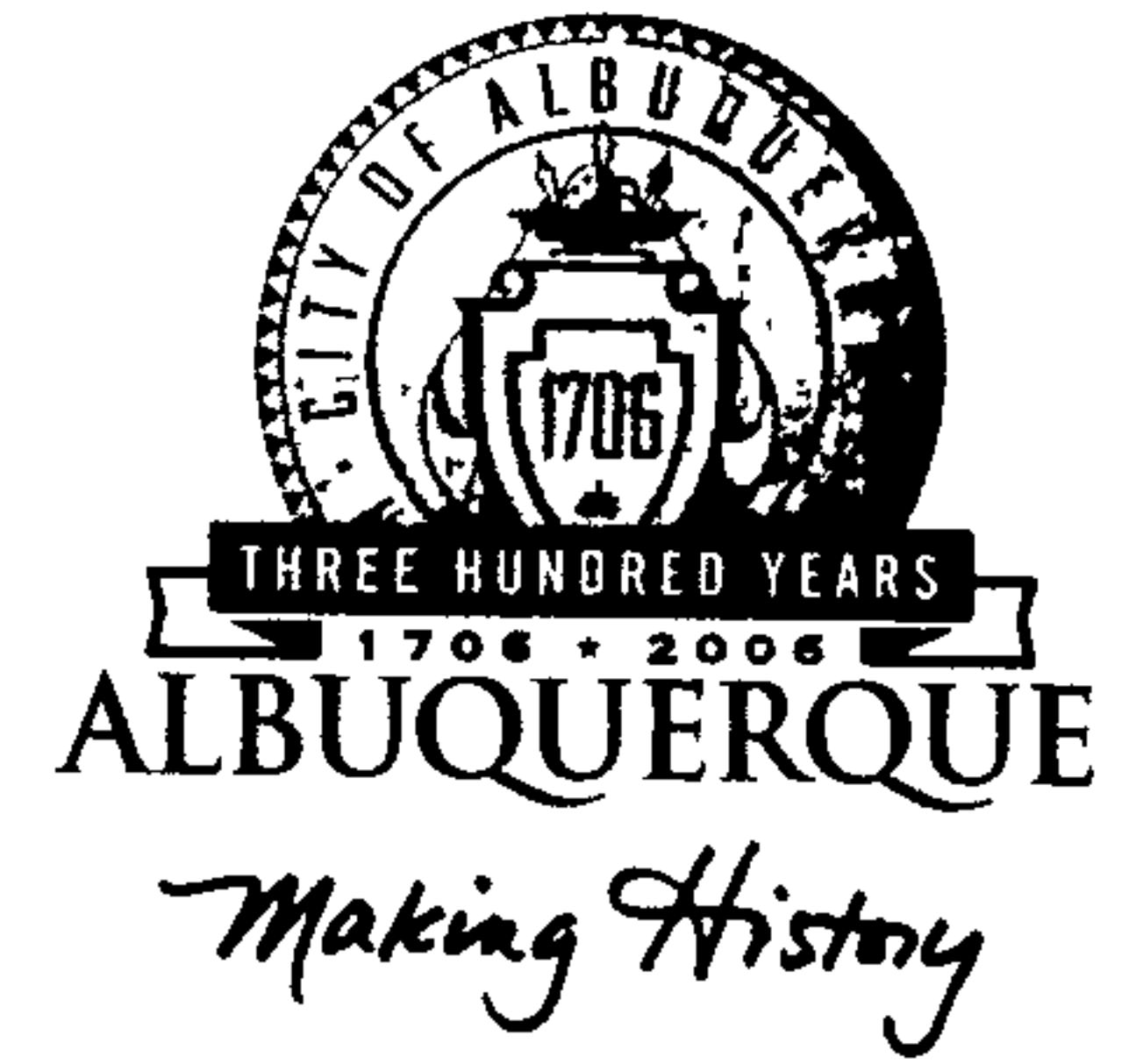


CITY OF ALBUQUERQUE



April 21, 2005

Scott M. McGee, P.E.
Isaacson & Arfman, P.A.
128 Monroe St. NE
Albuquerque, NM 87108

**Re: West Mesa Community Center, 5500 Glenrio Rd. NW
Grading and Drainage Plans - Engineer's Stamp dated 11-30-05 (J11 - D2)**

Dear Mr. McGee,

Based upon the information provided in your resubmittal dated 4-13-05, the above referenced plans are approved for Building Permit and Work Order. Please attach a copy of the approved plans to the construction sets prior to sign-off by Hydrology and prior to release of the Certificate of Occupancy an Engineer's Certification of the grading plan per the DPM checklist will be required.

Additionally, this project requires a National Pollutant Discharge Elimination System (NPDES) permit. Refer to the attachment that is provided with this letter for details. If you have any questions please feel free to call the Municipal Development Department, Hydrology section at 768-3654 (Charles Caruso).

If you have any questions, you can contact me at 924-3990.

Sincerely,

Phillip J. Lovato, E.I.
Engineering Associate, Planning Dept.
Development and Building Services

C: Charles Caruso, DMD
file

P.O. Box 1293

Albuquerque

New Mexico 87103

www.cabq.gov

DRAINAGE AND TRANSPORTATION INFORMATION SHEET
(REV. 1/28/2003id)

PROJECT TITLE: WEST MESA COMMUNITY CENTER ZONE MAP/DRG. FILE #: J-11 / D2
DRB #: _____ EPC#: _____ WORK ORDER#: 682091

LEGAL DESCRIPTION: TRACT A JOHN ADAMS MULTI-PURPOSE CENTER
CITY ADDRESS: 5500 GLENRIO RD SW

ENGINEERING FIRM: Isaacson & Arfman, P.A.
ADDRESS: 128 Monroe Street NE
CITY, STATE: Albuquerque, NM

CONTACT: SCOTT MCGEE
PHONE: (505) 268-8828
ZIP CODE: 87108

OWNER: CITY OF ALBUQUERQUE
ADDRESS: 5500 GLENRIO RD SW
CITY, STATE: ABQ, NM

CONTACT: _____
PHONE: 836-3487
ZIP CODE: 87105

ARCHITECT: CHERRY SEE ARCHITECTS
ADDRESS: 220 GOLD AVE SW
CITY, STATE: ABQ, NM

CONTACT: TINA REAMES
PHONE: 842-1278
ZIP CODE: 87102

SURVEYOR: _____
ADDRESS: _____
CITY, STATE: _____

CONTACT: _____
PHONE: _____
ZIP CODE: _____

CONTRACTOR: _____
ADDRESS: _____
CITY, STATE: _____

CONTACT: _____
PHONE: _____
ZIP CODE: _____

CHECK TYPE OF SUBMITTAL:

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

CHECK TYPE OF APPROVAL SOUGHT:

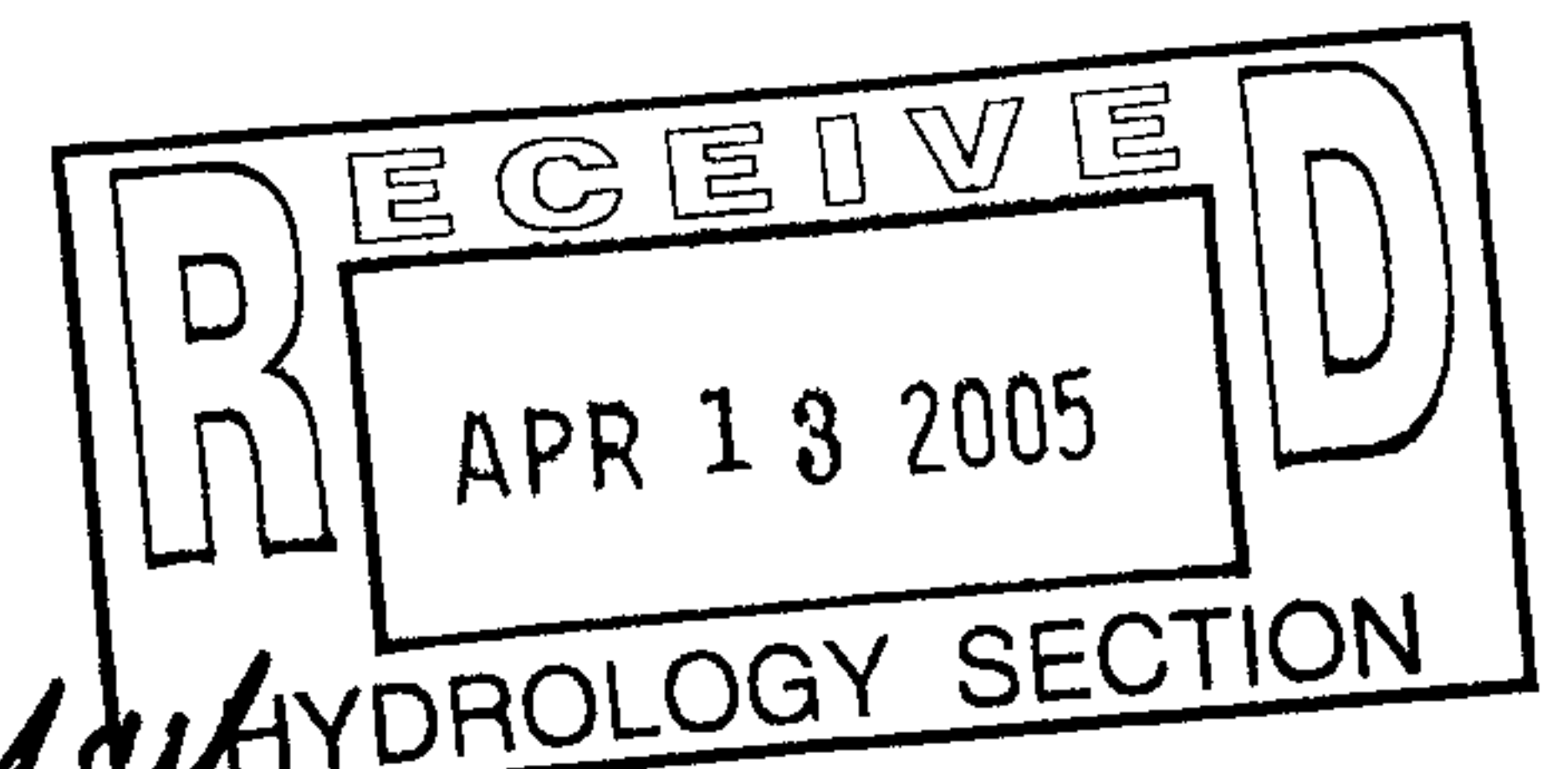
- _____ SIA / FINANCIAL GUARANTEE RELEASE
- _____ PRELIMINARY PLAT APPROVAL
- _____ S. DEV. PLAN FOR SUB'D. APPROVAL
- _____ S. DEV. PLAN FOR BLDG. PERMIT APPROVAL
- _____ SECTOR PLAN APPROVAL
- _____ FINAL PLAT APPROVAL
- _____ FOUNDATION PERMIT APPROVAL
- ☒ BUILDING PERMIT APPROVAL
- _____ CERTIFICATE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

WAS A PRE-DESIGN CONFERENCE ATTENDED:

- _____ YES
- _____ NO
- _____ COPY PROVIDED

[RESUBMITTAL]

DATE SUBMITTED: 4.13.05 BY: Scott McGee



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



ISAACSON & ARFMAN, P.A.

Consulting Engineering Associates

*Thomas O. Isaacson, PE & LS • Fred C. Arfman, PE
Scott M. McGee, PE*

April 13, 2005

Ms. Kristal Metro, E.A.
Hydrology Development Section
Development & Building Services Division
Planning Department
City of Albuquerque
P.O. Box 1293
Albuquerque, NM 87103

RE: West Mesa Community Center (J-11-D2)

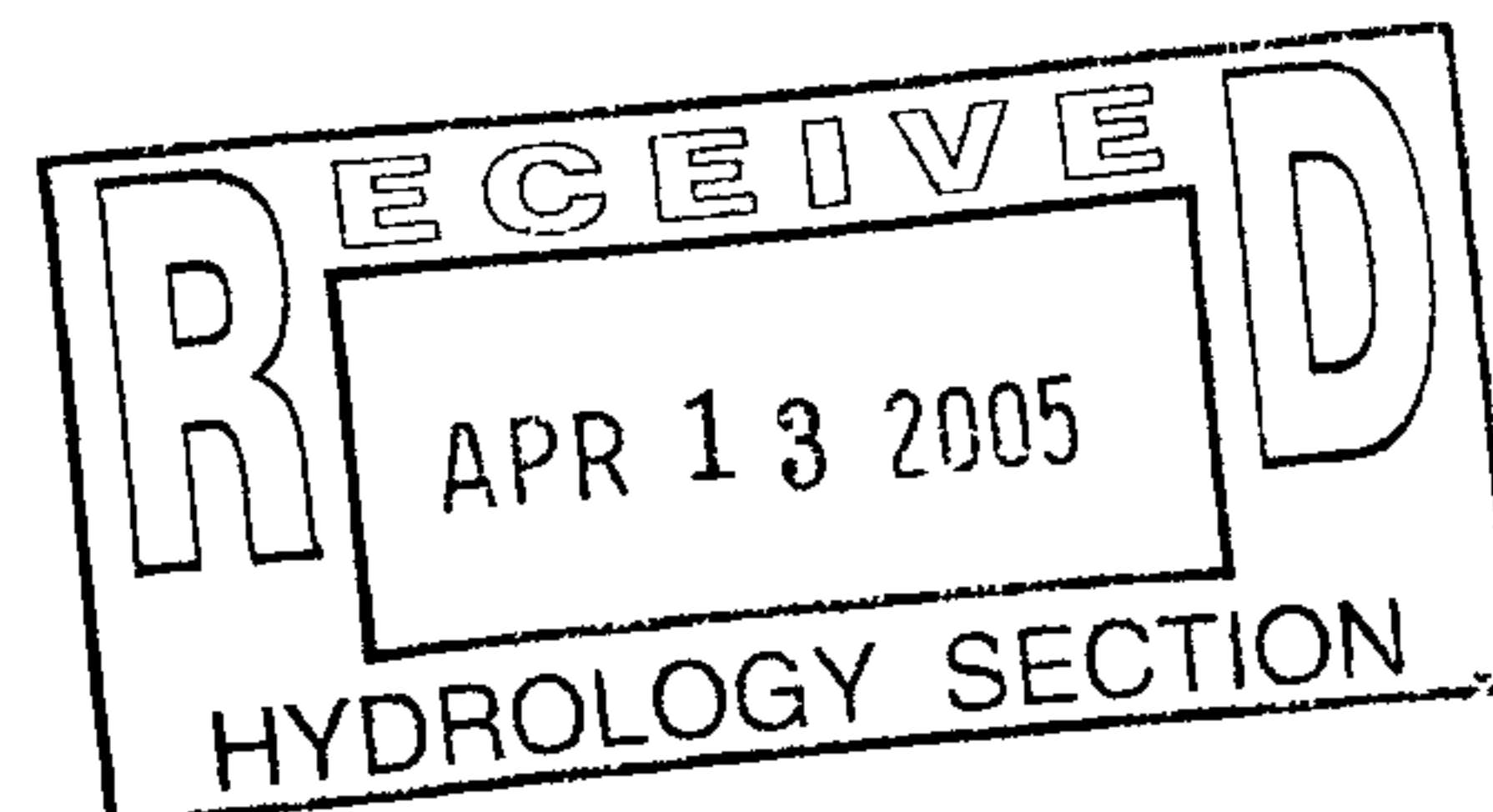
Dear Ms. Metro:

The referenced project is being resubmitted in response to your 12/08/04 comments. The entire project is being built under work order – city project no. 682091. Separate attached calculations including a narrative were submitted and approved previously (see 11/12/04 letter approving submittal dated 09/30/04). Apparently the 11/30/04 submittal did not include Sheet C002 as that includes legend, keyed notes, and vicinity map. The site is not within a flood plain (see attached map). If you should have any questions, please call me at 268-8828.

Sincerely,

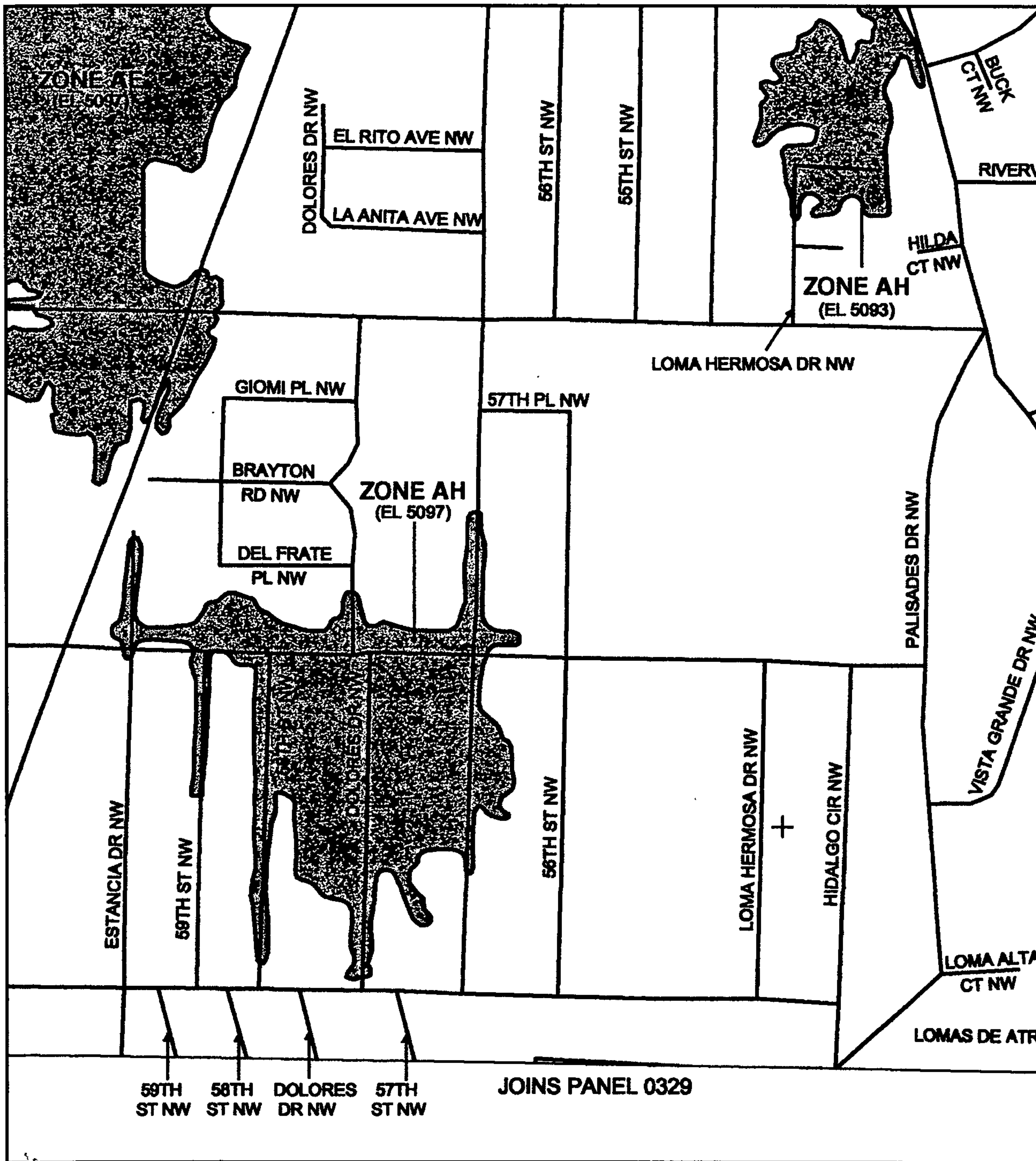
ISAACSON & ARFMAN, P.A.

Scott M. McGee, PE
SMM/rtl
Attachments

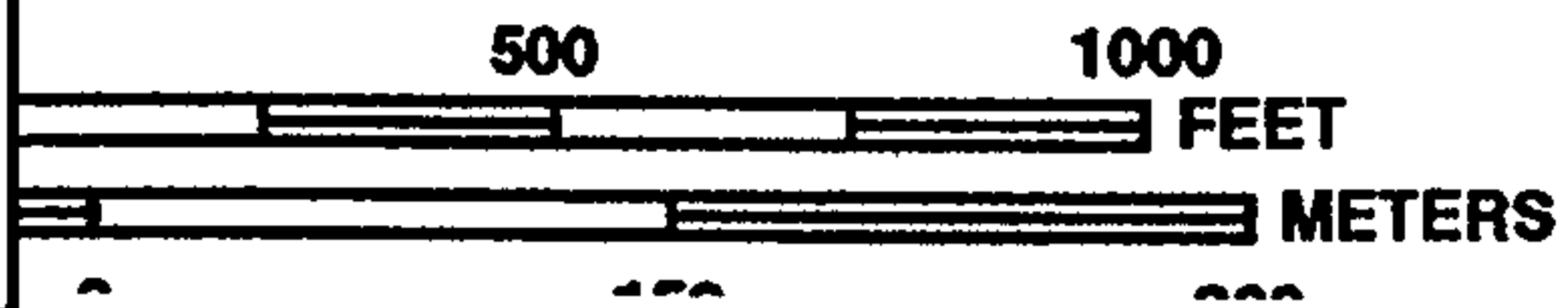


128 Monroe St. NE • Albuquerque, NM 87108 • (505) 268-8828 • FAX (505) 268-2632

M:\ACTIVE\PROJECT DOCUMENTS\1342\CORRESPONDENCE\OUT\Apr-13-05 Metro.doc



MAP SCALE 1" = 500'



PANEL 0327E

FIRM

FLOOD INSURANCE RATE MAP

**BERNALILLO COUNTY,
NEW MEXICO
AND INCORPORATED AREAS**

PANEL 327 OF 825

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
ALBUQUERQUE, CITY OF	350002	0327	E
BERNALILLO COUNTY	350001	0327	E

Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.



**MAP NUMBER
35001C0327E
MAP REVISED
NOVEMBER 19, 2003**

Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov

JOINS PANEL 0329

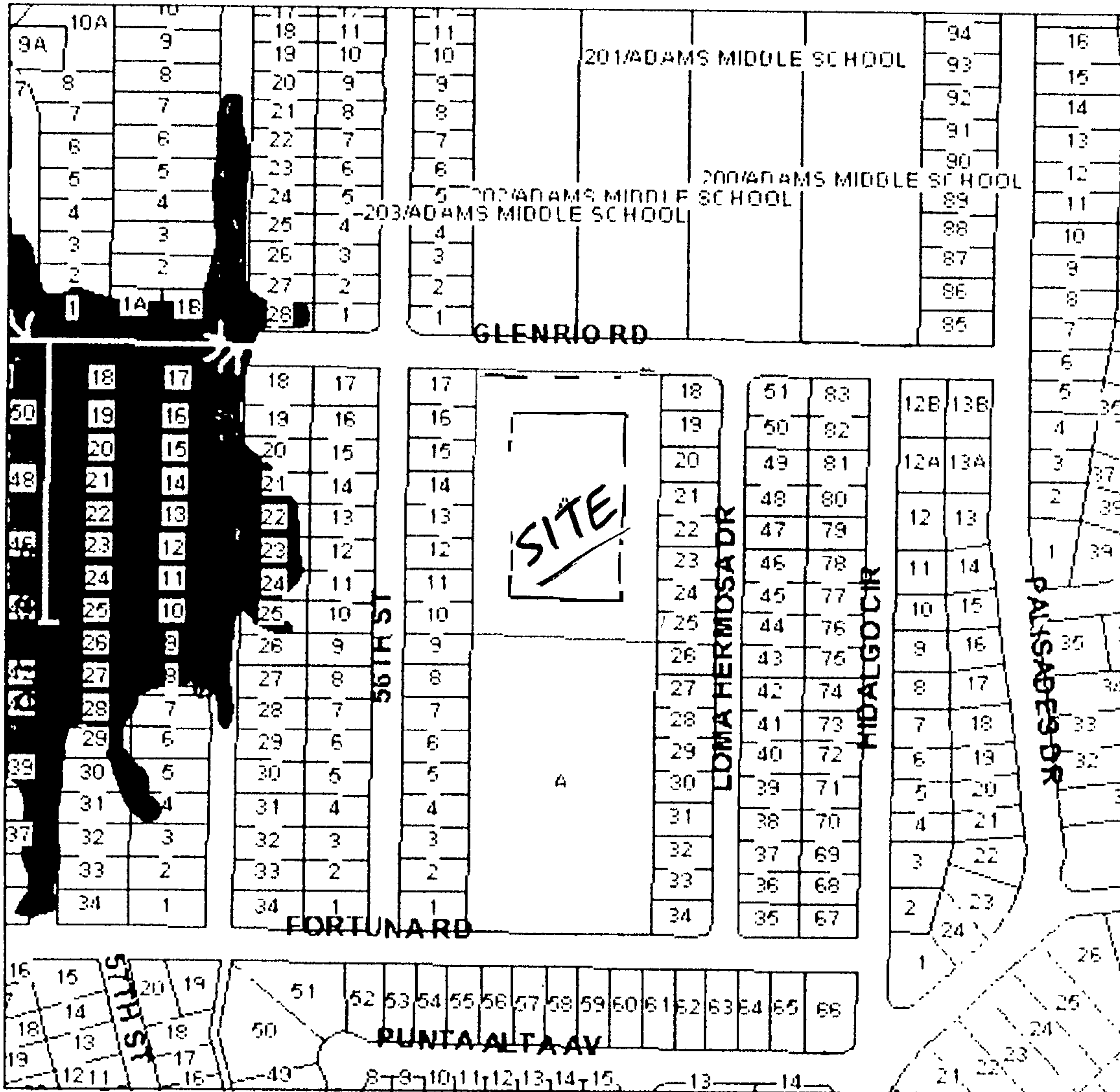
59TH ST NW 58TH ST NW DOLORES DR NW 57TH ST NW

ACTIVATE BUTTONS BY 'CLICKING' ON THE MAP

☐ Zoom In
 ☒ Id Address
 ☐ Id ZM
 ☐ Pan
 ☐ Zoom Out

LAYER LEGEND

- ☒ STREET NAMES
- ☐ PARKS
- ☐ CITY LIMITS
- ☐ ZONE MAP GRID
- ☐ NBR BOUNDARY
- ☐ COMMUNITY PLANNING
- ☐ WATER LINES
- ☐ SEWER LINES
- ☒ STORM DRAINS
- ☐ ZONING
- ☒ LOT NUMBERS
- ☐ ZIP CODES
- ☐ COUNCIL DISTRICTS
- ☒ FLOOD ZONES (disclaimer)
- ☒ PARCELS
- ☐ CONTROL STATIONS
- ☐ SENATE DIST.
- ☐ REPRESENTATIVE DIST.
- ☐ COUNTY COMMISSION DIST
- ☐ PARCEL ADDRESS
- ☐ CRIMINAL ACTIVITY
- ☐ PUBLIC FACILITIES
- ☐ LAND USE
- ☐ 1960 CITY LIMITS
- ☐ LANDFILLS/BUFFERS
- ☐ CRP LOCATIONS
- ☐ CASE HISTORY



ReDraw Screen

Flood Zones

☒ Zone A
 ☐ Zone AO
 ☒ Zone AH
 ☐ Zone AE

SHOW LOCATION MAP

SHOW 1999 AERIAL

Selected Address: 5500 GLENRIO RD NW

Zoning: SU-1 CHURCH & REL FAC **Lot/Block/Subd: A , 0000 , JOHN ADAMS MULTIPURPOSE CENTER**

Council District/Name: ONE , GOMEZ **County Commission: 1** **Rep District/Sen District: 16 , 26**

Nbr Assoc: WEST MESA R Comp. Plan: Established Urban

Voter Pct: 40

High Sch District: WEST MESA **Mid Sch District: ADAMS** **Elem Sch District: SUSIE RAYOS MARMAN**

ZoneMap Page: J11 **Jurisdiction: CITY**

Police Beat: 142/WESTSIDE

Flood Zone: ZONE X

Comm Plan Area: SOUTHWEST MESA

UPC #: 101105824033020802

Owner Name: CITY OF ALBUQUERQUE REAL ESTATE OFFICE

Owner City/State/Zip: ALBUQUERQUE / NM / 87103 1293 NM

Note: Accuracy for Owner info cannot be guaranteed correct.

Please check with the Bernalillo County Assessor for official data.

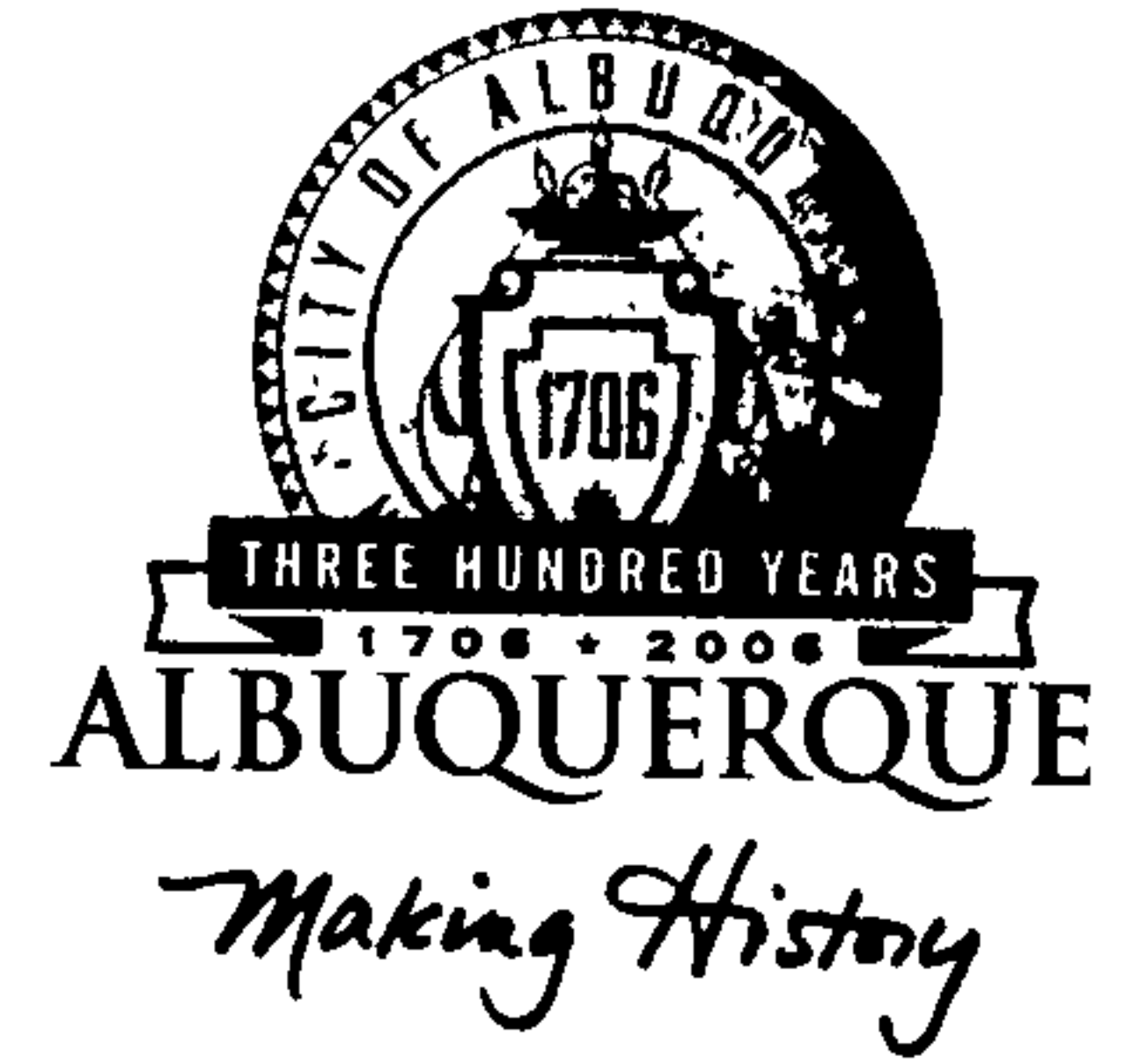
SEARCH FOR OTHER SERVICES AROUND THIS ADDRESS

ZOOM LEVEL

TEXT SIZE

NEW GIS QUERY

CITY OF ALBUQUERQUE



December 8, 2004

Scott McGee, P.E.
Isaacson & Arfman, P.A.
128 Monroe St. NE
Albuquerque, NM 87108

Re: West Mesa Community Center, 5500 Glenrio Road SW, Site Development Plan

Engineer's Stamp dated 11-30-04 (J11-D2)

Dear Mr. McGee,

Based upon the information provided in your submittal received 11-30-04, the above referenced plan is approved for Site Development Plan for Building Permit. Please address the following comments before applying for Building Permit:

1. Call out all items to be built under work order.
2. Provide an executive summary and calculations.
3. Where is the legend for the keyed notes?
4. Provide a vicinity map and flood plain map for the above referenced site.

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

Sincerely,

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

C: file

DRAINAGE AND TRANSPORTATION INFORMATION SHEET
(REV. 1/28/2003rd)

PROJECT TITLE: WEST MESA COMMUNITY CENTER ZONE MAP/DRG. FILE #: J-11 / D2
DRB #: _____ EPC#: _____ WORK ORDER#: _____

LEGAL DESCRIPTION: TRACT A JOHN ADAMS MULTI-PURPOSE CENTER
CITY ADDRESS: 5500 GLENRIO RD SW

ENGINEERING FIRM: Isaacson & Arfman, P.A.
ADDRESS: 128 Monroe Street NE
CITY, STATE: Albuquerque, NM

CONTACT: SCOTT MCGEE
PHONE: (505) 268-8828
ZIP CODE: 87108

OWNER: CITY OF ALBUQUERQUE
ADDRESS: 5500 GLENRIO RD SW
CITY, STATE: ABQ, NM

CONTACT: _____
PHONE: 836-3487
ZIP CODE: 87105

ARCHITECT: CHERRY SEE ARCHITECTS
ADDRESS: 220 GOLD AVE SW
CITY, STATE: ABQ, NM

CONTACT: TINA REAMES
PHONE: 842-1278
ZIP CODE: 87102

SURVEYOR: _____
ADDRESS: _____
CITY, STATE: _____

CONTACT: _____
PHONE: _____
ZIP CODE: _____

CONTRACTOR: _____
ADDRESS: _____
CITY, STATE: _____

CONTACT: _____
PHONE: _____
ZIP CODE: _____

CHECK TYPE OF SUBMITTAL:

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

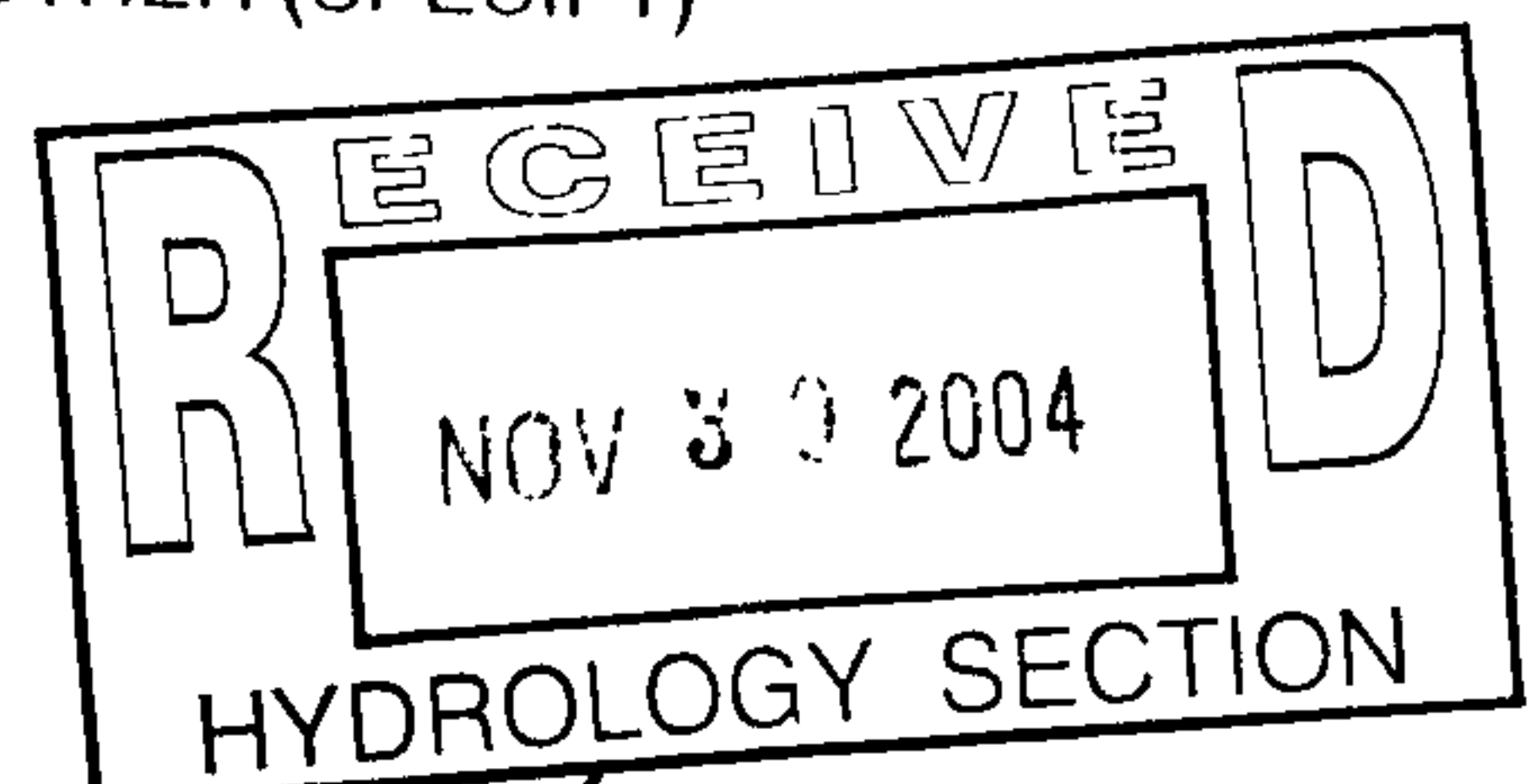
CHECK TYPE OF APPROVAL SOUGHT:

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

WAS A PRE-DESIGN CONFERENCE ATTENDED:

- ☐ YES
☐ NO
☐ COPY PROVIDED

RESUBMITTAL



DATE SUBMITTED: 11/30/04 BY: Scott McGee

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
P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

May 14, 2004

Scott McGee, P.E.
Isaacson & Arfman, P.A.
128 Monroe St. NE
Albuquerque, NM 87108

**Re: West Mesa Community Center, 5500 Glenrio Rd SW, Site Development Plan
Engineer's Stamp dated 3-31-04 (J11-D2)**

Dear Mr. McGee,

Based upon the information provided in your submittal received 3-30-04, the above referenced plan is approved for Site Development Plan for Building Permit action by the DRB.

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

Sincerely,

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

C: file

J-11/02

DRAINAGE AND TRANSPORTATION INFORMATION SHEET
(REV. 1/28/2003rd)

PROJECT TITLE: WEST MESA COMMUNITY CENTER ZONE MAP/DRG. FILE #: J-11
DRB #: _____ EPC#: _____ WORK ORDER#: _____

LEGAL DESCRIPTION: TRACT A JOHN ADAMS MULTI-PURPOSE CENTER
CITY ADDRESS: 5500 GLENRIO RD SW

ENGINEERING FIRM: Isaacson & Arfman, P.A.
ADDRESS: 128 Monroe Street NE
CITY, STATE: Albuquerque, NM

CONTACT: SCOTT MCGEE
PHONE: (505) 268-8828
ZIP CODE: 87108

OWNER: CITY OF ALBUQUERQUE
ADDRESS: 5500 GLENRIO RD SW
CITY, STATE: ABQ, NM

CONTACT: _____
PHONE: 836-3487
ZIP CODE: 87105

ARCHITECT: CHERRY SEE ARCHITECTS
ADDRESS: 220 GOLD AVE SW
CITY, STATE: ABQ, NM

CONTACT: TINA REAMES
PHONE: 842-1278
ZIP CODE: 87102

SURVEYOR: _____
ADDRESS: _____
CITY, STATE: _____

CONTACT: _____
PHONE: _____
ZIP CODE: _____

CONTRACTOR: _____
ADDRESS: _____
CITY, STATE: _____

CONTACT: _____
PHONE: _____
ZIP CODE: _____

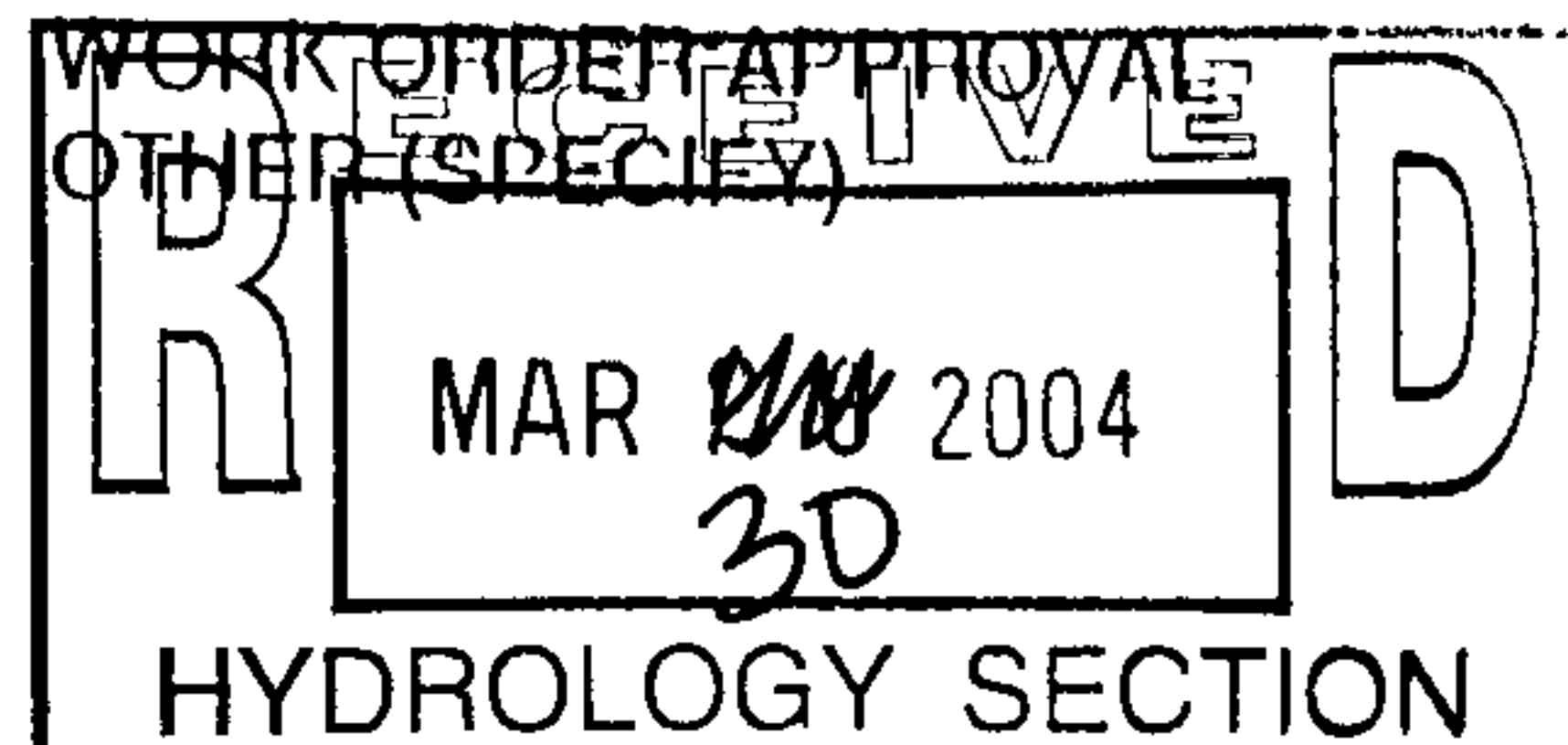
CHECK TYPE OF SUBMITTAL:

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

Stamp date → 3/31/04

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



WAS A PRE-DESIGN CONFERENCE ATTENDED:

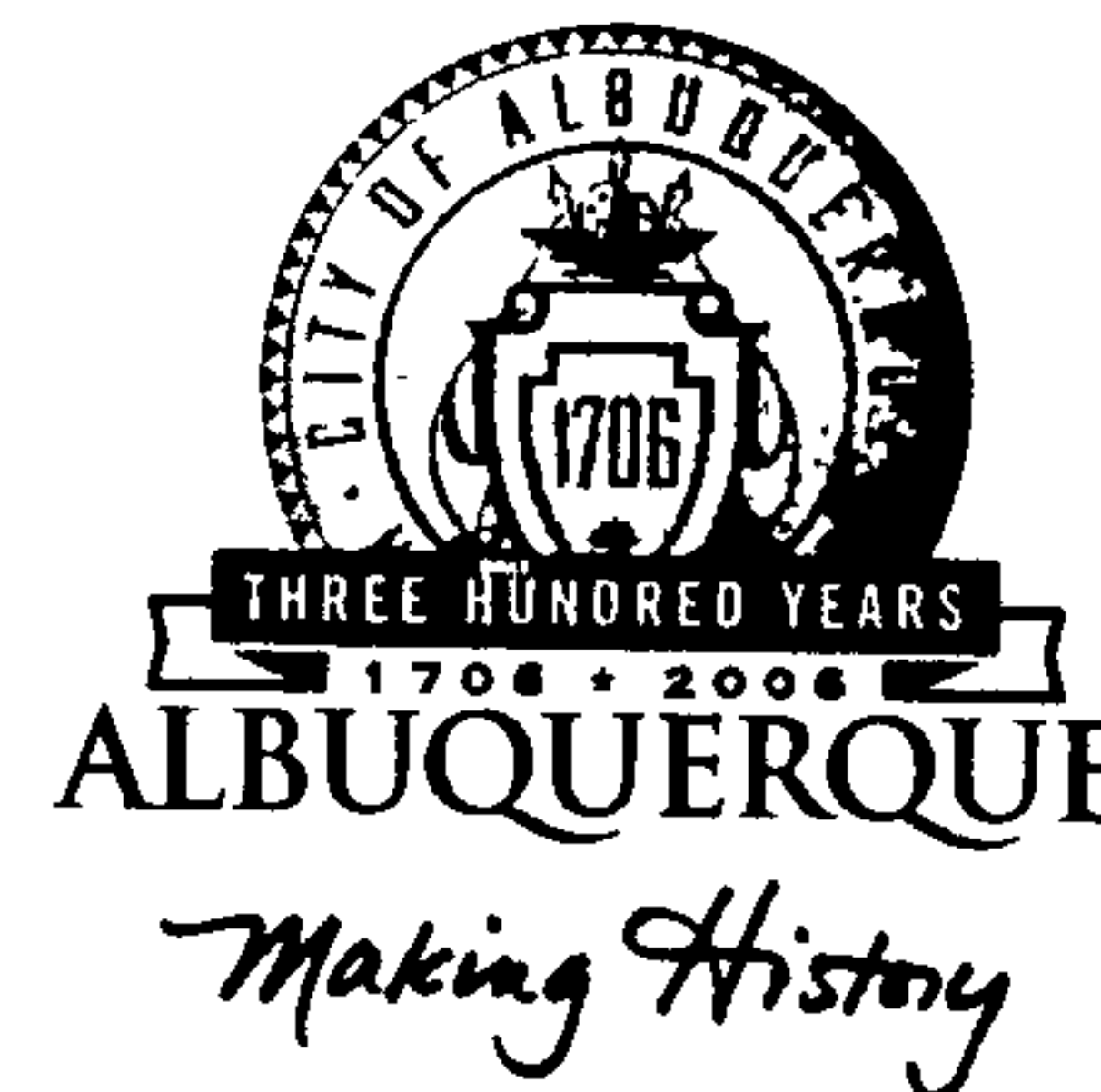
- ☐ YES
☐ NO
☐ COPY PROVIDED

DATE SUBMITTED: 3/26/04 BY: Scott M McGee

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.
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CITY OF ALBUQUERQUE



May 13, 2005

Scott McGee, P.E.
Isaacson & Arfman, P.A.
128 Monroe St. NE
Albuquerque, NM 87108

**Re: West Mesa Community Center, 5500 Glenrio Road SW, Grading and
Drainage Plan
Engineer's Stamp dated 5-09-05 (J11-D2)**

Dear Mr. McGee,

Based upon the information provided in your submittal received 5-11-05, the above referenced plan is approved for Building Permit. Please attach a copy of this approved plan to the construction sets prior to sign-off by Hydrology. Prior to Certificate of Occupancy release, Engineer Certification per the DPM checklist will be required.

P.O. Box 1293

Albuquerque

This project requires a National Pollutant Discharge Elimination System (NPDES) permit. If you have any questions regarding this permit please feel free to call the DMD Storm Drainage Design section at 768-3654 (Charles Caruso).

New Mexico 87103

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

www.cabq.gov

Sincerely,

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

C: Charles Caruso, DMD Storm Drainage Design
File

DRAINAGE AND TRANSPORTATION INFORMATION SHEET
(REV. 1/28/2003rd)

PROJECT TITLE: WEST MESA COMMUNITY CENTER ZONE MAP/DRG. FILE #: J-11 / D2
DRB #: _____ EPC#: _____ WORK ORDER#: 682091

LEGAL DESCRIPTION: TRACT A JOHN ADAMS MULTI-PURPOSE CENTER
CITY ADDRESS: 5500 GLENRIO RD SW

ENGINEERING FIRM: Isaacson & Arfman, P.A.
ADDRESS: 128 Monroe Street NE
CITY, STATE: Albuquerque, NM

CONTACT: SCOTT MCGEE
PHONE: (505) 268-8828
ZIP CODE: 87108

OWNER: CITY OF ALBUQUERQUE
ADDRESS: 5500 GLENRIO RD SW
CITY, STATE: ABQ, NM

CONTACT: _____
PHONE: 836-3487
ZIP CODE: 87105

ARCHITECT: CHERRY SEE ARCHITECTS
ADDRESS: 220 GOLD AVE SW
CITY, STATE: ABQ, NM

CONTACT: TINA REAMES
PHONE: 842-1278
ZIP CODE: 87102

SURVEYOR: _____
ADDRESS: _____
CITY, STATE: _____

CONTACT: _____
PHONE: _____
ZIP CODE: _____

CONTRACTOR: _____
ADDRESS: _____
CITY, STATE: _____

CONTACT: _____
PHONE: _____
ZIP CODE: _____

CHECK TYPE OF SUBMITTAL:

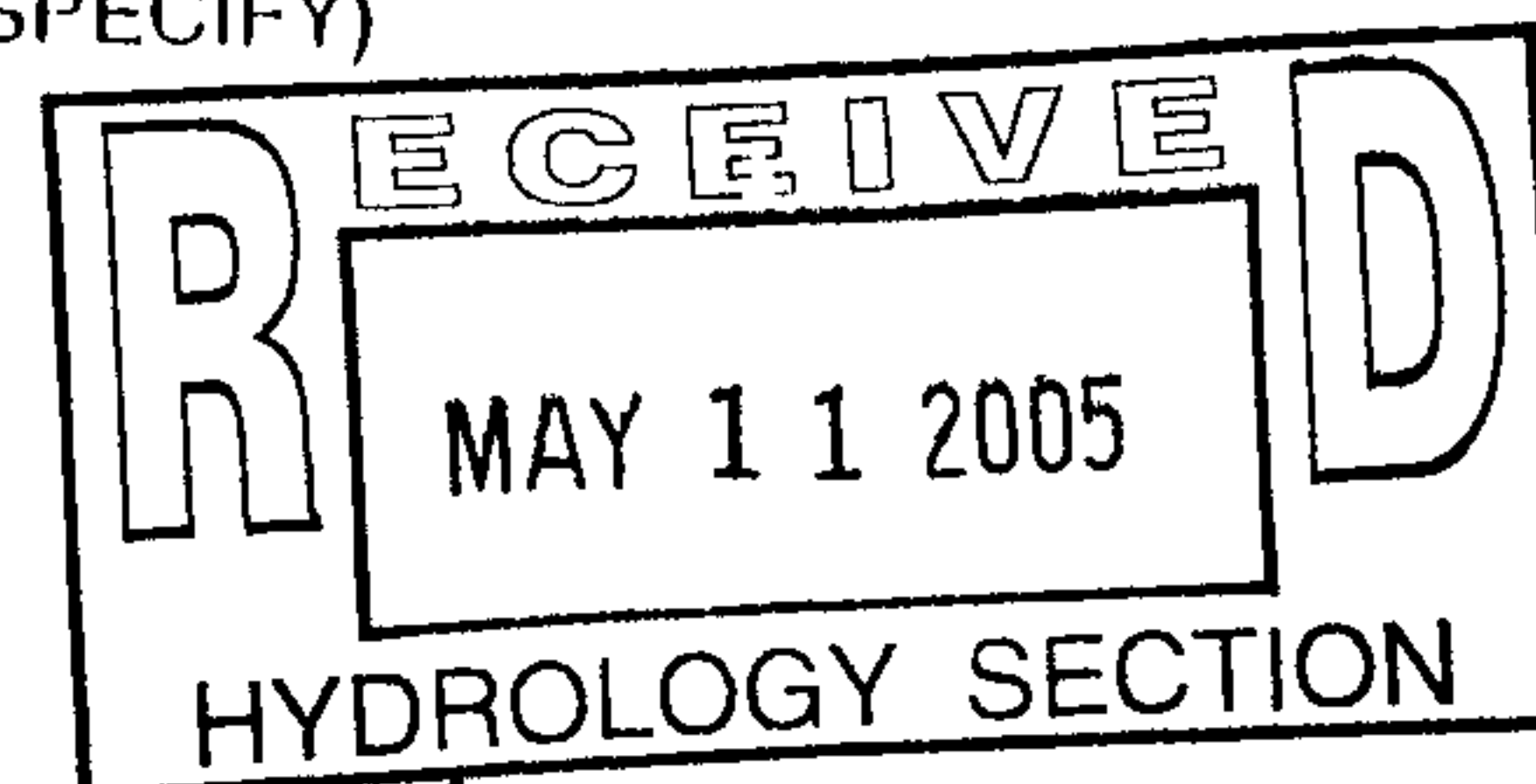
- _____ DRAINAGE REPORT
- _____ DRAINAGE PLAN 1st SUBMITTAL, *REQUIRES TCL or equal*
- _____ DRAINAGE PLAN RESUBMITTAL
- _____ CONCEPTUAL GRADING & DRAINAGE PLAN
- ☒ GRADING PLAN
- _____ EROSION CONTROL PLAN
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- _____ CLOMR/LOMR
- _____ TRAFFIC CIRCULATION LAYOUT (TCL)
- _____ ENGINEERS CERTIFICATION (TCL)
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- _____ FOUNDATION PERMIT APPROVAL
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- _____ 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



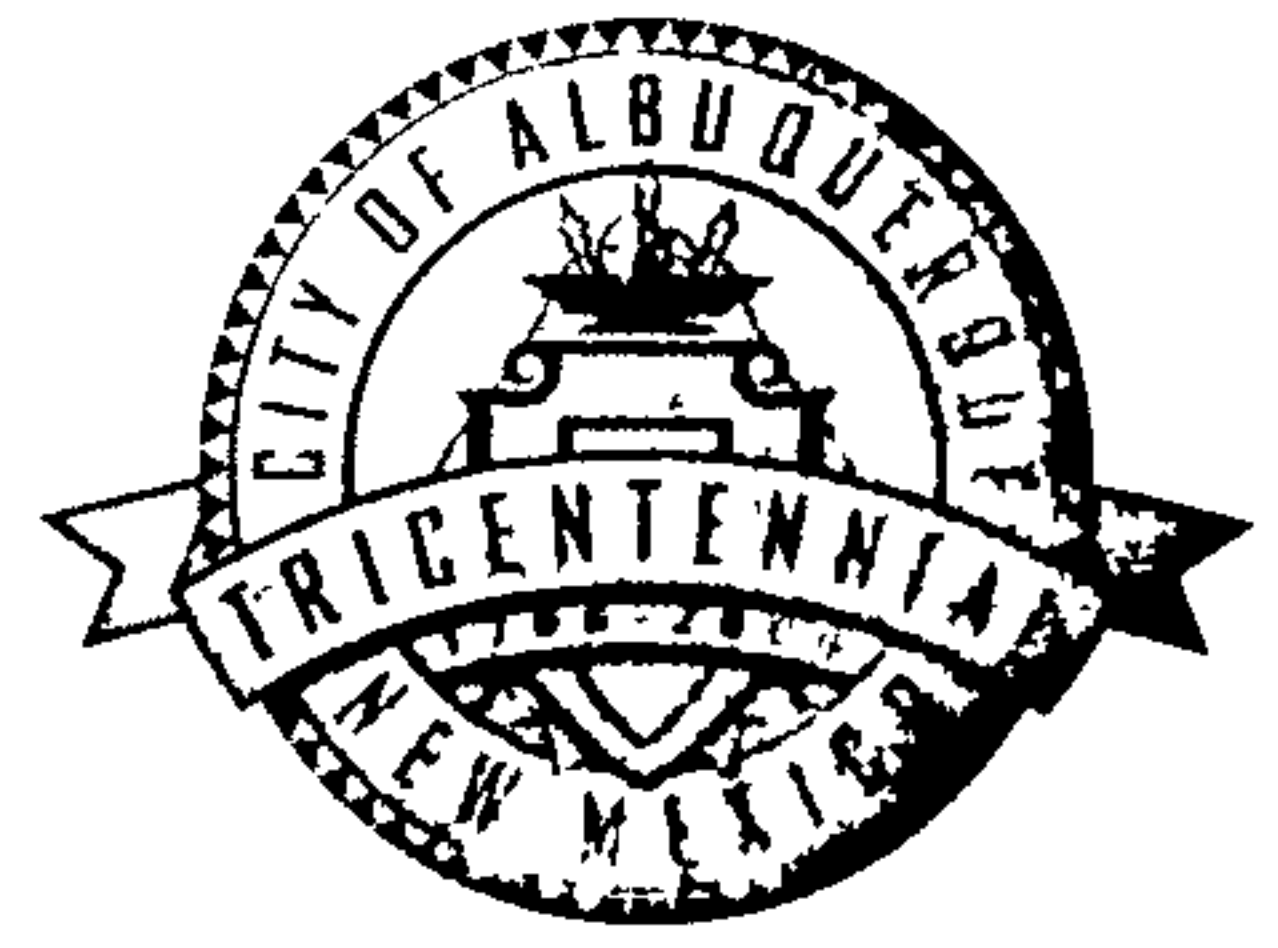
RESUBMITTAL

DATE SUBMITTED: 5/10/05 BY: Scott McGee

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:

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

CITY OF ALBUQUERQUE



November 17, 2006

Mr. Scott McGee, P.E.
ISAACSON & ARFMAN, PA
128 Monroe St. NE
Albuquerque, NM 87108

Re: WEST MESA COMMUNITY CENTER
5500 Glenrio Road SW
Approval of Permanent Certificate of Occupancy (C.O.)
Engineer's Stamp dated 05/09/2005 (J-11/D2)
Certification dated 11/16/2006

Dear Scott:

Based upon the information provided in your submittal received 11/17/2006, the above referenced certification is approved for release of Permanent Certificate of Occupancy by Hydrology.

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

Sincerely,

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

C: CO Clerk
File

P.O. Box 1293

Albuquerque

New Mexico 87103

www.cabq.gov

DRAINAGE AND TRANSPORTATION INFORMATION SHEET
(REV. 1/28/2003rd)

PROJECT TITLE: WEST MESA COMMUNITY CENTER ZONE MAP/DRG. FILE #: J-11 / D2
DRB #: _____ EPC#: _____ WORK ORDER#: 682091

LEGAL DESCRIPTION: TRACT A JOHN ADAMS MULTI-PURPOSE CENTER
CITY ADDRESS: 5500 GLENRIO RD SW

ENGINEERING FIRM: Isaacson & Arfman, P.A.
ADDRESS: 128 Monroe Street NE
CITY, STATE: Albuquerque, NM

CONTACT: SCOTT MCGEE
PHONE: (505) 268-8828
ZIP CODE: 87108

OWNER: CITY OF ALBUQUERQUE
ADDRESS: 5500 GLENRIO RD SW
CITY, STATE: ABQ, NM

CONTACT: _____
PHONE: 836-3487
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ARCHITECT: CHERRY SEE ARCHITECTS
ADDRESS: 220 GOLD AVE SW
CITY, STATE: ABQ, NM

CONTACT: TINA REAMES
PHONE: 842-1278
ZIP CODE: 87102

SURVEYOR: PRECISION SURVEYS (LS# 11993)
ADDRESS: 8414 JEFFERSON NE
CITY, STATE: ABQ NM

CONTACT: LARRY MEDRANO
PHONE: 856-5700
ZIP CODE: 87113

CONTRACTOR: _____
ADDRESS: _____
CITY, STATE: _____

CONTACT: _____
PHONE: _____
ZIP CODE: _____

CHECK TYPE OF SUBMITTAL:

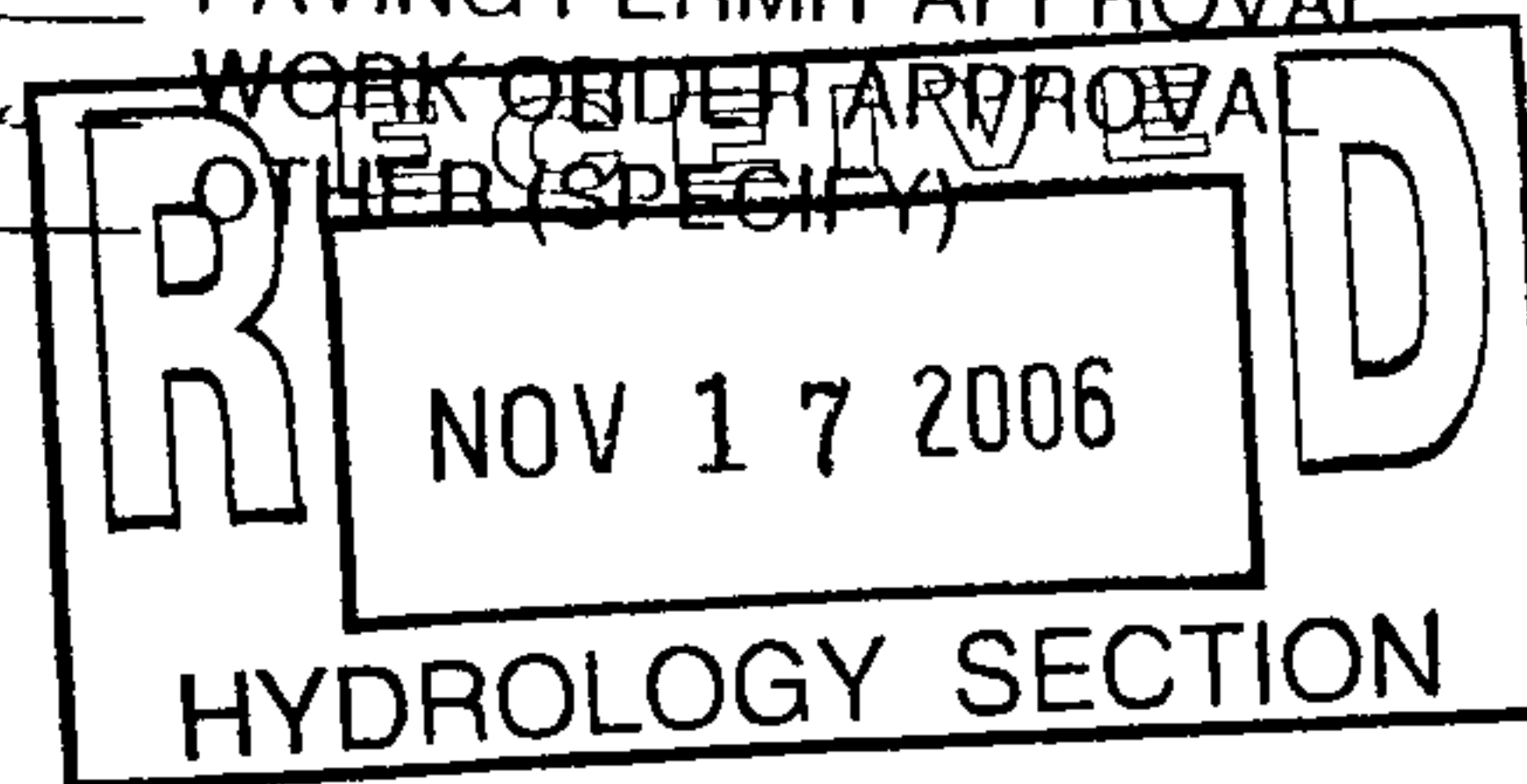
- ☐ DRAINAGE REPORT
- ☐ DRAINAGE PLAN 1st SUBMITTAL, *REQUIRES TCL or equal*
- ☐ DRAINAGE PLAN RESUBMITTAL
- ☐ CONCEPTUAL GRADING & DRAINAGE PLAN
- ☐ GRADING PLAN
- ☒ EROSION CONTROL PLAN
- ☒ ENGINEER'S CERTIFICATION (HYDROLOGY)
- ☐ CLOMR/LOMR
- ☐ TRAFFIC CIRCULATION LAYOUT (TCL)
- ☐ ENGINEERS CERTIFICATION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

CHECK TYPE OF APPROVAL SOUGHT:

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

WAS A PRE-DESIGN CONFERENCE ATTENDED:

- ☐ YES
- ☐ NO
- ☐ COPY PROVIDED



DATE SUBMITTED: 11/16/06 BY: SCOTT M MCGEE

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.

SEPTEMBER 29, 2004

SUPPLEMENTAL INFORMATION

FOR

WEST MESA COMMUNITY CENTER

BY



COPY



Drainage Analysis: SUMMARY
West Mesa Community Center

Developed flow from the West Mesa Community Center will be divided into three (3) sub-basins.

Sub-basin 1: East Sub-Basin generates 4.2 cfs which will be directed through the east access / parking area to the proposed pond at Glenrio Road.

Sub-basin 2: West Sub-Basin generates 6.9 cfs which will be directed through the west access / parking area to the proposed pond at Glenrio Road.

Sub-basin 3: Center Sub-basin generates 2.0 cfs which will be captured within the internal landscaped water harvesting basin.

Perimeter: The landscaped perimeter of the site along the east, south and west sides of the property will be slightly depressed to hold the rainfall that lands in these areas..

Per the existing calculations, the majority of the site discharge is retained on-site in an existing low area at the south end of the property. The remainder of the property (see existing sub-basin exhibit and calculations) free discharges to Glenrio Road at a rate of 2.7 cfs. Thus, the allowable discharge from the proposed development will not exceed the historic discharge of 2.7 cfs.

The Interior water harvesting area (Basin 3) has a capacity of 5,150 cf which exceeds the run-off volume of 2,928 cf during a 100-year, 6-hour storm event. Therefore, the entire 2.0 cfs generated by Basin 3 will be utilized for the benefit of the landscaping. In the event that this landscaped area fills, excess flow will pass to the north parking area.

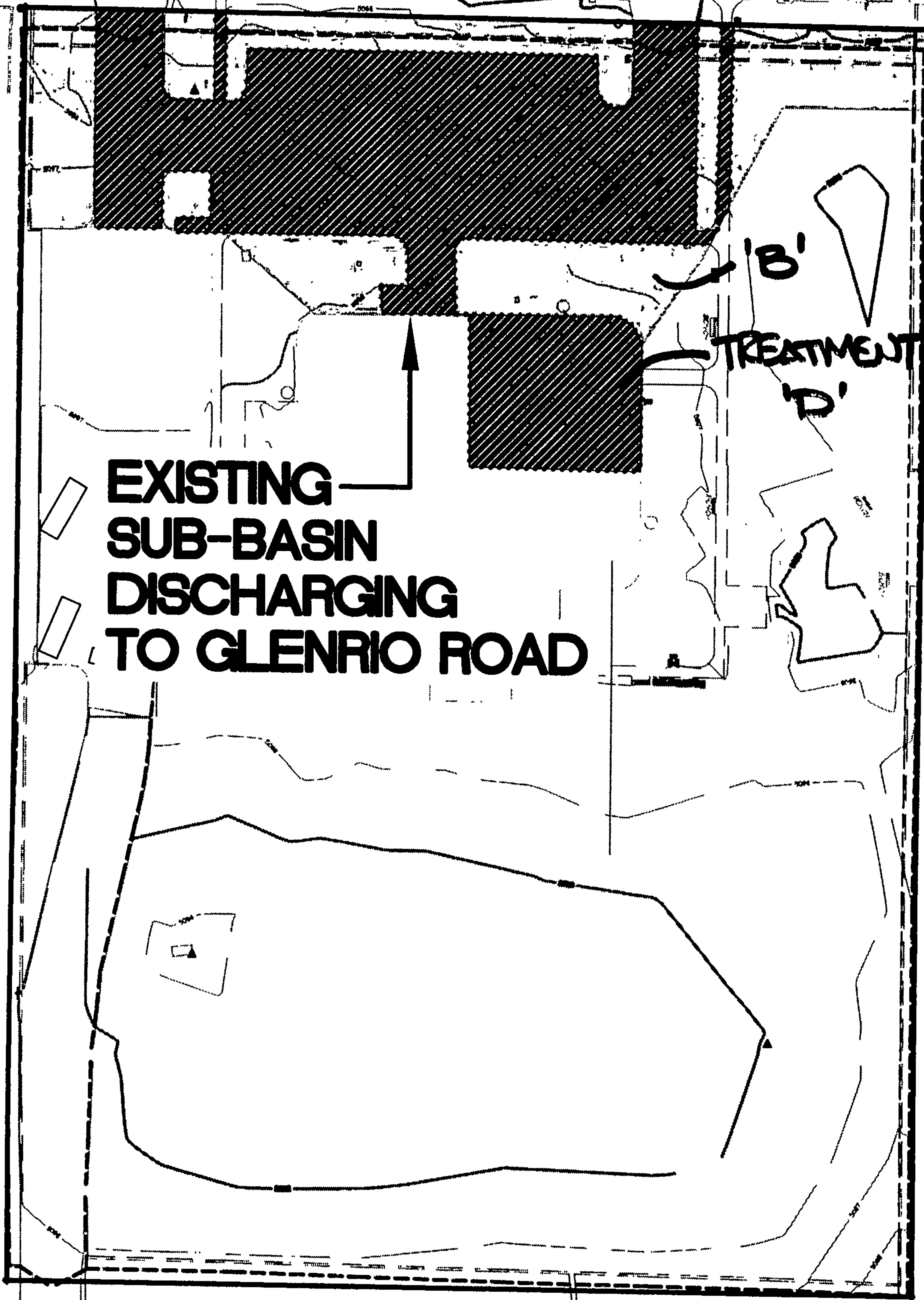
The total draining to the proposed pond at Glenrio Road = Sub-basin 1 (4.2 cfs) + Sub-basin 2 (6.9 cfs) for a total of 11.1 cfs. Per the inflow / outflow hydrograph, at a maximum release rate of 2.7 cfs, the pond will need to detain 10,490 cf.

The Glenrio Road pond has a detainable volume of 10,500 cf at a depth of 24" (water surface elevation = 5094.5). The 10-year storm event will require a pond volume of 4752 cf which is achieved at elevation 5093.8. Once the pond reaches capacity, flow will pass to Glenrio Road at the proposed sidewalk culverts as shown.

GLENRIO ROAD S.W.

**EXISTING
SUB-BASIN
DISCHARGING
TO GLENRIO ROAD**

'B'
TREATMENT
'D'



BASIN NO.	Historic Discharge	EXISTING SUB-BASIN DISCHARGING TO GLENRIO ROAD S.W.		
Area of basin flows =	34300	SF	=	0.8 Ac.

The following calculations are based on Treatment areas as shown in table to the right
Sub-basin Weighted Excess Precipitation (see formula above)

Weighted E	=	1.45 in.
------------	---	----------

Sub-basin Volume of Runoff (see formula above)

V360	=	4158 CF
------	---	---------

Sub-basin Peak Discharge Rate: (see formula above)

Qp	=	2.7 cfs
----	---	---------

TREATMENT

- A = 0%
- B = 40%
- C = 0%
- D = 60%

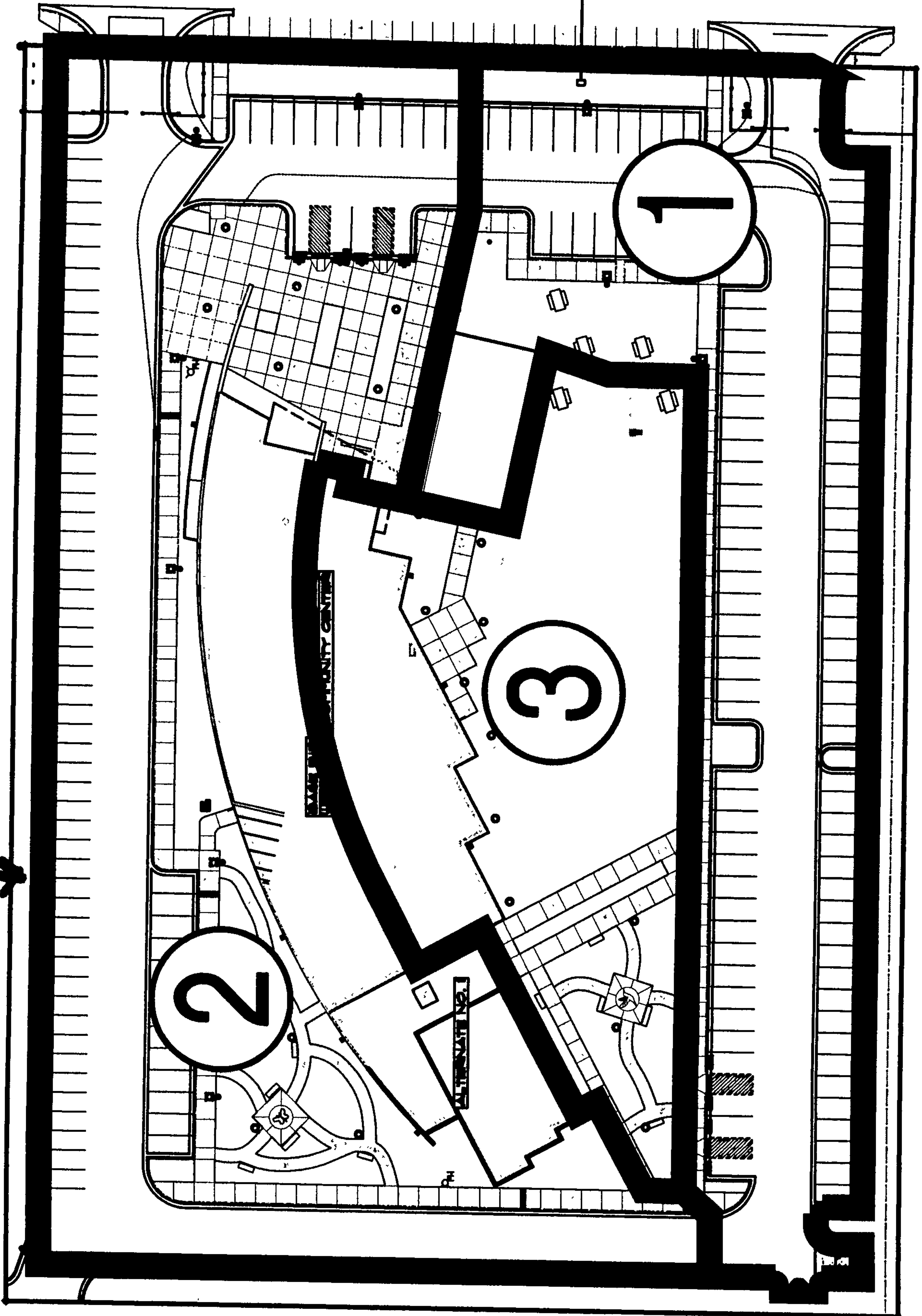
The existing sub-basin (see Historic Discharge Exhibit) which free discharges to Glenrio Road N.E. generates 2.7 cfs. Therefore, the maximum allowable discharge from this property will be equal to or less than the historic discharge of 2.7 cfs. The remainder of the existing discharge is retained on-site.

EXISTING DISCHARGE TO GLENRIO RD.
REMAINDER PONDED ON-SITE

DRAINAGE

SUB-BASINS

PERIMETER



100-year

CALCULATIONS: 1342 - West Mesa Community Center : Sept 23, 2004

Calculations are based on the Drainage Design Criteria for City of Albuquerque Section 22.2, DPM, Vol 2, dated Jan., 1993

ON-SITE

AREA OF SITE: 169807 SF = 3.898 Ac.

HISTORIC FLOWS:

On-Site Historic Land Condition

Area a	=	-	SF
Area b	=	-	SF
Area c	=	-	SF
Area d	=	-	SF
Total Area	=	#VALUE!	SF

DEVELOPED FLOWS:

On-Site Developed Land Condition

Area a	=	15283	SF
Area b	=	30565	SF
Area c	=	8490	SF
Area d	=	115469	SF
Total Area	=	169807	SF

EXCESS PRECIPITATION:

Precip. Zone 1

Ea	=	0.44
Eb	=	0.67
Ec	=	0.99
Ed	=	1.97

On-Site Weighted Excess Precipitation (100-Year, 6-Hour Storm)

$$\text{Weighted E} = \frac{EaAa + EbAb + EcAc + EdAd}{Aa + Ab + Ac + Ad}$$

Historic E	=	#VALUE! in.	Developed E	=	1.55 in.
------------	---	-------------	-------------	---	----------

On-Site Volume of Runoff: V360 = E*A / 12

Historic V360	=	#VALUE! CF	Developed V360	=	21923 CF
---------------	---	------------	----------------	---	----------

On-Site Peak Discharge Rate: $Qp = QpaAa + QpbAb + QpcAc + QpdAd / 43,560$

For Precipitation Zone 1

Qpa	=	1.29	Qpc	=	2.87
Qpb	=	2.03	Qpd	=	4.37

Historic Qp	=	#VALUE! CFS	Developed Qp	=	14.0 CFS
-------------	---	-------------	--------------	---	----------

BASIN NO. 1 EAST SUB-BASIN DISCHARGING TO PROPOSED MAIN POND

Area of basin flows = 45392 SF = 1.0 Ac.

The following calculations are based on Treatment areas as shown in table to the right

Sub-basin Weighted Excess Precipitation (see formula above)

Weighted E = 1.78 in.

Sub-basin Volume of Runoff (see formula above)

V360 = 6714 CF

Sub-basin Peak Discharge Rate: (see formula above)

Qp = 4.2 cfs

TREATMENT

A	=	0%
B	=	15%
C	=	0%
D	=	85%

BASIN NO. 2 WEST SUB-BASIN DISCHARGING TO PROPOSED MAIN POND

Area of basin flows = 73651 SF = 1.7 Ac.

The following calculations are based on Treatment areas as shown in table to the right

Sub-basin Weighted Excess Precipitation (see formula above)

Weighted E = 1.80 in.

Sub-basin Volume of Runoff (see formula above)

V360 = 11054 CF

Sub-basin Peak Discharge Rate: (see formula above)

Qp = 6.9 cfs

TREATMENT

A	=	0%
B	=	13%
C	=	0%
D	=	87%

BASIN NO. 3 CENTER SUB-BASIN DISCHARGING TO CENTRAL STILLING BASIN

Area of basin flows = 32408 SF = 0.7 Ac.

The following calculations are based on Treatment areas as shown in table to the right

Sub-basin Weighted Excess Precipitation (see formula above)

Weighted E = 1.08 in.

Sub-basin Volume of Runoff (see formula above)

V360 = 2928 CF

Sub-basin Peak Discharge Rate: (see formula above)

Qp = 2.0 cfs

TREATMENT

A	=	46%
B	=	14%
C	=	0%
D	=	40%

PERIMETER BASIN PERIMETER LANDSCAPED AREAS - FREE DISCHARGE

Area of basin flows = 18356 SF = 0.4 Ac.

The following calculations are based on Treatment areas as shown in table to the right

Sub-basin Weighted Excess Precipitation (see formula above)

Weighted E = 0.83 in.

Sub-basin Volume of Runoff (see formula above)

V360 = 1270 CF

Sub-basin Peak Discharge Rate: (see formula above)

Qp = 1.0 cfs

TREATMENT

A	=	0%
B	=	50%
C	=	50%
D	=	0%

CALCULATIONS: 1342 - West Mesa Community Center : Sept 23, 2004

**HYDROGRAPH FOR SMALL WATERSHED
DPM SECTION 22-2 * PAGE A-13/14**

FOR SUB-BASINS #1 AND #2 PONDING AREA AT GLENRIO ROAD

Base time, t_B , for a small watershed hydrograph is,

$$t_B = (2.107 * E * AT / QP) - (0.25 * AD / AT)$$

Where

E	=	1.55 inches
AT	=	2.73 acres
AD	=	2.36 acres
QP	=	11.1 cfs

t_B	=	0.59 hours
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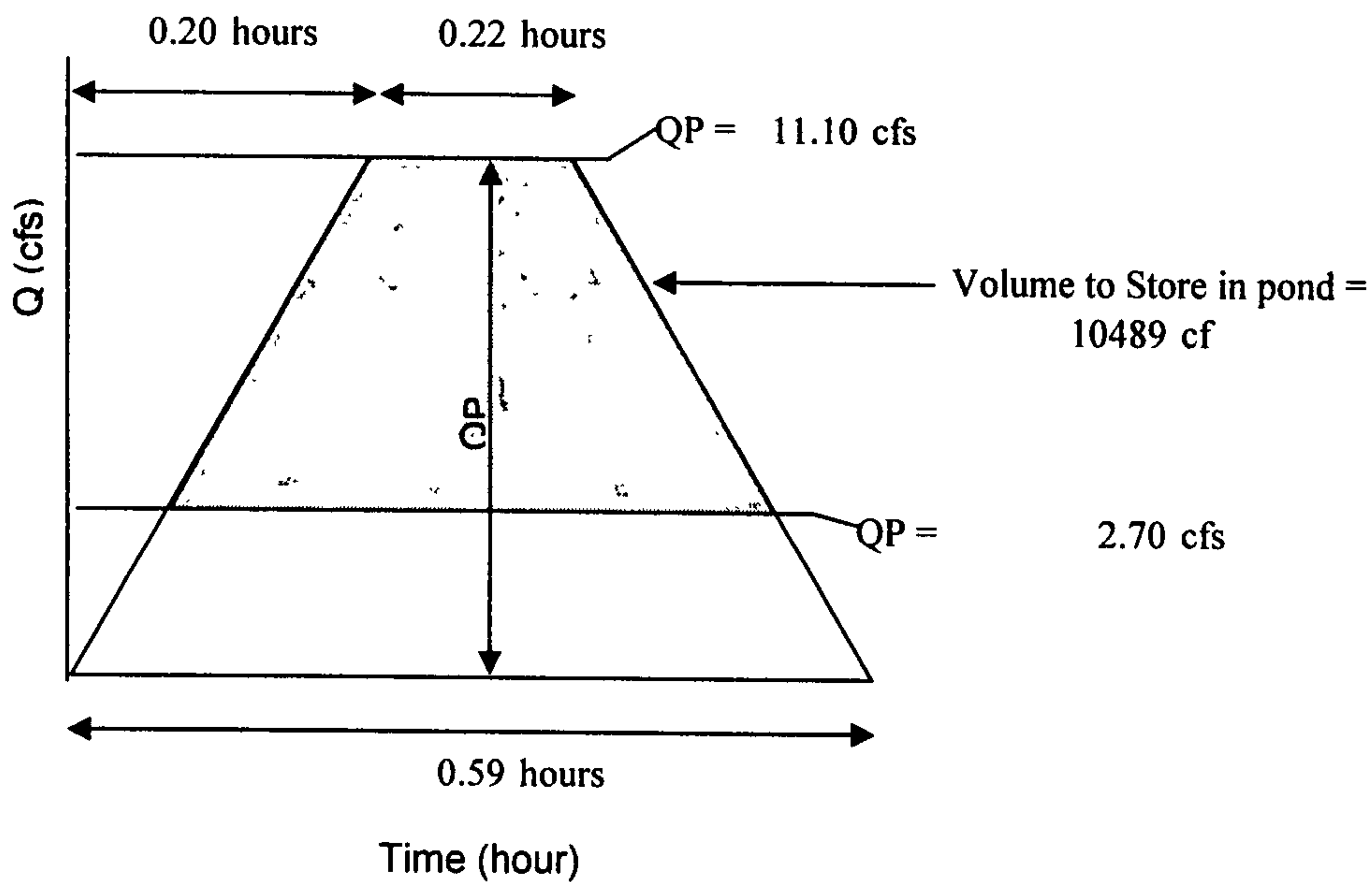
E is the excess precipitation in inches (from DPM TABLE A-8), QP is the peak flow, AD is the area (acres) of treatment D, and AT is the total area in acres. Using the time of concentration, t_C (hours), the time to peak in hours is:

$$t_P = (0.7 * t_C) + ((1.6 - (AD / AT)) / 12)$$

Where $t_C = 0.20$ hours

$$t_P = 0.20 \text{ hours}$$

Continue the peak for $0.25 * AD / AT$ hours. When AD is zero, the hydrograph will be triangular. When AD is not zero, the hydrograph will be trapezoidal. see the graph below:



INFLOW / OUTFLOW HYDROGRAPH

10-year

Job Name:	1342 - West Mesa Community Center
ent:	Cherry See Architects
ate Prepared:	Sept. 23, 2004
Date Modified:	Sept 23, 2004
Precipitation Zone:	1

CALCULATIONS: 1342 - West Mesa Community Center : Sept 23, 2004

Calculations are based on the Drainage Design Criteria for City of Albuquerque Section 22.2, DPM, Vol 2, dated Jan., 1993

ON-SITE

AREA OF SITE:	169807	SF	=	3.898	Ac.
---------------	--------	----	---	-------	-----

HISTORIC FLOWS:

On-Site Historic Land Condition

Area a	=	SF
Area b	=	SF
Area c	=	SF
Area d	=	SF
Total Area	=	0 SF

DEVELOPED FLOWS:

On-Site Developed Land Condition

Area a	=	15283	SF
Area b	=	30565	SF
Area c	=	8490	SF
Area d	=	115469	SF
Total Area	=	169807	SF

EXCESS PRECIPITATION:

Precip. Zone 1

Ea	=	0.08
Eb	=	0.22
Ec	=	0.44
Ed	=	1.24

On-Site Weighted Excess Precipitation (100-Year, 6-Hour Storm)

$$\text{Weighted E} = \frac{EaAa + EbAb + EcAc + EdAd}{Aa + Ab + Ac + Ad}$$

Historic E	=	#DIV/0! in.	Developed E	=	0.91 in.
------------	---	-------------	-------------	---	----------

On-Site Volume of Runoff: $V360 = E \cdot A / 12$

Historic V360	=	#DIV/0! CF	Developed V360	=	12905 CF
---------------	---	------------	----------------	---	----------

On-Site Peak Discharge Rate: $Qp = QpaAa + QpbAb + QpcAc + QpdAd / 43,560$

For Precipitation Zone 1

Qpa	=	0.24	Qpc	=	1.49
Qpb	=	0.76	Qpd	=	2.89

Historic Qp	=	0.0 CFS	Developed Qp	=	8.6 CFS
-------------	---	---------	--------------	---	---------

BASIN NO. 1 10-YEAR : EAST SUB-BASIN DISCHARGING TO PROPOSED MAIN POND

Area of basin flows =	45392	SF	=	1.0	Ac.
-----------------------	-------	----	---	-----	-----

The following calculations are based on Treatment areas as shown in table to the right

Sub-basin Weighted Excess Precipitation (see formula above)

Weighted E = 1.09 in.

Sub-basin Volume of Runoff (see formula above)

V360 = 4112 CF

Sub-basin Peak Discharge Rate: (see formula above)

Qp = 2.7 cfs

TREATMENT

A	=	0%
B	=	15%
C	=	0%
D	=	85%

BASIN NO. 2 10 YEAR : WEST SUB-BASIN DISCHARGING TO PROPOSED MAIN POND

Area of basin flows =	73651	SF	=	1.7	Ac.
-----------------------	-------	----	---	-----	-----

The following calculations are based on Treatment areas as shown in table to the right

Sub-basin Weighted Excess Precipitation (see formula above)

Weighted E = 1.11 in.

Sub-basin Volume of Runoff (see formula above)

V360 = 6797 CF

Sub-basin Peak Discharge Rate: (see formula above)

Qp = 4.4 cfs

TREATMENT

A	=	0%
B	=	13%
C	=	0%
D	=	87%

BASIN NO. 3 10 YEAR : CENTER SUB-BASIN DISCHARGING TO CENTRAL STILLING

Area of basin flows =	32408	SF	=	0.7	Ac.
-----------------------	-------	----	---	-----	-----

The following calculations are based on Treatment areas as shown in table to the right

Sub-basin Weighted Excess Precipitation (see formula above)

Weighted E = 0.56 in.

Sub-basin Volume of Runoff (see formula above)

V360 = 1522 CF

Sub-basin Peak Discharge Rate: (see formula above)

Qp = 1.0 cfs

TREATMENT

A	=	46%
B	=	14%
C	=	0%
D	=	40%

CALCULATIONS: 1342 - West Mesa Community Center : Sept 23, 2004

HYDROGRAPH FOR SMALL WATERSHED

DPM SECTION 22-2 * PAGE A-13/14

Base time, t_B , for a small watershed hydrograph is,

$$t_B = (2.107 * E * AT / QP) - (0.25 * AD / AT)$$

Where

E	=	0.91 inches
AT	=	2.73 acres
AD	=	2.36 acres
QP	=	7.1 cfs

t_B	=	0.52 hours
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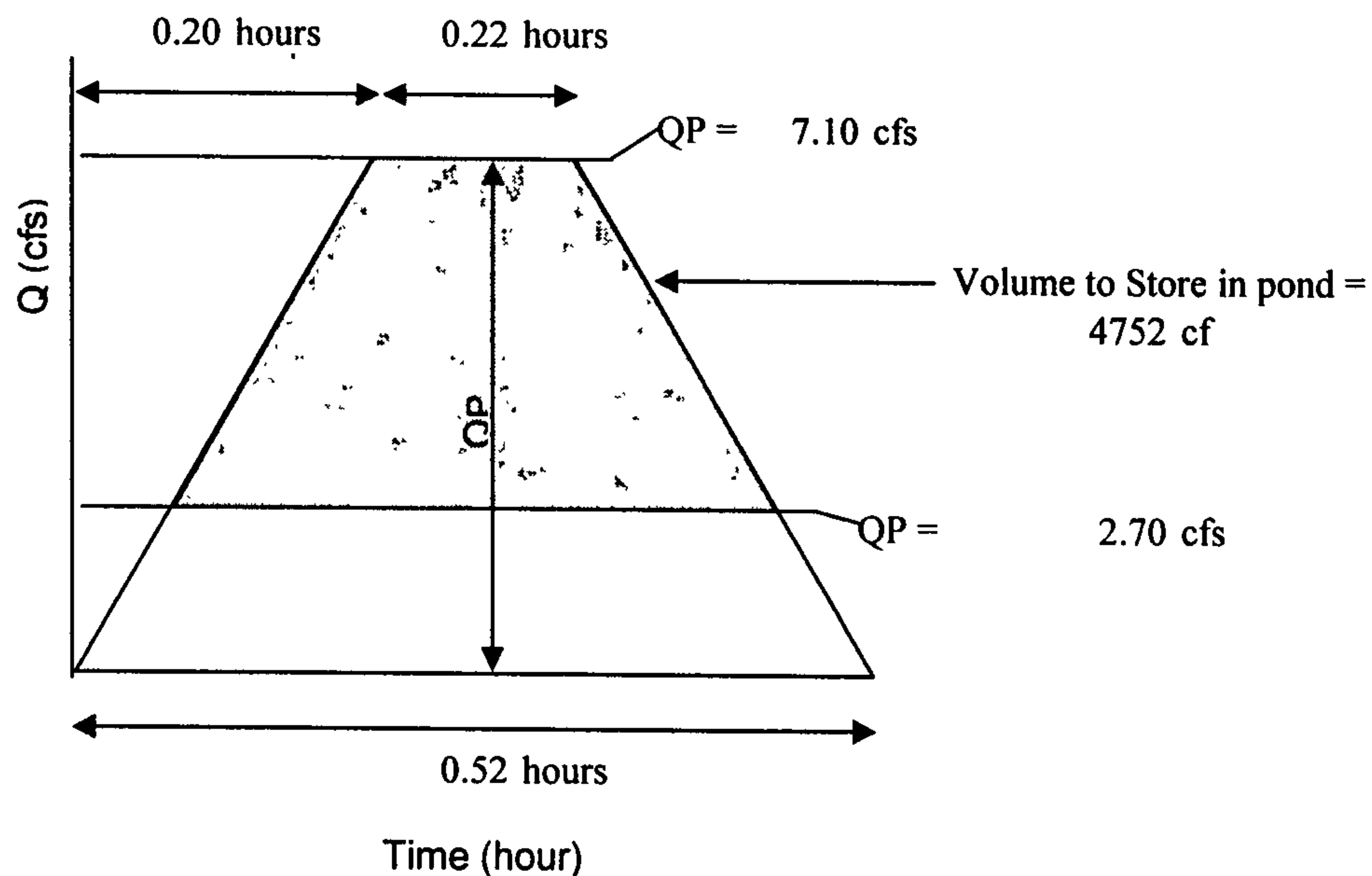
E is the excess precipitation in inches (from DPM TABLE A-8), QP is the peak flow, AD is the area (acres) of treatment D, and AT is the total area in acres. Using the time of concentration, t_C (hours), the time to peak in hours is:

$$t_P = (0.7 * t_C) + ((1.6 - (AD / AT)) / 12)$$

Where $t_C = 0.20$ hours

$$t_P = 0.20 \text{ hours}$$

Continue the peak for $0.25 * AD / AT$ hours. When AD is zero, the hydrograph will be triangular. When AD is not zero, the hydrograph will be trapezoidal. see the graph below:



INFLOW / OUTFLOW HYDROGRAPH

1342 Pond Volumes.xls

Job Name:	1342 - West Mesa Community Center
Client:	Cherry See Architects
Date Prepared:	Sept. 23, 2004
Date Modified:	Sept 23, 2004
Precipitation Zone:	1

CALCULATIONS: 1342 - West Mesa Community Center : Sept 23, 2004

Calculations are based on the Drainage Design Criteria for City of Albuquerque Section 22.2, DPM, Vol 2, dated Jan., 1993

INTERIOR PONDING AREA

Elevation	Area	Volume	
5095.8	7500	5150	CF
5094.8	2800		

GLENRIO ROAD PONDING AREA

Elevation	Area	Volume	
5094.5	13300	5075	CF
5094	7000		
5093	2200		
5092.5	1100		
TOTAL VOLUME		10500	CF

10- YEAR STORM

Volume	=	4752	CF
Pond Surface	=	5093.8	

100 YEAR STORM

Volume	=	10489	CF
Pond Surface	=	5094.5	

ORIFACE EQUATION - GLENRIO ROAD OUTLET TO STORM DRAIN

The Oriface Equation is used to calculate the Flow at the opening of a Channel

$$Q = C * A * (2 * g * h)^{0.5}$$

Where	Q	=	2.7	cfs	
	C	=	0.6		(indicating that the opening will function at 60% capacity)
	A	=	0.2305	sq.ft.	
	g	=	32.2	ft/sec^2	
	h	=	6	ft	depth of flow at opening from the center of culvert

At a head of 6' (center of 12" pipe = 5088.5, high water elevation = 5094.5), a 6.5" dia. opening into the propose 12" RCP will be required to maintain a maximum discharge rate of 2.7 cfs.

ORIFACE EQUATION - OVERFLOW SIDEWALK CULVERTS (TWO 2' WIDE X 8" HIGH)

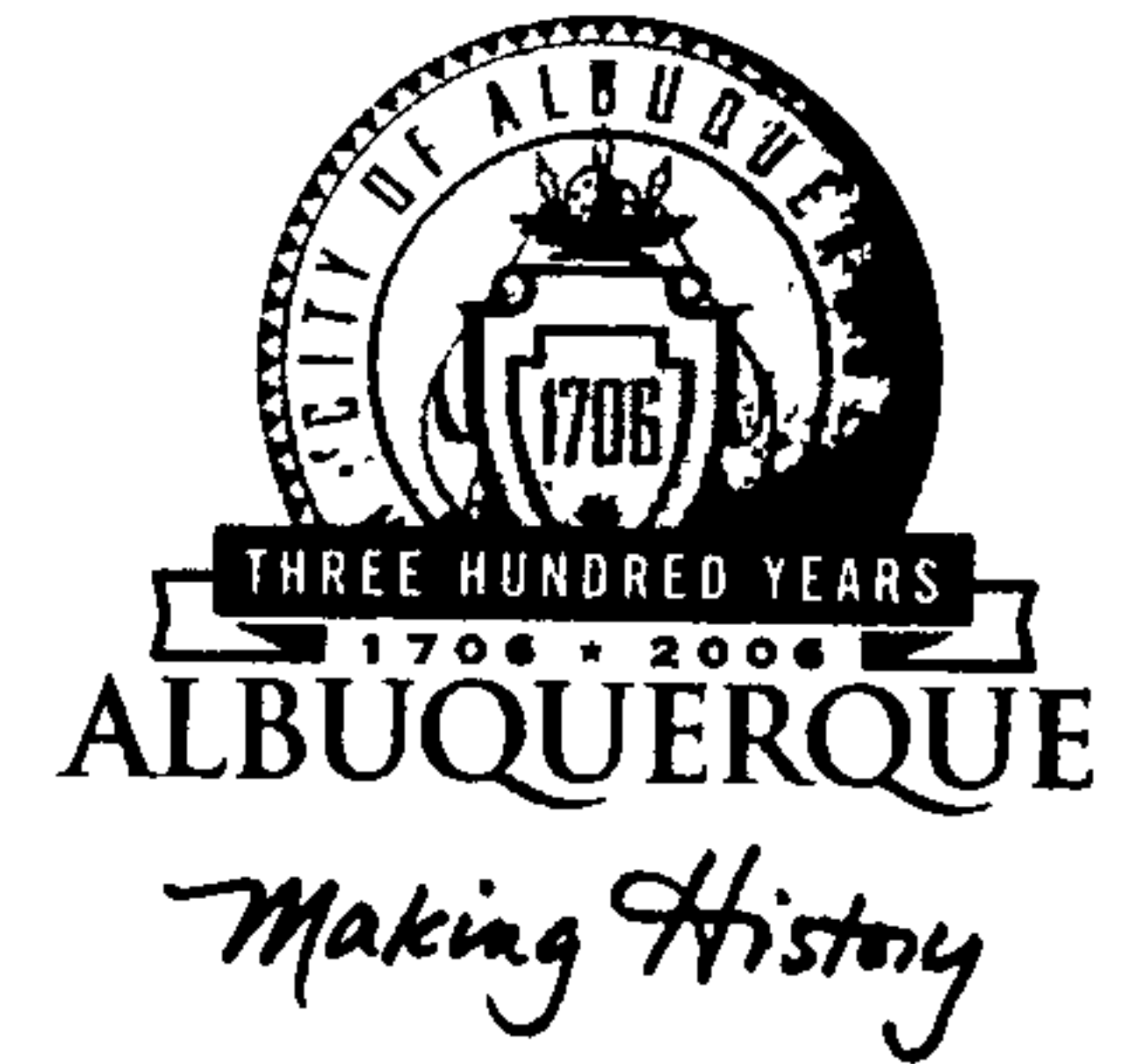
The Oriface Equation is used to calculate the Flow at the opening of a Channel

$$Q = C * A * (2 * g * h)^{0.5}$$

Where	Q	=	10.5	cfs	
	C	=	0.6		(indicating that the opening will function at 60% capacity)
	A	=	2.668	sq.ft.	
	g	=	32.2	ft/sec^2	
	h	=	0.667	ft	depth of flow at opening from the center of culvert

At a head of 8", two 2' wide sidewalk culverts has the ability to discharge flow in excess of 100-yr. 6- hour volume at a rate of 10.5 cfs.

CITY OF ALBUQUERQUE



November 12, 2004

Scott McGee, PE
Isaacson & Arfman
128 Monroe St NE
Albuquerque, NM 87108

**Re: West Mesa Community Center Drainage Report
Engineer's Stamp dated 9-29-04 (J11/D2)**

Dear Mr. McGee,

Based upon the information provided in your submittal dated 6-10-04, the above referenced plan is approved for Building Permit and Work Order. Please attach a copy of this approved plan to the construction sets prior to sign-off by Hydrology. Any comments can be addressed at DRC.

This project requires a National Pollutant Discharge Elimination System (NPDES) permit. Refer to the attachment that is provided with this letter for details. If you have any questions please feel free to call the Municipal Development Department, Hydrology section at 768-3654 (Charles Caruso).

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

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

Sincerely,

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

C: Chuck Caruso, DMD
file

P.O. Box 1293

Albuquerque

New Mexico 87103

www.cabq.gov

Faisal 489-4474

DRAINAGE AND TRANSPORTATION INFORMATION SHEET

(REV. 1/28/2003rd)

PROJECT TITLE: West Mesa Community Center

DRB #: _____ EPC #: _____

ZONE MAP / DRG. FILE #: J11/D002

WORK ORDER #: _____

LEGAL DESCRIPTION: Tract 'A', John Adams Multipurpose Center, Albuquerque, New Mexico

CITY ADDRESS: _____

ENGINEERING FIRM: Isaacson & Arfman, P.A.

ADDRESS: 128 Monroe St. NE

CITY, STATE: Albuquerque, NM

CONTACT: _____

PHONE: 268-8828

ZIP CODE: 87108

OWNER: City of Albuquerque

ADDRESS: _____

CITY, STATE: _____

CONTACT: _____

PHONE: _____

ZIP CODE: _____

ARCHITECT: Cherry See Architects

ADDRESS: _____

CITY, STATE: Albuquerque, New Mexico

CONTACT: _____

PHONE: _____

ZIP CODE: _____

SURVEYOR: Stephen James Toler

ADDRESS: _____

CITY, STATE: Albuquerque, New Mexico

CONTACT: _____

PHONE: _____

ZIP CODE: _____

CONTRACTOR: _____

ADDRESS: _____

CITY, STATE: _____

CONTACT: _____

PHONE: _____

ZIP CODE: _____

CHECK TYPE OF SUBMITTAL:

- ☒ DRAINAGE REPORT
☒ DRAINAGE PLAN 1ST *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)
☐ ENGINEER'S CERTIFICATION (TCL)
☐ ENGINEER'S 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 APPR
☐ 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

WAS A PRE-DESIGN CONFERENCE ATTENDED:

- ☐ YES
☐ NO
☐ COPY PROVIDED

DATE SUBMITTED: Thursday, September 30, 2004

BY: Bryan Bobrick
Isaacson & Arfman, P.A.

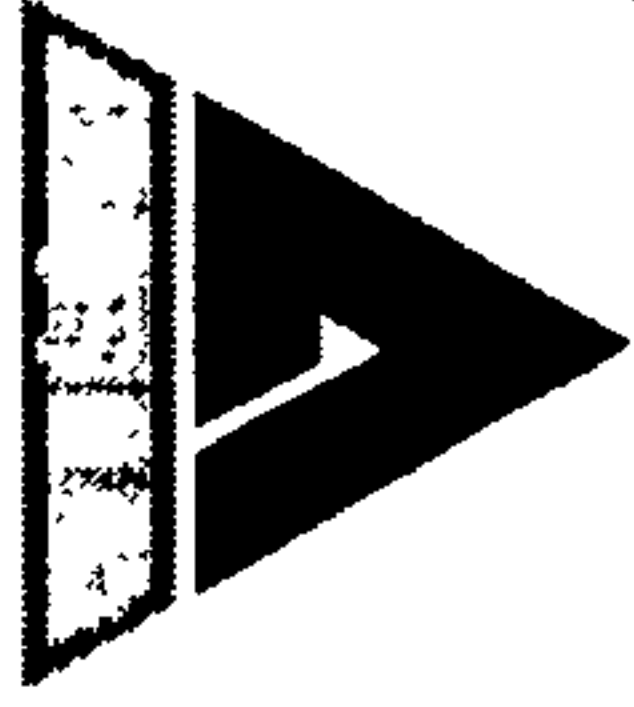
Requests for approvals of Site Development Plans and / or Subdivision Plats shall be accompanied by a drainage submittal. The particular nature, location and scope of the proposed development defines the degree of drainage detail. One or more of the following levels of submittal may be required based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

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

COA Project
thru DEC -
NO Fee thru
Hydrology

ISAACSON & ARFMAN, P.A.

CONSULTING ENGINEERING ASSOCIATES



128 MONROE STREET NE
ALBUQUERQUE, NM 87108
PH: 505.268.8828
FAX: 505.268.2632

A Letter of Transmittal From: Bryan Bobrick

To	COA HYDROLOGY		
Address			
City			
Attention			
Date	30 Sep, 04	Job No.	1342
RE	COA West Mesa Community Center		

WE ARE SENDING YOU:

☒ Attached☐ Under Separate Cover

1. Proposed Drainage / Grading Plan for review
2. Supplemental Information / Calculations
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____

COMMENTS:

Brad / Kristal,

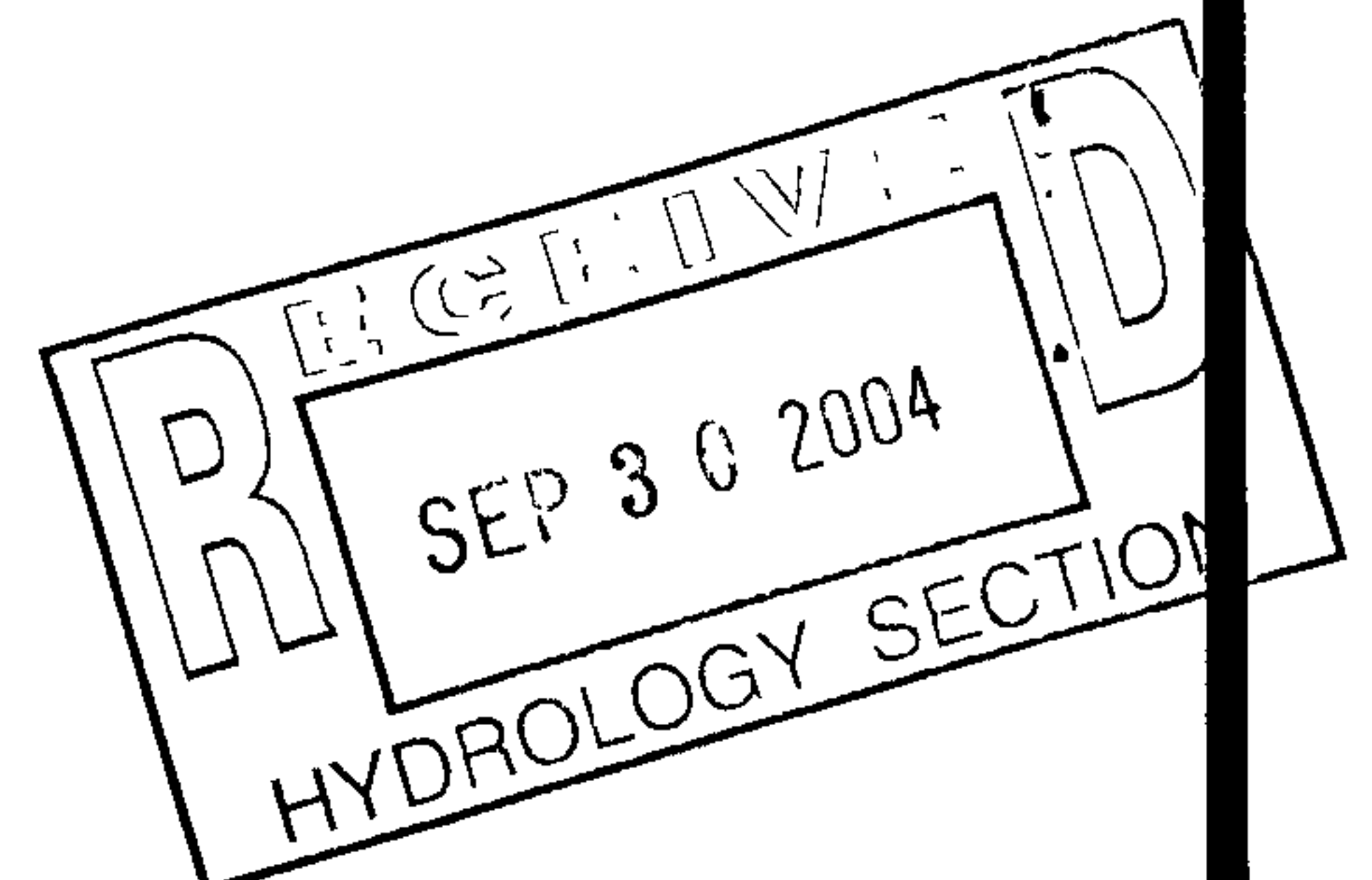
This project is a City of Albuquerque Community Center being submitted to DRC (682091). You have reviewed the preliminary.

This submittal is provided for you directly with the Supplemental Information and Calculations for review for Building Permit approval. I don't want to have to submit 9 sets of the supplemental.

Call me if you have any questions or need any additional information.

Thanks - Bryan Bobrick

COA PROJECT THRU DRC - NO SEPERATE HYDROLOGY FEE



SEPTEMBER 29, 2004

SUPPLEMENTAL INFORMATION

FOR

WEST MESA COMMUNITY CENTER

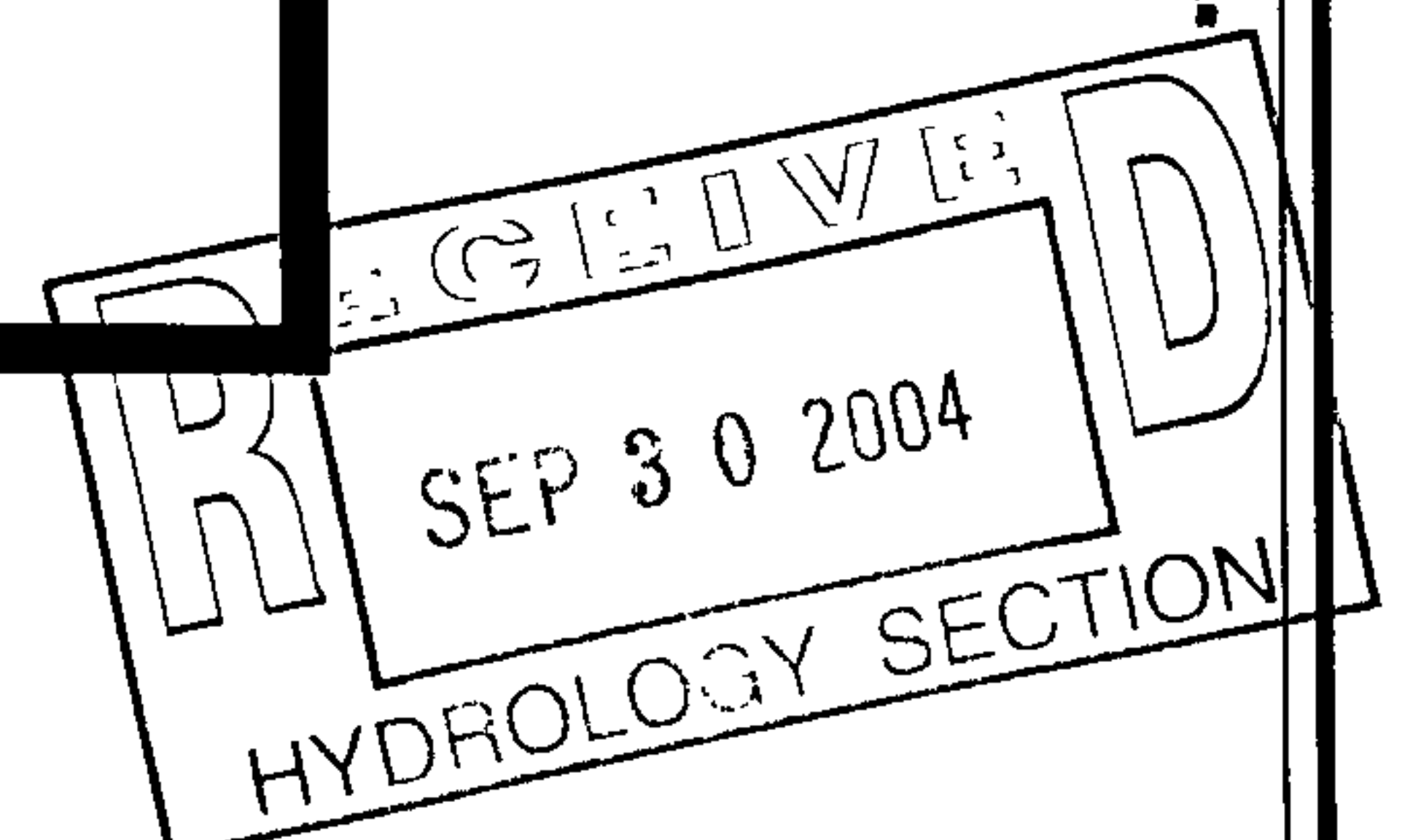
BY





ISAACSON & ARFMAN, P.A.
Consulting Engineering Associates

128 Monroe Street N.E.
Albuquerque, New Mexico 87108
Ph. 505-268-8828 Fax. 505-268-2632





Drainage Analysis: SUMMARY
West Mesa Community Center

Developed flow from the West Mesa Community Center will be divided into three (3) sub-basins.

Sub-basin 1: East Sub-Basin generates 4.2 cfs which will be directed through the east access / parking area to the proposed pond at Glenrio Road.

Sub-basin 2: West Sub-Basin generates 6.9 cfs which will be directed through the west access / parking area to the proposed pond at Glenrio Road.

Sub-basin 3: Center Sub-basin generates 2.0 cfs which will be captured within the internal landscaped water harvesting basin.

Perimeter: The landscaped perimeter of the site along the east, south and west sides of the property will be slightly depressed to hold the rainfall that lands in these areas..

Per the existing calculations, the majority of the site discharge is retained on-site in an existing low area at the south end of the property. The remainder of the property (see existing sub-basin exhibit and calculations) free discharges to Glenrio Road at a rate of 2.7 cfs. Thus, the allowable discharge from the proposed development will not exceed the historic discharge of 2.7 cfs.

The Interior water harvesting area (Basin 3) has a capacity of 5,150 cf which exceeds the run-off volume of 2,928 cf during a 100-year, 6-hour storm event. Therefore, the entire 2.0 cfs generated by Basin 3 will be utilized for the benefit of the landscaping. In the event that this landscaped area fills, excess flow will pass to the north parking area.

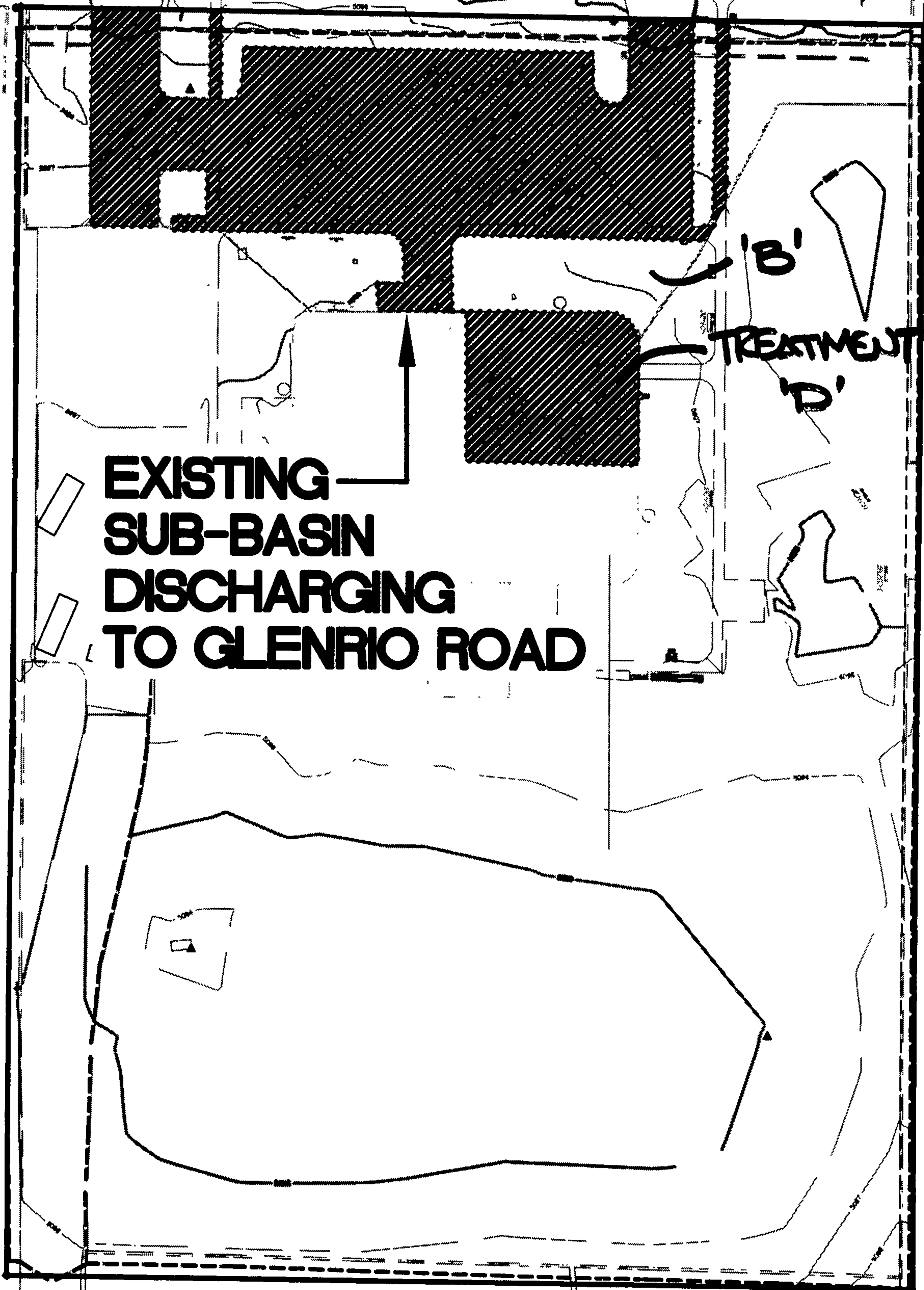
The total draining to the proposed pond at Glenrio Road = Sub-basin 1 (4.2 cfs) + Sub-basin 2 (6.9 cfs) for a total of 11.1 cfs. Per the inflow / outflow hydrograph, at a maximum release rate of 2.7 cfs, the pond will need to detain 10,490 cf.

The Glenrio Road pond has a detainable volume of 10,500 cf at a depth of 24" (water surface elevation = 5094.5). The 10-year storm event will require a pond volume of 4752 cf which is achieved at elevation 5093.8. Once the pond reaches capacity, flow will pass to Glenrio Road at the proposed sidewalk culverts as shown.

GLENRIO ROAD S.W.

**EXISTING
SUB-BASIN
DISCHARGING
TO GLENRIO ROAD**

'B'
TREATMENT
'D'



BASIN NO.	Historic Discharge	EXISTING SUB-BASIN DISCHARGING TO GLENRIO ROAD S.W.			
-----------	--------------------	---	--	--	--

Sum of basin flows = 34300 SF = 0.8 Ac.

The following calculations are based on Treatment areas as shown in table to the right

Sub-basin Weighted Excess Precipitation (see formula above)

Weighted E = 1.45 in.

Sub-basin Volume of Runoff (see formula above)

V360 = 4158 CF

Sub-basin Peak Discharge Rate: (see formula above)

Qp = 2.7 cfs

TREATMENT

A = 0%

B = 40%

C = 0%

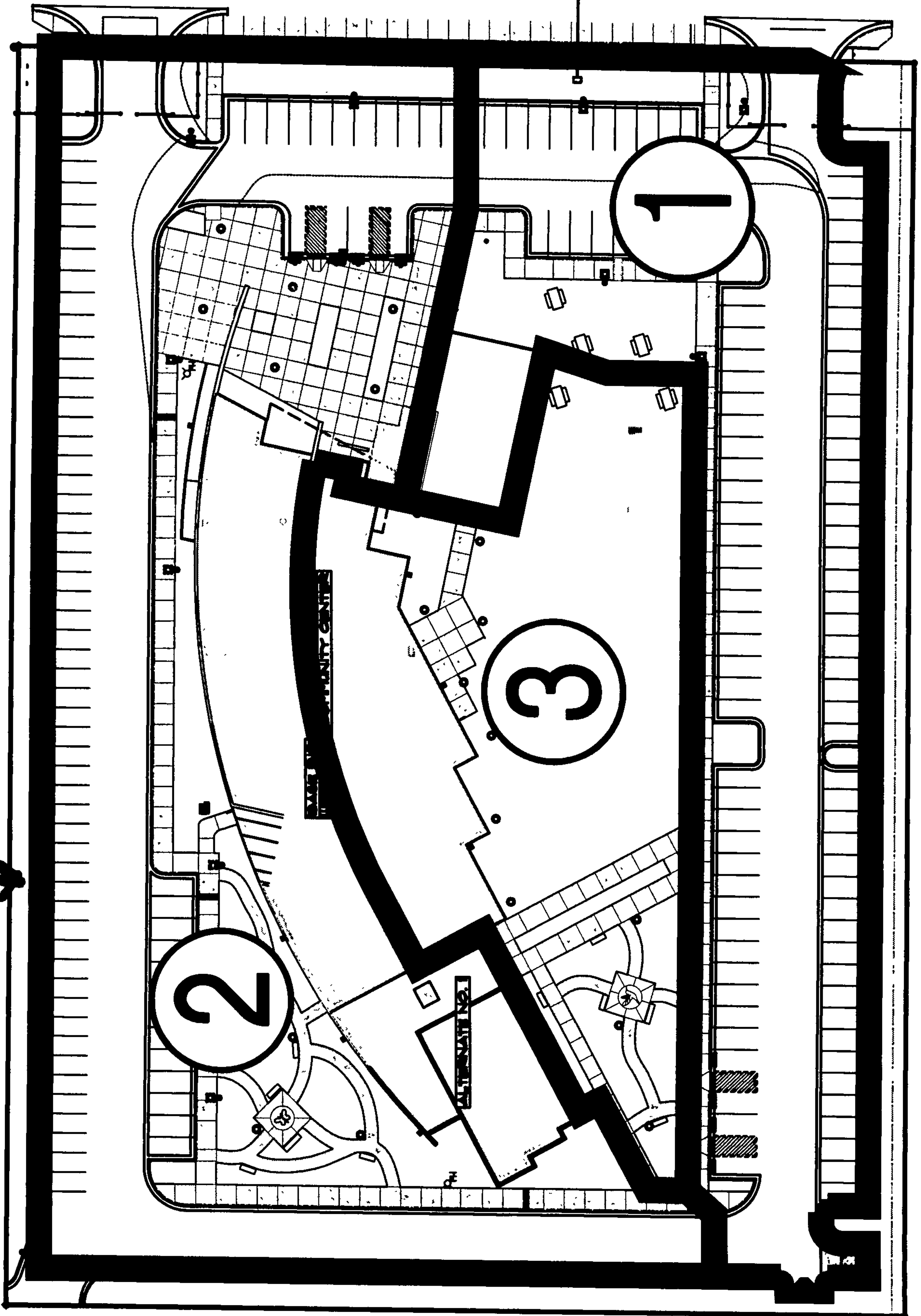
D = 60%

The existing sub-basin (see Historic Discharge Exhibit) which free discharges to Glenrio Road N.E. generates 2.7 cfs. Therefore, the maximum allowable discharge from this property will be equal to or less than the historic discharge of 2.7 cfs. The remainder of the existing discharge is retained on-site.

EXISTING DISCHARGE TO GLENRIO RD.
• REMAINDER PONDED ON-SITE

DRAINAGE SUB-BASINS

PERIMETER



100-year

CALCULATIONS: 1342 - West Mesa Community Center : Sept 23, 2004

Calculations are based on the Drainage Design Criteria for City of Albuquerque Section 22.2, DPM, Vol 2, dated Jan., 1993

ON-SITE

EA OF SITE: 169807 SF = 3.898 Ac.

HISTORIC FLOWS:

On-Site Historic Land Condition

Area a = - SF
 Area b = - SF
 Area c = - SF
 Area d = - SF
 Total Area = #VALUE! SF

DEVELOPED FLOWS:

On-Site Developed Land Condition

Area a = 15283 SF
 Area b = 30565 SF
 Area c = 8490 SF
 Area d = 115469 SF
 Total Area = 169807 SF

EXCESS PRECIPITATION:

Precip. Zone 1

Ea = 0.44
 Eb = 0.67
 Ec = 0.99
 Ed = 1.97

On-Site Weighted Excess Precipitation (100-Year, 6-Hour Storm)

$$\text{Weighted E} = \frac{EaAa + EbAb + EcAc + EdAd}{Aa + Ab + Ac + Ad}$$

Historic E = #VALUE! in. Developed E = 1.55 in.

On-Site Volume of Runoff: V360 = E*A / 12

Historic V360 = #VALUE! CF Developed V360 = 21923 CF

On-Site Peak Discharge Rate: $Qp = QpaAa + QpbAb + QpcAc + QpdAd / 43,560$

For Precipitation Zone 1

Qpa = 1.29

Qpc = 2.87

Qbb = 2.03

Qpd = 4.37

Historic Qp = #VALUE! CFS Developed Qp = 14.0 CFS

BASIN NO. 1 EAST SUB-BASIN DISCHARGING TO PROPOSED MAIN POND

Area of basin flows = 45392 SF = 1.0 Ac.

The following calculations are based on Treatment areas as shown in table to the right

Sub-basin Weighted Excess Precipitation (see formula above)

Weighted E = 1.78 in.

Sub-basin Volume of Runoff (see formula above)

V360 = 6714 CF

Sub-basin Peak Discharge Rate: (see formula above)

Qp = 4.2 cfs

TREATMENT

A = 0%

B = 15%

C = 0%

D = 85%

BASIN NO. 2 WEST SUB-BASIN DISCHARGING TO PROPOSED MAIN POND

Area of basin flows = 73651 SF = 1.7 Ac.

The following calculations are based on Treatment areas as shown in table to the right

Sub-basin Weighted Excess Precipitation (see formula above)

Weighted E = 1.80 in.

Sub-basin Volume of Runoff (see formula above)

V360 = 11054 CF

Sub-basin Peak Discharge Rate: (see formula above)

Qp = 6.9 cfs

TREATMENT

A = 0%

B = 13%

C = 0%

D = 87%

BASIN NO. 3 CENTER SUB-BASIN DISCHARGING TO CENTRAL STILLING BASIN

Area of basin flows = 32408 SF = 0.7 Ac.

The following calculations are based on Treatment areas as shown in table to the right

Sub-basin Weighted Excess Precipitation (see formula above)

Weighted E = 1.08 in.

Sub-basin Volume of Runoff (see formula above)

V360 = 2928 CF

Sub-basin Peak Discharge Rate: (see formula above)

Qp = 2.0 cfs

TREATMENT

A = 46%

B = 14%

C = 0%

D = 40%

PERIMETER BASIN PERIMETER LANDSCAPED AREAS - FREE DISCHARGE

Area of basin flows = 18356 SF = 0.4 Ac.

The following calculations are based on Treatment areas as shown in table to the right

Sub-basin Weighted Excess Precipitation (see formula above)

Weighted E = 0.83 in.

Sub-basin Volume of Runoff (see formula above)

V360 = 1270 CF

Sub-basin Peak Discharge Rate: (see formula above)

Qp = 1.0 cfs

TREATMENT

A = 0%

B = 50%

C = 50%

D = 0%

100-year

CALCULATIONS: 1342 - West Mesa Community Center : Sept 23, 2004

HYDROGRAPH FOR SMALL WATERSHED

DPM SECTION 22-2 * PAGE A-13/14

FOR SUB-BASINS #1 AND #2 PONDING AREA AT GLENRIO ROAD

Base time, t_B , for a small watershed hydrograph is,

$t_B = (2.107 * E * AT / QP) - (0.25 * AD / AT)$

Where

E	=	1.55 inches
AT	=	2.73 acres
AD	=	2.36 acres
QP	=	11.1 cfs

t_B	=	0.59 hours
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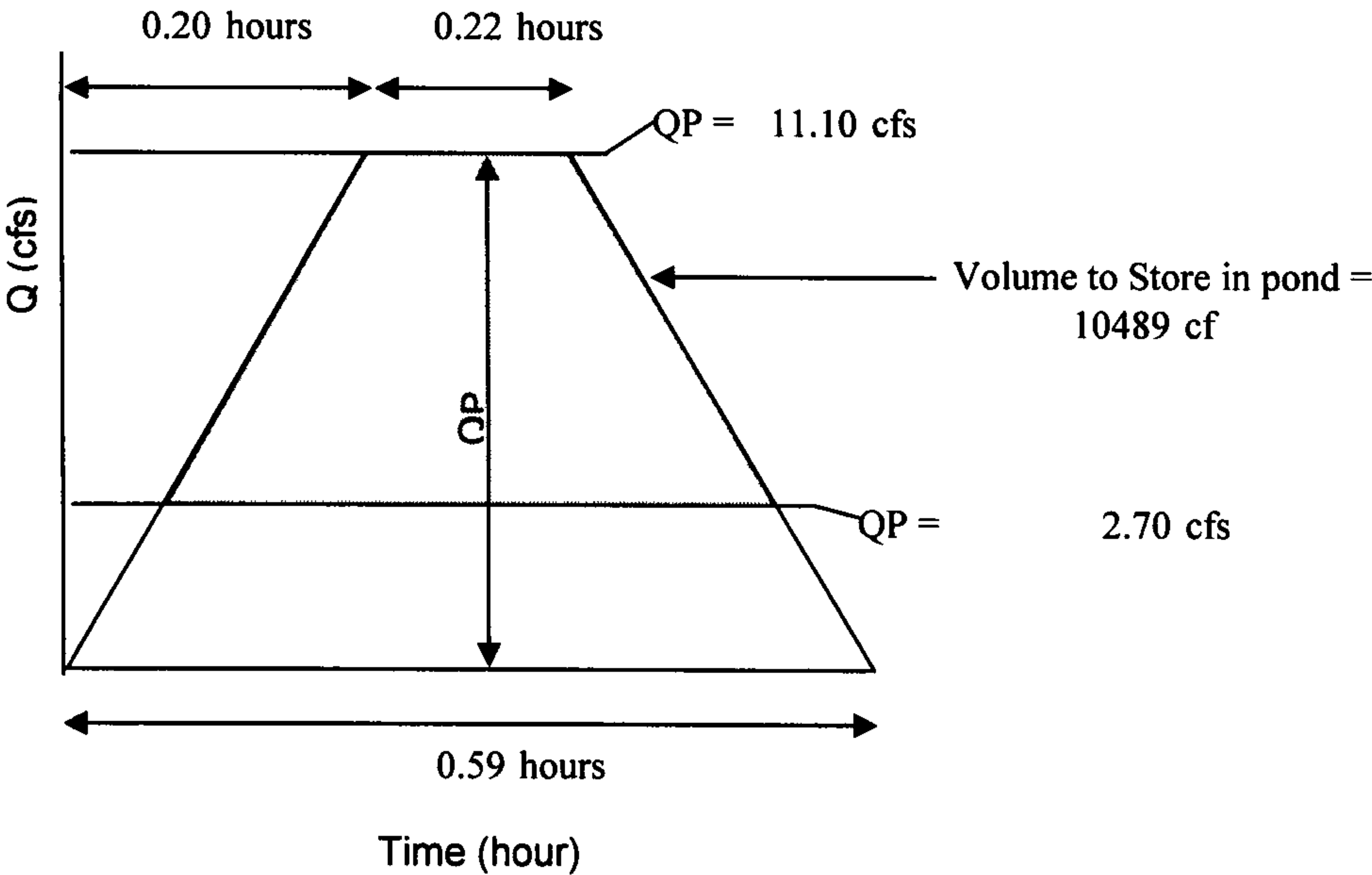
E is the excess precipitation in inches (from DPM TABLE A-8), QP is the peak flow, AD is the area (acres) of treatment D, and AT is the total area in acres. Using the time of concentration, t_C (hours), the time to peak in hours is:

$t_P = (0.7 * t_C) + ((1.6 - (AD / AT)) / 12)$

Where $t_C = 0.20$ hours

$t_P = 0.20$ hours

Continue the peak for $0.25 * AD / AT$ hours. When AD is zero, the hydrograph will be triangular. When AD is not zero, the hydrograph will be trapezoidal. see the graph below:



INFLOW / OUTFLOW HYDROGRAPH

10-year

Job Name:	1342 - West Mesa Community Center
Design Firm:	Cherry See Architects
Date Prepared:	Sept. 23, 2004
Date Modified:	Sept 23, 2004
Precipitation Zone:	1

CALCULATIONS: 1342 - West Mesa Community Center : Sept 23, 2004

Calculations are based on the Drainage Design Criteria for City of Albuquerque Section 22.2, DPM, Vol 2, dated Jan., 1993

ON-SITE

AREA OF SITE:	169807	SF	=	3.898	Ac
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HISTORIC FLOWS:

On-Site Historic Land Condition

Area a	=		SF
Area b	=		SF
Area c	=		SF
Area d	=		SF
Total Area	=	0	SF

DEVELOPED FLOWS:

On-Site Developed Land Condition

Area a	=	15283	SF
Area b	=	30565	SF
Area c	=	8490	SF
Area d	=	115469	SF
Total Area	=	169807	SF

EXCESS PRECIPITATION:

Precip. Zone 1

Ea	=	0.08
Eb	=	0.22
Ec	=	0.44
Ed	=	1.24

On-Site Weighted Excess Precipitation (100-Year, 6-Hour Storm)

$$\text{Weighted E} = \frac{EaAa + EbAb + EcAc + EdAd}{Aa + Ab + Ac + Ad}$$

Historic E	=	#DIV/0! in.	Developed E	=	0.91 in.
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On-Site Volume of Runoff: $V_{360} = E \cdot A / 12$

Historic V_{360}	=	#DIV/0! CF	Developed V_{360}	=	12905 CF
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On-Site Peak Discharge Rate: $Q_p = Q_{pa}Aa + Q_{pb}Ab + Q_{pc}Ac + Q_{pd}Ad / 43,560$

For Precipitation Zone 1

Q_{pa}	=	0.24	Q_{pc}	=	1.49
Q_{pb}	=	0.76	Q_{pd}	=	2.89

Historic Q_p	=	0.0 CFS	Developed Q_p	=	8.6 CFS
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BASIN NO. 1 10-YEAR : EAST SUB-BASIN DISCHARGING TO PROPOSED MAIN POND

Area of basin flows =	45392	SF	=	1.0	Ac.
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The following calculations are based on Treatment areas as shown in table to the right

Sub-basin Weighted Excess Precipitation (see formula above)

$$\text{Weighted E} = 1.09 \text{ in.}$$

Sub-basin Volume of Runoff (see formula above)

$$V_{360} = 4112 \text{ CF}$$

Sub-basin Peak Discharge Rate: (see formula above)

$$Q_p = 2.7 \text{ cfs}$$

TREATMENT	
A =	0%
B =	15%
C =	0%
D =	85%

BASIN NO. 2 10 YEAR : WEST SUB-BASIN DISCHARGING TO PROPOSED MAIN POND

Area of basin flows =	73651	SF	=	1.7	Ac.
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The following calculations are based on Treatment areas as shown in table to the right

Sub-basin Weighted Excess Precipitation (see formula above)

$$\text{Weighted E} = 1.11 \text{ in.}$$

Sub-basin Volume of Runoff (see formula above)

$$V_{360} = 6797 \text{ CF}$$

Sub-basin Peak Discharge Rate: (see formula above)

$$Q_p = 4.4 \text{ cfs}$$

TREATMENT	
A =	0%
B =	13%
C =	0%
D =	87%

BASIN NO. 3 10 YEAR : CENTER SUB-BASIN DISCHARGING TO CENTRAL STILLING POND

Area of basin flows =	32408	SF	=	0.7	Ac.
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The following calculations are based on Treatment areas as shown in table to the right

Sub-basin Weighted Excess Precipitation (see formula above)

$$\text{Weighted E} = 0.56 \text{ in.}$$

Sub-basin Volume of Runoff (see formula above)

$$V_{360} = 1522 \text{ CF}$$

Sub-basin Peak Discharge Rate: (see formula above)

$$Q_p = 1.0 \text{ cfs}$$

TREATMENT	
A =	46%
B =	14%
C =	0%
D =	40%

CALCULATIONS: 1342 - West Mesa Community Center : Sept 23, 2004
HYDROGRAPH FOR SMALL WATERSHED
DPM SECTION 22-2 * PAGE A-13/14

Base time, t_B , for a small watershed hydrograph is,

$$t_B = (2.107 * E * AT / QP) - (0.25 * AD / AT)$$

Where

E	=	0.91 inches
AT	=	2.73 acres
AD	=	2.36 acres
QP	=	7.1 cfs

t_B	=	0.52 hours
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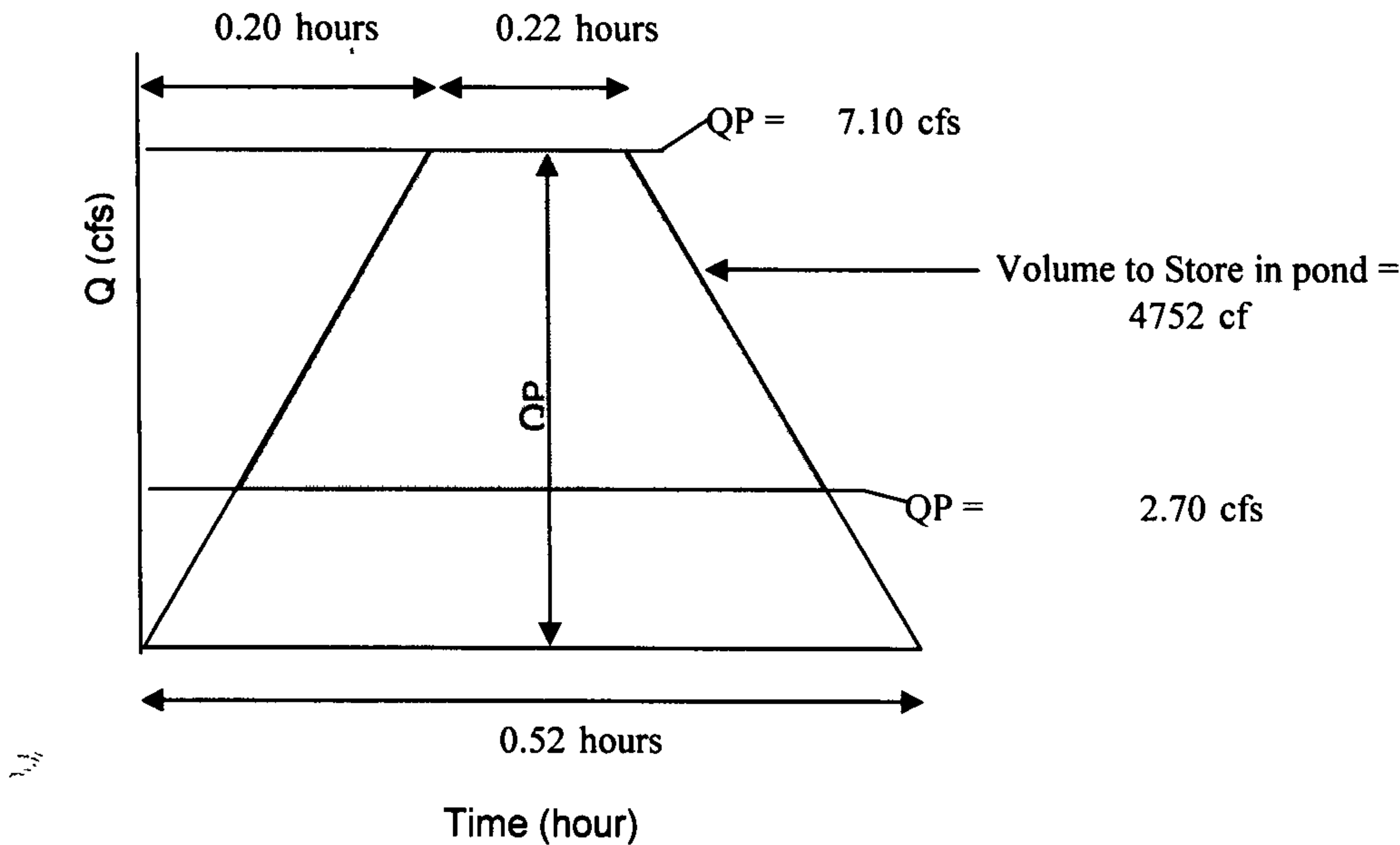
E is the excess precipitation in inches (from DPM TABLE A-8), QP is the peak flow, AD is the area (acres) of treatment D, and AT is the total area in acres. Using the time of concentration, t_C (hours), the time to peak in hours is:

$$t_P = (0.7 * t_C) + ((1.6 - (AD / AT)) / 12)$$

Where t_C = 0.20 hours

$$t_P = 0.20 \text{ hours}$$

Continue the peak for $0.25 * AD / AT$ hours. When AD is zero, the hydrograph will be triangular. When AD is not zero, the hydrograph will be trapezoidal. see the graph below:



INFLOW / OUTFLOW HYDROGRAPH

1342 Pond Volumes.xls

Job Name:	1342 - West Mesa Community Center
Client:	Cherry See Architects
te Prepared:	Sept. 23, 2004
te Modified:	Sept 23, 2004
Precipitation Zone:	1

CALCULATIONS: 1342 - West Mesa Community Center : Sept 23, 2004

Calculations are based on the Drainage Design Criteria for City of Albuquerque Section 22.2, DPM, Vol 2, dated Jan., 1993

INTERIOR PONDING AREA

Elevation	Area	Volume	
5095.8	7500	5150	CF
5094.8	2800		

GLENRIO ROAD PONDING AREA

Elevation	Area	Volume	
5094.5	13300	5075	CF
5094	7000		
5093	2200		
5092.5	1100		
TOTAL VOLUME		10500	CF

10- YEAR STORM

Volume	=	4752	CF
Pond Surface	=	5093.8	

100 YEAR STORM

Volume	=	10489	CF
Pond Surface	=	5094.5	

ORIFACE EQUATION - GLENRIO ROAD OUTLET TO STORM DRAIN

The Oriface Equation is used to calculate the Flow at the opening of a Channel

$Q = C \cdot A \cdot (2 \cdot g \cdot h)^{0.5}$

Where	Q	=	2.7	cfs	
	C	=	0.6		(indicating that the opening will function at 60% capacity)
	A	=	0.2305	sq.ft.	
	g	=	32.2	ft/sec^2	
	h	=	6	ft	depth of flow at opening from the center of culvert

At a head of 6' (center of 12" pipe = 5088.5, high water elevation = 5094.5), a 6.5" dia. opening into the propose 12" RCP will be required to maintian a maximum discharge rate of 2.7 cfs.

ORIFACE EQUATION - OVERFLOW SIDEWALK CULVERTS (TWO 2' WIDE X 8" HIGH)

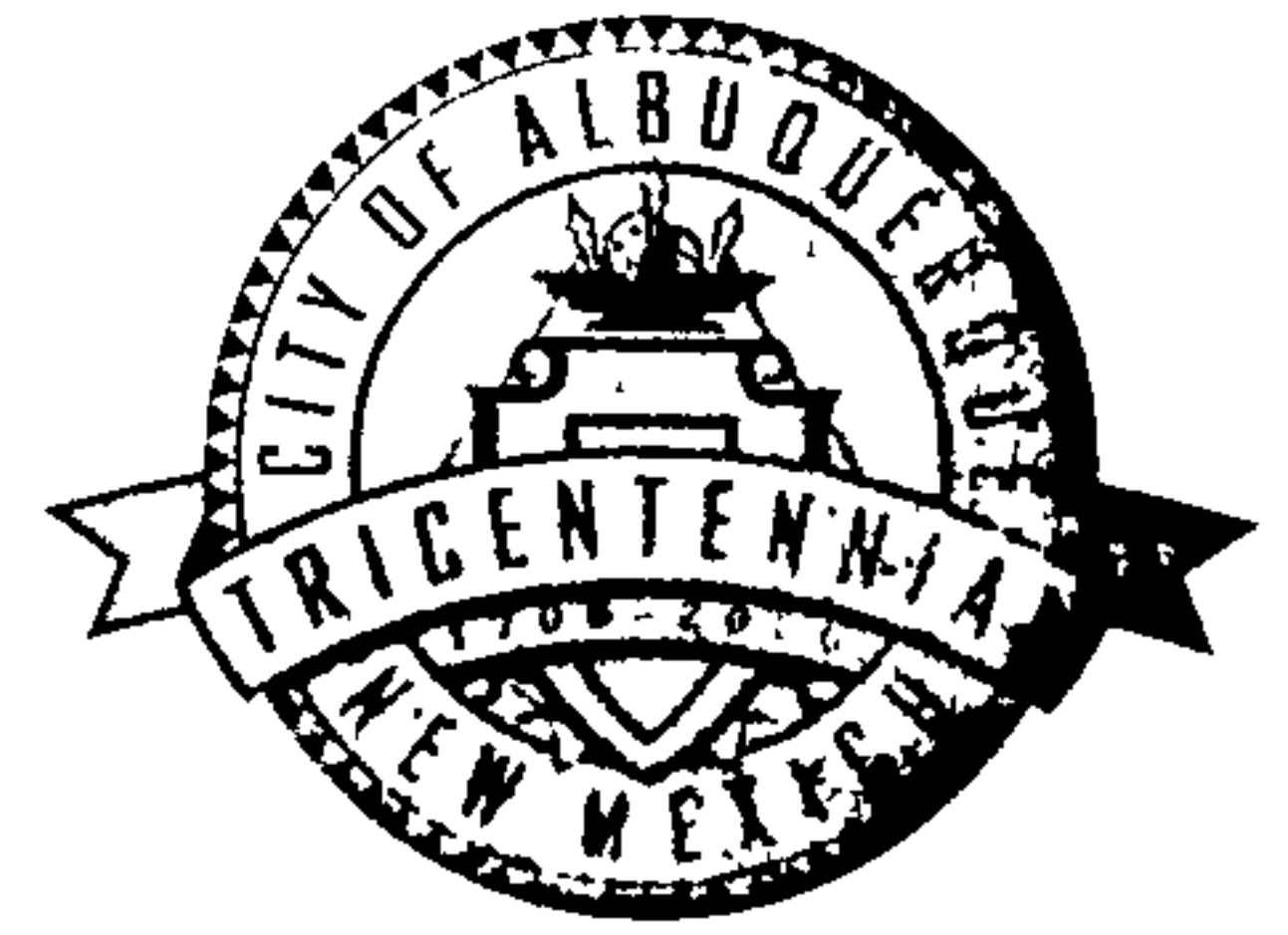
The Oriface Equation is used to calculate the Flow at the opening of a Channel

$Q = C \cdot A \cdot (2 \cdot g \cdot h)^{0.5}$

Where	Q	=	10.5	cfs	
	C	=	0.6		(indicating that the opening will function at 60% capacity)
	A	=	2.668	sq.ft.	
	g	=	32.2	ft/sec^2	
	h	=	0.667	ft	depth of flow at opening from the center of culvert

At a head of 8", two 2' wide sidewalk culverts has the ability to discharge flow in excess of 100-yr. 6- hour volume at a rate of 10.5 cfs.

CITY OF ALBUQUERQUE



**Planning Department
Transportation Development Services Section**

November 16, 2006

Tina M. Reames, Registered Architect
220 Gold Ave. SW
Albuquerque, NM 87102

Re: Certification Submittal for Final Building Certificate of Occupancy for
West Mesa Community Center, [J-11 / D2]
5500 Glenrio Rd. NW
Architect's Stamp Dated 11/14/06

Dear Ms. Reames:

P.O. Box 1293

The TCL / Letter of Certification submitted on November 15, 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.

Albuquerque

Sincerely,

New Mexico 87103

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

www.cabq.gov

c: Engineer
Hydrology file
CO Clerk

DRAINAGE AND TRANSPORTATION INFORMATION SHEET
(Rev. 12/05)

PROJECT TITLE: West Mesa Community Center ZONE MAP/DRG. FILE # J-11-ZD2
DRB#: 05 DRB-00623 EPC#: 04 EPC 00487 WORK ORDER#: _____
04 EPC 00486

LEGAL DESCRIPTION: Tract A of John Adams Subdivision
CITY ADDRESS: 5500 Glenrio Rd. NW

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

CONTACT: _____
PHONE: _____
ZIP CODE: _____

OWNER: City of Albuquerque F&CS
ADDRESS: P.O. Box 1293
CITY, STATE: Albuquerque, NM

CONTACT: Ubaldo Franco, Jr.
PHONE: 924-3407 203-7525cdl
ZIP CODE: 87102

ARCHITECT: Cherry/See/Reames Architects
ADDRESS: 220 Gold Ave. SW
CITY, STATE: Albuquerque, NM ~~87102~~

CONTACT: Tina Reames
PHONE: 842-1278
ZIP CODE: 87102

SURVEYOR: _____
ADDRESS: _____
CITY, STATE: _____

CONTACT: _____
PHONE: _____
ZIP CODE: _____

CONTRACTOR: TC Enterprises
ADDRESS: 7820 Pan American Fwy NE
CITY, STATE: Albuquerque, NM

CONTACT: John Gruges
PHONE: 883-8233
ZIP CODE: 87109

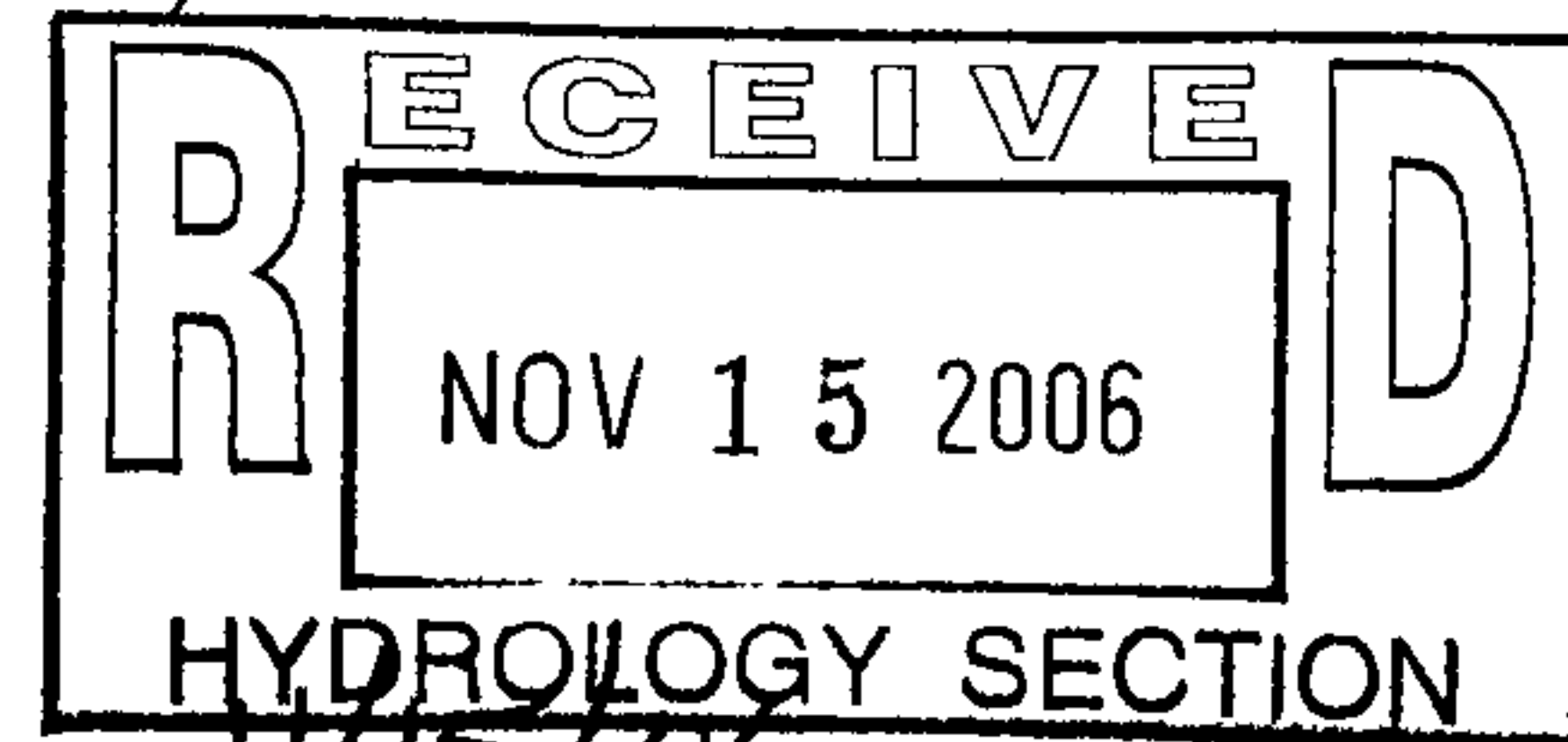
TYPE OF SUBMITTAL:
☐ DRAINAGE REPORT
☐ DRAINAGE PLAN 1st SUBMITTAL
☐ DRAINAGE PLAN RESUBMITTAL
☐ CONCEPTUAL G & D PLAN
☐ GRADING PLAN
☐ EROSION CONTROL PLAN
☐ ENGINEER'S CERT (HYDROLOGY)
☐ CLOMR/LOMR
☒ TRAFFIC CIRCULATION LAYOUT
☒ ENGINEER/ARCHITECT CERT (TCL)
☐ ENGINEER/ARCHITECT CERT (DRB S.P.)
☐ ENGINEER/ARCHITECT CERT (AA)
☐ OTHER (SPECIFY) _____

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: Tina M. Reames DATE: 11/15/06



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 define 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.

November 14, 2006

Wilfred Gallegos
City of Albuquerque Planning / Transportation Department
P.O. Box 1293
Albuquerque, NM 87102

Re: TCL for West Mesa Community Center, City Project No. 1003360, 04 EPC 00487,
04 EPC 00486, 05 DRB-00623

Dear Wilfred,

On 10/16/06 Cherry/See/Reames Architects verified that the West Mesa Community Center was constructed in substantial compliance with the site plan (Sheet CI-101) included in the City approved contract documents with some minor changes as noted on the attached plan.

Minor changes included:

1. Modification of the front plaza area to accommodate the landscaping changes.
2. Adjusting the parking spaces and walk to accommodate the required grade for an existing tree.

Please note: We did find an error in the count of parking spaces on the approved DRB plan on the west side. It showed 21 standard spaces at 8'-6" each equaling 170 ft., but that is incorrect. It should be 20 spaces at that distance as shown on the plan. There are 184 total parking spaces as originally drawn on the plan.

The Contractor has requested a Substantial Completion Certificate for both the building and the site. We have issued both to the Owner with an attached punchlist. There are a few minor items remaining to be completed on the punchlist. The Contractor has requested a Certificate of Occupancy.

Please accept this site plan for the file and final TCL approval.

Thank you.

Sincerely,



Tina M. Reames, AIA
Partner

cc: Ubaldo Franco, Jr., COA, DMD
John Cruger, TC Enterprises

