

FIRE FLOW CALCULATIONS

FIRE FLOW REQUIREMENT IS 1,500 gallons per minute at 20 psi residual pressure.

Based on:	BLDG #1:	BLDG #2:
SQUARE FOOTAGE:	10,085 S.F.	5,500 S.F.
LARGEST AREA BETWEEN 4-HOUR AREA SEPARATION WALLS:	10,085 S.F.	5,500 S.F.
BUILDING HEIGHT:	21.5 feet	21.5 feet
NUMBER OF STORIES:	1	1
TYPE OF CONSTRUCTION:	V-N	V-N
OCCUPANCY:	B	B
FULL AUTOMATIC FIRE SPRINKLER SYSTEM:	YES	YES

Reviewed By: *[Signature]*
Date: 3-10-99

BASIS OF BEARING

NORTH 83°06'41" WEST, BEING THE BEARING OF THE CENTERLINE OF HILLWOOD DRIVE AS SHOWN BY MAP THEREOF ON FILE IN BOOK 51, PAGE 26 OF PLATS IN THE CLARK COUNTY RECORDER'S OFFICE, CLARK COUNTY, NEVADA, LYING WITHIN THE NORTHWEST QUARTER (NW 1/4) OF THE NORTHEAST QUARTER (NE 1/4) OF SECTION 30, TOWNSHIP 20 SOUTH, RANGE 60 EAST, M.D.M., CITY OF LAS VEGAS, CLARK COUNTY, NEVADA.

BENCHMARK

CITY OF LAS VEGAS BENCHMARK

OLV001954 RIVET & PLATE IN TOP OF CURB NW SIDE OF TOWN CENTER DRIVE & SOUTH CIRCLE ISLAND.

2725.923 NGVD 1929 DATUM
2728.37 NAVD 1988 DATUM (831.6074 M)
2726.19 SUMMERLIN DATUM

SEWER CONTRIBUTION

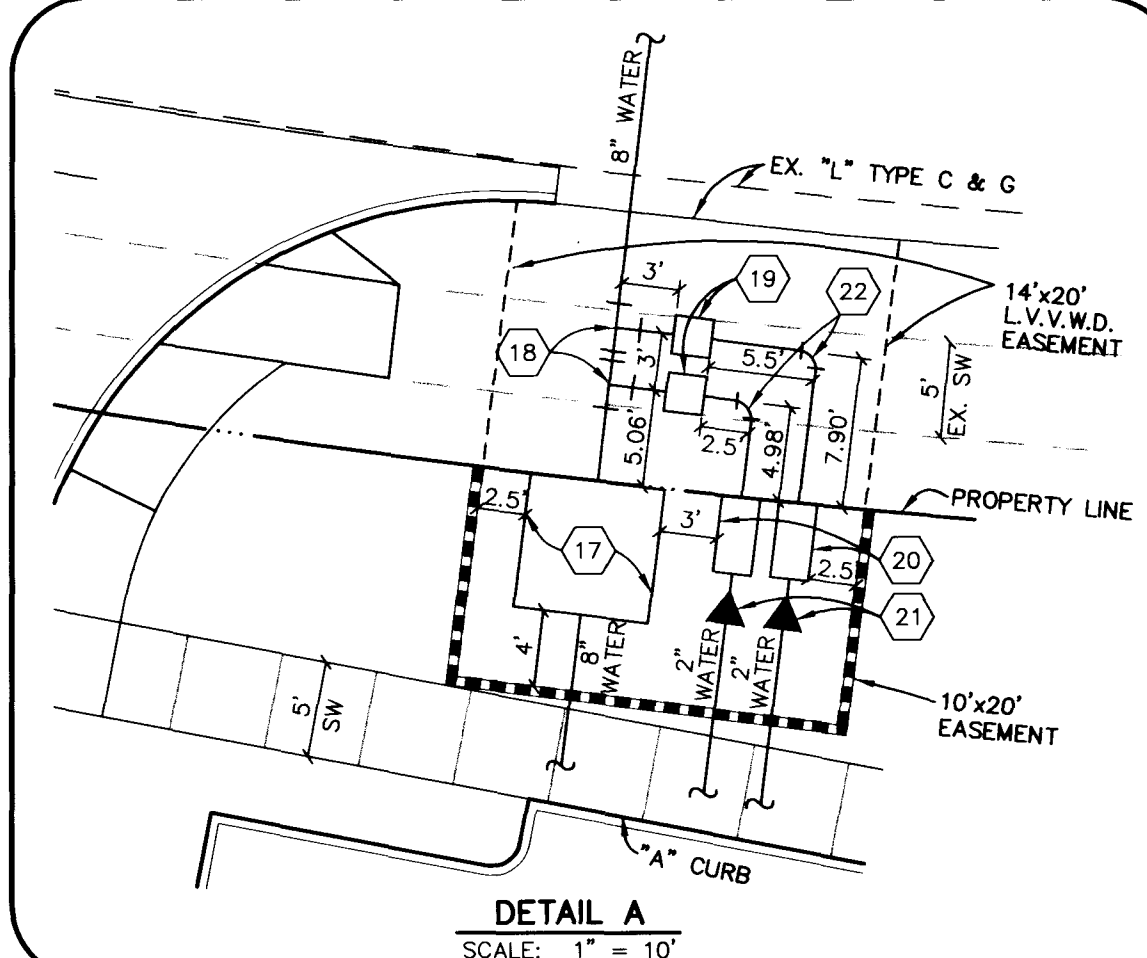
AVERAGE FLOW = 1,009 GAL/DAY
PEAK FLOW = 550 GAL/DAY

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 OFFSITE IMPROVEMENT, CLARK COUNTY AREA.
- A SINGLE PIPE MATERIAL SHALL BE USED THROUGHOUT THE PROJECT UNLESS OTHERWISE APPROVED BY THE 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 DRIVEWAY, 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:
 - 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.
- 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 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 BE INSTALLED, WITHOUT LVVWD REIMBURSEMENT. ANY TEMPORARY SERVICE FEED MUST HAVE PRIOR LVVWD APPROVAL.
- ALL WATER FACILITY CONSTRUCTION MATERIALS USED MUST BE AS LISTED ON THE LVVWD'S PRE-APPROVED MATERIALS AND MANUFACTURERS LISTING FOR NEW FACILITIES, LATEST REVISION, OR SPECIFICALLY APPROVED ON THESE PLANS.

APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT DATE



- UTILITY NOTES**
- REMOVE EXISTING SEWER PLUG AND CONNECT.
 - CONSTRUCT SEWER MANHOLE PER USDOCA DWG. NO. 403.
 - INSTALL 8" SEWER PLUG, MINIMUM 5' PAST PROPERTY LINE.
 - INSTALL 6" PVC SANITARY SEWER LATERAL MEETING ASTM D-3034 SDR 35 AND UPC STANDARDS CAP 5" FROM BLDG. SEE PLAN FOR INVERT.
 - CONTRACTOR SHALL VERIFY INVERT LOCATION, ELEVATION AND REPORT ANY DEVIATIONS TO THE ENGINEER PRIOR TO THE COMMENCEMENT OF ANY WORK.
 - INSTALL SEWER CLEAN-OUT PER SANITARY DISTRICT STANDARD. SEE DETAIL 16 SHEET C-8.
 - INSTALL SEWER WYE PER SANITARY DISTRICT STANDARD.
 - INSTALL 12" X 12" X 8" MECHANICAL JOINT TAPPING VALVE AND SLEEVE
 - INSTALL 8" (45°) BEND.
 - INSTALL 8" (22-1/2°) BEND.
 - INSTALL 8" X 8" X 6" TEE.
 - INSTALL 8" X 6" REDUCER.
 - INSTALL FIRE HYDRANT ASSEMBLY PER UDACS NO. 7.
 - INSTALL 2" (90°) BEND.
 - INSTALL 2" (22-1/2°) BEND.
 - INSTALL 2" (45°) BEND.
 - INSTALL 8" DOUBLE CHECK DETECTOR ASSEMBLY PER UDACS PLATE 20-B USING FEDCO PRODUCTS.
 - INSTALL 1" SERVICE SADDLE & CORP. STOP.
 - INSTALL 1" WATER METER PER UDACS PLATE NO. 1-D.
 - INSTALL 1" REDUCED PRESSURE PRINCIPLE ASSEMBLY PER UDACS PLATE NO. 11A.
 - INSTALL 1" X 2" INCREASER.
 - BEND COPPER TUBING
 - INSTALL 2" (90°) BEND.
 - INSTALL 6" (90°) BEND.
 - INSTALL BACKWATER VALVE(S) PER SANITATION DISTRICT STANDARD.
- GENERAL NOTE: ALL UTILITY LINES SHALL BE BACKFILLED AND COMPACTED PER CCASD DRAWING NO. 404

- LEGEND**
- EX. FIRE HYDRANT W/6" GATE VALVE
 - PROPOSED FIRE HYDRANT W/6" GATE VALVE
 - EX. WATER LINE
 - EX. SEWER LINE
 - EX. GAS LINE
 - EX. STORM DRAIN
 - GATE VALVE
 - SEWER MANHOLE
 - SEWER CLEAN OUT
 - WATER LINE
 - SEWER LINE
 - GAS LINE
 - FIRE LANE

INSTALLATION OF 8" DOUBLE CHECK DETECTOR ASSEMBLY

THE DOUBLE CHECK DETECTOR ASSEMBLIES SHALL BE INSTALLED IN ACCORDANCE WITH THE UDACS PLATE 20B.

ANY BLOCK WALL OR OTHER FENCE MATERIAL SHALL BE DESIGNED AND CONSTRUCTED AROUND THE OUTSIDE OF THE EASEMENT(S), SO AS TO ALLOW THE DISTRICT DIRECT ACCESS FROM THE ADJACENT RIGHT-OF-WAY.

REDUCED PRESSURE PRINCIPLE ASSEMBLY (2) 1"

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

ANY BLOCK WALL OR OTHER FENCE MATERIAL SHALL BE DESIGNED AND CONSTRUCTED AROUND THE OUTSIDE OF THE EASEMENT(S), SO AS TO ALLOW THE DISTRICT DIRECT ACCESS FROM THE ADJACENT RIGHT-OF-WAY.

PROJECT NAME: Hills/Randazzo Office

DATE: 3-16-99

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.

[Signature]
DATE

ESTIMATE OF QUANTITIES

8" DBL CHECK DETECTOR ASSEMBLY	1 EA.
1" METER (FROM L.V.V.W.D.)	2 EA.
1" RPPA BACKFLOW PREVENTOR	2 EA.
1" SERVICE SADDLE & CORP. STOP	2 EA.
12"x8" M.J. TAPPING SLEEVE & VALVE	1 EA.
8" WATER LINE	50 LF.



Avoid hitting underground utility lines. It's costly.

Call before you Dig.

1-800-227-2600

UNDERGROUND SERVICE (USA)



DATE: 3/16/99

95% COMPLETE

REV. DATE: 11/06/98

DESIGN: GDN
DRAWN: JMW
CHECK: JMW
ISSUE DATE: 02-12-99
PLOT DATE: 02-12-99
REV. DATE: 11-03-98

G. C. WALLACE, INC.
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HILLS/RANDAZZO OFFICE COMPLEX
JMA ARCHITECTURE STUDIOS
UTILITY PLAN

SHEET
C-4
4 OF 8 SHEETS
107-V305Z

