

MINNESOTA DEPARTMENT OF TRANSPORTATION

ANOKA COUNTY

CONSTRUCTION PLAN FOR _____ MILL BITUMINOUS SURFACE, BITUMINOUS SURFACING, DRAINAGE, CURB & GUTTER, AND SIGNAL SYSTEM

LOCATED ON C.S.A.H. 2 BETWEEN CSAH 1 (EAST RIVER RD.) AND CSAH 102 (MAIN ST.)

COUNTY PROJ. NO. 10-15-02

C.S.A.H. 2

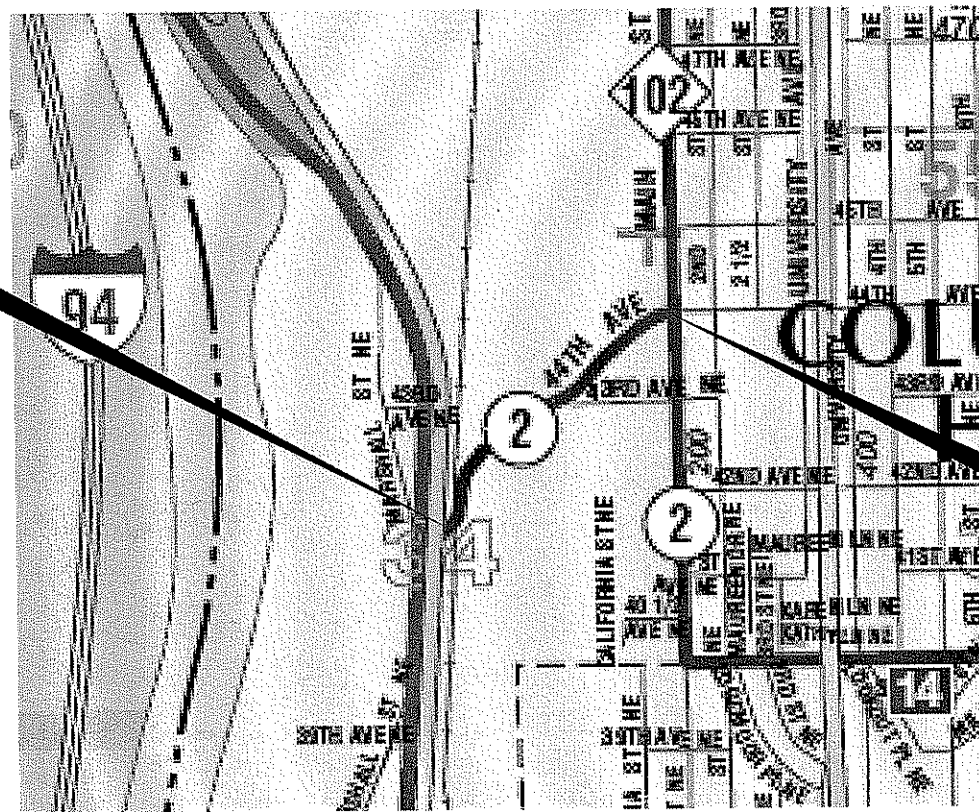
GROSS LENGTH	2860 FEET	0.542 MILES
BRIDGES-LENGTH	1222 FEET	0.231 MILES
EXCEPTIONS-LENGTH	0.00 FEET	0.000 MILES
NET LENGTH	1638 FEET	0.311 MILES



CITY OF FRIDLEY

BEGIN COUNTY PROJECT 10-15-02
C.S.A.H. 8 STA. 10+00

END COUNTY PROJECT 10-15-02
C.S.A.H. 8 STA. 38+60



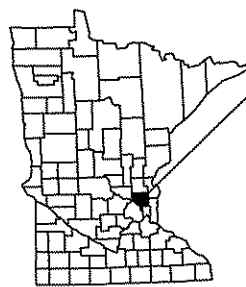
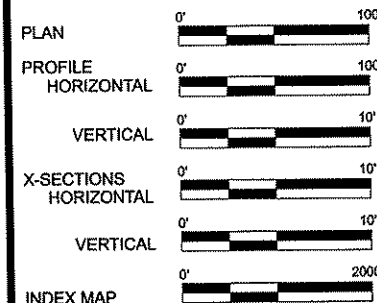
PLAN SYMBOLS

- COUNTY LINE _____
- TOWNSHIP OR RANGE LINE _____
- SECTION LINE _____
- QUARTER LINE _____
- SIXTEENTH LINE _____
- RIGHT OF WAY LINE _____
- SLOPE EASEMENT _____
- EXISTING RIGHT OF WAY _____
- PROPERTY LINE _____
- CORPORATE OR CITY LIMITS _____
- RETAINING WALL _____
- RAILROAD _____
- RAILROAD RIGHT OF WAY _____
- RIVER OR CREEK _____
- DRAINAGE DITCH _____
- CULVERT _____
- DROP INLET _____
- GUARD RAIL _____
- BARBED WIRE FENCE _____
- WOVEN WIRE FENCE _____
- CHAIN LINK FENCE _____
- WOOD FENCE _____
- STONE WALL OR FENCE _____
- HEDGE _____
- LOWLAND _____
- TIMBER _____
- ORCHARD _____
- BRUSH _____
- NURSERY _____
- 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 _____
- 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

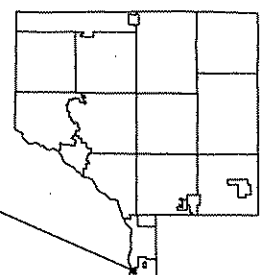
- POWER POLE LINE _____
- TELEPHONE OR TELEGRAPH POLE LINE _____
- JOINT TELEPHONE & POWER ON POWER POLES _____
- ON TELEPHONE POLES _____
- ANCHOR _____
- STEEL TOWER _____
- STREET LIGHT _____
- PEDESTAL (Cable Terminal) _____
- GAS MAIN _____
- WATERMAIN _____
- TELEPHONE CABLE IN CONDUIT _____
-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

SCALES



PROJECT LOCATION

CITY OF FRIDLEY
ANOKA COUNTY
MN/DOT TRANSPORTATION DISTRICT - METRO
SECTION 34
TOWNSHIP 30 NORTH
RANGE 24 WEST



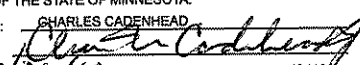
GOVERNING SPECIFICATIONS
THE 2005 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE INSTALLED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MNMUTCD), AND PAR VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS."

INDEX


SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	STATEMENT OF ESTIMATED QUANTITIES,
3	TYPICAL SECTIONS
4	MISCELLANEOUS DETAILS
5	CONSTRUCTION STAGING PLAN
6	SIGNAL LOOP DETAIL
7	SIGNING & STRIPING PLAN
7A-7B	MISCELLANEOUS SIGNAL SHEETS

Approved 3/26/10 
ANOKA COUNTY ENGINEER

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 LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
PRINT NAME: CHARLES CADENHEAD
SIGNATURE: 
DATE: 3/26/10 LICENSE NO. 40416

DRAWN BY: KPR DATE: 3/1/10
DESIGN BY: KPR DATE: 3/1/10
CHECKED BY: JO DATE: _____


ANOKA COUNTY
HIGHWAY DEPT.

COUNTY PROJECT NO. 10-15-02

TITLE SHEET
Sheet 1 of 7B Sheets

CSAH 2		STATEMENT OF ESTIMATED QUANTITIES			
TAB NO.	ITEM NO.	ITEM	NOTE OR TAB NO.	UNIT	TOTAL EST. QUANT.
	2021.501	MOBILIZATION		LUMP SUM	1
A	2104.501	REMOVE CONCRETE CURB AND GUTTER	9	LIN FT	60
A	2104.505	REMOVE BITUMINOUS PAVEMENT	9	SQ YD	13
A	2104.511	SAWING CONCRETE PAVEMENT (FULL DEPTH)	9	LIN FT	18
A	2104.513	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)	9	LIN FT	72
	2232.501	MILL BITUMINOUS SURFACE (2.0")	1,7,11	SQ YD	9688
A	2357.502	BITUMINOUS MATERIAL FOR TACK COAT	4	GALLON	484
	2360.501	TYPE SP 12.5 WEARING COURSE MIX (4,E) (WITHOUT SCRAP SHINGLES)		TON	1114
	2360.602	TYPE SP 12.5 WEARING COURSE MIX (4,E) (WITH SCRAP SHINGLES) ALTERNATE BID	13	TON	1114
A	2360.609	TYPE LV3 NON-WEAR COURSE MIX FOR CB PATCH (LVNW35030 B)	9	TON	3
A	2506.503	RECONSTRUCT DRAINAGE STRUCTURE	6,8,9	LIN FT	1.7
A,B	2506.516	CASTING ASSEMBLY	9	EACH	3
A	2506.602	GROUT CATCH BASIN OR MANHOLE	9	EACH	6
A	2531.501	CONCRETE CURB AND GUTTER DESIGN B618	6,9	LIN FT	60
	2563.601	TRAFFIC CONTROL		LUMP SUM	1
	2563.610	POLICE OFFICER		HOUR	8
	2565.602	LOOP DETECTOR 6' X 6'	2	EACH	6
A	2575.604	EROSION CONTROL BLANKET	9,10	SQ YD	26
	2581.501	REMOVABLE PREFORM PLASTIC MARKINGS	5	LIN FT	200
	2582.502	4" SOLID LINE WHITE - EPOXY	3	LIN FT	6252
	2582.502	4" SOLID LINE YELLOW - EPOXY	3	LIN FT	1078
	2582.502	4" DOUBLE YELLOW-EPOXY	3	LIN FT	2738
	2582.602	PAVEMENT MESSAGE (LT/THRU/RT ARROW)- PREFORMED THERMOPLASTIC	3	EACH	2
	2582.602	PAVEMENT MESSAGE (LT ARROW)- PREFORMED THERMOPLASTIC	3	EACH	3
	2582.602	PAVEMENT MESSAGE (RT ARROW)- PREFORMED THERMOPLASTIC	3	EACH	1
	2582.602	PAVEMENT MESSAGE (THRU ARROW)- PREFORMED THERMOPLASTIC	3	EACH	1
	2582.603	24" SOLID LINE WHITE- PREFORMED THERMOPLASTIC	3	LIN FT	210
	2582.603	24" SOLID LINE YELLOW- PREFORMED THERMOPLASTIC	3	LIN FT	79
	2582.618	3' X 6' ZEBRA CROSSWALK- PREFORMED THERMOPLASTIC	3	SQ FT	594

NOTES:

- 1 MILL AREAS TO BE MARKED BY ENGINEER.
- 2 CONTRACTOR MUST REQUEST LOOP LOCATIONS 48 HOURS PRIOR TO MILLING AND REPLACE ONLY IF DAMAGED DURING MILLING OPERATION.
- 3 MARKINGS SHALL BE PLACED WITH IN 72 HOURS OF FINAL MAINLINE PAVING.
- 4 TACK FOR MILLED BITUMINOUS AREAS. EST. AT 0.05 GAL / SQ YD.
- 5 TEMP LANE TAPE SKIPS TO BE PLACED ON NEW MAT AT END OF EACH PAVING DAY.
- 6 AGGREGATE BASE CLASS 7B USED FOR COMPACTING AROUND CB'S IS INCIDENTAL TO RECONSTRUCT.
- 7 MAINLINE MILLING INCLUDES DETAIL MILLING AROUND MANHOLES, GATE VALVES, AND ALL STRUCTURES IN BIT. PAVEMENT AREA TO BE MILLED.
- 8 ALL MANHOLES SHALL BE LOCATED AND PROTECTED AT ALL TIMES DURING MILLING AND PAVING OPERATIONS. CONTRACTORS RESPONSIBILITY
- 9 SEE CB REPAIR DETAIL.
- 10 SEED, FERTILIZER, TOPSOIL AT ALL CB REPAIRS ARE INCIDENTAL TO EROSION CONTROL BLANKET.
- 11 AT GATE VALVES AND MANHOLES MILL 1 1/2" INCHES TAPER TO 2 INCHES.
- 12 DO NOT PASS, PASS WITH CARE, NO CENTER STRIPE, STOP HERE ON RED, BUMP AND BUMP AHEAD SIGNS TO BE INPLACE DURING MILL AND PAVING OPERATIONS.
- 13 TEAR OFF SCRAP SHINGLES SHALL BE INCLUDED IN THE WEARING MIXTURE AT 5% OF THE TOTAL WEIGHT OF MIXTURE. SEE SPECIAL PROVISIONS.

ITEM NO.

BASIS OF PLANNED QUANTITIES

2357.502	BITUMINOUS MATERIAL FOR TACK COAT	.05 GAL / SQ YD
2360.501	TYPE SP 12.5 WEARING COURSE MIX (4,E)	(SQ YD * IN. *115 LBS)/2000 = TONS
2360.609	TYPE LV3 NON-WEAR COURSE MIX FOR CB PATCH (LVNW35030 B)	(SQ YD * IN. *115 LBS)/2000 = TONS
2581.501	REMOVABLE PREFORM PLASTIC MARKINGS	(PROJECT LENGTH / 50) * 4

STANDARD PLATE DETAIL

PLATE NO. DESCRIPTION

4006L	MANHOLE OR CATCH BASIN	4126F	CATCH BASIN FRAME CASTING
4010H	CONCRETE SHORT CONE AND ADJUSTING RING	4161F	CURB BOX CASTING FOR CATCH BASIN
4020J	MANHOLE OR CATCH BASIN	4149C	CATCH BASIN GRATE CASTING
4026A	CONCRETE ENCASED CONCRETE ADJUSTING RINGS	7100H	CONCRETE CURB AND GUTTER
4101D	RING CASTING FOR MANHOLE OR CATCH BASIN	7111J	INSTALLATION OF CATCH BASIN CASTINGS
4110F	COVER CASTING FOR MANHOLE	8000I	STANDARD BARRICADES

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:110-01-00CSAH_2 (EastRR-Main)Plan2 Seq.dgn 3/19/2010 3:12:51 PM

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

PRINT NAME: CHARLES CADENHEAD

SIGNATURE: *[Signature]*

DATE: 3/26/10 LICENSE NO. 40416

DRAWN BY: KPR DATE: 3/1/10

DESIGN BY: KPR DATE: 3/1/10

CHECKED BY: JO DATE:



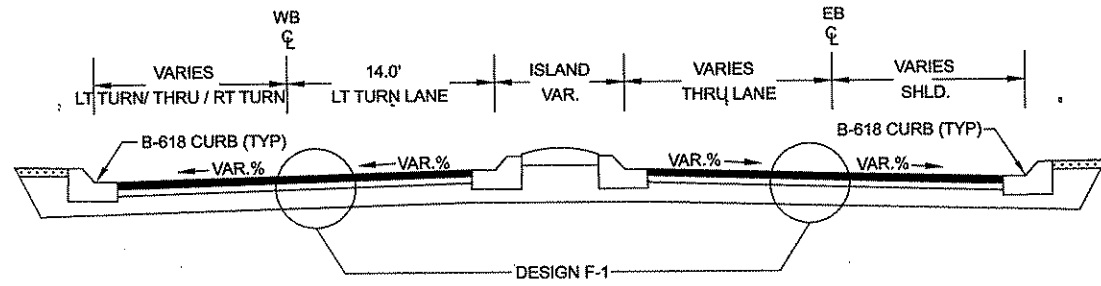
ANOKA COUNTY
HIGHWAY DEPT.

COUNTY PROJECT NO. 10-15-02

STATEMENT OF ESTIMATE QUANTITIES
Sheet 2 of 7B Sheets

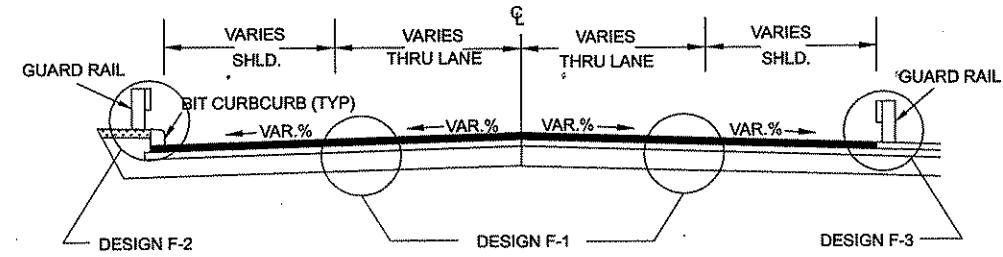
TYPICAL SECTION

STA. 10+00 - STA. 12+30



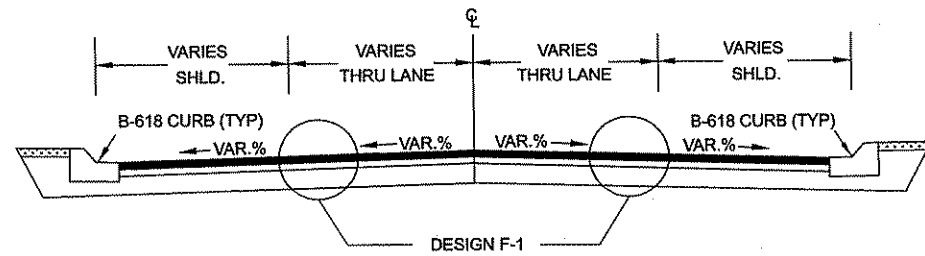
TYPICAL SECTION

STA. 29+65 - STA. 36+50



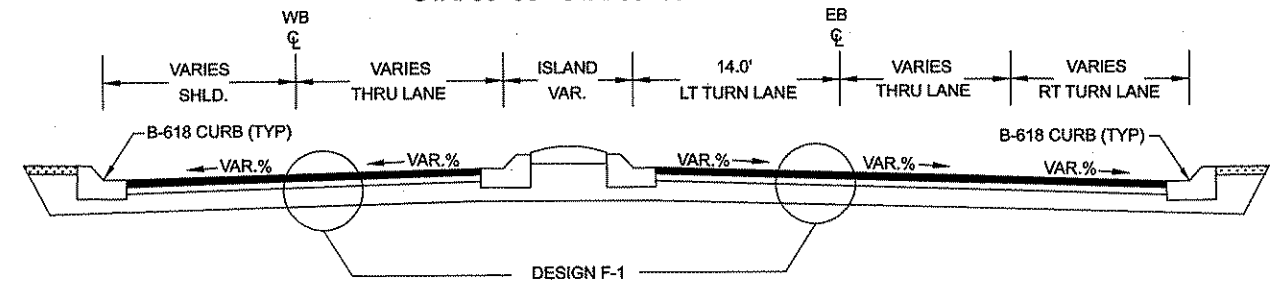
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STA. 12+30 - STA. 17+50

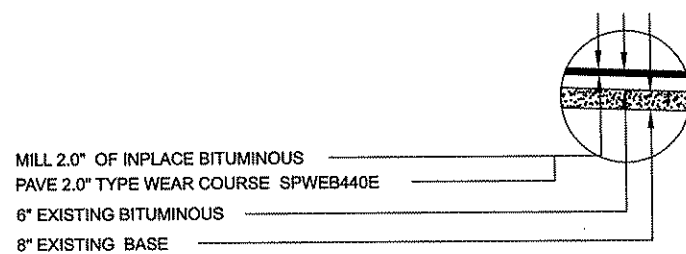


TYPICAL SECTION

STA. 36+50 - STA. 38+60

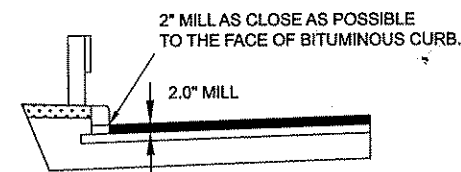


DESIGN F-1



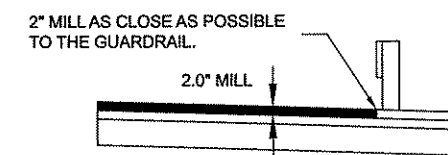
DESIGN F-2

EAST SIDE OF C.S.A.H. 2 BRIDGE
STA. 29+65 TO STA. 33+50



DESIGN F-3

EAST SIDE OF C.S.A.H. 2 BRIDGE
STA. 29+65 TO STA. 33+50

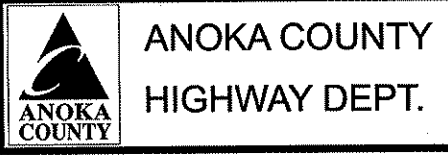


NO	DATE	BY	CKD	APPR	REVISION

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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 LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 PRINT NAME: CHARLES CADENHEAD
 SIGNATURE: *[Signature]*
 DATE: 3/8/10 LICENSE NO. 40416

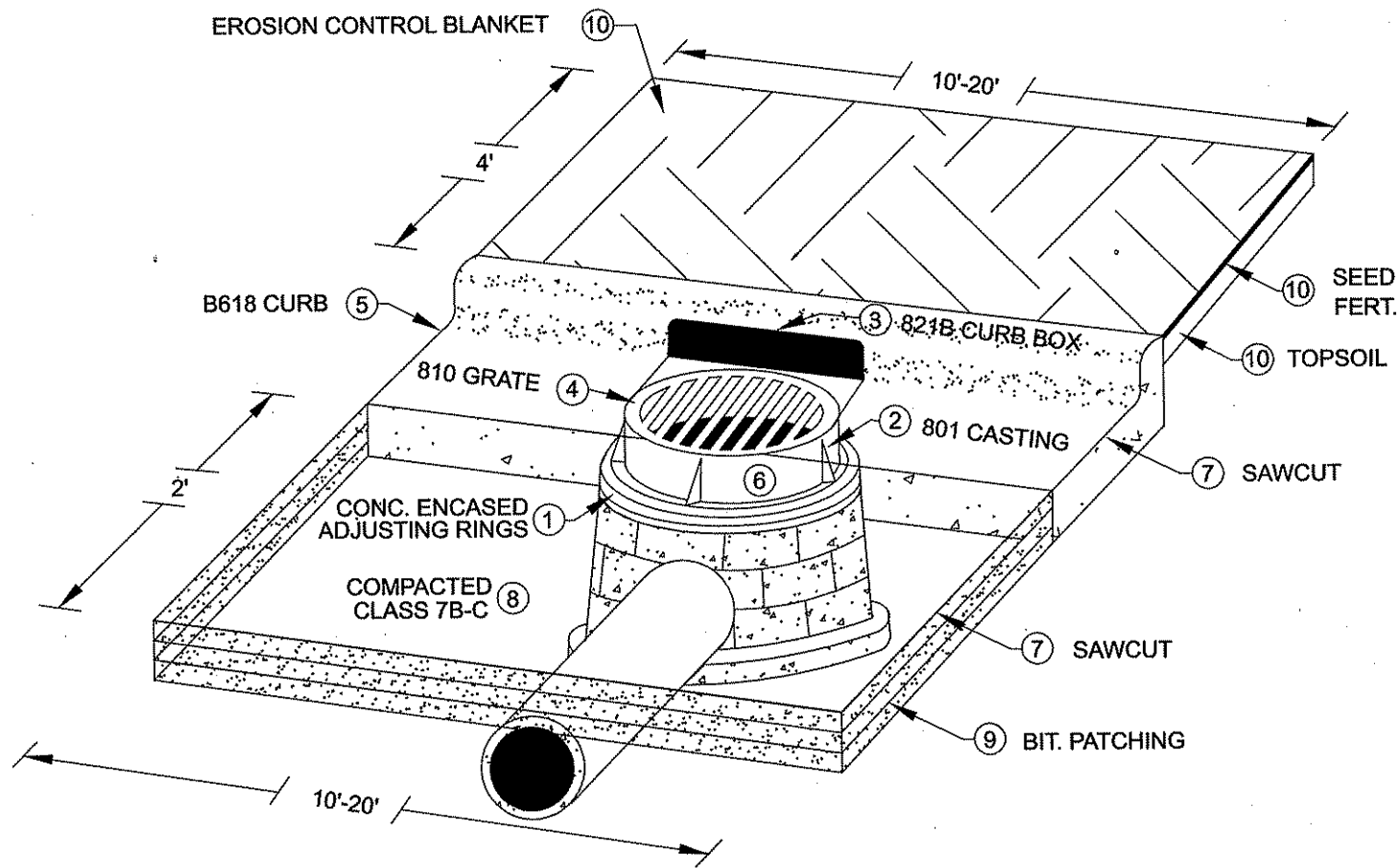
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COUNTY PROJECT NO. 10-15-02

TYPICALS
 Sheet 3 of 7B Sheets

C.B. REPAIR DETAIL



NOTES.. FOR TRAFFIC CONTROL AT CATCH BASIN REPAIRS REFER TO THE MINNESOTA MANUAL ON TEMPORARY TRAFFIC CONTROL LAYOUTS FIELD MANUAL. REFER TO MINNESOTA STANDARD PLATES MANUAL FOR THE FOLLOWING...

- ① CONCRETE ENCASED CONCRETE ADJUSTING RINGS STANDARD PLATE 4026A
- ② RING AND FRAME CASTING 801 STANDARD PLATE 4126F
- ③ CURB BOX 821B STANDARD PLATE 4161F
- ④ GRATE CASTING 810 STANDARD PLATE 4149C
- ⑤ CONCRETE CURB AND GUTTER DESIGN B STANDARD PLATE 7100G
- ⑥ INSTALLATION OF CATCH BASIN CASTINGS STANDARD PLATE 7111J
- ⑦ SAWCUT BIT./CONCRETE BUS PADS/CONCRETE CURB FULL DEPTH.
- ⑧ ADD AND COMPACT CL-7B-C AROUND REPAIRED STRUCTURE.
- ⑨ REMOVE VAR. DEPTH BITUMINOUS 3"-7" / PATCH 2-LIFTS OF BITUMINOUS.
- ⑩ REPLACE DISPLACED TOPSOIL- SEED, FERT. AND COVER WITH EROS. BLANKET. SEED, FERT. AND TOPSOIL INNcidental TO BLANKET.

A. STRUCTURE REPAIRS															
STRUCTURE	STATION	LOC.			SAW BIT.	REMOVE BIT.	REPLACE BIT.	SAW CONC.	EROSION CONT.	REMOVE CONC.	REPLACE B618	CASTING	GROUT	RECONSTRUCT DRAINAGE STR.	ACTION
					PAVEMENT	PAVEMENT	PAVEMENT	PAVEMENT	BLANKET	CURB	C-&G				
101	10+59	35	RT		LF	SY	TON	LF	SY	LF	LF		1		GROUT
102	11+00	35	LT		24	4.4	1	6	8.8	20	20	1		0.5	RE-RING / GROUT
103	12+32	35	LT		24	4.4	1	6	8.8	20	20	1		0.7	RE-RING / GROUT
103A	11+30	35	RT										1		GROUT
104	12+30	30	RT		24	4.4	1	6	8.8	20	20	1		0.5	RE-RING / GROUT
105	34+90	38	RT										1		GROUT
106	37+53	32	RT										1		GROUT
107	37+53	40	LT										1		GROUT
108	33+00	32	LT										1		GROUT
TOTALS					72	13	3	18	26	60	60	3	6	1.7	

B. SCHEDULE OF CASTINGS				
ASSEMBLY	CASTING	GRATE	CURB BOX	QTY.

NOTES.. FOR TRAFFIC CONTROL AT MANHOLES REFER TO MINNESOTA TEMPORARY CONTROL ZONE LAYOUTS FIELD MANUAL.

- 1 ALL CASTING HEIGHTS ARE TO BE DETERMINED IN THE FIELD.
- 2 ALL MANHOLE CASTINGS NEED TO HAVE "SANITARY SEWER" OR "WATER" STAMPED ON THEM.
- 3 CONCRETE ENCASED CONCRETE ADJUSTING RINGS STANDARD PLATE 4026A.
- 4 STR. 105 CONDITION IS UNKNOWN DUE TO ITS LOCATION OFF THE ROAD.

NOTE: NOT TO SCALE

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\10-01-00\CSAH_2_(EastRR-Main)\Plan\det.dgn 3/8/2010 10:48:25 AM

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 PRINT NAME: CHARLES CADENHEAD
 SIGNATURE: *[Signature]*
 DATE: 3/26/10 LICENSE NO. 4046

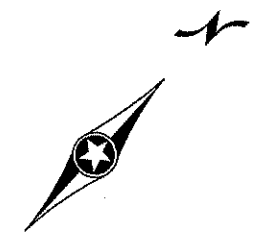
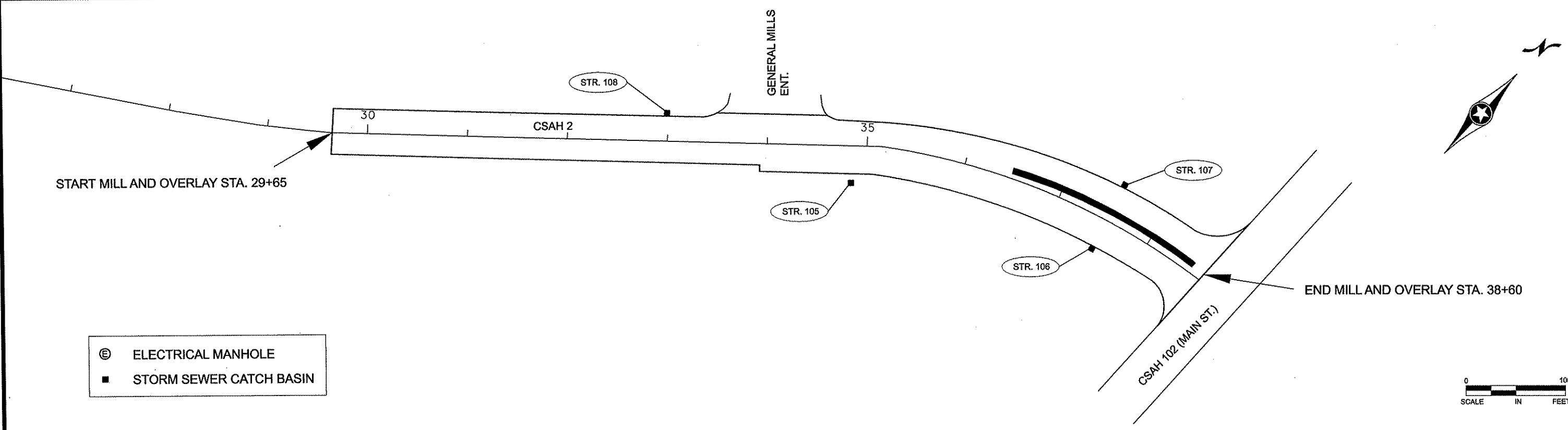
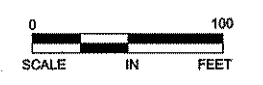
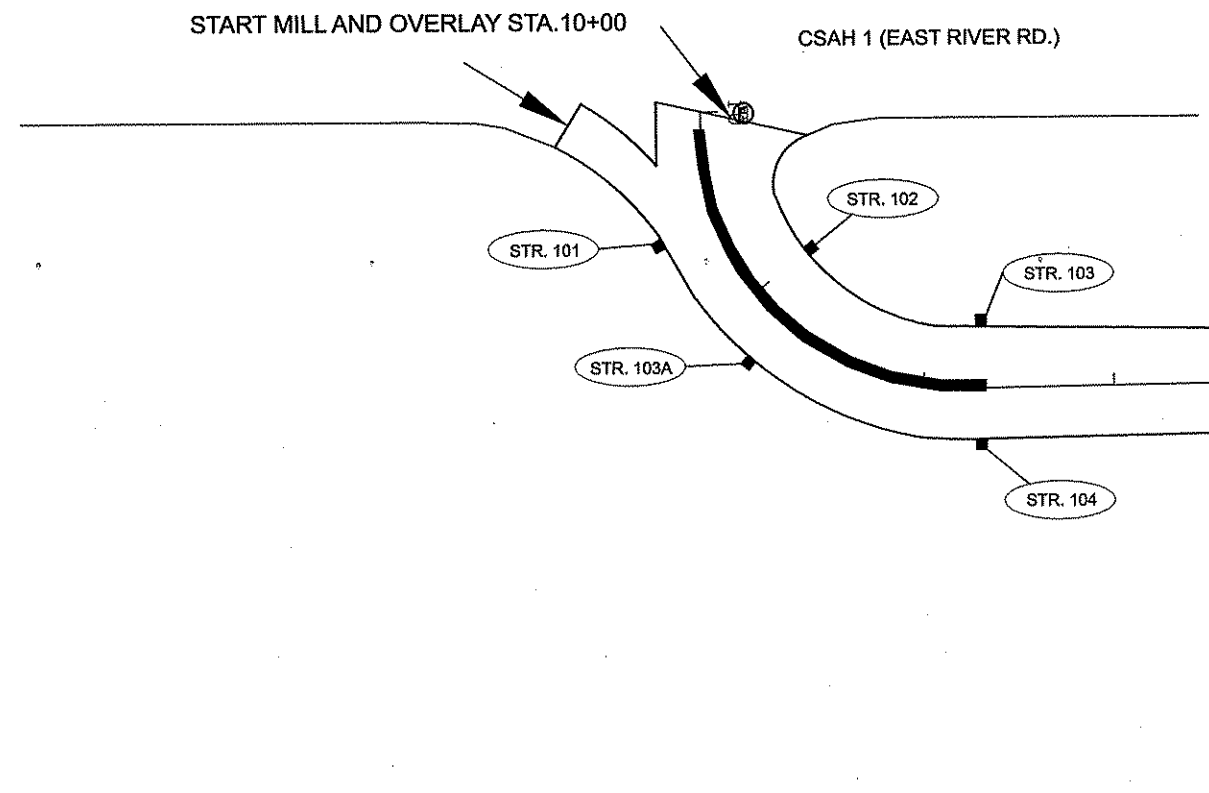
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 DESIGN BY: KPR DATE: 3/1/10
 CHECKED BY: JO DATE:



ANOKA COUNTY
HIGHWAY DEPT.

COUNTY PROJECT NO. 10-15-02

MISCELLANEOUS DETAILS
 Sheet 4 of 7B Sheets



- ⊕ ELECTRICAL MANHOLE
- STORM SEWER CATCH BASIN

NO	DATE	BY	CKD	APPR	REVISION


NAME: P:\10-01-00\CSAH_2_(EastRR-Main)\Plan\3 plan sheet 1.dgn 3/8/2010 10:50:01 AM

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

PRINT NAME: CHARLES CADENHEAD
 SIGNATURE: *Charles Cadenhead*
 DATE: 3/26/10 LICENSE NO. 40416

DRAWN BY: KPR DATE: 3/1/10
 DESIGN BY: KPR DATE: 3/1/10
 CHECKED BY: JO DATE: _____

ANOKA COUNTY
HIGHWAY DEPT.

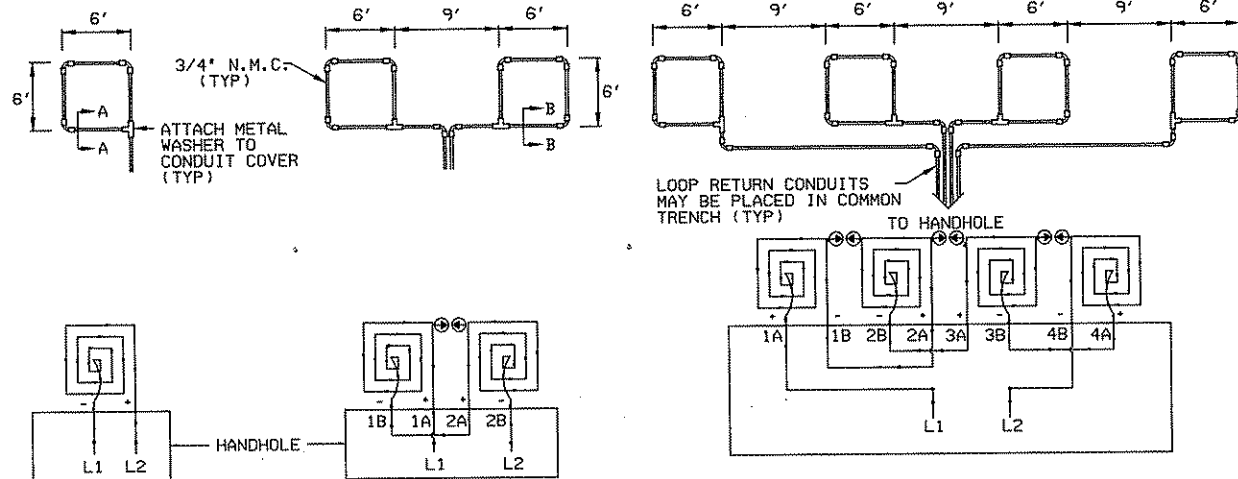


COUNTY PROJECT NO. 10-15-02

CONSTRUCTION PLAN

Sheet 5 of 7B Sheets

ANOKA COUNTY SIGNAL LOOP DETAIL



**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 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)

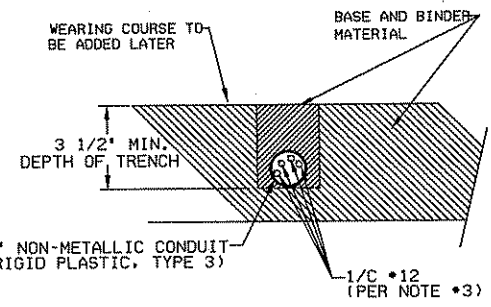
**LOOP DETECTOR
DETAIL 'C'**
(LOOP PHASING FOR
SERIES CONNECTION)

ABBREVIATIONS			
3-1(EG)	SIGNAL HEAD PHASE '3' - NO. '1'	P2-1(EG)	PED INDICATION PHASE '2' - NO. '1'
BR. GR.	BARE GROUND	PB	PUSH BUTTON
CH. SV.	CHECK SWITCH	PB2-1(EG)	PUSH BUTTON PHASE '2' - NO. '1'
CLR	CLEAR	PEC	PHOTODELECTRIC CELL
D2-1(EG)	DETECTOR PHASE '2' - NO. '1'	PED	PEDESTRIAN
DWK	DON'T WALK	R	RED
EQG	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	SVD	SWITCHED
HH	HANDHOLE	S&R	SALVAGE AND REINSTALL
HPS	HIGH PRESSURE SODIUM	TDW	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

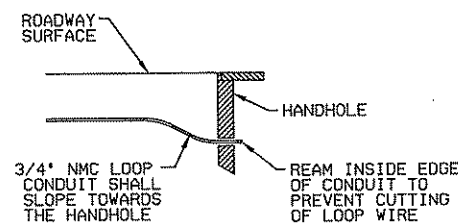
LEGEND OF SYMBOLS	
CONTROLLER AND SERVICE EQUIP. NO'S	(Symbol)
SIGNAL BASE NO.	(Symbol)
SIGNAL FACE NO.	(Symbol)
LUMINAIRE NO.	(Symbol)
CONTROLLER AND CABINET	(Symbol)
CONTROLLER AND CABINET - IN PLACE	(Symbol)
HANDHOLE	(Symbol)
HANDHOLE - IN PLACE	(Symbol)
RIGID STEEL CONDUIT (RSC) - IN PLACE	(Symbol)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

STANDARD PLATES	
THESE STANDARD PLATES AS APPROVED BY FHWA SHALL APPLY:	
PLATE NO.	DESCRIPTION
7035 L	CONCRETE WALK AND CURB RETURNS AT ENTRANCES
7036 E	PEDESTRIAN CURB RAMP
7100 G	CONCRETE CURB AND GUTTER (DESIGN B)
8110 D	TRAFFIC SIGNAL BRACKETING - POLE MOUNTED
8111 C	TRAFFIC SIGNAL BRACKETING - PEDESTAL MOUNTED
8112 C	PEDESTAL FOUNDATION
8114 A	PVC HANDHOLE/PULLBOX
8115 D	PEDESTRIAN PUSH BUTTON INSTALLATION
8118 C	SERVICE EQUIPMENT AND POLE-TRAFFIC CONTROL SIGNALS
8119 C	GROUND MOUNTED CABINET FOUNDATION
8120 K	P&B POLE FOUNDATION
8121 D	TRANSFORMER BASE AND POLE BASE PLATE
8122 C	PEDESTAL AND PEDESTAL BASE
8123 E	POLE AND MAST ARM
8124 E	MAST ARM SIGNAL HEAD MOUNTS
8126 F	PA90 AND PA100 POLE FOUNDATION

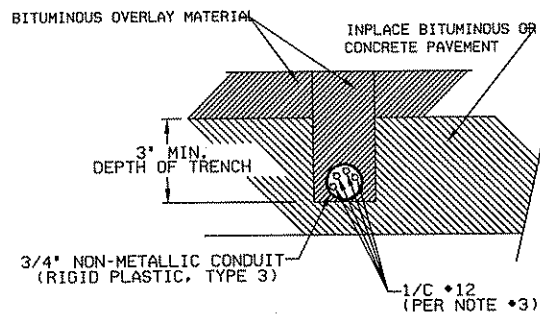
CONDUCTOR COLOR CODE	
R	RED
O	ORANGE
BL	BLUE
WH	WHITE
R/BLK	RED WITH BLACK TRACER
O/BLK	ORANGE WITH BLACK TRACER
BL/BLK	BLUE WITH BLACK TRACER
WH/BLK	WHITE WITH BLACK TRACER
BLK	BLACK
BLK/WH	BLACK WITH WHITE TRACER
G/BLK	GREEN WITH BLACK TRACER
G	GREEN



SECTION A-A
DETAIL FOR LOOP INSTALLATION
IN NEW ROADWAY



DRAINAGE DETAIL



SECTION B-B
DETAIL FOR LOOP INSTALLATION
IN EXISTING ROADWAY

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

NOTE: NOT TO SCALE

NO	DATE	BY	CKD	APPR	REVISION
NAME: P:\10-01-00\CSAH_2_East(RR-Main)\Plan\dtloop.dgn					
3/8/2010 10:45:18 AM					

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

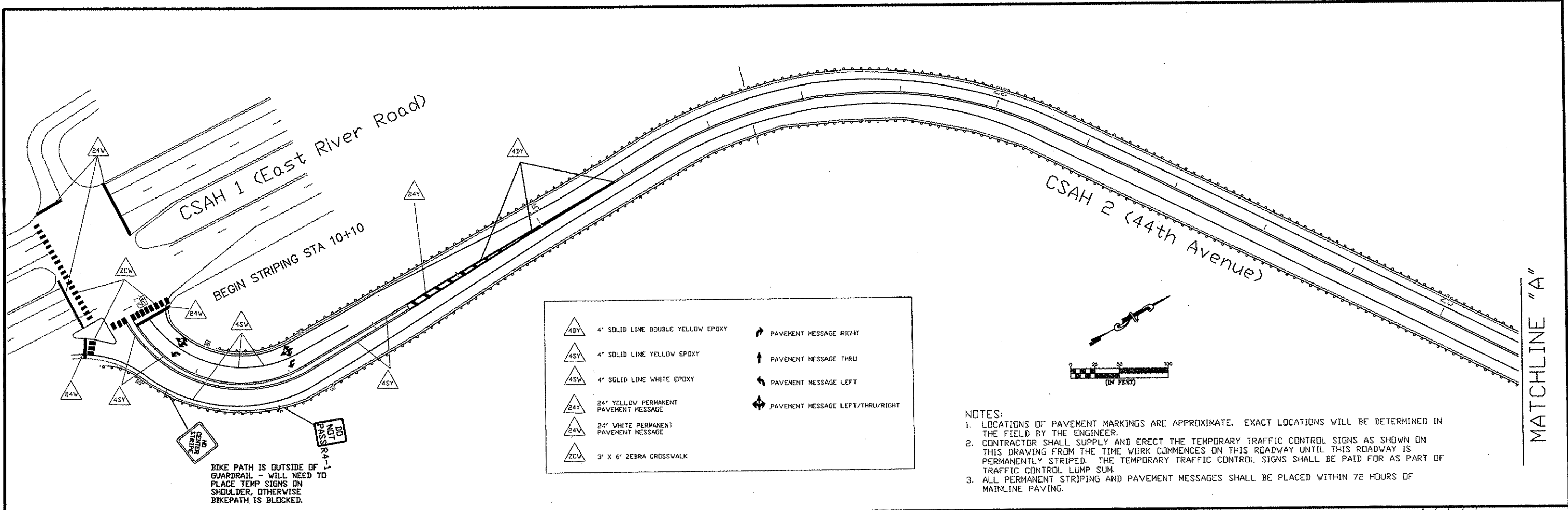
PRINT NAME: CHARLES CADENHEAD
SIGNATURE: *Charles Cadenhead*
DATE: 3/26/10 LICENSE NO. 40416

DRAWN BY: KPR DATE: 3/1/10
DESIGN BY: KPR DATE: 3/1/10
CHECKED BY: JO DATE:

**ANOKA COUNTY
HIGHWAY DEPT.**

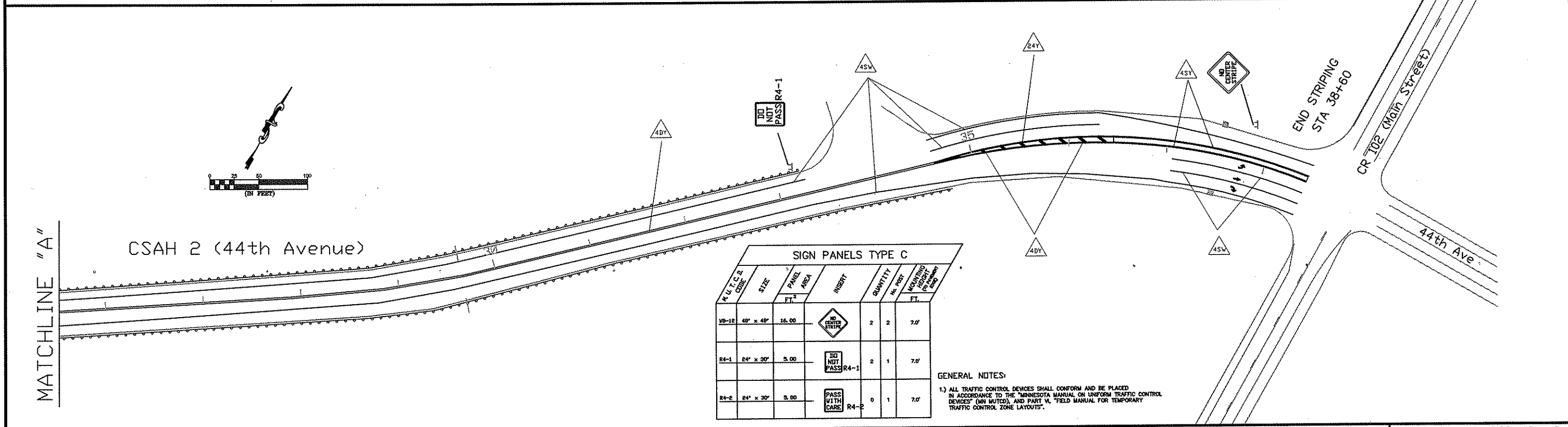
COUNTY PROJECT NO. 10-15-02

SIGNAL LOOP DETAIL
Sheet 6 of 7B Sheets



4DY	4" SOLID LINE DOUBLE YELLOW EPOXY	↗	PAVEMENT MESSAGE RIGHT
4SY	4" SOLID LINE YELLOW EPOXY	↑	PAVEMENT MESSAGE THRU
4SW	4" SOLID LINE WHITE EPOXY	↖	PAVEMENT MESSAGE LEFT
24Y	24" YELLOW PERMANENT PAVEMENT MESSAGE	↔	PAVEMENT MESSAGE LEFT/THRU/RIGHT
24W	24" WHITE PERMANENT PAVEMENT MESSAGE		
ZCW	3' X 6' ZEBRA CROSSWALK		

- NOTES:
1. LOCATIONS OF PAVEMENT MARKINGS ARE APPROXIMATE. EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.
 2. CONTRACTOR SHALL SUPPLY AND ERECT THE TEMPORARY TRAFFIC CONTROL SIGNS AS SHOWN ON THIS DRAWING FROM THE TIME WORK COMMENCES ON THIS ROADWAY UNTIL THIS ROADWAY IS PERMANENTLY STRIPED. THE TEMPORARY TRAFFIC CONTROL SIGNS SHALL BE PAID FOR AS PART OF TRAFFIC CONTROL LUMP SUM.
 3. ALL PERMANENT STRIPING AND PAVEMENT MESSAGES SHALL BE PLACED WITHIN 72 HOURS OF MAINLINE PAVING.



R.U.T.C. & CODE	SIZE	PANEL AREA FT ²	INSERT	QUANTITY	IN PERCENT	INSTALLING (PER 100' OF ROAD)
1B-1E	48" x 48"	16.00	NO STREET SIGN	2	2	7.0'
R4-1	24" x 30"	5.00	DO NOT PASS R4-1	2	1	7.0'
R4-2	24" x 30"	5.00	PASS WITH CARE R4-2	0	1	7.0'

GENERAL NOTES:
 1.) ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE PLACED IN ACCORDANCE TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), AND PART V, FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS.

NO	DATE	BY	CHKD	APPR	REVISION

NAME: T:\Traffic\dwg\CSAH 2\from 44th Av to TH 65.dwg

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 PRINT NAME: Charles Cadenhead
 SIGNATURE: *Charles Cadenhead*
 DATE: 2/22/10 LICENSE NO: 40416

DRAWN BY: MTH DATE: 2/02/10
 DESIGN BY: DATE:
 CHECKED BY: DATE:
 ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

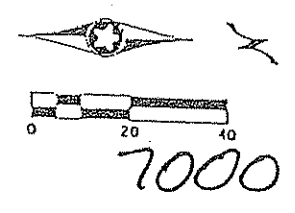
STATE PROJECT NO. _____
 STATE AID PROJECT NO. _____
 CITY PROJECT NO. _____
 COUNTY PROJECT NO. 10-15-02

CSAH 2 (44th Ave)
 TEMPORARY SIGNING
 PERMANENT STRIPING
 AND PAVEMENT MESSAGES
 Sheet 7 of 78 Sheets

LOOP DETECTORS			
NUMBER	SIZE	FUNCTION	LOCATION
D1-1	2-6' x 20'	1	-
D2-1	6' x 6'	1	420'
D2-2	6' x 6'	1	420'
D5-1	2-6' x 20'	1	150'
D6-1	6' x 6'	1	420'
D6-2	6' x 6'	1	420'
D6-3	6' x 20'	2	-
D6-4	6' x 20'	2	-
# D7-1	6' x 6'	3	-
# D7-2	6' x 6'	3	-
# D7-3	2-6' x 6'	1	5' & 20'
# D7-4	2-6' x 6'	1	5' & 20'
# D8-1	6' x 6'	3	30'
# D8-2	6' x 20'	1	-

- NOTES:
- 1) SEE SPECIAL PROVISIONS FOR CONTRACTORS RESPONSIBILITY FOR LOCATION OF UTILITIES.
 - 2) ALL SIGNAL FACES SHALL HAVE BACKGROUND SHIELDS.
 - 3) SIGNAL FACES SHALL BE SALVAGED TO ANOKA COUNTY.
 - 4) NEW SIGNAL FACES (7-2) AND (8-2) SHALL BE 12" 4 SECTION R.Y.G.GLTA
 - NEW SIGNAL FACES (7-3) (7-4) AND (8-1) SHALL BE 12" 3 SECTION R.Y.LTA.GLTA.
 - 5) CONTRACTOR SHALL PAINT ALL COMPONENTS OF THE SIGNAL SYSTEM. SEE SPECIAL PROVISIONS.
 - 6) CONTRACTOR SHALL FURNISH AND INSTALL LOOPS D7-3 AND D7-4. ALL OTHER LOOPS SHALL REMAIN INPLACE.

- 2) 8 FT SIGNAL PEESTAL (TYPE 40)
 - 2 SETS PEDESTRIAN INDICATIONS
 - 2 PEDESTRIAN PUSH BUTTONS
 - EXTEND INTO IHH 4
 - 2" RSC
 - 4-3/CH12
- 3) MST A-25
 - TWO-WAY SIGNAL (OVERHEAD)
 - ONE-WAY SIGNAL TYPE 10B (POLE MOUNTED AT 270°)
 - ONE-WAY SIGNAL TYPE 10A (POLE MOUNTED AT 0°)
 - 1 SET PEDESTRIAN INDICATIONS
 - 1 PEDESTRIAN PUSH BUTTON
 - R10-10 SIGN
 - EXTEND INTO IHH 8
 - 2" RSC
 - 2-12/CH12
 - 1-3/CH12

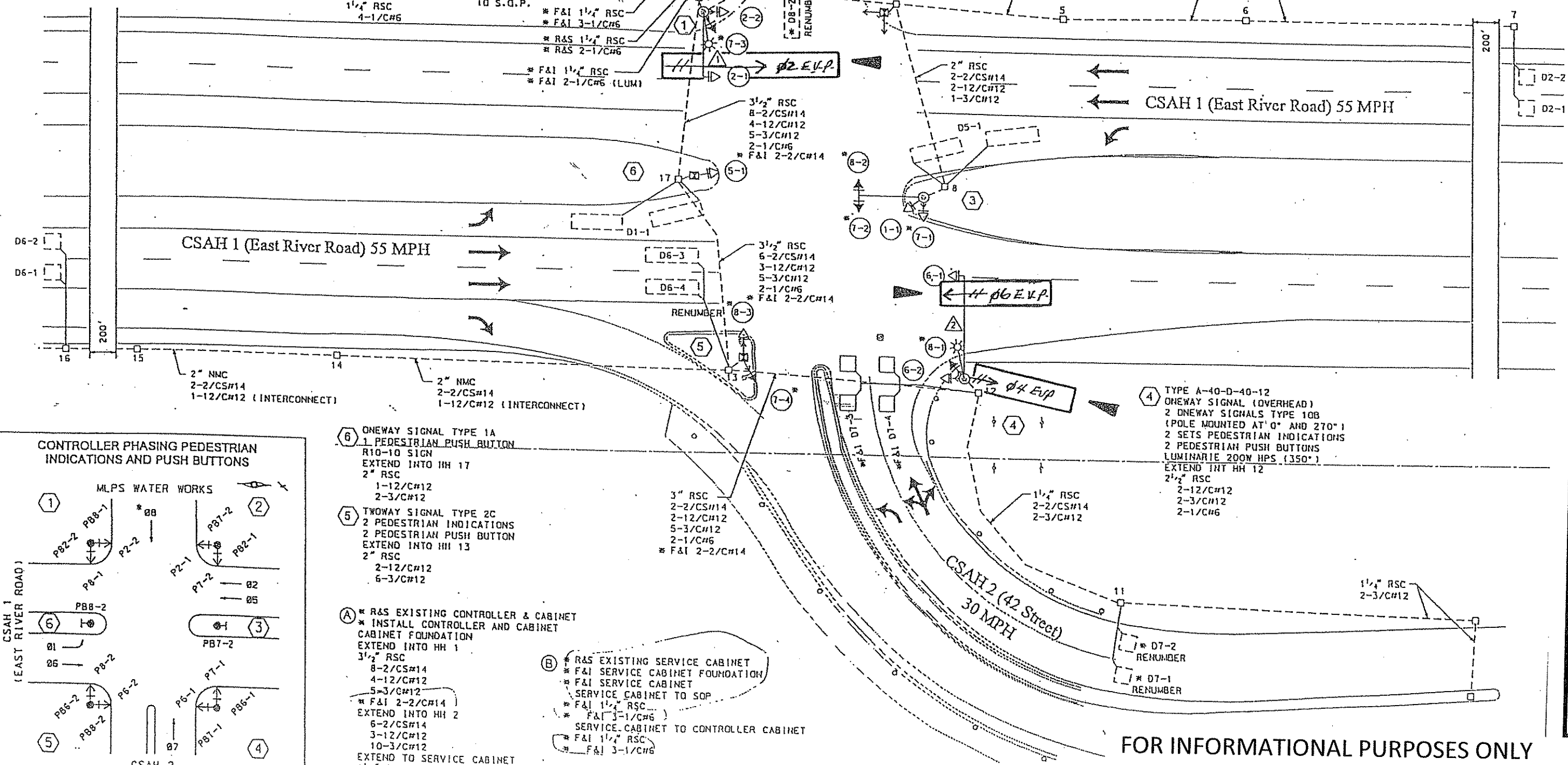


- RENUMBER
- # D7-1
 - # D7-2
 - # D7-3
 - # D7-4
 - # D8-1
 - # D8-2
- F&I
- # D7-3
 - # D7-4
- RENUMBER
- # D8-1
 - # D8-2

- 1) CALL AND EXTEND.
- 2) CALL ONLY
- 3) EXTEND ONLY
- 4) CALL ONLY DENS
- 5) DELAY CALL ONLY
- 6) DELAY CALL ONLY DENSITY
- 7) DELAY CALL IMMEDIATE EXTEND
- 8) CARRY OVER
- 9) ADVISORY

- 1) TYPE A-30-D-40-12
- ONE-WAY SIGNAL (OVERHEAD)
- 2 ONE-WAY SIGNALS TYPE 10B
- (POLE MOUNTED AT 0° AND 270°)
- 2 SETS PEDESTRIAN INDICATIONS
- 2 PEDESTRIAN PUSH BUTTONS
- LUMINARIE 200W HPS (350")
- EXTEND INTO IHH 2
- 2" RSC
- 1-12/CH12
- 7-3/CH12
- EXTEND INTO IHH 1
- 1 1/2" RSC
- 4-1/CH6

- * R&S 1 1/2" RSC
- * R&S 3-1/CH6 TO S.O.P.
- 1 1/2" RSC
- 1-2/CS#14
- * F&I 1 1/2" RSC
- * F&I 3-1/CH6 TO S.O.P.
- * R&S 1 1/2" RSC
- * R&S 2-1/CH6
- * F&I 1 1/2" RSC
- * F&I 2-1/CH6 (LUM)



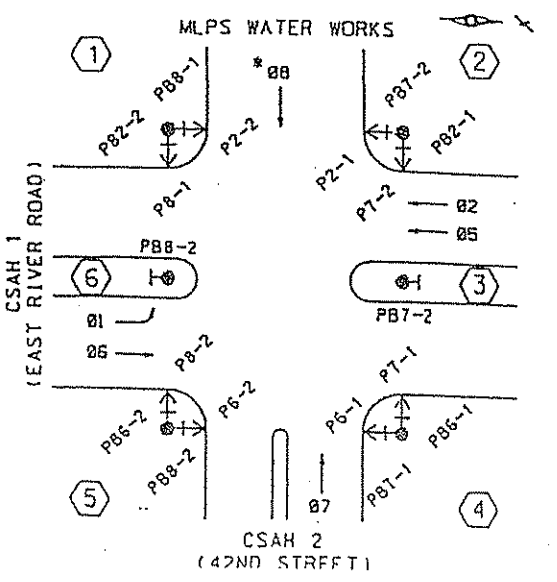
- 6) ONE-WAY SIGNAL TYPE 1A
 - 1 PEDESTRIAN PUSH BUTTON
 - R10-10 SIGN
 - EXTEND INTO IHH 17
 - 2" RSC
 - 1-12/CH12
 - 2-3/CH12
- 5) TWO-WAY SIGNAL TYPE 2C
 - 2 PEDESTRIAN INDICATIONS
 - 2 PEDESTRIAN PUSH BUTTON
 - EXTEND INTO IHH 13
 - 2" RSC
 - 2-12/CH12
 - 6-3/CH12

- A) * R&S EXISTING CONTROLLER & CABINET
- * INSTALL CONTROLLER AND CABINET
- CABINET FOUNDATION
- EXTEND INTO IHH 1
- 3 1/2" RSC
- 8-2/CS#14
- 4-12/CH12
- 5-3/CH12
- * F&I 2-2/CH14
- EXTEND INTO IHH 2
- 6-2/CS#14
- 3-12/CH12
- 10-3/CH12
- EXTEND TO SERVICE CABINET
- 1 1/2" RSC
- 2-1/CH6

- B) * R&S EXISTING SERVICE CABINET
- * F&I SERVICE CABINET FOUNDATION
- * F&I SERVICE CABINET
- SERVICE CABINET TO SOP
- * F&I 1 1/2" RSC
- * F&I 3-1/CH6
- SERVICE CABINET TO CONTROLLER CABINET
- * F&I 1 1/2" RSC
- * F&I 3-1/CH6

- 4) TYPE A-40-D-40-12
- ONE-WAY SIGNAL (OVERHEAD)
- 2 ONE-WAY SIGNALS TYPE 10B
- (POLE MOUNTED AT 0° AND 270°)
- 2 SETS PEDESTRIAN INDICATIONS
- 2 PEDESTRIAN PUSH BUTTONS
- LUMINARIE 200W HPS (350")
- EXTEND INTO IHH 12
- 2 1/2" RSC
- 2-12/CH12
- 2-3/CH12
- 2-1/CH6

CONTROLLER PHASING PEDESTRIAN INDICATIONS AND PUSH BUTTONS



FOR INFORMATIONAL PURPOSES ONLY

COUNTY PROJECT REVISED SIGNAL SYSTEM

MISCELLANEOUS SIGNAL SHEETS

Sheet 7A of 7B Sheets

STATE AID PROJECT NO. _____

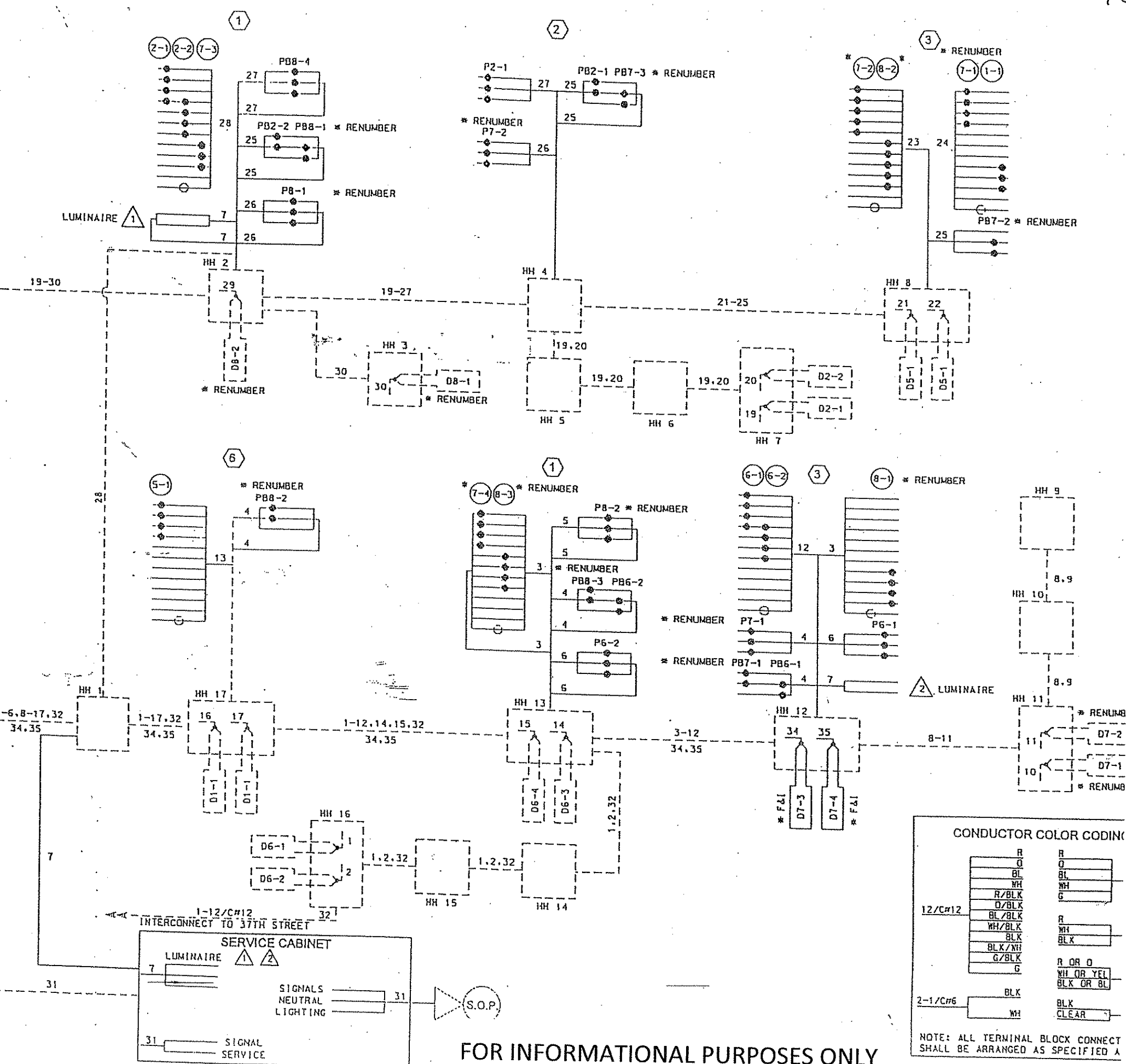
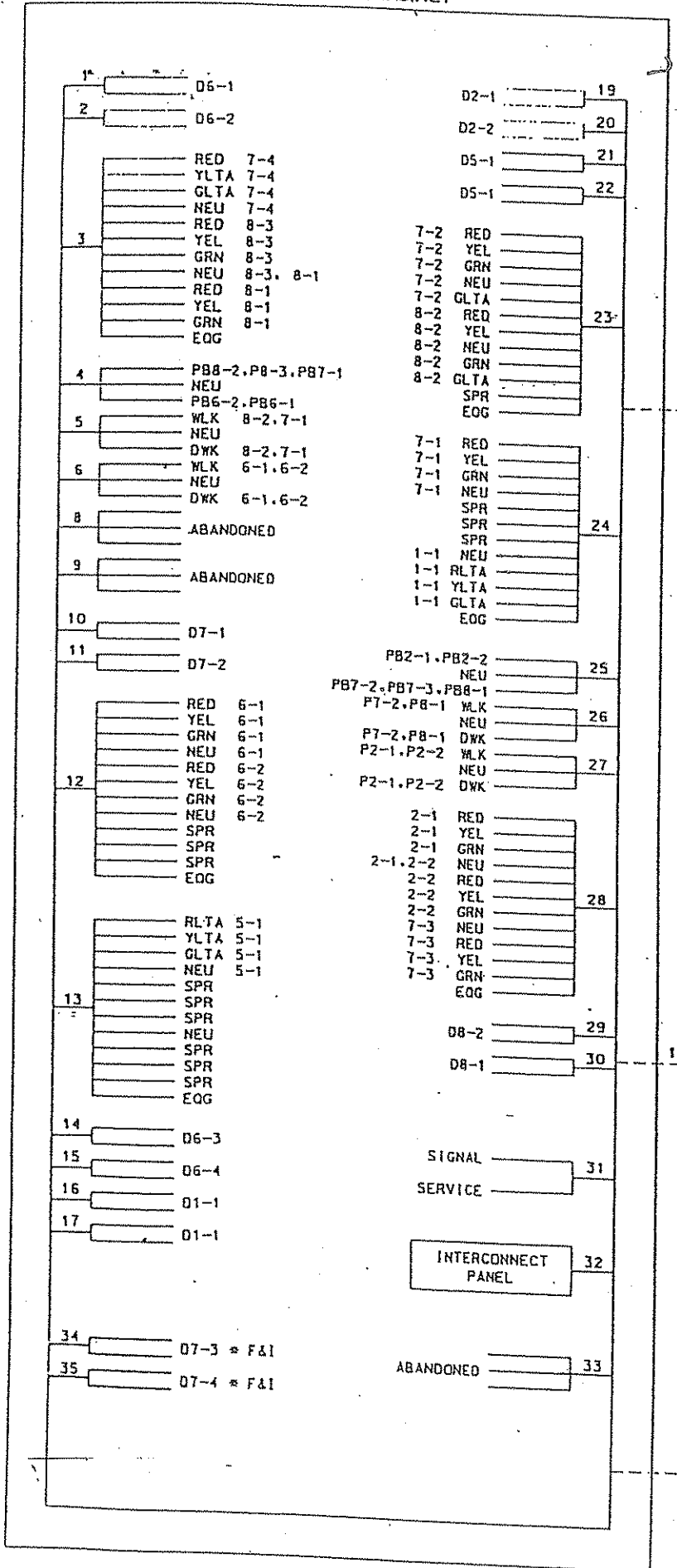
STATE PROJECT NO. _____

CITY PROJECT NO. 10-15-02

COUNTY PROJECT NO. _____

7000

CONTROLLER CABINET



CONDUCTOR COLOR CODING

12/C#12	R	R
	O	O
	BL	BL
	WH	WH
	R/BLK	R
	O/BLK	WH
	BL/BLK	BLK
	WH/BLK	R OR O
	BLK	WH OR YEL
	BLK/WH	BLK OR BL
	G/BLK	
	G	
2-1/C#6	BLK	BLK CLEAR
	WH	

NOTE: ALL TERMINAL BLOCK CONNECT SHALL BE ARRANGED AS SPECIFIED A

FOR INFORMATIONAL PURPOSES ONLY

MISCELLANEOUS SIGNAL SHEETS

Sheet 7B of 7B Sheets

STATE AID PROJECT NO. _____

CITY PROJECT NO. _____

COUNTY PROJECT NO. 10-15-02

DATE: 10/15/02

BY: [Signature]

CHECKED BY: [Signature]

PROJECT NO: 1044.03