

FILE COPY



# City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

MAYOR  
KEN SCHULTZ

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ADMINISTRATIVE OFFICER

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PUBLIC SERVICES

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DEPUTY CAO  
PLANNING/DEVELOPMENT

BILL MUELLER

January 21, 1988

Jeff Mortensen, P.E.  
Tom Mann & Associates, Inc.  
811 Dallas, NE  
Albuquerque, New Mexico 87110

RE: REVISED DRAINAGE PLAN FOR LOT 33-A OF CLIFFORD INDUSTRIAL  
PARK (C-17/D1A5) REVISION DATE OF JANUARY 18, 1988

Dear Mr. Mortensen:

Based on the information provided on your resubmittal of January 18,  
1988, revisions as indicated are acceptable.

Please attach a copy of this plan to the construction sets prior to  
sign-off by Hydrology.

If I can be of further assistance, please feel free to call me at  
768-2650.

Cordially,

*Bernie J. Montoya*  
for Bernie J. Montoya, C.E.  
Engineering Assistant

BJM/bsj

DRAINAGE INFORMATION SHEET

IAS  
IAS

PROJECT TITLE: LOT 33-A, CLIFFORD INDUSTRIAL PARK ZONE ATLAS/DRNG. FILE #: C17/D183  
LEGAL DESCRIPTION: LOT 33-A CLIFFORD INDUSTRIAL PARK  
CITY ADDRESS: NOT KNOWN

ENGINEERING FIRM: TOM MANN + ASSOC. CONTACT: LEONARD P. UTTER  
ADDRESS: 811 DALLAS N.E. PHONE: 205-5611

OWNER: \_\_\_\_\_ CONTACT: ARCHITECT  
ADDRESS: \_\_\_\_\_ PHONE: \_\_\_\_\_

ARCHITECT: MILLER + ASSOC. CONTACT: JIM MILLER  
ADDRESS: 2823 RICHMOND DR. N.E. PHONE: 884-1255

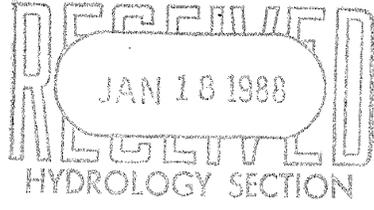
SURVEYOR: TOM MANN + ASSOC. CONTACT: LEONARD P. UTTER  
ADDRESS: 811 DALLAS N.E. PHONE: 205-5611

CONTRACTOR: \_\_\_\_\_ CONTACT: ARCHITECT  
ADDRESS: \_\_\_\_\_ PHONE: \_\_\_\_\_

PRE-DESIGN MEETING:

YES  
 NO

COPY OF CONFERENCE RECAP SHEET PROVIDED



DRB NO. \_\_\_\_\_  
EPC NO. \_\_\_\_\_  
PROJ. NO. \_\_\_\_\_

TYPE OF SUBMITTAL:

- DRAINAGE REPORT
- DRAINAGE PLAN
- CONCEPTUAL GRADING & DRAINAGE PLAN
- GRADING PLAN
- EROSION CONTROL PLAN
- ENGINEER'S CERTIFICATION

CHECK TYPE OF APPROVAL SOUGHT:

- SKETCH PLAT APPROVAL
- PRELIMINARY PLAT APPROVAL
- SITE DEVELOPMENT PLAN APPROVAL
- FINAL PLAT APPROVAL
- BUILDING PERMIT APPROVAL
- FOUNDATION PERMIT APPROVAL
- CERTIFICATE OF OCCUPANCY APPROVAL
- ROUGH GRADING PERMIT APPROVAL
- GRADING/PAVING PERMIT APPROVAL
- OTHER REVISIONS (SPECIFY)

DATE SUBMITTED: 01-18-88

BY: [Signature]



VICINITY MAP C-17  
SCALE: 1" = 800'

**PROJECT BENCHMARK**  
A.C.S. STATION B-C-17, BEING A G.I.D. BRASS TABLE, STAMPED B-C-17, 1976, CEMENTED IN TOP OF CURB. STATION IS LOCATED ON WEST CURB OF WASHINGTON ST. N.E. 0.3 MI. NORTH OF INTERSECTION OF LOS ANGELES ST. N.E. & WASHINGTON ST. N.E., AS SHOWN HEREON. STATION ELEVATION = 5111.01 FEET (M.S.L.D.)

**LEGAL DESCRIPTION**  
LOT 33-A, CLIFFORD INDUSTRIAL PARK, ALBUQUERQUE, NEW MEXICO



**DRAINAGE PLAN**

The following items concerning the Lot 33-A Clifford Industrial Park Drainage Plan are contained hereon:

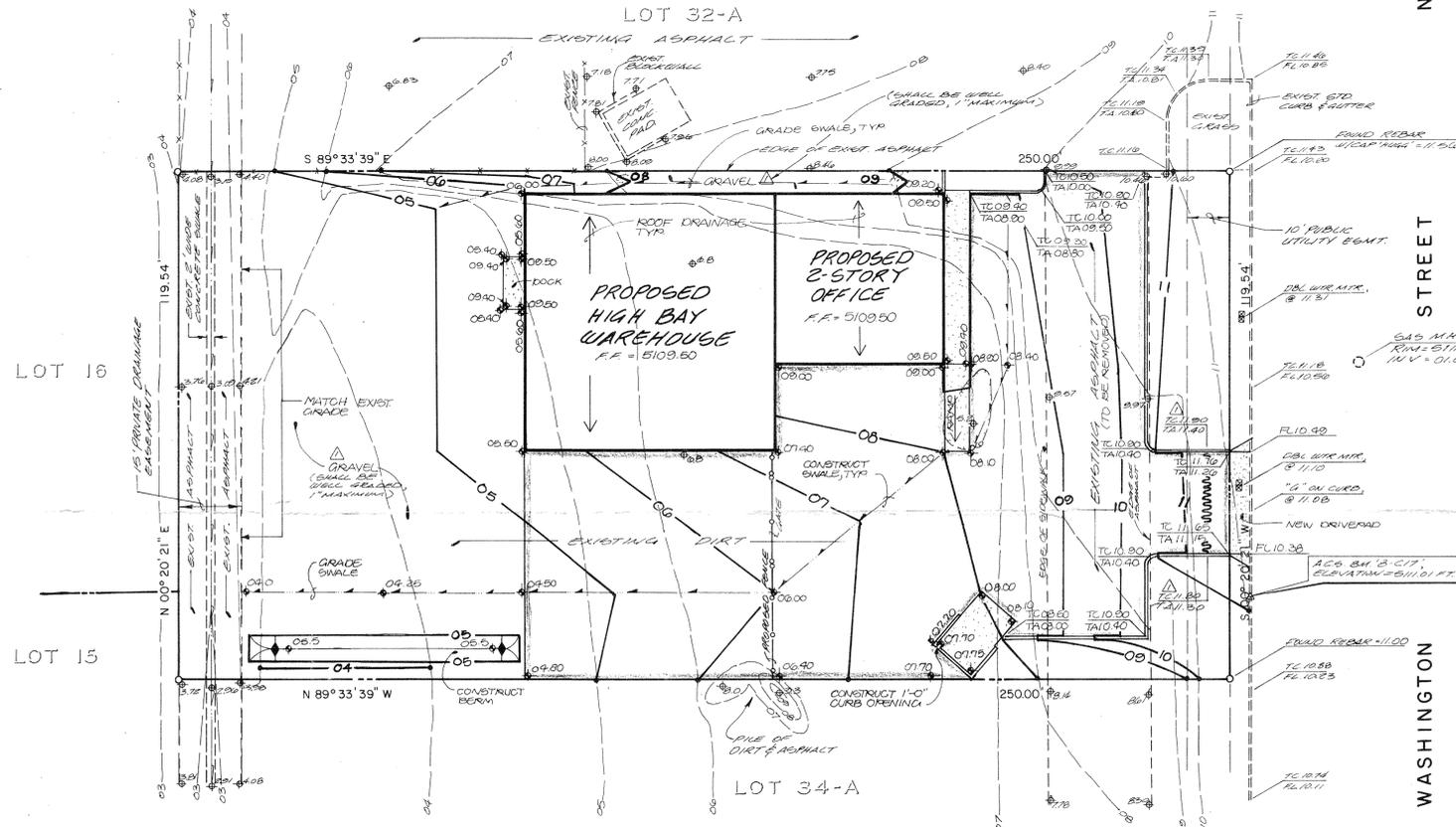
1. Vicinity Map
2. Grading Plan
3. Calculations

As shown by the Vicinity Map, this site is located on the west side of Washington Street N.E. between Washington Place N.E. and Anaheim Avenue N.E. At present, the site is partially developed with some minor paving and an asphalt drainage swale located on the west side of the site. Much of the surrounding area is currently undergoing similar development. As shown by Panel 9 of the Federal Emergency Management Agency Flood Boundary and Floodway Map dated October 14, 1983, the site does not lie within a designated Flood Hazard Zone. Furthermore, downstream flooding is not evident and therefore does not appear to be a problem. In addition, an approved master drainage report for Clifford Industrial Park prepared by Bohannon-Huston, Inc. dated August, 1982, allows for the free discharge of runoff onto the existing asphalt swale. No offsite flows enter the west, north and south property lines since the existing lots are graded in a manner which will route runoff away from the project site. No offsite flows enter the site along the east property line because the existing road street routes runoff away from the project site.

The Grading Plan shows 1) existing grades indicated by spot elevations and contours at 1'0" intervals, 2) continuity between existing and proposed grades, and 3) the limit and character of the proposed improvements. As shown by this plan, the proposed improvements consist of the construction of a new office warehouse building along with adjacent paving and landscaping. Flows generated by the proposed improvements will be routed from east to west onto the aforementioned asphalt swale. From that point, runoff will flow in a southerly direction onto Anaheim Avenue N.E. This is in compliance with the previously approved master drainage report.

The Calculations which appear hereon analyze both the existing and developed conditions for the 100-year, 6-hour rainfall event. The Rational Method has been used to quantify the peak rate of discharge and the SCS Method has been used to quantify the volume of runoff. Both Methods have been used in accordance with the City of Albuquerque Development Process Manual, Volume II, and the Mayor's Emergency Rule adopted January 14, 1986. As shown by these calculations, the proposed improvements will result in a net increase in peak runoff by approximately 1.3 cfs.

- LEGEND**
- PROPERTY LINE
  - - - EXISTING CONTOUR
  - - - PROPOSED CONTOUR
  - 4.00 EXIST. SPOT ELEVATION
  - 5.00 PROPOSED SPOT ELEV.
  - T.O.C. TOP OF CURB / ROAD LINE
  - T.A. TOP OF ASPHALT
  - EXISTING SWALE
  - PROPOSED SWALE
  - PROPOSED CONCRETE
  - PROPOSED ASPHALT
  - ~~~~~ PROPOSED WATERBLOCK



**CALCULATIONS**

**Ground Cover Information**

From SCS Bernalillo County Soil Survey, Plate 11: Emb - Embudo Complex  
Hydrologic Soil Group: B  
Existing Pervious CN = 70 (DPM Plate 22.2 C-2)  
Pasture or Range Land: fair condition  
Developed Pervious CN = 61 (DPM Plate 22.2 C-2)

**Time of Concentration/Time to Peak**  
 $T_c = 0.0078 L^{0.77} / S^{0.385}$  (Kirpich Equation)  
 $T_p = T_c = 10$  min.

**Point Rainfall**  
 $P_g = 2.2$  in. (DPM Plate 22.2 D-1)

**Rational Method**  
Discharge:  $Q = CiA$   
where C varies  
 $i = P_g (6.84) T_c^{-0.51} = 4.65$  in/hr  
 $P_g = 2.2$  in (DPM Plate 22.2D-1)  
 $T_p = 10$  min (minimum)  
A = area, acres

**SCS Method**  
Volume:  $V = 3630(DRO) A$

Where DRO = Direct runoff in inches  
A = area, acres

**Existing Condition**  
A<sub>total</sub> = 29,885 sf = 0.69 Ac  
Paved area = 4,780 sf (0.16)  
Dirt area = 25,105 sf (0.84)  
 $C = 0.49$  (Weighted average per Emergency Rule, 1/14/86)  
 $Q_{100} = CiA = (0.49)(4.65)(0.69) = 1.6$  cfs  
A<sub>imp</sub> = 4,780 sf; % impervious = 16 %  
Composite CN = 74 (DPM Plate 22.2 C-3)  
DRO = 0.48 in (DPM Plate 22.2 C-4)  
V<sub>100</sub> = 3630 (DRO) A = 1,200 cf

**Developed Condition**  
A<sub>total</sub> = 29,885 sf = 0.69 Ac  
Roof area = 5,200 sf (0.17)  
Paved area = 22,435 sf (0.75)  
Landscaped area = 2,250 sf (0.08)  
 $C = 0.89$  (Weighted average per Emergency Rule, 1/14/86)  
 $Q_{100} = CiA = (0.89)(4.65)(0.69) = 2.9$  cfs  
A<sub>imp</sub> = 27,635 sf; % impervious = 92 %  
Composite CN = 95.5 (DPM Plate 22.2 C-3)  
DRO = 1.7 in (DPM Plate 22.2 C-4)  
V<sub>100</sub> = 3630 (DRO) A = 4,260 cf

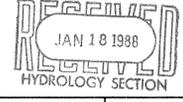
**Comparison**  
 $Q_{100} = 2.9 - 1.6 = 1.3$  cfs (increase)  
V<sub>100</sub> = 4,260 - 1,200 = 3,060 cf (increase)

**CONSTRUCTION NOTES:**

1. TWO (2) WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT LINE LOCATING SERVICE 765-1234, FOR LOCATION OF EXISTING UTILITIES.
2. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF ALL POTENTIAL OBSTRUCTIONS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY.
3. ALL WORK ON THIS PROJECT SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE AND LOCAL LAWS, RULES AND REGULATIONS CONCERNING CONSTRUCTION SAFETY AND HEALTH.
4. ALL CONSTRUCTION WITHIN PUBLIC RIGHT-OF-WAY SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE CITY OF ALBUQUERQUE STANDARDS AND PROCEDURES.
5. IF ANY UTILITY LINES, PIPELINES, OR UNDERGROUND UTILITY LINES ARE SHOWN ON THESE DRAWINGS, THEY ARE SHOWN IN AN APPROXIMATE MANNER ONLY, AND SUCH LINES MAY EXIST WHERE NONE ARE SHOWN. IF ANY SUCH EXISTING LINES ARE SHOWN, THE LOCATION IS BASED UPON INFORMATION PROVIDED BY THE OWNER OF SAID UTILITY, AND THE INFORMATION MAY BE INCOMPLETE, OR MAY BE OBSOLETE BY THE TIME CONSTRUCTION COMMENCES. THE ENGINEER HAS UNDERTAKEN NO FIELD VERIFICATION OF THE LOCATION, DEPTH, SIZE, OR TYPE OF EXISTING UTILITY LINES, PIPELINES, OR UNDERGROUND UTILITY LINES, MAKES NO REPRESENTATION PERTAINING THEREO, AND ASSUMES NO RESPONSIBILITY OR LIABILITY THEREFOR. THE CONTRACTOR SHALL INFORM ITSELF OF THE LOCATION OF ANY UTILITY LINE, PIPELINE, OR UNDERGROUND UTILITY LINE IN OR NEAR THE AREA OF THE WORK IN ADVANCE OF AND DURING EXCAVATION WORK. THE CONTRACTOR IS FULLY RESPONSIBLE FOR ANY AND ALL DAMAGE CAUSED BY ITS FAILURE TO LOCATE, IDENTIFY AND PRESERVE ANY AND ALL EXISTING UTILITIES, PIPELINES, AND UNDERGROUND UTILITY LINES. IN PLANNING AND CONDUCTING EXCAVATION, THE CONTRACTOR SHALL COMPLY WITH STATE STATUTES, MUNICIPAL AND LOCAL ORDINANCES, RULES AND REGULATIONS, IF ANY, PERTAINING TO THE LOCATION OF THESE LINES AND FACILITIES.

**EROSION CONTROL MEASURES**

1. THE CONTRACTOR SHALL ENSURE THAT NO SOIL ERODES FROM THE SITE INTO PUBLIC RIGHT-OF-WAY OR ONTO PRIVATE PROPERTY. THIS CAN BE ACHIEVED BY CONSTRUCTING TEMPORARY BERMS AT THE PROPERTY LINES AND WETTING THE SOIL TO KEEP IT FROM BLOWING.
2. THE CONTRACTOR SHALL PROMPTLY CLEAN UP ANY MATERIAL EXCAVATED WITHIN THE PUBLIC RIGHT-OF-WAY SO THAT THE EXCAVATED MATERIAL IS NOT SUSCEPTIBLE TO BEING WASHED DOWN THE STREET.
3. THE CONTRACTOR SHALL SECURE "TOPSOIL DISTURBANCE PERMIT" PRIOR TO BEGINNING CONSTRUCTION.



GRADING AND DRAINAGE PLAN  
LOT 33-A, CLIFFORD INDUSTRIAL PARK

DESIGN BY	L.P.U.	No.	Date	By	Revision	JOB NO.	871381
DRAWN BY	C.V.M.	Δ	JAN. 88	L.P.U.	SPECIFY TYPE OF CHANGE & PROVIDE WATER BLOCK @ ENTRANCE	DATE	12-1987
APPROVED BY	J.G.M.					SHEET	1 OF 1