

DRAINAGE PLAN:

I. INTRODUCTION AND EXECUTIVE SUMMARY

THIS PROJECT, LOCATED IN THE SOUTHEAST HEIGHTS OF THE ALBUQUERQUE METROPOLITAN AREA, REPRESENTS A MODIFICATION TO AN EXISTING CITY SITE WITHIN AN INFILL AREA. THE PROPOSED CONSTRUCTION CONSISTS OF A STAND-ALONE TEMPORARY MODULAR BUILDING WITHIN AN EXISTING PAVED PARKING LOT. MINOR MODIFICATIONS TO THE PARKING LOT ARE PROPOSED TO ACCOMMODATE LANDSCAPING REQUIRED BY THE EPC APPROVED SITE PLAN. BECAUSE THE BUILDING IS TEMPORARY, FIRST FLUSH REQUIREMENTS HAVE BEEN WAIVED PER DRB COMMENTS. THE DRAINAGE CONCEPT FOR THE SITE IS THE CONTINUED FREE DISCHARGE OF DEVELOPED RUNOFF PER THE ORIGINAL APPROVED PLAN DATED 04-29-88.

THIS SUBMITTAL IS MADE IN SUPPORT OF BUILDING PERMIT TO BE ISSUED BY THE CITY OF ALBUQUERQUE.

II. PROJECT DESCRIPTION

AS SHOWN BY THE VICINITY MAP, THE EXISTING SITE IS GENERALLY LOCATED AT THE SOUTHEAST CORNER OF THE INTERSECTION OF LOUISIANA BLVD. SE AND SOUTHERN BLVD. SE, SOUTH OF THE EXISTING VAN BUREN MIDDLE SCHOOL SITE. AS SHOWN BY PANEL 352 OF 825 OF THE NATIONAL FLOOD INSURANCE PROGRAM FLOOD INSURANCE RATE MAPS PUBLISHED BY FEMA FOR BERNALILLO COUNTY, NEW MEXICO, SEPTEMBER 26, 2008, THIS SITE DOES NOT LIE WITHIN OR ADJACENT TO A DESIGNATED FLOOD HAZARD ZONE.

III. BACKGROUND DOCUMENTS

THE PREPARATION OF THIS PLAN RELIED UPON THE FOLLOWING DOCUMENTS:

- GRADING AND DRAINAGE PLAN FOR SOUTHEAST AREA SUBSTATION PREPARED BY HIGH MESA CONSULTING GROUP (FORMERLY TOM MANN & ASSOCIATES, INC.) DATED 04-29-88, NMPE 8547. THE 1988 PLAN ESTABLISHED THE PRECEDENT FOR FREE DISCHARGE FROM THE SITE TO LOUISIANA BLVD. SE, A PUBLIC CITY STREET. THE 1988 PLAN ESTABLISHED SURFACE DRAINAGE ACROSS AND THROUGH THE PAVED PARKING LOT AS THE PRIMARY ROUTE BY WHICH DEVELOPED RUNOFF IS DISCHARGED FROM THE SITE.
- TOPOGRAPHIC SURVEY PREPARED BY WILSON AND COMPANY (UNDER CONTRACT WITH THE OWNER), NMPS 21081, DATED 6-12-15. THE SUBJECT SURVEY PROVIDES THE BASIS FOR THE EXISTING CONDITIONS OF THE SITE AS DEPICTED BY THIS SUBMITTAL.

IV. EXISTING CONDITIONS

THE PROJECT SITE PRESENTLY CONSISTS OF A CITY OF ALBUQUERQUE POLICE SUBSTATION CONTAINING THE MAIN BUILDING, PAVED PARKING AND LANDSCAPING. THE SITE IS BOUNDED ON THE NORTH BY A PRIVATE ROAD THAT SERVES THE SITE. THE NEIGHBORING VAN BUREN MIDDLE SCHOOL AND THE CITY'S PHIL CHACON COMMUNITY CENTER FARTHER TO THE EAST. AT PRESENT, THE SITE DRAINS FROM EAST TO WEST DISCHARGING DEVELOPED RUNOFF DIRECTLY INTO LOUISIANA BLVD. SE, A PAVED CITY STREET. FROM THIS POINT, RUNOFF FLOWS SOUTH TO GIBSON BLVD. SE WHERE PUBLIC STORM DRAINAGE IMPROVEMENTS COLLECT AND CONVEY STORM WATER WEST.

THERE ARE NO APPARENT OFFSITE FLOWS IMPACTING THE PROJECT SITE AS ESTABLISHED BY PRIOR SUBMITTAL REFERENCED ABOVE. VISUAL SITE INSPECTION BY THE ENGINEER HAS CONFIRMED THAT CONDITIONS HAVE NOT CHANGED SIGNIFICANTLY SINCE 1988 WITH RESPECT TO OFFSITE FLOWS.

V. DEVELOPED CONDITIONS

THE PROPOSED CONSTRUCTION CONSISTS OF THE INSTALLATION OF A TEMPORARY MODULAR BUILDING WITHIN THE EXISTING PARKING LOT AT THE SOUTHEAST CORNER OF THE SITE. THIS PROPOSED PROJECT WILL NOT INCREASE THE IMPERVIOUSNESS OF THE SITE AND THEREFORE WILL NOT INCREASE THE PEAK DISCHARGE AND/OR VOLUME OF RUNOFF GENERATED BY THE SITE. FURTHERMORE, THE MODULAR BUILDING WILL BE LOCATED ABOVE THE EXISTING ASPHALT PAVING THEREBY NOT CHANGING SURFACE DRAINAGE PATTERNS; RUNOFF WILL BE ALLOWED TO FLOW UNDER THE MODULAR BUILDING ON THE EXISTING PAVEMENT SURFACE.

AS IN THE EXISTING CONDITION, THERE ARE NO OFFSITE FLOWS IMPACTING THE PROJECT SITE.

VI. GRADING PLAN

THE GRADING PLANS SHOW 1.) EXISTING AND PROPOSED GRADES INDICATED BY SPOT ELEVATIONS AND CONTOURS AT 1'-0" INTERVALS, 2.) THE LIMIT AND CHARACTER OF THE EXISTING AND PROPOSED IMPROVEMENTS, 3.) INTERIM BMPs, AND 4.) CONTINUITY BETWEEN EXISTING AND PROPOSED GRADES. AS SHOWN BY THIS PLAN, THE PROPOSED GRADING WILL MAINTAIN THE CURRENT DRAINAGE PATTERN OF DISCHARGE FROM EAST TO WEST TO THE EXISTING SIDE INLET TO THE NORTH GLENWOOD HILLS ARROYO.

VII. SEDIMENT AND EROSION CONTROL PLAN

THIS PROJECT DISTURBS LESS THAN ONE-ACRE OF LAND. A SEPARATE STORM WATER POLLUTION PREVENTION PLAN (SWPPP) HAS NOT BEEN PREPARED. THE SMALL SIZE OF THIS PROJECT DOES NOT WARRANT THE PREPARATION OF A SITE SPECIFIC SEDIMENT AND EROSION CONTROL PLAN, HOWEVER, THIS PLAN PROPOSES GOOD HOUSEKEEPING BEST MANAGEMENT PRACTICES (BMPs) TO MITIGATE THE EFFECTS OF CONSTRUCTION RELATED SEDIMENT DISCHARGING TO THE ADJACENT AND DOWNSTREAM CITY STREET.

VIII. CALCULATIONS

THE CALCULATIONS CONTAINED HEREON ANALYZE THE EXISTING AND DEVELOPED CONDITIONS FOR THE 100-YEAR, 6-HOUR RAINFALL EVENT. THE PROCEDURE FOR 40 ACRE AND SMALLER BASINS, AS SET FORTH IN THE REVISION OF SECTION 22.2, HYDROLOGY OF THE DEVELOPMENT PROCESS MANUAL, VOLUME 2, DESIGN CRITERIA, DATED JANUARY 1993, HAS BEEN USED TO QUANTIFY THE PEAK RATE OF DISCHARGE AND VOLUME OF RUNOFF GENERATED. AS DEMONSTRATED BY THESE CALCULATIONS, THE PROPOSED PROJECT WILL NOT INCREASE THE DEVELOPED RUNOFF GENERATED BY THE SITE.

IX. CONCLUSIONS

THE FOLLOWING CONCLUSIONS HAVE BEEN ESTABLISHED AS A RESULT OF THE EVALUATIONS CONTAINED HEREIN:

1. THE PROPOSED IMPROVEMENTS WILL MAINTAIN AND NOT ALTER THE EXISTING DRAINAGE PATTERNS OF THE SITE.
2. THE PROPOSED IMPROVEMENTS WILL NOT RESULT IN AN INCREASE IN THE DEVELOPED RUNOFF VOLUME GENERATED BY THE SITE.
3. EROSION AND SEDIMENT CONTROL MEASURES ARE PROPOSED DURING CONSTRUCTION; BMP SELECTION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE CONSTRUCTION RELATED SEDIMENT DOES TO DISCHARGE FROM THE SITE TO PUBLIC RIGHT-OF-WAY.
4. THE PROPOSED IMPROVEMENTS WILL NOT ADVERSELY IMPACT DOWNSTREAM PROPERTIES OR DOWNSTREAM DRAINAGE CONDITIONS.
5. THIS PROJECT IS NOT SUBJECT TO AN EPA NPDES PERMIT.
6. THIS PROJECT REPRESENTS A MODIFICATION TO AN EXISTING SITE WITHIN AN INFILL AREA.
7. A VARIANCE TO THE REQUIREMENT TO CAPTURE AND TREAT THE FIRST FLUSH OF RUNOFF FROM THE NEW IMPERVIOUS AREA CREATED BY THIS PLAN IS REQUESTED BASED UPON THE BUILDING BEING TEMPORARY.

CALCULATIONS:

I. SITE CHARACTERISTICS

A. PRECIPITATION ZONE = 3

B.  $P_{100, 6 \text{ HR}} = P_{300} = 2.60$

C. TOTAL PROJECT AREA ( $A_T$ ) = 75,000 SF  
1.72 AC

D. LAND TREATMENTS

1. EXISTING LAND TREATMENT

TREATMENT	AREA (SF/AC)	%
A	0 / 0	0
B	8,500 / 0.20	11
C	8,500 / 0.20	11
D	58,000 / 1.32	78

2. DEVELOPED LAND TREATMENT

TREATMENT	AREA (SF/AC)	%
A	0 / 0	0
B	8,500 / 0.20	11
C	8,300 / 0.19	11
D	58,200 / 1.33	78

II. HYDROLOGY

A. EXISTING CONDITION

1. VOLUME

$$E_W = (E_A A_A + E_B A_B + E_C A_C + E_D A_D) / A_T$$
$$E_W = (0.66 * 0.00) + (0.92 * 0.20) + (1.29 * 0.20) + (2.36 * 1.32) / 1.72 = 2.07 \text{ IN}$$
$$V_{100, 6 \text{ HR}} = (E_W / 12) A_T = (2.07 / 12) 1.72 = 0.2967 \text{ AC-FT} = 12,920 \text{ CF}$$

2. PEAK DISCHARGE

$$Q_p = Q_{pA} A_A + Q_{pB} A_B + Q_{pC} A_C + Q_{pD} A_D$$
$$Q_p = Q_{100} = (1.87 * 0.00) + (2.60 * 0.20) + (3.45 * 0.20) + (5.02 * 1.32) = 7.8 \text{ CFS}$$

B. DEVELOPED CONDITION

1. VOLUME

$$E_W = (E_A A_A + E_B A_B + E_C A_C + E_D A_D) / A_T$$
$$E_W = (0.66 * 0.00) + (0.92 * 0.20) + (1.29 * 0.19) + (2.36 * 1.33) / 1.72 = 2.07 \text{ IN}$$
$$V_{100, 6 \text{ HR}} = (E_W / 12) A_T = (2.07 / 12) 1.72 = 0.2967 \text{ AC-FT} = 12,920 \text{ CF}$$

2. PEAK DISCHARGE

$$Q_p = Q_{pA} A_A + Q_{pB} A_B + Q_{pC} A_C + Q_{pD} A_D$$
$$Q_p = Q_{100} = (1.87 * 0.00) + (2.60 * 0.20) + (3.45 * 0.19) + (5.02 * 1.33) = 7.8 \text{ CFS}$$

C. COMPARISON

1. VOLUME  
 $\Delta V_{100, 6 \text{ HR}} = 12,920 - 12,920 = 0 \text{ CF}$  (NO CHANGE)

2. PEAK DISCHARGE  
 $\Delta Q_{100} = 7.8 - 7.8 = 0 \text{ CFS}$  (NO CHANGE)

LEGEND:

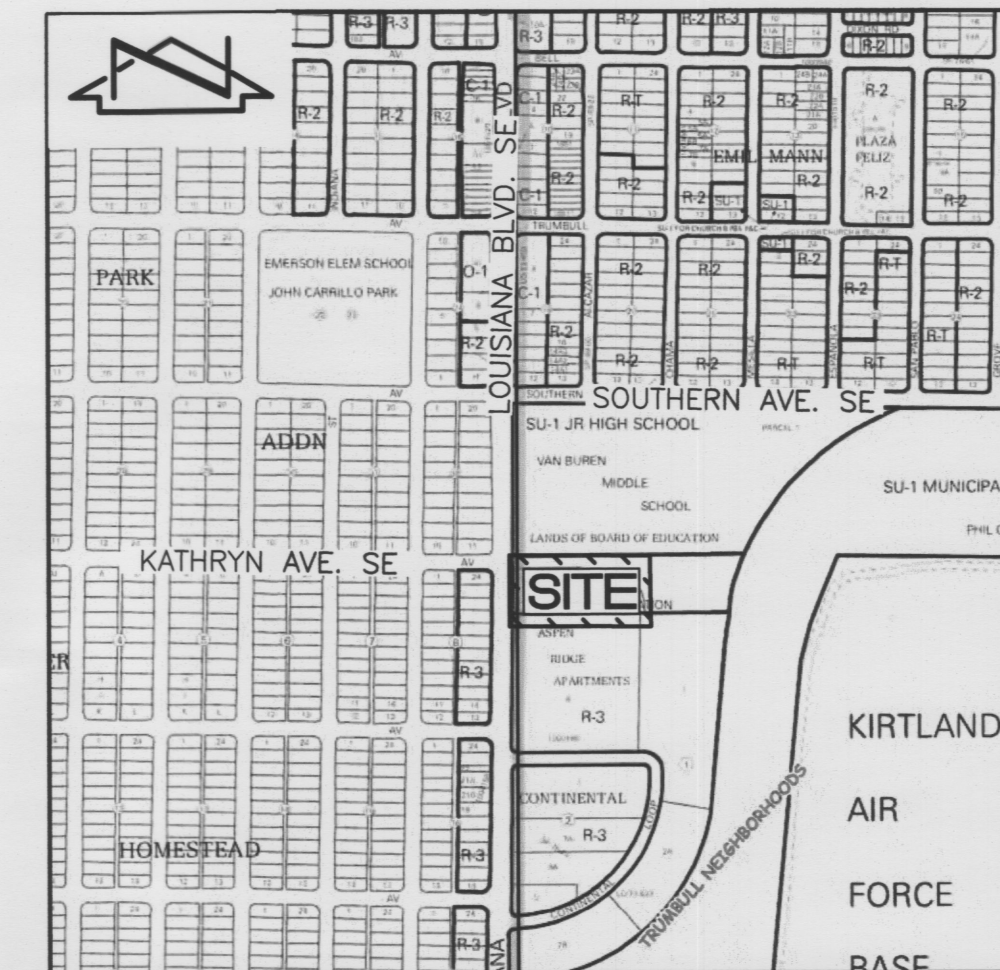
	UTILITY, SANITARY SEWER MANHOLE
	UTILITY, POWERPOLE
	UTILITY, LIGHT POLE
	UTILITY, YARD LIGHT
	UTILITY, ELECTRICAL BOX
	UTILITY, TRANSFORMER
	UTILITY, JUNCTION SIGNAL BOX
	UTILITY, GUYWIRE
	UTILITY, FIRE HYDRANT
	UTILITY, WATER VALVE
	UTILITY, WATER METER
	UTILITY, GAS METER
	UTILITY, SPRINKLER HEAD
	UTILITY, FIBER OPTIC VAULT
	UTILITY, CABLE TELEVISION VAULT
	UTILITY, UNKNOWN VAULT
	UTILITY, ELECTRICAL PULLBOX
	UTILITY, CLEANOUT
	UTILITY, TRAFFIC LIGHT
	UTILITY, SPRINKLER CONTROL BOX
	SITE, FLAG POLE
	SITE, BOLLARD
	SITE, GATE
	SITE, SIGN
	SITE, SIGN-BILLBOARD
	SITE, TRASH BIN
	SITE, ROOF DRAIN
	SITE, BUILDING COLUMN (CONCRETE)
	SITE, DECIDUOUS TREE
	SITE, BUSH
	SITE, HANDICAPPED PARKING
	SITE, CONTROL POINT
	SITE, SPOT ELEVATION
	PROPOSED SPOT ELEVATION
	EXISTING FLOWLINE ELEVATION
	PROPOSED CONTOUR
	EXISTING CONTOUR
	PROPOSED FLOWLINE
	EXISTING FLOWLINE
	ROOF DRAINAGE
	EXISTING ROOF DRAINAGE
	PUBLIC EASEMENT LINE
	PROPOSED CONCRETE
	PROPOSED ASPHALT PAVEMENT
	HIGH POINT

CONSTRUCTION NOTES:

1. TWO (2) WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT NEW MEXICO ONE CALL SYSTEM, 811, FOR DESIGNATION (LINE-SPOTTING) OF EXISTING UTILITIES.
2. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF ALL POTENTIAL OBSTRUCTIONS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IN WRITING SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL INTERPRETATIONS IT MAKES WITHOUT FIRST CONTACTING THE ENGINEER AS REQUIRED ABOVE.
3. ALL WORK ON THIS PROJECT SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE AND LOCAL LAWS, RULES AND REGULATIONS CONCERNING CONSTRUCTION SAFETY AND HEALTH.
4. ALL CONSTRUCTION WITHIN PUBLIC RIGHT-OF-WAY SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE CITY OF ALBUQUERQUE STANDARDS AND PROCEDURES.
5. IF ANY UTILITY LINES, PIPELINES, OR UNDERGROUND UTILITY LINES ARE SHOWN ON THESE DRAWINGS, THEY ARE SHOWN IN AN APPROXIMATE MANNER ONLY, AND SUCH LINES MAY EXIST WHERE NONE ARE SHOWN. IF ANY SUCH EXISTING LINES ARE SHOWN, THE LOCATION IS BASED UPON INFORMATION PROVIDED BY THE OWNER OF SAID UTILITY, AND THE INFORMATION MAY BE INCOMPLETE, OR MAY BE OBSOLETE BY THE TIME CONSTRUCTION COMMENCES. THE ENGINEER HAS CONDUCTED ONLY PRELIMINARY INVESTIGATION OF THE LOCATION, DEPTH, SIZE, OR TYPE OF EXISTING UTILITY LINES, PIPELINES, OR UNDERGROUND UTILITY LINES. THIS INVESTIGATION IS NOT CONCLUSIVE, AND MAY NOT BE COMPLETE. THEREFORE, MAKES NO REPRESENTATION PERTAINING THERETO, AND ASSUMES NO RESPONSIBILITY OR LIABILITY THEREFOR. THE CONTRACTOR SHALL INFORM ITSELF OF THE LOCATION OF ANY UTILITY LINE, PIPELINE, OR UNDERGROUND UTILITY LINE IN OR NEAR THE AREA OF THE WORK IN ADVANCE OF AND DURING EXCAVATION WORK. THE CONTRACTOR IS FULLY RESPONSIBLE FOR ANY AND ALL DAMAGE CAUSED BY ITS FAILURE TO LOCATE, IDENTIFY AND PRESERVE ANY AND ALL EXISTING UTILITIES, PIPELINES, AND UNDERGROUND UTILITY LINES. IN PLANNING AND CONDUCTING EXCAVATION, THE CONTRACTOR SHALL COMPLY WITH STATE STATUTES, MUNICIPAL AND LOCAL ORDINANCES, RULES AND REGULATIONS, IF ANY, PERTAINING TO THE LOCATION OF THESE LINES AND FACILITIES.
6. THE DESIGN OF PLANTERS AND LANDSCAPED AREAS IS NOT PART OF THIS PLAN. ALL PLANTERS AND LANDSCAPED AREAS ADJACENT TO THE BUILDING(S) SHALL BE PROVIDED WITH POSITIVE DRAINAGE TO AVOID ANY PONDING ADJACENT TO THE STRUCTURE. FOR CONSTRUCTION DETAILS, REFER TO LANDSCAPING PLAN.

EROSION CONTROL NOTES:

1. THIS PLAN ADDRESSES GENERAL AND SPECIFIC MEASURES FOR CONSTRUCTION PHASE EROSION AND DUST CONTROL. REFER TO THE GRADING AND DRAINAGE PLAN PREPARED BY HIGH MESA CONSULTING GROUP, FOR GRADING NOTES AND INFORMATION.
2. THE CONTRACTOR SHALL ENSURE THAT NO SOIL ERODES FROM THE SITE INTO PUBLIC RIGHT-OF-WAY OR ONTO PRIVATE PROPERTY.
3. THE CONTRACTOR SHALL PROMPTLY CLEAN UP ANY MATERIAL EXCAVATED WITHIN THE PUBLIC RIGHT-OF-WAY SO THAT THE EXCAVATED MATERIAL IS NOT SUSCEPTIBLE TO BEING WASHED DOWN THE STREET.



VICINITY MAP  
SCALE: 1" = 750' (APPROX.)



F.I.R.M.  
SCALE: 1" = 500' (APPROX.)

PANEL 352 OF 825  
DATED 09/26/08

LEGAL DESCRIPTION:

PARCEL 2-A, VAN BUREN MIDDLE SCHOOL  
LANDS OF BOARD OF EDUCATION

TBM's

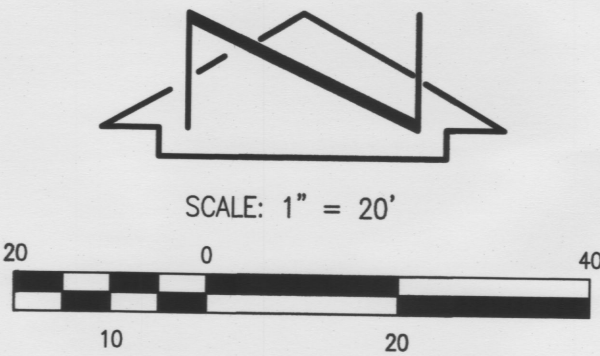
CONTROL POINT CP 102 ELEV: 5339.436 DESCRIPTION: REBAR w/CAP	CONTROL POINT CP 103 ELEV: 5338.997 DESCRIPTION: PK NAIL
CONTROL POINT CP 104 ELEV: 5338.072 DESCRIPTION: PK NAIL	CONTROL POINT CP 105 ELEV: 5339.166 DESCRIPTION: PK NAIL
CONTROL POINT CP 106 ELEV: 5338.568 DESCRIPTION: PK NAIL	CONTROL POINT CP 107 ELEV: 5339.273 DESCRIPTION: PK NAIL

CHERRY/SE/REAMES ARCHITECTS, PC 220 gold avenue ne albuquerque, nm 87102 505-262-1070 fax 505-262-1070	
PROJECT BENCH MARK A CITY OF ALBUQUERQUE SURVEY CONTROL 3-1/4" ALUMINUM DISK, STAMPED "ACS", 2-119, 1984", SET FLUSH ON TOP OF THE CURB, LOCATED ON THE SE QUADRANT OF LOUISIANA BLVD. & CONTINENTAL LOOP NE. ELEV=5339.761' (NAVD 1988)	
SURVEY INFORMATION FIELD NOTES NO. N/A BY WILSON & CO. DATE 6/15 DATE 6/15	
AS BUILT INFORMATION CONTRACTOR DATE INSPECTOR'S APPROVAL DATE FIELD VERIFICATION BY DATE DRAWING CORRECTED BY DATE MICRO-FILM INFORMATION RECORDED BY DATE	
DESIGNED BY: J.G.M. DATE: 01/16 DRAWN BY: S.C.C./J.Y.R. DATE: 07/16 CHECKED BY: G.M. DATE: 04/16	

CITY OF ALBUQUERQUE ALBUQUERQUE POLICE DEPARTMENT SE AREA COMMAND MODULAR BUILDING RELOCATION	
TITLE: DRAINAGE PLAN & CALCULATIONS	
Design Review Committee	City Engineer Approval
City Project No. 2015.030.1	Zone Map No. L-19-Z
Sheet CG-100	Of







CONTROL POINT 102 ELEV: 5339.436 DESCRIPTION: REBAR w/CAP	CONTROL POINT 103 ELEV: 5338.997 DESCRIPTION: PK NAIL
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CONTROL POINT 106 ELEV: 5338.568 DESCRIPTION: PK NAIL	CONTROL POINT 107 ELEV: 5339.273 DESCRIPTION: PK NAIL

CITY OF ALBUQUERQUE		<div style="display: flex; justify-content: space-between;"> <span>1</span> <span>2</span> <span>3</span> <span>4</span> <span>5</span> <span>6</span> <span>7</span> <span>8</span> </div>	
ALBUQUERQUE POLICE DEPARTMENT SE AREA COMMAND MODULAR BUILDING RELOCATION			
TITLE: <b>GRADING PLAN</b>			
Design Review Committee	City Engineer Approval	Last Design Update	NO. 000/00
			NO. 000/00
City Project No.	Zone Map No.	Sheet	Of
<b>6213</b>	<b>L-19-Z</b>	<b>CG-101</b>	

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