JKP	DATE	4/7/99
NAME: S:\SDSKPROJ\000000\000000\026000.DWG																	



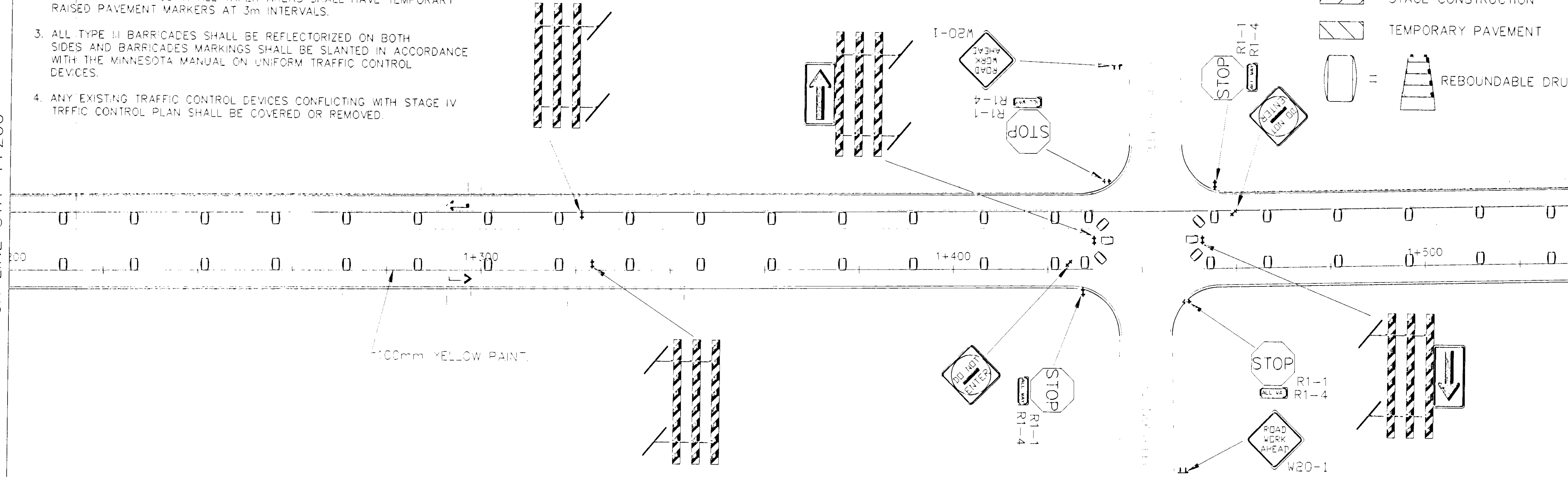


NOTES:

1. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING THE FIELD MANUAL DATED JANUARY, 1998.
2. PAVEMENT MARKINGS IN ALL TAPER AREAS SHALL HAVE TEMPORARY RAISED PAVEMENT MARKERS AT 3m INTERVALS.
3. ALL TYPE II BARRICADES SHALL BE REFLECTORIZED ON BOTH SIDES AND BARRICADES MARKINGS SHALL BE SLANTED IN ACCORDANCE WITH THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
4. ANY EXISTING TRAFFIC CONTROL DEVICES CONFLICTING WITH STAGE IV TRAFFIC CONTROL PLAN SHALL BE COVERED OR REMOVED.

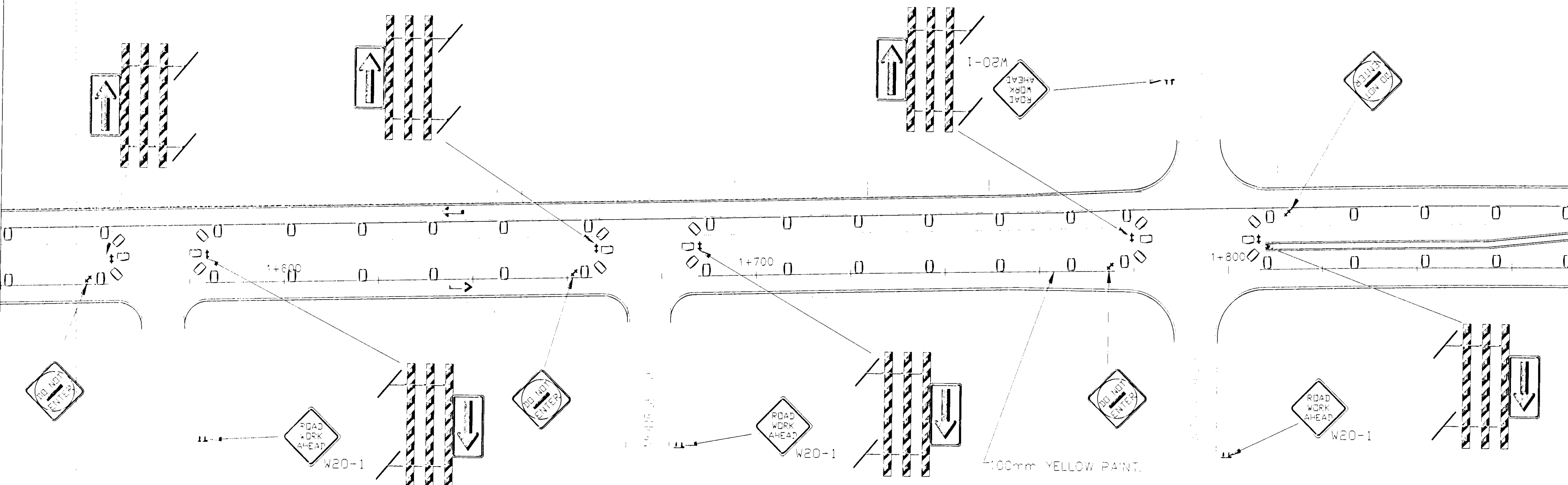


MATCH LINE STA 1+200



MATCH LINE STA 1+540

MATCH LINE STA 1+540



MATCH LINE STA 1+880

STAGE 4

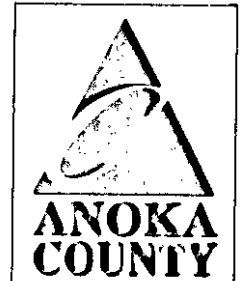
NO	DATE	BY	CHK	APPR	REVISION
NAME: S:\SDSKPROJ\000000\000000\026000.DWG					



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 4/7/99 REG. NO. 25066

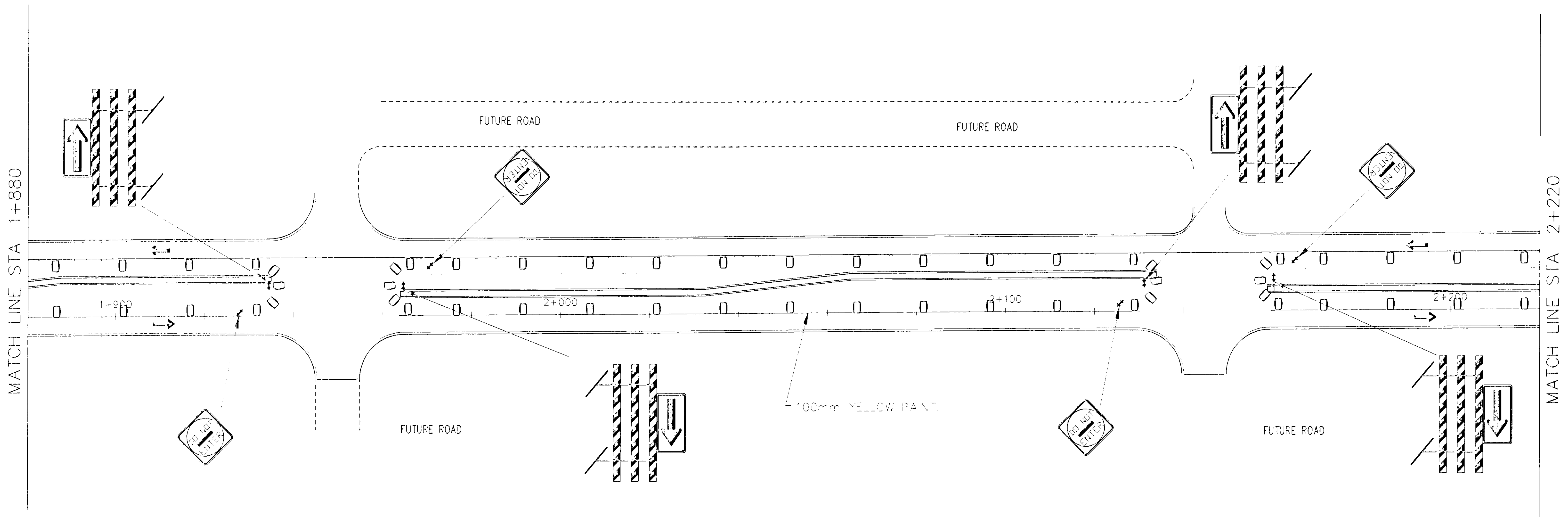
DRAWN BY: RLB DATE: 4/1/99  
 DESIGN BY: ROB DATE: 4/1/99  
 CHECKED BY: J&P DATE: 4/1/99



ANOKA COUNTY  
HIGHWAY DEPT.

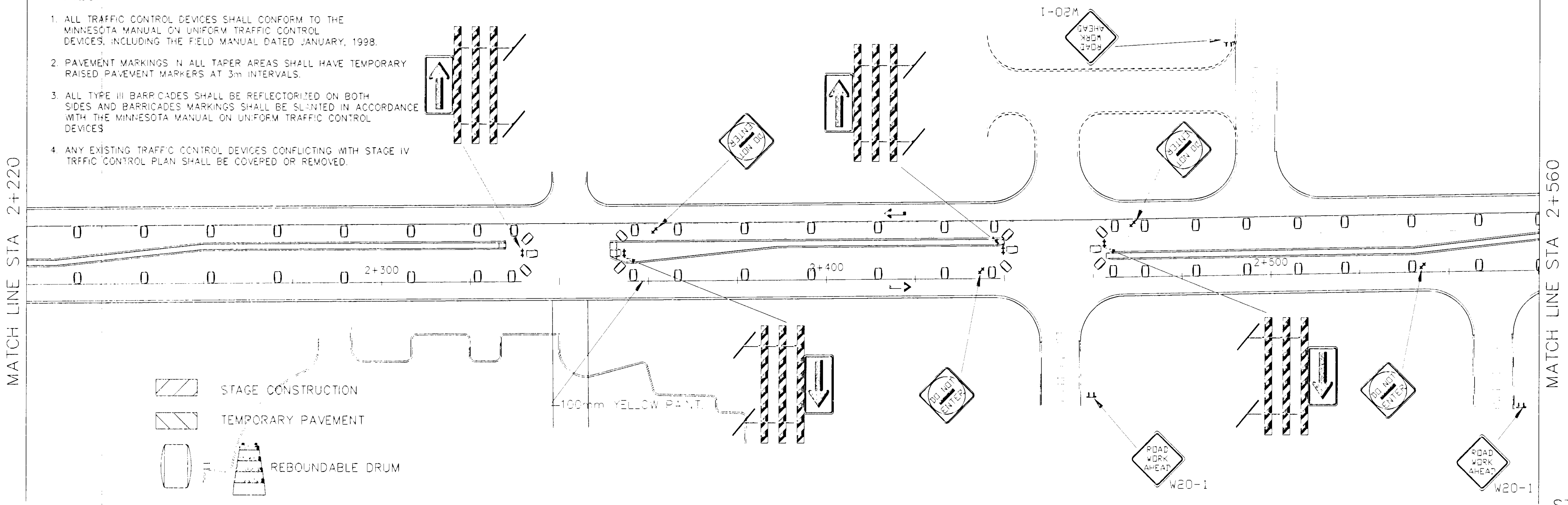
STATE AID PROJECT NO. 02-612-08  
 STATE AID PROJECT NO. 106-020-14  
 STATE AID PROJECT NO. 106-117-04  
 COUNTY PROJECT NO. \_\_\_\_\_

TRAFFIC CONTROL PLAN  
 STA 1+200.000 TO 1+880.000  
 Sheet 91 of 94 Sheets



NOTES:

1. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING THE FIELD MANUAL DATED JANUARY, 1998.
2. PAVEMENT MARKINGS IN ALL TAPER AREAS SHALL HAVE TEMPORARY RAISED PAVEMENT MARKERS AT 3m INTERVALS.
3. ALL TYPE III BARRICADES SHALL BE REFLECTORIZED ON BOTH SIDES AND BARRICADES MARKINGS SHALL BE SLANTED IN ACCORDANCE WITH THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
4. ANY EXISTING TRAFFIC CONTROL DEVICES CONFLICTING WITH STAGE IV TRAFFIC CONTROL PLAN SHALL BE COVERED OR REMOVED.



- STAGE CONSTRUCTION
- TEMPORARY PAVEMENT
- REBOUNDABLE DRUM

STAGE 4

NO	DATE	BY	CHKD	APPR	REVISION

NAME: S:\SDSKFR01\0000000\0000000\025000.DWG

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 4/7/99 REG. NO. 25066

DRAWN BY: PLB DATE 4/1/99  
 DESIGN BY: ROB DATE 4/1/99  
 CHECKED BY: JKP DATE 4/1/99

ANOKA COUNTY HIGHWAY DEPT.

STATE AID PROJECT NO. 02-612-08  
 STATE AID PROJECT NO. 106-020-14  
 STATE AID PROJECT NO. 106-117-04  
 COUNTY PROJECT NO. \_\_\_\_\_

TRAFFIC CONTROL PLAN  
 STA 1+880.000 TO 2+560.000  
 Sheet 92 of 94 Sheets

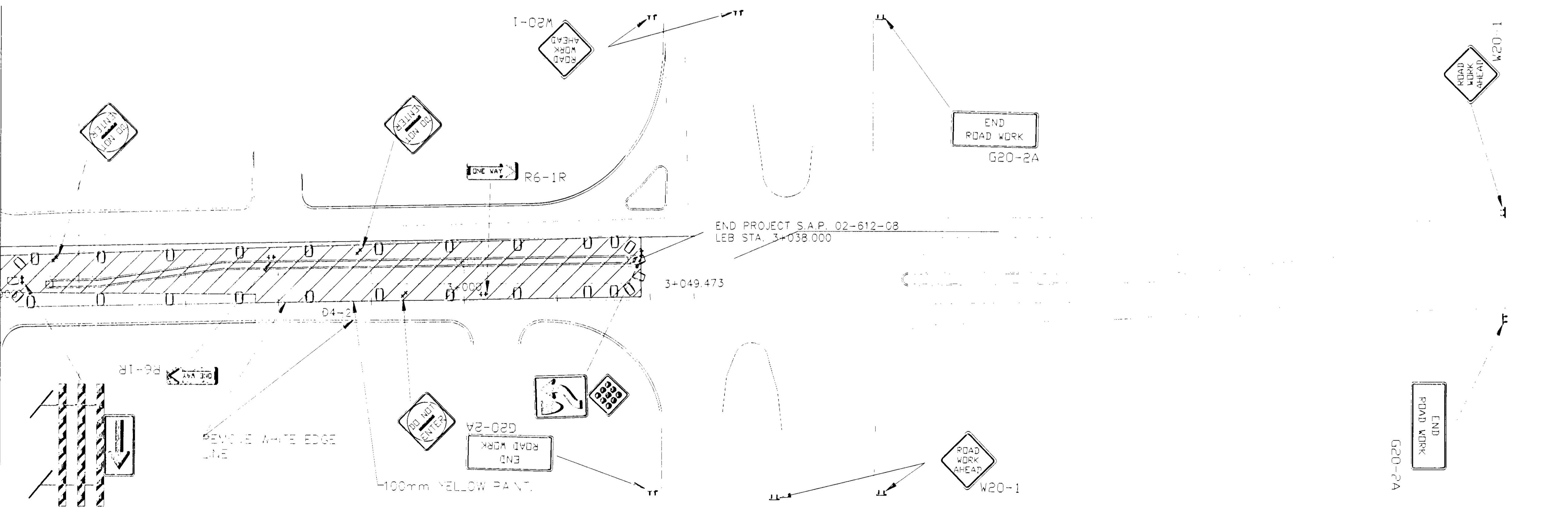
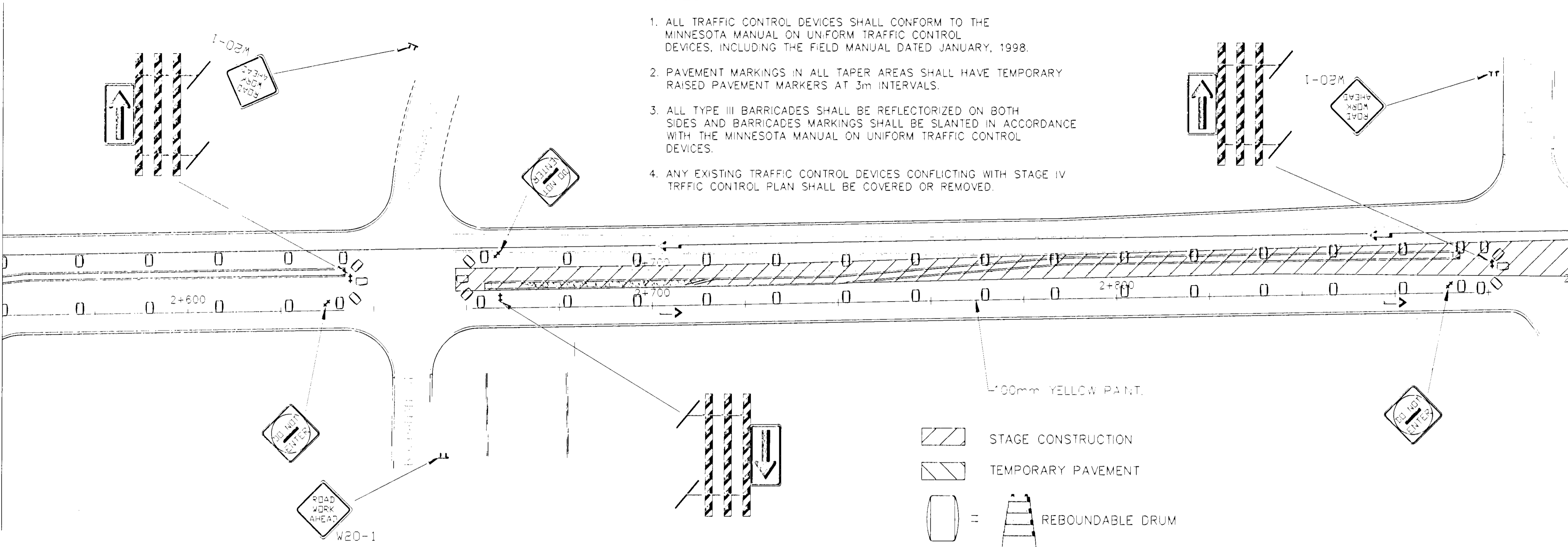
NOTES:

1. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING THE FIELD MANUAL DATED JANUARY, 1998.
2. PAVEMENT MARKINGS IN ALL TAPER AREAS SHALL HAVE TEMPORARY RAISED PAVEMENT MARKERS AT 3m INTERVALS.
3. ALL TYPE III BARRICADES SHALL BE REFLECTORIZED ON BOTH SIDES AND BARRICADES MARKINGS SHALL BE SLANTED IN ACCORDANCE WITH THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
4. ANY EXISTING TRAFFIC CONTROL DEVICES CONFLICTING WITH STAGE IV TRAFFIC CONTROL PLAN SHALL BE COVERED OR REMOVED.

MATCH LINE STA 2+560

MATCH LINE STA 2+900

MATCH LINE STA 2+900



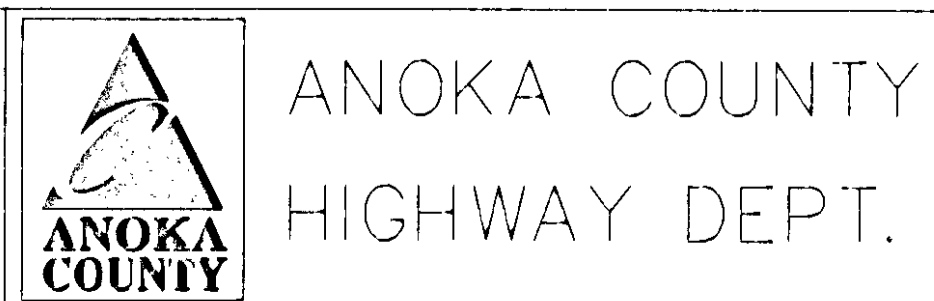
STAGE 4

NO	DATE	BY	CHKD	APPR	REVISION

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 4/7/99 REG. NO. 25065

DRAWN BY: RLB DATE 4/1/99  
 DESIGN BY: RDB DATE 4/1/99  
 CHECKED BY: JWP DATE 4/1/99



STATE AID PROJECT NO. 02-612-08  
 STATE AID PROJECT NO. 106-020-14  
 STATE AID PROJECT NO. 106-117-04  
 COUNTY PROJECT NO. \_\_\_\_\_

TRAFFIC CONTROL PLAN  
 STA 2+560.000 TO 3+038.000  
 Sheet 93 of 94 Sheets

M. U. T. C. D. CODE	SIZE	INSERT	STAGE I	STAGE II	STAGE III	STAGE IV
			QTY	QTY	QTY	QTY
R1-1	48" x 48"		0	11	14	4
R1-4	18" x 6"		0	2	4	4
R4-1	24" x 30"		0	4	4	0
R4-7	24" x 30"		0	4	6	2
X4-2	18" x 18"		0	4	6	2
W1-6L	48" x 24"		0	10	12	0
TYPE III	8 FT.		0	16	20	0
R11-2	48" x 24"		0	0	2	0
TYPE III	8 FT.		0	0	2	0
W6-3	48" x 48"		0	4	4	0
W20-1	48" x 48"		27	27	27	27
G20-2A	48" x 24"		6	6	6	6
REBOUNDABLE DRUM REFLECTORIZED			0	316	348	434
W1-6L	48" x 24"		0	0	0	36
TYPE III	8 FT.		0	0	0	38
R5-1	30" x 30"		0	0	0	31
R6-1R	36" x 12"		0	0	0	4

QUANTITIES - LANE TAPE, PAINT AND TRPMS

INSTALL										
STAGE	100mm PAINT				100mm TAPE				TRPMS	
	YELLOW	WHITE	DBL YELLOW	YELLOW SKIP	YELLOW	WHITE	DBL YELLOW	YELLOW SKIP	WHITE	YELLOW
1	0	0	0	0	0	0	0	0	0	0
2	0	4016	2028	0	124	362	76	0	121	93
3	415	4540	2050	0	0	140	70	0	47	47
4	2420	0	0	0	0	0	0	0	0	0
TOTAL	2835	8556	4078	0	124	502	146	0	168	140

REMOVAL						
STAGE	100mm PAINT				610mm PAINT	
	YELLOW	WHITE	DBL YELLOW	YELLOW SKIP	YELLOW	WHITE
1	0	0	0	0	0	0
2	547	2500	252	1750	25	362
3	0	40	320	0	0	140
4	0	20	0	0	0	0
TOTAL	547	2560	572	1750	25	502

TEMPORARY PAVEMENT	
STAGE	m <sup>2</sup>
1	1116
2	0
3	0
4	0
TOTAL	1116

NOTES:

- ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING THE FIELD MANUAL DATED JANUARY, 1998.
- PAVEMENT MARKINGS IN ALL TAPER AREAS SHALL HAVE TEMPORARY RAISED PAVEMENT MARKERS AT 3m INTERVALS.
- 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.

STAGE QUANTITIES

	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 4/7/93 REG. NO. 25066	DRAWN BY: PLB DATE: 4/1/93 DESIGN BY: RDB DATE: 4/1/93 CHECKED BY: JKP DATE: 4/1/93	ANOKA COUNTY HIGHWAY DEPT. STATE AID PROJECT NO. 02-612-1812 STATE AID PROJECT NO. 106-020-14 STATE AID PROJECT NO. 106-117-04 COUNTY PROJECT NO. _____	TRAFFIC CONTROL PLAN Sheet 94 of 94 Sheets
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