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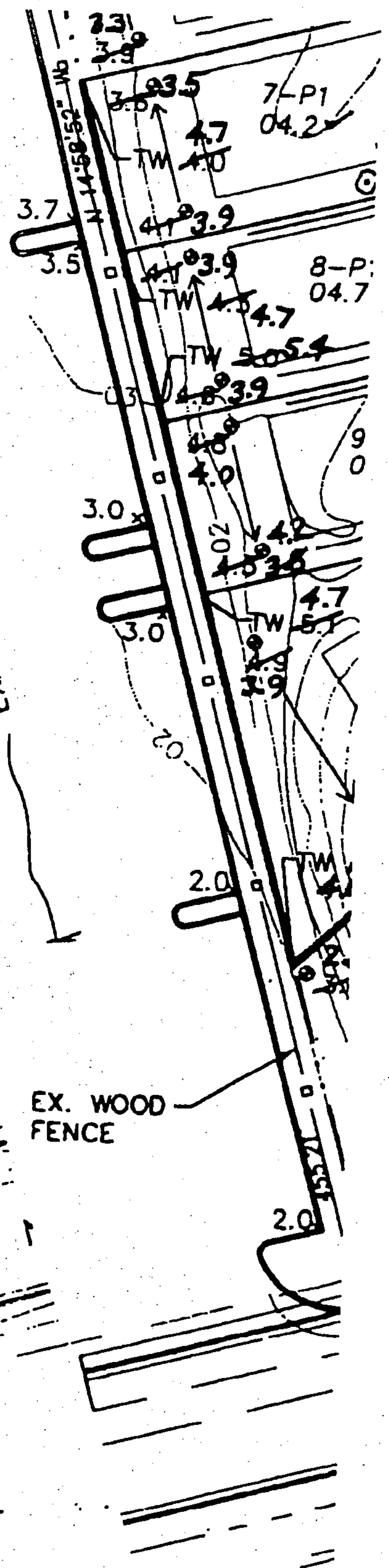
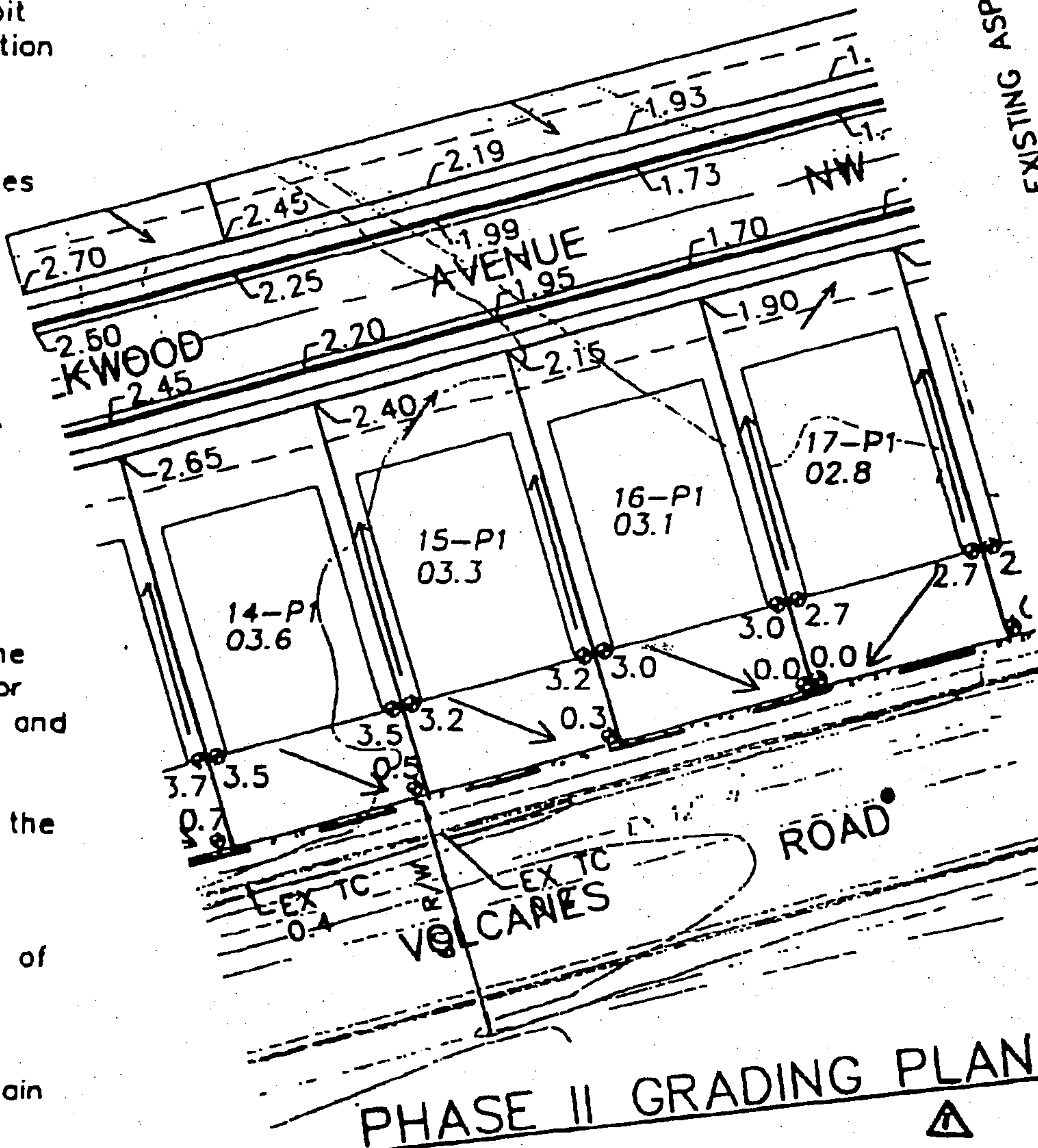
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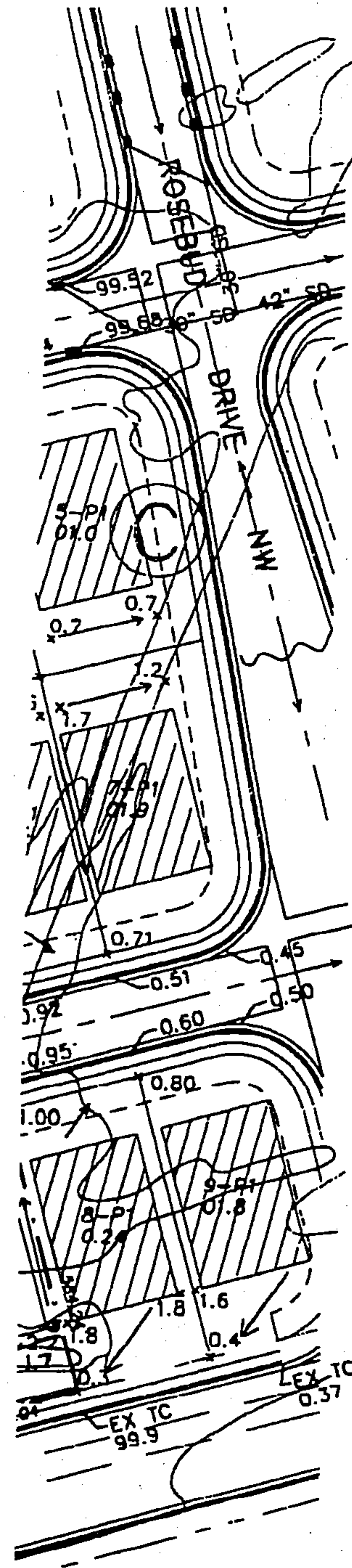
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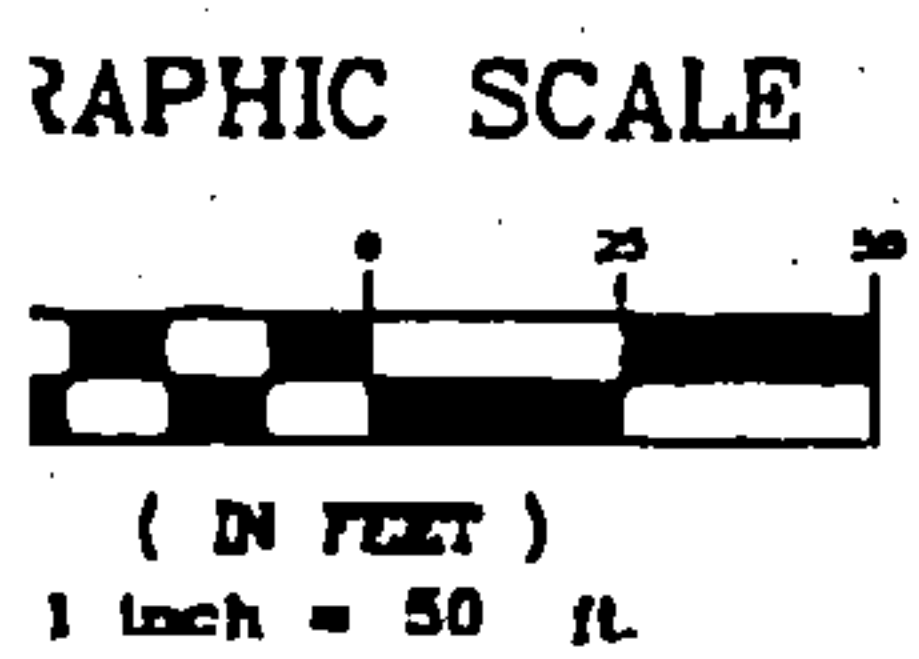


- MANHOLE
- CURB
- DROP INLET
- OVERHEAD ELEC
- UNDERGROUND ELEC, GAS, TEL, TV
- FLOWLINE ELEV.
- TOP OF CURB ELEV.
- SPOT ELEV.
- RIGHT OF WAY
- POWER POLE (GUYED)
- CHAIN LINK FENCE
- CENTERLINE
- CMU GARDEN WALL
- TOP OF ASPHALT ELEV.
- EXISTING CONTOUR ELEVATION
- PROPOSED CONTOUR ELEVATION
- PROPERTY LINE
- DIRECTION OF FLOW
- DRAINAGE SWALE
- DRAINAGE BASIN DIVIDE
- STANDARD C&G
- MOUNTABLE C&G
- STREET LIGHT
- CROWN TRANSITION
- RETAINING WALL

CEDAR RIDGE ESTATES, UNIT 1

2 3 4 5 6 7 8 9 10 11 12 13 14 15
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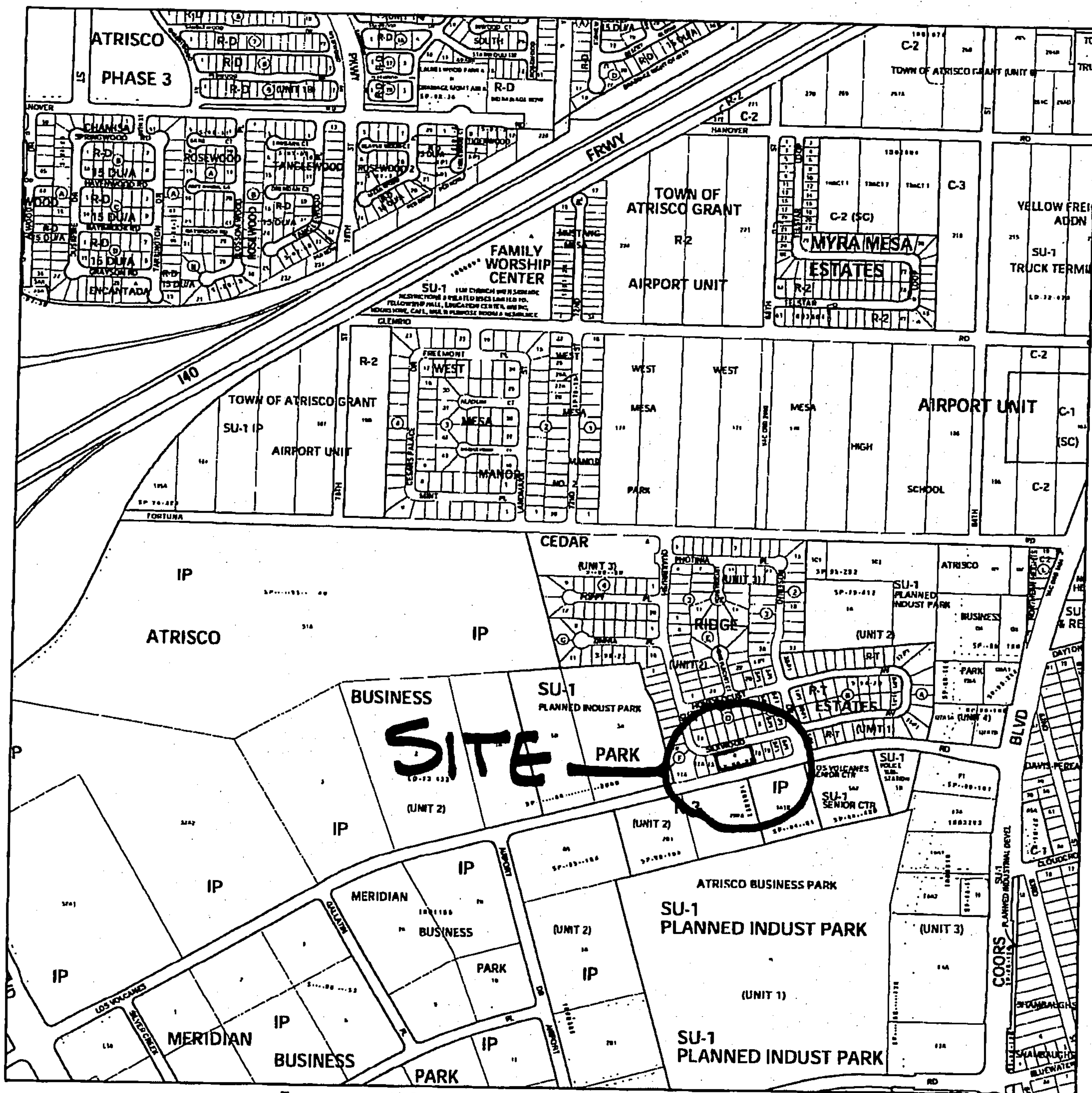
APPROVED FOR ROUGH GRADING:	
CITY OF ALBUQUERQUE, HYDROLOGY	DATE
BLI BRASHER & LORENZ, INC. Consulting Engineers 2201 San Pedro NE Building 1 Suite 210 Albuquerque, New Mexico 87110 Ph: 505-888-6088 Fax: 505-888-6188	
CITY OF ALBUQUERQUE PUBLIC WORKS DEPARTMENT ENGINEERING DEVELOPMENT GROUP	
TITLE: CEDAR RIDGE ESTATES UNIT 2 GRADING PLAN	
Design Review Committee	City Engineer Approval
Approved DRB	
City Project No.	Zone Map No.
4972.91	J-10
Sheet	Of
3	19



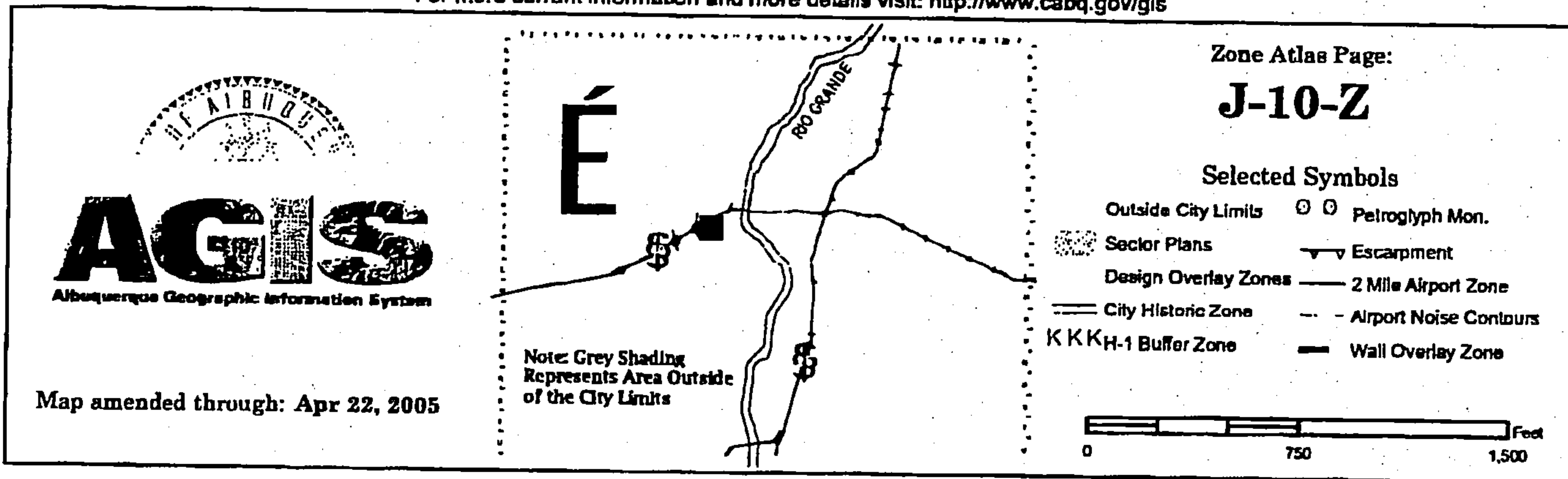
SURVEY INFORMATION		BENCH M.
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ENGINEER'S SEAL	
DL	REVISIONS
DL	DESIGN
BY	DESIGNED BY DAL
	DRAWN BY A.S.C.
	CHECKED BY DAL
	DATE 7/98
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	DATE 7/98

500A



For more current information and more details visit: <http://www.cabq.gov/gis>



CITY OF ALBUQUERQUE



**Planning Department
Transportation Development Services Section**

August 10, 2006

Mr. David A. Aube, PE
THE HARTMAN & MAJEWSKI DESIGN GROUP, INC.
202 Central Avenue SE, Suite 200
Albuquerque, NM 87102

Re: Certification Submittal for Final Building Certificate of Occupancy for
WEST MESA AQUATIC CENTER, PHASE II, [J-10 / D21]
6705 Fortuna Road NW
Engineer's Stamp Dated 08/10/2006

P.O. Box 1293

Dear Mr. Aube:

Albuquerque

The TCL / Letter of Certification submitted on August 10, 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.

New Mexico 87103 Sincerely,

www.cabq.gov

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

c: Engineer
Hydrology file
CO Clerk
Gloria Saavedra

August 10, 2006

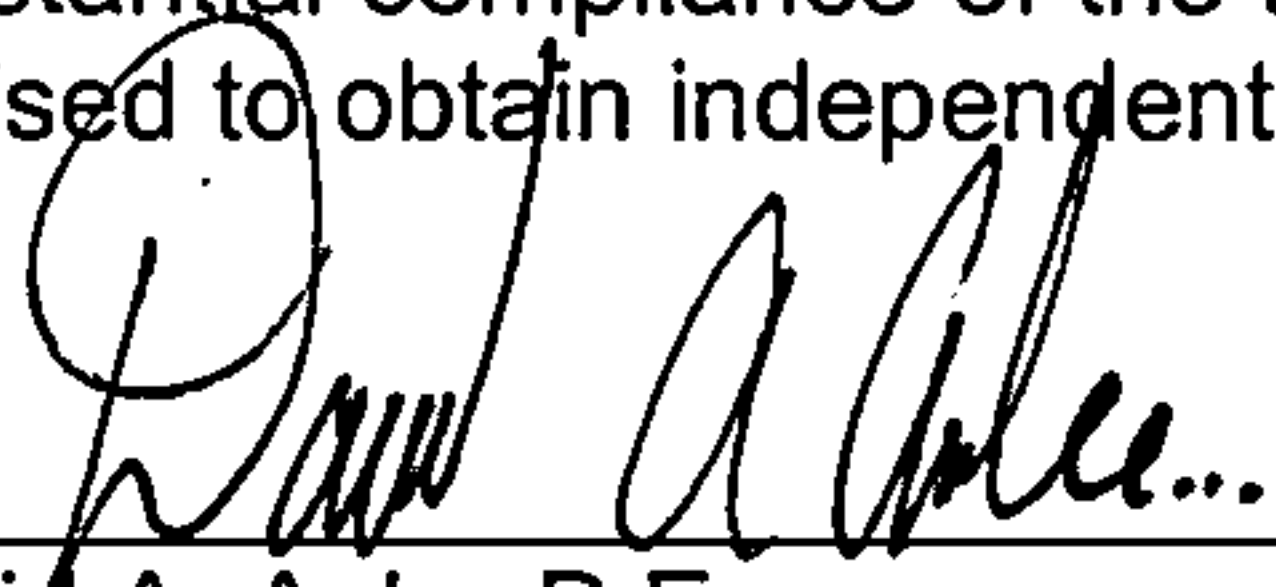
THE HARTMAN + MAJEWSKI
DESIGN GROUP
Architects • Planners • Interior Design
202 Central Avenue SE, Suite 200
Albuquerque, New Mexico 87102
Tel 505.242.6880 • Fax 505.242.6881



Traffic Certification

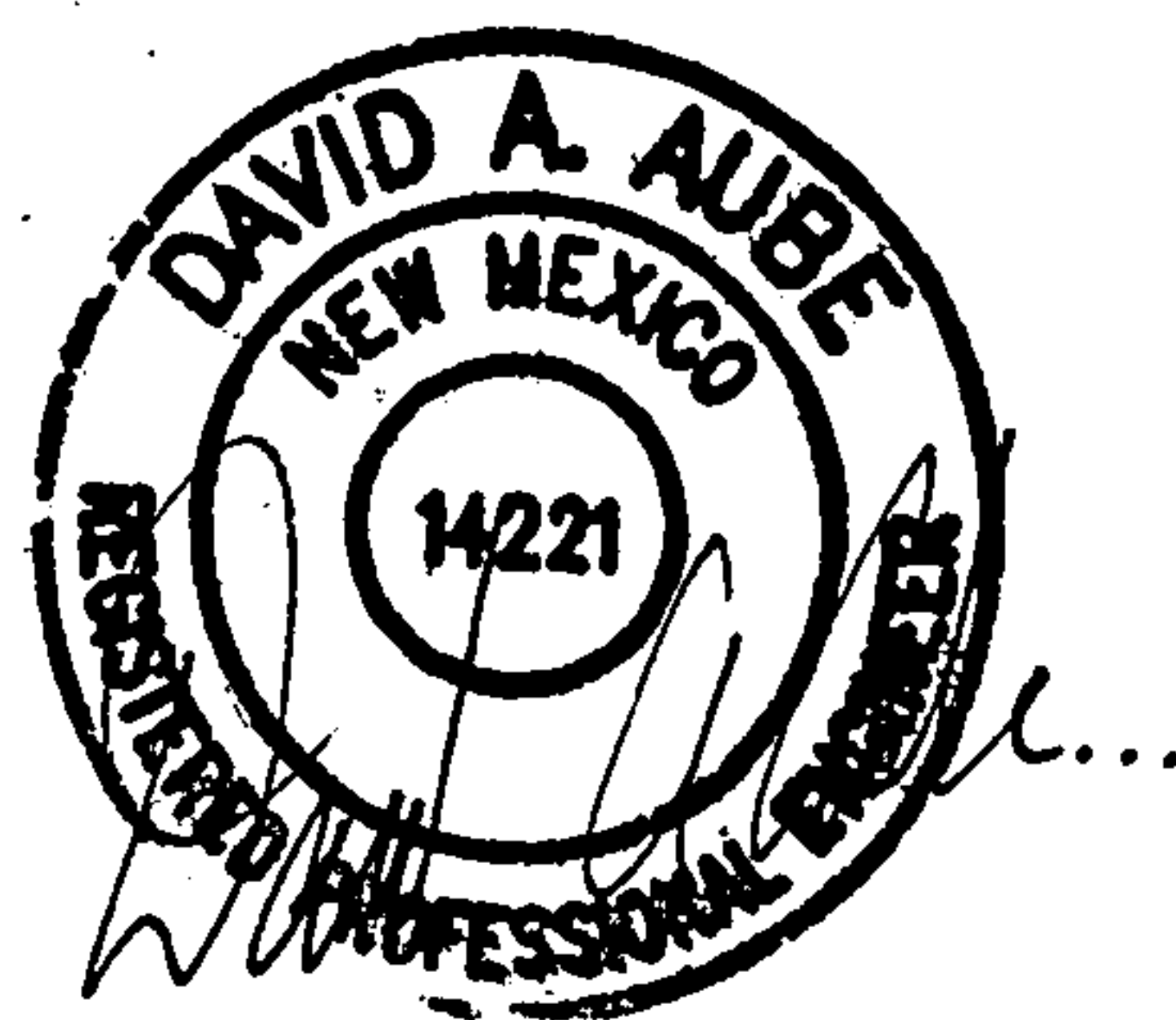
I, David A Aube. NMPE 14221, of the firm The Hartman + Majewski Design Group, Inc, hereby certify that this project is in substantial compliance with and in accordance with the design intent of the Traffic Circulation Layout approved and dated September 13, 2004. The record information edited onto the original design documents has been obtained by Gary Clayton, KL House Construction. I further certify that I have personally visited the project site on August 9, 2006 and have determined by visual inspection that the survey data provided is representative of actual site conditions and is true and correct to the best of my knowledge and belief. This certification is submitted in support of a request for Permanent Certificate of Occupancy.

The record information presented hereon is not necessarily complete and intended only to verify substantial compliance of the traffic aspects of this project. Those relying on the record documents are advised to obtain independent verification of its accuracy before using it for any other purpose.



David A. Aube P.E.
Principal
The Hartman & Majewski Design Group, Inc.

8-10-06



8-10-06



DRAINAGE AND TRANSPORTATION INFORMATION SHEET

(REV. 1/28/2003rd)

PROJECT TITLE: West Mesa Aquatic Center
DRB #: _____ EPC#: _____

ZONE MAP/DRG. FILE #: J-10-Z
WORK ORDER#: _____

LEGAL DESCRIPTION: Tracks 173 and 174, Town of Atrisco Grant Airport Unit-
CITY ADDRESS:

ENGINEERING FIRM: Design Group
ADDRESS: 202 Central Avenue Suite 200
CITY, STATE: Albuquerque, NM

CONTACT: David Aube
PHONE: 242-6880
ZIP CODE: 87106

OWNER: City of Albuquerque
ADDRESS: city / County Building
CITY, STATE: Albuquerque, NM

CONTACT: George Gee
PHONE: _____
ZIP CODE: 871

ARCHITECT: The Design Group
ADDRESS: 202 Central Avenue Suite 200
CITY, STATE: Albuquerque, NM

CONTACT: Doug Majewski
PHONE: 242-6880
ZIP CODE: 87106

SURVEYOR: JMA
ADDRESS: 6010-B Midway Park Boulevard
CITY, STATE: Albuquerque, NM

CONTACT: Chuck Cala
PHONE: 345-4250
ZIP CODE: 87109

CONTRACTOR: KL House
ADDRESS: 6409 Acoma Road S.E.
CITY, STATE: Albuquerque, NM

CONTACT: Gary Clayton
PHONE: 268-4361
ZIP CODE: 87108

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:

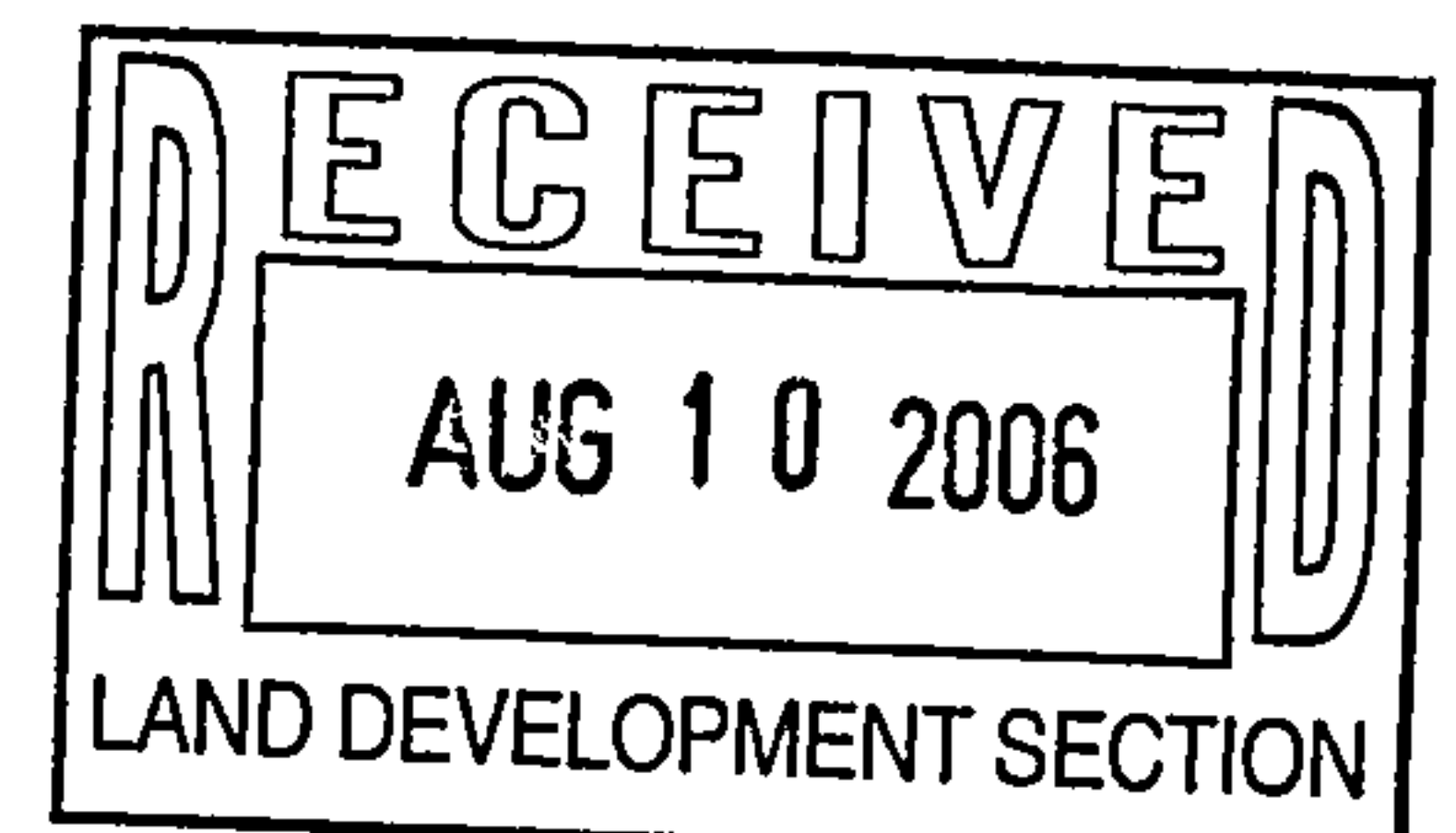
- ☐ SIA / FINANCIAL GUARANTEE RELEASE
- ☐ PRELIMINARY PLAT APPROVAL
- ☐ S. DEV. PLAN FOR SUB'D. APPROVAL
- ☐ S. DEV. PLAN FOR BLDG. PERMIT APPROVAL
- ☐ SECTOR PLAN APPROVAL
- ☐ FINAL PLAT APPROVAL
- ☐ FOUNDATION PERMIT APPROVAL
- ☐ BUILDING PERMIT APPROVAL
- ☒ CERTIFICATE OF OCCUPANCY (PERM.)
- ☐ CERTIFICATE 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: 8-10-06

BY: David Aube P.E.



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



August 11, 2006

Mr. Jeff Mortensen, P.E.
JEFF MORTENSEN & ASSOCIATES
6010-B Midway Park Blvd. NE
Albuquerque, NM 87109

Re: WEST MESA AQUATIC CENTER PHASE II
6705 Fortuna Road NW
Approval of Permanent Certificate of Occupancy (C.O.)
Engineer's Stamp dated 08/02/2006 (J-10/D21)
Certification dated 08/10/2006

P.O. Box 1293

Dear Jeff,

Albuquerque Based upon the information provided in your submittal received 08/11/2006, the above
referenced certification is approved for release of Permanent Certificate of Occupancy by
Hydrology.

New Mexico 87103

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

www.cabq.gov

Sincerely,

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

C: C.O. Clerk
File

DRAINAGE AND TRANSPORTATION INFORMATION SHEET

(REV. 1/28/2003rd)

PROJECT TITLE: WEST MESA AQUATIC CENTER – PHASE 2 ZONE ATLAS/DRNG. FILE #: J10 D21
 DRB #: _____ EPC #: _____ WORK ORDER #: 517602

LEGAL DESCRIPTION: TRACTS 173 & 174, TOWN OF ATRISCO GRANT
 CITY ADDRESS: 6705 FORTUNA ROAD SW

ENGINEERING FIRM: JEFF MORTENSEN & ASSOC., INC. CONTACT: JEFF MORTENSEN
 ADDRESS: 6010-B MIDWAY PARK BLVD. NE PHONE: (505) 345-4250
 CITY, STATE: ALBUQUERQUE, NM ZIP CODE: 87109

OWNER: CITY OF ALBUQUERQUE – PARKS & GENERAL SERVICES CONTACT: GEORGE GEE
 ADDRESS: CITY HALL PHONE: _____
 CITY, STATE: ALBUQUERQUE, NM ZIP CODE: _____

ARCHITECT: THE HARTMAN+MAJEWSKI DESIGN GROUP CONTACT: KEN COOK
 ADDRESS: 202 CENTRAL AVENUE SE, SUITE 200 PHONE: 242-6880
 CITY, STATE: ALBUQUERQUE, NM ZIP CODE: 87102

SURVEYOR: JEFF MORTENSEN & ASSOC., INC. (NMPS 11184) CONTACT: CHARLES G. CALA, JR
 ADDRESS: 6010-B MIDWAY PARK BLVD. NE PHONE: (505) 345-4250
 CITY, STATE: ALBUQUERQUE, NM ZIP CODE: 87109

CONTRACTOR: K.L. HOUSE CONTACT: MIKE BROGDON
 ADDRESS: 6409 ACOMA ROAD SE PHONE: 268-4361
 CITY, STATE: ALBUQUERQUE, NM ZIP CODE: 87108

TYPE OF SUBMITTAL:

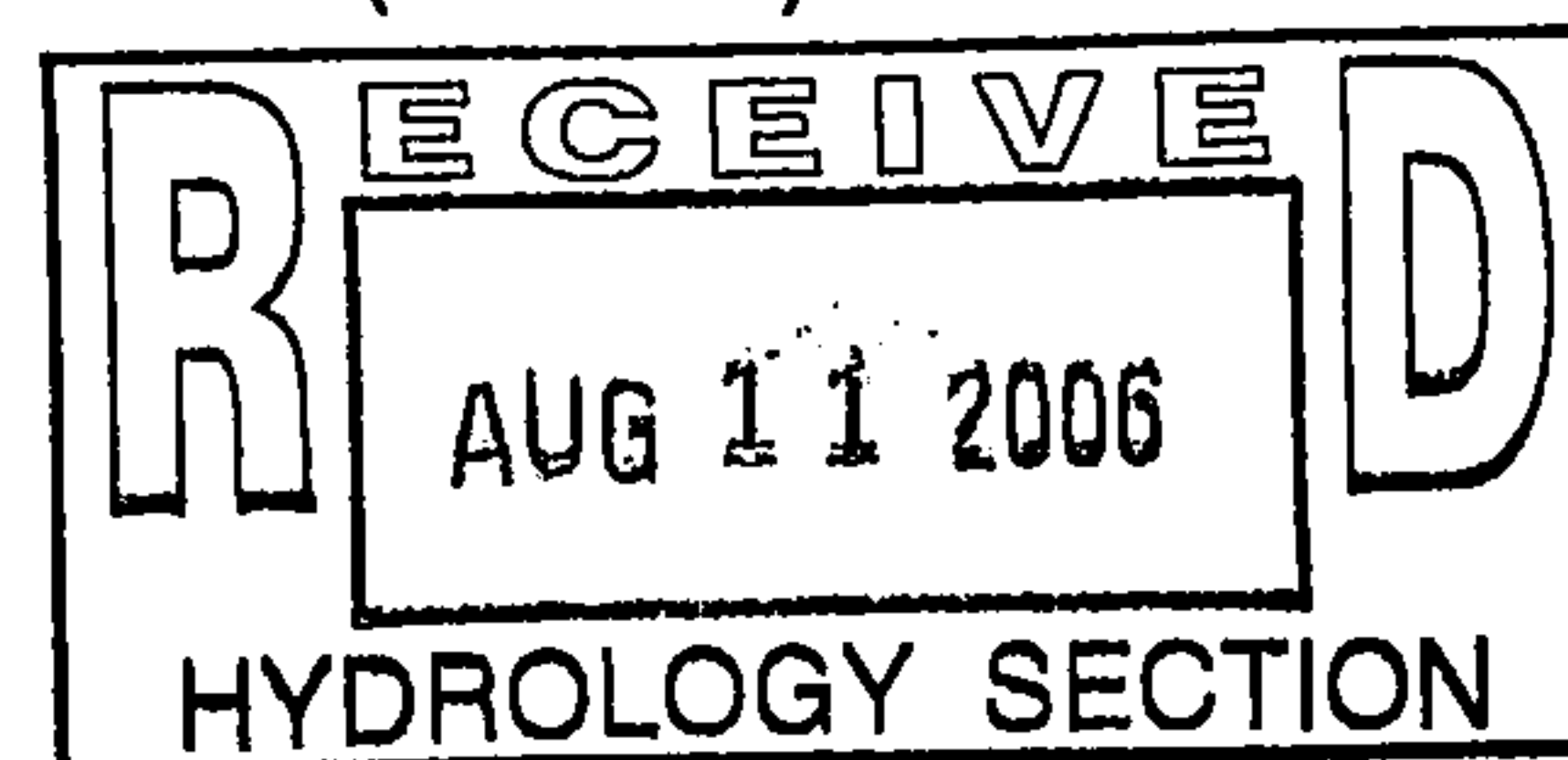
- ☐ DRAINAGE REPORT
☐ DRAINAGE PLAN 1st SUBMITTAL, **REQUIRES TCL or equal**
☐ DRAINAGE PLAN RESUBMITTAL
☐ CONCEPTUAL GRADING & DRAINAGE PLAN
☐ GRADING PLAN
☐ EROSION CONTROL PLAN
☒ ENGINEER'S CERTIFICATION (HYDROLOGY)
☐ CLOMR/LOMR
☐ TRAFFIC CIRCULATION LAYOUT (TCL)
☐ ENGINEER'S CERTIFICATION (TCL)
☐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

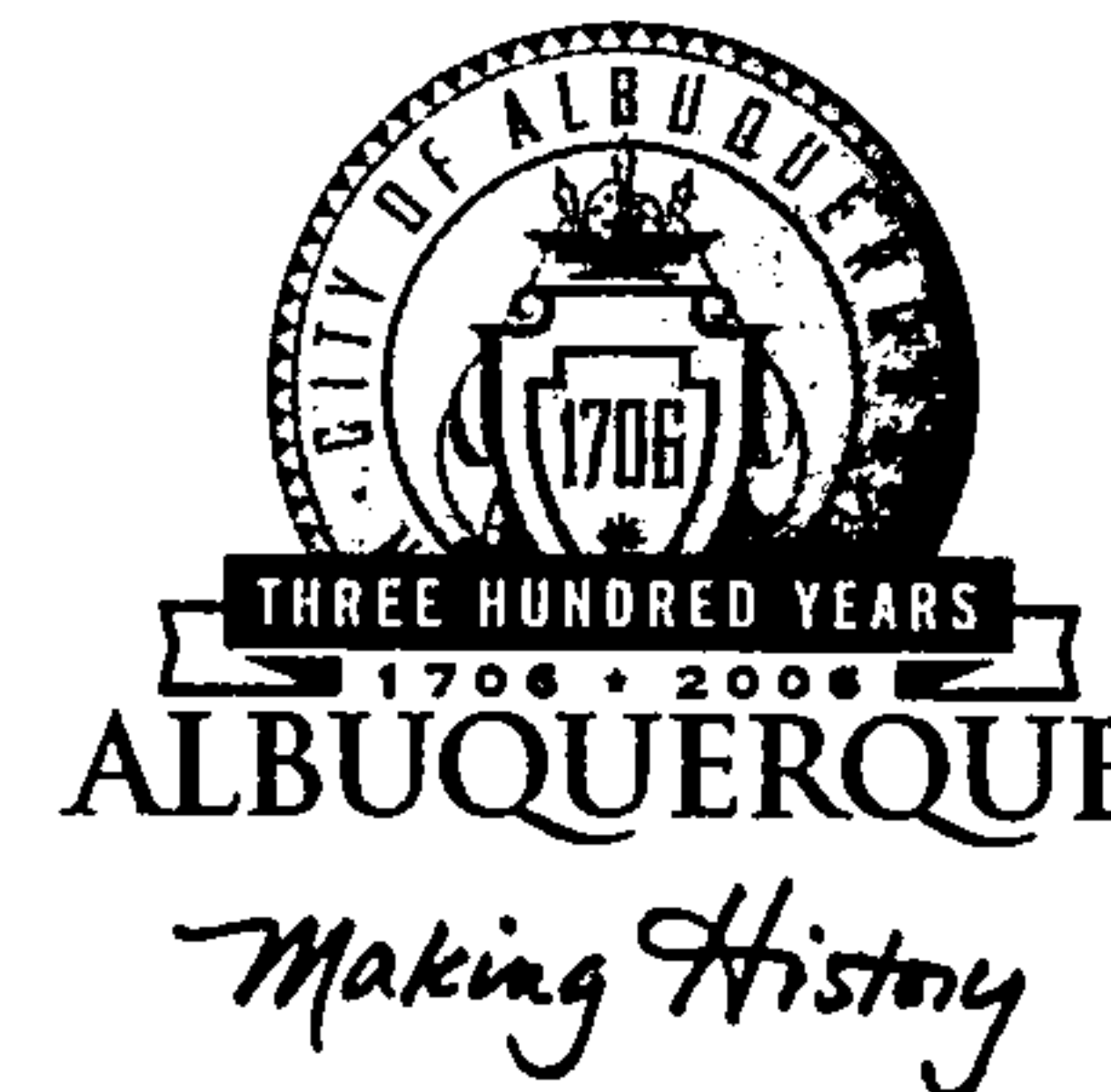


DATE SUBMITTED: 08/11/2006 BY: JEFFREY G. MORTENSEN

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 upon the following:

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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



September 22, 2004

Douglas James Majewski, R.A.
The Hartman & Majewski Design Group
202 Central Ave. SE Suite 200
Albuquerque, NM 87102

**Re: West Mesa Aquatic Center, 6705 Fortuna Rd NW, Traffic Circulation
Layout**
Architect's Stamp dated 8-09-04 (J10-D21)

Dear Mr. Majewski,

Based upon the information provided in your submittal received 9-17-04, the above referenced plan cannot be approved for Building Permit until the following comments are addressed:

1. Please include 2 copies of the traffic circulation layout at the next submittal.
2. Provide bumpers for all parking spaces located along the sidewalk, or make the sidewalk 8 feet in width.
3. Check with zoning to determine the number of handicapped parking spaces required, as well as the number of van accessible handicapped parking spaces required.
4. For passenger vehicles, the minimum end island radius is 15 feet.

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

Sincerely,

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

C: file

P.O. Box 1293

Albuquerque

New Mexico 87103

www.cabq.gov

J-10/D21

DRAINAGE AND TRANSPORTATION INFORMATION SHEET

(REV. 1/28/2003rd)

PROJECT TITLE: WEST MESA AQUATIC CENTER - PHASE 2 ZONE MAP/DRG. FILE #: J-10
DRB #: 5176.02 EPC#: _____ WORK ORDER#: _____
CITY PROJECT NO. _____
LEGAL DESCRIPTION: LOT #173, WEST MESA PARK, TOWN OF ATLASCO GRANT, AIRPORT UNIT
CITY ADDRESS: 6705 FORTUNA NW

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

CONTACT: _____
PHONE: _____
ZIP CODE: _____

OWNER: CITY OF ALBUQUERQUE - 1 CIVIC PLAZA Room 7057
ADDRESS: P.O. Box 1293
CITY, STATE: ALBUQUERQUE, NM 87103

CONTACT: GEORGE GEE
PHONE: 708-3814
ZIP CODE: 87103

ARCHITECT: THE HARTMAN+MAJEWSKI DESIGN GROUP
ADDRESS: 202 CENTRAL AVE., SUITE 200
CITY, STATE: ALBUQUERQUE, NM 87102

CONTACT: MARK WADE
PHONE: 242-6880
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:

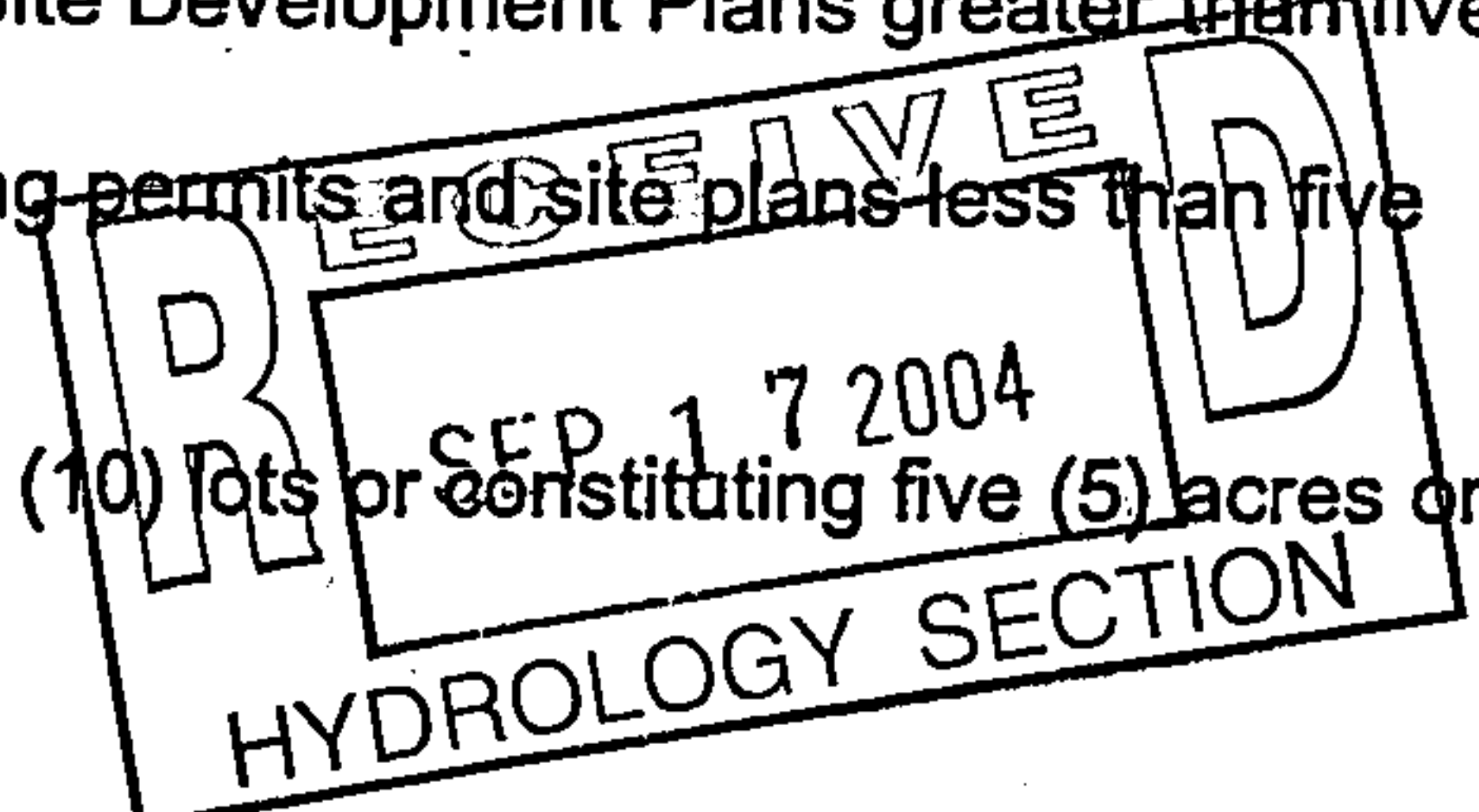
- ☐ SIA / FINANCIAL GUARANTEE RELEASE
- ☐ PRELIMINARY PLAT APPROVAL
- ☐ S. DEV. PLAN FOR SUB'D. APPROVAL
- ☐ S. DEV. PLAN FOR BLDG. PERMIT APPROVAL
- ☐ SECTOR PLAN APPROVAL
- ☐ FINAL PLAT APPROVAL
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- ☐ CERTIFICATE OF OCCUPANCY (TEMP.)
- ☐ GRADING PERMIT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

SUBMITTAL
WAS A PRE-DESIGN CONFERENCE ATTENDED:
☒ YES W/ KRISTAL METLON 9/16/04
☐ NO
☐ COPY PROVIDED

DATE SUBMITTED: 9/17/04 BY: Mark E. Wade

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.



1501-2

2 copies

15' R min

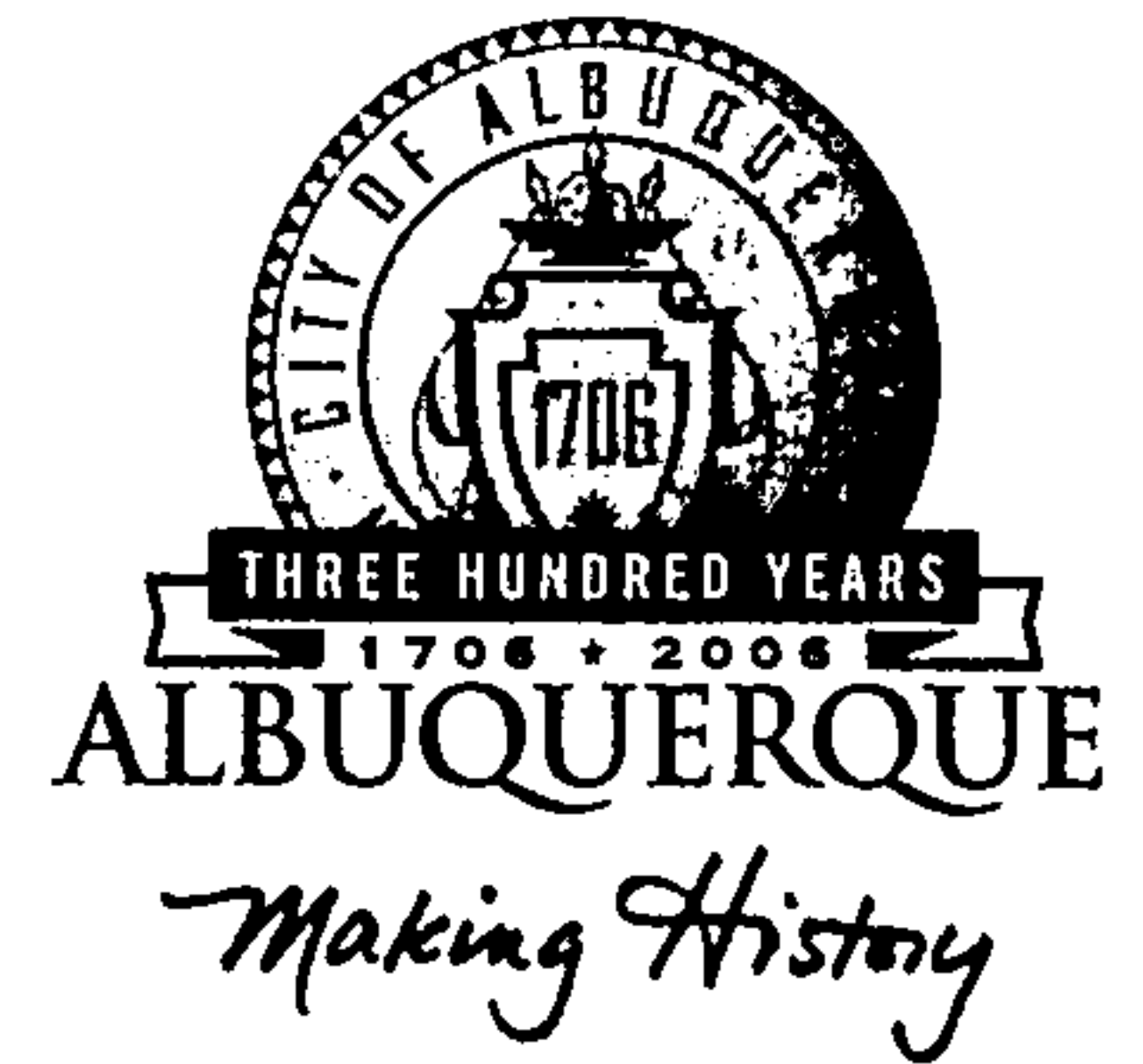
How many van-access HC spaces
Required?

Bumpers for parking along
sidewalk - or go to
8' side walk

↑
Zoning Code Req?

# Reg Spaces	# HC Spaces
1-25	1
26-35	2
36-50	3
51-100	4

CITY OF ALBUQUERQUE



August 3, 2004

Jeffrey Mortensen, P.E.
Jeff Mortensen & Associates, Inc.
6010-B Midway Park Blvd. NE
Albuquerque, NM 87109

**Re: West Mesa Aquatic Center Phase II, 6705 Fortuna Rd NW Grading and
Drainage Plan**
Engineer's Stamp dated 8-02-04 (J10-D21)

Dear Mr. Mortensen,

Based upon the information provided in your submittal received 8-02-04, 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)

5-10/021

PROJECT TITLE: WEST MESA AQUATIC CENTER PHASE 2 ZONE ATLAS/DRNG. FILE #: J10 D21
 DRB #: _____ EPC #: _____ WORK ORDER #: _____

LEGAL DESCRIPTION: TRACTS 173 AND 174, TOWN OF ATRISCO GRANT AIRPORT UNIT
 CITY ADDRESS: 6705 FORTUNA ROAD NW

ENGINEERING FIRM: JEFF MORTENSEN & ASSOC., INC. CONTACT: JEFF MORTENSEN
 ADDRESS: 6010-B MIDWAY PARK BLVD. NE PHONE: (505) 345-4250
 CITY, STATE: ALBUQUERQUE, NM ZIP CODE: 87109

OWNER: CITY OF ALBUQUERQUE - PARKS & GENERAL SERVICES CONTACT: GEORGE GEE
 ADDRESS: CITY HALL PHONE: _____
 CITY, STATE: _____ ZIP CODE: _____

ARCHITECT: THE HARTMAN + MAJEWSKI DESIGN GROUP CONTACT: JOHN GARDNER
 ADDRESS: 202 CENTRAL AVENUE SE, SUITE 200 PHONE: 242-6880
 CITY, STATE: ALBUQUERQUE, NM ZIP CODE: 87102

SURVEYOR: JEFF MORTENSEN & ASSOC., INC. CONTACT: JEFF MORTENSEN
 ADDRESS: 6010-B MIDWAY PARK BLVD. NE PHONE: (505) 345-4250
 CITY, STATE: ALBUQUERQUE, NM ZIP CODE: 87109

CONTRACTOR: N/A CONTACT: _____
 ADDRESS: _____ PHONE: _____
 CITY, STATE: _____ ZIP CODE: _____

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)
☐ ENGINEER'S CERTIFICATION (TCL)
☐ ENGINEER'S CERTIFICATION (DRB APPR. SITE PLAN)
☐ OTHER

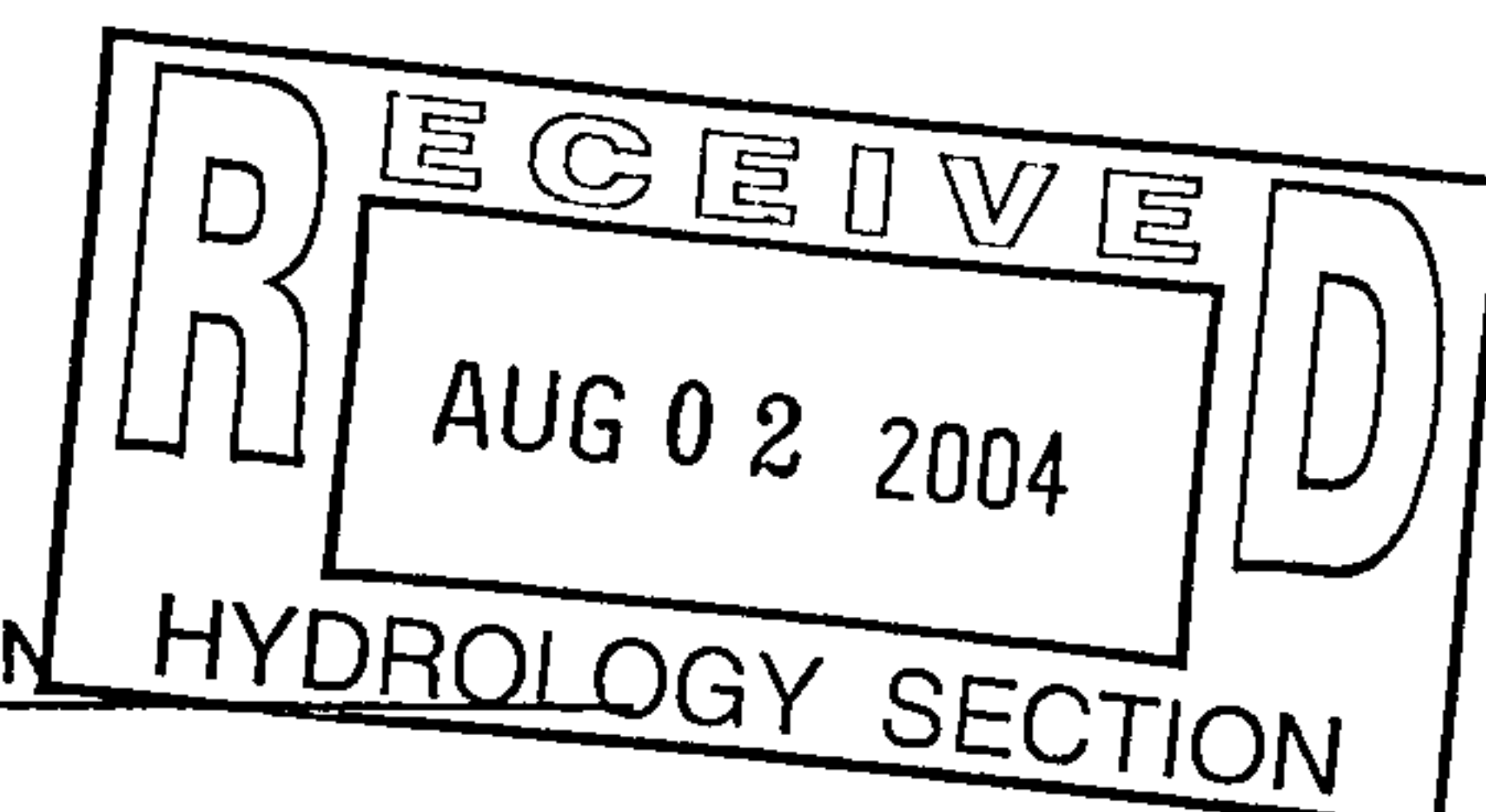
CHECK TYPE OF APPROVAL SOUGHT:

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☐ CERTIFICATE OF OCCUPANCY (PERM.)
☐ CERTIFICATE OF OCCUPANCY (TEMP.)
☐ GRADING PERMIT APPROVAL
☐ PAVING PERMIT APPROVAL
☒ WORK ORDER APPROVAL
☐ OTHER (SPECIFY) CONCEPT

WAS A PRE-DESIGN CONFERENCE ATTENDED:

- ☐ YES
☒ NO
☐ COPY PROVIDED

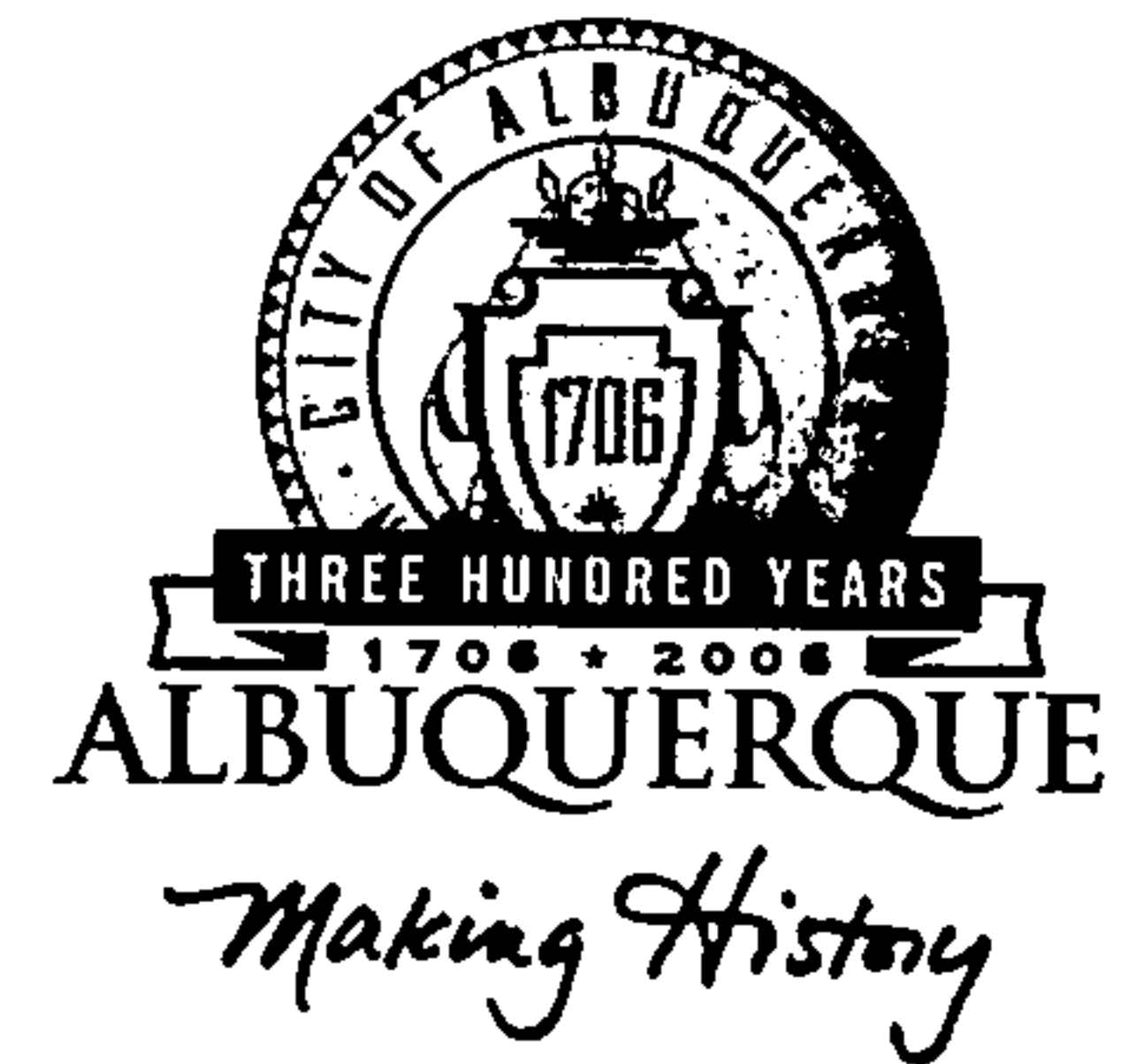
DATE SUBMITTED: 08/02/2004 BY: JEFFREY G. MORTENSEN



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CITY OF ALBUQUERQUE



September 23, 2004

Douglas James Majewski, R.A.
The Hartman & Majewski Design Group
202 Central Ave. SE Suite 200
Albuquerque, NM 87102

Re: West Mesa Aquatic Center, 6705 Fortuna Rd NW, Traffic Circulation Layout
Architect's Stamp dated 9-13-04 (J10-D21)

Dear Mr. Majewski,

The TCL submittal received 9-23-04 is approved for Building Permit. The plan is stamped and signed as approved. A copy of this plan will be needed for each of the building permit plans. Please keep the original to be used for certification of the site for final C.O. for Transportation.

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

P.O. Box 1293

Albuquerque

New Mexico 87103

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

www.cabq.gov

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

Sincerely,

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

cc: file



City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

June 1, 2004

Jeffrey Mortensen, P.E.
Jeff Mortensen & Associates, Inc.
6010-B Midway Park Blvd. NE
Albuquerque, NM 87109

Re: West Mesa Aquatic Center Phase 2, 6705 Fortuna Rd NW, Site Development Plan

Engineer's Stamp dated 4-24-04 (J10-D21)

Dear Mr. Mortensen,

Based upon the information provided in your submittal received 4-26-04, the above referenced plan is approved for Site Development Plan for Building Permit action by the DRB. However, please note that your plan appears to modify the existing field located north of the proposed building.

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)

J-10/D021

PROJECT TITLE: WEST MESA AQUATIC CENTER PHASE 2 ZONE ATLAS/DRNG. FILE #: J10
 DRB #: _____ EPC #: _____ WORK ORDER #: ~~021/0021~~

LEGAL DESCRIPTION: TRACTS 173 AND 174, TOWN OF ATRISCO GRANT AIRPORT UNIT
 CITY ADDRESS: 6705 FORTUNA ROAD NW

ENGINEERING FIRM: JEFF MORTENSEN & ASSOC., INC. CONTACT: JEFF MORTENSEN
 ADDRESS: 6010-B MIDWAY PARK BLVD. NE PHONE: (505) 345-4250
 CITY, STATE: ALBUQUERQUE, NM ZIP CODE: 87109

OWNER: CITY OF ALBUQUERQUE - PARKS & GENERAL SERVICES CONTACT: GEORGE GEE
 ADDRESS: CITY HALL PHONE: _____
 CITY, STATE: _____ ZIP CODE: _____

ARCHITECT: THE HARTMAN + MAJEWSKI DESIGN GROUP CONTACT: JOHNGARDNER
 ADDRESS: 202 CENTRAL AVENUE SE, SUITE 200 PHONE: 242-6880
 CITY, STATE: ALBUQUERQUE, NM ZIP CODE: 87102

SURVEYOR: JEFF MORTENSEN & ASSOC., INC. CONTACT: JEFF MORTENSEN
 ADDRESS: 6010-B MIDWAY PARK BLVD. NE PHONE: (505) 345-4250
 CITY, STATE: ALBUQUERQUE, NM ZIP CODE: 87109

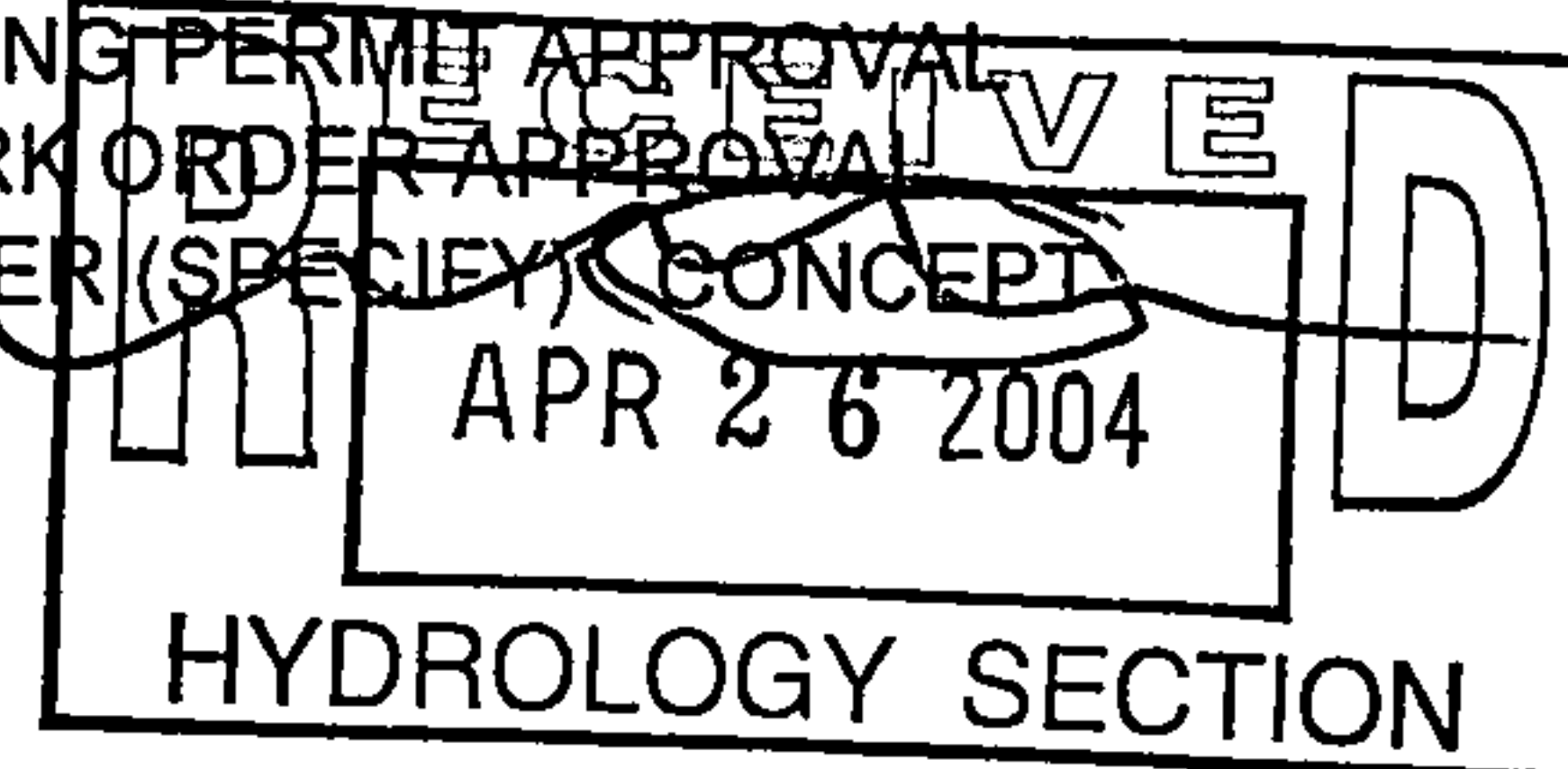
CONTRACTOR: N/A CONTACT: _____
 ADDRESS: _____ PHONE: _____
 CITY, STATE: _____ ZIP CODE: _____

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)
☐ 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 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) CONCEPT

WAS A PRE-DESIGN CONFERENCE ATTENDED:

- ☐ YES
☒ NO
☐ COPY PROVIDED

DATE SUBMITTED: 04/26/2004 BY: JEFFREY G. MORTENSEN

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 upon 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

July 20, 2001

Victor J. Chavez, P.E.
Chavez-Grievess Consulting Engineers, Inc.
5639 Jefferson Steet NE
Albuquerque, NM 87109

Attn: James Kelley

***RE: WEST MESA AQUATIC CENTER (J10-D21). Updated GRADING AND DRAINAGE
PLAN FOR BUILDING PERMIT APPROVAL. ENGINEER'S STAMP DATED
JULY 6, 2001.***

Dear Mr.Chavez:

Based on the information provided on your July 9, 2001 submittal, the above referenced project is approved for Building Permit.

Please furnish a copy of the hydrology calculations used to refurbish the existing pond.

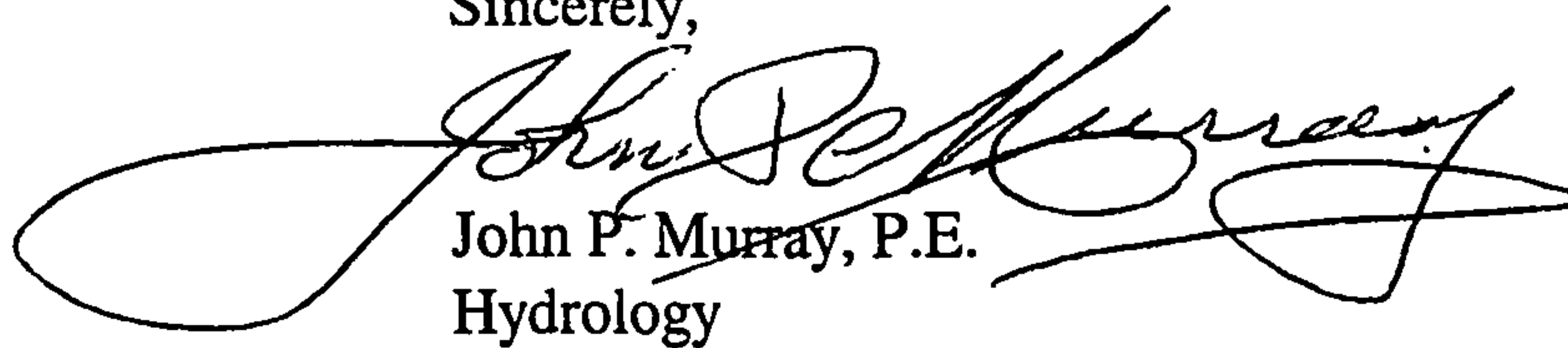
Insert "A" is incorrectly identified as Insert "B" on the G & D Plan (Sheet 2). Otherwise, the plan appears in order.

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

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

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

Sincerely,


John P. Murray, P.E.
Hydrology

c: Terri Martin
✓ File

DRAINAGE INFORMATION

PROJECT TITLE: West Mesa Aquatic Center Phase II

ZONE ATLAS/DRNG. FILE #: J-10-Z

DRB #: N/A

EPC #: N/A

WORK ORDER #: -

LEGAL DESCRIPTION: TOWN OF ATRISCO GRANT, AP48 TRACT 174

CITY ADDRESS:

ENGINEERING FIRM: CHAVEZ-GRIEVES CONSULTING ENGINEERS, INC.

CONTACT: James Kelley

ADDRESS: 5639 JEFFERSON NE, SUITE 1, ALBUQUERQUE, NM, 87109

PHONE: (505) 344-4080

OWNER:

CONTACT:

ADDRESS:

PHONE:

ARCHITECT: FLATOW MOORE SHAFFER MCCABE, INC.

CONTACT: Anthony Occhino

ADDRESS: 809 Copper Ave. NW, Albuquerque, NM 87102

PHONE: (505) 766-6610

SURVEYOR:

CONTACT:

ADDRESS:

PHONE:

CONTRACTOR:

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:

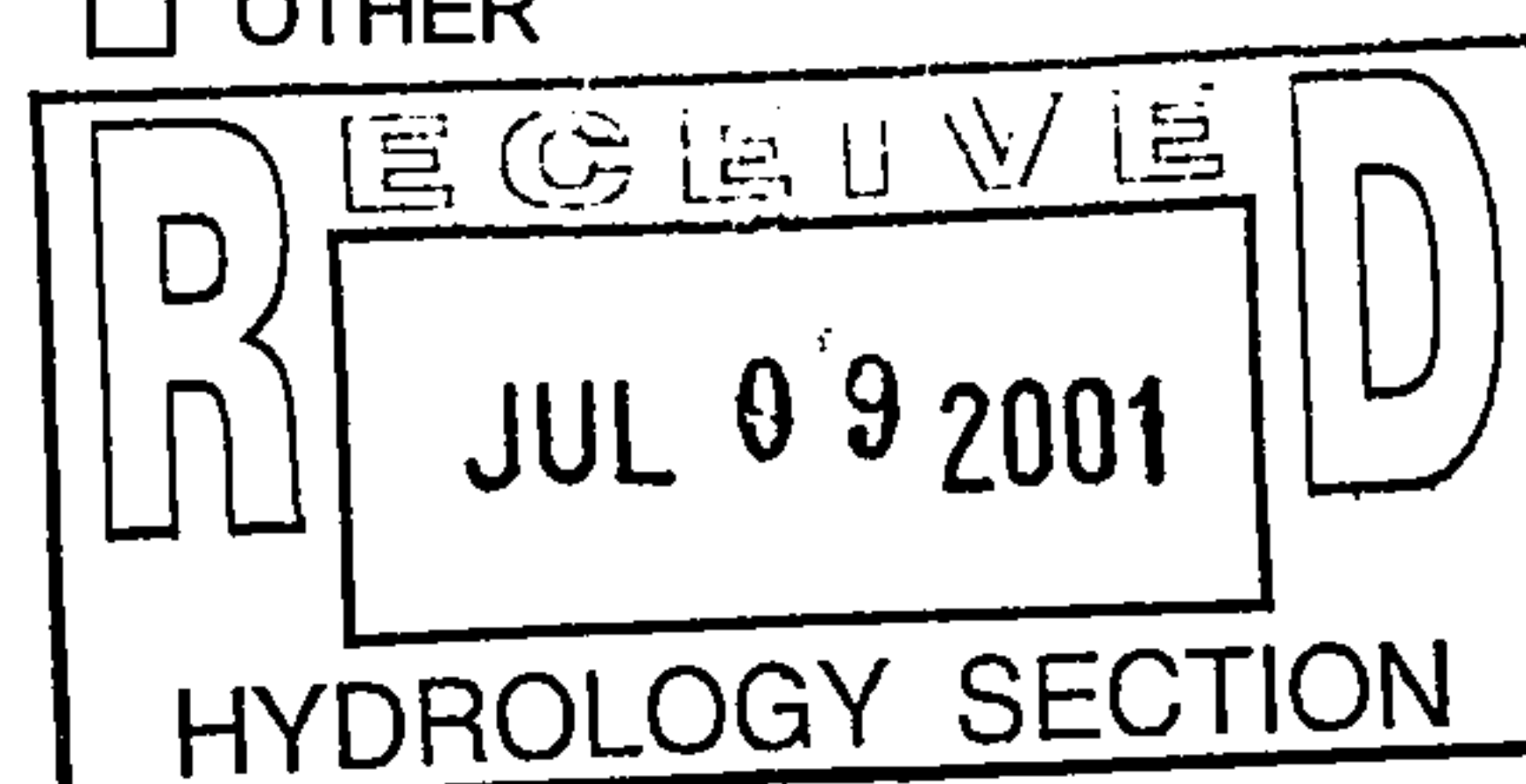
- ☐ YES
- ☒ NO
- ☐ COPY PROVIDED

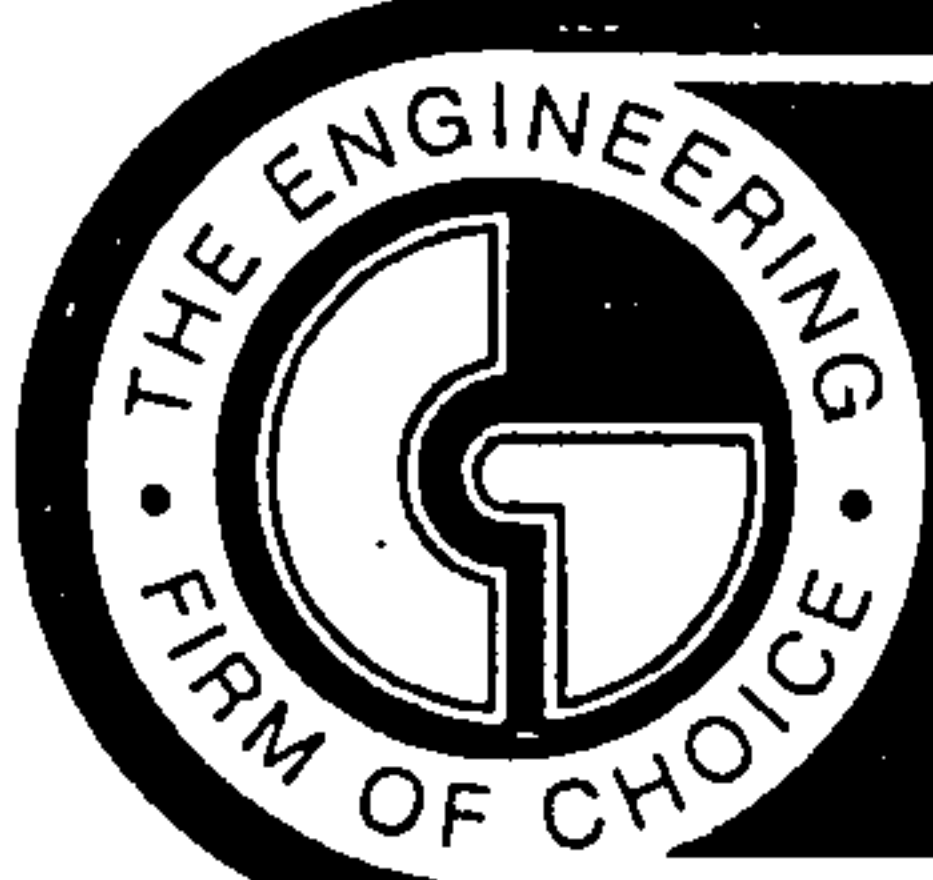
CHECK TYPE OF APPROVAL SOUGHT:

- ☐ SKETCH PLAN 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
- ☐ OTHER

DATE SUBMITTED: 7-9-01

SUBMITTED BY: James Kelley





CHAVEZ • GRIEVES
CONSULTING ENGINEERS, INC.

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

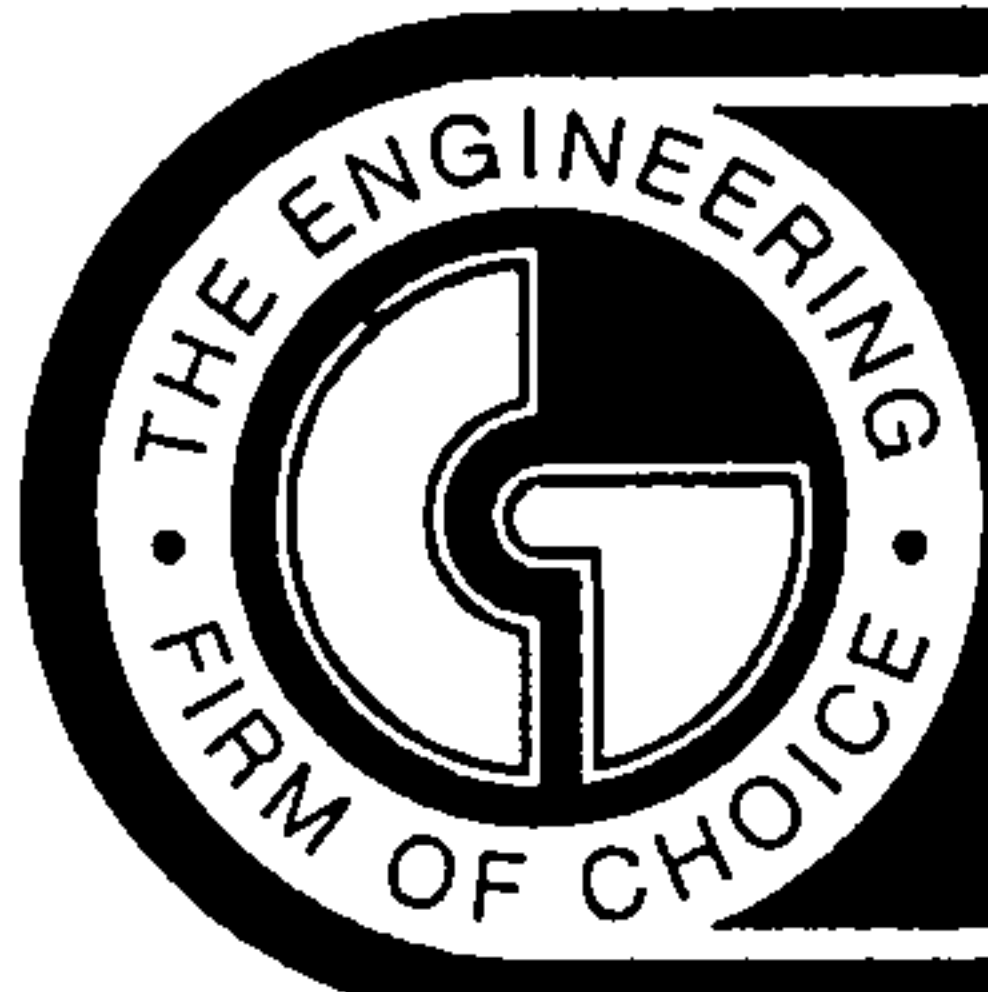
GRADING AND DRAINAGE PLAN

FOR

WEST MESA AQUATIC CENTER

ALBUQUERQUE, NEW MEXICO

JANUARY 1997



CHAVEZ • GRIEVES

CONSULTING ENGINEERS, INC.

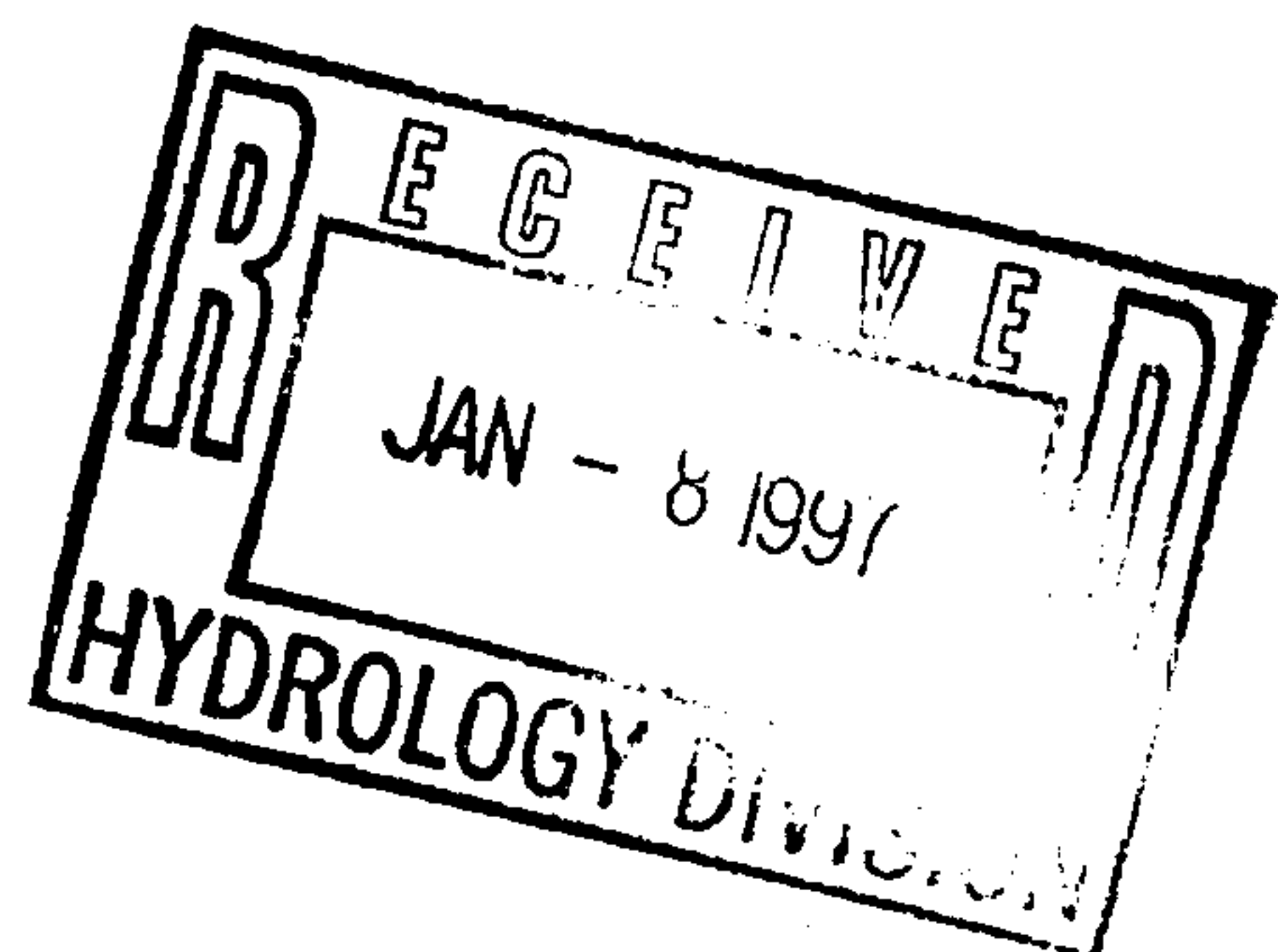
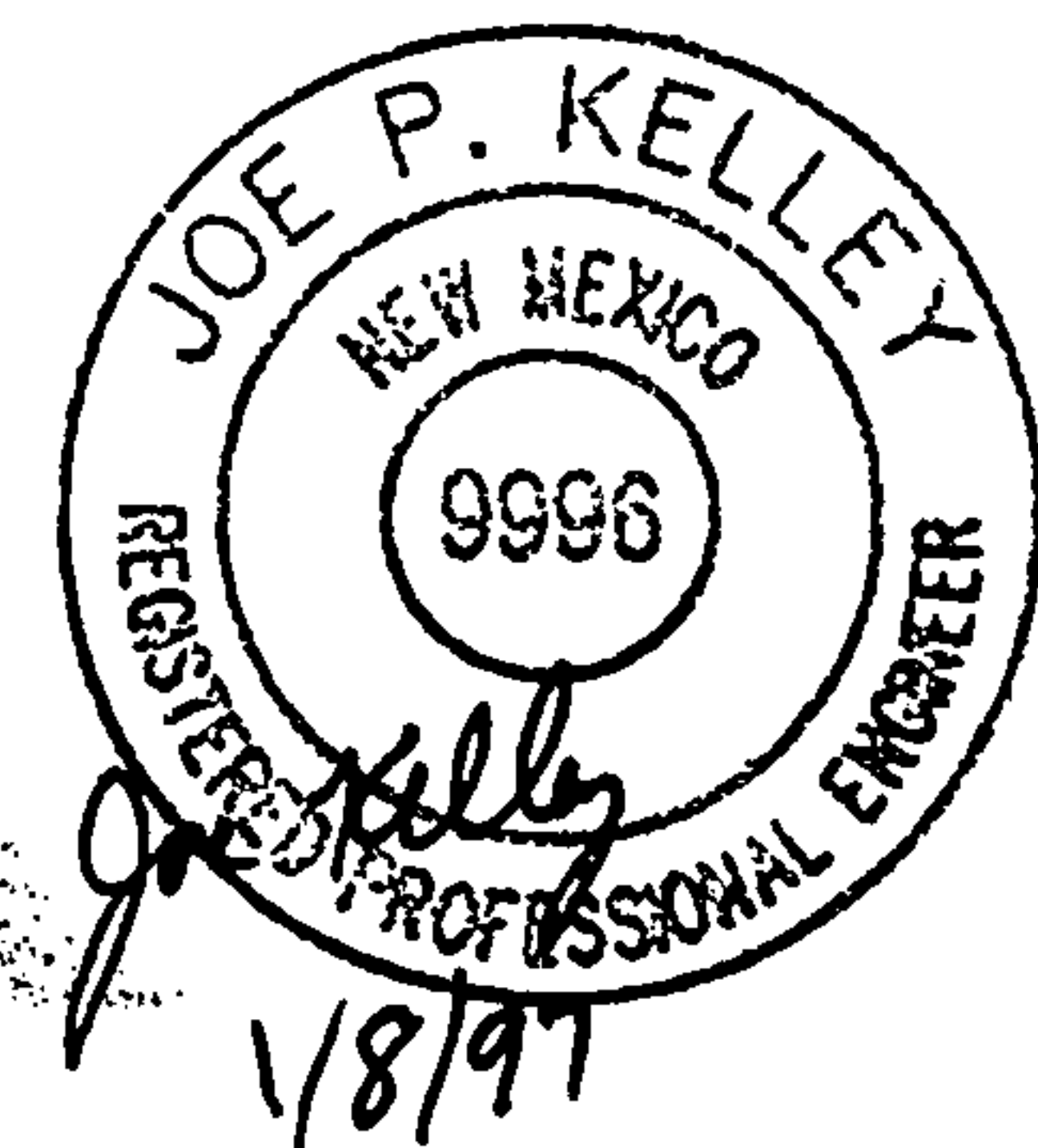
5639 JEFFERSON STREET NE • ALBUQUERQUE, NEW MEXICO 87109 • PHONE (505) 344-4080 • FAX (505) 343-8759

GRADING AND DRAINAGE PLAN

FOR

WEST MESA AQUATIC CENTER

ALBUQUERQUE, NEW MEXICO



JANUARY 1997

LOCATION

This site is bordered by Fortuna Road on the south side and Glenrio Road on the north side. On the ~~east~~ side, it is bordered by West Mesa Manor residential subdivision, and on the ~~west~~ side, it is bordered by West Mesa High School. ^{WEST} ^{EAST}

FLOOD HAZARD ZONES

As shown by Panel 350002027 of the National Flood Insurance Rate Map for the City of Albuquerque, dated October 14, 1983, the site is located within the "C" flood zone. This zone indicates "minimal flooding".

EXISTING SITE CONDITIONS AND FLOOD PATTERN

The existing site is developed as a park. A parking lot extends from Glenrio Road to Fortuna Road on the west side of the site, and an existing swimming pool is situated on the southwest corner of the site. The rest of the on-site area consists of two irrigated baseball fields.

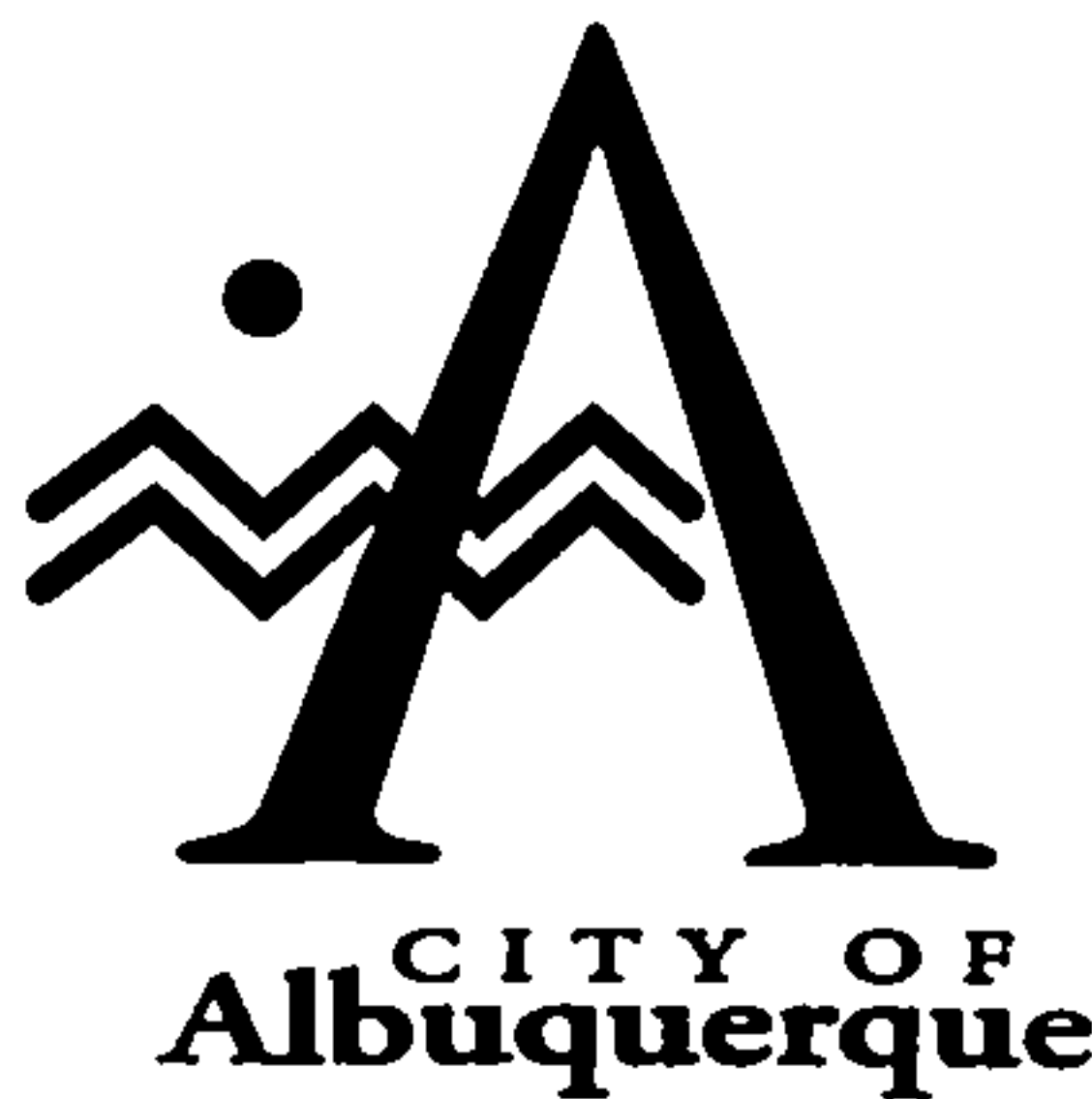
Land slopes from the west to the east at approximately 1%. Along the east side of the site, standard curb and gutter runs from Glenrio Road to Fortuna Road, preventing any on-site runoff from crossing the West Mesa High School property line. The site is divided into Basin "A" and Basin "B". The area for Basin "B" consists of the north baseball field and parking lot, and Basin "A" covers the rest of the site. Runoff from Basin "A" is directed to the southeast corner of the site by overland flow. A valley gutter across Fortuna Road then conveys Basin A runoff to undeveloped land on the opposite side of the road.

Runoff from Basin "B" is directed to the northeast corner of the site by overland flow. From this point, a valley gutter across Glenrio Road then conveys the runoff to the opposite side of the street.

Due to the existing retaining wall along the west side of the site, there are no flows entering on-site from West Mesa Manor residential subdivision. All runoff from West Mesa Manor discharges south to Fortuna Road by street flow.

PAST DRAINAGE REPORTS

The "Drainage Report for Cedar Ridge Estates", which was prepared by Brasher & Lorenz Consulting Engineers, shows that a retention pond is proposed to be built south of Fortuna Road. This pond will collect runoff from West Mesa Manor, West Mesa Pool, and a portion of West Mesa High School. As shown in the "Off-site Watershed Map" in Appendix C, these areas are all included within Basin V. In this report, for existing conditions, a total existing runoff of 124.6 cfs was computed for Basin V. The pond is designed to accept 124.6 cfs from Basin V.



P.O. Box 1293 Albuquerque, NM 87103

January 9, 1997

Martin J. Chávez, Mayor

Joe P Kelley, PE
Chavez-Grieves
5639 Jefferson NE
Albuquerque, NM 87109

**RE: DRAINAGE REPORT FOR WEST MESA AQUATIC CENTER PHASE 1 (J-10/D21)
RECEIVED JANUARY 8, 1996 FOR GRADING/PAVING & BUILDING PERMIT
ENGINEER'S STAMP DATED 1/8/97**

Dear Mr. Kelley:

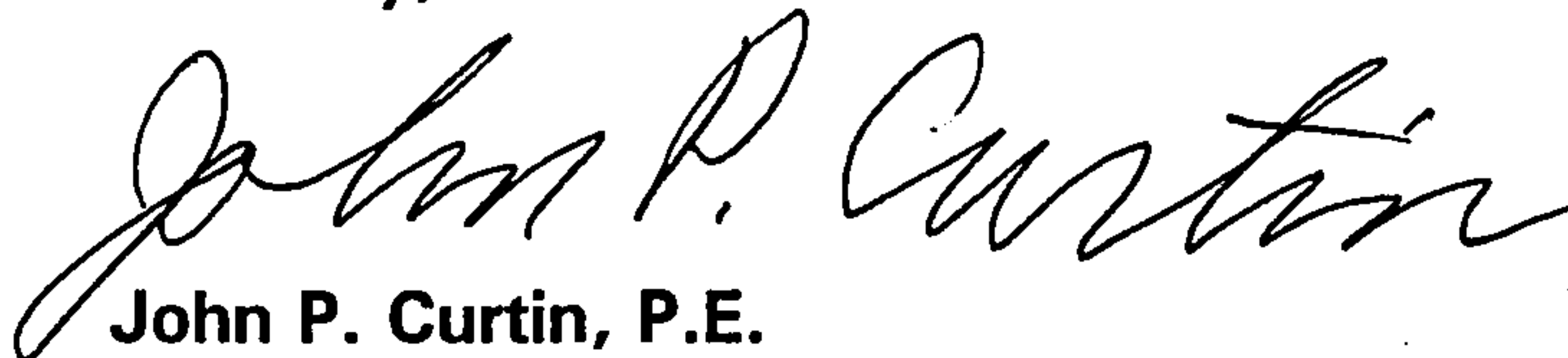
Based on the information included in the submittal referenced above, City Hydrology approves the drainage report for grading/paving & building permit.

Include a copy of the Grading & Drainage Plan, dated 1/8/97, in each set of construction documents that will be submitted to Code Administration for the Building Permit.

Engineer's Certification of grading & drainage per DPM checklist must be accepted by City Hydrology before any Certificate of Occupancy will be released.

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

Sincerely,


John P. Curtin, P.E.
Civil Engineer, Hydrology

c: Andrew Garcia

Good for You, Albuquerque!



DRAINAGE INFORMATION

PROJECT TITLE: West Mesa Aquatic Center ZONE ATLAS/DRNG. FILE #: J-10-Z / 1021

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

LEGAL DESCRIPTION: Town of Atrisco Grant, AP48 TRACT 174

CITY ADDRESS: Fortuna Road

ENGINEERING FIRM: Chavez-Grieves CONTACT: Jeanne Wolfenbarger

ADDRESS: 5639 Jefferson NE PHONE: 344-4080

OWNER: _____ CONTACT: _____

ADDRESS: _____ PHONE: _____

ARCHITECT: FMSM CONTACT: Todd McNall

ADDRESS: _____ PHONE: 766-6610

SURVEYOR: _____ CONTACT: _____

ADDRESS: _____ PHONE: _____

CONTRACTOR: _____ 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:

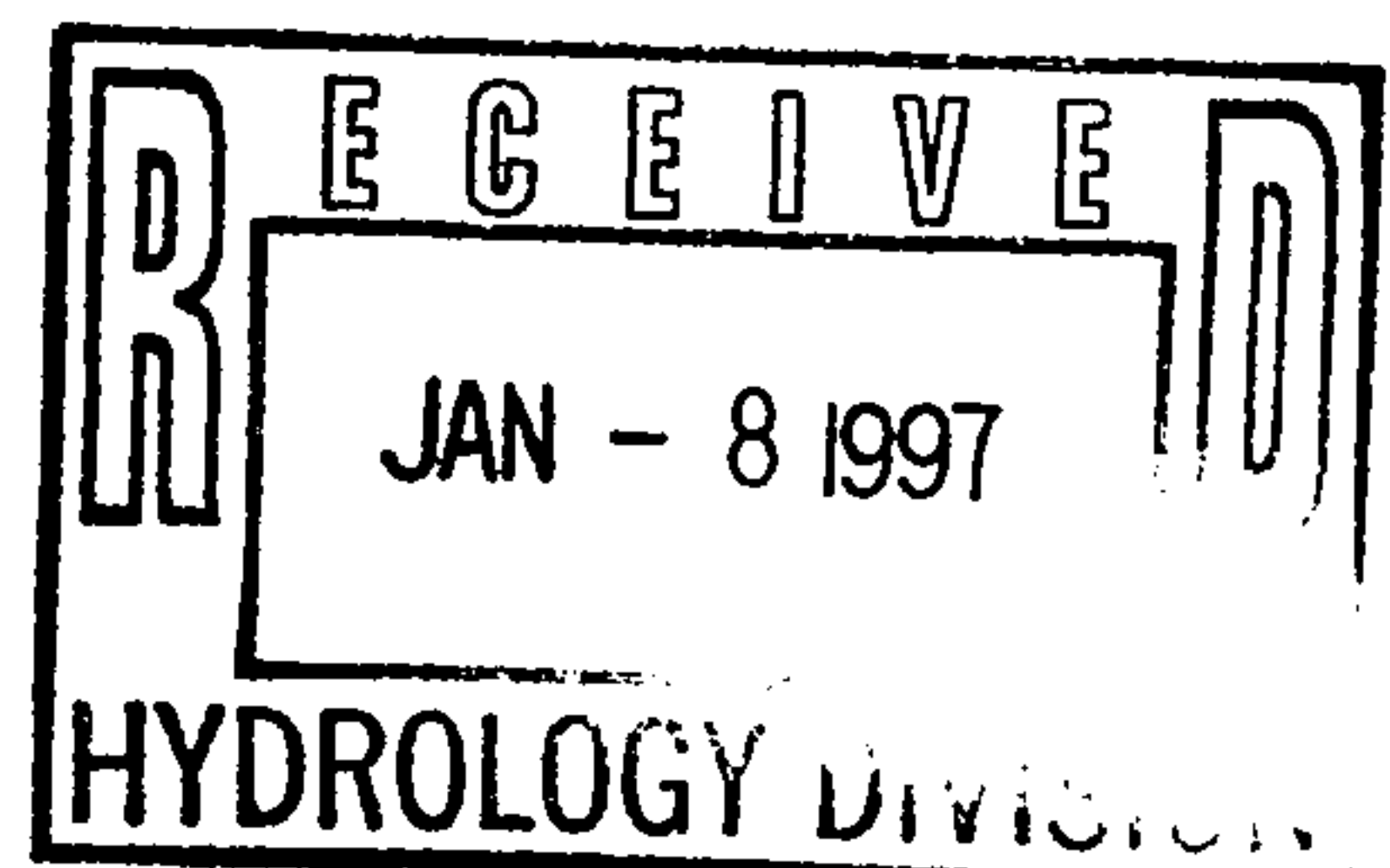
- ☒ YES
- ☐ NO
- ☐ COPY PROVIDED

CHECK TYPE OF APPROVAL SOUGHT:

- ☐ SKETCH PLAT APPROVAL
- ☐ PRELIMINARY PLAT APPROVAL
- ☐ S. DEV. PLAN FOR SUB'D. APPROVAL
- ☐ S. DEV. PLAN FOR BLDG. PRMT. 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
- ☐ OTHER _____ (SPECIFY)

DATE SUBMITTED: Jan. 08, 1997

BY: Jeanne Wolfenbarger, E.I.T.





5639 JEFFERSON STREET NE • ALBUQUERQUE, NEW MEXICO 87109 • PHONE (505) 344-4080 • FAX (505) 343-8759
January 8, 1997

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

RE: WEST MESA AQUATIC CENTER GRADING AND DRAINAGE PLAN

Dear Mr. Curtin:

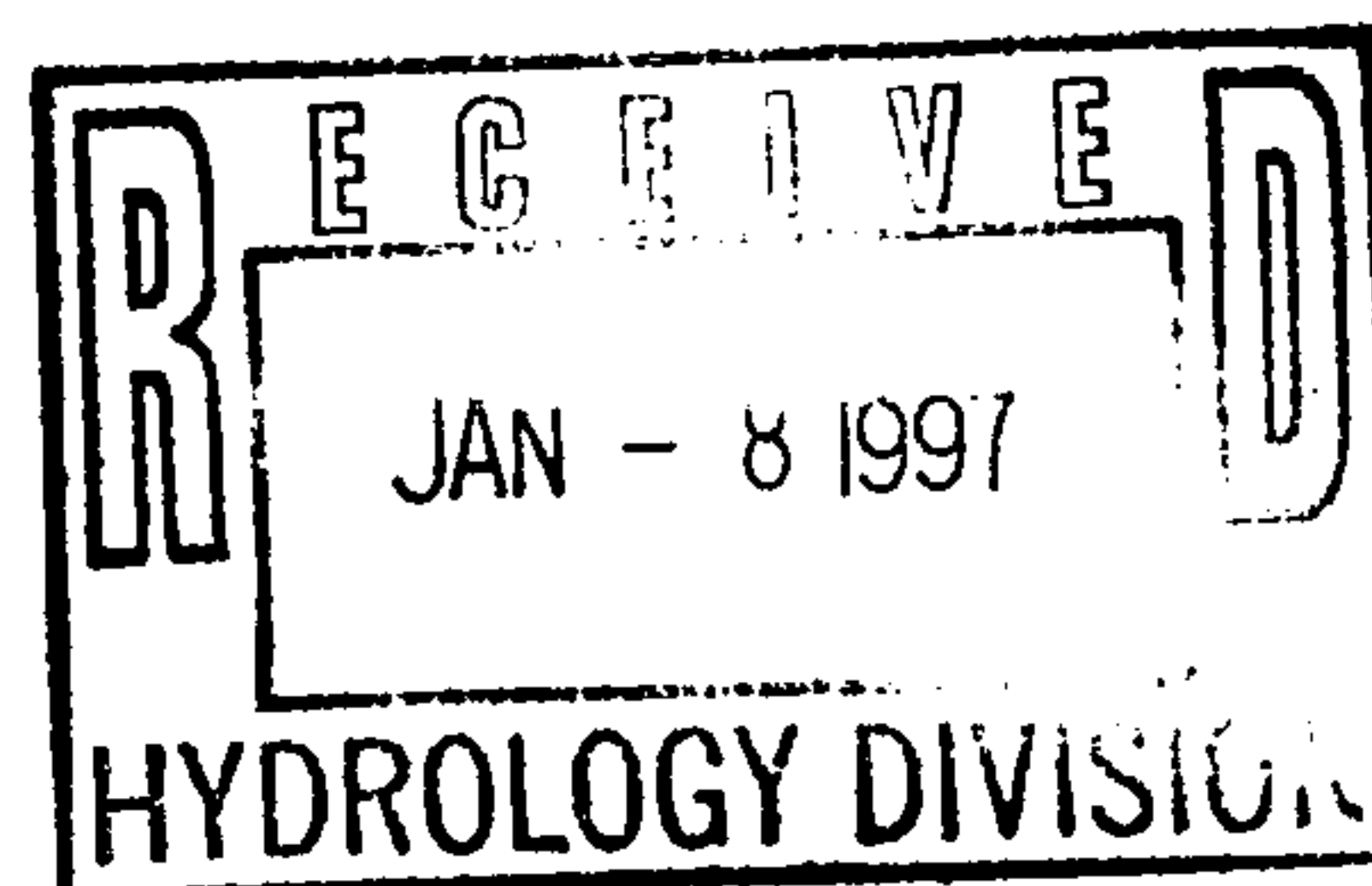
I have addressed the following comments for the drainage report for West Mesa Aquatic Center:

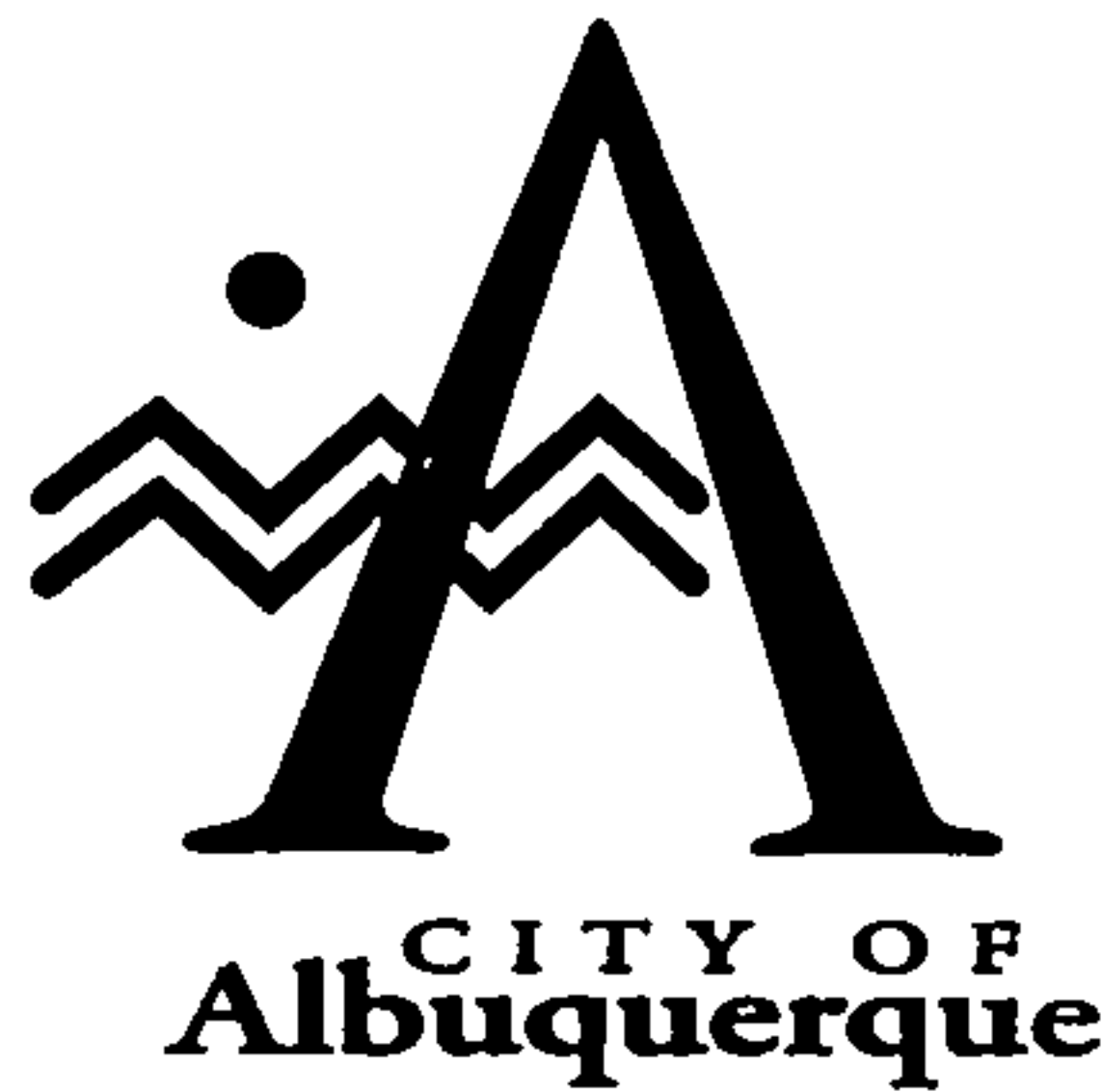
1. The two ponds have been analyzed as one in the AHYMO run. The required volume at Maximum Water Surface Elevation is shown on the Grading and Drainage Plan.
2. As discussed per our phone conversation on January 2, I have not changed the location of the valley gutter, but I have raised the height of the water block to ensure better drainage into the west pond.

You will be receiving your mark-up back this week before signatures are requested. If there are any further questions, please feel free to contact me at 344-4080.

Sincerely,

Jeanne Wolfenbarger





P.O. Box 1293 Albuquerque, NM 87103

January 2, 1997

Martin J. Chávez, Mayor

Joe P Kelley, PE
Chavez-Grieves
5639 Jefferson NE
Albuquerque, NM 87109

RE: DRAINAGE REPORT FOR WEST MESA AQUATIC CENTER PHASE 1 (J-10/D21)
RECEIVED DECEMBER 20, 1996 FOR BUILDING PERMIT
ENGINEER'S STAMP DATED 12/19/96

Dear Mr. Kelley:

Based on the information included in the submittal referenced above, City Hydrology has the following comments that must be addressed:

Analyze the two ponds as one. The water elevation in the east pond will influence the outflow from the west pond (tailwater). On the Grading Plan, indicate the required volume at the Maximum Water Surface Elevation (MWSEL).

Move the east valley gutter about 10' west. Based on the proposed flowline elevations, it appears that the runoff will drain down the drivepad instead of into the pond.

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

Sincerely,

John P. Curtin, P.E.
Civil Engineer, Hydrology

c: John Rupley, CIP

Good for You, Albuquerque!





ALBUQUERQUE, NEW MEXICO

10-28-96
DATE

PROJECT NO. 5176

STANDARD REVIEW COMMENT SHEET

SHEET 1 OF 1

TO: Billy Groshen /CHAIRMAN DRC-APPLICANT
(USER DEPT./DIVISION)

FROM: Carlos A. Montoya /HYDROLOGY/ENGINEERING
(REVIEWER/REVIEW DEPT./DIVISION)

PROJECT: West Mesa Agmatic ctr.

PROJECT DESCRIPTION STATUS ☐ Pre-Design ☒ Preliminary ☐ Final

FOR REVIEWER DEPT./DIVISION			For User Dept.	
Page No.	Com. No.	COMMENTS	A/D	Remark
	1.	Need to submit a drainage plan to Hydrology for review & approval		
	2.	Past drainage plans have been submitted under J10-D5.		
	3.	Items of concern are downstream capacity, coordination with future drainage improvements, and floodplains downstream of project.		
	4.	John Murr & Smith Engineering are designing a project in 64th street. This project may help the downstream problems.		



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

December 19, 1996

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

RE: WEST MESA AQUATIC CENTER GRADING AND DRAINAGE PLAN

Dear Mr. Curtin:

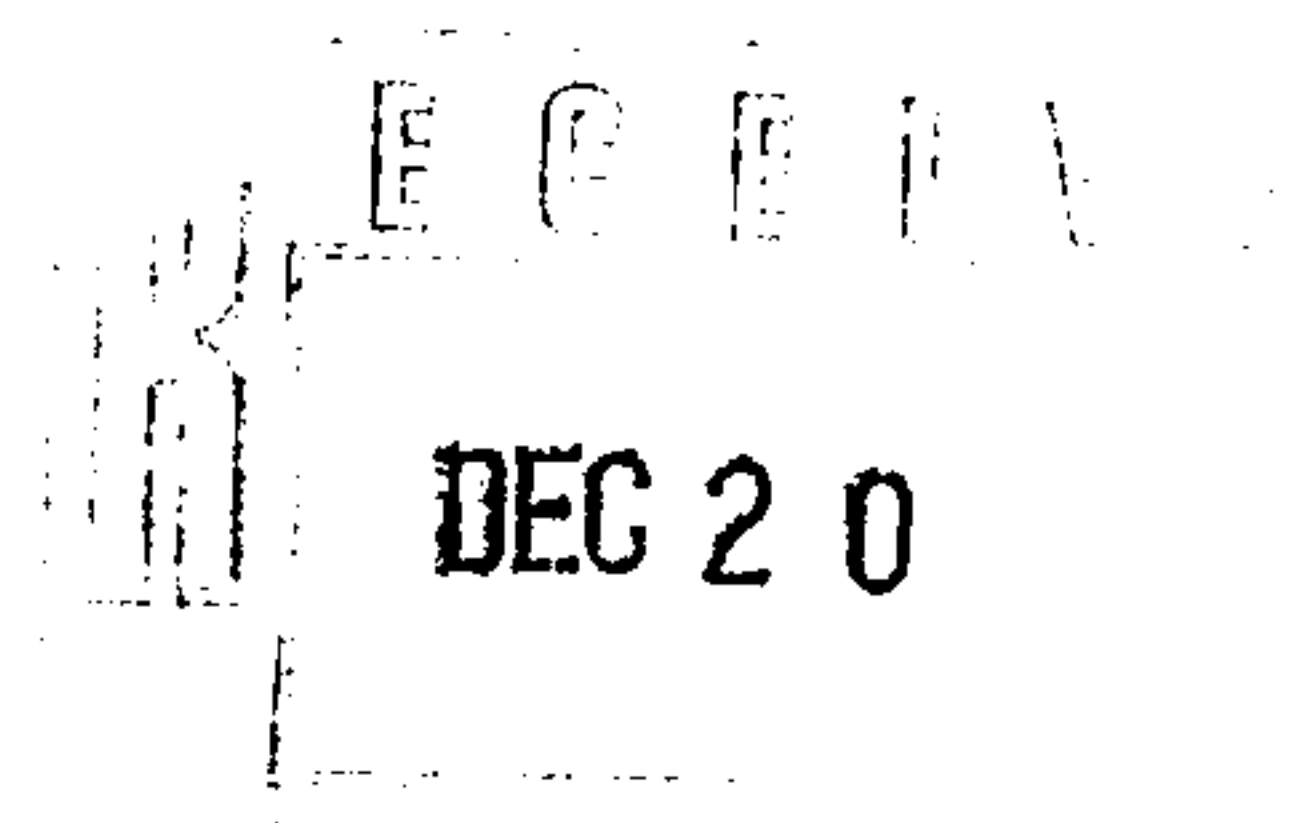
I have addressed the following comments for the drainage report for West Mesa Aquatic Center:

1. Fortuna Road has also been included in this analysis as a part of Basin V. A future street width of 40' was used to calculate percentage impervious for Fortuna Road.
2. An additional 12" PVC pipe has been added in between the east and west pond for better use of the east pond.
3. As discussed in our meeting on December 5th, three 6" pipes will be used for each of the sidewalk culverts because they carry more capacity than four 4" pipes.
4. The basin boundary for Basin A1 and Basin A2 is based on the slope of the roof for the buildings. Stormwater from the north parking lot is detained in the two detention ponds and released into the Fortuna Road right-of-way by sidewalk culverts that are connected to storm drains discharging runoff from the east pond.
5. More spot elevations have been provided at parking lot corners and curb cuts.

If there are any further questions, please feel free to contact me at 344-4080.

Sincerely,

Jeanne Wolfenbarger



PROJECT NAME: West Mesa Aquatic Center
LOCATION: Fortuna, E. of Ceres

TYPE OF PROJECT: AHBA CIP X PWC SAD ALL PRIVATE

Contact Person: John Pappas Phone: 857-81048
Firm: JOHN PAPPAS

X Scheduled with the D.R.C. on 12-31-95 at 9:00 in Conf. Room 302
 No DRC Meeting Scheduled. Please return any comments by

The Project Is Scheduled For:

- / / Design Report Review
- / / Pre-Design Meeting
- / / Preliminary Plan Review
- X Final Plan Review
- X Signoff of Plans.

The Project Related To:

- / / Water / / San. Sewer / / Paving / / Storm Drainage / /

The Attached Package Includes:

- /D/ Drawings /S/ Specs E Estimate /R/ Report /M/ Memo Only

Indicated below are the Departments/Divisions that have received project documents and/or are invited to attend. It will be the Project Managers responsibility to coordinate with these departments and hearing firms of date and time of scheduled meetings.

S/D/ DRC Chairman	Project Review Section	All Drawings
S/D/ Traffic Repres	Transportation Development	All Drawings
S/D/ Water Repres	Utility Design	All Drawings
<u>S/D/ Hydro Repres.</u>	Hydrology	All Drawings
S/D/ Const. Repres.	Construction	All Drawings
S/D/ Ray Chavez	Traffic Operations	All Drawings
/ / Andre Houle	Street Maintenance	All Paving
S/D/ Sergio Miranda	Water (Shutoff Plan)	All Water Shutoff
S/D/ Parks Repres <u>Rob McHenry</u>	Parks & Recreation	ALL Landscaping
/ / Jim Hamel	Utility Coordinator	ALL PWC & CIP
/ / Rick Roybal	Transit Department	CIP/Memo
/ / Jim Fink	Construction Coordinator	CIP/Memo
/ / Lee Lunsford	Line Maintenance	CIP & SAS/Memo
/ / Joe Luehring	City Architect	Arch. Drawings
/ / Roger Green	SAD Engineer	SAD/Memo
S/D/ Mike Minturn	Transportation Develop.	CIP/Memo
S/D/ Greg Smith	Utility Design	CIP/Water & SAS
S/D/ Richard Sertich	General Services Dept.	Arch. Drawings
S/D/ CIP Manager <u>John Pappas</u>	PD/Legal	Specs & Dwgs.
S/D/ Donald Bartlett	Planning Department	CIP/Memos
/ /	CIP	CIP/Memos
/ /	Risk Management	Arch. Drawings

DRAINAGE INFORMATION

PROJECT TITLE: West Mesa Aquatic Center ZONE ATLAS/DRNG. FILE #: J-10-Z / 1121

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

LEGAL DESCRIPTION: Town of Atrisco Grant, AP48 TRACT 174

CITY ADDRESS: Fortuna Road

ENGINEERING FIRM: Chavez-Grieves CONTACT: Jeanne Wolfenbarger

ADDRESS: 5639 Jefferson NE PHONE: 344-4080

OWNER: _____ CONTACT: _____

ADDRESS: _____ PHONE: _____

ARCHITECT: FMSM CONTACT: Todd McNall

ADDRESS: _____ PHONE: 766-6610

SURVEYOR: _____ CONTACT: _____

ADDRESS: _____ PHONE: _____

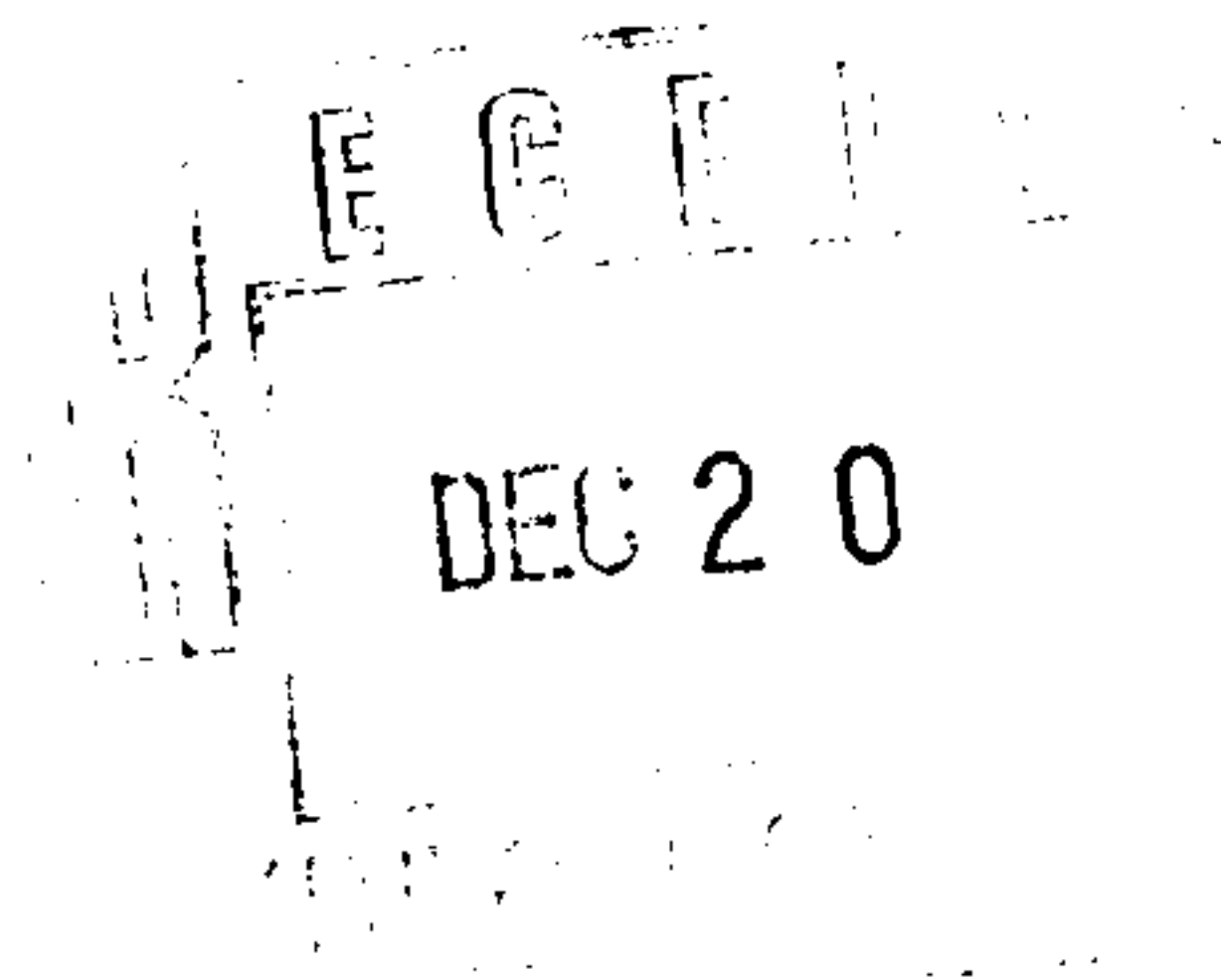
CONTRACTOR: _____ CONTACT: _____

ADDRESS: _____ PHONE: _____

TYPE OF SUBMITTAL:	CHECK TYPE OF APPROVAL SOUGHT:
☒ DRAINAGE REPORT	☐ SKETCH PLAT APPROVAL
☒ DRAINAGE PLAN	☐ PRELIMINARY PLAT APPROVAL
☐ CONCEPTUAL GRADING & DRAINAGE PLAN	☐ S. DEV. PLAN FOR SUB'D. APPROVAL
☒ GRADING PLAN	☐ S. DEV. PLAN FOR BLDG. PRMT. APPROVAL
☐ EROSION CONTROL PLAN	☐ SECTOR PLAN APPROVAL
☐ ENGINEER'S CERTIFICATION	☐ FINAL PLAT APPROVAL
☐ OTHER	☐ FOUNDATION PERMIT APPROVAL
	☒ BUILDING PERMIT APPROVAL
	☐ CERTIFICATE OF OCCUPANCY APPROVAL
PRE-DESIGN MEETING:	☒ GRADING PERMIT APPROVAL
☒ YES	☒ PAVING PERMIT APPROVAL
☐ NO	☐ S.A.D. DRAINAGE REPORT
☐ COPY PROVIDED	☐ DRAINAGE REQUIREMENTS
	☐ OTHER _____ (SPECIFY)

DATE SUBMITTED: Dec. 19, 1996

BY: Jeanne Wolfenbarger, E.I.T.



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

PRE-DESIGN CONFERENCE

DRAINAGE FILE/ZONE ATLAS PAGE NO.: J-10 DATE: 10-22-96
EPC NO.: _____ DRB NO.: _____ ZONE: _____
SUBJECT: West Mesa Aquatics Center
STREET ADDRESS: Fortuna
LEGAL DESCRIPTION: _____

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

	WHO	REPRESENTING
ATTENDANCE:	<u>John P. Curtin</u>	<u>C.O.A./PWD/Hyd</u>
	<u>John Rupley</u>	<u>C.O.A./CIP, D&D</u>
	<u>Jeanne Wolfenbarger</u>	<u>Chavez Grievies</u>
	<u>CHUCK SALAZAR</u>	<u>COA/CES/AQUATICS</u>
FINDINGS:	<u>TOOD McNALL</u>	<u>FMSM</u>
	<u>MICHAEL M. MONTOYA</u>	<u>"</u>

FIRM Panel 327 indicates that site
drains to a FHZAE E15101,

Review Drainage File (J-10/D18) to verify
downstream capacity. Contact Dennis Lorenz
to determine Land Treatments & allowable
discharge used in his report.

No off-site flows enter the site.

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: <u>John P. Curtin</u>	SIGNED: <u>Jeanne Wolfenbarger</u>
TITLE: <u>CE/Hydrology</u>	TITLE: <u>E.I.T.</u>
DATE: <u>10-22-96</u>	DATE: <u>10-22-96</u>

****NOTE**** PLEASE PROVIDE A COPY OF THIS PRE-DESIGN FORM WITH THE DRAINAGE SUBMITTAL.

DRAINAGE INFORMATION

PROJECT TITLE: West Mesa Aquatic Center ZONE ATLAS/DRNG. FILE #: J-10-~~1576~~ 1121

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

LEGAL DESCRIPTION: Town of Atrisco Grant, AP48 TRACT 174

CITY ADDRESS: Fortuna Road

ENGINEERING FIRM: Chavez-Grieves CONTACT: Jeanne Wolfenbarger

ADDRESS: 5639 Jefferson NE PHONE: 344-4080

OWNER: _____ CONTACT: _____

ADDRESS: _____ PHONE: _____

ARCHITECT: FMSM CONTACT: Todd McNall

ADDRESS: _____ PHONE: 766-6610

SURVEYOR: _____ CONTACT: _____

ADDRESS: _____ PHONE: _____

CONTRACTOR: _____ 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:

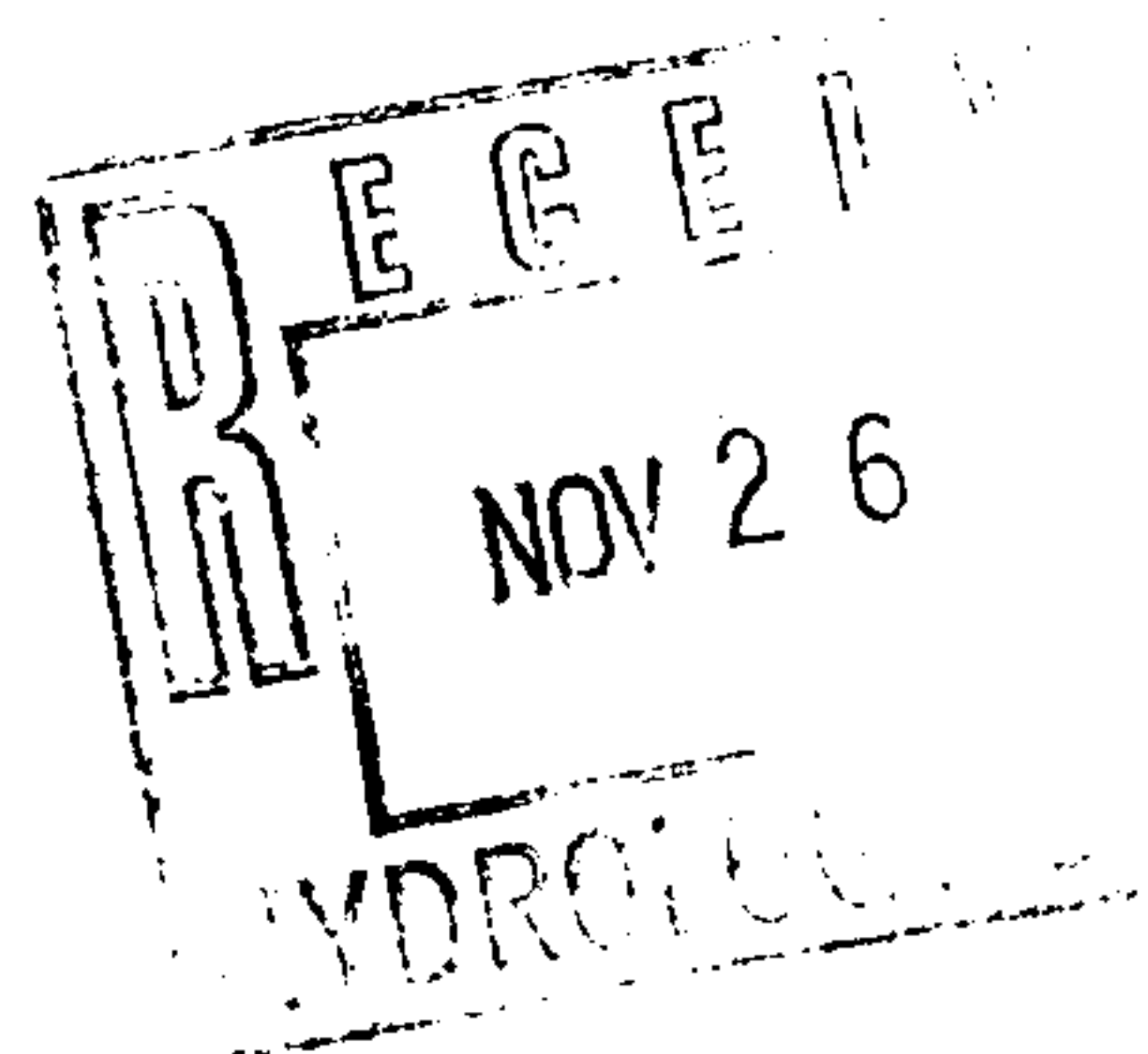
- ☒ YES
- ☐ NO
- ☐ COPY PROVIDED

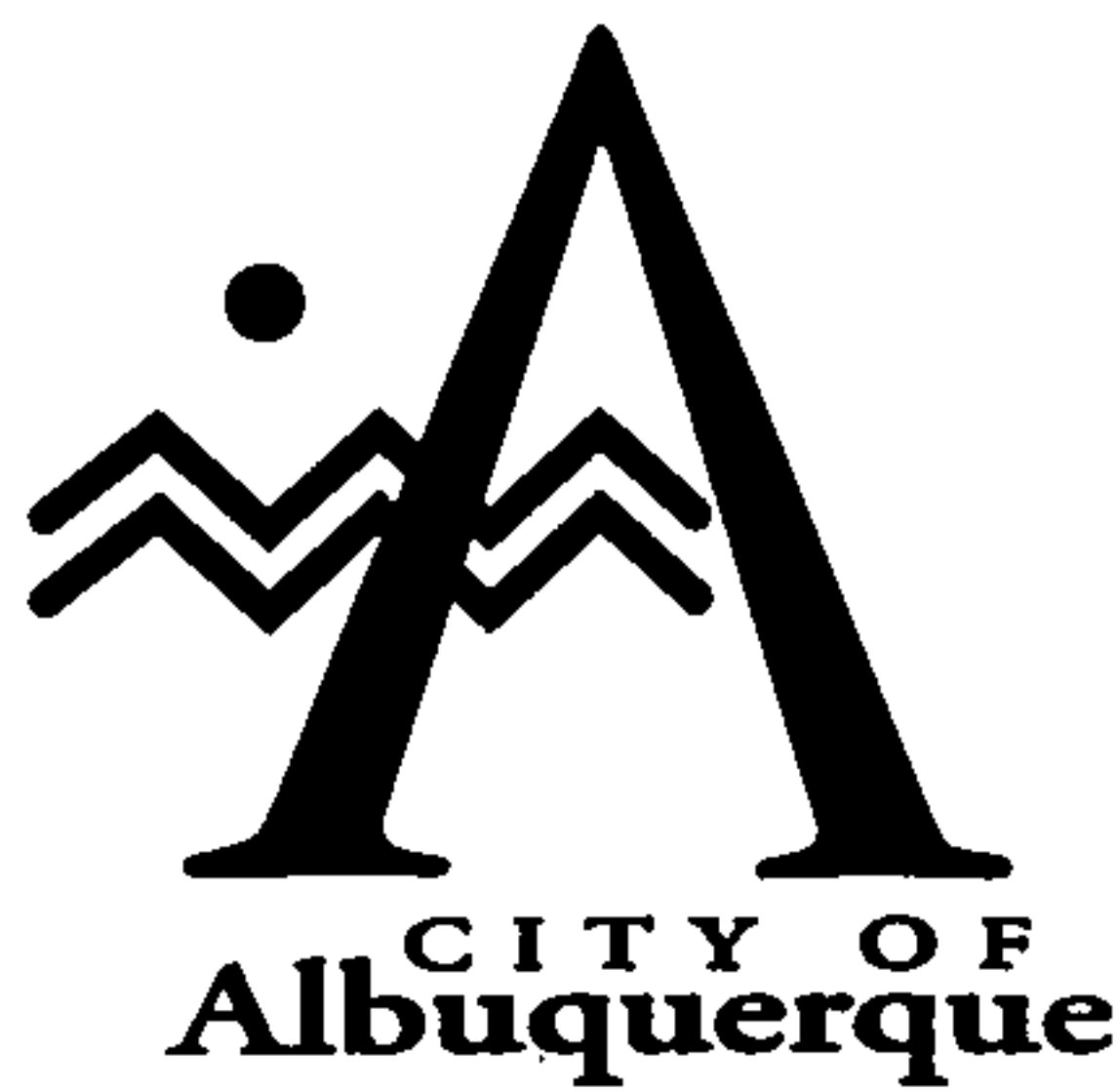
CHECK TYPE OF APPROVAL SOUGHT:

- ☐ SKETCH PLAT APPROVAL
- ☐ PRELIMINARY PLAT APPROVAL
- ☐ S. DEV. PLAN FOR SUB'D. APPROVAL
- ☐ S. DEV. PLAN FOR BLDG. PRMT. 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
- ☐ OTHER _____ (SPECIFY)

DATE SUBMITTED: Nov. 27, 1996

BY: Jeanne Wolfenbarger, E.I.T.





P.O. Box 1293 Albuquerque, NM 87103

December 3, 1996

Martin J. Chávez, Mayor

Joe P Kelley, PE
Chavez-Grieves
5639 Jefferson NE
Albuquerque, NM 87109

RE: DRAINAGE REPORT FOR WEST MESA AQUATIC CENTER PHASE 1 (J-10/D21)
RECEIVED NOVEMBER 26, 1996 FOR BUILDING PERMIT
ENGINEER'S STAMP DATED 11/25/96

Dear Mr. Kelley:

Based on the information included in the submittal referenced above, City Hydrology has the following comments that must be addressed:

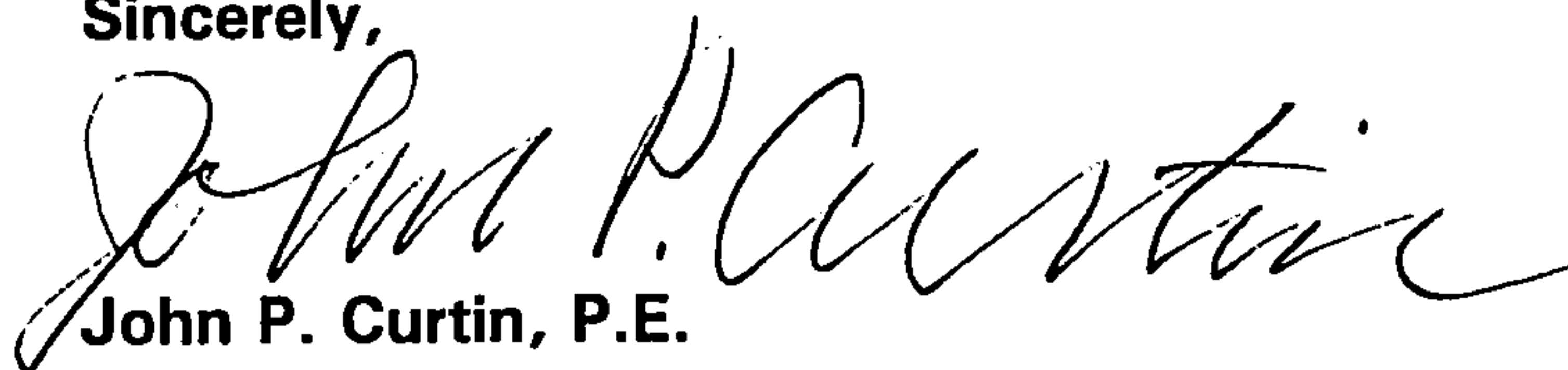
It appears that the AHYMO analysis omitted Fortuna Rd from Basin V. Was all of West Mesa Manor included in the analysis instead of the Fortuna right of way? If a larger pipe was used between the two ponds, then the east pond would be used more effectively. Four 4" pipes would connect with two sidewalk culverts better than three 6" pipes.

Based on the contours and the spot elevations the boundary between Basin A1 & A2 seems questionable. What are the contours on the west side of the new building supposed to indicate? What is causing the roofs to drain as indicated? How does the north parking lot drain to Fortuna?

More spot elevation are necessary to understand the drainage patterns. Provide spot elevations at drainage divides, curb cuts & parking lot corners.

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

Sincerely,



John P. Curtin, P.E.
Civil Engineer, Hydrology

Good for You, Albuquerque!



PROPOSED SITE CONDITIONS AND FLOOD PATTERN

The existing parking lot will be regraded and repaved. On the southwest corner of the site, the existing pool and pool administration building will be removed, and the existing paved parking area will be expanded into the area where the existing pool is situated. A new outdoor swimming pool, and a new building with an indoor pool will be constructed north of the new parking lot.

Overall drainage patterns will not change under proposed conditions. The site has been divided into Basins "A1", "A2", and "B". With the new development, runoff from "A1" will be detained by two proposed detention ponds on the southeast corner of the site and discharge to Fortuna Road via two 24" sidewalk culverts. Runoff from "A2" will discharge directly to Fortuna Road by sheet flow. Because there are no changes made to Basin "B", the proposed runoff for Basin "B" matches existing runoff.

As shown in the AHYMO run, Basin V from the "Drainage Report for Cedar Hills Estates" has been recomputed for proposed conditions in order to compare this amount with the previously calculated runoff of 124.6 cfs. The impervious land percentage for West Mesa Manor were obtained using Table A-5 in the Development Process Manual with a ratio of 4.65 residential units/acre. Impervious land percentages for West Mesa Aquatic Center and for the portion of West Mesa High School were obtained from the site survey (pages A-5 and A-6).

The computed runoff of 107.91 cfs (page B-6) from Basin V is less than the 124.6 cfs computed in the prior report. Therefore, the proposed runoff that will be discharged to Fortuna Road from the West Mesa Aquatic Center is allowable.

RUNOFF SUMMARY

EXISTING BASINS	EXISTING RUNOFF (CFS)
A	16.98
B	8.44
V	115.03

PROPOSED BASINS	PROPOSED RUNOFF (CFS)
A1	11.63
A2	8.84
B	8.44
V	107.91

APPENDIX A

WEST MESA AQUATIC CENTER EXISTING AHYMO OUTPUT

AHYMO PROGRAM (AHYMO194) - AMAFCA Hydrologic Model - January, 1994
RUN DATE (MON/DAY/YR) = 12/16/1996
START TIME (HR:MIN:SEC) = 09:51:56 USER NO.= CHVZ_GNM.101
INPUT FILE = G:\F03\226\CALCS\AHYMEXIS.IN

*S*****
*S***** CHAVEZ-GRIEVES CONSULTING ENGINEERS, INC. *****
*S***** WEST MESA POOL *****
*S*****
S FILENAME: G:\F03\226\CALCS\AHYMEXIS.IN/OUT
*S*****
*S***** 100 YEAR, 24 HOUR STORM (Section 22.2 Hydrology)
START 0.00
RAINFALL TYPE=2 RAIN QUARTER=0.0 RAIN ONE=1.90
RAIN SIX=2.20 RAIN DAY=2.66 DT=0.05

COMPUTED 24-HOUR RAINFALL DISTRIBUTION BASED ON NOAA ATLAS 2 - PEAK AT 1.40 HR.
DT = .050000 HOURS END TIME = 24.000000 HOURS

.0000	.0020	.0041	.0062	.0084	.0107	.0131
.0156	.0181	.0208	.0236	.0266	.0296	.0329
.0363	.0399	.0438	.0479	.0523	.0570	.0622
.0702	.0791	.1048	.1653	.2695	.4307	.6627
.9800	1.2302	1.3432	1.4376	1.5203	1.5943	1.6612
1.7223	1.7783	1.8299	1.8775	1.9215	1.9622	1.9709
1.9789	1.9863	1.9933	1.9998	2.0059	2.0117	2.0173
2.0225	2.0276	2.0324	2.0371	2.0415	2.0458	2.0500
2.0541	2.0580	2.0618	2.0655	2.0690	2.0725	2.0759
2.0792	2.0825	2.0856	2.0887	2.0918	2.0947	2.0976
2.1004	2.1032	2.1060	2.1086	2.1113	2.1138	2.1164
2.1189	2.1213	2.1237	2.1261	2.1285	2.1308	2.1330
2.1353	2.1375	2.1396	2.1418	2.1439	2.1460	2.1480
2.1500	2.1520	2.1540	2.1560	2.1579	2.1598	2.1617
2.1636	2.1654	2.1672	2.1690	2.1708	2.1726	2.1743
2.1760	2.1777	2.1794	2.1811	2.1828	2.1844	2.1860
2.1876	2.1892	2.1908	2.1924	2.1939	2.1955	2.1970
2.1985	2.2000	2.2020	2.2039	2.2059	2.2078	2.2097
2.2117	2.2136	2.2155	2.2174	2.2193	2.2212	2.2231
2.2249	2.2268	2.2287	2.2305	2.2324	2.2342	2.2361
2.2379	2.2398	2.2416	2.2434	2.2452	2.2470	2.2488
2.2506	2.2524	2.2542	2.2559	2.2577	2.2595	2.2612
2.2630	2.2647	2.2665	2.2682	2.2700	2.2717	2.2734
2.2751	2.2768	2.2785	2.2802	2.2819	2.2836	2.2853
2.2870	2.2887	2.2903	2.2920	2.2937	2.2953	2.2970
2.2986	2.3002	2.3019	2.3035	2.3051	2.3068	2.3084
2.3100	2.3116	2.3132	2.3148	2.3164	2.3180	2.3196
2.3212	2.3227	2.3243	2.3259	2.3274	2.3290	2.3305
2.3321	2.3336	2.3352	2.3367	2.3383	2.3398	2.3413
2.3428	2.3444	2.3459	2.3474	2.3489	2.3504	2.3519
2.3534	2.3549	2.3563	2.3578	2.3593	2.3608	2.3622
2.3637	2.3652	2.3666	2.3681	2.3695	2.3710	2.3724
2.3739	2.3753	2.3767	2.3782	2.3796	2.3810	2.3824
2.3839	2.3853	2.3867	2.3881	2.3895	2.3909	2.3923
2.3937	2.3951	2.3965	2.3978	2.3992	2.4006	2.4020
2.4033	2.4047	2.4061	2.4074	2.4088	2.4101	2.4115
2.4128	2.4142	2.4155	2.4168	2.4182	2.4195	2.4208
2.4222	2.4235	2.4248	2.4261	2.4274	2.4287	2.4300
2.4314	2.4327	2.4340	2.4352	2.4365	2.4378	2.4391
2.4404	2.4417	2.4430	2.4442	2.4455	2.4468	2.4480
2.4493	2.4506	2.4518	2.4531	2.4543	2.4556	2.4568
2.4581	2.4593	2.4606	2.4618	2.4630	2.4643	2.4655
2.4667	2.4680	2.4692	2.4704	2.4716	2.4728	2.4740
2.4753	2.4765	2.4777	2.4789	2.4801	2.4813	2.4825
2.4837	2.4849	2.4860	2.4872	2.4884	2.4896	2.4908
2.4919	2.4931	2.4943	2.4955	2.4966	2.4978	2.4990

WEST MESA AQUATIC CENTER EXISTING AHYMO OUTPUT

2.5001	2.5013	2.5024	2.5036	2.5047	2.5059	2.5070
2.5082	2.5093	2.5105	2.5116	2.5127	2.5139	2.5150
2.5161	2.5172	2.5184	2.5195	2.5206	2.5217	2.5229
2.5240	2.5251	2.5262	2.5273	2.5284	2.5295	2.5306
2.5317	2.5328	2.5339	2.5350	2.5361	2.5372	2.5383
2.5394	2.5404	2.5415	2.5426	2.5437	2.5448	2.5458
2.5469	2.5480	2.5490	2.5501	2.5512	2.5522	2.5533
2.5544	2.5554	2.5565	2.5575	2.5586	2.5596	2.5607
2.5617	2.5628	2.5638	2.5649	2.5659	2.5669	2.5680
2.5690	2.5700	2.5711	2.5721	2.5731	2.5741	2.5752
2.5762	2.5772	2.5782	2.5792	2.5803	2.5813	2.5823
2.5833	2.5843	2.5853	2.5863	2.5873	2.5883	2.5893
2.5903	2.5913	2.5923	2.5933	2.5943	2.5953	2.5963
2.5973	2.5982	2.5992	2.6002	2.6012	2.6022	2.6031
2.6041	2.6051	2.6061	2.6070	2.6080	2.6090	2.6099
2.6109	2.6119	2.6128	2.6138	2.6148	2.6157	2.6167
2.6176	2.6186	2.6195	2.6205	2.6214	2.6224	2.6233
2.6243	2.6252	2.6261	2.6271	2.6280	2.6290	2.6299
2.6308	2.6318	2.6327	2.6336	2.6346	2.6355	2.6364
2.6373	2.6383	2.6392	2.6401	2.6410	2.6419	2.6428
2.6438	2.6447	2.6456	2.6465	2.6474	2.6483	2.6492
2.6501	2.6510	2.6519	2.6528	2.6537	2.6546	2.6555
2.6564	2.6573	2.6582	2.6591	2.6600		

*S COMPUTE RUNOFF FROM EXISTING BASIN A
 COMPUTE NM HYD ID=3 HYD=BASIN_A DA=0.01030 SQ MI
 %A=0 %B=72 %C=8 %D=20
 TP=0.1333 RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
 UNIT PEAK = 8.1330 CFS UNIT VOLUME = .9978 B = 526.28 P60 = 1.9000
 AREA = .002060 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

K = .128305HR TP = .133300HR K/TP RATIO = .962529 SHAPE CONSTANT, N = 3.670578
 UNIT PEAK = 20.558 CFS UNIT VOLUME = 1.001 B = 332.57 P60 = 1.9000
 AREA = .008240 SQ MI IA = .48500 INCHES INF = 1.20800 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

PRINT HYD ID=3 CODE=1

HYDROGRAPH FROM AREA BASIN_A

RUNOFF VOLUME = 1.05192 INCHES = .5779 ACRE-FEET
 PEAK DISCHARGE RATE = 16.98 CFS AT 1.500 HOURS BASIN AREA = .0103 SQ. MI.

*S COMPUTE RUNOFF FROM WEST MESA MANOR AND FOR FORTUNA ROAD.
 COMPUTE NM HYD ID=1 HYD=OFF-SITE_RESIDENTIAL DA=0.0424 SQ MI
 %A=0 %B=46 %C=0 %D=54
 TP=0.1333 RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
 UNIT PEAK = 90.395 CFS UNIT VOLUME = .9990 B = 526.28 P60 = 1.9000
 AREA = .022896 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

K = .130761HR TP = .133300HR K/TP RATIO = .980950 SHAPE CONSTANT, N = 3.599930
 UNIT PEAK = 47.926 CFS UNIT VOLUME = 1.001 B = 327.55 P60 = 1.9000
 AREA = .019504 SQ MI IA = .50000 INCHES INF = 1.25000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

WEST MESA AQUATIC CENTER EXISTING AHYMO OUTPUT

PRINT HYD

ID=1 CODE=1

HYDROGRAPH FROM AREA OFF-SITE_RESIDENTIAL

RUNOFF VOLUME = 1.62400 INCHES = 3.6724 ACRE-FEET
PEAK DISCHARGE RATE = 89.45 CFS AT 1.500 HOURS BASIN AREA = .0424 SQ. MI.

*S COMPUTE RUNOFF FROM OFF-SITE PORTION OF WEST MESA HIGH SCHOOL TO THE EAST.

COMPUTE NM HYD ID=2 HYD=OFF-SITE_HIGH_SCHOOL DA=0.00355 SQ MI

%A=0 %B=25 %C=0 %D=75

TP=0.1333 RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 10.512 CFS UNIT VOLUME = .9981 B = 526.28 P60 = 1.9000
AREA = .002663 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

K = .130761HR TP = .133300HR K/TP RATIO = .980950 SHAPE CONSTANT, N = 3.599930
UNIT PEAK = 2.1808 CFS UNIT VOLUME = .9953 B = 327.55 P60 = 1.9000
AREA = .000888 SQ MI IA = .50000 INCHES INF = 1.25000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

PRINT HYD

ID=2 CODE=1

HYDROGRAPH FROM AREA OFF-SITE_HIGH_SCHOOL

RUNOFF VOLUME = 1.99117 INCHES = .3770 ACRE-FEET
PEAK DISCHARGE RATE = 8.61 CFS AT 1.500 HOURS BASIN AREA = .0036 SQ. MI.

*S ADD TOTAL OFFSITE RUNOFF WHICH INCLUDES FORTUNA ROAD, WEST MESA MANOR,

*S AND A PORTION OF WEST MESA HIGH SCHOOL

ADD HYD ID=1 HYD=OFFSITE_TOTAL ID I=1 ID II=2

PRINT HYD ID=1 CODE=1

HYDROGRAPH FROM AREA OFFSITE_TOTAL

RUNOFF VOLUME = 1.65236 INCHES = 4.0493 ACRE-FEET
PEAK DISCHARGE RATE = 98.05 CFS AT 1.500 HOURS BASIN AREA = .0460 SQ. MI.

*S ADD TOTAL RUNOFF FOR BASIN V

ADD HYD ID=1 HYD=BASIN_V ID I=1 ID II=3

PRINT HYD ID=1 CODE=1

HYDROGRAPH FROM AREA BASIN_V

RUNOFF VOLUME = 1.54241 INCHES = 4.6272 ACRE-FEET
PEAK DISCHARGE RATE = 115.03 CFS AT 1.500 HOURS BASIN AREA = .0563 SQ. MI.

*S COMPUTE RUNOFF FROM EXISTING BASIN B

COMPUTE NM HYD ID=1 HYD=B DA=0.0055 SQ MI

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

TP=0.1333 RAINFALL=-1

WEST MESA AQUATIC CENTER EXISTING AHYMO OUTPUT

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 3.2571 CFS UNIT VOLUME = .9959 B = 526.28 P60 = 1.9000
AREA = .000825 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

K = .130761HR TP = .133300HR K/TP RATIO = .980950 SHAPE CONSTANT, N = 3.599930
UNIT PEAK = 11.488 CFS UNIT VOLUME = 1.000 B = 327.55 P60 = 1.9000
AREA = .004675 SQ MI IA = .50000 INCHES INF = 1.25000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

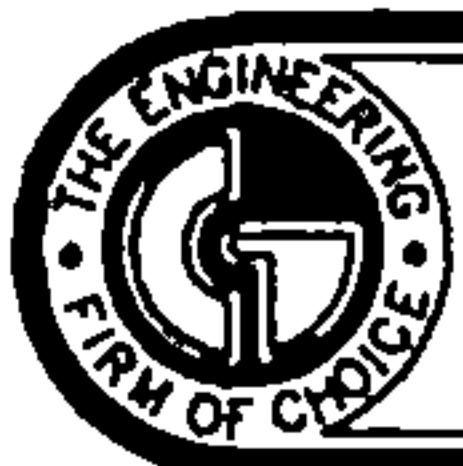
PRINT HYD ID=1 CODE=1

HYDROGRAPH FROM AREA B

RUNOFF VOLUME = .94213 INCHES = .2764 ACRE-FEET
PEAK DISCHARGE RATE = 8.44 CFS AT 1.500 HOURS BASIN AREA = .0055 SQ. MI.

FINISH

NORMAL PROGRAM FINISH END TIME (HR:MIN:SEC) = 09:51:58



CHAVEZ • GRIEVES CONSULTING ENGINEERS, INC.

5839 JEFFERSON STREET N.E. • ALBUQUERQUE, NEW MEXICO 87109
PHONE (505) 344-4080 • FAX (505) 343-8759

SHEET NO. _____

OF 2

JOB _____

SUBJECT _____

CLIENT _____

JOB NO. _____

BY JW

DATE 11-26-96

BASIN V RECALCULATIONS

Includes:

Portion of West Mesa Aquatic Center

Acreage

6.57

West Mesa Manor

27.118

Portion of West Mesa H.S.

2.272

35.96 Acres

≈ 36 Acres previously used

1) EXISTING WEST MESA POOL: (Based on site survey)

"B" Treatment = 4.69 AC.

"C" Treatment = 0.48 AC.

"D" Treatment = 1.40 AC.

2) EXISTING PORTION OF H.S. (Based on site survey)

"D" treatment = 1.931 AC.

"B" treatment = 0.341 AC.

3) EXISTING RESIDENTIAL SUBDIVISION (Based on Zone Atlas/
Site Observation)

"B" Treatment = 46%

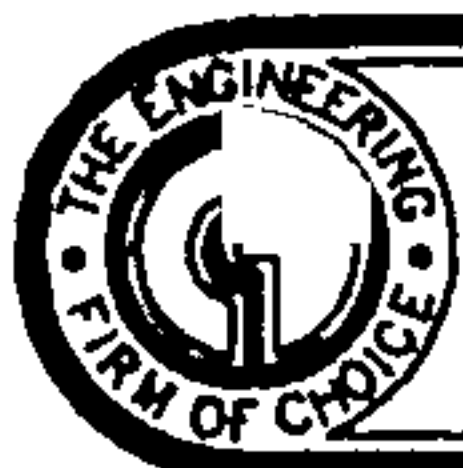
"D" Treatment = 54%

These numbers are based on 126 Lots zoned R-1
with 1 Du/Lot (Avg. of 4.65 Units/Acre = N)

$$\% D = 7 * \sqrt{N^2 + 5N} = 47\%$$

Fortuna Road is also included as part of basin.
With a road width of 40' and length of 2065', Area = 1.90 Acres
(all impervious) Add 6.5% to 47% to get total of 54% impervious.

A-5



CHAVEZ • GRIEVES CONSULTING ENGINEERS, INC.

5839 JEFFERSON STREET N.E. • ALBUQUERQUE, NEW MEXICO 87109
PHONE (505) 344-4080 • FAX (505) 343-8759

SHEET NO. 2 OF 2
JOB _____
SUBJECT _____
CLIENT _____
JOB NO. _____
BY JW DATE 11-26-96

PROPOSED BASIN A2 (4.12 AC)

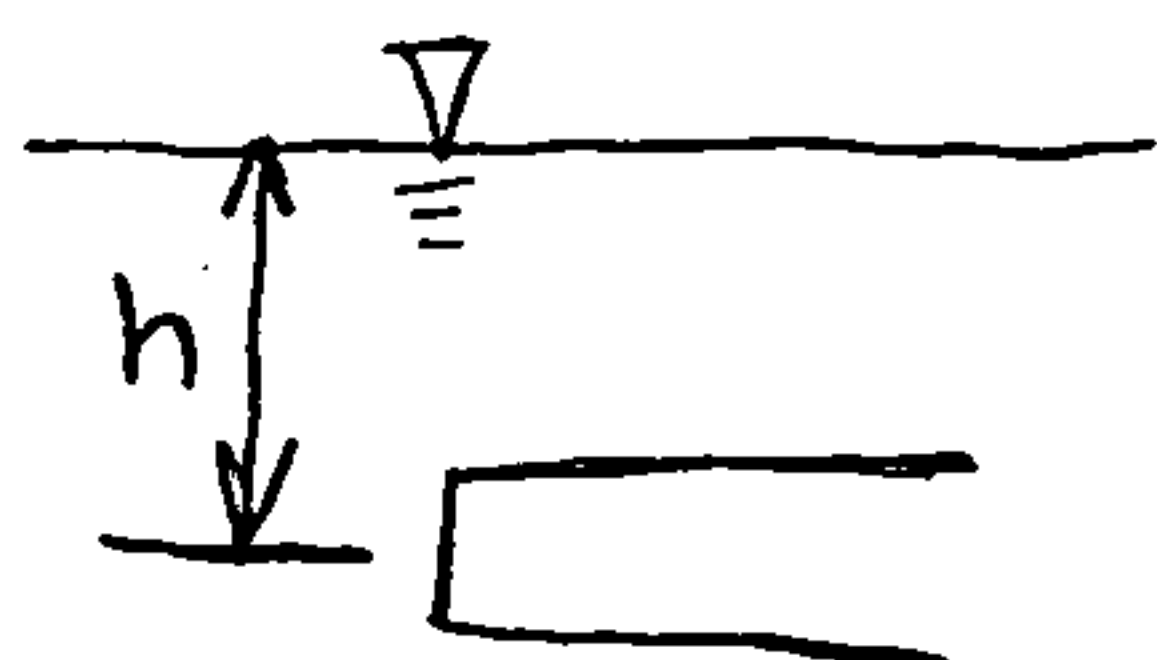
3.00 AC "B" (72%)

1.12 AC "D" (28%)

PROPOSED BASIN A1 (2.45 AC)

0.80 AC "B" (32%)

1.65 AC "D" (68%)



$$Q = C_d A \sqrt{2gh} \quad (\text{Orifice Equation for Ponds})$$

Calculate Pipe Capacities from Proposed Ponds
West Pond:

$$C_d = 0.67$$

$$A(12" \text{ pipe}) = 0.785$$

$$h = 0.9'$$

$$Q = 4.00 \text{ CFS through } 12" \text{ pipe when pond is full}$$

$$Q = 8.00 \text{ CFS for } 2\text{-}12" \text{ pipes}$$

East Pond:

$$C_d = 0.60$$

$$A(6" \text{ pipe}) = 0.196$$

$$h = 1.35'$$

$$Q = 1.12 \text{ CFS through } 6" \text{ pipe when pond is full}$$

$$6.72 \text{ CFS for } 6\text{-}6" \text{ pipes}$$

A-8

SECRET

APPENDIX B

WEST MESA AQUATIC CENTER PROPOSED AHYMO OUTPUT

AHYMO PROGRAM (AHYMO194) - AMAFCA Hydrologic Model - January, 1994
RUN DATE (MON/DAY/YR) = 01/07/1997
START TIME (HR:MIN:SEC) = 08:37:56 USER NO.= CHVZ_GNM.101
INPUT FILE = g:\f03\226\calcs\ahymdet.in

*S*****
*S***** CHAVEZ-GRIEVES CONSULTING ENGINEERS, INC. *S*****
*S***** WEST MESA POOL *****
*S*****
S FILENAME: G:\F03\226\CALCS\AHYMDT.IN\OUT
*S*****
*S***** 100 YEAR, 24 HOUR STORM (Section 22.2 Hydrology)
START 0.00
RAINFALL TYPE=2 RAIN QUARTER=0.0 RAIN ONE=1.90
RAIN SIX=2.20 RAIN DAY=2.66 DT=0.0500

COMPUTED 24-HOUR RAINFALL DISTRIBUTION BASED ON NOAA ATLAS 2 - PEAK AT 1.40 HR.
DT = .050000 HOURS END TIME = 24.000000 HOURS

.0000	.0020	.0041	.0062	.0084	.0107	.0131
.0156	.0181	.0208	.0236	.0266	.0296	.0329
.0363	.0399	.0438	.0479	.0523	.0570	.0622
.0702	.0791	.1048	.1653	.2695	.4307	.6627
.9800	1.2302	1.3432	1.4377	1.5203	1.5943	1.6612
1.7223	1.7783	1.8299	1.8775	1.9215	1.9622	1.9709
1.9789	1.9863	1.9933	1.9998	2.0059	2.0117	2.0173
2.0225	2.0276	2.0324	2.0371	2.0415	2.0458	2.0500
2.0541	2.0580	2.0618	2.0655	2.0690	2.0725	2.0759
2.0792	2.0825	2.0856	2.0887	2.0918	2.0947	2.0976
2.1004	2.1032	2.1060	2.1086	2.1113	2.1138	2.1164
2.1189	2.1213	2.1237	2.1261	2.1285	2.1308	2.1330
2.1353	2.1375	2.1396	2.1418	2.1439	2.1460	2.1480
2.1500	2.1520	2.1540	2.1560	2.1579	2.1598	2.1617
2.1636	2.1654	2.1672	2.1690	2.1708	2.1726	2.1743
2.1760	2.1777	2.1794	2.1811	2.1828	2.1844	2.1860
2.1876	2.1892	2.1908	2.1924	2.1939	2.1955	2.1970
2.1985	2.2000	2.2020	2.2039	2.2059	2.2078	2.2097
2.2117	2.2136	2.2155	2.2174	2.2193	2.2212	2.2231
2.2249	2.2268	2.2287	2.2305	2.2324	2.2342	2.2361
2.2379	2.2398	2.2416	2.2434	2.2452	2.2470	2.2488
2.2506	2.2524	2.2542	2.2559	2.2577	2.2595	2.2612
2.2630	2.2647	2.2665	2.2682	2.2700	2.2717	2.2734
2.2751	2.2768	2.2785	2.2802	2.2819	2.2836	2.2853
2.2870	2.2887	2.2903	2.2920	2.2937	2.2953	2.2970
2.2986	2.3002	2.3019	2.3035	2.3051	2.3068	2.3084
2.3100	2.3116	2.3132	2.3148	2.3164	2.3180	2.3196
2.3212	2.3227	2.3243	2.3259	2.3274	2.3290	2.3305
2.3321	2.3336	2.3352	2.3367	2.3383	2.3398	2.3413
2.3428	2.3444	2.3459	2.3474	2.3489	2.3504	2.3519
2.3534	2.3549	2.3563	2.3578	2.3593	2.3608	2.3622
2.3637	2.3652	2.3666	2.3681	2.3695	2.3710	2.3724
2.3739	2.3753	2.3767	2.3782	2.3796	2.3810	2.3824
2.3839	2.3853	2.3867	2.3881	2.3895	2.3909	2.3923
2.3937	2.3951	2.3965	2.3978	2.3992	2.4006	2.4020
2.4033	2.4047	2.4061	2.4074	2.4088	2.4101	2.4115
2.4128	2.4142	2.4155	2.4168	2.4182	2.4195	2.4208
2.4222	2.4235	2.4248	2.4261	2.4274	2.4287	2.4300
2.4314	2.4327	2.4340	2.4352	2.4365	2.4378	2.4391
2.4404	2.4417	2.4430	2.4442	2.4455	2.4468	2.4480
2.4493	2.4506	2.4518	2.4531	2.4543	2.4556	2.4568
2.4581	2.4593	2.4606	2.4618	2.4630	2.4643	2.4655
2.4667	2.4680	2.4692	2.4704	2.4716	2.4728	2.4740
2.4753	2.4765	2.4777	2.4789	2.4801	2.4813	2.4825
2.4837	2.4849	2.4860	2.4872	2.4884	2.4896	2.4908
2.4919	2.4931	2.4943	2.4955	2.4966	2.4978	2.4990

WEST MESA AQUATIC CENTER PROPOSED AHYMO OUTPUT

2.5001	2.5013	2.5024	2.5036	2.5047	2.5059	2.5070
2.5082	2.5093	2.5105	2.5116	2.5127	2.5139	2.5150
2.5161	2.5172	2.5184	2.5195	2.5206	2.5217	2.5229
2.5240	2.5251	2.5262	2.5273	2.5284	2.5295	2.5306
2.5317	2.5328	2.5339	2.5350	2.5361	2.5372	2.5383
2.5394	2.5404	2.5415	2.5426	2.5437	2.5448	2.5458
2.5469	2.5480	2.5490	2.5501	2.5512	2.5522	2.5533
2.5544	2.5554	2.5565	2.5575	2.5586	2.5596	2.5607
2.5617	2.5628	2.5638	2.5649	2.5659	2.5669	2.5680
2.5690	2.5700	2.5711	2.5721	2.5731	2.5741	2.5752
2.5762	2.5772	2.5782	2.5792	2.5803	2.5813	2.5823
2.5833	2.5843	2.5853	2.5863	2.5873	2.5883	2.5893
2.5903	2.5913	2.5923	2.5933	2.5943	2.5953	2.5963
2.5973	2.5982	2.5992	2.6002	2.6012	2.6022	2.6031
2.6041	2.6051	2.6061	2.6070	2.6080	2.6090	2.6099
2.6109	2.6119	2.6128	2.6138	2.6148	2.6157	2.6167
2.6176	2.6186	2.6195	2.6205	2.6214	2.6224	2.6233
2.6243	2.6252	2.6261	2.6271	2.6280	2.6290	2.6299
2.6308	2.6318	2.6327	2.6336	2.6346	2.6355	2.6364
2.6373	2.6383	2.6392	2.6401	2.6410	2.6419	2.6428
2.6438	2.6447	2.6456	2.6465	2.6474	2.6483	2.6492
2.6501	2.6510	2.6519	2.6528	2.6537	2.6546	2.6555
2.6564	2.6573	2.6582	2.6591	2.6600		

*S COMPUTE RUNOFF FROM PROPOSED BASIN A1
 COMPUTE NM HYD ID=1 HYD=A1 DA=0.0048 SQ MI
 %A=0 %B=25 %C=0 %D=75
 TP=0.1333 RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
 UNIT PEAK = 14.213 CFS UNIT VOLUME = .9983 B = 526.28 P60 = 1.9000
 AREA = .003600 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

K = .130761HR TP = .133300HR K/TP RATIO = .980950 SHAPE CONSTANT, N = 3.599930
 UNIT PEAK = 2.9487 CFS UNIT VOLUME = .9966 B = 327.55 P60 = 1.9000
 AREA = .001200 SQ MI IA = .50000 INCHES INF = 1.25000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

PRINT HYD ID=1 CODE=1

HYDROGRAPH FROM AREA A1

RUNOFF VOLUME = 1.99117 INCHES = .5097 ACRE-FEET
 PEAK DISCHARGE RATE = 11.63 CFS AT 1.500 HOURS BASIN AREA = .0048 SQ. MI.

*S ROUTE RESERVOIR THROUGH NEW DETENTION POND
 ROUTE RESERVOIR ID=3 HYD=A1_ROUTE INFLOW ID=1 CODE=10
 OUTFLOW(CFS) STORAGE(ac-ft) ELEVATION
 0 0 0
 6.72 0.35 1.60

* * * * *

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
.00	.00	.00	.000	.00
.50	.00	.00	.000	.00
1.00	.00	.00	.000	.00
1.50	11.63	.50	.110	2.11

WEST MESA AQUATIC CENTER PROPOSED AHYMO OUTPUT

2.00	2.65	.87	.191	3.67
2.50	.35	.52	.113	2.17
3.00	.11	.26	.056	1.08
3.50	.06	.13	.028	.53
4.00	.05	.06	.014	.27
4.50	.05	.04	.008	.15
5.00	.05	.02	.005	.10
5.50	.06	.02	.004	.07
6.00	.07	.02	.004	.07
6.50	.09	.02	.004	.08
7.00	.09	.02	.004	.08
7.50	.08	.02	.004	.08
8.00	.08	.02	.004	.08
8.50	.08	.02	.004	.08
9.00	.08	.02	.004	.08
9.50	.07	.02	.004	.08
10.00	.07	.02	.004	.07
10.50	.07	.02	.004	.07
11.00	.07	.02	.004	.07
11.50	.07	.02	.004	.07
12.00	.07	.02	.003	.07
12.50	.06	.02	.003	.07
13.00	.06	.02	.003	.06
13.50	.06	.01	.003	.06
14.00	.06	.01	.003	.06
14.50	.06	.01	.003	.06
15.00	.06	.01	.003	.06
15.50	.06	.01	.003	.06
16.00	.05	.01	.003	.06
16.50	.05	.01	.003	.05
17.00	.05	.01	.003	.05
17.50	.05	.01	.003	.05
18.00	.05	.01	.003	.05
18.50	.05	.01	.003	.05
19.00	.05	.01	.003	.05
19.50	.05	.01	.003	.05
20.00	.05	.01	.003	.05
20.50	.05	.01	.002	.05
21.00	.05	.01	.002	.05
21.50	.04	.01	.002	.05
22.00	.04	.01	.002	.05
22.50	.04	.01	.002	.04
23.00	.04	.01	.002	.04
23.50	.04	.01	.002	.04
24.00	.04	.01	.002	.04
24.50	.00	.01	.001	.03
25.00	.00	.00	.001	.01
25.50	.00	.00	.000	.01
26.00	.00	.00	.000	.00

PEAK DISCHARGE = 3.850 CFS - PEAK OCCURS AT HOUR 1.80
MAXIMUM WATER SURFACE ELEVATION = .917
MAXIMUM STORAGE = .2005 AC-FT INCREMENTAL TIME= .050000HRS

PRINT HYD ID=3 CODE=1

HYDROGRAPH FROM AREA A1_ROUTE

RUNOFF VOLUME = 1.99111 INCHES = .5097 ACRE-FEET
PEAK DISCHARGE RATE = 3.85 CFS AT 1.800 HOURS BASIN AREA = .0048 SQ. MI.

*S COMPUTE RUNOFF FROM PROPOSED BASIN A2
COMPUTE NM HYD ID=4 HYD=A2 DA=0.0055 SQ MI

WEST MESA AQUATIC CENTER PROPOSED AHYMO OUTPUT

%A=0 %B=80 %C=0 %D=20
TP=0.1333 RAINFALL=-1
ID=4 CODE=1

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 4.3429 CFS UNIT VOLUME = .9966 B = 526.28 P60 = 1.9000
AREA = .001100 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

K = .130761HR TP = .133300HR K/TP RATIO = .980950 SHAPE CONSTANT, N = 3.599930
UNIT PEAK = 10.812 CFS UNIT VOLUME = .9999 B = 327.55 P60 = 1.9000
AREA = .004400 SQ MI IA = .50000 INCHES INF = 1.25000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

PRINT HYD ID=4 CODE=1

HYDROGRAPH FROM AREA A2

RUNOFF VOLUME = 1.02955 INCHES = .3020 ACRE-Feet
PEAK DISCHARGE RATE = 8.84 CFS AT 1.500 HOURS BASIN AREA = .0055 SQ. MI.

*S COMPUTE RUNOFF FROM WEST MESA MANOR AND FROM FORTUNA ROAD.
COMPUTE NM HYD ID=1 HYD=OFF-SITE_RESIDENTIAL DA=0.0424 SQ MI
%A=0 %B=46 %C=0 %D=54
TP=0.1333 RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 90.395 CFS UNIT VOLUME = .9990 B = 526.28 P60 = 1.9000
AREA = .022896 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

K = .130761HR TP = .133300HR K/TP RATIO = .980950 SHAPE CONSTANT, N = 3.599930
UNIT PEAK = 47.926 CFS UNIT VOLUME = 1.001 B = 327.55 P60 = 1.9000
AREA = .019504 SQ MI IA = .50000 INCHES INF = 1.25000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

PRINT HYD ID=1 CODE=1

HYDROGRAPH FROM AREA OFF-SITE_RESIDENTIAL

RUNOFF VOLUME = 1.62400 INCHES = 3.6724 ACRE-Feet
PEAK DISCHARGE RATE = 89.45 CFS AT 1.500 HOURS BASIN AREA = .0424 SQ. MI.

*S COMPUTE RUNOFF FROM OFF-SITE PORTION OF WEST MESA HIGH SCHOOL TO THE EAST.
COMPUTE NM HYD ID=2 HYD=OFF-SITE_HIGH_SCHOOL DA=0.00355 SQ MI
%A=0 %B=25 %C=0 %D=75
TP=0.1333 RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 10.512 CFS UNIT VOLUME = .9981 B = 526.28 P60 = 1.9000
AREA = .002663 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

K = .130761HR TP = .133300HR K/TP RATIO = .980950 SHAPE CONSTANT, N = 3.599930
UNIT PEAK = 2.1808 CFS UNIT VOLUME = .9953 B = 327.55 P60 = 1.9000
AREA = .000888 SQ MI IA = .50000 INCHES INF = 1.25000 INCHES PER HOUR

WEST MESA AQUATIC CENTER PROPOSED AHYMO OUTPUT

RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

PRINT HYD ID=2 CODE=1

HYDROGRAPH FROM AREA OFF-SITE_HIGH_SCHOOL

RUNOFF VOLUME = 1.99117 INCHES = .3770 ACRE-Feet
PEAK DISCHARGE RATE = 8.61 CFS AT 1.500 HOURS BASIN AREA = .0036 SQ. MI.

*S ADD TOTAL OFFSITE RUNOFF WHICH INCLUDES WEST MESA MANOR, FORTUNA ROAD, AND
*S A PORTION OF WEST MESA HIGH SCHOOL

ADD HYD ID=1 HYD=OFFSITE_TOTAL ID I=1 ID II=2
PRINT HYD ID=1 CODE=1

HYDROGRAPH FROM AREA OFFSITE_TOTAL

RUNOFF VOLUME = 1.65236 INCHES = 4.0493 ACRE-Feet
PEAK DISCHARGE RATE = 98.05 CFS AT 1.500 HOURS BASIN AREA = .0460 SQ. MI.

*S ADD ROUTED BASIN A1 AND BASIN A2

ADD HYD ID=3 HYD=BASINA1,A2_TOTAL ID I=3 ID II=4
PRINT HYD ID=3 CODE=1

HYDROGRAPH FROM AREA BASINA1,A2_TOTAL

RUNOFF VOLUME = 1.47753 INCHES = .8117 ACRE-Feet
PEAK DISCHARGE RATE = 10.95 CFS AT 1.500 HOURS BASIN AREA = .0103 SQ. MI.

*S ADD TOTAL RUNOFF FOR BASIN V

ADD HYD ID=1 HYD=BASIN_V ID I=1 ID II=3
PRINT HYD ID=1 CODE=1

HYDROGRAPH FROM AREA BASIN_V

RUNOFF VOLUME = 1.62034 INCHES = 4.8610 ACRE-Feet
PEAK DISCHARGE RATE = 109.01 CFS AT 1.500 HOURS BASIN AREA = .0563 SQ. MI.

*S COMPUTE RUNOFF FROM PROPOSED BASIN B

COMPUTE NM HYD ID=1 HYD=B DA=0.0055 SQ MI
%A=0 %B=85 %C=0 %D=15
TP=0.1333 RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 3.2571 CFS UNIT VOLUME = .9959 B = 526.28 P60 = 1.9000
AREA = .000825 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

K = .130761HR TP = .133300HR K/TP RATIO = .980950 SHAPE CONSTANT, N = 3.599930
UNIT PEAK = 11.488 CFS UNIT VOLUME = 1.000 B = 327.55 P60 = 1.9000
AREA = .004675 SQ MI IA = .50000 INCHES INF = 1.25000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

WEST MESA AQUATIC CENTER PROPOSED AHYMO OUTPUT

PRINT HYD

ID=1 CODE=1

HYDROGRAPH FROM AREA B

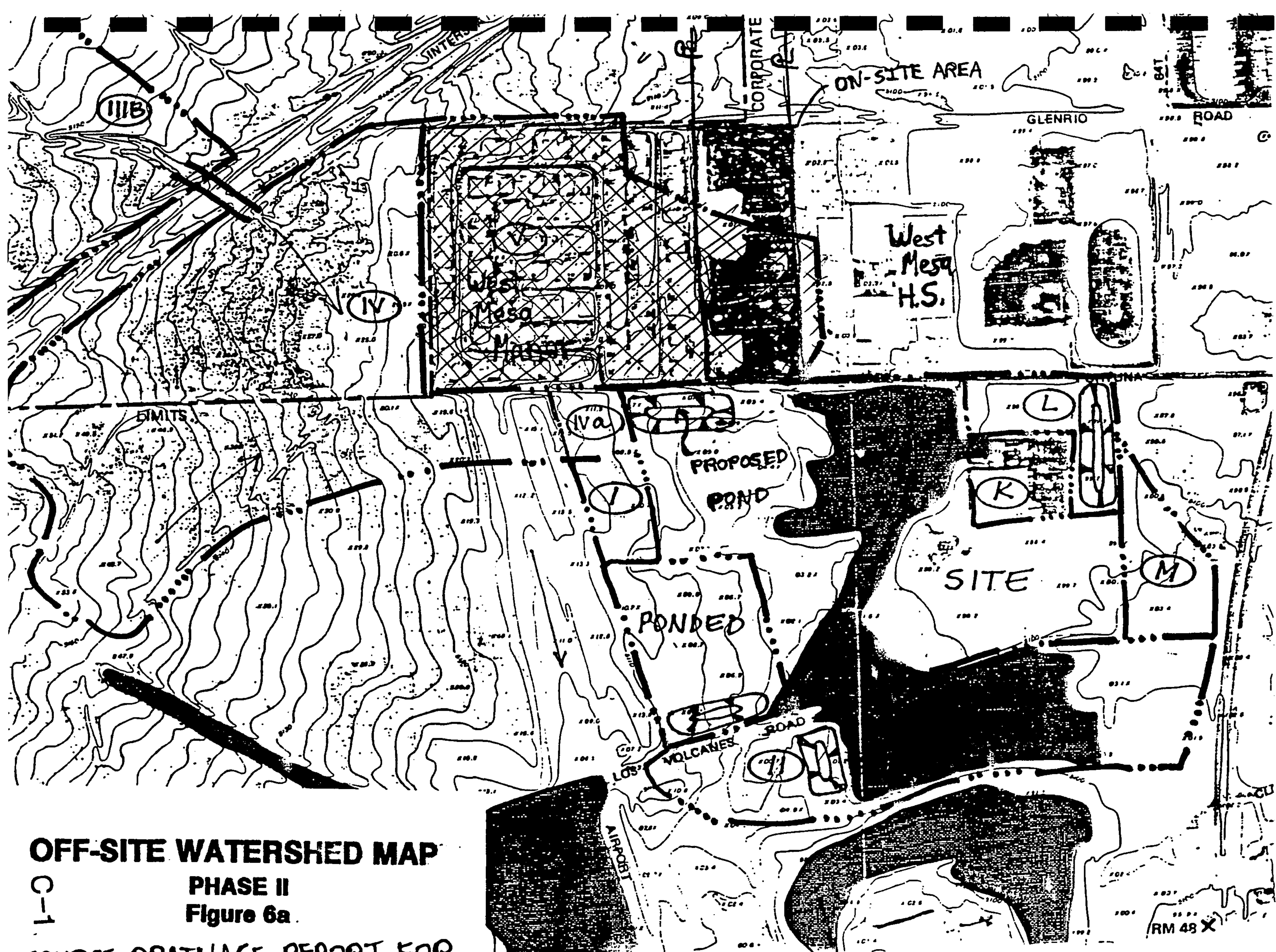
RUNOFF VOLUME = .94213 INCHES = .2764 ACRE-FEET
PEAK DISCHARGE RATE = 8.44 CFS AT 1.500 HOURS BASIN AREA = .0055 SQ. MI.

FINISH

NORMAL PROGRAM FINISH

END TIME (HR:MIN:SEC) = 08:37:59

APPENDIX C



OFF-SITE WATERSHED MAP

PHASE II
Figure 6a

SOURCE: DRAINAGE REPORT FOR
CEDAR RIDGE ESTATES

SOURCE: DRAINAGE REPORT FOR CEDAR RIDGE ESTATES

0.17.70

HYDROLOGY (HYMO)

Precipitation Zone 1

P360 = 2.20 in

AP	Basin	Basin area (Ac)	Land Treatment				Ew (in)	V100 (af)	Q100 cfs
			A	B	C	D			
Off-Site existing conditions									
24	I	3.20	3.20	0.00	0.00	0.00	0.44	0.14	5.0
26	II	25.00	23.0	0.20	0.00	1.8	0.55	1.38	45.5
22	III	275.0	275.	0.00	0.00	0.00	0.44	12.1	425.7
23	IV	68.00	68.0	0.00	0.00	0.00	0.44	2.99	105.3
25	*V	36.00	0.00	9.36	7.2	19.4	1.44	4.32	124.6
12	*M	4.70	3.70	0.00	0.00	1.00	0.77	0.30	9.1
21	IIIA	86.00	86.0	0.00	0.00	0.00	0.44	3.78	133.2
22	IIIB	87.00	87.0	0.00	0.00	0.00	0.44	3.83	134.7
23	IVa	2.8	2.8	0.00	0.00	0.00	0.44	0.12	4.4
Developed conditions									
1	**A	3.70	0.00	0.00	0.00	3.70	1.97	0.61	16.2
2	A+B	7.80	0.00	2.03	1.56	4.21	1.44	0.93	27.00
3	C	3.20	0.00	0.83	0.64	1.73	1.44	0.38	11.10
4	D	3.00	0.00	0.78	0.60	1.62	1.44	0.36	10.40
5	C+E	9.10	0.00	2.37	1.82	4.91	1.44	1.09	31.50
6	D+F	5.10	0.00	1.33	1.02	2.75	1.44	0.61	17.60
7	D+F+G	10.50	0.00	2.73	2.10	5.67	1.44	1.26	36.30
8	H	3.90	0.00	1.01	0.78	2.11	1.44	0.47	13.50
9	C-G, i	23.20	0.00	6.03	4.64	12.5	1.44	2.78	80.30
10	H+J	9.00	0.00	2.34	1.80	4.86	1.44	1.08	31.10
11	C-J	32.20	0.00	8.37	6.44	17.3	1.44	3.86	111.4

PRINT HYD ID=12 CODE=1

HYDROGRAPH FROM AREA OFFSITE_TOTAL

RUNOFF VOLUME = 1.65236 INCHES = 4.0493 ACRE-FEET
PEAK DISCHARGE RATE = 98.05 CFS AT 1.500 HOURS BASIN AREA = .0460 SQ. MI.

*S ADD TOTAL RUNOFF FOR BASIN A1, A2.1, A2.2 AND OFF-SITE
ADD HYD ID=13 HYD=A1_A2.1_A2.2_OFF-SITE IDS= 12 AND 21

PRINT HYD ID=13 CODE=1

HYDROGRAPH FROM AREA A1_A2.1_A2.2_OFF-SITE

RUNOFF VOLUME = 1.66091 INCHES = 4.9827 ACRE-FEET
PEAK DISCHARGE RATE = 99.81 CFS AT 1.500 HOURS BASIN AREA = .0563 SQ. MI.

FINISH

NORMAL PROGRAM FINISH END TIME (HR:MIN:SEC) = 09:03:45

3.00	.58	4.03	.321	3.06
3.50	.25	3.58	.219	2.68
4.00	.14	3.16	.129	1.98
4.50	.10	2.82	.067	1.19
5.00	.09	2.62	.035	.62
5.50	.10	2.52	.020	.35
6.00	.11	2.48	.012	.22
6.50	.13	2.46	.010	.17
7.00	.14	2.46	.009	.15
7.50	.14	2.45	.008	.15
8.00	.14	2.45	.008	.14
8.50	.13	2.45	.008	.14
9.00	.13	2.45	.008	.13
9.50	.13	2.45	.007	.13
10.00	.12	2.45	.007	.13
10.50	.12	2.44	.007	.12
11.00	.12	2.44	.007	.12
11.50	.11	2.44	.007	.12
12.00	.11	2.44	.006	.11
12.50	.11	2.44	.006	.11
13.00	.10	2.44	.006	.11
13.50	.10	2.44	.006	.11
14.00	.10	2.44	.006	.10
14.50	.10	2.44	.006	.10
15.00	.10	2.44	.006	.10
15.50	.09	2.43	.005	.10
16.00	.09	2.43	.005	.09
16.50	.09	2.43	.005	.09
17.00	.09	2.43	.005	.09
17.50	.09	2.43	.005	.09
18.00	.08	2.43	.005	.09
18.50	.08	2.43	.005	.09
19.00	.08	2.43	.005	.08
19.50	.08	2.43	.005	.08
20.00	.08	2.43	.005	.08
20.50	.08	2.43	.005	.08
21.00	.08	2.43	.004	.08
21.50	.08	2.43	.004	.08
22.00	.07	2.43	.004	.08
22.50	.07	2.43	.004	.07
23.00	.07	2.43	.004	.07
23.50	.07	2.43	.004	.07
24.00	.07	2.43	.004	.07
24.50	.02	2.42	.003	.06
25.00	.01	2.41	.002	.03
25.50	.00	2.41	.001	.02
26.00	.00	2.40	.001	.01
26.50	.00	2.40	.000	.00

PEAK DISCHARGE = 3.666 CFS - PEAK OCCURS AT HOUR 2.20
 MAXIMUM WATER SURFACE ELEVATION = 4.534
 MAXIMUM STORAGE = .4492 AC-FT INCREMENTAL TIME= .050000HRS

PRINT HYD ID=21 CODE=1

HYDROGRAPH FROM AREA A1_A2.1_ROUTE

RUNOFF VOLUME = 1.69916 INCHES = .9334 ACRE-FEET
 PEAK DISCHARGE RATE = 3.67 CFS AT 2.200 HOURS BASIN AREA = .0103 SQ. MI.

*S ADD TOTAL OFFSITE RUNOFF WHICH INCLUDES WEST MESA MANOR, FORTUNA ROAD, AND
 *S A PORTION OF WEST MESA HIGH SCHOOL
 ADD HYD ID=12 HYD=OFFSITE_TOTAL IDS= 4 AND 5

18.00	.06	2.62	.002	.06
18.50	.06	2.62	.002	.06
19.00	.06	2.62	.002	.06
19.50	.06	2.62	.002	.06
20.00	.06	2.62	.002	.06
20.50	.05	2.62	.002	.05
21.00	.05	2.62	.002	.05
21.50	.05	2.62	.002	.05
22.00	.05	2.62	.002	.05
22.50	.05	2.62	.002	.05
23.00	.05	2.62	.002	.05
23.50	.05	2.62	.002	.05
24.00	.05	2.62	.002	.05
24.50	.00	2.61	.001	.02
25.00	.00	2.60	.000	.01
25.50	.00	2.60	.000	.00

PEAK DISCHARGE = 8.027 CFS - PEAK OCCURS AT HOUR 1.65
 MAXIMUM WATER SURFACE ELEVATION = 4.241
 MAXIMUM STORAGE = .1649 AC-FT INCREMENTAL TIME= .050000HRS

PRINT HYD ID=20 CODE=1

HYDROGRAPH FROM AREA A1_A2.1_ROUTE

RUNOFF VOLUME = 1.86196 INCHES = .6197 ACRE-FEET
 PEAK DISCHARGE RATE = 8.03 CFS AT 1.650 HOURS BASIN AREA = .0062 SQ. MI.

*S ADD ROUTED BASIN A1, A2.1 AND A2.2
 ADD HYD ID=11 HYD=A1_A2.1_A2.2_TOTAL IDS= 20 AND 3

PRINT HYD ID=11 CODE=1

HYDROGRAPH FROM AREA A1_A2.1_A2.2_TOTAL

RUNOFF VOLUME = 1.69916 INCHES = .9334 ACRE-FEET
 PEAK DISCHARGE RATE = 14.66 CFS AT 1.550 HOURS BASIN AREA = .0103 SQ. MI.

*S ROUTE RESERVOIR THROUGH NEW DETENTION POND
 ROUTE RESERVOIR ID=21 HYD=A1_A2.1_ROUTE INFLOW ID=11 CODE =10
 OUTFLOW(CFS) STORAGE(ac-ft) ELEVATION

0	0	2.40
1.68	0.095	3.00
2.61	0.200	3.50
3.03	0.314	4.00
3.63	0.440	4.50
4.17	0.576	5.00

* * * * *

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
.00	.00	2.40	.000	.00
.50	.00	2.40	.000	.00
1.00	.00	2.40	.000	.00
1.50	13.87	3.04	.103	1.75
2.00	6.54	4.44	.426	3.56
2.50	1.50	4.42	.419	3.53

*S ADD BASIN A1 AND BASIN A2.1
ADD HYD ID=10 HYD=A1_A2.1_TOTAL IDS= 1 AND 2

PRINT HYD ID=10 CODE=1

HYDROGRAPH FROM AREA A1_A2.1_TOTAL

RUNOFF VOLUME = 1.86196 INCHES = .6197 ACRE-FEET
PEAK DISCHARGE RATE = 14.45 CFS AT 1.500 HOURS BASIN AREA = .0062 SQ. MI.

*S ROUTE RESERVOIR THROUGH NEW DETENTION POND
ROUTE RESERVOIR ID=20 HYD=A1_A2.1_ROUTE INFLOW ID=10 CODE =10
OUTFLOW(CFS) STORAGE(ac-ft) ELEVATION
0.00 0.00 2.60
1.08 0.038 3.00
3.40 0.082 3.50
7.18 0.135 4.00
8.94 0.197 4.50

* * * * *

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
.00	.00	2.60	.000	.00
.50	.00	2.60	.000	.00
1.00	.00	2.60	.000	.00
1.50	14.45	3.83	.117	5.89
2.00	3.18	3.71	.105	5.03
2.50	.42	3.04	.042	1.27
3.00	.13	2.79	.018	.51
3.50	.07	2.68	.008	.22
4.00	.06	2.64	.004	.11
4.50	.06	2.63	.003	.08
5.00	.06	2.62	.002	.07
5.50	.07	2.62	.002	.07
6.00	.08	2.63	.003	.07
6.50	.10	2.63	.003	.09
7.00	.10	2.64	.003	.10
7.50	.10	2.64	.003	.10
8.00	.10	2.64	.003	.10
8.50	.09	2.63	.003	.09
9.00	.09	2.63	.003	.09
9.50	.09	2.63	.003	.09
10.00	.08	2.63	.003	.09
10.50	.08	2.63	.003	.08
11.00	.08	2.63	.003	.08
11.50	.08	2.63	.003	.08
12.00	.08	2.63	.003	.08
12.50	.07	2.63	.003	.08
13.00	.07	2.63	.003	.07
13.50	.07	2.63	.003	.07
14.00	.07	2.63	.002	.07
14.50	.07	2.63	.002	.07
15.00	.07	2.63	.002	.07
15.50	.07	2.62	.002	.07
16.00	.06	2.62	.002	.06
16.50	.06	2.62	.002	.06
17.00	.06	2.62	.002	.06
17.50	.06	2.62	.002	.06

RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

PRINT HYD ID=4 CODE=1

HYDROGRAPH FROM AREA OFF-SITE_RESIDENTIAL

RUNOFF VOLUME = 1.62400 INCHES = 3.6724 ACRE-Feet
PEAK DISCHARGE RATE = 89.45 CFS AT 1.500 HOURS BASIN AREA = .0424 SQ. MI.

*S COMPUTE OFF-SITE FROM PORTION OF WEST MESA HIGH SCHOOL TO THE EAST.

COMPUTE NM HYD ID=5 HYD=OFF-SITE_HIGH_SCHOOL DA=0.00355 SQ MI

%A=0 %B=25 %C=0 %D=75

TP=0.1333 RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 10.512 CFS UNIT VOLUME = .9981 B = 526.28 P60 = 1.9000
AREA = .002663 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

K = .130761HR TP = .133300HR K/TP RATIO = .980950 SHAPE CONSTANT, N = 3.599930
UNIT PEAK = 2.1808 CFS UNIT VOLUME = .9953 B = 327.55 P60 = 1.9000
AREA = .000888 SQ MI IA = .50000 INCHES INF = 1.25000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

PRINT HYD ID=5 CODE=1

HYDROGRAPH FROM AREA OFF-SITE_HIGH_SCHOOL

RUNOFF VOLUME = 1.99117 INCHES = .3770 ACRE-Feet
PEAK DISCHARGE RATE = 8.61 CFS AT 1.500 HOURS BASIN AREA = .0036 SQ. MI.

*S COMPUTE RUNOFF FROM PROPOSED BASIN B

COMPUTE NM HYD ID=6 HYD=B DA=0.0055 SQ MI

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

TP=0.1333 RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 3.2571 CFS UNIT VOLUME = .9959 B = 526.28 P60 = 1.9000
AREA = .000825 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

K = .130761HR TP = .133300HR K/TP RATIO = .980950 SHAPE CONSTANT, N = 3.599930
UNIT PEAK = 11.488 CFS UNIT VOLUME = 1.000 B = 327.55 P60 = 1.9000
AREA = .004675 SQ MI IA = .50000 INCHES INF = 1.25000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

PRINT HYD ID=6 CODE=1

HYDROGRAPH FROM AREA B

RUNOFF VOLUME = .94213 INCHES = .2764 ACRE-Feet
PEAK DISCHARGE RATE = 8.44 CFS AT 1.500 HOURS BASIN AREA = .0055 SQ. MI.

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 2.4446 CFS UNIT VOLUME = .9951 B = 526.28 P60 = 1.9000
AREA = .000619 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

K = .130761HR TP = .133300HR K/TP RATIO = .980950 SHAPE CONSTANT, N = 3.599930
UNIT PEAK = 2.0169 CFS UNIT VOLUME = .9945 B = 327.55 P60 = 1.9000
AREA = .000821 SQ MI IA = .50000 INCHES INF = 1.25000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

PRINT HYD ID=2 CODE=1

HYDROGRAPH FROM AREA A2.1

RUNOFF VOLUME = 1.43168 INCHES = .1100 ACRE-FEET
PEAK DISCHARGE RATE = 2.82 CFS AT 1.500 HOURS BASIN AREA = .0014 SQ. MI.

*S COMPUTE RUNOFF FROM PROPOSED BASIN A2.2
COMPUTE NM HYD ID=3 HYD=A2.2 DA=0.00406 SQ MI
%A=0 %B=56 %C=0 %D=44
TP=0.1333 RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 7.0528 CFS UNIT VOLUME = .9975 B = 526.28 P60 = 1.9000
AREA = .001786 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

K = .130761HR TP = .133300HR K/TP RATIO = .980950 SHAPE CONSTANT, N = 3.599930
UNIT PEAK = 5.5868 CFS UNIT VOLUME = .9988 B = 327.55 P60 = 1.9000
AREA = .002274 SQ MI IA = .50000 INCHES INF = 1.25000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

PRINT HYD ID=3 CODE=1

HYDROGRAPH FROM AREA A2.2

RUNOFF VOLUME = 1.44916 INCHES = .3138 ACRE-FEET
PEAK DISCHARGE RATE = 7.98 CFS AT 1.500 HOURS BASIN AREA = .0041 SQ. MI.

*S COMPUTE OFF-SITE FROM WEST MESA MANOR AND FROM FORTUNA ROAD.
COMPUTE NM HYD ID=4 HYD=OFF-SITE RESIDENTIAL DA=0.0424 SQ MI
%A=0 %B=46 %C=0 %D=54
TP=0.1333 RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 90.395 CFS UNIT VOLUME = .9990 B = 526.28 P60 = 1.9000
AREA = .022896 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

K = .130761HR TP = .133300HR K/TP RATIO = .980950 SHAPE CONSTANT, N = 3.599930
UNIT PEAK = 47.926 CFS UNIT VOLUME = 1.001 B = 327.55 P60 = 1.9000
AREA = .019504 SQ MI IA = .50000 INCHES INF = 1.25000 INCHES PER HOUR

2.4033	2.4047	2.4061	2.4074	2.4088	2.4101	2.4115
2.4128	2.4142	2.4155	2.4168	2.4182	2.4195	2.4208
2.4222	2.4235	2.4248	2.4261	2.4274	2.4287	2.4300
2.4314	2.4327	2.4340	2.4352	2.4365	2.4378	2.4391
2.4404	2.4417	2.4430	2.4442	2.4455	2.4468	2.4480
2.4493	2.4506	2.4518	2.4531	2.4543	2.4556	2.4568
2.4581	2.4593	2.4606	2.4618	2.4630	2.4643	2.4655
2.4667	2.4680	2.4692	2.4704	2.4716	2.4728	2.4740
2.4753	2.4765	2.4777	2.4789	2.4801	2.4813	2.4825
2.4837	2.4849	2.4860	2.4872	2.4884	2.4896	2.4908
2.4919	2.4931	2.4943	2.4955	2.4966	2.4978	2.4990
2.5001	2.5013	2.5024	2.5036	2.5047	2.5059	2.5070
2.5082	2.5093	2.5105	2.5116	2.5127	2.5139	2.5150
2.5161	2.5172	2.5184	2.5195	2.5206	2.5217	2.5229
2.5240	2.5251	2.5262	2.5273	2.5284	2.5295	2.5306
2.5317	2.5328	2.5339	2.5350	2.5361	2.5372	2.5383
2.5394	2.5404	2.5415	2.5426	2.5437	2.5448	2.5458
2.5469	2.5480	2.5490	2.5501	2.5512	2.5522	2.5533
2.5544	2.5554	2.5565	2.5575	2.5586	2.5596	2.5607
2.5617	2.5628	2.5638	2.5649	2.5659	2.5669	2.5680
2.5690	2.5700	2.5711	2.5721	2.5731	2.5741	2.5752
2.5762	2.5772	2.5782	2.5792	2.5803	2.5813	2.5823
2.5833	2.5843	2.5853	2.5863	2.5873	2.5883	2.5893
2.5903	2.5913	2.5923	2.5933	2.5943	2.5953	2.5963
2.5973	2.5982	2.5992	2.6002	2.6012	2.6022	2.6031
2.6041	2.6051	2.6061	2.6070	2.6080	2.6090	2.6099
2.6109	2.6119	2.6128	2.6138	2.6148	2.6157	2.6167
2.6176	2.6186	2.6195	2.6205	2.6214	2.6224	2.6233
2.6243	2.6252	2.6261	2.6271	2.6280	2.6290	2.6299
2.6308	2.6318	2.6327	2.6336	2.6346	2.6355	2.6364
2.6373	2.6383	2.6392	2.6401	2.6410	2.6419	2.6428
2.6438	2.6447	2.6456	2.6465	2.6474	2.6483	2.6492
2.6501	2.6510	2.6519	2.6528	2.6537	2.6546	2.6555
2.6564	2.6573	2.6582	2.6591	2.6600		

*S COMPUTE RUNOFF FROM PROPOSED BASIN A1
 COMPUTE NM HYD ID=1 HYD=A1 DA=0.0048 SQ MI
 %A=0 %B=25 %C=0 %D=75
 TP=0.1333 RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
 UNIT PEAK = 14.213 CFS UNIT VOLUME = .9983 B = 526.28 P60 = 1.9000
 AREA = .003600 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

K = .130761HR TP = .133300HR K/TP RATIO = .980950 SHAPE CONSTANT, N = 3.599930
 UNIT PEAK = 2.9487 CFS UNIT VOLUME = .9966 B = 327.55 P60 = 1.9000
 AREA = .001200 SQ MI IA = .50000 INCHES INF = 1.25000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

PRINT HYD ID=1 CODE=1

HYDROGRAPH FROM AREA A1

RUNOFF VOLUME = 1.99117 INCHES = .5097 ACRE-FEET
 PEAK DISCHARGE RATE = 11.63 CFS AT 1.500 HOURS BASIN AREA = .0048 SQ. MI.

*S COMPUTE RUNOFF FROM PROPOSED BASIN A2.1
 COMPUTE NM HYD ID=2 HYD=A2.1 DA=0.00144 SQ MI
 %A=0 %B=57 %C=0 %D=43
 TP=0.1333 RAINFALL=-1

WEST MESA AQUATIC CENTER PHASE II

Chavez-Grievess Consulting Engineers, Inc.

AHYMO PROGRAM (AHYMO_97) -

- Version: 1997.02c

RUN DATE (MON/DAY/YR) = 05/15/2001

START TIME (HR:MIN:SEC) = 09:03:45

USER NO.= AHYMO-I3Chavez-Grievess-C

INPUT FILE = G:\F03\269\CALC'S\AHYMO5-~2.IN

*S MAY 15, 2001

*S 100 YEAR, 24 HOUR STORM (Section 22.2 Hydrology)

*S THESE CALCULATIONS SUPPLEMENT CALCS FOR ORIGINAL WEST MESA

*S POOL CONSTRUCTION 5-5-98

START 0.00

LOCATION NEW MEXICO

Soil infiltration values (LAND FACTORS) for this location are not available.

The following default values were used,

Land Treatment	Initial Abscr.(in/	Unif. Infilt.(in/hour)
A	0.65	1.67
B	0.50	1.25
C	0.35	0.83
D	0.10	0.04

RAINFALL TYPE=2 RAIN QUARTER=0.0 RAIN ONE=1.90

RAIN SIX=2.20 RAIN DAY=2.66 DT=0.0500

COMPUTED 24-HOUR RAINFALL DISTRIBUTION BASED ON NOAA ATLAS 2 - PEAK AT 1.40 HR.

DT = .050000 HOURS END TIME = 24.000000 HOURS

.0000	.0020	.0041	.0062	.0084	.0107	.0131
.0156	.0181	.0208	.0236	.0266	.0296	.0329
.0363	.0399	.0438	.0479	.0523	.0570	.0622
.0702	.0791	.1048	.1653	.2695	.4307	.6627
.9800	1.2302	1.3432	1.4377	1.5203	1.5943	1.6612
1.7223	1.7783	1.8299	1.8775	1.9215	1.9622	1.9709
1.9789	1.9863	1.9933	1.9998	2.0059	2.0117	2.0173
2.0225	2.0276	2.0324	2.0371	2.0415	2.0458	2.0500
2.0541	2.0580	2.0618	2.0655	2.0690	2.0725	2.0759
2.0792	2.0825	2.0856	2.0887	2.0918	2.0947	2.0976
2.1004	2.1032	2.1060	2.1086	2.1113	2.1138	2.1164
2.1189	2.1213	2.1237	2.1261	2.1285	2.1308	2.1330
2.1353	2.1375	2.1396	2.1418	2.1439	2.1460	2.1480
2.1500	2.1520	2.1540	2.1560	2.1579	2.1598	2.1617
2.1636	2.1654	2.1672	2.1690	2.1708	2.1726	2.1743
2.1760	2.1777	2.1794	2.1811	2.1828	2.1844	2.1860
2.1876	2.1892	2.1908	2.1924	2.1939	2.1955	2.1970
2.1985	2.2000	2.2020	2.2039	2.2059	2.2078	2.2097
2.2117	2.2136	2.2155	2.2174	2.2193	2.2212	2.2231
2.2249	2.2268	2.2287	2.2305	2.2324	2.2342	2.2361
2.2379	2.2398	2.2416	2.2434	2.2452	2.2470	2.2488
2.2506	2.2524	2.2542	2.2559	2.2577	2.2595	2.2612
2.2630	2.2647	2.2665	2.2682	2.2700	2.2717	2.2734
2.2751	2.2768	2.2785	2.2802	2.2819	2.2836	2.2853
2.2870	2.2887	2.2903	2.2920	2.2937	2.2953	2.2970
2.2986	2.3002	2.3019	2.3035	2.3051	2.3068	2.3084
2.3100	2.3116	2.3132	2.3148	2.3164	2.3180	2.3196
2.3212	2.3227	2.3243	2.3259	2.3274	2.3290	2.3305
2.3321	2.3336	2.3352	2.3367	2.3383	2.3398	2.3413
2.3428	2.3444	2.3459	2.3474	2.3489	2.3504	2.3519
2.3534	2.3549	2.3563	2.3578	2.3593	2.3608	2.3622
2.3637	2.3652	2.3666	2.3681	2.3695	2.3710	2.3724
2.3739	2.3753	2.3767	2.3782	2.3796	2.3810	2.3824
2.3839	2.3853	2.3867	2.3881	2.3895	2.3909	2.3923
2.3937	2.3951	2.3965	2.3978	2.3992	2.4006	2.4020



City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

July 20, 2001

RECEIVED JUL 23 2001

Victor J. Chavez, P.E.
Chavez-Grievess Consulting Engineers, Inc.
5639 Jefferson Steet NE
Albuquerque, NM 87109

Attn: James Kelley

**RE: WEST MESA AQUATIC CENTER (J10-D21). Updated GRADING AND DRAINAGE
PLAN FOR BUILDING PERMIT APPROVAL. ENGINEER'S STAMP DATED
JULY 6, 2001.**

Dear Mr.Chavez:

Based on the information provided on your July 9, 2001 submittal, the above referenced project is approved for Building Permit.

Please furnish a copy of the hydrology calculations used to refurbish the existing pond.

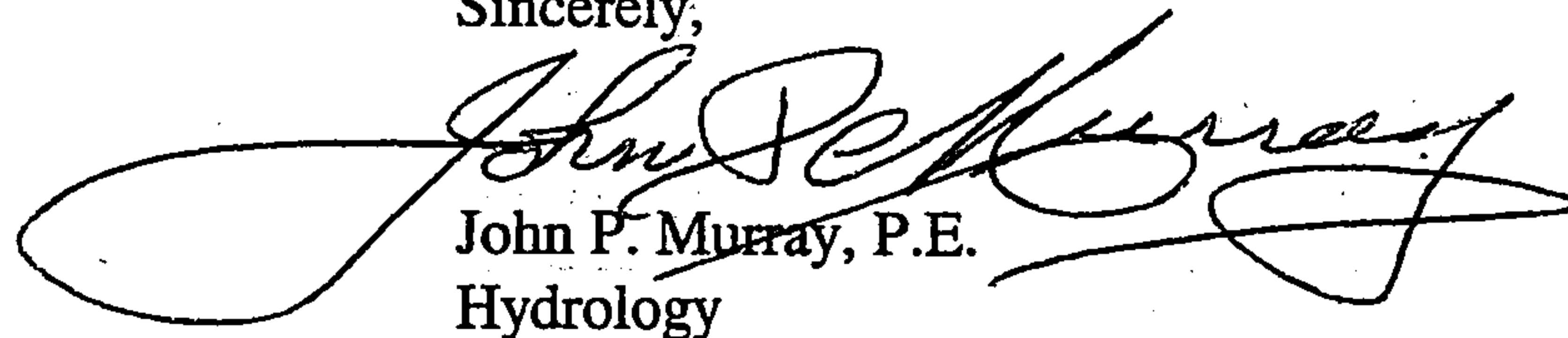
Insert "A" is incorrectly identified as Insert "B" on the G & D Plan (Sheet 2). Otherwise, the plan appears in order.

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

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

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

Sincerely,


John P. Murray, P.E.
Hydrology

c: Terri Martin
File



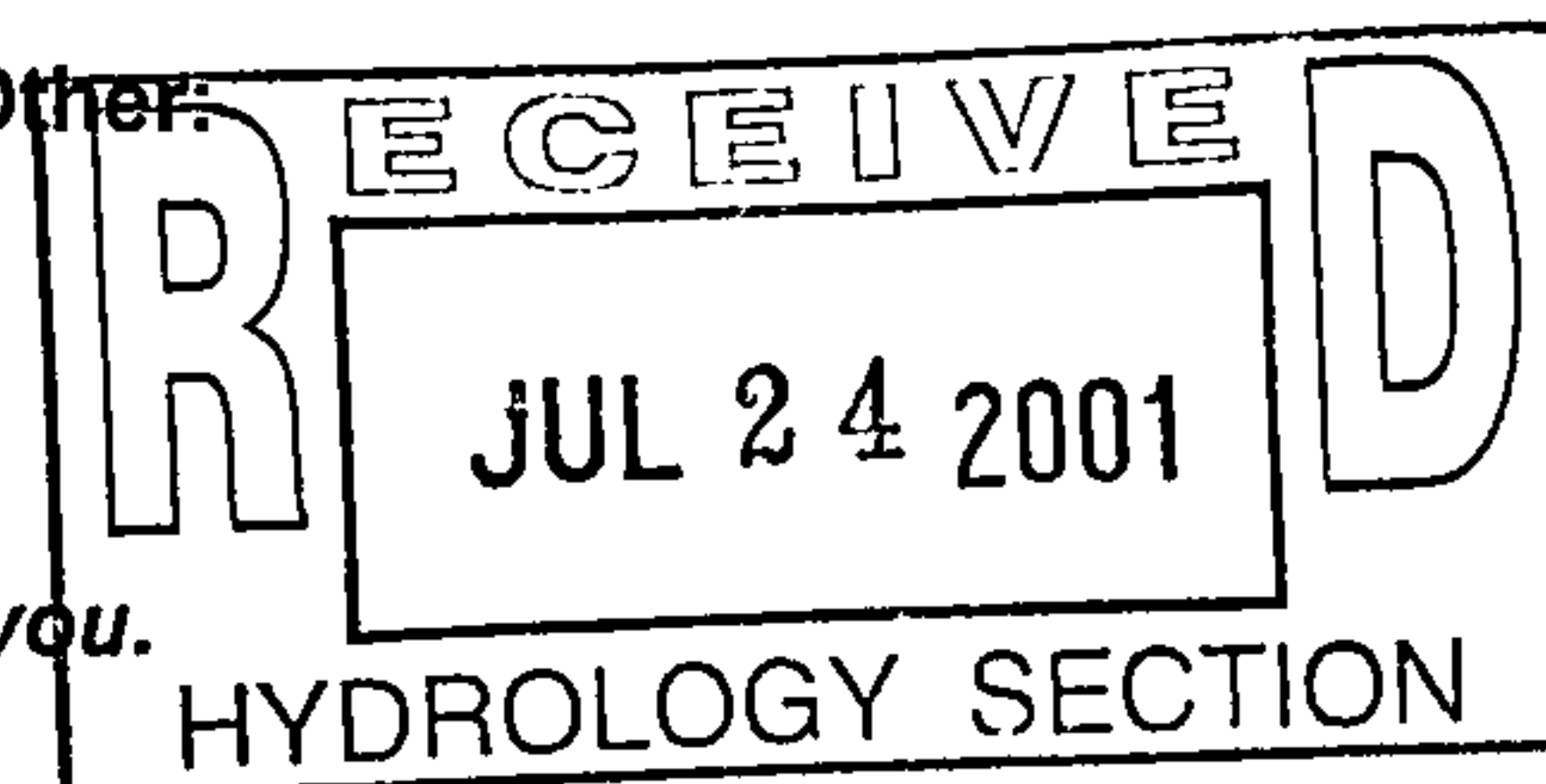
5639 Jefferson NE, Albuquerque, NM 87109
Phone (505) 344-4080 Fax (505) 343-8759

LETTER OF TRANSMITTAL

DATE: 07/24/01		PROJECT: West Mesa Aquatic Center, Phase II																	
TO: John Murray, P.E.		PROJECT NO.: F03-269-01																	
COMPANY / ADDRESS / PHONE: Hydrology Department City of Albuquerque Plaza del Sol		SENT BY: James Kelley																	
We are sending you the following items ☐ attached: ☐ under separate cover: <table style="width: 100%;"><tr><td>☐ Shop Drawings</td><td>☒ Plans</td><td>☐ Specifications</td><td>☐ Other:</td></tr><tr><td>☐ Change Order</td><td>☐ Prints</td><td>☐ Diskette</td><td>1.</td></tr><tr><td>☒ Copy of Letter</td><td>☒ Report</td><td>☐ Calculations</td><td>2.</td></tr><tr><td>☐ Samples</td><td></td><td></td><td>3.</td></tr></table>				☐ Shop Drawings	☒ Plans	☐ Specifications	☐ Other:	☐ Change Order	☐ Prints	☐ Diskette	1.	☒ Copy of Letter	☒ Report	☐ Calculations	2.	☐ Samples			3.
☐ Shop Drawings	☒ Plans	☐ Specifications	☐ Other:																
☐ Change Order	☐ Prints	☐ Diskette	1.																
☒ Copy of Letter	☒ Report	☐ Calculations	2.																
☐ Samples			3.																
COPIES:	DATE:	SUBMITTAL NO.	DESCRIPTION:																
1			AHYMO output file																
1			Revised Drainage Plan																
1			Copy of Comment Letter																
1			Drainage Information Sheet																
These items are transmitted for the purposes indicated below: <table style="width: 100%;"><tr><td>☒ For Your Use</td><td>☒ For Review & Comment</td><td>☐ As Requested</td></tr><tr><td>☐ Returned After Loan to Us</td><td>☐ Please Correct & Resubmit</td><td>☐ Submit () Copies</td></tr><tr><td>☐ Resubmittal not Required Corrections Noted</td><td>☐ Return () Corrected Prints for Distribution</td><td>Other: 1. 2.</td></tr></table>				☒ For Your Use	☒ For Review & Comment	☐ As Requested	☐ Returned After Loan to Us	☐ Please Correct & Resubmit	☐ Submit () Copies	☐ Resubmittal not Required Corrections Noted	☐ Return () Corrected Prints for Distribution	Other: 1. 2.							
☒ For Your Use	☒ For Review & Comment	☐ As Requested																	
☐ Returned After Loan to Us	☐ Please Correct & Resubmit	☐ Submit () Copies																	
☐ Resubmittal not Required Corrections Noted	☐ Return () Corrected Prints for Distribution	Other: 1. 2.																	
Comments: Sheet 2 has been modified to identify the correct insert label and the AHYMO Calculations are included. If you have and questions please feel free to contact me at 344-4080.																			

Sent via: ☐ Fax ☐ Mail ☒ Runner ☐ Call for Pick-up ☐ Other:
Copy To: ☐ Client ☐ Owner ☐ Contractor ☒ File

If enclosures are not as noted, please notify us at once. Thank you.



DRAINAGE INFORMATION

J10/D21

PROJECT TITLE: West Mesa Aquatic Center Phase II

ZONE ATLAS/DRNG. FILE #: J-10-Z

DRB #: N/A

EPC #: N/A

WORK ORDER #: -

LEGAL DESCRIPTION: TOWN OF ATRISCO GRANT, AP48 TRACT 174

CITY ADDRESS:

ENGINEERING FIRM: CHAVEZ-GRIEVES CONSULTING ENGINEERS, INC.

CONTACT: James Kelley

ADDRESS: 5639 JEFFERSON NE, SUITE 1, ALBUQUERQUE, NM, 87109

PHONE: (505) 344-4080

OWNER:

CONTACT:

ADDRESS:

PHONE:

ARCHITECT: FLATOW MOORE SHAFFER MCCABE, INC.

CONTACT: Anthony Occhino

ADDRESS: 809 Copper Ave. NW, Albuquerque, NM 87102

PHONE: (505) 766-6610

SURVEYOR:

CONTACT:

ADDRESS:

PHONE:

CONTRACTOR:

CONTACT:

ADDRESS:

PHONE:

TYPE OF SUBMITTAL:

CHECK TYPE OF APPROVAL SOUGHT:

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

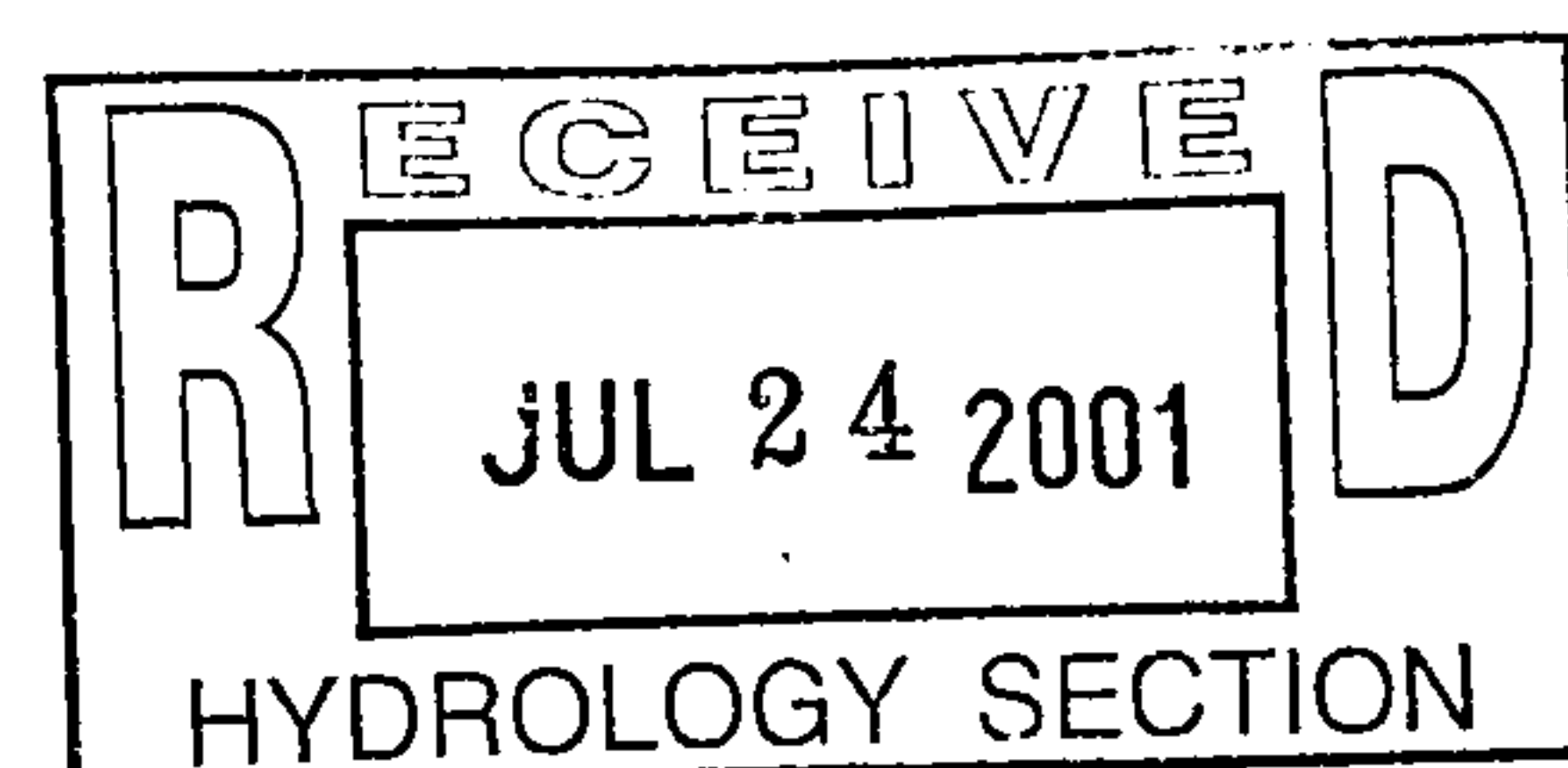
- ☐ SKETCH PLAN APPROVAL
- ☐ PRELIMINARY PLAT APPROVAL
- ☐ S. DEV. PLAN FOR SUB'D. APPROVAL
- ☐ S. DEV. PLAN FOR BLDG. PERMIT APPROVAL
- ☐ SECTOR PLAN APPROVAL
- ☐ FINAL PLAT APPROVAL
- ☐ FOUNDATION PERMIT APPROVAL
- ☒ BUILDING PERMIT APPROVAL
- ☐ CERTIFICATE OF OCCUPANCY APPROVAL
- ☐ GRADING PERMIT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

PRE-DESIGN MEETING:

- ☐ YES
- ☒ NO
- ☐ COPY PROVIDED

DATE SUBMITTED: 07/24/01

SUBMITTED BY: James Kelley





City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

August 2, 2001

Victor J. Chavez, P.E.
Chavez-Grievies Consulting Engineers, Inc.
5639 Jefferson NE, Suite 1
Albuquerque, NM 87109
Attn: James Kelley, E.I.

Re: West Mesa Aquatic Center Phase II, Grading and Drainage Plan, Engineer's stamp dated 7-24-01 (J10/D21)

Dear Mr. Chavez,

Based on the information provided in your submittal dated July 24, 2001, 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.

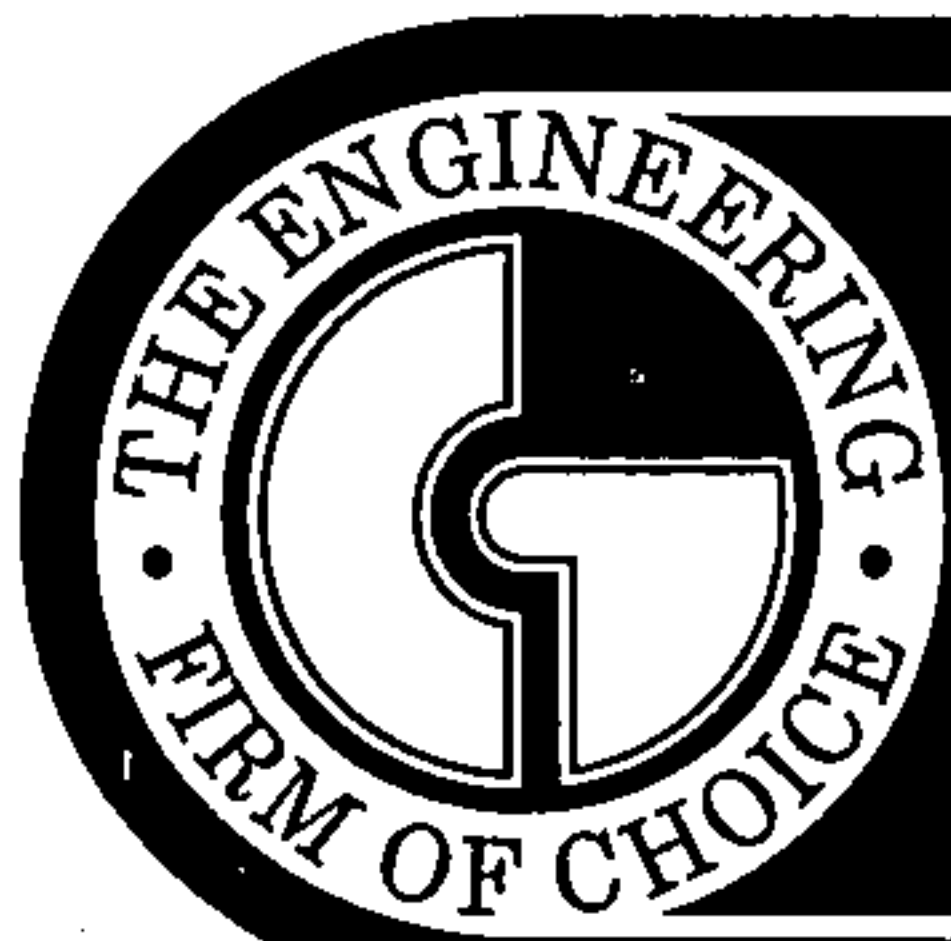
Prior to release of the Certificate of Occupancy, an Engineer's Certification of the grading and drainage plan, per the DPM checklist, will be required.

If you have any questions, please call me at 924-3988.

Sincerely,

Nancy Musinski, P.E.
Hydrology/Utility Development
City of Albuquerque Public Works

cc: file

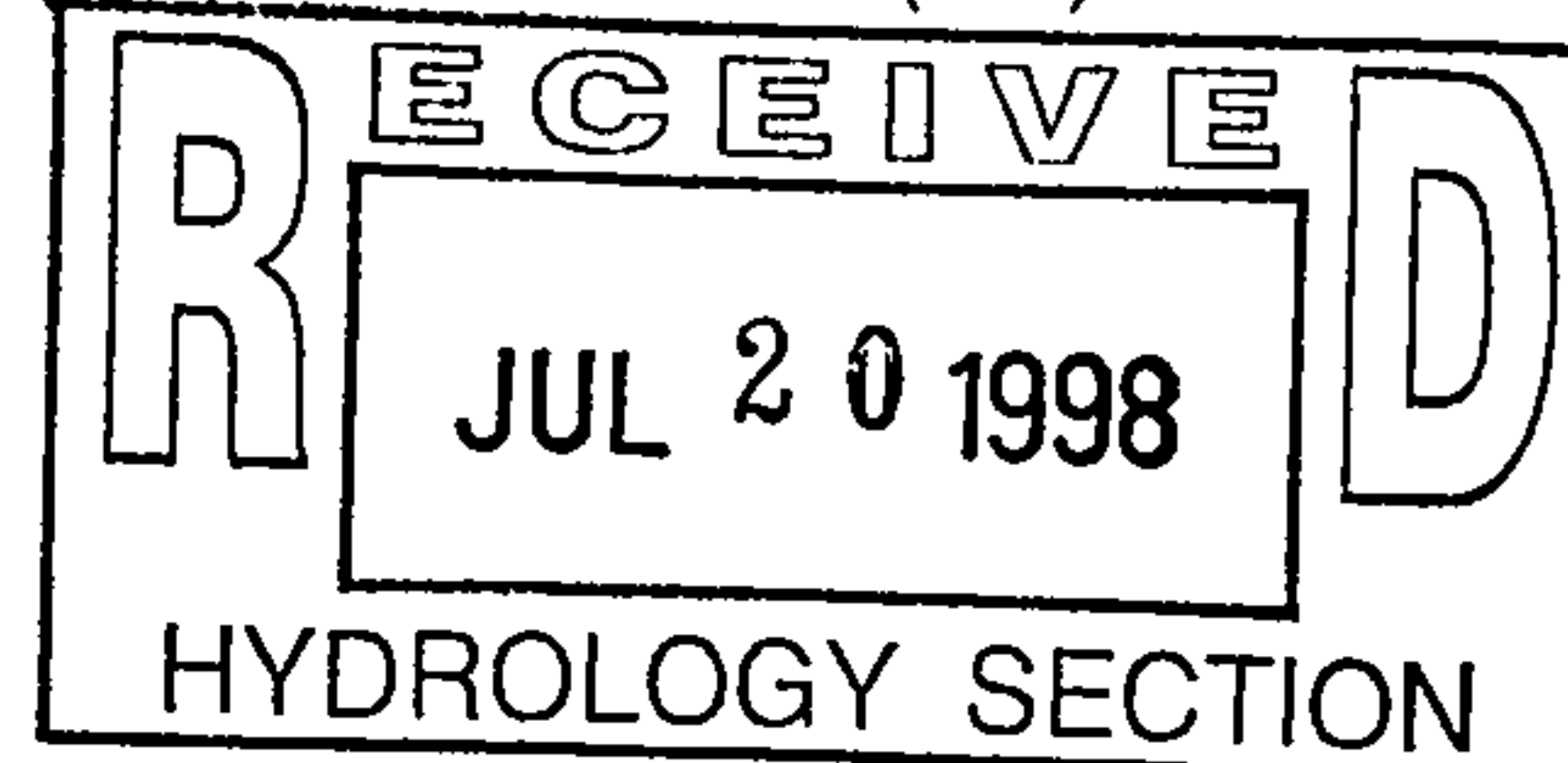


CHAVEZ · GRIEVES

CONSULTING ENGINEERS, INC.

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

July 17, 1998



Mr. Fred Aquirre
Hydrology Division
City of Albuquerque Public Works Depart.
600 2nd Street NW
Plaza del Sol Building
Albuquerque, New Mexico 87103

RE: WEST SIDE AQUATIC CENTER
CITY WORK ORDER NUMBER 5176.90
PROJECT NUMBER:

Dear Fred:

Although we have not yet received as-built information, in order to prepare our Engineer's Certification regarding the above referenced project, we have performed a site visit to establish the construction of the grading and drainage on this project.

It is our opinion that the design intent of the Construction Documents has been met with this construction and that the Temporary Certificate of Occupancy could be issued until such time as we have received as-builts in order to prepare our Engineer's Certification for submittal to the Hydrology Department. Therefore, I recommend that this temporary Certificate of Occupancy be issued by your department so that the Aquatic Center can entertain guests this weekend as is the intent of the owner.

If I can be of any further assistance or prepare any more information for you, please do not hesitate to contact me.

Sincerely,

CHAVEZ GRIEVES CONSULTING ENGINEERS, INC.

Mike J. Walla, P.E.

MJW/cjr

T:\RED\MIKE\AGUIRRE.LTR

DRAINAGE INFORMATION SHEET

APPLICANT'S NAME: West Mesa Aquatic Ctr. ZONE ATLAS/DRNG. FILE #: J-10

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

LEGAL DESCRIPTION: TOWN OF ATHISO GRANT, AP48 TRACT 174

CITY ADDRESS: 6705 Fortuna Rd.

ENGINEERING FIRM: Chavez-Guaves CONTACT: MIKE WALLA

ADDRESS: 5639 JEFFERSON BLVD. NE PHONE: 344-4080

OWNER: City of Albq. CONTACT: John Rupley

ADDRESS: _____ PHONE: Pager 843-5201

ARCHITECT: FMSM CONTACT: Todd McHol

ADDRESS: 809 COPPER AVE NE PHONE: 766-6660

SURVEYOR: Hall's Surveying CONTACT: Margaret Hall

ADDRESS: _____ PHONE: 292-6727

CONTRACTOR: Telstar Const CONTACT: Mike Davis

ADDRESS: 8601 Washington N.E. PHONE: Pager 246-1086

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 TEMP.
- ☐ GRADING PERMIT APPROVAL
- ☐ PAVING PERMIT APPROVAL
- ☐ S.A.D. DRAINAGE REPORT
- ☐ DRAINAGE REQUIREMENTS
- ☐ SUBDIVISION CERTIFICATION
- ☐ OTHER _____ (SPECIFY)

DATE SUBMITTED: 7/20/98 BY: [Signature]

30 day Temp

Revised 02/98

John Curtin
John Rupley
Don Bortch
Arlos

5-10-DS

ERNIE Salazar
344-4080



City of Albuquerque

August 3, 2000

Michael A. Brewer, P.E.
Chavez-Grievies Consulting Engineers, Inc.
5639 Jefferson Steet NE
Albuquerque, NM 87109

OK

**RE: WEST MESA AQUATIC CENTER (J10-D21). ENGINEER'S CERTIFICATION
FOR CERTIFICATE OF OCCUPANCY APPROVAL. ENGINEER'S STAMP
DATED JULY 25, 2000.**

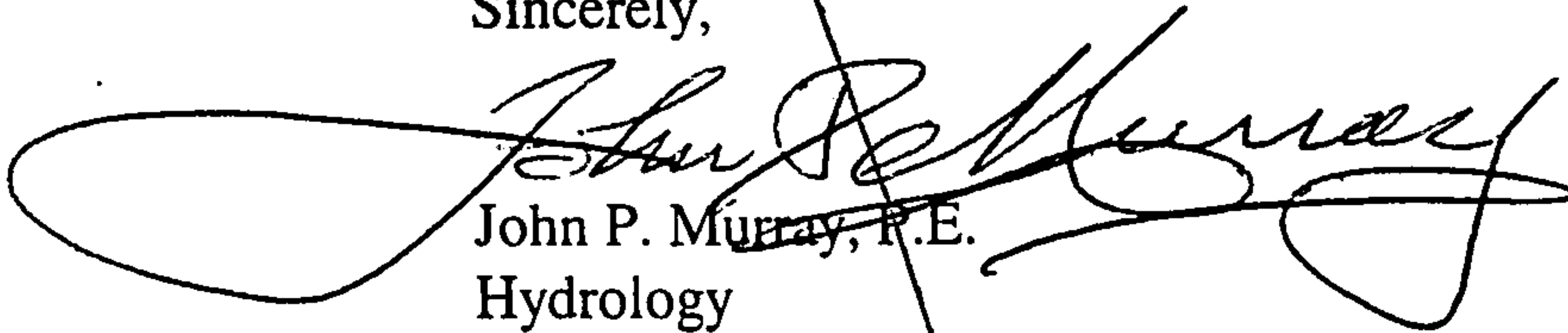
Dear Mr. Brewer:

Based on the information provided on your July 26, 2000 submittal , the above referenced project is approved for FINAL Certificate of Occupancy.

Thank you for furnishing the documentation which enables us to close out this project.

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

Sincerely,


John P. Murray, P.E.
Hydrology

c: Whitney Reiersen
✓ File

DRAINAGE INFORMATION

PROJECT TITLE: West Mesa Aquatic Center - City project Number 5176.01

FILE #: J-10/D21)

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

LEGAL DESCRIPTION: Town of Atrisco Grant, AP48 Tract 174

CITY ADDRESS: N/A

ENGINEERING FIRM: Chavez-Grieves

ADDRESS: 5639 Jefferson NE Suite 1

Albuquerque, NM 87109

OWNER: City of Albuquerque

ADDRESS: P.O. Box 1293

Albuquerque, NM 87103

ARCHITECT: FMSM Architects

ADDRESS: 809 Copper Ave. N.W.

Albuquerque, NM 87102

SURVEYOR: Hall Surveying Co.

ADDRESS: 12805 Menaul Blvd. N.E.

Albuquerque, NM 87112

CONTRACTOR: Telstar Construction

ADDRESS: 8601 Washington N.E.

Albuquerque, NM 87113

CONTACT: Michael A. Brewer, P.E.

PHONE: (505) 344-4080

CONTACT: _____

PHONE: _____

CONTACT: Todd McNall

PHONE: (505) 764-9861

CONTACT: _____

PHONE: (505) 292-6727

CONTACT: Tom Sjolholm

PHONE: (505) 821-5600

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. PRMT. 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

☐ OTHER

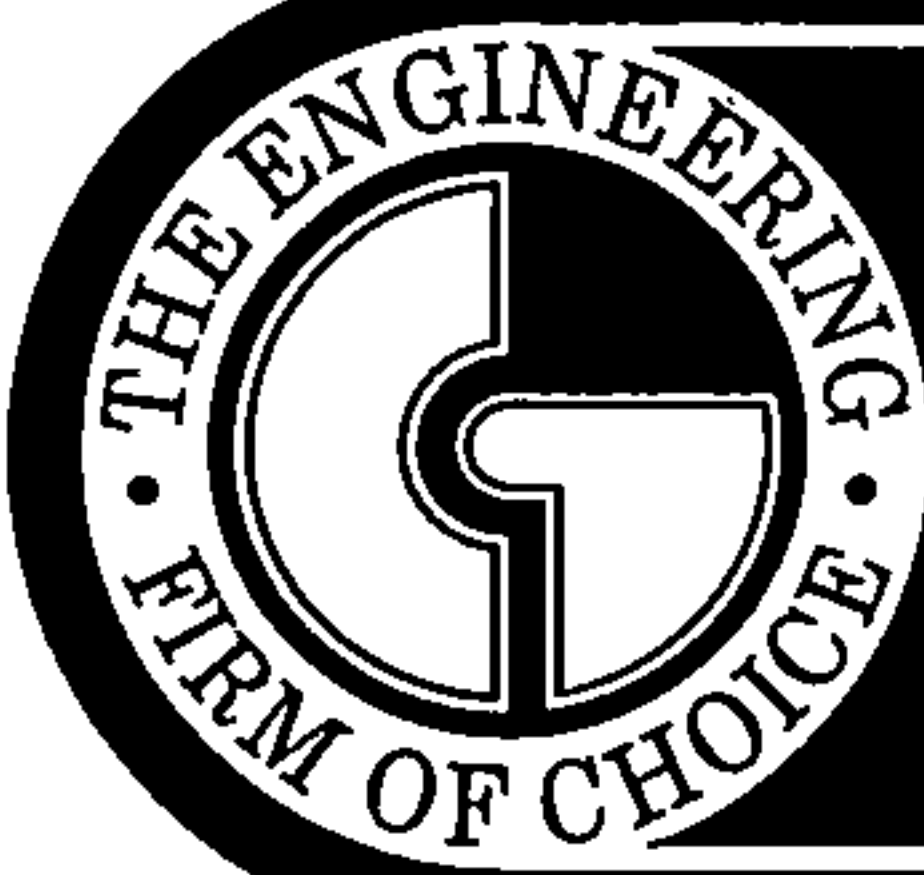
DATE SUBMITTED: _____

BY: _____

T:/Green/Std/COA Drainage Info

*Rec'd
7/26/00*

J-10/DOZ1



CHAVEZ • GRIEVES

CONSULTING ENGINEERS, INC.

5639 JEFFERSON STREET NE • SUITE 1 • ALBUQUERQUE, NEW MEXICO 87109 • PHONE (505) 344-4080 • FAX (505) 343-8759

July 25, 2000

Mr. Brad Bingham
City of Albuquerque-Hydrology Division
Plaza Del Sol
600 2nd Street N.W.
Albuquerque, New Mexico 87103

RE: West Mesa Aquatic Center – City Project No. 5176.01
Engineer's Certification of Grading and Drainage

Dear Mr. Bingham:

The purpose of this letter is to clear up and finalize the grading and drainage certification at the West Mesa Aquatic Center. It is our understanding that a temporary Certificate of Occupancy was issued for the subject project on July 20, 1998, pending final Engineer's certification of the grading and drainage plan. Michael Walla, P.E. was the Engineer of record for this project and has since left Chavez-Grievess Consulting Engineers, Inc.. We have contacted Mr. Walla, regarding the status of this issue and based on his letter, dated July 19, 2000 (attached), the Engineer's Certification of the Grading and Drainage Plan was submitted and approved by the City of Albuquerque. It is my understanding that the final as-built grading and drainage plan submitted, as certification, did not include the stamp and signature of a professional engineer and thus not considered complete and in conformance with the City requirements. In order to complete the certification process and secure the issuance of a final Certificate of Occupancy I have reviewed the project grading and drainage plans, visited the site, and hereby certify that the project was constructed in substantial conformance to the approved drainage plan.

Please call if you have any questions or comments regarding the above information.

Sincerely,

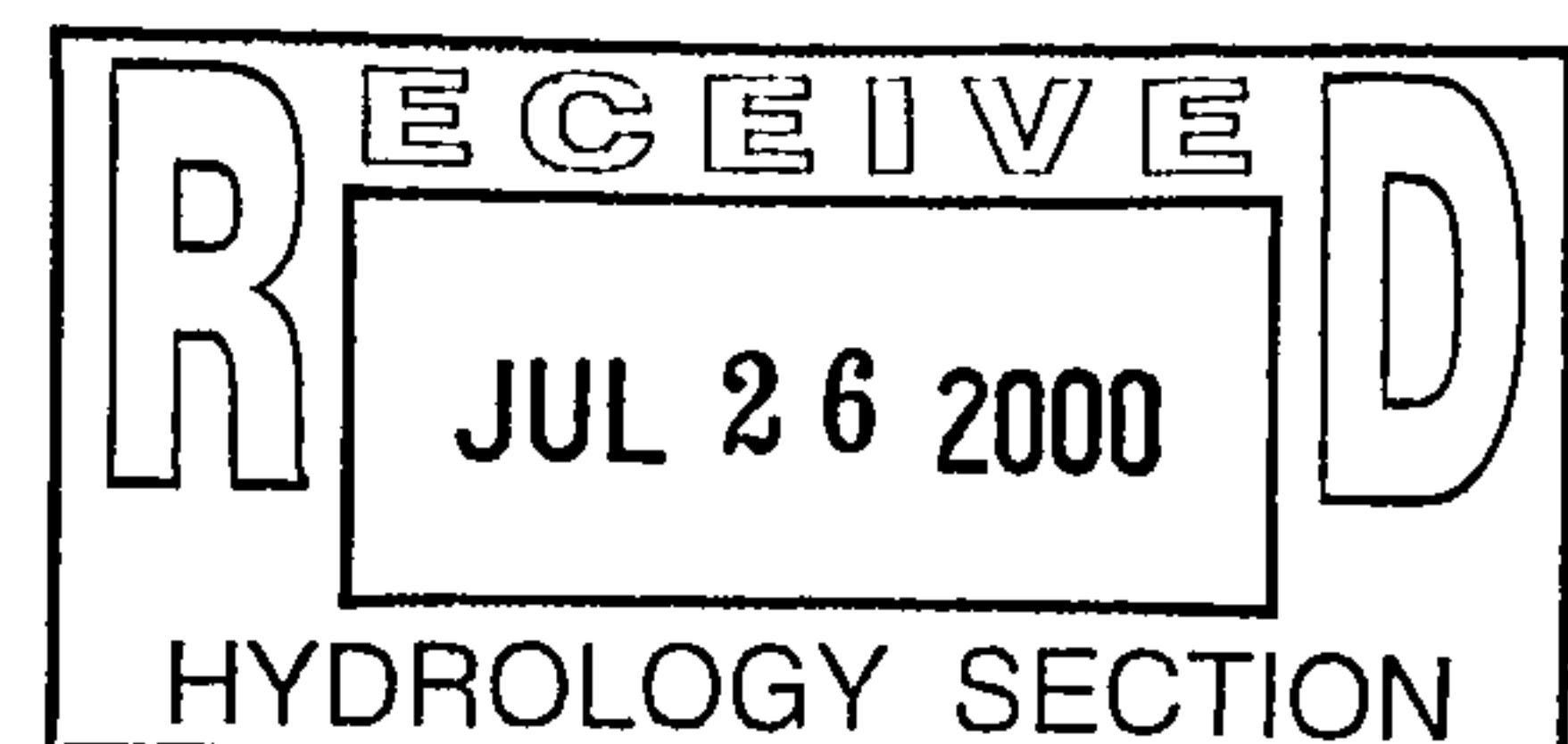
CHAVEZ-GRIEVES CONSULTING ENGINEERS, INC.

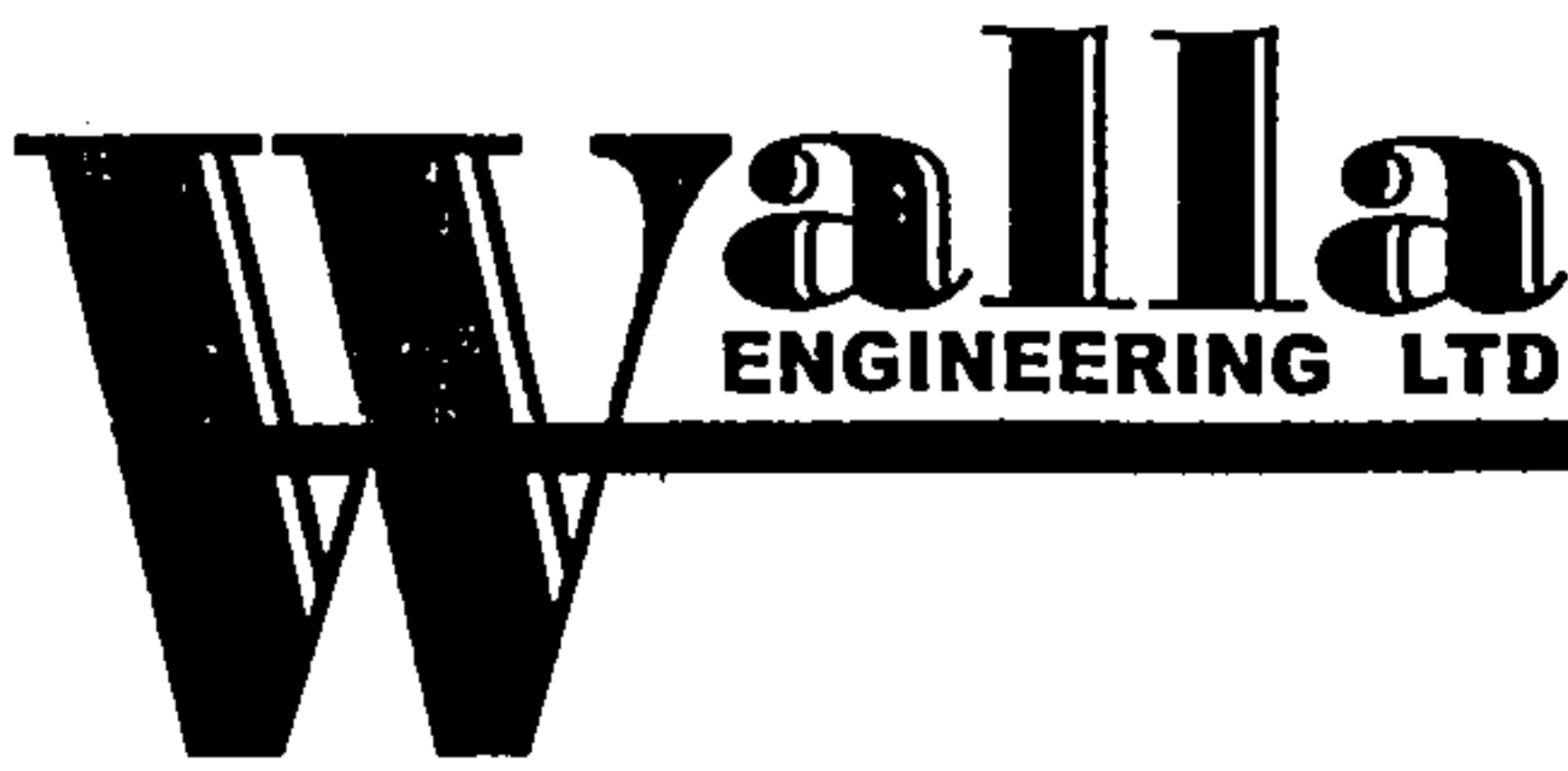
Michael A. Brewer, P.E.
Senior Civil Engineer

Attachments:

Letter from Michael Walla, P.E., dated July 19, 2000
Certified and sealed copy of Final Grading and Drainage Plan
Copy of completed Drainage Information Sheet

Cc: Todd McNall-FMSM Architects
Brad Ponder, P.E.
Project file





Structural Engineering • Civil Engineering

RECEIVED JUL 20 2000

July 19, 2000

Mr. Ernie Salazar
Chavez Grieves Consulting Engineers, Inc.
5639 Jefferson Blvd. NE
Albuquerque, New Mexico 87109

Re: Westside Aquatic Center

Dear Ernie,

Per our telephone conversation yesterday I understand that you are having trouble gaining access to the City of Albuquerque file for the above referenced project. This project was completed prior to my leaving Chavez Grieves Consulting Engineers, Inc. in October, 1998. While I do not remember the exact date of completion of this project I do know that I submitted and obtained approval of the Engineer's Certification of the Grading and Drainage Plan for this site from the City of Albuquerque. Mr. Tom Sjolholm of Telstar Construction was the Contractor for this project and obtained a Certificate of Occupancy based on that Certification at the time of completion of this project construction.

As the Engineer of Record for the Grading and Drainage design of the above referenced project, I hereby grant you, and/or any other Chavez Grieves Consulting Engineers, Inc. employee, permission to review and otherwise gain access to the final Engineer's Certification document on record at the City of Albuquerque Hydrology Department. This document was prepared under my direction while in the employ of Chavez Grieves Consulting Engineers, Inc. and is therefore not exclusively my responsibility but also that of Chavez Grieves Consulting Engineers, Inc.

If you have any questions regarding this information please do not hesitate to call me.

Sincerely,

A handwritten signature in black ink, appearing to read 'Michael J. Walla', written over a horizontal line.

Michael J. Walla P.E.
President, Walla Engineering, Ltd.

MJW/Hs

6100 Indian School Road NE • Suite 210
Albuquerque • New Mexico 87110
(505) 881-3008 • Facsimile (505) 884-5390

Mike J. Walla P.E.

Larry E. Kennedy



Looking at SW Corner of Sparkle Inc. asphalt seems
like it is fairly new (No paving plan on file) 3-20-99.