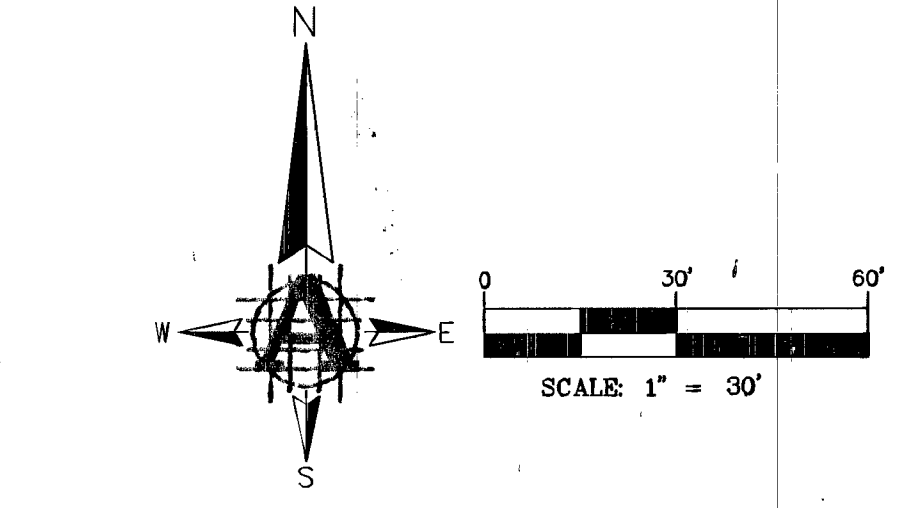
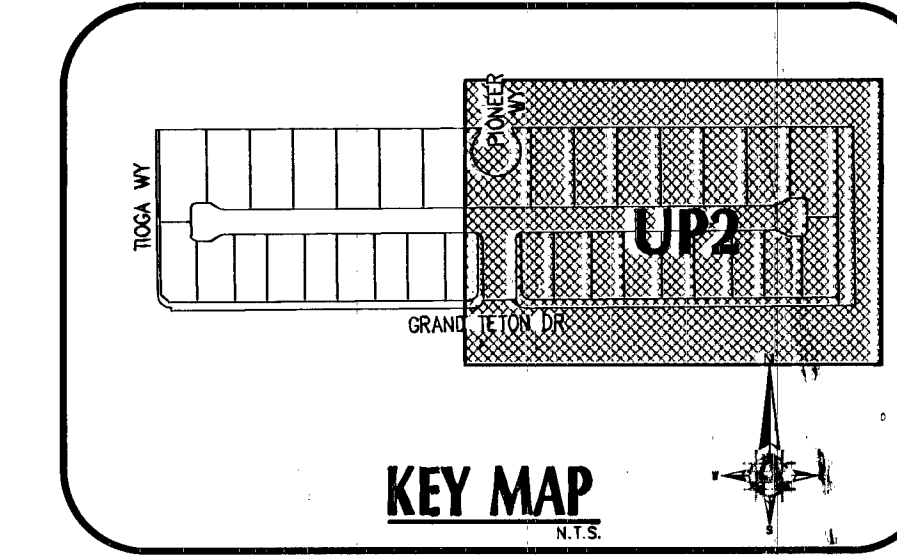


**SEWER CONSTRUCTION NOTES**

- INSTALL 48" STANDARD PRE-CAST MANHOLE PER DCSWKS DWG. SD-1A.
- INSTALL 4" LATERAL W/ WYE PER DCSWKS DWG. SD-22.
- PROVIDE LOCATOR WIRE ON LATERALS NOT PERPENDICULAR TO SEWER MAIN.
- CONTRACTOR TO CORE INTO EXISTING MANHOLE AND CONNECT 8" PVC SEWER, VERIFY EXISTING INVERT ELEVATION AND NOTIFY ENGINEER OF ANY DEVIATIONS PRIOR TO CONNECTION.

**UTILITY NOTES:**

- ADVANTAGE CIVIL DESIGN GROUP ASSUMES NO RESPONSIBILITY FOR EXISTING UTILITIES SHOWN OR NOT SHOWN. THE UTILITIES SHOWN ON THIS DRAWING HAVE BEEN PLOTTED FROM RECORD INFORMATION AND ARE FOR THE CONVENIENCE OF THE CONTRACTOR ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY BOTH THE HORIZONTAL AND VERTICAL LOCATION OF ALL RELEVANT UTILITIES PRIOR TO COMMENCEMENT OF CONSTRUCTION. IF A CONFLICT OR DISCREPANCY IS DISCOVERED, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IN WRITING IMMEDIATELY.
- ALL WATER FACILITIES CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE UNIFORM DESIGN AND CONSTRUCTION STANDARDS FOR WATER DISTRIBUTION SYSTEMS (UDACS), LATEST EDITION.
- WATER AND SEWER SERVICE LATERALS SHALL BE INSTALLED A MINIMUM OF FOURTY-EIGHT (48) INCHES APART IN SEPARATE TRENCHES. WATER LATERALS SHALL BE A MINIMUM OF TWELVE (12) INCHES ABOVE THE SEWER LATERAL (REF. UDACS 2.17.01.0).
- GATE VALVES SHALL NOT BE LOCATED IN STREET CUTTERS, VALLEY CUTTERS, OR IN DRIVEWAYS PER UDACS FOR WATER DISTRIBUTION STANDARDS SECTION 2.11.01.E.
- ALL SEWER AND STORM DRAINS CROSSING WATER LINES MUST CONFORM TO SECTION 2.22 OF THE UNIFORM DESIGN AND CONSTRUCTION STANDARDS FOR POTABLE WATER SYSTEMS (UDAS) FOR WATER AND STORM MAIN CROSSING AND CLEARANCES.

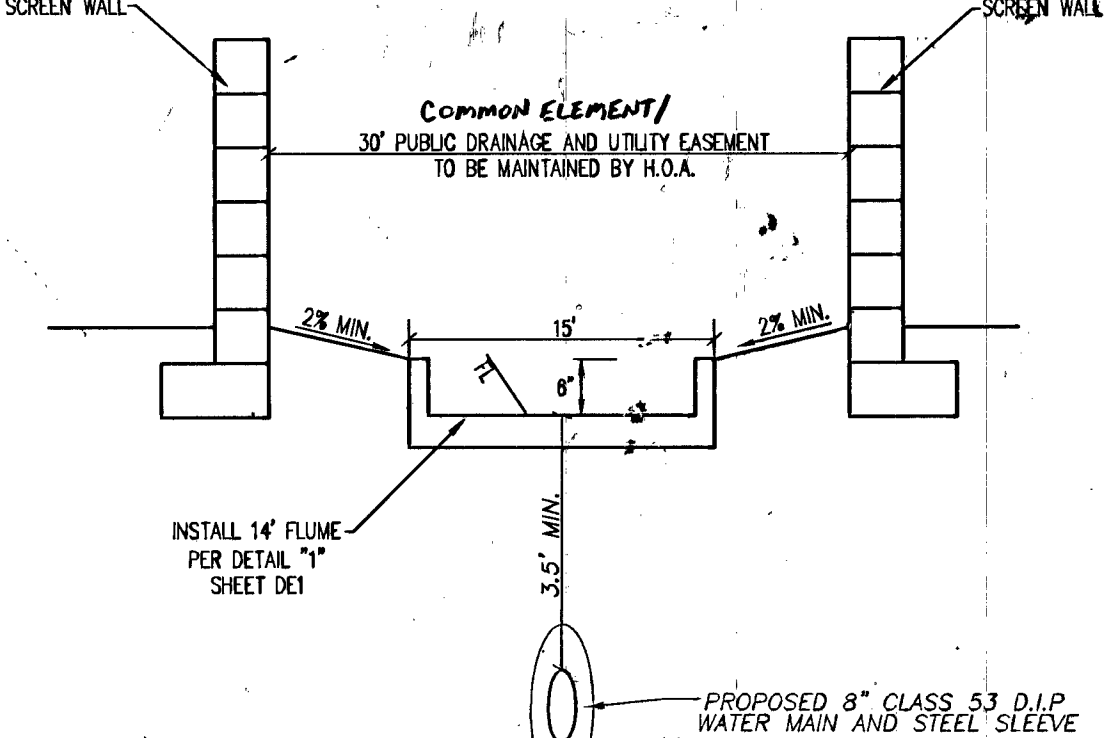


**WATER CONSTRUCTION NOTES**

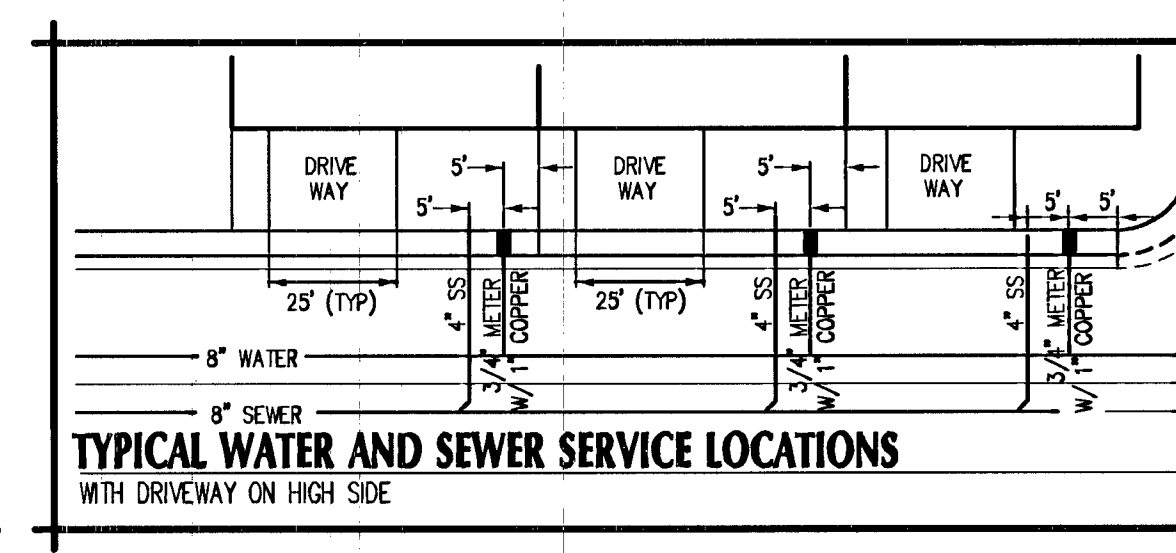
- INSTALL GATE VALVE PER UDACS PLATES #30 AND #39.
- INSTALL 12"x8" TEE WITH THRUST BLOCK PER UDACS PLATE #31.
- INSTALL FIRE HYDRANT ASSEMBLY PER UDACS PLATE #40 INCLUDE ALL VALVES, TEES, THRUST BLOCKS & APPURTENANCES.
- REMOVE CAP AND BLOW OFF PER UDACS PLATE #38 & CONNECT TO EXISTING
- TRENCH & BACKFILL PER OCAUSD #503.
- INSTALL 3/4" METER W/ 1" SERVICE SADDLE & TYPE "K" COPPER & CORP. STOP PER UDACS PLATE #2.
- SAWCUT, REMOVE, & REPLACE PAVEMENT PER OCAUSD #500.1.
- INSTALL 1" METER & 1" REPA W/ 1" SERVICE SADDLE & TYPE "K" COPPER & CORP. STOP PER UDACS PLATES #4 & #8.
- INSTALL CAP AND PROVIDE 2" BLOW OFF ASSEMBLY PER UDACS PLATE #36.
- INSTALL 8" x 8" CROSS WITH THRUST BLOCK PER UDACS PLATE #31
- INSTALL 1" SCHEDULE 40 PVC IRRIGATION SLEEVES (VERIFY ALL IRRIGATION CROSSINGS WITH LANDSCAPE PLANS).
- INSTALL 8" x 8" REDUCER PER UDACS PLATE #30
- INSTALL 90° ELBOW WITH THRUST BLOCK PER UDACS PLATE #31.
- INSTALL 45° BEND WITH THRUST BLOCK PER UDACS PLATE #31.
- WATER CROSSING WITH CASING PER UDACS PLATE #23.

**TYPICAL COMMON ELEMENT / EASEMENT NOTES:**

- NO BUILDINGS, STRUCTURES, WALLS, FENCES OR TREES SHALL BE PLACED UPON, OVER OR UNDER SAID EASEMENT FOR THE DURATION OF THIS EASEMENT EXCEPT THAT SAID EASEMENT MAY BE IMPROVED AND USED FOR STREET, ROAD, OR DRIVEWAY PURPOSES, TRAIL, PATH, PARKING LOT, PLAYGROUND, NON-VEHICULAR PUBLIC ACCESS, OR SHALLOW ROOT LANDSCAPING PURPOSES AND FOR OTHER UTILITIES, INsofar AS SUCH USE DOES NOT INTERFERE WITH ITS USE BY THE DISTRICT FOR THE PURPOSES FOR WHICH IT IS GRANTED.
- A SURFACE MAINTENANCE/REPAIR AGREEMENT WILL BE REQUIRED STATING THE DEVELOPER AGREES TO SURFACE RESTORATION/REPAIR AT SOLE COST IN PERPETUITY.
- THE FINAL MAP MUST DELINEATE THE SUBJECT EASEMENT AREA AS A COMMON ELEMENT.
- TRENCH BACKFILL MUST BE CLASS 1 CLSM.
- PIPELINE MUST HAVE MECHANICAL JOINTS.
- AT A MINIMUM, THE JOINTS MUST BE BONDED AND TEST STATION INSTALLED ON ONE END OF THE EASEMENT.
- FOR 16-INCH AND LARGER PIPELINES, A TEST PORT WILL BE REQUIRED TO FACILITATE PIPELINE CONDITION ASSESSMENT.
- CARBONITE OR BRASS MARKERS MUST BE TO DELINEATE THE LOCATION/ALIGNMENT OF THE PIPELINE WITHIN THE EASEMENT.



**WATER MAIN JOINT DEFLECTION (PVC 4\"/>**



**LEGEND**

CENTER LINE	---
RIGHT-OF-WAY	---
PROPOSED WATER	8" W
PROPOSED SEWER	10" SS
EXISTING WATER	EX. 16" WATER LINE
EXISTING SEWER	EX. 8" SEWER LINE
EXISTING GAS	EX. GAS
PROPOSED SAWCUT	---
EXISTING EDGE P/MT	---
SANITARY SEWER	SS
WATER	WAT
PRIVATE	PVT
INVERT	INV
ELEVATION	ELEV
MANHOLE	MH
BACKWATER VALVE	BWV

**FIRE FLOW CALCULATIONS**

FIRE FLOW REQUIREMENT IS: 1750 GPM AT 20 PSI RESIDUAL PRESSURE.

BASED ON: SQUARE FOOTAGE: 3,826 SF

LARGEST AREA BETWEEN 4-HOUR AREA SEPARATION WALLS: N/A SF

BUILDING HEIGHT: 35' FEET

NUMBER OF STORES: 2

TYPE OF CONSTRUCTION: V-B

OCCUPANCY: R-3

FULL AUTOMATIC FIRE SPRINKLER SYSTEM: NO

Reviewed By: *R. Zalk* 9/3/14

**ESTIMATED SEWER CONTRIBUTION:**

32 UNITS \* 250 GPD/UNIT = 8,000 GPD

8,000 GPD = 0.008 MGD

0.008 MGD \* 3.3 (PEAK FACTOR) = 0.0264 MGD

**APPROVED FOR CONSTRUCTION**

AS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES MANAGER

PROJECT NO. 116987 DATE: 9/16/14

LVWD APPROVED FIRE FLOW 1750 GPM AT 20 PSI RESIDUAL

**NOTE:** SEE SHEETS DEI FOR TOTAL PROJECT QUANTITIES AND GENERAL NOTES.

AVOID HITTING OVERHEAD POWER LINES. IT'S COSTLY.

CALL BEFORE YOU DIG

**FAST**

Call before you Dig

Call before you UnderGround

1-702-432-5300

1-800-227-2929

Call before you Dig

**811**

OR

1-800-227-2600

**BASIS OF BEARINGS**

NORTH 84°40'02" EAST BEING THE BEARING OF THE SOUTH LINE OF THE SOUTHWEST QUARTER (SW 1/4) OF THE SOUTHWEST QUARTER (SW 1/4) OF SECTION 10, TOWNSHIP 18 SOUTH, RANGE 00 EAST, W.D.M., CLARK COUNTY, NEVADA, AS SHOWN ON THAT CERTAIN MAP ON FILE IN THE CLARK COUNTY OFFICE.

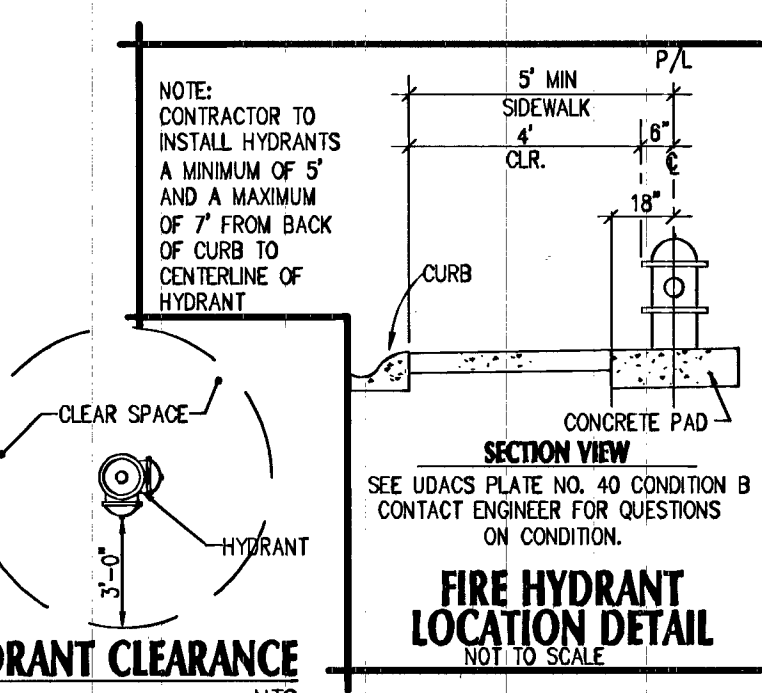
**BENCHMARK**

BENCHMARK STATION: BLV90 10SSW6

CITY OF LAS VEGAS RIVET AND PLATE IN CONCRETE CYLINDER, AT THE NORTHWEST CORNER OF GRAND TETON DRIVE AND PIONEER WAY.

ELEVATION=130.741 METERS (NAV80)

ELEVATION=2397.44 U.S. SURVEY FEET (NAV80)



**ADVANTAGE CIVIL DESIGN GROUP LLP**

2930 N. GREEN VALLEY FRINGE, SUITE 404, LAS VEGAS, NEVADA 89014

Office: 702.452.2294 Fax: 702.456.2294 Email: info@advantagecivil.com

**VERONA ESTATES**

**RICHMOND AMERICAN HOMES OF NV**

**UTILITY PLAN 2**

REVISIONS

NO.	DATE	DESCRIPTION

JOB NUMBER: 63-001

DRAWN BY: MK

DESIGNED BY: BGD

CHECKED BY: JRM

DATE: 8/2014

UP2 8 20

CLV #54192 1074900