DRAINAGE REPORT

FOR

BLAKE ROAD SUBDIVISION

A 62 LOT SINGLE FAMILY MOBILE HOME SUBDIVISION

ALBUQUERQUE NEW MEXICO
JUNE 1998

ISAACSON & ARFMAN, P.A.

Consulting Engineering Associates

Albuquerque, NM

DRAINAGE REPORT

FOR

BLAKE ROAD SUBDIVISION

A 62 LOT SINGLE FAMILY MOBILE HOME SUBDIVISION

ALBUQUERQUE NEW MEXICO
JUNE 1998

Prepared by:

ISAACSON & ARFMAN, P.A.
128 Monroe Street, NE
Albuquerque, NM 87108
(505) 268-8828

06/09/98

Fred C. Arfman, P.E. **Date**

INTRODUCTION

The Blake Road Subdivision is situated in the northeast corner of the intersection of Wendell Road and Blake Road. It is east of the Unser Blvd. corridor and west of the Amole del Norte Diversion Channel. Its' eastern boundary serves as the city/county line and land to the east of the site is county jurisdiction. All of Blake Road Subdivision falls within city limits.

This site will be developed as a 62 lot mobile home subdivision. As discussed in the Arenal/Unser Drainage Management Plan (M10/D10), all sites located to the east of Unser Blvd. can have free discharge into the Amole del Norte Diversion Channel. This is because these flows will reach and pass through the channel prior to when the channel reaches its peak flow. Since Blake Road to the east of this site has not yet been improved to its ultimate configuration, flows generated within this site will be stored in a temporary retention pond as an interim measure. Once Blake Road is improved, flows generated within this community will exit onto Blake Road and will be conveyed via street flow and storm drain to the Amole del Norte Diversion Channel. The portions of Blake Road and Wendell Road which front the property will be improved per city standards.

I. PROJECT INFORMATION

LEGAL DESCRIPTION: Tract C, Lands of Leo Chavez

ENGINEER: Isaacson & Arfman, P.A.
128 Monroe Street NE
Albuquerque, NM 87108
Attn: Fred C. Arfman, P.E.
(505) 268-8828

SURVEYOR: Aldrich Land Surveying, Inc.
Attn: Tim Aldrich, NMPLS No. 7719
(505) 884-1990

BENCHMARK: ACS Monument "Trans" located at the north end of Wendell Road SW.
Elevation: 5120.00

ZONING: SU-1 for Mobile Home Subdivision

NUMBER OF EXISTING TRACTS: 1

NUMBER OF PROPOSED LOTS: 62

TOTAL AREA: 9.9013 Ac.
431,300.63 Sq. Ft.

II. SITE CHARACTERISTICS

FLOOD HAZARD: None of this development lies within the 100-year flood zone as determined by Panel No. 350002-0336 of the September 20, 1996 Edition of the F.E.M.A. Maps.

EXISTING CONDITIONS: This site is currently undeveloped and mostly undisturbed with native ground cover, typical of the City's west side (Land Treatment A). The site has an overall slope toward the southeast averaging at five percent. Blake Road fronts the southern property boundary and Wendell Road the west. Vista del Sol Mobile Home Park and Hooten HH Mobile Home Park border to the north

and east respectively. All onsite storm waters flow to the southeast corner and into Blake Road. They are then carried by a bar ditch to the Amole del Norte Diversion Channel.

Both Blake and Wendell Roads are not presently developed to city standards. They each have 24' of temporary asphalt paving in place. Blake Road becomes a country road at the sites' east property corner. A side bar ditch, which is sediment laden at this time, follows along the north side of Blake Road and has an outlet into the Amole del Norte Diversion Channel. This ditch falls within county right-of-way.

There are no offsite flows that cross the property. Flows developed in the mobile home park to the west discharge into Wendell Road and are carried by a bar ditch to the Amole del Norte Diversion Channel. Vista del Sol Mobile Home Park, to the north and west of the site, utilizes an existing storm drain system to convey flows to the Amole del Norte Diversion Channel. This mobile home park also directs the offsite flows from the drainage basin to the west of future Unser Blvd. away from the site. These flows currently sheet flow from Blake Road southeast to the AMAFCA detention facility.

EXISTING HYDROLOGY: The site is presently classified as Land Treatment Type 'A'. The 100-year 6-hour peak flow rate is equal to 12.78 cfs and the total volume generated from the site equals 0.36 acre-feet.

PROPOSED CONDITIONS: The development of 62 lots for this community will have a dwelling unit per acre (N) of 6.26. The percentage of impervious land (Land Treatment D) was calculated based on minimum lot size and maximum trailer size. The impervious areas were determined to be 51% of the total area. The remaining 49% was split as 2/3 Land Treatment B and 1/3 Land Treatment C. All flows will drain from the back to the front of the lots, and will be conveyed via street flow to the southeast corner of the property (refer to Table 1, Appendix A for street capacity calculations).

The attached map, Exhibit A, is modified from the Drainage Management Plan of the Rio Bravo Sector Plan. It outlines the offsite basins and drainage systems planned near the site, and also provides a clear picture of what areas contribute to Blake Road.

The area to the west of the proposed alignment of Unser Blvd. is owned primarily by two developers. As shown in the Rio Bravo Sector Plan, flows from this area are planned to outfall to Unser and be conveyed via street flow and storm drain to the existing AMAFCA retention and detention facilities. The routing of these flows down Unser is the best option because of the following reasons.

- If the storm drain was routed down Blake Road instead of Unser, 2000 feet of large diameter storm drain would be required, versus a total of only 1800 feet if the proposed line was placed along

EXHIBIT A

OFFSITE DRAINAGE BASIN MAP

PARCEL 3
13.8 AC.

PARCEL 4
31.7 AC.

PARCEL 1
23.2 AC.

PARCEL 2
2 AC.

PARCEL 34
24.8 AC.

PARCEL 5
55.0 AC.

PARCEL 6
5.0 AC.

PARCEL 7
30.8 AC.

PARCEL 11
21.8 AC.

PARCEL 31
41.5 AC.

PARCEL 9
37.5 AC.

PARCEL 10
29.7 AC.

PARCEL 8
8 AC.

PARCEL 12
26.2 AC.

PARCEL 13
37.4 AC.

SUNSET BLVD. SW

AMOLE STREET

FUTURE DETENTION POND

(FUTURE)

EXISTING 42"/48"

STORM DRAIN

VISTA DEL SOL

BASIN 1A

BASIN 2A

SITE

WENDELL RD

BLAKE RD

BLAKE ROAD SW

MOBILE HOME VILLAGE

BLAKEVIEW

AMOLE DEL NORTE CHANNEL

ATLAFCA

CHARLES H. PAYNE

COORS BLVD

EXIST. WELL SITE

DRAINAGE R.O.W.

PARK

BRIDGE

MUNICIPAL LIMITS

Unser. Also, since Unser is an arterial street and must meet the dry lane criteria, it will require some type of storm drain regardless of whether the flows are routed through Blake Road or not. Therefore, locating the storm drain in Blake would double up the total length of necessary pipe.

- Blake Road already contains an 18" Master Plan Waterline, an 8" Waterline (which runs parallel to the Master Plan line), a 10" Master Plan Sanitary Sewer line, and an asphaltic roadway section. Although the addition of a storm drain is possible, placement of a large diameter line around the existing utilities would be difficult. Unser Blvd. provides an option that has no existing infrastructure that would conflict with a new line.

- The city/county line borders the east side of the Blake Road Mobile Home Subdivision, and therefore a storm drain down Blake Road would be partially city responsibility and partially county responsibility. A storm drain system in Unser would fall entirely within the city and would negate potential maintenance conflicts, etc.

The developments to the south of Blake Road either sheet flow to, or have direct outfalls into the Amole del Norte Diversion Channel. Vista del Sol Mobile Home Park, located to the north and west of the site, installed a 42"/48" storm drain extending from Unser Blvd. to the channel, which captures the majority of

flows generated within that site. Therefore, the only offsite flows which should travel down Blake Road are the northern portion of Blake View Mobile Home Park, a portion of both the Hooten HH and Vista del Sol Mobile Home Parks, and the proposed site. These comprise of approximately 38.0 acres and have a projected 100-year storm water runoff rate of 123.55 cfs at the Amole del Norte Diversion Channel entrance (see Appendix B, AHYMO Calculations).

Since Blake Road is a collector street and can only have a 0.5-foot street flow depth during a 10-year storm, a storm drain system will be required along Blake Road beginning to the east of Katrina Drive (see Exhibit B). The required inlet and storm drain adjacent to the site will be constructed at this time. The inlet, however, will be plugged to keep flows from entering the incomplete system. When Blake Road is built to its final configuration, additional catch basins will be added and a 24"/36" storm drain system will be continued from the sites' east property boundary to the Amole del Norte Diversion Channel (see Appendix A, Flowmaster sheets). This system will have the capacity to carry about 55 cfs. The remaining runoff will be carried by street flow until it reaches the Amole del Norte Diversion Channel.

As an interim measure a temporary retention pond sized to contain the 100-year 10-day volume will be constructed at the southeast property corner (Lots 1, 2, and 3, Block A) of the site. Once downstream infrastructure is in place the pond will be regraded and this site will have free discharge into Blake Road.

SITE

Middell Rd

Price

Blair Rd

18"ϕ

24"ϕ

36"ϕ

AMOLE DEL NORTE DIVERSION CHANNEL

N

EXHIBIT B

FUTURE STORM DRAIN ALIGNMENT

III. CONCLUSIONS & RECOMMENDATIONS

The recommendations for Blake Road Subdivision drainage study are presented below:

1. A temporary retention pond will be required at the southeast property corner. The pond shall be covered by a City of Albuquerque Agreement and Covenant.

2. An inlet and 18" diameter storm drain will be required along Blake Road from Katrina Drive to the east property boundary.

3. All flows generated within the subdivision will be conveyed via street flows (see Table 1, Appendix A).

4. No rear yard ponding shall be allowed in this portion of the development (see Typical Lot Grading Detail).

5. Adjacent lots may share a common lot line drainage swale (see Typical Lot Grading Detail).

6. Blake Road and Wendell Road will be built to their ultimate configuration (1/2 street) on the portions which front the site.

7. Water bars will be constructed in Rudy Road, Riley Road, Rocky Road, and Rugar Road to keep the flows in Wendell Road from entering the site (see Table 2, Appendix A).

8. The portion of Blake Road to be developed shall be allowed free discharge.

SITE INFORMATION

BENCHMARK: ACS BM "TRANS "LOCATED AT THE NORTHWEST PROPERTY CORNER.
ELEVATION: 5020.0

LEGAL DESCRIPTION: TRACT C, LANDS OF LEO CHAVEZ, TOWN OF ATRISCO GRANT.

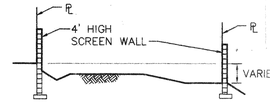
SURVEYS: BOUNDARY & TOPOGRAPHIC SURVEYS BY TIMOTHY ALDRICH, P.S. NO. 7719, DATED MARCH 1997.

FLOOD HAZARD STATEMENT: AS SHOWN ON PANEL 36 OF THE FEMA FLOOD MAPS, THIS SITE IS NOT WITHIN THE 100 YEAR FLOOD ZONE, NOR DOES IT DRAIN TO A DEFINED FLOOD ZONE.

SOILS: FROM THE SCS SOIL SURVEY OF BERNALILLO COUNTY, PREDOMINANT SITE SOIL IS BLUEPOINT LOAMY FINE SAND WHICH IS CLASSIFIED IN HYDROLOGIC SOIL GROUP 'A'.

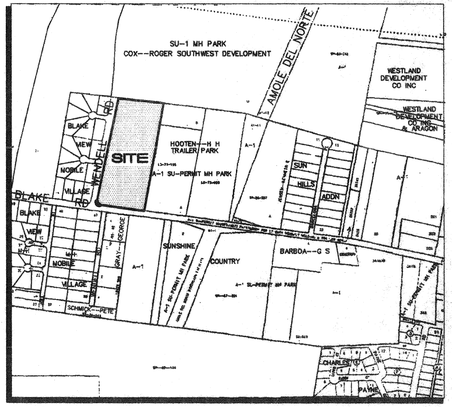
LEGEND

- EXISTING CONTOUR
- EXISTING SPOT ELEVATION
- TC=5023.75 PROPOSED TOP OF CURB ELEVATION
- EXISTING CMU BLOCK WALL
- PROPOSED CMU BLOCK WALL
- STD. C & G WITH VALLEY GUTTER
- FLOW DIRECTIONAL ARROW
- DRAINAGE SWALE
- 42"SD 42" STORM DRAIN
- LIMITS OF DRAINAGE BASINS
- AP5 HYDROLOGIC ANALYSIS POINT
- WATER BLOCK



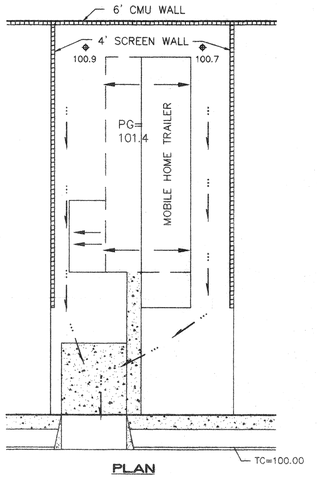
SECTION

TYPICAL LOT DRAINAGE
NOT TO SCALE



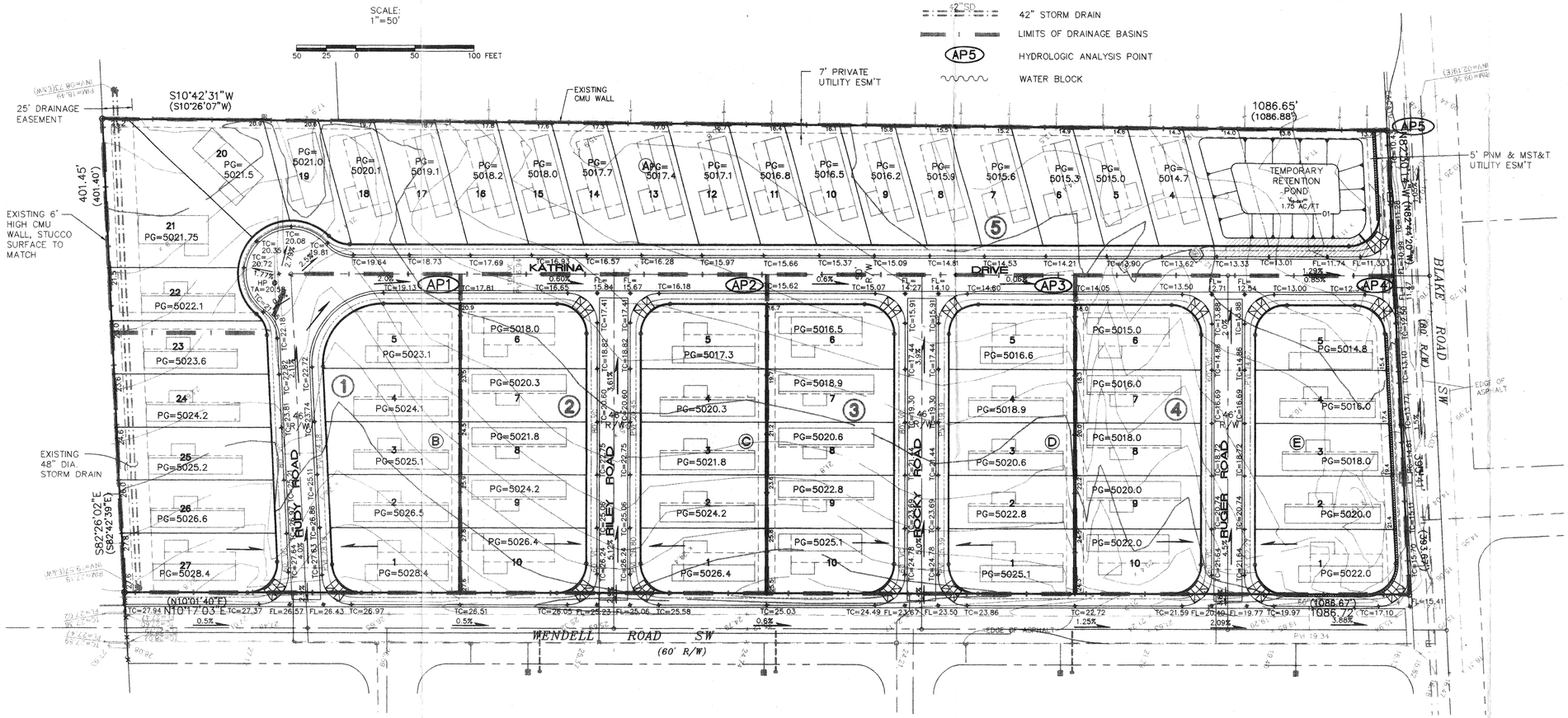
N-10 1"=750'±

VICINITY MAP



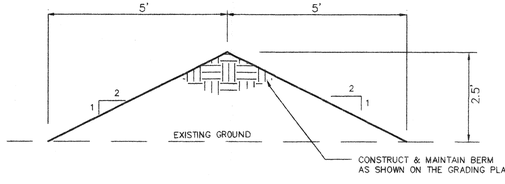
PLAN

TYPICAL LOT DRAINAGE
NOT TO SCALE



GRADING NOTES:

1. ALL TRASH, DEBRIS, & SURFACE VEGETATION SHALL BE CLEARED AND LEGALLY DISPOSED OFFSITE.
2. ALL SUBGRADE AND FILL SHALL BE COMPACTED TO A MINIMUM OF 90% ASTM D-1557.
3. EXCAVATION IS UNCLASSIFIED AND INCLUDES EXCAVATION TO SUBGRADE ELEVATIONS INDICATED, REGARDLESS OF CHARACTER OF MATERIALS ENCOUNTERED.
4. CONFORM TO ELEVATIONS AND DIMENSIONS SHOWN ON PLANS WITHIN A TOLERANCE OF 0.3± FEET.
5. SCARIFY AND COMPACT SUBGRADE FOR FILLS. PLACE FILL MATERIALS IN LAYERS NOT MORE THAN 8" IN LOOSE DEPTH. MOISTEN AS NECESSARY TO PROVIDE OPTIMUM MOISTURE (±2%) CONTENT.
6. UNIFORMLY GRADE AREAS WITHIN LIMITS OF GRADING AS SHOWN ON PLAN. SMOOTH FINISHED SURFACE WITHIN SPECIFIED TOLERANCE, COMPACT WITH UNIFORM SLOPES BETWEEN POINTS WHERE ELEVATIONS ARE INDICATED.
7. MAXIMUM SLOPES SHALL BE 3:1; MINIMUM SLOPES SHALL BE 1%.
8. FIVE (5) WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT NEW MEXICO ONE CALL SYSTEM, 260-1990, FOR LOCATION OF EXISTING UTILITIES.
9. IF ANY UTILITY LINES, PIPELINES, OR UNDERGROUND UTILITY LINES ARE SHOWN ON THESE DRAWINGS, THEY ARE SHOWN IN AN APPROXIMATE MANNER ONLY, AND SUCH LINES MAY EXIST WHERE NONE ARE SHOWN. IF ANY SUCH EXISTING LINES ARE SHOWN, THE LOCATION IS BASED UPON INFORMATION PROVIDED BY THE OWNER OF SAID UTILITY, AND THE INFORMATION MAY BE INCOMPLETE, OR MAY BE OBSOLETE BY THE TIME CONSTRUCTION COMMENCES. THE ENGINEER HAS CONDUCTED ONLY PRELIMIARY INVESTIGATION OF THE LOCATION, DEPTH, SIZE OR TYPE OF EXISTING UTILITY LINES, PIPELINES, OR UNDERGROUND UTILITY LINES. THIS INVESTIGATION IS NOT CONCLUSIVE, AND MAY NOT BE COMPLETE, THEREFORE, MAKES NO REPRESENTATION PERTAINING THERETO, AND ASSUMES NO RESPONSIBILITY OR LIABILITY THEREFORE. THE CONTRACTOR SHALL INFORM ITSELF OF THE LOCATION OF ANY UTILITY LINE, PIPELINE, OR UNDERGROUND UTILITY LINE IN OR NEAR THE AREA OF THE WORK IN ADVANCE OF AND DURING EXCAVATION WORK. THE CONTRACTOR IS FULLY RESPONSIBLE FOR ANY AND ALL DAMAGE CAUSED BY ITS FAILURE TO LOCATE, IDENTIFY AND PRESERVE ANY AND ALL EXISTING UTILITIES, PIPELINES, AND UNDERGROUND UTILITY LINES. IN PLANNING AND CONDUCTING EXCAVATION, THE CONTRACTOR SHALL COMPLY WITH STATE STATUTES, MUNICIPAL AND LOCAL ORDINANCES, RULES AND REGULATIONS, IF ANY, PERTAINING TO THE LOCATION OF THESE LINES AND FACILITIES.
10. THE CONTRACTOR SHALL PROMPTLY CLEAN UP ANY MATERIAL EXCAVATED WITHIN THE PUBLIC RIGHT-OF-WAY SO THAT THE EXCAVATED MATERIAL IS NOT ERODED AND WASHED DOWN THE STREET.
11. OWNER WILL PROVIDE SOIL TESTING AND INSPECTION SERVICES DURING EARTHWORK OPERATIONS. ALLOW TESTING SERVICE TO INSPECT AND APPROVE COMPACTED SUBGRADES AND FILL LAYERS BEFORE FURTHER CONSTRUCTION WORK IS DONE. SHALL COMPACTION TESTS INDICATE INADEQUATE DENSITY, CONTRACTOR SHALL PROVIDE ADDITIONAL COMPACTION AND TESTING AT NO ADDITIONAL EXPENSE.
12. OWNER HAS ESTABLISHED SUBDIVISION BOUNDARY CORNERS. CONTRACTOR SHALL PROVIDE ALL OTHER CONSTRUCTION STAKING INCLUDING TRACT CORNERS. CONTRACTOR SHALL LOCATE AND PRESERVE ALL BOUNDARY CORNERS AND REPLACE ANY LOST OR DISTURBED CORNERS.



EROSION CONTROL BERM
SCALE: 1"=2'

EROSION CONTROL

1. THE CONTRACTOR SHALL ENSURE THAT NO SOIL ERODES FROM THE SITE INTO THE PUBLIC RIGHT-OF-WAY OR ONTO PRIVATE PROPERTY. THIS CAN BE ACHIEVED BY CONSTRUCTING EROSION CONTROL BERMS (AS DETAILED AT RIGHT) AS SHOWN ON THE PLAN AND WETTING THE SOIL TO KEEP IT FROM BLOWING.
2. THE CONTRACTOR SHALL SECURE "TOPSOIL DISTURBANCE PERMIT" FROM THE CITY ENVIRONMENTAL HEALTH DEPARTMENT PRIOR TO BEGINNING CONSTRUCTION. AN EXCAVATION PERMIT IS REQUIRED FOR ALL WORK WITHIN PUBLIC RIGHT-OF-WAY.
3. SEE GRADING NOTES.

RECEIVED MAY 08 1998 HYDROLOGY SECTION

RECEIVED MAY 08 1998 HYDROLOGY SECTION

BLAKE RD. MOBILE HOME SUBDIVISION

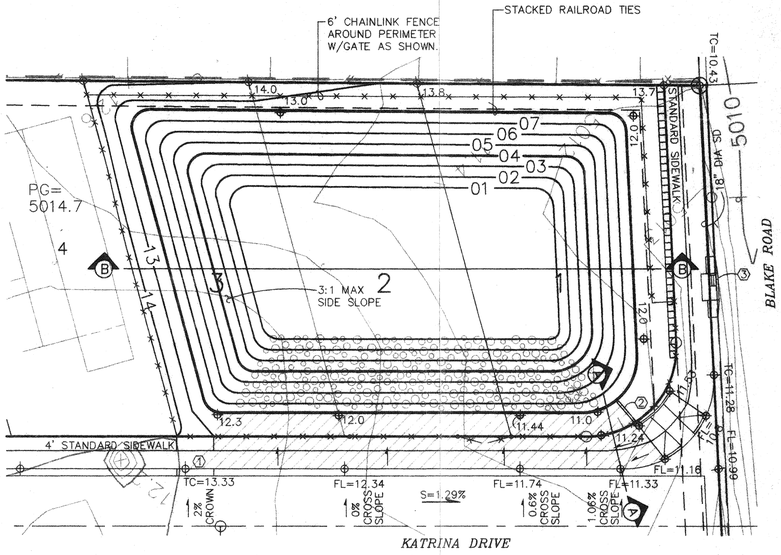
GRADING & DRAINAGE PLAN

FRED C. ARFMAN NEW MEXICO 7322 REGISTERED PROFESSIONAL ENGINEER 06-05-98

ISAACSON & ARFMAN, P.A.
Consulting Engineering Associates
128 Monroe Street N.E.
Albuquerque New Mexico

954GRD.DWGems | 6/5/98

SHEET 3 OF 3



TEMPORARY RETENTION POND DETAIL

SCALE: 1"=20'

*LOTS 1, 2 & 3, BLOCK A, TO BE ENCUMBERED BY A PUBLIC DRAINAGE EASEMENT FOR A TEMPORARY RETENTION POND.

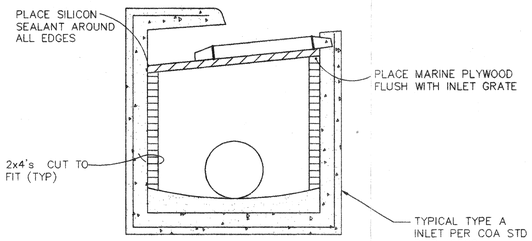
$V_{10\ DAY}$(REQUIRED) = 1.75 AC FT = 76230 CF

POND DESIGN

VOL (AC FT)	ELEV (FT)
0.18	5003
0.45	5005
0.83	5007
1.30	5009
1.76	5011

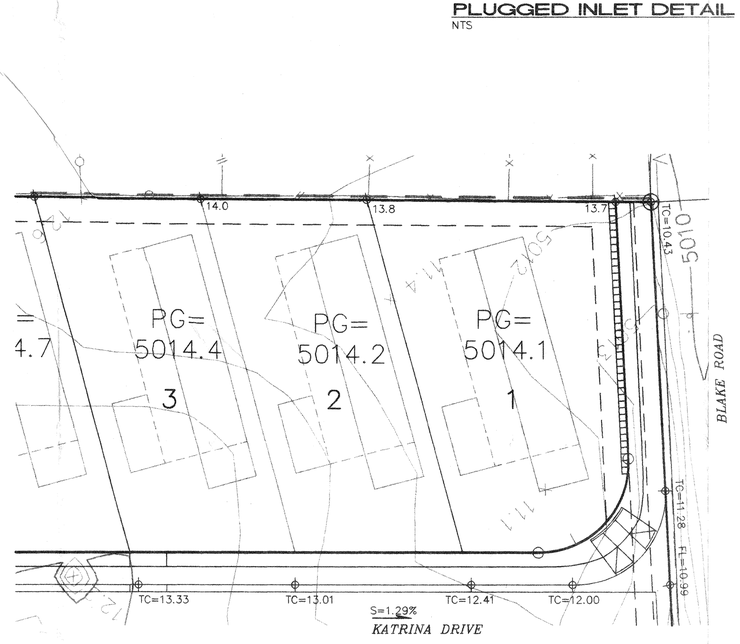
KEYED CONSTRUCTION NOTES ⬡

1. TRANSITION FROM STANDARD SIDEWALK, CURB AND GUTTER TO TEMPORARY ASPHALT RUNDOWN AND GUTTER STONE (AS DETAILED IN SECTION A–A BELOW) IN 10'.
2. 8"x7'x1' PCC CURB.
3. INSTALL TYPE A INLET AND 18" CONNECTOR PIPE. INLET SHALL BE PLUGGED UNTIL BLAKE ROAD IS DEVELOPED TO THE EAST. SEE DETAIL RIGHT.



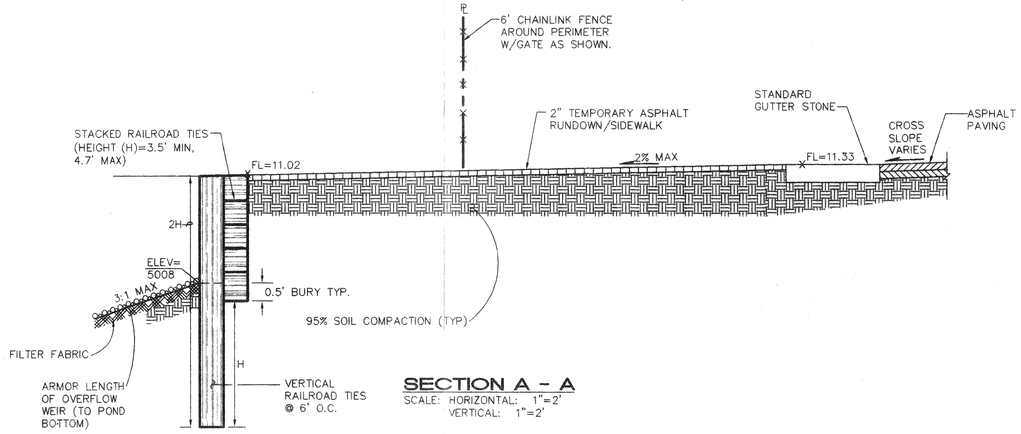
PLUGGED INLET DETAIL

NTS



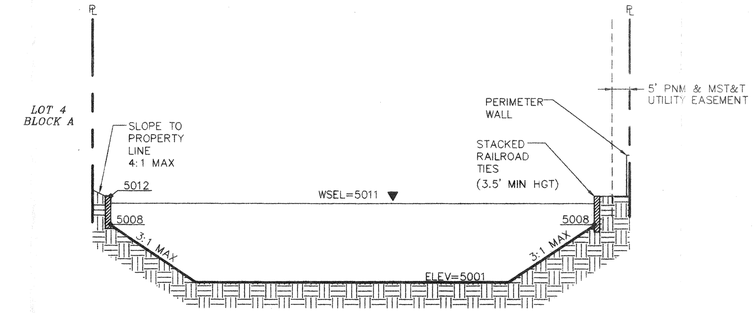
FUTURE PAD GRADES LOTS 1, 2 & 3, BLOCK A

SCALE: 1"=20'



SECTION A – A

SCALE: HORIZONTAL: 1"=2'
VERTICAL: 1"=2'



SECTION B – B

SCALE: HORIZONTAL: 1"=20'
VERTICAL: 1"=10'

AS-BUILT INFORMATION
CONTRACTOR
WORK STARTED BY — DATE
WORK ACCEPTANCE BY — DATE
CERTIFICATION BY — DATE
DRAWINGS CORRECTED BY — DATE
MICRO-FILM INFORMATION
RECORDED BY — DATE
NO.

BENCH MARKS
ACS MOUNMENT "TRANT" LOCATED
ELEVATION = 5120.0

SURVEY INFORMATION
FIELD NOTES

ENGINEER'S SEAL
FRED C. ARFMAN
STATE OF NEW MEXICO
7322
REGISTERED PROFESSIONAL ENGINEER
06-09-98

NO.	DATE	REMARKS	BY
		REVISIONS	
		DESIGN	
	DATE 09/17/97		DESIGNED BY MJC
	DATE 09/17/97		DRAWN BY EMS
	DATE 09/17/97		CHECKED BY FCA

ISAACSON & ARFMAN, P.A.
Consulting Engineering Associates
128 Monroe Street N.E.
Albuquerque New Mexico
954GDTLS.DWGems 06/08/98

CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT
ENGINEERING GROUP

TITLE: BLAKE ROAD MOBILE HOME SUBDIVISION
GRADING DETAILS & SECTIONS

Design Review Committee	City Engineer Approval	Last Design Update	Mo./Day/Yr.	Mo./Day/Yr.

City Project No. | Zone Map No. N-10 | Sheet 3A Of 3