"HEAVEN 1969"
USC & GS Brass Cap
N.M. State Plane Coordinates (Central Zone)
X= 407,051.31 Y= 1,518,737.03
Ground-to-Grid Factor = 0.99965263
= -00°10'45"
Elev. = 5378.787

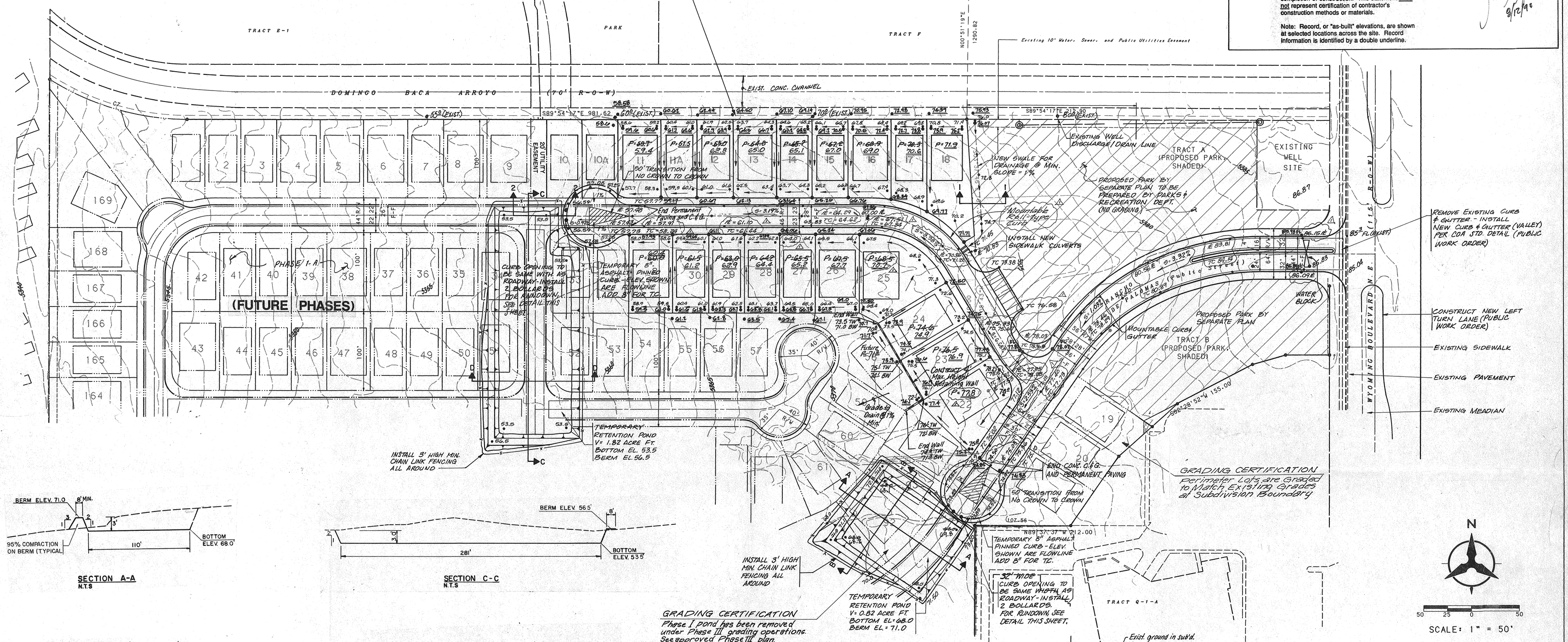
GRADING CERTIFICATION

I, James R. Topmiller, P.E. #9354, hereby certify that grading at this site is constructed in substantial compliance with this plan, to allow the implementation of the drainage patterns and requirements identified herein. Side yard garden walls will be constructed concurrently with individual home construction, which will implement required side yard swales. As-built grade elevations were verified by field surveys performed by Aldrich Surveying during July, 1993, after completion of construction. This statement does not represent certification of contractor's construction methods or materials.

Note: Record, or "as-built" elevations, are shown at selected locations across the site. Record information is identified by a double underline.

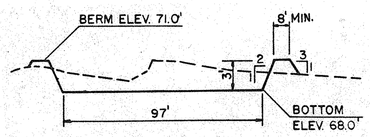
JAMES L. TOPMILLER NEW MEXICO 9354 REGISTERED PROFESSIONAL ENGINEER

9/12/96

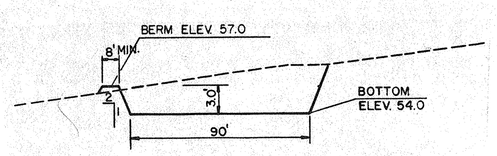


SECTION A-A
N.T.S

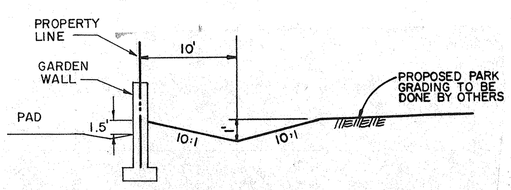
SECTION C-C
N.T.S



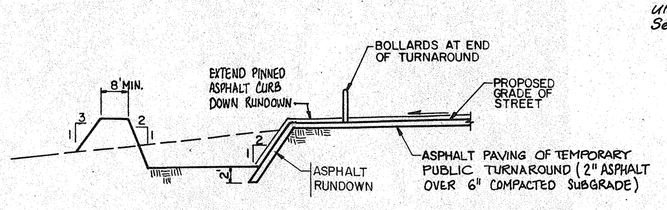
SECTION B-B
N.T.S



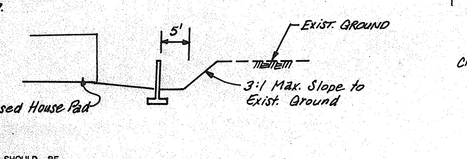
SECTION D-D
N.T.S



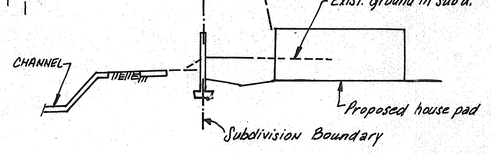
SECTION I-I
N.T.S



SECTION 2-2
N.T.S.



SECTION J-J
NTS



SECTION K-K
NTS

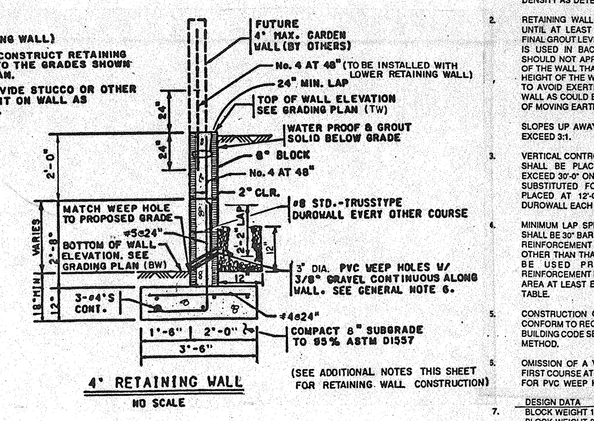
GENERAL NOTES:

1. RETAINING WALL FOOTINGS SHOULD BE EMBEDDED A MINIMUM OF EIGHTEEN INCHES BELOW LOWEST ADJACENT GRADE. PRIOR TO PLACING FOOTINGS, THE EXPOSED SOILS SHOULD BE SCARIFIED TO A DEPTH OF EIGHT INCHES (8"), MOISTURE CONDITIONED TO A NEAR OPTIMUM (-3%) MOISTURE CONTENT AND COMPACTED TO A MINIMUM OF 95% OF MAXIMUM DENSITY AS DETERMINED BY ASTM D-1557.
2. RETAINING WALL SHALL NOT BE BACKFILLED UNTIL AT LEAST 7 DAYS AFTER PLACING OF FINAL GROUT LEVEL. WHEN COMPACTION EQUIPMENT IS USED IN BACKFILLING, SUCH EQUIPMENT SHOULD NOT APPROACH CLOSER TO THE TOP OF THE WALL THAN A DISTANCE EQUAL TO THE HEIGHT OF THE WALL. CARE SHOULD BE TAKEN TO AVOID EXERTING IMPACT FORCES ON THE WALL AS COULD BE CAUSED BY A LARGE MASS OF MOVING EARTH.
   SLOPES UP AWAY FROM WALLS SHOULD NOT EXCEED 3:1.
3. VERTICAL CONTROL JOINTS WITH PVC INSERTS SHALL BE PLACED AT INTERVALS NOT-TO-EXCEED 30'-0" ON CENTER. PILASTERS MAY BE SUBSTITUTED FOR CONTROL JOINTS WHEN PLACED AT 12'-0" INTERVALS. DISCONTINUE DUROWALL EACH SIDE OF PILASTERS.
4. MINIMUM LAP SPLICE ON REINFORCING BARS SHALL BE 30" BAR DIAMETERS OR 1'-4" MINIMUM. REINFORCEMENT OF A SIZE AND SPACING OTHER THAN THAT GIVEN IN THE TABLES MAY BE USED PROVIDING SUCH OTHER REINFORCEMENT FURNISHES AN AREA OF STEEL AREA AT LEAST EQUAL TO THAT GIVEN IN THE TABLE.
5. CONSTRUCTION OF RETAINING WALLS SHALL CONFORM TO REQUIREMENTS OF THE UNIFORM BUILDING CODE SECTION 24, LOWLIFT GROUTING METHOD.
6. OMISSION OF A VERTICAL MORTAR JOINT ON FIRST COURSE AT 48" O.C. MAY BE SUBSTITUTED FOR PVC WEEP HOLES.
7. DESIGN DATA
   BLOCK WEIGHT 12" = 130 PSF
   BLOCK WEIGHT 8" = 85 PSF
   SOIL WEIGHT = 120PCF
   EQUIV. FLUID PRESSURE = 35 PCS
   SOIL BEARING PRESSURE = 1500 PSF (1/3 INCREASE FOR WIND/SEISMIC)
   COEFFICIENT OF FRICTION = 0.4
   PASSIVE SOIL PRESSURE = 300 PCF
   CONCRETE f'c (28 DAYS) = 3000 PSI
   GROUT STRENGTH = 2000 PSI
   CMU GRADE N = 1500 PSI (GROUTED)
   REINFORCEMENT = 60 ASTM A-615
8. CONTRACTOR SHALL NOTIFY ENGINEER PRIOR TO CONCRETE FOOTING POUR FOR INSPECTION OF COMPACTION UNDER FOOTING, FOOTING DEPTH AND WIDTH AND WALL STEEL AND SPACING. FINAL INSPECTION OF FOOTING AND WALL WILL BE REQUIRED.
9. CONTRACTOR SHALL BE RESPONSIBLE FOR CODE ADMINISTRATION APPROVAL AND FEES ASSOCIATED WITH IT.

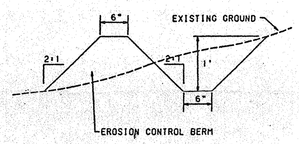
NOTES: (PER RETAINING WALL)

CONTRACTOR SHALL CONSTRUCT RETAINING WALL TO CONFORM TO THE GRADES SHOWN ON THE GRADING PLAN.

CONTRACTOR TO PROVIDE STUCCO OR OTHER EXTERIOR TREATMENT ON WALL AS REQUIRED BY OWNER.



4" RETAINING WALL
NO SCALE



EROSION CONTROL PLAN
NO SCALE

A BERM WITH THE DIMENSIONS SHOWN SHALL BE MAINTAINED DURING CONSTRUCTION UNTIL COMPLETION OF INDIVIDUAL HOMES WITHIN THE PROJECT. (SEE SHEET 2 OF 3 FOR LOCATION)

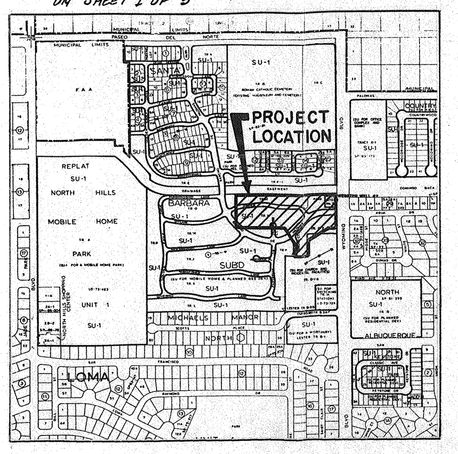
EROSION CONTROL MEASURES

1. THE CONTRACTOR SHALL ENSURE THAT NO SOIL ERODES FROM THE SITE INTO PUBLIC RIGHT-OF-WAY OR ONTO ADJACENT PRIVATE PROPERTY. THIS CAN BE ACHIEVED BY CONSTRUCTING BERMS AS REQUIRED AT THE PROPERTY LINES AND/OR OTHER LOCATIONS AS FINAL GRADING.
2. THE CONTRACTOR SHALL PROMPTLY CLEAN UP ANY MATERIAL EXCAVATED WITHIN THE PUBLIC RIGHT-OF-WAY SO THAT THE EXCAVATED MATERIAL IS NOT SUSCEPTIBLE TO BEING WASHED DOWN THE STREET.
3. THE CONTRACTOR SHALL SECURE "TOPSOIL DISTURBANCE PERMIT" PRIOR TO BEGINNING CONSTRUCTION. THE COST OF REQUIRED EROSION CONTROL MEASURES SHALL BE CONSIDERED INCIDENTAL TO THE PROJECT COST.
4. SEE SHEET 2 OF 3 FOR ADDITIONAL NOTES AND REQUIREMENTS.

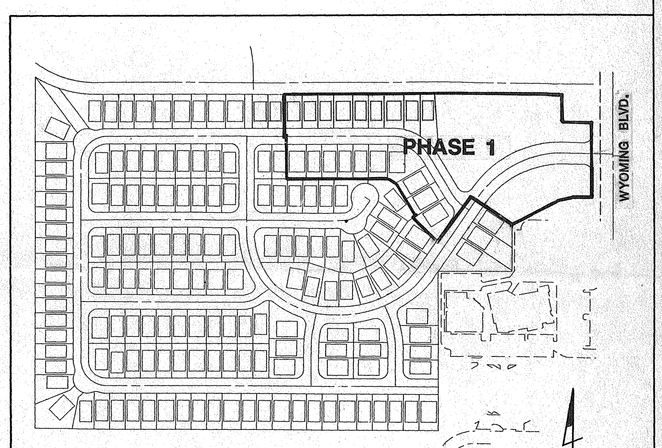
APPROVED FOR ROUGH GRADING (± 1.0')

HYDROLOGY ENGINEER — DATE 6-24-92

NOTE: EXCESS FILL SHALL BE PLACED IN THE LOCATION SHOWN ON SHEET 1 OF 3



LOCATION MAP
ZONE ATLAS MAP NO. D-19-Z
NO SCALE



KEY MAP
NO SCALE

Date	Revision	By
9-6-96	Revise Elevations	JRT

PALOMAS PARK SUBDIVISION

DRAINAGE/GRADING PLAN (DEVELOPED CONDITIONS)

PHASE 1

AUG 12 1993

JAMES L. TOPMILLER NEW MEXICO 9354 REGISTERED PROFESSIONAL ENGINEER

6-24-92

Project No.	
Seal	
Job No. 91181.04	Sheet 3 Of 3
Drawn By:	Date: 5/92
Checked By:	Scale: 1"=50'

BOHANNAN HUSTON INC.

USERNAME:CDP:EC9118104.PAD1
FILENAME:GRADE1.GRF

NOTE: Storm Drainage System is Public. Final location and design of storm drains and inlets to be coordinated through construction plan review @ DRC.

"HEAVEN 1969"
USC & GS Brass Cap
N.M. State Plane Coordinates (Central Zone)
X= 407,051.31 Y= 1,518,737.03
Ground-to-Grid Factor = 0.99965263
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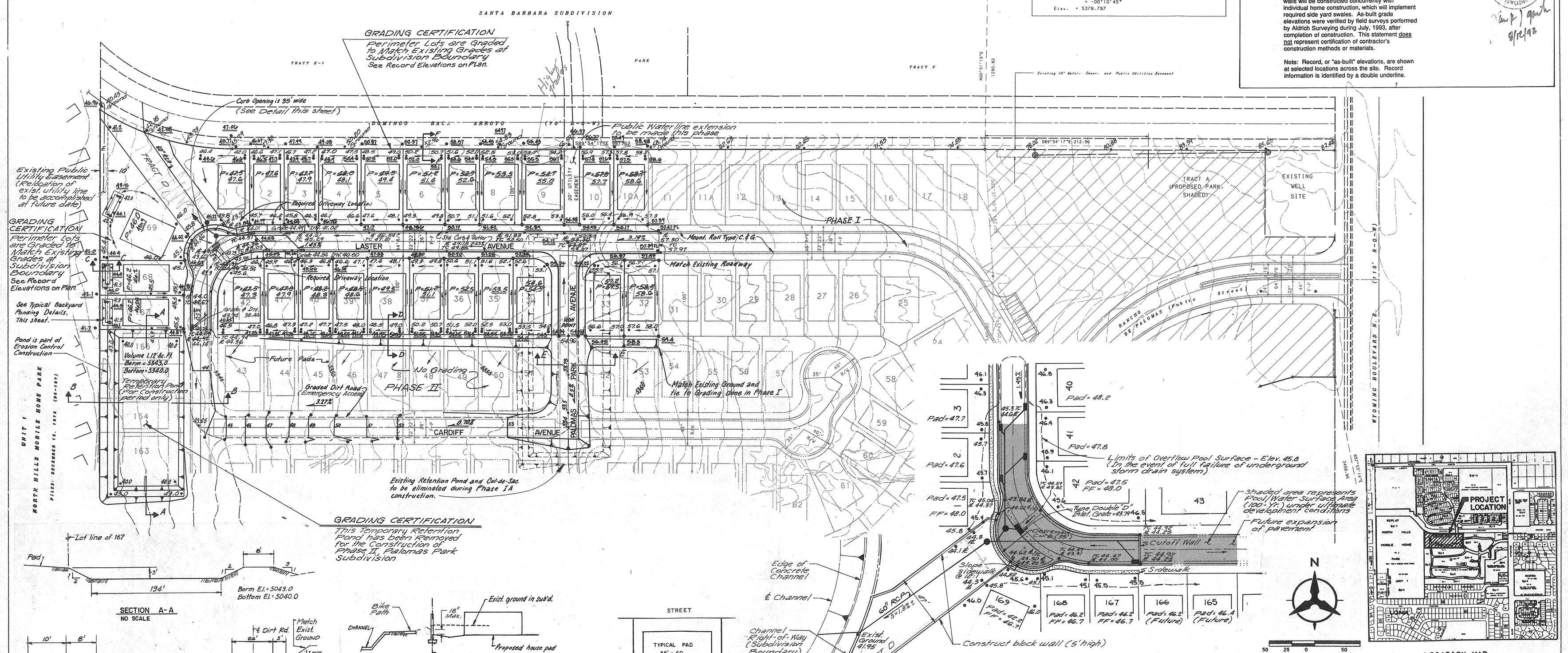
Elev. = 5378.787

GRADING CERTIFICATION

I, James R. Topmiller, P.E. #9354, hereby certify that grading at this site is constructed in substantial compliance with this plan, to allow the implementation of the drainage patterns and requirements identified herein. Side yard garden walls will be constructed concurrently with individual home construction, which will implement required side yard swales. As-built grade elevations were verified by field surveys performed by Aldrich Surveying during July, 1993, after completion of construction. This statement does not represent certification of contractor's construction methods or materials.

Note: Record, or "as-built" elevations, are shown at selected locations across the site. Record information is identified by a double underline.

JAMES R. TOPMILLER N.M. REGISTERED PROFESSIONAL ENGINEER 9354
9/12/93



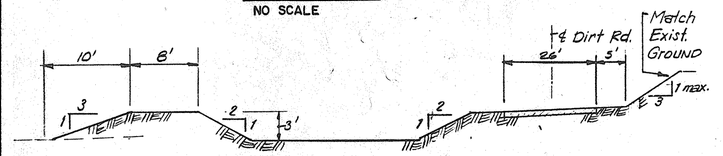
LOCATION MAP
ZONE ATLAS MAP NO. D-19-Z
NO SCALE

N

50 25 0 50
SCALE: 1" = 50'

DETAIL — OVERFLOW SECTION
NO SCALE

SECTION A-A
NO SCALE



SECTION B-B
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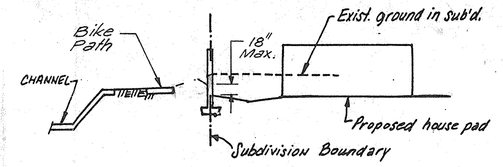

SECTION F-F
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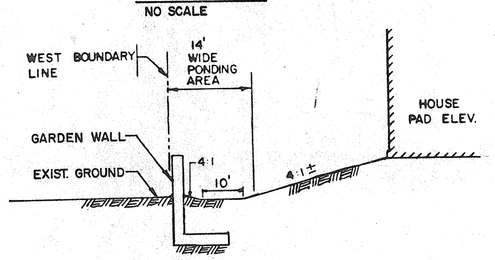

SECTION C-C
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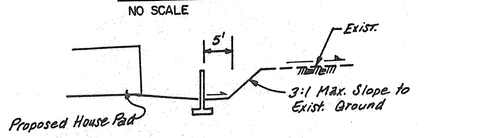

SECTION D-D
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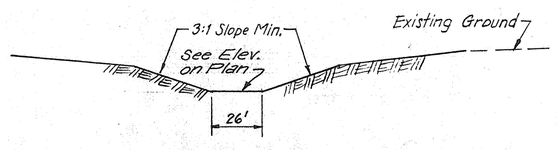

SECTION E-E
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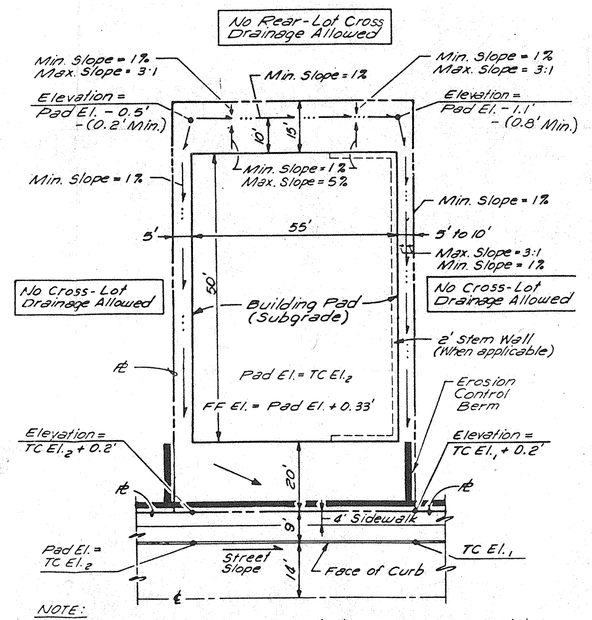
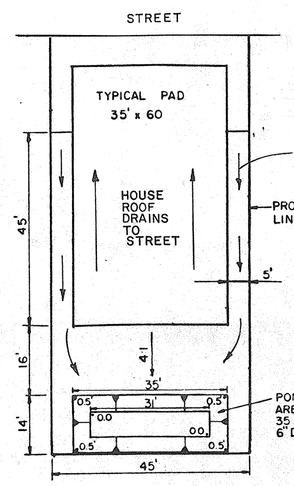
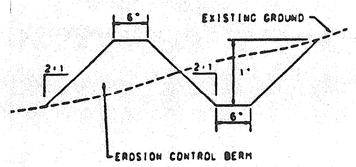


NOTE:
Side and rear-yard drainage allowed when side or rear-yard is adjacent to R.O.W. Weep holes shall be provided in side or rear property walls when walls are adjacent to R.O.W.

TYPICAL LOT GRADING
(UNLESS OTHERWISE SHOWN)
NOT TO SCALE



TYPICAL BACKYARD PONDING FOR LOTS ON BASIN 'L'
NO SCALE



EROSION CONTROL BERM
NO SCALE

A BERM WITH THE DIMENSIONS SHOWN SHALL BE MAINTAINED DURING CONSTRUCTION UNTIL COMPLETION OF INDIVIDUAL HOMES WITHIN THE PROJECT.

NOTICE TO CONTRACTORS

1. AN EXCAVATION/CONSTRUCTION PERMIT WILL BE REQUIRED BEFORE BEGINNING ANY WORK WITHIN THE 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 CITY OF ALBUQUERQUE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, 1986.
3. TWO WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT LINE LOCATION 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 CONSTRUCTIONS. 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 TO RESIDENTIAL STREET USE.
6. MAINTENANCE OF THESE FACILITIES SHALL BE THE RESPONSIBILITY OF THE OWNER OF THE PROPERTY SERVED.

GENERAL NOTES

1. CONTRACTOR MUST OBTAIN A TOPSOIL DISTURBANCE PERMIT FROM THE ENVIRONMENTAL HEALTH DIVISION PRIOR TO CONSTRUCTION.
2. THE CONTRACTOR IS REFERRED TO EARTHWORK SPECIFICATIONS AS NOTED IN THE SOILS REPORT PREPARED BY VINEYARD AND ASSOCIATES DATED MARCH 17, 1992.
3. THE CONTRACTOR SHALL CONFORM TO ALL CITY, COUNTY, STATE AND FEDERAL DUST CONTROL MEASURES AND REQUIREMENTS AND WILL BE RESPONSIBLE FOR PREPARING AND OBTAINING ALL NECESSARY APPLICATIONS AND APPROVALS.
4. THE CONTRACTOR SHALL ENSURE THAT NO SOIL ERODES FROM THE LOTS INTO PUBLIC RIGHT-OF-WAY. THIS CAN BE ACHIEVED BY CONSTRUCTING TEMPORARY BERMS AS PER DETAIL THIS SHEET AND WETTING THE SOIL TO KEEP IT FROM BLOWING.
5. ALL ELEVATIONS SHOWN FOR HOUSE/BUILDING FOOTPRINTS ARE PAD ELEVATIONS. ADD SLAB THICKNESS FOR FINISH FLOOR ELEVATIONS.
6. TOP OF CURB ELEVATIONS SHOWN ON THIS PLAN ARE SUFFICIENT FOR ROUGH GRADING ONLY.

TEXT & CALCULATIONS

DRAINAGE PLAN

PHASE 1A DRAINAGE PLAN CONFORMS TO THE OVERALL DRAINAGE PLAN OF THE ENTIRE SITE (SEE PALOMAS PARK SUBDIVISION DRAINAGE REPORT ON JUNE 1992 #D19-D1B).

CARDIFF STREET WILL BE DIRT GRADED AND PROVIDE ACCESS FOR THE INTERIM PHASE 1A.

THE RETENTION POND AT LOTS 163 TO 166 IS TO BE CONSTRUCTED TO RETAIN RUNOFF DURING ROUGH GRADING.

POND CALCULATIONS (TEMP. CONST.)

BASINS F,G,&J(SEE OVERALL GRADING PLAN SHT.)

TOTAL AREA OF EACH TREATMENT OF THE 3 BASINS COMBINED.

TREATMENT B 3.06 ACRES
TREATMENT C 1.25 ACRES
TREATMENT D 3.82 ACRES

TOTAL AREA 8.12 ACRES

100 YEAR-6 HR STORM IN ZONE 8

EXCESS PRECIPITATION (E)=

$$\frac{0.92"(3.06) + 1.29"(1.25) + 2.36"(3.82)}{8.12 \text{ ACRES}}$$

1.66 INCHES

RUNOFF VOLUME= $\frac{1.66"(8.12)}{12}$ =

1.12 AC-FT.

OVERFLOW @ TRACT D

WEIR ANALYSIS @ OVERFLOW SECTION (SEE DETAIL ABOVE)-

WIDTH OF OPENING (DEPRESSED CURB)= 35'
Q=150 CFS (100 YEAR STORM, ULTIMATE DEVELOPMENT)

C=3.0

$Q=CLH^{3/2}$ (WEIR EQUATION)

H=1.3' @ Q=150 CFS (ULTIMATE DEVELOPMENT)

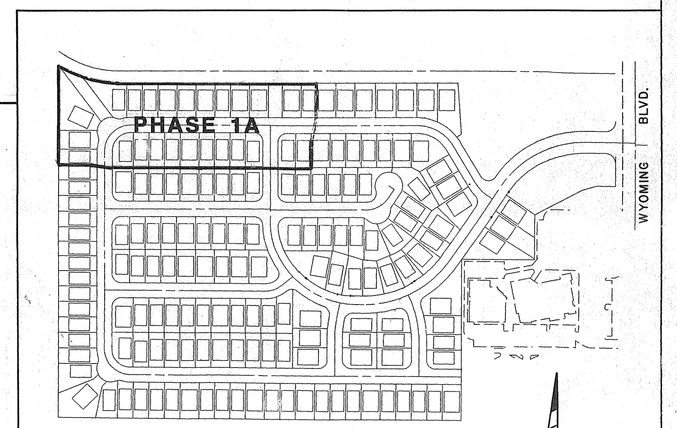
H=0.5' @ Q=31 CFS (PHASE 1, 1-A DEVELOPMENT)

IN PHASE 1, 1A DEVELOPMENT,FLOWS UNDER (31 CFS) WILL NOT OVERTOP THE CURB. IN ULTIMATE DEVELOPMENT, FLOW (150 CFS) EXCEEDS CURB (SEE PLAN ABOVE). HOWEVER, PROPOSED PADS ARE CONSTRUCTED 0.4' (MIN.) HIGHER THAN THE 45.8 ELEVATION OF THE OVERFLOW POOL WATER SURFACE.

CONDITION OF APPROVAL
PHASE I & IA BE ON THE SAME WORK ORDER DRAWINGS & PROJECT No., PHASE IA IMPROVEMENTS BE ACCEPTED BY CITY CONSTRUCTION PRIOR TO ACCEPTANCE OR WITH PHASE I. THE TEMPORARY RETENTION POND SHOWN ON THIS PLAN IS NOT ACCEPTABLE FOR PERMANENT ACCEPTANCE OF PHASE I, AS SHOWN ON THIS PLAN.

APPROVED FOR ROUGH GRADING (± 1')

Gilbert Aldrich 7-09-92
HYDROLOGY ENGINEER DATE



KEY MAP
NO SCALE

N
NORTH

Date	Revision	By

PALOMAS PARK SUBDIVISION

Project No.

Seal

JAMES R. TOPMILLER NEW MEXICO 9354 REGISTERED PROFESSIONAL ENGINEER

DRAINAGE/GRADING PLAN
(DEVELOPED CONDITIONS)

PHASE 1A

AUG 12 1993

Job No.	Sheet	1 Of 1
91181.04	Drawn By:	Date: 5/92
Checked By:	Scale:	1"=50'

ROMANIAN ASSOCIATES INC.

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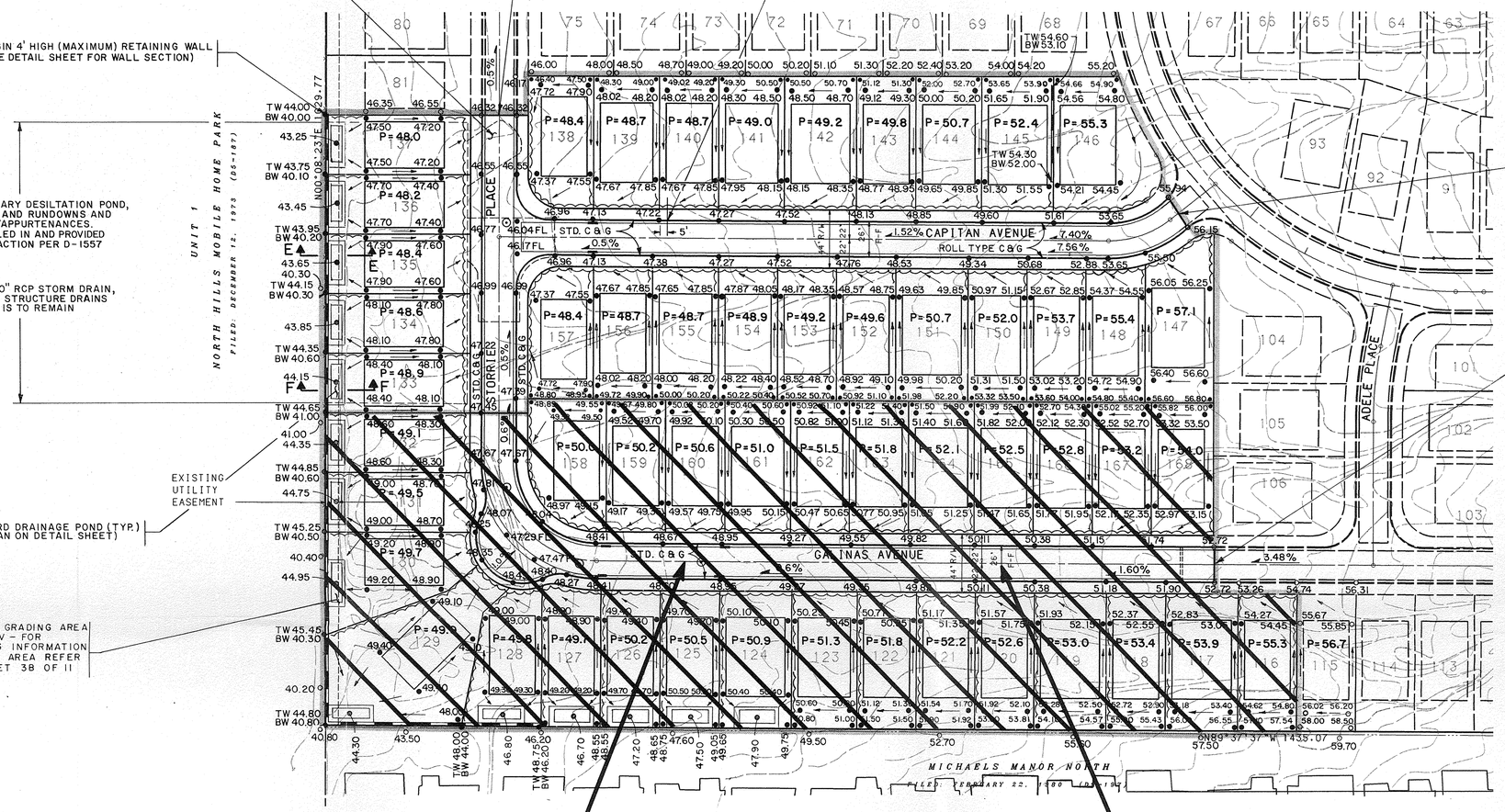
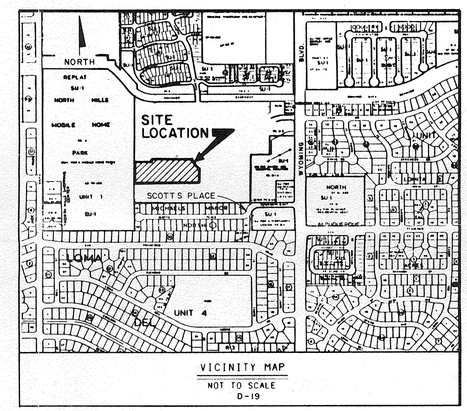




VICINITY MAP
NOT TO SCALE
D-19

NOTICE TO CONTRACTORS

1. AN EXCAVATION/CONSTRUCTION PERMIT WILL BE REQUIRED BEFORE BEGINNING ANY WORK WITHIN THE CITY RIGHT-OF-WAY. AN APPROVED COPY OF THESE PLANS MUST BE SUBMITTED AT THE TIME OF APPLICATIONS 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 CITY OF ALBUQUERQUE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, 1986.
3. TWO WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT LINE LOCATION 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 TO RESIDENTIAL STREET USE.
6. MAINTENANCE OF THESE FACILITIES SHALL BE THE RESPONSIBILITY OF THE OWNER OF THE PROPERTY SERVED.
7. CONTRACTOR MUST OBTAIN A TOPSOIL DISTURBANCE PERMIT FROM THE ENVIRONMENTAL HEALTH DIVISION PRIOR TO CONSTRUCTION.
8. THE CONTRACTOR IS TO REFER TO EARTHWORK SPECIFICATIONS AS NOTED IN THE SOILS REPORT PREPARED BY VINYARD AND ASSOCIATES DATED SEPTEMBER 28, 1992.
9. THE CONTRACTOR SHALL CONFORM TO ALL CITY, COUNTY, STATE, AND FEDERAL DUST CONTROL MEASURES AND REQUIREMENTS AND WILL BE RESPONSIBLE FOR PREPARING AND OBTAINING ALL NECESSARY APPLICATIONS AND APPROVALS.
10. THE CONTRACTOR SHALL ENSURE THAT NO SOIL ERODES FROM THE LOTS INTO PUBLIC RIGHT-OF-WAY. THIS CAN BE ACHIEVED BY CONSTRUCTING TEMPORARY BERMS AS PER DETAIL THIS SHEET AND WETTING THE SOIL TO KEEP IT FROM BLOWING.
11. ALL SLOPES MAXIMUM OF 4:1 UNLESS AS OTHERWISE INDICATED.
12. ALL SPOT ELEVATIONS ALONG THE PROPOSED STREETS ARE TO TOP OF STANDARD OR MOUNTABLE ROLL TYPE CURB AND GUTTER (AS LABELED) UNLESS OTHERWISE NOTED.

DRAINAGE PLAN

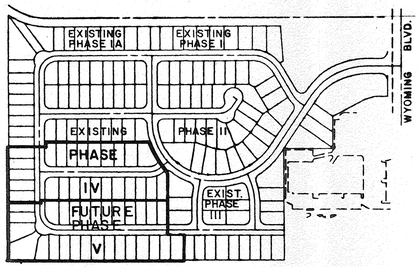
THIS PHASE DRAINAGE PLAN CONFORMS TO THE OVERALL DRAINAGE PLAN OF THE ENTIRE SITE (SEE PALOMAS PARK SUBDIVISION DRAINAGE REPORT ON JUNE 1992, #D19-D1B.)

THE WEST END TEMPORARY DESILTATION POND, RECONSTRUCTED AS A PART OF PHASE III, WILL BE RELOCATED SOUTH OF THE PHASE IV BOUNDARY LIMITS (SEE SHEET 3B OF 11).

RUNOFF FROM THE CHURCH PROPERTY AND FROM THE SOUTHERN PORTION OF PHASE III WILL BE DIRECTED DOWN GALINAS AVENUE TO THE WEST AS PER PHASE III GRADING AND DRAINAGE. (SEE PHASE III GRADING AND DRAINAGE PLAN).

THE SIZE AND VOLUME OF THE RELOCATED DESILTATION POND REMAINS THE SAME FROM PHASE III TO THIS PHASE. REFER TO PHASE III FOR DRAINAGE CALCULATIONS.

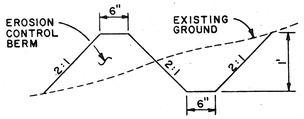
A DRAINAGE COVENANT IS PREPARED FOR THE RELOCATED DESILTATION POND OF PHASE IV. A PUBLIC EASEMENT IS PLACED OVER THE DESILTATION POND.



KEY MAP
NO SCALE

APPROVED FOR ROUGH GRADING (± 1')

HYDROLOGY ENGINEER DATE



EROSION CONTROL PLAN
NO SCALE

A BERM WITH THE DIMENSIONS SHOWN SHALL BE MAINTAINED DURING CONSTRUCTION UNTIL COMPLETION OF INDIVIDUAL HOMES WITHIN THE PROJECT.

LEGEND

- EROSION CONTROL BERM
- EXISTING GROUND ELEVATION
- PROPOSED GROUND ELEVATION
- DRAINAGE FLOW DIRECTION
- RETAINING WALL
- EXISTING CONTOUR
- PHASE BOUNDARY
- EXISTING STORM DRAIN INLET
- PROPOSED STORM DRAIN INLET
- EXISTING STORM DRAIN MANHOLE
- PROPOSED STORM DRAIN MANHOLE

LEGAL DESCRIPTION

LOTS 133 TO 157, INCLUSIVE, PALOMAS PARK SUBDIVISION, PHASE IV.

RECEIVED NOV - 2 1993 HYDROLOGY DIVISION

N

SCALE: 1" = 50'

BHI JOB NO. 91181.07

AS BUILT INFORMATION

CONTRACTOR
WORK STAKED BY
INSPECTOR'S ACCEPTANCE BY — DATE
VERIFICATION BY — DATE
DRAWINGS CORRECTED BY — DATE
MICRO-FILM INFORMATION
RECORDED BY — DATE
NO.

BENCH MARKS
STATION IS A STANDARD USC&GS BRASS TABLET STAMPED "HEAVEN 1969" SET IN TOP OF A CONCRETE POST FLUSH WITH THE GROUND. LOCATED WEST ON PASEO DEL NORTE FROM WYOMING BLVD. APPROXIMATELY 800 FEET.
ELEVATION = 5378.787

SURVEY INFORMATION
FIELD NOTES
NO. BY DATE

ENGINEER'S SEAL
JAMES B. TOPMILLER NEW MEXICO 9354 REGISTERED PROFESSIONAL ENGINEER
10-28-93

NO.	DATE	REMARKS	BY
		REVISIONS	
		DESIGN	

DESIGNED BY KP/MM — DATE 9/93
DRAWN BY MM/KW — DATE 9/93
CHECKED BY KP/JRT — DATE 9/93

CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT
ENGINEERING GROUP

PALOMAS PARK- PHASE IV

FINAL GRADING & DRAINAGE PLAN

APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE
DRC CHAIRMAN			WATER		
TRANSPORTATION			WASTE WATER		
HYDROLOGY					

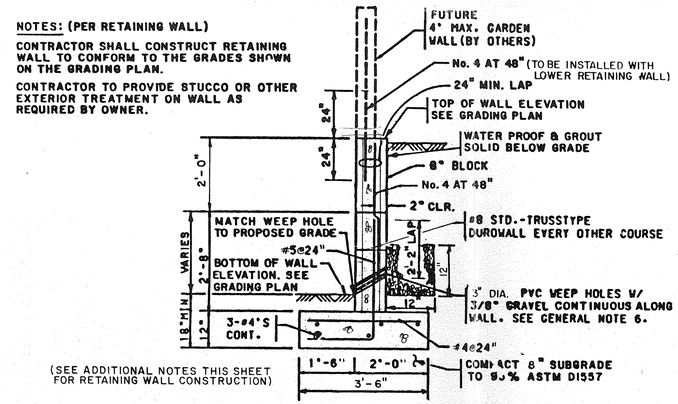
DRAWING NO. | MAP NO. D-19 | SHEET 3A OF 11

USERNAME: [C9118104.PAD]
FILENAME: GRADING4.GRF

NOTES: (PER RETAINING WALL)

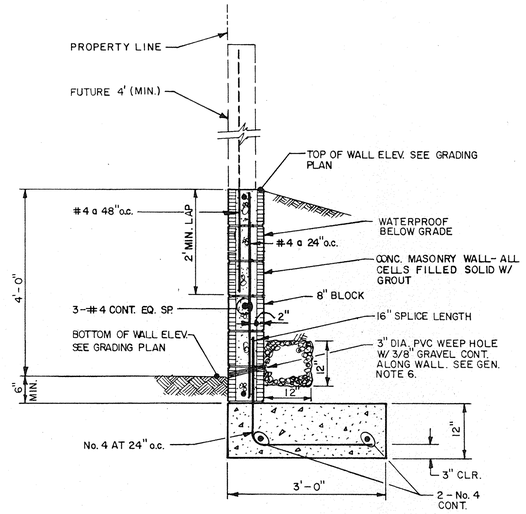
CONTRACTOR SHALL CONSTRUCT RETAINING WALL TO CONFORM TO THE GRADES SHOWN ON THE GRADING PLAN.

CONTRACTOR TO PROVIDE STUCCO OR OTHER EXTERIOR TREATMENT ON WALL AS REQUIRED BY OWNER.



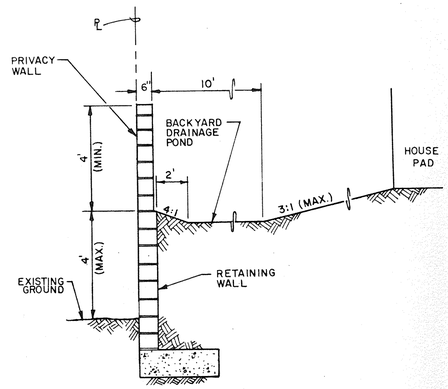
3' TO 4' RETAINING WALL

NO SCALE



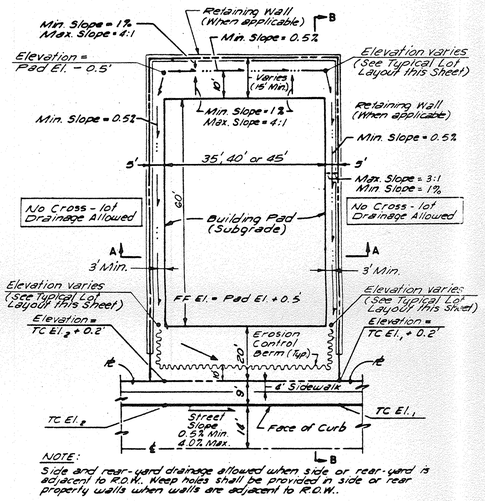
4' RETAINING WALL (PROPERTY LINE TYPE)

NO SCALE



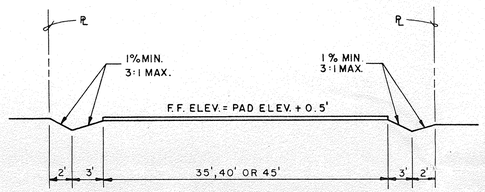
SECTION E-E
RETAINING WALL (LOTS 135, 136 & 137)

SCALE: 3/8" = 1'-0"



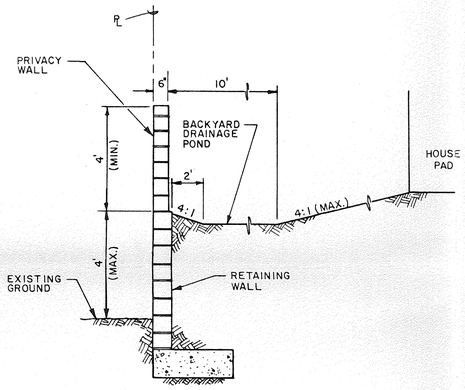
TYPICAL LOT GRADING
(UNLESS OTHERWISE SHOWN)

NO SCALE



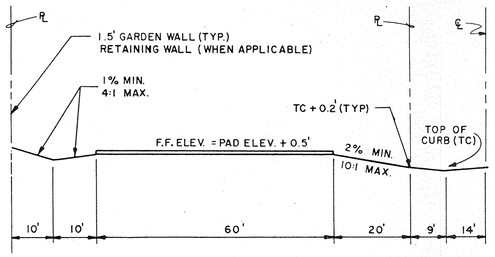
TYPICAL LOT GRADING
SECTION A-A

NTS



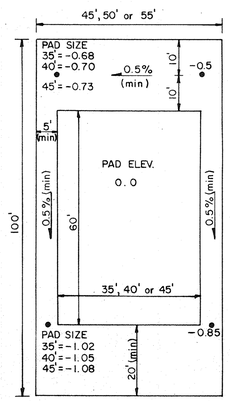
SECTION F-F
RETAINING WALL (LOTS 133 & 134)

SCALE: 3/8" = 1'-0"



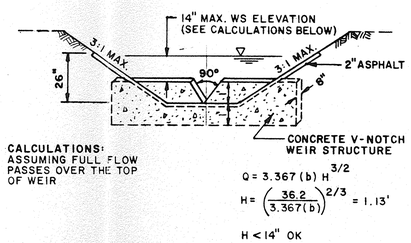
TYPICAL LOT GRADING
SECTION B-B

NTS



TYPICAL LOT LAYOUT

NO SCALE



CALCULATIONS:
ASSUMING FULL FLOW PASSES OVER THE TOP OF WEIR

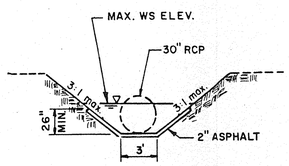
$$Q = 3.367\,(b)\,H^{3/2}$$

$$H = \left(\frac{36.2}{3.367(b)}\right)^{2/3} = 1.13'$$

H < 14" OK

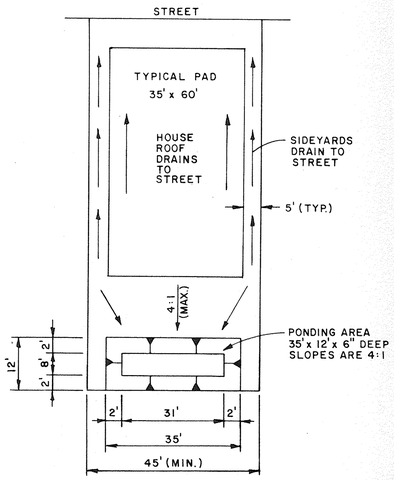
SECTION C-C
(WEIR STRUCTURE)

NO SCALE



SECTION D-D
(WEIR STRUCTURE)

NO SCALE



BACKYARD DRAINAGE POND

NO SCALE

GENERAL NOTES: RETAINING WALLS

1. RETAINING WALL FOOTINGS SHOULD BE EMBEDDED A MINIMUM OF EIGHTEEN (18) INCHES BELOW LOWEST ADJACENT GRADE. PRIOR TO PLACING FOOTINGS, THE EXPOSED SOILS SHOULD BE SCARIFIED TO A DEPTH OF EIGHT (8) INCHES, MOISTURE CONDITIONED TO A NEAR OPTIMUM +/- 3% MOISTURE CONTENT AND COMPACTED TO A MINIMUM OF 95% OF MAXIMUM DENSITY AS DETERMINED BY ASTM D-1557.

2. RETAINING WALL SHALL NOT BE BACKFILLED UNTIL AT LEAST 7 DAYS AFTER PLACING OF FINAL GROUT LEVEL. WHERE HEAVY EQUIPMENT IS USED IN BACKFILLING, SUCH EQUIPMENT SHOULD NOT APPROACH CLOSER TO THE TOP OF THE WALL THAN A DISTANCE EQUAL TO THE HEIGHT OF THE WALL. CARE SHOULD BE TAKEN TO AVOID EXERTING IMPACT FORCES ON THE WALL AS COULD BE CAUSED BY A LARGE MASS OF MOVING EARTH.

   SLOPES UP AWAY FROM WALLS SHOULD NOT EXCEED 3:1

3. VERTICAL CONTROL JOINTS WITH PVC INSERTS SHALL BE PLACED AT INTERVALS NOT-TO-EXCEED 30'-0" ON CENTER. PILASTERS MAY BE SUBSTITUTED FOR CONTROL JOINTS WHEN PLACED AT 12'-0" INTERVALS. DISCONTINUE DUROWALL EACH SIDE OF PILASTERS.

4. MINIMUM LAP SPLICE ON REINFORCING BARS SHALL BE 30" BAR DIAMETERS OR 1'-4" MINIMUM. REINFORCEMENT OF A SIZE AND SPACING OTHER THAN THAT GIVEN IN THE TABLES MAY BE USED PROVIDING SUCH OTHER REINFORCEMENT FURNISHES AN AREA OF STEEL AREA AT LEAST EQUAL TO THAT GIVEN IN THE TABLE.

5. CONSTRUCTION OF RETAINING WALLS SHALL CONFORM TO REQUIREMENTS OF THE UNIFORM BUILDING CODE SECTION 24, LOWLIFT GROUTING METHOD.

6. OMISSION OF A VERTICAL MORTAR JOINT ON FIRST COURSE AT 48" O.C. MAY BE SUBSTITUTED FOR PVC WEEP HOLES.

7. DESIGN DATA
   - BLOCK WEIGHT 12" = 130 PSF
   - BLOCK WEIGHT 8" = 85 PSF
   - SOIL WEIGHT = 120 PCF
   - EQUIV. FLUID PRESSURE = 35 PCF
   - SOIL BEARING PRESSURE = 1500 PSF
   - (1/3 INCREASE FOR WIND/SEISMIC)
   - COEFFICIENT OF FRICTION = 0.4
   - PASSIVE SOIL PRESSURE = 300 PCF
   - CONCRETE (f'c 28 DAYS) = 3000 PSI
   - GROUT STRENGTH = 2000 PSI
   - CMU GRADE N = 1500 PSI (GROUTED)
   - REINFORCEMENT = 60 KSI ASTM A-615

8. CONTRACTOR SHALL NOTIFY ENGINEER PRIOR TO CONCRETE FOOTING POUR FOR INSPECTION OF COMPACTION UNDER FOOTING, FOOTING DEPTH AND WIDTH AND WALL STEEL AND SPACING. FINAL INSPECTION OF FOOTING AND WALL WILL BE REQUIRED.

9. CONTRACTOR SHALL BE RESPONSIBLE FOR CODE ADMINISTRATION APPROVAL AND FEES ASSOCIATED WITH IT.

10. PLACEMENT OF THE REINFORCING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. IMPROPER PLACEMENT OF FOOTINGS OR REINFORCEMENT SHALL BE CORRECTED AT NO COST TO THE OWNER.

AS BUILT INFORMATION

CONTRACTOR WORK STAKED BY
STAMED DR'S ACCEPTANCE BY — DATE
FIELD LOCATION BY — DATE
DRAWINGS CORRECTED BY — DATE
MICRO-FILM INFORMATION
RECORDED BY — DATE
NO.

BENCH MARKS
STATION IS A STANDARD USC&GS BRASS TABLET STAMPED "HEAVEN 1969" SET IN TOP OF A CONCRETE POST FLUSH WITH THE GROUND. LOCATED WEST ON PASEO DEL NORTE FROM WYOMING BLVD. APPROXIMATELY 800 FEET.

ELEVATION=5378.787'

SURVEY INFORMATION
FIELD NOTES

NO.	BY	DATE

ENGINEER'S SEAL

JAMES R. TOPMILLER — NEW MEXICO — 9354 — REGISTERED PROFESSIONAL ENGINEER

NO.	DATE	REMARKS	BY
		REVISIONS	
		DESIGN	

		DATE
DESIGNED BY	KGP	9/93
DRAWN BY	KCW/MZM	9/93
CHECKED BY	JRT	9/93

CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT
ENGINEERING GROUP

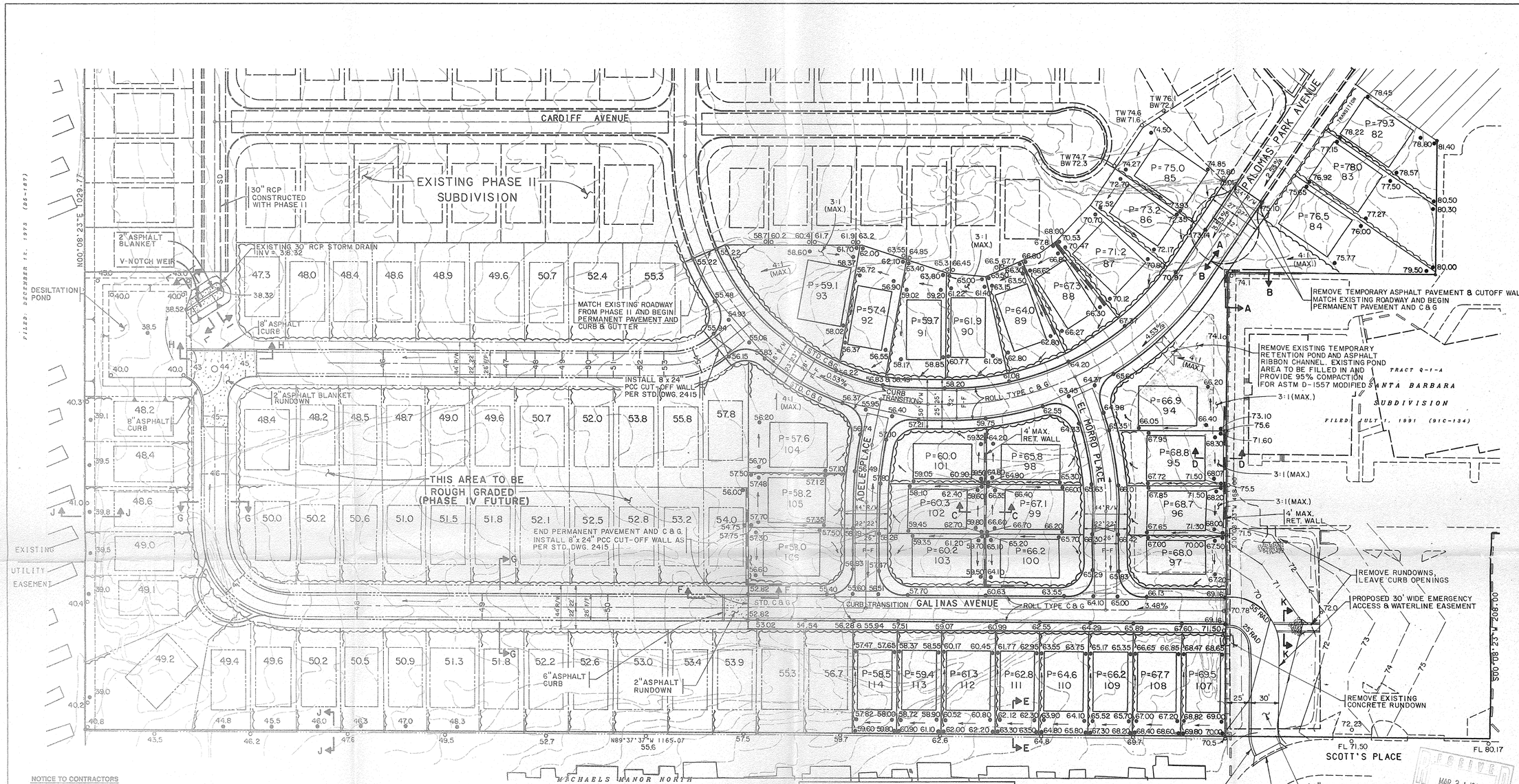
PALOMAS PARK - PHASE IV
DETAIL SHEET

APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE
DRC CHAIRMAN			WATER		
TRANSPORTATION			WASTE WATER		
HYDROLOGY					

DRAWING NO.	MAP NO.	SHEET	OF
	D-19	11	11

BHI JOB NO. 91181.07

USERNAME: EC9127701.PAD3
FILENAME: GRADING.GRF



NOTE: ALL CURB AND GUTTER ELEVATIONS SHOWN ARE TOP OF CURB ELEVATIONS.

RECEIVED MAR 31 1993 HYDROLOGY DIVISION

NOTICE TO CONTRACTORS

1. AN EXCAVATION/CONSTRUCTION PERMIT WILL BE REQUIRED BEFORE BEGINNING ANY WORK WITHIN THE CITY RIGHT-OF-WAY. AN APPROVED COPY OF THESE PLANS MUST BE SUBMITTED AT THE TIME OF APPLICATIONS 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 CITY OF ALBUQUERQUE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, 1986.
3. TWO WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT LINE LOCATION 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 TO RESIDENTIAL STREET USE.
6. MAINTENANCE OF THESE FACILITIES SHALL BE THE RESPONSIBILITY OF THE OWNER OF THE PROPERTY SERVED.
7. CONTRACTOR MUST OBTAIN A TOPSOIL DISTURBANCE PERMIT FROM THE ENVIRONMENTAL HEALTH DIVISION PRIOR TO CONSTRUCTION.
8. THE CONTRACTOR IS TO REFER TO EARTHWORK SPECIFICATIONS AS NOTED IN THE SOILS REPORT PREPARED BY VINYARD AND ASSOCIATES DATED SEPTEMBER 28, 1992.
9. THE CONTRACTOR SHALL CONFORM TO ALL CITY, COUNTY, STATE, AND FEDERAL DUST CONTROL MEASURES AND REQUIREMENTS AND WILL BE RESPONSIBLE FOR PREPARING AND OBTAINING ALL NECESSARY APPLICATIONS AND APPROVALS.
10. THE CONTRACTOR SHALL ENSURE THAT NO SOIL ERODES FROM THE LOTS INTO PUBLIC RIGHT-OF-WAY. THIS CAN BE ACHIEVED BY CONSTRUCTING TEMPORARY BERMS AS PER DETAIL THIS SHEET AND WETTING THE SOIL TO KEEP IT FROM BLOWING.
11. ALL SLOPES MAXIMUM OF 4:1 UNLESS AS OTHERWISE INDICATED.
12. ALL SPOT ELEVATIONS ALONG THE PROPOSED STREETS ARE TO TOP OF STANDARD OR MOUNTABLE ROLL TYPE CURB AND GUTTER (AS LABELED) UNLESS OTHERWISE NOTED.

DRAINAGE PLAN

This Phase III drainage plan conforms to the overall drainage plan of the entire site (see Palomas Park Subdivision Drainage Report on June 1992, #D19-D1B).

The east end temporary retention pond constructed for Phase II, and the pond located in the proposed emergency access and waterline easement on the Church property, will be eliminated and regraded. Runoff from the Church property and from the southern portion of this phase will be directed down Galinas Avenue to the west. Peak flow at the downstream end of Galinas Avenue at the Phase III boundary was calculated to be 36.2 cfs (see Drainage Calculations).

A temporary swale will be constructed to carry runoff through the proposed "rough graded" area of the site. The swale is designed to carry peak flow at under 3 fps (non-erosive per DPM, see Drainage Calculations) and approximates the future grade and alignment of Galinas Avenue.

The west end temporary retention pond constructed as part of Phase II will be partially regraded. The remaining portion will serve as a temporary desiltation pond for runoff from this phase. From the desiltation pond, runoff will be diverted to an existing 30 inch RCP storm drain via a 40 foot long channel. All of these temporary improvements will be removed with Phase IV of Palomas Park Subdivision.

A drainage covenant is prepared for the swale and the desiltation pond of Phase III. Public easements are placed over the desiltation pond and swale.

APPROVED FOR ROUGH GRADING (± 1')

Gilbert Alby 4-21-93

HYDROLOGY ENGINEER DATE

DRAINAGE CALCULATIONS

SWALE (continuation of Galinas Ave.):

Total area of each treatment (developed portion of Basin H - see overall grading plan)

Treatment B = 0.487 AC
Treatment C = 0.490 AC
Treatment D = 1.322 AC

Discharge from 100-year, 6-hour storm, Zone 3.

From developed portion of Basin H

Q_{100} = (0.487 x 2.60) + (0.490 x 3.45) + (1.322 x 5.02) = 9.59 cfs

From church property (revised drainage plan for addition to Church of the Risen Savior)

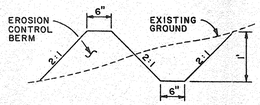
Q_{100} = 26.6 cfs

Total discharge down swale

Q_{100} Total = 9.59 + 26.6 = 36.2 cfs

Through a trial and error analysis, assuming a discharge of 36.2, the maximum depth in the Galinas Avenue swale is found to be 0.7 ft (S=0.5%). The maximum velocity at peak flow is as follows:

$V_{max} = 1.49/n * R^{2/3} * S_o^{1/2} = 1.49/.03 * (13.8ft/29.2ft)^{2/3} * (.008)^{1/2} = 2.70$ ft/s



EROSION CONTROL PLAN

NO SCALE

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LEGEND

- EROSION CONTROL BERM
- EXISTING GROUND ELEVATION
- PROPOSED GROUND ELEVATION
- DRAINAGE FLOW DIRECTION
- RETAINING WALL
- EXISTING CONTOUR
- WATER BLOCK (HIGH POINT)
- 48 PROPOSED CONTOUR

BHI JOB NO. 91181.07

AS BUILT INFORMATION

BENCH MARKS	
STATION IS A STANDARD USC&GS BRASS TABLET	CONTRACTOR
STAMPED "HEAVEN 1969" SET IN TOP OF A	STAKED BY
CONCRETE POST FLUSH WITH THE GROUND. LOCATED	INSPECTOR'S ACCEPTANCE BY — DATE
WEST ON PASEO DEL NORTE FROM WYOMING BLVD.	FIELD VERIFICATION BY — DATE
APPROXIMATELY 800 FEET.	DRAWING CORRECTED BY — DATE
	MICRO-FILM INFORMATION
	RECORDED BY — DATE
ELEVATION = 5378.787	NO.

SURVEY INFORMATION

NO.	BY	DATE

FIELD NOTES

ENGINEER'S SEAL

Anna Sprink 3.30.93

NO.	DATE	REMARKS	BY
		REVISIONS	
		DESIGN	

DESIGNED BY RBG DATE 3/93
DRAWN BY KW/MZM DATE 3/93
CHECKED BY JRT DATE 3/93

CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT
ENGINEERING GROUP

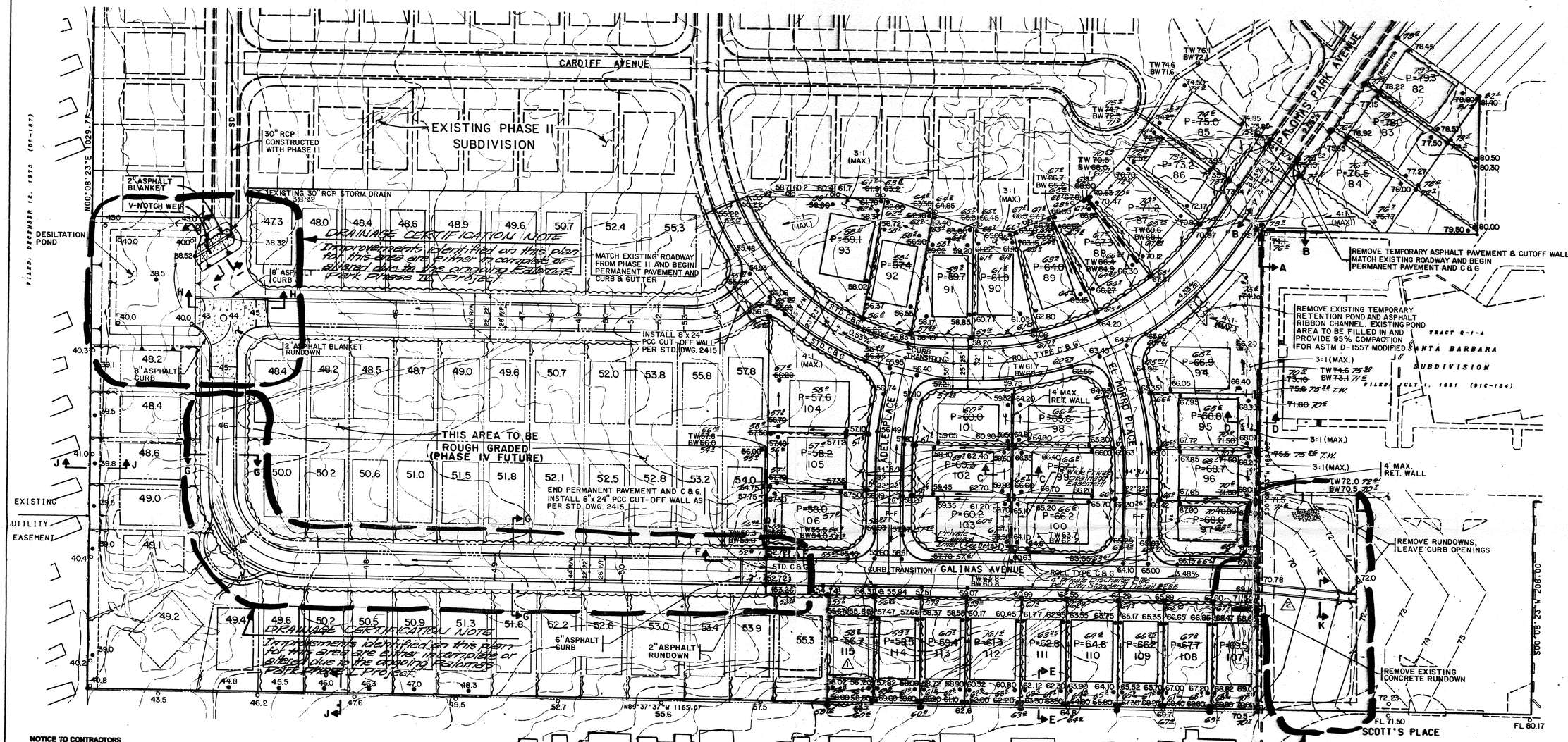
PALOMAS PARK- PHASE III

FINAL GRADING AND DRAINAGE PLAN

APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE
DRC CHAIRMAN			WATER		
TRANSPORTATION			WASTE WATER		
HYDROLOGY					

DRAWING NO.	MAP NO.	SHEET	OF
	D-19		

USERNAME: EC91277O1.PAD3
FILENAME: GRADING.GRF



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DRAINAGE CERTIFICATION

AS-BUILT ELEVATIONS ARE SHOWN ON THE PLAN IN LOCATIONS WHERE THE ORIGINAL DESIGN ELEVATION HAS BEEN CROSSED OUT AND THE NEW ELEVATION IS LISTED. ELEVATIONS WERE PROVIDED BY ALDRICH LAND SURVEYING.

NOTES:

I, JAMES R. TOPMILLER, OF SOHANNAN-HUSTON, INC., A REGISTERED PROFESSIONAL ENGINEER IN THE STATE OF NEW MEXICO, DO HEREBY CERTIFY THAT THE DRAINAGE IMPROVEMENTS HAVE BEEN CONSTRUCTED IN SUBSTANTIAL COMPLIANCE WITH THE APPROVED DRAINAGE PLAN, TO THE BEST OF MY KNOWLEDGE AND BELIEF.

JAMES R. TOPMILLER, P.E.
N.M.P.E. No. 9354
DATE: 5/24/94

JAMES R. TOPMILLER
NEW MEXICO
9354
REGISTERED PROFESSIONAL ENGINEER

DRAINAGE PLAN

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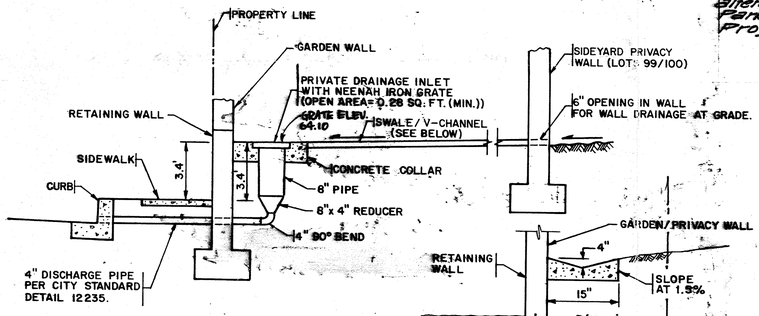
APPROVED FOR ROUGH GRADING (± 1')

HYDROLOGY ENGINEER — DATE 4-21-93



PRIVATE INLET AT LOT 100
NO SCALE

V-CHANNEL
NO SCALE

SHI JOB NO. 91181.07

AS BUILT INFORMATION
CONTRACTOR
WORK STAKED BY
INSPECTOR'S ACCEPTANCE BY — DATE
FIELD VERIFICATION BY — DATE
CORRECTED BY — DATE
MICRO-FILM INFORMATION
RECORDED BY — DATE
NO.

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ELEVATION = 5376.787

SURVEY INFORMATION
FIELD NOTES
NO. | BY | DATE

ENGINEER'S SEAL

NO.	DATE	REMARKS	BY
1	10/4/93	RELOCATED EMERGENCY ACCESS ROAD, ADDED RUNDOWN	KP
2	10/26/93	REVISED / ADDED ELEVATIONS	KP

REVISIONS

DESIGN
DESIGNED BY RBG — DATE 3/93
DRAWN BY KW/MZM — DATE 3/93
CHECKED BY JRT — DATE 3/93

CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT
ENGINEERING GROUP

PALOMAS PARK- PHASE III
FINAL GRADING AND DRAINAGE PLAN
& DRAINAGE CERTIFICATION PLAN

APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE
DRC CHAIRMAN			WATER		
TRANSPORTATION		7-02-93	WASTE WATER		
HYDROLOGY		07-08-93			

DRAWING NO. 4510.92 | MAP NO. D-19 | SHEET 3 OF 12

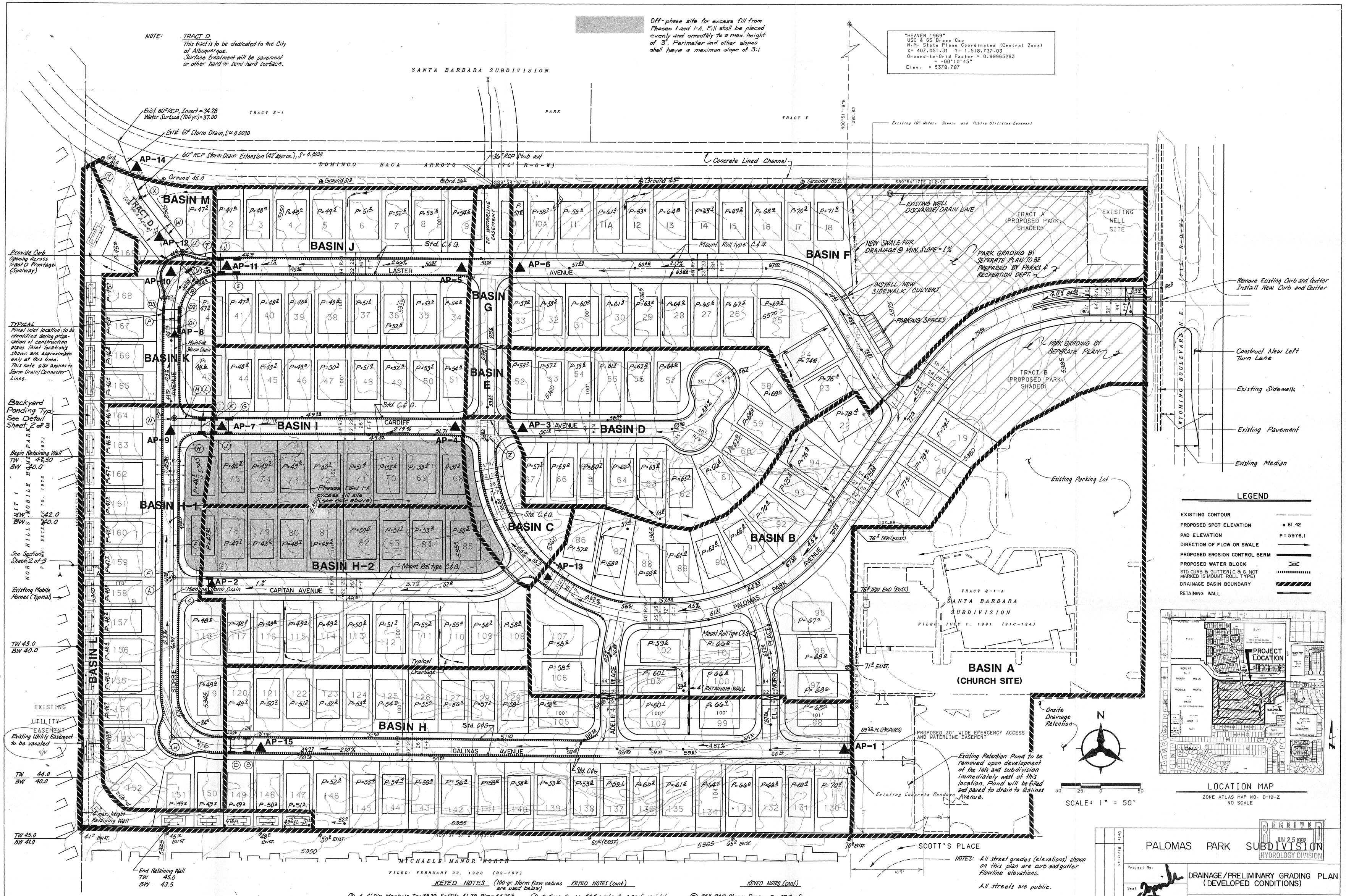
USERNAME: [C9127701.PAD]
FILENAME: GRADING.GRF

SEP - 8

NOTE: TRACT D
This tract is to be dedicated to the City of Albuquerque. Surface treatment will be pavement or other hard or semi-hard surface.

Off-phase site for excess fill from Phases I and I-A. Fill shall be placed evenly and smoothly to a max. height of 3'. Perimeter and other slopes shall have a maximun slope of 3:1

"HEAVEN 1969"
USC & GS Brass Cap
N.M. State Plane Coordinates (Central Zone)
X= 407,051.31 Y= 1,518,737.03
Ground-to-Grid Factor = 0.99965263
= -00°10'45"
Elev. = 5378.787



KEYED NOTES (100-yr. storm flow values are used below)

(A) 1- 4' Dia. Manhole, Inv. 39.29, Soffit= 41.29, Rim= 44.75±
(B) 2- Type Double "A" Inlets; Q= 7.47 cfs each inlet.
(C) 30" RCP Storm Drain; Q=24.9 cfs
(D) 2- Type Double "C" Inlets; Q=4.97 cfs ea. inlet.
(E) 2- Type Double "A" Inlets; Q= 2.14 cfs ea. inlet
(F) 30" RCP Storm Drain, S= 0.0079, Q= 39.2 cfs (max.)
(G) 2- Type Double "A" Inlets; Q= 7.44 cfs ea. inlet
(H) 1- 4' Dia. Manhole, Inv.= 39.32, Soffit = 41.82
(I) 2- Type Double "C" Inlets; Q= 5.41 cfs each inlet.

KEYED NOTES (cont.)

(J) 2- Type Double "C" Inlets; Q= 3.51 cfs ea. inlet
(K) 18" RCP connector, Q= 3.5 cfs
(L) 2- Type Double "C" Inlets; Q= 3.5 cfs ea. inlet
(M) 24" RCP Storm Drain, Q=32.7 cfs
(N) 1- 6' Dia. Manhole, Inv.(48")=36.39, soffit=40.39, Rim=45.5±
(O) 48" Storm Drain, S= 0.0079, Q= 129 cfs (max.)
(R) Extend valley gutter @ low Point
(S) 2- Type Double "A" Inlets; Q=5.07 cfs each inlet

KEYED NOTES (cont.)

(T) 24" RCP Storm Drain; Q= 17.2 cfs
(U) 1- 8' Dia. Manhole; Inv. (60") = 34.92, soffit= 39.92 (60"), Rim= 44.2
(V) 1- Type Double "D" Inlet w/ 18" RCP connector, Q= 36.7 cfs
(W) 60" RCP Storm Drain, S= 0.0034, Q= 149.2 cfs
(X) Open Grate Manhole lid, Inv. (80") 34.59, Inv. (34") = 35.54
(Y) Provide openings in privacy wall for overflow drainage
(Z) Extend valley gutter across Palomas Park Avenue.
(D2) 2- Type Double "A" Inlet; Q= 9.58 cfs
(D2) 2- Type Double "C" Inlets, Q= 6.04 cfs each inlet
(D2) 2- Type Double "C" Inlets, Q= 4.31 cfs each inlet

APPROVED FOR ROUGH GRADING (± 1')

HYDROLOGY ENGINEER _____ DATE _____

NOTES: All street grades (elevations) shown on this plan are curb and gutter flowline elevations.

All streets are public.

RECEIVED JUN 25 1992 HYDROLOGY DIVISION

PALOMAS PARK SUBDIVISION

DRAINAGE/PRELIMINARY GRADING PLAN (DEVELOPED CONDITIONS)

ULTIMATE DEVELOPMENT (ALL PHASES)

Project No. 91181.04 | Sheet 1 of 3 | Drawn By: | Date: 5/92 | Checked By: | Scale: 1"=50'

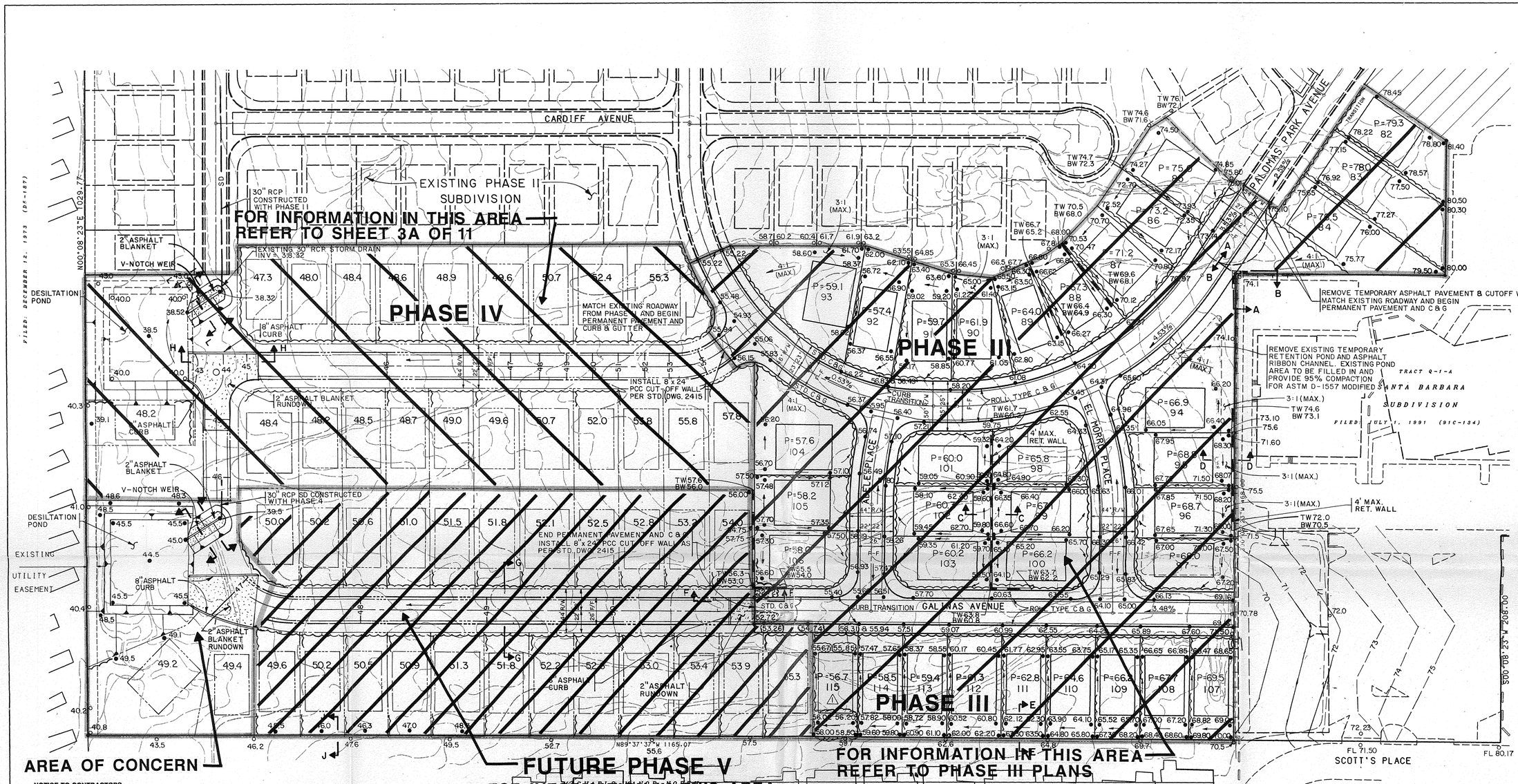
JAMES B. HOFFMILLER NEW MEXICO 8354 REGISTERED PROFESSIONAL ENGINEER

6-3-92 6-22-92 10-23-92

BOHANNAN-HUSTON INC.

Date | Revision | By

USERNAME=CDP:[C91181O4.PAD]
FILENAME=GRADEALL.ORF



NOTICE TO CONTRACTORS

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2. ALL WORK DETAILED ON THESE PLANS TO BE PERFORMED, EXCEPT AS OTHERWISE STATED OR PROVIDED HEREON, SHALL BE CONSTRUCTED IN ACCORDANCE WITH CITY OF ALBUQUERQUE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, 1986.
3. TWO WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT LINE LOCATION 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 TO RESIDENTIAL STREET USE.
6. MAINTENANCE OF THESE FACILITIES SHALL BE THE RESPONSIBILITY OF THE OWNER OF THE PROPERTY SERVED.
7. CONTRACTOR MUST OBTAIN A TOPSOIL DISTURBANCE PERMIT FROM THE ENVIRONMENTAL HEALTH DIVISION PRIOR TO CONSTRUCTION.
8. THE CONTRACTOR IS TO REFER TO EARTHWORK SPECIFICATIONS AS NOTED IN THE SOILS REPORT PREPARED BY VINYARD AND ASSOCIATES DATED SEPTEMBER 28, 1992.
9. THE CONTRACTOR SHALL CONFORM TO ALL CITY, COUNTY, STATE, AND FEDERAL DUST CONTROL MEASURES AND REQUIREMENTS AND WILL BE RESPONSIBLE FOR PREPARING AND OBTAINING ALL NECESSARY APPLICATIONS AND APPROVALS.
10. THE CONTRACTOR SHALL ENSURE THAT NO SOIL ERODES FROM THE LOTS INTO PUBLIC RIGHT-OF-WAY. THIS CAN BE ACHIEVED BY CONSTRUCTING TEMPORARY BERMS AS PER DETAIL THIS SHEET AND WETTING THE SOIL TO KEEP IT FROM BLOWING.
11. ALL SLOPES MAXIMUM OF 4:1 UNLESS AS OTHERWISE INDICATED.
12. ALL SPOT ELEVATIONS ALONG THE PROPOSED STREETS ARE TO TOP OF STANDARD OR MOUNTABLE ROLL TYPE CURB AND GUTTER (AS LABELED) UNLESS OTHERWISE NOTED.

IMPORTANT NOTE

THIS SHEET IS FOR THE RELOCATION AND GRADING OF THE DESILTATION POND FOR PHASE IV ONLY.

FOR GRADING AND DRAINAGE INFORMATION OTHER THAN THE DESILTATION POND FOR PHASE IV, REFER TO SHEET 3A OF 11.

FOR GRADING AND DRAINAGE INFORMATION FOR PHASE III, REFER TO PHASE III PLANS.

DRAINAGE PLAN

This Phase III drainage plan conforms to the overall drainage plan of the entire site (see Palomas Park Subdivision Drainage Report on June 1992, #D19-D1B).

The east end temporary retention pond constructed for Phase II, and the pond located in the proposed emergency access and waterline easement on the Church property, will be eliminated and regraded. Runoff from the Church property and from the southern portion of this phase will be directed down Galinas Avenue to the west. Peak flow at the downstream end of Galinas Avenue at the Phase III boundary was calculated to be 36.2 cfs (see Drainage Calculations).

A temporary swale will be constructed to carry runoff through the proposed "rough graded" area of the site. The swale is designed to carry peak flow at under 3 fps (non-erosive per DPM, see Drainage Calculations) and approximates the future grade and alignment of Galinas Avenue.

The west end temporary retention pond constructed as part of Phase II will be partially regraded. The remaining portion will serve as a temporary desiltation pond for runoff from this phase. From the desiltation pond, runoff will be diverted to an existing 30" inch RCP storm drain via a 40' long channel. All of these temporary improvements will be removed with Phase IV of the Palomas Park Subdivision.

A drainage covenant is prepared for the swale and the desiltation pond of Phase III. Public easements are placed over the desiltation pond and swale.

APPROVED FOR ROUGH GRADING (± 1')

HYDROLOGY ENGINEER _____ DATE _____

NOTE: ALL CURB AND GUTTER ELEVATIONS SHOWN ARE TOP OF CURB ELEVATIONS.

(55.85) = REVISED / ADDED INFORMATION

DRAINAGE CALCULATIONS

SWALE (continuation of Galinas Ave.):

Total area of each treatment (developed portion of Basin H - see overall grading plan)

Treatment B = 0.487 AC
Treatment C = 0.000 AC
Treatment D = 1.32 AC

Discharge from 100-year, 6-hour storm, Zone 3.

From developed portion of Basin H

Q_{100} = (0.487 x 2.60) + (0.490 x 3.45) + (1.32 x 5.02) = 9.59 cfs

From church property (revised drainage plan for addition to Church of the Risen Savior)

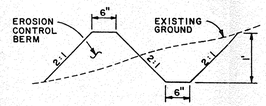
Q_{100} = 26.6 cfs

Total discharge downstream

Q_{100} Total = 9.59 + 26.6 = 36.2 cfs

Through a trial and error analysis, assuming a discharge of 36.2, the maximum depth in the Galinas Avenue swale is found to be 0.7 ft (S=0.5%). The maximum velocity at peak flow is as follows:

$$v_{max} = 1.49/n * R^{2/3} * S_o^{1/2} = 1.49/.03 * (13.8ft/29.2ft)^{2/3} * (.008)^{1/2} = 2.70 \text{ ft/s}$$



EROSION CONTROL PLAN
NO SCALE

A BERM WITH THE DIMENSIONS SHOWN SHALL BE MAINTAINED DURING CONSTRUCTION UNTIL COMPLETION OF INDIVIDUAL HOMES WITHIN THE PROJECT.

LEGEND

- EROSION CONTROL BERM
- EXISTING GROUND ELEVATION
- PROPOSED GROUND ELEVATION
- DRAINAGE FLOW DIRECTION
- RETAINING WALL
- EXISTING CONTOUR
- WATER BLOCK (HIGH POINT)
- 48 PROPOSED CONTOUR

RECEIVED NOV - 2 1993 HYDROLOGY DIVISION

N

SCALE: 1" = 50'

AS BUILT INFORMATION
CONTRACTOR
STAKED BY
INSPECTOR'S ACCEPTANCE BY — DATE
FIELD VERIFICATION BY — DATE
MAPS REVISED BY
CORRECTED BY — DATE
MICRO-FILM INFORMATION
RECORDED BY — DATE
NO.

BENCH MARKS
STATION IS A STANDARD USC&GS BRASS TABLET STAMPED "HEAVEN 1969" SET IN TOP OF A CONCRETE POST FLUSH WITH THE GROUND. LOCATED WEST ON PASEO DEL NORTE FROM WYOMING BLVD. APPROXIMATELY 800 FEET.
ELEVATION = 5378.787

SURVEY INFORMATION
FIELD NOTES
NO. | BY | DATE

ENGINEER'S SEAL
JAMES R. TOMILLER NEW MEXICO 9254 REGISTERED PROFESSIONAL ENGINEER

NO.	DATE	REMARKS	BY
		REVISIONS	
		DESIGN	

DESIGNED BY KP — DATE 10/93
DRAWN BY KW/MZM — DATE 10/93
CHECKED BY KP/JRT — DATE 10/93

CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT
ENGINEERING GROUP

PALOMAS PARK- PHASE IV
GRADING OF DESILTATION POND

APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE
DRC CHAIRMAN			WATER		
TRANSPORTATION			WASTE WATER		
HYDROLOGY					

DRAWING NO. | MAP NO. D-19 | SHEET 3B OF 11

BHI JOB NO. 91181.07

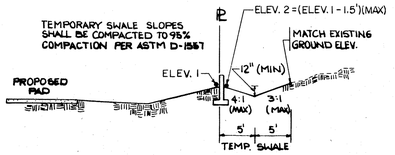
USERNAME: [C91277701.PAD]
FILENAME: GRADING.GRF

N

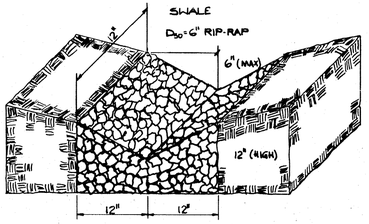
SCALE: 1" = 50'

NOTE:

1. PHASES I AND IA OF THE OVERALL SUBDIVISION ARE IN FINAL STAGES OF COMPLETION. GRADES SHOWN AS EXISTING ARE DESIGN GRADES ONLY. CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR VERIFYING EXISTING GRADES AND NOTIFYING ENGINEER OF ANY SIGNIFICANT DISCREPANCIES.



SECTION K-K
N.T.S



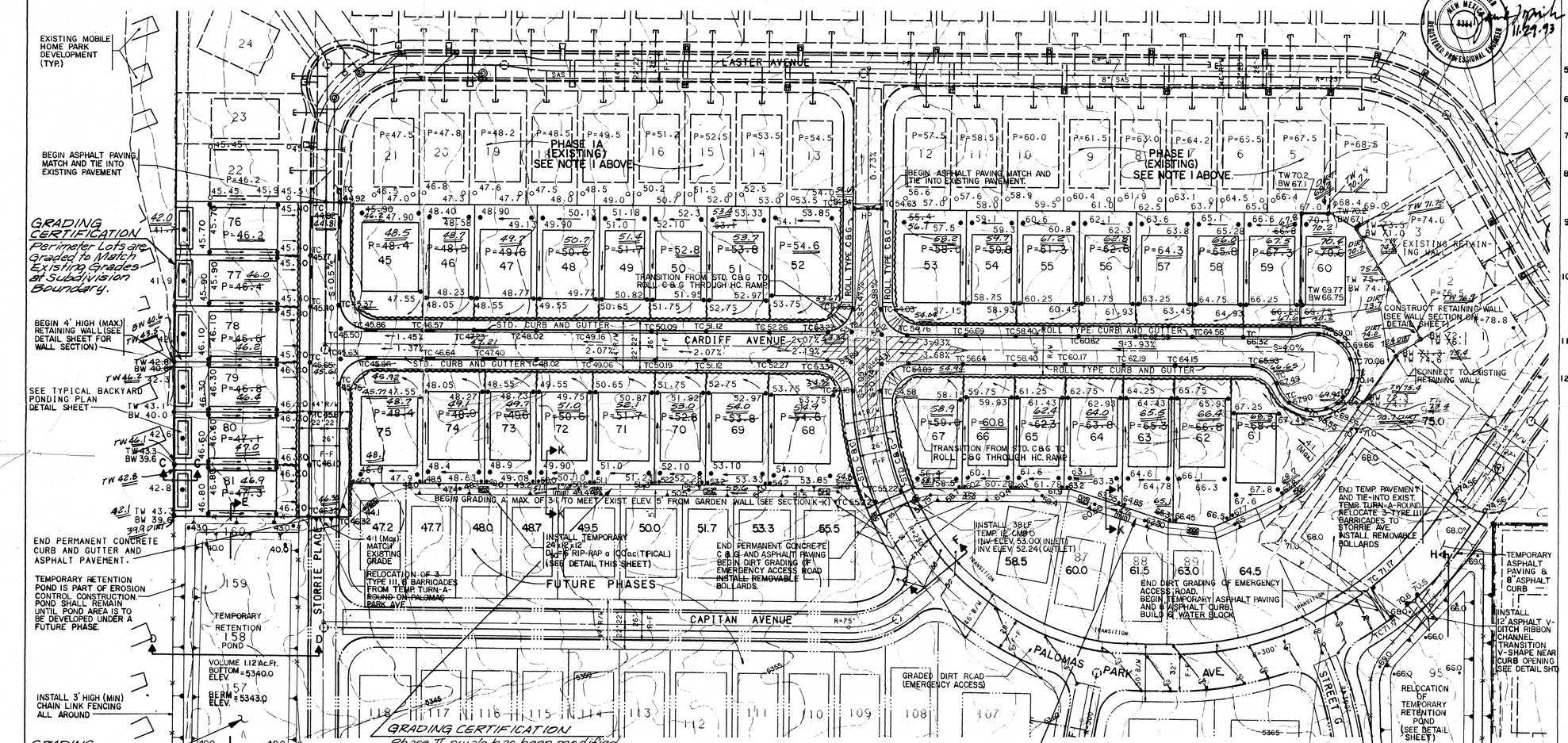
SWALE RIP-RAP
N.T.S

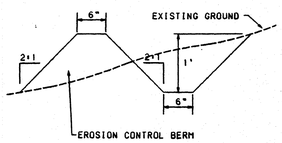
GRADING CERTIFICATION

I, James Topmiller, P.E. #9354, hereby certify that grading at this site is constructed in substantial compliance with this plan, to allow the implementation of the drainage patterns and requirements identified herein. Side yard garden walls will be constructed concurrently with individual home construction, which will implement required side yard swales. As-built grade elevations were verified by field surveys performed by Aldrich Surveying during November 1993, after completion of construction. This statement does not represent certification of contractor's construction methods or materials.

Note: Record, or "as-built" elevations, are shown at selected locations across the site. Record information is identified by a double underline.

JAMES R. TOPMILLER NEW MEXICO 9354 REGISTERED PROFESSIONAL ENGINEER 11-29-93





EROSION CONTROL PLAN

NO SCALE

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DRAINAGE PLAN

THIS PHASE 2 DRAINAGE PLAN CONFORMS TO THE OVERALL DRAINAGE PLAN OF THE ENTIRE SITE (SEE PALOMAS PARK SUBDIVISION DRAINAGE REPORT ON JUNE 1992 #D19-D1B).

A PORTION OF PALOMAS PARK AVE. WILL BE DIRT GRADED SO AS TO PROVIDE AN EMERGENCY ACCESS RD. FOR PHASE 2.

THE RETENTION POND AT FUTURE LOTS 156 TO 160 IS TO BE CONSTRUCTED TO RETAIN RUNOFF FROM FUTURE PHASES.

THE RETENTION POND AT THE EAST SIDE CONSTRUCTED IN PHASE 1 SHALL BE RELOCATED SOUTH, BUT WILL SERVE SAME PURPOSE

TEXT & CALCULATIONS

POND CALCULATIONS (WEST)

BASINS H, H-1, H-2, & L(SEE OVERALL GRADING PLAN)

TOTAL AREA OF EACH TREATMENT OF THE 4 BASINS COMBINED.

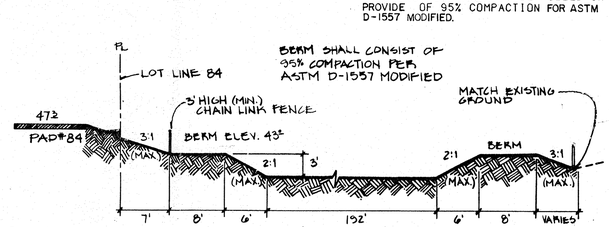
TREATMENT B 3.82 ACRES
TREATMENT C 7.65 ACRES
TOTAL AREA 10.94 ACRES

100 YEAR-6 HR STORM IN ZONE 3

EXCESS PRECIPITATION (E)=

$\frac{0.92"(3.82)+1.29"(7.65)}{8.12 \text{ ACRES}} = 1.18"$

RUNOFF VOLUME= $\frac{1.66"}{12}$(8.12) = 1.07 AC-FT



SECTION E-E

NTS

APPROVED FOR ROUGH GRADING (± 1')	
HYDROLOGY ENGINEER	01-12-93 DATE

BHI JOB NO. 91181.07

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11. TURN BLOCKS ON EDGE ON DOWNSTREAM END OF ALL REAR DRAINING LOTS TO PROVIDE WEEP HOLES IN WALLS. (NOT APPLICABLE)
12. ALL SPOTS ELEVATIONS ALONG THE PROPOSED STREETS ARE TO TOP OF STANDARD OR MOUNTABLE ROLL TYPE CURB AND GUTTER (AS LABELED) UNLESS OTHERWISE NOTED.

FOR INFOMATION ONLY

LEGEND

- EROSION CONTROL BERM
- EXISTING GROUND ELEVATIONS
- PROPOSED GROUND ELEVATIONS
- DRAINAGE FLOW DIRECTION
- RETAINING WALL
- PROPOSED STORM DRAIN INLET
- EXISTING STORM DRAIN INLET
- PROPOSED STORM DRAIN MANHOLE
- EXISTING STORM DRAIN MANHOLE
- PROJECT BOUNDARY
- EXISTING CONTOUR
- 49.5 FUTURE PAD ELEVATIONS

RECEIVED DEC - 7 1993 HYDROLOGY DIVISION

NO.	DATE	REMARKS	BY
4	1-6-93	RAISED PAD ELEV.	KP
3	1-8-93	ADDED 12" CMP, RIP-RAP, & SPOT ELEV.	KP
2	1-8-93	ADDED SWALE @ SOUTHERN END OF PHASE II	KP
1	1-8-93	REMOVE DESILTING POND	KP

REVISIONS

DESIGNED BY	KP	DATE 12/92
DRAWN BY	KCW / JAQG	DATE 12/92
CHECKED BY	JRT	DATE 1/92

CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT
ENGINEERING GROUP

PALOMAS PARK - PHASE TWO

GRADING PLAN

APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE
DRC CHAIRMAN		3-10-93	WATER	N/A RWK	3-2-93
TRANSPORTATION		2-24-93	WASTE WATER	N/A RWK	3-2-93
HYDROLOGY		3-01-93			

DRAWING NO.	4510.91	MAP NO. D-19	SHEET 3 OF 12

SURVEY INFORMATION — FIELD NOTES

NO.	BY	DATE

AS BUILT INFORMATION

CONTRACTOR HYDRO SYSTEMS
WORK STAKED BY
STAKING CHECKED BY
ACCEPTANCE BY
FIELD VERIFICATION BY
DRAWINGS CORRECTED BY
MICRO-FILM INFORMATION
RECORDED BY
NO.
DATE

BENCH MARKS

STATION IS A STANDARD USC&GS BRASS TABLET STAMPED "HEAVEN 1969" SET IN TOP OF A CONCRETE POST FLUSH WITH THE GROUND. LOCATED WEST ON PASEO DEL NORTE FROM WYOMING BLVD. APPROXIMATELY 800 FEET.

ELEVATION = 5378.787

SEAL

ENGINEER'S SEAL

JAMES R. TOPMILLER NEW MEXICO 9354 PROFESSIONAL ENGINEER 12-23-92

USERNAME: [C9118104.PAD]
FILENAME: GRADING2.GRF