HYDROLOGY

E17/D19B

ONE PLAN

PLAN

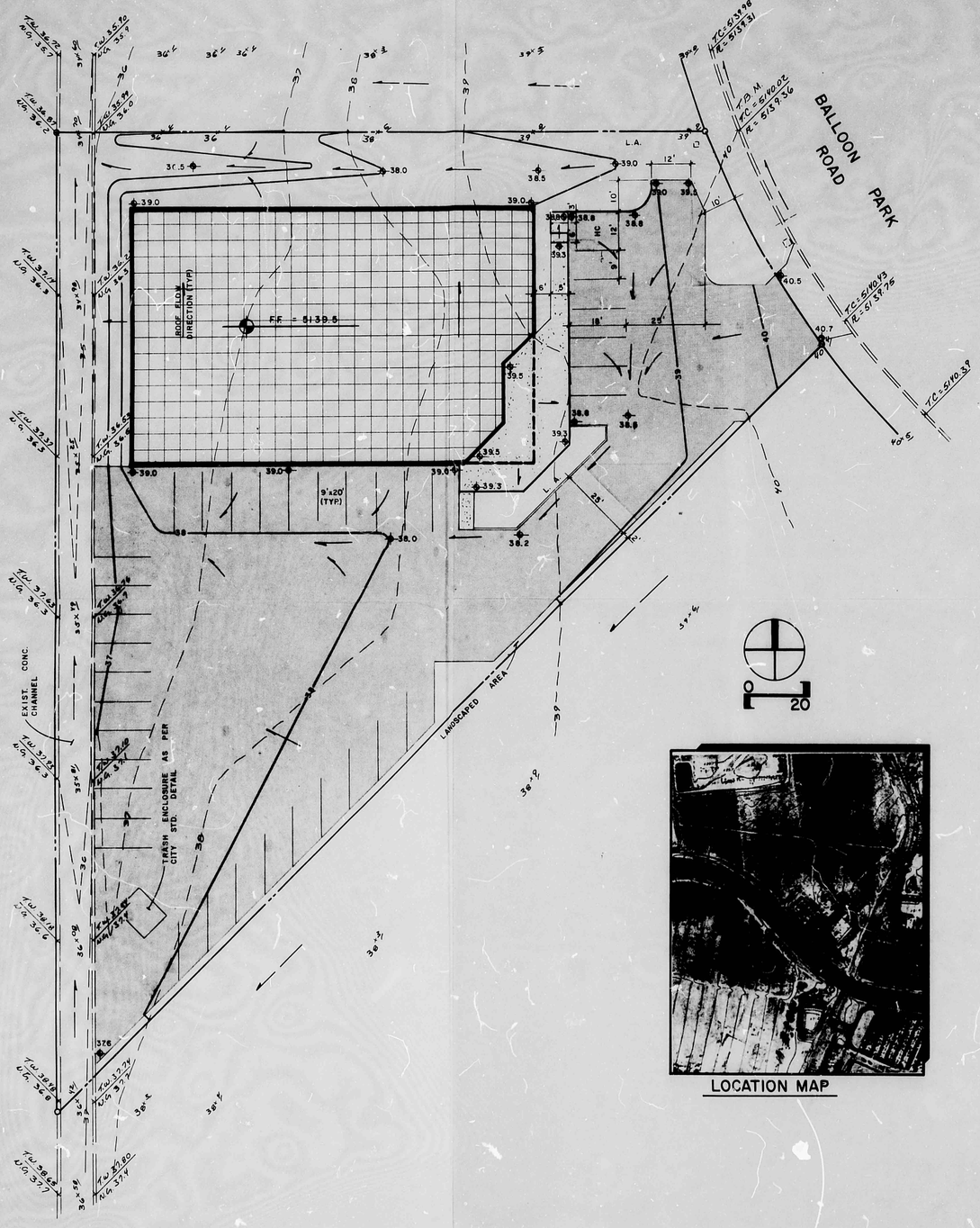
BALLOON FIELD

INDUSTRIAL PARK

LOT 8

EIN- D22B

SCALE: 1" = 20'




## LEGEND

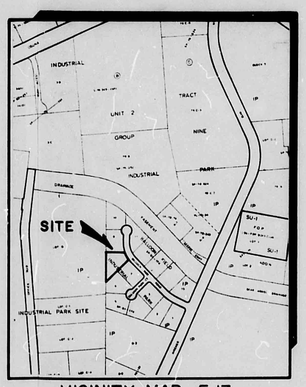
- SIDEWALK, CURB & GUTTER (EXISTING, PROPOSED)
- PROPOSED ASPHALT
- BUILDING (EXISTING, PROPOSED)
- PROPERTY LINE
- 12.7 X — EXISTING SPOT ELEVATION
- EXISTING CONTOUR
- 12.5 — PROPOSED SPOT ELEVATION
- 10 — PROPOSED CONTOUR
- SURFACE FLOW DIRECTION (EXISTING, PROPOSED)
- L.A. — LANDSCAPED AREA
- T.G.W. — TOP OF GRADE WALL (LESS THAN 18" HIGH)
- T.R.W. — TOP OF RETAINING WALL (MORE THAN 18" HIGH)
- T.A. — TOP OF ASPHALT
- T.C. — TOP OF CURB
- F.L. — FLOW LINE
- F.F. — FINISHED FLOOR

**CONSTRUCTION NOTES:**

1. Before construction, the Contractor shall check and verify portrayed figures shown hereon and shall make all applicable field measurements. Should any conflict, error or discrepancy be discovered, the contractor shall notify the Engineer at once to resolve the problem. It is recommended that the Contractor meet with the Engineer for a pre-design conference to discuss the scope of work and critical areas involved.
2. The Contractor shall be responsible for following the plans using his best skill and attention. Any departure from the plans must be approved by the Engineer and the City Hydrology Department prior to construction.
3. The Contractor shall check the site plan for locations of existing utilities within or adjacent to streets and shall take all necessary precautions and efforts to locate and protect these utilities. He shall give 48 hours notice to Line Locating Service, 765-1234, for any work that may interfere with said utilities.



LOCATION MAP




VICINITY MAP - E-17

**SCOPE:**

The proposed improvements are comprised of an office and warehouse building with paved parking, concrete sidewalk area and landscaped areas around the building.

The present site is undeveloped with an existing concrete drainage channel along the west side to channel flows north to the Bear Arroyo. The lot will be graded to direct flows into the channel as shown on the approved Master Plan for Balloon Field Industrial Park.

The intent of this plan is to show:

a) Grading relationships between the existing ground elevations and proposed finished elevations in order to facilitate positive drainage to designated discharge points.

b) The extent of proposed site improvements, including buildings, walks and pavement.

c) 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.

d) The relationship of onsite improvements with existing neighboring property to insure an orderly transition between proposed and surrounding grades.

**GENERAL NOTES:**

LEGAL: Lot 8 of Balloon Field Industrial Park, Albuquerque, New Mexico.

SURVEYOR: Clausen and Associates, Inc., March, 1986.

B.M.: Manhole at Intersection of Kircher and Singer Blvd. Elevation = 5144.07.

T.B.M.: Top of curb on Balloon Park Road at extension of NE property line. Elevation = 5140.02.

SOILS: SCS Soils Map No.21, Soil Type is 'EmB', Hydrologic Soil Group 'B'.

FLOOD HAZARD: As shown on FEMA Map No.16, the site is not located within a flood hazard area. Since flows will run to the west and then north to the Bear Arroyo, the flood hazard area which lies about 1000 ft. to the south will not be affected.

OFF-SITE DRAINAGE: The lots which lie north and south of this site drain from east to west and flows do not run across lot Lot 8. Runoff from lots to the south are entirely contained within the channel along the west property line and flow north to the Bear Arroyo.

EROSION CONTROL: Contractor shall be responsible for containing any sediment generated during construction.

CALCULATIONS: Calculations are based on the City of Albuquerque D.P.M. Manual, Vol. II for the 100-year 6-hour storm, using the Rational Formula to compare the existing and proposed runoff rates.

**RATIONAL METHOD- Q = CIA**

Area of site: 43,560 sq.ft. = 1.0 Ac.

Run-off Coefficient:

| Existing Site: | Developed Site: |
|---|---|
| Undeveloped Area = 40116 ft² | Roof Area = 10,080 ft² |
| Paved Area = 3444 ft² | Landscaped Area = 6675 ft² |
| | Paved Area = 26,805 ft² |
| $C_u = \frac{40116\ (0.40)}{43560} = 0.37$ | $C_u = \frac{10080\ (0.90)}{43560} = 0.21$ |
| | $C_l = \frac{6675\ (0.25)}{43560} = 0.04$ |
| $C_p = \frac{3444\ (0.95)}{43560} = 0.07$ | $C_p = \frac{26805\ (0.95)}{43560} = 0.58$ |
| Composite C = 0.44 | Composite C = 0.83 |

Rainfall Intensity:

$I = P_6\ (6.84)\ T_c^{-0.51} = 4.7$" per hour
where $P_6 = 2.2$"(DPM 22.2 D-1)
$T_c = 10$ minutes

| Existing Condition: | Developed Condition: |
|---|---|
| $Q_{100} = (0.44)(4.7)(1.0) = 2.1$ cfs | $Q_{100} = (0.83)(4.7)(1.0) = 3.9$ cfs |
| $V_{100} = (2.1)(50T_c)(60\ sec/min)/2 = 3150$ cu. ft. | $V_{100} = (3.9)(50)(60)/2 = 5850$ cu. ft. |

SUMMARY:

$Q_{100} = (3.9)-(2.1) = 1.8$ (increase)
$V_{100} = (5850)-(3150) = 2700$ cu. ft. (increase)

RECEIVED
MAR 26 1986
HYDROLOGY SECTION

E17/D22B

WEISS-HINES ENGINEERING INC.
1100 ALVARADO N.E. SUITE B
ALBUQUERQUE, NEW MEXICO 87110
(505) 266-3444

| REVISIONS | DATE |
|---|---|
| | |
| | |
| | |

DESIGNED CWH 3-86
DRAWN MWJ 3-86
CHECKED WH 3-86

# DRAINAGE / GRADING PLAN
## LOT 8
## BALLOON FIELD INDUSTRIAL PARK

ENGINEERING

CHRISTOPHER W. HINES
NEW MEXICO
8369
REGISTERED PROFESSIONAL ENGINEER

SHEET 1 OF 2