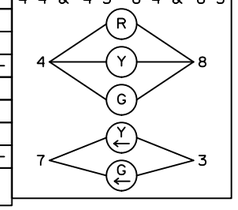
SIGNAL HEAD CHART

FACE	R	Y	G	Y	G
1-1, 1-2	←	←	←		
2-1, 2-2, 2-3	○	○	○		
4-1, 4-2, 4-3	○	○	○		
4-4, 4-5	○	○	○	←	←
5-1, 5-2	←	←	←		
6-1, 6-2	○	○	○		
8-1, 8-2, 8-3	○	○	○		
8-4, 8-5	○	○	○	←	←

-ALL SIGNAL INDICATIONS SHALL BE 12" LED

SIGNAL HEAD PHASING



LOOP DETECTOR CHART

NUMBER	SIZE (FT)	LOCATION	FUNCTION
D1-1	6x6	40	1
D1-2	6x6	10	1
D2-1, D2-2	6x6	400	1
D3-1	2-6x6	15 & 45	7
D3-2	2-6x6	0 & 30	7
D4-1	6x6	180	3, 8
D4-2	2-6x6	0 & 15	7
D5-1	6x6	40	1
5-2	6x6	10	1
D6-1	6x6	400	1
D7-1	2-6x6	15 & 45	7
D7-2	2-6x6	0 & 30	7
D8-1	6x6	300	3, 8
D8-2	2-6x6	0 & 15	7
D8-3	2-6x6	0 & 15	1

-LOCATION: DISTANCE FROM CROSSWALK /STOP BAR IN FEET

LOOP DETECTOR FUNCTION:
1) CALL AN D EXTEND
3) EXTEND ONLY
7) DELAYED CALL - IMMEDIATE EXTEND
8) CARRY OVER (STRETCH)

(A)
INPLACE: CONTROLLER AND CABINET
CABINET FOUNDATION
EXTEND INTO HH 1:

4" CONDUIT	4" CONDUIT
3-12/C 12	2-12/C 12
4-3/C 12	1-3/C 12
8-2/C 14	1-4/C 14
1-3/C 20	1-3/C 20

EXTEND INTO HH 15:

4" CONDUIT	4" CONDUIT
3-12/C 12	2-12/C 12
2-3/C 12	3-3/C 12
3-4/C 14	10-2/C 14
5-2/C 14	1-3/C 20

1-3/C 20
EXTEND INTO HH 16:
METERED SIGNAL SERVICE
2" CONDUIT
3-1/C 6
HH 1 TO HH 16:
2" CONDUIT
2-3/C 12 (LUM)
HH 15 TO HH 16:
2" CONDUIT
2-3/C 12 (LUM)
2-3" CONDUITS STUBBED OUT FROM CABINET TO NORTH (THREAD AND CAP BOTH ENDS FOR FUTURE USE)

(B)
INPLACE: SIGNAL SERVICE CABINET
CABINET FOUNDATION
EXTEND INTO HH 16:
2" CONDUIT
METERED SIGNAL SERVICE
3-1/C 6
UNMETERED STREET LIGHT SERVICE
4-3/C 12 (LUM)
EXTEND INTO HH 17:
2" CONDUIT
3-1/C 2

(1)
INPLACE: PA85 POLE FOUNDATION
TYPE PA85-A-25-D40-9 (DAVIT AT 350 DEG)
2-ONE WAY SIGNALS OVERHEAD AT 0' AND 11'
2-ONE WAY SIGNALS POLE MOUNTED AT 45 AND 225 DEG
1-ONE WAY EVP DETECTOR AND LIGHT (PHASES 1+6)
LUMINAIRE-200 WATT W/ HPS
1-R6-1L SIGN PANEL POLE MOUNTED AT 0 DEG
2-TYPE D SIGN PANELS OVERHEAD (D-5) (D-6)
REMOVE: 1-R9-3 (NO PED XING) SIGN FACING POLE 6
F&I: 1-ANGLE MOUNT C.D. PED HEAD AT 225 DEG
INPLACE: EXTEND INTO HH 1:
3" CONDUIT
2-12/C 12
1-3/C 12
1-3/C 12 (LUM)
1-4/C 14
1-3/C 20

(2)
INPLACE: PEDESTAL FOUNDATION
14' PEDESTAL POLE AND BASE
1-WIND COLLAR FOR PEDESTAL POLE
1-ONE WAY SIGNAL POLE MOUNTED
1-PED INDICATION POLE MOUNTED
REMOVE: 1-PED PB AND SIGN
1-R9-3a SIGN PANEL FACING POLE 6
INPLACE: EXTEND INTO HH 1:
2" CONDUIT
1-12/C 12
1-3/C 12

INPLACE: 2" CONDUIT
1-2/C 14

F&I: PED PB STATION
1-APS PB AND SIGN
(RT ARROW) (PB6-2)
EXTEND INTO HH 1:
1" CONDUIT
1-2/C 14
1-1/C 6 INS. GR.

F&I: PED PB STATION
1-APS PB AND SIGN
(LT ARROW) (PB4-1)
EXTEND INTO HH 15:
1" CONDUIT
1-2/C 14
1-1/C 6 INS. GR.

(6)
INPLACE: PA90 POLE FOUNDATION
TYPE PA90-A-30-D40-9 (DAVIT AT 350 DEG)
2-ONE WAY SIGNALS OVERHEAD AT 0' AND 11'
2-ONE WAY SIGNALS POLE MOUNTED AT 45 AND 225 DEG
1-ONE WAY EVP DETECTOR AND LIGHT (PHASE 4)
LUMINAIRE-200 WATT W/ HPS
1-R10-12 SIGN PANEL ADJACENT TO HEAD 4-4
1-TYPE D SIGN PANEL OVERHEAD (D-7) (D-8)
REMOVE: 2-R9-3 SIGN PANELS FACING POLES 1 AND 5
F&I: 2-STRAIGHT MOUNT C.D. PED HEADS AT 225 AND 315 DEG
1-APS PB AND SIGN (LT ARROW) (PB2-1)
AND APS PB MOUNTING SPACERS
INPLACE: EXTEND INTO HH 11:
3" CONDUIT
2-12/C 12
1-3/C 12
1-3/C 12 (LUM)
2-4/C 14
1-2/C 14
1-3/C 20

(C)
INPLACE: WOOD POLE - SOP (XCEL ENERGY)
2" CONDUIT RISER AND WEATHERHEAD
3-1/C 2
EXTEND INTO HH 17:
2" CONDUIT
3-1/C 2

INPLACE: 4" CONDUIT
2-12/C 12
3-3/C 12
1-3/C 12 (LUM)
5-2/C 14
1-3/C 20
4" CONDUIT
3-12/C 12
2-3/C 12
1-3/C 12 (LUM)
3-4/C 14
5-2/C 14
1-3/C 20

INPLACE: 4" CONDUIT
2-12/C 12
3-3/C 12
1-3/C 12 (LUM)
9-2/C 14
1-3/C 20
4" CONDUIT
3-12/C 12
2-3/C 12
1-3/C 12 (LUM)
3-4/C 14
5-2/C 14
1-3/C 20

F&I: PED PB STATION
1-APS PB AND SIGN
(RT ARROW) (PB4-2)
EXTEND INTO HH 14:
1" CONDUIT
1-2/C 14
1-1/C 6 INS. GR.

F&I: PED PB STATION
1-APS PB AND SIGN
(LT ARROW) (PB4-3)
EXTEND INTO HH 14:
1" CONDUIT
1-2/C 14
1-1/C 6 INS. GR.

F&I: PED PB STATION
1-APS PB AND SIGN
(RT ARROW) (PB4-4)
EXTEND INTO HH 11:
1" CONDUIT
1-2/C 14
1-1/C 6 INS. GR.

INPLACE: 4" CONDUIT
2-12/C 12
3-3/C 12
1-3/C 12 (LUM)
4-2/C 14
1-3/C 20

F&I: PED PB STATION
1-APS PB AND SIGN
(LT ARROW) (PB6-1)
EXTEND INTO HH 3:
1" CONDUIT
1-2/C 14
1-1/C 6 INS. GR.

F&I: PED PB STATION
1-APS PB AND SIGN
(RT ARROW) (PB8-2)
EXTEND INTO HH 3:
1" CONDUIT
1-2/C 14
1-1/C 6 INS. GR.

INPLACE: 2" CONDUIT
1-2/C 14

INPLACE: 3" CONDUIT
3-2/C 14

INPLACE: 4" CONDUIT
3-12/C 12
2-3/C 12
1-3/C 12 (LUM)
1-4/C 14
6-2/C 14
1-3/C 20

INPLACE: 2" CONDUIT
1-2/C 14

INPLACE: 3" CONDUIT
2-2/C 14

F&I: PED PB STATION
1-APS PB AND SIGN
(RT ARROW) (PB2-2)
EXTEND INTO HH 8:
1" CONDUIT
1-2/C 14
1-1/C 6 INS. GR.

F&I: PED PB STATION
1-APS PB AND SIGN
(DBL ARROW) (PB8-3)
EXTEND INTO HH 7:
1" CONDUIT
1-2/C 14
1-1/C 6 INS. GR.

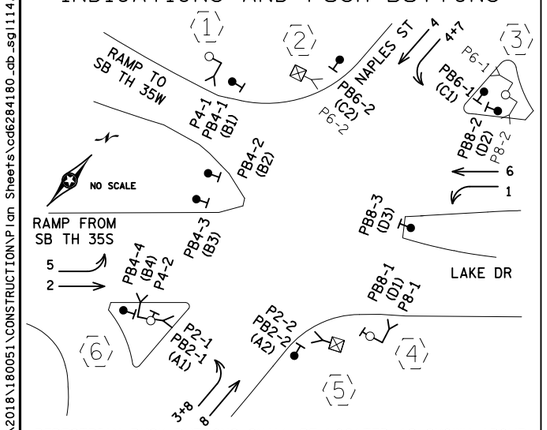
(5)
INPLACE: PEDESTAL FOUNDATION
14' PEDESTAL POLE AND BASE
1-WIND COLLAR FOR PEDESTAL POLE
1-ONE WAY SIGNAL POLE MOUNTED
REMOVE: 1-PED INDICATION (P8-1)
1-PED PB AND SIGN
1-R9-3 SIGN PANEL FACING POLE 6
F&I: 1-C.D. PED INDICATION (P8-1)
AND ROTATE HEAD TO FACE POLE 6
INPLACE: EXTEND INTO HH 8:
3" CONDUIT
1-12/C 12
1-3/C 12

(3)
INPLACE: PA90 POLE FOUNDATION
TYPE PA90-A-30-D40-9 (DAVIT AT 350 DEG)
2-ONE WAY SIGNALS OVERHEAD AT 0 AND 11'
2-ONE WAY SIGNALS POLE MOUNTED AT 45 AND 225 DEG
1-PED HEAD MOUNTED AT 45 DEG
1-ONE WAY EVP DETECTOR AND LIGHT (PHASE 8)
LUMINAIRE-200 WATT W/ HPS
1-R10-12 SIGN PANEL ADJACENT TO HEAD 8-4
2-TYPE D SIGN PANELS OVERHEAD (D-3) (D-4)
REMOVE: 1-PED INDICATION (P8-2)
1-PED PB AND SIGNS
F&I: 1-C.D. PED INDICATION (P8-2)
INPLACE: EXTEND INTO HH 3:
3" CONDUIT
2-12/C 12
3-3/C 12
1-3/C 12 (LUM)
1-3/C 20

(4)
INPLACE: PA100 POLE FOUNDATION
TYPE PA100-A-45-D40-9 (DAVIT AT 350 DEG)
3-ONE WAY SIGNALS OVERHEAD AT 0', 11' AND 23'
2-ONE WAY SIGNALS POLE MOUNTED AT 45 AND 225 DEG
1-ONE WAY EVP DETECTOR AND LIGHT (PHASES 2+5)
LUMINAIRE-200 WATT W/ HPS
1-R6-1L SIGN PANEL POLE MOUNTED AT 0 DEG
2-TYPE D SIGN PANELS OVERHEAD (D-5) (D-6)
F&I: 1-ANGLE MOUNT C.D. PED HEAD AT 90 DEG
1-APS PB AND SIGN (LT ARROW) (PB8-1)
AND APS PB MOUNTING SPACERS
INPLACE: EXTEND INTO HH 8:
3" CONDUIT
2-12/C 12
1-3/C 12
1-3/C 12 (LUM)
1-4/C 14
1-2/C 14
1-3/C 20

NOTES:
1. ALL ITEMS ON THIS SHEET ARE INPLACE AND SHALL REMAIN INPLACE UNLESS NOTED OTHERWISE.
2. SEE INTERSECTION DETAILS FOR ADA PED RAMP CONSTRUCTION AND APS PUSH BUTTON LOCATIONS.
3. ADJUST INPLACE CONDUIT AND HANDHOLES 1, 3, 7, 8, 11, 14 & 15 TO FINISH GRADE AS NECESSARY.

CONTROLLER PHASING, PEDESTRIAN INDICATIONS AND PUSH BUTTONS



PEDESTRIAN PUSH BUTTONS SHALL BE LOCATED AS SHOWN ABOVE

SIGNAL SYSTEM OPERATION

- THE SIGNAL SYSTEM FLASH MODE IS ALL RED.
- NORMAL OPERATION IS 8 PHASE, WITH PHASES 1 AND 5 BEING PROTECTED LEFT TURN PHASES AND PHASES 3 AND 7 BEING PROTECTED/ PERMISSIVE LEFT TURN PHASES.
- PHASES 2 AND 6 SHALL BE ON VEHICLE RECALL.

SYSTEM ID = 1736552
T.E. = 19998

NO	DATE	DWN	CKD	REVISIONS
1	03/06/20	YAA	AJR	NDC 029
2	06/25/21	KAS	MPM	FDC 379
3	12/03/21			RECORD DRAWING

AMES TEAM ALLIANT

RECORD DRAWING NOTE: THESE RECORD DRAWINGS WERE DEVELOPED BASED ON THE PREVIOUS DRAWING REVISIONS AND INFORMATION TRANSMITTED FROM THE FIELD BY OTHERS. THE INFORMATION CONTAINED WITHIN THIS RECORD AS-BUILT PLAN REPRESENTS THE ACTUAL CONDITIONS FOR ALL CHANGES OF WHICH ALLIANT IS AWARE. FUTURE USERS OF THESE DRAWINGS SHOULD VERIFY AS-BUILT CONDITIONS IN THE FIELD IN ALL CIRCUMSTANCES.

REVISE SIGNAL SYSTEM "H" LAYOUT
CSAH 23 (LAKE DR) & NAPLES ST

I-35W NORTH MNPASS DB (S.P. 6284-180)
SHEET NO. SGL28 OF SGL45 SHEETS

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12/3/2021
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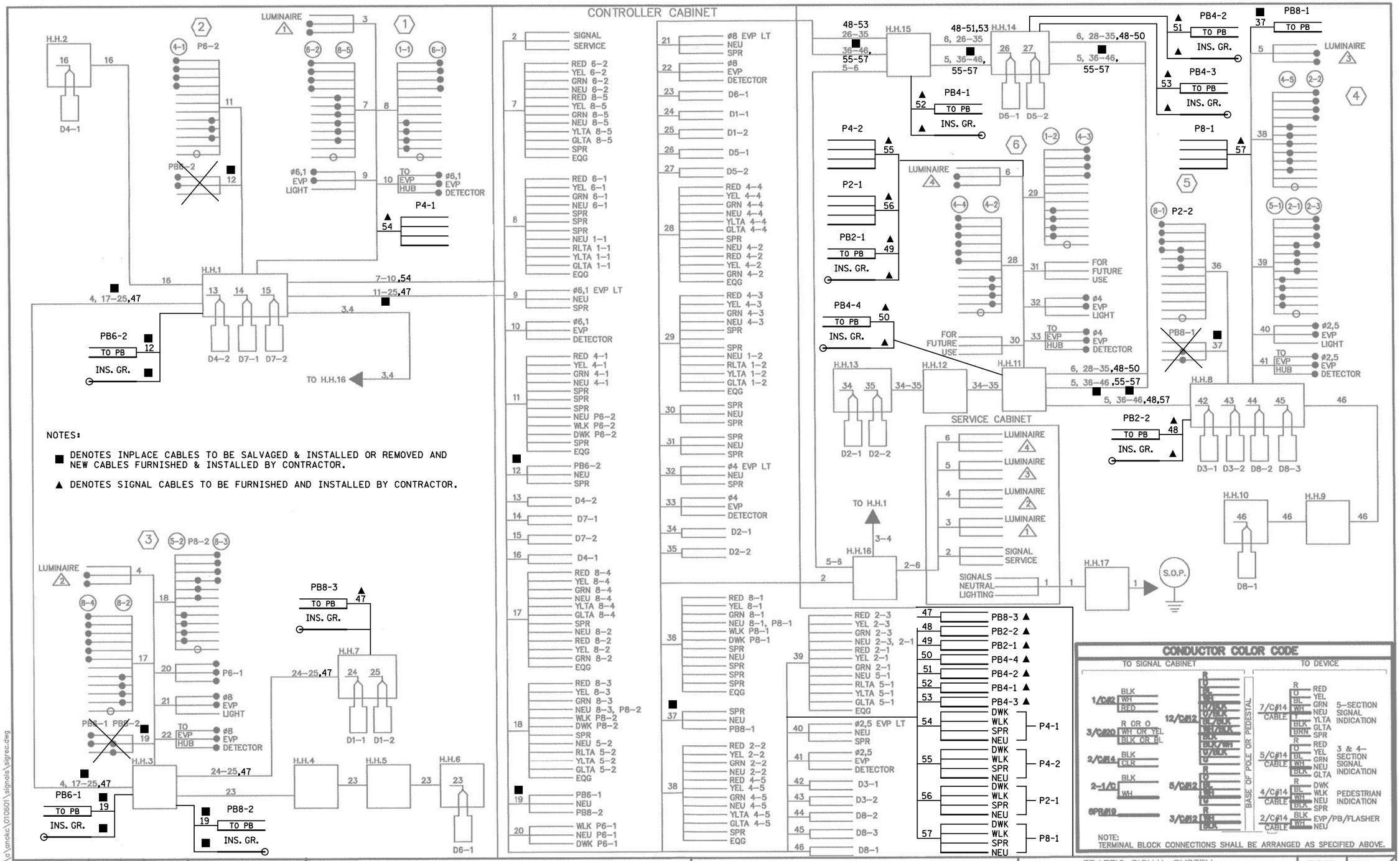

NOTES:

■ DENOTES INPLACE CABLES TO BE SALVAGED & INSTALLED OR REMOVED AND NEW CABLES FURNISHED & INSTALLED BY CONTRACTOR.

▲ DENOTES SIGNAL CABLES TO BE FURNISHED AND INSTALLED BY CONTRACTOR.

DESIGN TEAM	NO.	BY	DATE	REVISIONS
DRAWN BY: JMG	1	JMG	10/21/05	REVISED PER STATE COMMENTS
DESIGNER: JMG	2	JMG	3/16/06	COUNTY, STATE COMMENTS
CHECKED BY: JMG	3	JMG	01/19/07	RECORD DRAWNG

SYSTEM ID: 1736552
T.E. #: 19998

ANOKA COUNTY, MINNESOTA
INTERSECTION IMPROVEMENTS:
CSAH 23 @ INTERSTATE HIGHWAY 35W

TRAFFIC SIGNAL SYSTEM
FIELD WIRING DIAGRAM
CSAH 23 (LAKE DRIVE) AT NAPLES STREET
STATE PROJECT NO. 02-623-014

FILE NO. ANOKC0108.0
DATE 03/16/06
54 / 57

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NO	DATE	DWN	CKD	REVISIONS
1	03/06/20	YAA	AJR	NDC 029
2	06/25/21	KAS	MPM	FDC 379
3	12/03/21			RECORD DRAWING

AMES TEAM ALLIANT

RECORD DRAWING NOTE: THESE RECORD DRAWINGS WERE DEVELOPED BASED ON THE PREVIOUS DRAWING REVISIONS AND INFORMATION TRANSMITTED FROM THE FIELD BY OTHERS. THE INFORMATION CONTAINED WITHIN THIS RECORD AS-BUILT PLAN REPRESENTS THE ACTUAL CONDITIONS FOR ALL CHANGES OF WHICH ALLIANT IS AWARE. FUTURE USERS OF THESE DRAWINGS SHOULD VERIFY AS-BUILT CONDITIONS IN THE FIELD IN ALL CIRCUMSTANCES.

REVISE SIGNAL SYSTEM "H" WIRING DIAGRAM
CSAH 23 (LAKE DR) & NAPLES ST

I-35W NORTH MNPASS DB (S.P. 6284-180)
SHEET NO. SGL29 OF SGL45 SHEETS

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 WIRES SHALL BE CROSS-LINKED POLYETHYLENE (XLP) IN 3/4" N.M.C. SEE SPECIAL PROVISIONS.
4) NEW HANDHOLES SHALL BE PVC HANDHOLES WITH METAL FRAMES AND COVERS.
5) EACH SIGNAL FACE SHALL HAVE BACKGROUND SHIELD.
6) EACH PEDESTRIAN INDICATION SHALL BE ONE SECTION "FILLED" HAND/WALKING PERSON INDICATIONS.
7) ALL VEHICLE SIGNAL INDICATIONS, AND ALL PEDESTRIAN SIGNAL INDICATIONS SHALL BE LED.
8) SEE SPECIAL PROVISIONS AND DETAILS REGARDING SIGNS TO BE FURNISHED & INSTALLED BY CONTRACTOR (INCIDENTAL).
9) CONTRACTOR SHALL PROVIDE EXTENDED BRACKETS FOR EACH POLE MOUNTED VEHICLE AND PEDESTRIAN SIGNAL FACE.
10) A 3/4" HALF COUPLING, 3/4" PIPE NIPPLE AND CONDUIT OUTLET BODY SHALL BE FURNISHED AND INSTALLED 6 FEET FROM THE END OF EACH MAST ARM (FOR EVP).
11) CONTRACTOR SHALL COORDINATE ALL TRAFFIC SIGNAL INSTALLATION WORK WITH ROAD CONSTRUCTION TO BE COMPLETED BY OTHERS AS PART OF ENTIRE PROJECT.
12) ALL MAST ARM POLE AND PEDESTAL POLE MOUNTED VEHICLE AND PEDESTRIAN SIGNAL INDICATIONS SHALL BE MOUNTED USING ONE-WAY SIGNAL HEAD MOUNTS. SEE SPECIAL PROVISIONS.

N.M.C. LOOP DETECTORS			
NUMBER	SIZE (FT.)	LOCATION	FUNCTION
D1-1	6x6	40'	1
D1-2	6x6	10'	1
D2-1	6x6	400'	1
D2-2	6x6	400'	1
D3-1	2-6x6	15' & 45'	7
D3-2	2-6x6	0' & 30'	7
D4-1	6x6	180'	3,8
D4-2	2-6x6	0' & 15'	7
D5-1	6x6	40'	1
D5-2	6x6	10'	1
D6-1	6x6	400'	1
D7-1	2-6x6	15' & 45'	7
D7-2	2-6x6	0' & 30'	7
D8-1	6x6	300'	3,8
D8-2	2-6x6	0' & 15'	7
D8-3	2-6x6	0' & 15'	1

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

H.H.1 TO H.H.16:
2"R.S.C.
2-3/c#12 (LUM)

H.H.15 TO H.H.16:
2"R.S.C.
2-3/c#12 (LUM)

Ⓑ SIGNAL SERVICE CABINET
CABINET FOUNDATION
EXTEND INTO H.H.16:
2"R.S.C.
METERED SIGNAL SERVICE
3-1/c#6
UNMETERED STREET LIGHT SERVICE
4-3/c#12 (LUM)
EXTEND INTO H.H.17:
2"R.S.C.
3-1/c#2

Ⓒ INPLACE WOOD POLE (S.O.P.)
(XCEL ENERGY)
2"R.S.C. RISER AND WEATHERHEAD
3-1/c#2
EXTEND INTO H.H.17:
2"R.S.C.
3-1/c#2

Ⓐ INSTALL CONTROLLER AND CABINET (FURNISHED BY COUNTY)
CABINET FOUNDATION
EXTEND INTO H.H.16:
METERED SIGNAL SERVICE
2"R.S.C.
3-1/c#6
EXTEND INTO H.H.1:
4"R.S.C. 4"R.S.C.
3-12/c#12 2-12/c#12
4-3/c#12 1-3/c#12
1-3/c#20 1-3/c#20
7-2/c#14
EXTEND INTO H.H.15:
4"R.S.C. 4"R.S.C.
3-12/c#12 2-12/c#12
2-3/c#12 3-3/c#12
1-3/c#20 1-3/c#20
5-2/c#14 4-2/c#14
STUB OUT 2-3"R.S.C. FROM CABINET TO NORTH (THREAD AND CAP BOTH ENDS-FOR FUTURE USE)

4"R.S.C.
2-12/c#12
3-3/c#12
1-3/c#20
4-2/c#14
1-3/c#12 (LUM)
4"R.S.C.
3-12/c#12
2-3/c#12
1-3/c#20
5-2/c#14
1-3/c#12 (LUM)

4"R.S.C.
2-12/c#12
3-3/c#12
1-3/c#20
2-2/c#14
1-3/c#12 (LUM)
4"R.S.C.
3-12/c#12
2-3/c#12
1-3/c#20
5-2/c#14
1-3/c#12 (LUM)

4"R.S.C.
3-12/c#12
2-3/c#12
1-3/c#20
5-2/c#14
1-3/c#12 (LUM)

4"R.S.C.
2-12/c#12
3-3/c#12
1-3/c#20
3-2/c#14
1-3/c#12 (LUM)

3"R.S.C.
1-2/c#14

2"R.S.C.
1-2/c#14

3"R.S.C.
2-2/c#14

2"R.S.C.
2-2/c#14

2"R.S.C.
1-2/c#14

NAPLES STREET (CO.RD.105)
(35 mph)

NAPLES STREET (CSAH 23)
(45 mph)

LAKE DRIVE (CSAH 23)
(50 mph)

EXIT RAMP FROM NB I-35W
(50 mph)

TO SB I-35W

MATCH LINE "A" - SEE NEXT SHEET

MATCH LINE "B" - SEE NEXT SHEET

MATCH LINE "C" - SEE NEXT SHEET

4+00 5+00 6+00 7+00 8+00

H.H. 1 2 3 4 5 7 8 11 12 14 15 16 17

D1-1 D1-2 D2-1 D2-2 D3-1 D3-2 D4-1 D4-2 D5-1 D5-2 D6-1 D7-1 D7-2 D8-1 D8-2 D8-3

ø2,5 EVP ø4 EVP ø6,1 EVP ø8 EVP

① PA85 POLE FOUNDATION
TYPE PA85-A-25-D40-9 (DAVIT AT 350')
LUMINAIRE-250 W HPS
2-ONE WAY SIGNALS-OVERHEAD (0' & 11' FROM END OF MAST ARM)
2-ONE WAY SIGNALS-POLE MOUNTED AT 45° & 225°
R6-1L SIGN PANEL-POLE MOUNTED 0°
2-TYPE D SIGN PANELS-OVERHEAD (D-1,2)
ONE WAY EVP DETECTOR AND LIGHT (ø6,1)
EXTEND INTO H.H.1:
3"R.S.C.
2-12/c#12
1-3/c#12
1-3/c#20
1-3/c#12 (LUM)

② PEDESTAL FOUNDATION
14' PEDESTAL POLE (INCLUDES BASE)
WIND COLLAR FOR PEDESTAL POLE
1-ONE WAY SIGNAL-POLE MOUNTED (ONE-WAY MOUNT)
1-SET PEDESTRIAN INDICATIONS-POLE MOUNTED (ONE-WAY MOUNT)
1-PEDESTRIAN PUSH BUTTON
R9-3a SIGN PANEL-FACING POLE 6
EXTEND INTO H.H.1:
2"R.S.C.
1-12/c#12
1-3/c#12

③ PA90 POLE FOUNDATION
TYPE PA90-A-30-D40-9 (DAVIT AT 350')
LUMINAIRE-250 W HPS
2-ONE WAY SIGNALS-OVERHEAD (0' & 11' FROM END OF MAST ARM)
2-ONE WAY SIGNALS-POLE MOUNTED AT 45° & 225°
2-SETS PEDESTRIAN INDICATIONS-POLE MOUNTED AT 45° & 225°
2-PEDESTRIAN PUSH BUTTONS
R10-12 SIGN PANEL-ADJACENT TO 8-4
2-TYPE D SIGN PANELS-OVERHEAD (D-3,4)
ONE WAY EVP DETECTOR AND LIGHT (ø8)
EXTEND INTO H.H.3:
3"R.S.C.
2-12/c#12
3-3/c#12
1-3/c#20
1-3/c#12 (LUM)

④ PA100 POLE FOUNDATION
TYPE PA100-A-45-D40-9 (DAVIT AT 350')
LUMINAIRE-250 W HPS
3-ONE WAY SIGNALS-OVERHEAD (0', 11' AND 23' FROM END OF MAST ARM)
2-ONE WAY SIGNALS-POLE MOUNTED AT 45° & 225°
R6-1L SIGN PANEL-POLE MOUNTED 0°
2-TYPE D SIGN PANELS-OVERHEAD (D-5,6)
ONE WAY EVP DETECTOR AND LIGHT (ø2,5)
EXTEND INTO H.H.8:
3"R.S.C.
2-12/c#12
1-3/c#12
1-3/c#20
1-3/c#12 (LUM)

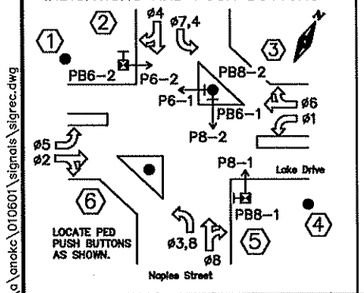
⑤ PEDESTAL FOUNDATION
14' PEDESTAL POLE (INCLUDES BASE)
WIND COLLAR FOR PEDESTAL POLE
1-ONE WAY SIGNAL-POLE MOUNTED (ONE-WAY MOUNT)
1-SET PEDESTRIAN INDICATIONS-POLE MOUNTED (ONE-WAY MOUNTS)
1-PEDESTRIAN PUSH BUTTON
1-R9-3a SIGN PANEL-FACING POLE 6
EXTEND INTO H.H.8:
3"R.S.C.
1-12/c#12
1-3/c#12

⑥ PA90 POLE FOUNDATION
TYPE PA90-A-30-D40-9 (DAVIT AT 350')
LUMINAIRE-250 W HPS
2-ONE WAY SIGNALS-OVERHEAD (0' & 11' FROM END OF MAST ARM)
2-ONE WAY SIGNALS-POLE MOUNTED AT 45° & 225°
2-R9-3a SIGN PANELS-FACING POLES 2 AND 5
R10-12 SIGN PANEL-ADJACENT TO 4-4
2-TYPE D SIGN PANELS-OVERHEAD (D-7,8)
ONE WAY EVP DETECTOR AND LIGHT (ø4)
EXTEND INTO H.H.11:
3"R.S.C.
2-12/c#12
3-3/c#12
1-3/c#20
1-3/c#12 (LUM)

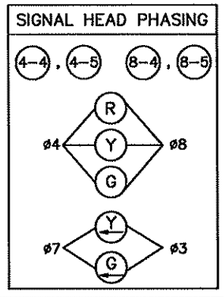
SIGNAL SYSTEM OPERATIONS:

- SIGNAL SYSTEM FLASH MODE SHALL BE ALL RED.
- NORMAL OPERATION SHALL BE 8 PHASE, WITH PHASES 1 & 5 BEING PROTECTED LEFT TURN PHASES, AND PHASES 3 & 7 BEING PROTECTED/PERMISSIVE LEFT TURN PHASES.
- VEHICLE SIGNAL PHASES 2 AND 6 SHALL OPERATE ON RECALL.

CONTROLLER PHASING, PEDESTRIAN INDICATIONS AND PUSH BUTTONS



SIGNAL HEAD PHASING



LED SIGNAL FACES					
SIGNAL FACE	ALL SIGNAL INDICATIONS SHALL BE 12".				
	R	Y	G	Y	G
1-1, 1-2	←	←	←		
2-1, 2-2, 2-3	●	●	●		
4-1, 4-2, 4-3	●	●	●		
4-4, 4-5	●	●	●	←	←
5-1, 5-2	←	←	←		
6-1, 6-2	●	●	●		
8-1, 8-2, 8-3	●	●	●		
8-4, 8-5	●	●	●	←	←

FINAL PLAN
CONFORMING TO CONST. RECORDS
DATE JMG, 01-19-07

MN/DOT SYSTEM ID = 38478

NO.	BY	DATE	REVISIONS
2	JMG	10/21/05	REVISED PER STATE COMMENTS
3	JMG	3/16/06	COUNTY, STATE COMMENTS
4	JMG	04/24/06	STATE COMMENTS
5	JMG	01/19/07	RECORD DRAWING

DESIGN TEAM
DRAWN BY: JMG
DESIGNER: JMG
CHECKED BY: JMG

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.
Certified By: _____ Licensed Professional Engineer Lic. No. 22457
Printed Name: JOHN M. GRAY Date: 04/24/06

SEH
PHONE: (651)490-2000
3535 VADNAIS CENTER DR.
ST. PAUL, MN 55110

ANOKA COUNTY, MINNESOTA
INTERSECTION IMPROVEMENTS:
CSAH 23 @ INTERSTATE HIGHWAY 35W

TRAFFIC SIGNAL SYSTEM
INTERSECTION LAYOUT
CSAH 23 (LAKE DRIVE) AT NAPLES STREET
STATE PROJECT NO. 02-623-014

FILE NO. ANOKC0108.0
DATE 04/24/06
52 / 57

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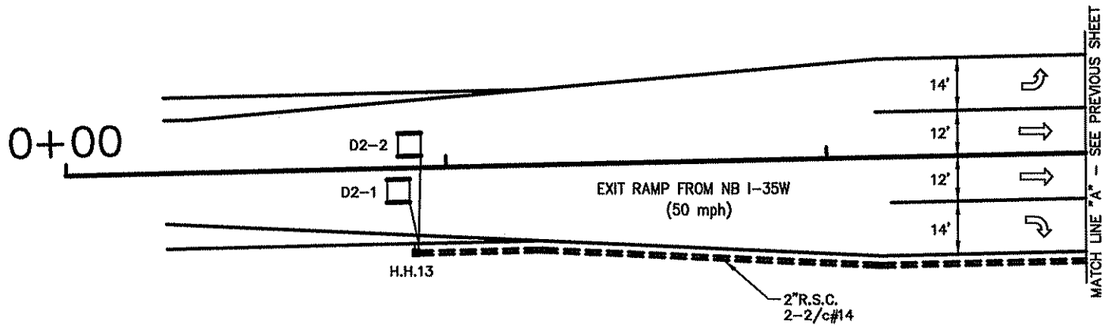

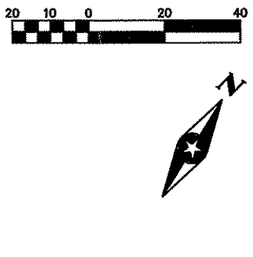

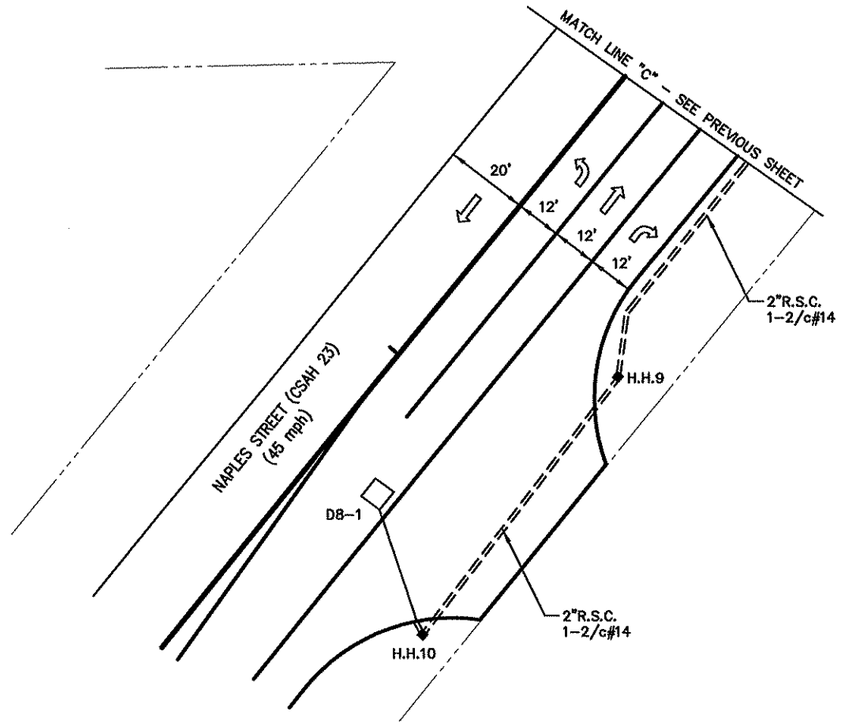

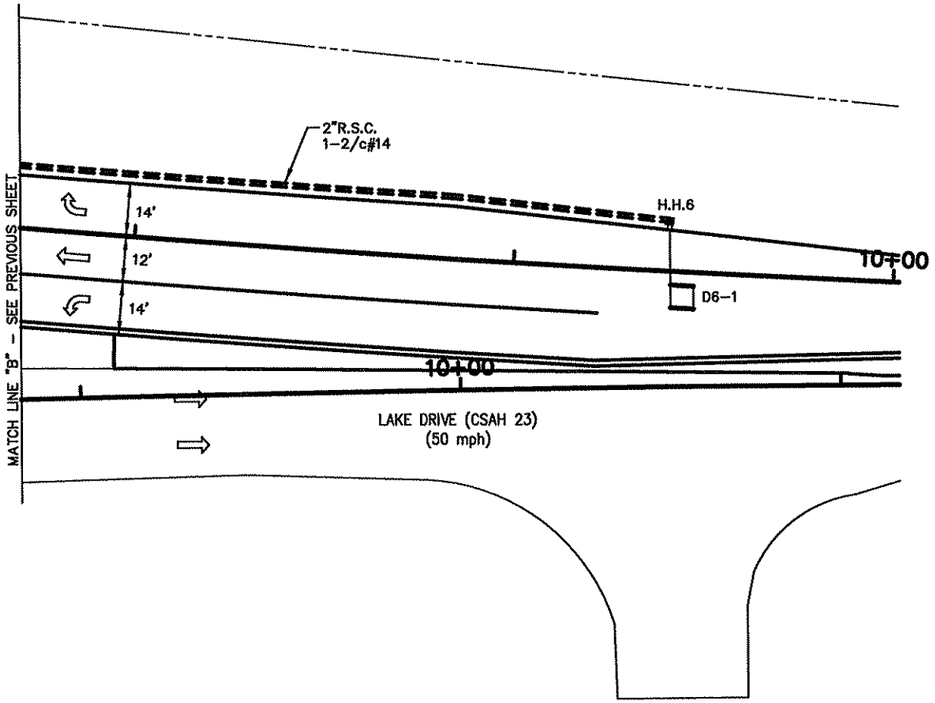

MN/DOT SYSTEM ID = 38478

FINAL PLAN
CONFORMING TO CONST. RECORDS
DATE JMG, 01-19-07

DESIGN TEAM	NO.	BY	DATE	REVISIONS
DRAWN BY: JMG	1	JMG	01/19/07	RECORD DRAWING
DESIGNER: JMG				
CHECKED BY: JMG				

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3535 VADNAIS CENTER DR.
ST. PAUL, MN 55110

ANOKA COUNTY, MINNESOTA
INTERSECTION IMPROVEMENTS:
CSAH 23 @ INTERSTATE HIGHWAY 35W

TRAFFIC SIGNAL SYSTEM
INTERSECTION LAYOUT
CSAH 23 (LAKE DRIVE) AT NAPLES STREET
STATE PROJECT NO. 02-623-014

FILE NO. ANOKC0106.0
DATE 03/16/06
53 / 57

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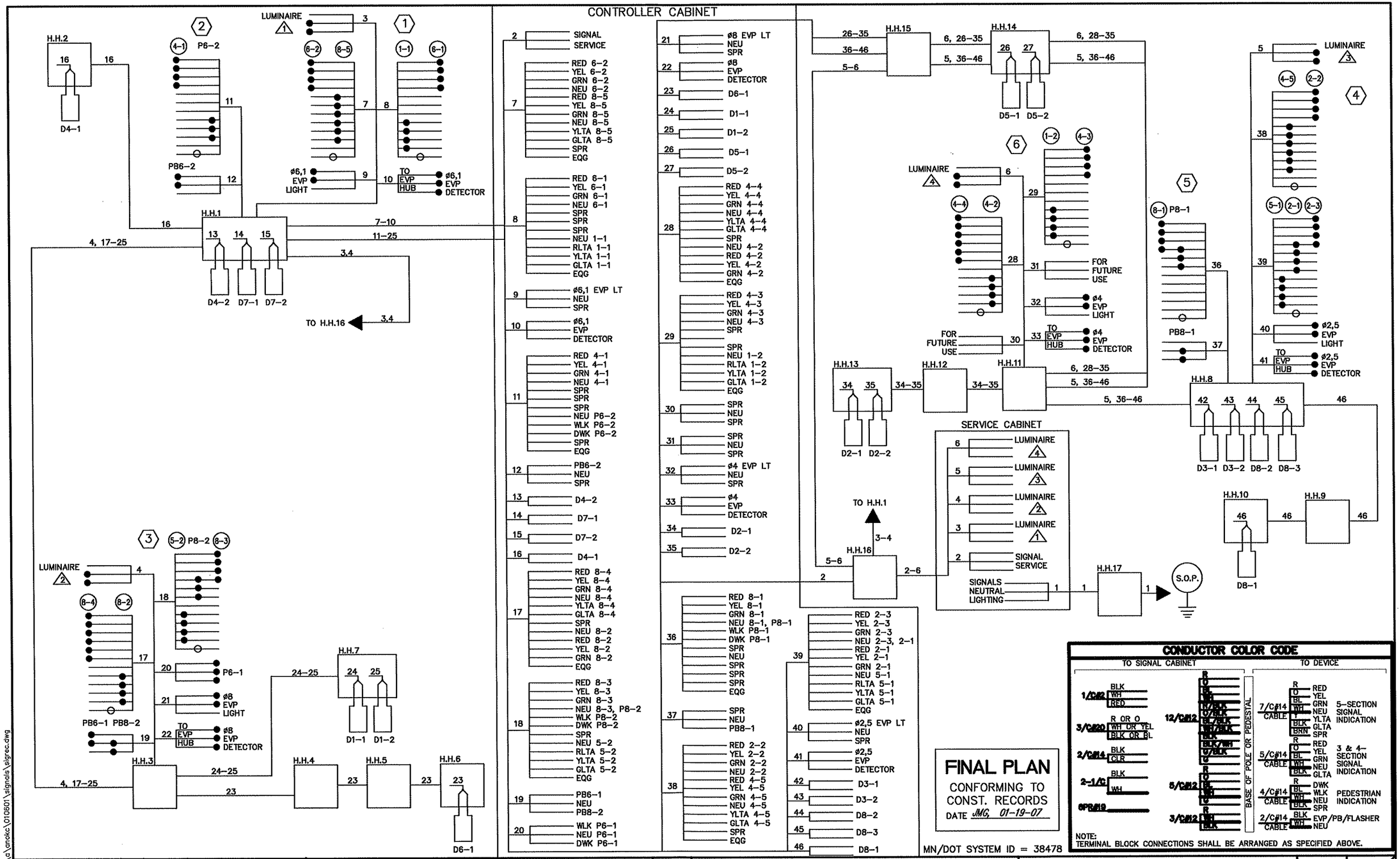

CONDUCTOR COLOR CODE

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

FINAL PLAN
CONFORMING TO CONST. RECORDS
DATE *JMG, 01-19-07*

MN/DOT SYSTEM ID = 38478

NO.	BY	DATE	REVISIONS
1	JMG	10/21/05	REVISED PER STATE COMMENTS
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ST. PAUL, MN 55110

ANOKA COUNTY, MINNESOTA
INTERSECTION IMPROVEMENTS:
CSAH 23 @ INTERSTATE HIGHWAY 35W

TRAFFIC SIGNAL SYSTEM
FIELD WIRING DIAGRAM
CSAH 23 (LAKE DRIVE) AT NAPLES STREET
STATE PROJECT NO. 02-623-014

FILE NO. ANOKC0106.0
DATE 03/16/06
54
57

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