



ABBREVIATIONS	DESCRIPTION
AC	ASPHALTIC CONCRETE
ADJ	ADJUST
AGG	AGGREGATE
BC	BACK CURB
BOR	BEGINNING OF CURB RETURN
BEG	BEGIN
BSW	BACK OF SIDEWALK
BVC	BEGINNING OF VERTICAL CURVE
CA	CABLE TV
CC/CAUD	CLARK COUNTY AREA
CD	CONCRETE
CDR/CDR	CLARK COUNTY REGIONAL FLOOD CONTROL DISTRICT
CL	CENTERLINE
CLV	CITY OF LAS VEGAS
CMU	CONCRETE MASONRY UNIT
CLN	CLEAN OUT
COMM	COMMUNICATIONS
CONC	CONCRETE
COND	CONDUIT
CULV	CULVERT
DC	DEPRESSED CURB
DIP	DIP
DIP	DUCTILE IRON PIPE
DOM	DOMESTIC
ELEC	ELECTRIC
ELEC	ELECTRIC
ECR	EDGE OF CURB
ECR	EDGE OF CURB RETURN
ELEV	ELEVATION
EV	EDGE OF PAVEMENT
EV	EDGE OF VERTICAL CURVE
EX	EXISTING
FAST	FREIGHTWAY & ARTERIAL
FF	FINISH FLOOR
FG	FINISH GRADE
FI	FIRE HYDRANT
FL	FLOW
FO	FIBER OPTICS
FS	FINISHED SURFACE
GB	GRADE BREAK
HDPE	HIGH DENSITY POLYETHYLENE
HWL	HEADWALL
HGL	HYDRAULIC GRADE LINE
HIP	HIGH POINT
INV	INVERT
IRR	IRRIGATION
LAT	LATERAL
LF	LINEAL FEET
LAND	LANDSCAPE
LT	LEFT
LVWD	LAS VEGAS VALLEY WATER DISTRICT
MAX	MAXIMUM
MH	MANHOLE
MN	MINIMUM
MTR	METER
PB	PULL BOX
PL	PROPERTY LINE
PP	POWER POLE
PROP	PROPOSED
PVC	POLY VINYL CHLORIDE PIPE
PVMT	PAVEMENT
RM	RIGHT OF WAY
RT	RIGHT
ROW	RIGHT-OF-WAY
SD	SANITARY SEWER
SD	STORM DRAIN
SNWA	SOUTHERN NEVADA WATER AUTHORITY
STA	STATION
STL	STREET LIGHT
SVZ	SIGHT VISIBILITY ZONE
TEL	TELEPHONE
TR	TOP OF CURB
TF	TOP OF FOOTING
TOP	TOP OF WALL
TR	TYPICAL
UDACS	UNIFORM DESIGN AND CONSTRUCTION STANDARDS
VG	VALLEY GUTTER
WL	WATER LINE

DESCRIPTION	EXISTING	PROPOSED
UTILITIES		
B.O. VALVE		
FIRE HYDRANTS		
CLEAN OUT		
GATE VALVE		
METER		
REDUCER		
CAP		
11.25" ELBOW		
22.5" ELBOW		
45" ELBOW		
90" ELBOW		
CROSS		
TEE		
MANHOLES		
ELECTRICAL		
SANITARY SEWER		
STORM DRAIN		
TELEPHONE		
STREET LIGHTS		
100W HPS STL.		
150W HPS STL.		
200W HPS STL.		
250W HPS STL.		
400W HPS STL.		
GRADING		
SPOT ELEV.	(12.34)	12.34
SLOPE	(1:2%)	1.2%
5' CONT.	(2005)	2005
1' CONT.	(2007)	2007
SITE		
SIGN		
"L" CURB		
"A" CURB		
EDGE OF PAVT.		
WALL		
LINE TYPES		
CL OR SECTION LINE		
PROPERTY LINE		
EASEMENT LINE		
SAW-CUT LINE		
FLOW		
SHADES		
HEAVY AC PAVEMENT		
LIGHT AC PAVEMENT		
CONCRETE		

**CITY OF LAS VEGAS FIRE DEPARTMENT NOTES**

- ALL WORK SHALL BE DONE IN STRICT ACCORDANCE WITH THE LAS VEGAS FIRE AND RESCUE ADOPTED FIRE CODE ORDINANCE #6325 FOR HYDRANT SPECIFICATIONS AND HYDRANT INSTALLATION SPECIFICATIONS.
- ONLY FIRE HYDRANTS THAT ARE ON THE LAS VEGAS VALLEY WATER DISTRICTS - APPROVED [RPODUCTS LIST ARE ALLOWED TO BE INSTALLED.
- A PERMIT IS REQUIRED FROM LAS VEGAS FIRE AND RESCUE FOR THE INSTALLATION OF ON-SITE WATER LINES AND FIRE HYDRANTS. THE PERMIT AND CONTRACTORS MATERIAL TEST CERTIFICATE FOR UNDERGROUND PIPING FORMS MUST BE OBTAINED FROM THE FIRE PROTECTION ENGINEER BEFORE COMMENCEMENT OF WORK. [FC 105.7.12]
- ON ANY RESIDENTIAL OR COMMERCIAL INSTALLATIONS, FIRE HYDRANTS SHALL BE INSTALLED AND FIRE APPARATUS ACCESS ROADS SHALL BE MAINTAINED BEFORE COMMENCEMENT OF ANY COMBUSTIBLE CONSTRUCTION. ALL FIRE HYDRANTS SHALL BE IN GOOD WORKING ORDER AND SHALL BE CAPABLE OF DELIVERING THE REQUIRED FIRE FLOW. [FC 3310, 3312.]
- TO IDENTIFY THE FIRE HYDRANT LOCATIONS, THE CONTRACTOR SHALL PLACE A BLUE REFLECTIVE MARKER AT THE CENTERLINE OF THE STREET ADJACENT TO THE FIRE HYDRANTS. [FC 507.5.7.3]
- ALL UNDERGROUND INSPECTIONS, PRESSURE AND FLUSH VERIFICATIONS OF ALL FIRE HYDRANTS AND FIRE LINES, SHALL BE CONDUCTED BEFORE COVERING THE LINES. CENTER LOADING IS ACCEPTABLE FOR THE HYDRO TESTS WITH PRIOR FIRE PREVENTION APPROVAL. [FC 106.3]
- ALL ON-SITE UNDERGROUND WATER MAINS AND MATERIALS SHALL BE U.L. LISTED, A.W.M.A. APPROVED AND SHALL BE RATED FOR THE APPROPRIATE WORKING PRESSURE. [FC 507.2.1, NFPA 24]
- PAINTING OF CURBS, FIRE HYDRANTS, PADS, PROTECTION OF FIRE HYDRANTS FROM PHYSICAL DAMAGE AND ALL OTHER WORK NECESSARY PER PLANS SHALL BE COMPLETED BEFORE APPROVAL BY LAS VEGAS FIRE AND RESCUE, FIRE PREVENTION DIVISION. [FC 507]
- PRIVATE HYDRANTS SHALL BE PAINTED RED. [FC 507.5.7.1]
- PRIOR TO THE FINAL OCCUPANCY, A FIRE FLOW TEST SHALL BE WITNESSED BY LAS VEGAS FIRE AND RESCUE, FIRE PREVENTION DIVISION TO VERIFY AVAILABILITY OF THE REQUIRED FIRE FLOW. [FC 507]
- FIRE HYDRANT SPACING SHALL BE AS FOLLOWS: [FC 102]
  - RESIDENTIAL - 500 FEET UNSPRINKLERED; 600 FEET SPRINKLERED.
  - COMMERCIAL - 300 FEET UNSPRINKLERED; 400 FEET SPRINKLERED.
- WHERE THE WATER MAINS ARE EXTENDED ALONG STREETS OR NEW STREETS ARE INSTALLED WHERE FIRE HYDRANTS ARE NOT NEEDED FOR PROTECTION OF THE STRUCTURES, FIRE HYDRANTS SHALL BE INSTALLED AT MAXIMUM 1,000 FOOT SPACING. PROTECTION FOR TRANSPORTATION HAZARDS, WHERE STREETS ARE PROVIDED WITH MEDIAN DIVIDERS OR HAVE FOUR (4) OR MORE TRAFFIC LANES AND HAVE A TRAFFIC COUNT OF MORE THAN 30,000 PER DAY, HYDRANTS ARE REQUIRED ON EACH SIDE OF THE STREET SPACED AT 500 FT ON AN ALTERNATING BASIS. [FC 102.6]
- NO FIRE HYDRANTS SHALL BE LOCATED WITHIN THE RADIUS OF A CUL-DE-SAC OR WITHIN 20 FEET OF THE PERIMETER OF THE RADIUS OF THE CUL-DE-SAC.
- NO FIRE HYDRANTS SHALL BE LOCATED WITHIN 6 FT OF ANY CURB RETURN, DRIVEWAY, POWER POLE, STREET LIGHT OR ANY OTHER OBSTRUCTION. [FC 102.12]
- A MAXIMUM DISTANCE FROM A FIRE HYDRANT TO A ONE-TWO FAMILY DWELLING SHALL NOT EXCEED 300 FT, AS MEASURED BY AN APPROVED ROUTE. [FC 102.4]
- THE MAXIMUM DISTANCE FROM A FIRE HYDRANT TO A FIRE DEPARTMENT STATION SHALL NOT EXCEED 100 FT, AS MEASURED BY AN APPROVED ROUTE. [FC 102.7]
- THE MAXIMUM DISTANCE FROM A HYDRANT TO THE END OF A DEAD-END STREET SHALL NOT EXCEED 200 FT. [FC 102.6]
- TWO (2) SOURCES OF SUPPLY ARE REQUIRED WHENEVER THERE IS 4 OR MORE FIRE HYDRANTS/SPRINKLER LEAD-INS ARE INSTALLED ON A SINGLE SYSTEM. SECTIONAL CONTROL VALVES SHALL BE INSTALLED SO THAT NO MORE THAN 2 FIRE HYDRANTS CAN BE OUT OF SERVICE DUE TO A BREAK IN A WATER MAIN. [FC 104]
- ALL FIRE APPARATUS ACCESS ROADS SHALL BE PAVED TO PROVIDE ALL-WEATHER DRIVING CAPABILITIES, AND SHALL BE DESIGNED AND MAINTAINED TO SUPPORT THE IMPOSED LOADS OF THE FIRE APPARATUS. [FC 503.2.3]
- THE GRADIENT FOR THE FIRE APPARATUS ACCESS ROADS SHALL NOT EXCEED 12% ANGLES OF APPROACH AND ANGLES OF DEPARTURE SHALL NOT EXCEED 6% FOR 25 FEET PRIOR TO OR AFTER THE GRADE CHANGE. ADJACENT TO THE STRUCTURES GRADIENT SHALL NOT EXCEED 6%. [FC 503.2.7; 503.2.8]
- THE TURNING RADIUS OF THE FIRE APPARATUS ACCESS ROADS SHALL BE NO LESS THAN 92 FT OUTSIDE AND 28 FT INSIDE TURNING RADIUS. [FC 503.2.4]
- VERTICAL CLEARANCE OF ALL FIRE APPARATUS ACCESS ROADS SHALL NOT BE LESS THAN 13 FT 6 IN. [FC 503.2.1]
- FIRE DEPARTMENT ACCESS ROADS SHALL HAVE A MINIMUM UNOBSTRUCTED WIDTH OF NOT LESS THAN 40 FT FLOW LINE TO FLOW LINE WITH PARALLEL PARKING PERMITTED ON BOTH SIDES. NOT LESS THAN 32 FT WIDE, FLOW LINE TO FLOW LINE, WHERE PARKING IS PERMITTED ONLY ON ONE SIDE OF THE FIRE APPARATUS ROAD, NOT LESS THAN 24 FT WIDE, FLOW LINE TO FLOW LINE, WHERE NO PARKING IS PERMITTED ON EITHER SIDE. FIRE LINES THROUGH PARKING LOTS SHALL BE NOT LESS THAN 250 FT IF THE BUILDING IS SPRINKLERED. [FC 503.1.1]
- A FIRE APPARATUS ACCESS ROAD SHALL BE REQUIRED WHEN ANY PORTION OF AN EXTERIOR WALL OF THE FIRST STORY IS LOCATED MORE THAN 150 FT FROM A FIRE DEPARTMENT VEHICLE ACCESS. THIS DISTANCE COULD BE INCREASED TO 250 FT IF THE BUILDING IS SPRINKLERED. [FC 503.1.1]
- APPROVED SECONDARY FIRE APPARATUS ACCESS SHALL BE PROVIDED FOR 100 OR MORE DWELLING UNITS, ROAD(S) WITH DEAD-ENDS OR WITH A SINGLE POINT OF ACCESS IN EXCESS OF 800 FT. COMMERCIAL AND INDUSTRIAL DEVELOPMENTS WHERE BUILDINGS EXCEED 2 STORIES OR 30 FEET IN HEIGHT, OR EXCEEDING 62,000 SQUARE FEET IN AREA. [FC 503.1.2]
- ALL DEAD-END FIRE APPARATUS ROADS AND/OR FIRE LANES, PUBLIC OR PRIVATE, IN EXCESS OF 150 FT IN LENGTH SHALL BE PROVIDED WITH AN APPROVED TURN AROUND HAVING A MINIMUM DIAMETER OF 81 FT. [FC 503.2.5]
- ALL FIRE APPARATUS ACCESS ROADS SHALL BE MARKED BY PLACING APPROVED SIGNS AT THE START OF THE DESIGNATED FIRE LINE, ONE SIGN AT THE END OF THE FIRE LINE AND WITH SIGNS AT INTERVALS OF 100 FT ALONG THE 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 FT OR LESS THAN 6 FT FROM THE ROADWAY LEVEL. THE CURB ALONG THE PAVEMENT OR CONCREMENT (IF NO CURB IS PROVIDED) SHALL BE PAINTED WITH A RED WEATHER RESISTANT PAINT IN ADDITION TO THE SIGNS. [FC 503.3]
- ELECTRICALLY CONTROLLED ACCESS GATES SHALL BE PROVIDED WITH AN APPROVED EMERGENCY VEHICLE DETECTOR/RECEIVER SYSTEM. SAID SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THE IFC 503.6 AND IFC APPENDIX M.

REVISED 7/1/2014

**CITY OF LAS VEGAS TRAFFIC NOTES (REVISED 4/15/10)**

- ALL CONSTRUCTION SIGNING, BARRICADE, AND TRAFFIC DELINEATION SHALL CONFORM TO THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", LATEST EDITION.
- THE STREET SIGN CONTRACTOR SHALL OBTAIN STREET NAMES AND BLOCK NUMBERING FROM THE PLANNING DEPARTMENT PRIOR TO CONSTRUCTION.
- BEFORE ANY WORK IS STARTED IN A RIGHT-OF-WAY, THE CONTRACTOR SHALL INSTALL ALL ADVANCE WARNING SIGNS FOR THE CONSTRUCTION ZONE. THE CONTRACTOR SHALL OBTAIN THE SIGNING PLAN FROM THE PLANNING DEPARTMENT IMMEDIATELY AFTER PRIOR GRADING WORK IS ACCOMPLISHED, AND SHALL MAINTAIN SAID SIGNS UNTIL PERMANENT SIGNS ARE INSTALLED.
- WHEN A DESIGNATED "SAFE ROUTE TO SCHOOL" IS ENCLOSED UPON BY A RESEARCH OR SERVICE ROAD AND PUBLIC WORK STAFF IDENTIFIES A NEED FOR STUDENTS TO BE ASSISTED IN THE SAFE CROSSING THROUGH THAT WORK ZONE, THE CONTRACTOR SHALL BE REQUIRED TO PROVIDE A QUALIFIED "CROSSING GUARD". THE GUARD SHALL BE PRESENT FOR THE FULL DURATION OF THE TIME THAT CHILDREN ARE LIKELY TO BE PRESENT.
- IF THE IMPROVEMENTS NECESSITATE THE OBLITERATION, TEMPORARY OBSTRUCTION, TEMPORARY REMOVAL OR RELOCATION OF ANY EXISTING TRAFFIC PAVEMENT MARKING, SUCH PAVEMENT MARKING SHALL BE RESTORED OR REPLACED WITH LIKE MATERIALS TO THE SATISFACTION OF THE CITY TRAFFIC ENGINEER.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALL ALL PERMANENT TRAFFIC SIGNING AND TRAFFIC DELINEATION. ALL SIGNS SHALL BE FABRICATED WITH DIAMOND GRADE P.V.C. CLASS B REFLECTIVE SHEETING OR APPROVED EQUAL. ALL NEW TRAFFIC SIGNS, EXCEPT STREETNAME AND SCHOOL SPEED LIMIT SIGNS, SHALL HAVE 3M SERIES 1160 OR APPROVED EQUIVALENT ANTI-GRAFFITI PROTECTIVE OVERLAY FILM. STREET NAME SIGNS SHALL HAVE 3M SERIES 1150 ANTI-GRAFFITI PROTECTIVE OVERLAY FILM. STREET NAME SIGNS SHALL CONFORM IN THEIR ENTIRETY TO CURRENT CITY STANDARDS. ALL OTHER SIGNS SHALL BE STANDARD SIZE UNLESS OTHERWISE SPECIFIED ON THE PLANS. ALL SIGN POSTS SHALL BE INSTALLED IN ACCORDANCE WITH THE CURRENT CITY STANDARDS.
- WHEN A PROPOSED STREET LIGHT STANDARD IS LOCATED WITH FIVE (5) FEET OF ANY PROPOSED SIGN SHOW ON THE PLANS TO BE MOUNTED ON THE SIGNPOST, THE SIGN SHALL BE MOUNTED ON THE STREET LIGHT STANDARD AND THE SIGNPOST SHALL BE ELIMINATED.
- ALL PERMANENT TRAFFIC CONTROL DEVICES CALLED FOR HEREON SHALL BE IN PLACE AND IN FINAL POSITION PRIOR TO ALLOWING ANY PUBLIC TRAFFIC ONTO THE PORTIONS OF THE ROAD(S) BEING IMPROVED HERE UNDER, REGARDLESS OF THE STATUS OF COMPLETION OF PAVING OR OTHER OFF-SITE IMPROVEMENTS CALLED FOR BY THESE PLANS.
- STREET SIGNS AND STOP SIGNS SHALL BE INSTALL PER CITY STANDARD SPECIFICATIONS FOR THE PLACEMENT OF STREET NAME SIGNS.
- THE CONTRACTOR SHALL PROVIDE ALL NECESSARY TRAFFIC CONTROL DEVICES AND FLAGGERS TO ENSURE THE SAFETY OF THE PUBLIC IN OR AROUND THE WORK AREA. THE CONTRACTOR SHALL HAVE A CERTIFIED ATISSA TRAFFIC CONTROL TECHNICIAN OR INSA WORK ZONE SAFETY SPECIALIST SET-UP, MAINTAIN AND/OR REMOVE ALL TRAFFIC CONTROL DEVICES IN THE CITY OF LAS VEGAS, RIGHT OF WAY.
- WORK IN PUBLIC STREETS, ONCE BEGUN, SHALL BE EXPEDITED TO COMPLETION SO AS TO PROVIDE MINIMUM CONVENIENCE TO ADJACENT PROPERTY OWNERS AND TO THE TRAVELING PUBLIC.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING CITIZENS AREA TRANSIT (CAT) IF THE CONSTRUCTION INTERRUPTS OR RELOCATES A BUS STOP OR HAS AN ADVERSE EFFECT ON BUS SERVICE ON THAT STREET TO ARRANGE FOR TEMPORARY RELOCATION OF STOP.
- GUARDS SHALL BE OBTAINED BY CONTACTING THE METROPOLITAN POLICE DEPARTMENT SPECIAL EVENTS UNIT (PHONE #828-3442) WHO WILL PROVIDE AND MAINTAIN TRAFFIC CONTROL DEVICES. ALL FEES FOR THE USE OF THESE OFFICERS SHALL BE SET UP BY METRO AND WILL BE PAID BY THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR ALL ARRANGEMENTS WITH METRO.
- ANY WORK WITHIN 300' OF A SIGNALIZED INTERSECTION WILL BE NIGHT WORK, UNLESS DIRECTED BY THE CITY OF LAS VEGAS TRAFFIC ENGINEER.
- CONTRACTOR SHALL CONTACT THE TRAFFIC ENGINEERING DIVISION (TRANSPORTATION SECTION) OF THE PROJECTS OFFSITE INSPECTOR PRIOR TO INITIATING PAVING TO RECEIVE DIRECTION FOR ANY PERMANENT OR TEMPORARY MODIFICATIONS TO THE APPROVED DRAWINGS REGARDING FINAL PAVEMENT TRANSITIONS, MARKINGS AND SIGNING THAT ARE REQUIRED TO MATCH EXISTING ROADWAY CONDITIONS. THE CONTRACTOR SHALL PROVIDE A DRAWING FOR APPROVAL BY THE TRAFFIC ENGINEERING DIVISION DETECTING ANY ADJUSTMENTS TO THE FINAL PAVEMENT DIVISION MARKINGS AND TRAFFIC CONTROL SIGNS SUCH THAT ADEQUATE TRANSITIONS AND LANE TERMINATIONS BETWEEN ADJACENT ROADWAY SEGMENTS ARE CONSTRUCTED.

**GENERAL UTILITY NOTES**

- ALL WATER LINES 4" OR GREATER TO BE CL. 150, C900 PVC. ALL WATER LINES SMALLER THAN 4" TO BE SCH. 40 PVC. ALL WATER LINES CONNECTED TO RICHMOND ST. COORDINATES TO BE CL. 200, C900 PVC.
- ALL SANITARY SEWER LINES TO BE SDR-35 PVC. ALL FORCE MAIN SANITARY SEWER LINES TO BE 42" DIA. CONCRETE.
- WATER LINES TO HAVE THRUST BLOCKS CONSTRUCTED PER U.D.A.C.S. PLATE NO. 5. THRUST BLOCKS TO BE LOCATED AT ALL ELBOW FITTINGS (BENDS), TEES, AND FIRE HYDRANTS. ANCHOR BLOCKS TO BE CONSTRUCTED, PER U.D.A.C.S. PLATE NO. 3. ANCHOR BLOCKS TO BE LOCATED AT ALL IN-LINE REDUCERS AND GATE VALVES.
- WET TAPS TO BE CONSTRUCTED IN CONFORMANCE WITH U.D.A.C.S. PLATE NO. 22.
- THE FIRE SAFETY CONTRACTOR IS RESPONSIBLE FOR ESTABLISHING THE SIZE OF PIPING THAT IS REQUIRED TO CONNECT FROM THE FIRE WATER OR LOOK TO THE FIRE SPRINKLER RISER. LINE SIZE SHOWN FOR INFORMATION PURPOSES ONLY.
- TRENCH BACKFILL FOR WATER LINES TO BE CONSTRUCTED PER U.D.A.C.S. PLATE NO. 6A, 6B, 6C OR 6D.
- TRENCH BACKFILL FOR STORM DRAIN LINES TO BE CONSTRUCTED PER D.C.S.W.C.S. DRAWING NO. SD-16B.
- ONLY SEWER LINES AND LATERALS MAY BE INSTALLED IN TRENCHES EXCAVATED FOR SEWER LINES. SEE D.C.S.W.C.S. SECTION 2.2.18 (TYPICAL).
- WATER AND SEWER SEPARATION OF TRENCHES MUST BE AT LEAST 10' MINIMUM. SEE D.C.S.W.C.S. SECTION 2.2.21 "A1", U.D.A.C.S. SECTION 2.19.01 "A".
- CONTRACTOR TO SAWCUT AND REMOVE EXISTING ASPHALT AND CONCRETE AS NECESSARY FOR UTILITY TRENCHES, BACKFILL AND PATCH ALL TRENCHES AS INDICATED ON DETAILS AND/OR ACCORDING TO THE GOVERNING ENTITY.
- THESE DRAWINGS MAY NOT INDICATE ALL EXISTING BURIED UTILITY LINES. CONTRACTOR IS TO EXERCISE GREAT CARE DURING EXCAVATION IN ORDER TO AVOID MAKING CONTACT WITH ANY EXISTING UTILITY LINES. IF UTILITY LINES ARE DAMAGED BY THE CONTRACTOR, THE CONTRACTOR SHALL BE RESPONSIBLE TO THE SATISFACTION OF THE OWNER AT THE CONTRACTOR'S EXPENSE.
- CONTRACTOR TO LOCATE AND VERIFY SIZE, LINE TYPE, CONDITION, DEPTH, PRESSURE, AND LOCATION OF ALL EXISTING UTILITY LINES WITHIN THE CONSTRUCTION AREA PRIOR TO CONSTRUCTION. THE CIVIL ENGINEER SHALL BE CONTACTED ONCE THE UTILITY LINE IS LOCATED.
- CONTRACTOR/OWNER TO OBTAIN C.C.P.W. OFF-SITE IMPROVEMENT PERMIT FOR ALL WORK WITHIN PUBLIC RIGHT-OF-WAY.
- CONTRACTOR TO VERIFY UTILITY STUB LOCATIONS AND SIZE WITH PLUMBING PLANS PRIOR TO INSTALLATION OF NEW UTILITIES.
- LATERALS SHALL NOT BE CONNECTED INTO STUBS EXTENDING FROM MANHOLES, SERVICE LATERALS 6" OR SMALLER WILL NOT BE ALLOWED TO CONNECT INTO MANHOLES. SEE D.C.S.W.C.S. SECTION 2.2.19 (TYPICAL).
- ALL EXISTING STREET LIGHTS INDICATED ON THESE PLANS ARE SHOWN FOR INFORMATION PURPOSES ONLY. LOCATION IS APPROXIMATE UNLESS NOTED WITH STATION AND OFFSET.
- ALL EXISTING GAS LINE LOCATIONS SHOWN ON THESE PLANS ARE APPROXIMATIONS ONLY. PROPOSED GAS LINES SHOWN ON THESE PLANS ARE FOR COORDINATION ONLY. SEE SOUTHWEST GAS PLANS FOR CONSTRUCTION.
- ALL EXISTING ELECTRICAL LINES SHOWN ON THESE PLANS ARE APPROXIMATIONS ONLY. PROPOSED ELECTRICAL LINES SHOWN ON THESE PLANS ARE FOR COORDINATION ONLY. SEE ELECTRICAL PLANS FOR CONSTRUCTION.
- SEE LEGEND FOR EXISTING AND PROPOSED UTILITY SYMBOLS.
- ALL DIMENSIONS TO UTILITIES LINES ARE TO CENTERLINE OF PIPE UNLESS INDICATED OTHERWISE.
- ALL LINEAR FEET OF STORM DRAIN AND SANITARY SEWER PIPE NOTED ON PLANS IS MEASURED FROM CENTER OF MANHOLE TO CENTER OF MANHOLE.

REVISED 03/05/15

**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 EDITION; THE "UNIFORM STANDARD DRAWINGS FOR PUBLIC WORKS CONSTRUCTION, CLARK COUNTY AREA, NEVADA", LATEST REVISED EDITION; THE "SUMMERLIN IMPROVEMENT STANDARDS" FOR WORK IN THE SUMMERLIN AREA; 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 AS SHOWN FROM CLV PLANS LIBRARY ARE APPROXIMATE AND FOR RECORD PURPOSES. 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 UTILITIES SO AS TO SAFELY PROTECT ALL PERSONNEL AND EQUIPMENT, AND SHALL BE RESPONSIBLE FOR ALL COST 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 AND 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 SHALL BE 3000 P.S.I. MAKING READY MIX DESIGN. ALL CURB AND DIMENSIONS IN THE FIELD BEFORE SHOP DRAWINGS ARE MADE AND BEFORE ANY WORK IS CONSTRUCTED OR FABRICATED.
- 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 ONE-HALF INCH (1/2") ABOVE JUMP OF ALL GUTTERS AFTER COMPACTION, EXCEPT AT SIDEWALK RAMPS AND CROSS GUTTERS.
- CURB AND GUTTER FOUND TO BE UNACCEPTABLE TO THE CITY OF LAS VEGAS SHALL BE REMOVED AND REPLACED PER STANDARD DRAWING 216.
- SIDEWALK RAMPS SHALL BE CONSTRUCTED IN EACH QUADRANT OF AN INTERSECTION PER STANDARD DRAWINGS 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 PROPER DRAINAGE AND FOR INGRESS AND EGRESS TO NEW CONSTRUCTION. THE EXTENT OF TRANSITIONS TO BE AS SHOWN ON PLANS.
- ALL GRADING WORK SHALL CONFORM TO THE SOILS REPORT AS PREPARED BY N/A, APPROVED BY THE CITY ENGINEER, AND AS SHOWN ON THESE PLANS.
- EXACT LOCATION OF ALL SAWCUT LINES MAY BE ADJUSTED OR DETERMINED IN THE FIELD BY A CITY OF LAS VEGAS ENGINEER IF LOCATION ON PLANS IS NOT CLEARLY SHOWN, OR EXISTING PAVEMENT CONDITION REQUIRES RELOCATIONS.
- UTILITY COMPANY METER BOXES, MANHOLE LIDS, VALVE COVERS, ETC., SHALL BE LOCATED OUT OF DRIVEWAYS, DRIVEWAY ADJACENT CROSS GUTTERS UNLESS WRITTEN APPROVAL IS GRANTED BY THE UTILITY COMPANY AND THE CITY ENGINEER.
- ALL WALLS, NEW OR EXISTING, ARE ONLY SHOWN ON CIVIL PLANS FOR THE PURPOSE OF SHOWING GRADE RELATIONS. ROAD CONTROL AND SIGHT DISTANCE AT INTERSECTIONS, ALL WALLS, ROAD CONTROL, SEPARATE PERMIT AND INSPECTION BY THE BUILDING DEPARTMENT.
- ASPHALT MIX DESIGN MUST BE SUBMITTED AND APPROVED BY THE CITY ENGINEER PRIOR TO THE PLACEMENT OF ASPHALT WITHIN CITY RIGHT OF WAY.
- CONTRACTOR SHALL ADJUST ALL NEW AND EXISTING INLETS, VALVE BOXES, MANHOLE RIMS, AND SEWER CLEAN OUTS, ETC., TO FINISH GRADE AS APPLICABLE WHETHER OR NOT THEY ARE SHOWN ON THE PLANS.
- MATERIALS, HANDLING AND PLACEMENT OF PORTLAND CEMENT CONCRETE SHALL BE IN ACCORDANCE WITH APPLICABLE SECTIONS OF HDOT OR THE CLARK COUNTY AREA SPECIFICATIONS (AS APPLICABLE) AND THE PLANS AND DETAILS SHOWN HEREON.
- WHEN INSTALLING UNDERGROUND FACILITIES THAT REQUIRE UNDERGROUND LOCATING DEVICES SUCH AS MARKER BALLS, LOCATING RIBBON, ETC., THE CONTRACTOR SHALL PROVIDE WRITTEN DOCUMENTATION TO OFFSITE INSPECTION AND TESTING CERTIFYING THAT ALL DEVICES HAVE BEEN PLACED AND VERIFIED TO BE IN GOOD WORKING CONDITION PRIOR TO THE CONSTRUCTION OF ANY ROAD BASE.
- SANITARY SEWER AND STORM DRAIN FINAL LOCATION MAP(S) SHALL BE PROVIDED TO THE CITY AND APPROVED PRIOR TO ACCEPTANCE OF FACILITY VIDEO INSPECTION. THE MAP(S) SHALL INCLUDE THE HORIZONTAL AND VERTICAL (INVERT) LOCATION OF PUBLIC SEWER MANHOLES, STORM DRAIN MANHOLES AND TRANSITION STRUCTURES, STORM DRAIN LATERALS AT THE CONNECTION TO THE STORM DRAIN MAIN AND AT THE CONNECTION TO A DROP INLET, THE CONNECTION OF SEWER SERVICE LATERALS TO THE SEWER MAIN AND WHERE THE SEWER SERVICE LATERALS EXIT THE PUBLIC RIGHT-OF-WAY, MAIN ALIGNMENT, INCLUDING DEFLECTION POINTS. THE LOCATION SHALL BE DESCRIBED BY COORDINATES WHICH SHALL BE BASED ON THE OFFICIAL HORIZONTAL AND VERTICAL CONTROL NETWORKS OF THE CITY OF LAS VEGAS. FINAL LOCATION MAPS MUST BE SEALED AND CERTIFIED BY A NEVADA PROFESSIONAL LAND SURVEYOR TO HAVE POSITIONAL CERTAINTY OF ± 0.3 METERS (± 0.3 FEET) HORIZONTALLY AND VERTICALLY. A SEPARATE ELECTRONIC COMMA DELIMITED FILE FOR THE SANITARY SEWER AND STORM DRAIN COORDINATES SHALL ALSO ACCOMPANY THE SANITARY SEWER AND STORM DRAIN FINAL LOCATION MAP(S), OR
- SANITARY SEWER AND STORM DRAIN FACILITIES SHOWN ON THESE PLANS SHALL BE USED TO MEET THE REQUIREMENTS OF NRS 455 AND SHALL SHOW AT A MINIMUM THE HORIZONTAL AND VERTICAL (INVERT) LOCATION OF PUBLIC SEWER MANHOLES, STORM DRAIN MANHOLES, STORM DRAIN LATERALS AT THE CONNECTION TO THE STORM DRAIN MAIN AND AT THE CONNECTION TO A DROP INLET, AND THE CONNECTION OF SEWER SERVICE LATERALS TO THE SEWER MAIN AND WHERE THE SEWER SERVICE LATERALS EXIT THE PUBLIC RIGHT-OF-WAY, ANY DEVIATIONS FROM THE INFORMATION SHOWN SHALL BE NOTED AND SUBMITTED AS A REVISION TO THE PLANS AND APPROVED PRIOR TO ACCEPTANCE OF FACILITY VIDEO INSPECTION.
- CCTV VIDEO INSPECTION IS REQUIRED FOR ALL SEWER AND STORM DRAINS. THE CCTV VIDEO INSPECTIONS NEED TO BE PERFORMED PER THE DESIGN AND CONSTRUCTION STANDARDS FOR WASTEWATER COLLECTION SYSTEMS LATEST EDITION.
- A SEPARATE BORING PERMIT IS REQUIRED FOR ALL BORING ACTIVITIES.

REVISED 4/15/10

**ENGINEER'S GENERAL NOTES**

- THE CONTRACTOR IS TO VISIT THE SITE AND VERIFY ALL DIMENSIONS AND SITE CONDITIONS BEFORE BIDDING AND STARTING WORK, AND ACCEPT THEM AS HE FINDS THEM. UNLESS NOTIFYING THE ARCHITECT, ENGINEER AND/OR OWNER IN WRITING AND RECEIVING WRITTEN INSTRUCTIONS PRIOR TO CONSTRUCTION, NO EXTRA WORK TO THE CONSTRUCTION CONTRACT, THE ARCHITECT, ENGINEER AND/OR OWNER SHALL BE ALLOWED DUE TO THE PRIOR CONDITIONS.
- SHOULD CONFLICT AND/OR DISCREPANCY APPEAR IN/OR BETWEEN THE DRAWINGS AND THE SPECS, OR WORK PERFORMED BY OTHERS, WHICH AFFECTS THE WORK, THE CONTRACTOR IS TO NOTIFY THE ARCHITECT, ENGINEER AND/OR OWNER IMMEDIATELY AND RECEIVE WRITTEN INSTRUCTIONS PRIOR TO PROCEEDING. SHOULD THE CONTRACTOR PROCEED PRIOR TO RECEIPT OF THE ARCHITECT'S, ENGINEER'S AND/OR OWNER'S WRITTEN INSTRUCTIONS, THE CONTRACTOR SHALL MAKE GOOD AND CORRECT ANY WORK AND/OR DAMAGES RESULTING FROM THE PROCEDURE. NO EXTRA COST TO THE CONSTRUCTION CONTRACT, THE ARCHITECT, ENGINEER AND/OR OWNER SHALL BE ALLOWED FOR SUCH CORRECTIONS.
- SHOULD CONFLICT AND/OR DISCREPANCY APPEAR IN/OR BETWEEN THE DRAWINGS AND THE SPECS, IT IS DEEMED THE CONTRACTOR TO HAVE ESTIMATED THE MOST EXPENSIVE CONSTRUCTION METHOD OR MATERIAL INVOLVED UNLESS THE CONTRACTOR HAD ASKED FOR AND RECEIVED WRITTEN DECISIONS FROM THE ARCHITECT, ENGINEER AND/OR OWNER PRIOR TO SIGNING OF THE CONSTRUCTION AGREEMENT AS TO THE METHOD OR MATERIALS TO BE EMPLOYED, NO EXTRA COST TO THE CONSTRUCTION CONTRACT, THE ARCHITECT, ENGINEER AND/OR OWNER SHALL BE ALLOWED FOR THESE ITEMS.
- SHOULD DIMENSIONAL ERRORS OCCUR THE CONTRACTOR SHALL NOTIFY THE ARCHITECT, ENGINEER AND/OR OWNER PRIOR TO COMMENCEMENT OF THAT PORTION OF THE WORK. DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALE MEASUREMENTS AND DETAIL DRAWINGS SHALL TAKE PRECEDENCE OVER SCALE MEASUREMENTS. WORK INDICATED BUT NOT PARTICULARLY DETAILED OR SPECIFIED SHALL BE EQUAL TO SIMILAR PARTS THAT ARE DETAILED OR SPECIFIED. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN THE FIELD BEFORE SHOP DRAWINGS ARE MADE AND BEFORE ANY WORK IS CONSTRUCTED OR FABRICATED.
- THE CONTRACTOR IS TO CONFIRM ADA ACCESS RAMPS AND AREAS ARE WITHIN THE ADA STANDARDS/REQUIREMENTS FOR CROSS SLOPE AND RUNNING SLOPE PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY THE ARCHITECT, ENGINEER AND/OR OWNER IN WRITING IMMEDIATELY OF ANY ADA ACCESS AREAS THAT DO NOT MEET ADA STANDARDS/REQUIREMENTS. SHOULD THE CONTRACTOR PROCEED PRIOR TO RECEIPT OF THE ARCHITECT'S, ENGINEER'S AND/OR OWNER'S WRITTEN INSTRUCTIONS, THE CONTRACTOR SHALL CORRECT THE WORK RESULTING FROM PROCEDURE. NO EXTRA COST TO THE CONSTRUCTION CONTRACT SHALL BE ALLOWED FOR SUCH CORRECTIONS.

**CITY OF LAS VEGAS 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. IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO BE AWARE OF THE CONTENTS OF THE ABOVE SPECIFICATIONS.
- 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 CITY ENGINEER.
- CHISEL "S" OR "G" IN CURBS WHERE SEWER OR GAS LATERALS PASS UNDER THE CURB.
- POLYNYL (PVC) SEWER PIPE SHALL MEET ASTM D-3034 SDR 35 SPECIFICATIONS. ALL SHALL BE INSTALLED WITH SAND BEDDING AND BACK FILL OF TYPE II AGGREGATE BASE.
- ALL MANHOLES IN PAVED STREETS EIGHTY (80') ROW AND LARGER, SHALL HAVE CONCRETE COLLARS. STREETS LESS THAN EIGHTY (80') FOOT ROW WILL REQUIRE RETROFIT IF PAVING DOES NOT CONFORM TO CITY STANDARDS AT THE MANHOLE.
- TEE SADDLES SHALL BE USED TO CONNECT SEWER LATERALS TO EXISTING MAIN LINES UP TO TWELVE INCH (12") DIAMETER. CONNECTIONS TO FIFTEEN INCH (15") OR LARGER MAINS SHALL REQUIRE SPECIAL PROCEDURES. LINE "Y" "S" SHALL BE USED ON LINES TWELVE INCHES (12") OR ABOVE.
- WATER MAINS SHALL BE PROTECTED IN ACCORDANCE WITH LVWD STANDARDS WHENEVER A SEWER MAIN CROSSES OVER A WATER MAIN OR THE SEWER IS LESS THAN EIGHTEEN INCH (18") UNDER A WATER MAIN.
- ALL CONTRACTORS INSTALLING SEWER MAINS THAT WILL BE UNDER THE JURISDICTION OF THE CITY OF LAS VEGAS MUST BE STATE OF NEVADA 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 APPROVED STREETS. THE CITY ENGINEER SHALL BE NOTIFIED OF ANY MAINS FOUND TO EXCEED THIS TOLERANCE WILL HAVE TO BE REPAIRED OR REMOVED OR REPLACED TO THE SATISFACTION OF THE CITY ENGINEER PRIOR TO ACCEPTANCE BY THE CITY OF LAS VEGAS.
- INSTALLATION OF CURVED SEWER REQUIRES THE USE OF C900 PIPE WHICH ALLOWS FOR PIPE DEFLECTION AT THE JOINTS.

REVISED 04/15/10

**CITY OF LAS VEGAS GRADING NOTES**

- IN THE EVENT THAT ANY UNFORESEEN CONDITIONS NOT COVERED BY THESE NOTES ARE ENCOUNTERED DURING GRADING OPERATIONS, THE OWNER/ENGINEER SHALL BE IMMEDIATELY NOTIFIED FOR DIRECTION.
- IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PERFORM ALL NECESSARY CUTS AND FILLS WITHIN THE LIMITS OF THIS PROJECT AND THE RELATED OFF-SITE WORK, SO AS TO GENERATE THE DESIRED SUBGRADE, FINISH GRADES AND SLOPES SHOWN.
- CONTRACTOR SHALL TAKE FULL RESPONSIBILITY FOR ALL EXCAVATION. NECESSARY SHORING SHALL BE DESIGNED AND PROVIDED BY THE CONTRACTOR TO PREVENT UNDERMINING OF ANY ADJACENT FEATURES OR FACILITIES AND/OR CAVING OF THE EXCAVATION.
- THE CONTRACTOR IS WARNED THAT AN EARTHWORK BALANCE WAS NOT NECESSARILY THE INTENT OF THIS PROJECT. ANY ADDITIONAL MATERIAL REQUIRED OR LEFTOVER MATERIAL FOLLOWING EARTHWORK OPERATIONS BECOMES THE RESPONSIBILITY OF THE CONTRACTOR.
- THE GRADING CONTRACTOR IS RESPONSIBLE TO COORDINATE WITH THE OWNER TO PROVIDE FOR THE REQUIREMENTS OF THE PROJECT STORM WATER POLLUTION PREVENTION PLAN (SWPPP) AND ASSOCIATED PERMIT.
- CONTRACTOR SHALL FOLLOW TO THE LINES AND ELEVATIONS SHOWN ON THE PLANS WITHIN THE FOLLOWING HORIZONTAL AND VERTICAL TOLERANCES AND DEGREES OF COMPACTION, IN THE AREA INDICATED:

	HORIZONTAL	VERTICAL	COMPACTION
PAVEMENT AREA SUBGRADE	0.1+	+0.0' TO -0.1'	SEE SOILS REPORT
ENGINEERED FILL	0.5+	+0.1' TO -0.1'	SEE SOILS REPORT

COMPACTION TESTING WILL BE PERFORMED BY THE OWNER OR HIS REPRESENTATIVE.

- ALL CUT AND FILL

