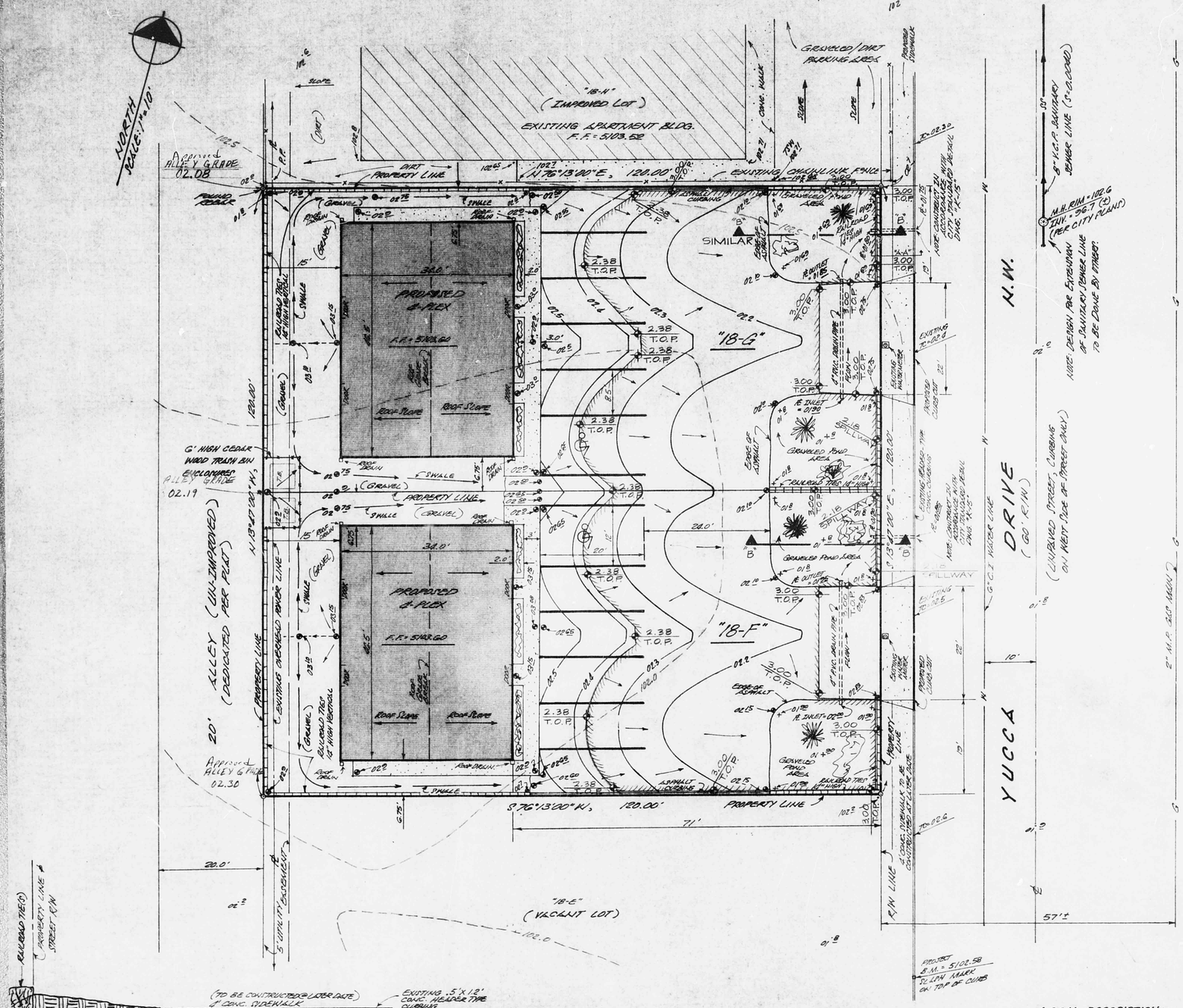
G 11-D 20

1 PLAN



BENCH MARK:

STATION "VLBH 5108 NAVD Rg 1950", A BRASS CAP SET ON TOP OF A CONCRETE POST NEAR THE INTERSECTION OF VISTA DRIVE N.W. AND NORTHERN AVENUE, N.W.; M.S.L. DATUM ELEVATION = 5111.597

LEGEND:

- --102.0-- EXISTING CONTOURS
- 02.2 EXISTING SPOT ELEVATIONS
- 102.5 PROPOSED CONTOURS
- 02.7 PROPOSED SPOT ELEVATIONS
- EXTENT OF NEW PAVEMENT
- DRAINAGE FLOW
- T.W. = TOP OF SIDEWALK
- ////// = TOP OF 100 YEAR POND
- T.O.P. = TOP OF POND.

LEGAL DESCRIPTION:

LOTS "18-F" AND "18-G", CORONA DEL SOL SUBDIVISION, TO THE CITY OF ALBUQUERQUE, BERNALILLO COUNTY, NEW MEXICO, (PLAT FILED: 8-3-78, BK. C8-166). ZONE OF SUBJECT SITE IS "R-2" ZONE.

RECEIVED
DEC 13 1983
ENGINEERING

THIS DRAINAGE PLAN SHOWS, (1.) EXISTING GRADES INDICATED BY CONTOURS AT ONE-HALF (0.5) FOOT INTERVALS. (2.) PROPOSED GRADES INDICATED BY SPOT ELEVATIONS AND CONTOURS AT ONE-TENTH (0.1') FOOT INTERVALS, (3.) PROPOSED PONDING AREAS, AND (4.) LIMITS AND CHARACTER OF THE PROPOSED IMPROVEMENTS.

THE CALCULATIONS WHICH APPEAR ON THE PLAN HEREON ANALYZE THE DEVELOPED CONDITIONS FOR THE 100-YEAR RAINFALL EVENT. THE RATIONAL METHOD IS USED IN ACCORDANCE WITH THE CITY OF ALBUQUERQUE DEVELOPMENT PROCESS MANUAL, VOLUME II.

THE DEVELOPMENT CONSISTS OF TWO (2) PROPOSED 4-PLEX APARTMENT BUILDINGS, ASPHALT PARKING AREAS, AND LANDSCAPE, LOCATED ON TWO (2) SEPARATE LOTS LOCATED ON YUCCA DRIVE, N.W., BETWEEN TUCSON ROAD, N.W. AND SEQUOIA ROAD, N.W..

THE SITE DOES NOT LIE WITHIN A FLOOD HAZARD ZONE, (AS INDICATED BY THE CITY FLOOD HAZARD BOUNDARY MAP).

CONTROLLED DISCHARGE IS REQUIRED BECAUSE OF INADEQUATE DOWNSTREAM CAPACITY, I.E., THERE IS FLOODING IMMEDIATELY NORTH OF THE SITE ON YUCCA DRIVE, N.W.; THEREFORE, A MAXIMUM AMOUNT OF PONDING IS PROPOSED WITHIN THE LANDSCAPED AREAS AND WHICH ALSO OVERLAP INTO PORTIONS OF THE ASPHALT PARKING AREAS. THE PROPOSED PONDING ALLOWS POSITIVE DISCHARGE TO TUCSON DRIVE, N.W.; IT IS PROPOSED THAT ALL DRAINAGE BE DIRECTED IN SHEET FLOW INTO THE POND.

RUNOFF INCREASE CALCULATION:

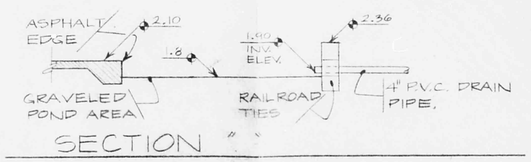
LOT SIZE = 7,200 SQ.FT. (EACH LOT)
UNDEVELOPED STATE ⇒ 7,200 × $(\frac{2.5}{12})$ × 0.6 = 576 C.F.
DEVELOPED 100-YEAR VOLUME:
PERVIOUS: 2135 × $(\frac{2.5}{12})$ (0.4) = 170.8 C.F.
IMPERVIOUS: 5363 $(\frac{2.5}{12})$ (0.9) = 911.7 C.F. 170.8 + 911.7 = 1082.5 C.F.
1082.5 − 576.0 = 507.0 C.F.

BECAUSE OF THE SIZE AND SLOPE OF THE SUBJECT SITE MINIMUM T_c IS USED
∴ T_c = 10 MINUTES. 6-HOUR RAINFALL VOLUMES IN 100-YR. FREQUENCY
USED = 2.2"
$I = (2.2)(6.84)(10)^{-0.51}$
∴ $I = \frac{(2.2)(6.84)}{(10)^{0.51}} = \frac{(2.2)(6.84)}{3.2359} = 4.65$ IN./HR. ≈ 5" IN./HR.

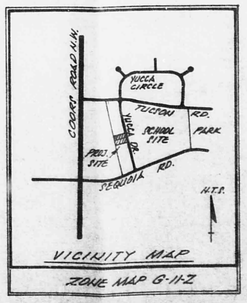
TOTAL AREA = 7,200.0 SQ.FT.
IMPERVIOUS AREA = 5,300 S.F. PERVIOUS AREA = 1,900 S.F.
PERCENT IMPERVIOUS = 73.6 %
$C_{AVG} = \frac{(0.4)(1900) + (0.9)(5300)}{7200} = 0.768$

FROM THE MAP ON PLATE 22.2 D-1, RAINFALL = 2.2 IN.
$Q_{PEAK} = CIA$ C = 0.77 I = 3.65 A = 7,200 S.F. = 0.1653 ACRE
$Q_{PEAK} = (0.77)(3.65)(0.1653) = 0.5918$ C.F.S.

TOTAL RAINFALL VOLUME = 1,018 CU. FT. (EACH LOT)
$Q_{100} = Q_{PEAK} = .5918$ C.F.S. EACH LOT
100 YEAR VOLUME RETAINED ON EACH LOT = 632 CU. FT.



SECTION "



VICINITY MAP
ZONE MAP G-11-Z

NOTES

NOTICE TO CONTRACTORS

1) New Mexico Standard Specifications for Public Works Construction -1979 Edition will be referred to hereon as the "Standard Specifications."
2) All work detailed on these plans to be performed under contract shall, except as otherwise stated or provided for hereon, be constructed in accordance with "Contract Documents for City-Wide Utilities and Cash Paving No. 30 and the Standard Specifications."
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 or survey so that the conflict can be resolved with minimum of delay.

THE FOLLOWING NOTES APPLY WHEN CHECKED:

- [✓] ALL UTILITIES AND UTILITY SERVICE LINES SHALL BE INSTALLED PRIOR TO PAVING.
- [✓] BACKFILL COMPACTION SHALL BE ACCORDING TO SPECIFIC STREET USE, (ARTERIAL).

RECEIVED
DEC 13 1983
HYDROLOGY SECTION
Approved 12/14/83

(3.) ALLEY GRADES (11/31/83)
(2.) RESPONDS TO DRAINAGE DESIGN (12-83)
1.) REAR SET BACK LINE FROM 10' TO 15' (7-7-83)
REVISIONS

STATE OF NEW MEXICO — NO. 5369 — REGISTERED PROFESSIONAL ENGINEER
ENGINEER

ARCHITECT

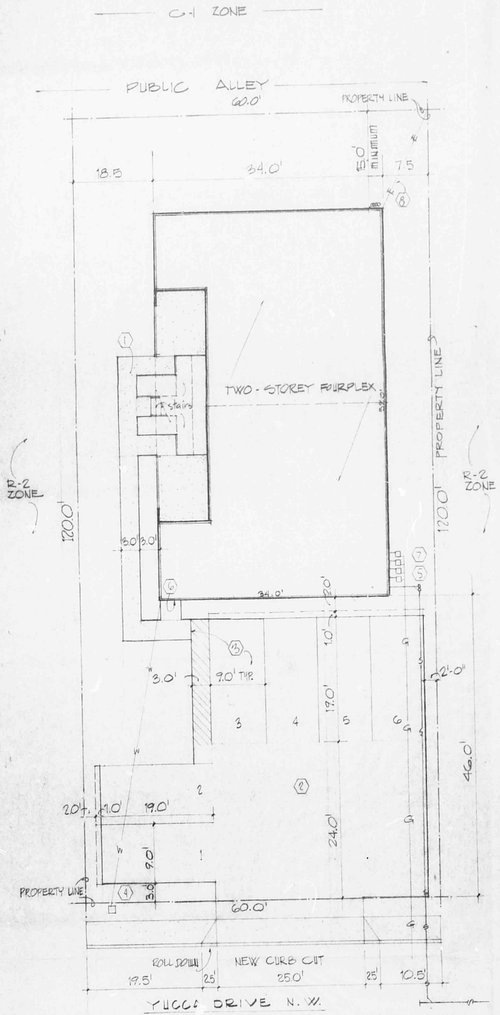
PROPOSED 4-PLEX APARTMENTS FOR PACHECO CONST. CO.

PROJECT NO. P-11-A
DATE 7-20-83

G11/D20

SHEET 1 OF 1

G11-D20 PACHECO FOUR-PLEX APTS. 1 of 2

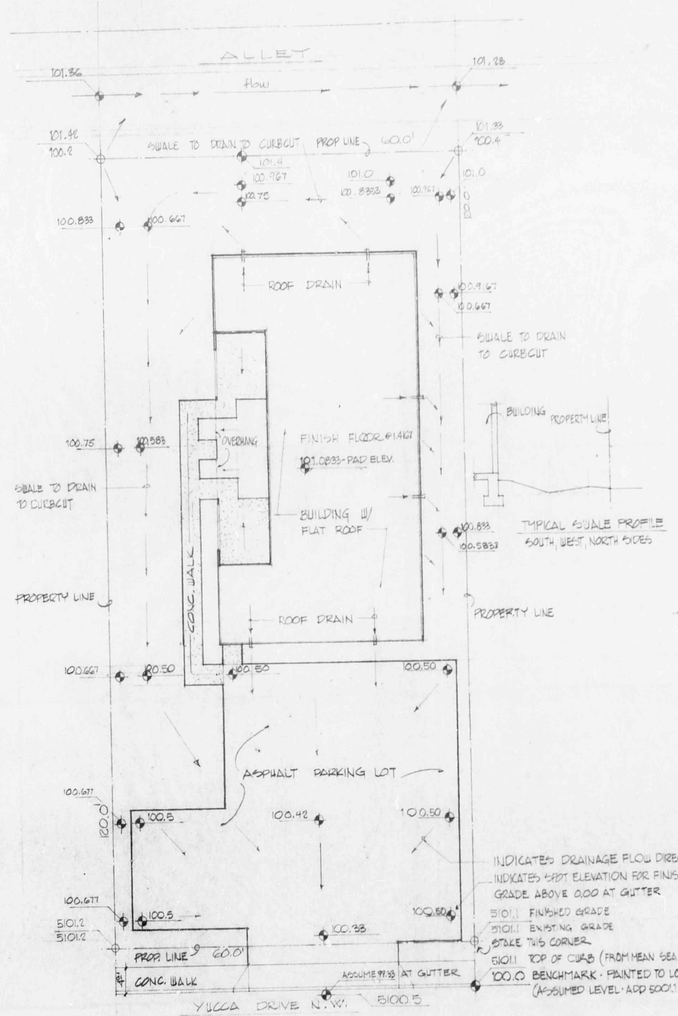


SITE PLAN NOTES

(1) 4" THICK CONCRETE WALK W/ 8" TURNED DOWN EDGES TYPICAL
(2) 2" BITUMINOUS PAVING PER CITY OF ALBUQUERQUE STANDARDS
(3) DESIGNATED HANDICAPPED PARKING AREA - RAMP LEVEL TO CONC. WALK
(4) EXIST. WATER METER LOCATION & NEW LINE TO BUILDING
(5) SEWER LINE W/ DOUBLE CLEANOUT TO STREET EXTENSION
(6) MAILBOX PANEL LOCATION
(7) INDIVIDUAL GAS METERS (4) AND YARD LINE TO STREET
(8) ELECTRICAL SERVICE DROP AND METER ENCLOSURE LOCATION

LEGAL DESCRIPTION
CORONA DEL SOL · BLOCK 8 · LOT · 18G
ZONE ATLAS # G11 · ZONED R-2

SITE PLAN - scale 1" = 20'-0"

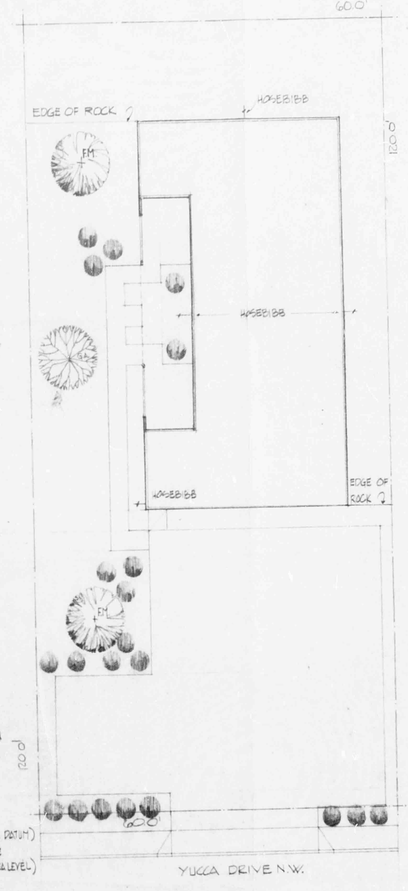


NOTES:
THIS SITE AND ADJACENT PARCELS ARE WITHOUT SLOPE. THERE ARE NO OFFSITE DRAINAGE FLOWS ON TO THIS SITE. THE SANDY SOIL SEEMS TO HAVE A HIGH RATE OF ABSORBTION. GRADES ON SOUTH, WEST AND NORTH PROPERTY LINES WILL MATCH EXISTING LEVELS. GRADE ON EAST WILL REFLECT INTENTION OF HAVING EXCESS RAINFALL TO DRAIN TO STREET THROUGH CURBCUT/DRIVEPAD ONLY

RUNOFF INCREASE CALCULATION
LOT SIZE @ 7200 S.F. · UNDEVELOPED → $7200 \cdot (\frac{2.4}{12}) \cdot (.4) = 576$ CF
DEVELOPED 100 YR. VOLUME:
· PERVIOUS: $3020 (\frac{2.4}{12} X .4) = 241.6$ CF
IMPERVIOUS: $4180 (\frac{2.4}{12} X .9) = 752.4$ CF
994 CF - 576 CF = 418 CF INCREASE

* NOTE: SEE CITY APPROVED COPY FOR Q. KELLICH (SP?) APPROVAL

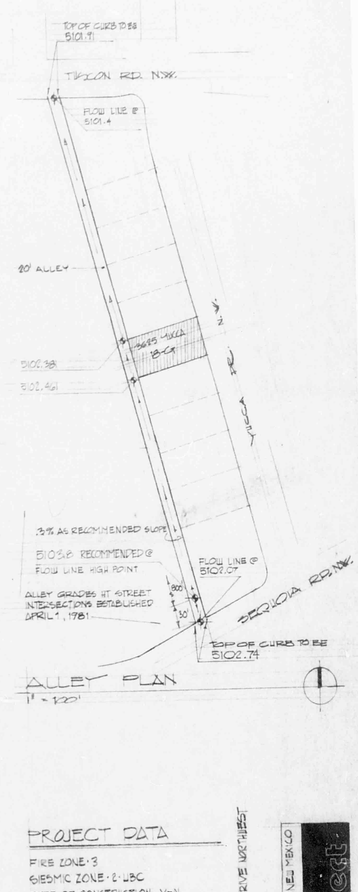
GRADING & DRAINAGE PLAN - 1" = 10'-0"



FRUITLESS MULBERRY · 2" ϕ CALIPER MIN.
GREEN ASH · 2" ϕ CALIPER MIN.
GROUND COVER · 2" ϕ RIVER WASH ROCK ON 6 MIL. V.B. QUEEN
5 GAL. JUNIPER PFITZER

NOTE: ALL PLANTS IN PLANTWELLS. PLANTWELL TO BE 4" MIN. BELOW SURROUNDING GRADE; WIDTH TO BE TWICE CONTAINER WIDTH AND 12" DEEPER THAN CONTAINER; BACKFILL MATERIAL TO BE 50% SOIL AND 50% PEAT MOSS; INCLUDE PLANT TABLET FOR EACH PLANT.

LANDSCAPE PLAN - 1" = 10'-0"
IRRIGATION BY HOSEBIBB



ALLEY PLAN
1" = 20'

PROJECT DATA

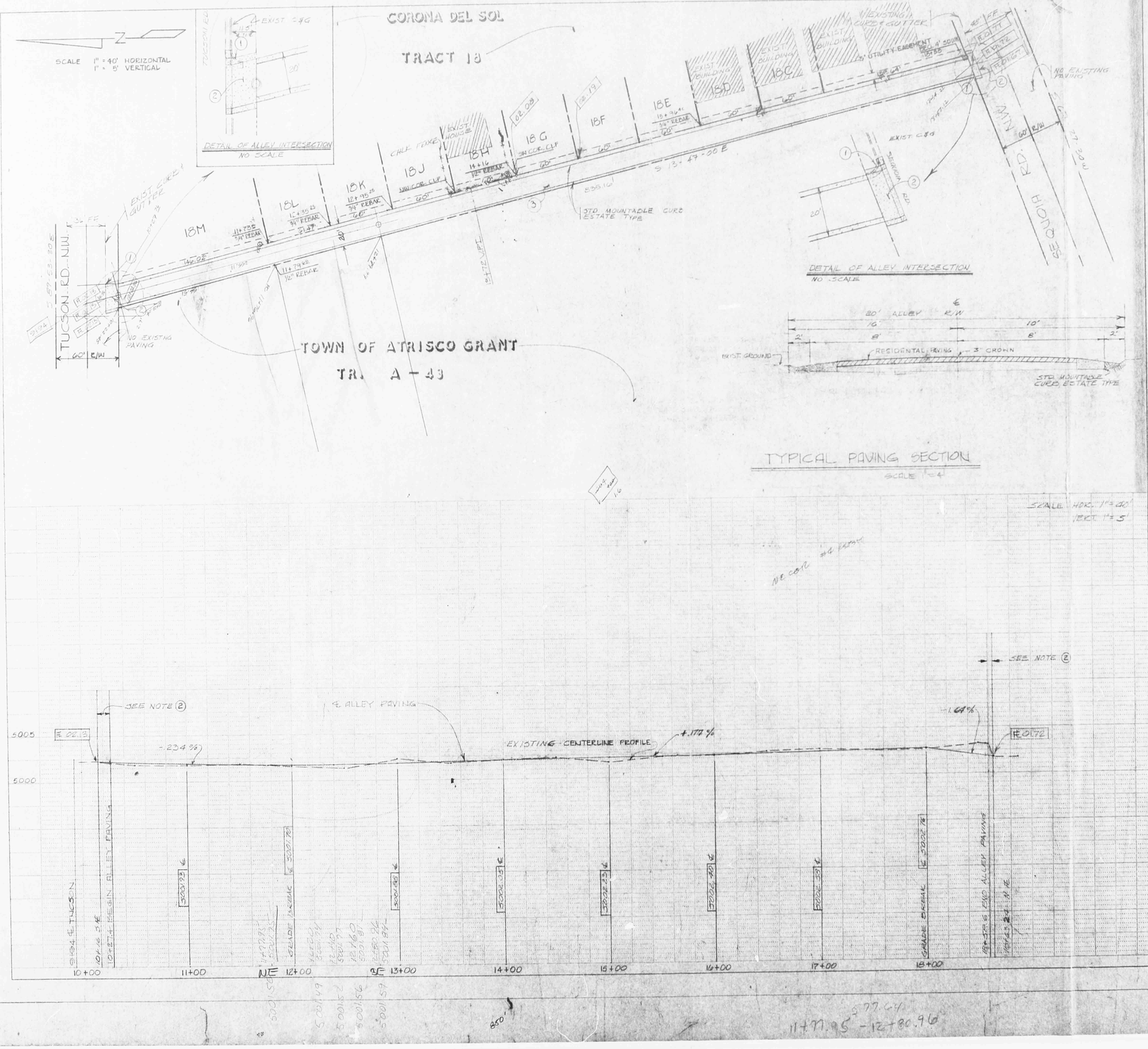
FIRE ZONE · 3
SEISMIC ZONE · 2 · UBC
TYPE OF CONSTRUCTION · V-N
OCCUPANT LOAD · 1/300 SF
OCCUPANCY · R-1
SOIL BEARING CAPACITY · 2000 PSF
MIN. CONC. STRENGTH · 2500 PSI @ 28 DAYS
WIND LOAD · 25 PSF
FLOOR LOAD · 40 PSF (L.L.)
BALCONY LOAD · 100 PSF
HEATED FLOOR AREA · 3200 SF
FINISHES TO COMPLY W/ CH. 42 U.B.C.
ALL GLAZING TO COMPLY W/ FED. STD. 16 CFR PART 1201
1 - 2A10BC FIRE EXTINGUISHER PROVIDED AT EACH KITCHEN

A PROPOSED FOURPLEX @ 3625 YUCCA DRIVE N.W. LOT 2 ALBUQUERQUE, NEW MEXICO
1420 SAN FELIPE N.W. · #2 · 87107 · 505 · 344-4480
Del Jack · Architect

SHEET ONE OF SIX

STATE OF NEW MEXICO
DEE PAUL JACK
1356
REGISTERED ARCHITECT

FERNANDEZ FOURPLEX



NOTES:

(1) REMOVE EXISTING CURB RETURN

(2) BUILD STD. ALLEY INTERSECTION PER STD. DWG. P-12-1

(3) NO EXISTING UTILITIES WITHIN ALLEY R/W

RECEIVED
JAN 22 1985
HYDROLOGY SECTION

ENGINEER'S SEAL

SURVEY INFORMATION
FIELD NOTES

NO.	BY	DATE
2-25	ANGEL	1/23/85

BENCH MARKS
BM SET IN TOP OF CURB AT THE INTERSECTION OF CORES RD & TUCSON RD. NW. ELEV. = 5033.48
THE EAST R/W LINE OF CORES RD. TOP OF STEEL RAIL R/W MARKER.

AS BUILT INFORMATION
CONTRACTOR
WORK PERFORMED BY: DATE:
INSPECTED BY: DATE:
FIELD CHANGES BY: DATE:
CERTIFICATION BY: DATE:
CORRECTED BY: DATE:
MICRO FILM INFORMATION
RECORDED BY: DATE:
NO.

NO.	DATE	REMARKS
		REVISIONS
		DESIGN

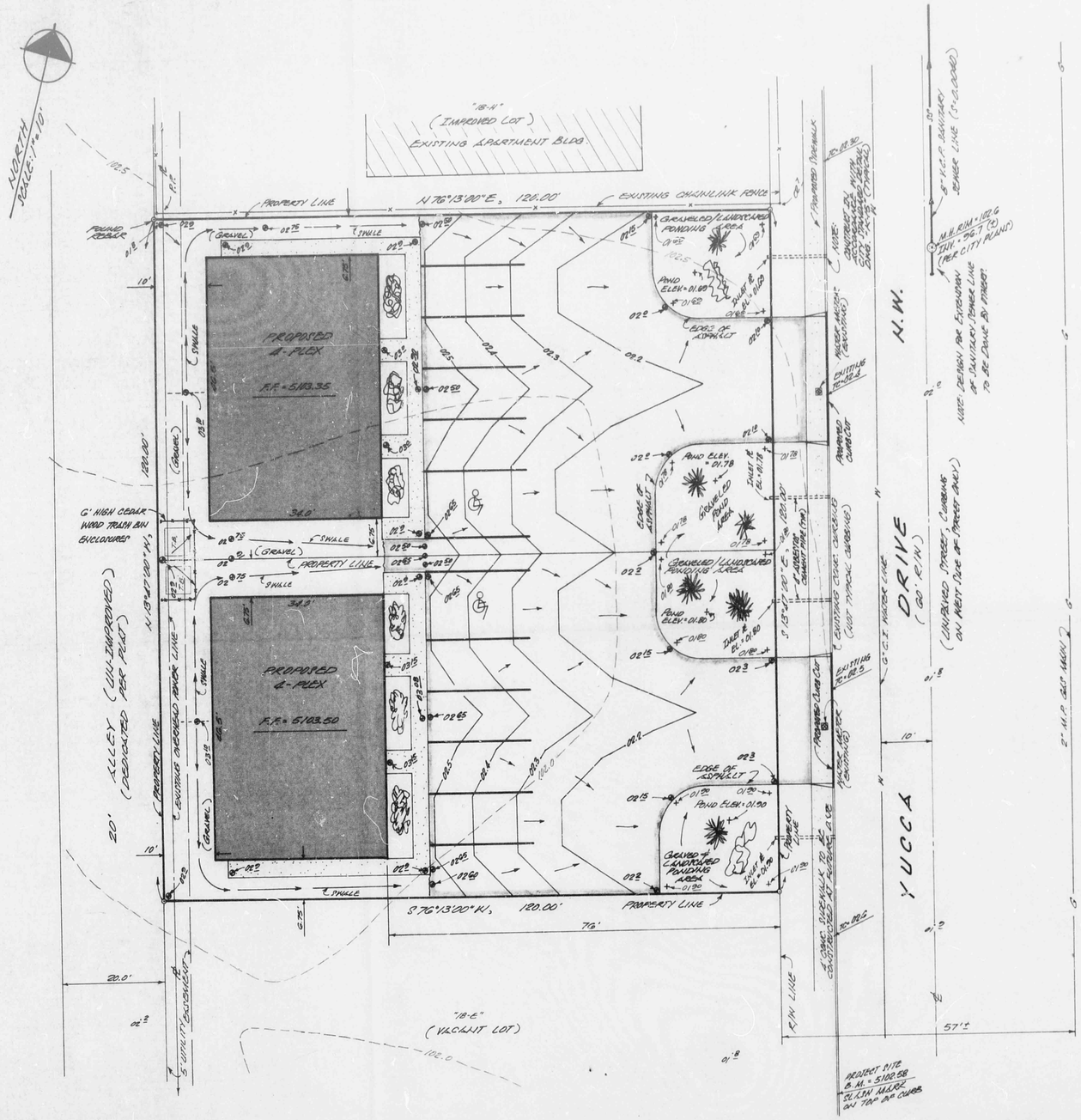
DESIGNED BY: SEE SEQ. MIRANDA DATE
DRAWN BY: A. J. OLIVAS DATE
CHECKED BY: DATE

CITY OF ALBUQUERQUE
MUNICIPAL DEVELOPMENT DEPARTMENT
ENGINEERING DIVISION

TITLE: ALLEY GRADES BETWEEN TUCSON RD. & SEQUOIA RD. N.W., BLOCK 18, CORONA DEL SOL SUBDIVISION.

APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE
City Engineer			Liquid Waste	N/A	
A.C.E.-Design	[illegible]	[illegible]	Traffic	[illegible]	1/30/85
A.C.E.-Hydrology			Water	N/A	

DRAWING NO. 1075 | MAP NO. G-11 | SHEET 2 OF 4



THIS DRAINAGE PLAN SHOWS, (1.) EXISTING GRADES INDICATED BY CONTOURS AT ONE-HALF (0.5) FOOT INTERVALS, (2.) PROPOSED GRADES INDICATED BY SPOT ELEVATIONS AND CONTOURED AT ONE-TENTH (0.1') FOOT INTERVALS, (3.) PROPOSED PONDING AREAS, AND (4.) LIMITS AND CHARACTER OF THE PROPOSED IMPROVEMENTS.

THE CALCULATIONS WHICH APPEAR ON THE PLAN HEREON ANALYZE THE DEVELOPED CONDITIONS FOR THE 100-YEAR RAINFALL EVENT. THE RATIONAL METHOD IS USED IN ACCORDANCE WITH THE CITY OF ALBUQUERQUE DEVELOPMENT PROCESS MANUAL, VOLUME II.

THE DEVELOPMENT CONSISTS OF TWO (2) PROPOSED 4-PLEX APARTMENT BUILDINGS, ASPHALT PARKING AREAS, AND LANDSCAPE, LOCATED ON TWO (2) SEPARATE LOTS LOCATED ON YUCCA DRIVE, N.W., BETWEEN TUCSON ROAD, N.W. AND SEQUOIA ROAD, N.W.

THE SITE DOES NOT LIE WITHIN A FLOOD HAZARD ZONE, (AS INDICATED BY THE CITY FLOOD HAZARD BOUNDARY MAPS).

CONTROLLED DISCHARGE IS REQUIRED BECAUSE OF INADEQUATE DOWNSTREAM CAPACITY, IE., THERE IS FLOODING IMMEDIATELY NORTH OF THE SITE ON YUCCA DRIVE, N.W.; THEREFORE, A MAXIMUM AMOUNT OF PONDING IS PROPOSED WITHIN THE LANDSCAPED AREAS AND WHICH ALSO OVERLAPS INTO PORTIONS OF THE ASPHALT PARKING AREA. THE PROPOSED PONDING ALLOWS POSITIVE DISCHARGE TO TUCSON DRIVE, N.W.; IT IS PROPOSED THAT ALL DRAINAGE BE DIRECTED IN SHEET FLOW INTO THE PONDS.

RUNOFF INCREASE CALCULATION:

LOT SIZE = 7,200 SQ.FT. (EACH LOT)
UNDEVELOPED STAGE ⇒ $7{,}200 \times \left(\frac{0.6}{12}\right) \times 0.6 = 57.6$ C.F.
DEVELOPED 100-YEAR VOLUME:
PERVIOUS: $2135 \times \left(\frac{2.2}{12}\right)(0.6) = 170.8$ C.F.
IMPERVIOUS: $5363 \left(\frac{2.2}{12}\right)(0.9) = 911.7$ C.F. 170.8 + 911.7 = 1082.5 C.F.
1082.5 - 57.6 = 507.0 C.F.

BECAUSE OF THE SIZE AND SLOPE OF THE TRIBUTARY SITE MINIMUM T_c IS USED
$\therefore T_c$ = 10 MINUTES. 6-HOUR RAINFALL VOLUMES IN 100-YR. FREQUENCY USED = 2.2"

$I = (2.2)(6.84)(10)^{-0.51}$
$\therefore I = \frac{(2.2)(6.84)}{(10)^{0.51}} = \frac{(2.2)(6.84)}{3.2357} = 4.65$ IN./HR. ≈ 5" IN./HR.

TOTAL AREA = 7,200.0 SQ.FT.
IMPERVIOUS AREA = 5,300 S.F. PERVIOUS AREA = 1,900 S.F.
PERCENT IMPERVIOUS = 73.6%

$C_{AVG} = \frac{(0.6)(1900) + (0.9)(5300)}{7200} = 0.768$

FROM THE MAP ON PLATE 22.2 D-1, RAINFALL = 2.2 IN.
$Q_{PEAK} = CiA$ C = 0.77 i = 4.65 A = 7,200 S.F. = 0.1653 ACRE
$Q_{PEAK} = (0.77)(4.65)(0.1653) = 0.5918$ C.F.S.
2-4" DIAMETER PIPES EACH LOT
MAXIMUM OUTFLOW USING "ORIFICE" EQUATION FOR 4" Ø PIPE
$Q = .6\,A\sqrt{2gh} = .6 \cdot 0.0873\sqrt{2 \cdot 32.2 \cdot 2} = .2657$ C.F.S.
$A = 12.57\ in^2 = .0873\ ft^2$
$h = 2.2 - 1.8 = 0.4$
PEAK Q OUT = 2 X .2657 = .5315
TOTAL RAINFALL VOLUME = 1,018 CU.FT. (EACH LOT)
$Q_{in} = Q_{PEAK} = .5918$ C.F.S. EACH LOT
POND VOLUME REQUIRED = 151 CU.FT. EACH LOT

BENCH MARK:

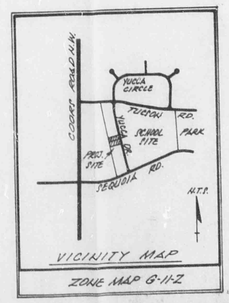
STATION "VALLEY S108 1985 Rg 1950", A BRASS CAP SET ON TOP OF A CONCRETE POST NEAR THE INTERSECTION OF VISTA DRIVE N.W. AND NORTHERN AVENUE, N.W.; M.S.L. DATUM ELEVATION = 5111.397

LEGEND:

- 102.0 — EXISTING CONTOURS
- 02.2 EXISTING SPOT ELEVATIONS
- 102.5 PROPOSED CONTOURS
- 02.7 PROPOSED SPOT ELEVATIONS
- EXTENT OF NEW PAVEMENT
- DRAINAGE FLOW

LEGAL DESCRIPTION:

LOTS "18-F" AND "18-G", CORONA DEL SOL SUBDIVISION, TO THE CITY OF ALBUQUERQUE, BERNALILLO COUNTY, NEW MEXICO; (PLAT FILED: 8-3-72, BK. C8-164).



VICINITY MAP
ZONE MAP G-11-Z

NOTES

NOTICE TO CONTRACTORS

1) New Mexico Standard Specifications for Public Works Construction-1979 Edition will be referred to hereon as the "Standard Specifications."
2) All work detailed on these plans to be performed under contract shall, except as otherwise stated or provided for hereon, be constructed in accordance with "Contract Documents for City-Wide Utilities and Cash Paving No. 30 and the Standard Specifications."
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 or survey so that the conflict can be resolved with minimum of delay.

THE FOLLOWING NOTES APPLY WHEN CHECKED:

- [x] ALL UTILITIES AND UTILITY SERVICE LINES SHALL BE INSTALLED PRIOR TO PAVING.
- [x] BACKFILL COMPACTION SHALL BE ACCORDING TO SPECIFIC STREET USE, (CRITERIA).

RECEIVED
AUG 24 1983
ENGINEERING

REVISIONS

AUGUST 1, 1983 — SEAL OF — 8148 — REGISTERED PROFESSIONAL ENGINEER — STATE OF NEW MEXICO

ENGINEER 8/24/83 — ARCHITECT

PROPOSED 4-PLEX APARTMENTS FOR PACHECO CONST. CO.

PROJECT NO. P-11-A — DATE 7-20-83

SHEET 1 OF 1

CHKD. BY _____ DATE _____ SUBJECT _____ SHEET NO _____ OF _____

CLIENT Drainage Calcs JOB NO _____

engineering associates, inc. • 1840 Lomas Blvd., NE • Albuquerque, NM 87106 • (505) 242-7522

Pond Volume Calculations

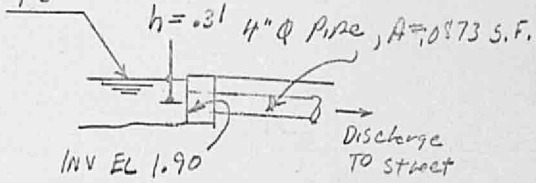
(Calculations are for one Lot - Calculations For other Lot Identical)

Q_{peak} = .5918 CFS

V_{100} = 1014 Cu Ft

100 year pond elevation:

Trial Max Pond Elev 5102.38 Ft



Sect 22.3 of D.P.M.

Section 2. Orifice Equation - to be used for Submerged opening

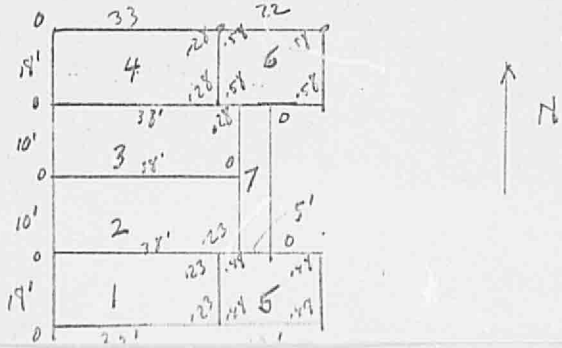
Max Q out = $CA\sqrt{2gh}$ = .6 · .0873 · $\sqrt{2 \cdot 32.2 \cdot .31}$ = .23 CFS

Max Q out occurs at Max Volume

Max Volume = 628 Cu Ft (Sh 2)

Volume of Water Beneath 5102.38 ft = 632 Cu Ft ≅ 628 Cu Ft.

(Estimated By using earthwork Calculation with the grids shown below - See sh 3)



DRAPHIX INC. 16303

City of Albuquerque
P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

December 14, 1983

Mr. August F, Mosimann, P.E.
Engineering Associates, Inc.
1840 Lomas NE
Albuquerque, New Mexico 87106

RE: PACHECO FOUR-PLEX DRAINAGE PLAN (G11-D20)

Dear Mr. Mosimann:

The above mentioned plan, as revised December 13, 1983, is hereby approved. Please be sure that approved copies of "Drainage Facilities Within City Right-of-Way" are attached to the permit sets prior to submittal to Hydrology for sign-off.

If you should have any further questions please feel free to contact me at 766-7644.

Thank you,

John Armstrong
Civil Engineer-Hydrology

JA/ca

City of Albuquerque
P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

FILE COPY

September 27, 1983

Mr. August F. Mosimann, P.E.
Engineering Associates, Inc.
1840 Lomas NE
Albuquerque, NM 87106

REF: PACHECO 4-PLEX DRAINAGE PLAN (G11-D20)

Dear Mr. Mosimann:

These are my comments on the above mentioned plan:

1. Offsite flows need to be quantified and addressed.

2. Offsite grades need to be shown along with enough detail to show how grade changes of property lines are to be handled and that offsite flows will not be blocked or flows from this property will not cross property lines.

3. Show finished floor elevation of adjacent buildings.

4. Show roof drains and doors.

5. Show section through existing curb along with flow line elevations.

6. Does an approved design exist for the alley grades? If so, does this plan agree with the approved grades? If not, the alley will require an approved design.

7. Standard drawing K-15 does not allow for asbestos cement pipe. Approved copies of special order #19 need to be attached to the permit sets prior to Hydrology sign-off.

8. For lots this small, only one 4" pipe can be allowed per lot (except in certain cases where it is impossible).

9. If common ponding is to be used, easements will be required.

10. Show pond sections, high water elevations, volume calculations, and emergency spillway calculations.

11. City standards call for the right-of-way line elevation to be 1.0 foot above the flow line in the curb.

Detention Basin Calculations

Maximum Runoff Rate = .59 cfs

Time to Peak Runoff = 10 MIN

Runoff Volume = 1014 CU FT

Peak Discharge = .23 cfs

Time to Peak Discharge= 40 min

Time (min)	Qin (cfs)	Vin (CuFt)	Qout (cfs)	Vout (CuFt)	Vnet (CuFt)	
0	0.00	0	0.00	0	0	
2	.12	7	.01	1	6	
4	.24	28	.02	3	26	
6	.36	64	.03	6	58	
8	.47	114	.05	11	103	
10	.59	178	.06	17	160	
12	.57	247	.07	25	222	
14	.54	314	.08	34	280	
16	.52	377	.09	44	333	
18	.49	437	.10	56	382	
20	.47	495	.12	69	426	
22	.44	549	.13	83	466	
24	.42	601	.14	99	501	
26	.39	649	.15	117	533	
28	.37	695	.16	135	559	
30	.34	737	.17	155	582	
32	.32	776	.18	177	600	
34	.29	813	.20	199	613	
36	.27	846	.21	224	622	
38	.24	876	.22	249	627	
40	.21	904	.23	276	628	← Max Vol. Detained on site
42	.19	928	.23	303	625	
44	.16	949	.22	330	619	
46	.14	967	.22	356	611	
48	.11	983	.21	382	600	
50	.09	995	.21	408	587	
52	.06	1004	.20	432	572	
54	.04	1010	.20	457	554	
56	.01	1014	.20	480	533	
57	0.00	1014	.19	493	521	

```
JOB NAME;
JOB NUMBER;
DATE;
*****************************

EARTHWORK PROGRAM

WIDTH OF DRID= 18 FT.
LENGTH OF GRID= 33 FT.
GRID NUMBER; 1
--------------------------------
GRID H1=  0.00 FT
GRID H2=  0.00 FT
GRID H3=   .23 FT
GRID H4=   .23 FT
FILL VOLUME=      2.53 C.Y.


GRID NUMBER; 4
--------------------------------
GRID H1=  0.00 FT
GRID H2=  0.00 FT
GRID H3=   .28 FT
GRID H4=   .28 FT
FILL VOLUME=      3.08 C.Y.


WIDTH OF DRID= 10 FT.
LENGTH OF GRID= 38 FT.
GRID NUMBER; 2
--------------------------------
GRID H1=  0.00 FT
GRID H2=  0.00 FT
GRID H3=  0.00 FT
GRID H4=   .23 FT
FILL VOLUME=       .81 C.Y.


GRID NUMBER; 3
--------------------------------
GRID H1=  0.00 FT
GRID H2=  0.00 FT
GRID H3=  0.00 FT
GRID H4=   .28 FT
FILL VOLUME=       .99 C.Y.


WIDTH OF DRID= 18 FT.
LENGTH OF GRID= 22 FT.
GRID NUMBER; 5
--------------------------------
GRID H1=   .48 FT
GRID H2=   .48 FT
GRID H3=   .48 FT
GRID H4=   .48 FT
FILL VOLUME=      7.04 C.Y.


GRID NUMBER; 6
--------------------------------
GRID H1=   .58 FT
GRID H2=   .58 FT
```

12. Address nuisance waters.

13. City standard drawing P-11 calls for drivepad to extend to the property line.

14. The orfice equation is not sufficient to calculate the capacity of the 4" pipe. Use the equations in DPM, Section 22.3.

15. In future submittals, please refer to the DPM checklist, Section 22.7 p. 106 to 109.

If you have any further questions, please feel free to call me at 766-7644.

Sincerely,

John Armstrong
Civil Engineer/Hydrology

JA:mrk

INFORMATION SHEET

PROJECT TITLE Pacheco 4-Plex Apartments — TYPE OF SUBMITTAL Grading Plan

ZONE ATLAS PAGE NO. G-11-Z020 — CITY ADDRESS Yucca Drive N. W.

LEGAL DESCRIPTION Lots 18-F and 18-G, Corona Del Sol Subdivision

ENGINEERING FIRM Engineering Associates, Inc. — CONTACT August F. Mosimann,P.E.

ADDRESS 1840 Lomas N. E. — PHONE 242-7522

OWNER La Colline Realty — CONTACT Edward Martinez

ADDRESS 10700Menaul Blvd. N. E. Albuq. — PHONE 292-7579

ARCHITECT n/a — CONTACT

ADDRESS — PHONE

SURVEYOR George T. Rodriguez — CONTACT George T. Rodriguez

ADDRESS 11035 Central N. E., Albuq., 87123 — PHONE 296-5978

CONTRACTOR Pacheco Construction Co. — CONTACT Danny Pacheco

ADDRESS 3933 Las Vegas S. W. Albuq., 87105 — PHONE 877-6138

DATE SUBMITTED August 24, 1983

BY August F. Mosimann,P. E.

RECEIVED
AUG 24 1983
ENGINEERING

GRID H3= .58 FT
GRID H4= .58 FT
FILL VOLUME= 8.51 C.Y.

WIDTH OF GRID= 5 FT.
LENGTH OF GRID= 20 FT.
GRID NUMBER; 7

GRID H1= 0.00 FT
GRID H2= 0.00 FT
GRID H3= .23 FT
GRID H4= .28 FT
FILL VOLUME= .47 C.Y.

BALANCE VOLUME= 23.42 C.Y.

TOTAL FILL= 23.42 C.Y.

TOTAL CUT= 0.00 C.Y.

END OF QUANTITIES
632.430000002

James Inris
August F. Mosimann

engineering associates, inc.

G11-D20

1801
Lomas Boulevard, NW
Albuquerque, N. M.
87104
(505) 242-7522

TRANSMITTAL LETTER

PROJECT:
(name, address)

Pacheco 4-Plex Drainage

PROJECT NO.

DATE: 12-7-83

TO:
City of Albuquerque
Fred J. Aguirre, PE
Civil Engineer/Hydrology
P O Box 1293
Albuquerque, New Mexico 87103

ATTN:
Fred J. Aguirre, PE

WE ARE SENDING:

COPIES	DATE	DESCRIPTION
2	12-7-83	Revised site plan
2	12-7-83	Drainage Calculations
2	12-7-83	Special order 19's

REMARKS:

Pacheco 4-Plex Drainage

RECEIVED
DEC 07 1983
ENGINEERING

BY: August F. Mosimann
FOR ENGINEERING ASSOCIATES, INC.

BY _____ DATE _____ SUBJECT Pecheco 4 Plex SHEET NO 4 OF 4

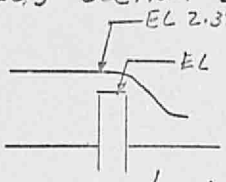
CHKD. BY _____ DATE _____ CLIENT _____ JOB NO. _____

engineering associates, inc. • 1840 Lomas Blvd., NE • Albuquerque, NM 87106 • (505) 242-7522

Offsite Flows will be 14" High Rock Road Ties placed at Rear of Property along Alley

Spillway Calculation

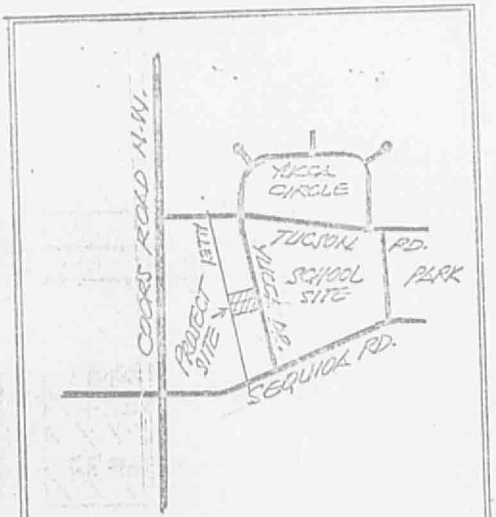
(DPM 22.3 Section 1)



$Q = C L H^{3/2}$

$= .6 \cdot 18 \cdot (0.2)^{3/2} = 0.966$ CFS

> 0.5718 CFS



CITY ZONE MAP G-11-Z

H.T.S.

RECEIVED
DEC 13 1983
ENGINEERING

LEGAL DESCRIPTION: LOTS "18-G" & "18-F", CORONA DEL SOL SUBDIVISION, ALBUQUERQUE, NEW MEXICO, (PLAT FILED: 8-3-72, BK C-8, F. 164)

OWNER:
PACHECO CONSTRUCTION CO.

ENGINEER'S SEAL

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 "Contract Documents for City-Wide Utilities and Cash Paving No. 51 "

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 with a minimum amount of delay.

5. Backfill compaction shall be according to RESIDENTIAL street use.

APPROVALS	NAME	DATE
A.C.E./DESIGN	C. Pruden	12/13/83
INSPECTOR		
A.C.E./FIELD		

TITLE: 4-PLEX APARTMENTS FOR PACHECO CONSTRUCTION CO. 3109 & 3112 YUCCA NW

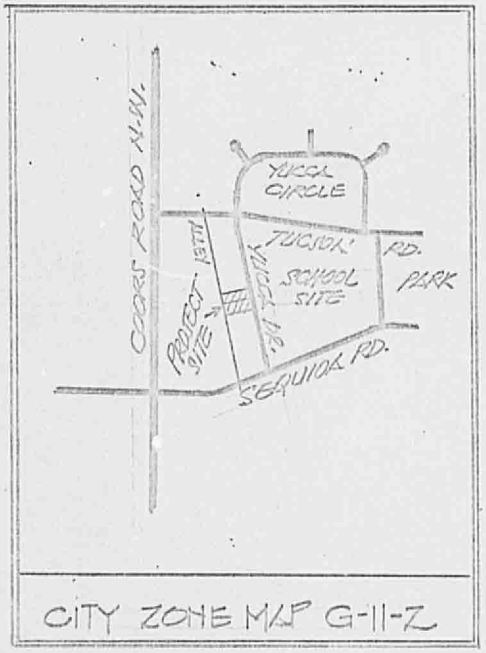
PERMIT NO.
SHEET 1 OF 2 SHEETS
MAP NO. G-11

C-159

CITY OF ALBUQUERQUE

DRAINAGE FACILITIES WITHIN CITY RIGHT-OF-WAY

VICINITY MAP



CITY ZONE MAP G-11-Z



H.T.S.

LEGAL DESCRIPTION: LOTS "18-G" & "18-F", CORONA DEL SOL SUBDIVISION, ALBUQUERQUE, NEW MEXICO, (PLAT FILED: 8-3-72, BK C-8, F. 164)

OWNER:
PACHECO CONSTRUCTION CO.



ENGINEERS SEAL

NOTICE TO CONTRACTOR

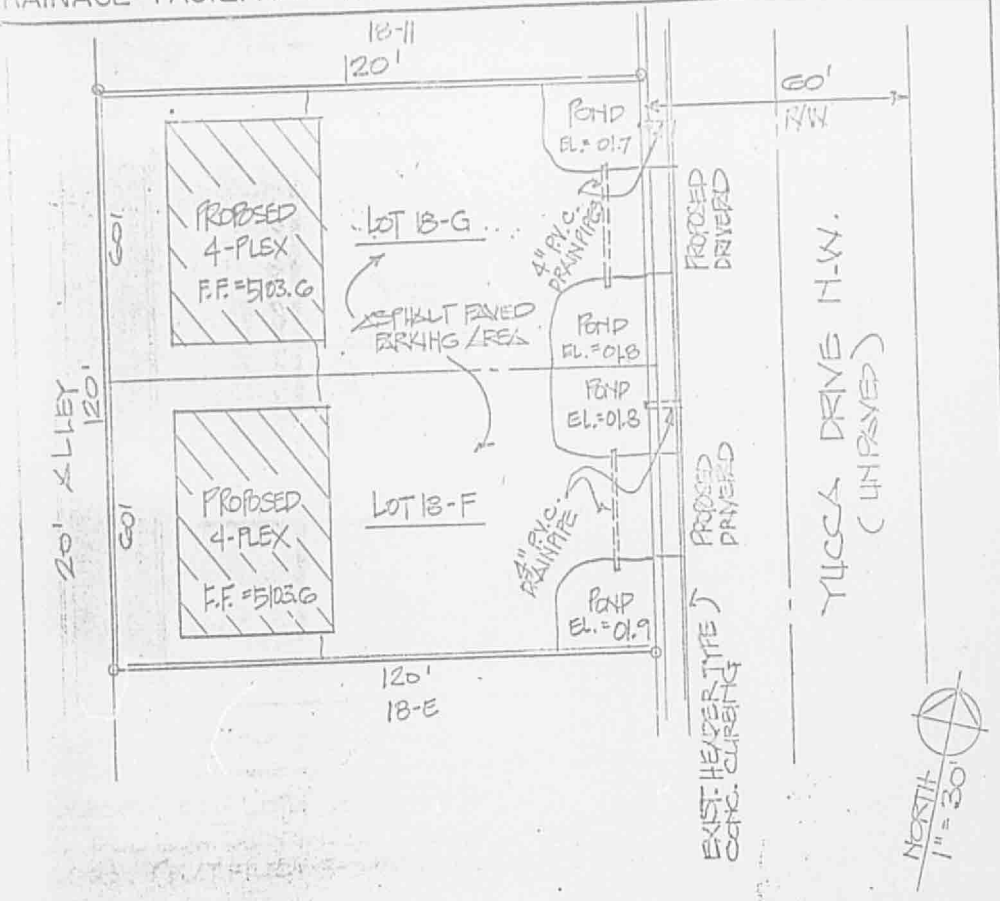
1. An excavation/construction permit will be required before beginning any work within City right-of-way. An approved copy of these plans must be submitted at the time of application for this permit.
2. All work detailed on these plans to be performed, except as otherwise stated or provided hereon, shall be constructed in accordance with "Contract Documents for City-Wide Utilities and Cash Paving No. 31"
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 with a minimum amount of delay.
5. Backfill compaction shall be according to RESIDENTIAL street use.

APPROVALS	NAME	DATE
A.C.E./DESIGN		
INSPECTOR		
A.C.E./FIELD		

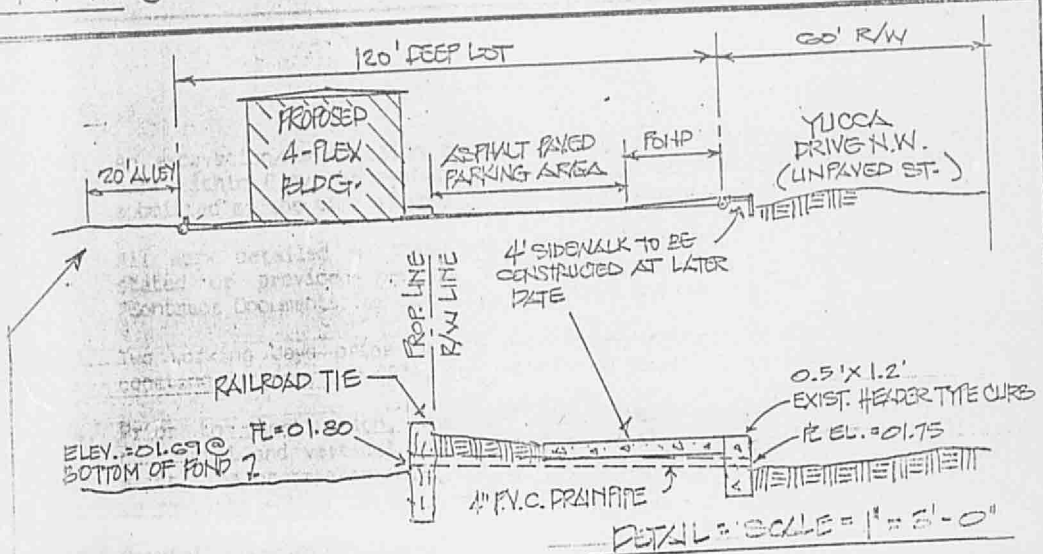
TITLE: 4-PLEX APARTMENTS FOR PACHECO CONSTRUCTION CO.

PERMIT NO.
SHEET OF 2 SHEETS
MAP NO. G-11

DRAINAGE FACILITIES WITHIN CITY RIGHT-OF-WAY



PLAN (SCALE: 1" = 30')



PROFILE (SCALE: 1" = 30')

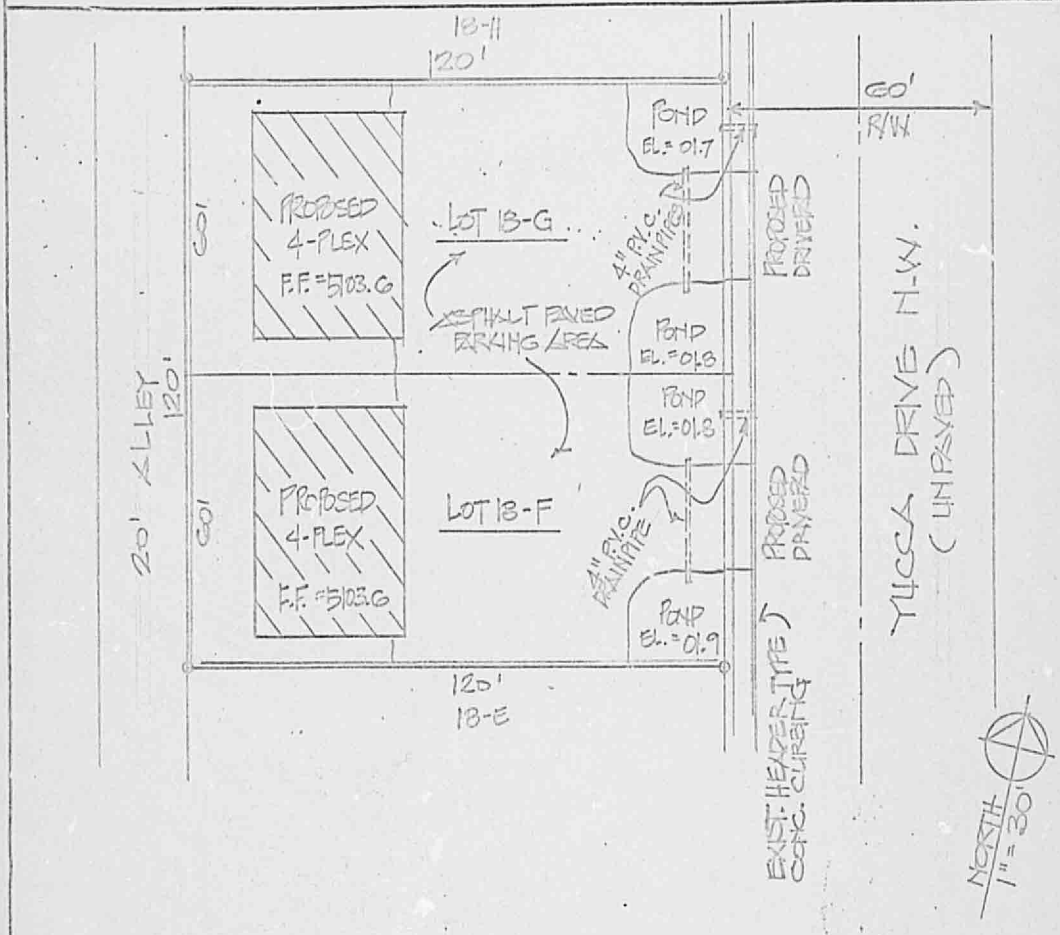
APPROVALS	NAME	DATE
A.C.E./DESIGN	C. Tomlinson	12/13/83
INSPECTOR		
A.C.E./FIELD		

TITLE: 4-PLEX APARTMENTS FOR FISCHECO CONSTRUCTION CO.

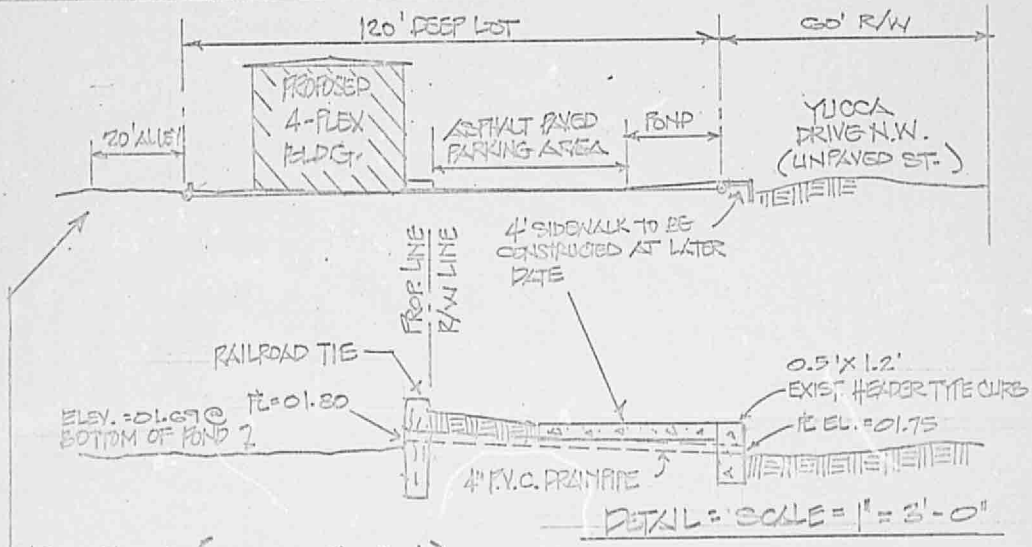
PERMIT NO.
SHEET 2 OF 2 SHEETS
MAP NO. G-11

CITY OF ALBUQUERQUE

DRAINAGE FACILITIES WITHIN CITY RIGHT-OF-WAY



PLAN (SCALE: 1" = 30')



PROFILE (SCALE: 1" = 30')

APPROVALS	NAME	DATE
A.C.E./DESIGN		
INSPECTOR		
A.C.E./FIELD		

TITLE: 4-PLEX APARTMENTS FOR PACHECO CONSTRUCTION CO.

PERMIT NO.

SHEET 2 OF 2 SHEETS

MAP NO.

CHKD. BY _____ DATE _____ CLIENT Drainage Calcs SHEET NO 1 OF _____ JOB NO _____

engineering associates, inc. • 1840 Lomas Blvd., N.E. • Albuquerque, NM 87106 • (505) 242-7522

Pond Volume Calculations

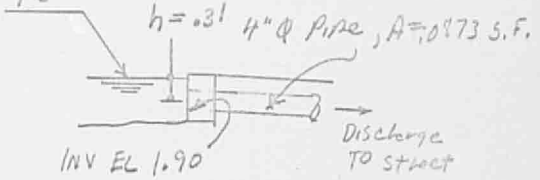
(Calculations are for one Lot – Calculations For other Lot Identical)

Q_{peak} = .5918 CFS

V_{100} = 1014 Cu Ft

100 year pond elevation:

Trial Max Pond Elev 5102.38 Ft



Sect 22.3 of D.P.M.

Section 2. Orifice Equation – to be used for Submerged opening

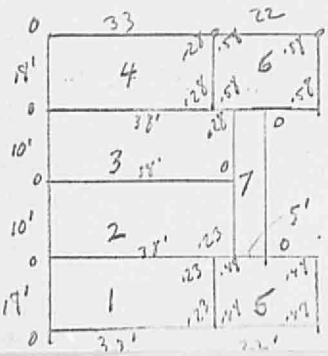
Max Q out = $CA\sqrt{2gh}$ = .6 · .0873 · $\sqrt{2 \cdot 32.2 \cdot .31}$ = .23 CFS

Max Q out occurs at Max Volume

Max Volume = 628 Cu Ft (Sh 2)

Volume of Water Beneath 5102.38 ft = 632 Cu Ft ≅ 628 Cu Ft.

(Estimated By using earthwork Calculation with the grids shown below – See sh 3)



DRAPHIX INC. 16303

Detention Basin Calculations

Pacheco 4-Plex

Maximum Runoff Rate = .59 cfs

Time to Peak Runoff = 10 MIN

Runoff Volume = 1014 CU FT

Peak Discharge = .53 cfs

Time to Peak Discharge= 18 min

Time (min)	Qin (cfs)	Vin (CuFt)	Qout (cfs)	Vout (CuFt)	Vnet (CuFt)	
0	0.00	0	0.00	0	0	
2	.12	7	.06	4	4	
4	.24	28	.12	14	14	
6	.36	64	.18	32	32	
8	.47	114	.24	57	57	
10	.59	178	.30	89	89	
12	.57	247	.35	128	119	
14	.54	314	.41	174	140	
16	.52	377	.47	227	150	
18	.49	437	.53	287	150	← Req'd Basin Volume
20	.47	495	.51	349	146	
22	.44	549	.48	409	140	
24	.42	601	.46	466	135	
26	.39	649	.44	520	129	
28	.37	695	.41	571	124	
30	.34	737	.39	619	118	
32	.32	776	.37	665	111	
34	.29	813	.34	708	105	
36	.27	846	.32	748	98	
38	.24	876	.30	785	91	
40	.21	904	.28	819	84	
42	.19	928	.25	851	77	
44	.16	949	.23	880	69	
46	.14	967	.21	906	62	
48	.11	983	.18	929	54	
50	.09	995	.16	949	46	
52	.06	1004	.14	967	37	
54	.04	1010	.11	982	29	
56	.01	1014	.09	994	20	
57	0.00	1014	.08	999	15	

RECEIVED
AUG 24 1983
ENGINEERING

Detention Basin Calculations

Pacheco 4-Plex

Maximum Runoff Rate = .59 cfs

Time to Peak Runoff = 10 MIN

Runoff Volume = 1014 CU FT

Peak Discharge = .53 cfs

Time to Peak Discharge= 18 min

Time (min)	Qin (cfs)	Vin (CuFt)	Qout (cfs)	Vout (CuFt)	Vnet (CuFt)	
0	0.00	0	0.00	0	0	
2	.12	7	.06	4	4	
4	.24	28	.12	14	14	
6	.36	64	.18	32	32	
8	.47	114	.24	57	57	
10	.59	178	.30	89	89	
12	.57	247	.35	128	119	
14	.54	314	.41	174	140	
16	.52	377	.47	227	150	
18	.49	437	.53	287	150	← Req'd. Basin Volume
20	.47	495	.51	349	146	
22	.44	549	.48	409	140	
24	.42	601	.46	466	135	
26	.39	649	.44	520	129	
28	.37	695	.41	571	124	
30	.34	737	.39	619	118	
32	.32	776	.37	665	111	
34	.29	813	.34	708	105	
36	.27	846	.32	748	98	
38	.24	876	.30	785	91	
40	.21	904	.28	819	84	
42	.19	928	.23	851	77	
44	.16	949	.23	880	69	
46	.14	967	.21	906	62	
48	.11	983	.18	929	54	
50	.09	995	.16	949	46	
52	.06	1004	.14	967	37	
54	.04	1010	.11	982	29	
56	.01	1014	.09	994	20	
58	0.00	1014	.08	999	15	

RECEIVED
AUG 24 1983
ENGINEERING

Detention Basin Calculations

Maximum Runoff Rate = .59 cfs

Time to Peak Runoff = 10 MIN

Runoff Volume = 1014 CU FT

Peak Discharge = .23 cfs

Time to Peak Discharge= 40 min

Time (min)	Qin (cfs)	Vin (CuFt)	Qout (cfs)	Vout (CuFt)	Vnet (CuFt)	
0	0.00	0	0.00	0	0	
2	.12	7	.01	1	6	
4	.24	28	.02	3	26	
6	.36	64	.03	6	58	
8	.47	114	.05	11	103	
10	.59	178	.06	17	160	
12	.57	247	.07	25	222	
14	.54	314	.08	34	280	
16	.52	377	.09	44	333	
18	.49	437	.10	56	382	
20	.47	495	.12	69	426	
22	.44	549	.13	83	466	
24	.42	601	.14	99	501	
26	.39	649	.15	117	533	
28	.37	695	.16	135	559	
30	.34	737	.17	155	582	
32	.32	776	.18	177	600	
34	.29	813	.20	199	613	
36	.27	846	.21	224	622	
38	.24	876	.22	249	627	
40	.21	904	.23	276	628	← Max Vol. Detained on site
42	.19	928	.23	303	625	
44	.16	949	.22	330	619	
46	.14	967	.22	356	611	
48	.11	983	.21	382	600	
50	.09	995	.21	408	587	
52	.06	1004	.20	432	572	
54	.04	1010	.20	457	554	
56	.01	1014	.20	480	533	
57	0.00	1014	.19	493	521	

John R. Fernandez
1723 Valley Road S.W.
Albuquerque, New Mexico 87105

April 1, 1981

Mr. Bruno Conegliano
Mr. Fred Aguirre
Mr. John Andrews

Gentlemen:

This letter is to inform you that I am aware of the drainage situation in the area of Yucca Street, brtween Sequoia and Tucson,N.W.

I realize that these streets need to be taken into consideration on a drainage system in this area.

Therefore I agree not to protest a drainage assessment on my property.

Sincerely Yours

John R. Fernandez

```
JOB NAME;
JOB NUMBER;
DATE;
*********************************

EARTHWORK PROGRAM

WIDTH OF DRID= 18 FT.
LENGTH OF GRID= 33 FT.
GRID NUMBER; 1
---------------------------------
GRID H1=  0.00 FT
GRID H2=  0.00 FT
GRID H3=   .23 FT
GRID H4=   .23 FT
FILL VOLUME=       2.53 C.Y.


GRID NUMBER; 4
---------------------------------
GRID H1=  0.00 FT
GRID H2=  0.00 FT
GRID H3=   .28 FT
GRID H4=   .28 FT
FILL VOLUME=       3.08 C.Y.


WIDTH OF DRID= 10 FT.
LENGTH OF GRID= 88 FT.
GRID NUMBER; 2
---------------------------------
GRID H1=  0.00 FT
GRID H2=  0.00 FT
GRID H3=  0.00 FT
GRID H4=   .23 FT
FILL VOLUME=        .81 C.Y.


GRID NUMBER; 3
---------------------------------
GRID H1=  0.00 FT
GRID H2=  0.00 FT
GRID H3=  0.00 FT
GRID H4=   .28 FT
FILL VOLUME=        .99 C.Y.


WIDTH OF DRID= 18 FT.
LENGTH OF GRID= 22 FT.
GRID NUMBER; 5
---------------------------------
GRID H1=   .48 FT
GRID H2=   .48 FT
GRID H3=   .48 FT
GRID H4=   .48 FT
FILL VOLUME=       7.04 C.Y.


GRID NUMBER; 6
---------------------------------
GRID H1=   .58 FT
GRID H2=   .58 FT
```

GRID H3= .58 FT
GRID H4= .58 FT
FILL VOLUME= 8.51 C.Y.

WIDTH OF DRID= 5 FT.
LENGTH OF GRID= 20 FT.
GRID NUMBER; 7

GRID H1= 0.00 FT
GRID H2= 0.00 FT
GRID H3= .23 FT
GRID H4= .28 FT
FILL VOLUME= .47 C.Y.

BALANCE VOLUME= 23.42 C.Y.

TOTAL FILL= 23.42 C.Y.

TOTAL CUT= 0.00 C.Y.

END OF QUANTITIES
632.430000002

3625 Yucca Drive
Disapproved 3/17/81
Bernie Montoya

Note check marked Items

Office of the City Engineer
Building Plans
Drainage Review

Date Issued _____

Gentlemen:

In order to expedite the passage of building construction plans through the drainage review we have compiled this list of requirements. With a few exceptions, these requirements are complete.

(1) Any building site 1.00 acres or larger will require a formal drainage report prepared by a professional engineer licensed to practice in New Mexico. This report must be submitted to the office of the Asst. City Engineer/Hydrology for review and acceptance prior to submission of construction plans for review.

(2) Before attempting to submit a set of plans for a building located in a flood hazard area, contact the Drainage Division. Failure to do this will often result in much lost time.

(3) When construction plans are submitted, the following items must be included:

(A) A grading plan showing:

1) existing contours extending approximately 10 feet beyond the property line. If it is not feasible to provide contours beyond the property line, spot elevations, at the the property line, designated as existing and proposed may be substituted.

BY _____ DATE _____ SUBJECT Pecheco 4 Plex SHEET NO 4 OF 4

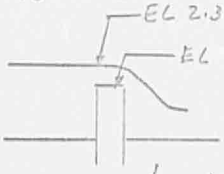
CHKD BY _____ DATE _____ CLIENT _____ JOB NO. _____

engineering associates, inc. • 1840 Lomas Blvd., NE • Albuquerque, NM 87106 • (505) 242-7522

Offsite Flows will be 14" High Rock Road Ties placed at Rear of Property Along Alley

Spillway Calculation

(DPM 22.3 Section 1)



$Q = C L H^{3/2}$

$= .6 \cdot 18 \cdot (0.2)^{3/2} = 0.966$ CFS

> 0.591 CFS

2) proposed contours at one foot intervals and proposed spot elevations at key points.

3) finish building floor elevation (s).

4) notes defining asphalt, sidewalks, planting areas, ponding areas, property line, and any other areas whose definition would increase clarity.

3-26-81 JJH

5) proposed alley grades, if property abuts a dedicated unpaved alley. These grades are available, at no charge, from the City Engineer's office. An advance request will expedite your project.

B) A drainage plan showing:

1) direction of roof drainage including canales, gutters, and downspouts.

2) outlined contributory drainage areas, including roof areas.

3) swales with top and bottom spot elevations.

4) curb and sidewalk spot elevations.

5) flow lines with arrows and spot elevations for confirmation.

C) If ponding is required the drainage plan must also show:

1) calculations showing developed and undeveloped volumetric flow rate.

2) pond volume calculations.

3) that pond volumes balance with area contributing to the pond.

3.5) Close proximity of ponding to any structure requires the concurrence of a soils investigation report.

4) the pond overflow point with a spot elevation and slope protection if necessary.

5) positive discharge of ponds with required rate calculations and orifice calculations, if applicable.

D) A discussion of offsite flows must be included. If the contour maps disagree with the designers opinion of offsite flows, further information will be required.

E) A discussion of any other local conditions that effect site drainage should be included.

F) Details of ponds, curbcuts, water blocks, and any other significant drainage structures must be included.

G) The professional who designs the drainage scheme must affix his/her stamp to the drainage plan.

H) A copy of the ~~approved~~ drainage plan must also be included with the construction plans for drainage files, ~~only prior to inspection~~.

I) Construction in the public right of way requires approval, prior to construction, from the City Engineers office.

Approved_____

R. S. Heller

J) Indicate all easements on site: Location, width, and purpose

K) Provide a benchmark based on mean sea level datum with a description of said benchmark. or a assumed datum of 100' min
is benchmark going to be chiseled on the gutter, how can we locate it

L) Provide a location map with the zone atlas number and legal description.

M) Storm runoff must be routed over the drivepad or thru


SLOAN'S
ACRES
FLAMINGO HEIGHTS
R-T
R-2
R-3
LADERA HEIGHTS
SUB'D
C-1
O-1
SU-1
UNIVERSITY OF ALBUQUERQUE
SR 448
ST JOSEPH'S
TOWN OF
ATRISCO
Northeast
Unit
GRANT
CORONA
NORTHERN
HEIGHTS
Northeast
Unit
ADD
IBG
DEL
SOL
GRANDE
RANCHO
ATRISCO
HEIGHTS
ADD'N
G-11-Z


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DEL
SOL
NORTHERN
HEIGHTS
ADD
Northeast
Unit
GRANDE
HEIGHTS
RANCHO
ATRISCO
WEST
RIO
G-11-Z

3625 Yucca Drive

Disapproved 3/17/81

Bernie Montoya

Office of the City Engineer
Building Plans
Drainage Review

Note check marked Items

Date Issued _____

Gentlemen:

In order to expedite the passage of building construction plans through the drainage review we have compiled this list of requirements. With a few exceptions, these requirements are complete.

(1) Any building site 1.00 acres or larger will require a formal drainage report prepared by a professional engineer licensed to practice in New Mexico. This report must be submitted to the office of the Asst. City Engineer/Hydrology for review and acceptance prior to submission of construction plans for review.

(2) Before attempting to submit a set of plans for a building located in a flood hazard area, contact the Drainage Division. Failure to do this will often result in much lost time.

(3) When construction plans are submitted, the following items must be included:

(A) A grading plan showing:

1) existing contours extending approximately 10 feet beyond the property line. If it is not feasible to provide contours beyond the property line, spot elevations, at the the property line, designated as existing and proposed may be substituted.

2) proposed contours at one foot intervals and proposed spot elevations at key points.

3) finish building floor elevation (s).

4) notes defining asphalt, sidewalks, planting areas, ponding areas, property line, and any other areas whose definition would increase clarity.

5) proposed alley grades, if property abuts a dedicated unpaved alley. These grades are available, at no charge, from the City Engineer's office. An advance request will expedite your project.

B) A drainage plan showing:

1) direction of roof drainage including canales, gutters, and downspouts.

2) outlined contributory drainage areas, including roof areas.

3) swales with top and bottom spot elevations.

4) curb and sidewalk spot elevations.

5) flow lines with arrows and spot elevations for confirmation.

C) If ponding is required the drainage plan must also show:

1) calculations showing developed and undeveloped volumetric flow rate.

2) pond volume calculations.

3) that pond volumes balance with area contributing to the pond.

3.5) Close proximity of ponding to any structure requires the concurrence of a soils investigation report.

4) the pond overflow point with a spot elevation and slope protection if necessary.

5) positive discharge of ponds with required rate calculations and orifice calculations, if applicable.

D) A discussion of offsite flows must be included. If the contour maps disagree with the designers opinion of offsite flows, further information will be required.

E) A discussion of any other local conditions that effect site drainage should be included.

F) Details of ponds, curbcuts, water blocks, and any other significant drainage structures must be included.

G) The professional who designs the drainage scheme must affix his/her stamp to the drainage plan.

H) A copy of the ~~approved~~ drainage plan must be also included with the construction plans for drainage files, ~~only prior to inspection~~.

I) Construction in the public right of way requires approval, prior to construction, from the City Engineers office.

Approved _____

R. S. Heller

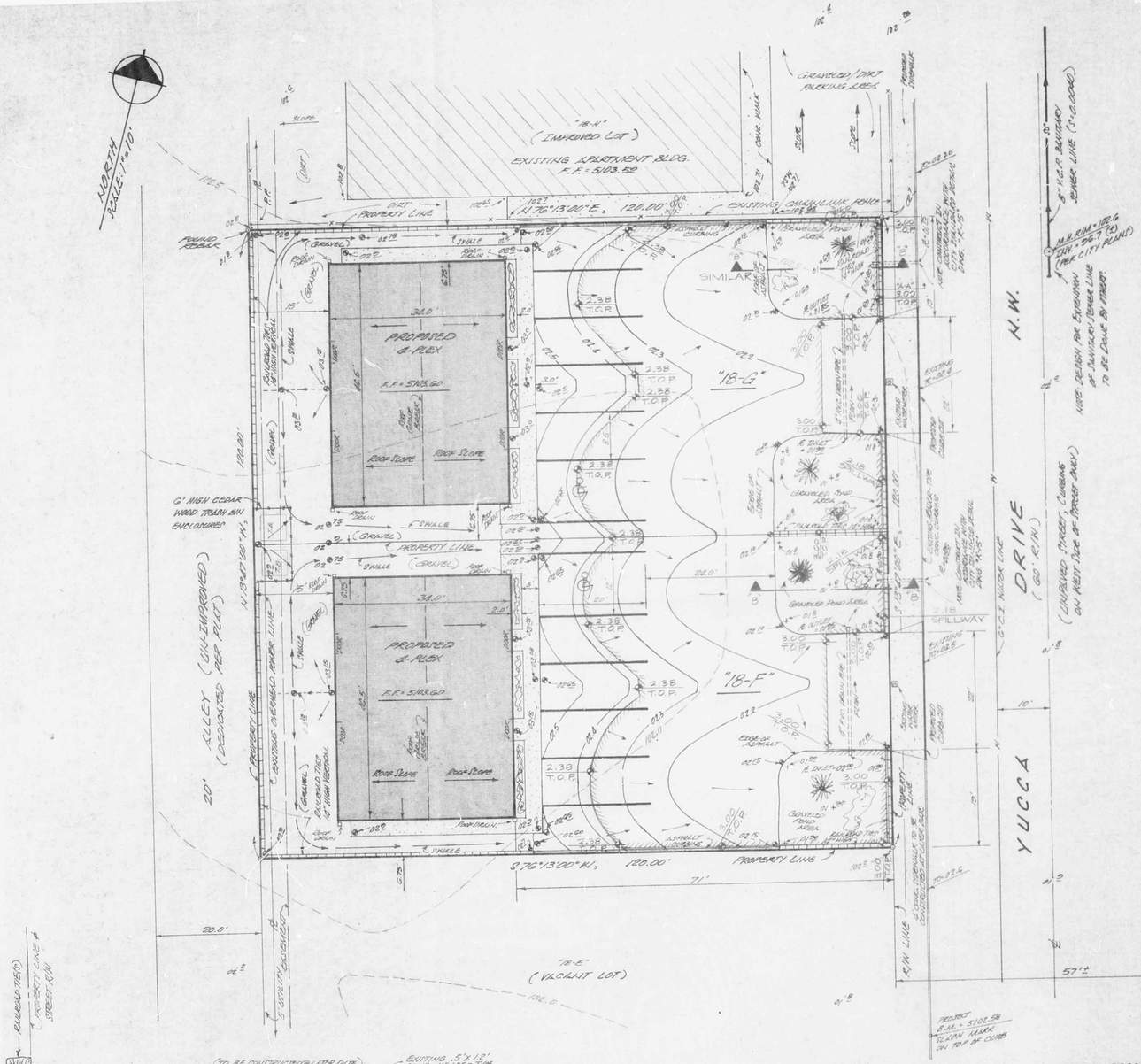
J) Indicate all easements on site: Location, width, and purpose

K) Provide a benchmark based on mean sea level datum with a description of said benchmark.
is benchmark going to be chiseled on the gutter, how can we locate it

L) Provide a location map with the zone atlas number and legal description.

M) Storm runoff must be routed over the drivepad or thru

G11-D20 PACHECO FOUR-PLEX APTS. 2 of 2



BENCH MARK:

STATION "VLBM 5108 NAVD Rg 1950", A BRASS CAP SET ON TOP OF C CONCRETE POST NEAR THE INTERSECTION OF VISTA DRIVE N.W. AND HARTMAN AVENUE, N.W.; M.S.L. DATUM ELEVATION = 5111.597

LEGEND:

- --102.0-- EXISTING CONTOURS
- 02.2 EXISTING SPOT ELEVATIONS
- 102.5 PROPOSED CONTOURS
- 02.7 PROPOSED SPOT ELEVATIONS
- EXTENT OF NEW PAVEMENT
- DRAINAGE FLOW
- T/W = TOP OF SIDEWALK
- TOP OF 100 YEAR POND
- T.O.P. = TOP OF POND.

LEGAL DESCRIPTION:

LOTS "18-F" AND "18-G", CORONA DEL SOL SUBDIVISION, TO THE CITY OF ALBUQUERQUE, BERNALILLO COUNTY, NEW MEXICO, (PLAT FILED: 8-3-78, BK. C8-164). ZONE OF SUBJECT SITE IS "R-2" ZONE.

THIS DRAINAGE PLAN SHOWS, (1.) EXISTING GRADES INDICATED BY CONTOURS AT ONE-HALF (0.5) FOOT INTERVALS, (2.) PROPOSED GRADES INDICATED BY SPOT ELEVATIONS AND CONTOURS AT ONE-TENTH (0.1') FOOT INTERVALS, (3.) PROPOSED PONDING AREAS, AND (4.) LIMITS AND CHARACTER OF THE PROPOSED IMPROVEMENTS.

THE CALCULATIONS WHICH APPEAR ON THE PLAN HEREON ANALYZE THE DEVELOPED CONDITIONS FOR THE 100-YEAR RAINFALL EVENT. THE RATIONAL METHOD IS USED IN ACCORDANCE WITH THE CITY OF ALBUQUERQUE DEVELOPMENT PROCESS MANUAL, VOLUME II.

THE DEVELOPMENT CONSISTS OF TWO (2) PROPOSED 4-PLEX APARTMENT BUILDINGS, ASPHALT PAVING AREAS, AND LANDSCAPE, LOCATED ON TWO (2) SEPARATE LOTS LOCATED ON YUCCA DRIVE, N.W., BETWEEN TUCSON ROAD, N.W. AND SEQUOIA ROAD, N.W..

THE SITE DOES NOT LIE WITHIN A FLOOD HAZARD ZONE, (AS INDICATED BY THE CITY FLOOD HAZARD BOUNDARY MAPS).

CONTROLLED DISCHARGE IS REQUIRED BECAUSE OF INADEQUATE DOWNSTREAM CAPACITY, I.E., THERE IS FLOODING IMMEDIATELY NORTH OF THE SITE ON YUCCA DRIVE, N.W.; THEREFORE, A MAXIMUM AMOUNT OF PONDING IS PROVIDED WITHIN THE UNDEVELOPED AREAS AND WHICH ALSO OVERLAPS INTO PORTIONS OF THE ASPHALT PAVING AREA. THE PROPOSED PONDING ALLOWS POSITIVE DISCHARGE TO TUCSON DRIVE, N.W.; IT IS PROPOSED THAT ALL DRAINAGE BE DIRECTED IN SHEET FLOW INTO THE POND.

RUNOFF INCREASE CALCULATION:

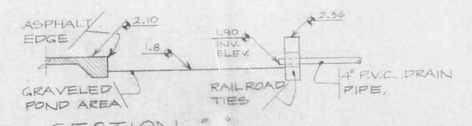
LOT SIZE = 7,200 SQ.FT. (EACH LOT)
UNDEVELOPED STATE ⇒ 7,200 × (7.9/12) × 0.4 = 576 C.F.
DEVELOPED 100-YEAR VOLUME:
PERVIOUS: 2135 × (7.9/12)(0.4) = 170.8 C.F.
IMPERVIOUS: 5363 (7.9/12)(0.9) = 911.7 C.F. 170.8 + 911.7 = 1082.5 C.F.
1082.5 - 576.0 = 507.0 C.F.

BECAUSE OF THE SIZE AND SLOPE OF THE DRAINAGE BASIN, THE MINIMUM T_C IT IS USED:
∴ T_C = 10 MINUTES. 6-HOUR RAINFALL VOLUMES IN 100-YR. FREQUENCY
USED = 2.2"
I = (2.2)(6.84)(10)^-0.51 = (2.2)(6.84)/3.2359 = 4.65 IN./HR. ≈ 5" IN./HR.
∴ I = (2.2)(6.84)/(10)^0.51 = (2.2)(6.84)/3.2359 = 4.65 IN./HR. ≈ 5" IN./HR.

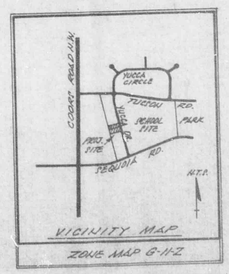
TOTAL AREA = 7,200.0 SQ.FT.
IMPERVIOUS AREA = 5,300 S.F. PERVIOUS AREA = 1,900 S.F.
PERCENT IMPERVIOUS = 73.6%
C_AVG. = [(0.4)(1900) + (0.9)(5300)]/7200 = 0.768

FROM THE MAP ON PLATE 22.2 D-1, RAINFALL = 2.2 IN.
Q_PEAK = CIA C = 0.77 I = 4.65 A = 7,200 S.F. = 0.1653 ACRES
Q_PEAK = (0.77)(4.65)(0.1653) = 0.5918 C.F.S.

TOTAL RAINFALL VOLUME = 1,014 CU. FT. (EACH LOT)
Q_10 = Q_PEAK = .5918 C.F.S. EACH LOT
100 YEAR VOLUME RETAINED ON EACH LOT = 632 CU. FT.



SECTION



VICINITY MAP
ZONE MAP G-11-Z

NOTES

NOTICE TO CONTRACTORS

1) New Mexico Standard Specifications for Public Works Construction -1979 Edition will be referred to hereon as the "Standard Specifications."
2) All work detailed on these plans to be performed under contract shall, except as otherwise stated or provided for hereon, be constructed in accordance with "Contract Documents for City-Wide Utilities and Cash Paving No. 30 and the Standard Specifications."
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 or survey so that the conflict can be resolved with minimum of delay.

THE FOLLOWING NOTES APPLY WHEN CHECKED:

- [✓] ALL UTILITIES AND UTILITY SERVICE LINES SHALL BE INSTALLED PRIOR TO PAVING.
- [✓] BACKFILL COMPACTION SHALL BE ACCORDING TO BRICHAC STREET SITE, (MATERIAL).

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DEC 07 1983
ENGINEERING

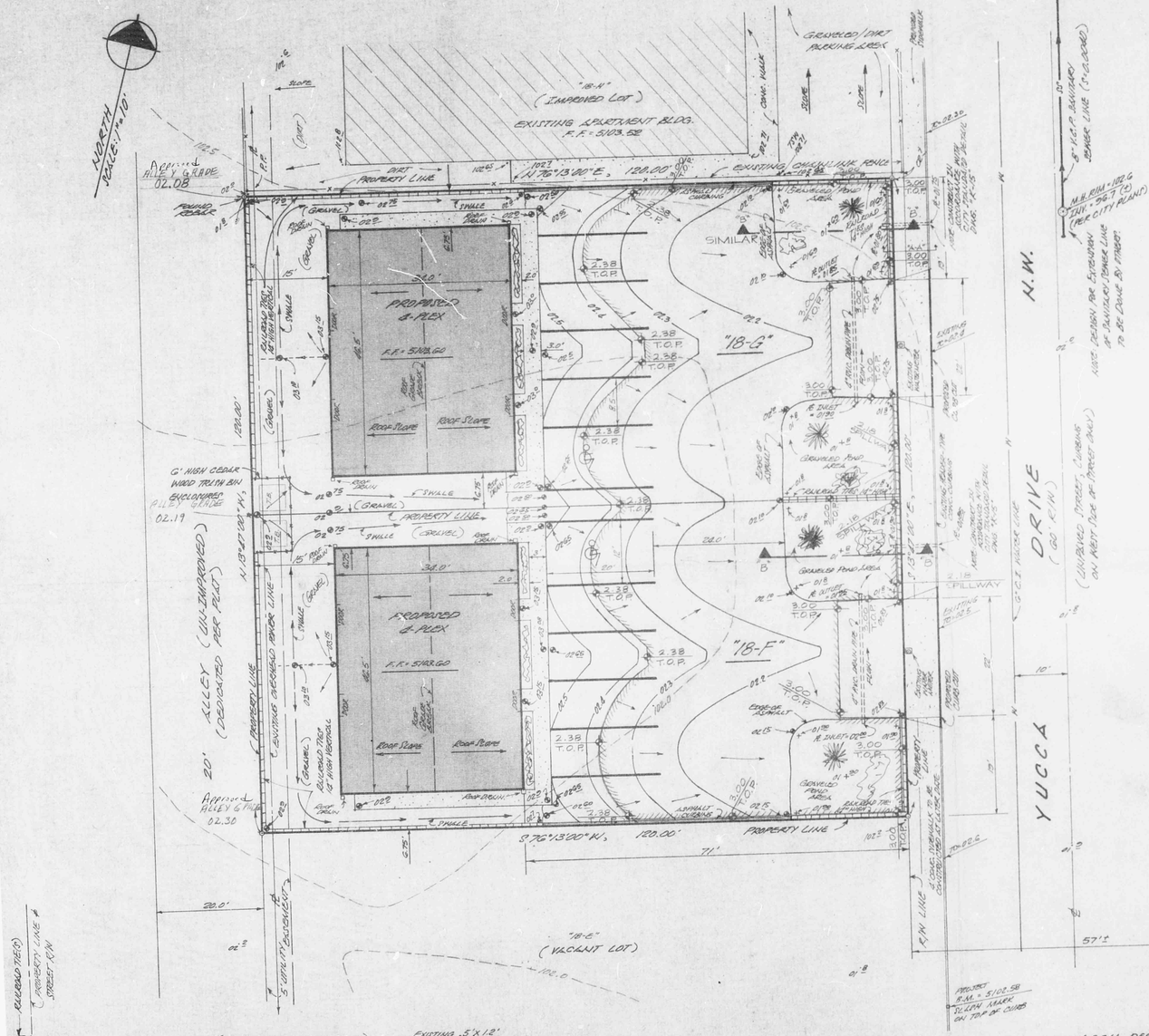
2.) REVISION TO DRAINAGE DESIGN (12-6-83)
1.) RAISE TOP BACK LINE FROM 13' TO 15' (5-2-83)
REVISIONS

ENGINEER | ARCHITECT

PROPOSED 4-PLEX APARTMENTS FOR PACHECO CONST. CO.

PROJECT NO. P-11-A | DATE 7-20-83

SHEET 1 OF 1



RECEIVED
DEC 13 1983
ENGINEERING

THIS DRAINAGE PLAN SHOWS, (1.) EXISTING GRADES INDICATED BY CONTOURS AT ONE-HALF (0.5') FOOT INTERVALS, (2.) PROPOSED GRADES INDICATED BY SPOT ELEVATIONS AND CONTOURS AT ONE-TENTH (0.1') FOOT INTERVALS, (3.) PROPOSED PONDING AREAS, AND (4.) LIMITS AND CHARACTER OF THE PROPOSED IMPROVEMENTS.

THE CALCULATIONS WHICH APPEAR ON THIS PLAN HEREON ANALYZE THE DEVELOPED CONDITIONS FOR THE 100-YEAR RAINFALL EVENT. THE RATIONAL METHOD IS USED IN ACCORDANCE WITH THE CITY OF ALBUQUERQUE DEVELOPMENT PROCESS MANUAL, VOLUME II.

THE DEVELOPMENT CONSISTS OF TWO (2) PROPOSED 4-PLEX APARTMENT BUILDINGS, ASPHALT PARKING AREAS, AND LANDSCAPE, LOCATED ON TWO (2) SEPARATE LOTS LOCATED ON YUCCA DRIVE, N.W., BETWEEN TUCSON ROAD, N.W. AND SEQUOIA ROAD, N.W.

THE SITE DOES NOT LIE WITHIN A FLOOD HAZARD ZONE, (AS INDICATED BY THE CITY FLOOD HAZARD BOUNDARY MAP).

CONTROLLED DISCHARGE IS REQUIRED BECAUSE OF INADEQUATE DOWNSTREAM CAPACITY, IE., THERE IS FLOODING IMMEDIATELY NORTH OF THE SITE ON YUCCA DRIVE, N.W.; THEREFORE, A MAXIMUM AMOUNT OF PONDING IS PROPOSED WITHIN THE LANDSCAPED AREAS AND WHICH ALSO OVERLAPS INTO PORTIONS OF THE ASPHALT PARKING AREA. THE PROPOSED PONDING ALLOWS POSITIVE DISCHARGE TO YUCCA DRIVE, N.W.; IT IS PROPOSED THAT ALL DRAINAGE BE DIVERTED IN SHEET FLOW INTO THE POND.

RUNOFF INCREASE CALCULATION:

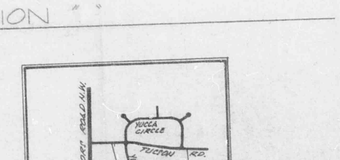
LOT SIZE = 7,200 SQ. FT. (EACH LOT)
UNDEVELOPED RUNOFF = $7{,}200 \times \left(\frac{2.9}{43}\right) \times 0.4 = 57.6$ C.F.
DEVELOPED 100-YEAR VOLUME:
PERVIOUS: $2135 \times \left(\frac{2.9}{43}\right)(0.4) = 170.8$ C.F.
IMPERVIOUS: $5363 \left(\frac{2.9}{43}\right)(0.9) = 911.7$ C.F. 170.8 + 911.7 = 1082.5 C.F.
1082.5 − 57.6 = 507.2 C.F.

BECAUSE OF THE SIZE AND SLOPE OF THE DRAINAGE SITE, MINIMUM T_c IS USED
$\therefore T_c$ = 10 MINUTES. 6-HOUR RAINFALL VOLUMES IN 100-YR. FREQUENCY
USED = 2.0"
$I = (2.0)(6.84)^{(10)^{-0.51}} = \frac{(2.2)(6.84)}{(10)^{0.51}} = \frac{(2.2)(6.84)}{3.2359} = 4.65$ IN./HR. ≈ 5" IN./HR.

TOTAL AREA = 7,200.0 SQ. FT. PERVIOUS AREA = 1,900 S.F.
IMPERVIOUS AREA = 5,300 S.F.
PERCENT IMPERVIOUS = 73.6 %
$C_{AVE} = \frac{(0.2)(1900) + (0.9)(5300)}{7200} = 0.768$

FROM THE MAP ON PLATE 22.2 D-1, RAINFALL = 2.2 IN.
$Q_{PEAK} = CLA$ C = 0.77 L = 3.65 A = 7,200 S.F. = 0.1653 ACRE
$Q_{PEAK} = (0.77)(3.65)(0.1653) = 0.5918$ C.F.S.

TOTAL RAINFALL VOLUME = 1,016 CU. FT. (EACH LOT)
$Q_{in} = Q_{PEAK} = .5918$ C.F.S. EACH LOT
100 YEAR VOLUME RETAINED ON EACH LOT = 632 CU. FT.



VICINITY MAP
ZONE MAP G-11-Z

NOTES

NOTICE TO CONTRACTORS

1) New Mexico Standard Specifications for Public Works Construction -1979 Edition will be referred to herein as the "Standard Specifications."
2) All work detailed on these plans to be performed under contract shall, except as otherwise stated or provided for herein, be constructed in accordance with "Contract Documents for City-Wide Utilities and Cash Paving No. 30 and the Standard Specifications."
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 or survey so that the conflict can be resolved with minimum of delay.

THE FOLLOWING NOTES APPLY WHEN CHECKED:

- [x] ALL UTILITIES AND UTILITY SERVICE LINES SHALL BE INSTALLED PRIOR TO PAVING.
- [x] BACKFILL COMPACTION SHALL BE ACCORDING TO SPECIFIC STREET USE, (ARTERIAL).

RECEIVED
DEC 13 1983
HYDROLOGY SECTION
Approved 12/14/83
(3) ALLEY GRADES (12/13/83)
(2) ADDITIONS TO DRAINAGE DESIGN (12-1-83)
(1) REVISE 20' BLOCK LINE FROM 10' TO 15' (7-7-83)
REVISIONS

ENGINEER | ARCHITECT

PROPOSED 4-PLEX APARTMENTS FOR PACHECO CONST. CO.

PROJECT NO. P-11-A | DATE 7-20-83

SHEET 1 OF 1