

LEGEND

--- R.O.W. LINE	CONCRETE DRIVEWAY
--- EASEMENT LINE	200W HPS LUMINAIRE W/11 GA. POLE
--- 8" W --- EXIST. WATER LINE	100W HPS LUMINAIRE W/11 GA. POLE
--- 8" S --- EXIST. SEWER LINE	NO. 3 1/2 CONCRETE PULL BOX W/METAL COVER
--- W --- FIRE HYDRANT W/LEAD AND C.V.	STOP SIGN
--- MH #3 --- WATER LINE WITH MANHOLE	STREET SIGN
--- S --- SEWER LINE WITH MANHOLE	S.P.O.C. (SERVICE POINT OF CONNECTION)
--- G --- GATE VALVE	IRRIGATION ELECTRICAL METER
--- 1 1/4" PVC CONDUIT (STREET LIGHTS)	

SEWAGE CONTRIBUTION

104 RESIDENTIAL UNITS @ 250 G.P.D. = 26,000 G.P.D.
 PEAK FACTOR = 1.2 FROM TABLE C, PC 1-3
 PEAK FLOW: 31,200 G.P.D.

LAS VEGAS FIRE DEPARTMENT

Fire flow Requirement is 1500 gallons per minute at 20 pounds per square inch residual.

Based on:
 Square Footage 1100 - 2200

Largest area between area separation walls NA

Height 26 FEET

Type of Construction FRAME / STUCCO

Exposures NA

Sprinkler System NONE

Occupancy RESIDENTIAL

Roof Construction TILE

Review By: *[Signature]*
 Date: 3.21.95

WATER-SEWER/STORM DRAIN CROSSING

THE FOLLOWING REQUIREMENTS MUST BE MET IN THE EVENT OF A WATER-SEWER/STORM DRAIN CROSSING:

WHEN PROTECTION OF THE WATER LINE IS CONSIDERED, THE MINIMUM VERTICAL DISTANCE OF 18 INCHES MUST BE MAINTAINED WHEN THE WATERLINE IS INSTALLED OVER THE SEWER/STORM LINE. THIS DISTANCE CANNOT BE MAINTAINED BECAUSE OF PHYSICAL OBSTRUCTIONS ON THE WATERLINE MUST BE PLACED UNDER THE SEWER/STORM LINE. THE SEWER/STORM LINE MUST BE CONSTRUCTED WITH ANY ONE OF THE FOLLOWING:

- EXTRA HEAVY CAST IRON OR DUCTILE IRON PIPE.
- WATER SUPPLY QUALITY MATERIAL ENCASEMENT WITH 4 INCHES MINIMUM CONCRETE SLEEVING OR WITH WATER QUALITY PIPE.

EACH OF THESE PROVISIONS MUST BE EXTENDED FOR 10 FEET ON EITHER SIDE OF THE WATERLINE AT 90 DEGREES TO THE CROSSING.

FIRE HYDRANT LOCATION DETAIL PER STD. DWG. NO. 516

NOTE: SEE C.L.V. DWG. NO. 516 FOR INSTALLATION DETAILS.

ESTIMATE OF QUANTITIES

PHASE I

1. STD. F.H. W/6" G.V., 8"x6" TEE	8	EA.
& 6" A.C.P. LATERAL	78	EA.
2. 1" SERVICE W/METER BOX	78	EA.
3. 3/4" METER BY L.V.V.W.D.	1	EA.
4. REDUCER	1	EA.
5. 12" PVC	641	L.F.
6. 8" PVC	3492	L.F.
7. 8" GATE VALVE	11	EA.
8. 8" X 8" TEE	5	EA.
9. 8" X 45" BEND	4	EA.
10. PLUG	4	EA.
11. 8" X 6" ELBOW	1	EA.

TRAFFIC SIGN QUANTITIES

PHASE I

6" D-3 STREET NAME SIGN	6	EA.
SPEED LIMIT SIGN (25 MPH)	1	EA.

NOTE: SEE GRADING PLANS (SHTS 20, 21 & 22) AND RECORDED FINAL MAP FOR LOCATIONS OF ALL VISIBILITY RESTRICTION EASEMENTS. NO IMPROVEMENTS OR LANDSCAPING FEATURES TALLER THAN 30" ARE ALLOWED IN SUCH EASEMENT AREAS.

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 (SEE MANHOLES, CLARK COUNTY AREA, NEWARK, 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 "G" IN CURBS WHERE SEWER OR GAS LATERALS PASS UNDER THE CURB.
- POLYVINYL (PVC) SEWER PIPE SHALL MEET ASTM D-3034 SDR35 SPECIFICATIONS, INSTALLED WITH SAND BEDDING AND BACKFILL OF TYPE I GRAVEL.
- ALL MANHOLES IN PAVED STREETS, 80" R/W AND LARGER, SHALL HAVE CONCRETE COULDS.
- TEE SADDLES SHALL BE USED TO CONNECT SEWER LATERALS TO EXISTING MAIN LINES UP TO 12" DIA. SIZE. CONNECTION 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 NOT LESS THAN TEN FEET (10') TO EACH SIDE OF THE CENTERLINE OF THE WATER MAIN. SEE WATER-SEWER/STORM DRAIN CROSSING NOTE THIS SHEET.
- 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 REFLECTION OF MORE THAN A 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.

STREET LIGHTING NOTE

ALL STREET LIGHT INSTALLATIONS SHALL CONFORM TO THE STANDARD DETAILS AND SPECIFICATIONS OF THE CITY OF LAS VEGAS AND SHALL ALSO CONFORM TO THE UNIFORM STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (SEE MANHOLES, CLARK COUNTY AREA, NEWARK, AS AMENDED) UNLESS OTHERWISE NOTED. SEE UNIFORM STANDARD DRAWING NO. 319.

BENCHMARK

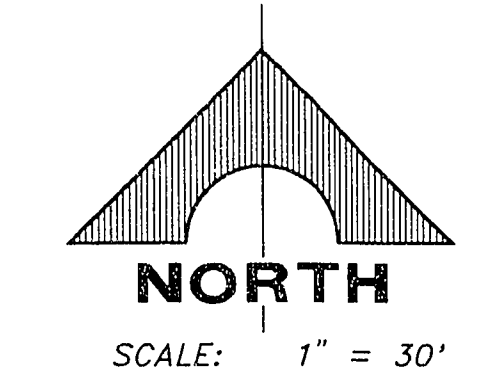
CLV BENCHMARK: 1190200NES, EL. 2528.486 FEET NVD29, 771.4156 METERS NAVD88. BLM BRASS CAP, DURANGO DRIVE, ELKHORN ROAD.

LAS VEGAS VALLEY WATER DISTRICT STANDARD NOTES

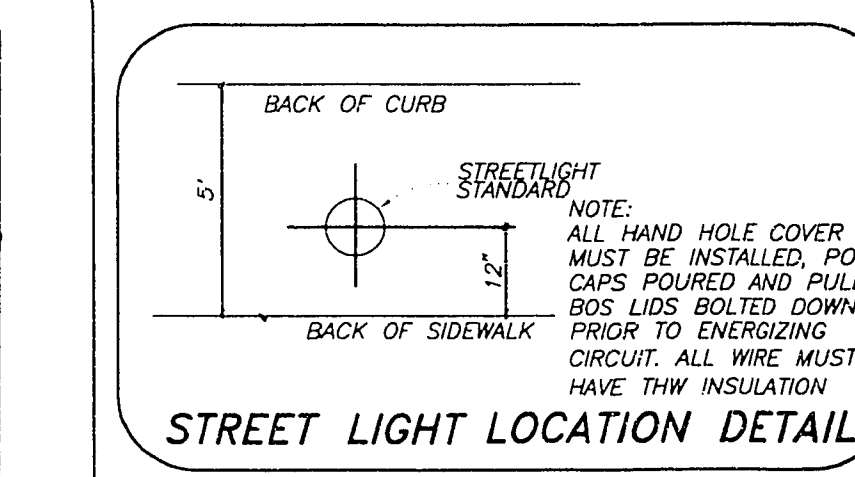
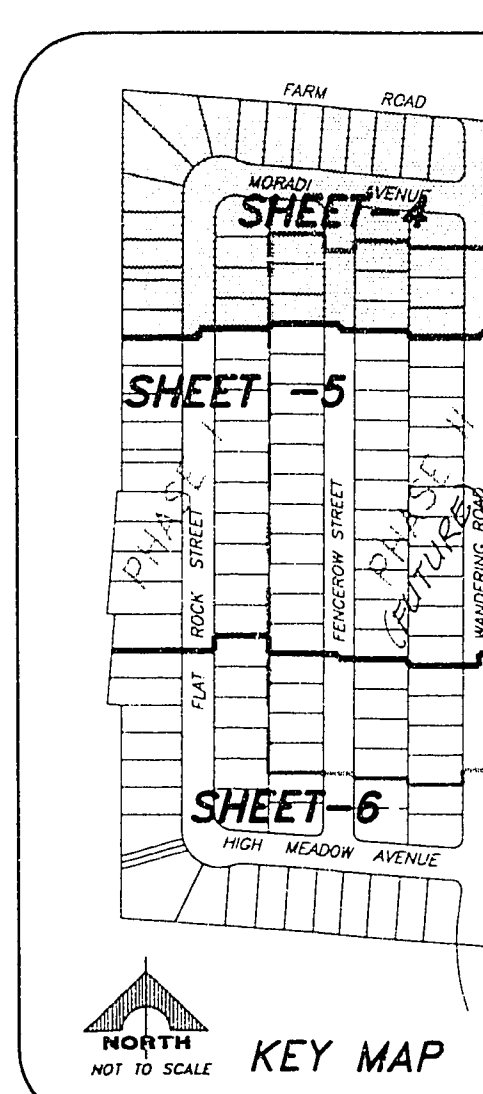
- NO WORK SHALL BEGIN UNTIL THE WATER PLANS HAVE BEEN RELEASED FOR CONSTRUCTION BY THE LVWD. FOLLOWING WATER PLAN APPROVAL, 48 HOUR NOTICE SHALL BE GIVEN TO THE LVWD CUSTOMER SERVICE DEPARTMENT (258-7171) PRIOR TO THE START OF CONSTRUCTION. NOTICE MUST BE GIVEN BY 2:00 P.M. THE BUSINESS DAY PRIOR TO A LVWD INSPECTION.
- ALL WORK SHALL CONFORM TO LVWD STANDARD PLANS, DRAWINGS AND SPECIFICATIONS, LATEST EDITION.
- ALL WORK, EXCEPT AS MODIFIED BY THESE PLANS OR BY NOTE 2, SHALL BE DONE IN ACCORDANCE WITH THE MOST CURRENT EDITION OF THE UNIFORM STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (SEE MANHOLES, CLARK COUNTY AREA).
- A SINGLE PIPE MATERIAL SHALL BE USED THROUGHOUT THE PROJECT UNLESS OTHERWISE APPROVED BY THE LVWD.
- ALL SERVICE LATERALS TWO (2) INCHES IN DIAMETER AND SMALLER SHALL BE COPPER TUBING WITH LVWD 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:
 - POTABLE WATER SUPPLY QUALITY MATERIAL.
 - ENCASEMENT WITH FOUR (4) INCH CONCRETE (MINIMUM).
 - 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 EXTENSION.
- 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, FILLED AND AN ACCEPTABLE WATER SAMPLE OBTAINED, PRIOR TO CONNECTION TO THE LVWD'S DISTRIBUTION SYSTEM.
- THE CONTRACTOR MUST OBTAIN ALL METERS TWO (2) INCHES AND SMALLER FROM LVWD CENTRAL STORES. TELEPHONE 258-3152 FORTY-EIGHT (48) HOURS PRIOR TO PROJECT.
- CONSTRUCTION MAY INTERRUPT SERVICE WITH LVWD APPROVAL AND PROPER NOTIFICATION. BETWEEN THE HOURS OF 10 P.M. AND 6 A.M. SUNDAY THROUGH THURSDAY, WITHOUT LVWD PERMISSION, ANY TEMPORARY SERVICE FEED MUST HAVE PRIOR LVWD APPROVAL.
- ALL WATER FACILITY CONSTRUCTION MATERIALS USED MUST BE AS LISTED ON THE LVWD'S APPROVED MATERIALS LISTING FOR PUBLIC WORKS CONSTRUCTION FACILITIES, LATEST REVISION, OR SPECIFICALLY APPROVED ON THESE PLANS.

FIRE DEPARTMENT NOTES

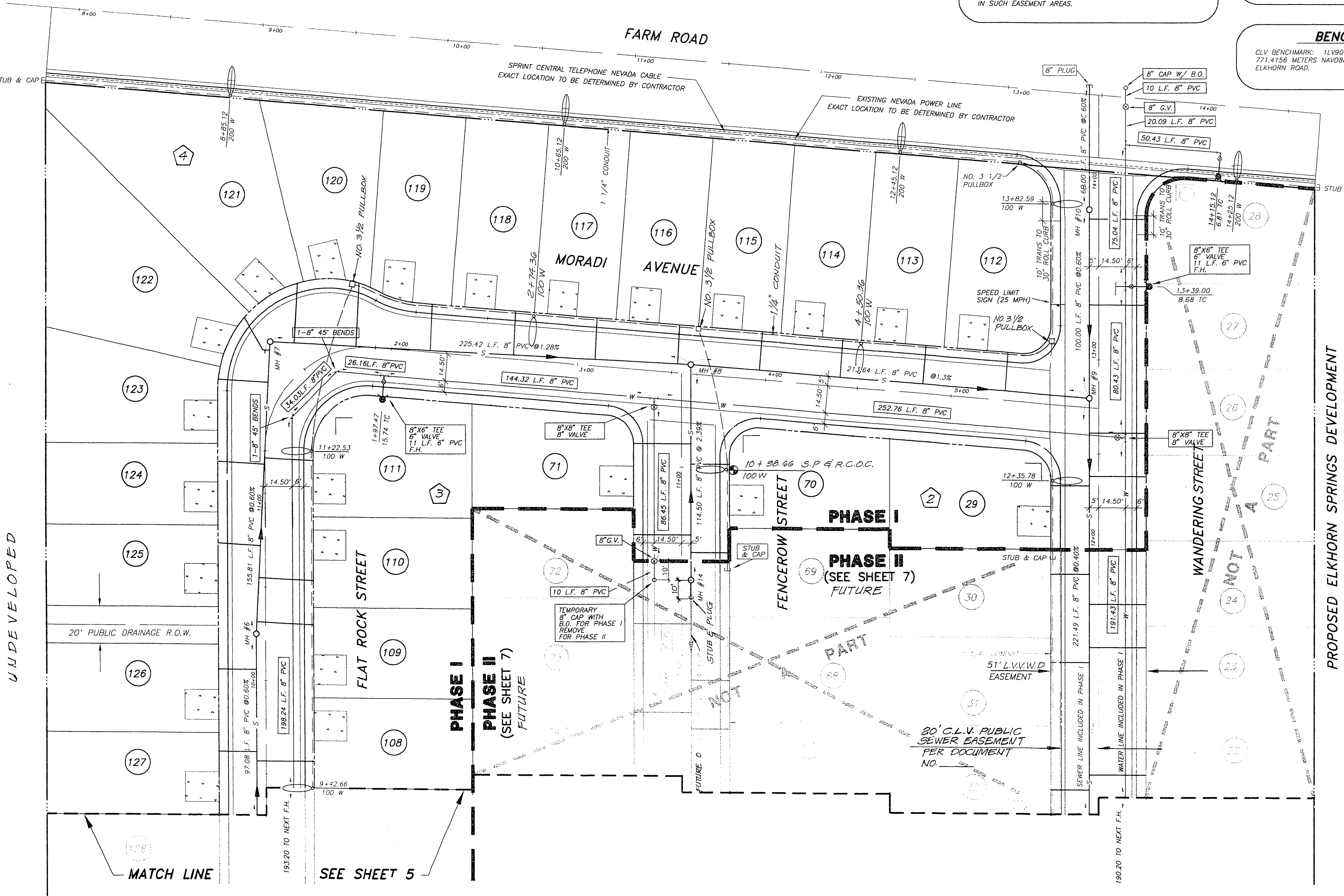
- ALL WORK SHALL BE DONE IN STRICT ACCORDANCE WITH THE CITY OF LAS VEGAS FIRE DEPARTMENT "HYDRANT SPECIFICATIONS", "HYDRANT INSTALLATION SPECIFICATIONS" AND ORDINANCE #3677.
- AUTHORIZED HYDRANTS FOR THIS PROJECT ARE:
 - KENNEDY GUARDIAN
 - MULLER A-425 CENTURION
 - CLOW MODEL 2546 MEDALLION
- ON ANY NEW HOME OR BUILDING INSTALLATION, ACCESSIBLE FIRE HYDRANTS SHALL BE INSTALLED BEFORE COMMENCEMENT OF 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 CENTERLINE OF STREET ADJACENT TO THE FIRE HYDRANT AS REQUIRED IN ORDINANCE #3677 TO IDENTIFY FIRE HYDRANT LOCATIONS.
- CALL THE LAS VEGAS FIRE DEPARTMENT AT 258-2071 FOR UNDERGROUND LOCATIONS OF HYDRANTS FROM PHYSICAL DAMAGE PER ORDINANCE #3677 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 MATERIAL AND TEST CERTIFICATE FOR UNDERGROUND PIPING FORM SHALL BE OBTAINED FROM THE FIRE PROTECTION ENGINEER PRIOR TO ANY WORK BEGINNING.
- 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 MATERIALS MUST BE U.L. LISTED AND I.M. APPROVED.
- FIRE HYDRANT SPACING:
 - RESIDENTIAL - 500 FEET UNSPRINKLERED, 600 FEET SPRINKLERED.
 - COMMERCIAL, INCLUDING MULTI-FAMILY - 300 FEET UNSPRINKLERED, 400 FEET SPRINKLERED.
- NO FIRE HYDRANTS 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.
- NO MORE THAN 2 HYDRANTS CAN BE OUT OF SERVICE DUE TO A SINGLE MAIN BREAK.
- 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 UPC 91, SECTION 10.203.)
- 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 #3677.
- ELECTRICALLY CONTROLLED ACCESS GATES SHALL BE PROVIDED WITH AN APPROVED EMERGENCY VEHICLE DETECTOR/RECEIVER SYSTEM. SAID SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THE CITY OF LAS VEGAS GUIDELINES FOR AUTOMATIC EMERGENCY VEHICLE ACCESS GATES.



Call before you Dig.
 1-800-227-2600
 UNDERGROUND SERVICE (USIS)



APPROVED FOR CONSTRUCTION
[Signature]
 LAS VEGAS VALLEY WATER DISTRICT
 DATE: 4/24/95



SEWAGE CONTRIBUTION

104 RESIDENTIAL UNITS @ 250 G.P.D. = 26,000 G.P.D.
 PEAK FACTOR = 1.2 FROM TABLE C, PC 1-3
 PEAK FLOW: 31,200 G.P.D.

NOTE: A 1"x3/4" ANGLE METER STOP AND 3/4" METER BOX WILL BE REQUIRED WITH THE 1" SERVICE LATERALS FOR ALL SERVICES WITH 5/8" OR 3/4" SERVICES. DETAILS OF THE ABOVE INSTALLATION ARE AVAILABLE FROM THE ENGINEERING SERVICES DIVISION AND FROM THE DISTRICT'S INSPECTORS.

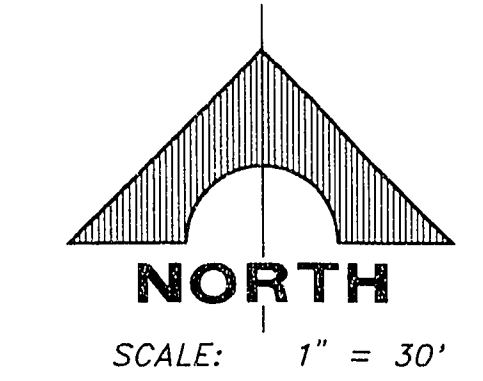
FIRE HYDRANT LOCATION DETAIL PER STD. DWG. NO. 516

BENCHMARK

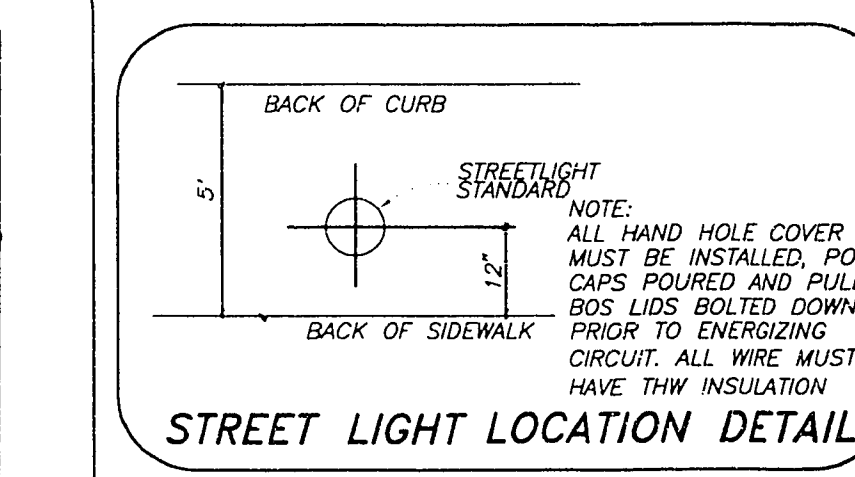
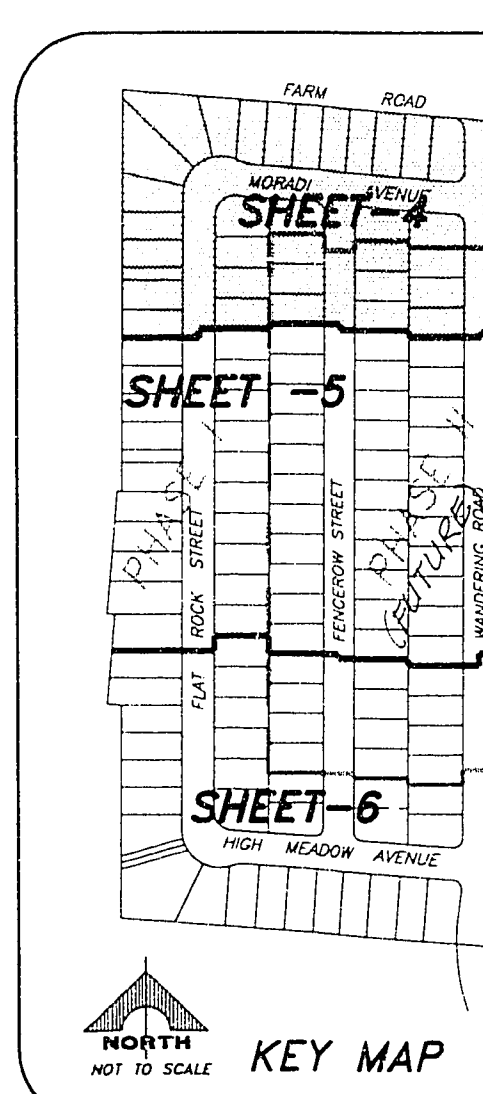
CLV BENCHMARK: 1190200NES, EL. 2528.486 FEET NVD29, 771.4156 METERS NAVD88. BLM BRASS CAP, DURANGO DRIVE, ELKHORN ROAD.

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 #3677.
- AUTHORIZED HYDRANTS FOR THIS PROJECT ARE:
 - KENNEDY GUARDIAN
 - MULLER A-425 CENTURION
 - CLOW MODEL 2546 MEDALLION
- ON ANY NEW HOME OR BUILDING INSTALLATION, ACCESSIBLE FIRE HYDRANTS SHALL BE INSTALLED BEFORE COMMENCEMENT OF 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 CENTERLINE OF STREET ADJACENT TO THE FIRE HYDRANT AS REQUIRED IN ORDINANCE #3677 TO IDENTIFY FIRE HYDRANT LOCATIONS.
- CALL THE LAS VEGAS FIRE DEPARTMENT AT 258-2071 FOR UNDERGROUND LOCATIONS OF HYDRANTS FROM PHYSICAL DAMAGE PER ORDINANCE #3677 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 MATERIAL AND TEST CERTIFICATE FOR UNDERGROUND PIPING FORM SHALL BE OBTAINED FROM THE FIRE PROTECTION ENGINEER PRIOR TO ANY WORK BEGINNING.
- 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 MATERIALS MUST BE U.L. LISTED AND I.M. APPROVED.
- FIRE HYDRANT SPACING:
 - RESIDENTIAL - 500 FEET UNSPRINKLERED, 600 FEET SPRINKLERED.
 - COMMERCIAL, INCLUDING MULTI-FAMILY - 300 FEET UNSPRINKLERED, 400 FEET SPRINKLERED.
- NO FIRE HYDRANTS 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.
- NO MORE THAN 2 HYDRANTS CAN BE OUT OF SERVICE DUE TO A SINGLE MAIN BREAK.
- 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 UPC 91, SECTION 10.203.)
- 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 #3677.
- ELECTRICALLY CONTROLLED ACCESS GATES SHALL BE PROVIDED WITH AN APPROVED EMERGENCY VEHICLE DETECTOR/RECEIVER SYSTEM. SAID SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THE CITY OF LAS VEGAS GUIDELINES FOR AUTOMATIC EMERGENCY VEHICLE ACCESS GATES.



Call before you Dig.
 1-800-227-2600
 UNDERGROUND SERVICE (USIS)



APPROVED FOR CONSTRUCTION
[Signature]
 LAS VEGAS VALLEY WATER DISTRICT
 DATE: 4/24/95

REVISIONS

NO.	DESCRIPTION	C.L.V. DATE
1	REVISED PER COMMENTS	3/20/95
2	REVISED PER COMMENTS	3/20/95
3	REVISED PER COMMENTS	3/20/95
4	REVISED PER COMMENTS	3/20/95
5	REVISED PER COMMENTS	3/20/95
6	REVISED PER COMMENTS	3/20/95
7	REVISED PER COMMENTS	3/20/95
8	REVISED PER COMMENTS	3/20/95
9	REVISED PER COMMENTS	3/20/95
10	REVISED PER COMMENTS	3/20/95

RECOMMENDED BY: *[Signature]*
 DATE: 3/21/95

DESIGNED BY: *[Signature]*
 DATE: 3/21/95

DRAWN BY: *[Signature]*
 DATE: 3/21/95

CHECKED BY: *[Signature]*
 DATE: 3/21/95

APPROVED BY: *[Signature]*
 DATE: 3/21/95

STANPARK HOMES OF NEVADA
 ORCHARD VALLEY PHASE I
 UTILITY PLAN I - PHASE I

G.C. WALLACE, INC.
 Engineering/Architecture

655 SOUTH RIMBER BLVD., LAS VEGAS, NEVADA 89102

JOB NO. 727-018

DATE: 02/17/95 1:58 PM DRAWING: C:\DRAWINGS\01\01-4 REV. L.L.W.

UNDEVELOPED

SEE SHEET 5

SEE SHEET 6

KEY MAP

SHEET 4

OF 24 SHEETS