

# LAS VEGAS VALLEY WATER DISTRICT STANDARD NOTES

- 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.
- All work shall conform to the LVVWD's Standard Plates, Drawings, and Specifications and the Uniform Design and Construction Standards for Water Distribution Systems (UDACS), latest edition.
- 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 Offset Improvement, Clark County area.
- A single pipe material shall be used throughout the project unless otherwise approved by LVVWD.
- All service laterals two (2) inches in diameter and smaller shall be copper tubing with LVVWD approved service saddles.
- All water meter boxes shall be located outside of driveway areas.
- All valves shall be located outside of driveways, valley and curb gutters.
- 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:
    - Potable Water supply quality material.
    - Encasement, with four (4) inch concrete (minimum).
    - Sleeving with potable water supply quality pipe.

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- Sleeving with potable water supply quality pipe.

Each provision must extend along the sanitary or storm sewer, on either of the main, a minimum 10 foot distance perpendicular to the water main exterior.

- 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.
- All water facilities shall be filled, disinfected, pressure tested, flushed, and an acceptable water sample obtained, prior to connection to the LVVWD's distribution system.
- 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.
- 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 to be installed, without LVVWD reimbursement. Any temporary service feed must have prior LVVWD approval.
- All water facility construction materials used must be listed on the LVVWD's Pre-Approved Materials and Manufacturers Listing for New Facilities, latest revision, or specifically approved on these plans.

## C.L.V. 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 #3944.
- AUTHORIZED HYDRANTS FOR THIS PROJECT ARE:
  - KENNEDY GUARDIAN
  - MUELLER A-423 CENTURIAN
  - CLOW MODEL 2546 MEDALLION
- ON ANY NEW HOME OR BUILDING INSTALLATION, ACCESSIBLE FIRE HYDRANTS SHALL BE INSTALLED BEFORE COMBUSTIBLE CONSTRUCTION COMMENCES AND SAID FIRE HYDRANTS SHALL BE IN GOOD WORKING ORDER WITH AN ADEQUATE WATER SUPPLY.
- CONTRACTOR SHALL PLACE A BLUE REFLECTIVE MARKER AT CENTER LINE OF STREET ADJACENT TO FIRE HYDRANT AS REQUIRED IN ORDINANCE #3944 TO IDENTIFY THE FIRE HYDRANT LOCATIONS.
- CALL THE LAS VEGAS FIRE DEPARTMENT AT 229-2071 FOR UNDERGROUND INSPECTION, PRESSURE AND FLUSH VERIFICATION OF ALL FIRE HYDRANTS AND FIRE LINES BEFORE COVERING.
- PAINTING OF THE CURBS AND HYDRANTS AND ANY WORK NECESSARY FOR PROTECTION OF HYDRANTS FROM PHYSICAL DAMAGE PER ORDINANCE #3944 SHALL BE COMPLETED BEFORE APPROVAL BY THE CITY OF LAS VEGAS FIRE DEPARTMENT.
- A PERMIT IS REQUIRED FROM THE FIRE DEPARTMENT FOR ON-SITE WATER LINE AND FIRE HYDRANT. THE PERMIT AND CONTRACTOR'S MATERIAL AND TEST CERTIFICATE FOR UNDERGROUND PIPING FORM SHALL BE OBTAINED FROM THE FIRE PROTECTION ENGINEER PRIOR TO ANY WORK BEGINNING.
- PRIVATE FIRE HYDRANTS SHALL BE PAINTED RED.
- A FLOW TEST MUST BE WITNESSED BY THE FIRE DEPARTMENT PRIOR TO OCCUPANCY FOR VERIFICATION OF REQUIRED ON-SITE WATER SUPPLY.
- ALL ON-SITE FIRE MAIN MATERIAL MUST BE U.L. LISTED AND A.W.W.A. APPROVED.
- FIRE HYDRANT SPACING:
  - RESIDENTIAL - 500 FEET UNSPRINKLERED; 1,000 FEET SPRINKLERED
  - COMMERCIAL, INCLUDING MULTI-FAMILY - 300 FEET UNSPRINKLERED; 600 FEET SPRINKLERED
- WHERE NEW WATER MAINS ARE EXTENDED ALONG STREETS, WHERE HYDRANTS ARE NOT NEEDED FOR PROTECTION OF STRUCTURES, FIRE HYDRANTS SHALL BE SPACED AT MAXIMUM 1,000 FOOT SPACING TO PROVIDE FOR TRANSPORTATION HAZARDS.
- NO FIRE HYDRANT SHALL BE LOCATED WITHIN THE REQUIRED RADIUS OF A CUL-DE-SAC OR WITHIN 20 FEET OF THE PERIMETER OF THE RADIUS OF THE CUL-DE-SAC.
- NO FIRE HYDRANT SHALL BE LOCATED WITHIN 6 FEET OF ANY CURB RETURN, DRIVEWAY, POWER POLE, STREET LIGHT OR ANY OTHER OBSTRUCTION.
- TWO SOURCES OF SUPPLY ARE REQUIRED WHENEVER THERE ARE FOUR (4) OR MORE FIRE HYDRANTS INSTALLED ON A SINGLE SYSTEM.
- NOT MORE THAN TWO (2) HYDRANTS CAN BE OUT OF SERVICE DUE TO A SINGLE MAIN BREAK.
- FIRE APPARATUS ACCESS ROADS SHALL HAVE AN UNOBSTRUCTED WIDTH OF NOT LESS THAN 20 FEET PROVIDED NO PARKING IS ALLOWED, NOT LESS THAN 28 FEET IF PARALLEL PARKING IS ALLOWED ON ONE SIDE, AND NOT LESS THAN 36 FEET IF PARALLEL PARKING IS ALLOWED ON BOTH SIDES. VERTICAL CLEARANCE SHALL BE NOT LESS THAN 13 FEET 6 INCHES.
- THE TURNING RADIUS FOR ANY FIRE APPARATUS ACCESS ROAD AND/OR FIRE LANE, PUBLIC OR PRIVATE SHALL BE NOT LESS THAN 45 FEET OUTSIDE RADIUS AND 22 FEET INSIDE RADIUS.
- A FIRE APPARATUS ROAD SHALL BE REQUIRED WHEN ANY PORTION OF AN EXTERIOR WALL OF THE FIRST STORY IS LOCATED MORE THAN 150 FEET FROM A FIRE DEPARTMENT VEHICLE ACCESS. (SEE EXCEPTIONS IN UFG 94, SECTION 902.2)
- ALL DEAD END FIRE APPARATUS ACCESS ROADS AND/OR FIRE LANES, PUBLIC OR PRIVATE, IN EXCESS OF 150 FEET IN LENGTH SHALL BE PROVIDED WITH AN APPROVED TURNAROUND AREA. (SEE ORDINANCE #3944)
- ACCESS ROADS SHALL BE MARKED BY PLACING APPROVED SIGNS AT THE START OF THE DESIGNATED FIRE LANE AND AT THE END OF THE FIRE LANE AND WITH SIGNS AT INTERVALS OF 100 FEET ALONG ALL DESIGNATED FIRE LANES. SIGNS TO BE PLACED ON BOTH SIDES OF AN ACCESS ROADWAY IF NEEDED TO PREVENT PARKING ON EITHER SIDE. SIGNS TO BE INSTALLED NO HIGHER THAN 10 FEET OR LESS THAN 6 FEET FROM ROADWAY LEVEL. THE CURBS ALONG OR ON THE PAVEMENT OR CEMENT IF CURB IS NOT PRESENT, SHALL BE PAINTED WITH A RED WEATHER RESISTANT PAINT IN ADDITION TO THE SIGNS.
- ELECTRICALLY CONTROLLED ACCESS GATES SHALL BE PROVIDED WITH AN APPROVED EMERGENCY VEHICLE DETECTOR SYSTEM. SAID SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THE CITY OF LAS VEGAS GUIDELINES FOR AUTOMATIC EMERGENCY VEHICLE ACCESS GATES.

## CONDITIONAL APPROVAL OF VALUED OUTLET (6" AND LARGER)

THE WATER PLANS SHOW ONE OR MORE VALUED 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.

## A PORTION OF

THIS PROPERTY MAY HAVE STATIC WATER PRESSURE IN EXCESS OF 80 PSI. THE UNIFORM PLUMBING REQUIRES THAT INDIVIDUAL, ON-SITE (PRIVATE), PRESSURE REDUCING VALVES BE INSTALLED WHENEVER THE PRESSURE EXCEEDS 80 PSI. PRVS ARE THE DEVELOPER'S RESPONSIBILITY AND WILL NOT BE INSPECTED OR INCLUDED IN THE ACCEPTANCE OF LVVWD FACILITIES.

## REDUCED PRESSURE PRINCIPLE ASSEMBLY (INSTALL ON ALL IRR. METERS)

APPROVED REDUCED PRESSURE PRINCIPLE ASSEMBLY(S) SHALL BE INSTALLED PER THE UDACS PLATE NO. 11A. NO WATER SHALL BE TAKEN FROM A SERVICE REQUIRING BACKFLOW PREVENTION UNTIL THE REDUCED PRESSURE PRINCIPLE ASSEMBLY HAS BEEN SUCCESSFULLY TESTED BY THE LVVWD.

SERVICE LATERALS FOR IRRIGATION METERS ON PAGE 3 WILL BE TAPPED ON EXISTING MAIN BY OWNER'S CONTRACTOR UNDER DIRECTION OF THE LVVWD.

## FIRE FLOW DATA

FIRE FLOW REQUIREMENT IS X GALLONS PER MINUTE AT 20 PSI RESIDUAL PRESSURE.

BASED ON:

SQUARE FOOTAGE: X SQ. FT.

LARGEST AREA BETWEEN 4-HOUR AREA SEPARATION WALLS: N/A

BUILDING HEIGHT: X

NUMBER OF STORIES: X

TYPE OF CONSTRUCTION: X

OCCUPANCY: X

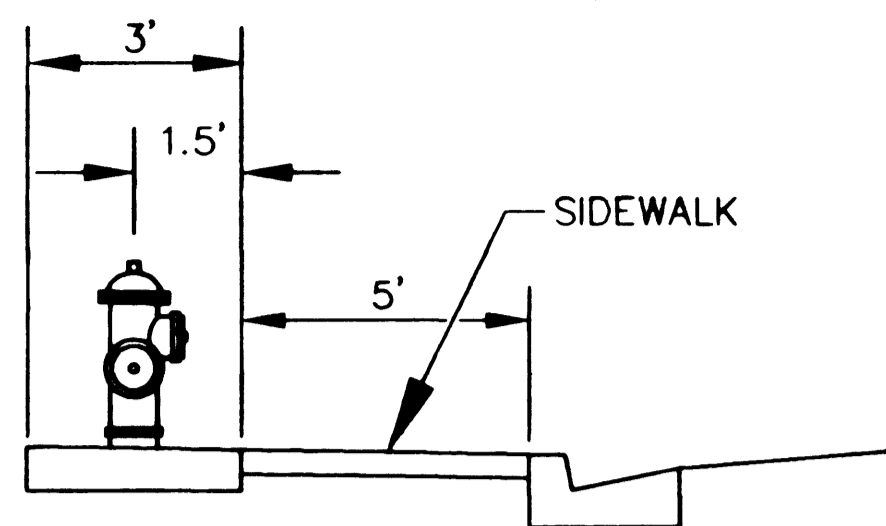
FULL AUTOMATIC FIRE SPRINKLER SYSTEM: X

REVIEWED BY:

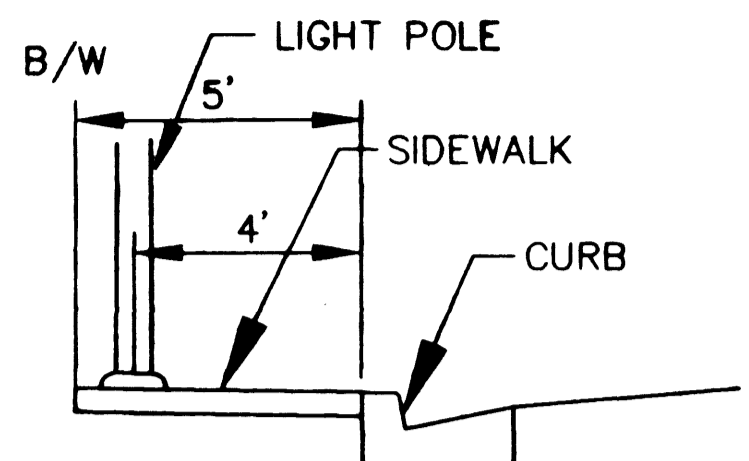
DATE:

## C.L.V. SEWER NOTES

- ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE DESIGN & CONSTRUCTION STANDARDS FOR WASTEWATER COLLECTION SYSTEMS AND THE UNIFORM STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION OFF-SITE IMPROVEMENTS, CLARK COUNTY AREA, NEVADA, AS AMENDED. IN ALL CASES, THESE STANDARDS SHALL SUPERSEDE THE UNIFORM STANDARD SPECIFICATIONS. IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO BE AWARE OF THE CONTENTS OF THE ABOVE SPECIFICATION BOOKS.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PERFORM CONSTRUCTION AS PER PLANS. ANY ADDITIONS, DELETIONS, OR CHANGES SHALL FIRST MEET WITH THE APPROVAL OF THE CONTROLLING AGENCY.
- CHISEL "S" OR "O" IN CURBS WHERE SEWER OR GAS LATERALS PASS UNDER THE CURB.
- POLYVINYL (PVC) SEWER PIPE SHALL MEET ASTM D-3034 SDR 35 SPECIFICATIONS, INSTALLED WITH SAND BEDDING AND BACKFILL OF TYPE II GRAVEL.
- ALL MANHOLES IN PAVED STREETS 80' R/W AND LARGER, SHALL HAVE CONCRETE COLLARS.
- TEE SADDLES SHALL BE USED TO CONNECT SEWER LATERALS TO EXISTING MAIN LINES UP TO 12" DIAMETER IN SIZE. CONNECTIONS TO 15" OR LARGER MAINS SHALL REQUIRE SPECIAL PROCEDURES.
- A SEWER MAIN CROSSING OVER A WATER MAIN OR LESS THAN 18" UNDER A WATER MAIN, MUST BE REINFORCED CONCRETE ENCASED FOR A DISTANCE NO LESS THAN TEN FEET (10') TO EACH SIDE OF THE CENTERLINE OF THE WATER MAIN.
- ALL CONTRACTORS INSTALLING SEWER MAINS THAT WILL BE UNDER THE JURISDICTION OF THE CONTROLLING AGENCY MUST BE CLASS "A" CONTRACTORS.
- THE CITY OF LAS VEGAS WILL NOT ACCEPT ANY SEWER MAINS WHICH HAVE A VERTICAL DEFLECTION OF MORE THAN ONE TENTH (0.1) OF A FOOT FROM THE APPROVED CONSTRUCTION PLANS. SEWER MAINS FOUND TO EXCEED THIS TOLERANCE WILL HAVE TO BE REPAIRED OR REMOVED AND REPLACED TO THE SATISFACTION OF THE CITY ENGINEER PRIOR TO ACCEPTANCE BY THE CITY.

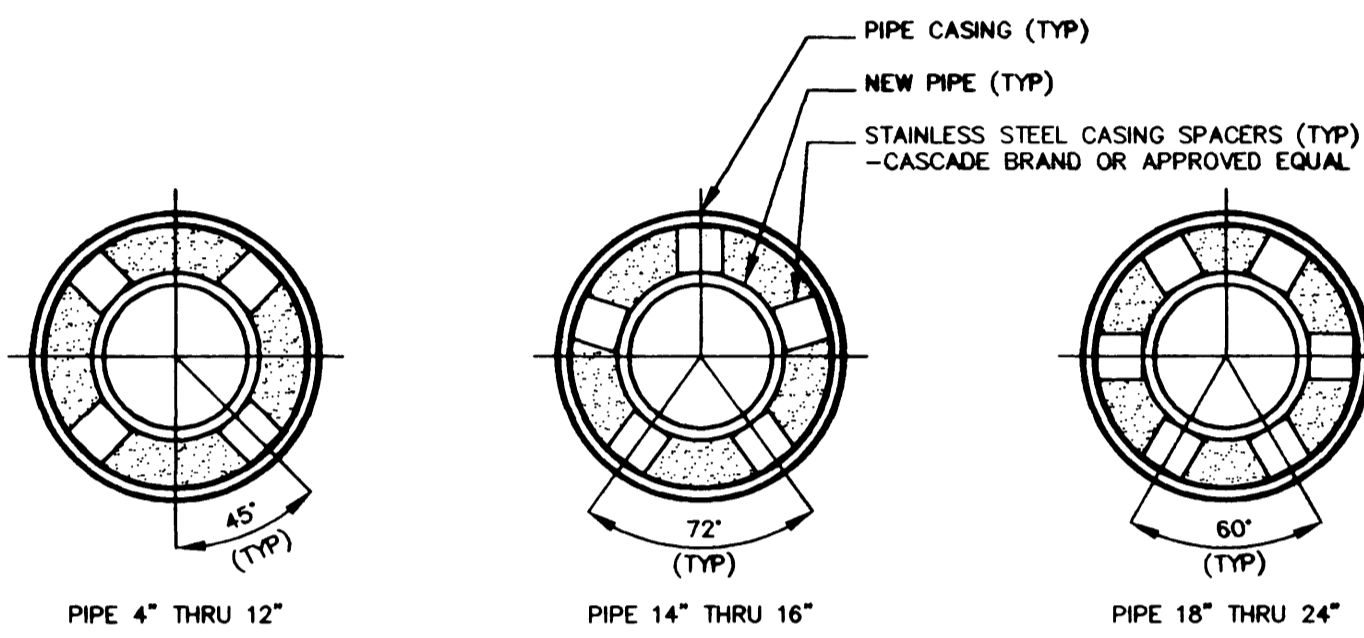


TYPICAL FIRE HYDRANT PLACEMENT SIDEWALK LOCATIONS ONLY



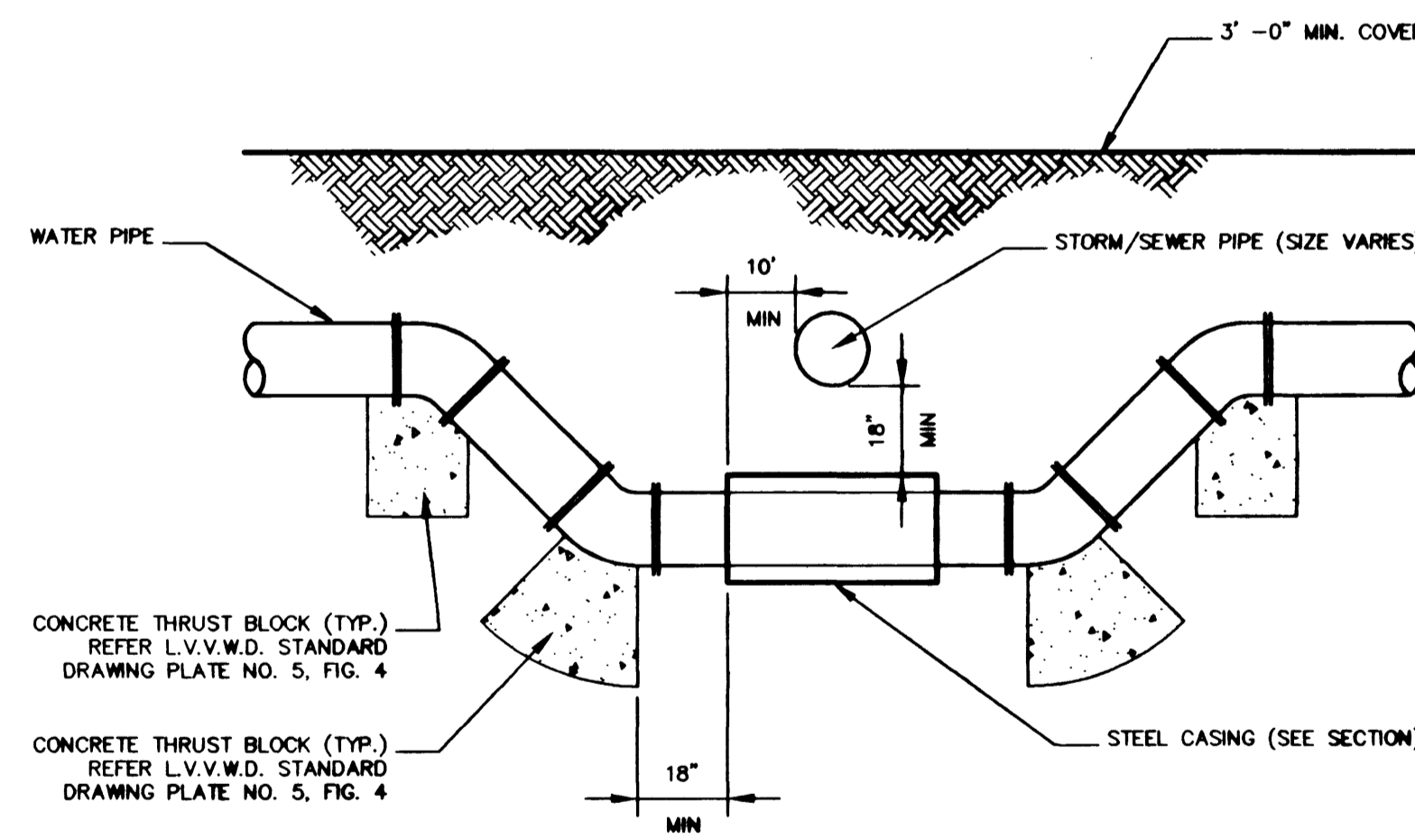
TYPICAL STREET LIGHT PLACEMENT

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



- STEEL PIPE SHALL BE FABRICATED FROM A MINIMUM OF 1/4" THICK STEEL PLATES, CONFORMING TO THE REQUIREMENTS OF ASTM A238, 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 SPACERS. AFTER INSTALLATION OF THE PIPE, THE CASING SHALL BE SEALED AT BOTH ENDS WITH CASING END SEALS.

## TYPICAL CASING SECTION



WHERE THE WATER LINE IS LESS THAN 18" OVER THE SEWER LINE, WHERE THE WATER LINE IS UNDER THE SEWER LINE, AND THE HORIZONTAL SEPARATION, AS REQ'D. BY THE WATER SUPPLY REGULATIONS, CANNOT BE MAINTAINED BECAUSE OF PHYSICAL OBSTRUCTIONS, THE WATER LINE SHALL BE PROTECTED BY CONSTRUCTION OF THE STORM/SEWER 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 THEN 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).

## STORM/SEWER WATER CROSSING DETAIL

## BENCHMARK

NO. 14, STATION 1LV9021N6  
3" BRASS CAP USC & GS BM #113  
3/4 MILE NORTH OF 1LV9028NNEB,  
50 FT. EAST OF OLD RAILROAD BED.

ELEVATION (NAVD88) = 748.2584m  
EQUATION ELEV. = 748.2584m - 0.7318m = 747.5266m  
(2452.515ft)

## INFRASTRUCTURE STREETS ESTIMATE OF QUANTITIES

| SEWER  |            |
|--|------------|
| 8" PVC SEWER MAIN  | 2,836 LF±  |
| ① 4' DIAM SEWER MANHOLE  | 8 EA       |
| ② 6' DIAM SEWER MANHOLE  | 0 EA       |
| WATER  |            |
| 8" PVC WATER MAIN  | 1,005 LF±  |
| 12" PVC WATER MAIN   | 11,657 LF± |
| 16" DIP WATER MAIN   | 40 LF±     |
| ②9 1 1/2" WATER METER & 1 1/2" SERVICE W/ REDUCED PRESSURE PRINCIPLE ASSY. | 2 EA       |
| ③1 2" WATER METER & 2" SERVICE W/ REDUCED PRESSURE PRINCIPLE ASSY.         | 3 EA       |
| ③2 12" GATE VALVE  | 19 EA      |
| ③3 12" TEE   | 2 EA       |
| ③4 16" X 12" CROSS   | 1 EA       |
| ③5 16" X 12" REDUCER   | 1 EA       |
| ③6 12" X 8" TEE  | 6 EA       |
| ③7 8" GATE VALVE   | 11 EA      |
| ③8 12" X 8" 90° ELL  | 1 EA       |
| ③9 12" 90° ELL   | 2 EA       |
| ④0 STD. FIRE HYDRANT W/ASSEMBLY  | 13 EA      |
| ④1 2" BLOW OFF ASSEMBLY  | 11 EA      |

| STREET LIGHTS                                   |            |
|---|------------|
| ①1 250 W.H.P.S. SL                              | 114 EA     |
| 100 W.H.P.S. SL                                 | 47 EA      |
| 200 W.H.P.S. SL                                 | 12 EA      |
| ⑤1 NO. 3-1/2 PULLBOX                            | 11 EA      |
| ⑤9 1 1/4" PVC CONDUIT                           | 23,000 LF± |
| ⑤0 PHOTO EYE                                    | 4 EA       |
| ⑤2 NO. 7 PULLBOX                                | 4 EA       |
| ⑤3 200 A METER PEDESTAL W/                      | 4 EA       |
| 2 - 2p-60 AMP CIRCUIT BREAKER                   |            |
| 1 - 1p15 AMP CIRCUIT BREAKER                    |            |
| 2 - 2p 60 AMP CONTACTORS                        |            |
| 1 - BI-PASS SWITCH PER CONTACTORS               |            |
| ⑤4 7" FOUNDATION W/ ADAPTER PLATE TO STAND POLE | 8 EA       |
| ⑤5 NO. 3-1/2 PULLBOX W/                         | 1 EA       |
| ⑤6 NO. 5 PULLBOX                                | 9 EA       |
| ⑤7 3" INTERCONNECT CONDUIT                      | 6500 LF±   |

SEE SHEET 2 OF 21 FOR GENERAL NOTES, DETAILS & ESTIMATE OF QUANTITIES

## APPROVALS

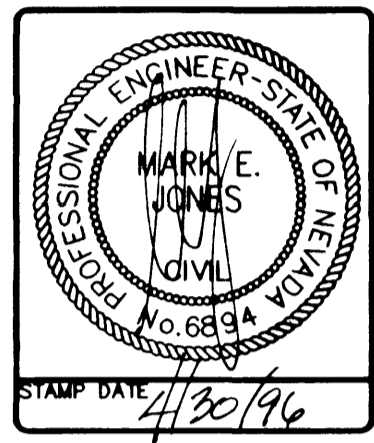
*Quanta Rodriguez* 5-19-16  
NEVADA POWER COMPANY DATE

*Angie Smith* 5-2-16  
C.L.V. FIRE DEPARTMENT DATE

L.V.V.W.D. DATE

APPROVED FOR CONSTRUCTION  
107 11-1  
12-20-16  
LVVWD DATE

| NO. | DATE | BY | APPROV. | REVISION DESCRIPTION |
|-----|------|----|---------|----------------------|
|     |      |    |         |                      |



SOUTHWEST ENGINEERING  
LAND PLANNING • MAPING • DEVELOPMENT  
5425 W. VEGAS DRIVE  
LAS VEGAS, NEVADA 89108  
(702) 449-9780

UTILITY NOTES  
ELKHORN SPRINGS PHASE II

|                       |               |
|-----------------------|---------------|
| WORK ORDER NO:        | 950925.0      |
| DESIGN BY:            | M. JONES      |
| DATE:                 | 04/17/96      |
| SCALE:                | 1"=1'         |
| CADFILE:              | ELKNGNOTE.DWG |
| SHEET 21 OF 21 SHEETS |               |