HYDROLOGY

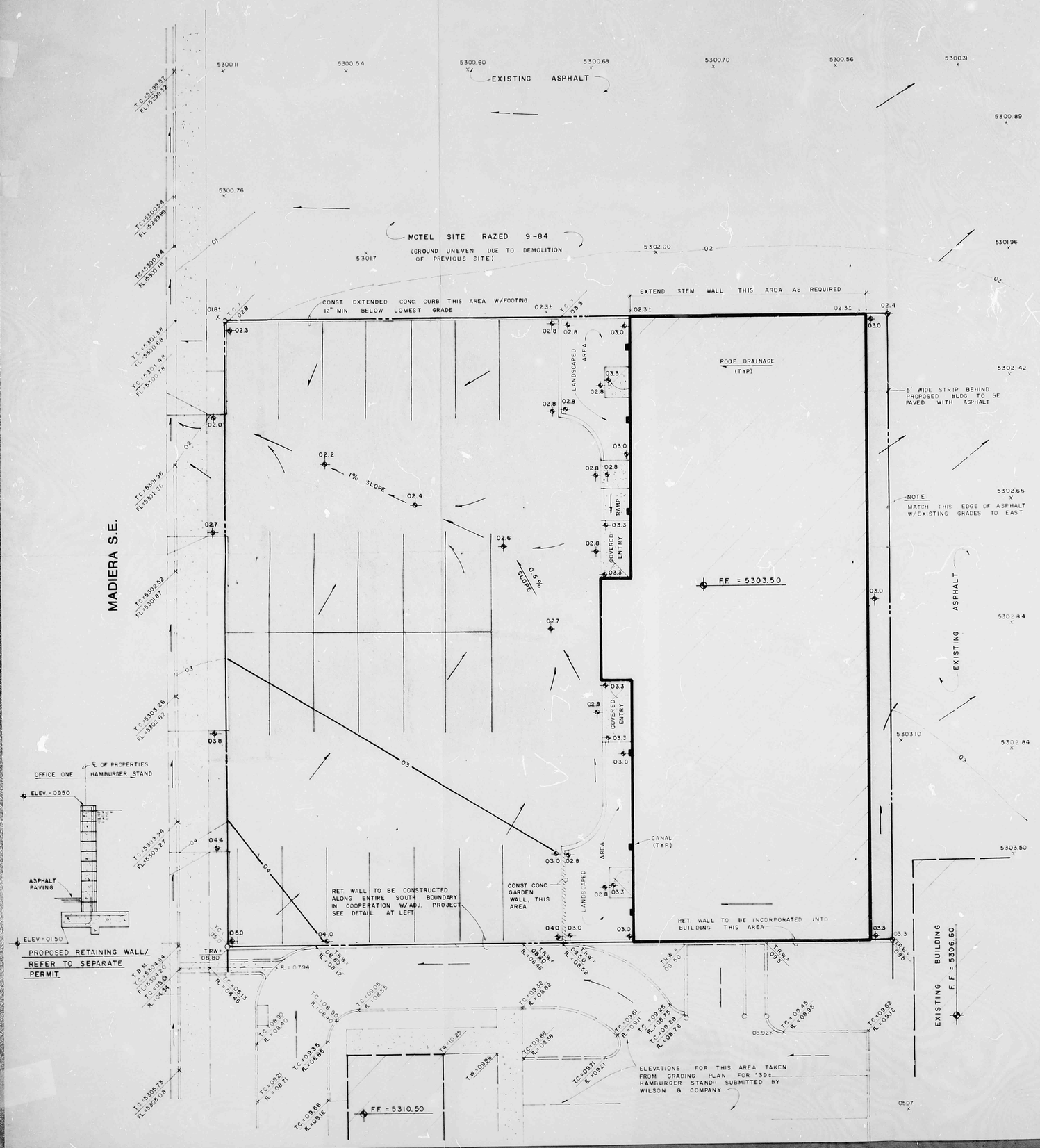
L18/D20

ONE PLAN

1 PLAN FOR

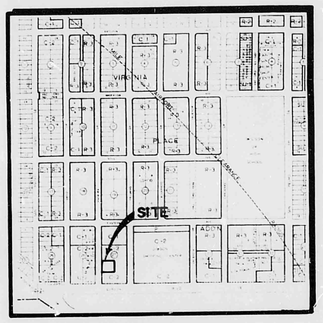
OFFICE ONE

L18-D20

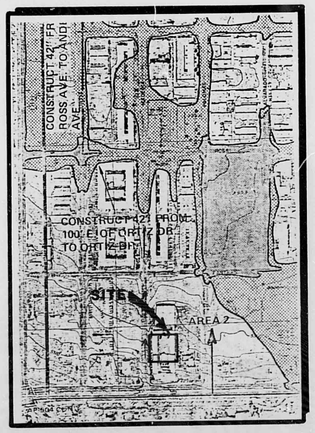



## LEGEND

- SIDEWALK, CURB & GUTTER ( EXISTING, PROPOSED )
- PROPOSED ASPHALT
- BUILDING ( EXISTING, PROPOSED )
- PROPERTY LINE
- X12.7 — EXISTING SPOT ELEVATION
- EXISTING CONTOUR
- 13.8 — PROPOSED SPOT ELEVATION
- PROPOSED CONTOUR
- SURFACE FLOW DIRECTION




VICINITY MAP L 18




FLOOD HAZARD MAP

SCOPE:

The proposed improvements, comprised of an office building, walks and a paved parking area, is located on the east side of Maderia Drive S.E., 1/2 block north of Gibson Blvd.

The present site is vacant, having been previously occupied by a motel which was demolished as part of the redevelopment of this tract.

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.

CONSTRUCTION NOTES:

1. Before beginning construction, the Contractor shall check and verify pertinent figures shown here on and all applicable field measurements. Should any conflict, error or discrepancy be discovered, the Contractor shall notify the Engineer at once to resolve the problem.

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 he contemplates would interfere with said utilities.

GENERAL NOTES:

LEGAL:
Lot 5, Virginia Place Addition, Albuquerque, New Mexico.

SURVEYOR:
Ross Howard Company, July 1984.

B.M.:
S.W.SOS SW quadrant of the intersection of San Mateo and Gibson Blvd. Elevation 5319.975

T.B.M.:
NE corner of the Intersection of Gibson and Maderia, S.E. curb return, top cross marked on Curb, Elevation 5310.58

SOILS:
SCS Soils Map #31, Soil Type WaB, Hydrologic Soil Group "B".

FLOOD HAZARD:
Site is not located in a flood hazard zone, but lies south of and contributes to a flood zone located 2 blocks north of site.

OFF-SITE DRAINAGE:
Site is boardered by Maderia Street on the west, a proposed fast food restaurant on the south and existing commercial to the east, all of which isolates the site from the effects of offsite flows.

EROSION CONTROL:
The site will be developed in one phase with no stockpiling of fill material which would be subject to erosion.

CALCULATIONS:
Based on a pre-design meeting with City of Albuquerque Hydrology, on 6-12-84, the following criteria was established:

a. The site will be subjected to free discharge due to the presence of the Kirtland Detention Pond and the Highland Detention Pond which is planned in the near future.

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: 16,875 sq.ft. = 0.39 Ac.

Run-off Coefficient:

Existing site:
A imp. = 0 Ac
A imp. = 0 %
"C" = 0.34 (DPM 22.2 C-1)

Developed Site:
A imp. = 0.36 Ac
A imp. = 91 %
"C" = 0.87(DPM 22.2 C-1)

Rainfall Intensity:

$I = P_6 (6.84) Tc^{-0.51}$ = 4.97" per hour
where $P_6$ = 2.35"(DPM 22.2 D-1)
Tc = 10 minutes

Existing Condition:

Q100 = (0.34)(4.97)(0.39)
= 0.7cfs

V100 = (Q100)(5 Tc)(60 sec/in)/2
= 1050 cu. ft.

Developed Condition:

Q100 = (0.87)(4.97)(0.39)
= 1.7cfs

V100 = (1.7)(50)(60 )/2
= 2550 cu. ft.

SUMMARY:
ΔQ100 = (1.7)-(0.7) = 1 cfs (increase controlled thru pond @ 0.5cfs)
ΔV100 = (2550)-(1050)= 1500 cu. ft. (increase controlled thru pond @ 0.5 cfs).

RESUBMITTAL 10/30/84 - Revised site drainage to reflect below letter/added proposed grades to south of site.

Chris Weiss — Date

City of Albuquerque
DESIGN HYDROLOGY SECTION
123 Central NW, Albuquerque, NM 87102
(505) 766-7644

October 17, 1984

Mr. Chris Weiss
C.T.S. Inc.
1100 Alvarado Avenue, N.E.
Albuquerque, New Mexico 87110

RE: OFFICE ONE (L18-D20) DATED SEPTEMBER 25, 1984

Dear Chris:

In light of the Kirtland Detention Pond project recently awarded and the future Highland Detention Pond project, onsite ponding will not be required for the referenced project. Please update your drainage plan to reflect this drainage scheme.

If you have any questions regarding the above, call me at 766-7644.

Sincerely yours,

Fred J. Aguirre
Design Hydrologist

FJA/SM

MUNICIPAL DEVELOPMENT DEPARTMENT
C. Dwayne Sheppard, P.E., City Engineer — ENGINEERING DIVISION — Telephone (505) 766-7747
AN EQUAL OPPORTUNITY EMPLOYER

L18/D20

CTS ENGINEERING INC.
1100 ALVARADO N.E. SUITE A
ALBUQUERQUE, NEW MEXICO 87110
( 505 ) 266 - 3444

| REVISIONS | DATE |
|---|---|
| DESIGNED CW | 9-84 |
| DRAWN MW | 9-84 |
| CHECKED CW | 9-84 |

# DRAINAGE / GRADING PLAN
## OFFICE ONE
## 1314 MADIERA STREET S.E.

SHEET 1 OF 1