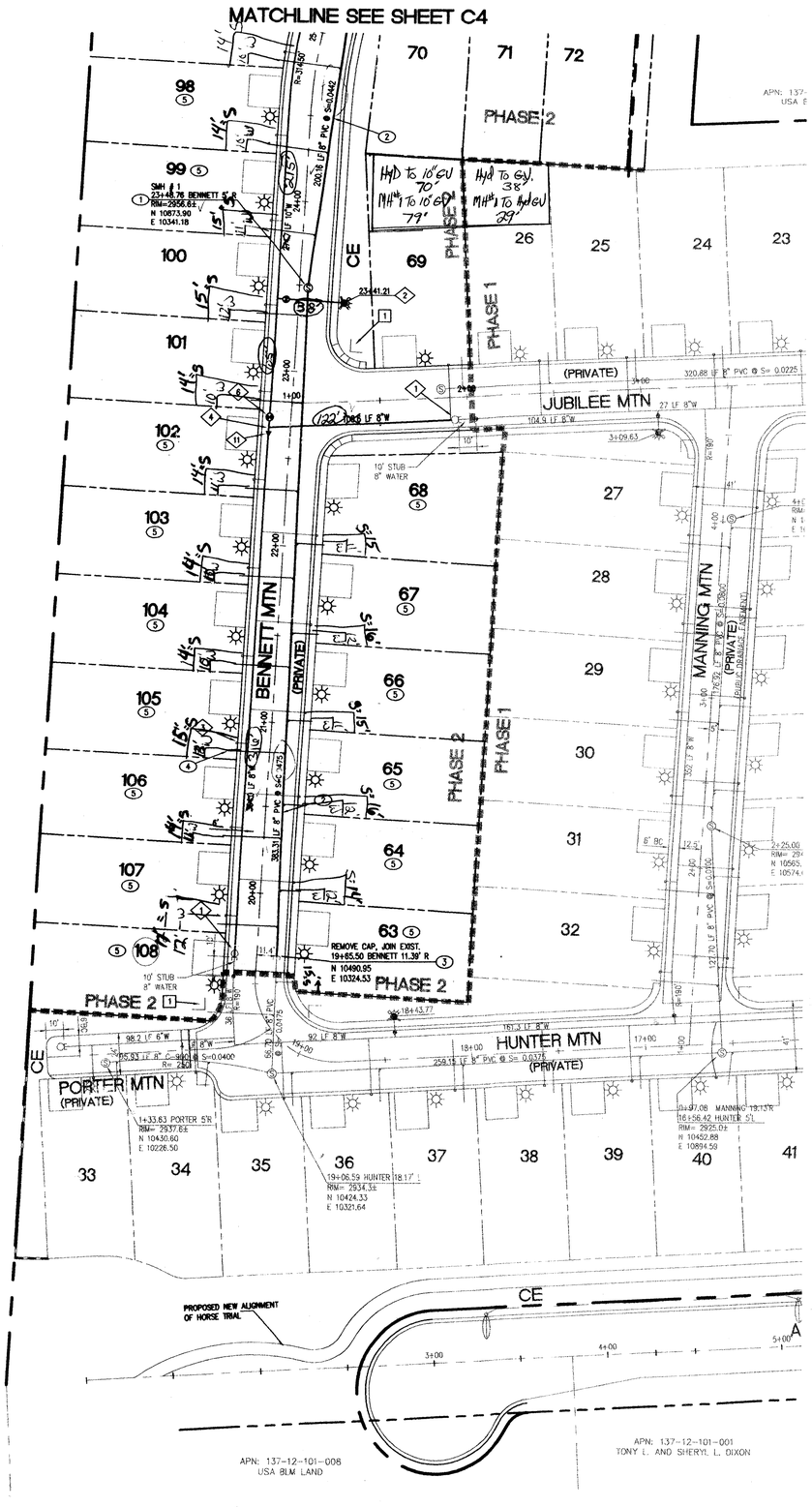
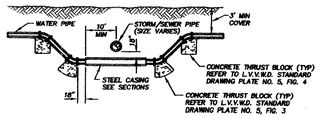




WHERE THE WATER LINE IS LESS THAN 18 INCHES OVER THE SEWER LINE, WHERE THE WATER LINE IS UNDER THE SEWER LINE, AND WHERE THE HORIZONTAL SEPARATION, AS REQUIRED BY THE WATER SUPPLY REGULATIONS, CANNOT BE MAINTAINED BECAUSE OF PHYSICAL OBSTRUCTIONS, THE WATER LINE SHALL BE PROTECTED BY CONSTRUCTION OF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

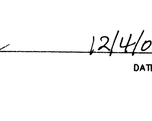
EACH OR THESE PROVISIONS SHALL ALSO BE EXTENDED FOR OTHER THAN 90 DEGREE CROSSINGS TO THE POINT AT WHICH THE TEN FOOT SEPARATION BETWEEN THE WATER AND SEWER LINES IS ACHIEVED (10/SINE OF CROSSING ANGLE.)

TYPICAL CASING SECTION

NOTES:

1. STEEL PIPE CASINGS ARE TO BE SYMETRICAL ABOUT WATER MAIN CENTERLINE.
2. PRE-APPROVED CASING SPACERS AND PRE-APPROVED END SEALS INSTALLED PER MANUFACTURER'S SPECIFICATIONS. (REDWOOD SKIDS NOT ALLOWED). UDACS SECTION 3.26 NOT APPLICABLE). USE A "CENTERED" CONFIGURATION AND PROVIDE THE MANUFACTURER WITH THE FOLLOWING:

   PIPE OD
   CASING ID
   CASING LENGTH



1. STEEL PIPE CASING SHALL BE FABRICATED FORM 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 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.

STORM/SEWER/WATER CROSSING DETAIL

NOT TO SCALE

BASIS OF BEARING

NORTH 87°08'54" EAST, BEING THE SOUTH LINE OF THE SOUTHWEST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 1, TOWNSHIP 20 SOUTH, RANGE 59 EAST, M.D.M., CLARK COUNTY, NEVADA AND BEING THE CENTERLINE OF ALEXANDER ROAD, AS SHOWN BY MAP ON FILE IN BOOK 89 OF SURVEYS, PAGE 03 OF OFFICIAL RECORDS, CLARK COUNTY, NEVADA RECORDS.

BENCHMARK

CLARK COUNTY VERTICAL CONTROL, CLARK COUNTY SURVEYOR T20S, R60E, SW QUARTER REFERENCE NUMBER 3 BENCHMARK NAME 1C004W6

A RIVET AND SQUARE ALUMINUM PLATE, STAMPED BM NO. 1C004W6, IN AN ELECTRICAL TRANSFORMER PAD, 175 FEET WEST OF AL GARRISON STREET, ON THE SOUTH SIDE OF CRAIG ROAD.

ELEVATION = 726.815 METERS (NAVD '88)
ELEVATION = 2384.56 FEET (NAVD '88)

PRIVATE ST. / DRIVE NOTE:

ALL ONSITE PRIVATE STREETS / PRIVATE DRIVES ARE P.U.E'S, PUBLIC SEWER EASEMENTS AND PUBLIC DRAINAGE EASEMENTS TO BE PRIVATELY MAINTAINED HOA.

PROJECT NAME: KIMBALL HILL HOMES @ LONE MOUNTAIN WEST UNIT 1

THIS PROJECT WATER PLAN COMPLIES WITH THE LAS VEGAS VALLEY WATER DISTRICT'S TECHNICAL REQUIREMENTS. HOWEVER, THIS WATER PLAN IS

NOT APPROVED FOR CONSTRUCTION

AT THIS TIME AND THIS SIGNATURE DOES NOT PROVIDE OR IMPLY A WATER COMMITMENT.

LAS VEGAS VALLEY WATER DISTRICT — DATE

APPROVED FOR CONSTRUCTION

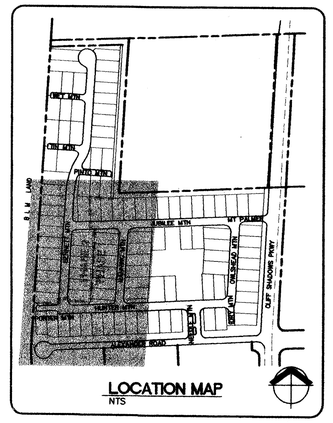
LAS VEGAS VALLEY WATER DISTRICT — DATE 12/4/02

APPROVED

CITY FIRE MARSHAL — DATE 12/4/02

NOTES:

UTILITY LOCATIONS SHOWN HEREON ARE APPROXIMATE ONLY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXACT HORIZONTAL AND VERTICAL LOCATION OF ALL EXISTING UNDERGROUND AND OVERHEAD UTILITIES PRIOR TO COMMENCING CONSTRUCTION. NO REPRESENTATION IS MADE THAT ALL EXISTING UTILITIES ARE SHOWN HEREON. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR UTILITIES NOT SHOWN OR UTILITIES NOT SHOWN IN THEIR PROPER LOCATION.



WATER CONSTRUCTION NOTES

1. REMOVE EXISTING CAP AND TIE PROPOSED 8" WATERLINE TO EXISTING WATERLINE.
2. INSTALL FIRE HYDRANT ASSEMBLY PER UDACS PLATE #7 (INCLUDING ALL VALVES, TEES, THRUST BLOCKS AND APPURTENANCES).
3. INSTALL 1" LATERAL AND 5/8" DOMESTIC WATER METER PER UDACS PLATE #18.
4. INSTALL 10"x10"x8" TEE WITH THRUST BLOCK PER UDACS PLATE #5.
5. INSTALL 10"X10"X6" TEE WITH THRUST BLOCK PER UDACS PLATE #5.
6. INSTALL 10" GATE VALVE.
7. INSTALL 6" GATE VALVE.
8. INSTALL 8" CAP AND 2" BLOW-OFF ASSEMBLY PER UDACS PLATE #4.
9. INSTALL 6" CAP AND 2" BLOW-OFF ASSEMBLY PER UDACS PLATE #4.
10. INSTALL 6" 11-1/4° BEND WITH THRUST BLOCK PER UDACS PLATE #5.
11. INSTALL 10"x8" REDUCER.
12. INSTALL 8" GATE VALVE.

SEWER CONSTRUCTION NOTES

1. INSTALL 48" SANITARY SEWER MANHOLE PER SOUTHERN NEVADA DESIGN AND CONSTRUCTION STANDARDS FOR WASTEWATER COLLECTION SYSTEMS, 1997. SD-1.
2. INSTALL 8" PVC SEWER MAIN .
3. TIE PROPOSED SANITARY SEWER TO EXISTING SANITARY SEWER MAIN.
4. INSTALL 4" SANITARY SEWER LATERAL AT MIN. SLOPE OF 2%.
5. INSTALL SEWER BACKWATER VALVE ON LOTS SHOWN.

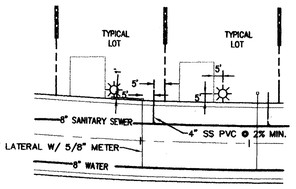
SEWER CONTRIBUTION

AVG. DAILY FLOW = (250 GPD/LOT) 250gpd x 62 lots = 0.0155 MGD

PEAK DAILY FLOW = (MGD)(3.5) = 0.015 = 0.0543 MGD

SIGNING AND STREETLIGHTING CONSTRUCTION NOTES

1. INSTALL STREET NAME SIGN AND STOP SIGN (R1-1) ON NEW POLE.



TYPICAL LATERAL DETAIL

SCALE: 1"=40'

40 20 10 0 40

GOOD CUTTING UNDERGROUND UTILITY LINES: IT'S COSTLY. Call before you Dig. 1-800-227-2600 UNDERGROUND SERVICE ALERT (USA)

GOOD OVERHEAD POWER LINE CONTACT: IT'S COSTLY. Call before you OVERHEAD 1-702-593-6111 NEVADA POWER (SOUTHERN) AND SAFETY SERVICES DEPARTMENT

AS BUILT

AS BUILT

#21083

KIMBALL HILL HOMES • LONE MOUNTAIN WEST UNIT 2
MASTER UTILITY PLAN - SOUTH
CITY OF LAS VEGAS
PORTION OF SECTION 1, TOWNSHIP 20 SOUTH, RANGE 59 EAST
M.D.M., CLARK COUNTY, NEVADA

REV.	DATE	BY	REVISION

KIMBALL HILL HOMES
3591 PASEO MOUNTAIN AVE.
LAS VEGAS, NV 89052
(702) 897-0213

WRG DESIGN INC
2260 Corporate Circle, Ste 430 Henderson, NV 89074
☎ 702.990.3500 FAX 702.990.3515
PLANNERS • ENGINEERS • LANDSCAPE ARCHITECTS • SURVEYORS

DATE	3/11/02
DESIGNED	B JONES
ENGINEER	J HITCHEN
CHECKED	
SCALE:	1"= 40' HORIZ
WRG PROJECT NO:	KHH003

PROFESSIONAL ENGINEER - STATE OF NEVADA
J. STUART HITCHEN
CIVIL
No. 013475
3/12/02

SHEET TITLE
UTILITY PLAN (S)
SHEET NUMBER MU2
C5 OF 11
CLV DRAWING NO.
3071-4678-2

741299