

DRAINAGE INFORMATION SHEET

PROJECT TITLE: McIVER APTS ZONE ATLAS/DRAINAGE FILE # K-11/D46
LEGAL DESCRIPTION: LOT C-10-B, AIRPORT UNIT, TOWN OF ATRISCO GRANT
CITY ADDRESS: 5901 Central N.W.
ENGINEERING FIRM: Weiss-Hines Engineering, Inc. CONTACT: STEVE CLARK

ADDRESS: 1100 Alvarado N.E. PHONE: 266-3444

OWNER: DR. WM. McIVER CONTACT: _____

ADDRESS: _____ PHONE: _____

ARCHITECT: BILL BURK CONTACT: _____

ADDRESS: _____ PHONE: _____

SURVEYOR: GORDON DOUGLAS CONTACT: _____

ADDRESS: _____ PHONE: _____

CONTRACTOR: _____ CONTACT: _____

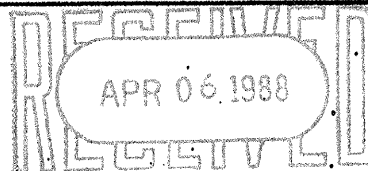
ADDRESS: _____ PHONE: _____

PRE-DESIGN MEETING:

____ YES

☒ NO

____ COPY OF CONFERENCE RECAP SHEET PROVIDED



DRB. NO. _____

EPC NO. _____

PROJECT NO. _____

TYPE OF SUBMITTAL:

____ DRAINAGE REPORT

☒ DRAINAGE PLAN

____ CONCEPTUAL GRADING & DRAIN PLAN

☒ GRADING PLAN

____ EROSION CONTROL PLAN

____ 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

____ CERTIFICATE OF OCCUPANCY APPROVAL

____ ROUGH GRADING PERMIT APPROVAL

____ GRADING/PAVING PERMIT APPROVAL

____ OTHER _____ (SPECIFY)

DATE SUBMITTED: 4-6-88

BY: Weiss-Hines Eng. Inc.

REV. 10/85

10

DATE RECEIVED _____

BY _____



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

April 28, 1988

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

RE: GRADING & DRAINAGE REPORT FOR THE MCIVER APARTMENTS
SUBMITTED APRIL 6, 1988, FOR BUILDING PERMIT APPROVAL
(K11/D46)

Dear Mr. Clark:

Your submittal, referred to above, with your engineer's stamp dated April 6, 1988, is approved for Building Permit sign-off by the Hydrology Section. This approved drawing must be included with the construction sets routed for permit sign-off.

If you have any questions, please call me at 768-2650.

Cordially,

G. Stuart Reeder, P.E.
C.E./Hydrology Section

GSR

FILE COPY



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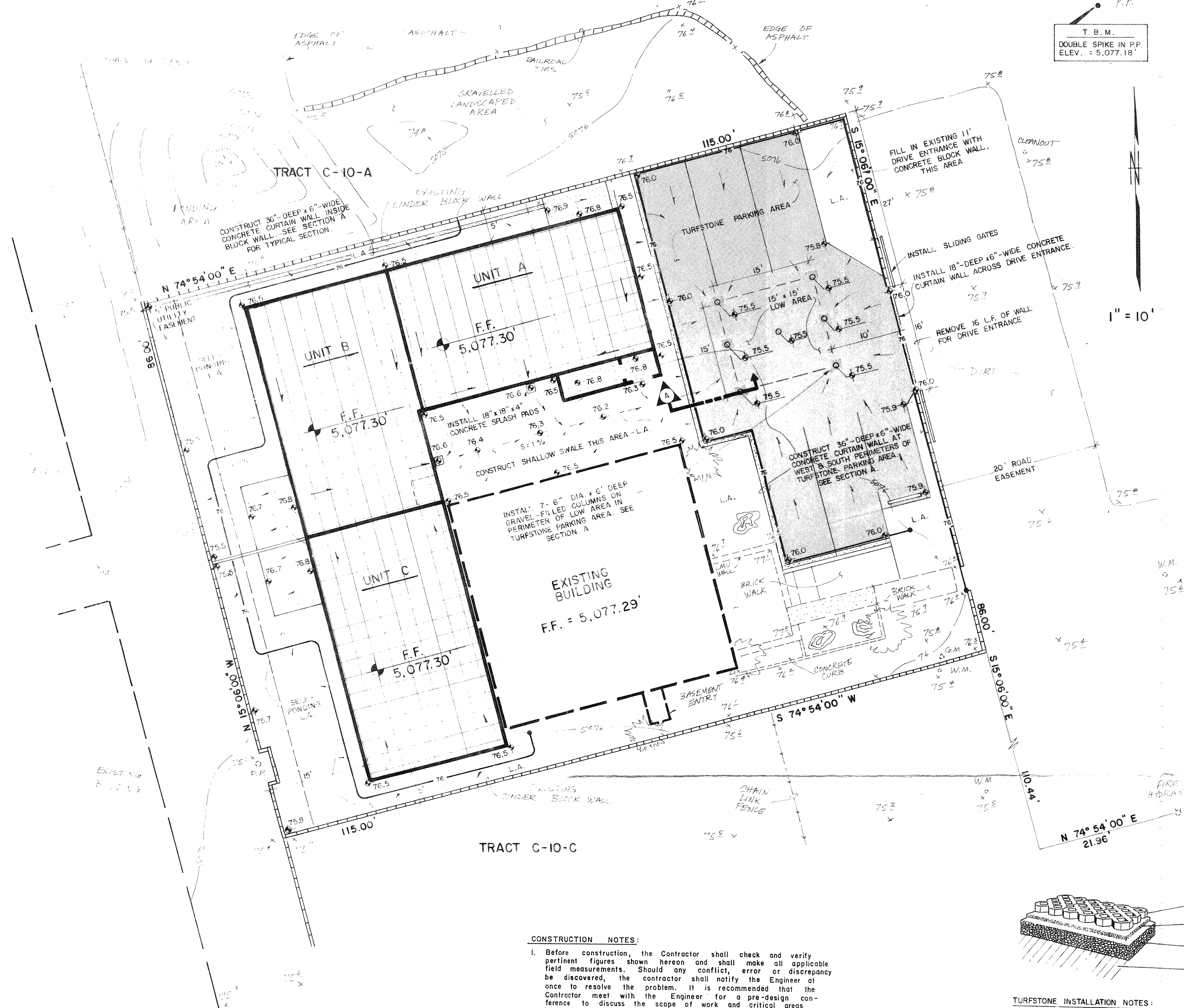
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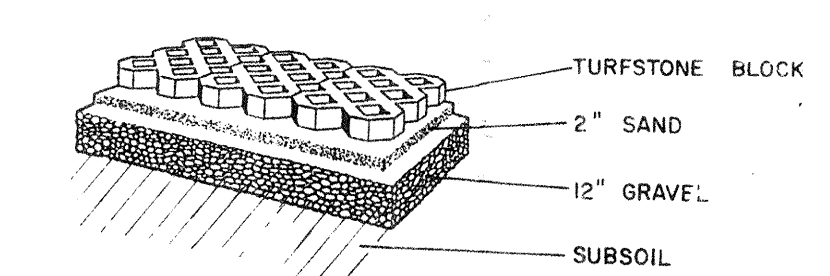
Cordially,

Stuart Reeder
G. Stuart Reeder, P.E.
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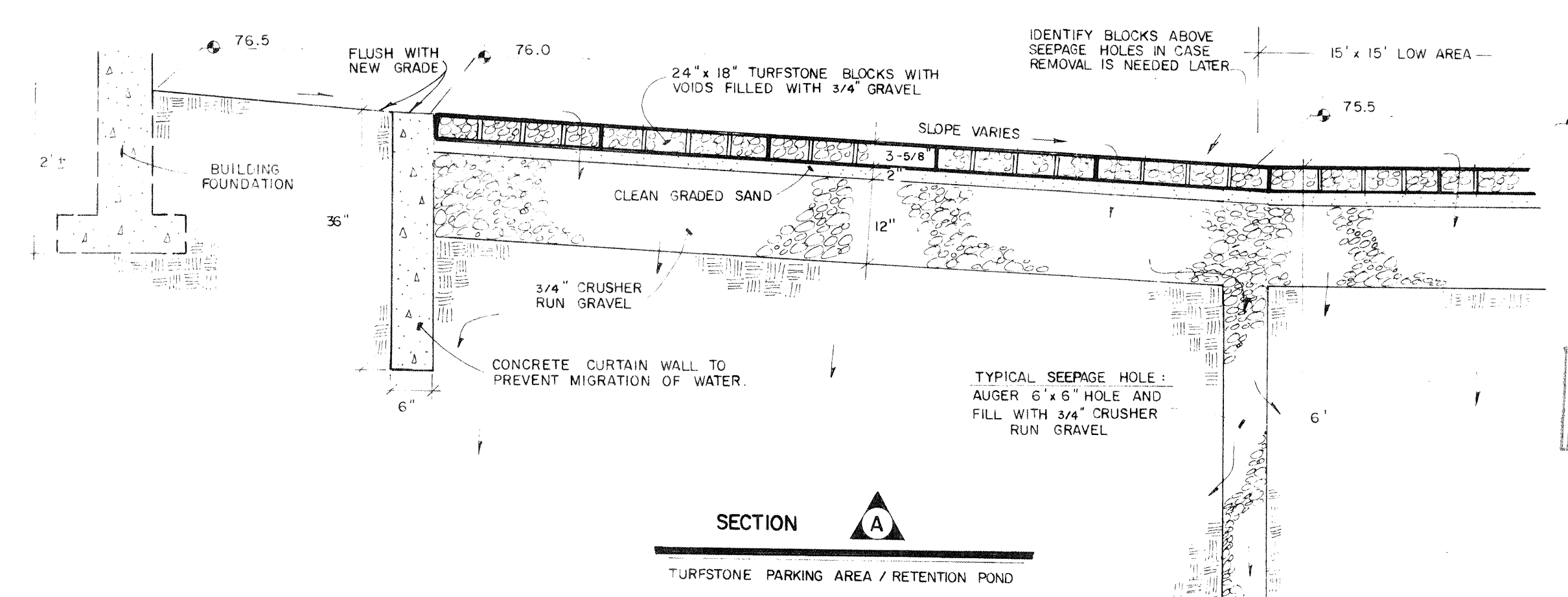


- CONSTRUCTION NOTES:**
- Before construction, the Contractor shall check and verify pertinent figures shown hereon and shall make all applicable field measurements. Should any conflict, error or discrepancy be discovered, the contractor shall notify the Engineer at once to resolve the problem. It is recommended that the Contractor meet with the Engineer for a pre-design conference to discuss the scope of work and critical areas involved.
 - 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.
 - 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.



- TURFSTONE INSTALLATION NOTES:**
- Overexcavate subsoil 4" below finished grade and replace, compacted to 95% max. dry density (ASTM D-1557).
 - Use 12" of 3/4" crusher run, which should be compacted with a vibrating compactor.
 - Install a leveling bed of a 2" layer of clean, graded, levelled sand. Do not compact.
 - Install Turfstone blocks over sand, leaving a space of 1/8" between each block.
 - Fill Turfstone holes with 3/4" crusher run gravel.

- LEGEND**
- SIDEWALK, CURB & GUTTER (EXISTING, PROPOSED)
 - PROPOSED TURFSTONE
 - BUILDING (EXISTING, PROPOSED)
 - PROPERTY LINE
 - EXISTING SPOT ELEVATION
 - EXISTING CONTOUR
 - PROPOSED SPOT ELEVATION
 - 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



SCOPE:
The proposed improvements comprise a slab-on-grade tri-plex apartment building (2500 SF total), a 1750 SF Turfstone parking area/retention pond, associated walks, and landscaped areas.

The present site is surrounded on all four sides by a 6'-high cinder block wall. An existing 1100 SF adobe house will remain. The lot is mostly unvegetated dirt and mostly level in grade, with slight depressions existing near the east and west walls.

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.

DRAINAGE PLAN CONCEPT:
This site cannot discharge storm flows into the storm sewer in Central Avenue (300 feet to the south) because of an absence of positive slope in that direction. Additionally, the site is totally enclosed by an existing cinder block wall making it necessary to retain storm runoff on-site. In order to facilitate absorption of runoff volumes into the ground within a 24-hour period, a Turfstone parking area underlaid with sand and gravel will serve as a retention pond. It is sized to accept the 1124 CF volume of water that would be generated by a 100-year storm on the developed site. Thus, as shown on the plans and in the calculations, all runoff shall be retained on-site and shall be absorbed within 24 hours.

In order to protect the foundations of existing and proposed structures on the site from water infiltration from the retention ponds (proposed at east side of site and existing on property adjacent to the north), a 36"-deep concrete curtain wall will be constructed on the western perimeter of the ponding area and just south of the block wall on the north property line, as shown on the plans.

GENERAL NOTES:
LEGAL: Tract C-10-B of the Airport Unit in the Town of Arisco Grant, Albuquerque, NM.
SURVEYOR: Gordon Douglas & Associates, 126 Washington S.E., Albuquerque, NM. February, 1988.
R.M.: NM 448-C1, a MNSHC brass cap set in the top of a concrete post flush with the ground in the west median at the intersection of Central Avenue SW and 59th Street SW. Elevation = 5,074.07'.
T.B.M.: Double spike in a light pole 50' northeast of northeast corner of the site. Elevation = 5,077.18'.
SOILS: According to the SGS Soil Survey for Bernalillo County (Plate 30), the soil type is HMA (Hudon-Mink Association), a fine sandy loam of Hydrologic Group B.
FLOOD HAZARD: According to FEMA Flood Boundary Map (Panel 27), the site does not lie within an established flood zone.
OFF-SITE DRAINAGE: There are no significant off-site flows that affect the site. An existing storm retention pond on the property to the north (Tract C-10-A) is adjacent to the block wall on the site's north property line.
EROSION CONTROL: No flows will leave the site and any sediment generated during construction remain on-site.
CALCULATIONS: Calculations are based on the City of Albuquerque D.P.M. Manual, Vol. 1, 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:	Q = CIA
9,890 SF = 0.227 AC	

Run-off Coefficient:

Existing Site:	Developed Site:
Undeveloped Area = 0.324 SF	Roof Area = 3,560 SF
Paved Area = 506 SF	Landscaped Area = 3,445 SF
Turfstone Area = 1,060 SF	Paved Area = 1,128 SF
	Turfstone Area = 1,750 SF

$C_u = (83241 / 0.40) = 0.34$	$C_l = (3568 / 0.90) = 0.32$
$C_v = (1265 / 0.95) = 0.05$	$C_l = (3445 / 0.95) = 0.09$
$C = (1060 / 0.90) = 0.10$	$C_v = (1128 / 0.95) = 0.11$
	$C_l = (1750 / 0.55) = 0.10$
Composite C = 0.49	Composite C = 0.62

Rainfall Intensity:

$I = P_s (6.34) T^{0.01} = 4.65$ per hour
where $P_s = 2.2$ (DPH 22.2 D-1)
 $T = 10$ minutes

Existing Condition:

$Q_{ave} = (0.49) (4.65) (0.227) = 0.5$ cfs
 $V_{100} = (0.49) (P_s) (9,890) / 12 = 882$ CF

Developed Condition:

$Q_{ave} = (0.62) (4.65) (0.227) = 0.7$ cfs
 $V_{100} = (0.62) (2.2) (9890) / 12 = 1124$ CF

SUMMARY:
 $Q_{ave} = (0.7) - (0.5) = 0.2$ cfs (increase)
 $V_{100} = (1124) - (882) = 242$ CF (increase)

PERCOLATION TEST RESULTS (P.S.I., INC., ALBUQUERQUE, NM, 1/26/88):

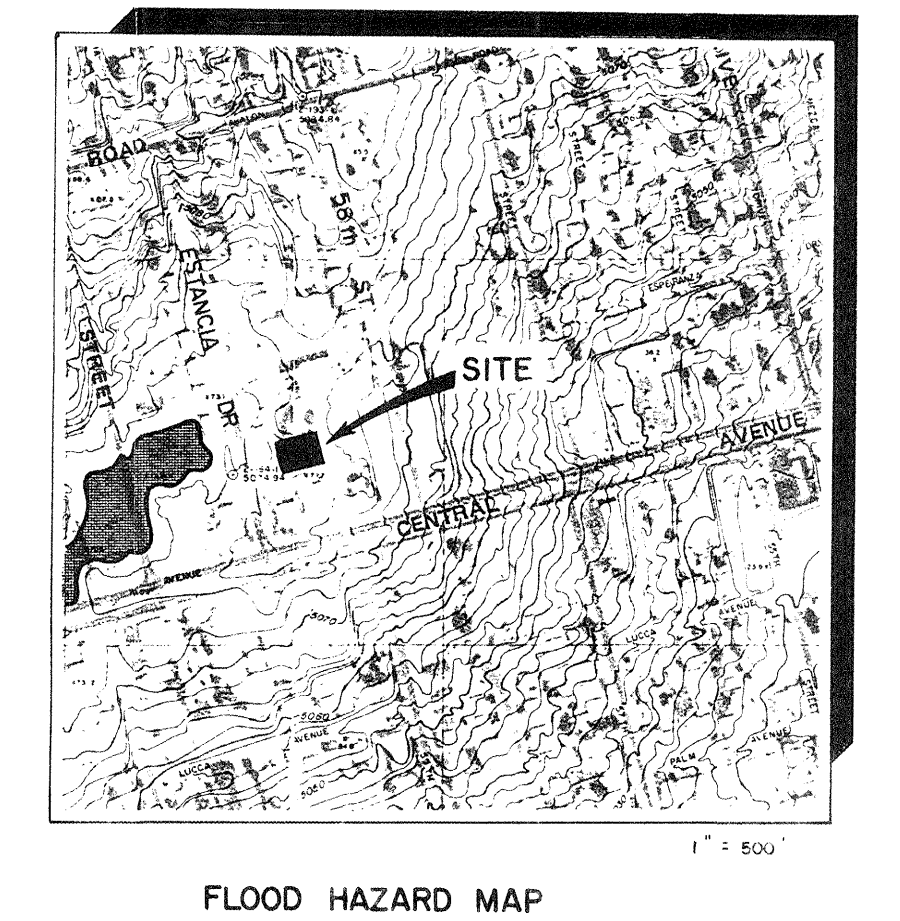
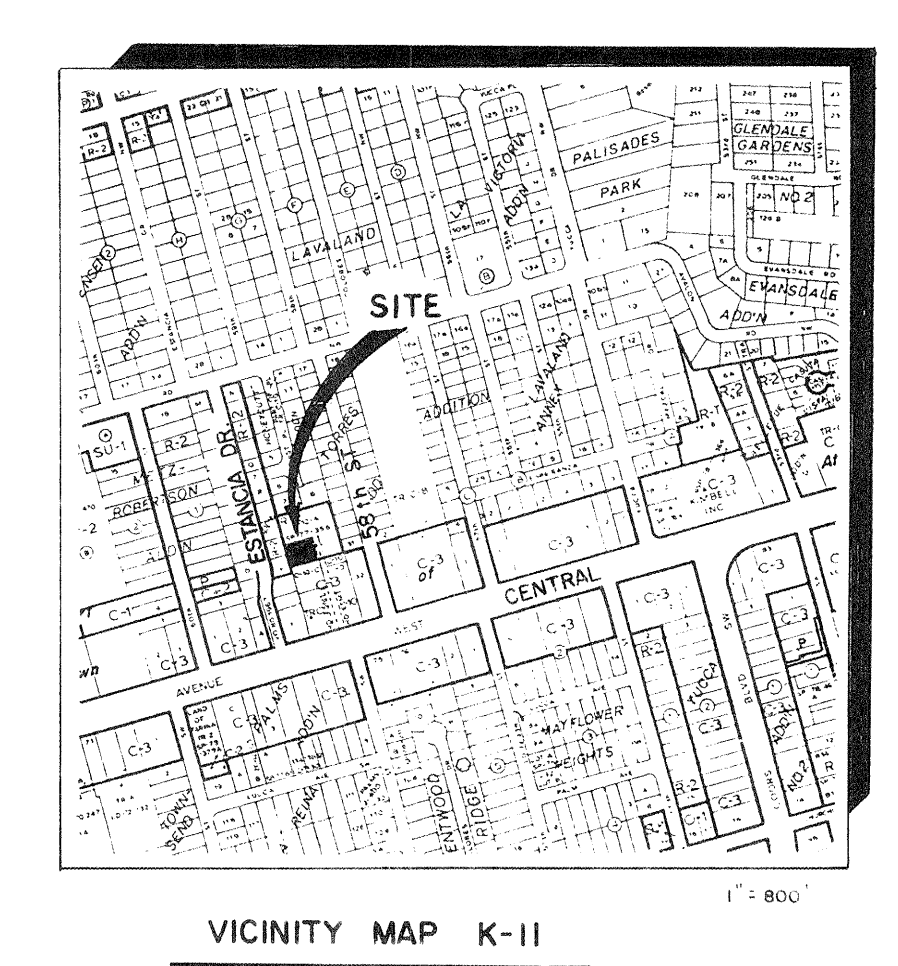
Hole Volume = $\pi r^2 h = (3.14) (0.25')^2 (4') = 1.2$ CF
Percolation Rate = $Q/V_{hole} = 6"/12$ hours
Area of Hole = $2\pi rh = (2) (3.14) (0.25') (4') = 9.4$ SF
Percolation Rate = 1.2 CF/12 hours/9.4 SF = 0.01 CF/hour/SF

RETENTION POND SIZING:

Area of Retention Pond = 1,750 SF
Runoff volume to be stored/absorbed = 1,124 CF

- Infiltration Volume = $(1750 \text{ SF}) (0.01 \text{ CF/hr/SF}) (24 \text{ hours}) = 420$ CF absorbed in natural ground
- Turfstone void volume = $(24") (18") (3 \text{ 5/8"} (0.67)) = 0.6$ CF/block
 $1750 \text{ SF} / 0.6 \text{ CF/block} (0.3 \text{ efficiency}) = 105$ CF
3 SF/block
- Turfstone gravel bedding = $(1750 \text{ SF}) (12" \text{ bedding}) (0.3 \text{ efficiency}) = 88$ CF
12"/ft
- Turfstone gravel base = $(1750 \text{ SF}) (1 \text{ ft gravel}) (0.3 \text{ efficiency}) = 525$ CF

SUMMARY: $1 + 2 + 3 + 4 = 420 + 105 + 88 + 525 = 1138$ CF storage
1124 CF required



APPROVED FOR DRAINAGE
DATE 25 APR 1988
SIGNATURE G.S. Reader, Jr., P.E., C.E.M.
TITLE ADVISE DRAINAGE INSPECTOR WHEN GRADING EXECUTED

RECEIVED
APR 05 1988
HYDROLOGY SECTION