GENERAL NOTES

A ADD 5400 TO ELEVATIONS SHOWN THUS 25.25 TO OBTAIN CORRECT ELEVATION.

B BEARINGS SHOWN ARE NEW MEXICO STATE PLANE GRID BEARINGS (CENTRAL ZONE).

C DISTANCES ARE GROUND DISTANCES.

D ELEVATIONS ARE CITY OF ALBUQUERQUE, 1929 SEA LEVEL DATUM.

ABBREVIATIONS

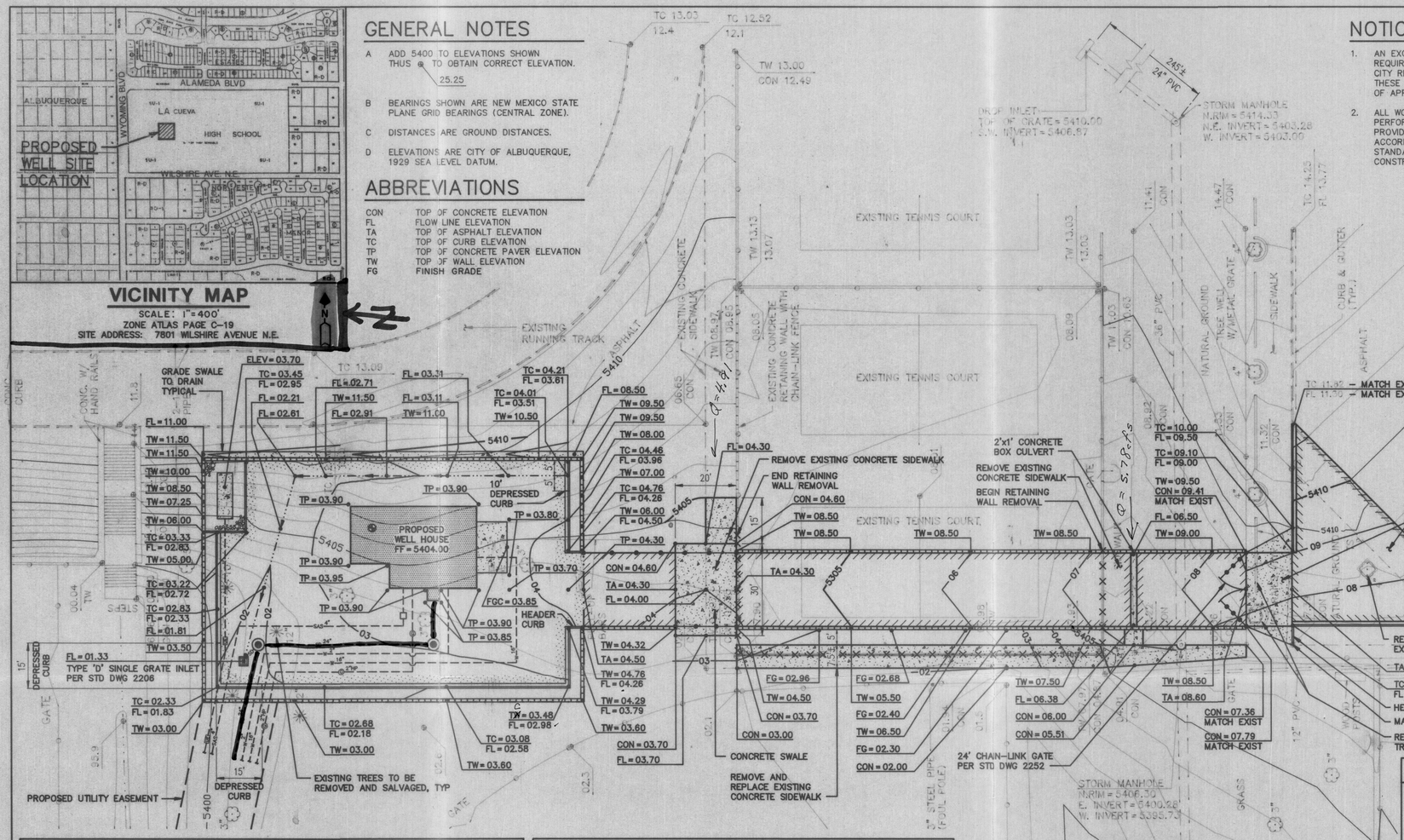
CON	TOP OF CONCRETE ELEVATION
FL	FLOW LINE ELEVATION
TA	TOP OF ASPHALT ELEVATION
TC	TOP OF CURB ELEVATION
TP	TOP OF CONCRETE PAVER ELEVATION
TW	TOP OF WALL ELEVATION
FG	FINISH GRADE

NOTICE TO CONTRACTOR

1. AN EXCAVATION/CONSTRUCTION PERMIT WILL BE REQUIRED BEFORE BEGINNING ANY WORK WITHIN CITY RIGHT-OF-WAY. AN APPROVED COPY OF THESE PLANS MUST BE SUBMITTED AT THE TIME OF APPLICATION FOR THIS PERMIT.
2. ALL WORK DETAILED ON THESE PLANS TO BE PERFORMED, EXCEPT AS OTHERWISE STATED OR PROVIDED HERON, SHALL BE CONSTRUCTED IN ACCORDANCE WITH "CITY OF ALBUQUERQUE" STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.
3. TWO WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT LINE LOCATION SERVICE, 765-1234, FOR LOCATION OF EXISTING UTILITIES.
4. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF ALL UTILITIES. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY.

VICINITY MAP

SCALE: 1"=400'
ZONE ATLAS PAGE C-19
SITE ADDRESS: 7801 WILSHIRE AVENUE N.E.



WEBSTER WELL NO.3 HYDROLOGY DESCRIPTION

THE PROPOSED WELL SITE IS LOCATED ON THE WEST-CENTRAL PORTION OF LA CUEVA HIGH SCHOOL, APPROXIMATELY 450 FEET EAST OF WYOMING BOULEVARD. THE PROPOSED ACCESS ROAD TO THE SITE EXTENDS SOUTH TO A PARKING LOT LOCATED ADJACENT TO WILSHIRE AVENUE. THE WELL SITE AND THE ACCESS ROAD ARE LOCATED ON DRAINAGE BASIN A-3, SHOWN ON THE SITE GRADING AND DRAINAGE PLAN FOR LA CUEVA HIGH SCHOOL, DRAWING NO. C-7 AND C-8, PROJECT NO.8424, DATED NOVEMBER 20, 1984, AND REVISED ON MARCH 12, 1985. THE PROPOSED ACCESS ROAD TRAVERSES THE HIGH SCHOOL PROPERTY PERPENDICULAR TO THE GENERAL DIRECTION OF RUNOFF. THE ROAD INTERCEPTS TWO DRAINAGE SWALES WHICH CONVEY RUNOFF TO A DETENTION BASIN DOWNSTREAM. THE EXISTING CONDITIONS IN THE GENERAL AREA OF THE PROPOSED IMPROVEMENTS ARE:

EXISTING CONDITIONS:

BASIN	AREA	LENGTH	SLOPE	Tc	I	C	Q_{100}	V
A-3	21.85AC	1500FT	0.021FT/FT	28.5FPS	2.95IN/HR	0.35	22.6CFS	0.9FPS

THE CALCULATED RUNOFF FOR EACH OF THE TWO SWALES INTERCEPTED BY THE ROAD ARE:

CALCULATE EXISTING FLOWS FOR CONCRETE SWALE (Q_{100})
(KNOWN AS SUB-BASIN 4)

AREA = 0.60 ACRES
TREATMENT = "D", ∴C = 0.93
ZONE 3; I = 5.38 IN/HR

AREA = 0.74 ACRES
TREATMENT = "B", ∴C = 0.48
ZONE 3; I = 5.38 IN/HR

$Q_{100} = (0.93)(5.38)(0.60) + (0.48)(5.38)(0.74) = 4.91CFS$ $\quad Q_{100} = 4.91CFS$

CALCULATE EXISTING FLOWS FOR CONCRETE BOX CULVERT (Q_{100})
(KNOWN AS SUB-BASIN 5)

AREA = 0.53 ACRES
TREATMENT = "D", ∴C = 0.93
I = 5.38 IN/HR

AREA = 1.21 ACRES
TREATMENT = "B", ∴C = 0.48
I = 5.38 IN/HR

$Q_T = (0.93)(5.38)(0.53) + (0.48)(5.38)(1.21) = 5.78CFS$ $\quad Q_{100} = 5.78CFS$

IT IS PROPOSED THAT AN "AT GRADE" CONCRETE SWALE BE CONSTRUCTED IMMEDIATELY SOUTH OF THE SITE TO CONVEY UPSTREAM FLOWS ACROSS THE ACCESS ROAD. THE CONCRETE SWALE WILL BE BOUNDED ON THE EAST AND WEST SIDES BY A CHAIN-LINK FENCE. IT IS ALSO PROPOSED THAT A CONCRETE BOX CULVERT BE CONSTRUCTED APPROXIMATELY 180 FEET SOUTH OF THE SITE TO CONVEY UPSTREAM FLOWS UNDER THE PROPOSED ACCESS ROAD.
ON-SITE RUNOFF WILL BE CONVEYED TO A GRATED INLET LOCATED ON THE NORTHWEST CORNER OF THE PROPOSED WELL SITE. THE INLET WILL BE CONNECTED TO THE STORM DRAIN WASHLINE TO BE CONSTRUCTED FOR THE WELL. THIS STORM DRAIN WASHLINE WILL BE CONNECTED TO THE EXISTING 36" RCP STORM DRAIN LOCATED AT THE INTERSECTION OF ALAMEDA AND WYOMING. THE STORM DRAIN ON ALAMEDA AND WYOMING HAS SUFFICIENT CAPACITY FOR THE EXPECTED WASHLINE FLOWS BECAUSE IT IS ASSUMED THAT FLOWS IN THE WASHLINE ARE NOT COINCIDENTAL WITH STORMS. IN ADDITION, THE WASHLINE WILL ONLY OPERATE FOR 3 TO 5 MINUTES UPON STARTUP OF THE WELL PUMP. HOWEVER, ACCORDING TO THE EXISTING AS-BUILTS FOR THE STORM DRAIN, COA DWG NO.3186, SHEET 44 OF 77, IT APPEARS THAT THE STORM DRAIN IS UNDERSIZED FOR THE DESIGN RUNOFF INDICATED ON THE AS-BUILT PLANS.

DRAINAGE STRUCTURE CAPACITY CALCULATIONS

CALCULATE CAPACITY OF ON-SITE GRATES
(FROM: DRAINAGE OF HIGHWAY PAVEMENT, FHWA, MARCH 1984)
GRATE INLET IN SUMP CONDITION - ASSUME GRATE TYPE P-1-7/8-4, SIMILAR TO STORM INLET GRATE STD DWG 2220, COA. PER CHART 11.
DESIGN Q = 1.10CFS
DEPTH = 0.2FT
PERIMETER P = 2(W+L) AT 1.1CFS AND 0.2' DEPTH OF FLOW, P = 5,
∴ 5 = 2(W+L); 2.5 = W+L, W = 2, L = 2. USE SINGLE TYPE 'D' INLET.

CALCULATE CAPACITY OF CONCRETE SWALE
DESIGN FLOW = 4.91CFS (OFF-SITE FLOWS)
SLOPE = 0.02FT/FT
SWALE CAPACITY FLOWING FULL:

$Q = \frac{1.49}{n} AR^{2/3}S^{1/2}$ $\quad Q = \frac{1.49}{0.014}(3FT^2)(0.15FT)^{2/3}(0.02)^{1/2} = 12.74CFS >> 4.91CFS \therefore OK$

CHECK $V_{MAX} = \frac{12.74CFS}{3FT^2} = 4.25FT/SEC$ $\quad V @ 4.91CFS = 3.34FT/SEC$

CALCULATE CAPACITY OF 1'x2' CONCRETE BOX CULVERT
DESIGN FLOW = 5.78CFS (OFF-SITE FLOWS)
SLOPE = 0.005FT/FT
BOX CULVERT FLOWING FULL:

$Q = \frac{1.49}{0.014}(2)(0.33)^{2/3}(0.005)^{1/2} = 7.18CFS >> 5.78CFS \therefore OK$

CHECK $V_{MAX} = \frac{7.18CFS}{2FT^2} = 3.59FT/SEC$ $\quad V @ 5.78CFS = \frac{5.78CFS}{1.4FT^2} = 4.13FT/SEC$

ON-SITE DRAINAGE CALCULATIONS

100 YEAR STORM
REFERENCE: COA DEVELOPMENT PROCESS MANUAL, CHAPTER 22 PRECIPITATION ZONE 3

DESCRIPTION	RUNOFF
LAND TREATMENT B (PARK)	TOTAL
AREA, AC.	0.02498
Q, CFS (AREA x 2.60)	0.065
LAND TREATMENT D (ROOF AND PAVEMENT)	
AREA, AC.	0.2046
Q, CFS (AREA x 5.02)	1.027
TOTAL	
AREA, AC.	0.2296
Q, CFS	1.10

LEGAL DESCRIPTION

PROPOSED WEBSTER WELL NO.3 SITE

BEING THAT CERTAIN PARCEL OF LAND SITUATED WITHIN THE ELENA GALLEGOS GRANT, WITHIN SECTION 18 (AS PROJECTED), TOWNSHIP 11 NORTH, RANGE 4 EAST, NEW MEXICO PRINCIPAL MERIDIAN, ALBUQUERQUE, BERNALILLO COUNTY, NEW MEXICO, AND BEING IDENTIFIED AS A PORTION OF TRACT A, LA CUEVA HIGH SCHOOL, AS SAID TRACT A IS SHOWN AND DESIGNATED ON **"PLAT OF TRACT A, LA CUEVA HIGH SCHOOL, ALBUQUERQUE, NEW MEXICO"**, PLAT OF WHICH WAS FILED IN THE OFFICE OF THE COUNTY CLERK, BERNALILLO COUNTY, NEW MEXICO, ON APRIL 23, 1993, IN VOLUME 93C, FOLIO 114, AND BEING MORE PARTICULARLY DESCRIBED BY METES AND BOUNDS SURVEY AS FOLLOWS:

BEGINNING AT THE SOUTHWEST CORNER OF THE PARCEL OF LAND HEREIN DESCRIBED, WHENCE THE NGS CONTROL STATION "HEAVEN" BEARS S. 17° 41' 41" W., 3,243.72 FEET DISTANCE; THENCE,

N. 00° 23' 07" E., 125.00 FEET DISTANCE TO THE NORTHWEST CORNER OF THE PARCEL OF LAND HEREIN DESCRIBED; THENCE,

S. 89° 36' 53" E., 80.00 FEET DISTANCE TO THE NORTHEAST CORNER OF THE PARCEL OF LAND HEREIN DESCRIBED; THENCE,

S. 00° 23' 07" W., 125.00 FEET DISTANCE TO THE SOUTHEAST CORNER OF THE PARCEL OF LAND HEREIN DESCRIBED; THENCE,

N. 89° 36' 53" W., 80.00 FEET DISTANCE TO THE SOUTHWEST CORNER AND POINT OF BEGINNING OF THE PARCEL OF LAND HEREIN DESCRIBED AND CONTAINING 10,000 SQUARE FEET (0.2296 ACRE), MORE OR LESS.

LEGEND

PROPOSED	EXISTING	DESCRIPTION
NA	WM	WATER METER
NA	GV	GAS VALVE
	NA	STORM DRAIN MANHOLE
		MODIFIED MEDIAN CURB & GUTTER PER STD DWG 2415
	NA	HEADER CURB PER STD DWG 2415
NA		SIDEWALK
NA		CONCRETE WALL AND CHAIN-LINK FENCE TO BE REMOVED
		CONCRETE RETAINING WALL WITH 6' CHAIN-LINK FENCE PER STD DWG 2252
		CHAIN LINK FENCE PER STD DWG 2252
NA		TREE (DECIDUOUS)
NA		TREE (EVERGREEN)
		FLOW LINE
5405	5405	CONTOUR (1' INTERVAL)
06.00	06.00	SPOT ELEVATION
		PROPERTY LINE (SIDE)
		PUBLIC EASEMENT LINE
	NA	LIMITS OF INTERLOCKING CONCRETE PAVERS
	NA	GRAVEL PAD
		STRUCTURE
	NA	CONCRETE
		LIMITS OF ASPHALT PAVING

0 10' 20' 40' 60'
1" = 20'-0"

RECEIVED DEC - 7 1993 HYDROLOGY DIVISION

20/92013.18CD2/WEBGRAD/12-06-93/TJL

CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT
ENGINEERING GROUP

TITLE: WEBSTER WELL NO.3
SITE GRADING AND DRAINAGE PLAN

APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE
DRC CHAIRMAN			WATER		
TRANSPORTATION			WASTE WATER		
HYDROLOGY					

PROJECT NO. — | MAP NO. C-19 | SHEET 3 OF 6

AS BUILT INFORMATION
CONTRACTOR
WORK STAKED BY — DATE
ACCEPTANCE BY — DATE
FIELD VERIFICATION BY — DATE
DRAWINGS CORRECTED BY — DATE

MICRO-FILM INFORMATION
RECORDED BY — DATE
NO.

BENCH MARKS
DESCRIPTION: STATION IS LOCATED 8 MILES NORTHEAST OF DOWNTOWN ALBUQUERQUE, AT THE ENTRANCEWAY TO THE "LA CUEVA" SUBDIVISION. TO REACH THE STATION FROM THE INTERSECTION OF CENTRAL AVE. AND WYOMING BLVD., GO NORTH ON WYOMING BLVD., 7 MILES TO PASEO DEL NORTE. GO WEST ON PASEO DEL NORTE 0.15 MILE TO THE STATION ON THE SOUTH SIDE.
STATION MARK IS A STANDARD USC&GS BRASS TABLET STAMPED, "HEAVEN 1969", SET IN TOP OF A CONCRETE POST FLUSH WITH THE GROUND.
ELEVATION = 5378.787 (SLD29)

SURVEY INFORMATION
FIELD NOTES

NO.	BY	DATE

REMARKS
REVISIONS
DESIGN

NO.	DATE	BY

DESIGNED BY — DATE —
DRAWN BY — DATE —
CHECKED BY — DATE —

ENGINEER'S SEAL
ROBERT L. BOUGHNER NEW MEXICO REGISTERED PROFESSIONAL ENGINEER 12-6-93