

POND CALCULATIONS

Pond	Vol 100-yr-10Day Contributing (ac-ft)	Vol 100-yr-10Day Contributing Vol. (cf)	Pond Capacity Vol. (cf)	Q 100-yr-10Day Contributing (cfs)
P-1A	0.2519	10,973.50	14,307.00	0.98
Top of Pond Elev. Btm of Pond Elev. Water Surface Elev.				
	5053.00	5049.00	5052.00	

FLOW CALCULATIONS

CITY OF ALBUQUERQUE FIRE STATION NO. 2

DRAINAGE ANALYSIS

INTRODUCTION

PURPOSE AND SITE LOCATION

Fire Station No. 2 will be located at Lot 2 of the UNM Gibson Commercial District located on the north side of Gibson Blvd, SE. The location is located west of University Ave and Gibson Blvd and east of I-25 and Gibson Blvd. Fire Station No. 2 will be located within a 1.3 acre site of predominantly undeveloped property. The City of Albuquerque will own the development property after a property transfer is completed with the University of New Mexico Board of Regents.

CRITERIA

The proposed grading and drainage for the development of this site are based on the criteria in the City of Albuquerque Development Process Manual (DPM) Chapter 22. Flow calculations are based on the 100-yr, 6-hr design storm. The existing conditions are calculated from a single basin - Basin SB - 1.3 ac. The area of study was divided into three sub basins; Basin SB-A 0.28 ac; Basin SB-B - 0.77 ac; Basin SB-C - 0.29 ac, to calculate the developed conditions.

Basin SB-B, the largest subbasin, will be routed through an on-site pond. The initial 0.44-in rainfall on the property will be retained in the pond at the request of the City of Albuquerque for storm water treatment purposes utilizing the bottom 1 ft of the pond volume. Discharge from the pond will be discharged overland to Gibson Blvd.

EXISTING CONDITIONS

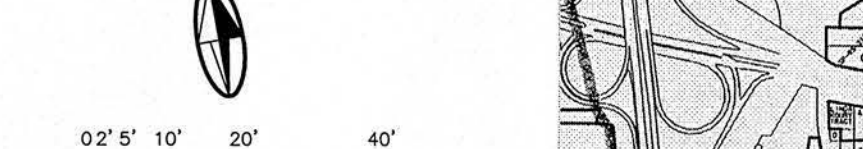
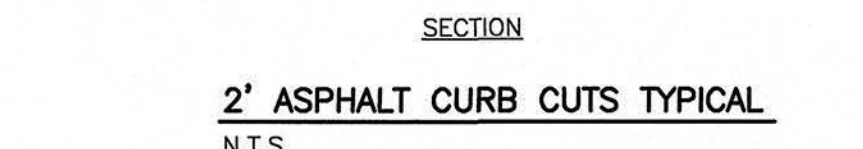
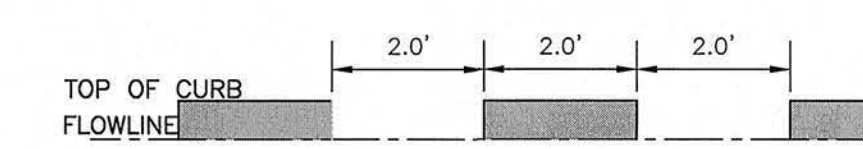
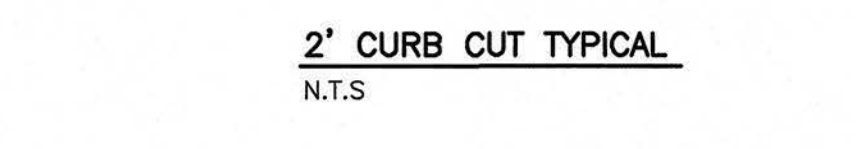
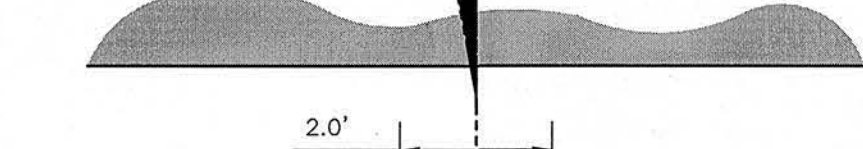
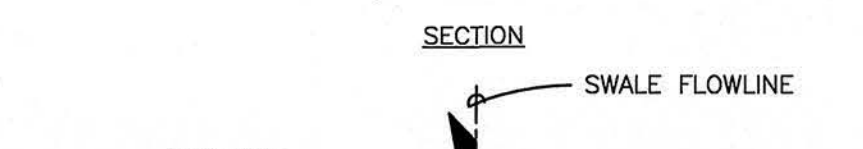
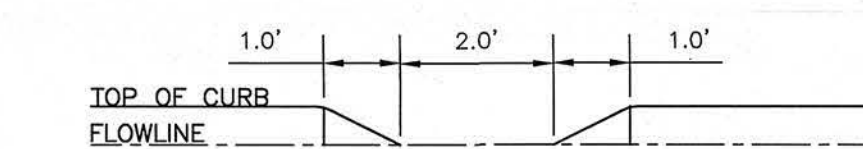
The 1.3 acre site for Fire Station 2 (Lot 2) is primarily undeveloped. The existing stormwater discharge flows across the property generally from east to west. The minimal off-site flows are generally from the east to west. The adjacent properties are generally graded away from Lot 2. The AMAFCA South Diversion Channel and Geneva Arroyo flow to the north and west of the property and these drainage ways collect the drainage flows from the adjacent properties located to the north and west of Lot 2. The northern and western portion of Lot 2 also discharges to these drainage ways across the adjacent properties. The southern portion of Lot 2 discharge drainage flows overland to Gibson Blvd, and eventually to the South Diversion Channel through a channel inlet located on the north curb of Gibson Blvd, west of Lot 2.

DEVELOPED CONDITIONS

Off-site flows from the east of the property will be intercepted by Alumni Dr to be constructed under a separate project (UNM project) and will be diverted to Gibson Blvd. The on-site flows have been calculated with fully developed conditions from the proposed site plan. A drainage pond proposed for the site has been sized to retain approximately 0.44-in of the initial storm flows. The pond will discharge approx. 2.63 cfs (SB-B) of the design storm to the southwest and eventually to Gibson Blvd through a drainage swale and sidewalk culvert. Approximately 0.99 cfs (SB-C) will discharge from the site at the Southeast corner of Alumni Dr and Gibson Blvd through a sidewalk culvert to Gibson Blvd. The third discharge point from the site will be located at the Northwest corner of the site. Ultimately, approximately 0.96 cfs (SB-A) will discharge overland to a 10' wide drainage easement (with approval by AMAFCA) which will convey the flow to the AMAFCA South Diversion Channel. As a temporary measure until a discharge agreement is reached by UNM with AMAFCA, UNM will allow a temporary retention pond to be constructed on Lot 4 of the UNM property.

EXISTING CONDITIONS		LAND TREATMENT		FLOW (cfs)		VOL (cf)	
DESCRIPTION	Areas (SF)	A	B	C	D	Q 100-6	V 100-6
SB	1.3	0	0	100	0	3.71	4619.4

DEVELOPED CONDITIONS		LAND TREATMENT		FLOW (cfs)		VOL (cf)	
DESCRIPTION	Areas (ac)	A	B	C	D	Q 100-6	V 100-6
Basin	Areas (ac)	A	B	C	D	Q 100-6	V 100-6
SB-A	0.28	0	0.03	60	40	0.96	1306.8
SB-B	0.77	0	0.10	60	40	2.63	4356.0
SB-C	0.29	0	0.03	60	40	0.99	1306.8



LEGEND

- GRADED FLOWLINE
- NEW TOPOGRAPHIC CONTOUR
- EXISTING TOPOGRAPHIC CONTOUR
- GRADE BREAK (RIDGE)
- DRAINAGE BASIN
- NEW ASPHALT
- CONCRETE PAVEMENT
- BASECOURSE PAVEMENT

GENERAL NOTES

- ALL EXISTING UTILITIES MAY NOT BE SHOWN.
- EXISTING SERVICE CONNECTIONS ARE NOT SHOWN.
- ANY EXISTING UTILITIES THAT ARE SHOWN ARE SHOWN IN APPROXIMATE LOCATION ONLY.
- IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO CONTACT ALL UTILITY OWNERS AND CONDUCT ALL NECESSARY FIELD INVESTIGATIONS PRIOR TO ANY EXCAVATIONS TO DETERMINE ACTUAL LOCATIONS OF EXISTING UTILITIES THAT MAY BE EFFECTED BY NEW CONSTRUCTION.

SPECIAL NOTES

- IMPROVEMENTS SHOWN ON THIS PLAN LOCATED OUTSIDE LOT #2 PROPERTY LINES WILL BE BUILT BY OTHERS AND NOT INTENDED TO BE IN THIS CONTRACT. I.E. ALUMNI DR. ROADWAY AND SIDEWALKS, INFRASTRUCTURE, GIBSON IMPROVEMENTS, ETC., WITH EXCEPTION OF NORTH DRIVE

NOTICE TO CONTRACTOR

OF DRAINAGE FACILITIES WITHIN CITY RIGHT-OF-WAY

- AN EXCAVATION PERMIT WILL BE REQUIRED BEFORE BEGINNING ANY WORK WITHIN CITY RIGHT-OF-WAY.
- 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.
- TWO WORKING DAYS PRIOR TO ANY EXCAVATION, THE CONTRACTOR MUST CONTACT LINE LOCATING SERVICE, NEW MEXICO ONE CALL 260-1990. (NM ONE CALL "811") FOR THE LOCATION OF EXISTING UTILITIES.
- PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE LOCATIONS OF ALL OBSTRUCTIONS. SHOULD CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER SO THAT CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY.
- BACKFILL COMPACTION SHALL BE ACCORDING TO TRAFFIC/STREET USE.
- MAINTENANCE OF THE FACILITY SHALL BE THE RESPONSIBILITY OF THE OWNER OF THE PROPERTY BEING SERVED.
- WORK ON ARTERIAL STREETS SHALL BE PERFORMED ON A 24-HOUR BASIS.

KEYED NOTED

- ASPHALT SURFACE. SEE TYPICAL SECTION SHEET C-501.
- CONCRETE APRON. SEE TYPICAL SECTION SHEET C-501.
- BASECOURSE PAVEMENT PARKING AREA. SEE TYPICAL SECTION SHEET C-501.
- 6" WIDE CONCRETE SIDEWALK. SEE TYPICAL SECTION SHEET C-501.
- SIDEWALK CULVERT. LOCATED IN RELATION WITH ROOF DRAIN OUTLETS. PER COA STD. DWG. 2236. SEE NOTICE TO CONTRACTOR ABOVE.
- CONCRETE DRIVE WITH PRESSED PATTERN SIDEWALK. SEE ARCH. DETAILS FOR PRESSED PATTERN AND SEE SHEET C-501 FOR TYPICAL CONCRETE SECTION. VALLEY GUTTER PER COA STD. DWG. 2420
- ADD. ALT. #3 - CONCRETE PAVEMENT SURFACE IN LIEU OF ASPHALT. SEE TYPICAL SECTION SHEET C-501
- TEMPORARY ASPHALT CURB, TYPE C. PER COA STD. DWG. 2415B. INSTALL CURB CUTS EVERY 24" ON CENTER AND CHANNEL RUNOFF TO EASEMENT. SEE DETAIL THIS SHEET.
- TYPICAL 2' CURB CUT. CENTERED WITH DRAINAGE SWALES. SEE DETAIL THIS SHEET.

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505-781-4748
407-781-4222CITY OF ALBUQUERQUE
CAPITAL IMPLEMENTATION PROGRAMPROJECT TITLE:
FIRE STATION 2
ALBUQUERQUE, NEW MEXICODRAWING TITLE:
GRADING AND DRAINAGE PLAN

Design Review Committee City Engineer Approval

City Project No. 8006.91 Zone Map No. L-15-Z DWG. C-101 Sheet Of

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