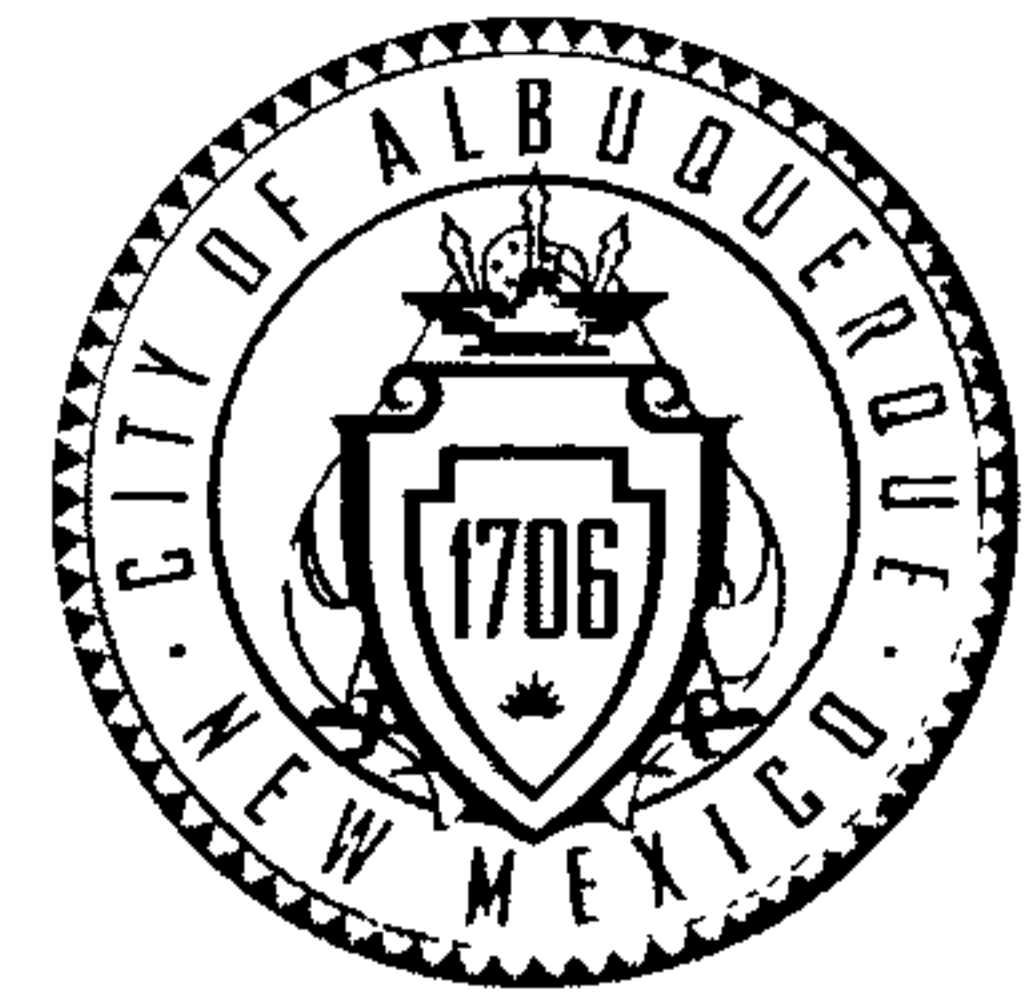


CITY OF ALBUQUERQUE



May 29, 2013

David Soule, P.E.
Rio Grande Engineering
P.O. Box 93924
Albuquerque, NM 87199

**Re: Casa de Oro Townhomes Grading and Drainage Plan, 921 & 923
Montano**

Engineer's Stamp Date 05-15-2013 (F-14/D068)

Dear Mr. Soule,

Based upon the information provided in your submittal received 05-15-13, the above referenced plan is approved for Building Permit and SO-19 Permit. A separate Excavation/Barricading Permit is required for SO-19 construction within City ROW. A copy of this approval letter must be on hand when applying for the excavation/barricading permit. To obtain a Certificate of Occupancy, the two sidewalk culverts in the City R/W must be inspected and accepted. Please contact Jason Rodriguez, Storm Drain Maintenance, at 857-8074 to schedule an inspection.

PO Box 1293

Albuquerque

New Mexico 87103

www.cabq.gov

Please attach a copy of this approved plan to the construction sets when submitting for a building permit. If the approved plan is not attached to the construction set, Hydrology will reject the construction set for building permit.

Prior to Certificate of Occupancy release, Engineer Certification per the DPM checklist will be required. If you have any questions, you can contact me at 924-3695.

Sincerely,

Shahab Biazar, P.E.
Senior Engineer, Planning Dept.
Development and Building Services

C: Email



City of Albuquerque

Planning Department

Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET

(REV 02/2013)

Project Title: 921 & 923 Montano Building Permit #: _____ City Drainage #: F14-D068
DRB#: _____ EPC#: _____ Work Order#: _____
Legal Description: lots 17a and 17b ZAPF VAN ADDITION #10
City Address: 921 & 923 MONTANOS

Engineering Firm: RIO GRANDE ENGINEERING Contact: DAVID SOULE
Address: PO BOX 93924, ALBUQUERQUE, NM 87199
Phone#: 505.321.9099 Fax#: 505.872.0999 E-mail: DAVID@RIOGRANDEENGINEERING.COM

Owner: MIKE HENKE Contact: _____
Address: 10530 CITY LIGHTS NE 87111
Phone#: _____ Fax#: _____ E-mail: _____

Architect: KEN HOVEY Contact: KEN HOVER
Address: 9215 SHOSHONE NE
Phone#: _____ Fax#: _____ E-mail: _____

Surveyor: CONSTRUCTION SURVEY TECHNOLOGIES Contact: JOHN GALLEGOS
Address: _____
Phone#: 917.8921 Fax#: _____ E-mail: _____

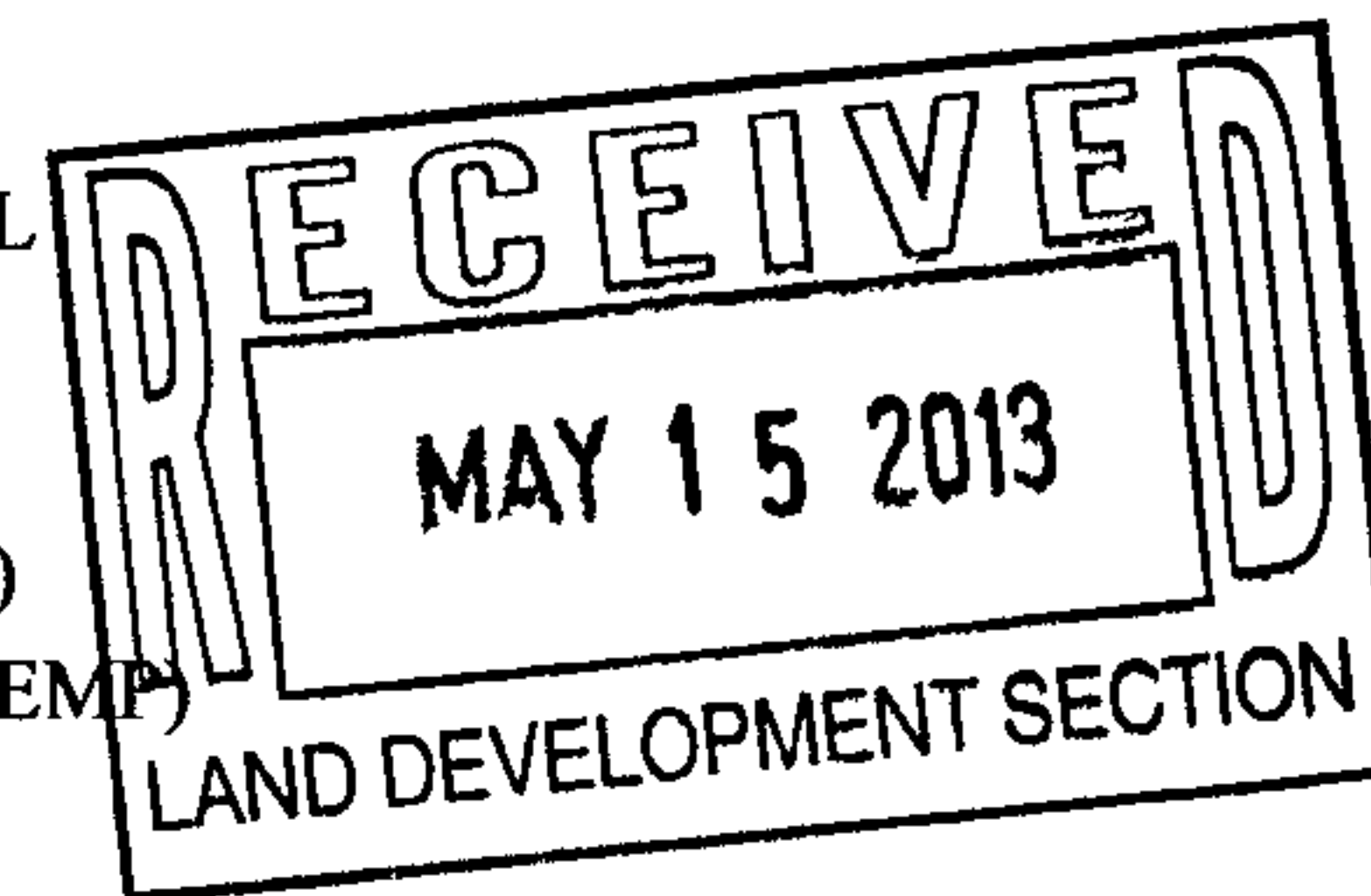
Contractor: _____ Contact: _____
Address: _____
Phone#: _____ Fax#: _____ E-mail: _____

TYPE OF SUBMITTAL:

- ☒ DRAINAGE REPORT
☐ DRAINAGE PLAN 1st SUBMITTAL
☐ DRAINAGE PLAN RESUBMITTAL
☐ CONCEPTUAL G & D PLAN
☒ GRADING PLAN
☐ EROSION & SEDIMENT CONTROL PLAN (ESC)
☐ ENGINEER'S CERT (HYDROLOGY)
☐ CLOMR/LOMR
☐ TRAFFIC CIRCULATION LAYOUT (TCL)
☐ ENGINEER'S CERT (TCL)
☐ ENGINEER'S CERT (DRB SITE PLAN)
☐ ENGINEER'S CERT (ESC)
☐ SO-19
☐ OTHER (SPECIFY) _____

CHECK TYPE OF APPROVAL/ACCEPTANCE SOUGHT:

- ☐ SIA/FINANCIAL GUARANTEE RELEASE
☐ PRELIMINARY PLAT APPROVAL
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☐ CERTIFICATE OF OCCUPANCY (PERM)
☐ CERTIFICATE OF OCCUPANCY (TCL TEMP)
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☒ GRADING PERMIT APPROVAL
☐ PAVING PERMIT APPROVAL
☐ WORK ORDER APPROVAL
☐ GRADING CERTIFICATION
☒ SO-19 APPROVAL
☐ ESC PERMIT APPROVAL
☐ ESC CERT. ACCEPTANCE
☐ OTHER (SPECIFY) _____



WAS A PRE-DESIGN CONFERENCE ATTENDED: _____ Yes ☒ No _____ Copy Provided _____

DATE SUBMITTED: 5/14/13 By: _____

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

1. **Conceptual Grading and Drainage Plan:** Required for approval of Site Development Plans greater than five (5) acres and Sector Plans
2. **Drainage Plans:** Required for building permits, grading permits, paving permits and site plans less than five (5) acres
3. **Drainage Report:** Required for subdivision containing more than ten (10) lots or constituting five (5) acres or more
4. **Erosion and Sediment Control Plan:** Required for any new development and redevelopment site with 1-acre or more of land disturbing area, including project less than 1-acre than are part of a larger common plan of development

RIO GRANDE ENGINEERING OF NEW MEXICO, LLC

May 14, 2013

Mr. Shahab Biazar PE
Senior Engineer
Hydrology
City of Albuquerque

**RE: Grading and Drainage Plan
Casa De Oro Townhomes (F14/D068D)**

Dear Mr. Biazar:

The purpose of this letter is to accompany the enclosed grading plan for the referenced project. This plan has been modified to address your verbal comments from May 14, 2013. The following is a summary of your comments with the annotation as to how the plans were modified to address the comments.

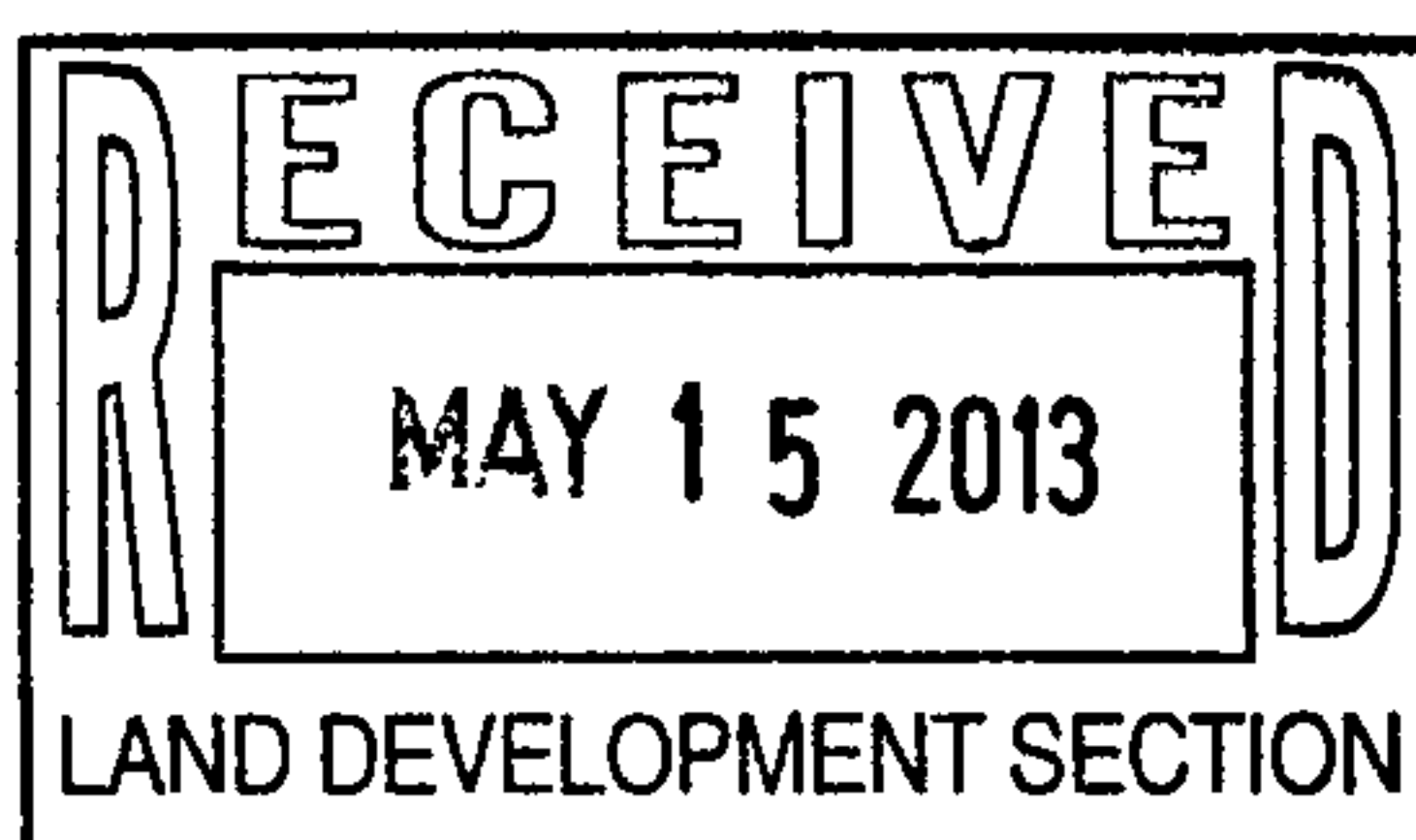
1. Verify flow line elevation at east sidewalk culvert
The typographical error was corrected
2. Adjust east rear yard pond such that the flow from east is not blocked
We have lowered this are such that it is lower that the grade east of property.
3. Provide two copies due to SO19
We have enclosed two copies

. Should you have any questions regarding this re-submittal, please do not hesitate to call me.

Sincerely,



David Soule, PE
Rio Grande Engineering
PO Box 93924
Albuquerque. NM 87199
321-9099



RIO GRANDE ENGINEERING OF NEW MEXICO, LLC

May 7, 2013

Mr. Shahab Biazar PE
Senior Engineer
Hydrology
City of Albuquerque

**RE: Grading and Drainage Plan
Casa De Oro Townhomes (F14/D068D)**

(N-verbal)
- check Flowline @ east culvert
- grades lower than adjacent property so it will drain

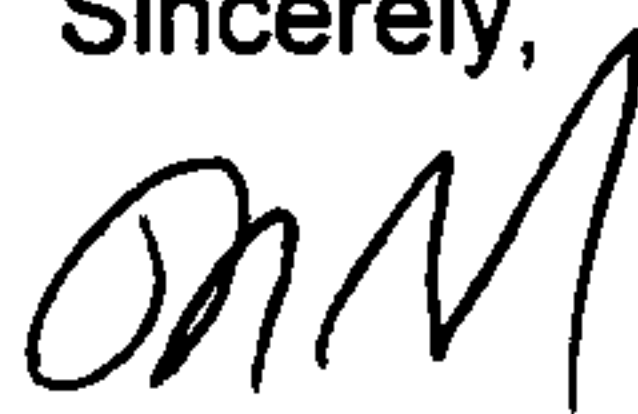
Dear Mr. Biazar:

The purpose of this letter is to accompany the enclosed grading plan for the referenced project. This plan has been modified to address your comments dated May 13, 2013. The following is a summary of your comments with the annotation as to how the plans were modified to address the comments.

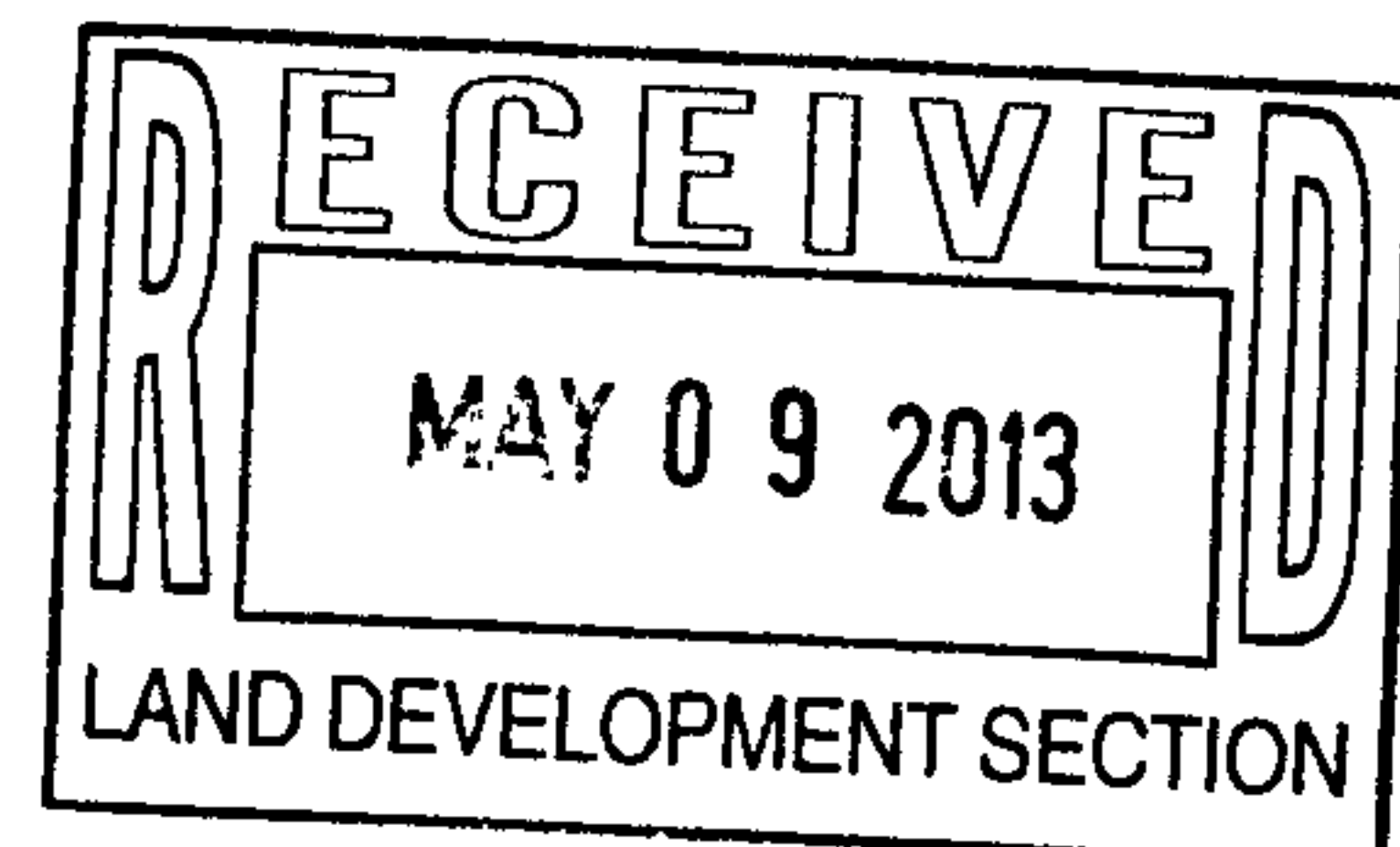
1. Provide back of sidewalk elevations
These spots have been added
2. It appears the flow from central ponds will back up against lot to north
We have added spots to demonstrate the ponds will spill to driveway then to Montano.
3. The plan has two finished floors
We have corrected the spelling error, and have finished floor and pad

. Should you have any questions regarding this re-submittal, please do not hesitate to call me.

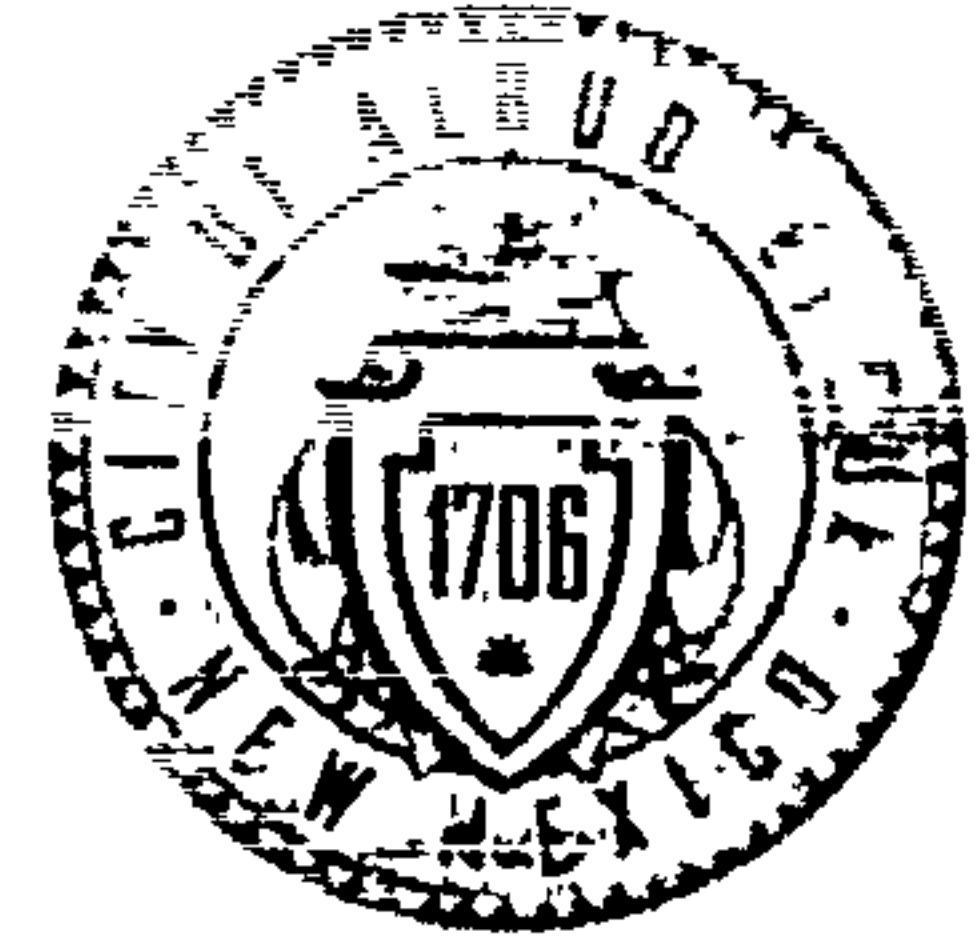
Sincerely,



David Soule, PE
Rio Grande Engineering
PO Box 93924
Albuquerque, NM 87199
321-9099



CITY OF ALBUQUERQUE



May 3, 2013

David Soule, P.E.
Rio Grande Engineering
P.O. Box 93924
Albuquerque, NM 87199

Re: Casa de Oro Townhomes Grading and Drainage Plan, 921 & 923 Montano

Engineer's Stamp Date 04-19-2013 (F-14/D068)

Dear Mr. Soule,

Based upon the information provided in your email received 04-19-13, the above referenced plan cannot be approved for Building until the following comments are addressed:

PO Box 1293

Albuquerque


NM 87103

www.cabq.gov

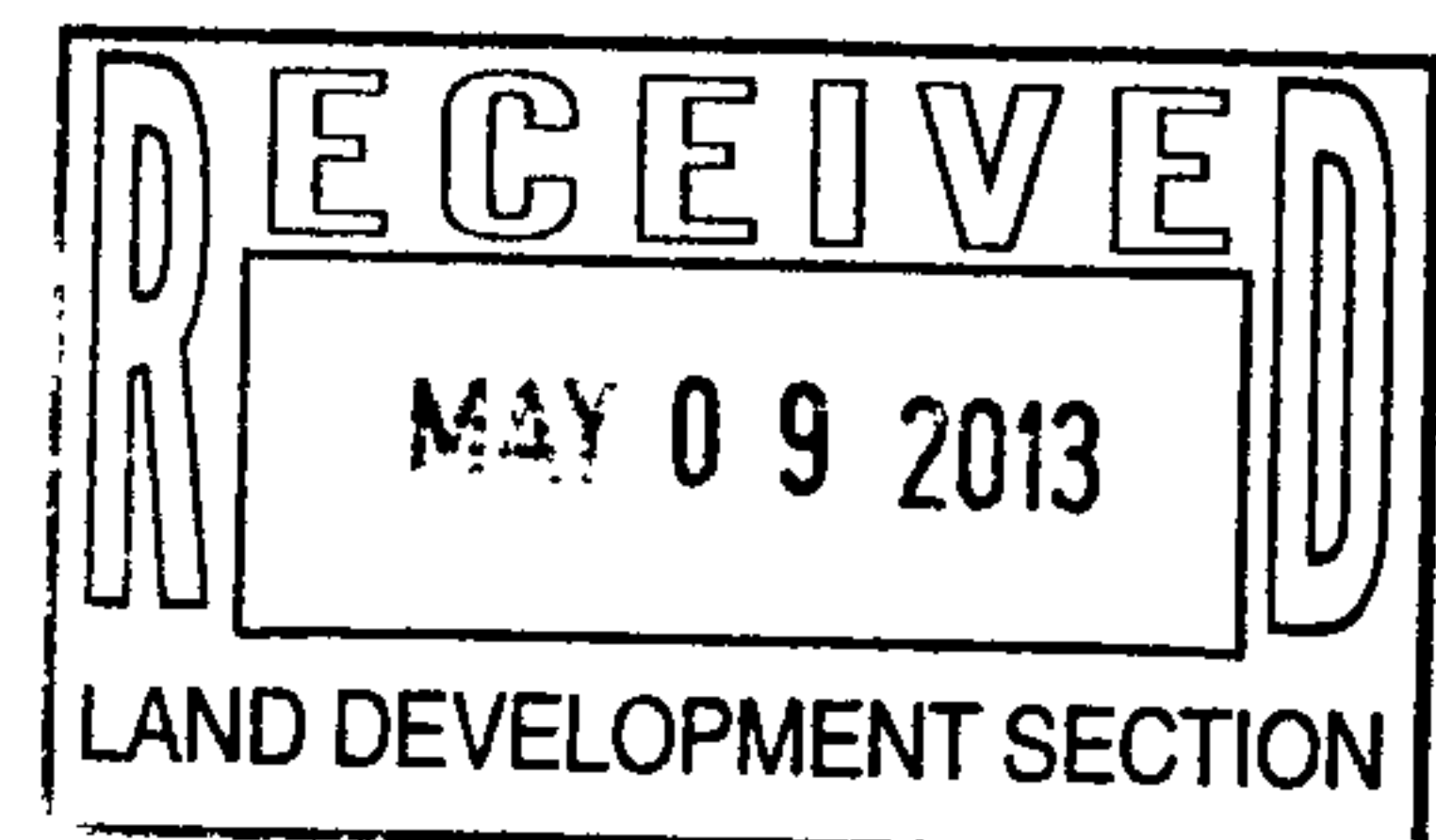
- Please provide back-of-sidewalk elevations on the grading plan.
- It appears that flows from the centrally located retention ponds might back up against the adjacent lot to the north.
- The plan shows two finished floor elevations for each of the building pads; please correct to show one finished floor and one finished pad.

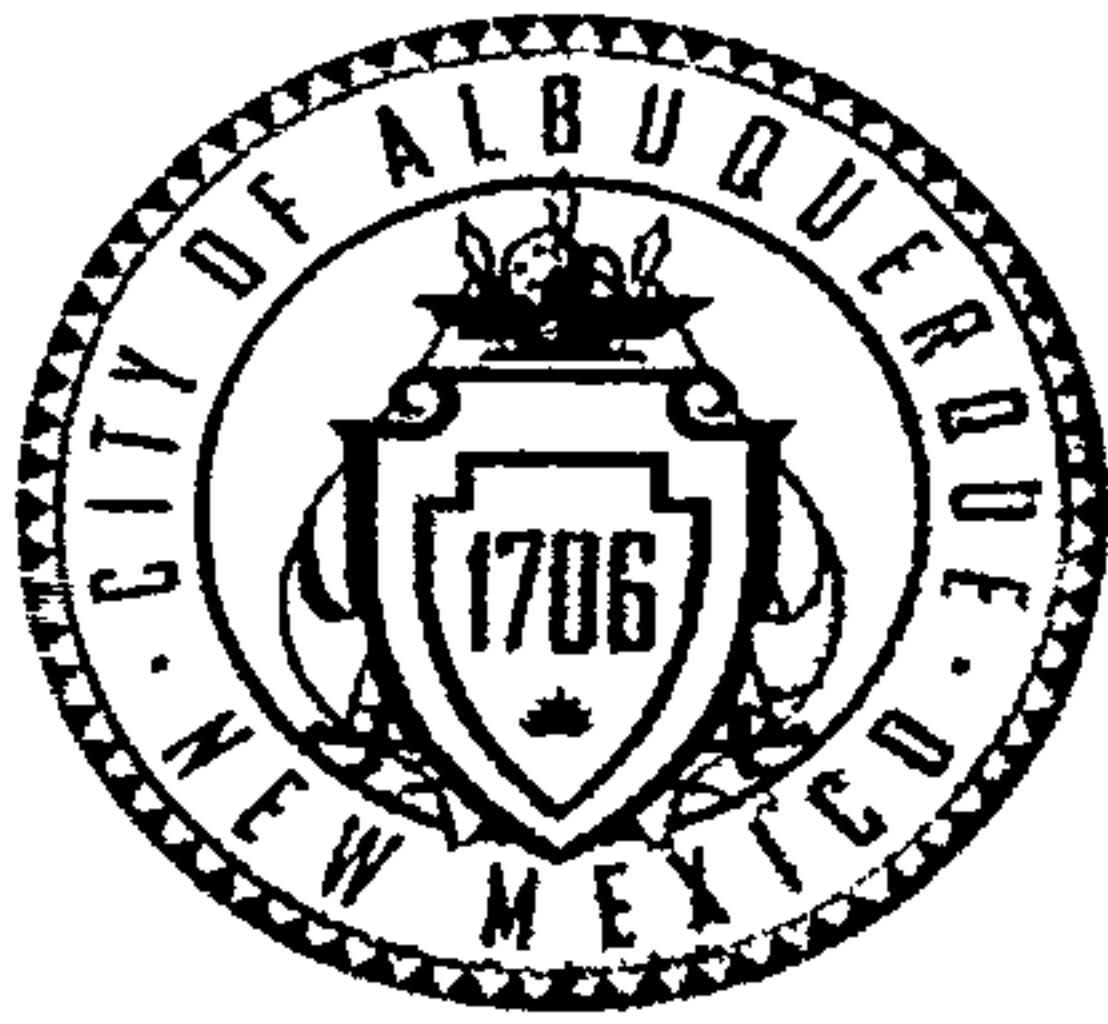
If you have any questions, you can contact me at 924-3695.

Sincerely,


Shahab Biazar, P.E.
Senior Engineer, Planning Dept.
Development and Building Services

C: Email





City of Albuquerque

Planning Department

Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET

(REV 02/2013)

Project Title: 921 & 923 Montano Building Permit #: _____ City Drainage #: F14-D068
DRB#: _____ EPC#: _____ Work Order#: _____
Legal Description: lots 17a and 17b ZAPF VAN ADDITION #10
City Address: 921 & 923 MONTANOS

Engineering Firm: RIO GRANDE ENGINEERING Contact: DAVID SOULE
Address: PO BOX 93924, ALBUQUERQUE, NM 87199
Phone#: 505.321.9099 Fax#: 505.872.0999 E-mail: DAVID@RIOGRANDEENGINEERING.COM

Owner: MIKE HENKE Contact: _____
Address: 10530 CITY LIGHTS NE 87111
Phone#: _____ Fax#: _____ E-mail: _____

Architect: KEN HOVEY Contact: KEN HOVER
Address: 9215 SHOSHONE NE
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Surveyor: CONSTRUCTION SURVEY TECHNOLOGIES Contact: JOHN GALLEGOS
Address: _____
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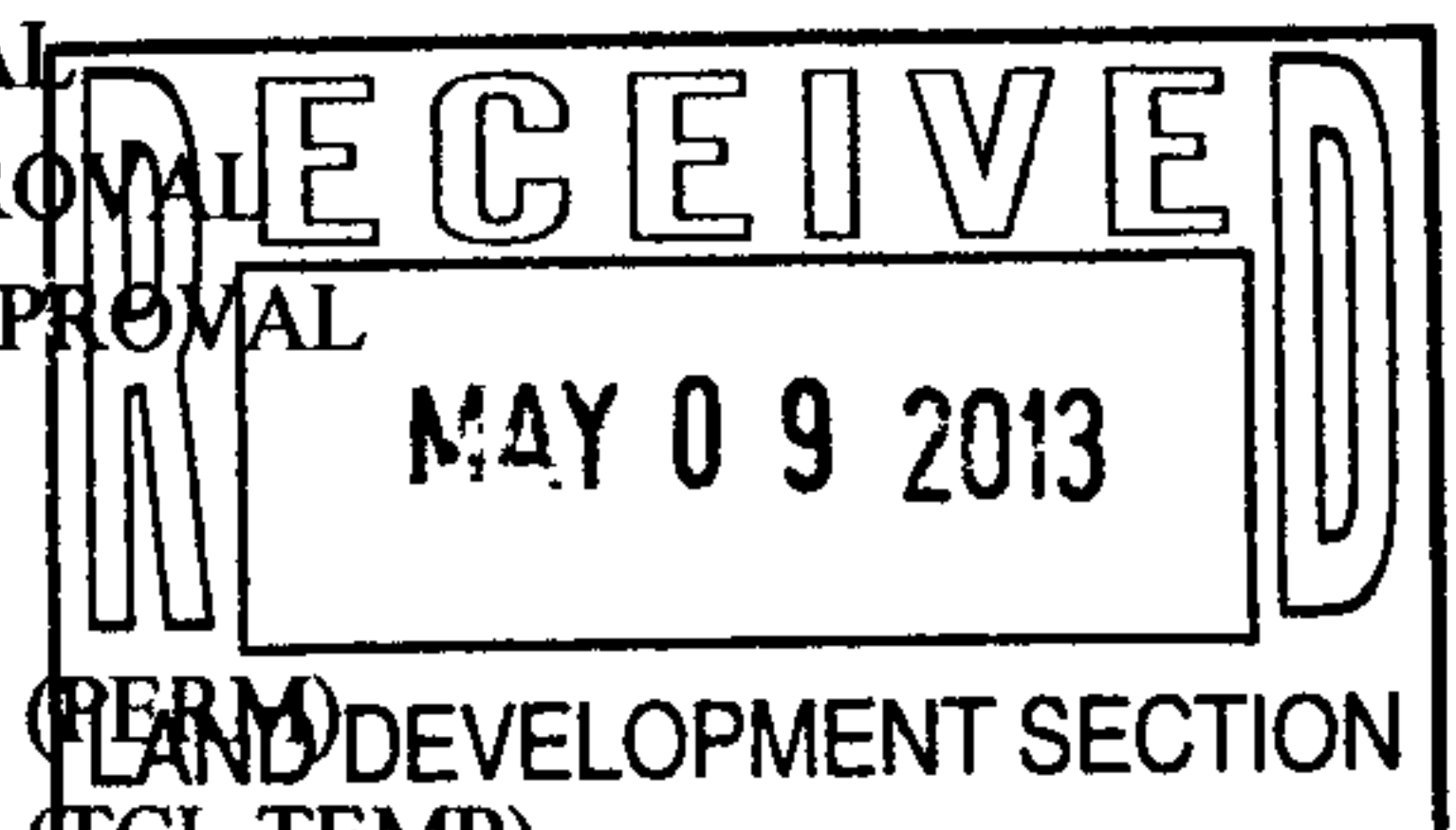
Contractor: _____ Contact: _____
Address: _____
Phone#: _____ Fax#: _____ E-mail: _____

TYPE OF SUBMITTAL:

- ☒ DRAINAGE REPORT
☐ DRAINAGE PLAN 1st SUBMITTAL
☐ DRAINAGE PLAN RESUBMITTAL
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☐ OTHER (SPECIFY) _____

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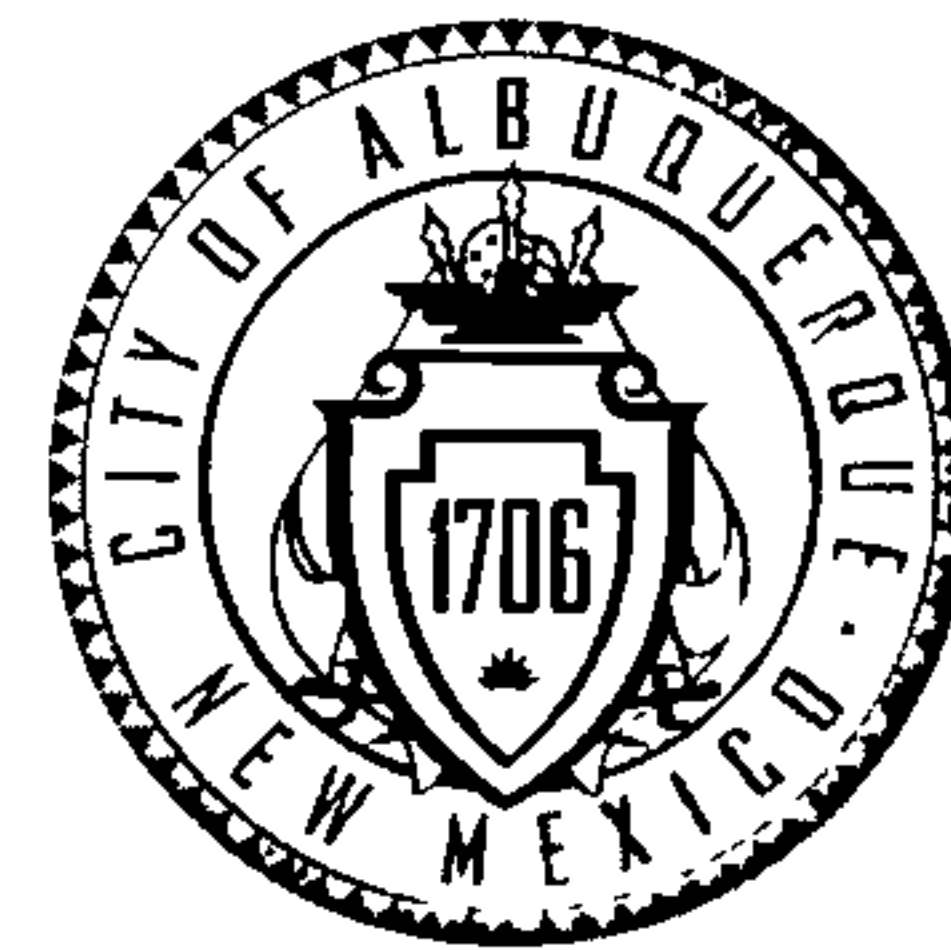
WAS A PRE-DESIGN CONFERENCE ATTENDED: _____ Yes ☒ No _____ Copy Provided _____

DATE SUBMITTED: 5/7/13 By: _____

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

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CITY OF ALBUQUERQUE



May 3, 2013

David Soule, P.E.
Rio Grande Engineering
P.O. Box 93924
Albuquerque, NM 87199

**Re: Casa de Oro Townhomes Grading and Drainage Plan, 921 & 923
Montano**

Engineer's Stamp Date 04-19-2013 (F-14/D068)

Dear Mr. Soule,

Based upon the information provided in your email received 04-19-13, the above referenced plan cannot be approved for Building until the following comments are addressed:

PO Box 1293

- Please provide back-of-sidewalk elevations on the grading plan.
- It appears that flows from the centrally located retention ponds might back up against the adjacent lot to the north.

Albuquerque

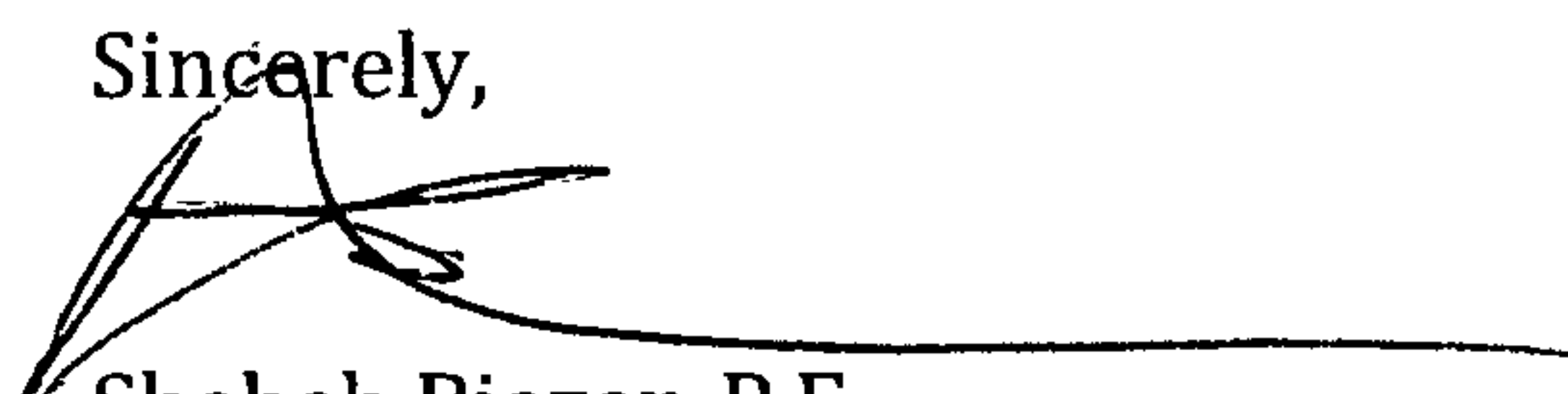
- The plan shows two finished floor elevations for each of the building pads; please correct to show one finished floor and one finished pad.

NM 87103

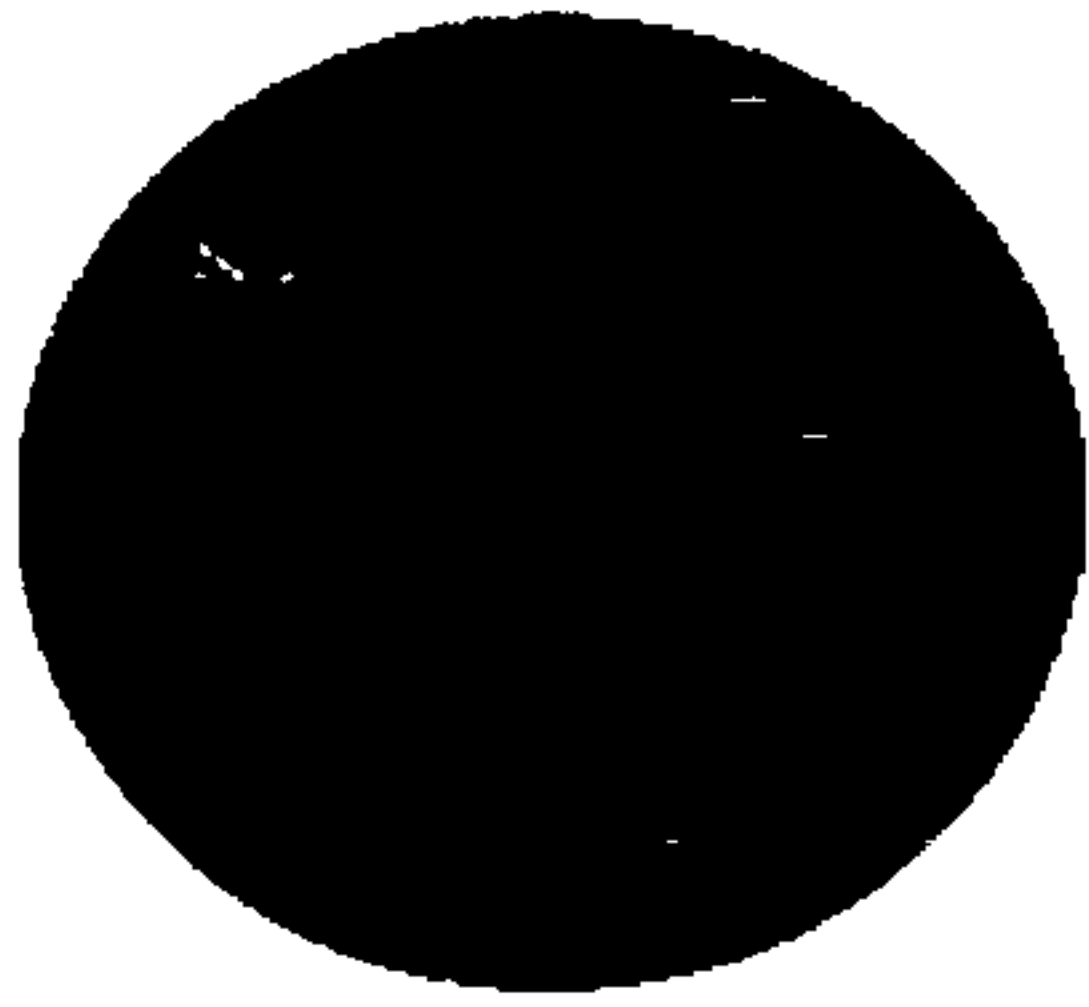
If you have any questions, you can contact me at 924-3695.

Sincerely,

www.cabq.gov


Shahab Biazar, P.E.
Senior Engineer, Planning Dept.
Development and Building Services

C: Email



City of Albuquerque

Planning Department

Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET

(REV 02/2013)

F142068

Project Title: 921 & 923 Montano Building Permit #: _____ City Drainage #: _____

DRB#: _____ EPC#: _____ Work Order#: _____

Legal Description: lots 17a and 17b ZAPF VAN ADDITION #10

City Address: 921 & 923 MONTANOS

Engineering Firm: RIO GRANDE ENGINEERING Contact: DAVID SOULE

Address: PO BOX 93924, ALBUQUERQUE, NM 87199

Phone#: 505.321.9099 Fax#: 505.872.0999 E-mail: DAVID@RIOGRANDEENGINEERING.COM

Owner: MIKE HENKE Contact: _____

Address: 10530 CITY LIGHTS NE 87111

Phone#: _____ Fax#: _____ E-mail: _____

Architect: KEN HOVEY Contact: KEN HOVER

Address: 9215 SHOSHONE NE

Phone#: _____ Fax#: _____ E-mail: _____

Surveyor: CONSTRUCTION SURVEY TECHNOLOGIES Contact: JOHN GALLEGOS

Address: _____

Phone#: 917.8921 Fax#: _____ E-mail: _____

Contractor: _____ Contact: _____

Address: _____

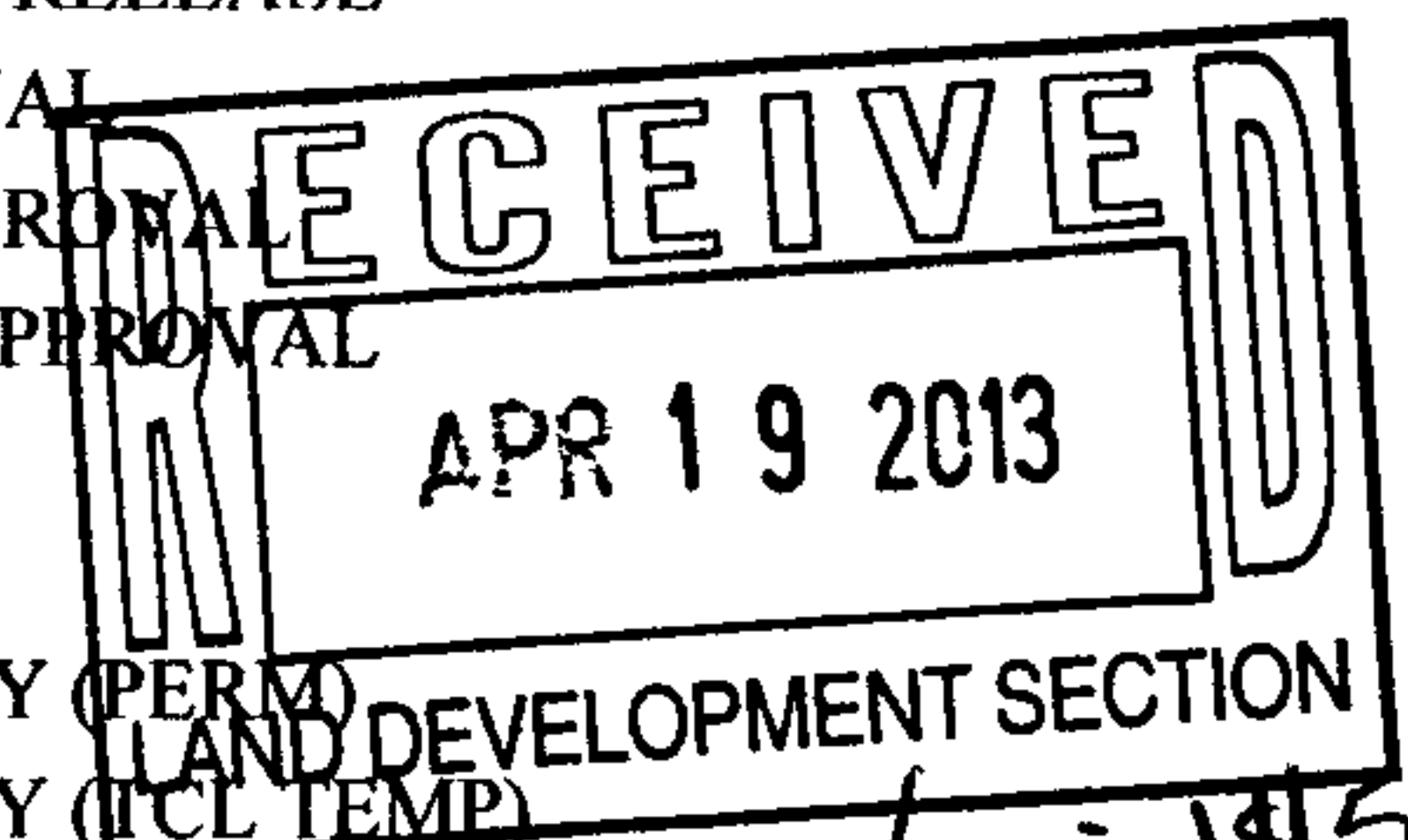
Phone#: _____ Fax#: _____ E-mail: _____

TYPE OF SUBMITTAL:

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☒ DRAINAGE PLAN 1st SUBMITTAL
☐ DRAINAGE PLAN RESUBMITTAL
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☐ ENGINEER'S CERT (HYDROLOGY)
☐ CLOMR/LOMR
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☐ OTHER (SPECIFY) _____

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☐ ESC PERMIT APPROVAL
☐ ESC CERT. ACCEPTANCE
☐ OTHER (SPECIFY) _____



WAS A PRE-DESIGN CONFERENCE ATTENDED: _____ Yes ☒ No _____ Copy Provided _____

DATE SUBMITTED: 4/19/13 By: _____

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

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

For

**921 & 923 MONTANO NW
LOTS 17A & 17B ZAPF VAN ADDITION #10
Albuquerque, New Mexico**

Prepared by

Rio Grande Engineering
PO Box 93924
Albuquerque, New Mexico 87199

APRIL 2013



David Soule P.E. No. 14522

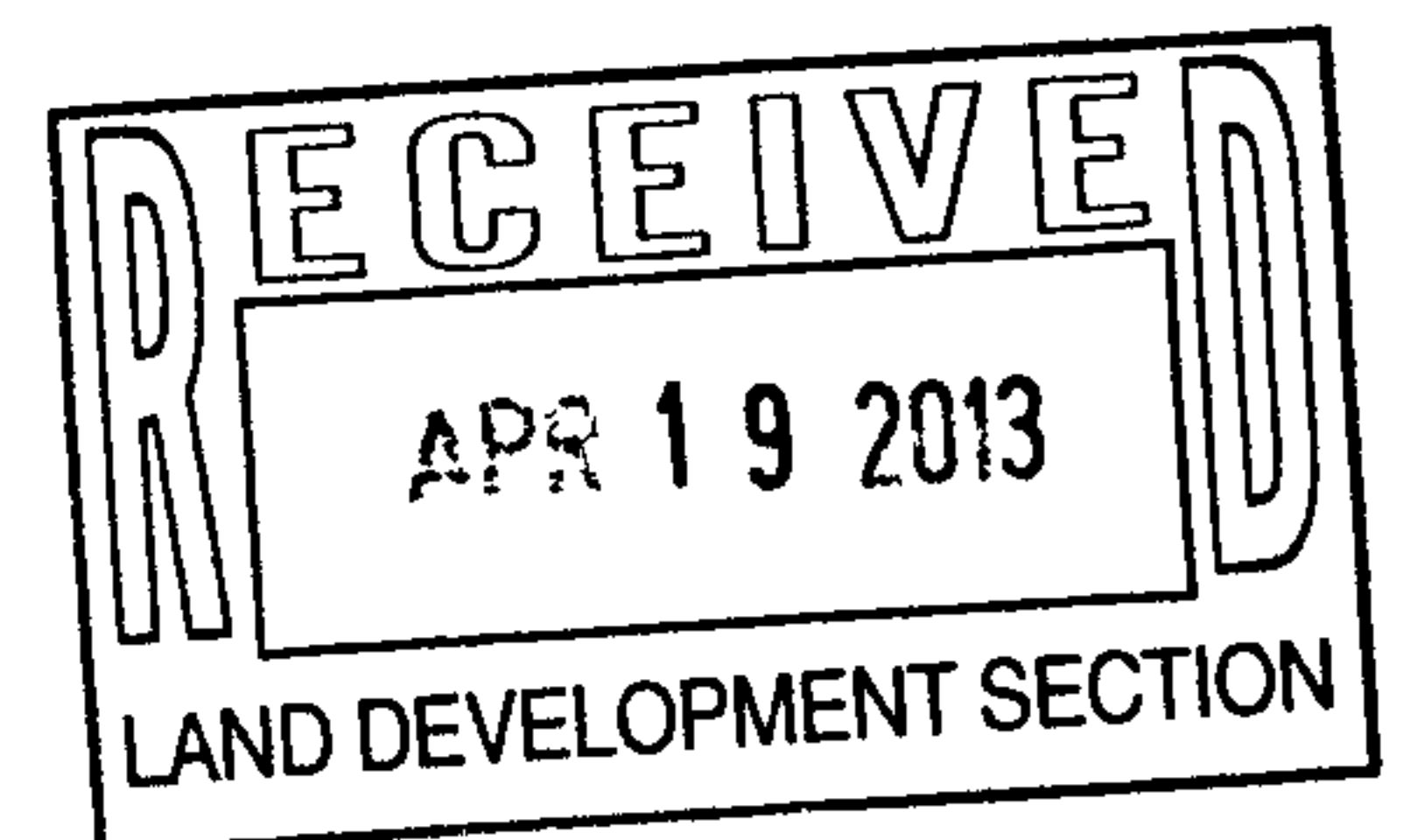


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Exhibit A-Vicinity Map4

Proposed Conditions5

Summary5

Appendix

Site Hydrology A

USDA Soil Data..... B

Map Pocket

Site Grading and Drainage Plan

PURPOSE

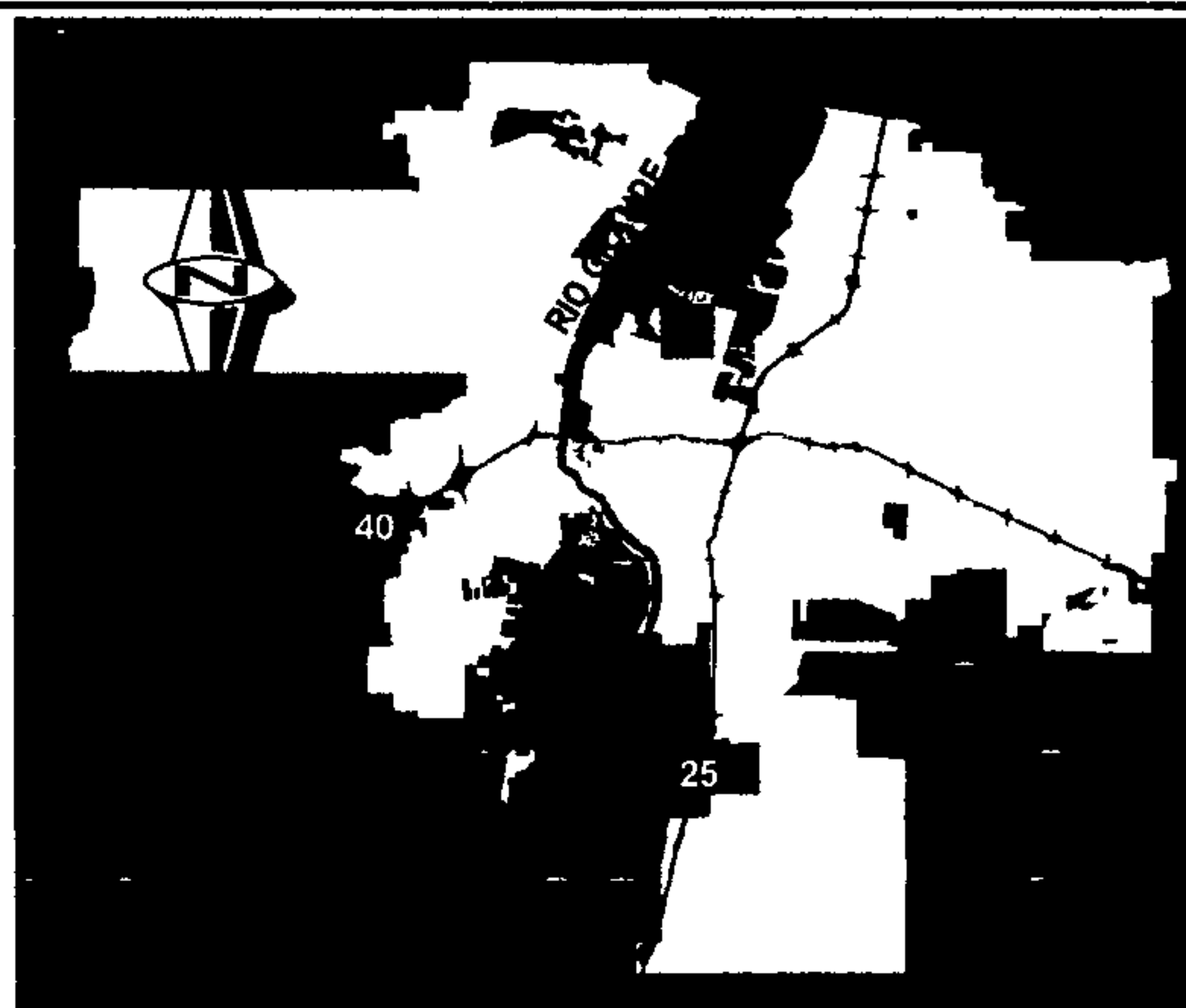
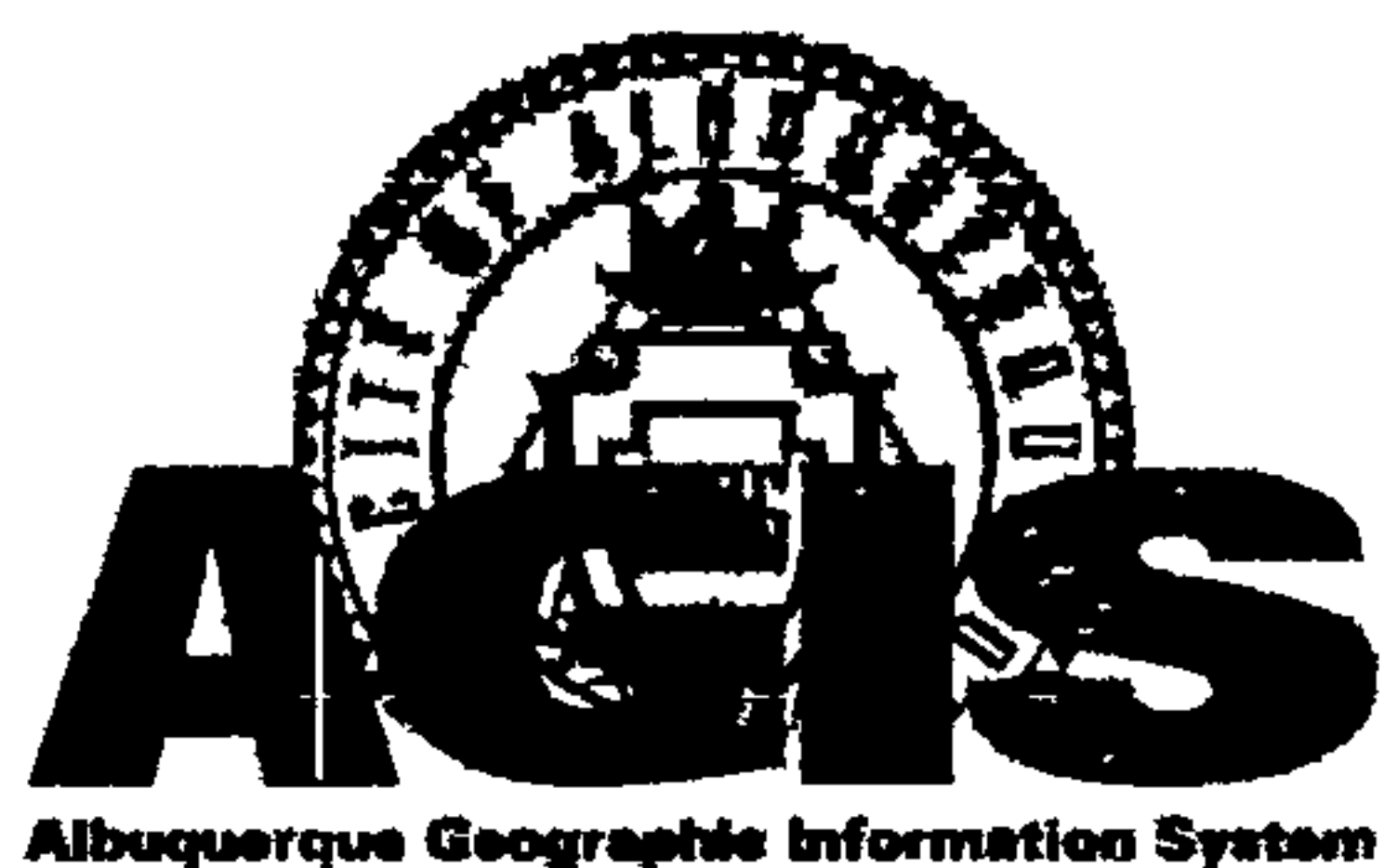
The purpose of this report is to provide the Drainage Management Plan for two approximately 4,600 square foot apartment buildings, located on the north side of Montano between 9th and Guadalupe Trail. This plan was prepared in accordance with the City of Albuquerque design regulations, utilizing the City of Albuquerque's Development Process Manual drainage guidelines. This report will demonstrate that the grading does not adversely affect the surrounding properties, nor the upstream or downstream facilities.

INTRODUCTION

The subject of this report, as shown on the Exhibit A, is two parcels containing an area of .42 acres of land located in the mid north valley. The legal description of this site is LT 17-A PLAT OF ZAPF-VAN ADDN #10, As shown on FIRM map35013C0119G, the entire property is located within Flood Zone X. This site is surrounded by fully developed parcels. This site is currently undeveloped but appears to have been developed in the past. Based on the site location and the area characteristics of the adjacent drainage infrastructure this development shall be designed to match existing drainage patterns, and shall continue to retain water onsite.

EXISTING CONDITIONS

The site is currently undeveloped. The site appears to have been developed in the past. There is no vegetation on the site and the ground is hard packed from vehicular and human traffic. The site is lower than its surroundings and does not drain. It appears the surrounding flow is prevented from entering the site from improvements on adjacent lots. The site currently ponds the 1484 cubic feet generated on site.



PROPOSED CONDITIONS

The proposed improvements consist of two apartment buildings and associated parking. As shown in appendix A, the site will be graded into eleven basins. Basin A & K are the southern portions of the building and rear yard portion. Each basin generates 316 cubic feet during the 100-year, 10-day event. The 18" ponding area contains 330 cubic feet. Basins B & J contain the northern portion of the buildings and rear yards, each generating 326 cubic feet with 18" pond volume of 330 cubic feet. In the event of greater storm Basins B & J will spill into A&J and overflow thru emergency overflow opening in wall. The parking areas contain basins C, D, E, F, G, H, I. Collectively these basins generate 3,012 cubic feet during the 100-year, 10-day event. Each basin drains to a depressed landscape area. East half and west half ponds are hydraulically connected and have the same top of pond, the combined retention volume of 1569 cubic feet. In the event of storm greater than the design storm, the ponds will spill to parking lot and discharge out driveway prior to reaching elevation of buildings. To assist in drainage of the ponds, each will be constructed with a 8" diameter French drain. The area soil classification is Gila Loam with average drainage capacity of 1.3 inches per hour. The deepest pond will be 72" therefore will drain within 56 hours, exclusive of the French drain. Due to the infill nature of the site, and the site currently not discharging we are maintaining the existing pattern.

SUMMARY AND RECOMMENDATIONS

This project is a infill development project within a completely developed area of the mid north valley of Albuquerque. The site currently retains 1484 cubic feet on site. The proposed drainage plan will continue the onsite retention, with emergency overflow to the adjacent street. The onsite ponds are designed to contain the 100-year, 10-day volume and will percolate in less than 55 hours. Since this site encompasses less than $\frac{3}{4}$ acre, a NPDES permit may not be required prior to any construction activity.

APPENDIX A
SITE HYDROLOGY

Weighted E Method

											100-Year, 6-hr.		10-day		
Basin	Area (sf)	Area (acres)	Treatment A		Treatment B		Treatment C		Treatment D		Weighted E (ac-ft)	Volume (ac-ft)	Flow cfs	Volume (ac-ft)	
			%	(acres)	%	(acres)	%	(acres)	%	(acres)					
existing	18650.00	0.428	0%	0	50%	0.214	50%	0.21407	0%	0.000	0.955	0.034	1.16	0.034	1484.2292
A	1578.00	0.036	0%	0	20%	0.007	28%	0.01014	52%	0.019	1.575	0.005	0.14	0.007	
B	1702.00	0.039	0%	0	22%	0.009	30%	0.01172	48%	0.019	1.528	0.005	0.14	0.007	
C	1872.00	0.043	0%	0	23%	0.010	28%	0.01203	49%	0.021	1.535	0.005	0.16	0.008	584.67625
D	2175.00	0.050	0%	0	8%	0.004	10%	0.00499	82%	0.041	1.914	0.008	0.22	0.013	
E	1248.00	0.029	0%	0	11%	0.003	15%	0.0043	74%	0.021	1.824	0.004	0.12	0.007	
F	1686.00	0.039	0%	0	10%	0.004	15%	0.00581	75%	0.029	1.838	0.006	0.16	0.010	
G	1686.00	0.039	0%	0	10%	0.004	15%	0.00581	75%	0.029	1.838	0.006	0.16	0.010	
H	1248.00	0.029	0%	0	11%	0.003	15%	0.0043	74%	0.021	1.824	0.004	0.12	0.007	
I	2175.00	0.050	0%	0	8%	0.004	10%	0.00499	82%	0.041	1.914	0.008	0.22	0.013	
J	1702.00	0.039	0%	0	22%	0.009	30%	0.01172	48%	0.019	1.528	0.005	0.14	0.007	
K	1578.00	0.036	0%	0	20%	0.007	28%	0.01014	52%	0.019	1.575	0.005	0.14	0.007	
TOTAL EX	18650.00			0.00		0.21		0.21		0.00		0.03	1.16	0.03	4294.6202
TOTAL PROP	18650.00			0.00		0.06		0.09		0.28		0.00	1.72	0.10	

1484.2292

584.67625

4294.6202

Equations:

Weighted E = $E_a \cdot A_a + E_b \cdot A_b + E_c \cdot A_c + E_d \cdot A_d$ / (Total Area)

Volume = Weighted D * Total Area

Flow = $Q_a \cdot A_a + Q_b \cdot A_b + Q_c \cdot A_c + Q_d \cdot A_d$

Where for 100-year, 6-hour storm

$E_a = 0.53$ $Q_a = 1.56$
 $E_b = 0.78$ $Q_b = 2.28$
 $E_c = 1.13$ $Q_c = 3.14$
 $E_d = 2.12$ $Q_d = 4.7$

ONSITE Conditions DRAINS TO

POND	REQUIRED (CF)	PROVIDED (CF)
A	316	330
B	326	330
C	362	370
D	585	449
E	313	449
F	427	430
G	427	430
H	313	449
I	585	449
J	326	330
K	316	330

1687 → 1693

1631 → 1693

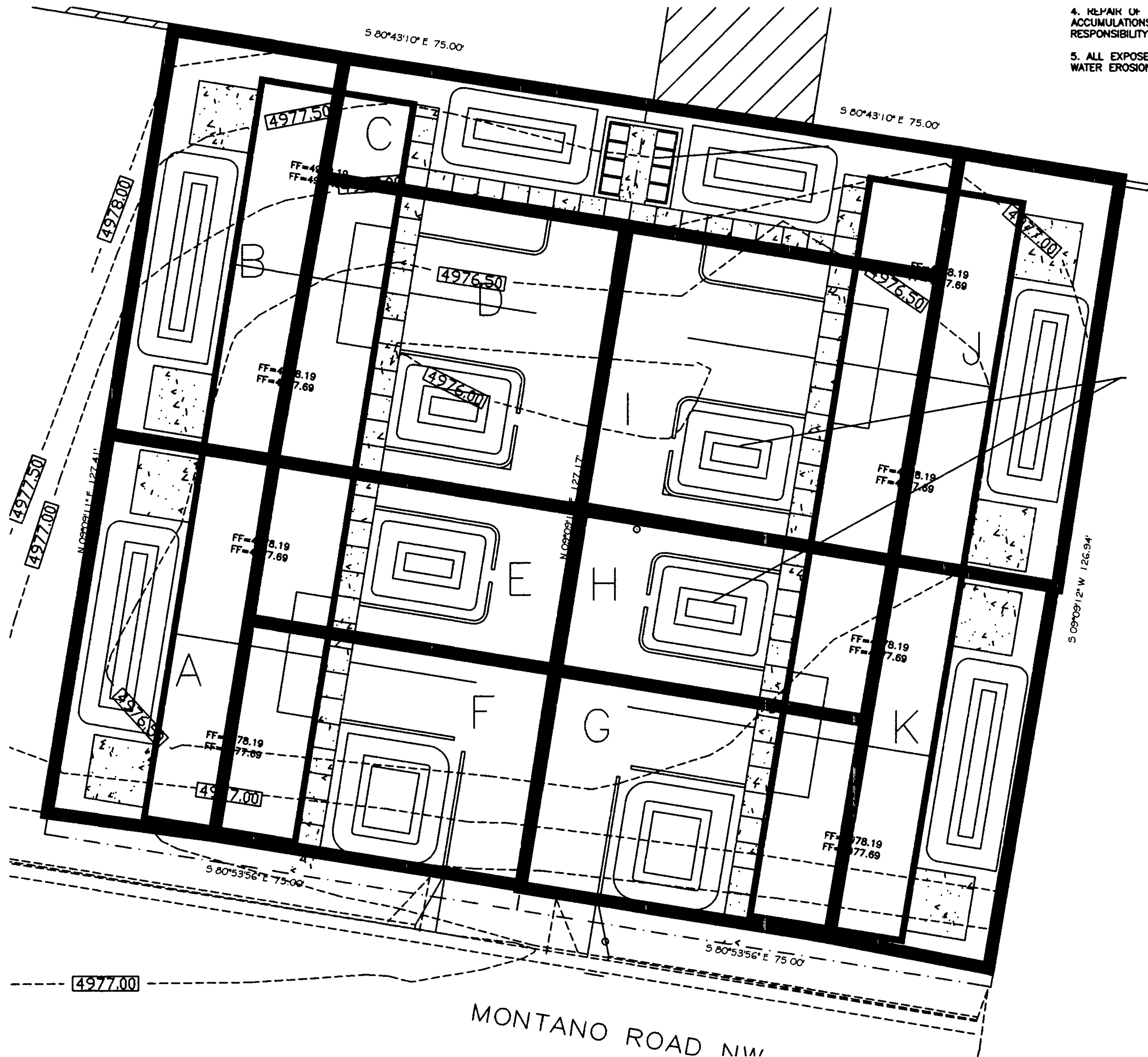
C/D/E/F ACTS AS ONE POND


C/H/I/G ACTS AS ONE POND

Narrative

The site currently does not drain
 Developed site will retain water onsite with shallow ponds with french drains
 Building finished floor higher than adjacent sidewalk


5. ALL EXPOSED
WATER EROSION






CITY OF ALBUQUERQUE
www.cabq.gov

ALBUQUERQUE GIS DATA WEBSITE





LAYERS

☒ STREETS

☒ BASEMAP

☐ PARCELS

☐ LOT NUMBERS

☐ METRO ADDRESS

☐ ZONING

☐ OWNERSHIP

☐ 2FT CONTOUR

☐ ADDRESS POINTS

☐ LANDUSE

☐ EASEMENTS

☒ INFRASTRUCTURE

☐ GEODETIC CONTROL

☐ STREET CONDITIONS

☐ FLOOD ZONES

☐ ARROYOS

☐ LANDFILLS

☐ LANDFILL BUFFER ZO

☐ BIKE SYSTEM

☐ TRANSIT/SUNTRAN

☒ BOUNDARIES

☐ SITES

☐ ENVIRONMENT

☒ APS

☐ TRAFFIC ENG

☒ AIR PHOTO

☒ 2012 AIR PHOTO

Refresh Map

☒ Auto Refresh

Help:

☐ Closed group, click to open

☐ Open group, click to close

☐ Map layer.

☐ Hidden group/layer, click for visible.

☒ Visible group/layer, click to hide.

☐ Layer not visible at this scale

☒ Partially visible group, click for visible.

☐ Inactive layer, click for active.

☒ The active layer

2FT CONTOUR				
Rec	COASDE.ARCIMS.CONTOUR ELEV	COASDE.ARCIMS.CONTOUR GlobalID	SHAPE.area	SHAPE.len
1	4978	{83476749-33BC-47E1-9C50-A1950FD22596}	0	379.267515873538

Identify

SEARCH

REFRESH

HELP

MAIN PAGE

CONTACT GIS TEAM

f1

4/18/2013 1:29 PM

APPENDIX B

USDA SOIL DATA

**Bernalillo County and Parts of Sandoval and Valencia
Counties, New Mexico**

Gb—Gila loam

Map Unit Setting

Landscape: Valleys
Elevation: 4,850 to 6,000 feet
Mean annual precipitation: 7 to 10 inches
Mean annual air temperature: 58 to 60 degrees F
Frost-free period: 170 to 195 days

Map Unit Composition

Gila and similar soils: 90 percent

Description of Gila

Setting

Landform: Alluvial fans, flood plains
Landform position (three-dimensional): Rise, tail
Down-slope shape: Linear, concave
Across-slope shape: Linear
Parent material: Alluvium derived from igneous and sedimentary rock

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Gypsum, maximum content: 1 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 4.0 mmhos/cm)
Sodium adsorption ratio, maximum: 2.0
Available water capacity: High (about 10.7 inches)

Interpretive groups

Farmland classification: Not prime farmland
Land capability classification (irrigated): 1
Land capability (nonirrigated): 7c
Hydrologic Soil Group: B
Ecological site: Bottomland (R042XA057NM)

Typical profile

0 to 7 inches: Loam