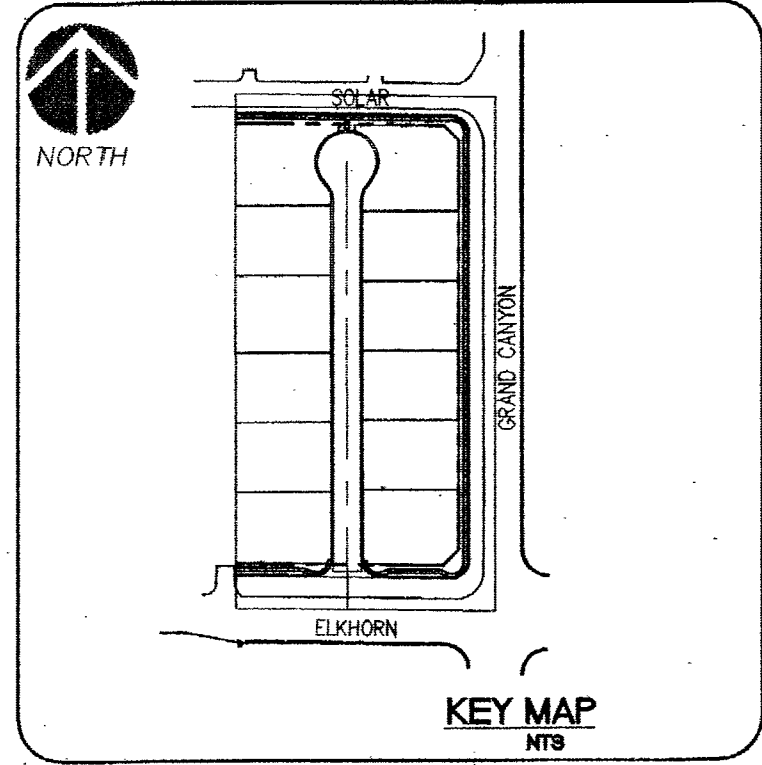
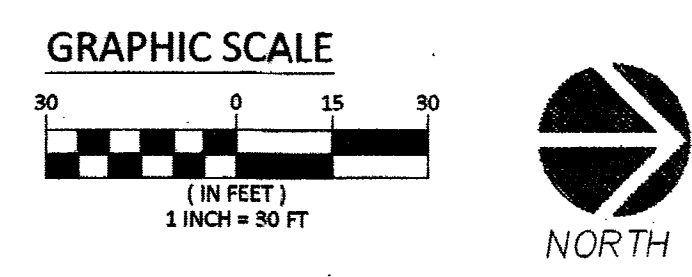
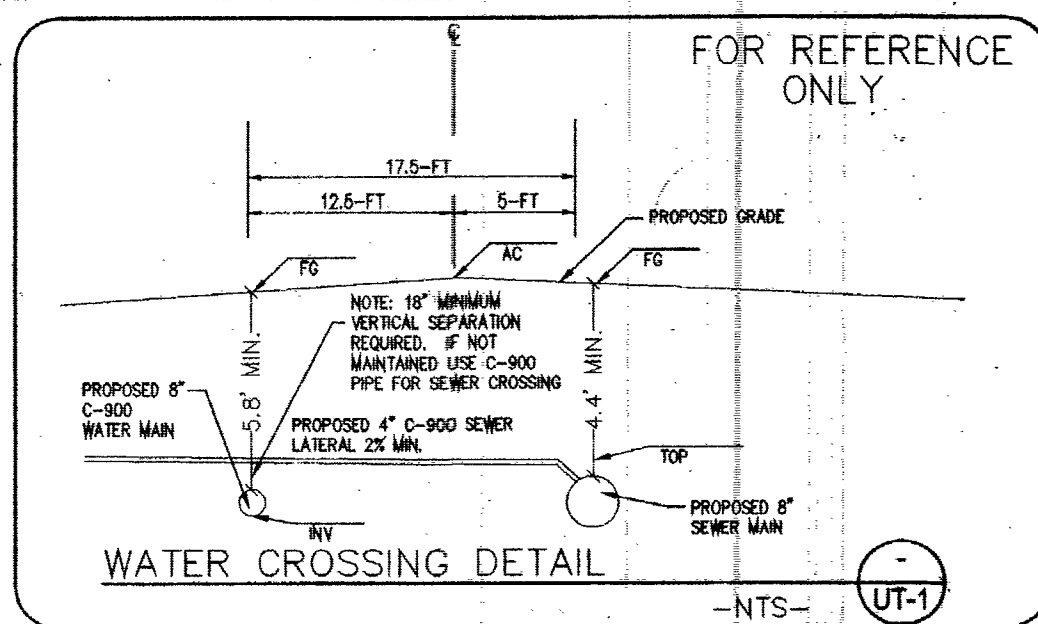


FAST
Call before you dig
Underground
1-702-432-5300
SYSTEM OF TRANSPORTATION

811
Call before you dig
Underground
1-800-227-2600
1-702-227-2929



METER BOX NOTE
METER BOXES SHALL NOT BE LOCATED IN DRIVEWAY OR STREETS
PER UDACS 2.18.04(A) & PLATE NO. 3.



BASIS OF BEARINGS
NORTH 89°07'00" WEST, BEING THE BEARING OF THE CENTERLINE OF ELKHORN AVENUE AND THE NORTH LINE OF THE SOUTHWEST QUARTER (SW 1/4) OF SECTION 18, TOWNSHIP 19 SOUTH, RANGE 60 EAST, M.D.M., CLARK COUNTY, NEVADA, BY FILE 78, PAGE 49 OF PARCEL MAPS, OFFICIAL RECORDS OF CLARK COUNTY, NEVADA.

BENCHMARK
CITY OF LAS VEGAS BENCHMARK ID: 1854
RIVET AND PLATE IN THE TOP OF CURB, NORTHEAST CORNER OF GRAND CANYON DRIVE AND ELKHORN ROAD.
ELEVATION = 2756.91 FEET / 815.566 METERS
(NAVD 88 DATUM)

SEWER CONSTRUCTION NOTES

- | NO. | ITEM | **SS STD PER DESIGN AND CONSTRUCTION STANDARDS WASTEWATER COLLECTION SYSTEMS, LATEST EDITION |
|-----|---|--|
| 1 | INSTALL 8" PVC SEWER LINE PER DCSWCS DWG. NO. SD-17. | |
| 2 | INSTALL 4" PVC (PRIVATE) SEWER LATERAL PER DCSWCS DWG. NO. SD-22 AND SD-25. | |
| 3 | INSTALL 48-INCH SEWER MANHOLE PER DCSWCS SD-1A, SD-1B, SD-42, SD-8 WITH 24" SINGLE LID. | |
| 4 | SAWOUT, TRENCH, BACKFILL AND RESTORATION PER CCAUSD #500.5, #500.3, AND #503. | |
| 5 | NEW MANHOLES TO HAVE PRECAST BASE. | |
| 6 | EX. SEWER MANHOLE, PROTECT IN PLACE, ADJUST RIM PER DCSWCS SD-4 & SD-5 IF APPLICABLE. | |
| 7 | INSTALL 4" C-900 (PRIVATE) SEWER LATERAL PER DCSWCS DWG. NO. SD-22 AND SD-25. | |

WATER CONSTRUCTION NOTES

- | NO. | ITEM | UDACS: UNIFORM DESIGN AND CONSTRUCTION STANDARDS FOR POTABLE WATER SYSTEMS, CURRENT EDITION |
|-----|--|---|
| 1 | INSTALL PVC WATER LINE (C-900, CL-150) PER UDACS PLATE NO. 17. | |
| 2 | WET TAP AND CONNECT TO EXISTING WATER LINE PER UDACS PLATE NO. 34, 39 & SEC 2.24.01.B. | |
| 3 | INSTALL FIRE HYDRANT ASSEMBLY WITH GATE VALVE PER UDACS PLATE NO. 39 & 41. | |
| 4 | INSTALL GATE VALVE (SAME SIZE AS LINE) PER UDACS PLATE NO. 30 & 39. | |
| 5 | INSTALL CAP W/2" B.O. (SAME SIZE AS LINE). PER UDACS PLATE 36. | |
| 6 | INSTALL 8" X 6" REDUCER, PER UDACS PLATE 30. | |
| 7 | INSTALL 1" METER PER UDACS PLATE 3. (DOMESTIC) | |
| 8 | INSTALL 8" X 6" TEE PER UDACS PLATE 31. | |
| 9 | INSTALL 1" RPPA PER UDACS PLATE 8 (IRRIGATION) | |
| 10 | INSTALL 1" METER PER UDACS PLATE 4 (IRRIGATION) | |
| 11 | SAWOUT, TRENCH, BACKFILL AND RESTORATION PER CCAUSD #500.5, #500.3, AND #503. | |
| 12 | INSTALL TWO (2) 4" IRRIGATION SLEEVES | |
| 13 | INSTALL 1" SERVICE SADDLE WITH CORP STOP PER UDACS PLATE 4 FOR IRRIGATION PURPOSES | |
| 14 | INSTALL CURB STOP | |

PUBLIC QUANTITIES

ITEM	DESCRIPTION	QUANTITY	PER
1	8" SEWER	814.6	LF
2	4" SEWER LATERAL	420	LF
3	48" SS MANHOLE > 6' < 18'	4	EA
4	6" WATER	98.4	LF
5	8" WATER	532.1	LF
6	8" DIP WTR	25	LF
7	1" COPPER WATER	243.8	LF
8	FIRE HYDRANT	2	EA
9	8" X 6" TEE	2	EA
10	8" X 6" REDUCER	1	EA
11	6" CAP AND 2" BLOW OFF	1	EA
12	1" DOMESTIC METER	13	EA
13	1" RPPA	1	EA

ESTIMATED AVERAGE DAILY SEWER CONTRIBUTIONS:
12 UNITS X 250 GPD/UNIT = 3,000 GPD
TOTAL AVERAGE CONTRIBUTION = 3,000 GPD = 0.0030 MGD
TOTAL PEAK FLOW = 0.0030 X 3.50 (PEAK FACTOR) X 1.25 = 0.0131 MGD

- (BWV) INSTALL SEWER BACKWATER VALVE
(PRV) INSTALL PRESSURE REDUCING VALVE

DEPTH OF COVER DURING CONSTRUCTION
MAINTAIN MINIMUM TWENTY-FOUR (24) INCH COVER PER UDACS SEC 2.08.04. GRADING MUST BE COMPLETED PRIOR TO WATERLINE INSTALLATION.

FOR ALL DRY UTILITY CROSSINGS
MAINTAIN MINIMUM 12" VERTICAL SEPARATION AT ALL POINTS OF CROSSINGS
- MAINTAIN MINIMUM 3" PARALLEL SEPARATION
- ANY EXCAVATION AT BACK OF CURB MUST REMAIN OPEN FOR INSPECTION OF COPPER SERVICE LATERALS. ANY COPPER SERVICE LATERAL, KINKED, BENT OR OTHERWISE DAMAGED MUST BE REPLACED FROM THE MAIN TO THE ANGLE METER STOP.

CUT-OFF WALLS:
NO CUT-OFF WALLS ARE BEING PROPOSED WITH THIS PROJECT.

THE DISTRICT CAN NOT GUARANTEE A WATERTIGHT SHUTDOWN WHERE CONNECTIONS OR REPAIRS TO EXISTING FACILITIES ARE REQUIRED. THE CONTRACTOR SHOULD ENSURE ALL LABOR AND EQUIPMENT IS AVAILABLE TO REMOVE FUGITIVE WATER THAT MAY IMPED CONSTRUCTION AT ALL TIMES. COORDINATION WITH INSPECTION DIVISION MUST TAKE PLACE PRIOR TO ANY TRIAL SHUTDOWN.
CONTRACTOR TO INSTALL TEMPORARY SERVICE TO ENSURE PROPER SHUTDOWN IN THE EVENT NO OTHER APPURTENANCE IS AVAILABLE.

FIRE FLOW INFORMATION BLOCK	
USE/OCCUPANCY	RESIDENTIAL
TYPE OF CONSTRUCTION (BC)	TYPE Y-N
FIRE FLOW	2,000 GPM @ 20 PSI
AUTOMATIC SPRINKLERS:	YES (NO)
NFPA	13 / 13R / 13D
ESFR:	YES (NO)
SQUARE FOOTAGE	6,200 S.F. (MAX)
LARGEST AREA BETWEEN 4 HOUR WALLS	N/A
BUILDING HEIGHT	35' MAX
# OF STORIES INCLUDING BASEMENT	2
HIGH PILED COMBUSTIBLE STORAGE:	YES (NO)
# OF HYDRANTS INSTALLED	2

METER SIZE NOTE
LVVMD WILL NOT SIGN OFF ON THE BUILDING PERMIT WITHOUT VERIFICATION OF THE FIXTURE UNITS TO ENSURE THE 1-INCH METER WILL MEET THE DEVELOPMENT NEED BASED ON THE 3RD EDITION OF THE UDACS -- "TABLE A". SHOULD IT BE DETERMINED THAT THE 1-INCH IS NOT ADEQUATE, THE SERVICE LATERAL MUST BE CUT AND CAPPED AT THE MAIN AND A NEW LATERAL THAT MATCHES THE SIZE OF THE REQUIRED METER MUST BE INSTALLED.

WATER MAIN JOINT DEFLECTION (PVC 4"-24")
PVC PIPE SHALL BE DEFLECTED AT THE JOINT ONLY. THE MAXIMUM ALLOWABLE DEFLECTION SHALL BE ONE (1) DEGREE PER JOINT WITH A MINIMUM RADIUS OF CURVATURE OF 1,150 FEET, PER UDACS 2.07.01 AND 2.07.02.

FOR CHANGES IN DIRECTION EXCEEDING THE MAXIMUM ALLOWABLE JOINT DEFLECTION, FITTINGS SHALL BE USED.
ALL SEWER/STORM DRAINS CROSSING WATER LINES MUST CONFORM TO SECTION 2.22 OF UNIFORM DESIGN AND CONSTRUCTION STANDARDS FOR WATER DISTRIBUTION SYSTEMS (UDACS) FOR WATER AND STORM MAIN CROSSINGS AND CLEARANCES.

EASEMENT WITH TREES, SHRUBS, DECORATIVE ROCKS, BLOCK WALL OR FENCE
TREES, SHRUBS OR DECORATIVE ROCKS, AND ANY BLOCK WALL OR OTHER FENCE MATERIAL, SHALL BE DESIGNED AND CONSTRUCTED AROUND THE EASEMENT(S) TO ALLOW THE DIRECT ACCESS TO THE VAULT(S), BACKFLOW ASSEMBLY, AND PIPING FROM THE ADJACENT RIGHT-OF-WAY.

DEEP FIRE HYDRANT INSTALLATION:
FIRE HYDRANT(S) TO BE INSTALLED IN ACCORDANCE WITH THE UDACS STANDARD PLATE NO. 41, SECTION 2.21.01.

FIRE DEPARTMENT APPROVAL:
APPROVAL BY THE FIRE DEPARTMENT HAVING JURISDICTION IS REQUIRED PRIOR TO OBTAINING FINAL APPROVAL FROM THE LVVMD.

NOTE:
INSTALL PIPELINE MARKER BALLS IN TRENCH ABOVE EACH HORIZONTAL ELBOW FITTING, PER UDACS PLATE NO. 15.

NOTE:
ALL ABOVE GROUND UTILITY APPURTENANCES SHALL CONFORM TO THE REQUIREMENTS OF TITLE 19.12.040.

- NOTES:**
- REPLACE ALL TRAFFIC CONTROL DEVICES (SIGNS OR PAVEMENT MARKINGS) UNDER CLARK COUNTY JURISDICTION THAT ARE DISTURBED, DESTROYED, MOVED OR MODIFIED BY TRENCHING ACTIVITY TO CLARK COUNTY SATISFACTION. ALL MATERIALS USED SHALL MEET CLARK COUNTY'S SPECIFICATIONS, OR WILL BE AN APPROVED EQUIVALENT.
 - IN THE EVENT THAT THE TRAFFIC SIGNAL CONDUITS, LOOP DETECTORS OR ASSOCIATED EQUIPMENT ARE DAMAGED BY THE CONTRACTOR, THE CONTRACTOR WILL HIRE AN IMSA LEVEL II ELECTRICAL CONTRACTOR TO MAKE REPAIRS PER UNIFORM SPECIFICATIONS No. 623 G.01.02.
 - CONTRACTOR SHALL CONTACT CLARK COUNTY TRAFFIC OPERATIONS @ 455-7511 TO SCHEDULE COUNTY TRAFFIC STAFF TO LOCATE UNDERGROUND STREETLIGHTING AND SIGNAL FACILITIES IN THE PROJECT AREA. A MINIMUM OF 48 HOURS NOTICE IS REQUIRED PRIOR TO THIS OPERATIONAL HOURS OF OPERATION ARE: 6:30AM - 3:00PM, MONDAY THROUGH FRIDAY, EXCLUDING HOLIDAYS.
 - TRENCH BACKFILL PER CCAUSD STD. DWG. NO. 503 AND 504.1.

BY DATE APP. DATE

NO. REVISION

ELKHORN & GRAND CANYON

UTILITY PLAN

ASBUILT

ENGINEERING

RAY F. FREDERICKSEN

DESIGNED BY: RFF

DRAWN BY: RFF

CHECKED BY: RFF

SCALE: 1" = 30'

PROJECT DATE: DECEMBER 11, 2017

SHEET: UT-1

6 OF 13

CLV #L17-00900

10175071

THW ENTERPRISES
8206 W. RUSSELL RD., STE. 235
LAS VEGAS, NV 89148
ATTN: DUSTIN MANNING
PH (702) 929-3131

9345 W. SUNSET RD. STE 101 LAS VEGAS, NV 89148
TEL: (702) 558-9770 EMAIL: RAY@PERMANENCELV.COM

PROJ# 123847 AGR: 116505 Q3: 125-18-SW XC: 11393