

CANCELLATION AND RELEASE OF AGREEMENT AND COVENANT

#3450
E-12/D003

THIS CANCELLATION AND RELEASE OF AGREEMENT AND COVENANT is made and entered into as of the 5th day of March, 2003, by the City of Albuquerque, ("the City").

WHEREAS, the City and Payless Cashways, Inc. entered into an Agreement and Covenant (the "Agreement") dated November 23, 1994. The Agreement was recorded December 8, 1994 in Book 94-33 at page 3571 to 3576 as Document No. 94143015 in the records of the Bernalillo County Clerks Office, New Mexico.

WHEREAS, all of the conditions prior to cancellation of the Agreement have been satisfied, and the parties wish to cancel the Agreement and Covenant.

THEREFORE, City of Albuquerque hereby cancels terminates and releases the Agreement and Covenant.

IN WITNESS WHEREOF, the undersigned has executed this Cancellation and Release of Agreement and Covenant as of the day and year first above written.

CITY OF ALBUQUERQUE
a municipal corporation

By: [Signature] 3/5/03
Its: City Engineer 2-2007 of 3/3/03

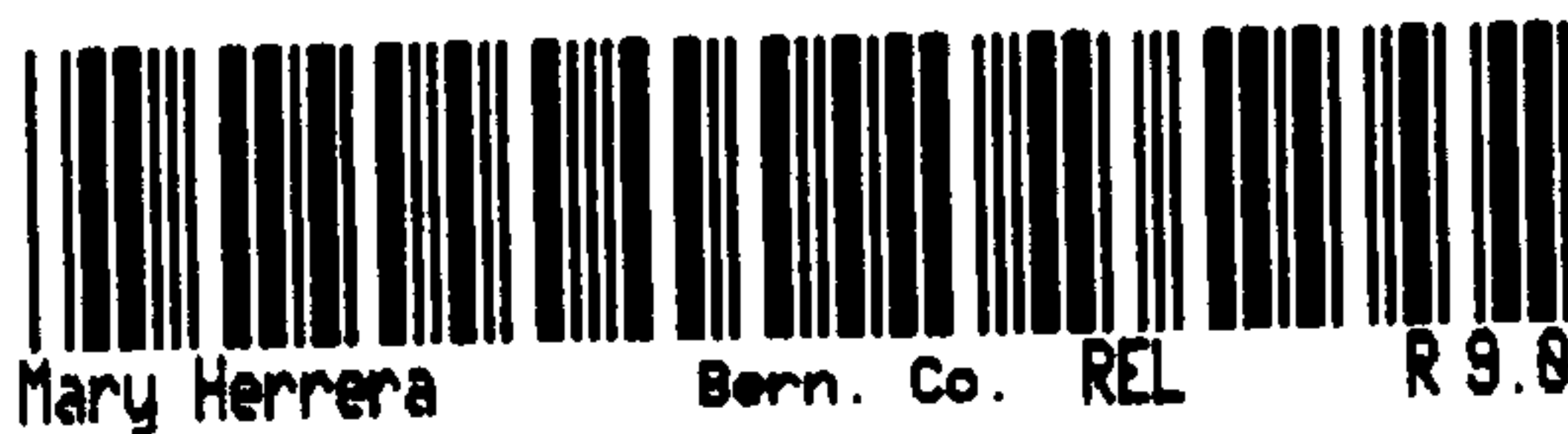
STATE OF NEW MEXICO)
) ss.
COUNTY OF BERNALILLO)

This instrument was acknowledged before me on March 5, 2003 by Fred J. Aguirre, City Engineer, of the City of Albuquerque, a municipal corporation, on behalf of the corporation.

[Signature: Gloria A. Seaveda]
Notary Public

My Commission Expires:

11-15-2003



2003037399
5826398
Page: 1 of 1
03/07/2003 10:23A
Bk-A51 Pg-7326

CONTRACT CONTROL FORM

PRELIMINARY REVIEW

Project # 3450
CCN# 8800569
New or Ext. # Ext. #
Contact Person Kathy Jaramillo
Phone No. 924-3996
Type of Agreement: Cancellation & release of agreement & covenant
Description/Project Name: Winterhaven Rd. - West Portion
Planning Dept./Div.: Design Review
Developer: Puget Cashways, Inc.
Contract Amount \$ -0- SIA Contract Period: 3/5/03 - CLOSED
Contract Amount \$ _____ SIA Contract Period: _____
Contract Amount \$ _____ S/W Contract Period: _____

DRAFT CONTRACT:

Rec'd by Legal: _____ Rejected/Returned to Dept.: _____ / _____
Returned to Legal: _____ / _____ Approved: _____ Initials: _____

FINANCIAL GUARANTY:

Letter of Credit No.: _____ Date: _____ Attached: Yes _____ No. _____ Initial _____
Other: Type _____ Date: _____ Attached: Yes _____ No. _____ Initial _____

FINAL CONTRACT REVIEW

APPROVALS REQUIRED:

	<u>Date Delivered</u>	<u>Returned to Dept.</u>	<u>Approved By</u>	<u>Approval Date</u>
Utility Div				
Hydrology Div	<u>2/26/03</u>	<u>2/27/03</u>	<u>BLB</u>	<u>2/27/03</u>
Transportation Div				
DRC Chairman	<u>2/27/03</u>	<u>2-28-03</u>	<u>ON</u>	<u>2-28-03</u>
Legal Dept	<u>3/3/03</u>	<u>3/3/03</u>	<u>cf</u>	<u>3/3/03</u>
City Engineer	<u>3/4/03</u>	<u>3/5/03</u>	<u>FA</u>	<u>3/5/03</u>
PWD Director				
Finance				
City Clerk				
CAO				

DISTRIBUTION:

	<u>Date:</u>	<u>By:</u>
User Department.	<u>3/7/03</u>	<u>IS</u>
Vendor		
City Clerk	<u>3/10/03</u>	<u>JS</u>
Treasury		
Other:		

AGREEMENT AND COVENANT

This agreement and covenant, between the City of Albuquerque, New Mexico ("City") and Payless Cashways, Inc., ("User") is made in Albuquerque, New Mexico and is entered into as of the date of recording this agreement with the Bernalillo County Clerk.

1. Recital. The User is the owner of a leasehold estate in certain real property ("User's Property") located at northeast corner of Coors and Montano, in Albuquerque, New Mexico, and more particularly described as:

Tract 5A1 Lands of Joel P. Taylor as shown on the plat thereof recorded in the Bernalillo County, New Mexico Real Estate Records.

The City is the owner of certain real property, easement or public right-of-way ("City's Property") in the vicinity of , contiguous to, abutting or within user's Property, and more particularly described as:

Winter Haven Road.

The User wishes to construct upon, improve or repair and to maintain the following "Improvement" on the City's Property (or already has done so):

A temporary drainage swale along the western boundary of the City's Property, together with any pipes or other drainage facilities carrying waters over or under driveways into the Montano Plaza Shopping Center.

A sketch of the proposed or existing improvement is attached as Exhibit A and made a part of this agreement.

The City agrees to permit the improvement to exist on the City's Property provided the User complies with the terms of this agreement.

2. City Use of City's Property and City Liability. The City has the right to enter upon the City's Property at any time and perform whatever inspection, installation, maintenance, repair, modification or removal ("Work") it deems appropriate without liability to the User. If the Work affects the Improvements the City will not be financially or otherwise responsible for rebuilding or repairing the Improvement. The user promptly will repair the improvement to the City's satisfaction. The cost of repairing the Improvement will be paid by User.

3. User's responsibility for Improvement. The User will be solely responsible for constructing, maintaining, repairing and, if required, removing the Improvement, all in accordance with standards required by the City. The User will be solely responsible for paying all related costs. The User will not permit the Improvement to constitute a hazard to the health or safety of the general public or to interfere with the City's use of the City's Property. The User will conform with all applicable laws, ordinances and regulations.

4. Use of the Improvement. If the City's Property is a public right-of-way, it shall be open to the use of the general public at all times, subject to reasonable curtailment during periods of construction, maintenance or repair.

5. Demand for Repair, Modification or Removal. The City may send written notice ("Notice") to the User requiring the User to repair, modify or remove the Improvement within 20 days ("Deadline") and the User will comply promptly with the requirements of the Notice. If removal is demanded, the City also may require the User to return the City's Property to its original condition by the Deadline. The User will perform all required work by the Deadline, at User's sole expense.

6. Failure to Perform by User and Emergency Work by City. If the User fails to comply with the terms of the Notice by the Deadline stated, or, if the City determines that an emergency condition exists, the City may perform the work itself. The City then may assess the User for the cost of the work and for any other expenses or damages which result from User's failure to perform. The User agrees promptly to pay the City the amount assessed. If the User fails to pay the City within thirty (30) days after the City gives the User written notice of the amount due, the City may impose a lien against User's Property for the total resulting amount.

7. Cancellation of Agreement and Release of Covenant. This agreement may be canceled and User's covenants released by the City at will by the City's mailing to the User notice of the City's intention to record a Cancellation and Release with the Bernalillo County Clerk. The Cancellation and Release will be effective thirty (30) days after the date of mailing the notice to the User unless a later date is stated in the notice or the Cancellation and Release. After the effective date, the City will record the Cancellation and Release with the Bernalillo County Clerk.

8. Condemnation. If any part of the User's Property is ever condemned by the City, the User will forego all claims to compensation for any portion of User's structure which encroaches on City Property and for severance damage to the remaining portion of User's structure on User's Property.

9. Assessment. Nothing in this agreement shall be construed to relieve the User, his heirs, assigns and successor's from an assessment against User's Property for improvements to the City Property under a duly authorized and approved Special Assessment District. The parties specifically agree that the value of the Improvement will not reduce the amount assessed by the City.

10. Notice. For purposes of giving formal written notice to the User, User's address is:

Payless Cashways, Inc.
Two Pershing Square
P.O. Box 419466
Kansas City, MO 64141-0466
Fax: (816) 234-6040

Notice may be given to the User either in person or by mailing the notice by regular U.S. mail, postage paid. Notice will be considered to have been received by the User within 3 days after the notice is mailed if there is no actual evidence of receipt. The User may change User's address by giving written notice of the change by certified mail, return receipt requested, to the City Engineer at P.O. Box 1293, Albuquerque, New Mexico 87103.

11. Indemnification. The User agrees to defend, indemnify and hold harmless the City, its officials, agents and employees from and against any and all claims, actions, suits or proceedings of any kind brought against said parties as a result of User's use of the City property. To the extent, if at all, Section 56-7-1 NMSA 1978 is applicable to this Agreement, this Agreement to indemnify will not extend to liability, claims, damages, losses or expenses, including attorney's fees, arising out of (1) the preparation or approval of maps, drawings, opinions, reports, surveys, change order, designs or specifications by the indemnitee, or the agents or employees of the indemnitee; or (2) the giving of or the failure to give direction or instructions by the indemnitee, where such giving or failure to give directions or instructions is the primary cause of bodily injury to persons or damage to property.

12. Term. This agreement shall continue until revoked by the City pursuant to Section 7 above.

13. Binding on User's Property. The covenants and obligations of the User set forth herein shall be binding on User, his heirs, assigns and successors and on user's Property and constitute covenants running with User's Property until released by the City.

14. Entire Agreement. This agreement contains the entire agreement of the parties and supersedes any and all other agreements or understandings, oral or written, whether previous to the execution hereof or contemporaneous herewith.

15. Changes of Agreement. Changes to this agreement are not binding unless made in writing, signed by both parties.

16. Construction and Severability. If any part of this agreement is held to be invalid or unenforceable, the reminder of the agreement will remain valid and enforceable if the reminder is reasonably capable of completion.

17. Captions. The captions to the sections or paragraphs of this agreement are not part of this agreement and will not affect the meaning or construction of any of its provisions.

CITY OF ALBUQUERQUE

USER:

Approved By:

Payless Cashways, Inc.

Robert E. Gurule
Robert E. Gurule, Director

by: *[Signature]*
its: Sr. V.P.

Dated: 11-19-94

[Signature]
Lawrence Rael,
Chief Administrative Officer

[Signature]
City Engineer
10/21/94

Dated:

MISSOURI

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

This instrument was acknowledged before me this 10th day of October, 1994 by Linda J. French, Sr. V.P., {title or capacity, for instance "President" or "Owner"} _____, of {name of company "corporation" or "partnership"} Payless Cashways, Inc.

[Signature]
Notary Public

My Commission Expires:

11/19/95

STATE OF NEW MEXICO
COUNTY OF BERNALILLO
FILED FOR RECORD

1994 DEC -8 AM 8:32

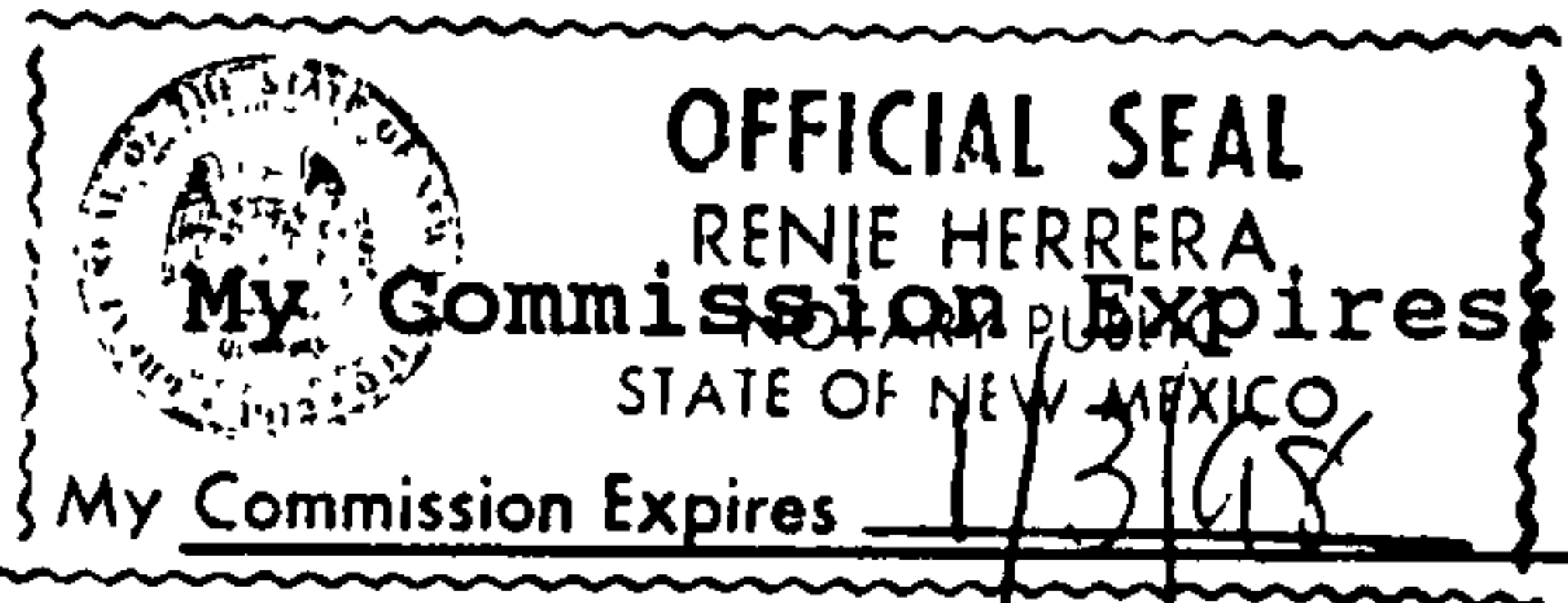
94333571-43576
BK PG
JUDY D. WOODWARD
CO. CLERK & RECORDER
DEPUTY

MARGARET DALE
Notary Public - State of Missouri
Commissioned in Clay County
My Commission Expires 11/13/95

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

This instrument was acknowledged before me this 23rd day of November, 1994 by Lawrence Rael, Chief Administrative Office of the City of Albuquerque, a municipal corporation on behalf of said corporation.

Rene Herrera
Notary Public



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

This instrument was acknowledged before me this 19th day of November, 1994 by Robert E. Gurule, Director of Public Works Department of the City of Albuquerque, a municipal corporation on behalf of said corporation.

Felicia Liron
Notary Public

My Commission Expires:
1-27-98

MONTAÑO PLAZA

NORTHEAST CORNER COORS ROAD
ALBUQUERQUE, NEW MEXICO

Project Name	Montaño Plaza
Client	Johnson Development
Site Location	Albuquerque, New Mexico
Site Area	1.5 Acres
Project Number	3576
Scale	1" = 100'
Date	10/1/77
Drawn By	J. Smith
Checked By	M. Jones
Approved By	D. Brown

JOHNSON DEVELOPMENT

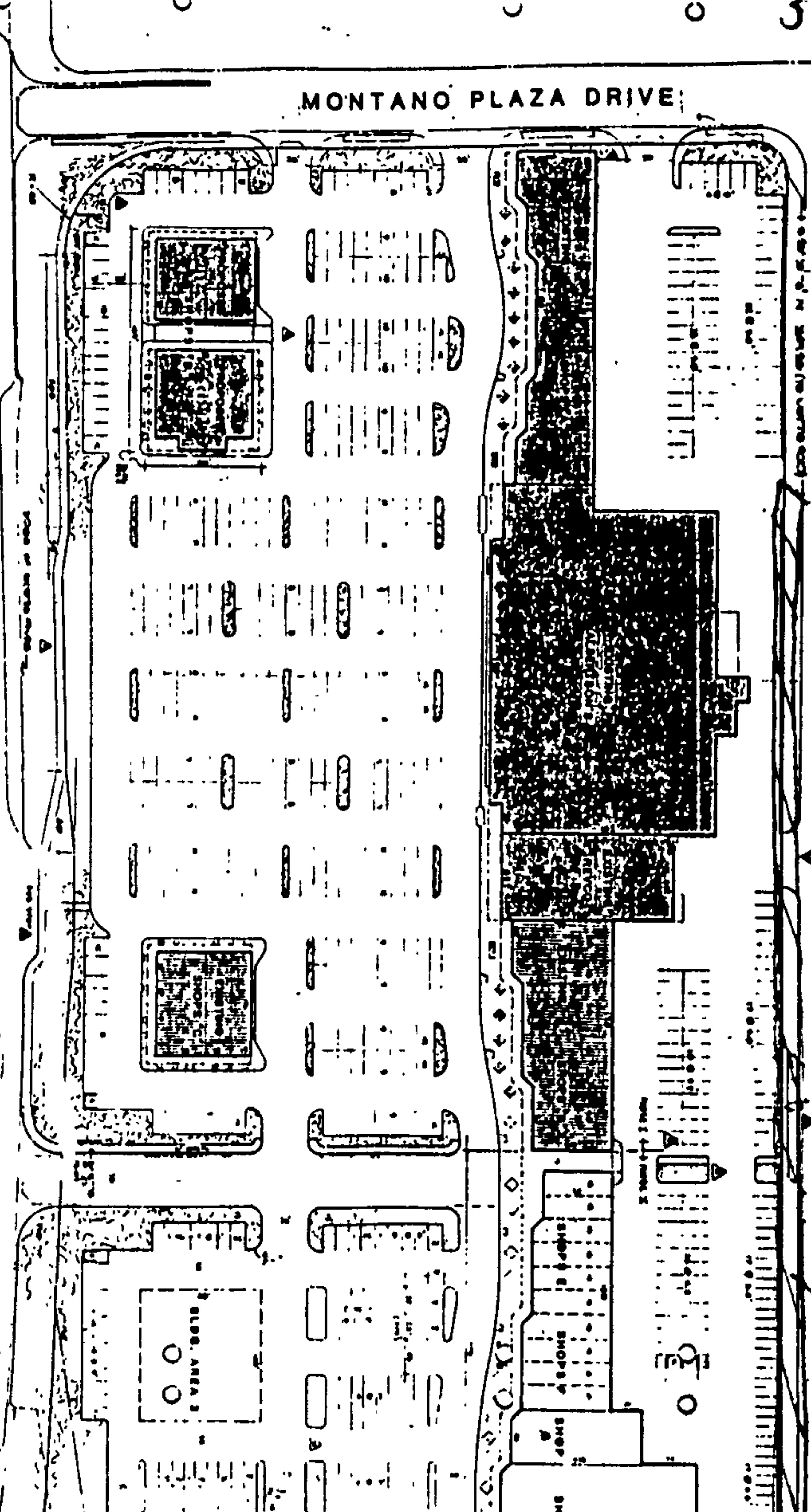
CME

earthen drainage swale

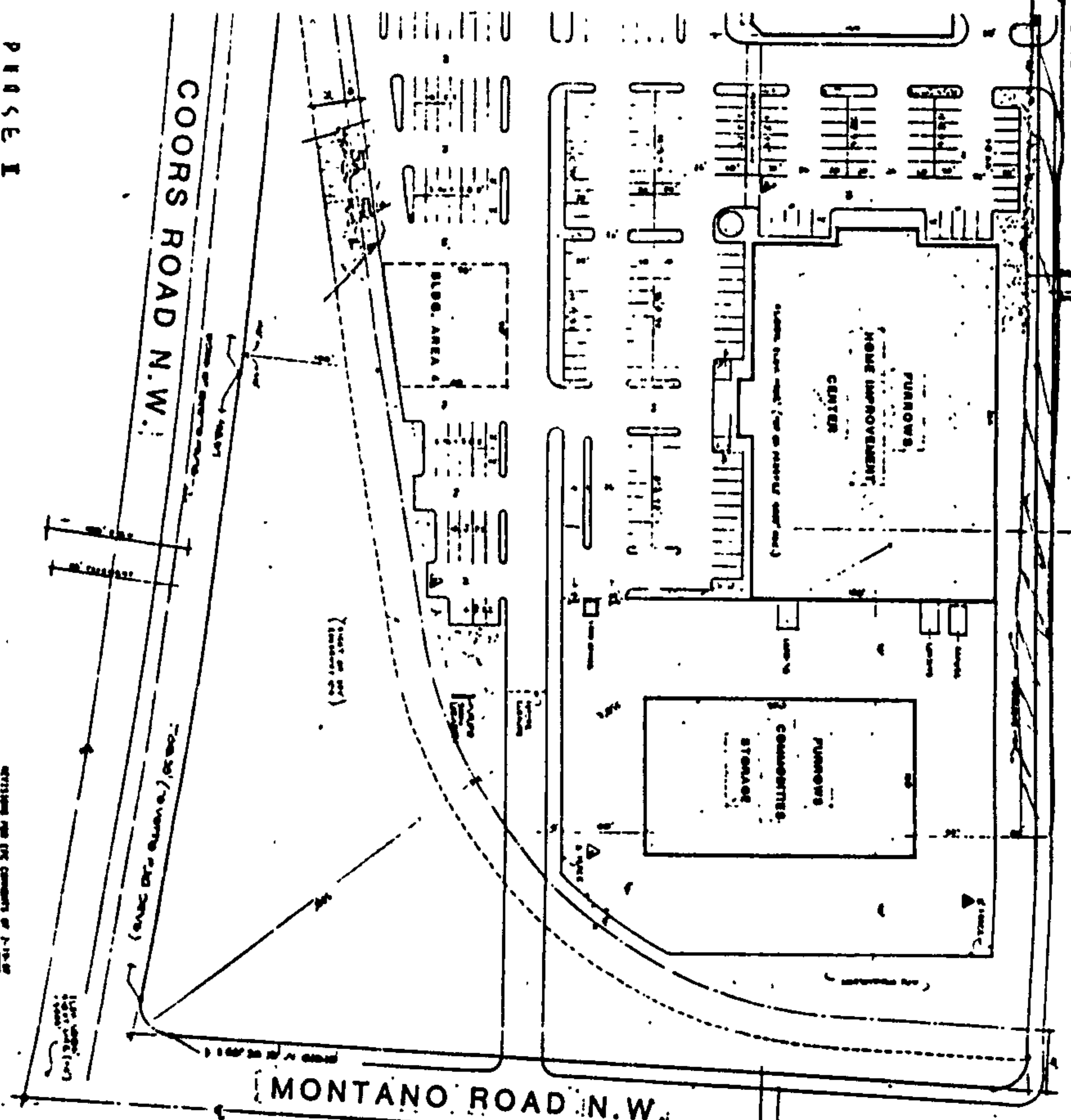
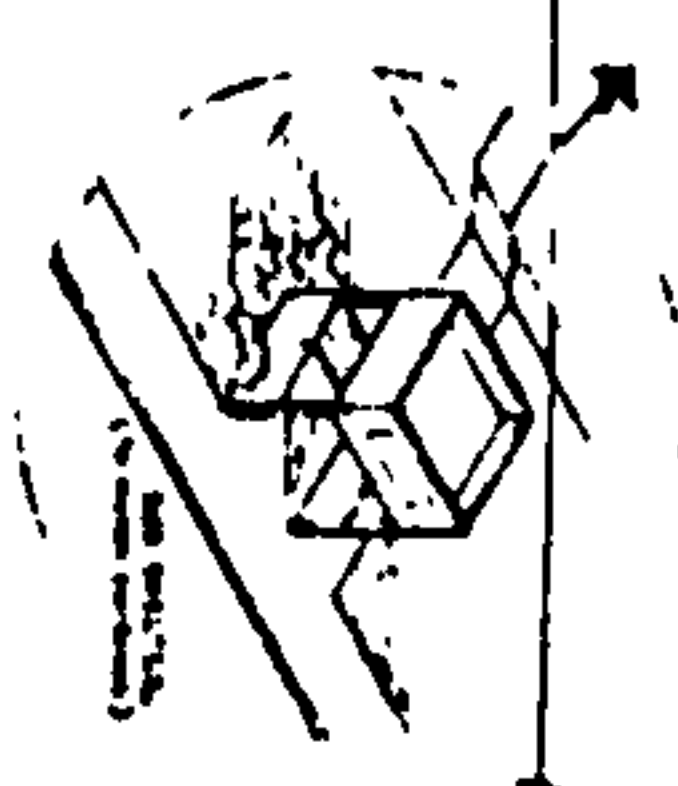
Point

WINTERHAVEN ROAD

MONTANO PLAZA DRIVE



SITE PLAN



MONTANO ROAD N.W.

COORS ROAD N.W.

NOTES:

1. SEE PLAN FOR LOCATION OF ALL UTILITIES.
2. BUILDINGS TO BE CONSTRUCTED IN PHASES 1 & 2. BUILDING 1 TO BE COMPLETED BY PHASE 1.
3. PROPERTY TO BE DEVELOPED SHALL BE BOUND BY THE COORS ROAD IMPROVEMENT PROJECT.
4. SEE PROJECT NUMBER 3576 FOR ALL UTILITIES.
5. ALL BUILDINGS SHALL BE CONSTRUCTED TO MEET ALL CITY REQUIREMENTS, WITH SPECIAL ATTENTION TO THE CITY OF ALBUQUERQUE.

PHASE I

5400'S 10' (CONCRETE)	15,250 sq
1800'S 10' (CONCRETE)	44,000 sq
2400'S 10' (CONCRETE)	5,450 sq
5400'S 10' (CONCRETE)	11,150 sq
5400'S 10' (CONCRETE)	5,350 sq
5400'S 10' (CONCRETE)	11,450 sq
5400'S 10' (CONCRETE)	11,450 sq
TOTAL AREA	115,500 sq

(TOTAL AREA - PHASE I - 115,500 sq)

PHASE II

5400'S 10' (CONCRETE)	4,150 sq
5400'S 10' (CONCRETE)	4,850 sq
5400'S 10' (CONCRETE)	3,950 sq
5400'S 10' (CONCRETE)	14,850 sq
5400'S 10' (CONCRETE)	10,550 sq
5400'S 10' (CONCRETE)	44,000 sq
5400'S 10' (CONCRETE)	14,000 sq
5400'S 10' (CONCRETE)	5,000 sq
TOTAL AREA	115,570 sq

(TOTAL AREA - PHASE II - 115,570 sq)

PHASE I	PHASE II
15,250 sq	4,150 sq
44,000 sq	4,850 sq
5,450 sq	3,950 sq
11,150 sq	14,850 sq
5,350 sq	10,550 sq
11,450 sq	44,000 sq
11,450 sq	14,000 sq
11,450 sq	5,000 sq
115,500 sq	115,570 sq

NOTES AND SPECIFICATIONS:

- 1. ALL UTILITIES TO BE LOCATED IN PHASE I.
- 2. BUILDINGS TO BE CONSTRUCTED IN PHASES 1 & 2.
- 3. PROPERTY TO BE DEVELOPED SHALL BE BOUND BY THE COORS ROAD IMPROVEMENT PROJECT.
- 4. SEE PROJECT NUMBER 3576 FOR ALL UTILITIES.
- 5. ALL BUILDINGS SHALL BE CONSTRUCTED TO MEET ALL CITY REQUIREMENTS, WITH SPECIAL ATTENTION TO THE CITY OF ALBUQUERQUE.
- 6. ALL UTILITIES SHALL BE LOCATED IN PHASE I.
- 7. BUILDINGS TO BE CONSTRUCTED IN PHASES 1 & 2.
- 8. PROPERTY TO BE DEVELOPED SHALL BE BOUND BY THE COORS ROAD IMPROVEMENT PROJECT.
- 9. SEE PROJECT NUMBER 3576 FOR ALL UTILITIES.
- 10. ALL BUILDINGS SHALL BE CONSTRUCTED TO MEET ALL CITY REQUIREMENTS, WITH SPECIAL ATTENTION TO THE CITY OF ALBUQUERQUE.

Act Person. TERRI McGIN
No. 768-2561

PA967

STO

REQ 3450.AC
CCN 8800569
ORIG CCN _____

PRELIMINARY REVIEW

(File w/ SIA)
Type of Agreement: AGREEMENT & COVENANT No.: _____ New: ☒ Supplement: _____
Description: PAYLESS CASHWAYS, INC. / LANDS OF JOEL P. TAYLOR JR. SAI
Dept/Div: PUBLIC WORKS/Proj. Rev. Fund: _____ Acct: _____ Act: _____
Vendor: PAYLESS CASHWAYS, INC. Contract Period: 12-7-94 - (SEE SIA)
Contract Amount: \$ 0 Rec: _____ FY Aggregate \$ _____
Fed Tax No. _____ St Tax No. _____ Issuer: _____ Date Issued: _____

WAIVERS REQUIRED:

RFP: _____ Ins: _____ Waiver Letter Attached: Yes _____ No _____ Approved: Yes _____ No _____

PROCUREMENT:

RFP No.: _____ Date Closed: _____ Approval By Whom: _____

DRAFT CONTRACT:

Recd by Legal: _____ Rejected/Returned to Dept: _____
Returned to Legal: _____ Approved: _____ Initials: _____

INSURANCE AND BONDS REQUIRED:

Bond(s) required: Yes _____ No _____ Type: _____ Attached: Yes _____ No _____
Insurance required: CGL _____ Auto _____ WC _____ Other _____ Attached: Yes _____ No _____

FINAL CONTRACT REVIEW

APPROVALS REQUIRED:

	Date Delivered	Returned to Dept	Approved by	Approval Date
Purchasing: <u>Hydrology</u>	<u>10/20</u>	<u>10/20</u>	<u>[Signature]</u>	<u>10-20-94</u>
Asst. City Attorney:	<u>10/21</u>	<u>11/18</u>	<u>[Signature]</u>	<u>11/19/94</u>
CIP: <u>PWD</u>	<u>11/18</u>			
City Attorney:	<u>1</u>			
CAO:	<u>11/21</u>			
Other:	<u>1</u>			
Council:	<u>1</u>		<u>[Signature]</u>	<u>11-19-94</u>

EC No: _____ Approved: _____ Date: _____

DISTRIBUTION:

ser Department
endor
ty Clerk
easury

Date:	By:
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

8840272

DRAINAGE COVENANT

379

This Drainage Covenant, between [state the name of the present real property owner exactly as shown on the real estate document conveying title to the present owner and state the legal status of the owner, for example, "single person," "husband and wife," "corporation of the State of X," "partnership":]

Joel P. Taylor and Nina Mae Taylor (Husband and Wife)

("Owner"), whose address is Route 3, Box 3019A,

Albuquerque, New Mexico, 87120,

↓, and the City of Albuquerque, a New Mexico municipal corporation ("City"), whose address is P. O. Box 1293, Albuquerque, New Mexico 87103, is made in Albuquerque, Bernalillo County, New Mexico and is entered into as of the date Owner signs this Easement.

1. Recital. Owner is the owner of certain real property located at [give general description, for instance, subdivision, lot and block or street address:] Parcel 5-A1,
Lands of Joel P. Taylor in Bernalillo County, New Mexico (the "Property").

Pursuant to City ordinances, regulations and other applicable laws, the Owner is required to construct and maintain certain drainage facilities on the Property, and the parties wish to enter into this agreement to establish the obligations and responsibilities of the parties.

2. Description and Construction of Drainage Facilities. Owner shall construct the following "Drainage Facility" within the Property at Owner's sole expense in accordance with the standards, plans and specifications approved by the City:

Work Order Number 3450: the detention and sedimentation pond with retaining walls, run downs, and private storm drain systems

The Drainage Facility is more particularly described in the attached Exhibit A. The Owner will not permit the Drainage Facility to constitute a hazard to the health or safety of the general public.

3. Maintenance of Drainage Facility. The Owner will maintain the Drainage Facility at Owner's cost in accordance with the approved Drainage Report and plans. Maintenance to be limited to the removal of accumulated silt within the drainage facility.

4. City's Right of Entry. The City has the right to enter upon the Property at any time and perform whatever inspection of the Drainage Facility it deems appropriate, without liability to the Owner.

5. Demand for Construction or Repair. The City may send written notice ("Notice") to the Owner requiring the Owner to construct or repair the Drainage Facility within 90 days ("Deadline") of receipt of the Notice, as provided in Section 12, and the Owner will comply promptly with the requirements of

and DON L. KILLOUGH, TRUSTEE under that certain trust entitled Joel P. Taylor and Nina Mae Taylor Trust Agreement, dated April 24, 1979, whose address is Box 955, Carman, Manitoba, Canada, ROG OJO (collectively herein called "Owner")

DK
JE
mm

the Notice. The Owner will perform all required work by the Deadline, at Owner's sole expense.

6. Failure to Perform by Owner and Emergency Work by City. If the Owner fails to comply with the terms of the Notice by the Deadline, or if the City determines that an emergency condition exists, the City may perform the work itself. The City then may assess the Owner for the cost of the work and for any other expenses or damages which result from Owner's failure to perform. The Owner agrees promptly to pay the City the amount assessed. If the Owner fails to pay the City within thirty (30) days after the City gives the Owner written notice of the amount due, the City may impose a lien against Owner's Property for the total resulting amount.

7. Liability of City for Repair after Notice or as a Result of Emergency. The City shall not be liable to the Owner for any damages resulting from the City's repair or maintenance following notice to the Owner as required in this agreement or in an emergency unless the damages are the result of the reckless conduct or gross negligence of the City.

8. Indemnification. As a part of the consideration for this grant, subject to the provisions of the New Mexico Tort Claims Act and all other applicable New Mexico laws, the City agrees to save Owner harmless from any and all liability arising from the City's negligent use of the Drainage Facility. The City does not agree to save Owner harmless from any liability which may arise from Owner's use of the Drainage Facility and the Property.

9. Cancellation of Agreement and Release of Covenant. This agreement may be cancelled and Owner's covenants released by the City following by the City's mailing to the Owner notice of the City's intention to record a Cancellation and Release with the Bernalillo County Clerk. The Cancellation and Release will be effective thirty (30) days after the date of mailing the notice to the User unless a later date is stated in the notice or in the Cancellation and Release. After the effective date, the City will record the Cancellation and Release with the Bernalillo County Clerk.

10. Assessment. Nothing in this agreement shall be construed to relieve the Owner, his heirs, assigns and successors from an assessment against Owner's Property for improvements to the Property under a duly authorized and approved Special Assessment District. The parties specifically agree that the value of the (Drainage Facility) will not reduce the amount assessed by the City.

11. Notice. For purposes of giving formal written notice to the Owner, Owner's address is:

Johnson Properties, Ltd. IV
3001 Louisiana NE
Albuquerque, New Mexico 87110

Notice may be given to the Owner either in person or by mailing the notice by regular U.S. mail, postage paid. Notice will be considered to have been received by the Owner within 6 days after the notice is mailed if there is no actual evidence of receipt. The Owner may change Owner's address by giving written notice of the change by certified mail, return receipt requested, to the City Public Works Department, P.O. Box 1293, Albuquerque, New Mexico 87103.

12. Term. This agreement shall continue until terminated by the City pursuant to Section 7 above.

13. Binding on Owner's Property. The covenants and obligations of the Owner set forth herein shall be binding on Owner, his heirs, assigns and successors and on Owner's Property and constitute covenants running the Owner's Property until released by the City.

14. Entire Agreement. This agreement contains the entire agreement of the parties and supersedes any and all other agreements or understandings, oral or written, whether prior to the execution hereof or contemporaneous herewith.

15. Changes to Agreement. Changes to this agreement are not binding unless made in writing, signed by both parties.

16. Construction and Severability. If any part of this agreement is held to be invalid or unenforceable, the remainder of the agreement will remain valid and enforceable if the remainder is reasonably capable of completion.

17. Captions. The captions to the sections or paragraphs of this agreement are not part of this agreement and will not affect the meaning or construction of any of its provisions.

18. Form Not Changed. Owner agrees that changes to the wording of this form are not binding upon the City unless initialed by the Owner and approved and signed by the City Legal Department in writing on this form.

OWNER:

By: Don J. Hillough
 Its: Trustee
 Dated: 13 April 1988

(Approved by Legal Dept.)

STATE OF Michigan)
CITY Ann Arbor) ss
COUNTY OF Washtenaw)

The foregoing instrument was acknowledged before me this 15th day of April, 1988, by [name of person signing:] Don L. Hunsaker, [title or capacity, for instance, "President" or "Owner":] TRUSTEE of [name of the entity which owns the Property if other than the individual signing, for instance, the name of the corporation, partnership, or joint venture:] _____.

[Signature]
Notary Public

My Commission Expires:

CITY OF ALBUQUERQUE:

Approved:

By: [Signature]
Title: ACTING ASST. DIRECTOR, ENGINEERING
Dated: 4-20-88

(EXHIBIT A ATTACHED)

(Approved by Legal Dept.)

OWNER:

By JOEL P. TAYLOR

By Nina Mae Taylor
NINA MAE TAYLOR

[illegible]

The foregoing instrument was duly acknowledged before me this 18th day of April, 1988, by JOEL P. TAYLOR and NINA MAE TAYLOR, his wife.

Jeanie Baxter
NOTARY PUBLIC

My Commission Expires:



OFFICIAL SEAL
JEANIE BAXTER
NOTARY PUBLIC STATE OF NEW MEXICO
Notary Bond No. 1711 Secretary of State
My Commission Expires: 8-30-88

UNITED STATES DEPARTMENT OF AGRICULTURE
BUREAU OF PLANT INDUSTRY
WASHINGTON, D. C.

28 MAY -5 PM 2:12

Ms 618A

379-385

GLADYS M. DAVIS
2101 E. 1st St. S. SPOKANE

Miss G

NOTE:

Water & Gas Service Lines to be installed under separate contract.

NO WORK WILL BE PERMITTED WITHIN EXISTING ROAD RIGHT-OF-WAY PRIOR TO ANY MODIFICATION OF EXISTING FACILITY BY THE CITY OF ALBUQUERQUE.

1. 5" Aluminum Label Stamped
Intersection of Coors Rd & Monahan
RD. NW. ELEVATION 5006.41



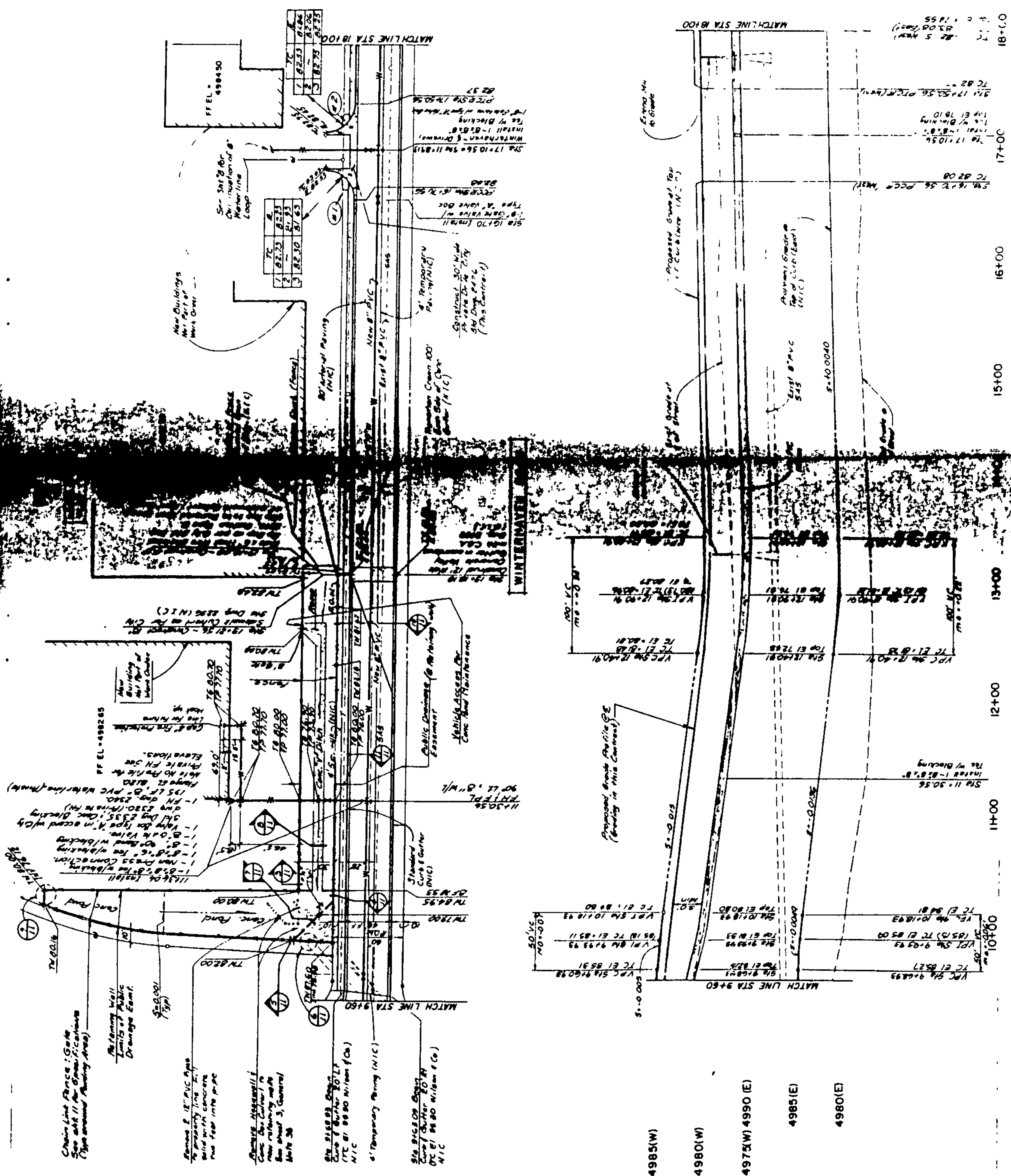
July 87
July 87
July 87

RGS/011
CVI

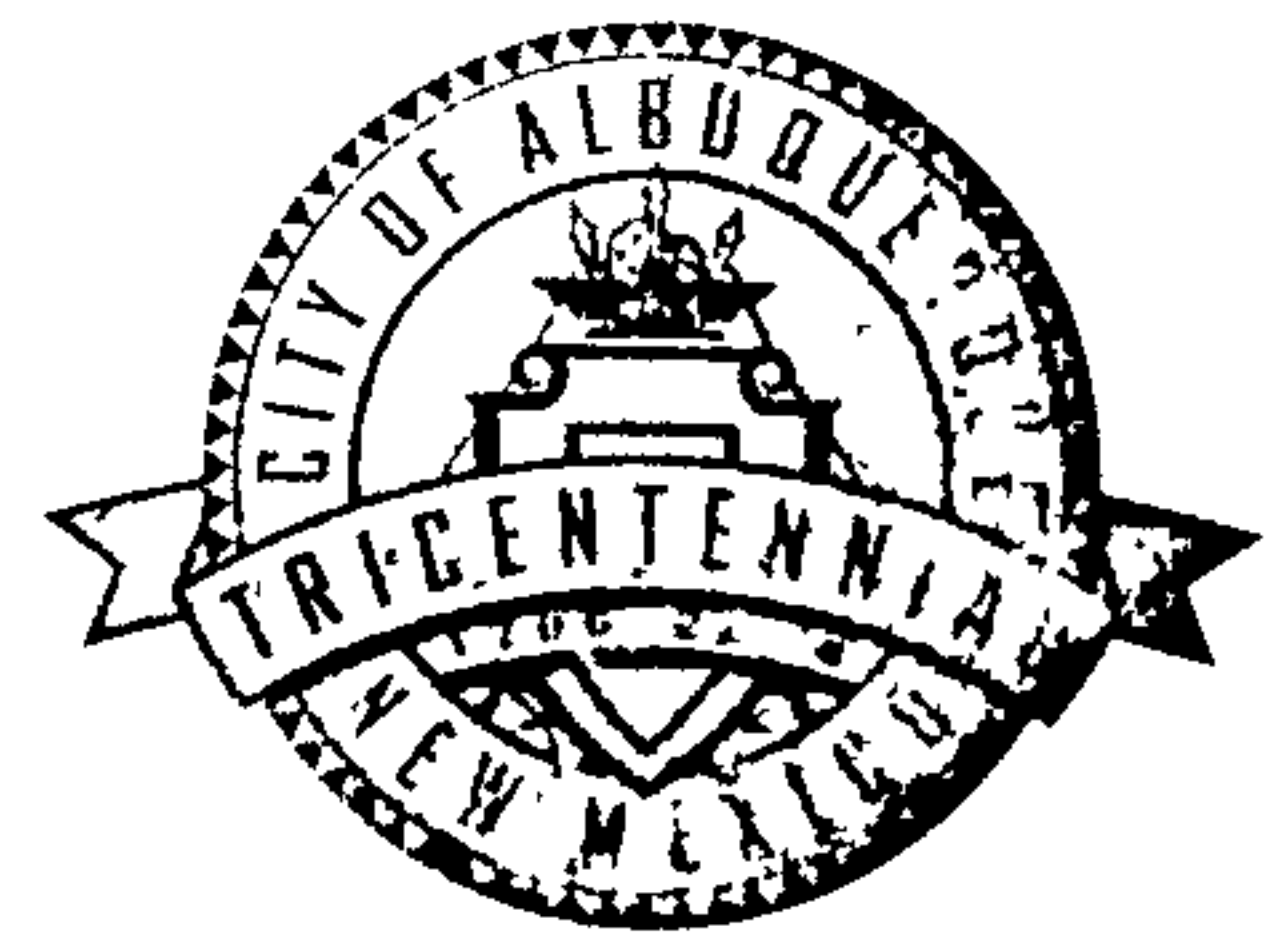
EXHIBIT A

MONAHAN PLAZA - ADDITION PHASE 1
WINTERHAVEN RD
PAVING / 8" WATERLINE / 1" PRIVATE FH / PUBLIC DRAINAGE FACILITY

3450
12 5 12



CITY OF ALBUQUERQUE



**Planning Department
Transportation Development Services Section**

May 31, 2006

Mr. George Rainhart, Registered Architect
GEORGE RAINHART AND ASSOCIATES
2325 San Pedro Drive NE, STE 2B
Albuquerque, NM 87110

Re: Certification Submittal for Final Building Certificate of Occupancy for
MONTANO RETAIL, [E-12 / D3E]
6001 Winter Haven Road NE
Architect's Stamp Dated 05/30/2006

P.O. Box 1293

Dear Mr. Rainhart:

Albuquerque

The TCL / Letter of Certification submitted on May 31, 2006 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,

New Mexico 87103

www.cabq.gov

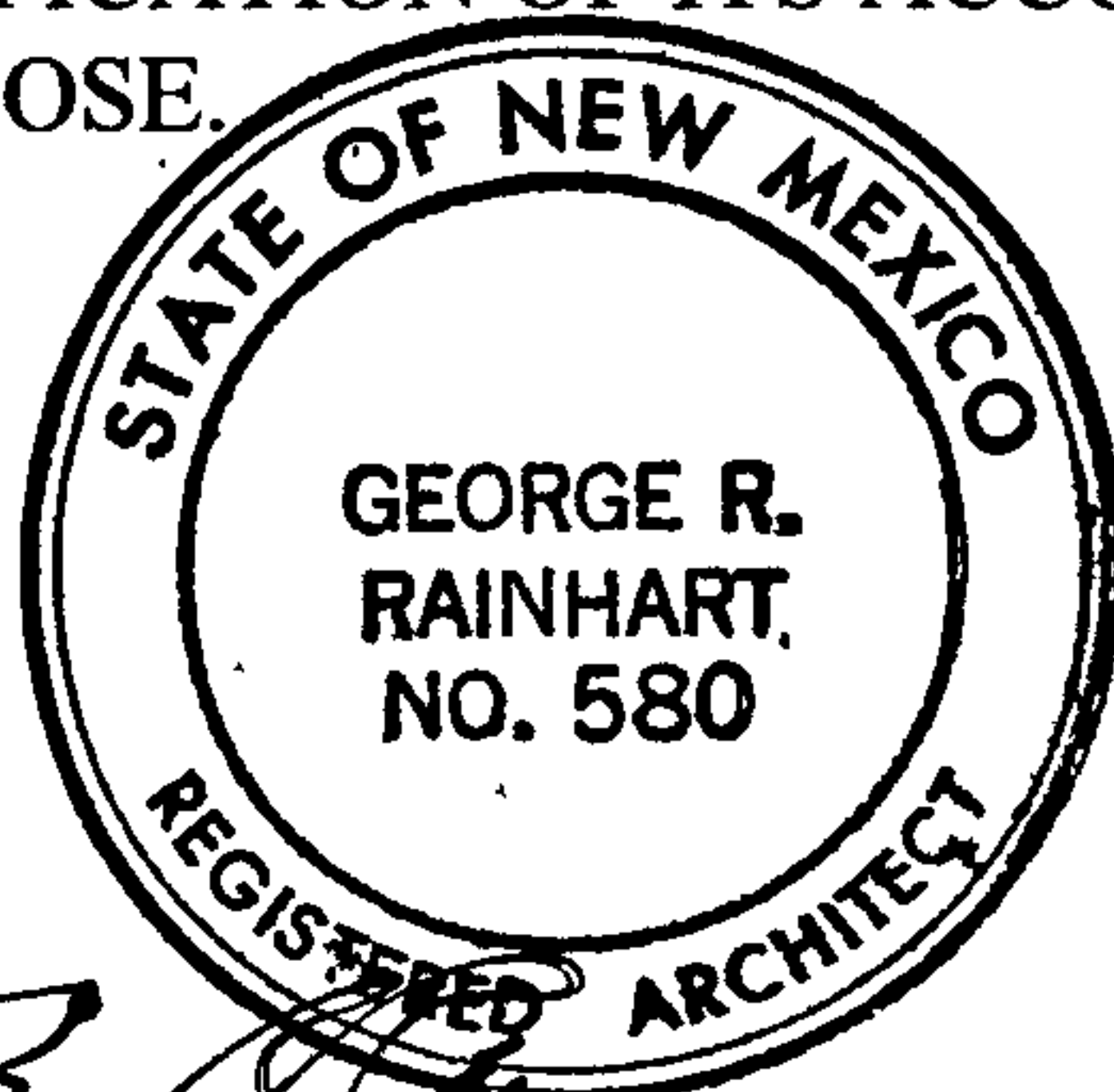
Wilfred Gallegos, P.E.
Traffic Engineer
Development and Building Services
Planning Department

c: Engineer
Hydrology file
CO Clerk

TRAFFIC CERTIFICATION

I, GEORGE RAINHART, NMPE OR NMRA *580, OF
THE FIRM GEORGE RAINHART & ASSOC., HEREBY CERTIFY THAT
THIS PROJECT HAS IS IN DESIGN SUBSTANTIAL COMPLIANCE WITH AND IN
ACCORDANCE WITH THE DESIGN INTENT OF THE APPROVED PLAN DATED
8.29.05. THE RECORD INFORMATION EDITED ONTO THE
ORIGINAL DESIGN DOCUMENT HAS BEEN OBTAINED BY
William Suttles OF THE FIRM GEORGE RAINHART. I FURTHER
CERTIFY THAT I HAVE PERSONALLY VISITED THE PROJECT SITE ON
MAY 30, 2006 AND HAVE DETERMINED BY VISUAL INSPECTION
THAT THE SURVEY DATA PROVIDED IS REPRESENTATIVE OF ACTUAL SITE
CONDITIONS AND IS TRUE AND CORRECT TO THE BEST OF MY
KNOWLEDGE AND BELIEF. THIS CERTIFICATION IS SUBMITTED IN
SUPPORT OF A REQUEST FOR CERTIFICATE of Occupancy (C.O.)

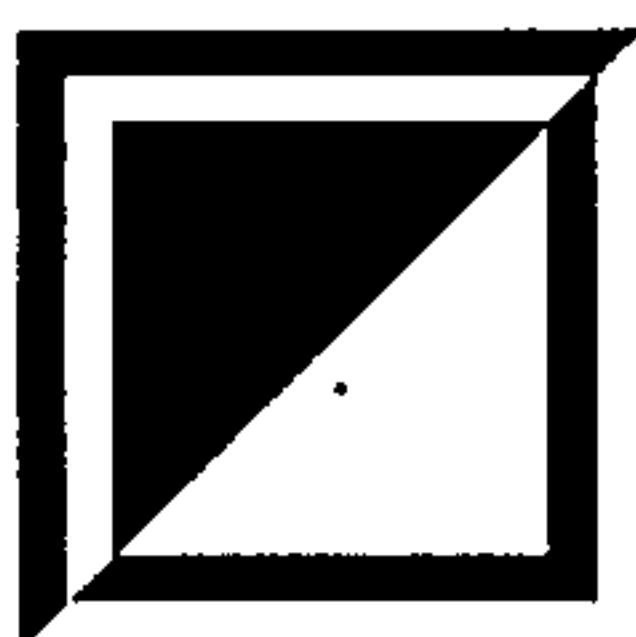
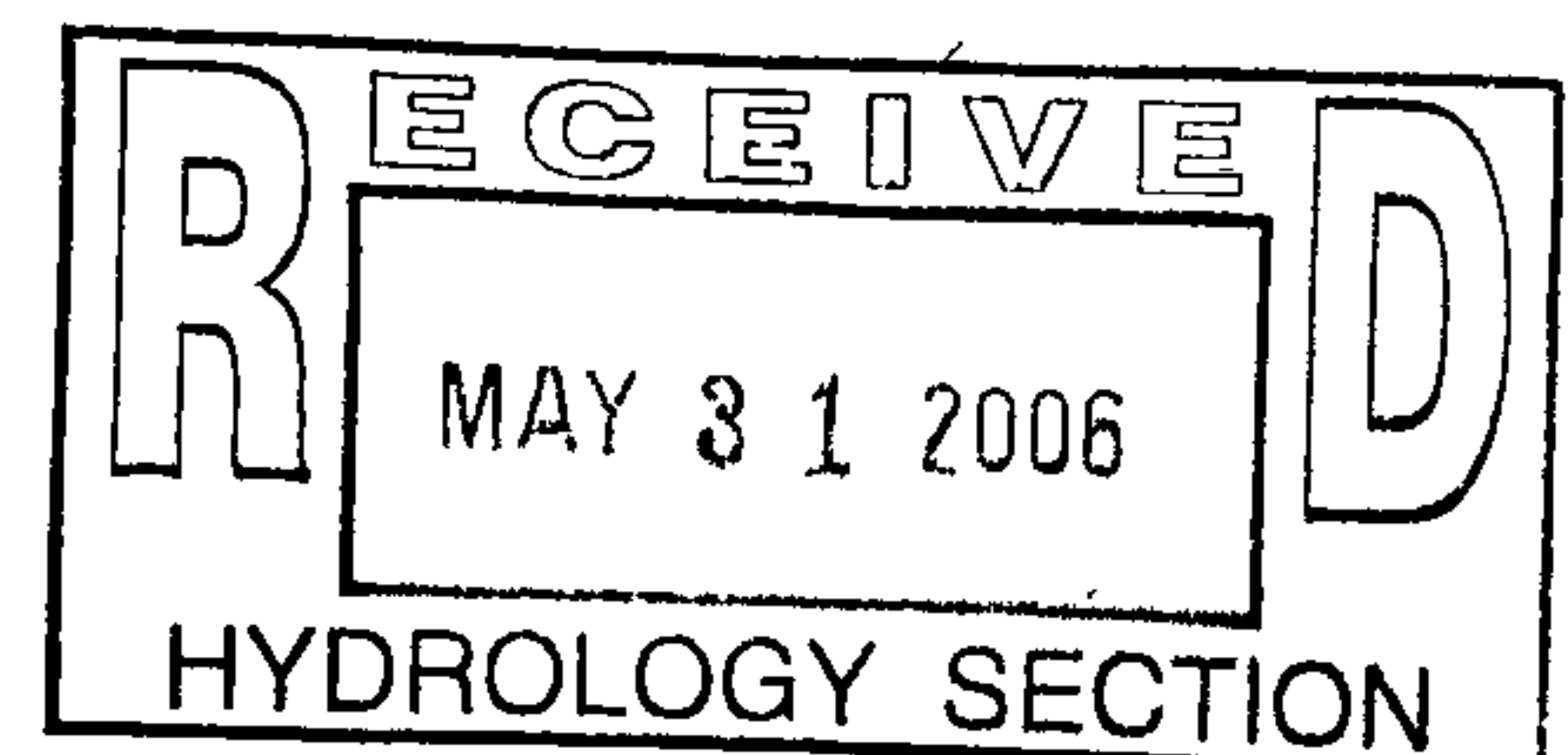
THE RECORD INFORMATION PRESENTED HEREON IS NOT NECESSARILY
COMPLETE AND INTENDED ONLY TO VERIFY SUBSTANTIAL COMPLIANCE
OF THE TRAFFIC ASPECTS OF THIS PROJECT. THOSE RELYING ON THE
RECORD DOCUMENT ARE ADVISED TO OBTAIN INDEPENDENT
VERIFICATION OF ITS ACCURACY BEFORE USING IT FOR ANY OTHER
PURPOSE.




Signature of Engineer or Architect

ENGINEER'S OR ARCHITECT'S STAMP

5.30.06
Date



GEORGE RAINHART, ARCHITECT & ASSOCIATES P.C.
2325 SAN PEDRO NE SUITE 2-B ■ ALBUQUERQUE, NEW MEXICO 87110
PHONE: 505-884-9110 ■ FAX: 505-837-9877 ■ Email: graa@gra-arch.com

DRAINAGE AND TRANSPORTATION INFORMATION SHEET
(Rev. 12/2005)

PROJECT TITLE: THE Shops At Montano ZONE MAP/DRG. FILE #: E-12-Z D3
DRB#: 1001770 EPC#: 1001770 WORK ORDER#: _____

LEGAL DESCRIPTION: Lots 5-A1-B & 5-A2-A Lands of Joel B. Taylor
CITY ADDRESS: 6001 Winterhaven NE

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

CONTACT: _____
PHONE: _____
ZIP CODE: _____

OWNER: JPS. LLC
ADDRESS: 5321 Menaul Blvd. NE
CITY, STATE: Albuquerque, NM 87110

CONTACT: JASON DASKALOS
PHONE: 883.0414
ZIP CODE: _____

ARCHITECT: GEORGE RAINHART & ASSOC.
ADDRESS: 2325 SAN PEDRO NE, Ste 2B
CITY, STATE: ALBUQUERQUE, NM 87110

CONTACT: William Suttles
PHONE: 884.9110 (x1-112)
ZIP CODE: _____

SURVEYOR: _____
ADDRESS: _____
CITY, STATE: _____

CONTACT: _____
PHONE: _____
ZIP CODE: _____

CONTRACTOR: _____
ADDRESS: _____
CITY, STATE: _____

CONTACT: _____
PHONE: _____
ZIP CODE: _____

TYPE OF SUBMITTAL:

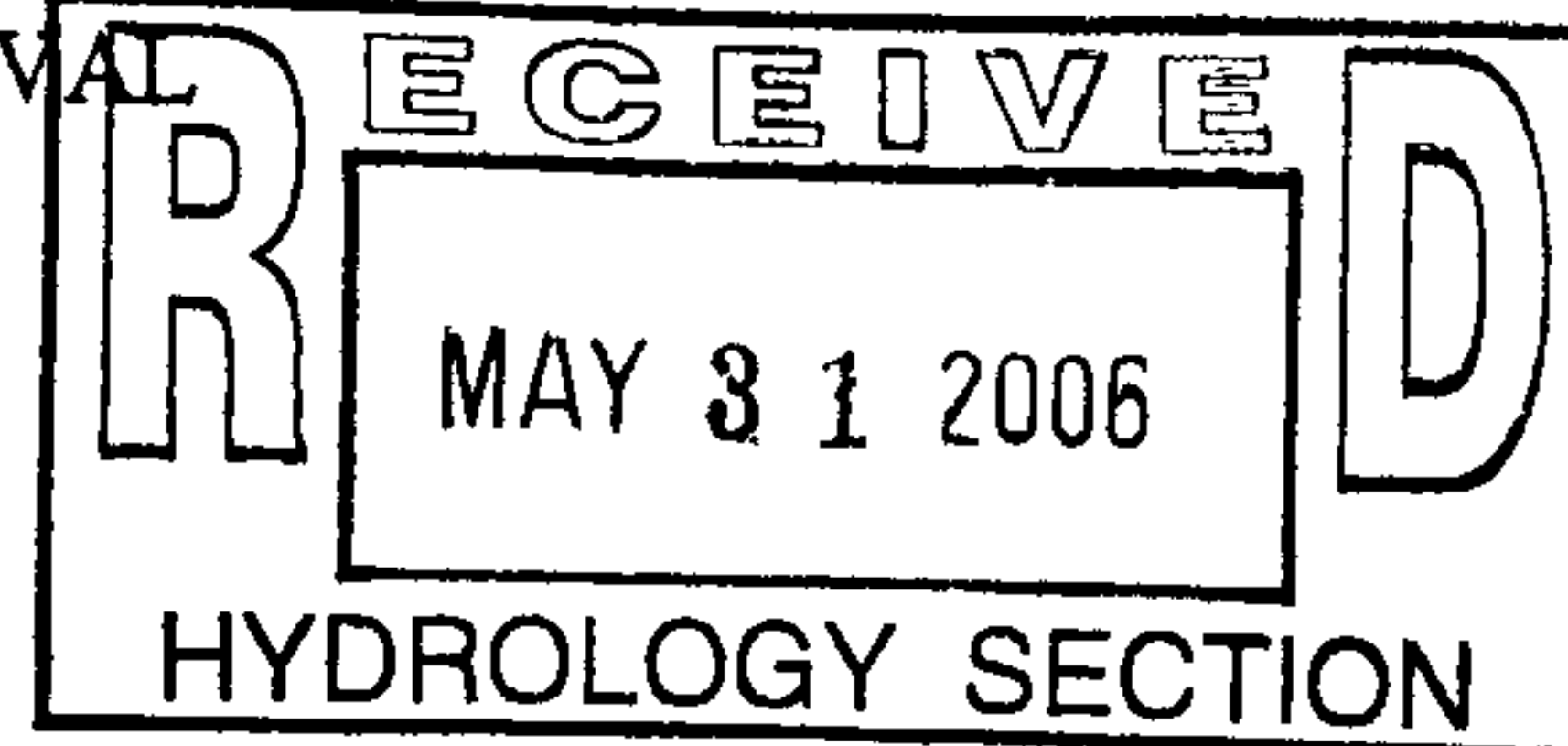
- ☐ DRAINAGE REPORT
☐ DRAINAGE PLAN 1st SUBMITTAL
☐ DRAINAGE PLAN RESUBMITTAL
☐ CONCEPTUAL G & D PLAN
☐ GRADING PLAN
☐ EROSION CONTROL PLAN
☐ ENGINEER'S CERT (HYDROLOGY)
☐ CLOMR/LOMR
☒ TRAFFIC CIRCULATION LAYOUT
☒ ENGINEER'S/ARCHITECT'S CERT (TCL)
☐ ENGINEER'S CERT (DRB SITE PLAN)
☐ OTHER

CHECK TYPE OF APPROVAL SOUGHT:

- ☐ SIA/FINANCIAL GUARANTEE RELEASE
☐ PRELIMINARY PLAT APPROVAL
☐ S. DEV. PLAN FOR SUB'D APPROVAL
☐ S. DEV. 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:

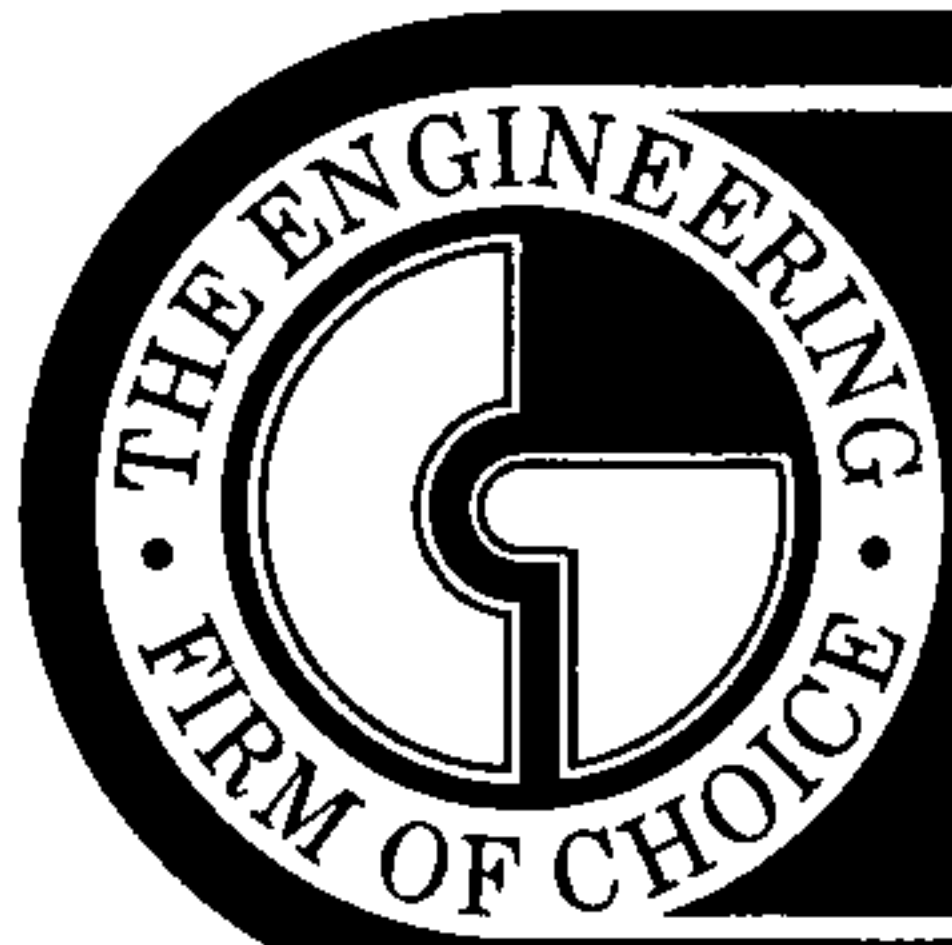
- ☒ YES
☐ NO
☐ COPY PROVIDED



SUBMITTED BY: [Signature] DATE: 5.30.06

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

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



CHAVEZ • GRIEVES

CONSULTING ENGINEERS, INC.

5639 JEFFERSON STREET NE • ALBUQUERQUE, NEW MEXICO 87109 • PHONE (505) 344-4080 • FAX (505) 343-8759

GRADING AND DRAINAGE PLAN

WALGREENS ON COORS & MONTAÑO

Albuquerque, New Mexico



January 1998

WALGREENS ON COORS & MONTAÑO DRAINAGE REPORT

LOCATION

This site is located on Albuquerque's west side on the east corner of Coors Boulevard and Montaña Road. *NE or SE?*

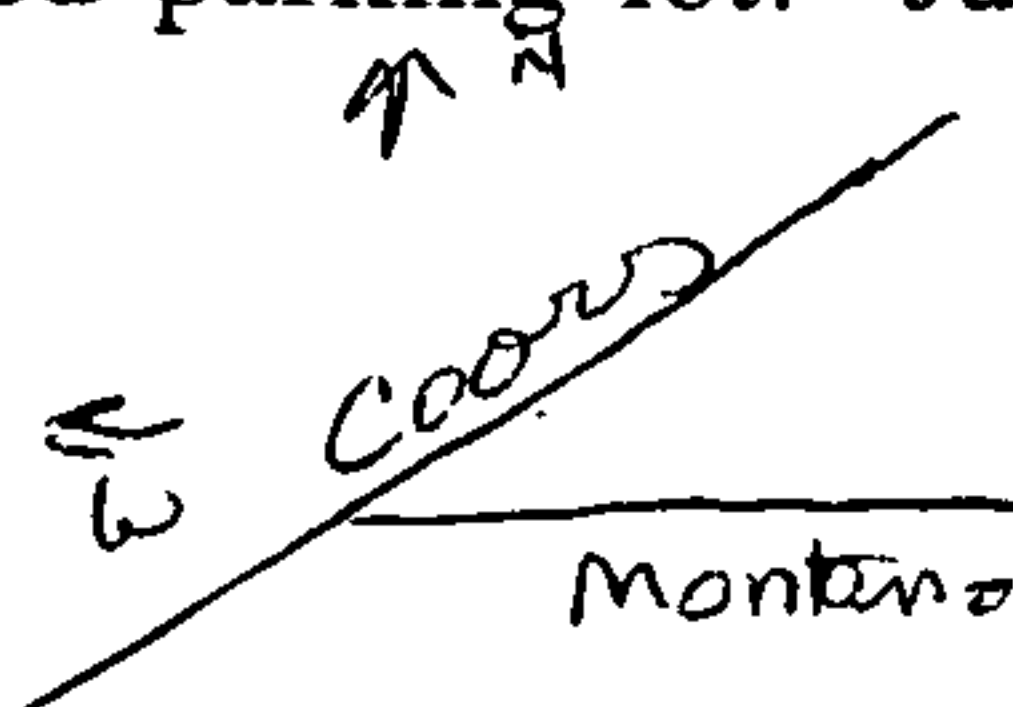
LEGAL DESCRIPTION

Parcel numbered five-A-2 (5-A2) of the redivision of parcels "4-A" and "5-A", lands of Joel P. Taylor, Albuquerque, Bernalillo County, New Mexico.

SURROUNDING DEVELOPMENT

The site is bordered on the northwest by Coors Boulevard and on the southwest by Montaña Road. To the east is a pad site and paved parking lot. Just north of the pad site is a strip mall and parking area.

FLOOD HAZARD ZONES



As shown on Panel 35001C0118 of the National Flood Insurance Rate Maps for the City of Albuquerque, dated September 20, 1996, the site does not lie within a designated flood zone.

RELATED REPORTS

One drainage report is on file for this site. It is the "Drainage Report for Montaña Plaza-Addition," by Chavez-Grieves Consulting Engineers, Inc., dated September 1987.

EXISTING SITE CONDITIONS AND DRAINAGE PATTERN

The existing site is vegetated *away from Coors* by native grass and plants. A major portion of the site slopes at about 8% from west to east. A driveway cuts through the site from Montaña Road to the paved area to the east at a slope of about 4.5%. Offsite runoff from Coors Boulevard flows into the site. The runoff from basins B and F is retained in a shallow ponding area in the center of the site. The runoff from basins A, C, D, and E, a total of 12.28 cfs, flows on to the adjacent property to the east. Refer to sheet DB-1 in the appendices of this report for a detailed description of the existing drainage conditions.

WALGREENS ON COORS & MONTAÑO DRAINAGE REPORT

PROPOSED SITE CONDITIONS AND DRAINAGE PATTERN

The proposed improvements to the site is a new Walgreens, associated parking lots and landscaping. The most significant constraint governing the grading of the site is the existing 42" storm drain which crosses the property. As part of this project a portion of the 42" storm drain will be moved to the east within a new drainage easement. This will be necessary to accommodate the new building. The design of the re-routed storm drain will be completed through the City of Albuquerque Work Order process.

Right turn lanes have been proposed for Coors Boulevard which will impact the offsite runoff quantities by increasing the area of impervious land treatment. Runoff from these two basins will increase from 8.04 in the existing condition to 8.71 cfs in the developed state. The basins that will now discharge to the adjacent property to the east are A, C, D, and F. The runoff from these four basins is 8.91 cfs. This is a decrease of 3.37 cfs from the existing condition. Basin B includes the building, a majority of the parking area, and a landscaped area that will be used for retention of runoff from this basin and offsite basin G. Basin E includes a small area of parking and an area that will be used to detain a portion of the runoff from this basin. This area previously discharged to the adjacent property. All offsite flows to the east will be designed to be considerable less than in the existing condition through the use of onsite detention ponds.

not allowed!

HYDROLOGY/HYDRAULICS

Do you have an easement for four developed areas?

The runoff calculations and design have been done in accordance with Section 22.2 of the Development Process Manual of the City of Albuquerque, January 1993.

1) Need easement + consent for maint of offsite flow
2) Curb & Gutters in Coors

CHAVEZ - GRIEVES / CONSULTING ENGINEERS, Inc.

5639 Jefferson Street NE, Albuquerque, New Mexico 87109

Phone (505) 344-4080 - Fax (505) 343-8759

RUNOFF CALCULATIONS - SIMPLIFIED PROCEDURE

By: Colette Hoffman

Date: 01-27-98

Project: Walgreens on Coors & Montañó

Zone Atlas: E-12

This procedure is in accordance with the City of Albuquerque Development Process Manual, Volume 2, Section 22.2, “Hydrology”, peak discharge rate for small watersheds less than forty acres in size.

Precipitation Zone from Figure A-1: 1

Land treatment descriptions are in Table A-4.

1. RUNOFF RATE COMPUTATION

Use Equation a-10: $Q_P = Q_{PA} A_A + Q_{PB} A_B + Q_{PC} A_C + Q_{PD} A_D$

Values of Q_{oi} are from Table A-9, and are in CFS/acre. Area values are in acres.

[illegible]

- Use Equation a-5 to compute weighted excess precipitation:

Use Equation a-6 to compute the volume:

Values of E_i are from Table A-8, and are in inches. Area values are in acres.

[illegible]

FILE COPY



City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

June 20, 1990

Victor Chavez, P.E.
Chavez-Grievess Consulting Engineers
4600-C Montgomery Boulevard, NE
Albuquerque, New Mexico 87109

RE: ENGINEER'S CERTIFICATION FOR PHASE I PRIVATE STORM DRAIN
(E-12/D3) ENGINEER'S CERTIFICATION STATEMENT DATED 6/13/90

Dear Mr. Chavez:

Based on the information provided on your submittal of June 14, 1990,
certification for the referenced site is acceptable.

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

Cordially,

Fred J. Aguirre
Fred J. Aguirre, P.E.
Hydrologist

BJM:FJA/bsj
(WP+117)

PUBLIC WORKS DEPARTMENT

Walter H. Nickerson, Jr., P.E.
Assistant Director Public Works

ENGINEERING GROUP

Telephone (505) 768-2500

AN EQUAL OPPORTUNITY EMPLOYER

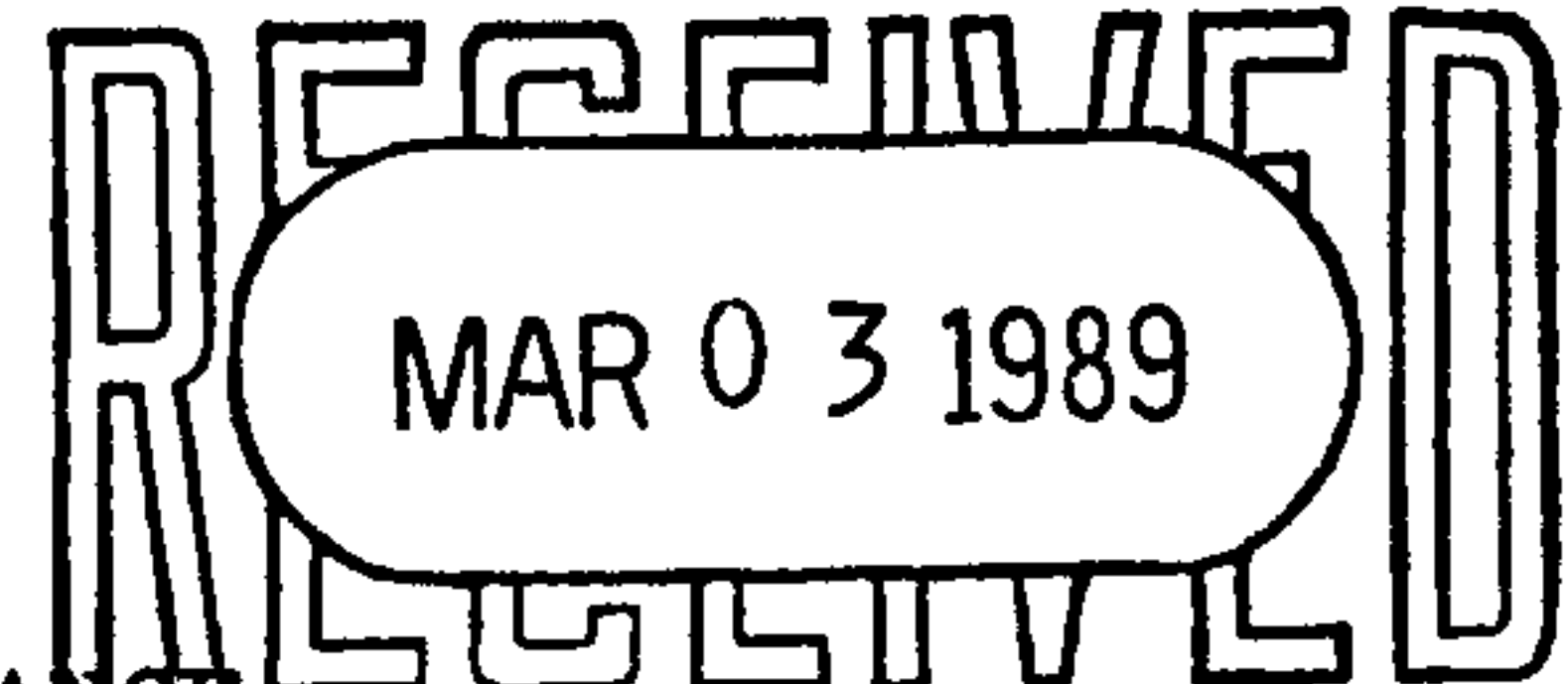


KEN SCHULTZ
MAYOR

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

March 2, 1989



REVISED PARTIAL
CERTIFICATE OF COMPLETION AND ACCEPTANCE
FOR PUBLIC INFRASTRUCTURE IMPROVEMENTS

HYDROLOGY SECTION

Mr. Lawrence Kline
Payless Cashways, Inc.
P. O. Box 419466
Kansas City, MO 64141-0466

RE: PROJECT NO. 3450, MONTANO PLAZA ADDITION - TRACTS 4-A-1 & 5-A-1, LANDS
OF JOEL TAYLOR, (MAP NO. E-12-Z)

Dear Mr. Kline:

This is to certify that the City of Albuquerque accepts Project No. 3450 as being completed according to approved plans and construction specifications with the exception of the Coors Road Improvements (Bus Bay). If all required right-of-ways and/or easements have been dedicated, the City of Albuquerque will accept for continuous maintenance all public infrastructure improvements constructed as part of Project No. 3450. If the required right-of-ways and/or easements have not been dedicated, the City of Albuquerque cannot accept the project for continuous maintenance and said maintenance will be the responsibility of the developer. When a final plat has been filed it will be the developer's responsibility to provide the Construction Management Division with a copy, at which time the City will fully accept Project No. 3450.

The completed portion of this project is described as follows:

- Installed eight inch (8") PVC waterline in Winterhaven Rd. from existing stub to Montano Rd N.W. Installed 8" PVC waterline in public water easement from Winterhaven Rd. to Coors Rd. N.W., including three (3) public fire hydrants.
- Installed 42" RCP storm sewer from existing 30' stub at Coors to southeast corner of Plaza. Built concrete drainage pond just north of Montano Rd., Winterhaven to Coors. Built concrete "V" ditch along Winterhaven Rd. north of Montano Rd. N.W.



KEN SCHULTZ
MAYOR

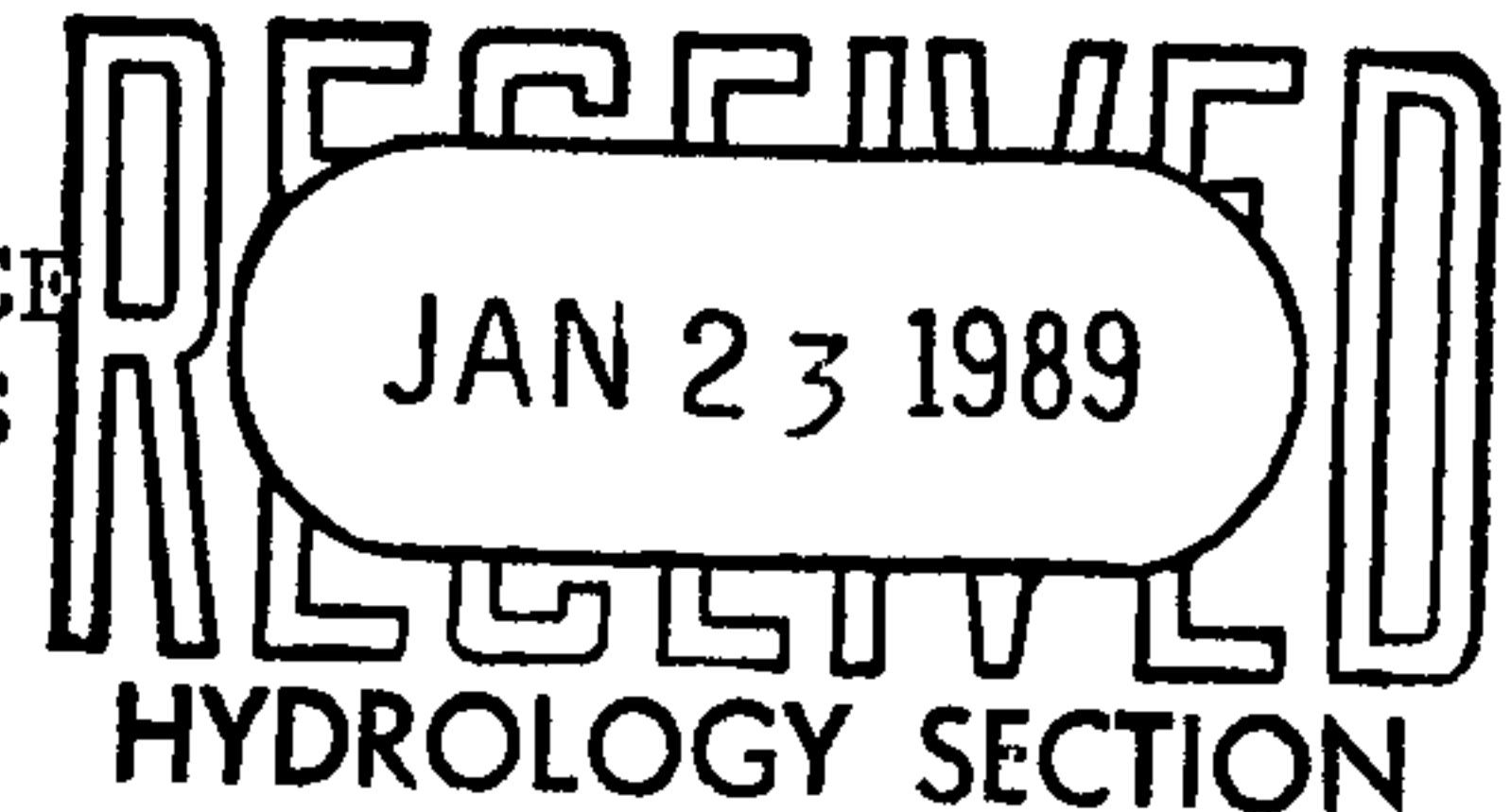
City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

January 17, 1989

PARTIAL

CERTIFICATE OF COMPLETION AND ACCEPTANCE FOR PUBLIC INFRASTRUCTURE IMPROVEMENTS



Mr. Lawrence Kline
Payless Cashways, Inc.
P. O. Box 419466
Kansas City, MO 64141-0466

RE: PROJECT NO. 3450, MONTANO PLAZA ADDITION - TRACTS 4-A-1 & 5-A-1, LANDS
OF JOEL TAYLOR, (MAP NO. E-12-Z/123)

Dear Mr. Kline:

This is to certify that the City of Albuquerque accepts Project No. 3450 as being completed according to approved plans and construction specifications with the exception of the Coors Road Improvements (Bus Bay). If all required right-of-ways and/or easements have been dedicated, the City of Albuquerque will accept for continuous maintenance all public infrastructure improvements constructed as part of Project No. 3450. If the required right-of-ways and/or easements have not been dedicated, the City of Albuquerque cannot accept the project for continuous maintenance and said maintenance will be the responsibility of the developer. When a final plat has been filed it will be the developer's responsibility to provide the Construction Management Division with a copy, at which time the City will fully accept Project No. 3450.

The completed portion of this project is described as follows:

- Installed eight inch (8") water main at the northeast corner of Coors and Montano N.W. Also, installed three (3) public fire hydrants to serve the shopping center. Installed a forty two inch (42") storm drain and constructed a public drainage pond on the southwest corner of the plaza.
- The contractor's warranty for the completed portion of the project will begin the date of this letter and will be effective for a period of one (1) year.

Sincerely,

Russell B. Givler, P.E.
Chief Construction Engineer
Construction Mgmt. Division
Engineering Group
Public Works Department

FILE COPY



City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

MAYOR
KEN SCHULTZ

CHIEF
ADMINISTRATIVE OFFICER
GENE ROMO

DEPUTY CAO
PUBLIC SERVICES
FRANK MARTINEZ

DEPUTY CAO
PLANNING/DEVELOPMENT
BILL MUELLER

February 3, 1988

Ricardo Sanchez
Chavez-Grieves Consulting Engineers
4600-C Montgomery Boulevard, NE
Albuquerque, New Mexico 87109

RE: GRADING & DRAINAGE PLAN OF MONTAÑO PLAZA ADDITION RECEIVED
JANUARY 28, 1988 FOR GRADING & PAVING PERMIT APPROVAL (E-12/D3)
(W.O. #3450)

Dear Mr. Sanchez:

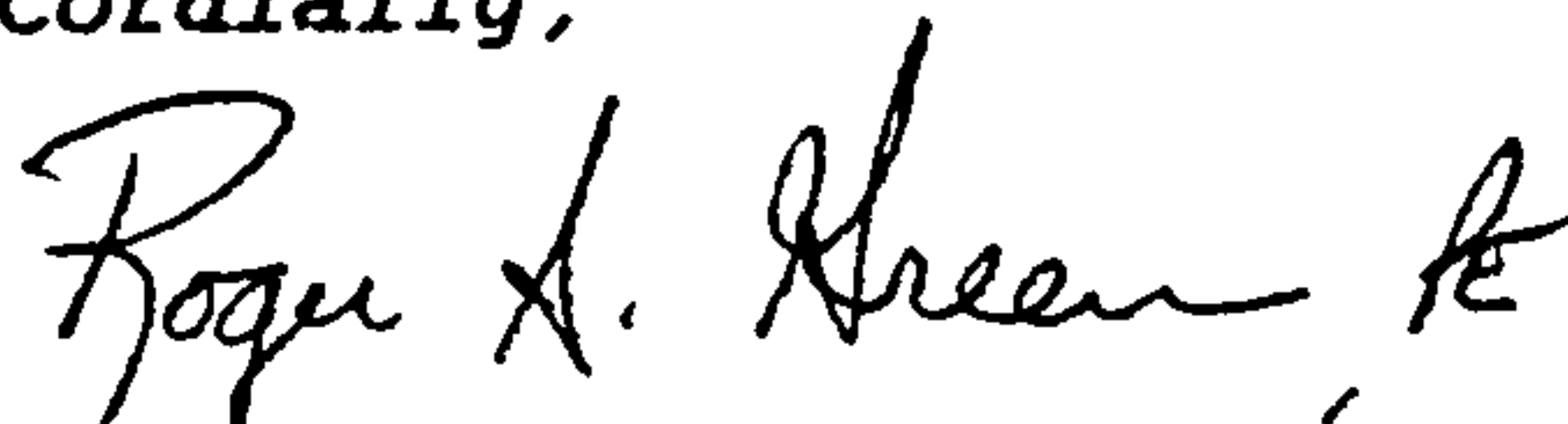
The above referenced submittal is approved for Grading and Paving Permit. The contractor is authorized to proceed with Grading and Paving in accordance with these plans. Bring in the mylar for approval signature.

The contractor is not authorized to proceed with construction of any public infrastructures or building foundations. These items are approved with issuance of a Work Order and Building Permit.

Hydrology can sign-off on the building permit as soon as this office receives a signed Drainage Covenant for the detention pond.

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

Cordially,


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

xc: John Reed, Architects

RAG/bsj

FILE COPY



City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

Ken Schultz
Mayor

UTILITY DEVELOPMENT DIVISION
HYDROLOGY SECTION
(505) 768-2650

January 12, 1988

Ricardo Sanchez
Chavez-Grieves Consulting Engineers
4600-C Montgomery Boulevard, NE
Albuquerque, New Mexico 87109

RE: DRAINAGE REPORT OF MONTAÑO PLAZA ADDITION RECEIVED DECEMBER 10,
1987 FOR BUILDING PERMIT APPROVAL (E-12/D3)

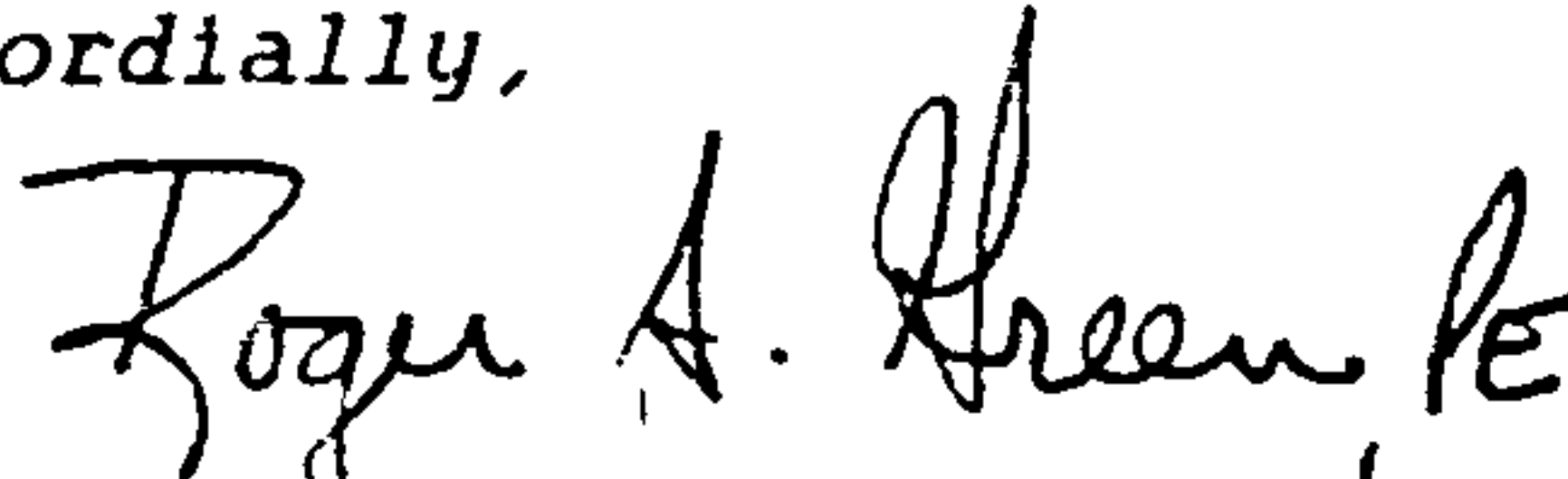
Dear Mr. Sanchez:

The above referenced submittal dated November 9, 1987 is approved for Building Permit purposes. However, the following items are required prior to Hydrology's sign-off on the construction sets routed for Building Permit:

1. The infrastructure construction drawings for work order have been through the first DRC review session.
2. A Drainage Covenant for maintenance of the detention pond has been signed by the owner and submitted to this office.

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

Cordially,


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

xc: Rick Duran, Drainage Inspector
Dan Sabo, AMAFCA
Steve Johnson

RAG/bsj

PUBLIC WORKS DEPARTMENT

Walter Nickerson, P.E., City Engineer

ENGINEERING GROUP

Telephone (505) 768-2500

AN EQUAL OPPORTUNITY EMPLOYER

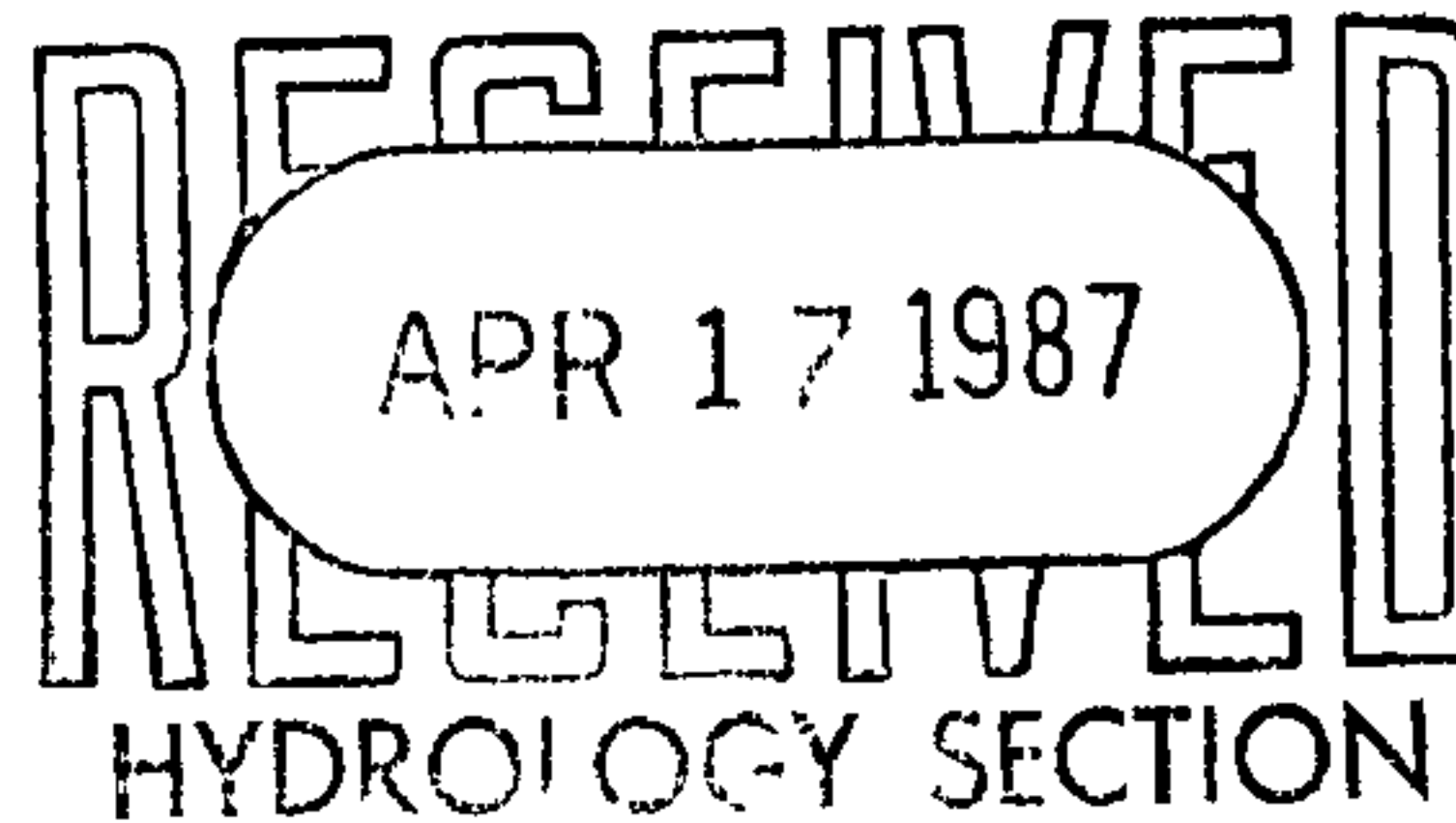
B. H. SWINBURNE, CHAIRMAN
WILLIAM V. HEREFORD, VICE-CHAIRMAN
FRANCES MCCOY, SECRETARY-TREASURER
R. WARD HUNNICUTT, DIRECTOR
REX FUNK, DIRECTOR

RICHARD E. LEONARD
EXECUTIVE ENGINEER



**Albuquerque
Metropolitan
Arroyo
Flood
Control
Authority**

P. O. BOX 25851 - ALBUQUERQUE, N. M. 87125
TELEPHONE 884-2215



April 16, 1987

Vic Chavez
Chavez-Grieves/Construction Engineers, Inc.
4600 Montgomery NE Bldg "C" 101
Albuquerque, New Mexico 87109

Subject: Montgomery Plaza

Dear Vic:

Reference my letter of April 9, 1987 and your phone call
April 13, 1987.

The revised hydrology submitted in your conceptual report
on March 31, 1987 is acceptable to AMAFCA.

Sincerely,

Dan Sabo
Drainage Engineer

cc: Fred Aguirre



City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

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

November 25, 1985

Mr. Victor Chavez
Chavez-Grievies Consulting Engineers
4520 Montgomery Boulevard NE, Suite 3
Albuquerque, NM 87109

REF: REVISED CERTIFICATION FOR MONTANO PLAZA - SHOP C (E12-D3) ENGINEER'S
STAMP DATED 11/19/85

Dear Victor:

Based on the information provided on your November 20, 1985 resubmittal,
certification for the above referenced drainage plan is acceptable.

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

Sincerely,

Bernie J. Montoya, CE
Engineering Assistant

BJM:mrk

MUNICIPAL DEVELOPMENT DEPARTMENT

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

ENGINEERING DIVISION

Telephone (505) 766-7467

AN EQUAL OPPORTUNITY EMPLOYER



City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

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

May 22, 1985

Mr. Vic Chavez
Chavez-Grieves Consulting Eng..
4520 Montgomery NE
Albuquerque, New Mexico 87109

REF: CERTIFICATION FOR MONTANO PLAZA PHASE I

Dear Vic,

Based on the information provided on your May 21, 1985 resubmittal, the certification for the above reference drainage plan is acceptable.

Please advise your client that maintenance within the ponding area and the arroyo conveying offsite flows will be their responsibility. It is critical that the required ponding volume not be depleted by the additional sediment the offsite flows are conveying thru and from the arroyo easement.

Also, please be advised that the earth berm shown on the drainage plan located just northwest from the ponding area will need to be constructed.

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

Sincerely,

Bernie J. Montoya C.E.
Engineering Assistant Hydrology

BJM/cl

MUNICIPAL DEVELOPMENT DEPARTMENT

Wayne Sheppard, P.E., City Engineer

ENGINEERING DIVISION

Telephone (505) 766-7467

AN EQUAL OPPORTUNITY EMPLOYER

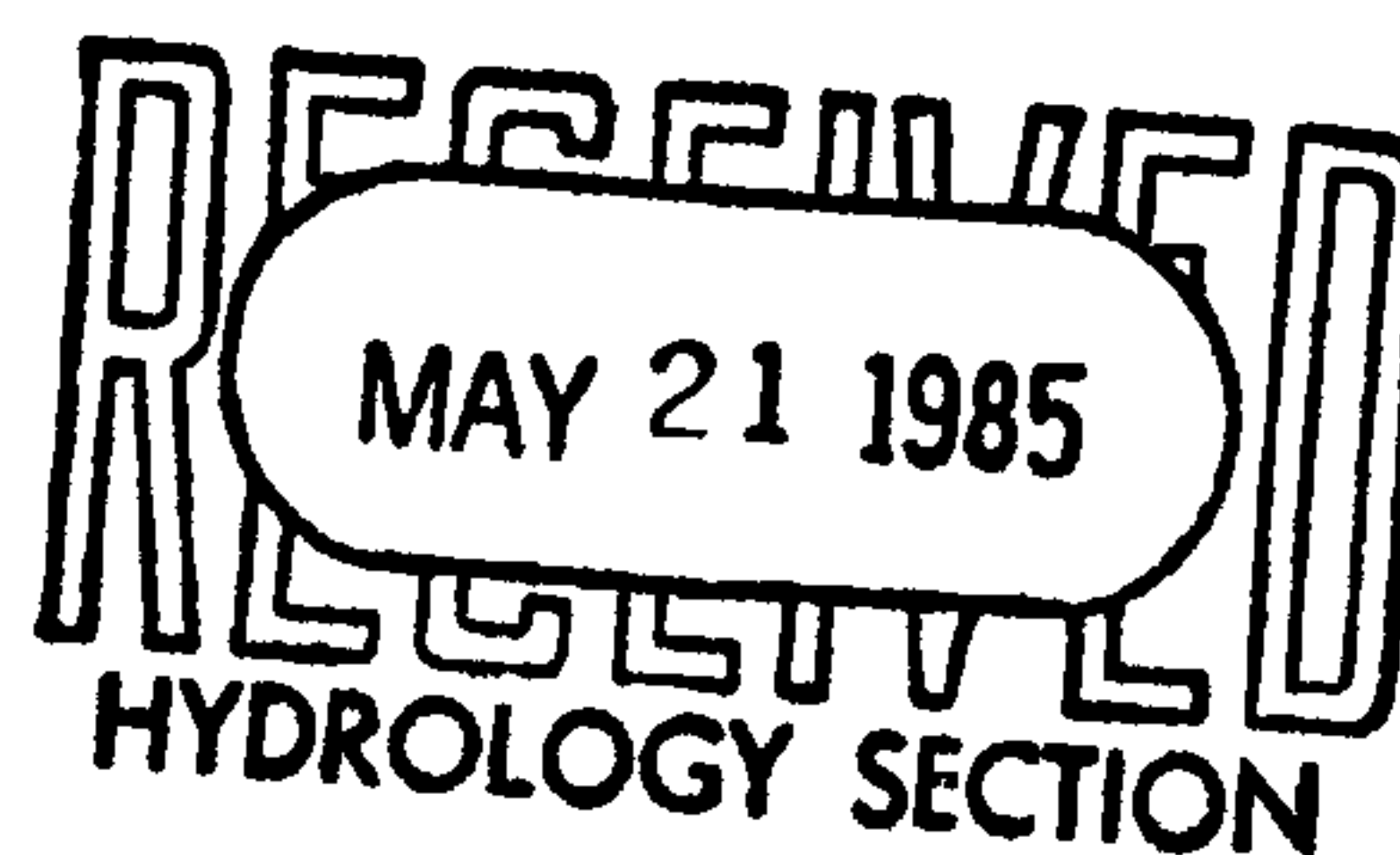


City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

April 12, 1985

Mike Mechenbier
Sundance Mechanical
3312 Stanford Dr. NE
Albuquerque, New Mexico



Dear Mr. Mechenbier

Your work on the public improvements at Montano Plaza, City Project #1886, is complete and is acceptable to the City of Albuquerque. This includes water, sanitary sewer and storm drain facilities constructed within the public right of way.

You will be notified of final acceptance after all documentation has been completed within the City.

Sincerely,

Barry C. Simmons, P.E.
Senior Civil Engineer

cc: File #1886

MUNICIPAL DEVELOPMENT DEPARTMENT

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

ENGINEERING DIVISION

Telephone (505) 766-7467

AN EQUAL OPPORTUNITY EMPLOYER

8840272

DRAINAGE COVENANT

379

This Drainage Covenant, between [state the name of the present real property owner exactly as shown on the real estate document conveying title to the present owner and state the legal status of the owner, for example, "single person," "husband and wife," "corporation of the State of X," "partnership":]

Joel P. Taylor and Nina Mae Taylor (Husband and Wife)

("Owner"), whose address is Route 3, Box 3019A,

Albuquerque, New Mexico, 87120,

↓, and the City

of Albuquerque, a New Mexico municipal corporation ("City"), whose address is P. O. Box 1293, Albuquerque, New Mexico 87103, is made in Albuquerque, Bernalillo County, New Mexico and is entered into as of the date Owner signs this Easement.

1. Recital. Owner is the owner of certain real property located at [give general description, for instance, subdivision, lot and block or street address:] Parcel 5-A1,
Lands of Joel P. Taylor in Bernalillo County,
New Mexico (the "Property").

Pursuant to City ordinances, regulations and other applicable laws, the Owner is required to construct and maintain certain drainage facilities on the Property, and the parties wish to enter into this agreement to establish the obligations and responsibilities of the parties.

2. Description and Construction of Drainage Facilities. Owner shall construct the following "Drainage Facility" within the Property at Owner's sole expense in accordance with the standards, plans and specifications approved by the City:

Work Order Number 3450: the detention and sedimentation pond with retaining walls, run downs, and private storm drain systems

The Drainage Facility is more particularly described in the attached Exhibit A. The Owner will not permit the Drainage Facility to constitute a hazard to the health or safety of the general public.

3. Maintenance of Drainage Facility. The Owner will maintain the Drainage Facility at Owner's cost in accordance with the approved Drainage Report and plans. Maintenance to be limited to the removal of accumulated silt within the drainage facility.

4. City's Right of Entry. The City has the right to enter upon the Property at any time and perform whatever inspection of the Drainage Facility it deems appropriate, without liability to the Owner.

5. Demand for Construction or Repair. The City may send written notice ("Notice") to the Owner requiring the Owner to construct or repair the Drainage Facility within 90 days ("Deadline") of receipt of the Notice, as provided in Section 12, and the Owner will comply promptly with the requirements of

and DON L. KILLOUGH, TRUSTEE under that certain trust entitled Joel P. Taylor and Nina Mae Taylor Trust Agreement, dated April 24, 1979, whose address is Box 955, Carman, Manitoba, Canada, ROG 0J0 (collectively herein called "Owner")

[Handwritten initials and signature]

the Notice. The Owner will perform all required work by the Deadline, at Owner's sole expense.

6. Failure to Perform by Owner and Emergency Work by City. If the Owner fails to comply with the terms of the Notice by the Deadline, or if the City determines that an emergency condition exists, the City may perform the work itself. The City then may assess the Owner for the cost of the work and for any other expenses or damages which result from Owner's failure to perform. The Owner agrees promptly to pay the City the amount assessed. If the Owner fails to pay the City within thirty (30) days after the City gives the Owner written notice of the amount due, the City may impose a lien against Owner's Property for the total resulting amount.

7. Liability of City for Repair after Notice or as a Result of Emergency. The City shall not be liable to the Owner for any damages resulting from the City's repair or maintenance following notice to the Owner as required in this agreement or in an emergency unless the damages are the result of the reckless conduct or gross negligence of the City.

8. Indemnification. As a part of the consideration for this grant, subject to the provisions of the New Mexico Tort Claims Act and all other applicable New Mexico laws, the City agrees to save Owner harmless from any and all liability arising from the City's negligent use of the Drainage Facility. The City does not agree to save Owner harmless from any liability which may arise from Owner's use of the Drainage Facility and the Property.

9. Cancellation of Agreement and Release of Covenant. This agreement may be cancelled and Owner's covenants released by the City following by the City's mailing to the Owner notice of the City's intention to record a Cancellation and Release with the Bernalillo County Clerk. The Cancellation and Release will be effective thirty (30) days after the date of mailing the notice to the User unless a later date is stated in the notice or in the Cancellation and Release. After the effective date, the City will record the Cancellation and Release with the Bernalillo County Clerk.

10. Assessment. Nothing in this agreement shall be construed to relieve the Owner, his heirs, assigns and successors from an assessment against Owner's Property for improvements to the Property under a duly authorized and approved Special Assessment District. The parties specifically agree that the value of the (Drainage Facility) will not reduce the amount assessed by the City.

11. Notice. For purposes of giving formal written notice to the Owner, Owner's address is:

Johnson Properties, Ltd. IV
3001 Louisiana NE
Albuquerque, New Mexico 87110

Notice may be given to the Owner either in person or by mailing the notice by regular U.S. mail, postage paid. Notice will be considered to have been received by the Owner within 6 days after the notice is mailed if there is no actual evidence of receipt. The Owner may change Owner's address by giving written notice of the change by certified mail, return receipt requested, to the City Public Works Department, P.O. Box 1293, Albuquerque, New Mexico 87103.

12. Term. This agreement shall continue until terminated by the City pursuant to Section 7 above.

13. Binding on Owner's Property. The covenants and obligations of the Owner set forth herein shall be binding on Owner, his heirs, assigns and successors and on Owner's Property and constitute covenants running the Owner's Property until released by the City.

14. Entire Agreement. This agreement contains the entire agreement of the parties and supersedes any and all other agreements or understandings, oral or written, whether prior to the execution hereof or contemporaneous herewith.

15. Changes to Agreement. Changes to this agreement are not binding unless made in writing, signed by both parties.

16. Construction and Severability. If any part of this agreement is held to be invalid or unenforceable, the remainder of the agreement will remain valid and enforceable if the remainder is reasonably capable of completion.

17. Captions. The captions to the sections or paragraphs of this agreement are not part of this agreement and will not affect the meaning or construction of any of its provisions.

18. Form Not Changed. Owner agrees that changes to the wording of this form are not binding upon the City unless initiated by the Owner and approved and signed by the City Legal Department in writing on this form.

OWNER:

By: Don J. Hillough
 Its: Trustee
 Dated: 13 April 1988

(Approved by Legal Dept.

Province
~~STATE OF~~ Minnesota)
 City) 88
~~COUNTY OF~~ Winnipeg)

The foregoing instrument was acknowledged before me this
13th day of April, 1988, by [name of person signing:]
Don L. Hulse, [title or capacity, for instance,
 "President" or "Owner":] TRUSTEE of [name of
 the entity which owns the Property if other than the individual
 signing, for instance, the name of the corporation, partnership,
 or joint venture:] _____.

[Signature]
 Notary Public

My Commission Expires:

CITY OF ALBUQUERQUE:

Approved:

By: [Signature]

Title: ACTING ASST DIRECTOR, ENGINEERING

Dated: 4-20-88

(EXHIBIT A ATTACHED)

(Approved by Legal Dept.)

OWNER:

By *Joel P. Taylor*
JOEL P. TAYLOR

By *Nina Mae Taylor*
NINA MAE TAYLOR

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

The foregoing instrument was duly acknowledged before me
this 18th day of April, 1988, by JOEL P. TAYLOR
and NINA MAE TAYLOR, his wife.

Jeanie Baxter
NOTARY PUBLIC

My Commission Expires:



OFFICIAL SEAL
JEANIE BAXTER
NOTARY PUBLIC STATE OF NEW MEXICO
Notary Bond Filed with Secretary of State
My Commission Expires: 8-30-88

STATE OF NEW MEXICO
COUNTY OF BERNALILLO
FILED FOR RECORD

28 MAY -6 PM 2:42
M5618A 379-385
GLADYS M. DAVIS
COUNTY CLERK
[Signature]

Location Montano Plaza
Subject Drainage Study - Offsite
Client Steve Johnson

Sheet No. 1 of 17
Job No. R04-102-00
By VTC Date 11/83



CHAVEZ-GRIEVES / CONSULTING ENGINEERS, Inc.

Albuquerque, NM

Total upstream contributing area = 62 Ac.

Area "A" = 35 Ac. (2-30" ϕ)
Enters site through existing lines (2-24" ϕ)

Area "B" = 27 Ac.

Flows south of proposed development
(1-30" ϕ)

Soil Type A - BCC, Bluepoint Loamy fine Sand.

Determine Time of Concentration.

$$T_c = 0.0078 \frac{L^{0.77}}{S^{0.385}} \quad (\text{Page 22.2.3})$$

$$L = 2500'$$

$$S = 5114 - 5005 / 2500 = 0.044$$

$$T_c = 0.0078 \frac{(2500)^{0.77}}{(0.044)^{0.385}} = 10.7 \text{ min.}$$

$$V = 2500 / 10.7(60) = 3.9 \text{ f.p.s.}$$

$$3 < T_c = 3.9 < 6 \quad \therefore \text{Use Above Eq.}$$

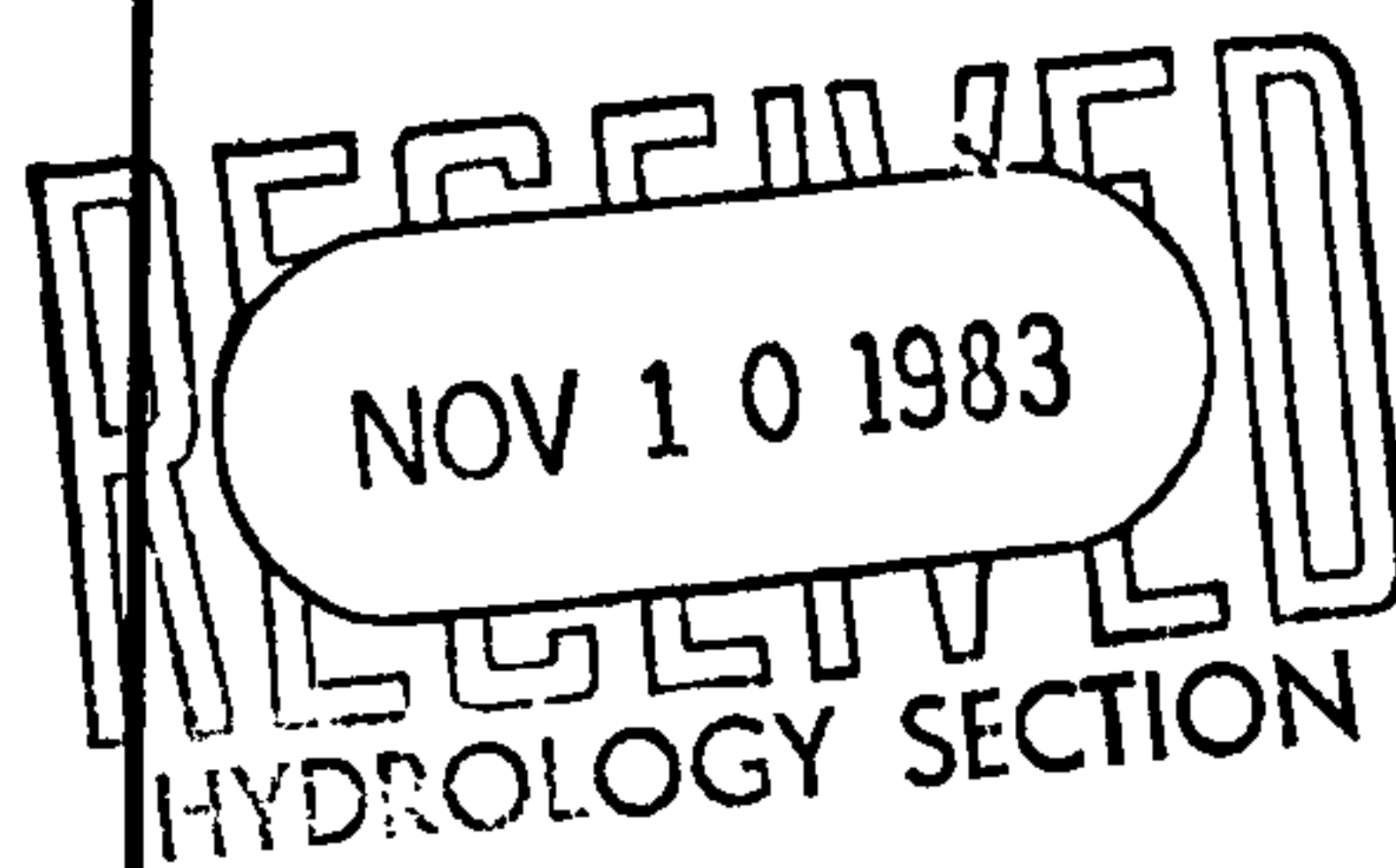
(Page 22.2.4)

With exist. Dev. $C = 1/6$ Plate 22.2 C-1
(0% Imp.)

For Pastureland in Fair-Poor Condition.

$$CN = 65$$

Plate 22.2 C-2



Job Montano Plaza

Sheet No. 2 of 17

Subject Drainage Study - Offsite

Job No. R04-102-00

Client _____

By VJC Date 11/83



CHAVEZ - GRIEVES / CONSULTING ENGINEERS, Inc.

Albuquerque, NM

Total Rainfall = 2.2 "

Plate 22.2 0-1

$I = 2.2 (2.2) = 4.84 \text{ in/hr}$ ($T_c = 10 \text{ min.}$) Plate 22.2 0-2

Total $Q = 0.16 (4.84) (62) = 48.0 \text{ cfs.}$

Area "A" $Q = .16 (4.84) (35) = 27.1 \text{ cfs.}$

Area "B" $Q = .16 (4.84) (27) = 20.9 \text{ cfs.}$

Direct Runoff = 0.3 inches

Plate 22.2 C-4

Area "A" Vol. = $\frac{3}{12} (35) (43,560) = 38,115 \text{ ft}^3$

Area "B" Vol. = $\frac{3}{12} (27) (43,560) = 29,403 \text{ ft}^3$

Design Flows for Area "A" will be 27.1 cfs.

Flow rate was originally approved by Mr. Brian Burnett in his letter dated March 23, 1983.

Subsequent conversations with Mr. Fred

Aguirre verified that due to existing conditions, the design flow rate is conservative.

Therefore, no change in flows from upstream areas will be made.

Job Montano Plaza
Subject Drainage Study - On Site
Client Steve Johnson

Sheet No. 3 of 17
Job No. R04-102-00
By VJC Date 11/83



CHAVEZ-GRIEVES / CONSULTING ENGINEERS, Inc.

Albuquerque, NM

Total Phase I & Phase II Dev. = 17.0 Acres.
Road Area = 2.15 Ac.

On-Site.

7% Pervious, 93% Impervious

Road Section.

48' Paving, 2-4' sidewalks, 60' R/W

7% Pervious, 93% Impervious.

From Plate 22.2 C-1

$C_o = 0.81$

$C_u = 0.16$

$$T_c = 0.0078 \frac{L^{0.77}}{S^{0.385}}$$

$L = 440'$ (max. distance to Inlet)

$$S = 96 - 87.6 / 440 = 0.02$$

$$T_c = 0.0078 \left(\frac{440^{0.77}}{0.02^{0.385}} \right) = 3.82 \text{ min.}$$

Length of Storm Drain 900'

Ave. Vel. = 9.0 f.p.s.

$$\text{time} = 900 / 9(60) = 1.7 \text{ min.}$$

$$T_c = 3.82 + 1.7 = 5.52 \text{ min.} < 10.0$$

$\therefore$ Use $T_c = 10 \text{ min.}$

Job Montano Plaza
Subject Drainage Study - On Site
Client _____

Sheet No. 4 of 17
Job No. RO4-102-00
By VJC Date 11/83



CHAVEZ-GRIEVES / CONSULTING ENGINEERS, Inc.

Albuquerque, NM

$$\text{Total Rainfall} = 2.2''$$

Plate 22.2 D-1

$$I = 2.2 (2.2) = 4.84 \text{ in/hr.}$$

Plate 22.2 D-2

$$Q_u = 0.16 (4.84) (19.15) = 14.8 \text{ cfs.}$$

$$CN = 65$$

$$Vol_u = \frac{3}{12} (19.15) (43,560) = 20,854 \text{ ft}^3$$

$$Q_o = 0.81 (4.84) (19.15) = 75.1 \text{ cfs.} \quad (\text{Road \& Site})$$

$$Q_o = 0.81 (4.84) (17) = 66.6 \text{ cfs.} \quad (\text{Site Only})$$

$$\text{For Parking lot } CN = 98$$

Plate 22.2, C-2

$$\text{For 93\% Imperv., Comp. } CN = 95$$

Plate 22.2, C-3

$$\text{Direct Runoff} = 1.8''$$

$$Vol = 1.8/12 (19.15) (43,560) = 125,126 \text{ ft}^3$$

$$\text{Max. Allowable Runoff rate} = 8.0 \text{ cfs.} \ll Q_u$$

$$\text{Time req. to drain total runoff} = \frac{2 (125,126)}{8} = 31,282 \text{ sec.} \\ = 8.69 \text{ hrs.}$$

Job Montano Plaza
Subject Drainage Study - OnSite
Client _____

Sheet No. 5 of 17
Job No. R04-102-00
By VJC Date 11/83



CHAVEZ-GRIEVES / CONSULTING ENGINEERS, Inc.

Albuquerque, NM

Ponding Volume based on procedure recommended
by Mr. John Armstrong. No!

% This is 4 cfs for 6 hours!

$$\text{Vol. reg} = 125,126 - \left[\frac{8}{2} (4)(3600) \right] = 38,726 \text{ ft}^3$$

$$\text{Vol reg} = 125,126 - 25,246 = 99,880 \text{ ft}^3$$

$$\text{Ponding Vol. Provided} = 150(360)(1.0) = 54,000 \text{ ft}^3 \therefore \text{ok.}$$

~~12~~

$\frac{27}{81}$

JOB MONTANO PLAZASheet No. 6 of 17Subject DRAINAGE STUDY

Job No. _____

Client _____

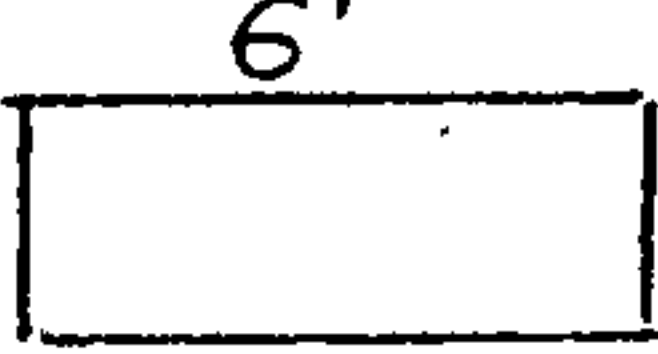
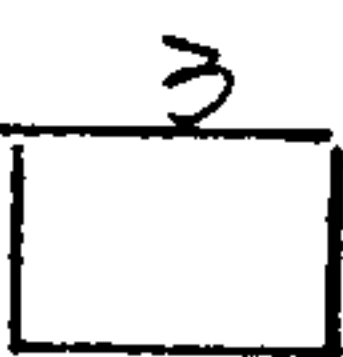
By TONG Date 11-4-83

CHAVEZ-GRIEVES / CONSULTING ENGINEERS, Inc.

Albuquerque, NM

On SITE FLOWS

* See Site Plan for Basin Designations.

* BASIN	AREA	Q_{100}	INLET CAPACITY	WATER DEPTH	REMARK
1	4.09 Ac	16.83	15.63	6"	OVERFLOW TO NEXT INLET @ D.O.D.
2	2.79 Ac	11.48	15.63	6"	DOUBLE 'D'
3	2.02 Ac	8.31	15.63	6"	DOUBLE 'D'
4	1.55 Ac	6.37	7.8	6"	SINGLE 'D'
5	1.16 Ac	4.77	7.8	6"	SINGLE 'D'
7	7.54 Ac	26.27			FREE DISCHARGE TO POND
TOTAL	19.15 Ac				
NOTE: DOUBLE 'D' INLET  L=17' SINGLE 'D' INLET  L=11'					

DROP INLET CAPACITY:

FOR DOUBLE 'D' INLET AT 6" DEPTH

$$Q = 2.6 \times 17 \times 0.5^{3/2} \quad (\text{WEIR EQ. DMP 22.3 PAGE 24})$$

$$= 15.63 \text{ cfs}$$

FOR SINGLE 'D', AT 6" DEPTH

$$Q = 7.8 \text{ cfs}$$

MON TANO PLATA
 Subject H G L. CALCULATION
 Client ON SITE DRAIN

Sheet No. 1 of 17
 Job No. _____
 By B.T. Date _____



CHAVEZ - GRIEVES / CONSULTING ENGINEERS, Inc.

Albuquerque, NM

FOR 33" ϕ
 From Pond to 1st #1

$$Q = 16.83 + 11.48 + 8.31 + 6.37 + 4.77 = 47.76 \text{ cfs}$$

Q max. CAPACITY FOR 33" ϕ =

$$\frac{1.486}{0.013} \times 0.6969 \times \left(\frac{33}{12}\right)^2 \times \left[0.3041 \times \frac{33}{12}\right]^{2/3} \times \left(\frac{76.7 - 76}{85}\right)^{1/2}$$

$$= 48.65 \text{ cfs} > 47.76$$

TRY 82% FULL

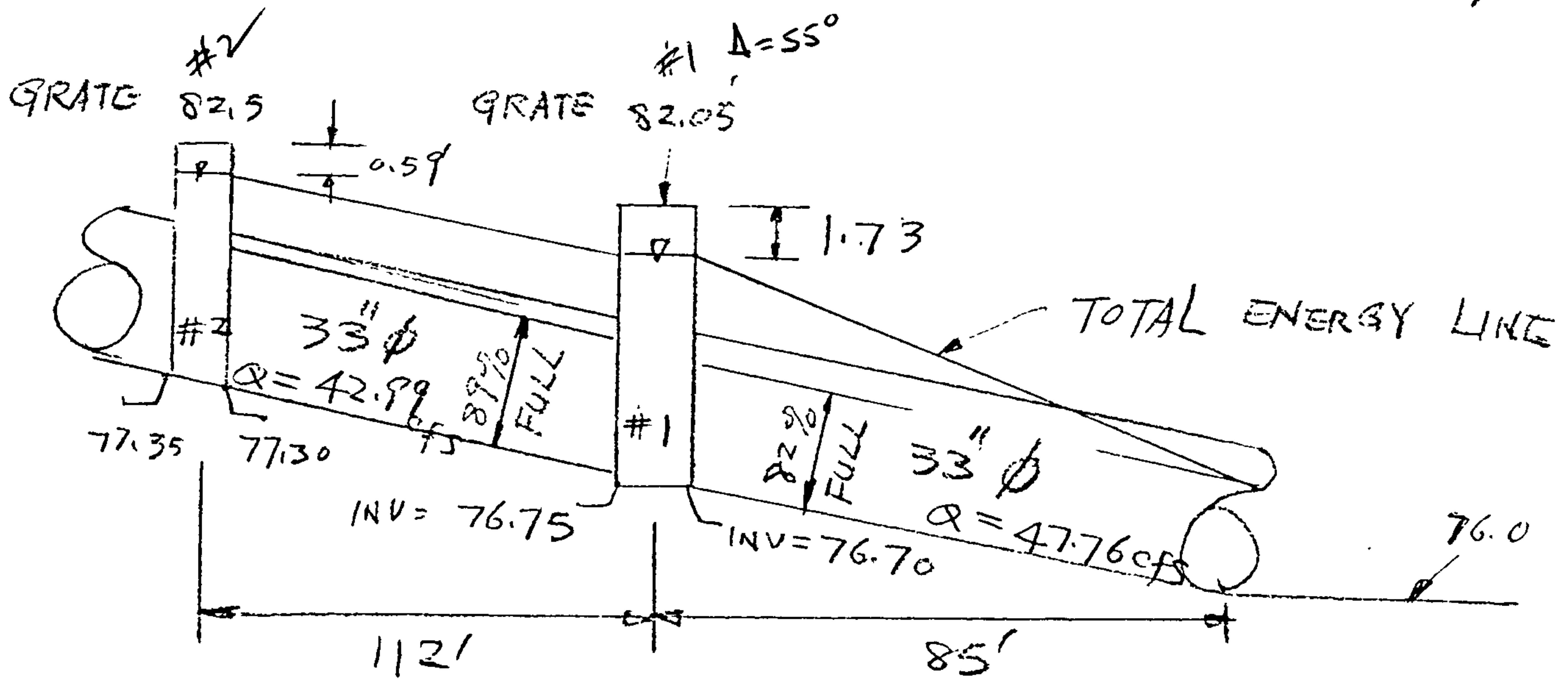
$$Q = \frac{1.486}{0.013} \times 0.6893 \times \left(\frac{33}{12}\right)^2 \times \left(0.3043 \times \frac{33}{12}\right)^{2/3} \times 0.0907$$

$$= 48.01 \text{ cfs}, \quad V = \frac{47.76}{0.6893 \times \frac{33}{12}} = 9.1620 \text{ fps}$$

$$76.7 + \frac{33}{12} \times 0.82 + \underbrace{0.05 \times \frac{V^2}{2g}}_{\text{HEAD LOSS}} = 79.02$$

$$79.02 + \frac{V^2}{2g} = 80.32 \quad (\text{FREE WATER SURFACE})$$

$$82.05 - 80.32 = 1.73 \quad (\text{DISTANCE FROM GRATE})$$



Job Montana PlazaSheet No. 8 of 17Subject H.G.L. Calculation

Job No. _____

Client On SITE DRAINBy B.T. Date _____

CHAVEZ-GRIEVES / CONSULTING ENGINEERS, Inc.

Albuquerque, NM

$$M.H. \#1 - \#2 \quad Q = 47.76 - 4.77 = 42.99 \text{ cfs}$$

TRY 89 % FULL

$$Q = \frac{1.486}{5.58} \times 0.7384 \left(\frac{33}{12} \right)^2 \times \left[0.2996 \times \frac{33}{12} \right]^{\frac{2}{3}} \times \left(\frac{77.35 - 76.7}{1.12} \right)^{\frac{2}{3}}$$

$$= 114.31 \times 5.58 \times 0.87 \times 0.0762$$

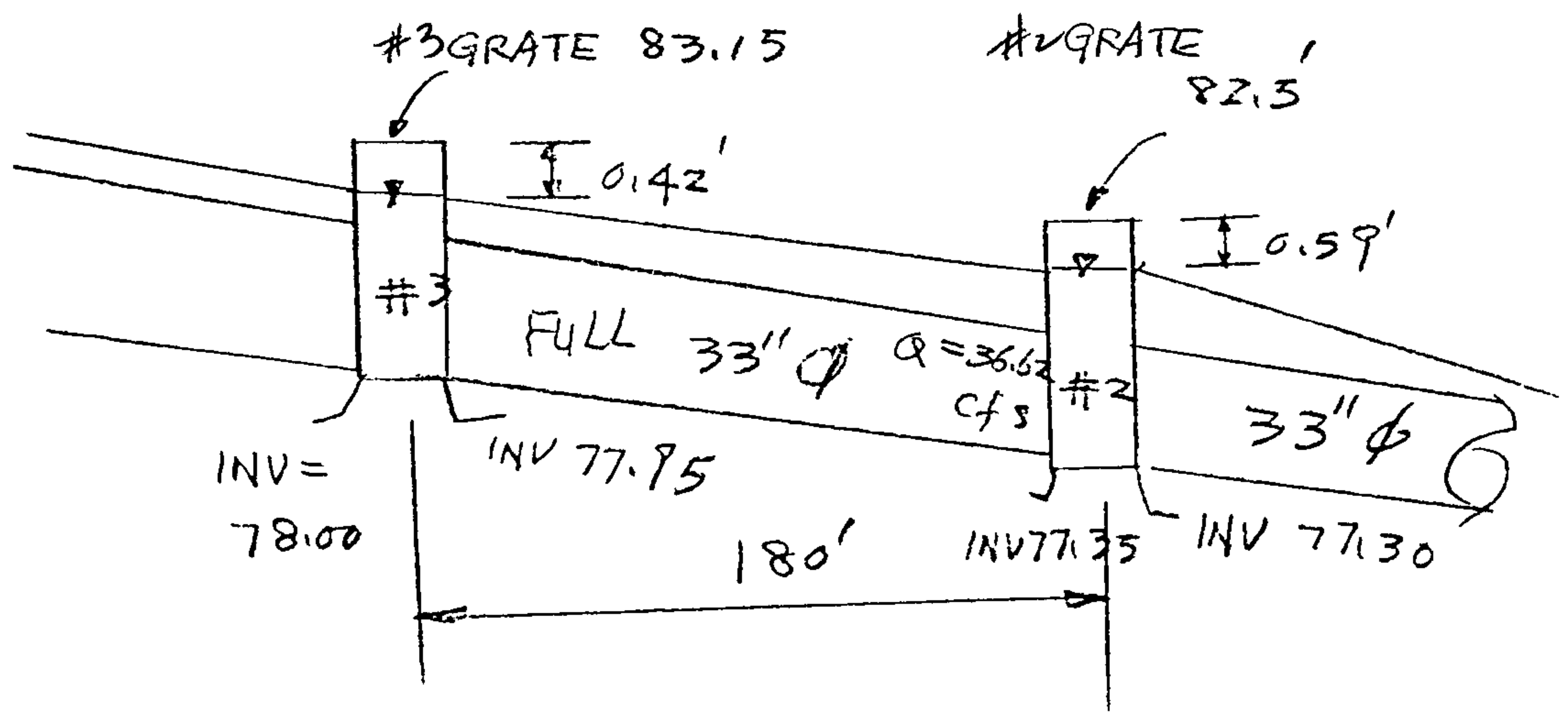
$$= 42.32 \text{ cfs}$$

$$V = \frac{42.99}{5.58} = 7.70 \text{ fps} \quad \frac{V^2}{2g} = 0.92' \text{ (VELOCITY HEAD)}$$

$$\underset{\text{INV}}{77.35} + \frac{33}{12} \times 0.89 + \underset{\text{HEAD LOSS}}{0.05 \times 0.92} = 80.99$$

$$80.99 + 0.92 = 81.91' < 82.5'$$

$$82.5 - 81.91 = 0.59'$$



Job Montana Plaza
 Subject H.G.L. Calculation
 Client On-Site Drain

Sheet No. 7-01
 Job No. 17
 By BT Date 11/83



CHAVEZ-GRIEVES / CONSULTING ENGINEERS, Inc.

Albuquerque, NM

MH #2-#3 FOR $Q = 42.99 - 6.37 = 36.62 \text{ cfs}$

$$\sqrt{\text{PIPE SLOPE}} = \left(\frac{77.95 - 77.3}{180} \right)^{1/2} = 0.0601$$

$$Q_{\text{MAX}} = \frac{1.486}{0.013} \times 0.6969 \times \left(\frac{33}{12} \right)^2 \times \left(0.3541 \times \frac{33}{12} \right)^{2/3} \times 0.0601$$

$$= 32.14 \text{ cfs} < 36.62 \text{ cfs}$$

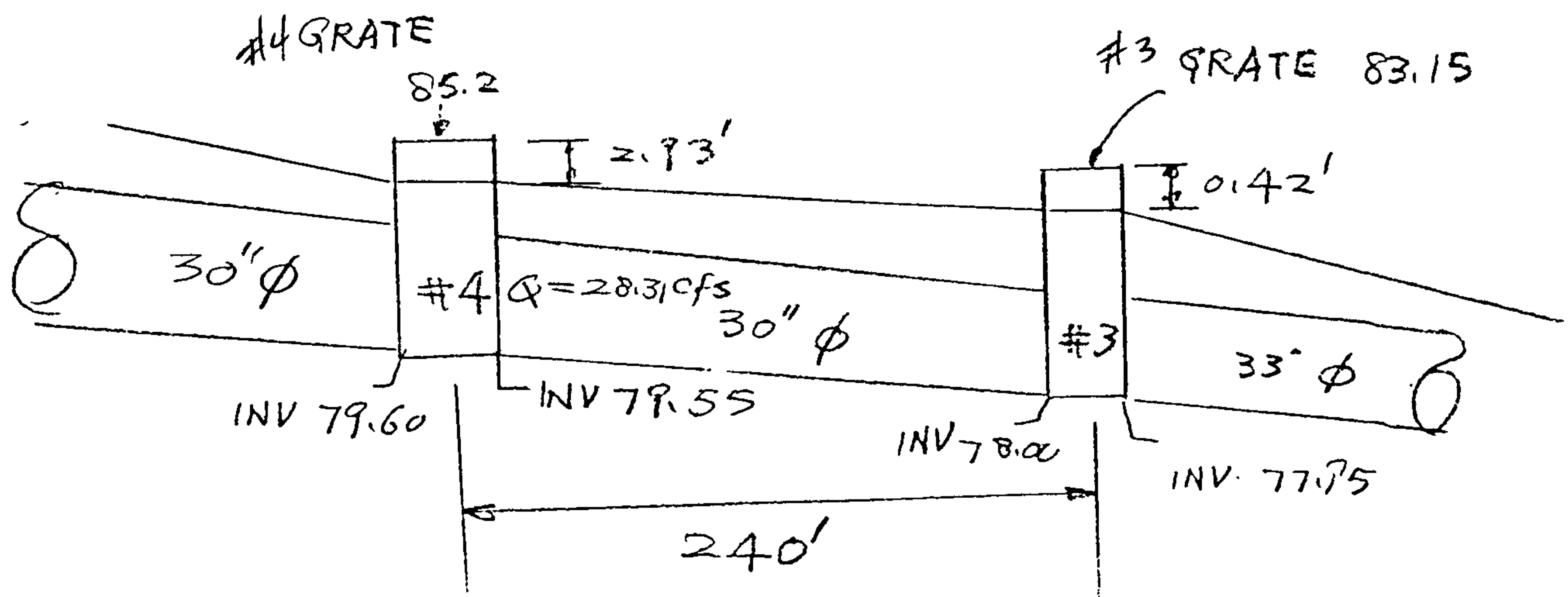
$$S = \left(\frac{Q}{K} \right)^{1/2} = \left(\frac{36.62}{528.7} \right)^2 = 0.0048 \quad (\text{SEE PLATE 22.3 B-5})$$

$$\Delta h = S \times L = 0.0048 \times 180 = 0.86', \quad V = \frac{36.62}{5.94} = 6.16$$

$$\therefore \text{HGL} = 78.00 + 0.86 + \frac{33}{12} + 0.05 \times \frac{V^2}{2g} = 82.15'$$

$$\frac{V^2}{2g} = 0.58', \quad 0.58 + 82.15 = 82.73 < 83.15'$$

$$83.15 - 82.73 = 0.42'$$



Subject

Client



CHAVEZ-GRIEVES / CONSULTING ENGINEERS, Inc.

Sheet No. 10 of 17

Job No.

By BT Date

Albuquerque, NM

MH #3-#4

$$\text{FOR } Q = 36.62 - 8.31 = 28.31 \text{ cfs}$$

$$\text{SLOPE} = \frac{79.60 - 78.0}{240} = 0.0067$$

$$Q_{\text{max}} = \frac{1.486}{0.013} \times 0.6969 \times \left(\frac{30}{12}\right)^2 \times \left(0.3041 \times \frac{30}{12}\right)^{2/3} \times 0.0067^{1/2}$$

$$= 33.97 \text{ cfs}$$

" 0.8330 " 0.0819

TRY 70 % FULL

$$Q = \frac{1.486}{0.013} \times 0.5872 \times \left(\frac{30}{12}\right)^2 \times \left(0.2962 \times \frac{30}{12}\right)^{2/3} \times 0.0819$$

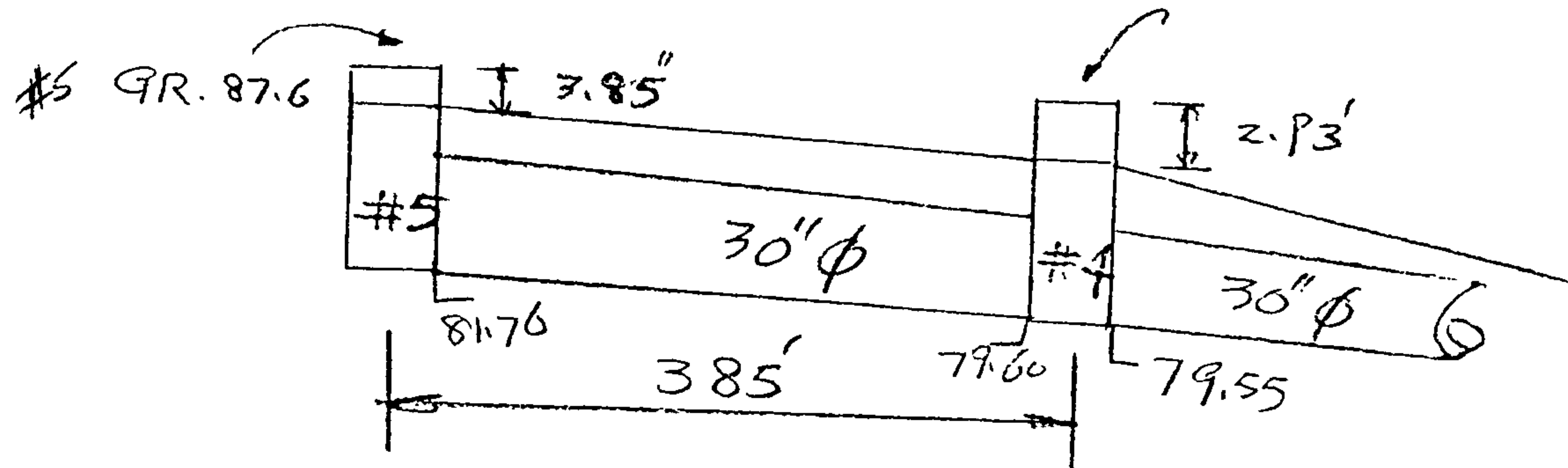
$$= 28.12 \text{ cfs}$$

$$V = \frac{28.31}{0.5872 \times \left(\frac{30}{12}\right)^2} = 7.71 \text{ fps.} \quad \frac{V^2}{2g} = 0.924'$$

$$79.55 + 0.7 \times \frac{30}{12} + 0.924 + 0.05 \times 0.924 = 82.27'$$

$$82.27' < 85.20' \text{ (O.K.)}$$

$$85.2 - 82.27 = 2.93'$$



Montana Plaza
Subject H. G. L. Calculation
Client On-Site Drain

Sheet No. 11 of 17
Job No. _____
By B.T. Date 11/83



CHAVEZ-GRIEVES / CONSULTING ENGINEERS, Inc.

Albuquerque, NM

M.H #4-#5

$$28.31 - 11.48 = 16.83 \text{ cfs}$$

$$S = \left(\frac{81.76 - 79.55}{385} \right) = 0.0057$$

$$Q_{\max} = \frac{1.486}{0.013} \times 0.6969 \times \left(\frac{30}{12} \right)^2 \times \left(0.3041 \times \frac{30}{12} \right)^{2/3} \times S^{1/2}$$
$$= 31.32 \text{ cfs}$$

TRY 50% FULL

$$Q = \frac{1.486}{0.013} \times 0.3927 \times \left(\frac{30}{12} \right)^2 \times \left[0.25 \times \frac{30}{12} \right]^{2/3} \times S^{1/2}$$
$$= 15.48 \text{ cfs}$$

TRY 52% FULL

$$Q = \frac{1.486}{0.013} \times 0.4127 \times \left(\frac{30}{12} \right)^2 \times \left[0.2561 \times \frac{30}{12} \right]^{2/3} \times S^{1/2}$$
$$= 16.53 \text{ cfs}$$

$$V = \frac{16.83}{0.4127 \times \left(\frac{30}{12} \right)^2} = 6.52 \text{ fps}$$

$$\frac{V^2}{2g} = 0.66'$$

JOB Montana Plaza
Subject H. G.L. Calculation
Client On Site Drain

Sheet No. 12 of 17
Job No. _____
By BT Date 11/83



CHAVEZ-GRIEVES / CONSULTING ENGINEERS, Inc.

Albuquerque, NM

$$81.76 + 0.52 \times \frac{30}{12} + 0.66' + 0.05 \times 0.66 \\ = 83.75' < 87.6'$$

$$87.6 - 83.75 = 3.85'$$

JOB MONTANO PLANS
 Subject H.G.L. CALCULATION
 Client OFFSITE FLOW

Sheet No. 17 of 17
 Job No. _____
 By BT Date _____



CHAVEZ - GRIEVES / CONSULTING ENGINEERS, Inc.

Albuquerque, NM

MH#6 $Q = 54 \text{ cfs}$, $\phi = 30'' \phi$ $L = 45'$

TRY 85% FULL

$$Q = \frac{1.486}{0.013} \times 0.7115 \times \left(\frac{30}{12}\right)^2 \times \left\{ 0.3033 \times \frac{30}{12} \right\}^{2/3} \times S^{1/2}$$

$$= 114.31 \times 4.45 \times 0.83 \times \left(\frac{91.9014}{45}\right)^{1/2} = 58.37 \text{ cfs}$$

TRY 79% FULL

$$Q = 114.31 \times 0.6655 \times \left(\frac{30}{12}\right)^2 \times \left[0.3040 \times \frac{30}{12} \right]^{1/2} \times 0.14$$

$$= 55.1 \text{ cfs}$$

$$V = \frac{54}{0.6655 \times \left(\frac{30}{12}\right)^2} = 12.98 \text{ fps} \quad \frac{V^2}{2g} = 2.62'$$

$$91.0 + 0.79 \times \frac{30}{12} + 2.62 \times 0.05 = 93.30$$

$$93.30 + 2.62' = 95.92' < 96.00 \text{ O.K.}$$

$$d/D = 78\%$$

$$V = 13.14$$

$$V^2/2g = 2.68$$

$$21.7 \text{ cfs } \Delta = 61^\circ$$

$$20.9 \text{ cfs } \Delta = 26^\circ$$

$$h_{a.p} + MH = \left[\left(\frac{21.7}{48}\right)(0.0033)(61) + \left(\frac{20.9}{48}\right)(0.0033)(26) + (0.05) \right] \frac{V^2}{2g}$$

$$= 0.1784 \frac{V^2}{2g}$$

$$= 0.48$$

$$HGL = 91.00 + 0.48 + 0.78(30/12)$$

$$= 93.43 < 96.00 \text{ O.K.}$$

Job MONTANO PLAZA
Subject HGL CALCULATION
Client OFFSITE FLOW

Sheet No. 14 of 17
Job No. _____
By _____ Date _____



CHAVEZ-GRIEVES / CONSULTING ENGINEERS, Inc.

Albuquerque, NM

MH #7

$$Q = 30.5 \text{ cfs}, \phi = 27'' \text{ RCP}$$

$$L = 240 \text{ ft}$$

$$S = \frac{92.23 - 91.05}{240} = 0.0049$$

$$K = 307.7$$

(see PLATE
22.3 B-5)

$$\Delta h = \left(\frac{Q}{K}\right)^2 \times 240 = 2.33' \rightarrow (92.23 - 91.05)$$

$$V = \frac{30.5}{3.97} = 7.68' \quad V^2/2g = 0.92'$$

$$93.30 + 2.33 = 95.63'$$

$$95.63 + 0.92' + 0.05 \times 0.92 = 96.60' = 96.60'$$

$$HGL = 93.43 + 2.33 + 0.85 = 95.85 < 96.60 \text{ ok}$$

Job MONTANO PLAZASheet No. 15 of 17Subject HGL CALCULATION

Job No. _____

Client OFFSITE FLOW

By _____ Date _____



CHAVEZ-GRIEVES / CONSULTING ENGINEERS, Inc.

Albuquerque, NM

MH # 8 $\phi = 27''$, $L = 305'$

$$S = \frac{93.85 - 92.23}{305'} = 0.0053$$

$$\Delta h = \left(\frac{30.5}{3.177} \right)^2 \times 305' = 2.96'$$

$$HGL = 95.85 + 2.96 + 0.09 = 98.90 < 101.80 \text{ ok}$$

$$95.63 + \underbrace{2.96}_{\sqrt{2/29}} = 98.59$$

$$98.59 + 0.92' + 0.92 \times 0.05 = 99.56' < 101.80'$$

$$101.80 - 99.56 = 2.24'$$

MH # 9 $\phi = 27''$ $L = 230'$

$$S = \frac{95.05 - 93.85}{230} = 0.0052$$

TRY 83 % FULL

$$Q = \frac{1.486}{0.013} \times 0.6769 \times \left(\frac{27}{12} \right)^2 \times \left(0.3041 \times \frac{27}{12} \right)^{4/3} \times 0.0052^{1/2}$$

$$= 114.3 \times 3.5281 \times 0.78 \times 0.07$$

$$= 22 \text{ cfs}$$

TRY 91 % FULL

$$Q = 114.3 \times 3.79 \times 0.77 \times 0.07 = 23 \text{ cfs}$$

JOB MONTANO PLATA
Subject HGL CALCULATION
Client OFFSITE OFF

Sheet No. 16 of 17
Job No. _____
By _____ Date _____



CHAVEZ-GRIEVES / CONSULTING ENGINEERS, Inc.

Albuquerque, NM

$$\Delta h = \left(\frac{30.5}{308.7} \right)^2 \times 230 = 2.23' \checkmark$$

$$V = \frac{30.5}{3.97} = 7.68 \quad \frac{V^2}{2g} = 0.92$$

$$HGL = 98.90 + 2.23 + 13(0.92) = 102.33 > 98.70 \quad \text{NG} \left\{ \begin{array}{l} \text{Head} \\ \text{Pressure} \\ \text{Lid} \end{array} \right.$$

$$98.59 + 2.23 + 0.92 \times 0.05 = 100.82'$$

$$100.82 + 0.92 = 101.74' > 98.70'$$

$$101.74 - 98.70 = 3.04'$$

MH #9

$$\phi = 27" \quad L = 25'$$

$$\Delta h = \left(\frac{30.5}{308.7} \right)^2 \times 25 = 0.24' \checkmark$$

$$V = 7.68' \quad \frac{V^2}{2g} = 0.92'$$

$$100.82 + 0.24' + 0.92' + 0.92 \times 0.05 = 102.02' < 103.50'$$

$$103.50 - 102.02 = 1.48'$$

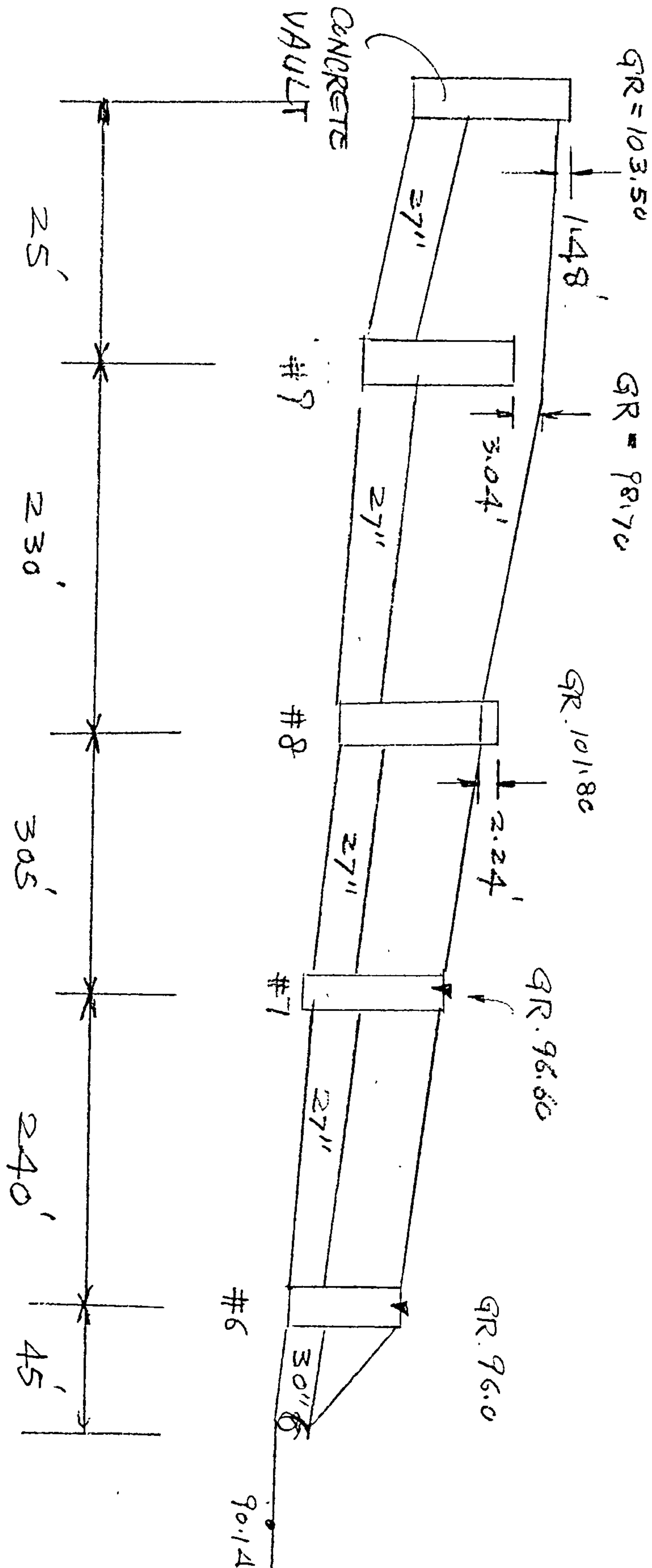
$$HGL = 102.33 + 0.24 + 0.92(0.92) = 103.03 < 103.50 \text{ ok}$$

Job MINI-NO PLATE
Subject H.G L CALCULATION
Client OFFSITE FLOW

Sheet No. 17 of 17
Job No. _____
By _____ Date _____



CHAVEZ-GRIEVES / CONSULTING ENGINEERS, Inc. Albuquerque, NM



Job MONTANO PLAZASheet No. 1 of 11Subject DRAINAGE STUDY

Job No. _____

Client _____

By _____ Date _____



CHAVEZ - GRIEVES / CONSULTING ENGINEERS, Inc. Albuquerque, NM

E12-D3 update

BASIN	AREA	Q ₁₀₀	INLET CAPACITY	WATER DEPTH	REMARK
1	4.09 Ac	20.27 cfs	15.63	6"	① OVERFLOW TO NEXT INLET, ② DOUBLE 'D'
2	2.79 Ac	14.58 cfs	15.63	6"	DOUBLE D
3	2.02 Ac	10.55 cfs	15.63	6"	DOUBLE D
4	1.55 Ac	8.09 cfs	15.63	6"	DOUBLE D
5	1.16 Ac	6.06 cfs	7.8	6"	SINGLE 'D'
6	0.47 Ac	2.49 cfs	7.8	6"	1 SINGLE 'D' 2 DRAIN THRU SEWER SYSTEM
(7)	7.06 Ac	36.88 cfs			FREE DISCHARGE TO POND
TOTAL	19.15 Ac				

$$Q_{100} = \text{AREA} \times 0.75 \times 2.5 \times 2.2'$$

FOR DOUBLE 'D' INLET AT 6" DEPTH

$$Q = 2.6 \times 17 \times 0.5^{3/2}$$

$$= 15.63$$

FOR SINGLE 'D', AT 6" DEPTH

$$Q = 7.8$$

RECEIVED

OCT 25 1983

ENGINEERING

TOTAL AREA FOR PHASE I & II

$$(13\%) \times (600) = 834000 \text{ ft}^2$$

$$= 19.146 \text{ AC}$$

$$\text{TOTAL VOLUME} = \frac{2.5}{12} \times 19.146 \times 43560 = 173750 \text{ ft}^3$$

UNDEVELOPED CONDITION:

$$C = 0.4 \quad \text{Soil type?}$$

$$I = 2.2 \times 2.5 = 5.5 \text{ "/>6 HR?} \quad t_c = ?$$

$$Q = 0.4 \times 19.146 \times 5.5 = 42.12 \text{ cfs}$$

$$V = 0.4 \times 19.2 \times \frac{2.2}{12} \times 43560 = 61332 \text{ cu. ft}$$

DEVELOPED CONDITION:

APPROXIMATELY 15% WILL BE LANDSCAPED

$$C = \frac{19.15 \times 0.85 \times 0.95 + 19.13 \times 0.15 \times 0.14}{19.15} = 0.87$$

$$T_c = 10.62 \text{ MIN (see PRELIMINARY STUDY)}$$

$$Q_{\text{max}} = 0.87 \times 2.5 \times 2.2 \times 19.15 = 91.63 \text{ cfs}$$

$$T = \frac{(0.87) \left(\frac{173750 \times 2}{91.63} \right)}{91.63} = 3792 = 63.2 \text{ MINUTES}$$

Where did this come from?

$$\text{OUTFLOW} = 32.3 \times 3792 = 122216 \text{ ft}^3$$

~ 70% Total Volume released in one hr! Too much

$$\text{POND VOLUME REQUIRED} = 173750 - 122216$$

$$= 51533 \text{ ft}^3$$

$$\text{POND VOLUME PROVIDED} = 1 \times 52000$$

$$= 52000 \text{ ft}^3$$

3/11

USE 8" PVC PIPE $K = 12.08$

(ASSUMING PIPE FULL.)

$$\Delta h = 1.2' - \frac{8}{12} = 0.53$$

$$S = \frac{0.53}{9} = 0.0589$$

No

$$S = 0.02/4 = 0.0022$$

$$n = 0.011$$

$$Q = K S^{1/2} = 2.93 \text{ cfs } 2^{13} \text{ cfs}$$

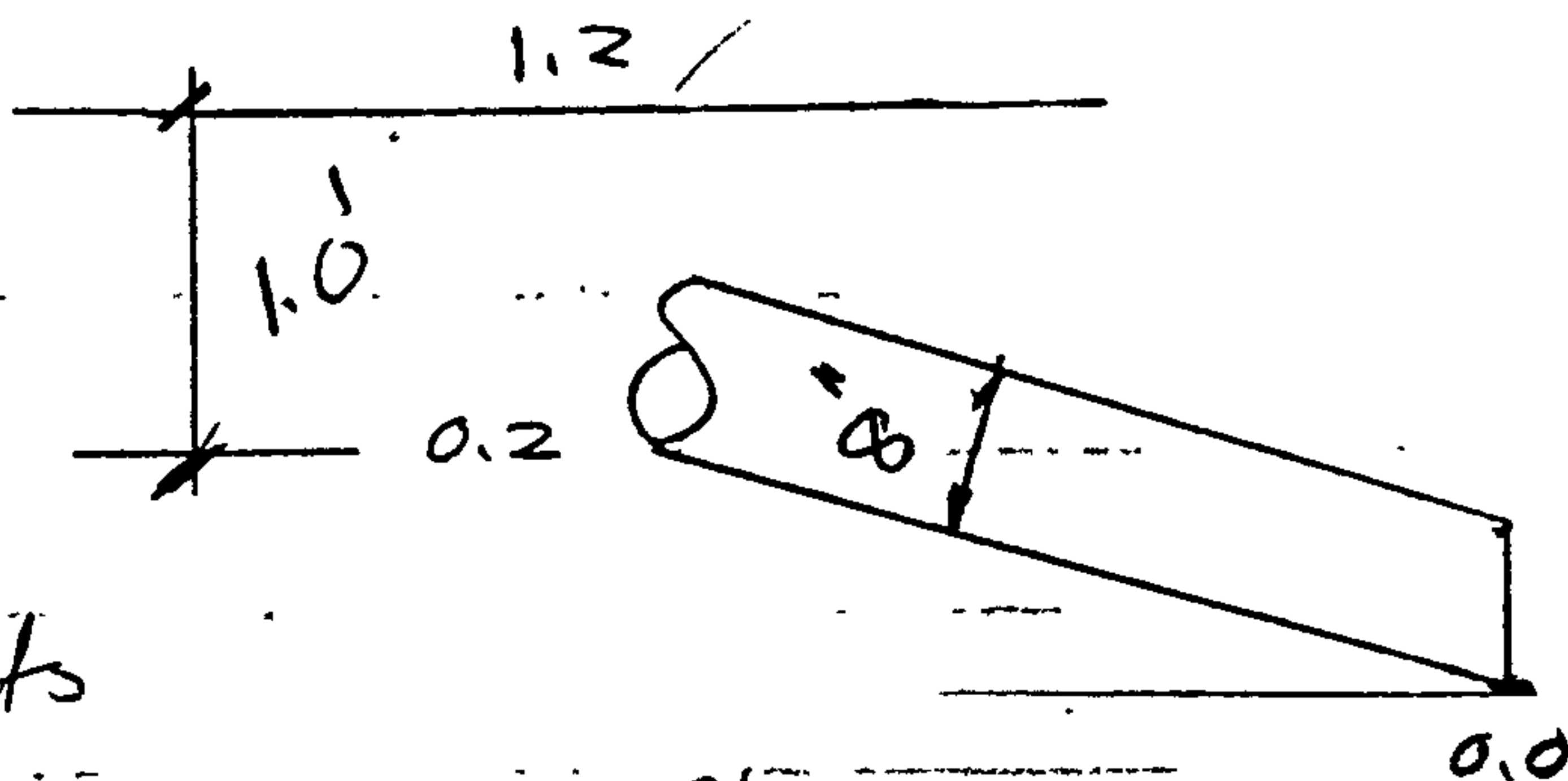
$$V = 6^{10} \text{ ft/sec } 1.5 \text{ ft/sec} = 0.87 \Rightarrow HW = 0.87 + 0.67 = 1.54$$

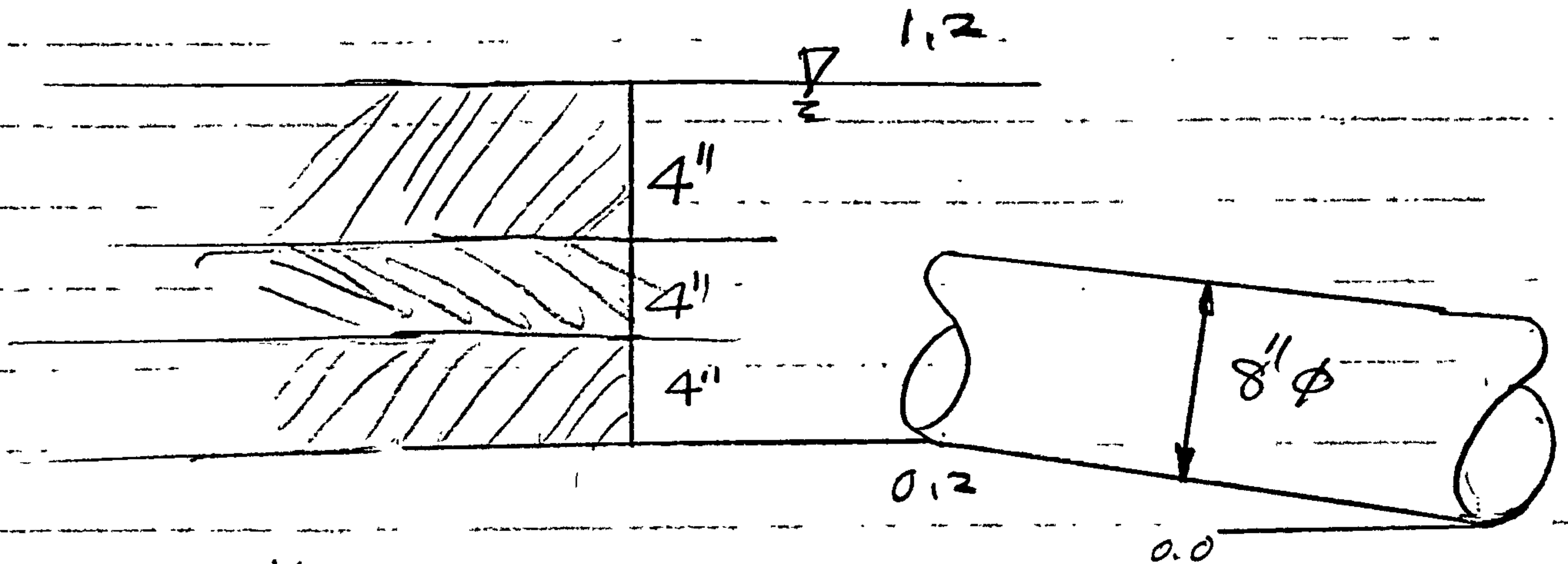
USE 1/1 - 8" PVC PIPE $Q_{outflow} = 32.3 \text{ cfs}$

$$Q_{UNDER} = 42.12 \text{ cfs}$$

$$Q_5 = 42.12 \times 0.541 = 22.78 \text{ cfs}$$

$$\therefore Q_5 < Q_{outflow} < Q_{UNDER}$$





FOR TOP $\frac{1}{3}$ WATER.

$$\Delta h = 0.53 \div 2 = 0.265 \quad S = \frac{0.265}{9} = 0.0294$$

$$Q = 1208 \times S^{1/2} = 2.07 \text{ cfs}$$

$$T = \frac{51533 \times \frac{1}{3}}{2.07} = 2.30 \text{ HR}$$

FOR MIDDLE $\frac{1}{3}$ WATER

$$S = \frac{0.12}{9} = 0.022$$

$$Q = \frac{1.486}{0.013} \times \left(0.3017 \times \frac{8}{12}\right)^{2/3} \times S^{1/2} \times 0.6318 \times \frac{8}{12}$$

$$= 1.63 \text{ cfs} \quad T = \frac{51533 \times \frac{1}{3}}{1.63} = 2.92 \text{ HR}$$

FOR BOTTOM $\frac{1}{3}$ WATER

$$Q = \frac{1.486}{0.013} \times \left(0.1466 \times \frac{8}{12}\right)^{2/3} \times S^{1/2} = 0.24 \text{ cfs}$$

$$T = \frac{51533 \times \frac{1}{3}}{0.24} = 19.88 \text{ HR}$$

$$\therefore \text{TOTAL HOUR TO DRAIN} = \frac{1}{10} (2.30 + 2.92 + 19.88) = 2.51 \text{ HR}$$

Can't use Sanitary Sewer for Storm Water 5/11

FLOW THROUGH 6" ϕ TO SEWER SERVICE

$$A = 130 \times 160 = 20,800 \text{ sq ft}$$

$$A = 0.477 \text{ Ac.}$$

$$Q = 0.95 \times 2.2 \times 2.5 \times 0.477 = 2.49 \text{ cfs}$$

$$\text{FOR } 6" \phi \quad K = 35.62 \times \left(\frac{6}{12}\right)^{2.67} = 5.59$$

$$\Delta h = \left(\frac{2.49}{5.59}\right)^2 \times 42' = 8.33$$

$$\text{INV. at Tee} = 74.79$$

$$74.79 + 8.33 = 83.12 < 84.5 \text{ GRATE}$$

CONNECTING EXISTING 30" ϕ RQD

USE 27" ϕ $A = 391 \text{ ft}^2$

$$\Delta h = \left(\frac{30.5}{309.7} \right)^2 \times 805$$

$$V = \frac{30.5}{3.97} = 7.68 \text{ fps}$$

$$4 \times 0.103 \frac{V^2}{2g} = 0.09'$$

$$= 7.80'$$

$$91.00 + \frac{27}{12} + 7.80 = 101.05' < 103.22$$

$$101.05 + 0.09 = 101.14$$

OUTFALL PIPE: 50' LONG 30" ϕ

$$Q = 54 \text{ cfs.}$$

$$\left(\frac{54}{410.1} \right)^2 \times 50 = 0.86'$$

Job

Sheet No. 7 of 11Subject HGL CALCULATION

Job No. _____

Client _____

By _____ Date _____



CHAVEZ - GRIEVES / CONSULTING ENGINEERS, Inc.

Albuquerque, NM

$$\text{TOTAL } Q_{100} = \sum A \cdot v \cdot C$$

$$= 20.27 + 14.58 + 10.55 + 8.09 + 6.06 + 2.41$$

$$= 62.02 \text{ cfs}$$

$$\text{FOR } 33" \phi, K = 528.7 \quad \text{LENGTH} = 100'$$

$$\Delta h = \left(\frac{62.02}{528.7} \right)^2 \times 100 = 1.37'$$

What is this?

$$V = \frac{62.02}{5.94} = 10.44 \text{ fps}$$

$$\frac{V^2}{2g} \times 0.05 = 0.04$$

WATER DEPTH FROM GRATE =

$$82.05 - 76 - \frac{33}{12} - 1.37 - 0.04 = 1.89'$$

$$\text{H.G.L.} = 80.16$$

Job _____

Sheet No. 8 of 11

Subject _____

Job No. _____

Client _____

By _____ Date _____



CHAVEZ-GRIEVES / CONSULTING ENGINEERS, Inc.

Albuquerque, NM

$$\text{FOR } Q = 62.02 - 6.06 = 56.00$$

$$\text{FOR } 33" \phi, K = 528.7 \quad L = 112'$$

$$\Delta h = \left(\frac{56.00}{528.7} \right)^2 \times 112 = 1.25$$

$$V = \frac{56.00}{4.90} = 11.42 \text{ fps}$$

$$0.05 \frac{V^2}{2g} = 0.05$$

WATER DEPTH AT GRATE =

$$82.5 - 80.16 - 1.25 - 0.05 = 1.04'$$

$$H.G.L. = 81.46'$$

Job _____

Sheet No. 7 of 11

Subject _____

Job No. _____

Client _____

By _____ Date _____



CHAVEZ - GRIEVES / CONSULTING ENGINEERS, Inc.

Albuquerque, NM

$$\text{FOR } Q = 56.00 - 8.09 = 47.91 \text{ cfs, } L = 180'$$

$$\Delta h = \left(\frac{47.91}{528.7} \right)^2 \times 180' = 1.49' \quad \phi = 33''$$
$$K = 528.7$$

$$V = \frac{47.91}{5.94} = 8.06 \text{ fps}$$

$$0.05 \frac{V^2}{2g} = 0.04'$$

WATER DEPTH AT GRATE =

$$83.15 - 1.49 - 0.04 - 81.46 = 0.16'$$

$$HGL = 82.99$$

Job _____

Sheet No. 10 of 11

Subject _____

Job No. _____

Client _____

By _____ Date _____



CHAVEZ - GRIEVES / CONSULTING ENGINEERS, Inc.

Albuquerque, NM

$$\text{FOR } Q = 47.91 - 10.55 = 37.36 \text{ cfs}$$

$$\text{USE } 30" \phi \quad L = 240' \quad A = 4.91$$

$$K = 410.1$$

$$\Delta h = \left(\frac{37.36}{4.91} \right)^2 \times 240 = 1.99'$$

$$V = \frac{37.36}{4.91} = 7.61 \quad 0.05 \frac{V^2}{2g} = 0.03'$$

WATER DEPTH AT GRATE =

$$85.7 - 1.99 - 0.03 - 82.99 = 0.69'$$

$$H.G.L. = 85.01'$$

Flow From BASIN I

$$Q = 20.27 - 15.63 = 4.64$$

$$Q_{\text{TOTAL}} = 4.64 + 20.27 + 14.58 = 39.49$$

$$\Delta h = \left(\frac{39.46}{4.91} \right)^2 \times 240 = 2.22'$$

$$85.7 - 2.22 - 0.03 - 82.99 = 0.46'$$

Job _____

Sheet No. 11 of 11

Subject _____

Job No. _____

Client _____

By _____ Date _____



CHAVEZ - GRIEVES / CONSULTING ENGINEERS, Inc.

Albuquerque, NM

$$\text{FOR } Q = 20.27 \text{ cfs} \quad L = 385'$$

$$\text{USE } \phi = 30'' \text{ RCP} \quad K = 410.1$$
$$A = 4.91$$

$$\Delta h = \left(\frac{20.27}{4.91} \right)^2 \times 385 = 0.94'$$

$$V = \frac{20.27}{4.91} = 4.12 \text{ fps} \quad (\text{PIPE IS NOT FULL})$$

$$\text{PIPE SLOPE} = \frac{81.76 - 79.60}{385} = 0.0056$$

WATER DEPTH AT GRATE =

$$87.6 - (81.76 + 1.49) = 4.35'$$

PIPE DIAMETER= 2.5
DISCHARGE = 20.27
SLOPE= .0056

DEPTH
1.49931215125

VELOCITY
6.70483816507

VELO HEAD
.69805675186

CAL. DISCHARGE
20.6072681697

Job MONTANO PLAZA
Subject PIPE SIZING & H.G.L. CALCULATION
Client OFF-SITE FLOW

Sheet No. 1 of 5
Job. No. _____
By B.T Date 11-16-83



CHAVEZ - GRIEVES / CONSULTING ENGINEERS, Inc.

Albuquerque, NM

MH #7

$$Q = 44 \text{ cfs}, \phi = 33", L = 260'$$

$$\text{NATURAL SLOPE} = \frac{92.23 - 91.05}{260} = 0.0045$$

$$Q_{\max} = \frac{1.486}{0.013} \times 0.7560 \times \left(\frac{33}{12}\right)^2 \times \left(0.2944 \times \frac{33}{12}\right)^{2/3} S^{1/2}$$
$$= 114.31 \times 5.72 \times 0.87 \times 0.067 = 38.16 \text{ cfs} < 44 \text{ cfs}$$

$$\Delta h = \left(\frac{44}{528.7}\right)^2 \times 260 = 1.80' \quad (\text{SEE PLATE 22.3, B-5})$$

$$V = \frac{44}{5.74} = 7.40 \text{ cfs} \quad \frac{V^2}{2g} = 0.85'$$

$$\text{HGL} = 91.05 + 1.80 + 0.05 \times 0.85 + \frac{33}{12} = 95.64'$$

$$95.64 + 0.85 = 96.49' < 96.60' \quad \text{O.K.}$$

Job MONTANO PLAZA
Subject PIPE SIZING & H.G.L. CALCULATION
Client OFF - SITE FLOW

Sheet No. 2 of 5
Job. No. _____
By B.T Date 11-16-83



CHAVEZ - GRIEVES / CONSULTING ENGINEERS, Inc.

Albuquerque, NM

MH #8

$$Q = 44 \text{ cfs}, \phi = 30'', L = 305'$$

$$\text{NATURAL SLOPE} = \frac{93.85 - 92.23}{305} = 0.0053$$

$$Q_{\text{max}} = 114.31 \times 0.756 \times \left(\frac{30}{12}\right)^2 \times \left(0.2944 \times \frac{30}{12}\right)^{2/3} \times S^{1/2}$$

(92 FULL)

$$= 21.29 \text{ cfs}$$

$$4h = \left(\frac{44}{410.1}\right)^2 \times 305' = 3.51'$$

$$V = \frac{44}{4.91} = 8.96' \quad \frac{V^2}{2g} = 1.25'$$

$$\text{HGL} = 95.64 + 3.51 + 0.05 \times 1.25 = 99.21$$

$$99.21 + 1.25 = 100.46 < 101.80'$$

Job MONTANO PLAZA
Subject PIPE SIZING & HGL CALCULATION
Client OFF-SITE FLOW

Sheet No. 3 of 5
Job. No. _____
By BT Date 11-15-83



CHAVEZ - GRIEVES / CONSULTING ENGINEERS, Inc.

Albuquerque, NM

MH
#9

$$\phi = 30'' \quad L = 230'$$

$$\text{NATURAL slope} = \frac{95.05 - 93.90}{230} = 0.005$$

$$Q_{\max} = 114.31 \times 0.756 \times \left(\frac{30}{12}\right)^2 \times (0.2944 \times \frac{30^{2/3}}{12}) \times S^{1/2}$$

(92 FULL)

$$= 31.1 \text{ cfs} < 44 \text{ cfs}$$

$$\Delta h = \left(\frac{44}{410.1}\right)^2 \times 230 = 2.64'$$

$$V = \frac{44}{4.91} = 8.96 \text{ cfs} \quad \frac{V^2}{2g} = 1.25'$$

$$\text{HGL} = 99.21 + 2.64' + 0.05 \times 1.25 = 101.91$$

$$101.91 + 1.25 = 103.16' > 98.70 \text{ (GRATE)}$$

USE PRESSURED M.H.



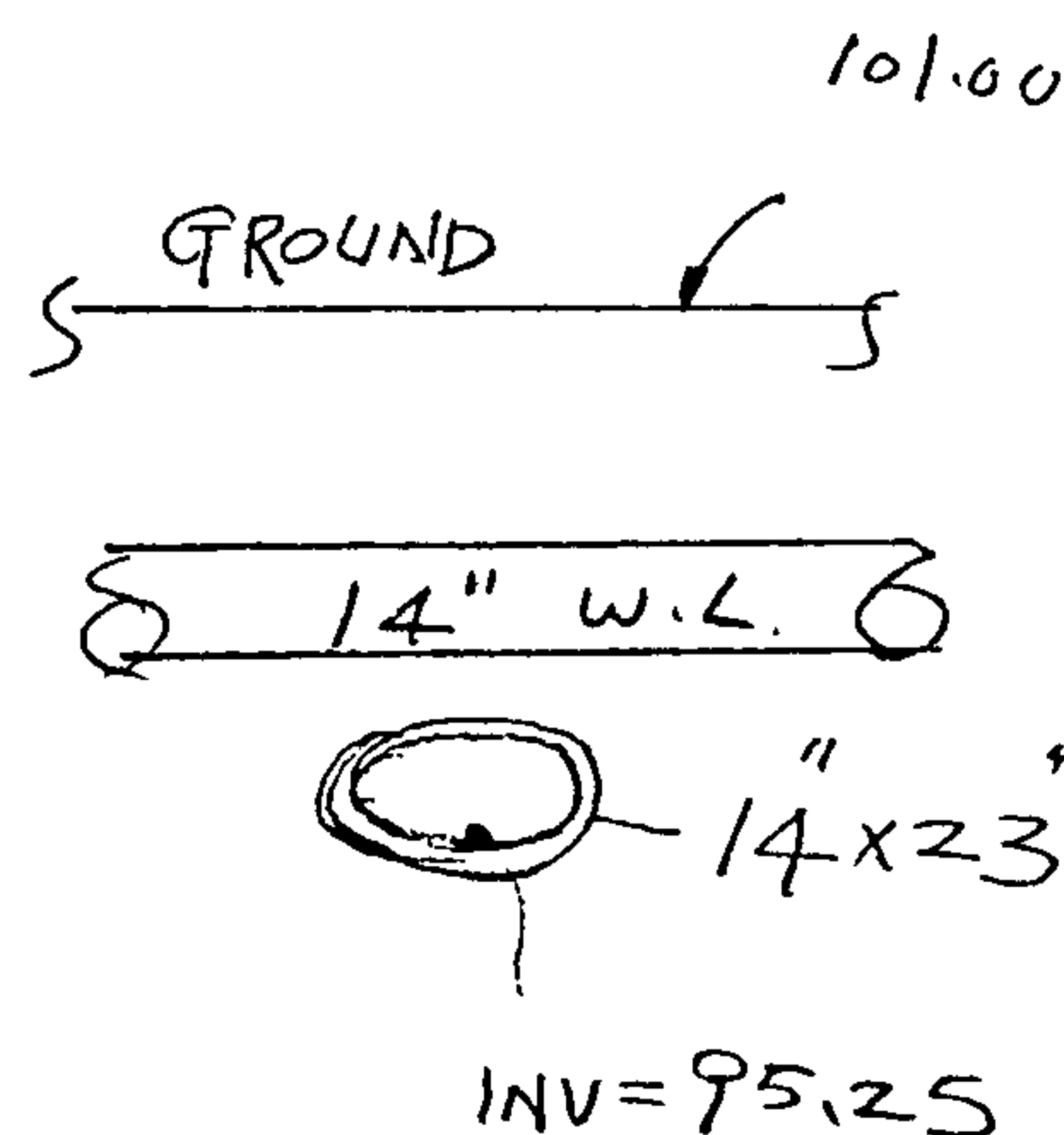
TOP OF GROUND ≈ 101.00

Assuming 3' DEEP OF 14' WATER LINE

$$101 - 3' - \frac{14 + 2}{12} = 96.67'$$

$$96.67' - \frac{14 + 3}{12} = 95.25'$$

$$\frac{95.25 - 95.10}{13} = 0.0115 \text{ (SLOPE)}$$



USE 2-14" x 23" (HORIZONTAL ELLIPTICAL PIPE)

EQUIVALENT ROUND SIZE = 18" $t = 2.75'$

FULL PIPE CAPACITY

$$\begin{aligned} Q_{\max} &= \frac{1.486}{n} \times \left(0.756 \times \left(\frac{18^2}{12} \right) \right) \times \left(0.2944 \times \frac{18}{12} \right)^{2/3} \times S^{1/2} \\ &= 114.31 \times 2.25 \times (0.5799) \times 0.1072 \\ &= 15.99 \text{ cfs} \end{aligned}$$

$$2Q_{\max} = 32 \text{ cfs} < 44 \text{ cfs}$$

$\therefore$ PIPE IS UNDER PRESSURE



CHAVEZ - GRIEVES / CONSULTING ENGINEERS, Inc.

Albuquerque, NM

$$\Delta h = \left(\frac{22}{105.0} \right)^2 \times 25 = 1.09'$$

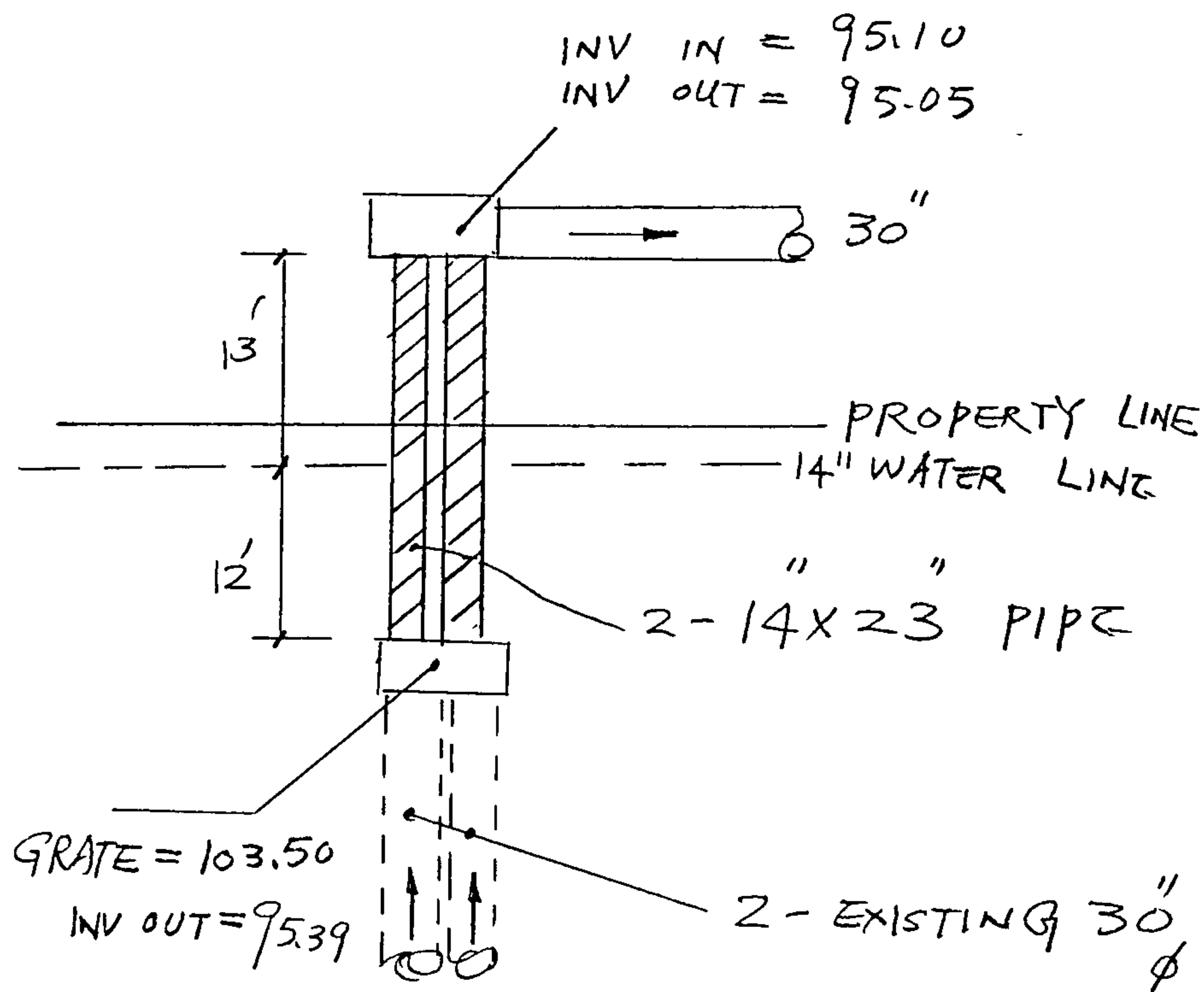
$$V = \frac{22}{1.767} = 12.45 \text{ ft/sec}$$

$$\frac{V^2}{2g} = 2.40' \quad , \quad 0.05 \frac{V^2}{2g} = 0.12'$$

$$101.91 + 1.09 = 103.00' < 103.50' \text{ (O.K.)}$$

$$0.0115 \times 25 = 0.2875$$

$$0.29 + 95.10 = 95.39$$



Shopping Center - Coors & Montana
Subject Conceptual Drainage Plan
Client Steve Johnson

Sheet No. 1 of
Job No.
By VJC Date 12/82



CHAVEZ-GRIEVES / CONSULTING ENGINEERS, Inc.

Albuquerque, NM

RECEIVED

FEB 28 1983

ENGINEERING

Upstream contributing area = 62 Ac.

Area "A" = 35 Ac - (2.24" ϕ R.C.P.)

Area "B" = 27 Ac - (1-~~24~~³⁰" ϕ R.C.P.)

Area "A" drains through the proposed development,
Area "B" drains south of the proposed development.

Soil Type A - BCC, Bluepoint loamy fine sand.

$$T_c = 0.0078 \frac{(2500)^{0.77}}{(.0452)^{0.385}}$$

$$= 0.0078 \frac{(413.4413)}{.3035} = 10.62 \text{ min.}$$

$$V = 2500 / 10.62(60) = 3.92 \text{ f.p.s.}$$

$$C = 1.8$$

$$CM = 65, \quad Q = 0.3 \text{ inches}$$

$$I = (2.2)^2 = 4.84 \text{ in/hr.}$$

$$Q = 0.18(4.84)(62) = 54 \text{ cfs.}$$

$$\text{Area "A"} = .18(4.84)(35) = 30.5 \text{ cfs.}$$

$$\text{Area "B"} = .18(4.84)(27) = 23.5 \text{ cfs.}$$



Proposed Development ≈ 17 Acres

Approximately 15% to be landscaped

$$14.45(.95) = 13.73$$

$$2.55(.4) = \underline{1.02}$$
$$14.75$$

$$C = 14.75/17 = 0.86$$

From Seeley Page 18-1 $T_c \approx 3.0$ min. Use 10 min.

$$Q_{100} = 0.85(17)(5.4) = 78 \text{ cfs.}$$

$$Vol_{100} = 2.2/12 (.85)(17)(43,560) = 115,397 \text{ ft}^3$$

$$Q_{und} = 0.4(17)(4.8) = 32.6 \text{ cfs.}$$

$$Vol. = 2.2/12 (.4)(17)(43,560) = 54,304$$

$$\Delta Q = 45.4 \text{ cfs.}$$

$$\Delta V = 61,093 \text{ ft}^3$$

Gather flows from upstream area "A" and 11.3 acres on the site and route through the ponding area. Flow from the remaining 5.7 acres on the site and the pond should not exceed the existing net flow of
 $32.6 + 30.5 = 63.1 \text{ cfs.}$

Shopping Center - Coors & Montana
Subject Conceptual Drainage Plan
Client Steve Johnson

Sheet No. 3 of
Job No.
By YJC Date 12/82



CHAVEZ-GRIEVES / CONSULTING ENGINEERS, Inc.

Albuquerque, NM

Determine Ponding Volume Req.

$$Vol. = i(1.85)(17\frac{1}{2})(43,560) = i(52,453) \text{ ft}^3$$

time	i	Vol. in.	Vol. out	Net Vol. Chg.	Σ Vol.
5	0.30	15,736	3260	12,476	12,476
10	0.54	28,325	6520	21,805	34,281
15	0.23	12,064	9780	2,284	36,565 ← <u>Pk.</u>
20	0.14	7,343	9780	<2,437>	34,128
25	0.14	7,343			
30					

$$Vol. Provided = 260(115)(1.5) = 44,850$$

Can reduce pond size or depth in final grading.

On-Site Calculations.

Sub Basin.	Area	Q_{10}	Q_{100}
I	3.76	12.8	17.3
II	1.83	6.2	8.4
III	2.33	7.0	10.7
IV	3.33	11.3	15.3
V	603		

Subject Conceptual Drainage Plan

Job No. _____

Client Steve JohnsonBy VJC Date 12/82

CHAVEZ-GRIEVES / CONSULTING ENGINEERS, Inc.

Albuquerque, NM

Flow from Area "A"

$$Q = 30.5 \text{ cfs.}$$

With slope available, assume full pressurized pipe

$$S = 15/290 = 0.0517 \quad \text{Use } S = 0.05$$

$$K = Q/S^{1/2} \quad (\text{Plate 22.3 B-5})$$

$$K_{reg} = 30.5 / (0.05)^{1/2} = 136 \quad \text{Use } 24" \phi \leftarrow$$

$$K_{aval.} = 226$$

Preliminary Sizes based on full pipe

Assume Pond to be full 1. Elev. ≈ 78

From Pond to first manhole

$$Q = 82.2 \text{ cfs.}$$

$$\text{w/ } 42" \phi \text{ Pipe } S = \left(\frac{82.2}{1006} \right)^2 = 0.00617$$

$$\Delta \text{ elev.} = 135 (0.00617) = 0.90'$$

$$\text{Elev. in } 1^{\text{st}} \text{ Manhole} = 78.9$$

$$\text{Rim Elev} = 83.5$$

$$\text{Head loss in Manhole} \approx 0.5' \therefore \text{El.} = 79.4$$

From 1^{st} Manhole to 3^{rd} Manhole

$$Q = 66.9 \text{ cfs.}$$

$$\text{w/ } 36" \phi \text{ Pipe } S = \left(\frac{66.9}{666.9} \right)^2 = 0.0101$$

$$\Delta \text{ elev.} = 310 (0.0101) = 3.12'$$

$$\text{elev} = 79.4 + 3.12 + 1.0 = 83.5$$

$$\text{Rim Elev} = 85.5$$

Shopping Center - Coors & Montana
Subject Conceptual Drainage Plan
Client Steve Johnson

Sheet No. 5 of
Job No.
By VJC Date 12/82



CHAVEZ-GRIEVES / CONSULTING ENGINEERS, Inc.

Albuquerque, NM

From 3rd to 4th 36" ϕ

$$Q = 56.2 \text{ cfs.}$$

$$S = \left(\frac{56.2}{666.7} \right)^2 = 0.0071$$

$$\Delta E_{L1} = 175 (0.0071) = 1.24$$

$$\text{Elev.}_1 = 83.5 + 1.24 + 0.5 = 85.2$$

$$\text{Rim Elev.} = 87.8$$

From 4th M.H. to Sub-Basin I 24" ϕ

$$Q = 17.3 \text{ cfs.}$$

$$S = \left(\frac{17.3}{226} \right)^2 = 0.0059$$

$$\Delta E_{L1} = 320 (0.0059) = 1.88$$

$$\text{Elev.}_1 = 85.2 + 1.88 + 1.5 = 87.6$$

$$\text{Rim El.} = 88.8$$

Revise Hydraulic Calcs & size drop inlets
in final design.

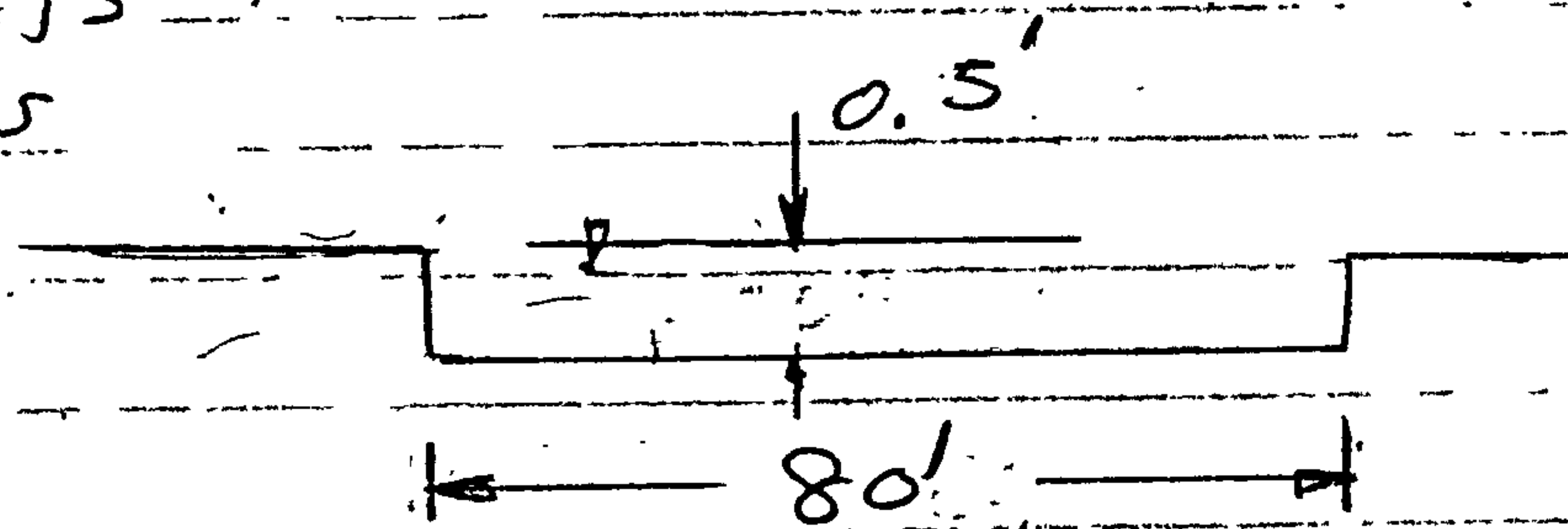
EMERGENCY SPILLWAY CALCULATION.

Q FROM UPSTREAM PIPES = 54.0 cfs

Q FROM DEVELOPED AREA = 91.63 cfs x 0.8
= 73.3 cfs

TOTAL = 127 cfs

USE 130 cfs



USE WEIR EQ

$$Q = CLH^{3/2} \quad L = 81'$$

$$130 = 2.6 \times 81 \times H^{3/2}$$

$$H = 0.72'$$

OUTFALL OPEN CHANNEL CAPACITY CALCULATION :

FLOW RATE = 130 CFS

SIDE SLOPE = .001 TO 1

BOTTOM WIDTH = 80 FEET

CHANNEL SLOPE = .1 FEET PER FEET

N FACTOR (ROUGHNESS) = .04

FLOW DEPTH IS .307952491235 FEET

FROUDE NUMBER IS 1.69194861679

Job

Sheet No. 18 of Subject EMERGENCY SPILLWAY CALJob No. Client By Date 

CHAVEZ-GRIEVES / CONSULTING ENGINEERS, Inc.

Albuquerque, NM

Flow FROM PROPOSED DEVELOPMENT = 60 cfs

Flow FROM UPSTREAM FLOW = 54 cfs

TOTAL = 60 + 54 = 114 cfs (TOO BIG ?)

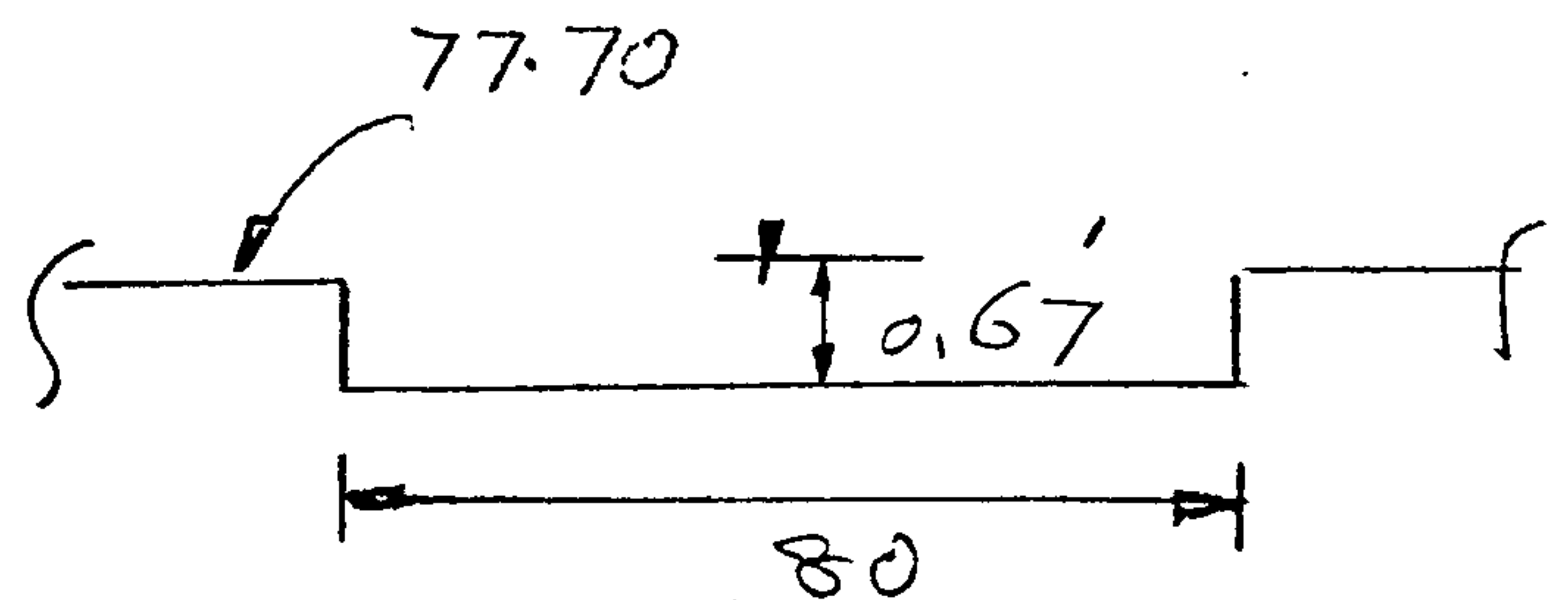
USE WEIR EQ (DPM 22.3 PAGE 24)

$$Q = C L H^{3/2}$$

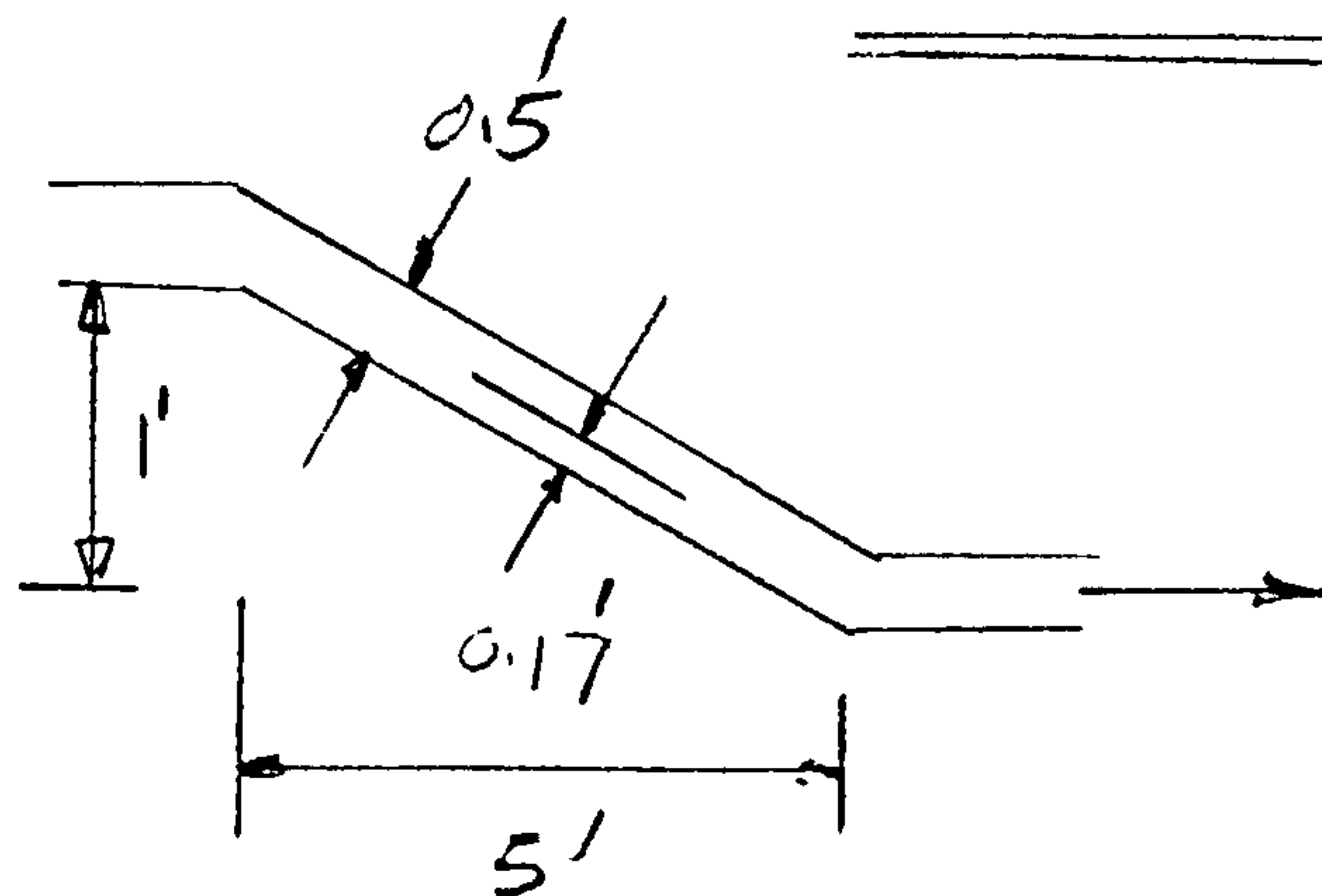
$$114 = 2.6 \times 80 \times H^{3/2}$$

$$\therefore H = 0.67'$$

OUTFALL OPEN CHANNEL CAL.



$$Q = 114 \text{ cfs}$$

SPILLWAYCHANNEL

92116684

FIGURE 18
4th EXTENSION AGREEMENT
Procedure "B"
PROJECT NO. 3450, 80

4th EXT-0006169

This Agreement made this 19th day November 1992, by and between the City of Albuquerque, New Mexico, a municipal corporation ("City") and [name of developer/subdivider:] PAYLESS CASHWAYS, INC. ("Developer"), whose address is P.O. BOX-419466-Kansas City, Mo. 64141-0466 and whose telephone number is (816) 234-6000, is made in Albuquerque, New Mexico and is entered into as of the date of final execution of this Agreement.

WHEREAS, the City and the Developer entered into an Agreement on the 7th day of JANUARY, 1988, which was recorded in the office of the Clerk of Bernalillo County, New Mexico on JANUARY 12, 1988 at Book Misc. 576A, pages 951 through 968, ("Earlier Agreement"), by which the Developer agreed to complete the construction of certain infrastructure improvements on or before the 1st day of JANUARY, 1989; and

WHEREAS, THE EARLIER Agreement was amended by Extension Agreements dated February 27, 1989; April 18, 1990 and December 16, 1991 recorded in the Office of the Clerk of Bernalillo County, New Mexico, extending the Construction deadline to October 30, 1992;

WHEREAS, it appears that the Developer will be unable to complete construction of the improvements by the deadline specified in the Agreement; and

WHEREAS, the City is willing to grant Developer an extension of time in which to complete construction of all or part of the improvements, provided the Developer posts an acceptable financial guarantee, as required by the City's Subdivision Ordinance and the Development Process Manual; and

WHEREAS, the Developer is able to provide the required financial guarantee;

NOW THEREFORE in consideration of the above and the mutual promises contained herein, the parties agree:

1. The required completion date for construction of the improvements, as set forth in paragraph 2 of the Earlier Agreement, is extended [Complete either A or B:]

A. for all improvements, the 30th day of OCT, 1993

OR B. on portions of the improvements as follows:

IMPROVEMENTS	COMPLETION DATE
PAVING	October 30, 1993

FILED WITH CITY CLERK'S OFFICE

11/19/92

STATE OF NEW MEXICO
COUNTY OF BERNALILLO
FILED FOR RECORD

92 NOV 19 AM 10:32

Rev. 2/1/88

92-27 PG 669-671
CLERK & RECORDER
DEPUTY

2. With this Extension Agreement, Developer has provided the City with the following financial guaranty:

Type of Financial Guaranty: Irrevocable Letter of Credit Amendment No. 2

Amount: \$177,511.61 Name of Financial Institution or Surety providing Guaranty: Westpac Banking Corporation

Date City first able to Call Guaranty [Construction Completion Deadline]: October 30, 1993, -1993

If Guaranty other than a Bond, last day City able to call Guaranty is: December 30, 1993, -1993

Additional information: _____

3. The parties agree that all terms and conditions of the Earlier Agreement not in conflict with this Extension Agreement shall remain valid, in force, and binding upon the parties. By executing this Agreement, the parties only intention is to extend the construction completion deadline established in the Earlier Agreement and establish a revised financial guaranty for the benefit of the City.

Executed on the date stated in the first paragraph of this Agreement.

DEVELOPER: PAYLESS CASHWAYS, INC.

By [Signature]: [Signature]

Name: Linda J. French

Title: Sr. V.P.-Corporate Counsel

Dated: October 8, 1992

CITY OF ALBUQUERQUE

[Signature]
Director, Public Works Department

Dated: 11-19-92

Approved by:

[Signature] 11-18-92
City Engineer

AGA 11-18-92

DEVELOPER'S NOTARY

0006171

STATE OF MISSOURI)

) ss.

COUNTY OF JACKSON)

The foregoing instrument was acknowledged before me on this 8th day of October, 1992 by [name of person:] Linda J. French, [title or capacity, for instance, "President" or "Owner":] Sr. V.P.- Corporate Counsel of [Developer:] Payless Cashways, Inc.

Margaret Dale
Notary Public

My Commission Expires:

11/19/95

MARGARET DALE
Notary Public - State of Missouri
Commissioned in Clay County
My Commission Expires 11/19/95

CITY'S NOTARY

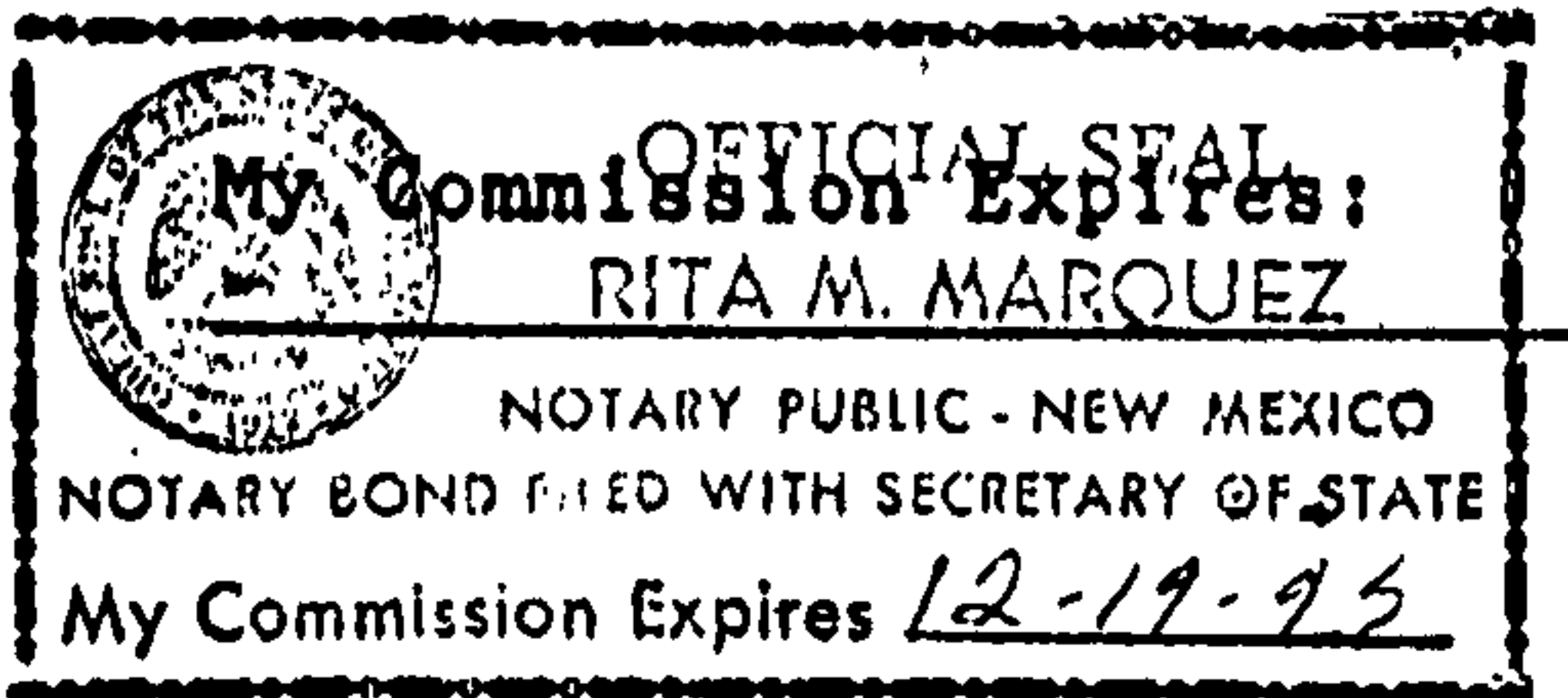
STATE OF NEW MEXICO)

) ss.

COUNTY OF BERNALILLO)

The foregoing instrument was acknowledged before me on this 19th day of November, 1992 by ROBERT E GURULE, Director, Public Works Department of the City of Albuquerque, a municipal corporation, on behalf of said corporation.

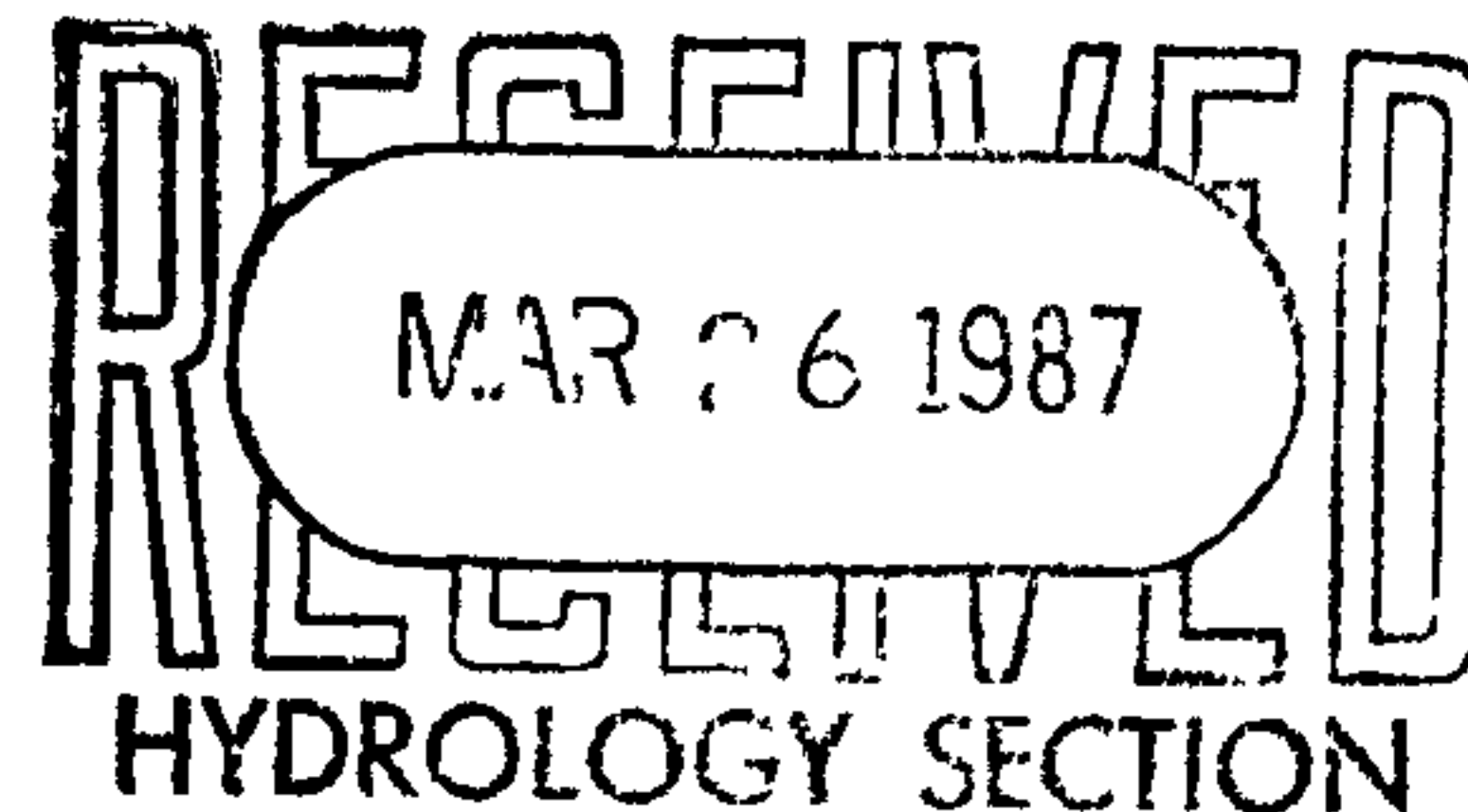
Rita M. Marquez
Notary Public



CONCEPTUAL DRAINAGE REPORT

MONTANO PLAZA - PHASE II

MARCH, 1987



LOCATION AND EXISTING CONDITION:

The site is located on the northeast corner of the intersection of Coors Road and Montano Road N.W. containing approximately 14.25 acres. The site slopes to the southeast with an average slope of 4 percent and is not in a 100-year flood zone. Existing runoff from the site enters a large detention pond located at the southeast corner of the site. This pond was designed to detain all developed runoff from Phase I construction.

PROPOSED CONDITION:

Phase II construction will include additional shops, a Furrow's Home Improvement Center building, and Commodities Storage building with associated parking and landscaped areas. The pond will be eliminated and existing storm sewer facilities will be extended to tie to a 4'x6' concrete box culvert which will discharge flows directly to the Rio Grande.

Attached are proposed runoff calculations for each of the sub-basins shown on the Conceptual Drainage Plan. The design conditions incorporate available design information regarding the proposed intersection at Coors and Montano. Information was obtained from Mr. Steve Metro, Project Engineer for Wilson & Company, consulting engineers for the City of Albuquerque. These revised sub-basin calculations have been incorporated by means of graphical and mathematical procedures into the HYMO output for the initial conceptual drainage report. Output was provided by Mr. Cliff Anderson with Scanlon Engineering.

Attached hydrographs also reflect the modified site layout as shown on the site plan. Maximum anticipated flows injected into the 6'x10' C.B.C. will peak at 151.5 cfs which is 2.16 percent above the original design flows. This does not include the potential peak shaving available in the de-sedimentation ponds located at the southeast corner of the site. A copy of the revised site plan has been submitted to AMAFCA for their review and comment.

De-sedimentation will be provided in two linear ponds located at the southeast corner of the property. At the southern most pond, a double weir will be provided with the upstream and downstream elevations at 1.75 ft. and 0.5 ft. below the high water surface elevation of 80.0. This would provide a cross sectional area, at 50% of design flows, of approximately 167.5 sq. ft. and a horizontal velocity of 0.18 fps. With a length of pond of 160 feet, this would allow a drop of 1.78 ft. Head loss at the submerged weir would be negligible. The downstream weir would be used to provide the restriction required to generate the cross-section required. At design flows, capacity of the downstream weir would still generate average velocities of approximately 0.33 fps and would allow a fall of .97 feet which would provide for approximately 75 percent efficiency in removing sediment upstream of the submerged weir.

Final calculations will be provided with building permit set. However, the concept described above will meet the general guidelines of the North Coors Design Memorandum.

REVISED SUB-BASIN
RUNOFF CALCULATIONS

CALCULATIONS: **BASIN "A"**

Total Area = 3.26 acres

I = 2.2 in./hr. Plate 22.2 D-2

6-hour, 100-year rainfall = 2.2 in. Plate 22.2 D-1

i = (2.2)(2.2) = 4.84 in./hr.

EXISTING ON-SITE CONDITIONS:

SURFACE TYPE	"C" VALUE	A (ACRES)	"C"X A	COMPOSITE "C"=CXA/A
Streets, Drives, Walks	0.95	2.68	2.55	
Roofs	0.90	0.35	0.32	
Lawns & Landscaping	0.25	0.23	0.06	
Undeveloped	0.40	-0-	-0-	
TOTAL		3.26	2.93	0.90

$$Q(100) = (0.90)(4.84)(3.26) = 14.20 \text{ cfs}$$

BASIN "B"

Total Area = 4.52 acres

EXISTING ON-SITE CONDITIONS:

PROPOSED ON-SITE

SURFACE TYPE	"C" VALUE	A (ACRES)	"C"X A	COMPOSITE "C"=CXA/A
Streets, Drives, Walks	0.95	3.99	3.79	
Roofs	0.90	0.21	0.19	
Lawns & Landscaping	0.25	0.32	0.08	
Undeveloped	0.40	-0-	-0-	
TOTAL		4.52	4.06	0.90

$$Q(100) = (0.90)(4.84)(4.52) = 19.69 \text{ cfs}$$

BASIN "C"

Total Area = 2.03 acres

PROPOSED ON-SITE CONDITIONS:

SURFACE TYPE	"C" VALUE	A (ACRES)	"C"X A	COMPOSITE "C"=CXA/A
Streets, Drives, Walks	0.95	1.28	1.22	
Roofs	0.90	0.61	0.55	
Lawns & Landscaping	0.25	0.14	0.04	
Undeveloped	0.40	-0-	-0-	
TOTAL		2.03	1.81	0.89
$Q(100) = (0.89)(4.84)(2.03) = 8.74 \text{ cfs}$				

BASIN "D"

Total Area = 2.90 acres
 Closed Basin = 1.24 acres
 Drainage Area = 2.66

PROPOSED ON-SITE CONDITIONS:

SURFACE TYPE	"C" VALUE	A (ACRES)	"C"X A	COMPOSITE "C"=CXA/A
Streets, Drives, Walks	0.95	1.98	1.88	
Roofs	0.90	0.26	0.23	
Lawns & Landscaping	0.25	0.42	0.11	
Undeveloped	0.40	-0-	-0-	
TOTAL		2.66	2.22	0.83
$Q(100) = (0.83)(4.84)(2.66) = 10.69 \text{ cfs}$				

BASIN "E"

Total Area = 1.23 acres
 Closed Basin = 0.19
 Drainage Area = 1.04

PROPOSED ON-SITE CONDITIONS:

SURFACE TYPE	"C" VALUE	A (ACRES)	"C"X A	COMPOSITE "C"=CXA/A
Streets, Drives, Walks	0.95	0.73	0.69	
Roofs	0.90	0.19	0.17	
Lawns & Landscaping	0.25	0.12	0.03	
Undeveloped	0.40	-0-	-0-	
TOTAL		1.04	0.89	0.86
$Q(100) = (0.86)(4.84)(1.04) = 4.33 \text{ cfs}$				

BASIN "F"

Total Area = 3.47 acres
 Closed Basin = 0.93
 Drainage Area = 2.54

PROPOSED ON-SITE CONDITIONS:

SURFACE TYPE	"C" VALUE	A (ACRES)	"C"X A	COMPOSITE "C"=CXA/A
Streets, Drives, Walks	0.95	1.81	1.72	
Roofs	0.90	0.53	0.48	
Lawns & Landscaping	0.25	0.20	0.05	
Undeveloped	0.40	-0-	-0-	
TOTAL		2.54	2.25	0.89

$$Q(100) = (0.85)(4.84)(2.54) = 10.94 \text{ cfs}$$

BASIN "G"

Total Area = 4.66 acres

PROPOSED ON-SITE CONDITIONS:

SURFACE TYPE	"C" VALUE	A (ACRES)	"C"X A	COMPOSITE "C"=CXA/A
Streets, Drives, Walks	0.95	2.23	2.12	
Roofs	0.90	2.11	1.90	
Lawns & Landscaping	0.25	0.32	0.08	
Undeveloped	0.40	-0-	-0-	
TOTAL		4.66	4.10	0.88

$$Q(100) = (0.88)(4.84)(4.66) = 19.85 \text{ cfs}$$

BASIN "H"

Total Area = 4.56 acres
Closed Basin = 1.60
Drainage Area = 2.96

PROPOSED ON-SITE CONDITIONS:

SURFACE TYPE	"C" VALUE	A (ACRES)	"C"X A	COMPOSITE "C"=CXA/A
Streets, Drives, Walks	0.95	1.38	1.31	
Roofs	0.90	0.55	0.50	
Lawns & Landscaping	0.25	1.03	0.26	
Undeveloped	0.40	-0-	-0-	
TOTAL		2.96	2.07	0.70

$$Q(100) = (0.70)(4.84)(2.96) = 10.03 \text{ cfs}$$

TOTAL AREA = 26.63 ACRES

$$14.2 + 19.69 + 8.74 + 10.69 + 4.33 + 10.94 + 19.85 + 10.03 = 98.47$$

How about S¹/₂ of Montana Playa Drain and W¹/₂ of Winterhaven Road?

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	1.267	1.5	2.534	.1
.067	.0	1.334	1.0	2.601	.1
.133	~~1.7~~ 0.51	1.400	.7	2.667	.1
.200	~~2.9~~ 1.95	1.467	.4	2.734	.1
.267	~~11.7~~ 8.47	1.534	.3	2.801	.1
.333	~~12.2~~ 8.83	1.600	.2	2.867	.1
.400	~~6.5~~ 4.71	1.667	.2	2.934	.1
.467	~~4.5~~ 3.26	1.734	.2	3.001	.1
.533	~~3.5~~ 2.82	1.800	.1	3.067	.1
.600	~~3.6~~ 2.61	1.867	.1	3.134	.1
.667	~~3.1~~ 2.53	1.934	.1	3.201	.1
.733	~~2.2~~ 2.32	2.000	.1	3.267	.1
.800	~~3.2~~ 2.32	2.067	.1	3.334	.1
.867	~~3.2~~ 2.32	2.134	.1	3.401	.1
.934	~~2.3~~ 2.10	2.200	.1	3.467	.1
1.000	~~3.0~~ 2.17	2.267	.1	3.534	.1
1.067	~~2.5~~ 1.81	2.334	.1	3.601	.1
1.134	~~2.2~~ 1.59	2.400	.1	3.667	.1
1.200	~~2.0~~ 1.45	2.467	.1	3.734	.1

RUNOFF VOLUME = 1.5384 INCHES = .446 ACRE-FEET
 PEAK DISCHARGE RATE = ~~15.24~~ CFS

Revised discharge rate = 11.03 cfs factor = $\frac{11.03}{15.24} = 0.7238$

ADD HYD ID=10 HYD NO=240.00 ID=9 ID=8
 * HYDROGRAPH FROM SUB-BASINS 19.4E-A, B, C, D, E & F
 PRINT HYD ID=10 CDDF=5

PARTIAL HYDROGRAPH 240.00

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	1.250	~~9.3~~ 8.76	2.501	.3
.083	.0	1.334	~~6.5~~ 6.13	2.584	.3
.167	~~3.4~~ 2.83	1.417	~~4.4~~ 3.96	2.667	.3
.250	~~23.1~~ 23.6	1.500	~~4.0~~ 2.45	2.751	.3
.333	~~52.0~~ 55.4	1.584	~~1.8~~ 1.51	2.834	.4
.417	~~37.5~~ 35.6	1.667	~~1.2~~ 1.13	2.917	.4
.500	~~21.0~~ 20.5	1.750	~~1.0~~ .94	3.001	.4
.583	~~18.1~~ 18.0	1.834	.9	3.084	.4
.667	~~18.7~~ 17.2	1.917	.8	3.167	.4
.750	~~16.5~~ 15.6	2.000	.7	3.251	.4
.834	~~16.2~~ 15.3	2.084	.7	3.334	.3
.917	~~15.3~~ 14.4	2.167	.7	3.417	.3
1.000	~~14.8~~ 14.0	2.250	.6	3.501	.3
1.084	~~13.0~~ 12.8	2.334	.6	3.584	.3
1.167	~~11.5~~ 10.8	2.417	.5	3.667	.2

$T_c = .346 \rightarrow$

RUNOFF VOLUME = 1.4913 INCHES = 2.103 ACRE-FEET
 PEAK DISCHARGE RATE = ~~60.48~~ CFS

At T_c , reduction in flow rate = 3.5 cfs.

Reduction factor = $\frac{60.48 - 3.5}{60.48} = 0.942$

* ROUTE DOWN 4.6 FT WITH OPEN GRATE BELT CHANNEL
 COMPUTE PAVING CURVE ID=1 VS NC=45.6 NO SIGS=3 MIN FLEV=100.0 MAX FLEV=103.9
 CH SLP=0.0004 FT SLP=0.0004 N=0.017 DIST=33.0
 N=-0.013 DIST=37.6 N=0.017 DIST=72.0
 DIST FLEV DIST FLEV DIST FLEV

Outflow from basin "F" routed to basin "H"

OUTFLOW HYDROGRAPH PEACH

45.02

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	.834	~~18.7~~ 13.84	1.667	1.5
.083	.0	.917	~~15.5~~ 13.16	1.750	1.2
.167	~~1.2~~ 10.2	1.000	~~14.3~~ 12.65	1.834	1.0
.250	~~19.4~~ 16.47	1.084	~~14.0~~ 11.89	1.917	.9
.333	~~54.5~~ 46.27	1.167	~~11.5~~ 10.10	2.000	.8
.417	~~42.4~~ 36.0	1.250	~~8.8~~ 8.32	2.084	.7
.500	~~22.0~~ 18.67	1.334	~~7.2~~ 6.11	2.167	.7
.583	~~18.4~~ 16.47	1.417	~~4.9~~ 4.16	2.250	.7
.667	~~18.5~~ 15.71	1.500	~~3.7~~ 2.72	2.334	.6
.750	~~16.7~~ 14.26	1.584	~~4.0~~ 1.70	2.417	.6

RUNOFF VOLUME = 1.4837 INCHES = 2.152 ACRE-Feet
 PEAK DISCHARGE RATE = ~~54.48 CFS~~ 46.2 cfs.

$$\text{Reduction Factor} = \frac{54.48}{60.48} (.942) = .849$$

ADD HYD ID=8 HYD NO=239.07 ID IMP=1 ID PER=2
 * AREA 19.4E-G COMPOSITE
 PRINT HYD ID=8 CODE=4

Basin "G"

PARTIAL HYDROGRAPH 239.07

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	1.334	2.7	2.667	.1
.067	.0	1.400	2.2	2.734	.1
.133	.0	1.467	1.6	2.801	.1
.200	.2	1.534	1.2	2.867	.1
.267	1.2	1.600	.8	2.934	.1
.333	4.6	1.667	.5	3.001	.1
.400	10.2	1.734	.4	3.067	.1
.467	11.4	1.800	.3	3.134	.1
.533	9.1	1.867	.2	3.201	.1
.600	7.0	1.934	.2	3.267	.1
.667	5.5	2.000	.2	3.334	.1
.733	5.3	2.067	.2	3.401	.1
.800	5.0	2.134	.2	3.467	.1
.867	4.5	2.200	.2	3.534	.1
.934	4.2	2.267	.2	3.601	.1
1.000	4.0	2.334	.2	3.667	.1
1.067	3.9	2.400	.2	3.734	.1
1.134	3.9	2.467	.2	3.801	.1
1.200	3.6	2.534	.1	3.867	.1
1.267	3.1	2.601	.1	3.934	.1

FUNOFF VOLUME = 1.4719 INCHES = .571 ACF-1151
 PEAK DISCHARGE RATE = 11.63 CFS

ADD HYD ID=10 HYD NO=240.07 ID=9 ID=8
 * HYDROGRAPH FROM SUB-BASINS 19.4E-A, I, C, F, F & G
 PRINT HYD ID=10 CODE=5

PARTIAL HYDROGRAPH 240.07

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	1.334	5.7	2.667	.5
.067	.0	1.417	6.9	2.734	.6
.167	1.7	1.500	4.6	2.834	.6
.250	20.2	1.584	2.9	2.917	.6
.333	59.6	1.667	2.0	3.001	.5
.417	52.5	1.750	1.5	3.084	.5
.500	32.4	1.834	1.2	3.167	.5
.583	26.9	1.917	1.1	3.251	.5
.667	24.3	2.000	1.0	3.334	.5
.750	22.1	2.084	.9	3.417	.5
.834	21.1	2.167	.9	3.501	.4
.917	19.8	2.250	.8	3.584	.4
1.000	18.9	2.334	.8	3.667	.3
1.084	17.9	2.417	.8	3.751	.2
1.167	15.7	2.501	.7	3.834	.2
1.250	13.0	2.584	.7	3.917	.1

* AREA 19.4F-F PREVIOUS

COMPUTE HYD

II=2 HYD NO=238.08 DT=0.01667 LA=0.00000 LC MI ON=44

Y=-0.0239 HR TP=-0.0478 HR MASS RAIN=-1

SHAPE CONSTANT, N = 7.947 UNIT PFAK = 0.9 CFS

REGRESSION CONSTANT, K = 0.0239 HRS TIME TO PFAK OF UNIT HYD = 0.041

PRINT HYD

ID=2 CODE=1

PARTIAL HYDROGRAPH 238.08

RUNOFF VOLUME = 0.0000 INCHES = 0.000 ACFT-FT
PEAK DISCHARGE RATE = 1.00 CFS

ADD HYD

ID=8 HYD NO=239.08 ID IMP=1 ID PER=2

* AREA 19.4F-F COMPOSITE

PRINT HYD

ID=8 CODE=4

Sub-Basin "H"

PARTIAL HYDROGRAPH 239.08

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
0.000	0	1.267	2.1	2.534	0.1
0.067	0	1.334	1.5		
0.133	0.6	1.400	1.5	2.600	0.1
0.200	1.52	1.467	1.3	2.700	0.1
0.267	6.3	1.534	0.4	2.800	0.1
0.333	8.8	1.600	0.2	2.900	0.1
0.400	4.6	1.667	0.2	3.000	0.1
0.467	3.3	1.734	0.2	3.100	0.1
0.533	2.7	1.800	0.2	3.200	0.1
0.600	2.4	1.867	0.2	3.300	0.1
0.667	2.3	1.934	0.2	3.400	0.1
0.733	2.12	2.000	0.2	3.500	0.1
0.800	2.12	2.067	0.2	3.600	0.1
0.867	2.12	2.134	0.2	3.700	0.1
0.934	1.92	2.200	0.2	3.800	0.1
1.000	1.92	2.267	0.2	3.900	0.1
1.067	1.82	2.334	0.1	4.000	0.1
1.134	1.52	2.400	0.1	4.100	0.1
1.200	1.36	2.467	0.1	4.200	0.1

RUNOFF VOLUME = 1.5361 INCHES = 0.584 ACFT-FT
PEAK DISCHARGE RATE = 19.44 CFS

Revised discharge rate = 9.82 cfs. factor = $\frac{9.82}{19.44} = 0.505$

ALL HYD

ID=14 HYD NO=240.08 ID=9 ID=5

* HYDROGRAPH FROM SUB-BASINS 19.4F-A, B, C, D, E, F, G & H

PRINT HYD

ID=14 CODE=5

PARTIAL HYDROGRAPH 240.08

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
0.000	0	1.334	12.1	2.667	0

Scanlon Report P. 5-38

Peak flow 65.8 cfs.

Shopping Center Plus Roads (from Scanlon report P-5-92)

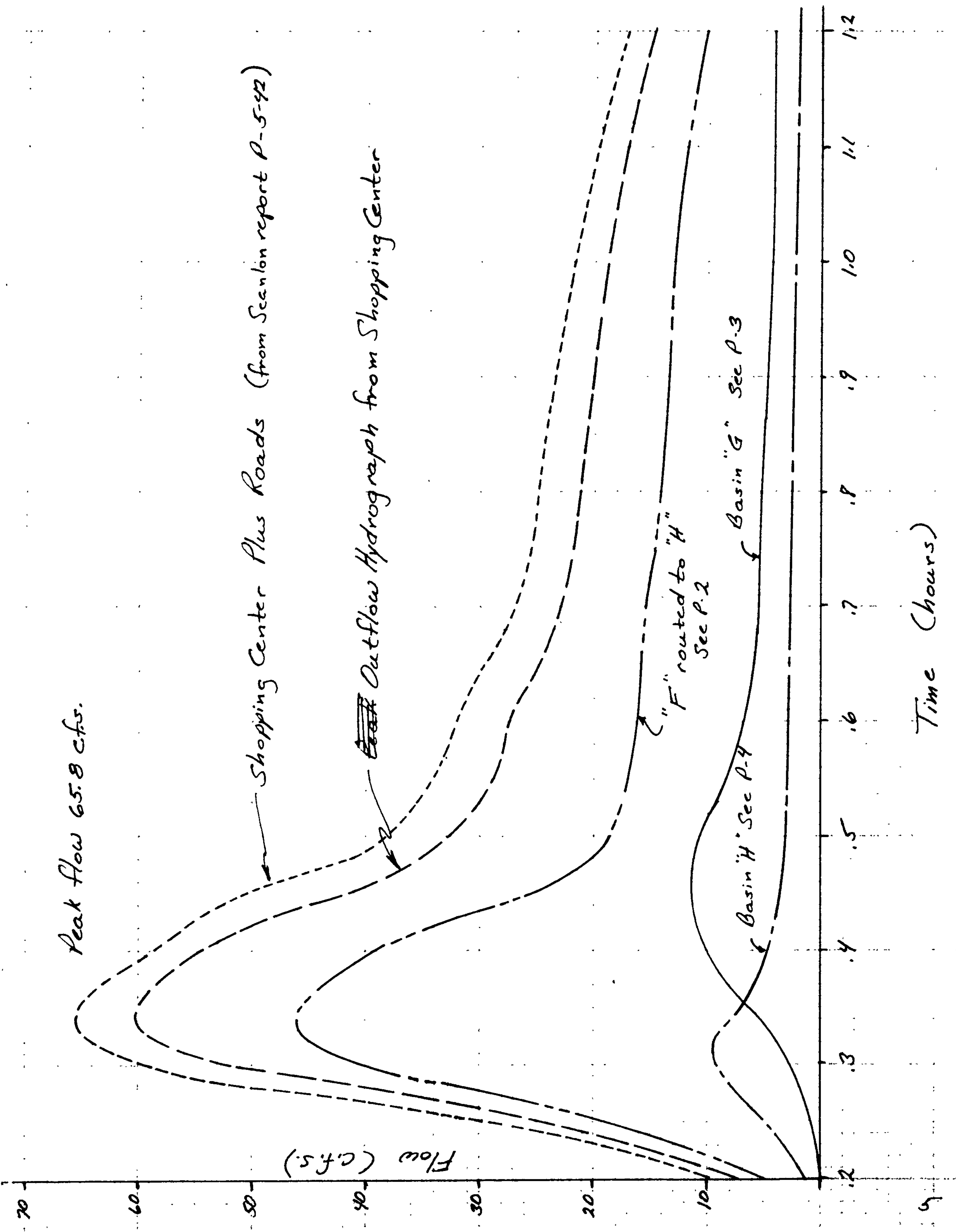
~~Shopping Center~~ Outflow Hydrograph from Shopping Center

"F" routed to "H"
Sec P.2

Basin "H" Sec P.4

Basin "G" Sec P.3

Time (hours)



Job Conceptual Drainage Report
 Subject Montana Plaza Phase II
 Client Steve Johnson

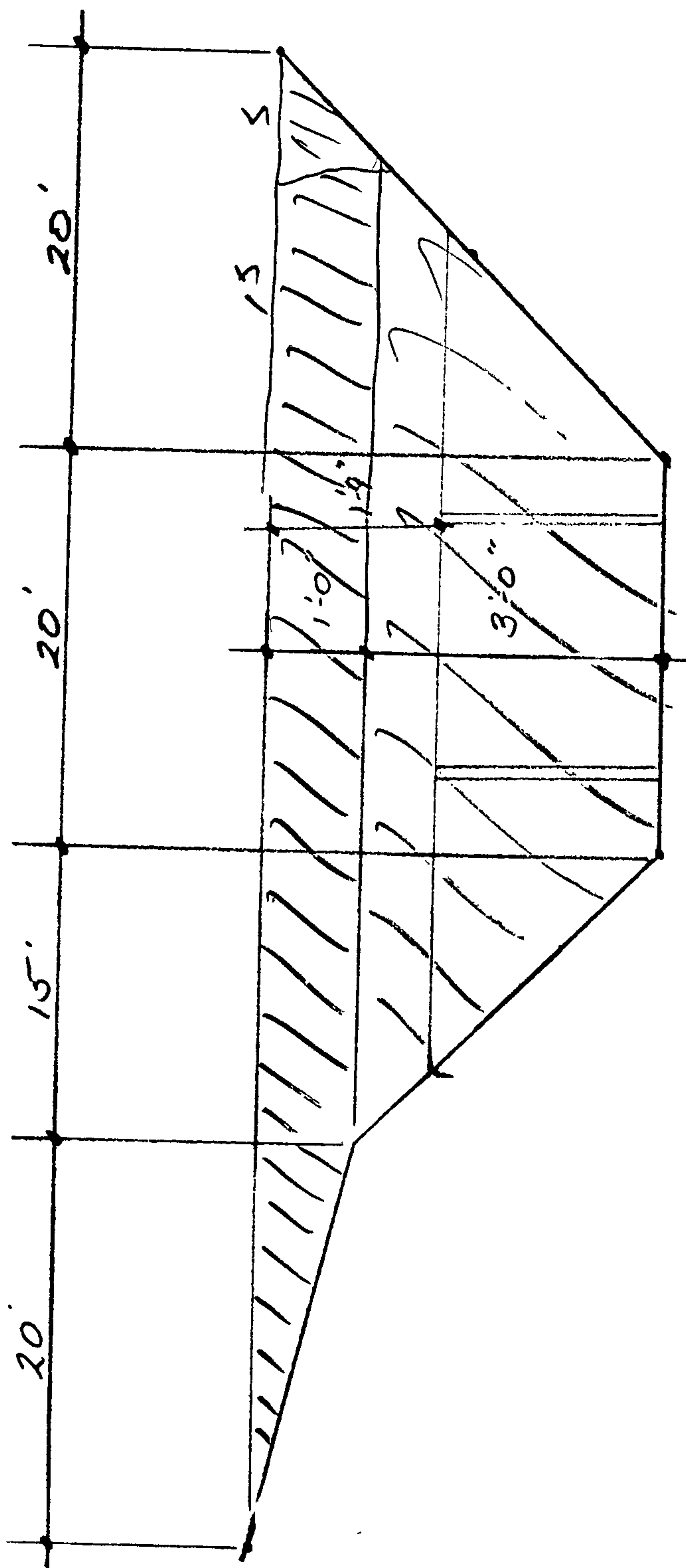
Sheet No. 10 of
 Job. No.
 By Date



CHAVEZ - GRIEVES / CONSULTING ENGINEERS, Inc.

Albuquerque, NM

De-Sedimentation Pond Cross Section.



$$A = 20(1)(1.5) + 50(1) + 5(1)(1.5) + (50+20)(1.5)(\frac{3}{10}) = 167.5 \text{ sq ft.}$$

$$\text{Peak flow } Q_{100} = 61 \text{ cfs.}$$

$$\text{Design flow} = 30.5 \text{ cfs.}$$

$$\text{Vel} = 30.5 / 167.5 = 0.18 \text{ ft/sec.}$$

$$L = 160' \quad \text{time} = 160 / 0.18 = 889 \text{ sec.}$$

$$\text{drop} = 889 \left(\frac{1.002}{100} \right) = 178 \text{ ft.}$$

?

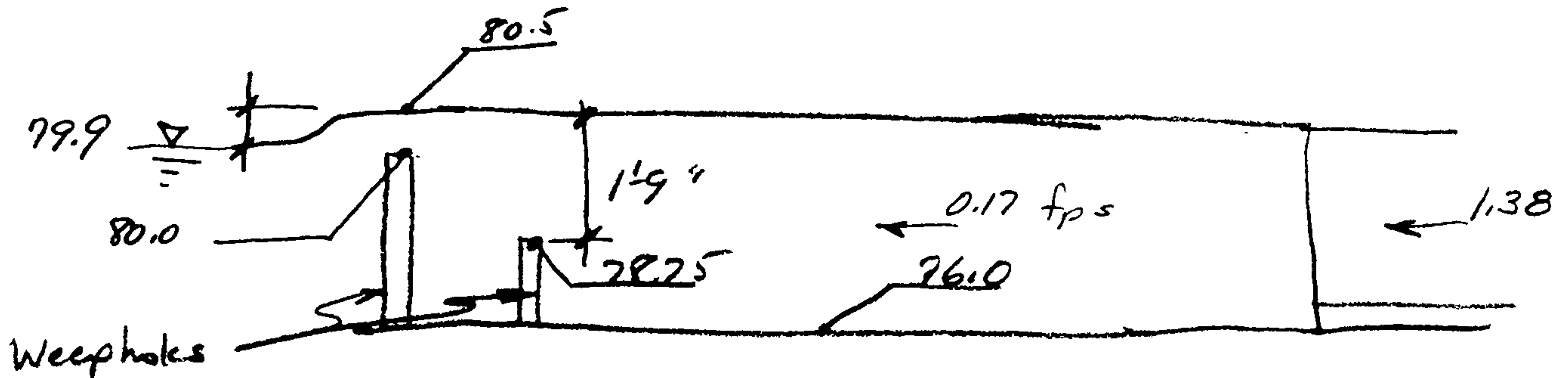
Job Conceptual Drainage Report
 Subject Montano Plaza Phase II
 Client Steve Johnson

Sheet No. 11 of
 Job. No.
 By Date



CHAVEZ - GRIEVES / CONSULTING ENGINEERS, Inc.

Albuquerque, NM



@ 1'9" below w.s.e. width = 42'

$$\text{Area} = (75 + 50)(1.5)(1.0) + (50 + 42)(1.5)(1.75) = 97.0$$

$$V_{el} = 30.5 / 97 = 0.31 \text{ fps.}$$

$$\Delta V_h = (0.31 - 0.17)^2 / 2g = 0.0003 \text{ ft.}$$

Assume second weir @ 80.0

$$\text{depth} = 0.5' \quad \text{width} = 62.5'$$

$$Q = CLH^{3/2} = 3.33(62.5)(.5)^{1.5} = 73.5$$

$$\text{Peak Flow for } Q_{100} = 46.2^{P-2} + 9.82^{P-4} = 56 \text{ cfs.}$$

$$H = [56 / 3.33(62.5)]^{.66} = .42' \quad \text{ok.}$$