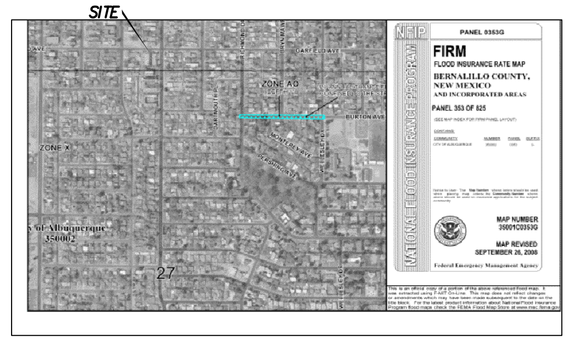


FIRM MAP PANEL # 353 G

GRADING & DRAINAGE PLAN

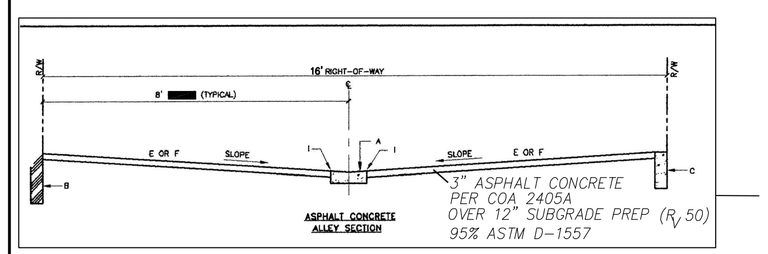
THE 15-UNIT TOWNHOME PROJECT IS LOCATED IN THE UNIVERSITY HEIGHTS OF ALBUQUERQUE APPROXIMATELY 2 MILES EAST OF THE DOWNTOWN CORE OF ALBUQUERQUE, NM. THE GRADING & DRAINAGE SCHEME HEREON IS IN COMPLIANCE WITH THE BERNALILLO COUNTY FLOOD HAZARD ORDINANCE, NO.88-46, AND THE CITY STORM DRAINAGE ORDINANCE. THE PLAN IS REQUIRED IN ORDER TO FACILITATE THE OWNER'S REQUEST FOR BUILDING PERMIT. THE PLAN SHOWS: A FORMER APT. SITE

1. EXISTING CONTOURS, AND SPOT ELEVATIONS AND EXISTING DRAINAGE PATTERNS AND EXISTING IMPROVEMENTS: INCLUDING EXISTING FLATWORK (Removal of Exist. Apts).
2. PROPOSED IMPROVEMENTS: 5700 SF TOTAL BUILDING STRUCTURE(S), NEW CONCRETE DRIVEPADS AND PARKING, NEW GRADE ELEVATIONS, WALLS, FLATWORK AND LANDSCAPING.
3. CONTINUITY BETWEEN EXISTING AND PROPOSED ELEVATIONS.
4. QUANTIFICATION AND ACCEPTANCE OF UPSTREAM OFF-SITE FLOWS WHICH CONTRIBUTE TO THE DEVELOPED FLOWS GENERATED BY THE IMPROVEMENTS.

THE PURPOSE OF THE PLAN IS TO ESTABLISH CRITERIA FOR CONTROLLING STORM RUNOFF AND EROSION, AND ESSENTIALLY ALLOWING HISTORIC FLOWS TO CONTINUE TO DRAIN THROUGH THE PROPERTY. PRESENTLY, THE SITE IS BOUNDED ON THE SOUTH BY RESIDENTIAL USE TO THE WEST BY PUBLIC ALLEY. GIRARD BLVD & GARFIELD AVE ON THE EAST AND NORTH ARE PAVED WITH CURB, GUTTER AND SIDEWALK, AND MAINTAINED BY THE CITY OF ALBUQUERQUE. THE SITE CURRENTLY DRAINS AT 2% FROM S.EAST TO N.WEST.

HISTORICAL SITE RUNOFF OUTFALL LOCATIONS WILL REMAIN UNCHANGED. SINCE BOTH STREETS ARE IMPROVED ONLY MINIMAL GRADING (DRIVEPAD RECONSTR-N) IS PROPOSED WITHIN THE CITY R.O.W. FREE DISCHARGE OF DEVELOPED FLOW IS ACCEPTABLE SINCE THE TOTAL INCREASE OF DEVELOPED FLOW IS MINIMAL, AND CAPACITY EXISTS DOWNSTREAM.

THE SITE IS NOT IMPACTED ADVERSELY BY ANY OFF-SITE DRAINAGE FLOWS.



PUBLIC ALLEY SECTION

PER COA DWG 2411

CALCULATIONS

DESIGN CRITERIA

HYDROLOGIC METHODS PER SECTION 22.2, HYDROLOGY OF THE DEVELOPMENT PROCESS MANUAL (DPM) REVISED JANUARY 1993 FOR CITY OF ALBUQUERQUE ADOPTED BY THE COUNTY OF BERNALILLO
DISCHARGE RATE: Q=QPEAK x AREA.."Peak Discharge Rates For Small Watersheds"
VOLUMETRIC DISCHARGE: VOLUME = EWeighted x AREA
P100 = 2.35 Inches, Zone 2 Time of Concentration, TC = 10 Minutes
DESIGN STORM: 100-YEAR/6-HOUR, 10-YEAR/6-HOUR [ ] = 10 YEAR VALUES

EXISTING CONDITIONS

TOTAL AREA = 0.48 ACRES, WHERE EXCESS PRECIP. 'W' =1.13 In. [0.52]
PEAK DISCHARGE, Q100 = 1.49 CFS [0.8], WHERE UNIT PEAK DISCHARGE 'W' = 3.1CFS/AC. [1.7]
THEREFORE: VOLUME 100 = 1969 CF [906]

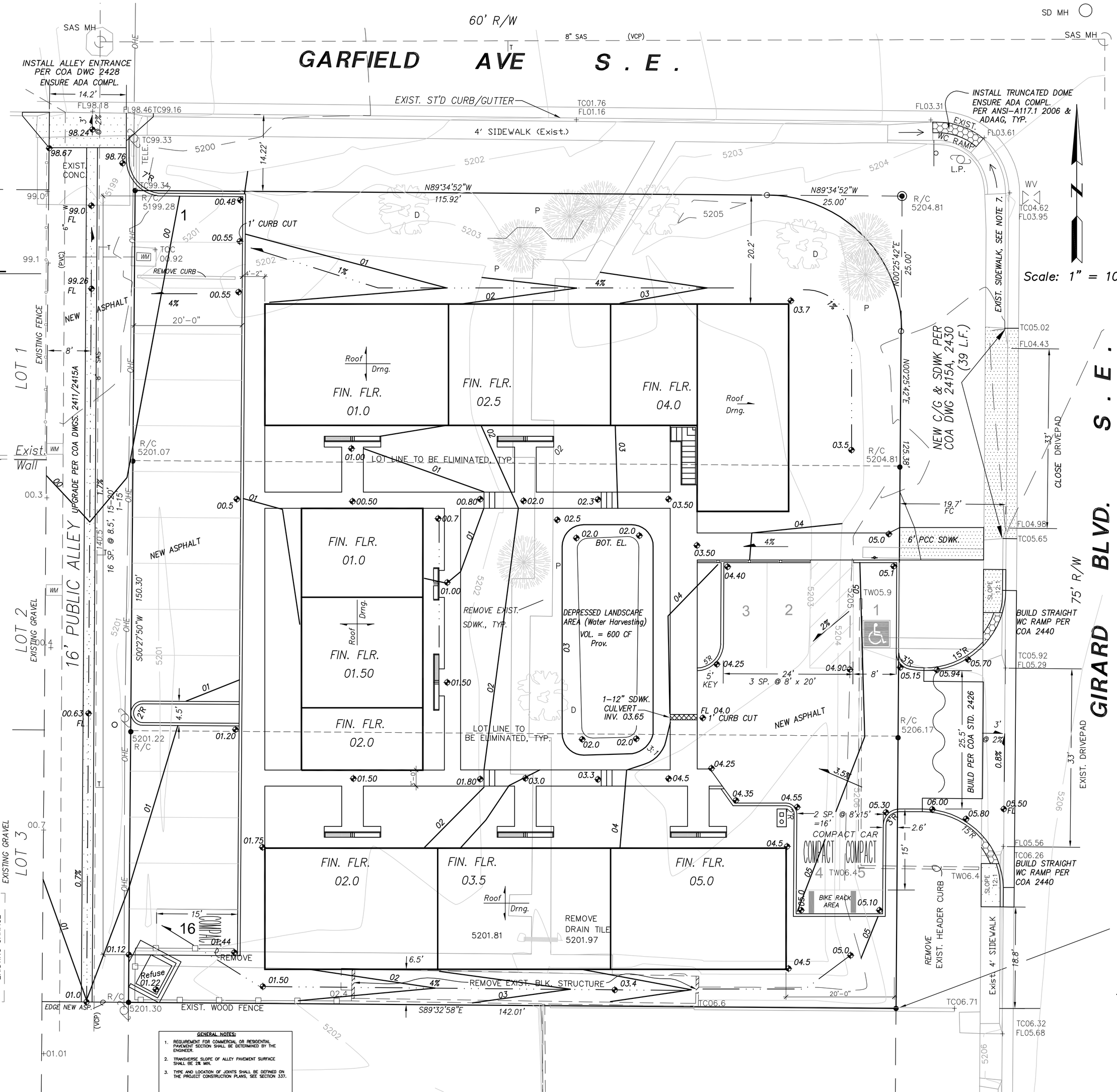
DEVELOPED CONDITIONS

DETERMINE LAND TREATMENTS, PEAK DISCHARGE AND VOLUMETRIC DISCHARGE FOR STUDY AREA

	AREA	LAND TREATM'T	Q Peak	E
UNDEVELOPED	--- Ac.	A	1.56[0.38]	0.53[0.13]
LANDSCAPING	0.10 Ac.(21%)	B	2.28[0.95]	0.76[0.28]
GRAVEL & COMPACTED SOIL	0.11 Ac.(23%)	C	3.14[1.71]	1.13[0.52]
ROOF - PAVEMENT	0.27 Ac.(56%)	D	4.70[3.14]	2.12[1.34]
	0.48 Ac.			

THEREFORE: $E_{Weighted}$ = 1.61 In.[0.93] &
Q100 =1.84 CFS VOLUME 100 = 2805 CF
Q10 = 1.1 CFS VOLUME 10 = 1620 CF

RECOMMEND : ROUTE DEVELOPED RUNOFF THROUGH EXISTING/UPGRADED SOFT LANDSCAPING INCLUDING DEPRESSED LANDSCAPING IN THE NEW COURTYARD AS SHOWN.



GENERAL NOTES:

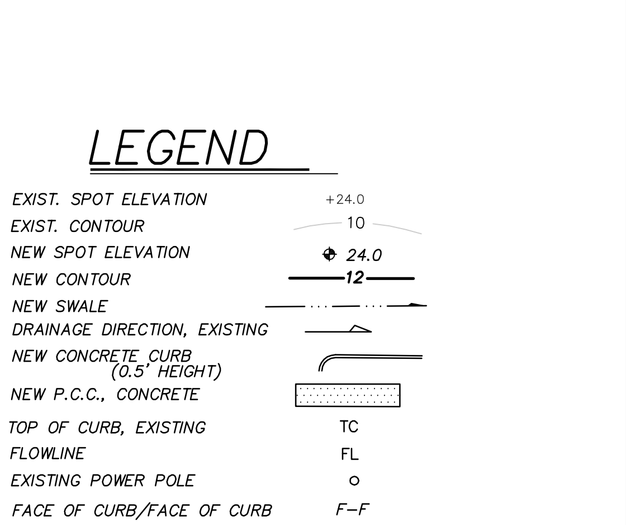
1. REQUIREMENT FOR COMMERCIAL OR RESIDENTIAL PAVEMENT SECTION SHALL BE DETERMINED BY THE ENGINEER.
2. TRANSVERSE SLOPE OF ALLEY PAVEMENT SURFACE SHALL BE 2% MIN.
3. TYPE AND LOCATION OF JOINTS SHALL BE DEFINED ON THE PROJECT CONSTRUCTION PLANS, SEE SECTION 337.

CONSTRUCTION NOTES:

A. ALLEY GUTTER, SEE DWG. 2415.
B. WALL OR BUILDING FOUNDATION AT PROPERTY LINE.
C. USE 6" x 18" PORTLAND CEMENT CONCRETE (PCC) CUT-OFF-WALL.
D. RIGHT-OF-WAY ADJACENT TO OPEN AREA.
E. USE RESIDENTIAL SECTION FOR RESIDENTIAL ALLEY USE, SEE DWG. 2405.
F. USE ARTERIAL SECTION FOR COMMERCIAL ALLEY USE, SEE DWG. 2407.
G. USE 1/2" EXPANSION JOINT WHERE PCC PAVEMENT ABUTS WALLS, RIGID PAVEMENT, POLES, TRANSFORMERS, ETC.
H. TYPE 4 TIED JOINT, SEE DWG. 2450.
I. SAWCUT AND SEAL JOINT, SEE DWG. 2450.

I, PHILIP W. CLARK, A PROFESSIONAL ENGINEER LICENSED IN ACCORDANCE WITH THE LAWS OF THE STATE OF NEW MEXICO, DO HEREBY CERTIFY THAT I HAVE VISITED THE SITE SHOWN HEREON, AND THAT THE CONTOURS SHOWN REPRESENT THE EXISTING GROUND CONDITIONS, AND DO FURTHER CERTIFY THAT NO EARTHWORK OF ANY KIND, NOR ANY DISTURBANCE OF THE EXISTING GROUND HAS OCCURRED ON THIS SITE SINCE THE CONTOURS WERE DETERMINED.

PHILIP W. CLARK NMPE #10265



VICINITY MAP ZONE K-16

Scale: 1" = 10'

NOTES

1. ALL WORK WITHIN THE RIGHT-OF-WAY SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CITY OF ALBUQUERQUE STANDARD SPECS. FOR PUBLIC WORKS CONSTRUCTION, 8TH EDITION W/ UPDATES.
2. AN EXCAVATION/CONSTRUCTION PERMIT IS REQUIRED BEFORE BEGINNING ANY WORK WITHIN CITY R.O.W. AN APPROVED COPY OF THIS PLAN MUST BE SUBMITTED AT THE TIME OF APPLICATION.
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 LANDSCAPING AREA SHALL BE SOFT-LINED WITH NATIVE VEGETATION AND/OR GRAVEL. ASPHALT PARKING AREA SHALL DRAIN DIRECTLY TO NEW CURB CUT OR SDWK CULVERT
5. CONTRACTOR SHALL ENSURE THAT NO SITE SOILS/SEDIMENT OR SILT ENTER THE RIGHT-OF-WAYS DURING CONSTRUCTION.
6. REVEGETATE ALL AREAS DISTURBED DUE TO CONSTRUCTION PER CITY OF ALBUQ. SPEC. 1011, NATIVE SEED MIX.
7. MAXIMUM SITE GRADING WITHOUT EROSION PROTECTION: 3 HORIZONTAL TO 1 VERTICAL, 3:1. ALL DIMENSIONS TO FACE OF CURB, UNLESS NOTED OTHERWISE.

LEGEND

EXIST. SPOT ELEVATION	+24.0
EXIST. CONTOUR	10
NEW SPOT ELEVATION	24.0
NEW CONTOUR	12
NEW SWALE	
DRAINAGE DIRECTION, EXISTING	
NEW CONCRETE CURB (0.5' HEIGHT)	
NEW P.C.C., CONCRETE	
TOP OF CURB, EXISTING	TC
FLOWLINE	FL
EXISTING POWER POLE	o
FACE OF CURB/FACE OF CURB	F-F
WATER BLOCK	

PROJECT DATA

LEGAL DESCRIPTION

LOTS 8-10, BLOCK 64, UNIVERSITY HEIGHTS
ALBUQUERQUE, BERNALILLO COUNTY, NEW MEXICO

PROJECT BENCHMARK

TOP OF REBAR/CAP AT THE PROJECT SOUTHEAST CORNER MSL ELEVATION = 5206.5, AS TIED FROM COA 3-1/4" DIAMETER ALUM DISK SET IN TOP OF CURB, 20_L16, MSL, NAVD 88, 5210.84, LOCATED 114' SOUTH OF THE INTERSECTION OF GIRARD AND BURTON AVENUE, SE.

TOPOGRAPHIC DESIGN SURVEY

PROVIDED BY TERRAMETRICS UNDER THE DIRECTION OF PHILIP TURNER, N.M.P.S. 10204, DATED NOVEMBER 2011.

PHILIP W. CLARK NEW MEXICO 10265 REGISTERED PROFESSIONAL ENGINEER

Clark Consulting Engineers
19 Ryan Road
Edgewood, New Mexico 87015
Tele: (505) 281-2444 Fax: (505) 281-2444

DATE	REVISION
2-08-12	ADDR. COA
	COM'TS, PWC

LOTs 8-10, BLK. 64, UNIVERSITY HEIGHTS ALBUQUERQUE, BERNALILLO COUNTY, NEW MEXICO
501 GIRARD BLVD. SE
GARFIELD APARTMENTS
Grading & Drainage Plan

DESIGNED BY: PWC	DRAWN BY: CCE	JOB #: HALL	1 OF 1
CHECKED BY: PWC	DATE: 11/8/11	FILE #: G/D	