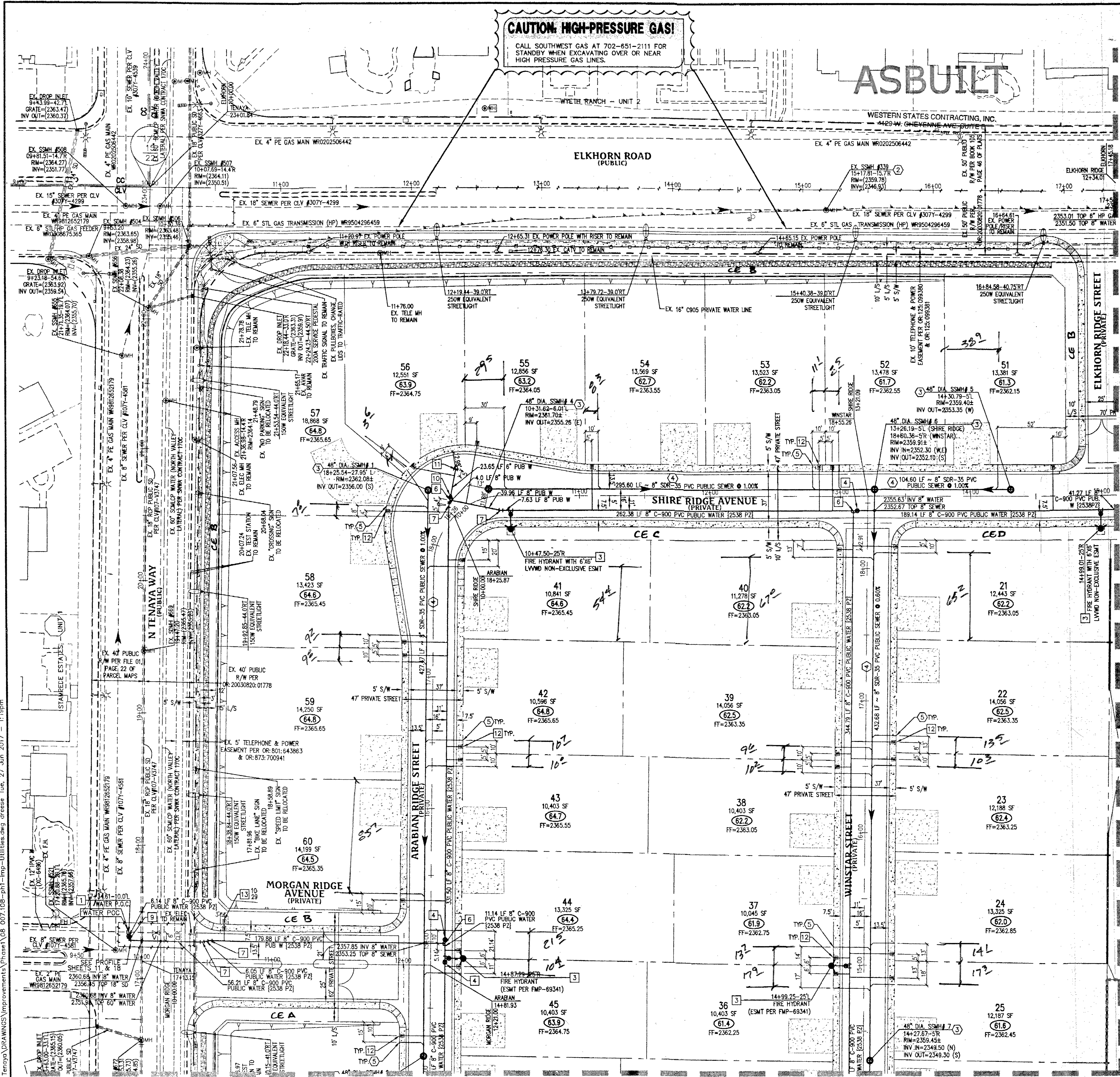




CAUTION: HIGH-PRESSURE GAS!

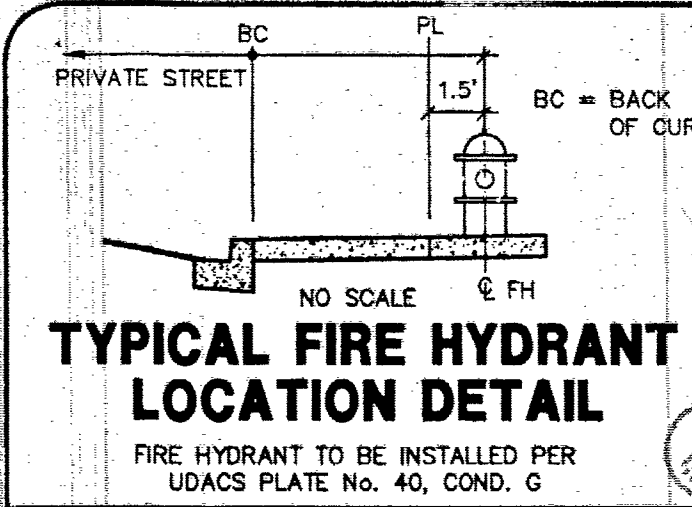
CALL SOUTHWEST GAS AT 702-651-2111 FOR
STANDBY WHEN EXCAVATING OVER OR NEAR
HIGH PRESSURE GAS LINES.

ASBUILT

WESTERN STATES CONTRACTING, INC.
4420 W. GHEVENEY AVENUE, SUITE 200
LAS VEGAS, NV 89103

UTILITY LEGEND

EX. GAS	EXISTING GAS
EX. 10" S	EXISTING SEWER MAIN
8" S	PROPOSED SEWER MAIN
EX. 36" SD	EXISTING STORM DRAIN
36" SD	PROPOSED STORM DRAIN
EX. 8" W	EXISTING WATER MAIN
8" W	PROPOSED WATER MAIN
	EXISTING UTILITY MANHOLE
	PROPOSED UTILITY MANHOLE
	EXISTING VALVE
	PROPOSED VALVE
	PROPOSED REDUCER
	PROPOSED STANDARD FIRE HYDRANT WITH 6" LATERAL, 6" GATE VALVE, AND TEE
	BACK WATER VALVE
	PRESSURE REDUCING VALVE
	EXISTING STREET LIGHT
	FUTURE STREET LIGHT
	PROPOSED 100W HPS STREET LIGHT
	PROPOSED 150W HPS STREET LIGHT
	PROPOSED 200W HPS STREET LIGHT
	PROPOSED 250W HPS STREET LIGHT
	PROPOSED 400W HPS STREET LIGHT
	PROPOSED CONCRETE DRIVEWAY



SEE SHEET 28

PROTECT IN PLACE AND ADJUST LVWD FACILITIES TO FINISHED GRAD. ALL LVWD FACILITIES SHALL BE ACCESSIBLE AT ALL TIMES.

WATER NOTES

- POC - 12" 15' TAPPING SLEEVE WITH TAPPING VALVE, PER UDACS PLATE No. 34, 39 & SEC. 2.2A.01A
- POC - 12" TAPPING SLEEVE WITH TAPPING VALVE, PER UDACS PLATE No. 34, 39 & SEC. 2.2A.01A
- FIRE HYDRANT ASSEMBLY (INCLUDING 6" LATERAL, 6" GATE VALVE AND 8" x 6" TEE), PER UDACS PLATE 40 CONDITION G
- INSTALL GATE VALVE (SIZE PER PIPE), PER UDACS PLATE No. 30 AND 35
- 12" x 8" TEE, PER UDACS PLATE No. 31
- TEE (SIZE PER PIPE), UDACS PLATE No. 31
- 11.25" BEND (SIZE PER PIPE), PER UDACS PLATE No. 31
- 45° BEND (SIZE PER PIPE), PER UDACS PLATE No. 31
- 90° BEND (SIZE PER PIPE), PER UDACS PLATE No. 31
- INSTALL 8" x 6" REDUCER, PER UDACS PLATE No. 31
- 2" BLOW OFF ASSEMBLY WITH CAP, PER UDACS PLATE
- INSTALL 1" CUPPER WATER SERVICE WITH 3/4" METER, PER UDACS PLATE No. 4 AND SEC 2.17.01
- INSTALL 1/4" IRRIGATION METER WITH 1" BRPA, PER UDACS PLATE No. 4 AND SEC 2.17.01, WITH 6" LVWD NON-EXCLUSIVE ESMT

SEWER NOTES

- POC - INSTALL 72" MANHOLE WITH CAST-IRON BASE AND DUAL CONCENTRIC COVER, PER DCSWS SD-2, SD-4 AND SD-7, CORROSION PROTECTION PER DCSWS 218.8.B
- EXISTING 48" MANHOLE TO BE PROTECTED IN PLACE AND ADJUSTED TO GRADE
- INSTALL 48" MANHOLE WITH PRECAST BASE, PER DCSWS SD-1A, SD-1B, SD-4, WITH SINGLE 24" LD
- INSTALL 8" SD-35 PVC SEWER PIPE, PER DCSWS SD-15, SD-16 AND SD-17
- INSTALL 4" SD-35 PVC SEWER LATERAL WITH CURB MARKING, PER DCSWS SD-22 AND SD-25

SNWA FIBER OPTIC CAUTION:

SNWA FO CONDUIT RUNS ALONG THE SIDE OF THE LVWD PIPELINE IN THE PIPE ZONE, AT UNKNOWN DEPTH. FO CONDUIT LOCATION WITHIN THE TRENCH DEPTH AS REQUIRED TO MAINTAIN GRADUAL AND SLOPED RUNS TO PULL BOXES. TAKE CAUTION WHEN DIGGING IN TRENCH ZONE.

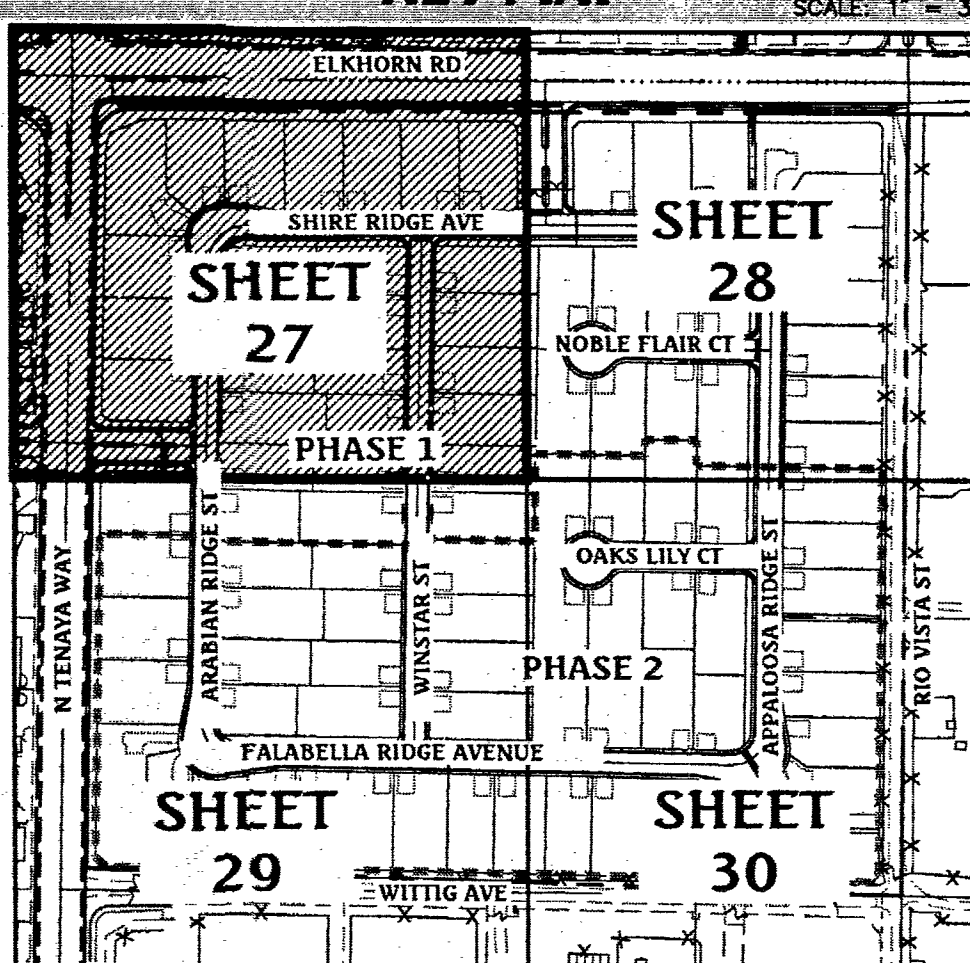
UTILITY CROSSING NOTE

ALL SEWER/STORM DRAINS CROSSING WATER LINES MUST CONFORM TO SECTION 2.22 OF THE UDACS DESIGN AND CONSTRUCTION STANDARDS OF POTABLE WATER SYSTEMS (UDACS) FOR WATER AND STORM MAIN CROSSINGS AND CLEARANCES.

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 MAXIMUM RADIUS OF CURVATURE OF 1,150 FEET, PER UDACS FOR CHANGES IN DIRECTION EXCEEDING THE MAXIMUM ALLOWABLE JOINT DEFLECTION, FITTINGS SHALL BE USED.

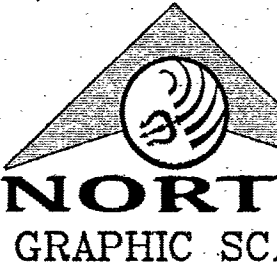
KEY MAP



Call before you Dig
Avoid cutting underground utility lines. It's costly.

FAST
Call before you Dig
Underground
1-702-432-5300

Call before you Overhead
1-702-227-2929



FIRE FLOW CALCULATIONS

THE FIRE FLOW REQUIREMENT IS: 1,750 GALLONS PER MINUTE 20 PSI RESIDUAL PRESSURE.	
BASED ON:	
SQUARE FOOTAGE:	4,230 SQUARE FEET
LARGEST AREA BETWEEN 4-HOUR AREA SEPARATION WALLS:	N/A SQUARE FEET
BUILDING HEIGHT:	21 FEET-7 3/4 INCHES
NUMBER OF STORIES:	1 FLOOR
TYPICAL OCCUPANCY:	V-NON RATED
FULL AUTOMATIC FIRE SPRINKLER SYSTEM:	NO

BASIS OF BEARING

NORTH 00°56'37" EAST, BEING THE BEARING OF THE WEST LINE OF THE NORTHEAST QUARTER (NE 1/4) OF SECTION 22, TOWNSHIP 19 SOUTH, RANGE 60 EAST, N.D.M., CLARK COUNTY, NEVADA, AS SHOWN BY MAP THEREOF IN FILE IN THE CLARK COUNTY RECORDER'S OFFICE IN FILE 163, PAGE 26 OF SURVEYS.

BENCHMARK

CLARK COUNTY BENCHMARK STATION: 6LV90 155568
RIVET AND PLATE IN TOP OF CURB AT THE NORTHWEST CORNER OF RIO VISTA AND ELKHORN ROAD.
ELEVATION = 717.800 METERS (NAVD88 V.2003)
ELEVATION = 2354.99 US SURVEY FEET (NAVD88 V.2003)

FIRE DEPARTMENT APPROVAL

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

APPROVED FOR CONSTRUCTION

Shirley Dorn for BSM
LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES MANAGER
DATE: 09/06/17 PROJECT No.: 125381
LVWD APPROVED FIRE FLOW 1,750 GPM @ 20 PSI RESIDUAL

APPROVALS

Joe Z...
LAS VEGAS FIRE AND RESCUE
DATE: 6/20/17

REDUCED PRESSURE PRINCIPLE ASSEMBLY (2) 1"

APPROVED REDUCED PRESSURE PRINCIPLE ASSEMBLY(S) SHALL BE INSTALLED PER THE UDACS PLATE No. 8 & NO WATER SHALL BE TAKEN FROM A SERVICE LINE REQUIRING BACKFLOW PREVENTION UNLESS THE REDUCED PRESSURE PRINCIPLE ASSEMBLY HAS BEEN SUCCESSFULLY TESTED BY THE LVWD. ANY BLOCK WALL OR OTHER FENCE MATERIAL SHALL BE DESIGNED AND CONSTRUCTED AROUND THE OUTSIDE OF THE EASEMENTS TO ALLOW THE DISTRICT DIRECT ACCESS FROM THE ADJACENT RIGHT-OF-WAY. EASEMENTS SHALL BE CLEARLY MARKED OR STAKED PRIOR TO THE START OF CONSTRUCTION.

WELL ABANDONMENT

WELL SHALL BE ABANDONED PRIOR TO BRINGING ANY DOMESTIC CONNECTIONS INTO SERVICE.
WELL DRILLERS LOG NO.:
LVWD ENGINEERING SERVICES WELL VERIFICATION DATE:

BACK WATER VALVE

BACKWATER VALVES REQUIRED PER U.P.C., LATEST EDITION, SECTION 710.0.
TOTAL LOTS REQUIRING BACKWATER VALVES = 0

PRESSURE REDUCING VALVE

LOTS WITHIN 2538 ZONE WITH A FINISH FLOOR ELEVATION LESS THAN 2353.4 WILL REQUIRE A PRV
TOTAL LOTS REQUIRING A PRV = 0

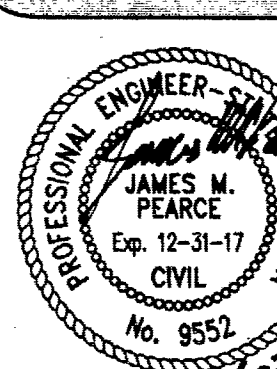
ALL PRIVATE STREETS ARE P.U.E., PUBLIC SEWER EASEMENTS AND PUBLIC DRAINAGE EASEMENTS TO BE PRIVATELY MAINTAINED BY THE HOA.

HAND DIGGING IS REQUIRED FOR ANY EXCAVATION WITHIN 2 FEET OF THE TOP OF THE EXISTING 60 INCH MLOP WATER MAIN AND EXTENDING 10' ON EITHER SIDE.

Triton Engineering
6757 W. Charleston Blvd.
Suite B
Las Vegas, Nevada 89146



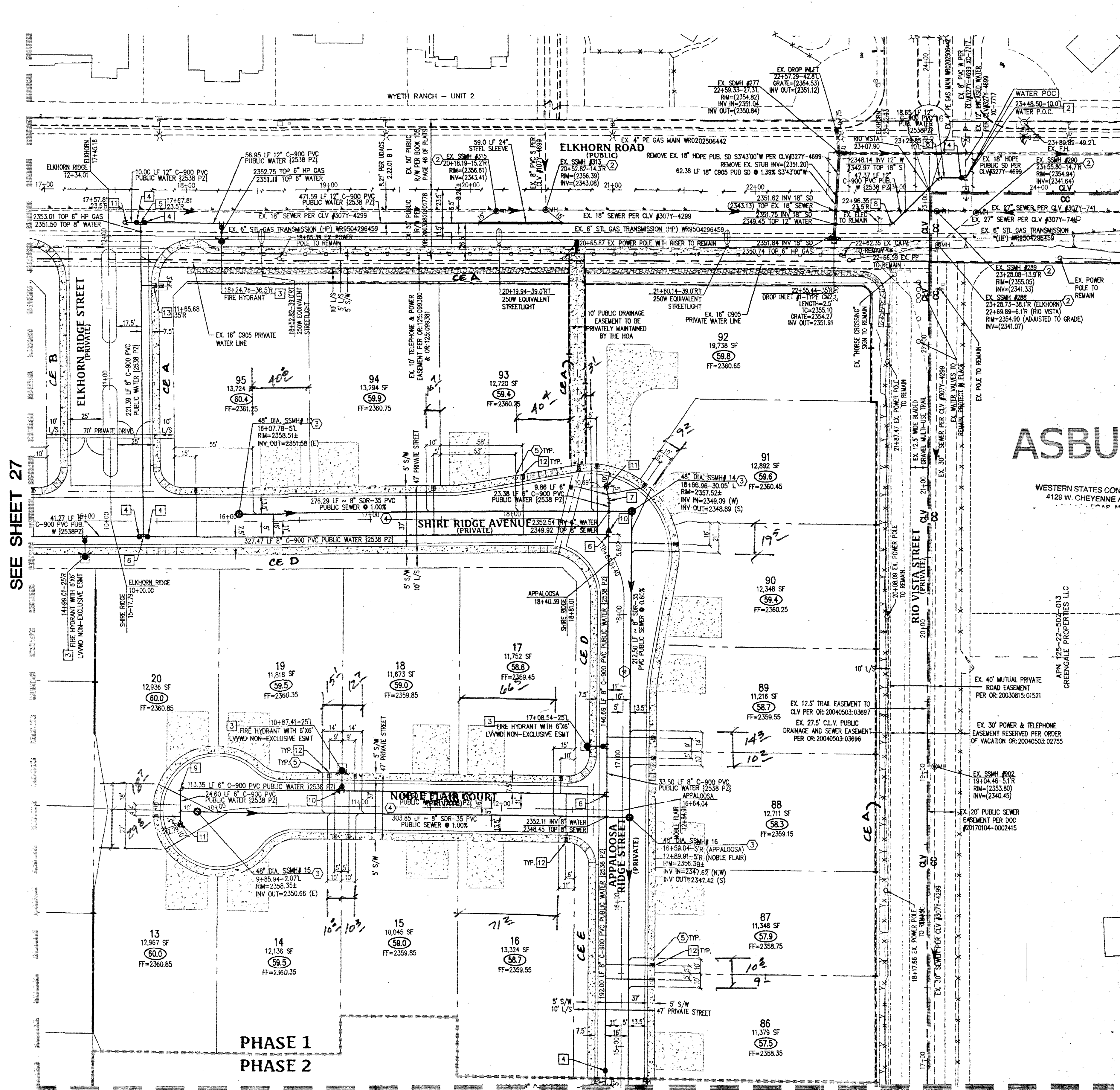
DR HORTON
ELKHORN 40 PHASE 1
UTILITY PLAN 1



SHEET 27 OF 37
C.L.V. DWG.# 69184

PROJ: 125381 AGR-116354 QS: 125-22-NE XC-11316

SEE SHEET 27



SEE SHEET 30

REDUCED PRESSURE PRINCIPLE ASSEMBLY (2) 1'

APPROVED REDUCED PRESSURE PRINCIPLE ASSEMBLY(S) SHALL BE INSTALLED PER THE UDACS PLATE NO. 8. NO WATER SHALL BE TAKEN FROM A SERVICE REQUIRING BACKFLOW PREVENTION UNTIL THE REDUCED PRESSURE PRINCIPLE ASSEMBLY HAS BEEN SUCCESSFULLY TESTED BY THE LVWD. ANY BLOCK WALL OR OTHER FENCE MATERIAL SHALL BE DESIGNED AND CONSTRUCTED AROUND THE OUTSIDE OF THE EASEMENTS TO ALLOW THE DIRECT ACCESS FROM THE ADJACENT RIGHT-OF-WAY. EASEMENTS SHALL BE CLEARLY MARKED OR STAKED PRIOR TO THE START OF CONSTRUCTION.

WELL ABANDONMENT

WELL SHALL BE ABANDONED PRIOR TO BRINGING ANY DOMESTIC CONNECTIONS INTO SERVICE.
WELL DRILLERS LOG NO.:
LVWD ENGINEERING SERVICES WELL VERIFICATION DATE:

BACK WATER VALVE

BACKWATER VALVES REQUIRED PER U.P.C., LATEST EDITION, SECTION 710.0.
TOTAL LOTS REQUIRING BACKWATER VALVES = 0

PRESSURE REDUCING VALVE

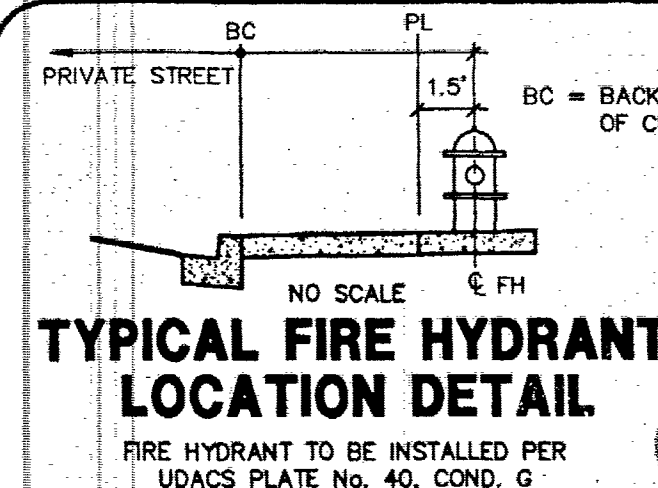
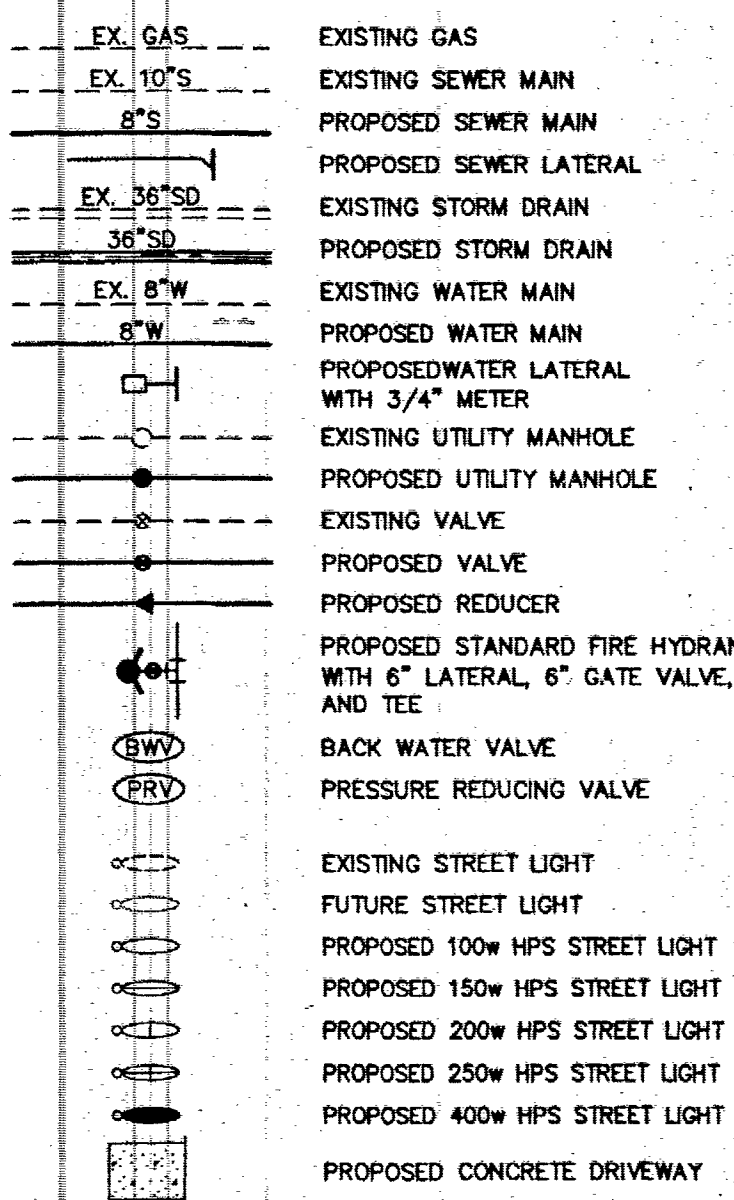
LOTS WITHIN 2538 ZONE WITH A FINISH FLOOR ELEVATION LESS THAN 2353.4 WILL REQUIRE A PRV
TOTAL LOTS REQUIRING A PRV = 0

PROTECT IN PLACE AND ADJUST LVWD EXISTING FACILITIES TO FINISHED GRADE. ALL LVWD FACILITIES SHALL BE ACCESSIBLE AT ALL TIMES.

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HAND DIGGING IS REQUIRED FOR ANY EXCAVATION WITHIN 2 FEET OF THE TOP OF THE EXISTING 60 INCH M/COP WATER MAIN AND EXTENDING 10' ON EITHER SIDE.

UTILITY LEGEND



WATER NOTES

- POC - 12" x 8" TAPPING SLEEVE WITH TAPPING VALVE, PER UDACS PL. NO. 34, 39 & SEC. 2.24.01A
- POC - 12" TAPPING SLEEVE WITH TAPPING VALVE, PER UDACS PL. NO. 34, 39 & SEC. 2.24.01A
- FIRE HYDRANT ASSEMBLY (INCLUDING 6" LATERAL, 6" GATE VALVE AND 8" x 6" TEE), PER UDACS PLATE 40 CONDITION G
- INSTALL GATE VALVE (SIZE PER PIPE), PER UDACS PLATE NO. 30 AND 39
- 12" x 8" TEE, PER UDACS PLATE NO. 31
- TEE (SIZE PER PIPE), UDACS PLATE NO. 31
- 11.25" BEND (SIZE PER PIPE), PER UDACS PLATE NO. 31
- 45° BEND (SIZE PER PIPE), PER UDACS PLATE NO. 31
- 90° BEND (SIZE PER PIPE), PER UDACS PLATE NO. 31
- INSTALL 8" x 6" REDUCER, PER UDACS PLATE NO. 31
- 2" BLOW OFF ASSEMBLY WITH CAP, PER UDACS PLATE NO. 36
- INSTALL 1" COPPER WATER SERVICE WITH 3/4" METER, PER UDACS PLATE NO. 4 AND SEC. 2.17.01
- INSTALL 3/4" IRRIGATION METER WITH 1" RPPA, PER UDACS PLATE NO. 4 AND 5 AND SEC. 2.17.01, WITH 6" LVWD NON-EXCLUSIVE ESMT

SEWER NOTES

- POC - INSTALL 72" MANHOLE WITH CAST-IN-PLACE BASE AND DUAL CONCENTRIC COVER, PER DCSWS SD-2, SD-3-A AND SD-7, CORROSION PROTECTION PER DCSWS 3.16.8.8
- EXISTING 48" MANHOLE TO BE PROTECTED IN PLACE AND ADJUSTED TO GRADE
- INSTALL 48" MANHOLE WITH PRECAST BASE, PER DCSWS SD-1A, SD-1B, SD-4, WITH SINGLE 24" LID
- INSTALL 8" SDR-35 PVC SEWER PIPE, PER DCSWS SD-15, SD-16 AND SD-17
- INSTALL 4" SDR-35 PVC SEWER LATERAL WITH CURB MARKING, PER DCSWS SD-22 AND SD-25

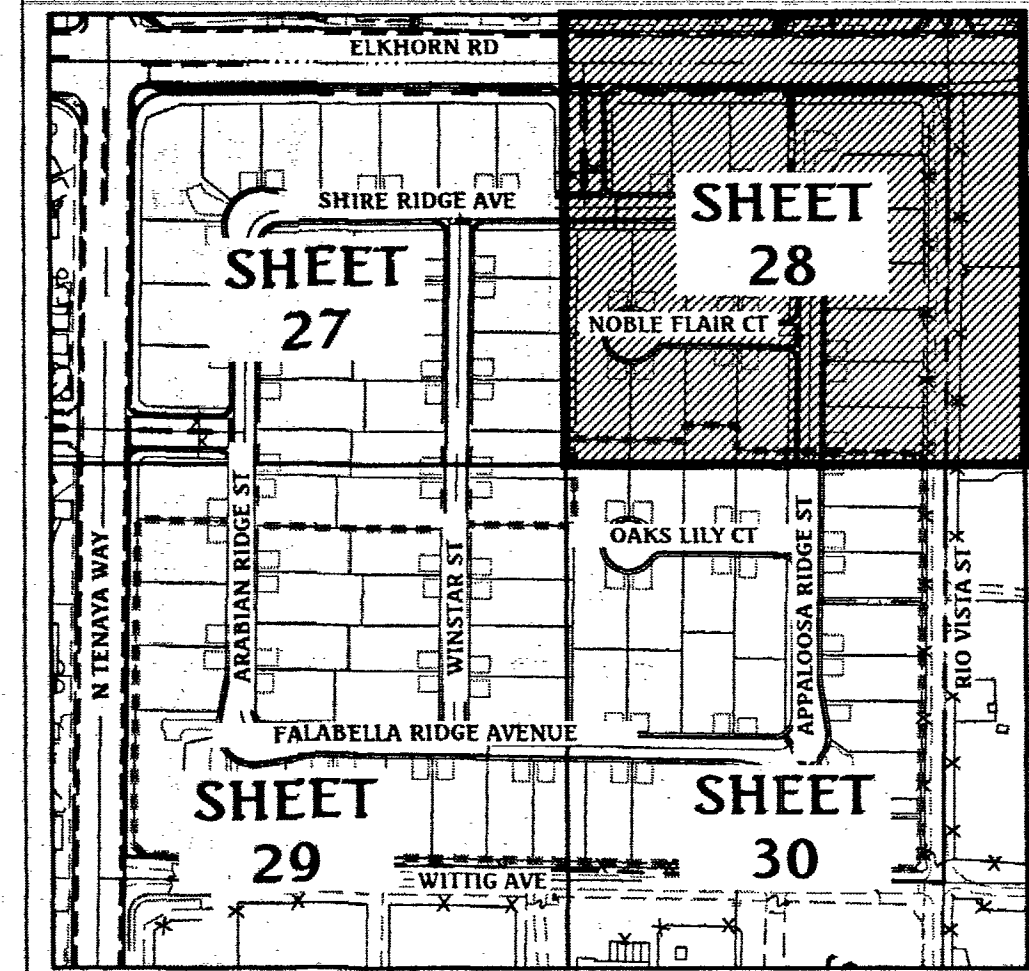
UTILITY CROSSING NOTE

ALL SEWER/STORM DRAINS CROSSING WATER LINES MUST CONFORM TO SECTION 2.22 OF THE UNIFORM DESIGN AND CONSTRUCTION STANDARDS OF POTABLE WATER SYSTEMS (UDACS) FOR WATER AND STORM MAIN CROSSINGS AND CLEARANCES.

WATER MAIN JOINT DEFLECTION (PVC, 4'-24")

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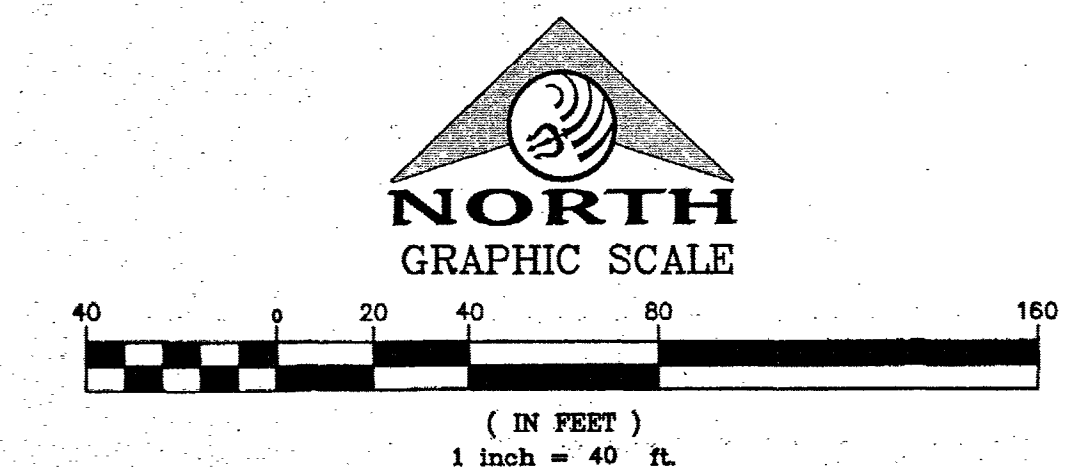
KEY MAP



Call before you Dig
Avoid cutting underground utility lines. It's costly.
CALL
1-800-227-2600

FAST
Call before you Dig
Underground
1-702-432-5300

Call before you Dig
Overhead
1-702-227-2929



FIRE FLOW CALCULATIONS

THE FIRE FLOW REQUIREMENT IS: 1,750 GALLONS PER MINUTE
20 PSI RESIDUAL PRESSURE.

BASED ON:

SQUARE FOOTAGE:	4,230 SQUARE FEET
LARGEST AREA BETWEEN 4-HOUR AREA SEPARATION WALLS:	N/A SQUARE FEET
BUILDING HEIGHT:	21 FEET-7 3/4" INCHES
NUMBER OF STORIES:	1 FLOOR
TYPE OF CONSTRUCTION:	V-NON RATED
OCCUPANCY:	RESIDENTIAL
FULL AUTOMATIC FIRE SPRINKLER SYSTEM:	NO

BASIS OF BEARING

NORTH 00°56'37" EAST, BEING THE BEARING OF THE WEST LINE OF THE NORTHEAST QUARTER (NE 1/4) OF SECTION 22, TOWNSHIP 19 SOUTH, RANGE 60 EAST, M.D.M., CLARK COUNTY, NEVADA, AS SHOWN BY MAP THEREOF IN FILE IN THE CLARK COUNTY RECORDER'S OFFICE IN FILE 163, PAGE 26 OF SURVEYS.

BENCHMARK

CLARK COUNTY BENCHMARK STATION: 6LV90 155S66
RIVET AND PLATE IN TOP OF CURB AT THE NORTHWEST CORNER OF RIO VISTA AND ELKHORN ROAD.
ELEVATION = 717.800 METERS (NAVD'88 V.2003)
ELEVATION = 2354.98 US SURVEY FEET (NAVD'88 V.2003)

FIRE DEPARTMENT APPROVAL

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

APPROVED FOR CONSTRUCTION

Las Vegas Valley Water District Engineering Services Manager
DATE: 8/10/17 PROJECT NO.: 125391
LVWD APPROVED FIRE FLOW 1,750 GPM @ 20 PSI RESIDUAL

APPROVALS

Las Vegas Fire and Rescue
DATE: 8/10/17

DATE: 08/27/17
PM: J. PEARCE
DRAWN BY:
DESIGN BY:
CHECKED BY:
JOB NO.: 007108
SCALE: 1"=40'

DATE: 08/27/17
PM: J. PEARCE
DRAWN BY:
DESIGN BY:
CHECKED BY:
JOB NO.: 007108
SCALE: 1"=40'

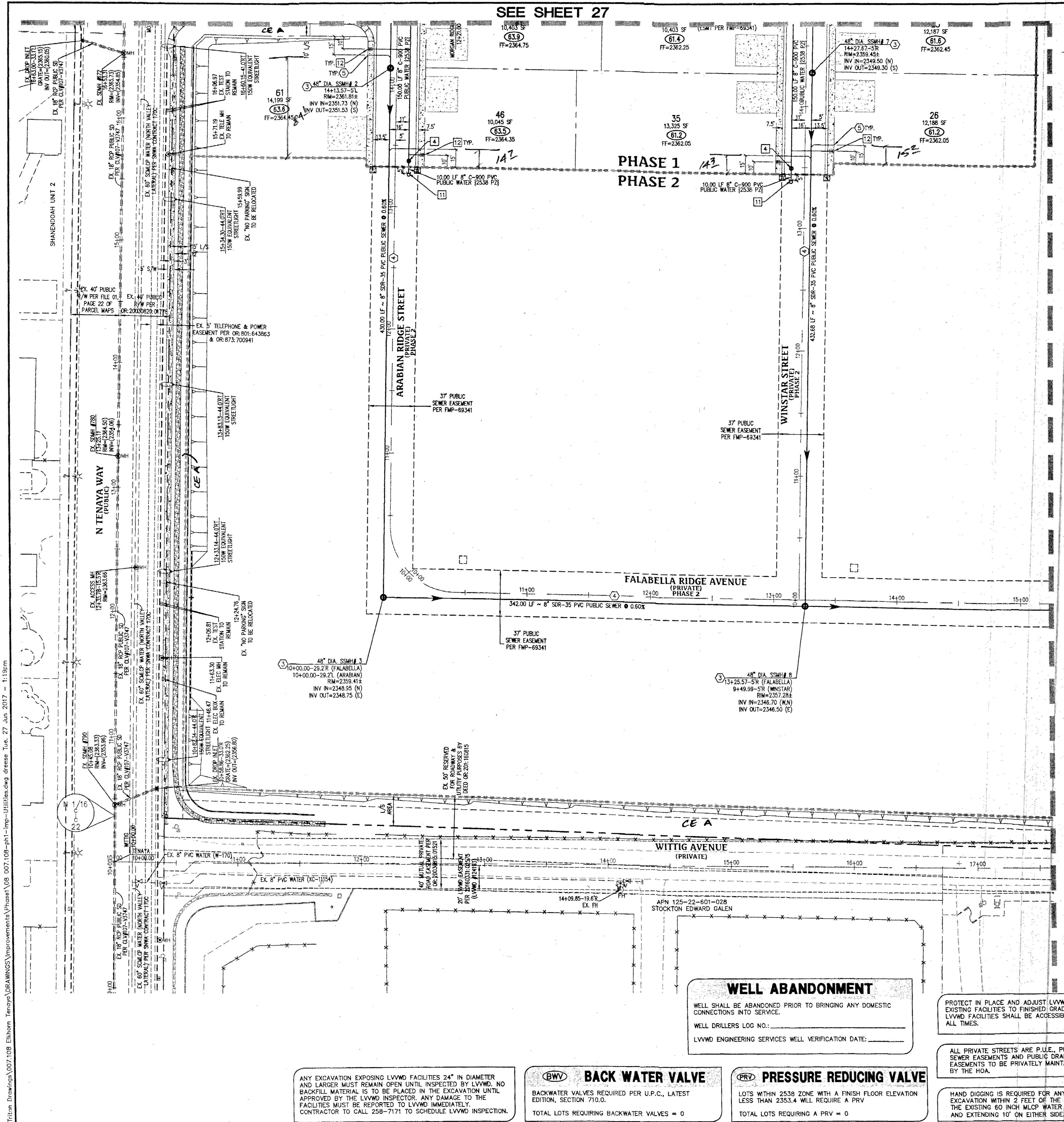
Triton Engineering

Office: (702) 254-1480
Fax: (702) 254-3662
6757 W. Charleston Blvd.
Suite B
Las Vegas, Nevada 89146

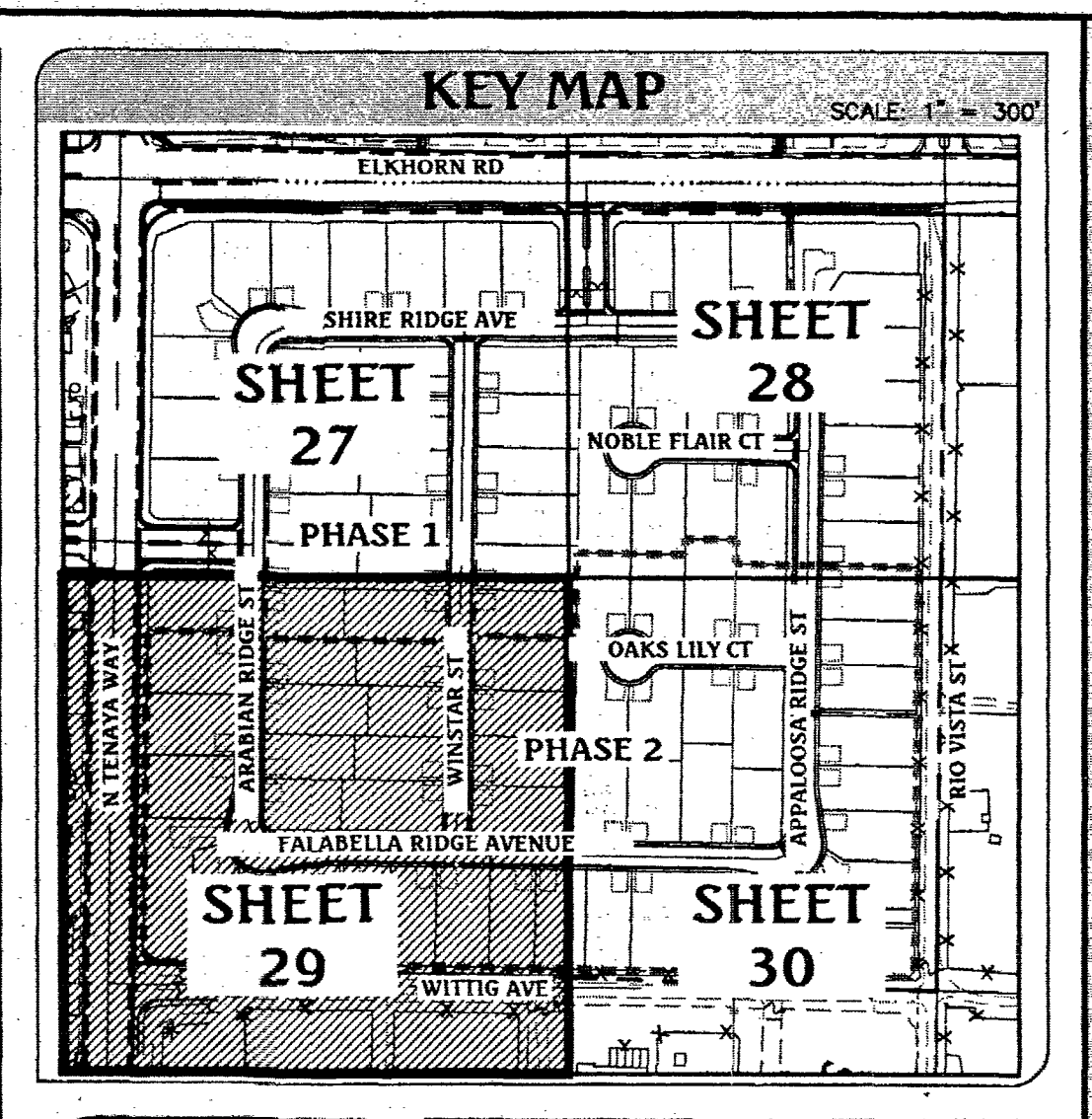
DR HORTON
ELKHORN 40 PHASE 1
UTILITY PLAN II

SHEET **28** OF 37
C.L.V. DWG.# 69184

PROJ.#125391 AGR-116334 QS-125-22-NE XC 11316



UTILITY LEGEND	
EX. GAS	EXISTING GAS
EX. 10" S	EXISTING SEWER MAIN
8" S	PROPOSED SEWER MAIN
EX. 36" SD	EXISTING STORM DRAIN
36" SD	PROPOSED STORM DRAIN
EX. 8" W	EXISTING WATER MAIN
8" W	PROPOSED WATER MAIN
EX. 3/4" METER	EXISTING UTILITY MANHOLE
3/4" METER	PROPOSED UTILITY MANHOLE
EX. VALVE	EXISTING VALVE
PROPOSED VALVE	PROPOSED VALVE
PROPOSED REDUCER	PROPOSED REDUCER
PROPOSED STANDARD FIRE HYDRANT WITH 6" LATERAL, 6" GATE VALVE, AND TEE	PROPOSED STANDARD FIRE HYDRANT WITH 6" LATERAL, 6" GATE VALVE, AND TEE
BACK WATER VALVE	BACK WATER VALVE
PRESSURE REDUCING VALVE	PRESSURE REDUCING VALVE
EXISTING STREET LIGHT	EXISTING STREET LIGHT
FUTURE STREET LIGHT	FUTURE STREET LIGHT
PROPOSED 100w HPS STREET LIGHT	PROPOSED 100w HPS STREET LIGHT
PROPOSED 150w HPS STREET LIGHT	PROPOSED 150w HPS STREET LIGHT
PROPOSED 200w HPS STREET LIGHT	PROPOSED 200w HPS STREET LIGHT
PROPOSED 250w HPS STREET LIGHT	PROPOSED 250w HPS STREET LIGHT
PROPOSED 400w HPS STREET LIGHT	PROPOSED 400w HPS STREET LIGHT
PROPOSED CONCRETE DRIVEWAY	PROPOSED CONCRETE DRIVEWAY



Call before you Dig
Avoid cutting underground utility lines. It's costly.

CALL 811 OR 1-800-227-2600

FAST
Call before you Underground
1-702-432-5300
FREWAY AND ARTERIAL SYSTEM OF TRANSPORTATION

AVOID HITTING OVERHEAD POWER LINES. IT'S COSTLY

Call before you Overhead
1-702-227-2929

ASBUILT
WESTERN STATES CONTRACTING, INC.
4129 W. CHEYENNE AVE, SUITE B
LAS VEGAS, NV 89146

NORTH
GRAPHIC SCALE
1 inch = 40 ft.

- ### WATER NOTES
- POC - 12" X 8" TAPPING SLEEVE WITH TAPPING VALVE, PER UDACS PL. NO. 34, 39 & SEC. 2.24.01A
 - POC - 12" TAPPING SLEEVE WITH TAPPING VALVE, PER UDACS PLATE NO. 34, 39 & SEC. 2.24.01A
 - FIRE HYDRANT ASSEMBLY (INCLUDING 6" LATERAL, 6" GATE VALVE, AND 8" X 6" TEE), PER UDACS PLATE 40
 - INSTALL GATE VALVE (SIZE PER PIPE), PER UDACS PLATE NO. 30 AND 39
 - 12" X 8" TEE, PER UDACS PLATE NO. 31
 - TEE (SIZE PER PIPE), UDACS PLATE NO. 31
 - 11.25" BEND (SIZE PER PIPE), PER UDACS PLATE NO. 31
 - 45° BEND (SIZE PER PIPE), PER UDACS PLATE NO. 31
 - 90° BEND (SIZE PER PIPE), PER UDACS PLATE NO. 31
 - INSTALL 8" X 6" REDUCER, PER UDACS PLATE NO. 31
 - 2" BLOW OFF ASSEMBLY WITH CAP, PER UDACS PLATE NO. 36
 - INSTALL 1" COPPER WATER SERVICE WITH 3/4" METER, PER UDACS PLATE NO. 4 AND SEC. 2.17.01
 - INSTALL 3/4" IRRIGATION METER WITH 1" RPPA, PER UDACS PLATE NO. 4 AND SEC. 2.17.01, WITH 6"X6" LVVMD NON-EXCLUSIVE ESM

- ### SEWER NOTES
- POC - INSTALL 22" MANHOLE WITH CAST-IN-PLACE BASE AND DUAL CONCENTRIC COVER, PER UDACS SD-1A, SD-1B, SD-4, WITH CORROSION PROTECTION PER DCSWS 3.16.8.6
 - EXISTING 48" MANHOLE TO BE PROTECTED IN PLACE AND ADJUSTED TO GRADE
 - INSTALL 48" MANHOLE WITH PRECAST BASE, PER UDACS SD-1A, SD-1B, SD-4, WITH SINCE 24" L/S
 - INSTALL 2" SD-35 PVC SEWER PIPE, PER DCSWS SD-15, SD-16 AND SD-17
 - INSTALL 4" SD-35 PVC SEWER LATERAL WITH CURB MARKING, PER DCSWS SD-22 AND SD-25

SNWA FIBER OPTIC CAUTION.
SNWA FO CONDUIT RUNS ALONG THE SIDE OF THE LVVMD PIPELINE IN THE PIPE ZONE, AT UNKNOWN DEPTH. FO CONDUIT LOCATION WITHIN THE TRENCH MAY VARY IN DEPTH AS REQUIRED TO MAINTAIN GRADUAL AND SLOPED RUNS TO PULL BOXES. TAKE CAUTION WHEN DIGGING IN TRENCH ZONE.

UTILITY CROSSING NOTE
ALL SEWER/STORM DRAINS CROSSING WATER LINES MUST CONFORM TO SECTION 2.22 OF THE UNIFORM DESIGN AND CONSTRUCTION STANDARDS OF POTABLE WATER SYSTEMS (UDACS) FOR WATER AND STORM MAIN CROSSINGS AND CLEARANCES.

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 MAXIMUM 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.

FIRE FLOW CALCULATIONS

THE FIRE FLOW REQUIREMENT IS: 1,750 GALLONS PER MINUTE 20 PSI RESIDUAL PRESSURE.

BASED ON:

SQUARE FOOTAGE:	4,230 SQUARE FEET
LARGEST AREA BETWEEN 4-HOUR AREA SEPARATION WALLS:	N/A SQUARE FEET
BUILDING HEIGHT:	21 FEET-7 3/4 INCHES
NUMBER OF STORIES:	1 FLOOR
TYPE OF CONSTRUCTION:	V-NON RATED
OCCUPANCY:	RESIDENTIAL
FULL AUTOMATIC FIRE SPRINKLER SYSTEM:	NO

BASIS OF BEARING
NORTH 00°58'37" EAST, BEING THE BEARING OF THE WEST LINE OF THE NORTHEAST QUARTER (ONE 1/4) OF SECTION 22, TOWNSHIP 19 SOUTH, RANGE 60 EAST, M.D.M., CLARK COUNTY, NEVADA, AS SHOWN BY MAP THEREOF IN FILE IN THE CLARK COUNTY RECORDER'S OFFICE IN FILE 163, PAGE 26 OF SURVEYS.

BENCHMARK
CLARK COUNTY BENCHMARK STATION: 6LY90 15SS6E
RIVET AND PLATE IN TOP OF CURB AT THE NORTHWEST CORNER OF RIO VISTA AND ELKHORN ROAD.
ELEVATION = 717.800 METERS (NAV88 V.2003)
ELEVATION = 2354.98 US SURVEY FEET (NAV88 V.2003)

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

APPROVED FOR CONSTRUCTION
Seanne Dean for SSM
LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES MANAGER
DATE: 07/01/17 PROJECT NO.: 125391
LVVMD APPROVED FIRE FLOW 1,750 GPM @ 20 PSI RESIDUAL

APPROVALS
Scott Ziemer 6/28/17
LAS VEGAS FIRE AND RESCUE
DATE

WELL ABANDONMENT
WELL SHALL BE ABANDONED PRIOR TO BRINGING ANY DOMESTIC CONNECTIONS INTO SERVICE.
WELL DRILLERS LOG NO.:
LVVMD ENGINEERING SERVICES WELL VERIFICATION DATE:

PROTECT IN PLACE AND ADJUST LVVMD EXISTING FACILITIES TO FINISHED GRADE. ALL LVVMD FACILITIES SHALL BE ACCESSIBLE AT ALL TIMES.

ALL PRIVATE STREETS ARE P.U.E., PUBLIC SEWER EASEMENTS AND PUBLIC DRAINAGE EASEMENTS TO BE PRIVATELY MAINTAINED BY THE HOA.

HAND DIGGING IS REQUIRED FOR ANY EXCAVATION WITHIN 2 FEET OF THE TOP OF THE EXISTING 60 INCH MCLP WATER MAIN AND EXTENDING 10' ON EITHER SIDE.

BACK WATER VALVE
BACKWATER VALVES REQUIRED PER U.P.C., LATEST EDITION, SECTION 710.0.
TOTAL LOTS REQUIRING BACKWATER VALVES = 0

PRESSURE REDUCING VALVE
LOTS WITHIN 2538 ZONE WITH A FINISH FLOOR ELEVATION LESS THAN 2353.4 WILL REQUIRE A PRV
TOTAL LOTS REQUIRING A PRV = 0

ANY EXCAVATION EXPOSING LVVMD FACILITIES 24" IN DIAMETER AND LARGER MUST REMAIN OPEN UNTIL INSPECTED BY LVVMD. NO BACKFILL MATERIAL IS TO BE PLACED IN THE EXCAVATION UNTIL APPROVED BY THE LVVMD INSPECTOR. ANY DAMAGE TO THE FACILITIES MUST BE REPORTED TO LVVMD IMMEDIATELY. CONTRACTOR TO CALL 258-7171 TO SCHEDULE LVVMD INSPECTION.

ASBUILT

DATE: 06/27/17
DRAWN BY: J. PEARCE
DESIGNED BY:
CHECKED BY: J. PEARCE
JOB NO.: 007108
SCALE: 1"=40'

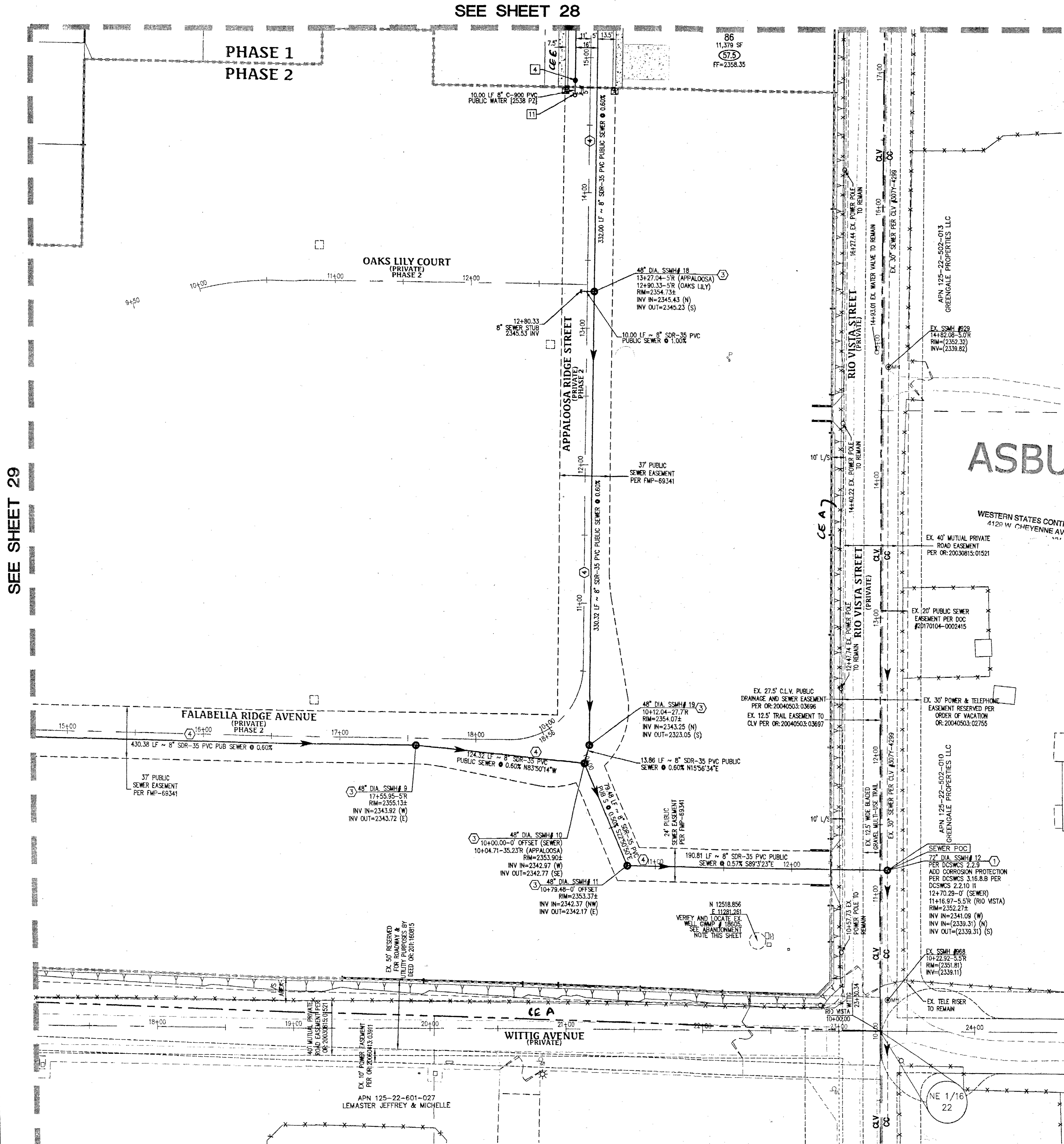
Triton Engineering
6757 W. Charleston Blvd.
Suite B (702) 254-1480
Fax: (702) 254-1482
Las Vegas, Nevada 89146
www.tritoneng.com

DR. HORTON
ELKHORN 40 PHASE 1
UTILITY PLAN III

PROFESSIONAL ENGINEER
JAMES M. PEARCE
Exp. 12-31-17
CIVIL
No. 9552
6-27-17

SHEET 29 OF 37
C.L.V. DWG# 69184

SEE SHEET 29



UTILITY LEGEND

EX. GAS	EXISTING GAS
EX. 10" S	EXISTING SEWER MAIN
8" S	PROPOSED SEWER MAIN
EX. 36" SD	PROPOSED SEWER LATERAL
36" SD	EXISTING STORM DRAIN
EX. 8" W	PROPOSED STORM DRAIN
8" W	EXISTING WATER MAIN
	PROPOSED WATER MAIN
	PROPOSED WATER LATERAL WITH 3/4" METER
	EXISTING UTILITY MANHOLE
	PROPOSED UTILITY MANHOLE
	EXISTING VALVE
	PROPOSED VALVE
	PROPOSED REDUCER
	PROPOSED STANDARD FIRE HYDRANT WITH 6" LATERAL, 6" GATE VALVE, AND TEE
	BACK WATER VALVE
	PRESSURE REDUCING VALVE
	EXISTING STREET LIGHT
	FUTURE STREET LIGHT
	PROPOSED 100w HPS STREET LIGHT
	PROPOSED 150w HPS STREET LIGHT
	PROPOSED 200w HPS STREET LIGHT
	PROPOSED 250w HPS STREET LIGHT
	PROPOSED 400w HPS STREET LIGHT
	PROPOSED CONCRETE DRIVEWAY

PRIVATE WELLS (WITH REVOCABLE RIGHTS) TO BE REMOVED FROM SERVICE

THE EXISTING PRIVATE WELL IS TO BE ABANDONED. THE DISTRICT WATER SERVICE WILL REMAIN IN THE OFF AND LOOKED POSITION UNTIL THE WELL HAS BEEN ABANDONED. THE STATE OF NEVADA DIVISION OF WATER RESOURCES (TELEPHONE NUMBER 702-486-2770) MAY BE CONTACTED FOR INFORMATION CONCERNING REQUIREMENTS AND PROCEDURES FOR ABANDONING WELLS. PROOF FROM THE STATE THAT THE WELL HAS BEEN ABANDONED AND IS NO LONGER FUNCTIONAL WILL BE REQUIRED AS A CONDITION OF PROJECT ACCEPTANCE AND SERVICE ACTIVATION. GWMP# 18505 (ABANDONED PER WELL DRILLERS LOG REPORT #)

WELL ABANDONMENT

WELL SHALL BE ABANDONED PRIOR TO BRINGING ANY DOMESTIC CONNECTIONS INTO SERVICE.
WELL DRILLERS LOG NO.:
LVVMD ENGINEERING SERVICES WELL VERIFICATION DATE: _____

WATER NOTES

- POC - 12" X 8" TAPPING SLEEVE WITH TAPPING VALVE, PER UDACS PL. NO. 34, 39 & SEC. 2.24.01A
- POC - 12" TAPPING SLEEVE WITH TAPPING VALVE, PER UDACS PL. NO. 34, 39 & SEC. 2.24.01A
- FIRE HYDRANT ASSEMBLY (INCLUDING 6" LATERAL, 6" GATE VALVE AND 8" X 6" TEE), PER UDACS PLATE 40 CONDOM. 6
- INSTALL GATE VALVE (SIZE PER PIPE), PER UDACS PLATE NO. 30 AND 39
- 12" X 8" TEE, PER UDACS PLATE NO. 31
- TEE (SIZE PER PIPE), UDACS PLATE NO. 31
- 11.25" BEND (SIZE PER PIPE), PER UDACS PLATE NO. 31
- 45° BEND (SIZE PER PIPE), PER UDACS PLATE NO. 31
- 90° BEND (SIZE PER PIPE), PER UDACS PLATE NO. 31
- INSTALL 8" X 6" REDUCER, PER UDACS PLATE NO. 31
- 2" BLOW OFF ASSEMBLY WITH CAP, PER UDACS PLATE NO. 36
- INSTALL 1" COPPER WATER SERVICE WITH 3/4" METER, PER UDACS PLATE NO. 4 AND SEC. 2.17.01
- INSTALL 3/4" RIGORATION METER WITH 1" RPPA, PER UDACS PLATE NO. 4 AND SEC. 2.17.01, WITH 6"X6" LVVMD NON-EXCLUSIVE ESM

SEWER NOTES

- POC - INSTALL 22" MANHOLE WITH CAST-IN-PLACE BASE AND DUAL CONCENTRIC COVER, PER DCSWCS SD-2, SD-4 AND SEC. 2.17.01 CORROSION PROTECTION PER DCSWCS 3.16.8.8
- EXISTING 48" MANHOLE TO BE PROTECTED IN PLACE AND ADJUSTED TO GRADE
- INSTALL 48" MANHOLE WITH PRECAST BASE, PER DCSWCS SD-1A, SD-1B, SD-4, WITH SINGLE 24" LD
- INSTALL 48" X 36" PVC SEWER PIPE, PER DCSWCS SD-15, SD-16 AND SD-17
- INSTALL 4" SD-35 PVC SEWER LATERAL WITH CURB MARKING, PER DCSWCS SD-22 AND SD-25

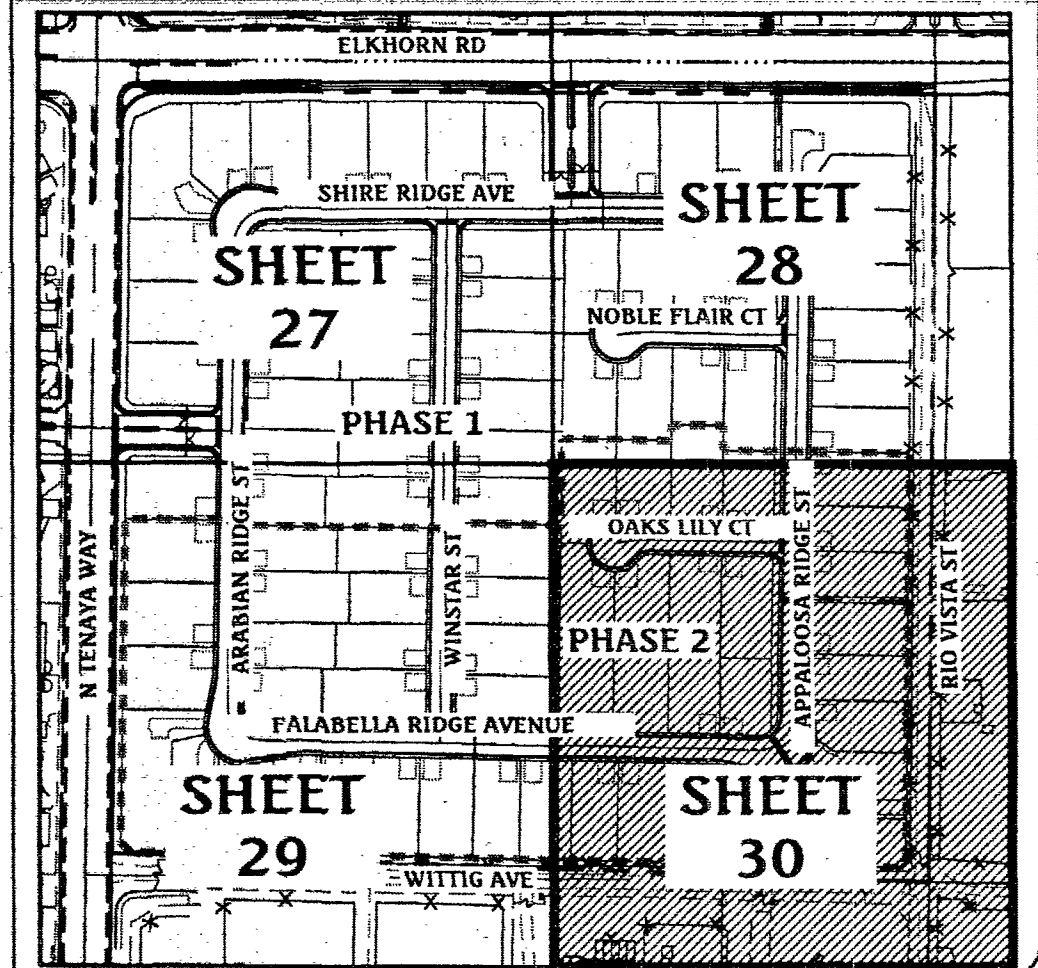
UTILITY CROSSING NOTE

ALL SEWER/STORM DRAINS CROSSING WATER LINES MUST CONFORM TO SECTION 2.22 OF THE UNIFORM DESIGN AND CONSTRUCTION STANDARDS OF POTABLE WATER SYSTEMS (UDACS) FOR WATER AND STORM MAIN CROSSINGS AND CLEARANCES.

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 MAXIMUM RADIUS OF CURVATURE OF 1,150 FEET, PER UDACS FOR CHANGES IN DIRECTION EXCEEDING THE MAXIMUM ALLOWABLE JOINT DEFLECTION, FITTINGS SHALL BE USED.

KEY MAP



Call before you Dig
Avoid cutting underground utility lines. It's costly.
CALL
811
OR
1-800-227-2600

FAST
Call before you Underground
1-702-432-5300
FREEMAN AND ARTERIAL SYSTEM OF TRANSPORTATION

Call before you Overhead
1-702-227-2929



FIRE FLOW CALCULATIONS

THE FIRE FLOW REQUIREMENT IS: 1,750 GALLONS PER MINUTE
20 PSI RESIDUAL PRESSURE.
BASED ON:
SQUARE FOOTAGE: 4,230 SQUARE FEET
LARGEST AREA BETWEEN 4-HOUR AREA SEPARATION WALLS: N/A SQUARE FEET
BUILDING HEIGHT: 21 FEET-7 3/4" INCHES
NUMBER OF STORIES: 1 FLOOR
TYPE OF CONSTRUCTION: V-NON RATED
OCCUPANCY: RESIDENTIAL
FULL AUTOMATIC FIRE SPRINKLER SYSTEM: NO

BASIS OF BEARING

NORTH 00°56'37" EAST, BEING THE BEARING OF THE WEST LINE OF THE NORTHEAST QUARTER (NE 1/4) OF SECTION 22, TOWNSHIP 19 SOUTH, RANGE 60 EAST, M.D.M., CLARK COUNTY, NEVADA, AS SHOWN BY MAP THEREOF IN FILE IN THE CLARK COUNTY RECORDER'S OFFICE IN FILE 163, PAGE 26 OF SURVEYS.

BENCHMARK

CLARK COUNTY BENCHMARK STATION: 6L90 15556
RIVET AND PLATE IN TOP OF CURB AT THE NORTHWEST CORNER OF RIO VISTA AND ELKHORN ROAD.
ELEVATION = 717.800 METERS (NAVD'88 V.2003)
ELEVATION = 2354.98 US SURVEY FEET (NAVD'88 V.2003)

FIRE DEPARTMENT APPROVAL

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

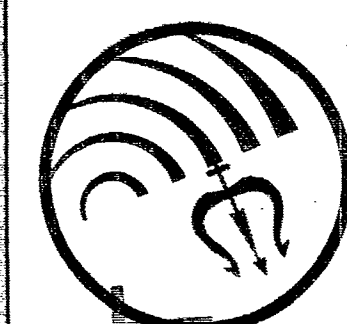
APPROVED FOR CONSTRUCTION

James Dean for Symm
LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES MANAGER
DATE: 06/27/17 PROJECT NO.: 125391
LVVMD APPROVED FIRE FLOW 1,750 GPM @ 20 PSI RESIDUAL

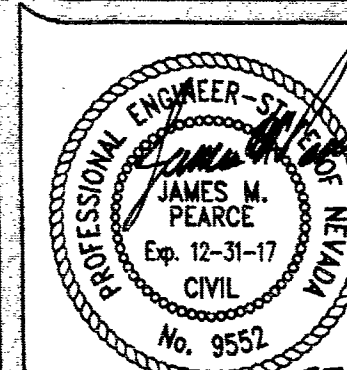
APPROVALS

Scott Spencer
LAS VEGAS FIRE AND RESCUE
6/28/17
DATE

Triton Engineering
Office: (702) 254-1480
6757 W. Charleston Blvd., Suite B
Las Vegas, Nevada 89146
Fax: (702) 254-3062
www.tritoneng.com



DR HORTON
ELKHORN 40 PHASE 1
UTILITY PLAN IV



SHEET 30 of 37
C.L.V. DWG.# 69184