

GOVERNING SPECIFICATIONS

THE 1995 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" (METRIC), SHALL GOVERN.

ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING THE FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS, DATED JANUARY, 1998.

ANOKA COUNTY HIGHWAY DEPARTMENT

C.S.A.H. 1

CONSTRUCTION PLAN FOR GRADING, STORM SEWER, AND TRAFFIC SIGNAL

LOCATED ON C.S.A.H. 1 (COON RAPIDS BLVD. / EAST RIVER ROAD)
FROM SOUTH STREET TO 7TH AVE.

INDEX

SHEET NO.	SHEET DESCRIPTION
1	TITLE SHEET
2	STATEMENT OF ESTIMATED QUANTITIES
3	CONSTRUCTION NOTES, STD. PLATES, DETAILS
4	STORM SEWER
5	GRADING PLAN
6-14	TRAFFIC SIGNAL PLAN

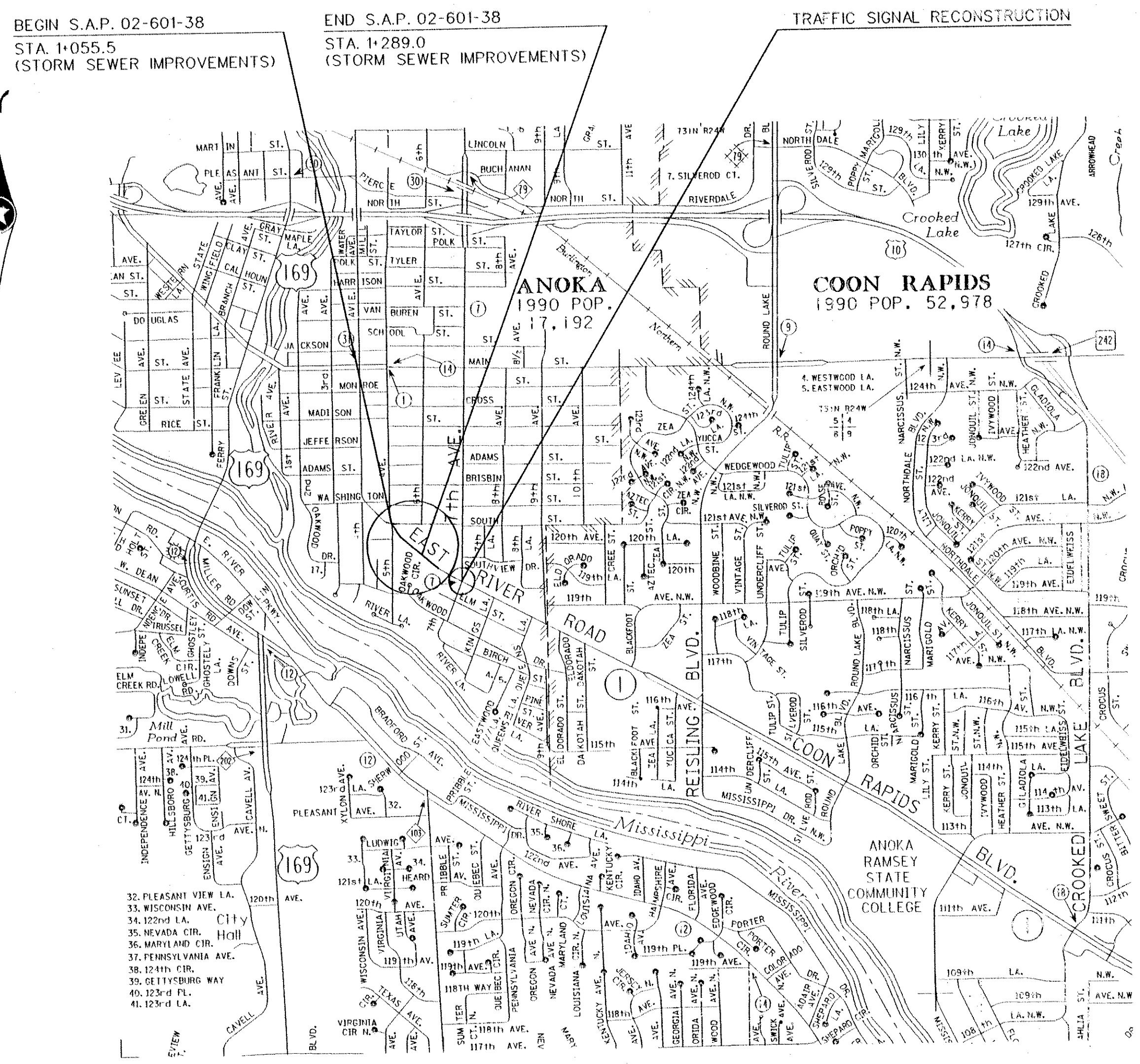
THIS PLAN CONTAINS 14 SHEETS.

PLAN SYMBOLS

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

UTILITY SYMBOLS

- POWER POLE LINE.....
- TELEPHONE OR TELEGRAPH POLE LINE.....
- JOINT TELEPHONE AND POWER ON POWER POLES.....
- ON TELEPHONE POLES.....
- ANCHOR.....
- STEEL TOWER.....
- STREET LIGHT.....
- PEDESTAL (TELEPHONE CABLE TERMINAL).....
- GAS MAIN.....
- WATER MAIN.....
- CONDUIT.....
- TELEPHONE CABLE IN CONDUIT.....
- ELECTRIC CABLE IN CONDUIT.....
- TELEPHONE MANHOLE.....
- ELECTRIC MANHOLE.....
- BURIED COMMUNICATION CABLE.....
- BURIED TELEPHONE CABLE.....
- BURIED ELECTRIC CABLE.....
- AERIAL TELEPHONE CABLE.....
- SEWER, (SANITARY).....
- SEWER, (STORM).....
- SEWER MANHOLE.....
- HANDHOLE.....
- CATCH BASIN.....

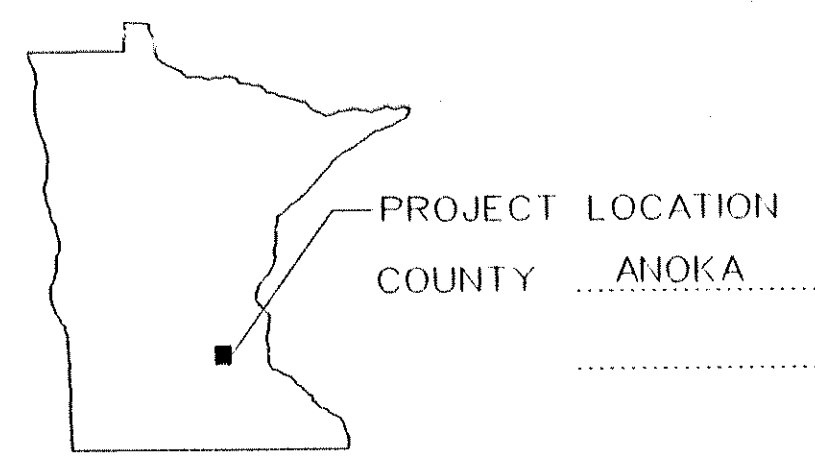


GROSS LENGTH.....	233.5 m	0.2335 km
BRIDGES-LENGTH.....	0 m	0 km
EXCEPTIONS-LENGTH.....	0 m	0 km
NET LENGTH.....	233.5 m	0.2335 km

SCALES

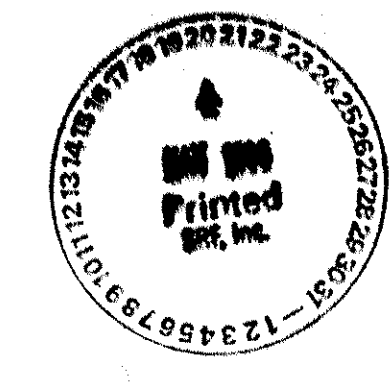
- PLAN..... 10 m
- PROFILE..... 10 m HORIZ. 1 m VERT.
- INDEX MAP..... 1000 m
- GRADING PLAN..... 5 m

ALL DIMENSIONS ARE IN METERS UNLESS NOTED OTHERWISE



PLAN REVISIONS		
DATE	SHEET NO.	APPROVED BY

DESIGN DESIGNATION	C.S.A.H. 1
ADT 1998	20,000
FUNCTIONAL CLASSIF.	MINOR ARTERIAL
NO. OF TRAFFIC LANES	4
DESIGN SPEED	60 km/h
BASED ON SIGHT DIST.	STOPPING
HEIGHT OF EYE	1070 mm
HEIGHT OF OBJECT	150 mm
NO. OF PARKING LANES	0



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.

ENGR. Date

SRF CONSULTING GROUP, INC.

SIGNED 11/17 in File MD 1/12/2001
CITY OF ANOKA DATE

ANOKA COUNTY HIGHWAY ENGINEER DATE

METRO ASSISTANT DIVISION ENGINEER - STATE AID DATE
REVIEWED FOR COMPLIANCE WITH STATE AID RULES/POLICY

APPROVED STATE AID FUNDING: STATE AID ENGINEER DATE
2586 CSAH 1
FILE COPY
Original Full Size set sent to
Anoka Co. Hwy Dept. 5/20/99 MBH

ANOKA C.S.A.H. 1 IMPROVEMENTS
ANOKA CO. S.A.P. 02-601-38 CITY OF ANOKA S.A.P. 103-113-01

SHEET NO. 1 OF 14 SHEETS

STATEMENT OF ESTIMATED QUANTITIES

ITEM NO.	ITEM DESCRIPTION	UNIT	TOTAL ESTIMATED QUANTITY	ANOKA COUNTY SAP 02-601-38		CITY OF ANOKA SAP 103-113-01		
				CSAH 1	CSAH 7	CSAH 1	CSAH 7	7TH AVE.
2021.501	MOBILIZATION	LUMP SUM	1.0	0.54	0.08	0.15	0.08	0.15
2104.501	REMOVE CURB & GUTTER	m	30.0	30.0				
2104.503	REMOVE CONCRETE SIDEWALK	m2	345.0	345.0				
2104.503	REMOVE BITUMINOUS PAVEMENT	m2	200.0	200.0				
2104.513	SAWING BITUMINOUS PAVEMENT	m	85.0	85.0				
2104.521	SAVAGE CHAIN LINK FENCE	m	175.0	175.0				
2105.501	COMMON EXCAVATION	m3	1075.0	1075.0				
2211.503	AGGREGATE BASE (CV) CLASS 5A	m3	50.0	50.0				
2340.518	TYPE 47 BITUMINOUS MIXTURE FOR PATCHING	t	50.0	50.0				
2357.502	BITUMINOUS MATERIAL FOR TACK COAT	L	50.0	50.0				
2501.515	600 mm RC PIPE APRON	EACH	1.0	1.0				
2501.602	TRASH GUARD FOR 600 mm PIPE APRON	EACH	1.0	1.0				
2503.541	450 mm RC PIPE SEWER DESIGN 3006 CL III	m	23.4	23.4				
2503.541	600 mm RC PIPE SEWER DESIGN 3006 CL III	m	209.8	209.8				
2503.602	PLUG & ABANDON PIPE SEWER	EACH	1.0	1.0				
2506.501	CONST DRAIN STRUCTURE DESIGN F	m	5.0	5.0				
2506.501	CONST DRAIN STRUCTURE DESIGN 1200 mm 4020	m	0.9	0.9				
2506.501	CONST DRAIN STRUCTURE DESIGN 1350 mm 4020	m	2.2	2.2				
2506.501	CONST DRAIN STRUCTURE DESIGN 1650 mm 4020	m	1.4	1.4				
2506.501	CONST DRAIN STRUCTURE DESIGN 1800 mm 4020 SPECIAL 1	EACH	1.0	1.0				
2506.516	CASTING ASSEMBLY	EACH	6.0	6.0				
2511.505	HAND-PLACED RIPRAP	m3	8.8	8.8				
2521.501	100 mm CONCRETE WALK	m2	340.0	340.0				
2531.501	CONCRETE CURB & GUTTER DESIGN B624	m	30.0	30.0				
2531.602	PEDESTRIAN CURB RAMPS	EACH	1.0	1.0				
2557.501	WIRE FENCE DESIGN 1.5-9322	m	30.0	30.0				
2557.601	WIRE FENCE DESIGN 2.0-9322	m	135.0	135.0				
2557.603	INSTALL CHAIN LINK FENCE	m	175.0	175.0				
2557.603	TEMPORARY FENCING	m	135.0	135.0				
2557.616	PEDESTRAIN GATE	EACH	1.0	1.0				
2557.617	VEHICULAR GATE - SINGLE	EACH	1.0	1.0				
2564.602	PAVEMENT MESSAGE (RIGHT ARROW) PAINT	EACH	1.0	1.0				
2564.602	FURNISH AND INSTALL SIGN PANEL TYPE C	EACH	1.0	1.0				
2564.603	100 mm SOLID LINE WHITE-PAINT	m	90.0	90.0				
2564.603	100 mm SOLID LINE YELLOW-PAINT	m	90.0	90.0				
2564.603	600 mm SOLID LINE WHITE-PAINT	m	40.0	40.0				
2564.604	ZEBRA CROSSWALK WHITE-PAINT	m2	60.0	60.0				
2565.511	FULL TACT T CONTROL SIGNAL SYSTEM	SIG SYS	1.0	0.25	0.125	0.25	0.125	0.25
2565.601	EMERGENCY VEHICLE PREEMPTION SYSTEM	LUMP SUM	1.0	0.25	0.125	0.25	0.125	0.25
2573.501	BALE CHECK	EACH	10.0	10.0				
2575.505	SODDING TYPE SALT RESISTANT	m2	3270.0	3270.0				
2575.532	COMMERCIAL FERT ANALYSIS 10-10-10	kg	165.0	165.0				

NOTES:

- | | |
|--|--|
| <p>(1) QUANTITY FOR POND A EXCAVATION</p> <p>(2) TACK COAT APPLICATION RATE (0.23L/m²)</p> <p>(3) SEE DETAIL ON SHEET 3</p> <p>(4) REQUIRED AGGREGATE BASE IS INCLUDED IN THE QUANTITY</p> <p>(5) 2.4 m WIDE</p> <p>(6) R3-8B MOD. SEE SHEET 14</p> | <p>(7) COMMERCIAL FERT. APPLICATION RATE (500kg/ha)</p> <p>(8) FENCE FABRIC SHALL BE 72-INCH HIGH W/ TOP RAIL AND BOTTOM RAIL ALONG SCHOOL YARD</p> <p>(9) BRACES AND ELECTRICAL GROUNDS REQUIRED SHALL BE CONSIDERED INCIDENTAL</p> <p>(10) USED ALONG CONST LIMITS BETWEEN PROJECT AREA AND SCHOOL YARD</p> <p>(11) INSTALL ALONG SIDEWALK</p> |
|--|--|

DESIGN FILE: P:\01\008\586.pln
 PLOTTED: MS-DOS/Plot-Mono-FR-WNDOT
 PLOT DATE/TIME: 05/12/1999 12:43:19

NO	DATE	BY	CHKD	APPR	REVISION



I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.

Date: _____ Reg. No. _____

COUNTY PROJECT NO. S.A.P. 02-601-38
 CITY PROJECT NO. S.A.P. 103 113 01
 DRAWN BY: V. GRAF DATE: 5-98
 DESIGNED BY: M. HANSEN DATE: 5-98
 CHECKED BY: J. BECKER DATE: 7-98
 COMM. NO. 0972586



ANOKA COUNTY
 STATEMENT OF ESTIMATED QUANTITIES
 C.S.A.H. 1 IMPROVEMENTS

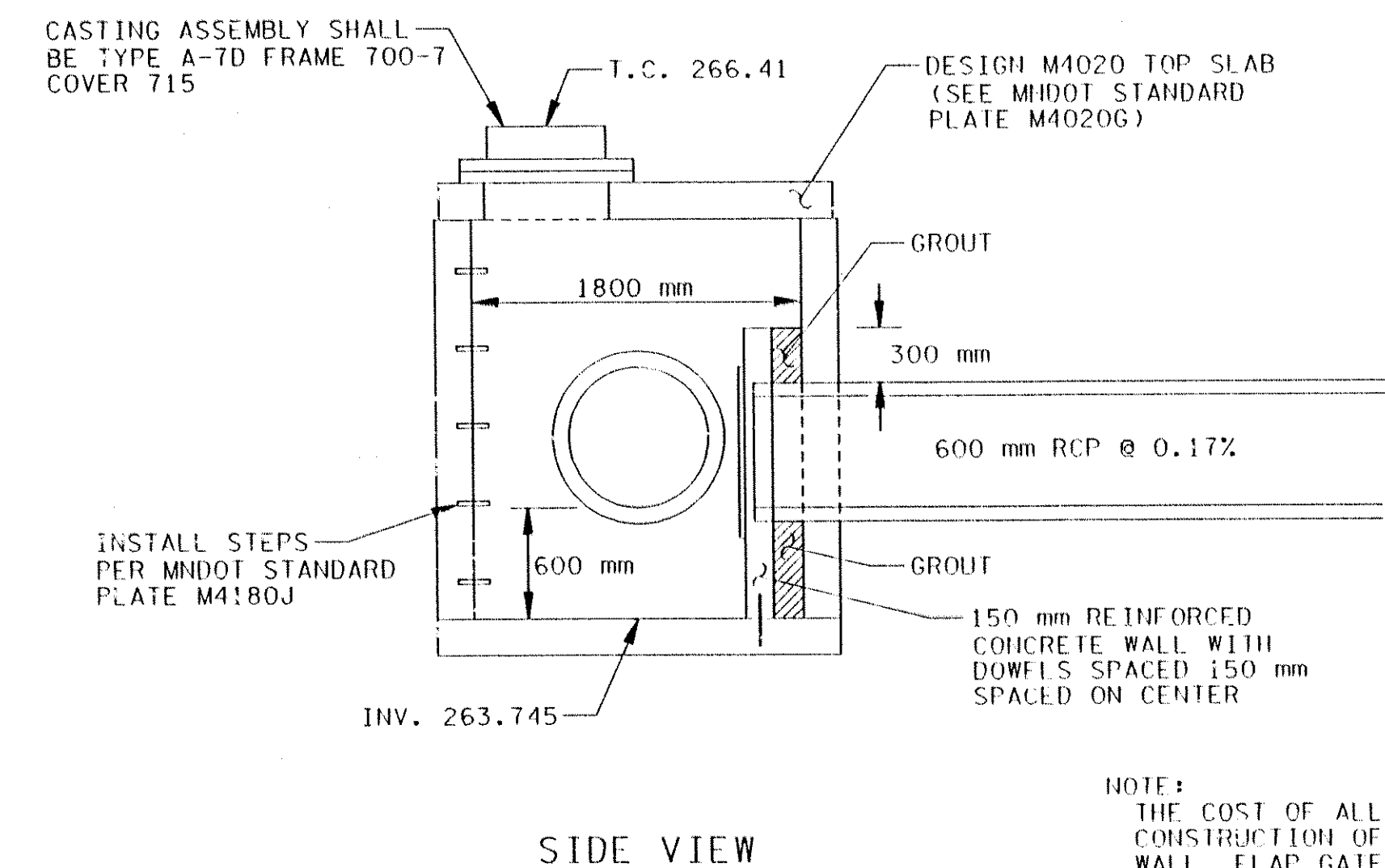
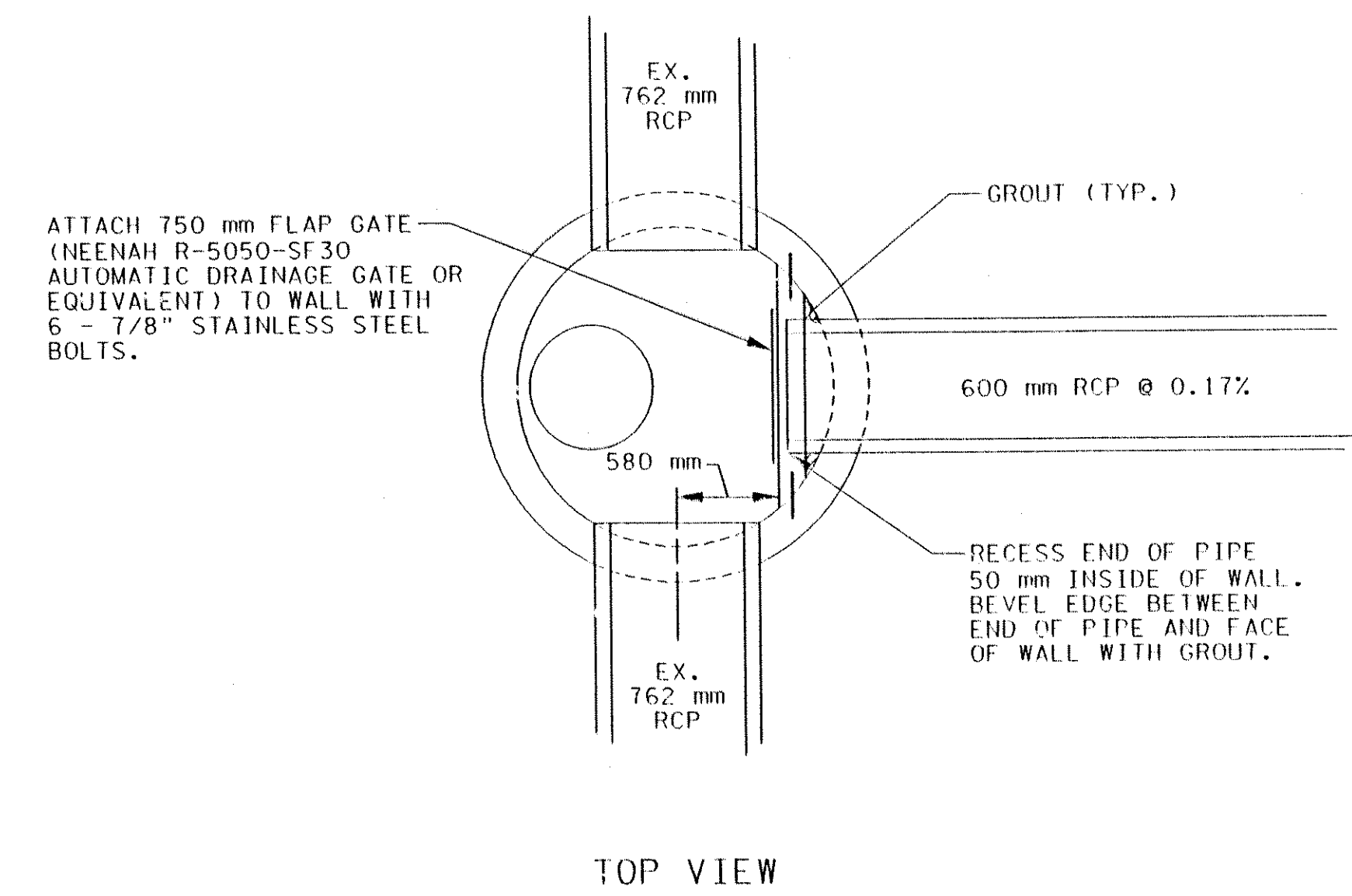
CONSTRUCTION / SOILS NOTES

- 1 SUITABLE GRADING MATERIAL ON THIS PROJECT SHALL CONSIST OF ALL SOILS ENCOUNTERED WITH THE EXCEPTION OF SLOPE DRESSING, DEBRIS, ORGANIC MATERIAL, MUCK AND OTHER UNSUITABLE MATERIAL.
- 2 ITEMS REFERRED TO AS INCIDENTAL ON THIS PROJECT SHALL BE CONSIDERED INCIDENTAL WITH NO DIRECT COMPENSATION MADE THEREFORE.
- 3 BITUMINOUS SURFACING REMOVED BY CONSTRUCTION SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL EITHER BE RECYCLED OR DISPOSED OF OFF THE PROJECT, IN ACCORDANCE WITH THE PROVISIONS OF SPEC. 2104 AND 2105.
- 4 COMPACTION OF THE GRADING ITEMS OF THIS PROJECT SHALL BE BY THE "SPECIFIED DENSITY METHOD", EXCEPT WHEN WITHIN 1 m OF THE WATER TABLE, THEN BY THE "QUALITY COMPACTION METHOD".
- 5 COMPACTION OF THE AGGREGATE BASE ITEMS OF THIS PROJECT SHALL BE BY THE "SPECIFIED DENSITY METHOD" EXCEPT WHEN THE CONTRACTOR ELECTS TO USE RECYCLED MATERIALS FOR THE AGGREGATE BASE ITEMS, THEN THE "QUALITY COMPACTION METHOD" SHALL BE UTILIZED.
- 6 USE TACK COAT BETWEEN ALL BITUMINOUS MIXTURES.
- 7 STRIP AND REUSE AS SLOPE DRESSING ALL EXISTING TOPSOIL IN AREAS DISTURBED BY CONSTRUCTION. TOPSOIL STRIPING IS CONSIDERED TO BE COMMON EXCAVATION. ALL TOPSOIL SHALL BE UTILIZED ON THE PROJECT.
- 8 PLACE A MINIMUM OF 100 MILLIMETERS OF SLOPE DRESSING ON ALL AREAS SCHEDULED FOR PERMANENT TURF ESTABLISHMENT.
- 9 COMMERCIAL FERTILIZER ANALYSIS 10-10-10 (OR EQUIVALENT) SHALL BE APPLIED AT A RATE OF 500 KILOGRAMS PER HECTARE.
- 10 ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING THE FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS, DATED JAN. 1998.

THE FOLLOWING STANDARD PLATES APPROVED BY THE DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION SHALL APPLY ON THIS PROJECT.

STANDARD PLATES	
PLATE NO.	DESCRIPTION
M 3000	L REINFORCED CONCRETE PIPE
M 3006	G GASKET JOINT FOR R.C. PIPE
M 3100	G CONCRETE APRON FOR REINFORCED CONCRETE PIPE
M 4005	L MANHOLE OR CATCH BASIN
M 4010	H CONC. SHORT CONE & ADJUSTING RING
M 4020	G MANHOLE OR CATCH BASIN COVER
M 4101	D RING CASTING FOR MANHOLE OR CATCH BASIN
M 4110	F COVER CASTING FOR MANHOLE
M 4180	J MANHOLE OR CATCH BASIN STEP
M 7036	D PEDESTRIAN CURB RAMP
M 8110	D TRAFFIC SIGNAL BRACKETING - POLE MOUNTED
M 8111	C TRAFFIC SIGNAL BRACKETING - PEDESTAL MOUNTED
M 8112	C PEDESTAL FOUNDATION
M 8114	A P.V.C. HANDHOLE / PULL BOX
M 8115	D PEDESTRIAN PUSH BUTTON INSTALLATION
M 8118	C SERVICE EQUIPMENT & POLE TRAFFIC CONTROL SIGNALS
M 8119	C GROUND MOUNTED CABINET FOUNDATION
M 8120	K POLE FOUNDATION
M 8121	D TRANSFORMER BASE AND POLE BASE PLATE
M 8122	C PEDESTAL AND PEDESTAL BASE
M 8123	D POLE AND MAST ARM
M 8124	E MAST ARM SIGNAL HEAD MOUNTS
M 8126	F POLE FOUNDATION
M 9102	D TURF ESTABLISHMENT AREAS (AT PIPE CULVERT ENDS)
M 9322	J CHAIN LINK FENCE

stdplate.xls

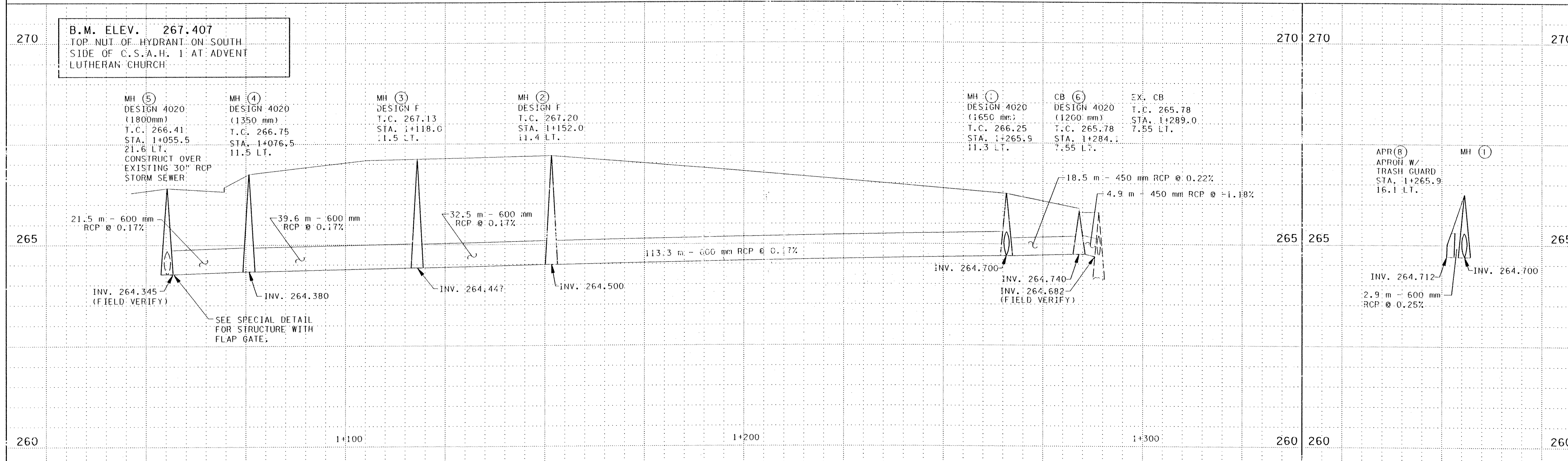
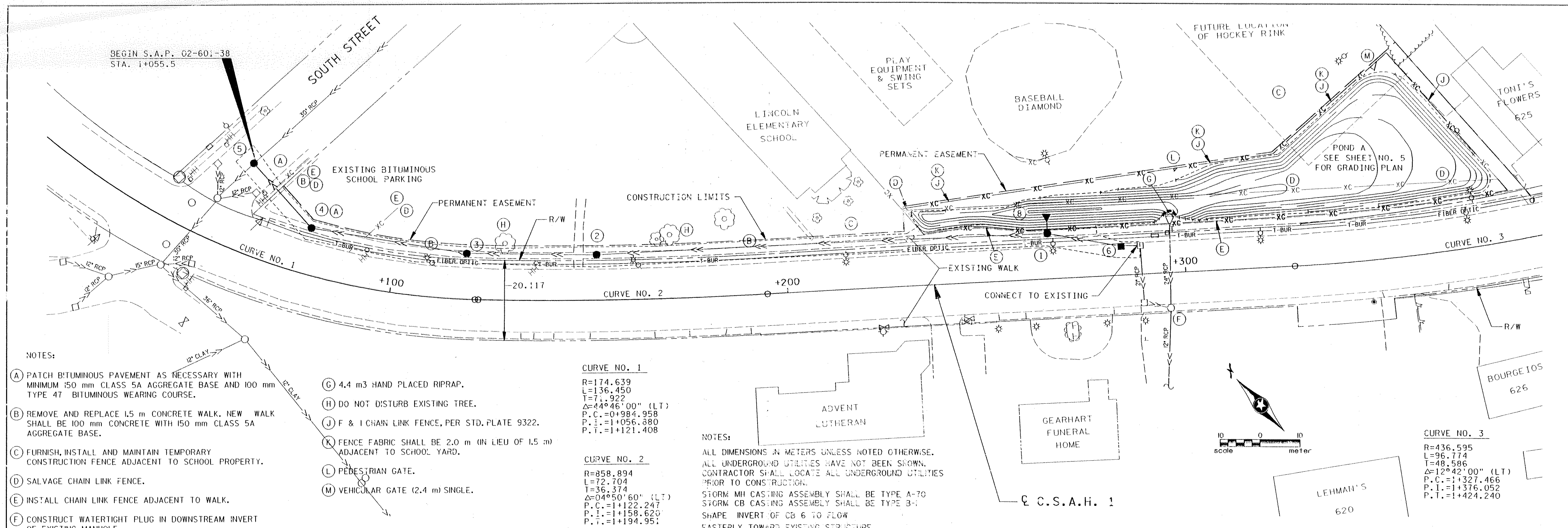


NOTE:
THE COST OF ALL MATERIALS FOR AND CONSTRUCTION OF THE REINFORCED CONCRETE WALL, FLAP GATE, GROUT AND STEPS SHALL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE COST OF THE MANHOLE STRUCTURE (DRAINAGE DESIGN SPECIAL 1).

DRAINAGE DESIGN SPECIAL 1
(MANHOLE STRUCTURE WITH FLAP GATE)

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NO	DATE	BY	CKD	APPR	REVISION		
NAME: CSN 586.PLN DATE: Jul. 28, 1998							I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota. Date _____ Reg. No. _____
		COUNTY PROJECT NO.: S.A.P. 02-601-38 CITY PROJECT NO.: 103-113-01		DRAWN BY: V. GRAF DATE: 7-98 DESIGNED BY: L. GODDARD DATE: 7-98 CHECKED BY: M. HANSEN DATE: 7-98 COMM. NO.: 0972586			
						ANOKA COUNTY CONSTRUCTION NOTES, STANDARD PLATES, DETAILS C.S.A.H. 1 IMPROVEMENTS	
						SHEET 3 OF 14	



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NO.	DATE	BY	CHKD	APPR.	REVISION

NAME: CPIO 586.PLN DATE: Feb. 02, 1999



I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.

Date: _____ Reg. No. _____

COUNTY PROJECT NO. S.A.P. 02-601-38
 CITY PROJECT NO. S.A.P. 103 113-01

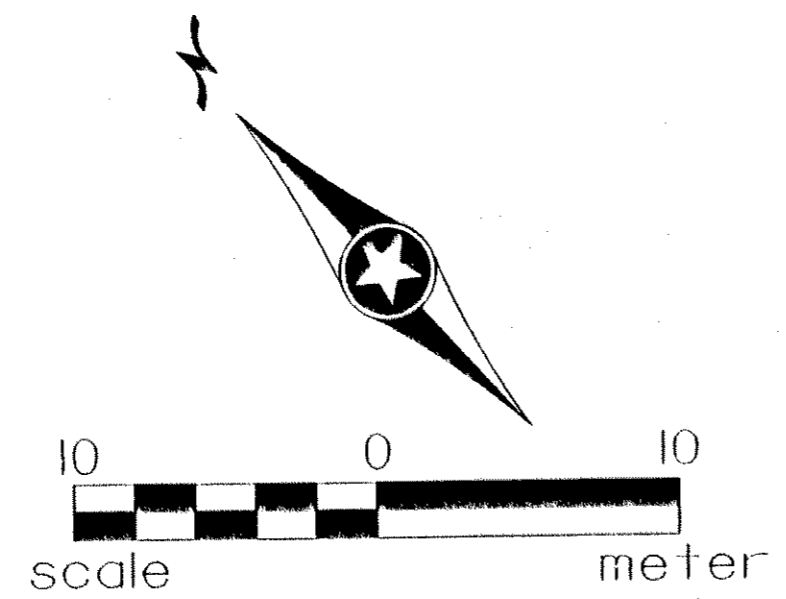
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 CHECKED BY M. HANSEN 7-98
 COMM. NO. 0972586



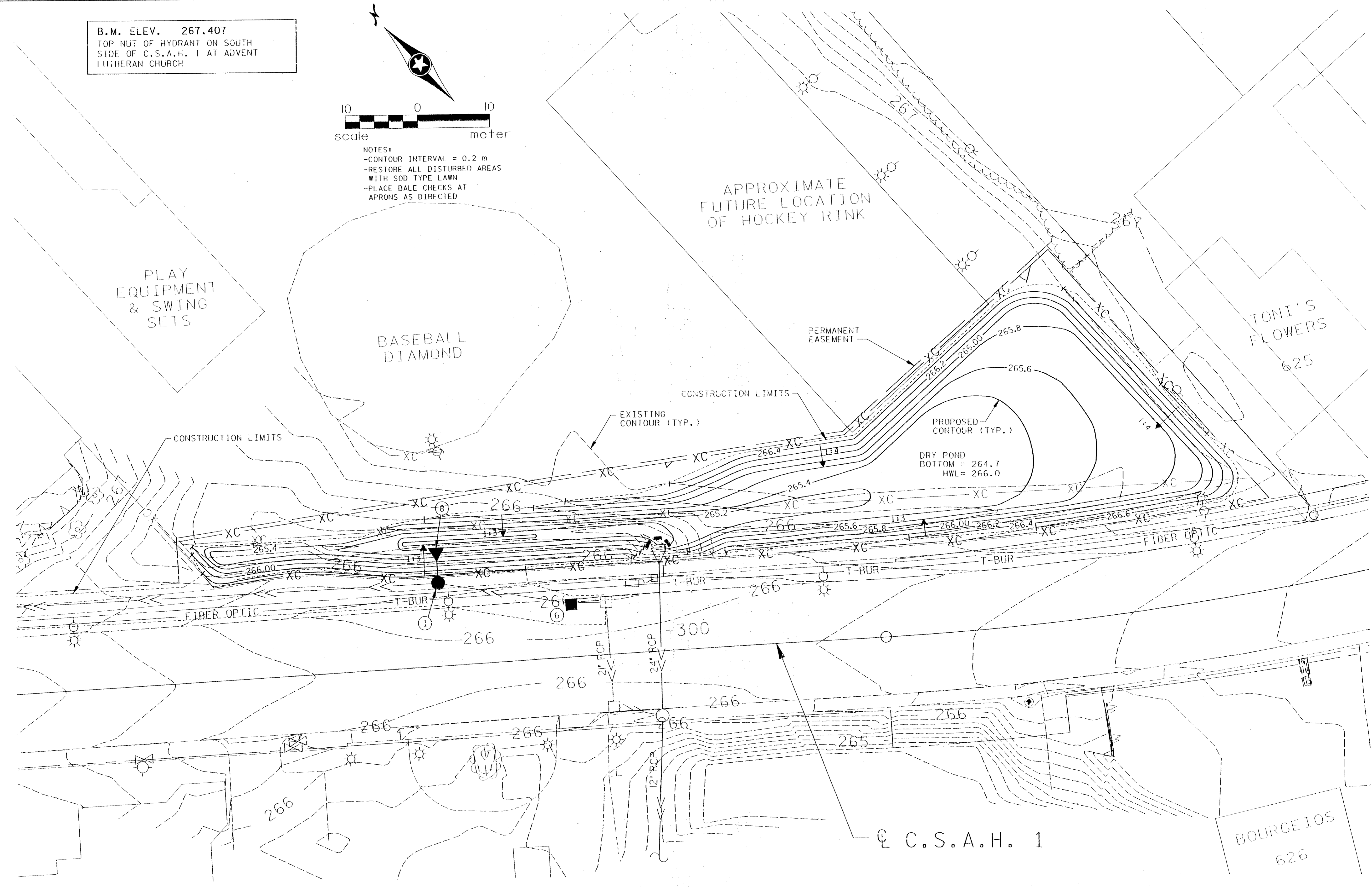
ANOKA COUNTY
 STORM SEWER
 C.S.A.H. 1 IMPROVEMENTS

SHEET 4 OF 14

B.M. ELEV. 267.407
 TOP NUT OF HYDRANT ON SOUTH
 SIDE OF C.S.A.H. 1 AT ADVENT
 LUTHERAN CHURCH



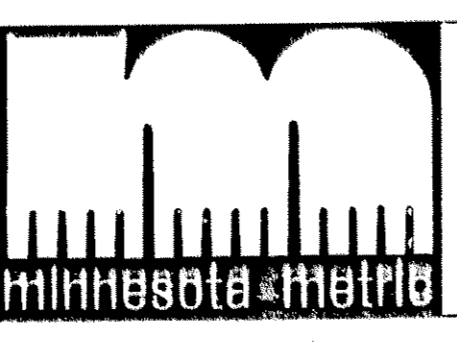
NOTES:
 -CONTOUR INTERVAL = 0.2 m
 -RESTORE ALL DISTURBED AREAS
 WITH SOD TYPE LAWN
 -PLACE BALE CHECKS AT
 APRONS AS DIRECTED



DESIGN FILE: H:\CIVIL\008\2586\590-586.dwg
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NO	DATE	BY	CHKD	APPR	REVISION

NAME: CHA 586.FLN DATE: Feb, 02, 1999



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Date _____ Reg. No. _____

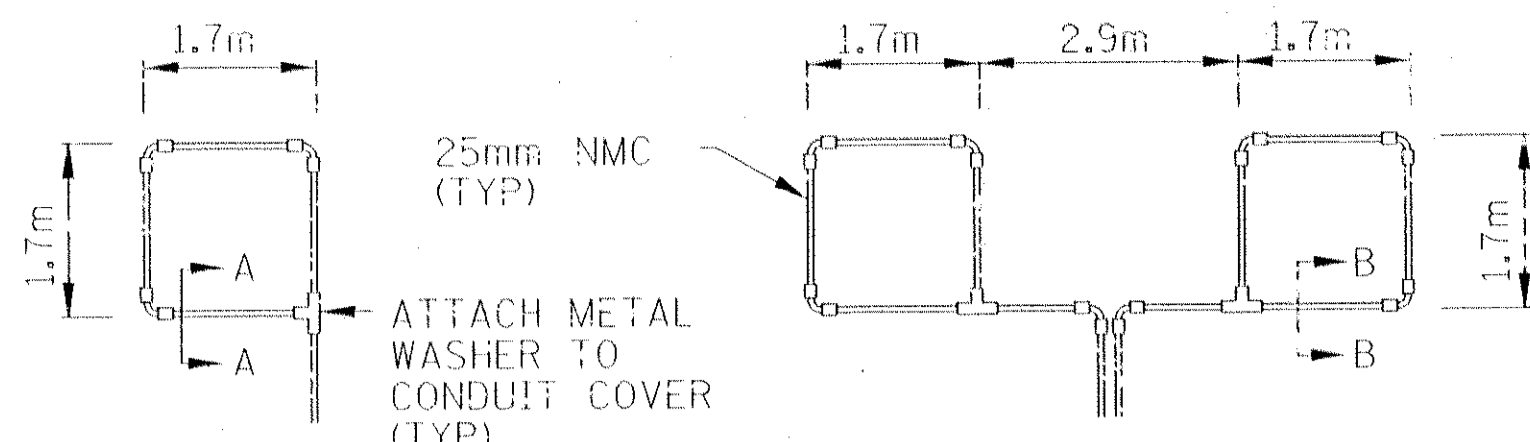
COUNTY PROJECT NO. _____
 S.A.P. 02-60-38
 CITY PROJECT NO. _____
 S.A.P. 103 43 01

DRAWN BY: V. GRAE DATE: 7-98
 DESIGNED BY: L. GODDARD DATE: 6-98
 CHECKED BY: M. HANSEN DATE: 7-98
 COMM. NO. 0972586

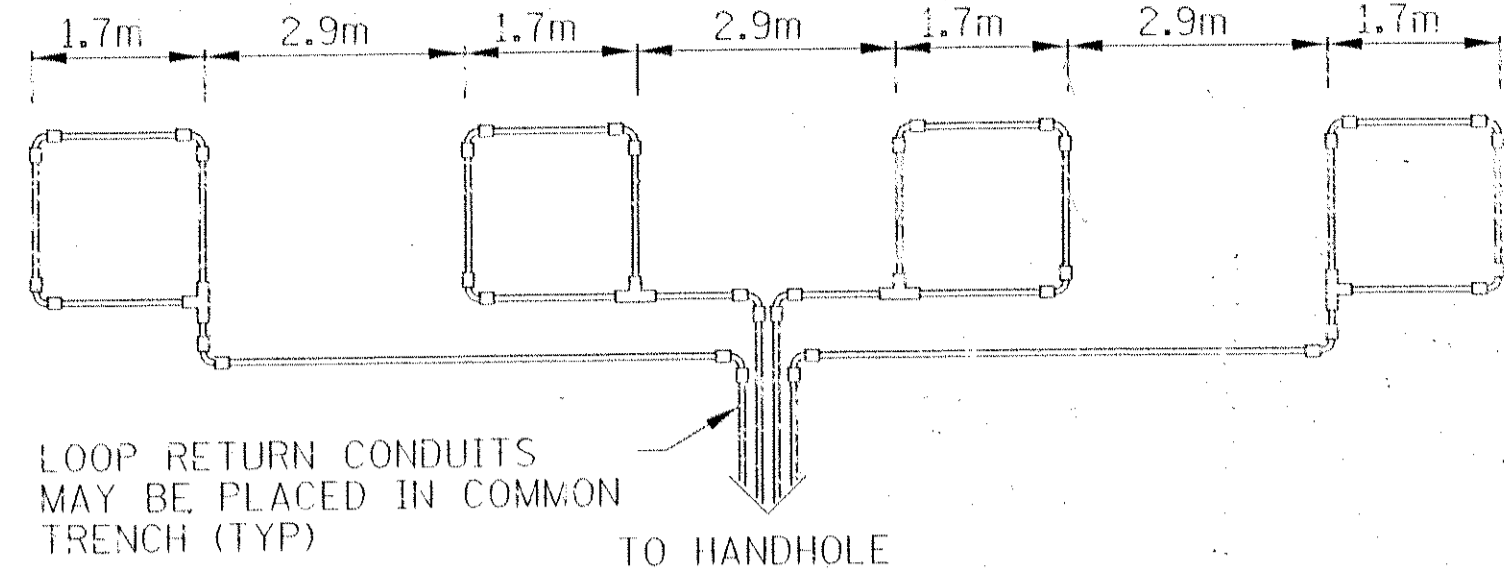
SRF CONSULTING GROUP, INC.

ANOKA COUNTY
 GRADING PLAN
 C.S.A.H. 1 IMPROVEMENTS
 POND A

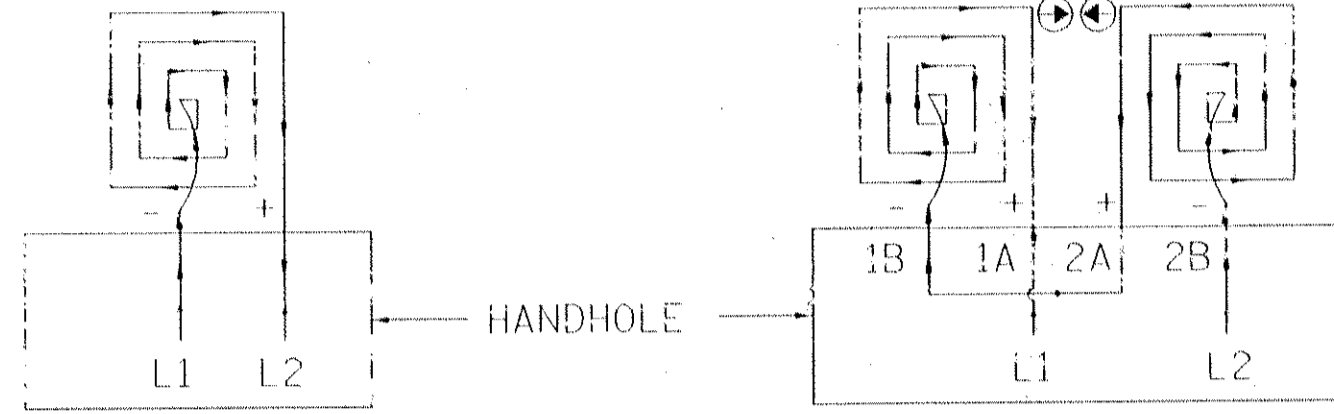
SHEET 5 OF 11



25mm NMC (TYP)
ATTACH METAL WASHER TO CONDUIT COVER (TYP)



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

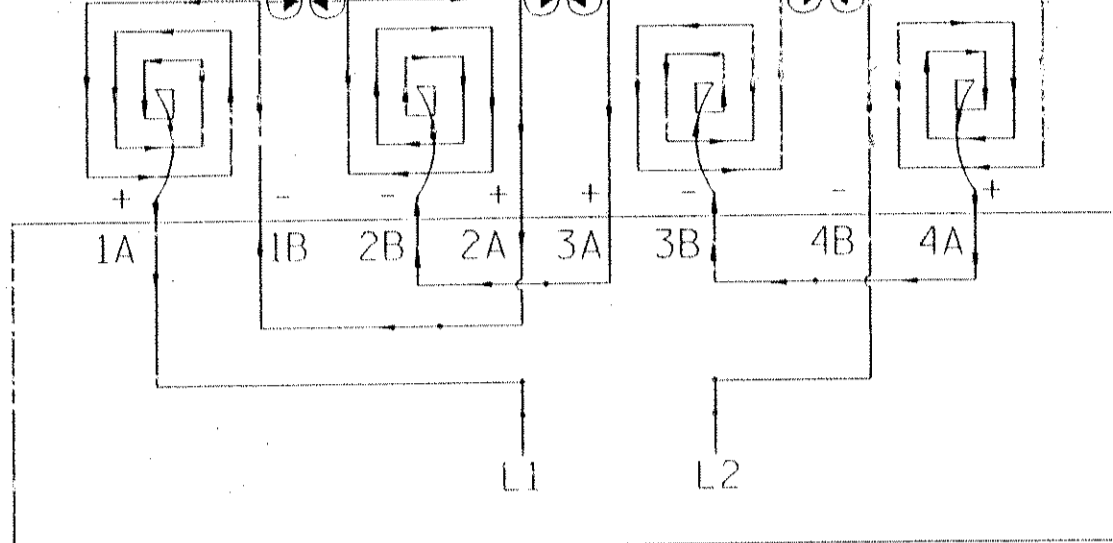


LOOP CONNECTIONS SHALL BE LABELED AND SPLICED IN THE HANDHOLE AS FOLLOWS:

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

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

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

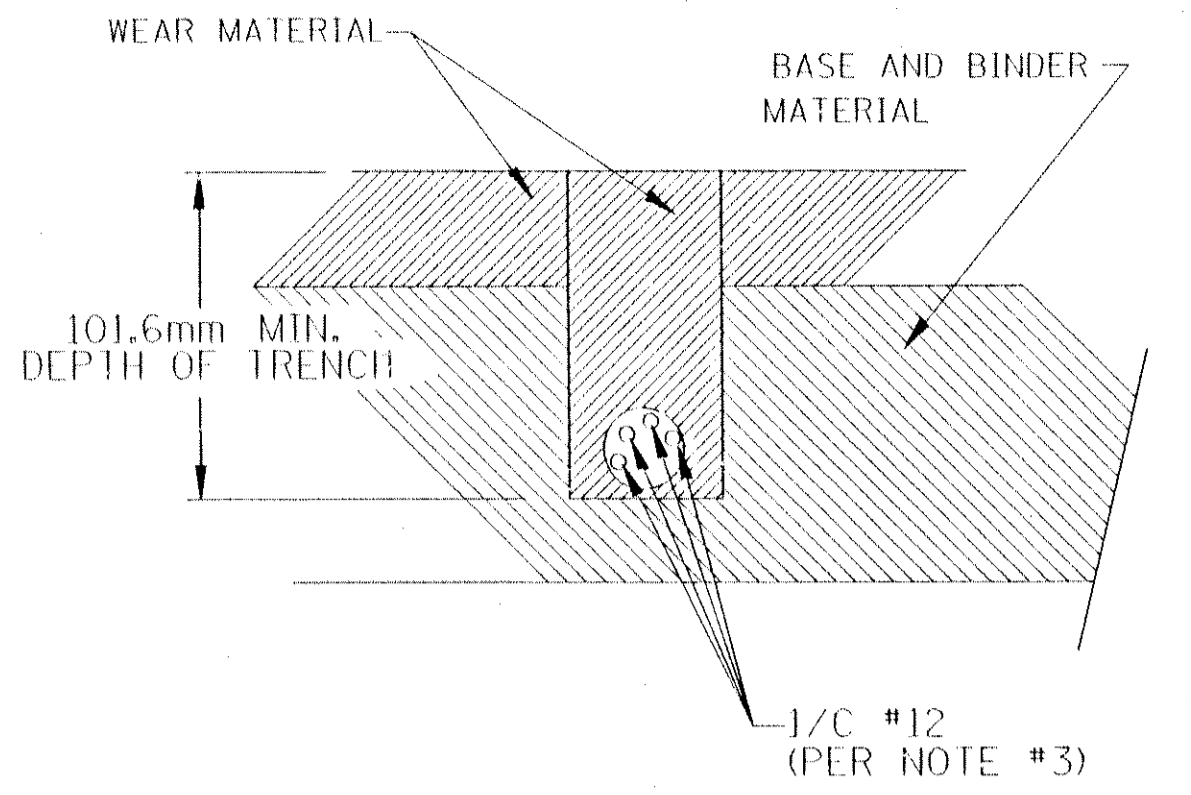


LOOP CONNECTIONS SHALL BE LABELED AND SPLICED IN THE HANDHOLE AS FOLLOWS:

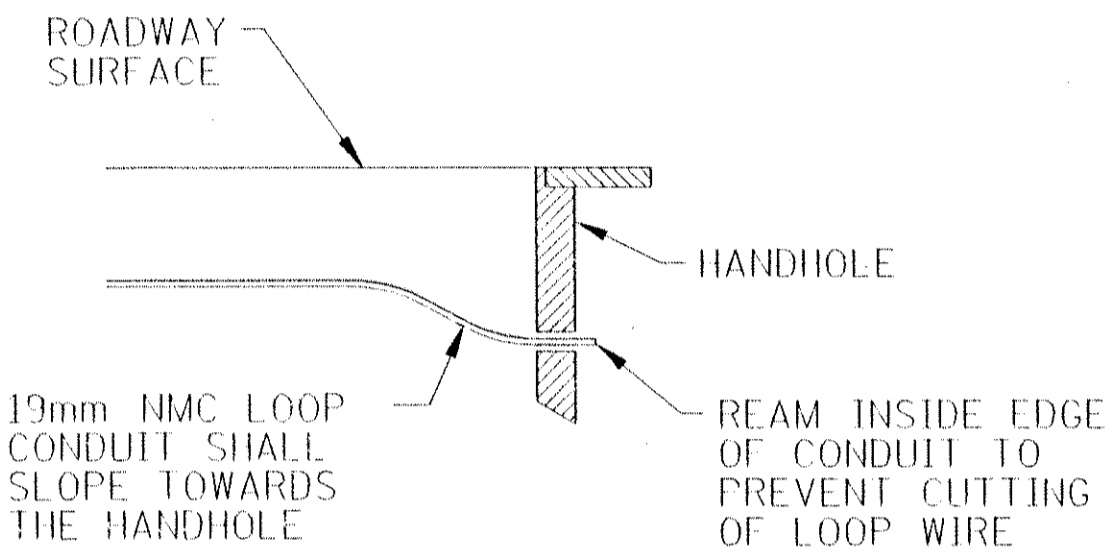
L1 TO 1A 3B TO 4A
1B TO 2A 4B TO L2
2B TO 3A

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

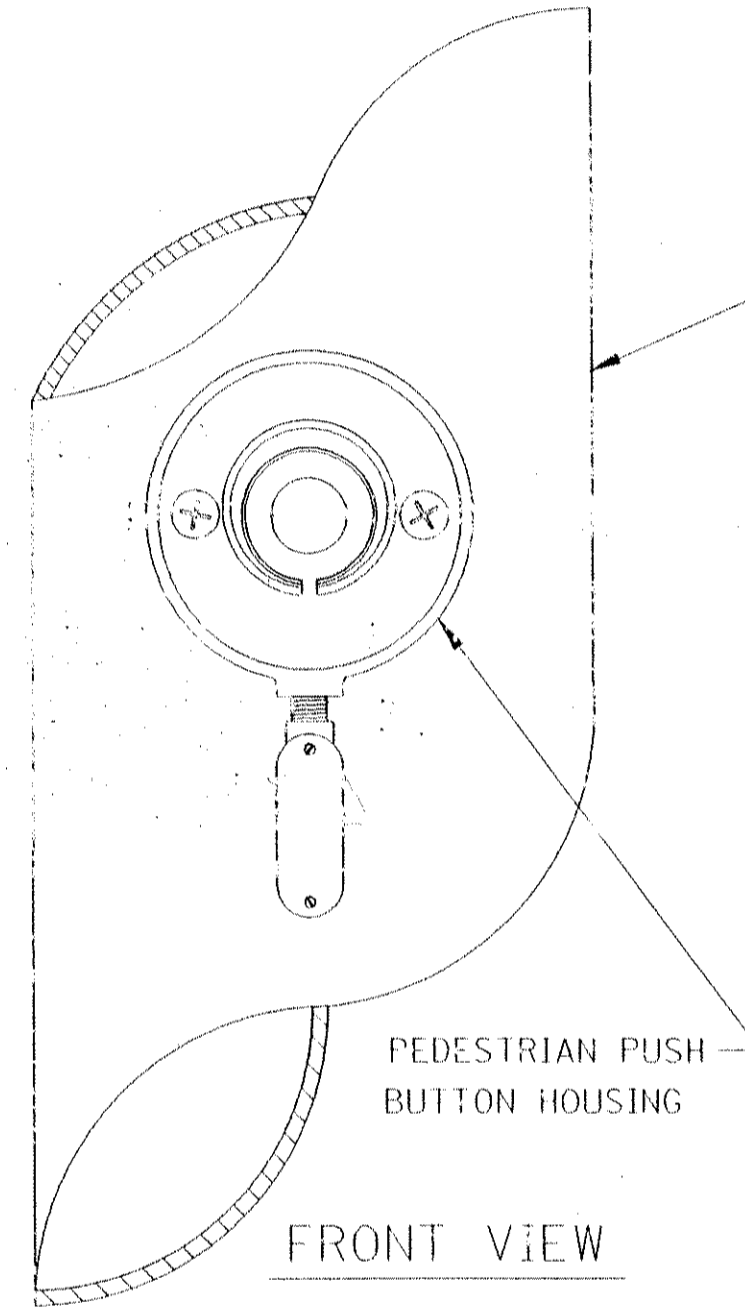
LOOP DETECTOR DETAIL 'C'
(LOOP PHASING FOR SERIES CONNECTION)



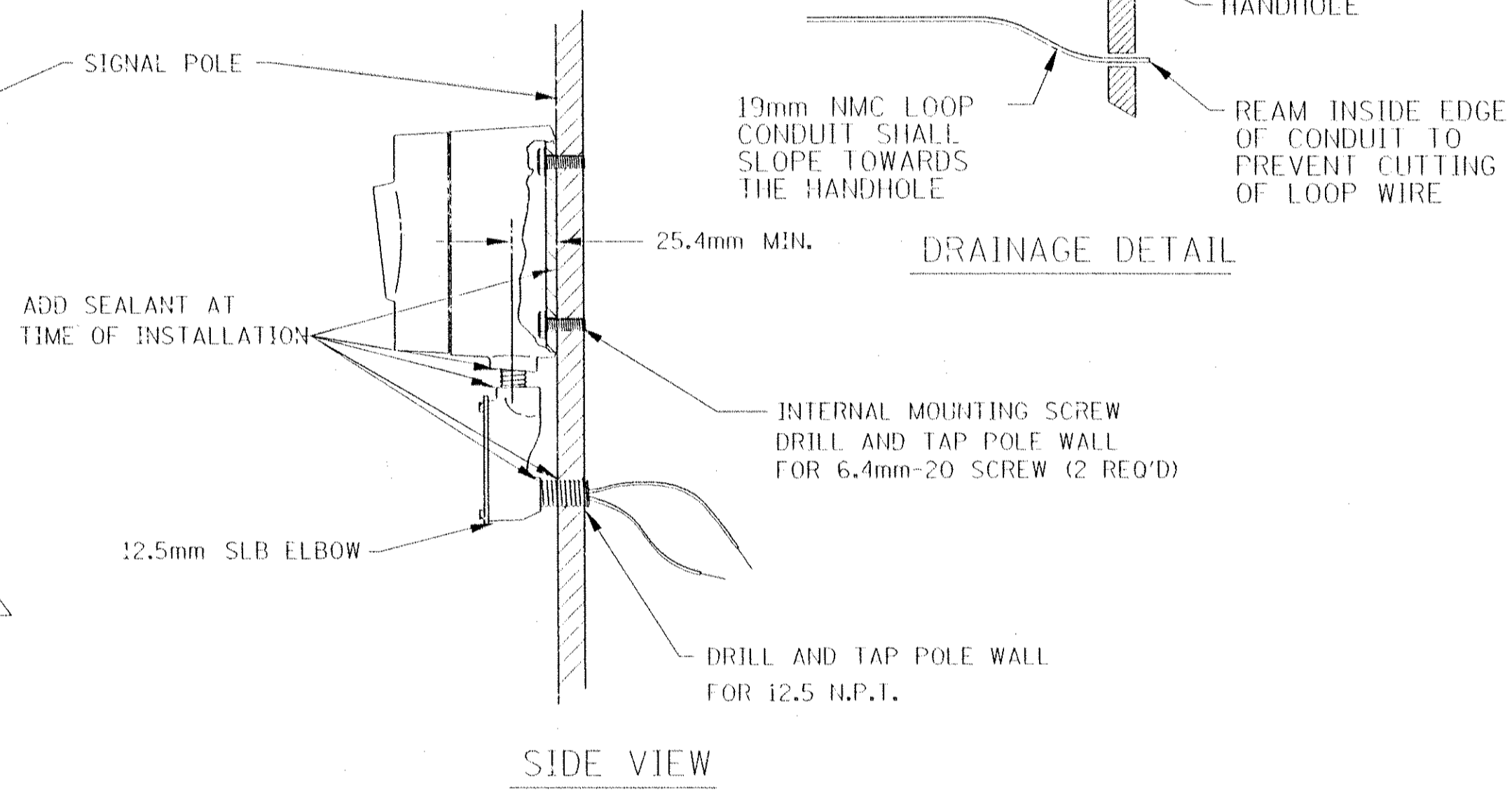
DETAIL FOR LOOP INSTALLATION IN EXISTING ROADWAY



DRAINAGE DETAIL



FRONT VIEW



SIDE VIEW

MAST ARM POLE PEDESTRIAN PUSH BUTTON DETAIL

LOOP DETECTOR WIRING

- ALL CORNERS SHALL BE 90 DEGREE CONDUIT BENDS.
- CONNECT WIRES IN HANDHOLES USING SPLICE KIT METHOD DESCRIBED IN THE SPECIAL PROVISIONS.
- LOOP DETECTOR WIRES SHALL BE #12 AWG CROSSED LINKED POLYETHYLENE (XLP). SEE SPECIAL PROVISIONS.
- LOOP LEAD IN WIRES SHALL BE TWISTED A MIN. OF (5) TURNS PER FOOT THROUGH THE CONDUIT TO THE HANDHOLE.
- NMC DESIGNATES NON-METALLIC CONDUIT (SPEC. 3803)
- LOOPS 1.7m x 1.7m THRU 1.7m x 4.3m SHALL HAVE (4) TURNS.
- LOOPS 1.7m x 4.6m AND LARGER SHALL HAVE (2) TURNS.

LEGEND OF SYMBOLS

CONTROLLER AND SERVICE EQUIP. NO.'s	(A)
SIGNAL BASE NO.	(B)
SIGNAL FACE NO.	(C)
LUMINAIRE NO.	(D)
CONTROLLER AND CABINET	(E)
CONTROLLER AND CABINET - IN PLACE	(F)
HANDHOLE	(G)
HANDHOLE - IN PLACE	(H)
RIGID STEEL CONDUIT (RSC)	(I)
RIGID STEEL CONDUIT (RSC) - IN PLACE	(J)
SIGNAL FACE WITH BACKGROUND SHIELD	(K)
SIGNAL FACE W/O BACKGROUND SHIELD	(L)
SIGNAL FACE - IN PLACE	(M)
PEDESTRIAN INDICATORS	(N)
PEDESTRIAN INDICATORS - IN PLACE	(O)
PEDESTRIAN PUSH BUTTONS ON PEDESTAL OR POLE	(P)
PEDESTRIAN PUSH BUTTON STATION	(Q)
TRAFFIC SIGNAL PEDESTAL	(R)
TRAFFIC SIGNAL PEDESTAL - IN PLACE	(S)
TRAFFIC SIGNAL POLE AND MAST ARM	(T)
TRAFFIC SIGNAL POLE AND MAST ARM - IN PLACE	(U)
STREET LIGHT POLE AND LUMINAIRE	(V)
STREET LIGHT POLE AND LUMINAIRE - IN PLACE	(W)
MAST ARM AND LUMINAIRE	(X)
MAST ARM AND LUMINAIRE - IN PLACE	(Y)
WOOD POLE	(Z)
WOOD POLE - IN PLACE	(AA)
SOURCE OF POWER	(AB)
RAILROAD SIGNAL - IN PLACE	(AC)
RIGHT OF WAY LINE	(AD)
CENTERLINE	(AE)
EDGE OF ROADWAY	(AF)
SHOULDERLINE	(AG)
CURB LINE	(AH)
STOP BAR	(AI)

ABBREVIATIONS

3-(K) SIGNAL HEAD PHASE "3" - NO. "1"	P2-(K) PEDESTRIAN INDICATION PHASE "2" - NO. "1"
BR. GR. BARE GROUND	PB PUSH BUTTON
CH. SW. CHECK SWITCH	PB2-(K) PUSH BUTTON PHASE "2" - NO. "1"
CLR CLEAR	PEC PHOTOELECTRIC CELL
02-(K) DETECTOR PHASE "2" - NO. "1"	PEP PEDESTRIAN
DWK DON'T WALK	R RED
EOP EQUIPMENT GROUND	R&S REMOVE AND SALVAGE
EVP EMERGENCY VEHICLE PRE-EMPTION	RLTA RED LEFT TURN ARROW
F&I FURNISH AND INSTALL	RRTA RED RIGHT TURN ARROW
FL FLASH/FLASHING	RSC RIGID STEEL CONDUIT
G GREEN	SOP SOURCE OF POWER
GLTA GREEN LEFT TURN ARROW	SPR SPARE
GRN GREEN	ST. LHT. STREET LIGHT
GR. R. GROUND ROD	STA STATION
GRTA GREEN RIGHT TURN ARROW	SW SWITCH
GTHA GREEN THRU ARROW	SWD SWITCHED
H HANDHOLE	TDW TELEPHONE DROP WIRE
HPS HIGH PRESSURE SODIUM	WLK WALK
JB JUNCTION BOX	YEL YELLOW
LUM LUMINAIRE	YLTA YELLOW LEFT TURN ARROW
NEU NEUTRAL	YRTA YELLOW RIGHT TURN ARROW
NMC NONMETALLIC CONDUIT	YTHA YELLOW THRU ARROW

CONDUCTOR COLOR CODE

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

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NO	DATE	BY	CHKD	APPR	REVISION



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Date: _____ Reg. No. _____

COUNTY PROJECT NO.	DRAWN BY	DATE
S.A.P. 02-60-38	P. ZAGER	5-98
CITY PROJECT NO.	DESIGNED BY	
S.A.P. 103 13-0	P. ZAGER	5-98
	CHECKED BY	
	G. STUEMPFIG	5-98
	COMM. NO.	
	0972586	



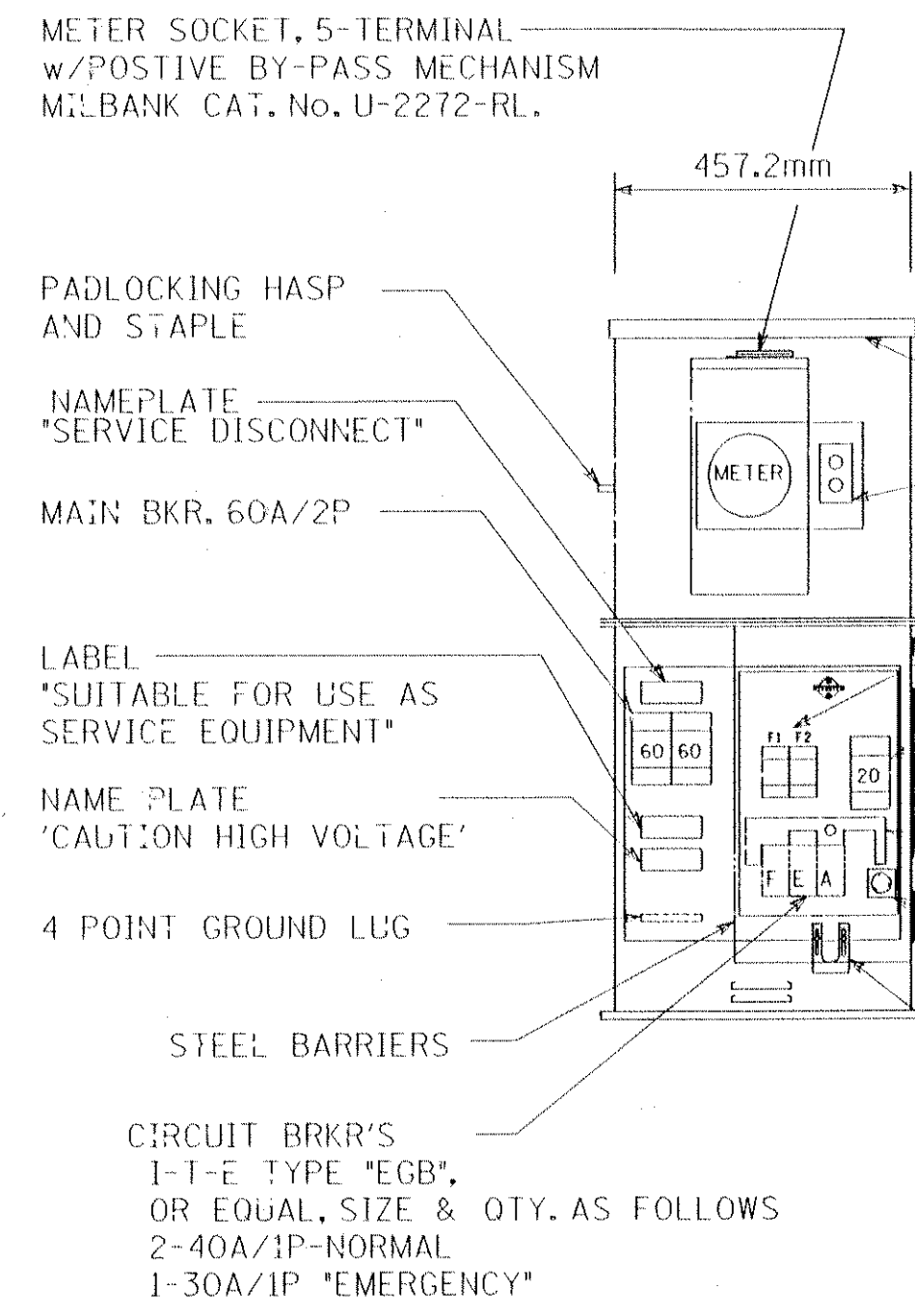
ANOKA COUNTY
 LOOP DETECTOR AND MISCELLANEOUS DETAILS
 C.S.A.H. 1 SIGNAL RECONSTRUCTION
 C.S.A.H. 1 AT C.S.A.H. 7 / 7TH AVENUE

SHEET
 6
 OF
 14

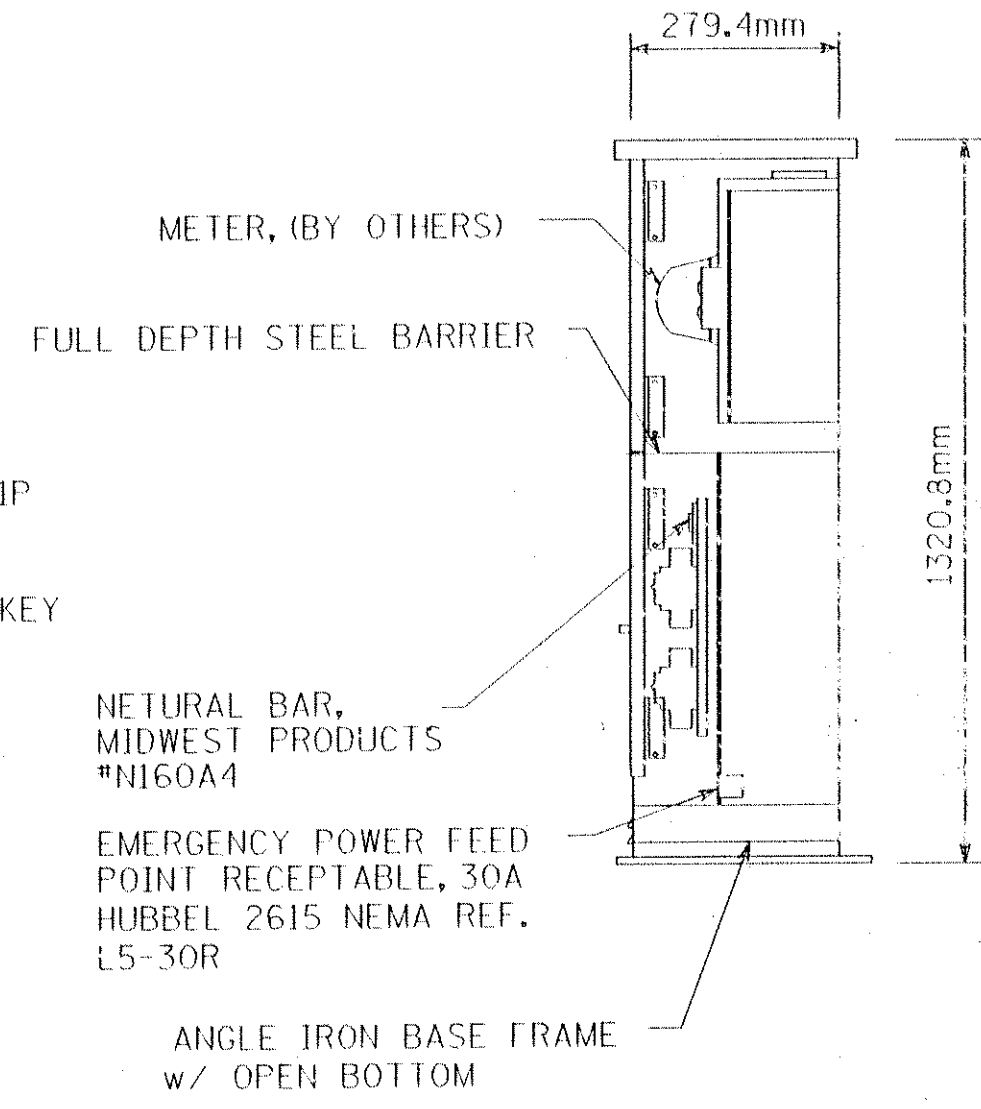
CONSTRUCTION NOTES

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

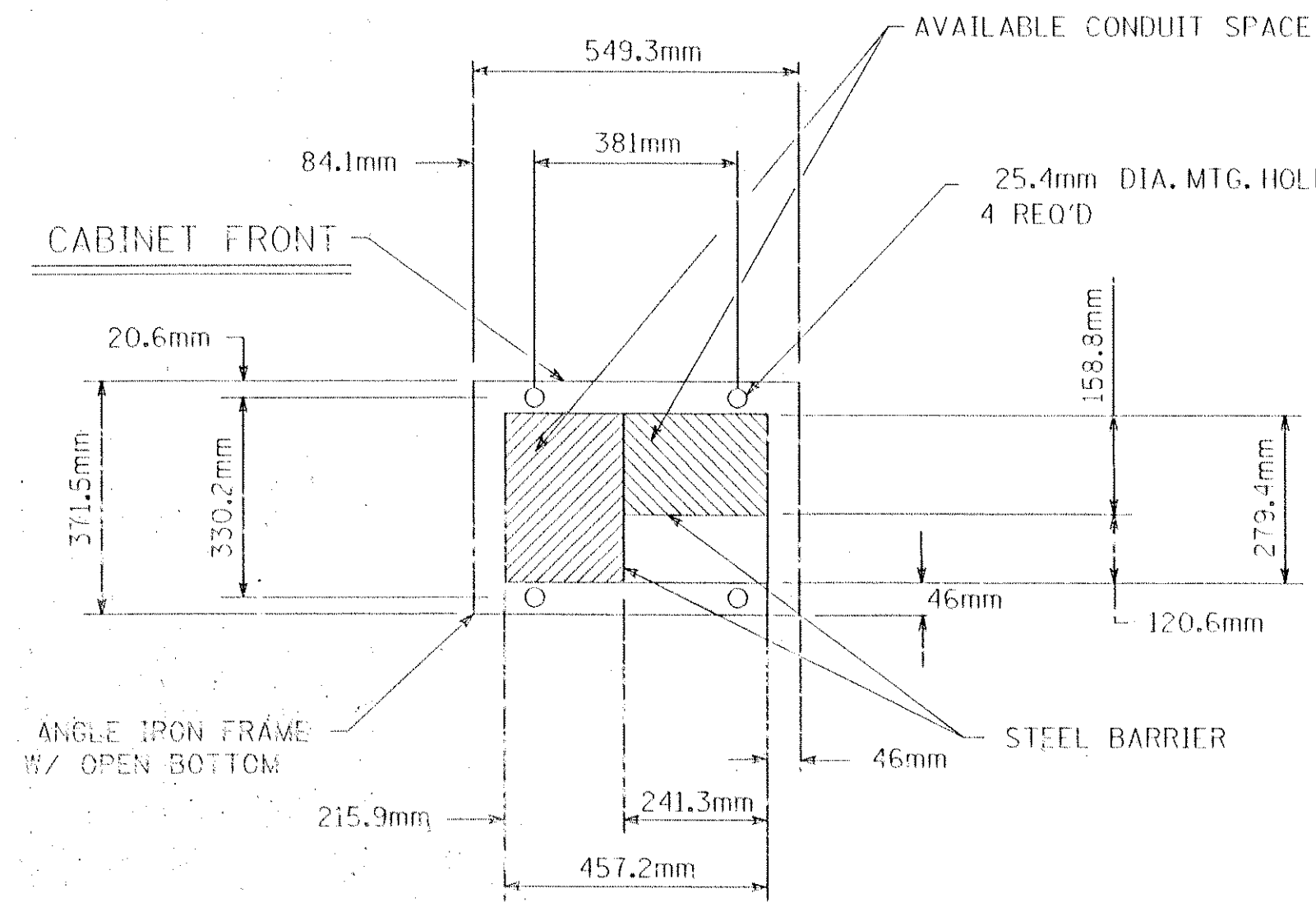
SERVICE CABINET FOUNDATION



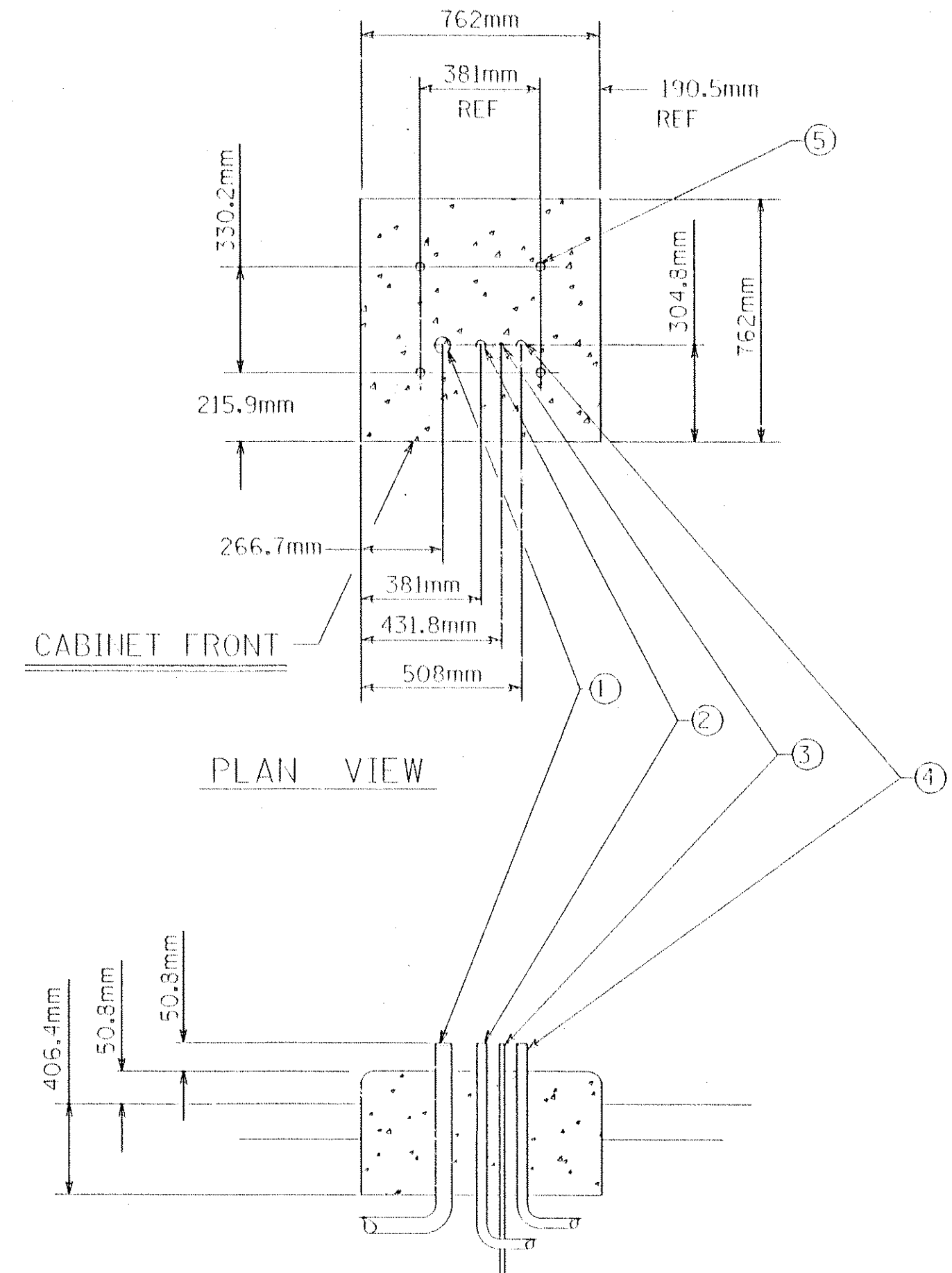
FRONT ELEV.



RIGHT SIDE ELEV.



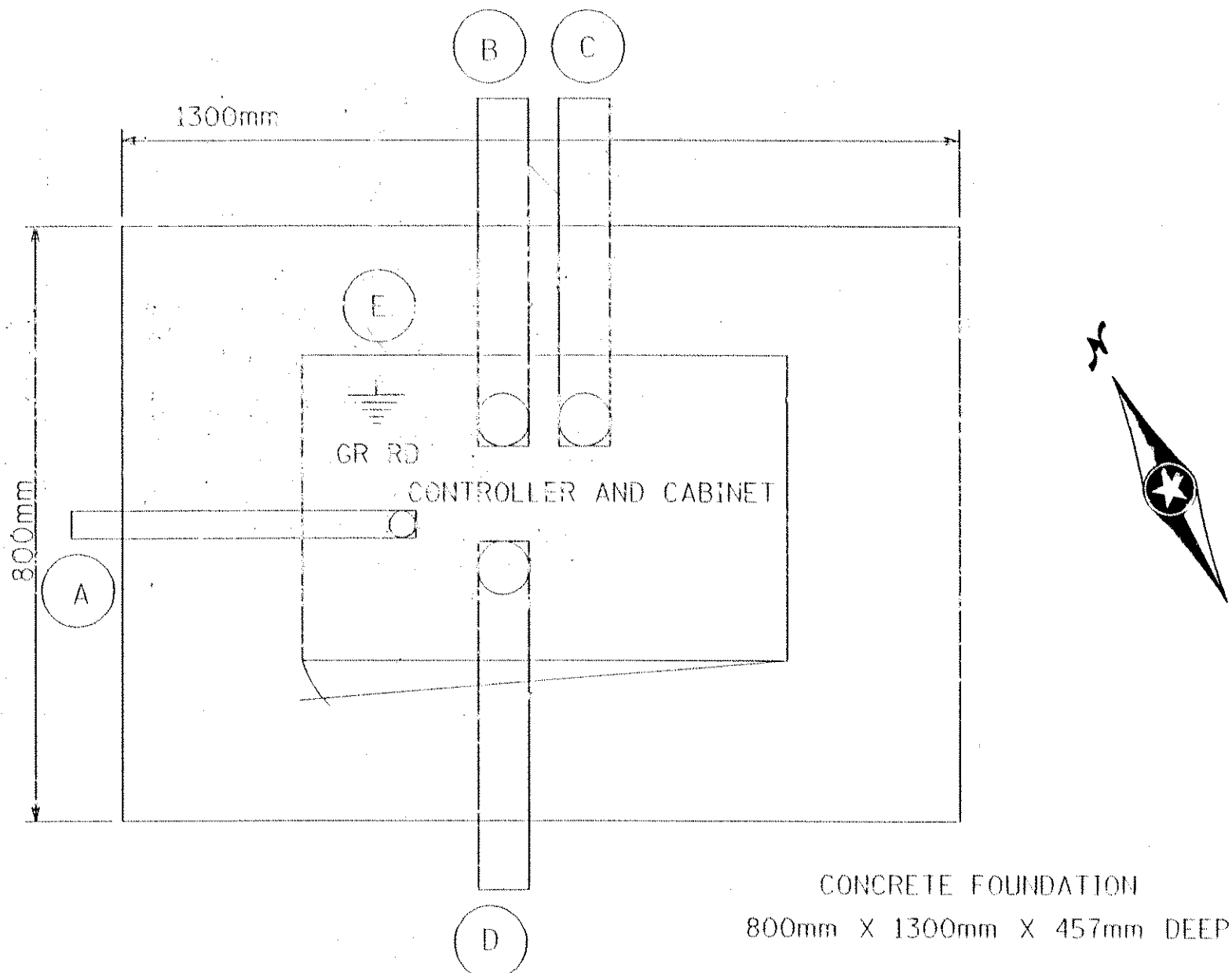
BASE VIEW



- ① 35mm RSC FROM S.O.P. (FOR POWER CABLE)
- ② 35mm RSC TO ILL #2
- ③ GROUNDING ROD
- ④ 35mm RSC FROM ILL (STREET LIGHTING CONDUCTORS)
- ⑤ ANCHOR BOLT LOCATIONS (4 REQUIRED)

SIGNAL SERVICE CABINET

- A 35mm RSC FOR SERVICE CONNECTION FROM ILL #2
- B 103mm RSC WITH SIGNAL CONDUCTORS
- C 78mm RSC STUBOUT, THREAD AND CAP BOTH ENDS
- D 103mm RSC WITH SIGNAL CONDUCTORS
- E 15.9mm DIA X 4.6m GROUND ROD



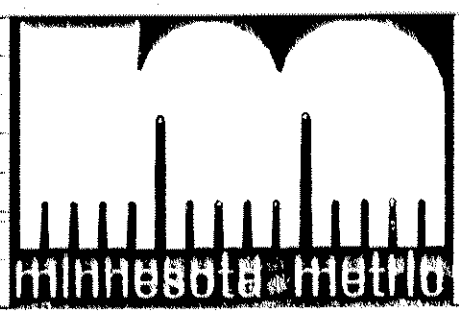
SEE INTERSECTION LAYOUT FOR CONDUIT & CABLE INFORMATION

CONTROLLER CABINET PAD LAYOUT (TYP.)

NO SCALE

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NO	DATE	BY	CKD	APPR	REVISION

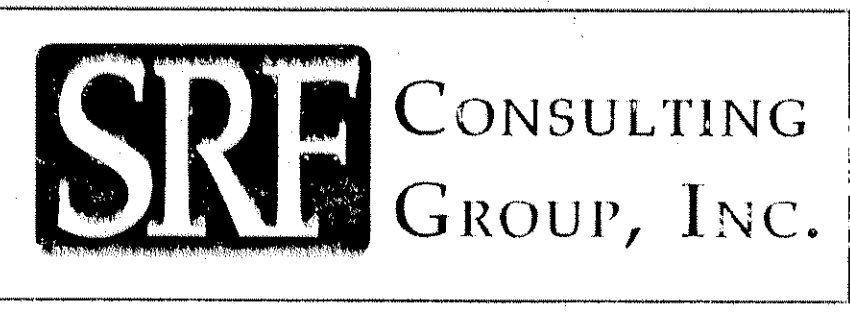


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Date: _____ Reg. No. _____

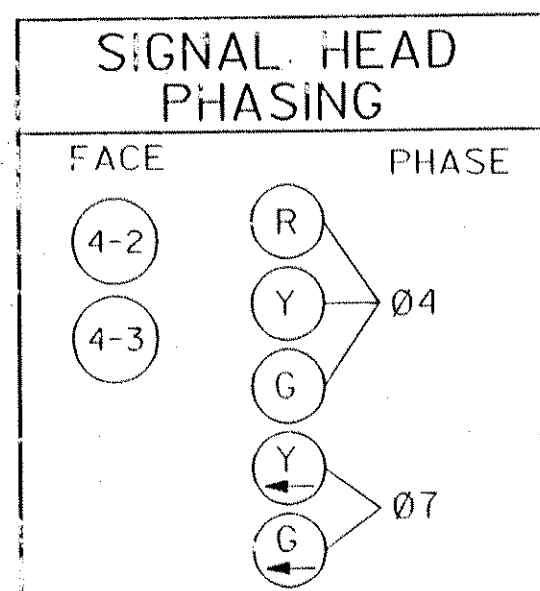
COUNTY PROJECT NO. S.A.P. 02-601-38 CITY PROJECT NO. S.A.P. 03-13-01

DRAWN BY DATE P. ZAGER 5-96
 DESIGNED BY P. ZAGER 5-98
 CHECKED BY G. STUEMPE 5-98
 COMM. NO. 0972586



ANOKA COUNTY
 CONTROLLER AND SERVICE CABINET DETAILS
 C.S.A.H. 1 SIGNAL RECONSTRUCTION
 C.S.A.H. 1 AT C.S.A.H. 7 / 7TH AVENUE

LOOP DETECTOR CHART			DISTANCE TO STOP BAR
DESIGNATION	SIZE/FT.	FUNCTION	
D6-1	1-1.7mX1.7m	(1)	55m
D6-2	1-1.7mX1.7m	(1)	55m
D7-1	1-1.7mX3.6m	(7)	15m
D8-1	1-1.7mX1.7m	(3), (8)	37m
D8-2	2-1.7mX1.7m	(7)	1m, 3.6m
D2-1	1-1.7mX1.7m	(1)	55m
D2-2	1-1.7mX1.7m	(1)	55m
D4-1	1-1.7mX1.7m	(3), (8)	55m
D4-2	2-1.7mX1.7m	(7)	-.7m, 3.9m
D4-3	2-1.7mX1.7m	(1)	-.7m, 3.9m



3 PA85 FOUNDATION
 TYPE PA85-A-6.0m-D9m-3m (DAVIT AT 350°)
 1- ONE WAY SIGNAL (OVERHEAD)
 0m FROM END OF MAST ARM
 TYPE 10B POLE MOUNTED AT 180°
 TYPE 10B POLE MOUNTED AT 270°
 LUMINAIRE - 200 WATT H.P.S. WITH P.E.C. AND TEST SWITCH
 ONEWAY EVP DETECTOR AND LIGHT
 (1.2 m FROM END OF MAST ARM), 19 mm HUB
 2 - PEDESTRIAN PUSHBUTTONS
 EXTEND 78 mm RSC INTO HH-7 WITH:
 2 - 1/2" #12, 2 - 3/4" #12,
 1 - 3/4" #12 (LUM.), 1 - 3/4" #20,
 AND 1 - NYLON ROPE

4 PEDESTAL FOUNDATION
 3m PEDESTAL AND BASE
 TYPE 2C
 ONEWAY EVP DETECTOR AND LIGHT
 2 - PEDESTRIAN PUSHBUTTONS
 EXTEND 78 mm RSC INTO HH-11 WITH:
 1 - 1/2" #12, 3 - 3/4" #12,
 1 - 3/4" #20,
 AND 1 - NYLON ROPE

SIGNAL INDICATION CHART						
ALL SIGNAL INDICATIONS SHALL BE 300 mm						
ALL RED CIRCULAR INDICATIONS SHALL BE L.E.D.						
SIGNAL FACE	R	Y	G	RLTA	YLTA	GLTA
2-1,2-2,2-3	●	●	●			
4-1	●	●	●			
4-2,4-3	●	●	●		←	←
6-1,6-2,6-3	●	●	●			
8-1,8-2,8-3	●	●	●			

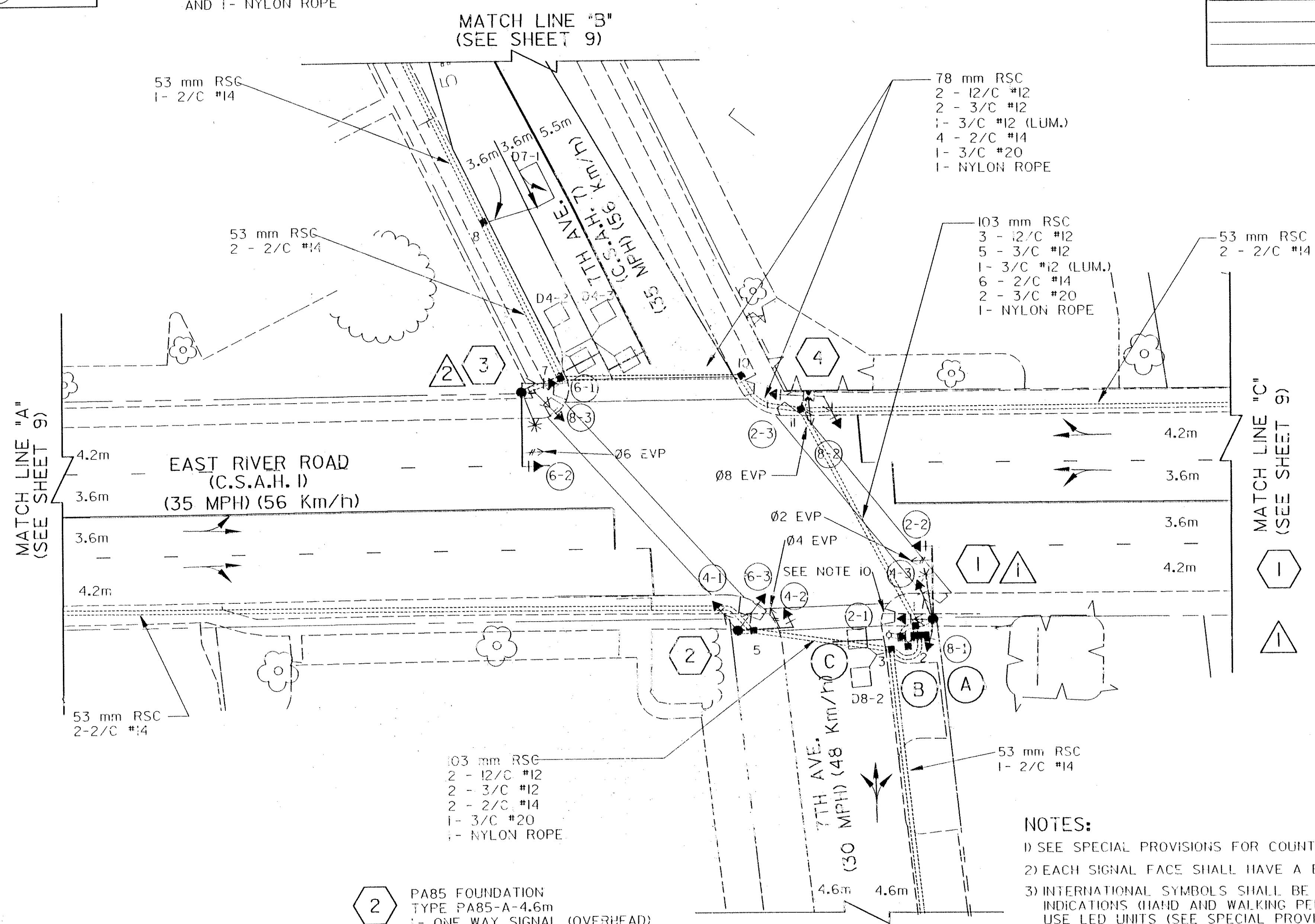
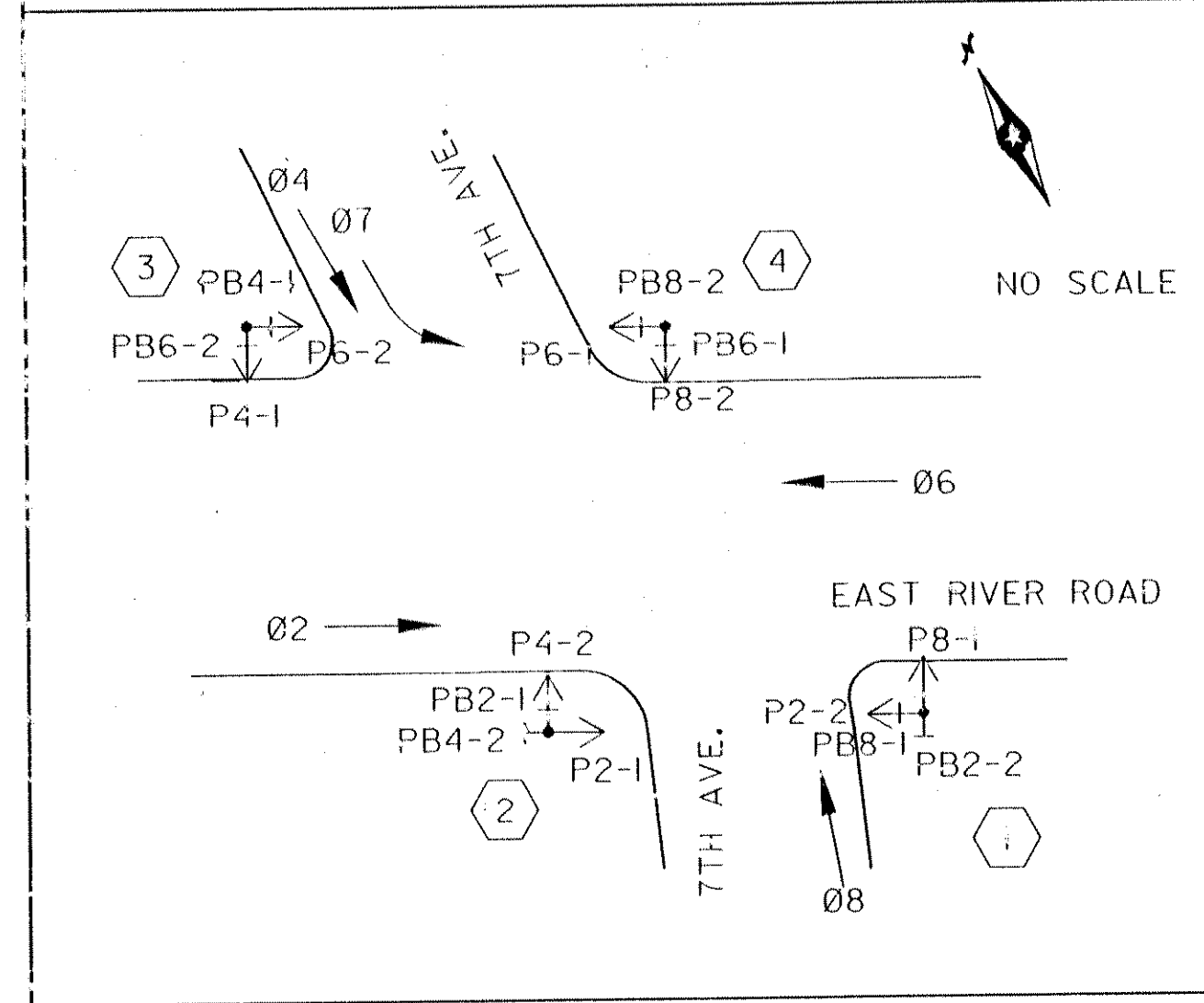
FUNCTIONS:
 (1) CALL AND EXTEND
 (3) EXTEND ONLY
 (7) DELAY CALL, IMMEDIATE EXTEND
 (8) STRETCH

A CONTROLLER CABINET PAD - SEE DETAIL
 CONTROLLER & CABINET
 EXTEND 103 mm RSC INTO HH-1 WITH:
 5 - 1/2" #12, 8 - 3/4" #12,
 6 - 2/4" #14, 3 - 3/4" #20,
 AND 1 - NYLON ROPE
 EXTEND 35 mm RSC INTO HH-2 WITH:
 3 - 1/4" #6 AND 1 - 1/4" #6 BR.GR.
 EXTEND 103 mm RSC INTO HH-3 WITH:
 2 - 1/2" #12, 2 - 3/4" #12,
 4 - 2/4" #14, 1 - 3/4" #20,
 AND 1 - NYLON ROPE
 1 - 78 mm RSC STUB OUT OF CABINET
 (THREAD AND CAP BOTH ENDS)

B SERVICE CABINET FOUNDATION - SEE DETAIL
 SIGNAL SERVICE CABINET
 EXTEND 35 mm RSC INTO HH-2
 WITH:
 3 - 1/4" #6 AND 1 - 1/4" #6 BR.GR.
 EXTEND 35 mm RSC INTO HH-1 WITH:
 2 - 3/4" #12 (LUM.)

C SOURCE OF POWER
 ANOKA MUN. ELECTRIC
 WOOD POWER POLE (IN.P.)
 EXTEND 35 mm RSC INTO SERVICE CABINET WITH:
 3 - 1/4" #6

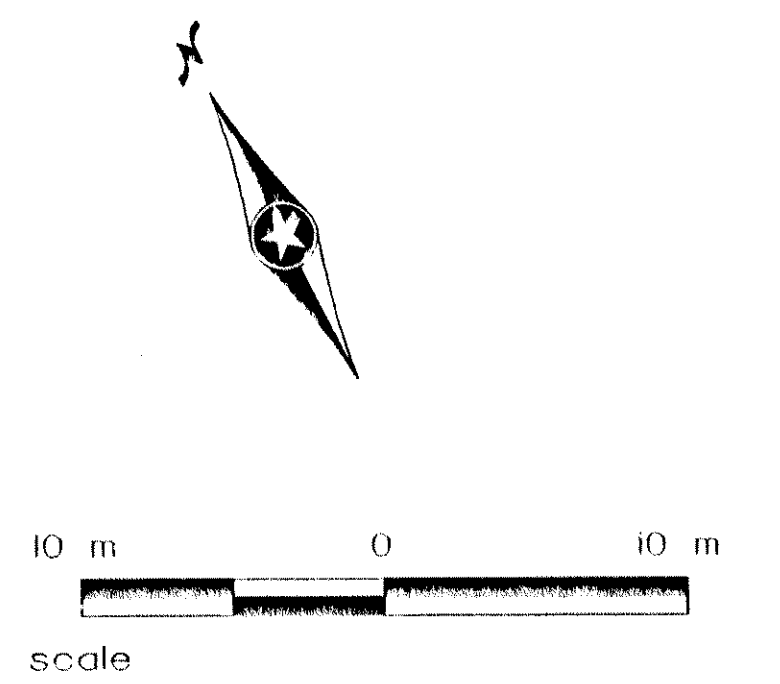
CONTROLLER PHASING, PEDESTRIAN INDICATIONS & PUSHBUTTON LAYOUT



SIGNAL OPERATION NOTES
 - NORMAL OPERATION IS 3 PHASE
 - FLASH MODE SHALL BE ALL RED
 - SOUTHBOUND APPROACH SHALL HAVE PROTECTED/PERMISSIVE LEFT TURNS
 - 02 & 06 SHALL BE ON VEHICLE RECALL

2 PA85 FOUNDATION
 TYPE PA85-A-4.6m
 1- ONE WAY SIGNAL (OVERHEAD)
 0m FROM END OF MAST ARM
 TYPE 10B POLE MOUNTED AT 0°
 TYPE 10B POLE MOUNTED AT 270°
 ONEWAY EVP DETECTOR AND LIGHT
 (0.6 m FROM END OF MAST ARM), 19 mm HUB
 2 - PEDESTRIAN PUSHBUTTONS
 SIGN (R10-12) MOUNTED WITH RIGHT EDGE OF SIGN .45 m FROM END OF MAST ARM
 EXTEND 78 mm RSC INTO HH-5 WITH:
 2 - 1/2" #12, 2 - 3/4" #12,
 1 - 3/4" #20,
 AND 1 - NYLON ROPE

- NOTES:**
- SEE SPECIAL PROVISIONS FOR COUNTY FURNISHED MATERIALS.
 - EACH SIGNAL FACE SHALL HAVE A BACKGROUND SHIELD
 - INTERNATIONAL SYMBOLS SHALL BE USED FOR ALL PEDESTRIAN INDICATIONS (HAND AND WALKING PERSON). THE HAND INDICATION SHALL USE LED UNITS (SEE SPECIAL PROVISIONS).
 - HANDHOLES SHALL BE PVC TYPE WITH METAL FRAMES AND COVERS.
 - ALL LOOP DETECTORS SHALL BE INSTALLED IN NMC CONDUIT. SEE DETAIL SHEET.
 - EXACT LOCATION OF HANDHOLES, POLES, LOOP DETECTORS AND CABINET SHALL BE DETERMINED BY TRAFFIC OFFICE PERSONNEL.
 - ALL SIGNAL INDICATIONS SHALL HAVE GLASS LENSES, EXCEPT RED CIRCULAR INDICATIONS WHICH SHALL USE LED UNITS.
 - EXISTING SIGNAL EQUIPMENT SHALL BE REMOVED AND SALVAGED.
 - CROSS WALKS SHALL BE ZEBRA STRIPED. SEE SIGNING AND STRIPING LAYOUT.
 - CONTRACTOR SHALL REMOVE EXISTING CURB & GUTTER AND SHALL INSTALL NEW PEDESTRIAN RAMP ACCORDING TO MN/DOT STANDARD PLATE M7036D.

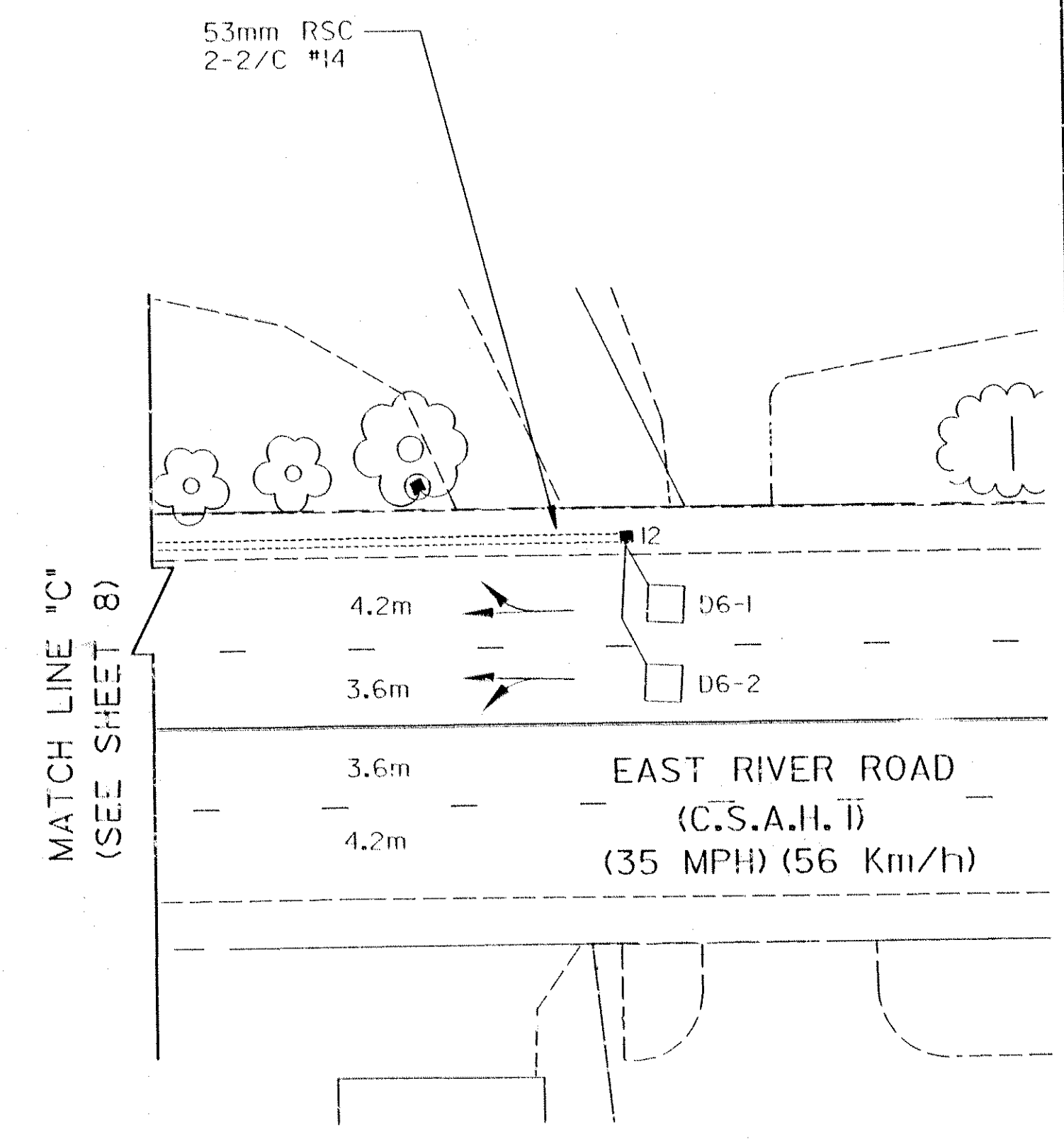
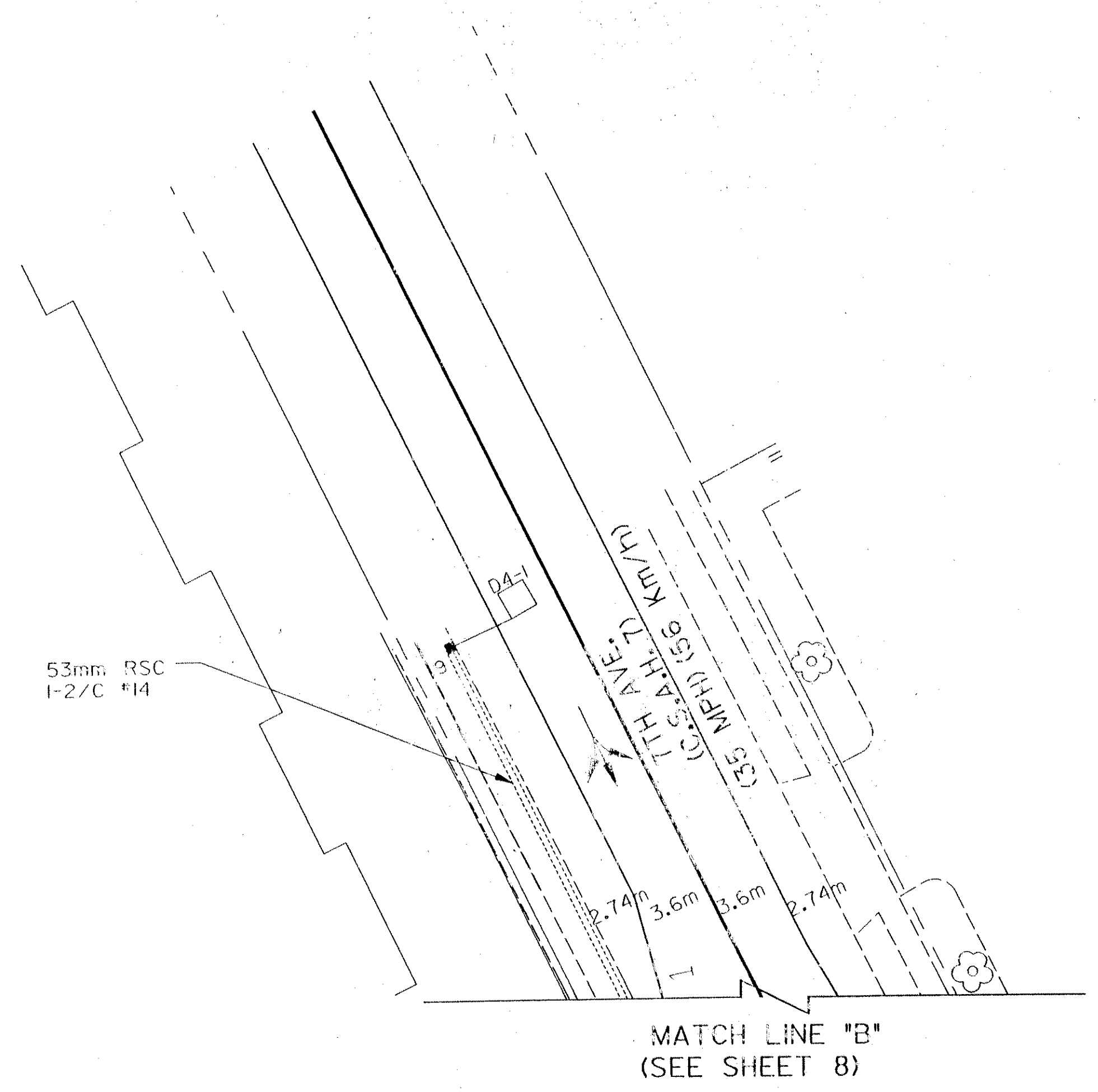
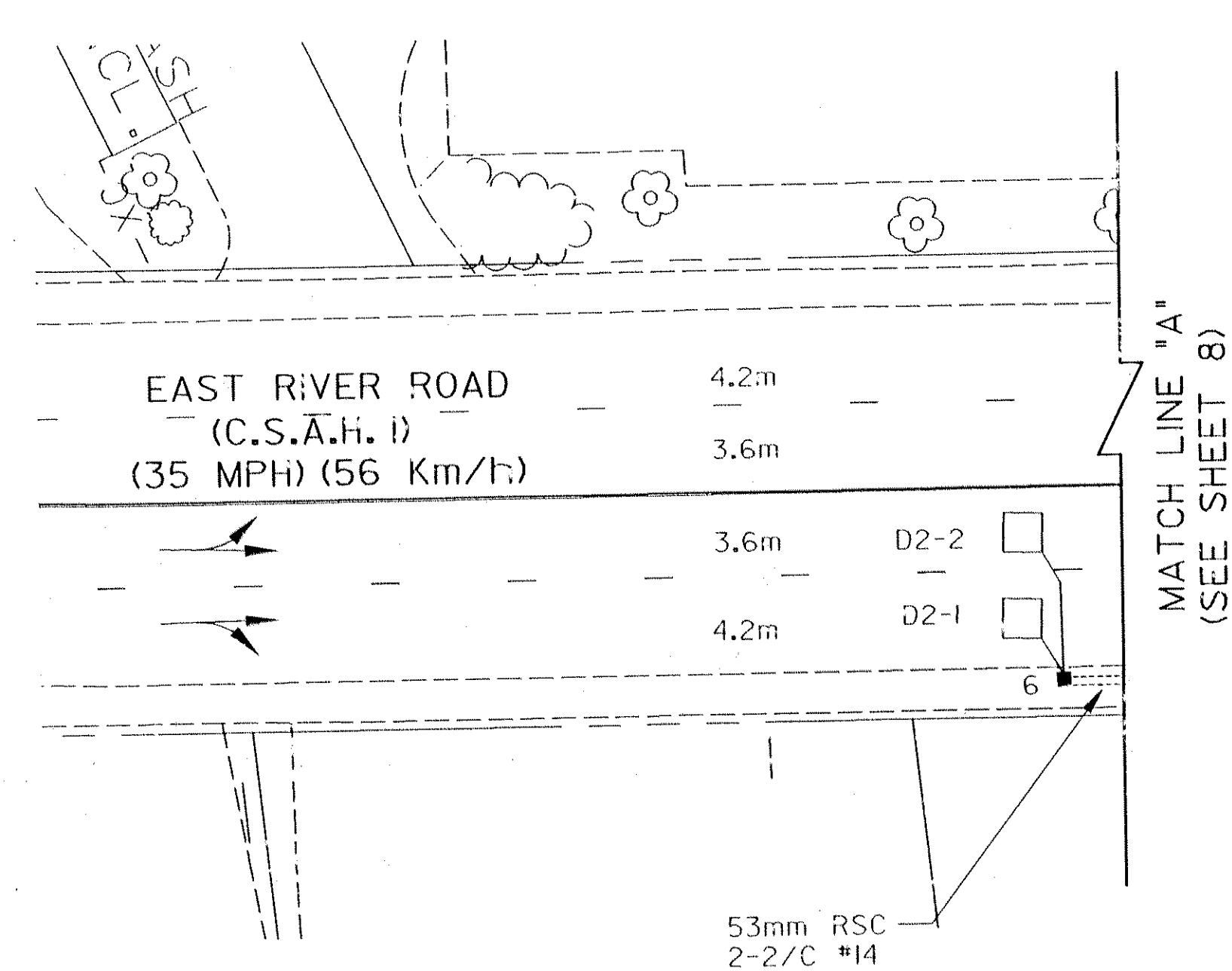
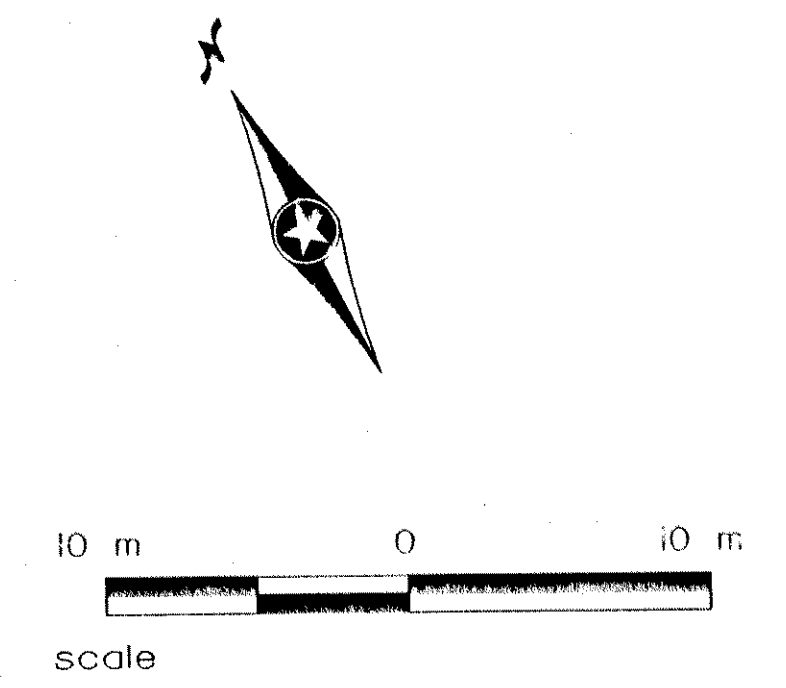


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NO	DATE	BY	CKD	APPR	REVISION
	2/23/99	RWS	GMS	GMS	REVISIONS PER ANOKA COUNTY COMMENTS

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 Date: _____ Reg. No. _____

COUNTY PROJECT NO. S.A.P. 02-501-38
 CITY PROJECT NO. S.A.P. 103-103-01
 DRAWN BY P. ZAGER DATE 5-98
 DESIGNED BY P. ZAGER DATE 5-98
 CHECKED BY G. STUEBING DATE 5-98
 COMM. NO. 0972586



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NO	DATE	BY	CKD	APPR	REVISION
1	2/23/99	RWS	GMS	GMS	REVISIONS PER ANOKA COUNTY COMMENTS



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Date: _____ Reg. No. _____

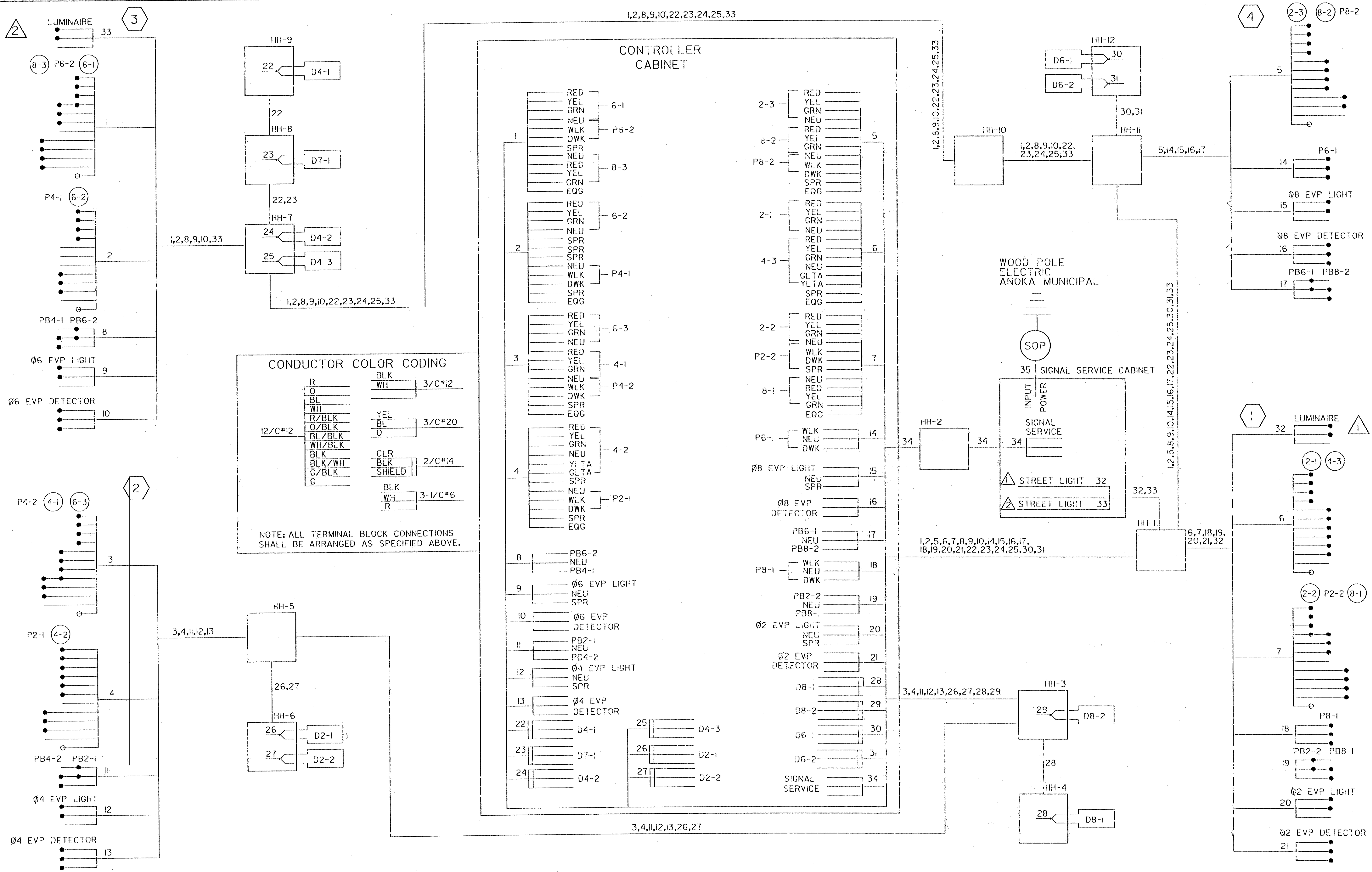
COUNTY PROJECT NO. S.A.P. 02-60-38
 CITY PROJECT NO. S.A.P. 103-10-0

DRAWN BY P. ZAGER DATE 5-98
 DESIGNED BY P. ZAGER 5-98
 CHECKED BY G. STJEMPEG 5-98
 COMM. NO. 0912586



ANOKA COUNTY
 MATCHLINE SHEET
 C.S.A.H. 1 SIGNAL RECONSTRUCTION
 C.S.A.H. 1 AT C.S.A.H. 7 / 7TH AVENUE

SHEET 9 OF 14



CONDUCTOR COLOR CODING

R	BLK	3/C*12
O	WH	
BL		
WH	YEL	3/C*20
R/BLK	BL	
O/BLK	O	
BL/BLK		
WH/BLK	CLR	2/C*14
BLK	BLK	
BLK/WH	SHIELD	
G/BLK		
G	BLK	3-1/C*6
	WH	
	R	

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

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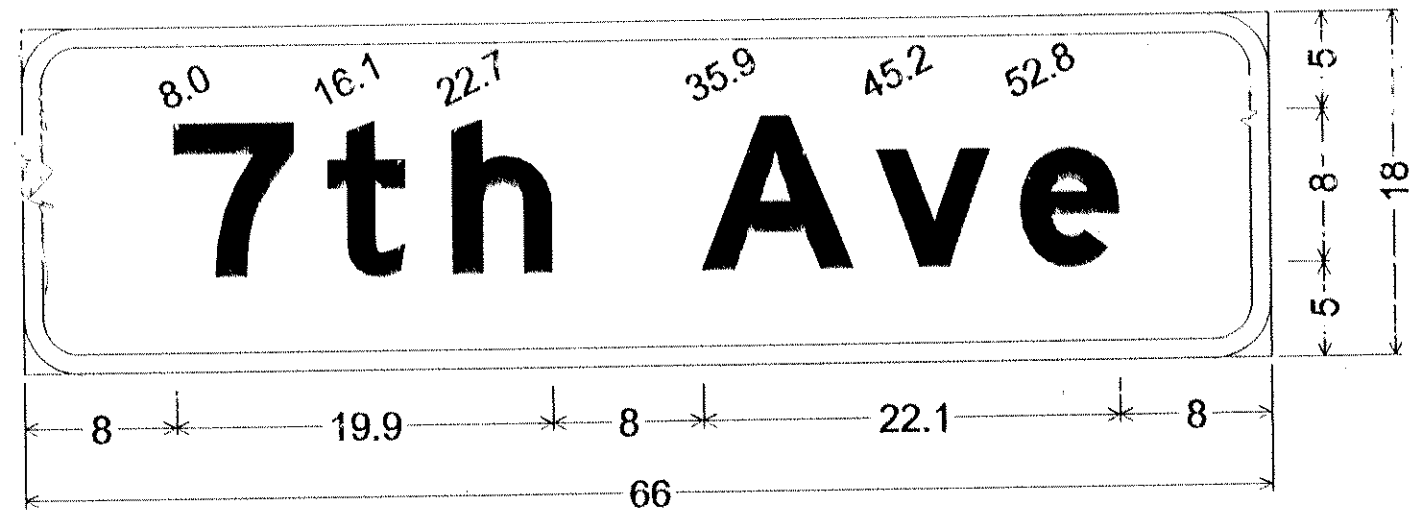
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	2/23/99	RWS	GMS	GMS	REVISIONS PER ANOKA COUNTY COMMENTS



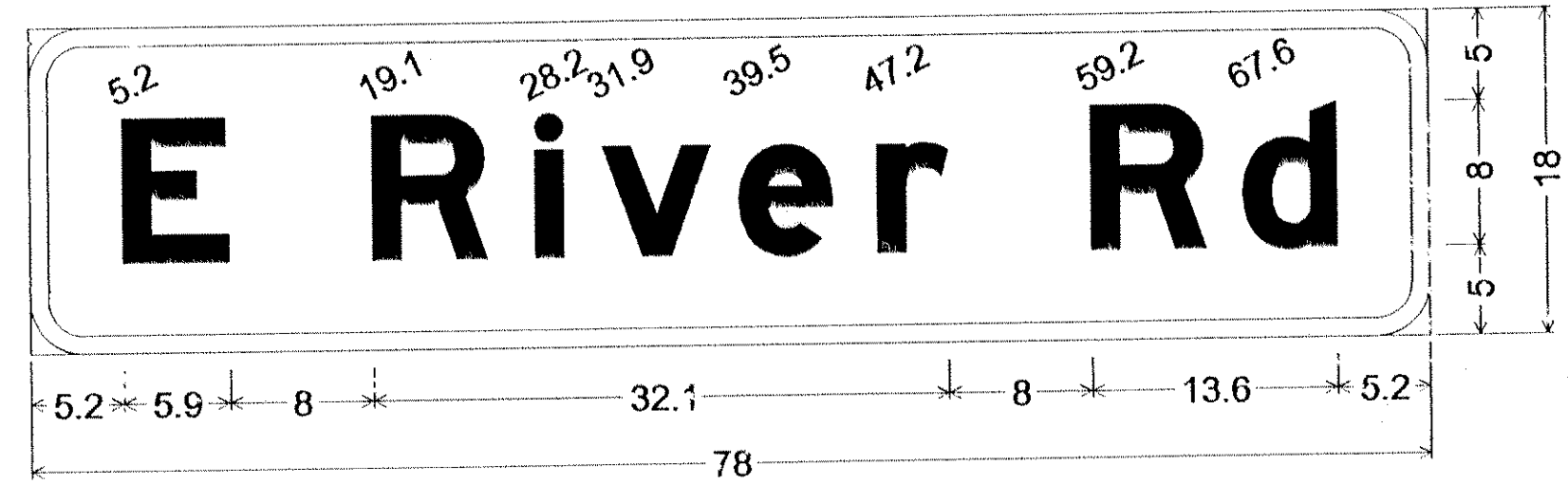
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COUNTY PROJECT NO.	S.A.P. 02-60-38
CITY PROJECT NO.	S.A.P. 03-43-01
DRAWN BY	P. ZAGER
DESIGNED BY	P. ZAGER
CHECKED BY	G. STEMPER
DATE	5-98
DATE	5-93
DATE	5-98
COMM. NO.	0972586

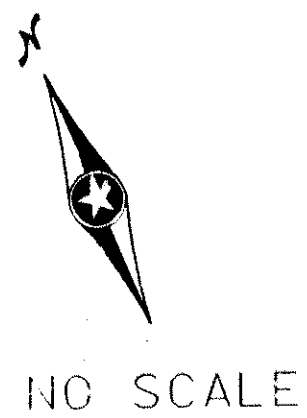
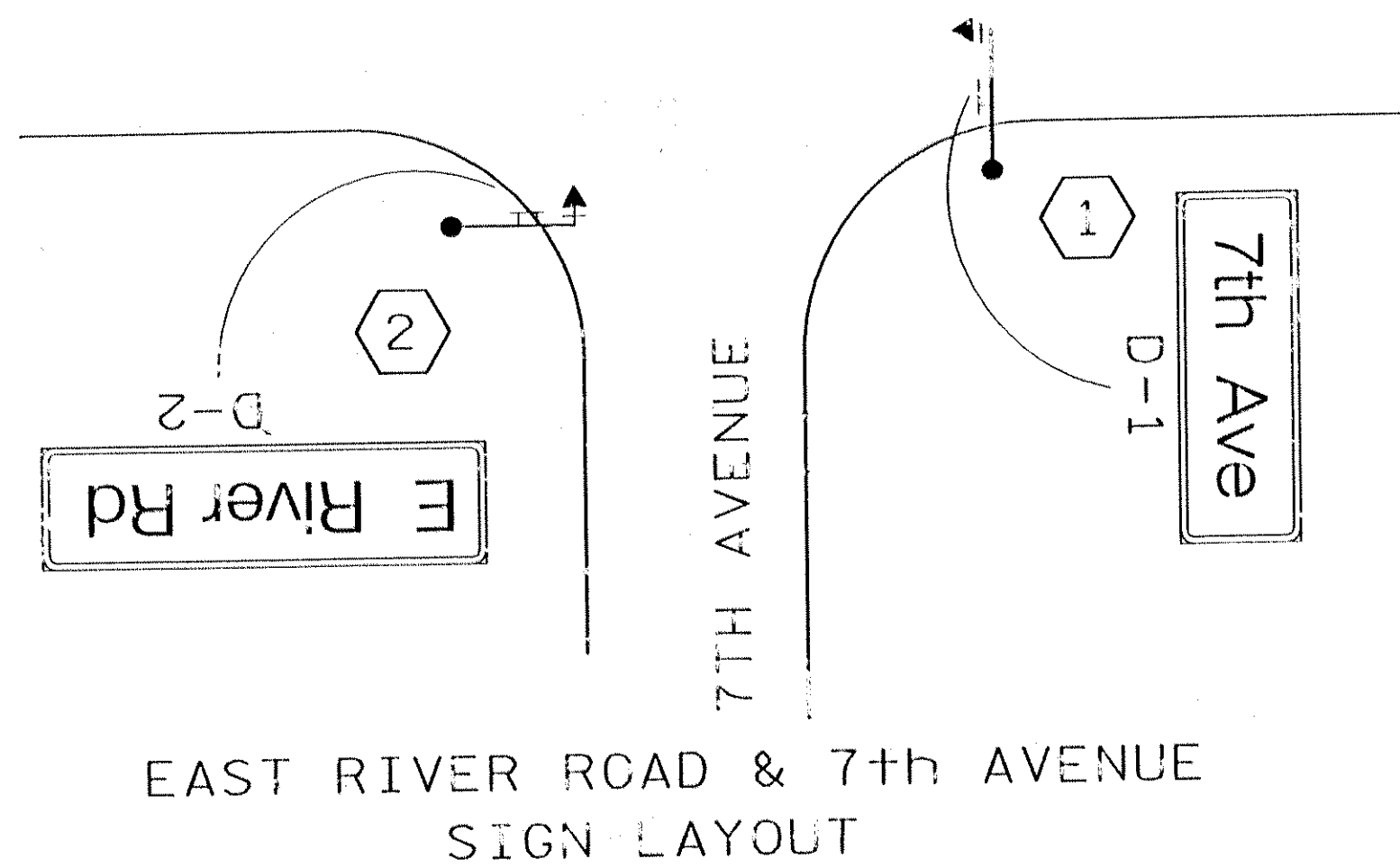
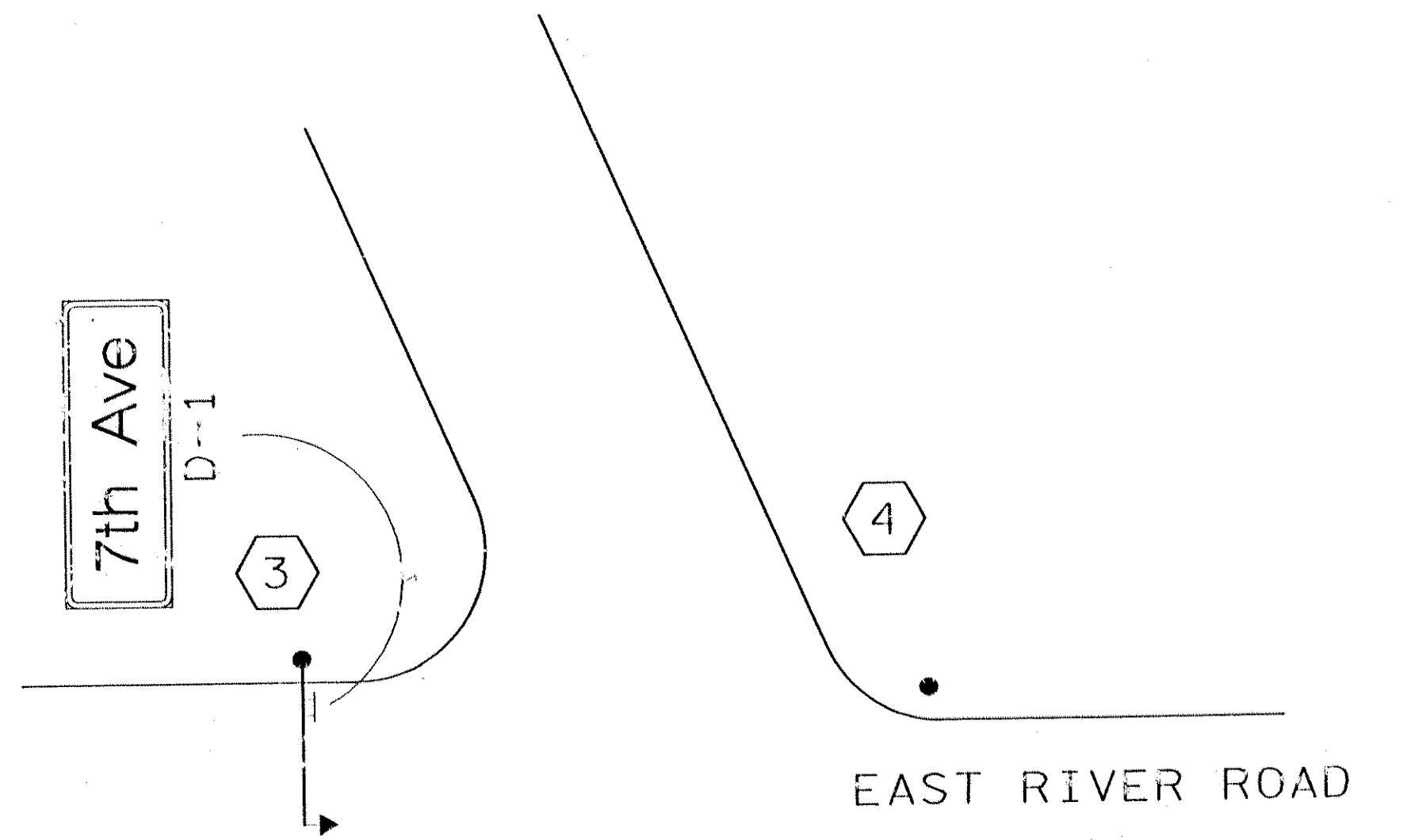




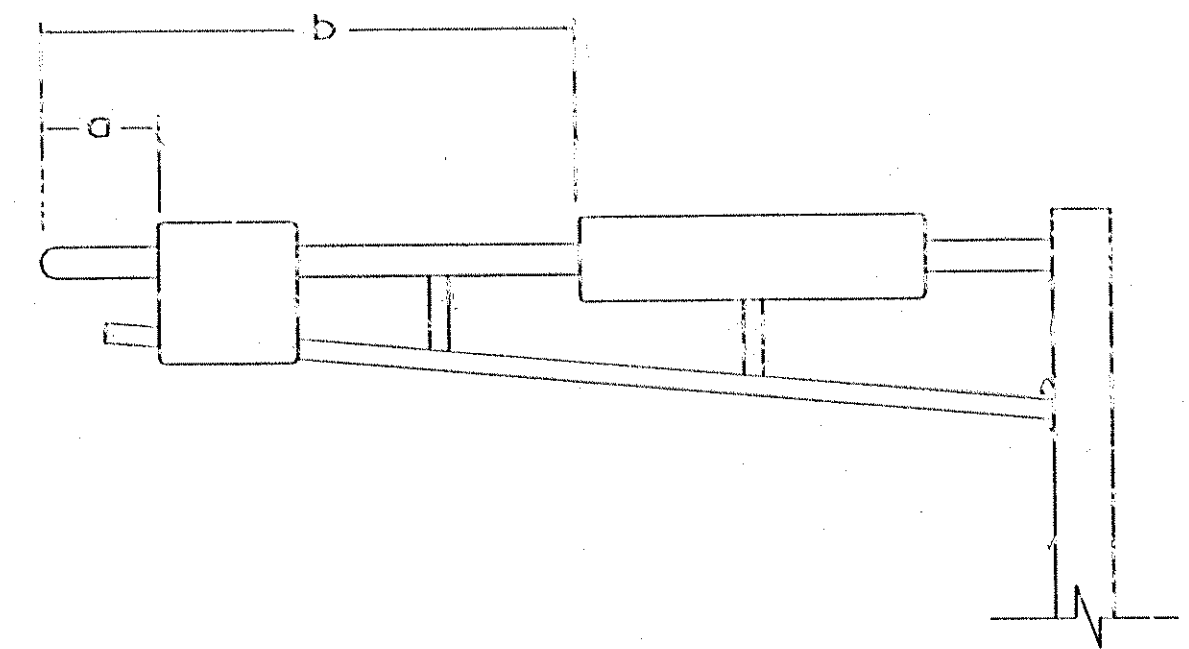
D-1; 3.0" Radius, 1.0" Border, White on Green;
[7th Ave] E Mod;



D-2; 3.0" Radius, 1.0" Border, White on Green;
[E River Rd] E Mod;



TYPE "D" SIGNS								
SIGN PANEL	SIZE	NUMBER REQUIRED	BRACKETS PER SIGN	BRACKET SPACING	SQUARE FT. PER SIGN	a	b	POLE NUMBER
D-1	66" x 18"	2	2	30"	8.25		9'	(1)(3)
D-2	78" x 18"	1	2	36"	9.75		8'	(2)



MAST ARM SIGN DIMENSIONING DETAIL

NOTES:

- 1) COLOR - HIGH INTENSITY WHITE LEGEND AND BORDER ON HIGH INTENSITY GREEN BACKGROUND, FULLY REFLECTORIZED.
- 2) CORNERS EXTENDING BEYOND THE BORDER SHALL NOT BE TRIMMED.
- 3) BORDERS SHALL BE AS SHOWN ON PLANS.
- 4) FOR STRUCTURAL DETAILS, TYPE "D" SIGNS, SEE STANDARD SIGNS MANUAL, PAGE 105B.
- 5) FOR TYPE "D" STRINGER AND PANEL - JOINT DETAIL, SEE STANDARD SIGNS MANUAL, PAGE 105.
- 6) LETTERING STYLE SHALL BE HIGHWAY GOTHIC CONFORMING TO MN/DOT STANDARDS.

THIS PLAN CONTAINS ENGLISH DIMENSIONS.

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NO	DATE	BY	CKD	APPR	REVISION



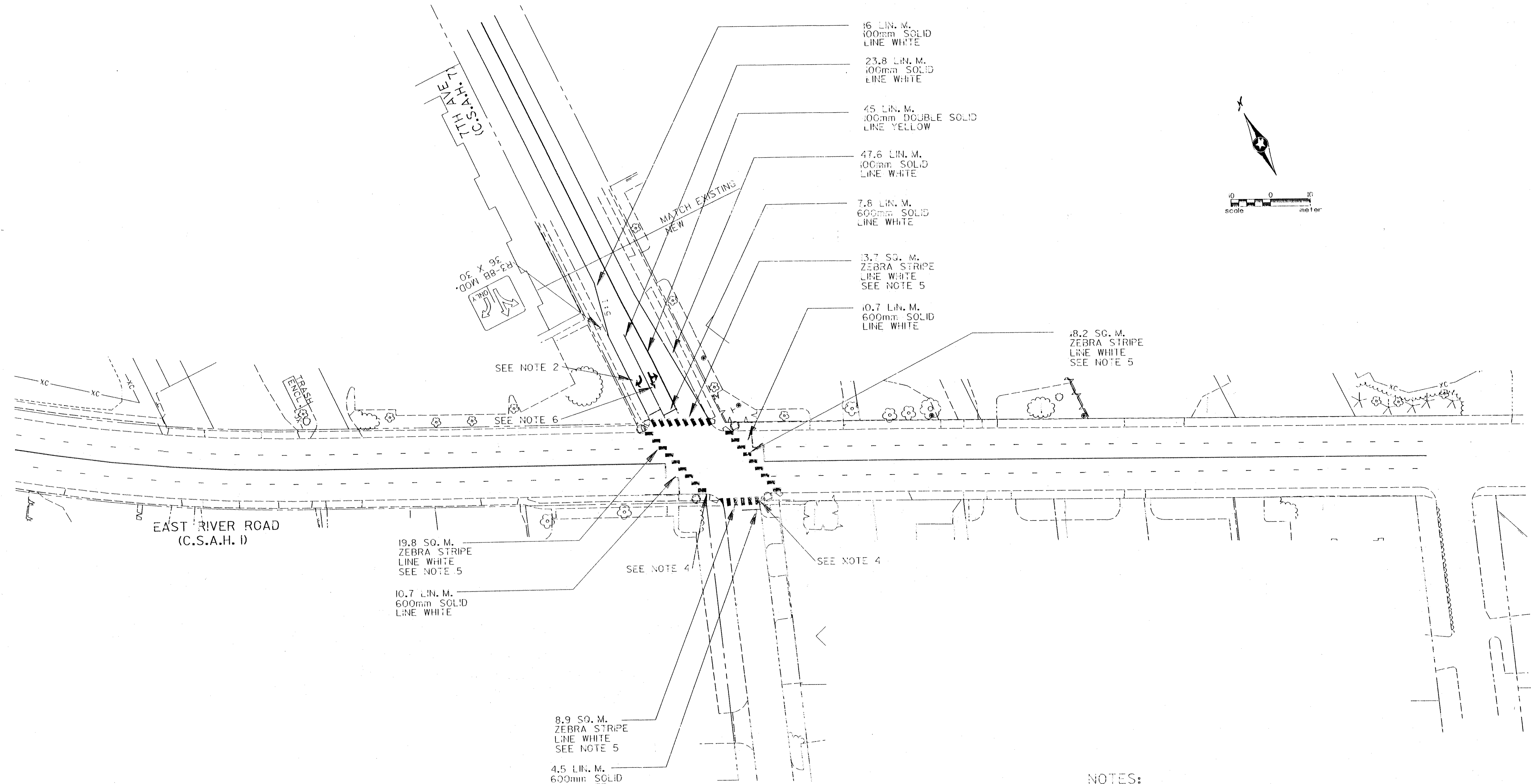
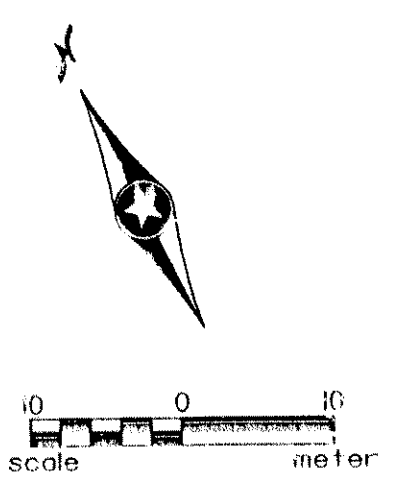
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Date: _____ Reg. No. _____

COUNTY PROJECT NO.	DRAWN BY	DATE
S.A.P. 02-60-3E	W. BRESSLER	5-98
CITY PROJECT NO.	DESIGNED BY	
S.A.P. 03-83-01	M. BRESSLER	5-98
	CHECKED BY	
	G. STUEMPF	5-98
	COMM. NO.	
		0972586



ANOKA COUNTY	SHEET
MAST ARM SIGN DETAILS	11
C.S.A.H. 1 SIGNAL RECONSTRUCTION	OF
C.S.A.H. 1 AT C.S.A.H. 7 / 7TH AVENUE	14



- NOTES:
- 1) ALL PAVEMENT MARKINGS SHALL BE PAINT.
 - 2) PAVEMENT MESSAGE (RIGHT TURN ARROW).
 - 3) STOP BARS SHALL BE LOCATED 1.2 m BEHIND CROSSWALKS.
 - 4) PEDESTRIAN RAMP TO BE INSTALLED AT THIS LOCATION.
 - 5) CROSS WALKS SHALL BE ZEBRA STRIPED ACCORDING TO MN/DOT TRAFFIC ENGINEERING MANUAL JANUARY 1996 FIGURE 7.24 FOR AN INSIDE LANE WIDTH OF 3.6 m.
 - 6) PAVEMENT MESSAGE (THRU AND LEFT TURN ARROW).
 - 7) ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MN/MUTCD.
 - 8) ALL CONFLICTING PAVEMENT MARKINGS SHALL BE REMOVED TO THE SATISFACTION OF THE ENGINEER.

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 PLOTTER: MS-Designer-Mono-TR-MDOT
 PLOT DATE/TIME: 05/12/1999 10:30:00

NO	DATE	BY	CHKD	APPR	REVISION



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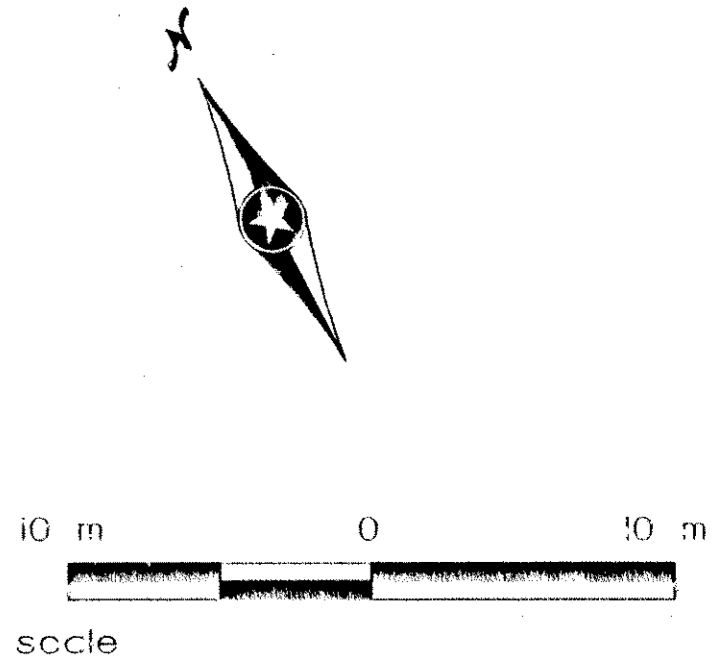
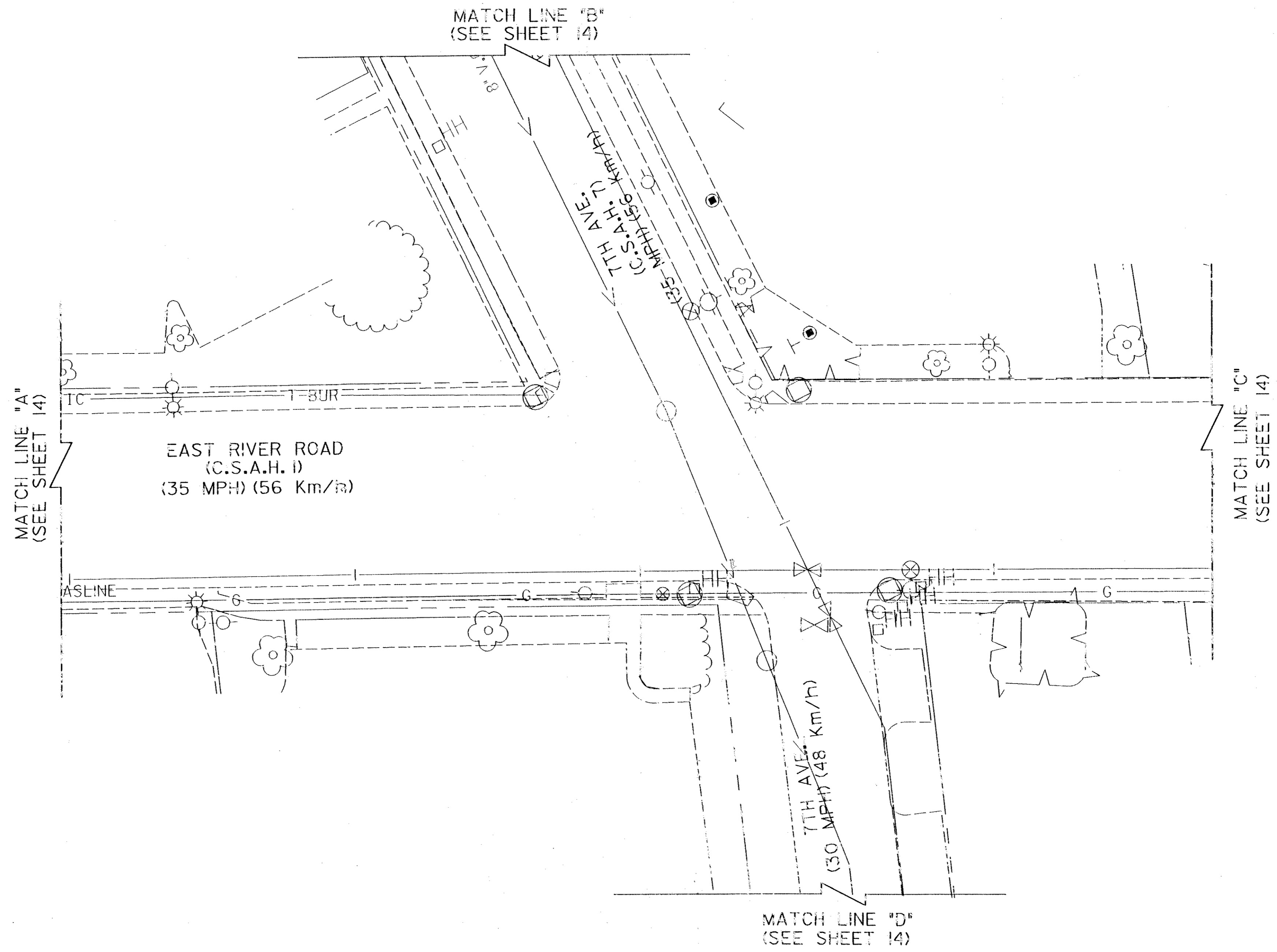
Date: _____ Reg. No. _____

COUNTY PROJECT NO. S.A.P. 02-601-38
 CITY PROJECT NO. S.A.P. 101-13-01
 DRAWN BY P. ZAGER DATE 5-98
 DESIGNED BY P. ZAGER DATE 5-98
 CHECKED BY G. STEMPER DATE 5-98
 COMM. NO. 0972586



ANOKA COUNTY
 SIGNING AND STRIPING LAYOUT
 C.S.A.H. 1 SIGNAL RECONSTRUCTION
 C.S.A.H. 1 AT C.S.A.H. 7 / 7TH AVENUE

SHEET
 12
 OF
 14



DESIGN FILE: P:\CIVIL\008\2586\Auto-586.dgn
 PLOT DATE: 05/12/1999 10:31:09
 PLOTTED: MS-DOS Plot-Mono-FR-WNDOT
 PLOT FILE: P:\CIVIL\008\2586\Plot73422\Auto-586.plt

NO.	DATE	BY	CHKD	APPR	REVISION



I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.

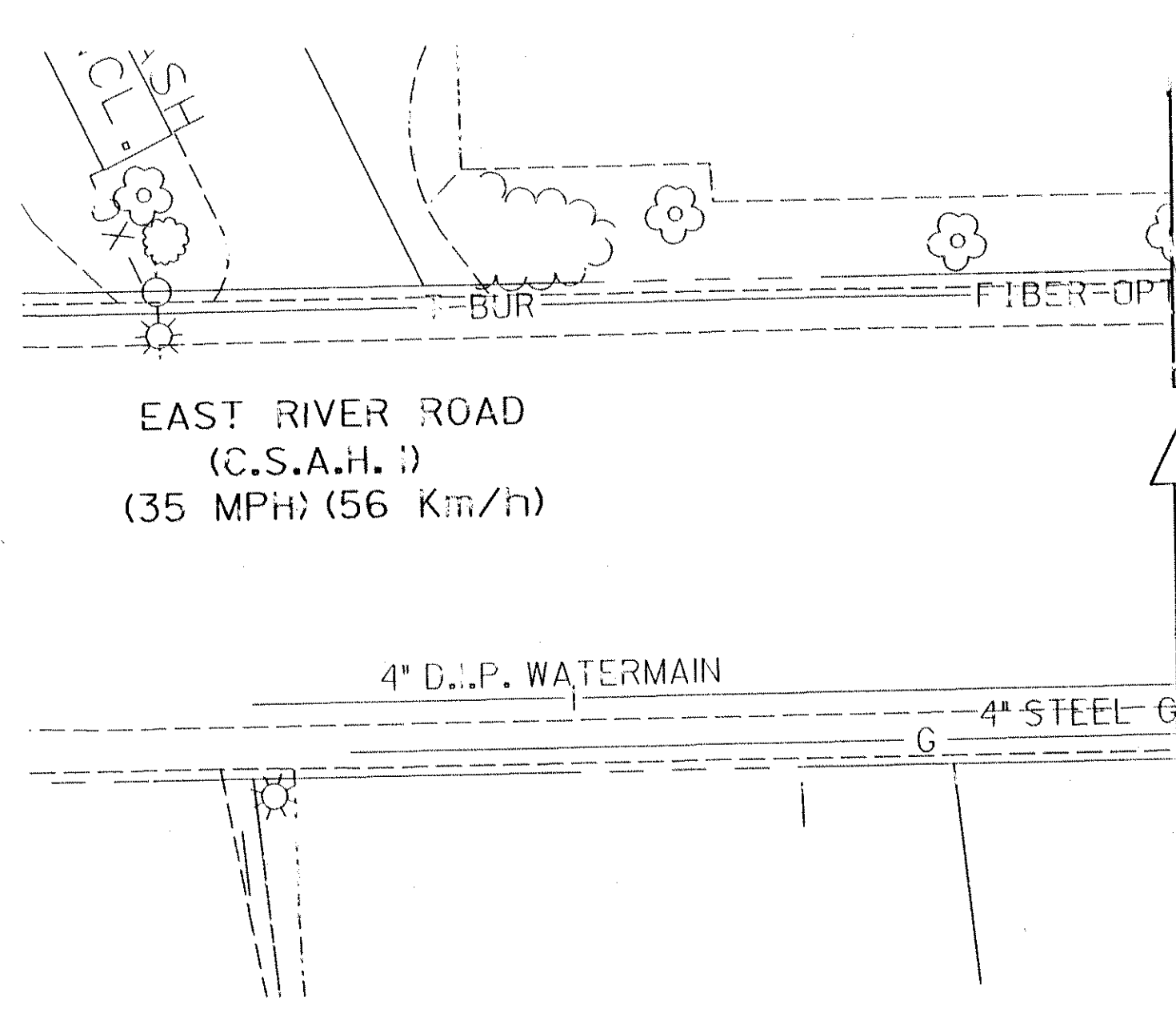
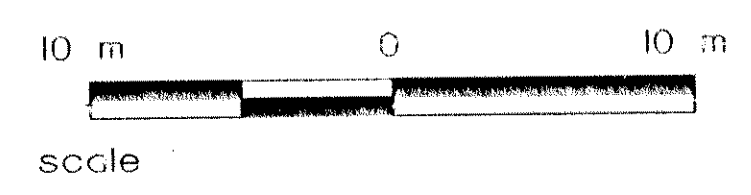
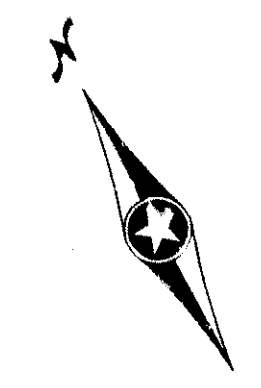
Date: _____ Reg. No. _____

COUNTY PROJECT NO.	S.A.P. 02-601-38	CITY PROJECT NO.	S.A.P. 03-13-0
DRAWN BY	P. ZAGER	CHECKED BY	G. STUEMPF
DATE	5-98	DATE	5-98
COMM. NO.	0972586		



ANOKA COUNTY
 UTILITY LAYOUT "A"
 C.S.A.H. 1 SIGNAL RECONSTRUCTION
 C.S.A.H. 1 AT C.S.A.H. 7 / 7TH AVENUE

SHEET
 13
 OF
 14

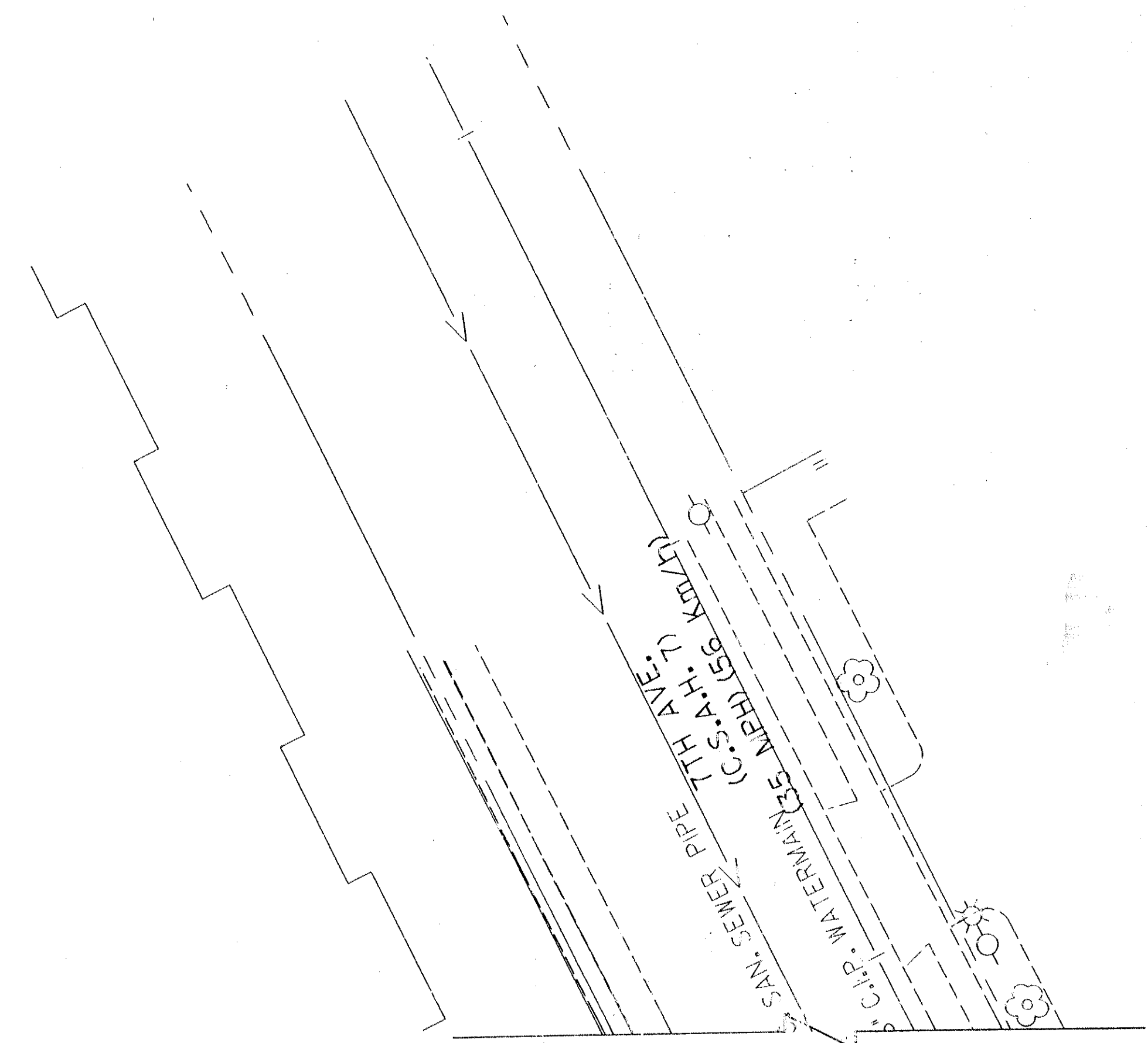


EAST RIVER ROAD
(C.S.A.H. 1)
(35 MPH) (56 Km/h)

4" D.I.P. WATERMAIN

4" STEEL G

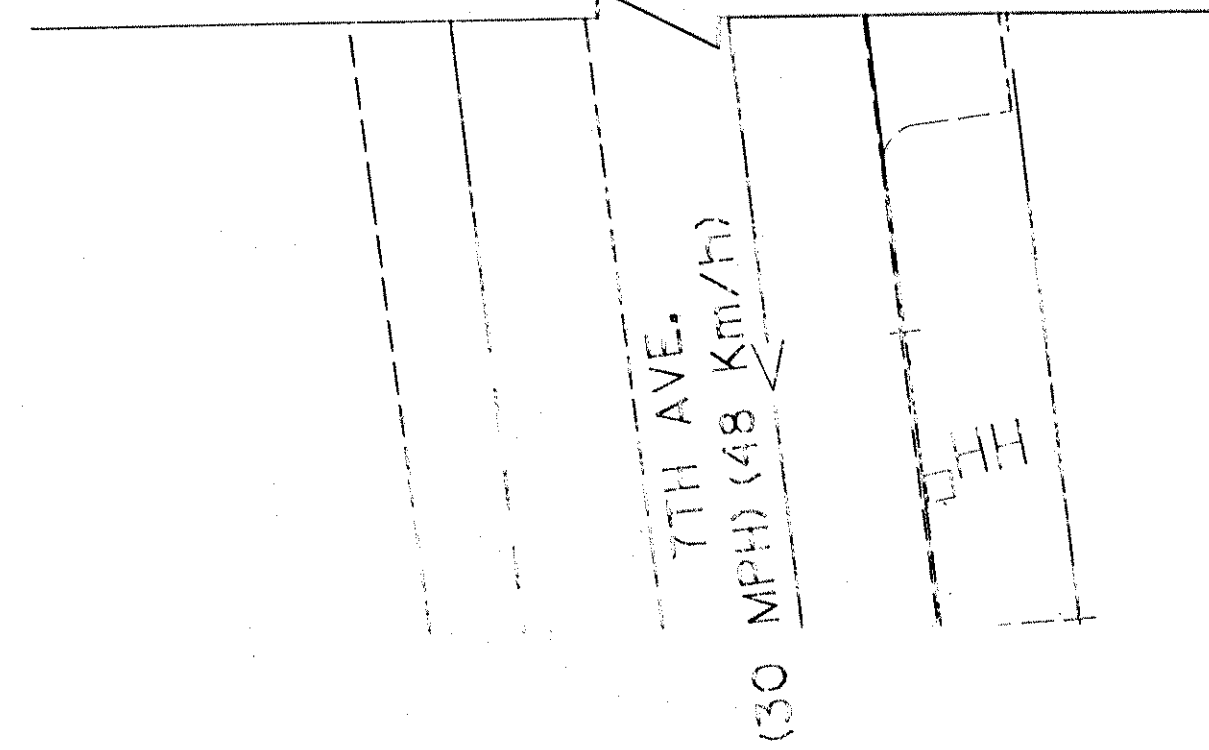
MATCH LINE "A"
(SEE SHEET 13)



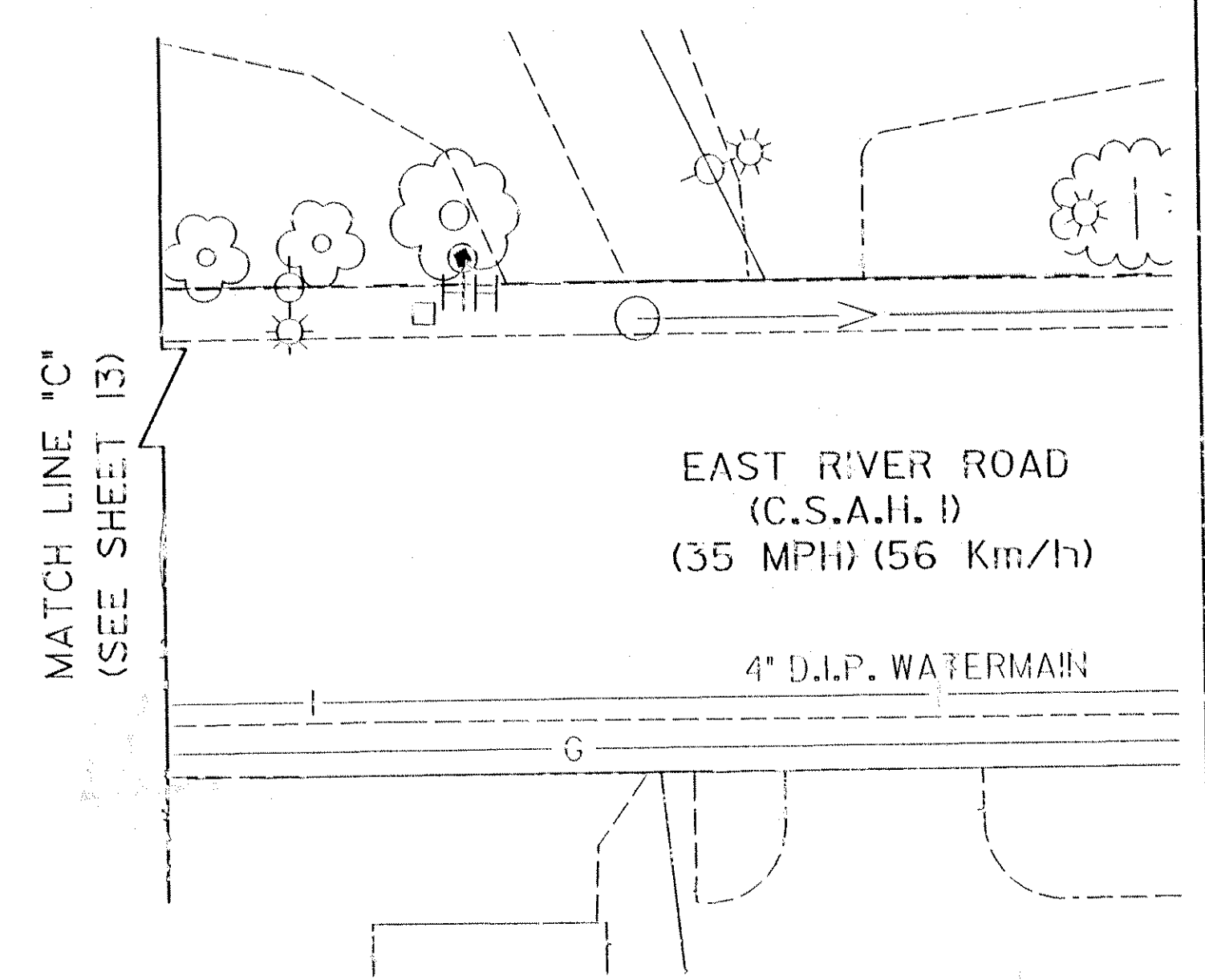
7TH AVE.
(C.S.A.H. 7)

MATCH LINE "B"
(SEE SHEET 13)

MATCH LINE "D"
(SEE SHEET 13)



7TH AVE.
(48 Km/h)
(30 MPH)



EAST RIVER ROAD
(C.S.A.H. 1)
(35 MPH) (56 Km/h)

4" D.I.P. WATERMAIN

MATCH LINE "C"
(SEE SHEET 13)

DESIGN FILE: P:\CIVIL\1008\2586\ut0-586.dgn
 PLOT FILE: P:\CIVIL\1008\2586\pr134x22\ut0-586.plt
 PLOTTER: MS-DesignJet-Mono-FR-MD07
 PLOT DATE/TIME: 05/12/1999 10:31:59

NO.	DATE	BY	CHKD	APPR	REVISION



I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.

Date: _____ Reg. No. _____

COUNTY PROJECT NO. S.A.P. 02-601-38
CITY PROJECT NO. S.A.P. 03-13-01

DRAWN BY P. ZAGER DATE 5-98
DESIGNED BY P. ZAGER 5-98
CHECKED BY G. STUEMPER 5-98
COMM. NO. 2912586



ANOKA COUNTY
UTILITY LAYOUT "B"
C.S.A.H. 1 SIGNAL RECONSTRUCTION
C.S.A.H. 1 AT C.S.A.H. 7 / 7TH AVENUE

SHEET 14 OF 14