

BHI Approved Grading Plan

DRAINAGE MANAGEMENT PLAN

I. INTRODUCTION

The purpose of this submittal is to present a grading and drainage plan for the proposed North West High School for grading permit approval. The site is bounded along the north by "The Trails" a planned subdivision, along the east by Universe Boulevard, to the south by a planned subdivision, Volcano Cliffs Unit 14, and to the west by Rainbow Boulevard. The project will include a new Albuquerque Public School System (APS) high school, with parking lots, playing fields, landscaped areas as well as a drainage detention pond. The proposed hydrologic conditions will be analyzed with AHYMO and results comply with the approved "Master Drainage Report for the APS Northwest Mesa High School" completed by Jeff Mortenson & Associates, Inc. (Engineer's Stamp date 10-14-05, C9/D7; approved November 1, 2005).

II. SITE LOCATION

The site is located within zone atlas maps C-9, C-10, D-9, and D-10. The site is in the Boca Negra Arroyo basin as shown in the Federal Emergency Management Agency (FEMA) map #35001C0111E. The Boca Negra Arroyo is near the site, however, it does not affect on-site flows. Tract B and Tract C, Ancient Mesa are adjacent to the site by do not affect flows on the site. All runoff developed on Tract C, which is located to the southwest of the site, runs to the south. Flows from Tract B, which is northeast of the site, flows to the southeast and will eventually be tied into a storm drain in Universe Boulevard.

III. EXISTING HYDROLOGIC CONDITIONS

This site is currently a vacant lot with mild to medium vegetation cover. Drainage is transmitted across the site from the northwest to the southeast at slopes from 0.5 to 10 percent, with various rock outcroppings throughout the site. All flows developed on the site, historically flow to the Boca Negra Arroyo. The Trails subdivision to the north is detaining all developed flows within an internal detention pond. Rainbow Boulevard and a major gas line that runs parallel to Rainbow serve as a berm so there are no offsite flows that affect the site.

As indicated in the report by JMA, under existing conditions this site has an allowable 100yr discharge of 101cfs for the 70 acre area of Tract A. The analysis of the existing hydrology was performed in accordance with section 22.2 of the Development Process Manual. The JMA approved master drainage report has a listing of background documents that were completed for this site, as well as a description of historical hydrologic conditions.

IV. PROPOSED HYDROLOGIC CONDITIONS

The development of the site will be completed in three phases, however this master drainage plan will be applicable throughout all phases. In order to account for the increase in impervious area a new detention pond will be constructed onsite which will discharge to a storm drain system in Universe Boulevard that will be completed by others. This new system will have a stub out at the southeast corner of the site, designed to accept the allowable 100 year discharge.

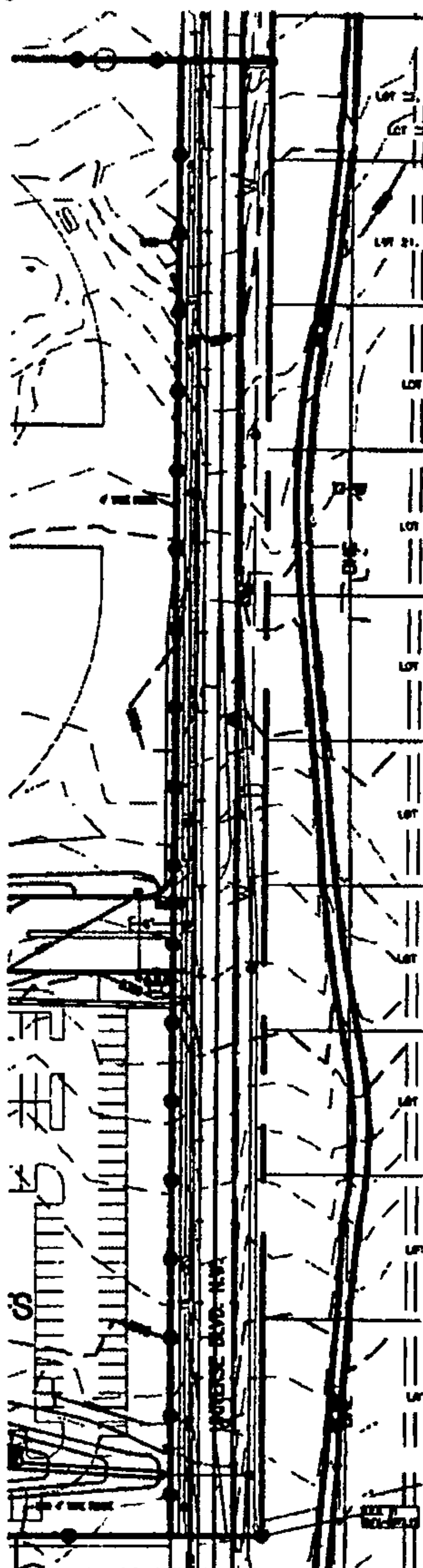
Drainage will continue to flow across the site from the northwest to the southeast with slopes similar to the existing conditions. An onsite storm drain system, swales and sheet flow will direct all flows to the onsite detention pond located in the southeast corner of the site. Please see the inlet table, pipe table, pond table, and the proposed conditions basin data table on this sheet for all calculations.

Currently, there are areas within this site that the City of Albuquerque will use to build sports facilities in the future. These areas are noted as basins SF11, SF12, and SF23. It is assumed these sites will ultimately drain to the detention pond. Therefore, the detention pond was sized using the developed Q's for these basins.

According to the AHYMO analysis the developed flow from the entire site is 258 cfs. The pond detains and attenuates the flow so that the 100 year, 24 hour proposed conditions peak discharge from the site is 95.04cfs. The implementation of these concepts would result in the safe passage of the 100 year, 24 hour storm event.

V. CONCLUSION

The total flow discharged from the site is 95.04cfs which is less than the allowable discharge of 101cfs. These flows were computed in accordance with the methodology outlined in section 22.2 of the Development Process Manual. The drainage management plan is capable of safely passing the 100 year, 6 hour storm, complies with the approved Master Drainage Plan for the site and meets city requirements.



11/19/2007		
ORIGINAL (CFS)	V(100) _{dev} (Inches)	V(100) _{dev} (CF)
4.41	1.97	9704
2.87	1.97	4293
-	1.97	1154
-	1.97	546
-	1.97	4973
-	1.97	4530
-	1.97	1777
-	1.97	2604
-	1.97	6627
-	1.97	11456
17.31	18.70	47984
11.87	1.81	18281
8.80	1.01	2648
11.27	1.47	18308
-	1.97	4849
-	1.91	8290
-	0.98	18334
-	1.68	100916
-	1.97	4354
-	1.04	13902
-	1.68	4148
-	1.12	19769
-	1.12	9730
-	1.17	9167
-	1.68	18412
-	1.74	4217
-	1.74	1780
-	1.74	3083
-	1.74	12350
1.38	1.88	3183
-	1.88	4418
-	1.97	2032
1.20	1.74	4745
-	0.99	31538
14.55	35.87	318409

C09D067

NORTHWEST
HIGH
SCHOOL

Volcano Vista

ADDRESS
8100 Rainbow NW
Albuquerque NM

CONSTRUCTION SET

11/19/2007 DRAINAGE CALCULATION
REVISION

PROJECT #: 05041

CAD DWG FILE:: 060278dmp_rev.dwg

DWN BY: RWB

CHK BY: JLM

Copyright:
SMPC Architects © 2006

These documents were prepared for this specific project only. SMPC Architects' liability is limited to this specific project, and does not extend to reuse of these documents for other projects.

SHEET TITLE:

DRAINAGE
MANAGEMENT PLAN

SHEET # OF -

MASTER DRAINAGE REPORT

I. EXECUTIVE SUMMARY AND INTRODUCTION

THE PROPOSED APS NORTHWEST MESA HIGH SCHOOL SITE IS LOCATED IN A RAPIDLY DEVELOPING AREA OF ALBUQUERQUE'S NORTHWEST MESA. THE SITE LIES WITHIN THE BOCA NEGRA WATERSHED ON THE SOUTH SIDE OF THE ALAMEDA GRANT LINE. THE SITE WILL BE SUBJECT TO DISCHARGE RESTRICTIONS AND SHALL UTILIZE DETENTION PONDING TO LIMIT THE PEAK RATE OF STORMWATER RUNOFF DISCHARGING TO PROPOSED DOWNSTREAM PUBLIC DRAINAGE FACILITIES. OFFSITE FLOWS DO NOT IMPACT THE SITE. THE PURPOSE OF THIS SUBMITTAL IS TO OBTAIN WORK ORDER APPROVAL FOR THE FRONTING PUBLIC STREETS AND TO ESTABLISH THE DRAINAGE REQUIREMENTS FOR THE SITE AND FOR THE ADJACENT PUBLIC STREETS THAT ARE REQUIRED TO SUPPORT THE PROJECT. THIS REPORT ADDRESSES TRACTS A AND B, ANCIENT MESA, AND THE FRONTING PORTIONS OF UNIVERSE AND RAINBOW BOULEVARDS. SEPARATE SUBMITTALS WILL BE REQUIRED FOR BUILDING PERMIT APPROVALS FOR THE ACTUAL SCHOOL SITE.

II. PROJECT DESCRIPTION:

AS SHOWN BY VICINITY MAP C-9, THE SITE IS LOCATED ON ALBUQUERQUE'S NORTHWEST MESA BETWEEN RAINBOW BLVD NW, AND UNIVERSE BLVD NW, SOUTH OF WOODMONT AVE NW. RAINBOW (A.K.A. ATRISCO DRIVE) IS A BLADED DIRT ROAD AND UNIVERSE IS PAVED AS A TEMPORARY (NO CURB AND GUTTER) ROAD APPROXIMATELY 25 FT WIDE. THE TRAILS DEVELOPMENT CURRENTLY BEING DEVELOPED BY LONGFORD HOMES ADJOINS THE SITE TO THE NORTH AND WILL CONSTRUCT A PUBLIC STORM DRAIN IN UNIVERSE THAT WILL BE THE DRAINAGE OUTFALL FOR TRACTS A AND B, ANCIENT MESA. THE PROPERTIES TO THE EAST, SOUTH AND WEST ARE UNDEVELOPED. THE UNDEVELOPED LANDS TO THE EAST AND SOUTH ARE PLATTED AS PART OF VOLCANO CLIFFS. THE UNDEVELOPED LAND TO THE WEST IS UNPLATTED STATE LAND. THE PROPOSED LEGAL DESCRIPTION FOR THE HIGH SCHOOL SITE IS TRACT A, ANCIENT MESA. THE SITE IS ZONED RO-20 AND THE PROPOSED USE IS PERMISSIBLE. AS SHOWN BY PANEL 111 OF 825 OF THE NATIONAL FLOOD INSURANCE PROGRAM FLOOD INSURANCE RATE MAPS, BERNALILLO COUNTY, NEW MEXICO, AND INCORPORATED AREAS, DATED NOVEMBER 19, 2003, THE SITE DOES NOT LIE WITHIN A DESIGNATED FLOOD HAZARD ZONE. EXISTING SITE RUNOFF ULTIMATELY DRAINS TO THE BOCA NEGRA ARROYO WHICH HAS A ZONE A FLOOD HAZARD DESIGNATION.

III. BACKGROUND DOCUMENTS

THE FOLLOWING IS A LIST OF DOCUMENTS RELATED TO THE SITE AND SURROUNDING AREA. THIS LIST MAY NOT BE INCLUSIVE, HOWEVER, REPRESENTS A SUMMARY OF RELEVANT PLANS AND DOCUMENTS WHICH ARE KNOWN TO THE ENGINEER AT THE TIME OF PLAN PREPARATION.

- A. PLAT OF TRACTS A, B AND C, ANCIENT MESA PREPARED BY JEFF MORTENSEN & ASSOCIATES, INC (JMA) DATED 06/01/2005. THIS PLAT (PROJECT NUMBER 1004071) WAS APPROVED BY THE CITY DEVELOPMENT REVIEW BOARD (DRB) ON JUNE 22, 2005. RECORDATION OF THE PLAT IS CONTINGENT UPON THE LAND ACQUISITION DEAL BETWEEN APS AND THE SELLER, THE STATE LAND OFFICE (SLO). TRACT A WILL BE THE HIGH SCHOOL SITE. THIS DRAINAGE REPORT ADDRESSES TRACTS A AND B WHICH WILL DRAIN TO THE PROPOSED STORM DRAIN IN UNIVERSE.
- B. BOCA NEGRA - MARIPOSA ARROYO DRAINAGE MANAGEMENT PLAN DATED APRIL, 2005, PREPARED FOR AMAFCA BY RESOURCE TECHNOLOGY, INC. (RTI). THIS PLAN, ADOPTED BY AMAFCA, PRESENTS AN OVERALL DRAINAGE MANAGEMENT PLAN FOR THE WATERSHED INCLUDING THE DESIGN AND CONSTRUCTION OF THE BOCA NEGRA DAM TO BE LOCATED NEAR THE INTERSECTION OF UNIVERSE BLVD NW AND RAINBOW (ATRISCO) BLVD NW. THIS DAM, TO BE MAINTAINED BY AMAFCA, IS THE DESIGNATED OUTFALL FOR DEVELOPED RUNOFF FROM THE PROPOSED HIGH SCHOOL SITE AND IS CURRENTLY IN THE FINAL STAGES OF DESIGN. DAM CONSTRUCTION IS PLANNED TO BEGIN IN 2006 UNDER A COST-SHARING AGREEMENT BETWEEN AMAFCA AND PRIVATE DEVELOPERS THAT WILL BENEFIT FROM THE PROJECT.
- C. PRELIMINARY CONSTRUCTION PLANS FOR THE TRAILS OFFSITE STORM DRAIN (CPN 761281) BY WILSON & COMPANY DATED JULY, 2005. THIS PLAN SET (NOT YET APPROVED AT THE TIME THIS REPORT WAS PREPARED) ADDRESSES THE PUBLIC (CITY OF ALBUQUERQUE) UNIVERSE STORM DRAIN THAT WILL RUN FROM THE ALAMEDA GRANT LINE AT THE SOUTHEAST CORNER OF THE TRAILS PROJECT SOUTH TO THE AFOREMENTIONED BOCA NEGRA DAM (REF. B). THE STORM DRAIN WILL SERVE AS THE OUTFALL FOR THE TRAILS PROJECT AND FOR TRACTS A AND B, ANCIENT MESA. THE STORM DRAIN WILL COVER THE UNIVERSE BLVD NW FRONTAGES OF TRACTS A AND B, ANCIENT MESA. AS IDENTIFIED ON THE PRELIMINARY STORM DRAIN PLANS, THE PROJECT WILL CONSTRUCT A 48 INCH RCP STUBOUT TO THE SW CORNER OF THE HIGH SCHOOL SITE (TRACT A). BASED ON THE INCREASE IN STORM DRAIN FLOW RATE SHOWN ON THE PROFILE, THE STUB IS SIZED TO INTRODUCE 130 CFS INTO THE UNIVERSE STORM DRAIN FROM THE SLO PROPERTY.
- D. AMENDMENT TO THE TRAILS SUBDIVISION MASTER DRAINAGE STUDY PREPARED FOR LONGFORD HOMES BY WILSON & COMPANY, INC. DATED JULY 29, 2004. THE ORIGINAL PLAN FOR THE TRAILS WAS PREPARED BY BOHANNON-HUSTON, INC. (BHI). THE AMENDMENT BY WILSON & COMPANY REVISED THE DRAINAGE CONCEPT FOR THE TRAILS TO ONE WHEREBY STORMWATER WOULD BE DETAINED IN PONDS DISCHARGING TO THE PROPOSED UNIVERSE STORM DRAIN (REF. C). THE AMENDED PLAN IDENTIFIED THE SLO PROPERTY AS AN 83 ACRE BASIN CONTRIBUTING 137 CFS TO THE PROPOSED UNIVERSE STORM DRAIN. THIS FLOW RATE AND CONCEPT IS CONSISTENT WITH THE BOCA NEGRA DMP (REF. B) AND UNIVERSE STORM DRAIN (REF. C).
- E. PRE-DESIGN MEETING WITH THE CITY HYDROLOGIST DATED 08/21/2005 (COPY OF MEETING RECAP SUBMITTED HEREWITH). THE RECAP SUMMARIZES THE DRAINAGE CRITERIA FOR DEVELOPMENT OF THE APS AND SLO PROPERTIES WHICH ARE REQUIRED TO USE ONSITE DETENTION TO LIMIT RUNOFF TO THE ALLOWABLE RATES TO BE ESTABLISHED FOR THE UNIVERSE STORM DRAIN (REF. C) AND BOCA NEGRA DAM (REF. B).

THE PROPOSED DRAINAGE CONCEPT OF USING DETENTION TO LIMIT SITE DISCHARGE FROM TRACTS A AND B TO THE PROPOSED PUBLIC UNIVERSE STORM DRAIN AS PROPOSED AND DESCRIBED HEREIN IS IN ACCORDANCE WITH THE POLICIES AND REQUIREMENTS OF THE ABOVE LISTED DOCUMENTS.

IV. EXISTING CONDITIONS:

TRACTS A AND B, ANCIENT MESA ARE UNDEVELOPED WITH A SPARSE GROUND COVER OF NATIVE VEGETATION. THE SITE GENERALLY SLOPES FROM NORTHWEST TO SOUTHEAST AND EXISTING SITE RUNOFF DRAINS TO THE UNDEVELOPED BOCA NEGRA ARROYO. THE SITE IS BOUNDED ON THE NORTH BY THE TRAILS SUBDIVISION CURRENTLY UNDER CONSTRUCTION. THE TRAILS PROJECT WILL DRAIN TO AN INTERNAL DETENTION POND AND STORM DRAIN SYSTEM AND WILL NOT CONTRIBUTE OFFSITE FLOWS TO THE ANCIENT MESA SITE. THE SITE IS BOUNDED ON THE WEST BY RAINBOW BLVD NW, A BLADED DIRT ROAD. A MAJOR GAS PIPELINE IS LOCATED WEST OF THE RAINBOW ROW AND RUNS PARALLEL TO RAINBOW. THE EXISTING TOPOGRAPHY COMBINED WITH THE GRADING ASSOCIATED WITH THE EXISTING PIPELINE ROAD COMBINE ACT AS A DIVERSION BERM THAT INTERCEPTS OFFSITE FLOWS FROM TRACT C WEST SIDE OF RAINBOW AND DIRECTS THEM TO THE SOUTHEAST ALONG THE WEST SIDE OF THE RAINBOW ROW TO THE BOCA NEGRA ARROYO. OFFSITE FLOWS THEREFORE DO NOT IMPACT THE SITE FROM THE WEST. THE EAST BOUNDARY OF THE SITE IS UNIVERSE BLVD NW WHICH IS IMPROVED AS A TEMPORARY ROAD PAVED 24 FEET WIDE WITHOUT CURB AND GUTTER. UNIVERSE AND THE LANDS EAST OF UNIVERSE EXHIBIT PARALLEL TOPOGRAPHY AND DO NOT CONTRIBUTE OFFSITE FLOWS. THE PLATTED VOLCANO CLIFFS UNIT 14 SUBDIVISION TO THE SOUTH IS UNDEVELOPED AND LIES TOPOGRAPHICALLY LOWER THAN THE SITE AND IS INCAPABLE OF GENERATING OFFSITE FLOWS.

V. DEVELOPED CONDITIONS

TRACT A IS INTENDED TO BE DEVELOPED BY APS AS THE NEW NORTHWEST MESA HIGH SCHOOL. AS PART OF THE DEVELOPMENT, APS PLANS TO CONSTRUCT THE HALF-WIDTH FRONTAGES OF UNIVERSE BLVD NW AND RAINBOW BLVD NW AND PRINCIPAL ARTERIAL STREETS, RESPECTIVELY. THE TRAILS PROJECT BY LONGFORD HOMES WILL CONSTRUCT A STORM DRAIN OF ALBUQUERQUE STORM DRAIN IN UNIVERSE THAT WILL BE THE DESIGNATED DRAINAGE OUTFALL FOR TRACTS A AND B. THE PROPOSED UNIVERSE STORM DRAIN WILL OUTFALL TO THE PROPOSED BOCA NEGRA DAM THAT IS PLANNED FOR 2006 (REF. B). TRACTS A AND B SHALL CONNECT DIRECTLY TO THE UNIVERSE STORM DRAIN AND MUST LIMIT DISCHARGE TO 101 AND 29 CFS, RESPECTIVELY, WHICH AMOUNT TO 1.44 cfs/acre. THESE AMOUNTS WERE BASED UPON A 130 CFS TOTAL FLOW RATE TO BE ACCEPTED FROM THE SLO PROPERTY AS DEPICTED ON THE PROFILE FOR STORM DRAIN (REF. C). THESE FLOW RATES ARE ALSO CONSISTENT WITH THE PEAK DEVELOPED CONDITIONS FLOW RATE OF 130 CFS FOR THE SLO PROPERTY IN THE AMENDMENT TO THE TRAILS SUBDIVISION MASTER PLAN (REF. D).

DISCHARGE TO THE UNIVERSE STORM DRAIN IN THIS MANNER DESCRIBED ABOVE IS CONTINGENT UPON CONSTRUCTION OF THE UNIVERSE STORM DRAIN AND DOWNSTREAM BOCA NEGRA DAM. BECAUSE NEITHER PLAN SET WAS APPROVED, THIS REPORT WAS PREPARED, THE ALLOWABLE DISCHARGE AND PEAK FLOW RATE MUST BE VERIFIED BASED UPON PLANS FOR BOTH PROJECTS. TRACTS A AND B SHALL NOT DISCHARGE SURFACE RUNOFF TO UNIVERSE. TRACTS A AND B BE REQUIRED TO SUBMIT SITE SPECIFIC GRADING AND DRAINAGE PLANS TO DEMONSTRATE THEIR ONSITE PONDING AND TO CONFIRM THE AVAILABLE DOWNSTREAM CAPACITY. IF NECESSITATED DUE TO TIMING, DEVELOPMENT OF TRACT A MAY PROCEED IN ADVANCE OF THE DOWNSTREAM PUBLIC DRAINAGE IMPROVEMENTS BY UTILIZING TEMPORARY RETENTION BASINS AS AN INTERIM SOLUTION.

AS PART OF THE HIGH SCHOOL DEVELOPMENT, APS PLANS TO CONSTRUCT A PERMANENT 30 FT FACE-TO-FACE IN THE UNIVERSE BLVD NW FRONTAGE OF TRACT A. THIS SECTION WILL REPRESENT THE WEST HALF OF THE ULTIMATE MINOR ARTERIAL STREET SECTION (SEE SECTION A-A, SHEET 3). TRACTS A AND B WILL DISCHARGE DIRECTLY TO THE UNIVERSE STORM DRAIN TO BE CONSTRUCTED BY LONGFORD HOMES AS PART OF THE TRAILS SUBDIVISION. RUNOFF GENERATED BY UNIVERSE RIGHT-OF-WAY WILL DRAIN WITHIN THE STREET SECTION AS SURFACE RUNOFF WHERE IT WILL BE IN THE PROPOSED STORM INLET NEAR THE SE CORNER OF TRACT A AND INTRODUCED INTO THE PUBLIC STORM DRAIN. BY THE HYDRAULIC ANALYSIS FOR SECTION A-A ON SHEET 3, THE ULTIMATE 10-YEAR PEAK FLOW RATE WILL BE 10.3 CFS OF FREE DRIVING LANE AND THEREFORE SATISFY ARTERIAL STREET REQUIREMENTS. THE PROPOSED WEST HALF OF THE STREET WILL CARRY TWO-WAY TRAFFIC UNTIL SUCH TIME AS THE EAST HALF OF THE STREET IS DEVELOPED AS PART OF THE DEVELOPMENT OF VOLCANO CLIFFS UNIT 16 TO THE EAST. THE EAST HALF OF UNIVERSE WILL NEED TO BE ANALYZED SEPARATELY IN CONJUNCTION WITH THE FUTURE DEVELOPMENT.

AS PART OF THE HIGH SCHOOL DEVELOPMENT, APS PLANS TO CONSTRUCT A PERMANENT 31 FT FACE-TO-FACE IN THE RAINBOW BLVD NW FRONTAGE OF TRACT A. THIS SECTION WILL REPRESENT THE EAST HALF OF THE ULTIMATE PRINCIPAL ARTERIAL STREET SECTION (SEE SECTION B-B, SHEET 3). THIS EAST HALF WILL CARRY TWO-WAY TRAFFIC UNTIL SUCH TIME AS THE WEST HALF OF THE STREET IS DEVELOPED. THE TRAILS PROJECT TO THE NORTH IS CONSTRUCTION OF RAINBOW NORTH TO PASEO DEL NORTE AND WILL CONSTRUCT STORM INLETS IN RAINBOW AT THEIR SOUTHERN END. OFF UPSTREAM STREET FLOWS REACHING THE FRONTAGE OF THE SCHOOL SITE, TRACT A, ANCIENT MESA DISCHARGE FROM ADJACENT TRACT A WILL NOT BE ALLOWED. THEREFORE, THE ONLY FLOWS IN THE EAST HALF OF RAINBOW WILL BE GENERATED BY THE RIGHT OF WAY ITSELF. AS DEMONSTRATED BY THE HYDRAULIC ANALYSIS FOR SECTION B-B, THE ULTIMATE 10-YEAR PEAK FLOW RATE WILL PRESERVE 10 FEET OF FREE DRIVING LANE AND THEREFORE SATISFY ARTERIAL STREET REQUIREMENTS. FUTURE DEVELOPMENT OF TRACT C MAY DRAIN TO RAINBOW PROVIDED THAT THE IMPACT OF TRACT C ON THE REQUIREMENTS FOR DOWNSTREAM DRAINAGE IMPROVEMENTS ARE EVALUATED AND JUSTIFIED AS PART OF THE DEVELOPMENT.

NO PUBLIC STORM DRAIN IMPROVEMENTS ARE PROPOSED FOR THE REACH OF RAINBOW FRONTING TRACT A, AND AS DEMONSTRATED BY THE HYDROLOGIC CALCULATIONS AT RIGHT, THE GROSS INCREASE IN PEAK 100-YEAR FLOW FOR THE RAINBOW RIGHT OF WAY ATTRIBUTABLE TO DEVELOPMENT WILL BE $15.3 - 11.2 = 4.1$ CFS. QUALITATIVELY, THE DOWNSTREAM IMPACT OF THIS INCREASE TO THE UNIMPROVED DOWNSTREAM RAINBOW RIGHT-OF-WAY AND UNDEVELOPED BOCA NEGRA ARROYO WILL BE MORE THAN OFFSET BY THE ELIMINATION OF UPSTREAM FLOWS FROM THE TRAILS SUBDIVISION. DEVELOPMENT OF THE SCHOOL ON TRACT A WILL AFFECT PORTIONS OF THE UNDEVELOPED SITE THAT DRAIN TO THE RAINBOW RIGHT-OF-WAY. BASED ON THIS QUALITATIVE ANALYSIS, THERE WILL BE A NET REDUCTION IN PEAK DISCHARGE OBSERVED DOWNSTREAM OF THE SITE.

VI. DRAINAGE SITE PLAN

THE DRAINAGE SITE PLAN ON SHEET 2 SHOWS: 1) EXISTING GRADES INDICATED BY CONTOURS AT 1 FT, 0 IN THE AUGUST, 2005 TOPOGRAPHIC SURVEY CONDUCTED BY THIS OFFICE, 2) BOUNDARY AND EASEMENT DATA FROM TRACTS A, B AND C, ANCIENT MESA PREPARED BY THIS OFFICE (REF. A), 3) THE LIMIT AND CHARACTER OF THE DRAINAGE IMPROVEMENTS AS SHOWN BY THE AFOREMENTIONED SURVEY AND SUPPLEMENTED WITH PROPOSED UNIVERSE STORM DRAIN IMPROVEMENTS BY LONGFORD HOMES TO SUPPORT THE TRAILS PROJECT (REF. C.), 4) THE LIMIT AND CHARACTER OF THE PROPOSED UNIVERSE AND RAINBOW PAVING IMPROVEMENTS, AND 5) THE PROPOSED DISCHARGE POINTS FOR TRACTS A AND B.

VII. STREET PLAN AND PROFILE DESIGNS

PRELIMINARY STREET PLAN AND PROFILE DESIGNS FOR UNIVERSE BLVD NW AND RAINBOW BLVD NW ARE SHOWN ON SHEETS 3 AND 4. THESE PROFILES DEMONSTRATE COMPATIBILITY WITH THE UPSTREAM AND DOWNSTREAM REACHES OF STREET AND THE SLOPES USED FOR THE STREET HYDRAULIC CALCULATIONS. THEY ALSO DEMONSTRATE THE RELATIONSHIP BETWEEN TOP OF CURB ELEVATIONS AND THE EXISTING GRADES AT THE EAST AND WEST PROPERTY LINES OF TRACT A. THE PROFILE DESIGNS WILL BE REVIEWED AND APPROVED THROUGH THE CITY DRC PROCESS.

VIII. CALCULATIONS

THE CALCULATIONS, WHICH APPEAR HEREON, ANALYZE BOTH THE EXISTING AND DEVELOPED CONDITIONS FOR THE 10-YEAR RAINFALL EVENT FOR THE RAINBOW AND UNIVERSE RIGHT-OF-WAY. THE PROCEDURE FOR

IX. CONCLUSIONS

1) THE PROPOSED SITE IMPROVEMENTS AND DRAINAGE CONCEPT ARE CONSISTENT WITH THE DEVELOPMENT CR BY PREVIOUSLY APPROVED PLANS FOR THIS SITE (BOCA NEGRA DMP, TRAILS MDP) AND WITH THE PROPOSED OTHER AREA PLANS THAT ARE NOT YET APPROVED (UNIVERSE STORM DRAIN, BOCA NEGRA DAM).

2) LONGFORD HOMES WILL CONSTRUCT A PUBLIC STORM DRAIN IN UNIVERSE BOULEVARD NW THAT WILL SERVE ANCIENT MESA. THIS STORM DRAIN WILL COVER THE SITE FRONTAGE AND NO ADDITIONAL STORM DRAIN WILL BE REQUIRED FOR TRACTS A AND B.

3) AMAFCA WILL CONSTRUCT THE BOCA NEGRA DAM WHICH WILL BE THE OUTFALL FOR THE UNIVERSE STORM DRAIN ON TRACTS A AND B. THE DAM WILL BE FUNDED BY PRIVATE DEVELOPMENT AND APS IS NOT A PARTICIPANT IN THE PROJECT.

4) TRACTS A AND B WILL DRAIN DIRECTLY TO THE PROPOSED UNIVERSE STORM DRAIN AND WILL LIKELY REQUIRE DETENTION TO LIMIT DISCHARGE TO AVAILABLE DOWNSTREAM CAPACITY WHICH IS TENTATIVELY DETERMINED TO BE 1.44 cfs/acre RESPECTIVELY. THESE RATES WILL NEED TO BE CONFIRMED UPON COMPLETION AND APPROVAL OF THE UNIVERSE STORM DRAIN AND THE BOCA NEGRA DAM WHICH WERE NOT YET APPROVED AT THE TIME THIS PLAN WAS SUBMITTED.

5) UNIVERSE BLVD NE AND RAINBOW BLVD NE ARE NOT INTENDED TO ACCEPT SURFACE RUNOFF FROM ADJACENT AREAS.

6) AS DEMONSTRATED HEREIN, THE 10-YEAR FREE DRIVING LANE CRITERIA FOR ARTERIAL STREETS WILL BE MET ON RAINBOW BLVD NW AND UNIVERSE BLVD NW IN THE ULTIMATE CONDITION WITHOUT ADDITIONAL STORM DRAINAGE.

7) THIS SUBMITTAL SUPPORTS THE FORTHCOMING WORK ORDER PLANS TO CONSTRUCT PUBLIC HALF-WIDTH SIDEWALKS IN THE FRONTAGE OF TRACT A, ANCIENT MESA. SEPARATE SUBMITTALS WILL BE REQUIRED TO SUPPORT PROPOSALS FOR TRACTS A AND B. THE SEPARATE SUBMITTALS MUST ADDRESS ONSITE DETENTION PONDING AND CONFIRM CAPACITY IDENTIFIED BY THIS PLAN.

8) THE PROPOSED UNIVERSE STORM DRAIN WILL BE OWNED, OPERATED AND MAINTAINED BY THE CITY OF ALEXANDRIA.

9) THE PROPOSED BOCA NEGRA DAM WILL BE OWNED, OPERATED AND MAINTAINED BY AMAFCA.

10) RUNOFF GENERATED BY THE DEVELOPED RAINBOW BLVD NW FRONTAGE WILL DISCHARGE FREELY TO THE URBAN DRAINAGE RIGHT OF WAY. THIS IS QUALITATIVELY JUSTIFIED DUE TO THE SIGNIFICANT DECREASE IN DOWNSTREAM FLOWS RESULTING FROM THE UPSTREAM TRAILS DEVELOPMENT ELIMINATING OFFSITE FLOWS FROM THE AREA NORTH OF THE GRANT LINE.

11) THERE ARE NO DPM DESIGN VARIANCES, PUBLIC OR PRIVATE DRAINAGE EASEMENTS PROPOSED BY THIS PROJECT. FACILITY DRAINAGE COVENANTS WILL BE REQUIRED FOR THE FUTURE DETENTION PONDS ON TRACTS A AND B.

CITY OF ALBUQUERQUE

2005.180.3



See also
2005.184.6

Making History

November 1, 2005

J. Graeme Means, PE
Jeff Mortensen & Associates, Inc.
6010-B Midway Park Blvd. NE
Albuquerque, NM 87109

**Re: APS NW Mesa High School Universe Blvd.
Master Drainage Report
Engineer's Stamp dated 10-14-05 (C9/D7)**

Dear Mr. Means,

P.O. Box 1293

Based upon the information provided in your submittal dated 10-14-05, the above referenced plan is approved for Work Order.

Albuquerque

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

New Mexico 87103

www.cabq.gov

Sincerely,

Rudy E. Rael, Associate Engineer
Planning Department.
Building and Development Services

C: file

XC: Tyler Mason
Chuck Atwood
Chris Willadsen
Bruce Stidworthy

Cherne, Curtis

From: Eckert, Martin W [eckert_m@aps.edu]
Sent: Wednesday, February 27, 2013 1:06 PM
To: Dourte, Richard H.; Curran, Kevin J.; Whitcomb, Blake; Rael, Jane E.; Woodall, Stephen P.; Cherne, Curtis
Cc: Jeffrey Mortensen; Graeme Means (GMeans@highmesacg.com); Ruth M. Schifani (rschifani@modrall.com); Alarid, Karen; 'rbeltramo@gcinm.com'; 'James Topmiller' (Jtopmill@bhinc.com); hrelkin@slo.state.nm.us; Britt, Don (dbritt@slo.state.nm.us); Lovato, Jerry (jlovato@amafca.org); Bingham, Brad (bbingham@amafca.org); 'ssteffen@bhinc.com'; Livingston, John
Subject: Volcano Vista HS Storm Drain Connection in Universe
Importance: High

Attachments: V V HS Universe SD 022713 City Letter with Referenced Attachments.PDF

Richard, please see the attached which I believe is self-explanatory. As you can see, I've copied Ruth Schifani, Esq. from the Modrall Law Firm to this e-mail as APS takes this matter very seriously. Ruth would be happy to discuss this matter with Kevin or Blake if necessary, but I would hope we can resolve this at an Administrative Level before the attorney's need to spend any time on this matter. APS would be happy to meet to discuss this situation with you and all other interested parties at your earliest convenience. I have discussed this matter with representatives from AMAFCA and the New Mexico State Land Office (an adjacent owner that is also adversely impacted by this Project), and they are also copied this e-mail along with other interested parties.

Thanks for your consideration. I would appreciate knowing what the City intends to do, prior to the City signing off on the current plans. Thanks, Marty

Martin W. Eckert, SR/WA
 Real Estate Director
 Albuquerque Public Schools
 Lincoln Complex Room 8
 915 Locust St. SE
 Albuquerque, NM 87106
 E-mail: eckert_m@aps.edu
 Phone: (505) 765-5950 ext 265
 Fax: (505) 768-1583

From: Cherne, Curtis [mailto:CCherne@cabq.gov]
Sent: Tuesday, February 26, 2013 12:00 PM
To: Graeme Means
Cc: Jeffrey Mortensen; Eckert, Martin W
Subject: RE: Volcano Vista HS Storm Drain Connection in Universe

Graeme,
 Shahab and I have reviewed this draft and offer the following:
 The Q allowable for the APS site equals Q (pressure flow in lateral) minus Q (inlet)

Therefore, 29.5 cfs (from pressure flow analysis) minus 3.3 cfs (inlet), equals 26.2 cfs.

The Q Allowable for the APS site is 26.2 cfs.
 The orifice plate would need to be installed upstream (private side) of the inlet in Universe Blvd.

Hydrology reviewed the HGL in the Universe storm drain and the additional head would crawl up the pipe approx. 200 ft. There would be no adverse impact to the Trails system.
 Please submit to Hydrology for Work Order approval.

Incorporating this into the existing construction plans would be preferable to an additional set. Is this something

3/22/2013

that you and Scott Steffen can work out?

Curtis

From: Graeme Means [<mailto:GMeans@highmesacg.com>]
Sent: Tuesday, February 26, 2013 9:16 AM
To: Cherne, Curtis
Cc: Jeffrey Mortensen; Eckert, Martin W
Subject: Volcano Vista HS Storm Drain Connection in Universe

Curtis,

Jeff passed on your request for us to put together a summary report in a reviewable format that documents our discussions and findings from our informal meeting last Thursday regarding the hydraulic feasibility of a storm drain connection from Volcano Vista HS to the proposed storm drain in Universe.

Attached herewith is a draft version for your review and comment. Please review and let me know if this is what you're looking for. We can then finalize and I'll sign, stamp and date.

Thank you,

Graeme Means



J. Graeme Means, P.E.
Principal

6010-B Midway Park Blvd. NE
Albuquerque, NM 87109
www.highmesacg.com

Phone: 505.345.4250
Fax: 505.345.4254
gmeans@highmesacg.com

3/22/2013

Cherne, Curtis

From: Cherne, Curtis
Sent: Tuesday, February 26, 2013 12:00 PM
To: 'Graeme Means'
Cc: 'Jeffrey Mortensen'; 'Eckert, Martin W'
Subject: RE: Volcano Vista HS Storm Drain Connection in Universe

Graeme,
Shahab and I have reviewed this draft and offer the following:
The Q allowable for the APS site equals Q (pressure flow in lateral) minus Q (inlet)

Therefore, 29.5 cfs (from pressure flow analysis) minus 3.3 cfs (inlet), equals 26.2 cfs.

The Q Allowable for the APS site is 26.2 cfs.
The orifice plate would need to be installed upstream (private side) of the inlet in Universe Blvd.

Hydrology reviewed the HGL in the Universe storm drain and the additional head would crawl up the pipe approx. 200 ft. There would be no adverse impact to the Trails system.
Please submit to Hydrology for Work Order approval.

Incorporating this into the existing construction plans would be preferable to an additional set. Is this something that you and Scott Steffen can work out?

Curtis

From: Graeme Means [mailto:GMeans@highmesacg.com]
Sent: Tuesday, February 26, 2013 9:16 AM
To: Cherne, Curtis
Cc: Jeffrey Mortensen; Eckert, Martin W
Subject: Volcano Vista HS Storm Drain Connection in Universe

Curtis,

Jeff passed on your request for us to put together a summary report in a reviewable format that documents our discussions and findings from our informal meeting last Thursday regarding the hydraulic feasibility of a storm drain connection from Volcano Vista HS to the proposed storm drain in Universe.

Attached herewith is a draft version for your review and comment. Please review and let me know if this is what you're looking for. We can then finalize and I'll sign, stamp and date.

Thank you,

Graeme Means

2/26/2013



J. Graeme Means, P.E.
Principal

6010-B Midway Park Blvd. NE
Albuquerque, NM 87109
www.highmesacg.com

Phone: 505.345.4250
Fax: 505.345.4254
gmeans@highmesacg.com

Cherne, Curtis

C090067

From: Dourte, Richard H.
Sent: Monday, March 18, 2013 10:57 AM
To: 'Eckert, Martin W'; Jeffrey Mortensen; Scott Steffen (ssteffen@bhinc.com)
Cc: Cherne, Curtis; Whitcomb, Blake; Graeme Means; Ruth M. Schifani (rschifani@modrall.com); Alarid, Karen; Darby, Annelle; Livingston, John
Subject: RE: Volcano Vista HS RE: APS and Universe Storm Drain
Attachments: Universe SD Manhole Surge Summary APS flow.xlsx

Martin,

I don't have a detailed analysis to provide. Mr. Steffen at BHI did an analysis as attached, showing that if we allow 6 cfs (3cfs from the street and 3 from APS) we will surcharge the manhole by .6ft. Normally, it is not allowed to have any surcharge, but I feel that something needs to be provided. We may be able to give 4 cfs but in either case we will need to tie the manhole down which is undesirable for many reasons. If you can provide an analysis that would allow for more discharge from your site we will be glad to take a look at it, sometimes the flow timing can make a difference. Although 3 to 4 cfs may not sound like alot, it does provide some relief to your pond.

Please let me know soon,

Richard

From: Eckert, Martin W [mailto:eckert_m@aps.edu]
Sent: Monday, March 18, 2013 10:44 AM
To: Dourte, Richard H.; Jeffrey Mortensen
Cc: Cherne, Curtis; Whitcomb, Blake; Graeme Means; Ruth M. Schifani (rschifani@modrall.com); Alarid, Karen; Darby, Annelle; Livingston, John
Subject: Volcano Vista HS RE: APS and Universe Storm Drain

Richard, you should have received an out of office reply from me last week as I was out of the office on vacation, and I see that Jeff also notified you I was out and that I would respond asap after my return to the office. Thank you for your patience and thank you for trying to make the best out of what I believe to be a bad situation.

Since it does not appear that the City or BHI provided either APS or HMCG a copy of the "detailed analysis" that is referenced in your below e-mail to Jeff, it is hard for me to understand the conclusion of 3 cfs discharge. My initial reaction is "only 3 cfs?????". 3 cfs is obviously better than 0 cfs, but substantially less than the 26 to 29 cfs that HMCG had calculated might be possible. I can't express enough how disappointed the School District is with this drastic restriction on its ability to drain this site, particularly in light of the APS Drainage Plan that was approved by the City to allow closer to 100 cfs to be drained.

I request that you please provide APS and HMCG a copy of the "detailed" analysis that demonstrates that APS would be limited to 3 cfs discharge for APS to review. We can't provide the City an answer until we have had adequate time to review this and discuss it internally.

Thanks again for trying to help APS, and the taxpayers of the School District. Marty

Martin W. Eckert, SR/WA
Real Estate Director
Albuquerque Public Schools
Lincoln Complex Room 8
915 Locust St. SE
Albuquerque, NM 87106
E-mail: eckert_m@aps.edu
Phone: (505) 765-5950 ext 265
Fax: (505) 768-1583

From: Dourte, Richard H. [<mailto:RDourte@cabq.gov>]
Sent: Wednesday, March 13, 2013 10:18 AM
To: Jeffrey Mortensen
Cc: Cherne, Curtis; Whitcomb, Blake; Graeme Means; Eckert, Martin W
Subject: RE: APS and Universe Storm Drain

Thank you.

From: Jeffrey Mortensen [<mailto:JMortensen@highmesacg.com>]
Sent: Wednesday, March 13, 2013 9:29 AM
To: Dourte, Richard H.
Cc: Cherne, Curtis; Whitcomb, Blake; Graeme Means; 'Eckert, Martin W'
Subject: RE: APS and Universe Storm Drain

Richard,

I have forwarded this proposal to Mr. Eckert for his review, however, he is on Spring Break, returning to work the 18th.

I trust he will give this his full attention upon return. In the meantime, thank you for your continued interest in helping resolve this matter.

Regards,
Jeff



Jeffrey G. Mortensen, P.E.
President

6010-B Midway Park Blvd. NE Phone: 505.345.4250
Albuquerque, NM 87109 Fax: 505.345.4254
www.highmesacg.com jmortensen@highmesacg.com

-----Original Message-----

From: Dourte, Richard H. [<mailto:RDourte@cabq.gov>]
Sent: Wednesday, March 13, 2013 8:44 AM
To: Jeffrey Mortensen
Cc: Cherne, Curtis; Whitcomb, Blake
Subject: APS and Universe Storm Drain

Jeff,

After a detailed analysis regarding the storm drain in Universe Boulevard, it has been determined that the APS site adjacent to this may drain into the pipe at a rate of 3cfs. Although this is not the allowing free discharge for this site, it will allow the pond to change from a retention pond to a detention pond. This will provide benefit to APS.

I do want to point out that the City is allowing more storm water into this system than normally allowed. The addition of 3cfs will generate a hydraulic grade line above the top of a manhole in this system, this manhole will need to be secured.

Since you have been an interacting agency between the City and APS, I am requesting that you contact APS to see if they wish to utilize this option. APS would need to coordinate with RCS/Trails with regards to a change order to the Universe Storm Drain construction plans and with regards to the associated costs, if they choose to proceed with this option.

Thank you for your help.

Richard

File
C9/D007



CITY OF ALBUQUERQUE
Department of Family and Community Services
P.O. Box 1293
Albuquerque, New Mexico 87103-1293

Martin J. Chavez, Mayor

Valorie A. Vigil, Director

April 11, 2008

Mr. Brad Bingham, Engineer
Albuquerque Planning Department
600 2nd Street NW
Albuquerque, NM 87102

RE: Environmental Review Requirements
New Construction of Building and Landscaping on Albuquerque's
Northwest Mesa Effect on Storm and Surface Water Systems

Dear Mr. Bingham:

The YMCA of Central New Mexico is using federal funding to construct a full YMCA facility on eight acres adjacent to Volcano Vista High School on land leased from the Albuquerque Public Schools. Following is a description of the project for your review and comment.

Project Name: New Northwest Mesa YMCA Construction Project

Project Description: This project will utilize HUD EDI Special Project Grant funds towards the construction of 39,000 square foot facility to include child care programs, wellness center with fitness equipment, gymnasium, aerobics programs, indoor competitive lap pool, a therapy/exercise pool and a teen/tech center. There will also be sports fields on the adjoining property. This project will serve approximately 2,500 patrons and employ a staff of nearly 300 on Albuquerque's northwest mesa.

Mr. Brad Bingham
April 11, 2008
Page 2

Enclosed is a zone map and photographs of the property.

Project Addresses: 8100 Rainbow Road NW, Albuquerque, NM 87114. The currently vacant 8 acre lot is at the southeast corner of the Albuquerque Public Schools' Volcano Vista High School. The APS property is a 91 acre property that is identified as the northern 1,400 feet of tract C of Ancient Mesa in the southwest quarter of Section 16, Township 11 North, Range 2 East. Located at the southwest corner of Rainbow Boulevard and Avenida Jaimito.

Please use the form below to advise our office as to whether these activities would have an adverse impact on storm and surface water. If you have any questions or concerns, please call me at 768-2871.

Sincerely,

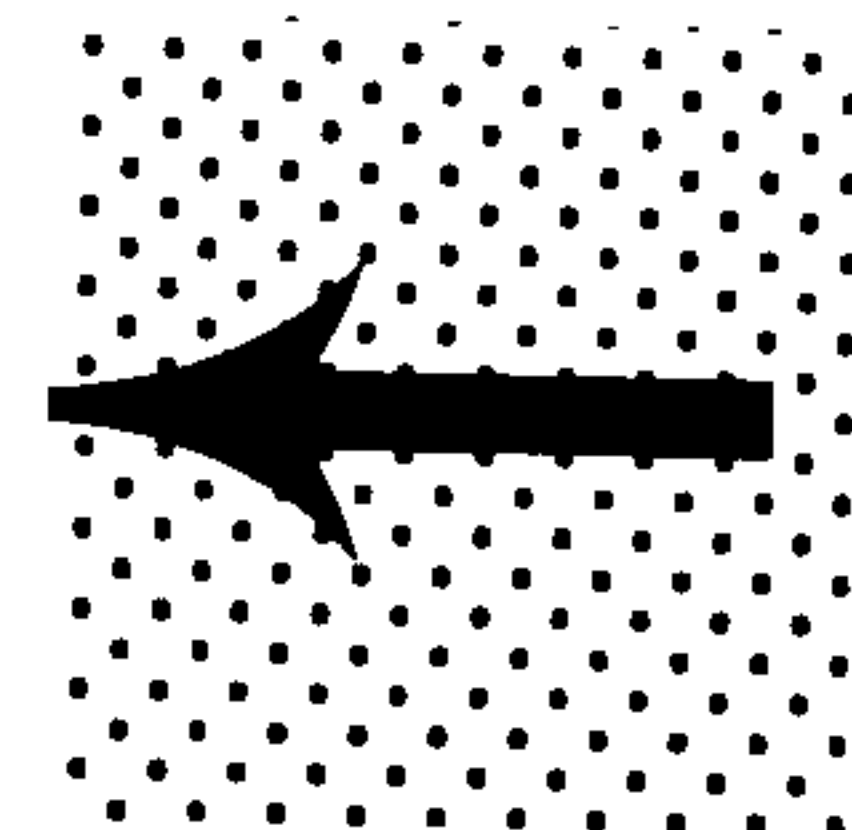


Rick Giron, Program Specialist
Community Development Division

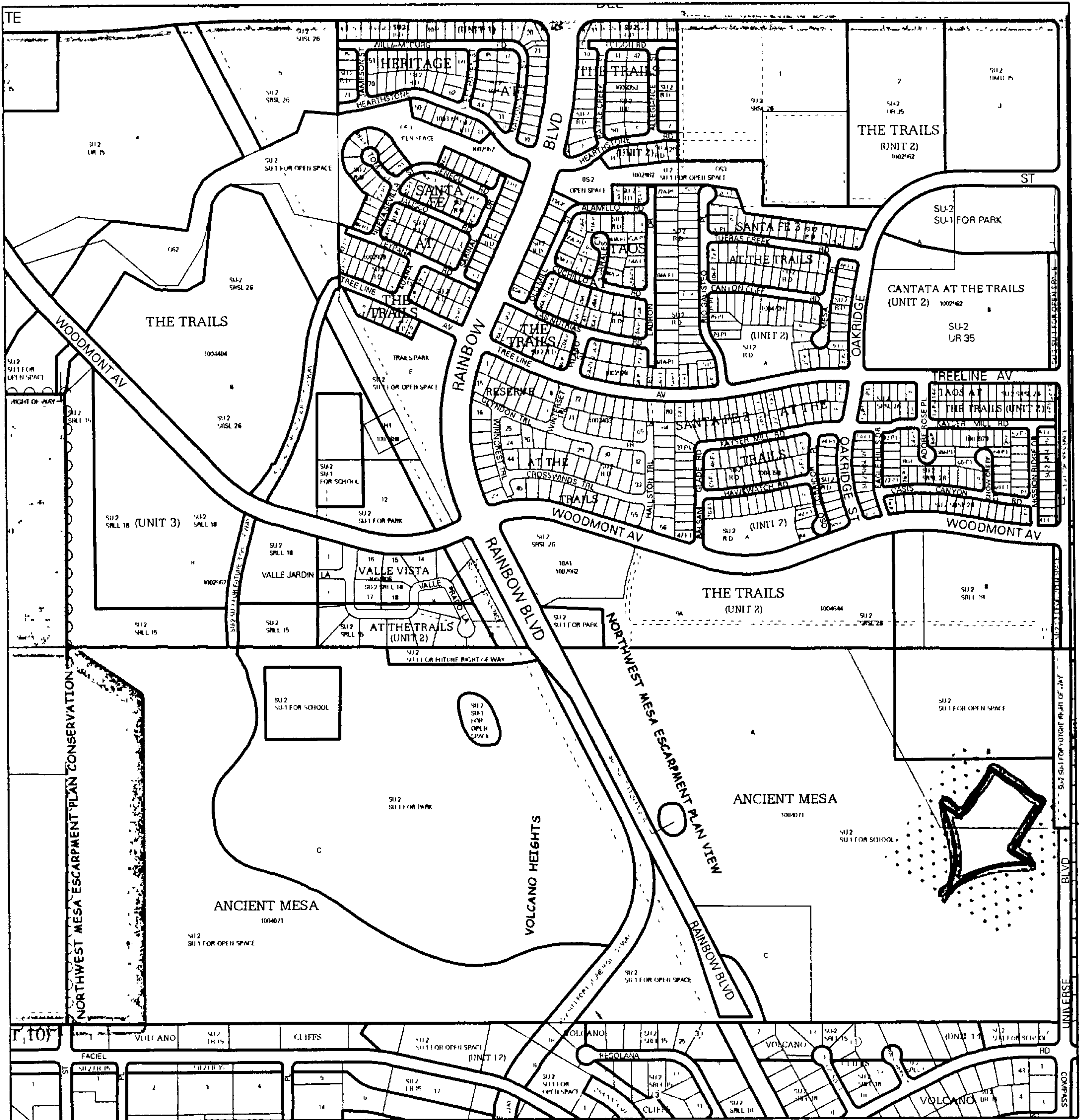
- ☐ I concur that the proposed undertaking SHOULD NOT adversely impact the City of Albuquerque's Storm and Surface Water Systems.
- ☐ I have determined that the proposed undertaking WILL adversely impact the City of Albuquerque's Storm and Surface Water Systems. You should undertake further consultation with our office before proceeding with the proposed project.

Concur: _____
Brad Bingham, City Engineer

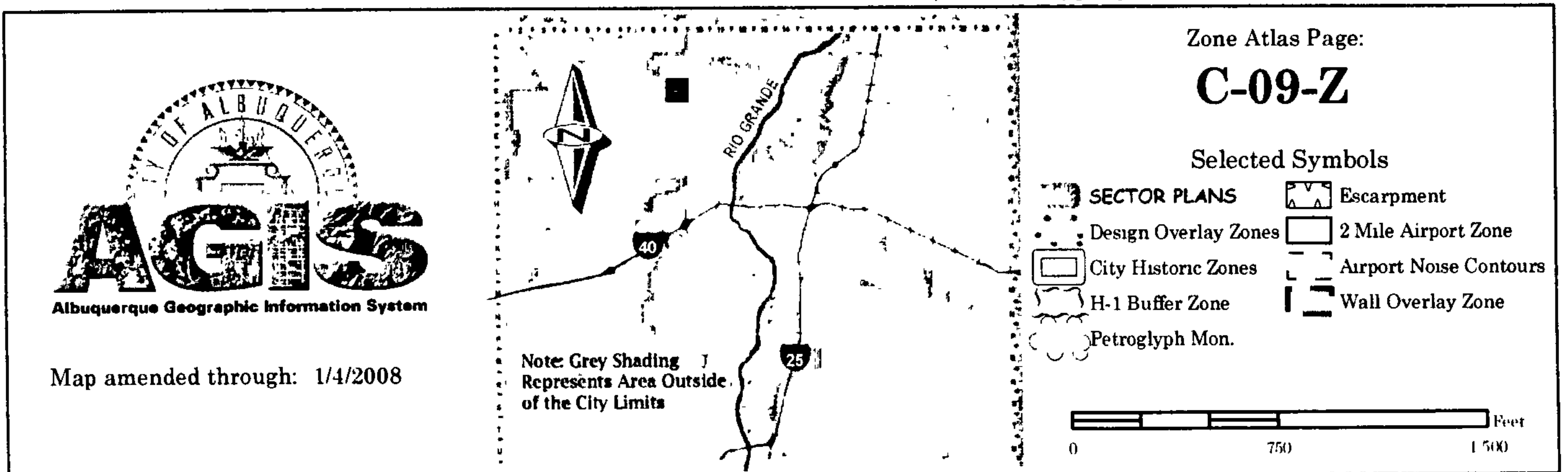
Date: _____



**SIGN
HERE**



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



Cherne, Curtis

From: Cherne, Curtis
Sent: Thursday, June 21, 2012 9:42 AM
To: 'Eckert, Martin W'; 'steven.metro@wilsonco.com'; Curran, Kevin J.
Cc: 'Jeff Mulbery'; 'Jeffrey Mortensen'; 'Mason, Tyler M'; 'Livingston, John'; 'Bingham, Brad'; 'Lovato, Jerry'
Subject: RE: Volcano Vista FW: Universe Blvd. Storm Drain

Hydrology has no comment on this at this time.

Curtis

From: Eckert, Martin W [mailto:eckert_m@aps.edu]
Sent: Friday, June 15, 2012 12:26 PM
To: 'steven.metro@wilsonco.com'; Curran, Kevin J.
Cc: 'Jeff Mulbery'; Jeffrey Mortensen; Mason, Tyler M; Livingston, John; Cherne, Curtis ; 'Bingham, Brad'; 'Lovato, Jerry'
Subject: FW: Volcano Vista FW: Universe Blvd. Storm Drain
Importance: High

I have now talked to both Jeff Mulbery from BHI and Jeff Mortensen from HMCG. The 1st attachment is what Steve Metro sent me this morning – it is a conceptual plan that shows APS might be allowed a discharge of 10cfs under this scenario. The 2nd is a blow up of the BHI approved grading plan for V V HS which shows APS allowed 95.04 cfs discharge out of the 101 cfs allowed per the approved Master Drainage Plan, and the 3rd includes the BHI approved plans as well as portions of the previously approved Master Drainage Plan from HMCG.

APS has built the all of the drainage improvements it was required to build in its approved drainage plan. It was understood when APS purchased the State Land Office property and got its drainage plans for V V HS approved that the Boca Negra Dam and the Universe SD would be built by others, at no expense to APS. APS would like to see the Universe SD outfall pipe built to allow the full 95.04 cfs to discharge from the V V HS site. APS does not have any money to fund the Universe SD and is not interested in participating in the cost to construct the Universe SD which was supposed to be built by others long ago at no expense to APS. I apologize for my stupidity, but I have not been focusing as closely on this as I should have been because I'm trying to get another critical project wrapped up. I read the 1.44 cfs in the MDP, but failed to understand that it stated 1.44 cfs / acre (V V HS is 70 + acres).

Thanks, Marty

Martin W. Eckert, SR/WA
 Real Estate Director
 Albuquerque Public Schools
 Lincoln Complex Room 8
 915 Locust St. SE
 Albuquerque, NM 87106
 E-mail: eckert_m@aps.edu
 Phone: (505) 765-5950 ext 265
 Fax: (505) 768-1583

From: Jeff Mulbery [mailto:jmulbery@bhinc.com]
Sent: Friday, June 15, 2012 11:52 AM
To: Eckert, Martin W
Cc: Kevin Patton; Livingston, John
Subject: Re: Volcano Vista FW: Universe Blvd. Storm Drain

Marty, per our discussion the approved dmp for vvhs shows an outfall of approx. 95 cfs into the storm

6/21/2012

drain in universe to be built by others.
Thanks.
Jeff

Confidential/Proprietary Note:

The information in this email is confidential and may be legally privileged. Access to this email by anyone other than the intended addressee is unauthorized. If you are not the intended recipient of this message, any review, disclosure, copying, distribution, retention, or any action taken or omitted to be taken in reliance on it is prohibited and may be unlawful. If you are not the intended recipient, please reply to or forward a copy of this message to the sender and delete the message, any attachments, and any copies thereof from your system. Thank you.

6/21/2012

LEGAL DESCRIPTION

An easement situate within Government Lot 1 and the South East Quarter (SE1/4) of the South East Quarter (SE1/4) of Section 16, Township 11 North, Range 2 East, New Mexico Principal Meridian, Bernalillo County New Mexico comprising the Easterly Sixty four feet (64') of said Government Lot 1 and the South East Quarter (SE1/4) of the South East Quarter (SE1/4), more particularly described by survey performed by Russ P. Hugg, New Mexico Professional Surveyor Number 9750 using New Mexico State Plane Coordinate System, Central Zone (NAD 27) grid bearings and ground distances as follows:

BEGINNING at the Northeast corner of the easement herein described, and the Northeast corner of said Government Lot 1, being the closing corner on the South Boundary of the Town of Alameda Grant for Sections 16 and 15, Township 11 North, Range 2 East, N.M.P.M. (A BLM brass cap found in place) whence the Albuquerque Control Survey Monument "7-C10" bears N 63° 10' 10" E. 1688.67 feet distant; Thence,

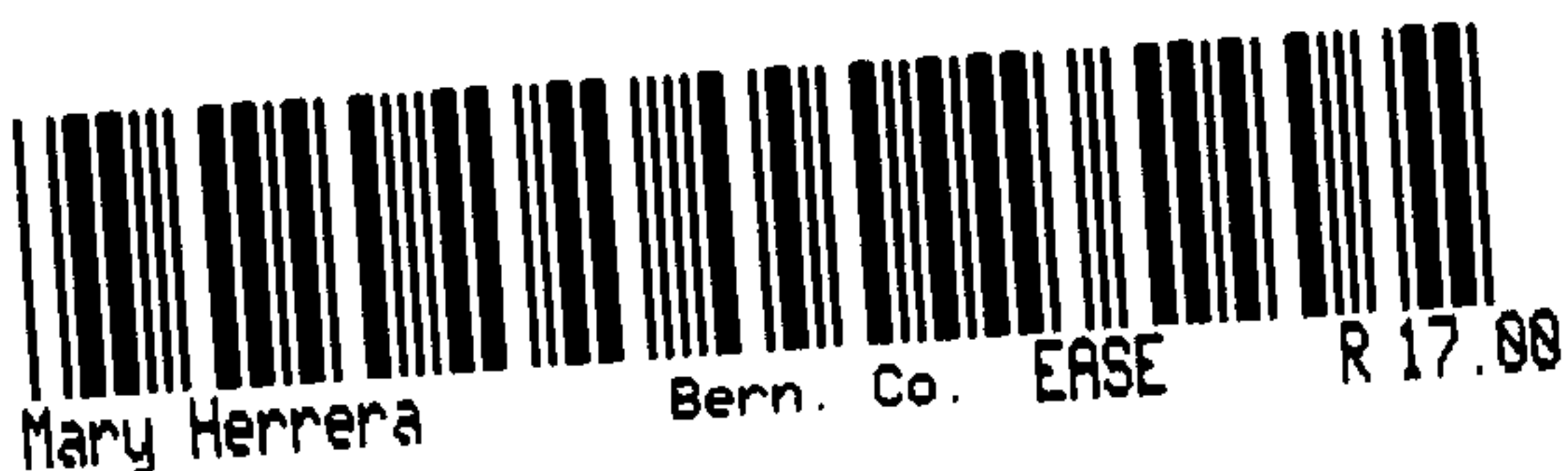
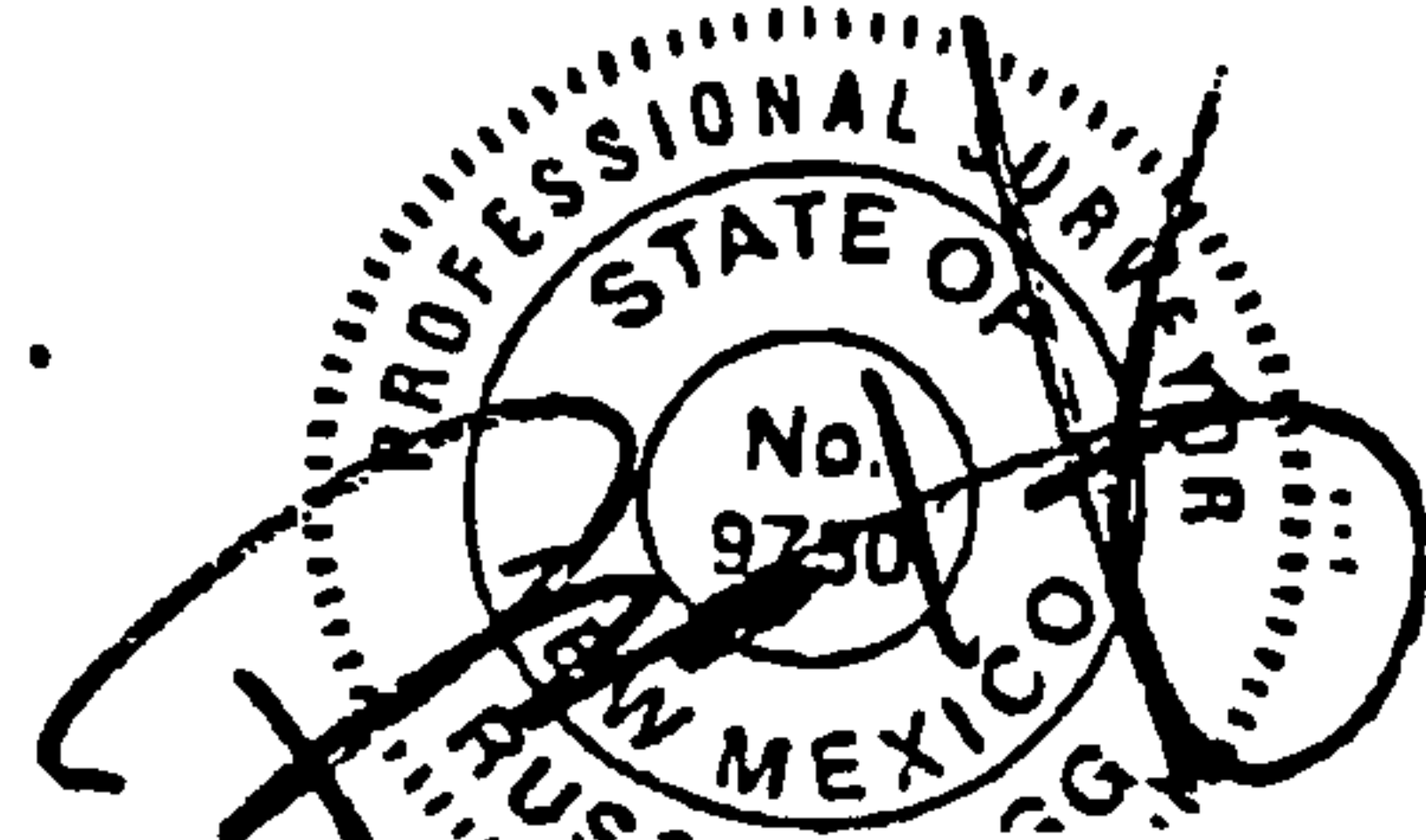
S 00° 16' 22" W , 1956.97 feet along the line common to Sections 16 and 15 and the Easterly line of said Government Lot 1 and the South Half of the South Half to the corner common to Sections 15, 16, 21 and 22, Township 11 North, Range 2 East, N.M.P.M. (A BLM brass cap found in place), said point being the Southeast corner of said South Half of the South Half and the Southeast corner of the easement herein described; Thence,

N 89° 43' 38" W , 64.00 feet along the South line of said Section 16 to the Southwest corner of the easement herein described; Thence,

N 00° 16' 22" E , 1957.08 feet to a point on said South Boundary of the Town of Alameda Grant and Northwest corner of the easement herein described; Thence,

S 89° 40' 05" E , 64.00 feet along said South Boundary of the Town of Alameda Grant to the Northeast corner and point of beginning of the easement herein described.

Said easement contains 2.8755 acres, more or less.

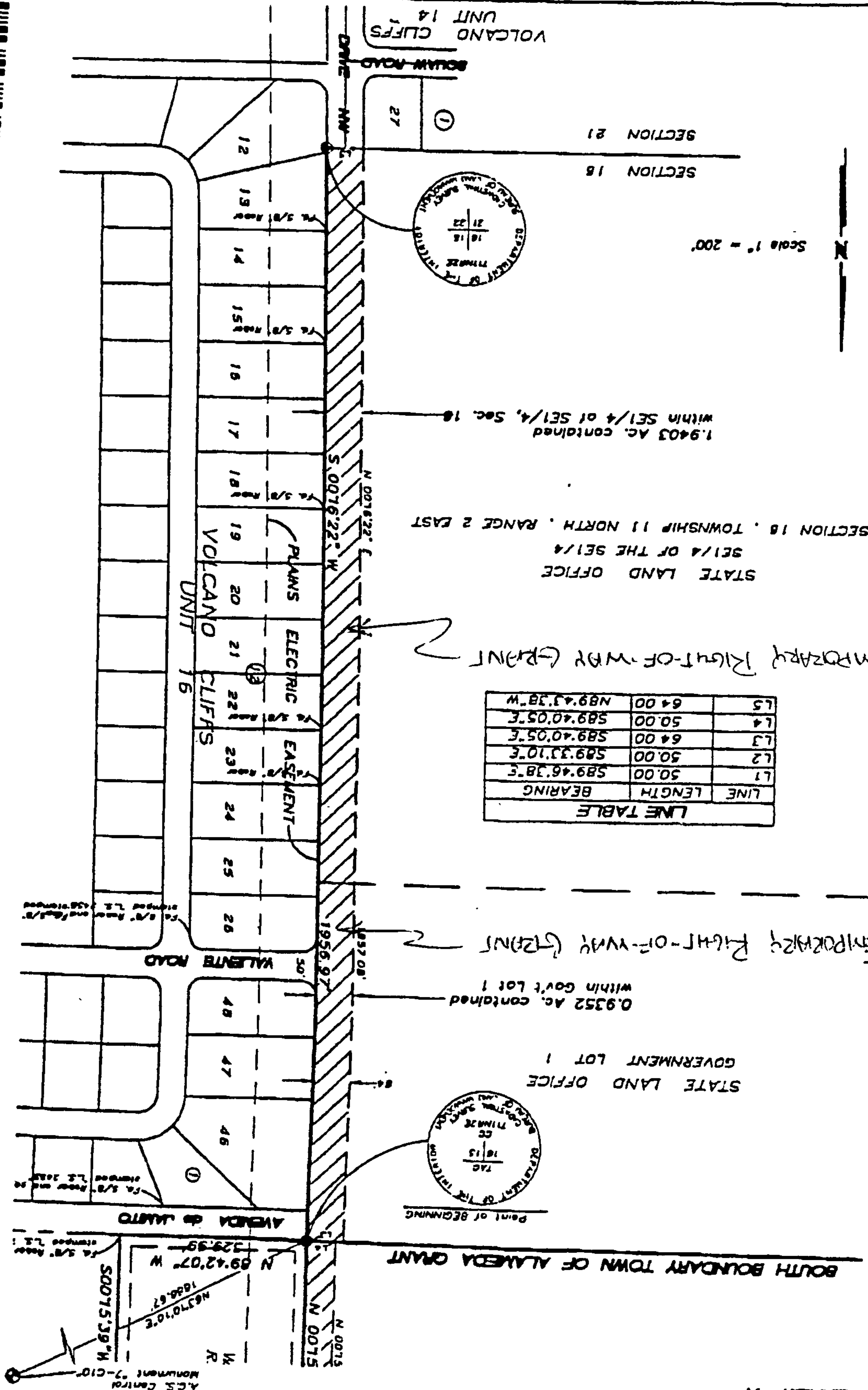


2002130618
5737791
Page: 5 of 5
10/08/2002 03:57P
Bk-A43 Pg-260

APPENDIX C

APPENDIX D

APPENDIX E



SURV TEK, INC.

Consulting Surveyors

6645 Paradise Blvd N.W. Albuquerque, New Mexico 87114

Phone: 800-887-5388

Mary Herrera

Bern Co ERSE

R 17.00

2002130618
5737791
Page: 4 of 5
10/08/2002 03:57P
BK-A43 Pg-269

such cancellation shall become effective, Grantor shall mail to Grantee or any approved assignees, by certified mail, addressed to the Post Office address of Grantee or such assignee shown by Land Office records, a thirty (30) day notice of intention to cancel, specifying the default for which the grant is subject to cancellation. No proof of receipt of notice shall be necessary and thirty (30) days after such mailings, this right-of-way shall terminate without further notice or other act by Grantor, unless Grantee shall have sooner remedied the default, or made arrangements to cure, satisfactory to Grantor.

K. Grantee agrees to preserve and protect the natural environmental condition of the land encompassed in this grant, and to take those reclamation or corrective actions that are accepted soil and water conservation practices, and that are deemed necessary by Grantor, to protect the land from pollution, erosion, or other environmental degradation. This requirement shall survive the termination of this right-of-way; and failure by Grantee to satisfactory fulfill any such reclamation, corrective, or conservation requirements imposed by Grantor shall give rise to claim by Grantor or legal and equitable remedies,

L. Grantee agrees to reclaim by grading, leveling, or terracing all areas distributed by the construction or maintenance of the right-of-way or operations thereon and to landscape such areas at its own cost and expense. Landscaping shall include the planting of native grasses, shrubs, or vegetation so as to return disturbed areas to their natural state and prevent water and wind erosion. All such reclamation shall be completed to the satisfaction of Grantor. This requirement shall survive the termination of this right-of-way.

M. This grant shall become effective upon its execution by Grantor.

STIPULATION:

APPROVED:

City Engineer

Dated

STATE OF NEW MEXICO (GRANTOR)

By:

COMMISSIONER OF PUBLIC LANDS

GRANTEE:

By:

ACKNOWLEDGMENT

STATE OF _____)

) ss.

COUNTY OF _____)

The foregoing instrument was acknowledged before me this 15 day of July, 2002, by Charles T. Asbury of _____ a _____ corporation, on behalf of said corporation.

My Commission Expires: _____

NOTARY PUBLIC

9 18 2004



Mary Herrera

Bern. Co. EASE

R 17.00

2002130618

5737791

Page: 3 of 5

10/08/2002 03:57P

Bk-A43 Pg-260

C. The right to grant additional rights-of-way or easements with this right-of-way belongs exclusively to Grantor. Grantor hereby agrees, however, that in the event Grantor elects to exercise such right, Grantor will secure, in writing, the agreement of the subsequent right-of-way Grantee that no facilities will be constructed or installed within the right-of-way subsequently granted without first obtaining from the City of Albuquerque a permit prescribing the conditions under which facilities may be placed within such right-of-way in accordance with the city's applicable rules and regulations.

D. In clearing the right-of-way, Grantee agrees to dispose of brush and other debris so as not to create any nuisance or hazardous condition.

E. Grantee shall not, without the prior written approval of Grantor, assign this right-of-way or otherwise create or allow uses or users other than those specifically described herein. Such approval may be conditioned upon the agreement by Grantee's assignee to additional conditions and covenants and may require payment of additional compensation to Grantor. This right-of-way is for the sole purpose stated and no other. Grantee agrees not to sell or otherwise grant to any person or entity and interest therein or the right to use any portion thereof.

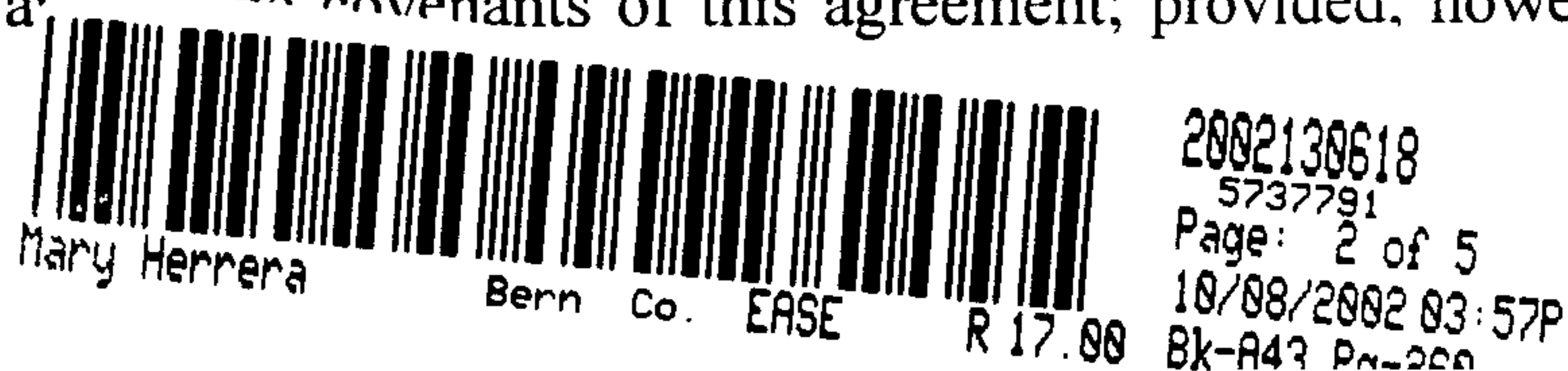
F. Grantor reserves the right to execute leases for oil and gas, coal, and minerals of whatsoever kind and for geothermal resources development and operation, the right to sell or dispose of same, and the right to grant right-of-way and easements related to such leasing.

G. In all matter affecting the premises described herein or operations thereon, Grantee, its employees, agents, and contractors shall, at their own expense, fully comply with all laws, regulations, rules, ordinances, and requirements of any governmental authority or agency, which may be enacted or promulgated, including, but not limited to, requirements or enactments pertaining to conservation, sanitation, aesthetics, pollution, cultural properties, and resources, fire, or ecology, including those provisions of the New Mexico Cultural Properties Act, 18-6-1 through -17, NMSA 1978, that attach criminal penalties to the appropriation, excavation, injury or destruction of any site or object of historical, archaeological, or scientific value located on state lands. Grantee agrees to any immediately notify Grantor of the presence of any archaeological, historical, scientific, or architectural properties or resources on or near the right-of-way granted herein.

H. Non-use of the right-of-way granted herein for any period in excess of one (1) year without the prior written consent of Grantor shall be conclusive proof of abandonment of the right-of-way, and non-use for shorter periods shall place upon Grantee the burden of proving that there was no intent to abandon. Grantor's determination of non-use shall be final.

I. Grantee, if other than a governmental entity that is provided immunity from suit by the New Mexico Tort Claims Act, agrees to save and hold harmless, defend and indemnify the State of New Mexico, the Commissioner of Public Lands, and his agents or employees, in their official and individual capacities, of and from any and all liability, claims, losses, or damages arising out of, or alleged to arise out of, or indirectly connected with the operations of Grantee, its employees, agents, invitees or contractors hereunder.

J. Notwithstanding anything contained herein, Grantor may cancel this grant for violation of any of the covenants of this agreement; provided, however, that before any



700
693386

STATE OF NEW MEXICO
COMMISSIONER OF PUBLIC LANDS
GRANT OF TEMPORARY RIGHT-OF-WAY

Right-of-Way Easement No. RW-28185

This Indenture is made this 28th day of August, 2002, between the New Mexico Commissioner of Public Lands (Grantor), and City of Albuquerque, Public Works Department whose address is P.O. Box 1293, Albuquerque, NM 87103 (Grantee).

WHEREAS the parties are engaged in negotiating a possible long-term right-of-way to be used for the installation and maintenance of a road; and,

WHEREAS the parties anticipate that a right-of-way will, in fact, be agreed upon; and,

WHEREAS the parties agree that by entering this agreement, neither intends to, nor will it, waive or otherwise be estopped or barred to assert or raise a right, claim, or defense regarding the alleged trespass, the proper valuation of the right-of-way, or any other matter which has arisen, or may arise from or, in connection with any use or purported use, occupancy, or entry upon Grantor's lands by Grantee; and,

WHEREAS Grantee agrees to pay the appraised value of this right-of-way determined by the Grantor.

1. Grantor conveys to Grantee a right-of-way for the sole and exclusive purpose of constructing and maintaining Grantee's road including the right to enter upon the right-of-way hereinafter described at any time to construct, maintain, and repair the right-of-way, and any necessary and related improvements, together with the right to remove trees, brush, undergrowth, and other obstructions interfering with the location, construction, and maintenance of said right-of-way which the parties are presently negotiating.

2. The right-of-way hereby granted covers a strip of land sixty-four (64) feet in width in Bernalillo County(ies), as more particularly described by the attached centerline description and survey plats, which are incorporated herein as Exhibit A.

3. This grant is made upon the following express terms and conditions.

A. This right-of-way is granted for a term of one (1) year. The grant may be renewed for additional periods upon application to Grantor. Grantee may renew this temporary right-of-way for one (1) additional year on the same terms by giving Grantor thirty (30)-days notice.

B. Grantor reserves the right to authorize or grant right-of-way or other easements to third parties, which may be parallel to, cross over or bisect this right-of-way. In such cases, the subsequent Grantee may, at the discretion of the Grantor, be required to post a bond guaranteeing payment for damages to the installations and improvements of Grantee herein. In crossing any right-of-way for a highway, road, telephone, telegraph, transmission line, etc., Grantee herein will exercise due care so as not to interfere with said rights-of-way and will comply with all applicable laws, rules, and regulations in connection with the making of such crossings.



Mary Herrera

Bern. Co. EASE

R 17.00

2002130618

5737791

Page: 1 of 5

10/08/2002 03:57P

Bk-A43 Pg-260

EXHIBIT 'A'

LINE	LENGTH	BEARING
L1	50.00	S89°46'38"E
L2	50.00	S89°33'10"E
L3	64.00	N89°40'05"W
L4	50.00	N89°40'05"W
L5	64.00	N89°43'38"W

ILVERMAN, ROSALIE

**'Y DEED
MORRIS J. WINOKUR**

CURRENT

ROADWAY AND UNDERGROUND PUBLIC AND PRIVATE UTILITY EASEMENT

SOUTH BOUNDARY TOWN OF ALAMEDA GRANT

Scale 1" = 200'

LINE TABLE		
LINE	LENGTH	BEARING
L1	50.00	S89°46'38"E

SURV  TEK, INC.

Consulting Surveyors

6649 Paradise Blvd. N.W. Albuquerque, New Mexico 87114

Phone 606-607-3344
Fax 606-607-3377

EXHIBIT "A"

LEGAL DESCRIPTION

An easement situate within the Town of Alameda Grant in projected Section 16, Township 11 North, Range 2 East, New Mexico Principal Meridian, Bernalillo County New Mexico comprising the Easternly fifty feet (50') of that certain parcel of land described in Warranty Deed to Morris J. Winokur filed in the office of the County Clerk of Bernalillo County, New Mexico on May 19, 1960 as Document Number 70605 more particularly described by survey performed by Russ P. Hugg, New Mexico Professional Surveyor Number 9750 using New Mexico State Plane Coordinate System, Central Zone (NAD 27) grid bearings and ground distances as follows:

BEGINNING at the Southeast corner of the easement herein described, the Northeast corner of the aforesaid Special Warranty Deed and the closing corner on the South Boundary of the Town of Alameda Grant for Sections 16 and 15, Township 11 North, Range 2 East, N.M.P.M. (A BLM brass cap found in place) whence the Albuquerque Control Survey Monument "7-C10" bears N 63° 10' 10" E, 1688.67 feet distant; Thence,

N 89° 40' 05" W, 50.00 feet along said South Boundary of the Town of Alameda Grant to the Southwest corner of the easement herein described; Thence,

N 00° 15' 34" E, 641.74 feet to a point; Thence,

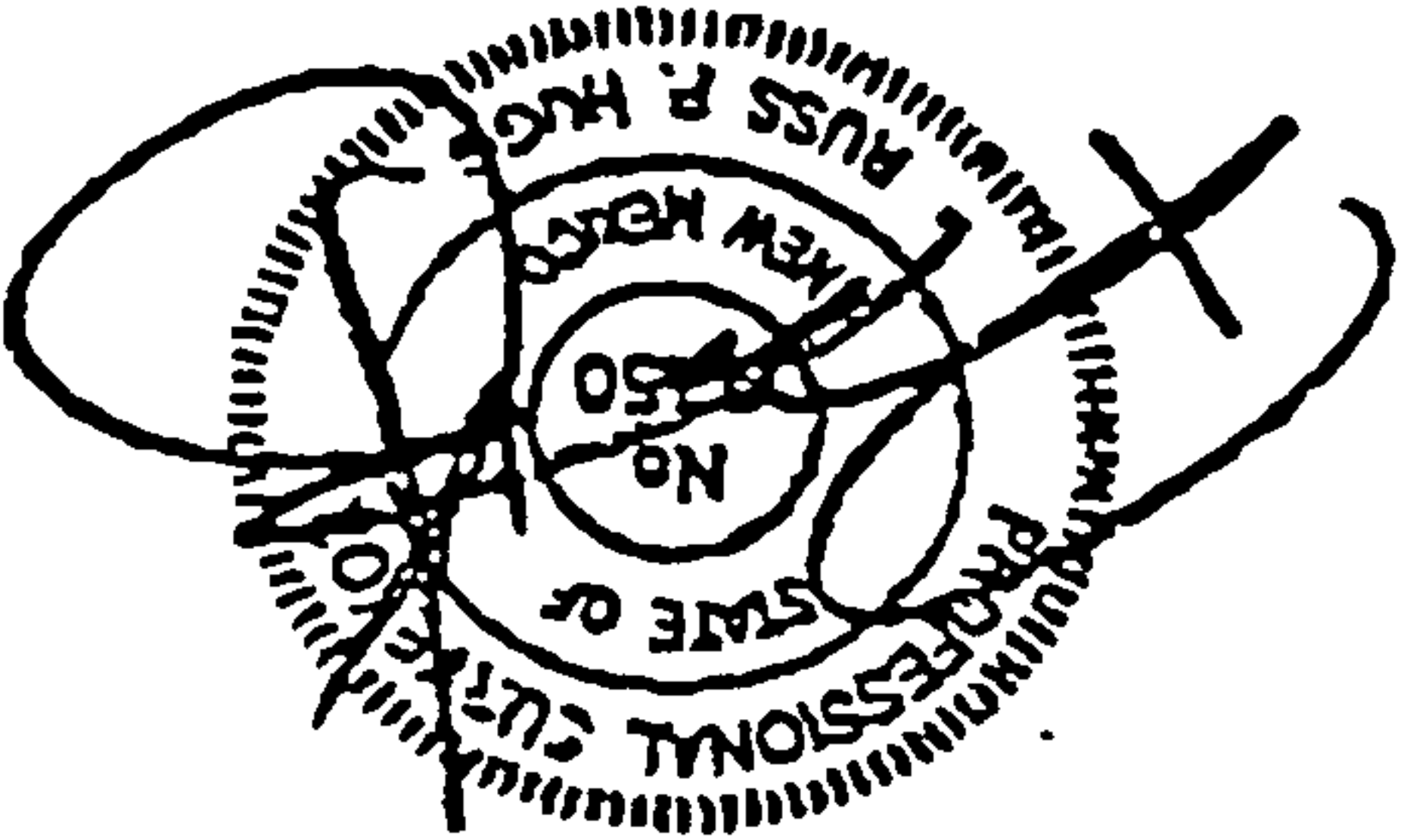
N 00° 13' 49" E, 677.31 feet to a point on the Northernly line of said Warranty Deed and the Northwest corner of the easement herein described; Thence,

S 89° 33' 10" E, 50.00 feet along the Northernly line of said Warranty Deed to the Northeast corner of said Special Warranty Deed and the Northeast corner of the easement herein described; Thence,

S 00° 13' 49" W, 677.14 feet to a point; Thence,

S 00° 15' 34" W, 641.82 feet to the Southwest corner and point of beginning of the easement herein described.

Said easement contains 1.5140 acres, more or less.



2002130617
5737298
Page: 3 of 4
10/08/2002 03:57P
BX-H43 Pg-259



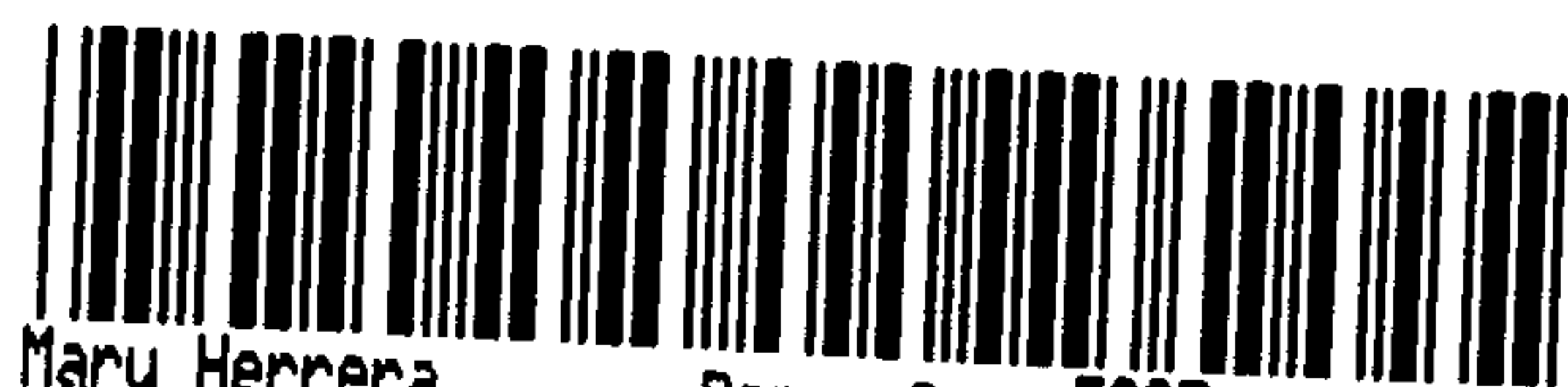
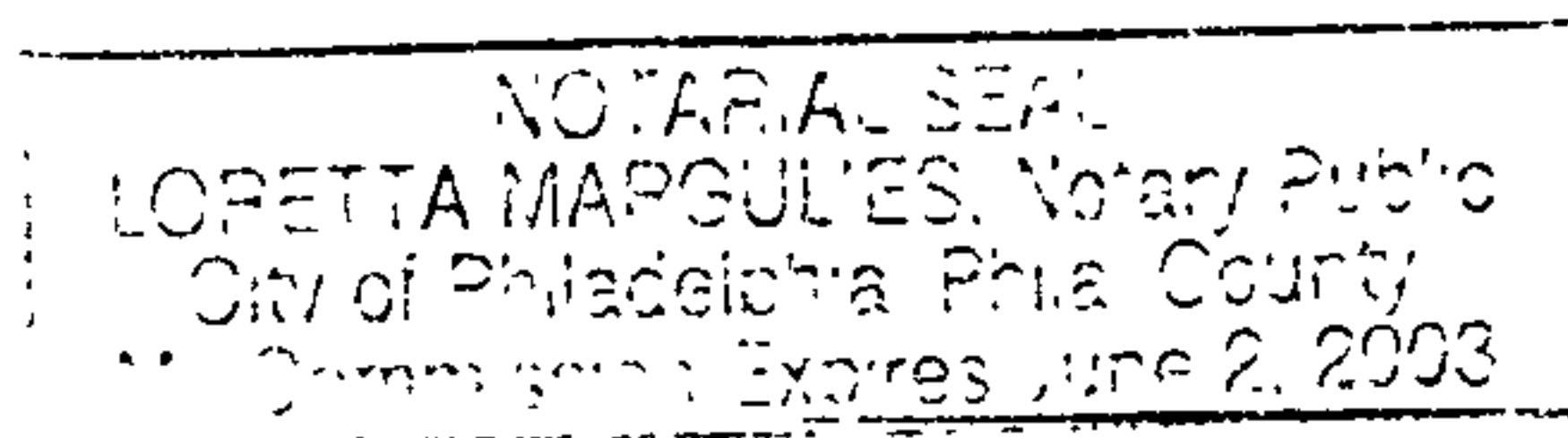
5:10pm-7

STATE OF PENNSYLVANIA)
)ss.
COUNTY OF PHILADELPHIA)

This instrument was acknowledged before me on the 15th day of August, 2002 by Bartolo A. Cordero.

My commission expires:

Donita Magallon
Notary Public



Mary Herrera

Bern. Co. EASE

R 15.00

2002130617

5737790

Page: 2 of 4

10/08/2002 03:57P

Bk-A43 Pg-259

1500
693381

EASEMENT

8/28/2002

This grant of Easement, between, The Estate of Rosalie F. Silverman a/k/a Rosalie W. Silverman, Deceased, Barton J. Winokur, Co-Executor and Attorney-In-Fact from Daniel M. Winokur, Co-Executor ("Grantor"), and the City of Albuquerque, a New Mexico municipal corporation ("City"), whose address is PO Box 1293, Albuquerque, NM 87103.

A. Grant of Easement. The Grantor grants to the City an exclusive permanent easement (the "Easement") for a roadway and underground public and private utilities ("Public Improvement") on, over, across and through the property described on Exhibit A attached hereto ("Property"), together with the right of the City to operate, maintain, repair, replace and construct the Public Improvement and the right to remove trees, bushes, undergrowth and any other obstacles upon the Property if the City determines they interfere with the appropriate use of the easement

B. Warranties. Grantor covenants and warrants that it is the owner in fee simple of the Property and that it has a good and lawful right to convey the Property or any part thereof.

C. Binding on Grantor's Property. The grant and other provisions of this Easement constitute covenants running with title to the Property for the benefit of the City and its successors and assigns until terminated.

Witness my hand and seal this 15th day of August, 2002.

GRANTOR:

THE ESTATE OF ROSALIE F. SILVERMAN
A/K/A ROSALIE W. SILVERMAN, DECEASED

By: [Signature]

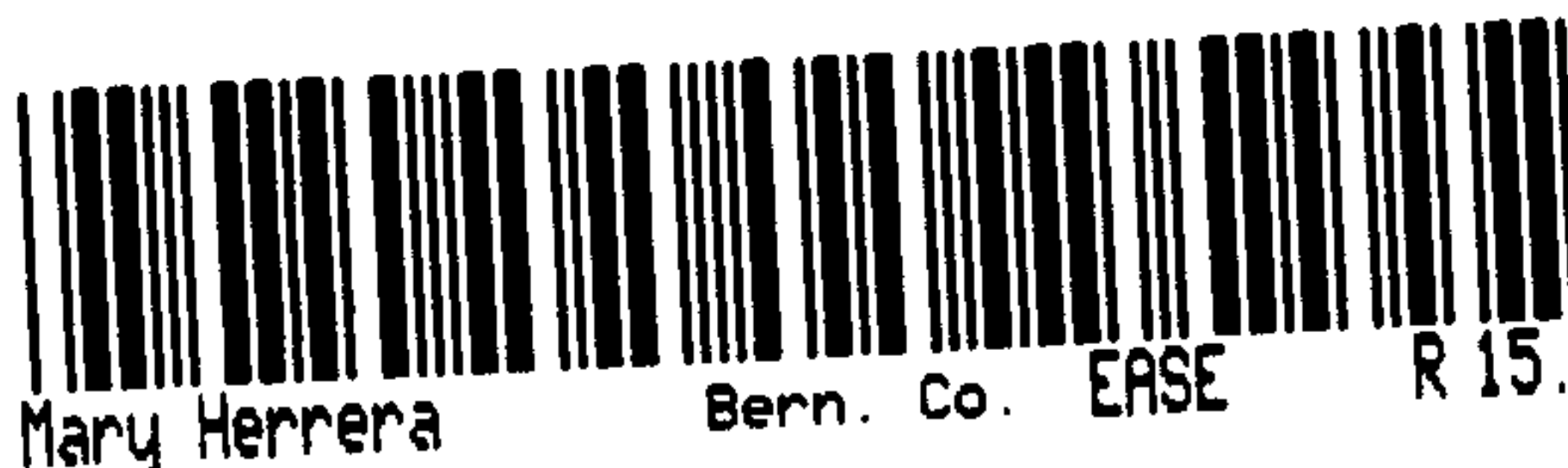
Barton J. Winokur, Co-Executor and
Attorney-in-Fact from Daniel M. Winokur,
Co-Executor

APPROVED:

[Signature]
City Engineer

8-28-02
Dated

[Handwritten signature]



LINE TABLE		
LINE	LENGTH	BEARING
L1	50.00	S89°46'38"E
L2	50.00	N89°33'10"W
L3	64.00	S89°40'05"E
L4	50.00	S89°40'05"E
L5	64.00	N89°43'38"W

SPECIAL WARRANTY DEED
LOREN W. & ANITA E. KELLER
11/28/90, Bk 80-19, Page 887

SPECIAL WARRANTY DEED
LOREN W. & ANITA E. KELLER
11/28/90, Bk 90-19, Page 867

**WARRANTY DEED
DANIEL & CHRISTINE DOUGHTY
12/15/05, Bk 3010, Pgs. 2894**

REAL ESTATE CONTRACT
SONRISE BAPTIST CHURCH
05/17/88, BK 9907, Page 4383

SPECIAL WARRANTY DEED
ERRY M. WARD, AS TRUSTEE
03/06/90, Sk 80-4, Page 4428

ROADWAY AND UNDERGROUND PUBLIC AND PRIVATE UTILITY EASEMENT

Scale 1" = 200'

A.C.S. Control
Monument "7-C10"

2002130616
5737789
Page: 4 of 4
10/08/2002 03:57P
BK-A43 Pg-258

CHASE
Co.

Mary Herrera

SURV  TEK, INC.

Consulting Surveyors

5845 Paradise Blvd. N.E. Albuquerque, New Mexico 87114

Phone: 606-897-5566

Fax 806-897-3577

LEGAL DESCRIPTION

An easement situate within the Town of Alameda Grant in projected Section 16, Township 11 North, Range 2 East, New Mexico Principal Meridian, Bernalillo County New Mexico comprising the Easterly Fifty feet (50') of that certain parcel of land described in Special Warranty Deed to Loren W. Keller and Anita E. Keller, his wife filed in the office of the County Clerk of Bernalillo County, New Mexico on November 28, 1990 in Book BCR 90-19, page 866 as Document Number 9090904 more particularly described by survey performed by Russ P. Hugg, New Mexico Professional Surveyor Number 9750 using New Mexico State Plane Coordinate System, Central Zone (NAD 27) grid bearings and ground distances as follows:

BEGINNING at the Northeast corner of the easement herein described, the Northeast corner of the aforesaid Special Warranty Deed whence (1) the closing corner on the South Boundary of the Town of Alameda Grant for Sections 16 and 15, Township 11 North, Range 2 East, N.M.P.M. (A BLM brass cap found in place) bears S 00° 15' 43" W, 3281.10 feet distant and (2) the Albuquerque Control Survey Monument "7-C10" bears S 30° 38' 14" E, 2927.35 feet distant; Thence,

S 00° 15' 27" W , 660.13 feet to a point; Thence,

S 00° 15' 27" W , 659.89 feet to a point; Thence,

S 00° 18' 26" W , 642.13 feet to the Southeast corner of the easement herein described, the Southeast corner of the aforesaid Special Warranty Deed, Thence,

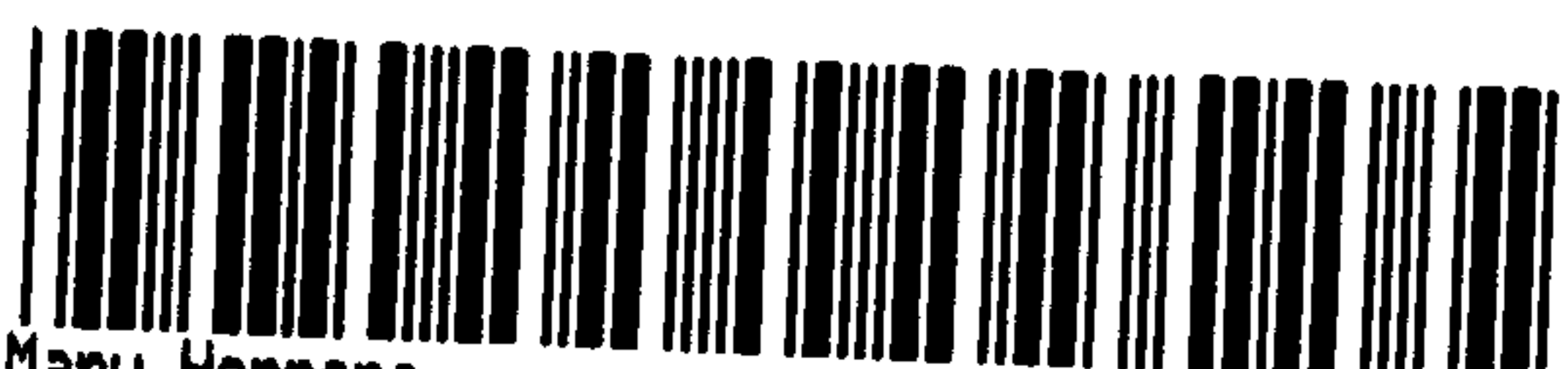
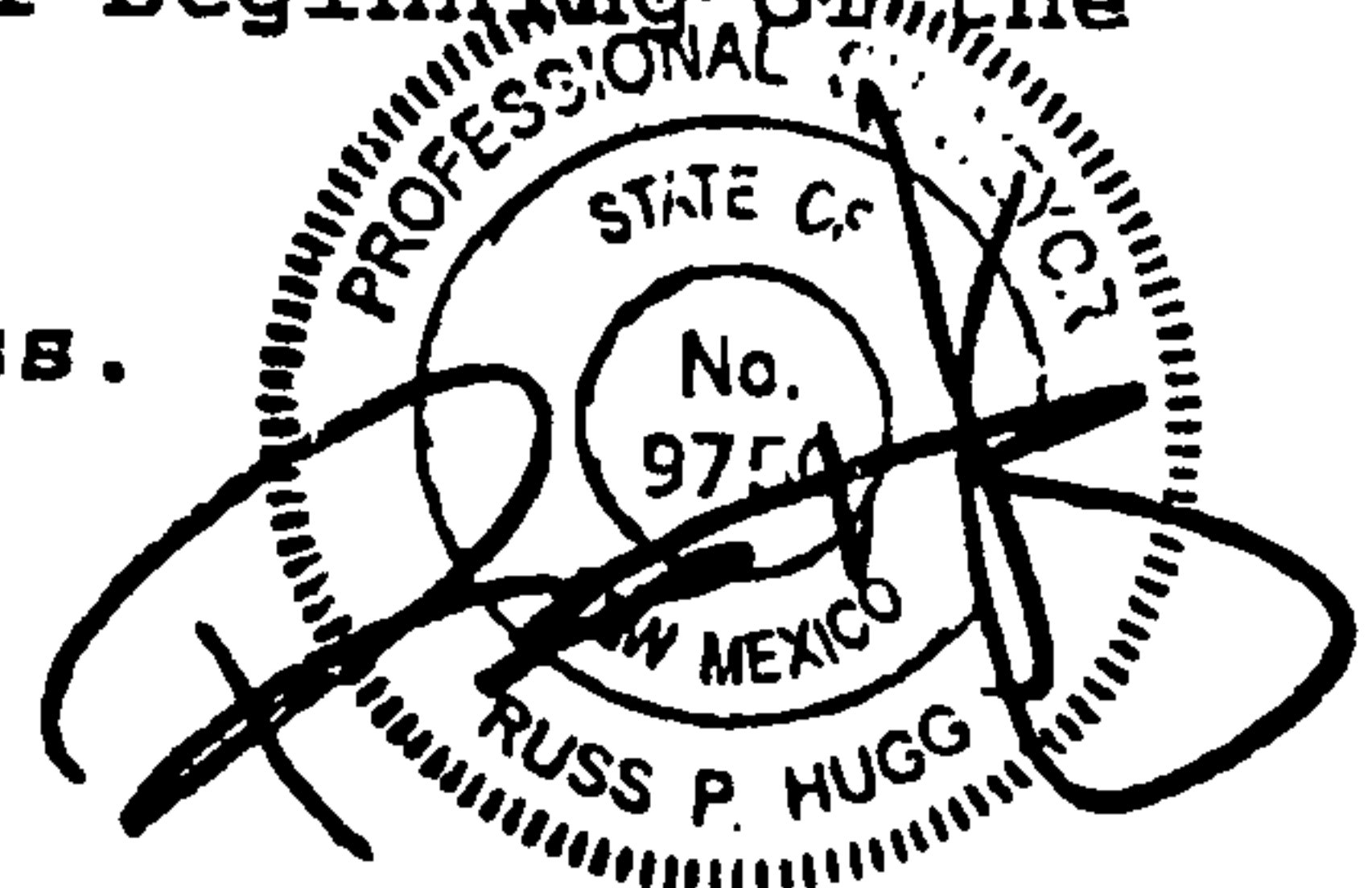
N 89° 33' 10" W , 50.00 feet to the Southwest corner of the easement herein described; Thence,

N 00° 18' 26" E , 641.98 feet to a point; Thence,

N 00° 15' 27" E , 1319.97 feet to a point on the Northerly line of the aforesaid Special Warranty Deed, Thence,

S 89° 46' 38" E , 50.00 feet along said Northerly line of the aforesaid Special Warranty Deed to the Northeast corner and point of beginning of the easement herein described.

Said easement contains 2.2521 acres, more or less.



Mary Herrera

Bern. Co. EASE

R 15.00

2002130616

5737789

Page: 3 of 4

10/08/2002 03:57P

Bk-A43 Pg-258

Witness my hand and seal this 19th day of August, 2002.

Grantor:

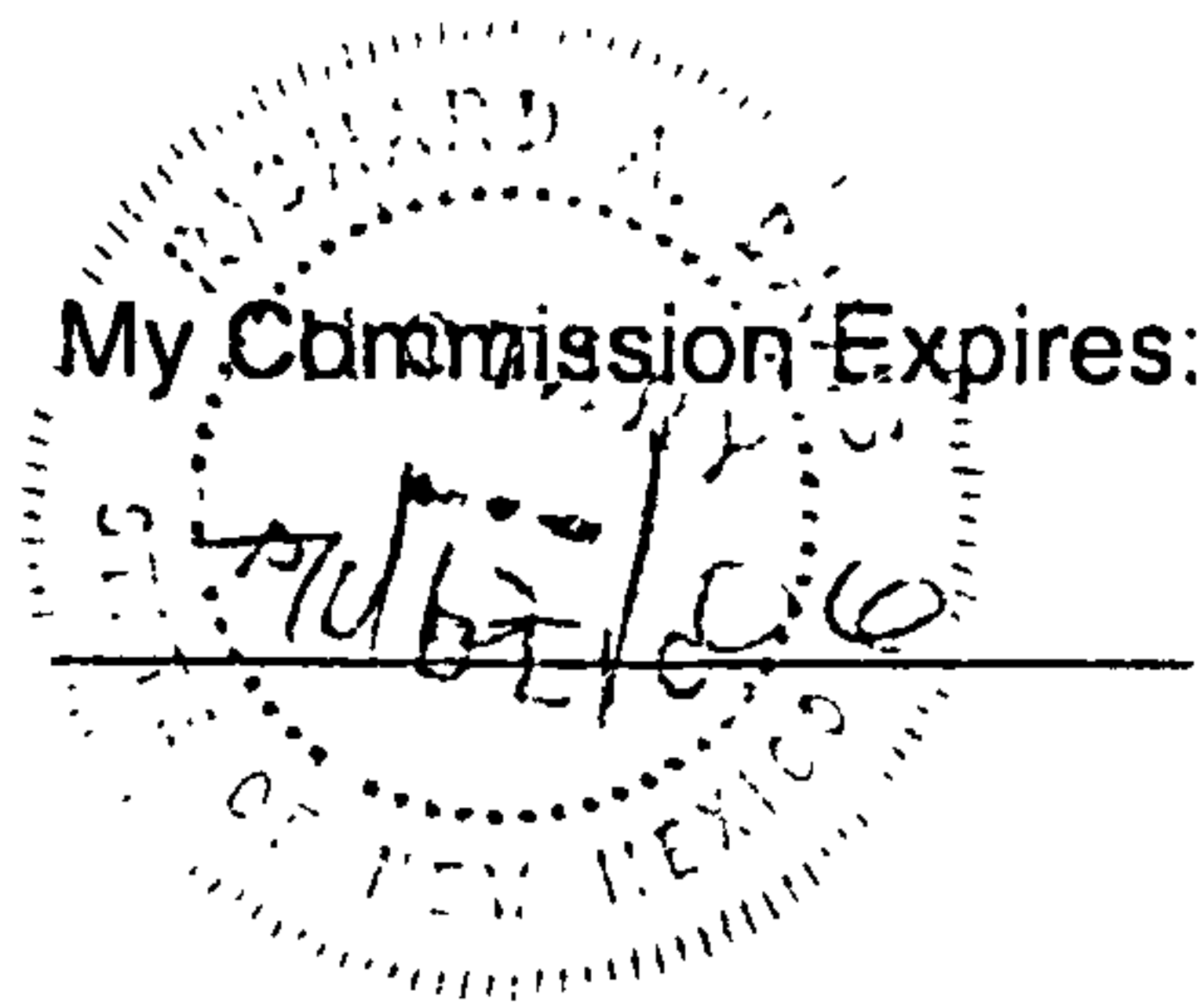
Loren W. Keller
LOREN W. KELLER

Anita E. Keller
ANITA E. KELLER

STATE OF NEW MEXICO)
) ss
COUNTY OF BERNALILLO)

This instrument was acknowledged before me on 19th day of August, 2002 by Loren W. Keller and Anita E. Keller, husband and wife.

[Signature]
Notary Public



APPROVED:

[Signature]
City Engineer

8-28-02
Dated

2/2 8/28/02



1500

EASEMENT

8/28/2002

693381
C9-D-1

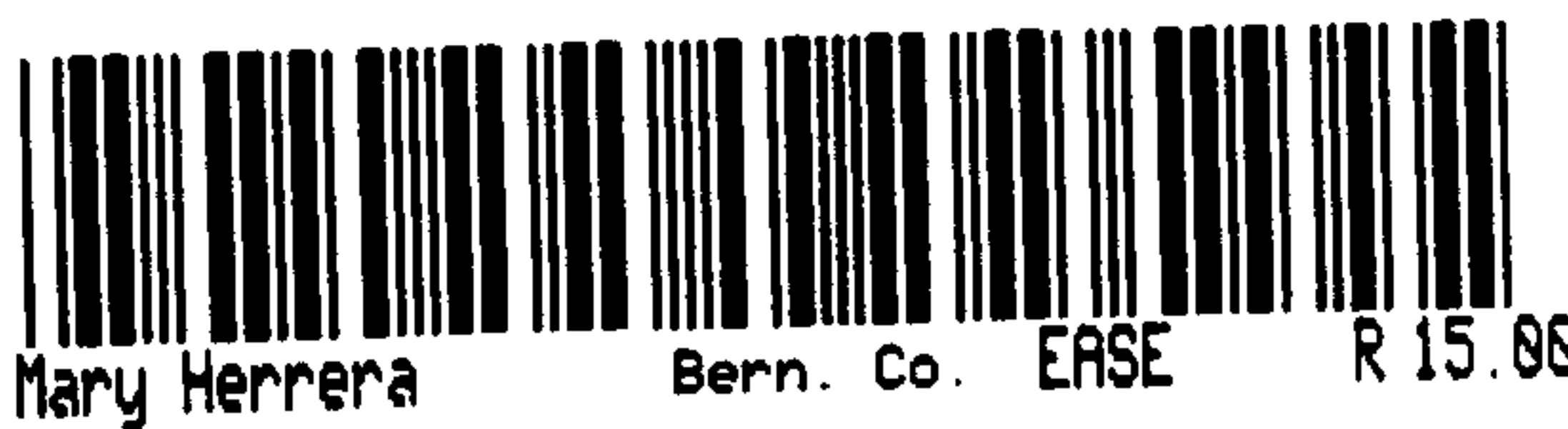
This grant of Easement, between,

LOREN W. KELLER and ANITA E. KELLER, husband and wife, ("Grantor"), and the City of Albuquerque, a New Mexico municipal corporation ("City"), whose address is P. O. Box 1293 Albuquerque, New Mexico 87103.

1. Grant of Easement. The Grantor grants to the City an exclusive permanent easement (the "Easement") for a roadway and underground public and private utilities ("Public Improvement") on, over, across and through the property described on Exhibit A attached hereto ("Property"), together with the right of the City to operate, maintain, repair, replace and construct the Public Improvement and the right to remove trees, bushes, undergrowth and any other obstacles upon the Property if the City determines they interfere with the appropriate use of the easement.

2. Warranties. Grantor covenants and warrants that it is the owner in fee simple of the Property and that it has a good lawful right to convey the Property or any part thereof and that the Grantor will forever warrant and defend that title to the Property against all claims from all persons or entities.

3. Binding on Grantor's Property. The grant and other provisions of this Easement constitute covenants running with title to the Property for the benefit of the City and its successors and assigns until terminated.



Worksheet

Worksheet for Pressure Pipe

Project Description

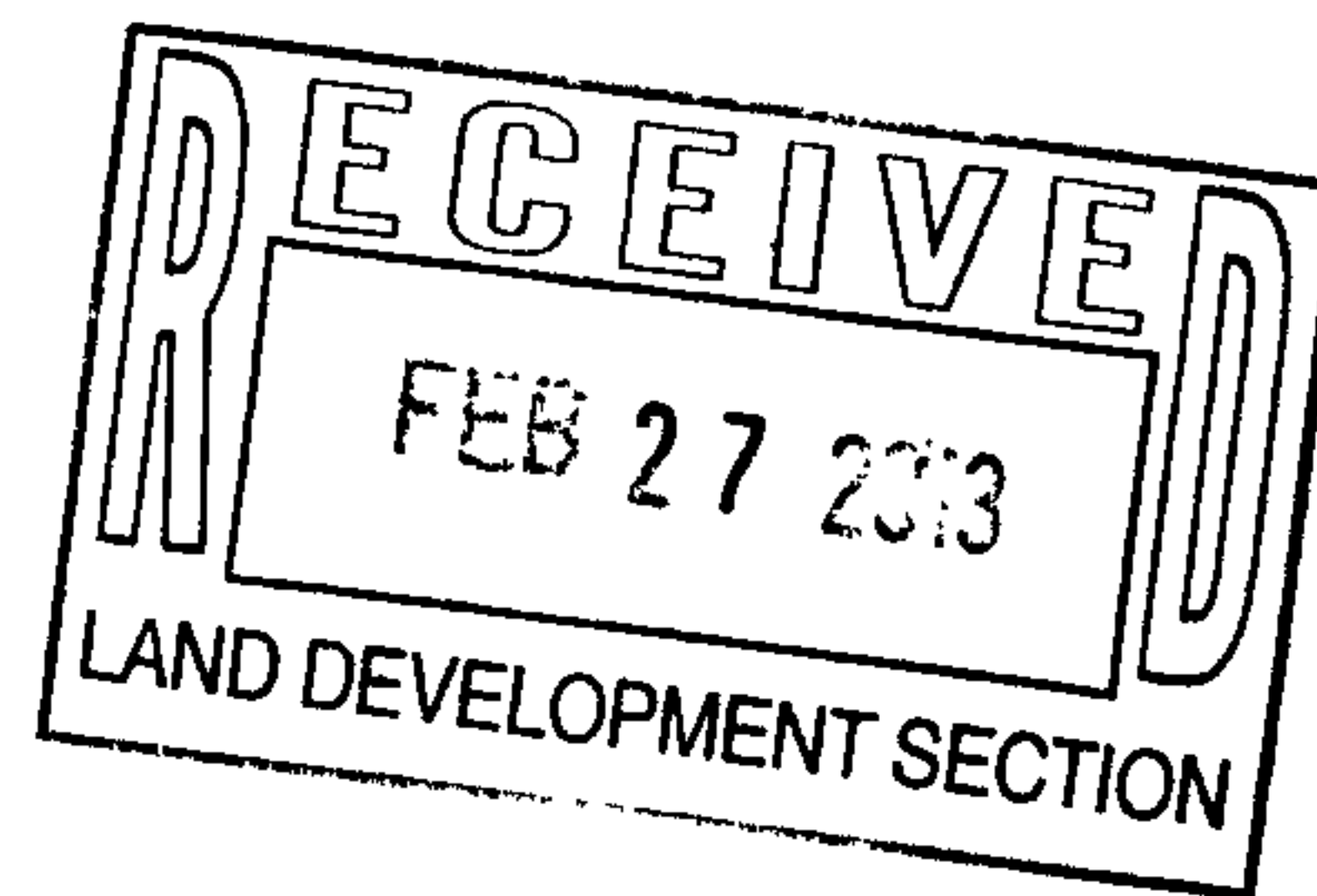
Worksheet	Pressure Pipe
Flow Element	Pressure Pipe
Method	Manning's For
Solve For	Discharge

Input Data

Pressure at 1	0.00 psi
Pressure at 2	0.00 psi
Elevation at 1	76.37 ft
Elevation at 2	73.20 ft
Length	40.00 ft
Mannings Coeff	0.013
Diameter	18 in

Results

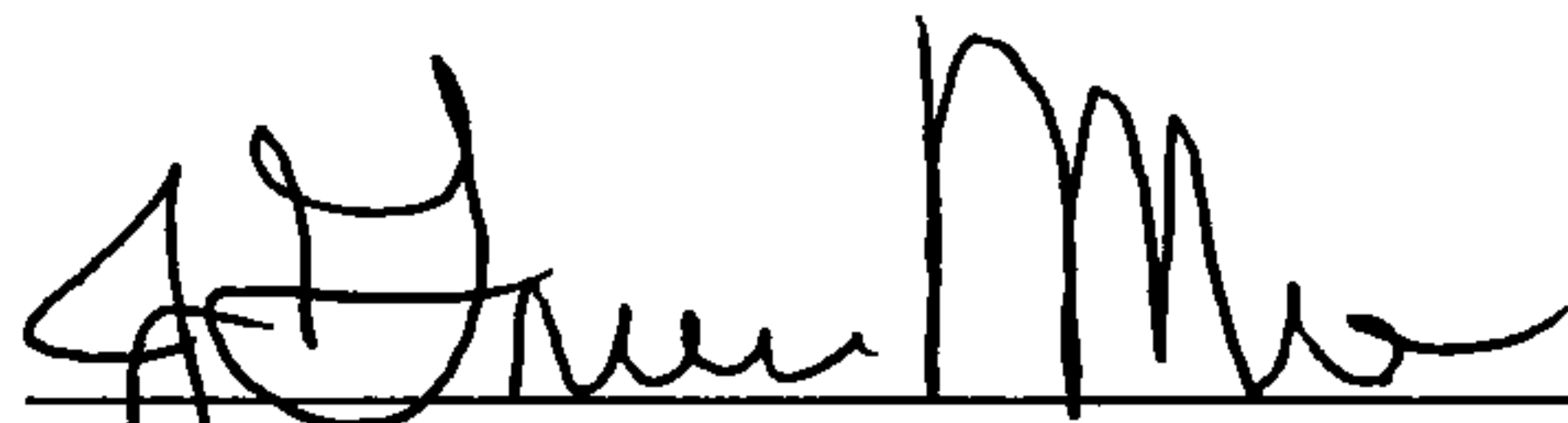
Discharge	29.57 cfs
Headloss	3.17 ft
Energy Grade at	80.72 ft
Energy Grade at	77.55 ft
Hydraulic Grade :	76.37 ft
Hydraulic Grade :	73.20 ft
Flow Area	1.8 ft ²
Wetted Perimeter	4.71 ft
Velocity	16.73 ft/s
Velocity Head	4.35 ft
Friction Slope	0.079250 ft/ft



- 3) Hydraulic calculations (attached) that demonstrate a potential flow rate of 29.5 cfs from the storm inlet to the storm drain through an 18 inch lateral under pressure with 3.2 feet of elevation head.
- 4) The 18 inch connection would be sleeved through the existing 48 inch lateral with the excess area grouted. This would avoid any disturbance to traffic and avoid cutting the street.
- 5) The orifice plate would be sized to limit outflow from the private storm drain to 26.2 cfs which represents the total potential flow in the lateral of 29.5 cfs and subtracting street flows of 3.3 cfs.

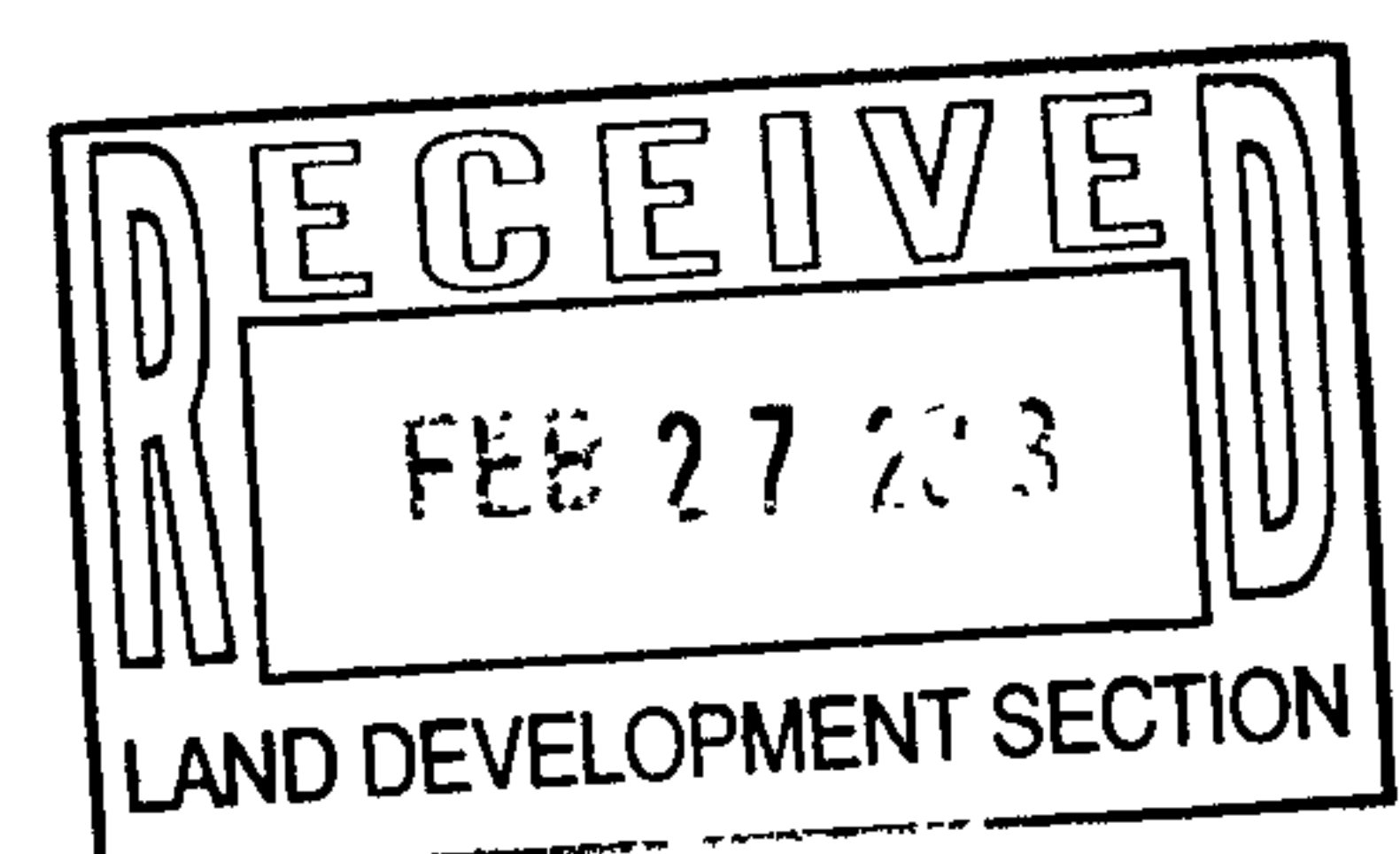
It should be noted and documented that the proposed release of 26.2 cfs does not represent the entire 95 cfs of allowable discharge from the Volcano Vista High School site per the master drainage plan, but does represent what can be released at this time to the proposed 36 inch storm drain. A storm drain connection as analyzed and described by the preceding would not only provide a partial outfall for an existing retention pond located on public school property, but it would also accept street flows that currently bypass this inlet.

Please let us know if you have any questions or comments regarding this information.


J. Graeme Means, NMPE 13676



02/27/2013



CITY OF ALBUQUERQUE



March 22, 2013

Graeme Means, P.E.
High Mesa Consulting Group
6010-B Midway Park Blvd NE
Albuquerque, NM 87109

Re: Tract A, Ancient Mesa
Connection to the Proposed Storm Drain Pipe in Universe Blvd. NW (C09/D007)

Dear Mr. Means,

Based upon the information provided in your submittal received 2-27-13, the above referenced connection can not be approved for work order. The allowable discharge should be based on the capacity of the proposed storm drain pipe in Universe.

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: e-mail

DRAINAGE AND TRANSPORTATION INFORMATION SHEET

(REV. 1/28/2003rd)

PROJECT TITLE: VOLCANO VISTA HIGH SCHOOL/UNIVERSE STORM DRAIN ZONE ATLAS/DRNG. FILE #: C-09/D007
 DRB #: _____ EPC #: _____ WORK ORDER #: 761283

LEGAL DESCRIPTION: TRACT A, ANCIENT MESA
 CITY ADDRESS: 8100 RAINBOW BLVD. NW

ENGINEERING FIRM: HIGH MESA CONSULTING GROUP CONTACT: J. GRAEME MEANS
 ADDRESS: 6010-B MIDWAY PARK BLVD. NE PHONE: (505) 345-4250
 CITY, STATE: ALBUQUERQUE, NM ZIP CODE: 87109

OWNER: ALBUQUERQUE PUBLIC SCHOOLS CONTACT: MARTY ECKERT
 ADDRESS: 915 OAK SE PHONE: 505-765-5950 (X-265)
 CITY, STATE: ALBUQUERQUE, NM ZIP CODE: 87106

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

SURVEYOR: HIGH MESA CONSULTING GROUP CONTACT: N/A (DRAINAGE REPORT)
 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 - SUPPLEMENTAL DATA

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:

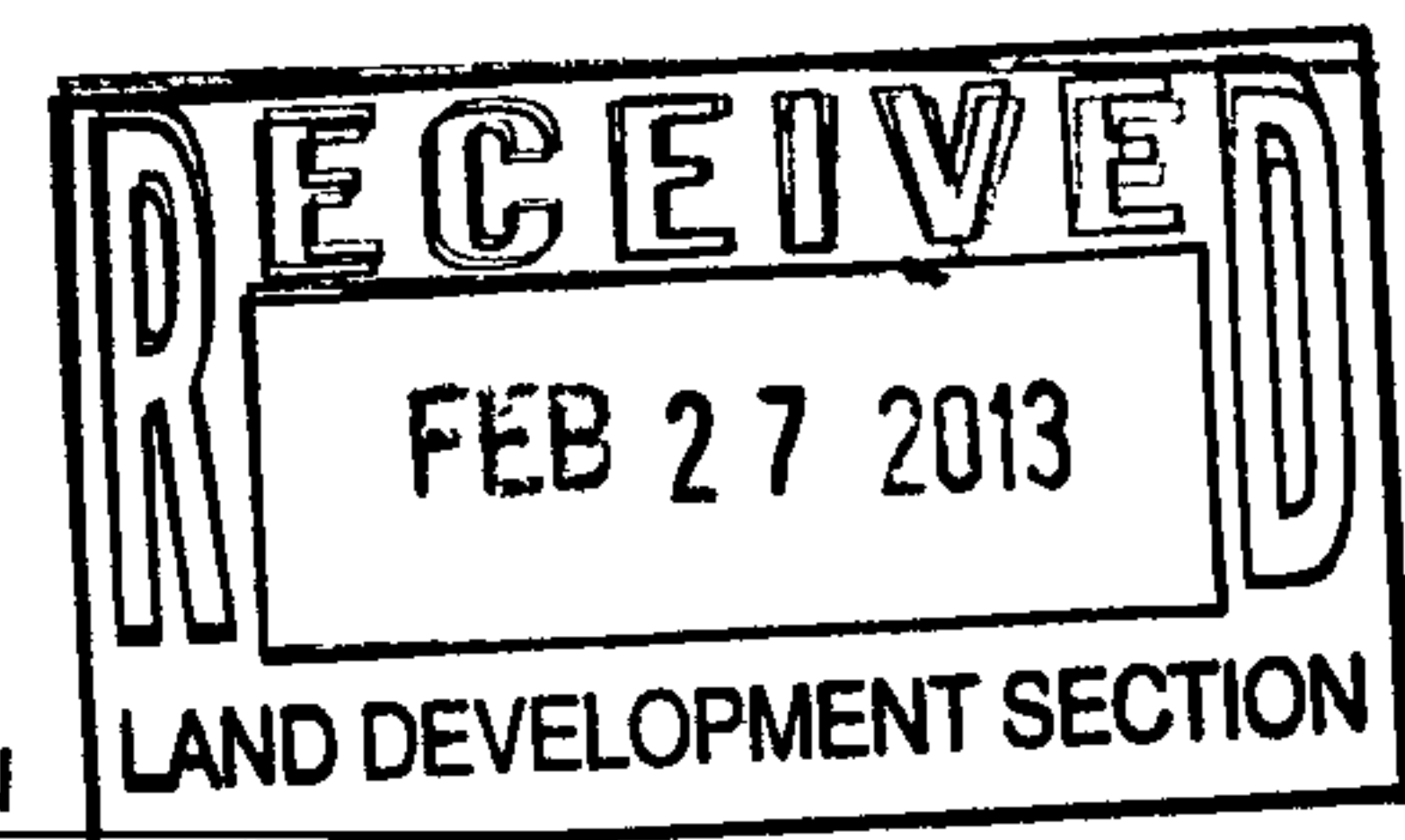
- ☒ YES - INFORMAL W/ CURTIS
☐ NO
☐ COPY PROVIDED

DATE SUBMITTED: 02-27-2013 BY: JEFFREY G. MORTENSEN

XC: MARTY ECKERT, REAL ESTATE DEPT., APS

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.



Cherne, Curtis

From: Cherne, Curtis
Sent: Wednesday, February 27, 2013 10:44 AM
To: Dourte, Richard H.; Woodall, Stephen P.
Subject: FW: Volcano Vista HS Storm Drain Connection in Universe
Attachments: AVG Certification.txt

Richard/Stephen,
 I was working on getting BHI/Trails and High Mesa/APS on the same page on this one.

Curtis

From: Graeme Means [mailto:GMeans@highmesacg.com]
Sent: Wednesday, February 27, 2013 8:32 AM
To: Cherne, Curtis
Cc: Jeffrey Mortensen; Eckert, Martin W
Subject: RE: Volcano Vista HS Storm Drain Connection in Universe

As a follow-up to our conversation yesterday, we understand you were going to follow up with BHI to discuss the options to make this connection happen. At this point, we believe the easiest solution would be for BHI to add the connection to the plans prior to DRC approval. We ask that the City hold off on plan approval to allow APS time to coordinate.

Can you commit to the City not approving the current plan set at this time so APS can have adequate time to get this revision to the plans done as soon as possible?



J. Graeme Means, P.E.
 Principal

6010-B Midway Park Blvd. NE Phone: 505.345.4250
 Albuquerque, NM 87109 Fax: 505.345.4254
 www.highmesacg.com gmeans@highmesacg.com

From: Cherne, Curtis [mailto:CCherne@cabq.gov]
Sent: Tuesday, February 26, 2013 12:00 PM
To: Graeme Means
Cc: Jeffrey Mortensen; Eckert, Martin W
Subject: RE: Volcano Vista HS Storm Drain Connection in Universe

Graeme,
 Shahab and I have reviewed this draft and offer the following:
 The Q allowable for the APS site equals Q (pressure flow in lateral) minus Q (inlet)

Therefore, 29.5 cfs (from pressure flow analysis) minus 3.3 cfs (inlet), equals 26.2 cfs.

2/27/2013

The Q Allowable for the APS site is 26.2 cfs.

The orifice plate would need to be installed upstream (private side) of the inlet in Universe Blvd.

Hydrology reviewed the HGL in the Universe storm drain and the additional head would crawl up the pipe approx. 200 ft. There would be no adverse impact to the Trails system.
Please submit to Hydrology for Work Order approval.

Incorporating this into the existing construction plans would be preferable to an additional set. Is this something that you and Scott Steffen can work out?

Curtis

From: Graeme Means [<mailto:GMeans@highmesacg.com>]
Sent: Tuesday, February 26, 2013 9:16 AM
To: Cherne, Curtis
Cc: Jeffrey Mortensen; Eckert, Martin W
Subject: Volcano Vista HS Storm Drain Connection in Universe

Curtis,

Jeff passed on your request for us to put together a summary report in a reviewable format that documents our discussions and findings from our informal meeting last Thursday regarding the hydraulic feasibility of a storm drain connection from Volcano Vista HS to the proposed storm drain in Universe.

Attached herewith is a draft version for your review and comment. Please review and let me know if this is what you're looking for. We can then finalize and I'll sign, stamp and date.

Thank you,

Graeme Means



J. Graeme Means, P.E.
Principal

6010-B Midway Park Blvd. NE
Albuquerque, NM 87109
www.highmesacg.com

Phone: 505.345.4250
Fax: 505.345.4254
gmeans@highmesacg.com

2/27/2013



6010-B Midway Park Blvd. NE
Albuquerque, New Mexico 87109
Phone: 505.345.4250
Fax: 505.345.4254
www.highmesacg.com

TO:	Curtis Cherne, PE, City Hydrologist
FROM:	J. Graeme Means, PE
CC:	Martin Eckert, APS Real Estate Director, Annelle Darby, APS Staff Architect Jeff Mortensen, HMCG Principal Engineer
DATE:	02/26/2013
PROJECT:	APS Volcano Vista High School – City Hydrology File C7/D9
RE:	Summary Analysis of Connection to Proposed Storm Drain in Universe Blvd. NW
JOB NO:	HMCG 2012.182.9

Dear Curtis,

Thank you for meeting with me last Friday, February 22, 2013, to evaluate and coordinate implementation of a storm drain connection between an existing storm inlet and a proposed storm drain in Universe Blvd. NW. The inlet and a 48 inch lateral were constructed in 2006 under City Project # 766981 in anticipation of a future connection to a proposed 60 inch storm drain that was expected provide the programmed outfall from the temporary retention pond located on Volcano Vista High School, thereby allowing eventual conversion from 100% retention to detention pond with controlled release at a rate of 95 cfs to the future Universe Storm Drain.

As identified during our meeting, the proposed construction plans recently submitted to the City for approval of a public storm drain in Universe identify a 36 inch pipe at this location and do not provide any connection to the existing 48 inch lateral, nor do they include plans to pick up street flows from the existing storm inlet. Instead, the plans propose to trim the lateral back as it conflicts with the proposed storm drain.

Based on the following, we have determined that it would be feasible to construct an 18 inch connection (sleeved within the existing 48 inch lateral) between the existing inlet and the proposed 36 inch storm drain with an orifice plate in the upstream private APS storm drain:

- 1) Review of the Engineer's Certification for Volcano Vista HS Phase 2 shows that the invert out of the bottom of the Volcano Vista HS pond is at elevation 5375 (NGVD 1929) which is above the elevation of the storm inlet grate in Universe of 5373.6 (NGVD 1929). This ensures that flow from the Universe storm drain will not back up into the pond as it would overflow at the grate before reaching that elevation.
- 2) Review of the proposed construction plans show the existing storm inlet grate elevation of 5376.4 (NAVD 88) is 3.2 ft higher than the proposed hydraulic grade line (HGL) in the 36 inch Universe storm drain at the existing lateral location of approximately 5373.2 (NAVD 88), thereby resulting in 3.2 ft of elevation head for positive flow and drainage from the inlet to the storm drain without resulting in a backflow condition surging up at the grate.

CITY OF ALBUQUERQUE



March 26, 2010

Jeffery L. Mulbery, P.E.
BOHANNAN-HUSTON, INC.
7500 Jefferson Street NE Courtyard I
Albuquerque, NM 87109

**Re: Volcano Vista High School Ph. II, 8100 Rainbow Blvd. NW,
Request for Permanent C.O.—Approved
Engineer's Stamp dated: 11-05-07, (C09/D007A)
Certification dated: 3-26-10**

Dear Mr. Mulbery,

Based upon the information provided in your submittal, received 3-26-10, the above referenced Certification is approved for a release of a Permanent Certificate of Occupancy by Hydrology.

PO Box 1293

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

Sincerely,

Albuquerque


Timothy E. Sims

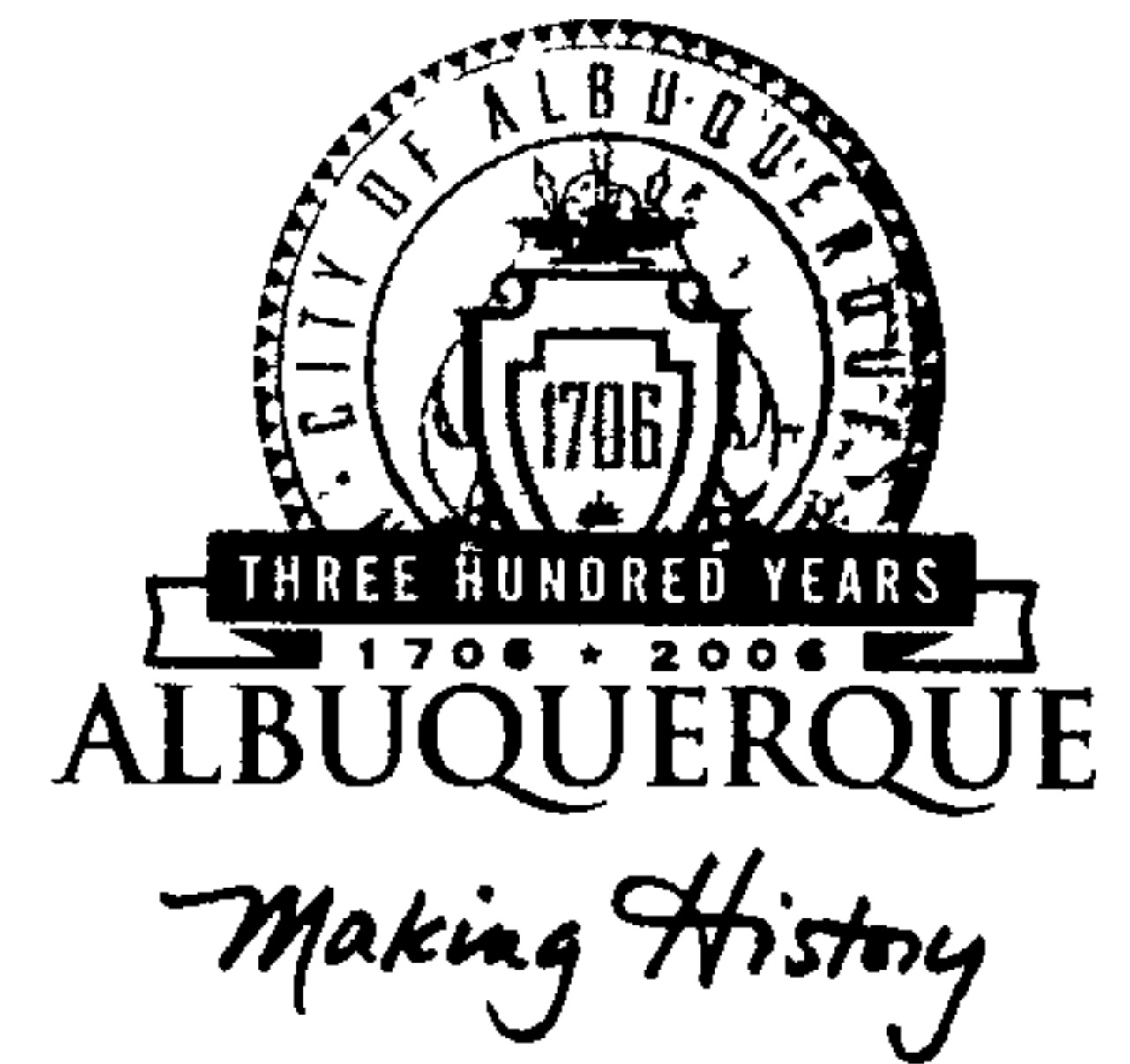
NM 87103

Plan Checker—Hydrology Section
Development and Building Services

www.cabq.gov

C: CO Clerk—Katrina Sigala
File

CITY OF ALBUQUERQUE



November 1, 2005

J. Graeme Means, PE
Jeff Mortensen & Associates, Inc.
6010-B Midway Park Blvd. NE
Albuquerque, NM 87109

**Re: APS NW Mesa High School Universe Blvd.
Master Drainage Report
Engineer's Stamp dated 10-14-05 (C9/D7)**

Dear Mr. Means,

P.O. Box 1293

Based upon the information provided in your submittal dated 10-14-05, the above referenced plan is approved for Work Order.

Albuquerque

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

New Mexico 87103

www.cabq.gov

Sincerely,

Rudy E. Rael, Associate Engineer
Planning Department.
Building and Development Services

C: file

CITY OF ALBUQUERQUE



July 14, 2008

Allison Abraham, R.A.
SMPC Architects, PA
115 Amherst Dr. SE
Albuquerque, NM 87106

**Re: APS Volcano Vista High School Phase 2, 8100 Rainbow Boulevard NW,
Traffic Circulation Layout
Architect's Stamp dated 7-07-08 (C9-D007A)**

Dear Ms. Abraham,

Based upon the information provided in your submittal received 7-07-08, a Traffic Circulation Layout is not required for the above referenced site.

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

P.O. Box 1293

Albuquerque

New Mexico 87103

C: File

www.cabq.gov

Sincerely,

Kristal D. Metro, P.E.
Traffic Engineer, Planning Dept.
Development and Building Services

CITY OF ALBUQUERQUE



**Planning Department
Transportation Development Services Section**

September 27, 2007

Allison Abraham, Registered Architect
115 Amherst Drive SE
Albuquerque, NM 87106

Re: Certification Submittal for Final Building Certificate of Occupancy for
APS Northwest High School Phase 1A(9th Grade Academy), [C-9 / D7]
8100 Rainbow NW
Architect's Stamp Dated 09/26/07

Dear Mr. Abraham:

The TCL / Letter of Certification submitted on September 26, 2007 is sufficient for acceptance by this office for final Certificate of Occupancy (C.O.). Notification has been made to the Building and Safety Section.

Sincerely,

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

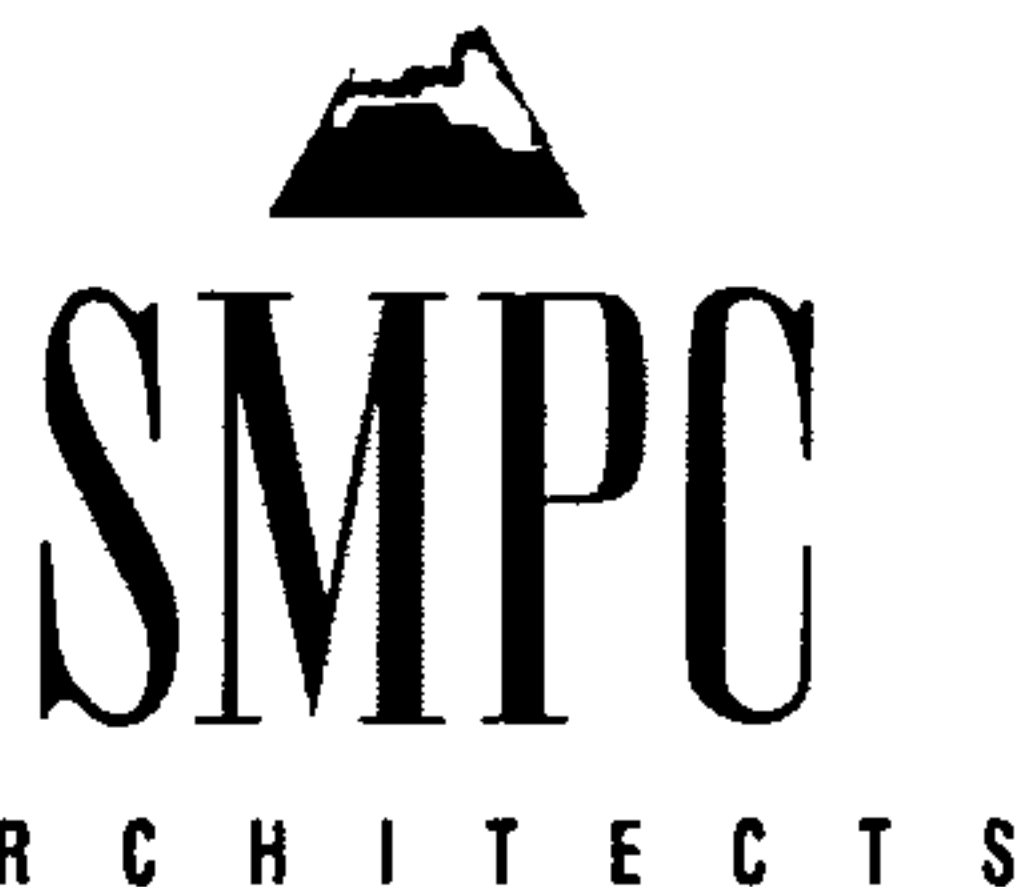
c: Engineer
Hydrology file
CO Clerk

P.O. Box 1293

Albuquerque

New Mexico 87103

www.cabq.gov



Michael Ligon Dickson AIA

Glenn H. Fellows AIA

J. Chris Willadsen AIA

Allison Abraham AIA, ASLA

David A. Cook AIA

Patricia H. Hancock AIA

David M. Hassard AIA

Karl Schindwolf AIA

September 26, 2007

Nilo Salgado, Senior Engineer
City of Albuquerque Planning Department
Transportation Development Services

Re: Transportation Circulation Layout (TCL) Certification for Permanent
Certificate of Occupancy
APS Northwest High School Phase 1A
8100 Rainbow Road, NW, Albuquerque, New Mexico
Drawing C-121A Architect's Original Stamp Dated 8-07-06

Dear Nilo Salgado:

I, Allison Abraham, of the firm SMPC Architects, hereby certify that this project is in substantial compliance with and in accordance with the design intent of the DRB, AA or TCL approved plan dated August 7, 2006. The record information edited onto the original design document has been obtained by Gary Watts of the firm SMPC Architects. I further certify that I have personally visited the project site on July 3, 2007 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 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 document are advised to obtain independent verification of its accuracy before using it for any other purpose.

Allison Abraham AIA, ASLA
Principal/Project Manager

September 26, 2007
Date



SMPC P.A.

115 Amherst Drive SE

Albuquerque

New Mexico 87106

505 255 8668

FAX 268 6665

smpc@smpcarch.com

www.smpcarch.com

CITY OF ALBUQUERQUE



**Planning Department
Transportation Development Services Section**

August 07, 2006

Allison Abraham
SMPC Architects
115 Amherst Dr SE
Albuquerque, NM 87106

Re: Traffic Circulation Layout (TCL) Submittal for Building Permit Approval for
Offices and Warehouse for APS NW High School, Phase 1A [C-9/D-07]
(8100 Rainbow NW), Albuquerque, NM
Engineer's/Architect's Stamp Dated 08-07-2006

Dear Alison Abraham,

The TCL submittal dated August 7, 2006 is approved for building permit. The plan is stamped and signed as approved. Two copies of the plan that is stamped as approved will be required: one for each of the building permit plans and the original to be kept by you to be used for certification of the site for final C.O. for Transportation. **Public infrastructure or work done within City Right-of-Way shown on these plans is for information only and is not part of approval. A separate DRC and/or other appropriate permits are required to construct these items.**

P.O. Box 1293

Albuquerque

New Mexico 87103

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

www.cabq.gov

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 needs stamp 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.

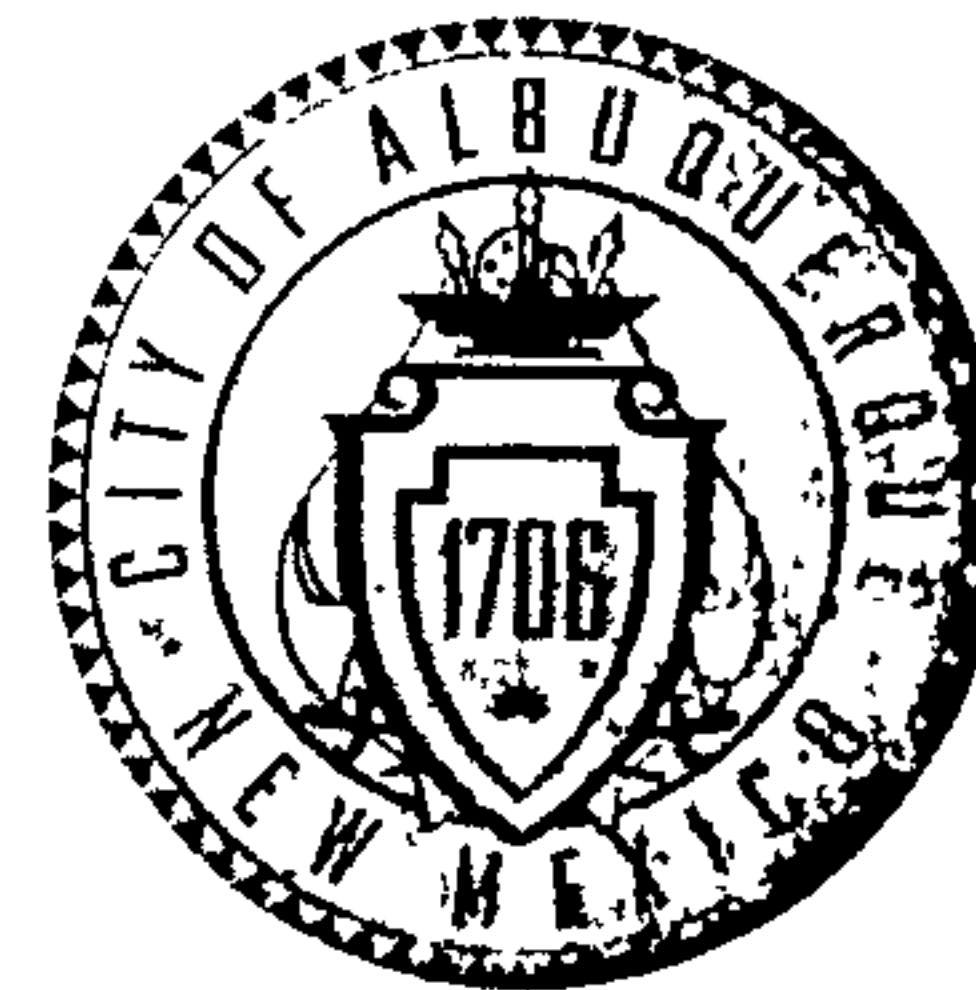
Once verification of certification is completed and approved, notification will be made to Building Safety to issue Final C.O. To confirm that a final C.O. has been issued, call Building Safety at 924-3306.

Sincerely,

Wilfred A. Gallegos, PE
Traffic Engineering
Development and Building Services

cc: Hydrology file
File

CITY OF ALBUQUERQUE



**Planning Department
Transportation Development Services Section**

July 16, 2008

Allison Abraham, Registered Architect
115 Amherst Drive SE
Albuquerque, NM 87106

Re: Certification Submittal for Final Building Certificate of Occupancy for
APS NorthWest High School Phase 1B, [C-09 / D007]
8100 Rainbow NW
Architect's Stamp Dated 07/08/08

Dear Ms. Abraham:

PO Box 1293

The TCL / Letter of Certification submitted on July 16, 2008 is sufficient for acceptance by this office for final Certificate of Occupancy (C.O.). Notification has been made to the Building and Safety Section.

Albuquerque

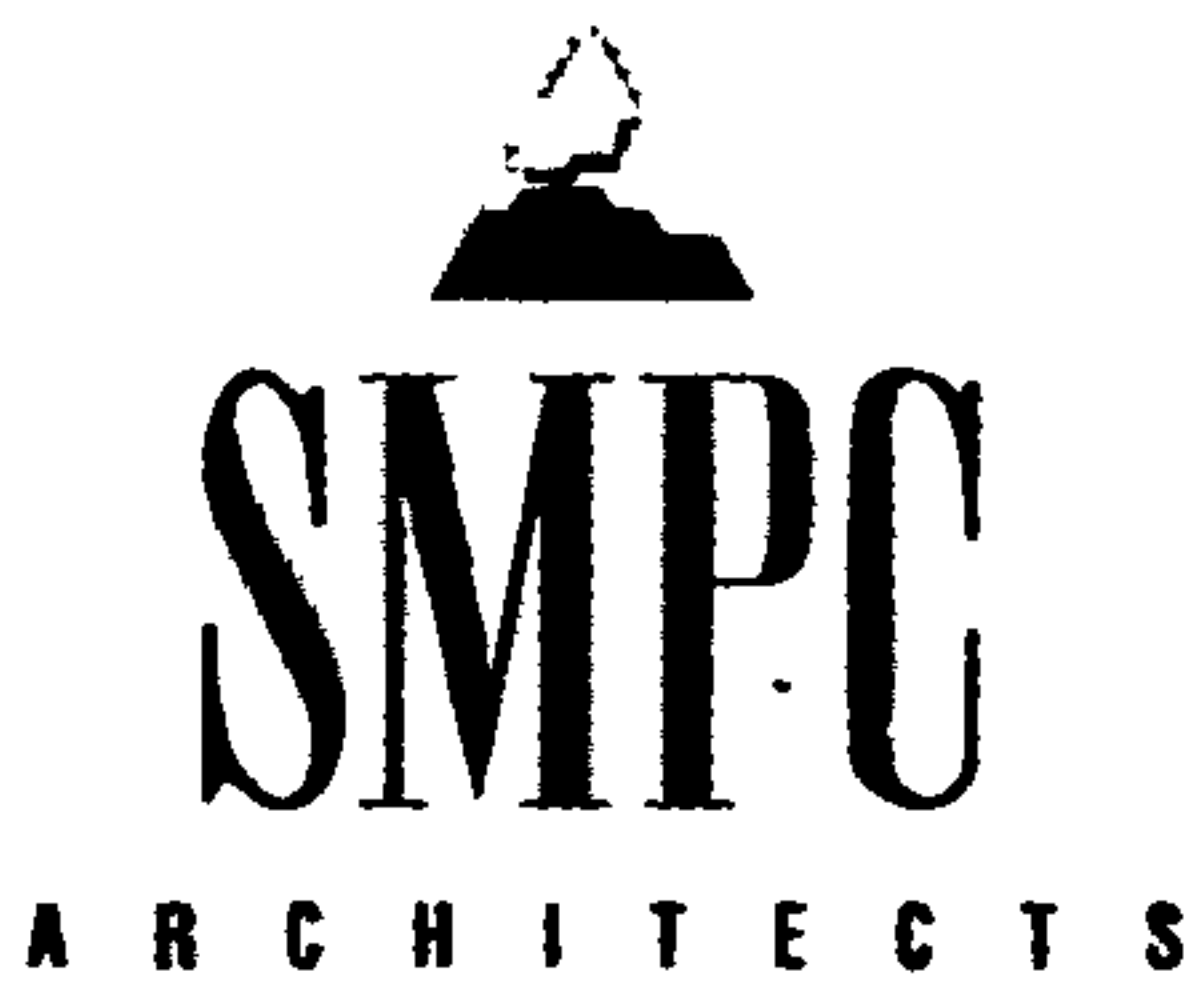
Sincerely,

NM 87103


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

www.cabq.gov

c: Engineer
Hydrology file
CO Clerk



Glenn H. Fellows AIA

J. Chris Willadsen AIA

Allison Abraham AIA, ASLA

David A. Cook AIA

Patricia H. Hancock AIA

David M. Hassard AIA

Karl Schindwolf AIA

SMPC, P.A.

115 Amherst Drive SE

Albuquerque

New Mexico 87106

505 255 8668

FAX 268 6665

smpc@smpcarch.com

www.smpcarch.com

July 7, 2008


Nilo Salgado, Senior Engineer
City of Albuquerque Planning Department
Transportation Development Services

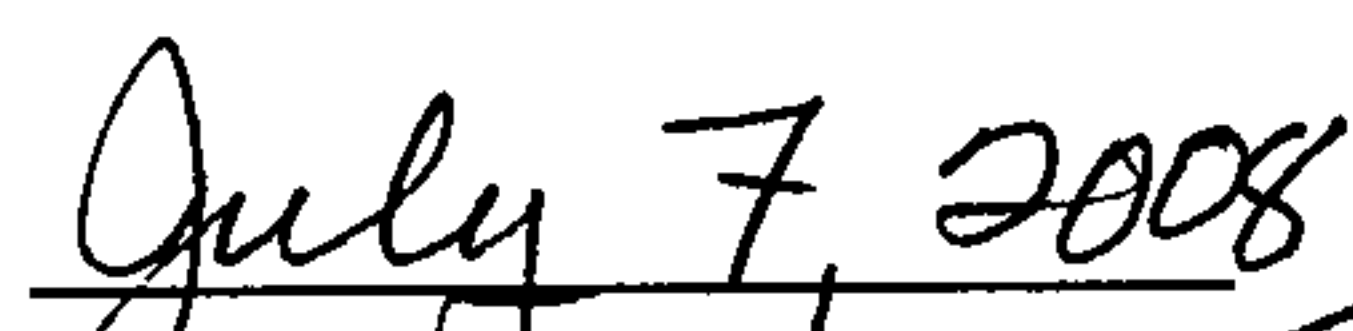
Re: Transportation Circulation Layout (TCL) Certification for Permanent
Certificate of Occupancy
APS Northwest High School Phase 1B
8100 Rainbow Road, NW, Albuquerque, New Mexico
Drawings; TCL-101, TCL-121, TCL-122, TCL-124, TCL-126, and TCL-
402 Architect's Original Stamp Dated 9-28-06

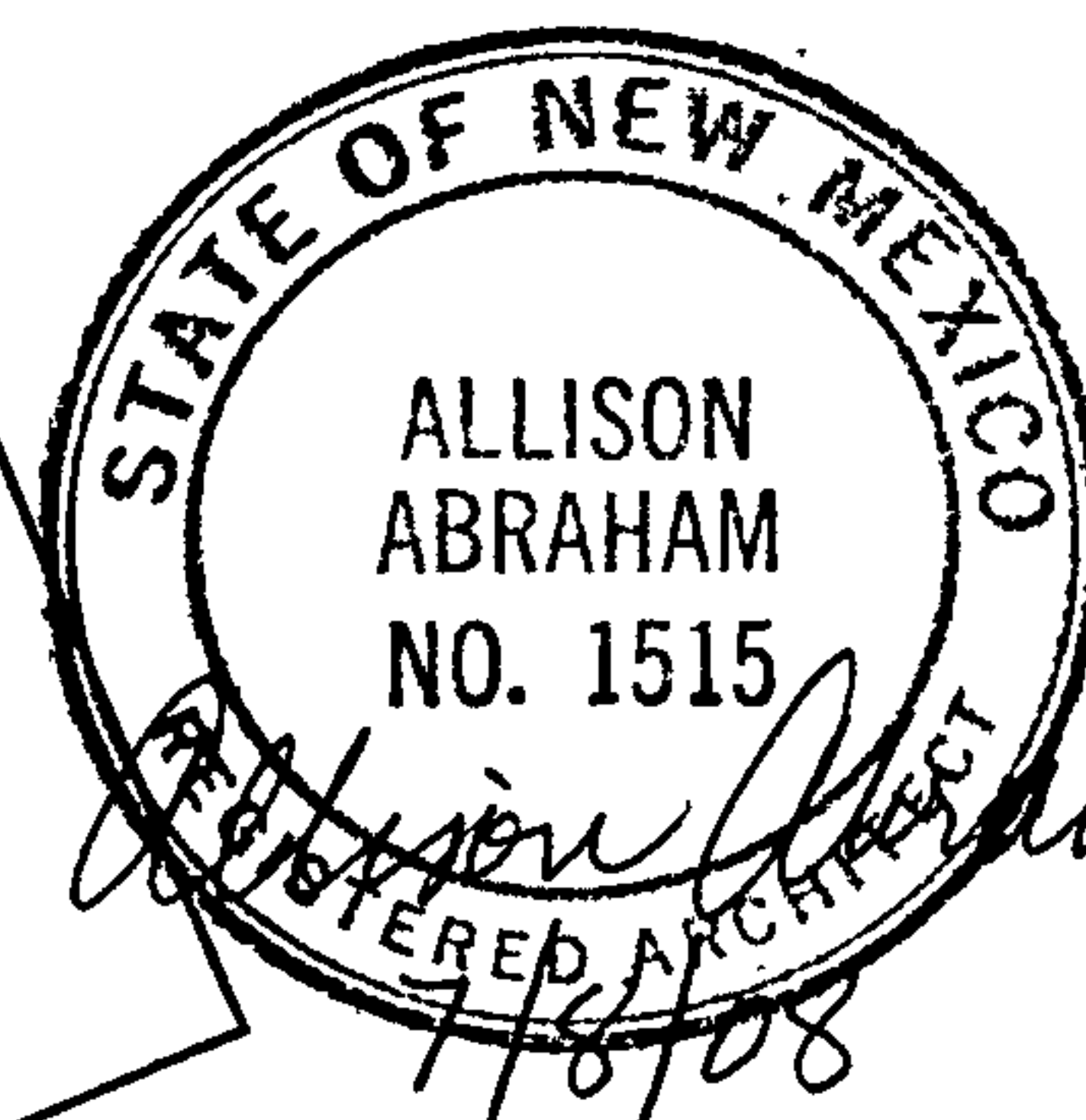
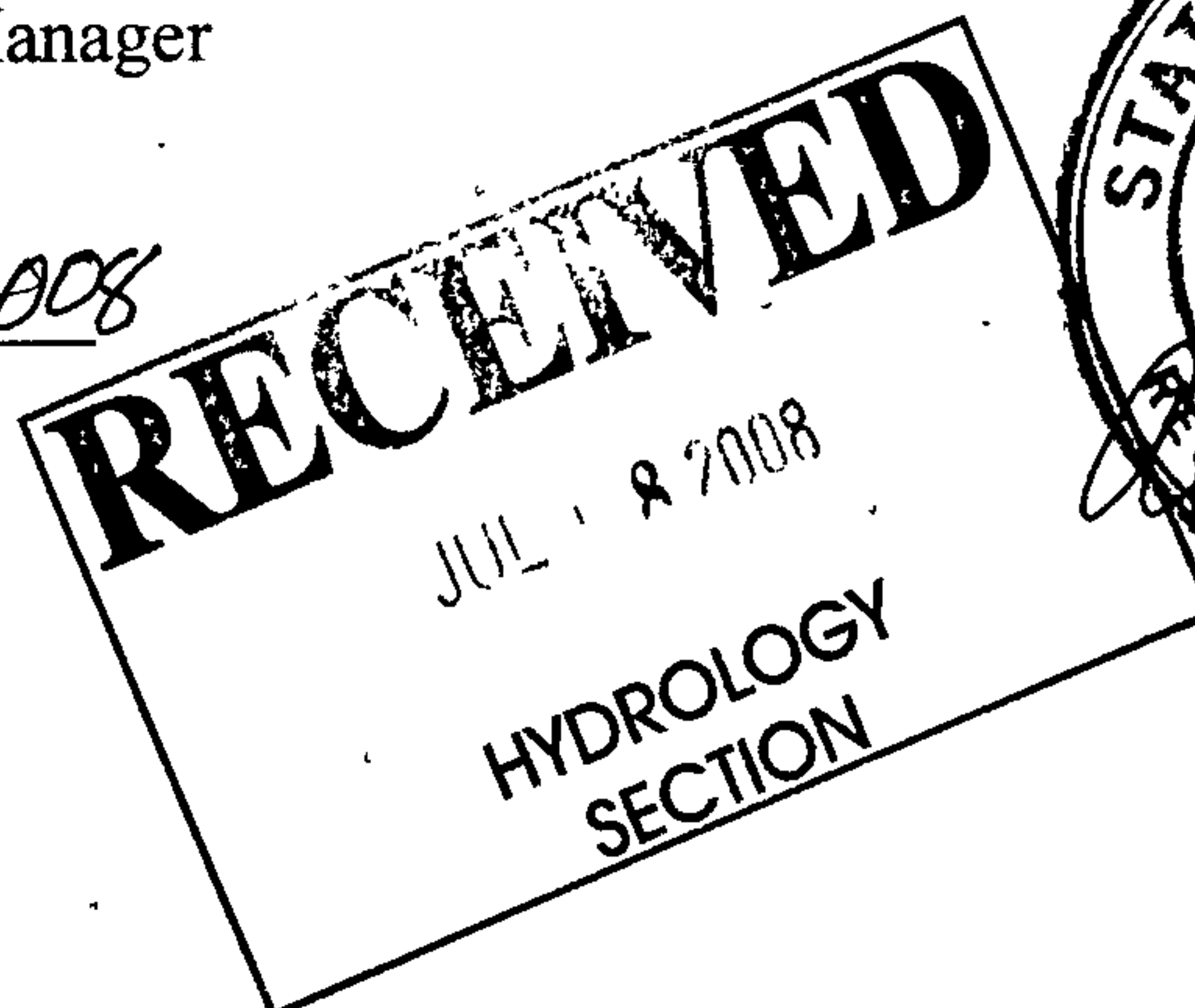
Dear Nilo Salgado:

I, Allison Abraham, of the firm SMPC Architects, hereby certify that this project is in substantial compliance with and in accordance with the design intent of the TCL approved plan dated October 4, 2006. The record information edited onto the original design document has been obtained by Gary Watts of the firm SMPC Architects. I further certify that I have personally visited the project site on July 7, 2007 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 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 document are advised to obtain independent verification of its accuracy before using it for any other purpose.


Allison Abraham AIA, ASLA
Principal/Project Manager


Date



CITY OF ALBUQUERQUE



November 8, 2007

Mike Balaskovits, P.E.
Bohannon Huston, Inc.
7500 Jefferson NE
Albuquerque, NM 87109

**Re: APS North West High School-Site Package A,
8100 Rainbow Rd. NW
Approval of Permanent Certificate of Occupancy (C.O.)
Engineer's Stamp dated 5/22/06 (C-09/D007)
Certification dated 11/07/07**

Mr. Balaskovits:

P.O. Box 1293

Based upon the information provided in your submittal received 11/07/07, the above referenced certification is approved for release of Permanent Certificate of Occupancy by Hydrology.

Albuquerque

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

New Mexico 87103

Sincerely,

Timothy Sims
Plan Checker-Hydrology, Planning Dept.
Development and Building Services

www.cabq.gov

C: CO Clerk – Kartrina Sigala
File

CITY OF ALBUQUERQUE



December 13, 2007

Jeffery L. Mulbery, P.E.
Bohannon Huston Inc.
7500 Jefferson St. NE-Courtyard I
Albuquerque, NM 87109

Re: APS NW High School, 8100 Rainbow NW
Grading and Drainage Plan
Engineer's Stamp dated 11-05-07 (C09-D007A)

Dear Mr. Mulbery,

Based upon the information provided in your submittal received 11-26-07, the above referenced plan is approved for Building Permit. Please attach a copy of this letter and the approved plan to the construction sets to obtain sign-off by Hydrology. Prior to Certificate of Occupancy release, Engineer Certification per the DPM checklist will be required.

This project will also require a National Pollutant Discharge Elimination System (NPDES) permit. Inquiries regarding this permit should be directed to Sertil Kandar at 768-3645. In addition to submitting an NOI to the EPA and preparing a SWPPP, please send a copy of their SWPPP on a CD in .pdf format to Kathy Verhage with the Department of Municipal Development Storm Drainage Division at the following address.

Department of Municipal Development
Storm Drainage Division
P.O. Box 1293, One Civic Plaza, Rm. 301
Attn: Kathy Verhage
Albuquerque, NM 87103

If you have any questions, you can contact me at 924-3977.

Sincerely,

Rudy E. Rael, Associate Engineer
Planning Department.
Development and Building Services

C: Edward Elwell, DMD Street / Storm Maintenance
Antoinette Baldonado, Construction Services
CC: File

CITY OF ALBUQUERQUE



October 26, 2006

Jeffrey L. Mulberry, P.E.
Bohannon Huston, Inc.
7500 Jefferson NE – Courtyard 1
Albuquerque, NM 87109

**Re: APS Northwest High School Site Package "A" Grading and Drainage Plan
Engineer's Stamp dated 10-24-06 (C9/D7)**

Dear Mr. Mulberry,

Based upon the information provided in your submittal received 10-24-06, the above referenced plan is approved for Grading Permit. Please attach a copy of this approved plan to the construction sets prior to sign-off by Hydrology.

Upon completion of the project, provide an Engineer Certification for our files. Certification of this plan is required to obtain a Certificate of Occupancy for Phase 1A and 1B of Northwest High School.

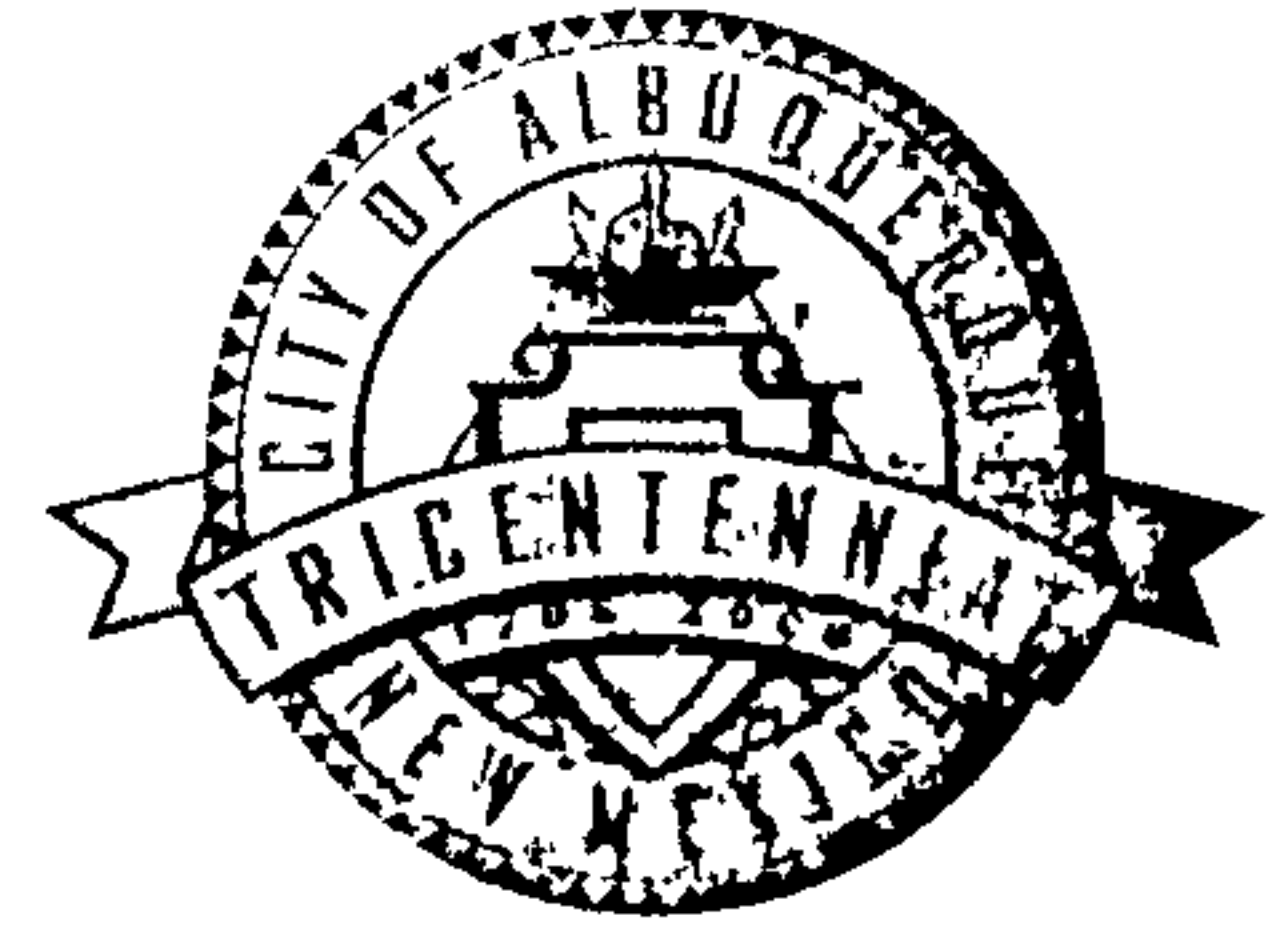
If you have any questions, you can contact me at 924-3981.

Sincerely,

Curtis A. Cherne, E.I.
Engineering Associate, Planning Dept.
Development and Building Services

C: file

CITY OF ALBUQUERQUE



May 19, 2006

Jeffrey Mulberry, PE
Bohannon Huston, Inc.
7500 Jefferson NE – Courtyard 1
Albuquerque, NM 87109

Re: APS Northwest High School Grading and Drainage Plan
Engineer's Stamp dated 4-24-06 (C9/D7)

Dear Mr. Mulberry,

Based upon the information provided in your submittal dated 4-24-06, the above referenced plan is approved for Grading Permit. Please provide a mylar copy for approval.

Please address the following comments prior to submittal for Building Permit.

- Position of boundary between SF5 and SF6.
- Show stub-outs for basins SF6 and SF9.
- Recheck storm drain pipe calculations.
- Provide referenced sheets.

This project requires a National Pollutant Discharge Elimination System (NPDES) permit. If you have any questions feel free to call the Municipal Development Department Hydrology Section at 768-3654 (Charles Caruso).

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

Sincerely,

Curtis A. Cherne, E.I.
Engineering Associate, Planning Dept.
Development and Building Services

C: file
Charles Caruso, DMD

CITY OF ALBUQUERQUE



August 7, 2008

Jeffery L. Mulbery, P.E.
Bohannon Huston, Inc
7500 Jefferson St. NE
Albuquerque, NM 87109

Re: APS NW High School Phase 1B, 8100 Rainbow Blvd. NW, (C-09/D007)
Approval of Permanent Certificate of Occupancy,
Engineer's Stamp Date 10/24/2006
Certification dated: 8-6-08

Mr. Mulbery:

PO Box 1293

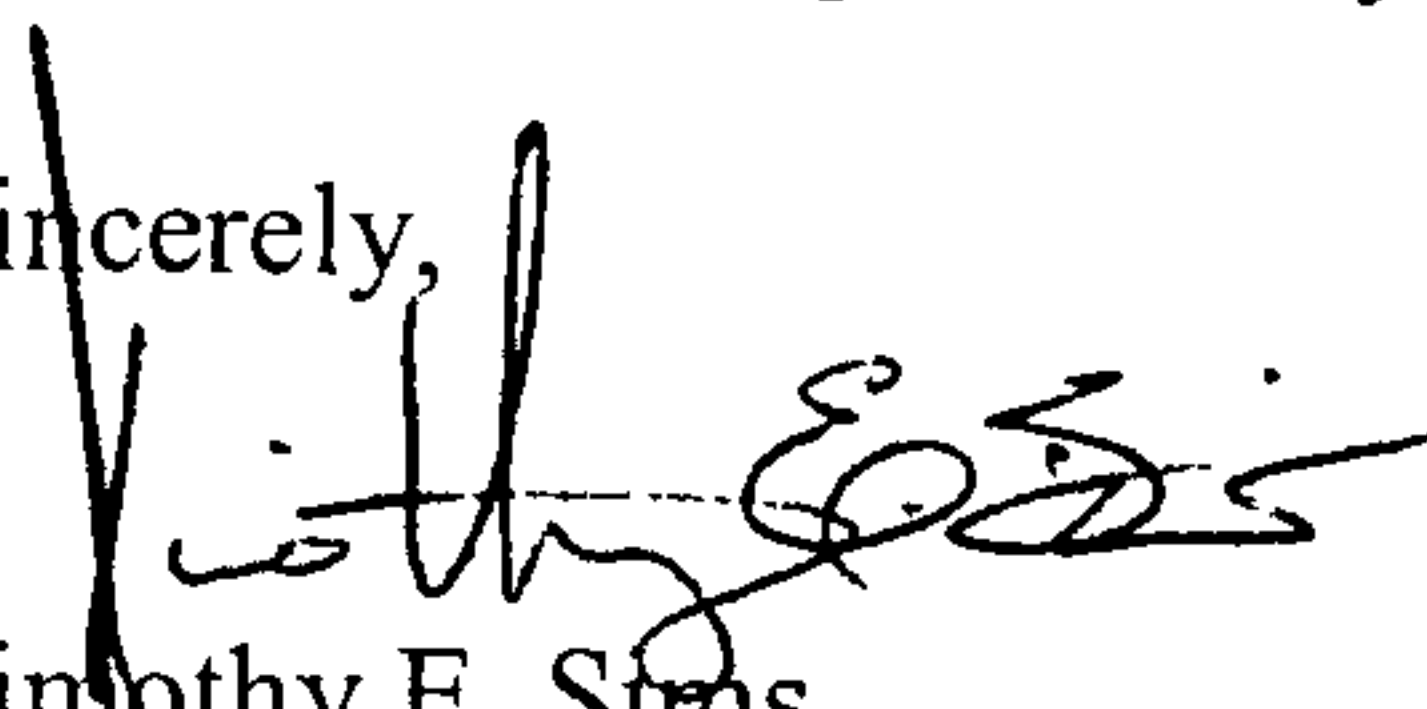
Based upon the information provided in your submittal received 8/06/08, the above referenced certification is approved for release of Permanent Certificate of Occupancy by Hydrology.

Albuquerque

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

Sincerely,

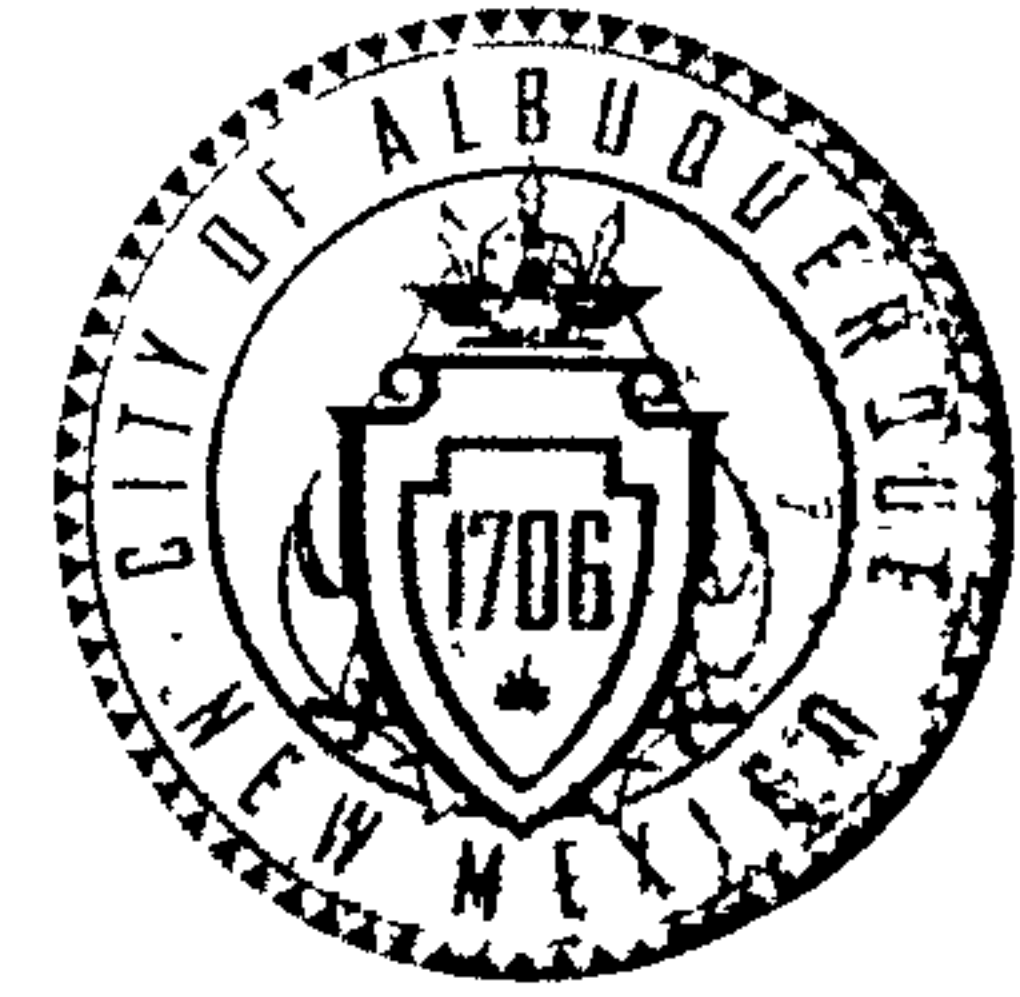
NM 87103


Timothy E. Sims
Plan Checker-Hydrology, Planning Dept
Development and Building Services

www.cabq.gov

C: CO Clerk—Katrina Sigala
file

CITY OF ALBUQUERQUE



June 6, 2008

Jeffery L. Mulbery, P.E.
BOHANNAN-HUSTON, INC.
7500 Jefferson Street NE
Albuquerque, NM 87109

**Re: APS North West High School—Phase 1B, 8100 Rainbow NW,
Approval of 90 Day Temporary Certificate of Occupancy (C.O.),
Engineer's Stamp dated 10/24/06 (C-09/D007)
Certification dated 6/04/08**

Mr. Mulbery,

PO Box 1293

Based upon the information provided in your submittal received 6/04/08, the above referenced certification is approved for release of 90-day Temporary Certificate of Occupancy by Hydrology.

Albuquerque

Upon final Certificate of Occupancy the drainage certification stamp will need to be dated.

NM 87103

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

www.cabq.gov

Sincerely,

Timothy E. Sims
Plan Checker
Development and Building Services

C: CO Clerk – Katrina Sigala
File

CITY OF ALBUQUERQUE



November 1, 2006

Jeffrey L. Mulberry, P.E.
Bohannon Huston, Inc.
7500 Jefferson NE-Courtyard I
Albuquerque, NM 87109

Re: Northwest High School Phase 1B Grading and Drainage Plan
Engineer's Stamp dated 10-24-06 (C9/D7)

Dear Mr. Mulberry,

Based upon the information provided in your submittal dated 10-24-06, 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.

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

Sincerely,

Curtis A. Cherne, E.I.
Engineering Associate, Planning Dept.
Development and Building Services

C: file

P.O. Box 1293

Albuquerque

New Mexico 87103

www.cabq.gov