HYDROLOGY K11/D35 1 PLAN

K11/D35

1 PLAN

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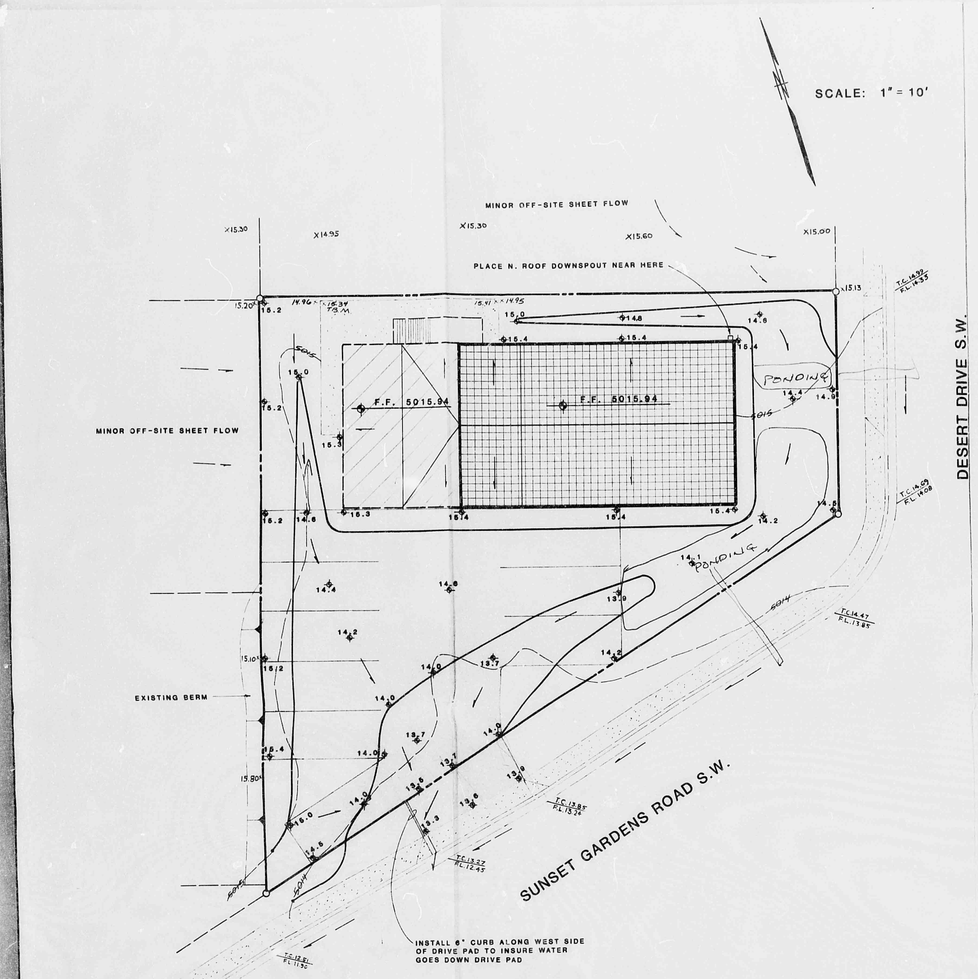
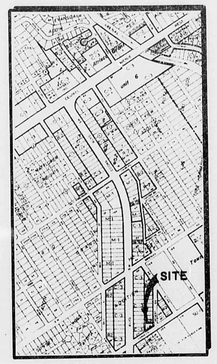
CITY OF ALBUQUERQUE



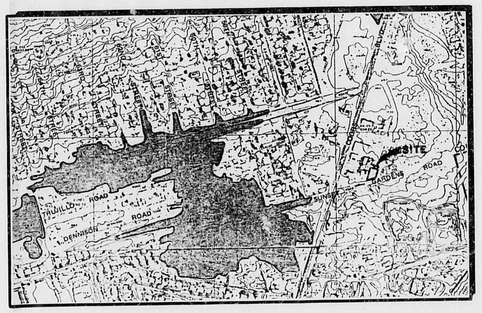

VICINITY MAP K-11

## LEGEND

| | |
|---|---|
| | SIDEWALK, CURB & GUTTER (EXISTING, PROPOSED) |
| | PROPOSED ASPHALT |
| | BUILDING (EXISTING, PROPOSED) |
| | PROPERTY LINE |
| 12.7x | 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 pertinent 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.




FLOOD HAZARD MAP

SCOPE:

The proposed improvements, comprised of a 1345 sq. ft. fourplex addition and 2700 sq. ft. of new asphalt parking lot, is located on Sunset Gardens Rd. S.W., Albuquerque Zone Atlas Map K-11. The proposed drainage scheme would route all flow from the site, including roof drainage, to the south driveway on Sunset Gardens Rd. Flow would then proceed down Sunset to the east side of Coors Blvd. and thence south in a swale which runs parallel to Coors.

The present site is comprised of a 560 sq. ft. apartment and 450 sq. ft. of paving. All drainage from the present site is south to a driveway and onto Sunset Gardens Road S.W. or east onto a driveway and onto Desert Drive S.W.

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 20B, Rio Grande Heights, Albuquerque, New Mexico

SURVEYOR: John T. Esquibel, A & E Surveying, Inc., April, 1985.

B.M.: City B.M. K-F-11, Intersection of Gonzales Rd. and 53rd St. S.W., Elevation = 5010.28'.

T.B.M.: Corner of concrete pad at extreme S.W. corner of property, Elevation = 5015.34'.

SOILS: Madurez-Vick Association (MVA), Hydrologic Soil Group B

FLOOD HAZARD: The immediate area around the site has good relief and drains quickly toward the Sunset Gardens - Coors intersection to the west. Upon reaching the east side of the intersection the flow turns south and into a swale which parallels Coors Blvd. Eventually, the on-site flows might reach a 100-year flood pond area located on the Bridge - Coors area, but the effect on the pond area is insignificant.

OFF-SITE DRAINAGE: An insignificant quantity of offsite flows enter the site from the northwest. The drainage plan handles this water by slight rerouting to the paved parking lot and down the front drive pad to Sunset Gardens Rd.

EROSION CONTROL: A temporary earthern berm will be constructed across divepad entrance to prevent sediment from leaving site during construction.

CALCULATIONS: Based on City of Albuquerque Hydrology criteria, rate of discharge from site will depend on downstream capacity.

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 compute the existing and proposed runoff rates.

RATIONAL METHOD- Q = CIA

Area of site: 7,000 sq.ft. = .16 Ac.

Run-off Coefficient:

| Existing site: | Developed Site: |
|---|---|
| A imp. = .02 Ac | A imp. = .12 Ac |
| % imp. = 14.2 | % imp. = 72 % |
| "C" = 0.40 (DPM 22.2 C-1) | "C" = 0.71 (DPM 22.2 C-1) |

Rainfall Intensity:

$I = P_6 (6.86) T_c^{-0.86} = 4.76"$ per hour

where $P_6 = 2.2"$ (DPM 22.2 D-1)

Tc = 10 minutes

| Existing Conditions: | Developed Conditions: |
|---|---|
| Q100 = (0.40)(4.76)(.16) = 0.3 cfs | Q100 = (0.71)(4.76)(.16) = 0.5 cfs |
| V100 = (0.3)(5 Tc)(60 sec/in)/2 = 450 cu. ft. | V100 = (0.5)(500)(60)/2 = 750 cu. ft. |

SUMMARY:

Q100 = (0.5)-(0.3) = 0.2 cfs (increase)
V100 = (750)-(450) = 300 cu. ft. (increase)

DOWNSTREAM CAPACITY

The projected increases in developed 100-year flow rate and volume are very small - considering that the site is an infill and that the increased runoff will have an insignificant impact on downstream areas, we recommend free discharge from the site.

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HYDROLOGY SECTION

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REVISIONS DATE
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# DRAINAGE / GRADING PLAN

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