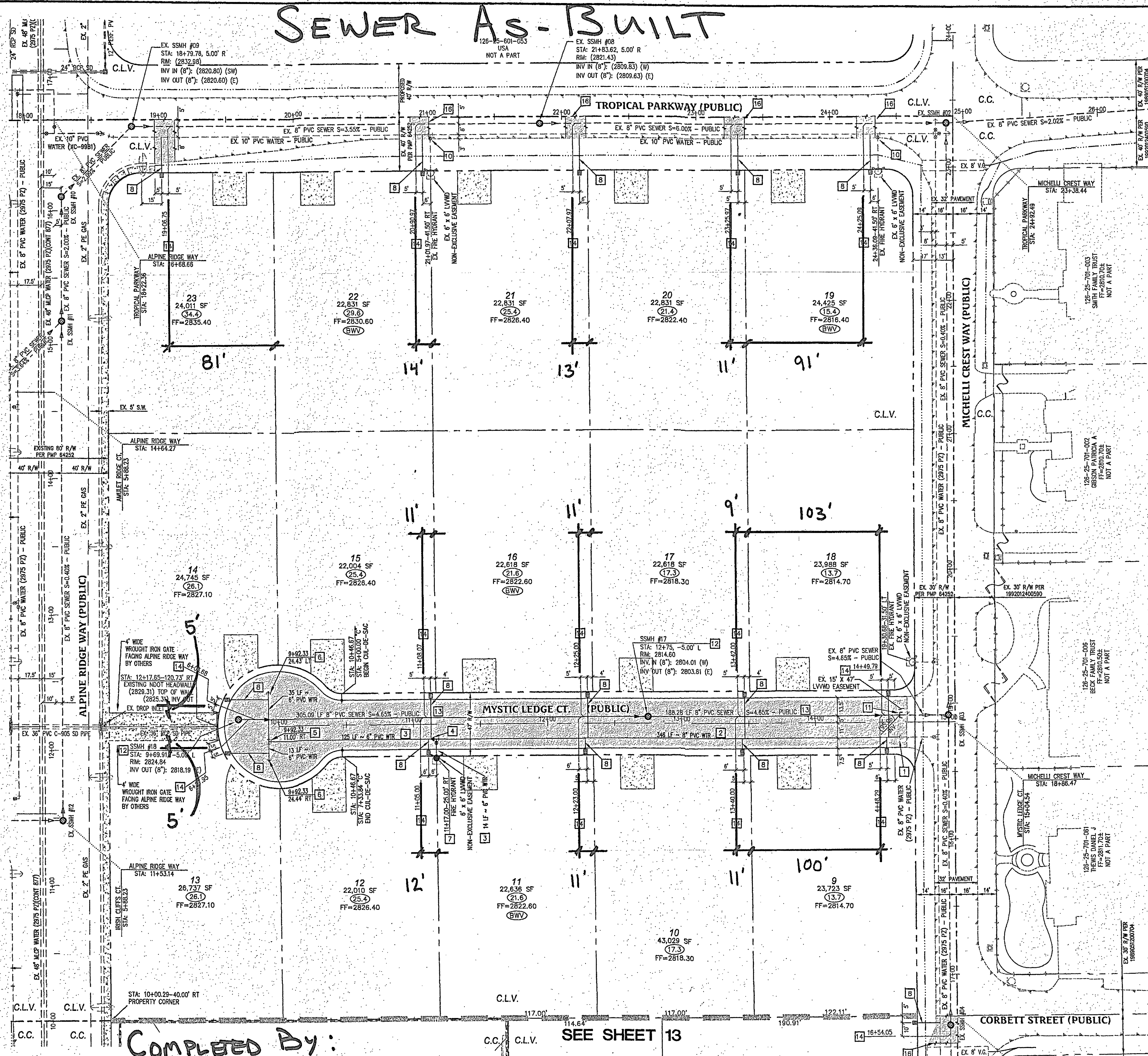


SEWER AS-BUILT

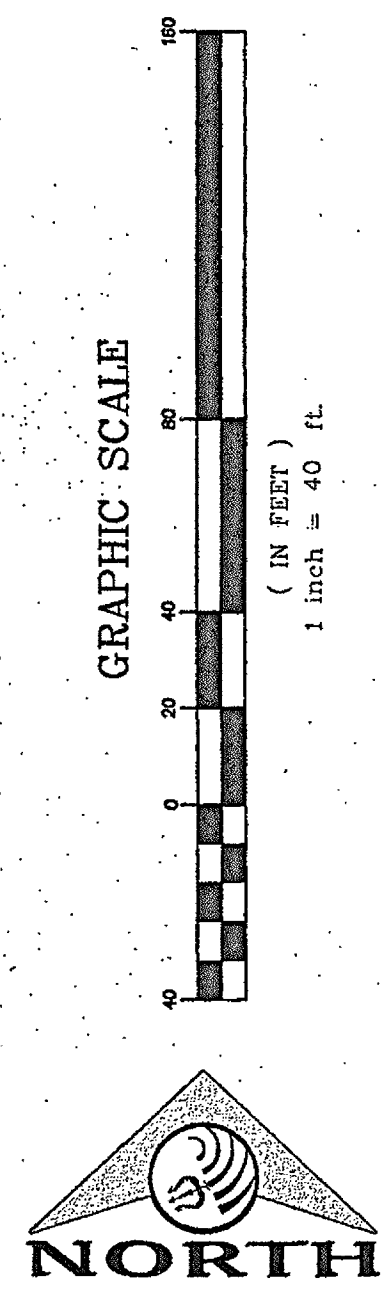
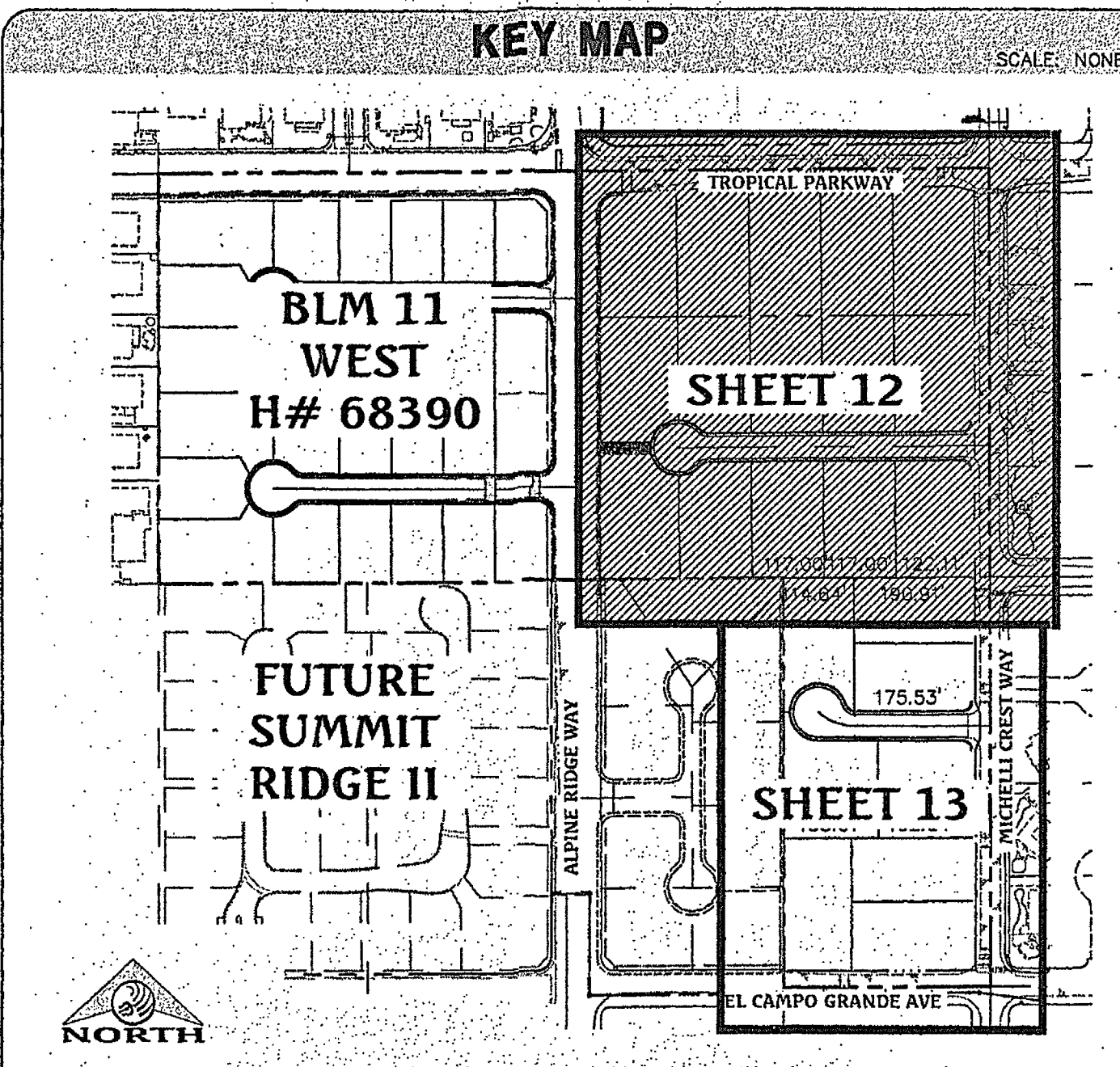


FAST
Call before you Dig
1-702-432-5300
Avoid overhead power line contact. It's costly.

Call before you Overhead
1-702-227-2929

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

811
OR
1-800-227-2800



- ### WATER & SEWER CONSTRUCTION NOTES
- POC (2075 P2) - REMOVE EXISTING BLOW OFF W/ CAP PER UDACS PLATE NO. 36 AND EXTEND 8" PVC WATER PIPE PER UDACS PLATE NO. 17.
 - INSTALL 8" PVC WATER PIPE PER UDACS PLATE NO. 17.
 - INSTALL 8" PVC WATER PIPE PER UDACS PLATE NO. 17.
 - INSTALL 8" PVC REDUCER PER UDACS PLATE NO. 30.
 - INSTALL 8" PVC BLOW OFF ASSEMBLY WITH CAP PER UDACS PLATE NO. 36.
 - INSTALL FIRE HYDRANT ASSEMBLY WITH 6" GATE VALVE AND 8" PVC TEE PER UDACS PLATE NO. 40.
 - INSTALL 1" COPPER WATER SERVICE W/ 3/4" METER PER UDACS PLATE NO. 3.
 - EX. 8" BLOW OFF, PROTECT IN PLACE, ADJUST RIM PER UDACS PLATE NO. 37.
 - EX. WATER GATE VALVE, PROTECT IN PLACE, ADJUST/REPLACE CONCRETE COLLAR PER UDACS PLATE NO. 39.
 - POC - REMOVE CAP AND THRUST BLOCK, CONNECT TO EXISTING SEWER STUB AND EXTEND 8" PVC SEWER PIPE PER UDACS PLATE NO. 37.
 - INSTALL 48" MANHOLE PER UDACS PLATE NO. 1A, SD-18, SD-4 WITH PRECAST BASE, WITH SINGLE COVER.
 - INSTALL 8" PVC SEWER PIPE PER UDACS PLATE NO. 16.
 - INSTALL 4" PVC SEWER LATERAL WITH MARKER BALL & CURB MARKING, PER UDACS PLATE NO. 22 AND SD-25.
 - EX. SEWER MANHOLE, PROTECT IN PLACE, ADJUST RIM PER UDACS PLATE NO. 4 & SD-5 IF APPLICABLE.
 - SAW CUT AND MATCH EXISTING ASPHALT.

UTILITY LEGEND

SYMBOL	EXISTING	PROPOSED
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 WATER LATERAL WITH 3/4" METER	
EX. UTILITY MANHOLE	EXISTING UTILITY MANHOLE	
PROPOSED UTILITY MANHOLE	PROPOSED UTILITY MANHOLE	
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	

WATER SERVICE CONNECTION NOTE

SERVICE LATERALS FOR LOTS 19 TO 23 WILL BE TAPPED ON EXISTING MAIN BY OWNER'S CONTRACTOR UNDER DIRECTION OF THE LVVWD.

PROTECT IN PLACE AND ADJUST LVVWD EXISTING FACILITIES TO FINISHED GRADE. ALL LVVWD FACILITIES SHALL BE ACCESSIBLE AT ALL TIMES.
ESN. 078 01/05/15

THE DISTRICT CANNOT GUARANTEE A WATERTIGHT SHUTDOWN WHERE CONNECTIONS OR REPAIRS TO EXISTING FACILITIES ARE REQUIRED. THE CONTRACTOR SHALL ENSURE ALL LABOR AND EQUIPMENT IS AVAILABLE TO REMOVE FUGITIVE WATER THAT MAY IMPERE 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 APPOINTMENTS ARE AVAILABLE.

BASIS OF BEARING

NORTH 89°27'31" EAST, BEING THE BEARING OF THE NORTH LINE OF THE NORTHWEST QUARTER (NW1/4) OF THE SOUTHEAST QUARTER (SE1/4) OF SECTION 25, TOWNSHIP 19 SOUTH, RANGE 58 EAST, M.D.M., AS SHOWN IN FILE 196, PAGE 87 OF SURVEYS ON FILE AT THE CLARK COUNTY, NEVADA RECORDER'S OFFICE.

BENCHMARK

BENCHMARK # 10992555W6
RIVET AND SQUARE ALUMINUM PLATE IN NORTHEAST CORNER OF A CONCRETE BASE FOR LARGE POWER POLE (#40-8) AT THE WEST END OF ANN ROAD
ELEVATION = 880.385 METERS (NAV88)
ELEVATION = 2,888.33 U.S. FEET (NAV88)

FIRE FLOW CALCULATIONS

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

BASED ON:

SQUARE FOOTAGE:	4,800 SQUARE FEET
LARGEST AREA BETWEEN 4-HOUR AREA SEPARATION WALLS:	N/A SQUARE FEET
BUILDING HEIGHT:	25 FEET-4 INCHES
NUMBER OF STORIES:	2 FLOORS
TYPE OF CONSTRUCTION:	V-NON RATED
OCCUPANCY:	RESIDENTIAL

FULL AUTOMATIC FIRE HOMES GREATER THAN 4,800 SF - YES*
SPRINKLER SYSTEM HOMES LESS THAN 4,800 SF - NO

* HOMES WITH SQUARE FOOTAGES GREATER THAN 4,800 SF. ARE EQUIPPED WITH FULL AUTOMATIC FIRE SPRINKLER SYSTEM (NFPA 130) WHICH ALLOWS REDUCTION IN REQUIRED FIRE FLOW TO A FLOW RATE BELOW THE REQUIRED 1,750 GPM SHOWN ABOVE.

FIRE DEPARTMENT APPROVAL

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

APPROVED FOR CONSTRUCTION

Signature
LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES MANAGER
DATE: 5/14/17 PROJECT NO.: 125528
LVVWD APPROVED FIRE FLOW: 1,250 GPM @ 20 PSI RESIDUAL

APPROVALS

1 OF 2
LAS VEGAS FIRE AND RESCUE
DATE

COMPLETED BY:
KNL CONSTRUCTION, LLC
09/20/2018
Robert M Walker
ROBERT M WALKER

UTILITY APPURTENANCES

ALL ABOVE GROUND UTILITY APPURTENANCES SHALL CONFORM TO THE REQUIREMENTS OF TITLE 19.06 AND 19.08.

PRESSURE REDUCING VALVE

NO PRVs ARE REQUIRED

BACK WATER VALVE

BACKWATER VALVES REQUIRED PER U.P.C., LATEST EDITION, SECTION 710.0.
THE FOLLOWING LOTS REQUIRE A BACKWATER VALVE: LOT 4, LOT 11, LOT 16, LOT 19, AND LOT 22
TOTAL LOTS REQUIRING BACKWATER VALVES = 5

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.

DATE: 02/10/2017
DRAWN BY: J. PEARCE
DESIGNED BY:
CHECKED BY:
JOB NO.: 007104
SCALE: 1" = 40'

Triton Engineering
6757 W. Charleston Blvd.
Suite B
Las Vegas, Nevada 89146
Office: (702) 254-1480
Fax: (702) 254-3902
www.tritoneng.com

DR HORTON
BLM SITE 11 EAST
ON-SITE IMPROVEMENT PLANS
UTILITY PLAN
Sewer As-Built

PROFESSIONAL ENGINEER - STATE OF NEVADA
JAMES M. PEARCE
Exp. 12-31-17
CIVIL
No. 9552

SHEET **12** OF 15
C.L.V. DWG.# 68388

C:\Triton Drawings\007-004 BLM Site 11 East\Improvement Plans\On-site\007-004 On E Imps_13-Utilities.dwg Date: 14 Apr 2017 10:32am

THE DISTRICT CANNOT GUARANTEE A WATERTIGHT SHUTDOWN WHERE CONNECTIONS OR REPAIRS TO EXISTING FACILITIES ARE REQUIRED. THE CONTRACTOR SHALL ENSURE ALL LABOR AND EQUIPMENT IS AVAILABLE TO REMOVE FUGITIVE WATER THAT MAY IMPEDE 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 APPURTENANCES ARE AVAILABLE.

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.

PRESSURE REDUCING VALVE

NO PRVs ARE REQUIRED

BACK WATER VALVE

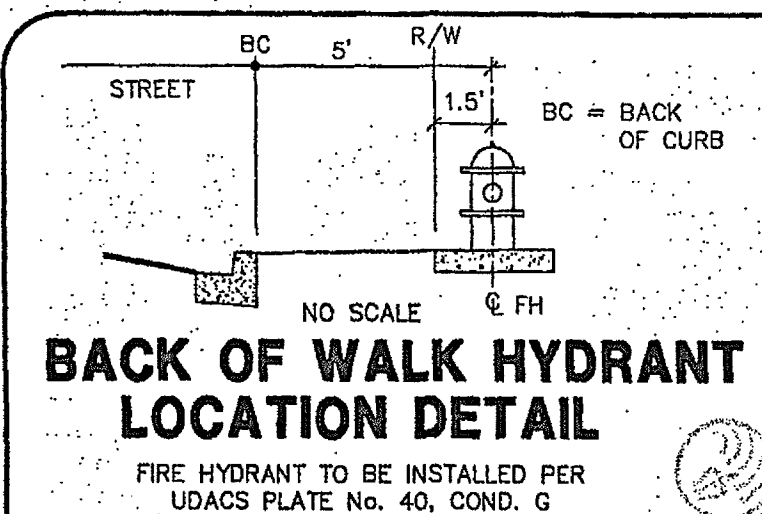
BACKWATER VALVES REQUIRED PER U.P.C., LATEST EDITION, SECTION 710.0.
THE FOLLOWING LOTS REQUIRE A BACKWATER VALVE:
LOT 4, LOT 11, LOT 16, LOT 19, AND LOT 22
TOTAL LOTS REQUIRING BACKWATER VALVES = 5

UTILITY APPURTENANCES

ALL ABOVE GROUND UTILITY APPURTENANCES SHALL CONFORM TO THE REQUIREMENTS OF TITLE 19.06 AND 19.08.

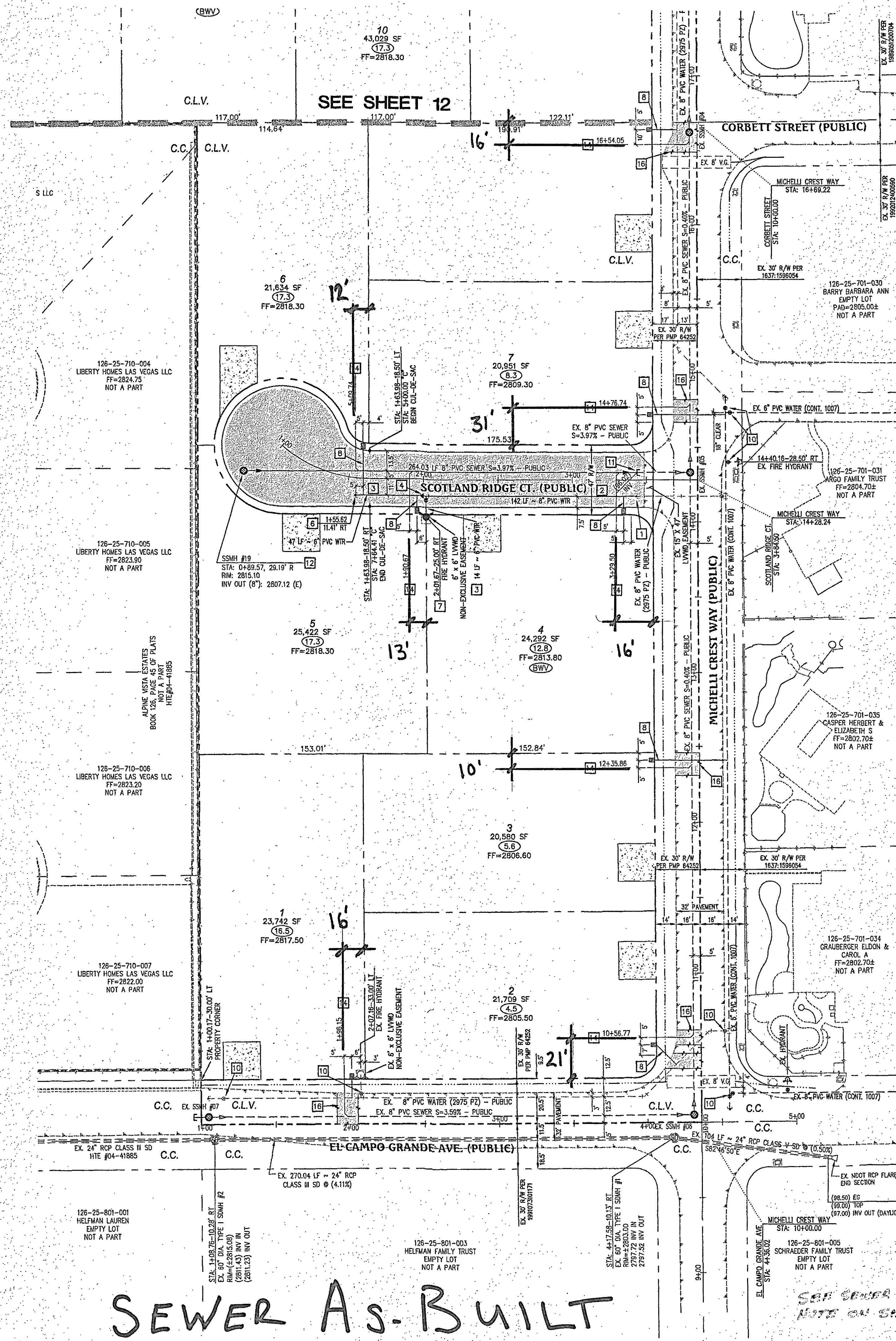
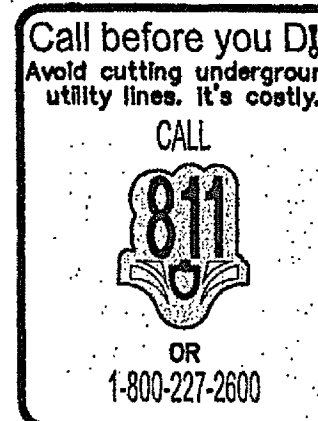
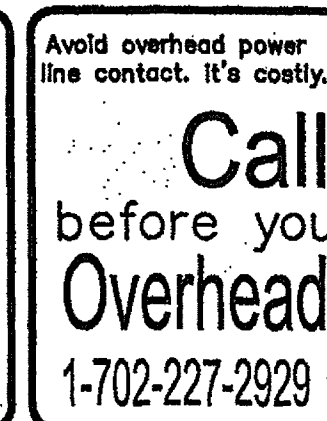
WATER MAIN JOINT DEFLECTION (PVC, 4"-24")

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.



BACK OF WALK HYDRANT LOCATION DETAIL

FIRE HYDRANT TO BE INSTALLED PER UDACS PLATE No. 40, COND. G



WATER & SEWER CONSTRUCTION NOTES

- POC (2975 P2) - REMOVE EXISTING BLOW OFF W/ CAP PER UDACS PLATE No. 38 AND EXTEND 8" PVC WATER PIPE PER UDACS PLATE No. 17.
- INSTALL 8" PVC WATER PIPE PER UDACS PLATE No. 17.
- INSTALL 8" PVC WATER PIPE PER UDACS PLATE No. 17.
- INSTALL 8" PVC REDUCER PER UDACS PLATE No. 30.
- INSTALL 8" PVC TEE PER UDACS PLATE No. 31.
- INSTALL 2" BLOW OFF ASSEMBLY WITH CAP PER UDACS PLATE No. 36.
- INSTALL FIRE HYDRANT ASSEMBLY WITH 6" GATE VALVE AND 6" W/ TEE PER UDACS PLATE No. 40.
- INSTALL 1" COPPER WATER SERVICE W/ 3/4" METER PER UDACS PLATE No. 3.
- EX. 4" BLOW OFF, PROTECT IN PLACE, ADJUST RIM PER UDACS PLATE No. 37.
- EX. WATER GATE VALVE, PROTECT IN PLACE, ADJUST/REPLACE CONCRETE COLLAR PER UDACS PLATE No. 39.
- POC - REMOVE CAP AND THRUST BLOCK, CONNECT TO EXISTING SEWER STUP AND EXTEND 8" PVC SEWER PIPE PER PER DCSWCS SD-16.
- INSTALL 48" MANHOLE PER DCSWCS SD-1A, SD-1B, SD-4 WITH PRECAST BASE, WITH SINGLE COVER.
- INSTALL 8" PVC SEWER PIPE PER DCSWCS SD-16.
- INSTALL 4" PVC SEWER LATERAL WITH MARKER BALL & CURB MARKING, PER DCSWCS SD-22 AND SD-25.
- EX. SEWER MANHOLE, PROTECT IN PLACE, ADJUST RIM PER DCSWCS SD-4 & SD-5 IF APPLICABLE.
- SAWCUT AND MATCH EXISTING ASPHALT.

PROTECT IN PLACE AND ADJUST LVWD EXISTING FACILITIES TO FINISHED GRADE. ALL LVWD FACILITIES SHALL BE ACCESSIBLE AT ALL TIMES.
ESN. 078 01/05/15

WATER SERVICE CONNECTION NOTE

SERVICE LATERALS FOR LOTS 1-3, 7-8 WILL BE TAPPED ON EXISTING MAIN BY OWNER'S CONTRACTOR UNDER DIRECTION OF THE LVWD.



(IN FEET)
1 inch = 40 ft.

BASIS OF BEARING

NORTH 89°27'31" EAST, BEING THE BEARING OF THE NORTH LINE OF THE NORTHWEST QUARTER (NW/4) OF THE SOUTHEAST QUARTER (SE/4) OF SECTION 25, TOWNSHIP 19 SOUTH, RANGE 59 EAST, M.D.M., AS SHOWN IN FILE 196, PAGE 87 OF SURVEYS ON FILE AT THE CLARK COUNTY, NEVADA RECORDER'S OFFICE.

BENCHMARK

BENCHMARK # 10992555W6
RIVET AND SQUARE ALUMINUM PLATE IN NORTHEAST CORNER OF A CONCRETE BASE FOR LARGE POWER POLE (#40-8) AT THE WEST END OF ANN ROAD
ELEVATION = 880.365 METERS (NAVD/89)
ELEVATION = 2,888.33 U.S. FEET (NAVD/89)

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
VALVE	PROPOSED VALVE
EX. REDUCER	PROPOSED REDUCER
REDUCER	PROPOSED STANDARD FIRE HYDRANT WITH 6" LATERAL, 6" GATE VALVE AND TEE
EX. BACK WATER VALVE	BACK WATER VALVE
BACK WATER VALVE	PRESSURE REDUCING VALVE
EX. STREET LIGHT	EXISTING STREET LIGHT
STREET LIGHT	FUTURE STREET LIGHT
EX. 100W HPS STREET LIGHT	PROPOSED 100W HPS STREET LIGHT
100W HPS STREET LIGHT	PROPOSED 150W HPS STREET LIGHT
EX. 200W HPS STREET LIGHT	PROPOSED 200W HPS STREET LIGHT
200W HPS STREET LIGHT	PROPOSED 250W HPS STREET LIGHT
EX. 400W HPS STREET LIGHT	PROPOSED 400W HPS STREET LIGHT
400W HPS STREET LIGHT	PROPOSED CONCRETE DRIVEWAY

FIRE FLOW CALCULATIONS

THE FIRE FLOW REQUIREMENT IS: 1,750 GALLONS PER MINUTE 20 PSI RESIDUAL PRESSURE.
BASED ON:
SQUARE FOOTAGE: 4,800 SQUARE FEET
LARGEST AREA BETWEEN 4-HOUR AREA SEPARATION WALLS: N/A SQUARE FEET
BUILDING HEIGHT: 25 FEET-4 INCHES
NUMBER OF STORIES: 2 FLOORS
TYPE OF CONSTRUCTION: V-NON RATED
OCCUPANCY: RESIDENTIAL
FULL AUTOMATIC FIRE HOMES GREATER THAN 4,800 SF - YES*
SPRINKLER SYSTEM - HOMES LESS THAN 4,800 SF - NO
* HOMES WITH SQUARE FOOTAGES GREATER THAN 4,800 S.F. ARE EQUIPPED WITH FULL AUTOMATIC FIRE SPRINKLER SYSTEM (NFA 130) WHICH ALLOWS REDUCTION IN REQUIRED FIRE FLOW TO A FLOW RATE BELOW THE REQUIRED 1,750 GPM SHOWN ABOVE.

FIRE DEPARTMENT APPROVAL

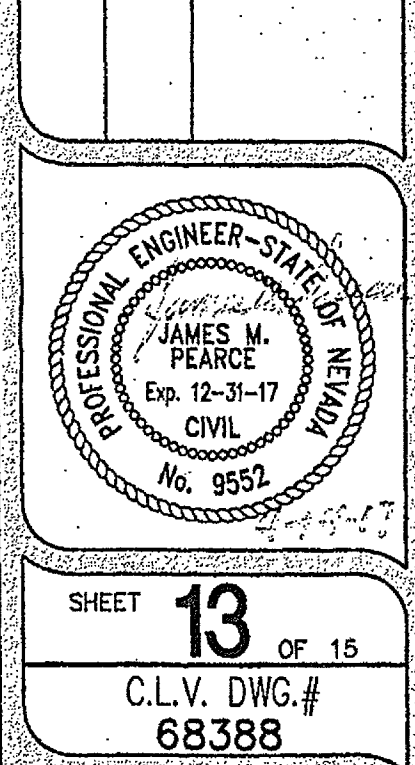
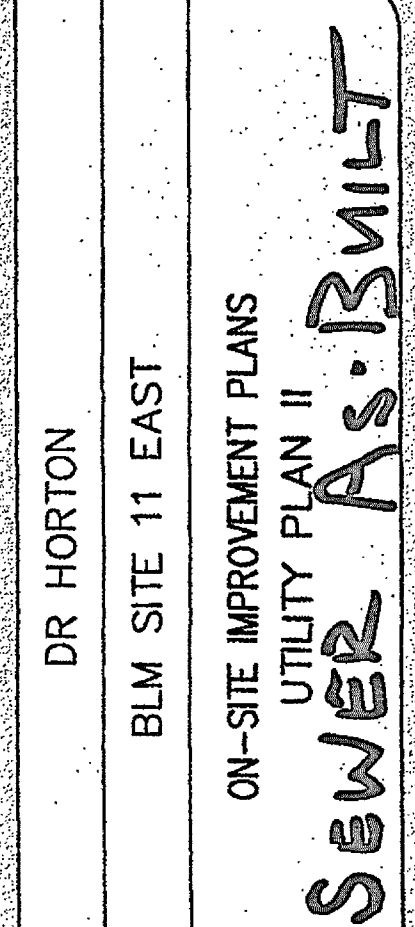
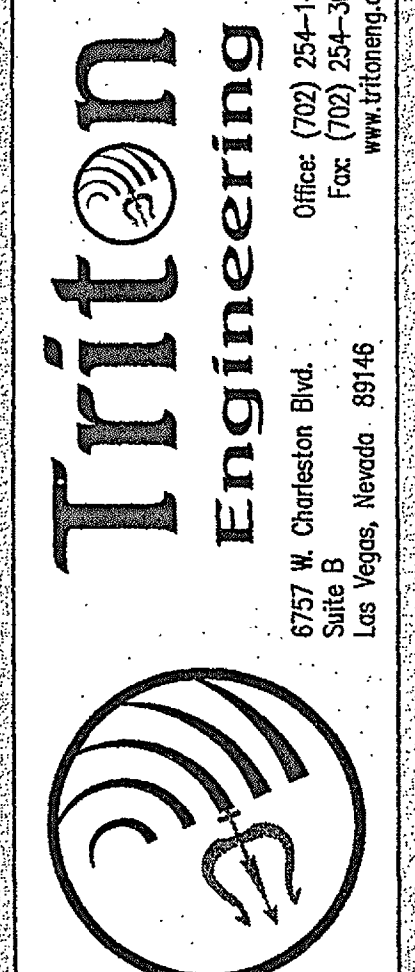
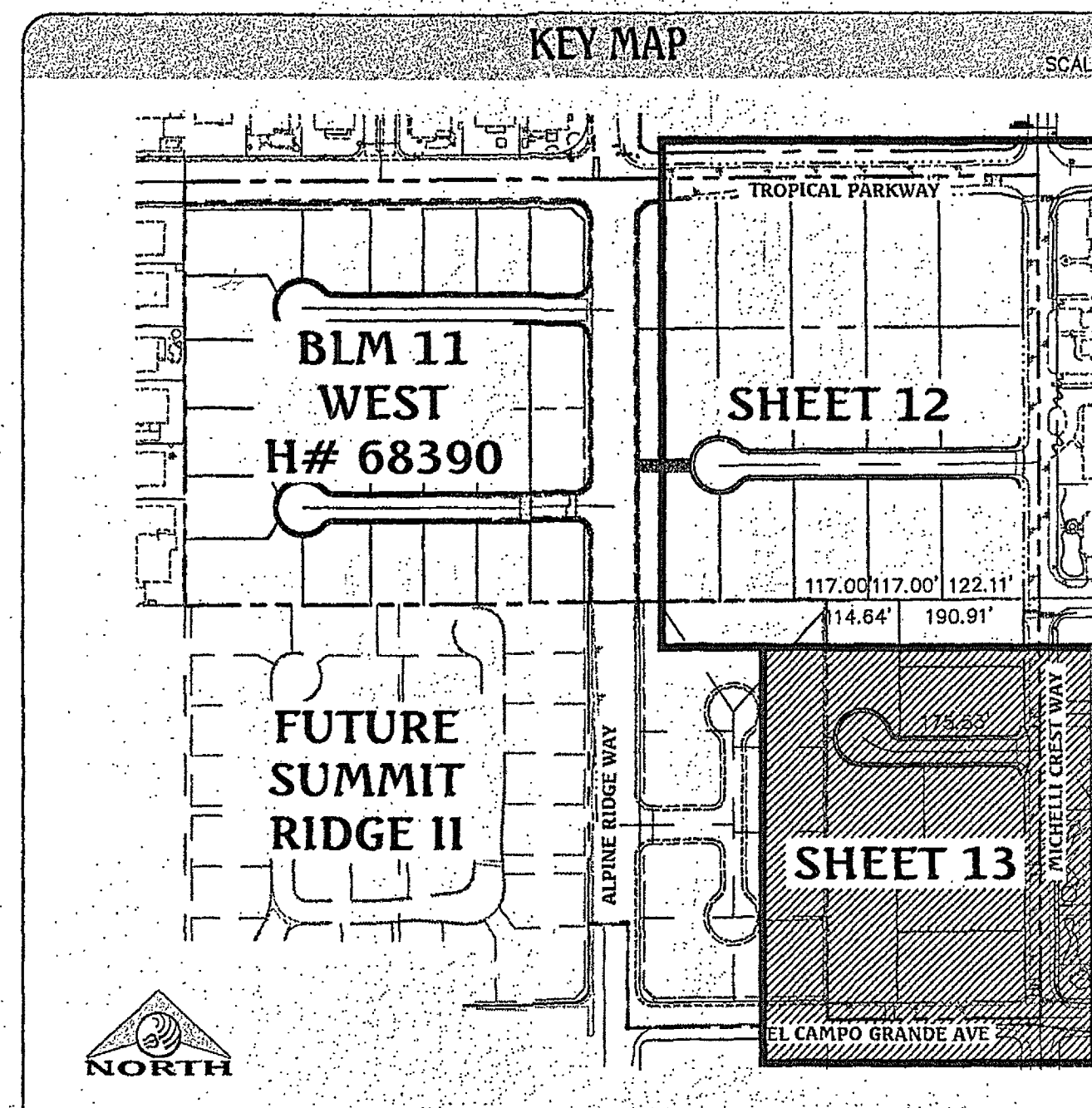
APPROVAL BY THE FIRE DEPARTMENT HAVING JURISDICTION IS REQUIRED PRIOR TO OBTAINING FINAL APPROVAL FROM THE LVWD.

APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY-WATER DISTRICT ENGINEERING SERVICES MANAGER
DATE: 4/10/17 PROJECT No.: 1255228
LVWD APPROVED FIRE FLOW 1,750 GPM @ 20 PSI RESIDUAL

APPROVALS

2 OF 2
LAS VEGAS FIRE AND RESCUE
DATE: 4/10/17



SHEET 13 OF 15
C.L.V. DWG.# 68388

PROJ# 125228 AGR-16200 QS-126-22-SE XC-1123