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G10/D2A

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FILE COPY

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

KEN SCHULTZ
MAYOR

May 12, 1989

Jean Jake Bordenave
Bordenave Designs
7100 Louisiana Boulevard, NE A-106
Albuquerque, New Mexico 87109

RE; CERTIFICATION FOR REVISION DONE TO PRESIDIO VILLA AMENITY PARK (G-10/D2A) ENGINEER'S STAMP DATED APRIL 17, 1989

Dear Mr. Bordenave:

Based on the information provided on your submittal of April 17, 1989 Certification for the referenced plan is acceptable.

If I can be of further assistance, please feel free to call me at 768-2650.

Cordially,

Bernie J. Montoya

Bernie J. Montoya, C.E.
Engineering Assistant

BJM/bsj
(WP+384)

25×10

0000 0000 00 17

DRAINAGE INFORMATION SHEET

Revision / Katherine Nichole

PROJECT TITLE: Drainage Report ZONE ATLAS/DRAINAGE FILE #: 6-10/104

Rec'd 4/17/89

LEGAL DESCRIPTION: Lots 21 thru 38, Block 9, Katherine Nichole Addition

CITY ADDRESS: 67th & Cleghorn Road N.W.

ENGINEERING FIRM: DMJM CONTACT: J.J. Bordenave

ADDRESS: 6501 America's Parkway N.E. Suite 690 PHONE: 823-1344

OWNER: U.S. Home CONTACT: Mark Hamil

ADDRESS: 7015 Cisco Rd. N.W. PHONE: 831-1881

ARCHITECT: CONTACT:

ADDRESS: PHONE:

SURVEYOR: CONTACT:

ADDRESS: PHONE:

CONTRACTOR: CONTACT:

ADDRESS: PHONE:

PRE-DESIGN MEETING:

___ YES

X NO

___ COPY OF CONFERENCE RECAP SHEET PROVIDED

RECEIVED
APR 17 1989
HYDROLOGY SECTION

DRB NO.

EPC NO.

PROJECT NO.

TYPE OF SUBMITTAL:

___ DRAINAGE REPORT

___ DRAINAGE PLAN

___ CONCEPTUAL GRADING & DRAIN PLAN

___ GRADING PLAN

___ EROSION CONTROL PLAN

X ENGINEER'S CERTIFICATION

CHECK TYPE OF APPROVAL SOUGHT:

___ SECTOR PLAN APPROVAL

___ SKETCH PLAT APPROVAL

___ PRELIMINARY PLAT APPROVAL

___ SITE DEVELOPMENT PLAN APPROVAL

___ FINAL PLAT APPROVAL

___ BUILDING PERMIT APPROVAL

___ FOUNDATION PERMIT APPROVAL

___ CERTIFICATE OF OCCUPANCY APPROVAL

___ ROUGH GRADING PERMIT APPROVAL

___ GRADING/PAVING PERMIT APPROVAL

X OTHER Grading & Drainage Revision (SPECIFY).

DATE SUBMITTED: 4/12/89

BY: W Richards

REV 10/25

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25×

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FILE COPY

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

KEN SCHULTZ
MAYOR

November 2, 1988

Mike Kibbee
DMJM
6501 Americas Parkway NE
Suite 690
Albuquerque, NM 87110

RE: REVISION TO KATHERINE NICHOLE DRAINAGE REPORT, PRESIDO VILLA AMENITY PARK, RECEIVED OCTOBER 13, 1988, FOR POND RUNDOWN REVISION. (G-10/D2A)

Dear Mr. Kibbee:

The above referenced submittal dated 10/13/88 is approved for construction of the modification to the existing detention pond rundown. Prior to any construction, I recommend that these Plans be reviewed with the Homeowners Association and neighborhood to see if their concerns are being adequately addressed.

The contractor must obtain an Excavation Permit prior to any construction within the City's right-of-way.

An issue that is not addressed with this submittal is the problem of the outlet pipe getting plugged. This will continue to be a maintenance problem until some type of trash guard is installed to keep cans and 'hand-placed' rocks from plugging the pipe.

If you have any questions call me at 768-2650

Cordially;

Roger A. Green, PE

Roger A. Green, P.E.
C.E./ Hydrology Section

xc: Mark Hamil, US Home
Lenny Lovato, 6729 Cleghorn, NW
Mike Ciesielski, Mayor's office

RAG/(WP+384)

AN EQUAL OPPORTUNITY EMPLOYER

25×

0000 0000 0019

DRAINAGE INFORMATION SHEET

PROJECT TITLE: Revision to Kathrine Nicole Drainage Report ZONE ATLAS/DRAINAGE FILE 6-10/D4

LEGAL DESCRIPTION: Lot 21 thru 38, Block 4, Kathrine Nichole Addition

CITY ADDRESS: 67th & Cleghorn Road, N.W.

ENGINEERING FIRM: DMJM CONTACT: Mike Kibbee

ADDRESS: 6501 Americas Parkway NE Suite 690 PHONE: 884-4031

OWNER: U.S. Home CONTACT: Mark Hamil

ADDRESS: 7015 Cisco Rd., N.W. PHONE: 831-1881

ARCHITECT: _____ CONTACT: _____

ADDRESS: _____ PHONE: _____

SURVEYOR: _____ CONTACT: _____

ADDRESS: _____ PHONE: _____

CONTRACTOR: _____ CONTACT: _____

ADDRESS: _____ PHONE: _____

PRE-DESIGN MEETING:

___ YES

X NO

___ COPY OF CONFERENCE RECAP SHEET PROVIDED

RECEIVED
OCT 13 1988
HYDROLOGY SECTION

DRB NO. _____

EPC NO. _____

PROJECT NO. _____

TYPE OF SUBMITTAL:

X DRAINAGE REPORT REVISION

___ DRAINAGE PLAN

___ CONCEPTUAL GRADING & DRAIN PLAN

___ GRADING PLAN

___ EROSION CONTROL PLAN

___ ENGINEER'S CERTIFICATION

CHECK TYPE OF APPROVAL SOUGHT:

___ SECTOR PLAN APPROVAL

___ SKETCH PLAT APPROVAL

___ PRELIMINARY PLAT APPROVAL

___ SITE DEVELOPMENT PLAN APPROVAL

___ FINAL PLAT APPROVAL

___ BUILDING PERMIT APPROVAL

___ FOUNDATION PERMIT APPROVAL

___ CERTIFICATE OF OCCUPANCY APPROVAL

___ ROUGH GRADING PERMIT APPROVAL

___ GRADING/PAVING PERMIT APPROVAL Grading & Drainage

x OTHER Revision (SPECIFY).

DATE SUBMITTED: 10-11-88

BY: Mike Kibbee

DEV 10/25

10

WP# 384

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City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

MAYOR
KEN SCHULTZ

CHIEF ADMINISTRATIVE OFFICER
GENE ROMO

DEPUTY CAO DEVELOPMENT & ENTERPRISE SERVICES
LARRY LARRANAGA

DEPUTY CAO PUBLIC SERVICES
DAN WEAKS

RECEIVED
AUG 25 1988
HYDROLOGY SECTION

August 23, 1988

Lenny Lovato
6729 Cleghorn NW
Albuquerque, NM 87120

Dear Mr. Lovato:

Thank you for calling my office concerning the storm drainage pond across the street from your home.

I have assigned Mr. Ciesielski of my office to contact Mr. Fred Aguirre of the Hydrology Division, at 768-2650, to review this matter. Mr. Aguirre advises me that the pond is draining properly as of 8/19/88 and the design fo the drainage pond is correct, however, we will send a City survey crew to verify that the key elevation points are in compliance with the original design.

Thank you for making me aware of this matter. If you have further need of assistnace regarding this issue, please contact Mr. Ciesielski or Mr. Aguirre at the above numbers.

Sincerely,

Ken Schultz
Mayor

KS/MC/dm
cc: Clarence Lithgow, DCAO
Mike Ciesielski, Assistant to the DCAO
Fred Aguirre, Hydrology, Public Works Dept.
wpp987

AN EQUAL OPPORTUNITY EMPLOYER

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G10/D2A

CITY OF ALBUQUERQUE

ALBUQUERQUE, NEW MEXICO

RECEIVED
AUG 22 1988
HYDROLOGY SECTION

INTER-OFFICE CORRESPONDENCE

August 17, 1988

REF. NO._____

TO: Ed Chavez, Policy Analyst, City Council

FROM: GM Gene Mortimer, Supervisor, Insect and Rodent Control Section, Environmental Health Department

SUBJECT: WATER PONDING IN PRESIDIO VILLA AMENITY PARK

In response to your request for information on the mosquito breeding and safety problems created by the water standing in Amenity Park located near 67th Street and Armand NW, I personally checked into the existing conditions and past mosquito breeding history of the site. I was informed by Fred Aguirre and Roger Green with the Hydrology Section of the Public Works Department that the primary purpose of the park is as a detention pond which retards street run-off in order to avoid flooding problems. Any additions or structures within the detention area are secondary to the intended purpose. The site development plan known as the Presidio Villa Amenity Park detention pond was adopted and approved in June 1986 and, according to Mr. Aguirre and Mr. Green, is not now in violation and is operating as intended. They also stated that the City of Albuquerque is not responsible for maintaining the area. I would recommend that any further inquiries regarding design should be directed to the Hydrology Section since they have the expertise.

Regarding mosquito breeding problems, my control records show that this site has not been listed for routine inspection, but has from time to time over the past two years been inspected on a complaint basis. It does not have a history of causing problems but has now been included on our list for routine monitoring. In the event that mosquito production problems do develop, the property owner could be cited for a violation under the Insect and Rodent Control ordinance and could be required to eliminate the problem by appropriate means.

I inspected the park on August 10, 11 and 12 to assess the present conditions regarding concerns previously mentioned. I found about 2 to 3 inches of water standing in the graveled playground area which covers about an eighth of the total pond area and approximately 900 square feet of grass covered with one inch of water. Dead grass in this same area indicated a long standing water condition. No mosquito larvae were found. Forty-eight hours later, water in the playground area had decreased but was still present.

As for the possibility of a child drowning in the play area, I believe this possibility quite remote unless a child were lying unconscious face down and the detention area was standing in water.

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If we can be of any further assistance, please contact me at 768-2600 or Fred Aguirre at 768-2650.

GM/yc
cc: Bill Bennett, Manager, Environmental Services Division, EHD
✓Fred Aguirre, Hydrology, Public Works Department
WPPENV5/108

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

Ken Schultz
Mayor

UTILITY DEVELOPMENT DIVISION
HYDROLOGY SECTION
(505) 768-2650

November 20, 1987

Mark Hamil
U.S. Homes Corporation
7100 Cisco Road, NW
Albuquerque, New Mexico 87120

RE: PRESIDIO VILLA AMENITY PARK
KATHERINE NICHOLE SUBDIVISION (G-10/D2A)
(DRB-86-141/EPC # ZA-86-58)

Dear Mr. Hamil:

On November 20, 1987, I made an inspection with Howard Boday, U.S. Homes, of the Presidio Villa Amenity Park. All six items previously listed in my October 12, 1987 memo have been corrected to be in accordance with the approved Site Development Plan.

Two minor items which still need attention are as follows:

1. Complete the remaining 20± feet of sidewalk at the southeast corner of park site.

2. Remove the excess gravel at the outlet of the sidewalk culverts on Armand Street and ensure that runoff is directed along the walkways, and not into the swing set area.

Thank you for your prompt attention to the previously identified deficiencies.

Cordially,

Roger A. Green

Roger A. Green, P.E.
C.E./Hydrology Section

RAG/bsj

xc: Walter Gelb, Zoning Enforcement
Jake Bordenave, DMJM
Richard Dineen, Current Planning

25×

0000 0000 0024

FILE COPY

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

Ken Schultz
Mayor

UTILITY DEVELOPMENT DIVISION
HYDROLOGY SECTION
(505) 768-2650

October 12, 1987

Jean J. Bordenave, P.E.
DMJM
5100 Harper Drive NE
Suite 280
Albuquerque, New Mexico 87109

Mark Hamil
U.S. Homes Corporation
7100 Cisco Road NW
Albuquerque, New Mexico 87120

RE: ENGINEER'S CERTIFICATION OF PRESIDO VILLA AMENITY PARK, KATHERINE NICHOLE SUBDIVISION, RECEIVED SEPTEMBER 29, 1987 FOR FINAL SITE PLAN ACCEPTANCE (G-10/D2A) DRB CASE NUMBER 86-141, EPC NUMBER ZA-86-58

Dear Mr. Bordenave/Mr. Hamil:

After review of the above referenced submittal and an on-site visit on October 14, 1987, I find that the constructed recreational facility is not acceptable. The submitted as-built drawing failed to show the following deficiencies:

1. Concrete slope paving is not in place on the Northwest and Southwest corners as the Site Plan required.

2. Ground cover materials used are not in compliance with the approved Site Plan.

3. Run-off water is being ponded in the west end of the park due to the concrete curbing and walkways being constructed higher that the adjacent area, and due to the fact that plastic liner was installed under the crushed stone ground cover.

4. The berm around the park has not been grassed as shown on the Site Plan but was covered with stone, which makes for a nuisance and safety hazard on the public sidewalks adjacent to the berm.

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5. A pile of crushed stone is blocking the concrete curb cut and rundown on Armand Street and must be removed.

6. Bushes and trees have not been planted as required by the Site Plan.

The most critical item of concern is the use of plastic under the stone ground cover. This detention basin was designed with minimal slope from the west end toward the outlet, therefore it is critical that the type of ground cover used be conducive to water infiltration. The use of plastic liner has the opposite affect and therefore must be removed. If it is felt by the owners that a material is needed under the stone to prevent weed growth, then a landscape fabric must be used that allows water infiltration. This type of material is readily available in the Albuquerque area.

In regards to the other noted deficiencies, a copy of this memo is being provided to the Zoning Enforcement Officer and Planning Department for their review and follow up.

This office will not recognize the park construction as being acceptable until the plastic lining is removed and the rundown obstruction is removed.

If you have further questions call me at 768-2650.

Sincerely,

Roger A. Green, PE

Roger A. Green, P.E.
Civil Engineer
Hydrology Section

RAG/lk

cc: Bob Romero, C.O.A. Zoning
Richard Dineen, C.O.A. Current Planning

0000 0000 0026

DMJM

September 24, 1987

RECEIVED
SEP 1 9 1987
HYDROLOGY SECTION

Roger Green
Hydrology Section
City of Albuquerque
Albuquerque, New Mexico

Re: Presido Villa Amenity Center, Katherine Nichole Subdivision
Attachments: Record Drawing, Existing Pond Volumes.

Dear Mr. Green,

The pool area was constructed approximately 9 feet north of the original design. This increases the volume of the pond by 1400 cubic feet. The east end of the pond was finished with southwest landscaping instead of grass as was originally designed. But since percolation was not considered in the design this has no bearing on the function of the pond. The two large patios at the east end of the pond were reduced to approximately 12 x 12 square.

The bottom of the pond was constructed approximately .2 above the original design. This reduces the pond volume by 8,500 cubic feet. To compensate for this loss we will assume the depth in the street will increase, this will increase the depth in the pond. This difference will equalize not to exceed .2 feet. This will make the depth in Cleghorn not to exceed .39 feet, and the depth in Armand not to exceed .56 feet.

These changes are minor and therefore this pond functions as designed.

Sincerely yours,

Lee Bell

Lee Bell

Daniel, Mann, Johnson, & Mendenhall
Suite 280, 5700 Harper Drive, N.E.
Albuquerque, New Mexico 87109
Telephone: 505/822-7955

Planning
Engineering
Systems
Economics

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DRAINAGE INFORMATION SHEET

JECT TITLE: Presido Villa Amenity Center ZONE ATLAS/DRNG. FILE #: G-10/D2A

AL DESCRIPTION: Lots 21 thru 38 of Block 4 Katherine Nichole Addition

Y ADDRESS: N/A

NEERING FIRM: P.M.I.M. CONTACT: Lee Bell

ADDRESS: 5700 Harper Dr. N.E. Suite 280 PHONE: 822-7955

ER: U.S. Home Corporation CONTACT: Mark Hamil

ADDRESS: 7100 Cisco Road N.W. PHONE: 831-1881

ITECT: N/A CONTACT:

ADDRESS: PHONE:

YOR: N/A CONTACT:

ADDRESS: PHONE:

RACTOR: N/A CONTACT:

ADDRESS: PHONE:

RECEIVED
SEP 1 9 1987
HYDROLOGY SECTION

DESIGN MEETING:

- YES
- X NO
- COPY OF CONFERENCE RECAP SHEET PROVIDED

ZA-86-58
DRB NO. 86-141
EPC NO.
PROJ. NO.

Bill Reynolds 898-4490

PE OF SUBMITTAL:

- DRAINAGE REPORT
- DRAINAGE PLAN
- CONCEPTUAL GRADING & DRAINAGE PLAN
- GRADING PLAN
- EROSION CONTROL PLAN
- * ENGINEER'S CERTIFICATION

CHECK TYPE OF APPROVAL SOUGHT:

- ___ SKETCH PLAT APPROVAL
- ___ PRELIMINARY PLAT APPROVAL
- ___ SITE DEVELOPMENT PLAN APPROVAL
- ___ FINAL PLAT APPROVAL
- ___ BUILDING PERMIT APPROVAL
- ___ FOUNDATION PERMIT APPROVAL
- ___ CERTIFICATE OF OCCUPANCY APPROVAL
- ___ ROUGH GRADING PERMIT APPROVAL
- ___ GRADING/PAVING PERMIT APPROVAL
- ___ OTHER _____ (SPECIFY)

SUBMITTED: Lee Bell 9/24/87

BY:

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FILE COPY

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

Ken Schultz
Mayor

UTILITY DEVELOPMENT DIVISION
HYDROLOGY SECTION
(505) 768-2650

September 17, 1987

Jake Bordenave, P.E.
DMJM
5600 Harper Drive, NE Suite 280
Albuquerque, New Mexico 87109

RE: ENGINEER'S CERTIFICATION OF PRESIDIO VILLA AMENITY CENTER, KATHERINE-NICHOLE SUBDIVISION (G-10/D2A)

Dear Jake:

As of this date, we have not received an Engineer's Certification of the above referenced recreation area, as required for the Site Plan sign-off by the City Engineer. Please reference memos from this office dated June 6, 1986 to yourself, and from Mark S. Hamil dated June 18, 1986 to this office.

This outstanding commitment needs to be taken care of as soon as possible in order to document the as-built elevations of the grading and recreational structures.

Please inform this office why the Certification has not been provided and an expected date of compliance.

If you have any questions, call me at 768-2650.

Cordially,

Roger A. Green, PE

Roger A. Green, P.E.
C.E./Hydrology Section

cc: Mark Hamil, US Homes

RAG/bsj

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US·HOME®

U.S. HOME CORPORATION

7100 Cisco Rd. N.W. • Albuquerque, N.M. 87120 • (505) 831-1881

G10/D2A

DATE: June 18, 1986

RECEIVED
JUN 19 1986
HYDROLOGY SECTION

TO: Fred Aguirre
City Engineer - Hydrology
City of Albuquerque

FROM: Mark S. Hamil
Vice President/Project Manager
U.S. Home/Albuquerque Project

RE: Request for a certified drawing of the Presidio Villa Amenity Center, Katherine-Nichole Subdivision.

As per your request, this letter is being written to assure you that a certified site plan will be sent to your office reflecting that the above amenity center was constructed according to the site plan approved by the Hydrology Department. If I can be of further service, please do not hesitate to call.

Sincerely,

MARK S. HAMIL

cc: DMJM
5700 Harper NE
Suite 280
Albuquerque, NM 87107

25×

0000 0000 0030

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

DESIGN HYDROLOGY SECTION
123 Central NW, Albuquerque, NM 87102
(505) 766-7644

June 6, 1986

Jake Bordenave, PE
DMJM
5600 Harper Drive NE, Suite 280
Albuquerque, NM 87109

REF; SITE PLAN SIGN-OFF OF PRESIDO VILLA AMENITY PARK, KATHERINE NICHOLE SUBDIVISION (G10/D2A)

Dear Jake:

As discussed and agreed to today by yourself and Fred Aguirre, the above referenced Site Plan was signed off with the understanding that the final grading and recreational structure elevations will be certified by the owner's engineer. Sheet 1 of 3 of the Site Plan dated 1/29/86 is approved as the Grading Plan to be constructed. The existing agreement and drainage easement for the park is adequate as the required Encroachment Agreement. Recreation Facilities will be permitted and inspected through Code Administration.

It is expected that the owner will concur with this by letter to this office.

If you have any questions, call me at 766-7644.

Sincerely,

Roger A. Green, PE

Roger A. Green, PE
CE/Hydrology

RAG:mrk

cc: Adolph Frank, U.S. Home, 7015 Cisco Road NW, Albuquerque, NM

25×

0000 0000 0031

FILE COPY

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

DESIGN HYDROLOGY SECTION
123 Central NW, Albuquerque, NM 87102
(505) 766-7644

May 29, 1986

Lee Bell
DMJM
5600 Harper Drive, NE Suite 280
Albuquerque, New Mexico 87109

RE: ADDENDUM TO DRAINAGE EASEMENT FOR PRESIDO VILLA AMENITY PARK, KATHERINE NICHOLE SUBDIVISION FOR SITE DEVELOPMENT PLAN APPROVAL RECEIVED MAY 22, 1986 (G-10/D2A)

Dear Lee:

The above referenced submittal is concured with and has been forwarded to Della Gallegos, in Engineering, for processing.

If you have any questions, call me.

Cordially,

Roger A. Green, PE

Roger A. Green, P.E.
C.E./Hydrology Section

cc: Ralph Frank, U.S. Homes

RAG/bsj

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DRAINAGE INFORMATION SHEET

PROJECT TITLE: PRESIDO VILLA AMENITY PARK ZONE ATLAS/DRAINAGE FILE # G10-D2A

LEGAL DESCRIPTION: LOTS 21 THRU 38; BLK. 4 - KATHERINE NICHOLE ADDITION

CITY ADDRESS: N/A

ENGINEERING FIRM: DMJM CONTACT: LEE BELL

ADDRESS: 5700 HARPER DRIVE, N. E., SUITE 280 PHONE: 822-7955

OWNER: U.S. HOME CONTACT: RALPH FRANK

ADDRESS: 7015 CISCO ROAD, N. W. PHONE: 831-3872

ARCHITECT: PERFECTO GARCIA CONTACT: RALPH FRANK

ADDRESS: 7015 CISCO ROAD, N. W. PHONE: 831-3872

SURVEYOR: NONE CONTACT:

ADDRESS: PHONE:

CONTRACTOR: NONE CONTACT:

ADDRESS: PHONE:

PRE-DESIGN MEETING:

___ YES

_X_ NO

___ COPY OF CONFERENCE RECAP SHEET PROVIDED

RECEIVED
MAY 22 1986
HYDROLOGY SECTION

DRB NO.

EPC NO.

PROJECT NO.

TYPE OF SUBMITTAL:

___ DRAINAGE REPORT

___ DRAINAGE PLAN

___ CONCEPTUAL GRADING & DRAIN PLAN

_X_ GRADING PLAN

___ EROSION CONTROL PLAN

___ ENGINEER'S CERTIFICATION

CHECK TYPE OF APPROVAL SOUGHT:

___ SECTOR PLAN APPROVAL

___ SKETCH PLAT APPROVAL

___ PRELIMINARY PLAT APPROVAL

_X_ SITE DEVELOPMENT PLAN APPROVAL

___ FINAL PLAT APPROVAL

___ BUILDING PERMIT APPROVAL

___ FOUNDATION PERMIT APPROVAL

___ CERTIFICATE OF OCCUPANCY APPROVAL

___ ROUGH GRADING PERMIT APPROVAL

___ GRADING/PAVING PERMIT APPROVAL

DATE SUBMITTED: 01-28-86

LEE BELL

5/19/86 Lee Bell

X OTHER (SPECIFY) Revision to existing Agreement and Grant of Drainage Easement

25×

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FILE COPY

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

DESIGN HYDROLOGY SECTION
123 Central NW, Albuquerque, NM 87102
(505) 766-7644

May 13, 1986

Lee Bell
DMJM
5600 Harper Drive, NE Suite 280
Albuquerque, New Mexico 87109

RE: DRAINAGE PLAN SUBMITTAL OF PRESIDO VILLA AMENITY PARK, KATHERINE NICHOLE SUBDIVISION FOR SITE DEVELOPMENT PLAN APPROVAL RECEIVED MAY 1, 1986 (G-10/D2A)

Dear Lee:

The above referenced submittal, dated January 29, 1986, is approved for Site Development Plan approval. DRB may require the new Easement Agreement be executed prior to Site Plan sign-off.

If you have any questions, call me at 766-7644.

Cordially,

Roger A Green PE

Roger A. Green, P.E.
C.E./Hydrology Section

cc: U.S. Homes
7015 Cisco Road, NW

RAG/bsj

25×

0000 0000 0034

DRAINAGE INFORMATION SHEET

PROJECT TITLE: Presido Villa Amenity Park ZONE ATLAS/DRNG. FILE #: G10-D2A

LEGAL DESCRIPTION: Lots 21 thru 38 Blk 4, KATHERINE NICHOLE ADDITION

CITY ADDRESS: N/A

ENGINEERING FIRM: D.M.J.M. CONTACT: LEE BELL

ADDRESS: 5700 Harper N.E. PHONE: 822-7955

OWNER: U.S. Home 7100 CONTACT: Mark Hamil

ADDRESS: ~~7015~~ Cisco Road N.W. PHONE: 831-1881

ARCHITECT: NONE CONTACT:

ADDRESS: PHONE:

SURVEYOR: NONE CONTACT:

ADDRESS: PHONE:

CONTRACTOR: NONE CONTACT:

ADDRESS: PHONE:

RECEIVED
MAY 01 1986
HYDROLOGY SECTION

DESIGN MEETING:

_ YES

X NO

X COPY OF CONFERENCE RECAP SHEET PROVIDED

DRB NO. DRB-86-141

EPC NO. _____

PROJ. NO. _____

TYPE OF SUBMITTAL:

_ DRAINAGE REPORT

X DRAINAGE PLAN

_ CONCEPTUAL GRADING & DRAINAGE PLAN

_ GRADING PLAN

_ EROSION CONTROL PLAN

_ ENGINEER'S CERTIFICATION

CHECK TYPE OF APPROVAL SOUGHT:

____ SKETCH PLAT APPROVAL

____ PRELIMINARY PLAT APPROVAL

X SITE DEVELOPMENT PLAN APPROVAL

____ FINAL PLAT APPROVAL

____ BUILDING PERMIT APPROVAL

____ FOUNDATION PERMIT APPROVAL

____ CERTIFICATE OF OCCUPANCY APPROVAL

____ ROUGH GRADING PERMIT APPROVAL

____ GRADING/PAVING PERMIT APPROVAL

____ OTHER _____ (SPECIFY)

SUBMITTED: 5/1/86

BY: Lee Bell

25×

0000 0000 0035

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

DESIGN HYDROLOGY SECTION
123 Central NW, Albuquerque, NM 87102
(505) 766-7644

February 25, 1986

Lee Bell
DMJM/Adam, Hamlyn, Anderson
5600 Harper Drive, NE Suite 280
Albuquerque, New Mexico 87109

RE: GRADING PLAN SUBMITTAL OF PRESIDO VILLA AMENITY PARK RECEIVED JANUARY 28, 1986 FOR SITE DEVELOPMENT PLAN APPROVAL (G-10/D2A)

Dear Lee:

I have reviewed the above referenced submittal and have the following comment to be addressed before further review and approval.

Page 2 of Appendix A, under part 2 of Agreement and Grant of Drainage Easement states that pond shall have ". . . a maximum reservoir water depth of no more than one and one-half (1½) feet" . . . Appendix B calculations assume depths varying from 1.9' to 2.3'.

Any revised site plans for the easement area must comply with the original agreement, unless a new agreement is executed.

If you have any questions, call me at 766-7644.

Cordially,

Roger A. Green, PE

Roger A. Green, P.E.
C.E./Design Hydrology

RAG/bsj

cc: Standard Letter to:

U.S. Homes
7015 Cisco Road, NW

25×

0000 0000 0036

DRAINAGE INFORMATION SHEET

PROJECT TITLE: PRESIDO VILLA AMENITY PARK ZONE ATLAS/DRAINAGE FILE # G10-D2A

LEGAL DESCRIPTION: LOTS 21 THRU 38; BLK. 4 - KATHERINE NICHOLE ADDITION

CITY ADDRESS: N/A

ENGINEERING FIRM: DMJM CONTACT: LEE BELL

ADDRESS: 5700 HARPER DRIVE, N. E., SUITE 280 PHONE: 822-7955

OWNER: U.S. HOME CONTACT: RALPH FRANK

ADDRESS: 7015 CISCO ROAD, N. W. PHONE: 831-3872

ARCHITECT: PERFECTO GARCIA CONTACT: RALPH FRANK

ADDRESS: 7015 CISCO ROAD, N. W. PHONE: 831-3872

SURVEYOR: NONE CONTACT:

ADDRESS: PHONE:

CONTRACTOR: NONE CONTACT:

ADDRESS: PHONE:

PRE-DESIGN MEETING:

___ YES

_X_ NO

___ COPY OF CONFERENCE RECAP SHEET PROVIDED

RECEIVED
JAN 28 1986
HYDROLOGY SECTION

DRB NO. 85-810 (2/3/86

EPC NO.

PROJECT NO.

TYPE OF SUBMITTAL:

___ DRAINAGE REPORT

___ DRAINAGE PLAN

___ CONCEPTUAL GRADING & DRAIN PLAN

_X_ GRADING PLAN

___ EROSION CONTROL PLAN

___ ENGINEER'S CERTIFICATION

CHECK TYPE OF APPROVAL SOUGHT:

___ SECTOR PLAN APPROVAL

___ SKETCH PLAT APPROVAL

___ PRELIMINARY PLAT APPROVAL

_X_ SITE DEVELOPMENT PLAN APPROVAL

___ FINAL PLAT APPROVAL

___ BUILDING PERMIT APPROVAL

___ FOUNDATION PERMIT APPROVAL

___ CERTIFICATE OF OCCUPANCY APPROVAL

___ ROUGH GRADING PERMIT APPROVAL

___ GRADING/PAVING PERMIT APPROVAL

___ OTHER _____ (SPECIFY)

DATE SUBMITTED: 01-28-86

BY: LEE BELL Lee Bell

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DRAINAGE INFORMATION SHEET

PROJECT TITLE: Katherine Nicole Park ZONE ATLAS/DRNG. FILE #: G-10/D2A

DRB #: _____ EPC #: _____ WORK ORDER #: 4552.90

LEGAL DESCRIPTION: Katherine Nicole Park

CITY ADDRESS: _____

ENGINEERING FIRM: Jeff Mortensen & Associates CONTACT: Jeff Mortensen

ADDRESS: 6010-B Midway Park Blvd. NE PHONE: 345-4250

OWNER: (Contact Architect) CONTACT: _____

ADDRESS: _____ PHONE: _____

ARCHITECT: G. Robert Johns CONTACT: Bonnie Markle

ADDRESS: 3218 Silver S.E. PHONE: 266-8027

SURVEYOR: _____ CONTACT: _____

ADDRESS: _____ PHONE: _____

CONTRACTOR: N/A CONTACT: _____

ADDRESS: _____ PHONE: _____

TYPE OF SUBMITTAL:

____ DRAINAGE REPORT
X DRAINAGE PLAN
____ CONCEPTUAL GRADING & DRAINAGE PLAN
X GRADING PLAN
____ EROSION CONTROL PLAN
____ ENGINEER'S CERTIFICATION
____ OTHER

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
____ CERTIFICATE OF OCCUPANCY APPROVAL
X GRADING PERMIT APPROVAL
____ PAVING PERMIT APPROVAL
____ S.A.D. DRAINAGE REPORT
____ DRAINAGE REQUIREMENTS
X OTHER WORK ORDER (SPECIFY)

RECEIVED
DEC 6
HYDROLOGY

DATE SUBMITTED: 12-6-95

BY: Jeffrey G. Mortensen

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A MEMBER OF CONSULTING
ENGINEERS COUNCIL OF NEW MEXICO

JEFF MORTENSEN & ASSOCIATES, INC. ☐ ENGINEERS & SURVEYORS ☐ (505) 345-4250
6010-B MIDWAY PARK BLVD. N.E. ☐ ALBUQUERQUE ☐ NEW MEXICO 87109 ☐ FAX (505) 345-4254

950791
December 5, 1995

Mr. Carlos Montoya
Hydrology Section
Public Works Department
City of Albuquerque
P. O. Box 1293
Albuquerque, NM 87103

Re: Katherine Nicole Bike Path/Trail (G10/D2A)

Dear Carlos:

We are in receipt of your comments dated November 22, 1995 concerning the above referenced project. Transmitted herewith is our resubmittal for review and approval. We would also like to respond to your comments per our meeting of December 04, 1995.

1. It is not possible to provide a slope in the bottom of the pond. The purpose for the pond is to capture nuisance flows, remove sediment, and harvest water for irrigating the native grasses which will be seeded in this portion of the site. Providing a positive slope will diminish capacity, allow sediment to be mobilized, and neglect the water harvesting concept.

2. Concrete slope paving has been provided at the pond outlet. A plan view and associated section have been incorporated onto Sheet 2. Due to the small size of the pipe, a trash rack is not feasible. The invert of the pipe is designed 0.1 feet above the bottom of the pond which allows sediment and trash to deposit in the bottom of the pond and not the pipe. The slope of the pipe is one percent which should be self-cleaning in most instances.

3. Per Note 8, on Sheet 2 of 2, "maintenance of these facilities shall be the responsibility of the owner of the property served."

4. The SO #19 process was not intended for this project. As we understand, it will be constructed by City Work Order. The SO #19 sign-off block was inadvertently added to the sheet. The main purpose for adding the SO #19 notes was to adequately address the requirements set forth in Notes 6, 7, 8, and 11, which appear on Sheet 2 of 2.

Jeffrey G. Mortensen, P.E. **Juan M. Cala** **Charles G. Cala, Jr., P.S.**

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5. The portion of the site designated as Basins A and B are owned by the City. They are so noted with the designation "PARK". The bike path which lies outside of the "PARK" site we understand belongs to PNM. It is our further understanding that the City has an Encroachment Agreement and/or some other agreement by which it can construct City improvements upon that property. We defer further clarification on this to Parks & General Services.

Please review this resubmittal and supplemental information at your earliest convenience. If you should have any questions or comments regarding this information, or if we can be of further assistance to you, please do not hesitate to call.

Sincerely,

JEFF MORTENSEN & ASSOCIATES, INC.

Jeffrey G. Mortensen, P.E.
President

JGM:dsj
Enclosure
xc: Bonnie Markle w/enclosure

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

January 3, 1996

Jeff Mortensen
Jeff Mortensen & Associates
6010-B Midway Park Blvd. NE
Albuquerque, NM 87109

RE: DRAINAGE PLAN FOR KATHERINE NICOLE BIKE PATH/TRAIL
(G10-D2A) RECEIVED DECEMBER 6, 1995.

Dear Mr. Mortensen:

I have reviewed the referenced plan and forward the following comments:

Per our meeting the following items need to be changed.

1. The pond will need to be filled to the invert of the 4" pvc outfall.

2. The pond does not need a slope.

If I can be of further assistance, feel free to contact me at 768-2654.

Sincerely,

Carlos A. Montoya
PWD/Hydrology

CAM/dl

c: Andrew Garcia
File

THE CITY OF ALBUQUERQUE IS AN EQUAL OPPORTUNITY/REASONABLE ACCOMMODATION EMPLOYER

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

November 22, 1995

Jeff Mortensen
Jeff Mortensen & Associates
6010-B Midway Park Blvd. NE
Albuquerque, NM 87109

RE: DRAINAGE PLAN FOR KATHERINE NICOLE BIKE PATH/TRAIL
(G10-D2A) RECEIVED 10/31/95.

Dear Mr. Mortensen:

I have reviewed the referenced plans and forward the following comments:

1. The pond should have a slope to the out fall pipe.

2. The 4 inch pvc pipe should have a concrete pad at the entrance. Also, there should be some type of trash rack.

3. Please indicate who will maintain the pond.

4. Why are we using the S.O. 19 process when this is a Work Order?

5. Indicate who owns the property for the bike path and the pond.

If you should have any questions, feel free to contact me at 768-2654.

Sincerely,

Carlos A. Montoya
PWD/Hydrology

CAM/dl

c: Andrew Garcia
File

THE CITY OF ALBUQUERQUE IS AN EQUAL OPPORTUNITY/REASONABLE ACCOMMODATION EMPLOYER

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

October 6, 1995

Jeff Mortensen
Jeff Mortensen & Associates
6010-B Midway Park Blvd. NE
Albuquerque, NM 87109

RE: DRAINAGE PLAN FOR PRESIDIO VILLA AMENITY PARK
(G10-D2A) RECEIVED SEPTEMBER 21, 1995.

Dear Mr. Mortensen:

The above referenced plan dated 9/20/95 is approved for Rough Grading and Work Order. I will sign off on the Construction Drawings as soon as they are made available to me. Certification of the property by the design engineer will be required once the construction is complete.

If you have any questions, please call me at 768-2654.

Sincerely,

Carlos Montoya, P.E.
PWD/Hydrology

c: Andrew Garcia
File

THE CITY OF ALBUQUERQUE IS AN EQUAL OPPORTUNITY/REASONABLE ACCOMMODATION EMPLOYER

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DRAINAGE INFORMATION SHEET

PROJECT TITLE: Presidio Villa Park ZONE ATLAS/DRNG. FILE #: G-10/D2A

DRB #: — EPC #: — WORK ORDER #: —

LEGAL DESCRIPTION: Tract 'A', Presidio Villa Amenity Park, Katherin Nicole Addition

CITY ADDRESS: 67th St N.W. between Armand Rd. N.W and Cleghorn Rd NW

ENGINEERING FIRM: JMA CONTACT: Jeff Peterson

ADDRESS: 6010-B Midway Pk Blvd PHONE: 345-4250

OWNER: City of Albuquerque CONTACT: Diane Sena

ADDRESS: Parks Dept. PHONE: 857-8632

ARCHITECT: G. Robert John, ASLA CONTACT: Bonnie Markle

ADDRESS: 3218 Silver S.E. PHONE: 266-8027

SURVEYOR: City of Albuquerque CONTACT: Architect

ADDRESS: N/A PHONE: N/A

CONTRACTOR: Not Selected CONTACT: N/A

ADDRESS: N/A PHONE: N/A

TYPE OF SUBMITTAL:

___ DRAINAGE REPORT
✓ DRAINAGE PLAN
___ CONCEPTUAL GRADING & DRAINAGE PLAN
✓ GRADING PLAN
___ EROSION CONTROL PLAN
___ ENGINEER'S CERTIFICATION
___ OTHER

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)

DATE SUBMITTED: 8/24/95

BY: Jeffrey A. Peterson

AUG 25 1995

HYDROLOGY DIVISION

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920711

EXISTING AGREEMENT

85 15315

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AGREEMENT AND GRANT OF
DRAINAGE EASEMENT

This Agreement and Grant of Drainage Easement is made and executed this 26th day of February, 1985, by and between U.S. Homes and Roberson Construction Company, Inc. (hereinafter referred to as "Grantors"), and the City of Albuquerque, New Mexico, a municipal corporation (hereinafter referred to as "Grantee").

WHEREAS, Grantors are the owners and lawfully seized of certain real property located within the Katherine Nichole Addition, a Subdivision within Bernalillo County, New Mexico, and more particularly described as follows:

> Lots 21 thru 38 of Block 4, KATHERINE NICHOLE ADDITION as designated on the plat of said addition filed in the Office of County Clerk, Bernalillo County, New Mexico, on Jan. 6, 1981, in Volume: C17 Folio: 171;

and

WHEREAS Grantee wishes to use certain portions of said property for the detention of public drainage waters and Grantors wish to use other portions for recreational purposes; and

WHEREAS Grantors are agreeable to the contemplated multi-purpose use of the property;

NOW, THEREFORE, IN CONSIDERATION of the above and for other good and valuable consideration, receipt of which is acknowledged,

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the parties hereby agree as follows:

1. Grantors hereby give, grant, and convey to Grantee an easement upon and across the above-described property for the purpose of the detention of public surface drainage waters, together with the right to enter said property to inspect the easement property as necessary and the further right to remove, at Grantors' expense, any obstacles which interfere with the use and operation of the property as a public drainage water detention reservoir.

2. Grantors have constructed drainage reservoir and facilities in accordance with standards, plans, and specifications as prescribed and approved by the City and the construction has been approved by the City. Grantee agrees that Grantors may make concurrent use of the property for recreational purposes, provided that Grantors shall at all times maintain a ponding volume of not less than ninety-six thousand five hundred (96,500) cubic feet, with a minimum bottom elevation of at least two (2) inches above the gutter elevation at the detention reservoir outlet and a maximum reservoir water depth of no more than one and one-half (1 1/2) feet, and otherwise comply with all drainage conditions depicted on the attached Exhibit A. Grantors' concurrent use of the property for recreational purposes shall in no way interfere with Grantee's

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use of the property for public drainage purposes as granted herein.

3. The Grantors agree to defend, indemnify, and hold harmless, the Grantee, its officials, agents, and employees from and against any and all claims, actions, suits, or proceedings of any kind brought against said parties for or on account of any matter arising from the drainage facility provided for herein or the Grantors' failure to construct, maintain, or modify the drainage facility under this Agreement. Grantee shall not be liable for any damages accruing to Grantors resulting from the construction, maintenance or modification of said public drainage reservoir.

4. This Agreement and the property rights granted herein shall remain in full force and effect until released in writing by Grantee. It is understood and agreed that the maintenance of said drainage facility is contemplated only so long as conditions require it, it being contemplated that the facility will be replaced by permanent storm sewer facilities included in the City's Master Plan for drainage for that area. When the facility is so replaced, this Agreement and the property rights granted herein will be released by an instrument in writing. If prior to the installation of such permanent facilities as contemplated by the

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Master Plan or any substitute therefor, the Grantors demonstrate to the reasonable satisfaction of the Grantee that downstream conditions warrant the release of this Agreement and the property rights granted herein, Grantee agrees to release this Agreement and all property rights granted herein by separate instrument.

EXECUTED this 26th day of February, 1985.

GRANTORS:

U.S. HOMES

By _____
Its Vice Pres. Project Manager

ROBERSON CONSTRUCTION COMPANY, INC.

By _____
Coda C. Roberson, President

GRANTEE:

CITY OF ALBUQUERQUE

By _____
Frank A. Kleinhenz
Chief Administrative Officer

RECOMMENDED:

_____ 2/22/85
C. Dwayne Sheppard
City Engineer

APPROVED AS TO FORM:

_____
Assistant City Attorney

ATTEST:

_____
City Clerk

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ACKNOWLEDGEMENTS

STATE OF NEW MEXICO)
) ss.
COUNTY OF BERNALILLO)

The foregoing instrument was acknowledged before me this 22nd day of February, 1985, by Mike Hamill of U.S. Homes.

Notary Public

My Commission Expires:
12/30/87

STATE OF NEW MEXICO)
) ss.
COUNTY OF BERNALILLO)

The foregoing instrument was acknowledged before me this 22nd day of February, 1985, by Coda C. Roberson, President of Roberson Construction Company, Inc.

Notary Public

My Commission Expires:
12/30/87

STATE OF NEW MEXICO)
) ss.
COUNTY OF BERNALILLO)

The foregoing instrument was acknowledged before me this 25th day of February, 1985, by Frank A. Kleinhenz, Chief Administrative Officer of the City of Albuquerque.

Notary Public

My Commission Expires:
4/18/87

STATE OF NEW MEXICO
COUNTY OF BERNALILLO
FILED FOR RECORD
1985 FEB 28 PM 2:53
DOROTHY WALTER

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420711

CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT
UTILITY DEVELOPMENT DIVISION/HYDROLOGY SECTION

PRE-DESIGN CONFERENCE

DRAINAGE FILE/ZONE ATLAS PAGE NO.: 610 - D2A DATE: 10/8/92

EPC NO.: _____ DRB NO.: _____ ZONE: _____

SUBJECT: PRESIDIO VILLA - ~~LOTS~~ TRACT A (DRAINAGE POND)

STREET ADDRESS: _____

LEGAL DESCRIPTION: _____

APPROVAL REQUESTED:

____	PRELIMINARY PLAT	____	FINAL PLAT
____	SITE DEVELOPMENT PLAN	____	BUILDING PERMIT
____	GRADING/PAVING PERMIT	X	OTHER VACATION

ATTENDANCE: (WHO)	REPRESENTING
JEFF MORTENSEN	
FRED J. AGUIRRE	

FINDINGS:

ELIMINATION OF THE EXISTING POND (I.E. VACATION OF THE DRAINAGE EASEMENT) WILL REQUIRE JUSTIFICATION THAT DOWNSTREAM CAPACITY EXISTS FOR THE FLOWS INTERCEPTED BY THE POND.

The undersigned agrees that the above findings are summarized accurately and are only subject to change if further investigation reveals that they are not reasonable or that they are based on inaccurate information.

SIGNED: _____ SIGNED: _____

TITLE: _____ TITLE: _____

DATE: 10/8/92 DATE: 10/08/92

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ALBUQUERQUE, NEW MEXICO

9-7-95
DATE

PROJECT NO. 5060.90

STANDARD REVIEW COMMENT SHEET

SHEET 1 OF ___

Billy Goolsby /CHAIRMAN DRC-APPLICANT
(USER DEPT./DIVISION)

OM: Carlos A. Montoya /HYDROLOGY/ENGINEERING
(REVIEWER/REVIEW DEPT./DIVISION)

OJECT: Presidio Park (5060.90) (G10-D2A)

OJECT DESCRIPTION STATUS ☐ Pre-Design ☒ Preliminary ☐ Final

FOR REVIEWER DEPT./DIVISION			For User Dept.	
Page No.	Com. No.	COMMENTS	A/D	Remark
	1	The following comments address the Construction plans and the drainage report dated 8-21-95		
	2	The agreement and grant of drainage easement indicates that 96,503 cubic feet is the required pond volume. Reducing the volume requires an analysis to show that this is justified.		
	3	The wetland area is a flat area which will not drain. Our maintenance groups prefer that this area have a slope. However, this is parks & Rec decision.		

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ALBUQUERQUE, NEW MEXICO

9-7-95
DATE

PROJECT NO. 5060.90

STANDARD REVIEW COMMENT SHEET

SHEET 2 OF ____

/CHAIRMAN DRC-APPLICANT
(USER DEPT./DIVISION)

O.M: /HYDROLOGY/ENGINEERING
(REVIEWER/REVIEW DEPT./DIVISION)

OJECT: Presidio Park

OJECT DESCRIPTION STATUS ☐ Pre-Design ☒ Preliminary ☐ Final

FOR REVIEWER DEPT./DIVISION			For User Dept.	
Page No.	Com. No.	COMMENTS	A/D	Remark
	4.	The drainage rundown will direct flows across the playfield (Turf). Again, our maintenance people like low flow channels to the outfall. Parks & Rec should make this decision.		
	5.	The south east corner of the pond appears to be below the 15.70 mean water surface.		

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COMPLAINT FORM

PUBLIC WORKS DEPARTMENT
UTILITY DEVELOPMENT DIVISION
HYDROLOGY SECTION
768-2650

8367533

Complainant: Belinda South Phone #: 247-0444

Address/Location: 4211 66th Street, NW
Presidio Villa

Complaint: The park across the street from her home (not City owned-?) ponds into her yard and adjacent properties - U.S. Homes owns the park - does not have a name.

Referred to: BERNIE

Investigation-Comments: Outlet pipe from ponding area within the park is partially plugged. Talked to Bill Reynolds of U.S. Homes he will have his maintenance man go out and clean out the discharge pipe.

Follow-up: 12:14 p.m. Talked to Hank on 7/12/88 drain pipe has been unplugged water is draining from the pond. He has advised me that they will install a mesh fabric to keep pipe from plugging up.

Resolved by: B. Montoya Date: 7/12/88

ZONE ATLAS/DRAINAGE FILE NO.: G10-D24

COMPLAINT FILE NO.: G10-C2

DATE COMPLAINT RECEIVED: 7/11/88

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DMJM/Adam, Hamlyn, Anderson

DRAINAGE REPORT

KATHERINE NICHOLE

G10-D2

RECEIVED
OCT 14 1983
ENGINEERING

A Division of
Daniel, Mann, Johnson, & Mendenhall

Suite A
4055 Montgomery Boulevard N.E.
Albuquerque, New Mexico 87109
Telephone: 505/881-1808

Planning
Engineering
Systems
Economics

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KATHERINE NICHOLE
DRAINAGE REPORT
SEPTEMBER, 1983

Prepared for:

ROBERSON CONSTRUCTION COMPANY, INC.
9212 Trumbull Avenue, SE
Albuquerque, New Mexico 87123

Prepared by:

DMJM/Adam, Hamlyn, Anderson
4055 Montgomery Boulevard, NE
Albuquerque, New Mexico 87109

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	SHEET
DRAINAGE REPORT	
DRAINAGE CALCULATIONS	1-14
CURB INLET CAPACITY CALCULATIONS	1-14
50' SCALE - POND FOR BASIN II	PLATE I
DRAINAGE AREA MAP	PLATE II

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DRAINAGE REPORT INFORMATION SHEET

PROJECT TITLE: KATHERINE NICHOLE SUBDIVISION
ZONE ATLAS PAGE NO. F-10 & G-10 CITY ADDRESS N/A
LEGAL ADDRESS: (see below)
ENGINEERING FIRM: DMJM/Adam,Hamlyn,Anderson CONTACT: J.J. BORDENAVE
ADDRESS: 4055 Montgomery Blvd. NE PHONE: 881-1808
Albuquerque, New Mexico 87109
OWNER: ROBERSON CONSTRUCTION COMPANY, INC. CONTACT: CODA ROBERSON
ADDRESS: 9212 Trumbull Ave. SE PHONE: 298-5548
Albuquerque, New Mexico 87123
ARCHITECT/SURVEYOR: N/A CONTACT: _____
ADDRESS: _____ PHONE: _____
_____
DATE SUBMITTED: _____ PHONE: _____
BY: _____

LEGAL ADDRESS: A PARCEL OF LAND SITUATED ABOUT 150' WEST OF ATRISCO RD. NW, IN THE N.W. QUADRANT OF ALBUQUERQUE SPECIFICALLY DESCRIBED IN A PLAT RECORDED ON VOLUME: C-18, Folio: 63, IN BERNALILLO COUNTY.

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KATHERINE NICHOLE
DRAINAGE REPORT

PURPOSE & SCOPE:

THIS DRAINAGE REPORT CONSTITUTES THE ENTIRE KATHERINE NICHOLE SUBDIVISION OWNED BY ROBERSON CONSTRUCTION COMPANY, INC., A SUBDIVISION APPROXIMATELY 56.07 ACRES LOCATED IN THE N.W. QUADRANT OF ALBUQUERQUE. ABOUT 21.5 ACRES OF THIS SUBDIVISION IS ALREADY CONSTRUCTED OR UNDER CONSTRUCTION UNDER PHASE I. ROBERSON CONSTRUCTION COMPANY, INC., IS CURRENTLY PLANNING DEVELOPMENT OF PHASE II. THE PURPOSE AND SCOPE OF THIS REPORT IS TO PRESENT AN OVERALL DRAINAGE PLAN OF THE SUBDIVISION ACCEPTABLE TO THE CITY OF ALBUQUERQUE AND THE ALBUQUERQUE METROPOLITAN ARROYO FLOOD CONTROL AUTHORITY; TO ENSURE THAT THIS PROJECT WILL BE PROTECTED BY STORM RUNOFF AND THAT THE DEVELOPMENT WILL NOT INCREASE FLOOD POTENTIAL OF ADJACENT PROPERTIES.

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LOCATION & DESCRIPTION:

KATHERINE NICHOLE SUBDIVISION IS LOCATED IN THE N.W. QUADRANT OF ALBUQUERQUE, WEST OF 64th STREET N.W. AND NORTH OF THE LADERA HEIGHTS SUBDIVISION. THE SITE IS SITUATED WITHIN SECTION 3, T10N, R 2 E, AND 34, T 11 N, R 2 E, N M P M AND THE TOWN OF ALBUQUERQUE GRANT IN ALBUQUERQUE, NEW MEXICO. ACCESS TO THE SUBDIVISION IS THROUGH 64th STREET TO THE EAST AND 71st STREET NW TO THE SOUTH. THE PARCEL IS APPROXIMATELY 56.07 ACRES GROSS AREA AND WILL BE DEVELOPED AS TOWN-HOUSES AND PATIO HOMES LOTS. ALL STREETS WILL BE PUBLIC. THE SUB-DIVISION DOES NOT LIE IN A FLOOD HAZARD AREA.

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DESIGN CRITERIA & INFORMATION:

ALL HYDROLOGICAL ANALYSIS IS BASED ON A 100 YEAR STORM FREQUENCY RAINFALL FIGURES IN ACCORDANCE WITH AMAFCA REQUIREMENTS AND THE CITY OF ALBUQUERQUE DESIGN CRITERIA AS PRESENTED IN "DEVELOPMENT PROCESS MANUAL" VOL. 2. RATIONAL METHOD, Q= CiA, WAS USED TO ESTABLISH COMPUTATIONS SHOWN HEREIN. FOR OFFSITE DEVELOPED CONDITION (FROM LEVERTON DRAINAGE REPORT) APPROXIMATELY 60 ACRES OF THE UPLAND DRAINAGE IS TO BE INTERCEPTED AND STORED IN DETENTION BASINS WITHIN THE PNM EASEMENT. THEREFORE, RUNOFF TO THE LADERA BASIN #15 & #16 IS REDUCED TO THAT GENERATED WITHIN THE SUBDIVISION. FOR ONSITE DEVELOPMENT CONDITION THERE IS NO SUBSURFACE DRAINAGE. A DETENTION POND (POND #2) WILL BE CONSTRUCTED IN THE VICINITY OF PROPOSED ARMAND ROAD, CLEGHORN ROAD AND 67th STREET TO TEMPORARILY STORE THE WATER COMING FROM BASIN II. THERE WILL BE AN INSIGNIFICANT OVERFLOW TO THE STREET. FROM THE POND, THE WATER WILL OUTLET VIA A 6" Ø PIPE INTO A 24" X 7" CONCRETE OPEN BOX WITH GRATES WHICH WILL BE CONSTRUCTED IN THE RETURN AT THE CORNER OF 67th STREET AND CLEGHORN ROAD ALONG THE WHEELCHAIR RAMP. TO MAKE BETTER USE OF THIS DETENTION POND, IT WILL ALSO BE DEVELOPED AS A PLAYGROUND AREA TO BETTER SERVE THE SURROUNDING COMMUNITY. THE FLOW COMING FROM BASIN I AND BASIN II WILL GO TO THE "SOUTH SUMP" DRAINAGE AREA OF THE LADERA STORM DRAINAGE DIVERSION AND DETENTION SYSTEM.

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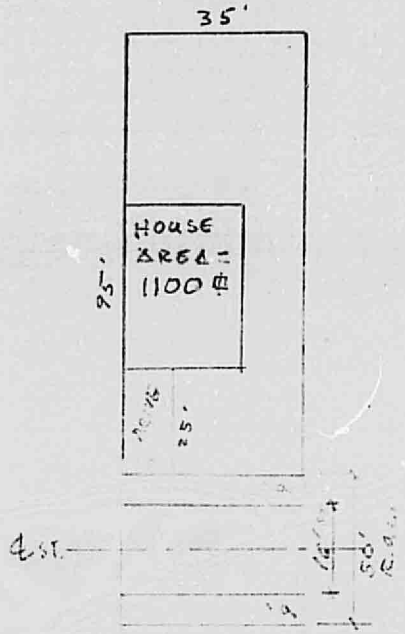
ADAM, HAMLYN, ANDERSON CONSULTING ENGINEERS, INC.	Katherine Nicole DRAINAGE CALCULATIONS	JOB NO. ACE2557 DATE: 8/27/82 BY: D A	SHT. NO. 1 OF 14

TYPICAL LOT AREA

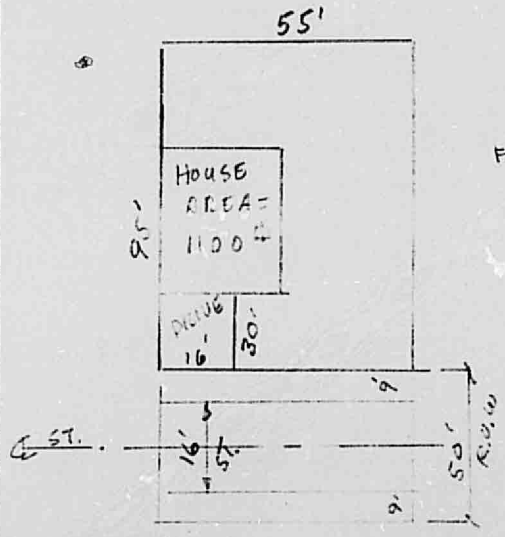


ITEM	AREA	C	C x AREA
DRIVE	250 ☐	1.00	250
ROOF	1100 ☐	0.95	1045
FRONT YARD	625 ☐	0.33	206
YARD	1350 ☐	0.20	270
	3325 ☐		1771

Composite $C_{LOT} = \frac{1771}{3325} = 0.53$

Composite $C_{BLDG} = 0.84$

TOWN HOME



ITEM	AREA	C	C x AREA
DRIVE	480	1.0	480
ROOF	1100	0.9	990
FRONT YARD	1170	0.33	386
YARD	2475	0.20	495
	5225 ☐		2351

Composite $C_{LOT} = \frac{2351}{5225} = 0.45$

Composite $C_{BLDG} = 0.84$

PATIO HOME

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ADAM, HAMLYN, ANDERSON CONSULTING ENGINEERS, INC.	Katherine Nicole DRAINAGE CALCULATIONS	JOB NO. AC82557 DATE: 8/27/82 BY: D.A.	SHT. NO. 2 OF 14

AREAS & RUNOFF COEFFICIENTS

$C_{R.O.W.} = 0.84$

$C_{LOT} = 0.46$ (FOR AREAS C-1, C-2 & C-3 ONLY INCLUDES 25% S.W. LANDSCAPE)

$C_{LOT} = 0.53$ (FOR ALL AREAS EXCEPT C-1, C-2 & C-3)
(INCLUDES 25% SOUTHWEST LANDSCAPE)

BASIN NO		AREA FT²	ST. R.O.W. FT²	LOT FT²	COMP "C"
II	A-1	187300	30500	156800	0.58
	A-2	70600	14400	56200	0.59
	A-3	102800	26600	76200	0.61
	A-4	[illegible]	[illegible]	[illegible]	[illegible]
	TOTAL	479,600	96,800	382,800	0.59
	B-1	93200	14800	78400	0.58
	B-2	200000	49600	150400	0.61
	B-3	198100	23600	174500	0.57
	B-4	126900	26900	100000	0.60
	TOTAL	618,200	114,900	503,300	0.59
I	C-1	201200	35700	165500	0.53
	C-2	233000	58300	174700	0.56
	C-3	223900	47900	176000	0.54
	C-4	109200	40000	69200	0.64
	C-5	324900	60900	264000	0.59
	C-6	132400	20900	111500	0.58
	C-7	187300	35700	151600	0.59
	TOTAL	1,411,900	299400	1,112,500	0.58

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POND FOR BASIN II

UNDEVELOPED CONDITION

ONSITE 100 YEAR STORM (FOR AREAS A & B)

AREA = 1,097,800 S.F. C = 0.40 (EXIST.)
ACCUM 6 HR RAINFALL = 2.2

VOLUME = $1{,}097{,}800 \times 0.40 \times 2.2/12 = 80{,}505$ FT^3

DEVELOPED CONDITION

ONSITE 100 YEAR STORM (FOR AREA A & B)

C = 0.59

VOLUME = $1{,}097{,}800 \times 0.57 \times 2.2/12 = 114720$ FT^3

No!

~~Pond Volume Required = 80,505 FT^3~~

Pond Characteristics

At Elev. 13.80 - Area = 43 300 S.F. Vol. = 0
At Elev. 15.86 - Area = 50,350 S.F. Vol. = 96,460 FT^3

Pond Volume Available w/o Overflow = 96,460 FT^3 > 34215 FT^3 Reqd.

INFLOW VOLUME = $114720/2.2 \times$ RAINFALL = 52145.45 x RAINFALL

@ ELEV. 13.80 AREA = 43,300 SF. VOL. = 0
@ ELEV. 15.86 AREA = 50,350 SF. VOL. = 96 460 FT^3
@ $13.80 \leq$ ELEV. ≤ 15.73

$$\text{Area} = 43300 + \frac{(50350 - 43300)}{1.93} d$$

$$= 43300 + 3422 d$$

$$\text{Vol} = (43300 + 43300 + 3422d)\, d/2$$

$$43300 d + 1711 d^2 - V = 0$$

$$.039519 d^2 + d - .000023 V = 0$$

$$d = \frac{-1 \pm \sqrt{1 + .000004 V}}{.079038}$$

25x

G10/D2A

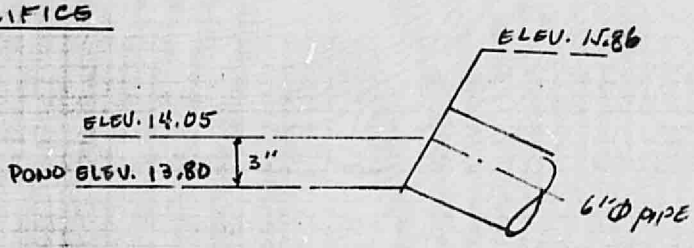
ADAM, HAMLYN, ANDERSON CONSULTING ENGINEERS, INC.	Katherine Nicole DRAINAGE CALCULATIONS	JOB NO. AC82537 DATE: 8/27/82 BY: D.A.	SHT. NO. 4 OF 14

FLOW BASIN - 2

TIME MIN.	ACCUM RAINFALL IN.	RUNOFF VOLUME FT3	POND ELEV. FT.	AVE. W.S. ELEV. FT.	ORIFICE HEAD FT.	ORIFICE FLOW FT3	TOTAL FLOW FT3	STORAGE VOLUME FT3	OVERFLOW FROM POND FT3
0			13,80						
				13.88	.033	51			
5	0.125	6518	13.95				51	6467	—
				14.05	.106	92			
10	0.282	14705	14.15				143	14562	—
				14.37	.32	160			
15	0.625	32591	14.59				303	32288	—
				14.84	.79	252			
20	1.045	54492	15.10				555	53937	—
				15.19	1.14	302			
25	1.203	62731	15.28				857	61874	—
				15.34	1.29	321			
30	1.316	68623	15.40				1178	67445	—
				15.51	1.46	685			
40	1.514	78948	15.62				1863	77085	—
				15.72	1.67	733			
50	1.690	88126	15.81				2596	85530	—
				15.90	1.85	771			
60	1.866	97303	15.99				3367	93936	—
				16.02	1.97	397			
65	1.923	100276	16.04				3764	96460	−52
				16.07	2.02	388			
70	1.984	103457	16.10				4152	96466	2845
				16.13	2.08	818			
80	2.042	106481	16.15				4970	96466	5051
				16.17	2.12	1651			
100	2.108	109923	16.19				6630	96466	6833
				16.19	2.14	1659			
120	2.145	111852	16.19				8289	96466	7103
				16.18	2.13	1655			
140	2.160	112634	16.17				9944	96460	6230
				16.16	2.11	1647			
160	2.169	113103	16.15				11591	96460	5040

ADAM, HAMLYN/ ANDERSON CONSULTING ENGINEERS, INC.	Katharine Nicola DRAINAGE CALCULATIONS	JOB NO. AC82557 DATE: 8/27/82 BY: D.A	SHT. NO. 5 OF 14

ORIFICE



1 - 6"Φ PIPE :

$$\text{OUTFLOW} = 0.6 \times \frac{\frac{1}{2}^2}{144} \times \pi \times 8.02\sqrt{h} = 0.94\sqrt{h}$$

for 5 mins. — OUTFLOW = $2.83\sqrt{h}$
10 mins. " = $5.67\sqrt{h}$
20 mins. " = $11.34\sqrt{h}$

At Pt. 13 (EASTERLY END OF AREA C-1)
Q = 62.7 cfs @ END OF 30 MINS.

From Pt. D to Pond @ Basin II
L = 3350' V = 2.8 fps @ S = .003

time lag $\Delta t = \frac{3350}{2.80 \times 60} = 19.94$ say 20 mins = time lag from orifice to Pt. 13

ADAM, HAMLYN, ANDERSON CONSULTING ENGINEERS, INC.	Katherine Nicole DRAINAGE CALCULATIONS	JOB NO. AC82557 DATE: 8/27/82 BY: D.A.	SHT. NO. 6 OF 14

TOTAL FLOW:

TIME MINS.	30	40	50	60	65	70	80	100	120	140	160
BASIN I Q_{100} cfs	62.7	43.11	38.47	35.06	33.65	32.41	30.27	27.02	24.62	22.76	21.26
BASIN II Q_{100} cfs	0.31	0.84	1.07	1.14	1.18	1.21	1.28	1.35 5.56	1.37 5.81	1.38 4.95	1.37 3.29
TOTAL Q_{in} cfs	63.01	43.95	39.54	36.20	34.83	33.62	31.55	33.93	31.80	29.09	25.92

25×

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ADAM, HAMLYN, ANDERSON
CONSULTING ENGINEERS, INC.

Katherine Nicole

DRAINAGE CALCULATIONS

JOB NO. AGF2587 SHT. NO. 7
DATE: 8/30/F2 OF 14
BY: D.A.

FLOWS

PT.	SUB BASIN	AREA Ac.	C COMP.	AREA x C Ac.	t_c MIN.	I In./Hr.	Q Cfs.	S ft./ft.	V fps	d ft.
	A-4	2.73	0.60	1.64	10	4.65	7.6	.005	1.7	0.37
	A-3	2.36	0.61	1.44	11.7	4.29	6.2	.007	1.9	0.34
1	(A-4)+(A-3)	—	—	—	—	—	13.8	.007	2.3	0.41
	A-2	1.62	0.59	0.96	13.66	3.97	3.8	.018	2.8	0.26
2	Pt.1+(A-2)	—	—	—	—	—	17.6	.018	3.4	0.40
	A-1	4.30	0.58	2.49	16.77	3.57	8.9	.0114	2.5	0.35
3	Pt.2+(A-1)	—	—	—	—	—	26.5	.0114	2.9	0.48
	B-3	5.99	0.61	3.65	10	4.65	17.0	.004	2.1	0.49
	B-2	4.71	0.61	2.87	10	4.65	13.4	.019	3.4	0.36
7	(B-2)+(B-3)	—	—	—	—	—	30.3	.019	4.2	0.45
	B-1	2.14	0.58	1.24	11.5	4.27	5.3	.004	1.5	0.35
8	Pt.7+(B-1)	—	—	—	—	—	35.6	.004	3.7	0.48
	B-4	2.91	0.60	1.75	13.71	3.96	6.9	.0047	1.5	0.52
9	Pt.8+(B-4)	—	—	—	—	—	42.5	.0047	3.2	0.66
	Pt.3+Pt.9	—	—	—	—	—	69.0	TO	POND	
	C-7	4.30	0.59	2.54	10	4.65	11.7	.006	2.1	0.41
	C-6	3.04	0.58	1.76	13	4.07	7.2	.014	2.6	0.32
4	(C-6)+(C-7)	—	—	—	—	—	18.9	.014	3.3	0.41
	C-5	7.46	0.59	4.40	12	4.20	18.5	.003	2.0	0.54
5	Pt.4+(C-5)	—	—	—	—	—	33.8	.003	2.5	0.65
	C-4	2.51	0.64	1.61	22.03	3.11	5.0	.003	1.3	0.36
10	Pt.5+(C-4)	—	—	—	—	—	38.8	.003	2.6	0.63
	C-3	5.14	0.54	2.78	10	4.65	12.9	.003	2.0	0.45
11	Pt.10+(C-3)	—	—	—	—	—	47.0	.003	2.7	0.76
	C-2	5.35	0.56	3.0	15.5	3.72	11.2	.003	2.1	0.56
12	Pt.11+(C-2)	—	—	—	—	—	55.9	.003	2.8	0.82
	C-1	4.62	0.53	2.45	28	2.76	6.8	.003	1.4	0.39
13	Pt.12+(C-1)	—	—	—	—	—	62.7	.003	2.9	0.87

ADAM, HAMLYN, ANDERSON CONSULTING ENGINEERS, INC.	Katherine Nicole DRAINAGE CALCULATIONS	JOB NO. DATE: BY:	SHT. NO. 8 OF 14

BASIN - I

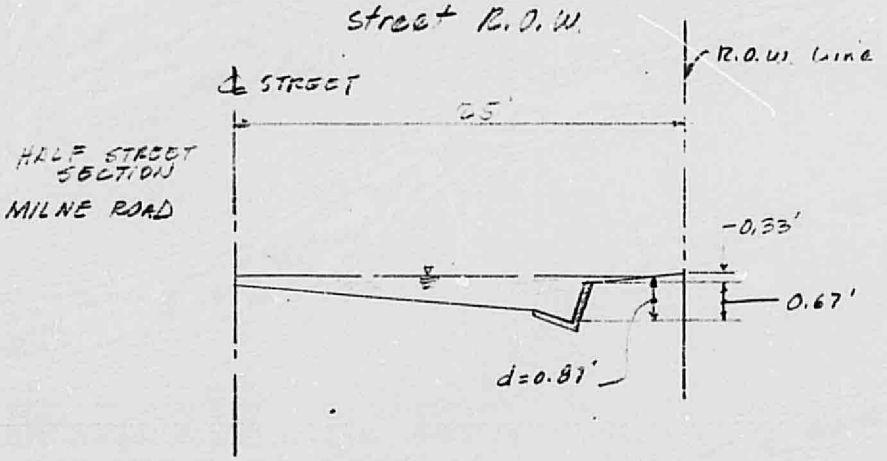
Max Q_{100} = 62.7 cfs

$Q/_2$ = 31.35 cfs.

S = .003

Per "STREET CAPACITY" PLATE 22.3 D-1 (attached)

d = 0.87' - Water will flow above top of curb but will be confined within street R.O.W.



The Q_{100} will eventually drain into the "South Sump" Drainage Area 16 of the Ladera Storm Drainage Diversion and Detention System.

ADAMS HAMLYN ANDERSON CONSULTING ENGINEERS, INC.

Katherine Nicole
DRAINAGE CALCULATIONS

JOB NO. ACF8227 DATE: 8/30/92 BY: D.A SHT. NO. 9 OF 14

AREA A-4: Area = 2.73 Ac., C = 0.60, L = 515'
diff. = 31.2 - 28.8 = 2.4, $S = \frac{d}{L} = .00466$
$t_c = .0078 \times \frac{L^{.77}}{S^{.385}} = 7.5$ mins. use 10 mins. min
I = 4.65
$Q_{100} = 0.60 \times 4.65 \times 2.73 = \underline{7.6 \text{ cfs}}$: for $Q_{/2} = 3.8$ & S = .005
d = 0.37', V = 1.7 fps
use std. curb & gutter

AREA A-3: Area = 2.36 Ac., C = 0.61, L = 430' V = 1.7 fps
$\Delta t_c = \frac{1}{V} \times \frac{L}{60} = \frac{430}{1.7 \times 60} = 4.2$ mins.
t_c = 11.7 mins., I = 4.29
$Q_{100} = 0.61 \times 4.29 \times 2.36 = \underline{6.30 \text{ cfs}}$: for $Q_{/2} = 3.1$ and S = .007
d = 0.34', V = 1.9 fps
use std. curb & gutter

Q_{100} Pt.1 $= 7.6 + 6.2 = \underline{13.8 \text{ cfs}}$; for $Q_{/2} = 6.9$ and S = .007
d = 0.41' and V = 2.2 fps
use std. curb & gutter

AREA A-2: Area = 1.62 Ac., C = 0.59, L = 270', V = 2.3 fps
$\Delta t_c = \frac{1}{V} \times \frac{L}{60} = \frac{270}{2.30} \times \frac{1}{60} = 1.96$ mins.
t_c = 13.66 mins., I = 3.97
$Q_{100} = 0.59 \times 1.62 \times 3.97 = 3.80$ cfs. ; for $Q_{/2} = 1.9$ and S = .018
d = 0.26' and V = 2.8 fps

Q_{100} Pt.2 $= 13.8 + 3.8 = \underline{17.6 \text{ cfs}}$: for $Q_{/2} = 8.8$ and S = .018
d = 0.40' and V = 3.4 fps
use std. curb & gutter

AREA A-1: Area = 4.30 Ac., C = 0.58, L = 635'
$\Delta t_c = \frac{L}{V} \times \frac{1}{60} = 3.11$ mins. ; $t_c = 13.66 + 3.11 = 16.77$
I = 3.57
$Q_{100} = 0.58 \times 3.57 \times 4.30 = 8.90$ cfs ; for $Q_{/2} = 4.5$ cfs = .014
d = 0.35' and V = 2.5 fps

Q_{100} PT.3 $= 17.6 + 8.9 = \underline{26.5 \text{ cfs}}$: for $Q_{/2} = 13.2$ and S = .0114 ; d = 0.51' & V = 2.9 fps
use std. curb & gutter

ADAM, HAMLYN, ANDERSON CONSULTING ENGINEERS, INC.	Katherine Nicole DRAINAGE CALCULATIONS	JOB NO. RC82-55 DATE: 8/30/82 BY: D.A.	SHT. NO. 10 OF 14

AREA B-3: Area = 5.99 Ac., C = 0.61, L = 600', S = .007

$t_c = .0078 \times \frac{L^{.77}}{S^{.385}} = 7.3$ mins

use 10 mins. (min.)

$I = 4.65$

$Q_{100} = 0.61 \times 4.65 \times 5.99 = \underline{17.0 \text{ cfs}}$

Pt. 6

for $Q_{1/2} = 8.5$ and S = .004

d = 0.49' and v = 2.1 fps

use std. curb & gutter

AREA B-2: Area = 4.71 Ac., C = 0.61, t_c = 10 mins.

$I = 4.65$

$Q_{100} = 0.61 \times 4.65 \times 4.71 = 13.4$ cfs; for $Q_{1/2} = 6.7$ and S = .004

t_{B-3} to Pt. 7; L = 255', v = 1.5 fps, $\Delta t_c = \frac{L}{v \times 60} = 2.8$ mins.

$t_c = 7.3 + 2.8 = 10.1$ mins., $I = 4.07$

Q_{100} Pt. 7 $= Q_{B-2} + \left[Q_{B-3} \times \frac{I_{B-2}}{I_{B-3}}\right] = 13.4 + \left(17 \times \frac{4.07}{4.65}\right) = \underline{30.3}$ cfs

for $Q_{1/2} = 15.2$ and S = .019

d = 0.45', v = 4.2 fps

use std. curb & gutter

AREA B-1: Area = 2.14 Ac., C = 0.58, L = 300' v = 3.0 fps

$\Delta t_c = 1.7$ mins.; $t_c = 10.1 + 1.7 = 11.8$ mins.

$I = 4.27$

$Q_{100} = 0.58 \times 4.27 \times 2.14 = 5.3$ cfs; for $Q_{1/2} = 2.7$ and S = .004

v = 1.5, d = 0.35'

Q_{100} Pt. 8 $= Q_{Pt.7} + Q_{B-1} = 30.3 + 5.3 = \underline{35.6}$ cfs.

for $Q_{1/2} = 17.8$ and S = .004

d = 0.60' and v = 3.7 fps

use std. curb & gutter

ADAM, HAMLYN, ANDERSON CONSULTING ENGINEERS, INC.	Katherine Nicole DRAINAGE CALCULATIONS	JOB NO. AC92587 DATE: 8/30/92 BY: D.A.	SHT. NO. 11 OF 14

AREA B-4: Area = 2.91 Ac., C = 0.60; length to Pt.9 = 425'

$Q_{IN} = 0.60 \times 3.96 \times 2.91 = \underline{6.9 \text{ cfs}}$

$V = 3.7$ fps $\Delta t_c = \frac{L}{V} \times \frac{1}{60} = 1.91$ mins.

$t_c = 11.8 + 1.91 = 13.71$ mins.

$I = 3.96$

for $Q_2 = 3.5$ ac $s = .0047$, $d = 0.38'$ $V = 1.58$

Q_{IN} Pt.9 $= 35.6 + 6.9 = \underline{42.5 \text{ cfs}}$; for $Q_2 = 21.2$ ac

$s = .0047$

$d = 0.63'$ $V = 3.4$ fps

use std. curb & gutter

From Basin II

Q_{IN} to Pond [illegible] 5 [illegible] 0

ADAM, HAMLYN, ANDERSON CONSULTING ENGINEERS, INC.	Katherine Nicole DRAINAGE CALCULATIONS	JOB NO. 2626.007 DATE: 8/30/82 BY: D.A.	SHT. NO. 12 OF 14

AREA C-7: Area = 4.30 Ac., C = 0.59, L = 1000', diff = 10'
$S = \frac{diff}{L} = .01$; $t_c = \frac{L^{.77}}{S^{.385}} \times .0078 = 9.38$ mins.
use 10 mins.
I = 4.65

$Q_{100} = 0.59 \times 4.65 \times 4.30 = \underline{11.7 \text{ cfs}}$;
for $Q_{1/2} = 5.9$ cfs $S = .006$
$d = 0.41'$, $v = 2.1$ fps
use std. curb & gutter

AREA C-6: Area = 3.04 Ac., C = 0.58, L = 630' V = 2.9 fps
$\Delta t_c = \frac{L}{V} \times \frac{1}{60} = 3.6$ mins.; $t_c = 9.4 + 3.6 = 13.0$ mins
I = 4.07

$Q_{100} = 0.58 \times 4.07 \times 3.04 = 7.2$ cfs;
for $Q_{1/2} = 3.6$ cfs $S = .014$
$d = 0.32'$ & $v = 2.0$ fps

$Q_{100\ PT.4} = 11.7 + 7.2 = \underline{18.9 \text{ cfs}}$;
for $Q_{1/2} = 9.4$ cfs $S = .014$
$d = 0.41'$ & $v = 3.2$ fps
use std. curb & gutter

AREA C-5; Area = 7.46 Ac., C = 0.59, L = 770', diff = 2.3'
$S = .003$, $t_c = 12$ mins., I = 4.20

$Q_{100} = 0.59 \times 4.20 \times 7.46 = 18.5$ cfs; for $Q_{1/2} = 9.8$ cfs $S = .003$
$d = 0.54'$ & $v = 2.0$ fps
use std curb & gutter

Q_{100} to Pt. 5 (A(C-7+C-6)): L = 680' $v = 2.0$ fps, $\Delta t_c = 5.7$ mins.
$t_c = 13 + 5.7 = 18.7$ mins., I = 3.38

$$Q_{100\ PT.5} = Q_{(C-6+C-7)} + Q_{C-5} \times \frac{I_{C-6+C-7}}{I_{C-5}} = 18.9 + \left(18.5 \times \frac{3.38}{4.20}\right)$$

$Q_{100\ PT.5} = \underline{33.8 \text{ cfs}}$; for $Q_{1/2} = 16.9$ cfs $S = .032$
$d = 0.65'$, $v = 2.5$ fps
use std. curb & gutter

ADAM, HAMLYN, ANDERSON CONSULTING ENGINEERS, INC.	Katherine Nicole DRAINAGE CALCULATIONS	JOB NO. AC82557 DATE: 8/30/82 BY: D.A.	SHT. NO. 13 OF 14

AREA C-4: Area = 2.51 Ac.; C = 0.64, L = 570'; I = 2.5
Δt_c = 3.33 mins., t_c = 18.71 + 3.33 = 22.03
Q_{IN} = 0.64 × 3.11 × 2.51 = 5.0 cfs I = 3.11
use std. curb & gutter

$Q_{100\ Pt.10} = Q_{Pt.5} + Q_{C-4}$ = 33.8 + 5.0 = 38.8 cfs.
for $Q/2$ = 19.4 and S = .003
d = 0.45' and v = 1.95 fps
use std. curb & gutter

AREA C-3: Area = 5.14 Ac., C = 0.54, L = 600' S = .003
Q_{100} = 0.54 × 4.65 × 5.14 = 12.9 cfs. I = 4.65
for $Q/2$ = 6.5 and S = .003
d = 0.45' and v = 1.95 fps
use std. curb & gutter

$Q_{Pt.10}$ to $Q_{Pt.11}$: L = 410', v = 2.6 fps, Δt_c = 2.6 mins.
$\Sigma t_c = t_{c\,Pt.10}$ = 2.6 = 24.6 mins.

$Q_{100\ Pt.11}$ = 38.8 + (12.9 × 2.94/4.65) = 47.0 cfs.
for $Q/2$ = 23.5 and S = .003
d = 0.76' v = 2.7 fps
use std. curb & gutter

AREA C-2: Area = 5.35 Ac, C = 0.56, L = 1050
$t_c = .0078 \times \frac{L^{.77}}{S^{.385}}$ = 17.5 mins. I = 3.72

Q_{IN} = 0.56 × 3.72 × 5.35 = 11.2 cfs
for $Q/2$ = 5.6 and S = .003
v = 2.1 fps and d = 0.56'
use std. curb & gutter

ADAM, HAMLYN, ANDERSON CONSULTING ENGINEERS, INC.	Katharina Nicola DRAINAGE CALCULATIONS	JOB NO. AC82557 DATE: 8/30/82 BY: D.A.	SHT. NO. 14 OF 14

$Q_{in\ Pt.12} = Q_{Pt.11} + Q_{C-2} = 47.0 + \left(11.2 \times \frac{2.94}{3.52}\right) = \underline{55.9\ cfs.}$

for $Q_{1/2}$ = 27.9 cfs S = .003
V = 2.8 fps ⇒ d = 0.82'
use std. Curb & Gutter

AREA C-1: Area = 4.62 Ac., C = 0.53, L = 550', S = .003

$\Delta t_c = \frac{L}{V} \times \frac{1}{60} = 3.27$ mins.

$Q_{in} = 0.53 \times 2.76 \times 4.62 = \underline{6.8\ cfs}$

$t_c = 24.6 + 3.27 = 28.0$

$I = 2.76$

for $Q_{1/2}$ = 3.4 cfs, S = .003, d = 0.39, V = 1.40

$Q_{Pt.13} = Q_{Pt.12} + Q_{C-1}$

$= 55.9 + 6.8 = \underline{62.7\ cfs}$

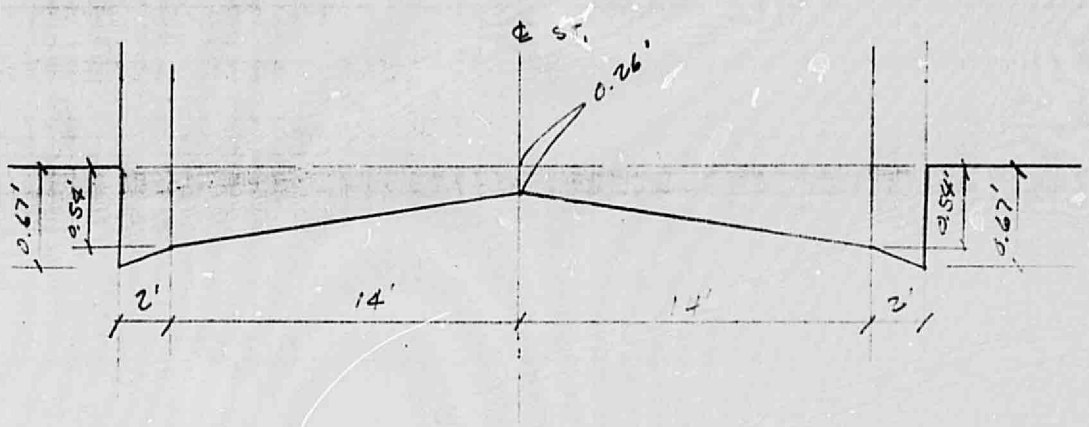
for $Q_{1/2}$ = [illegible]
V = 2.8 fps
d = 0.87'
use std. curb & gutter

25×

0000 0000 0074

ADAM, HAMLYN, ANDERSON CONSULTING ENGINEERS, INC.	KATHERINE NICOLE PHASE II STREET SECTION & CURB INLET CAPACITY CALC.	JOB NO. AC82357 DATE: 12/14/82 BY: D.A	SHT. NO. 1 OF 4

NORMAL SECTION:
AT ARMAND STREET

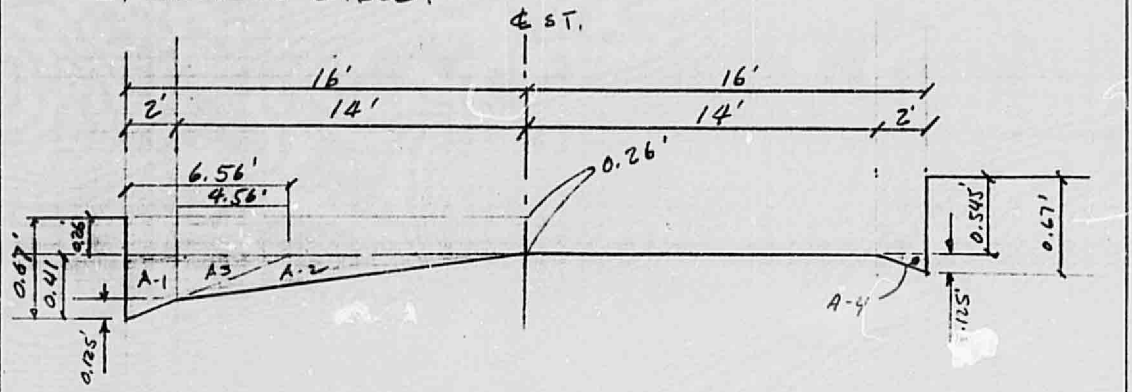


Per Drainage Calculations: Q_{TOTAL} = 43.5 cfs

@ A DEPTH OF 0.26'.

ADAM, HAMLYN, ANDERSON CONSULTING ENGINEERS, INC.	KATHERINE NICOLE PHASE - II STREET SECTION & CURB INLET CAPACITY CALC.	JOB NO. 82557 DATE: 12/14/82 BY: D.A	SHT. NO. 2 OF 4

HALF BANKED SECTION:
AT ARMAND STREET



n = .017 ; S = .004 ; S^½ = .063246

$\frac{.125}{2} = \frac{y}{L_1}$; $L_1 = 6.56$; $y = .041$; $y^{8/3} = .027773$

for $A_1 + A_3$:

$Q_{(A-1)+(A-3)} = 0.56\left(\frac{z}{n}\right) \times S^{\frac{1}{2}} y^{8/3}$

$= 0.56\left(\frac{16}{.017}\right) \times .063246 \times .027773 = 3.09$

for A-3 : $y = 0.285$; $z = 16$; $y^{8/3} = .035177$

$Q_{A-3} = 0.56\left(\frac{16}{.017}\right) \times .063246 \times .035177 = 1.17$ cfs

for A-2 : $y = 0.285$; $y^{8/3} = .035177$; $z = \frac{14}{.285} = 49.12$

$Q_{(A-2)} = 0.56\left(\frac{49.12}{.017}\right) \times .063246 \times .035177 = 3.60$ cfs

for A-4

$Q_{A-4} = 0.13$ cfs

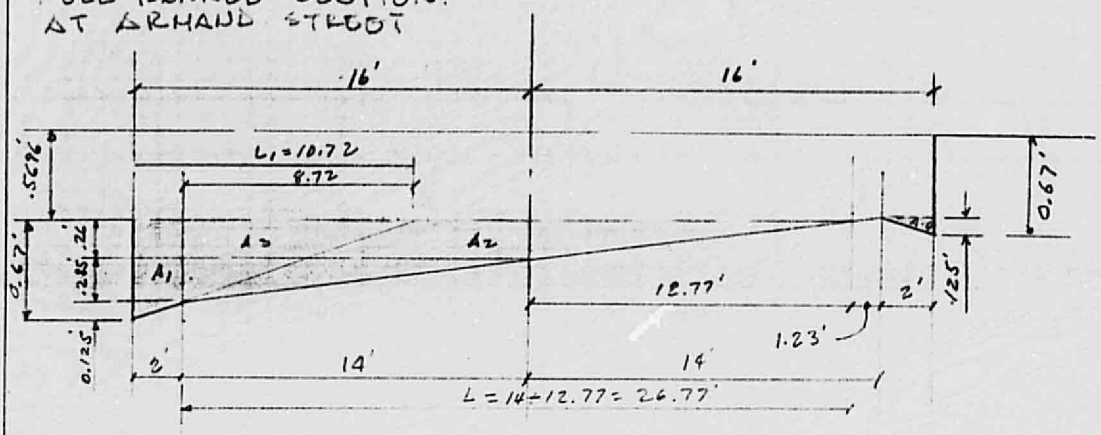
$Q_{LEFT} = Q_{(A-1)+(A-3)} - Q_{(A-3)} + Q_{(A-2)}$

$= 3.09 - 1.17 + 3.60 = 5.52$ cfs.

$Q_{TOTAL} = Q_{LEFT} + Q_{A-4} = 5.52 + 0.13 = 5.65$ cfs

ADAM, HAMLYN, ANDERSON CONSULTING ENGINEERS, INC.	KATHERINE NICOLE - PHASE - II STREET SECTION & CURB INLET CAPACITY CALC.	JOB NO. DATE: BY:	SHT. NO. 3 OF 4

FULL BANKED SECTION: AT ARMAND STREET



n = .017 ; S = .004 ; $S^{1/2}$ = 0.0632

for $A_1 + A_3$; Find L_1 : $\frac{.125}{.67} = \frac{L_1 - 8.72}{L_1}$; $L_1 = 10.72'$; $z = \frac{10.72}{.67} = 16$

$y = 0.67$; $y^{8/3} = 0.3497$

$$Q_{(A-1)-(A-3)} = 0.57\left(\frac{z}{n}\right) S^{1/2} y^{8/3}$$

$$= 0.57\left(\frac{16}{.017}\right) \times .063246 \times .3497 = 11.86 \text{ cfs}$$

for A-3 ; $y_3 = 0.545'$; $y^{8/3} = 0.1487$

$$Q_{(A-3)} = 0.56\left(\frac{16}{.017}\right) \times .063246 \times .1487 = 6.61 \text{ cfs.}$$

for A-2 ; $z = \frac{26.77}{.545} = 49.12$

$$Q_{(A-2)} = 0.56\left(\frac{49.12}{.017}\right) \times .063246 \times .5952 = 21.23 \text{ cfs}$$

for A-4 ; $S^{1/2} = .063246$; $z = 16$; $y = .125'$; $y^{8/3} = .003406$

$$Q_{A-4} = \left(\frac{16}{.017}\right) \times .063246 \times .003406 = 0.12 \text{ cfs}$$

$$Q_{LEFT} = Q_{(A-1)+(A-3)} - Q_{(A-3)} + Q_{(A-2)}$$

$$= 11.86 - 6.61 + 21.23 = 26.53 \text{ cfs}$$

$$Q_{TOTAL} = Q_{LEFT} + Q_{A-4} = 26.53 + 0.12 = 26.66 \text{ cfs.}$$

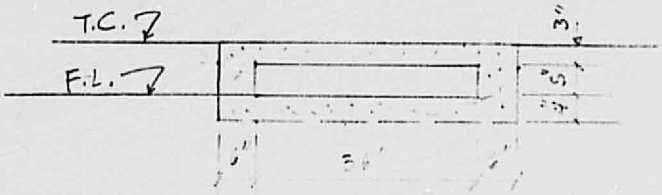
ADAM, HAMLYN, ANDERSON CONSULTING ENGINEERS, INC.	KATHERINE NICOLE - PHASE - II STREET SECTION & CURB INLET CAPACITY CALC.	JOB NO. DATE: BY:	SHT. NO. 4 OF 4

$Q = 42.5$ cfs per Drainage Calculations

$Q_{\text{SECTION LEFT}} = 26.53$ cfs (full banked)

$Q_{\text{EXCESS}} = 42.5 - 26.53 = 15.97$ cfs

Then install 4 curb inlets:



Area = 3 x 0.42 = 1.26 ft²

H = 0.42'

$Q = 0.6 \times A \times \sqrt{2gH}$

$= 0.6 \times 1.26 \sqrt{2 \times 32.2 \times 0.42}$

$= 3.93$ cfs.

Total Q for 4 inlets = 3.93 x 4 = 15.72 cfs. ≈ 15.97 cfs

On CLEGHORN STREET, $Q_{100} = 26.5$ cfs

STREET SECTION OF CLEGHORN IS IDENTICAL TO EDMUND STREET. THEREFORE [illegible] BANKED SECTION IS EQUAL TO 26.53 CFS ≈ 26.5 cfs.

Q_{INLETS} = 2 curb inlets @ Q = 3.93 cfs = 2 x 3.93 = 7.86 cfs

Q_{100} to concrete Rundown = 26.53 - 7.86 = 18.67 cfs.

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PLATE 22.2 D-1

4-82

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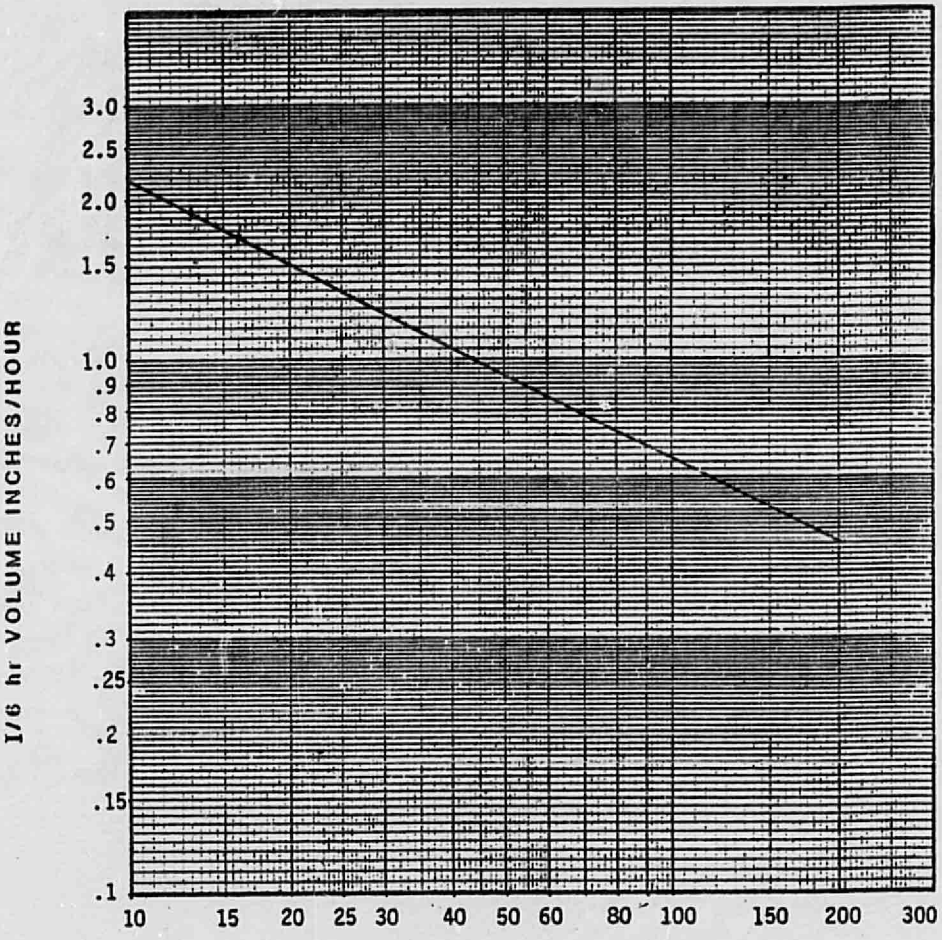
DIMENSIONLESS RAINFALL INTENSITIES

$I=(6\text{-hr. rain})6.84\ t_c^{-0.51}$



note: To get actual intensities, multiply rainfall volume from plate D-1 by value from curve. Use reduction factors on Plate D-1 for other than 100-yr.

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TABLE 22.3 B-1

VALUES OF MANNING'S n

	n
Reinforced Concrete Pipe	.013
Poured Concrete	.013
No-joint cast in place concrete pipe	.014
Reinforced Concrete Box	.015
Reinforced Concrete Arch	.015
Streets	.017
Flush Grouted Rip-Rap	.020
Corrugated Metal Pipe	.025
Grass Lined Channels (sodded & irrigated)	.025
Earth Lined Channels (smooth)	.030
Arroyo Channels	.030
Wire Tied Rip-Rap	.040
Medium Weignt Dumped Riprap	.045
Grouted Rip-Rap (exposed rock)	.045
Arroyo Overbank	.045
Jetty Type Rip-Rap ($D_{50} > 24"$)	.050

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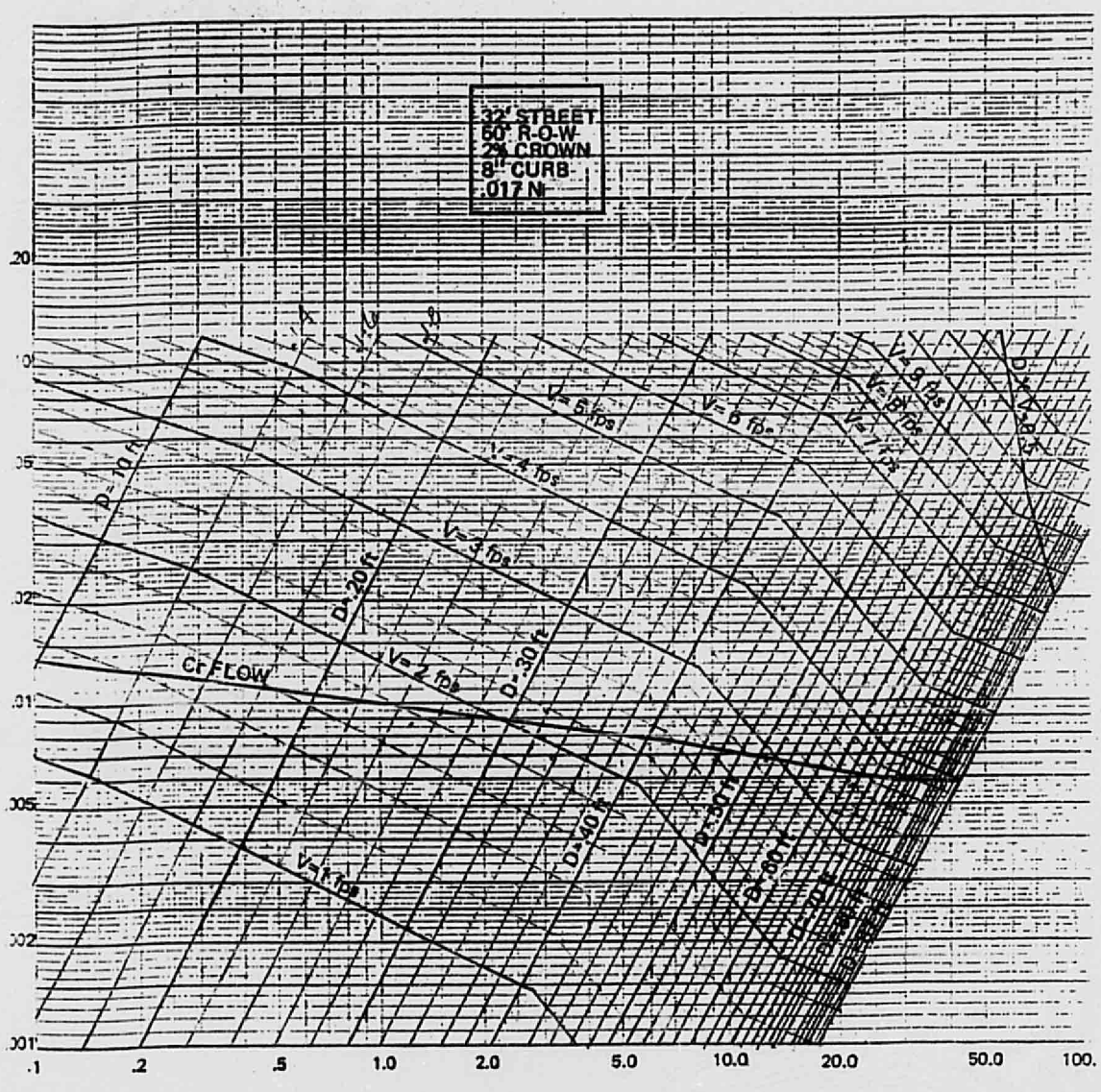
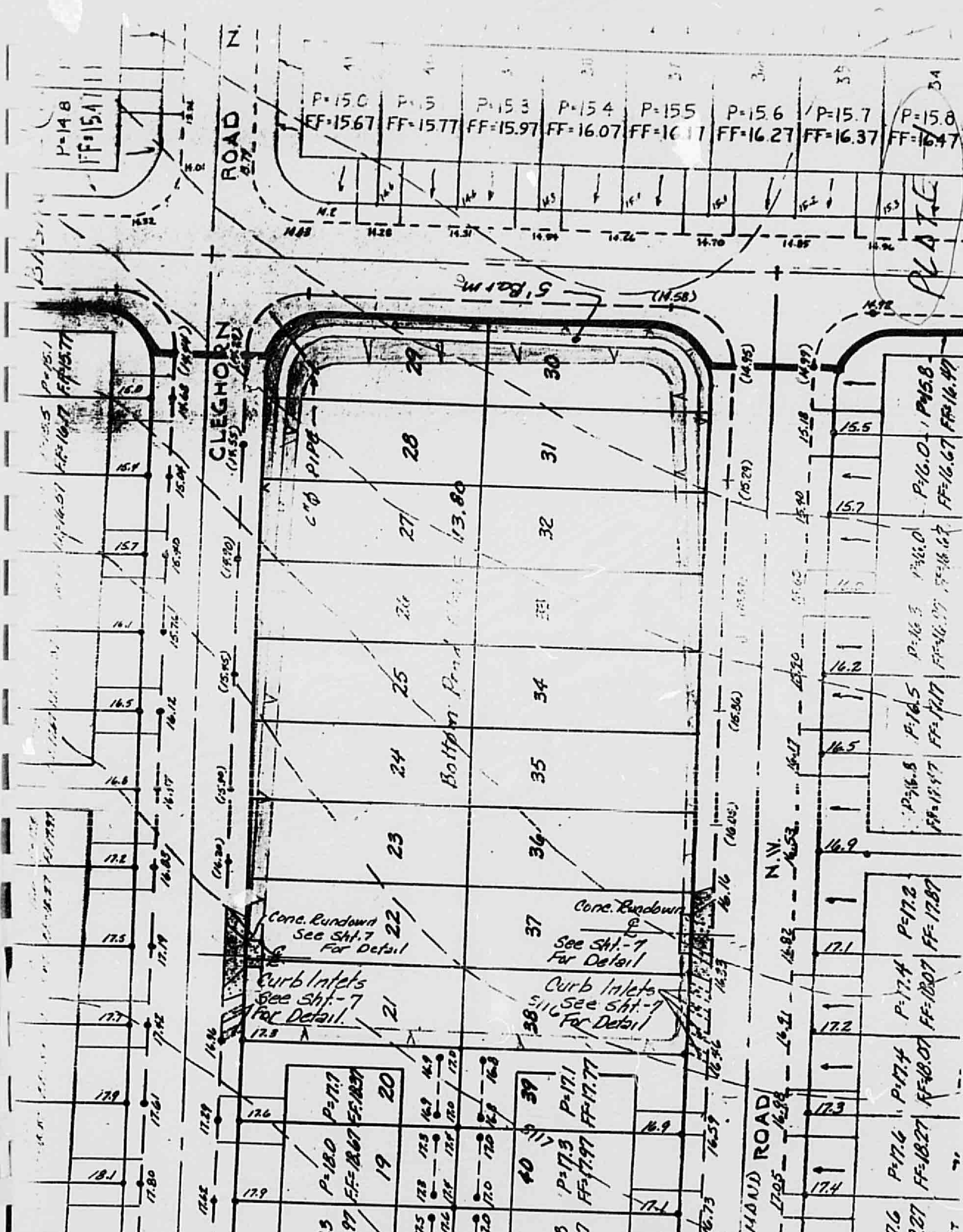
STREET CAPACITY



ONE HALF STREET FLOWS (cfs)

0000 0000 0082



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KATHERINE NICHOLE ADDITION

SITE DEVELOPMENT PLAN

RECREATIONAL FACILITY

JANUARY 1986

RECEIVED
MAY 01 1986
HYDROLOGY SECTION

Prepared For:

U. S. Home
7015 Cisco Road, N.W.
Albuquerque, NM 87120

REGISTERED PROFESSIONAL ENGINEER AND LAND SURVEYOR NO. 5110 NEW MEXICO JEAN J. BORDENAVE

Prepared By:

DMJM
5700 Harper Drive, N. E.
Suite 280
Albuquerque, NM 87109

Jean J Bordenave 1/20/86
JEAN J. BORDENAVE, N.M.P.E. & L.S. #5110

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LOCATION AND DESCRIPTION. 2

PURPOSE 2

TOPOGRAPHY. 2

PROPOSED DEVELOPMENT. 3

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APPENDIX B - COMPUTATIONS

APPENDIX C - HYDROGRAPH

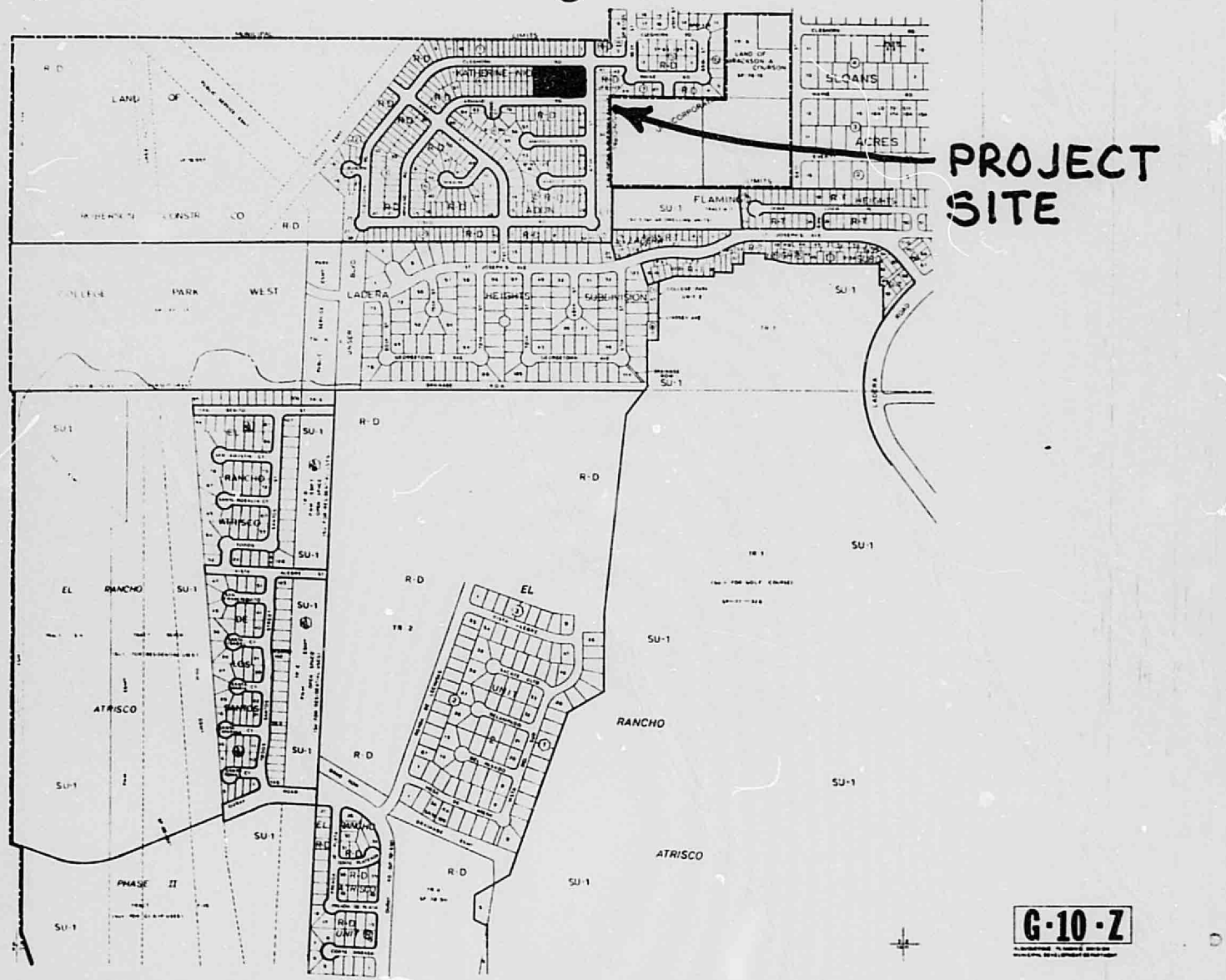
PLATE I - PLAT SHOWING POND LOCATION

PLATE II - ROUGH GRADING PLAN DATED MARCH 9, 1984

PLATE III - GRADING PLAN

PLATE IV - BASIN MAP

25×


PROJECT SITE
SLOANS
ACRES
LADERA
HEIGHTS
RANCHO
ATRISCO
EL
R-D
SU-1
PHASE II
G-10-Z

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LOCATION AND DESCRIPTION

Katherine Nichole Subdivision is located in the northwest qudrant of Albuquerque, west of 64th Street, N. W. and north of the Ladera Heights Subdivision. The site is situated within Section 3, T 10 N, R 2 E and 34, T 11 N, R 2 E, N M P M and the town of Albuquerque Grant of Albuquerque, New Mexico. Access to the Subdivision is through 64th Street to the East and 71st Street, N. W. to the South. The parcel are Lots 21 thru 38, Block 4, of Katherine Nichole Subdivision filed January 6, 1981, Volume: C-17, Folio: 171.

PURPOSE

U. S. Home Corporation is planning development of Pond #2 as a recreation facility to serve the surrounding neighborhood. The purpose of this report is to present a facility to detain surface storm water and provide said facilities.

TOPOGRAPHY

Site was rough graded under City Project No. 1790. See PLATE II for copy of "Record Drawing." The sidewalk culverts and open rundowns at the south west corner and the north west corner are existing. The 6" PVC drain in the north east corner is existing.

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PROPOSED DEVELOPMENT

Design is based on the existing drainage report No. G10-D2A.

The swimming pool is somewhat larger than originally proposed and the tennis court is replaced with two (2) separate patios with covered picnic tables. A climber, swings and sand box will be constructed at the west side of the site. The gravel paths are located to direct trickle flows to the 6" PVC outlet at the North East corner of the pond. Minute flows in the streets will not enter the pond.

The site will be planted with grass in the open areas, and trees and shrubs around the picnic areas. The gravel paths will be paved with a minimum of 4" gravel, decomposed granite, pumic or similar landscaping material.

DESIGN CRITERIA

This pond was proposed as a playground area in Katherine Nichole drainage report, dated September 1983, No. G10-D2A. This proposal revises the agreement and grant of drainage easement filed in the records of the Bernalillo County Clerk, Miscellaneous Book 205A, Pages 326 thru 331, Document No. 85 15315. The dimensionless hydrograph, Appendix C shows the accumulated runoff for Basins I & II, see Plate IV.

25×

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The hydrograph for Basin I (See Sheet B-5) is analyzed at the intersection of 64th Street and Milne Road. The hydrograph for Basin II is analyzed at the detention pond. The runoff from Basin II totals 85,165 cubic feet, (See Sheet B-7). The volume of the detention pond is 64,483 cubic feet at a depth of 1.5 feet, (See Sheet B-1). Therefore, after the pond reaches a depth of 1.5 feet, the flow divides, a portion enters the pond, the remainder enters Basin I. This raises the water surface elevation in the pond as the depth in the street raises. At the peak runoff the depth in the pond reaches 1.78 feet, the depth in Armand reaches .36 feet and the depth in Cleghorn reaches .19 feet, (See Sheet B-7). The pond overflow is shown on Sheet B-7 and Appendix C. There is a ten (10) minute delay before the pond overflow reaches the intersection of 64th Street and Milne Road.

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APPENDIX A

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AGREEMENT AND GRANT OF DRAINAGE EASEMENT

This Agreement and Grant of Drainage Easement is made and executed this ___ day of February, 1985, by and between U.S. Homes. (hereinafter referred to as "Grantors"), and the City of Albuquerque, New Mexico, a municipal corporation (hereinafter referred to as "Grantee).

WHEREAS, Grantors are the owners and lawfully seized of certain real property located within the Katherine Nichole Addition, a Subdivision within Bernalillo County, New Mexico, and more particularly described as follows:

> Lots 21 thru 38 of Block 4, KATHERINE NICHOLE ADDITION as designated on the plat of said addition filed in the Office of County Clerk, Bernalillo County, New Mexico, on January 6, 1981, in Volume: C-17, Folio: 171;

and

WHEREAS Grantee wishes to use said property for the detention of public drainage waters and Grantors wish to use said property for recreational purposes; and

WHEREAS Grantors are agreeable to the contemplated multi-purpose use of the property;

NOW, THEREFORE, IN CONSIDERATION of the above and for other good and valuable consideration, receipt of which is acknowledged,

25×

the parties hereby agree as follows:

1. Grantors hereby give grant, and convey to Grantee an easement upon and acorss the above-described property for the purposeof the detention of public surface drainage waters, together with the right to enter said property to inspect the easement property as necessary and the further right to remove, at Grantors' expense, any obstacles which interfere with the use and operation of the property as a public drainage water detention reservoir.

2. Grantors have constructed drainage reservoir and facilities in accordance with standards, plans and specifications as prescribed and approved by the City and the construction has been approved by the City. Grantee agrees that Grantors may make concurrent use of the property for recreational purposes, provided that Grantors shall at all times maintain a ponding volume of not less than 64,438 cubic feet, with a minimum bottom elevation of at least two (2) inches above the gutter elevation at the detention reservoir outlet and a maximum reservoir water depth of no more than 1.78 feet, and otherwise comply with all drainage conditions depicted on the attached Exhibit A. Grantors' concurrent use of the property for recreational purposes shall in no way interfere with Grantee's use of the property for public drainage purposes as granted herein.

includes street flow depth

3. The Grantors agree to defend, indemnify, and hold harmless, the Grantee, its officials, agents, and employees from and against any and all claims, actions, suits, or proceedings of any kind brought against said parties for or on account of any matter arising from the drainage facility provided for herein or the Grantors' failure to construct, maintain, or modify the drainage facility under this Agreement. Grantee shall not be liable for any damages accruing to Grantors resulting from the construction, maintenance or modification of said public drainage reservoir.

4. This Agreement and the property rights granted herein shall remain in full force and effect until released in writing by Grantee. it is understood and agreed that the maintenance of said drainage facility is contemplated only so long as conditions require it, it being contemplated that the facility will be replaced by permanent storm sewer facilities included in the City's Master Plan for drainage for that area. When the facility is so replaced, this Agreement and the property rights granted herein will be released by an instrument in writing. If prior to the installation of such permanent facilities as contemplated by the Master Plan or any substitute therefor, the Grantors demonstrate to the reasonable satisfaction of the Grantee that downstream

conditions warrant the release of this Agreement and the property rights granted herein, Grantee agrees to release this Agreement and all property rights granted herein by separate instrument.

EXECUTED this _____ day of _____, 198___.

GRANTORS:

U.S. HOMES

BY: _____

ITS _____

GRANTEE:

CITY OF ALBUQUERQUE

BY: _____

GENE ROMO

CHIEF ADMINISTRATIVE OFFICER

RECOMMENDED:

_____

JAMES N. HICKS, JR.

PRINCIPAL ENGINEER

DESIGN DIVISION

PUBLIC WORKS DEPARTMENT

APPROVED AS TO FORM:

_____

ATTEST:

_____

CITY CLERK

ACKNOWLEDGEMENTS

STATE OF NEW MEXICO)
) ss.
COUNTY OF BERNALILLO)

The foregoing instrument was acknowledged before me this_____
day of _____, 1986 by _____

_____ My Commission Expires:_____
NOTARY PUBLIC

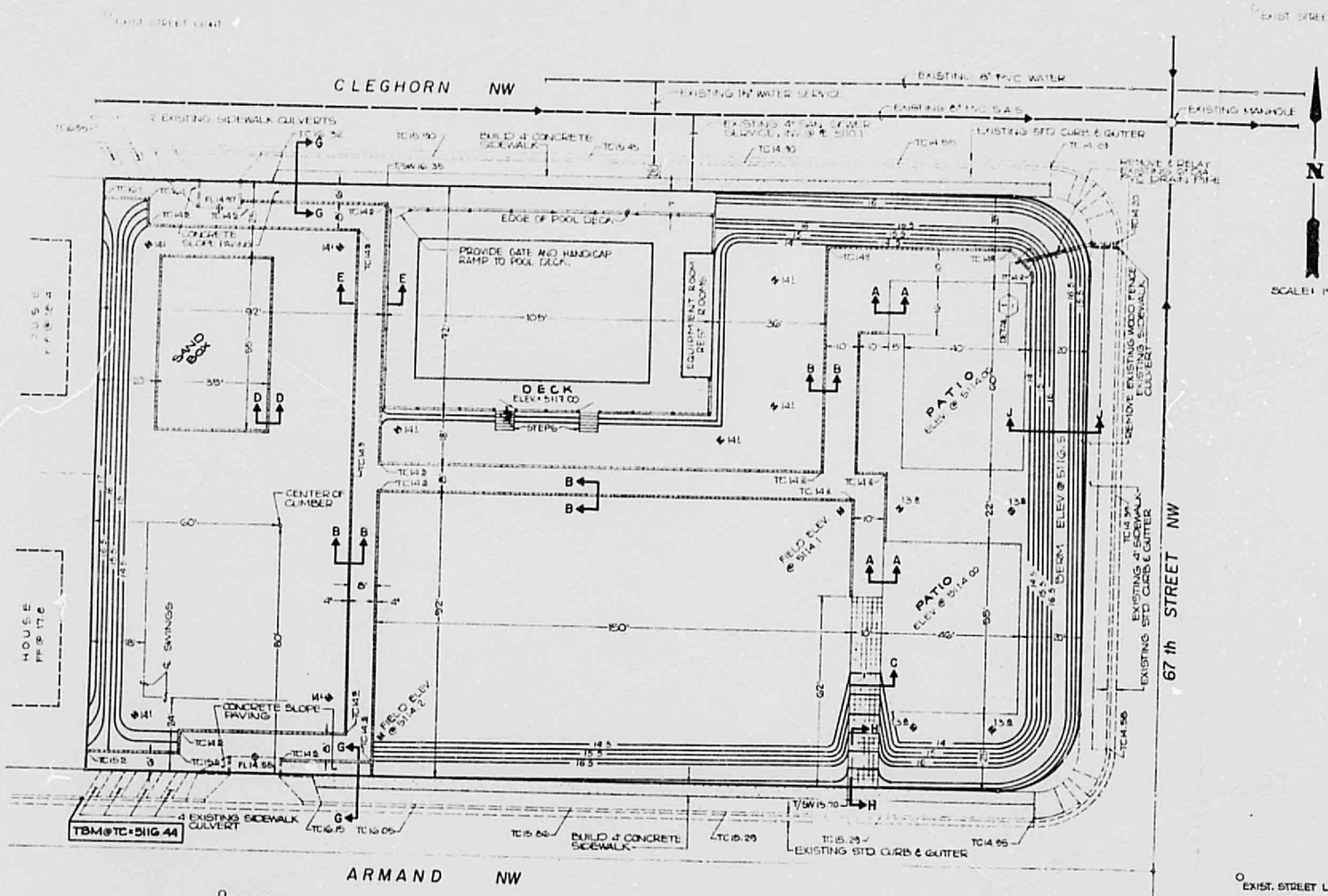
****

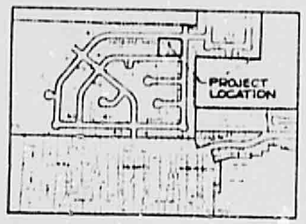
STATE OF NEW MEXICO)
) ss.
COUNTY OF BERNALILLO)

The foregoing instrument was acknowledged before me this _____
day of _____, 1986, by Gene Romo, Chief Administrative Officer of the City of Albuquerque.

_____ My Commission Expires:_____
NOTARY PUBLIC

0000 0000 0095





VICINITY MAP G-10

LEGEND

- 16 — PROPOSED CONTOUR
- PROPOSED SPOT ELEVATION
- EXISTING SPOT ELEVATION
- TC14.20 TOP OF CURB ELEVATION
- CONCRETE AREA

LEGAL DESCRIPTION

LOTS 21 thru 28, BLOCK 4, KATHERINE NICHOLE ADDITION.

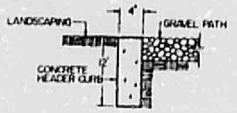
PROJECT BENCHMARK

A U.S.G.L.O. BRASS CAP, CLOSING CORNER FOR SEC 34, T11N, R2E, N.M.P.M. & SEC 3, T10N, R2E, N.M.P.M. ELEV @ 5115.01 (MSLD)

TBM

TOP OF CURB @ PROJECTION OF SW CORNER, ELEV @ 5116.44

SECTION A A
NO SCALE



SECTION B B
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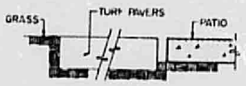

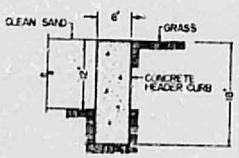

SECTION C C
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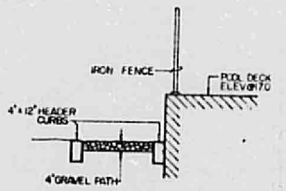

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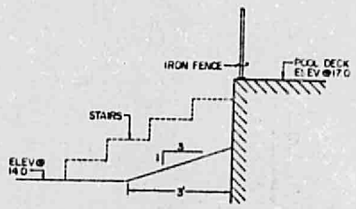
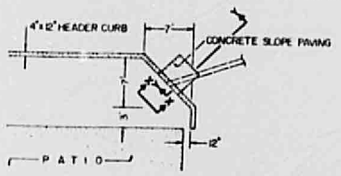


EXIST. STREET LIGHT



DETAIL 1
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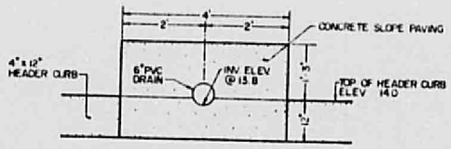

SECTION X-X
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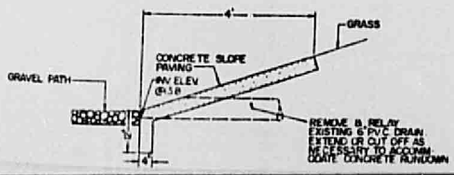

Planning Director	Date
Water Utilities	Date
City Engineer	Date
Traffic Engineer	Date

SECTION E E
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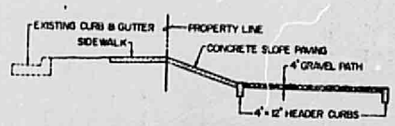

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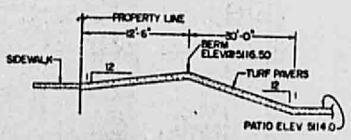

SECTION G G
NO SCALE

SECTION H H
NO SCALE

EXHIBIT A

PRESIDO VILLA AMENITY PARK

SITE DEVELOPMENT PLAN

25×10 32×10

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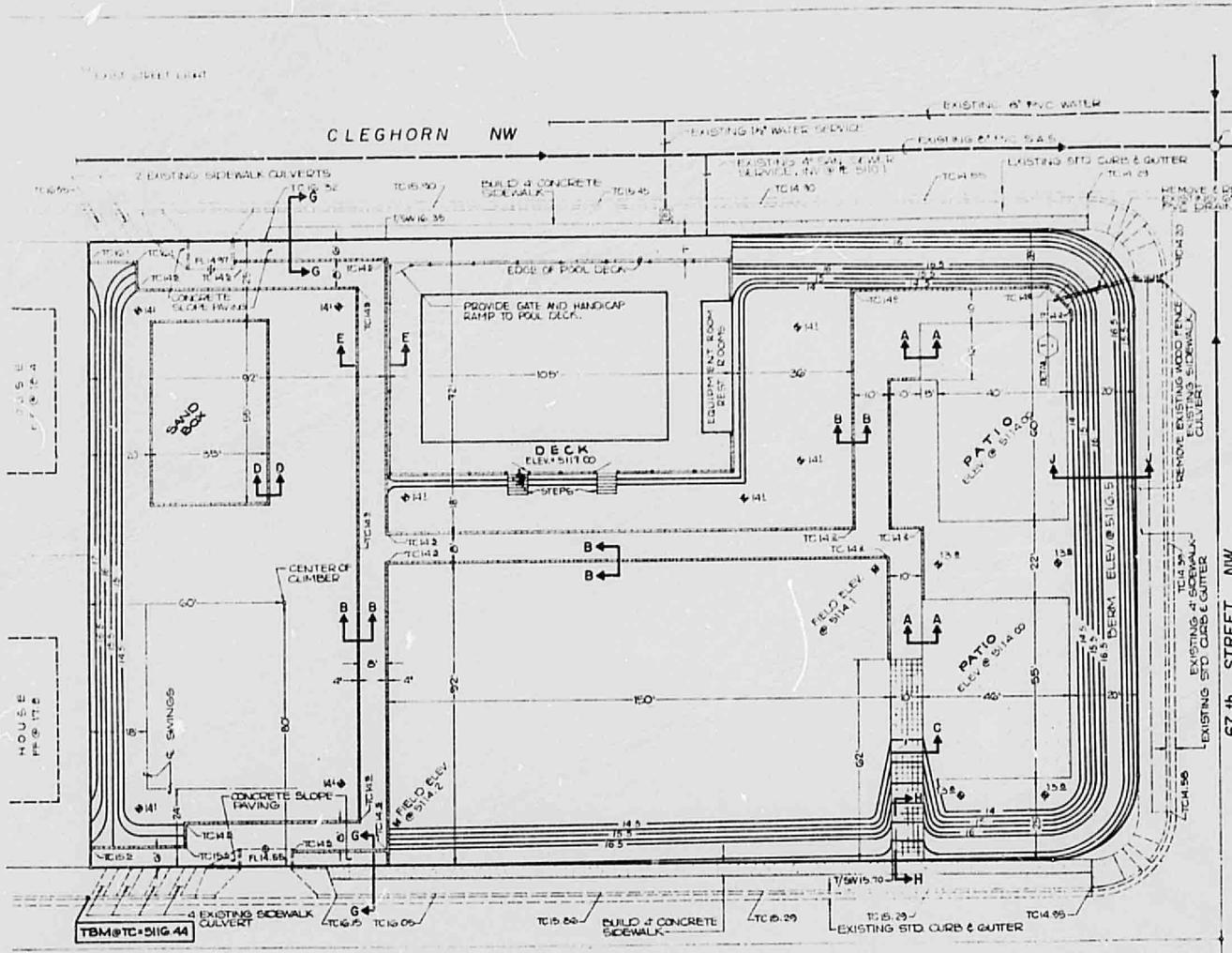
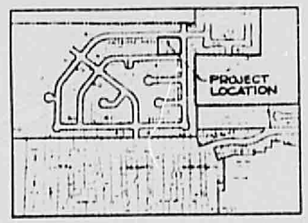




VICINITY MAP G-10

LEGEND

- 16 — PROPOSED CONTOUR
- PROPOSED SPOT ELEVATION
- EXISTING SPOT ELEVATION
- TC14.20 TOP OF CURB ELEVATION
- CONCRETE AREA

LEGAL DESCRIPTION

LOTS 21 thru 36, BLOCK 4, KATHERINE NICHOLE ADDITION.

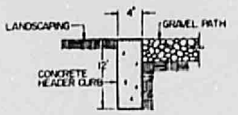
PROJECT BENCHMARK

A.U.S.G.L.O. BRASS CAP, CLOSING CORNER FOR SEC. 34, T11N, R2E, N.M.P.M. & SEC. 3, T10N, R2E, N.M.P.M. ELEV @ 5115.91 (MSLD)

TBM

TOP OF CURB @ PROJECTION OF SW CORNER, ELEV @ 5116.44

SECTION A A
NO SCALE



SECTION B B
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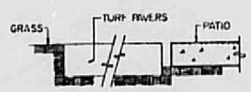

SECTION C C
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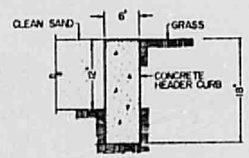

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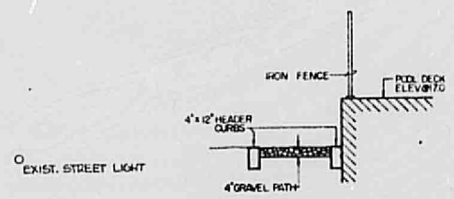

SECTION E E
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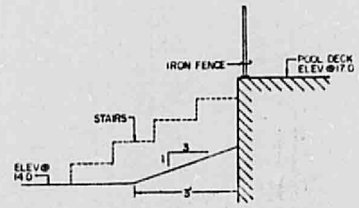

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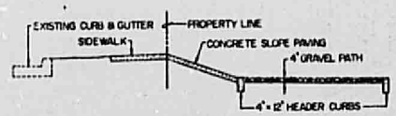
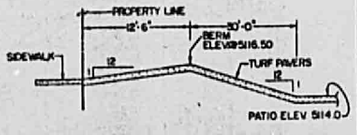


SECTION G G
NO SCALE



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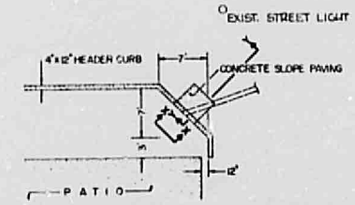
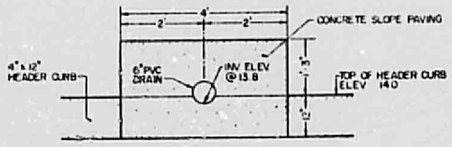


DETAIL 1
NO SCALE



SECTION X-X
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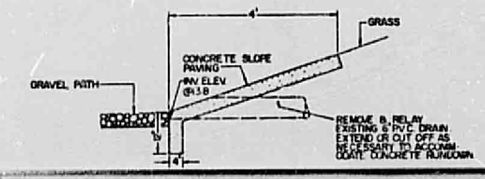


Planning Director	Date
Water Utilities	Date
City Engineer	Date
Traffic Engineer	Date

EXHIBIT A

PRESIDO VILLA AMENITY PARK

SITE DEVELOPMENT PLAN

25×10 32×10 25×10

0000 0000 0097

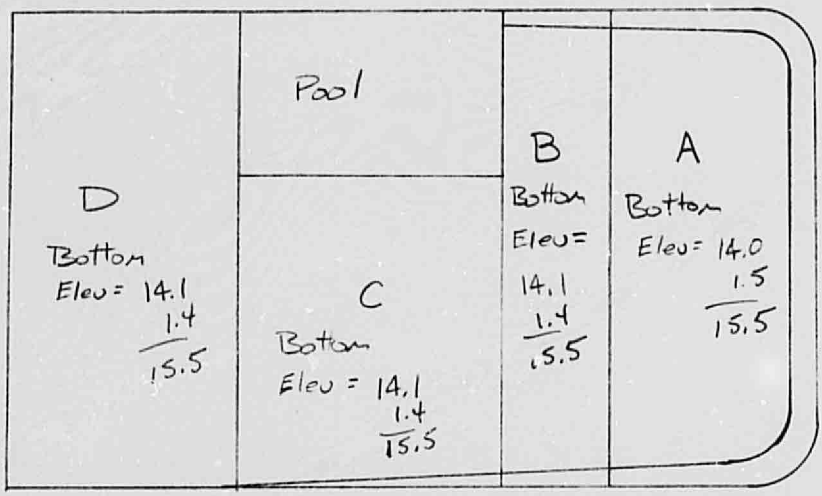
APPENDIX B

25×

0000 0000 0098

DMJM ALBUQUERQUE	PROJECT	PROJECT NO.	PAGE
		BY: DATE:	B-1

SUBJECT



						depth
Area #	'A'	Top	(174)(66) = 11,484	Bottom	(160)(58) = 9280	1.5
	'B'	Top	(175)(46) = 8050	Bottom	(162)(46) = 7452	1.4
	'C'	Top	(113)(105) = 11,865	Bottom	(105)(105) = 11,025	1.4
	'D'	Top	(190)(33) = 16,720	Bottom	(130)(82) = 14,760	1.4

Volume
'A' = 15,572 ft³
'B' = 10,351 ft³
'C' = 16,227 ft³
'D' = 22,930 ft³
Total = 65,080 ft³

DMJM ALBUQUERQUE	PROJECT	PROJECT NO.	PAGE
		BY: / DATE:	B-2

SUBJECT

Area 'A'

Top = (174)(66) = 11,484 #

Bottom = (160)(58) = 9280 #

Total depth = 1.5'

Total Volume = (11484 + 9280)(½)(1.5) = 15,573 ft³

Volume @ d = 0.1'

$$V = (.1)(\tfrac{1}{2})\left[\left(\frac{11484 - 9280}{1.5}\right)(.1) + 9280 + 9280\right]$$

V = 935 ft³

d @ $0 \le V \le 935$

$$V = \frac{d}{2}\left\{\left(\frac{11434 - 9280}{1.5}\right)d + 9280 + 9280\right\}$$

$$d = \frac{-1 \pm 1 + \sqrt{3.4116 \times 10^{-5} V}}{.1532}$$

25×

DMJM ALBUQUERQUE	PROJECT	PROJECT NO.	PAGE
		BY: DATE:	B-3

SUBJECT

Area A+B+C+D

Top Area : 11,434 + 8050 + 11,365 + 16,720 = 48,119 ft²

Bottom Area : 9427 + 7452 + 11,025 + 14760 = 42,664 ft²

Total depth : 1.4'

Total Volume = $\frac{48119 + 42664}{2}(1.4) + 935 = 64,483$ ft³

Volume @ d = 1.4'

$$V = 935 + \left\{\frac{\left(\frac{48119 - 42664}{1.4}\right)1.4 + 42664 + 42664}{2}\right\}1.4$$

$V = 64,483$ ft³

d_2 @ $935 \leq V \leq 64,483$

$$V = \left(\frac{\left(\frac{48119 - 42664}{1.4}\right)d_2 + 42664 + 42664}{2}\right)d_2$$

$$V = 1948.214\, d_2^2 + 42664\, d_2$$

$$1948.214\, d_2^2 + 42664\, d_2 - V = 0$$

$$d_2 = \frac{-42664 \pm \sqrt{42664^2 + 4(1948.214)(V - 935)}}{(2)(1948.214)} + .3$$

$$d_2 = \frac{-1 \pm \sqrt{1 + 4.231 \times 10^{-6}(V - 935)}}{.09123} + .3$$

↑ because using the pipe invert as datum @ V = 935 the WS will be 0.3' above the invert.

DMJM ALBUQUERQUE	PROJECT	PROJECT NO.	PAGE
		BY: DATE:	B-4

SUBJECT

Volume @ $d > 15.48 - 13.8 = 1.72' \approx 1.7'$

$V = 64{,}483 + 48{,}119\ h$

where; - 48,119 # = Top area at $d = 1.7$
- 'h' = increase in depth over $d = 1.7$
- assume pond now increases in volume proportionally with the increase in 'h'.

d_3 @ $64483 \leq V \leq 64{,}483 + 48{,}119\ h$

$d_3 = 1.7 + h$

$d_3 = 1.7 + \frac{V - 64483}{48{,}119} = \frac{V + 17319.3}{48{,}119}$

25×

5

B-5
22.2

HYDROGRAPH COMPUTATION WORKSHEET

DATE _____
COMPUTED BY Lee
CHECK BY Mike K.

PROJECT Presido Villa Amenity Park

LOCATION 64th Street @ Milne Rd.

ANALYSIS POINT # All of Basin I

(DR. AREA) A = 32.4 ACRES

T_c 32 MIN

POINT RAINFALL ___ IN. FROM PLATE 22.2 D-1

CN = 85 FROM PLATES 22.2 C-2, 22.2 C-3

RUNOFF VOLUME R = 1 IN. FROM PLATE 22.2 C-4

COMPUTED T_p = 32 MIN. (Rounded to even minute) $T_p = T_c$

$q_p = \frac{45.4A}{T_p}$ = 46.0 CFS./INCH OF RUNOFF

$(R \times q_p) = Q_{peak}$ = 46.0 CFS

$t(COLUMN) = (t/T_p)$ $t = T_p(t/T_p)$

$y = \frac{Q}{Q_{peak}}$ $Q = y(Q_{peak})$

	(t/T_p)	t (min.)	y	Q (cfs)
1	0	0	0	0
2	.1	3.2	.03	1.4
3	.2	6.4	.10	4.6
4	.3	9.6	.190	8.7
5	.4	12.8	.310	14.3
6	.5	16.0	.470	21.6
7	.6	19.2	.660	30.4
8	.7	22.4	.820	37.7
9	.8	25.6	.930	42.8
10	.9	28.8	.990	45.5
11	1.0	32.0	1.00	46.0
12	1.1	35.2	.990	45.5
13	1.2	38.4	.930	42.8
14	1.3	41.6	.860	39.6
15	1.4	44.8	.780	35.9
16	1.5	48.0	.680	31.3
17	1.6	51.2	.560	25.8
18	1.7	54.4	.460	21.2
19	1.8	57.6	.390	17.9
20	1.9	60.8	.330	15.2
21	2.0	64.0	.280	12.9
22	2.2	70.4	.207	9.5
23	2.4	76.8	.147	6.8
24	2.6	83.2	.107	4.9
25	2.8	89.6	.077	3.5
26	3.0	96.0	.055	2.5
27	3.2	102.4	.040	1.8
28	3.4	108.8	.029	1.3
29	3.6	115.2	.021	1.0
30	3.8	121.6	.015	0.7
31	4.0	128.0	.011	0.5
32	4.5	144.0	.005	0.2
33	5.0	160.0	.000	0

L = 3800
S = E_1 31.0; E_2 = 09.0
T_c = 32.35 min.

PLATE 22.2 F-1

25×

B-6
22.2

HYDROGRAPH COMPUTATION WORKSHEET

DATE _____
COMPUTED BY Lei
CHECK BY Mike K

PROJECT Presido Villa Amenity Park

LOCATION Combined At Pond Inlets

ANALYSIS POINT # All of Basin II

(DR. AREA) A = 25.2 ACRES

T_c 17.1 MIN

POINT RAINFALL 2.2 IN. FROM PLATE 22.2 D-1

CN' = 85 FROM PLATES 22.2 C-2, 22.2 C-3

RUNOFF VOLUME R = 1 IN. FROM PLATE 22.2 C-4

COMPUTED T_p = 17 MIN. ($T_p = T_c$)
(Rounded to even minute)

$q_p = \frac{45.4A}{T_p}$ = 67.3 CFS./INCH OF RUNOFF

$(R \times q_p) = Q_{peak}$ = 67. CFS

t(COLUMN)=(t/T_p) $t=T_p(t/T_p)$

$y = \frac{Q}{Q_{peak}}$ $Q = y(Q_{peak})$

	(t/T_p)	t (min.)	y	Q (cfs)
1	0	0	0	0
2	.1	1.7	.03	2.0
3	.2	3.4	.10	6.7
4	.3	5.1	.190	12.7
5	.4	6.8	.310	20.8
6	.5	8.5	.470	31.5
7	.6	10.2	.660	44.2
8	.7	11.9	.820	54.9
9	.8	13.6	.930	62.3
10	.9	15.3	.990	66.3
11	1.0	17.0	1.00	67.0
12	1.1	18.7	.990	66.3
13	1.2	20.4	.930	62.3
14	1.3	22.1	.860	57.6
15	1.4	23.8	.780	52.3
16	1.5	25.5	.680	45.6
17	1.6	27.2	.560	37.5
18	1.7	28.9	.460	30.8
19	1.8	30.6	.390	26.1
20	1.9	32.3	.330	22.1
21	2.0	34.0	.280	18.8
22	2.2	35.7	.207	13.9
23	2.4	37.4	.147	9.8
24	2.6	39.1	.107	7.2
25	2.8	40.8	.077	5.2
26	3.0	42.5	.055	3.7
27	3.2	44.2	.040	2.7
28	3.4	45.9	.029	1.9
29	3.6	47.6	.021	1.4
30	3.8	49.3	.015	1.0
31	4.0	51.0	.011	0.7
32	4.5	52.7	.005	0.3
33	5.0	54.4	.000	0.0

PLATE 22.2 F-1

25×

DMJM ALBUQUERQUE	PROJECT	PROJECT NO.	PAGE B-7
		BY: DATE:	

SUBJECT

formula 2.

(1) Time (min)	(2) Accum. Rainfall (in)	(3) Runoff Vol (ft^3)	(4) WS Elev. (ft)	(5) Avg. WS Elev. (ft)	(6) Orifice Head (ft)	(7) Orifice Flow (ft^3)	(8) Around Head (ft)	(9) Around Flow (ft^3)	(10) Clogtown Head (ft)	(11) Clogtown Flow (ft^3)	(12) Total Flow (ft^3)	(13) Storage Volume (ft^3)	(14) Overflow Volume (ft^3)
0		0	.20	-	-	-	-	-	-	-	-	-	
		-	-	.2564	.1090	49	-	-	-	-	-	-	
5.1		1535	.3129	-	-	-	-	-	-	-	49	1486	.116
		-	-	.4072	.1858	109	-	-	-	-	-	-	
10.2		9772	.5016	-	-	-	-	-	-	-	158	9614	.52
		-	-	.6983	.4483	194	-	-	-	-	-	-	
15.3		27362	.8950	-	-	-	-	-	-	-	352	27010	1.15
		-	-	1.1119	.9619	269	-	-	-	-	-	-	
20.4		47517	1.3288	-	-	-	-	-	-	-	621	46896	2.03
		-	-	1.5019	1.2519	324	-	-	-	-	-	-	
25.5		64229	1.6749	-	-	-	-	-	-	-	945	63284	3.09
		-	-	1.7817	1.5317	358	.102	21	-	-	-	-	
30.6		74853	1.8880	-	-	-	-	-	-	-	1324	73529	4.33
		-	-	1.9454	1.6954	377	.27	282	.10	25	-	-	
35.7		81065	2.0030	-	-	-	-	-	-	-	2008	79057	6.56
		-	-	2.0195	1.7695	384	.32	673	.15	61	-	-	
40.8		83773	2.0359	-	-	-	-	-	-	-	3126	80647	10.22
		-	-	2.0397	1.7897	386	.38	980	.19	147	-	-	
45.9		84786	2.0256	-	-	-	-	-	-	-	4639	80147	15.14
		-	-	2.0147	1.7647	384	.35	913	.18	122	-	-	
51.0		85165	2.0038	-	-	-	-	-	-	-	6068	79102	19.81

25×10

0000 0000 0 105

Assume .33'

New pond Volume = 80,362 ft³

Peak Overflow = 1355 ft³ ⇒ 2.214 cfs half street width

Cleghorn : S=.00805, d=.16' ⇒ Q= 0.26 cfs

Armand : S=.0055, d=.33' ⇒ Q= 2.6 cfs

2.136 cfs

Assume .32'

New pond Volume = 79,881 ft³

Peak Overflow = 1836 ft³ ⇒ 3.0 cfs half street width

Cleghorn : S=.00805, d=.15 ⇒ Q= 0.2 cfs

Armand : S=.0055, d=.32 ⇒ Q= 2.3 cfs

2.5 cfs

Assume .325'

New pond Volume = 80,122 ft³

Peak Overflow = 1595 ft³ ⇒ 2.606 cfs half street width

Cleghorn : S=.00805, d=.155 ⇒ Q= 0.2

Armand : S=.0055, d=.325 ⇒ Q= 2.4

2.6

25×

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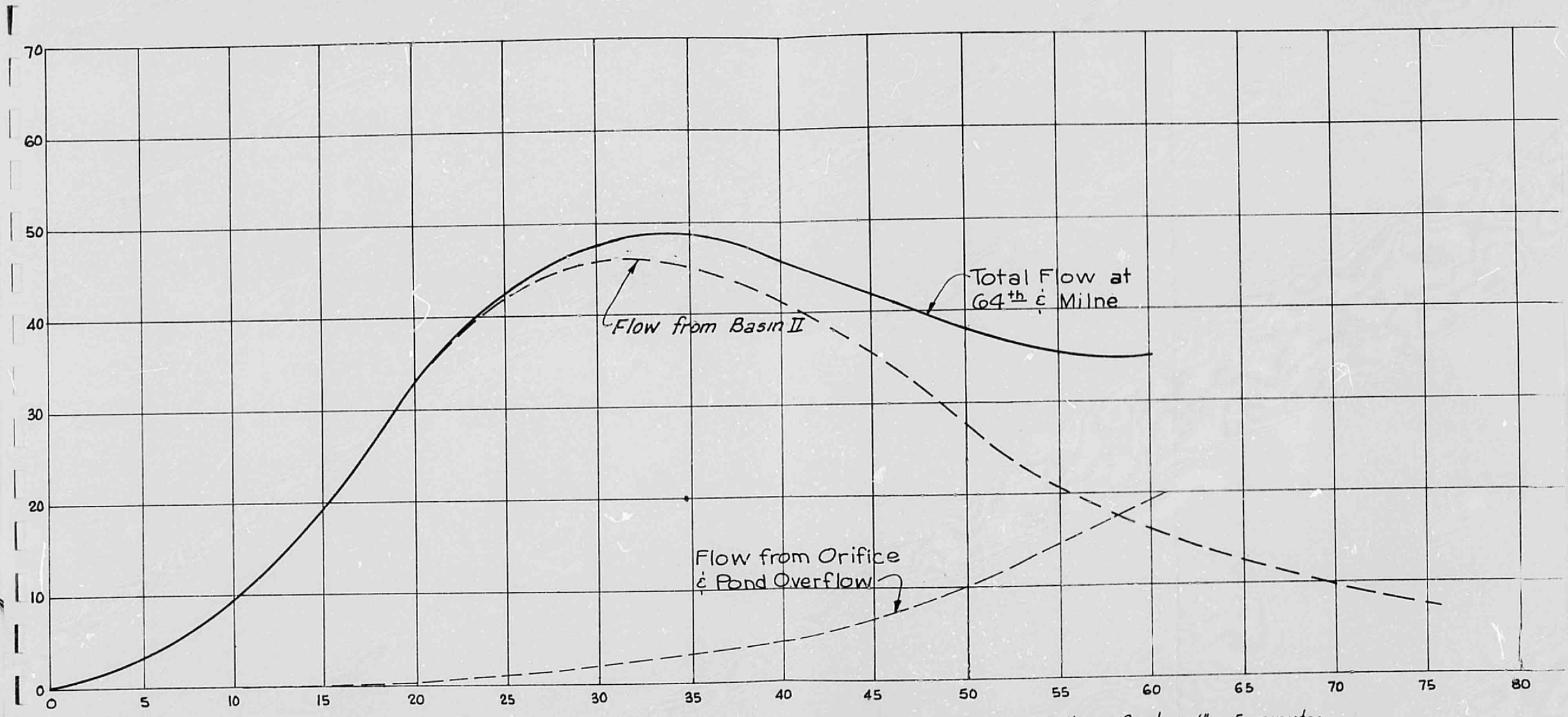
APPENDIX C

25×

0000 0000 0 107



HYDROGRAPH at 64th & MILNE

Horiz. Scale : 1" = 5 minutes
Vert. Scale : 1" = 10 cfs

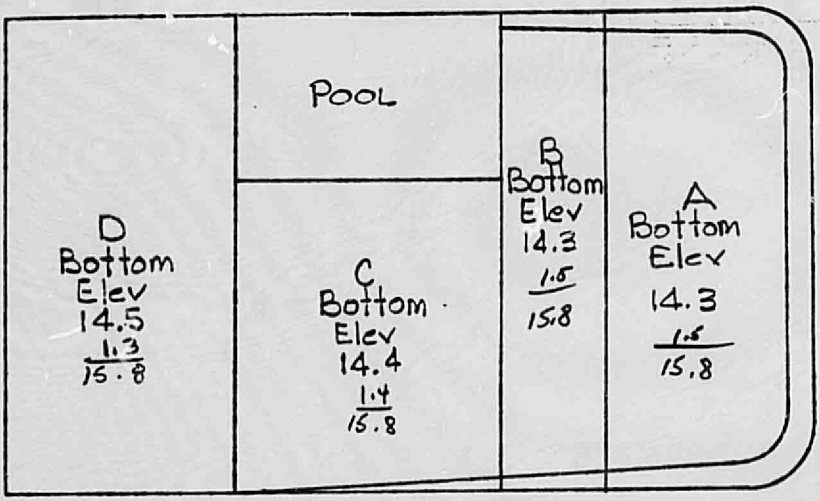
25×10 32×10 25×10

G10/D2A,

DMJM ALBUQUERQUE	PROJECT: PRESIDO VILLA AMENITY PARK	PROJECT NO.	PAGE
		BY: Lee / DATE: 7/20/87	

SUBJECT: As Built Pond Volume

Refer to page B-1 of the drainage report (G10/D2A)



Area 'A' Top (174)(66) = 11,484 ; Bottom (160)(58) = 9,280
'B' Top (175)(46) = 8,050 ; Bottom (162)(46) = 7,452
'C' Top (122)(105) = 12,810 ; Bottom (114)(105) = 11,970
'D' Top (190)(88) = 16,720 ; Bottom (180)(82) = 14,760

Volume (depth)
A = (11,484 + 9,280)/2 (1.5) = 15,573
B = (8,050 + 7,452)/2 (1.5) = 11,626
C = (12,810 + 11,970)/2 (1.4) = 17,346
D = (16,720 + 14,760)/2 (1.3) = 20,462

Total 65,007 Cu. Ft.

0000 0000 0109

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

KEN SCHULTZ
MAYOR

November 2, 1988

Mike Kibbee
DMJM
6501 Americas Parkway NE
Suite 690
Albuquerque, NM 87110

RE: REVISION TO KATHERINE NICHOLE DRAINAGE REPORT, PRESIDO VILLA AMENITY PARK, RECEIVED OCTOBER 13, 1988, FOR POND RUNDOWN REVISION. (G-10/D2A)

Dear Mr. Kibbee:

The above referenced submittal dated 10/13/88 is approved for construction of the modification to the existing detention pond rundown. Prior to any construction, I recommend that these Plans be reviewed with the Homeowners Association and neighborhood to see if their concerns are being adequately addressed.

The contractor must obtain an Excavation Permit prior to any construction within the City's right-of-way.

An issue that is not addressed with this submittal is the problem of the outlet pipe getting plugged. This will continue to be a maintenance problem until some type of trash guard is installed to keep cans and 'hand-placed' rocks from plugging the pipe.

If you have any questions call me at 768-2650

Cordially;

Roger A. Green, PE

Roger A. Green, P.E.
C.E./ Hydrology Section

xc: Mark Hamil, US Home
Lenny Lovato, 6729 Cleghorn, NW
Mike Ciesielski, Mayor's office

RAG/(WP+384)

25×10

0000 0000 0110

X.C.

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

Ken Schultz
Mayor

UTILITY DEVELOPMENT DIVISION
HYDROLOGY SECTION
(505) 768-2650

October 12, 1987

Jean J. Bordenave, P.E.
DMJM
5100 Harper Drive NE
Suite 280
Albuquerque, New Mexico 87109

Mark Hamil
U.S. Homes Corporation
7100 Cisco Road NW
Albuquerque, New Mexico 87120

RE: ENGINEER'S CERTIFICATION OF PRESIDO VILLA AMENITY PARK, KATHERINE NICHOLE SUBDIVISION, RECEIVED SEPTEMBER 29, 1987 FOR FINAL SITE PLAN ACCEPTANCE (G-10/D2A) DRB CASE NUMBER 86-141, EPC NUMBER ZA-86-58

Dear Mr. Bordenave/Mr. Hamil:

After review of the above referenced submittal and an on-site visit on October 14, 1987, I find that the constructed recreational facility is not acceptable. The submitted as-built drawing failed to show the following deficiencies:

1. Concrete slope paving is not in place on the Northwest and Southwest corners as the Site Plan required.

2. Ground cover materials used are not in compliance with the approved Site Plan.

3. Run-off water is being ponded in the west end of the park due to the concrete curbing and walkways being constructed higher that the adjacent area, and due to the fact that plastic liner was installed under the crushed stone ground cover.

4. The berm around the park has not been grassed as shown on the Site Plan but was covered with stone, which makes for a nuisance and safety hazard on the public sidewalks adjacent to the berm.

25×

5. A pile of crushed stone is blocking the concrete curb cut and rundown on Armand Street and must be removed.

6. Bushes and trees have not been planted as required by the Site Plan.

The most critical item of concern is the use of plastic under the stone ground cover. This detention basin was designed with minimal slope from the west end toward the outlet, therefore it is critical that the type of ground cover used be conducive to water infiltration. The use of plastic liner has the opposite affect and therefore must be removed. If it is felt by the owners that a material is needed under the stone to prevent weed growth, then a landscape fabric must be used that allows water infiltration. This type of material is readily available in the Albuquerque area.

In regards to the other noted deficiencies, a copy of this memo is being provided to the Zoning Enforcement Officer and Planning Department for their review and follow up.

This office will not recognize the park construction as being acceptable until the plastic lining is removed and the rundown obstruction is removed.

If you have further questions call me at 768-2650.

Sincerely,

Roger A. Green, P.E.
Civil Engineer
Hydrology Section

RAG/lk

cc: Bob Romero, C.O.A. Zoning
Richard Dineen, C.O.A. Current Planning

0000 0000 0112

X, C.

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

Ken Schultz
Mayor

UTILITY DEVELOPMENT DIVISION
HYDROLOGY SECTION
(505) 768-2650

September 17, 1987

Jake Bordenave, P.E.
DMJM
5600 Harper Drive, NE Suite 280
Albuquerque, New Mexico 87109

RE: ENGINEER'S CERTIFICATION OF PRESIDIO VILLA AMENITY CENTER, KATHERINE-NICHOLE SUBDIVISION (G-10/D2A)

Dear Jake:

As of this date, we have not received an Engineer's Certification of the above referenced recreation area, as required for the Site Plan sign-off by the City Engineer. Please reference memos from this office dated June 6, 1986 to yourself, and from Mark S. Hamil dated June 18, 1986 to this office.

This outstanding commitment needs to be taken care of as soon as possible in order to document the as-built elevations of the grading and recreational structures.

Please inform this office why the Certification has not been provided and an expected date of compliance.

If you have any questions, call me at 768-2650.

Cordially,

Roger A. Green, PE

Roger A. Green, P.E.
C.E./Hydrology Section

cc: Mark Hamil, US Homes

RAG/bsj

25×

0000 0000 0118

X. C

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

DESIGN HYDROLOGY SECTION
123 Central NW, Albuquerque, NM 87102
(505) 766-7644

June 6, 1986

Jake Bordenave, PE
DMJM
5600 Harper Drive NE, Suite 280
Albuquerque, NM 87109

REF; SITE PLAN SIGN-OFF OF PRESIDO VILLA AMENITY PARK, KATHERINE NICHOLE SUBDIVISION (G10/D2A)

Dear Jake:

As discussed and agreed to today by yourself and Fred Aguirre, the above referenced Site Plan was signed off with the understanding that the final grading and recreational structure elevations will be certified by the owner's engineer. Sheet 1 of 3 of the Site Plan dated 1/29/86 is approved as the Grading Plan to be constructed. The existing agreement and drainage easement for the park is adequate as the required Encroachment Agreement. Recreation Facilities will be permitted and inspected through Code Administration.

It is expected that the owner will concur with this by letter to this office.

If you have any questions, call me at 766-7644.

Sincerely,

Roger A. Green, PE

Roger A. Green, PE
CE/Hydrology

RAG:mrk

cc: Adolph Frank, U.S. Home, 7015 Cisco Road NW, Albuquerque, NM

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City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

DESIGN HYDROLOGY SECTION
123 Central NW, Albuquerque, NM 87102
(505) 766-7644

May 13, 1986

Lee Bell
DMJM
5600 Harper Drive, NE Suite 280
Albuquerque, New Mexico 87109

RE: DRAINAGE PLAN SUBMITTAL OF PRESIDO VILLA AMENITY PARK, KATHERINE NICHOLE SUBDIVISION FOR SITE DEVELOPMENT PLAN APPROVAL RECEIVED MAY 1, 1986 (G-10/D2A)

Dear Lee:

The above referenced submittal, dated January 29, 1986, is approved for Site Development Plan approval. DRB may require the new Easement Agreement be executed prior to Site Plan sign-off.

If you have any questions, call me at 766-7644.

Cordially,

Roger A Green PE

Roger A. Green, P.E.
C.E./Hydrology Section

cc: U.S. Homes
7015 Cisco Road, NW

RAG/bsj

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City of Albuquerque

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P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

DESIGN HYDROLOGY SECTION
123 Central NW, Albuquerque, NM 87102
(505) 766-7644

February 25, 1986

Lee Bell
DMJM/Adam, Hamlyn, Anderson
5600 Harper Drive, NE Suite 280
Albuquerque, New Mexico 87109

RE: GRADING PLAN SUBMITTAL OF PRESIDO VILLA AMENITY PARK RECEIVED JANUARY 28, 1986 FOR SITE DEVELOPMENT PLAN APPROVAL (G-10/D2A)

Dear Lee:

I have reviewed the above referenced submittal and have the following comment to be addressed before further review and approval.

Page 2 of Appendix A, under part 2 of Agreement and Grant of Drainage Easement states that pond shall have ". . . a maximum reservoir water depth of no more than one and one-half (1½) feet" . . . Appendix B calculations assume depths varying from 1.9' to 2.3'.

Any revised site plans for the easement area must comply with the original agreement, unless a new agreement is executed.

If you have any questions, call me at 766-7644.

Cordially,

Roger A. Green, PE

Roger A. Green, P.E.
C.E./Design Hydrology

RAG/bsj

cc: Standard Letter to:

U.S. Homes
7015 Cisco Road, NW

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REVISION TO KATHRINE NICHOLE DRAINAGE REPORT, SEPTEMBER 1983 (G10-D2A), OCTOBER 1988

RECEIVED
OCT 13 1988
HYDROLOGY SECTION

PREPARED BY:
DMJM
6501 Americas Parkway, N.E., Suite 690
Albuquerque, New Mexico 87110
(505)884-4031

PREPARED FOR:
US HOME CORPORATION
7100 Cisco Rd., N.W.
Albuquerque, New Mexico 87120
(505)831-1881

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TABLE OF CONTENTS

	Page
PURPOSE	1
LOCATION & DESCRIPTION	1
EXISTING DRAINAGE CONDITIONS	1
PROPOSED DRAINAGE REVISIONS	1
CONCLUSIONS	2
CALCULATIONS	4
PRESIDIO VILLA AMENITY PARK SITE DEVELOPMENT PLAN	REAR POCKET
PRESIDIO VILLA AMENITY PARK REVISED DRAINAGE PLAN	REAR POCKET

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PURPOSE:

The purpose of this drainage plan revision is to provide improvements to the Presido Villa Amenity Park and Detention Pond Facility. It has become a concern to neighborhood residents that nuisance flows constantly enter the park area and cause unsightly ponding and mud puddles. It is the intent of DMJM to provide a design to stop these nuisance flows from entering the park area while at the same time continue to provide an adequate pond inlet design to assure that larger magnitude storm flows will not cause flooding in downstream areas.

LOCATION & DESCRIPTION:

The project site is known as the Presidio Villa Amenity Park and is located on the west side of 67th Street NW between Armand Road and Cleghorn Road and contains slightly more than one acre. The location of the project is graphically depicted on Zone Atlas Map G-10 (figure #1).

EXISTING DRAINAGE CONDITIONS:

The present drainage conditions for the Amenities Park are as given in the Kathrine Nichole Drainage Report, September 1983 (G10-D2A) and the Presidio Villa Amenity Park Site Development Plan (rear pocket).

PROPOSED DRAINAGE REVISIONS:

Nuisance flows will be prevented from entering the Amenity Park by implementing the following procedures. First, the existing sidewalk culverts on Armand Road and Cleghorn Road will be sealed. Secondly, the existing curb opening inlets on Armand Road and Cleghorn Road will be reconstructed to include a lip which will rise two inches above the existing gutter flowline.

Drainage revisions within the park area itself will consist of the following. First, some minor grading will be performed to restore positive drainage towards the outlet. Secondly, several drywells will be constructed to help quickly drain playground and picnic areas.

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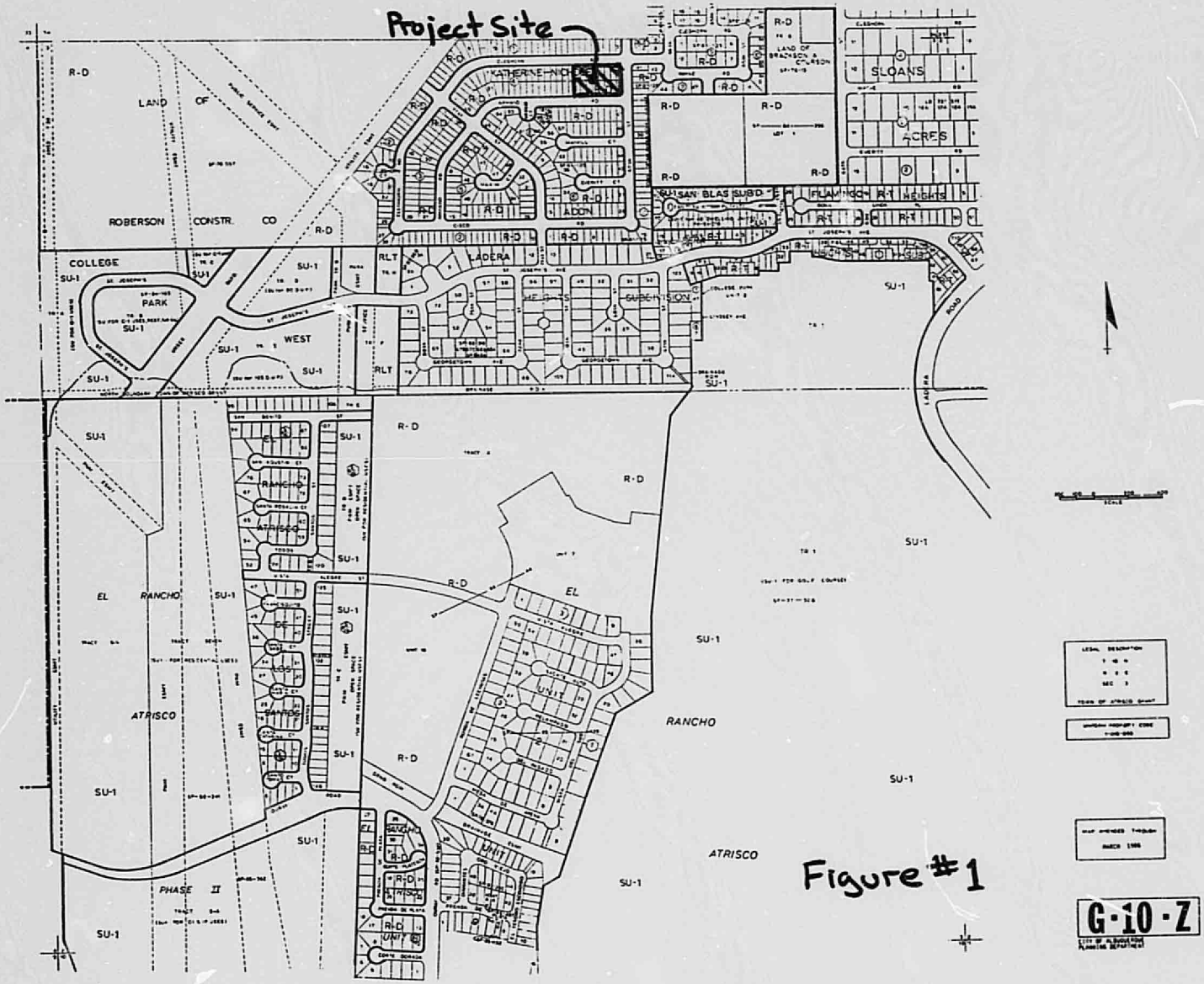
CONCLUSIONS:

The above drainage revisions will provide the Presidio Villa Amenity Park with the following enhancements. First, nuisance flows will be prevented from entering the park thus eliminating the continual ponding and mud puddles. Secondly, restoring positive drainage and implementing dry wells will provide improved drainage within the park itself thus reducing it's recreational use downtime.

25×


Project Site
R-D
LAND OF
ROBERSON CONSTR. CO
KATHRYN HOLL ADDN
SLOANS ACRES
SAN BLAS SUBD
HEIGHTS
R-1
COLLEGE PARK
WEST
LADERA
SUBDIVISION
RLT
SU-1
EL RANCHO
ATRISCO
PHASE II
UNIT
RANCHO
ATRISCO
Figure #1
G-10-Z

0000 0000 0121

CALCULATIONS

* Analysis Point Numbers in all of the following calculations are the same as those shown in Kathrine Nichole Drainage Report. September, 1983 (G10-D2A), Plate II.

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HYDROGRAPH COMPUTATION WORKSHEET

DATE 9-26-88
COMPUTED BY MK
CHECK BY _____

BASIN I

Job # 6431.00

PROJECT Kathrine Nichole Amenities Park

LOCATION 64TH + Milne

ANALYSIS POINT # 13

(DR. AREA) A = 32.42 ACRES

T_c 35 MIN

POINT RAINFALL 2.2 IN. FROM PLATE 22.2 D-1

CN = 85 FROM PLATES 22.2 C-2, 22.2 C-3

RUNOFF VOLUME R = 0.945 IN. FROM PLATE 22.2 C-4

COMPUTED T_p = 35 MIN. (Rounded to even minute) $T_p = T_c$

$q_p = \frac{45.3A}{T_p}$ = 42.05 CFS./INCH OF RUNOFF

$(R \times q_p) = Q_{peak}$ = 39.72 CFS

t(COLUMN)=(t/T_p) $t=T_p(t/T_p)$

$y = \frac{Q}{Q_{peak}}$ $Q = y(Q_{peak})$

	(t/T_p)	t (min.)	y	Q (cfs)
1	0	0	0	0
2	.1	3.5	.03	1.19
3	.2	7.0	.10	3.97
4	.3	10.5	.190	7.55
5	.4	14.0	.310	12.31
6	.5	17.5	.470	18.67
7	.6	21.0	.660	26.22
8	.7	24.5	.820	32.57
9	.8	28.0	.930	36.94
10	.9	31.5	.990	39.33
11	1.0	35.0	1.00	39.72
12	1.1	38.5	.990	39.33
13	1.2	42.0	.930	36.94
14	1.3	45.5	.860	34.16
15	1.4	49.0	.780	30.98
16	1.5	52.5	.680	27.01
17	1.6	56.0	.560	22.24
18	1.7	59.5	.460	18.27
19	1.8	63.0	.390	15.49
20	1.9	66.5	.330	13.11
21	2.0	70.0	.280	11.12
22	2.2	77.0	.207	8.22
23	2.4	84.0	.147	5.84
24	2.6	91.0	.107	4.25
25	2.8	98.0	.077	3.06
25	3.0	105.0	.055	2.18
27	3.2	112.0	.040	1.59
28	3.4	119.0	.029	1.15
29	3.6	126.0	.021	0.83
30	3.8	133.0	.015	0.60
31	4.0	140.0	.011	0.44
32	4.5	157.5	.005	0.20
33	5.0	175.0	.000	0

Basin Length = 4050 FT
Avg. Basin Slope = 0.005432

PLATE 22.2 F-1

HYDROGRAPH COMPUTATION WORKSHEET

DATE 9-26-88
COMPUTED BY MK
CHECK BY

BASIN II-A

Job# 6431.00

PROJECT Kath. Nichole Amenities Park

LOCATION 67TH + Cleghorn

ANALYSIS POINT # 10

(DR. AREA) A = 11.01 ACRES

T_c 18 MIN

POINT RAINFALL 2.2 IN. FROM PLATE 22.2 D-1

CN = 85 FROM PLATES 22.2 C-2, 22.2 C-3

RUNOFF VOLUME R = .945 IN. FROM PLATE 22.2 C-4

COMPUTED T_p = 18 MIN. (Rounded to even minute) $T_p = T_c$

$q_p = \frac{45.4A}{T_p}$ = 27.77 CFS./INCH OF RUNOFF

(R X q_p) = Q_{peak} = 26.24 CFS

t(COLUMN)=(t/T_p) $t=T_p(t/T_p)$

$y = \frac{Q}{Q_{peak}}$ $Q = y(Q_{peak})$

Basin Length = 2025 ft
Avg Basin Slope = 0.00805

	(t/T_p)	t (min.)	y	Q (cfs)
1	0	0	0	0
2	.1	1.8	.03	0.79
3	.2	3.6	.10	2.62
4	.3	5.4	.190	5.00
5	.4	7.2	.310	8.14
6	.5	9.0	.470	12.33
7	.6	10.8	.660	17.32
8	.7	12.6	.820	21.52
9	.8	14.4	.930	24.41
10	.9	16.2	.990	25.98
11	1.0	18	1.00	26.24
12	1.1	19.8	.990	25.98
13	1.2	21.6	.930	24.41
14	1.3	23.4	.860	22.57
15	1.4	25.2	.780	20.47
16	1.5	27.0	.680	17.84
17	1.6	28.8	.560	14.70
18	1.7	30.6	.460	12.07
19	1.8	32.4	.390	10.23
20	1.9	34.2	.330	8.66
21	2.0	36	.280	7.35
22	2.2	39.6	.207	5.43
23	2.4	43.2	.147	3.86
24	2.6	46.8	.107	2.81
25	2.8	50.4	.077	2.02
26	3.0	54.0	.055	1.44
27	3.2	57.6	.040	1.05
28	3.4	61.2	.029	0.76
29	3.6	64.8	.021	0.55
30	3.8	68.4	.015	0.39
31	4.0	72	.011	0.29
32	4.5	81	.005	0.13
33	5.0	90	.000	0

PLATE 22.2 F-1

HYDROGRAPH COMPUTATION WORKSHEET

DATE 9-27-88
COMPUTED BY MK
CHECK BY

BASIN II-B

Job # 6431.00

PROJECT Kath. Nichole Amenities Park

LOCATION 67TH + Cleghorn

ANALYSIS POINT # 10

(DR. AREA) A = 15.75 ACRES

T_c 18 MIN

POINT RAINFALL 2.2 IN. FROM PLATE 22.2 D-1

CN = 85 FROM PLATES 22.2 C-2, 22.2 C-3

RUNOFF VOLUME R = .945 IN. FROM PLATE 22.2 C-4

COMPUTED T_p = 18 MIN. (Rounded to even minute) $T_p = T_c$

$q_p = \frac{45.4A}{T_p}$ = 39.73 CFS./INCH OF RUNOFF

$(R \times q_p) = Q_{peak}$ = 37.54 CFS

t(COLUMN)=(t/T_p) $t=T_p(t/T_p)$

$y = \frac{Q}{Q_{peak}}$ $Q = y(Q_{peak})$

	(t/T_p)	t (min.)	y	Q (cfs)
1	0	0	0	0
2	.1	1.8	.03	1.13
3	.2	3.6	.10	3.75
4	.3	5.4	.190	7.13
5	.4	7.2	.310	11.64
6	.5	9.0	.470	17.64
7	.6	10.8	.660	24.78
8	.7	12.6	.820	30.78
9	.8	14.4	.930	34.91
10	.9	16.2	.990	37.16
11	1.0	18	1.00	37.54
12	1.1	19.8	.990	37.16
13	1.2	21.6	.930	34.91
14	1.3	23.4	.860	32.28
15	1.4	25.2	.780	39.28
16	1.5	27	.680	25.53
17	1.6	28.8	.560	21.02
18	1.7	30.6	.460	17.27
19	1.8	32.4	.390	14.64
20	1.9	34.2	.330	12.39
21	2.0	36	.280	10.51
22	2.2	39.6	.207	7.77
23	2.4	43.2	.147	5.52
24	2.6	46.8	.107	4.02
25	2.8	50.4	.077	2.89
26	3.0	54.0	.055	2.06
27	3.2	57.6	.040	1.50
28	3.4	61.2	.029	1.09
29	3.6	64.8	.021	0.79
30	3.8	68.4	.015	0.56
31	4.0	72	.011	0.41
32	4.5	81	.005	0.19
33	5.0	90	.000	0

Basin Length = 1950 ft
Avg. Basin Slope = 0.0076

PLATE 22.2 F-1

0000 0000 0125

DMJM ALBUQUERQUE	PROJECT: Kathrine Nichole Amenities Park Drainage Revisions	PROJECT NO.: 6431.00	PAGE: 8
		BY: MK / DATE: 9-27-98	
SUBJECT			

Maximum Allowable Flow (Q_1) at point 13. (64TH + Milne)

Street Slope = 0.003
Maximum Allowable depth = 0.87 ft.
Street Width = 32 ft.

From DPM Vol #2 Plate 22.3 D-1 $\Rightarrow$ $Q_A = 64$ cfs

Lag Time From Point 10 to Point 13 (67TH + Cleghorn to 64TH + Milne)

Avg. Street Slope = 0.003
Length = 1500 ft.

$T_c = .0078 \frac{L^{0.77}}{S^{0.385}}$

T_c = 20 minutes

Q_{100} Pt. 13 = Basin I + (Basin II-A + II B lagged 20 minutes)

Q_{100} = 39.39 + 26.24 + 37.54

Q_{100} = 103.17 cfs @ 38 minutes (point 13)

103 > 64

∴ Since $Q_{100\,PT\,13} > Q_{A\,PT\,13}$ The Kathrine Nichole Amenities Park and Detention Pond is required.

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DMJM ALBUQUERQUE	PROJECT: Kathrine Nichole Amenities Park	PROJECT NO.: 6431.00	PAGE: 9
		BY: MK / DATE: 9-29-99	
SUBJECT			

Pond Inlet Design

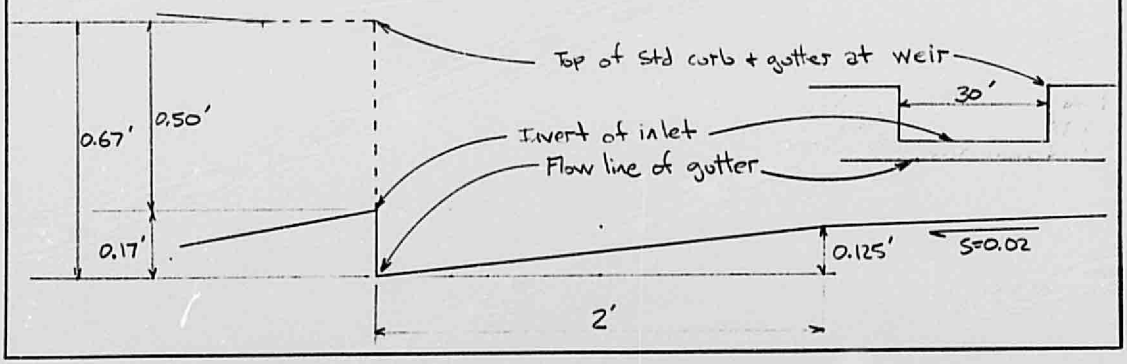
Armand Road Inlet

Q_{100} = 37.54 cfs
Λ = 0.017
S_b = 0.004
Street width = 32 ft w/ 2% superelevation towards inlet + std. curb + gutter

From DPM Vol #2 Plate 22.3 D-4
@ Q_{100} = 37.54 cfs
d_{100} = 0.82 ft.
V_{100} = 2.7 fps

Assumptions:
1.) Pond inlet acts as a rectangular broad crested weir (C = 3.0)
2.) Since the depth of flow will be decreasing accross the face of the weir flow through the weir will be calculated in length increments of one foot. Depth increments corresponding to the normal street depth for the given flow rate will be taken from DPM Vol #2 Plate 22.3 D-4.

Typical Pond Inlet Section



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DMJM ALBUQUERQUE	PROJECT: Kathrine Nichole Amenities Park	PROJECT NO.: 6431.00	BY: MK	DATE: 9-29-88	PAGE: 10

SUBJECT: Armand Road Inlet Calculations

Weir Length L_w (ft.)	Flow Past Weir $Q_{i+1} = Q_i - Q_{wi}$	Normal depth in street DPM Plt. 22.3 D-4 d	d - 0.17 H	Flow Through Weir $Q = CLH^{1.5}$ (C = 3.0)
1	37.54	0.82	0.65	1.57
2	35.97	0.81	0.64	1.54
3	34.43	0.80	0.63	1.50
4	32.93	0.79	0.62	1.46
5	31.47	0.77	0.60	1.39
6	30.08	0.76	0.59	1.36
7	28.72	0.75	0.58	1.33
8	27.39	0.74	0.57	1.29
9	26.10	0.73	0.56	1.26
10	24.84	0.72	0.55	1.22
11	23.62	0.70	0.53	1.16
12	22.46	0.69	0.52	1.12
13	21.34	0.68	0.51	1.09
14	20.25	0.67	0.50	1.06
15	19.19	0.66	0.49	1.03
16	18.16	0.65	0.48	1.00
17	17.16	0.63	0.46	0.94
18	16.22	0.62	0.45	0.91
19	15.31	0.60	0.43	0.85
20	14.46	0.59	0.42	0.82
21	13.64	0.58	0.41	0.79
22	12.85	0.57	0.40	0.76
23	12.09	0.56	0.39	0.73
24	11.36	0.55	0.38	0.70
25	10.66	0.54	0.37	0.68
26	9.98	0.53	0.36	0.65
27	9.33	0.52	0.35	0.62
28	8.71	0.51	0.34	0.59
29	8.12	0.49	0.32	0.54
30	7.58	—	—	—

∴ Total Flow into weir (Q_w) = 29.96 cfs

Total Flow in street downstream of weir (Q_s) = 7.58 cfs

25×

DMJM ALBUQUERQUE	PROJECT: Kathrine Nichole Amenities Park	PROJECT NO.: 6431.00	PAGE: 11
		BY: MK / DATE: 9-29-88	
SUBJECT			

Cleghorn Road Inlet

Q_{100} = 26.24 cfs
Λ = 0.017
S_o = 0.008
Street width = 32 ft. w/ 2% superelevation towards inlet + std curb + gutter
From DPM Vol #2 Plate 22.3 D-4
@ Q_{100} = 26.24 cfs
d_{100} = 0.65 ft
V_{100} = 3.4 fps

Assumptions:
Same as for Armand Road inlet.

Typical Pond Inlet Section:

Same as for Armand Road inlet.

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DMJM ALBUQUERQUE	PROJECT: Kathrine Nichole Amenities Park	PROJECT NO.: 6431.00	PAGE: 12
		BY: NK	DATE: 9-29-38

SUBJECT: Cleghorn Road Inlet Calculations

Weir Length L_w (ft)	Flow Past Weir $Q_{i+1} = Q_i + Q_{wi}$	Normal depth in street DPM Ft. 22.3 D-4 d (ft.)	d − 0.17 H (ft.)	Flow Through Weir $Q = CLH^{1.5}$ (C = 3.0)
1	26.24	0.65	0.48	1.00
2	25.24	0.64	0.47	0.97
3	24.27	0.63	0.46	0.94
4	23.33	0.62	0.45	0.91
5	22.42	0.61	0.44	0.88
6	21.54	0.60	0.43	0.85
7	20.69	0.60	0.43	0.85
8	19.84	0.59	0.42	0.82
9	19.02	0.58	0.41	0.79
10	18.23	0.57	0.40	0.76
11	17.47	0.56	0.39	0.73
12	16.74	0.55	0.38	0.70
13	16.04	0.55	0.38	0.70
14	15.34	0.54	0.37	0.68
15	14.66	0.53	0.36	0.65
16	14.01	0.53	0.36	0.65
17	13.36	0.52	0.35	0.62
18	12.74	0.51	0.34	0.59
19	12.15	0.50	0.33	0.57
20	11.58	0.49	0.32	0.54
21	11.04	0.48	0.31	0.52
22	10.52	0.48	0.31	0.52
23	10.00	0.47	0.30	0.49
24	9.51	0.46	0.29	0.47
25	9.04	0.46	0.29	0.47
26	8.57	0.45	0.28	0.44
27	8.13	0.44	0.27	0.42
28	7.71	0.44	0.27	0.42
29	7.29	0.43	0.26	0.40
30	6.89	-	-	-

∴ Total Flow into weir (Q_w) = 19.35 cfs

Total Flow in street down stream of weir (Q_s) = 6.89

6.89
7.58
14.47 Total
By PBSD

25×

HYDROGRAPH COMPUTATION WORKSHEET

DATE 9-30-98
COMPUTED BY MK
CHECK BY

Basin IIA + IIB - Flow Not Entering Pond Job # 6431.00

PROJECT Kath. Nichole Amenities Park

LOCATION 67TH + Cleghorn

ANALYSIS POINT # 10

(DR. AREA) A = 26.76 ACRES

T_c 18 MIN

POINT RAINFALL ___ IN. FROM PLATE 22.2 D-1

CN = ___ FROM PLATES 22.2 C-2, 22.2 C-3

RUNOFF VOLUME R = ___ IN. FROM PLATE 22.2 C-4

COMPUTED T_p = ___ MIN. ($T_p = T_c$)
(Rounded to even minute)

$q_p = \frac{45.4A}{T_p}$ = ___ CFS./INCH OF RUNOFF

~~$(R \times q_p)$~~ = Q_{peak} = 14.47 ✓ CFS

t(COLUMN)=(t/T_p) $t=T_p(t/T_p)$

$y = \frac{Q}{Q_{peak}}$ $Q = y(Q_{peak})$

	(t/T_p)	t (min.)	y	Q (cfs)
1	0	0	0	0
2	.1	1.8	.03	0.43
3	.2	3.6	.10	1.45
4	.3	5.4	.190	2.75
5	.4	7.2	.310	4.49
6	.5	9.0	.470	6.80
7	.6	10.8	.660	9.55
8	.7	12.6	.820	11.87
9	.8	14.4	.930	13.46
10	.9	16.2	.990	14.33
11	1.0	18	1.00	14.47
12	1.1	19.8	.990	14.33
13	1.2	21.6	.930	13.46
14	1.3	23.4	.860	12.44
15	1.4	25.2	.780	11.29
16	1.5	27	.680	9.84
17	1.6	28.8	.560	8.10
18	1.7	30.6	.460	6.66
19	1.8	32.4	.390	5.64
20	1.9	34.2	.330	4.78
21	2.0	36	.280	4.05
22	2.2	39.6	.207	3.00
23	2.4	43.2	.147	2.13
24	2.6	46.8	.107	1.55
25	2.8	50.4	.077	1.11
26	3.0	54	.055	0.80
27	3.2	57.6	.040	0.58
28	3.4	61.2	.029	0.42
29	3.6	64.8	.021	0.30
30	3.8	68.4	.015	0.22
31	4.0	72	.011	0.16
32	4.5	81	.005	0.07
33	5.0	90	.000	0

PLATE 22.2 F-1

HYDROGRAPH COMPUTATION WORKSHEET

DATE 10-6-93
COMPUTED BY MK
CHECK BY _____

Basin IIA + IIB - Flow Entering Pond

PROJECT Koth. Nichole Amenities Park

LOCATION 67TH + Cleghorn

ANALYSIS POINT # 10

(DR. AREA) A = 26.76 ACRES

T_c 18 MIN

POINT RAINFALL ___ IN. FROM PLATE 22.2 D-1

CN = _____ FROM PLATES 22.2 C-2, 22.2 C-3

RUNOFF VOLUME R = ___ IN. FROM PLATE 22.2 C-4

COMPUTED T_p = _____ MIN. (Rounded to even minute) $T_p = T_c$

$q_p = \frac{45.4A}{T_p}$ = _____ CFS./INCH OF RUNOFF

(~~R X q_p~~) = Q_{peak} = 49.31 CFS

t(COLUMN)=(t/T_p) $t=T_p(t/T_p)$

$y = \frac{Q}{Q_{peak}}$ $Q = y(Q_{peak})$

	(t/T_p)	t (min.)	y	Q (cfs)
1	0	0	0	0
2	.1	1.8	.03	1.48
3	.2	3.6	.10	4.93
4	.3	5.4	.190	9.37
5	.4	7.2	.310	15.29
6	.5	9	.470	23.18
7	.6	10.8	.660	32.54
8	.7	12.6	.820	40.43
9	.8	14.4	.930	45.86
10	.9	16.2	.990	48.82
11	1.0	18	1.00	49.31
12	1.1	19.8	.990	48.82
13	1.2	21.6	.930	45.86
14	1.3	23.4	.860	42.41
15	1.4	25.2	.780	38.46
16	1.5	27	.680	33.53
17	1.6	28.8	.560	27.61
18	1.7	30.6	.460	22.68
19	1.8	32.4	.390	19.23
20	1.9	34.2	.330	16.27
21	2.0	36	.280	13.81
22	2.2	39.6	.207	10.21
23	2.4	43.2	.147	7.25
24	2.6	46.8	.107	5.28
25	2.8	50.4	.077	3.80
26	3.0	54	.055	2.71
27	3.2	57.6	.040	1.97
28	3.4	61.2	.029	1.43
29	3.6	64.8	.021	1.04
30	3.8	68.4	.015	0.74
31	4.0	72	.011	0.54
32	4.5	81	.005	0.25
33	5.0	90	.000	0

PLATE 22.2 F-1

0000 0000 0132

DMJM ALBUQUERQUE	PROJECT: Kathrine Nichole Amenities Park	PROJECT NO.: 6431.00	BY: MK	DATE: 10-4-99	PAGE: 15
SUBJECT:					

Pond Routing by the Storage Indication Method

$$I_n + I_{n+1} + \left(\frac{2S_n}{\Delta t} - O_n\right) = \frac{2S_{n+1}}{\Delta t} + O_{n+1}$$

Δt = 3.6 minutes Outflow (O) is at Analysis Point 10

time (t) (min)	n	I_n (cfs)	$I_n + I_{n+1}$ (cfs)	$\frac{2S_n}{\Delta t} - O_n$ (cfs)	$\frac{2S_{n+1}}{\Delta t} + O_{n+1}$ (cfs)	O_{n+1} (cfs)
0	1	0	4.93	0	-	0
3.6	2	4.93	20.22	4.03	4.93	0.45
7.2	3	15.29	47.83	23.23	24.25	0.51
10.8	4	32.54	78.40	69.84	71.06	0.61
14.4	5	45.86	95.17	146.76	148.24	0.74
18	6	49.31	95.17	240.19	241.93	0.87
21.6	7	45.86	84.32	333.39	335.36	0.99
25.2	8	38.46	66.07	415.54	417.70	1.08
28.8	9	27.61	46.84	479.33	481.61	1.14
32.4	10	19.23	19.23	523.79	526.17	1.19
36	11	~~13.84~~ 0	0	540.62	543.02	1.20
39.6	12	~~10.21~~ 0	0	538.22	540.62	1.20
43.2	13	~~7.25~~ 0	0	535.82	538.22	1.20
46.8	14	~~5.29~~ 0	0	533.42	535.82	1.20
50.4	15	~~3.82~~ 0	0	531.04	533.42	1.19
54	16	~~2.71~~ 0	0	528.66	531.04	1.19
57.6	17	~~1.97~~ 0	0	526.28	528.66	1.19
61.2	18	~~1.43~~ 0	0	523.90	526.28	1.19
64.8	19	~~1.04~~ 0	0	521.54	523.90	1.18
68.4	20	~~0.74~~ 0	0	519.18	521.54	1.18
72	21	~~0.54~~ 0	0	516.82	519.18	1.18
75.6	22	~~0.43~~ 0	0	514.46	516.82	1.18
79.2	23	~~0.32~~ 0	0	512.12	514.46	1.17
82.8	24	~~0.22~~ 0	0	509.78	512.12	1.17
86.4	25	~~0.11~~ 0	0	507.44	509.78	1.17
90	26	0	0	505.10	507.44	1.17
93.6	27	0	0	502.78	505.10	1.16
97.2	28	0	0	500.46	502.78	1.16
100.8	29	0	0	498.10	500.46	1.16
104.4	30	0	0	495.78	498.10	1.16

DMJM ALBUQUERQUE	PROJECT: Kathrine Nichole Amenities Park	PROJECT NO.: 6431.00	BY: MK	DATE: 10-4-88	PAGE: 16

SUBJECT

Pond Outflow (O) : $CA(2gH)^{1/2}$ where C = 0.595
A = Cross Sectional Area of Flow
H = dist from WS to center of flow

Pond Storage (S) : $0' \le d \le 0.50'$ $S = 1000\,d$
$0.5' \le d$ $S = 41550\,(d-0.50) + 500$ } d = depth from invert to WS

Elev. (ft)	Pond Depth @ Pipe Invert d (ft)	O_{n+1} (cfs)	S_{n+1} (CF)	Δt (sec)	$\frac{2S_{n+1}}{\Delta t} + O_{n+1}$	$I_n + I_{n+1} + \left(\frac{2S_n}{\Delta t} - O_n\right)$
13.80	0	0	0	216	0	0
14.284	0.484	0.45	484		4.93	4.93
14.35	0.550	0.51	2563		24.245	24.25
14.471	0.671	0.61	7609		71.06	71.06
14.671	0.871	0.74	15930		148.24	148.24
14.915	1.115	0.87	26034		241.93	241.93
15.157	1.357	0.99	36112		335.36	335.36
15.37	1.571	1.08	44995		417.70	417.70
15.537	1.737	1.14	51991		481.61	481.61
15.653	1.823	1.19	56698		526.17	526.17
15.70	1.90	1.20	58516		543.02	543.02

At WS Elevation 15.70 the pond is filled completely to the invert of the Cleghorn Road inlet.

Assume :

1.) No additional flow enters the pond beyond 36 minutes.
2.) All flow entering the pond beyond 36 minutes is the Basin IIA + IIB - Flow Entering Pond will be added to the Basin IIA+IIB - Flow Not Entering Pond Hydrograph.

0000 0000 0134

DMJM ALBUQUERQUE	PROJECT: Kathrine Nichole Amenities Park	PROJECT NO.: 6431.00	BY: MK	DATE: 10-6-98	PAGE: 17

SUBJECT

Adjusted Basin IIA + IIB Hydrograph - Flow Not Entering Pond
Analysis Point 10 (67TH + Cleghorn)

Time (sec)	Flow (cfs)
0	0
1.8	0.43
3.6	1.45
5.4	2.75
7.2	4.49
9.0	6.80
10.8	9.55
12.6	11.97
14.4	13.46
16.2	14.33
18.0	14.47
19.8	14.33
21.6	13.46
23.4	12.44
25.2	11.29
27.0	9.84
28.8	8.10
30.6	6.66
32.4	5.64
34.2	4.78
36.0	4.05
39.6	13.21
43.2	9.38
46.8	6.83
50.4	4.91
54.0	3.51
57.6	2.55
61.2	1.85
64.8	1.34
68.4	0.96
72.0	0.70
81.0	0.32
90.0	0

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DMJM ALBUQUERQUE	PROJECT: Kathrine Nichole Amenities Park	PROJECT NO.: 6431.00	BY: MK	DATE: 10-6-98	PAGE: 18

SUBJECT

Total Hydrograph at Analysis Point 13 (64TH + Milne)

Adjusted Basin IIA + IIB Hydrograph - Flow Not Entering Pond lagged 20 minutes + Pond Outflow Hydrograph lagged 20 minutes + Basin I Hydrograph.

Time (sec)	Basin I	Adj. Basin IIA+IIB	Pond outflow	Σ
0	0	0	0	0
3.5	1.19	0	0	1.19
7.0	3.97	0	0	3.97
10.5	7.55	0	0	7.55
14.0	12.31	0	0	12.31
17.5	18.67	0	0	18.67
21.0	26.22	0.43	0.11	26.76
24.5	32.57	2.10	0.45	35.12
28.0	36.94	5.15	0.51	42.60
31.5	39.33	10.71	0.61	50.65
35.0	39.72	14.05	0.74	54.51
38.5	39.33	14.47	0.87	54.67 →
42.0	36.94	13.45	0.99	51.38
45.5	34.16	11.29	1.08	46.53
49.0	30.98	8.10	1.14	40.22
52.5	27.01	5.64	1.19	33.84
56.0	22.24	4.05	1.20	27.49
59.5	18.27	13.21	1.20	32.68
63.0	15.49	9.38	1.20	26.07
66.5	13.11	6.83	1.20	21.14
70.0	11.12	4.91	1.19	17.22
77.0	8.22	2.55	1.19	11.96
84.0	5.84	1.50	1.18	8.52
91.0	4.25	0.75	1.18	6.18
98.0	3.06	0.51	1.18	4.75
105.0	2.18	0.16	1.17	3.51
112.0	1.59	0	1.17	2.76
119.0	1.15	0	1.16	2.31
126.0	0.83	0	1.16	1.99
133.0	0.60	0	1.15	1.75
175.0	0	0	1.1	1.1

Q_{Max} = 54.67 cfs @ 38.5 minutes @ Analysis Point 13 (64TH + Milne)

∴ From DPM Vol # 2 Plate 22.3 D-1 street depth = 0.93 feet < 0.97' ok ✓

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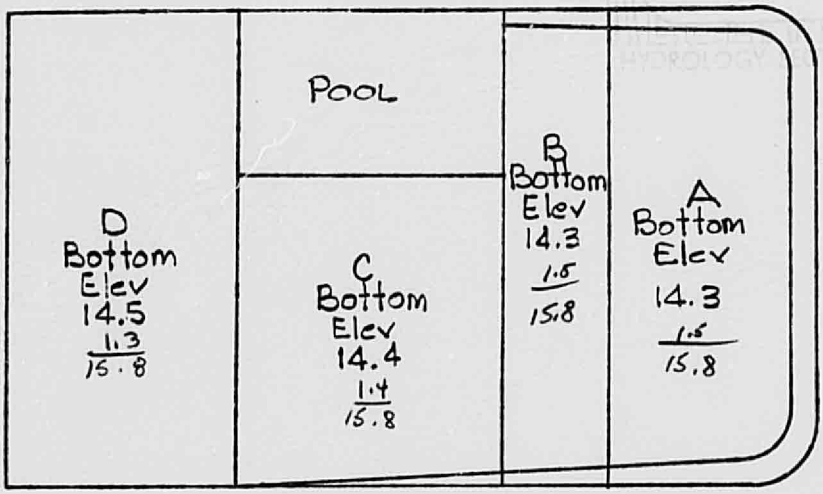
DMJM ALBUQUERQUE	PROJECT: PRESIDO VILLA AMENITY PARK	PROJECT NO.	PAGE
		BY: Lee / DATE: 7/20/87	

SUBJECT: As Built Pond Volume

Refer to page B-1 of the drainage report (G10/D2A)



Area 'A' Top (174)(66) = 11,484 ; Bottom (160)(58) = 9,280
'B' Top (175)(46) = 8,050 ; Bottom (162)(46) = 7,452
'C' Top (122)(105) = 12,810 ; Bottom (114)(105) = 11,970
'D' Top (190)(88) = 16,720 ; Bottom (180)(82) = 14,760

Volume (depth)
A = (11,484 + 9,280)/2 (1.5) = 15,573
B = (8,050 + 7,452)/2 (1.5) = 11,626
C = (12,810 + 11,970)/2 (1.4) = 17,346
D = (16,720 + 14,760)/2 (1.3) = 20,462

Total 65,007 Cu. Ft.

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KEN SCHULTZ
MAYOR

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

November 2, 1988

Mike Kibbee
DMJM
6501 Americas Parkway NE
Suite 690
Albuquerque, NM 87110

RE: REVISION TO KATHERINE NICHOLE DRAINAGE REPORT, PRESIDO VILLA AMENITY PARK, RECEIVED OCTOBER 13, 1988, FOR POND RUNDOWN REVISION. (G-10/D2A)

Dear Mr. Kibbee:

The above referenced submittal dated 10/13/88 is approved for construction of the modification to the existing detention pond rundown. Prior to any construction, I recommend that these Plans be reviewed with the Homeowners Association and neighborhood to see if their concerns are being adequately addressed.

The contractor must obtain an Excavation Permit prior to any construction within the City's right-of-way.

An issue that is not addressed with this submittal is the problem of the outlet pipe getting plugged. This will continue to be a maintenance problem until some type of trash guard is installed to keep cans and 'hand-placed' rocks from plugging the pipe.

If you have any questions call me at 768-2650

Cordially;

Roger A. Green, PE

Roger A. Green, P.E.
C.E./ Hydrology Section

xc: Mark Hamil, US Home
Lenny Lovato, 6729 Cleghorn, NW
Mike Ciesielski, Mayor's office

RAG/(WP+384)

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X.C.

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

Ken Schultz
Mayor

UTILITY DEVELOPMENT DIVISION
HYDROLOGY SECTION
(505) 768-2650

October 12, 1987

Jean J. Bordenave, P.E.
DMJM
5100 Harper Drive NE
Suite 280
Albuquerque, New Mexico 87109

Mark Hamil
U.S. Homes Corporation
7100 Cisco Road NW
Albuquerque, New Mexico 87120

RE: ENGINEER'S CERTIFICATION OF PRESIDO VILLA AMENITY PARK, KATHERINE NICHOLE SUBDIVISION, RECEIVED SEPTEMBER 29, 1987 FOR FINAL SITE PLAN ACCEPTANCE
(G-10/D2A) DRB CASE NUMBER 86-141, EPC NUMBER ZA-86-58

Dear Mr. Bordenave/Mr. Hamil:

After review of the above referenced submittal and an on-site visit on October 14, 1987, I find that the constructed recreational facility is not acceptable. The submitted as-built drawing failed to show the following deficiencies:

1. Concrete slope paving is not in place on the Northwest and Southwest corners as the Site Plan required.

2. Ground cover materials used are not in compliance with the approved Site Plan.

3. Run-off water is being ponded in the west end of the park due to the concrete curbing and walkways being constructed higher that the adjacent area, and due to the fact that plastic liner was installed under the crushed stone ground cover.

4. The berm around the park has not been grassed as shown on the Site Plan but was covered with stone, which makes for a nuisance and safety hazard on the public sidewalks adjacent to the berm.

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5. A pile of crushed stone is blocking the concrete curb cut and rundown on Armand Street and must be removed.

6. Bushes and trees have not been planted as required by the Site Plan.

The most critical item of concern is the use of plastic under the stone ground cover. This detention basin was designed with minimal slope from the west end toward the outlet, therefore it is critical that the type of ground cover used be conducive to water infiltration. The use of plastic liner has the opposite affect and therefore must be removed. If it is felt by the owners that a material is needed under the stone to prevent weed growth, then a landscape fabric must be used that allows water infiltration. This type of material is readily available in the Albuquerque area.

In regards to the other noted deficiencies, a copy of this memo is being provided to the Zoning Enforcement Officer and Planning Department for their review and follow up.

This office will not recognize the park construction as being acceptable until the plastic lining is removed and the rundown obstruction is removed.

If you have further questions call me at 768-2650.

Sincerely,

Roger A. Green, P.E.
Civil Engineer
Hydrology Section

RAG/lk

cc: Bob Romero, C.O.A. Zoning
Richard Dineen, C.O.A. Current Planning

0000 0000 0140

X.C.

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

Ken Schultz
Mayor

UTILITY DEVELOPMENT DIVISION
HYDROLOGY SECTION
(505) 768-2650

September 17, 1987

Jake Bordenave, P.E.
DMJM
5600 Harper Drive, NE Suite 280
Albuquerque, New Mexico 87109

RE: ENGINEER'S CERTIFICATION OF PRESIDIO VILLA AMENITY CENTER, KATHERINE-NICHOLE SUBDIVISION (G-10/D2A)

Dear Jake:

As of this date, we have not received an Engineer's Certification of the above referenced recreation area, as required for the Site Plan sign-off by the City Engineer. Please reference memos from this office dated June 6, 1986 to yourself, and from Mark S. Hamil dated June 18, 1986 to this office.

This outstanding commitment needs to be taken care of as soon as possible in order to document the as-built elevations of the grading and recreational structures.

Please inform this office why the Certification has not been provided and an expected date of compliance.

If you have any questions, call me at 768-2650.

Cordially,

Roger A. Green, PE

Roger A. Green, P.E.
C.E./Hydrology Section

cc: Mark Hamil, US Homes

RAG/bsj

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X. C

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

DESIGN HYDROLOGY SECTION
123 Central NW, Albuquerque, NM 87102
(505) 766-7644

June 6, 1986

Jake Bordenave, PE
DMJM
5600 Harper Drive NE, Suite 280
Albuquerque, NM 87109

REF; SITE PLAN SIGN-OFF OF PRESIDO VILLA AMENITY PARK, KATHERINE NICHOLE SUBDIVISION (G10/D2A)

Dear Jake:

As discussed and agreed to today by yourself and Fred Aguirre, the above referenced Site Plan was signed off with the understanding that the final grading and recreational structure elevations will be certified by the owner's engineer. Sheet 1 of 3 of the Site Plan dated 1/29/86 is approved as the Grading Plan to be constructed. The existing agreement and drainage easement for the park is adequate as the required Encroachment Agreement. Recreation Facilities will be permitted and inspected through Code Administration.

It is expected that the owner will concur with this by letter to this office.

If you have any questions, call me at 766-7644.

Sincerely,

Roger A. Green, PE

Roger A. Green, PE
CE/Hydrology

RAG:mrk

cc: Adolph Frank, U.S. Home, 7015 Cisco Road NW, Albuquerque, NM

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X.C

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

DESIGN HYDROLOGY SECTION
123 Central NW, Albuquerque, NM 87102
(505) 766-7644

May 13, 1986

Lee Bell
DMJM
5600 Harper Drive, NE Suite 280
Albuquerque, New Mexico 87109

RE: DRAINAGE PLAN SUBMITTAL OF PRESIDO VILLA AMENITY PARK, KATHERINE NICHOLE SUBDIVISION FOR SITE DEVELOPMENT PLAN APPROVAL RECEIVED MAY 1, 1986 (G-10/D2A)

Dear Lee:

The above referenced submittal, dated January 29, 1986, is approved for Site Development Plan approval. DRB may require the new Easement Agreement be executed prior to Site Plan sign-off.

If you have any questions, call me at 766-7644.

Cordially,

Roger A Green PE

Roger A. Green, P.E.
C.E./Hydrology Section

cc: U.S. Homes
7015 Cisco Road, NW

RAG/bsj

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x-tra

City of Albuquerque

X.C

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

DESIGN HYDROLOGY SECTION
123 Central NW, Albuquerque, NM 87102
(505) 766-7644

February 25, 1986

Lee Bell
DMJM/Adam, Hamlyn, Anderson
5600 Harper Drive, NE Suite 280
Albuquerque, New Mexico 87109

RE: GRADING PLAN SUBMITTAL OF PRESIDO VILLA AMENITY PARK RECEIVED JANUARY 28, 1986 FOR SITE DEVELOPMENT PLAN APPROVAL (G-10/D2A)

Dear Lee:

I have reviewed the above referenced submittal and have the following comment to be addressed before further review and approval.

Page 2 of Appendix A, under part 2 of Agreement and Grant of Drainage Easement states that pond shall have ". . . a maximum reservoir water depth of no more than one and one-half (1½) feet" . . . Appendix B calculations assume depths varying from 1.9' to 2.3'.

Any revised site plans for the easement area must comply with the original agreement, unless a new agreement is executed.

If you have any questions, call me at 766-7644.

Cordially,

Roger A. Green, PE

Roger A. Green, P.E.
C.E./Design Hydrology

RAG/bsj

cc: Standard Letter to:

U.S. Homes
7015 Cisco Road, NW

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EXISTING AGREEMENT

85 15315

326

AGREEMENT AND GRANT OF
DRAINAGE EASEMENT

This Agreement and Grant of Drainage Easement is made and executed this 26th day of February, 1985, by and between U.S. Homes and Roberson Construction Company, Inc. (hereinafter referred to as "Grantors"), and the City of Albuquerque, New Mexico, a municipal corporation (hereinafter referred to as "Grantee").

WHEREAS, Grantors are the owners and lawfully seized of certain real property located within the Katherine Nichole Addition, a Subdivision within Bernalillo County, New Mexico, and more particularly described as follows:

> Lots 21 thru 38 of Block 4, KATHERINE NICHOLE ADDITION as designated on the plat of said addition filed in the Office of County Clerk, Bernalillo County, New Mexico, on Jan. 6, 1981, in Volume: C17 Folio: 171;

and

WHEREAS Grantee wishes to use certain portions of said property for the detention of public drainage waters and Grantors wish to use other portions for recreational purposes; and

WHEREAS Grantors are agreeable to the contemplated multi-purpose use of the property;

NOW, THEREFORE, IN CONSIDERATION of the above and for other good and valuable consideration, receipt of which is acknowledged,

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the parties hereby agree as follows:

1. Grantors hereby give, grant, and convey to Grantee an easement upon and across the above-described property for the purpose of the detention of public surface drainage waters, together with the right to enter said property to inspect the easement property as necessary and the further right to remove, at Grantors' expense, any obstacles which interfere with the use and operation of the property as a public drainage water detention reservoir.

2. Grantors have constructed drainage reservoir and facilities in accordance with standards, plans, and specifications as prescribed and approved by the City and the construction has been approved by the City. Grantee agrees that Grantors may make concurrent use of the property for recreational purposes, provided that Grantors shall at all times maintain a ponding volume of not less than ninety-six thousand five hundred (96,500) cubic feet, with a minimum bottom elevation of at least two (2) inches above the gutter elevation at the detention reservoir outlet and a maximum reservoir water depth of no more than one and one-half (1 1/2) feet, and otherwise comply with all drainage conditions depicted on the attached Exhibit A. Grantors' concurrent use of the property for recreational purposes shall in no way interfere with Grantee's

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use of the property for public drainage purposes as granted herein.

3. The Grantors agree to defend, indemnify, and hold harmless, the Grantee, its officials, agents, and employees from and against any and all claims, actions, suits, or proceedings of any kind brought against said parties for or on account of any matter arising from the drainage facility provided for herein or the Grantors' failure to construct, maintain, or modify the drainage facility under this Agreement. Grantee shall not be liable for any damages accruing to Grantors resulting from the construction, maintenance or modification of said public drainage reservoir.

4. This Agreement and the property rights granted herein shall remain in full force and effect until released in writing by Grantee. It is understood and agreed that the maintenance of said drainage facility is contemplated only so long as conditions require it, it being contemplated that the facility will be replaced by permanent storm sewer facilities included in the City's Master Plan for drainage for that area. When the facility is so replaced, this Agreement and the property rights granted herein will be released by an instrument in writing. If prior to the installation of such permanent facilities as contemplated by the

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Master Plan or any substitute therefor, the Grantors demonstrate to the reasonable satisfaction of the Grantee that downstream conditions warrant the release of this Agreement and the property rights granted herein, Grantee agrees to release this Agreement and all property rights granted herein by separate instrument.

EXECUTED this 26th day of February, 1985.

GRANTORS:

U.S. HOMES

By _____
Its Vice Pres. Project Manager

ROBERSON CONSTRUCTION COMPANY, INC.

By _____
Coda C. Roberson, President

GRANTEE:

CITY OF ALBUQUERQUE

By _____
Frank A. Kleinhenz
Chief Administrative Officer

RECOMMENDED:

_____ 2/22/85
C. Dwayne Sheppard
City Engineer

APPROVED AS TO FORM:

_____
Assistant City Attorney

ATTEST:

_____
City Clerk

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ACKNOWLEDGEMENTS

STATE OF NEW MEXICO)
) ss.
COUNTY OF BERNALILLO)

The foregoing instrument was acknowledged before me this 22ND day of FEBRUARY, 1985, by MIKE HAMILL of U.S. Homes.

Notary Public

My Commission Expires:
12/30/87

STATE OF NEW MEXICO)
) ss.
COUNTY OF BERNALILLO)

The foregoing instrument was acknowledged before me this 22ND day of FEBRUARY, 1985, by Coda C. Roberson, President of Roberson Construction Company, Inc.

Notary Public

My Commission Expires:
12/30/87

STATE OF NEW MEXICO)
) ss.
COUNTY OF BERNALILLO)

The foregoing instrument was acknowledged before me this 25th day of February, 1985, by Frank A. Kleinhenz, Chief Administrative Officer of the City of Albuquerque.

Notary Public

My Commission Expires:
2/12/87

STATE OF NEW MEXICO
COUNTY OF BERNALILLO
FILED FOR RECORD
1985 FEB 28 PM 2:53
DOLORES A. VALLEE

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

KEN SCHULTZ
MAYOR

May 12, 1989

Jean Jake Bordenave
Bordenave Designs
7100 Louisiana Boulevard, NE A-106
Albuquerque, New Mexico 87109

RE; CERTIFICATION FOR REVISION DONE TO PRESIDIO VILLA AMENITY PARK (G-10/D2A) ENGINEER'S STAMP DATED APRIL 17, 1989

Dear Mr. Bordenave:

Based on the information provided on your submittal of April 17, 1989 Certification for the referenced plan is acceptable.

If I can be of further assistance, please feel free to call me at 768-2650.

Cordially,

Bernie J. Montoya

Bernie J. Montoya, C.E.
Engineering Assistant

BJM/bsj
(WP+384)

AN EQUAL OPPORTUNITY EMPLOYER

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PRESIDO VILLA AMENITY PARK — G-10/D2A — 8/24/88 R. GREEN

Max Depth = 1.5'

$H = 0.7(1.5) = 1.05'$

Flare inlet: $X = \text{Log}\frac{H}{D} = \text{Log}\frac{1.05}{0.5} = 0.3222$

$y = 0.3446860254 + 1.284354159(x) - 1.056873998(x)^2 + 0.447787947(x)^3 + 0.2550990388(x)^4 - 0.2255933016(x)^5$

$= 0.2294$

$Q = \text{Anti Log } y\,(D)^{5/2}$

$= \text{Anti Log } (0.2294)(.5)^{5/2}$

$= 1.0979$ cfs

---

check orifice formula

$Q = CA\sqrt{2gh}$

$Q = (.7)(0.1963)\sqrt{2(32.2)(1.05}$

$= 1.13$ cfs

if $C = 0.6 \Rightarrow Q = 0.9688$ cfs

assume average outflow = 1.0 cfs

Volume to empty = 65,000 ft³

65000 secs = 1083.33 min = 18.0 hours

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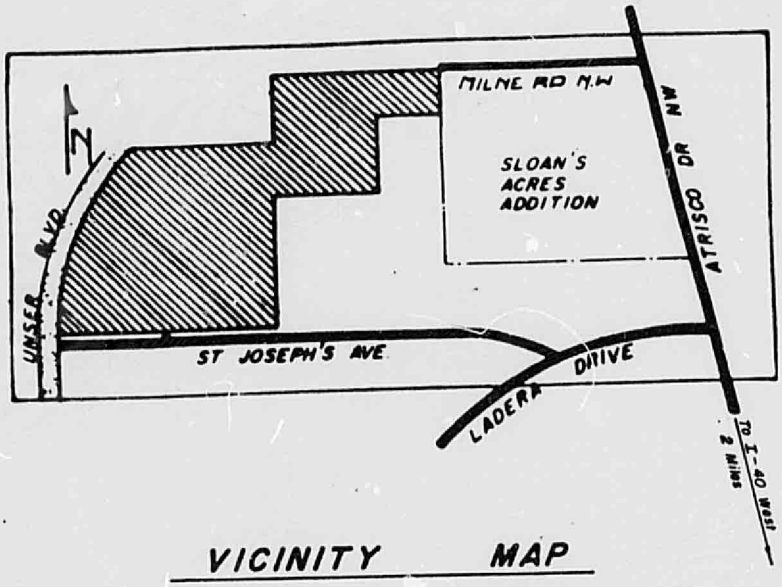
DRAINAGE STUDY



VICINITY MAP

KATHERINE-NICHOLE ADDITION

Roberson Construction Company

&

Coda Roberson And Son, Inc.

ZONE ATLAS MAP NOS. F10 & G10

ALBUQUERQUE, NEW MEXICO

RECEIVED
APR 22 1980
CITY ENGINEER

LEVERTON ENGINEERING, INC. March, 1980

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DRAINAGE STUDY

KATHERINE-NICOLE ADDITION

INTRODUCTION:

The study area is comprised of 115 acres on the west mesa of Albuquerque located immediately north of Ladera Heights Addition, west of Atrisco Road N W , and extending to the west beyond the lava escarpement.

Unser Boulevard, an arterial street proposed as a major North-South collector approximately bisects the property.

The 50 acres of land lying east of Unser Boulevard is planned for immediate development as "Katherine-Nicole Addition" and is the focus of this report.

The land situated in the western portion of the study area, from near the base of the escarpement, an area of about 37 acres, will be deeded to the City of Albuquerque for use as "open space."

The balance of the land, about 23 acres, located between the base of the escarpement and Unser Boulevard, will remain for future development or possible acquisition by the City for "open space."

UPLAND AND PRESENT SITE DRAINAGE:

Please refer to the attached drawing "Pre-Developed and Upland Drainage" which indicates the study area and surrounding land. The contours on this drawing are from City of Albuquerque topographic maps.

This drawing shows the boundary of Katherine-Nicole Addition, the proposed alignment of Unser Boulevard, the land to remain unplatted for the present, and the land to be deeded to the City of Albuquerque.

The drawing also shows the upland drainage basins and the existing storm water runoff patterns for the subdivision in the undeveloped state.

The development of Ladera Heights Subdivision, which borders Katherine-Nicole Addition on the south has effectively blocked the flow of storm water into the study area from the Riconada Arroyo and directed the flow to Ladera Retention Basin No. 15 which is the natural and historical ultimate destination of this flow. This development has also blocked the possible outflow of storm water accumulation from the playa area north of Ladera Heights and near the Town of Albuquerque Grant Boundary. This study will demonstrate that development of Katherine-Nicole Addition will relieve this unfavorable aspect of the construction at Ladera Heights by retaining and diverting the runoff into the

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playa from 126 acres of upland drainage area and directing it to Ladera Basin No. 16 which is also the historical point of ultimate discharge.

The study area is within Basins 15 and 16 as defined in the design report for the Ladera Storm Drainage Diversion and Detention System published by Boyle Engineering Corporation in June 1979. This area was termed the "Mirehaven System" previously. Please refer to Exhibit 1 on the following page which shows the study area imposed on a copy of a portion of Plate 25 of the referenced report.

Plate 25 is from the Ladera Facility Map prepared by Leverton/ Denney & Mac Cornack/Burns.

The runoff in Basin 16 in the undeveloped state accumulates in the two natural sumps within the basin shown on Plate 25. The Ladera System plan has been to detain storm water in these sumps until Basin 15 has been drained and then drain them to Basin 15.

A copy of the Inflow Hydrograph for Basin 16 is shown on the next succeeding page of this report as Exhibit 2. The inflow volume basin 16 was found to be 1,612,800 cubic feet. The basin contains 460 acres. This works out to a runoff (developed) of 3506 cubic feet per acre which supplies a meaningful base to compare to the developed runoff from the study area.

Drainage area "A", outlined on the attached drawing "Pre-Developed and Upland Drainage", is within Ladera Area 15 and outfalls to the existing Rinconoda Channel and to the Ladera Detention Basin # 15. This area will be unaffected by development of Katherine-Nicole Addition.

Drainage area "B", also outlined on the attached drawing contains an area of 126 acres which outfalls through the study area and through a playa to outfall to the "South Sump in Drainage area 16" of the Ladera System.

Drainage area "C", Comprises the easternmost section of the subdivision, contains 15 acres, and with principal drainage outfalling to Ladera System Basin # 16.

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ALBUQUERQUE METROPOLITAN ARROYO FLOOD CONTROL AUTHORITY

LADERA STORM DRAINAGE DIVERSION AND DETENTION FACILITY

INFLOW HYDROGRAPH #16

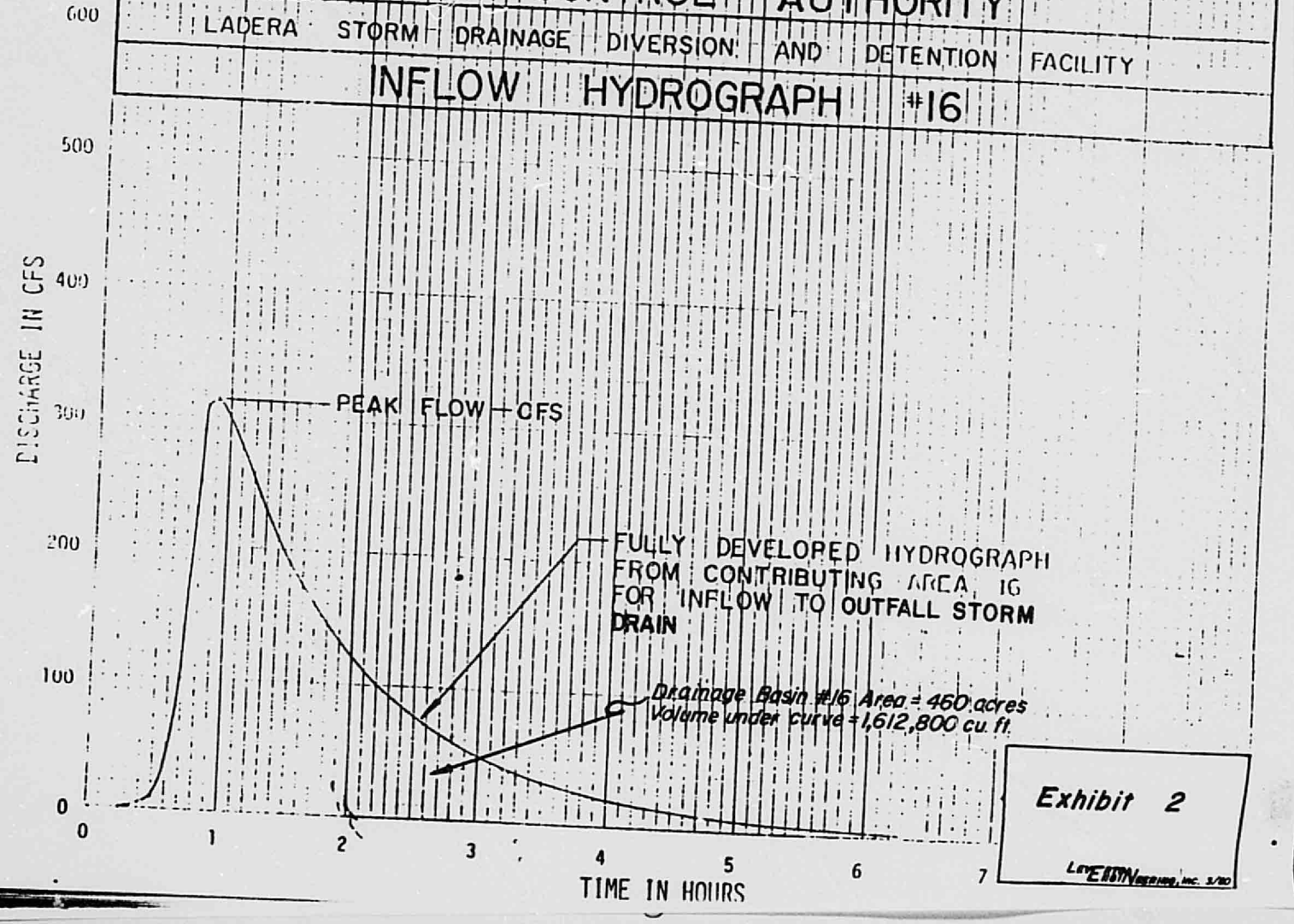

Exhibit 2

LEE ENGINEERING, INC. 3/80

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G10/D2A

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DEVELOPMENT OF RUN OFF QUANTITIES:

In analyzing the storm runoff to determine the runoff from the undeveloped and developed drainage areas, the Rational formula, Q-CIA, was used.

Where:

Q = Runoff quantity in cubic feet/second

A = Contributing area in acres

I = Intensity in inches/hour

For duration equal to the time of accumulation (duration) measured in minutes and obtained from Figure 11 - Intensity Duration Frequency Curve (Albuquerque Area - 1961). (Note: where a Time of Concentration, Tc, is less than 10 minutes, the intensity value of 10 minutes was used as shown on the curve for a 100 year storm.)

C = Runoff coefficient (no unit). This coefficient represents the combined effects of infiltration, detention storage, evaporation, retention, flow routing, and interception which all affect the time of concentration and peak rate of runoff.

For the proposed developed areas, it was desirable to develop a composite runoff coefficient based on the percentage of different types of surface in each sub-drainage area. Different coefficients with respect to surface types are as follows:

Streets, walks and driveways	C = 0.95
Roofs	C = 0.95
Lawn, Sandy Soils, Ave. 2 to 7% slope	C = 0.10

All front yards will be delivered to the individual buyers with developed grassed with a sprinkler system installed.

Parkways, between the sidewalks and the curb will be planted with "bubblers" installed.

The volume of run off from an area will be determined by the total precipitation from a 100 year - 6 hour storm = 2.2 inches, applied to the area, reduced by the factor c above, and adjusted for units.

V = (area in sq. ft.) (2.2) (c)/12 = cubic feet.

The precipitation from a 10 year - 6 hour storm = 1.4 inches, was used in this study to examine developed storage.

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UNDEVELOPED - AS EXISTING - DRAINAGE:

Volume of runoff from area "B" and "C", 100 year storm, at eastern line of Katherine-Nicole Addition:

= (141) (43560) (2.2) (0.22) / 12 = 247,200 cu. ft.

The factor "C" of 0.22 was selected to obtain a per acre volume of 1753 cu. ft. which is one-half of that shown in the Ladera System Report (3506) in which the coefficient of runoff was 0.50.

"Q" from drainage area "B", 100 year storm, at the west line of the Albuquerque Grant:

= (126) (0.22) (1.8) = 50 cfs

The time of concentration used to calculate I = 1.8 above:

First 1000' @ s = 0.012, over a sheet rock ground surface from nomograph: Ti = 9 minutes.

Thence 3000' @ s varying from 0.36 over a smooth rock surface to s = 0.025 over sand, calculated at V = 0.7 ft/sec.: T2 = 71 minutes Tc = 80 minutes; I = 1.8.

DRAINAGE MANAGEMENT PLAN:

Calculations and notes are shown in the appendix.

Please refer to attached drawing, "Drainage Plan," sheets 1 and 2, which shows the proposed plan and details of construction including grades and elevations for the streets, driveways, and lots. And to Exhibit 3 on the following page for lot grading details.

It is proposed to intercept the offsite drainage in retention basins immediately west of Unser Boulevard. The basins shown are a maximum of 3' deep and have a total, at overflow, volume of 200,000 cubic feet.

The basins will intercept an upland drainage area of 60 acres for a runoff of 144,000 cubic feet. An excess storage capacity of nearly 40% is thereby provided in the retention basins for a safety factor and to provide for loss of capacity by siltation. The referenced Ladera System Report suggests a sedimentation rate of 11 cu. ft. of sediment per acre of drainage basin per year. Applied to the basins above this would amount to about 6600 cubic feet in 10 years, or storage loss of 3%. The growth of native bushes and grasses will not impair the effectiveness of the basins.

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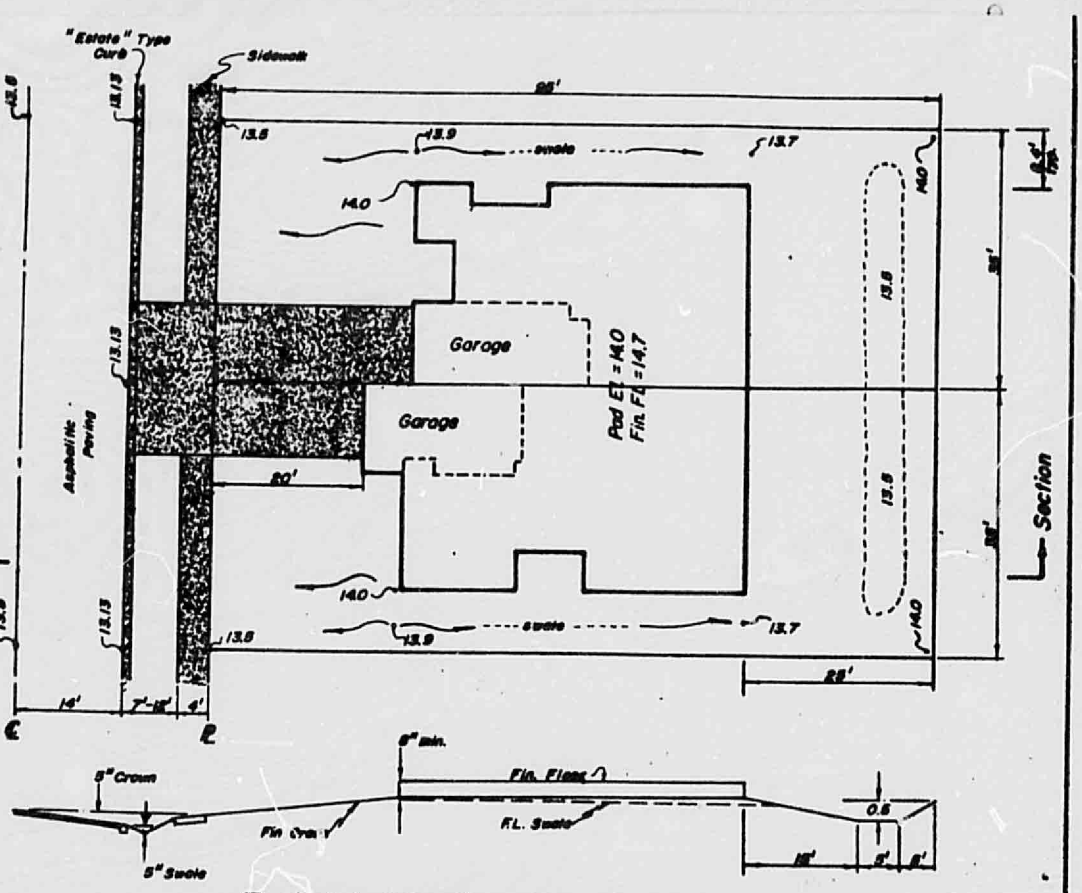

Typical Lot Grading — Plan & Section

N.T.S.

direction of flow

13.13 spot elevations (on grading plan)

Roof drains, "canales", discharge to side and rear.

Typical House, garage and flat work area = 1300 sq. ft.

Front yards are grass with sprinkler system. Front swales are landscaped with bubblers.

Rear Yard Retention: 100 year – 6 hour storm = 2.2 inches precipitation

1. Total drainage towards rear = $75' \times 35' = 2625\ ft^2$ $(\frac{4.4}{12}) = 481\ ft^3$
2. Rear yard = $2625 - 1300 = 1325\ ft^2$
3. Infiltration rate – "Sergent-Houskins & Beckwith" – 8" in 3 hours = 2.67 in./hr.
4. Storage requirements will peak in 60 minutes. Rear yard infiltration for 60 minutes =
   $1325 \times \frac{2.67}{48} = 295\ ft^3$
5. Volume required to contain 100 year storm = $481 - 295 = 186\ ft^3$
6. Volume furnished by typical section above = $280\ ft^3$
7. Comparison – typical lot as above to average lot, front of house to rear lot line:

   Typical = $\frac{1300\text{-house}}{2625\text{-total}} = 0.50$

   Average = $\frac{1300\text{-house}}{2901\text{-total}} = 0.45$

EXHIBIT 3

LEIGHTON & NEIL ENGINEERING, INC. 3/79

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It is reasonable to anticipate the development of Unser Boulevard will also intercept and divert upland flow to Ladera System Basins 15 and 16. The retention basins constructed as above may well be an integral part of the Unser Boulevard drainage management concept.

"Estate" type curb is planned for Katherine-Nicole Addition. This will result in a lowered, as compared to standard curb and gutter, coefficient of runoff factor for the street section; limits the longitudinal street flow of nuisance water and minor storms, And provides street side and within the right of way storage and infiltration areas.

The relatively high crown planned (5") will prevent the deposition of silt in the traffic lanes by moving it to the parkway areas between the curbs & and sidewalks. These areas will be landscaped and watering bubbles will be installed. Crown will be flattened at all intersections to increase the hydraulic section and to improve riding characteristics.

At 0% street grade the section proposed will provide 3 cubic feet of storage per foot on a 50' ROW and 5 cubic feet per foot on a 60' ROW. Storage decreases as the street grade increases.

Streets have been designed to minimum grades in order to increase the time of concentration and thereby decrease the "Q", to reduce runoff velocities and erosion, and to provide maximum street side storage.

Front yards will be planted with grass with sprinkler systems installed. The lawns will be fully developed before homes are delivered to the buyers. The front yard grades are designed to a safe minimum and finished floors are at a minimum of 8" above finish ground grade.

Homes will be built with roof drains discharging to the side yard and rear. Yards will be graded to drain toward the rear and will contain the 100 year storm.

DEVELOPED DRAINAGE:

Calculated "Q" at outfall from subdivision at intersection of Milne and 64th Streets = 31 cfs.

Volume to be discharged = 100,115 cubic feet.

SUMMARY:

1. "Q" - undeveloped - 50 cu. ft. /sec.
2. "Q" - developed - 31 cu. ft./sec.
3. Volume - undeveloped - 110,200 cu. ft.

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(Total volume in undeveloped state minus the volume to satisfy playa storage requirements.
247,200 - 137,000 = 110,200)

4. Volume at outfall - 100,115 cu. ft.
(directed to Ladera System Basin # 16)

Upland drainage is intercepted by retention basins.

Storm water flow into the playa near the Town of Albuquerque Grant line is intercepted by the subdivision. The present development of Ladera Heights, Flamingo Heights, and the construction of Katherine-Nicole Addition will prevent all upland drainage from entering the playa and the western fringe of Sloan's Acres Subdivision which are in a disadvantaged position from the drainage standpoint at the present state of development.

The overall coefficient of runoff "c" in Katherine-Nicole Addition after development is calculated as 0.25 which is less than that generally in use for the 100 year storm on undeveloped mesa areas. Developed storage further reduces runoff. The weighted average grades of the streets as planned is less than the existing slope of the ground.

LUSIONS:

The requirements of AMAFCA Resolution 1972-2 have been satisfied.

The volume of runoff into Ladera System Basin # 16 will be decreased. All other conditions prevailing in the Ladera System will remain unchanged.

The streets within the subdivision are adequate to convey the developed flow of storm water within their right-of-way.

Homes that will be built within the subdivision will not be flooded by a 100 year storm.

The depressed area immediately to the east of Katherine-Nicole Addition will no longer be subjected to the runoff of upland storm water.

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APPENDIX

Calculations & Notes

1.) Existing - predevelopment - upland run-off:

Uppermost reach , 1600' - rock @ surface - s = 0.012
then , 500' - rock - s = 0.36
finally , 1900' - sandy - s = 0.025

T_1 - first 1000' = 9 minutes from nomograph
T_2 - 3000' @ s = 0.06 & v = 0.7 ft/sec.

$$T_2 = \frac{3000}{(0.7)(60)} = 71 \text{ minutes}$$

$$I = \frac{189}{25 + 9 + 71} = 1.8$$

$$Q = (126)(0.22)(1.8) = \underline{50 \text{ cfs}}$$

2.) "Q" - developed - at subdivision outfall @ Milne @ 64th ST. :

Tabulation of Run-Off Factors

	West of 66th ST (50' R.O.W.)	66th ST & East (60' R.O.W.)
Paving & Curb	5.97 Ac	2.10 Ac
Sidewalks	0.92 Ac	0.39 Ac
Driveways	2.19 Ac	0.73 Ac
"C" = 0.95 Totals	9.08 Ac	3.22 Ac
Front Yards	4.41 Ac	1.95 Ac
Parkways	1.15 Ac	0.98 Ac

Areas shown do not include driveways

"C" = 0.1 Totals	5.56 Ac	2.93 Ac

Weighted slope & length of drainage route

0.0076 @ 2300' 0.0018 @ 1500'

Weighted total length & slope = $\frac{20.18}{3800}$ = 3800' @ 0.005 ft/ft

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APPENDIX

Total area drainage to and along streets = 20.8 acres plus 3.4 acres entering on 67th ST. and 0.2 acres at 71st ST.

$$c = \frac{(3.6 \times 0.5)(0.95)(9.08 + 3.22) + 0.10(5.56 + 2.93)}{24.4} = 0.58$$

Tc from nomograph = 59 minutes

$$1 = \frac{189}{59 + 25} = 2.25$$

$$Q = (24.4)(0.58)(2.25) = \underline{31 \text{ cfs}}$$

Note: This peak Q is less than the undeveloped Q of 50 cfs and the method used to calculate it is adequate for the purpose of this report. However, the Tc will decrease at full storage in the parkways while storage will, in turn, decrease the resultant peak.

3.) Volume of run-off - total at outfall @ Milne @ 64th ST.

$$\frac{(43560)(24.2)(0.60)(2.2)}{12} = \underline{116{,}915 \text{ ft}^3}$$

Storage

	West of 66th ST.	66th ST. & East
Length of Parkway exclusive of drives	10,005 ft	4,035 ft
Storage per foot at 0% grade	1.5 ft^3/ft	2.5 ft^3/ft
Storage per foot reduced for slope	0.75 ft^2/ft	2.3 ft^3/ft

- computed as to effect segments 50' in length.

Total storage = (0.75 x 10,005) + (2.3 x 4,035) = 16,800 f

Note: Volume outside of traffic lanes only shown.
Net volume from subdivision = 116,915 - 16,800 = $\underline{100{,}115 \text{ ft}^3}$

4.) Volume of existing depression near Town of Albuquerque Grant Line Outfall to NE to 64th ST.-elevation 5112.7 . Former outfall south to St. Joseph's Drive elev. 5112.5 . Areal extent of basin below elevation 5112.7 = 221,000 ft^2.

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APPENDIX

Weighted - intergrated - volume using a 100' grid system
221,000 x 0.62 = 137,000 ft
Data derived by field survey in October 1979.

5.) Adequacy of street section - Milne west of 64th ST.

Section below curb line: $\frac{(2)(0.42)(12)}{2} = 5.0\ ft^2/ft$

Section above curb line: $\frac{(2)(0.42)(16)}{2} = 6.7\ ft^2/ft$

$(2)(0.42)(14) = \frac{11.8\ ft^2/ft}{23.5\ ft^2/ft}$

$R = \frac{23.5}{52}$, $R^{2/3} = 0.59$; $s = 0.0017$, $s^{1/2} = 0.04$

$n = 0.020$, $\frac{1.486}{n} = 74.3$

$v = (74.3)(0.59)(0.04) = 1.75$ ft/sec

$Q = 41.2$ cfs

6.) Adequacy of street section - Cleghorn Rd from 67th to 66th ST.
No crown section.

Section below curb line: $\frac{(2)(0.42)(7)}{2} = 2.9\ ft^2/ft$

$(0.42)(42) = \frac{17.6\ ft^2/ft}{20.5\ ft^2/ft}$

$R = \frac{20.5}{42}$, $R^{2/3} = 0.62$; $s = 0.001$, $s^{1/2} = 0.03$

$n = 0.018$, $\frac{1.486}{n} = 82.6$

$v = 1.54$ ft/sec

$Q = 31.5$ cfs

Head required @ entrance to Milne Rd @ 67th ST. using $Q = CLH^{3/2}$ with C@ 2.6 & L = 42', and Q = 31 cfs, the peak flow for the entire subdivision:

$31 = (2.6)(42)(H^{3/2})$; H = 0.43' or 5"

and H @ exit from Milne Rd @ 66th ST. :

$31 = (2.6)(52)(H^{3/2})$; H = 0.37' or 4½"

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APPENDIX

Note: Top of sidewalk at property line is 5" above top curb elevation.

7.) Outfall on 64th ST. - 32' face to face of standard curb, s = 0.0025, 4" crown and calculated Q = 31 cfs.

$$\text{Area} = \frac{(2)(0.33)(16)}{2} + (0.33)(32) = 15.8 \text{ ft}^2$$

$$R = \frac{15.8}{33.3},\ R^{2/3} = 0.6;\ s^{1/2} = 0.05;\ \frac{1.486}{n},\ n = 0.017 = 87.4$$

v = 2.6 ft/sec , $Q = 41$ cfs

8.) Summary of factors used:
Exclusive of Unser Blvd.

	West of 66th ST. (329 lots) (50'R.O.W.)	66th ST. & East (122 lots) (60'R.O.W.)	Totals (451 lots)
Paving, curbs, sidewalks & driveways	9.08	3.22	12.30
Front yards & parkways	5.56	2.93	8.49
Rear yards incl. houses	21.28	8.55	29.83
Rear yards only	11.46	4.91	16.37
Street slope - weighted ave.	0.0076(6800')	0.0018(2730)	0.006(9530)

All areas expressed in acres
Average rear yard area = 1581 ft²

"C" (drainage to street) $= \frac{(12.30)(0.95) + (8.48)(0.1)}{20.79} = 0.60$

Overall "C" $= \frac{(0.60)(20.79)}{50.62} = 0.25$

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RESOURCE TECHNOLOGY, INC.
ENGINEERS & ENVIRONMENTAL SCIENTISTS
2129 Osuna Road, NE Suite 200
Albuquerque, NM 87113
Phone: (505) 345-3115
Fax: (505) 345-4132

CHECKED _____ DATE _____ PROJECT NO. _____
APPROVED _____ DATE _____ SHEET _____ OF _____
TITLE _____ BY _____ DATE _____

G10-D1 Apr 15 1981
Flamingo Heights Tract A-1 ~~Dec 1983~~

Letter of Dec 02 from Isaacson & Arfman

says existing double drop inlet shall be expanded to triple DI.

Sic Basin 16, Ladera study Area - Alternate Drainage Concepts.

Double drop inlet existed as of 1981

Street driveway roofs C = .9
Landscaped C = .15
Natural Ground C = .25

2.2" = 100 year; 6 hour rain used rational method

No offsite drainage

Rear yard ponding requires 16%

ponded water should be kept 5' from any walls and 15' from any house foundations

area contributes only 10 cfs to drop inlet - due to back yard ponding.
street carrying capacity = 11 cfs (based on 32' FF, 4" crown, and no overflow at 0.5% slope)

Drop Inlets Flow line elev = 5108.26 8" ponding depth is allowable within the 66' ROW

Total opening = 141.5 sq ft clear open area = 10.9 sq ft.
Grate cap = 10.9 ft² x 38 cfs/ft (based on 8" head)
= 41.4 cfs
Design cap = ½ x 41.4 = 20.7 cfs

Use triple DI ⇒ Design cap = 31.1 cfs

Typ lot Size

area = 250 (assumes 0.5' depth)

yard drainage = 1800 ft²
roof area = 720 ft²

composite C" = .45

total ponding area = .99 ac

RO area = 3.48 ac

Change to 11 cfs

RESOURCE TECHNOLOGY, INC.
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Albuquerque, NM 87113
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TITLE _____ BY _____ DATE _____

G-10 D4

Flamingo Heights Chambers, Campell, ISAACSON August 1979

7 acres no offsite flow

rear yard ponding not required, since 60" pipe can carry all runoff. some yard ponding done anyways

Double traps inlets existed

Two DA's; A and B

A_T = 1.55 Ac

A flows to Double Inlet at St Jo's Q_A = 5 cfs

B flows to exit site at 61st St. by storm sewer which is attached to 60" AMAFCA Pipe.

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RESOURCE TECHNOLOGY, INC.
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Fax: (505) 345-4132

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APPROVED _____ DATE _____ SHEET _____ OF _____
TITLE _____ BY _____ DATE _____

G10-D5 Ladera Heights Subdiv Dec 1977

DI #1 existed with capacity = 21 cfs (city DWG CT-11-78)

Estimated flows (developed) 56 cfs to Rinconada
21 cfs to St Joes
(16 from west, 13 from east)

"A double combination inlet in a sump condition on each side at St. Joes will be acceptable

60" pipe was design to operate under pressure

32 FF street 8" curb, and 4" crown at 0.5% can carry 63 cfs at FC. (mountable curb)

13% are rear yard ponding, incorporated

Two double C drop inlets w/ 1-way flapper valve
city std dwg S-16-1

Only areas E and F flow to DI's

5.26 ac 4.43 ac

Inlets Manhole Elev = 5108.5

Combination inlets in 2" depression and 2" overflow
curb opening length = 6' height = 6"
Grate clear opening = 6 sq. ft.

Allowable ponding depth = 6" above grate
Grate cap. = $6 ft^2 \times 3.8 = 22.8$ cfs
Curb opening cap = $6' \times .75$ cfs/ft = 4.5
⇒ Theoretical capacity = 27.3 cfs
$27.3 \times 0.65 = 17.75$ cfs
$\times 2 = 35.5$ cfs

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Norwest Mesa DMP 6/86 shows K Neale overflow to pond 16

RESOURCE TECHNOLOGY, INC.
ENGINEERS & ENVIRONMENTAL SCIENTISTS
2129 Osuna Road, NE Suite 200
Albuquerque, NM 87113
Phone: (505) 345-3115
Fax: (505) 345-4132

CHECKED _____ DATE _____
APPROVED _____ DATE _____
TITLE _____
PROJECT NO. _____
SHEET _____ OF _____
BY _____ DATE _____

Chaparral Elementary School

250 LF of 24" PVC drains to Pond 16

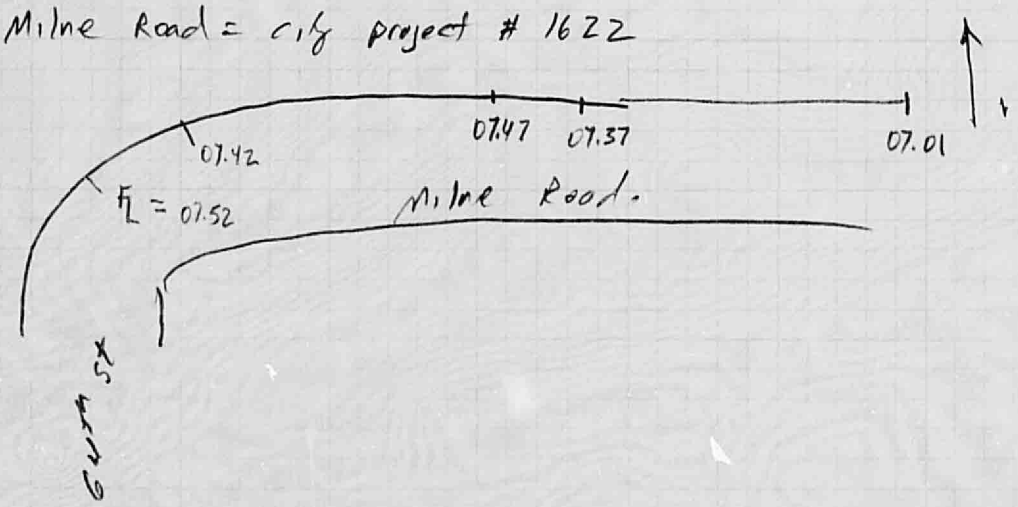
100-yr total flows = 13.1 + 6.5
+ 3 + 3.1
+ 5.7

stor Vol = 27 Ac-ft out 35 cfs
30 cfs

378 cfs peak

Dave Davenport
Inspector

Milne Road = city project # 1622



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ALBUQUERQUE, NEW MEXICO

9-7-95
DATE

PROJECT NO. 5060.90

STANDARD REVIEW COMMENT SHEET

SHEET 1 OF ___

: Billy Goolsby /CHAIRMAN DRC-APPLICANT
(USER DEPT./DIVISION)

OM: Carlos A. Montoya /HYDROLOGY/ENGINEERING
(REVIEWER/REVIEW DEPT./DIVISION)

OJECT: Presidio Park (5060.90) (G10-D2A)

OJECT DESCRIPTION STATUS ☐ Pre-Design ☒ Preliminary ☐ Final

FOR REVIEWER DEPT./DIVISION			For User Dept.	
Page No.	Com. No.	COMMENTS	A/D	Remark
	1	The following comments address the Construction plans and the drainage report dated 8-21-95		
	2	The agreement and grant of drainage easement indicates that 96,500 cubic feet is the required pond volume. Reducing the volume requires an analysis to show that this is justified.		
	3	The wetland area is a flat area which will not drain. Our maintenance groups prefer that this area have a slope. However, this is parks & Rec decision.		

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ALBUQUERQUE, NEW MEXICO

9-7-95
DATE

PROJECT NO. 5060.90

STANDARD REVIEW COMMENT SHEET

SHEET 2 OF ___

/CHAIRMAN DRC-APPLICANT
(USER DEPT./DIVISION)

OM: /HYDROLOGY/ENGINEERING
(REVIEWER/REVIEW DEPT./DIVISION)

OJECT: Presidio Park

OJECT DESCRIPTION STATUS ☐ Pre-Design ☒ Preliminary ☐ Final

FOR REVIEWER DEPT./DIVISION			For User Dept.	
Page No.	Com. No.	COMMENTS	A/D	Remark
	4.	The drainage rundown will direct flows across the playfield (Turf). Again, our maintenance people like low flow channels to the outfall. Parks & Rec should make this decision.		
	5.	The south east corner of the pond appears to be below the 15.70 mean water surface.		

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DRAINAGE INFORMATION SHEET

920713

PROJECT TITLE: Presidio Villa Amenity Park ZONE ATLAS/DRNG. FILE #: G-10-D2A

DRB #: _____ EPC #: _____ WORK ORDER #: 5060.90

LEGAL DESCRIPTION: Tract A, Presidio Villa Amenity Park, Katherine Nicole Addn.

CITY ADDRESS: 67th Street N.W., between Armand Rd. N.W. & Cleghorn Rd. NW

ENGINEERING FIRM: Jeff Mortensen & Assoc. CONTACT: Jeff Mortensen

ADDRESS: 6010-B Midway Park Blvd. N.E. PHONE: 345-4250

OWNER: City of Albuquerque CONTACT: Diane Scena

ADDRESS: Parks & Rec. Department PHONE: 857-8632

ARCHITECT: G. Robert Johns CONTACT: Bonnie Markel

ADDRESS: 3218 Silver S.E. PHONE: 266-8027

SURVEYOR: City of Albuquerque CONTACT: Architect

ADDRESS: N/A PHONE: N/A

CONTRACTOR: Not Selected CONTACT: N/A

ADDRESS: N/A PHONE: N/A

TYPE OF SUBMITTAL:

____ DRAINAGE REPORT
xx DRAINAGE PLAN
____ CONCEPTUAL GRADING & DRAINAGE PLAN
xx GRADING PLAN
____ EROSION CONTROL PLAN
____ ENGINEER'S CERTIFICATION
____ OTHER

PRE-DESIGN MEETING:

x YES
____ NO
____ COPY PROVIDED (Comments)

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
xx GRADING PERMIT APPROVAL
____ PAVING PERMIT APPROVAL
____ S.A.D. DRAINAGE REPORT
____ DRAINAGE REQUIREMENTS
xx OTHER Work Order (SPECIFY)

RECEIVED
SEP 21 1995
HYDROLOGY DIVISION

DATE SUBMITTED: 9-21-95

BY: Jeffrey G. Mortensen

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A MEMBER OF CONSULTING
ENGINEERS COUNCIL OF NEW MEXICO

JEFF MORTENSEN & ASSOCIATES, INC. ☐ ENGINEERS & SURVEYORS ☐ (505) 345-4250
6010-B MIDWAY PARK BLVD. N.E. ☐ ALBUQUERQUE ☐ NEW MEXICO 87109 ☐ FAX (505) 345-4254

920713
September 20, 1995

Mr. Carlos Montoya
Hydrology Section
Public Works Department
City of Albuquerque
P. O. Box 1293
Albuquerque, NM 87103

Re: Presidio Park - (City Project No. 5060.90/G10-D2A)

Dear Carlos:

We are in receipt of your written comments bearing the date of September 07, 1995 concerning the subject project. We subsequently met on the afternoon of September 15, 1995 to discuss your comments and the project in more detail. The revised plan, as attached, represents the outcome of that meeting. The following written responses are provided to your comments:

1. The Standard Review Comment sheet is acknowledged to represent review comments for both the construction plans and the Drainage Report dated 8/21/95.

2. The existing pond volume is 53,675 cubic feet. The proposed park development will increase the available volume of ponding to 81,440 cubic feet. It is recognized that this falls slightly short of the 96,500 cubic feet required by Agreement. You acknowledged, however, that all other criteria of the Agreement have been satisfied. In order to create the additional volume, the entire park surface will need to be lowered approximately 0.1 feet. You have already expressed concern over the flatness of the surfaces of the proposed park. Lowering the bottom 0.1 feet will not improve that condition with which you have expressed concern. It is because of this, that the design will remain as shown.

3. The "wetland" area is a feature that was incorporated into the Drainage Plan from the Landscaping Plan. The presence of the wetland area in the design allows for more ponding volume than what would be normally available. It therefore becomes an important feature from both landscaping and drainage aspects. Because the wetland area is part of the landscaping design, we assume that its design is acceptable to the user department.

SEP 21 1995
HYDROLOGY DIVISION

Jeffrey G. Mortensen, P.E. Juan M. Cala Charles G. Cala, Jr., P.S.

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4. The existing drainage rundowns will not be altered by this plan. In order to preserve the intent of the previous plans and so as not to alter the existing hydrology and hydraulics, the inlets will continue to function in their existing form. Whereas low flow channels and/or structures would be desirable, the budget for this project will not support the addition of such features. Once again, we should defer to the [illegible] department.

5. Additional spot elevations have been added at the southeast corner of the site to reinforce that the maximum water surface level is to be 15.70.

Please review this response and resubmittal at your earliest convenience. If you should have any questions or comments concerning this information, or any other aspect of this project, please do not hesitate to call. Once again, thank you for taking the time to meet on September 15, 1995.

Sincerely,

JEFF MORTENSEN & ASSOCIATES, INC.

Jeffrey G. Mortensen, P.E.
President

JGM:dsj
Enclosures
xc: Bonnie Markel (G. Robert Johns) w/enclosures

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ALBUQUERQUE, NEW MEXICO

9-7-95
DATE

920713

PROJECT NO. 5060.90

STANDARD REVIEW COMMENT SHEET

SHEET 1 OF ___

Billy Goolsby /CHAIRMAN DRC-APPLICANT
(USER DEPT./DIVISION)

OM: Carlos A. Montoya /HYDROLOGY/ENGINEERING
(REVIEWER/REVIEW DEPT./DIVISION)

JECT: Presidio Park (5060.90) (G10-D2A)

JECT DESCRIPTION STATUS ☐ Pre-Design ☒ Preliminary ☐ Final

FOR REVIEWER DEPT./DIVISION			For User Dept.	
Page No.	Com. No.	COMMENTS	A/D	Remark
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ALBUQUERQUE, NEW MEXICO

9-7-95
DATE

PROJECT NO. 5060.90

STANDARD REVIEW COMMENT SHEET

SHEET 2 OF ___

/CHAIRMAN DRC-APPLICANT
(USER DEPT./DIVISION)

)M: /HYDROLOGY/ENGINEERING
(REVIEWER/REVIEW DEPT./DIVISION)

)JECT: Presidio Park

)JECT DESCRIPTION STATUS ☐ Pre-Design ☒ Preliminary ☐ Final

FOR REVIEWER DEPT./DIVISION			For User Dept.	
Page No.	Com. No.	COMMENTS	A/D	Remark
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	5.	The south east corner of the pond appears to be below the 15.70 max. water surface.		

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DRAINAGE INFORMATION SHEET

120471
750791

PROJECT TITLE: Katherine Nicole Park ZONE ATLAS/DRNG. FILE #: G-10 / D21

DRB #: _____ EPC #: _____ WORK ORDER #: 4552.80

LEGAL DESCRIPTION: Katherine Nicole Park

CITY ADDRESS: _____

ENGINEERING FIRM: Jeff Mortensen & Assoc CONTACT: Jeff Mortensen

ADDRESS: 6010-B Midway Park Blvd. NE. PHONE: 345-4250

OWNER: (Contact Architect) CONTACT: _____

ADDRESS: _____ PHONE: _____

ARCHITECT: G. Robert Johns CONTACT: Bonnie Markle

ADDRESS: 3218 Silver S.E. PHONE: 266-8027

SURVEYOR: Santiago Romero Jr. & Assoc. CONTACT: Architect

ADDRESS: _____ PHONE: _____

CONTRACTOR: N/A CONTACT: _____

ADDRESS: _____ PHONE: _____

TYPE OF SUBMITTAL:

___ DRAINAGE REPORT
X DRAINAGE PLAN
___ CONCEPTUAL GRADING & DRAINAGE PLAN
X GRADING PLAN
___ EROSION CONTROL PLAN
___ ENGINEER'S CERTIFICATION
___ OTHER

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
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___ FOUNDATION PERMIT APPROVAL
___ BUILDING PERMIT APPROVAL
___ CERTIFICATE OF OCCUPANCY APPROVAL
X GRADING PERMIT APPROVAL
___ PAVING PERMIT APPROVAL
___ S.A.D. DRAINAGE REPORT
___ DRAINAGE REQUIREMENTS
X OTHER Work Order/ (SPECIFY)
50-19

RECEIVED
OCT 31 1995

DATE SUBMITTED: 10/31/95

BY: Michele (Mike) F. DeLilla

25×

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PLANS/PLATS ON FILE

FILE DESC: G10/D2A

PLANS/PLATS 21

25×

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