Rael, Rudy E.

From: Rael, Rudy E.
Sent: Monday, December 05, 2016 10:02 AM
To: 'Fred Arfman (freda@iacivil.com)'; 'bryanb@IACIVIL.COM'
Cc: Biazar, Shahab; Carrillo, Abiel X.
Subject: Eastside Renovation of Kennel D Canine Facilities

Hello Fred and Bryan, the G&D plan submitted, signed by Fred Arfman dated 5/9/16, is acceptable for building permit. However, before a Certificate of Occupancy is granted the LOMR-F will need to be completed and accepted by FEMA and our office, as well as the Engineer Certification per the DPM check list. Even though we agree that the flood zone is a ghost flood zone, FEMA does not, therefore it is imperative that the LOMR-F is completed and accepted by FEMA. If this application does not get done the city may lose points in our Community Rating System, which will cause people who live in flood zones to pay more in fees.

Rudy E. Rael, CE, CFM
Engineer Associate, Hydrology
Planning Department
600 2nd St. NW Suite 201
Albuquerque NM 87102
(505) 924-3977

City of Albuquerque

Planning Department

Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET (REV 09/2015) K20D015

Project Title: Eastside Renovation of Kennel D Canine Facilities Building Permit #: _____ City Drainage #: K20D063

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

Legal Description: Tract 1A, Municipal Addition No. 2 City of Albuquerque

City Address: 8920 Lomas Blvd. NE - Albuquerque, NM 87112

Engineering Firm: Isaacson & Arfman, P.A. Contact: Fred C. Arfman

Address: 128 Monroe Street NE - Albuquerque, NM 87108

Phone#: (505) 268-8828 Fax#: _____ E-mail: fred@iacivil.com

Owner: City of Albuquerque - Animal Welfare Department Contact: _____

Address: _____

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

Architect: Mullen Heller Architecture PC Contact: Douglas Heller

Address: 1718 Central Ave. SW, Suite D - Albuquerque, NM 87104

Phone#: (505) 268-4144 Fax#: (505) 268-4244 E-mail: _____

Other Contact: _____ Contact: _____

Address: _____

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

Check all that Apply:

DEPARTMENT:

__X__ HYDROLOGY/ DRAINAGE
_____ TRAFFIC/ TRANSPORTATION
_____ MS4/ EROSION & SEDIMENT CONTROL

TYPE OF SUBMITTAL:

_____ ENGINEER/ ARCHITECT CERTIFICATION

_____ CONCEPTUAL G & D PLAN
__X__ GRADING PLAN
_____ DRAINAGE MASTER PLAN
_____ DRAINAGE REPORT
_____ CLOMR/LOMR

_____ TRAFFIC CIRCULATION LAYOUT (TCL)
_____ TRAFFIC IMPACT STUDY (TIS)
_____ EROSION & SEDIMENT CONTROL PLAN (ESC)

_____ OTHER (SPECIFY) _____

RECEIVED
MAY 09 2016
LAND DEVELOPMENT SECTION

CHECK TYPE OF APPROVAL/ACCEPTANCE SOUGHT:

__X__ BUILDING PERMIT APPROVAL
_____ CERTIFICATE OF OCCUPANCY

_____ PRELIMINARY PLAT APPROVAL
_____ SITE PLAN FOR SUB'D APPROVAL
_____ SITE PLAN FOR BLDG. PERMIT APPROVAL
_____ FINAL PLAT APPROVAL
_____ SIA/ RELEASE OF FINANCIAL GUARANTEE
_____ FOUNDATION PERMIT APPROVAL
_____ GRADING PERMIT APPROVAL
__X__ SO-19 APPROVAL
_____ PAVING PERMIT APPROVAL
GRADING/ PAD CERTIFICATION
_____ WORK ORDER APPROVAL
_____ CLOMR/LOMR

_____ PRE-DESIGN MEETING
_____ OTHER (SPECIFY) _____

IS THIS A RESUBMITTAL?: __X__ Yes _____ No

DATE SUBMITTED: May 9, 2016 By: Fred C. Arfman

COA STAFF: ELECTRONIC SUBMITTAL RECEIVED: ____

Rael, Rudy E.

From: Rael, Rudy E.
Sent: Wednesday, June 01, 2016 3:37 PM
To: 'Fred Arfman (freda@iacivil.com)'
Cc: Abiel X. Carrillo
Subject: COA Eastside Kennel

Mr. Arfman

This email is being sent in lieu of an attached comment letter in order to expedite our response to previous comments. Response to comments should continue to be included in the resubmittal. A reply to these comments via email will not be considered a resubmittal.

Based upon the information provided in your resubmittal received 5/9/16, the above referenced Grading and Drainage Report and plan cannot be approved for Building Permit until the following comments are addressed:

- Provide a CLOMR-F before beginning construction and follow with a LOMR-F. This will negate the need for a scour wall.
- Provide compensatory volume for the displacement of the AO zone. The first flush pond can be used for this application.
- A SO-19 is not required.
- Provide a build note stating that Waterproofing of the stem wall 2 feet above the BFE is required, along with the applicable certification from the company used for this application.

Rudy E. Rael, CE, CFM
Engineer Associate, Hydrology
Planning Department
600 2nd St. NW Suite 201
Albuquerque NM 87102
(505) 924-3977

Abiel X. Carrillo

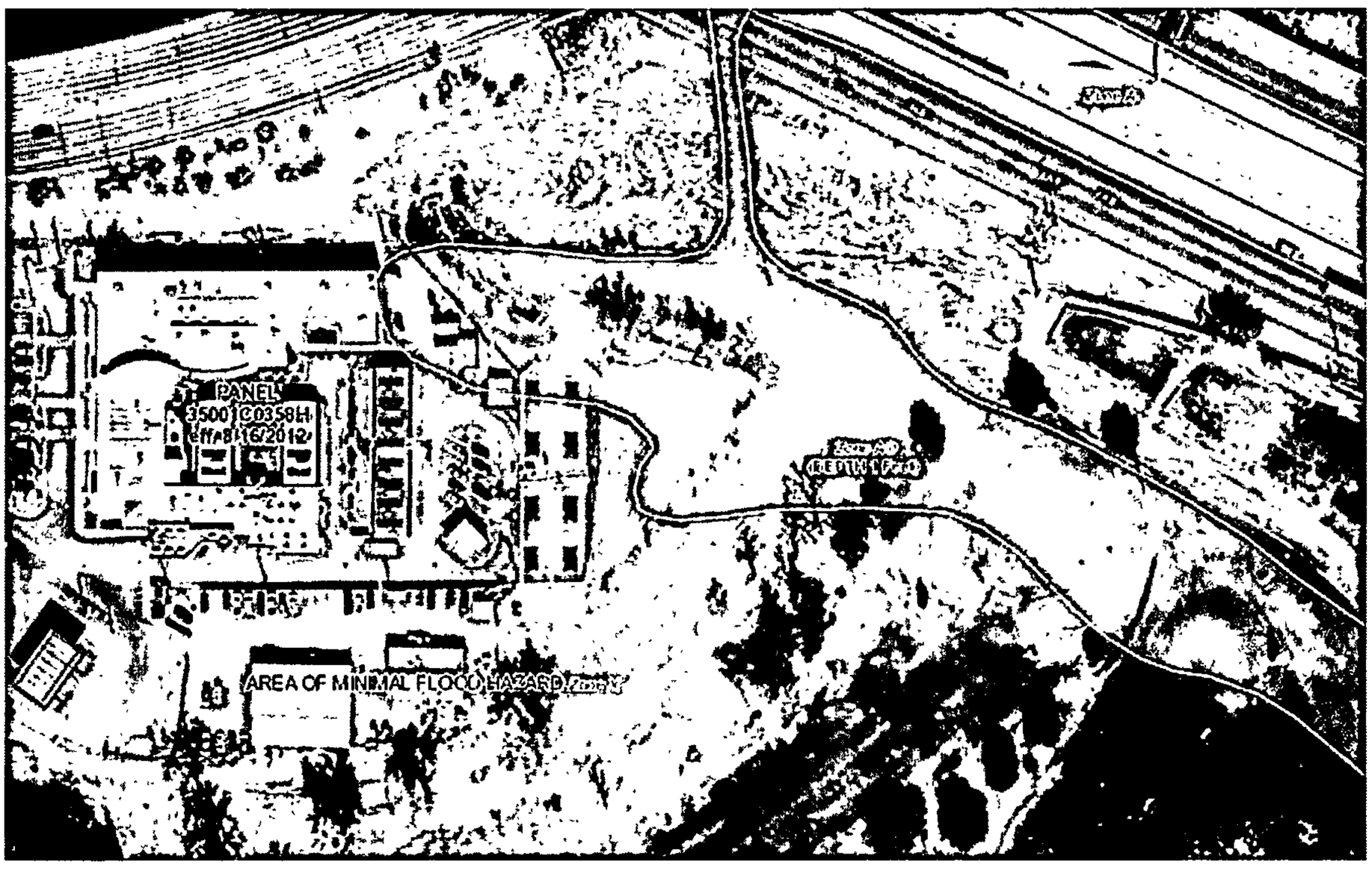
From: Abiel X. Carrillo
Sent: Wednesday, March 16, 2016 3:17 PM
To: Fred Arfman
Cc: Rael, Rudy E.; Cherne, Curtis
Subject: ~~K20D063~~ - Eastside Renovation of Kennel D Facilities - Stamp Date (No Stamp Date)
K20D015

Fred,

This email is being sent in lieu of an attached comment letter in order to expedite the response for intermediate reviews. Responses to comments should continue to be included in a re-submittal. A reply to this email with responses to comments will not be considered a re-submittal.

Based upon the information provided in your submittal received 1-28-2016, the above-referenced Grading and Drainage Plan cannot be approved for Building Permit, until the following item is addressed:

1. According to the latest FIRM, the smaller building just north of the parking area will be in Zone AO (1' Depth, see below). The finished floor will need to be set *at least* 1' above the highest adjacent grade to the building.



2. Overlay (approximately) the limits of the SFHA on the plan.

3. Processing a Floodplain Permit will be made a condition of Building Permit approval.

4. Stamp and date the revised plan.

Any question just let me know.

Abiel Carrillo, P.E.

Principal Engineer - Hydrology
Planning Department
Development Review Services Division
City of Albuquerque
505-924-3986
acarrillo@cabq.gov
600 2nd Street NW
Albuquerque, NM 87102

City of Albuquerque

Planning Department

Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET (REV 09/2015)

K20D015

Project Title: Eastside Renovation of Kennel D Canine Facilities Building Permit #: _____ City Drainage #: ~~K20/~~ D015

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

Legal Description: Tract 1A, Municipal Addition No. 2 City of Albuquerque

City Address: 8920 Lomas Blvd. NE - Albuquerque, NM 87112

Engineering Firm: Isaacson & Arfman, P.A. Contact: Fred C. Arfman

Address: 128 Monroe Street NE - Albuquerque, NM 87108

Phone#: (505) 268-8828 Fax#: _____ E-mail: fred@iacivil.com

Owner: City of Albuquerque - Animal Welfare Department Contact: _____

Address: _____

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

Architect: Mullen Heller Architecture PC Contact: Douglas Heller

Address: 1718 Central Ave. SW, Suite D - Albuquerque, NM 87104

Phone#: (505) 268-4144 Fax#: (505) 268-4244 E-mail: _____

Other Contact: _____ Contact: _____

Address: _____

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

Check all that Apply:

DEPARTMENT:

X HYDROLOGY/ DRAINAGE

____ TRAFFIC/ TRANSPORTATION

____ MS4/ EROSION & SEDIMENT CONTROL

TYPE OF SUBMITTAL:

____ ENGINEER/ ARCHITECT CERTIFICATION

X CONCEPTUAL G & D PLAN

____ GRADING PLAN

____ DRAINAGE MASTER PLAN

____ DRAINAGE REPORT

____ CLOMR/LOMR

____ TRAFFIC CIRCULATION LAYOUT (TCL)

____ TRAFFIC IMPACT STUDY (TIS)

____ EROSION & SEDIMENT CONTROL PLAN (ESC)

____ OTHER (SPECIFY) _____

RECEIVED
JAN 28 2016
LAND DEVELOPMENT SECTION

CHECK TYPE OF APPROVAL/ACCEPTANCE SOUGHT:

X BUILDING PERMIT APPROVAL

____ CERTIFICATE OF OCCUPANCY

____ PRELIMINARY PLAT APPROVAL

____ SITE PLAN FOR SUB'D APPROVAL

____ SITE PLAN FOR BLDG. PERMIT APPROVAL

____ FINAL PLAT APPROVAL

____ SIA/ RELEASE OF FINANCIAL GUARANTEE

____ FOUNDATION PERMIT APPROVAL

____ GRADING PERMIT APPROVAL

____ SO-19 APPROVAL

____ PAVING PERMIT APPROVAL

____ GRADING/ PAD CERTIFICATION

WORK ORDER APPROVAL

____ CLOMR/LOMR

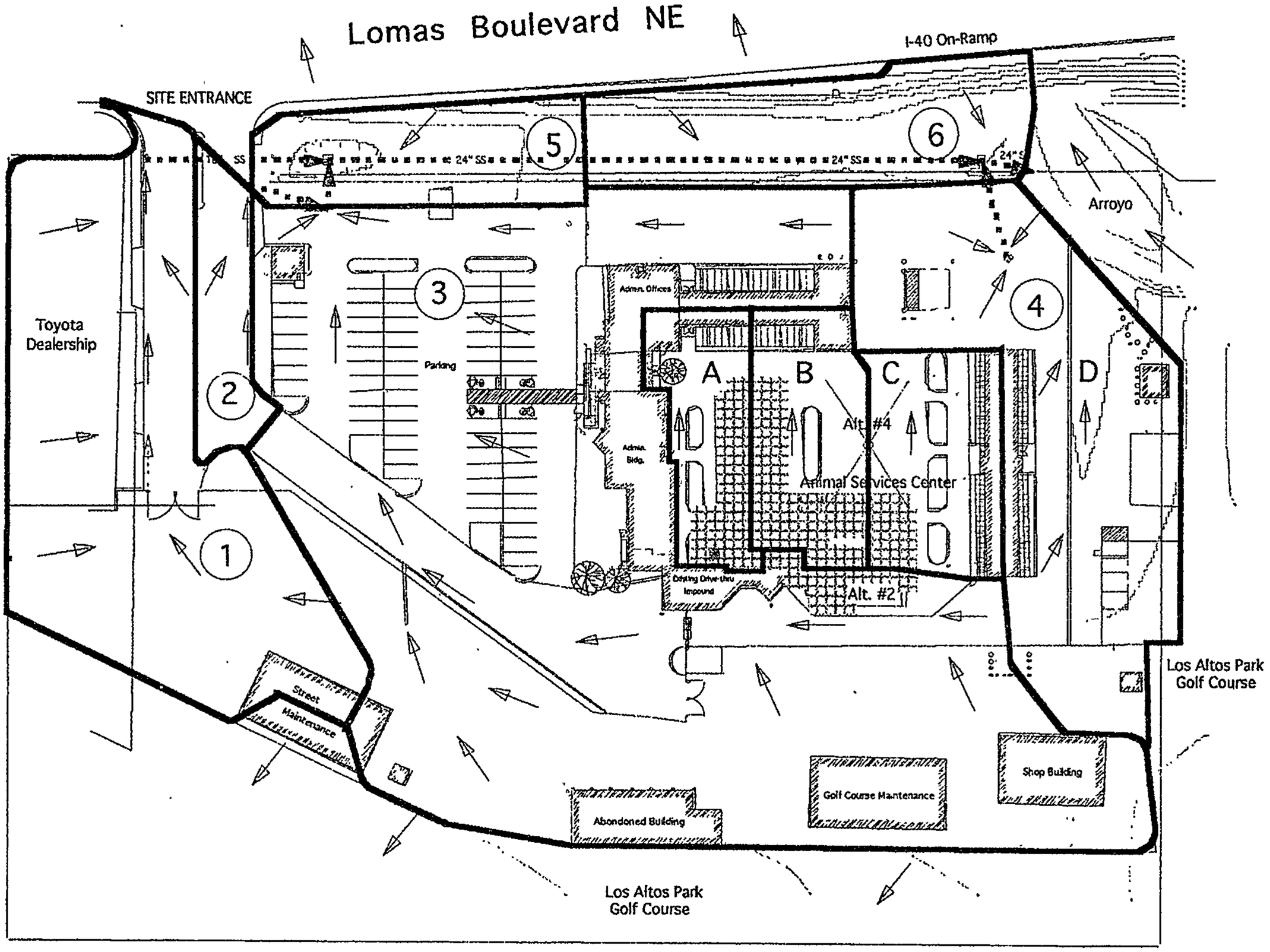
____ PRE-DESIGN MEETING

____ OTHER (SPECIFY) _____

IS THIS A RESUBMITTAL?: ____ Yes X No

DATE SUBMITTED: January 28, 2016 By: Fred C. Arfman

COA STAFF: ELECTRONIC SUBMITTAL RECEIVED: ____



COA Eastside Kennels

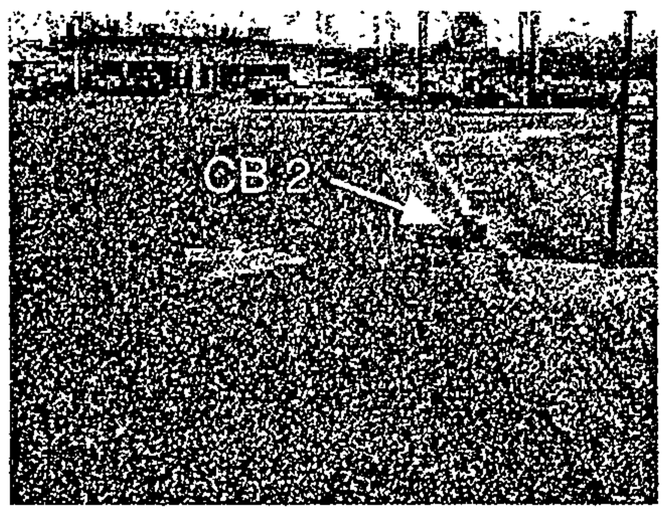
Basin map

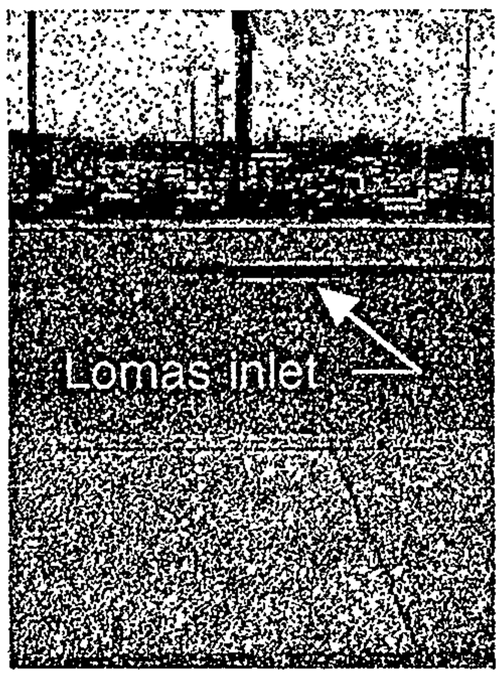
Basin Analysis

Basin 1 encompasses a portion of the street maintenance yard, the Toyota area and the west half of the access street. The main flow path is obstructed by a low area which ponds in the area of the street maintenance yard gate and extends onto the Toyota parking area.

Flows eventually drain north following the flat grades of the access street to CB 1.

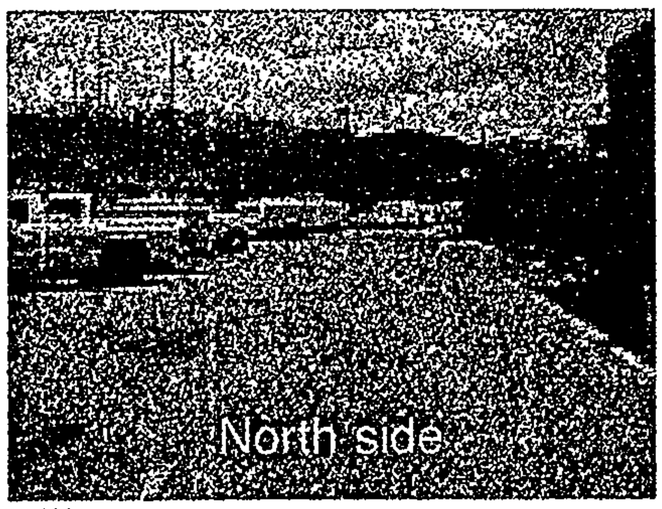
Basin 2 is essentially the east half of the access street. It's flows are picked up by CB 2.

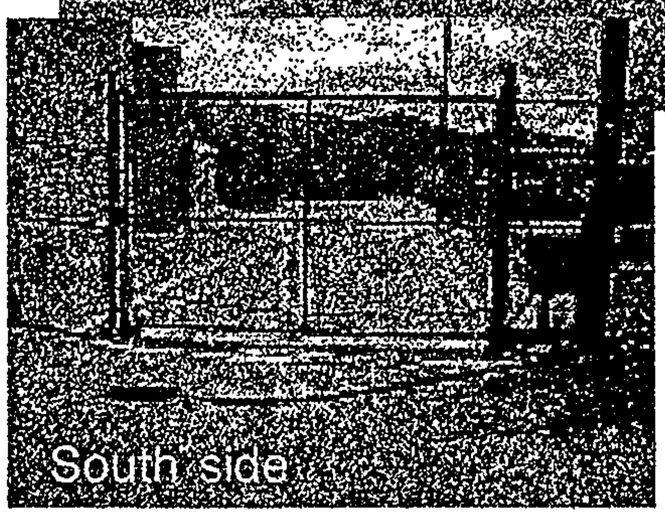




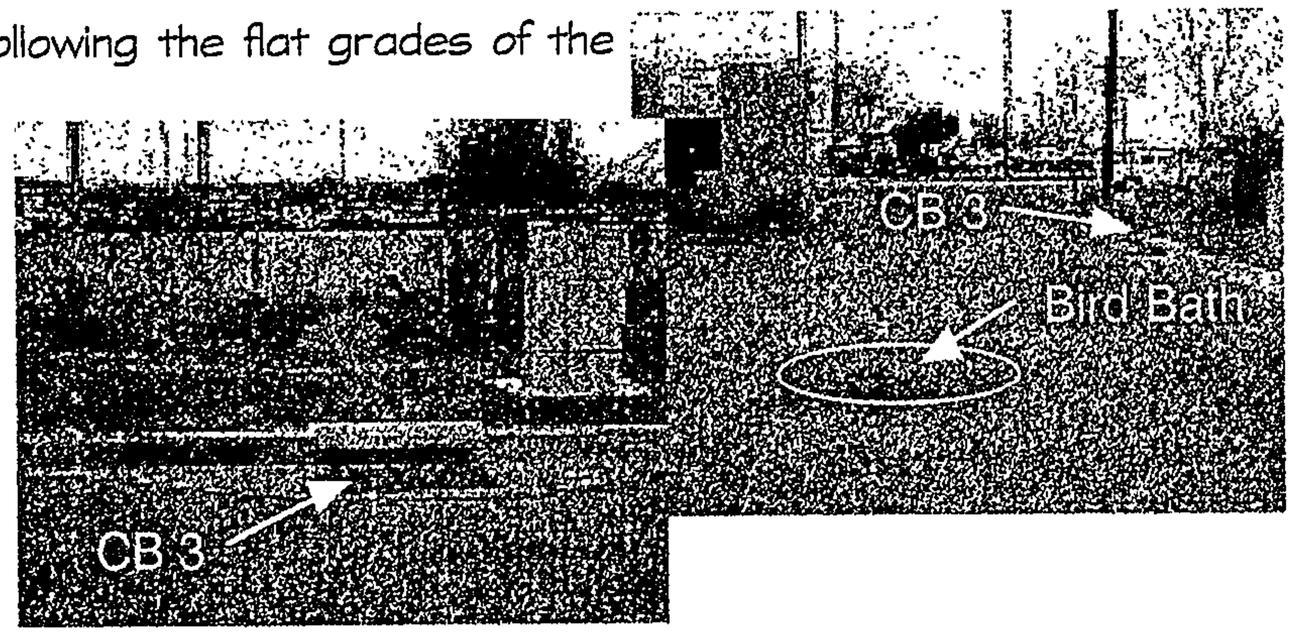
No flows from Lomas Blvd. enter the access street due to a reverse slope of Lomas which directs flows to inlets located along the median.

Basin 3 is made up of the front parking lot on the west side of the Animal Service Center, and the areas south and north of the building.

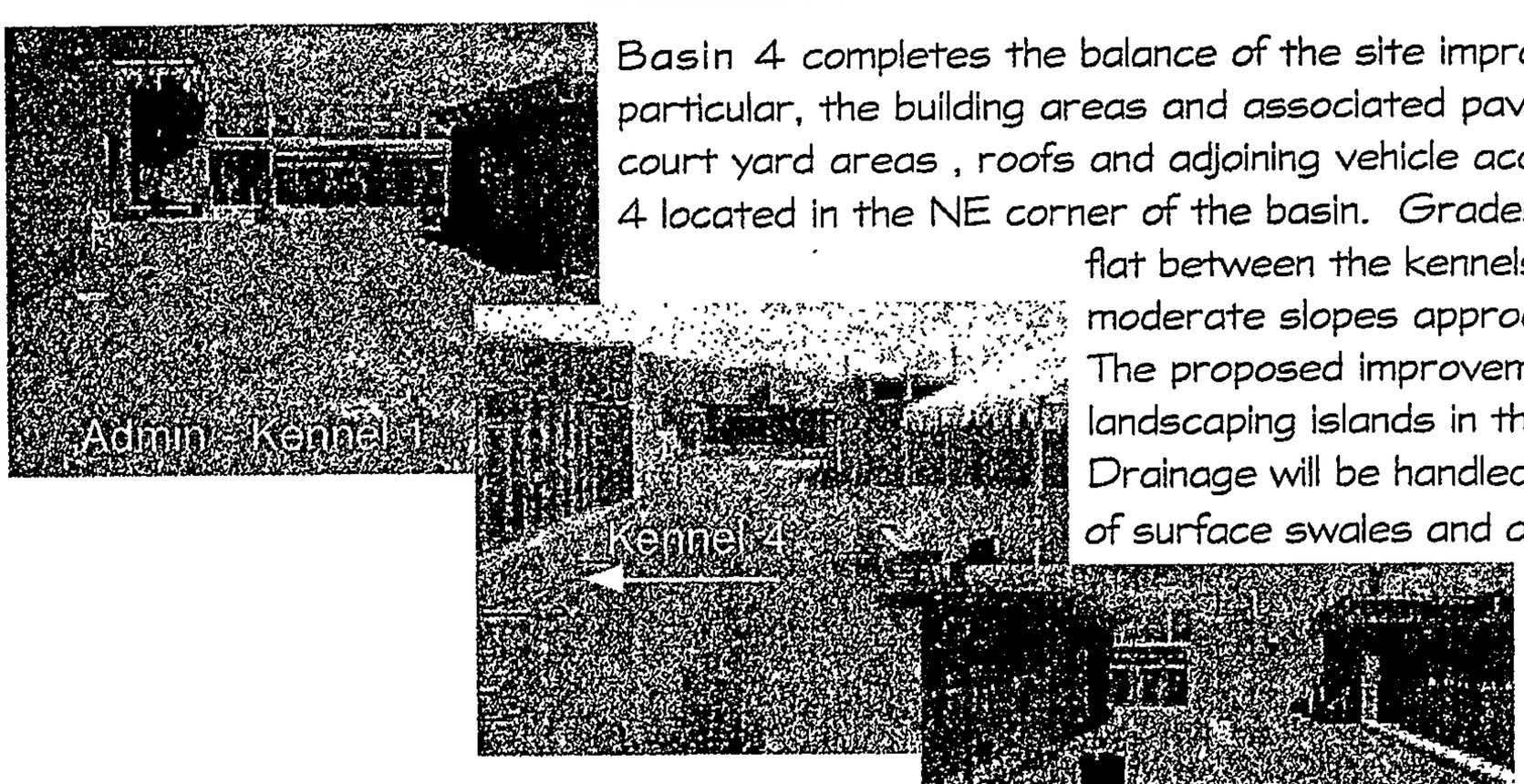




Flows eventually drain north following the flat grades of the parking area to CB 3.



Basin 4 completes the balance of the site improvements, in particular, the building areas and associated paving. The interior court yard areas , roofs and adjoining vehicle access drain to CB 4 located in the NE corner of the basin. Grades vary from very flat between the kennels to more moderate slopes approaching the CB 4. The proposed improvements will locate landscaping islands in the center isles. Drainage will be handled by a combination of surface swales and an extension of the SS system.



Basins 5 - 6 are comprised of the open space between the Lomas curb and the site curb. Basin 5 drains to a sump at MH 1, while Basin 6 surface drains into the arroyo to the east.

The following pages contain the basin calculations and hydrographs to determine the peak flows draining to the existing storm sewer system.

Basin 1

AREA OF SITE: 42,991 SF = 0.99 Ac.

Calculations are based on the Drainage Design Criteriafor Bernalillo County, Section 22.2, DPM, Vol 2, dated Jan., 1993

Existing Flows:

On-Site Historic Land Condition

Area a	=	0	SF
Area b	=	2,210	SF
Area c	=	0	SF
Area d	=	40,781	SF
Total Area	=	42,991	SF

DEVELOPED FLOWS:

On-Site Developed Land Condition

Area a	=	0	SF
Area b	=	2,210	SF
Area c	=	0	SF
Area d	=	40,781	SF
Total Area	=	42,991	SF

EXCESS PRECIPITATION:

Precip. Zone 3

Ea = 0.66
Eb = 0.92
Ec = 1.29
Ed = 2.36

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

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

Historic E	=	2.29	in.	Developed E	=	2.29	in.

On-Site Volume of Runoff: $V360 = \frac{E*A}{12}$

Historic V360	=	8190	CF	Developed V360	=	8190	CF

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

For Precipitation Zone 3

Qpa = 1.87
Qbb = 2.60
Qpc = 3.45
Qpd = 5.02

Historic Qp	=	4.8	CFS	Developed Qp	=	4.8	CFS

Basin 1 is comprised of the west side of the site and encompasses one half of the access drive, a portion of the adjacent Toyota site and a part of the street maintenance yard. Approximately one-half of the sub-basin drains to a low area in the pavement at the entrance to the street maintenance yard, which acts as an "unofficial" pond, intercepting some of the drainage of the area. When the depression is filled to capacity, the flows from the sub-basin eventually drain to a Type "C" inlet, CB 1, near Lomas Blvd., less the volume retained by the depression. Referring to Plate 22.3, D-5, Grate capacities of the Type 'C' inlet, for a street slope of 0.009'/', the grate capacity of 4.8 cfs is reached when the depth of flow at the curb is 0.4' deep. The sub-basin flow rates were not adjusted for the "pond" area, under the assumption that this problem will eventually be corrected.

Basin #2

AREA OF SITE: 5,632 SF = 0.13 Ac.

Existing Flows:

On-Site Historic Land Condition

Area a	=	0	SF
Area b	=	0	SF
Area c	=	0	SF
Area d	=	5,632	SF
Total Area	=	5,632	SF

DEVELOPED FLOWS:

On-Site Developed Land Condition

Area a	=	0	SF
Area b	=	0	SF
Area c	=	0	SF
Area d	=	5,632	SF
Total Area	=	5,632	SF

EXCESS PRECIPITATION:

Precip. Zone 3

Ea = 0.66
Eb = 0.92
Ec = 1.29
Ed = 2.36

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

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

Historic E	=	2.36	in.	Developed E =	2.36 in.

On-Site Volume of Runoff: $V360 = \frac{E^*A}{12}$

Historic V360	=	1108	CF	Developed V360 =	1108 CF

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

For Precipitation Zone 3

Qpa = 1.87
Qbb = 2.60
Qpc = 3.45
Qpd = 5.02

Historic Qp	=	0.6	CFS	Developed Qp =	0.6 CFS

Basin 2 is comprised of the remainder of the access street serving the facilities. Flows discharge into an inlet, CB 2, located near Lomas Blvd. Capacity of the Type 'C' inlet is more than adequate, based on the conditions referenced for Basin 1 above.

Basin #3

AREA OF SITE: 122,368 SF = 2.81 Ac.

Existing Flows:

On-Site Historic Land Condition

Area a	=	0	SF
Area b	=	6,576	SF
Area c	=	0	SF
Area d	=	115,792	SF
Total Area	=	122,368	SF

DEVELOPED FLOWS:

On-Site Developed Land Condition

Area a	=	0	SF
Area b	=	6,576	SF
Area c	=	0	SF
Area d	=	115,792	SF
Total Area	=	122,368	SF

EXCESS PRECIPITATION:

Precip. Zone 3

Ea = 0.66
Eb = 0.92
Ec = 1.29
Ed = 2.36

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

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

Historic E	=	2.28 in.	Developed E	=	2.28 in.

On-Site Volume of Runoff: $V360 = \frac{E^*A}{12}$

Historic V360	=	23277 CF	Developed V360	=	23277 CF

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

For Precipitation Zone 3

Qpa = 1.87
Qbb = 2.60
Qpc = 3.45
Qpd = 5.02

Historic Qp	=	13.7 CFS	Developed Qp	=	13.7 CFS

Basin 3 is comprised of the south side of the joint-use property, the front parking area for the Animal Services Center and a portion of the vehicle storage area located on the north side of the building. General flow patterns find a path to a single Type 'C' inlet, CB 3, located at the NW corner of the parking area. Capacity of the inlet can be determined as a sump condition, with a ponding depth of 0.6' over the grate and a clear opening of an equivalent grate ((Neenah # 3403F) = 3.2 SF, for a capacity of 12 cfs (Orifice Eq). Adding the curb inlet capacity, 3' length x 0.6 cfs/ft = 1.8cfs, for a total capacity of 13.8 cfs. This value assumes no reduction due to plugging. The inlet has capacity, but realistically, back up of flows will occur within the parking area to reach the ponding depth of 0.6' over the grate.

Basin #4

AREA OF SITE: 61,917 SF = 1.42 Ac.

Existing Flows:

On-Site Historic Land Condition

Area a	=	0	SF
Area b	=	0	SF
Area c	=	11,750	SF
Area d	=	50,167	SF
Total Area	=	61,917	SF

DEVELOPED FLOWS:

On-Site Developed Land Condition

Area a	=	0	SF
Area b	=	0	SF
Area c	=	11,750	SF
Area d	=	50,167	SF
Total Area	=	61,917	SF

EXCESS PRECIPITATION:

Precip. Zone 3

Ea = 0.66
Eb = 0.92
Ec = 1.29
Ed = 2.36

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

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

Historic E	=	2.16 in.	Developed E	=	2.16 in.

On-Site Volume of Runoff: $V360 = \frac{E^*A}{12}$

Historic V360	=	11129 CF	Developed V360	=	11129 CF

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

For Precipitation Zone 3

Qpa	=	1.87	Qpc	=	3.45
Qbb	=	2.60	Qpd	=	5.02
Historic Qp	=	6.7 CFS	Developed Qp	=	6.7 CFS

Basin 4 is comprised of the east side of the facility and the majority of the Animal Service Center building area. Flows from this basin are presently collected by a single Type 'D' inlet, CB 4, operating in a sump condition. Using the same design criteria as the inlet for basin #3 shows an available capacity of 12 cfs. Even if the inlet were to be completely clogged, an overland spillway path exists to drain the flows directly into the arroyo, resulting in only a minor pond confined to the inlet area.

As part of the building phase, planters will be located between the buildings. To provide accessible grades between the buildings and drainage away from these structures, an additional SS will have to be constructed along the north side of Kennels 1, 2 and 3. This will result in dividing Basin 4 into four sub-basins, A, B, C, and D. Each sub-basin will drain to an inlet for collection into CB 4.

Sub-Basin #4 A

AREA OF SITE: 7,456 SF = 0.17 Ac.

Existing Flows:

On-Site Historic Land Condition

Area a	=	0	SF
Area b	=	0	SF
Area c	=	800	SF
Area d	=	6,656	SF
Total Area	=	7,456	SF

DEVELOPED FLOWS:

On-Site Developed Land Condition

Area a	=	0	SF
Area b	=	0	SF
Area c	=	800	SF
Area d	=	6,656	SF
Total Area	=	7,456	SF

EXCESS PRECIPITATION:

Precip. Zone 3

Ea = 0.66
Eb = 0.92
Ec = 1.29
Ed = 2.36

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

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

Historic E	=	2.25 in.	Developed E	=	2.25 in.

On-Site Volume of Runoff: $V360 = \frac{E*A}{12}$

Historic V360	=	1395 CF	Developed V360	=	1395 CF

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

For Precipitation Zone 3

Qpa = 1.87
Qbb = 2.60
Qpc = 3.45
Qpd = 5.02

Historic Qp	=	0.8 CFS	Developed Qp	=	0.8 CFS

Sub-Basin 4 A is comprised of the west side of the Administration building area and one half of Kennel building #1. Flows from this sub-basin will be collected by CB 4A, a single Type 'D' inlet, operating in a sump condition, with an available capacity of 12 cfs.

Sub-Basin #4 B

AREA OF SITE: 9,762 SF = 0.22 Ac.

Existing Flows:

On-Site Historic Land Condition

Area a	=	0	SF
Area b	=	0	SF
Area c	=	400	SF
Area d	=	9,362	SF
Total Area	=	9,762	SF

DEVELOPED FLOWS:

On-Site Developed Land Condition

Area a	=	0	SF
Area b	=	0	SF
Area c	=	400	SF
Area d	=	9,362	SF
Total Area	=	9,762	SF

EXCESS PRECIPITATION:

Precip. Zone 3

Ea = 0.66
Eb = 0.92
Ec = 1.29
Ed = 2.36

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

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

Historic E	=	2.32 in.	Developed E	=	2.32 in.

On-Site Volume of Runoff: $V360 = \frac{E^*A}{12}$

Historic V360	=	1884 CF	Developed V360	=	1884 CF

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

For Precipitation Zone 3

Qpa = 1.87
Qbb = 2.60
Qpc = 3.45
Qpd = 5.02

Historic Qp	=	1.1 CFS	Developed Qp	=	1.1 CFS

Sub-Basin 4 B is comprised of one half of the Kennel Building #1 and the future Building #2 expansion. Flows from this sub-basin will be collected by CB 4B, a single Type 'D' inlet, operating in a sump condition, with an available capacity of 12 cfs.

Sub-Basin #4 C

AREA OF SITE: 10,091 SF = 0.23 Ac.

Existing Flows:

On-Site Historic Land Condition

Area a	=	0	SF
Area b	=	0	SF
Area c	=	1,300	SF
Area d	=	8,791	SF
Total Area	=	10,091	SF

DEVELOPED FLOWS:

On-Site Developed Land Condition

Area a	=	0	SF
Area b	=	0	SF
Area c	=	1,300	SF
Area d	=	8,791	SF
Total Area	=	10,091	SF

EXCESS PRECIPITATION:

Precip. Zone 3

Ea = 0.66
Eb = 0.92
Ec = 1.29
Ed = 2.36

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

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

Historic E	=	2.22 in.	Developed E	=	2.22 in.

On-Site Volume of Runoff: $V360 = \frac{E^*A}{12}$

Historic V360	=	1869 CF	Developed V360	=	1869 CF

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

For Precipitation Zone 3

Qpa = 1.87
Qbb = 2.60
Qpc = 3.45
Qpd = 5.02

Historic Qp	=	1.1 CFS	Developed Qp	=	1.1 CFS

Sub-Basin 4 C is comprised of one half of the future Kennel Building #2 and Building #3. Flows from this sub-basin will be collected by CB 4C, a single Type 'D' inlet, operating in a sump condition, with an available capacity of 12 cfs.

Sub-Basin #4 D

AREA OF SITE: 34,608 SF = 0.79 Ac.

Existing Flows:

On-Site Historic Land Condition

Area a	=	0	SF
Area b	=	0	SF
Area c	=	9,250	SF
Area d	=	25,358	SF
Total Area	=	34,608	SF

DEVELOPED FLOWS:

On-Site Developed Land Condition

Area a	=	0	SF
Area b	=	0	SF
Area c	=	9,250	SF
Area d	=	25,358	SF
Total Area	=	34,608	SF

EXCESS PRECIPITATION:

Precip. Zone 3

Ea = 0.66
Eb = 0.92
Ec = 1.29
Ed = 2.36

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

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

Historic E	=	2.07	in.	Developed E	=	2.07	in.

On-Site Volume of Runoff: $V360 = \frac{E*A}{12}$

Historic V360	=	5981	CF	Developed V360	=	5981	CF

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

For Precipitation Zone 3

Qpa	=	1.87		Qpc	=	3.45	
Qbb	=	2.60		Qpd	=	5.02	
Historic Qp	=	3.7	CFS	Developed Qp	=	3.7	CFS

Basin 4 D is comprised of the remaining portion of Basin #4, the east side of the facility. Flows from this basin are presently collected by a single Type 'D' inlet, CB 4, operating in a sump condition, with an available capacity of 12 cfs.

Basin #5

AREA OF SITE: 10,569 SF = 0.24 Ac.

Existing Flows:

On-Site Historic Land Condition

Area a	=	0	SF
Area b	=	10,569	SF
Area c	=	0	SF
Area d	=	0	SF
Total Area	=	10,569	SF

DEVELOPED FLOWS:

On-Site Developed Land Condition

Area a	=	0	SF
Area b	=	10,569	SF
Area c	=	0	SF
Area d	=	0	SF
Total Area	=	10,569	SF

EXCESS PRECIPITATION:

Precip. Zone 3

Ea = 0.66
Eb = 0.92
Ec = 1.29
Ed = 2.36

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

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

Historic E	=	0.92	in.	Developed E	=	0.92	in.

On-Site Volume of Runoff: $V360 = \frac{E*A}{12}$

Historic V360	=	810	CF	Developed V360	=	810	CF

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

For Precipitation Zone 3

Qpa	=	1.87	Qpc	=	3.45
Qbb	=	2.60	Qpd	=	5.02

Historic Qp	=	0.6	CFS	Developed Qp	=	0.6	CFS

Basin 5 is comprised of the west open space between the Lomas Blvd. curb and the Animal Services Center parking area. Grades direct flows to the junction SS MH 1, which was designed with a grated inlet to pick up the Basin #5 surface flows. However, no evidence of the inlet could be found within the depressed area.

Basin #6

AREA OF SITE: 15,690 SF = 0.36 Ac.

Existing Flows:

On-Site Historic Land Condition

Area a	=	0	SF
Area b	=	15,690	SF
Area c	=	0	SF
Area d	=	0	SF
Total Area	=	15,690	SF

DEVELOPED FLOWS:

On-Site Developed Land Condition

Area a	=	0	SF
Area b	=	15,690	SF
Area c	=	0	SF
Area d	=	0	SF
Total Area	=	15,690	SF

EXCESS PRECIPITATION:

Precip. Zone 3

Ea = 0.66
Eb = 0.92
Ec = 1.29
Ed = 2.36

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

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

Historic E	=	0.92	in.	Developed E	=	0.92	in.

On-Site Volume of Runoff: $V360 = \frac{E^*A}{12}$

Historic V360	=	1203	CF	Developed V360	=	1203	CF

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

For Precipitation Zone 3

Qpa	=	1.87	Qpc	=	3.45
Qbb	=	2.60	Qpd	=	5.02

Historic Qp	=	0.9	CFS	Developed Qp	=	0.9	CFS

Basin 6 is comprised of the remainder of the open space between the Lomas Blvd. curb and the Animal Services Center parking area. This area drains to the east via surface paths to the arroyo.

504 Stairways

504.1 General. Stairs shall comply with 504.

504.2 Treads and Risers. All steps on a flight of stairs shall have uniform riser heights and uniform tread depths. Risers shall be 4 inches (100 mm) high minimum and 7 inches (180 mm) high maximum. Treads shall be 11 inches (280 mm) deep minimum.

504.3 Open Risers. Open risers are not permitted.

504.4 Tread Surface. Stair treads shall comply with 302. Changes in level are not permitted.
EXCEPTION: Treads shall be permitted to have a slope not steeper than 1:48.

> **Advisory 504.4 Tread Surface.** Consider providing visual contrast on tread nosings, or at the leading edges of treads without nosings, so that stair treads are more visible for people with low vision.

504.5 Nosings. The radius of curvature at the leading edge of the tread shall be ½ inch (13 mm) maximum. Nosings that project beyond risers shall have the underside of the leading edge curved or beveled. Risers shall be permitted to slope under the tread at an angle of 30 degrees maximum from vertical. The permitted projection of the nosing shall extend 1½ inches (38 mm) maximum over the tread below.

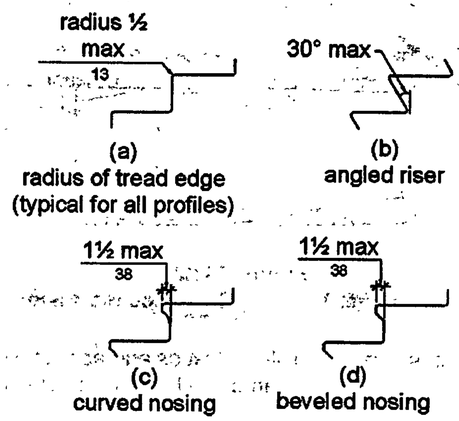


Figure 504.5
Stair Nosings

504.6 Handrails. Stairs shall have handrails complying with 505.

504.7 Wet Conditions. Stair treads and landings subject to wet conditions shall be designed to prevent the accumulation of water.

505 Handrails

505.1 General. Handrails provided along walking surfaces complying with 403, required at *ramps* complying with 405, and required at stairs complying with 504 shall comply with 505.

> **Advisory 505.1 General.** Handrails are required on ramp runs with a rise greater than 6 inches (150 mm) (see 405.8) and on certain stairways (see 504). Handrails are not required on walking surfaces with running slopes less than 1:20. However, handrails are required to comply with 505 when they are provided on walking surfaces with running slopes less than 1:20 (see 403.6). Sections 505.2, 505.3, and 505.10 do not apply to handrails provided on walking surfaces with running slopes less than 1:20 as these sections only reference requirements for ramps and stairs.

505.2 Where Required. Handrails shall be provided on both sides of stairs and *ramps*.
EXCEPTION: In *assembly areas*, handrails shall not be required on both sides of aisle *ramps* where a handrail is provided at either side or within the aisle width.

505.3 Continuity. Handrails shall be continuous within the full length of each stair flight or *ramp* run. Inside handrails on switchback or dogleg stairs and *ramps* shall be continuous between flights or runs.
EXCEPTION: In *assembly areas*, handrails on *ramps* shall not be required to be continuous in aisles serving seating.

505.4 Height. Top of gripping surfaces of handrails shall be 34 inches (865 mm) minimum and 38 inches (965 mm) maximum vertically above walking surfaces, stair nosings, and *ramp* surfaces. Handrails shall be at a consistent height above walking surfaces, stair nosings, and *ramp* surfaces.

> **Advisory 505.4 Height.** The requirements for stair and ramp handrails in this document are for adults. When children are the principal users in a building or facility (e.g., elementary schools), a second set of handrails at an appropriate height can assist them and aid in preventing accidents. A maximum height of 28 inches (710 mm) measured to the top of the gripping surface from the ramp surface or stair nosing is recommended for handrails designed for children. Sufficient vertical clearance between upper and lower handrails, 9 inches (230 mm) minimum, should be provided to help prevent entrapment.

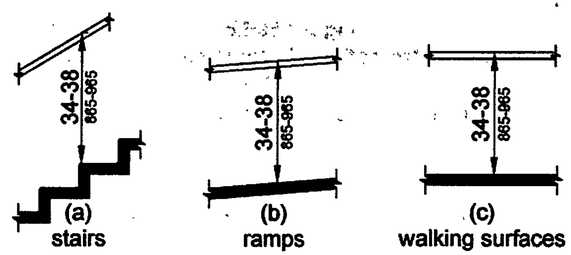


Figure 505.4
Handrail Height

CITY OF ALBUQUERQUE COMPREHENSIVE ~~14-16-3-1 (F)~~ CITY ZONING CODE

CITY OF ALBUQUERQUE

May 29, 2008

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

Re: Eastside Animal Service Center Conceptual Grading and Drainage Plan
Engineer's Stamp dated 4-30-08 (K20/D15)

Dear Mr. McGee,

Based upon the information provided in your submittal dated 4-30-08, the above referenced plan is approved for Site Development Plan for Building Permit action by the DRB.

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

Sincerely,

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

C: file

PO Box 1293
Albuquerque
NM 87103
www.cabq.gov

DRAINAGE AND TRANSPORTATION INFORMATION SHEET

(REV. 1/28/2003rd)

PROJECT TITLE: Eastside Animal Service Center ZONE MAP / DRG. FILE #: K - 20 / D 015

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

LEGAL DESCRIPTION: TRACT 1A MUNICIPAL ADDITION NO. 2

CITY ADDRESS: 8920 LOMAS BLVD NE

ENGINEERING FIRM: Isaacson & Arfman, P.A. CONTACT: Scott McGee

ADDRESS: 128 Monroe St. NE PHONE: 268-8828

CITY, STATE: Albuquerque, NM ZIP CODE: 87108

OWNER: CITY OF ALBUQUERQUE CONTACT: _____

ADDRESS: _____ PHONE: _____

CITY, STATE: _____ ZIP CODE: _____

ARCHITECT: Garrett Smith Ltd.. CONTACT: Lawrence Mead

ADDRESS: 514 Central Ave. SW PHONE: 766-6968

CITY, STATE: Albuquerque, New Mexico ZIP CODE: 87102

SURVEYOR: High Mesa Consulting Group CONTACT: Chuck Cala LS # 11184

ADDRESS: _____ PHONE: _____

CITY, STATE: Albuquerque, New Mexico ZIP CODE: _____

CONTRACTOR: _____ CONTACT: _____

ADDRESS: _____ PHONE: _____

CITY, STATE: _____ ZIP CODE: _____

CHECK TYPE OF SUBMITTAL:

_____ DRAINAGE REPORT
_____ DRAINAGE PLAN 1ST *REQUIRES TCL or equal*
_____ DRAINAGE PLAN RESUBMITTAL
XX CONCEPTUAL GRADING & DRAINAGE PLAN
_____ GRADING PLAN
_____ EROSION CONTROL PLAN
_____ ENGINEER'S CERTIFICATION (HYDROLOGY)
_____ CLOMR / LOMR
_____ TRAFFIC CIRCULATION LAYOUT (TCL)
_____ ENGINEER'S CERTIFICATION (TCL)
_____ ENGINEER'S CERTIFICATION (DRB APPR, SITE PLAN)
_____ OTHER

CHECK TYPE OF APPROVAL SOUGHT:

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

RECEIVED
APR 30 2008
HYDROLOGY SECTION

WAS A PRE-DESIGN CONFERENCE ATTENDED:

_____ YES
_____ NO
_____ COPY PROVIDED

DATE SUBMITTED: Wednesday, April 30, 2008 BY: Isaacson & Arfman, P.A.

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

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

CITY OF ALBUQUERQUE

March 10, 2011

Genevieve L. Donart, P.E
Isaacson & Arfman, P.A.
128 Monroe Street N.E.
Albuquerque, NM 87108

Re: Eastside Animal Services Center, 8920 Lomas Blvd NE,
Request for Permanent C.O. - Approved
Engineer's Stamp dated: 11-18-08 (K-20/D015)
Certification dated: 03-09-11

Dear Ms. Donart,

Based upon the information provided in the Certification received 03-09-11, the above referenced Certification is approved for a release of a Permanent Certificate of Occupancy by Hydrology.

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

Sincerely,

Timothy E. Sims,
Plan Checker—Hydrology Section
Development and Building Services

C: CO Clerk—Katrina Sigala
File

PO Box 1293

Albuquerque

NM 87103

www.cabq.gov

GARRETT SMITH LTD
DESIGN, ARCHITECTURE & DEVELOPMENT

March 14, 2011

City of Albuquerque
Planning Department/One Stop/Transportation Development
P.O. Box 1293
Albuquerque, New Mexico 87103

RE: City of Albuquerque Eastside Animal Service Center
Traffic Certification Letter

To Whom It May Concern:

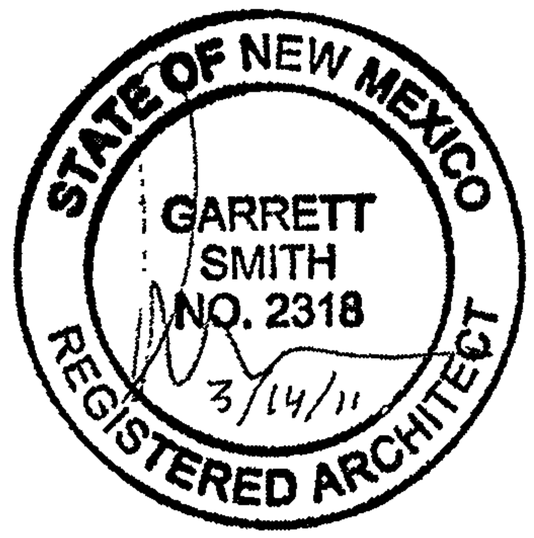
I, Garrett Smith, NMRA 2318, of the firm Garrett Smith Ltd., hereby certify that this project is in substantial compliance with and in accordance with the design intent of the DRB approved plan dated November 06, 2008. The record information edited onto the original design document has been obtained by Garrett Smith of the firm Garrett Smith Ltd. I further certify that I have personally visited the project site on March 14, 2011 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.

Signature

Architect's stamp

3/14/11
Date



www.garrett-smith-ltd.com
garrett@garrett-smith-ltd.com

GARRETT SMITH LTD
ARCHITECTURE & DEVELOPMENT
210 CENTRAL SW
ALBUQUERQUE
NEW MEXICO 87102
505.766.9688
FAX 243-4503

DSCF9532.JPG

11/22/10

DSCF9533.JPG

CITY OF ALBUQUERQUE

March 15, 2011

Garrett Smith, R.A.
Garrett Smith LTD
514 Central SW
Albuquerque, NM 87102

Re: Eastside Animal Service Center
8920 Lomas Blvd. NE
Certificate of Occupancy – Transportation Development
Architect's Stamp dated 03-14-11 (K20-D015)
Certification dated 03-14-11

Dear Mr. Smith,

Based upon the information provided in your submittal received 03-14-11, Transportation Development has no objection to the issuance of a Permanent Certificate of Occupancy. This letter serves as a "green tag" from Transportation Development for a Permanent Certificate of Occupancy to be issued by the Building and Safety Division.

If you have any questions, you can contact me at 924-3630.

Sincerely,

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

C: CO Clerk
File

PO Box 1293
Albuquerque
NM 87103
www.cabq.gov

GARRETT SMITH LTD
DESIGN, ARCHITECTURE & DEVELOPMENT

March 15, 2011

City of Albuquerque
Planning Department/One Stop/Transportation Development
P.O. Box 1293
Albuquerque, New Mexico 87103

RE: City of Albuquerque Eastside Animal Service Center
Traffic Certification Letter

To Whom It May Concern:

The purpose of this letter is to clarify my letter dated March 14, 2011 certifying compliance with the design intent of the DRB approved site plan for the referenced project.

There are two changes to the parking design, which were initiated at the Owner's direction. They are:

1. The handicap parking at the west entrance has been reconfigured.
2. The fence along the parking spaces south of the building has been shifted north.

Sincerely,

Garrett Smith, AIA

RECEIVED
MAR 15 2011
HYDROLOGY SECTION

514 CENTRAL SW
ALBUQUERQUE
NEW MEXICO
87102
505/766-6968
FAX/243-4508

www.garrett-smith-ltd.com
gsl@garrett-smith-ltd.com

DRAINAGE AND TRANSPORTATION INFORMATION SHEET

(REV 12/2005)

DRB 1000171

PROJECT TITLE: EASTSIDE ANIMAL SERVICE CENTER ZONE MAP: K-20-Z

DRB#: _____ EPC#: 1000171 WORK ORDER#: K20/D015

case 08EPC-40644

LEGAL DESCRIPTION: Municipal Div LOT 1A Block 0

CITY ADDRESS: 8920 Lomas Blvd NE

ENGINEERING FIRM: _____ CONTACT: _____

ADDRESS: _____ PHONE: _____

CITY, STATE: _____ ZIP CODE: _____

OWNER: CITY OF ALBUQUERQUE ANIMAL WELFARE CONTACT: _____

ADDRESS: _____ PHONE: _____

CITY, STATE: _____ ZIP CODE: _____

ARCHITECT: Garrett Smith Ltd CONTACT: LAWRENCE MEAD

ADDRESS: 514 Central Ave SW PHONE: 766-6968

CITY, STATE: Albuquerque, NM ZIP CODE: 87102

SURVEYOR: _____ CONTACT: _____

ADDRESS: _____ PHONE: _____

CITY, STATE: _____ ZIP CODE: _____

CONTRACTOR: _____ CONTACT: _____

ADDRESS: _____ PHONE: _____

CITY, STATE: _____ ZIP CODE: _____

TYPE OF SUBMITTAL:

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

CHECK TYPE OF APPROVAL SOUGHT:

_____ SIA/FINANCIAL GUARANTEE RELEASE
_____ PRELIMINARY PLAT APPROVAL
_____ S. DEV. PLAN FOR SUB'D APPROVAL
_____ S. DEV. FOR BLDG. PERMIT APPROVAL
_____ SECTOR PLAN APPROVAL
_____ FINAL PLAT APPROVAL
_____ FOUNDATION PERMIT APPROVAL
_____ BUILDING PERMIT APPROVAL
__X__ 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:

__X__ YES
_____ NO
_____ COPY PROVIDED

DATE SUBMITTED: March 14, 2011 BY: Nate Schneider, Garrett Smith Ltd

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

1. **Conceptual Grading and Drainage Plan:** Required for approval of Site Development Plans greater than five (5) acres and Sector Plans.
2. **Drainage Plans:** Required for building permits, grading permits, paving permits and site plans less than five (5) acres.
3. **Drainage Report:** Required for subdivision containing more than ten (10) lots or constituting five (5) acres or more.

GARRETT SMITH LTD
DESIGN, ARCHITECTURE & DEVELOPMENT

March 14, 2011

City of Albuquerque
Planning Department/One Stop/Transportation Development
P.O. Box 1293
Albuquerque, New Mexico 87103

RE: City of Albuquerque Eastside Animal Service Center
Traffic Certification Letter

To Whom It May Concern:

I, Garrett Smith, NMRA 2318, of the firm Garrett Smith Ltd., hereby certify that this project is in substantial compliance with and in accordance with the design intent of the DRB approved plan dated November 06, 2008. The record information edited onto the original design document has been obtained by Garrett Smith of the firm Garrett Smith Ltd. I further certify that I have personally visited the project site on March 14, 2011 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.

Signature

Architect's stamp

3/14/11
Date

STATE OF NEW MEXICO
GARRETT SMITH
NO. 2318
3/14/11
REGISTERED ARCHITECT

RECEIVED
MAR 14 2011
HYDROLOGY SECTION

514 CENTRAL SW
ALBUQUERQUE
NEW MEXICO
87102
505/766-6968
FAX/243-4508

www.garrett-smith-ltd.com
gsl@garrett-smith-ltd.com

GARRETT SMITH LTD
DESIGN, ARCHITECTURE & DEVELOPMENT

514 CENTRAL SW
ALBUQUERQUE
NEW MEXICO
87102
505/766-6968
FAX/243-4508

E-MAIL: nates@garrett-smith-ltd.com

TRANSMITTAL

TO: Planning Department/One Stop
ATTN: Transportation Development
RE: COA Animal Services Traffic
Certification Letter

FROM: NS for Lawrence Mead
DATE: 03/14/2011
TIME:

WE ARE SENDING YOU THE FOLLOWING: [x] ATTACHED [ ] VIA FAX

[ ] Sketch [ ] [x] See below

COPIES	DATE	NO.	DESCRIPTION
(1) copy	3/14/11		Traffic Certification Letter for COA Animal Services
(1) copy	11/6/08	SDP-1	Approved DRB Site Plan

RECEIVED BY:

COPY TO: File

SIGNED:

SHEET 1 OF INCLUDING THIS SHEET

RECEIVED
MAR 14 2011
TRANSPORTATION
SECTION