

# CITY OF ALBUQUERQUE



May 5, 2016

Richard J. Berry, Mayor

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

**RE: Albuquerque Boat & RV Storage  
Grading and Drainage Plan  
Engineer's Stamp Date – 4-15-16  
Hydrology File: H10D006B**

Dear Mr. Soule:

Based upon the information provided in your submittal received 4-15-2016, the above referenced Grading and Drainage Plan is approved for Site Plan for Building Permit, Building Permit, and Grading Permit.

Prior to approval for Certificate of Occupancy, Engineer Certification per the DPM checklist will be required, and the following conditions must be met:

PO Box 1293

1. All flows to La Morada must be routed through the driveways as stated in the Drainage Report. If substantial flows are overtopping the sidewalk, a sidewalk culvert will be required.

Albuquerque

A Certificate of Occupancy release will not be issued if the above-mentioned items are not resolved.

New Mexico 87103

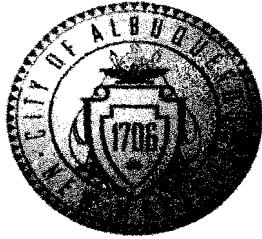
If you have any questions, you can contact me at 924-3986.

Sincerely,

www.cabq.gov

Abiel Carrillo, P.E.  
Principal Engineer, Planning Dept.  
Development Review Services

Orig: Drainage file



City of Albuquerque  
Planning Department  
Development & Building Services Division  
DRAINAGE AND TRANSPORTATION INFORMATION SHEET  
(REV 02/2013)

Project Title: Albuquerque Boat and RB Storage Building Permit #: \_\_\_\_\_ City Drainage #: H10-D006B  
DRB#: \_\_\_\_\_ EPC#: \_\_\_\_\_ Work Order#: \_\_\_\_\_  
Legal Description: LOTS 28 AND 25, LADERA BUSINESS PARK  
City Address: \_\_\_\_\_  
  
**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:** EMERALD PROPERTIES Contact: \_\_\_\_\_  
Address: \_\_\_\_\_  
Phone#: \_\_\_\_\_ Fax#: \_\_\_\_\_ E-mail: \_\_\_\_\_  
  
**Architect:** KEVIN JUNO Contact: \_\_\_\_\_  
Address: \_\_\_\_\_  
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: \_\_\_\_\_

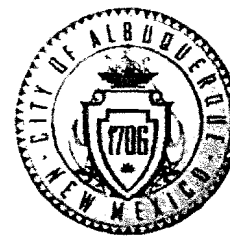
TYPE OF SUBMITTAL:	CHECK TYPE OF APPROVAL/ACCEPTANCE SOUGHT:
<input type="checkbox"/> DRAINAGE REPORT	<input type="checkbox"/> SIA/FINANCIAL GUARANTEE RELEASE
<input type="checkbox"/> DRAINAGE PLAN 1st SUBMITTAL	<input type="checkbox"/> PRELIMINARY PLAT APPROVAL
<input checked="" type="checkbox"/> DRAINAGE PLAN RESUBMITTAL	<input type="checkbox"/> S. DEV. PLAN FOR SUB'D APPROVAL
<input type="checkbox"/> CONCEPTUAL G & D PLAN	<input checked="" type="checkbox"/> S. DEV. FOR BLDG. PERMIT APPROVAL
<input checked="" type="checkbox"/> GRADING PLAN	<input type="checkbox"/> SECTOR PLAN APPROVAL
<input type="checkbox"/> EROSION & SEDIMENT CONTROL PLAN (ESC)	<input type="checkbox"/> FINAL PLAT APPROVAL
<input type="checkbox"/> ENGINEER'S CERT (HYDROLOGY)	<input type="checkbox"/> CERTIFICATE OF OCCUPANCY (PERM)
<input type="checkbox"/> CLOMR/LOMR	<input type="checkbox"/> CERTIFICATE OF OCCUPANCY (TCL TEMP)
<input type="checkbox"/> TRAFFIC CIRCULATION LAYOUT (TCL)	<input type="checkbox"/> FOUNDATION PERMIT APPROVAL
<input type="checkbox"/> ENGINEER'S CERT (TCL)	<input checked="" type="checkbox"/> BUILDING PERMIT APPROVAL
<input type="checkbox"/> ENGINEER'S CERT (DRB SITE PLAN)	<input checked="" type="checkbox"/> GRADING PERMIT APPROVAL
<input type="checkbox"/> ENGINEER'S CERT (ESC)	<input type="checkbox"/> PAVING PERMIT APPROVAL
<input type="checkbox"/> SO-19	<input type="checkbox"/> WORK ORDER APPROVAL
<input type="checkbox"/> OTHER (SPECIFY)	<input type="checkbox"/> GRADING CERTIFICATION
	<input type="checkbox"/> SO-19 APPROVAL
	<input type="checkbox"/> ESC PERMIT APPROVAL
	<input type="checkbox"/> ESC CERT. ACCEPTANCE
	<input type="checkbox"/> OTHER (SPECIFY)

WAS A PRE-DESIGN CONFERENCE ATTENDED: ☐ Yes ☒ No ☐ Copy Provided  
DATE SUBMITTED: 4/24/14 By: \_\_\_\_\_

Requests for approvals of Site Development Plans and/or Subdivision Plans 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

# CITY OF ALBUQUERQUE



May 2, 2014

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

**Re: Albuquerque Boat Storage Grading and Drainage Plan  
Engineer's Stamp Date 1-24-14 (H10D006B)**

Dear Mr. Soule,

Based upon the information provided in your submittal received 4-24-14, the above referenced plan is approved for Site Plan for Building Permit action by the DRB. The following comments should be addressed when submitting for Building Permit approval:

PO Box 1293

Albuquerque

New Mexico 87103

www.cabq.gov

1. Show the site basin divide. provided basin map
2. Show the location and quantify offsite flows. added flows to plan
3. Clarify the build note for the openings in the block wall in southeast corner and provide calculations for capacity of the openings. we provided 20' open fence, 10 cfs
4. Show pervious area. we labeled
5. Show phasing. added phasing
6. Impervious areas are not to drain across the Phase 2 area if it is dirt. How will this be addressed? added curb
7. Provide adequate private drainage easements and show them on the plan. attached
8. Flows from Tract 20A and 27 may enter site at relatively high velocities. Provide erosion protection and a detail for each of these outfalls. added rip rap
9. Provide direction of roof flows for all buildings on Lot 28. added flow arrows
10. The grades in the two parking spots near the east entrance on Lot 25 should be lowered to allow better access in the PNM easement. lines are overhead, want separation
11. It appears flows will drain through the wall then across the sidewalk west of the east entrance on Lot 25. This area should be raised so flows can drain out the drive entrance(s). drains against block wall
12. Bollard details should be removed from the plan as they are not drainage features. removed

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

Sincerely,

Curtis Cherne, P.E.  
Principal Engineer, Hydrology  
Planning Dept.

DRAINAGE REPORT

For

**ALBUQUERQUE BOAT AND RV  
LOTS 28 & 25  
LADERA BUSINESS PARK  
Albuquerque, New Mexico**

Prepared by

Rio Grande Engineering  
PO Box 93924  
Albuquerque, New Mexico 87199

APRIL 2016



David Soule P.E. No. 14522

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**Appendix**

Site Hydrology ..... A

**Map Pocket**  
Site Grading and Drainage Plan

**PURPOSE**

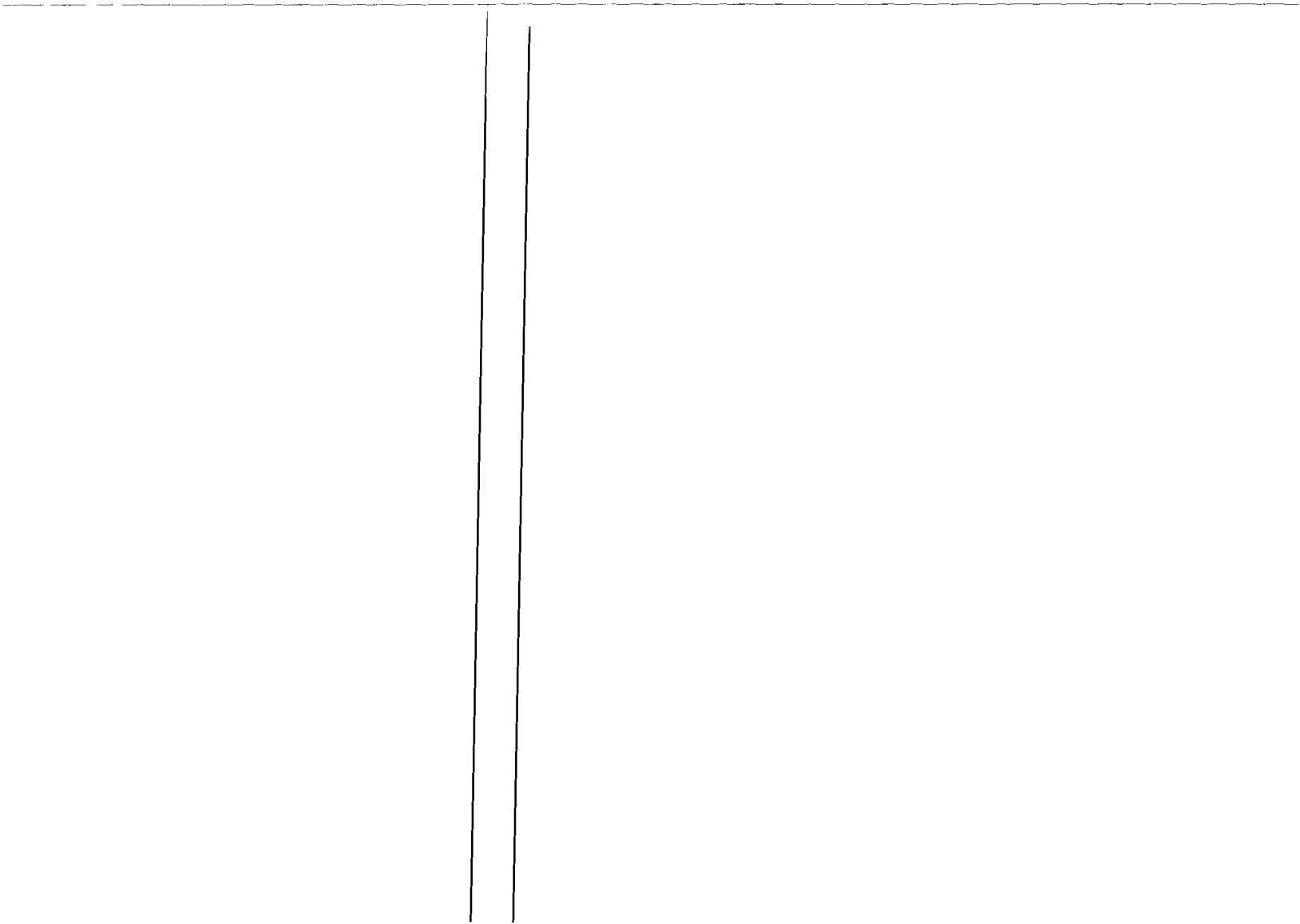
The purpose of this report is to provide the Drainage Management Plan for the development of two lots located Vista Oriente and La Morada Place, Northwest. This plan was prepared in accordance with the City of Albuquerque design regulations, utilizing the City of Albuquerque's Development Process Manual drainage guidelines. This report will demonstrate that the grading does not adversely affect the surrounding properties, nor the upstream or downstream facilities.

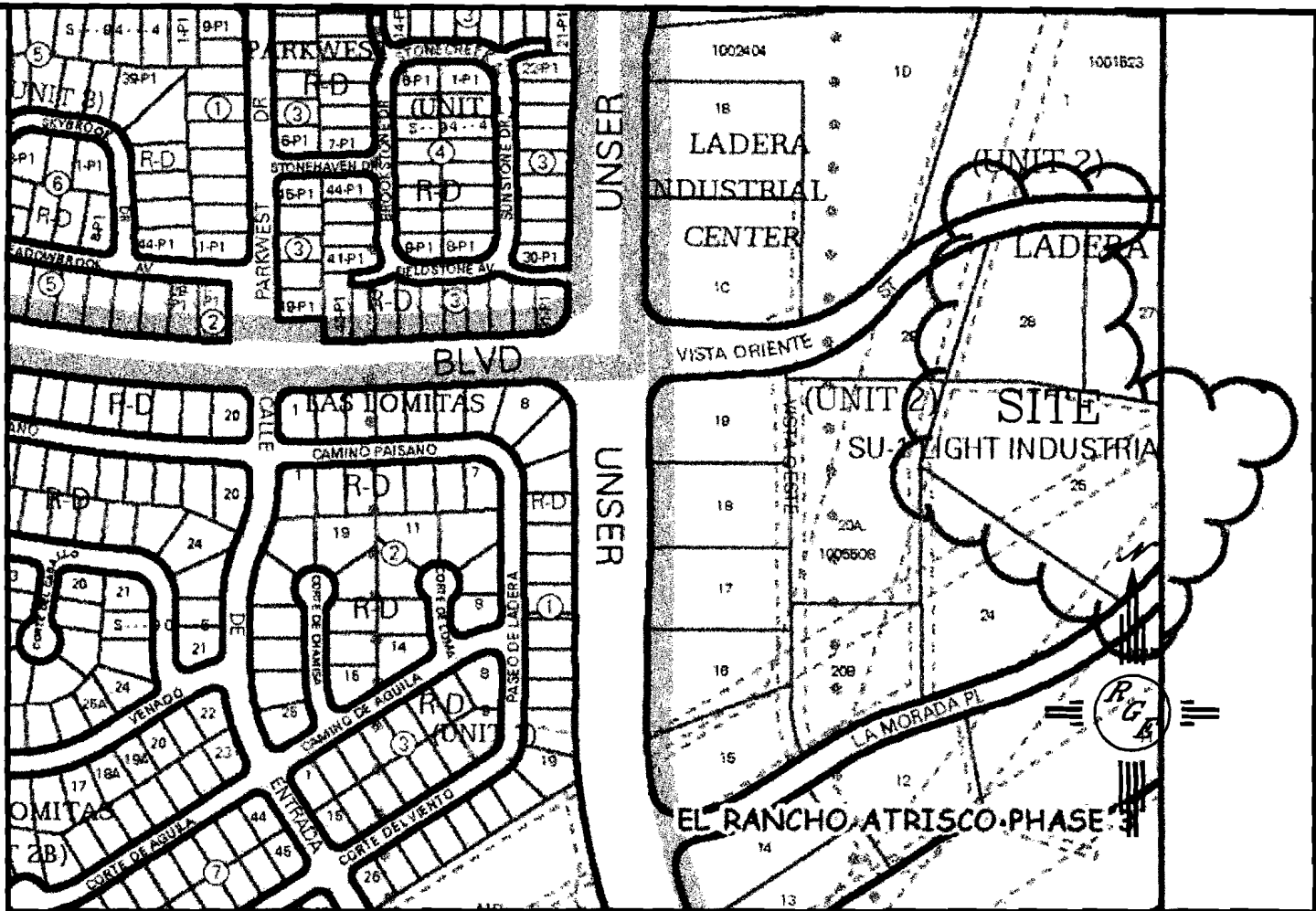
**INTRODUCTION**

The subject of this report, as shown on the Exhibit A, is a 6.75-acre parcel of land located on the south side of Vista Oriente, east of Unser. The legal description of this site is lots 28 and 25, Ladera Business Park. As shown on FIRM map35013C0326H, the entire site is located within Flood Zone X.

**EXISTING CONDITIONS**

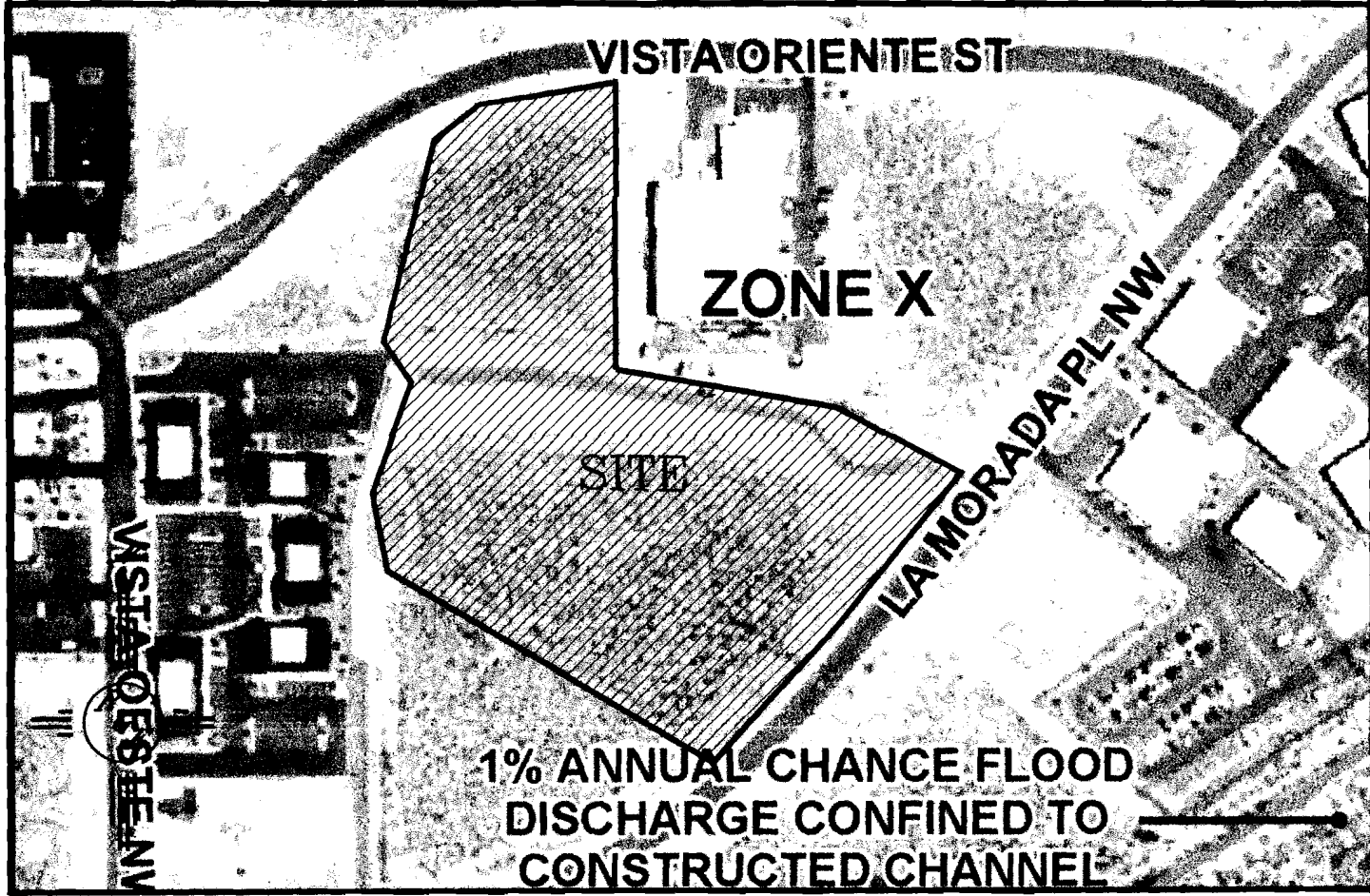
The site is currently undeveloped, yet part of an overall business park. The site currently allows 10 cfs from the west and 9 cfs from the north to pass thru the site. The site currently contains an asphalt swale that conveys the flow thru the site, where the flow is discharged thru 4 sidewalk culverts onto La Morada Place. This flow is conveyed down stream to the Mire haven channel. This site is part of a master drainage plan prepared by Mark Goodwin and Associates 11/21/02.





VICINITY MAP:

H-09-Z



FIRM MAP:

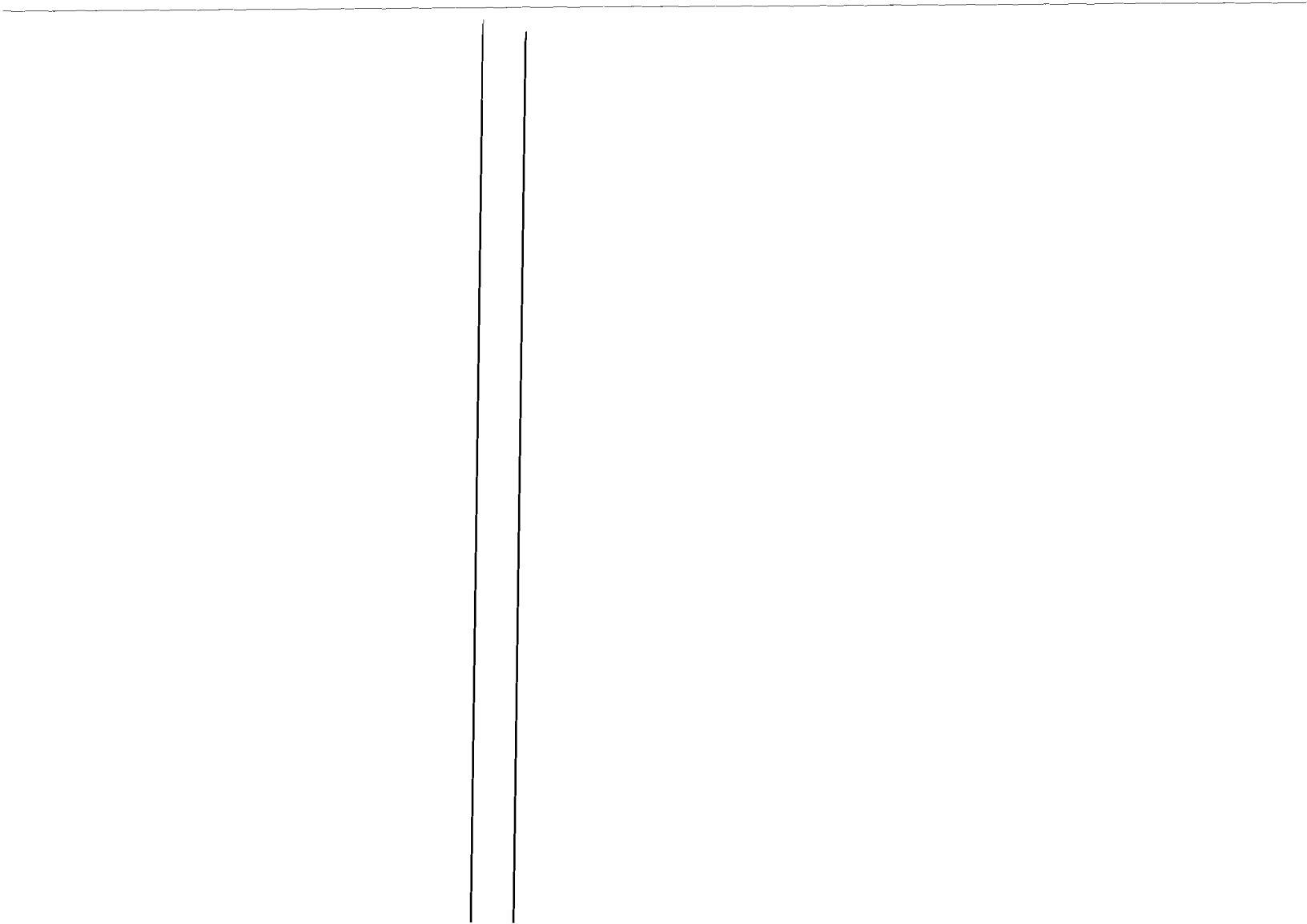
35001C0326H

**PROPOSED CONDITIONS**

The proposed improvements consist of a large indoor storage building and several covered and uncovered parking spaces. The majority of the site will be paved. As shown in appendix A, the site is delineated by 4 drainage basins, these basins have been identified at the cities requests. The drainage calculations are based upon the flow generated by each lot, to be consistent with the basins identified within the master drainage study. All of the basins drain to the La Morada. As shown within the hydraulic calculations, the site discharge more than allowed in the master drainage plan. The increase of .55 cfs was allowed by city hydrology department during previous reviews. Since the initial submittal the adoption of the city 'first-flush' ordinance will required the retention of 6699 cubic feet . The contributing basin to this ponds are adjacent tracts parking lots. The ponds are 2' deep and comprised of Blue point Loamy Fine Sand, with a percolation rate of 6"-20" per hour, therefore the pond will drain within 4 hours. While it is difficult to model, the ponding will increase the initial abstraction and infiltration and the peak flow will be less than calculated. The onsite flow has been diverted to discharge out the driveway, per the City Hydrologist's recommendation. It is proposed the development will be performed in two phases. The site grading will be completed the initiation of this project. A portion of the site will be reserved for future use and will be graveled and the upland flow will be diverted by the construction of an asphalt curb.

**SUMMARY AND RECOMMENDATIONS**

This project is a development of two lots within a master planned business park. The site is within an area of fully developed drainage infrastructure. The site has been designed in substantial conformance with the Ladera Business Park Master drainage plan. Since the effected area site encompasses and area greater than 3/4 acres, a NPDES permit and Erosion and Sediment Control plan will be required prior to any construction activity.





Weighted E Method

Existing Developed Basins

											100-Year, 6-hr.		
Basin	Area (sf)	Area (acres)	Treatment A		Treatment B		Treatment C		Treatment D		Weighted E (ac-ft)	Volume (ac-ft)	Flow cfs
			%	(acres)	%	(acres)	%	(acres)	%	(acres)			
ALLOWED PER MDP	294365	6.758	0%	0	20.0%	1.352	0.0%	0	80%	5.406	1.710	0.963	26.37
PROPOSED LOT 28	85813	1.970	0%	0	4.0%	0.079	10.0%	0.197	86%	1.694	1.820	0.299	8.13
PROPOSED LOT 25	208552	4.788	4%	0.19151	6.0%	0.287	12.0%	0.57452	78%	3.734	1.713	0.684	18.80
COMPARISON				0.000		1.273		-0.197		3.712		0.019	0.559

Equations:

Weighted E = Ea\*Aa + Eb\*Ab + Ec\*Ac + Ed\*Ad / (Total Area)

FIRST FLUSH 6699.976

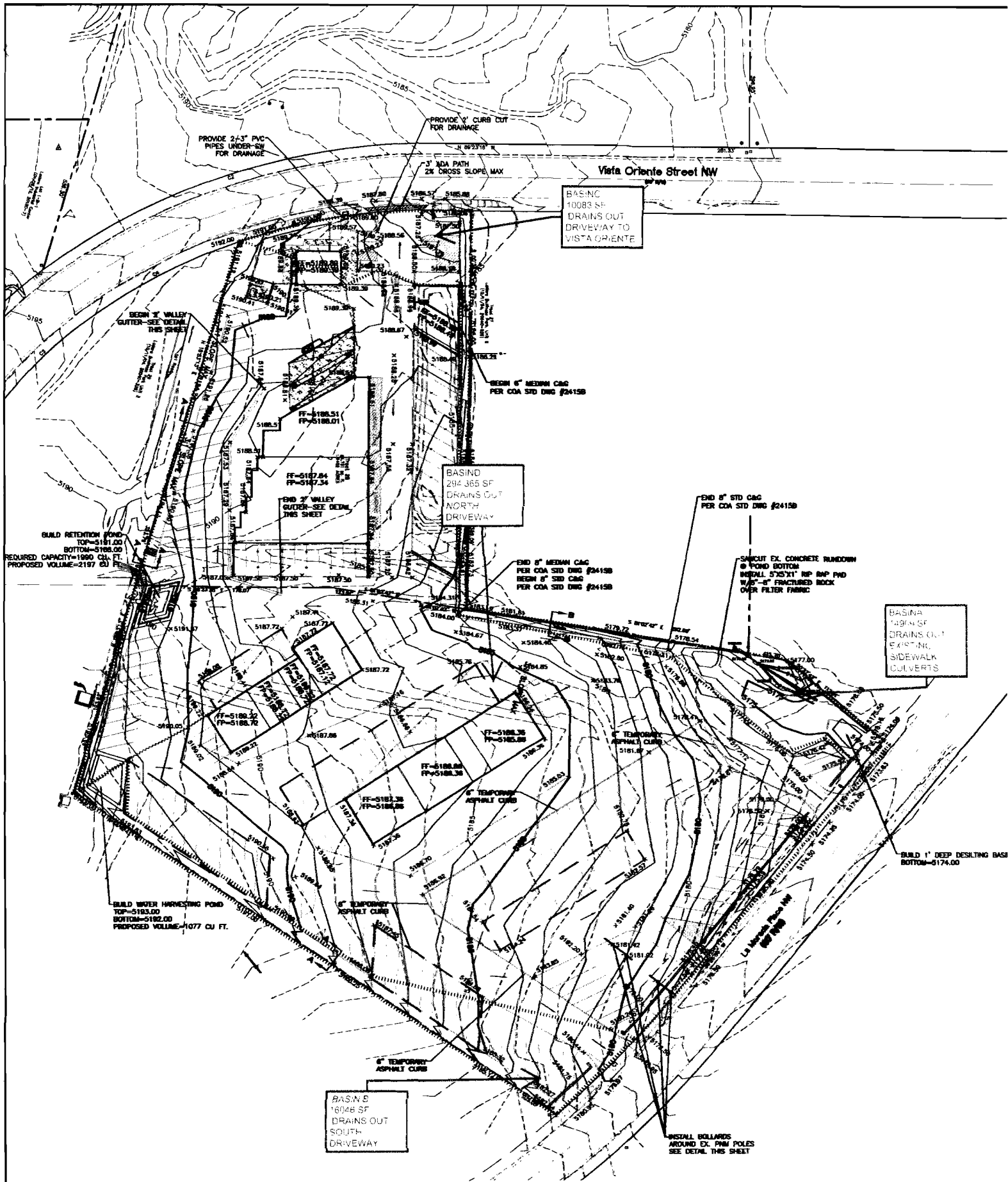
Volume = Weighted D \* Total Area

Flow = Qa \* Aa + Qb \* Ab + Qc \* Ac + Qd \* Ad

Where for 100-year, 6-hour storm (zone 2)

Ea= 0.44	Qa= 1.29
Eb= 0.67	Qb= 2.03
Ec= 0.99	Qc= 2.87
Ed= 1.97	Qd= 4.37

POND INCREASED VOLUME 842.23 CF  
DISCHARGE TO STREET 0.56 CFS



**CAUTION:**  
EXISTING UTILITIES ARE NOT SHOWN.  
IT SHALL BE THE SOLE RESPONSIBILITY  
OF THE CONTRACTOR TO CONDUCT ALL  
NECESSARY FIELD INVESTIGATIONS PRIOR  
TO ANY EXCAVATION TO DETERMINE THE  
ACTUAL LOCATION OF UTILITIES & OTHER  
IMPROVEMENTS.

FENCE OPENING

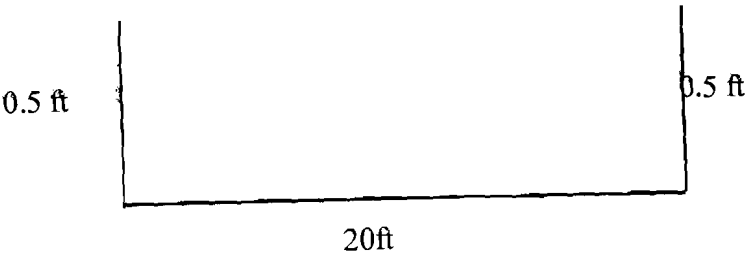
Weir Equation:

$Q=CLH^{3/2}$

Q= 10 cfs  
C = 2.95  
H = 0.5 ft  
L = Length of weir

$L = \frac{10}{2.95(0.5)^{3/2}}$

**L = 9.58 ft**  
Use 20 feet for length of weir





GRANT OF EASEMENT  
FOR PRIVATE DRAINAGE

DLK ENTERPRISES, ("Grantor"), being the owner of property described herein, for good and valuable consideration, the receipt of which is hereby acknowledged, hereby grant, bargain, sell and convey to the Lot 27,28,29 LADERA BUSINESS PARK UNITS 1 AND 2 in Bernalillo County ("Grantee"), the permanent right and easement for drainage, and the conveyance of storm water and maintenance of, and access to, area as may be necessary on and across the following described real estate:

The land in which the foregoing rights and easement are granted is located on the North easterly portion within LOT 25, LADERA BUSINESS PARK UNIT 2 in Bernalillo County, New Mexico as shown plat filed 10/11/04, as in Book 2004C, page 325, being more particularly described in Exhibit "A", attached hereto and incorporated herein by reference.

Except with the mutual approval of Grantee and Grantors, the grading within said easement will conform to the approved grading plan located in file H10-D006B. Once grading complete, no fence, wall, building, or other obstruction may be placed or maintained in said easement, and there shall be no alteration of the grade or contours in said easement from what is shown on approved grading plan. Grantee shall only maintain area of easement and/or improvements that it specifically agrees, by written agreement filed for public record, to maintain. Landscaping or maintenance work by the Grantors, within the easement hereby conveyed, shall not alter the flow or capacity, of the easement area, except in an emergency. If emergency work is performed, Grantors shall notify Grantee as soon as practical thereafter.

Grantors covenant and warrant that they are the owners in fee simple of the property and that they have a good and lawful right to grant the easement described herein. The grant and other provisions of this easement constitute covenants running with the land for the benefit of Grantee and its successors and assigns until terminated.

TO HAVE AND TO HOLD the said right and easement for the uses and purposes aforesaid, unto Grantee, its successors and assigns, to run with the land forever. However, to the extent any portion of the above granted easement area is declared unnecessary for drainage by the City of Albuquerque, said portion of the easement shall revert to the Grantor. Any such reversion shall be accomplished by way of a quitclaim deed to Grantor, his successors or assigns.

THERE IS RESERVED to the Grantors, their successors and assigns, the right to use said lands as needed. Such uses shall not interfere with the rights and easements granted to Grantee. Other purposes, which will not interfere with the rights and easements hereby granted, may be permitted, provided that Grantors obtain Grantee's written licensed approval for such use, not to be unreasonably withheld.

WITNESS \_\_\_\_\_ hand and seal this 25<sup>th</sup> day of April, 2014.

GRANTORS:

[Signature]

Dan Rich  
Managing Member  
DLK Enterprises, LLC  
12231 Academy Blvd NE, STE 301  
Albuquerque, NM 87111

ACKNOWLEDGMENT FOR NATURAL PERSONS

STATE OF NEW MEXICO    )  
  )SS  
COUNTY OF BERNALILLO)

This instrument was acknowledged before me on April 25,  
2013 by Dan Rich.

My commission expires:

4/16/19

[Signature]

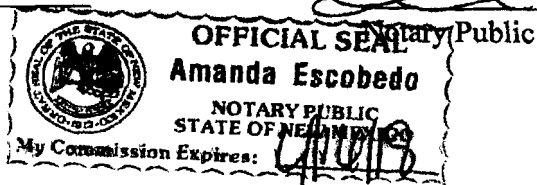


EXHIBIT A  
PRIVATE DRAINAGE EASEMENT WITHIN  
TRACT 27  
LADERA BUSINESS PARK, UNIT 2  
ALBUQUERQUE, BERNALILLO COUNTY, NM  
APRIL 2014

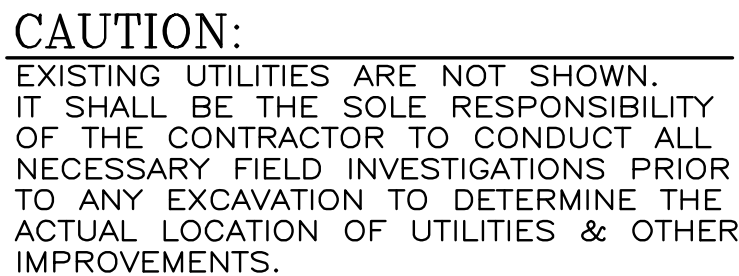
04-23-2014  
DAVID R. VIGIL  
NEW MEXICO  
REGISTERED PROFESSIONAL SURVEYOR  
8941

N22° 49' 42"W 35.29  
S 81°02' 42" E 292.89'  
Tract 27  
Ladera Business Park, Unit 2  
(10/11/04, 2004Q-325)  
581° 02' 42"E 151.56'  
S 50°34' 35" E 112.91'  
S 50° 32' 43"E 172.61'  
N39° 25' 50"E 95.39'  
298.30'  
La Morada Place NW  
(60' R/W)  
Tract 27  
Ladera Business Park, Unit 2  
(10/11/04, 2004Q-325)  
549.0'  
521.2'  
343.3'  
PRIVATE DRAINAGE EASEMENT GRANTED BY THIS INSTRUMENT  
NTS  
EXHIBIT A

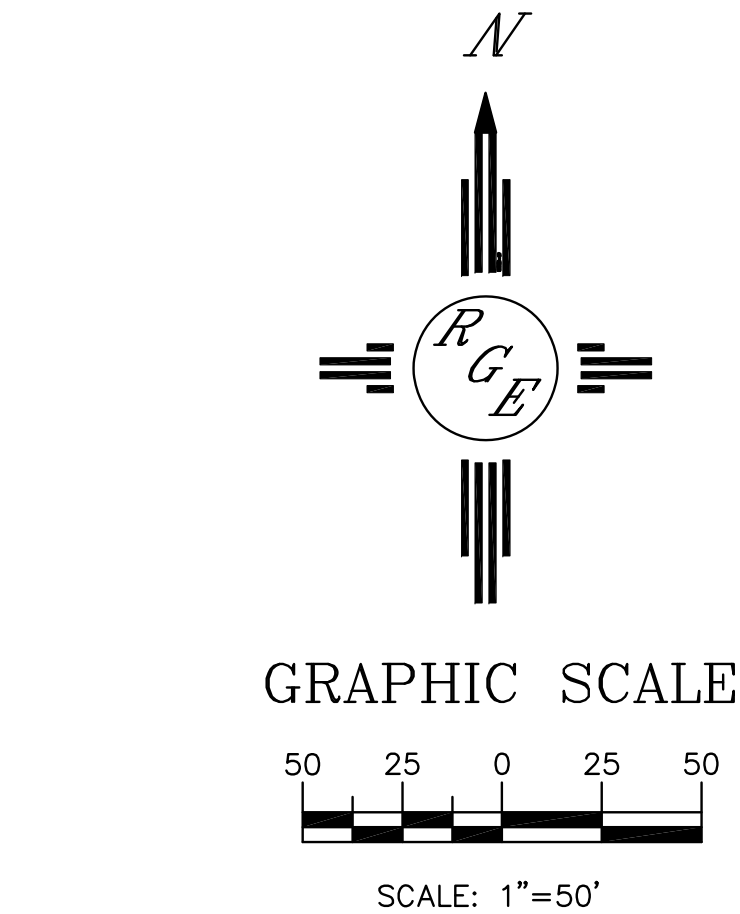
CONSTRUCTION SURVEY TECHNOLOGIES, INC  
PO BOX 65395, ALBUQUERQUE, NM 87193 505-917-8921

PO BOX 65395, ALBUQUERQUE, NM 87193 505-917-8921




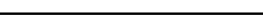


1. CONTRACTOR IS RESPONSIBLE FOR OBTAINING A TOPSOIL DISTURBANCE PERMIT PRIOR TO BEGINNING WORK.
2. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING RUN-OFF ON SITE DURING CONSTRUCTION.
3. CONTRACTOR IS RESPONSIBLE FOR CLEANING ALL SEDIMENT THAT GETS INTO EXISTING RIGHT-OF-WAY.
4. REPAIR OF DAMAGED FACILITIES AND CLEANUP OF SEDIMENT ACCUMULATIONS ON ADJACENT PROPERTIES AND IN PUBLIC FACILITIES IS THE RESPONSIBILITY OF THE CONTRACTOR.
5. ALL EXPOSED EARTH SURFACES MUST BE PROTECTED FROM WIND AND WATER EROSION PRIOR TO FINAL ACCEPTANCE OF ANY PROJECT.



- NOTES:**
1. ALL SPOT ELEVATIONS REPRESENT FLOWLINE ELEVATION UNLESS OTHERWISE NOTED.
  2. ALL CURB AND GUTTER TO 6" HEADER UNLESS OTHERWISE NOTED.
  3. PHASE II TO BE GRADED WITH PHASE I, AND STABILIZED AND RESEEDED. SEE SITE PLAN SHEET 1 FOR PHASING.
  4. ENTIRE SITE SHALL BE PAVED UNLESS OTHERWISE NOTED.

	EXISTING CONTOUR
	EXISTING INDEX CONTOUR
	PROPOSED CONTOUR
	PROPOSED INDEX CONTOUR
	3:1 SLOPE TIE MAX.
	EXISTING SPOT ELEVATION
	PROPOSED SPOT ELEVATION
	BOUNDARY
	FLOW
	FLOW LINE
	RIGHT-OF-WAY
	PROPOSED CURB
	EXISTING CURB AND GUTTER
	PROPOSED CONCRETE SIDEWALK
	PROPOSED ASPHALT PAVING
	BREAK LINE
	PHASE LINE

ENGINEER'S SEAL	ALBUQUERQUE RV AND BOAT STORAGE		DRAWN BY WCWJ
	GRADING AND DRAINAGE PLAN		DATE 4-15-16
4/15/16	 <div style="display: inline-block; vertical-align: middle;"> <i>Rio Grande Engineering</i>            1606 CENTRAL AVENUE SUITE 201 ALBUQUERQUE, NM 87106 (505) 872-0999         </div>		SHEET #  3
DAVID SOULE P.E. #14522			JOB # 21349