

**PLAN NOTES**

- THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF DISCREPANCIES BETWEEN THE INFORMATION SHOWN ON THESE DRAWINGS AND THE CONDITIONS EXISTING IN THE FIELD.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO BECOME TOTALLY FAMILIAR WITH THE SITE, THE CLIMATE AND THE INFORMATION CONTAINED WITHIN THE GEOTECHNICAL INVESTIGATION, PLANS AND SPECIFICATIONS. ALL WORK AND ALL MATERIALS FINISHED SHALL BE IN CLOSE CONFORMITY WITH THE LINES, GRADES, GRADING SECTIONS, CROSS SECTIONS, DIMENSIONS, MATERIAL REQUIREMENTS AND TESTING REQUIREMENTS THAT ARE SPECIFIED IN THE CONTRACT, PLANS OR SPECIFICATIONS.
- CLEARING AND GRUBBING:**  
METALLY, CUT AND FILL AREAS SHALL BE CLEARED, GRUBBED AND STRIPPED TO REMOVE DEBRIS, BRUSH, ROOTS AND ORGANIC SOILS.
- SOIL PREPARATION AND GRADING:**  
EXPOSED SUBGRADE OR GRUBBED ANY UNCONTROLLED FILL OR LOOSE OR SOFT SOILS SHALL BE EXCAVATED FROM BENEATH FOUNDATIONS AND AREAS TO RECEIVE STRUCTURAL FILL. THE EXCAVATIONS SHALL EXTEND TWO FEET BEYOND AREAS TO BE PAVED AND STRUCTURAL FILL.
- STRUCTURAL FILL:**  
EXPOSED SUBGRADE TO RECEIVE FILL SHALL BE SCARIFIED A MINIMUM DEPTH OF SIX INCHES, MOISTENED TO ABOUT OPTIMUM MOISTURE CONTENT AND COMPACTED TO AT LEAST 90 PERCENT OF MAXIMUM DRY DENSITY. WHERE CEMENTED SOILS ARE ENCOUNTERED, SCARIFICATION AND RECOMPACTING IS NOT NECESSARY.  
STRUCTURAL FILL SHALL HAVE AN EXPANSION POTENTIAL LESS THAN 4 PERCENT UNDER 60 PSF SURCHARGE, SOLUBILITY LESS THAN 3 PERCENT AND SODIUM SULFATE LESS THAN 0.2 PERCENT. STRUCTURAL FILL SHALL BE FREE OF VEGETATION AND DEBRIS AND CONTAIN NO ROCKS OR CLUMPS LARGER THAN 4 INCHES NOMINAL DIAMETER.  
STRUCTURAL FILL SHALL BE PLACED IN 8-10 INCH LOOSE LIFTS BROUGHT TO ABOUT 2-4 PERCENT ABOVE OPTIMUM MOISTURE CONTENT FOR COHESIVE SOIL, AND ABOUT OPTIMUM MOISTURE CONTENT FOR GRANULAR SOILS, AND COMPACTED TO AT LEAST 90 PERCENT OF MAXIMUM DRY DENSITY. STRUCTURAL FILL GREATER THAN 9 FEET IN DEPTH SHALL BE COMPACTED TO A MINIMUM OF 95 PERCENT OF MAXIMUM DRY DENSITY.
- PAVEMENT AREAS:**  
THE UPPER 12 INCHES OF SUBGRADE SHALL BE COMPACTED TO AT LEAST 85 PERCENT OF MAXIMUM DRY DENSITY. FILL LIFTS SHALL BE 8 TO 8 INCHES LOOSE THICKNESS.
- CONSTRUCTION CONSIDERATIONS:**  
EXCAVATIONS MAY ENCOUNTER CEMENTED SOILS WHICH WILL REQUIRE THE USE OF HEAVY DUTY EARTHWORK EQUIPMENT.
- THE CONTRACTOR SHALL COMPLY WITH ALL THE REQUIREMENTS OF CLARK COUNTY CONCERNING DUST CONTROL AND WATER QUALITY REQUIREMENTS.
- SEWER:**  
SANITARY SEWER: SANITARY SEWER PIPE SHALL BE SDR 35 PVC PIPE. PIPE AND FITTINGS SHALL MEET THE REQUIREMENTS OF ASTM SPECIFICATION D3034 AND SHALL BE CORROSION RESISTANT TO THE PRESENCE OF SALTS. ALL JOINTS SHALL BE RUBBER GASKETED AND WATER TIGHT. SANITARY SEWER PIPE SHALL BE INSTALLED WITH SAND BEDDING AND TYPE II GRAVEL BACKFILL.  
WATER DISTRIBUTION: DOMESTIC WATER SYSTEM PIPE SHALL BE ANMA C900, CLASS 150 OR 180. SUBSTITUTION SHALL CONFORM TO ASTM D1477 STANDARD SPECIFICATION FOR ELASTOMERIC SEALS FOR JOINING PLASTIC PIPE. FITTINGS SHALL CONFORM TO ANSI/AWWA C110/A21.10 DUCTILE IRON AND GRAY IRON FITTINGS FOR WATER AND OTHER LIQUIDS.
- CONCRETE:**  
CONCRETE SHALL CONTAIN TYPE I OR EQUIVALENT SULFATE RESISTANT CEMENT. CLASS A CONCRETE SHALL BE 3000 PSI MINIMUM @ 28 DAYS. MIX DESIGN SHALL BE APPROVED BY THE QUALITY CONTROL DIVISION PRIOR TO USE ON THE PROJECT.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSURING THAT ALL MANHOLE RIMS AND UTILITY COVERS ARE SET FLUSH WITH THE FINISHED GRADE WITHIN PAVEMENT AND SIDEWALK AREAS AND 8" TO 9" ABOVE GRADE IN UNIMPROVED NON-TRAFFIC AREAS. ALL MANHOLES IN PAVED STREETS 80' R/W AND LARGER SHALL HAVE CONCRETE COLLARS.

**CITY OF LAS VEGAS SEWER NOTES**

- ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE DESIGN & CONSTRUCTION STANDARDS FOR WASTE COLLECTION SYSTEMS AND THE UNIFORM STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION OFF-SITE IMPROVEMENTS, CLARK COUNTY AREA, NEVADA, AS AMENDED AND THESE PLANS AND SPECIFICATIONS. IN ALL CASES, THESE STANDARDS SHALL SUPERSEDE THE UNIFORM STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION OFF-SITE IMPROVEMENTS, CLARK COUNTY AREA, NEVADA, AS AMENDED AND THESE PLANS AND SPECIFICATIONS BOOKS.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PERFORM CONSTRUCTIONS AS PER PLANS, ANY ADDITIONS, DELETIONS, OR CHANGES SHALL FIRST MEET WITH THE APPROVAL OF THE CONTROLLING AGENCY.
- ON SHEL "S" OR "G" 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 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.
- 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.
- INSTALLATION OF CURVED SEWER REQUIRES SPECIAL CONSTRUCTION PROCEDURES AND INSPECTIONS. CONTACT CITY OF LAS VEGAS CONSTRUCTION SERVICES PRIOR TO INSTALLATION.

**BENCHMARK:**

CITY OF LAS VEGAS BENCHMARK 0LV00-17NE66 (ALSO NAVD 88 BENCH MARK), RIVET AND PLATE ON TOP OF CURB, RAMPART BOULEVARD AND LAZERETTE DRIVE, WEST CURB LINE. ELEVATION TAKEN AS 2468.64' (752.4415 m).

**BASIS OF BEARINGS:**

BEING THE NORTH LINE OF THE SOUTHEAST QUARTER (SE 1/4) OF SECTION 8, TOWNSHIP 20 SOUTH, RANGE 60 EAST, M.D.M. CLARK COUNTY, NEVADA, TAKEN AS NORTH 89°44'06" EAST, SADDLEBACK EAST-UNIT 4 MAP, BOOK 62, PAGE 92, RECORDED JULY 14, 1994, CLARK COUNTY, OFFICIAL RECORDS.

SURVEYED BY: POGGEMEYER DESIGN GROUP  
2801 NORTH TENAYA WAY  
LAS VEGAS, NEVADA 89128  
DATE: MARCH, 15, 1997

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NO.	DATE	REVISIONS	BY	CHK
1	10-30-97	REVISED PER CITY OF LAS VEGAS COMMENTS	JHM	SWJ
2	02-08-98	REVISED PER CITY OF LAS VEGAS COMMENTS	JHM	GAH
2	02-08-98	REVISED PER CITY OF LAS VEGAS COMMENTS	JHM	GAH

**CITY OF LAS VEGAS GENERAL NOTES**

- ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE UNIFORM STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION OFF-SITE IMPROVEMENTS, CLARK COUNTY AREA, NEVADA, LATEST ISSUE, THE UNIFORM STANDARD DRAWINGS FOR PUBLIC WORKS CONSTRUCTION, CLARK COUNTY AREA, NEVADA, LATEST ISSUE, AND OTHER APPLICABLE APPROVED STANDARDS ISSUED BY THE CONTROLLING AGENCY, THE UNIFORM BUILDING CODE, AND ALL LOCAL CITY CODES AND ORDINANCES APPLICABLE, EXCEPT AS NOTED ON THIS SHEET AS "DEVIATIONS FROM STANDARDS".
- THE EXISTENCE AND LOCATION OF ANY OVERHEAD OR UNDERGROUND UTILITY LINES, PIPES, OR STRUCTURES SHOWN ON THESE PLANS ARE OBTAINED BY A RESEARCH OF THE AVAILABLE RECORDS. EXISTING UTILITIES ARE LOCATED ON PLANS ONLY FOR THE CONVENIENCE OF THE CONTRACTOR. EXISTING UTILITY SERVICE LATERALS MAY NOT BE SHOWN ON THE PLANS. THE CONTRACTOR SHALL AT HIS OWN EXPENSE, LOCATE ALL UNDERGROUND AND OVERHEAD INTERFERENCES WHICH MAY AFFECT HIS OPERATION DURING CONSTRUCTION AND SHALL TAKE ALL NECESSARY PRECAUTIONS TO AVOID DAMAGE TO SAME. THE CONTRACTOR SHALL USE EXTREME CAUTION WHEN WORKING NEAR OVERHEAD OR UNDERGROUND POWER, GAS AND/OR OTHER UTILITIES SO AS TO SAFELY PROTECT ALL PERSONNEL AND EQUIPMENT, AND SHALL BE RESPONSIBLE FOR ALL COSTS AND LIABILITY IN CONNECTION THEREWITH.
- THE CONTRACTOR SHALL TAKE ALL PRECAUTIONARY MEASURES NECESSARY TO PROTECT EXISTING UTILITY LINES, STRUCTURES, AND STREET IMPROVEMENTS WHICH ARE TO REMAIN IN PLACE FROM DAMAGE, AND ALL SUCH IMPROVEMENTS OR STRUCTURES DAMAGED BY THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED OR REPLACED SATISFACTORY TO THE CITY ENGINEER OR OWNING UTILITY COMPANY AT THE EXPENSE OF THE CONTRACTOR.
- ALL CONSTRUCTION SHALL BE AS SHOWN ON THESE PLANS. ANY REVISIONS SHALL HAVE THE PRIOR WRITTEN APPROVAL OF THE CITY ENGINEER.
- TYPE V CEMENT SHALL BE USED IN ALL OFF-SITE CONCRETE WORK. CONCRETE TO BE 3000 P.S.I. MINIMUM @ 28 DAYS. MIX DESIGN TO BE APPROVED BY THE QUALITY CONTROL DIVISION PRIOR TO USE ON THE PROJECT.
- PERMITS ARE REQUIRED FOR ANY WORK IN THE PUBLIC RIGHT OF WAY. THE CONTRACTOR SHALL SECURE ALL PERMITS AND INSPECTIONS REQUIRED FOR THIS CONSTRUCTION.
- EXPANSION JOINTS REQUIRED, MAXIMUM EVERY 300' IN EXTRUDED TYPE CURB.
- AC PAVEMENT TO BE 1 1/2" ABOVE LIP OF ALL GUTTERS AFTER COMPACTION, EXCEPT AT SIDEWALK RAMPS.
- APPLY FOG SEAL ONLY AFTER ALL CORRECTIONS AND ADJUSTMENTS HAVE BEEN MADE.
- CURB AND GUTTER WITH A GRADE OF LESS THAN FOUR TENTHS OF ONE PERCENT SHALL BE WATER TESTED. WATER TESTING AFTER CONSTRUCTION. ANY CURB AND GUTTER FOUND TO BE UNACCEPTABLE TO THE CITY SHALL BE REMOVED AND REPLACED.
- SIDEWALK RAMPS SHALL BE CONSTRUCTED IN EACH QUADRANT OF AN INTERSECTION PER STANDARD DRAWING 235. EXACT LOCATION OF RAMPS MAY BE ADJUSTED IN THE FIELD BY A CITY INSPECTOR.
- CONTRACTOR SHALL PROVIDE ALL NECESSARY HORIZONTAL AND VERTICAL TRANSITIONS BETWEEN NEW CONSTRUCTION AND EXISTING SURFACES TO PROVIDE FOR PROPER DRAINAGE AND FOR INGRESS AND EGRESS TO NEW CONSTRUCTION. THE EXTENT OF TRANSITIONS TO BE AS SHOWN ON PLANS, OR AS DESIGNATED IN THE FIELD BY A CITY INSPECTOR.
- ALL GRADING WORK SHALL CONFORM TO THE SOILS REPORT AS PREPARED BY THE SOILS ENGINEER AND APPROVED BY THE CITY ENGINEER, AND AS SHOWN ON THESE PLANS.
- EXACT LOCATION OF ALL SAWCUT LINES MAY BE DETERMINED IN THE FIELD BY A CITY OF LAS VEGAS INSPECTOR IF LOCATION ON PLANS IS NOT CLEARLY SHOWN, OR EXISTING PAVEMENT CONDITION REQUIRES RELOCATION.
- THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO PROTECT EXISTING PERMANENT SURVEY MONUMENTS. ANY MONUMENTS DISTURBED SHALL BE REPLACED AND ADJUSTED PER AVAILABLE RECORDS IN ACCORDANCE WITH N.R.S. STATUTE NO. 625.550.
- UTILITY COMPANY METER BOXES, MANHOLE LIDS, VALVE COVERS, ETC. SHALL BE LOCATED OUT OF DRIVEWAYS, DRIVEWAYS, FLOWLINES, AND CROSS GUTTERS UNLESS WRITTEN APPROVAL IS GRANTED BY THE UTILITY COMPANY AND THE CITY ENGINEER.
- WALL NOTES:  
A. ALL WALLS, NEW OR EXISTING, ARE ONLY SHOWN FOR THE PURPOSE OF GRADING RELATIONSHIP.  
B. THE STRUCTURAL AND ARCHITECTURAL DESIGN OF ALL WALLS (RETAINING OR NON-RETAINING) MUST BE APPROVED BY THE CLV BUILDING DEPARTMENT.
- ASPHALT MIX DESIGN MUST BE SUBMITTED AND APPROVED BY THE CITY ENGINEER PRIOR TO THE PLACEMENT OF ASPHALT ON CITY STREETS.

**LAS VEGAS VALLEY WATER DISTRICT STANDARD NOTES**

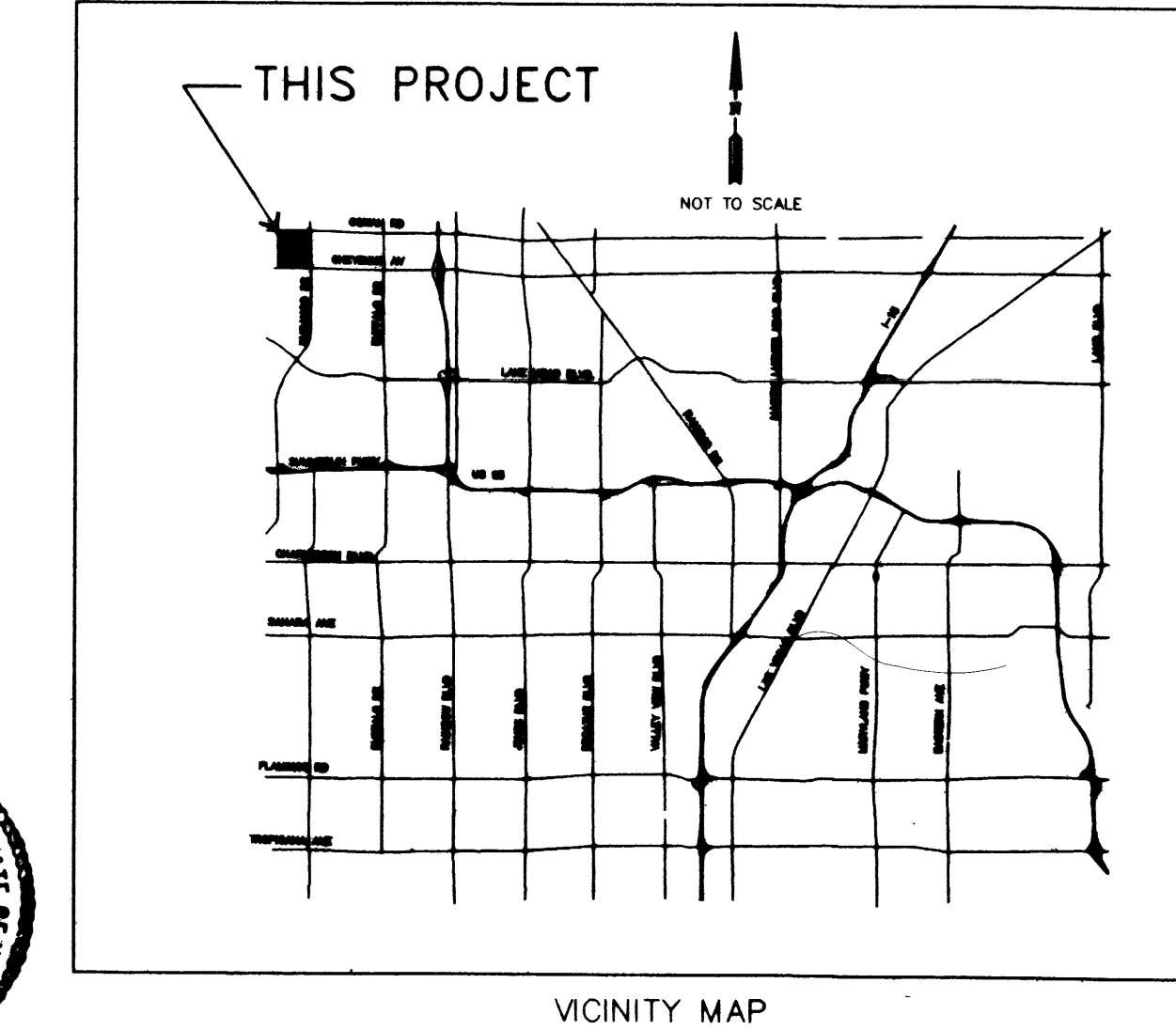
- NO WORK SHALL BEGIN UNTIL THE WATER PLANS HAVE BEEN RELEASED FOR CONSTRUCTION BY THE AGENCY. FOLLOWING WATER PLAN APPROVAL, 48 HOUR NOTICE SHALL BE GIVEN TO THE AGENCY'S CUSTOMER SERVICE DEPARTMENT PRIOR TO THE START OF CONSTRUCTION. NOTICE MUST BE GIVEN BY 2:00 P.M. OF THE BUSINESS DAY PRIOR TO ANY AGENCY INSPECTION SUBSEQUENT TO THE START OF CONSTRUCTION.
- ALL WORK SHALL CONFORM TO THE AGENCY'S STANDARD PLATES, DRAWINGS, AND SPECIFICATIONS, AND THE UNIFORM DESIGN AND CONSTRUCTION STANDARDS FOR WATER DISTRIBUTION SYSTEMS, LATEST EDITION.
- ALL WORK, EXCEPT AS MODIFIED BY THESE PLANS SHALL BE DONE IN ACCORDANCE WITH THE MOST CURRENT DRAFT OR EDITION OF THE UNIFORM STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION OFF-SITE IMPROVEMENTS, CLARK COUNTY AREA.
- A SINGLE PIPE MATERIAL SHALL BE USED THROUGHOUT THE PROJECT UNLESS OTHERWISE APPROVED BY THE AGENCY.
- ALL SERVICE LATERALS TWO (2) INCHES IN DIAMETER AND SMALLER SHALL BE COPPER TUBING WITH AGENCY APPROVED SERVICE SADDLES UNLESS OTHERWISE APPROVED.
- 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. 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, 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 AGENCY'S DISTRIBUTION SYSTEM.
- WHERE REQUIRED, THE DEVELOPER OR CONTRACTOR WILL OBTAIN ALL METERS TWO (2) INCHES AND SMALLER FROM THE AGENCY. THE CONTRACTOR MUST NOTIFY THE AGENCY A MINIMUM OF 2 BUSINESS DAYS PRIOR TO METER PICKUP AT THE NUMBERS LISTED BELOW:  
LAS VEGAS VALLEY WATER DISTRICT (702) 258-3152  
CITY OF HENDERSON (702) 365-2110  
CITY OF BOULDER CITY (702) 293-9282  
CITY OF NORTH LAS VEGAS (702) 642-3150  
BEND WATER DISTRICT (702) 434-6600
- CONSTRUCTION MAY INTERRUPT SERVICE, WITH AGENCY APPROVAL AND PROPER NOTIFICATION, BETWEEN THE HOURS OF 10 P.M. AND 6 A.M. SUNDAY THROUGH THURSDAY. CIRCUMSTANCES MAY REQUIRE TEMPORARY SERVICE FEES BE INSTALLED, WITHOUT AGENCY REIMBURSEMENT. ANY TEMPORARY SERVICE FEES MUST HAVE PRIOR AGENCY APPROVAL.
- ALL WATER FACILITY CONSTRUCTION MATERIALS USED MUST BE AS LISTED ON THE AGENCY'S APPROVED MATERIALS AND MANUFACTURERS LISTING FOR NEW FACILITIES, LATEST REVISION, OR SPECIFICALLY APPROVED ON THESE PLANS.

**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 #3944.
- AUTHORIZED HYDRANTS FOR THIS PROJECT ARE:  
A. KENNEDY GUARDIAN  
B. MUELLER A-423 CENTURION  
C. 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 MATERIALS MUST BE U.S. LISTED AND A.W.W.A. APPROVED.
- FIRE HYDRANT SPACING:  
RESIDENTIAL CL 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 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 8 FEET OF ANY CURB RETURN, DRIVEWAY, POWER POLE, STREET LIGHT OR ANY OTHER OBSTRUCTION.
- TWO SOURCES OF SUPPLY ARE REQUIRED WHENEVER THERE ARE 4 OR MORE FIRE HYDRANTS INSTALLED ON A SINGLE SYSTEM.
- NOT MORE THAN 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 84, 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, ONE SIGN 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 8 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/RECEIVER SYSTEM. SAID SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THE CITY OF LAS VEGAS GUIDELINES FOR AUTOMATIC EMERGENCY VEHICLE ACCESS GATES.

*[Signature]* 4-21-98  
FIRE MARSHAL

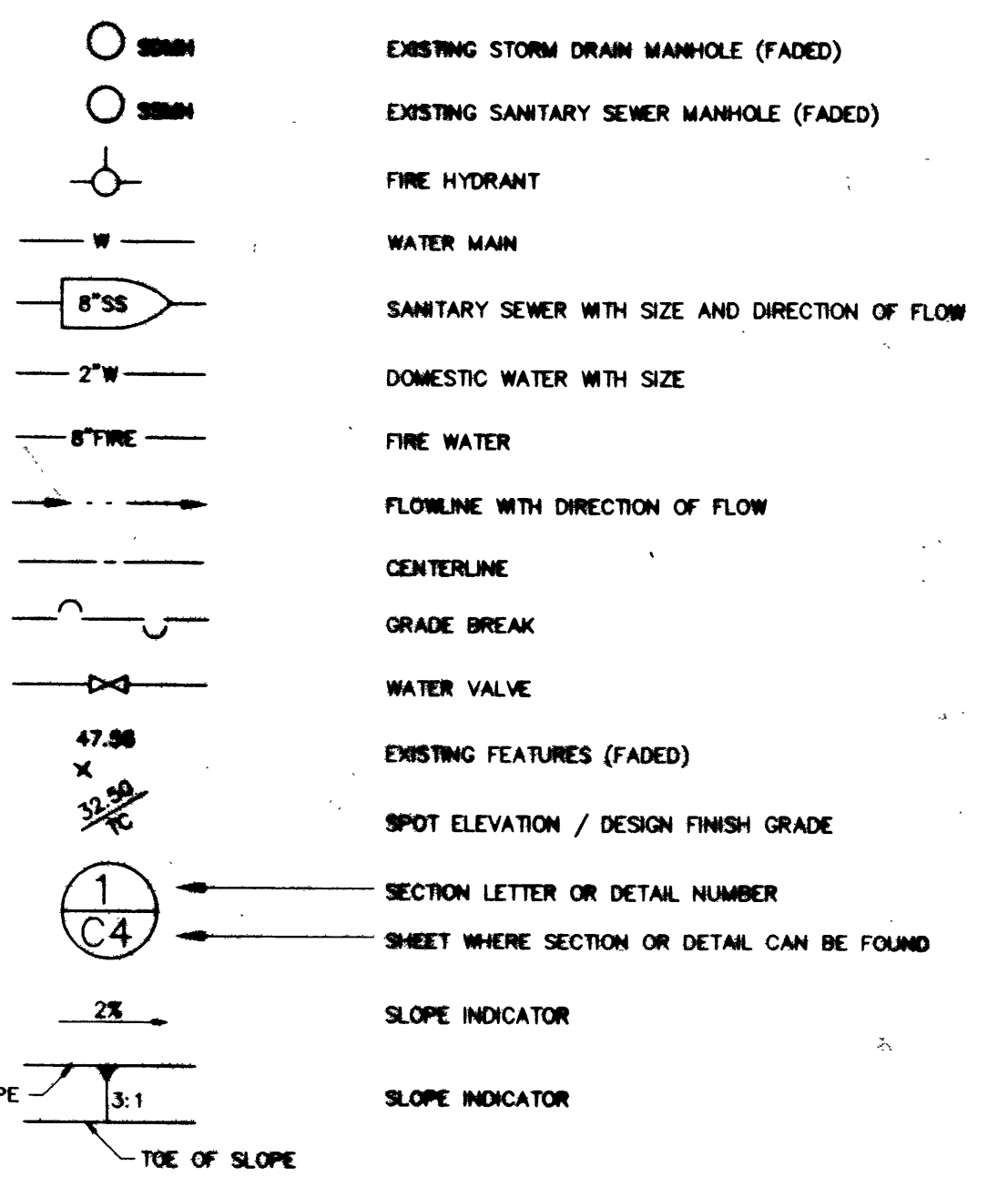
LAS VEGAS VALLEY WATER DISTRICT



**ABBREVIATIONS**

AS	ASPHALTIC CONCRETE
BVC	BEGIN VERTICAL CURVE
B.W.	BACK OF WALK
C&G	CURB AND GUTTER
C&SD	CLARK COUNTY UNIFORM STANDARD DRAWINGS
C	CENTERLINE
CONC.	CONCRETE
CONC. PIPE	CONCRETE PIPE
CP	CURB
D	DIAMETER
D.I.	DROP INLET
DIA.	DIAMETER
E.G.	EXISTING GROUND
END	END HORIZONTAL CURVE
EL. OR ELEV.	ELECTRICAL ELEVATION
EX. OR EXIST.	EXISTING
F.P.	EDGE OF PAVEMENT
F.V.C.	END VERTICAL CURVE
F.F.	FINISH FLOOR
F.F.C.	FRONT FACE CURB
F.G.	FINISH GRADE
F.H.	FIRE HYDRANT
FL.	FLOW LINE
FLA.	FLANGE
FT.	FEET
F.W.	FIRE WATER
G.B.	GAS BREAK
HORIZ.	HORIZONTAL
I.E.	INVERT ELEVATION
INT.	INTERSECTION
L.F.	LINEAR FEET
L.T.	LEFT
L.P.	LOW POINT
MAX.	MAXIMUM
MANH.	MANHOLE
MIN.	MINIMUM
N.E.	NORTHEAST
N.O. OR #	NUMBER
N.W.	NORTHWEST
O.C.	ON CENTER
P.C.	POINT OF CURVATURE
P.C.T.	PORTLAND CEMENT CONCRETE
P.I.	POINT OF INTERSECTION
P.L.	PROPERTY LINE
P.P.	POWER POLE
P.R.C.	POINT OF REVERSE CURVE
P.S.F.	POUNDS PER SQUARE FOOT
P.S.I.	POUNDS PER SQUARE INCH
P.T.	POINT
P.T.	POINT OF TANGENCY
P.V.C.	POLY VINYLCHLORIDE
P.V.	PAVEMENT
R.	RADIUS
R.T.	RIGHT
S	SLOPE
S.D.R.	STANDARD DIMENSION RATIO
SE	SANITARY SEWER
SS	SANITARY SEWER CLEANOUT
SSB	SANITARY SEWER MANHOLE
STATION	STATION
STC	TOP BACK OF CURB
T.C.	TOP OF CURB (FRONT)
T.S.	TOP OF SLOPE
T.W.	TOP OF WALL
TYP.	TYPICAL
UNIFORM	UNIFORM DESIGN AND CONSTRUCTION STANDARDS
U.W.	FOR WATER DISTRIBUTION SYSTEMS
U.C.	UNDERGROUND
V.C.	VERTICAL CURVE
W	WATER
W/	WITH

**LEGEND**

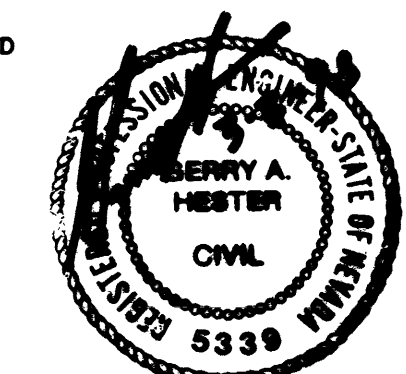


CIVIL SHEET INDEX	
SHEET NO.	DESCRIPTION
C-1	NOTES, LEGEND & ABBREVIATIONS
C-2	HORIZONTAL CONTROL
C-3	HORIZONTAL CONTROL
C-4	HORIZONTAL CONTROL
C-5	HORIZONTAL CONTROL, WALLS, CONTRAST PAVING & LANDSCAPING
C-6	HORIZONTAL CONTROL, WALLS, CONTRAST PAVING & LANDSCAPING
C-7	GRADING PLAN
C-8	GRADING PLAN
C-9	TEMPORARY BERM AND DITCH
C-10	WATER DISTRIBUTION SYSTEM
C-11	SANITARY SEWER SYSTEM PLAN AND PROFILE
C-12	ROOF AND POOL DECK DRAINAGE SYSTEM
C-13	ROOF AND POOL DECK DRAINAGE SYSTEM PROFILE
C-14	ACCESSIBLE ROUTE AND STRIPING PLAN
C-15	ACCESSIBLE ROUTE AND STRIPING PLAN
C-16	DETAILS
C-17	DETAILS

**RECORD DRAWINGS**  
2 OF 118  
3-26-98  
650.59

*[Signature]*  
CITY ENGINEER, DENNIS ANDERSON, P.E.

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**NOTES, LEGEND AND ABBREVIATIONS**

DRAWING:	C1
SHEET:	1 of 17
REVISION NUMBER:	
DATE:	MAR 08 1998

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