

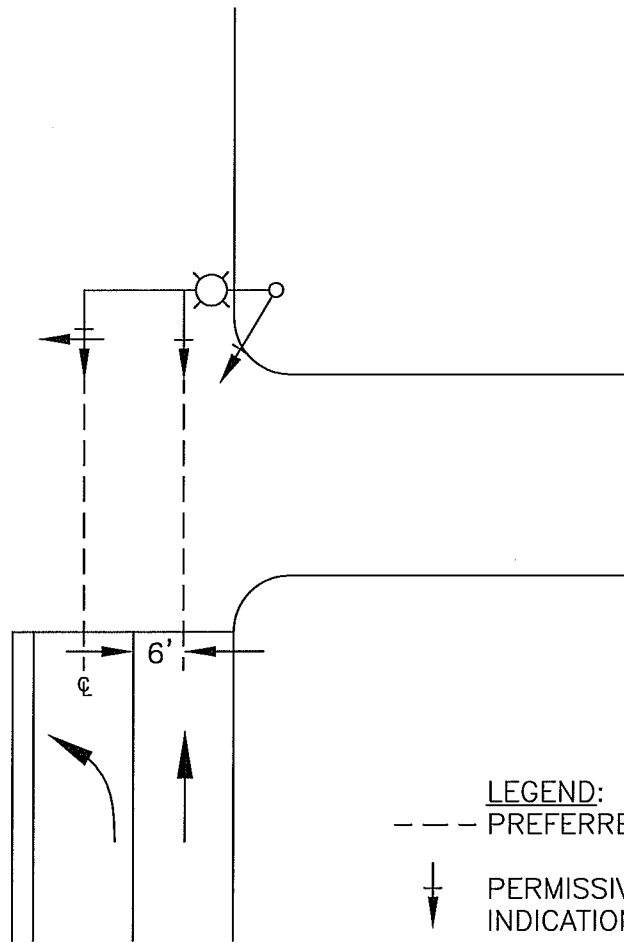
CITY OF CLOVIS

DWG NO.
TS-1

TRAFFIC SIGNAL HEAD LOCATIONS 2 THROUGH LANES ONLY

REF.:
STANDARD SPEC.
SECTION 86

APPROVED BY:	NO.	REVISED	BY	APPROVALS	SCALE: NTS
CITY ENGINEER <i>[Signature]</i>		04-14-09	BGJ	CM DRU PUD <i>[Signatures]</i>	DRAWN BY: JA
	DATE:	01-14-11	BGJ		SHEET 1 OF 1



- LEGEND:**
- PREFERRED PLACEMENT
 - ↓ PERMISSIVE SIGNAL INDICATION
 - ← ⊕ PROTECTED LEFT-TURN SIGNAL INDICATION
 - ⊙ LUMINAIRE (SAFETY LIGHT)



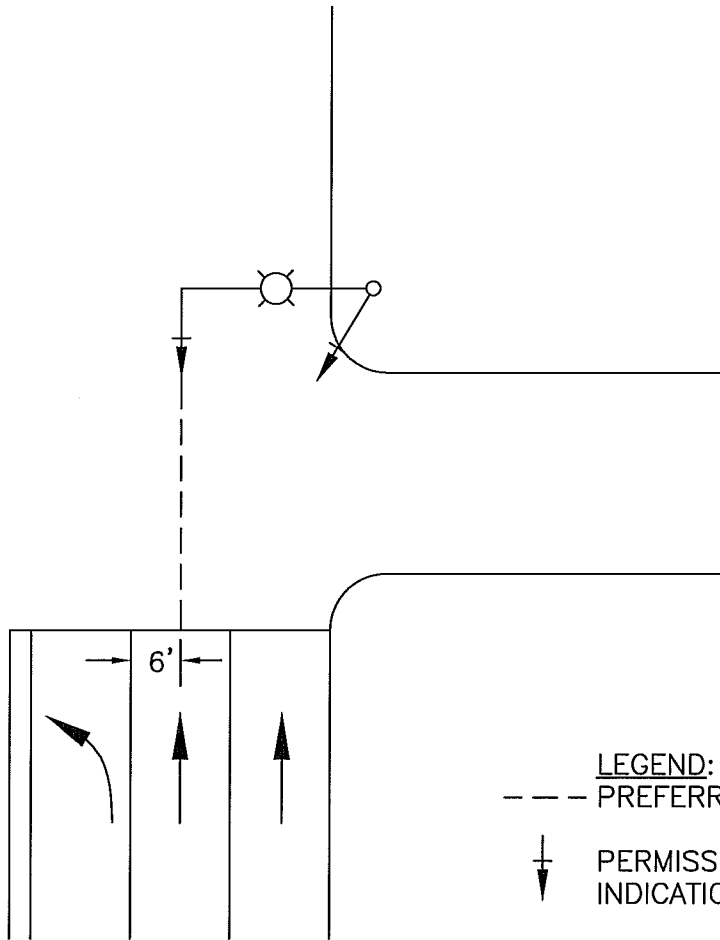
CITY OF CLOVIS

DWG NO.
TS-1A

**TRAFFIC SIGNAL HEAD LOCATIONS
1 THROUGH LANE AND SEPARATE PROTECTED LEFT TURN LANE**

REF.:
STANDARD SPEC.
SECTION 86

APPROVED BY:	NO.	REVISED	BY	APPROVALS	SCALE: NTS
CITY ENGINEER <i>[Signature]</i>		04-14-09	BGJ	CM DRU <i>[Signature]</i> PUD <i>[Signature]</i>	DRAWN BY: JA
	DATE: 7/29/11	01-14-11	BGJ		SHEET 1 OF 1



- LEGEND:**
- PREFERRED PLACEMENT
 - ⊕ PERMISSIVE SIGNAL INDICATION
 - ⊕ PROTECTED LEFT-TURN SIGNAL INDICATION
 - ⊙ LUMINAIRE (SAFETY LIGHT)



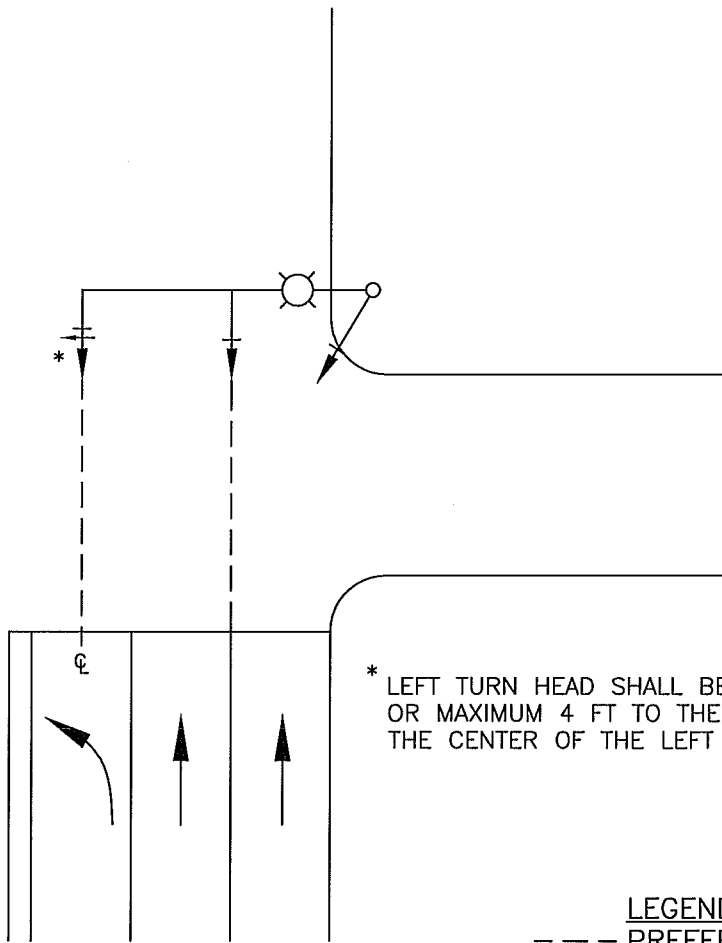
CITY OF CLOVIS

DWG NO.
TS-1B

TRAFFIC SIGNAL HEAD LOCATIONS
2 THROUGH LANES WITH UNPROTECTED LEFT TURN LANE

REF.:
STANDARD SPEC.
SECTION 86

APPROVED BY:	NO.	REVISED	BY	APPROVALS	SCALE: NTS
CITY ENGINEER DATE: 7/24/11		04-14-09	BGJ	CM DRU PUD	DRAWN BY: JA
		01-14-11	BGJ		SHEET 1 OF 1



* LEFT TURN HEAD SHALL BE AS SHOWN OR MAXIMUM 4 FT TO THE LEFT FROM THE CENTER OF THE LEFT TURN LANE.

LEGEND:

- PREFERRED PLACEMENT
- ⊥ PERMISSIVE SIGNAL INDICATION
- ⊥← PROTECTED LEFT-TURN SIGNAL INDICATION
- ⊙ LUMINAIRE (SAFETY LIGHT)



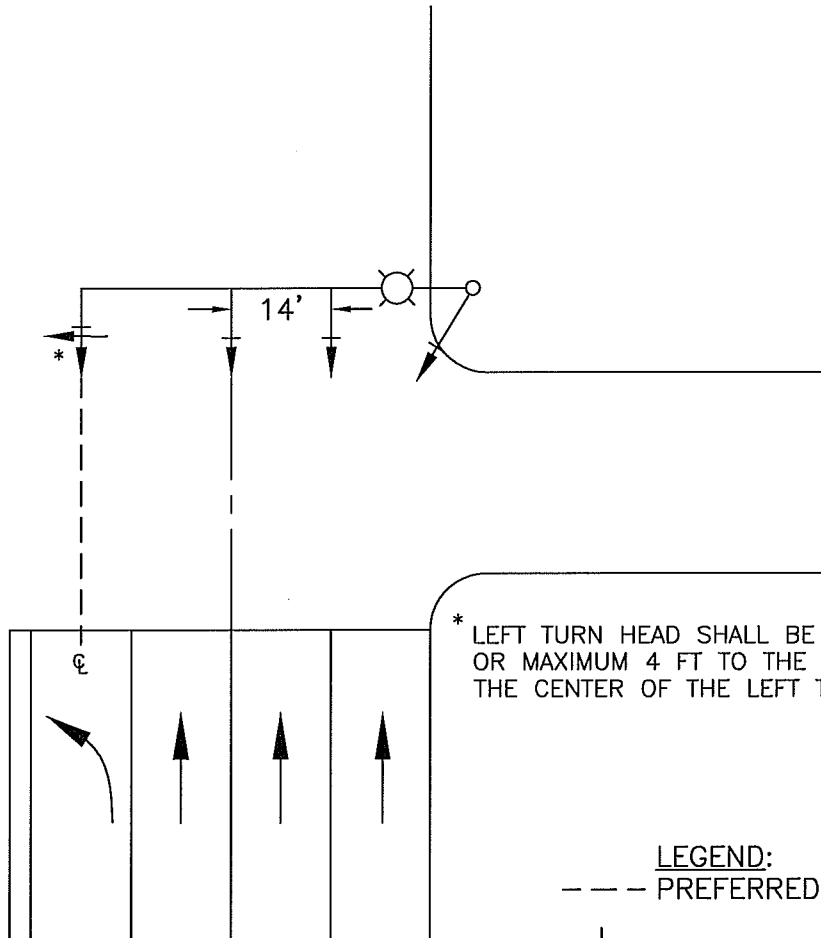
CITY OF CLOVIS

DWG NO.
TS-1C

TRAFFIC SIGNAL HEAD LOCATIONS 2 THROUGH LANES WITH PROTECTED LEFT TURN LANE

REF.:
STANDARD SPEC.
SECTION 86

APPROVED BY:	NO.	REVISED	BY	APPROVALS	SCALE: NTS
CITY ENGINEER <i>[Signature]</i>		04-14-09	BGJ	CM DRU PUD <i>[Signatures]</i>	DRAWN BY: JA
		01-14-11	BGJ		SHEET 1 OF 1
	DATE:				



* LEFT TURN HEAD SHALL BE AS SHOWN OR MAXIMUM 4 FT TO THE LEFT FROM THE CENTER OF THE LEFT TURN LANE.

- LEGEND:**
- PREFERRED PLACEMENT
 - ⊥ PERMISSIVE SIGNAL INDICATION
 - ⊥← PROTECTED LEFT-TURN SIGNAL INDICATION
 - ⊙ LUMINAIRE (SAFETY LIGHT)



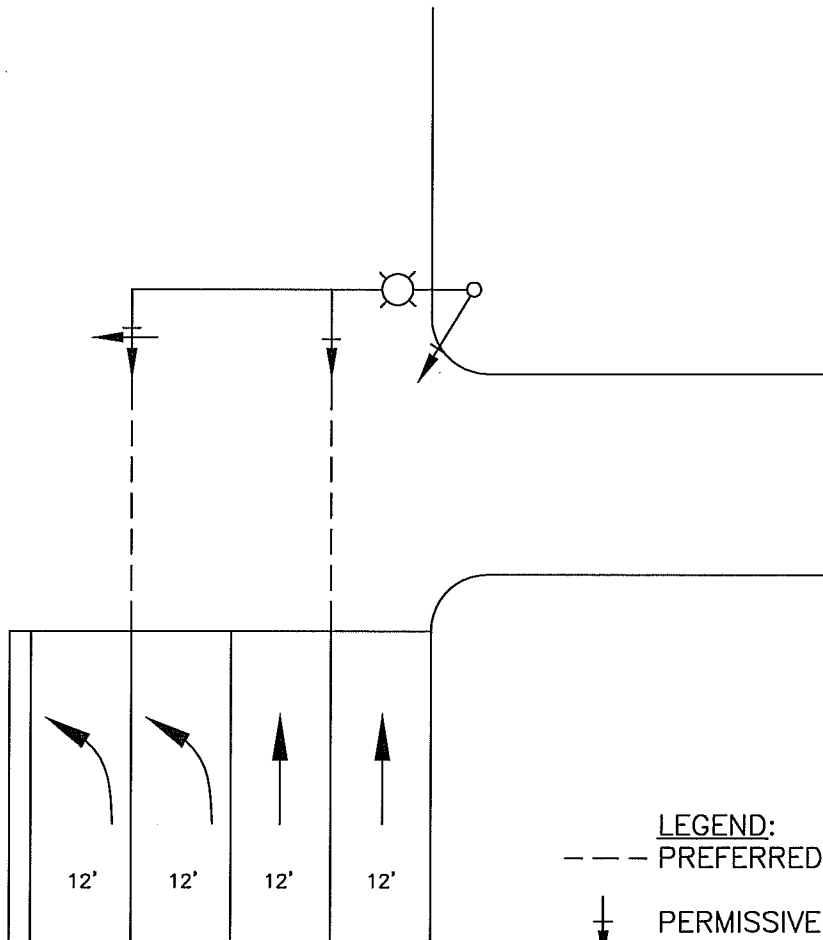
CITY OF CLOVIS

DWG NO.
TS-1D

TRAFFIC SIGNAL HEAD LOCATIONS
3 THROUGH LANES WITH PROTECTED LEFT TURN LANE

REF.:
STANDARD SPEC.
SECTION 86

APPROVED BY:	NO.	REVISED	BY	APPROVALS	SCALE: NTS
CITY ENGINEER DATE: 1/20/11		04-14-09	BGJ	CM DRU PUD	DRAWN BY: JA
		01-18-11	BGJ		SHEET 1 OF 1



- LEGEND:**
- PREFERRED PLACEMENT
 - ⊥ PERMISSIVE SIGNAL INDICATION
 - ⊥ PROTECTED LEFT-TURN SIGNAL INDICATION
 - ⊗ LUMINAIRE (SAFETY LIGHT)



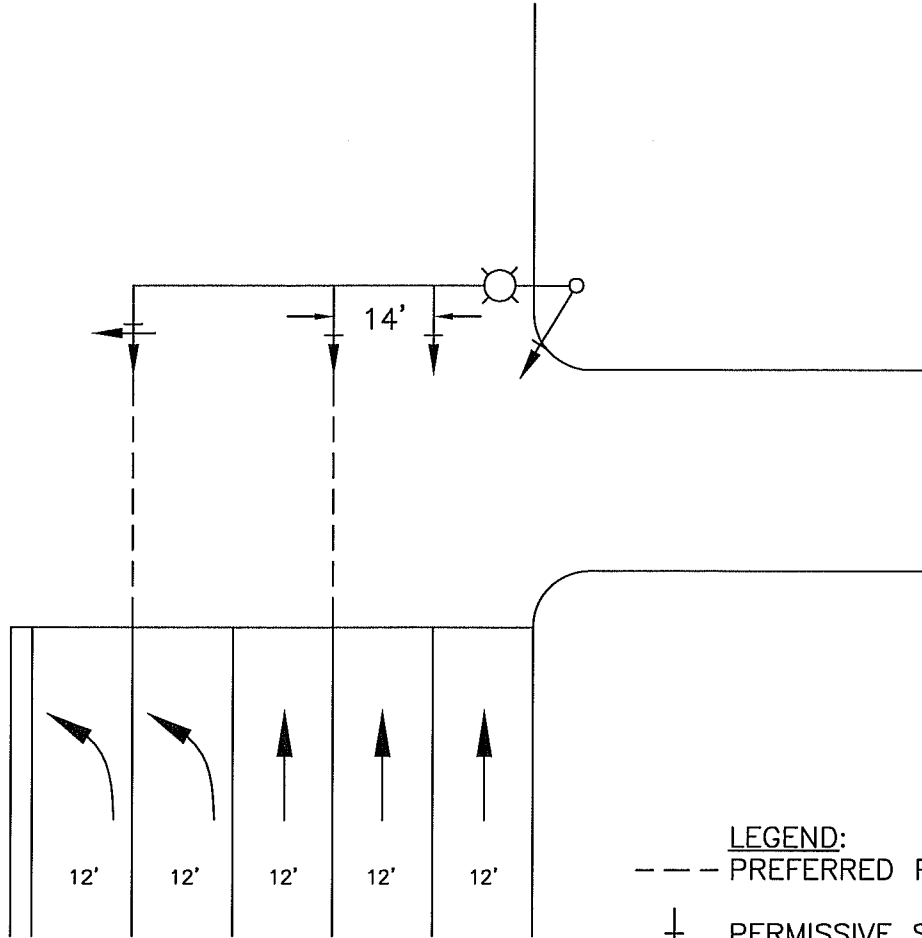
CITY OF CLOVIS

DWG NO.
TS-1E

TRAFFIC SIGNAL HEAD LOCATIONS 2 THROUGH LANES WITH 2 PROTECTED LEFT TURN LANES

REF.:
STANDARD SPEC.
SECTION 86

APPROVED BY:	NO.	REVISED	BY	APPROVALS	SCALE: NTS
CITY ENGINEER		04-14-09	BGJ	CM DRU PUD	DRAWN BY: JA
		01-18-11	BGJ		SHEET 1 OF 1
DATE: 7/29/11					



- LEGEND:**
- PREFERRED PLACEMENT
 - ↓ PERMISSIVE SIGNAL INDICATION
 - ←↓ PROTECTED LEFT-TURN SIGNAL INDICATION
 - ⊙ LUMINAIRE (SAFETY LIGHT)



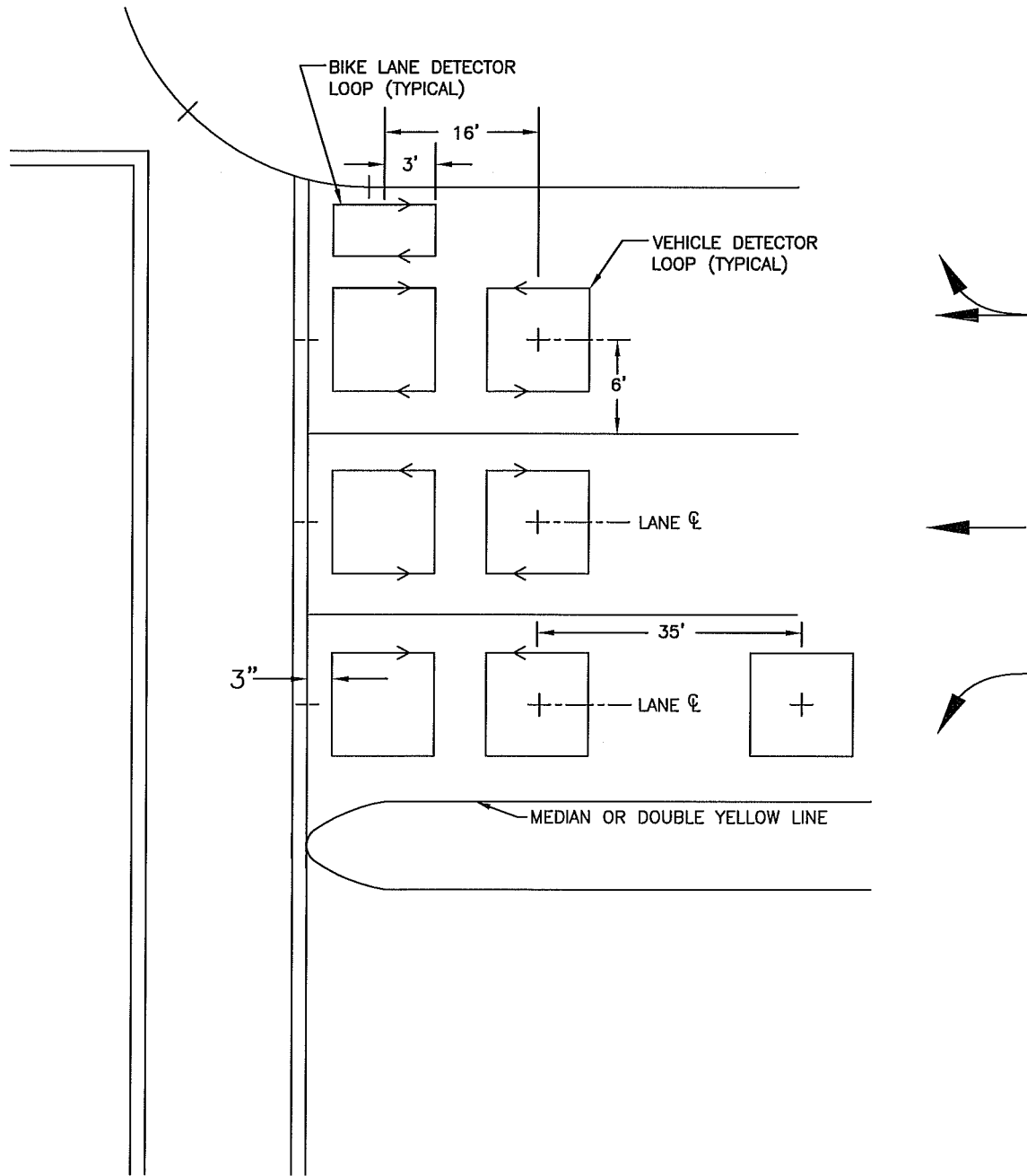
CITY OF CLOVIS

DWG NO.
TS-1F

TRAFFIC SIGNAL HEAD LOCATIONS 3 THROUGH LANES WITH 2 PROTECTED LEFT TURN LANES

REF.:
STANDARD SPEC.
SECTION 86

APPROVED BY:	NO.	REVISED	BY	APPROVALS	SCALE: NTS
CITY ENGINEER <i>KG</i>		04-14-09	BGJ	CM DRU <i>mm</i> PUD <i>SK</i>	DRAWN BY: JA
	DATE: 7/29/11		01-18-11		BGJ



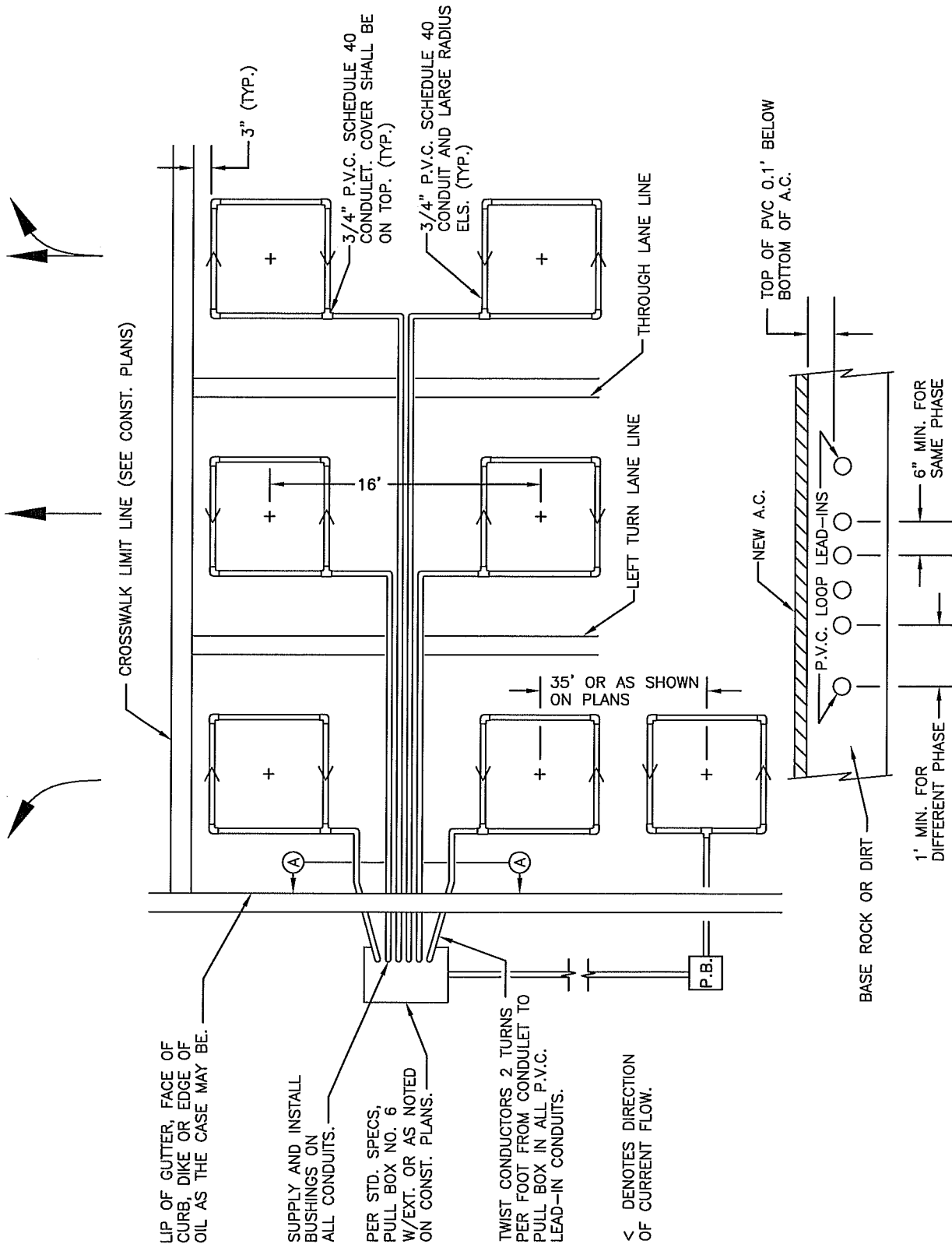
CITY OF CLOVIS

LOOP DETECTOR PLACEMENT

DWG NO.
TS-2

REF.:
STANDARD SPEC.
SECTION 86

APPROVED BY:	NO.	REVISED	BY	APPROVALS	SCALE: NTS
CITY ENGINEER <i>[Signature]</i>		04-14-09	BGJ	CM DRU PUD <i>[Signature]</i>	DRAWN BY: JA
	DATE: 1/29/11		01-18-11		BGJ



LIP OF GUTTER, FACE OF CURB, DIKE OR EDGE OF OIL AS THE CASE MAY BE.

SUPPLY AND INSTALL BUSHINGS ON ALL CONDUITS.

PER STD. SPECS, PULL BOX NO. 6 W/EXT. OR AS NOTED ON CONST. PLANS.

TWIST CONDUCTORS 2 TURNS PER FOOT FROM CONDULET TO PULL BOX IN ALL P.V.C. LEAD-IN CONDUITS.

< DENOTES DIRECTION OF CURRENT FLOW.

SECTION A-A



CITY OF CLOVIS

PVC LOOP INSTALLATION DETAIL

DWG NO. **TS-2A**

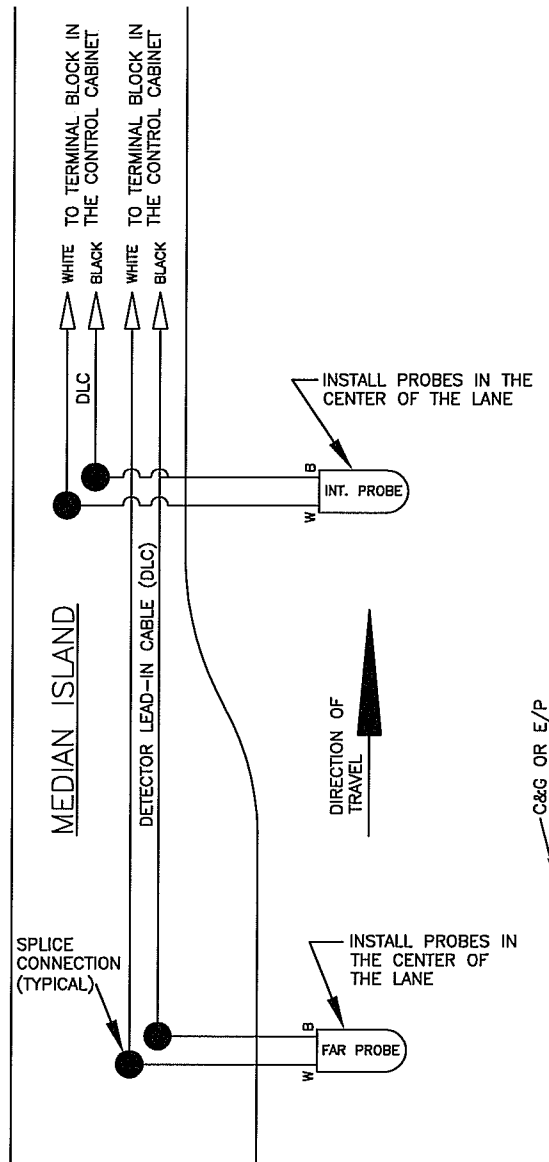
REF.: STANDARD SPEC. SECTION 86

APPROVED BY:
CITY ENGINEER
DATE: 7/29/11

NO.	REVISED	BY	APPROVALS
	04-15-09	BGJ	CM
	01-18-11	BGJ	DRU PUD

APPROVALS
[Signatures]

SCALE: NTS
DRAWN BY: JA
SHEET 1 OF 1



SINGLE LANE MAGNETIC PROBE INSTALLATION

(THE EXAMPLE ABOVE SHOWS CONDUITS INSTALLED IN THE MEDIAN ISLAND AND AN INTERMEDIATE MAGNETIC PROBE. CONDUITS MAY BE INSTALLED BENEATH THE SIDEWALK ALONG THE RIGHT SIDE OF THE ROADWAY)



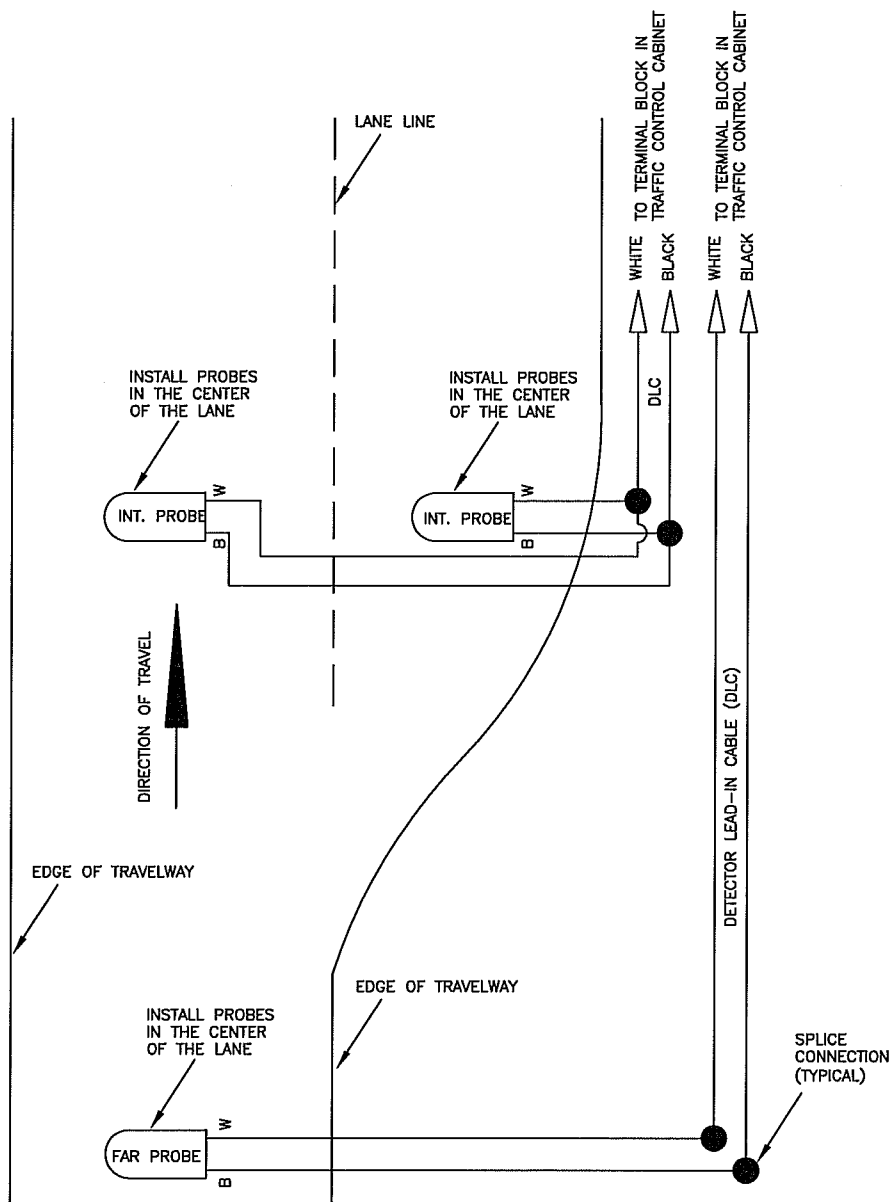
CITY OF CLOVIS

DWG NO.
TS-3

MAGNETIC DETECTOR PROBE CONNECTIONS (SINGLE APPROACH LANE)

REF.:
STANDARD SPEC.
SECTION 86

APPROVED BY:	NO.	REVISED	BY	APPROVALS	SCALE: NTS
CITY ENGINEER DATE: <i>1/29/11</i>		04-15-09	BGJ	CM	DRAWN BY: JA
		01-18-11	BGJ	DRU PUD	



THREE MAGNETIC DETECTION UNITS



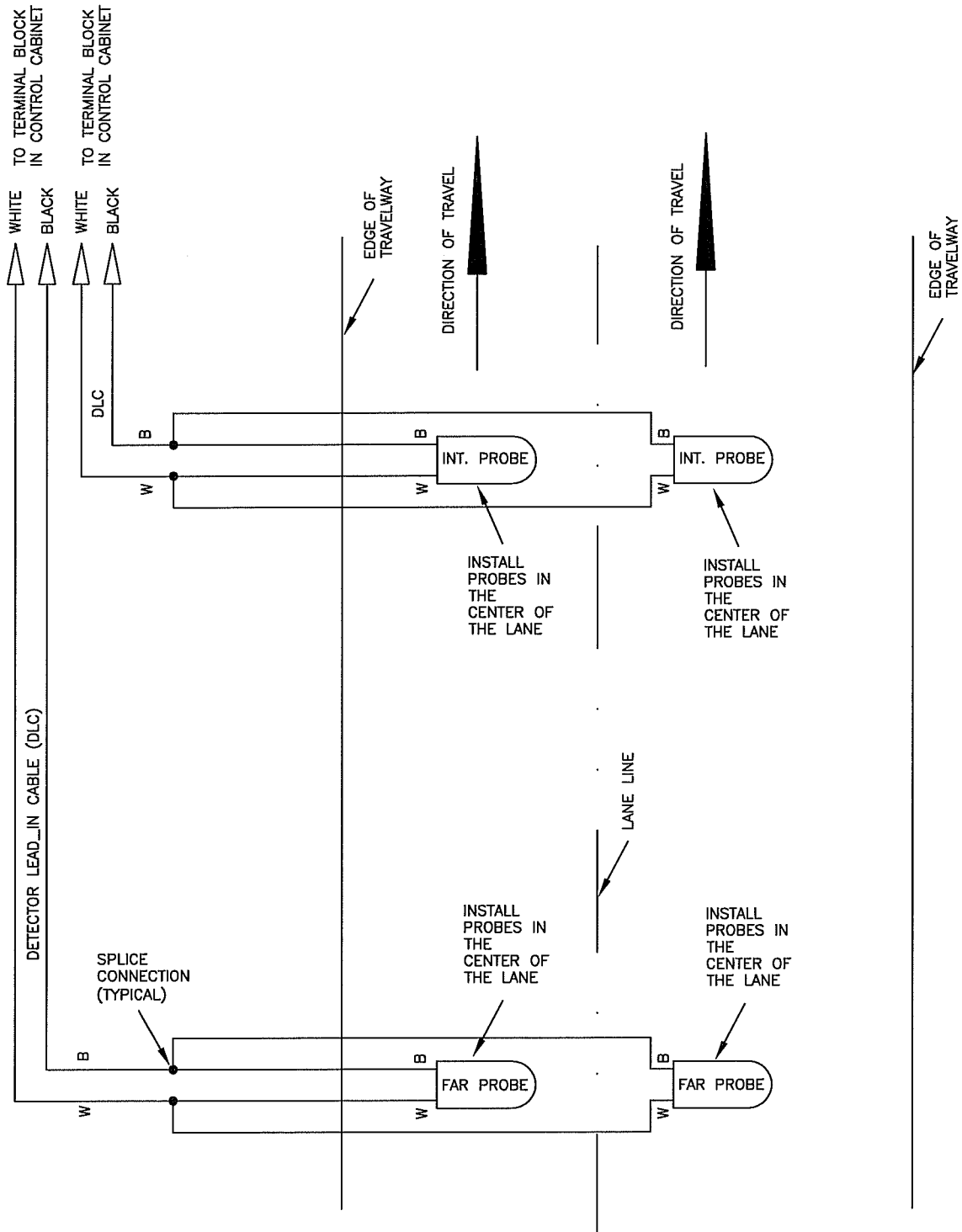
CITY OF CLOVIS

DWG NO. **TS-3A**

MAGNETIC DETECTOR PROBE CONNECTIONS (SINGLE APPROACH LANE W/TWO INTERMEDIATE PROBES)

REF.: STANDARD SPEC. SECTION 86

APPROVED BY:	NO.	REVISED	BY	APPROVALS	SCALE: NTS
		04-15-09	BGJ		CM
CITY ENGINEER		01-18-11	BGJ	DRU	SHEET 1 OF 1
DATE: 7/19/11				PUD	



FOUR MAGNETIC DETECTOR UNITS



CITY OF CLOVIS

MAGNETIC DETECTOR PROBE CONNECTIONS (TWO APPROACH LANES)

DWG NO.
TS-3B

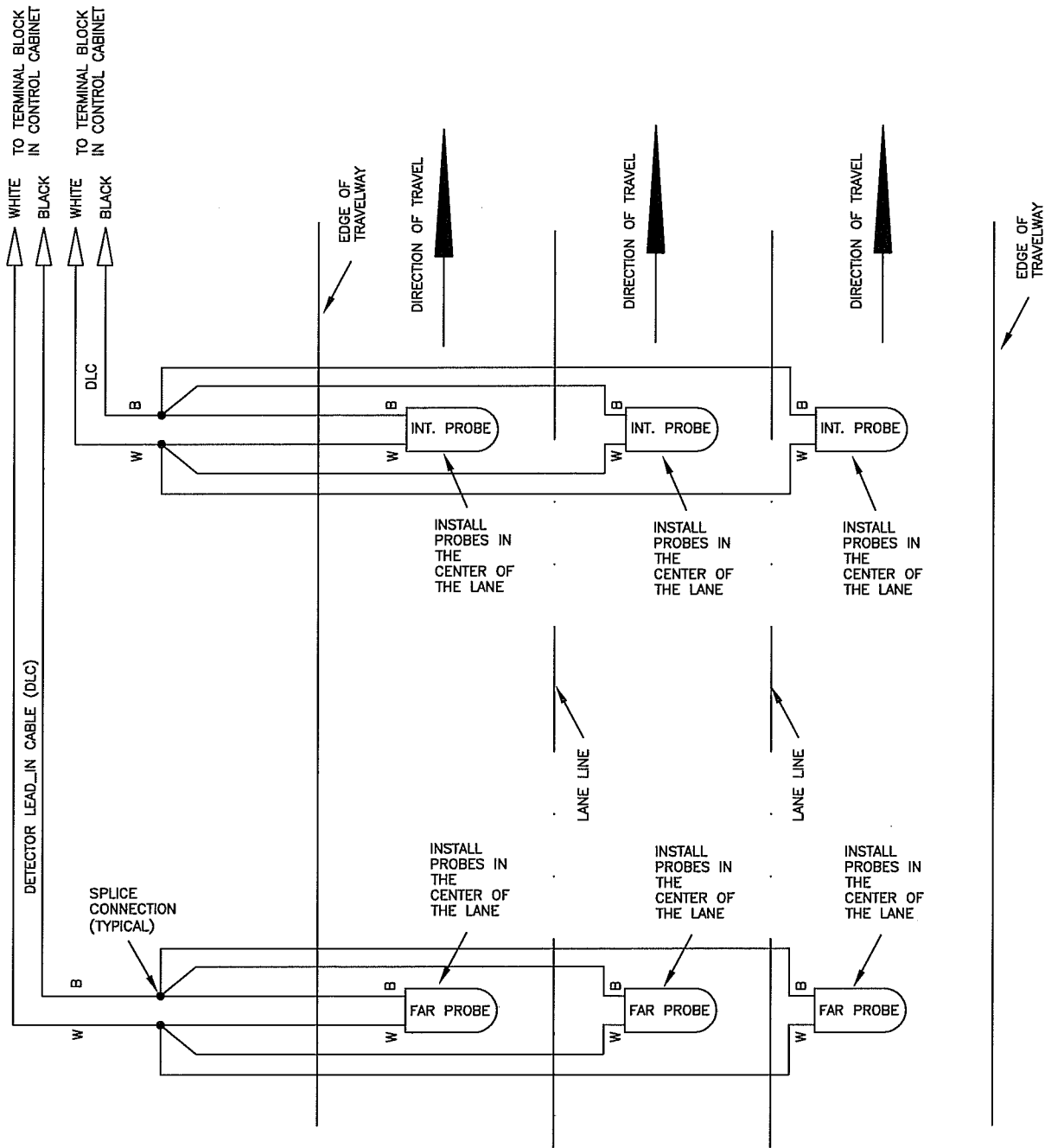
REF.:
STANDARD SPEC.
SECTION 86

APPROVED BY:

CITY ENGINEER
DATE: *7/19/14*

NO.	REVISED	BY	APPROVALS
—	04-15-09	BGJ	CM
—	01-18-11	BGJ	DRU PUD

SCALE: NTS
DRAWN BY: JA
SHEET 1 OF 1



SIX MAGNETIC DETECTOR UNITS



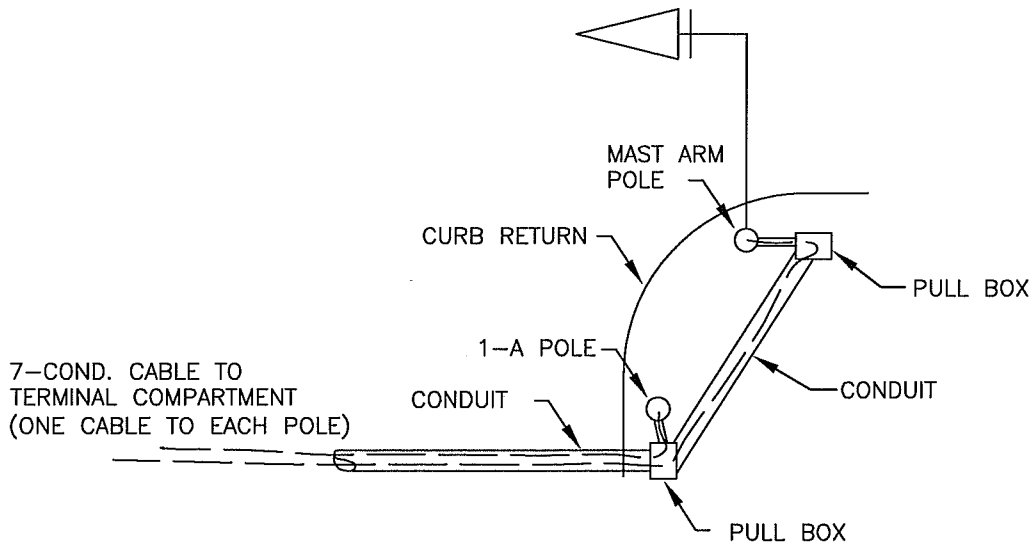
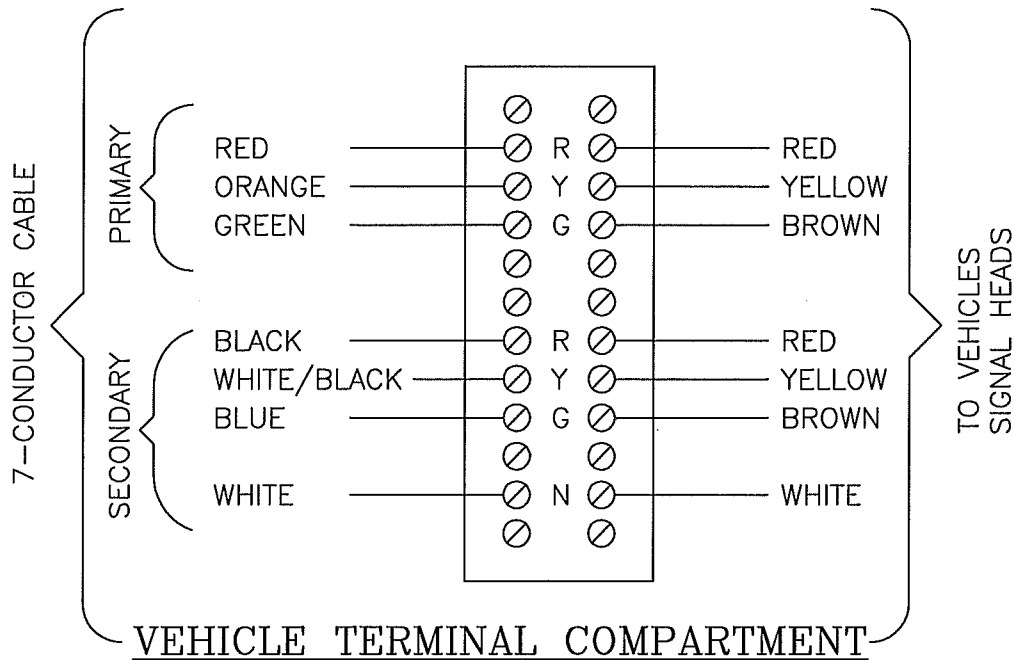
CITY OF CLOVIS

DWG NO.
TS-3C

MAGNETIC DETECTOR PROBE CONNECTIONS (THREE APPROACH LANES)

REF.:
STANDARD SPEC.
SECTION 86

APPROVED BY:	NO.	REVISED	BY	APPROVALS	SCALE: NTS
CITY ENGINEER		04-15-09	BGJ	CM DRU PUD	DRAWN BY: JA
		01-18-11	BGJ		
DATE: 7/29/11					SHEET 1 OF 1



TYPICAL CORNER CONNECTIONS

NOTES:

1. INSTALL SINGLE CONDUCTOR COLOR CODED #14 THWN COPPER WIRE BETWEEN TERMINAL STRIP AND EACH SIGNAL ASSEMBLY AND CONNECT.
2. THE CABLES THAT COMPRISE A SIGNAL PHASE SHALL HAVE AN IDENTIFICATION BAND PLACED NEAR THE END OF TERMINATION POINTS AND IN EVERY PULL BOX. THE IDENTIFICATION BAND SHALL BE A 3/8" PLASTIC STRIP AND INSTALLED WITH NON-FERROUS PERMANENT FASTENER. ALL CABLES SHALL BE LABELED PER PHASING SHOWN ON PLANS.



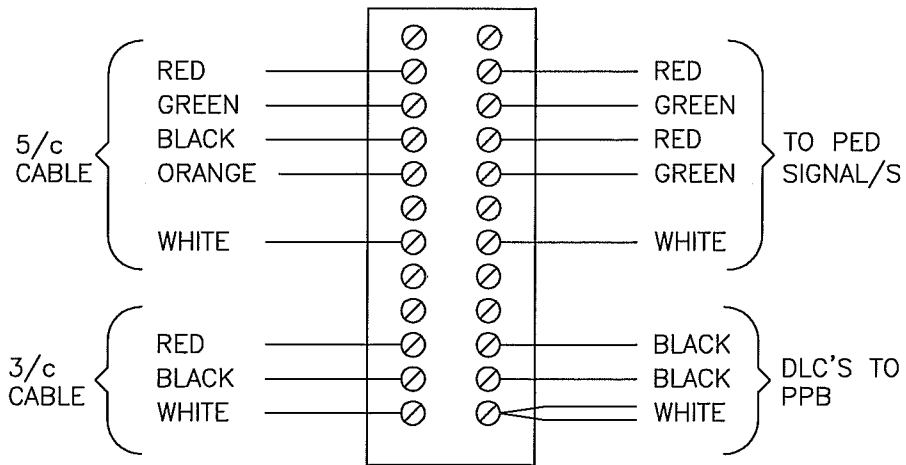
CITY OF CLOVIS

DWG NO.
TS-4

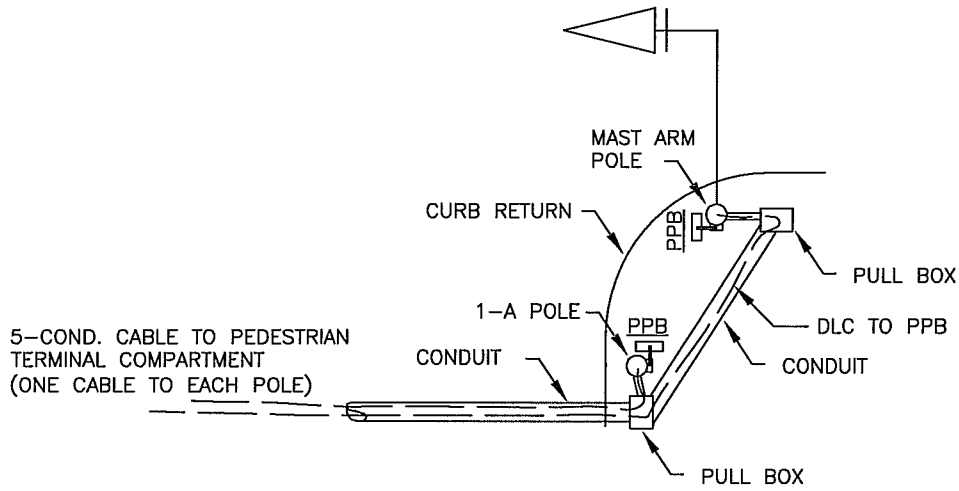
VEHICLE SIGNAL TERMINAL LOCATION

REF.:
STANDARD SPEC.
SECTION 86

APPROVED BY:	NO.	REVISED	BY	APPROVALS	SCALE: NTS
CITY ENGINEER		04-15-09	BGJ	CM DRU PUD	DRAWN BY: JA
		01-18-11	BGJ		SHEET 1 OF 1
DATE: 7/29/11					



TERMINAL STRIP



TYPICAL CORNER CONNECTIONS

NOTES:

1. INSTALL SINGLE CONDUCTOR COLOR CODED #14 THWN COPPER WIRE BETWEEN TERMINAL STRIP AND EACH SIGNAL ASSEMBLY AND CONNECT.
2. THE CABLES THAT COMPRISE A SIGNAL PHASE SHALL HAVE AN IDENTIFICATION BAND PLACED NEAR THE END OF TERMINATION POINTS AND IN EVERY PULL BOX. THE IDENTIFICATION BAND SHALL BE A 3/8" PLASTIC STRIP AND INSTALLED WITH NON-FERROUS PERMANENT FASTENER. ALL CABLES SHALL BE LABELED PER PHASING SHOWN ON PLANS.



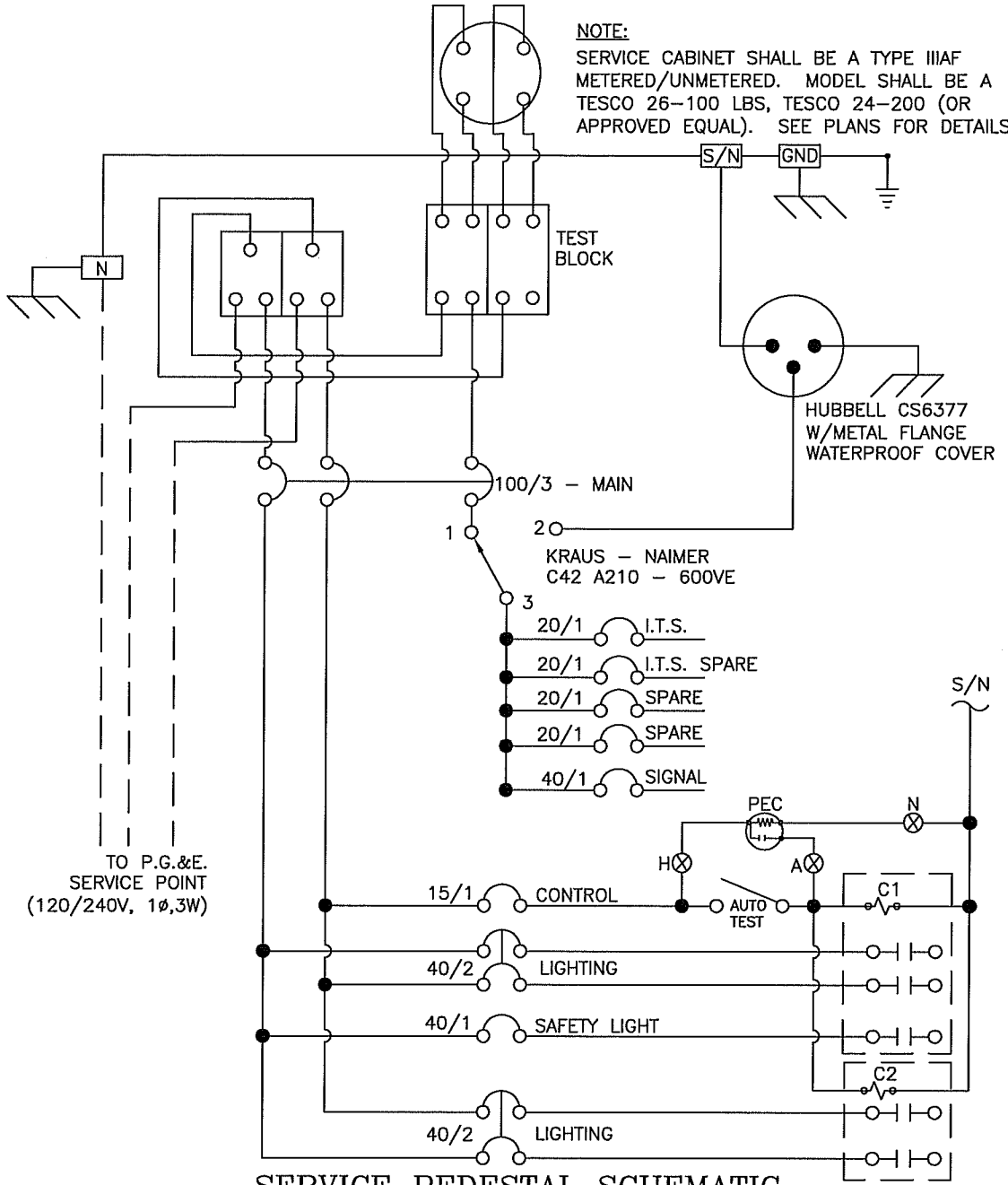
CITY OF CLOVIS

DWG NO. TS-4A

PEDESTRIAN SIGNAL TERMINAL LOCATIONS

REF.: STANDARD SPEC. SECTION 86

APPROVED BY:	NO.	REVISED	BY	APPROVALS	SCALE: NTS
CITY ENGINEER		04-15-09	BGJ	CM	DRAWN BY: JA
		01-18-11	BGJ	DRU PUD	
DATE:					SHEET 1 OF 1



SERVICE PEDESTAL SCHEMATIC

20A	20A	20A	20A	15A	40A	40A	40A	40A	100A
SPARE	SPARE	I.T.S. SPARE	I.T.S.	CONTROL	LIGHTING	LIGHTING	SAFETY LIGHT	SIGNAL	MAIN

SWITCH LOCATION



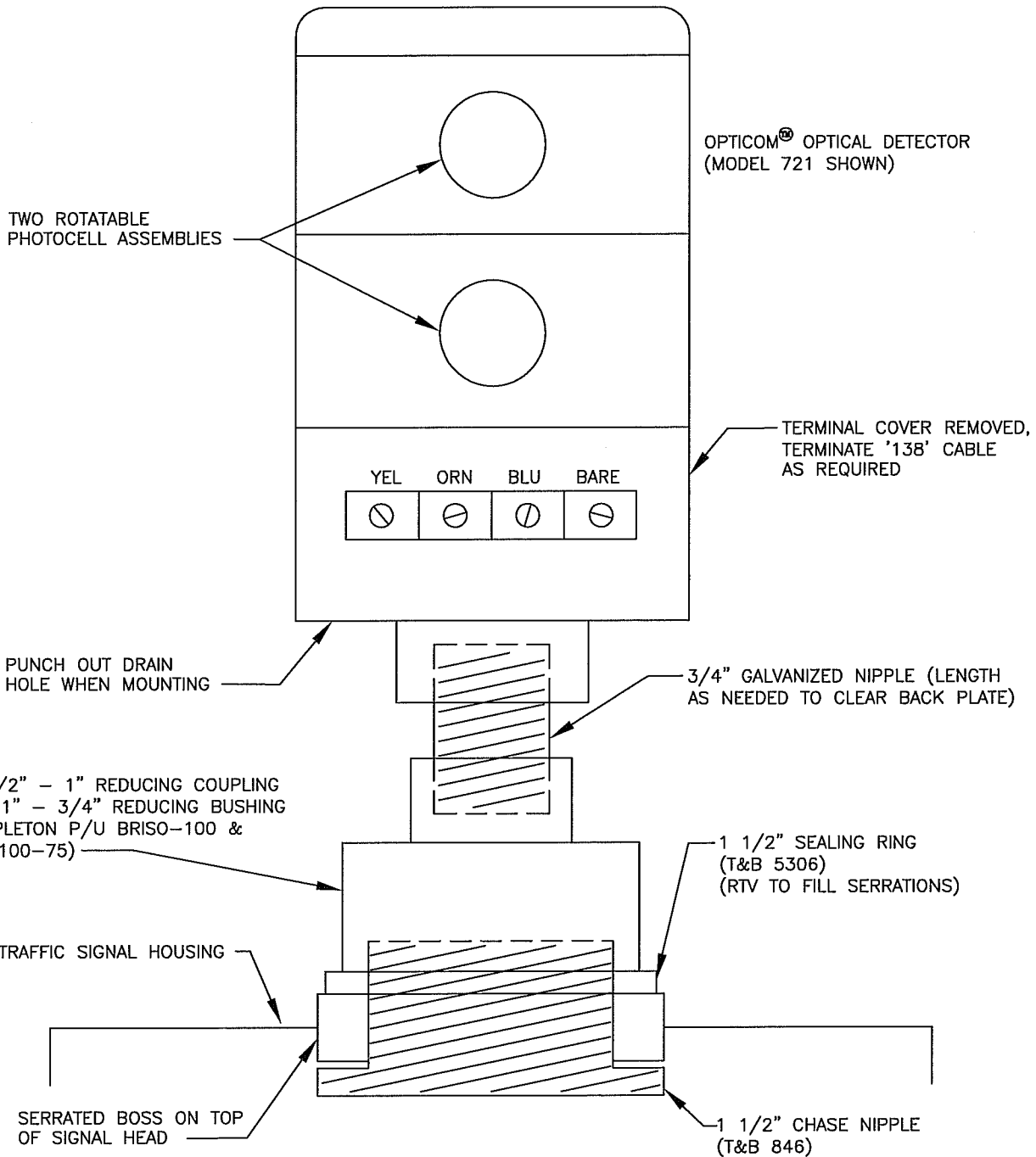
CITY OF CLOVIS

DWG NO.
TS-5

SERVICE PEDESTAL SCHEMATIC

REF.:
STANDARD SPEC.
SECTION 86

APPROVED BY:	NO.	REVISED	BY	APPROVALS	SCALE: NTS
CITY ENGINEER DATE: <i>7/20/11</i>		07-29-09	TWB	CM DRU PUD <i>[Signature]</i>	DRAWN BY: JA
		01-18-11	BGJ		SHEET 1 OF 1



**EMERGENCY VEHICLE DETECTOR
MOUNTING ON TOP OF TRAFFIC SIGNAL UNIT**

(SEE CALTRANS STANDARD DRAWING ES-4E AND
CITY STD. DRW. TS-6C FOR MAST ARM MOUNTINGS)



CITY OF CLOVIS

OPTICOMTM DETECTOR ASSEMBLY

DWG NO.
TS-6

REF.:
STANDARD SPEC.
SECTION 86

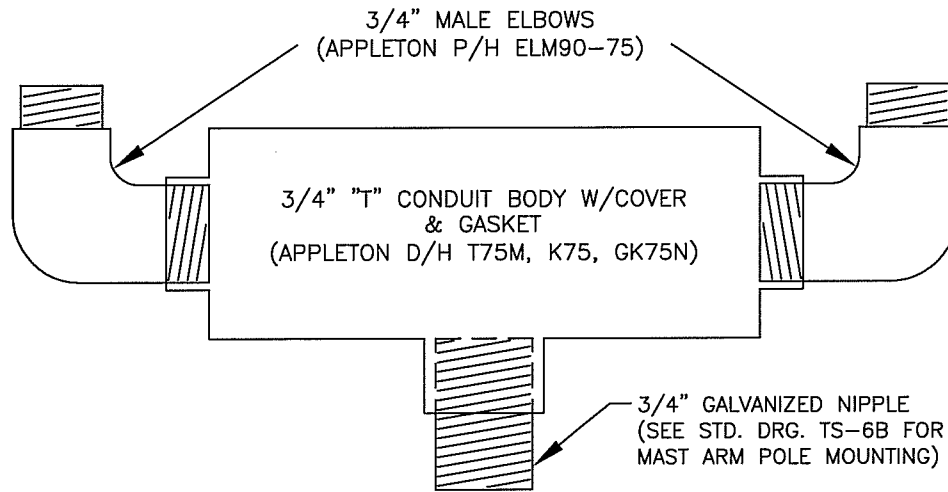
APPROVED BY:

CITY ENGINEER
DATE: 7/29/11

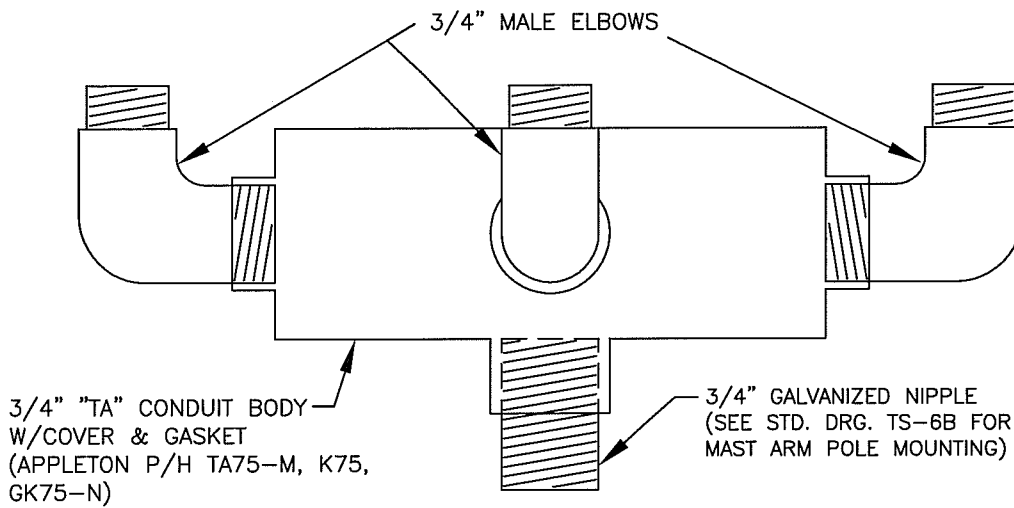
NO.	REVISED	BY
	04-15-09	BGJ
	01-18-11	BGJ

APPROVALS
CM
DRU
PUD

SCALE: NTS
DRAWN BY: JA
SHEET 1 OF 1



DUAL MOUNT



TRIPLE MOUNT



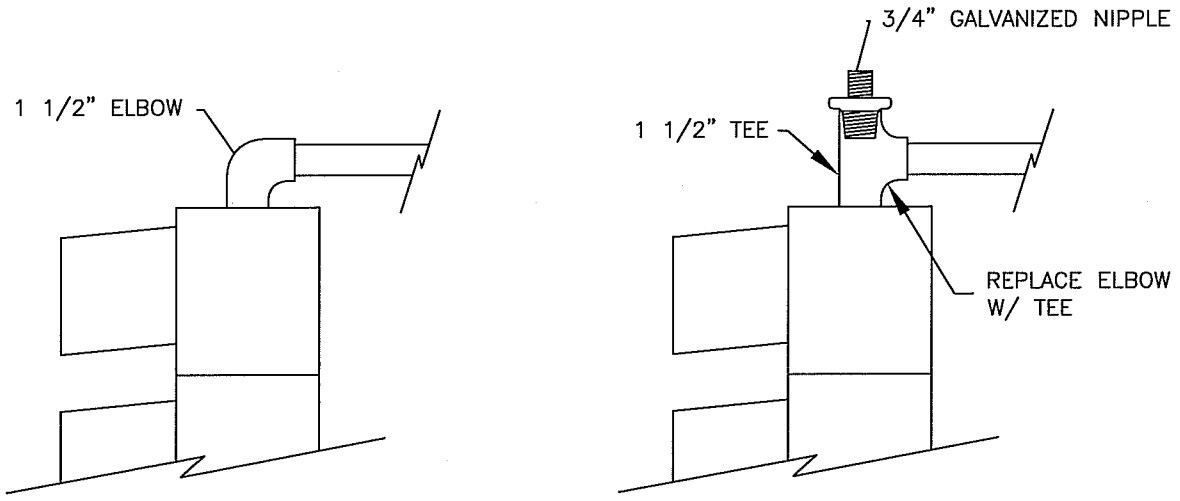
CITY OF CLOVIS

DWG NO.
TS-6A

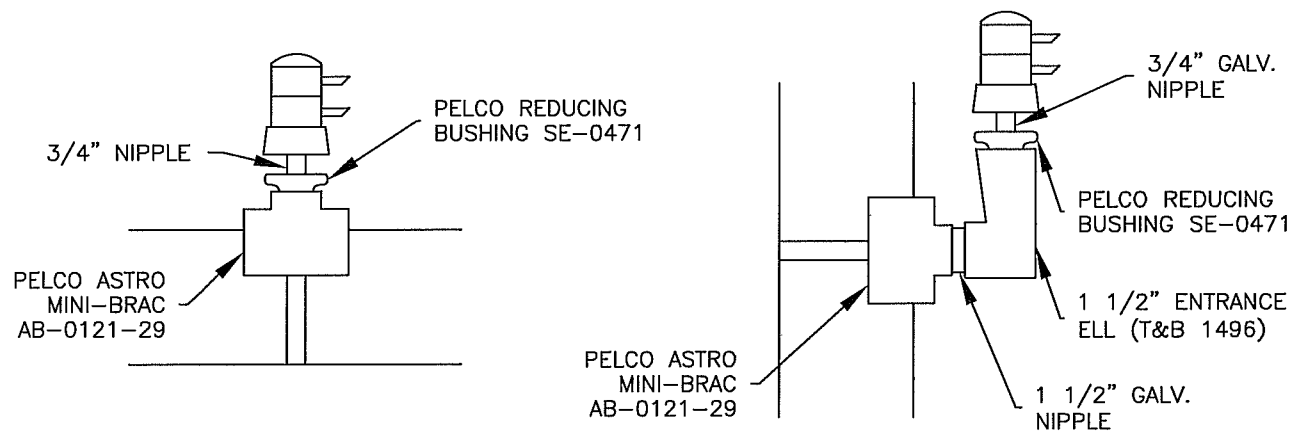
OPTICOMTM DUAL & TRIPLE MOUNTING FIXTURES

REF.:
STANDARD SPEC.
SECTION 86

APPROVED BY:	NO.	REVISED	BY	APPROVALS	SCALE: NTS
CITY ENGINEER DATE: 1/29/11		04-15-09	BGJ	CM DRU PUD	DRAWN BY: JA
		01-18-11	BGJ		SHEET 1 OF 1
		02-16-11	BGJ		



FRAMEWORK MOUNTING



ARM/POLE MOUNTING



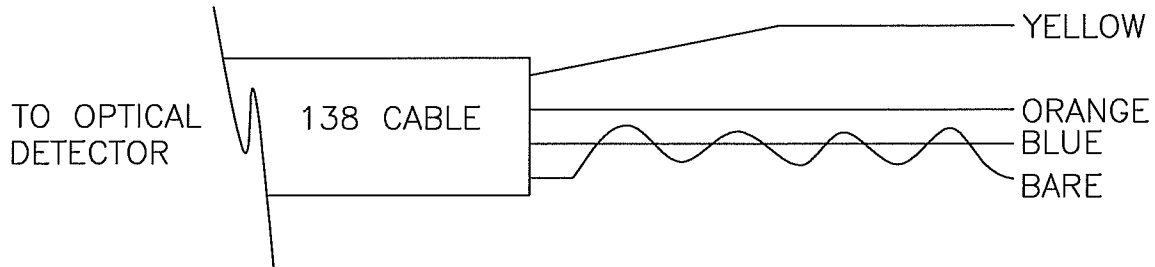
CITY OF CLOVIS

OPTICOMTM MISC. MOUNTING FIXTURES

DWG NO.
TS-6B

REF.:
STANDARD SPEC.
SECTION 86

APPROVED BY:	NO.	REVISED	BY	APPROVALS	SCALE: NTS
		04-16-09	BGJ		CM
CITY ENGINEER		01-18-11	BGJ	DRU	SHEET 1 OF 1
DATE:				PUD	



YELLOW DET OUT
 ORANGE 24V
 BLUE }
 BARE } GROUND

NOTE:

IF DETECTOR IS INSTALLED AND CABLE CANNOT BE CONNECTED TO AN ACTIVE (POWER-ON) DISCRIMINATOR, ALL 4 LEADS SHOULD BE TIED TO EARTH GROUND TO PREVENT TRANSIENT DAMAGE TO DETECTOR.



CITY OF CLOVIS

DWG NO.
TS-6C

OPTICOMTM 138 CABLE

REF.:
STANDARD SPEC.
SECTION 86

APPROVED BY:	NO.	REVISED	BY	APPROVALS	SCALE: NTS
CITY ENGINEER		04-16-09	BGJ	CM DRU PUD	DRAWN BY: JA
		01-18-11	BGJ		SHEET 1 OF 1
DATE: 7/29/11					

FIG. "A": '138' CABLE TERMINATIONS

	PRIMARY DETECTORS			#1 AUX. DETECTOR			#2 AUX. DETECTOR		
	YEL	ORN	BLU	YEL	ORN	BLU	YEL	ORN	BLU
EVA	4	2	6	2	1	6	3	1	6
EVB	7	3	9	4	7	12	5	7	12
EVC	5	2	6	8	1	6	9	1	6
EVD	8	3	9	10	7	12	11	7	12
	TB 9			TB A					

FIG "B": CONVENTIONAL PHASE ASSIGNMENTS

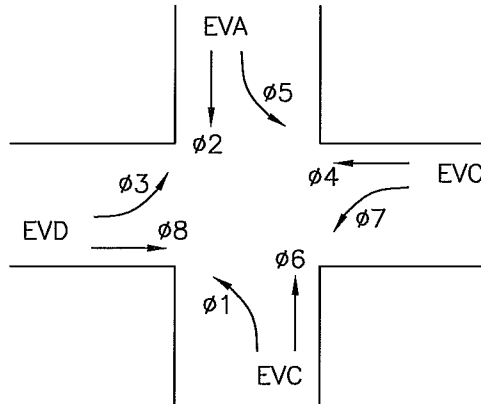
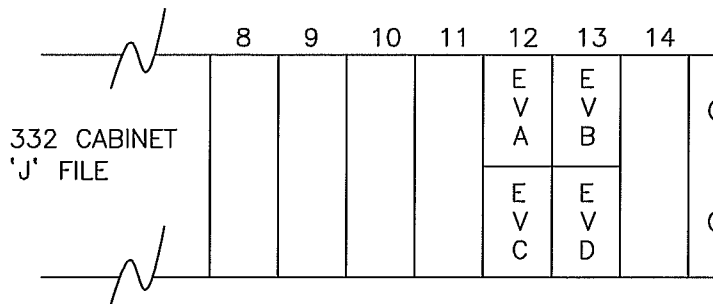


FIG. "C": CONVENTIONAL INPUT FILE ASSIGNMENTS



CITY OF CLOVIS

OPTICOMTM DETECTOR ASSIGNMENTS

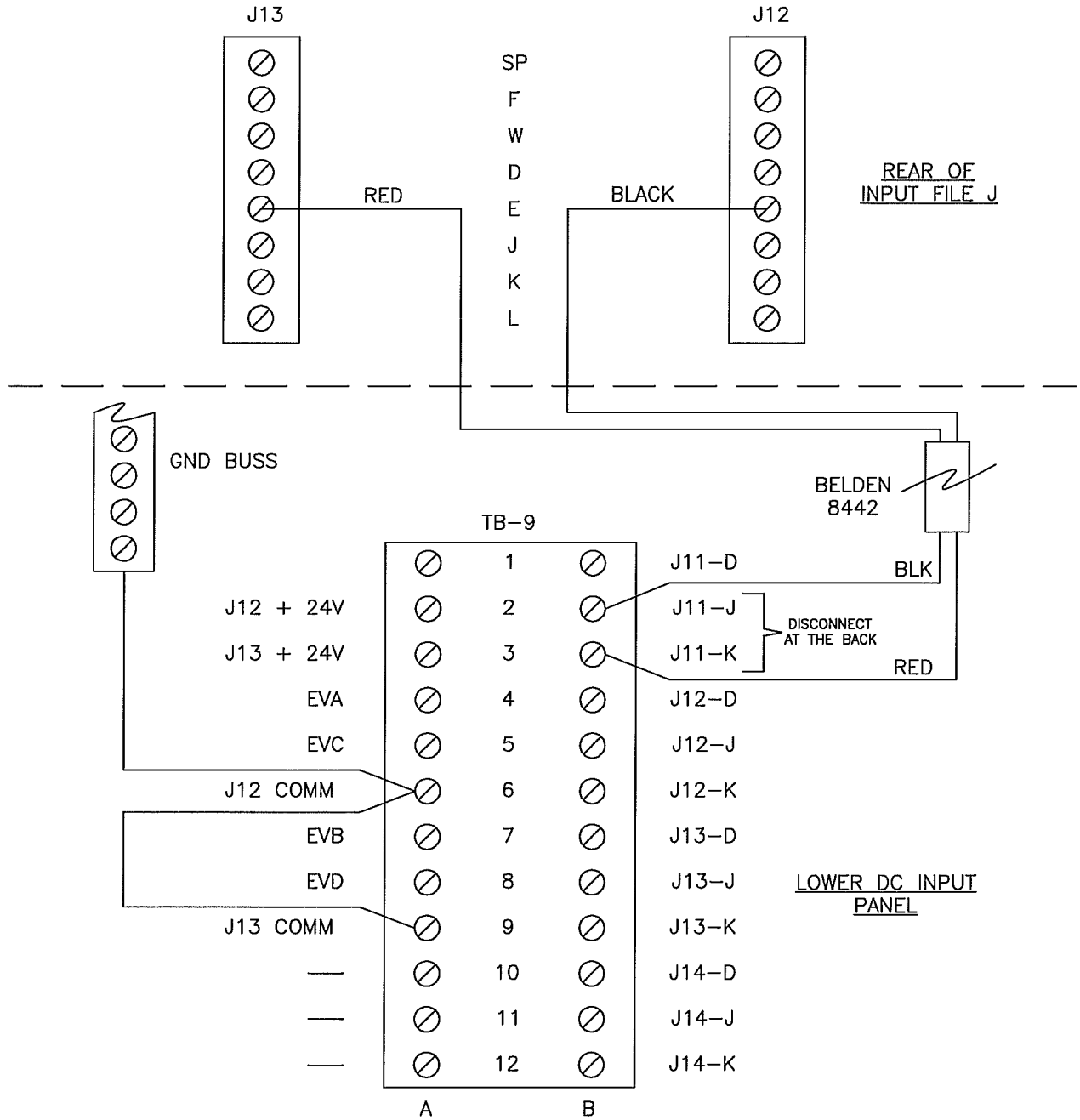
DWG NO. **TS-6D**

REF.: STANDARD SPEC. SECTION 86

APPROVED BY:
CITY ENGINEER
DATE: 7/29/11

NO.	REVISED	BY	APPROVALS
	04-16-09	BGJ	CM
	01-18-11	BGJ	DRU PUD

SCALE: NTS
DRAWN BY: JA
SHEET 1 OF 1



MODIFY EXISTING WIRING AS ABOVE



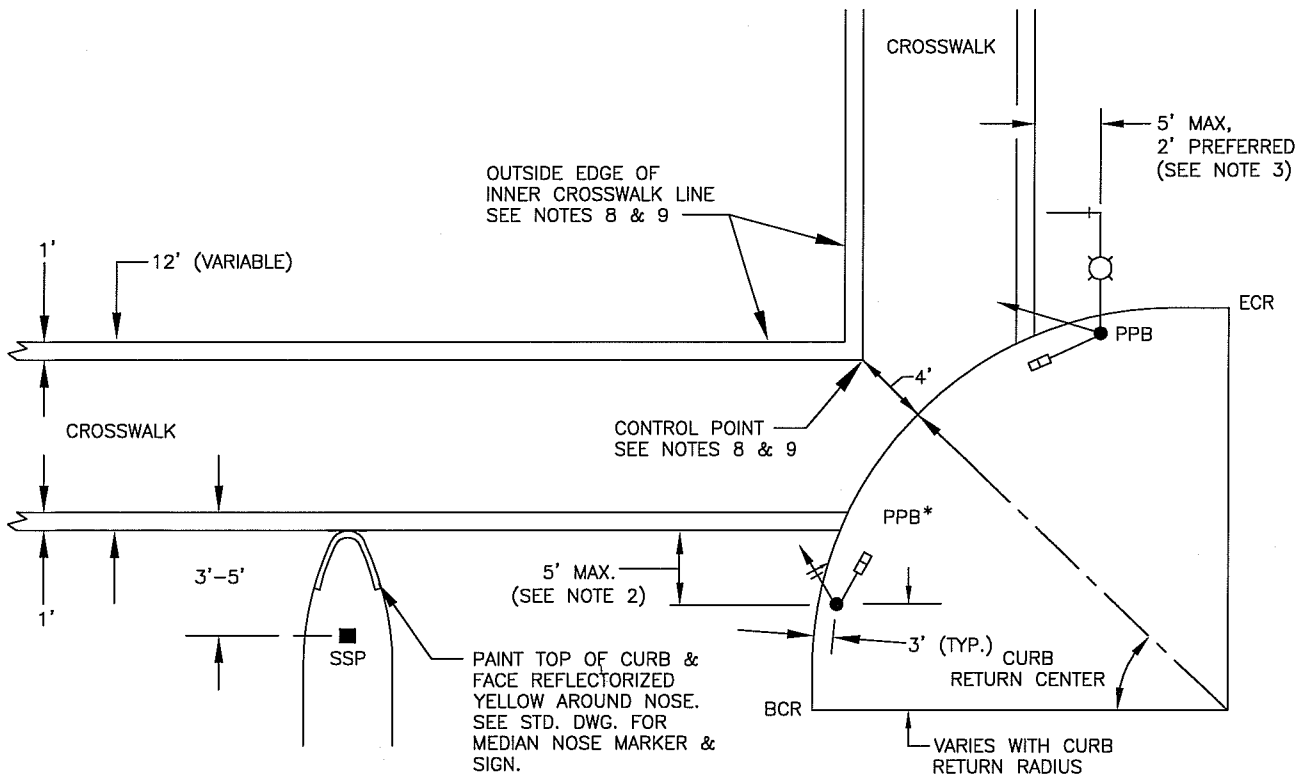
CITY OF CLOVIS

OPTICOM[®] WIRING MODIFICATIONS TERMINAL BLOCK CONTROLLER

DWG NO.
TS-6E

REF.:
STANDARD SPEC.
SECTION 86

APPROVED BY:	NO.	REVISED	BY	APPROVALS	SCALE: NTS
		04-16-09	BGJ		CM
CITY ENGINEER		01-18-11	BGJ	DRU	SHEET 1 OF 1
DATE: <i>1/18/11</i>				PUD	



NOTES:

1. PEDESTRIAN PUSH BUTTONS ON SEPARATE POSTS WHERE REQUIRED. PPB SHALL BE MOUNTED ON "PEDESTRIAN PUSH BUTTON POST" PER CALTRANS STD. DWG. ES-7A. DO NOT USE "COMBINED" POST UNLESS SPECIFIED.
2. SEE STD. DWG. FOR MEDIAN NOSE MARKER & SIGN FOR DETAILS. MOUNT TYPE K-1 MARKER TO PPB POST.
3. SIGNAL STANDARD SHALL BE USED FOR PEDESTRIAN PUSH BUTTONS WITHIN 5 FEET FROM THE CROSSWALK AREA. IF STANDARD IS MORE THAN 5 FT FROM A CROSSWALK, A PPB ON POST SHALL BE INSTALLED AS SHOWN ON PLANS.
4. PEDESTRIAN PUSH BUTTONS SHALL BE PLACED ON CROSSWALK SIDE OF STANDARD OR POST.
5. CROSSWALK AREA OF THE SIDEWALK SHOULD BE KEPT CLEAR OF POLES.
6. WHERE CURB RETURN RADIUS EXCEEDS 10 FEET, SIGNAL FACES SHOULD BE "SPLIT" OR LOCATED ON SEPARATE STANDARDS SO THAT GOOD VISIBILITY OF RIGHT AND FAR LEFT SIGNALS ARE PROVIDED FOR ALL APPROACHES.
7. STRIPING MAY VARY WHERE WHEELCHAIR RAMP ARE PROVIDED.
8. MAINTAIN A MINIMUM CLEAR SIDEWALK WIDTH OF 48 INCHES FOR WHEELCHAIRS.
9. CURB RETURNS WITH A RADIUS OF LESS THAN 15 FEET: LINE UP OUTSIDE EDGE OF INNER CROSSWALK LINE WITH FACE OF CURB, SEE DRAWING.
10. CURB RETURNS WITH A RADIUS OF 15 FEET OR MORE: LOCATE CENTER OF CURB RETURN. MEASURE 4 FEET TOWARDS CENTER OF INTERSECTION TO LOCATE CONTROL POINT. LINE UP THE CROSSWALK WITH THE CONTROL POINT AS INDICATED ABOVE.
11. SEE MEDIAN ISLAND TURNOUTS FOR MEDIAN CONCRETE CAP.
12. REFER TO CITY STD. DWG. ST-11 FOR CONSTRUCTION OF CURB RAMP.

LEGEND:

- ◀ ○ VEHICLE SIGNAL HEAD
- ◀ + ○ VEHICLE SIGNAL HEAD WITH BACKPLATE
- ◀ | ○ VEHICLE SIGNAL HEAD WITH ARROWS
- ◻ ○ PEDESTRIAN SIGNAL HEAD
- ○ LUMINAIRE
- PPB PEDESTRIAN PUSH BUTTON
- PPB ON POST
- SSP STREET SIGN POST



CITY OF CLOVIS

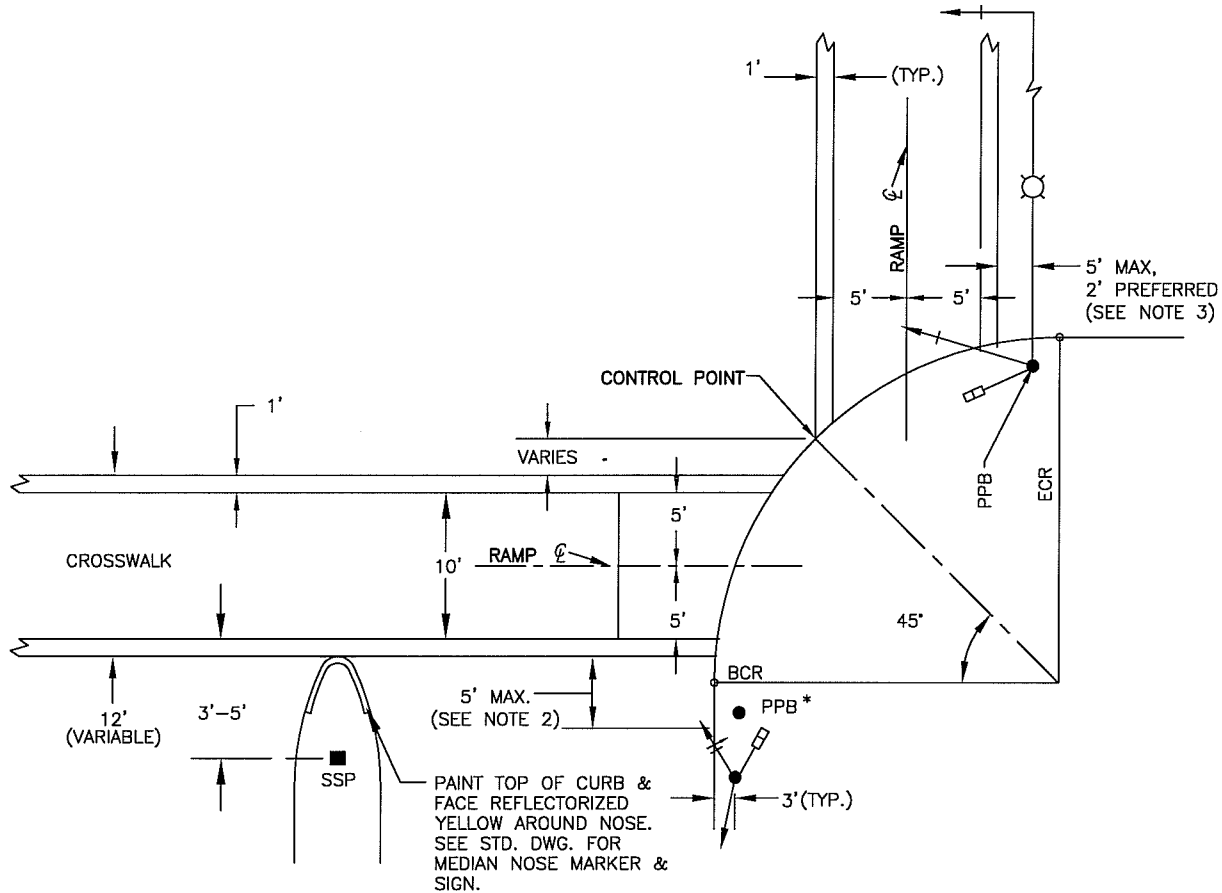
TRAFFIC SIGNAL INSTALLATION

DWG NO.

TS-7

REF.: STD. SPECIFICATIONS

APPROVED BY:	NO.	REVISED	BY	APPROVALS	SCALE: NTS
CITY ENGINEER		12-29-11	BGJ	CM DRU PUD	DRAWN BY: JA
DATE: 1/27/12					SHEET 1 OF 1



NOTES:

1. PEDESTRIAN PUSH BUTTONS ON SEPARATE POSTS WHERE REQUIRED. PPB SHALL BE MOUNTED ON "PEDESTRIAN PUSH BUTTON POST" PER CALTRANS STD. DWG. ES-7A. DO NOT USE "COMBINED" POST UNLESS SPECIFIED.
2. SEE STD. DWG. FOR MEDIAN NOSE MARKER & SIGN FOR DETAILS. MOUNT TYPE K-1 MARKER TO PPB POST.
3. SIGNAL STANDARD SHALL BE USED FOR PEDESTRIAN PUSH BUTTONS WITHIN 5 FEET FROM THE CROSSWALK AREA. IF STANDARD IS MORE THAN 5 FEET FROM A CROSSWALK, A PPB ON POST SHALL BE INSTALLED AS SHOWN ON PLANS.
4. PEDESTRIAN PUSH BUTTONS SHALL BE PLACED ON CROSSWALK SIDE OF STANDARD OR POST.
5. CROSSWALK AREA OF THE SIDEWALK SHOULD BE KEPT CLEAR OF POLES.
6. WHERE CURB RETURN RADIUS EXCEEDS 10 FEET, SIGNAL FACES SHOULD BE "SPLIT" OR LOCATED ON SEPARATE STANDARDS SO THAT GOOD VISIBILITY OF RIGHT AND FAR LEFT SIGNALS ARE PROVIDED FOR ALL APPROACHES.
7. STRIPING MAY VARY WHERE WHEELCHAIR RAMPS ARE PROVIDED.
8. MAINTAIN A MINIMUM CLEAR SIDEWALK WIDTH OF 48 INCHES FOR WHEELCHAIRS.
9. CURB RETURNS WITH A RADIUS OF LESS THAN 15 FEET: LINE UP OUTSIDE EDGE OF INNER CROSSWALK LINE WITH FACE OF CURB, SEE DRAWING.
10. CURB RETURNS WITH A RADIUS OF 15 FEET OR MORE: LOCATE CENTER OF CURB RETURN. MEASURE 4 FEET TOWARDS CENTER OF INTERSECTION TO LOCATE CONTROL POINT. LINE UP THE CROSSWALK WITH THE CONTROL POINT AS INDICATED ABOVE.
11. SEE MEDIAN ISLAND TURNOUTS FOR MEDIAN CONCRETE CAP.

LEGEND:

- ← ○ VEHICLE SIGNAL HEAD
- ← + ○ VEHICLE SIGNAL HEAD WITH BACKPLATE
- ← + ○ VEHICLE SIGNAL HEAD WITH ARROWS
- ○ PEDESTRIAN SIGNAL HEAD
- ○ LUMINAIRE
- PPB PEDESTRIAN PUSH BUTTON
- PPB ON POST
- SSP STREET SIGN POST



CITY OF CLOVIS

DWG NO.
TS-7A

TRAFFIC SIGNAL INSTALLATION DUAL RAMP DESIGN

REF.:
STANDARD SPEC.
SECTION 86

APPROVED BY:

CITY ENGINEER

DATE:

NO.

REVISED

BY

APPROVALS

04-20-09

BGJ

01-18-11

BGJ

02-16-11

BGJ

CM
DRU
PUD

SCALE: NTS

DRAWN BY: JA

SHEET 1 OF 1