WATER NOTE:

1. ALL CONSTRUCTION AND MATERIAL SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF UNIFORM DESIGN AND CONSTRUCTION STANDARDS FOR WATER DISTRIBUTION SYSTEMS (UDACS) EXCEPT FOR PROJECTS SERVICED BY THE VIRGIN VALLEY WATER DISTRICT

APN 125-20-501-001 SEWER NOTE:

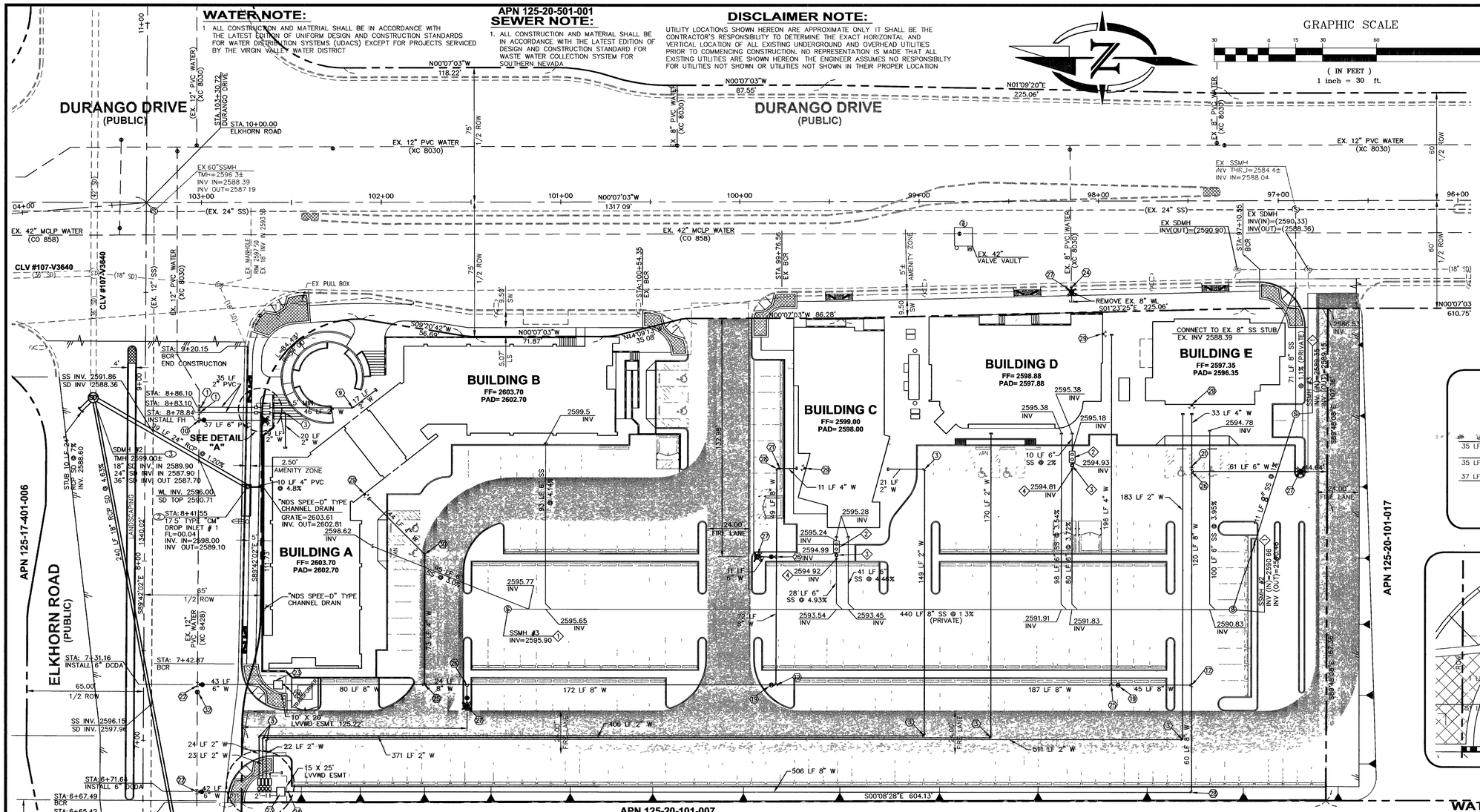
1. ALL CONSTRUCTION AND MATERIAL SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF DESIGN AND CONSTRUCTION STANDARD FOR WASTE WATER COLLECTION SYSTEM FOR SOUTHERN NEVADA

DISCLAIMER NOTE:

UTILITY LOCATIONS SHOWN HEREON ARE APPROXIMATE ONLY IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXACT HORIZONTAL AND VERTICAL LOCATION OF ALL EXISTING UNDERGROUND AND OVERHEAD UTILITIES PRIOR TO COMMENCING CONSTRUCTION. NO REPRESENTATION IS MADE THAT ALL EXISTING UTILITIES ARE SHOWN HEREON THE ENGINEER ASSUMES NO RESPONSIBILTY FOR UTILITIES NOT SHOWN OR UTILITIES NOT SHOWN IN THEIR PROPER LOCATION

GRAPHIC SCALE

(IN FEET)
1 inch = 30 ft.



BENCHMARK

LAS VEGAS VERTICAL CONTROL v.2003 POINT # 6LV90 175SE6, BEING A RIVET & ROUND PLATE IN CONCRETE CYLINDER AT THE +/-38' NORTH OF ELKHORN ROAD CENTERLINE AT THE INTERSECTION OF EL CAPITAN WAY. ELEVATION- 2564 67 (FEET)
781.713 (METERS)
NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD'88)

BASIS OF BEARING

NORTH 00°07'03" WEST, BEING THE CENTERLINE OF EL CAPITAN WAY AS PER RECORD FILE 118 PAGE 0098 OF OFFICIAL RECORDS, CLARK COUNTY, NEVADA

QUANTITIES

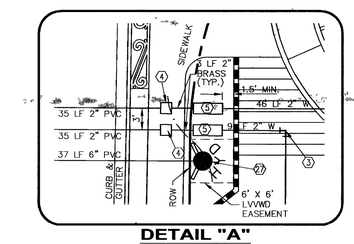
WATER	PUBLIC	PRIVATE
1 1/2" WATER METER	1 EA.	
2" WATER METER	4 EA.	
1" WATER METER	1 EA	
1 1/2" RPPA		1 EA.
2" RPPA		4 EA.
1" RPPA		1 EA.
6" DCDA		2 EA
FIRE HYDRANT	2 EA.	3 EA.
8" GATE VALVE		2 EA.

SEWER	PUBLIC	PRIVATE
48" SSMH		3 EA.
1200 GAL GREASE INTERCEPTOR		2 EA.
CLEAN OUT		2 EA

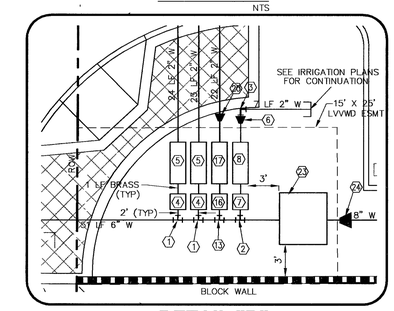
SEWER CONTRIBUTION

* AVE. DAILY – 2,546 GPM
**PEAK DAILY – 8 402 GPM
* AVE DAILY = 0.10 GALLONS PER SQ FT PER DAY
* AVE. DAILY = 36,687 S.F (0 10 GAL/SQ FT /DAY) = 3666.7 GPD= 2.546 GPM

**PEAK DAILY =3.3 (AVE.) 3.3 X 2.546 GPM= 8.402 GPM



DETAIL "A"
NTS



DETAIL "B"
NTS

WATER CONSTRUCTION NOTES

1. INSTALL 2" WATER SERVICE SADDLE WITH CORP STOP PER UDACS PL#1D
2. INSTALL 1" WATER SERVICE SADDLE WITH CORP. STOP PER UDACS PL#1D
3. INSTALL 2" 90° BEND
4. INSTALL 2" WATER METER PER UDACS PL #1D
5. INSTALL 2" RPPA PER UDACS PL #11A
6. INSTALL 2" X 1" REDUCER
7. INSTALL 1" WATER METER PER UDACS PL #1D (IRRIGATION)
8. INSTALL 1" RPPA PER UDACS PL #11A (IRRIGATION)
9. INSTALL 2" 45° BEND
10. INSTALL 12" X 6" TEE WITH THRUST BLOCKS PER UDACS PL #5
11. INSTALL 4" 90° BEND PER UDACS PL #5
12. INSTALL 8" X 8" TEE WITH THRUST BLOCK PER UDACS PL #5
13. INSTALL 1 1/2" WATER SERVICE SADDLE WITH CORP. STOP PER UDACS PL#1D
14. INSTALL 4" X 4" TEE WITH THRUST BLOCK PER UDACS PL #5
15. INSTALL 1 1/2" 90° BEND
16. INSTALL 1 1/2" WATER METER PER UDACS PL #1D
17. INSTALL 1 1/2" RPPA PER UDACS PL #11A
18. INSTALL 1 1/2" X 1" REDUCER
19. INSTALL 8" GATE VALVE PER UDACS PL #3
20. INSTALL 1 1/2" X 2" REDUCER
21. INSTALL 8" X 4" REDUCER PER UDACS PL #3
22. INSTALL 12" X 6" TAPPING SLEEVE WITH 6" TAPPING VALVE PER UDACS PL #22
23. INSTALL 6" FEBCO "N" PATTERN DCDA PER UDACS PL #11C
24. INSTALL 6" X 8" REDUCER PER UDACS PL #3
25. INSTALL 8" X 4" TEE WITH THRUST BLOCKS PER UDACS PL #5
26. INSTALL 8" X 6" TEE WITH THRUST BLOCKS PER UDACS PL #5
27. INSTALL FIRE HYDRANT ASSEMBLY PER UDACS PLATE #7
28. INSTALL 8" 90° BEND PER UDACS PL #5
29. INSTALL FIRE DEPARTMENT CONNECTION
30. INSTALL 4" 45° BEND PER UDACS PL #5
31. NOT USED
32. INSTALL 12" GATE VALVE PER UDACS PL #3

REDUCED PRESSURE PRINCIPLE ASSEMBLY (4) 2" - (1) 1 1/2" - (1) 1"

APPROVED REDUCED PRESSURE PRINCIPLE ASSEMBLY(S) SHALL BE INSTALLED PER THE UDACS PLATE NO 11A. NO WATER SHALL BE TAKEN FROM A SERVICE REQUIRING BACKFLOW PREVENTION UNTIL THE REDUCED PRESSURE PRINCIPLE ASSEMBLY HAS BEEN SUCCESSFULLY TESTED BY THE LVVWD

ANY BLOCK WALL OR OTHER FENCE MATERIAL SHALL BE DESIGNED AND CONSTRUCTED AROUND THE OUTSIDE OF THE EASEMENT(S) TO ALLOW THE DISTRICT DIRECT ACCESS FROM THE ADJACENT RIGHT-OF-WAY.

EASEMENTS SHALL BE CLEARLY MARKED OR STAKED PRIOR TO THE STATE OF CONSTRUCTION

INSTALLATION OF DOUBLE CHECK DETECTOR ASSEMBLY (2) - 6"

THE DOUBLE CHECK DETECTOR ASSEMBLY SHALL BE INSTALLED IN ACCORDANCE WITH THE UDACS STANDARD PLATE 11C.

ANY BLOCK WALL OR OTHER FENCE MATERIAL SHALL BE DESIGNED AND CONSTRUCTED AROUND THE OUTSIDE OF THE EASEMENT(S) SO AS TO ALLOW THE DISTRICT DIRECT ACCESS FROM THE ADJACENT RIGHT-OF-WAY.

EASEMENTS SHALL BE CLEARLY MARKED OR STAKED PRIOR TO THE STATE OF CONSTRUCTION

PIPE MATERIAL CONSTRUCTION LIST

UNLESS OTHERWISE NOTED ON THE PLANS, ALL PIPE MATERIALS USED SHALL BE AS FOLLOWS:
WATER SYSTEM
ALL PIPES GREATER THAN 4" IN DIAMETER SHALL BE CONSTRUCTED USING PVC C-900
ALL PIPES LESS THAN 4" IN DIAMETER SHALL BE CONSTRUCTED USING PVC SCH 40
SEWER SYSTEM
ALL PIPES SHALL BE CONSTRUCTED USING SDR-35
STORM DRAIN SYSTEM
ALL PIPES SHALL BE CONSTRUCTED USING MATERIALS AS NOTED ON PLANS

STORM DRAIN CONSTRUCTION NOTES

1. CONNECT NEW 18" RCP TO PROPOSED MANHOLE. (MANHOLE PROPOSED BY WHITNEY HEIGHTS PROJECT & DESIGNED BY THOMASON CONSULTING ENGINEERS.
2. INSTALL 17.5' TYPE "CW" WITH "6 NUMBER GRATES" PER CLV STANDARDS SEE DETAIL ON SHEET C6.01.
3. INSTALL TYPE I MANHOLE PER CCAUSD #403.

SEWER CONSTRUCTION NOTES

1. INSTALL 48" SANITARY SEWER MANHOLE PER WASTEWATER COLLECTION SYSTEMS STANDARDS #SD-1
2. INSTALL 1200 GALLON JENSEN GREASE INTERCEPTOR MODEL 1200EE (1,200 GPD/DAY DAILY – SEE PLUMBING PLANS)
3. INSTALL 24" JENSEN SAMPLING BOX MODEL 2432-Z
4. INSTALL 6" SEWER CLEAN OUT

CLV FIRE FLOW CALCULATIONS

FIRE FLOW REQUIREMENT IS 2,000 GALLONS PER MINUTE AT 20 PSI RESIDUAL PRESSURE.

BASED ON
SQUARE FOOTAGE: 23,067 SQUARE FEET
LARGEST AREA BETWEEN 4-HOUR AREA SEPARATION WALLS: 23,067 SQUARE FEET
BUILDING HEIGHT: 35 FEET
NUMBER OF STORIES 2 FLOORS
TYPE OF CONSTRUCTION: V-N
OCCUPANCY: M-MERCHANT RETAIL

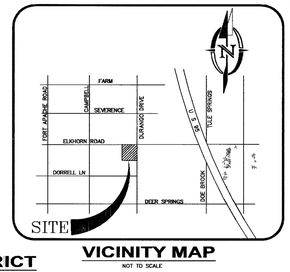
FULL AUTOMATIC FIRE SPRINKLER SYSTEM ☒YES ☐NO (ALL BUILDINGS)

REVIEWED BY [signature] LAS VEGAS FIRE DEPT. DATE 3/9/05

LAS VEGAS VALLEY WATER DISTRICT

APPROVAL

LVVWD PROJECT # H105003 DATE



VICINITY MAP
NOT TO SCALE

WATER AND SEWER MAIN CROSSING NOTE

PER UNIFORM DESIGN AND CONSTRUCTION STANDARDS FOR WATER DISTRIBUTION SYSTEMS 2003, 2.19.01

A. THE FOLLOWING SEPARATIONS MUST BE MAINTAINED BETWEEN ALL STORM AND SANITARY SEWER LINES WHICH PARALLEL WATER LINES SIX (6) INCHES AND LARGER

1) WATER MAINS AND SEWER LINES SHALL BE INSTALLED IN SEPARATE TRENCHES WITH AT LEAST TEN (10) FEET OF SEPARATION MEASURED HORIZONTALLY FROM EXTERIOR PIPE WALLS

2) SEWER LINES SHALL BE PLACED LOWER THAN WATER MAINS WHENEVER POSSIBLE

PER UNIFORM DESIGN AND CONSTRUCTION STANDARDS FOR WATER DISTRIBUTION SYSTEMS 2003, 2 19 02

B. WHERE THE WATER MAIN IS BELOW THE SEWER MAIN, OR WHERE THE WATER MAIN IS ABOVE THE SEWER MAIN WITH A VERTICAL SEPARATION LESS THAN EIGHTEEN (18) INCHES, THE FOLLOWING PROVISIONS SHALL APPLY:

1) A REASONABLE EFFORT MUST BE MADE TO PLACE WATER AND SEWER PIPELINE JOINTS AN EQUAL DISTANCE FROM THE CROSSING POINT THIS REQUIREMENT DOES NOT APPLY TO WELDED JOINTS

2) A VERTICAL SEPARATION OF NO LESS THAN SIX (6) INCHES MUST BE MAINTAINED AND STRUCTURAL SUPPORT FOR THE SEWER AND/OR WATER MAIN TO BE DETERMINED BY THE ENGINEER AND APPROVED BY THE AGENCY HAVING JURISDICTION

3) THE SEWER MAIN WILL BE CONSTRUCTED ONE OF THE FOLLOWING OPTIONS, IN THE FOLLOWING PRIORITY.

a. THE SEWER MAIN MUST BE CONSTRUCTED OF WATER SUPPLY QUALITY MATERIALS MEETING AWWA STANDARDS

b. THE SEWER MAIN (DEPENDING ON FIELD CONDITIONS) SHALL BE TOTALLY ENCASED IN A MINIMUM OF FOUR (4) INCHES OF CEMENT SLURRY (300 PSI +/-) FOR A DISTANCE OF TEN (10) FEET ON EACH SIDE OF THE CROSSING ENCASEMENT WILL NOT BE PERMITTED FOR ASBESTOS CEMENT PIPE

c. THE SEWER MAIN OR WATER MAIN MAY BE INSTALLED IN A SLEEVE OF WATER QUALITY PIPE WHICH EXTENDS, WITHOUT JOINTS, TEN (10) FEET ON EACH SIDE OF THE MAIN. (SEE UDACS PLATE 15)

d. THE ENGINEER MAY PETITION THE AGENCY FOR APPROVAL TO ENCASE THE WATER MAIN (DEPENDING ON FIELD CONDITIONS) IN A MINIMUM OF FOUR (4) INCHES OF CEMENT SLURRY (300 PSI +/-) FOR A DISTANCE OF TEN (10) FEET ON EACH SIDE OF THE CROSSING ENCASEMENT WILL NOT BE PERMITTED FOR ASBESTOS CEMENT PIPE.

REV. #	BY	DATE	DESCRIPTION	APP

REVISION APPROVAL BLOCK

SCALE: 1"=30'
DRAWN BY: TT
DESIGNED BY: TT
CHECKED BY: DM
SUBMITTAL DATE:
JOB NO: 41-104

INTEGRITY ENGINEERING
2480 E. Tompkins Ave.
Suite # 232
Las Vegas, NV 89121
phone: 702.456.4664
fax: 702.456.4919

TITLE: DURANGO / ELKHORN COMMERCIAL CENTER (AKA TOWN CENTER PLAZA)

SHEET: UTILITY PLAN

REGISTERED PROFESSIONAL ENGINEER STATE OF NEVADA
TIMOTEO S. MORENO
Exp. 12-31-05
CIVIL
No. 10361
2/15/05

SHEET C4.01
7 OF 14 SHEETS
DRAWING NO. 107V4343

79190