STORM/SEWER WATER CROSSING DETAIL

WHERE THE WATER LINE IS LESS THAN 18 INCHES OVER THE SEWER LINE, WHERE THE WATER LINE IS UNDER THE SEWER LINE, AND WHERE THE HORIZONTAL SEPARATION, AS REQUIRED BY THE WATER SUPPLY REGULATIONS, CANNOT BE MAINTAINED BECAUSE OF PHYSICAL OBSTRUCTIONS, THE WATER LINE SHALL BE PROTECTED BY CONSTRUCTION OF THE STORM/SEWER LINE AS FOLLOWS:

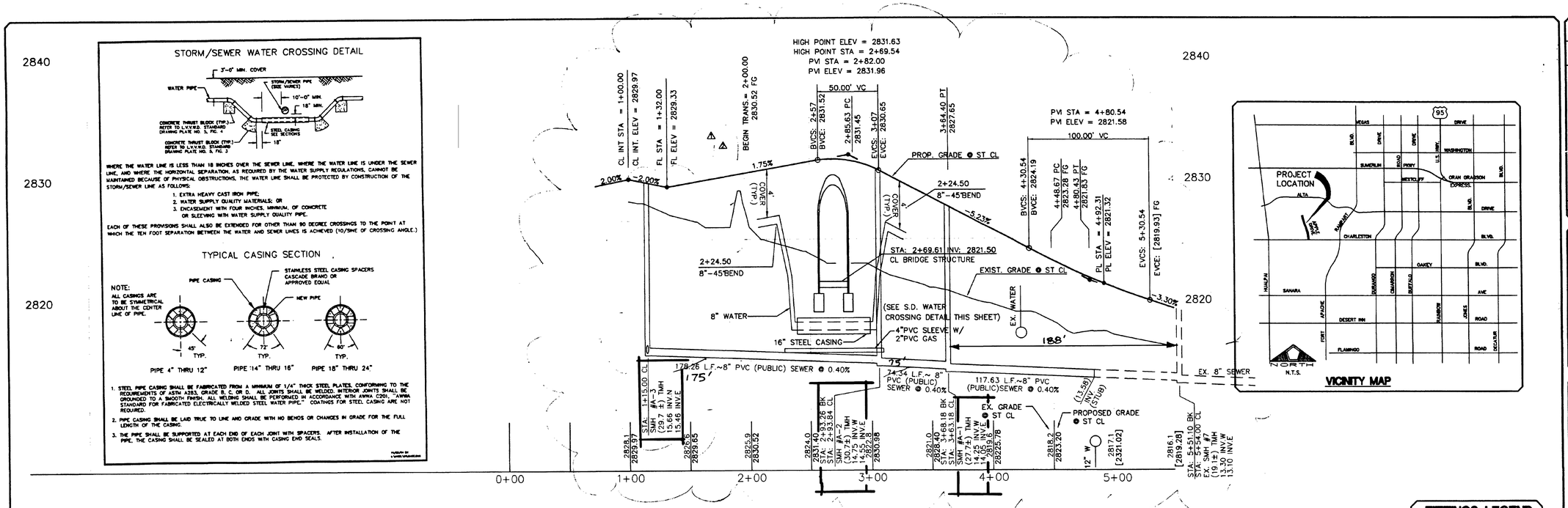
1. EXTRA HEAVY CAST IRON PIPE;
2. WATER SUPPLY QUALITY MATERIALS; OR
3. ENCASEMENT WITH FOUR INCHES, MINIMUM, OF CONCRETE OR SLEEVING WITH WATER SUPPLY QUALITY PIPE.

EACH OF THESE PROVISIONS SHALL ALSO BE EXTENDED FOR OTHER THAN 90 DEGREE CROSSINGS TO THE POINT AT WHICH THE TEN FOOT SEPARATION BETWEEN THE WATER AND SEWER LINES IS ACHIEVED (10/SINE OF CROSSING ANGLE.)

TYPICAL CASING SECTION

NOTE:
ALL CASINGS ARE TO BE SYMMETRICAL ABOUT THE CENTER LINE OF PIPE.

1. STEEL PIPE CASING SHALL BE FABRICATED FROM A MINIMUM OF 1/4" THICK STEEL PLATES, CONFORMING TO THE REQUIREMENTS OF ASTM A283, GRADE B, C, OR D. ALL JOINTS SHALL BE WELDED. INTERIOR JOINTS SHALL BE GROUNDED TO A SMOOTH FINISH. ALL WELDING SHALL BE PERFORMED IN ACCORDANCE WITH AWWA C201, "AWWA STANDARD FOR FABRICATED ELECTRICALLY WELDED STEEL WATER PIPE." COATINGS FOR STEEL CASING ARE NOT REQUIRED.
2. PIPE CASING SHALL BE LAID TRUE TO LINE AND GRADE WITH NO BENDS OR CHANGES IN GRADE FOR THE FULL LENGTH OF THE CASING.
3. THE PIPE SHALL BE SUPPORTED AT EACH END OF EACH JOINT WITH SPACERS. AFTER INSTALLATION OF THE PIPE, THE CASING SHALL BE SEALED AT BOTH ENDS WITH CASING END SEALS.



PROFILE SCALE:
HORZ: 1"=40'
VERT: 1"=4'

VICINITY MAP

LVVWD WATER NOTES

1. NO WORK SHALL BEGIN UNTIL THE WATER PLANS HAVE BEEN RELEASED FOR CONSTRUCTION BY THE LVVWD. FOLLOWING WATER PLAN APPROVAL, 48 HOUR NOTICE SHALL BE GIVEN TO THE LVVWD COMMUNICATION SUPPORT CENTER (258-7171) PRIOR TO THE START OF CONSTRUCTION. NOTICE MUST BE GIVEN BY 2:00 P.M. THE BUSINESS DAY PRIOR TO A LVVWD INSPECTION.
2. ALL WORK SHALL CONFORM TO LVVWD'S STANDARD PLATES, DRAWINGS, AND SPECIFICATIONS AND THE UNIFORM DESIGN AND CONSTRUCTION STANDARDS FOR WATER DISTRIBUTION SYSTEMS (UDACS), LATEST EDITION.
3. ALL WORK, EXCEPT AS MODIFIED BY THESE PLANS OR BY NOTE 2, SHALL BE DONE IN ACCORDANCE WITH THE MOST CURRENT DRAFT OR EDITION OF THE UNIFORM STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION OFFSITE IMPROVEMENT, CLARK COUNTY AREA.
4. A SINGLE PIPE MATERIAL SHALL BE USED THROUGHOUT THE PROJECT UNLESS OTHERWISE APPROVED BY THE LVVWD.
5. ALL SERVICE LATERALS TWO (2) INCHES IN DIAMETER AND SMALLER SHALL BE COPPER TUBING WITH LVVWD APPROVED SERVICE SADDLES.
6. ALL WATER METER BOXES SHALL BE LOCATED OUTSIDE OF DRIVEWAY AREAS.
7. ALL VALVES SHALL BE LOCATED OUTSIDE OF DRIVEWAYS, VALLEY AND CURB GUTTERS.
8. THE FOLLOWING REQUIREMENTS MUST BE MET IN THE EVENT A WATER LINE AND SANITARY OR STORM SEWER LINE CROSS:

   A MINIMUM EIGHTEEN (18) INCH VERTICAL SEPARATION (OUTSIDE TO OUTSIDE) MUST BE MAINTAINED WHEN THE WATER LINE IS INSTALLED OVER THE SANITARY OR STORM SEWER LINE. IF THE VERTICAL SEPARATION CANNOT BE MAINTAINED OR THE WATER LINE MUST BE PLACED UNDER THE SANITARY OR STORM SEWER LINE, THE SANITARY OR STORM SEWER LINE MUST BE CONSTRUCTED WITH ONE OF THE FOLLOWING OR, AS SHOWN ON THESE PLANS:

   A. POTABLE WATER SUPPLY QUALITY MATERIAL.
   B. ENCASEMENT, WITH FOUR (4) INCH CONCRETE (MINIMUM).
   C. SLEEVING WITH POTABLE WATER SUPPLY QUALITY PIPE.

   EACH PROVISION MUST EXTEND ALONG THE SANITARY OR STORM SEWER, ON EITHER SIDE OF THE MAIN, A MINIMUM 10 FOOT DISTANCE PERPENDICULAR TO THE WATER MAIN EXTERIOR.
9. WARNING TAPE SHALL BE REQUIRED OVER ALL MAINS, ALL SIX (6) INCH DIAMETER AND LARGER SERVICE LATERALS, AND ANY SERVICE LATERAL NOT INSTALLED PERPENDICULAR TO THE MAIN IN ACCORDANCE WITH STANDARD PLATE NO. 27.
10. ALL WATER FACILITIES SHALL BE FILLED, DISINFECTED, PRESSURE TESTED, FLUSHED, FILLED AND AN ACCEPTABLE WATER SAMPLE OBTAINED, PRIOR TO CONNECTION TO THE LVVWD'S DISTRIBUTION SYSTEM.
11. THE CONTRACTOR MUST OBTAIN ALL METERS TWO (2) INCHES AND SMALLER FROM LVVWD CENTRAL STORES. TELEPHONE 258-3152 FORTY-EIGHT (48) HOURS PRIOR TO PICKUP.
12. CONSTRUCTION MAY INTERRUPT SERVICE, WITH LVVWD APPROVAL AND PROPER NOTIFICATION, BETWEEN THE HOURS OF 10 PM AND 6 AM, SUNDAY THROUGH THURSDAY. CIRCUMSTANCES MAY REQUIRE TEMPORARY SERVICE FEEDS BE INSTALLED, WITHOUT LVVWD REIMBURSEMENT. ANY TEMPORARY SERVICE FEED MUST HAVE PRIOR LVVWD APPROVAL.
13. ALL WATER FACILITY CONSTRUCTION MATERIALS USED MUST BE LISTED ON THE LVVWD'S PRE-APPROVED MATERIALS AND MANUFACTURERS LISTING FOR NEW FACILITIES, LATEST REVISION, OF SPECIFICALLY APPROVED ON THESE PLANS.

AS-BUILT

THIS PLAN SUBMITTED BY AMEC INFRASTRUCTURE, INC. DATED 10-10-02 IS FOR SEWER AS-BUILTS ONLY.

AS-BUILT INFORMATION SHOWN IS COMPILED FROM CONSTRUCTION NOTES AND FIELD OBSERVATIONS.

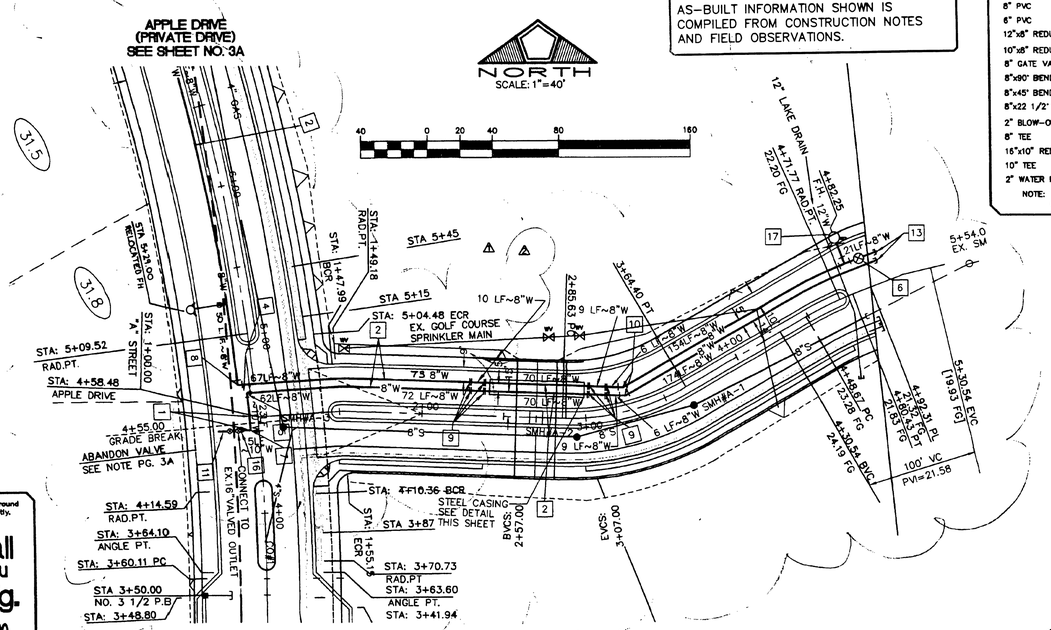
ESTIMATE OF WATER QUANTITIES

FIRE HYDRANT ASSEMBLY	2 EA.
RELOCATED FIRE HYDRANT	1 EA.
12" PVC	220 L.F.
10" PVC	30 L.F.
8" PVC	2243 L.F.
6" PVC	26 L.F.
12"x8" REDUCER	1 EA.
10"x8" REDUCER	1 EA.
8" GATE VALVE	3 EA.
8"x90° BEND	4 EA.
8"x45° BEND	8 EA.
8"x22 1/2° BEND	3 EA.
2" BLOW-OFF VALVE W/ CAP	4 EA.
8" TEE	1 EA.
16"x10" REDUCER	1 EA.
10" TEE	1 EA.
2" WATER METER	1 EA.

NOTE: THESE QUANTITIES ARE ESTIMATES ONLY. CONTRACTOR SHALL VERIFY.

FITTINGS LEGEND

1	10" PVC WATER
2	8" PVC WATER
3	12"x8" REDUCER
4	10"x8" REDUCER
5	10" TEE
6	8" GATE VALVE
7	10"x90° BEND
8	8"x90° BEND
9	8"x45° BEND
10	8"x22 1/2° BEND
11	EX. 8" VALVED OUTLET
12	EX. 12" VALVED OUTLET
13	2" BLOW-OFF VALVE
14	8"-TEE
15	EX. 16" VALVED OUTLET
16	16"x10" REDUCER
17	FIRE HYDRANT ASSEMBLY



"A" STREET (PRIVATE DRIVE)

Avoid cutting underground utility lines. It's costly.

Call before you Dig.

1-800-227-2600
UNDERGROUND SERVICE ALERT (USA)

CONDITIONAL APPROVAL OF VALVED OUTLET (6" AND LARGER)

THE WATER PLANS SHOW ONE OR MORE VALVED OUTLETS EXTENDING OUT OF PAVED AREAS. INSTALLATION OF THESE OUTLETS IS ACCEPTABLE, HOWEVER, IF THE OUTLETS ARE INCORRECTLY LOCATED OR NOT USED FOR ANY REASON WHEN THE PROPERTY IS ACTUALLY DEVELOPED, THE DEVELOPER SHALL ABANDON THE OUTLETS AT THE CONNECTION TO THE ACTIVE MAIN IN ACCORDANCE WITH THE DISTRICT'S STANDARDS AND AT THE DEVELOPER'S EXPENSE.

1ST APP 1/12/96
LAS VEGAS VALLEY WATER DISTRICT — DATE 4/11/96

CITY OF LAS VEGAS FIRE DEPARTMENT — DATE 3-21-96

NEVADA POWER COMPANY — DATE 3-18-96

NOTE: THIS APPROVAL IS FOR THE PLACEMENT AND CLEARANCE OF STREET LIGHT AND SIGNAL LIGHT INSTALLATION ONLY.

NO.	DESCRIPTION	DATE	APP'D
1	REVISE ENTRY B STREET LOCATION, SEWER STAS/ELEVATIONS AND WATER SERVICE TO LOT 12.	7/30/96	
2	REVISE ENTRY B STREET LOCATION.	9/26/96	

RECOMMENDED: DANIEL LA RUSSO, JR. R. E. # 8825 — DATE 3/15/96

DATE: 3/04/96
DRAWN BY:
DESIGNED BY:
CHECKED BY:
JOB NO.: 0145.0016
SCALE: 1"=40'

PENTACORE Engineering, Inc.
6763 West Charleston Boulevard
Las Vegas, Nevada 89102
(702) 258-0115

PECCOLE NEVADA CORP.
APPLE DRIVE IMPROVEMENTS
UTILITY PLAN AND PROFILE

SHEET 3C OF 14

45936

— AS BUILT — 27-2-33 REVISED 107-V2448

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