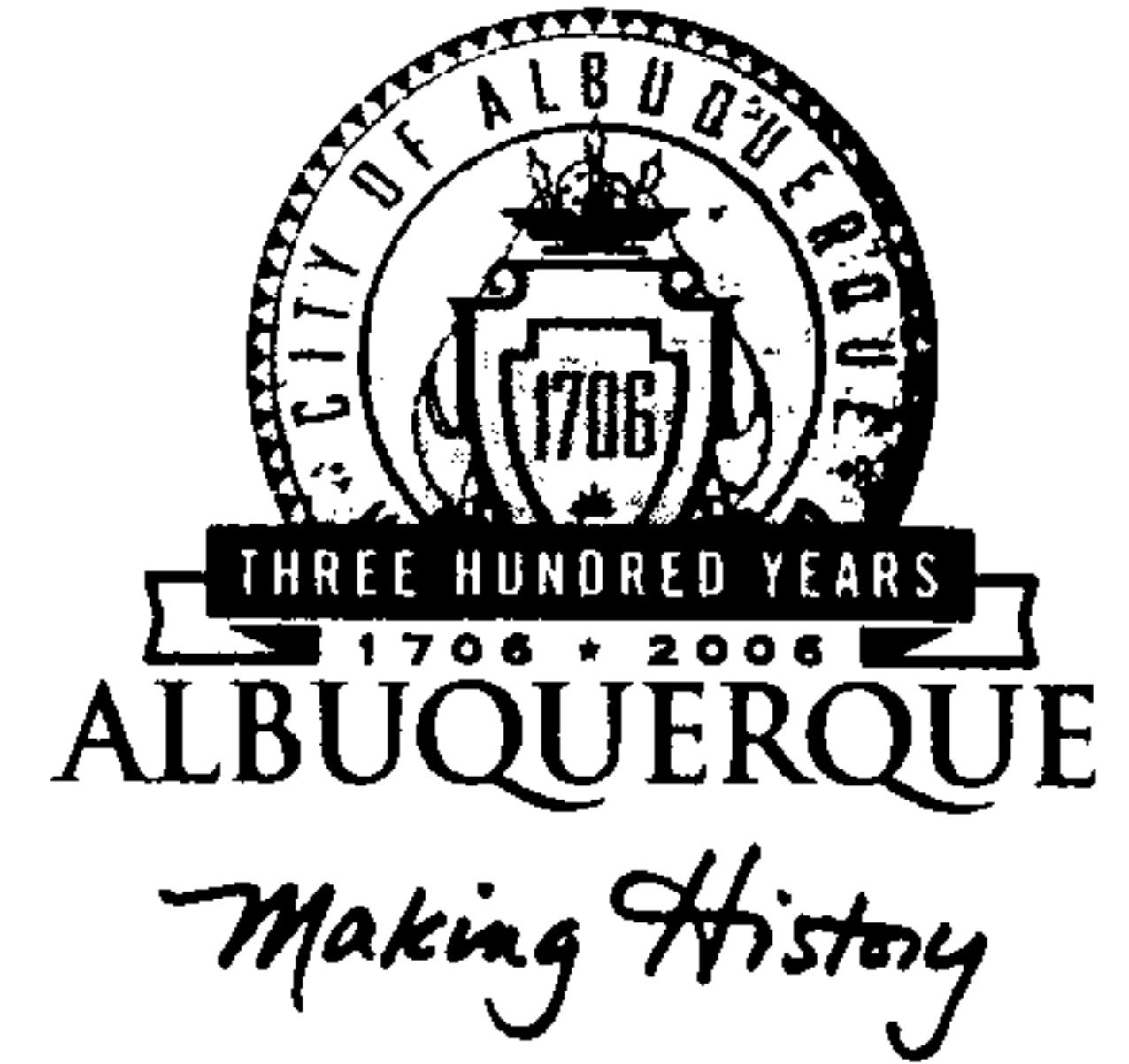


CITY OF ALBUQUERQUE



September 27, 2004

Celia Tomlinson, PE
Rhombus PA
2620 San Mateo NE, Ste B
Albuquerque, NM 871110

**Re: Lot 2 Volcano Business Park Engineer's Certification
Engineer's Stamp dated 5-21-02 (G14/D68)**

Dear Ms. Tomlinson,

Based on the information provided in your submittal dated 8-26-04, the above referenced certification cannot be approved for Certificate of Occupancy until the following comment is addressed.

- Please submit a copy of the City Engineer's Acceptance letter as proof of the close-out of the Work Order since the pond connection was the only thing lacking from the original project from being completed.

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

Sincerely,

Bradley L. Bingham

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

C: file

G-10/D29E

DRAINAGE AND TRANSPORTATION INFORMATION SHEET

(REV. 1/28/2003rd)

G-10/D29E

PROJECT TITLE: LOT 2 VOLCANO BUS. PARK ZONE MAP/DRG. FILE #: G-10
 DRB #: NA EPC#: NA WORK ORDER#: 565481

LEGAL DESCRIPTION: LOT 2 VOLCANO BUSINESS PARK
 CITY ADDRESS: 3021 TODOS SANTOS NW

ENGINEERING FIRM: RHOMBUS
 ADDRESS: 2620 SAN MATEO NE SUITE B
 CITY, STATE: ALBUQUERQUE, NM

CONTACT: CELIA TOMLINSON
 PHONE: 881-6690
 ZIP CODE: 87110

OWNER: LARRY KOVEK
 ADDRESS: NA
 CITY, STATE: NA

CONTACT: MIGUEL TRUJILLO
 PHONE: 221-5687
 ZIP CODE: NA

ARCHITECT: MIGUEL TRUJILLO
 ADDRESS: 8524 SPAIN ROAD NE
 CITY, STATE: ALBUQUERQUE NM

CONTACT: MIGUEL TRUJILLO
 PHONE: 821-5687
 ZIP CODE: 87111

SURVEYOR: RHOMBUS
 ADDRESS: 2620 SAN MATEO NE SUITE B
 CITY, STATE: ALBUQUERQUE, NM

CONTACT: CELIA TOMLINSON
 PHONE: 881-6690
 ZIP CODE: 87110

CONTRACTOR: TLC PLUMBING
 ADDRESS: NA
 CITY, STATE: ALBUQUERQUE, NM

CONTACT: ALEX ATENCIO
 PHONE: 761-9696
 ZIP CODE: NA

CHECK TYPE OF SUBMITTAL:

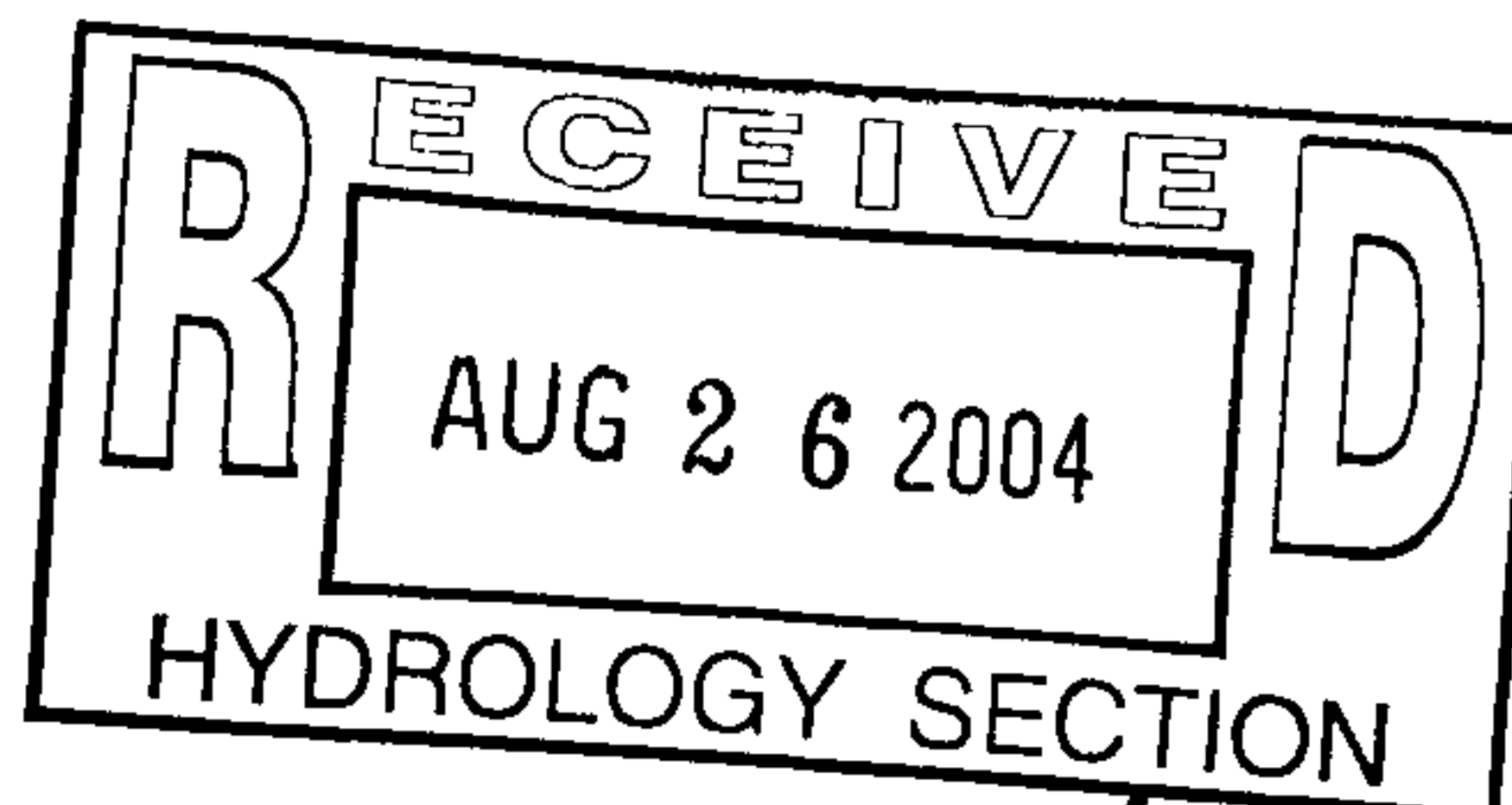
- ☐ DRAINAGE REPORT
- ☐ DRAINAGE PLAN 1st SUBMITTAL, *REQUIRES TCL or equal*
- ☐ DRAINAGE PLAN RESUBMITTAL
- ☐ CONCEPTUAL GRADING & DRAINAGE PLAN
- ☐ GRADING PLAN
- ☐ EROSION CONTROL PLAN
- ☒ ENGINEER'S CERTIFICATION (HYDROLOGY)
- ☐ CLOMR/LOMR
- ☐ TRAFFIC CIRCULATION LAYOUT (TCL)
- ☐ ENGINEERS CERTIFICATION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

CHECK TYPE OF APPROVAL SOUGHT:

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

AS A PRE-DESIGN CONFERENCE ATTENDED:

- ☐ YES
- ☐ NO
- ☐ COPY PROVIDED



DATE SUBMITTED: 8/27/04 BY: CELIA TOMLINSON

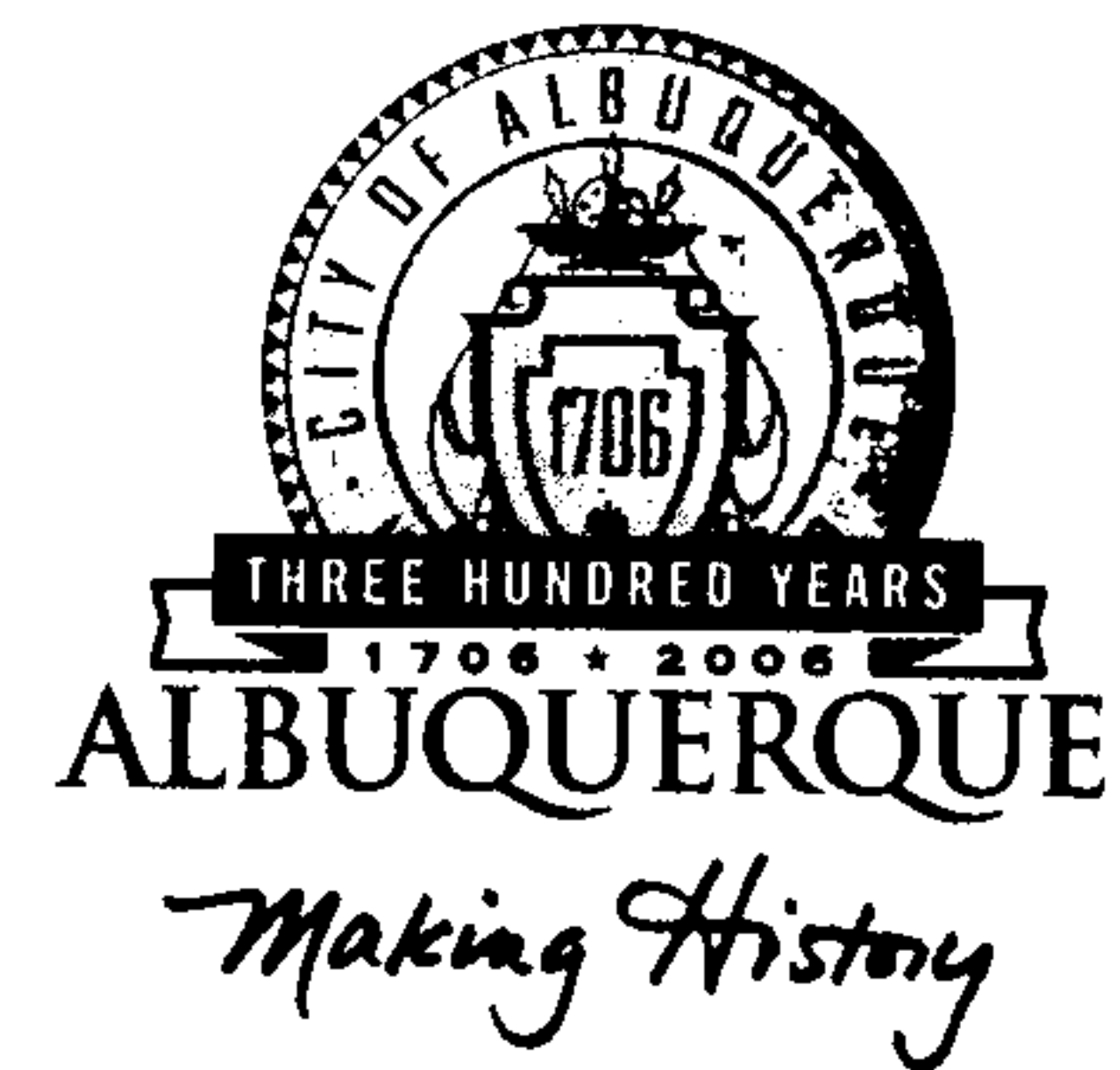
Requests for approvals of Site Development Plans and/or Subdivision Plats shall be accompanied by a drainage submittal. The particular nature, location and scope of the proposed development defines the degree of drainage detail. One or more of the following levels of submittal may be required based on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

1. Conceptual Grading and Drainage Plan: Required for approval of Site Development Plans greater than five (5) acres and Sector Plans.

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

3. Drainage Report: Required for subdivisions containing more than ten (10) lots or constituting five (5) acres or more.

CITY OF ALBUQUERQUE



March 21, 2005

Celia S. Tomlinson, P.E.
RHOMBUS P.A., INC.
2620 San Mateo Blvd. NE
Suite B
Albuquerque, NM 87110

Re: VOLCANO BUSINESS PARK, LOT 2
3021 Todos Santos NW
Approval of Permanent Certificate of Occupancy (C.O.)
Engineer's Stamp dated 03/06/1997 (G-10/D29E)
Certification dated 08/25/2004

Dear Dennis:

P.O. Box 1293

Based upon the information provided in your submittal received 03/18/2005, the above referenced certification is approved for release of Permanent Certificate of Occupancy by Hydrology.

Albuquerque

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

New Mexico 87103

Sincerely,

Arlene V. Portillo

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

www.cabq.gov

C: Phyllis Villanueva
File

DRAINAGE AND TRANSPORTATION INFORMATION SHEET

(REV. 1/28/2003rd)

PROJECT TITLE: LOT 2 VOLCANO BUS. PARK ZONE MAP/DRG. FILE #: G-10/D29E
 RB #: NA EPC#: NA WORK ORDER#: 565481

LEGAL DESCRIPTION: LOT 2 VOLCANO BUSINESS PARK
 CITY ADDRESS: 3021 TODOS SANTOS NW

ENGINEERING FIRM: RHOMBUS
 ADDRESS: 2620 SAN MATEO NE SUITE B
 CITY, STATE: ALBUQUERQUE, NM

CONTACT: CELIA TOMLINSON
 PHONE: 881-6690
 ZIP CODE: 87110

OWNER: LARRY KOVEK
 ADDRESS: NA
 CITY, STATE: NA

CONTACT: MIGUEL TRUJILLO
 PHONE: 821-5687
 ZIP CODE: NA

ARCHITECT: MIGUEL TRUJILLO
 ADDRESS: 8504 SPAIN ROAD NE
 CITY, STATE: ALBUQUERQUE NM

CONTACT: MIGUEL TRUJILLO
 PHONE: 821-5687
 ZIP CODE: 87111

IRVEYOR: RHOMBUS
 ADDRESS: 2620 SAN MATEO NE SUITE B
 CITY, STATE: ALBUQUERQUE, NM 8

CONTACT: CELIA TOMLINSON
 PHONE: 881-6690
 ZIP CODE: 87110

CONTRACTOR: TLC PLUMBING
 ADDRESS:
 CITY, STATE: ALBUQUERQUE, NM

CONTACT: ALEX ATENCIO
 PHONE: 761-9696
 ZIP CODE:

CHECK TYPE OF SUBMITTAL:

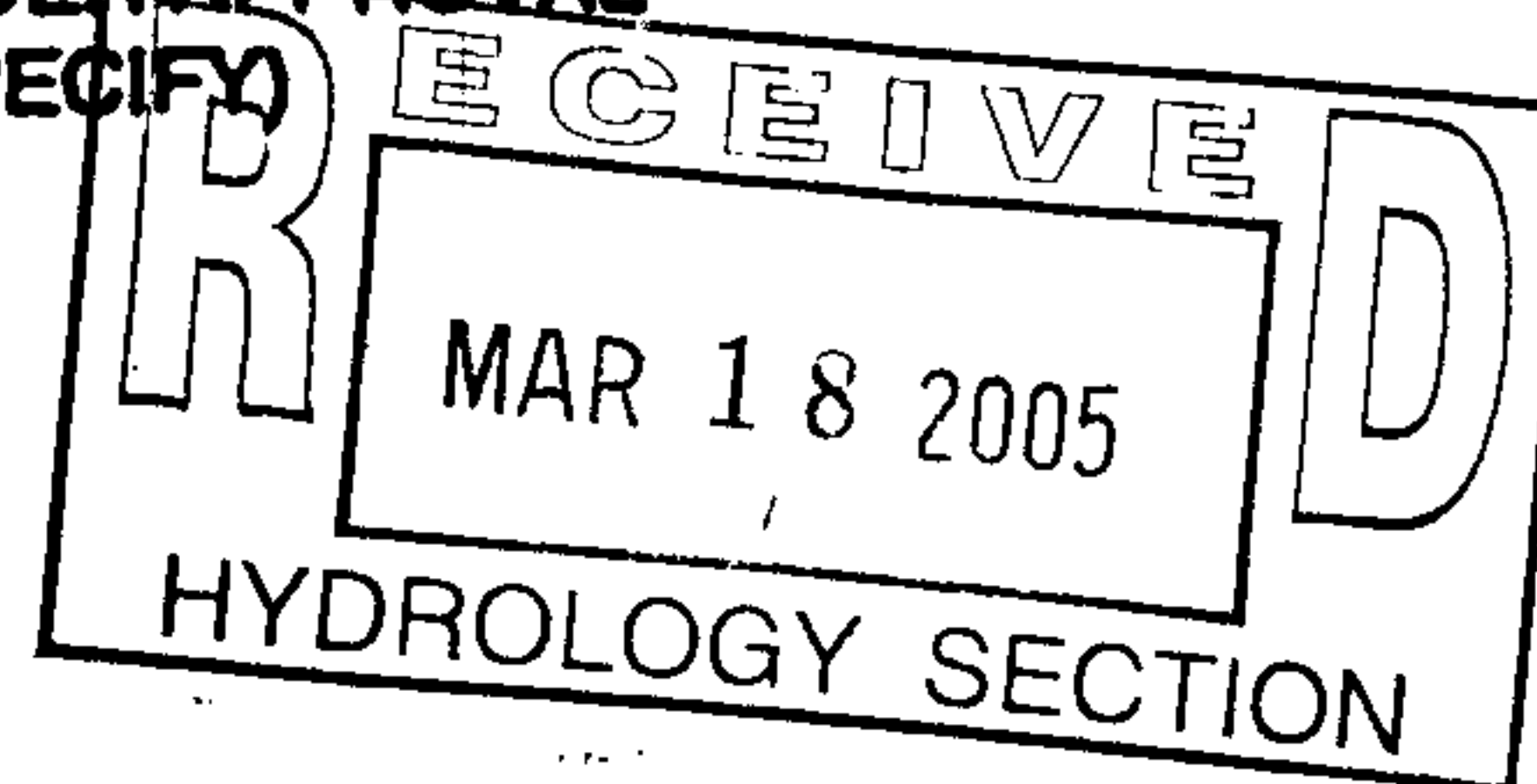
- ☐ DRAINAGE REPORT
- ☐ DRAINAGE PLAN 1st SUBMITTAL, REQUIRES TCL or equal
- ☐ DRAINAGE PLAN RESUBMITTAL
- ☐ CONCEPTUAL GRADING & DRAINAGE PLAN
- ☐ GRADING PLAN
- ☐ EROSION CONTROL PLAN
- ☒ ENGINEER'S CERTIFICATION (HYDROLOGY)
- ☐ CLOMR/LOMR
- ☐ TRAFFIC CIRCULATION LAYOUT (TCL)
- ☐ ENGINEERS CERTIFICATION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

CHECK TYPE OF APPROVAL SOUGHT:

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

IS A PRE-DESIGN CONFERENCE ATTENDED:

- ☐ YES
- ☐ NO
- ☒ COPY PROVIDED ACCEPTANCE LETTER

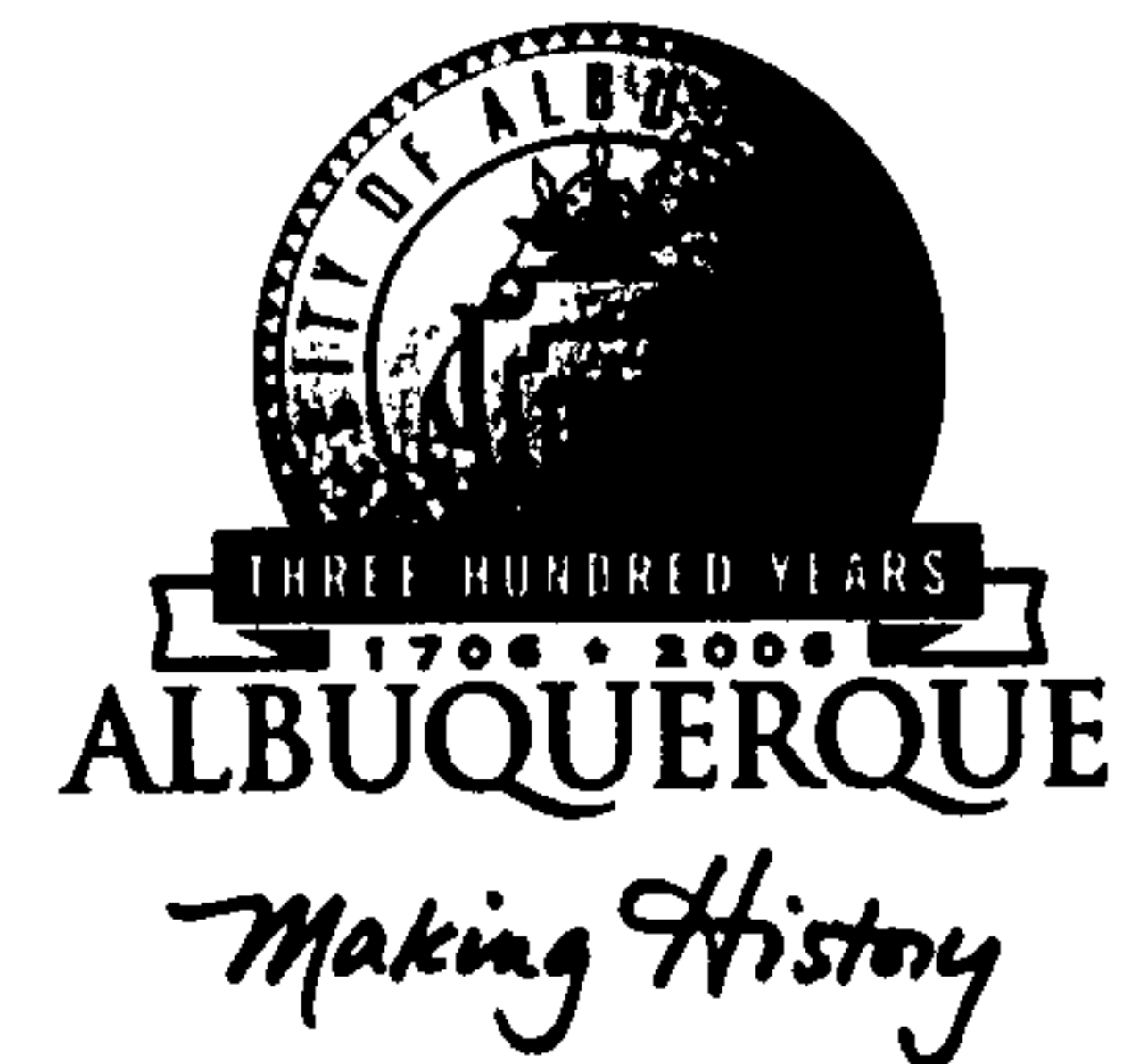


DATE SUBMITTED: 3/21/05 BY: CELIA TOMLINSON

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

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

CITY OF ALBUQUERQUE



February 18, 2004

CERTIFICATE OF COMPLETION AND ACCEPTANCE

Lawrence Kolek
ALLSTATE MECHANICAL INC.
3221 Axtell St.
Clovis, NM 88101

RE: Volcano Business Park Detention Pond
CITY PROJECT NO. 565481

Dear Mr. Kolek:

P.O. Box 1293

This is to certify that the City of Albuquerque accepts the construction of the infrastructure provided in the Work Order Construction Plans, City Project No. **565481**. The work was completed pursuant to the required infrastructure listed in the Subdivision Improvements Agreement (SIA) Procedure A between ALLSTATE MECHANICAL INC., and the City of Albuquerque executed on **JULY 06, 2004**.

Albuquerque

Having satisfied the requirements referenced above, the SIA and any associated Financial Guaranty, held by the City, can now be released. (Processing the release paperwork will take approximately 2 weeks) The Contractor's one-year warranty period started at the date of the Certificate of Work Order Completion, dated **FEBRUARY 07, 2005**.

New Mexico 87105

Please be advised this Certificate of Completion and Acceptance shall only become effective upon final plat approval and filing in the office of the Bernalillo County Clerk's Office.

www.cabq.gov

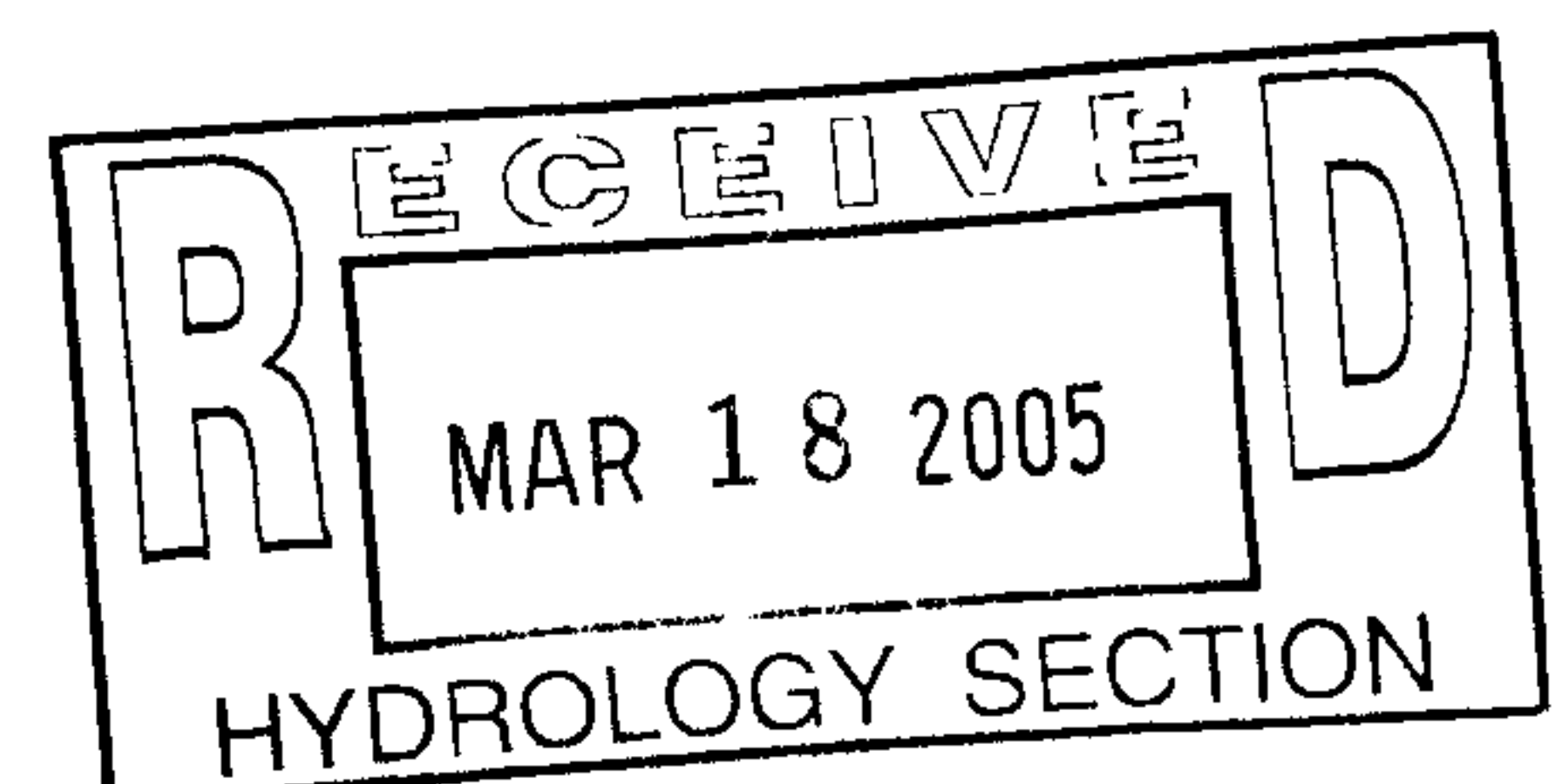
Should you have any questions or issues regarding this project, please contact me 505-924-3999.

Sincerely,

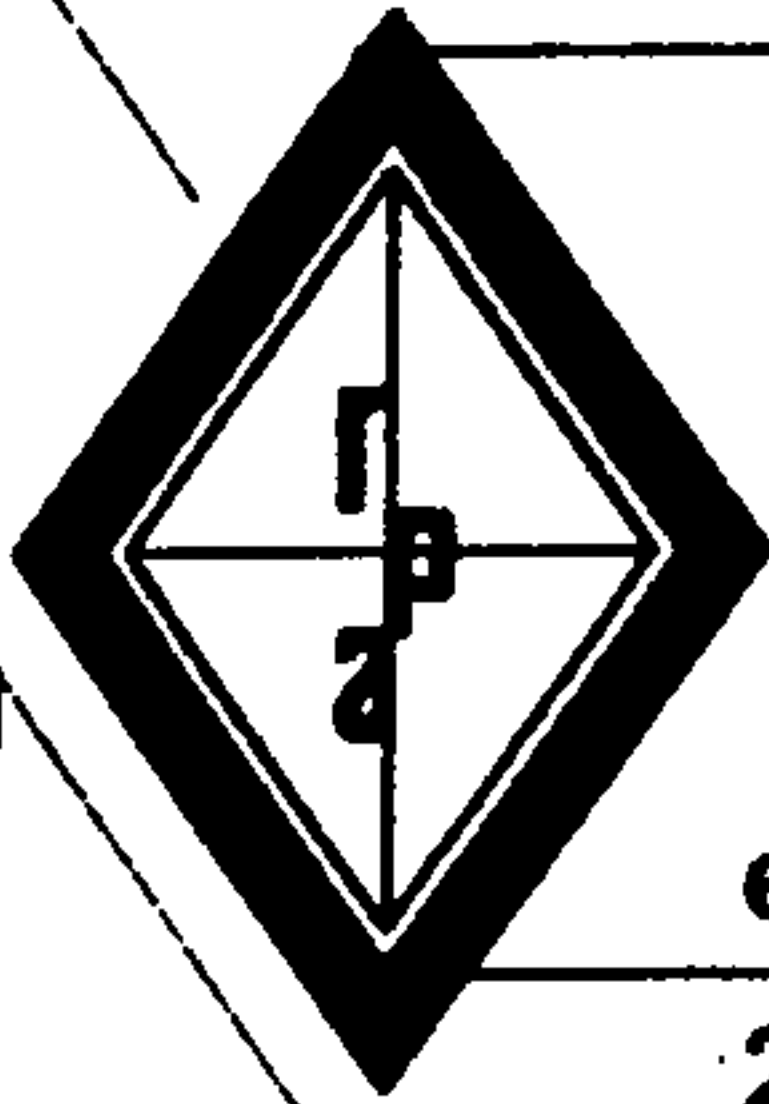
Richard Dourte, PE, City Engineer
Development & Bldg Services Division

cc: Rhombus
Mary Sandoval, Construction
f/Project file

By 2/20/05



G-10/D29E



RHOMBUS P.A., INC.

FACILITIES ENGINEERS ♦ ENVIRONMENTAL CONSULTANTS

e-mail: rhombus@nmia.com

web site: www.RHOMBUSPA.COM

2620 San Mateo NE Suite B

Albuquerque, NM 87110

TEL. (505) 881-6690

FAX (505) 881-6896

2/22/05 The attached is not
the CE Letter of Acceptance. Spoke w/Celia &
advised her as to what is needed for CO.
Arlene

TRANSMITTAL

DATE:

2/9/05

~~RHOMBUS # 03-C2-70~~

TO:

BRADLEY L. BINGHAM, PE

COMPANY:

CITY OF ALBUQUERQUE

Planning Dept.

P.O. Box 1293 ALBQ, NM 87103

FROM:

CELIA TOMLINSON, PE

SUBJECT:

LOT 2 VOLCANO BUSINESS PARK

TRANSMITTED ITEMS:

① COPY OF CITY ENGINEER'S
ACCEPTANCE LETTER

② COPY OF YOUR LETTER
ASKING FOR A COPY OF
CITY ENGINEER'S ACCEPTANCE
LETTER

THIS TRANSMITTAL COMPLETES
RHOMBUS' RESPONSIBILITIES
CONCERNING THE PROJECT'S CLOSURE.

Celia Tomlinson



City of Albuquerque
Planning Department
Certificate of Work Order Completion

February 7, 2005

City Engineer
600 Second St.
Plaza Del Sol
Albuquerque, NM 87102

Re: Volcano Bus. Pk. Detention Pond Project No. 5654.81 Map No. G-10

Dear Sir:

This is to certify that Project No. 5654.81 has been completed according to approved plans and construction specifications. Please be advised this Certificate of Work-Order Completion does not constitute acceptance of the city infrastructure until all requirements of the subdivision improvements agreement have been satisfied and a Certificate of Completion and Acceptance is issued by the City Engineer.

A 6-inch storm drainage outfall line from existing drainage pond on developer's property to existing manhole in city public easement
The line is 10' long.

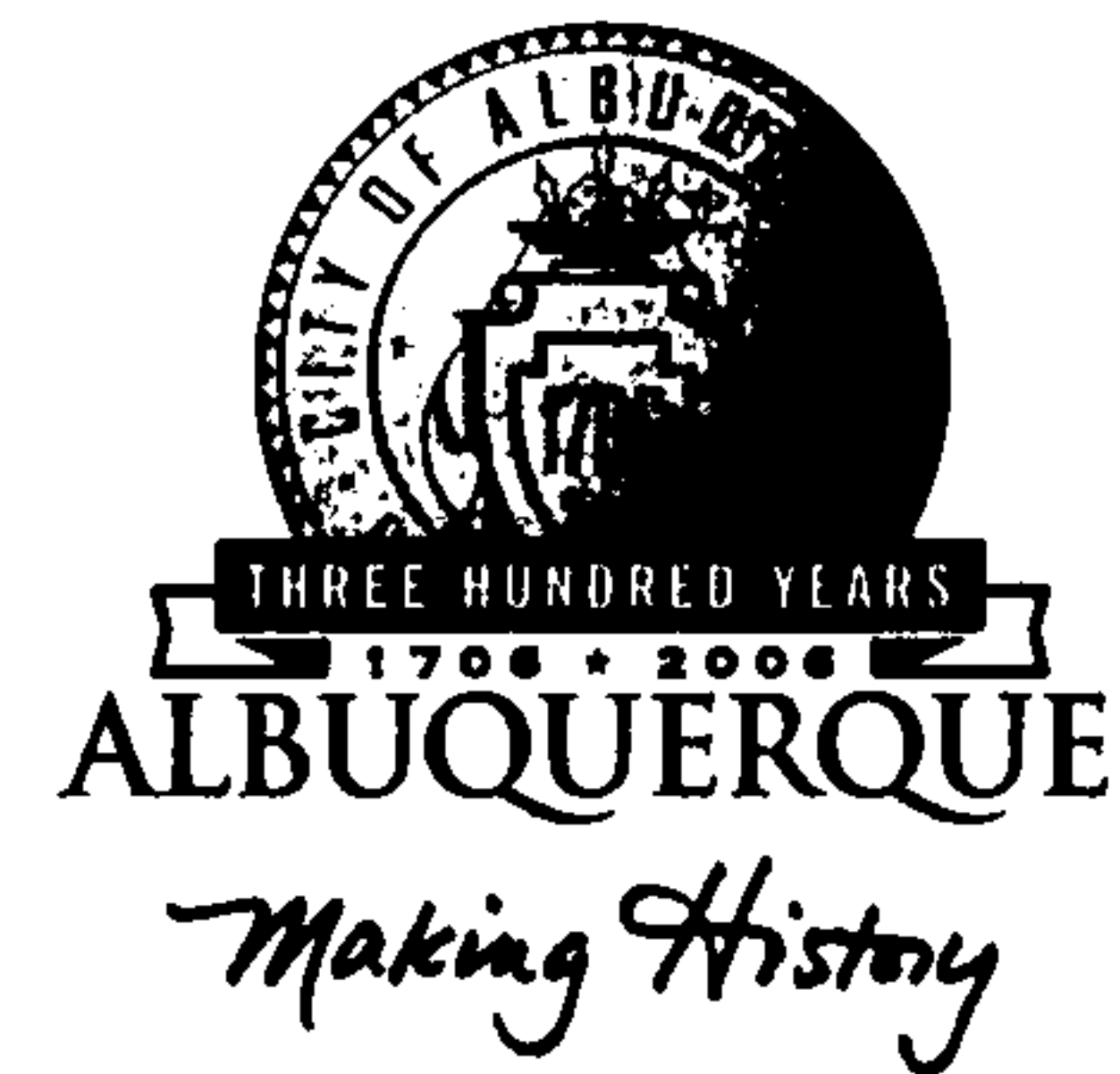
The contractor's correction period will begin February 7, 2005 and is effective for a period of one (1) year.

Sincerely,

Kevin Broderick
Development & Bldg Services
Planning Department

c: Rhombus Professional
TLC Plumbing Co.
Master Scheduler
Project Administrator
Ruben Ortega, Construction Coordination
Orvis Bartow, Water Systems
Dave Harmon, Traffic Engineering, PWD
Jack Placencio, Street Maintenance
George King, Maps & Records, PWD
Project No. 5654.81
Warranty: Henry Blair

CITY OF ALBUQUERQUE



September 27, 2004

Celia Tomlinson, PE
Rhombus PA
2620 San Mateo NE, Ste B
Albuquerque, NM 871110

G-10/D29E

Re: Lot 2 Volcano Business Park Engineer's Certification
Engineer's Stamp dated 5-21-02 (~~G14/D68~~)

Dear Ms. Tomlinson,

Based on the information provided in your submittal dated 8-26-04, the above referenced certification cannot be approved for Certificate of Occupancy until the following comment is addressed.

- Please submit a copy of the City Engineer's Acceptance letter as proof of the close-out of the Work Order since the pond connection was the only thing lacking from the original project from being completed.

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

Sincerely,

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

C: file

P.O. Box 1293

Albuquerque

New Mexico 87103

www.cabq.gov

DRAINAGE INFORMATION SHEET

PROJECT TITLE: LOT 2 VOLCANO BUSINESS PARK ZONE ATLAS/DRNG. FILE #: G-10/D29E

DRW #: 97-52, 63 EPC #: _____ WORK ORDER #: _____

LEGAL DESCRIPTION: LOT 2 VOLCANO BUSINESS PARK

CITY ADDRESS: 3021 TODOS SANTOS NW

ENGINEERING FIRM: RHOMBUS P.A., Inc. CONTACT: Celia Tomlinson

ADDRESS: 2620 San Mateo NE Suite B PHONE: 881-6690
Albuquerque, NM 87110

OWNER: LARRY KOLEK & PARTNERS CONTACT: LARRY KOLEK

ADDRESS: 3021 TODOS SANTOS NW PHONE: 831-6860

ARCHITECT: MIGUEL TRUSILLO, AR CONTACT: MIGUEL TRUSILLO

ADDRESS: _____ PHONE: 292-9654

SURVEYOR: RHOMBUS CONTACT: John Miers, PS

ADDRESS: 2620 San Mateo NE Suite B PHONE: 881-6690
Albuquerque, NM 87110

CONTRACTOR: H/A CONTACT: _____

ADDRESS: _____ PHONE: _____

TYPE OF SUBMITTAL:

DRAINAGE REPORT

☒ DRAINAGE PLAN

CONCEPTUAL GRADING & DRAINAGE PLAN

☒ GRADING PLAN

EROSION CONTROL PLAN

ENGINEER'S CERTIFICATION

OTHER _____

CHECK TYPE OF APPROVAL SOUGHT:

☐ SKETCH PLAT APPROVAL

☐ PRELIMINARY PLAT APPROVAL

☐ S. DEV. PLAN FOR SUB'D. APPROVAL

☒ S. DEV. PLAN FOR BLDG. PERMIT APPROVAL

☐ SECTOR PLAN APPROVAL

☐ FINAL PLAT APPROVAL

☐ FOUNDATION PERMIT APPROVAL

☒ BUILDING PERMIT APPROVAL

☐ CERTIFICATE OF OCCUPANCY APPROVAL

☐ GRADING PERMIT APPROVAL

☐ PAVING PERMIT APPROVAL

☐ S.A.D. DRAINAGE REPORT

☐ DRAINAGE REQUIREMENTS

☐ SUBDIVISION CERTIFICATION

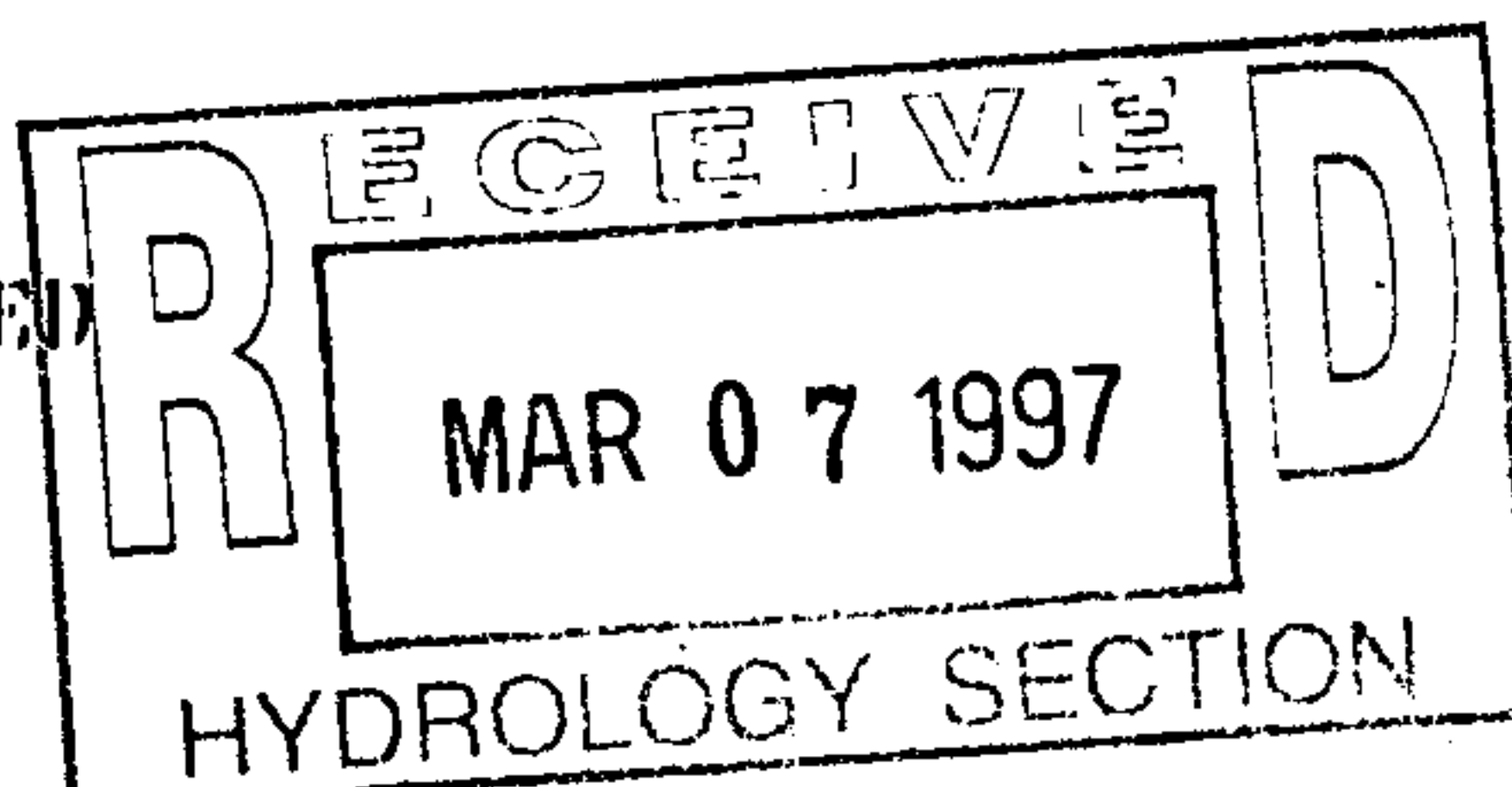
☐ OTHER _____ (SPECIFY)

PRE-DESIGN MEETING:

☒ YES

☐ NO

COPY PROVIDED



DATE SUBMITTED:

3/7/97

BY:

Celia Tomlinson



Martin J. Chávez, Mayor

Robert E. Gurulé, Director

March 11, 1997

Celia Tomlinson
Rhombus PA, Inc.
2620 San Mateo NE Suite B
Albuquerque, New Mexico 87110

RE: REVISED DRAINAGE PLAN FOR LOT 2 VOLCANO BUSINESS PARK (G10-D29E)
ENGINEER'S STAMP DATED 3/6/97

Dear Ms. Tomlinson:

Based on the information provided on your March 7, 1997 resubmittal, the above referenced site is approved for Building Permit & Work Order. Please attach a copy of this approved plan to the construction sets prior to sign-off by Hydrology.

Also, prior to Certificate of Occupancy release, the following must be provided:

1. Engineer Certification per the DPM checklist must be submitted.
2. Letter of Acceptance for work order release from Construction.

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

C: Andrew Garcia
File

Sincerely


Bernie J. Montoya CE
Engineering Associate

Good for You, Albuquerque!

P.O. Box 1293, Albuquerque, New Mexico 87103





City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

November 3, 2003

Celia S. Tomlinson
Rhombus
2620 San Mateo NE, Suite B
Albuquerque New Mexico 87110

**RE: Temporary Certification for 3021 Todos Santos NW, Lot 2 Volcano Business Park
(G10-D29E) Project No. 5654.81**

Dear Ms. Tomlinson:

I have researched the file for the referenced project and reviewed the following.

1. The City approved the drainage and grading plan on March 11, 1997.
2. The Work Order project number 5654.81 was submitted through the DRC process, however, was never approved.

Therefore, we are unable to approve the Temporary Certificate of Occupancy until either of the following is accomplished.

1. Obtain financial guarantees for the Work Order.
2. Obtain a Procedure "A" and construct the Work Order.

Please contact Kevin Broderick to process this procedure (924-3992).

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

Sincerely,

Carlos A. Montoya
City Floodplain Administrator

City of Albuquerque
Planning Department
505-924-3900 (main number)
505-924-3864 (fax number)
Development and Building Services (One Stop Shop)
Plaza Del Sol Building, 2nd Floor
600 2nd Street NW
Albuquerque, NM 87102

City of Albuquerque
Planning Dept.
Dev. & Bldg. Svcs.

Fax

To: Celia Tomlinson From: Carol H. Muff

Copies to:

Fax:

Pages Sent: (including this page) 2

Phone:

Date: 11-3-03

Time:

☐ Urgent ☒ For Review ☐ Please Comment ☐ Please Reply ☐ Please Recycle

COMMENTS:

Cert. fication for
3021 Todos Santos C10-D29E



City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

November 3, 2003

Celia S. Tomlinson
Rhombus
2620 San Mateo NE, Suite B
Albuquerque New Mexico 87110

**RE: Temporary Certification for 3021 Todos Santos NW, Lot 2 Volcano Business Park
(G10-D29E) Project No. 5654.81**

Dear Ms. Tomlinson:

I have researched the file for the referenced project and reviewed the following.

1. The City approved the drainage and grading plan on March 11, 1997.
2. The Work Order project number 5654.81 was submitted through the DRC process, however, was never approved.

Therefore, we are unable to approve the Temporary Certificate of Occupancy until either of the following is accomplished.

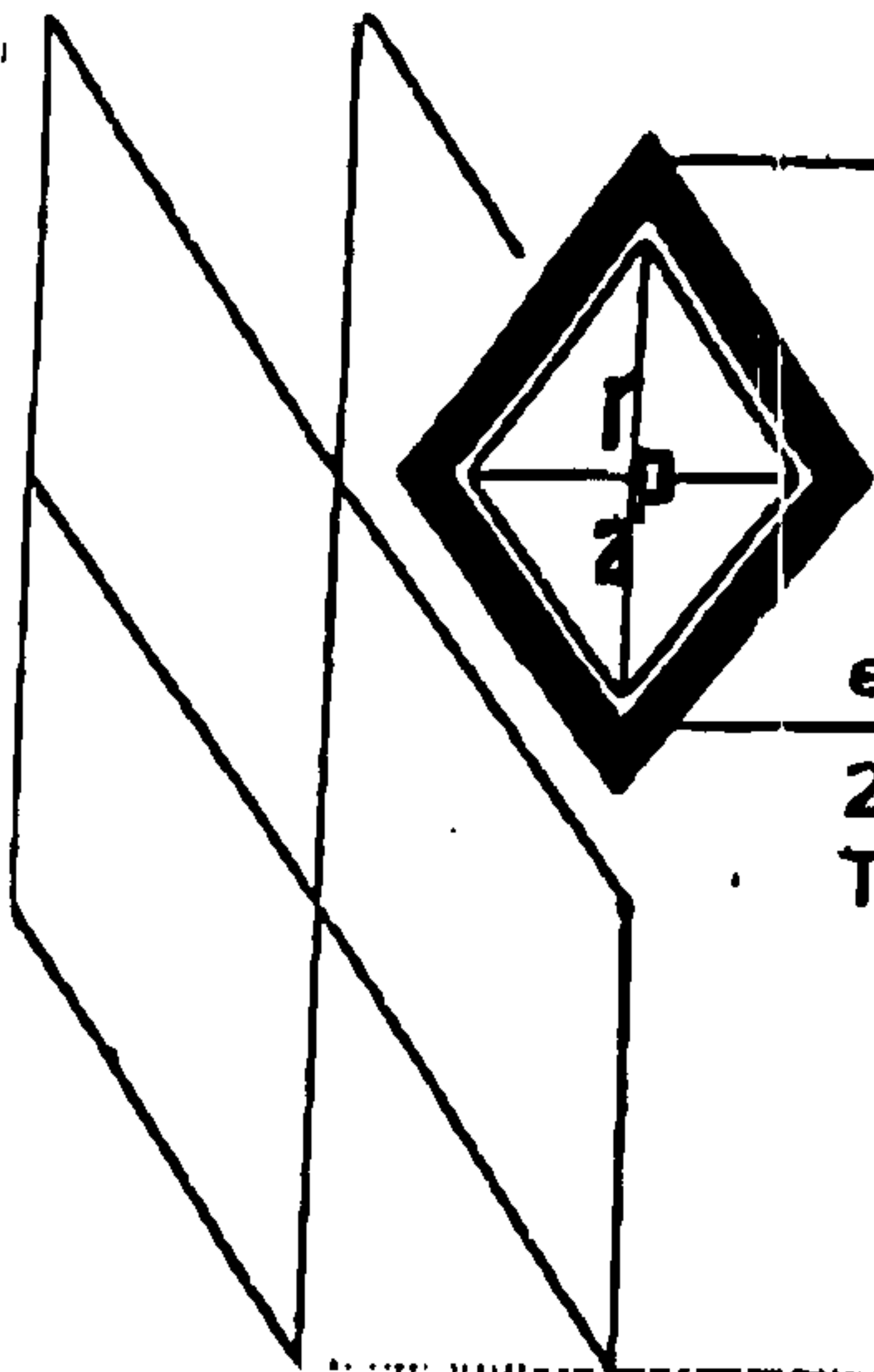
1. Obtain financial guarantees for the Work Order.
2. Obtain a Procedure "A" and construct the Work Order.

Please contact Kevin Broderick to process this procedure (924-3992).

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

Sincerely,

Carlos A. Montoya
City Floodplain Administrator

**RHOMBUS P.A., INC.**

FACILITIES ENGINEERS • ENVIRONMENTAL CONSULTANTS

e-mail: rhombus@nmia.com

web site: www.RHOMBUSPA.COM

2620 San Mateo NE Suite B
TEL. (505) 881-6690Albuquerque, NM 87110
FAX (505) 881-6896

HARD COPY WILL NOT BE MAILED.

FACSIMILE TRANSMISSION

DATE: 10-30-03

TO: Mr. Carlos Montoya

COMPANY: City of Albuquerque

FAX: 924-3864

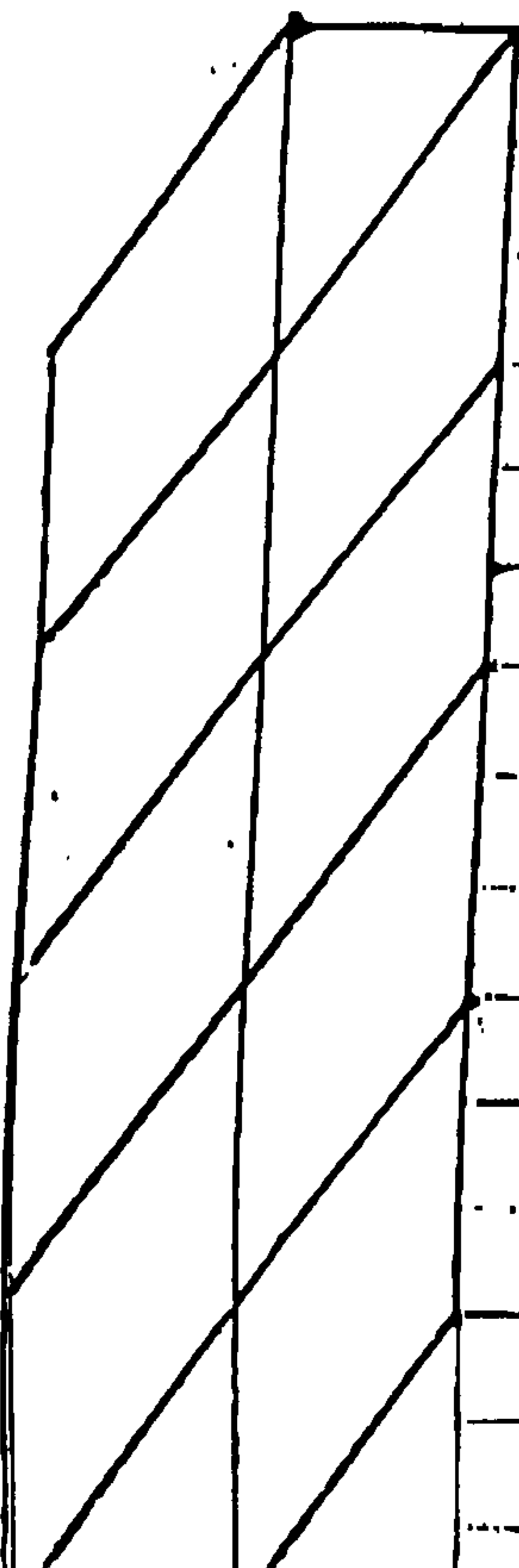
PHONE:

FROM: Celia Tomlinson

SUBJECT:

NUMBER OF PAGES INCLUDING THIS COVER: 2

MESSAGE:





VISIT US! WWW.RHOMBUSPA.COM

October 29, 2003

Mr. Carlos Montoya, PE
Mr. Kevin Broderick, PE
CITY OF ALBUQUERQUE
600 2ND Street NW
Albuquerque, New Mexico 87102

G-10-D 29 E

SUBJECT: 3021 TODOS SANTOS NW, LOT 2 VOLCANO BUSINESS PARK (G-10)

Dear Sirs:

The drainage and grading plan for the subject site under my professional seal and signature dated 3/6/97 was approved by the City of Albuquerque and consequently constructed.

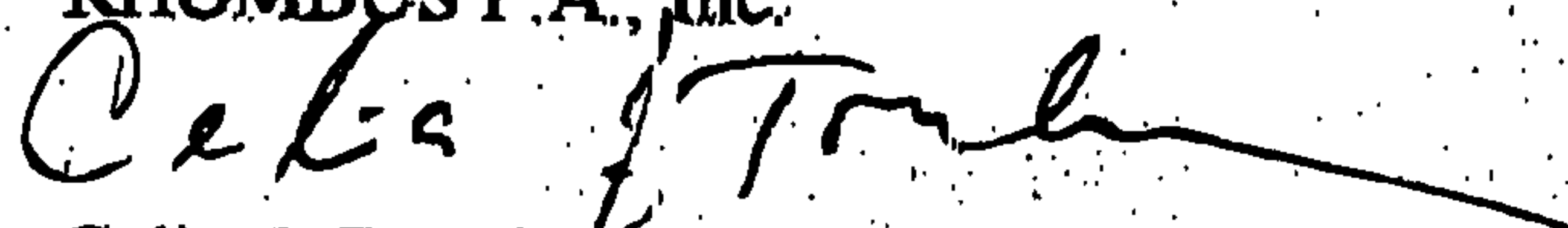
Last week, the Project Architect, Miguel Trujillo, requested RHOMBUS to perform a site as-built certification for building occupancy. RHOMBUS did an as-built topographic survey of the site and found that the site construction would be in substantial compliance if the following issues were addressed:

1. The pipe connection to the manhole, which was proposed under DRC Drawing Number 565481, does not appear to have been built;
2. The pond berm is not well defined; and
3. Dirt is stockpiled on the east side of the pond.

In connection with the Owner's request for a temporary occupancy permit, the Owner and Contractor have asked for 60 days to finish the project.

Your assistance on this matter would be greatly appreciated.

Sincerely,
RHOMBUS P.A., Inc.


Celia S. Tomlinson, PE
Principal



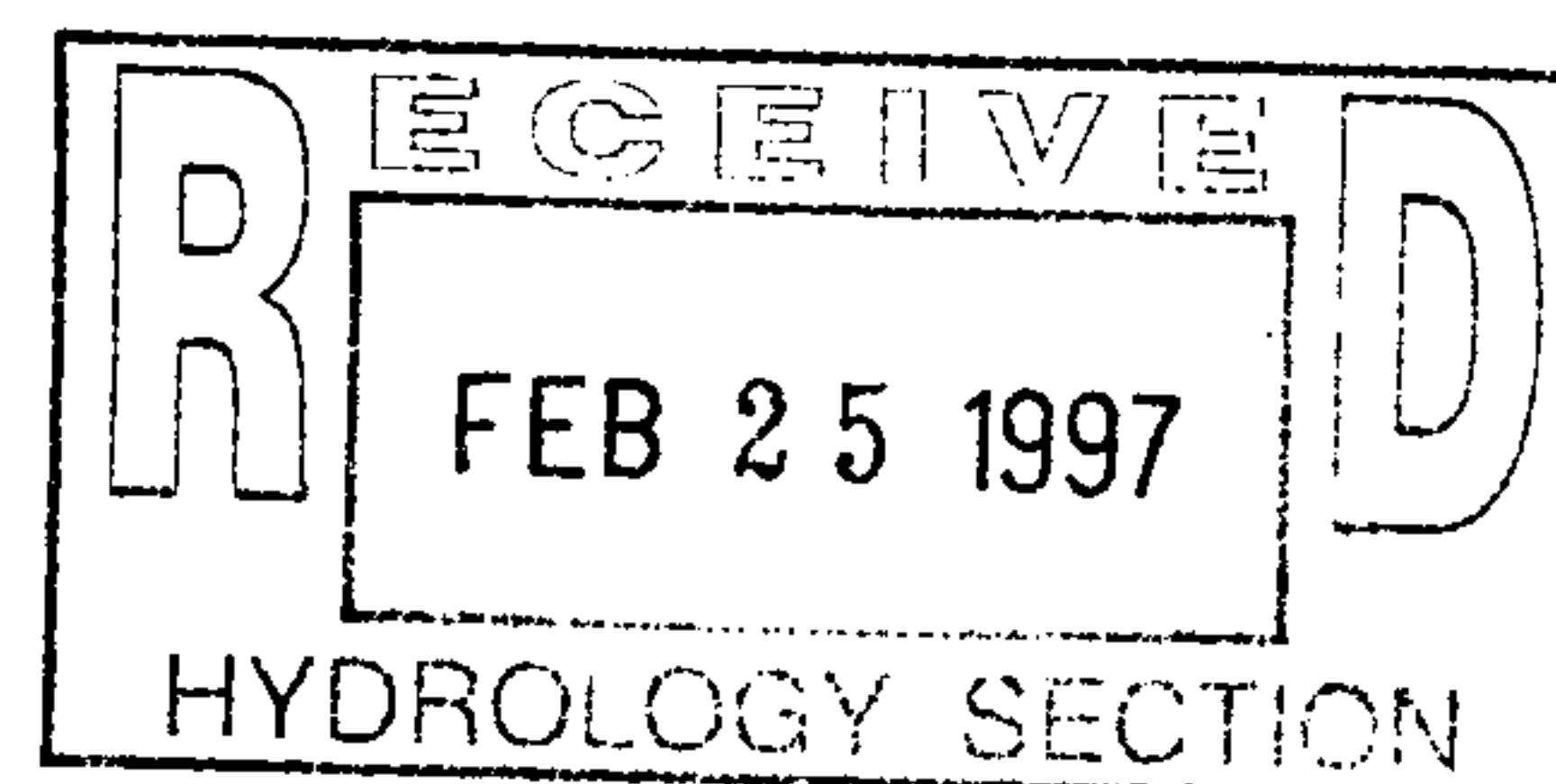
Public Works Department

Martin J. Chávez, Mayor

Robert E. Gurulé, Director

February 13, 1997

Celia Tomlinson
Rhombus PA, Inc.
2620 San Mateo NE Suite B
Albuquerque, New Mexico 87110



RE: REVISED DRAINAGE PLAN FOR LOT 2 VOLCANO BUSINESS PARK (G10-D29E)
REVISION DATED 2/7/97

Dear Ms. Tomlinson:

Based on the information provided on your February 11, 1997 resubmittal, the above referenced site is approved for Site Plan For Building Permit.

Please be advised that prior to Building Permit release, the following must be addressed:

1. Connection of the proposed 6" pvc pipe to the existing 42" RCP will need to be coordinated through DRC and because of maintenance concerns, you will need to design your connection into the existing manhole. Please check with Glenn Jorgensen at Arroyo Maintenance for connection requirements.
2. Please identify the 100-year water surface elevation on the plan drawing.
3. Please identify the top of curb and flow line elevations on the proposed drive pad. You must have a 1' foot water block.

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

C: Andrew Garcia

Sincerely

Bernie J. Montoya
Bernie J. Montoya

Good for You, Albuquerque!



DRAINAGE INFORMATION SHEET

PROJECT TITLE: LOT 2 VOLCANO BUSINESS PARK ZONE ATLAS/DRNG. FILE #: G-10D29E

DRB #: 97-52, 63

EPC #:

WORK ORDER #:

LEGAL DESCRIPTION: LOT 2 VOLCANO BUSINESS PARK

CITY ADDRESS: 3021 TODOS SANTOS NW

ENGINEERING FIRM: RHOMBUS P.A., Inc.

CONTACT: Celia Tomlinson

ADDRESS: 2620 San Mateo NE Suite B
Albuquerque, NM 87110

PHONE: 881-6690

OWNER: LARRY KOLEK & PARTNERS

CONTACT: LARRY KOLEK

ADDRESS: 3021 TODOS SANTOS NW

PHONE: 831-6860

ARCHITECT: MIGUEL TRUJILLO, AR

CONTACT: MIGUEL TRUJILLO

ADDRESS:

PHONE: 292-9654

SURVEYOR: RHOMBUS

CONTACT: John Miers, PS

ADDRESS: 2620 San Mateo NE Suite B
Albuquerque, NM 87110

PHONE: 881-6690

CONTRACTOR: H/A

CONTACT:

ADDRESS:

PHONE:

TYPE OF SUBMITTAL:

☐ DRAINAGE REPORT

☒ DRAINAGE PLAN

☐ CONCEPTUAL GRADING & DRAINAGE PLAN

☒ GRADING PLAN

☐ EROSION CONTROL PLAN

☐ ENGINEER'S CERTIFICATION

☐ OTHER

CHECK TYPE OF APPROVAL SOUGHT:

☐ SKETCH PLAT APPROVAL

☐ PRELIMINARY PLAT APPROVAL

☐ S. DEV. PLAN FOR SUB'D. APPROVAL

☐ S. DEV. PLAN FOR BLDG. PERMIT APPROVAL

☐ SECTOR PLAN APPROVAL

☒ FINAL PLAT APPROVAL

☐ FOUNDATION PERMIT APPROVAL

☒ BUILDING PERMIT APPROVAL

☐ CERTIFICATE OF OCCUPANCY APPROVAL

☐ GRADING PERMIT APPROVAL

☐ PAVING PERMIT APPROVAL

☐ S.A.D. DRAINAGE REPORT

☐ DRAINAGE REQUIREMENTS

☐ SUBDIVISION CERTIFICATION

☐ OTHER (SPECIFY)

PRE-DESIGN MEETING:

☒ YES

☐ NO

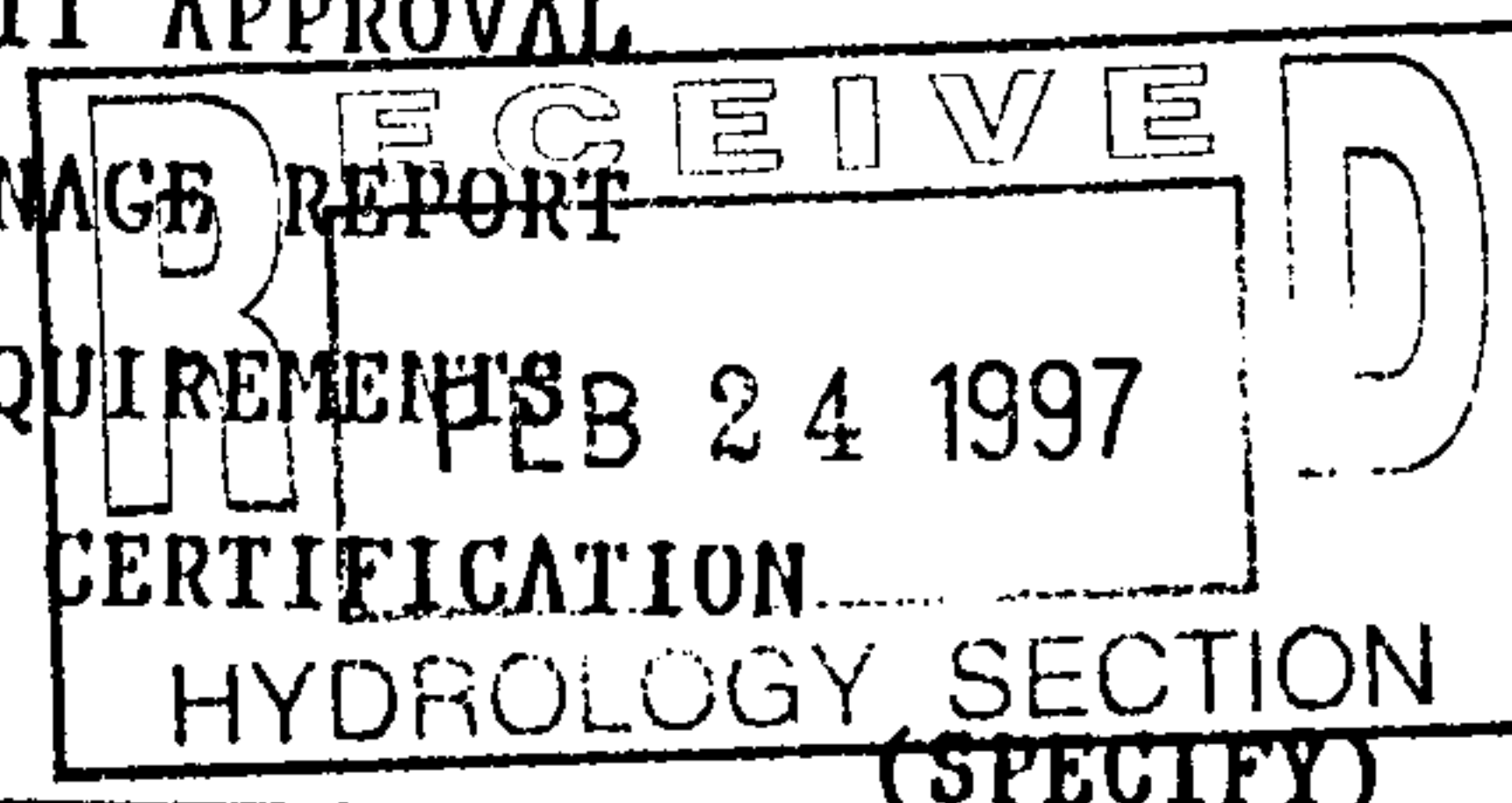
☒ COPY PROVIDED: your letter dated 2/13/97

DATE SUBMITTED: 2/21/97

BY: Celia Tomlinson

VERBAL: 3/3/97 address to add it in

Driveway



DRC SESSION MINUTES

DRC COMMITTEE MEETING

February 21, 1997
Date

10:00 am

Time

PROJECT:

Valcano Business Park

Project No.

565481

CONSULTANT:

Rhombus Engineering

Previous Doc. _____

PRESENT:

Billy Goolsby Chairman

Constr. Management

Afsaneh Yavari Trans. Development

Parks & General Services

No Representation Utility Development

City Utility Coord.

No Representation Hydrology

Celia Tomlinson Consultant

COMMENTS:

- Afsaneh Yavari did not have any comments for Transportation. There is no work within a City Right-of-way.
- The Chairman provided markups and verbal discussion.

The Consultant stated that Hydrology wanted the connection to be made to the existing manhole.

The Consultant will make appropriate corrections and submit the map and all markups to the Master Schedules to route for signatures.

DRAINAGE INFORMATION SHEET

PROJECT TITLE: LOT 2 VOLCANO BUSINESS PARK ZONE ATLAS/DRNG. FILE #: G-10 DZ94

DRN #: 97-52, 63 EPC #: _____ WORK ORDER #: _____

LEGAL DESCRIPTION: LOT 2 VOLCANO BUSINESS PARK

CITY ADDRESS: 3021 TODOS SANTOS NW

ENGINEERING FIRM: RHOMBUS P.A., Inc. CONTACT: Celia Tomlinson

ADDRESS: 2620 San Mateo NE Suite B PHONE: 881-6690
Albuquerque, NM 87110

OWNER: LARRY KOLEK & PARTNERS CONTACT: LARRY KOLEK

ADDRESS: 3021 TODOS SANTOS NW PHONE: 831-6860

ARCHITECT: MIGUEL TRUSILLO, AR CONTACT: MIGUEL TRUSILLO

ADDRESS: _____ PHONE: 292-9654

SURVEYOR: RHOMBUS CONTACT: John Miers, PS

ADDRESS: 2620 San Mateo NE Suite B PHONE: 881-6690
Albuquerque, NM 87110

CONTRACTOR: H/A CONTACT: _____

ADDRESS: _____ PHONE: _____

TYPE OF SUBMITTAL:

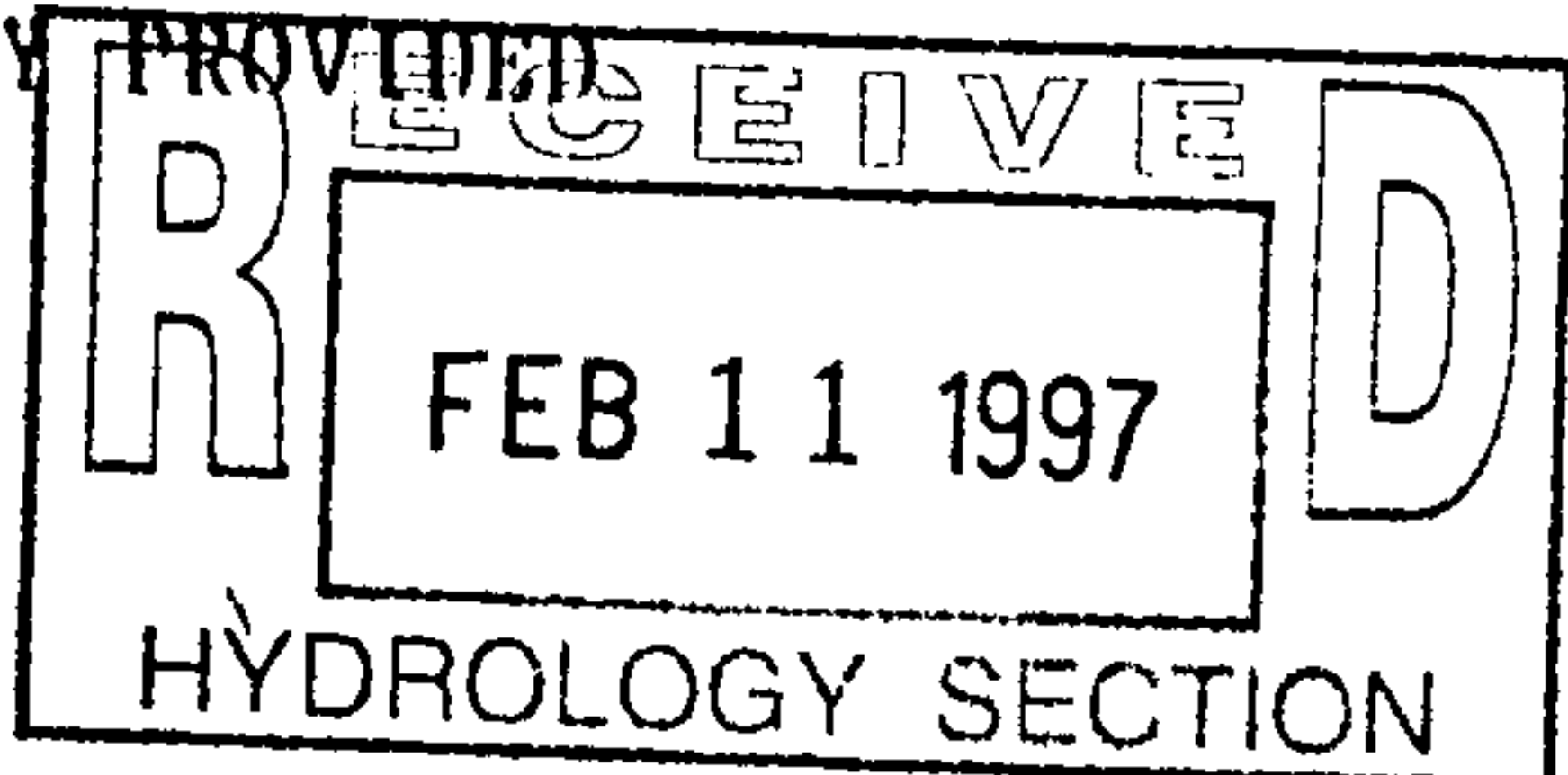
- ☐ DRAINAGE REPORT
☒ DRAINAGE PLAN
☐ CONCEPTUAL GRADING & DRAINAGE PLAN
☒ GRADING PLAN
☐ EROSION CONTROL PLAN
☐ ENGINEER'S CERTIFICATION
☐ OTHER _____

PRE-DESIGN MEETING:

☒ YES

☐ NO

☒ COPY PROVIDED

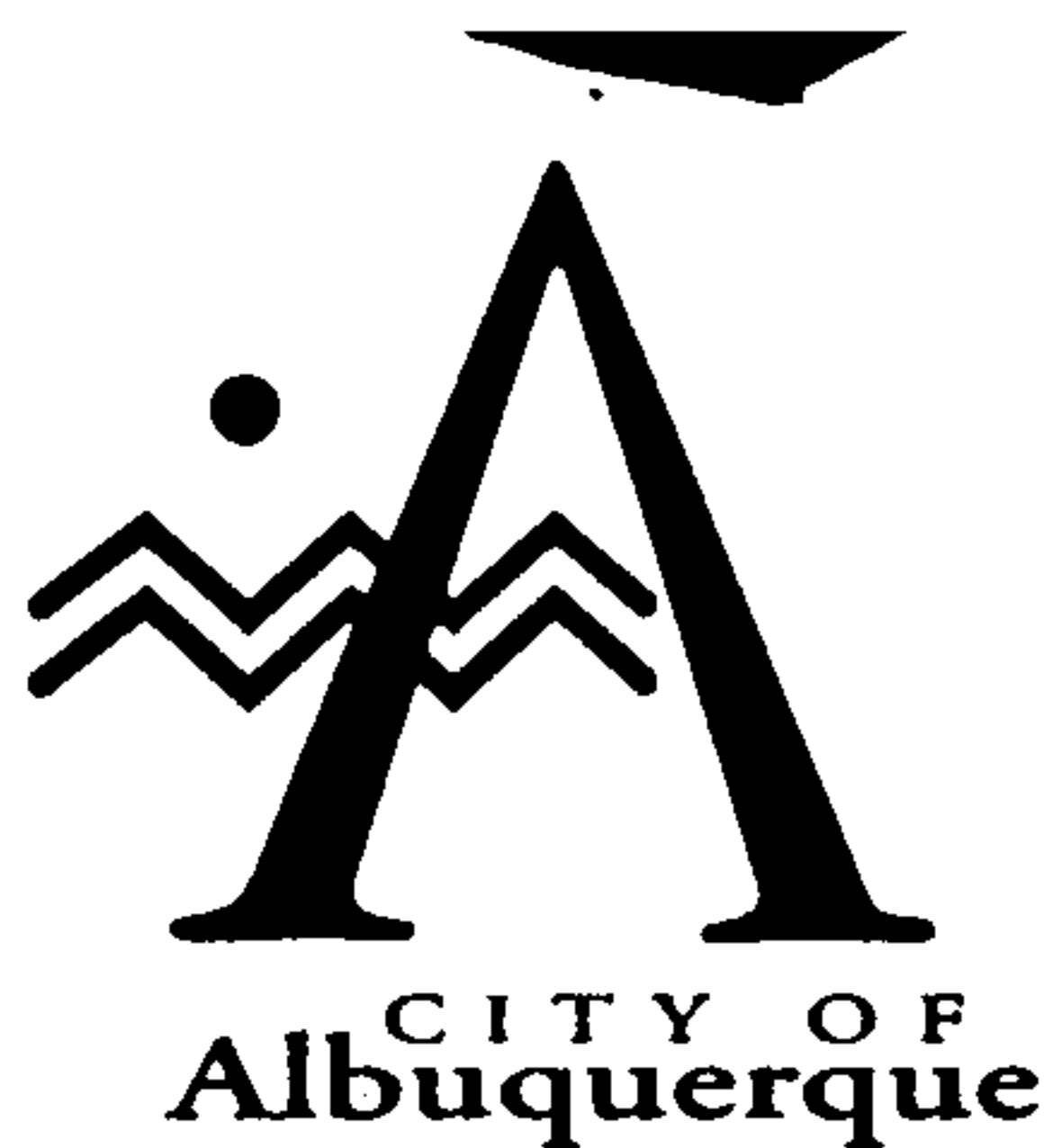


CHECK TYPE OF APPROVAL SOUGHT:

- ☐ SKETCH PLAT APPROVAL
☐ PRELIMINARY PLAT APPROVAL
☐ S. DEV. PLAN FOR SUB'D. APPROVAL
☒ S. DEV. PLAN FOR BLDG. PERMIT APPROVAL
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☒ FINAL PLAT APPROVAL
☐ FOUNDATION PERMIT APPROVAL
☒ BUILDING PERMIT APPROVAL
☐ CERTIFICATE OF OCCUPANCY APPROVAL
☐ GRADING PERMIT APPROVAL
☐ PAVING PERMIT APPROVAL
☐ S.A.D. DRAINAGE REPORT
☐ DRAINAGE REQUIREMENTS
☐ SUBDIVISION CERTIFICATION
☐ OTHER _____ (SPECIFY)

DATE SUBMITTED: 2/11/97

BY: Celia Tomlinson



Public Works Department

Martin J. Chávez, Mayor

Robert E. Gurulé, Director

February 13, 1997

Celia Tomlinson
Rhombus PA, Inc.
2620 San Mateo NE Suite B
Albuquerque, New Mexico 87110

RE: REVISED DRAINAGE PLAN FOR LOT 2 VOLCANO BUSINESS PARK (G10-D29E)
REVISION DATED 2/7/97

Dear Ms. Tomlinson:

Based on the information provided on your February 11, 1997 resubmittal, the above referenced site is approved for Site Plan For Building Permit.

Please be advised that prior to Building Permit release, the following must be addressed:

1. Connection of the proposed 6" pvc pipe to the existing 42" RCP will need to be coordinated through DRC and because of maintenance concerns, you will need to design your connection into the existing manhole. Please check with Glenn Jorgensen at Arroyo Maintenance for connection requirements.
2. Please identify the 100-year water surface elevation on the plan drawing.
3. Please identify the top of curb and flow line elevations on the proposed drive pad. You must have a 1' foot water block.

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

C: Andrew Garcia

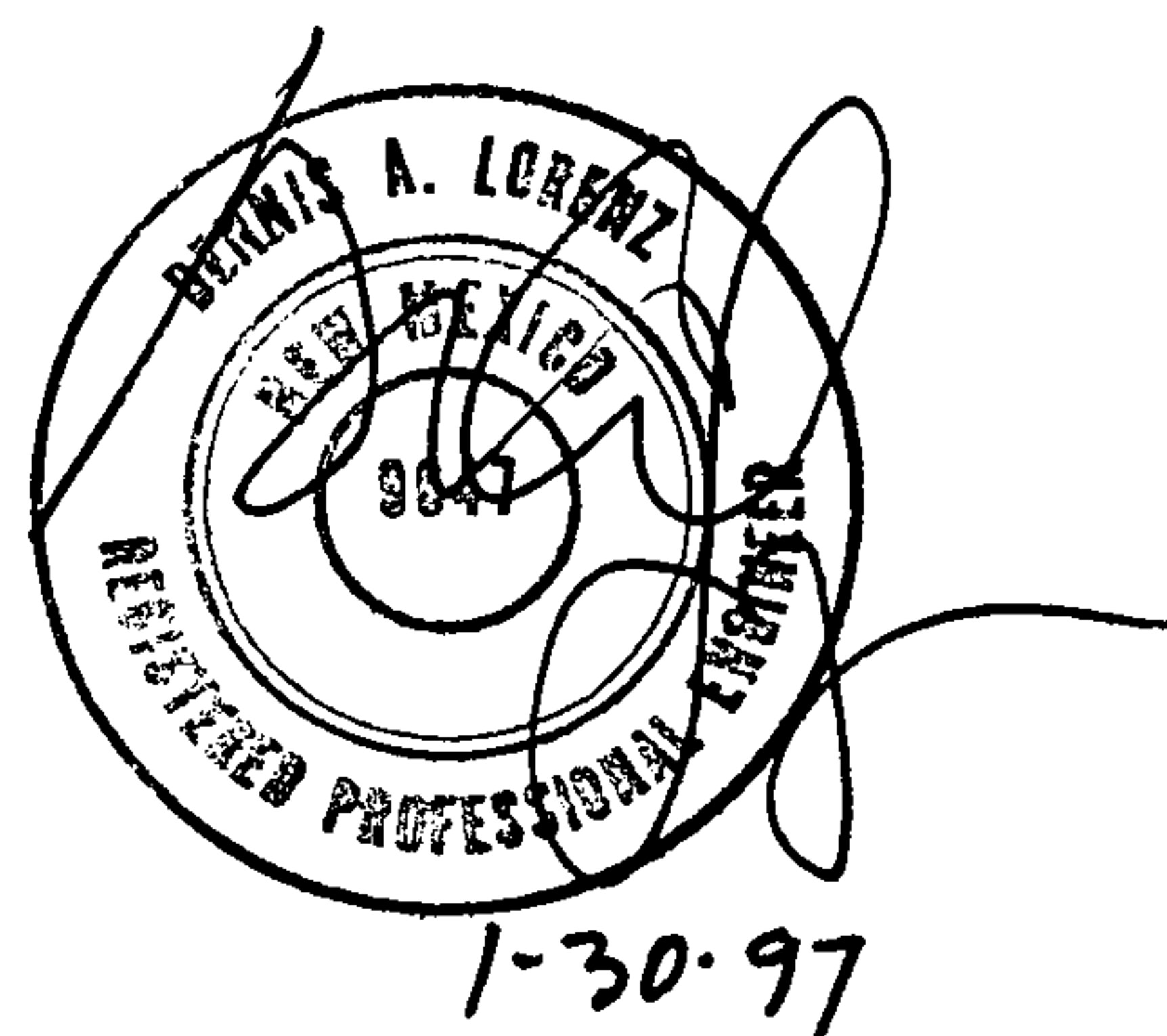
Sincerely


Bernie J. Montoya

Good for You, Albuquerque!



SUPPLEMENTAL CALCULATIONS
FOR
LOT 2, VOLCANO BUSINESS PARK



BRASHER & LORENZ, INC.
Consulting Engineers

January 1997

PURPOSE OF STUDY

The purpose of this analysis is to determine the allowable discharge rate for the subject site under fully developed conditions and establish on-site detention ponding criteria.

CRITERIA

The criteria for this study was established by the **Drainage Plan for Volcano Business Park**, prepared by Easterling and Associates, Inc., dated 4-18-95. The Plan studied the Volcano Business Park property and contributing off-site areas. Based on downstream limitations, the Plan determined that on-site detention ponding would be required for all properties within the study area.

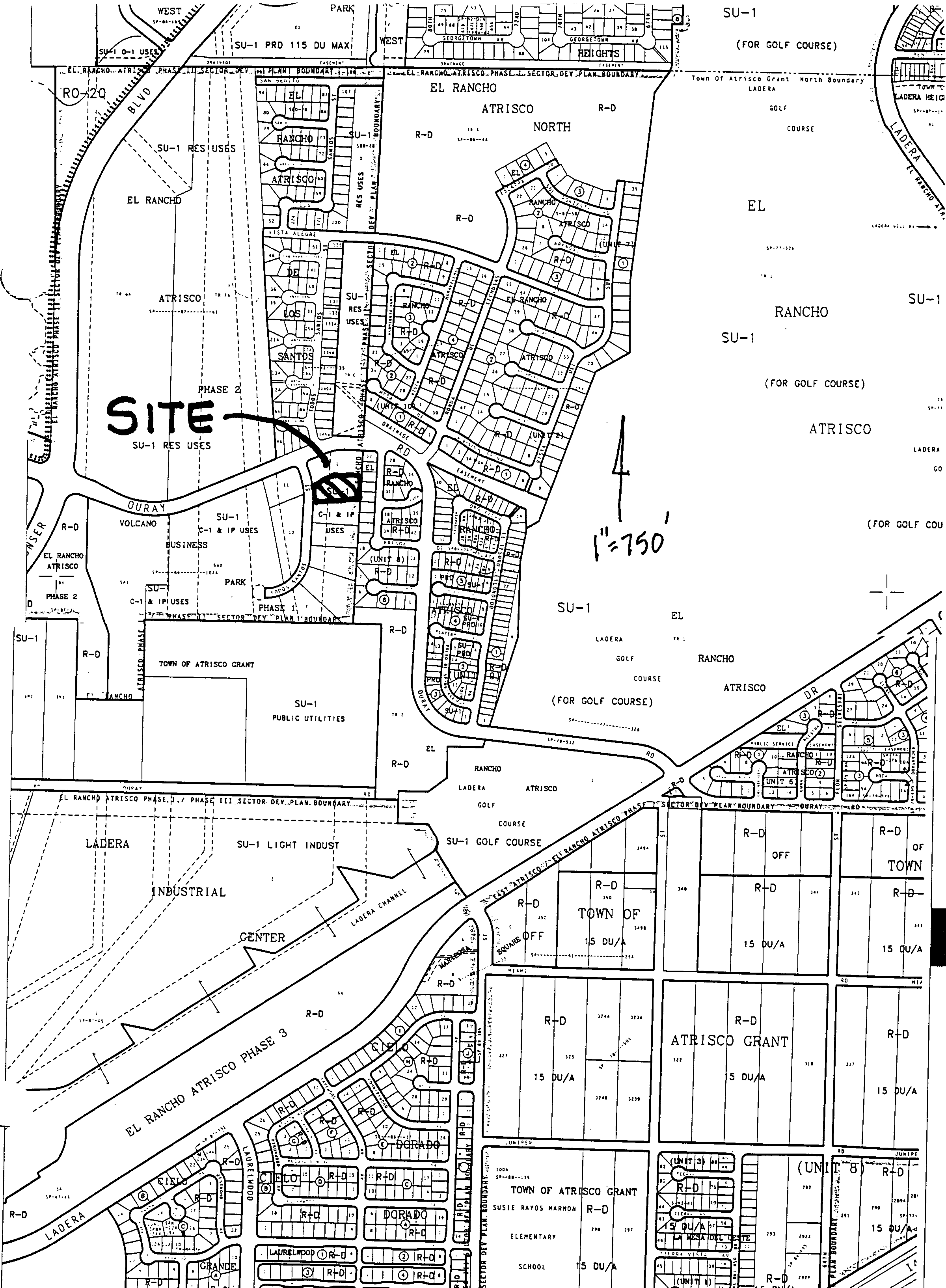
DOWNSTREAM ANALYSIS

The Masterplan made the following recommendations:

1. Contributing off-site areas located west of Unser Blvd would drain into facilities provided by the Unser Blvd construction.
2. Contributing off-site areas located east of Unser and west of Volcano Business Park (40 acres) would drain at a controlled rate of 2 cfs/acre. The off-site areas are as follows:
 - ◇ Tract C-1, Volcano Business Park
 - ◇ El Rancho Atrisco Grant, Phase 2
 - ◇ Town of Atrisco Grant, Tracts 391, 392 & 393
3. The discharge available to the remaining area within Volcano Business Park (28.4 acres) will be limited to downstream capacity after subtraction of the 40 acre off-site area.
4. Per the hydraulic grade line calculations, the capacity of the 42 inch storm drain is 120 cfs.
5. The contribution from the off-site area is 40 acres X 2 cfs per acre = 80 cfs.
6. The capacity remaining in the 42 inch SD is $120\text{cfs} - 80\text{cfs} = 40\text{ cfs}$.
7. The discharge rate for the on-site areas is $40\text{ cfs}/28.4\text{ acres} = 1.41\text{ cfs per acre}$.

CALCULATIONS

The following calculations are provided to determine existing and developed on-site hydrology using the AHYMO computer program, downstream capacity, ponding sizing and routing, and spillway design.



SITE

SU-1 RES USES

1"=750'

SU-1

(FOR GOLF COURSE)

SU-1

RANCHO

SU-1

(FOR GOLF COURSE)

ATRISCO

(FOR GOLF COURSE)

SU-1

EL

RANCHO

ATRISCO

(FOR GOLF COURSE)

SU-1 LIGHT INDUST

SU-1 GOLF COURSE

R-D

R-D

15 DU/A

ATRISCO GRANT

15 DU/A

R-D

15 DU/A

TOWN OF ATRISCO GRANT

SUSIE RAYOS HARMON

ELEMENTARY

SCHOOL

15 DU/A

(UNIT 8)

R-D

15 DU/A

15 DU/A

15 DU/A

15 DU/A



CALCULATIONS

① DET. ALLOWABLE DISCHARGE RATE
PER MASTERPLAN ALL OFF-SITE
AREAS WILL RELEASE AT 2 CFS/AC
OFFSITE AREAS INCLUDE:

- TR C-1, VOL BP
- EL RANCHO ATRISCO, PHASE 2
- TOWN OF ATRISCO GRANT
TRACTS 391 + 392 + 393

TOTAL OFF-SITE AREA = 40.0 AC

AT 2 CFS/AC $\Rightarrow Q_{ALLOW} = 80 \text{ CFS}$

REMAINING ON-SITE AREA = 28.4 AC

$\Rightarrow$ PER HGL ANALYSIS BY EASTERLING
+ ASSOC DATED 2-1-85:

Q_{100} IN 42" SD = 120 CFS

HGL CALCS PROVE THIS IS MAX
Q POSSIBLE IN SD.

$\Rightarrow$ CAPACITY AVAILABLE FOR ON-SITE
USE IS $120 - 80 = 40 \text{ CFS}$

ONSITE $Q_{ALLOW} = \frac{40 \text{ CFS}}{28.4 \text{ AC}} = 1.41 \frac{\text{CFS}}{\text{AC}}$

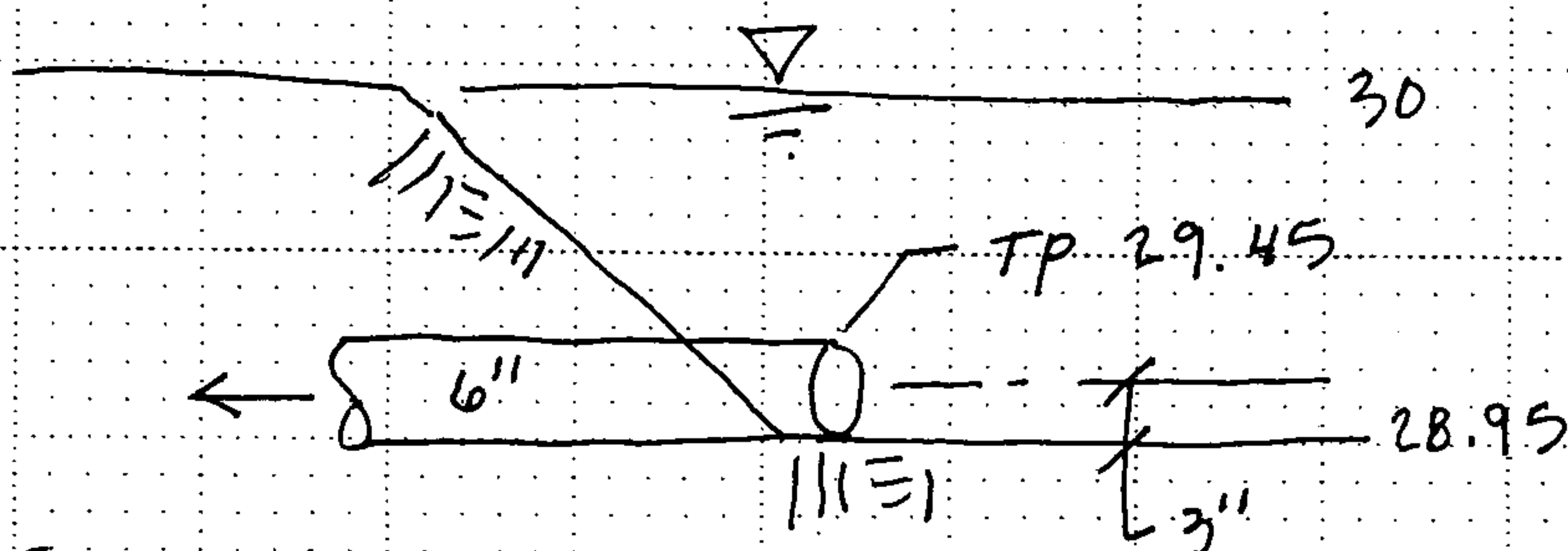
1-30-97

6094

(2) POND DESIGN.

GIVEN: $Q_{100} = 3.2$ CFS AREA = 1.0 AC $Q_{ALLOW} = 1.41$ CFS

6" POND DRAINLINE TO 42" SD

DEVELOP ELEV/STORAGE/DISCHG
TABLE FOR ANYMO ROUTE RES.(A) DETERMINE Q_{OUT} 

USE ORIFICE EQN:

$$Q = CA \sqrt{2gh}$$

$$C = 0.6$$

$$A (6") = 0.20 \text{ SF}$$

$$g = 32.2 \text{ F/S}^2$$

H	ELEV	Q CFS
0'	28.95	0
0.05'	29.25	0.22
0.80'	30.00	0.86

1-30-96

6094

(B) GIVEN POND GEOMETRY DET
E/S/Q TABLE

ELEV	Q OUT CFS	STORAGE CF < AF >
28.95	0	0
29.25	0.22	14.61 < 0.03353 >
30.00	0.80	65.32 < 0.1500 >

⇒ PER ANYMO :

$$Q_{OUT} = 0.41 \text{ CFS}$$

$$VOL = 0.0714 \text{ AF}$$

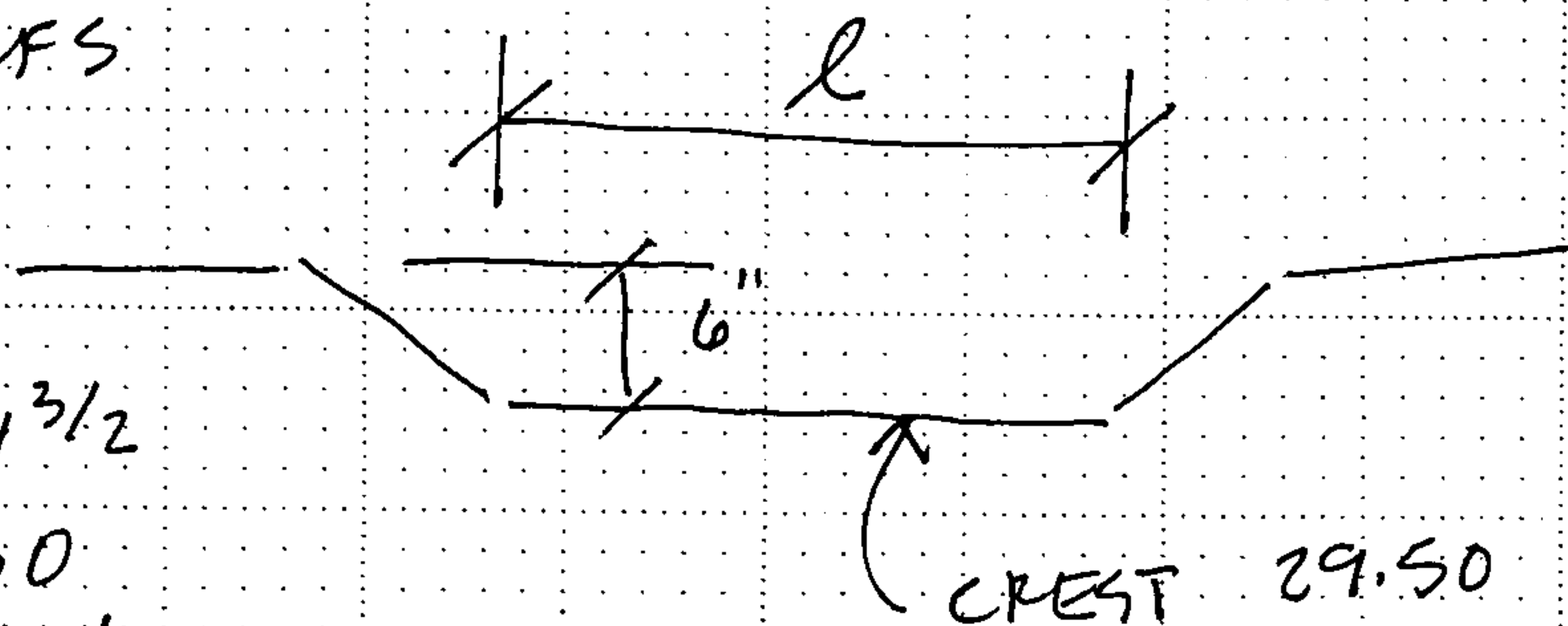
$$WSE = 29.50$$

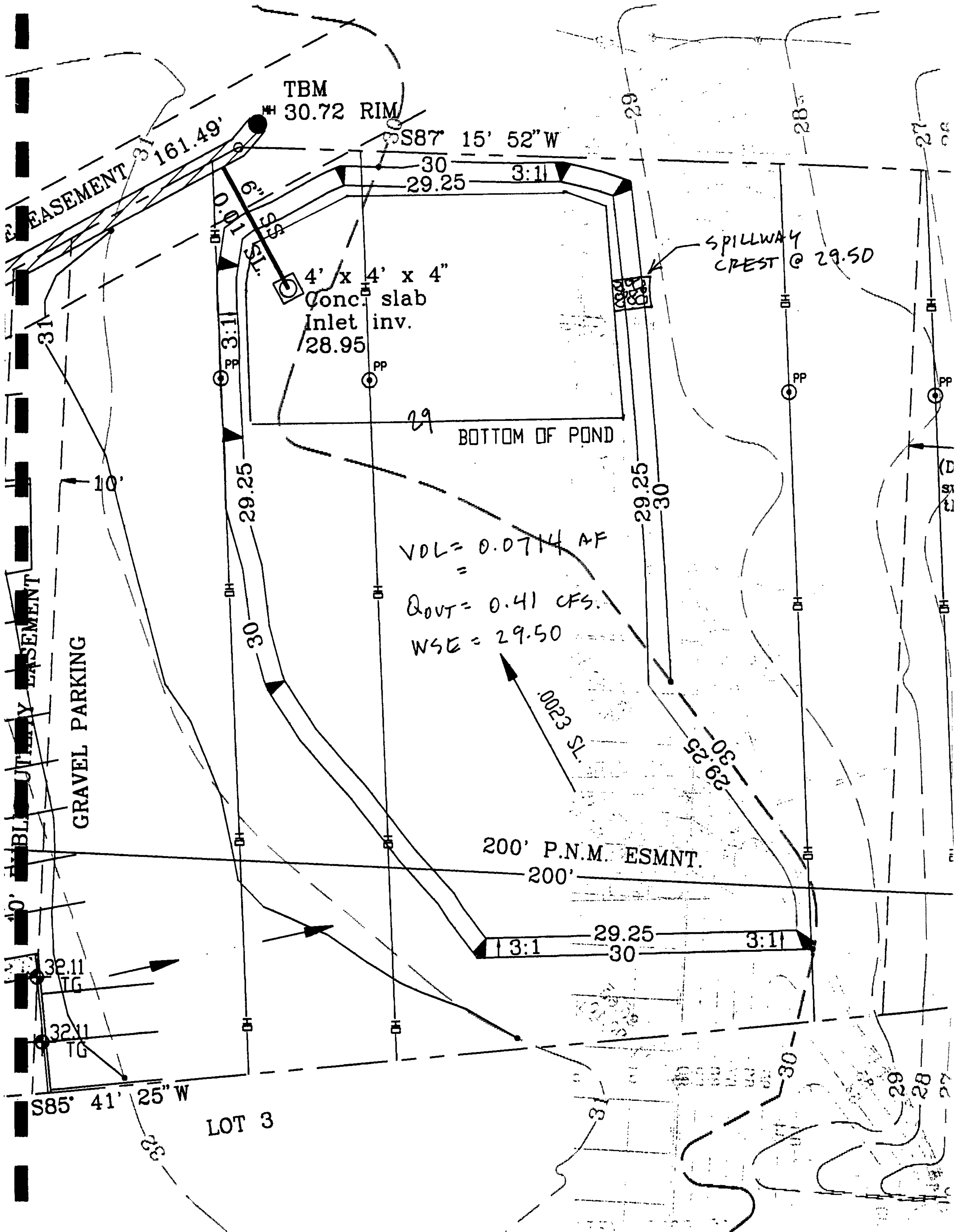
(3) PROVIDE SPILLWAY

$$Q_{100} = 3.2 \text{ CFS}$$

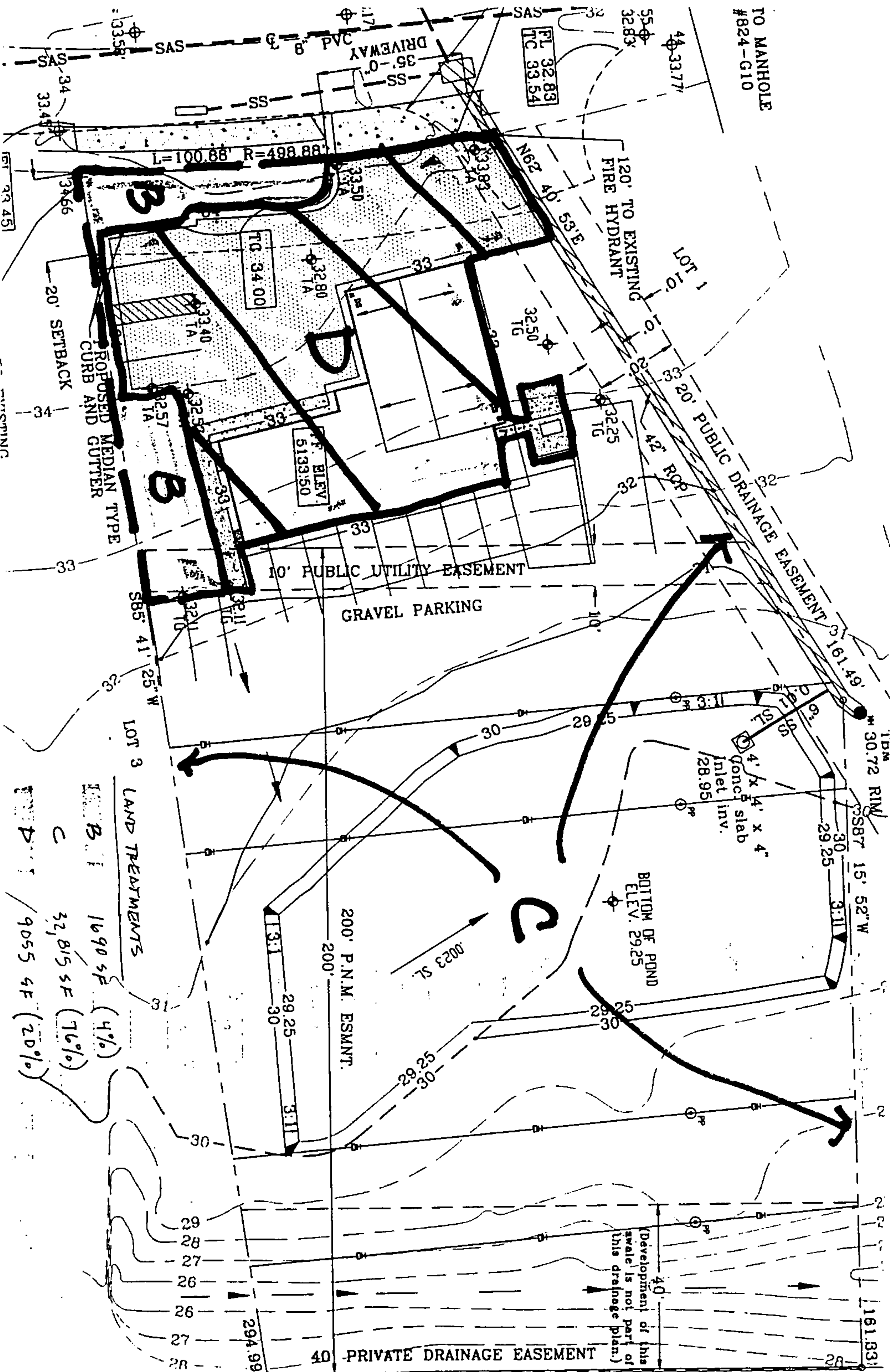
USE $Q = CLH^{3/2}$
 $C = 2.50$
 $H = 0.5'$

⇒ $L = 3.6'$ USE 4'





AHYMO FILES



* LOT 2 VOLCANO BUSINESS PARK
* PROJECT HYDROLOGY

START TIME=0.0 PUNCH CODE=0
RAINFALL TYPE=1 RAIN QUARTER=0.0 RAIN ONE=1.87
RAIN SIX=2.20 RAIN DAY=2.66 DT=0.03333 HRS

* UNDEVELOPED SITE

COMPUTE NM HYD ID=1 HYD NO=EX.SITE DA=0.001563 SQ MI
PER A=100 PER B=0 PER C=0 PER D=0
TP=0.1333 HR MASS RAIN=-1

* DEVELOPED SITE

COMPUTE NM HYD ID=2 HYD NO=DEV.SITE DA=0.001563 SQ MI
PER A=0 PER B=4 PER C=76 PER D=20
TP=0.1333 HR MASS RAIN=-1

* ROUTE POND THRU DRAINLINE TO 42 INCH SD

ROUTE RESERVOIR ID=3 HYD NO=POND.OUT INFLOW ID=2 CODE=5
OUTFLOW (CFS) STORAGE (AF) ELEV (FT)
0 0 29.0
0.22 0.03353 29.25
0.80 0.1500 30.00

PRINT HYD ID=1 CODE=10

PRINT HYD ID=2 CODE=10

PRINT HYD ID=3 CODE=10

FINISH

AHYMO SUMMARY TABLE (AHYMO194) - AMAFCA Hydrologic Model - January, 1994
 INPUT FILE = 6094-P.DAT

RUN DATE (MON/DAY/YR) =01/30/1997
USER NO.= BRASHERE.I01

		FROM	TO		PEAK	RUNOFF		TIME TO	CFS	PAGE = 1
COMMAND	HYDROGRAPH IDENTIFICATION	ID NO.	ID NO.	AREA (SQ MI)	DISCHARGE (CFS)	VOLUME (AC-FT)	RUNOFF (INCHES)	PEAK (HOURS)	PER ACRE	NOTATION
START										TIME= .00
RAINFALL TYPE= 1										RAIN6= 2.200
COMPUTE NM HYD	EX.SITE	-	1	.00156	1.30	.037	.43925	1.533	1.303	PER IMP= .00
COMPUTE NM HYD	DEV.SITE	-	2	.00156	3.15	.098	1.17295	1.500	3.153	PER IMP= 20.00
ROUTE RESERVOIR	POND.OUT	2	3	.00156	.41	.098	1.17270	2.066	.408	AC-FT= .071
FINISH										

AHYMO PROGRAM (AHYMO194) - AMAFCA Hydrologic Model - January, 1994
RUN DATE (MON/DAY/YR) = 01/30/1997
START TIME (HR:MIN:SEC) = 09:16:38 USER NO.= BRASHERE.I01
INPUT FILE = 6094-P.DAT

* LOT 2 VOLCANO BUSINESS PARK
* PROJECT HYDROLOGY

START TIME=0.0 PUNCH CODE=0
RAINFALL TYPE=1 RAIN QUARTER=0.0 RAIN ONE=1.87
RAIN SIX=2.20 RAIN DAY=2.66 DT=0.03333 HRS

COMPUTED 6-HOUR RAINFALL DISTRIBUTION BASED ON NOAA ATLAS 2 - PEAK AT 1.40 HR.

DT = .033330 HOURS END TIME = 5.999400 HOURS

.0000	.0016	.0033	.0050	.0067	.0085	.0103
.0122	.0141	.0160	.0180	.0201	.0222	.0243
.0266	.0289	.0312	.0337	.0362	.0388	.0415
.0443	.0472	.0502	.0534	.0567	.0601	.0637
.0675	.0715	.0758	.0809	.0865	.0924	.1050
.1334	.1771	.2398	.3254	.4379	.5814	.7600
.9780	1.1804	1.2649	1.3363	1.3997	1.4575	1.5106
1.5600	1.6061	1.6493	1.6900	1.7284	1.7646	1.7989
1.8314	1.8623	1.8915	1.9193	1.9456	1.9518	1.9576
1.9630	1.9682	1.9732	1.9780	1.9825	1.9869	1.9912
1.9953	1.9993	2.0031	2.0068	2.0104	2.0140	2.0174
2.0207	2.0240	2.0272	2.0303	2.0333	2.0363	2.0392
2.0420	2.0448	2.0475	2.0502	2.0528	2.0554	2.0580
2.0605	2.0629	2.0653	2.0677	2.0700	2.0723	2.0746
2.0768	2.0790	2.0812	2.0833	2.0855	2.0875	2.0896
2.0916	2.0936	2.0956	2.0976	2.0995	2.1014	2.1033
2.1051	2.1070	2.1088	2.1106	2.1124	2.1141	2.1159
2.1176	2.1193	2.1210	2.1227	2.1244	2.1260	2.1276
2.1292	2.1308	2.1324	2.1340	2.1355	2.1371	2.1386
2.1401	2.1416	2.1431	2.1446	2.1460	2.1475	2.1489
2.1504	2.1518	2.1532	2.1546	2.1560	2.1573	2.1587
2.1600	2.1614	2.1627	2.1640	2.1654	2.1667	2.1680
2.1692	2.1705	2.1718	2.1731	2.1743	2.1756	2.1768
2.1780	2.1792	2.1804	2.1817	2.1829	2.1840	2.1852
2.1864	2.1876	2.1887	2.1899	2.1910	2.1922	2.1933
2.1944	2.1956	2.1967	2.1978	2.1989	2.2000	

* UNDEVELOPED SITE

COMPUTE NM HYD ID=1 HYD NO=EX.SITE DA=0.001563 SQ MI
PER A=100 PER B=0 PER C=0 PER D=0
TP=0.1333 HR MASS RAIN=-1

K = .163684HR TP = .133300HR K/TP RATIO = 1.227936 SHAPE CONSTANT, N = 2.899764
UNIT PEAK = 3.2074 CFS UNIT VOLUME = .9952 B = 273.54 P60 = 1.8700
AREA = .001563 SQ MI IA = .65000 INCHES INF = 1.67000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033330

* DEVELOPED SITE

COMPUTE NM HYD ID=2 HYD NO=DEV.SITE DA=0.001563 SQ MI
PER A=0 PER B=4 PER C=76 PER D=20
TP=0.1333 HR MASS RAIN=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 1.2342 CFS UNIT VOLUME = .9897 B = 526.28 P60 = 1.8700

AREA = .000313 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033330

K = .107123HR TP = .133300HR K/TP RATIO = .803624 SHAPE CONSTANT, N = 4.455646
 UNIT PEAK = 3.6065 CFS UNIT VOLUME = .9969 B = 384.48 P60 = 1.8700
 AREA = .001250 SQ MI IA = .35750 INCHES INF = .85100 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033330

* ROUTE POND THRU DRAINLINE TO 42 INCH SD

ROUTE RESERVOIR ID=3 HYD NO=POND.OUT INFLOW ID=2 CODE=5

OUTFLOW (CFS)	STORAGE (AF)	ELEV (FT)
0	0	29.0
0.22	0.03353	29.25
0.80	0.1500	30.00

* * * * *

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
.00	.00	29.00	.000	.00
.17	.00	29.00	.000	.00
.33	.00	29.00	.000	.00
.50	.00	29.00	.000	.00
.67	.00	29.00	.000	.00
.83	.00	29.00	.000	.00
1.00	.00	29.00	.000	.00
1.17	.00	29.00	.000	.00
1.33	.43	29.01	.002	.01
1.50	3.15	29.19	.026	.17
1.67	1.65	29.40	.056	.33
1.83	.85	29.47	.068	.39
2.00	.49	29.49	.071	.41
2.17	.23	29.49	.071	.40
2.33	.11	29.47	.067	.39
2.50	.07	29.44	.063	.37
2.67	.04	29.41	.059	.35
2.83	.03	29.39	.055	.33
3.00	.01	29.36	.051	.31
3.17	.01	29.34	.047	.29
3.33	.01	29.31	.043	.27
3.50	.01	29.29	.040	.25
3.67	.01	29.27	.036	.23
3.83	.01	29.25	.033	.22
4.00	.01	29.23	.031	.20
4.17	.01	29.21	.028	.18
4.33	.00	29.19	.026	.17
4.50	.00	29.18	.023	.15
4.67	.00	29.16	.022	.14
4.83	.01	29.15	.020	.13
5.00	.01	29.13	.018	.12
5.17	.01	29.12	.017	.11
5.33	.01	29.11	.015	.10
5.50	.01	29.10	.014	.09
5.67	.01	29.10	.013	.08
5.83	.01	29.09	.012	.08
6.00	.01	29.08	.011	.07
6.17	.00	29.07	.010	.07
6.33	.00	29.07	.009	.06

6.50	.00	29.06	.008	.05
6.67	.00	29.06	.008	.05
6.83	.00	29.05	.007	.05
7.00	.00	29.05	.006	.04
7.17	.00	29.04	.006	.04
7.33	.00	29.04	.005	.03
7.50	.00	29.04	.005	.03
7.67	.00	29.03	.004	.03
7.83	.00	29.03	.004	.03
8.00	.00	29.03	.004	.02
8.17	.00	29.03	.003	.02
8.33	.00	29.02	.003	.02
8.50	.00	29.02	.003	.02
8.67	.00	29.02	.003	.02
8.83	.00	29.02	.002	.02
9.00	.00	29.02	.002	.01
9.17	.00	29.01	.002	.01

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
---------------	-----------------	----------------	-------------------	------------------

9.33	.00	29.01	.002	.01
9.50	.00	29.01	.002	.01
9.67	.00	29.01	.002	.01
9.83	.00	29.01	.001	.01
10.00	.00	29.01	.001	.01
10.17	.00	29.01	.001	.01
10.33	.00	29.01	.001	.01
10.50	.00	29.01	.001	.01
10.67	.00	29.01	.001	.01
10.83	.00	29.01	.001	.01
11.00	.00	29.01	.001	.00

PEAK DISCHARGE = .408 CFS - PEAK OCCURS AT HOUR 2.07
 MAXIMUM WATER SURFACE ELEVATION = 29.494
 MAXIMUM STORAGE = .0714 AC-FT INCREMENTAL TIME= .033330HRS

PRINT HYD ID=1 CODE=10

HYDROGRAPH FROM AREA EX.SITE

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	1.000	.0	2.000	.1	3.000	.0		
.333	.0	1.333	.0	2.333	.1	3.333	.0		
.667	.0	1.666	.7	2.666	.0	3.666	.0		

RUNOFF VOLUME = .43925 INCHES = .0366 ACRE-FEET
 PEAK DISCHARGE RATE = 1.30 CFS AT 1.533 HOURS BASIN AREA = .0016 SQ. MI.

PRINT HYD ID=2 CODE=10

HYDROGRAPH FROM AREA DEV.SITE

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	1.333	.4	2.666	.0	4.000	.0	5.333	.0
.333	.0	1.666	1.7	3.000	.0	4.333	.0	5.666	.0
.667	.0	2.000	.5	3.333	.0	4.666	.0	5.999	.0

1.000 .0 2.333 .1 3.666 .0 5.000 .0

RUNOFF VOLUME = 1.17295 INCHES = .0978 ACRE-FEET
PEAK DISCHARGE RATE = 3.15 CFS AT 1.500 HOURS BASIN AREA = .0016 SQ. MI.

PRINT HYD ID=3 CODE=10

HYDROGRAPH FROM AREA POND.OUT

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	3.000	.3	5.999	.1	8.999	.0	11.999	.0
.333	.0	3.333	.3	6.333	.1	9.332	.0	12.332	.0
.667	.0	3.666	.2	6.666	.1	9.666	.0	12.665	.0
1.000	.0	4.000	.2	6.999	.0	9.999	.0	12.999	.0
1.333	.0	4.333	.2	7.333	.0	10.332	.0	13.332	.0
1.666	.3	4.666	.1	7.666	.0	10.666	.0	13.665	.0
2.000	.4	5.000	.1	7.999	.0	10.999	.0		
2.333	.4	5.333	.1	8.333	.0	11.332	.0		
2.666	.3	5.666	.1	8.666	.0	11.665	.0		

RUNOFF VOLUME = 1.17270 INCHES = .0978 ACRE-FEET
PEAK DISCHARGE RATE = .41 CFS AT 2.066 HOURS BASIN AREA = .0016 SQ. MI.

FINISH

NORMAL PROGRAM FINISH END TIME (HR:MIN:SEC) = 09:16:39

**HYDRAULIC GRADE LINE CALCULATIONS
FOR
42 INCH STORM DRAIN, VOLCANO BUSINESS PARK**

JCA
2-1-85

1/4

VOLCANO BUSINESS PARK

HYDRAULIC GRADELINE COMPUTATIONS

The existing concrete drop structures in the outfall channel are constructed with a slotted crest such that a pool of water at least $1\frac{1}{2}$ ft. deep forms between the structures when water flows in the channel. This pool also will make a good stilling basin for the storm-drain outlet. All that should be necessary for this project is to provide a rip-rap blanket immediately in front of the outlet to avoid creating a scour hole.

($n=0.013$ throughout)

BEGIN @ OUTLET, STA. 0+74 - 42" RCP END SECTION

$$\text{INV.} = 15.50, D = 3.50', S_0 = 0.240, L = 177' \\ Q = 130 \text{ cfs}, K = 1006, V_{\text{full}} = 13.51 \text{ fps}, h_v = 2.84$$

Check for critical depth:

$$\text{Normal flow } Q_n/Q_0 = 130/155 = 0.84 \quad d_n = 0.78 \times 3.5 = \underline{2.73'}$$

$$y_c = 0.325 (130/3.5)^{2/3} + 0.083 \times 3.5 = \underline{3.91'}$$

$d_n < y_c$ and pipe flow is supercritical, i.e. hydraulic jump will form out in the pool. There is no backwater effect in the pipe, since the channel water surface can not rise so high as to submerge the pipe outlet.

$$(V_n = 13.51 \times 1.22 = 16.48 \text{ fps}) \\ h_v = 4.22$$

APPROVED
FOR SUBMITTAL
DATE 2-1-85
BY JCA

STA. 2+51 - 42" X 18" WYE - CONTROL

$$Inv. = 19.74, D = 3.50', S_o = 0.0240, L = 34'$$

$$Q = 130/120 \text{ cfs } K = 1006, V = 13.51/12.47 \text{ fps}, h_v = 2.84/2.42$$

Assume 10 cfs contribution from Type D catch basin @ Ouray Rd.

Junction Loss:

$Q_1 = 120 \text{ cfs}$	$Q_2 = 130 \text{ cfs}$	$Q_3 = 10 \text{ cfs}$
$D_1 = 3.50'$	$D_2 = 3.50'$	$D_3 = 1.50'$
$A_1 = 9.621 \text{ ft}^2$	$A_2 = 9.621 \text{ ft}^2$	$A_3 = 1.767 \text{ ft}^2$
$V_1 = 12.47 \text{ fps}$	$V_2 = 13.51 \text{ fps}$	$V_3 = 5.66 \text{ fps}$
$S_{f1} = 0.0142$	$S_{f2} = 0.0167$	$\Theta = 45^\circ$
$h_{v1} = 2.42'$	$h_{v2} = 2.84$	

$$\Delta y = \frac{130 \times 13.51 - 120 \times 12.47 - 10 \times 5.66 \cos 45^\circ}{\sqrt{2}(9.621 + 9.621)32.2} = 0.71'$$

$$h_j = 0.71 + 2.42 - 2.84 = \underline{\underline{0.28'}}$$

STA. 2+85 - VPI

$$Inv. = 20.56, D = 3.50, S_o = 0.0240/0.0140, L = 230'$$

$$Q = 120 \text{ cfs } K = 1006, V = 12.47 \text{ fps}, h_v = 2.42'$$

STA. 5+15 - VPI ; 48" X 42" REDUCER

$$Inv. = 23.78, D = 3.50/4.00', S_o = 0.0149/0.0120, L = 5'$$

$$Q = 120 \text{ cfs } K = 1006/1436, V = 12.47/9.55, h_v = 2.42/1.42$$

$$h_t = 0.07 \times 2.42 = \underline{\underline{0.17'}}$$

STA. 5+20.06 - 48" RCP BEND, 34°

$$Inv. = 23.84, D = 4.00', S_o = 0.0120, L = 175'$$

$$Q = 120 \text{ cfs } K = 1436, V = 9.55 \text{ fps}, h_v = 1.42'$$

$$h_b = 0.20 \sqrt{34/90} \times 1.42 = \underline{\underline{0.17'}}$$

STA. 6+94.72 - CATCH BASIN, TYPE DEL "D"

$$\text{Inv} = 25.94/26.44, D = 4.00/3.50', S_o = 0.0120/0.010, L = 10'$$

$$Q = 120/85 \text{ cfs}, K = 1436/1006, V = 9.55/8.83, h_v = 1.42/1.21$$

Consider as a junction manhole; Assume inlet distribution of 20 cfs in each upstream inlet, 15 cfs in each downstream inlet (= 70 cfs street flow in Piedra Lumbre per Drainage Plan)

$Q_1 = 85 \text{ cfs}$	$Q_2 = 120 \text{ cfs}$	$Q_3 = 20 \text{ cfs}$	$Q_4 = 15 \text{ cfs}$
$D_1 = 3.50'$	$D_2 = 4.00'$	$D_3 = 2.0'$	$D_4 = 2.13 \times 2.95$
$A_1 = 9.621 \text{ ft}^2$	$A_2 = 12.566 \text{ ft}^2$	$A_3 = 3.142 \text{ ft}^2$	$A_4 = 6.26 \text{ ft}^2$
$V_1 = 8.83 \text{ fps}$	$V_2 = 9.55 \text{ fps}$	$V_3 = 6.37 \text{ fps}$	$V_4 = 2.40 \text{ fps}$
$S_{f1} = 0.0071$	$S_{f2} = 0.0070$	$\Theta = 70^\circ$	$\Theta = 90^\circ$
$h_{v1} = 1.21'$	$h_{v2} = 1.42'$		
	$\Theta = 23^\circ$		

$$\Delta y = \frac{120 \times 9.55 - 85 \times 8.83 \cos 23^\circ - 20 \times 6.37 \cos 70^\circ - 15 \times 2.40 \cos 90^\circ}{\frac{1}{2}(9.621 + 12.566) 32.2}$$

$$\Delta y = 1.15'$$

$$h_j = 1.15 + 1.21 - 1.42 = \underline{\underline{0.94'}}$$

$$h_{m.h.} = 0.05 \times 1.42 = \underline{\underline{0.07'}}$$

STA. 7+05 - 42" x 24" WYE, 45°

$$\text{Inv} = 26.54, D = 3.50', S_o = 0.010, L = 45'$$

$$Q = 85/70 \text{ cfs}, K = 1006, V = 8.83/7.28 \text{ fps}, h_v = 1.21/0.82$$

Junction Loss

$Q_1 = 70 \text{ cfs}$	$Q_2 = 85 \text{ cfs}$	$Q_3 = 15 \text{ cfs}$
$D_1 = 3.50'$	$D_2 = 3.50'$	$D_3 = 3.50'$
$A_1 = 9.621 \text{ ft}^2$	$A_2 = 9.621 \text{ ft}^2$	$A_3 = 9.621 \text{ ft}^2$
$V_1 = 7.28 \text{ fps}$	$V_2 = 8.83 \text{ fps}$	$V_3 = 4.77 \text{ fps}$
$S_{f1} = 0.0048$	$S_{f2} = 0.0071$	$\Theta = 45^\circ$
$h_{v1} = 0.82'$	$h_{v2} = 1.21'$	

$$\Delta y = \frac{85 \times 8.83 - 70 \times 7.28 - 15 \times 4.77 \cos 45^\circ}{\frac{1}{2}(9.621 + 9.621) 32.2} = 0.61'$$

$$h_j = 0.61 + 0.82 - 1.21 = \underline{\underline{0.22'}}$$

STA. 7+49.41 - SPCL. CATCH BASIN, TYPE "A" w/DBL. GRATE

$$Inv. = 26.99/31.85, Q = 70/50 \text{ cfs.}, n = 0.013$$

At the peak of a 100-yr storm, with 50 cfs in the channel behind the inlet and 70 cfs in Piedra Lumbre Street, the hydraulic grade line at the inlet is theoretically at the top of the bars in the grate if the amount of water taken by each inlet is as assumed, and 20 cfs would not make it into this inlet without exceeding the allowable 0.2' above top of curb.

Actually the entire low point intersection will be under water and the flows will adjust between all four inlet structures and get out somehow. The combined intake capacity of the 4 inlets in sump condition is ample for 70 cfs, and in any case the water will escape out to Curay Rd. if the inlets clog such as to cause the water level to rise above 0.2' over the top of curb.

Furthermore, in the channel above:

$$Q = (0.30 \times 10 + \frac{1}{2} \times 10.0 \times 0.33) \left(\frac{1.486}{0.013} \right) \left(\frac{4.67}{10.6} \right)^{7/2} \sqrt{0.03} = 53.5 \text{ cfs} \approx 50 \text{ cfs}$$

$$V_u = 11.45 \text{ fps}, h_u = 2.04$$

Thus with control @ the entrance to the structure:

$$\begin{array}{rcl} HGL & = & 31.85 + 0.33 + 0.30 = 32.48 \\ h_u & & 2.04 \\ EGL & = & 34.52 \end{array}$$

That is a fall in the EGL of 1.28' across the structure. Using the Thompson equation on the junction at the structure gives $h_j = 1.14'$. The truth is probably somewhere between these two numbers, which would indicate that the HGL shown is approximately correct and slightly conservative.

ALBUQUERQUE, N.M.

SUMMARY OF HYDRAULIC CALCULATIONS

CLOSED CONDUIT

BY: JC-a

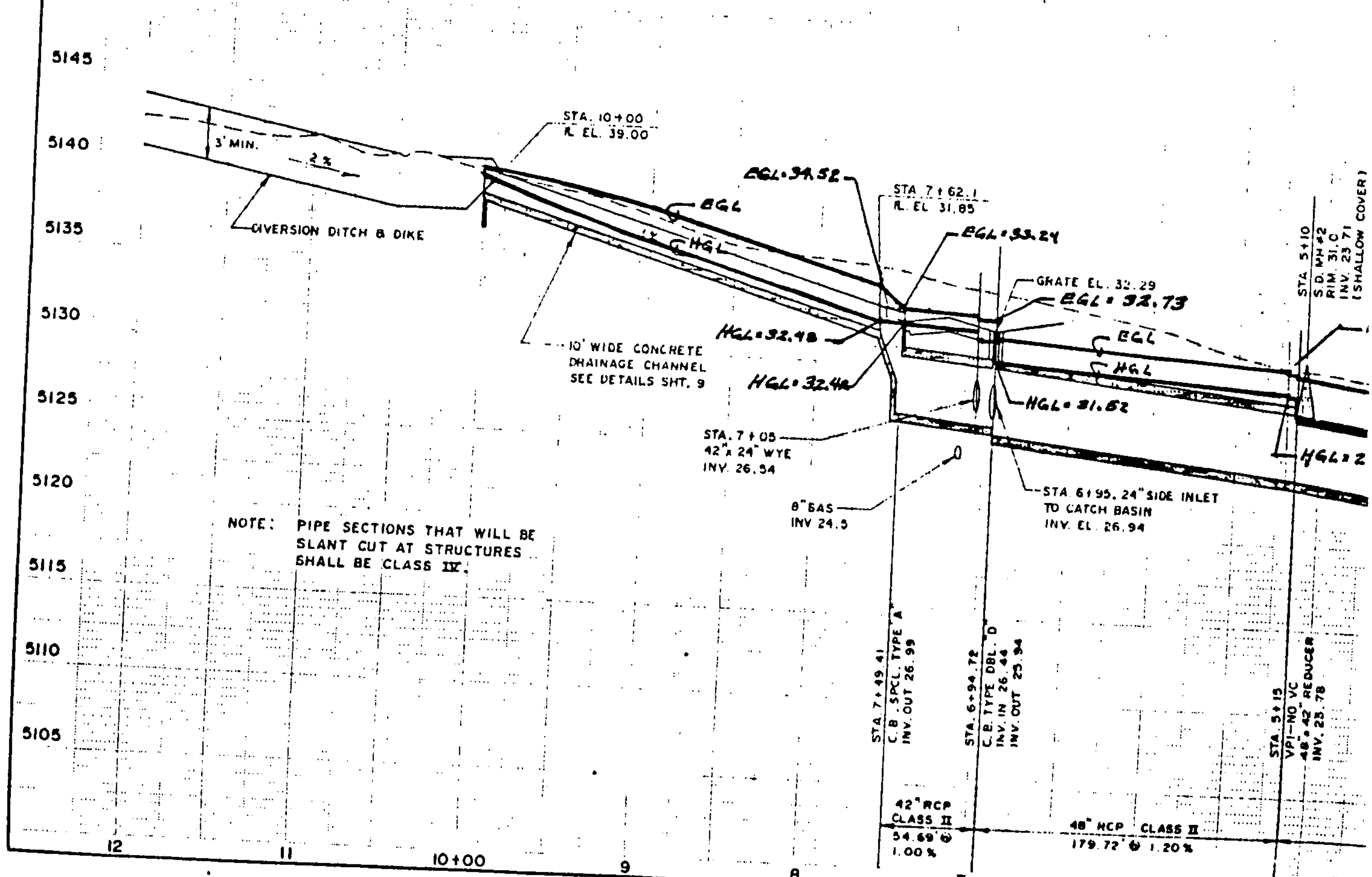
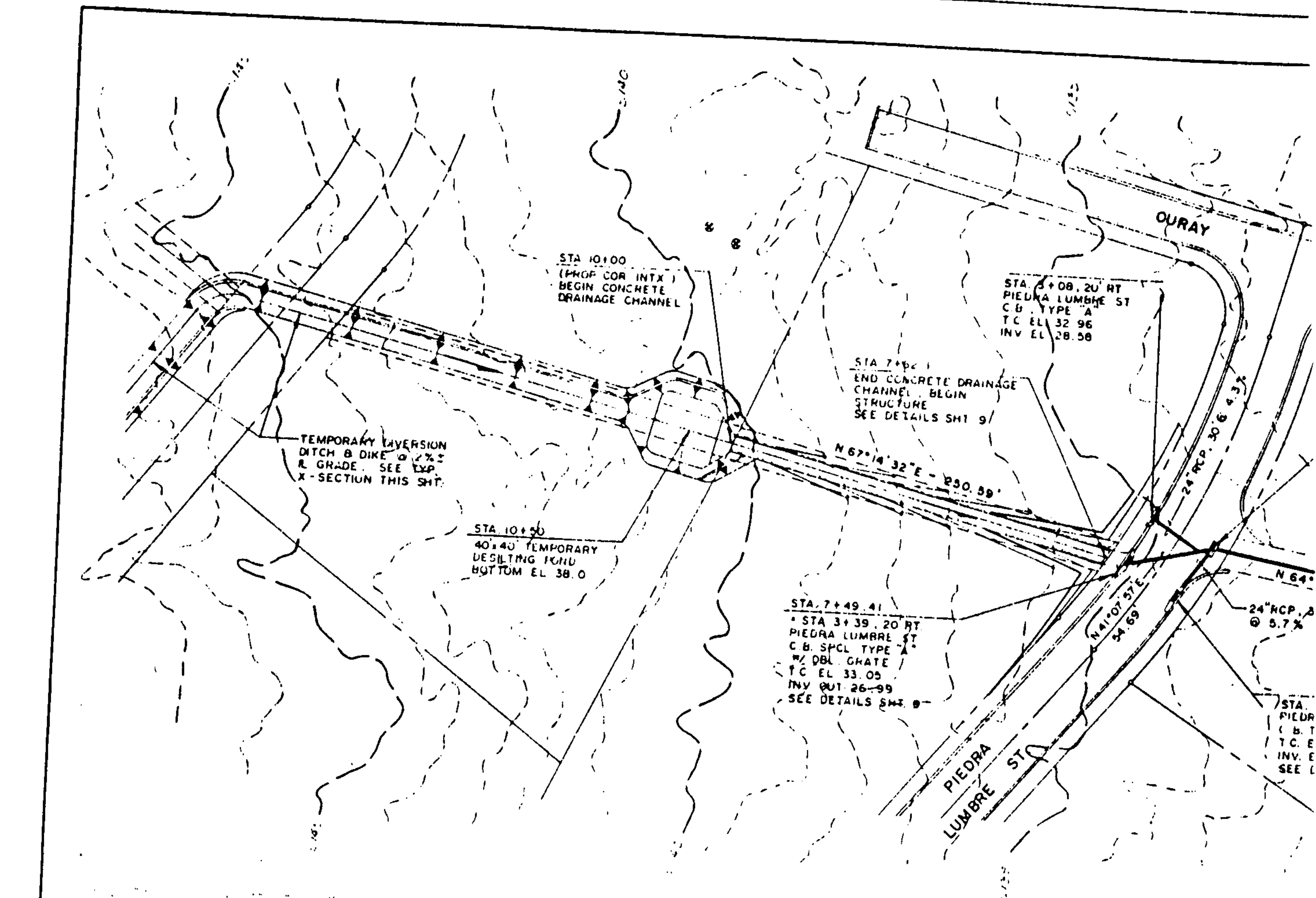
DATE: 2-1-85

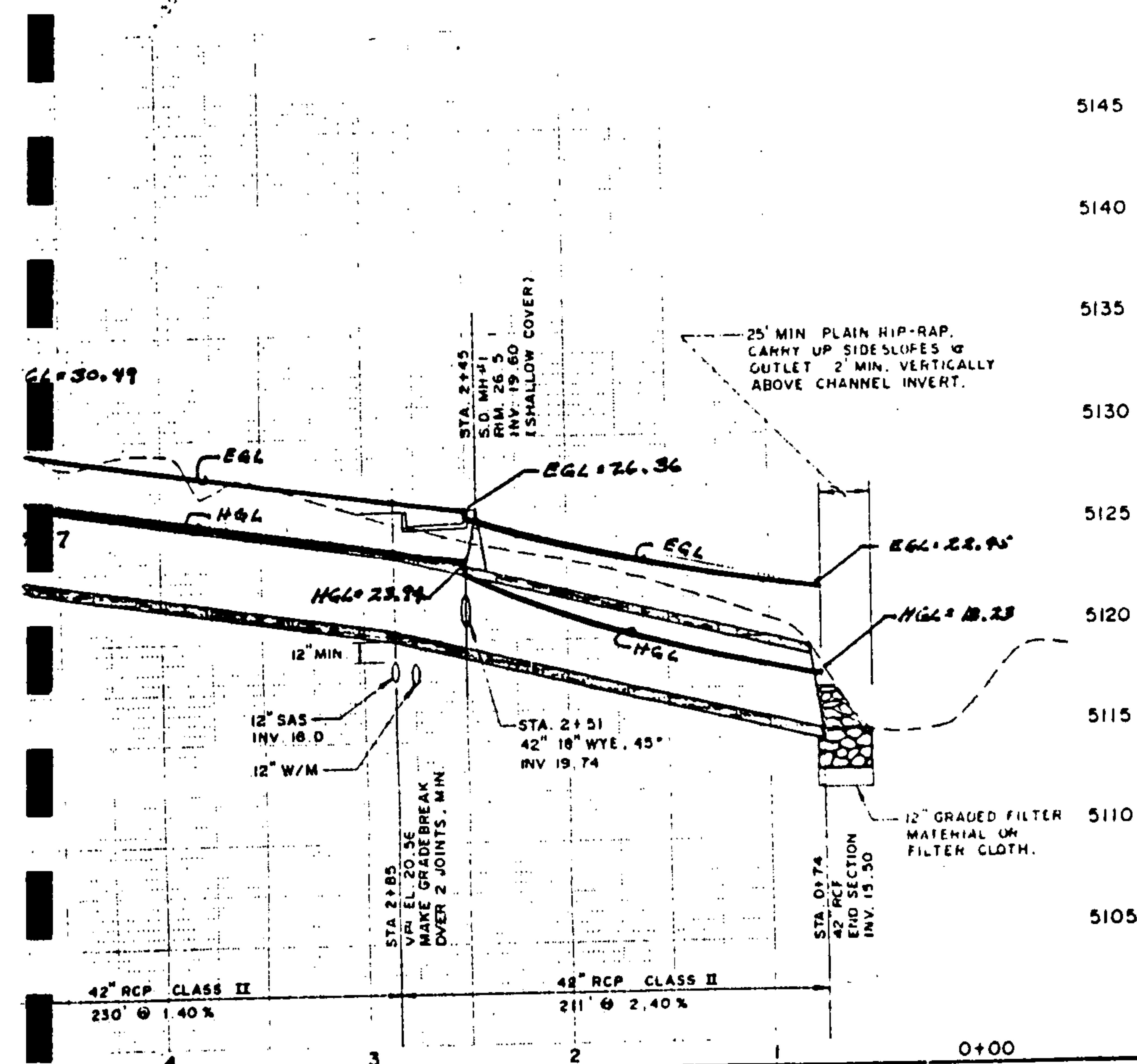
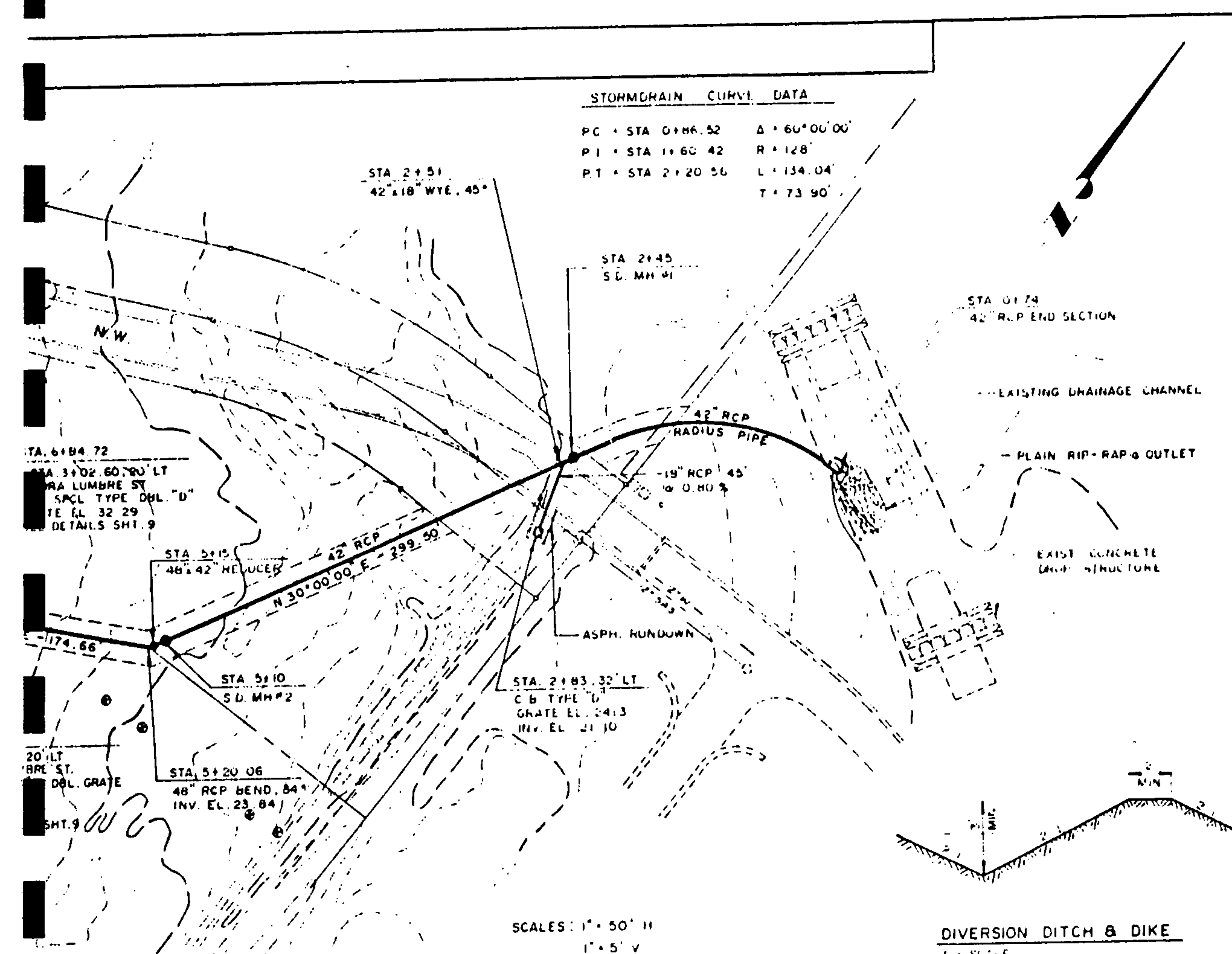
SHEET: 1 OF 1

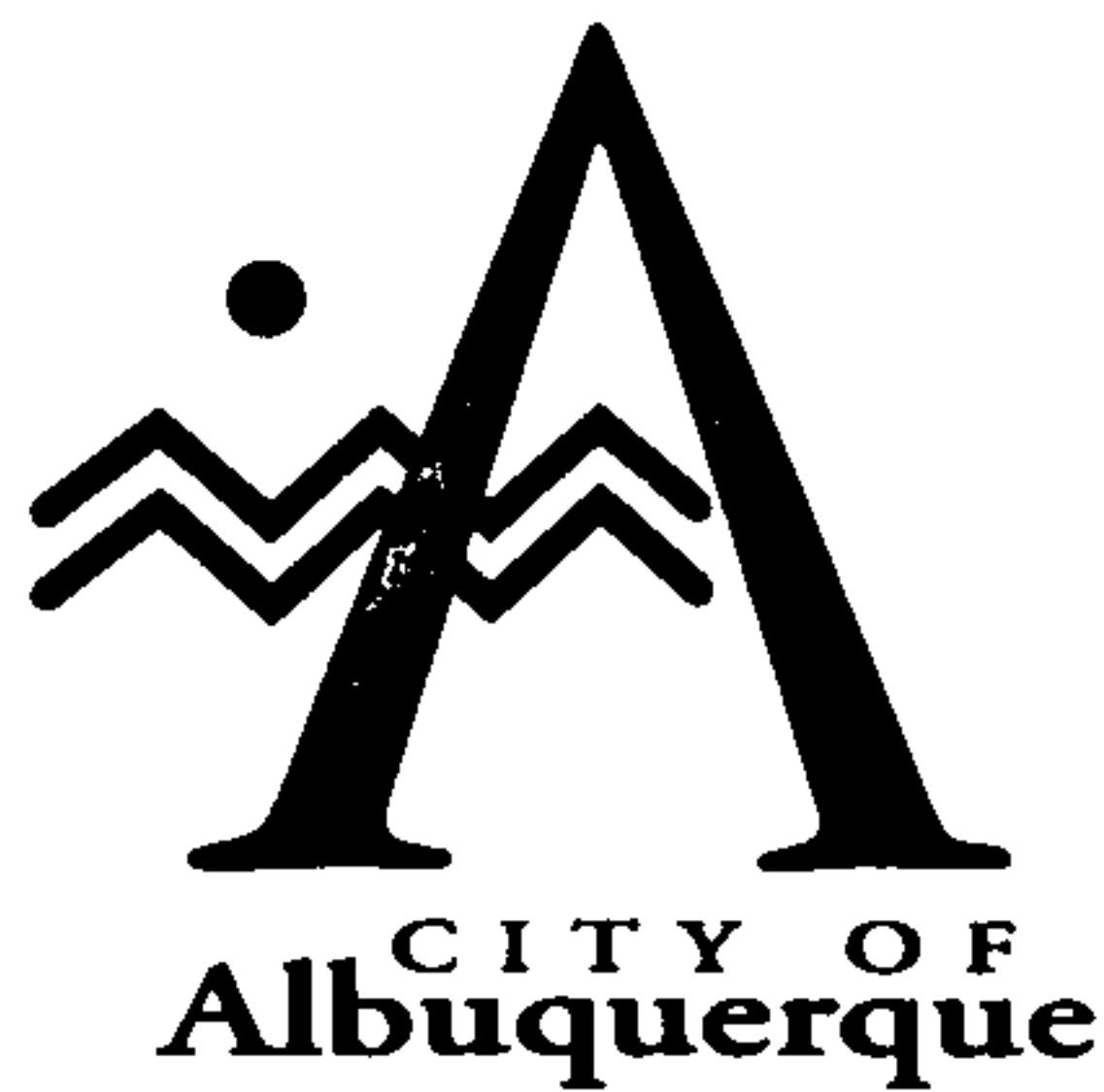
PROJECT: VOLCANO BUSINESS PARK

LINE:

[illegible]



[illegible]



November 26, 1996

Martin J. Chávez, Mayor

Celia Tomlinson
Rhombus P.A., Inc.
2620 San Mateo NE Suite B
Albuquerque, NM 87110

**RE: DRAINAGE PLAN FOR LOT 2, VOLCANO BUSINESS PARK
(G10-D29E) ENGINEER'S STAMP DATED 11/18/96.**

Dear Ms. Tomlinson:

Based on the information provided on your November 18, 1996 submittal, listed are some concerns that will need to be addressed prior to final approval:

1. Above referenced site is within S.U.1 zoning, EPC/DRB approval may be required. Please confirm with the Planning Department. Retention ponds are not allowed per ordinance.
2. You will need to analyze capacity of the existing inlet north of Lot 1, then back track and pro rate required cfs/acre for fully developed conditions from lot 7 through lot 2. Analysis existing swale within the 40' private drainage easement. Swale improvements will need to be designed for erosion protection for both on-site and off-site flows.
3. Once you determine the required cfs/acre, you may use the hydro graph found in the new Ahymo to determine release rate and ponding requirement.
4. You may want to use the same concept that Lot 1 used to pond and release utilizing the existing 42' r.c.p. adjacent to the site. If you choose to take this option, the tie in will need to be coordinated through D.R.C.
5. The finish floor elevation must be to full mean sea level designation.
6. Elevation at the property line must be 1' foot above the flow line so as to create the required 1' foot water block.

Good for You, Albuquerque!



Celia Tomlinson

Page 2

7. Please check your computations for the developed conditions. I compute 2.52 cfs.

If I can be of further assistance, please feel free to contact me at 768-2667.

Sincerely,

A handwritten signature in black ink, reading "Bernie J. Montoya". The signature is written in a cursive, flowing style.

Bernie J. Montoya, CE
Engineering Associate

BJM/dl

c: Andrew Garcia
File

DRAINAGE INFORMATION SHEET

PROJECT TITLE: LOT 2 VOLCANO BUSINESS PARK ZONE ATLAS/DRNG. FILE #: G10/N295

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

LEGAL DESCRIPTION: LOT 2 VOLCANO BUSINESS PARK

CITY ADDRESS: 3021 TODOS SANTOS NW

ENGINEERING FIRM: RHOMBUS P.A., Inc. CONTACT: Celia Tomlinson

ADDRESS: 2620 San Mateo NE Suite B PHONE: 881-6690
Albuquerque, NM 87110

OWNER: LARRY KOLEK & RON CASTLEMAN CONTACT: LARRY KOLEK
PARTNERS PHONE: 831-6966

ADDRESS: 3021 TODOS SANTOS NW
SUITE F, ALBUQUERQUE 87120

ARCHITECT: MIGUEL TRUJILLO ARCHITECT CONTACT: MIGUEL TRUJILLO

ADDRESS: _____ PHONE: 292-9654 296-9494

SURVEYOR: RHOMBUS CONTACT: John Miers, PS

ADDRESS: 2620 San Mateo NE Suite B PHONE: 881-6690
Albuquerque, NM 87110

CONTRACTOR: UNKNOWN CONTACT: NA

ADDRESS: NA PHONE: NA

TYPE OF SUBMITTAL:

☐ DRAINAGE REPORT

☒ DRAINAGE PLAN

☐ CONCEPTUAL GRADING & DRAINAGE PLAN

☒ GRADING PLAN

☐ EROSION CONTROL PLAN

☐ ENGINEER'S CERTIFICATION

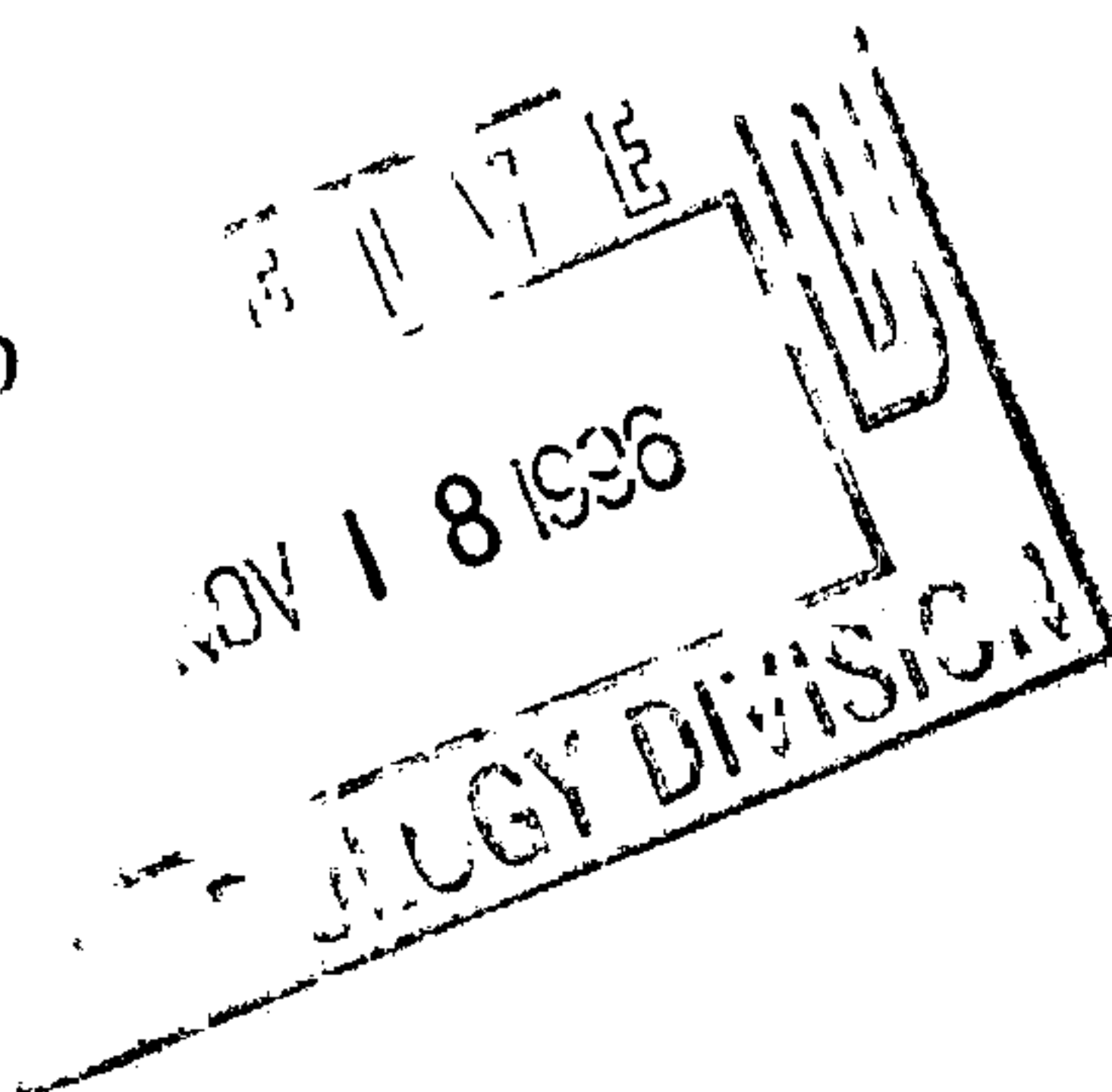
☐ OTHER _____

PRE-DESIGN MEETING:

☒ YES

☐ NO

☒ COPY PROVIDED



CHECK TYPE OF APPROVAL SOUGHT:

☐ SKETCH PLAT APPROVAL

☐ PRELIMINARY PLAT APPROVAL

☐ S. DEV. PLAN FOR SUB'D. APPROVAL

☐ S. DEV. PLAN FOR BLDG. PERMIT APPROVAL

☐ SECTOR PLAN APPROVAL

☐ FINAL PLAT APPROVAL

☒ FOUNDATION PERMIT APPROVAL

☒ BUILDING PERMIT APPROVAL

☐ CERTIFICATE OF OCCUPANCY APPROVAL

☐ GRADING PERMIT APPROVAL

☐ PAVING PERMIT APPROVAL

☐ S.A.D. DRAINAGE REPORT

☐ DRAINAGE REQUIREMENTS

☐ SUBDIVISION CERTIFICATION

☐ OTHER _____ (SPECIFY)

DATE SUBMITTED: 11/18/96

BY: Celia Tomlinson

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

PRE-DESIGN CONFERENCE

DRAINAGE FILE/ZONE ATLAS PAGE NO.: G-10 DATE: 11-8-96

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

SUBJECT: Volcano Business Park

STREET ADDRESS: Todos Santos St NW

LEGAL DESCRIPTION: Lot 2 Volcano Business Park

APPROVAL REQUESTED: _____ PRELIMINARY PLAT _____ FINAL PLAT _____
_____ SITE DEVELOPMENT PLAN X BUILDING PERMIT _____
_____ GRADING/PAVING PERMIT _____ OTHER _____

ATTENDANCE: John P. Curtin WHO CO. A. PWD/Hyd REPRESENTING
Celia Tomlinson

FINDINGS:
(G10/D29) Master Plan by Easterling in Feb 13, 1985. sets criteria for site. Also review File (G-10/D29A) Lot 1.

~~Storm~~ Storm Drain & Inlets in Todos Santos were constructed by Project 26-2404-85.

Calculate On-Site Hydrology. Identify off-site flows. Implement downstream capacity criteria from Easterling Master Plan.

FIRM 326 indicates that the site is in Zone X outside the 500 yr floodplain

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

SIGNED: John P. Curtin SIGNED: Celia Tomlinson
TITLE: CE/Hydrology TITLE: Pres.
DATE: 11-8-96 DATE: 11/8/96

Project:

Project No.:

22-Nov-96

Calculations: Total Basin

Calculations are based on "Section 22.2 Hydrology of the Development Process Manual, Volume 2, Design Criteria for the City of Albuquerque, New Mexico, January 1993 - basins < 40 acres".

Precipitation Zone = 1

Depth at 100-year, 6-hour storm: (Table A-2)

P = 2.20

Land Treatments:

From Table 5 - Percent Treatment D

Single Family Residential =

$7 \cdot \text{SQR}((N \cdot N) + (5 \cdot N))$

where N = units/acre

N = ----- = -----, ok < 6

N = 0.00

Therefore Percent Treatment D 0.00%

(includes local streets)

Areas: (acres)	Existing	Proposed
Treatment A	1.00	0.00
Treatment B	0.00	0.79
Treatment C	0.00	0.00
Treatment D	0.00	0.21
Total (acres) =	1.00	1.00

Volume	100 year Existing	100 year Proposed	10 year Existing	10 year Proposed
Volume (acre-feet) =	0.04	0.08	0.01	0.04
Volume (cubic feet) =	1,597	3,423	290	1,576

Total Q(p), cfs:	100 year Existing Q(p) * A	100 year Proposed Q(p) * A	10 year Existing Q(p) * A	10 year Proposed Q(p) * A
Treatment A	1.29	0.00	0.24	0.00
Treatment B	0.00	1.60	0.00	0.60
Treatment C	0.00	0.00	0.00	0.00
Treatment D	0.00	0.92	0.00	0.61
Total Q (cfs) =	1.29	2.52	0.24	1.21

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

PRE-DESIGN CONFERENCE

DRAINAGE FILE/ZONE ATLAS PAGE NO.: G-10 DATE: 11-8-96
EPC NO.: _____ DRB NO.: _____ ZONE: _____
SUBJECT: Volcano Business Park
STREET ADDRESS: Todos Santos St NW
LEGAL DESCRIPTION: Lot 2 Volcano Business Park

APPROVAL REQUESTED: _____ PRELIMINARY PLAT _____ FINAL PLAT
_____ SITE DEVELOPMENT PLAN X BUILDING PERMIT
_____ GRADING/PAVING PERMIT _____ OTHER _____

ATTENDANCE: ^{WHO} John P. Curtin ^{REPRESENTING} CO. A. PWD/Hyd
Celia Tomlinson _____

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~~S&B~~ Storm Drain & Inlets in Todos Santos were constructed by Project 26-2404-85.
Calculate On-Site Hydrology. Identify off-site flows. Implement downstream capacity criteria from Easterling Master Plan.
FIRM 326 indicates that the site is in Zone X outside the 500 yr floodplain

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

SIGNED: John P. Curtin SIGNED: Celia Tomlinson
TITLE: CE/Hydrology TITLE: Pres
DATE: 11-8-96 DATE: 11/8/96

NOTE PLEASE PROVIDE A COPY OF THIS PRE-DESIGN FORM WITH _____