

**LEGEND**

- SIDEWALK, CURB AND GUTTER (EXISTING, PROPOSED)
- PROPOSED ASPHALT
- BUILDING (EXISTING, PROPOSED)
- PROPERTY LINE
- 65.7 EXISTING SPOT ELEVATION
- EXISTING CONTOUR
- 75.2 PROPOSED SPOT ELEVATION
- PROPOSED CONTOUR
- SURFACE FLOW DIRECTION (EXISTING, PROPOSED)
- LA LANDSCAPED AREA
- TW TOP OF FLOOD WALL 1' x 16" HIGH
- TA TOP OF ASPHALT
- TC TOP OF CURB
- FL FLOW LINE
- FF FINISHED FLOOR
- R/W RIGHT OF WAY
- PL PROPERTY LINE
- PP POWER POLE

**NOTICE TO CONTRACTOR**

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 THESE PLANS TO BE PERFORMED, EXCEPT AS OTHERWISE STATED OR PROVIDED HEREON, SHALL BE CONSTRUCTED IN ACCORDANCE WITH ALBUQUERQUE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.
3. TWO WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT LINE LOCATING SERVICE, 765-1234, FOR LOCATION OF 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 WITHIN A MINIMUM AMOUNT OF DELAY.
5. BACKFILL COMPACTION SHALL BE ACCORDING TO COLLECTOR STREET USE.
6. MAINTENANCE OF THESE FACILITIES SHALL BE THE RESPONSIBILITY OF THE OWNER OF THE PROPERTY SERVED.
7. CONTRACTOR IS RESPONSIBLE FOR OBTAINING EXCAVATION PERMIT FOR SIDEWALK CULVERT/DRAIN.
8. PROOF OF ACCEPTANCE WILL BE REQUIRED PRIOR TO SIGN OFF FOR CERTIFICATE OF OCCUPANCY (C.O.).

**DRAINAGE FACILITIES WITHIN CITY RIGHT-OF-WAY**

DESIGN APPROVAL: *Benny Matys* 3/12/94 DATE  
 INSPECTION APPROVAL: \_\_\_\_\_ DATE  
 ACCEPTANCE: \_\_\_\_\_ DATE

**KEYNOTES**

- 1 EXISTING FRAME AND STUCCO BUILDING
- 2 PROPOSED ADDITION
- 3 EXISTING GRAVEL PARKING AREA TO REMAIN
- 4 PROPOSED ASPHALT PAVING AREA
- 5 CONSTRUCT A SHALLOW SWALE TO CARRY FLOWS TO ASPHALT PAVED PARKING AREA
- 6 CONSTRUCT 6" HEADER CURB OR EXTRUDED CONC. CURB AS INDICATED (CONTRACTOR'S OPTION)
- 7 CONSTRUCT DETENTION POND THIS AREA TO ELEVATIONS SHOWN. LANDSCAPE PONDING AREA WITH 3/4" MINUS GRAVEL. 2' DEPTH FOR EROSION PROTECTION.
- 8 CONSTRUCT FLOOD WALL FROM EDGE OF PARKING TO ACCESS DRIVE AS SHOWN TOP OF WALL (TW) = 56.0 TYPICAL.
- 9 INSTALL 4" POND DISCHARGE PIPE THRU CURB AT ELEVATIONS SHOWN. SEE C.O.A. STANDARD DRAWING 2235.

RESUBMITTAL COMMENTS  
 SIGN-OFF BLOCK B.O. #1 ADDED  
 SEDIMENT CONTROL NOTE ADDED  
 EPE DISCHARGE NOTE ADDED  
*Chris Weiss* 6-21-94  
 CHRISTOPHER L. WEISS DATE

**SCOPE:**  
 The proposed improvements include a 1,440 SF (footprint) building area attached to an existing building. An asphalt paved access drive and parking for 17 cars and a patio area will also be constructed.

The present site is a developed commercial site with an existing 1800 SF building and gravel parking area.

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 of Albuquerque requirements for drainage management.
- The relationship of on-site improvements with existing neighboring property to insure an orderly transition between proposed and surrounding grades.

**DRAINAGE PLAN CONCEPT:** Based on a Pre-Design Conference notes dated 6/17/93, a detention pond was required to catch the increased run-off volume created by the proposed development. In general, flows will be carried in a shallow swale along the south side of the proposed addition to the proposed asphalt parking where they will enter a ponding area. The existing driveway will act as the spillway for the pond when it reaches capacity. The pond, with a capacity of 1350 CF, will drain to Conchas Street S.E. by means of a 4" pipe at a rate of 0.39 CFS (see calculations below).

**GENERAL NOTES:**  
**LEGAL:** A portion of Blocks 46 and 47, Skyline Heights, Albuquerque, New Mexico.  
**SURVEYOR:** Ronald A. Forstbauer Surveying, 1100 Alvarado NE, Albuquerque, New Mexico, 87110 -505-268-2112.  
**B.M.:** C.O.A. brass cap 5-L21 (R) located on the top of curb at the ESE return of the intersection of Eubank Blvd. and Central Avenue SE. Elevation = 5468.54'.  
**I.B.M.:** Rim of Manhole located at intersection of Bell Ave. SE and Conchas Street SE. Elevation = 5454.07  
**SOILS:** SCS Soil Survey of Bernalillo County indicates that the soil is Embudo (EmB), a gravelly fine sandy loam classified in Hydrologic Soil Group 'B'.  
**FLOOD HAZARD:** Per FEMA Boundary Map #38, the property does not lie within a flood zone.  
**OFF-SITE DRAINAGE:** There is minimal off-site drainage passing through the site (see calculations)  
**EROSION CONTROL:** The contractor is responsible for retaining on-site all sediment generated during construction by means of temporary earth berms or silt fences at the low points on the west property line.

**CALCULATIONS:**  
 Calculations are based on the Drainage Design Criteria for Albuquerque, New Mexico, Section 22.2, DPM, Vol 2, dated Jan., 1993

AREA OF SITE: 47245 SF = 1.08 Ac.

ON-SITE		
DEVELOPED FLOWS:	HISTORIC FLOWS:	EXCESS PRECIPITATION:
On-Site Land Condition	On-Site Historic Flow Rate	Precip. Zone 2
Area a = SF	Area a = SF	Ea = 0.53
Area b = 33545 SF	Area b = 45445 SF	Eb = 0.78
Area c = 13700 SF	Area c = 1800 SF	Ec = 1.13
Area d = 47245 SF	Area d = 47245 SF	Ed = 2.12
Total Area =	Total Area =	

On-Site Weighted Excess Precipitation (100-Year, 6-Hour Storm)  
 Weighted E =  $EaAa + EbAb + EcAc + EdAd$   
 $Aa + Ab + Ac + Ad$

Proposed E = 1.42 in. Historic E = 1.17 in.

On-Site Volume of Runoff:  $V360 = \frac{EA}{12}$   
 Proposed V360 = 5579 CF Historic V360 = 4597 CF Ponding required for increased discharge of 982

On-Site Peak Discharge Rate:  $Qp = QpaAa + QpbAb + QpcAc + QpdAd / 43,560$   
 For Precipitation Zone 2  
 Qpa = 1.56 Qpc = 3.14  
 Qpb = 2.28 Qpd = 4.70  
 Proposed Qp = 3.9 CFS Historic Qp = 3.5 CFS

**OFF-SITE BASIN**

From field inspection and survey:  
 Area of off-site flows = 30000 SF = 0.7 Ac.  
 The following calculations are based on Treatment areas as shown in table to the right

Off-Site Weighted Excess Precipitation (see formula above) Weighted E = 1.63 in.	TREATMENT A = 0% B = 0% C = 50% D = 50%
Off-Site Volume of Runoff (see formula above) V360 = 4063 CF	
Off-Site Peak Discharge Rate: (see formula above) Qp = 2.7 cfs	

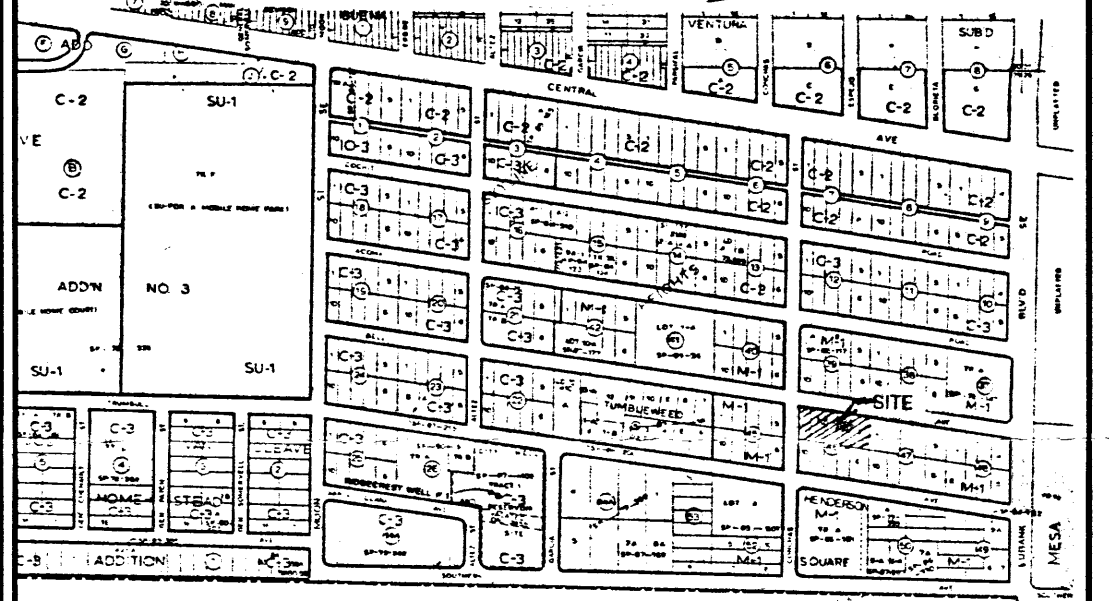
**PONDING AREA**

Pond Capacity = 1350 CF  
 Ponding Required = 982 CF

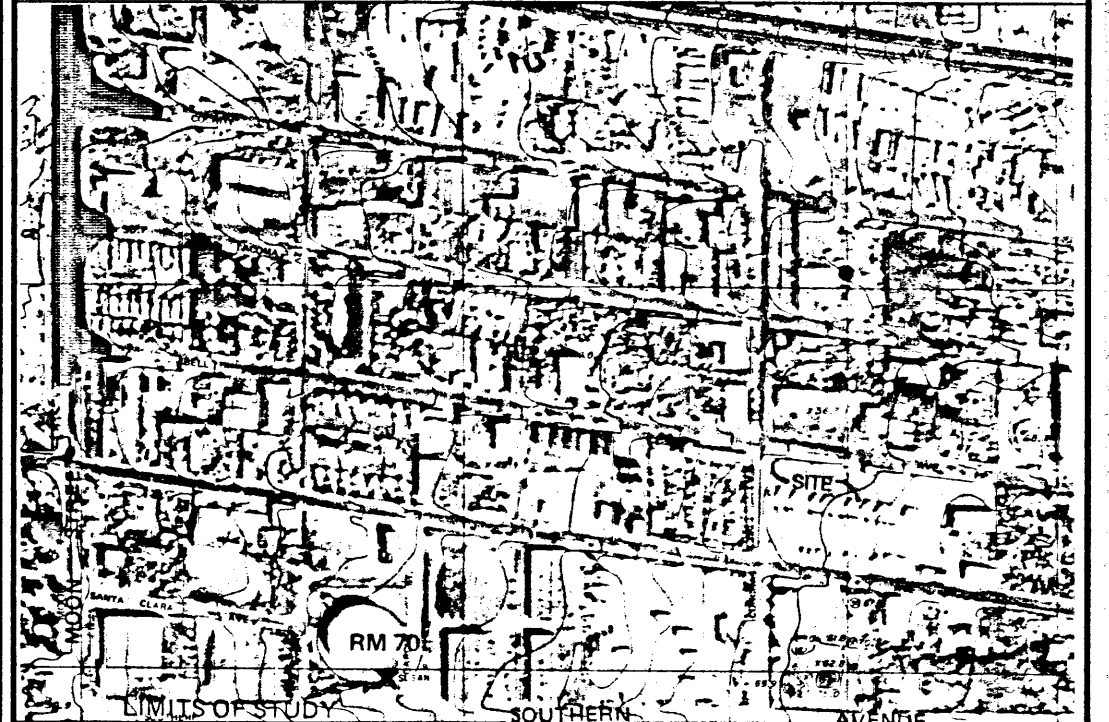
Note: Driveway entrance will act as spillway after pond reaches full capacity.

4" Pipe Discharge Capacity: Using the Orific Equation  $Q = CA(2gh)^{0.5}$ , where C has a value of 0.60, A = area in 0.09 sq. ft., g = constant 32.2, and h = total depth of water = 0.80'.  
 $Q = 0.39 CFS$   
 Therefore, pond volume of 1350 cfs discharges in 58.0 min. < 24 hours

**VICINITY MAP #L-20-Z**



**FEMA MAP # 36**



**C.L. WEISS ENGINEERING, INC.**

SANDIA PARK OFFICE  
 POST OFFICE BOX 87  
 SANDIA PARK, NM 87047  
 (505) 281-1800

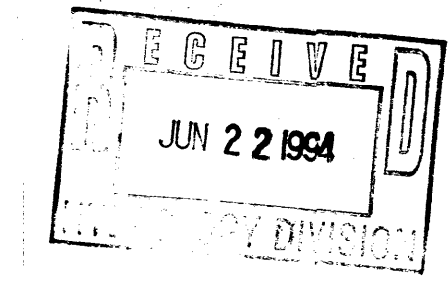
ALVARADO OFFICE  
 100 ALVARADO DR. NE  
 ALBUQUERQUE, NM 87110  
 (505) 266-3444

Revisions

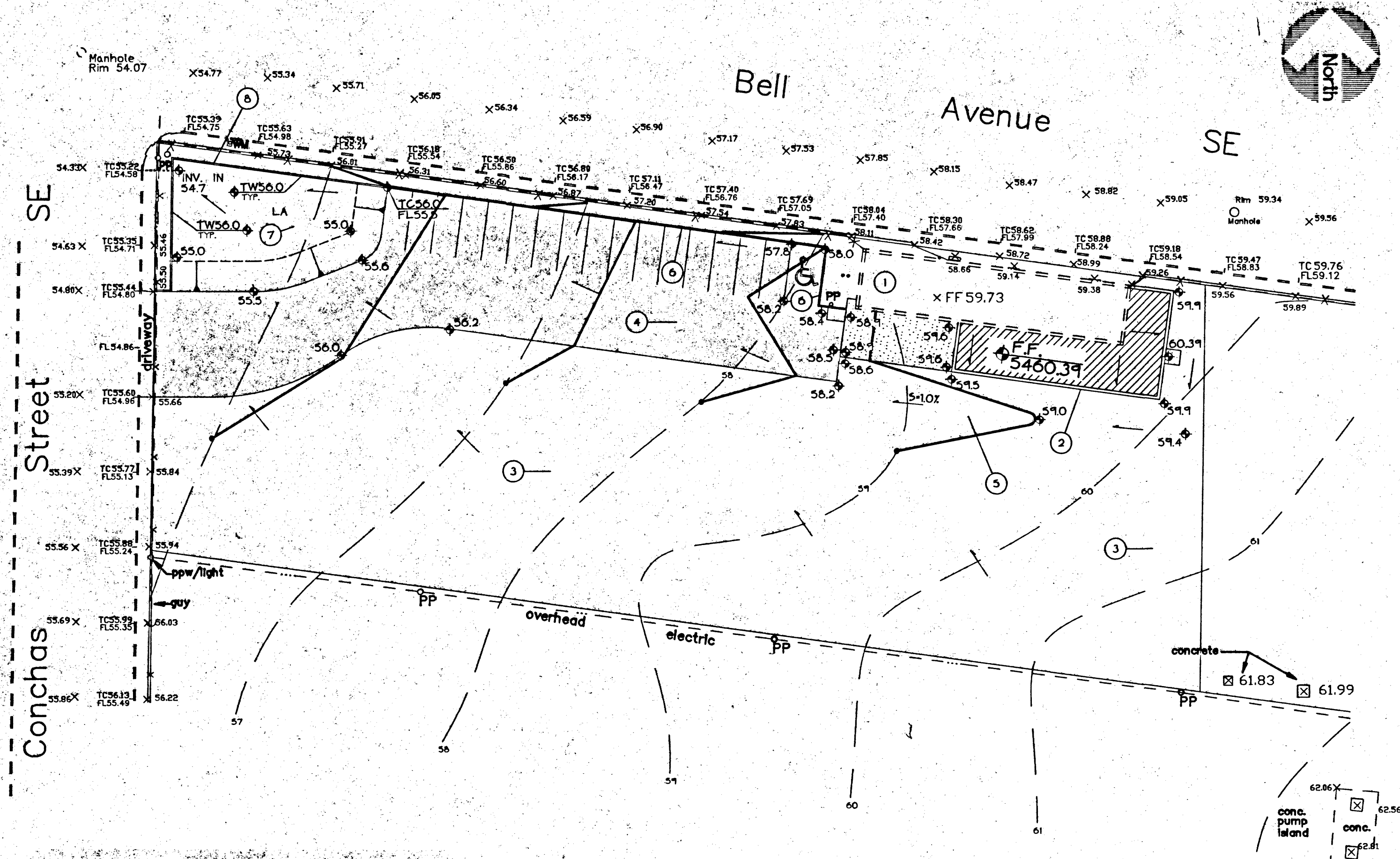
**Helweg + Farmer Transportation Co.**  
 Office Remodel and Addition

Scale: 1" = 30' Drawn By: EUB Checked By: CLW Job Number: \_\_\_\_\_ Date: JUNE 1994

**DRAINAGE AND GRADING PLAN** C-1 Sh. 1 of 1

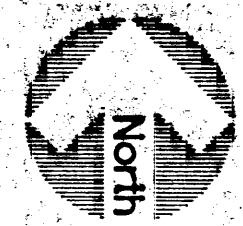






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- 75.2 PROPOSED SPOT ELEVATION
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**GENERAL NOTES:**  
**LEGAL:** A portion of Blocks 46 and 47, Skyline Heights, Albuquerque, New Mexico.  
**SURVEYOR:** Ronald A. Forebauer Surveying, 1100 Alvarado NE, Albuquerque, New Mexico, 87110 <505>-268-2112.  
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**FLOOD HAZARD:** Per FEMA Boundary Map #36, the property does not lie within a flood zone.  
**OFF-SITE DRAINAGE:** There is minimal off-site drainage passing through the site (see calculations).  
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Area c =	47245 SF	Area c =	47245 SF	Ec =	1.13
Area d =		Area d =		Ed =	2.12
<b>Total Area =</b>	<b>47245 SF</b>	<b>Total Area =</b>	<b>47245 SF</b>		

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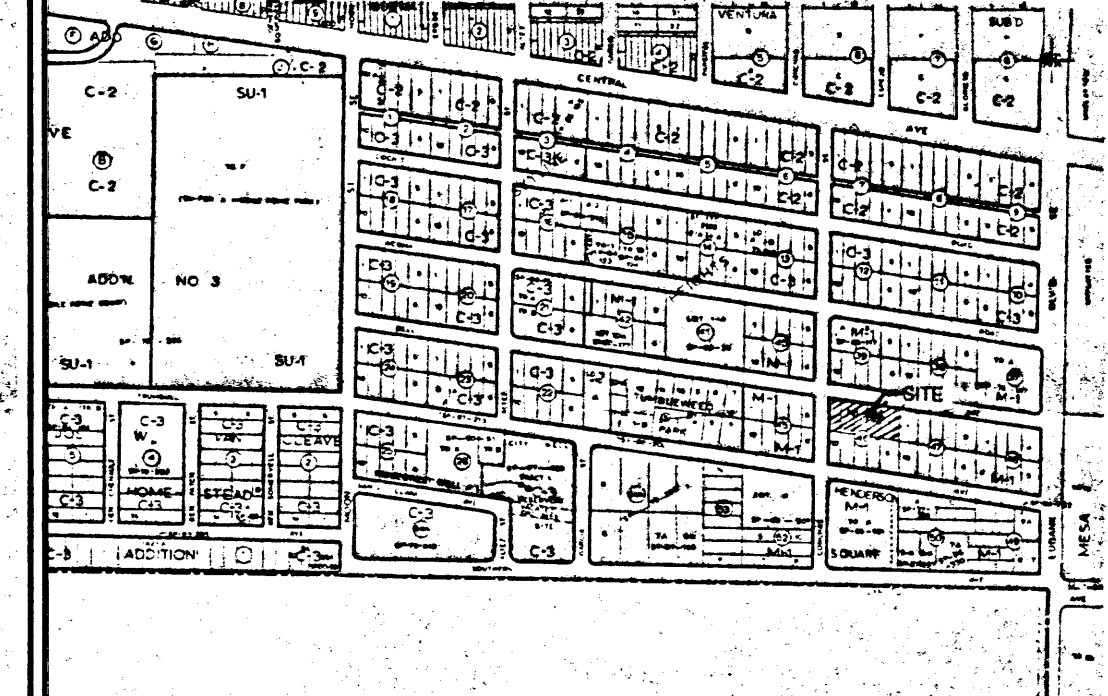
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OFF-SITE WEIGHTED EXCESS PRECIPITATION (see formula above)		TREATMENT
Weighted E =	1.83 in.	
OFF-SITE VOLUME OF RUNOFF (see formula above)		B = 0%
V360 =	4063 CF	C = 50%
OFF-SITE PEAK DISCHARGE RATE (see formula above)		D = 50%
Qp =	2.7 cfs	

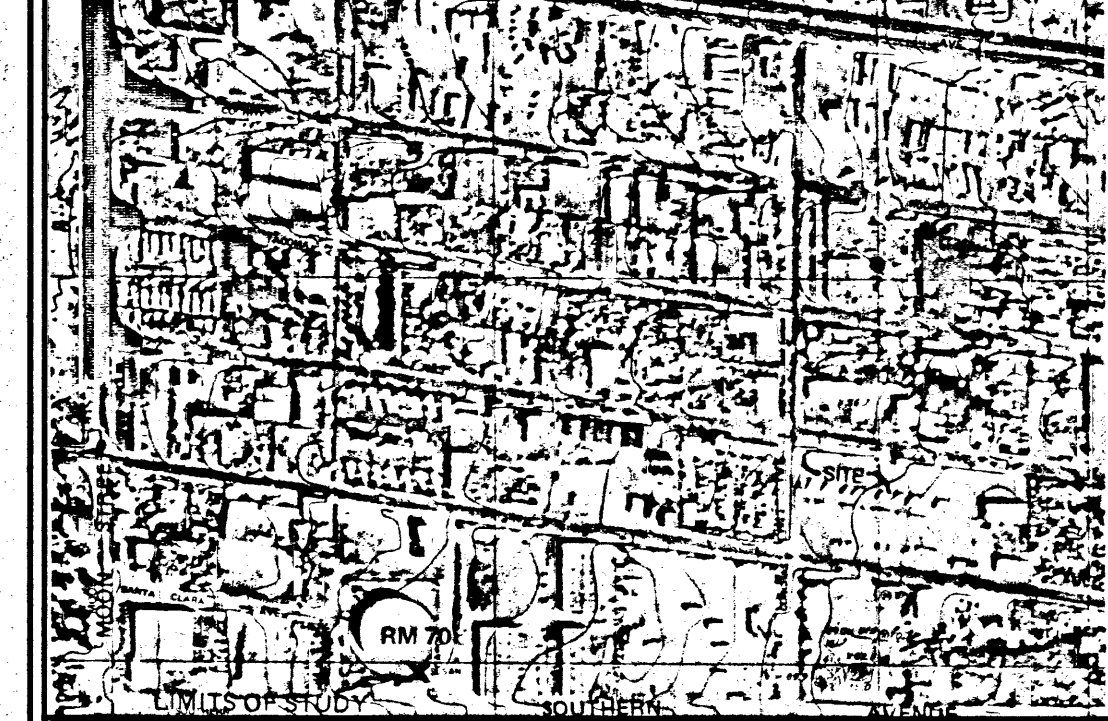
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 (505) 281-1800  
 ALVARADO OFFICE  
 100 ALVARADO DR. NE  
 ALBUQUERQUE, NM 87110  
 (505) 266-3444

Revisions

**Helweg + Farmer Transportation Co.**  
 Office Remodel and Addition

Scale: 1" = 30'  
 Drawn By: BJB  
 Checked By: CLW  
 Job Number:  
 Date: JUNE 1994

**DRAINAGE AND GRADING PLAN**  
 C-1  
 Sh. 1 of 1

APPROVED  
 JUN 10 1994