CITY OF ALBUQUERQUE

Planning Department
Transportation Development Services Section

August 26, 2004

Martin J. Garcia, P.E.
6739 Academy Road NE, Ste 130
Albuquerque, NM 87109

Re: Certification Submittal for Final Building Certificate of Occupancy for McCleod Crossing Bldgs 5-8, [F-17 / D2I]

Engineer's Stamp Dated 07/02/04

Dear Mr. Garcia:

The TCL / Letter of Certification submitted on August 24, 2004 is sufficient for acceptance by this office for final Certificate of Occupancy (C.O.). Notification has been made to the Building and Safety Section.

Sincerely,

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

c: Engineer
Hydrology file
CO clerk

P.O. Box 1293
Albuquerque
New Mexico 87103
www.cabq.gov

DRAINAGE AND TRANSPORTATION INFORMATION SHEET

(REV. 1/28/2003rd)

F-17/D21

PROJECT TITLE: McCleod Crossing
DRB #: _____ EPC#:_____

ZONE MAP/DRG. FILE #:F-17
WORK ORDER#:_____

LEGAL DESCRIPTION: Lot H Cashway Building Materials Inc.
CITY ADDRESS:_____

ENGINEERING FIRM: ABQ Engineering
ADDRESS: 6739 Academy NE Suite 130
CITY, STATE: Albuquerque, NM

CONTACT: Martin J. Garcia
PHONE: 255-7802
ZIP CODE: 87109

OWNER: Chapman Companies
ADDRESS: 404 Brunn School road
CITY, STATE: Santa Fe, NM

CONTACT: Gary Lain
PHONE: 780-5048
ZIP CODE: 87505

ARCHITECT: _____
ADDRESS: _____
CITY, STATE: _____

CONTACT: _____
PHONE:
ZIP CODE.

SURVEYOR: _____
ADDRESS: _____
CITY, STATE: _____

CONTACT: _____
PHONE: _____
ZIP CODE: _____

CONTRACTOR: _____
ADDRESS: _____
CITY, STATE: _____

CONTACT: _____
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CHECK TYPE OF SUBMITTAL:

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

CHECK TYPE OF APPROVAL SOUGHT:

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

WAS A PRE-DESIGN CONFERENCE ATTENDED:

- ☐ YES
- ☐ NO
- ☐ COPY PROVIDED

RECEIVED
AUG 24 2004
HYDROLOGY SECTION

DATE SUBMITTED: August 18, 23, 2004

BY: Martin J. Garcia

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

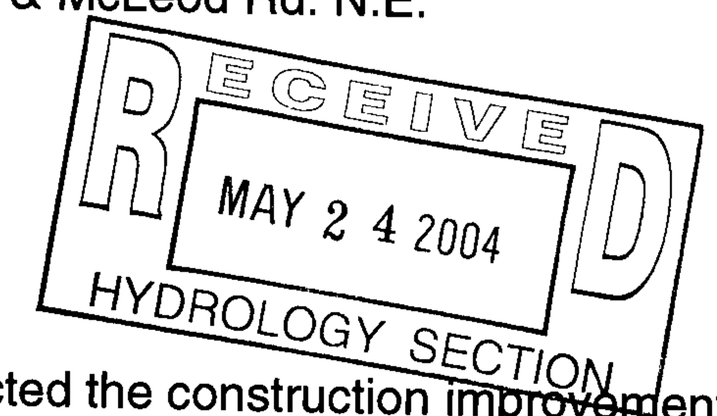
1. **Conceptual Grading and Drainage Plan**: Required for approval of Site Development Plans greater than five (5) acres and Sector Plans.
2. **Drainage Plans**: Required for building permits, grading permits, paving permits and site plans less than five (5) acres.

DORMAN and BREEN
ARCHITECTS

5/24/04

Traffic Circulation Layout Substantial Compliance Certificate

Regarding:
4828 Hardware Dr. N.E.
Albuquerque, New Mexico 87109
Legal Description: Lot A, McLeod Crossing Subdivision, Albuquerque, Bernallilo County, New Mexico
Location: Located at the northwest corner of Hardware Dr. & McLeod Rd. N.E.
Building Permit No.: 0203723, issued: 5-7-02

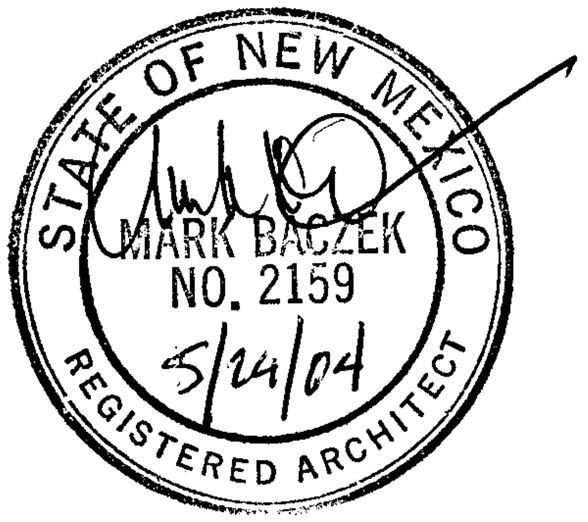


This letter is to note for the record that I have inspected the construction improvements directly in front of the building at the address noted above & have found the construction improvements to be "Substantially Compliant" with the approved Traffic Circulation Layout (TCL), as approved by the Code Administrator for the building permit. This site has multiple buildings with shared parking areas. This certification applies to the newest portion of the parking lot adjacent & applicable to the building noted herein.

The handicap parking space as shown in the original plan was relocated to the far north of the available parking spaces because it is closer to the front door on the building & is a flatter grade.

Mark Baczek, AIA

Dorman & Breen Architects



Richard Dorman, F.A.I.A./Laurence Breen, A.I.A.
Architecture, Planning, Interiors & Landscape Design

13604 Rebonito Court, NE · Albuquerque, NM 87112 · (505) 299-5940
1524 Paseo de Peralta · Santa Fe, NM 87501 · (505) 982-9196

CITY OF ALBUQUERQUE

August 18, 2004

Martin Garcia, P.E.
ABQ Engineering
6739 Academy Rd. Suite 130 NE
Albuquerque, NM 87109

Re: Mcleod Crossing Buildings 5 through 8, Traffic Circulation Layout
Engineer's Stamp dated 7-02-04 (F17-D2I)

Dear Mr. Garcia,

The TCL submittal received 8-18-04 is approved for Building Permit. The plan is stamped and signed as approved. A copy of this plan will be needed for each of the building permit plans. Please keep the original to be used for certification of the site for final C.O. for Transportation.

If a temporary CO is needed, a copy of the original TCL that was stamped as approved by the City will be needed. This plan must include a statement that identifies the outstanding items that need to be constructed or the items that have not been built in "substantial compliance," as well as the signed and dated stamp of a NM registered architect or engineer. Submit this TCL with a completed Drainage and Transportation Information Sheet to Hydrology at the Development Services Center of Plaza Del Sol Building.

When the site is completed and a final C.O. is requested, use the original City stamped approved TCL for certification. A NM registered architect or engineer must stamp, sign, and date the certification TCL along with indicating that the development was built in "substantial compliance" with the TCL. Submit this certification TCL with a completed Drainage and Transportation Information Sheet to Hydrology at the Development Services Center of Plaza Del Sol Building.

Once verification of certification is completed and approved, notification will be made to Building Safety to issue Final C.O. To confirm that a final C.O. has been issued, call Building Safety at 924-3306.

Sincerely,

Kristal D. Metro
Engineering Associate, Planning Dept.
Development and Building Services

cc: file

P.O. Box 1293
Albuquerque
New Mexico 87103
www.cabq.gov

F-17/D21

DRAINAGE AND TRANSPORTATION INFORMATION SHEET

(REV. 1/28/2003rd)

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DRB #: _____ EPC#:_____

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ZIP CODE: _____

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ADDRESS: _____
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- ☐ PAVING PERMIT APPROVAL
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DATE SUBMITTED: August 18, 2004

BY:Martin J. Garcia

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2. **Drainage Plans**: Required for building permits, grading permits, paving permits and site plans less than five (5) acres.

ABQ Engineering Inc.

6739 Academy Road, NE
Suite 130
Albuquerque, N.M. 87109
Office (505) 255-7802
Facsimile (505) 255-7902

FAX

DATE: 8/4/04

TO:

COMPANY: Kristal Memo

PHONE: COA.

FAX #: 924-3864

FROM: MARK

Phone No. : (505) 255-7802
Fax No. : (505) 255-7902

# of Pages:
(including cover page)

Comments:

K-KUSTAL ATTACHED IS TOKE

Need
Sidewalk
Easement

2002062655
3668709
Page: 1 of 4
05/15/2002 04:46P
Bk-A36 Pg-2473
Mary Herrera Bern. Co. EASE R 13.00

EASEMENT AND ACCESS AGREEMENT

THIS EASEMENT And Access Agreement is entered into by and between Biggie Enterprises, LLC ("Biggie Grantor/Grantee"), owner of that certain real property located in the City of Albuquerque, County of Bernalillo, State of New Mexico more particularly described as Lot A2A and Lot B as set forth in Exhibit "A" attached hereto and made a part hereof ("Biggie's Parcel"), and Sun Mountain Estates, Inc., ("Sun Mountain/Grantor/Grantee") owner of that certain real property located in City of Albuquerque, County of Bernalillo, State of New Mexico more particularly described as Lot B as set forth in Exhibit "A" ("Sun Mountain Parcel"), on this 10th day of April, 2002.

WHEREAS the Biggie Parcel and the Sun Mountain Parcel are adjoining pieces of real property.

WHEREAS the parties desire to create by conveying and receiving from each other a non-exclusive common access easement for pedestrian and vehicular access, ingress and egress over each other's parcel, and whereas the parties desire to create, by conveying and receiving form each other a drainage easement for the benefit of Biggie's Parcel on across and over Sun Mountain's Parcel.

NOW, THEREFORE, in consideration of the parties mutual promises contained herein, the parties hereto agree as follows:

1. **Access Easement.**

(a) **Grant of Easement.** The parties hereby grant and convey to each other, and their respective successors and assigns, an easement and right of way on, across and over the other's parcel (the "Access Easement").

(b) **Purpose of Access Easement.** The Access Easement shall be for the purposes of granting to the parties and their respective employees, representatives, customers, and invitees a permanent non-exclusive easement and right of use of all access and entrance drives and over all parking areas of the other's parcel for the purpose of pedestrian and vehicular ingress and egress. Each party agrees not to make any changes to their respective parcel which would materially obstruct or diminish the Access Easement. Further, each party agrees not to impose on the other, its employees, customers, invitees or on any other party any restriction regarding the use of the Access Easement or charge a monetary fee for the access granted herein.

2. **Drainage Easement.**

(a) **Grant of Easement.** Sun Mountain Grantor hereby grants and conveys to Biggie Grantee, and its successors and assigns, a blanket easement on across and over the entire portion of Sun Mountain's Parcel (the "Drainage Easement").

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5689760
Page: 2 of 4
05/15/2002 04:46P
Bk-A36 Pg-2473
Mary Herrera Bern. Co. EASE R 13.00

(b) **Purpose of Drainage Easement**. The Drainage Easement shall be for the purpose of granting to Biggie Grantee a permanent easement and right of use of the Drainage Easement for the purpose of releasing above ground drainage from Biggie Grantee's parcel at a controlled rate to the City storm sewer. Sun Mountain Grantor shall not make any changes to the Sun Mountain Parcel which would materially obstruct or diminish Biggie Grantee's easement granted herein.

3. **Indemnity**. The parties hereto agree that they shall defend, indemnify and save each other harmless form and against any liability to third parties for loss of life, personal injury, property damage which arises in connection with the parties usage of the Access Easement, and the Drainage Easement and all costs and expenses, including attorney's fees, which a party may incur in connection with any such liabilities; provided, however, that the foregoing shall not apply to any liabilities which are proximately caused by the negligence or willful misconduct of one of the parties or their agents.

4. **Binding Effect**. The burdens of the easements granted herein shall run with each party's parcel and shall be binding upon the owner of each parcel and every successor owner of each party's parcel. The easements granted herein shall inure to the benefit of each parcel and the owner thereof. The burdens of the restrictions shall run with both Biggie's Parcel and the Sun Mountain Parcel and shall be binding upon the owner of those parcels and every successor owner of those parcels. The restrictions shall inure to the benefit of both parcels.

5. **Successors and Assigns**. This Agreement shall be binding upon and inure to the benefit of the parties hereto, and their respective successors and assigns.

6. **Governing Law**. This Agreement and all the provisions hereof shall be governed by and construed in accordance with the laws of the State of New Mexico.

7. **Amendment**. This Agreement can be amended only upon execution by all parties hereto and following recording of such amendment.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the date first set forth above.

BIGGIE GRANTOR/GRANTEE:
BIGGIE ENTERPRISES, LLC
By: _____
Its Pres. Agt

SUN MOUNTAIN GRANTOR/GRANTEE:
SUN MOUNTAIN ESTATES, INC.
By: _____
Its Vice President

The foregoing instrument wa subscribed, sworn and acknowledged before me this 12th day of April, 2002, by Biggie Enterprises, LLC by Jeff Dennis.

Notary Public

MY COMMISSION EXPIRES:
9-12-04

The forgoing instrument was subscribed, sworn and acknowledged before me this 8 day of April, 2002, by Sun Mountain Estates, Inc. by Michael Chapman.

Notary Public

MY COMMISSION EXPIRES:
3-10-05

PROPERTY MAP

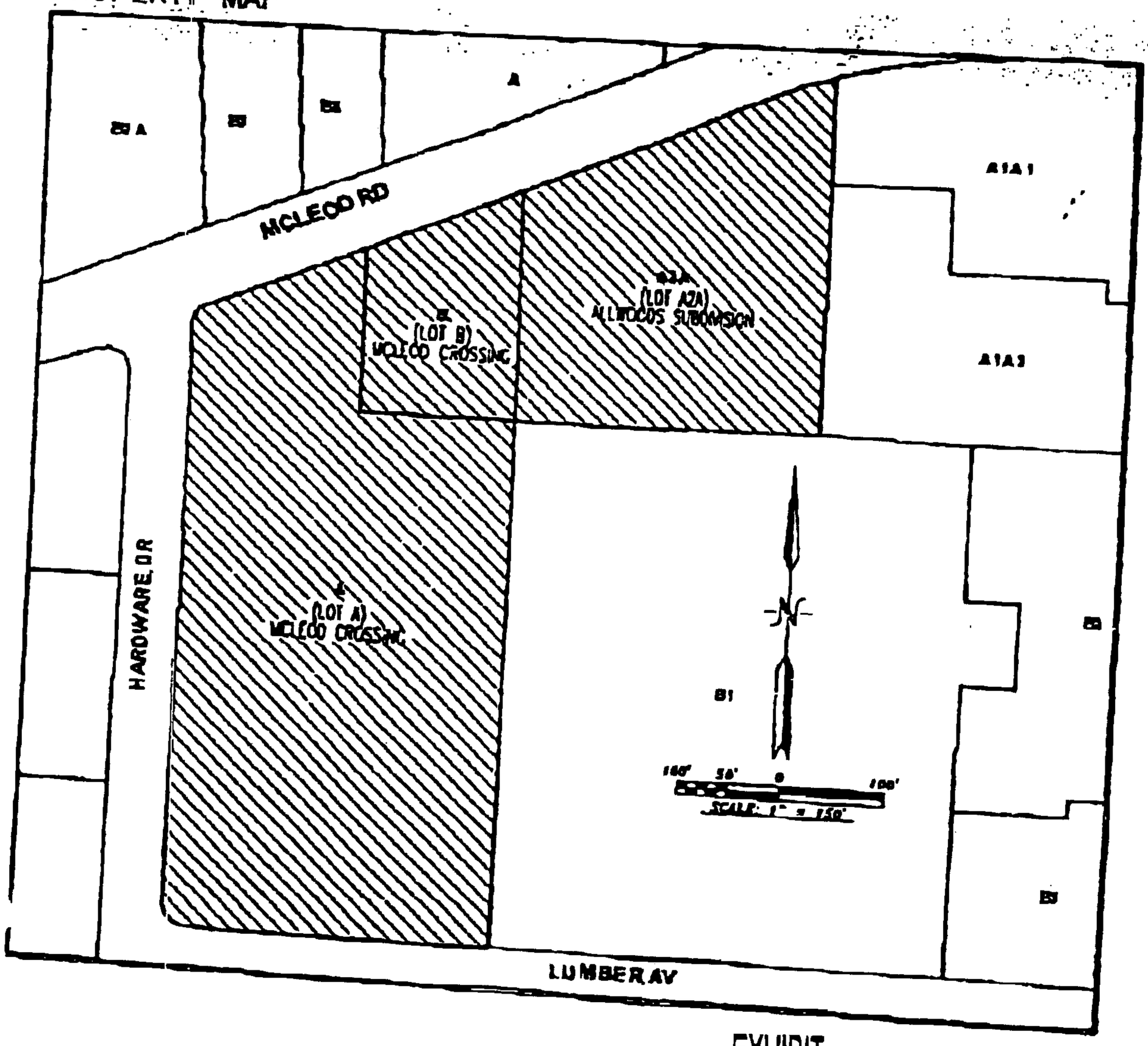
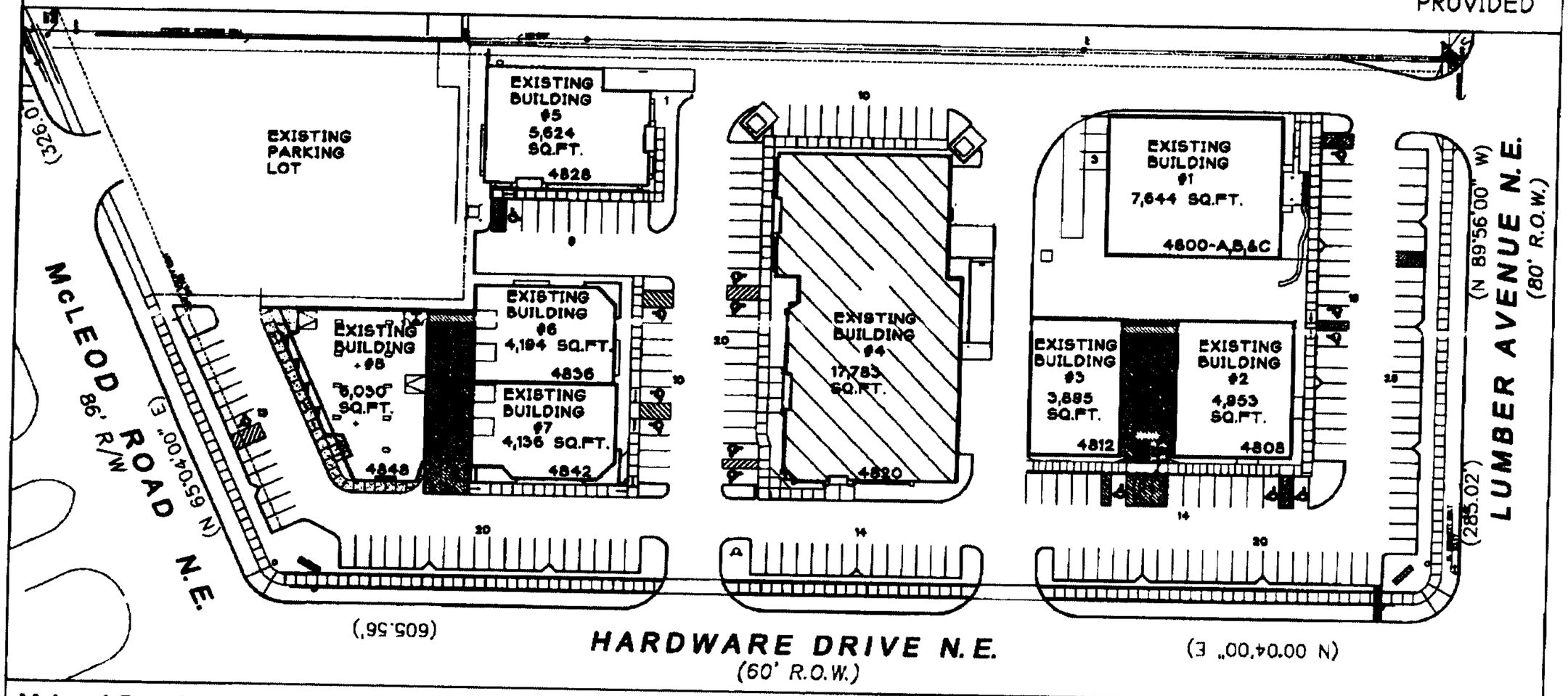


EXHIBIT A

FACILITY PARKING DATA

BUILDING NO.	OFFICE USE 200SF	MANUF.&WHOLESALE 1000SF	WAREHOUSE 2000SF	TOTAL FLOOR AREAS PER BUILDING
1	3821		3823	7,644
2	2476		2477	4,953
3	779		3116	3,895
4		6384	11399	17,783
5	3070		2554	5,624
6	1678		2516	4,194
7	2000		2136	4,136
8		6030		6,030
PARK'G REQ'MNTS:	69 PARK'G	12 PARK'G	14 PARK'G	95 PARK'G REQ'D
EXTENDED FLOOR AREAS:	13,824	12,414	28,021	TTL FLOOR AREA ON PROPERTY 54,259
				178 PARK'G PROVIDED



McLeod Crossing

Scale: N.T.S.

Chapman Companies, Albuquerque, NM

7/27/04

D+B

DORMAN and BREEN ARCHITECTS

ALBUQUERQUE 505-299-5940 SANTA FE 505-982-9196

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

June 28, 2004

Martin Garcia, P.E.
ABQ Engineering
6739 Academy Rd. Suite 130 NE
Albuquerque, NM 87109

Re: McCleod Crossing Buildings 5 thru 8, Traffic Circulation Layout
Engineer's Stamp dated 6-22-04 (F17/D2I)

Dear Mr. Garcia,

Per Wilfred Gallegos' request, a traffic circulation layout must be submitted and approved for building permit before a certificate of occupancy will be issued. Based upon the information provided in your submittal received 6-22-04, the above referenced plan cannot be approved for Building Permit until the following comments are addressed:

1. Parking spaces that do not have a full 20-foot by 8.5-foot area are classified as compact spaces, and they should be labeled as such.
2. What is the radius for the proposed entrance?
3. Please list the length for all parking spaces.
4. List the number of parking spaces required by the zoning code as well as the proposed number of parking spaces.
5. Please include two copies of the traffic circulation layout at the next submittal.
6. Define the width of all sidewalks.
7. Show the proposed wheelchair ramps at the entrance and the intersection of McLeod Road and Hardware Drive.
8. Call out the width of the access aisles located adjacent to the handicapped spaces.
9. A bollard is needed east of building 5, in order to protect the building from vehicle traffic.
10. A 25.25-foot wide area is shown between buildings 8 and 7. What is this area?
11. For passenger vehicles, the minimum end island radius is 15 feet.

12. Please include a copy of your shared access agreement with the adjacent property owner.
13. A sidewalk easement is needed for the sidewalk located along Hardware Drive.
14. Will the entrance be built with a work order?
15. Move the access aisle for building 5 to the south of the handicapped parking space.

If you have any questions, you can contact me at 924-3630.

Sincerely,

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

C: file

DRAINAGE AND TRANSPORTATION INFORMATION SHEET

(REV. 1/28/2003rd)

PROJECT TITLE: McCleod Crossing, Bldgs 5 thru 8
DRB #: _____ EPC#: _____

ZONE MAP/DRG. FILE #: F-17/D002I
WORK ORDER#: _____

LEGAL DESCRIPTION: Lot H Cashway Building Materials Inc.
CITY ADDRESS: _____

ENGINEERING FIRM: ABQ Engineering
ADDRESS: 6739 Academy NE Suite 130
CITY, STATE: Albuquerque, NM

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RECEIVED
JUN 22 2004
HYDROLOGY SECTION

DATE SUBMITTED: June 22, 2004

BY: Martin J. Garcia

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ABQ Engineering, Inc.
Engineers ▪ Planners ▪ Construction Services

June 22, 2004

Mr. Wilfred Gallegos
City of Albuquerque
Development Services
600 Second Street NW
Albuquerque, NM 87102

RE: McCleod Crossing Traffic Circulation Layout

Dear Mr. Gallegos:

Submitted herewith is the Traffic Circulation Layout for McCleod Crossing. This plan is submitted with the intent of receiving permanent certificate of occupancy on buildings 5 through 8 inclusive. Please inform me of any questions you may have or any additional information you may require.

Sincerely,

Martin J. Garcia, PE
ABQ Engineering
24069

6739 Academy Rd. NE, Suite 130 ▪ Albuquerque, New Mexico 87109 ▪ (505) 255-7802 ▪ Fax (505) 255-7902

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

May 21, 2004

Mr. Martin J. Garcia, P.E. 5-8
ABQ ENGINEERING, INC.
6739 Academy Rd. NE
Suite 130
Albuquerque, NM 87109

Re: MCLEOD CROSSINGS Bldg. 5-8
Hardware Dr. NE, between Lumber Ave. and Mcleod Road
Approval of Permanent Certificate of Occupancy (C.O.)
Engineer's Stamp dated 03/31/2003 (F-17/D002I)
Certification dated 05/17/2004

Dear Martin,

Based upon the information provided in your submittal received 05/21/2004, the above referenced certification is approved for release of Permanent Certificate of Occupancy by Hydrology.

If you have any questions, you can contact me at 924-3982.

Sincerely,

Arlene V. Portillo

Arlene V. Portillo
Plan Checker, Planning Dept. - Hydrology
Development and Building Services
BLB

C: Phyllis Villanueva
File

DRAINAGE AND TRANSPORTATION INFORMATION SHEET

(REV. 1/28/2003rd)

PROJECT TITLE: McCleod Office Park
DRB #: _____ EPC#:_____

ZONE MAP/DRG. FILE #:F-17/P002E
WORK ORDER#:_____

LEGAL DESCRIPTION: _____
CITY ADDRESS:_____

ENGINEERING FIRM: ABQ Engineering, Inc
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- ☐ S. DEV. PLAN FOR BLDG. PERMIT APPROVAL
- ☐ SECTOR PLAN APPROVAL
- ☐ FINAL PLAT APPROVAL
- ☐ FOUNDATION PERMIT APPROVAL
- ☐ BUILDING PERMIT APPROVAL
- ☒ CERTIFICATE OF OCCUPANCY (PERM.)
- ☐ CERTIFICATE OF OCCUPANCY (TEMP.)
- ☐ GRADING PERMIT APPROVAL
- ☐ PAVING PERMIT APPROVAL
- ☐ WORK ORDER APPROVAL
- ☐ OTHER (SPECIFY)

WAS A PRE-DESIGN CONFERENCE ATTENDED:

- ☐ YES
- ☒ NO
- ☐ COPY PROVIDED

Recd 5/21/04

DATE SUBMITTED: ~~May 17, 2004~~ 5/20/04

BY:Martin J. Garcia

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

1. **Conceptual Grading and Drainage Plan**: Required for approval of Site Development Plans greater than five (5) acres and Sector Plans.
2. **Drainage Plans**: Required for building permits, grading permits, paving permits and site plans less than five (5)

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

May 19, 2004

Martin Garcia, P.E.
ABQ ENGINEERING, INC.
6739 Academy N.E., Suite 130
Albuquerque, NM 87109

Re: MCLEOD CROSSINGS, BUILDINGS 5 THRU 8
Hardware Dr. NE, between Lumber Ave. and Mcleod Road
Certificate of Occupancy Verification dated 05/17/2004 (F-17/D002I)

Dear Martin:

Based upon the information provided in your submittal received 05/17/2004, the above referenced certification cannot be approved until the following comments are addressed:

1. The approved grading and drainage plan for buildings 6 through 8 has an engineer stamp date of 03/31/2003, not 05/17/2004.

2. The City of Albuquerque does not have an approved grading and drainage plan for building 5. Therefore, a Certificate of Occupancy release cannot be issued for building 5.

Note: A Certificate of Occupancy can be released for buildings 6 through 8, once the approved grading and drainage plan with the correct engineer date has been submitted, but not for building 5 until #2 comment has been addressed.

If you have any questions, you can contact me at 924-3982.

Sincerely,

Arlene V. Portillo

Arlene V. Portillo
Plan Checker, Planning Dept. - Hydrology
Development and Building Services

pb

C: file

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

May 1, 2003

Martin Garcia, PE
ABQ Engineering
1631 Eubank NE, Ste C
Albuquerque, NM 87112

Re: McLeod Crossing Grading & Drainage Plan – Bldgs 6-8
Engineer's Stamp dated 3-31-03 (F17/D02I)

Dear Mr. Garcia,

Based upon the information provided in your submittal dated 3-31-03, the above referenced plan is approved for Building Permit. Please attach a copy of this approved plan to the construction sets prior to sign-off by Hydrology.

Prior to Certificate of Occupancy release, Engineer Certification per the DPM checklist will be required.

If you have any questions, you can contact me at 924-3986.

Sincerely,

Bradley L. Bingham, PE
Sr. Engineer, Planning Dept.
Development and Building Services

C: file

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

November 24, 2003

Martin Garcia, P.E.
ABQ Engineering, Inc.
1631 Eubank NE Suite C
Albuquerque, NM 87112

4848 Hardware NE

Re: McCleod Crossing Building 8, Grading and Drainage Plan
Engineer's Stamp dated 11-19-03 (F17/D2I)

Dear Mr. Garcia,

Based upon the information provided in your submittal received 11-19-03, the above referenced plan is approved for Building Permit. Please attach a copy of this approved plan to the construction sets prior to sign-off by Hydrology.

Prior to Certificate of Occupancy release, Engineer Certification per the DPM checklist will be required.

If you have any questions, you can contact me at 924-3981.

Sincerely,

Kristal D. Metro
Engineering Associate, Planning Dept.
Development and Building Services
Bus

C: file

F-17/021

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

PROJECT TITLE: McCleod Crossing ZONE MAP/DRG. FILE #: F-17
DRB #: _____ EPC#: _____ WORK ORDER#: _____

LEGAL DESCRIPTION: Lot H of Cashway Building Materials Inc. Hillwoods Subdivision
CITY ADDRESS: _____

ENGINEERING FIRM: ABQ Engineering, LLC. CONTACT: Maggie Garcia
ADDRESS: 1631 Eubank NE Suite C PHONE: 255-7802
CITY, STATE: Albuq NM ZIP CODE: 87112

OWNER: Chapman Properties CONTACT: ~~#~~
ADDRESS: 1631 Eubank NE Suite C PHONE: _____
CITY, STATE: Albuq NM ZIP CODE: 87112

ARCHITECT: _____ CONTACT: _____
ADDRESS: _____ PHONE: _____
CITY, STATE: _____ ZIP CODE: _____

SURVEYOR: _____ CONTACT: _____
ADDRESS _____ PHONE: _____
CITY, STATE: _____ ZIP CODE: _____

CONTRACTOR: _____ CONTACT: _____
ADDRESS: _____ PHONE: _____
CITY, STATE: _____ ZIP CODE: _____

CHECK TYPE OF SUBMITTAL:
- ____ DRAINAGE REPORT
- ____ DRAINAGE PLAN
- ____ CONCEPTUAL GRADING & DRAINAGE PLAN
- ____ GRADING PLAN
- ____ EROSION CONTROL PLAN
- ____ ENGINEER'S CERTIFICATION (HYDROLOGY)
- ____ CLOMR/LOMR
- ____ TRAFFIC CIRCULATION LAYOUT (TCL)
- ____ ENGINEERS CERTIFICATION (TCL)
- ____ ENGINEERS CERTIFICATION (DRB APPR. SITE PLAN)
- X OTHER Revised G'D Plan for BLDG 8

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

WAS A PRE-DESIGN CONFERENCE ATTENDED:
- Y YES . W/CARLOS, RICHARD
- ____ NO
- ____ COPY PROVIDED

RECEIVED
NOV 18 2003
HYDROLOGY SECTION

DATE SUBMITTED: 11/19/03 BY: _____

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

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

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

April 2, 2004

Martin Garcia, P.E.
ABQ Engineering
6739 Academy Rd. Suite 130 NE
Albuquerque, NM 87109

Re: McCleod Crossing Building 8, 4848 Hardware Dr, Traffic Circulation Layout

Engineer's Stamp dated 3-25-04 (F17/D2I)

Dear Mr. Garcia,

Based upon the information provided in your submittal received 4-01-04, the above referenced plan cannot be approved for Building Permit until the following comments are addressed:

1. List the number of handicapped accessible parking spaces required, and show the location of these spaces.
2. Please list radii values for all curves shown.
3. List the width of all turnouts.
4. List the number of parking spaces required by the zoning code as well as the proposed number of parking spaces.
5. Define the width of all sidewalks.
6. Please include a copy of your shared access agreement with the adjacent property owner.
7. Where is the dumpster for this building?

If you have any questions, you can contact me at 924-3991.

Sincerely,

Wilfred A. Gallegos, P.E.
Traffic Engineer, Planning Dept.
Development and Building Services

C: file

F-17/D21

DRAINAGE AND TRANSPORTATION INFORMATION SHEET

(REV. 1/28/2003rd)

McCleod Crossing Building 8

PROJECT TITLE: Chapman Companies McCleod Crossing
DRB #: _____ EPC#: _____
ZONE MAP/DRG. FILE #: F-17
WORK ORDER#: _____

LEGAL DESCRIPTION: _____
CITY ADDRESS: ~~4848~~ Hardware Drive → BUILDIN PERMIT APPLICATION IS ALREADY IN.
4848

ENGINEERING FIRM: ABQ Engineering
ADDRESS: 6739 Academy NE Suite 130
CITY, STATE: Albuquerque,
CONTACT: Martin Garcia
PHONE: 255-7802
ZIP CODE: 87109

OWNER: Chapman Comapnies
ADDRESS: 6739 Academy NE Suite 130
CITY, STATE: Albuquerque, NM
CONTACT: _____
PHONE: 255-7802
ZIP CODE: 87109

ARCHITECT: _____
ADDRESS: _____
CITY, STATE: _____
CONTACT:
PHONE:
ZIP CODE: _____

SURVEYOR: _____
ADDRESS: _____
CITY, STATE: _____
CONTACT: _____
PHONE: _____
ZIP CODE: _____

CONTRACTOR: _____
ADDRESS: _____
CITY, STATE: _____
CONTACT: _____
PHONE: _____
ZIP CODE: _____

CHECK TYPE OF SUBMITTAL:

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

CHECK TYPE OF APPROVAL SOUGHT:

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

WAS A PRE-DESIGN CONFERENCE ATTENDED:

- ☐ YES
- ☒ NO
- ☐ COPY PROVIDED

DRB MAR 25 2004
HYDROLOGY SECTION

RECEIVED
APR 01 2004
HYDROLOGY SECTION

DATE SUBMITTED: March 25, 2004
BY: Martin J. Garcia

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

1. **Conceptual Grading and Drainage Plan**: Required for approval of Site Development Plans greater than five (5) acres and Sector Plans.
2. **Drainage Plans**: Required for building permits, grading permits, paving permits and site plans less than five (5)

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

May 2, 2002

Martin J. Garcia, P.E.
ABQ Engineering, Inc.
1631 Eubank Blvd NE Suite C
Albuquerque, New Mexico 87112

RE: MCLEOD CROSSING-BUILDING 2 (F-17/D2I)
(4810 Hardware Dr NE)
ENGINEERS CERTIFICATION FOR CERTIFICATE OF OCCUPANCY
ENGINEERS STAMP DATED 4/14/2000
ENGINEERS CERTIFICATION DATED 4/19/2002

Dear Mr. Garcia:

Based upon the information provided in your Engineers Certification submittal dated 4/19/2002, and with the approval of the SO19 on 5/2/2002, by the City's Storm Drainage Maintenance Inspector, the above referenced site is approved for Permanent Certificate of Occupancy for Building "2".

If I can be of further assistance, please contact me at 924-3981.

Sincerely,

Teresa A. Martin
Hydrology Plan Checker
Public Works Department
BLB

C: Vickie Chavez, COA
approval file
drainage file

ATTN: TERRI MARTIN

DRAINAGE AND TRANSPORTATION INFORMATION SHEET

(REV. 1/11/2002)

F-17/D21

PROJECT TITLE: MCLEOD CROSSING BLDG. 2
DRB #: _____ EPC#: _____ ZONE MAP/DRG. FILE #: F-17-Z
WORK ORDER#: _____

LEGAL DESCRIPTION: LOT H, ALLISONS SUBDIVISION FILED DG FOLIO 79 8/21/74
CITY ADDRESS: _____

ENGINEERING FIRM: ABQ ENGINEERING, INC
ADDRESS: 1631 ELLBANE NE SUITE C
CITY, STATE: ALBUQ NM 87112
CONTACT: MARTIN J. GARCIA
PHONE: 255-7802
ZIP CODE: 87112

OWNER: CHAPMAN COMPANIES
ADDRESS: 464 BRUNN SCHOOL RD
CITY, STATE: SANTA FE, NM
CONTACT: GARY
PHONE: 780-5048
ZIP CODE: 87505

ARCHITECT: _____
ADDRESS: _____
CITY, STATE: _____
CONTACT: _____
PHONE: _____
ZIP CODE: _____

SURVEYOR: _____
ADDRESS _____
CITY, STATE: _____
CONTACT: _____
PHONE: _____
ZIP CODE: _____

CONTRACTOR: _____
ADDRESS: _____
CITY, STATE: _____
CONTACT: _____
PHONE: _____
ZIP CODE: _____

CHECK TYPE OF SUBMITTAL:

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

CHECK TYPE OF APPROVAL SOUGHT:

- ____ SIA / FINANCIAL GUARANTEE RELEASE
- ____ PRELIMINARY PLAT APPROVAL
- ____ S. DEV. PLAN FOR SUB'D. APPROVAL
- ____ S. DEV. PLAN FOR BLDG. PERMIT APPROVAL
- ____ SECTOR PLAN APPROVAL
- ____ FINAL PLAT APPROVAL
- ____ FOUNDATION PERMIT APPROVAL
- ____ BUILDING PERMIT APPROVAL
- ✓ CERTIFICATE OF OCCUPANCY (PERM.) BLDG. 2
- ____ CERTIFICATE OF OCCUPANCY (TEMP.)
- ____ GRADING PERMIT APPROVAL
- ____ PAVING PERMIT APPROVAL
- ____ WORK ORDER APPROVAL
- ____ OTHER (SPECIFY)

WAS A PRE-DESIGN CONFERENCE ATTENDED:

- ____ YES
- ____ NO
- ____ COPY PROVIDED

DATE SUBMITTED: 4/19/02 BY _____

RECEIVED
APR 19 2002
HYDROLOGY SECTION

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

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

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

May 2, 2002

Martin J. Garcia, P.E.
ABQ Engineering, Inc.
1631 Eubank Blvd NE Suite C
Albuquerque, New Mexico 87112

RE: MCLEOD CROSSING- BUILDING 3 (F-17/D2I)
(4814 Hardware Dr NE)
ENGINEERS CERTIFICATION FOR CERTIFICATE OF OCCUPANCY
ENGINEERS STAMP DATED Rev. 4/17/2002
ENGINEERS CERTIFICATION DATED 4/17/2002

Dear Mr. Garcia:

Based upon the information provided in your Engineers Certification submittal dated 4/17/2002, the above referenced site is approved for Permanent Certificate of Occupancy for Building "3".

If I can be of further assistance, please contact me at 924-3981.

Sincerely,

Teresa A. Martin
Hydrology Plan Checker
Public Works Department
BLB

C: Vickie Chavez, COA
approval file
drainage file

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

May 2, 2002

Martin J. Garcia, P.E.
ABQ Engineering, Inc.
1631 Eubank Blvd NE Suite C
Albuquerque, New Mexico 87112

RE: MCLEOD CROSSING- BUILDING 4 (F-17/D2I)
(4820 Hardware Dr NE)
ENGINEERS CERTIFICATION FOR CERTIFICATE OF OCCUPANCY
ENGINEERS STAMP DATED Rev. 4/17/2002
ENGINEERS CERTIFICATION DATED 4/17/2002

Dear Mr. Garcia:

Based upon the information provided in your Engineers Certification submittal dated 4/17/2002, the above referenced site is approved for Permanent Certificate of Occupancy for Building "4".

If I can be of further assistance, please contact me at 924-3981.

Sincerely,

Teresa A. Martin
Hydrology Plan Checker
Public Works Department
BLB

C: Vickie Chavez, COA
approval file
drainage file

DRAINAGE AND TRANSPORTATION INFORMATION SHEET

(REV. 1/11/2002)

BLDG. 4

F-17/D21

PROJECT TITLE: McLeod Crossing
DRB #: _____ EPC#: _____ ZONE MAP/DRG. FILE #: ~~F17Z~~
WORK ORDER#: _____

LEGAL DESCRIPTION: LOT H OF PLAT OF CASTLEWAY BLDG MATL'S INC, ALLWOODS SUBDN FILED 8/21/74 DG FOLIO 79
CITY ADDRESS: _____

ENGINEERING FIRM: ABQ ENGINEERING, INC
ADDRESS: 1031 ELBANO NE SUITE C
CITY, STATE: ALBUQ NM 87112
CONTACT: MARTIN J. GARCIA
PHONE: 255-7902
ZIP CODE: 87112

OWNER: CHAPMAN COMPANIES
ADDRESS: 404 Bishop School Rd
CITY, STATE: ~~ALBUQUERQUE~~ NM SANTA FE
CONTACT: GARY
PHONE: (505) 780 5048
ZIP CODE: 87505

ARCHITECT: _____
ADDRESS: _____
CITY, STATE: _____
CONTACT: _____
PHONE: _____
ZIP CODE: _____

SURVEYOR: _____
ADDRESS: _____
CITY, STATE: _____
CONTACT: _____
PHONE: _____
ZIP CODE: _____

CONTRACTOR: _____
ADDRESS: _____
CITY, STATE: _____
CONTACT: _____
PHONE: _____
ZIP CODE: _____

CHECK TYPE OF SUBMITTAL

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

CHECK TYPE OF APPROVAL SOUGHT:

- ___ SIA / FINANCIAL GUARANTEE RELEASE
- ___ PRELIMINARY PLAT APPROVAL
- ___ S. DEV PLAN FOR SUB'D. APPROVAL
- ___ S. DEV PLAN FOR BLDG. PERMIT APPROVAL
- ___ SECTOR PLAN APPROVAL
- ___ FINAL PLAT APPROVAL
- ___ FOUNDATION PERMIT APPROVAL
- ___ BUILDING PERMIT APPROVAL
- ✓ CERTIFICATE OF OCCUPANCY (PERM.) ~~BLDG 3~~ BLDG 4
- ___ CERTIFICATE OF OCCUPANCY (TEMP.)
- ___ GRADING PERMIT APPROVAL
- ___ PAVING PERMIT APPROVAL
- ___ WORK ORDER APPROVAL
- ___ OTHER (SPECIFY)

WAS A PRE-DESIGN CONFERENCE ATTENDED:

- ___ YES
- ___ NO
- ___ COPY PROVIDED

DATE SUBMITTED: 4/17/02 BY: _____

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

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

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

March 22, 2001

Roni G. Booth, P.E.
ABQ Engineering, Inc.
163 Eubank NE, Suite C
Albuquerque, NM 87112

RE: MCLEOD CROSSING, BUILDING 2 (F17-D21). Revised GRADING & DRAINAGE PLAN FOR BUILDING PERMIT APPROVAL. ENGINEER'S STAMP DATED FEBRUARY 27, 2001.

Dear Mr.Booth:

Based on the information provided on your February 27, 2001 submittal, the above referenced project is approved for Building Permit.

Please attach a copy of this approved plan to the construction sets prior to sign-off by Hydrology.

Prior to Certificate of Occupancy approval, an Engineer's Certification per the DPM will be required.

The Traffic Control Layout (T.C.L.) was reviewed separately.

If I can be of further assistance, please feel free to contact me at 924-3984.

Sincerely,

John P. Murray, P.E.
Hydrology

c: Terri Martin
File

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

Public Works Department
Transportation Development Services Section

March 19, 2001

Ron Booth, Registered Professional Engineer,
ABQ Engineering Inc.
1631 Eubank N.E., Suite C,
Albuquerque, New Mexico 87112

Re:T.C.L. submittal for building permit approval for McLeod Crossing Development, [F17/D002I],
4810 Hardware N.E., Allwoods Subd., Tract H.
Engineer's Stamp dated 2/27/2001.

Dear Mr. Boone,

The location referenced above, is not acceptable and requires modification to the Traffic Circulation Layout (T.C.L.) prior to Building Permit release as stated on the red-lined T.C.L. markup.

Please resubmit revised T.C.L. after addressing marked up comments. Submit Plan along with all red-lined, mark-up copies.

Sincerely,

Mike Zamora,
Commercial Plan Checker

cc:
Hydrology File
Office File

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

December 19, 2000

Roni G. Booth, P.E.
ABQ Engineering, Inc.
1631 Eubank NE Suite C
Albuquerque, New Mexico 87112

RE: MCLEOD CROSSING- BUILDING 2 (F-17/D002I)
CERTIFICATE OF OCCUPANCY APPROVAL-*Temporary*
For BUILDING 2.; ENGINEERS STAMP DATED DECEMBER 18, 2000

Dear Mr. Booth:

Based on the information provided on your December 18, 2000 submittal, the above referenced project is approved for a 30-day TEMPORARY Certificate of Occupancy for Building 2.

An Engineers Certification for the entire site will be required upon completion of the total project for a Permanent Certificate of Occupancy.

If I can be of further assistance, please feel free to contact me at 924-3986.

Sincerely,

Bradley L. Bingham
Senior Civil Engineer, Hydrology
C.O.A./Public Works Department

c: Teresa Martin
Vickie Chavez
File

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

768-2804

August 31, 2000

Ron Booth, PE
ABQ Engineering
1631 Eubank NE, Ste C
Albuquerque, NM 87112

Re: McLeod Crossing Grading & Drainage Plan – Phase 2
Engineer's Stamp dated 8-7-00 (F17/D02I)

Dear Mr. Booth,

Based upon the information provided in your resubmittal dated 8-8-00, the above referenced plan is approved for Building Permit.

Please attach a copy of this approved plan to the construction sets prior to sign-off by Hydrology.

A separate permit is required for construction within City R/W. A copy of this approval letter must be on hand when applying for the excavation permit.

Also, prior to Certificate of Occupancy release, Engineer Certification per the DPM checklist will be required.

If you have any questions, you can contact me at 924-3986.

Sincerely,

Bradley L. Bingham

Bradley L. Bingham, PE
Sr. Engineer Hydrology

C: file

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

August 31, 2000

Ron Booth, PE
ABQ Engineering
1631 Eubank NE, Ste C
Albuquerque, NM 87112

Re: McLeod Crossing Grading & Drainage Plan – Phase 1
Engineer's Stamp dated 8-7-00 (F17/D02I)

Dear Mr. Booth,

Based upon the information provided in your submittal dated 8-15-00, the above referenced plan is approved for Certificate of Occupancy. This CO is for Phase 1 only.

If you have any questions, you can contact me at 924-3986.

Sincerely,

Bradley L. Bingham

Bradley L. Bingham, PE
Sr. Engineer Hydrology

C: file

CITY OF
Albuquerque

June 23,1998

Mark Goodwin
D. Mark Goodwin & Associates
P.O. Box 90606
Albuquerque, New Mexico 87199

RE: CONCEPTUAL DRAINAGE PLAN FOR MANN PROPERTY (F17-D2H) ENGINEER'S STAMP DATED 5/28/98

Dear Mr. Goodwin:

Based on the information provided on your May 28,1998 submittal, the above referenced site is approved for Site Development Plan for Subdivision.

Please be advised that prior to Master Plan approval, a submittal addressing all the items on the DPM checklist for Drainage Plan approval must be submitted.

If I can be of further assistance, please feel free to contact me at 924-3986.

C: Andrew Garcia
File

Sincerely

Bernie J. Montoya
Associate Engineer

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

January 29, 1999

Wallace A. Bingham, P.E.
DSL Associates
4401 Silver SE
Albuquerque, NM 87108

RE: McLEOD CROSSING (F17-D2I). DRAINAGE REPORT, DRAINAGE AND GRADING PLAN FOR BUILDING PERMIT AND SO#19 PERMIT APPROVALS. ENGINEER'S STAMP DATED DECEMBER 28, 1998.

Dear Mr. Bingham:

Based on the information provided on your December 29, 1998 resubmittal, the above referenced project is approved for Building Permit and SO#19 Permit.

Please attach a copy of this approved plan to the construction sets prior to sign-off by Hydrology.

A separate permit is required for construction within City right-of-way. A copy of this approval letter must be on hand when applying for the excavation permit.

Prior to Certificate of Occupancy approval, an Engineer's Certification per the DPM will be required.

If I can be of further assistance, please feel free to contact me at 924-3984.

Sincerely,

John P. Murray, P.E.
Hydrology

c: Arlene Portillo
D. Salas, St. Maint.
Andrew Garcia
File

FILE

DRAINAGE REPORT

McLEOD CROSSING

DECEMBER 1998

REALITY
ENGINEERING

WALLACE L. BINGHAM
NEW MEXICO
7281
REGISTERED PROFESSIONAL ENGINEER
12/28/98

DRAINAGE REPORT

McCLEOD CROSSING

This report covers documents the computations performed to determine the amount of runoff that will flow to and through the drainage structure on Lumber Ave. 200 feet east of Jefferson. The structure is a "cattle guard" type drop inlet running full width on Lumber combined with a water block west of the inlet on Lumber. The dimension are: 44 feet by 2.67 feet. The flow is conveyed from the inlet to the Grant line channel through 400 feet of 42 inch concrete storm drain. The fall in the storm drain from the top of the inlet to the box culvert crossing Jefferson is over six feet.

The contributing drainage area is shown on figure 1.

Figure 2 shows the capacity of the cattle guard inlet

Figure 3 (included in an analysis done by Suzi Balogh P.E.) was taken from the Albuquerque Metropolitan Drainage Study (AMDS). It shows the capacity of the intersection of Lumber and Hardware and the capacity of the 90 degree turn on Lumber Ave. Area B and F contribute 58 cfs which is less than the 67 cfs capacity.

Ahymo computer program input and output is included for the 100 yr 6-hour and 10-yr 6-hour storms for the combination on and off site runoffs.

Also included are worksheets showing the capacity of the storm drain from the inlet to the Grant Line channel working in partially full and surcharged modes.

This analysis shows that direct discharge for the contributing areas can adequately be conveyed by the existing downstream facilities.

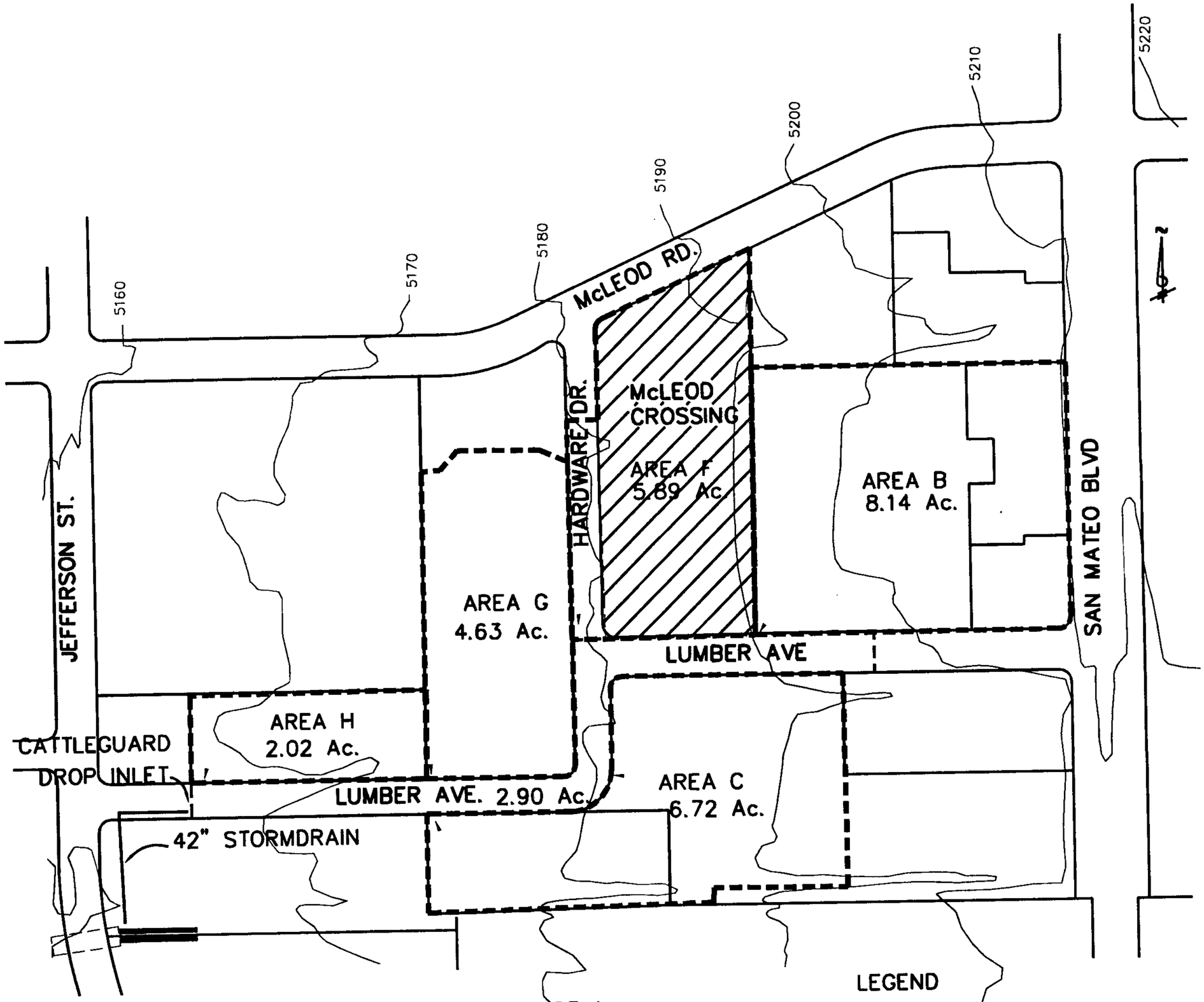


FIGURE 1
OFFSITE DRAINAGE MAP
SCALE: 1"=300'

Cattleguard Inlet Capacity

Width 2.4' length 44'

water Depth - 0.8'

Orifice equation:

$Q = .6 A \sqrt{2gh}$

$Q = .6 * 2.4 * 44 \sqrt{64.4 * .8}$

$Q = 406$

use 50% clogging factor

$Q = 406 * .5 \approx 203$ cfs

Sidewalk Culvert

$Q = 2.6 w H^{3/2}$

$Q = 4.75$ (drain area FS)

$H = .6'$

$w = \frac{4.75}{2.6 * .6^{3/2}}$

$w = 3.9'$

use 48" Sidewalk Culvert

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

January 8, 1993

Ms. Suzi Balogh, P.E.
Chavez-Grieves Cons. Eng.
4600-c Montgomery NE
Albuquerque, N.M. 87109

Re: CONCEPTUAL GRADING & DRAINAGE PLAN BLACK EYED PEA RESTAURANT (F-17/D2E)
RECEIVED DECEMBE 17, 1992 FOR SITE DEV. PLAN FOR BLDG. PRMT. APPROVAL
STAMPED & DATED 12-16-92

Dear Ms. Balogh:

Based on the information included in the submittal referenced above, City Hydrology approves the Site Development Plan for this project.

The following problems must be investigated before the Building Permit can be approved:

1. Check the water blocks at the entrances on San Mateo. Gutter must carry runoff to the single "C" inlet south of the main entrance.
2. Check the intersection of Hardware & Lumber. Is the runoff jumping the west curb of Hardware?
3. Check the capacity of the sidewalk culvert at the southwest corner of the site for proposed conditions.
4. Check the capacity of the inlet on Lumber east of Jefferson.

If you have any questions about this project, you may contact me at 768-2727.

Sincerely,

John P. Curtin

John P. Curtin, P.E.
PWD/Hydrology

xc: Alan Martinez
Fred Aguirre

WPHYD+7426;jpc

CHAVEZ-GRIEVES/CONSULTING ENGINEERS, INC.

5639 JEFFERSON N. E.
ALBUQUERQUE, NEW MEXICO 87109
(505) 344 - 4080 FAX (505) 343 - 8759

June 7, 1993

Mr. John Curtin
PWD/Hydrology
City of Albuquerque
P.O. Box 1293
Albuquerque, NM 87103

RE: FINAL GRADING AND DRAINAGE PLAN SUBMITTAL
BLACK EYED PEA RESTAURANT
FILE: F-17/D2E

This letter addresses the four concerns identified in your January 8, 1993 letter regarding our conceptual grading and drainage plan submittal for this project.

1. Check the water blocks at the entrance on San Mateo. Gutter must carry runoff to the single "C" inlet south of the main entrance.

   The original grading and drainage report for the Allwood's property was titled "Drainage Report, Allwood Property, Albuquerque, New Mexico" (September 28, 1976). The study covered a 47.33 acre site bounded on the south by the Elena Gallegos Grant Line, on the west by Jefferson Street, on the north by McLeod Road, and on the east by San Mateo Blvd. Figure 1 shows the study area and the on-site drainage areas (there were no report drawings showing the off-site drainage areas).

   The report recommended construction of a 48-inch storm drain in San Mateo Blvd. to isolate the study site from offsite flows from the east and to minimize the potential of flooding on San Mateo itself. The 48-inch line was designed to connect to an existing twin box culvert located just south of McLeod Road and to discharge to an 84-inch storm drain along the Elena Gallegos Grant Line.

Total offsite flow to the Elena Gallegos storm drain was calculated to be 168 cfs. This entire amount was designed to be intercepted by the proposed San Mateo storm drain system. Specific recommendations to handle offsite flows north of Lumber Ave. were as follows:

- Area 1 - The peak flowrate of 23 cfs flows south on San Mateo. Install two double catch basins on the east side of San Mateo which discharge directly to the twin box culverts south of McLeod.

  A single "C" inlet and a double "C" inlet have been installed on San Mateo at the southwest and southeast curb returns, respectively.

- Area 2 - The peak flowrate of 75 cfs flows west on McLeod towards San Mateo. Construct a cattleguard inlet with a capacity of 43 cfs to supplement the existing four double "C" inlets which intercept 32 cfs. The cattleguard should discharge to the twin box culverts south of McLeod. The existing 30-inch RCP between the McLeod inlets and the twin box culverts should be replaced with a 42-inch line.

  These improvements have not been constructed.

- Area 3 - The peak flowrate of 24 cfs enters at the east end of the twin box culverts. There were no proposed improvements for this area.

- Area 4 - The peak flowrate is 32 cfs. Install two double inlets on the east side of San Mateo to intercept 24 cfs. The remaining 8 cfs will flow overland to the south on San Mateo.

  A total of three inlets were installed--a single "C" inlet on the west side of San Mateo and two double "D" inlets on the east side of San Mateo. All of the inlets discharge to Manhole S-592 on the 48-inch San Mateo line.

- Area 5 - The peak flowrate is 32 cfs. Install two double inlets on the east side of San Mateo at Lumber Ave. and additional inlets on both sides of San Mateo south of Lumber Ave.

  One double and one single "D" inlet on the east side of San Mateo were installed and are connected to Manhole S-692 on the 48-inch San Mateo line at Lumber Ave. Additional inlets are connected to the San Mateo storm drain south of Lumber Ave.

- San Mateo - The peak flowrate is 14 cfs. See the improvements discussed above for Areas 1, 2, 4, and 5.

The Albuquerque Master Drainage Study (AMDS) also investigated drainage in the Allwood's area. As shown on Figure 2, there are four potential contributing drainage areas:

- Area A discharges to the north to the Bear Canyon Arroyo and does not impact the study area.

- Area B has a peak flow of 43 cfs. The 30-inch storm drain upstream of the twin box culverts intercepts 32 cfs, while the remaining 10.7 cfs flows overland to the south on San Mateo.

- Area C discharges directly to the Elena Gallegos drainage easement and does not impact the study area.

- Area D has a peak flow of 81.7 cfs.

Although the 48-inch storm drain in San Mateo was constructed prior to the AMDS study, it was not included in the AMDS model. Instead, the study modeled pre-storm drain conditions--flows entering the twin box culverts from Area B were modeled as discharging overland to the west and all of the Area D flows were modeled as overland flow.

To evaluate the offsite flows affecting the Black Eyed Pea project area, AMDS Area D was subdivided into five subareas (Figure 2):

- D1 - west of San Mateo

- D2 - San Mateo north of Lumber

- D3 - San Mateo south of Lumber

- D4 - east of San Mateo and north of Lumber (including Lumber)

- D5 - east of San Mateo and south of Lumber.

After calculating the acreage of each subarea, the peak flowrate for subareas D2 and D4 were calculated using current DPM methodology. The results are tabulated below:

Description	Area	Flowrate
D2	2.16 Ac	10.8 cfs
D4	16.03 Ac	76.6 cfs

Therefore, assuming that the flow from San Mateo itself is evenly divided between the east and west sides of the street, there is a peak flow of 5.4 cfs on the west side of San Mateo and a peak flow of 82.0 cfs (76.6 cfs + 5.4 cfs) on the east side of San Mateo. Once the offsite flow from Area B is included (without routing) the peak flows increase to 10.8 cfs on the west side of San Mateo (5.4 cfs + (0.5)x(10.7cfs)) and 87.4 cfs (82.0 cfs + (0.5)x(10.7 cfs)) on the east side of San Mateo.

The capacity of the 48-inch San Mateo storm drain is 130 cfs, so all of the 87.4 cfs east side peak flows can be intercepted by the storm drain. The storm drain can also accept the 10.8 cfs west side peak flow. However, there are no inlets on the west side of San Mateo north of the Allwoods entrance, so this flow will be carried in the street section until it is intercepted by the first west side inlet located just south of the Allwood's entrance.

San Mateo has a two percent crown and is 46 feet wide from the face of the curb to the centerline of the street. With 10.8 cfs in the west side of San Mateo, the water will be 5.3 inches deep and will extend a distance of 21.9 feet east of the curb line. Therefore, one traffic lane will remain free of water in the 100-year storm.

Since the flow on the west side of San Mateo is less than 6 inches deep during a 100-year storm, a 6-inch waterblock is proposed for the Allwood's entrance off of San Mateo. The single "C" inlet currently at the south curb return of the Allwood's entrance will be converted to a single "D" inlet in conjunction with the entrance widening. This inlet should intercept 4.9 cfs, leaving 5.9 cfs in San Mateo south of the Allwood's entrance.

2. Check the intersection of Hardware and Lumber. Is the runoff jumping the west curb of Hardware?

The 1976 Drainage Report recommended that a majority of the study area flows drain to Lumber and Hardware to be intercepted by a cattleguard inlet on Lumber just east of Jefferson. The attached cross sections (Figure 3) from the report show the designs for the Lumber and Hardware intersection and the 90° bend.

At the intersection, Hardware has a 2.5 percent cross slope from the west curb to the valley gutter on the east. Therefore, all flows heading west on Lumber will be intercepted by the valley gutter (installed at a 1.09 percent slope from north to south) and flow to the south. As shown by the grades on the attached as-built drawing (Figure 4), the depth of flow would have to exceed 1.77 feet before the water could jump the west curb at the intersection.

At the 90° bend, there is a 1.5 percent cross slope from the east and south to the north and west. Therefore, the flows cross from the east side of Hardware to the north side of Lumber at the bend. The design street capacity at this bend was calculated to be 85 cfs which exceeds the 71 cfs contributed by drainage areas B and F (Figure 1) by 14 cfs. The remaining 14 cfs of capacity will be utilized by drainage from the north half of Area C (29 cfs peak flow total x 1/2 = 14.5 cfs). The remaining 14.5 cfs of Area C flow enters Lumber west of the 90° bend and does not affect the flow at the bend. Therefore, there should be no flow jumping the north/west curb at the bend.

3. Check the capacity of the sidewalk culvert at the southwest corner of the site for proposed conditions.

   The existing sidewalk culvert is 6.7 feet wide perpendicular to the flow and 4.0 feet parallel to the flow. The culvert was modeled as a weir and has a maximum capacity of 7.9 cfs (see attached calculations).

   The capacity required for the culvert to handle 100-year developed flow is 14.25 cfs (100-yr undeveloped flown is 13.49 cfs). Therefore, the culvert handles 55 percent of the 100-yr developed flow.

   The remaining 6.35 cfs of 100-yr developed flow will flow over the sidewalk culvert through openings in the wall on the north side of the sidewalk culvert (Figure 5) and into Lumber. An existing berm along Lumber west of the Allwood's site will ensure that the on-site flows do not impact the adjacent properties to the west.

4. Check the capacity of the inlet on Lumber east of Jefferson.

   The required cattleguard capacity based on the 1976 report is 121 cfs. The report calculations show that the cattle-guard design capacity is 124 cfs, slightly exceeding the required capacity. However, the as-built cattleguard dimensions are larger than the design dimensions, so the actual capacity should exceed 124 cfs.

Please call me at 344-4080 if you have any questions. I look forward to your approval of our final grading and drainage plan submittal.

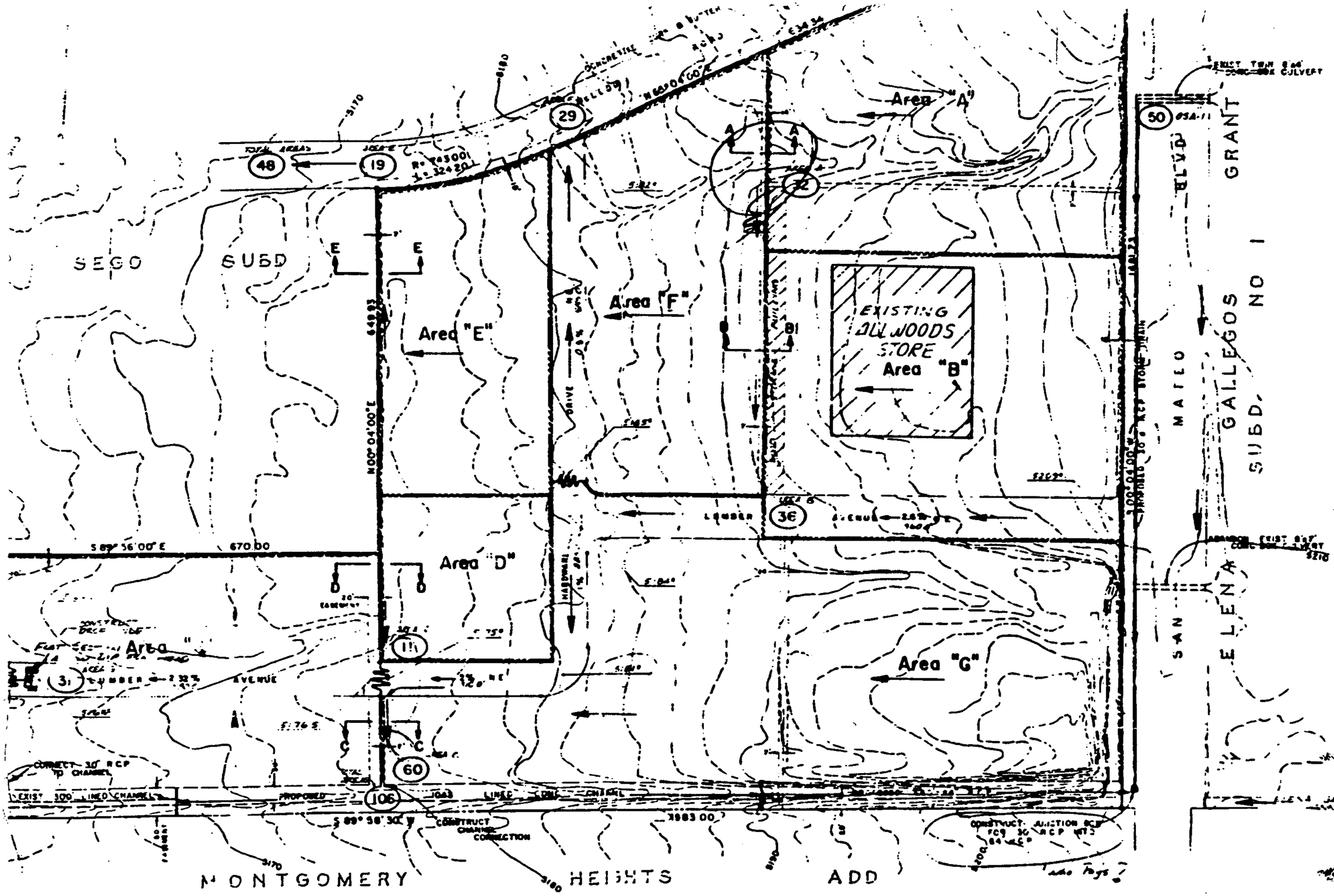
Very truly yours,

CHAVEZ-GRIEVES CONSULTING ENGINEERS, INC.

Suzi Balogh

Suzi Balogh, P.E.

SB:ms



NOTE ALL ELEVATIONS ARE [illegible]

LEGEND

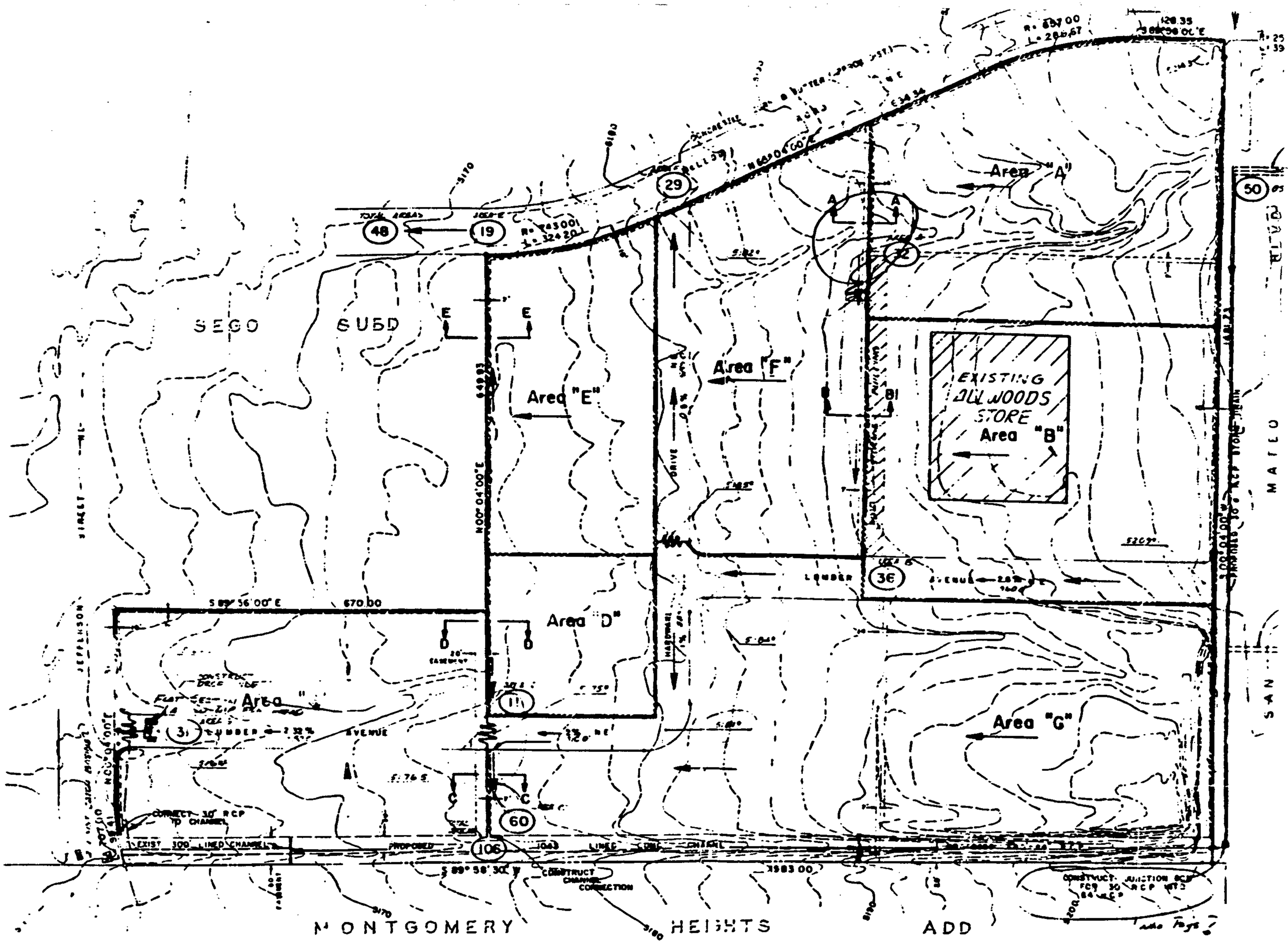
(29) DISCHARGE IN C.F.S.

EXISTING CHANNEL

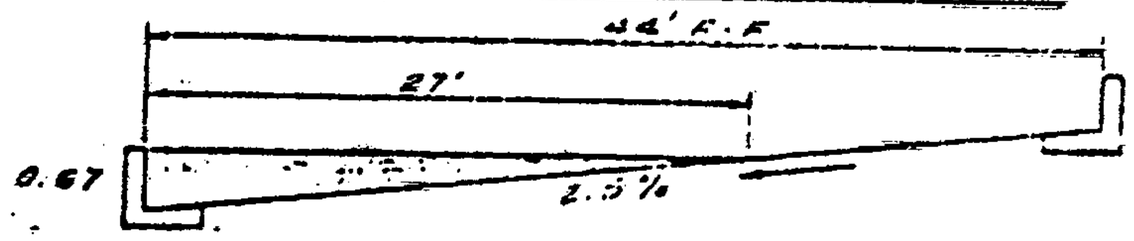
PROPOSED CHANNEL

FIGURE

1976 STUDY A


Area "A"
Area "B"
EXISTING
OLLWOODS
STORE
Area "C"
Area "D"
Area "E"
Area "F"
SEGO
SUBD
MONTGOMERY
HEIGHTS
ADD
LEGEND

LUMBER AVE. & HARDWARE XING



$Q = A \times V$

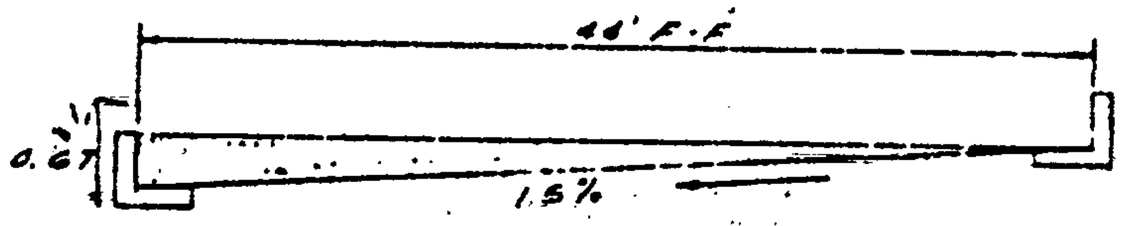
$= A \times \frac{1.486}{n} \times R^{2/3} \times S^{1/2}$

$= 9.04 \times 99.07 \times 0.473 \times 0.158$

$= 67$ C.F.S.

$A = 9.04$ FT.^{2}
$P = 27.67$ FT.
$R^{2/3} = 0.474$
$S^{1/2} = 0.158$ (2.5%)
$n = 0.015$

HARDWARE & LUMBER AT 90° BEND



$Q = A \times V$

$= \frac{A \times 1.486}{n} \times R^{2/3} \times S^{1/2}$

$= 14.74 \times \frac{1.486}{0.015} \times 0.477 \times 0.122$

$= 85$ C.F.S.

$A = 14.74$ FT.^{2}
$P = 44.67$ FT.
$R^{2/3} = 0.477$
$S^{1/2} = 0.122$ (1.5%)
$n = 0.015$

MURRAY-McCORMICK, INC.
ENVIRONMENTAL DESIGN
ENGINEERING · PLANNING · SURVEYING

JOB NO. _____ DATE 2/27/76
PROJECT _____
SCALE _____

FIGURE 3

LUMBER CATTLEGUARD CONDUIT
Worksheet for Circular Channel

Project Description	
Project File	c:\fmw\lumber.fm2
Worksheet	LUMBER2
Flow Element	Circular Channel
Method	Manning's Formula
Solve For	Discharge

Input Data		
Mannings Coefficient	0.013	
Channel Slope	0.017500	ft/ft
Depth	3.50	ft
Diameter	3.50	ft

Results		
Discharge	133.09	ft³/s
Flow Area	9.62	ft²
Wetted Perimeter	11.00	ft
Top Width	0.00	ft
Critical Depth	3.32	ft
Percent Full	100.00	%
Critical Slope	0.015156	ft/ft
Velocity	13.83	ft/s
Velocity Head	2.97	ft
Specific Energy	FULL	ft
Froude Number	FULL	
Maximum Discharge	143.16	ft³/s
Full Flow Capacity	133.09	ft³/s
Full Flow Slope	0.017500	ft/ft

100 yr Q = 130 cfs
Maximum Capacity
Gravity flow > 130 cfs

LUMBER PRESSURE PIPE
Worksheet for Pressure Pipe

Project Description	
Project File	c:\fmw\lumber.fm2
Worksheet	lumber3
Flow Element	Pressure Pipe
Method	Manning's Formula
Solve For	Pressure at 1

Input Data		
Pressure at 2	0.00	lbs/in²
Elevation at 1	6.00	ft
Elevation at 2	0.00	ft
Length	400.00	ft
Mannings Coefficient	0.013	
Diameter	42.00	in
Discharge	58500.00	gal/min

$\Rightarrow$ 130 cfs

Results		
Pressure at 1	0.31	lbs/in²
Headloss	6.71	ft
Energy Grade at 1	9.57	ft
Energy Grade at 2	2.85	ft
Hydraulic Grade at 1	6.71	ft
Hydraulic Grade at 2	0.00	ft
Flow Area	9.62	ft²
Wetted Perimeter	11.00	ft
Velocity	13.55	ft/s
Velocity Head	2.85	ft
Friction Slope	0.016785	ft/ft

Working as pressure pipe with 100 yr flowrate

LUMBER PRESSURE PIPE
Worksheet for Pressure Pipe

Project Description	
Project File	c:\fmw\lumber.fm2
Worksheet	lumber3
Flow Element	Pressure Pipe
Method	Manning's Formula
Solve For	Discharge

Input Data		
Pressure at 1	1.65	lbs/in²
Pressure at 2	0.00	lbs/in²
Elevation at 1	6.00	ft
Elevation at 2	0.00	ft
Length	400.00	ft
Mannings Coefficient	0.013	
Diameter	42.00	in

Results		
Discharge	70698.80	gal/min
Headloss	9.81	ft
Energy Grade at 1	13.12	ft
Energy Grade at 2	3.32	ft
Hydraulic Grade at 1	9.81	ft
Hydraulic Grade at 2	0.00	ft
Flow Area	9.62	ft²
Wetted Perimeter	11.00	ft
Velocity	16.37	ft/s
Velocity Head	4.17	ft
Friction Slope	0.024515	ft/ft

⇒ 157 cfs working as pressure pipe and pool edge about flow line

LUMBER
Worksheet for Irregular Channel

Project Description	
Project File	c:\fmw\lumber.fm2
Worksheet	LUMBER1
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Water Elevation

Input Data

Channel Slope 0.025000 ft/ft

Elevation range: 0.00 ft to 0.87 ft.

Station (ft)	Elevation (ft)	Start Station	End Station	Roughness
0.00	0.87	0.00	64.00	0.015
10.00	0.67			
10.20	0.00			
32.00	0.44			
54.00	0.00			
54.20	0.67			
64.00	0.87			

Discharge 87.00 ft³/s

Results

Wtd. Mannings Coefficient	0.015	
Water Surface Elevation	0.51	ft
Flow Area	12.81	ft²
Wetted Perimeter	44.87	ft
Top Width	44.10	ft
Depth	0.51	ft
Critical Water Elev.	0.73	ft
Critical Slope	0.004385	ft/ft
Velocity	6.79	ft/s
Velocity Head	0.72	ft
Specific Energy	1.23	ft
Froude Number	2.22	
Full Flow Capacity	291.02	ft³/s

Flow is supercritical.

Depth/Velocity Comp. for Lumber east of the inlet for 10yr storm
0.51 * 6.79 = 3.46
< 6 OK

```
START                                    TIME-0.0 CODE 0 LINES -6
*S  PROJECT: McLEOD CROSSING
*S  COMPUTE THE FULLY DEVELOPED FLOW THAT WILL REACH THE "CATTLEGUARD"
*S  200 FEET EAST OF JEFFERSON ON LUMBER AVENUE.
*S  THE FLOW IS CONVEYED THRU A 42" CONDUIT FROM THE INLET TO THE
*S  GRANT LINE CHANNEL.  FALL THRU THIS CONDUIT IS SEVEN FEET IN 400 FEET
*S  COMPUTE 100 YEAR - 6 HOUR HYROGRAPHS
*S  PRECIPITATION  ZONE 2

RAINFALL                          TYPE=-1  RAIN Quar 0.0      RAIN One 2.01
                                  RAIN SIX= 2.35 RAIN DAY= 2.75 DT= 0.0333333
**********21**********************************************************
*S AREA B
COMPUTE NM HYD          ID=1      HYD = 101 DA= 0.0127
                        PER A 00 PER B 10 PER C 0 PER D 90 TP=-.13
                           RAIN =-1
PRINT HYD               ID=1 CoDE 10
**************************************************************************
COMPUTE RATING CURVE      CDD=-1 VSNO 1 NOSEGS 1 MIN 0 MAX .87
                          CHSLP.02 FPSLP.037 N .017 DIST 80
                          DIST ELEV  DIST ELEV  DIST ELEV
                          0    .87   18   .67   18.2 0
                          44   .44   62    0    62.2 .67
                          80    .87
COMPUTE TRAVEL TIME     RC=51 RN 1 NO VS 1 LENGTH 355 SLP .02
ROUTE                   ID=51 HYD 151 INID 1 DT=0.0
PRINT HYD               ID 51 CODE 10
**************************************************************************
*S AREA F
COMPUTE NM HYD          ID=2      HYD= 102  DA= 0.00763
                        PER A 0 PER B 10 PER C 0 PER D 90 TP=-.13
                         RAIN -1
PRINT HYD               ID=2   CoDE=10
ADD HYD                 ID 3 HYD 103 IDi 2 IDii 51
*S FLOW AT NORTH INTERSECTION OF LUMBER AND HARDWARE
PRINT HYD               ID 3
**************************************************************************
COMPUTE RATING CURVE      CDD=-1 VSNO 1 NOSEGS 1 MIN 0 MAX .87
                          CHSLP.02 FPSLP.02 N .017 DIST 80
                          DIST ELEV  DIST ELEV  DIST ELEV
                          0    .87   18   .67   18.2 0
                          44   .44   62    0    62.2 .67
                          80    .87
COMPUTE TRAVEL TIME     RC=52 RN 1 NO VS 1 LENGTH 260 SLP .02
ROUTE                   ID=52 HYD 152 INID 3 DT=0.0
PRINT HYD               ID 52 CODE 10

**************************************************************************
*S AREA C
COMPUTE NM HYD          ID=4 HYD=104 DA=.0105
                        PER A 0 PER B 10 PER C 0 PER D 90 TP -.13
                        RAIN =-1
PRINT HYD               ID=4 CODE 10
ADD HYD                 ID 5 HYD 105 IDi 4 IDii 52
PRINT HYD               ID 5 CODE 10
COMPUTE RATING CURVE      CDD=-1 VSNO 1 NOSEGS 1 MIN 0 MAX .87
                          CHSLP.02 FPSLP.02 N .017 DIST 80
                          DIST ELEV  DIST ELEV  DIST ELEV
```

```
                          0    .87   18   .67   18.2 0
                          44   .44   62    0    62.2 .67
                          80    .87
COMPUTE TRAVEL TIME     RC=53 RN 1 NO VS 1 LENGTH 316 SLP .02
ROUTE                   ID=53 HYD 153 INID 5 DT=0.0
PRINT HYD               ID 53 CODE 10
************************************************************************
*S AREA G
COMPUTE NM HYD         ID=6 HYD = 106 DA=.00724
                       PER A 0 PER B 10 PER C 0 PER D 90 TP-.13
                       RAIN -1
PRINT HYD              ID=6 CODE 10
ADD HYD                ID 7 HYD 107 IDi 6 IDii 53
COMPUTE RATING CURVE     CDD=-1 VSNO 1 NOSEGS 1 MIN 0 MAX .87
                         CHSLP.02 FPSLP.02 N .017 DIST 80
                         DIST ELEV  DIST ELEV  DIST ELEV
                         0    .87   18   .67   18.2 0
                         44   .44   62    0    62.2 .67
                         80    .87
COMPUTE TRAVEL TIME     RC=54 RN 1 NO VS 1 LENGTH 483 SLP .02
ROUTE                   ID=54 HYD 154 INID 7 DT=0.0
PRINT HYD               ID 54 CODE 10
************************************************************************
*S  AREA H
COMPUTE NM HYD         ID=8 HYD = 108 DA=.0032
                       PER A 0 PER B 0 PER C 0 PER D 100 TP-.13
                       RAIN -1
PRINT HYD               ID 8 CODE 10
************************************************************************
*S AREA LUMBER ST.
COMPUTE NM HYD         ID=9 HYD=109 DA .00452
                       PER A 0 PER B 0 PER C 0 PER D 100 TP -.13
                       RAIN -1
PRINT HYD              ID 9 CODE 10
************************************************************************
ADD HYD                 ID=10 HYD 110 IDi 9 IDii 8
PRINT HYD               ID 10 CODE 10
ADD HYD                 ID 11 HYD 111 IDi 10 IDii 54

*S*********************************************************************
*S TOTAL FLOW TO CATTLE GUARD INLET ON LUMBER EAST OF JEFFERSON
*S*********************************************************************
PRINT HYD              ID 11 CODE 10

ROUTE RESERVOIR          ID 80 HYD 180 IN 11 CODE 1
                          OUT  STORE   ELEV
                           0     0      0
                           140   .022   .87
PRINT HYD                 ID=80 CODE 5



*S SITE DRAINAGE TO LUMBER
*S AREA F1
COMPUTE NM HYD          ID 20 HYD 120 DA .00227
                        PER A 0 PER B 10 PER C 0 PER D 90 TP-.13
                        RAIN -1
PRINT HYD               ID 20 CODE 10
************************************************************************
*S AREA F2
```

```
COMPUTE NM HYD          ID 21 HYD 121 DA .000803
                        PER A 0 PER B 10 PER C 0 PER D 90 TP-.13
                        RAIN -1
PRINT HYD               ID 21 CODE 10
**********************************************************************
*S AREA F3
COMPUTE NM HYD          ID 22 HYD 122 DA .00144
                        PER A 0 PER B 10 PER C 0 PER D 90 TP-.13
                        RAIN -1
PRINT HYD               ID 22 CODE 10
**********************************************************************
*S AREA F4
COMPUTE NM HYD          ID 23 HYD 123 DA .00148
                        PER A 0 PER B 10 PER C 0 PER D 90 TP-.13
                        RAIN -1
PRINT HYD               ID 23 CODE 10
**********************************************************************
*S AREA F5
COMPUTE NM HYD          ID 24 HYD 124 DA .00164
                        PER A 0 PER B 10 PER C 0 PER D 90 TP-.13
                        RAIN -1
PRINT HYD               ID 24 CODE 10
FINISH
```

```
-(s16.67h8.5v0T-&18D
   AHYMO PROGRAM SUMMARY TABLE (AHYMO_97) -                    - VERSION:  1997.02a      RUN DATE (MON/DAY/YR) =11/20/1998
   INPUT FILE = C:\AHYMO\CURRENT\MCLEOD.TXT                                              USER NO.= AHYMO-I-9702a0100007G-SH

                                  FROM  TO                    PEAK          RUNOFF                TIME TO    CFS       PAGE =   1
                    HYDROGRAPH    ID    ID         AREA      DISCHARGE      VOLUME      RUNOFF      PEAK      PER
   COMMAND       IDENTIFICATION   NO.   NO.      (SQ MI)      (CFS)        (AC-FT)    (INCHES)    (HOURS)   ACRE      NOTATION

   START                                                                                                    TIME=        .00
   *S  PROJECT: McLEOD CROSSING
   *S  COMPUTE THE FULLY DEVELOPED FLOW THAT WILL REACH THE "CATTLEGUARD"
   *S  200 FEET EAST OF JEFFERSON ON LUMBER AVENUE.
   *S  THE FLOW IS CONVEYED THRU A 42" CONDUIT FROM THE INLET TO THE
   *S  GRANT LINE CHANNEL.  FALL THRU THIS CONDUIT IS SEVEN FEET IN 400 FEET
   *S  COMPUTE 100 YEAR - 6 HOUR HYROGRAPHS
   *S  PRECIPITATION  ZONE 2
   RAINFALL  TYPE= 1                                                                                        RAIN6=     2.350
   *S AREA B
   COMPUTE NM HYD       101.00   -     1        .01270       36.66       1.342      1.98164     1.500     4.510 PER IMP=  90.00
   ROUTE                151.00    1   51        .01270       35.76       1.342      1.98165     1.533     4.399
   *S AREA F
   COMPUTE NM HYD       102.00   -     2        .00763       22.03        .806      1.98164     1.500     4.511 PER IMP=  90.00
   ADD HYD              103.00  2&51   3        .02033       57.79       2.149      1.98161     1.500     4.441
   *S FLOW AT NORTH INTERSECTION OF LUMBER AND HARDWARE
   ROUTE                152.00    3   52        .02033       57.82       2.149      1.98164     1.533     4.444
   *S AREA C
   COMPUTE NM HYD       104.00   -     4        .01050       30.31       1.110      1.98164     1.500     4.510 PER IMP=  90.00
   ADD HYD              105.00  4&52   5        .03083       86.86       3.258      1.98161     1.500     4.402
   ROUTE                153.00    5   53        .03083       88.08       3.258      1.98163     1.533     4.464
   *S AREA G
   COMPUTE NM HYD       106.00   -     6        .00724       20.91        .765      1.98164     1.500     4.512 PER IMP=  90.00
   ADD HYD              107.00  6&53   7        .03807      107.73       4.023      1.98161     1.533     4.422
   ROUTE                154.00    7   54        .03807      108.74       4.023      1.98162     1.533     4.463
   *S  AREA H
   COMPUTE NM HYD       108.00   -     8        .00320        9.74        .361      2.11535     1.500     4.754 PER IMP= 100.00
   *S AREA LUMBER ST.
   COMPUTE NM HYD       109.00   -     9        .00452       13.75        .510      2.11535     1.500     4.753 PER IMP= 100.00
   ADD HYD              110.00  9& 8  10        .00772       23.49        .871      2.11528     1.500     4.753
   ADD HYD              111.00 10&54  11        .04579      130.75       4.894      2.00415     1.533     4.462
   *S*************************************************************************
   *S TOTAL FLOW TO CATTLE GUARD INLET ON LUMBER EAST OF JEFFERSON
   *S*************************************************************************
   ROUTE RESERVOIR      180.00   11   80        .04579      130.83       4.894      2.00415     1.533     4.464 AC-FT=     .021
   *S SITE DRAINAGE TO LUMBER
   *S AREA F1
   COMPUTE NM HYD       120.00   -    20        .00227        6.57        .240      1.98164     1.500     4.520 PER IMP=  90.00
   *S AREA F2
   COMPUTE NM HYD       121.00   -    21        .00080        2.33        .085      1.98164     1.500     4.542 PER IMP=  90.00
   *S AREA F3
   COMPUTE NM HYD       122.00   -    22        .00144        4.17        .152      1.98164     1.500     4.526 PER IMP=  90.00
   *S AREA F4
   COMPUTE NM HYD       123.00   -    23        .00148        4.29        .156      1.98164     1.500     4.526 PER IMP=  90.00
   *S AREA F5
   COMPUTE NM HYD       124.00   -    24        .00164        4.75        .173      1.98164     1.500     4.524 PER IMP=  90.00
   FINISH
-(s0p10h4099T-&16D
```

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←(s16.67h8.5v0T-&18D

      AHYMO PROGRAM (AHYMO_97) -                              - Version:  1997.02a
           RUN DATE (MON/DAY/YR) = 11/20/1998
           START TIME (HR:MIN:SEC) = 10:40:43     USER NO.= AHYMO-I-9702a0100007G-SH
           INPUT FILE = C:\AHYMO\CURRENT\MCLEOD.TXT


  START                              TIME=0.0 CODE 0 LINES -6
  *S  PROJECT: McLEOD CROSSING
  *S  COMPUTE THE FULLY DEVELOPED FLOW THAT WILL REACH THE "CATTLEGUARD"
  *S  200 FEET EAST OF JEFFERSON ON LUMBER AVENUE.
  *S  THE FLOW IS CONVEYED THRU A 42" CONDUIT FROM THE INLET TO THE
  *S  GRANT LINE CHANNEL.  FALL THRU THIS CONDUIT IS SEVEN FEET IN 400 FEET
  *S  COMPUTE 100 YEAR - 6 HOUR HYROGRAPHS
  *S  PRECIPITATION  ZONE 2

  RAINFALL                    TYPE=-1  RAIN Quar 0.0      RAIN One 2.01
                              RAIN SIX= 2.35 RAIN DAY= 2.75 DT= 0.0333333

                  COMPUTED 6-HOUR RAINFALL DISTRIBUTION BASED ON NOAA ATLAS 2 - PEAK AT 1.40 HR.
                  DT =     .033333 HOURS        END TIME =     5.999995 HOURS
  **********21**************************************************
  *S AREA B
  COMPUTE NM HYD          ID=1      HYD = 101 DA= 0.0127
                          PER A 00 PER B 10 PER C 0 PER D 90 TP=-.13
                             RAIN =-1
        K =    .070850HR     TP =    .130000HR     K/TP RATIO =    .545000      SHAPE CONSTANT, N =  7.106420
        UNIT PEAK =    46.272     CFS    UNIT VOLUME =     .9998        B =    526.28       P60 = 2.0100
        AREA =         .011430 SQ MI     IA =     .10000 INCHES     INF =     .04000 INCHES PER HOUR
        RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =    .033333


        K =    .128818HR     TP =    .130000HR     K/TP RATIO =    .990905      SHAPE CONSTANT, N =  3.563124
        UNIT PEAK =    3.1741     CFS    UNIT VOLUME =     .9959        B =    324.91       P60 = 2.0100
        AREA =         .001270 SQ MI     IA =     .50000 INCHES     INF =    1.25000 INCHES PER HOUR
        RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =    .033333

  PRINT HYD               ID=1 CoDE 10

                                  PARTIAL HYDROGRAPH    101.00

      TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW
       HRS       CFS           HRS       CFS           HRS       CFS           HRS       CFS           HRS       CFS
       .000       .0          1.667      18.1         3.333        .3         5.000        .2         6.667        .0
       .333       .0          2.000       8.7         3.667        .2         5.333        .2         7.000        .0
       .667       .0          2.333       1.8         4.000        .2         5.667        .2
      1.000       .0          2.667        .7         4.333        .2         6.000        .2
      1.333      11.1         3.000        .4         4.667        .2         6.333        .0

     RUNOFF VOLUME =      1.98164 INCHES      =       1.3422 ACRE-FEET
     PEAK DISCHARGE RATE =      36.66 CFS  AT    1.500 HOURS    BASIN AREA =    .0127 SQ. MI.



  **********************************************************************
  COMPUTE RATING CURVE    CDD=-1 VSNO 1 NOSEGS 1 MIN 0 MAX .87
                          CHSLP.02 FPSLP.037 N .017 DIST 80
                          DIST ELEV  DIST ELEV  DIST ELEV
                          0    .87   18   .67   18.2 0
                          44   .44   62    0    62.2 .67
                          80    .87
  COMPUTE TRAVEL TIME     RC=51 RN 1 NO VS 1 LENGTH 355 SLP .02

                          TRAVEL TIME TABLE
                                        REACH=  1.0

                          WATER       AVERAGE      FLOW        TRAVEL
                          DEPTH       AREA         RATE        TIME
                          FEET        SQ.FT.       CFS         HRS
                             .046        .105          .14       .0735
                             .092        .420          .89       .0463
                             .137        .945         2.64       .0353
                             .183       1.680         5.68       .0292
                             .229       2.625        10.30       .0251
                             .275       3.779        16.75       .0223
                             .321       5.144        25.27       .0201
                             .366       6.719        36.07       .0184
                             .412       8.504        49.38       .0170
                             .458      10.482        66.96       .0154
                             .504      12.501        89.68       .0137
                             .549      14.521       114.94       .0125
                             .595      16.542       142.62       .0114
                             .641      18.565       172.61       .0106
                             .687      20.614       196.68       .0103
                             .733      22.963       212.05       .0107
                             .778      25.688       233.53       .0108
                             .824      28.788       260.75       .0109
                             .870      32.264       293.66       .0108
  ROUTE                   ID=51 HYD 151 INID 1 DT=0.0
  PRINT HYD               ID 51 CODE 10
```

PARTIAL HYDROGRAPH 151.00

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	1.667	19.4	3.333	.3	5.000	.2	6.667	.0
.333	.0	2.000	8.9	3.667	.2	5.333	.2	7.000	.0
.667	.0	2.333	2.0	4.000	.2	5.667	.2		
1.000	.0	2.667	.8	4.333	.2	6.000	.2		
1.333	8.8	3.000	.4	4.667	.2	6.333	.0		

RUNOFF VOLUME = 1.98165 INCHES = 1.3422 ACRE-FEET
PEAK DISCHARGE RATE = 35.76 CFS AT 1.533 HOURS BASIN AREA = .0127 SQ. MI.

****
*S AREA F
COMPUTE NM HYD ID=2 HYD= 102 DA= 0.00763
PER A 0 PER B 10 PER C 0 PER D 90 TP=-.13
RAIN -1

K = .070850HR TP = .130000HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 27.799 CFS UNIT VOLUME = .9997 B = 526.28 P60 = 2.0100
AREA = .006867 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033333

K = .128818HR TP = .130000HR K/TP RATIO = .990905 SHAPE CONSTANT, N = 3.563124
UNIT PEAK = 1.9070 CFS UNIT VOLUME = .9929 B = 324.91 P60 = 2.0100
AREA = .000763 SQ MI IA = .50000 INCHES INF = 1.25000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033333

PRINT HYD ID=2 CoDE=10

PARTIAL HYDROGRAPH 102.00

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	1.667	10.9	3.333	.2	5.000	.1	6.667	.0
.333	.0	2.000	5.2	3.667	.1	5.333	.1		
.667	.0	2.333	1.1	4.000	.1	5.667	.1		
1.000	.0	2.667	.5	4.333	.1	6.000	.1		
1.333	6.7	3.000	.2	4.667	.1	6.333	.0		

RUNOFF VOLUME = 1.98164 INCHES = .8064 ACRE-FEET
PEAK DISCHARGE RATE = 22.03 CFS AT 1.500 HOURS BASIN AREA = .0076 SQ. MI.

ADD HYD ID 3 HYD 103 IDi 2 IDii 51
*S FLOW AT NORTH INTERSECTION OF LUMBER AND HARDWARE
PRINT HYD ID 3

PARTIAL HYDROGRAPH 103.00

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	1.433	41.4	2.867	.8	4.300	.3	5.733	.4
.033	.0	1.467	51.6	2.900	.8	4.333	.3	5.767	.4
.067	.0	1.500	57.8	2.933	.8	4.367	.3	5.800	.4
.100	.0	1.533	56.5	2.967	.7	4.400	.3	5.833	.4
.133	.0	1.567	49.5	3.000	.7	4.433	.3	5.867	.4
.167	.0	1.600	41.5	3.033	.6	4.467	.3	5.900	.4
.200	.0	1.633	35.0	3.067	.6	4.500	.3	5.933	.4
.233	.0	1.667	30.3	3.100	.6	4.533	.3	5.967	.4
.267	.0	1.700	26.9	3.133	.6	4.567	.3	6.000	.4
.300	.0	1.733	24.4	3.167	.5	4.600	.3	6.033	.4
.333	.0	1.767	22.4	3.200	.5	4.633	.3	6.067	.4
.367	.0	1.800	20.8	3.233	.5	4.667	.3	6.100	.3
.400	.0	1.833	19.4	3.267	.5	4.700	.3	6.133	.3
.433	.0	1.867	18.2	3.300	.5	4.733	.3	6.167	.2
.467	.0	1.900	17.0	3.333	.5	4.767	.3	6.200	.2
.500	.0	1.933	16.0	3.367	.4	4.800	.3	6.233	.1
.533	.0	1.967	15.0	3.400	.4	4.833	.3	6.267	.1
.567	.0	2.000	14.1	3.433	.4	4.867	.3	6.300	.1
.600	.0	2.033	13.3	3.467	.4	4.900	.3	6.333	.1
.633	.0	2.067	12.2	3.500	.4	4.933	.3	6.367	.1
.667	.0	2.100	10.6	3.533	.4	4.967	.3	6.400	.0
.700	.0	2.133	8.6	3.567	.4	5.000	.3	6.433	.0
.733	.0	2.167	6.8	3.600	.4	5.033	.3	6.467	.0
.767	.0	2.200	5.5	3.633	.4	5.067	.3	6.500	.0
.800	.0	2.233	4.6	3.667	.4	5.100	.3	6.533	.0
.833	.0	2.267	3.9	3.700	.4	5.133	.3	6.567	.0
.867	.0	2.300	3.4	3.733	.4	5.167	.3	6.600	.0
.900	.0	2.333	3.0	3.767	.4	5.200	.3	6.633	.0
.933	.0	2.367	2.8	3.800	.3	5.233	.3	6.667	.0
.967	.0	2.400	2.5	3.833	.3	5.267	.3	6.700	.0
1.000	.0	2.433	2.3	3.867	.3	5.300	.3	6.733	.0
1.033	.0	2.467	2.1	3.900	.3	5.333	.3	6.767	.0
1.067	.0	2.500	1.9	3.933	.3	5.367	.3	6.800	.0
1.100	.0	2.533	1.8	3.967	.3	5.400	.3	6.833	.0
1.133	.0	2.567	1.6	4.000	.3	5.433	.3	6.867	.0
1.167	.1	2.600	1.5	4.033	.3	5.467	.3	6.900	.0

1.200	.6	2.633	1.4	4.067	.3	5.500	.3	6.933	.0
1.233	2.1	2.667	1.3	4.100	.3	5.533	.3	6.967	.0
1.267	5.2	2.700	1.2	4.133	.3	5.567	.3	7.000	.0
1.300	9.7	2.733	1.1	4.167	.3	5.600	.4	7.033	.0
1.333	15.5	2.767	1.0	4.200	.3	5.633	.4	7.067	.0
1.367	22.6	2.800	1.0	4.233	.3	5.667	.4	7.100	.0
1.400	31.2	2.833	.9	4.267	.3	5.700	.4		

RUNOFF VOLUME = 1.98161 INCHES = 2.1486 ACRE-FEET
PEAK DISCHARGE RATE = 57.79 CFS AT 1.500 HOURS BASIN AREA = .0203 SQ. MI.

****

COMPUTE RATING CURVE CDD=-1 VSNO 1 NOSEGS 1 MIN 0 MAX .87
CHSLP.02 FPSLP.02 N .017 DIST 80
DIST ELEV DIST ELEV DIST ELEV
0 .87 18 .67 18.2 0
44 .44 62 0 62.2 .67
80 .87

COMPUTE TRAVEL TIME RC=52 RN 1 NO VS 1 LENGTH 260 SLP .02

TRAVEL TIME TABLE
REACH= 1.0

WATER DEPTH FEET	AVERAGE AREA SQ.FT.	FLOW RATE CFS	TRAVEL TIME HRS
.046	.105	.10	.0732
.092	.420	.66	.0461
.137	.945	1.94	.0352
.183	1.680	4.18	.0290
.229	2.625	7.57	.0250
.275	3.779	12.31	.0222
.321	5.144	18.58	.0200
.366	6.719	26.52	.0183
.412	8.504	36.31	.0169
.458	10.482	49.23	.0154
.504	12.501	65.93	.0137
.549	14.521	84.51	.0124
.595	16.542	104.86	.0114
.641	18.565	126.91	.0106
.687	20.614	144.60	.0103
.733	22.963	155.90	.0106
.778	25.688	171.69	.0108
.824	28.788	191.71	.0108
.870	32.264	215.90	.0108

ROUTE ID=52 HYD 152 INID 3 DT=0.0
PRINT HYD ID 52 CODE 10

PARTIAL HYDROGRAPH 152.00

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	1.667	31.9	3.333	.5	5.000	.3	6.667	.0
.333	.0	2.000	14.6	3.667	.4	5.333	.3	7.000	.0
.667	.0	2.333	3.3	4.000	.3	5.667	.4		
1.000	.0	2.667	1.3	4.333	.3	6.000	.4		
1.333	12.4	3.000	.7	4.667	.3	6.333	.1		

RUNOFF VOLUME = 1.98164 INCHES = 2.1486 ACRE-FEET
PEAK DISCHARGE RATE = 57.82 CFS AT 1.533 HOURS BASIN AREA = .0203 SQ. MI.

****

*S AREA C
COMPUTE NM HYD ID=4 HYD=104 DA=.0105
PER A 0 PER B 10 PER C 0 PER D 90 TP -.13
RAIN =-1

K = .070850HR TP = .130000HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 38.256 CFS UNIT VOLUME = .9998 B = 526.28 P60 = 2.0100
AREA = .009450 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033333

K = .128818HR TP = .130000HR K/TP RATIO = .990905 SHAPE CONSTANT, N = 3.563124
UNIT PEAK = 2.6243 CFS UNIT VOLUME = .9951 B = 324.91 P60 = 2.0100
AREA = .001050 SQ MI IA = .50000 INCHES INF = 1.25000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033333

PRINT HYD ID=4 CODE 10

PARTIAL HYDROGRAPH 104.00

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	1.667	15.0	3.333	.2	5.000	.2	6.667	.0
.333	.0	2.000	7.2	3.667	.2	5.333	.2		
.667	.0	2.333	1.5	4.000	.2	5.667	.2		
1.000	.0	2.667	.6	4.333	.2	6.000	.2		

1.333	9.2	3.000	.3	4.667	.2	6.333	.0

RUNOFF VOLUME = 1.98164 INCHES = 1.1097 ACRE-FEET
PEAK DISCHARGE RATE = 30.31 CFS AT 1.500 HOURS BASIN AREA = .0105 SQ. MI.

ADD HYD ID 5 HYD 105 IDi 4 IDii 52
PRINT HYD ID 5 CODE 10

PARTIAL HYDROGRAPH 105.00

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	1.667	46.9	3.333	.7	5.000	.5	6.667	.0
.333	.0	2.000	21.7	3.667	.6	5.333	.5	7.000	.0
.667	.0	2.333	4.8	4.000	.5	5.667	.5		
1.000	.0	2.667	2.0	4.333	.5	6.000	.6		
1.333	21.6	3.000	1.1	4.667	.5	6.333	.1		

RUNOFF VOLUME = 1.98161 INCHES = 3.2583 ACRE-FEET
PEAK DISCHARGE RATE = 86.86 CFS AT 1.500 HOURS BASIN AREA = .0308 SQ. MI.

COMPUTE RATING CURVE CDD=-1 VSNO 1 NOSEGS 1 MIN 0 MAX .87
CHSLP.02 FPSLP.02 N .017 DIST 80

DIST	ELEV	DIST	ELEV	DIST	ELEV
0	.87	18	.67	18.2	0
44	.44	62	0	62.2	.67
80	.87				

COMPUTE TRAVEL TIME RC=53 RN 1 NO VS 1 LENGTH 316 SLP .02

TRAVEL TIME TABLE
REACH= 1.0

WATER DEPTH FEET	AVERAGE AREA SQ.FT.	FLOW RATE CFS	TRAVEL TIME HRS
.046	.105	.10	.0890
.092	.420	.66	.0560
.137	.945	1.94	.0428
.183	1.680	4.18	.0353
.229	2.625	7.57	.0304
.275	3.779	12.31	.0269
.321	5.144	18.58	.0243
.366	6.719	26.52	.0222
.412	8.504	36.31	.0206
.458	10.482	49.23	.0187
.504	12.501	65.93	.0166
.549	14.521	84.51	.0151
.595	16.542	104.86	.0138
.641	18.565	126.91	.0128
.687	20.614	144.60	.0125
.733	22.963	155.90	.0129
.778	25.688	171.69	.0131
.824	28.788	191.71	.0132
.870	32.264	215.90	.0131

ROUTE ID=53 HYD 153 INID 5 DT=0.0
PRINT HYD ID 53 CODE 10

PARTIAL HYDROGRAPH 153.00

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	1.667	49.1	3.333	.7	5.000	.5	6.667	.0
.333	.0	2.000	22.4	3.667	.6	5.333	.5	7.000	.0
.667	.0	2.333	5.3	4.000	.5	5.667	.5	7.333	.0
1.000	.0	2.667	2.1	4.333	.5	6.000	.6		
1.333	16.3	3.000	1.1	4.667	.5	6.333	.2		

RUNOFF VOLUME = 1.98163 INCHES = 3.2583 ACRE-FEET
PEAK DISCHARGE RATE = 88.08 CFS AT 1.533 HOURS BASIN AREA = .0308 SQ. MI.

****

*S AREA G
COMPUTE NM HYD ID=6 HYD = 106 DA=.00724
PER A 0 PER B 10 PER C 0 PER D 90 TP-.13
RAIN -1

K = .070850HR TP = .130000HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 26.379 CFS UNIT VOLUME = .9996 B = 526.28 P60 = 2.0100
AREA = .006516 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033333

K = .128818HR TP = .130000HR K/TP RATIO = .990905 SHAPE CONSTANT, N = 3.563124
UNIT PEAK = 1.8095 CFS UNIT VOLUME = .9929 B = 324.91 P60 = 2.0100
AREA = .000724 SQ MI IA = .50000 INCHES INF = 1.25000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033333

```
PRINT HYD             ID=6 CODE 10
```

PARTIAL HYDROGRAPH 106.00

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	1.667	10.3	3.333	.2	5.000	.1	6.667	.0
.333	.0	2.000	4.9	3.667	.1	5.333	.1		
.667	.0	2.333	1.0	4.000	.1	5.667	.1		
1.000	.0	2.667	.4	4.333	.1	6.000	.1		
1.333	6.3	3.000	.2	4.667	.1	6.333	.0		

RUNOFF VOLUME = 1.98164 INCHES = .7652 ACRE-FEET
PEAK DISCHARGE RATE = 20.91 CFS AT 1.500 HOURS BASIN AREA = .0072 SQ. MI.

```
ADD HYD               ID 7 HYD 107 IDi 6 IDii 53
COMPUTE RATING CURVE    CDD=-1 VSNO 1 NOSEGS 1 MIN 0 MAX .87
                        CHSLP.02 FPSLP.02 N .017 DIST 80
                        DIST ELEV  DIST ELEV  DIST ELEV
                        0    .87   18   .67   18.2 0
                        44   .44   62    0    62.2 .67
                        80    .87
COMPUTE TRAVEL TIME     RC=54 RN 1 NO VS 1 LENGTH 483 SLP .02
```

TRAVEL TIME TABLE
REACH= 1.0

WATER DEPTH FEET	AVERAGE AREA SQ.FT.	FLOW RATE CFS	TRAVEL TIME HRS
.046	.105	.10	.1360
.092	.420	.66	.0856
.137	.945	1.94	.0654
.183	1.680	4.18	.0540
.229	2.625	7.57	.0465
.275	3.779	12.31	.0412
.321	5.144	18.58	.0372
.366	6.719	26.52	.0340
.412	8.504	36.31	.0314
.458	10.482	49.23	.0286
.504	12.501	65.93	.0254
.549	14.521	84.51	.0231
.595	16.542	104.86	.0212
.641	18.565	126.91	.0196
.687	20.614	144.60	.0191
.733	22.963	155.90	.0198
.778	25.688	171.69	.0201
.824	28.788	191.71	.0201
.870	32.264	215.90	.0200

```
ROUTE                 ID=54 HYD 154 INID 7 DT=0.0
PRINT HYD             ID 54 CODE 10
```

PARTIAL HYDROGRAPH 154.00

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	1.667	63.6	3.333	.9	5.000	.6	6.667	.1
.333	.0	2.000	28.6	3.667	.7	5.333	.6	7.000	.0
.667	.0	2.333	7.3	4.000	.6	5.667	.7	7.333	.0
1.000	.0	2.667	2.8	4.333	.6	6.000	.7		
1.333	13.7	3.000	1.5	4.667	.6	6.333	.3		

RUNOFF VOLUME = 1.98162 INCHES = 4.0235 ACRE-FEET
PEAK DISCHARGE RATE = 108.74 CFS AT 1.533 HOURS BASIN AREA = .0381 SQ. MI.

```
**************************************************************************
*S  AREA H
COMPUTE NM HYD        ID=8 HYD = 108 DA=.0032
                      PER A 0 PER B 0 PER C 0 PER D 100 TP-.13
                      RAIN -1
```

K = .070850HR TP = .130000HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 12.954 CFS UNIT VOLUME = .9992 B = 526.28 P60 = 2.0100
AREA = .003200 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033333

```
PRINT HYD             ID 8 CODE 10
```

PARTIAL HYDROGRAPH 108.00

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	1.667	4.8	3.333	.1	5.000	.1	6.667	.0
.333	.0	2.000	2.4	3.667	.1	5.333	.1		
.667	.0	2.333	.5	4.000	.1	5.667	.1		
1.000	.0	2.667	.2	4.333	.1	6.000	.1		
1.333	3.1	3.000	.1	4.667	.1	6.333	.0		

RUNOFF VOLUME = 2.11535 INCHES = .3610 ACRE-FEET

PEAK DISCHARGE RATE = 9.74 CFS AT 1.500 HOURS BASIN AREA = .0032 SQ. MI.

```
**************************************************************************
*S AREA LUMBER ST.
COMPUTE NM HYD          ID=9 HYD=109 DA .00452
                        PER A 0 PER B 0 PER C 0 PER D 100 TP -.13
                        RAIN -1

     K =   .070850HR    TP =   .130000HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =   18.298    CFS   UNIT VOLUME =    .9994       B =   526.28      P60 = 2.0100
     AREA =      .004520 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033333

PRINT HYD               ID 9 CODE 10
```

PARTIAL HYDROGRAPH 109.00

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	1.667	6.8	3.333	.1	5.000	.1	6.667	.0
.333	.0	2.000	3.4	3.667	.1	5.333	.1		
.667	.0	2.333	.7	4.000	.1	5.667	.1		
1.000	.0	2.667	.3	4.333	.1	6.000	.1		
1.333	4.4	3.000	.2	4.667	.1	6.333	.0		

RUNOFF VOLUME = 2.11535 INCHES = .5099 ACRE-FEET
PEAK DISCHARGE RATE = 13.75 CFS AT 1.500 HOURS BASIN AREA = .0045 SQ. MI.

```
**************************************************************************
ADD HYD                 ID=10 HYD 110 IDi 9 IDii 8
PRINT HYD               ID 10 CODE 10
```

PARTIAL HYDROGRAPH 110.00

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	1.667	11.5	3.333	.2	5.000	.1	6.667	.0
.333	.0	2.000	5.7	3.667	.2	5.333	.1		
.667	.0	2.333	1.2	4.000	.1	5.667	.2		
1.000	.0	2.667	.5	4.333	.1	6.000	.2		
1.333	7.5	3.000	.3	4.667	.1	6.333	.0		

RUNOFF VOLUME = 2.11528 INCHES = .8709 ACRE-FEET
PEAK DISCHARGE RATE = 23.49 CFS AT 1.500 HOURS BASIN AREA = .0077 SQ. MI.

```
ADD HYD                 ID 11 HYD 111 IDi 10 IDii 54

*S**************************************************************************
*S TOTAL FLOW TO CATTLE GUARD INLET ON LUMBER EAST OF JEFFERSON
*S**************************************************************************
PRINT HYD               ID 11 CODE 10
```

PARTIAL HYDROGRAPH 111.00

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	1.667	75.1	3.333	1.1	5.000	.7	6.667	.1
.333	.0	2.000	34.4	3.667	.9	5.333	.8	7.000	.0
.667	.0	2.333	8.5	4.000	.8	5.667	.8	7.333	.0
1.000	.0	2.667	3.3	4.333	.7	6.000	.9		
1.333	21.2	3.000	1.7	4.667	.7	6.333	.3		

RUNOFF VOLUME = 2.00415 INCHES = 4.8944 ACRE-FEET
PEAK DISCHARGE RATE = 130.75 CFS AT 1.533 HOURS BASIN AREA = .0458 SQ. MI.

```
ROUTE RESERVOIR         ID 80 HYD 180 IN 11 CODE 1
                         OUT  STORE   ELEV
                          0     0      0
                          140   .022   .87

  +  +  +  +  +  +  +  +  +  +  +  +  +  +  +  +  +  +
```

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
.00	.00	.00	.000	.00
.03	.00	.00	.000	.00
.07	.00	.00	.000	.00
.10	.00	.00	.000	.00
.13	.00	.00	.000	.00
.17	.00	.00	.000	.00
.20	.00	.00	.000	.00
.23	.00	.00	.000	.00
.27	.00	.00	.000	.00

.30	.00	.00	.000	.00
.33	.00	.00	.000	.00
.37	.00	.00	.000	.00
.40	.00	.00	.000	.00
.43	.00	.00	.000	.00
.47	.00	.00	.000	.00
.50	.00	.00	.000	.00
.53	.00	.00	.000	.00
.57	.00	.00	.000	.00
.60	.00	.00	.000	.00
.63	.00	.00	.000	.00
.67	.00	.00	.000	.00
.70	.00	.00	.000	.00
.73	.00	.00	.000	.00
.77	.00	.00	.000	.00
.80	.00	.00	.000	.00
.83	.00	.00	.000	.00
.87	.00	.00	.000	.00
.90	.00	.00	.000	.00
.93	.00	.00	.000	.00
.97	.00	.00	.000	.00
1.00	.00	.00	.000	.00
1.03	.00	.00	.000	.00
1.07	.00	.00	.000	.00
1.10	.00	.00	.000	.00
1.13	.00	.00	.000	.00
1.17	.09	.00	.000	.08
1.20	.58	.00	.000	.54
1.23	1.94	.01	.000	1.83
1.27	4.96	.03	.001	4.73
1.30	11.07	.07	.002	10.62
1.33	21.19	.13	.003	20.51
1.37	35.58	.22	.005	34.65
1.40	53.91	.33	.008	52.77
1.43	76.60	.47	.012	75.18
1.47	102.46	.63	.016	100.94
1.50	123.84	.76	.019	122.86
1.53	130.75	.81	.021	130.83
1.57	121.52	.76	.019	122.41
1.60	104.40	.66	.017	105.45
1.63	87.88	.55	.014	88.74
1.67	75.14	.47	.012	75.76
1.70	66.02	.41	.010	66.46
1.73	59.49	.37	.009	59.81
1.77	54.54	.34	.009	54.80
1.80	50.50	.32	.008	50.71
1.83	47.08	.29	.007	47.26

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
1.87	44.07	.27	.007	44.23
1.90	41.33	.26	.007	41.48
1.93	38.80	.24	.006	38.94
1.97	36.48	.23	.006	36.61
2.00	34.37	.21	.005	34.48
2.03	32.40	.20	.005	32.51
2.07	30.19	.19	.005	30.33
2.10	27.29	.17	.004	27.47
2.13	23.73	.15	.004	23.95
2.17	19.94	.13	.003	20.16
2.20	16.47	.10	.003	16.65
2.23	13.62	.09	.002	13.76
2.27	11.41	.07	.002	11.52
2.30	9.77	.06	.002	9.85
2.33	8.50	.05	.001	8.57
2.37	7.51	.05	.001	7.56
2.40	6.72	.04	.001	6.76
2.43	6.09	.04	.001	6.12
2.47	5.54	.03	.001	5.57
2.50	5.05	.03	.001	5.08
2.53	4.61	.03	.001	4.64
2.57	4.22	.03	.001	4.24
2.60	3.89	.02	.001	3.90
2.63	3.59	.02	.001	3.61
2.67	3.33	.02	.001	3.35
2.70	3.10	.02	.000	3.11
2.73	2.88	.02	.000	2.89
2.77	2.68	.02	.000	2.69
2.80	2.50	.02	.000	2.51
2.83	2.33	.01	.000	2.34
2.87	2.18	.01	.000	2.19
2.90	2.04	.01	.000	2.05
2.93	1.92	.01	.000	1.93
2.97	1.82	.01	.000	1.83
3.00	1.73	.01	.000	1.73
3.03	1.64	.01	.000	1.65
3.07	1.56	.01	.000	1.56
3.10	1.48	.01	.000	1.49
3.13	1.41	.01	.000	1.42
3.17	1.35	.01	.000	1.35
3.20	1.29	.01	.000	1.30
3.23	1.24	.01	.000	1.24

3.27	1.20	.01	.000	1.20
3.30	1.16	.01	.000	1.16
3.33	1.12	.01	.000	1.12
3.37	1.09	.01	.000	1.09
3.40	1.06	.01	.000	1.06
3.43	1.03	.01	.000	1.03
3.47	1.00	.01	.000	1.00
3.50	.97	.01	.000	.97
3.53	.95	.01	.000	.95
3.57	.93	.01	.000	.93
3.60	.91	.01	.000	.91
3.63	.89	.01	.000	.89
3.67	.87	.01	.000	.87
3.70	.86	.01	.000	.86

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
3.73	.84	.01	.000	.84
3.77	.83	.01	.000	.83
3.80	.82	.01	.000	.82
3.83	.81	.01	.000	.81
3.87	.80	.00	.000	.80
3.90	.79	.00	.000	.79
3.93	.78	.00	.000	.78
3.97	.77	.00	.000	.77
4.00	.76	.00	.000	.76
4.03	.76	.00	.000	.76
4.07	.75	.00	.000	.75
4.10	.74	.00	.000	.74
4.13	.74	.00	.000	.74
4.17	.74	.00	.000	.74
4.20	.73	.00	.000	.73
4.23	.73	.00	.000	.73
4.27	.72	.00	.000	.73
4.30	.72	.00	.000	.72
4.33	.72	.00	.000	.72
4.37	.71	.00	.000	.71
4.40	.71	.00	.000	.71
4.43	.71	.00	.000	.71
4.47	.71	.00	.000	.71
4.50	.71	.00	.000	.71
4.53	.71	.00	.000	.71
4.57	.71	.00	.000	.71
4.60	.71	.00	.000	.71
4.63	.71	.00	.000	.71
4.67	.71	.00	.000	.71
4.70	.71	.00	.000	.71
4.73	.71	.00	.000	.71
4.77	.71	.00	.000	.71
4.80	.71	.00	.000	.71
4.83	.71	.00	.000	.71
4.87	.72	.00	.000	.72
4.90	.72	.00	.000	.72
4.93	.72	.00	.000	.72
4.97	.72	.00	.000	.72
5.00	.73	.00	.000	.73
5.03	.73	.00	.000	.73
5.07	.73	.00	.000	.73
5.10	.73	.00	.000	.73
5.13	.74	.00	.000	.74
5.17	.74	.00	.000	.74
5.20	.74	.00	.000	.74
5.23	.75	.00	.000	.75
5.27	.75	.00	.000	.75
5.30	.76	.00	.000	.75
5.33	.76	.00	.000	.76
5.37	.77	.00	.000	.76
5.40	.77	.00	.000	.77
5.43	.78	.00	.000	.78
5.47	.78	.00	.000	.78
5.50	.79	.00	.000	.79
5.53	.79	.00	.000	.79
5.57	.80	.00	.000	.80

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
5.60	.80	.00	.000	.80
5.63	.81	.01	.000	.81
5.67	.81	.01	.000	.81
5.70	.81	.01	.000	.81
5.73	.82	.01	.000	.82
5.77	.82	.01	.000	.82
5.80	.83	.01	.000	.83
5.83	.84	.01	.000	.83
5.87	.84	.01	.000	.84
5.90	.85	.01	.000	.84
5.93	.85	.01	.000	.85
5.97	.86	.01	.000	.86
6.00	.86	.01	.000	.86
6.03	.87	.01	.000	.87
6.07	.86	.01	.000	.86

6.10	.82	.01	.000	.82
6.13	.75	.00	.000	.75
6.17	.65	.00	.000	.65
6.20	.56	.00	.000	.56
6.23	.48	.00	.000	.49
6.27	.43	.00	.000	.43
6.30	.38	.00	.000	.38
6.33	.33	.00	.000	.34
6.37	.30	.00	.000	.30
6.40	.26	.00	.000	.26
6.43	.23	.00	.000	.23
6.47	.21	.00	.000	.21
6.50	.18	.00	.000	.18
6.53	.16	.00	.000	.16
6.57	.14	.00	.000	.14
6.60	.12	.00	.000	.13
6.63	.11	.00	.000	.11
6.67	.10	.00	.000	.10
6.70	.08	.00	.000	.08
6.73	.07	.00	.000	.07
6.77	.06	.00	.000	.06
6.80	.05	.00	.000	.05
6.83	.05	.00	.000	.05
6.87	.04	.00	.000	.04
6.90	.03	.00	.000	.03
6.93	.03	.00	.000	.03
6.97	.03	.00	.000	.03
7.00	.02	.00	.000	.02
7.03	.02	.00	.000	.02
7.07	.02	.00	.000	.02
7.10	.01	.00	.000	.01
7.13	.01	.00	.000	.01
7.17	.01	.00	.000	.01
7.20	.01	.00	.000	.01
7.23	.01	.00	.000	.01
7.27	.01	.00	.000	.01
7.30	.00	.00	.000	.00

PEAK DISCHARGE = 130.826 CFS - PEAK OCCURS AT HOUR 1.53
MAXIMUM WATER SURFACE ELEVATION = .813
MAXIMUM STORAGE = .0206 AC-FT INCREMENTAL TIME= .033333HRS

PRINT HYD ID=80 CODE 5

PARTIAL HYDROGRAPH 180.00

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	1.667	75.8	3.333	1.1	5.000	.7	6.667	.1
.167	.0	1.833	47.3	3.500	1.0	5.167	.7	6.833	.0
.333	.0	2.000	34.5	3.667	.9	5.333	.8	7.000	.0
.500	.0	2.167	20.2	3.833	.8	5.500	.8	7.167	.0
.667	.0	2.333	8.6	4.000	.8	5.667	.8	7.333	.0
.833	.0	2.500	5.1	4.167	.7	5.833	.8	7.500	.0
1.000	.0	2.667	3.3	4.333	.7	6.000	.9		
1.167	.1	2.833	2.3	4.500	.7	6.167	.7		
1.333	20.5	3.000	1.7	4.667	.7	6.333	.3		
1.500	122.9	3.167	1.4	4.833	.7	6.500	.2		

RUNOFF VOLUME = 2.00415 INCHES = 4.8944 ACRE-FEET
PEAK DISCHARGE RATE = 130.83 CFS AT 1.533 HOURS BASIN AREA = .0458 SQ. MI.

*S SITE DRAINAGE TO LUMBER
*S AREA F1
COMPUTE NM HYD ID 20 HYD 120 DA .00227
PER A 0 PER B 10 PER C 0 PER D 90 TP-.13
RAIN -1

K = .070850HR TP = .130000HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 8.2706 CFS UNIT VOLUME = .9987 B = 526.28 P60 = 2.0100
AREA = .002043 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033333

K = .128818HR TP = .130000HR K/TP RATIO = .990905 SHAPE CONSTANT, N = 3.563124
UNIT PEAK = .56734 CFS UNIT VOLUME = .9759 B = 324.91 P60 = 2.0100
AREA = .000227 SQ MI IA = .50000 INCHES INF = 1.25000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033333

PRINT HYD ID 20 CODE 10

PARTIAL HYDROGRAPH 120.00

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	1.333	2.0	2.667	.1	4.000	.0	5.333	.0
.333	.0	1.667	3.3	3.000	.1	4.333	.0	5.667	.0
.667	.0	2.000	1.6	3.333	.0	4.667	.0	6.000	.0
1.000	.0	2.333	.3	3.667	.0	5.000	.0	6.333	.0

```
    RUNOFF VOLUME =     1.98164 INCHES     =         .2399 ACRE-FEET
    PEAK DISCHARGE RATE =       6.57 CFS  AT   1.500 HOURS   BASIN AREA =    .0023 SQ. MI.


**********************************************************************
*S AREA F2
COMPUTE NM HYD          ID 21 HYD 121 DA .000803
                        PER A 0 PER B 10 PER C 0 PER D 90 TP-.13
                        RAIN -1

     K =   .070850HR    TP =   .130000HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =   2.9257    CFS   UNIT VOLUME =    .9960       B =   526.28      P60 = 2.0100
     AREA =      .000723 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033333


     K =   .128818HR    TP =   .130000HR    K/TP RATIO =   .990905     SHAPE CONSTANT, N =  3.563124
     UNIT PEAK =   .20069    CFS   UNIT VOLUME =    .9318       B =   324.91      P60 = 2.0100
     AREA =      .000080 SQ MI    IA =    .50000 INCHES    INF =   1.25000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033333

PRINT HYD               ID 21 CODE 10

                                PARTIAL HYDROGRAPH   121.00

     TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW
      HRS       CFS           HRS       CFS           HRS       CFS           HRS       CFS           HRS       CFS
     .000        .0          1.333        .7         2.667        .0         4.000        .0         5.333        .0
     .333        .0          1.667       1.2         3.000        .0         4.333        .0         5.667        .0
     .667        .0          2.000        .6         3.333        .0         4.667        .0         6.000        .0
    1.000        .0          2.333        .1         3.667        .0         5.000        .0         6.333        .0

    RUNOFF VOLUME =     1.98164 INCHES     =         .0849 ACRE-FEET
    PEAK DISCHARGE RATE =       2.33 CFS  AT   1.500 HOURS   BASIN AREA =    .0008 SQ. MI.


**********************************************************************
*S AREA F3
COMPUTE NM HYD          ID 22 HYD 122 DA .00144
                        PER A 0 PER B 10 PER C 0 PER D 90 TP-.13
                        RAIN -1

     K =   .070850HR    TP =   .130000HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =   5.2466    CFS   UNIT VOLUME =    .9979       B =   526.28      P60 = 2.0100
     AREA =      .001296 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033333


     K =   .128818HR    TP =   .130000HR    K/TP RATIO =   .990905     SHAPE CONSTANT, N =  3.563124
     UNIT PEAK =   .35990    CFS   UNIT VOLUME =    .9628       B =   324.91      P60 = 2.0100
     AREA =      .000144 SQ MI    IA =    .50000 INCHES    INF =   1.25000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033333

PRINT HYD               ID 22 CODE 10

                                PARTIAL HYDROGRAPH   122.00

     TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW
      HRS       CFS           HRS       CFS           HRS       CFS           HRS       CFS           HRS       CFS
     .000        .0          1.333       1.3         2.667        .1         4.000        .0         5.333        .0
     .333        .0          1.667       2.1         3.000        .0         4.333        .0         5.667        .0
     .667        .0          2.000       1.0         3.333        .0         4.667        .0         6.000        .0
    1.000        .0          2.333        .2         3.667        .0         5.000        .0         6.333        .0

    RUNOFF VOLUME =     1.98164 INCHES     =         .1522 ACRE-FEET
    PEAK DISCHARGE RATE =       4.17 CFS  AT   1.500 HOURS   BASIN AREA =    .0014 SQ. MI.


**********************************************************************
*S AREA F4
COMPUTE NM HYD          ID 23 HYD 123 DA .00148
                        PER A 0 PER B 10 PER C 0 PER D 90 TP-.13
                        RAIN -1

     K =   .070850HR    TP =   .130000HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =   5.3923    CFS   UNIT VOLUME =    .9979       B =   526.28      P60 = 2.0100
     AREA =      .001332 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033333


     K =   .128818HR    TP =   .130000HR    K/TP RATIO =   .990905     SHAPE CONSTANT, N =  3.563124
     UNIT PEAK =   .36990    CFS   UNIT VOLUME =    .9628       B =   324.91      P60 = 2.0100
     AREA =      .000148 SQ MI    IA =    .50000 INCHES    INF =   1.25000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033333

PRINT HYD               ID 23 CODE 10

                                PARTIAL HYDROGRAPH   123.00

     TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW
```

HRS	CFS	HRS	CFS	HRS	CFS	HRS	CFS	HRS	CFS
.000	.0	1.333	1.3	2.667	.1	4.000	.0	5.333	.0
.333	.0	1.667	2.1	3.000	.0	4.333	.0	5.667	.0
.667	.0	2.000	1.0	3.333	.0	4.667	.0	6.000	.0
1.000	.0	2.333	.2	3.667	.0	5.000	.0	6.333	.0

RUNOFF VOLUME = 1.98164 INCHES = .1564 ACRE-FEET
PEAK DISCHARGE RATE = 4.29 CFS AT 1.500 HOURS BASIN AREA = .0015 SQ. MI.

```
**********************************************************************
*S AREA F5
COMPUTE NM HYD          ID 24 HYD 124 DA .00164
                        PER A 0 PER B 10 PER C 0 PER D 90 TP-.13
                        RAIN -1
```

K = .070850HR TP = .130000HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 5.9753 CFS UNIT VOLUME = .9982 B = 526.28 P60 = 2.0100
AREA = .001476 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033333

K = .128818HR TP = .130000HR K/TP RATIO = .990905 SHAPE CONSTANT, N = 3.563124
UNIT PEAK = .40988 CFS UNIT VOLUME = .9659 B = 324.91 P60 = 2.0100
AREA = .000164 SQ MI IA = .50000 INCHES INF = 1.25000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033333

PRINT HYD ID 24 CODE 10

PARTIAL HYDROGRAPH 124.00

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	1.333	1.4	2.667	.1	4.000	.0	5.333	.0
.333	.0	1.667	2.4	3.000	.0	4.333	.0	5.667	.0
.667	.0	2.000	1.1	3.333	.0	4.667	.0	6.000	.0
1.000	.0	2.333	.2	3.667	.0	5.000	.0	6.333	.0

RUNOFF VOLUME = 1.98164 INCHES = .1733 ACRE-FEET
PEAK DISCHARGE RATE = 4.75 CFS AT 1.500 HOURS BASIN AREA = .0016 SQ. MI.

FINISH

NORMAL PROGRAM FINISH END TIME (HR:MIN:SEC) = 10:40:44
-(s0p10h4099T-&16D

```
START                                   TIME-0.0 CODE 0 LINES -6
*S   PROJECT: McLEOD CROSSING
*S   COMPUTE THE FULLY DEVELOPED FLOW THAT WILL REACH THE "CATTLEGUARD"
*S   200 FEET EAST OF JEFFERSON ON LUMBER AVENUE.
*S   THE FLOW IS CONVEYED THRU A 42" CONDUIT FROM THE INLET TO THE
*S   GRANT LINE CHANNEL.  FALL THRU THIS CONDUIT IS SEVEN FEET IN 400 FEET
*S   COMPUTE 10 YEAR - 6 HOUR HYROGRAPHS
*S   PRECIPITATION  ZONE 2

RAINFALL                        TYPE=-1  RAIN Quar 0.0      RAIN One 1.34
                                RAIN SIX= 1.57 RAIN DAY= 1.83 DT= 0.0333333
**********21**************************************************
*S AREA B
COMPUTE NM HYD          ID=1      HYD = 101 DA= 0.0127
                        PER A 00 PER B 10 PER C 0 PER D 90 TP=-.13
                        RAIN =-1
PRINT HYD               ID=1 CoDE 10
**************************************************************
COMPUTE RATING CURVE    CDD=-1 VSNO 1 NOSEGS 1 MIN 0 MAX .87
                        CHSLP.02 FPSLP.037 N .017 DIST 80
                        DIST ELEV  DIST ELEV  DIST ELEV
                        0    .87   18   .67   18.2 0
                        44   .44   62    0    62.2 .67
                        80    .87
COMPUTE TRAVEL TIME     RC=51 RN 1 NO VS 1 LENGTH 355 SLP .02
ROUTE                   ID=51 HYD 151 INID 1 DT=0.0
PRINT HYD               ID 51 CODE 10
**************************************************************
*S AREA F
COMPUTE NM HYD          ID=2      HYD= 102  DA= 0.0092
                        PER A 0 PER B 10 PER C 0 PER D 90 TP=-.13
                        RAIN -1
PRINT HYD               ID=2   CoDE=10
ADD HYD                 ID 3 HYD 103 IDi 2 IDii 51
*S FLOW AT NORTH INTERSECTION OF LUMBER AND HARDWARE
PRINT HYD               ID 3
**************************************************************
COMPUTE RATING CURVE    CDD=-1 VSNO 1 NOSEGS 1 MIN 0 MAX .87
                        CHSLP.02 FPSLP.02 N .017 DIST 80
                        DIST ELEV  DIST ELEV  DIST ELEV
                        0    .87   18   .67   18.2 0
                        44   .44   62    0    62.2 .67
                        80    .87
COMPUTE TRAVEL TIME     RC=52 RN 1 NO VS 1 LENGTH 260 SLP .02
ROUTE                   ID=52 HYD 152 INID 3 DT=0.0
PRINT HYD               ID 52 CODE 10

**************************************************************
*S AREA C
COMPUTE NM HYD          ID=4 HYD=104 DA=.0105
                        PER A 0 PER B 10 PER C 0 PER D 90 TP -.13
                        RAIN =-1
PRINT HYD               ID=4 CODE 10
ADD HYD                 ID 5 HYD 105 IDi 4 IDii 52
PRINT HYD               ID 5 CODE 10
COMPUTE RATING CURVE    CDD=-1 VSNO 1 NOSEGS 1 MIN 0 MAX .87
                        CHSLP.02 FPSLP.02 N .017 DIST 80
                        DIST ELEV  DIST ELEV  DIST ELEV
```

```
                          0    .87   18    .67   18.2 0
                          44   .44   62    0     62.2 .67
                          80    .87
COMPUTE TRAVEL TIME      RC=53 RN 1 NO VS 1 LENGTH 316 SLP .02
ROUTE                    ID=53 HYD 153 INID 5 DT=0.0
PRINT HYD                ID 53 CODE 10
*************************************************************************
*S AREA G
COMPUTE NM HYD           ID=6 HYD = 106 DA=.00724
                         PER A 0 PER B 10 PER C 0 PER D 90 TP-.13
                         RAIN -1
PRINT HYD                ID=6 CODE 10
ADD HYD                  ID 7 HYD 107 IDi 6 IDii 53
COMPUTE RATING CURVE      CDD=-1 VSNO 1 NOSEGS 1 MIN 0 MAX .87
                          CHSLP.02 FPSLP.02 N .017 DIST 80
                          DIST ELEV  DIST ELEV  DIST ELEV
                          0    .87   18    .67   18.2 0
                          44   .44   62    0     62.2 .67
                          80    .87
COMPUTE TRAVEL TIME      RC=54 RN 1 NO VS 1 LENGTH 483 SLP .02
ROUTE                    ID=54 HYD 154 INID 7 DT=0.0
PRINT HYD                ID 54 CODE 10
*************************************************************************
*S  AREA H
COMPUTE NM HYD           ID=8 HYD = 108 DA=.0032
                         PER A 0 PER B 0 PER C 0 PER D 100 TP-.13
                         RAIN -1
PRINT HYD                ID 8 CODE 10
*************************************************************************
*S AREA LUMBER ST.
COMPUTE NM HYD           ID=9 HYD=109 DA .00452
                         PER A 0 PER B 0 PER C 0 PER D 100 TP -.13
                         RAIN -1
PRINT HYD                ID 9 CODE 10
*************************************************************************
ADD HYD                  ID=10 HYD 110 IDi 9 IDii 8
PRINT HYD                ID 10 CODE 10
ADD HYD                  ID 11 HYD 111 IDi 10 IDii 54

*S***********************************************************************
*S TOTAL FLOW TO CATTLE GUARD INLET ON LUMBER EAST OF JEFFERSON
*S***********************************************************************
PRINT HYD                ID 11 CODE 10
*S SITE DRAINAGE TO LUMBER
*S AREA F1
COMPUTE NM HYD           ID 20 HYD 120 DA .00227
                         PER A 0 PER B 10 PER C 0 PER D 90 TP-.13
                         RAIN -1
PRINT HYD                ID 20 CODE 10
*************************************************************************
*S AREA F2
COMPUTE NM HYD           ID 21 HYD 121 DA .000803
                         PER A 0 PER B 10 PER C 0 PER D 90 TP-.13
                         RAIN -1
PRINT HYD                ID 21 CODE 10
*************************************************************************
*S AREA F3
COMPUTE NM HYD           ID 22 HYD 122 DA .00144
                         PER A 0 PER B 10 PER C 0 PER D 90 TP-.13
                         RAIN -1
```

```
PRINT HYD                    ID 22 CODE 10
**************************************************************************
*S AREA F4
COMPUTE NM HYD               ID 23 HYD 123 DA .00148
                             PER A 0 PER B 10 PER C 0 PER D 90 TP-.13
                             RAIN -1
PRINT HYD                    ID 23 CODE 10
**************************************************************************
*S AREA F5
COMPUTE NM HYD               ID 24 HYD 124 DA .00164
                             PER A 0 PER B 10 PER C 0 PER D 90 TP-.13
                             RAIN -1
PRINT HYD                    ID 24 CODE 10
FINISH
```

-(s16.67h8.5v0T-&18D

AHYMO PROGRAM SUMMARY TABLE (AHYMO_97) - VERSION: 1997.02a RUN DATE (MON/DAY/YR) =11/19/1998

INPUT FILE = C:\AHYMO\CURRENT\MCLEOD10.TXT USER NO.= AHYMO-I-9702a0100007G-SH

COMMAND	HYDROGRAPH IDENTIFICATION	FROM ID NO.	TO ID NO.	AREA (SQ MI)	PEAK DISCHARGE (CFS)	RUNOFF VOLUME (AC-FT)	RUNOFF (INCHES)	TIME TO PEAK (HOURS)	CFS PER ACRE	NOTATION	
START											
*S PROJECT: McLEOD CROSSING										TIME=	.00
*S COMPUTE THE FULLY DEVELOPED FLOW THAT WILL REACH THE "CATTLEGUARD"											
*S 200 FEET EAST OF JEFFERSON ON LUMBER AVENUE.											
*S THE FLOW IS CONVEYED THRU A 42" CONDUIT FROM THE INLET TO THE											
*S GRANT LINE CHANNEL. FALL THRU THIS CONDUIT IS SEVEN FEET IN 400 FEET											
*S COMPUTE 10 YEAR - 6 HOUR HYROGRAPHS											
*S PRECIPITATION ZONE 2											
RAINFALL TYPE= 1											
*S AREA B										RAIN6=	1.570
COMPUTE NM HYD	101.00	-	1	.01270	23.74	.834	1.23170	1.500	2.920	PER IMP=	90.00
ROUTE	151.00	1	51	.01270	23.15	.834	1.23172	1.533	2.849		
*S AREA F											
COMPUTE NM HYD	102.00	-	2	.00920	17.20	.604	1.23170	1.500	2.921	PER IMP=	90.00
ADD HYD	103.00	2&51	3	.02190	40.16	1.439	1.23167	1.500	2.865		
*S FLOW AT NORTH INTERSECTION OF LUMBER AND HARDWARE											
ROUTE	152.00	3	52	.02190	40.13	1.439	1.23170	1.533	2.863		
*S AREA C											
COMPUTE NM HYD	104.00	-	4	.01050	19.63	.690	1.23170	1.500	2.921	PER IMP=	90.00
ADD HYD	105.00	4&52	5	.03240	58.58	2.128	1.23167	1.533	2.825		
ROUTE	153.00	5	53	.03240	59.48	2.128	1.23169	1.533	2.868		
*S AREA G											
COMPUTE NM HYD	106.00	-	6	.00724	13.54	.476	1.23170	1.500	2.921	PER IMP=	90.00
ADD HYD	107.00	6&53	7	.03964	72.20	2.604	1.23167	1.533	2.846		
ROUTE	154.00	7	54	.03964	71.74	2.604	1.23168	1.533	2.828		
*S AREA H											
COMPUTE NM HYD	108.00	-	8	.00320	6.44	.228	1.33763	1.500	3.143	PER IMP=	100.00
*S AREA LUMBER ST.											
COMPUTE NM HYD	109.00	-	9	.00452	9.09	.322	1.33764	1.500	3.142	PER IMP=	100.00
ADD HYD	110.00	9& 8	10	.00772	15.52	.551	1.33756	1.500	3.142		
ADD HYD	111.00	10&54	11	.04736	86.29	3.155	1.24893	1.533	2.847		
*S**********											
*S TOTAL FLOW TO CATTLE GUARD INLET ON LUMBER EAST OF JEFFERSON											
*S**********											
*S SITE DRAINAGE TO LUMBER											
*S AREA F1											
COMPUTE NM HYD	120.00	-	20	.00227	4.25	.149	1.23170	1.500	2.926	PER IMP=	90.00
*S AREA F2											
COMPUTE NM HYD	121.00	-	21	.00080	1.51	.053	1.23170	1.500	2.938	PER IMP=	90.00
*S AREA F3											
COMPUTE NM HYD	122.00	-	22	.00144	2.70	.095	1.23170	1.500	2.929	PER IMP=	90.00
*S AREA F4											
COMPUTE NM HYD	123.00	-	23	.00148	2.77	.097	1.23170	1.500	2.929	PER IMP=	90.00
*S AREA F5											
COMPUTE NM HYD	124.00	-	24	.00164	3.07	.108	1.23170	1.500	2.928	PER IMP=	90.00
FINISH											

-(s0p10h4099T-&16D

```
←(s16.67h8.5v0T-&18D

        AHYMO PROGRAM (AHYMO_97) -                              - Version:  1997.02a
             RUN DATE (MON/DAY/YR) = 11/19/1998
             START TIME (HR:MIN:SEC) = 14:59:09     USER NO.= AHYMO-I-9702a0100007G-SH
             INPUT FILE = C:\AHYMO\CURRENT\MCLEOD10.TXT

    START                              TIME-0.0 CODE 0 LINES -6
    *S  PROJECT: McLEOD CROSSING
    *S  COMPUTE THE FULLY DEVELOPED FLOW THAT WILL REACH THE "CATTLEGUARD"
    *S  200 FEET EAST OF JEFFERSON ON LUMBER AVENUE.
    *S  THE FLOW IS CONVEYED THRU A 42" CONDUIT FROM THE INLET TO THE
    *S  GRANT LINE CHANNEL.  FALL THRU THIS CONDUIT IS SEVEN FEET IN 400 FEET
    *S  COMPUTE 10 YEAR - 6 HOUR HYROGRAPHS
    *S  PRECIPITATION  ZONE 2

    RAINFALL                       TYPE=-1  RAIN Quar 0.0      RAIN One 1.34
                                   RAIN SIX= 1.57 RAIN DAY= 1.83 DT= 0.0333333

                   COMPUTED 6-HOUR RAINFALL DISTRIBUTION BASED ON NOAA ATLAS 2 - PEAK AT 1.40 HR.
                   DT =     .033333 HOURS       END TIME =     5.999995 HOURS
    ********************21*************************************************
    *S AREA B
    COMPUTE NM HYD          ID=1     HYD = 101 DA= 0.0127
                            PER A 00 PER B 10 PER C 0 PER D 90 TP=-.13
                            RAIN =-1

          K =    .070850HR     TP =    .130000HR     K/TP RATIO =    .545000      SHAPE CONSTANT, N =  7.106420
          UNIT PEAK =    46.272     CFS    UNIT VOLUME =     .9998       B =    526.28       P60 = 1.3400
          AREA =       .011430 SQ MI     IA =     .10000 INCHES     INF =     .04000 INCHES PER HOUR
          RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =    .033333


          K =    .136844HR     TP =    .130000HR     K/TP RATIO =  1.052645      SHAPE CONSTANT, N =  3.354139
          UNIT PEAK =    3.0238     CFS    UNIT VOLUME =     .9958       B =    309.53       P60 = 1.3400
          AREA =       .001270 SQ MI     IA =     .50000 INCHES     INF =    1.25000 INCHES PER HOUR
          RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =    .033333

    PRINT HYD               ID=1 CoDE 10

                                    PARTIAL HYDROGRAPH   101.00

     TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW
     HRS       CFS           HRS       CFS           HRS       CFS           HRS       CFS           HRS       CFS
     .000       .0          1.667      11.6          3.333       .1          5.000       .1          6.667       .0
     .333       .0          2.000       5.6          3.667       .1          5.333       .1
     .667       .0          2.333       1.1          4.000       .1          5.667       .1
    1.000       .0          2.667        .4          4.333       .1          6.000       .2
    1.333      6.5          3.000        .2          4.667       .1          6.333       .0

        RUNOFF VOLUME =      1.23170 INCHES      =        .8343 ACRE-FEET
        PEAK DISCHARGE RATE =      23.74 CFS  AT    1.500 HOURS    BASIN AREA =    .0127 SQ. MI.


    ************************************************************************
    COMPUTE RATING CURVE    CDD=-1 VSNO 1 NOSEGS 1 MIN 0 MAX .87
                            CHSLP.02 FPSLP.037 N .017 DIST 80
                            DIST ELEV  DIST ELEV  DIST ELEV
                            0    .87   18   .67   18.2 0
                            44   .44   62    0    62.2 .67
                            80    .87
    COMPUTE TRAVEL TIME     RC=51 RN 1 NO VS 1 LENGTH 355 SLP .02

                            TRAVEL TIME TABLE
                                              REACH=  1.0

                            WATER       AVERAGE      FLOW        TRAVEL
                            DEPTH       AREA         RATE        TIME
                            FEET        SQ.FT.       CFS         HRS
                               .046         .105         .14       .0735
                               .092         .420         .89       .0463
                               .137         .945        2.64       .0353
                               .183        1.680        5.68       .0292
                               .229        2.625       10.30       .0251
                               .275        3.779       16.75       .0223
                               .321        5.144       25.27       .0201
                               .366        6.719       36.07       .0184
                               .412        8.504       49.38       .0170
                               .458       10.482       66.96       .0154
                               .504       12.501       89.68       .0137
                               .549       14.521      114.94       .0125
                               .595       16.542      142.62       .0114
                               .641       18.565      172.61       .0106
                               .687       20.614      196.68       .0103
                               .733       22.963      212.05       .0107
                               .778       25.688      233.53       .0108
                               .824       28.788      260.75       .0109
                               .870       32.264      293.66       .0108

    ROUTE                   ID=51 HYD 151 INID 1 DT=0.0
    PRINT HYD               ID 51 CODE 10
```

PARTIAL HYDROGRAPH 151.00

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	1.667	12.5	3.333	.1	5.000	.1	6.667	.0
.333	.0	2.000	5.8	3.667	.1	5.333	.1	7.000	.0
.667	.0	2.333	1.2	4.000	.1	5.667	.1		
1.000	.0	2.667	.4	4.333	.1	6.000	.2		
1.333	4.4	3.000	.2	4.667	.1	6.333	.0		

RUNOFF VOLUME = 1.23172 INCHES = .8343 ACRE-FEET
PEAK DISCHARGE RATE = 23.15 CFS AT 1.533 HOURS BASIN AREA = .0127 SQ. MI.

****
*S AREA F
COMPUTE NM HYD ID=2 HYD= 102 DA= 0.0092
PER A 0 PER B 10 PER C 0 PER D 90 TP=-.13
RAIN -1

K = .070850HR TP = .130000HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 33.520 CFS UNIT VOLUME = .9997 B = 526.28 P60 = 1.3400
AREA = .008280 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033333

K = .136844HR TP = .130000HR K/TP RATIO = 1.052645 SHAPE CONSTANT, N = 3.354139
UNIT PEAK = 2.1905 CFS UNIT VOLUME = .9941 B = 309.53 P60 = 1.3400
AREA = .000920 SQ MI IA = .50000 INCHES INF = 1.25000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033333

PRINT HYD ID=2 CoDE=10

PARTIAL HYDROGRAPH 102.00

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	1.667	8.4	3.333	.1	5.000	.1	6.667	.0
.333	.0	2.000	4.1	3.667	.1	5.333	.1		
.667	.0	2.333	.8	4.000	.0	5.667	.1		
1.000	.0	2.667	.3	4.333	.1	6.000	.1		
1.333	4.7	3.000	.1	4.667	.1	6.333	.0		

RUNOFF VOLUME = 1.23170 INCHES = .6044 ACRE-FEET
PEAK DISCHARGE RATE = 17.20 CFS AT 1.500 HOURS BASIN AREA = .0092 SQ. MI.

ADD HYD ID 3 HYD 103 IDi 2 IDii 51
*S FLOW AT NORTH INTERSECTION OF LUMBER AND HARDWARE
PRINT HYD ID 3

PARTIAL HYDROGRAPH 103.00

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	1.433	28.4	2.867	.5	4.300	.1	5.733	.2
.033	.0	1.467	35.7	2.900	.4	4.333	.1	5.767	.2
.067	.0	1.500	40.2	2.933	.4	4.367	.1	5.800	.2
.100	.0	1.533	39.3	2.967	.4	4.400	.1	5.833	.2
.133	.0	1.567	34.5	3.000	.3	4.433	.1	5.867	.3
.167	.0	1.600	28.9	3.033	.3	4.467	.1	5.900	.3
.200	.0	1.633	24.3	3.067	.3	4.500	.1	5.933	.3
.233	.0	1.667	21.0	3.100	.3	4.533	.1	5.967	.3
.267	.0	1.700	18.6	3.133	.2	4.567	.1	6.000	.3
.300	.0	1.733	16.9	3.167	.2	4.600	.1	6.033	.3
.333	.0	1.767	15.5	3.200	.2	4.633	.1	6.067	.3
.367	.0	1.800	14.4	3.233	.2	4.667	.1	6.100	.2
.400	.0	1.833	13.5	3.267	.2	4.700	.1	6.133	.2
.433	.0	1.867	12.6	3.300	.2	4.733	.1	6.167	.2
.467	.0	1.900	11.9	3.333	.2	4.767	.1	6.200	.1
.500	.0	1.933	11.2	3.367	.2	4.800	.1	6.233	.1
.533	.0	1.967	10.5	3.400	.2	4.833	.2	6.267	.1
.567	.0	2.000	9.9	3.433	.2	4.867	.2	6.300	.1
.600	.0	2.033	9.3	3.467	.1	4.900	.2	6.333	.0
.633	.0	2.067	8.5	3.500	.1	4.933	.2	6.367	.0
.667	.0	2.100	7.3	3.533	.1	4.967	.2	6.400	.0
.700	.0	2.133	6.0	3.567	.1	5.000	.2	6.433	.0
.733	.0	2.167	4.7	3.600	.1	5.033	.2	6.467	.0
.767	.0	2.200	3.8	3.633	.1	5.067	.2	6.500	.0
.800	.0	2.233	3.1	3.667	.1	5.100	.2	6.533	.0
.833	.0	2.267	2.6	3.700	.1	5.133	.2	6.567	.0
.867	.0	2.300	2.3	3.733	.1	5.167	.2	6.600	.0
.900	.0	2.333	2.0	3.767	.1	5.200	.2	6.633	.0
.933	.0	2.367	1.8	3.800	.1	5.233	.2	6.667	.0
.967	.0	2.400	1.6	3.833	.1	5.267	.2	6.700	.0
1.000	.0	2.433	1.5	3.867	.1	5.300	.2	6.733	.0
1.033	.0	2.467	1.3	3.900	.1	5.333	.2	6.767	.0
1.067	.0	2.500	1.2	3.933	.1	5.367	.2	6.800	.0
1.100	.0	2.533	1.1	3.967	.1	5.400	.2	6.833	.0
1.133	.0	2.567	1.0	4.000	.1	5.433	.2	6.867	.0
1.167	.0	2.600	.9	4.033	.1	5.467	.2	6.900	.0

1.200	.0	2.633	.8	4.067	.1	5.500	.2	6.933	.0
1.233	.4	2.667	.7	4.100	.1	5.533	.2	6.967	.0
1.267	1.7	2.700	.7	4.133	.1	5.567	.2	7.000	.0
1.300	4.5	2.733	.6	4.167	.1	5.600	.2	7.033	.0
1.333	9.1	2.767	.6	4.200	.1	5.633	.2		
1.367	14.7	2.800	.5	4.233	.1	5.667	.2		
1.400	21.1	2.833	.5	4.267	.1	5.700	.2		

RUNOFF VOLUME = 1.23167 INCHES = 1.4386 ACRE-FEET
PEAK DISCHARGE RATE = 40.16 CFS AT 1.500 HOURS BASIN AREA = .0219 SQ. MI.

****

COMPUTE RATING CURVE CDD=-1 VSNO 1 NOSEGS 1 MIN 0 MAX .87
CHSLP.02 FPSLP.02 N .017 DIST 80
DIST ELEV DIST ELEV DIST ELEV
0 .87 18 .67 18.2 0
44 .44 62 0 62.2 .67
80 .87

COMPUTE TRAVEL TIME RC=52 RN 1 NO VS 1 LENGTH 260 SLP .02

TRAVEL TIME TABLE

REACH= 1.0

WATER DEPTH FEET	AVERAGE AREA SQ.FT.	FLOW RATE CFS	TRAVEL TIME HRS
.046	.105	.10	.0732
.092	.420	.66	.0461
.137	.945	1.94	.0352
.183	1.680	4.18	.0290
.229	2.625	7.57	.0250
.275	3.779	12.31	.0222
.321	5.144	18.58	.0200
.366	6.719	26.52	.0183
.412	8.504	36.31	.0169
.458	10.482	49.23	.0154
.504	12.501	65.93	.0137
.549	14.521	84.51	.0124
.595	16.542	104.86	.0114
.641	18.565	126.91	.0106
.687	20.614	144.60	.0103
.733	22.963	155.90	.0106
.778	25.688	171.69	.0108
.824	28.788	191.71	.0108
.870	32.264	215.90	.0108

ROUTE ID=52 HYD 152 INID 3 DT=0.0
PRINT HYD ID 52 CODE 10

PARTIAL HYDROGRAPH 152.00

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	1.667	22.3	3.333	.2	5.000	.2	6.667	.0
.333	.0	2.000	10.2	3.667	.1	5.333	.2	7.000	.0
.667	.0	2.333	2.2	4.000	.1	5.667	.2		
1.000	.0	2.667	.8	4.333	.1	6.000	.3		
1.333	6.1	3.000	.4	4.667	.1	6.333	.1		

RUNOFF VOLUME = 1.23170 INCHES = 1.4386 ACRE-FEET
PEAK DISCHARGE RATE = 40.13 CFS AT 1.533 HOURS BASIN AREA = .0219 SQ. MI.

****

*S AREA C
COMPUTE NM HYD ID=4 HYD=104 DA=.0105
PER A 0 PER B 10 PER C 0 PER D 90 TP -.13
RAIN =-1

K = .070850HR TP = .130000HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 38.256 CFS UNIT VOLUME = .9998 B = 526.28 P60 = 1.3400
AREA = .009450 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033333

K = .136844HR TP = .130000HR K/TP RATIO = 1.052645 SHAPE CONSTANT, N = 3.354139
UNIT PEAK = 2.5000 CFS UNIT VOLUME = .9946 B = 309.53 P60 = 1.3400
AREA = .001050 SQ MI IA = .50000 INCHES INF = 1.25000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033333

PRINT HYD ID=4 CODE 10

PARTIAL HYDROGRAPH 104.00

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	1.667	9.6	3.333	.1	5.000	.1	6.667	.0
.333	.0	2.000	4.6	3.667	.1	5.333	.1		
.667	.0	2.333	.9	4.000	.1	5.667	.1		
1.000	.0	2.667	.3	4.333	.1	6.000	.1		

1.333	5.4	3.000	.1	4.667	.1	6.333	.0

RUNOFF VOLUME = 1.23170 INCHES = .6897 ACRE-FEET
PEAK DISCHARGE RATE = 19.63 CFS AT 1.500 HOURS BASIN AREA = .0105 SQ. MI.

ADD HYD ID 5 HYD 105 IDi 4 IDii 52
PRINT HYD ID 5 CODE 10

PARTIAL HYDROGRAPH 105.00

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	1.667	31.9	3.333	.3	5.000	.2	6.667	.0
.333	.0	2.000	14.9	3.667	.2	5.333	.3	7.000	.0
.667	.0	2.333	3.1	4.000	.2	5.667	.3		
1.000	.0	2.667	1.1	4.333	.2	6.000	.4		
1.333	11.5	3.000	.5	4.667	.2	6.333	.1		

RUNOFF VOLUME = 1.23167 INCHES = 2.1283 ACRE-FEET
PEAK DISCHARGE RATE = 58.58 CFS AT 1.533 HOURS BASIN AREA = .0324 SQ. MI.

COMPUTE RATING CURVE CDD=-1 VSNO 1 NOSEGS 1 MIN 0 MAX .87
CHSLP.02 FPSLP.02 N .017 DIST 80

DIST	ELEV	DIST	ELEV	DIST	ELEV
0	.87	18	.67	18.2	0
44	.44	62	0	62.2	.67
80	.87				

COMPUTE TRAVEL TIME RC=53 RN 1 NO VS 1 LENGTH 316 SLP .02

TRAVEL TIME TABLE
REACH= 1.0

WATER DEPTH FEET	AVERAGE AREA SQ.FT.	FLOW RATE CFS	TRAVEL TIME HRS
.046	.105	.10	.0890
.092	.420	.66	.0560
.137	.945	1.94	.0428
.183	1.680	4.18	.0353
.229	2.625	7.57	.0304
.275	3.779	12.31	.0269
.321	5.144	18.58	.0243
.366	6.719	26.52	.0223
.412	8.504	36.31	.0206
.458	10.482	49.23	.0187
.504	12.501	65.93	.0166
.549	14.521	84.51	.0151
.595	16.542	104.86	.0138
.641	18.565	126.91	.0128
.687	20.614	144.60	.0125
.733	22.963	155.90	.0129
.778	25.688	171.69	.0131
.824	28.788	191.71	.0132
.870	32.264	215.90	.0131

ROUTE ID=53 HYD 153 INID 5 DT=0.0
PRINT HYD ID 53 CODE 10

PARTIAL HYDROGRAPH 153.00

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	1.667	34.1	3.333	.3	5.000	.2	6.667	.0
.333	.0	2.000	15.4	3.667	.2	5.333	.3	7.000	.0
.667	.0	2.333	3.5	4.000	.2	5.667	.3		
1.000	.0	2.667	1.3	4.333	.2	6.000	.4		
1.333	7.0	3.000	.5	4.667	.2	6.333	.2		

RUNOFF VOLUME = 1.23169 INCHES = 2.1283 ACRE-FEET
PEAK DISCHARGE RATE = 59.48 CFS AT 1.533 HOURS BASIN AREA = .0324 SQ. MI.

****

*S AREA G
COMPUTE NM HYD ID=6 HYD = 106 DA=.00724
PER A 0 PER B 10 PER C 0 PER D 90 TP-.13
RAIN -1

K = .070850HR TP = .130000HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 26.379 CFS UNIT VOLUME = .9996 B = 526.28 P60 = 1.3400
AREA = .006516 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033333

K = .136844HR TP = .130000HR K/TP RATIO = 1.052645 SHAPE CONSTANT, N = 3.354139
UNIT PEAK = 1.7238 CFS UNIT VOLUME = .9924 B = 309.53 P60 = 1.3400
AREA = .000724 SQ MI IA = .50000 INCHES INF = 1.25000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033333

```
PRINT HYD              ID=6 CODE 10
```

PARTIAL HYDROGRAPH 106.00

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	1.667	6.6	3.333	.1	5.000	.1	6.667	.0
.333	.0	2.000	3.2	3.667	.0	5.333	.1		
.667	.0	2.333	.6	4.000	.0	5.667	.1		
1.000	.0	2.667	.2	4.333	.0	6.000	.1		
1.333	3.7	3.000	.1	4.667	.0	6.333	.0		

RUNOFF VOLUME = 1.23170 INCHES = .4756 ACRE-FEET
PEAK DISCHARGE RATE = 13.54 CFS AT 1.500 HOURS BASIN AREA = .0072 SQ. MI.

```
ADD HYD                ID 7 HYD 107 IDi 6 IDii 53
COMPUTE RATING CURVE    CDD=-1 VSNO 1 NOSEGS 1 MIN 0 MAX .87
                        CHSLP.02 FPSLP.02 N .017 DIST 80
                        DIST ELEV  DIST ELEV  DIST ELEV
                        0    .87   18   .67   18.2 0
                        44   .44   62    0    62.2 .67
                        80    .87
COMPUTE TRAVEL TIME     RC=54 RN 1 NO VS 1 LENGTH 483 SLP .02
```

TRAVEL TIME TABLE
REACH= 1.0

WATER DEPTH FEET	AVERAGE AREA SQ.FT.	FLOW RATE CFS	TRAVEL TIME HRS
.046	.105	.10	.1360
.092	.420	.66	.0856
.137	.945	1.94	.0654
.183	1.680	4.18	.0540
.229	2.625	7.57	.0465
.275	3.779	12.31	.0412
.321	5.144	18.58	.0372
.366	6.719	26.52	.0340
.412	8.504	36.31	.0314
.458	10.482	49.23	.0286
.504	12.501	65.93	.0254
.549	14.521	84.51	.0231
.595	16.542	104.86	.0212
.641	18.565	126.91	.0196
.687	20.614	144.60	.0191
.733	22.963	155.90	.0198
.778	25.688	171.69	.0201
.824	28.788	191.71	.0201
.870	32.264	215.90	.0200

```
ROUTE                  ID=54 HYD 154 INID 7 DT=0.0
PRINT HYD              ID 54 CODE 10
```

PARTIAL HYDROGRAPH 154.00

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	1.667	44.4	3.333	.4	5.000	.3	6.667	.1
.333	.0	2.000	19.5	3.667	.3	5.333	.3	7.000	.0
.667	.0	2.333	4.9	4.000	.2	5.667	.4	7.333	.0
1.000	.0	2.667	1.7	4.333	.2	6.000	.5		
1.333	4.6	3.000	.8	4.667	.2	6.333	.3		

RUNOFF VOLUME = 1.23168 INCHES = 2.6039 ACRE-FEET
PEAK DISCHARGE RATE = 71.74 CFS AT 1.533 HOURS BASIN AREA = .0396 SQ. MI.

```
**************************************************************************
*S  AREA H
COMPUTE NM HYD          ID=8 HYD = 108 DA=.0032
                        PER A 0 PER B 0 PER C 0 PER D 100 TP-.13
                        RAIN -1
```

K = .070850HR TP = .130000HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 12.954 CFS UNIT VOLUME = .9992 B = 526.28 P60 = 1.3400
AREA = .003200 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033333

```
PRINT HYD              ID 8 CODE 10
```

PARTIAL HYDROGRAPH 108.00

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	1.333	1.8	2.667	.1	4.000	.0	5.333	.0
.333	.0	1.667	3.2	3.000	.0	4.333	.0	5.667	.0
.667	.0	2.000	1.6	3.333	.0	4.667	.0	6.000	.0
1.000	.0	2.333	.3	3.667	.0	5.000	.0	6.333	.0

RUNOFF VOLUME = 1.33763 INCHES = .2283 ACRE-FEET
PEAK DISCHARGE RATE = 6.44 CFS AT 1.500 HOURS BASIN AREA = .0032 SQ. MI.

```
**************************************************************************
*S AREA LUMBER ST.
COMPUTE NM HYD          ID=9 HYD=109 DA .00452
                        PER A 0 PER B 0 PER C 0 PER D 100 TP -.13
                        RAIN -1

     K =   .070850HR    TP =   .130000HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =   18.298    CFS   UNIT VOLUME =    .9994       B =   526.28      P60 = 1.3400
     AREA =      .004520 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033333

PRINT HYD               ID 9 CODE 10

                                PARTIAL HYDROGRAPH   109.00

     TIME    FLOW        TIME    FLOW        TIME    FLOW        TIME    FLOW        TIME    FLOW
     HRS     CFS         HRS     CFS         HRS     CFS         HRS     CFS         HRS     CFS
     .000      .0        1.667     4.5       3.333       .0      5.000       .0      6.667       .0
     .333      .0        2.000     2.2       3.667       .0      5.333       .0
     .667      .0        2.333      .4       4.000       .0      5.667       .1
    1.000      .0        2.667      .2       4.333       .0      6.000       .1
    1.333     2.6        3.000      .1       4.667       .0      6.333       .0

    RUNOFF VOLUME =     1.33764 INCHES     =        .3225 ACRE-FEET
    PEAK DISCHARGE RATE =       9.09 CFS  AT   1.500 HOURS   BASIN AREA =    .0045 SQ. MI.


**************************************************************************
ADD HYD                 ID=10 HYD 110 IDi 9 IDii 8
PRINT HYD               ID 10 CODE 10

                                PARTIAL HYDROGRAPH   110.00

     TIME    FLOW        TIME    FLOW        TIME    FLOW        TIME    FLOW        TIME    FLOW
     HRS     CFS         HRS     CFS         HRS     CFS         HRS     CFS         HRS     CFS
     .000      .0        1.667     7.6       3.333       .1      5.000       .1      6.667       .0
     .333      .0        2.000     3.7       3.667       .0      5.333       .1
     .667      .0        2.333      .7       4.000       .0      5.667       .1
    1.000      .0        2.667      .3       4.333       .0      6.000       .1
    1.333     4.4        3.000      .1       4.667       .1      6.333       .0

    RUNOFF VOLUME =     1.33756 INCHES     =        .5507 ACRE-FEET
    PEAK DISCHARGE RATE =      15.52 CFS  AT   1.500 HOURS   BASIN AREA =    .0077 SQ. MI.


ADD HYD                 ID 11 HYD 111 IDi 10 IDii 54

*S**************************************************************************
*S TOTAL FLOW TO CATTLE GUARD INLET ON LUMBER EAST OF JEFFERSON
*S**************************************************************************
PRINT HYD               ID 11 CODE 10

                                PARTIAL HYDROGRAPH   111.00

     TIME    FLOW        TIME    FLOW        TIME    FLOW        TIME    FLOW        TIME    FLOW
     HRS     CFS         HRS     CFS         HRS     CFS         HRS     CFS         HRS     CFS
     .000      .0        1.667    52.0       3.333       .4      5.000       .3      6.667       .1
     .333      .0        2.000    23.3       3.667       .3      5.333       .4      7.000       .0
     .667      .0        2.333     5.7       4.000       .3      5.667       .5      7.333       .0
    1.000      .0        2.667     2.0       4.333       .3      6.000       .6
    1.333     9.0        3.000      .9       4.667       .3      6.333       .3

    RUNOFF VOLUME =     1.24893 INCHES     =       3.1546 ACRE-FEET
    PEAK DISCHARGE RATE =      86.29 CFS  AT   1.533 HOURS   BASIN AREA =    .0474 SQ. MI.


*S SITE DRAINAGE TO LUMBER
*S AREA F1
COMPUTE NM HYD          ID 20 HYD 120 DA .00227
                        PER A 0 PER B 10 PER C 0 PER D 90 TP-.13
                        RAIN -1

     K =   .07085 HR    TP =   .130000HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =   8.706    CFS   UNIT VOLUME =    .9987       B =   526.28      P60 = 1.3400
     AREA =      .002043 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033333


     K =   .136844HR    TP =   .130000HR    K/TP RATIO =  1.052645     SHAPE CONSTANT, N =  3.354139
     UNIT PEAK =   .54048    CFS   UNIT VOLUME =    .9738       B =   309.53      P60 = 1.3400
     AREA =      .000227 SQ MI    IA =    .50000 INCHES    INF =   1.25000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033333

PRINT HYD               ID 20 CODE 10

                                PARTIAL HYDROGRAPH   120.00

     TIME    FLOW        TIME    FLOW        TIME    FLOW        TIME    FLOW        TIME    FLOW
```

HRS	CFS	HRS	CFS	HRS	CFS	HRS	CFS	HRS	CFS
.000	.	1.333	1.2	2.667	.1	4.000	.0	5.333	.0
.333	.1	1.667	2.1	3.000	.0	4.333	.0	5.667	.0
.667	.9	2.000	1.0	3.333	.0	4.667	.0	6.000	.0
1.000	.0	2.333	.2	3.667	.0	5.000	.0	6.333	.0

RUNOFF VOLUME = 1.23170 INCHES = .1491 ACRE-FEET
PEAK DISCHARGE RATE = 4.25 CFS AT 1.500 HOURS BASIN AREA = .0023 SQ. MI.

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*S AREA F2
COMPUTE NM HYD • ID 21 HYD 121 DA .000803
PER A 0 PER B 10 PER C 0 PER D 90 TP-.13
RAIN -1

K = .070850HR TP = .130000HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 2.9257 CFS UNIT VOLUME = .9960 B = 526.28 P60 = 1.3400
AREA = .000723 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033333

K = .136844HR TP = .130000HR K/TP RATIO = 1.052645 SHAPE CONSTANT, N = 3.354139
UNIT PEAK = .19119 CFS UNIT VOLUME = .9300 B = 309.53 P60 = 1.3400
AREA = .000080 SQ MI IA = .50000 INCHES INF = 1.25000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033333

PRINT HYD ID 21 CODE 10

PARTIAL HYDROGRAPH 121.00

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	1.333	.4	2.667	.0	4.000	.0	5.333	.0
.333	.0	1.667	.7	3.000	.0	4.333	.0	5.667	.0
.667	.0	2.000	.4	3.333	.0	4.667	.0	6.000	.0
1.000	.0	2.333	.1	3.667	.0	5.000	.0	6.333	.0

RUNOFF VOLUME = 1.23170 INCHES = .0527 ACRE-FEET
PEAK DISCHARGE RATE = 1.51 CFS AT 1.500 HOURS BASIN AREA = .0008 SQ. MI.

****

*S AREA F3
COMPUTE NM HYD ID 22 HYD 122 DA .00144
PER A 0 PER B 10 PER C 0 PER D 90 TP-.13
RAIN -1

K = .070850HR TP = .130000HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 5.2466 CFS UNIT VOLUME = .9979 B = 526.28 P60 = 1.3400
AREA = .001296 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033333

K = .136844HR TP = .130000HR K/TP RATIO = 1.052645 SHAPE CONSTANT, N = 3.354139
UNIT PEAK = .34286 CFS UNIT VOLUME = .9605 B = 309.53 P60 = 1.3400
AREA = .000144 SQ MI IA = .50000 INCHES INF = 1.25000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033333

PRINT HYD ID 22 CODE 10

PARTIAL HYDROGRAPH 122.00

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.	1.333	.7	2.667	.0	4.000	.0	5.333	.0
.333	.0	1.667	1.3	3.000	.0	4.333	.0	5.667	.0
.667	.0	2.000	.6	3.333	.0	4.667	.0	6.000	.0
1.000	.0	2.333	.1	3.667	.0	5.000	.0	6.333	.0

RUNOFF VOLUME = 1.23170 INCHES = .0946 ACRE-FEET
PEAK DISCHARGE RATE = 2.70 CFS AT 1.500 HOURS BASIN AREA = .0014 SQ. MI.

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*S AREA F4
COMPUTE NM HYD ID 23 HYD 123 DA .00148
PER A 0 PER B 10 PER C 0 PER D 90 TP-.13
RAIN -1

K = .070850HR TP = .130000HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 5.3923 CFS UNIT VOLUME = .9979 B = 526.28 P60 = 1.3400
AREA = .001332 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033333

K = .136844HR TP = .130000HR K/TP RATIO = 1.052645 SHAPE CONSTANT, N = 3.354139
UNIT PEAK = .35238 CFS UNIT VOLUME = .9605 B = 309.53 P60 = 1.3400
AREA = .000148 SQ MI IA = .50000 INCHES INF = 1.25000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033333

PRINT HYD ID 23 CODE 10

PARTIAL HYDROGRAPH 123.00

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	1.333	.8	2.667	.0	4.000	.0	5.333	.0
.333	.0	1.667	1.4	3.000	.0	4.333	.0	5.667	.0
.667	.0	2.000	.7	3.333	.0	4.667	.0	6.000	.0
1.000	.0	2.333	.1	3.667	.0	5.000	.0	6.333	.0

RUNOFF VOLUME = 1.23170 INCHES = .0972 ACRE-FEET
PEAK DISCHARGE RATE = 2.77 CFS AT 1.500 HOURS BASIN AREA = .0015 SQ. MI.

****
*S AREA F5
COMPUTE NM HYD ID 24 HYD 124 DA .00164
PER A 0 PER B 10 PER C 0 PER D 90 TP-.13
RAIN -1

K = .070850HR TP = .130000HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 5.9753 CFS UNIT VOLUME = .9982 B = 526.28 P60 = 1.3400
AREA = .001476 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033333

K = .136844HR TP = .130000HR K/TP RATIO = 1.052645 SHAPE CONSTANT, N = 3.354139
UNIT PEAK = .39048 CFS UNIT VOLUME = .9636 B = 309.53 P60 = 1.3400
AREA = .000164 SQ MI IA = .50000 INCHES INF = 1.25000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033333

PRINT HYD ID 24 CODE 10

PARTIAL HYDROGRAPH 124.00

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	1.333	.8	2.667	.0	4.000	.0	5.333	.0
.333	.0	1.667	1.5	3.000	.0	4.333	.0	5.667	.0
.667	.0	2.000	.7	3.333	.0	4.667	.0	6.000	.0
1.000	.0	2.333	.1	3.667	.0	5.000	.0	6.333	.0

RUNOFF VOLUME = 1.23170 INCHES = .1077 ACRE-FEET
PEAK DISCHARGE RATE = 3.07 CFS AT 1.500 HOURS BASIN AREA = .0016 SQ. MI.

FINISH

NORMAL PROGRAM FINISH END TIME (HR:MIN:SEC) = 14:59:09
-(s0p10h4099T-&16D

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

December 2,1998

Wallace Bingham
DSL Associates
4401 Silver SE
Albuquerque, New Mexico 87108

RE: DRAINAGE PLAN FOR MCLEOD CROSSING (F17-D2H) ENGINEER'S STAMP DATED 11/23/98

Dear Mr. Bingham:

Based on the information provided on your November 23,1998 submittal, listed are some concerns that will need to be addressed prior to final approval:

1. Finish floor elevation must be shown to full mean sea level designation.

2. Top of curb and flowline elevations on all adjacent streets.

3. Location and direction of proposed roof drains.

4. Please identify the ACS Bench Mark letters and numbers and include the elevation of both BM & TBM.

5. The SO19 format includes notes that will need to be included on the plan drawing. Refer to the SO19 format in the DPM.

6. This submittal is more of a conceptual plan, use the checklist from the DPM as a guide.

If I can be of further assistance, please feel free to contact me at 924-3986.

C: Andrew Garcia
File

Sincerely

Bernie J. Montoya CE
Associate Engineer

CITY OF
Albuquerque

September 25,1998

Mark Goodwin
D. Mark Goodwin & Associates
P.O. Box 90606
Albuquerque, New Mexico 87199

RE: REVISED MASTER DRAINAGE PLAN FOR MANN PROPERTY-MCLEOD (F17-D2H)
REVISION DATED 8/25/98

Dear Mr. Goodwin:

Based on the information provided on your August 26,1998 resubmittal, the above referenced site is approved for Site Development Plan for Subdivision.

Please be advised that a separate submittal for each lot will be required prior to Building Permit release.

If I can be of further assistance, please feel free to contact me at 924-3986.

C: Andrew Garcia
File

Sincerely

Bernie J. Montoya CE
Associate Engineer