

## DRAINAGE CALCULATIONS

### EXISTING CONDITIONS:

The site is located on the north side of Gibson Boulevard approximately 500 feet west of University Boulevard. The property east of the site is Budgetel Inn, Grading and Drainage Plan prepared by Mark Goodwin and Associates. The westerly access of this motel from Gibson Boulevard is an access easement which will also be used by this site. North of the site is another access easement which is presently undeveloped land. On the north side of this access easement is a retaining wall for another motel. The property west of the site is undeveloped. The site slopes from east to west at an average slope of approximately 3%. The Budgetel Inn has a drainage outfall system consisting of 4 each 4" PVC pipes which cross a corner of the site and discharge into Gibson Boulevard through the curb.

### PROPOSED CONDITIONS:

It is proposed to construct a motel on the site as shown with runoff from the site discharged to Gibson Boulevard through 4" PVC pipes through the curb. The South Diversion Channel is approximately 1,000 feet west of the site. The site does not lie within or adjacent to a designated flood hazard area and there are no flood hazard areas downstream from the site. The only off-site flow comes from the access easement north of the site.

### DRAINAGE CRITERIA:

The calculations shown on this plan were prepared in accordance with Section 22.2, Hydrology, of the Development Process Manual, Volume 2, Design Criteria, for the City of Albuquerque, in cooperation with Bernalillo County, New Mexico and the Albuquerque Metropolitan Arroyo Flood Control Authority, January, 1993.

### PREVIOUS DRAINAGE SUBMITTAL:

A drainage submittal for the property to the west with the title, 'BUDGETEL INN GRADING AND DRAINAGE PLAN', was prepared by D. Mark Goodwin and Associates, Engineer's stamp dated 12/18/95, and latest Engineer's Certification (Record Drawing) dated 2/7/97.

### PRECIPITATION ZONE:

The site is east of the Rio Grande River but west of San Mateo Boulevard and is, therefore, in Precipitation Zone 2.

### LAND TREATMENT AREAS, EXCESS PRECIPITATION AND UNIT PEAK DISCHARGE:

The peak discharge per acre and excess precipitation are shown for the four land treatments in Zone 2 in the table below, and the values shown are from the City of Albuquerque D.P.M. Also shown are the existing and proposed land treatment areas.

LAND TREATMENT	100-yr. 10-yr.	100-yr. 10-yr.	100-yr. 10-yr.	Existing Site Areas	Developed Site Areas
	ac	ac	ac	Sq. Ft.	Sq. Ft.
A	1.56	0.38	0.53	100.0	45,085
B	2.28	0.95	0.78	0.0	0.0000
C	3.14	1.71	1.13	0.0	0.0000
D	4.70	3.14	2.12	0.0	0.0000
Totals				100.0	45,085

### PEAK DISCHARGE:

EXISTING CONDITIONS:  
Q100 = 1.0350 x 1.56 = 1.61 cfs  
Q10 = 1.0350 x 0.38 = 0.39 cfs

DEVELOPED CONDITIONS:  
Q100 = 0.1713 x 2.28 + 0.8637 x 4.70 = 4.45 cfs  
Q10 = 0.1730 x 0.95 + 0.8637 x 3.14 = 2.87 cfs

### VOLUME, 100-YEAR, 6-HOUR:

EXISTING CONDITIONS:  
V100 = 45,085 (0.53 / 12) = 1,991 cf  
V10 = 45,085 (0.13 / 12) = 488 cf

DEVELOPED CONDITIONS:  
V100 = 17,463 x 0.78 + 37,622 x 2.12 / 12 = 7,131 cf  
V10 = 17,463 x 0.28 + 37,622 x 1.34 / 12 = 4,375 cf

### SUMMARY OF VOLUMES AND PEAK DISCHARGE RATES:

	V100(CF)	V10(CF)	Q100(CFS)	Q10(CFS)
EXISTING	1,991	488	1.61	0.39
DEVELOPED	7,131	4,375	4.45	2.89
INCREASE	5,140	3,887	2.84	2.50

### PEAK DISCHARGE FOR ON-SITE BASINS:

BASIN	TREAT. B	TREAT. D	TOTALS
BASIN 1	AREA (SF) 3,890	7,752	11,642
	AREA (AC) 0.0893	0.1780	0.2673
	PERCENT 33.4	66.6	100.00

Weighted Peak Discharge per Acre (qw):  
qw = 2.28 x 0.334 + 4.70 x 0.666 = 3.89 cfs/ac.  
Q100 = 0.2673 x 3.89 = 1.04 cfs

BASIN	TREAT. B	TREAT. D	TOTALS
BASIN 2	AREA (SF) 2,642	25,421	28,063
	AREA (AC) 0.0607	0.5836	0.6443
	PERCENT 9.4	90.6	100.00

Weighted Peak Discharge per Acre (qw):  
qw = 2.28 x 0.094 + 4.70 x 0.906 = 4.47 cfs/ac.  
Q100 = 0.6443 x 4.47 = 2.88 cfs

BASIN	TREAT. B	TREAT. D	TOTALS
BASIN 3	AREA (SF) 927	4,453	5,380
	AREA (AC) 0.0213	0.1022	0.1235
	PERCENT 17.2	82.8	100.00

Weighted Peak Discharge per Acre (qw):  
qw = 2.28 x 0.172 + 4.70 x 0.828 = 4.28 cfs/ac.  
Q100 = 0.1235 x 4.28 = 0.53 cfs

### INLET AND MANHOLE PIPE DIAMETER SELECTION:

Use Orifice Equation:  $Q = C A \sqrt{2gh}$   $C = 0.6$   $A = 0.3526$  sf  
INLET/ DISCH. PIPE DIA. INVERT GRATE HEAD ACTUAL

MANHOLE (Q100) & AREA(SF)	ELEV.	ELEV. (H/FT)	DISCH. (Q)
INLET 1 1.04 6'-0.1963	70.04	71.54	1.25
INLET 2 3.13 12'-0.7854	69.50	71.00	3.78
INLET 3 1.57 8'-0.3494	69.69	71.54	1.52
MH NO. 1 1.57 4'-4"-0.3420	67.75	69.30	1.38
MH NO. 2 3.32 4'-4"-0.3420	65.70	69.50	3.60

PROPOSED HIGH WATER LEVEL IN MANHOLE OR INLET.

### OFFSITE FLOW:

Area = 183 x 38 = 6,954 sf (0.1596 ac.)  
Q100 = 0.1596 x 1.56 = 0.25 cfs

### Revised Offsite Flow Calculations:

The access easement was paved during construction of the motel. The pavement sloped from east to west and discharged into the property to the west into Tract 4. This was not in accordance with the approved G&D plan. Therefore, the Owner was required to fill the West end of the easement so that the access easement will drain into the Quality Suites parking lot as per design. Increased runoff due to paving: DF the 183' length of access easement, approximately 140' has been paved.

Increase in runoff due to paving portion of access easement:  
Area = 140 x 38 = 5,320 sf (0.1221 ac.)  
Increase in Q100 = 0.1221 x (4.70 - 3.14) = 0.19 cfs  
New Peak Discharge, Q100 = 0.25 + 0.19 = 0.44 cfs

### NOTICE TO CONTRACTORS

- AN EXCAVATION/CONSTRUCTION PERMIT WILL BE REQUIRED BEFORE BEGINNING ANY WORK WITHIN CITY RIGHT-OF-WAY.
- ALL WORK DETAILED ON THIS PLAN TO BE PERFORMED, EXCEPT AS OTHERWISE STATED OR PROVIDED FOR HEREIN, SHALL BE CONSTRUCTED IN ACCORDANCE WITH CITY OF ALBUQUERQUE INTERIM STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, 1985.
- TWO WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT LINE LOCATING SERVICE, 765-1234, FOR LOCATIONS OF EXISTING UTILITIES.
- PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATIONS OF ALL CONSTRUCTIONS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY.
- BACKFILL COMPACTION SHALL BE ACCORDING TO TRAFFIC/STREET USE.
- MAINTENANCE OF THESE FACILITIES SHALL BE THE RESPONSIBILITY OF THE OWNER OF THE PROPERTY SERVED.
- WORK ON ARTERIAL STREETS SHALL BE PERFORMED ON A 24-HOUR BASIS.

APPROVAL	NAME	DATE
INSPECTOR	<i>[Signature]</i>	6-19-00

### LEGAL DESCRIPTION:

TRACT 2 OF GIBSON TRACTS.

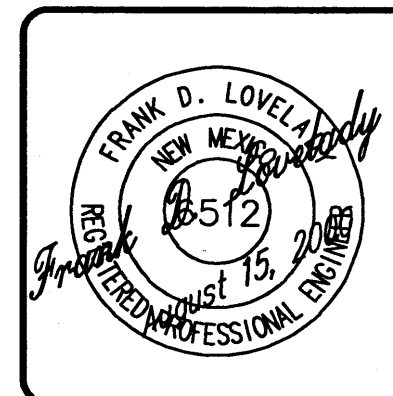
### BENCH MARK:

ELEVATIONS BASED ON K.P.E. CONTROL STATION, SDC 13-4.  
ELEVATION = 5087.41

## ENGINEER'S CERTIFICATION:

HAVING FIELD-INSPECTED THE SITE AND HAVING TAKEN SPOT ELEVATIONS AT CRITICAL LOCATIONS, I HEREBY CERTIFY THAT THE AS-CONSTRUCTED FACILITY IS IN SUBSTANTIAL CONFORMANCE WITH THE APPROVED GRADING AND DRAINAGE PLAN WITH ENGINEER'S STAMP DATED AUGUST 19, 1997.

*Frank D. Lovelady* August 18, 2000  
FRANK D. LOVELADY N.M.P.E. 6512 DATE



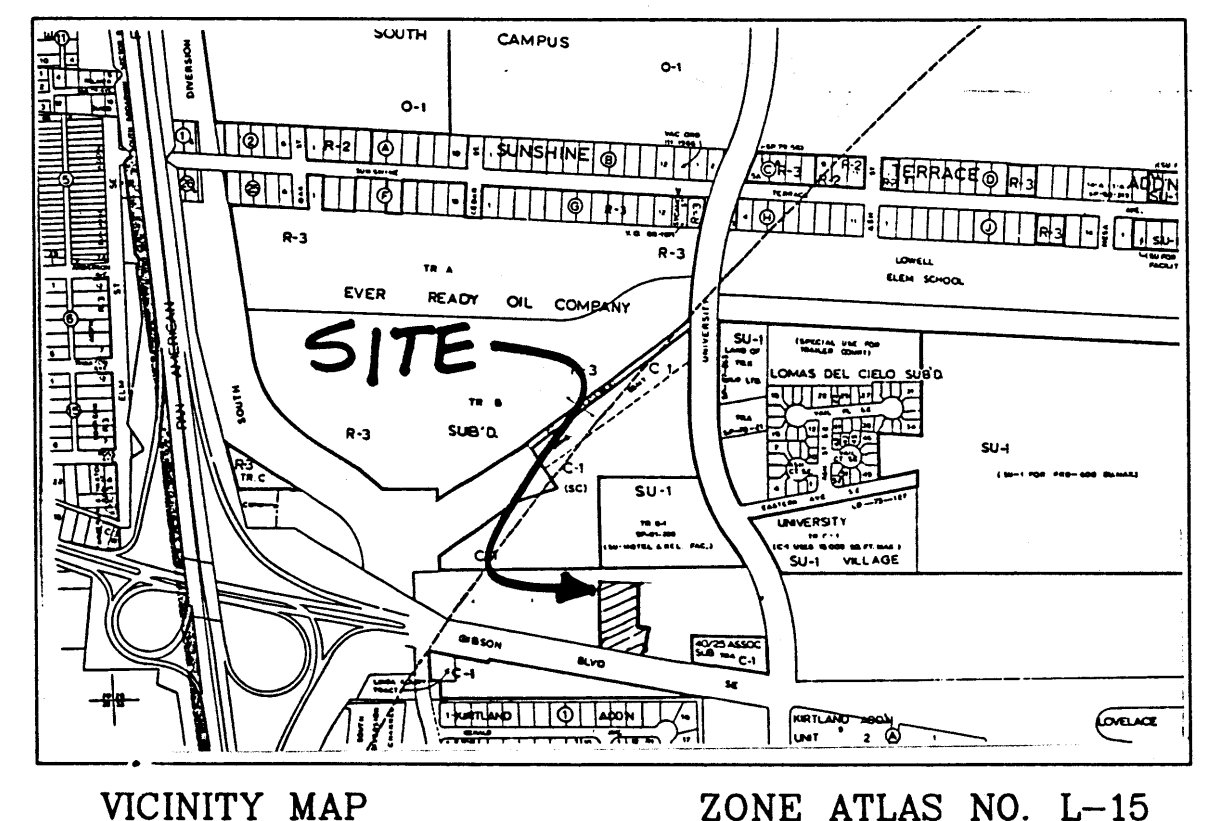
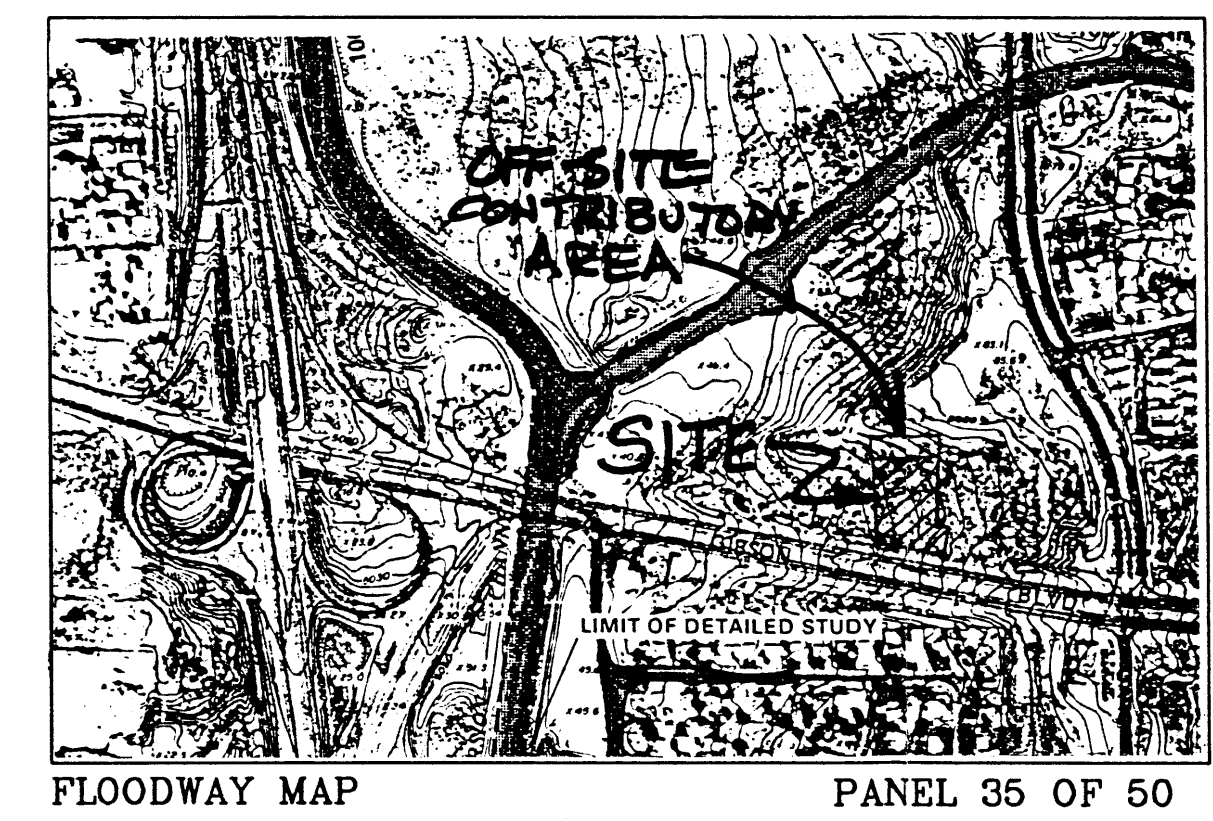
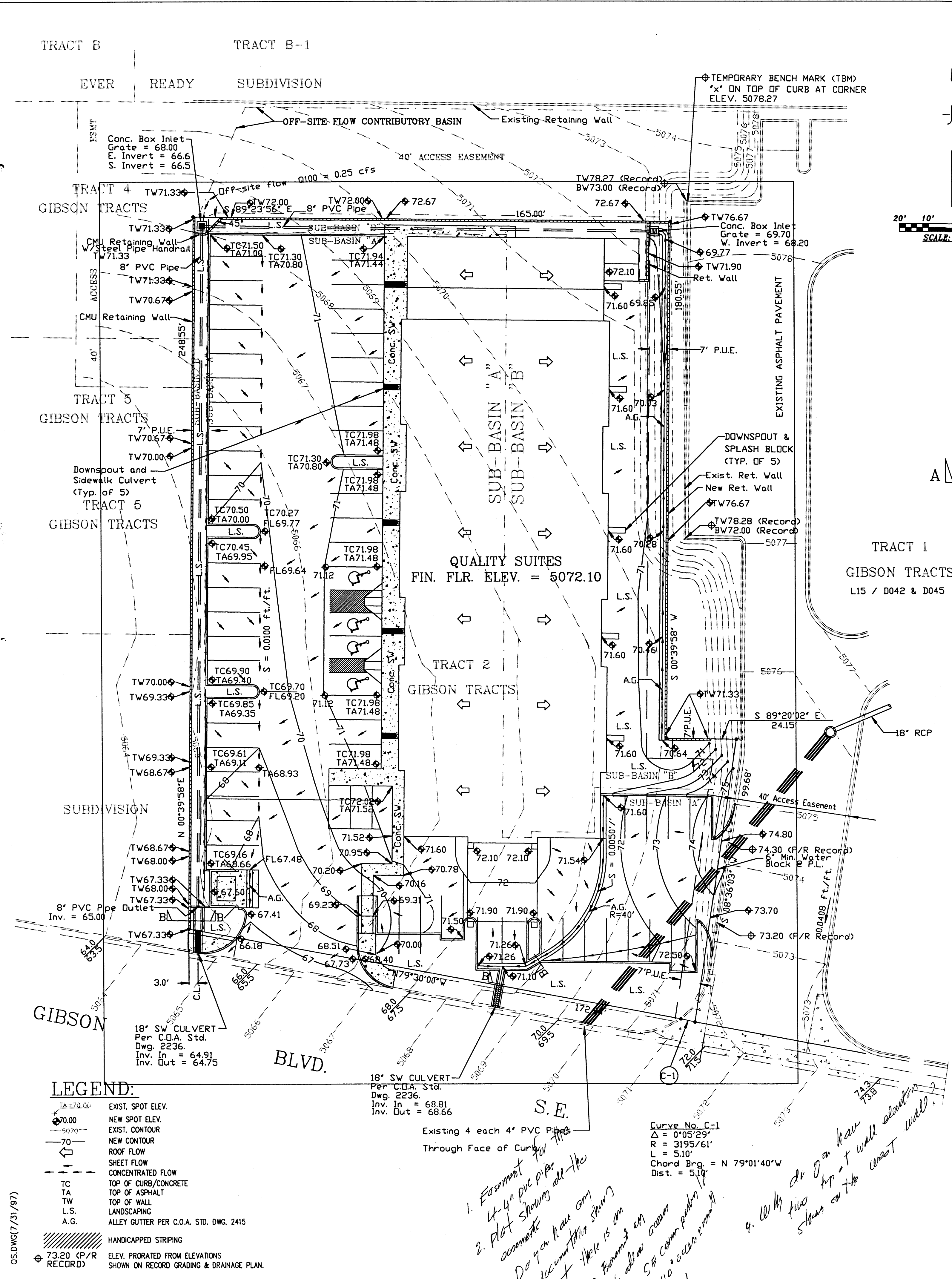
AS- CONSTRUCTED GRADING AND DRAINAGE PLAN  
QUALITY SUITES  
1509 GIBSON BOULEVARD, S.E.  
ALBUQUERQUE, NEW MEXICO

FRANK D. LOVELADY, P.E.  
(505) 345-2267 • Fax (505) 345-2115 • 300 ALAMOSA RD. NW • Albuquerque, NM • 87107

JOB NO:	549
DATE:	August 15, 2000
REVISIONS	

SHEET NO.	1
OF	1





### EXISTING CONDITIONS:

The site is located on the north side of Gibson Boulevard approximately 500 feet west of University Boulevard. The property east of the site is Budgetel Inn, Grading and Drainage Plan prepared by Mark Goodwin and Associates. The westerly access of this hotel from Gibson Boulevard is an access easement which will also be used by this site. North of the site is another access easement which is presently undeveloped land. On the north side of this access easement is a retaining wall for another hotel. The property west of the site is undeveloped. The site slopes from east to west at an average slope of approximately 3%. The Budgetel Inn has a drainage outfall system consisting of 4 each 4' PVC pipes which cross a corner of the site and discharge into Gibson Boulevard through the curb.

### PROPOSED CONDITIONS:

It is proposed to construct a hotel on the site as shown with runoff from the site discharged to Gibson Boulevard through the driveway and through a sidewalk culvert. The South Diversion Channel is approximately 1,000 feet west of the site. The site does not lie within or adjacent to a designated flood hazard area and there are no flood hazard areas downstream from the site. The only off-site flow comes from the access easement north of the site.

### DRAINAGE CRITERIA:

The calculations shown on this plan were prepared in accordance with Section 22.2, Hydrology, of the Development Process Manual, Volume 2, Design Criteria, for the City of Albuquerque, in cooperation with Bernalillo County, New Mexico and the Albuquerque Metropolitan Arroyo Flood Control Authority, January, 1993.

### PREVIOUS DRAINAGE SUBMITTAL:

A drainage submittal for the property to the west with the title, "BUDGETEL INN GRADING AND DRAINAGE PLAN", was prepared by D. Mark Goodwin and Associates, Engineer's stamp dated 12/18/95, and latest Engineer's Certification (Record Drawing) dated 2/7/97.

### PRECIPITATION ZONE:

The site is east of the Rio Grande River but west of San Mateo Boulevard and is, therefore, in Precipitation Zone 2.

### LAND TREATMENT AREAS, EXCESS PRECIPITATION AND UNIT PEAK DISCHARGE:

The peak discharge per acre and excess precipitation are shown for the four land treatments in Zone 2 in the table below, and the values shown are from the City of Albuquerque D.P.M. Also shown are the existing and proposed land treatment areas.

LAND TREATMENT	q(cfs/acre)	E (in)	Existing Site Areas	Developed Site Areas
	100-yr. 10-yr.	100-yr. 10-yr.	% Sq.Ft. Acres	% Sq.Ft. Acres
A	1.56 0.38	0.53 0.13	100.0 45,085 1.0350	0.0 0 0.0000
B	2.28 0.95	0.78 0.28	0.0 0 0.0000	16.6 7,463 0.1713
C	3.14 1.71	1.13 0.52	0.0 0 0.0000	0.0 0 0.0000
D	4.70 3.14	2.12 1.34	0.0 0 0.0000	83.4 37,622 0.8637
Totals			100.0 45,085 1.0350	100.0 45,085 1.0350

### PEAK DISCHARGE:

#### EXISTING CONDITIONS:

$$Q_{100} = 1.0350 \times 1.56 = 1.61 \text{ cfs}$$
$$Q_{10} = 1.0350 \times 0.38 = 0.39 \text{ cfs}$$

#### DEVELOPED CONDITIONS:

$$Q_{100} = 0.1713 \times 2.28 + 0.8637 \times 4.70 = 4.45 \text{ cfs}$$
$$Q_{10} = 0.1730 \times 0.95 + 0.8637 \times 3.14 = 2.87 \text{ cfs}$$

### VOLUME, 100-YEAR 6-HOUR:

#### EXISTING CONDITIONS:

$$V_{100} = 45,085 (0.53 / 12) = 1,991 \text{ cf}$$
$$V_{10} = 45,085 (0.13 / 12) = 488 \text{ cf}$$

#### DEVELOPED CONDITIONS:

$$V_{100} = (7,463 \times 0.78 + 37,622 \times 2.12) / 12 = 7,131 \text{ cf}$$
$$V_{10} = (7,463 \times 0.28 + 37,622 \times 1.34) / 12 = 4,375 \text{ cf}$$

### SUMMARY OF VOLUMES AND PEAK DISCHARGE RATES:

	V100(CFS)	V10(CFS)	Q100(CFS)	Q10(CFS)
EXISTING	1,991	488	1.61	0.39
DEVELOPED	7,131	4,375	4.45	2.87
INCREASE	5,140	3,887	2.84	2.50

### PEAK DISCHARGE AND VOLUME FROM SUB-BASIN "A":

Treatment "B", landscaping, 6,004 sf (44.5%).  
Treatment "D", Bldg., Pmnt., 7,483 sf (55.5%).  
Total Area Sub-Basin "B" 13,487 sf (0.3096 ac)

#### Weighted Peak Discharge per Acre (qw):

$$(100\text{-Year}) \quad qw = 2.28 \times 0.445 + 4.70 \times 0.555 = 3.62 \text{ cfs/acre.}$$

$$(10\text{-Year}) \quad qw = 0.95 \times 0.445 + 3.14 \times 0.555 = 2.17 \text{ cfs/acre.}$$

#### Weighted Excess Precipitation (Ew):

$$(100\text{-Year}) \quad Ew = 0.78 \times 0.445 + 2.12 \times 0.555 = 1.52 \text{ in.}$$

$$(10\text{-Year}) \quad Ew = 0.28 \times 0.445 + 1.34 \times 0.555 = 0.74 \text{ in.}$$

#### PEAK DISCHARGE, SUB-BASIN "B":

$$(100\text{-Year}) \quad Q_{100} = 3.62 \times 0.3096 = 1.12 \text{ cfs}$$

$$(10\text{-Year}) \quad Q_{10} = 2.17 \times 0.3096 = 0.67 \text{ cfs.}$$

#### VOLUME, 100-YEAR AND 10-YEAR, 6-HOUR, SUB-BASIN "B"

$$(100\text{-Year}) \quad V_{100} = (13,487)(1.52/12) = 1,708 \text{ cf}$$

$$(10\text{-Year}) \quad V_{10} = (13,487)(0.74/12) = 832 \text{ cf.}$$

### OFFSITE FLOW:

$$\text{Area} = 183 \times 38 = 6,954 \text{ sf (0.1596 ac.)}$$

$$Q_{100} = 0.1596 \times 1.56 = 0.25 \text{ cfs.}$$

### 8" PVC PIPE:

Use Drifice Equation  $Q = C A (2GH)^{1/2}$  C = 0.6 A = 0.3526 sf  
H = Grate to Springline = 1.5' - 0.33' = 1.17'

$$Q = 0.6 \times 0.3526 (2 \times 32.2 \times 1.17)^{1/2} = 1.83 \text{ cfs}$$

$$\text{Design Discharge} = 1.12 \text{ cfs} + 0.25 \text{ cfs} = 1.37 \text{ cfs (OK)}$$

### SIDEWALK CULVERT:

$$\text{Design } Q = 1.12 \text{ cfs} + 0.25 \text{ cfs} = 1.37 \text{ cfs. Use Weir Eq.}$$

$$Q = CLH^{3/2} C = 2.65 L^{1.5} H = 0.67$$

$$Q = 2.65 \times 1.5 \times 0.67^{3/2} = 2.18 \text{ cfs} > 1.37 \text{ cfs (OK)}$$

- EROSION CONTROL REQUIREMENTS:**
- The Contractor shall be responsible for compliance with the following:
- No sediment-bearing water shall be allowed to discharge from the site during construction.
  - During grading operations and until the project has been completed, all adjacent property, rights-of-way, and easements shall be protected from flooding by runoff from the site.
  - Should the contractor fail to prevent sediment-bearing water from entering public right-of-way, he shall promptly remove from the public right-of-way any and all sedimentation originating from the site.
  - Control of sediment-bearing waters will be accomplished by use of a compacted earth berm of adequate height. The berm shall be located along the downstream perimeter of the property.

**LEGAL DESCRIPTION:**  
TRACT 2 OF GIBSON TRACTS.

**BENCH MARK:**  
ELEVATIONS BASED ON K.P.E. CONTROL STATION, SDC 13-4.  
ELEVATION = 5087.41

DRAINAGE FACILITIES WITHIN CITY RIGHT-OF-WAY (S.O.19)	
NOTICE TO CONTRACTORS	
1. AN EXCAVATION/CONSTRUCTION PERMIT WILL BE REQUIRED BEFORE BEGINNING ANY WORK WITHIN CITY RIGHT-OF-WAY. AN APPROVED COPY OF THESE PLANS MUST BE SUBMITTED AT THE TIME OF APPLICATION FOR THIS PERMIT.	
2. ALL WORK DETAILED ON THIS PLAN TO BE PERFORMED UNDER CONTRACT, EXCEPT AS OTHERWISE STATED OR PROVIDED FOR HEREIN, SHALL BE CONSTRUCTED IN ACCORDANCE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, 1986, AS UPDATED THROUGH REVISION NO. 6.	
3. TWO (2) WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT NEW MEXICO ONE CALL SYSTEM, INC., 250-1990, FOR LOCATION FOR EXISTING UTILITIES.	
4. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATIONS OF ALL OBSTRUCTIONS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY.	
5. BACKFILL COMPACTION SHALL BE ACCORDING TO ARTERIAL STREET USE.	
6. MAINTENANCE OF THESE FACILITIES SHALL BE THE RESPONSIBILITY OF THE OWNER OF THE PROPERTY SERVED.	
7. THE ADDRESS OF THE PROPERTY SERVED IS 1509 GIBSON BOULEVARD, S.E.	
APPROVALS:	
HYDROLOGY	NAME _____ DATE _____
INSPECTOR	NAME _____ DATE _____
CONSTRUCTION	NAME _____ DATE _____

FRANK D. LOVELADY, P.E.  
300 ALAMOSA ROAD NW  
ALBUQUERQUE, NEW MEXICO 87107  
(505)345-2267

GRADING AND DRAINAGE PLAN  
QUALITY SUITES  
1509 GIBSON BLVD. SE  
ALBUQUERQUE, NEW MEXICO

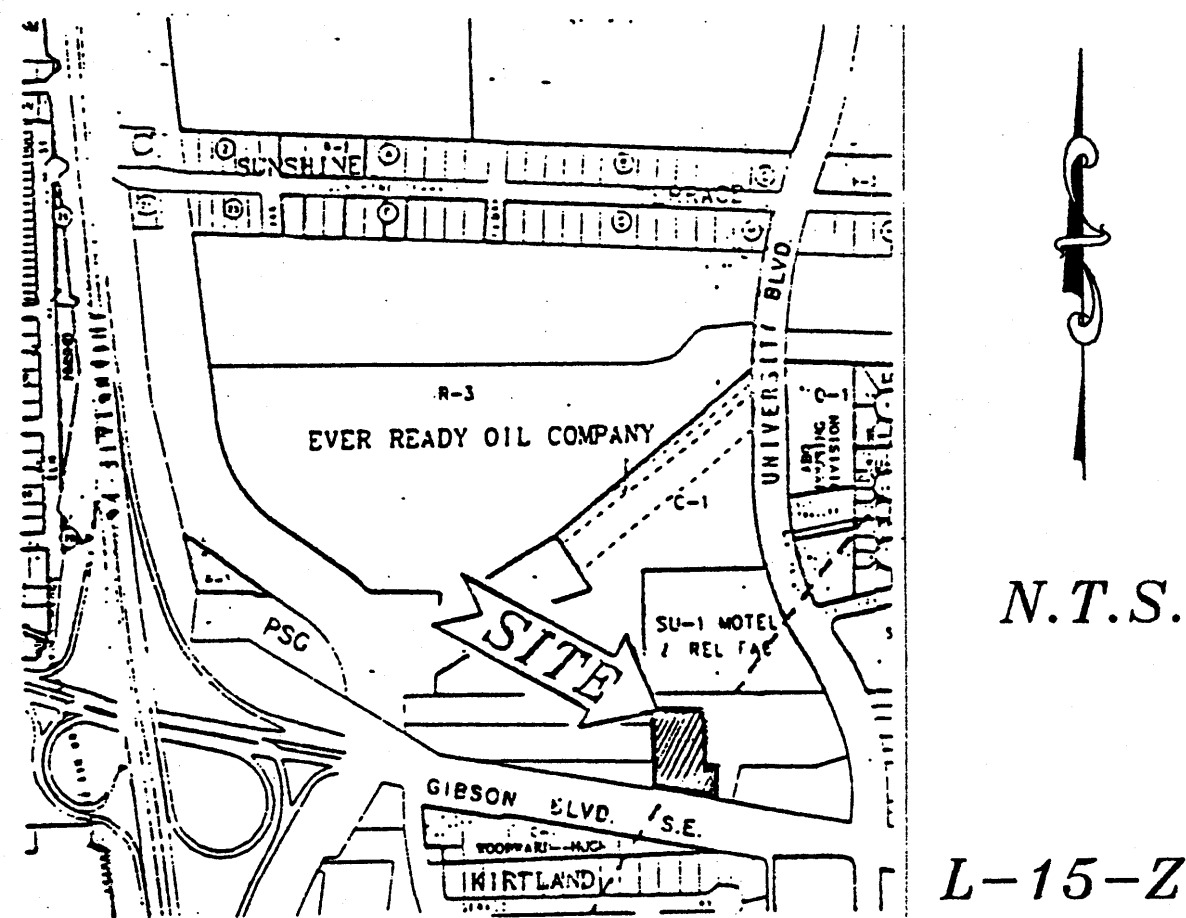
SHEET  
OF  
1  
1

Designed: FDL  
Drawn: FDL  
Checked: FDL  
Scale: 1" = 20'  
Date: AUG. 1997  
Job No. 549

R  
AUG 19 1997  
HYDROLOGY SECTION

1. Foremost for the 4" PVC pipe accurate  
2. Plot showing all the accurate  
3. Do you have any decision for the area shown in place to allow access from your 5th corner parking lot to the 40 access road on Tract 1  
4. Why do you have five ft wall along the west wall?





VICINITY MAP

TRACT B TRACT B-1  
EVER READY SUBDIVISION  
2/19/82 019-93

TRACT 4  
GIBSON TRACTS  
9/8/95  
95C-341

TRACT 5  
GIBSON TRACTS  
9/8/95  
95C-341

TRACT A  
40/25 ASSOCIATES  
SUBDIVISION  
2/1/95 550-148

TRACT  
2

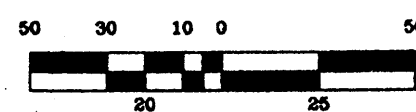
(VACANT)  
1.035 ac.  
45084.6 SQFT.

TRACT 1  
GIBSON TRACTS  
9/8/95  
95C-341

TRACT 3  
GIBSON TRACTS  
9/8/95  
95C-341

GIBSON  
BOULEVARD  
(R.O.W. VARIES)

SCALE: 1" = 50'



PROJECT NO. 57B-02c  
CREATED BY: T.S.EVANS

- Ⓐ 40' X 100' PRIVATE ACCESS, DRAINAGE, PUBLIC WATER & SANITARY SEWER ESMT. 95C-341
- Ⓑ 7' PUBLIC UTILITIES EASEMENT 95C-341
- Ⓒ 40' PRIVATE ACCESS, DRAINAGE, PUBLIC WATER & SANITARY SEWER ESMT. 95C-341

Ⓒ1 Δ = 0°05'29"  
R = 3195.61'  
L = 5.10'

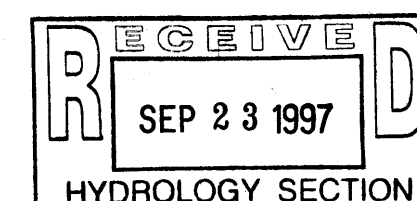
A.L.T.A. SURVEY  
TRACT 2  
of  
GIBSON TRACTS  
SITUATE WITHIN SECTION 28,  
T 10 N, R 3 E, N.M.P.M.  
CITY OF ALBUQUERQUE, NEW MEXICO  
JUNE 1996

LEGAL DESCRIPTION:

Tract numbered Two (2) of GIBSON TRACTS, situate within Section 28, T 10 N, R 3 E, N.M.P.M., City of Albuquerque, New Mexico, as the same is shown and designated on the plat of said Addition, filed in the Office of the County Clerk of Bernalillo County, New Mexico, on January 18, 1996, in Plat Book 96C, folio 24.

NOTES:

- 1) "Basis of Bearings" per GIBSON TRACTS, as filed January 18, 1996, in Plat Book 96C, folio 24.
- 2) Corners identified as "Found" are 1/2" rebar/cap stamped LS 6446, unless otherwise noted.
- 3) Error of closure One foot (1') in Ten thousand feet (10,000') or more along perimeter.
- 4) Subject property is located within Zone "C", designating areas of minimal flooding according to Flood Insurance Rate Map, Bernalillo County, New Mexico per Community Panel No. 350002 0035 C, effective date October 14, 1983.



SURVEYOR'S CERTIFICATE:

I, Franklin E. Wilson, licensed under the laws of the State of New Mexico, do hereby certify to, ALBUQUERQUE TITLE COMPANY, COMMONWEALTH LAND TITLE INSURANCE CO., JUAN TABO DONUTS, INC., A NEW MEXICO CORPORATION, GIBSON 25 ASSOCIATES, L.C., A MISSOURI LIMITED LIABILITY COMPANY, AUTHORIZED TO TRANSACT BUSINESS IN NEW MEXICO AS BUDGETEL INN AIRPORT, L.C.C. as provided in the Title binder No. 143861CR dated June 20, 1996.

This is to certify that this map or plat and the survey on which it is based were made (i) in accordance with "Minimum Standards Detail Requirements for ALTA/ACSM Land Surveys," jointly established and adopted by ALTA and ACSM in 1992, and includes items 1, 2, 3, 4, 7a, 8 and 9 of Table A thereof, and (ii) pursuant to the Accuracy Standards adopted by ALTA and ACSM and in effect on the date of this certification for an urban survey.

FRANKLIN E. WILSON - N.M.L.S. 6446

Date

Amended 7/16/99



SOUTHWEST SURVEYING CO., INC.

333 LOMAS BLVD. N.E.  
ALBUQUERQUE, NEW MEXICO 87102

PHONE: (505) 247-4444  
FAX: (505) 242-8069



