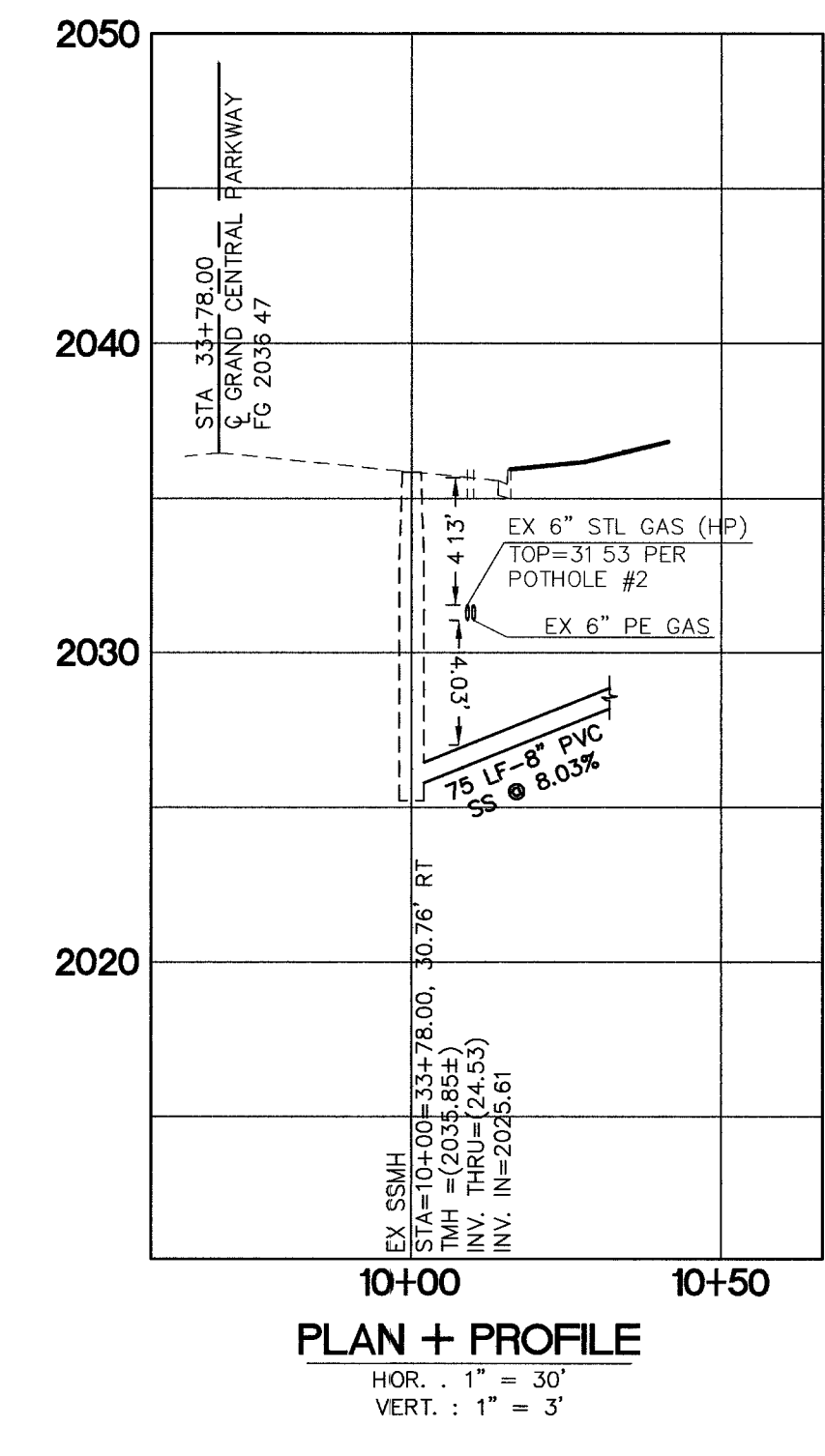
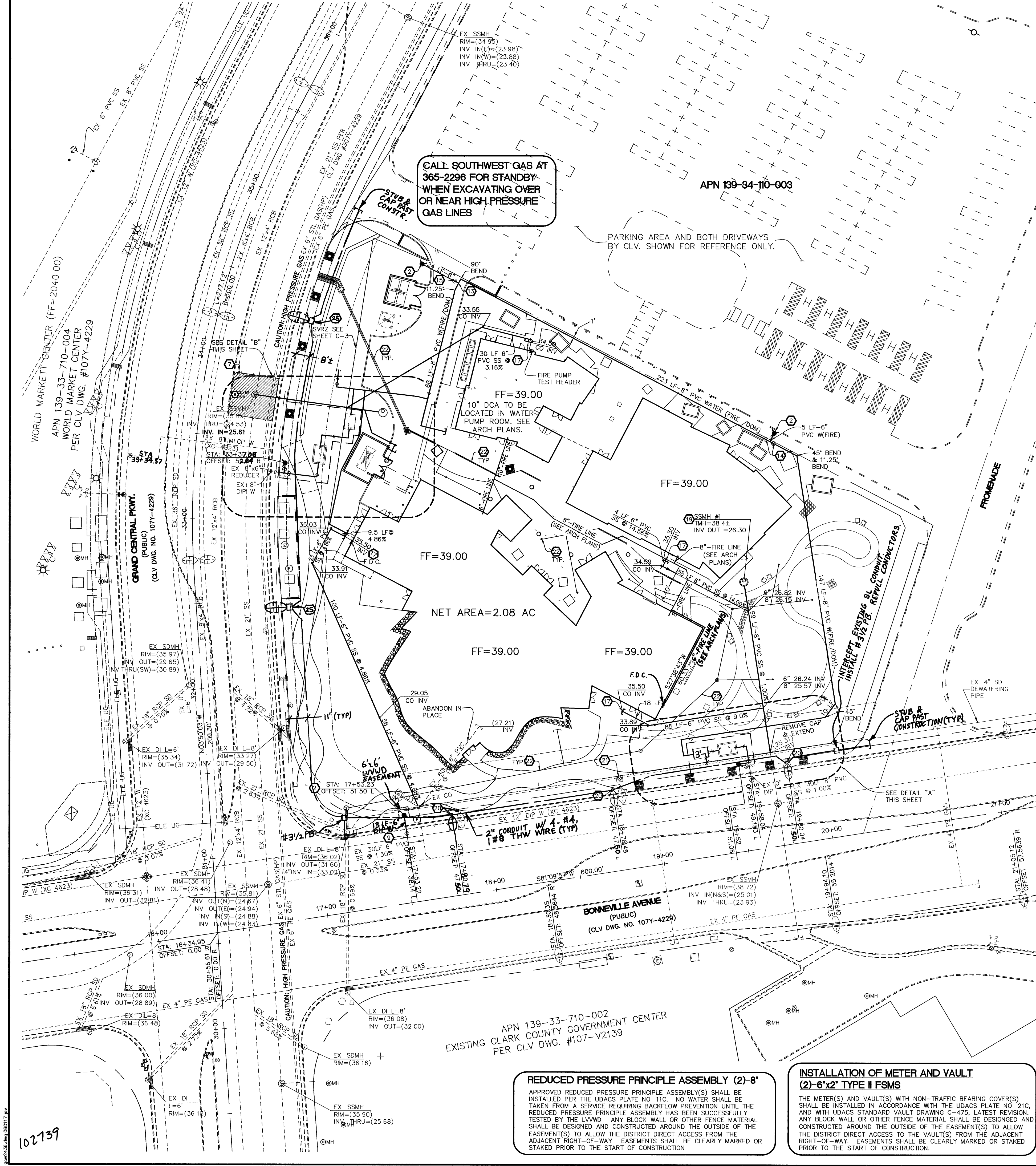
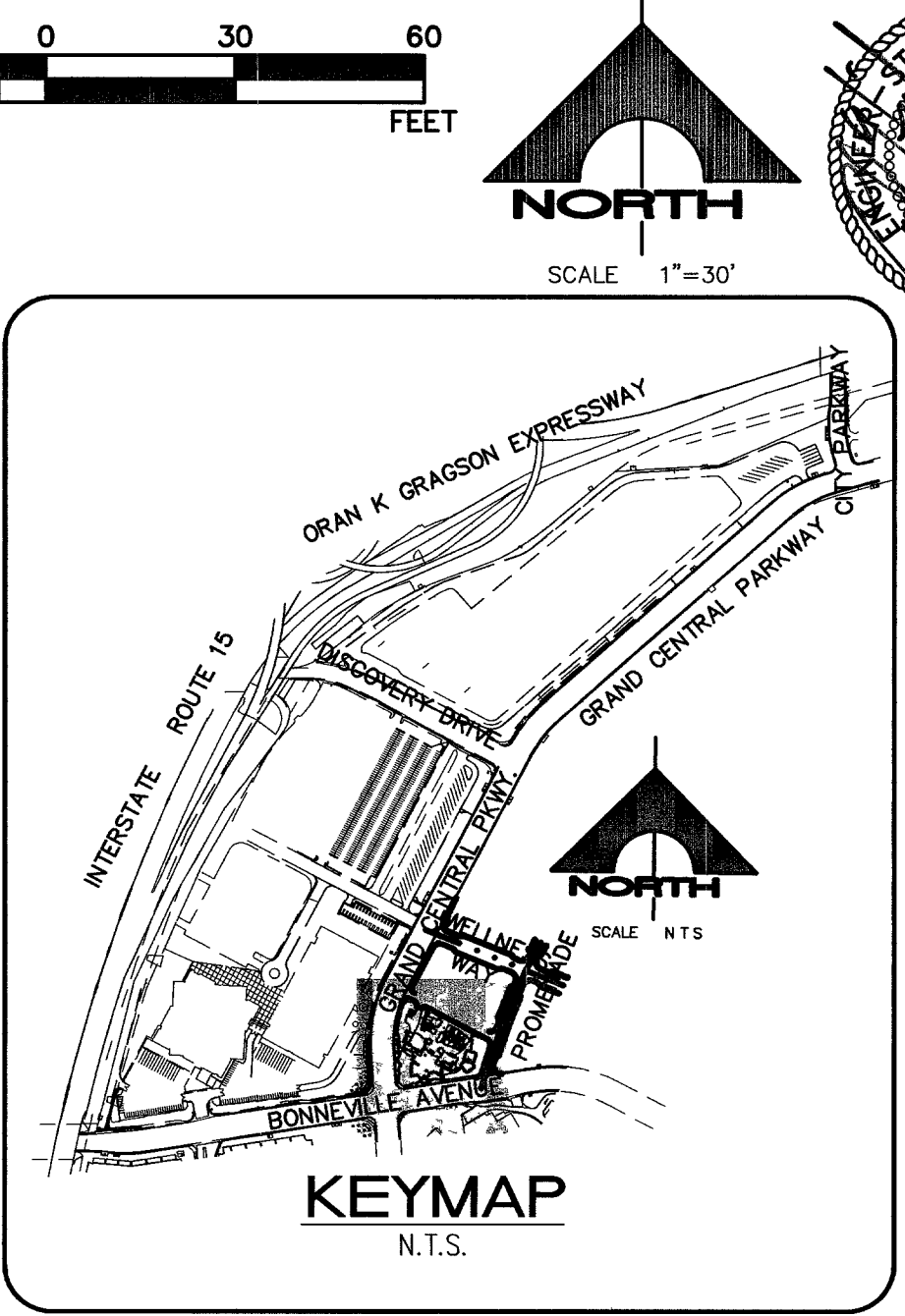




Call before you Dig.
1-800-227-2600
UNDERGROUND SERVICE (USA)
CLARK COUNTY TRAFFIC OPERATIONS
1-702-455-7544

CALL BEFORE YOU OVERHEAD
1-702-227-2929

Call before you UnderGround
1-702-455-7511
1-702-229-6611



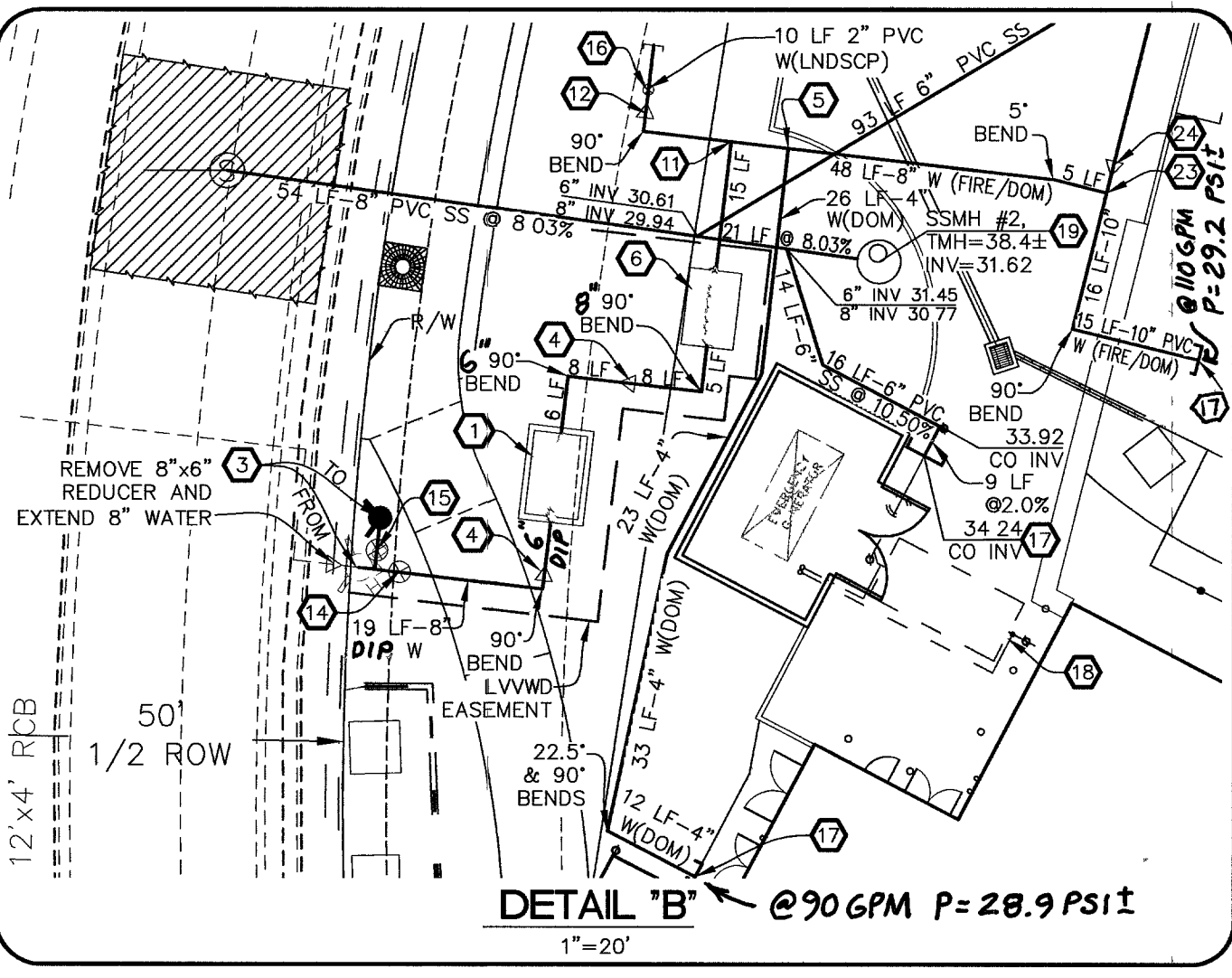
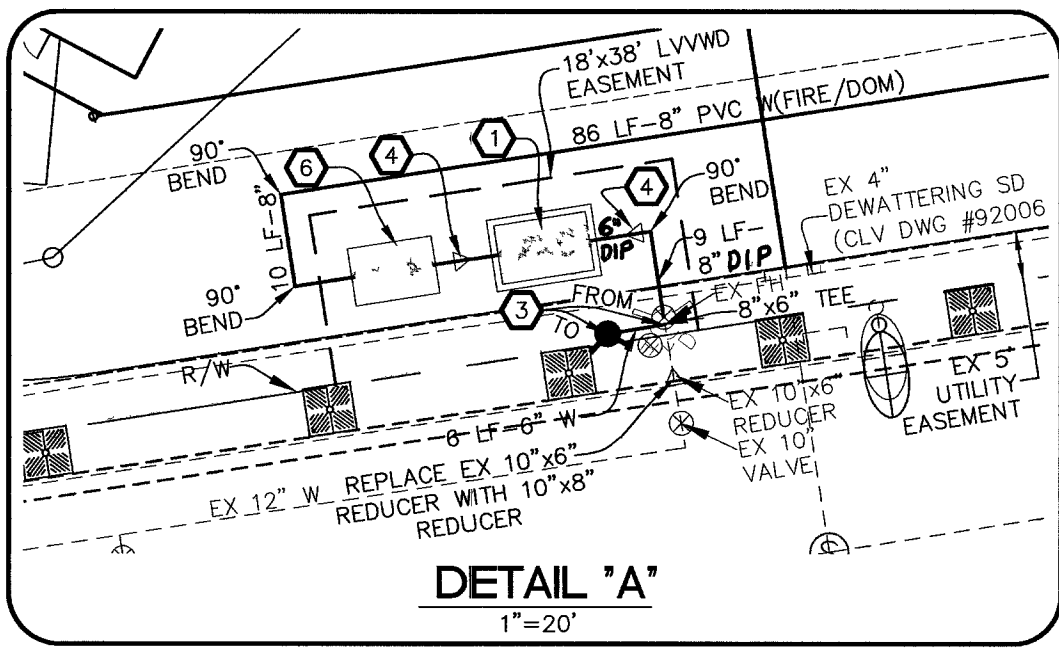
FIRE FLOW CALCULATIONS

FIRE FLOW REQUIREMENT IS: 1,500 GALLONS PER MINUTE AT 20 PSI RESIDUAL PRESSURE. BASED ON 25% REDUCTION.

BASED ON 3 LARGEST CONSECUTIVE FLOORS

SQUARE FOOTAGE:	37,070	SQUARE FEET
LARGEST AREA BETWEEN 4-HOUR AREA SEPARATION WALLS:	N/A	SQUARE FEET
BUILDING HEIGHT:	45	FEET
NUMBER OF STORIES:	4	FLOOR
TYPE OF CONSTRUCTION:	I-B	
OCCUPANCY:	A-2, A-3, B & 1-2	
FULL AUTOMATIC FIRE SPRINKLER SYSTEM:	YES	

REVIEWED BY: [Signature] DATE: 4/13/07



- UTILITY NOTES**
- 6"x2" TYPE II FPM PER UDACS PLATE 21C, VAULT PER UDACS PLATE C-475.
 - INSTALL FIRE HYDRANT ASSEMBLY PER UDACS PLATE NO. 7.
 - REMOVE AND RELOCATE EXISTING FIRE HYDRANT AND EXTEND W/ 8" WATER LINE.
 - INSTALL 8"x6" REDUCER.
 - INSTALL 8"x4" TEE.
 - 8" RPPA PER UDACS PLATE 11C.
 - CONSTRUCT PAVEMENT PATCH PER USDOCA DWG. NO 504.1.
 - TREAT EXISTING MANHOLE WITH PROTECTIVE COATING. CERTIFIED CONTRACTORS SHALL USE COATING SYSTEMS AS MANUFACTURED BY SAUERSEIN, ENVIRONMENTAL COATING SYSTEMS INC, RAVEN, GAS-GUARD OR APPROVED EQUAL.
 - 12"x6" WET TAPPING SLEEVE WITH 6" TAPPING VALVE PER UDACS PLT 22.
 - INSTALL 8"x4" REDUCER.
 - INSTALL 8"x8" TEE.
 - INSTALL 8"x2" REDUCER.
 - INSTALL 8"x6" TEE.
 - INSTALL 8" GATE VALVE.
 - INSTALL 6" GATE VALVE.
 - INSTALL 2" GATE VALVE.
 - SEE ARCH PLANS FOR CONTINUATION.
 - GREASE TRAP DESIGNED BY OTHERS, SEE ARCH PLANS.
 - STANDARD SANITARY SEWER MANHOLE PER DCSWCS PLT SD-1 (48").
 - REMOVE AND REPLACE LIGHT FIXTURES TO BE CONSISTENT WITH UNION PARK SITE. USE DOWNTOWN CENTENNIAL STD. POLE (SEE STREETLIGHT POLE DETAIL ON SHEET C-6).
 - RETURN, REMOVED STREET LIGHTPOLE(S) TO CITY OF LAS VEGAS YARDS AT 3104 E. BONANZA RD. CALL 24 HRS. BEFORE RETURNING AT 229-6331.
 - RESET STREET LIGHT PULL BOX TO FINISHED GRADE.
 - STORMDRAIN SEE GRADING SHEET.
 - INSTALL 8"x10" TEE.
 - INSTALL 8"x10" REDUCER.
 - INSTALL #3 1/2 PB @ 4' BOC FOR FUTURE SL

GENERAL NOTE
THE FDC'S CURRENTLY SHOWN SERVE ALL 3 BUILDINGS. THERE IS ONLY ONE RISER ROOM FOR THIS PROJECT. THERE IS ONLY ONE ADDRESS FOR THE PROJECT IT IS CONSIDERED ONE BUILDING.

NOTE
*ALL ON-SITE SANITARY SEWER & WATERLINES ARE PRIVATE. PRIOR TO THE CONTRACTOR INSTALLING ANY (STORM OR SANITARY) SEWER ON-SITE, THE CONTRACTOR SHALL VERIFY THE ELEVATIONS OF THE EXISTING INVERTS AND IF THERE IS MORE THAN 0.05' DIFFERENCE BETWEEN THE CONTRACTORS EXISTING INVERT AND DESIGN INVERT, THE ENGINEER SHALL BE NOTIFIED SO THAT ADJUSTMENTS CAN BE MADE TO THE SEWER PRIOR TO ANY CONSTRUCTION.

BASIS OF BEARING
NORTH 24°55'16" EAST BEING THE BEARING OF THE CENTERLINE OF GRAND CENTRAL PARKWAY LYING WITHIN THE N.E. 1/4 OF SECTION 33, TOWNSHIP 20 SOUTH, RANGE 61 EAST, M.D.M., CLARK COUNTY, NEVADA AS SHOWN BY MAP THEREOF ON FILE IN BOOK 53, PAGE 61 OF PLATS IN THE CLARK COUNTY RECORDER'S OFFICE, CLARK COUNTY, NEVADA.

PROJECT BENCHMARK:
CITY OF LAS VEGAS BENCHMARK NO. 01V01 3366 RIVET & PLATE IN TOP OF CURB AT THE N.W. CORNER OF THE INTERSECTION OF BONNEVILLE AND GRAND CENTRAL PARKWAY. NAVD 88 CITY OF LAS VEGAS ELEV. (2002) = 2036.09 FEET, 620.759 METERS.

SEWER CONTRIBUTION
AVERAGE FLOW: (8000GPD/AC)(2.08AC)(1MGD/1,000,000GPD) = 0.0166MGD
PEAK FLOW: 0.0166 X 3.5 PEAK FACTOR = 0.0581MGD

GENERAL NOTES
1. ALL UTILITY INSTALLATIONS ARE TO CONFORM TO TITLE 19.12.000 AND THE LAS VEGAS DOWNTOWN CENTENNIAL PLAN.
2. SEE SHEET C-3 FOR SVRZ NOTES AND DIMENSIONS. SEE SHEET C-5 FOR ADDITIONAL SVRZ NOTES.

NOTE
METERS MUST BE SET IN A HORIZONTAL POSITION. AT LEAST EIGHT (8) DIAMETERS OF STRAIGHT PIPE ARE REQUIRED AT THE INLET END.

REDUCED PRESSURE PRINCIPLE ASSEMBLY (2)-8"
APPROVED REDUCED PRESSURE PRINCIPLE ASSEMBLY(S) SHALL BE INSTALLED PER THE UDACS PLATE NO. 11C. 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 EASEMENT(S) 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.

INSTALLATION OF METER AND VAULT (2)-6"x2" TYPE II FMS
THE METER(S) AND VAULT(S) WITH NON-TRAFFIC BEARING COVER(S) SHALL BE INSTALLED IN ACCORDANCE WITH THE UDACS PLATE NO. 21C, AND WITH UDACS STANDARD VAULT DRAWING C-475, LATEST REVISION. 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 TO THE VAULT(S) FROM THE ADJACENT RIGHT-OF-WAY. EASEMENTS SHALL BE CLEARLY MARKED OR STAKED PRIOR TO THE START OF CONSTRUCTION.

102139

STATE OF NEVADA
CLARK COUNTY
PROFESSIONAL ENGINEER
CARL W. WALLACE
No. 10796
DATE: 4/11/06

G.C. WALLACE COMPANIES
ENGINEERS | PLANNERS | SURVEYORS
1555 S. LAS VEGAS BLVD. SUITE 200
LAS VEGAS, NV 89102
1-702-884-2300 F-702-884-2299 C-702-884-2300

LOU RUVO BRAIN INSTITUTE
KEEP MEMORY ALIVE
UTILITY PLAN

APPROVED FOR CONSTRUCTION
LAS VEGAS VALLEY WATER DISTRICT
PROJECT# 113526
DATE: _____

DRAWING
C-4
4 OF 20 SHTS