

LAS VEGAS VALLEY WATER DISTRICT STANDARD NOTES

- No work shall begin on the water plans until they have been released for construction by the LVWD. Following approval of the plans, notice shall be given to the LVWD Customer Service Department (870-4144) 48 hours prior to actual construction, and 24 hours prior to an inspection.
- Call Before You Dig 1-800-227-2600.
- All work shall conform to LVWD latest standard plates, drawings, and specifications.
- All work, except as modified herein or by Note 3, shall be done in accordance with the most current draft or edition of the Uniform Standard Specifications for Public Works Construction Office Improvements, Clark County Area.
- District approved service saddles or tapped collars shall be required on all 3/4" and 1" service laterals. Service saddles only shall be permitted on 1-1/2" and 2" service laterals. Double tapped collars are not permitted.
- COPPER SERVICE LATERALS: All 3/4" to 2" service laterals shall be of copper tubing in accordance with the District's specifications and standard plates.

1. The maximum allowable joint deflection for ACP and Ductile iron pipe shall be as follows:

Pipe Size	ACP	Ductile iron
6 inch	2.5 degrees	2.5 degrees
8 - 12 inch	2.5	2.5
14 - 16 inch	2.0	1.5
18 - 24 inch	N/A	1.5

On PVC pipe, the maximum offset for a 20' length of factory belled pipe shall be 16 inches for 6" pipe, 12 inches for 8" pipe, and 9 inches for 10" and 12" pipe.

If these offsets conflict with the pipe manufacturer's recommendation, the more stringent requirement shall apply.

5. All water meter boxes shall be located outside of driveway areas.

9. All valves shall be located outside of driveways and valley gutters.

10. Detector tape shall be required in accordance with Standard Plate No. 27 where indicated, and as follows:

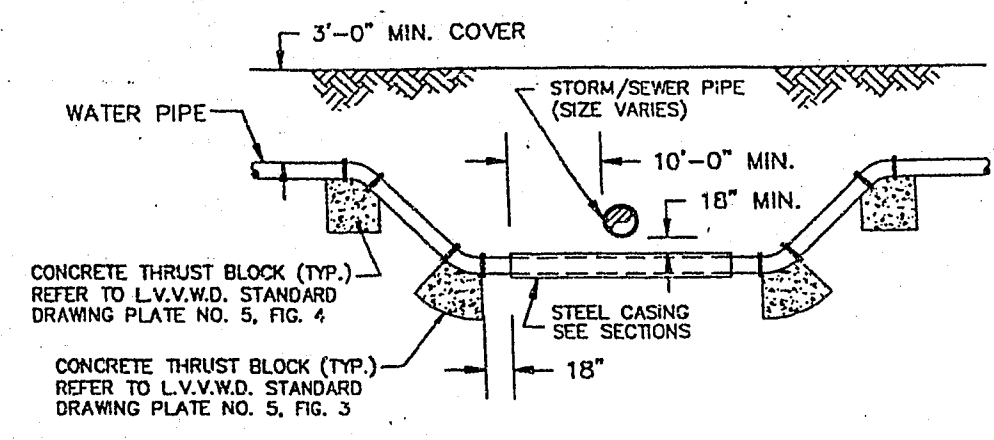
- over all mains not installed 6 feet from back of curb,
- over all service laterals not installed at right angles to main.

11. All water mains shall be pressure tested at 200 psi for a continuous two hour period, in accordance with District Standards.

12. All water mains shall be disinfected, flushed, and an acceptable Health Sample obtained, prior to the connection of the water main(s) and/or lateral(s) to the district's system.

13. Contractor to obtain all meters 2" and smaller from LVWD Central Stores. Telephone 258-3152 forty-eight (48) hours prior to pickup.

STORM/SEWER WATER CROSSING DETAIL "A"

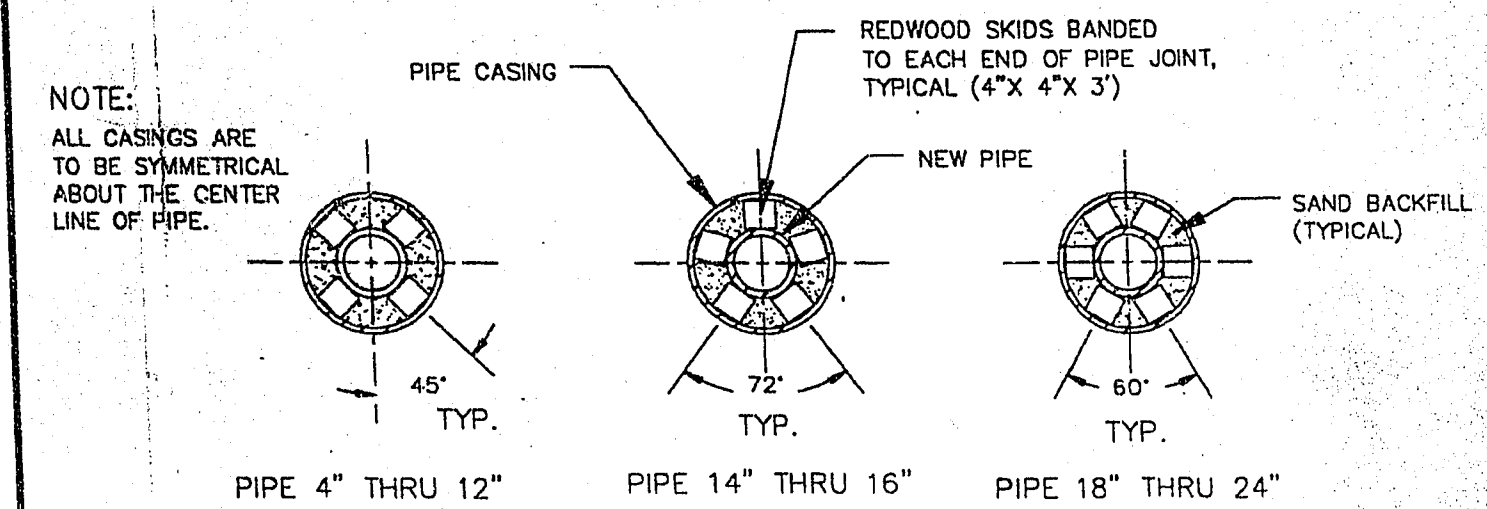


WHERE THE WATER LINE IS LESS THAN 18 INCHES OVER THE SEWER LINE, WHERE THE WATER LINE IS UNDER THE SEWER LINE, AND WHERE THE HORIZONTAL SEPARATION AS REQUIRED BY THE WATER SUPPLY REGULATIONS, CANNOT BE MAINTAINED BECAUSE OF PHYSICAL OBSTRUCTIONS, THE WATER LINE SHALL BE PROTECTED BY CONSTRUCTION OF THE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

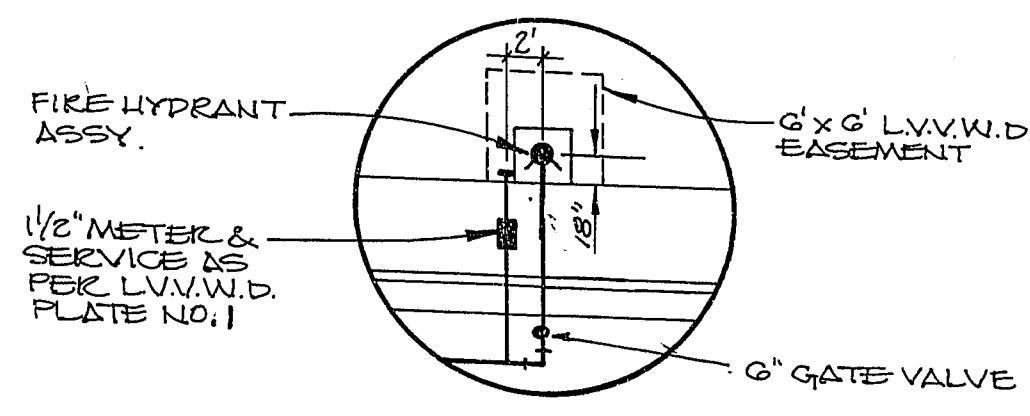
- EXTRA HEAVY CAST IRON PIPE;
- WATER SUPPLY QUALITY MATERIALS; OR
- ENCASEMENT WITH FOUR INCHES, MINIMUM, OF CONCRETE OR SLEEVING WITH WATER SUPPLY QUALITY PIPE.

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



- 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.
- PIPE CASING SHALL BE LAID TRUE TO LINE AND GRADE WITH NO BENDS OR CHANGES IN GRADE FOR THE FULL LENGTH OF THE CASING.
- THE PIPE SHALL BE SUPPORTED AT EACH END OF EACH JOINT WITH SKIDS. THE ANNULAR SPACE BETWEEN THE PIPE AND THE CASING SHALL BE BACKFILLED WITH SAND. AFTER INSTALLATION OF THE PIPE, THE CASING SHALL BE SEALED AT BOTH ENDS WITH MORTARED BRICK OR CEMENT BRICK.

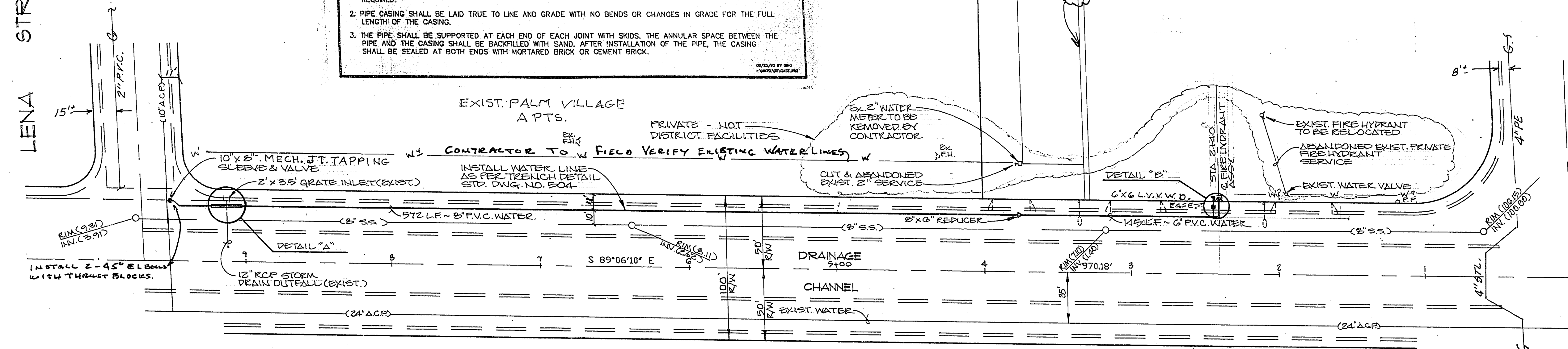


LVV.W.D. ESTIMATED QUANTITIES

- 572 LF. - 8" P.V.C. WATER LINE
- 145 LF. - 6" P.V.C. WATER LINE
- 1 EA. - 10" X 8" TAPPING SLEEVE + VALVE-MECH. JT. TYPE
- 1 EA. - 1 1/2" METER (BY CONTRACTOR)
- 1 EA. - 6" GATE VALVE
- 1 EA. - 8" X 6" REDUCER
- 6 EA. - 8" 45° ELBOWS

- CITY OF LAS VEGAS FIRE DEPARTMENT NOTES
- All work shall be done in strict accordance with the City of Las Vegas Fire Department "Hydrant Specifications", "Hydrant Installation Specifications" and "Ordinance #1001".
 - Installation of hydrants for this project are:
 - A. Fire hydrant
 - B. Hydrant A-430
 - C. Fire hydrant A-430
 - On any new home or building installation, accessible fire hydrants shall be installed before construction commences and said fire hydrants shall be in good working order with an adequate water supply.
 - Contractor shall place a blue reflective marker in connection of every hydrant as required in Ordinance #1001 to identify fire hydrant location.
 - Call the Las Vegas Building Department at 790-3011 for underground inspection, pressure and flush test of all fire hydrants and fire lines before covering.
 - Placing of the hydrant and hydrant and fire line shall require the presence of fire hydrant inspection personnel and fire hydrant inspection personnel shall be present for the City of Las Vegas Fire Department.
 - A permit is required from the Fire Department for water main line and fire hydrant. The Permit and inspection personnel shall be required for the installation of fire hydrant. The Permit and inspection personnel shall be required for the installation of fire hydrant.
 - A fire hydrant shall be installed by the Fire Department prior to installation of required water supply.
 - All on-site fire hydrant materials must be 121, listed and FM approved.
 - Fire hydrant spacing:
 - Residential - 300 feet maximum, 400 feet minimum.
 - Commercial, including multi-family - 300 feet maximum, 400 feet minimum.
 - No fire hydrant shall be located within the required radius of a road or within 20 feet of the intersection of the road and driveway.
 - No fire hydrant shall be located within 6 feet of any other hydrant, driveway, power pole, street light or any other obstruction.
 - The spacing of fire hydrants shall be such that any fire hydrant shall be within 300 feet of any fire hydrant.
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 - All hydrant and fire hydrant materials must be 121, listed and FM approved.
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LENA STREET



PECOS ROAD

WASHINGTON AVENUE

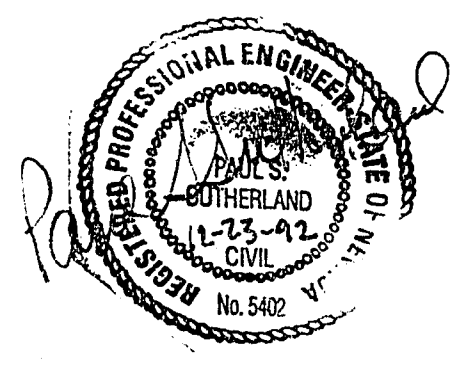
CALL BEFORE YOU DIG
1-800-227-2600

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NOTE:

ALL UTILITIES SHOWN ARE BELIEVED TO BE ACCURATELY LOCATED, BUT THE ACCURACY AND COMPLETENESS OF UTILITY INFORMATION IS NOT GUARANTEED. FOR EXACT LOCATION OF ANY UTILITY SEE THE APPROPRIATE UTILITY OR GOVERNMENTAL AGENCY.

SUBMITTED BY:



PAUL S. SUTHERLAND NEVADA P.E. #5402

APPROVALS

- City Engineer - City of Las Vegas 3-23-93
DATE
- David Barman 3/2/93
CITY OF LAS VEGAS FIRE DEPARTMENT DATE
- Las Vegas Valley Water District 3/16/93
DATE
- Nevada Power 3-8-93
DATE
- John P. Hyslop 3-10-93
DATE
- Deigenia Losacker 3-8-93
DATE

REVISIONS

NO.	DESCRIPTION	DATE
1	10/14/93 - MOVE PT. OF CONNECTION 3' NORTH, INSTALLED 2' 45" W/ T. B.S. H.B. 5-10-93	

VICINITY MAP

SCALE
1" = 40'

DRAWN BY
R. SHEESE

WATER MAIN EXTENSION
FOR
TOWN SQUARE SHOPPING CENTER
APN #020-770-008 & 009
NE 1/4, S25, T20S, R61E, MDW

SIGMA DEVELOPMENT CONSULTANTS, INC.

510 S. MILK BLVD
LAS VEGAS
NEVADA
89106

ENGINEERING SURVEYING PLANNING

386-9910

DWG # WATER
PROJECT FILE DESIGNATION
G-93
SHEET
1
OF ONE

565-2064