



CITY OF ALBUQUERQUE  
MUNICIPAL DEVELOPMENT DEPARTMENT  
ENGINEERING DIVISION



HYDROLOGY SECTION PROJ. NO. \_\_\_\_\_ DATE: 2/1/84

PLANNING DIVISION NO. \_\_\_\_\_

CONFERENCE RECAP

SUBJECT: NW CORNER OF INDIAL Pk + UNIVERSITY AVE J15  
(PROPOSED APT COMPLEX) DRD 84-40

WHO

REPRESENTING

ATTENDANCE: BRIAN BUENET  
JOHN BROWN  
FRED J. AGUIRRE  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

- FINDINGS: - Any construction within NMSHD R/W requires their approval  
- LEGAL DESCRIPTION - PROVIDE A PLAN WITH DRAINAGE SUBMITTAL  
- DRAINAGE REPORT REQUIRED PRIOR TO BUILDING PERMIT RELEASE  
- ALLOWABLE DISCHARGE FROM THE SUBJECT SITE WILL BE BASED ON DOWNSTREAM  
CONDITIONS.  
- IDENTIFY THE EXISTING FLOODPLAIN ON THE GRADING PLAN. NO 4' FLOODPLAIN  
CAN NOT BE SHIFTED ON TO ADJACENT PROPERTY.  
- EVALUATE THE IMPACT ON THE PROPOSED DEVELOPMENT AND THE ADJACENT  
EXISTING STRUCTURES FROM THE PROPOSED FLOODPLAIN.

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: Fred J. Aguirre

SIGNED: Shawn Burnett

TITLE: \_\_\_\_\_

TITLE: Hydrologist

DATE: 2/1/84

DATE: 2/1/84

# INFORMATION SHEET

PROJECT TITLE NETHERWOOD APTS. TYPE OF SUBMITTAL DRAINAGE REPORT

ZONE ATLAS PAGE NO. J-15 CITY ADDRESS None

LEGAL DESCRIPTION Lands of Sandia Foundation

ENGINEERING FIRM Bohannon-Huston, Inc. CONTACT Brian Burnett

ADDRESS 4125 Carlisle Blvd., NE, Alb., NM 87107 PHONE 881-2000

OWNER Inman Homes CONTACT John Brown

ADDRESS 8205 Spain, NE, Alb., NM 87107 PHONE 821-5600

ARCHITECT Barker-Bol & Associates CONTACT Andrew Bol

ADDRESS 209 Gold, SW, Alb., NM 87102 PHONE 842-6789

SURVEYOR Bohannon-Huston, Inc. CONTACT

ADDRESS 4125 Carlisle Blvd., NE, Alb., NM 87107 PHONE 881-2000

CONTRACTOR --- CONTACT ---

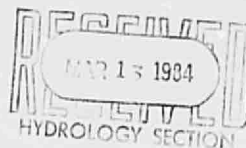
ADDRESS --- PHONE ---

## PRE-DESIGN MEETING:

☒ YES  
☐ NO  
☒ COPY OF CONFERENCE RECAP SHEET PROVIDED

## PLEASE CHECK TYPE OF APPROVAL EXPECTED WITH THIS SUBMITTAL:

☐ SKETCH PLAT APPROVAL  
☐ PRELIMINARY PLAT APPROVAL  
☐ SITE DEVELOPMENT PLAN APPROVAL  
☐ FINAL PLAT APPROVAL  
☐ BUILDING PERMIT APPROVAL  
☐ CERTIFICATE OF OCCUPANCY APPROVAL  
☒ ROUGH GRADING PERMIT APPROVAL  
☐ GRADING/PAVING PERMIT APPROVAL  
☐ OTHER (SPECIFY)



DATE SUBMITTED: March 12, 1984

BY: Brian Burnett



## BOHANNAN-HUSTON INC.

4125 Carlisle Blvd. Albuquerque, New Mexico 87107

(505) 881-2000

NE

To: City Hydrology

☐ Parcel Post

☐ Messenger

☐ First Class

☐ UPS

☐ Air Mail

☐ RR Express

☐ Special Delivery

☐ Air Freight

☐ Bus

Attention: Fred Aguirre

### Transmittal

Date: 3/12/84 Our job number: 41180

Your job number: \_\_\_\_\_

Job: Netherwood Apartments Drainage Report

We are enclosing:	For:
<input type="checkbox"/> Prints	<input type="checkbox"/> Your Use
<input type="checkbox"/> Copies	<input type="checkbox"/> Your Approval
<input type="checkbox"/> Tracings	<input type="checkbox"/> Your Records
<input type="checkbox"/> Specs	<input type="checkbox"/> Review & Comments
<input type="checkbox"/> Studies Report	<input type="checkbox"/> Revisions
<input type="checkbox"/> Xerox	<input type="checkbox"/> Response to Your Request
<input type="checkbox"/> Plan Sets	_____
_____	_____
_____	_____
_____	_____

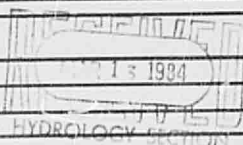
Comments: \_\_\_\_\_

By: Bryan Burnett

thank you

Rec'd by: \_\_\_\_\_

Date: 03/22/84



BOHANNAN-HUSTON INC.



4125 CARLISLE BLVD., N.E. ALBUQUERQUE, NEW MEXICO 87107 505 881-2000  
6713 VISCOUNT BLVD., EL PASO, TEXAS 79925 915 778-4451  
330 GARFIELD, SANTA FE, NEW MEXICO 87501 505 988-7871

ENGINEERS PLANNERS PHOTOGRAMMETRISTS

March 12, 1984

Mr. Fred Aguirre  
Assistant City Engineer - Hydrology  
City of Albuquerque  
P.O. Box 1293  
Albuquerque, NM 87103

Re: Drainage Report for Netherwood Apartments

Dear Fred:

Enclosed for your review is a copy of the Netherwood Apartments Drainage Report. If you have any questions regarding the submittal, please call Brian Burnett or me.

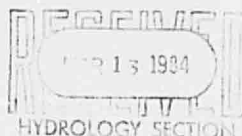
Sincerely yours,

*Brian Burnett*  
for Michael M. Emery, P.E.  
Vice President

Enclosure

cc: Mr. Ron Brown  
Mr. John Brown  
Mr. Andrew Bol

BGB/mw  
Job No. 41180



PRINCIPALS  
JERRY R. BOHANNAN, P.E. & L.S.  
LARRY W. HUSTON  
MICHAEL M. EMERY, P.E.



## City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

READING FILE

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

April 3, 1984

Mr. Brian Burnett  
Bohannon-Huston, Inc.  
4125 Carlisle Blvd. NE  
Albuquerque, New Mexico 87107

RE: DRAINAGE REPORT FOR NETHERWOOD APARTMENTS  
(J15-D20) RECEIVED MARCH 13, 1984

Dear Brian:

I have reviewed the above referenced submittal and the following are my comments regarding the subject submittal:

1. How much ponding will be required for the flow through the 30" pipe under I-25? Will the water surface be within 15 feet of a structure or the asphalt for the highway?
2. What are the characteristics of the pond on-site, i.e., volume, water surface elevation? What are the outlet pipe characteristics?
3. What are the hydraulics associated with the gravel rundown? How does the water get into it? Will the momentum around the curve cause piracy? What is the outlet velocity? Will erosion occur? It is suggested that the outlet be fanned to spread the water and minimize the concentration.
4. Weep-holes, as per City standard, should be provided in the retaining walls where a ~~previous~~ area is on the high side to reduce hydrostatic pressure.
5. Details for the curb cuts should be provided or City standard cited.
6. It was requested in the pre-design conference that the flood plain along the south property line be shown. This has not been indicated.

MUNICIPAL DEVELOPMENT DEPARTMENT

C. Dwayne Sheppard, P.E., City Engineer

ENGINEERING DIVISION

Telephone (505) 766-7457

AN EQUAL OPPORTUNITY EMPLOYER

Mr. Brian Burnett  
April 3, 1984  
Page -2-

Should you have any questions or comments, please contact  
me.

Yours truly,

*Billy J. Goolsby*

Billy J. Goolsby, P.E.  
City/County Flood Ordinance Administrator

BJG/ca



BOHANNAN-HUSTON INC.



4125 CARLSLE BLVD. N.E., ALBUQUERQUE, NEW MEXICO 87107 505 861-2000  
6715 VISCONT BLVD., EL PASO, TEXAS 79925 915 778-4491  
330 GARFIELD, SANTA FE, NEW MEXICO 87501 505 888-7671

April 10, 1984

Mr. Billy J. Goolsby  
City/County Flood Ordinance Administrator  
123 Central NW  
Albuquerque, NM 87102

Re: Netherwood Apartments — Response to Comments, Your letter of April 3, 1984

Dear Billy:

Following are my responses to comments made in the referenced letter:

1. The invert elevation of the 30" RCP is approximately 5029.0. To avoid damage to the retaining wall, ponding must not occur higher than the 5032.0 contour. I have estimated that approximately 45,000 cu. ft. of storage is provided between the 5030.0 and 5032.0 contour. Utilizing the 100-year runoff hydrograph (see enclosed), and the fact that a 30" RCP can convey 31 cfs with a head of 1.75 feet (0.5 feet above the top of the pipe), approximately 50,000 cu. ft. of storage is required. In my opinion, this provides a reasonable match.
2. Roof drains for the project will be directed toward the front to a paved surface. Except for the pool area, the internal basin contributing to the pond is grass or landscaped surface. This basin is approximately 700 feet long and 70 feet wide, or a total area of 1.12 acres. Assuming a 'C' factor of 0.4 ('B' type soil and 14% impervious), approximately 2.06 cfs is generated during the 100-year storm. An 8" pipe with 2.67 feet of head can convey approximately 2.75 cfs. It is not anticipated that runoff will pool in the small depressed area. If the system becomes clogged, runoff will be conveyed between two buildings. The finished floor of the most southerly building has been raised 0.5 feet to insure that runoff remains out of the structure.
3. Approximately 4.0 acres on-site contribute to the rundown system along with 4.3 cfs of off-site flow. A total flow of 23 cfs is anticipated at the rundown during the 100-year storm (buildings have not been included in the runoff computations since the roofs act like detention ponds releasing runoff at a minimal rate). A 10-foot by 16-foot deep triangular

RECEIVED  
APR 10 1984

PRINCIPALS

JERRY R. BOHANNAN, P.E. & L.S.  
LARRY W. HUSTON  
MICHAEL M. EMERY, P.E.



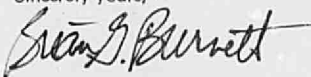
Mr. Billy J. Goolsby  
April 10, 1984  
Page 2

shaped rundown can convey about 35 cfs. Since a 15-foot facility has been provided, ample capacity exists. The associated velocities for the 100-year flow are in the 6-8 fps range and do not appear excessive. However, to prevent potential erosion, riprap has been extended to the property line and fanned to minimize concentration of flows. Due to the width of the rundown, piracy is not anticipated.

4. The retaining walls will be constructed to City standards and will include weep holes.
5. A curb opening detail has been provided.
6. The 100-year flood plain has been indicated on the plan. I apologize for the oversight.

Please contact me if these responses do not satisfactorily address your concerns. Your time spent in the review of this project is greatly appreciated. We look forward to your response so that removal of the on-site debris can commence.

Sincerely yours,

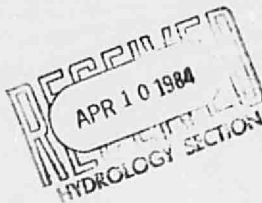


Brian G. Burnett, P.E.  
Project Manager

Enclosure

cc: Mr. Ron Brown  
Mr. John Brown

BGB/mw  
Job No. 4 118 1





## City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

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

April 20, 1984

Mr. Brian Burnett  
Bohannon-Huston, Inc.  
4125 Carlisle Boulevard NE  
Albuquerque, NM 87107

REF: REVISED GRADING AND DRAINAGE PLAN FOR NETHERWOOD APARTMENTS (J15-220)  
RECEIVED APRIL 10, 1984

Dear Brian:

The above referenced plan, dated April 9, 1984 is approved.

Please attach a copy of this plan to the construction set prior to release of the building permit.

If I can be of further assistance, please contact me at 766-7644.

Sincerely yours,

Billy J. Goolsby, PE  
City/County Flood Plain Admin.

BJG:mrk

MUNICIPAL DEVELOPMENT DEPARTMENT

C. Dwayne Sheppard, P.E., City Engineer

ENGINEERING DIVISION

Telephone (505) 766-7467

AN EQUAL OPPORTUNITY EMPLOYER

BOHANNAN-HUSTON INC.



4125 CARLISLE BLVD., N.E., ALBUQUERQUE, NEW MEXICO 87107 505 881-2000  
6713 VISCOUNT BLVD., EL PASO, TEXAS 79926 915 778-4491  
330 GARFIELD, SANTA FE, NEW MEXICO 87501 505 988-7871

May 1, 1984

Mr. Billy J. Goolsby  
City/County Flood Ordinance Administrator  
City of Albuquerque  
P.O. Box 1293  
Albuquerque, NM 87103

Re: Netherwood Apartment Drainage Report (J15-D20)

Dear Billy:

On April 20, 1984 an approval letter for the referenced report was issued by your office. Since that time, a final grading plan has been prepared. I would like to point out some minor changes that have been made relative to the earlier plan:

1. The retaining wall on the west boundary has been moved eastward. This improves the situation of the wall being adjacent to the 100-year flood plain.
2. A 6" PVC pipe has been added to convey runoff from the eastern portion of the interior basin around the pool.
3. A cooling tower has been located on the south boundary. To insure that this structure does not interfere with the flow path, the tower has been placed on I-beams, 1.5 feet high. A detail is included on the plan depicting this set up.
4. Additional spot elevations, details and notes have been added to aid construction.

To keep our records straight, it would be most helpful if you would reissue another approval letter referencing the enclosed plan. This will also insure that the building permit process runs smoothly.

Again, thank you for help on this project. If you should have any questions, please call.

Sincerely yours,

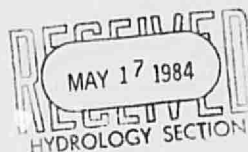
*Brian G. Burnett*  
Brian G. Burnett, P.E.  
Project Manager

Enclosures

cc: Mr. John Brown  
Mr. Ron Brown

BGB/mw  
Job No. 4 118 0

PRINCIPALS  
JERRY R. BOHANNAN, P.E. & L.S.  
LARRY W. HUSTON  
MICHAEL M. EMERY, P.E.





# BOHANNAN-HUSTON INC.

4125 Carlisle Blvd. NE Albuquerque, New Mexico 87107  
(505) 881-2000

## Transmittal

To: CITY HYDROLOGY  
2nd & CENTRAL  
ONE STOP CENTER  
(2nd Floor)

Attention: FRED AGUIRRE

- |                                       |                                      |
|---------------------------------------|--------------------------------------|
| <input type="checkbox"/> Parcel Post  | <input type="checkbox"/> Messenger   |
| <input type="checkbox"/> First Class  | <input type="checkbox"/> UPS         |
| <input type="checkbox"/> Express Mail | <input type="checkbox"/> Air Freight |
| <input type="checkbox"/> Bus          | <input type="checkbox"/>             |

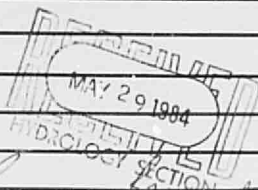
Date: 5-29-84 Our job number: \_\_\_\_\_

Job: Netherwood Apts Your job number: \_\_\_\_\_

We are enclosing:	For:
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Comments: Fred As promised I'm forwarding  
a copy of the Netherwood plan I  
you signed for rough grading

Thanks Gus



By: Gus Smith thank you

Rec'd by: M. King Date: 5-29-84



## City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

June 6, 1984

Mr. Brian Burnett, P.E.  
Bohannon-Huston, Inc.  
4125 Carlisle Blvd. N.E.  
Albuquerque, N.M. 87107

RE: NETHERWOOD APARTMENTS, J15-D20

Dear Mr. Burnett:

Consider this an approval letter for the revised grading & drainage plan of the aforementioned project submitted to this office on 5-1-84. Note that I have added a revision date on the submitted revision and hereby request you also set a revision date of 5-1-84 on your drawing.

Sincerely,

Andre Houle,  
Civil Engineer, Q.A., Design

AH/tsl

cc: Q.A. File  
Hydrology File #J15-D20

MUNICIPAL DEVELOPMENT DEPARTMENT

C. Dwyne Sheppard, P.E., City Engineer

ENGINEERING DIVISION

Telephone (505) 766-7467

AN EQUAL OPPORTUNITY EMPLOYER

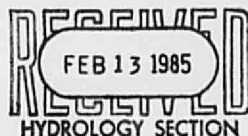
## DRAINAGE INFORMATION SHEET

PROJECT TITLE: NETHERWOOD APARTMENTS ZONE ATLAS/DRNG. FILE #: J-15/D-20  
 LEGAL DESCRIPTION: \_\_\_\_\_  
 CITY ADDRESS: 1501 INDIAN SCHOOL  
 ENGINEERING FIRM: BOHANNAN-HUSTON, INC. CONTACT: JAMES TOPMILLER  
 ADDRESS: 4125 CARLISLE NE PHONE: 881-2000  
 OWNER: INMAN HOMES CONTACT: JOHN BROWN  
 ADDRESS: \_\_\_\_\_ PHONE: 821-5600  
 ARCHITECT: \_\_\_\_\_ CONTACT: \_\_\_\_\_  
 ADDRESS: \_\_\_\_\_ PHONE: \_\_\_\_\_  
 SURVEYOR: \_\_\_\_\_ CONTACT: \_\_\_\_\_  
 ADDRESS: \_\_\_\_\_ PHONE: \_\_\_\_\_  
 CONTRACTOR: \_\_\_\_\_ CONTACT: \_\_\_\_\_  
 ADDRESS: \_\_\_\_\_ PHONE: \_\_\_\_\_

## PRE-DESIGN MEETING:

☐ YES  
☒ NO  
☐ COPY OF CONFERENCE RECAP SHEET PROVIDED

DRB NO. \_\_\_\_\_  
 EPC NO. \_\_\_\_\_  
 PROJ. NO. \_\_\_\_\_



## TYPE OF SUBMITTAL:

☐ DRAINAGE REPORT  
☐ DRAINAGE PLAN  
☐ CONCEPTUAL GRADING & DRAINAGE PLAN  
☐ GRADING PLAN  
☐ EROSION CONTROL PLAN  
☒ ENGINEER'S CERTIFICATION FOR OCCUPANCY & PHASING PLAN

## 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 (TEMP)  
☐ ROUGH GRADING PERMIT APPROVAL  
☐ GRADING/PAVING PERMIT APPROVAL  
☐ OTHER \_\_\_\_\_ (SPECIFY)

DATE SUBMITTED: 2/13/85  
 BY: JAMES TOPMILLER

\* IF AT ALL POSSIBLE,  
 DEVELOPER/OWNER NEEDS  
 YOUR OK BY NOON, 2/14/85,  
 COULD YOU CALL STEVE  
 CHAVEZ AFTER YOUR REVIEW?  
 THANK!

# I N M A N H O M E S

February 11, 1985

Mr. Billy J. Goolsby  
City Hydrology  
City of Albuquerque  
PO Box 1293  
Albuquerque, NM 87103

Re: Project Certification for Netherwood Village (J15-D20)

Dear Mr. Goolsby:

This is to confirm that an as-built certification plan will be supplied for Phase I of the project upon project completion. This plan will be supplied through our engineer, Bohannon-Huston, Inc., and will conform to the Development Process Manual's check list.

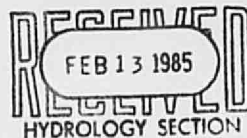
At this time, we are requesting temporary certificate of accuracy for the buildings in Phase I until final certification can be made.

Sincerely,

  
John L. Brown

JLB/nsw

CC: Bohannon-Huston, Inc.



BOHANNAN-HUSTON INC.



4125 CARLISLE BLVD., N.E. ALBUQUERQUE, NEW MEXICO 87107 505 881-2000  
UNIVERSITY PLAZA, 330 GARFIELD SUITE 101, SANTA FE, N.M. 87509 505 888-7671  
6713 VISCOUNT BLVD., EL PASO, TEXAS 79925 915 776-4431

February 12, 1985

Mr. Bernie Montoya  
Civil Engineer  
Hydrology Section  
City of Albuquerque  
123 Central N.W.  
Albuquerque, NM 87102

Re: Certification for Netherwood Apartments

Dear Bernie:

The purpose of this letter is to request that Temporary Certificates of Occupancy be issued for the following units contained within Phase 1 of the Netherwood Apartments (1501 Indian School Road N.E.):

1. Building I; 101 (Office/Recreation)
2. Building A; 101-312
3. Building B; 101-304

Enclosed are plans indicating the phasing for the project and the as-built information for Phase 1. Based on this information, we believe that Phase 1 has been constructed in substantial compliance with the approved plan.

We are anxious to obtain the temporary certificates by the end of this week. Please contact me if you have any questions or require further information.

Truly yours,

*Brian G. Burnett*  
Brian G. Burnett, P.E.  
Division Manager

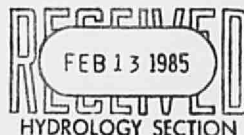
Enclosure

cc: John Brown

JT/mls

Job No. 4 118 9

PRINCIPALS  
JERRY R. BOHANNAN, P.E. & L.S.  
LARRY W. HUSTON  
MICHAEL M. EMERY, P.E.







## City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

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

February 14, 1985

Brian Burnett  
Bohannon-Huston, Inc.  
4125 Carlisle Blvd., NE  
Albuquerque, New Mexico 87107

RE: PHASING PLAN FOR NETHERWOOD APARTMENTS AND CERTIFICATION FOR  
PHASE 1 (J-15/D20)

Dear Brian:

Based on the information provided on your February 13, 1985 submittal, phasing and certification (phase I) for the referenced drainage plan is acceptable. Please be advised that only temporary Certificate of Occupancies may be issued until final completion and certification take place. Please advise your clients to make prior arrangements with our inspector Mr. Steve Chavez before temporaries can be issued.

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

Cordially,

*Bernie J. Montoya*

Bernie J. Montoya, C.E.  
Engineering Assistant

BJM/bsj

MUNICIPAL DEVELOPMENT DEPARTMENT

C. Dwayne Sheppard, P.E., City Engineer

ENGINEERING DIVISION

Telephone (505) 766-7467

AN EQUAL OPPORTUNITY EMPLOYER

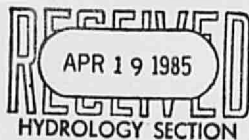
## DRAINAGE INFORMATION SHEET

PROJECT TITLE: Netherwood Village ZONE ATLAS/DRNG. FILE #: J-15 1020  
 LEGAL DESCRIPTION: Netherwood Apartments  
 CITY ADDRESS: \_\_\_\_\_  
 ENGINEERING FIRM: Bohannon-Huston, Inc. CONTACT: Brian Burnett  
 ADDRESS: 4125 Carlisle DE PHONE: 881-2000  
Albany, OR 97109  
 OWNER: Inman Homes CONTACT: John Brown  
 ADDRESS: 8205 Spain Rd. PHONE: 821-5600  
 ARCHITECT: Barker-Bol & Associates CONTACT: Andrew Bol  
 ADDRESS: 209 Gold Ave. SW PHONE: 842-6789  
 SURVEYOR: R. Forstbauer CONTACT: \_\_\_\_\_  
 ADDRESS: \_\_\_\_\_ PHONE: \_\_\_\_\_  
 CONTRACTOR: \_\_\_\_\_ CONTACT: \_\_\_\_\_  
 ADDRESS: \_\_\_\_\_ PHONE: \_\_\_\_\_

## PRE-DESIGN MEETING:

☐ YES  
☒ NO

☐ COPY OF CONFERENCE RECAP  
 SHEET PROVIDED



DRB NO. \_\_\_\_\_  
 EPC NO. \_\_\_\_\_  
 PROJ. NO. \_\_\_\_\_

## TYPE 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)

DATE SUBMITTED:

BY:

James Jopmiller  
4/18/85

BOHANNAN-HUSTON INC.

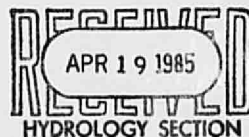


4125 CARLISLE BLVD., N.E. ALBUQUERQUE, NEW MEXICO 87107 505 861-2000  
UNIVERSITY PLAZA, 330 GARFIELD SUITE 104 SANTA FE, N.M. 87509 505 938-7671  
6713 VISCOUNT BLVD. EL PASO, TEXAS 79925 915 778-4491

ENGINEERS PLANNERS PHOTOGRAMMETS

April 16, 1985

Mr. Bernie Montoya  
Civil Engineer  
Hydrology Section  
City of Albuquerque  
123 Central N.W.  
Albuquerque, NM 87102



Re: Certification for Netherwood Apartments - Phase 2 (J15-D20)

Dear Bernie:

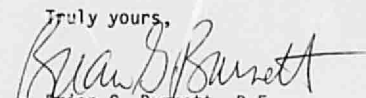
The purpose of this letter is to request that Temporary Certificates of Occupancy be issued for the following units contained within Phase 2 of the Netherwood Apartments (1501 Indian School Road N.E.):

1. Building C; 101-110, 201-210, 301-310
2. Building D; 101-112, 201-212, 301-312

Enclosed are plans indicating the phasing for the project and the as-built information for Phase 2. Based on this information, we believe that Phase 2 has been constructed in substantial compliance with the approved plan.

We are anxious to obtain the temporary certificates by the end of this week. Please contact me if you have any questions or require further information.

Truly yours,

  
Brian G. Burnett, P.E.  
Division Manager

Enclosure

cc: Mr. John Brown

JT/mls  
Job No. 4 118 9

PRINCIPALS  
JERRY R. BOHANNAN, P.E. & L.S.  
LARRY W. HUSTON  
MICHAEL M. EMERY, P.E.



## City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

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

May 16, 1985

Mr. Brian Burnett  
Bohannon-Huston, Inc.  
4125 Carlisle Boulevard NE  
Albuquerque, NM 87107

REF: CERTIFICATION FOR PHASE II FOR NETHERWOOD APARTMENTS (J15-D20)  
RECEIVED APRIL 19, 1985

Dear Brian:

Based on the information provided on your April 19, 1985 submittal, certification is acceptable. Please be advised that only temporary Certification of Occupancies may be issued until final completion and certification take place. Please advise you clients to make prior arrangements with our inspector Mr. Rick Duran before temporaries can be issued.

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

Sincerely,

*Bernie J. Montoya*

Bernie J. Montoya, CE  
Engineering Assistant, Hydrology

BJM:mrk

MUNICIPAL DEVELOPMENT DEPARTMENT

C. Dwynne Sheppard, P.E., City Engineer

ENGINEERING DIVISION

Telephone (505) 766-7467

AN EQUAL OPPORTUNITY EMPLOYER

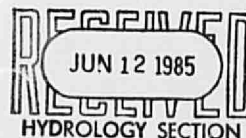
BOHANNAN-HUSTON INC.



4125 CARLISLE BLVD., N.E. ALBUQUERQUE, NEW MEXICO 87107 505 861-2000  
UNIVERSITY PLAZA 130 GARFIELD SUITE 104, SANTA FE, N.M. 87509 505 988-7671  
673 VISCOUNT BLVD. EL PASO, TEXAS 79926 915 778-4491

June 10, 1985

Mr. Bernie Montoya  
Civil Engineer  
Hydrology Section  
City of Albuquerque  
173 Central NW  
Albuquerque, NM 87102



Re: Certification for Netherwood Apartments - Phase 3 (J15-D20)

Dear Bernie:

The purpose of this letter is to request that Permanent Certificates of Occupancy be issued for the following units contained within Phase 3 of the Netherwood Apartments (1501 Indian School Road, N.E.):

1. Building E; 101-110, 201-210, 301-310
2. Building F; 101-110, 201-210, 301-310
3. Building G; 101-103, 201-203, 301-303
4. Building H; 101-112, 201-212, 301-312

Enclosed are plans indicating the phasing for the project and the as-built information for Phase 3. Based on this information, we believe that Phase 3 has been constructed in substantial compliance with the approved plan. With respect to your inquiry, in accordance with the approved grading plan, improvements have been restricted to the apartment property and do not encroach into the I-25 right-of-way.

We are anxious to obtain the permanent certificates as soon as possible. If necessary to do so, please have previously obtained temporary C.O.'s for Phases 1 and 2 changed to permanent. Please contact me if you have any questions or require further information.

Truly yours,

*for James Jop Miller*  
Brian G. Burnett, P.E.  
Division Manager

Enclosure

cc: John Brown

JT/mls

Job No. 4 118 3

PRINCIPALS  
JERRY R. BOHANNAN, P.E. & L.S.  
LARRY W. HUSTON  
MICHAEL M. EMERY, P.E.



## City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

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

June 17, 1985

Brian Burnett  
Bohannon-Huston, Inc.  
4125 Carlisle Blvd., NE  
Albuquerque, New Mexico 87107

RE: CERTIFICATION FOR PHASE III FOR NETHERWOOD APARTMENTS  
(J-15/D20) RECEIVED JUNE 12, 1985

Dear Brian:

Based on the information provided on your submittal dated May 21, 1985, certification for the referenced phase is acceptable. The temporary Certificates of Occupancy which had been released by our department on the existing two phases will need to be coordinated by your client and Mrs. Dell Sanchez for release of the permanent Certificates of Occupancy.

If you have any questions or comments, please feel free to call me at 766-7644.

Cordially,

*Bernie J. Montoya*

Bernie J. Montoya, C.E.  
Engineering Assistant/Hydrology

BJM/bcj

### MUNICIPAL DEVELOPMENT DEPARTMENT

C. Dwayne Sheppard, P.E., City Engineer

ENGINEERING DIVISION

Telephone (505) 766-7467

AN EQUAL OPPORTUNITY EMPLOYER

BOHANNAN-HUSTON

INC.



**DRAINAGE REPORT  
FOR  
NETHERWOOD APARTMENTS  
March, 1984**



**DRAINAGE REPORT  
FOR  
NETHERWOOD APARTMENTS**

**March, 1984**

**PREPARED FOR:**

**INMAN HOMES, INC.  
8205 SPAIN, NE  
ALBUQUERQUE, NM 87109**

**PREPARED BY:**

**BOHANNAN--HUSTON, INC.  
4125 CARLE ISLE BLVD., NE  
ALBUQUERQUE, NM 87107**

**Job No. 4 118 0**

A handwritten signature in dark ink, reading "Brian G. Burnett", is written over a horizontal line.

**Brian G. Burnett, P.E.  
N.M.P.E. No. 8514**

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DETERMINATION OF DOWNSTREAM CAPACITY  
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## **PURPOSE**

The purpose of this report is to outline the drainage management plan for a 6.7 acre apartment complex. The City Drainage Ordinance and Development Process Manual will be used to establish the plan.

## **SITE LOCATION AND DESCRIPTION**

Figure 1 identifies the project area which is located at the northwest corner of Indian School Road and University Boulevard. Following is a description of the features bordering the project:

### **North boundary:**

1. Western Elderly Care Building (west end);
2. Undeveloped parcel;
3. Electric Supply Building (east end).

### **South boundary:**

1. Indian School Boulevard (east end);
2. Pavement surface and Independent Order of Oddfellows Building (west end).

### **West boundary:**

1. NMSHD Right-of-Way/I-25.

Considerable debris exists on the site. A soils report has been prepared by Fox & Associates of New Mexico, Inc. to establish the extent of this fill material. A soils map from the SCS Bernalillo County Survey has been included for areas not covered by debris. For design purposes, a 'B' type soil will be assumed.

## **FLOOD PLAIN INFORMATION**

The FEMA Floodway maps indicate that a flood plain exists immediately south and west of the site. This map has been included in the rear pocket. Also indicated on the plate is the off-site watershed contributing to the system.

The total watershed of approximately 68 acres (Basin C) was analyzed in the Master Drainage Study. Included in Appendix 1 is a copy of output identifying the 100-year runoff rates for the basin. Summarizing the information:

1. Approximately 141 cfs is generated in the watershed (Hydrograph No. 123.1).
2. The 30" RCP storm sewer system in Indian School (inlets collect runoff in Indian School Road, University Boulevard, and at the intersection of the two streets) was computed to carry a peak flow rate of 60 cfs (Hydrograph No. 123.2). This storm sewer eventually discharges in the highway right-of-way, east of I-25. Figure 3 graphically depicts this storm drain network.
3. Based on the capacity of the storm sewer, approximately 81 cfs flows over land from the sag in Indian School Road (AP 1 on the Floodway map - Hydrograph 123.3 in computer output) towards the I-25 right-of-way.

Calculations using the Rational Formula and current DPM criteria have been computed to check the Master Drainage Study output. These computations are included in Appendix 2. A 100-year flow rate of 126 cfs was obtained, which represents a close match to the HYMO output.

As indicated in the February 1, 1984 conference notes (see Appendix 3), this flood plain cannot be "shifted onto adjacent property." Computations contained in Appendix 2 have been made to insure that the 81 cfs overland flow can be conveyed safely between the northern boundary of the Oddfellows Building and the apartment units. These computations indicate that the flow depth is less than 0.5 feet. Finished floor elevations in the apartment units have been set at least one-foot above the anticipated flow depth. It should also be noted that to insure that runoff follows its historic path, the grades along the property line match closely with existing ground.

#### **DETERMINATION OF DOWNSTREAM CAPACITY**

In the pre-design meeting, Mr. Fred Aguirre stated that discharge from the site will be based on the downstream system capacity. He also stated that runoff to the I-25 right-of-way would be permitted without written concurrence of the Highway Department. He did point out, however, that any construction within the right-of-way would require a permit from the Department.

A 30" RCP currently exists at the west edge of the property. This pipe runs underneath the freeway. Plans for the City Odellia Pond call for any runoff routed through the pipe to be routed southward along the west right-of-way line before discharging into the basin itself. The capacity of this 30" pipe depends on the assumed head water depth. Based on the existing contours, it appears that 3-4 feet of runoff can pool above the pipe. Approximately 45 cfs can be conveyed in the pipe at this head water depth.

As stated earlier, the storm sewer system in Indian School Road has a capacity of 60 cfs. This 60 cfs represents a 2-5 rain event. Stated another way, the storm sewer system will adequately handle a 2-5-year storm before any runoff is expected to flow overland to the I-25 right-of-way.

Figure 4 contains a composite hydrograph computed utilizing the overland flow amount (81 cfs) and the site's impact to the system (16 cfs). A 15% increase in flow rate at the culvert is anticipated based on the site's developed runoff contribution.

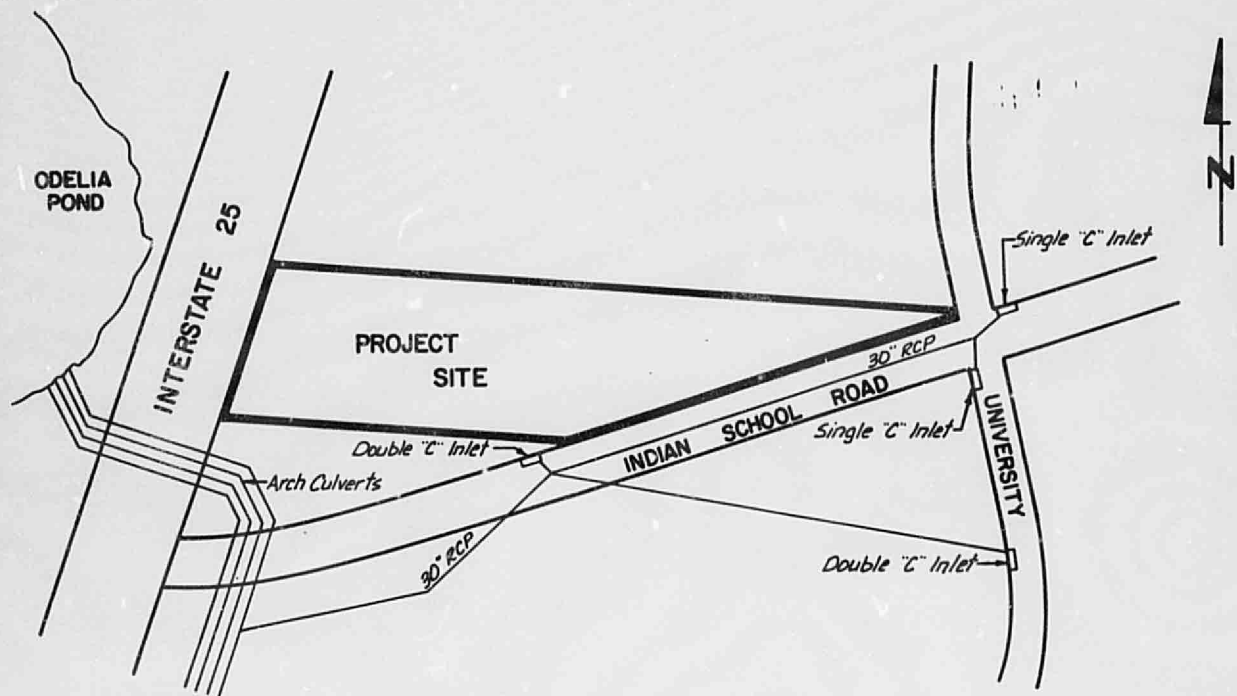
Based on the above analysis, it is recommended that no ponding take place on the property and that runoff be directed to the I-25 right-of-way in a free-flow manner. The reasons behind this proposal are as follows:

1. Due to the site's proximity to the 30" RCP outfall, an increase of only 15% is anticipated over the rate currently reaching the pipe during the 100-year storm.
2. Larger frequency storms must occur before runoff flows over land from Indian School Road. The 30" RCP is impacted from site runoff only during lesser frequency storms.
3. Due to the significant grade differential between the 30" pipe invert and the site, storm detention is extremely difficult and would require an extensive retaining wall system along the entire west property line.
4. The approach is consistent with other projects which have been allowed free discharge to the highway right-of-way when an appropriate outfall exists for the drainage system.

### **SITE MANAGEMENT PLAN**

Plate 1 indicates the grading plan for the site. Supporting calculations are included in Appendix 4. Key elements of the plan include:

1. Per the previous discussion, grades along the south boundary line closely match existing conditions. This is to insure the safe conveyance of off-site flows between the Oddfellows Building and the apartment units.
2. Retaining structures have been provided primarily on the north boundary line to control grade differences between the site and adjacent property.
3. Runoff generated in the interior courtyard is conveyed to the west edge of the property via a small discharge pipe.
4. Off-site flows from the undeveloped land, north of the site, are allowed to enter the project via an opening in the wall.
5. Runoff from the flat-roofed structures will be controlled through the use of a gutter system. This effectively reduces the peak rate leaving the site.

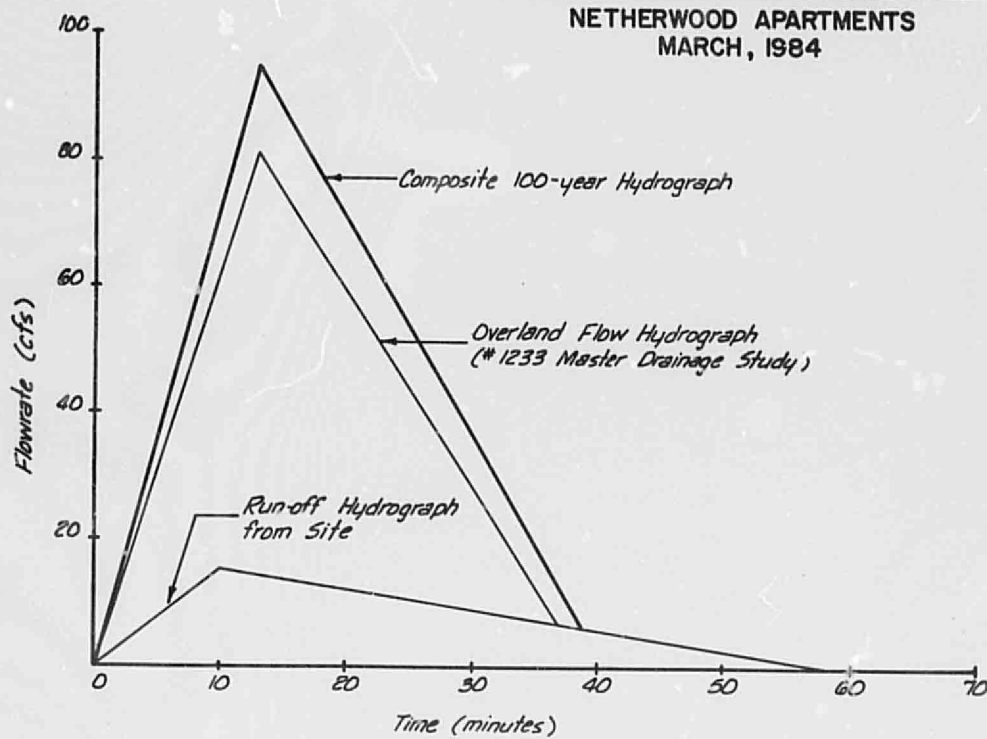


**FIGURE 3**  
**INDIAN SCHOOL**  
**STORM SEWER**

## FIGURE 4

### 100-YEAR COMPOSITE HYDROGRAPH

NETHERWOOD APARTMENTS  
MARCH, 1984





\* COMPUTE HYD FOR INTERVENING AREA ABOVE AP123 AT I-25 AND INDAIN SCHOOL RD  
COMPUTE HYD

ID=19  
HYD=123.1  
DI=.02  
DA=.1063  
CN=83  
K=-.0976  
TP=.1951  
MASS RNFL=-1  
N=7.942

SHAPE CONSTANT, N = 7.942  
UNIT PEAK = 307.4CFS

\* PRINT HYD FOR INTERVENING AREA ABOVE AP123  
PRINT HYD ID=19 CODE=10

HYDROGRAPH NUMBER 123.1

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
0.000	0.	2.000	6.	4.000	3.
0.200	140.	2.200	5.	4.200	3.
0.400	56.	2.400	5.	4.400	3.
0.600	28.	2.600	4.	4.600	2.
0.800	19.	2.800	4.	4.800	2.
1.000	14.	3.000	4.	5.000	2.
1.200	11.	3.200	3.	5.200	2.
1.400	9.	3.400	3.	5.400	2.
1.600	7.	3.600	3.	5.600	2.
1.800	6.	3.800	3.	5.800	2.

RUNOFF VOLUME = 5.490 ACRE-FT  
PEAK DISCHARGE RATE = 141.2 CFS  
PEAK OCCURRED AT 0.22 HRS.

\* DIVIDE OUT SS THAT GOES WEST ON INDIAN SCHOOL FROM UNIVERSITY BLVD

\* TO THE UNIVERSITY DRAW  
DIVIDE HYD

ID=19 QMAX=60  
ID=41 HYD NO=123.2 SS  
ID=19 HYD NO=123.3 CLF

\* FLOW IN 30" SS FROM UNIVERSITY BLVD TO THE UNIVERSITY DRAW  
 PRINT HYD ID=41 CODE=10

HYDROGRAPH NUMBER 123.2

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
0.000	0.	2.000	6.	4.000	3.
0.200	60.	2.200	5.	4.200	3.
0.400	56.	2.400	5.	4.400	3.
0.600	28.	2.600	4.	4.600	2.
0.800	19.	2.800	4.	4.800	2.
1.000	14.	3.000	4.	5.000	2.
1.200	11.	3.200	3.	5.200	2.
1.400	9.	3.400	3.	5.400	2.
1.600	7.	3.600	3.	5.600	2.
1.800	6.	3.800	3.	5.800	2.

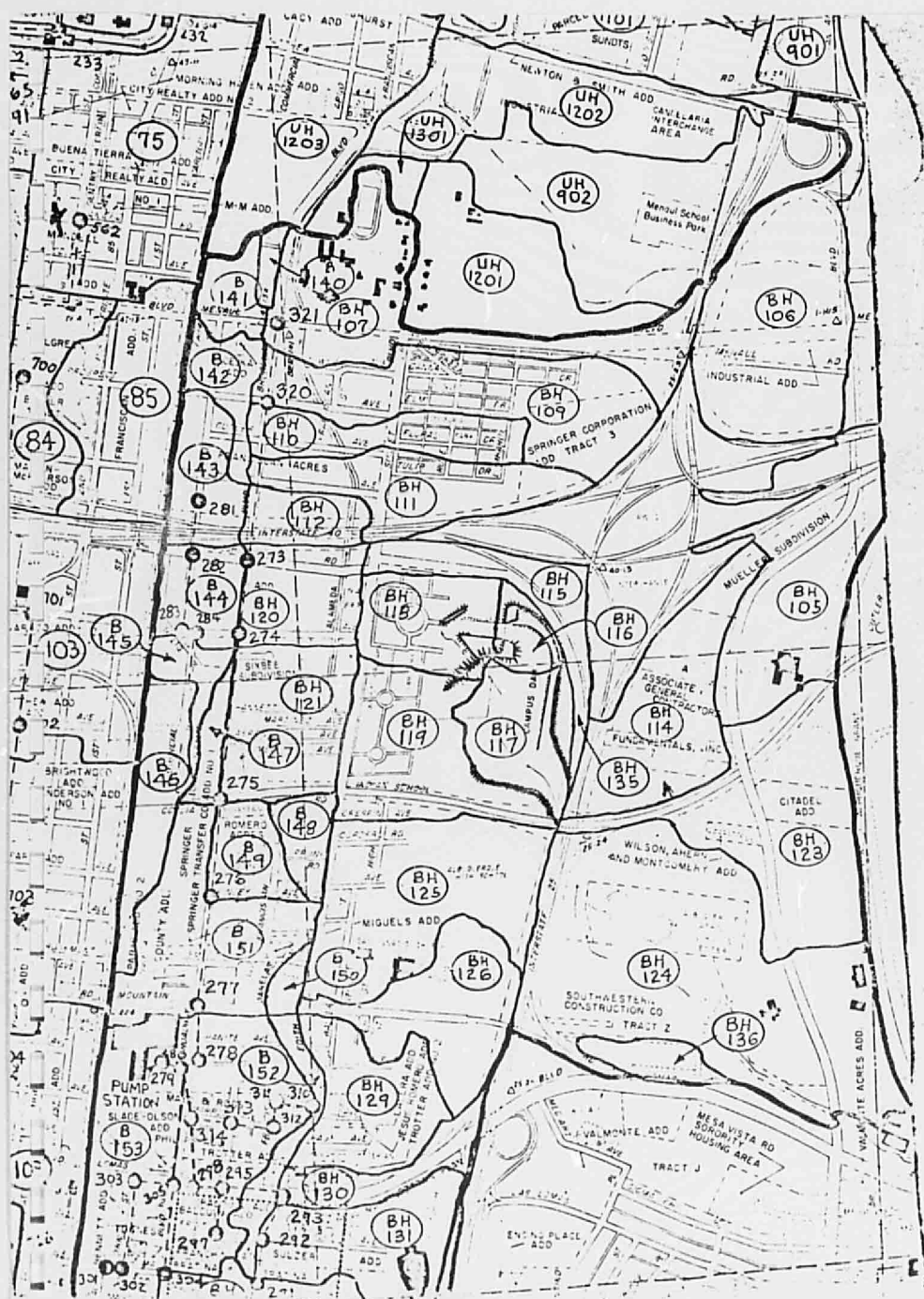
RUNOFF VOLUME = 4.499 ACRE-FT  
 PEAK DISCHARGE RATE = 60.0 CFS  
 PEAK OCCURRED AT 0.14 HRS.

\* OVERLAND FLOW INTO OPEN AREA NORTH OF INDIAN SCHOOL RD BETWEEN UNIVERSITY  
 \* BLVD AND I-25 ID=19 CODE=10  
 PRINT HYD

HYDROGRAPH NUMBER 123.3

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
0.000	0.	2.000	0.	4.000	0.
0.200	80.	2.200	0.	4.200	0.
0.400	0.	2.400	0.	4.400	0.
0.600	0.	2.600	0.	4.600	0.
0.800	0.	2.800	0.	4.800	0.
1.000	0.	3.000	0.	5.000	0.
1.200	0.	3.200	0.	5.200	0.
1.400	0.	3.400	0.	5.400	0.
1.600	0.	3.600	0.	5.600	0.
1.800	0.	3.800	0.	5.800	0.

RUNOFF VOLUME = 0.991 ACRE-FT  
 PEAK DISCHARGE RATE = 81.2 CFS  
 PEAK OCCURRED AT 0.22 HRS.



## OFF-SITE FLOW CHECK

Area = 66 acres (BASINIC)

$t_c$  - measured along University Blvd

Reach ① :  $10/1050 = 0.009$

② :  $26/860 = 0.03$

③ :  $12/650 = 0.018$

Velocities (Plate 22.2.B-1)

① 1.3 f/sec

② 2.4 " "

③ 1.8 " "

$$t_c = \frac{(1050/1.3) + (860/2.4) + (650/1.8)}{60}$$

$$= 25 \text{ minutes}$$

Rainfall = 2.2" Plate 22.2.D-1

Intensity = 2.91 Plate 22.2.D-2

B Soil C = 0.65 (60% Impervious)

$$Q_{100} = (0.65)(2.91)(66) = 125 \text{ cfs}$$

~ 141 cfs



PROJECT NAME Netherswood Apts.  
PROJECT NO. 41180  
SUBJECT OFF-SITE FLOW CHECK

SHEET

OF

BY BB

DATE

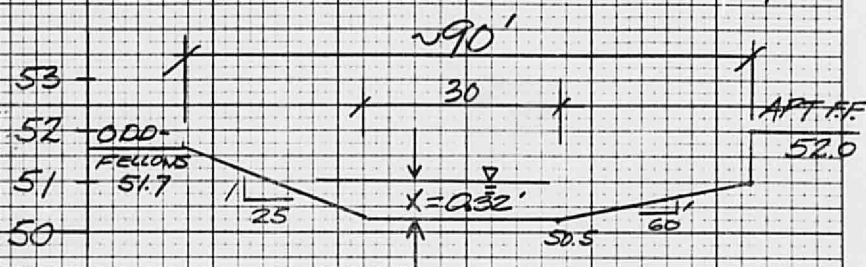
CH'D

DATE

2

3-84

# CAPACITY CHECK SOUTH BOUNDARY



$$\text{Area} = 30x + \frac{1}{2}(x)(25x) + \frac{1}{2}(x)60x$$

$$= 30x + 42.5x^2$$

$$\text{Perimeter (wetted)} = 30 + 85x$$

$$Q_{100} = 81 \text{ cfs (Hydrograph R3.1)}$$

$$\text{Slope} = 0.025 \text{ (minimum)}$$

$$Q = 81 = \frac{1.49}{0.017} \left( \frac{30x + 42.5x^2}{30 + 85x} \right)^{2/3} (0.025)^{1/2}$$

$$5.84 = A \left( \frac{A}{P} \right)^{2/3}$$

$$\text{By Trial and Error } \underline{\underline{X = 0.32'}}$$



PROJECT NAME Netherwood Apts.  
PROJECT NO. 41180  
SUBJECT \_\_\_\_\_

SHEET \_\_\_\_\_ OF \_\_\_\_\_  
BY BB DATE 3-84  
CH'D \_\_\_\_\_ DATE \_\_\_\_\_



CITY OF ALBUQUERQUE  
MUNICIPAL DEVELOPMENT DEPARTMENT  
ENGINEERING DIVISION



HYDROLOGY SECTION PROJ. NO. \_\_\_\_\_ DATE: 2/1/84

PLANNING DIVISION NO. \_\_\_\_\_

CONFERENCE RECAP

SUBJECT: NW CORNER OF INDIAN SCH + UNIVERSITY AVE JIS  
(PROPOSED APT COMPLEX) DRD 89-40

WHO	REPRESENTING
ATTENDANCE: <u>BRIAN BURNETT</u>	_____
<u>JOHN BROWN</u>	_____
<u>FRED J. AGUIRRE</u>	_____
_____	_____
_____	_____
_____	_____

- FINDINGS: - Any construction within NMSND R/W requires their approval  
- LEGAL DESCRIPTION - PROVIDE A PUT WITH DRAINAGE SUBMITTAL  
- DRAINAGE REPORT REQUIRED PRIOR TO BUILDING PERMIT RELEASE  
- ALLOWABLE DISCHARGE FROM THE SUBJECT SITE WILL BE BASED ON DOWNSTREAM  
CONDITIONS.  
- IDENTIFY THE EXISTING FLOODPLAIN ON THE GRADING PLAN. NOTE: FLOODPLAIN  
CAN NOT BE SHIFTED ON TO ADJACENT PROPERTY.  
- EVALUATE THE IMPACT ON THE PROPOSED DEVELOPMENT AND THE ADJACENT  
EXISTING STRUCTURES FROM THE ADJACENT FLOODPLAIN.

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: Fred J. Aguirre

SIGNED: Brian Burnett

TITLE: \_\_\_\_\_

TITLE: Civil Engineer

DATE: 2/1/84

DATE: 2/1/84

3



## FLOWRATE COMPUTATIONS

### BASIN A:

$$Area = 1.55 \text{ acres}$$

$$C = 0.34 \text{ (0\% Impervious)}$$

$$I_{100} = 4.65$$

$$Q_{100} = (.34)(4.65)(1.55) = \underline{2.5 \text{ cfs}}$$

### BASIN B:

$$Area = 0.38 \text{ acres}$$

$$C = 1.0 \text{ (100\% Impervious)}$$

$$I_{100} = 4.65$$

$$Q_{100} = (1.0)(4.65)(.38) = \underline{1.8 \text{ cfs}}$$

### Impervious Areas - On Site (STREET ONLY)

$$Area \sim 3.4 \text{ acres}$$

$$C = 1.0$$

$$I = 4.65$$

$$Q = \underline{15.8 \text{ cfs}}$$

Note: Building runoff controlled with gutter system  $\Rightarrow$  minimizing impact to downstream culvert



PROJECT NAME Netherwood Apts

PROJECT NO. 41180

SUBJECT \_\_\_\_\_

SHEET \_\_\_\_\_

BY BGB

CH'D \_\_\_\_\_

OF \_\_\_\_\_

DATE 3-84

DATE \_\_\_\_\_

4

Grass Area - On-Site  
(Central Courtyard):

Area ~ 1.0 acre

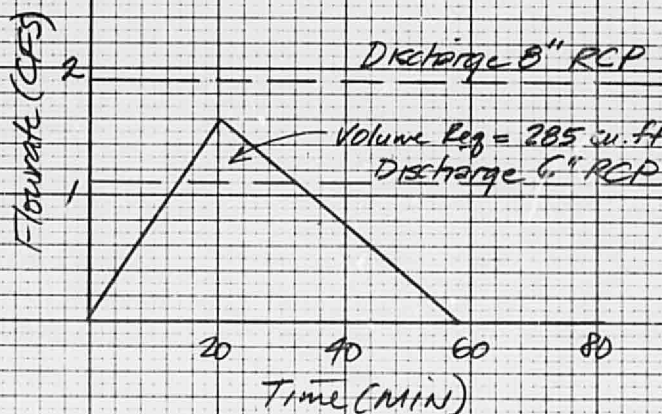
C = 0.34 (0% Impervious)

I = 4.65

Q = (.34)(4.65)(1.0) = 1.6 cfs

$V_{100} = \frac{2.2}{12} \times (.34) \times 43,560$   
= 2715 cu.ft.

Volume provided in small pond  
~ 550 cu.ft.



PROJECT NAME Netherwood Apts.

PROJECT NO. 41180

SUBJECT \_\_\_\_\_

SHEET \_\_\_\_\_

BY BB

CH'D \_\_\_\_\_

OF \_\_\_\_\_

DATE 3-84

DATE \_\_\_\_\_