

DRAINAGE REPORT
for
AGUA AZUL
IN ALBUQUERQUE, NM

Prepared By

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Albuquerque, NM 87199*

May 2001

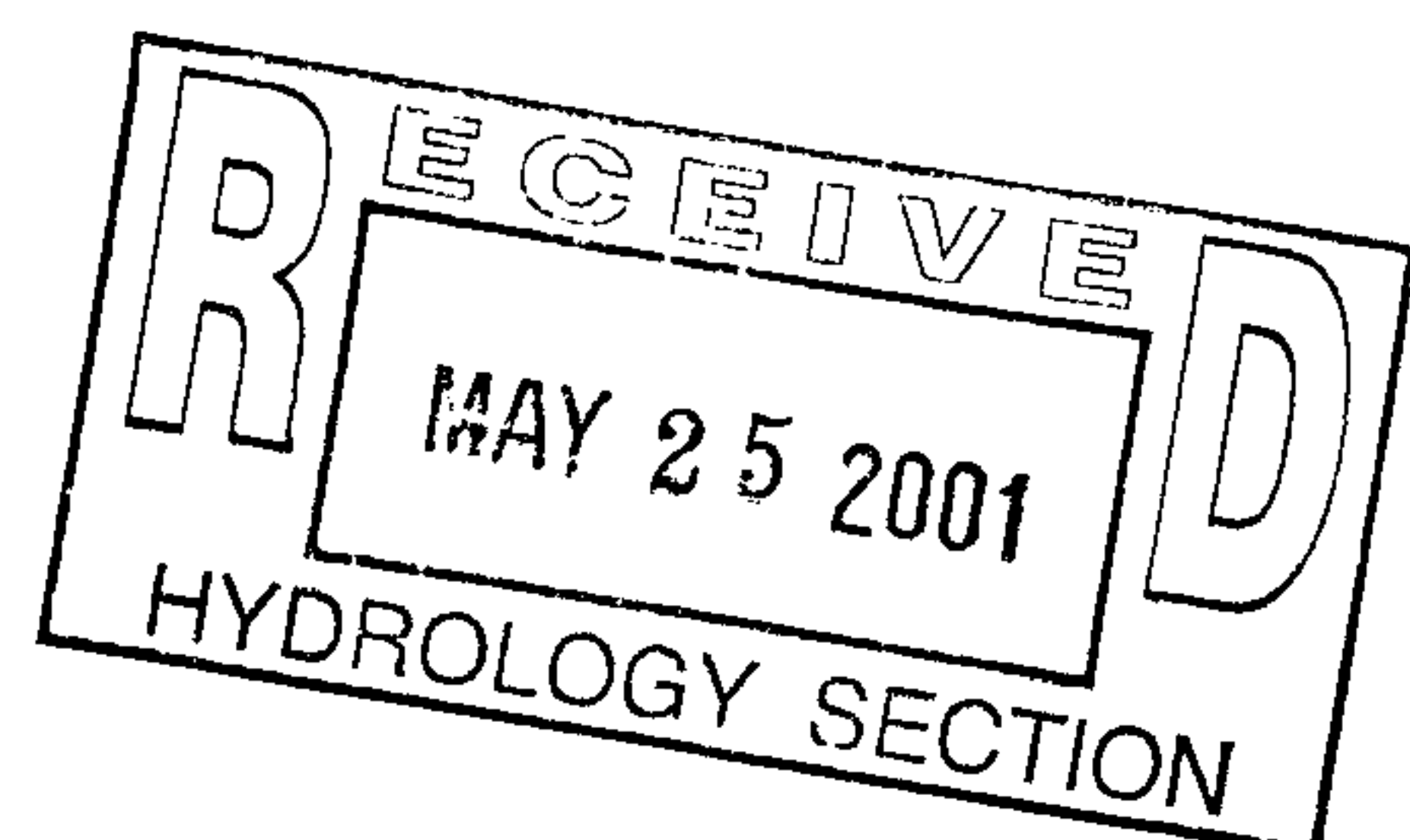


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INTRODUCTION

This report for Agua Azul is being submitted for grading and drainage approval.

EXISTING CONDITIONS

This site is located on Zone Atlas Map K-10. Please see the enclosed Grading and Drainage Plan which has the site location. The property is currently vacant.

This site is not in the 100 year flood plain. Please see the enclosed delineation.

This site is within Basin 6 of the Bluewater Development Hydrology Report (K10/D20). The pertinent sections of this report are enclosed.

The Bluewater Report has numerous drainage ponds. Basin O-1 and Basin 7 drain to pond 7. Pond 7 partially fills and drains to pond 6. Basin 6 also drains to pond 6. The release from pond 6 is restricted. Pond 6 drains to pond 3 which goes to pond 2 which goes to pond 1. Restricted flow drains from pond 1 to an inlet in Coors.

Ponds 6 and 7 work together. The volumes are as follows per the Bluewater Report:

Basin	Area (Acre)	Treatment	V- 360 (CF)	V-1440 (CF)
O-1	1.80	10%B, 90%D	12,023	14,700
7	2.76	100% C	9,920	
6	3.37	100%C	12,100	

In the report, the volume required was $14,700 + 9,920 + 12,100 = 36,720$ cf for the total of ponds 6 and 7.

PROPOSED DRAINAGE PLAN

Basin 6 needs to be adjusted for the new impervious areas. Please see the enclosed calculations.

For Basin O-1, because the ponds are designed to hold water less than 6 hours per page 22-14 of the DPM, only V-360 is required (12,023 cf).

The new volumes are as follows:

Basin	Area (Acre)	Treatment	V- 360 (CF)	V-1440
O-1	1.80	10%B, 90%D	12,023	14,770
7	2.76	100% C	9,920	
6	3.37	64% B, 36%D	13,896	

The volume required is $12,023 + 9,920 + 13,896 = 35,839$ cf for the total of ponds 6 and 7. Pond 7 currently

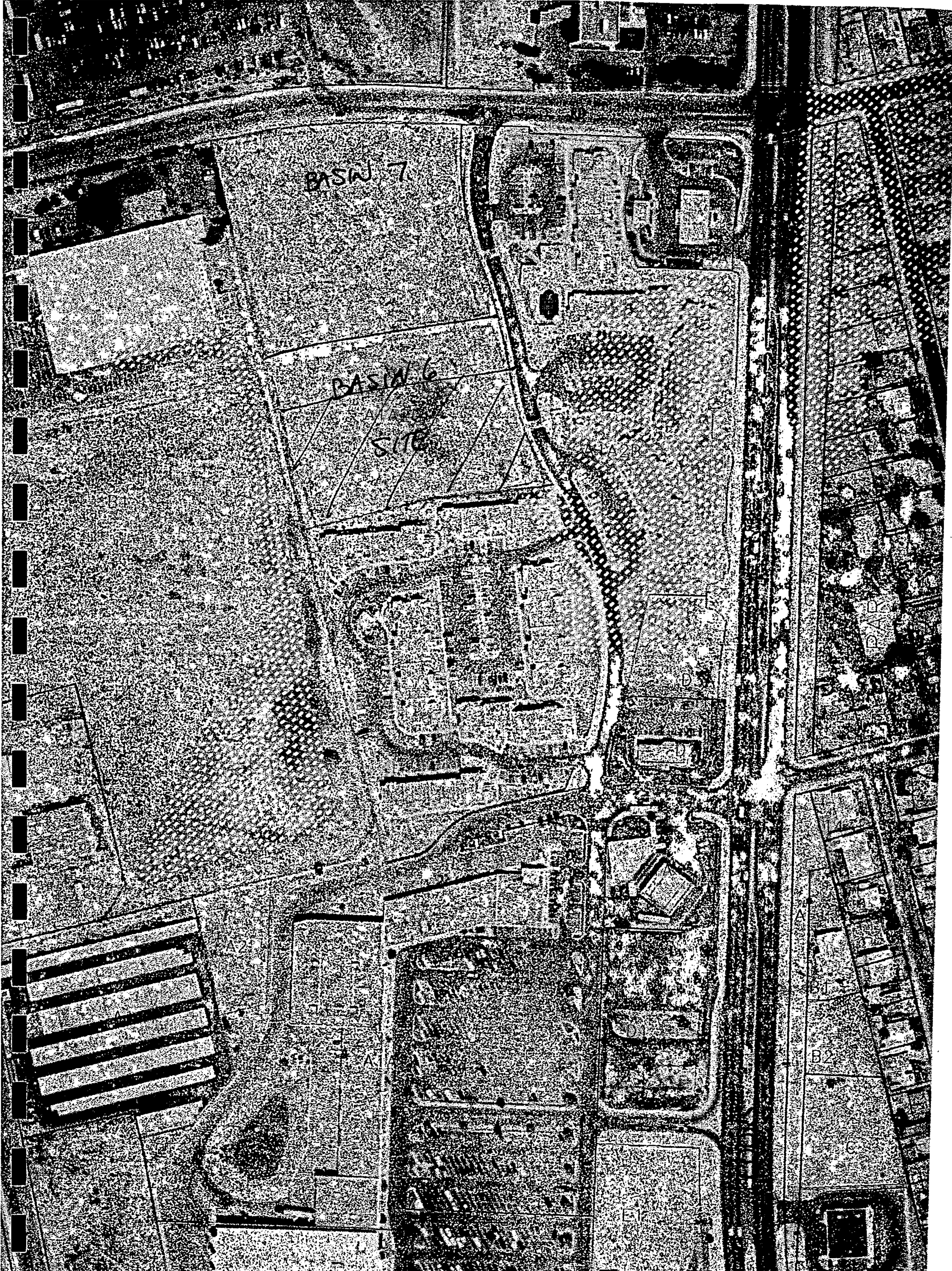
has 14,822 cf. As a result, the required size of pond 6 is 21,017 cf. The actual volume of pond 6 is 28,280 cf.

On this site, the water drains swales on the north and south side of the property which drain to the pond. The water also drains to curb openings near the east part of the site which go to the pond.

An 18 inch pipe keeps water flowing between the two parts of pond 6. This is sized for a total flow of 21.5 cfs. Please see the enclosed calculations.

SUMMARY

Basins O-1, 7, and 6 drain to ponds 6 and 7 which work together. This site drains to pond 6. The volume of pond 6 has been adjusted for the new development.





Federal Emergency Management Agency

Washington, D.C. 20472

DEC 30 1997

NO MAP

Larry Blair
Susan Calongne

The Honorable Martin J. Chavez
Mayor, City of Albuquerque
P.O. Box 1293
Albuquerque, New Mexico 87103-1293

IN REPLY REFER TO CASE NO. 98-06-273A
Follows Case No. 97-06-891C
Community: City of Albuquerque, New Mexico
Community No.: 350002
Map Panel Affected: 35001C0329 D
Map Effective Date: September 20, 1996
218-65-RS

Dear Mayor Chavez:

We reviewed a request dated November 10, 1997, from Ms. Susan M. Calongne, P.E., City/County Floodplain Administrator, City of Albuquerque/Bernalillo County, for a Letter of Map Revision. All required information for this request, including the required review and processing fee, was received on December 8, 1997. Using the information submitted and the effective National Flood Insurance Program (NFIP) map, we determined portions of the property described below are in a Special Flood Hazard Area (SFHA), the area that would be inundated by the flood having a 1-percent chance of being equaled or exceeded in any given year (base flood); however, the structures, Buildings 2 through 5 and 10 on the property are not in the SFHA. This property was elevated by the placement of fill after the date of the earliest NFIP map showing the area in the SFHA.

Property Description: Bluewater Village Apartments, Tracts A-1A-2B and A-1A-2C, Hubbell Plaza, as shown on the Plat recorded in Volume 96C, Folio 376, in the Office of the Recorder, Bernalillo County, New Mexico

Street Address: 6600 Bluewater Road Northwest

Flooding Source: Shallow Flooding

This letter revises the above-referenced NFIP map to remove the structures from the SFHA. The structures are now in Zone X (unshaded), an area of minimal flooding outside the SFHA. Flood insurance coverage for the structures may be available under a low-cost policy (see enclosed document). Because portions of the property remain in the SFHA, any future construction or substantial improvement on the property remains subject to Federal, State, and local regulations for floodplain management.

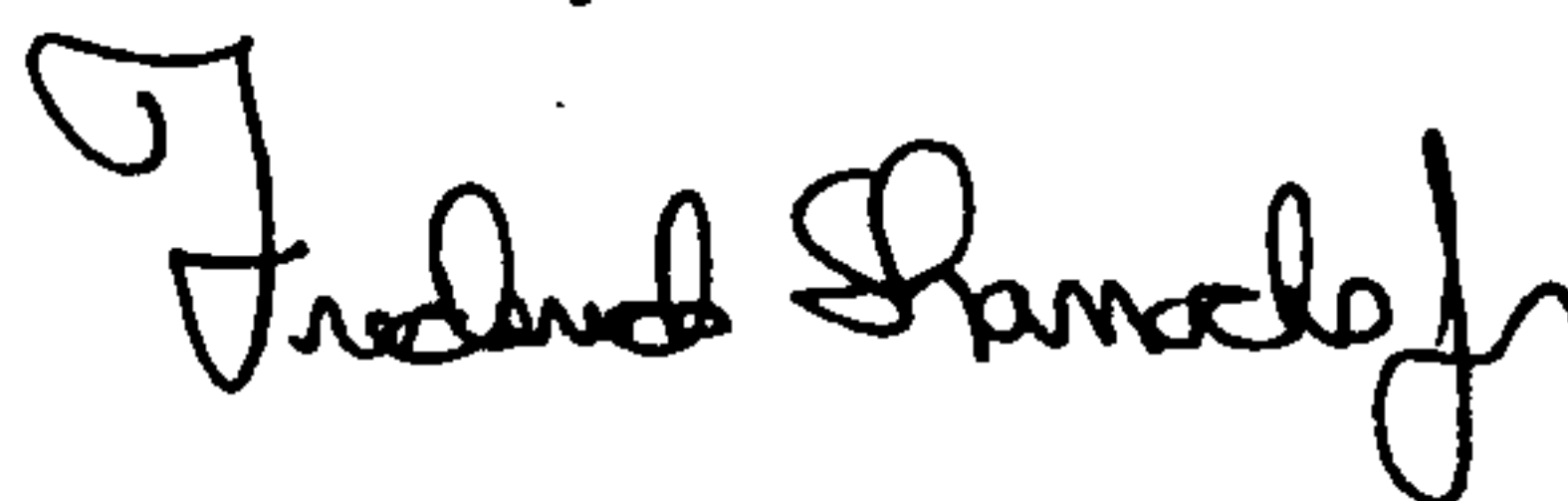
Although we based our determination on the flood data presently available, we are currently revising the NFIP map for Bernalillo County, New Mexico and Incorporated Areas. New flood data could be generated that may affect this property. When the new NFIP map is issued, it will supersede this letter. The Federal requirement for purchasing flood insurance then will be based on the newly issued NFIP map.

JAN - 8 1998

PUBLIC WORKS DEPT.
ADMINISTRATION

The enclosed document provides additional information about Letters of Map Revision. If you have any questions about this letter, please contact Ms. Agnes De Coca of our staff in Washington, DC, either by telephone at (202) 646-2746 or by facsimile at (202) 646-4596.

Sincerely,



Frederick H. Sharrocks, Jr., Chief
Hazard Identification Branch
Mitigation Directorate

Enclosure

cc: Community Map Repository

Ms. Susan M. Calongne, P.E.
City/County Floodplain Administrator
City of Albuquerque/Bernalillo County

CITY OF ALBUQUERQUE DEVELOPMENT SERVICES

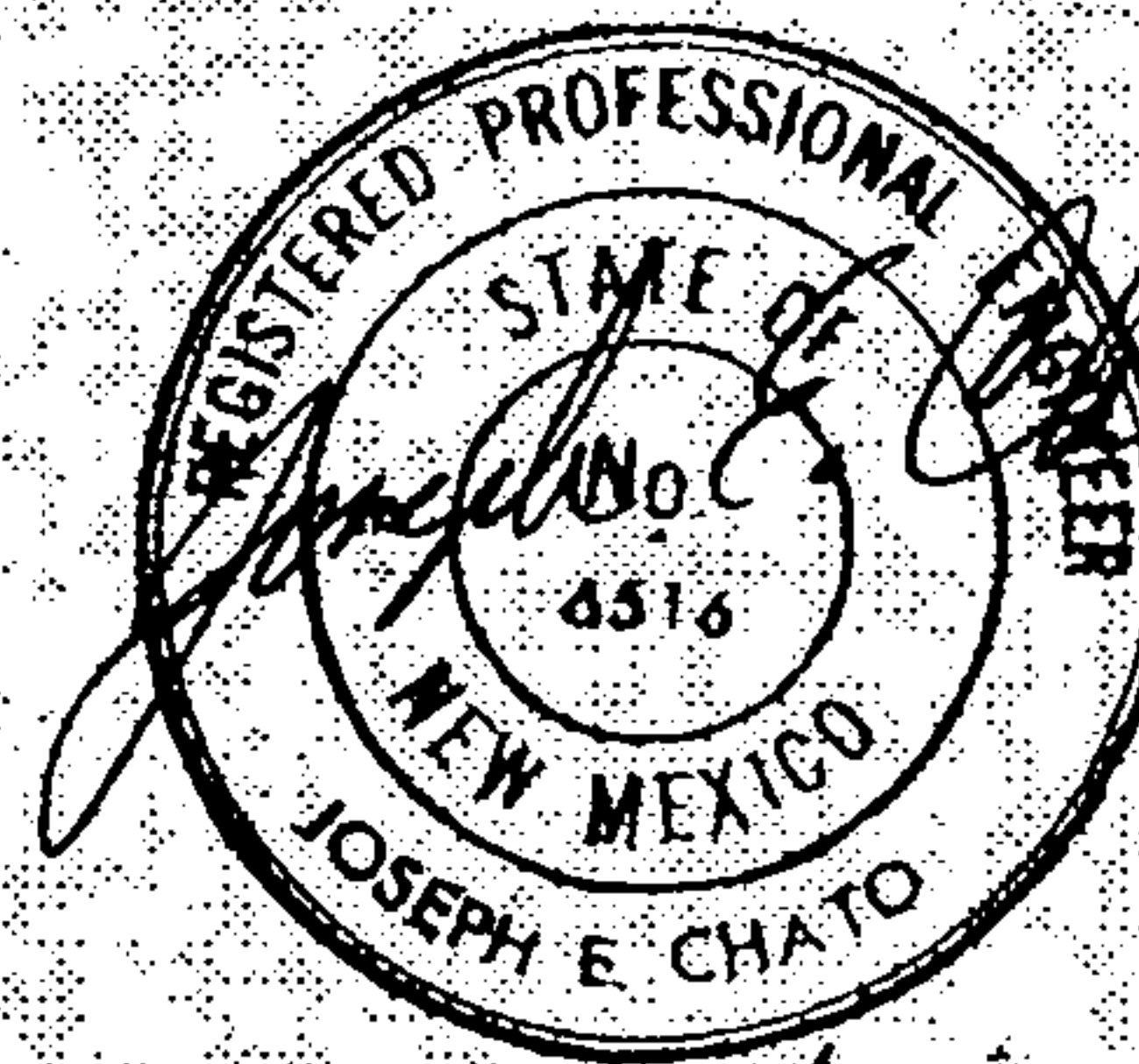
K10-D 20

BLUEWATER DEVELOPMENT HYDROLOGY REPORT

Prepared By



Red
Mountain
Engineers, Inc.



Revised
December 4, 1996

12/4/96

Revised Hydrology Report

BLUEWATER VILLAGE

This development is on two adjacent tracts near the southwest corner of Bluewater Road and Coors Boulevard, Zone Map K-10. The proposed development is a turnkey apartment project for Albuquerque Development Services.

Tract A-1A-2C consists of 6.1335 acres of undeveloped property, and will be graded for future building pads and two detention ponds. It will provide approximately eight thousand cubic yards of fill for the neighboring tract A-1A-2B.

Tract A-1A-2B consists of 11.4335 acres of undeveloped property, and is slated for construction of a community building, two laundry buildings, and 200 apartments in 10 two-story apartment buildings. Stormwater detention is designated for seven ponding areas on this tract. This tract receives off-site flows and is partially occupied by a FEMA AH floodplain, with base elevation 5085, as defined in Panel 350002 0027 C.

The off-site flows contributing to the flood plain have been reduced by recent development. A current evaluation of off-site flows entering the project is attached in Appendix 1. Ponding capacity on the site is calculated (Appendix 5A) on the basis of this reduced flow.

Proposed stormwater discharge to the Coors Boulevard storm sewer from the ponding areas is delayed by two hours as recommended in the West Bluff Drainage Plan, January 1987, Sheet No. 3, and is limited to 0.20 CFS/Ac (Appendix 2).

Off-site flow from Basin O-1 (Appendix 1, page 6) will be intercepted at the intersection of the proposed access road with Bluewater Road, with four 'A' curb inlets constructed on the southeast corner of the proposed intersection. This off-site flow is then routed through a 24" reinforced concrete pipe (RCP) to detention Pond 7 on tract A-1A-2C. A second pond (Pond 6) on this tract provides the remaining capacity required for Basin O-1 (Appendix 1) and tract A-1A-2C (Appendix 5). A weir and channel connects these two ponds, so that lower Pond 6 receives stormwater after upper Pond 7 fills. Upper Pond 7 drains to lower Pond 6 after a 4.5 hour delay via a 12" valve and 12" HDPE (corrugated high-density polyethylene) drain pipe. Lower Pond 6 drains after a 4 hour delay through a 12" valve and 12" HDPE drain pipe to the base elevation ponds. The extra delay is necessary to allow the lower ponds to drain sufficiently to prevent water backing-up at the Building-4 parking-lot inlets (this parking lot forms part of the 100-year detention basin).

Base elevation Ponds 1 through 5 are on tract A-1A-2B, at water surface elevation 5085 (the FEMA floodplain base elevation). Pond 5 drains to Pond 4 via 24" RCP, and is equalized in surface elevation through this connection. Pond 4 drains to Pond 3 over a weir (berm) and through a 12" HDPE drain pipe. Pond 3 drains to Pond 2 over a weir (berm) and through a 12"

HDPE drain pipe. Pond 2 drains to Pond 1 via two 24" HDPE drain pipes. After a two-hour delay, Pond 1 drains to a curb inlet on the Coors Boulevard storm sewer through a 12" valve and 18" PVC with a 7-3/8 x 7-3/8" restrictor plate. All the ponds ultimately drain through this connection.

All seven ponds have an overflow path to route stormwater in event of open or closed valve failure.

Pipe inlets have riprap erosion pads to prevent undermining by scour. Inlet screens are provided where the 12" HDPE's have valves to prevent clogging by debris.

Total area drained to outlet detention pond is 26.2 acres. Recommended discharge rate, from the West Bluff Drainage Plan, is 0.20 CFS/Ac, giving a maximum allowable discharge of 5.24 CFS to the Coors Boulevard stormdrain.

With an 18" unrestricted drain pipe, maximum inlet-limited discharge will be 22.5 CFS. The 18" drainpipe at Coors is therefore restricted with a 7-3/8" x 7-3/8" square opening restrictor plate on the outlet, giving a maximum discharge of 5.20 CFS (Appendix 4) to meet the West Bluff Drainage Plan recommendation. Ponds 6 and 7 are limited to lesser discharges to the base elevation ponds, and discharge is delayed longer to prevent overflow of the base elevation ponds. Average discharge rate required to drain the 160,000 cubic feet of ponding in 24 hours is 1.85 CFS, and average discharge rate expected is 4.63 CFS (Appendix 4).

DETENTION POND VOLUMES

Ponds 6 and 7 are sized for 0.6950 acre/feet (30,300 cubic feet) of 100-year off-site flow (Appendix 1, page 6) plus 22,000 cubic feet of flow generated on the 6.1335 acre tract (Appendix 5).

Pond 6 volume is 30,000 cubic feet and Pond 7 volume is 24,000 cubic feet. Total detention volume required for these two flows equals 52,300 cubic feet, and detention volume provided is 54,000 cubic feet.

Ponds 1 through 5 are sized for the remaining 0.9393 acre/feet (40,900 cubic feet) of 100-year off-site flow (Appendix 1, page 6) plus 66,200 cubic of flow generated on the 11.4335 acre tract (Appendix 5). Pond volumes are noted on the grading and drainage drawing. Total detention volume required for these ponds equals 107,100 cubic feet and total detention volume provided is 107,500 cubic feet.

DRAIN INLET CAPACITIES

The four "A" inlets at the Bluewater/access road intersection have a capacity of 4 CFS each at 0.5 feet of ponding (DPM page 75) for a total capacity of 16 CFS. Expected flow is 15.3 CFS (Appendix 1, page 6). Bluewater Road is already sloped with a low point at this location to channel water off the road toward the flood plain. A waterstop (higher section of road) prevents

overshoot past the grates, and velocity head in the sheet flow to the drain is too low to jump the curb.

The 2 'Double C' inlets on the double 21" HDPE's entering Pond 1 from the parking lot west of Building 3 have a capacity of 9.6 CFS each at 0.5 feet of ponding (DPM page 75) for a total capacity of 19.2 CFS. Expected flow is 10.3 CFS on-site surface runoff, plus a potential flow of 4.17 CFS if the valve on Pond 7 is left in open position. Total expected 100-year flow is then 14.3 CFS (Appendix 6), and total capacity is 19.2 CFS.

The Neenah R-2569 inlets on the 12" HDPE west of Building 3 have a capacity of 1.5 CFS at 0.3 feet of ponding. Expected 100-year flow is 0.60 CFS to the grate at the west-center of Building 3 and 0.45 CFS to the grate at the northwest side of Building 3 (Appendix 7).

The three Neenah R6672-E inlets draining to Pond 3 through an 18" HDPE have a capacity of 5.6 CFS each at 0.3 feet of ponding. Expected 100-year flow is 1.61 CFS for the largest drainage area, which is on the northern-most drain (Appendix 8). Drained areas are smaller for the remaining two inlets. These inlets are provided to ensure drainage of the flat parking lot, and are not required to meet flow capacity. This parking lot is flat to provide 6" of ponding in a 100-year storm event, so no regional slope is possible. Spot elevations ensure that water will flow to these local drains.

The double 'C' curb inlets northeast of Building 10 have a capacity of 5.6 CFS each at 6" ponding (DPM page 75). Expected flow is 9.88 CFS (Appendix 9). The road is graded to create a low point at the inlet and a waterstop (higher section of road) beyond, creating this ponding when necessary to match the incoming flow.

WEIR CAPACITIES

The weir and rundown from Pond 7 to Pond 6 have a capacity of 24.8 CFS (Appendix 11). Expected flow is 15.3 CFS from off-site (intercepted at the Bluewater/access road intersection), plus 8.80 CFS surface drainage from the 6.1335 acre tract. Total 100-year flow is then 24.1 CFS.

The 12' wide weir (curbcut and rundown) on the east side of the access road near the south end of the plat drains 11.2 CFS of off-site flow (Appendix 1, page 6) plus 6.99 CFS generated onsite (Appendix 10). Weir capacity is 25.0 CFS (Appendix 12) and expected total 100-year flow is 18.3 CFS. The access road is sloped for a low spot at this weir, with a waterstop (higher section of road) to prevent overshoot.

The weir (curbcut and rundown) from the parking lot at Pond 3 drains 3.97 CFS and has a capacity of 8.33 CFS (Appendix 13).

The weir (curbcut) and channel draining the north parking lot to the access road drains 3.04 CFS and has a capacity of 3.78 CFS (Appendix 14).

The weir (curbcut and channel) northwest of Building 10 drains 3.59 CFS and has a capacity of 3.78 CFS (Appendix 15).

The berm between Ponds 4 and 3 (which provides groundcover for a proposed 8" sewer line) has a top elevation of 84.7, and acts as a weir channeling flow from Pond 4 to Pond 3. Expected 100-year flow is 31.7 CFS, and capacity is 31.6 CFS (Appendix 16). A 12" HDPE under this berm allows Pond 4 to drain.

The berm between Ponds 3 and 2 (providing groundcover for a proposed 6" sewer lateral) has a top elevation of 84.7, and acts as a weir channeling flow from Pond 3 to Pond 2 (Appendix 18). A 12" HDPE under this berm allows Pond 3 to drain.

PIPE CAPACITIES

A 24" RCP carries off-site flow from the Bluewater/access road intersection to Pond 7. It is submerged outlet limited to 17.0 CFS capacity, and 100-year flow is 15.3 CFS (Appendix 19).

A 12" HDPE carries flow from Pond 7 to Pond 6 in order to drain Pond 7 within 24 hours. Both Ponds 7 and 6 are required to meet detention volume needed, but they are at different elevations. The overflow to equalize volumes is from Pond 7 to Pond 6 via riprap weir. The 12" HDPE draining Pond 7 is outlet limited by a restrictor plate to 4.17 CFS (Appendix 4).

A 24" RCP carries flow from Pond 5 to Pond 4, and equalizes the surface elevation of the two ponds. Pond 5 intercepts 9.88 CFS from a north weir (Appendix 11) and drains 2.66 CFS of sheet flow. The 24" RCP is outlet limited to 12.9 CFS with least expected head (Appendix 20). Expected 100-year flow is 12.54 CFS.

Two 21" HDPE's carry drainage from the parking lot west of Building 3 to Pond 1. Flow is submerged outlet limited to 16.6 CFS (Appendix 17). Expected 100-year flow is 14.5 CFS.

A 12" HDPE carries drainage from two inlets in the landscaped areas west of Building 3. Flow is outlet limited to 1.79 CFS (Appendix 21). Expected 100-year flow is 1.05 CFS (Appendix 7).

A 12" HDPE carries drainage from Pond 6 to a drop inlet in the parking lot west of Building 4. The drainage is continued to Pond 3 with an 18" RCP and added influx from the parking lot. Expected 100-year flow from the parking lot area is 2.89 CFS. The length of pipe from the pond to the first drop inlet is submerged outlet limited to 4.48 CFS (Appendix 20). Maximum capacity in the 60' length of pipe connecting each of the 3 drop inlets is outlet limited to 4.80 CFS at the calculated pond surface elevations (Appendix 22).

Two 24" HDPE's carry flow from Pond 2 to Pond 1, and equalize the surface elevation of the 2 ponds. The 24" HDPE's are outlet limited to 18.2 CFS at 0.5' difference in head (Appendix 21). Expected 100-year flow is 13.4 CFS. The capacity appears to be excessive at first glance, but Ponds 2, 3, and 4 join the floodplain on the neighboring plat at the property boundary, and cannot surcharge above the design elevation.

An 18" PVC carries drainage from Pond 1 to the back of a curb inlet on the Coors Boulevard storm drain. Flow is outlet limited to 5.20 CFS by a restrictor plate (Appendix 4). There is no flow capacity minimum required, except the 1.84 CFS average needed to drain the detention ponding in 24 hours.

Several landscaped areas are drained under sidewalks and stairs with 4" PVC pipes, without grates. Inlet limited capacity is 0.84 CFS for these pipes (each installation is two pipes in parallel), and largest expected 100-year flow is 0.33 CFS (Appendix 26).

Ponds 4 and 3 are drained with 12" HDPE's. Flow from these ponds is primarily over a lowered section of berm, and the 12" HDPE's are present to drain the bottom within 24 hours. Submerged outlet capacity is 1.96 CFS, and flow required to drain in 24 hours is 0.17 CFS (Appendix 27).

NOTE: No development of Tract A-1A-2C will be allowed until an approved grading and drainage plan for this Tract has been submitted and approved by City Hydrology.



PROJECT BLUEWATER DEVELOPMENT SHEET NO. 1 OF 3
 SUBJECT OFF-SITE DRAINAGE PROJECT NO. 19-66-26
 BY DLA DATE 8/27/96 CHECKED BY _____ DATE 1/1
 REVISED 11-4-96 (DLA)

HYDROLOGY COMPUTATIONS

CRITERIA USED: SECTION 22.2, HYDROLOGY OF
 THE DEVELOPMENT PROCESS
 MANUAL, VOLUME 2, DESIGN FOR
 THE CITY OF ALBUQUERQUE, NM.

ALL BASINS LIE IN PRECIPITATION ZONE ONE (I)
 $P_{60} = 1.87 \text{ IN.}$; $P_{360} = 2.20 \text{ IN.}$; $P_{1440} = 2.66 \text{ IN.}$

BASIN D=1

VALUES TAKEN FROM TABLE A-2, DPM

AREA = 1.8 AC.; LAND TREATMENTS: "B" = 10%, "D" = 90%
Flows - 6 Hour Storm; $T_c = 12 \text{ MIN.}$

10 YEAR

$$Q_{10} = (0.76 \text{ CFS/AC})(.10)(1.8 \text{ AC}) + (2.89 \text{ CFS/AC})(.90)(1.8 \text{ AC})$$

$$Q = \boxed{4.8 \text{ CFS}}$$

100 YEAR

$$Q_{100} = (2.03 \text{ CFS/AC})(.10)(1.8 \text{ AC}) + (4.37 \text{ CFS/AC})(.90)(1.8 \text{ AC})$$

$$Q = \boxed{7.4 \text{ CFS}}$$

VOLUMES - 24 HOUR STORM

10-YEAR

$$E_{10} = (.22 \text{ IN})(.10) + (1.24 \text{ IN})(.90) = 1.138 \text{ IN.}$$

$$V_{360} = (1.138 \text{ IN})(1.8 \text{ AC})\left(\frac{1 \text{ FT}}{12 \text{ IN}}\right) = 0.1707 \text{ AC.}$$

$$V_{1440} = 0.1707 \text{ AC. FT} + (.90)(1.8 \text{ AC})[2.66 \text{ IN} - 2.20$$

$$Q = \boxed{0.2328 \text{ AC. FT}}$$

CONT.



PROJECT BLUEWATER DEVELOPMENT SHEET NO. 2 OF 3
SUBJECT OFF-SITE DRAINAGE PROJECT NO. 19-66-26
BY DLA DATE 8/27/96 CHECKED BY _____ DATE 1/1
REVISED 11-4-96 (DLA)

BASIN O-1 (CONT.)VOLUMES - 24 HOUR STORM100 YEAR

$$E_{100} = (.67 \text{ IN.})(.10) + (1.97 \text{ IN.})(.90) = 1.84 \text{ IN.}$$

$$V_{360} = (1.84 \text{ IN.})(1.8 \text{ AC})\left(\frac{1 \text{ FT}}{12 \text{ IN.}}\right) = 0.2760 \text{ AC.FT.}$$

$$V_{1440} = 0.2760 \text{ AC.FT.} + (.90)(1.8 \text{ AC})[2.66 \text{ IN.} - 2.20 \text{ IN.}]\left(\frac{1 \text{ FT}}{12 \text{ IN.}}\right)$$

$$= \boxed{0.3381 \text{ AC.FT.}}$$

BASIN O-2

AREA = 0.90 AC.; LAND TREATMENTS "B" = 10%, "D" = 90%

Flows - 6 Hour Storm; $T_c = 12 \text{ MIN.}$

$$Q_{10} = (.76)(.10)(.90) + (2.89)(.90)(.90) = \boxed{2.4 \text{ CFS}}$$

$$Q_{100} = (2.03)(.10)(.90) + (4.37)(.90)(.90) = \boxed{3.7 \text{ CFS}}$$

VOLUMES - 24-Hour Storm

$$E_{10} = 1.138 \text{ IN.}$$

$$V_{360} = (1.138)(.90)\left(\frac{1}{12}\right) = 0.0854 \text{ AC.FT.}$$

$$V_{1440} = 0.0854 + (.90)(.90)(.46)\left(\frac{1}{12}\right) = \boxed{0.1165 \text{ AC.FT.}}$$

$$E_{100} = 1.84 \text{ IN.}$$

$$V_{360} = (1.84)(.90)\left(\frac{1}{12}\right) = 0.1380 \text{ AC.FT.}$$

$$V_{1440} = 0.1380 + (.90)(.90)(.46)\left(\frac{1}{12}\right) = \boxed{0.1691 \text{ AC.FT.}}$$

CONT. →

POND 7 VOLUME

ALL OF POND 7 DRAINAGE BASIN ON-SITE IS LAND TREATMENT -

AREA	LAND TREATMENT	PRECIPITATION ZONE I
-	A	
-	B	
2.76 Ac	C	
-	D	
2.76 Ac		

$$E = E_c A_c / A_c = 0.99$$

$$V_{360} = E * A_c = (0.99)(2.76 \text{ Ac}) / (12 \text{ in/ft}) = 0.228 \text{ Ac/ft} = 9920 \text{ FT}^3$$

POND 6 VOLUME

ALL OF POND 6 DRAINAGE BASIN ON-SITE IS LAND TREATMENT C

PRECIPITATION ZONE I

AREA	LAND TREATMENT
-	A
-	B
3.37	C
-	D
3.37 Ac	

$$E = E_c A_c / A_c = 0.99$$

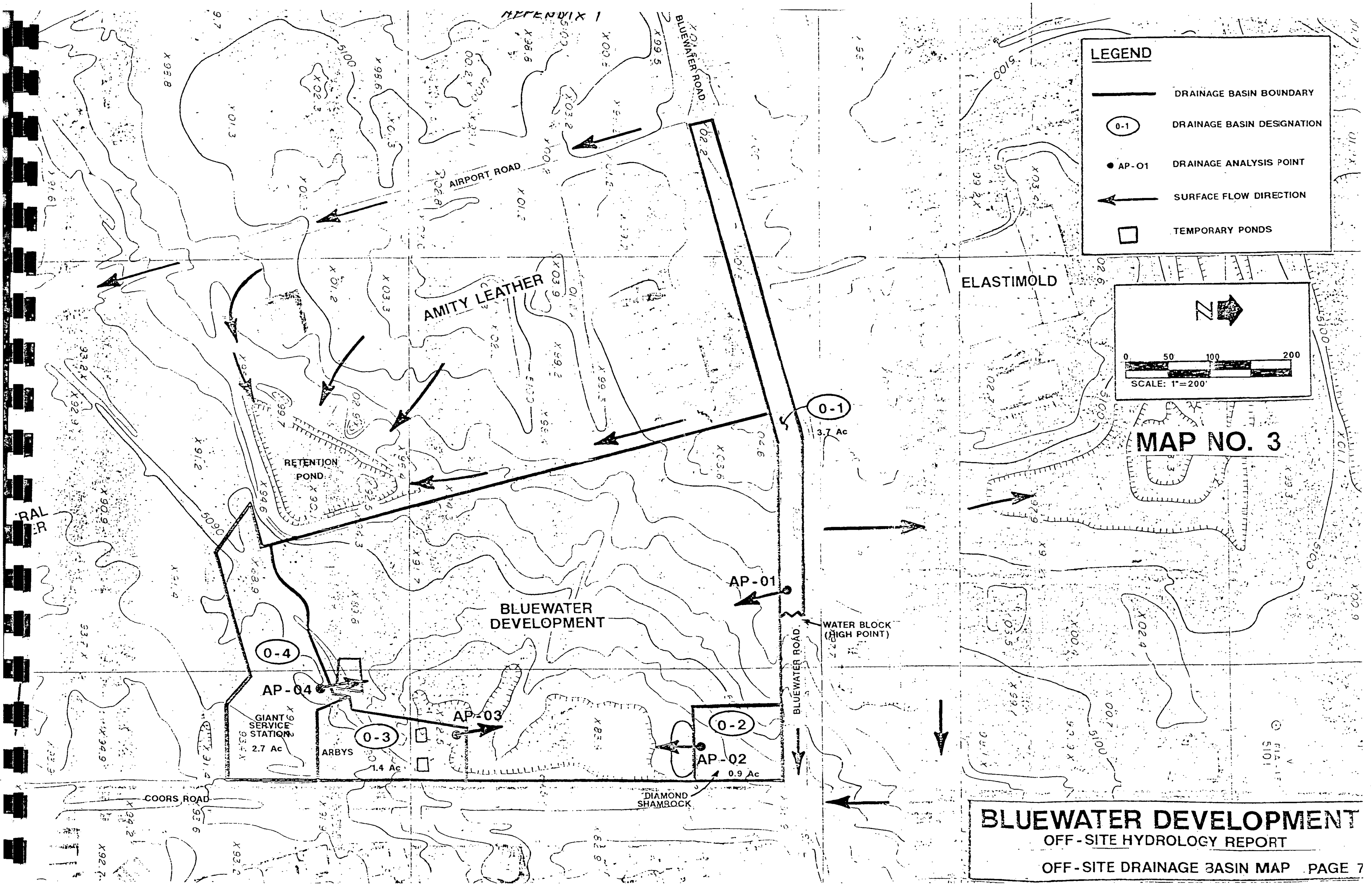
$$V_{360} = E * A_c = (0.99)(3.37 \text{ Ac}) / (12 \text{ in/ft}) = 0.278 \text{ Ac/ft} = 12,100 \text{ FT}^3$$

OFF-SITE FLOW TO POND 7

$$V_{100} = 0.3381 \text{ Ac/ft} = 14,700 \text{ FT}^3 \text{ (APPENDIX 1)}$$

VOLUME REQUIRED

POND 6 IS AN OVERFLOW FOR POND 7, THEY ARE DESIGNED TO ACT TOGETHER - COMBINED CAPACITY = 54,000 FT³, REQUIRED VOLUME (SUM OF ABOVE) = 36,700 FT³



LEGEND

- DRAINAGE BASIN BOUNDARY
- 0-1 DRAINAGE BASIN DESIGNATION
- AP-01 DRAINAGE ANALYSIS POINT
- SURFACE FLOW DIRECTION
- TEMPORARY PONDS

N

0 50 100 200

SCALE: 1"=200'

MAP NO. 3



D. Mark Goodwin & Associates, P.A.
Consulting Engineers

P.O. BOX 90606, ALBUQUERQUE, NM 87199
(505) 828-2200 FAX 797-9539
e-mail: dmgs@swcp.com

PROJECT AQUA AZUL
SUBJECT _____
BY AMY DATE 5/24/01
CHECKED _____ DATE _____
SHEET _____ OF _____

FROM BLUEWATER DEVELOPMENT HYDROLOGY REPORT (K10-D20)
BASIN 0-1 DRAINS TO BASIN 7 (POND 7) WHICH GOES TO BASIN 6 (POND 6)
OUR SITE IS IN BASIN 6
POND 6 GOES TO POND 3 → POND 2 → POND 1
POND 1 HAS RESTRICTED RELEASE TO COORS
SEE APPENDIX 1 AND 5A - PONDS 6 + 7 WORK TOGETHER

BASIN	AREA (AC)	TREATMENT	V (CF)
0-1	1.8	10% B, 90% D	14,700 (V_{1440})
7	2.76	100% C	9,920 (V_{360})
6	3.37	100% C	12,100 (V_{360})

PER REPORT, VOLUME REQUIRED OF PONDS 6+7 TOTAL
 $V_{360} = 34,043$ CF

PER p22-14 OF DPM, BECAUSE PONDS DESIGNED TO HOLD WATER < 6 HRS ONLY V_{360} REQUIRED.

∴ FOR BASIN 0-1 $V_{360} = 12,023$ PER REPORT

BASIN 6 NEEDS TO BE ADJUSTED FOR THIS DEVELOPMENT

$$\begin{aligned} \text{IMPERVIOUS AREA} &= \frac{\pi (135)^2}{4} + 100 \times 35 + 108 \times 75 \\ &+ [60 \times 70 + 15 \times 15 \times 2] \times 6 + 50 \times 60 \\ &= 14,314 + 3500 + 8100 + 23,700 + 3000 \\ &= 52,614 \text{ SF} \end{aligned}$$

$$\text{BASIN 6} = 3.37 \text{ AC} = 146,797 \text{ SF} \quad (\text{OUR TRACT} = 2.73 \text{ AC})$$

$$\text{TYPE D} = \frac{52,614}{146,797} = 35.8\%$$

$$\text{TYPE B} = 64.2\%$$

$$\begin{aligned} \text{p22-13 DPM FOR ZONE 1} \quad E_D &= 1.97 \quad E_B = 0.67 \\ A_B &= 146,797 - 52,614 = 94,183 \text{ SF} = 2.16 \text{ AC} \\ A_D &= 52,614 \text{ SF} = 1.21 \text{ AC} \\ E &= \frac{1.97(52,614) + 0.67(94,183)}{146,797} = 1.14 \end{aligned}$$

$$\text{NEW BASIN 6 } V_{360} = 1.14(146,797) \left(\frac{E}{12 \text{ IN}} \right) = 13,896 \text{ CF}$$

$$\begin{aligned} \text{NEW } V_{360} \text{ REQUIRED FOR PONDS 6 AND 7} \\ 13,896 \text{ CF} + 9,920 + 12,023 &= \boxed{35,839 \text{ CF}} \end{aligned}$$



D. Mark Goodwin & Associates, P.A.
Consulting Engineers

P.O. BOX 90606, ALBUQUERQUE, NM 87199
(505) 828-2200 FAX 797-9539
e-mail: dmgs@swcp.com

PROJECT AGUA AZUL
SUBJECT _____
BY AMY DATE 5/24/01
CHECKED _____ DATE _____
SHEET _____ OF _____

$$\begin{array}{r} 35,839 \text{ CF RQD} \\ - 14,822 \text{ CF POND 7 CURRENT POND VOL FROM TOPO} \\ \hline 21,017 \text{ CF POND 6} \end{array}$$

FROM ~~POD~~-15' DPM

FOR ZONE 1 $Q_B = 2.03$ $Q_D = 4.37$ CFS/AC

$$\text{BASIN 6 } Q = 2.03 \frac{\text{CFS}}{\text{AC}} (2.16) \text{ AC} + 4.37 \frac{\text{CFS}}{\text{AC}} (1.21) \text{ AC} = 5.29 \text{ CFS}$$

$$\text{TOTAL } Q = \text{BASIN 6} + \text{BASIN 7} + \text{BASIN O-1} = 5.29 + 8.81 + 7.4 = 21.5 \text{ CFS}$$

SIZE PIPE IN POND 6

$$Q = 0.6 A \sqrt{2gh}$$

$$A = \frac{\pi D^2}{4} = \frac{Q}{0.6 \sqrt{2gh}}$$

$$D = \frac{\sqrt{2(21.5)}}{\pi \cdot 0.6 \sqrt{2(32.2)}} = \frac{\sqrt{2(21.5)}}{\pi \cdot 0.6 \sqrt{2(32.2)}} = 1.41 \text{ FT} = 17'' \rightarrow 18''$$



City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

June 26, 2001

Amy L. Driscoll
Mark Goodwin & Associates, PA
P.O. Box 90606
Albuquerque New Mexico 87199

RE: Grading and Drainage Plan Agua Azul (K10-D20C) Dated May 29, 2001

Dear Ms. Driscoll:

The above referenced plan received May 29, 2001 is approved for sign-off by Hydrology for Preliminary Plat approval at DRB. The drainage plan is also approved for Building Permit. Please coordinate the public drainage easement and drainage covenants for the existing and proposed detention ponds.

Prior to Certificate of Occupancy, an Engineer's Certification for completion of site grading and drainage per the plan is required for Hydrology approval.

If you have any questions please call me at 924-3982.

Sincerely,

Carlos A. Montoya
City/County Floodplain Administrator

D. Mark Goodwin and Associates, P.A.
Consulting Engineers

P.O. Box 90606 ♦ Albuquerque, NM 87199
(505) 828-2200 ♦ (505) 797-9539 fax
e-mail: dm@swcp.com

LETTER OF TRANSMITTAL

TO:

Carlos
LORON MEINZ
ONE STOP

DATE:

6-21-01

RE:

#100082

We are sending:

1 Revised Plat PER Hydrology

look over.



For your records



For your information



As you requested



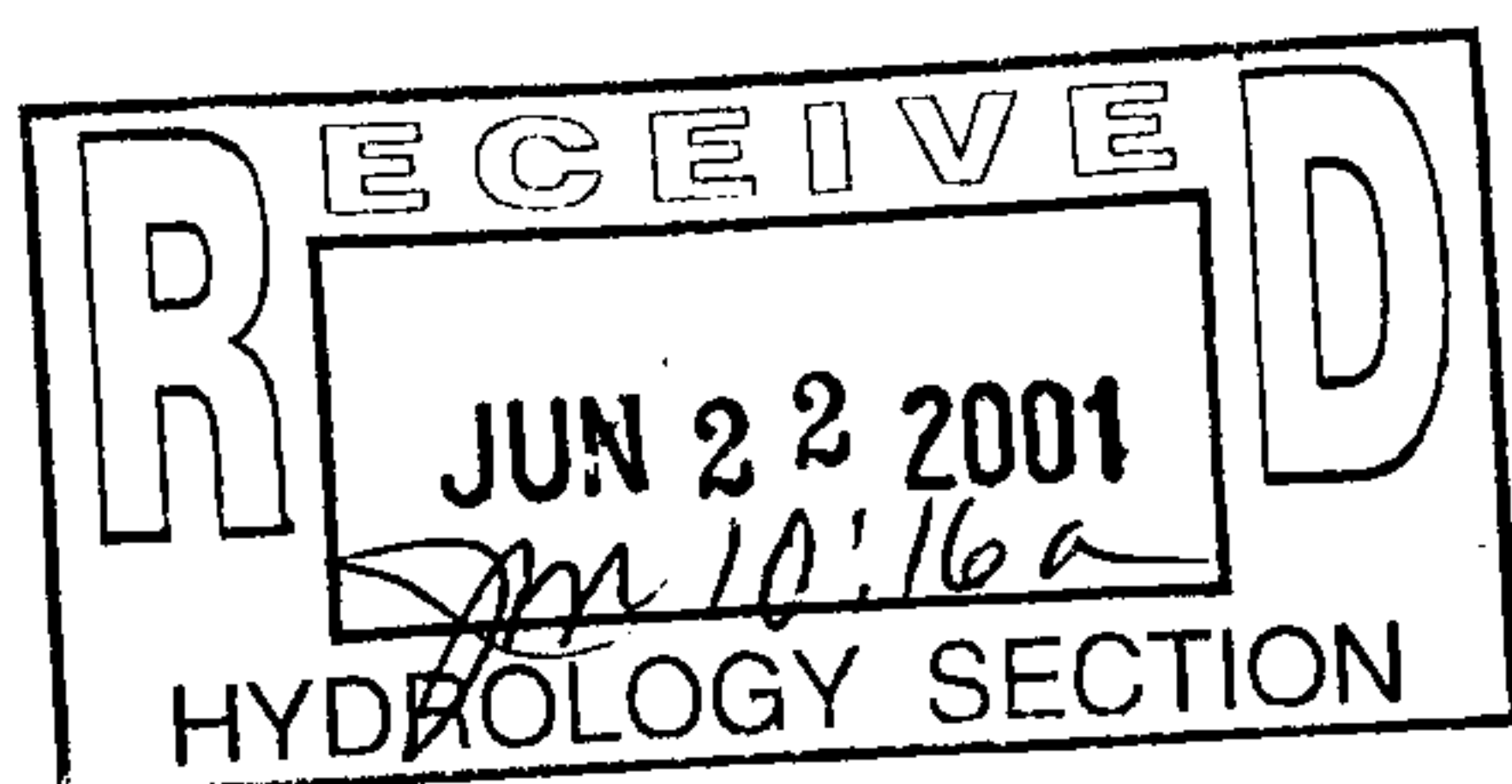
For your comments

☐ Pre-Design Meeting

NOTES:

TO BE HEARD 6/27

Project Engineer _____



SIGNED:

GREGORY J. KRENIAK



Red
Mountain
Engineers, Inc.

LETTER OF TRANSMITTAL

Date: 10/3/97

Firm: HERB DENISH & ASSOC
500 MARQUETTE, N.W.
SUITE 350
ABQ NM 87103

Project No: BLUEWATER VILLAGE

Project: _____

Attention: LAWRENCE KLINE PHONE 842-6461

We Transmit For Your:

- | | | |
|--|--|-----------------------------------|
| ☐ For Your Review and Comment | ☒ As Requested | ☐ Resubmit |
| ☐ Make Corrections Noted | ☐ For Approval | |
| ☐ No Exceptions Taken | ☐ For Your Use | |

The Following Document(s):

- | | |
|--|--|
| ☐ Drawings | ☐ Change Order |
| ☐ Shop Drawing Submittals | ☐ Correspondence |
| ☐ Specifications | ☒ <u>HYDROLOGY SUBMITTAL</u> |

Copies	Date	Description
1	10/2/97	HYDROLOGY SUBMITTAL FOR TEMPORARY C.O.

REMARKS: PLEASE CONTACT ME IF ANY PROBLEM

Copy(s) To: _____

By: STEVE RANDALL



Santa Fe

Phone: (505) 473-7373

Fax: (505) 473-4865

1216 Parkway Drive, Santa Fe, NM 87505



Albuquerque

Phone: (505) 889-3004

Fax: (505) 889-2797

4600-C Montgomery Blvd NE, Suite 101, Albuquerque, NM 87109

DRAINAGE INFORMATION SHEET (SEE WP FILE DPMDIS FOR BETTER COPY)

PROJECT TITLE: BLUEWATER VILLAGE ZONE ATLAS/DRNG. FILE #: K10-D20

DRB #: _____ EPC#: _____ WORK ORDER#: _____

LEGAL DESCRIPTION: TRACT A-1A-2C & TRACT A-1A-2B HUBBEL PLAZA

CITY ADDRESS: 6600 BLUEWATER RD NW

ENGINEERING FIRM: SMITH ENGINEERING CO

CONTACT: CHRIS LIVERA SUITE 500E

ADDRESS: 6400 UPTOWN BLVD NE PHONE: 884-0700

CITY, STATE: _____ ZIP CODE: _____

OWNER: _____ CONTACT: _____

ADDRESS: _____ PHONE: _____

CITY, STATE: _____ ZIP CODE: _____

ARCHITECT: _____ CONTACT: _____

ADDRESS: _____ PHONE: _____

CITY, STATE: _____ ZIP CODE: _____

SURVEYOR: _____

CONTACT: _____

ADDRESS: _____ PHONE: _____

CITY, STATE: _____ ZIP CODE: _____

CONTRACTOR: _____ CONTACT: _____

ADDRESS: _____ PHONE: _____

CITY, STATE: _____ ZIP CODE: _____

TYPE OF SUBMITTAL:

- ☐ DRAINAGE REPORT
- ☐ DRAINAGE PLAN
- ☐ CONCEPTUAL GRADING & DRAINAGE PLAN
- ☐ GRADING PLAN
- ☐ EROSION CONTROL PLAN
- ☐ ENGINEER'S CERTIFICATION
- ☒ OTHER LOMR-F

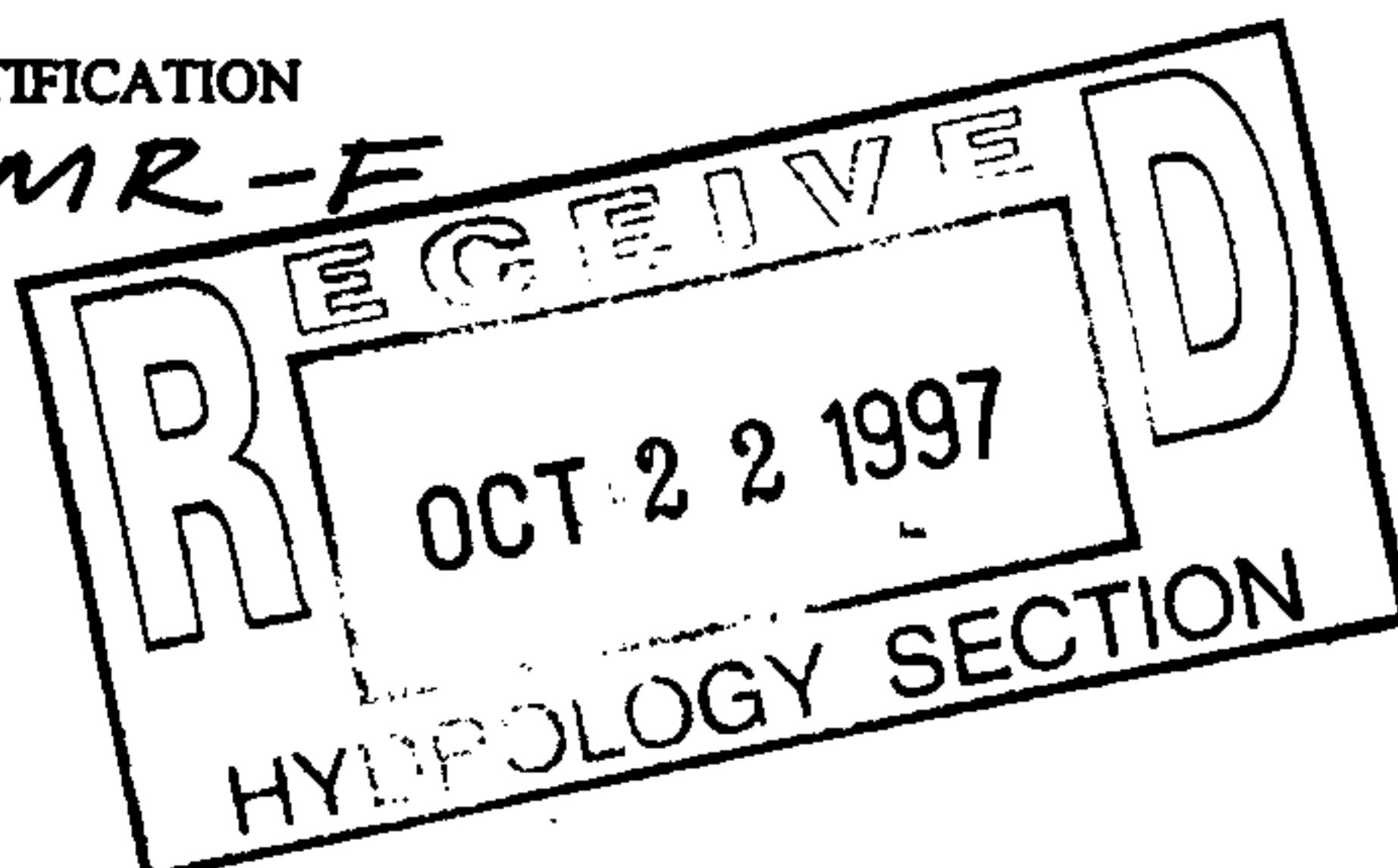
PRE-DESIGN MEETING:

- ☐ YES
- ☒ NO
- ☐ COPY PROVIDED

CHECK TYPE OF APPROVAL SOUGHT:

- ☐ SKETCH PLAT 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 (SPECIFY)

LOMR-F





City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

August 13, 2003

Amy Driscoll
Mark Goodwin and Associates
P.O. Box 90606
Albuquerque, New Mexico 87119

RE: Agua Azul (K10-D20C), Project Number 6730.81
Engineers Certification – Submitted for Release of Financial Guaranty
Engineers Stamp Dated – May 29, 2003
Engineers Certification Dated – July 23, 2003

Dear Ms. Driscoll:

Based on the information provided on your submittal dated July 23, 2003, the above referenced project is approved for release of Financial Guaranty.

If you have any questions please call me at 924-3982.

Sincerely,

Carlos A. Montoya
City Floodplain Administrator

C: Peter Chang, Chief Construction Engineer
Kevin Broderick, Principal Engineer

DRAINAGE INFORMATION SHEET

PROJECT TITLE:	<u>Agua Azul</u>	ZONE ATLAS#:	<u>K-10 / D20C</u>
DRB#:	<u>1000182</u>	EPC#	<u> </u>
LEGAL DESCRIPTION:	<u>Tracts A-1A-2B and A-1A-2C, Hubbell Plaza</u>		
CITY ADDRESS:	<u>Camino Azul</u>		

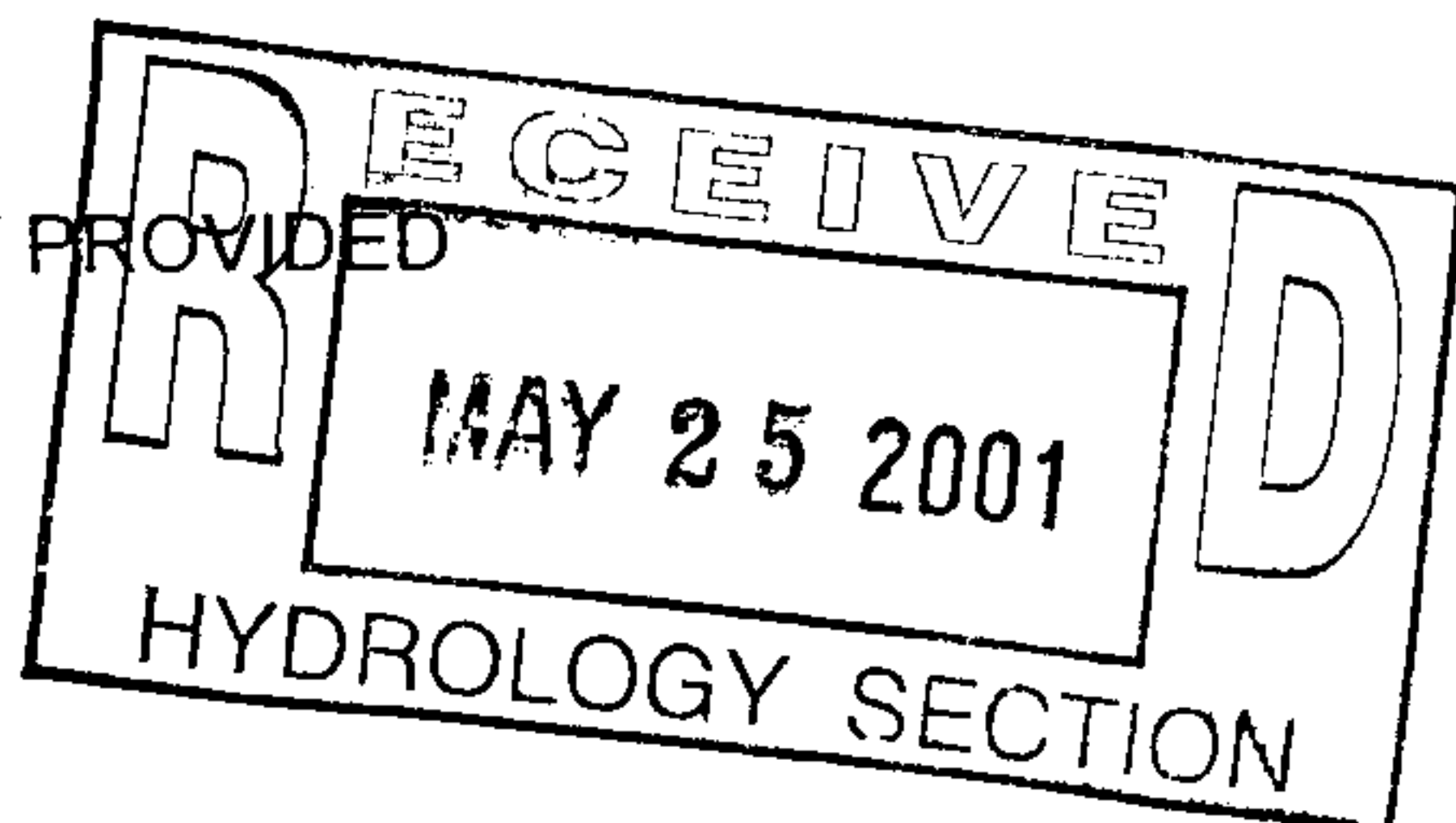
ENGINEERING FIRM:	Mark Goodwin & Associates, PA	CONTACT:	Amy L. Driscoll
ADDRESS:	P.O. Box 90606, Albuquerque, NM 87199	PHONE:	828-2200
OWNER:	City of Albuquerque	CONTACT:	Cynthia Staat
ADDRESS:	600 2nd Street	PHONE:	764-0037
ARCHITECT:		CONTACT:	
ADDRESS:		PHONE:	
SURVEYOR:	Tim Aldrich	CONTACT:	Tim Aldrich
ADDRESS:	PO Box 30701, Alb, NM 87190	PHONE:	884-1990
CONTACTOR:		CONTACT:	
ADDRESS:		PHONE:	

TYPE OF SUBMITTAL:

<u>X</u>	DRAINAGE REPORT
<u>X</u>	DRAINAGE PLAN
<u> </u>	CONCEPTUAL GRADING & DRAINAGE PLAN
<u>X</u>	GRADING PLAN
<u> </u>	EROSION CONTROL
<u> </u>	ENGINEER'S CERTIFICATION
<u> </u>	OTHER
<u> </u>	EASEMENT VACATION

PRE-DESIGN MEETING:

YES
X NO
COPY PROVIDED



CHECK TYPE OF APPROVAL SOUGHT:

☐	SKETCH PLAT 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
☐	CERTIFICATION OF OCCUPANCY APPROVAL
☐	GRADING PERMIT APPROVAL
☐	PAVING PERMIT APPROVAL
☐	S.A.D. DRAINAGE REPORT
☐	DRAINAGE REQUIREMENTS
☐	OTHER
☐	RELEASE OF FINANCIAL GUARANTY
☐	TRAFFIC CIRCULATION LAYOUT

DATE SUBMITTED:

BY:

Amy L. Driscoll

DEVELOPMENT & BUILDING SERVICE CENTER
ONE STOP SHOP
600 SECOND ST. N.W.

ATTENTION: Hydro
505-924-3900

Records Withdrawal Form

Project No. K10/D20c Date: 10/27/04

Project Title: Aqua Azul

a. File b. Mylars c. Redlines/Comments
d. Other _____

Requested by: Shahab / Advanced Eng. Phone No.: 899-5570
Name and Company

Comments: Copy all sheets
Job # 200407

Anticipated Return Date: ASAP

I hereby accept full responsibility for the security of the above noted records/plans until return receipt acknowledgement is completed. Records/plans will be returned to the Development and Building Services Center on or before the indicted anticipated return date.

Delivery Picked Up By:

Name: DORA LUSAN Organization: Academy Reprographics.
Print
Signed: [Signature] Date: _____

Office Use Only

Return Acknowledged:

Received By: [Signature] Date: 10-29-04
Print



City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

Planning Department

Transportation Development Services Section

October 16, 2002

Ron Witherspoon, Registered Architect
6801 Jefferson N.E.
Albuquerque, NM 87109

Re: Traffic Circulation Layout (TCL) Submittal for Building Permit Approval for
Agua Azul Housing, [K-10 / D020C]
353 Camino Azul N.E.
Architect's Stamp Dated 09/11/02

Dear Mr. Witherspoon:

The TCL submittal, dated October 16, 2002, is sufficient for acceptance by this office and is stamped and signed as such. As required, four copies were made: two for submittal of building permit plans, one for this office and one to be kept by you to be used for certification of the site for final C.O. for Hydrology/Transportation.

When superintendent of project is ready to call for a Temporary C.O. (Temp) immediate issuance is no longer possible at that time. An exact copy of the approved TCL, marked up, showing incomplete work remaining, along with a letter of certification is required prior to issuance of Temp. For projects that are multiple phases, Barricading Plan is needed clearly illustrating separation of pedestrian and vehicular traffic of this site from coming phases, not completed or yet begun.

When site is complete and a Final C.O. is needed, a Letter of Certification, stating site was built in substantial compliance with the approved plan, needs to be attached to your stamped, approved TCL. Letter and/or TCL must be stamped with the designer's seal for the certification. Seal must be signed and dated for that submittal. This and all documentation must be submitted with a completed Drainage and Transportation Information Sheet (also used for the Grading and Drainage submittal) to Hydrology at the Development Services Center of Plaza Del Sol Building.

When the phase or phases of the site (as the developer requires for the C.O.) are complete, submit the Cert. to the counter at Planning along with the D and T Info Sheet. For those parties who are closely associated or are otherwise interested, please allow 2 to 3 days following Cert submittal, then call the Building Safety Division at 924-3306 to verify acceptance or refusal.

Sincerely,

Mike Zamora, Commercial Plan Checker
Development and Building Services
Planning Department

c: Hydrology file
MIKE ZAMORA

DRAINAGE AND TRANSPORTATION INFORMATION SHEET
(REV. 1/11/2002)

PROJECT TITLE: Aqua Azul ZONE MAP/DRG. FILE #: K10/D020C
DRB #: EPC#: WORK ORDER#:
LEGAL DESCRIPTION: HUBBELL PLAZA SUBD., Lot A1AC2
CITY ADDRESS: 353 Camino Azul

ENGINEERING FIRM:
ADDRESS:
CITY, STATE:

CONTACT:
PHONE:
ZIP CODE:

OWNER: YES - Housing Inc. - Aqua Azul HSG
ADDRESS: 2130 San Mateo NE - Suite G
CITY, STATE: Albany, GA

CONTACT:
PHONE:
ZIP CODE: 87110

ARCHITECT: DEKKER/PERICH/SABATINI
ADDRESS: 6001 Jefferson NE Suite 100
CITY, STATE: Albany, GA

CONTACT: Ron Witherspoon
PHONE: 761-9700
ZIP CODE: 87109

SURVEYOR:
ADDRESS:
CITY, STATE:

CONTACT:
PHONE:
ZIP CODE:

CONTRACTOR:
ADDRESS:
CITY, STATE:

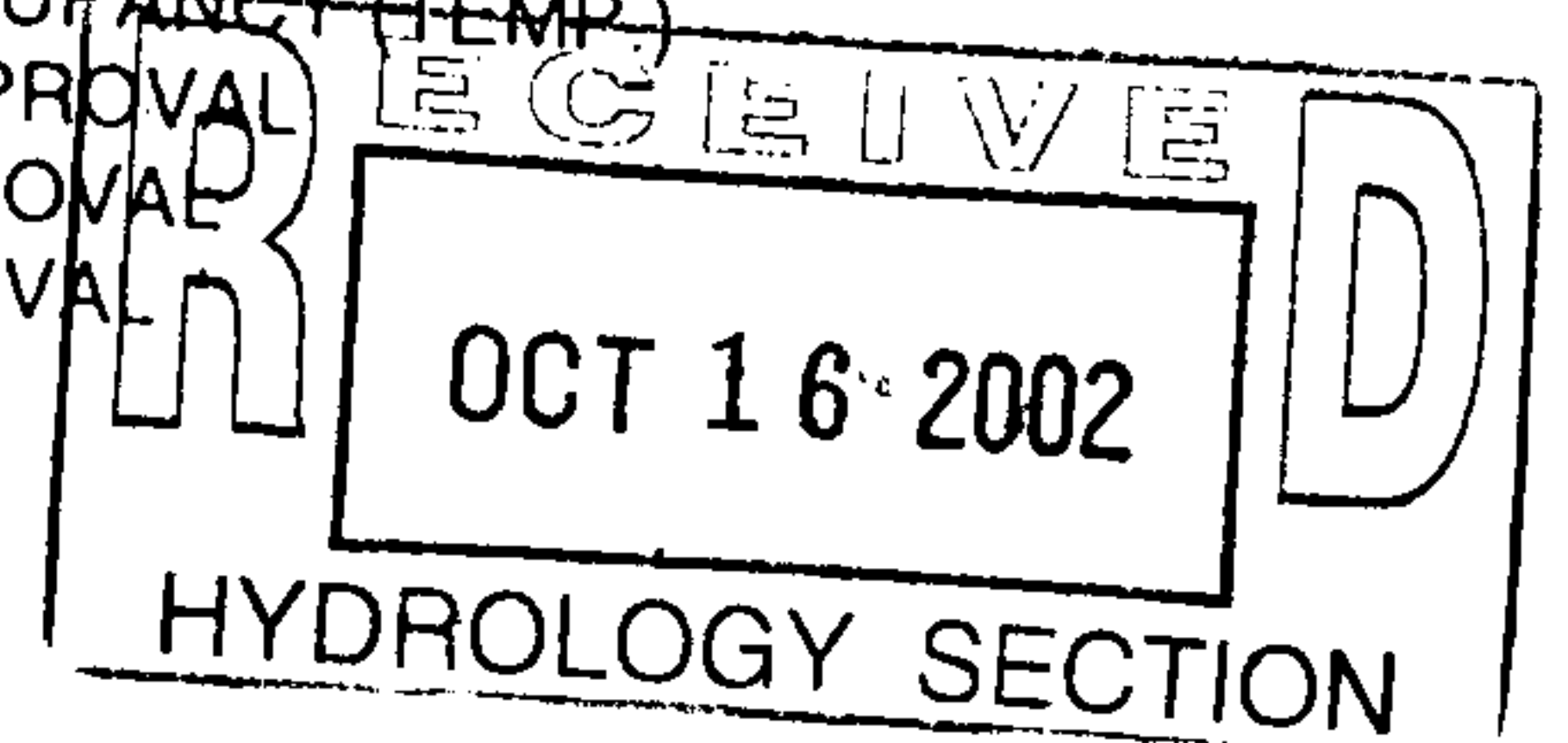
CONTACT:
PHONE:
ZIP CODE:

CHECK TYPE OF SUBMITTAL:

- ☐ DRAINAGE REPORT
- ☐ DRAINAGE PLAN
- ☐ CONCEPTUAL GRADING & DRAINAGE PLAN
- ☐ GRADING PLAN
- ☐ EROSION CONTROL PLAN
- ☐ ENGINEER'S CERTIFICATION (HYDROLOGY)
- ☐ CLOMR/LOMR
- ☒ TRAFFIC CIRCULATION LAYOUT (TCL)
- ☐ ENGINEERS CERTIFICATION (TCL)
- ☐ ENGINEERS CERTIFICATION (DRB APPR. SITE PLAN)
- ☐ OTHER

CHECK TYPE OF APPROVAL SOUGHT:

- ☐ SIA / FINANCIAL GUARANTEE RELEASE
- ☐ 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 (PERM.)
- ☐ CERTIFICATE OF OCCUPANCY (TEMP.)
- ☐ GRADING PERMIT APPROVAL
- ☐ PAVING PERMIT APPROVAL
- ☐ WORK ORDER APPROVAL
- ☐ OTHER (SPECIFY)



WAS A PRE-DESIGN CONFERENCE ATTENDED:

- ☐ YES
- ☐ NO
- ☐ COPY PROVIDED

DATE SUBMITTED: 10/16/02 BY: [Signature] for Arch.

Requests for approvals of Site Development Plans and/or Subdivision Plats shall be accompanied by a drainage submittal. The particular nature, location and scope of the proposed development defines the degree of drainage detail. One or more of the following levels of submittal may be required based on the following:

1. **Conceptual Grading and Drainage Plan:** Required for approval of Site Development Plans greater than five
2. **Drainage Plans:** Required for building permits, grading permits, paving permits and site plans less than five (5)
3. **Drainage Report:** Required for subdivisions containing more than ten (10) lots or constituting five (5) acres or more.

10/16/02 - App'd TCL/Permit Set over County ; 10/24 - Sent letter ; ✓ - Log

DRAINAGE AND TRANSPORTATION INFORMATION SHEET

(REV. 1/28/2003rd)

PROJECT TITLE: AGUA AZUL HOUSING COMMUNITY ZONE MAP/DRG. FILE #: K-10/D-200
 DRB #: _____ EPC#: _____ WORK ORDER#: _____

LEGAL DESCRIPTION: _____
 CITY ADDRESS: 353 CAMINO AZUL NW

ENGINEERING FIRM: _____
 ADDRESS: _____
 CITY, STATE: _____

CONTACT: _____
 PHONE: _____
 ZIP CODE: _____

OWNER: _____
 ADDRESS: _____
 CITY, STATE: _____

CONTACT: _____
 PHONE: _____
 ZIP CODE: _____

ARCHITECT: DEKKER/PERICH/SABATINI
 ADDRESS: 6801 JEFFERSON NE, SUITE 100
 CITY, STATE: ALBUQUERQUE, NEW MEXICO

CONTACT: AMBER WALBRIDGE
 PHONE: 761-9700
 ZIP CODE: 87109

SURVEYOR: _____
 ADDRESS: _____
 CITY, STATE: _____

CONTACT: _____
 PHONE: _____
 ZIP CODE: _____

CONTRACTOR: _____
 ADDRESS: _____
 CITY, STATE: _____

CONTACT: _____
 PHONE: _____
 ZIP CODE: _____

CHECK TYPE OF SUBMITTAL:

- _____ DRAINAGE REPORT
- _____ DRAINAGE PLAN 1st SUBMITTAL, *REQUIRES TCL or equal*
- _____ DRAINAGE PLAN RESUBMITTAL
- _____ CONCEPTUAL GRADING & DRAINAGE PLAN
- _____ GRADING PLAN
- _____ EROSION CONTROL PLAN
- _____ ENGINEER'S CERTIFICATION (HYDROLOGY)
- _____ CLOMR/LOMR
- ☒ **TRAFFIC CIRCULATION LAYOUT (TCL)**
- _____ ENGINEERS CERTIFICATION (TCL)
- _____ ENGINEERS CERTIFICATION (DRB APPR. SITE PLAN)
- _____ OTHER

CHECK TYPE OF APPROVAL SOUGHT:

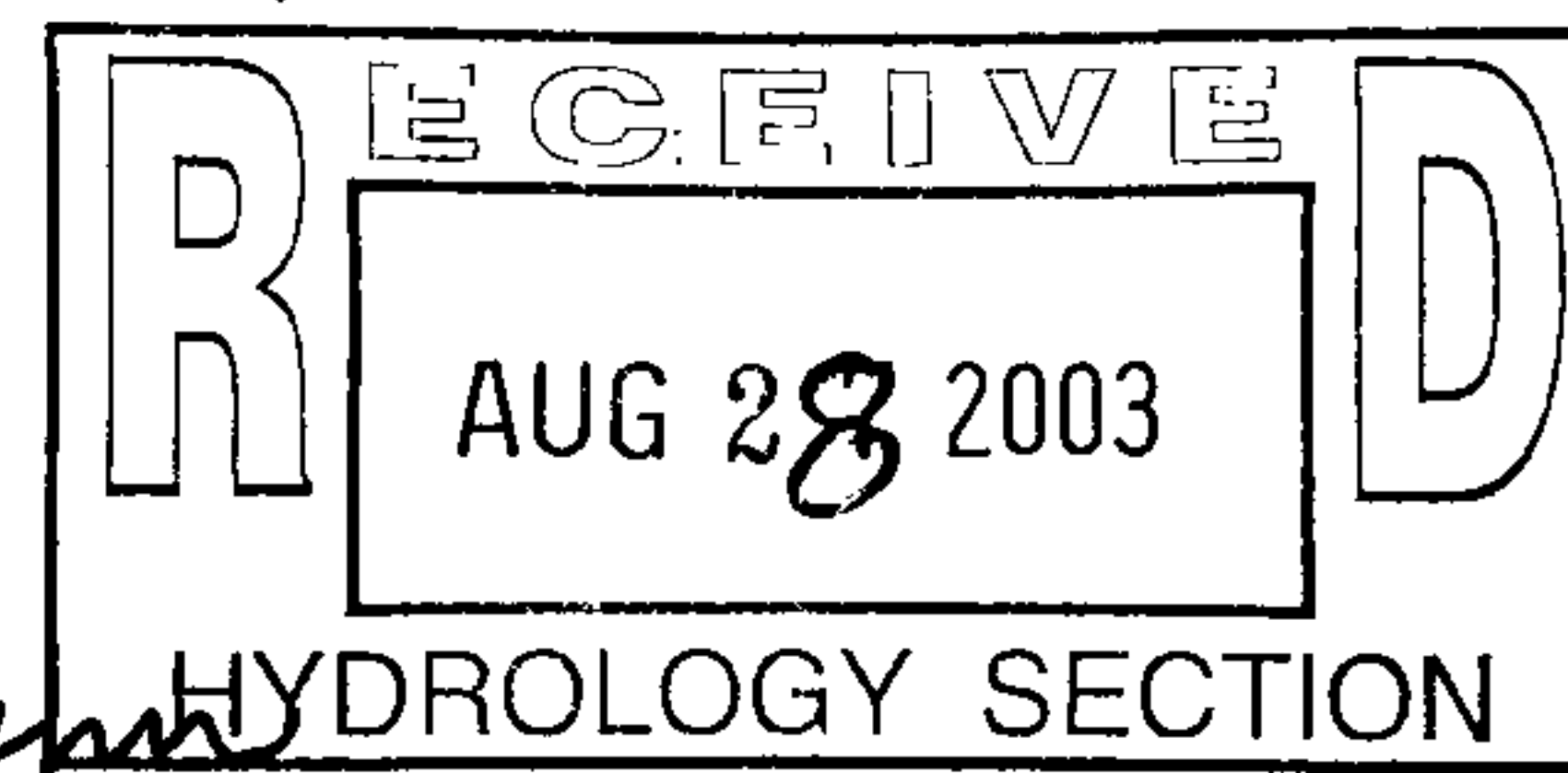
- _____ SIA / FINANCIAL GUARANTEE RELEASE
- _____ PRELIMINARY PLAT APPROVAL
- _____ S. DEV. PLAN FOR SUB'D. APPROVAL
- _____ S. DEV. PLAN FOR BLDG. PERMIT APPROVAL
- _____ SECTOR PLAN APPROVAL
- _____ FINAL PLAT APPROVAL
- _____ FOUNDATION PERMIT APPROVAL
- _____ BUILDING PERMIT APPROVAL
- ☒ **CERTIFICATE OF OCCUPANCY (PERM.)**
- _____ CERTIFICATE OF OCCUPANCY (TEMP.)
- _____ GRADING PERMIT APPROVAL
- _____ PAVING PERMIT APPROVAL
- _____ WORK ORDER APPROVAL
- _____ OTHER (SPECIFY)

WAS A PRE-DESIGN CONFERENCE ATTENDED:

- _____ YES
- _____ NO
- _____ COPY PROVIDED

DATE SUBMITTED: 8-28-03

BY: Dan M. Mann



Requests for approvals of Site Development Plans and/or Subdivision Plats shall be accompanied by a drainage submittal. The particular nature, location and scope of the proposed development defines the degree of drainage detail. One or more of the following levels of submittal may be required based on the following:

1. **Conceptual Grading and Drainage Plan:** Required for approval of Site Development Plans greater than five (5) acres and Sector Plans.
2. **Drainage Plans:** Required for building permits, grading permits, paving permits and site plans less than five (5) acres.
3. **Drainage Report:** Required for subdivisions containing more than ten (10) lots or constituting five (5) acres or more.



City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

***Planning Department
Transportation Development Services Section***

August 28, 2003

Ronald A. Witherspoon, Registered Architect
6801 Jefferson NE, Ste. 100

Albuquerque, NM 87109

Re: Certification Submittal for Final Building Certificate of Occupancy for
Agua Azul Housing Community, [K-10 / D-20C]
353 Camino Azul NW
Architect's Stamp Dated 08/27/03

Dear Mr. Witherspoon:

The TCL / Letter of Certification submitted on August 28, 2003 is sufficient for acceptance by this office for final Certificate of Occupancy (C.O.). Notification has been made to the Building and Safety Section.

Sincerely,

Nilo E. Salgado-Fernandez, P.E.
Senior Traffic Engineer
Development and Building Services
Planning Department

c: Engineer
Hydrology file
CO Clerk

August 27, 2003



Dekker/Perich/Sabatini

architecture
interiors
planning
engineering

Brad Bingham
Transportation Development Division
Development Services
City of Albuquerque
600 2nd Street NW
Albuquerque, NM 87102

Re: Transportation Certification
Agua Azul Housing Community
353 Camino Azul, NE W

Dear Mr. Bingham,

This letter is to certify the Agua Azul Housing Community. Attached is a plan illustrating the site, stamped and signed on August 27, 2003. To the best of my knowledge and belief this site meets substantial compliance for the Traffic Certification Layout (TCL). Acceptable changes have been noted on the TCL plan. This certification is for the city approved permit set. There are four site related change orders currently under construction. Each change order is shown on the attached site plan. These change orders include landscaping, and a retaining wall along the south property line for improved drainage. These items do not affect the TCL, and therefore, we are issuing this letter now for Final Certification. There is temporary address signage on site, as the permanent address signage is still on order.

Our office has visited the site at periodic intervals as requested by the Owner. Such visit and observation are not intended to be an exhaustive check or detailed inspection of the Contractor's work but rather are to allow our office, as experienced professionals, to become generally familiar with the work in progress and to determine, in general, if the Work is proceeding in accordance with the Contract Documents.

Based on our general observations, our office has informed our Client about the progress of the Work and has endeavored to notify our Client of deficiencies in the Work. Based on our observations, we feel the attached site plan represents work that has been constructed to date.

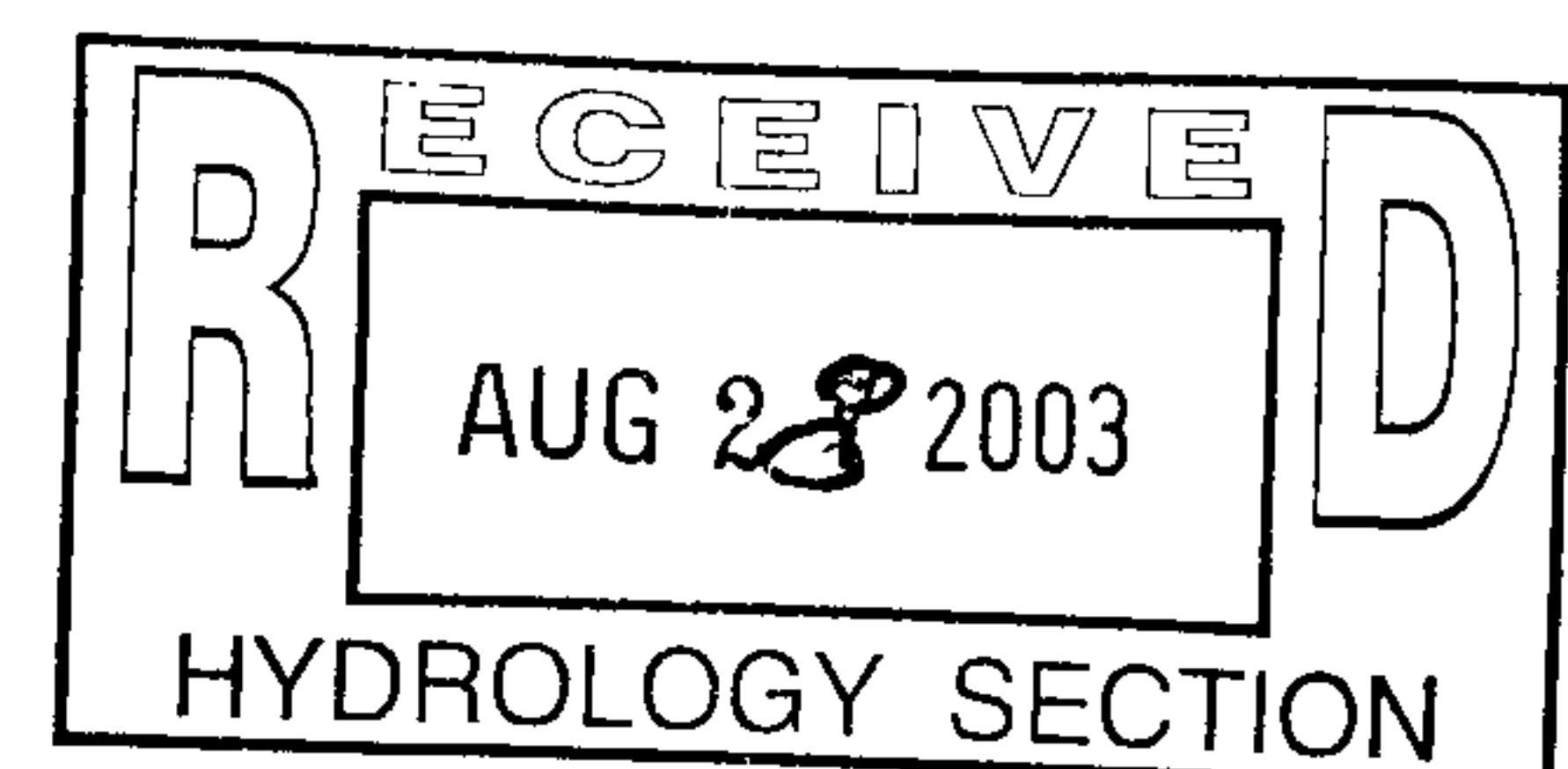
If you have any questions regarding our observations, please feel free to contact us.

Very truly yours,

Dekker/Perich/Sabatini Ltd.


Ron Witherspoon
Principal

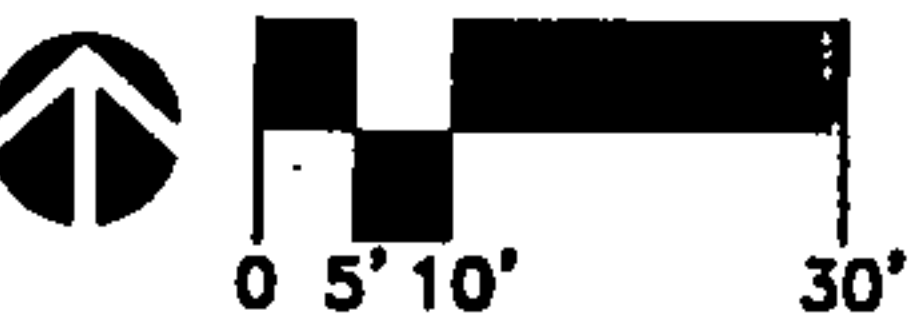
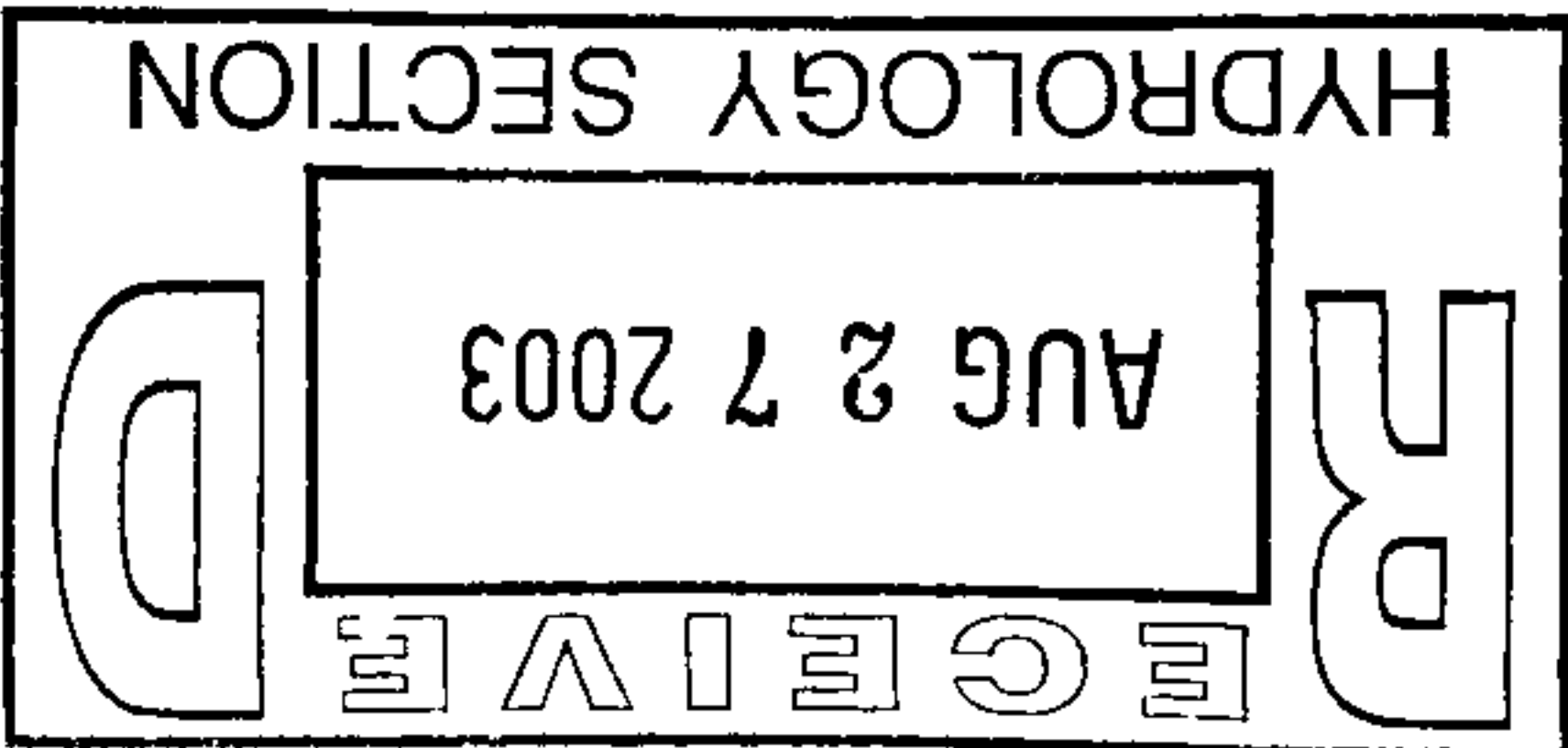
cc: Chris Vigil, file



■■■
6801 Jefferson NE
Suite 100
Albuquerque NM
87109
505 761-9700
fax 761.4222
dps@dpsabq.com

KEYED NOTES

1. LOCATION OF PROJECT ADDRESS IDENTIFICATION SIGN. TEMPORARY SIGNAGE IS POSTED. PERMANTANT ADDRESS SIGNAGE IS STILL ON ORDER AS OF 8/26/03.
2. PONDING AREAS TO BE LANDSCAPED WITH GRAVEL AND RIP-RAP.
3. WROUGHT IRON SECURITY FENCE AT PONDING AREAS.
4. LANDSCAPE WITH CRUSHER FINES INSTEAD OF NATIVE SEED.
5. RETAINING WALL AND SWALE TO IMPORVE DRAINGE.



Dekker/Perich/Sabatini

6801 Jefferson NE
Suite 100
Albuquerque, NM 87109

architecture
interiors
planning
engineering
505 761-9700
fax 761-4222
dps@dpsabq.com

AGUA AZUL HOUSING COMMUNITY		
DRAWN BY	ANN	SCALE AS SHOWN
REVIEWED BY	DD	
DATE ISSUED	8/27/03	
PROJECT NO.	00081	OF

SITE PLAN
Transportation Certification

34.

CHECK TYPE OF SUBMITTAL:

	DRAINAGE REPORT
	DRAINAGE PLAN 1 ST SUBMITTAL, req. TCL or equal
	DRAINAGE PLAN RESUBMITTAL
	CONCEPTUAL GRADING & DRAINAGE PLAN
	GRADING PLAN
	EROSION CONTROL PLAN
x	ENGINEER'S CERTIFICATION (HYDROLOGY)
	CLOMR/LOMR
	TRAFFIC CIRCULATION LAYOUT (TCL)
	ENGINEER'S CERTIFICATION (TCL)
	ENGINEER'S CERTIFICATION (DRB APPR. SITE PLAN)
	OTHER

WAS A PRE-DESIGN CONFERENCE ATTENDED?

DATE SUBMITTED:

BY:

1. **Conceptual Grading and Drainage Plan:** Required for approval of Site Development Plans greater than five (5) acres and Sector Plans.
2. **Drainage Plans:** Required for building permits, grading permits, paving permits and site plans less than five (5) acres.
3. **Drainage Report:** Required for subdivisions containing more than ten (10) lots or constituting five (5) acres or more.