

I. PURPOSE AND SCOPE

THE PURPOSE OF THIS DRAINAGE PLAN IS TO PRESENT THE EXISTING AND PROPOSED DRAINAGE MANAGEMENT PLANS FOR THE GREATER ALBUQUERQUE HOUSING PROJECT AT BROADWAY.

II. SITE DESCRIPTION AND HISTORY

THE PROJECT SITE IS LOCATED AT THE SOUTH-EAST CORNER OF BROADWAY BLVD NE AND INDIAN SCHOOL ROAD NE.

THE SITE IS CURRENTLY COMPOSED OF THREE LOTS. ALL OF THE LOTS ARE APPROXIMATELY 1 ACRE IN SIZE FOR A TOTAL PROJECT SITE SIZE OF APPROXIMATELY THREE ACRES. THE WESTERN AND CENTER LOTS CONTAIN EXISTING RESIDENTIAL STRUCTURES AND VARIOUS CONCRETE SIDEWALKS AND DRIVEWAYS. THE RESIDENCE IN THE CENTER LOT DOUBLES AS A AUTOMOTIVE MECHANIC BUSINESS WITH A VEHICLE STORAGE YARD LOCATED IN THE SOUTHERN HALF OF THE LOT. THE EASTERN LOT IS EMPTY WITH NO STRUCTURES.

III. COMPUTATIONAL PROCEDURES

HYDROLOGIC ANALYSIS WAS PERFORMED UTILIZING THE DESIGN CRITERIA BASED ON SECTION 22.2, HYDROLOGY, OF THE DEVELOPMENT PROCESS MANUAL.

IV. PRECIPITATION

THE STORM EVENT USED FOR THE FOLLOWING CALCULATIONS IS THE 100YR-6HR STORM. THE PROJECT SITE IS LOCATED IN ZONE 2.

V. EXISTING DRAINAGE CONDITIONS (REFER TO CD2)

CURRENTLY THE STORM WATER RUN-OFF DRAINS FROM EAST TO WEST ACROSS THE SITE BEFORE FLOWING ONTO BROADWAY BLVD NE. RUN-OFF FROM THE ADJACENT LOTS (APPROXIMATELY 5 ACRES) ENTERS THE SITE FROM THE EAST AS IT FLOWS TOWARDS BROADWAY BLVD NE. RUN-OFF FROM THE NORTH PARTS OF THE SITE FLOW ONTO INDIAN SCHOOL ROAD NE ON ITS WAY TO BROADWAY AND IS THUS PREVENTED FROM ENTERING THE SITE. RUN-OFF FROM THE SOUTH FLOWS EAST TO WEST BYPASSING THE SITE AND THEREFORE ONLY A NEGLIGIBLE AMOUNT FLOWING INTO THE SITE.

THERE ARE CURRENTLY A NUMBER OF RESIDENTIAL STRUCTURES WITH CONCRETE SIDEWALKS ON THE TWO MOST WESTERN LOTS. THE EASTERN LOT IS EMPTY. THESE WILL BE DEMOLISHED TO MAKE ROOM FOR THE PROPOSED DEVELOPMENT.

FOR A 100YR-6HR STORM EVENT THE SITE'S STORM WATER RUN-OFF VOLUME IS 0.24 AC-FT WITH A PEAK DISCHARGE OF 7.35 CFS.

VI. PROPOSED DRAINAGE CONDITIONS (REFER TO CD3)

THIS PROJECT IS PROPOSING TO ADD SIXTY-EIGHT (68) HOUSING UNITS IN THE FORM OF MULTI-STORY STRUCTURES. THERE WILL ALSO BE INTERNAL AGGREGATE (PERVIOUS) PARKING LOTS, CONCRETE SIDEWALKS, LANDSCAPING AREAS, AND A RECREATIONAL PARK. THE SITE IS SPLIT INTO TWO DRAIN DISTINCT AREAS SEPARATED BY AN NEW ROADWAY THAT RUNS SOUTH TO NORTH.

THE CITY OF ALBUQUERQUE HAS REQUIRED THIS PROJECT, DUE TO IT'S LOCATION WITHIN THE MARTINEZTOWN NEIGHBORHOOD, TO RELEASE A MAXIMUM FLOWRATE OF 2.75 CU-FT/SEC PER ACRE OF STORM WATER RUN-OFF. THE OFFSITE BASIN TO THE EAST WILL BE ROUTED THROUGH A DETENTION/RETENTION BASIN TO REDUCE THE OFFSITE FLOWS TO ASSIST IN THE OVERALL REDUCTION IN DISCHARGE TO ACHIEVE THE LIMIT OF 2.75 CFS PER ACRE. THIS OFFSITE BASIN WILL ENTER PRO No.1 INTO A PONDING AREA ON THE EAST SIDE OF THE SITE. ONCE THE STORM WATER PONDS IN EXCESS OF 2" DEEP IN THE PARKING AREA IT WILL DRAIN DOWN THE DRIVEWAY INTO INDIAN SCHOOL. A NEGLIGIBLE AMOUNT OF THE OFFSITE RUNOFF WILL ENTER AT THE SOUTH EAST CORNER OF THE SITE AND WILL DRAIN DOWN THE FIRE LANE LOCATED ALONG THE SOUTHERN BOUNDARY OF THE PROJECT.

THE EASTERN PARKING LOT (WITHIN BASIN PRO No. 1) IS COMPOSED OF AGGREGATE RATHER THAN ASPHALT PAVEMENT. THE PARKING AREA (7800 SF) HAS A POROSITY THAT ALLOW FOR STORAGE OF 2.6 INCHES BEFORE IT WOULD BEGIN TO POOL ABOVE THE UPPER MOST SURFACE. THIS AREA HAS BEEN TREATED AS SOIL TREATMENT C FOR CALCULATIONS OF EXCESS PRECIPITATION AND PEAK DISCHARGE RATES. THE PARKING LOT IS ALSO DESIGNED TO POND WATER 2" DEEP ACROSS THE 7800 SQUARE FOOT AREA. THIS WILL PROVIDE A PONDING VOLUME OF 1300 CUBIC FEET. NO PONDING VOLUME FOR THE POROSITY WITHIN THE GRAVEL SECTION WAS USED TO REDUCE THE DISCHARGE RATES OR ACCOUNTED FOR IN PONDING VOLUMES.

PRO No.1 WILL DRAIN DOWN THE NORTH ENTRANCE INTO INDIAN SHCOOL. AFTER THE ROUTING THROUGH THE PARKING LOT PONDING AREA THE PEAK DISCHARGE RATE IS REDUCED FROM 19.79 CFS (17.68 OFFSITE AND 2.11 CFS FOR PRO No. 1) TO 16.66 CFS. THE REDUCTION IN FLOW RATE OF 3.13 CFS WILL BE USED TO HELP ACHIEVE THE MAXIMUM PEAK DISCHARGE RATE OF 2.75 CFS PER ACRE.

PROPOSED BASIN PRO No.2 CONTAINS THE NEW STRUCTURES AND LANDSCAPING ON HTE EAST SIDE OF THE NEW ROADWAY. THIS BASIN WILL CREATE A PEAK DISCHARGE RATE OF 0.92 CFS. DUE TO IT'S LOCATION SO CLOSE TO THE ROADWAY AND THE REQUIREMENT TO DRAIN THE NEW ROADWAY TO INDIAN SCHOOL, NO PONDING IN THIS BASIN IS PROPOSED.

PROPOSED BASIN PRO No.3 CONTAINS THE NEW ROADWAY AND THE SURROUNDING SIDEWALKS. THIS BASIN WILL CREATE A PEAK DISCHARGE RATE OF 1.42 CFS. WHEN COMBINED WITH PRO No.2 THE PEAK DISCHARGE RATE INTO INDIAN SCHOOL ALONG THIS ROADWAY IS 2.34 CFS.

BASIN PRO No.4 IS SIMILAR TO PRO No.1 WHERE THE GRAVEL PARKING AREA IS UTILIZED AS A PONDING AND INFILTRATION AREA. THE PARKING AREA IS 14,798 SF AND HAS A POROSITY THAT WILL ALLOW FOR 2.6" OF RAIN TO BE STORED WITHIN THE GRAVEL SURFACE PRIOR TO EXCESS RUNOFF OVERFLOWING INTO INDIAN SCHOOL. BASIN PRO No.3 HAS A PEAK RUNOFF RATE OF 4.68 CFS AFTER THE PARKING AREA IS ANALYZED AS SOIL TREATMENT TYPE C. THE PARKING LOT IS DESIGNED TO RETAIN THE FIRST 2" OF EXCESS RUNOFF ABOVE THE TOP OF GRAVEL SURFACE. THE PONDING VOLUME AVAILABLE IN THIS 2" OF DEPTH IS 2466 CUBIC FEET AND THEREFORE REDUCES THE DISCHARGE INTO INDIAN SCHOOL FROM THIS BASIN TO 3.05 CFS. THIS PROVIDES A REDUCTION IN DISCHARGE OF 1.63 CFS.

BASIN PRO No.5 WILL COMBINE WITH THE DISCHARGE FROM BASIN PRO No. 4 AND ADD THE 0.15 CFS TO CREATE A TOTAL DISCHARGE THROUGH THE DRIVEWAY INTO INDIAN SCHOOL OF 3.20 CFS.

BASIN PRO No. 6 AND No. 7 ARE LOCATED ON THE WEST AND SOUTH SIDES OF THE PROPOSED BUILDINGS. THE PEAK DISCHARGE FROM THE BASIN IS 1.41 AND 0.81 CFS RESPECTIVELY. BOTH OF THESE BASINS WILL DISCHARGE DIRECTLY INTO BROADWAY.

THE COMBINED DISCHARGE FROM THE PROPOSED AND OFFSITE BASINS IS 24.42 CFS. ONCE THE 17.68 CFS FROM OFFSITE FLOWS IS REMOVED THE REMAINING FLOW WILL BE 6.74 CFS FROM THE 3 ACRE SITE. THIS GIVES A PEAK FLOWRATE FROM THE SITE EQUAL TO 2.25 CFS WHICH IS LESS THAN THE 2.75 CFS RESTRICTION REQUIRED BY HYDROLOGY.

Drainage Certification

I, David A Aube. NMPE 14221, of the firm The Hartman + Majewski Design Group, Inc, hereby certify that this project is in substantial compliance with and in accordance with the design intent of the Grading and Drainage plan approved plan dated 8-31-12 and the Enlarged Grading Sheets dated 11-8-12. The record information that has been edited onto the original design documents when obtained by Russ Hugg (Surv Tek) NMPS # 9750. I further certify that I have personally visited the project site on January 14, 2014 and have determined by visual inspection that the actual site conditions shown on this plan to be true and correct to the best of my knowledge and belief. This certification is submitted in support of a request for Temporary Certificate of Occupancy for Buildings A and B. The Eastern side of the site is substantially completed with the access from Indian School completed.

A Temporary CO has already been issued for Buildings E, F, and G located on the eastern side of the site.

The Western side of the site containing Buildings C and D is still under construction and should be completed within a couple of months. A separate request will be filed for those buildings or may be part of the Permanent CO Request for the entire site.

The record information presented hereon is not necessarily complete and intended only to verify substantial compliance of the drainage aspects of this project. Those relying on the record documents are advised to obtain independent verification of its accuracy before using it for any other purpose.

VII. CONCLUSIONS

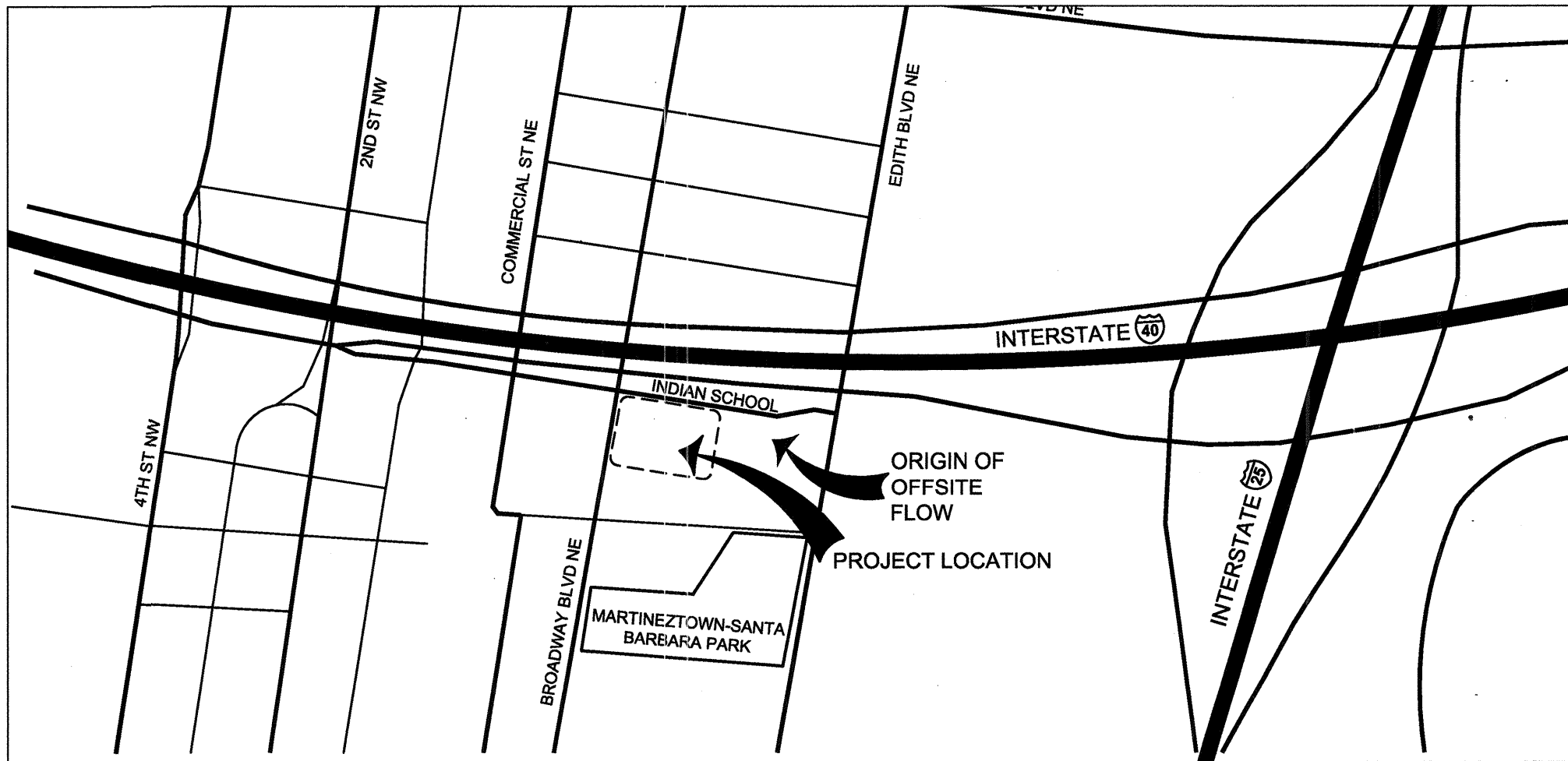
AS A RESULT OF THE PROPOSED CONSTRUCTION THERE WILL BE THE FOLLOWING FLOWRATES:

PRO BASIN No.1 - 2.11 CU-FT/SEC
PRO BASIN No.2 - 0.92 CU-FT/SEC
PRO BASIN No.3 - 1.42 CU-FT/SEC
PRO BASIN No.4 - 4.68 CU-FT/SEC
PRO BASIN No.5 - 0.15 CU-FT/SEC
PRO BASIN No.6 - 1.41 CU-FT/SEC
PRO BASIN No.7 - 0.81 CU-FT/SEC

FOR AN AVERAGE RUN-OFF FLOWRATE OF 2.25 CU-FT/SEC PER ACRE, WHICH IS BELOW THE 2.75 CU-FT/SEC PER ACRE DESIGN LIMIT SET FORTH BY THE CITY OF ALBUQUERQUE HYDROLOGY DEPARTMENT.



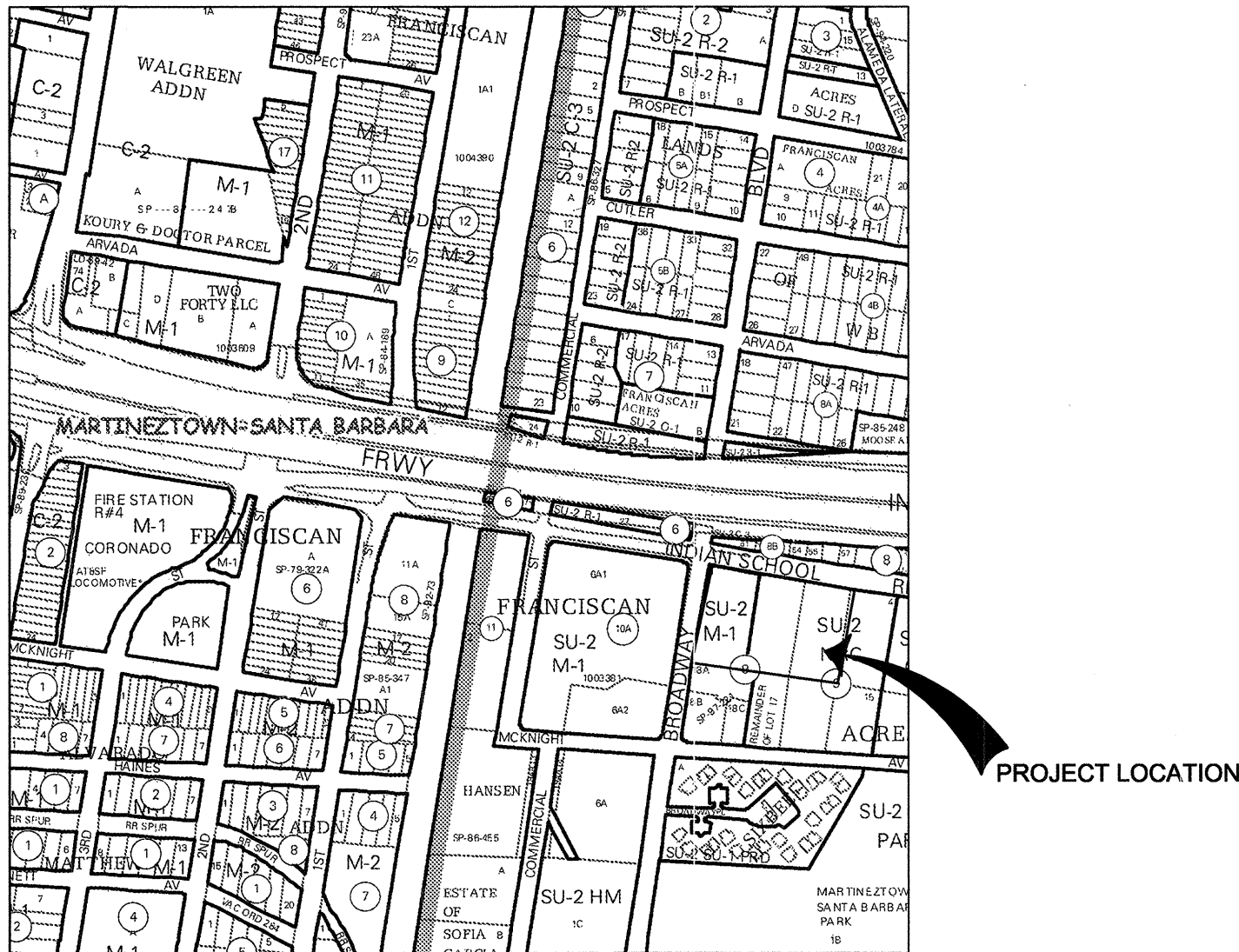
A4 FIMA FLOOD MAP
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A2 VICINITY MAPS
SCALE: NOT TO SCALE



Drainage Summary									
Project:	Greater Albuquerque Housing Partnership								
Project Number:	2439								
Date:	08/15/12								
By:	Dave A								
Site Location									
Precipitation Zone	2 Per Table A-1 COA DPM Section 22.2								
Existing summary									
Basin Name	Ex 1	Off Ex #1							
Area (sf)	120805	213444							
Area (acres)	2.77	4.90							
%A Land treatment	0	0							
%B Land treatment	75	0							
%C Land treatment	15	70							
%D Land treatment	10	30							
Soil Treatment (acres)									
Area "A"	0.00	0.00							
Area "B"	2.08	0.00							
Area "C"	0.42	3.43							
Area "D"	0.28	1.47							
Excess Runoff (acre-feet)									
100yr. 6hr.	0.2234	0.5827							
10yr. 6hr.	0.0975	0.3128							
2yr. 6hr.	0.0269	0.1397							
100yr. 24hr.	0.2326	0.6317							
Peak Discharge (cfs)									
100 yr.	7.35	17.68							
10yr.	3.66	10.48							
2yr.	0.93	4.79							
Proposed summary									
Basin Name	Pro 1	Pro 2	Pro 3	Pro 4	Pro 5	Pro 6	Pro 7	Off Ex #1	
Area (sf)	21798	10597	13905	53900	1571	19134	9451.5	213444	
Area (acres)	0.50	0.24	0.32	1.24	0.04	0.44	0.22	4.90	
%A Land treatment	0	0	0	0	0	0	0	0	
%B Land treatment	20	15	10	15	20	20	40	0	
%C Land treatment	0	35	0	35	0	65	0	70	
%D Land treatment	80	50	90	50	80	15	60	30	
Soil Treatment (acres)									
Area "A"	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Area "B"	0.10	0.04	0.03	0.19	0.01	0.09	0.09	0.00	
Area "C"	0.00	0.09	0.00	0.43	0.00	0.29	0.00	3.43	
Area "D"	0.40	0.12	0.29	0.62	0.03	0.07	0.13	1.47	
Excess Runoff (acre-feet)									
100yr. 6hr.	0.0772	0.0319	0.0528	0.1818	0.0056	0.0442	0.0286	0.5827	
10yr. 6hr.	0.0470	0.0181	0.0328	0.0920	0.0034	0.0218	0.0166	0.3129	
2yr. 6hr.	0.0265	0.0091	0.0190	0.0484	0.0019	0.0081	0.0087	0.1397	
100yr. 24hr.	0.0808	0.0359	0.0624	0.1824	0.0085	0.0484	0.0330	0.6317	
Peak Discharge (cfs)									
100 yr.	2.11	0.92	1.42	4.68	0.15	1.41	0.81	17.68	
10yr.	1.35	0.56	0.93	2.85	0.10	0.78	0.49	10.48	
2yr.	0.75	0.28	0.54	1.42	0.05	0.30	0.25	4.79	



A4 H-14-Z ZONE ATLAS PAGE
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THE HARTMAN + MAJEWSKI

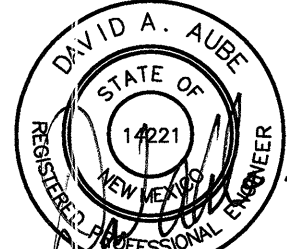
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STAMP



8-31-12

PROJECT NAME:

GREATER ALBUQUERQUE
HOUSING PARTNERSHIP

FRANCISCAN ACRES SUBDIVISION
INDIAN SCHOOL AND BROADWAY
ALBUQUERQUE, NM 87102

REVISIONS:		
No.	DATE	DESCRIPTION
1	9/7/12	DRB COMMENTS
Copyright: Design Group		
Drawn by	JRGF	
Checked by	DAA	
Date	9/7/2012	
Project number	2439	
Cad file name		

SHEET TITLE:

SITE CONCEPTUAL
DRAINAGE
PLAN

SHEET NUMBER:

CD1