DRAINAGE INFORMATION SHEET

PROJECT TITLE: Little Anita's Restaurant Remodeling & Additions ZONE ATLAS/DRN. FILE #: J-21 / D24

LEGAL DESCRIPTION: LOT 1-B-1-B, BLOCK 39-B, DALE J. BELLAMAH'S PRINCESS JEANNE PARK

CITY ADDRESS: 1105 JUAN TABO BLVD., NE

ENGINEERING FIRM: Lovelady & Associates CONTACT: Frank Lovelady

ADDRESS: 7408 Morrow Road, NE 87110 PHONE: 883-7973

OWNER: Little Anita's Mexican Food Inc. CONTACT: Larry Gutierrez

ADDRESS 3232 Girard Blvd., NE PHONE: 888-0104

ARCHITECT: Custer-Basarich CONTACT: Phil Custer

ADDRESS: 500 Marquette Suite 302 PHONE: 765-1020

SURVEYOR: Southwest Surveying Company CONTACT: Dan Graney

ADDRESS: 333 Lomas Blvd. NE PHONE: 247-4444

CONTRACTOR: CONTACT:

ADDRESS: PHONE:

PRE-DESIGN MEETING:

X YES

____ NO

X COPY OF CONFERENCE RECAP SHEET PROVIDED

RECEIVED
JUN 06 1988
HYDROLOGY SECTION

DRB NO.

EPC NO.

PROJECT NO.

TYPE OF SUBMITTAL:

____ DRAINAGE REPORT

X DRAINAGE PLAN

____ CONCEPTUAL GRADING & DRAIN. PLAN

____ GRADING PLAN

____ EROSION CONTROL PLAN

____ ENGINEER'S CERTIFICATION

Revised Drainage Plan showing drainage outfall across Lot 2 And agreement for same.

CHECK TYPE OF APPROVAL SOUGHT:

____ SKETCH PLAT APPROVAL

____ PRELIMINARY PLAT APPROVAL

____ SITE DEVELOPMENT PLAN APPROVAL

____ FINAL PLAT APPROVAL

X BUILDING PERMIT APPROVAL

____ FOUNDATION PERMIT APPROVAL

____ CERTIFICATE OF OCCUPANCY APPROVAL

____ ROUGH GRADING PERMIT APPROVAL

____ GRADING/PAVING PERMIT APPROVAL

OTHER ____ (SPECIFY)

DATE SUBMITTED: ~~January 12, 1987~~ June 6, 1987

BY: Frank D. Lovelady
Frank D. Lovelady, P.E.

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

June 10, 1988

Frank Lovelady, P.E.
Lovelady & Associates
7408 Morrow Road, NE
Albuquerque, New Mexico 87110

RE: GRADING/PAVING PLAN FOR LITTLE ANITA'S RESTAURANT
(J-21/D24) REVISION DATED JUNE 1, 1988

Dear Mr. Lovelady:

Based on the information provided on your resubmittal of June 6, 1988, the above referenced plan is approved for Grading/Paving Permit.

Please be advised that upon completion of said project, a field inspection must be requested from Rick Duran (the file number must be given when requesting inspection)..

If I can be of further assistance, please feel free to call me at 768-2650.

Cordially,

Bernie J. Montoya

Bernie J. Montoya, C.E.
Engineering Assistant

BJM/bsj

SUMMARY OF REVISIONS

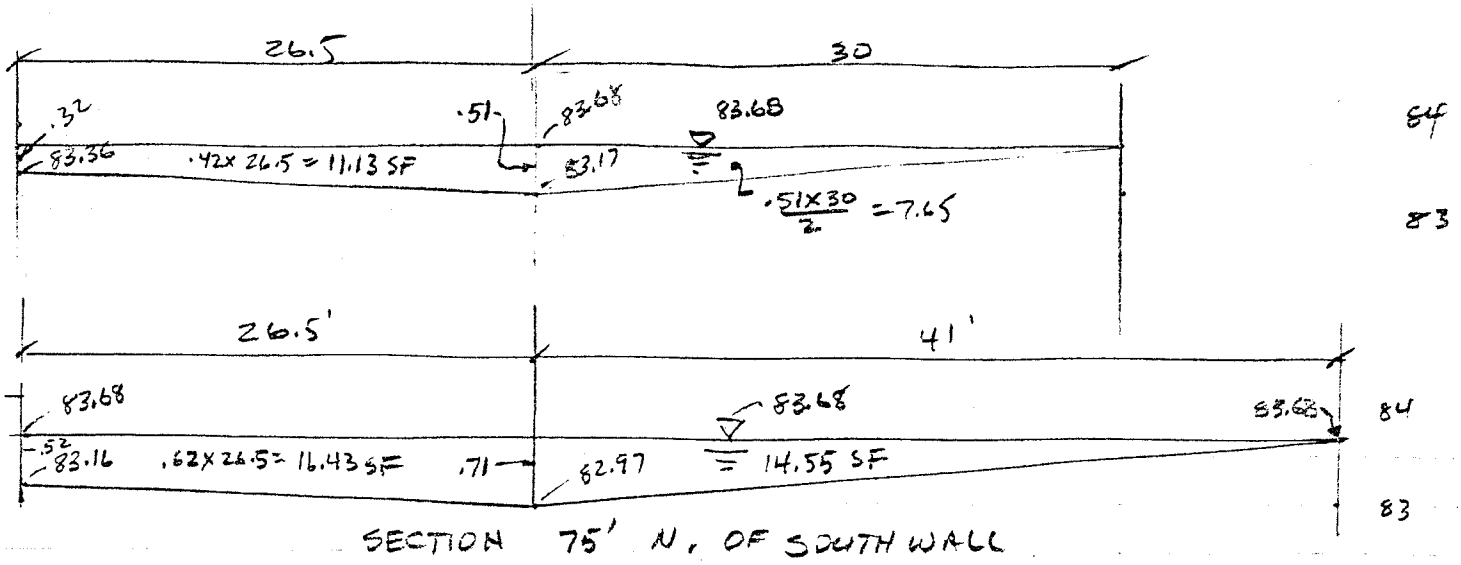
1. The adjacent property owner to the south has not granted the necessary drainage easement across his property to Mountain Road. Therefore, a sump pump system is required.

2. The grading of the westerly end of the lot had to be revised to make the parking lot as flat as possible to contain as much volume as could be reasonably contained at a minimum depth. An alley gutter was added to along the west edge of the existing pavement, the grade of which is now approximately 0.4% . Without the alley gutter, drainage of the asphalt would be very poor since placement of asphalt cannot be controlled to such a flat grade.

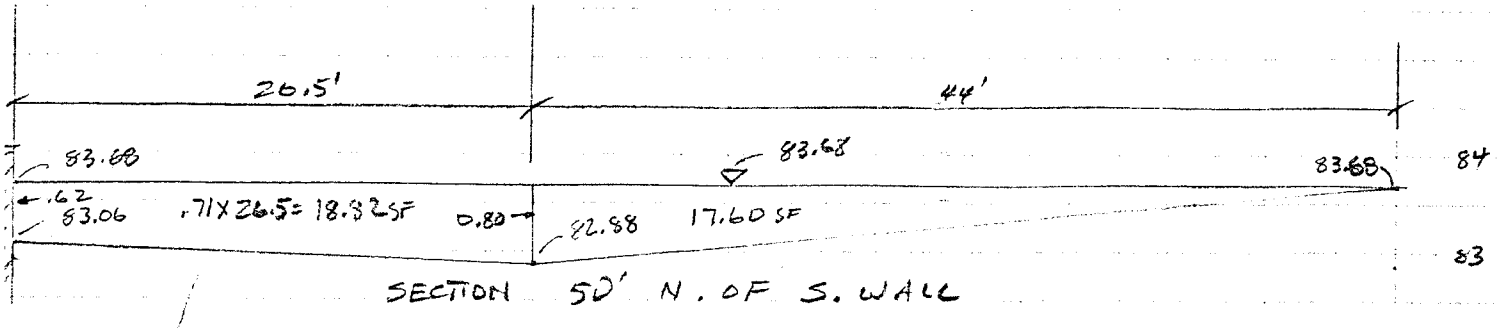
3. The volume of parking lot ponding was arbitrarily calculated by cross-sections for a depth of 1.0' above the catch basin grate. This volume was 3918 CF, the water surface being approximately 7950'. An additional depth of 1-$\frac{1}{4}$ inches or 0.1' give the required 100-year flood volume in the event that the pumps did not work. The volume was recalculated for a HWL of 83.5'. This ponds 10 inches at the deepest point and ponds a volume of 2721 CF. This is approximately equivalent to the maximum ponding that would occure with both pumps operating.

4. A duplex pump system was selected which will discharge approximately 130 GPM per each of the two pumps, or 260 GPM when both pumps are operating. The total volumes of required storage and pumping were computed by the triangular hydrograph method. The pumping system selected is the low horsepower pump range. A larger system would result in an unrealistic increase in cost.

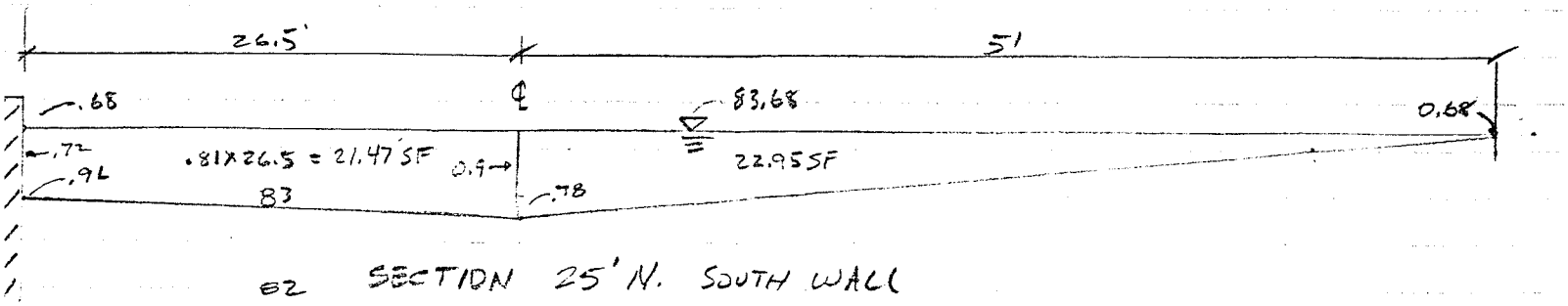
5. The catch basin will also serve as a grit chamber to prevent gravel from entering the sump.



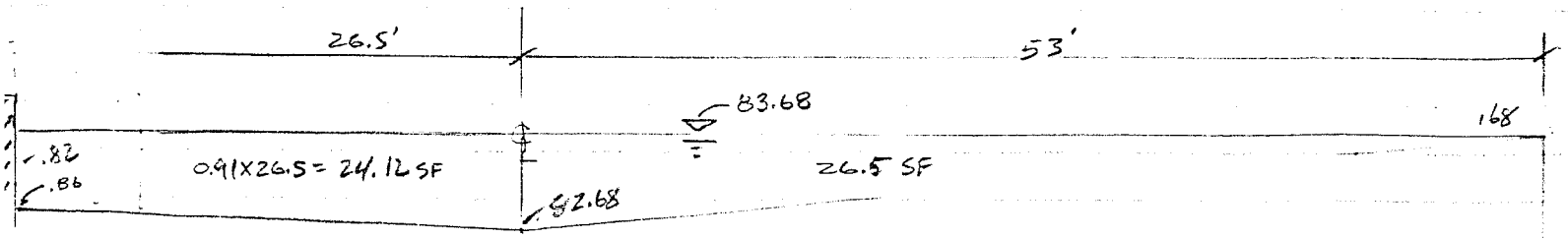
SECTION 75' N. OF SOUTH WALL



SECTION 50' N. OF S. WALL



82 SECTION 25' N. SOUTH WALL



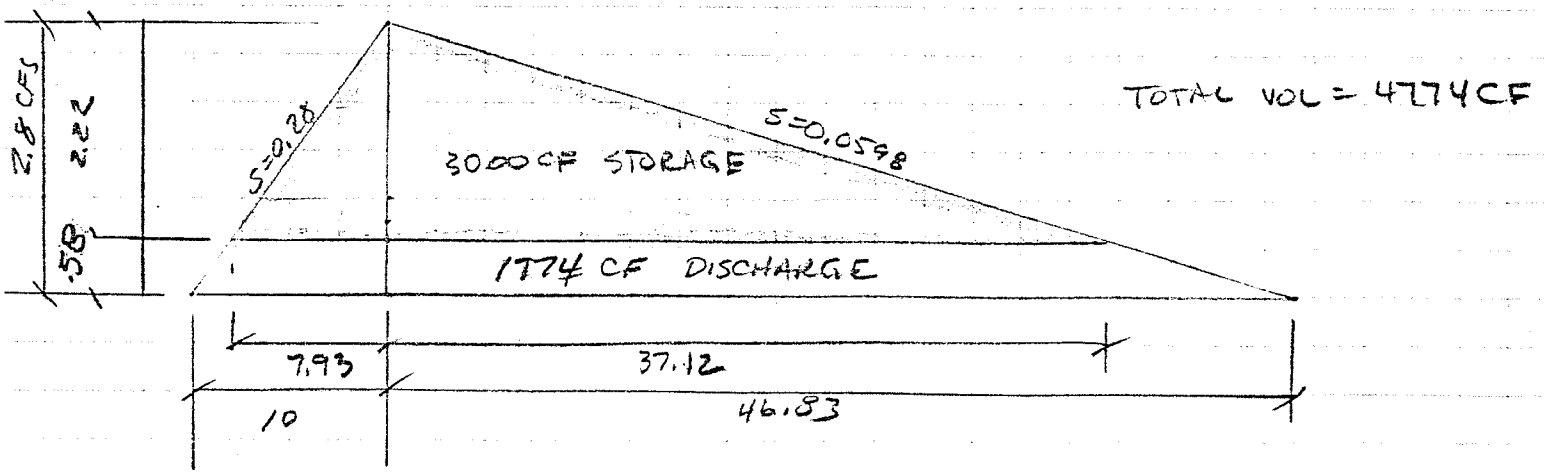
SECTION: AT S. WALL

VOLUME CALCULATIONS: (1.0 FOOT MAX POND DEPTH)

STA	CROSS-SECTIONAL AREA	AVE. AREA	DISTANCE	QUANTITY (CF)
0+00	50.62			
		47.52	25	1188
0+25	44.42			
		40.42	25	1011
0+50	36.42			
		33.70	25	843
0+75	30.98			
		24.88	25	622
1+00	18.78			
		12.39	20	254
1+20	6 (EST)			

TOTAL VOLUME A 1.0' = 3918 CF

DURATION $T = 2V/60Q = 2 \times 4774/60 \times 2.8 = 56.83$.



TOTAL VOL = 4774 CF

VOLUME CALCULATIONS (APPROX 10" POND DEPTH)

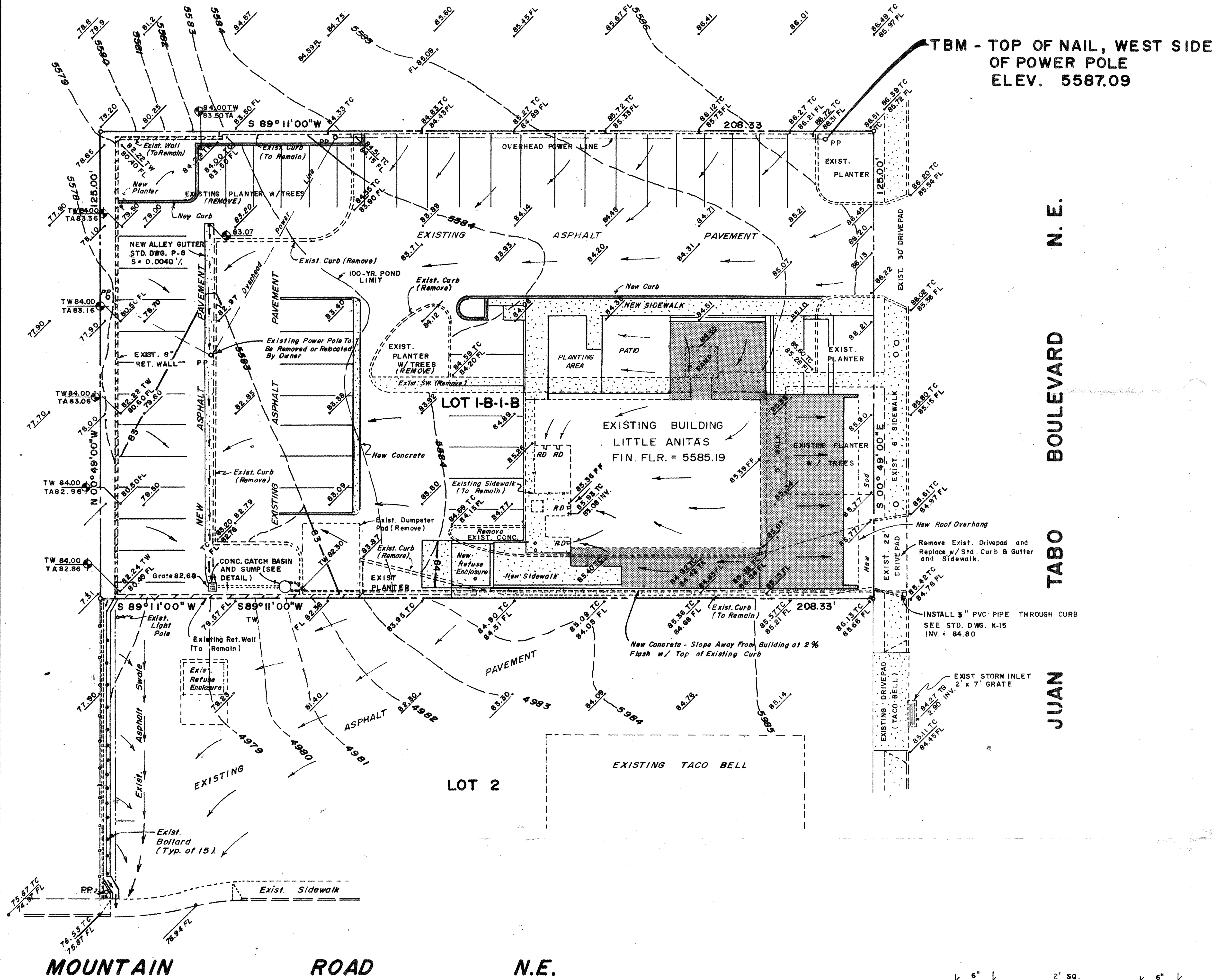
STA.	CROSS SECTIONAL AREA LT	RT	TOTAL	AVE AREA	DIST	Quantity (CF)
0+00	19.34	17.63	36.97			
				34.76	25	869
0+25	16.70	15.89	32.54			
				29.03	25	726
0+50	14.05	11.47	25.52			
				23.96	25	599
0+75	11.53	10.86	22.39			
				15.80	25	395
1+00	6.23	2.97	9.20			
				6.60	20	132
1+20	4.0 (EST)		4.0			

TOTAL VOL AT 10" = 2721 CF

check — APPROX POND AREA = 100' x 75' = 7500 SF

2" Deep = 0.17 X 7500 = 1275

$$\begin{array}{r} 2721 \\ +\ 1275 \\ \hline 3996 \approx 3915 \end{array}$$



GRADING AND DRAINAGE PLAN

1" = 20'

NORTH

LEGAL DESCRIPTION:

LOT 1-B-1-B, BLOCK 39-B OF THE REPLAT OF LOT 1-B-1, BLOCK 39-B, DALE J. BELLAMAH'S PRINCESS JEANNE PARK, AS THE SAME IS SHOWN AND DESIGNATED ON SAID REPLAT THEREOF FILED IN THE OFFICE OF THE COUNTY CLERK OF BERNALILLO COUNTY, NEW MEXICO ON OCTOBER 26, 1979, IN BOOK C-15, PAGE 168.

CITY OF ALBUQUERQUE

DRAINAGE FACILITIES WITHIN CITY RIGHT-OF-WAY

NOTICE TO CONTRACTOR

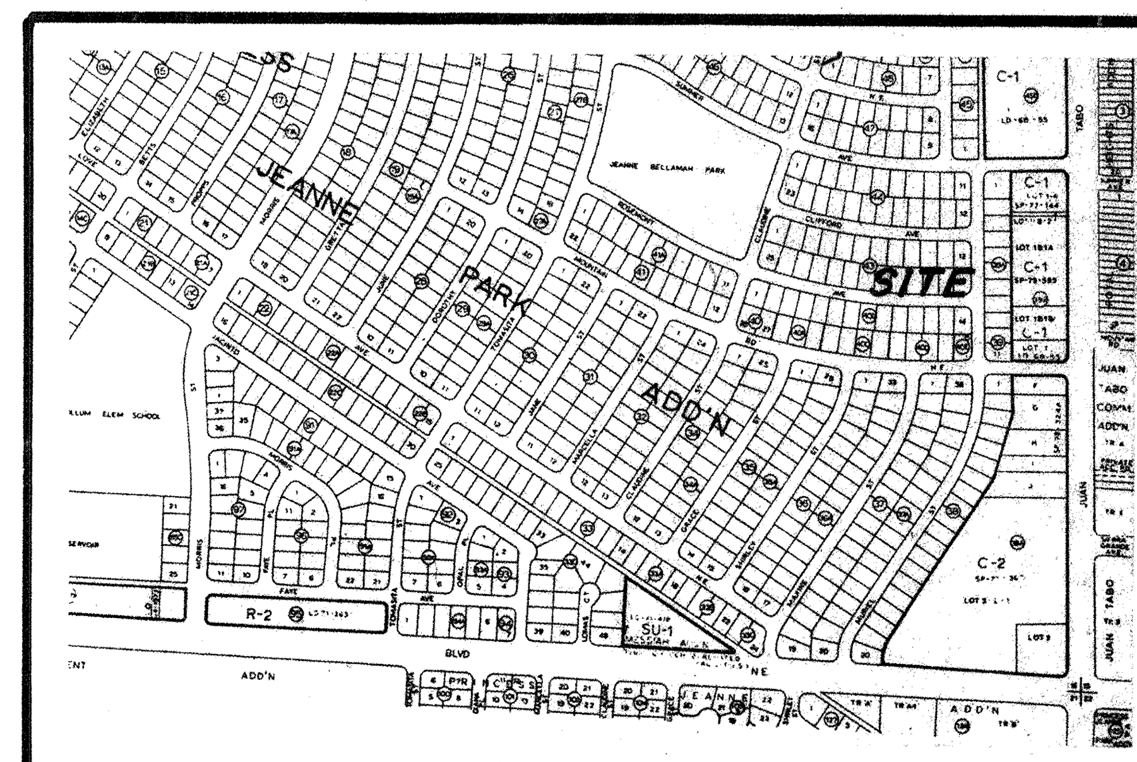
1. AN EXCAVATION/CONSTRUCTION PERMIT WILL BE REQUIRED BEFORE BEGINNING ANY WORK WITHIN CITY RIGHT-OF-WAY. AN APPROVED COPY OF THESE PLANS MUST BE SUBMITTED AT THE TIME OF APPLICATION FOR THIS PERMIT.
2. ALL WORK DETAILED ON THESE PLANS TO BE PERFORMED UNDER CONTRACT, EXCEPT AS OTHERWISE STATED OR PROVIDED HEREON, SHALL BE CONSTRUCTED IN ACCORDANCE WITH INTERIM SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, 1985.
3. TWO (2) 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 WITH A MINIMUM AMOUNT OF DELAY.
5. BACKFILL AND 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 1205 JUAN TOBO BLVD. N.E.

APPROVALS:

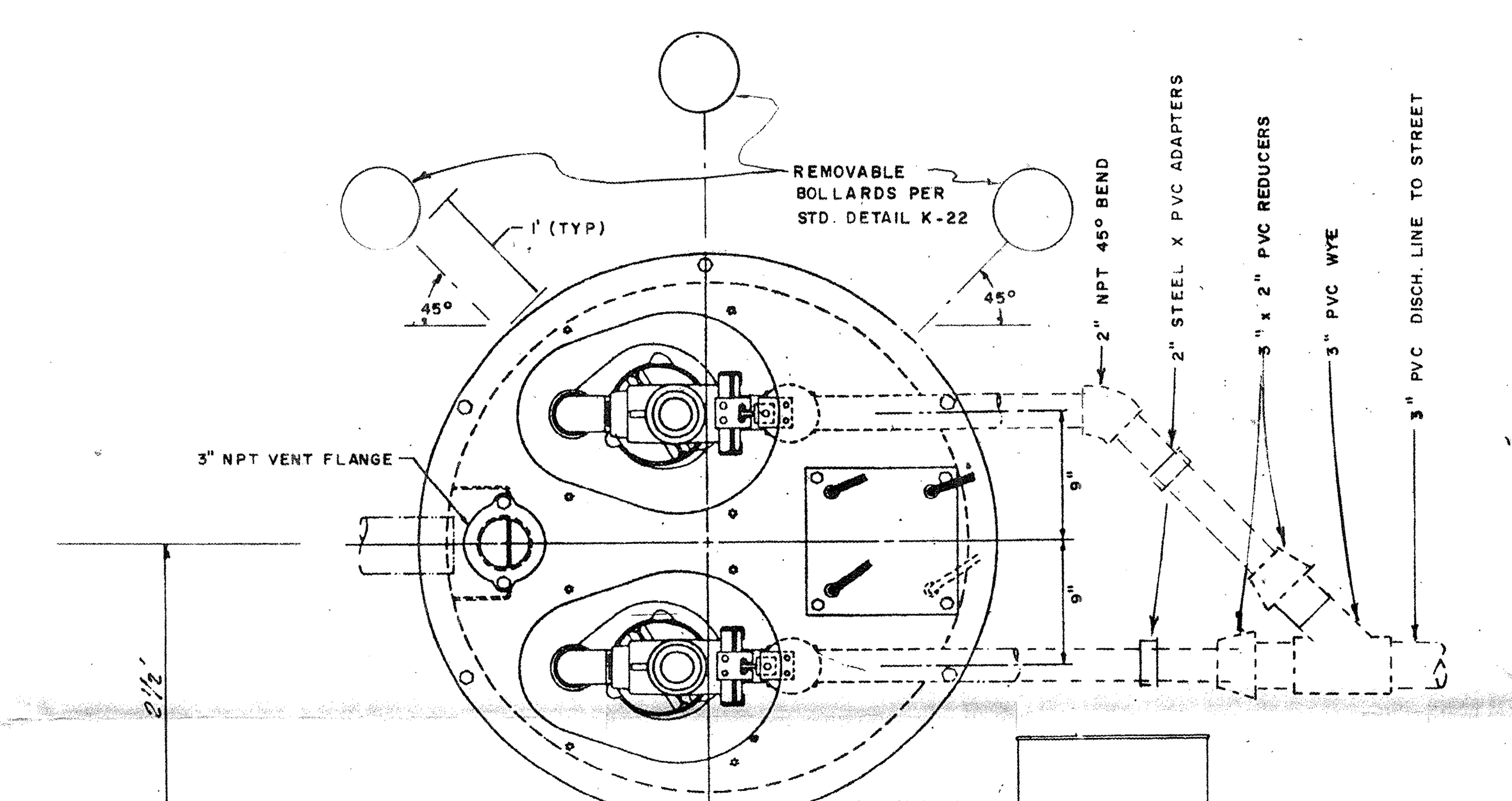
DESIGN APPROVAL Doreno A Montoya 4/8/87
HYDROLOGY SECTION DATE

INSPECTION APPROVAL ____________
CONSTRUCTION SECTION DATE

ACCEPTANCE ____________
CONSTRUCTION SECTION/PERMITS DATE

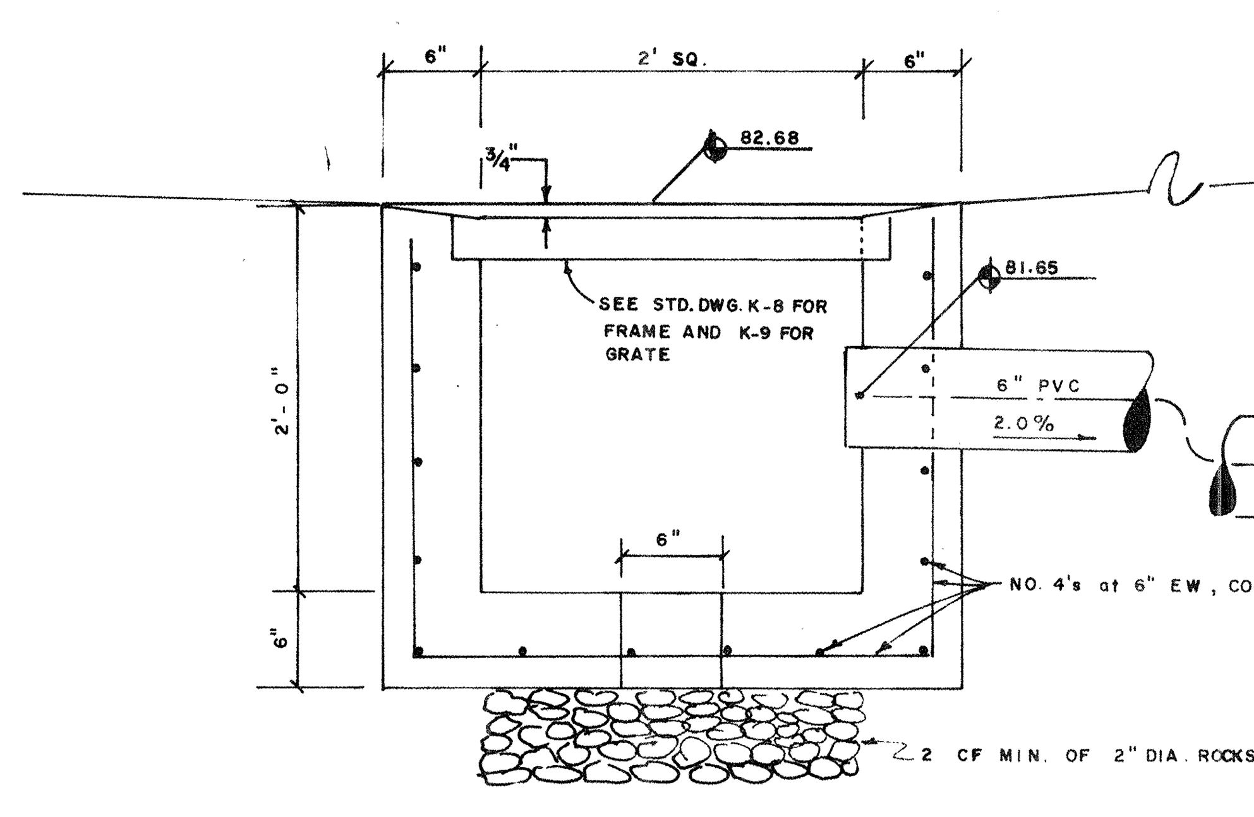


VICINITY MAP — NORTH — ZONE ATLAS NO. J-21



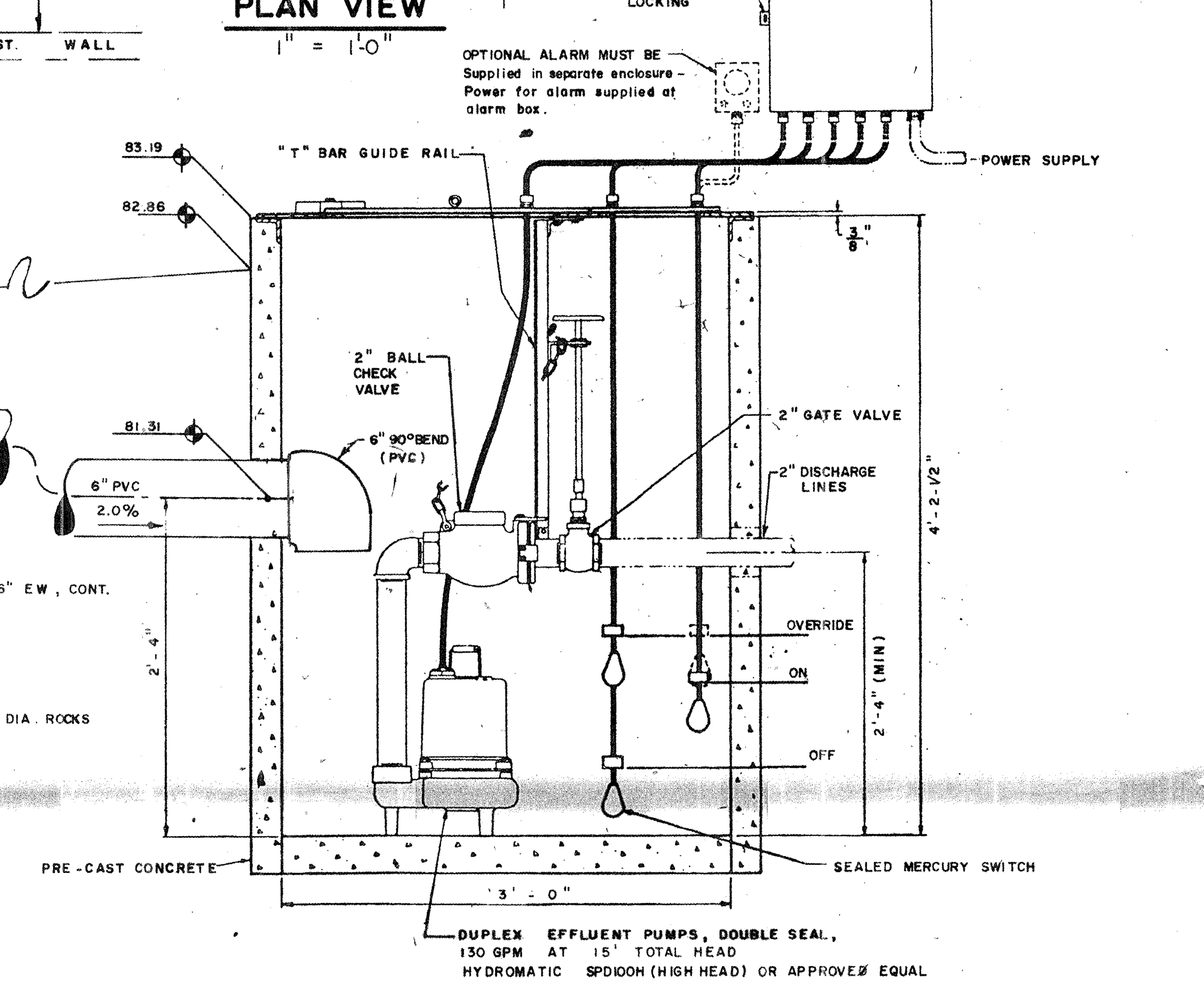
PLAN VIEW

1" = 1'-0"



CATCH BASIN DETAIL

1" = 1'-0"



SUMP DETAIL

1" = 1'-0"

DRAINAGE CALCULATIONS

I. **REFERENCES:**

A. CITY OF ALBUQUERQUE DEVELOPMENT PROCESS MANUAL (DPM) VOLUME 2, DESIGN CRITERIA, CHAPTER 22.

B. FLOODWAY MAP, PANEL "31 OF 50, (FEMA), OCTOBER 14, 1983.

C. SOIL SURVEY OF BERNALILLO COUNTY, NEW MEXICO, U.S. SOIL CONSERVATION SERVICE, JUNE, 1977.

II. **ON-SITE RUNOFF CHARACTERISTICS:**

A. UNDEVELOPED RUNOFF COEFFICIENT:

TYPE OF SURFACE	AREA	"C"VALUE	AREA("C")
STREETS, DRIVES, WALKS	17552	0.95	16674
ROOFS	2314	0.90	2083
LAWNS & LANDSCAPING	6175	0.25	1544
UNDEVELOPED			
TOTAL AREA	26041 SF = 0.598 AC		20301

WEIGHTED "C" VALUE = 20301 / 26041 = 0.78

PERCENT IMPERVIOUS = 76%

B. DEVELOPED RUNOFF COEFFICIENT:

TYPE OF SURFACE	AREA	"C"VALUE	AREA("C")
STREETS, DRIVES, WALKS	19801	0.95	18811
ROOFS	4635	0.90	4172
LAWNS & LANDSCAPING	1605	0.25	401
UNDEVELOPED			
TOTAL AREA	26041		

WEIGHTED "C" VALUE = 23384 / 26041 = 0.90

PERCENT IMPERVIOUS = 94%

C. RAINFALL, 100-YR.,6-HR.:(REF. A., PLATE 22.2 D-1) R_6 = 2.45 INCHES

D. TIME OF CONCENTRATION: TEN (10) MINUTES.

E. RAINFALL INTENSITY,I (REF. A., PLATE 22.2 D-2)
$I = R_6 X 6.84 X (T_c)^{-0.51} = (2.45) 6.84 (10)^{-0.51} = 5.18 IN/HR$

F. SOIL TYPE (REF. I.C., SHEET NO. 32)SOIL IS TgB, TIJERAS HYDROLOGIC SOIL GROUP "B".

G. RUNOFF CURVE NUMBER (CN)-(REF.I.A., PLATE 22.2 C-2)
UNDEVELOPED LAND USE: BUSINESS AND COMMERCIAL, 76% IMPERVIOUS.

UNDEVELOPED CN = 92

DEVELOPED LAND USE: BUSINESS AND COMMERCIAL, 94% IMP.

DEVELOPED CN = 97

H. DIRECT RUNOFF, Q_D, INCHES (REF. I.A., PL. 22.2 C-4)
UNDEVELOPED Q_D = 1.7 IN. DEVELOPED Q_D = 2.2 IN.

III. **ON-SITE PEAK DISCHARGE BY RATIONAL EQUATION:**

A. EXISTING CONDITIONS:
Q_{100} = 0.78 X 5.18 X 0.6 = 2.42 CFS
Q_{10} = 0.657 X 2.42 = 1.59 CFS

B. DEVELOPED CONDITIONS:
Q_{100} = 0.90 X 5.18 X 0.6 = 2.8 CFS
Q_{10} = 0.657 X 2.8 = 1.84 CFS

IV. **ON-SITE VOLUME BY S.C.S. METHOD:**

A. EXISTING CONDITIONS:
V_{100} = AREA (Q_D/12) = 26041 (1.7/12) = 3689 CF
V_{10} = 0.657 X 3689 = 2424 CF

B. DEVELOPED CONDITIONS:
V_{100} = AREA (Q_D/12) = 26041(2.2/12) =4774 CF
V_{10} = 0.657 X 4774 = 3137 CF

V. **DRAINAGE OUTFALL CALCULATIONS:**

A. PUMP CAPACITY - 200 GPM = 0.579 CFS . THIS WILL REQUIRE PONDING IN PARKING LOT. HEAD LOSS IN 3" DIA. DISCHARGE LINE TO STREET IS 6.0 FEET PER 100 FEET. (SEE HANDBOOK OF PVC PIPE, FIG. 26) LENGTH IS APPROX. 164' TOTAL HL = 1.64 X 6.0 = 9.84' OR 4.92' PER PUMP.
FA' LOSS BETWEEN PUMP AND DISCHARGE LINE IS REDUCED TO EQUIVALENT LINEAL FEET OF 2" PIPE AT 130 GPM.
ELBOW, 8.5'; BALL CHECK VALVE, 13'; GATE VALVE, 2.6'; 2" STEEL PIPE, 5': TOTAL = 30 FEET FROM HYDRAULIC HANDBOOK, FAIRBANKS-MORSE, HL FOR 2" STEEL PIPE AT 130 GPM IS APPROX. 29'/100'
HL PER PUMP IS (0.29 X 30) + 4.92 = 13.62' < 15'

B. CHECK INLET CAPACITY OF 6" PVC PIPE CONNECTING THE CATCH BASIN TO THE SUMP. INLET CAPACITY BY ORIFICE EQUATION. SPRINGLINE ELEV. OF PIPE = 81.65; WATER SURFACE ELEV. AT 6" ABOVE GRATE IS 63.18; H = 83.18 - 81.65 = 1.53' $Q = CA(2GH)^{1/2}$; C = 0.6
A = 0.1963 SF $Q = 0.6 X 0.1963(2 X 32.2 X 1.53)^{1/2}$ = 1.17 CFS
THIS QUANTITY EXCEEDS THE MAXIMUM PUMP DISCHARGE, THEREFORE, IT IS ADEQUATE.

CAPACITY OF 6" PIPE PER MANNING'S EQUATION. USE ARMCO SEWER PIPE CALCULATOR. FOR N = 0.009, S = 0.02, 6" DIA. FLOWING FULL, Q = 1.1 CFS > MAXIMUM PUMP CAPACITY, THEREFORE, ADEQUATE.

PRE-DESIGN CONFERENCE FINDINGS:

1. PROVIDE AND UPDATED DRAINAGE PLAN FOR APPROVAL AND INCLUSION IN THE BUILDING PERMIT SETS.
2. THE PLAN SHALL SHOW THE PROPOSED IMPROVEMENTS ALONG WITH THE REQUIRED DRAINAGE SCHEME.
3. THE SITE IS CURRENTLY EXISTING AND THE PROPOSED IMPROVEMENTS WILL INCLUDE AN ADDITION WITH NEW ASPHALTING.
4. THE MOST ECONOMICAL DRAINAGE SOLUTION WOULD BE THE ACQUISITION OF AN EASEMENT FROM THE ADJACENT OWNER.

CONSTRUCTION NOTES:

1. TWO (2) WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT LINE LOCATING SERVICE AT 765-1234 FOR LOCATION OF EXISTING UTILITIES.
2. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF ALL POTENTIAL OBSTRUCTIONS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY.
3. ALL WORK ON THIS PROJECT SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE, AND LOCAL LAWS RULES, AND REGULATIONS CONCERNING CONSTRUCTION SAFETY AND HEALTH.
4. ALL CONSTRUCTION WITHIN CITY RIGHT-OF-WAY SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE CITY OF ALBUQUERQUE STANDARDS AND PROCEDURES.

EROSION CONTROL PLAN:

THE SITE IS TOTALLY ENCLOSED BY WALLS AND ALL DRAINAGE PRESENTLY PONDS IN THE WEST END OF THE LOT. THE OUTFALL SYSTEM SHALL NOT BE CONSTRUCTED UNTIL ALL PAVING ON THE SITE IS COMPLETE. THE INSIDE SURFACES OF THE WALL SHALL BE TREATED WITH A WATERPROOF SEALER TO PREVENT ANY LEAKAGE THROUGH THE WALL.

LEGEND

EXISTING	NEW	DESCRIPTION
— — —	—85—	CONTOUR
/	⊕	SPOT ELEVATION
—-—-—		PROPERTY LINE
	TW	TOP OF WALL ELEVATION
	TC	TOP OF CURB ELEVATION
	TA	TOP OF ASPHALT ELEVATION

BENCH MARK:

ALL ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO BENCH MARK 5-J21A, LOCATED AT THE CORNER OF JUAN TOBO BLVD. AND CONSTITUTION AVENUE, N.E. THE STATION MARK IS A STANDARD ACS BRASS TABLET STAMPED "5-J21A", SET FLUSH WITH THE CONCRETE IN THE MEDIAN OF JUAN TABO BLVD., SOUTH OF THE INTERSECTION, 51 FEET SOUTH OF THE CENTERLINE OF CONSTITUTION AVENUE, N.E. ELEVATION 5594.296 FEET.

TEMPORARY BENCH MARK (TBM) IS THE TOP OF A NAIL SET IN THE WEST SIDE OF A POWER POLE NEAR THE NE CORNER OF THE SITE. ELEVATION 5587.09 FEET.

REVISED 4-7-87

FRANK D. LOVELADY — NEW MEXICO — 6512 — REGISTERED PROFESSIONAL ENGINEER
Frank D. Lovelady

JANUARY 14, 1987

GRADING AND DRAINAGE PLAN
LITTLE ANITA'S RESTAURANT
REMODELING & ADDITIONS
1205 JUAN TABO BLVD., N.E.
ALBUQUERQUE, NEW MEXICO

RECEIVED APR 07 1987 HYDROLOGY SECTION