SECTION 4000

TRAFFIC
CONSTRUCTION STANDARDS

SECTION 4000 – TRAFFIC

4000  Standard Barricade
4001  Type R Controller Cabinet Foundation Detail
4002  Type 1-A Foundation Detail – Revised 12/10/15
4003 (4 Sheets)  Sign Installation Details – Revised 02/02/16
4004  Autoscope Solopro Installation Detail – Revised 01/07/13 Overhead
4005 (6 Sheets)  Reflective Street Name Sign Details – Revised 02/02/16
4006  Pullbox Conduit entry Detail – Revised 12/10/15
4007  CCTV Camera/Cable Installation and Orientation
TYPICAL SECTION
SCALE: 1"=6'

TYPE OM4-3 RED REFLECTOR

CHAMFER ALL POSTS

0.5'

LEVEL LINE

32' LENGTH

0.5'

7.5' TYP

6' TYP

TOP CHAMFER 45'

2"x6"x16' DOUGLAS FIR
NO.1 COMMON

3/8"x8" GALVANIZED BOLT & WASHERS

6"x6"x6' TREATED WOOD

FIBER WASHER

TYPE N-2 OBJECT MARKER

TYPICAL SECTION
N.T.S.

NOTES:

1. PROVISION FOR FIRE TRUCK/EMERGENCY VEHICLE
   TURN-AROUND SHALL BE REQUIRED AS SHOWN
   ON PLANS.

2. CONSTRUCTION METHODS AND STRUCTURAL
   MATERIALS USED SHALL MEET CALTRANS STD.
   SPECIFICATIONS, SECTIONS 57 & 58.

3. TWO COATS OF PREMIUM QUALITY WHITE
   PAINT SHALL BE APPLIED PER SECTION 59.

4. THREE GALVANIZED 20D NAILS SHALL BE USED TO
   SECURE END OF PLANK TO POSTS AT CENTERLINE
   AND FIVE 20D NAILS SHALL BE USED AT OTHER
   POSTS.

5. OVERALL WIDTH SHOWN IS FOR LOCAL RESIDENTIAL
   STREETS WITH 36 FT. CURB SEPARATION. FOR
   OTHER STREETS USE CURB SEPARATION LESS 4 FT.

FRONT ELEVATION
N.T.S.

TOP OF ROADWAY
CONSTRUCTION NOTES:

A  560-C-3250 PORTLAND CEMENT CONCRETE FOUNDATION.
B  3/4" x 18" GALVANIZED ANCHOR BOLTS (ASTM A307).
C  3/8" CHAMFER TYPICAL.
D  2" SERVICE CONDUIT TO SERVICE ENCLOSURE.
E  (2) CONDUITS TO ADJACENT 6E PULL BOX.
F  2" CONDUIT FOR SIGNAL INTERCONNECT, PHONE OR FUTURE FIBER OPTIC CABLE.
G  GROUND ROD, 8 FT. MIN. INTO EARTH, EXCLUDING CONCRETE (APPROX. 10.5' ROD)
H  CONDUIT FOR DETECTION (VIDEO OR LOOP) AND OPTICOM CABLES TO ADJACENT 6E PULLBOX.

GENERAL NOTES:
1. INSTALL IN ACCORDANCE WITH CALTRANS RSP ES-3A AND ES-3B.
2. TOP OF FOUNDATION SHALL BE 6" ABOVE FINISHED SURFACE.
3. FINAL LOCATION OF CONDUITS SHALL BE APPROVED PRIOR TO FOUNDATION POUR.
4. ALL CONDUITS IN CONTROLLER FOUNDATION SHALL BE HOT-DIPPED GALVANIZED RIGID STEEL.
3/4"x6" GALVANIZED FULLY THREADED STUD (TOTAL OF 4)

1/2" MAXIMUM
MORTAR

2" MAXIMUM FINISH GRADE

3/4" STEEL SLEEVE NUT
4" MINIMUM LENGTH (TOTAL OF 4)

THREADED STUB AND ANCHOR BOLTS SHALL THREAD INTO SLEEVE NUT A MINIMUM OF 1 1/2"

3/4"x18" ANCHOR BOLTS THREAD 6", WITH 2 NUTS AND 2 WASHERS EACH. LENGTH DOES NOT INCLUDE 2" OR 4" 90° BEND (TOTAL OF 4)

FOUNDATION FOR TYPE 1 — A STANDARD
UN — IMPROVED AREA

TOP OF 4" SLIP BOLT FLUSH WITH FIRST POUR
FINISH GRADE SIDEWALK

FOUNDATION FOR TYPE 1 — A STANDARD
IMPROVED AREA

CITY OF FONTANA

TYPE 1-A FOUNDATION DETAIL

APPROVED BY: RICARDO SANDOVAL
CITY ENGINEER
DATE

REVIEWED BY: 

DATE OF LAST REVISION: 

CIVIL

STATE OF CALIFORNIA

R. CARDENAS, P.E.
REGISTERED PROFESSIONAL ENGINEER
No. 51152
EXP. 9/30/07

STD. PLAN NO. 4002
SHT 1 OF 1

07/1/06
NOTE:
EACH SIGN POST SHALL ACCOMPANY TWO STREET NAME SIGN BLADES. SEE SHEETS 2 AND 3 FOR COMPLETE SIGN SPECIFICATIONS.
SIGN AND POST MATERIAL & INSTALLATION REQUIREMENTS:

1.) STREET NAME SIGN MATERIALS, SIZES, AND INSTALLATION

A) SIGN BLANK MATERIAL SHALL BE EXTRUDED ALUMINUM, 5052–H38 ALLOY
B) SIGN BLANK DIMENSIONS ARE 6" HIGH BY A MINIMUM OF 24" TO MAXIMUM OF 42" LONG AS REQUIRED
C) SIGN LETTERING SHALL BE 3M OR AVERY–DENNISON PRISMATIC HIGH INTENSITY GRADE REFLECTIVE WHITE SHEETING OR APPROVED EQUIVALENT. THE SIGN BACKGROUND SHALL BE 3M OR AVERY–DENNISON PRISMATIC HIGH INTENSITY GRADE REFLECTIVE GREEN SHEETING OR APPROVED EQUIVALENT.
D) SIGN STREET NAME LETTERS MUST BE WHITE FHWA (FEDERAL HIGHWAY ADMINISTRATION) SERIES C–4" UPPER CASE. ADDRESS BLOCK NUMBERS MUST BE WHITE FHWA SERIES C–2". STREET NAME SUFFIX MUST BE WHITE FHWA 2" UPPER CASE.

2.) REGULATORY AND WARNING SIGN MATERIALS, SIZES, AND INSTALLATION

A) SIGNS SHALL BE HIGH INTENSITY PRISMATIC .080 ALUMINUM WITH 3M 1160 OR AVERY DENNISON 1160 (OR APPROVED EQUAL) ANTI–GRAFFITI FILM.
B) SIGNS SHALL BE SECURED TO THE POST BY A 3" BY 5/16" COURSE THREAD STAINLESS STEEL BOLT WITH A 2" FENDER WASHER ON TOP AND A 3/8" DRIVE RIVET WITH A 2" FENDER WASHER ON THE BOTTOM. THE FENDER WASHER SHALL HAVE A MINIMUM THICKNESS OF .075".
C) ALL SIGNS 30" OR GREATER SHALL HAVE A BACK BRACE INSTALLED.
D) THE BOTTOM OF THE SIGN SHALL BE A MINIMUM OF 7 FEET ABOVE THE FINISHED SURFACE.

3.) POST MATERIALS AND INSTALLATION

A) SQUARE PREPUNCHED STEEL TUBE POSTS WITH ANCHOR SHALL BE USED FOR ALL TRAFFIC CONTROL AND INFORMATIONAL SIGNS WITHIN ROAD RIGHT–OF–WAY. POST MUST BE 2" SQUARE PRE–PUNCH AND HOT DIPPED GALVANIZED INSIDE AND OUTSIDE. THE ONE–PIECE ANCHOR SHALL BE AN "ANCHORMATE" ANCHOR (2.5" X 2.5" X 30" GALVANIZED STEEL).
B) THE NUMBER OF POSTS REQUIRED FOR SIGN INSTALLATION SHALL BE DETERMINED BY THE WIDTH OF THE SIGN OR THE COMBINATION OF SIGNS TO BE INSTALLED. A SINGLE POST SHALL BE USED WHERE THE WIDTH IS LESS THAN 48". DOUBLE POSTS SHALL BE USED WHERE THE SIGN WIDTH EQUALS OR EXCEEDS 48"
C) THE ANCHOR SHALL BE DRIVEN UNTIL ONLY 4" REMAINS ABOVE GROUND LEVEL. IN CONCRETE, ANCHORS MAY BE CUT TO 20"
D) ALL DIRT AND CONCRETE SHALL BE REMOVED FROM THE INSIDE TOP 10" MIN. OF THE ANCHOR TO ALLOW FOR INSTALLATION OF THE SIGN POST.
F) INSTALLATION ACCORDING TO THESE REQUIREMENTS IS ESSENTIAL TO MAINTAIN THE BREAK–AWAY CHARACTERISTICS OF THE POST SYSTEM. UNDER NO CIRCUMSTANCES SHALL THE ANCHOR ASSEMBLY BE SECURED IN CONCRETE FOOTINGS.
G) THE SIGN POST SHALL BE A MINIMUM OF 2 FEET FROM THE CURB.
TYPICAL MARBELITE INSTALLATION

1.) THE MINIMUM VERTICAL CLEARANCE SHALL BE 7' FROM THE FINISHED SURFACE TO THE BOTTOM OF THE LOWEST SIGN ON THE MARBELITE.

2.) THE SIGN OR 10-10 BRACKET SHALL BE BANDED TO THE FLAT SURFACE OF THE MARBELITE THAT BEST ACCOMMODATES A 90 DEGREE ANGLE TO ONCOMING TRAFFIC (OR THE CURB) UNLESS OTHERWISE SPECIFIED.

3.) THE BAND SHALL BE TIGHTENED TO A POINT AT WHICH IT DOES NOT BREAK, YET PREVENTS MOVEMENT OF THE SIGN, BAND, OR BRACKET.

4.) ALL SIGNS BEING BANDED TO MARBELITE SHALL HAVE NO LESS THAN 2 BANDS (UPPER AND LOWER).

5.) UNDER NO CIRCUMSTANCES SHALL THE BANDS COVER THE IDENTIFICATION TAG ON THE MARBELITE.

BAND-IT – C206 STAINLESS STEEL TYPE 201 OR APPROVED EQUAL. 3/4" WIDTH AND .030" THICKNESS.

BRACKET (REGULATORY SIGN): BAND-IT, DOO1 OR EQUAL. 1 BOLT STRAIGHT LEG STAINLESS STEEL 3/4".

BRACKET (STREET NAME SIGN): 10-10 EXTRUDED ALUMINUM ALLOY.

BUCKLES – BAND-IT C456 OR EQUAL. EAR LOCKED 316 STAINLESS STEEL 3/4".

BOLTS – 1" X 5/16" COARSE THREAD STAINLESS STEEL.

WASHERS – ALL REGULATORY SIGNS SHALL BE INSTALLED WITH 5/16" X 2" ZINC COATED FENDER WASHERS WITH A MINIMUM THICKNESS OF .075".
STANDARD ABBREVIATIONS

AVENUE/AVENIDA AVE  LAKE/LAKES LKS
BOULEVARD BLVD  LANE LN
CANYON CYN  PARKWAY PKWY
CENTER CNTR  PLACE PL
CIRCLE CIR  ROAD RD
COURT CT  SQUARE SQ
DRIVE DR  STREET ST
HEIGHTS HTS  WAY WY

CITY OF FONTANA
STREET NAME ABBREVIATIONS

APPROVED BY:  DT
CITY ENGINEER
RICARDO SANDOVAL
DRAWN BY:  REVISION NUMBER: 3
DATE
STD. PLAN NO. 4003 SHT. 4 of 4
RUN CAMERA CABLE THROUGH MOUNT, INTO LUMINAIRE ARM AND DOWN POLE TO CONTROLLER CABINET. A CONNECTOR WILL BE PROVIDED BY THE CITY TO TERMINATE THE CABLE AT THE CAMERA.

INSTALL DETECTION CAMERA AS CLOSE AS POSSIBLE TO THE LUMINAIRE. EDGE MOLDING TO REMAIN.

5/8" MAX HOLE DRILLED IN LUMINAIRE ARM

CAMERA MOUNT DOUBLE BANDED TO LUMINAIRE ARM

CABLE TO CABINET CONTINUOUS RUN – NO SPlicing

LUMINAIRE ARM MOUNT

"L" MOUNT DOUBLE BANDED TO SHAFT

INSTALL DETECTION CAMERA JUST UNDERNEATH LUMINAIRE ARM. EDGE MOLDING TO REMAIN.

CABLE TO CABINET CONTINUOUS RUN – NO SPlicing

DRILL HOLE AND INSTALL STRAIN RELIEF CONNECTOR

SHAFT MOUNT
RUN CAMERA CABLES (VIDEO AND POWER) THROUGH MOUNT, INTO LUMINAIRE ARM AND DOWN POLE. SPLICE AT BASE OF POLE. "PIGTAILS" ARE SUPPLIED BY THE CITY.

INSTALL DETECTION CAMERA AS CLOSE AS POSSIBLE TO THE LUMINAIRE. EDGE MOLDING TO REMAIN.

CAMERA MOUNT DOUBLE BANDED TO LUMINAIRE ARM

CABLES TO CABINET CABLES ARE SPLICED AT BASE OF POLE

LUMINAIRE ARM MOUNT

"L" MOUNT DOUBLE BANDED TO SHAFT

INSTALL DETECTION CAMERA JUST UNDERNEATH LUMINAIRE ARM. EDGE MOLDING TO REMAIN.

CABLES TO CABINET CABLES ARE SPLICED AT BASE OF POLE. "PIGTAILS" ARE SUPPLIED BY THE CITY.

DRILL HOLE AND INSTALL STRAIN RELIEF CONNECTOR

SHAFT MOUNT

CITY OF FONTANA

AUTO SCOPE

RVP2 INSTALLATION DETAILS

APPROVED BY:  

CITY ENGINEER  
RICARDO SANDOVAL  
DRAWN BY:  
RG/DT  
REVISION NUMBER:  
2

CIVIL  
STATE OF CALIFORNIA

STD. PLAN NO. 4004  
SHT. 2 OF 2
SIGN MOUNT DETAIL

Sierra Lakes Pkwy
16500

NOTE: FOR SIGN MATERIAL SEE PROJECT SPECIAL PROVISIONS.

CLAMP DETAIL

BACK CLAMP W/ 4 BOLTS (ASTM A-307)

SIGNAL POLE DIAMETER AT 24" ABOVE FINISHED GRADE

4" CLAMP

ZAP BRACKET DOUBLE LOOP BANDED TO ARM

STREET NAME SIGN

ZAP BRACKET DETAIL

BRACKETS SHALL BE DOUBLE LOOP BANDED TO THE ARM

SIGNAL OR SIGN ARM

NOT TO SCALE

CITY OF FONTANA

OVERHEAD REFLECTIVE STREET NAME SIGN MOUNTING DETAIL

APPROVED BY:

CITY ENGINEER RICARDO SANDOVAL

DRAWN BY: ______ DATE ______

REVISION NUMBER: ______

STD. PLAN NO. 4005 DWG. 1/4
SIGN LEGEND DETAIL

1/2" WHITE BORDER

GREEN BACKGROUND

WHITE LETTERS AND NUMBERS

SIGN LENGTH IS EITHER 6' OR 8' BASED LENGTH OF STREET NAME

SIGN LEGEND SHALL CONSIST OF 3M DG3 SERIES 4000 REFLECTIVE SHEETING OR APPROVED EQUAL.

CITY LOGO DETAIL

1/4" BORDER

HIGHWAY BLUE

1/4" BLACK (NON-REFLECTIVE)

GREY (NON-REFLECTIVE)

HIGHWAY BROWN

WHITE

HIGHWAY BLUE

12"

2-1/2"

3/16"

9/16"

1/2"

12"

CITY OF FONTANA

APPROVED BY:

CITY ENGINEER

DRAWN BY:

REVISION NUMBER:

CITY OF FONTANA

OVERHEAD REFLECTIVE STREET NAME SIGN

LEGEND DETAIL

STD. PLAN NO. 4005

DWG. 2/4
SIGN LEGEND DETAIL

1/2" WHITE BORDER
GREEN BACKGROUND

WHITE LETTERS AND NUMBERS
SIGN LENGTH IS EITHER 6' OR 8' BASED LENGTH OF STREET NAME
SIGN LEGEND SHALL CONSIST OF 3M DG3 SERIES 4000 REFLECTIVE SHEETING
OR APPROVED EQUAL.

SIGN MOUNT DETAIL

CAP
8' ARM LENGTH
ZAP BRACKETS DOUBLE LOOP BANDED TO ARM

Oleander Ave
Fontana Ave
8800
8900

NOTE: FOR SIGN MATERIAL SEE PROJECT SPECIAL PROVISIONS.

CITY OF FONTANA
OVERHEAD REFLECTIVE STREET NAME SIGN LEGEND AND MOUNT DETAIL
STD. PLAN NO. 4005 DWG. 2A/4

APPROVED BY:

CITY ENGINEER
Ricardo Sandoval

DRAWN BY:

REVISION NUMBER:

Ricardo Sandoval
10/19/16

No. 51152 EXP. 9/30/17
CIVIL

REGISTERED PROFESSIONAL ENGINEER
STATE OF CALIFORNIA
SIGN FRAME FABRICATION DETAIL

SIGN FRAMEWORK FABRICATION NOTES

1. ZAP MOUNTING BRACKET SHALL BE WELDED TO TOP OF ALUMINUM CHANNEL FRAMEWORK AND MECHANICALLY FASTENED WITH A 1/2" DIA. STAINLESS STEEL BOLT AND LOCKING NUT.

2. SIGN FRAMEWORK SHALL BE 1-1/4" X 1-1/4" X 1/8" WALL ALUMINUM CHANNEL WELDED TOGETHER AT CORNERS.

3. FRAMEWORK SHALL HAVE .040" THICK ALUMINUM BRACKETS WELDED TO INSIDE OF CORNERS AS SHOWN.

4. FRAMEWORK SHALL HAVE 1" X 1/8" WALL ALUMINUM SQ. TUBE VERTICAL SUPPORTS WELDED INSIDE AS SHOWN.

CITY OF FONTANA

OVERHEAD REFLECTIVE STREET NAME SIGN FABRICATION DETAIL

PREPARED BY:

CITY ENGINEER
RICARDO SANDOVAL

DRAWN BY:

REVISION NUMBER:

STD. PLAN NO. 4005  DWG. 3/4
SIGN FRAME FABRICATION DETAIL

SIGN FRAMEWORK FABRICATION NOTES

1. ZAP MOUNTING BRACKET SHALL BE WELDED TO TOP OF ALUMINUM CHANNEL FRAMEWORK AND MECHANICALLY FASTENED WITH A 1/2" DIA. STAINLESS STEEL BOLT AND LOCKING NUT.

2. SIGN FRAMEWORK SHALL BE 1-1/4" X 1-1/4" X 1/8" WALL ALUMINUM CHANNEL WELDED TOGETHER AT CORNERS.

3. FRAMEWORK SHALL HAVE .040" THICK ALUMINUM BRACKETS WELDED TO INSIDE OF CORNERS AS SHOWN.

4. FRAMEWORK SHALL HAVE 1" X 1/8" WALL ALUMINUM SQ. TUBE VERTICAL SUPPORTS WELDED INSIDE AS SHOWN.
REINFORCING CABLE DETAIL

EACH OVERHEAD SIGN SHALL HAVE TWO CABLE ASSEMBLIES INSTALLED, ONE AT EACH MOUNTING BRACKET.

NOT TO SCALE
CCTV CAMERA ORIENTATION

SONY UNIWMB1 POLE MOUNT ADAPTER W/BACK BOX
SONY UNIWMB3 PTZ WALL MOUNT BRACKET
SONY OUTDOOR WR602 PTZ HPOE+ 30W

WALL MOUNT BRACKET SHALL BE BANDED USING 3/4 STAINLESS STEEL BAND-STRAP (SEE SECTION E)

CAT 5E 350 MHz UTP, UV JACKET OUTDOOR CMX ETHERNET CABLE

MOUNT CAMERA 12" BELOW LUMINAIRE SIMPLEX. NOTE: THIS DIMENSION MAY NEED TO BE ADJUSTED FOR DECORATIVE POLES

DRILL & TAP 1 1/2" HOLE IN POLE SHAFT. THREAD IN WATERTIGHT STRAIN RELIEF CONNECTOR.

NOTE: ETHERNET CABLE SHALL BE A CONTINUOUS RUN FROM THE CAMERA TO THE CABINET. NO SPlicing IS ALLOWED.