

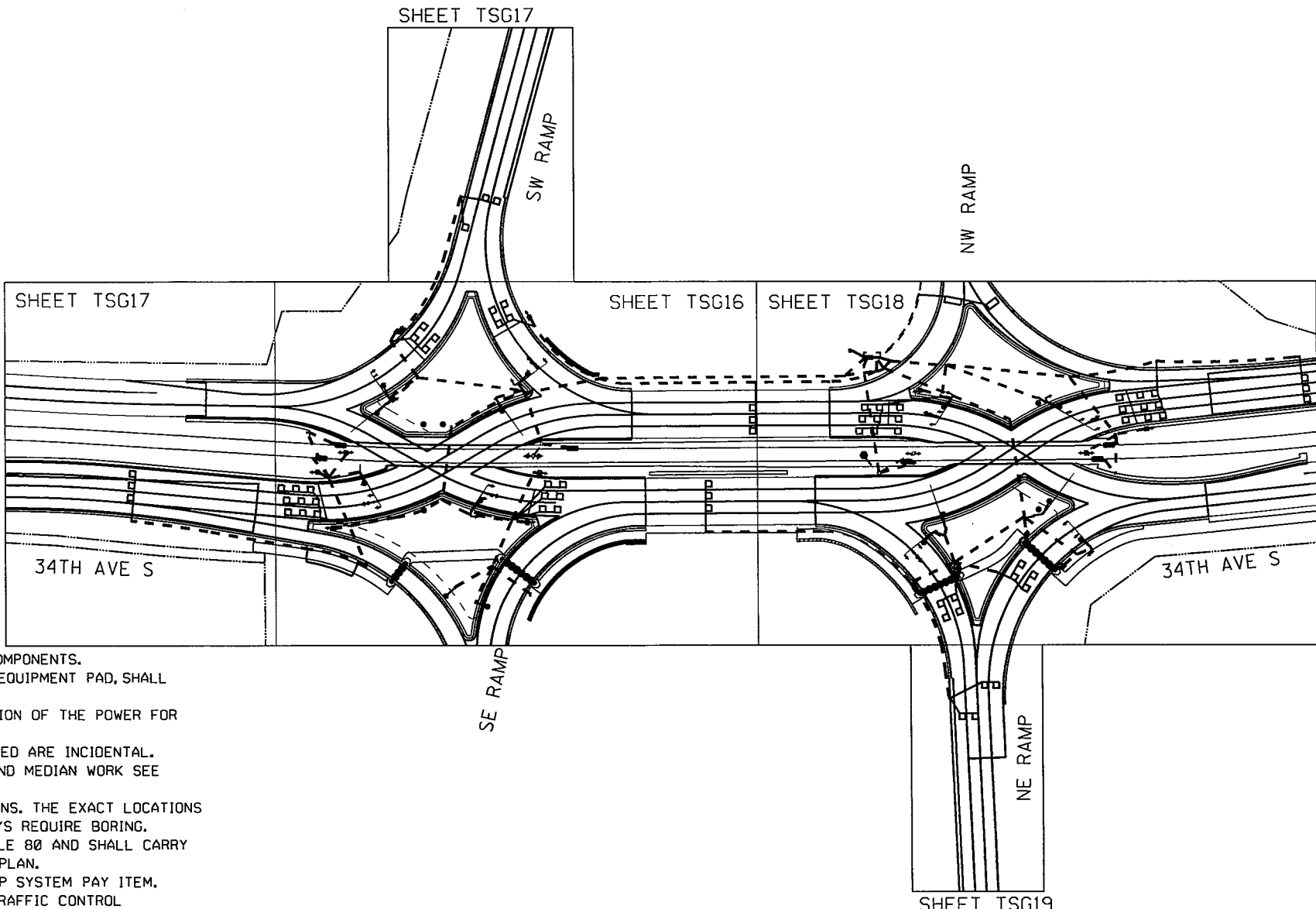
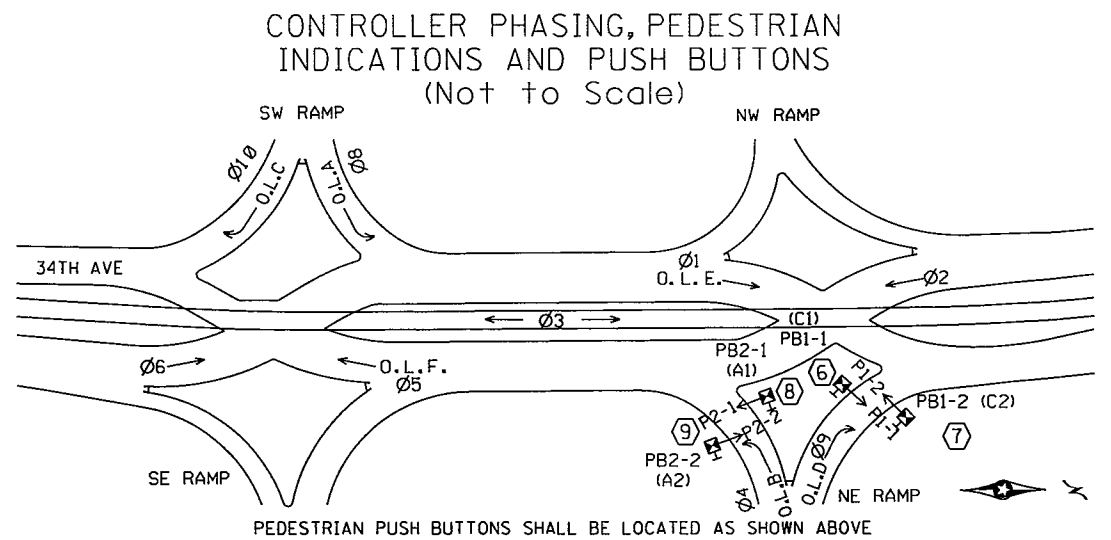
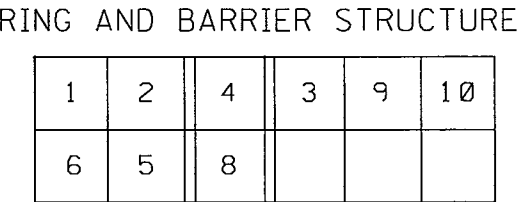
LOOP DETECTOR CHART			SIGNAL FACE CHART						
NUMBER	SIZE (FT)	LOCATION	FACE	R	Y	G	LRT STOP	LRT PTS	LRT GO
DE-1, DE-2, DE-3	6x6	180	2-1, 2-2, 2-3	●	●	↑			
DE-4, DE-5, DE-6	3-6x6	-15, 5 & 20	2-4, 2-5	●	●	↑			
D2-1, D2-2, D2-3	6x6	180	3-1, 3-2, 3-3, 3-4, 3-7, 3-8				⊖	⓪ (1)	⓪
D2-4, D2-5, D2-6	3-6x6	-14, 5 & 20	3-5, 3-6						INPLACE
DF-1, DF-2, DF-3	6x6	180	6-1, 6-2, 6-3	●	●	↑			
DF-4, DF-5, DF-6	2-6x6	5 & 20	6-4, 6-5, 6-6	●	●	↑			
D6-1, D6-2, D6-3	6x6	180	A-1, A-2, A-3, A-4	●	●	↑			
D6-4, D6-5, D6-6	3-6x6	3, 20 & 35	B-1, B-2, B-3, B-4	●	●	↑			
DA-1, DA-2	6x6	120	C-1, C-2, C-3, C-4	●	●	↑			
DA-3, DA-4	2-6x6	5 & 20	D-1, D-2, D-3, D-4	●	●	↑			
DB-1, DB-2	6x6	120	E-1, E-2, E-3, E-4	●	●	↑			
DB-3, DB-4	2-6x6	5 & 20	F-1, F-2, F-3, F-4, F-5	●	●	↑			
DC-1	6x6	120							
DC-2, DC-3	2-6x6	5 & 20							
DD-1, DD-2	6x6	120							
DD-3, DD-4	2-6x6	5 & 20							
DL-1, DL-2	*	**							
DL-3, DL-4, DL-5, DL-6	*	**							

(1) FLASHING LRT GO SIGNAL  
 -ALL SIGNAL INDICATIONS SHALL BE 12" LED  
 -ALL SIGNAL HEADS SHALL BE BLACK POLYCARBONITE WITH BACKGROUND SHIELDS

-ALL VEHICLE LOOP DETECTORS SHALL BE PVC UNLESS NOTED OTHERWISE  
 -LOCATION: DISTANCE FROM CROSSWALK/STOP BAR IN FEET  
 -D1-1, D1-4, D5-1, D5-4 FURNISH AND INSTALL FOR FUTURE USE  
 -DETECTORS D6-1, D6-2 & D6-3 SHALL BE IN ACCORDANCE WITH STANDARD PLATE 8132B EXCEPT THAT 6 TURNS OF CONDUCTORS SHALL BE PROVIDED AND CONDUIT SIZE SHALL BE INCREASED TO 1".  
 \*SEE LRV DETECTION LOOP DETAILS  
 \*\*TO BE LOCATED IN THE FIELD BY THE ENGINEER

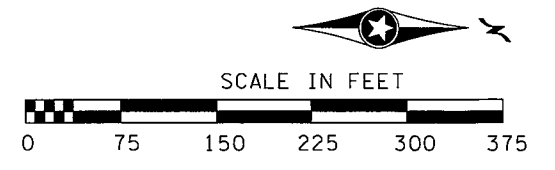
### SIGNAL SYSTEM OPERATION

- THE SIGNAL SYSTEM FLASH MODE IS ALL RED.
- NORMAL OPERATION IS 9 PHASES.
- PHASE 3 IS THE LRT PHASE
- PHASE 9 AND PHASE 10 ARE FOR EVP CALLS ONLY AND SHALL BE OMITTED AT ALL OTHER TIMES.
- OVERLAP A =  $\phi 3 + \phi 5 + \phi 8 + \phi 9 + \phi 10$
- OVERLAP B =  $\phi 1 + \phi 3 + \phi 4 + \phi 9 + \phi 10$
- OVERLAP C =  $\phi 3 + \phi 6 + \phi 10$
- OVERLAP D =  $\phi 2 + \phi 3 + \phi 9$
- OVERLAP E =  $\phi 1 + \phi 8 + \phi 10$
- OVERLAP F =  $\phi 4 + \phi 5 + \phi 9$



- ### NOTES:
- SEE SPECIAL PROVISIONS FOR CITY FURNISHED MATERIALS.
  - REFER TO "FOR INFORMATION ONLY" SHEETS FOR INPLACE SIGNAL COMPONENTS.
  - THE EXACT LOCATION OF HANDHOLES, POLES, LOOP DETECTORS AND EQUIPMENT PAD, SHALL BE VERIFIED IN THE FIELD BY THE ENGINEER.
  - THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING THE CONNECTION OF THE POWER FOR THE TRAFFIC SIGNAL SYSTEM.
  - FOR SIGNAL MOUNTED SIGNS SEE DETAIL SHEET. ALL SIGNS REQUIRED ARE INCIDENTAL.
  - FOR CONSTRUCTION OF PEDESTRIAN CURB RAMPS, CONCRETE WALK AND MEDIAN WORK SEE CIVIL PLANS.
  - THIS PLAN SPECIFIES CONDUIT SIZES, TYPES, AND GENERAL LOCATIONS. THE EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD. CONDUITS UNDER THE ROADWAYS REQUIRE BORING.
  - ALL NEW CONDUIT SHALL BE PVC - SCHEDULE 80 OR HDPE SCHEDULE 80 AND SHALL CARRY 1/2" #6 GREEN INSULATED GROUNDING CONDUCTOR AS SHOWN IN THE PLAN.
  - ITEMS DENOTED WITH AN \* ARE INCLUDED IN PAYMENT FOR THE EVP SYSTEM PAY ITEM.
  - ITEMS DENOTED WITH AN \*\* ARE INCLUDED IN PAYMENT FOR THE TRAFFIC CONTROL INTERCONNECTION PAY ITEM.
  - THE CONTRACTOR SHALL REMOVE THE EXISTING SIGNAL SYSTEM. SIGNAL SYSTEM REMOVAL SHALL BE INCLUSIVE TO THE TRAFFIC CONTROL SIGNAL SYSTEM.

SYSTEM ID: 39549  
 C.P. 2014-301



FILE:K:\TWC\_Aviation\MAC\096.D01\CADD\PLAN SHEETS\TRAFFIC\096-tsg15.dgn

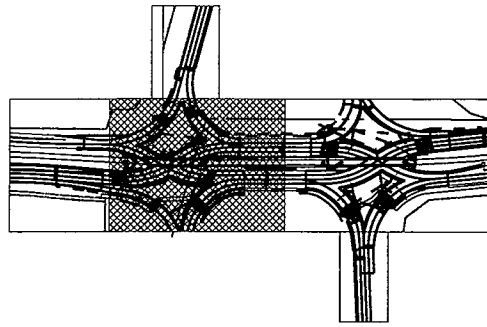
NO.	DATE	DESCRIPTION OF REVISIONS	APP.	DESIGNED BY:	JRG	I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
				DRAWN BY:	GNM	 JONETTE L. KUHAU, P.E. DATE: 01/18/2013 MN LIC. NO. 44250
				CHECKED BY:	JLK	
				DATE:	01/18/2013	
				PROJECT NO.	160400096	



TH-494 AT 34TH AVENUE SOUTH INTERCHANGE IMPROVEMENTS  
 TRAFFIC SIGNAL KEY  
 S.P. 2785-388 (T.H. 494)

DRAWING NO.  
**TSG15**  
 311 OF 396

**KEY MAP**

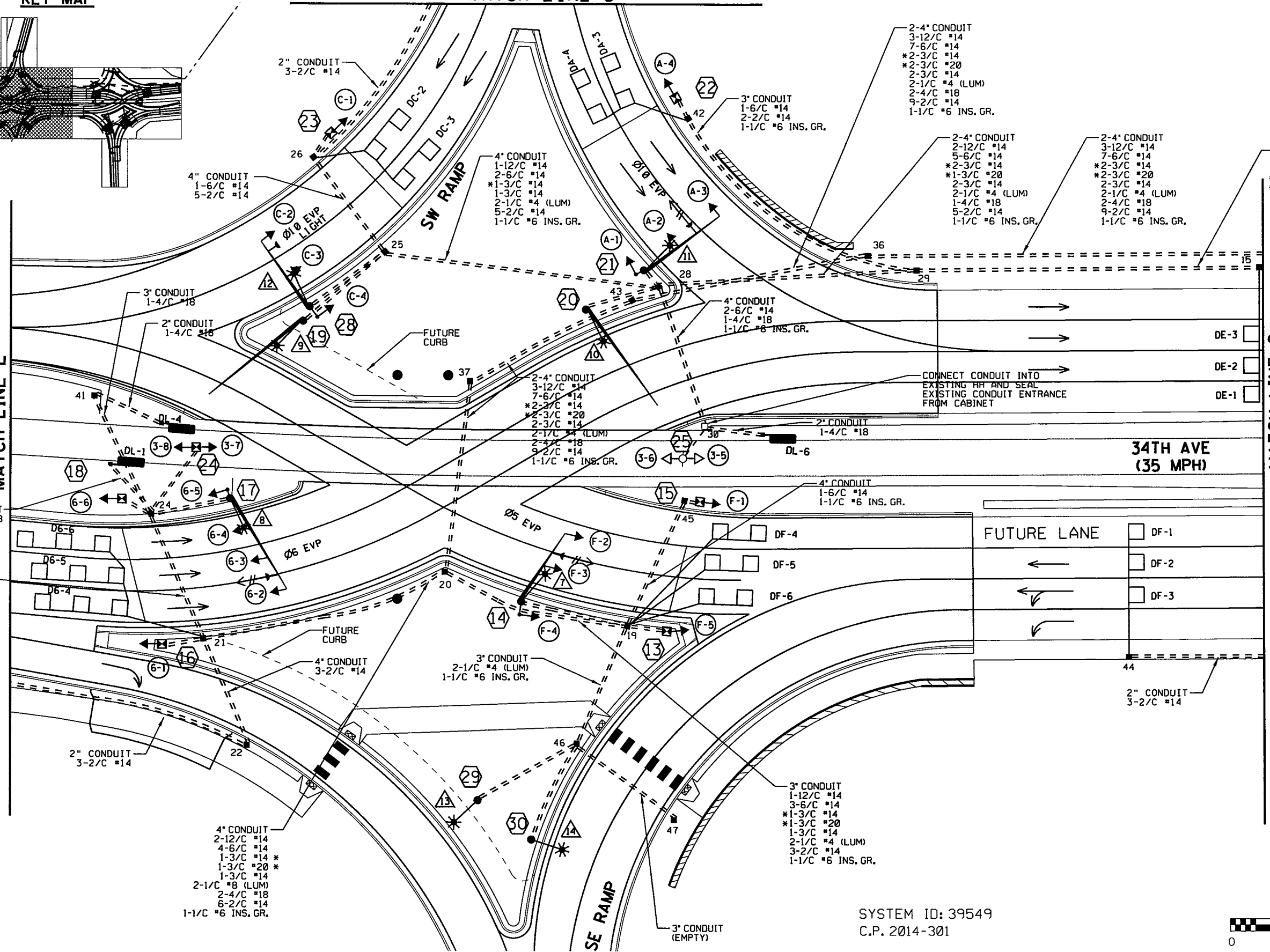


**MATCH LINE D**

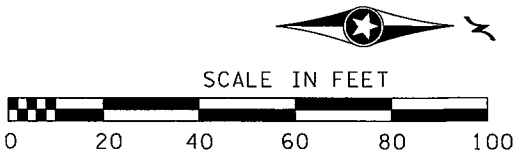
**MATCH LINE E**

**MATCH LINE C**

FILE:K:\TWC\AVIATION\MAC\096\DD\CADD\PLAN SHEETS\TRAFFIC\096-Tsg16.dgn

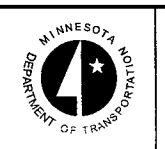
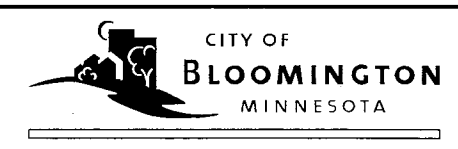


SYSTEM ID: 39549  
C.P. 2014-301



NO.	DATE	DESCRIPTION OF REVISIONS	APP.

DESIGNED BY: JRG  
DRAWN BY: GNM  
CHECKED BY: JLK  
DATE: 01/18/2013  
PROJECT NO. 160400096

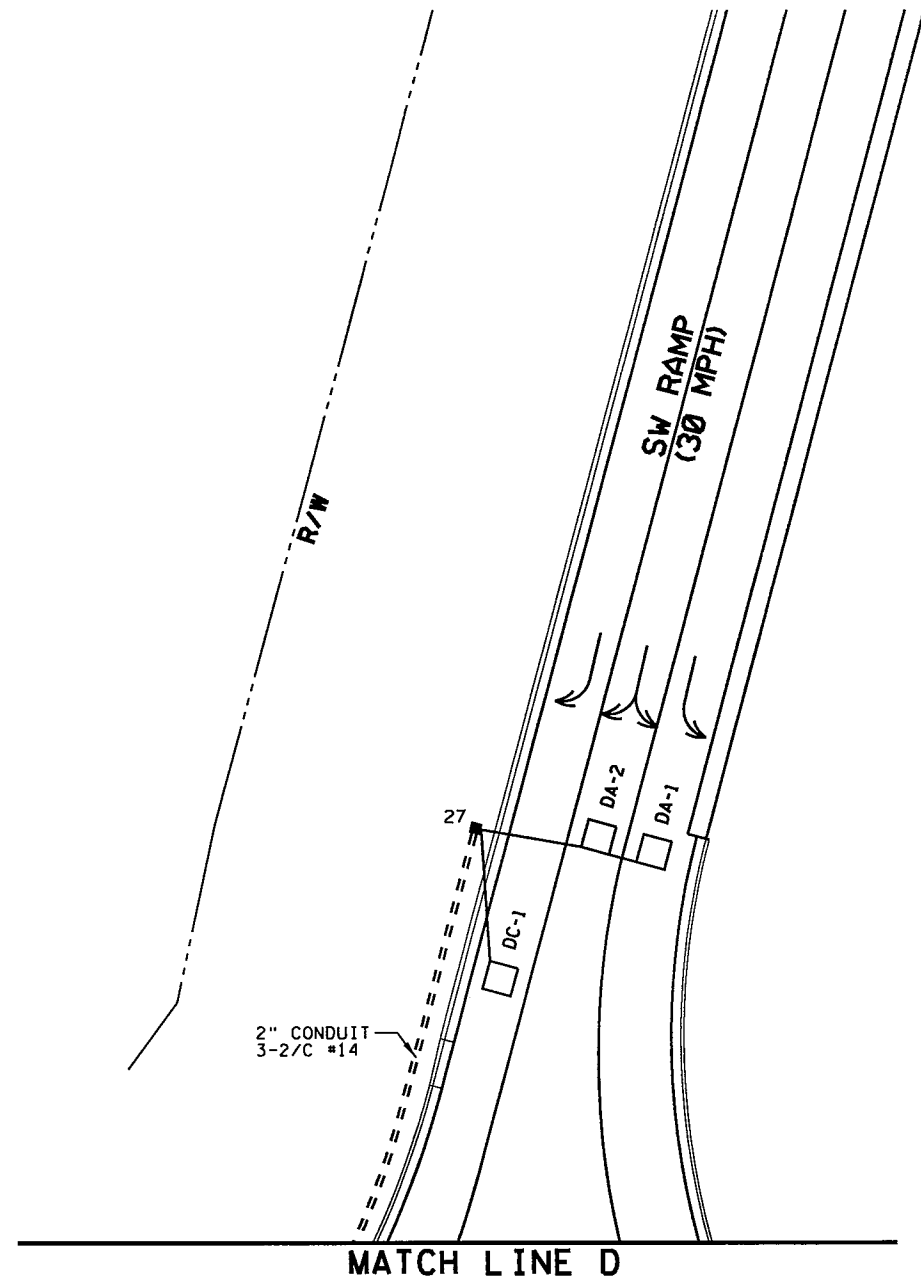
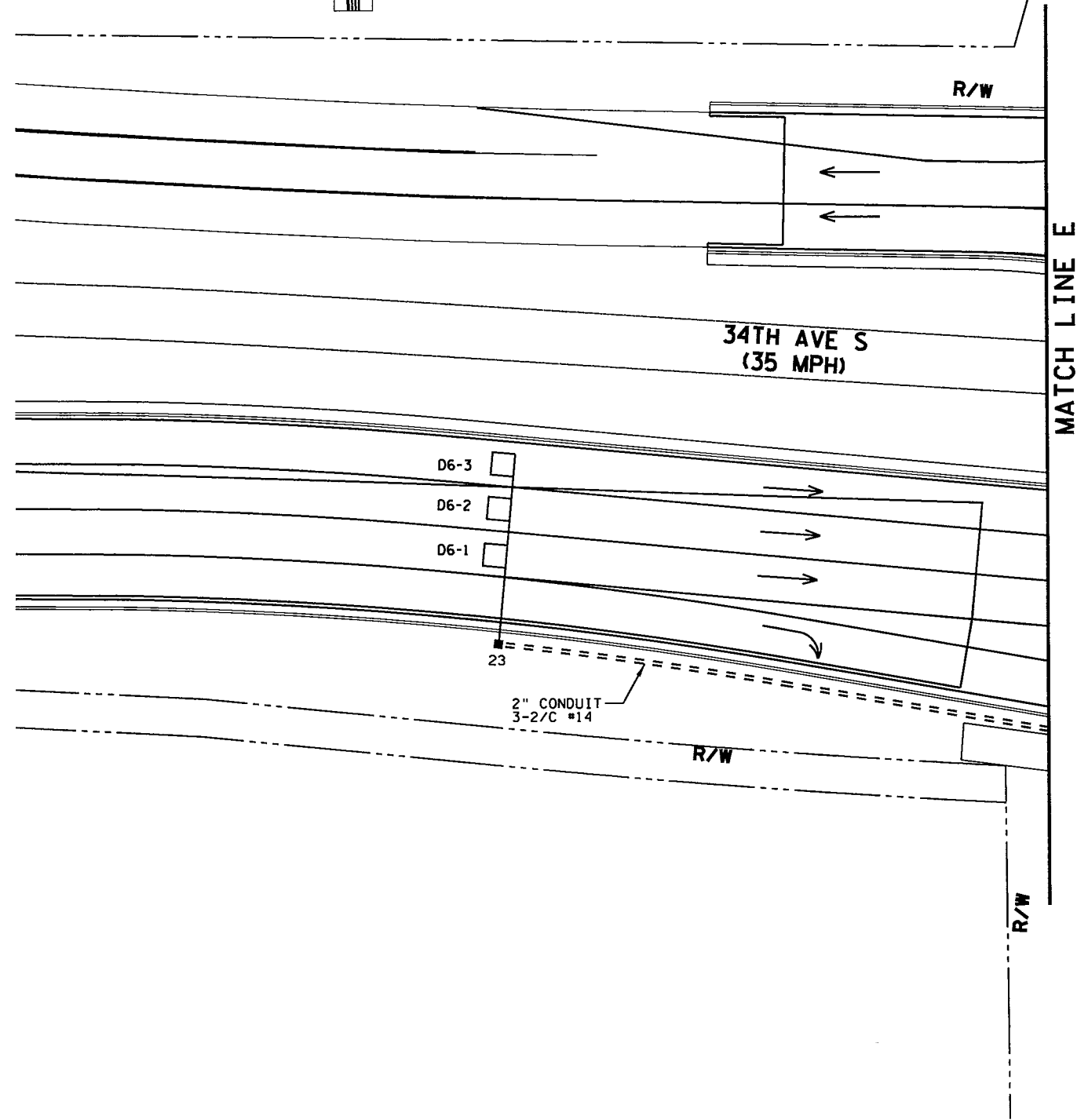
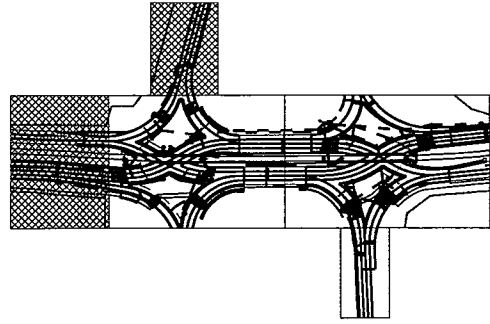


TH-494 AT 34TH AVENUE SOUTH INTERCHANGE IMPROVEMENTS  
INTERSECTION LAYOUT

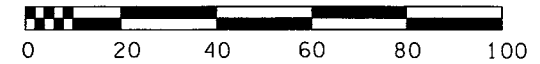
DRAWING NO. **TSG16**  
312 OF 396

S.P. 2785-388 (T.H. 494)

**KEY MAP**




SCALE IN FEET



SYSTEM ID: 39549  
C.P. 2014-301

FILE:K:\TWC\_Aviation\MAC\096.DD1\CADD\PLAN SHEETS\TRAFFIC\096-tsg17.dgn

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DRAWN BY:	GNM	
CHECKED BY:	JLK	
DATE:	01/18/2013	
PROJECT NO.	16040096	



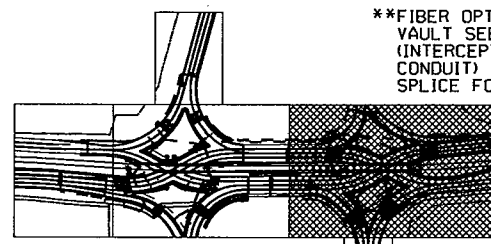
Metropolitan  
Airports  
Commission



TH-494 AT 34TH AVENUE SOUTH  
INTERCHANGE IMPROVEMENTS  
INTERSECTION LAYOUT  
S.P. 2785-388 (T.H. 494)

DRAWING NO.  
**TSG17**  
313 OF 396

**KEY MAP**



\*\*FIBER OPTIC PULL VAULT SEE DETAILS (INTERCEPT EXISTING CONDUIT) SPLICE FO CABLES

\*\*2" CONDUIT  
\*\*1-65M FO CABLE

2" CONDUIT  
2-1/C #12 (LUM)  
1-1/C #6 INS. GR.

2-4" CONDUIT  
3-12/C #14  
7-6/C #14  
\*2-3/C #14  
\*2-3/C #20  
2-3/C #14  
2-1/C #4 (LUM)  
2-4/C #18  
9-2/C #14  
1-1/C #6 INS. GR.

2" CONDUIT  
4-1/C #4 (LUM)  
1-1/C #6 INS. GR.

2-4" CONDUIT  
3-12/C #14  
5-6/C #14  
\*2-3/C #14  
\*2-3/C #20  
2-3/C #14  
2-4/C #18  
2-1/C #12 (LUM)  
9-2/C #14  
1-1/C #6 INS. GR.

INPLACE CONDUIT PULL BACK AND PROTECT FO CABLE AND 2-2/C #14 IN OR NEAR UPSTREAM ADJACENT HANDHOLE DURING CONSTRUCTION  
INSTALL SALVAGED:  
\*\*1-FO CABLE  
2-2/C #14

3" CONDUIT  
2-12/C #14  
\*1-3/C #14  
\*1-3/C #20  
1-3/C #14  
2-1/C #12 (LUM)  
1-1/C #6 INS. GR.

2-4" CONDUIT  
2-12/C #14  
4-6/C #14  
4-4/C #14  
\*2-3/C #14  
\*1-3/C #20  
2-3/C #14  
2-1/C #4 (LUM)  
15-2/C #14  
1-1/C #6 INS. GR.

4" CONDUIT  
3-6/C #14  
2-4/C #18  
1-1/C #6 INS. GR.

2" CONDUIT  
3-2/C #14

2-4" CONDUIT  
2-12/C #14  
6-6/C #14  
2-3/C #14  
1-3/C #20  
2-3/C #14  
2-1/C #4 (LUM)  
1-4/C #18  
10-2/C #14  
1-1/C #6 INS. GR.

2" CONDUIT  
2-1/C #4 (LUM)  
1-1/C #6 INS. GR.

MATCH LINE C

FUTURE LANE

FUTURE LANE

34TH AVE S

(35 MPH)

\*\* INPLACE CONDUIT  
\*\* 2-12 SM-F.O. CABLES  
\*\* 1-12/C #12  
\*\* 1-3/C #12

2" CONDUIT  
3-2/C #14

2" CONDUIT  
3-2/C #14

CONNECT CONDUIT INTO EXISTING HH AND SEAL EXISTING CONDUIT ENTRANCE FROM CONTROLLER

3" CONDUIT  
1-12/C #14  
1-6/C #14  
1-3/C #14  
1-3/C #14  
1-3/C #20  
2-1/C #12 (LUM)  
1-1/C #6 INS. GR.

4" CONDUIT  
1-6/C #14  
1-4/C #14  
8-2/C #14  
1-1/C #6 INS. GR.

2" CONDUIT  
2-2/C #14

2" CONDUIT  
4-2/C #14

MATCH LINE B

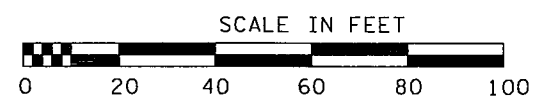
FUTURE CURB

NE RAMP

4" CONDUIT  
1-12/C #14  
2-6/C #14  
2-4/C #14  
\*1-3/C #14  
\*1-3/C #20  
1-3/C #14  
2-1/C #12 (LUM)  
13-2/C #14  
1-1/C #6 INS. GR.

4" CONDUIT  
1-12/C #14  
1-6/C #14  
1-4/C #14  
\*1-3/C #14  
2-1/C #4 (LUM)  
1-2/C #14  
1-1/C #6 INS. GR.

2-4" CONDUIT  
2-12/C #14  
4-6/C #14  
4-4/C #14  
\*2-3/C #14  
\*1-3/C #20  
2-3/C #14  
2-1/C #4 (LUM)  
15-2/C #14  
1-1/C #6 INS. GR.



SYSTEM ID: 39549  
CABINET ADDRESS:  
7852 34TH AVE S  
C.P. 2014-301

FILE:K:\TWC\Aviation\MAC\096\DDI\CADD\PLAN SHEETS\TRAFFIC\096-rsg18.dgn

NO.	DATE	DESCRIPTION OF REVISIONS	APP.
1	2/01/13	UPDATED BASED ON AGENCY COMMENTS	JKL

DESIGNED BY:	JRG
DRAWN BY:	GNM
CHECKED BY:	JLK
DATE:	01/18/2013
PROJECT NO.	160400096

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT 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.

*Jonette L. Kuhnau, P.E.*  
JONETTE L. KUHAU, P.E.  
DATE: 01/18/2013 MN LIC. NO. 44250



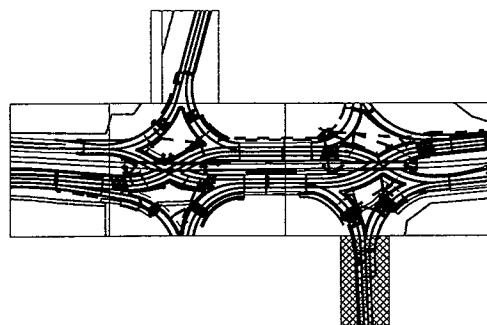
Metropolitan Airports Commission



TH-494 AT 34TH AVENUE SOUTH INTERCHANGE IMPROVEMENTS  
INTERSECTION LAYOUT  
S.P. 2785-388 (T.H. 494)

DRAWING NO.  
**TSG18**  
314 OF 396

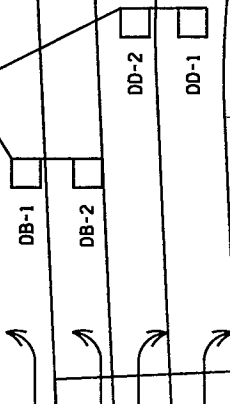
**KEY MAP**



**MATCH LINE B**

2" CONDUIT  
4-2/C #14

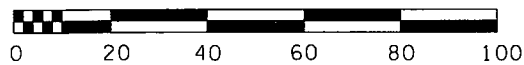
16



**NE RAMP  
(30 MPH)**



SCALE IN FEET



SYSTEM ID: 39549  
C.P. 2014-301

FILE:R:\TWC\_Aviator\MAC\096.DD1\CADD\PLAN SHEETS\TRAFFIC\096-TSG19.dgn

NO.	DATE	DESCRIPTION OF REVISIONS	APP.

DESIGNED BY: JRG  
 DRAWN BY: GNM  
 CHECKED BY: JLK  
 DATE: 01/18/2013  
 PROJECT NO. 16040096

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*Jonette L. Kuhnau*  
 JONETTE L. KUHAU, P.E.  
 DATE: 01/18/2013 MN LIC. NO. 44250



Metropolitan  
Airports  
Commission



TH-494 AT 34TH AVENUE SOUTH  
INTERCHANGE IMPROVEMENTS  
INTERSECTION LAYOUT  
S.P. 2785-388 (T.H. 494)

DRAWING NO.  
**TSG19**  
315 OF 396

- (A) EQUIPMENT PAD (SEE DETAIL SHEET)  
CONTROLLER AND CABINET (CITY FURNISHED):**
- 1-4" & 1-3" CONDUIT TO HH 1: 2-12/C #14, 4-6/C #14, 4-4/C #14, \*2-3/C #14, \*1-3/C #20, 2-3/C #14, 13-2/C #14, 1-1/C #6 INS. GR.
  - 1-4" & 1-3" CONDUIT TO HH 17: 2-12/C #14, 6-6/C #14, \*2-3/C #14, \*1-3/C #20, 2-3/C #14, 1-4/C #18, 10-2/C #14, 1-1/C #6 INS. GR.
  - 1-4" & 1-3" CONDUIT TO HH 33: 3-12/C #14, 5-6/C #14, \*2-3/C #14, \*2-3/C #20, 2-3/C #14, 2-4/C #18, 9-2/C #14, 1-1/C #6 INS. GR.
  - 1-4" & 1-3" CONDUIT TO HH 34: 3-12/C #14, 7-6/C #14, \*2-3/C #14, \*2-3/C #20, 2-3/C #14, 2-4/C #18, 9-2/C #14, 1-1/C #6 INS. GR.
- UPS CABINET**
- 2" RSC TO CONTROLLER CABINET: 2-1/C #6, 1-1/C #6 INS. GR.
- SERVICE CABINET**
- 2" RSC TO UPS CABINET: 2-1/C #6, 1-1/C #6 INS. GR.
  - 2" RSC TO HH 31: 3-1/C #2

- (B) SOP-GROUNDED MOUNTED TRANSFORMER (EXCEL ENERGY)**
- 2" RSC TO HH 31: 3-1/C #2

- (1) PEDESTAL FOUNDATION  
13' PEDESTAL POLE PLUS BASE**
- 1-"BUSES AND TAXIS EXEMPT FROM STOPPING AT TRACKS ON GREEN" SIGN - SEE SIGN DETAILS
  - 1-STRAIGHT MOUNT SIGNAL
  - 3" CONDUIT TO HH 5: 1-6/C #14, 1-1/C #6 INS. GR.

- (2) PA90 POLE FOUNDATION  
TYPE PA90-A-30-D40-9 (DAVIT AT 10 DEG)  
LUMINAIRE-250W HPS**
- \*1-ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASE 1)
  - 1-ANGLE MOUNT SIGNAL OVERHEAD AT 0'
  - 1-ANGLE MOUNT SIGNAL OVERHEAD AT 14'
  - 1-ANGLE MOUNT SIGNAL AT 180 DEG
  - 1-BLANKOUT SIGN (W10-7)
  - 1-R5-1 SIGN (DO NOT ENTER) FACING SB TRAFFIC (36" x 36")
  - 1-R3-4 SIGN (NO U-TURN) (36" x 36")
  - 3" CONDUIT TO HH 5: 1-12/C #14, 1-6/C #14, \*1-3/C #14, \*1-3/C #20, 1-3/C #14, 2-1/C #12 (LUM), 1-1/C #6 INS. GR.

- (3) PA100 POLE FOUNDATION  
TYPE PA100-A-55-D40-9 (DAVIT AT 350 DEG)**
- 1-ANGLE MOUNT SIGNAL OVERHEAD AT 0'
  - 2-ANGLE MOUNT SIGNAL OVERHEAD AT 20' AND 37'
  - 1-ANGLE MOUNT SIGNAL AT 180 DEG
  - 1-BLANKOUT SIGN (W10-7)
  - 1-"BUSES AND TAXIS EXEMPT FROM STOPPING AT TRACKS ON GREEN" SIGN - SEE SIGN DETAILS
  - 1-R5-1 SIGN (DO NOT ENTER) FACING SOUTHEAST (36" x 36")
  - LUMINAIRE-250W HPS
  - \*1-ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASE 2)
  - 3" CONDUIT TO HH 6: 2-12/C #14, \*1-3/C #14, \*1-3/C #20, 1-3/C #14, 2-1/C #12 (LUM), 1-1/C #6 INS. GR.

- (4) PA100 POLE FOUNDATION  
TYPE PA100-A-50-D40-9 (DAVIT AT 350 DEG)  
LUMINAIRE-250W HPS**
- 2-R3-5A SIGNS (THROUGH ONLY)
  - 1-RED LIGHT RUNNING ENFORCEMENT LIGHT (ØE FACING EAST)
  - 3" CONDUIT TO HH 10: 1-3/C #14, 2-1/C #4 (LUM), 1-1/C #6 INS. GR.

- (5) PA100 POLE FOUNDATION  
TYPE PA100-A-35-D40-9 (DAVIT AT 350 DEG)  
LUMINAIRE-250W HPS**
- \*1-EVP CONFIRMATORY LIGHT (PHASE 9)
  - 1-ANGLE MOUNT SIGNAL OVERHEAD AT 0'
  - 1-STRAIGHT MOUNT SIGNAL OVERHEAD AT 17'
  - 1-ANGLE MOUNT SIGNAL AT 180 DEG
  - 1-R5-1 SIGN (DO NOT ENTER) FACING NORTHWEST (36" x 36")
  - 3" CONDUIT TO HH 11: 1-12/C #14, 1-6/C #14, \*1-3/C #14, 2-1/C #4 (LUM), 1-1/C #6 INS. GR.

- (6) PEDESTAL FOUNDATION  
13' PEDESTAL POLE PLUS BASE**
- 1-STRAIGHT MOUNT SIGNAL
  - 1-STRAIGHT MOUNT C.D. PED IND
  - 1-APS PB AND SIGN (RT ARROW)(PB1-1)
  - 3" CONDUIT TO HH 10: 1-6/C #14, 1-4/C #14, 1-2/C #14, 1-1/C #6 INS. GR.

- (7) PEDESTAL FOUNDATION  
10' PEDESTAL POLE PLUS BASE**
- 1-STRAIGHT MOUNT C.D. PED IND
  - 1-APS PB AND SIGN (LT ARROW)(PB1-2)
  - 3" CONDUIT TO HH 11: 1-4/C #14, 1-2/C #14, 1-1/C #6 INS. GR.

- (8) PEDESTAL FOUNDATION  
10' PEDESTAL POLE PLUS BASE**
- 1-STRAIGHT MOUNT C.D. PED IND
  - 1-APS PB AND SIGN (LT ARROW)(PB2-1)
  - 3" CONDUIT TO HH 13: 1-4/C #14, 1-2/C #14, 1-1/C #6 INS. GR.

- (9) PEDESTAL FOUNDATION  
13' PEDESTAL POLE PLUS BASE**
- 1-STRAIGHT MOUNT SIGNAL
  - 1-STRAIGHT MOUNT C.D. PED IND
  - 1-APS PB AND SIGN (RT ARROW)(PB2-2)
  - 3" CONDUIT TO HH 14: 1-6/C #14, 1-4/C #14, 1-2/C #14, 1-1/C #6 INS. GR.

- (10) PA100 POLE FOUNDATION  
TYPE PA100-A-35-D40-9 (DAVIT AT 350 DEG)  
LUMINAIRE-250W HPS**
- 1-ANGLE MOUNT SIGNAL OVERHEAD AT 0'
  - 1-STRAIGHT MOUNT SIGNAL OVERHEAD AT 17'
  - 1-ANGLE MOUNT SIGNAL AT 180 DEG
  - 1-R5-1 SIGN (DO NOT ENTER) FACING SOUTHEAST (36" x 36")
  - 1-R3-1 SIGN (NO RIGHT TURN) (36" x 36")
  - \*1-ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASE 9)
  - 3" CONDUIT TO HH 9: 1-12/C #14, 1-6/C #14, \*1-3/C #14, \*1-3/C #20, 2-1/C #12 (LUM), 1-1/C #6 INS. GR.

- (11) PA100 POLE FOUNDATION  
TYPE PA100-A-45-D40-9 (DAVIT AT 10 DEG)  
LUMINAIRE-250W HPS**
- 3-R3-5A SIGNS (THROUGH ONLY)
  - 1-R3-2 SIGN (NO LEFT TURN) (36" x 36")
  - 1-RED LIGHT RUNNING ENFORCEMENT LIGHT (Ø2 FACING EAST)
  - 3" CONDUIT TO HH 9: 1-3/C #14, 2-1/C #12 (LUM), 1-1/C #6 INS. GR.

- (12) PEDESTAL FOUNDATION  
13' PEDESTAL POLE PLUS BASE**
- 1-STRAIGHT MOUNT SIGNAL
  - 1-R3-4 SIGN (NO U-TURN) FACING SB TRAFFIC (24" x 24")
  - 1-R10-6(R) (STOP HERE ON RED) SIGN (18" x 24")
  - 1-R5-1 SIGN (DO NOT ENTER) FACING NB TRAFFIC (36" x 36")
  - 3" CONDUIT TO HH 8: 1-6/C #14, 1-1/C #6 INS. GR.

- (13) PEDESTAL FOUNDATION  
13' PEDESTAL POLE PLUS BASE**
- 1-STRAIGHT MOUNT SIGNAL
  - 1-R10-6(R) SIGN (STOP HERE ON RED) (18" x 24")
  - 1-"BUSES AND TAXIS EXEMPT FROM STOPPING AT TRACKS ON GREEN" SIGN - SEE SIGN DETAILS
  - 3" CONDUIT TO HH 19: 1-6/C #14, 1-1/C #6 INS. GR.

- (14) PA90 POLE FOUNDATION  
TYPE PA90-A-30-D40-9 (DAVIT AT 10 DEG)**
- 1-ANGLE MOUNT SIGNAL OVERHEAD AT 0'
  - 1-STRAIGHT MOUNT SIGNAL OVERHEAD AT 16'
  - 1-ANGLE MOUNT SIGNAL AT 180 DEG
  - 1-BLANKOUT SIGN (W10-7)
  - 1-R8-8 SIGN (DO NOT STOP ON TRACKS) (24" x 30")
  - 1-R5-1 SIGN (DO NOT ENTER) FACING NB TRAFFIC (36" x 36")
  - LUMINAIRE-250W HPS
  - \*1-ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASE 5)
  - 3" CONDUIT TO HH 19: 1-12/C #14, 1-6/C #14, \*1-3/C #14, \*1-3/C #20, 1-3/C #14, 2-1/C #4 (LUM), 1-1/C #6 INS. GR.

- (15) PEDESTAL FOUNDATION  
9' PEDESTAL POLE PLUS BASE**
- 1-STRAIGHT MOUNT SIGNAL
  - 1-R3-4 SIGN (NO U-TURN) (24" x 24")
  - 1-R5-1 SIGN (DO NOT ENTER) FACING SOUTHWEST (30" x 30") (MOUNT AT 6')
  - 3" CONDUIT TO HH 45: 1-6/C #14, 1-1/C #6 INS. GR.

- (16) PEDESTAL FOUNDATION  
13' PEDESTAL POLE PLUS BASE**
- 1-STRAIGHT MOUNT SIGNAL
  - 1-R10-6(L) SIGN (STOP HERE ON RED) (18" x 24")
  - 1-"BUSES AND TAXIS EXEMPT FROM STOPPING AT TRACKS ON GREEN" SIGN - SEE SIGN DETAILS
  - 3" CONDUIT TO HH 21: 1-6/C #14, 1-1/C #6 INS. GR.

- (17) PA100 POLE FOUNDATION  
TYPE PA100-A-40-D40-9 (DAVIT AT 10 DEG)**
- 1-ANGLE MOUNT SIGNAL OVERHEAD AT 0'
  - 2-STRAIGHT MOUNT SIGNAL OVERHEAD AT 14' AND 28'
  - 1-ANGLE MOUNT SIGNAL AT 180 DEG
  - 1-BLANKOUT SIGN (W10-7)
  - 1-R5-1 SIGN (DO NOT ENTER) FACING SB TRAFFIC (36" x 36")
  - 1-R3-4 SIGN (NO U-TURN) (24" x 24")
  - LUMINAIRE-250W HPS
  - \*1-ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASE 6)
  - 3" CONDUIT TO HH 24: 2-12/C #14, \*1-3/C #14, \*1-3/C #20, 1-3/C #14, 2-1/C #8 (LUM), 1-1/C #6 INS. GR.

- (18) PEDESTAL FOUNDATION  
13' PEDESTAL POLE PLUS BASE**
- 1-STRAIGHT MOUNT SIGNAL
  - 1-R10-6(R) SIGN (STOP HERE ON RED) (18" x 24")
  - 3" CONDUIT TO HH 24: 1-6/C #14, 1-1/C #6 INS. GR.

- (19) PA100 POLE FOUNDATION  
TYPE PA100-A-45-D40-9 (DAVIT AT 350 DEG)  
LUMINAIRE-250W HPS**
- 2-R3-5A SIGNS (THROUGH ONLY)
  - 1-RED LIGHT RUNNING ENFORCEMENT LIGHT (ØF FACING WEST)
  - 1-R5-1 SIGN (DO NOT ENTER) FACING SOUTHEAST (36" x 36")
  - 3" CONDUIT TO HH 25: 1-3/C #14, 2-1/C #4 (LUM), 1-1/C #6 INS. GR.

C.P. 2014-301

FILE:K:\TMC-AViation\MAC\086-DDI\CADD\PLAN SHEETS\TRAFFIC\086-Tsg20.dgn

NO.	DATE	DESCRIPTION OF REVISIONS	APP.

DESIGNED BY:	JRG
DRAWN BY:	GNM
CHECKED BY:	JLK
DATE:	01/18/2013
PROJECT NO.	160400096

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT 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.

*Jonette L. Kuhnauf, P.E.*  
JONETTE L. KUHNAUF, P.E.  
DATE: 01/18/2013 MN LIC. NO. 44250



TH-494 AT 34TH AVENUE SOUTH INTERCHANGE IMPROVEMENTS  
INTERSECTION NOTES  
S.P. 2785-388 (T.H. 494)

DRAWING NO.  
**TSG20**  
316 OF 396

20 PA100 POLE FOUNDATION  
 TYPE PA100-A-45-D40-9 (DAVIT AT 10 DEG)  
 LUMINAIRE-250W HPS  
 3-R3-5A SIGNS (THROUGH ONLY)  
 1-R3-2 SIGN (NO LEFT TURN) (24" x 24")  
 1-R8-8 SIGN (DO NOT STOP ON TRACKS) (24" x 30")  
 1-RED LIGHT RUNNING ENFORCEMENT LIGHT (Ø6 FACING WEST)  
 3" CONDUIT TO HH 28;  
 1-3/C #14  
 2-1/C #4 (LUM)  
 1-1/C #6 INS. GR.

21 PA100 POLE FOUNDATION  
 TYPE PA100-A-35-D40-9 (DAVIT AT 350 DEG)  
 LUMINAIRE-250W HPS  
 1-ANGLE MOUNT SIGNAL OVERHEAD AT 0'  
 1-STRAIGHT MOUNT SIGNAL OVERHEAD AT 20'  
 1-ANGLE MOUNT SIGNAL AT 180 DEG  
 1-R3-1 SIGN (NO RIGHT TURN) (36" x 36")  
 1-R5-1 SIGN (DO NOT ENTER) FACING NORTHEAST (36" x 36")  
 \* 1-ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASE 10)  
 3" CONDUIT TO HH 28;  
 1-12/C #14  
 1-6/C #14  
 \* 1-3/C #14  
 \* 1-3/C #20  
 2-1/C #4 (LUM)  
 1-1/C #6 INS. GR.

22 PEDESTAL FOUNDATION  
 13' PEDESTAL POLE PLUS BASE  
 1-STRAIGHT MOUNT SIGNAL  
 1-R10-6(R) SIGN (STOP HERE ON RED) (18" x 24")  
 3" CONDUIT TO HH 42;  
 1-6/C #14  
 1-1/C #6 INS. GR.

23 PEDESTAL FOUNDATION  
 13' PEDESTAL POLE PLUS BASE  
 1-STRAIGHT MOUNT SIGNAL  
 1-R10-6(L) SIGN (STOP HERE ON RED) (18" x 24")  
 3" CONDUIT TO HH 26;  
 1-6/C #14  
 1-1/C #6 INS. GR.

24 PEDESTAL FOUNDATION  
 5' PEDESTAL POLE PLUS BASE  
 TYPE 2A  
 2-LRT INDICATIONS  
 3" CONDUIT TO HH 24;  
 2-6/C #14  
 1-1/C #6 INS. GR.

25 INPLACE OCS POLE  
 INPLACE LRT INDICATIONS  
 INPLACE 3" CONDUIT TO HH 30;  
 REMOVE INPLACE CABLES  
 F&I;  
 2-6/C #14  
 1-1/C #6 INS. GR.

26 INPLACE PEDESTAL POLE  
 TYPE 2A  
 2-LRT INDICATIONS  
 INPLACE 3" CONDUIT TO HH 7;  
 REMOVE INPLACE CABLES  
 F&I;  
 2-6/C #14  
 1-1/C #6 INS. GR.

27 PEDESTAL FOUNDATION  
 5' PEDESTAL POLE PLUS BASE  
 TYPE 2A  
 2-LRT INDICATIONS  
 3" CONDUIT TO HH 8;  
 2-6/C #14  
 1-1/C #6 INS. GR.

28 PA90 POLE FOUNDATION  
 TYPE PA90-A-30-D40-9 (DAVIT AT 10 DEG)  
 LUMINAIRE-250W HPS  
 1-ANGLE MOUNT SIGNAL OVERHEAD AT 0'  
 1-STRAIGHT MOUNT SIGNAL OVERHEAD AT 16'  
 1-ANGLE MOUNT SIGNAL AT 180 DEG  
 1-R3-2 SIGN (NO LEFT TURN) (36" x 36")  
 \* 1-EVP CONFIRMATORY LIGHT (PHASE 10)  
 3" CONDUIT TO HH 25;  
 1-12/C #14  
 1-6/C #14  
 \* 1-3/C #14  
 2-1/C #4 (LUM)  
 1-1/C #6 INS. GR.

29 PA85 POLE FOUNDATION  
 TYPE PA85-A-0-D40-9 (DAVIT AT 10 DEG)  
 LUMINAIRE-250W HPS  
 3" CONDUIT TO HH46;  
 2-1/C #4 (LUM)  
 1-1/C #6 INS. GR.

30 PA85 POLE FOUNDATION  
 TYPE PA85-A-0-D40-9 (DAVIT AT 350 DEG)  
 LUMINAIRE-250W HPS  
 3" CONDUIT TO HH46;  
 2-1/C #4 (LUM)  
 1-1/C #6 INS. GR.

C.P. 2014-301

FILE:K:\TWC-Aviator\MAC\096\DDI\CADD\PLAN SHEETS\TRAFFIC\096-tsg21.dgn

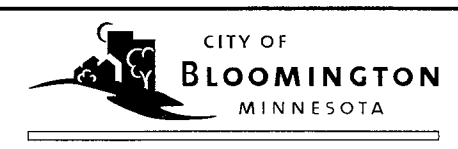
NO.	DATE	DESCRIPTION OF REVISIONS	APP.

DESIGNED BY: JRG  
 DRAWN BY: GNM  
 CHECKED BY: JLK  
 DATE: 01/18/2013  
 PROJECT NO. 160400096

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT 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.  
  
 JONETTE L. KUHNNU, P.E.  
 DATE: 01/18/2013 MN LIC. NO. 44250



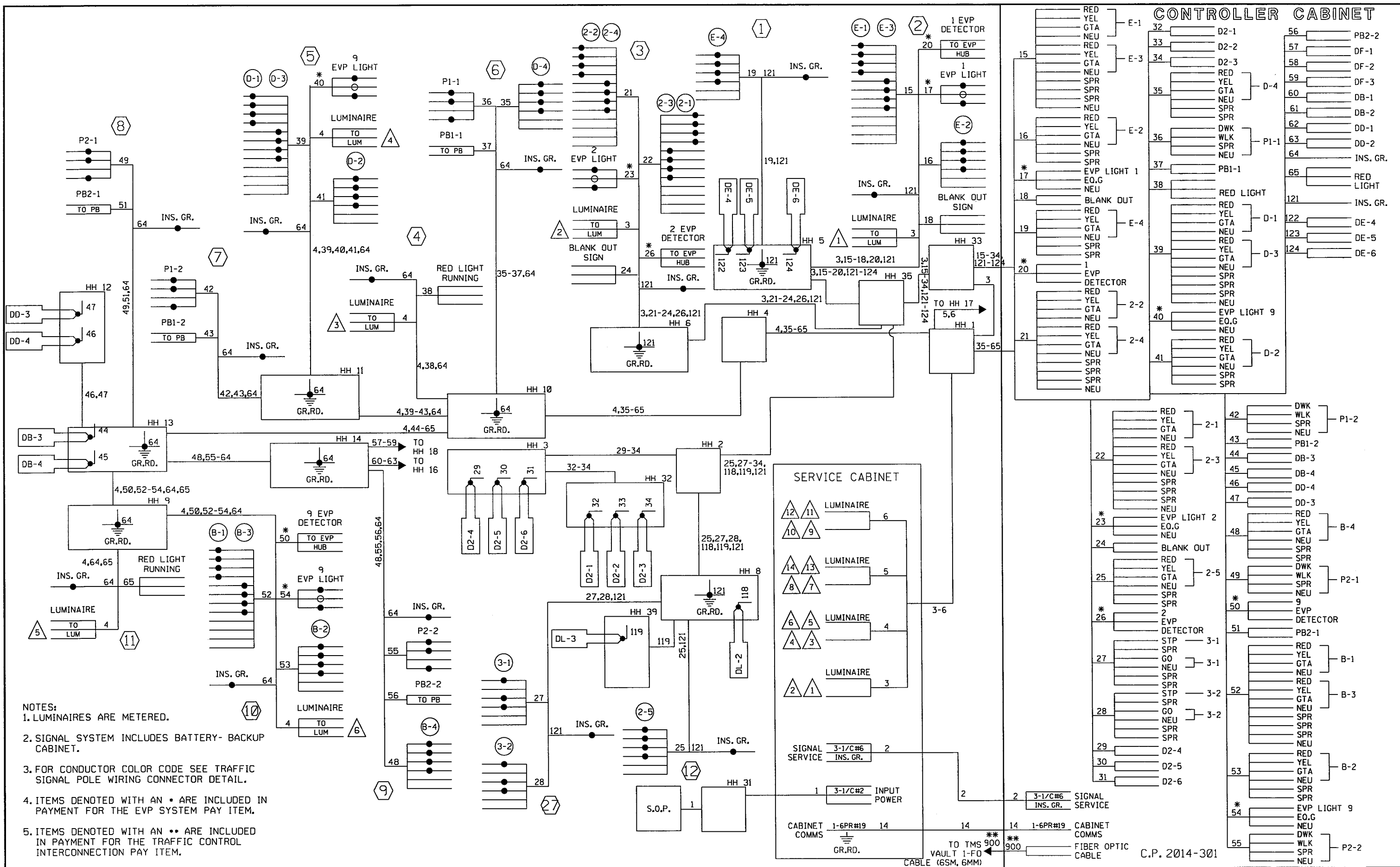
Metropolitan Airports Commission



TH-494 AT 34TH AVENUE SOUTH INTERCHANGE IMPROVEMENTS  
 INTERSECTION NOTES  
 S.P. 2785-388 (T.H. 494)

DRAWING NO. TSG21  
 317 OF 396

FILE:K:\TWC\_AVIATION\MAC\096.DDT\CADD\PLAN SHEETS\TRAFFIC\096-1sq22.dgn

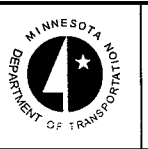


- NOTES:
1. LUMINAIRES ARE METERED.
  2. SIGNAL SYSTEM INCLUDES BATTERY- BACKUP CABINET.
  3. FOR CONDUCTOR COLOR CODE SEE TRAFFIC SIGNAL POLE WIRING CONNECTOR DETAIL.
  4. ITEMS DENOTED WITH AN \* ARE INCLUDED IN PAYMENT FOR THE EVP SYSTEM PAY ITEM.
  5. ITEMS DENOTED WITH AN \*\* ARE INCLUDED IN PAYMENT FOR THE TRAFFIC CONTROL INTERCONNECTION PAY ITEM.

NO.	DATE	DESCRIPTION OF REVISIONS	APP.

DESIGNED BY: JRG  
 DRAWN BY: GNM  
 CHECKED BY: JLK  
 DATE: 01/18/2013  
 PROJECT NO. 160400096

DATE: 01/18/2013 MN LIC. NO. 44250

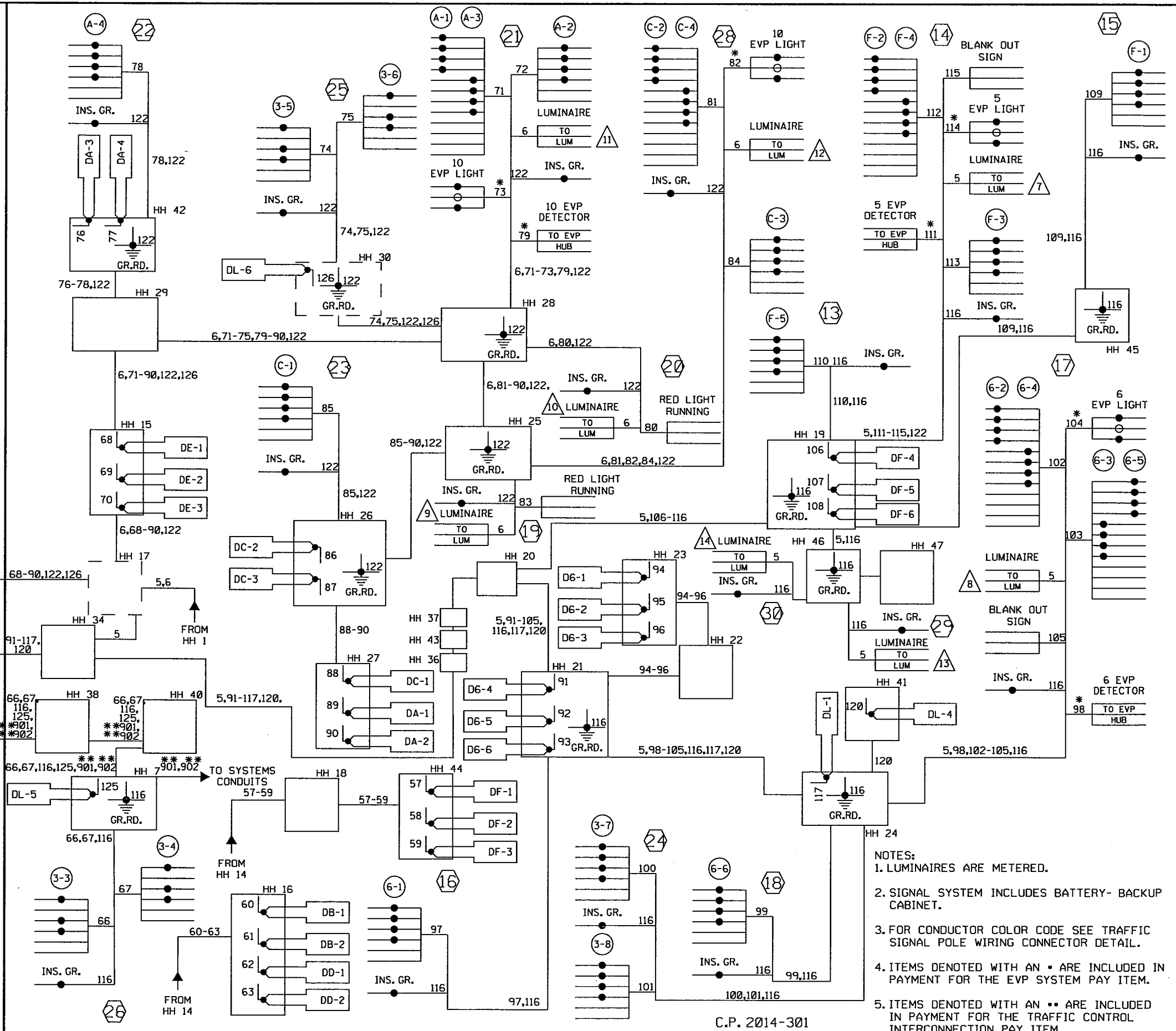
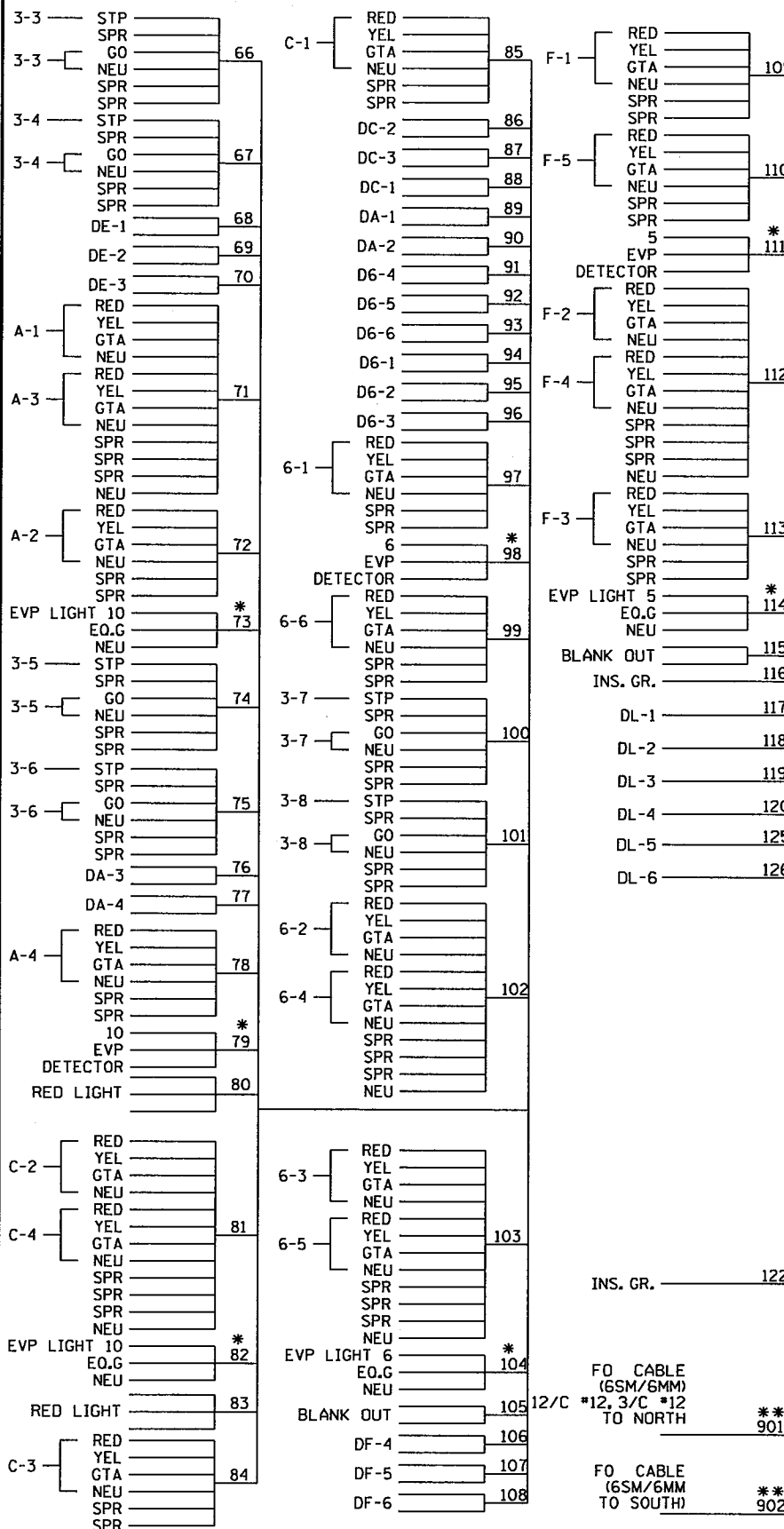


TH-494 AT 34TH AVENUE SOUTH INTERCHANGE IMPROVEMENTS  
 SIGNAL WIRING DIAGRAM  
 S.P. 2785-388 (T.H. 494)

DRAWING NO. TSG22  
 318 OF 396



# CONTROLLER CABINET



- NOTES:
1. LUMINAIRES ARE METERED.
  2. SIGNAL SYSTEM INCLUDES BATTERY- BACKUP CABINET.
  3. FOR CONDUCTOR COLOR CODE SEE TRAFFIC SIGNAL POLE WIRING CONNECTOR DETAIL.
  4. ITEMS DENOTED WITH AN \* ARE INCLUDED IN PAYMENT FOR THE EVP SYSTEM PAY ITEM.
  5. ITEMS DENOTED WITH AN \*\* ARE INCLUDED IN PAYMENT FOR THE TRAFFIC CONTROL INTERCONNECTION PAY ITEM.

C.P. 2014-301

FILE:K:\TWC-Aviation\MAC\096.DD\CADD\PLAN SHEETS\TRAFFIC\096-TSG23.dgn

NO.	DATE	DESCRIPTION OF REVISIONS	APP.	DESIGNED BY:	JRG
1	2/01/13	UPDATED SIGNAL HEAD 6-2 AND 6-4 CALL OUTS	JLK	DRAWN BY:	GNM
				CHECKED BY:	JLK
				DATE:	01/18/2013
				PROJECT NO.	160400096

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*Jonette L. Kuhnau, P.E.*  
 JONETTE L. KUHNAU, P.E.  
 DATE: 01/18/2013 MN LIC. NO. 44250



Metropolitan Airports Commission



TH-494 AT 34TH AVENUE SOUTH INTERCHANGE IMPROVEMENTS  
 SIGNAL WIRING DIAGRAM  
 S.P. 2785-388 (T.H. 494)

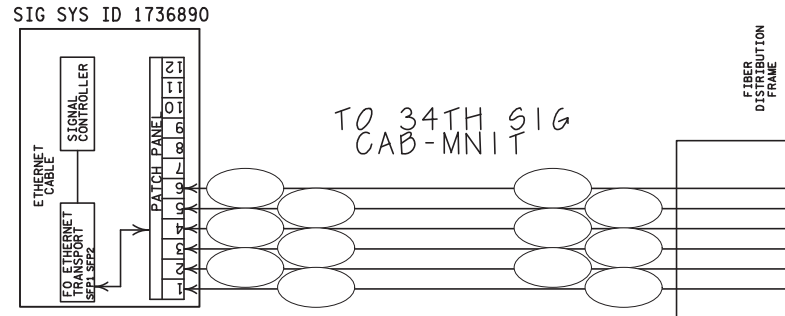
DRAWING NO.  
**TSG23**  
 319 OF 396

TH 494 AT TH 77 SHELTER

SIGNAL CABINET NW QUAD  
TH494/34TH AVE-MNIT  
CONNECTION

SIG SYS ID 1736890

F-494.63  
EAST



TO 34TH SIG  
CAB-MNIT

FIBER  
DISTRIBUTION  
FRAME

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FIBER OPTIC CABLE MARKINGS @  
SPLICE ENCLOSURE  
VAULT ENTRY

TH 494 AT TH 5 334 PATCHING CABINET