



SIREN DRIVE
(PUBLIC STREET)

V.T.M. 15615

EX. 30" DOMESTIC WATER
PROJECT C-1653D.

EX. 8" IN-TRACT SEWER —
FACILITIES PROJECT C-1664.

CROWN VALLEY PK WY

FUTURE CROWN VALLEY PKWY

V.T.T.M. 16063

INDEX MAP

SCALE: 1" = 60'



**FUTURE
APEX DR.**

TRACT BOUNDARY -

DESCRIPTION
STREETS

107

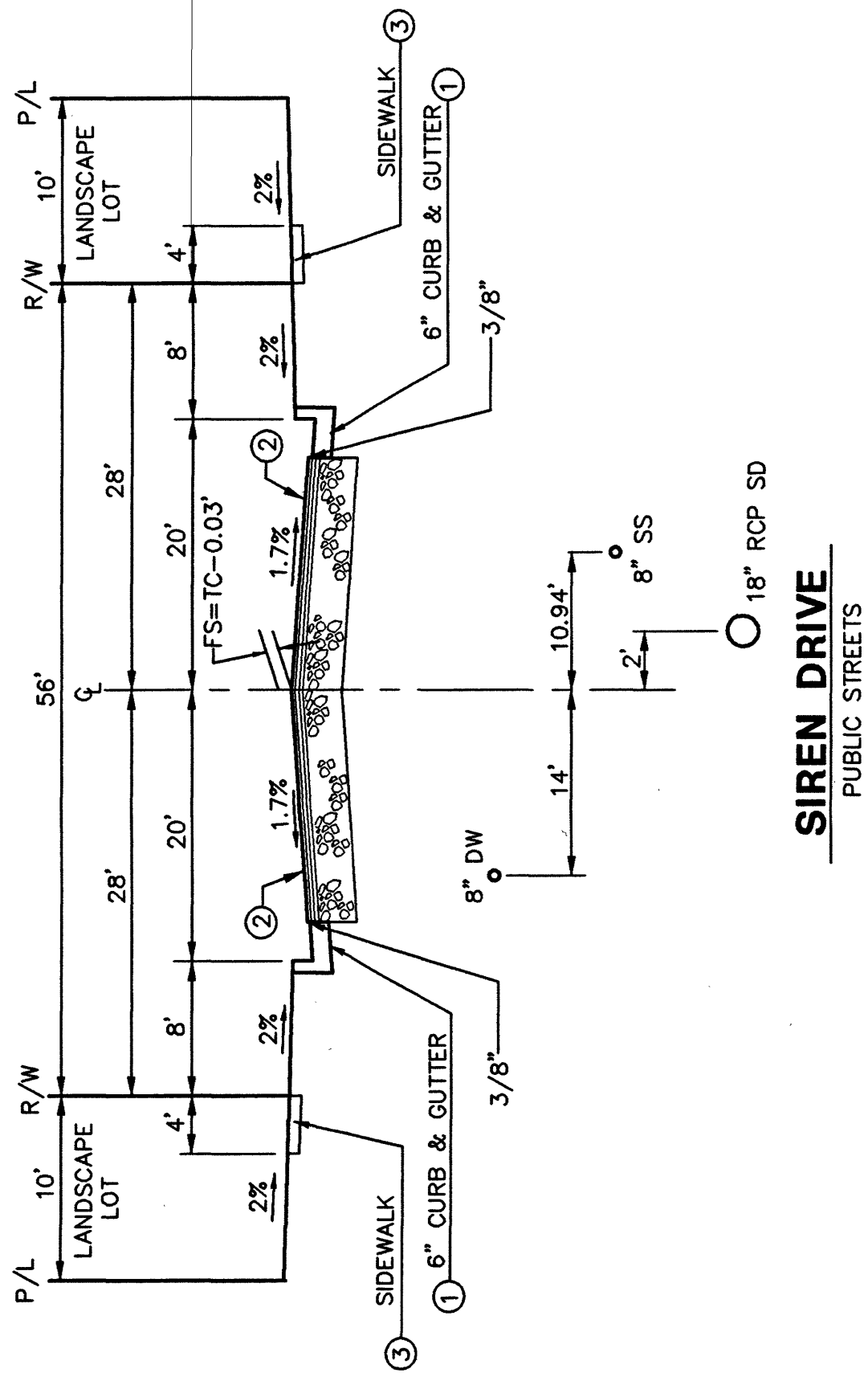
LEGEND

BLOW-OFF ASSEMBLY	—DW—●	LOT NUMBER
GATE VALVE (GV)	—◇—	RIGHT-OF-WAY
DOMESTIC WATER LINE	—DW—	TRACT BOUNDARY
FIRE HYDRANT (FH)	□ FH	STREET NAME SIGN
WATER METER (WM)	□	STREET LIGHT
THRUST BLOCK (TB)	—△—	EDGE OF PAVEMENT
AIR RELEASE VALVE (AV)	—□—	TOP OF CURB
SEWER LINE	—SS—	FLOWLINE
MANHOLE & CLEANOUT	—○—	FINISHED SURFACE
STORM DRAIN PIPE	—SD—	EASEMENT
STORM DRAIN INLET	—SD—CB—	RECLAIMED WATER
SD JUNCTION STRUCTURE	—○—	

DOUGLAS BENDER AND ASSOCIATES
Consulting Civil Engineers
22571 MILL CREEK DR.
LAGUNA HILLS, CA 92653
TEL: (949) 898-0266
FAX: (949) 898-0566

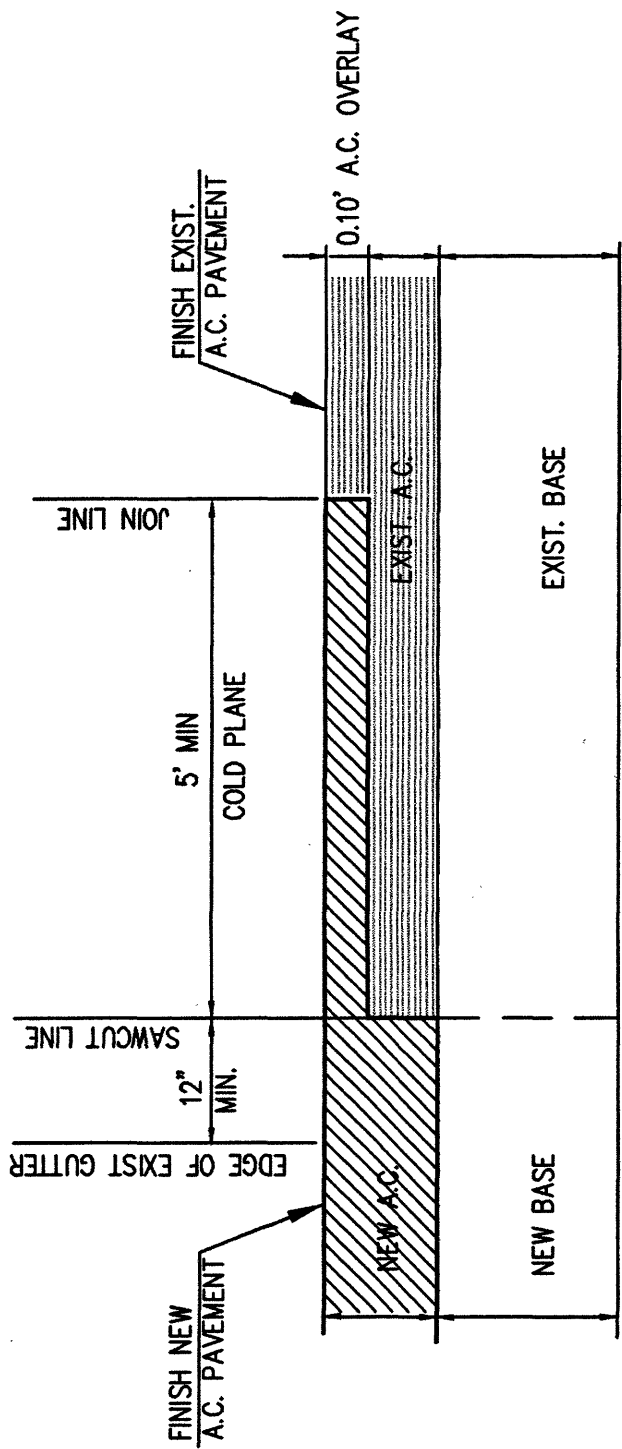
DOUGLAS W. BENDER	DATE
BCE No 28946	EXP DATE 3/31/03

TYPICAL SECTIONS



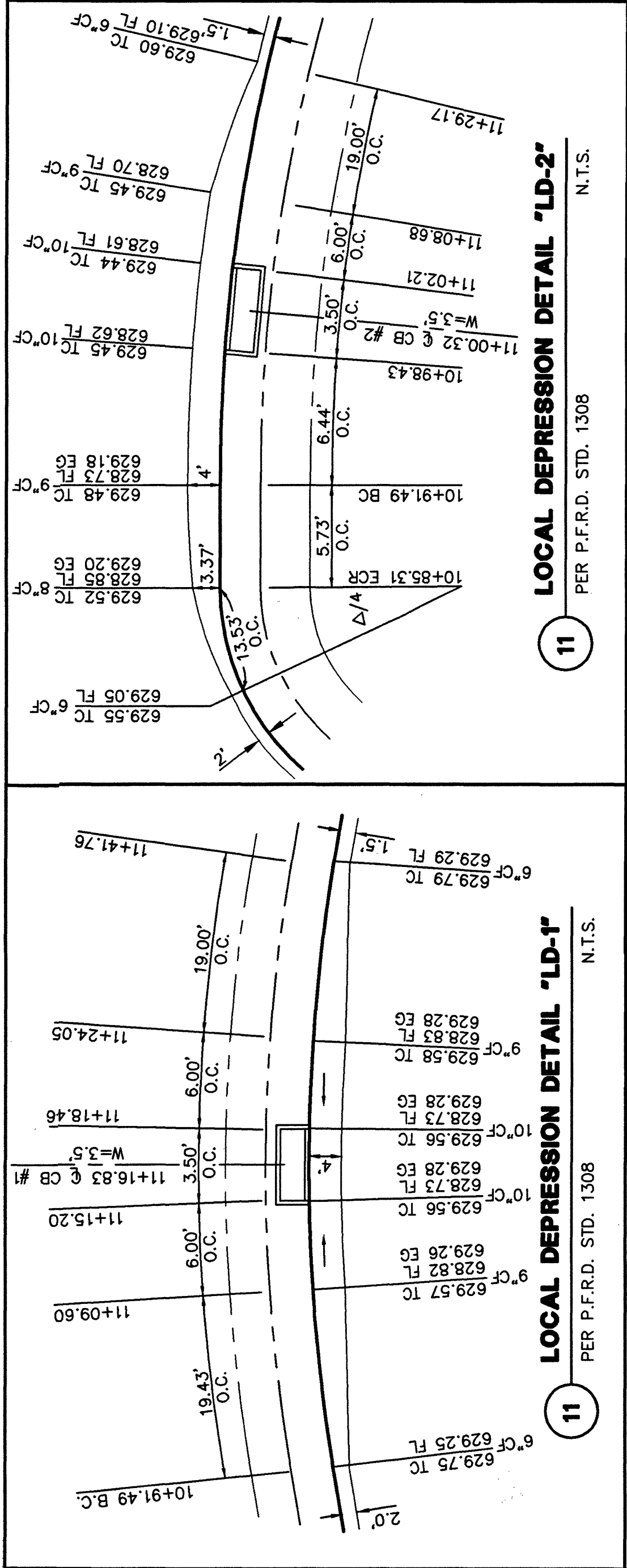
NOTE

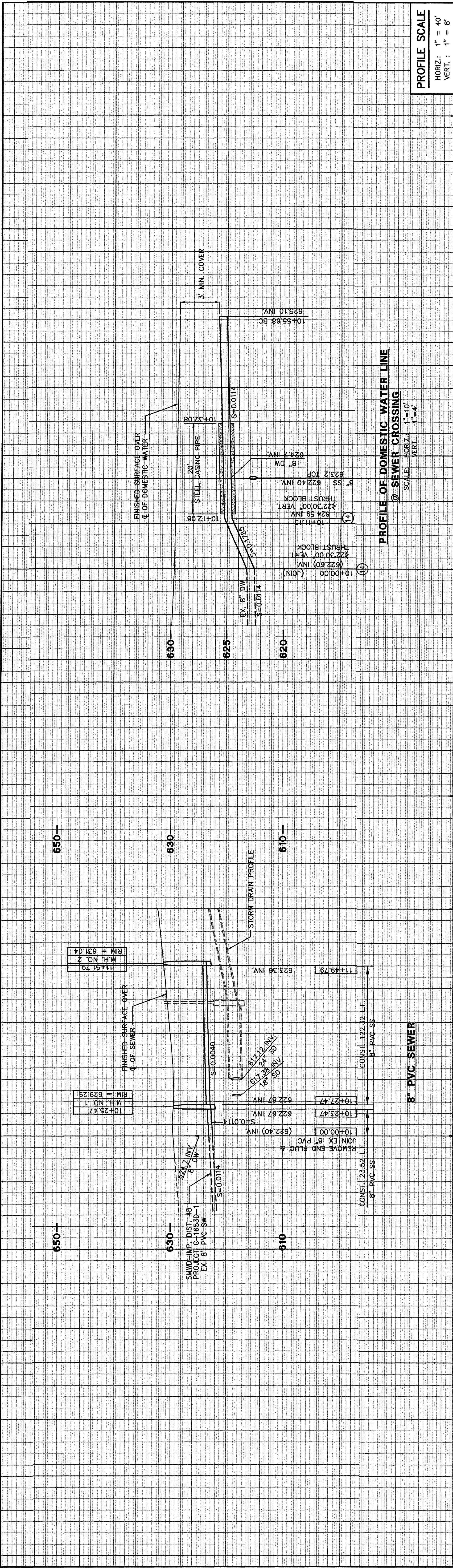
- ① — CONSTRUCT 6" C & G TYPE "A2-6" (W=1.5') PER APWA STD. 120-O-OC
- ② — CONSTRUCT "A.C. WITH SEAL COAT OVER "A.B. WITH PRIMECOAT
- ③ — CONSTRUCT CONCRETE SIDEWALK PER P.F.R.D. STD. 1205



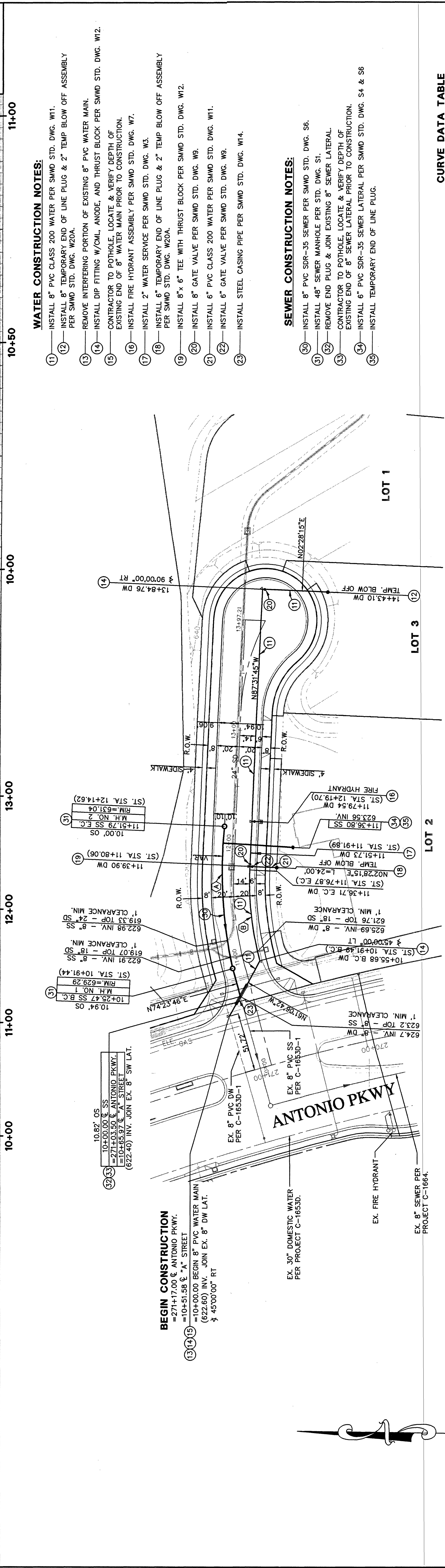
14 COLD PLANE DETAIL

N.T.S.

[illegible]



- WATER CONSTRUCTION NOTES:**
- (11) — INSTALL 8" PVC CLASS 200 WATER PER SMD STD. DWG. W11.
 - (12) — INSTALL 8" TEMPORARY END OF LINE PLUG & 2" TEMP BLOW OFF ASSEMBLY PER SMD STD. DWG. W20A.
 - (13) — REMOVE INTERFERING PORTION OF EXISTING 8" PVC WATER MAIN.
 - (14) — INSTALL DIP FITTING W/CML, ANODE, AND THRUST BLOCK PER SMD STD. DWG. W12.
 - (15) — CONTRACTOR TO POTHOLE, LOCATE & VERIFY DEPTH OF EXISTING END OF 8" WATER MAIN PRIOR TO CONSTRUCTION.
 - (16) — INSTALL FIRE HYDRANT ASSEMBLY PER SMD STD. DWG. W7.
 - (17) — INSTALL 2" WATER SERVICE PER SMD STD. DWG. W3.
 - (18) — INSTALL 6" TEMPORARY END OF LINE PLUG & 2" TEMP BLOW OFF ASSEMBLY PER SMD STD. DWG. W20A.
 - (19) — INSTALL 8"x 6" TEE WITH THRUST BLOCK PER SMD STD. DWG. W12.
 - (20) — INSTALL 8" GATE VALVE PER SMD STD. DWG. W9.
 - (21) — INSTALL 6" PVC CLASS 200 WATER PER SMD STD. DWG. W11.
 - (22) — INSTALL 6" GATE VALVE PER SMD STD. DWG. W9.
 - (23) — INSTALL STEEL CASING PIPE PER SMD STD. DWG. W14.
- SEWER CONSTRUCTION NOTES:**
- (30) — INSTALL 8" PVC SDR-35 SEWER PER SMD STD. DWG. S6.
 - (31) — INSTALL 48" SEWER MANHOLE PER STD. DWG. S1.
 - (32) — REMOVE END PLUG & JOIN EXISTING 8" SEWER LATERAL.
 - (33) — CONTRACTOR TO POTHOLE, LOCATE & VERIFY DEPTH OF EXISTING END OF 8" SEWER LATERAL PRIOR TO CONSTRUCTION.
 - (34) — INSTALL 6" PVC SDR-35 SEWER LATERAL PER SMD STD. DWG. S4 & S6
 - (35) — INSTALL TEMPORARY END OF LINE PLUG.



CURVE DATA TABLE

DELTA	RADIUS	TANGENT	LENGTH
(A) 18°05'41"	400.00'	63.69'	126.33'
(B) 17°47'20"	261.00'	40.85'	81.03'

TRACT NO. 15619
WATER & SEWER PLAN & PROFILE
SIREN DRIVE (PUBLIC STREET)

SHEET
SW-1

COUNTY OF ORANGE

5 OF 8

PLANS PREPARED BY:

DOUGLAS BENDER AND ASSOCIATES
Consulting Civil Engineers
22971 MILL CREEK DR.
LAGUNA HILLS, CA 92653
TEL (949) 586-0066
FAX: (949) 586-5866

URBAN ACTIVITY CENTER
DATE: 01-04-01
PLAN SET: A

NO	DATE	REVISIONS

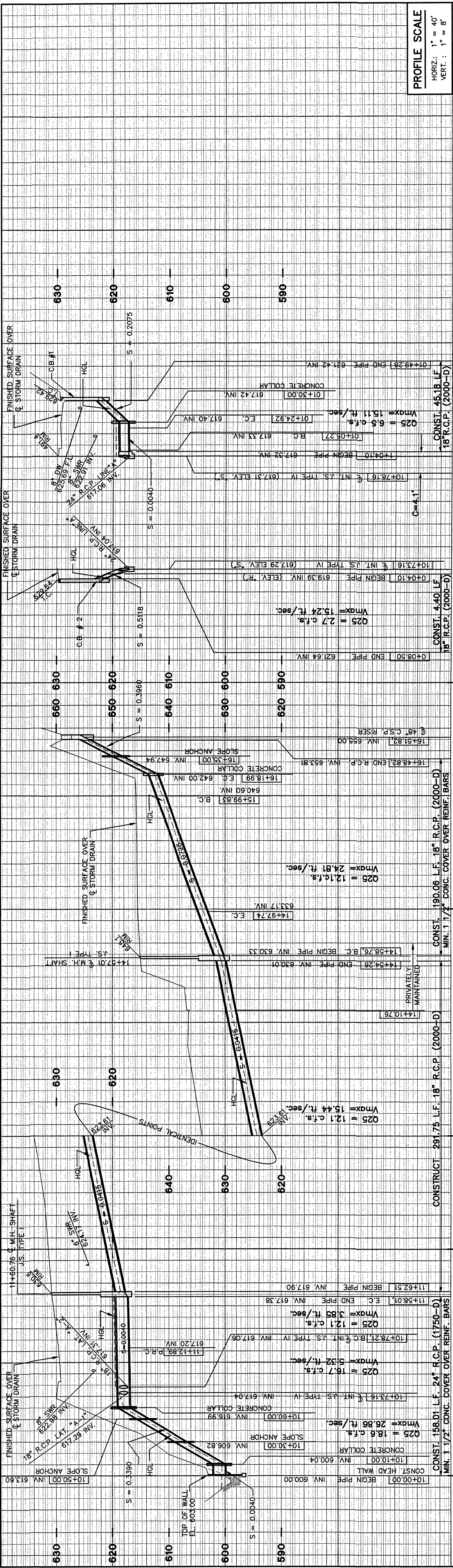
GRAPHIC SCALE
(IN FEET)
1 Inch = 40 ft.

SCALE: 1"=40'

100
80
60
40
20
0

176.352/352#W1.DWG

176.352/352#W1.DWG



PROFILE SCALE
HORIZ.: 1" = 40'
VERT.: 1" = 8'

- CONSTRUCTION NOTES:**
- INSTALL 18" R.C.P. PER P.F. & R.D. STD. PLAN 1319. (D-LOAD PER PROFILE)
 - INSTALL 24" R.C.P. PER P.F. & R.D. STD. PLAN 1319. (D-LOAD PER PROFILE)
 - CONST. INLET TYPE I PER P.F. & R.D. STD. PLAN 1301.
 - CONST. JUNCTION STRUCTURE TYPE I PER P.F. & R.D. STD. STD. PLAN 1310.
 - CONST. JUNCTION STRUCTURE TYPE IV PER P.F. & R.D. STD. STD. PLAN 1313.
 - CONST. CONCRETE COLLAR PER P.F. & R.D. STD. STD. PLAN 1317.
 - CONST. CONCRETE PIPE SLOPE ANCHOR PER P.F. & R.D. STD. PLAN 1333.
 - PLUG PIPE WITH BRICK AND MORTAR.
 - INSTALL ROCK RIP RAP PER DETAIL HEREON AND P.F. & R.D. STD. 1809.
 - CONST. HEADWALL PER DETAIL AND NOTES HEREON.

HEADWALL NOTES:
CONCRETE SHALL BE 500-C-3250
ALL REINFORCING STEEL #4 BARS. ALL VERTICAL AND HORIZONTAL
TIE BARS 18" MAXIMUM SPACING.

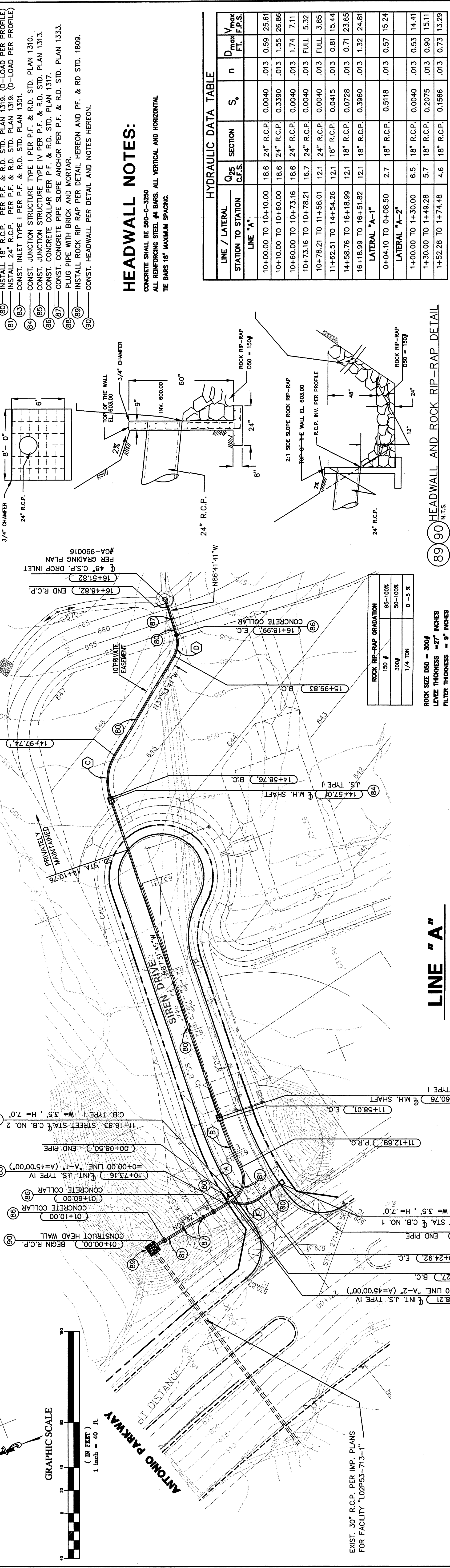
HYDRAULIC DATA TABLE					
LINE / LATERAL	Q ₂₅ STATION C.F.S.	SECTION	S _c	n	D _{max} V _{max} FT. F.P.S.
LINE "A"					
10+00.00 TO 10+10.00	18.6	24" R.C.P.	0.0040	.013	0.59 25.61
10+10.00 TO 10+50.00	18.6	24" R.C.P.	0.3390	.013	1.55 26.86
10+60.00 TO 10+73.16	18.6	24" R.C.P.	0.0040	.013	1.74 7.11
10+73.16 TO 10+78.21	16.7	24" R.C.P.	0.0040	.013	5.32
10+78.21 TO 11+58.01	12.1	24" R.C.P.	0.0040	.013	3.85
11+62.51 TO 14+54.26	12.1	18" R.C.P.	0.0415	.013	0.81 15.44
14+56.76 TO 16+18.99	12.1	18" R.C.P.	0.0728	.013	0.71 23.65
16+18.99 TO 16+51.82	12.1	18" R.C.P.	0.3960	.013	1.32 24.81
LATERAL "A-1"					
0+04.10 TO 0+08.50	2.7	18" R.C.P.	0.5118	.013	0.57 15.24
LATERAL "A-2"					
1+00.00 TO 1+30.00	6.5	18" R.C.P.	0.0040	.013	0.53 14.41
1+30.00 TO 1+49.28	5.7	18" R.C.P.	0.2075	.013	0.90 15.11
1+52.28 TO 1+74.48	4.6	18" R.C.P.	0.1586	.013	13.29

LAT."A-2"

LAT."A-1"

LINE "A"

LINE "A"



LINE "A"

ROCK RIP-RAP GRADATION
150 # 95-100%
300# 50-100%
1 1/4 TON 0 - 5 %

ROCK SIZE D50 = 300#
LEVEE THICKNESS = 27" INCHES
FILTER THICKNESS = 9" INCHES

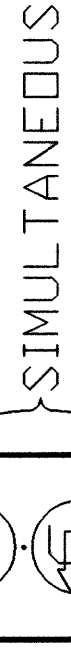
CURVE DATA TABLE			
DELTA	RADIUS	TANGENT	LENGTH
(A) 88°19'25"	22.50'	21.85'	34.68'
(B) 09°19'57"	277.00'	22.81'	45.12'
(C) 49°38'04"	45.00'	20.81'	38.98'
(D) 48°48'01"	22.50'	10.21'	19.16'
(E) 50°02'17"	22.50'	10.50'	19.65'

PLANS PREPARED BY:
DOUGLAS BENDER AND ASSOCIATES
Consulting Civil Engineers
22971 MILL CREEK DR.
LAGUNA HILLS, CA 92653
TEL: (949) 586-0086
FAX: (949) 586-5866

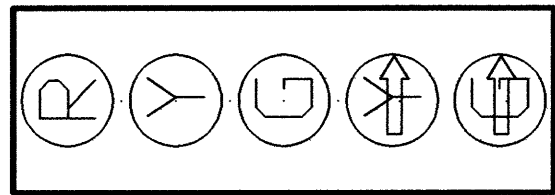
TRACT No. 15619
STORM DRAIN PLAN AND PROFILE
LINE "A"
COUNTY OF ORANGE
SHEET
SD-1
6 OF 8

DETAIL A

4-SECTION SIGNAL HEAD
12" LENSES



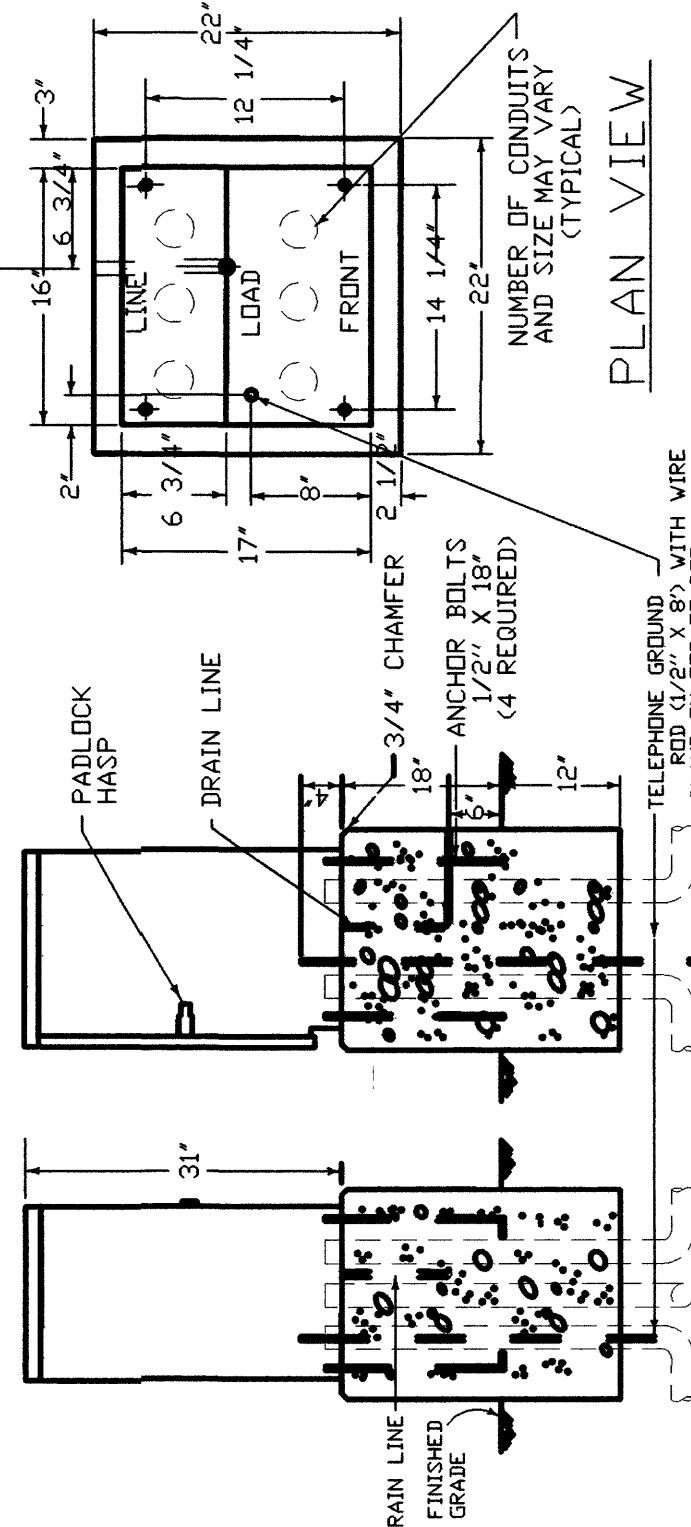
DETAIL E

5-SECTION SIGNAL HEAD
12" LENSES

8. — BAND STRAP OR BOLT FRAME WORK AT TOP, TO SIGNAL POLE.
— NO CAST ALUMINUM TERMINAL BLOCKS ALLOWED.

DETAIL

INTERCONNECT SPLICE CABINET



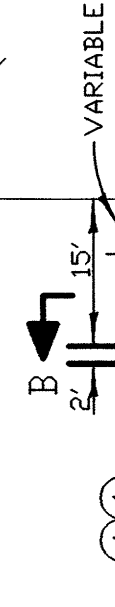
FRONT VIEW SIDE VIEW

NOTES - DETAIL F

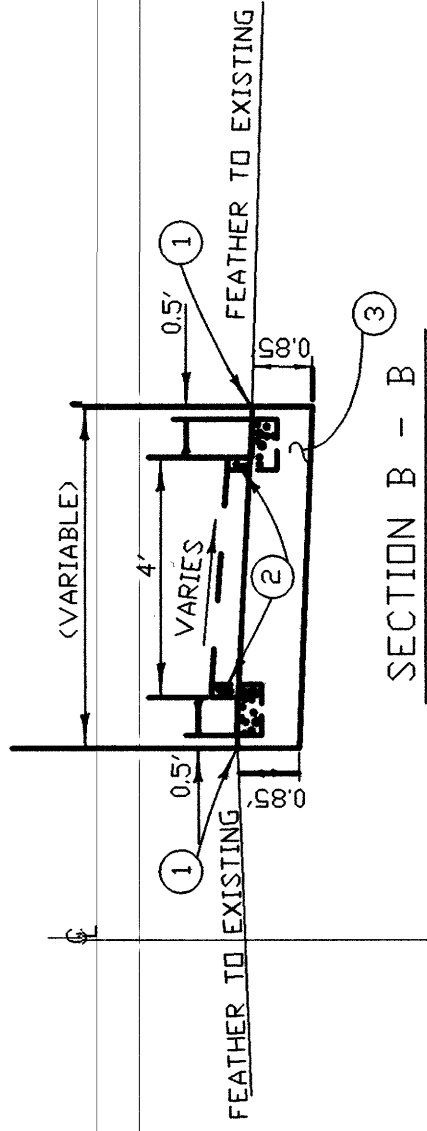
1. FOUNDATION TO BE 22" X 22", ANCHOR BOLT PLACEMENT PER CABINET MFG. TEMPLATE.
2. ENCLOSURE SHALL BE ALUMINUM AND FURNISHED WITH A DETACHABLE MOUNTING BASE.
3. ALL FACTORY INSTALLED COMPONENTS SHALL BE U.L. LISTED OR PER APPROVED E.E. STANDARDS.
4. A 3/4" CONSTRUCTION GRADE PLYWOOD PANEL SHALL BE FASTENED TO THE REAR WALL. PANEL SHALL BE 12" X 24" AND SHALL HAVE A No. M-25 AND R-41 PANEL. STANDOFF FASTENED IN THE CENTER OF THE PANEL.
5. ENCLOSURE FINISH SHALL CONFORM TO A.S.T.M. B-117. PAINT TO BE APPLIED TO EXTERNAL AND INTERNAL CABINET SURFACE SHALL BE WHITE. ANTI-GRAFFITI - CABINETS 6-409-G SERIES OR APPROVED EQUAL. ANTI-GRAFFITI PAINT SHALL BE APPLIED TO CABINET AT THE TIME OF MANUFACTURE.
6. PROVIDE 1 1/2" CONDUIT FOR FUTURE 115 VAC SERVICE.
7. PROVIDE GROUND BUS INSIDE SPUR CABINET.

DETAIL B

INTERSECTIONS RAISED MEDIAN



TYPICAL INTERSECTION

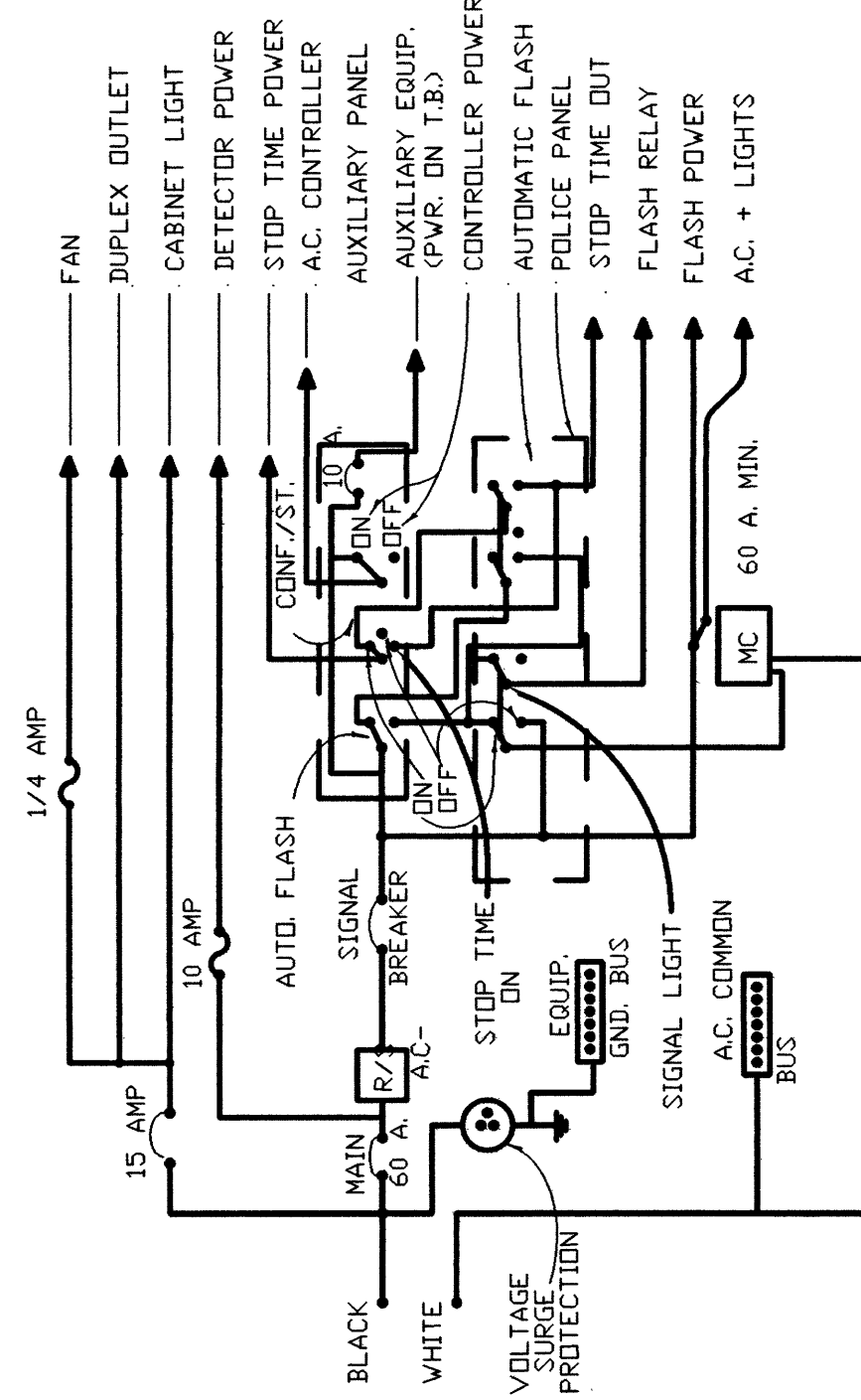


NOTES - DETAILS B.

1. SAWCUT AND JOIN EXISTING
2. REMOVE CONCRETE
3. CONSTRUCT 0.85' AC OVER NATIVE SOIL
4. CONSTRUCT TYPE A1-8 CONCRETE CURB
PER APWA STD. PLAN 120-0.

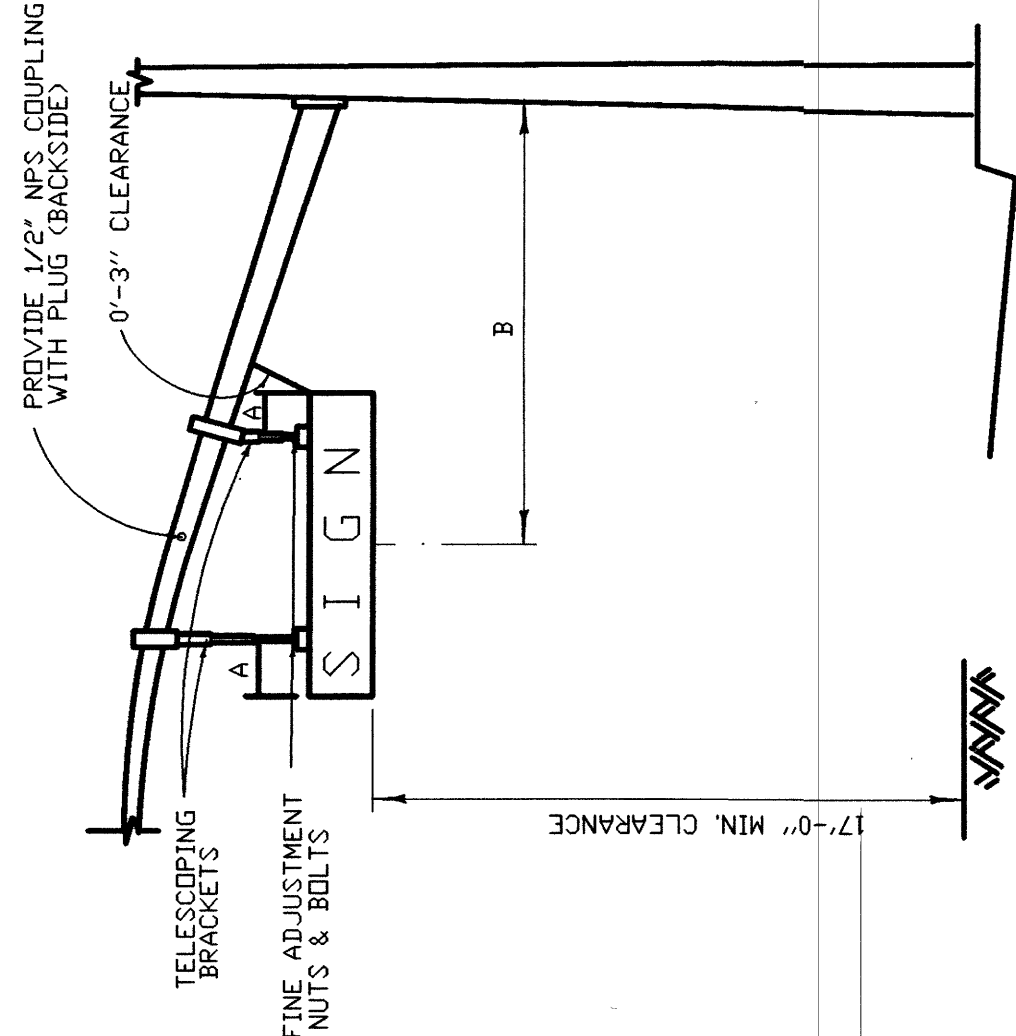
DETAIL

CONTROLLER CABINET WIRING



DETAIL C

REFLECTORIZED STREET NAME SIGN COMPONENTS

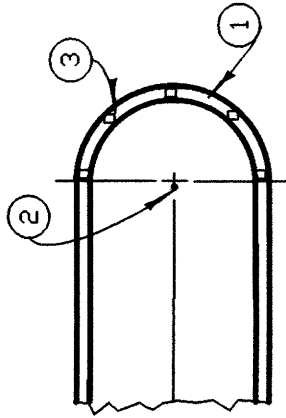


NOTES - DETAIL C

- A 1'-6" (18"x72" SIGN), 2'-0" (18"x96" SIGN)
B 10'-6" CENTERLINE OF SIGN TO FACE OF POLE

DETAIL H

RAISED MEDIAN MARKING

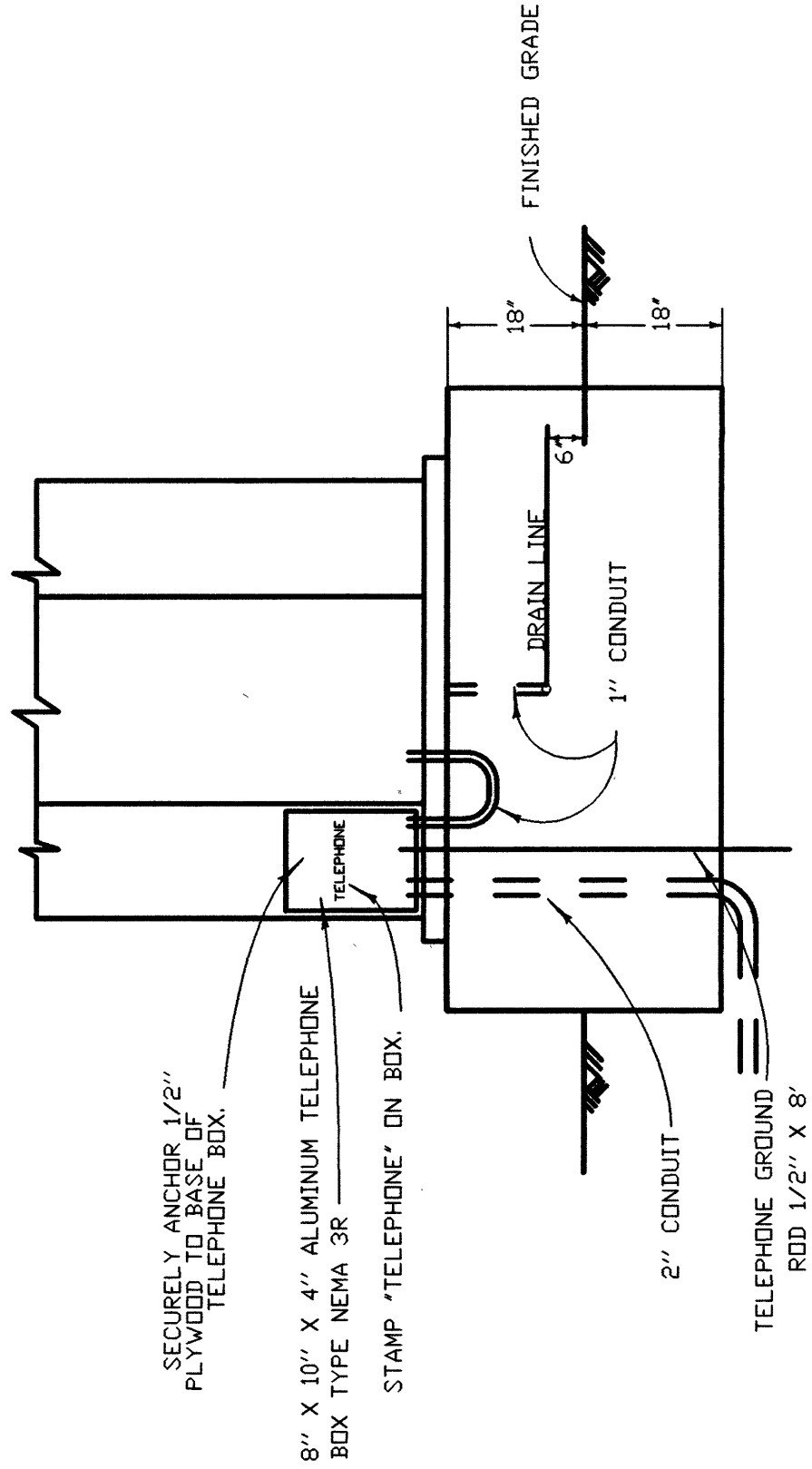


NOTES - DETAIL H

- ① PAINT MEDIAN NOSE WITH HIGHLY REFLECTIVE, PREMIUM WHITE TRAFFIC PAINT WITH GLASS BEADS.
- ② INSTALL FLEXIBLE VERTICAL TYPE K MARKER, R7, R10 OR TYPE N-1 ON TELEPOST POST AS INDICATED ON PLAN.
- ③ INSTALL YELLOW REFLECTIVE PAVEMENT MARKERS ON TOP SURFACE OF MEDIAN CURB, WEDGE, AND CURB SPACING (MINIMUM 5 MARKERS). PLACE REFLECTIVE SURFACE OF MARKERS PERPENDICULAR TO Q. OF ROADWAY.

DETAIL D

TELEPHONE SERVICE BOX



GENERAL NOTES **△△9**

1. ALL WORK MATERIALS AND NEW EQUIPMENT SHALL CONFORM TO THE REQUIREMENTS OF THE CALIFORNIA DEPARTMENT OF TRANSPORTATION, STANDARD PLANS DATED JULY 1999 AND STANDARD SPECIFICATIONS DATED JULY 1999 AND THE SPECIAL PROVISIONS FOR THIS PROJECT.
2. UTILITIES SHOWN ON THESE PLANS ARE CORRECTED AND ACCURATE TO THE EXTENT OF AVAILABLE RECORDS AND KNOWLEDGE OF THE CONTRACTOR. HOWEVER, IT IS REQUIRED TO ASCERTAIN THE EXACT LOCATION OF UNDERGROUND FACILITIES PRIOR TO DOING WORK THAT MAY DAMAGE SUCH FACILITIES OR INTERFERE WITH THEIR SERVICE.
3. 48 HOURS PRIOR TO BEGINNING OF CONSTRUCTION, THE CONTRACTOR SHALL CONTACT ORANGE COUNTY PUBLIC FACILITIES & RESOURCES DEPARTMENT FOR INSPECTION AT 957-7800.
4. THE ENGINEER SHALL APPROVE POLE AND LOOP DETECTION PLACEMENT IN THE FIELD PRIOR TO INSTALLATION.
5. ALL CONDUITS SHALL BE 2" UNLESS OTHERWISE NOTED.
6. ALL PULL BOXES SHALL BE #5 UNLESS OTHERWISE NOTED.
7. ALL SALVAGED EQUIPMENT SHALL BE DELIVERED UNDAMAGED, BY CONTRACTOR, TO THE ORANGE COUNTY YARD AT 1152 EAST FRUIT ST., SANTA ANA, CA. CONTRACTOR SHALL GIVE A 48-HOUR NOTICE TO THE COUNTY PRIOR TO THE DELIVERY DATE.
8. CONTRACTOR SHALL PROVIDE ALL NECESSARY TELEPHONE AND ELECTRICAL SERVICE LINES AND INTERCONNECT HOOK-UPS BETWEEN THE LOCAL CONTROLLER AND THE SYSTEM MASTER.
9. PEDESTRIAN INDICATIONS SHALL BE INTERNATIONAL SYMBOL.
10. PEDESTRIAN PUSH BUTTONS SHALL BE TYPE B WITH INTERNATIONAL SYMBOL PLATE.
11. ALL VEHICLE INDICATIONS SHALL BE 12" DIAMETER WITH BACKPLATES, GLASS REFLECTORS, AND GLASS LENSES, UNLESS SHOWN OTHERWISE.
12. CONTRACTOR SHALL POTHOLE CONFLICTING UTILITIES AS DIRECTED BY ENGINEER.
13. DETECTOR LOOPS SHALL BE CIRCULAR 6" DIAMETER WITH 9" SPACING IN THE DIRECTION OF TRAVEL UNLESS OTHERWISE NOTED.
14. ALL DETECTOR CABLE HOMERUNS SHALL BE IN THE CROSSWALK AREA.
15. ALL DETECTOR LOOPS SHALL HAVE FOUR (4) TURNS.
16. ALL QUADRIPOLE DETECTOR LOOPS SHALL BE TWO (2-4-2) TURNS.
17. TRAFFIC CONTROLLER CABINET FOUNDATION SHALL BE 18" ABOVE AND BELOW FINISHED GRADE (SEE DETAIL D).
18. INSTALL * CABINET DOOR OPEN* CIRCUIT IN CONTROLLER CABINET PER MANUFACTURE'S SPECIFICATIONS.
19. CONCRETE REPLACEMENT TO MATCH EXISTING.

[illegible]