



# City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

MAYOR  
KEN SCHULTZ

CHIEF  
ADMINISTRATIVE OFFICER

GENE ROMO

DEPUTY CAO  
PUBLIC SERVICES

FRANK MARTINEZ

DEPUTY CAO  
PLANNING/DEVELOPMENT

BILL MUELLER

March 4, 1988

Chris Weiss, P.E.  
Weiss-Hines Engineering, Inc.  
1100 Alvarado, NE  
Albuquerque, New Mexico 87110

RE: CERTIFICATION FOR LOTS 5 & 6 OF WASHINGTON BUSINESS PARK  
(C-17/D1U3) ENGINEER'S STATEMENT DATED FEBRUARY 23, 1988

Dear Mr. Weiss:

Based on the information provided on your submittal of February 23, 1988,  
certification is acceptable.

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

Cordially,

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

BJM/bsj

LOTS 516 Washington DRAINAGE INFORMATION SHEET  
PROJ. TITLE: Business Park ZONE ATLAS, DRAINAGE FILE # C-17/DIU 3  
LEGAL DESCRIPTION: Clifford Industrial Park  
CITY ADDRESS: NW Corner Wash. & Wash. Place NE  
ENGINEERING FIRM: Weiss-Hines Engineering, Inc. CONTACT: STEVE CLARK  
ADDRESS: 1100 Alvarado N.E. PHONE: 266-3444  
OWNER: \_\_\_\_\_ CONTACT: \_\_\_\_\_  
ADDRESS: \_\_\_\_\_ PHONE: \_\_\_\_\_  
ARCHITECT: \_\_\_\_\_ CONTACT: \_\_\_\_\_  
ADDRESS: \_\_\_\_\_ PHONE: \_\_\_\_\_  
SURVEYOR: \_\_\_\_\_ CONTACT: \_\_\_\_\_  
ADDRESS: \_\_\_\_\_ PHONE: \_\_\_\_\_  
CONTRACTOR: \_\_\_\_\_ CONTACT: \_\_\_\_\_  
ADDRESS: \_\_\_\_\_ PHONE: \_\_\_\_\_

PRE-DESIGN MEETING:

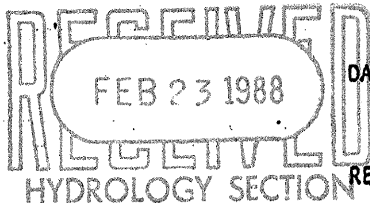
\_\_\_ YES DRB. NO. \_\_\_\_\_  
\_\_\_ NO EPC NO. \_\_\_\_\_  
\_\_\_ COPY OF CONFERENCE PROJECT NO. \_\_\_\_\_  
RECAP SHEET PROVIDED

TYPE OF SUBMITTAL:

\_\_\_ DRAINAGE REPORT  
X DRAINAGE PLAN  
\_\_\_ CONCEPTUAL GRADING & DRAIN PLAN  
X GRADING PLAN  
\_\_\_ EROSION CONTROL PLAN  
X ENGINEER'S CERTIFICATION  
\_\_\_ Resubmittal

CHECK TYPE OF APPROVAL SOUGHT:

\_\_\_ SECTOR PLAN APPROVAL  
\_\_\_ SKETCH PLAT APPROVAL  
\_\_\_ PRELIMINARY PLAT APPROVAL  
\_\_\_ SITE DEVELOPMENT PLAN APPROVAL  
\_\_\_ FINAL PLAT APPROVAL  
\_\_\_ BUILDING PERMIT APPROVAL  
\_\_\_ FOUNDATION PERMIT APPROVAL  
X CERTIFICATE OF OCCUPANCY APPROVAL  
\_\_\_ ROUGH GRADING PERMIT APPROVAL  
\_\_\_ GRADING/PAVING PERMIT APPROVAL  
\_\_\_ OTHER \_\_\_\_\_ (SPECIFY)



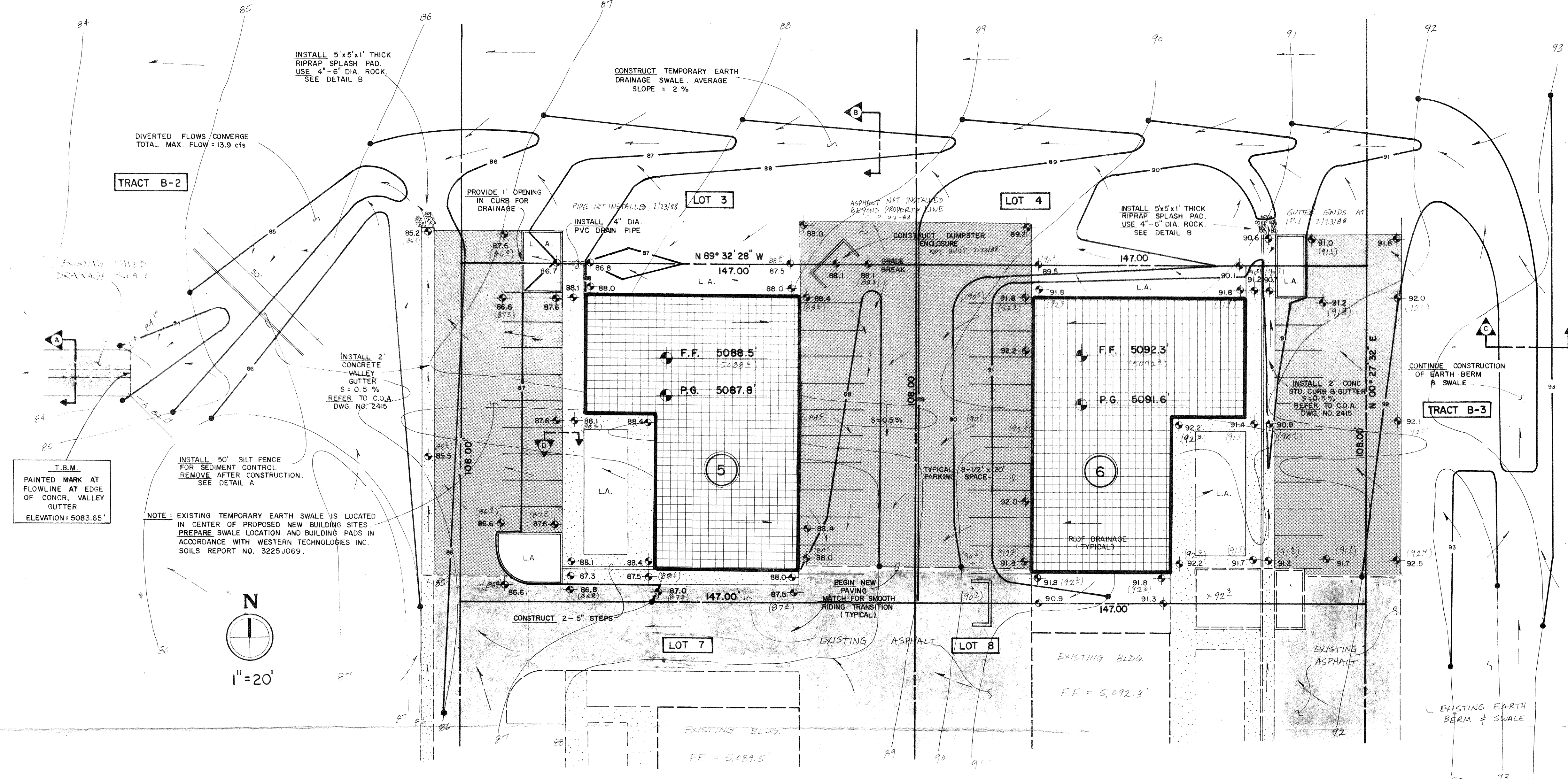
DATE SUBMITTED: 2/24/88  
BY: Weiss-Hines Eng. Inc.

REV. 10/85

10

DATE RECEIVED \_\_\_\_\_  
BY \_\_\_\_\_





**SCOPE:**

The proposed improvements are comprised of two one-story frame and stucco, slab-on-grade office/warehouse buildings, asphalt-paved drives and parking areas, and landscaped areas to be built on Lots 5 and 6. Temporary earth drainage channels will be constructed near the east lot line of Lot 6 and near the north lot lines of Lots 5 and 6.

The present site is undeveloped land sloping at 2% from east to west. A 10'-wide temporary earth drainage swale crosses the site approximately 20' north of the south lot lines. A 15'-wide asphalt-lined private drainage swale draining to the west begins approximately 110 feet southwest of the northwest corner of Lot 5.

**GENERAL GRADING/ DRAINAGE CONCEPT:**

Developed runoff flows from the site will be added to offsite flows south and east of the site and transferred in temporary earth swales into a paved drainage swale west of the site.

The intent of this plan is to show:

- Grading relationships between the existing ground elevations and proposed finished elevations in order to facilitate positive drainage to designated discharge points.
- The extent of proposed site improvements, including buildings, walks and pavement.
- The flow rate/volume of rainfall runoff across or around these improvements and methods of handling these flows to meet City requirements for drainage management.
- The relationship of onsite improvements with existing neighboring property to insure an orderly transition between proposed and surrounding grades.

**GENERAL NOTES:** This Grading/Drainage Plan is a phase of the Grading/Drainage Plan for Washington Business Park, prepared by Weiss-Hines Engineering, Inc., and approved by the City of Albuquerque, June 19, 1986.

**LOCALS:** Lots 5 and 6 of Washington Business Park. Notes and bounds on plan.

**SURVEY:** Clausen and Associates, Inc., Albuquerque, NM. December 1985.

**B.M.:** ACS brass tablet stamped "B-C17, 1975", centered in a drill hole in top of concrete curb located on west side of Washington Street, approximately 0.3 mile north of intersection of Washington Street and Los Angeles Boulevard. Elevation = 5,111.029'.

**T.B.M.:** Painted mark at flowline at beginning of concrete valley gutter in paved drainage swale 110' west of site. Elevation = 5,093.65'.

**SOILS:** See SCS Bernalillo County Soil Survey Map No. 11, soil types "Pm", "Bc", and "Cm" (generally fine sandy loams). All three soil types are classified as Hydrologic Group "B".

**FLOOD HAZARD:** Per FEMA Map No. 9, the nearest flood hazard boundaries are the Arroyo de Domingos Baca Channel (1800' south), and Alameda Boulevard (1100' to the north).

**OFF-SITE DRAINAGE:** Runoff from the east (southern portion of Tract B-3) is diverted by a temporary earth berm near the east lot line. These flows will be transferred westerly in a temporary earth swale north of Lots 5 and 6 and will be directed into the existing asphalt-lined swale in Tract B-2. Runoff from the south (developed Lots 7 and 8) is collected in concrete gutters and will be added to similar flows from Lots 5 and 6. These flows will also be directed into the paved swale in Lot B-2.

**POSITION CONTROL:** All easements generated during construction is to be retained as adjacent property under the same ownership as site. In addition, a silt fence is to be installed as shown on the plans.

**CALCULATIONS:** Calculations are based on the City of Albuquerque D.P.M. Manual, Vol. 11 for the 100-year, 6-hour storm, using the Rational Formula to compare the existing and proposed runoff rates. On-site flows generated on Lots 5 and 6 are to be combined with off-site flows from the south half of Tract B-3 and developed flows from Lots 7 and 8 and discharged into the existing paved drainage channel in Tract B-2.

**NATIONAL METHOD- Q = CIA**

Area of site: 31,752 SF = 0.729 AC

Run-off Coefficient:

Existing site:	Developed Site:
Undeveloped Area = 31,752 SF	Roof Area = 10,380 SF
	Landscaped Area = 3,050 SF
	Paved Area = 18,322 SF
$C_u = 31,752(0.40) = 0.40$	$C_r = 10,380(0.90) = 0.29$
	$C_l = 3,050(0.25) = 0.02$
	$C_p = 18,322(0.95) = 0.55$
	Composite C = 0.86

Rainfall Intensity:

$I = \frac{P_a(6.84)}{T_a + 6.84} = 4.65$  per hour

where  $P_a = 2.54$  (from 12.2 D-1)

$T_a = 10$  minutes

Existing Conditions:

$Q_{100} = (0.40)(4.65)(0.73) = 1.4$  cfs

Developed Conditions:

$Q_{100} = (0.86)(4.65)(0.73) = 2.9$  cfs

$V_{100} = (0.40)(P_a)(31,752)/12 = 2,330$  CF

$V_{100} = (0.86)(2.2)(31,752)/12 = 5,000$  CF

**SUMMARY:**

$V_{100} = (2.9)-(1.4) = 1.5$  cfs (increase)

$V_{100} = (5,000)-(2,330) = 2,670$  CF (increase)

**OFF-SITE DRAINAGE:**

Area East of Site

Area: (0.50)(7,509 AC) = 3.8 AC = 103,000 SF

Run-off Coefficient: C = 0.40

Intensity: I = 4.65/hr. (I = 10 min.)

Peak Flow: Q = CIA = (0.40)(4.65)(3.8) = 7.1 cfs

These flows are intercepted by swales shown by Sections C & B.

Area South of Site (Lots 7 & 8)

Area: 1.05 AC = 45,740 SF

Run-off Coefficient: C = 0.80 (developed)

Intensity: I = 4.65/hr. (I = 10 min.)

Peak Flow: Q = CIA = (0.80)(4.65)(1.05) = 3.9 cfs

These flows pass through improvements for Lots 5 & 6 and discharge into swales shown by Sections A & B.

**HYDROGRAPH:**

Since times of concentrations for developed Lots 5 and 6 and off-site areas east and south are low (less than 10 minutes), the hydrograph is added to determine peak combined flow into the paved drainage swale on Tract B-2 (13.9 cfs).

**HYDROGRAPH**

PEAK FLOW, CFS

COMBINED PEAK FLOW

EAST OFF-SITE

OFF-SITE

ON-SITE

**RECEIVED**

**FEB 23 1988**

**HYDROLOGY SECTION**

