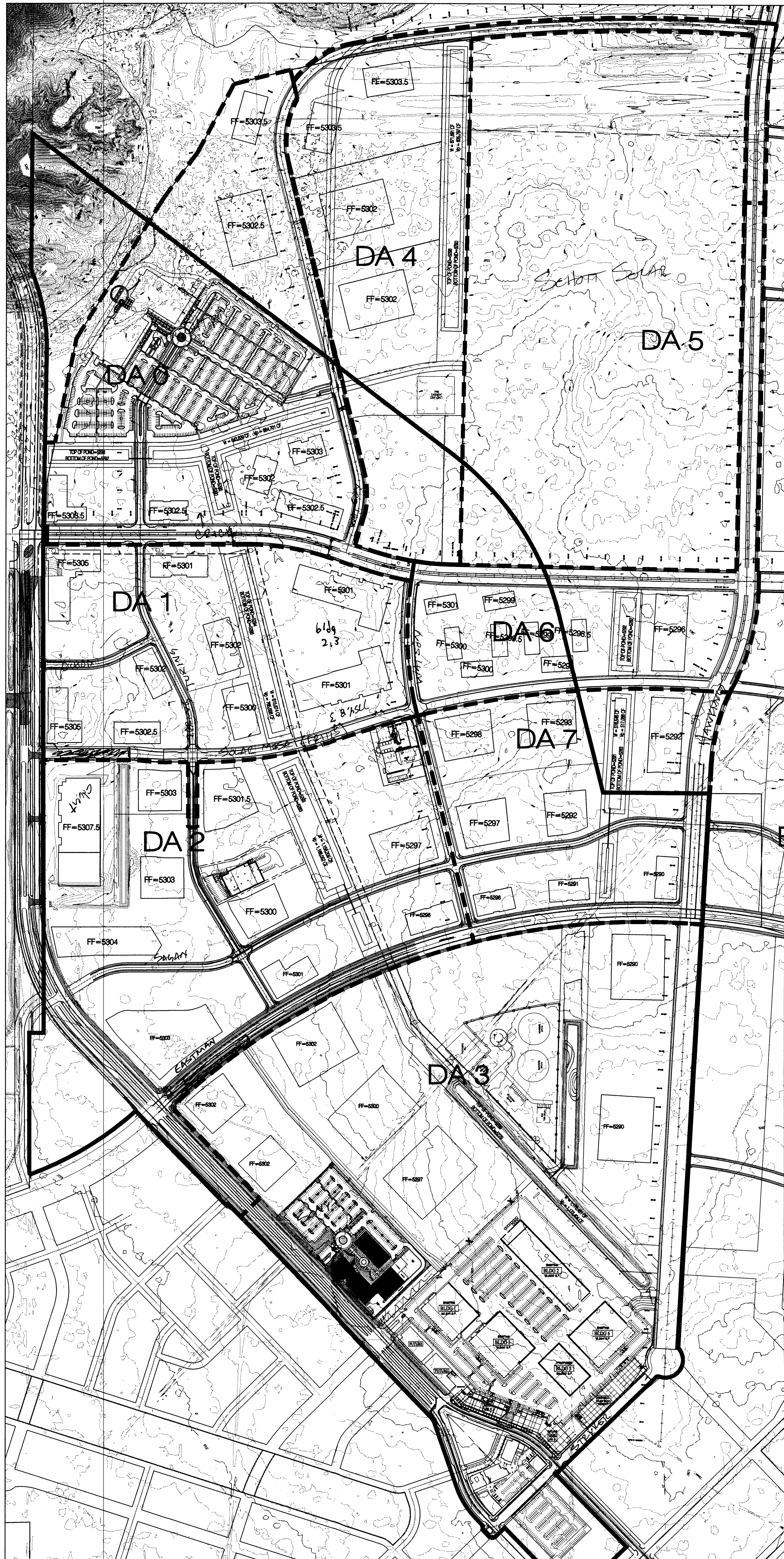


EXISTING BASINS MAP
SCALE 1" = 1000'

March
08

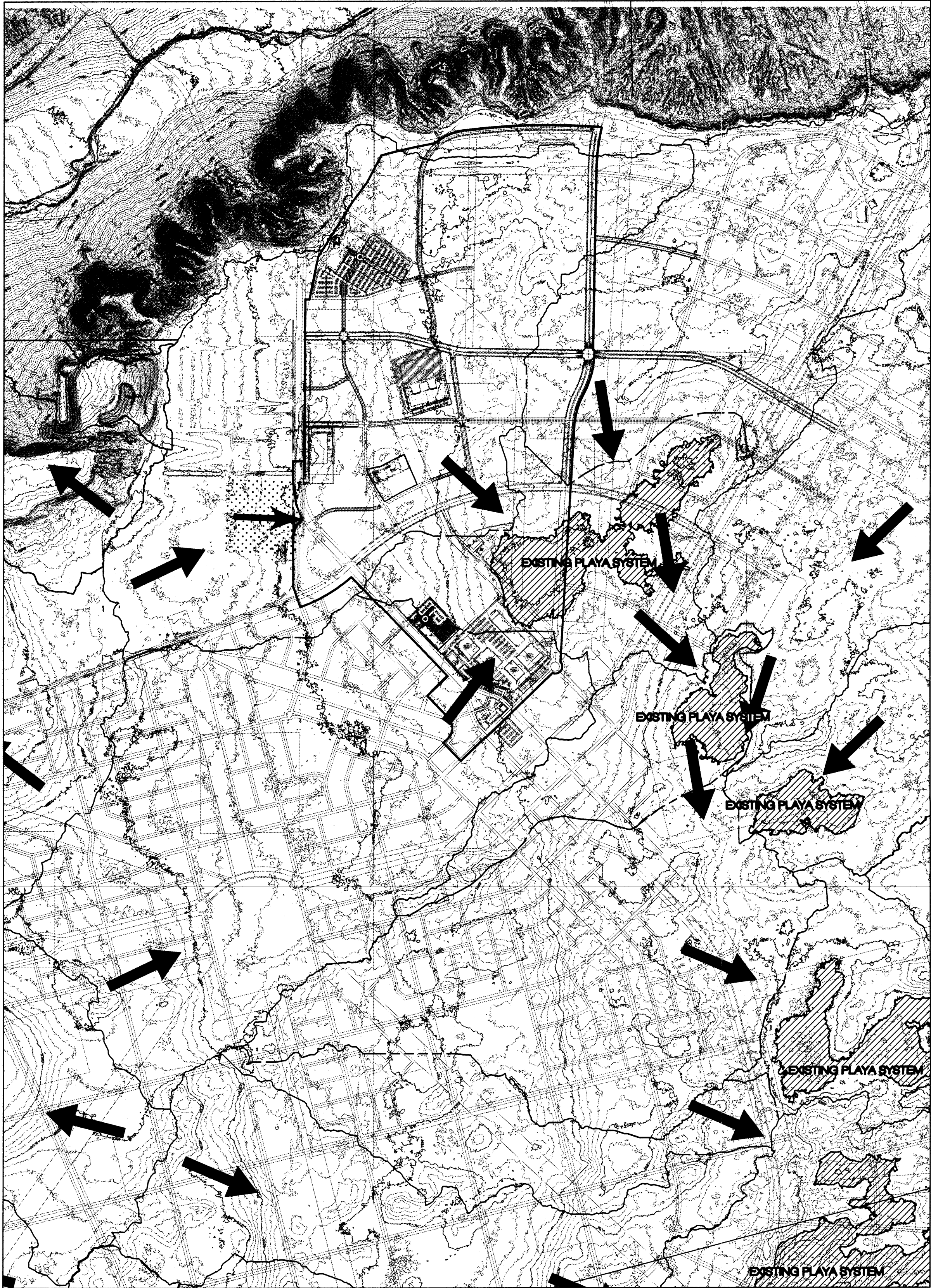


PROPOSED BASINS MAP
SCALE 1" = 300'

EMPLOYMENT CENTER MESA DEL SOL PHASE 2 BASIN CALCULATIONS
Ultimate Development Conditions Basin Data Table

DRAINAGE AREA		Area		Land Treatment Percentages				Q(100)		V(100) _{10hr}		V(100) _{10day}		Total Volume Provided (CF)
				A	B	C	D	(cfs/ac.)	(cfs)	(CF)	(CF)	(CF)	(CF)	
DA 0	2,955,639	67.85	0.0%	10.0%	0.0%	90.0%	4.46	302.48	489,158	843,835	964,701			964,701
DA 1	2,156,475	49.51	0.0%	10.0%	0.0%	90.0%	4.46	220.70	356,897	615,674	765,696			765,696
DA 2	4,056,776	93.13	0.0%	10.0%	0.0%	90.0%	4.46	415.18	671,396	1,158,209	1,168,053			1,168,053
DA 3	5,991,002	137.53	0.0%	10.0%	0.0%	90.0%	4.46	613.13	991,511	1,710,431	1,738,404			1,738,404
DA 4	2,352,681	54.01	0.0%	10.0%	0.0%	90.0%	4.46	240.78	389,369	671,691	754,881			754,881
DA 5	4,295,410	98.61	0.0%	10.0%	0.0%	90.0%	4.46	439.60	710,890	1,226,340	1,226,340			1,226,340
DA 6	3,297,296	75.70	0.0%	10.0%	0.0%	90.0%	4.46	337.45	545,703	941,378	969,788			969,788

*** - The flow generated from this drainage area will be retained on site. Pond sizing will be performed in future submittals.

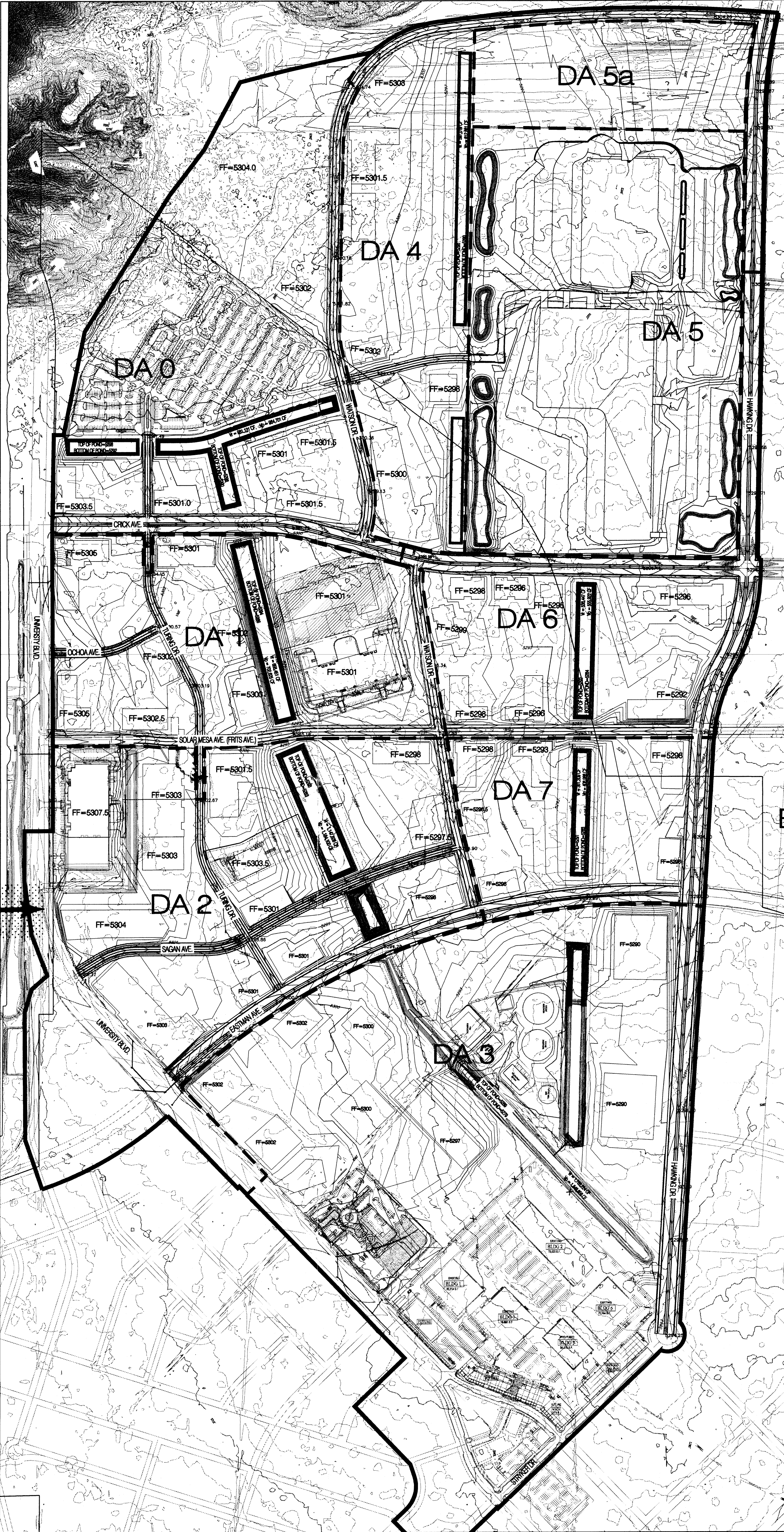


EXISTING BASINS MAP
SCALE 1" = 1000'

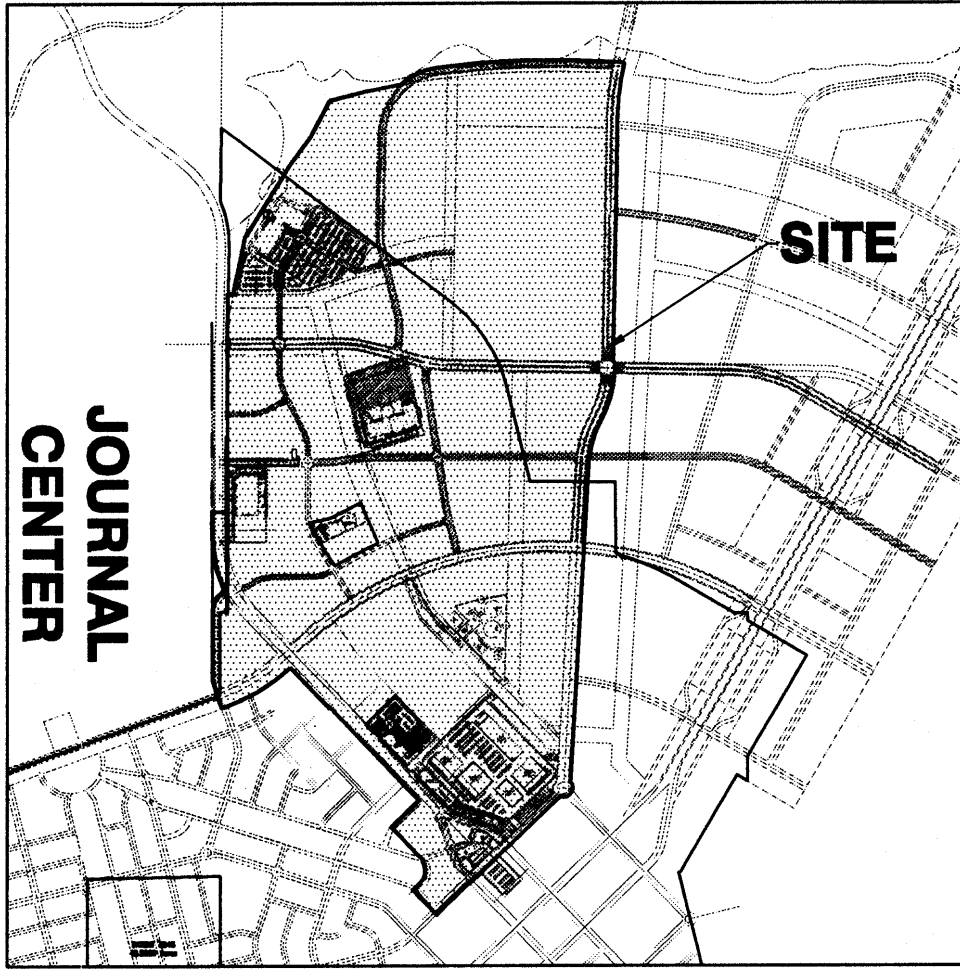
NOTE:
FINISHED FLOORS AND PROPOSED
GRADING SHOWN ARE CONCEPTUAL.

MESA DEL SOL INNOVATION PARK PHASE 2- BASIN CALCULATIONS										
Ultimate Development Conditions Basin Data Table										
This table is based on the DPM Section 22.2, Zone: 12										
DRAINAGE AREA ID	Area (SQ. FT)	Area (AC.)	Land Treatment Percentages				Q(100) (cfs/ac.)	Q(100) (cfs)	V(100)1hr (CF)	V(100)1day (CF)
			A	B	C	D				
DA 0	3,281,406	74.87	0.0%	10.0%	0.0%	90.0%	4.46	333.78	539,763	931,131
DA 1	2,299,303	52.78	0.0%	10.0%	0.0%	90.0%	4.46	236.31	380,535	656,451
DA 2	4,019,285	92.27	0.0%	10.0%	0.0%	90.0%	4.46	411.34	865,192	1,147,506
DA 3	6,193,429	142.18	0.0%	10.0%	0.0%	90.0%	4.46	633.85	1,025,012	1,788,224
DA 4	2,091,134	48.01	0.0%	10.0%	0.0%	90.0%	4.46	214.01	346,083	597,019
DA 5	3,484,699	80.00	0.0%	10.0%	0.0%	90.0%	4.46	356.62	576,703	994,856
DA 5a	869,412	19.96	0.0%	10.0%	0.0%	90.0%	4.46	88.98	143,888	248,217
DA 6	1,878,972	43.14	0.0%	10.0%	0.0%	90.0%	4.46	192.30	310,970	536,447
DA 7	1,266,532	29.05	0.0%	10.0%	0.0%	90.0%	4.46	129.52	209,446	361,309
TOTAL	25,363,081	582.26								

*** - The flow generated from this drainage area will be retained on site. Pond sizing will be performed in future submittals.



PROPOSED BASINS MAP
SCALE 1" = 300'



LOCATION MAP
ZONE ATLAS INDEX MAP Q-15, 16, R-15, 16, & S-16

DRAINAGE MANAGEMENT PLAN

GENERAL
This submittal is a revision to previously approved 'Mesa del Sol Innovation Park Bulk Land Plat, Drainage Management Plan (Engineer's Stamp Date 6-8-07, COA Hydro File # R16/D097). It describes the drainage scheme for Phase 2 of the Mesa del Sol Innovation Park. This phase of the Employment Center development is located within the Mesa Top, which is a closed basin, and lies adjacent to several minor natural playas. Under this condition, no surface stormwater escapes to the Tijeras arroyo, the Rio Grande or any other surface drainage system.
This drainage management plan will serve as guidelines for ultimate pond sizing, grading throughout the +580 acres and provide a drainage framework within each drainage area. In addition, this drainage management plan respects the intrinsic natural value of the extreme and unique landscape while addressing water quality goals.

HYDROLOGY
The Mesa Top is part of a unique hydrologic area for Albuquerque which consists of many existing playas. The existing playas have sufficient storage capacity to accommodate very infrequent storm events in the range of the 500-year storm event. Per the Level B Master Plan, the existing 100-year design storm generates approximately 380 acre feet of runoff, well below the calculated 2500 ac-ft capacity of the existing playa system. The City of Albuquerque design criteria established by the drainage ordinance and the Design Process Manual (DPM) section 22, does not adequately address drainage management requirements for the Employment Center area, specifically the playa condition.
The methodology selected for hydrological analysis of the site for both existing and proposed development conditions is the 100-year, 10-day storm event to size the retention ponds, while the same frequency and 6-hour duration storm was used in drainage piping, inlet design, etc.
The retention ponds will not receive credit for the depleting actions of evaporation, minor surface infiltration and passive infiltration devices. It is considered that with monitoring of these ponds, and documentation of successful stormwater discharge, that the design event for the ponds may be reduced.

EXISTING CONDITIONS
Currently, there are a number of drainage facilities serving the Mesa del Sol development, including a temporary retention pond east of Advent Solar, and two permanent retention ponds serving the Albuquerque Studios site. The remainder of the Employment Center within the Phase 2 boundary continues to drain to the existing playa system located east of University Blvd. These undeveloped areas consist of slopes ranging from mild (less than 5%) to extremely flat (less than 0.5%). The 'EXISTING BASIN MAP' shows the existing planning area along with existing delineated drainage areas as shown on the approved Level B Master Plan.

PROPOSED CONDITIONS
The Employment Center Phase 2 consists of approximately 580+ acres of industrial, commercial and mixed used development. It is recommended by the Level B Master Plan that on-site retention ponds be used as the primary storm water management method for the Mesa Top area. The proposed system would consist of an engineered retention pond system which would locate many retention ponds strategically throughout the development.
Due to the flat slopes associated with the Mesa Top, collecting and retaining developed runoff onsite is the most practical approach to storm water management, as opposed to a single ponding area. This plan proposes regional ponds within the identified open space areas that are distributed throughout the community at locations appropriate to serve development. Each pond is proposed as a retention pond or a system of retention ponds, which are self contained. These Distributed Retention Irrigation/Infiltration Ponds (DRIPs) are proposed as the primary drainage management method for the Mesa Top watershed. This approach is somewhat modular and scalable allowing these ponds to be centrally located within each drainage area and sized to meet the local design runoff volume for the contributing area. This ease of location and design makes the DRIP system applicable to all parts of the playa basin area.
Discharge generated by the Employment Center will drain directly into DRIPs located centrally along each drainage area (also labeled as open space). These ponds will be sized to accept drainage developed by the 100-year, 10-day storm event. The developed land treatments for each block were conservatively analyzed as 90% land treatment D and 10% land treatment C (see 'MESA DEL SOL INNOVATION PARK PHASE 2 DRAINAGE AREA CALCULATIONS' table). This table depicts the proposed 10-day volumes generated for each drainage area. Ponds within these drainage areas have been sized to accommodate the associated volume of runoff generated within the allotted space. Drainage from each site and the adjacent roads within the drainage area will be conveyed to the DRIPs via surface flow and storm drains.
The DRIP scheme is intended to be multi-use. These ponds shall serve as permanent drainage outfalls, which are also visually aesthetic and will include open space trails, recreational areas, sitting areas, water fountains, xeriscaping, and wildlife habitat. The DRIP system that is proposed for the employment center area closely resembles the existing drainage situation present in this area. This solution is practical and viable method for stormwater management in the Employment Center Mesa Top area.

CONCLUSION
This drainage submittal has been prepared in accordance with the approved Level A and Level B master plans associated with the Mesa del Sol development. This plan demonstrates the proposed grading and drainage concepts associated with the Phase 2 boundary within the Employment Center. The implementation of these concepts would result in the safe retention of the 100 yr, 10 day storm event. With this submittal we are requesting COA hydrology department approval in support of DRB approval for the 'BULK LAND PLAT FOR MESA DEL SOL INNOVATION PARK II'.

- LEGEND
- EMPLOYMENT CENTER BOUNDARY
 - EX. DRAINAGE BASIN BOUNDARY
 - EX. PLAYA SYSTEM
 - EX. FLOW DIRECTION
 - PROPOSED DRAINAGE BASIN BOUNDARY

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APR 04 2008
HYDROLOGY SECTION

Bohannon & Huston
17500 Jefferson St. NE Albuquerque, NM 87108-4335
ENGINEERING • SPATIAL DATA • ADVANCED TECHNOLOGIES

ENGINEER
M. J. Bohannon
NEW MEXICO
18187
4-4-08
PROJECT

Mesa Del Sol
INNOVATION PARK II
Albuquerque, New Mexico

REVISIONS
DRAWN BY
REVIEWED BY
DATE 5.09.07
PROJECT NO. 070181
DRAWING NAME
Innovation Park II
Drainage
Management Plan
SHEET NO.