

CITY OF ALBUQUERQUE



June 20, 2008

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

**Re: Mesa del Sol Drainage Area 4 Drainage Management Plan
Engineer's Stamp dated 6-18-08 (Q16/DA4)**

Dear Mr. Balaskovits,

Based upon the information provided in your submittal received 6-18-08, the above referenced plan is accepted as the Drainage Area Management Plan for DA4.

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

P.O. Box 1293

Albuquerque

New Mexico 87103

www.cabq.gov

Sincerely,

Curtis A. Cherne, P.E.
Senior Engineer, Planning Dept.
Development and Building Services

C: file

DRAINAGE AND TRANSPORTATION INFORMATION SHEET

(Rev. 12/05)

PROJECT TITLE: Mesa del Sol Drainage Area 4 (DA4) ZONE MAP/DRG. FILE # Q-16, R-16
DRB#: _____ EPC#: _____ WORK ORDER#: _____

LEGAL DESCRIPTION: A portion Watson Dr., a portion of Hawking Dr., a portion of Tract B, Tract E, F, and OS-2
(Proposed Mesa del Sol Innovation Park II Bulk Land Plat)
CITY ADDRESS: _____

ENGINEERING FIRM: Bohannon Huston, Inc.
ADDRESS: 7500 Jefferson NE
CITY, STATE: Albuquerque, NM

CONTACT: Mike Balaskovits
PHONE: (505)-823-1000
ZIP CODE: 87109

OWNER: Forest City Covington, N.M., LLC
ADDRESS: 801 University Blvd. SE, Suite 200
CITY, STATE: Albuquerque, NM

CONTACT: Manny Barrera
PHONE: 505-400-3021
ZIP CODE: 87106

ARCHITECT: _____
ADDRESS: _____
CITY, STATE: _____

CONTACT: _____
PHONE: _____
ZIP CODE: _____

SURVEYOR: _____
ADDRESS: _____
CITY, STATE: _____

CONTACT: _____
PHONE: _____
ZIP CODE: _____

CONTRACTOR: _____
ADDRESS: _____
CITY, STATE: _____

CONTACT: _____
PHONE: _____
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
- ☐ ENGINEER/ARCHITECT CERT (TCL)
- ☐ ENGINEER/ARCHITECT CERT (DRB S.P.)
- ☐ ENGINEER/ARCHITECT CERT (AA)
- ☒ OTHER (DRAINAGE AREA - DRAINAGE MANAGEMENT PLAN)

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
- ☐ CERTIFICATE OF OCCUPANCY (PERM)
- ☐ CERTIFICATE OF OCCUPANCY (TEMP)
- ☐ GRADING PERMIT APPROVAL
- ☐ PAVING PERMIT APPROVAL
- ☐ WORK ORDER APPROVAL
- ☒ OTHER (DRAINAGE AREA - DRAINAGE MANAGEMENT PLAN) APPROVAL

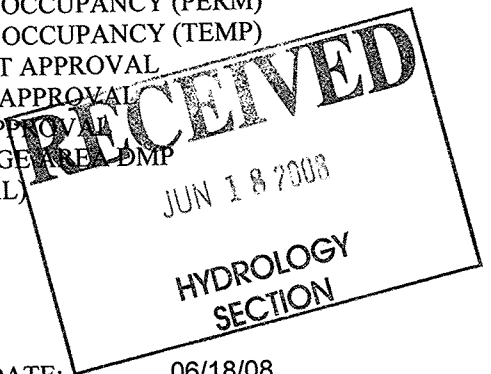
WAS A PRE-DESIGN CONFERENCE ATTENDED:

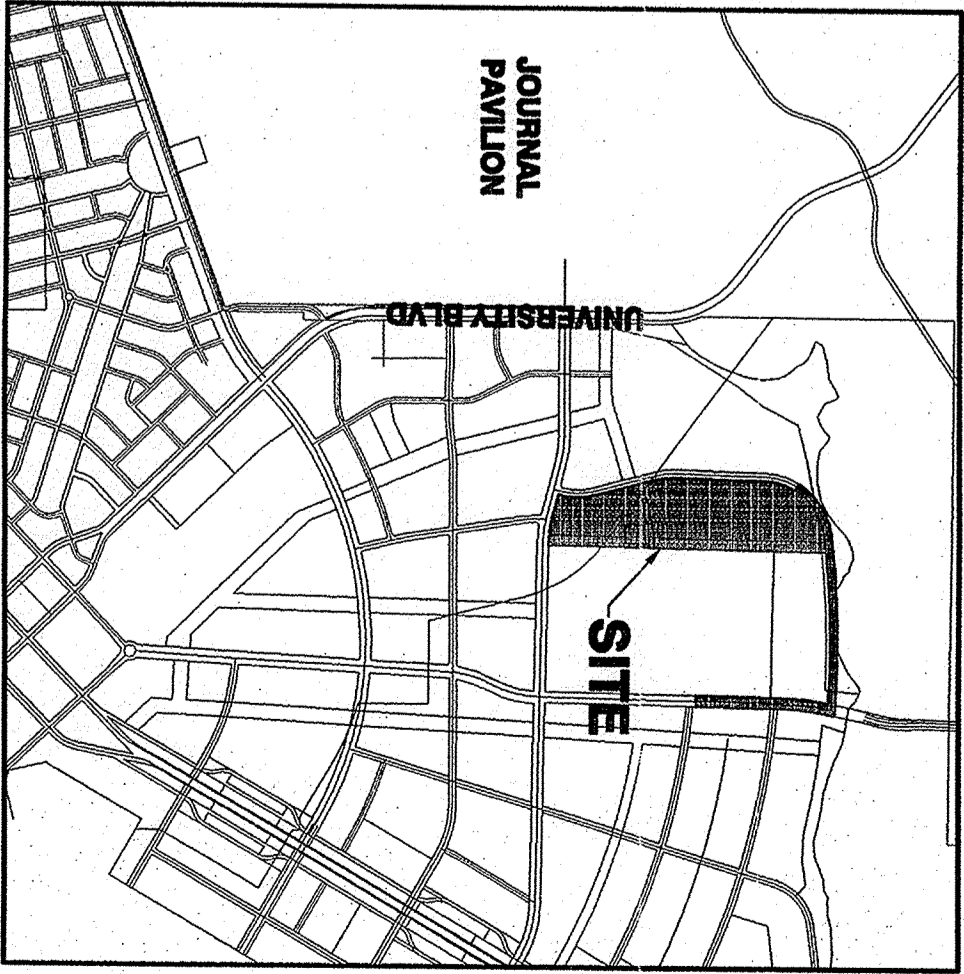
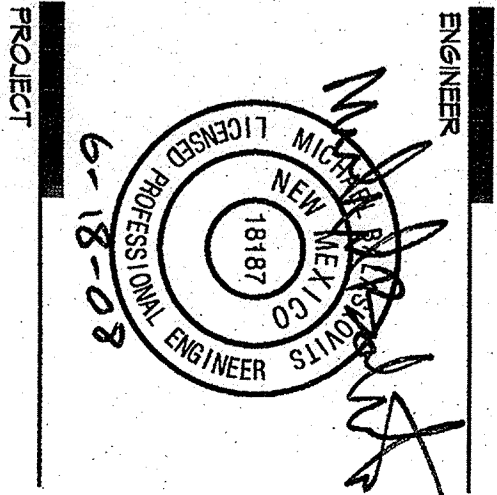
- ☐ YES
- ☐ NO
- ☐ COPY PROVIDED

SUBMITTED BY: Mike Balaskovits DATE: 06/18/08

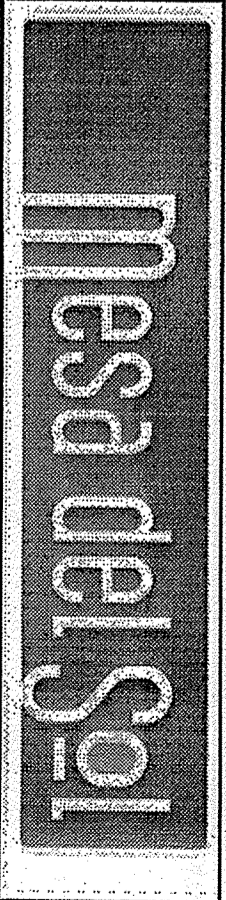
Requests for approvals of Site Development Plans and/or Subdivision Plats shall be accompanied by a drainage submittal. The particular nature, location and scope to the proposed development define the degree of drainage detail. One or more of the following levels of submittal may be required based on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





LOCATION MAP
ZONE ATLAS INDEX MAP R-16, C-16



DRAINAGE MANAGEMENT PLAN

Introduction/Purpose:
This submittal describes the drainage scheme for Drainage Area Four (DA4) within Mesa del Sol Innovation Park II. This drainage management plan will serve as guidelines for ultimate pond sizing and drainage structures for the block. In addition this plan will provide a framework diagram for future submittals including but not limited to streets and walk other approvals.

Existing Conditions

The drainage area at the north end of the Innovation Park II (referred to here after as DA4) within Mesa del Sol is currently undeveloped and slopes 0.2% to 1.0% generally from the northwest to southeast. The final outlet for this current drainage is a series of ditches that extend down the middle of the proposed Innovation Park to the south of DA4. The block being analyzed will be bound by Watson Drive to the west and north, Crick Avenue to the south, and Drainage Area 5 to the east. The drainage area also includes a portion of Watson Drive from the northern retention pond to Hawking Drive and also a portion of Hawking Drive from Watson to the northern Scholt Solar entry.

Drainage

Currently, no on-site drainage enters the drainage area due to an existing easement to the north and northwest of the site. All flow generated to the west and east will be retained on site and will be captured in a separate Drainage Area submittal. The flow generated south of DA4 will continue along the historic path to the series of aforementioned ditches to the south. All drainage generated onsite will be retained under the 100yr 10day storm event and not effect surrounding areas.

Proposed Site Grading

The slope of the DA4 basin under proposed conditions is similar to existing conditions. The drainage basin will have two essential located, permanent, retention ponds within open space/drainage tracts. These ponds are not connected however they have been designed to retain the 100 year, 10 day storm generated by their contributing basins.

Drainage generated by the roads (Basin 4A1, 4A2, and 4C) along with Basin 4D will be conveyed to the northern regional retention pond (Pond 4B1) via surface flow and storm drainage. Basin 4B1 will be discharged directly to the pond by either direct storm flow or surface flow. The remainder of the basins (4E and 4F) will be conveyed to the southern regional retention pond (Pond 4B2) via surface flow and storm drainage. The flow generated by each sub-basin is shown within the table labeled MESA DEL SOL - DEVELOPED HYDRAULIC CALCULATIONS. In addition the capacity of each road based on Manning's equation is shown on the overall drainage map.

The regional retention ponds will be subject to future site planning considerations which will incorporate water quality facilities, along with existing ponds. The ponds will be designed to provide a system, retention, treatment, and sedimentation basin facilities, and/or infiltration basins. The ponds will be designed to provide a system, retention, treatment, and sedimentation basin facilities, and/or infiltration basins. The ponds will be designed to provide a system, retention, treatment, and sedimentation basin facilities, and/or infiltration basins.

The points are sized in accordance with the methodology outlined in the DPM section 22.2. Developed land treatments for the majority of this drainage area were assumed to be 90% treatment D and 10% treatment B (See MESA DEL SOL - DEVELOPED HYDRAULIC CALCULATIONS for basin calculations and land treatments). For DA4, the volume required (V) for Pond 4B1 is 433,205 CF with a volume provided of 441,530 CF. The volume required (V) for Pond 4B2 is 153,767 CF with a volume provided (V) of 171,335 CF.

Conclusion

In accordance with FEMA Community Map Panel #350010555 E, the site is not located within a floodplain.

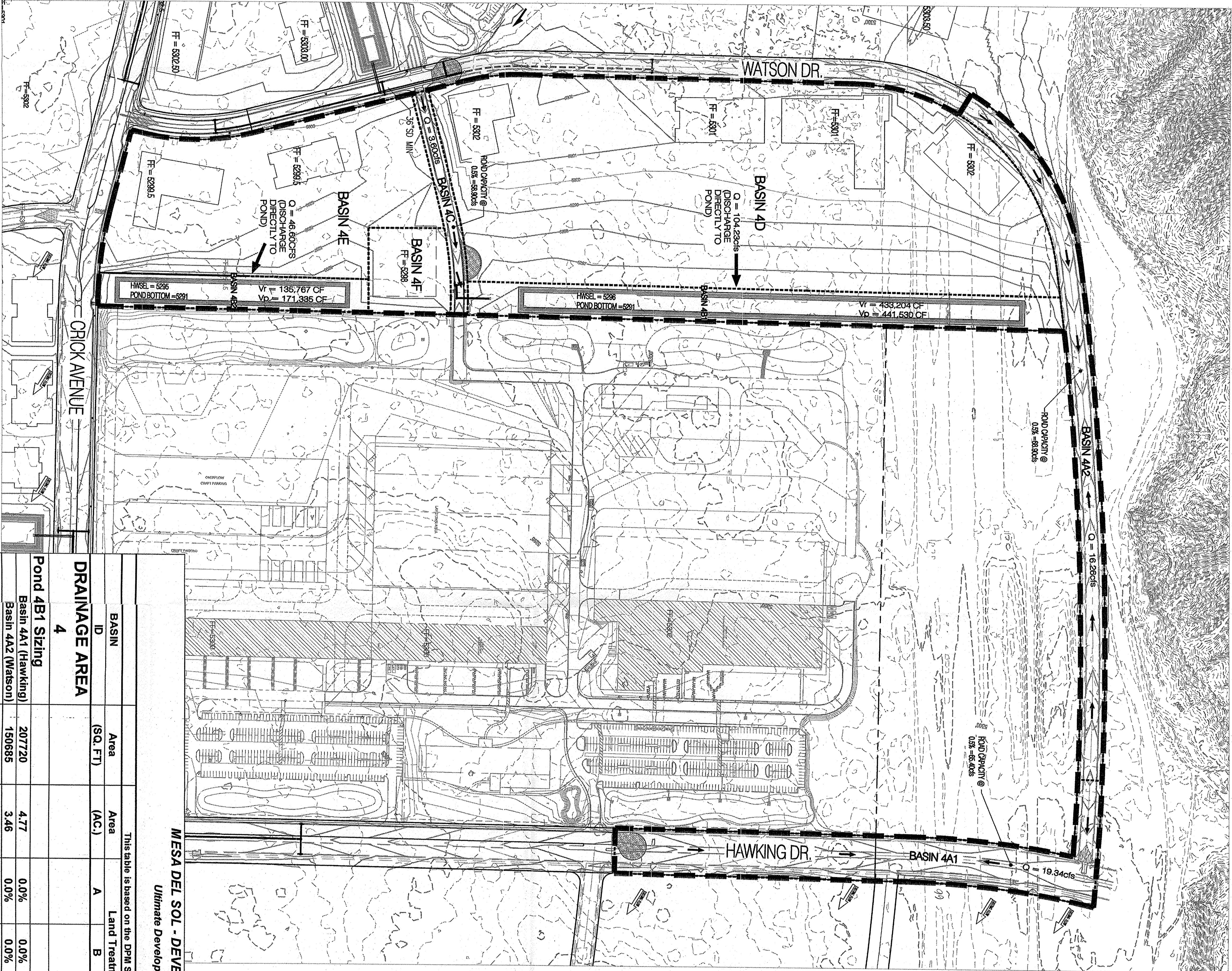
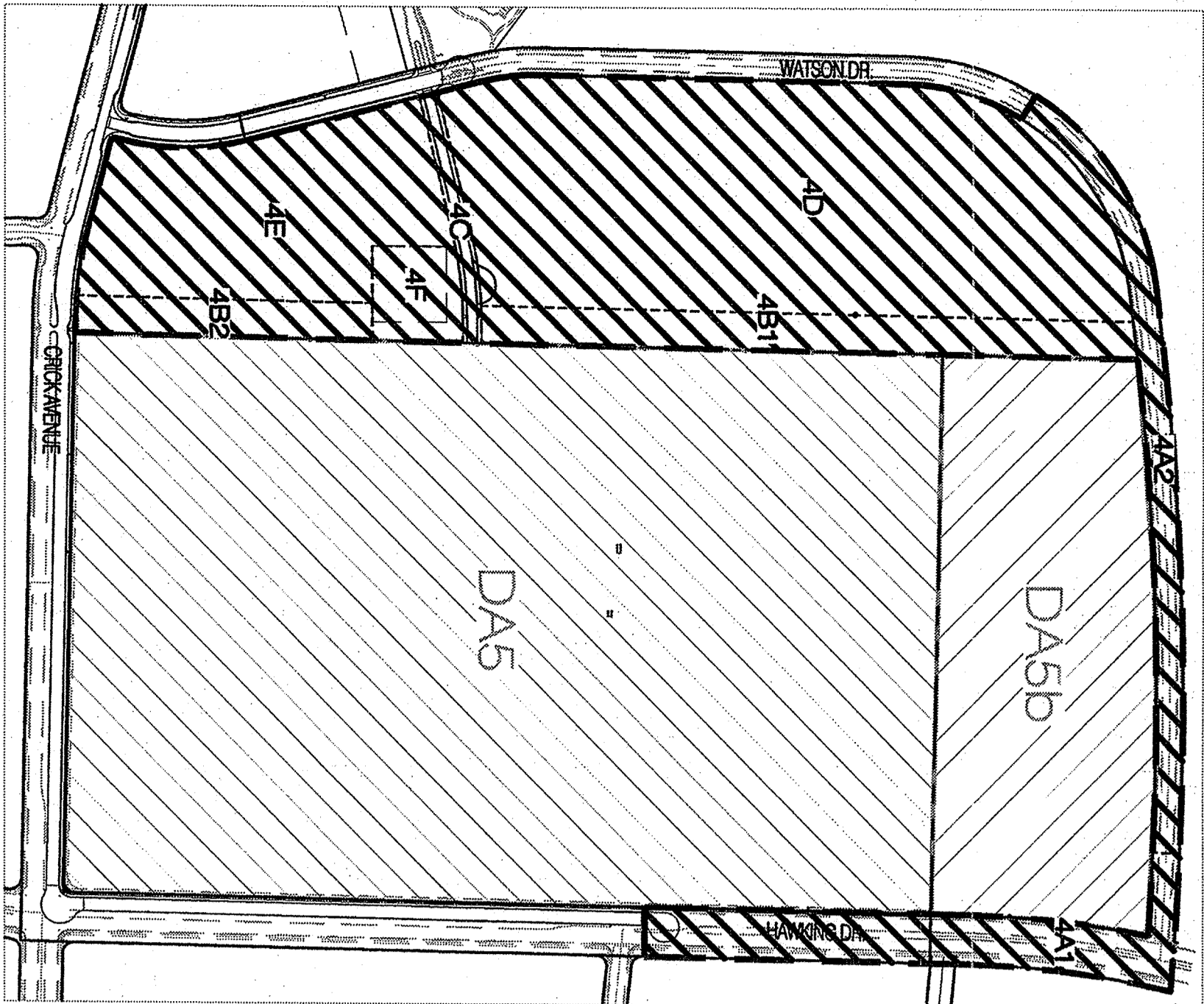
Conclusion

This drainage submittal has been prepared in accordance with City of Albuquerque requirements. This plan demonstrates the proposed grading and drainage concepts. The implementation of these concepts would result in the safe retention of the 100 yr, 10 day storm event. Individual sites will be subject to separate hydrology approval in conjunction with the guidelines set forth in this drainage management plan. This drainage management plan is submitted in support of future development within the block, including building sites and roads.

MESA DEL SOL - DEVELOPED HYDRAULIC CALCULATIONS

Ultimate Development Conditions Basin Data Table

This table is based on the DPM Section 22.2, Zone 12											
BASIN	Area (SQ. FT)	Area (AC.)	A	B	C	D	Q(100) (cfs/ac.)	Q(100) (cfs)	WT E (inches)	V(100) 360 (CF)	V(100) 10day (CF)
DRAINAGE AREA 4											
Pond 4B1 Sizing											
Basin 4A1 (Hawking)	207720	4.77	0.0%	0.0%	0.0%	0.0%	4.70	22.41	2.12	36697	64593
Basin 4A2 (Watson)	150685	3.46	0.0%	0.0%	0.0%	0.0%	4.70	16.26	2.12	26621	46712
Basin 4B1 (Open Space)	283751	6.05	0.0%	50.0%	50.0%	0.0%	2.71	16.41	0.96	20990	20990
Basin 4C (Access Road)	33330	0.77	0.0%	0.0%	0.0%	0.0%	4.70	3.60	2.12	5888	10332
Basin 4D	1018482	23.38	0.0%	10.0%	0.0%	0.0%	4.46	104.23	1.99	168559	290777
Total								162.91		258765	433205
Pond 4B2 Sizing											
Basin 4B2 (Open Space)	79547	1.83	0.0%	50.0%	50.0%	0.0%	2.71	4.95	0.96	6337	6337
Basin 4E	393299	9.03	0.0%	10.0%	0.0%	0.0%	4.46	40.25	1.99	65097	112287
Basin 4F (P/NM Substation)	60069	1.38	0.0%	10.0%	0.0%	0.0%	4.46	6.15	1.99	9947	17160
Total								51.35		81363	135767
Total	2206883	50.66						214.26		340119	568972



NOTE:
FINISHED FLOORS AND PROPOSED
GRADING SHOWN ARE CONCEPTUAL.

