

# DRAINAGE INFORMATION SHEET

PROJECT TITLE: Las Tres Hermanas ZONE ATLAS/DRNG. FILE #: K-12 / D26, PWD-98-171

DRB #: \_\_\_\_\_ EPC #: \_\_\_\_\_ WORK ORDER #: \_\_\_\_\_

LEGAL DESCRIPTION: 21-C-1-A--1-A & 21-C-1-A-2-A-1-A, Map 39, Middle Rio Grand District, Town of Atrisco, Sec 24

CITY ADDRESS: North of Gonzales Road and south of Atrisco Ditch

ENGINEERING FIRM: Advanced Engineering and Consulting CONTACT: Shahab Biazar

ADDRESS: 10209 Snowflake Ct. NW Alb., NM 87114 PHONE: (505) 899-5570

OWNER: Joan Chavez CONTACT: Joan Chavez

ADDRESS: 1815B Gonzales Road, SW , Alb., NM 87102 PHONE: (505) 836-1917

ARCHITECT: \_\_\_\_\_ CONTACT: \_\_\_\_\_

ADDRESS: \_\_\_\_\_ PHONE: \_\_\_\_\_

SURVEYOR: \_\_\_\_\_ CONTACT: \_\_\_\_\_

ADDRESS: \_\_\_\_\_ PHONE: \_\_\_\_\_

CONTRACTOR: \_\_\_\_\_ CONTACT: \_\_\_\_\_

ADDRESS: \_\_\_\_\_ PHONE: \_\_\_\_\_

TYPE OF SUBMITTAL:

☐ DRAINAGE REPORT

☒ DRAINAGE PLAN

☐ CONCEPTUAL GRADING & DRAINAGE PLAN

☒ GRADING PLAN

☐ EROSION CONTROL PLAN

☐ ENGINEER'S CERTIFICATION

☐ OTHER

CHECK TYPE OF APPROVAL SOUGHT:

☐ SKETCH PLAN APPROVAL

☒ PRELIMINARY PLAT APPROVAL

☐ S. DEV. PLAN FOR SUB'D. APPROVAL

☐ S. DEV. PLAN FOR BLDG. PERMIT APPROVAL

☐ SECTOR PLAN APPROVAL

☒ FINAL PLAT APPROVAL

☐ FOUNDATION PERMIT APPROVAL

☐ BUILDING PERMIT APPROVAL

☐ CERTIFICATE OF OCCUPANCY APPROVAL

☒ GRADING PERMIT APPROVAL

☐ PAVING PERMIT APPROVAL

☐ S. A. D. DRAINAGE REPORT

☐ DRAINAGE REQUIREMENTS

☐ OTHER

PRE-DESIGN MEETING:

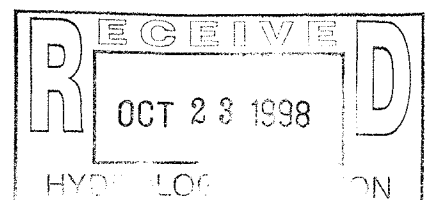
☐ YES

☐ NO

☐ COPY PROVIDED

DATE SUBMITTED: 10 / 20 / 98

BY: SHAHAB BIAZAR. P.E.



# County of Bernalillo

State of New Mexico



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November 3, 1998

Shahab Biazar, P.E.  
Advanced Engineering & Consulting  
10209 Snowflake Ct. NW  
Albuquerque, New Mexico 87114

**RE: Grading and Drainage Plan for Las Tres Hermanas Subdivision (K12/D26) (PWD-98-171) Submitted for Preliminary and Final Plat and Grading Permit Approval, Engineer's Stamp Dated 10/20/98.**

Dear Shahab:

Based on the information provided with the submittal of October <sup>23</sup>~~20~~, 1998, the above referenced plan is approved for Preliminary and Final Plat action and Grading Permit release.

As you are aware, the Engineer's Certification is required for each Lot prior to release of the Certificate of Occupancy for each residence.

If you have any questions, or if I may be of further assistance to you, please call me at 924-3982.

Sincerely,

A handwritten signature in cursive script, reading "Susan Calongne".

Susan M. Calongne, P.E.  
City/County Floodplain Administrator

c: Joan Chavez, Owner  
Brad Catanach, P.E., Bernalillo County Public Works Division  
Lisa Ann Manwill, P.E., Albuquerque Metropolitan Arroyo Flood Control Authority  
File

## Location

The site is a 0.8264 acres site which is located east side of Atrisco Ditch and north side of Gonzales Road. See attached vicinity map for location.

## Purpose

The purpose of this report is to present a grading and drainage solution for the proposed site for subdividing the site into three tracts A, B, and C.

## Existing Drainage Conditions

The site is flat. The runoff at existing runoff conditions (1.08 cfs) ponds on site. There are no offsite runoff that enter this site. The runoff is intercepted by existing houses to the north, south. Another existing house and the Atrisco Ditch intercept the runoff to the west. To the south the runoff is intercepted by Gonzales Road. The entire site falls within a 100-year flood plain, Zone AH (4947' elevation). See attached FIRM Map 35001C0333 D for the location of the site.

## Proposed Conditions and On-Site Drainage Management Plan

The entire Tract will be graded so all the runoff will pond on site. Each Tract will be graded to pond the runoff within its boundary. See this plan for ponding requirement and calculations for each lot. The 100 year-10 day volume was used for ponding calculations. No pads are proposed at this time. Since the entire site will be graded, the C=100% treatment was used for ponding calculations. Extra ponding volume will be required when a building is proposed. The minimum Finished Floor Elevations are set at 5948' (1' above the 100-year flood elevation of 5947').

## Calculations

City of Albuquerque, Development Process Manual, Section 22.2, Hydrology Section, revised January, 1993, was used for the runoff calculations. A treatment of A=100 % was used for on site existing conditions, an average treatment of D=16.73%, C=83.27% was used for proposed conditions to run AHYMO. The site falls under Zone 1 based on Figure A-1 of page A-1. For individual pondings the following treatments were used:  
Tract A D=17.20%, C=82.80%  
Tract B D=17.90%, C=82.10%  
Tract C D=15.10%, C=84.90%

## AHYMO INPUT FILE

\* ZONE 1  
\* (100-YEAR, 24 HOUR, UNDER EXISTING CONDITIONS)  
START TIME=0.0  
RAINFALL TYPE=2 RAIN QUARTER=0.0 IN  
RAIN ONE=1.87 IN RAIN SIX=2.20 IN  
RAIN DAY=2.66 IN DT=0.03333 HR  
COMPUTE NM HYD ID=1 HYD NO=101.0 AREA=0.001291 SQ MI  
PER A=100.00 PER B=0.00 PER C=0.00 PER D=0.00  
TP=0.1333 HR MASS RAINFALL=-1  
\* (100-YEAR, 24 HOUR, UNDER PROPOSED CONDITIONS)  
COMPUTE NM HYD ID=1 HYD NO=102.0 AREA=0.001291 SQ MI  
PER A=0.00 PER B=0.00 PER C=83.27 PER D=16.73  
TP=0.1333 HR MASS RAINFALL=-1  
\* (10-YEAR, 24 HOUR, UNDER EXISTING CONDITIONS)  
START TIME=0.0  
RAINFALL TYPE=2 RAIN QUARTER=0.0 IN  
RAIN ONE=1.25 IN RAIN SIX=1.47 IN  
RAIN DAY=1.77 IN DT=0.03333 HR  
COMPUTE NM HYD ID=1 HYD NO=111.0 AREA=0.001291 SQ MI  
PER A=100.00 PER B=0.00 PER C=0.00 PER D=0.00  
TP=0.1333 HR MASS RAINFALL=-1  
\* (10-YEAR, 24 HOUR, UNDER PROPOSED CONDITIONS)  
COMPUTE NM HYD ID=1 HYD NO=112.0 AREA=0.003968 SQ MI  
PER A=0.00 PER B=0.00 PER C=83.27 PER D=16.73  
TP=0.1333 HR MASS RAINFALL=-1  
\* FINISH

## AHYMO SUMMARY OUTPUT FILE

AHYMO SUMMARY TABLE (AHYMO194)-AMAFCA Hydrologic Model-January,1994 RUN DATE (MON/DAY/YR) =09/30/1998  
INPUT FILE = 9851  
FROM TO  
HYDROGRAPH ID ID AREA DISCHARGE PEAK RUNOFF TIME TO CFS  
COMMAND IDENTIFICATION NO. NO. (SQ MI) (CFS) (AC-FT) (INCHES) (HOURS) ACRE NOTATION  
START TIME= .00  
RAINFALL TYPE= 2  
COMPUTE NM HYD 101.00 - 1 0.00129 1.08 0.030 0.43925 1.533 1.304 PER IMP= .00  
COMPUTE NM HYD 102.00 - 1 0.00129 2.60 0.084 1.22042 1.500 3.144 PER IMP= 16.73  
START TIME= .00  
RAINFALL TYPE= 2  
COMPUTE NM HYD 111.00 - 1 0.00129 0.20 0.006 0.08264 1.533 .248 PER IMP= .00  
COMPUTE NM HYD 112.00 - 1 0.00129 1.44 0.042 0.61226 1.500 1.738 PER IMP= 16.73  
FINISH

## BENCHMARK

ACS "11-K12"  
CENTRAL STATION DATA  
NM STATE PLANE COORDINATES  
CENTRAL ZONE  
X=370,918.72  
Y=1,486,671.56  
G TO G = 0.99968220  
DELTA ALPHA = -00°14'53"  
ELEV. = 4946.74

## LEGEND

---X---X--- EXISTING FENCE  
----- EXISTING POWER LINES  
----- EXISTING CURB & GUTTER  
----- BOUNDARY LINE  
----- EASEMENT  
62.64 • PROPOSED GRADE  
----- EXISTING GRADE

## POND CALCULATIONS

POND A: (TRACT A = 0.26627 ACRES)  
BOTTOM AREA = 1,034 SF, TOP AREA = 2,380 SF, DEPTH = 2.0'  
VOLUME PROVIDED = (1034+2380)/2 X 2 = 3,414 CF  
VOLUME DISPLACED BY THE PAD = 2,000 CF  
10 DAY VOLUME REQUIRED = 1,364.22 CF  
TOTAL VOLUME REQUIRED = 3,364.22 CF

POND B: (TRACT B = 0.25649 ACRES)  
BOTTOM AREA = 1,200 SF, TOP AREA = 2,220 SF, DEPTH = 2.0'  
VOLUME PROVIDED = (1200+2220)/2 X 2 = 3,420 CF  
VOLUME DISPLACED BY THE PAD = 2,000 CF  
10 DAY VOLUME REQUIRED = 1,330.06 CF  
TOTAL VOLUME REQUIRED = 3,330.06 CF

POND C: (TRACT C = 0.30367 ACRES)  
BOTTOM AREA = 1,272 SF, TOP AREA = 2,300 SF, DEPTH = 2.0'  
VOLUME PROVIDED = (1272+2300)/2 X 2 = 3,572 CF  
VOLUME DISPLACED BY THE PAD = 2,000 CF  
10 DAY VOLUME REQUIRED = 1,499.09 CF  
TOTAL VOLUME REQUIRED = 3,499.09 CF

## SAMPLE VOLUME CALCULATIONS FOR 10-DAY STORM FOR TRACT A

ZONE = 1  
SUB-BASIN AREA (SF) AREA (AC) AREA (MI)  
TRACT A 11598.87 0.26627 0.000416

E =  $\frac{EA(AA)+EB(AB)+EC(AC)+ED(AD)}{AA+AB+AC+AD}$

V-360 = E (AA+AB+AC+AD) / 12 in/ft

V-10,Day = V-360+AD(P-10,Day - P-360) / 12 in/ft

EA = 0.44  
EB = 0.67  
EC = 0.99  
ED = 1.97

AA = 0.00%  
AB = 0.00%  
AC = 82.80%  
AD = 17.20%

P-60 = 1.87  
P-360 = 2.20  
P-1440 = 2.66  
P-10 Day = 3.67

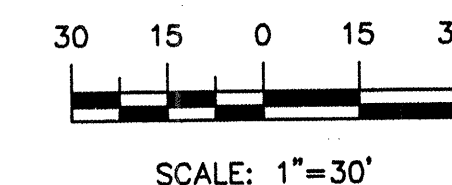
E = 1.1586 IN  
V-360 = 0.0257 AC-FT  
AD = 0.0000 AC  
V-10 Day = 0.0313 AC-FT  
V-10 DAY = 1364.22 CF

V-DISPLACED BY THE PAD = 2000.00 CF

TOTAL REQUIRED VOLUME = 3,364.22 CF

TOTAL VOLUME PROVIDED = 3,414.00 CF

## GRAPHIC SCALE



## EXISTING CONDITIONS

THE ENGINEER HAS PERSONALLY INSPECTED THE LAND, AND NO GRADING, FILLING, OR EXCAVATION HAS OCCURRED THEREON SINCE THE EXISTING CONTOUR MAP WAS PREPARED.

Shahab Biazar, P.E.  
10-20-98  
DATE

## EROSION CONTROL PLAN AND POLLUTION PREVENTION NOTES

- CONTRACTOR IS RESPONSIBLE FOR OBTAINING A TOPSOIL DISTURBANCE PERMIT PRIOR TO BEGINNING WORK.
- CONTRACTOR IS RESPONSIBLE FOR CLEANING ALL SEDIMENT OUT OF EXISTING RIGHT-OF-WAY.
- CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ALL STORM RUN OFF ON SITE.
- REPAIR OF DAMAGED FACILITIES AND CLEAN-UP OF SEDIMENT ACCUMULATION ON ADJACENT PROPERTIES AND IN PUBLIC FACILITIES IS THE RESPONSIBILITY OF THE CONTRACTOR.
- ALL EXPOSED EARTH SURFACES MUST BE PROTECTED FROM WIND AND WATER EROSION PRIOR TO FINAL ACCEPTANCE OF ANY PROJECT.

## LEGAL DESCRIPTION:

TRACTS 21C1A12A1A & 21C1A1, M.R.G.C.D. MAP NO. 39

## NOTES:

- ALL SPOT ELEVATIONS PRESENT THE FLOWLINE ELEVATION UNLESS OTHERWISE NOTED
- ADD 4900 TO ALL THE SPOT ELEVATIONS.

## NOTICE TO CONTRACTORS

- 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.
- 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 INTERIM STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, 1985.
- TWO WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT LINE LOCATING SERVICE, 785-1234, FOR LOCATION OF EXISTING UTILITIES.
- 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.
- BACKFILL COMPACTION SHALL BE ACCORDING TO RESIDENTIAL STREET USE.
- MAINTENANCE OF THESE FACILITIES SHALL BE THE RESPONSIBILITY OF THE OWNER OF THE PROPERTY SERVED.
- WORK ON ARTERIAL STREETS SHALL BE PERFORMED ON A 24-HOUR BASIS.

ROUGH GRADING APPROVAL

DATE

LAS TRES HERMANAS GRADING AND DRAINAGE PLAN		ENGINEER'S SEAL SHAHAB BIAZAR NEW MEXICO REGISTERED PROFESSIONAL ENGINEER 13475	DRAWN BY SH.B DATE 9-18-98 9861GR.DWG SHEET # 1 JOB # 9861
10209 SNOWFLAKE CT., NW ALBUQUERQUE, NEW MEXICO 87114 (505)899-5570			