

FIRM MAP

SCALE: 1"=500'
REF. PANEL 136, 1996

GRADING & DRAINAGE PLAN

SITE DATA: THE EXISTING SITE IS A CLEARED, PARTIALLY GRADED DIRT LOT, AND ZONED IP, INDUSTRIAL PARK FOR OFFICE USES, AND WITHIN DEVELOPED RICHFIELD PARK. PROPERTY TO THE WEST AND SOUTH ARE VACANT, WHILE THE NORTH ADJOURN LOT IS CURRENTLY UNDER CONSTRUCTION. WASHINGTON STREET LOCATED ALONG THE EAST FRONTAGE IS A PAVED, CURB AND GUTTER STREET WITHIN A 60 FEET RIGHT-OF-WAY. THE SITE GENERALLY FALLS FROM EAST TO WEST AT APPROXIMATELY 2 PERCENT.

EXISTING DRAINAGE CONDITIONS: HISTORIC RUN-OFF HAS ESSENTIALLY SHEET FLOWED ACROSS THE SITE AND EXITING TO THE SOUTHWEST. THE INDUSTRIAL PARK IS PART OF THE OVERALL DRAINAGE MASTER PLAN FOR RICHFIELD PARK, PREPARED BY ESPEY, HUSTON AND ASSOC. IN 1988. AN EXISTING ASPHALT 'V' DITCH IS LOCATED ALONG THE NORTH BOUNDARY, CONVEYS FLOWS TO THE WEST, AND IS SIZED TO ACCEPT DEVELOPED, UPSTREAM RUNOFF. THIS DITCH FURTHER CONVEYS RUNOFF ACROSS PHASE 2 OF RICHFIELD PARK AND OUTFALL TO THE AMAFA NORTH DIVERSION FACILITY.

NOTE: THE FIRM MAP SHOWS THE SITE WITHIN AN AO1 ZONE. THE CONSTRUCTION OF STREETS AND DRAINAGE IMPROVEMENTS WITHIN RICHFIELD PARK CONTAIN FLOWS WITHIN RIGHT-OF-WAYS. MAP REVISION IS CURRENTLY BEING PERFORMED BY RESOURCE TECH, INC.

PROPOSED IMPROVEMENTS: CONSIST OF A 9,800 S.F., SINGLE STORY OFFICE BUILDING, ASPHALT PAVING, CURB AND GUTTER, AND ONE (1) ACCESS DRIVEWAY ENTRANCE ON WASHINGTON.

PROPOSED DRAINAGE CONDITIONS: FREE DISCHARGE OF LOT RUN-OFF IS PERMITTED AND IN COMPLIANCE WITH THE OVERALL DRAINAGE MASTER PLAN. ADDITIONALLY, THE MASTER PLAN PROGRAMS RUNOFF SPECIFICALLY FOR THIS LOT TO OUTFALL TO THE NORTHWEST DIRECTLY TO THE EXISTING ASPHALT 'V' DITCH.

CALCULATIONS

City Hydrology, Ref. File #C-17/D

I. DESIGN CRITERIA

HYDROLOGIC METHODS PER SECTION 22.2, HYDROLOGY, OF THE DEVELOPMENT PROCESS MANUAL (DPM), REVISED JANUARY 1993 FOR THE CITY OF ALBUQUERQUE "PEAK DISCHARGE RATES FOR SMALL WATERSHEDS" DISCHARGE RATE: $Q = Q_{peak} \times AREA$ "PEAK DISCHARGE RATES FOR SMALL WATERSHEDS" VOLUMETRIC DISCHARGE: $VOLUME = E_{weighted} \times AREA$ SOIL TYPE: 'B', ETC, EMBUDO SERIES, A GRAVELLY FINE SANDY LOAM AS CLASSIFIED BY THE SCS SOIL SURVEY $P_{100} = 2.35$ INCHES, ZONE 2 TIME OF CONCENTRATION, $T_c = 10$ MINUTES DESIGN STORM: 100-year/6-hour, 10-year/6-hour WHERE [] = 10 YEAR VALUES

II. EXISTING CONDITIONS (LOT 28)

PROJECT AREA = 0.95 ACRES, WHERE EXCESS PRECIPITATION 'b' = 0.78 IN. [0.28] PEAK DISCHARGE: $Q_{100} = 2.2$ CFS [0.9 CFS], WHERE UNIT PEAK DISCHARGE 'b' = 2.28 CFS/ACRE [0.95] THEREFORE: $VOLUME_{100} = 2690$ C.F. [966 C.F.]

III. DEVELOPED CONDITIONS

DETERMINE LAND TREATMENTS, PEAK DISCHARGE & WEIGHTED EXCESS PRECIPITATION

AREA	LAND TREATMENT	UNIT PEAK DISCHARGE	'E'
UNDEVELOPED,	A	1.56[0.38]	0.53[0.13]
LANDSCAPING,	B	2.28[0.95]	0.78[0.28]
GRAVEL & COMPACTED SOIL	C	3.14[1.71]	1.13[0.52]
ROOF/PAVEMENT,	D	4.70[3.14]	2.12[1.34]
0.95 ACRES			

Eweighted = 1.95 IN. [1.20]
 $Q_{100} = 4.2$ CUBIC FEET PER SECOND (CFS) $Q_{10} = 2.73$ CFS; $VOL_{100} = 6719$ CUBIC FEET (CF), $VOL_{10} = 4138$ C.F.

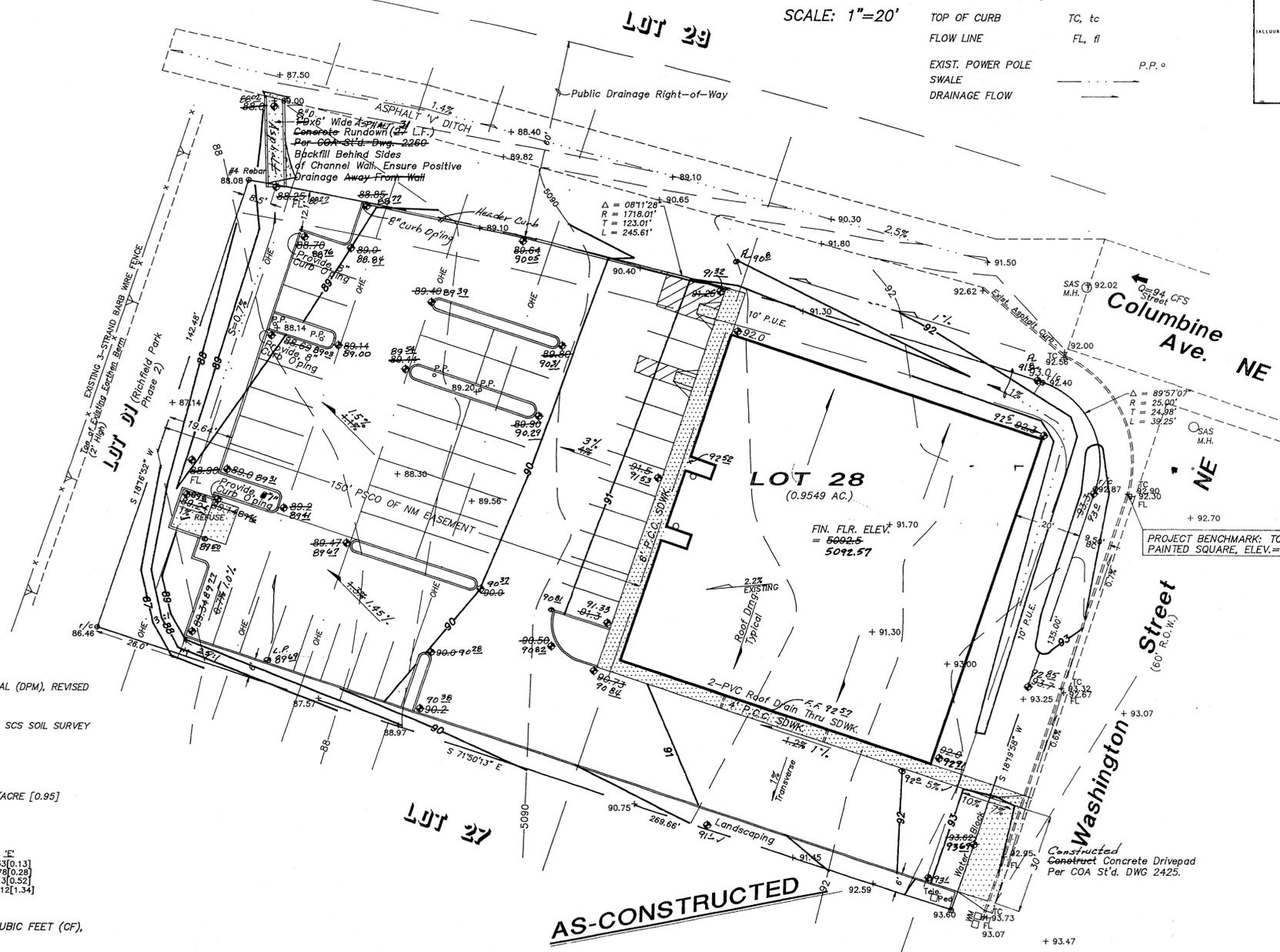
IV. QUANTIFY UP-STREAM RUNOFF IMPACTING THE PROPERTY

THE NORTHEAST PROPERTY CORNER (STREET FLOW) AND REFERENCE FEMA MAP, 1" = 500' SINCE WASHINGTON STREET AND COLUMBINE AVE. ARE BOTH IMPROVED WITH CURB/GUTTER, NO DRAINAGE IMPACTS THE PROJECT

FOR THE DEVELOPED CONDITION, BASED ON A UNIT DISCHARGE DETERMINED IN III. WHERE: $Q_{100} = 3$ Ac. x 4.5 CFS/AC. = 14 CFS (Total Southside in Street) per DPM PLATE 22.3 D-1, DEPTH = 0.35 FEET @ S = 3%

V. SIZE PROPOSED CONCRETE RUNDOWN

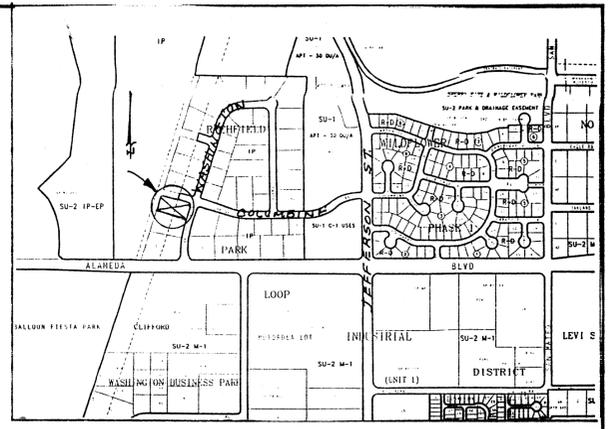
USE WEIR EQUATION..... $Q = CLH^{3/2}$ Where: H = 0.5' Curb Height
C = 2.7, Broad-crested Weir, Ref. Brater-King
 $Q = 4.2$ CFS
 4 CFS = $2.7 \times L \times (0.5)^{3/2}$ Then: L = 4'; Use 6' Width



LEGEND

- EXIST. SPOT ELEV. +92.5
- EXIST. CONTOUR 08
- NEW SPOT ELEV. 10.10, As-built 8920
- NEW CONTOUR 10
- NEW CONCRETE, Constructed
- HEADER CURB Constructed (P.C.C. 0.5' CURB HEIGHT) (Extruded)
- TOP OF CURB TC, tc
- FLOW LINE FL, fl
- EXIST. POWER POLE P.P. °
- SWALE
- DRAINAGE FLOW

SCALE: 1"=20'



VICINITY MAP ZONE C-17

SCALE: 1"=750'

NOTES:

- All Work Within the Right-of-Way Shall Be Constructed in accordance with the City of Albuquerque Standard Specs. For Public Works Construction, Latest Edition.
- AN EXCAVATION/CONSTRUCTION PERMIT WILL BE REQUIRED BEFORE BEGINNING ANY WORK WITHIN ANY APPROVED COPY OF THIS PLAN MUST BE SUBMITTED AT THE TIME APPLICATION.
 - ALL WORK PERFORMED ON THIS PROJECT SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE AND LOCAL LAWS, RULES AND REGULATIONS CONCERNING CONSTRUCTION SAFETY AND HEALTH.
 - CONTRACTOR SHALL NOTIFY AND COORDINATE ALL CONSTRUCTION TWO WEEKS PRIOR TO START WITH THE FOLLOWING UTILITIES: US WEST COMMUNICATIONS, PUBLIC SERVICE CO. OF NEW MEXICO, AND THE GAS & ELECTRIC SERVICES OF PNM.
 - CONTRACTOR SHALL MAINTAIN ACCESS TO ADJACENT PROPERTIES DURING CONSTRUCTION.
 - TWO WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT LINE LOCATING SERVICE, 260-1990, FOR LOCATION OF EXISTING UTILITIES.
 - PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF ALL OBSTRUCTIONS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER OR SURVEYOR SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY.
 - ALL UTILITIES AND UTILITY SERVICE LINES SHALL BE INSTALLED PRIOR TO THE CONSTRUCTION OF PAVING.
 - ASPHALT PARKING LOT AND DRIVEWAY SHALL CONSIST OF 2" THICK RESIDENTIAL PAVING, TYPE B, OVER 6" COMPACTED SUBGRADE (95% Modified Proctor) PER CITY SPECIFICATIONS.
 - MAINTENANCE OF THE CONCRETE RUNDOWN WITHIN THE CITY R.O.W. SHALL BE THE RESPONSIBILITY OF THE PROPERTY OWNER.
- NOTE: ALL DIMENSIONS TO FACE OF CURB UNLESS NOTED OTHERWISE

SPECIAL ORDER 19 PROCEDURE (S.O. 19)

CONSTR. APPROVAL OF CONCRETE RUNDOWN IN R.O.W.

CITY HYDROLOGY	Date
INSPECTOR(Contact Glenn Jurgenson 291-6214)	Date
ACE	Date

I, PHILIP W. CLARK, PROFESSIONAL ENGINEER, REGISTERED IN ACCORDANCE WITH THE LAWS IN THE STATE OF NEW MEXICO, DO HEREBY CERTIFY THAT THE GRADING AND DRAINAGE IMPROVEMENTS SHOWN ON THIS PLAN ARE IN SUBSTANTIAL COMPLIANCE WITH THE APPROVED PLAN.

PHILIP W. CLARK, P.E. #10265

I, PHILIP W. CLARK, A PROFESSIONAL ENGINEER LICENSED IN ACCORDANCE WITH THE LAWS OF THE STATE OF NEW MEXICO, DO HEREBY CERTIFY THAT I HAVE VISITED THE SITE SHOWN HEREON, AND THAT THE CONTOURS SHOWN REPRESENT THE EXISTING GROUND CONDITIONS, AND DO FURTHER CERTIFY THAT NO EARTHWORK OF ANY KIND, NOR ANY DISTURBANCE OF THE GROUND HAS OCCURRED ON THIS SITE SINCE THE CONTOURS WERE DETERMINED.

PHILIP W. CLARK, NMPE #10265

PROJECT INFORMATION

LEGAL DESCRIPTION: LOT 28, RICHFIELD PARK SUBDIVISION ALBUQUERQUE, NEW MEXICO BERNALILLO COUNTY

PROPERTY ADDRESS: 8809 WASHINGTON ST., NE ALBUQUERQUE, NM 87113

PROJECT SURVEY: PLANIMETRIC INFORMATION COMPILED FROM FIELD SURVEY PERFORMED BY PRECISION SURVEYS, INC., PLS #1983, FEB 1999. TOPOGRAPHIC DESIGN INFORMATION OBTAINED 2/11/99 BY CLARK CONSULTING ENGINEERS

PROJECT BENCHMARK: TOP OF CURB OF THE SOUTH-SOUTHWEST CURB RETURN LOCATED AT THE INTERSECTION OF COLUMBINE AVENUE AND WASHINGTON ST., AS TIED FROM ACS CONTROL SURVEY. TOP OF CURB ELEV. 5092.90 MSL.

Clark Consulting Engineers
19 Ryan Road Edgewood, New Mexico 87015
(505) 281-2444 FAX (505) 281-2444

DATE	REVISION	LOT 28, RICHFIELD PARK SUBDIVISION
7-27-99	Addr. COA	DANA WOOD - TIM HELMCK OFFICE BLDG.
	C'mm'ts of	
	6/28/99	

Grading & Drainage Plan

DESIGNED BY: PWC	DRAWN BY: CCE	JOB No: HELMK_OFF	SHEET No.
CHECKED BY: PWC	DATE: 3/1/99	FILE No: G/D	1 of 1

