Location

Lot 32A, Clifford Industrial Park is located at 8401 Washington Street. See attached Zone Atlas page number C-17 for exact location.

Purpose

The purpose of this drainage report is to present a grading and drainage solution for the proposed loading dock addition. We are requesting rough grading approval and building permit approval.

Existing / Proposed Drainage Conditions

The site falls within the Master Drainage Plan for Clifford Industrial Park under the City Drainage number C17/D1 and D1A prepared by Bohannon Houston. In the past we were not any to obtain a copy of the Master Drainage Plan, but based on the other submitted plans we had determined that free discharge has been allowed. We also have submitted another drainage plan for Lot 25, Clifford Industrial Park were free discharge was proposed. Lot 32A, under the existing conditions, drains to the back (at a 100-year flow rate of 3.06 cfs) to an existing swale. Since the loading dock will be built over existing asphalt the runoff will not increase. A 6" pipe is being proposed at the loading area to intercept the runoff, and then from there the runoff will drain to the existing swale via 6" pipe. The site does not fall within a 100-year flood plain.

Calculations

City of Albuquerque, Development Process Manuel, Section 22.2, Hydrology Section, was used for runoff calculations. See this plan for AHYMO input and output files for runoff calculations.

RUNOFF CALCULATIONS
(INPUT DATA FOR AHYMO CALCULATIONS)

The site is @ Zone 2

DEPTH (INCHES) @ 100-YEAR STORM

P60 = 2.01 inches

P360 = 2.35 inches

P1440 = 2.75 inches

DEPTH (INCHES) @ 10-YEAR STORM

P60 = 2.01 x 0.667
= 1.34 inches

P360 = 1.57

P1440 = 1.83

See the summary output from AHYMO calculations.

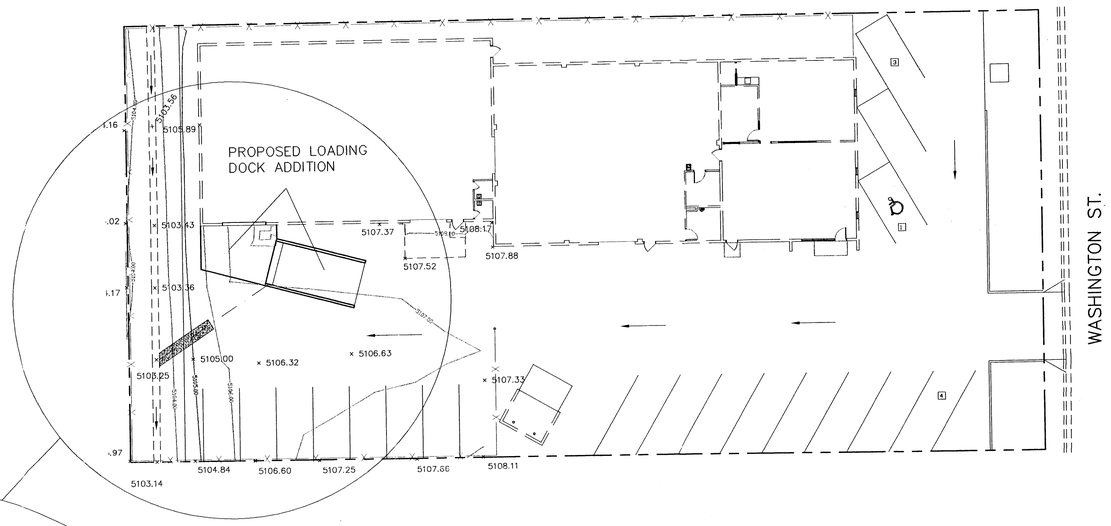
AHYMO INPUT FILE

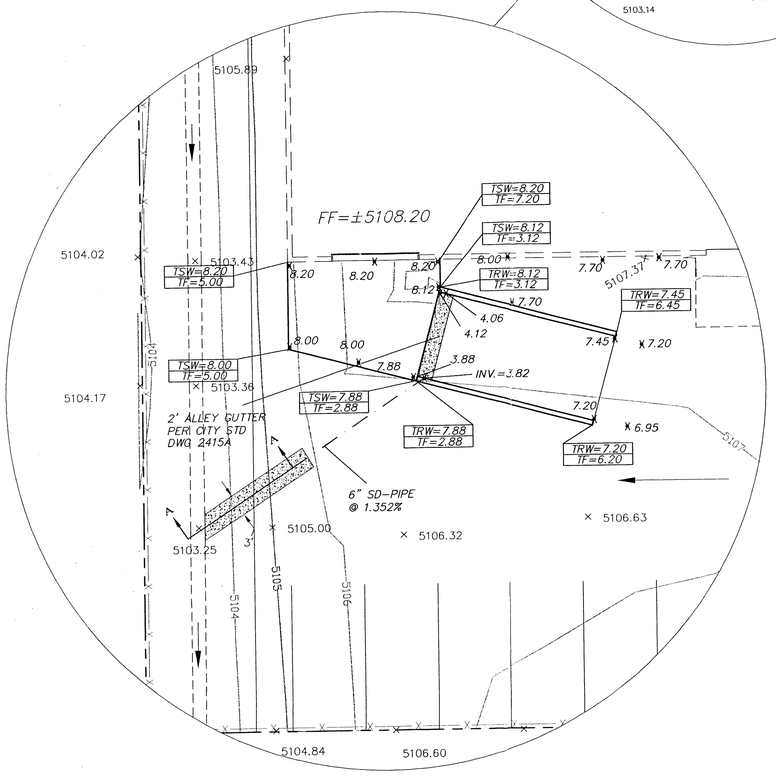
```
*
* ZONE 2
*
**********************************************************************
*  100-YEAR, 6-HR STORM (UNDER EXISTING / PROPOSED CONDITIONS)       *
**********************************************************************
START                 TIME=0.0
RAINFALL              TYPE=1 RAIN QUARTER=0.0 IN
                      RAIN ONE=2.01 IN RAIN SIX=2.35 IN
                      RAIN DAY=2.75 IN DT=0.03333 HR
COMPUTE NM HYD        ID=1 HYD NO=101.0 AREA=0.001068 SQ MI
                      PER A=0.00 PER B=10.00 PER C=0.00 PER D=90.00
                      TP=0.1333 HR MASS RAINFALL=-1
**********************************************************************
*  10-YEAR, 6-HR STORM (UNDER EXISTING / PROPOSED CONDITIONS)        *
**********************************************************************
START                 TIME=0.0
RAINFALL              TYPE=1 RAIN QUARTER=0.0 IN
                      RAIN ONE=1.34 IN RAIN SIX=1.57 IN
                      RAIN DAY=1.83 IN DT=0.03333 HR
COMPUTE NM HYD        ID=1 HYD NO=101.0 AREA=0.001563 SQ MI
                      PER A=0.00 PER B=20.00 PER C=20.00 PER D=60.00
                      TP=0.1333 HR MASS RAINFALL=-1
**********************************************************************
*
FINISH
```

SUMMARY OUTPUT FILE

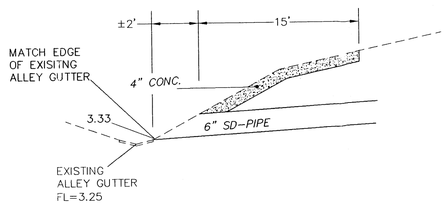
AHYMO PROGRAM SUMMARY TABLE (AHYMO_97) - VERSION: 1997.02d RUN DATE (MON/DAY/YR) =08/28/2005
INPUT FILE = 200550 USER NO.= AHYMO-I-9702c01000R31-AH

COMMAND	HYDROGRAPH IDENTIFICATION	FROM ID NO.	TO ID NO.	AREA (SQ MI)	PEAK DISCHARGE (CFS)	RUNOFF VOLUME (AC-FT)	RUNOFF (INCHES)	TIME TO PEAK (HOURS)	CFS PER ACRE	PAGE = 1 NOTATION
START										TIME= .00
RAINFALL TYPE= 1										RAIN6= 2.350
COMPUTE NM HYD	101.00	-	1	.00107	3.06	.113	1.98165	1.500	4.481	PER IMP= 90.00
START										TIME= .00
RAINFALL TYPE= 1										RAIN6= 1.570
COMPUTE NM HYD	101.00	-	1	.00156	2.38	.080	.95502	1.500	2.384	PER IMP= 60.00
FINISH										





SCALE 1"=10'



SECTION A–A
NTS

GENERAL NOTES:
1: ADD 5100 TO SPOT ELEVATIONS TO SHOW TRUE ELEVATION.
2: CONTOUR INTERVAL IS ONE (1) FOOT.
3: ELEVATIONS ARE BASED ON CITY OF ALBUQUERQUE CONTROL STATION HAVING AN ELEVATION OF 5107.948 FEET ABOVE SEA LEVEL.
4: UTILITIES SHOWN HEREON ARE IN THEIR APPROXIMATE LOCATION BASED ONLY ON ABOVE GROUND EVIDENCE FOUND IN THE FIELD AND AS-BUILT INFORMATION PROVIDED BY THE CLIENT. UTILITIES SHOWN HEREON, WHETHER INDICATED AS ABANDONED OR NOT, SHALL BE VERIFIED BY OTHERS FOR EXACT LOCATION AND/ OR DEPTH PRIOR TO EXCAVATION OR DESIGN CONSIDERATIONS.
5: THIS IS NOT A BOUNDARY SURVEY, BEARINGS ARE ASSUMED, DISTANCES AND FOUND PROPERTY CORNERS ARE FOR INFORMATIONAL PURPOSES ONLY.
6: SLOPES ARE AT 3:1 MAXIMUM.

NOTICE TO CONTRACTORS

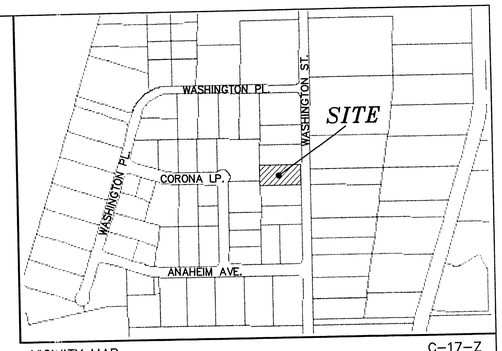
1. AN EXCAVATION/CONSTRUCTION PERMIT WILL BE REQUIRED BEFORE BEGINNING ANY WORK WITHIN CITY RIGHT-OF-WAY.
2. ALL WORK DETAILED ON THESE PLANS TO BE PERFORMED, EXCEPT AS OTHERWISE STATED OR PROVIDED HEREON, SHALL BE CONSTRUCTED IN ACCORDANCE WITH CITY OF ALBUQUERQUE INTERIM STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, 1985.
3. TWO WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT LINE LOCATING SERVICE, 765-1234, FOR LOCATION OF EXISTING UTILITIES.
4. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATIONS OF ALL CONSTRUCTIONS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY.
5. BACKFILL COMPACTION SHALL BE ACCORDING TO TRAFFIC/STREET USE.
6. MAINTENANCE OF THESE FACILITIES SHALL BE THE RESPONSIBILITY OF THE OWNER OF THE PROPERTY SERVED.
7. WORK ON ARTERIAL STREETS SHALL BE PERFORMED ON A 24-HOUR BASIS.

EROSION CONTROL PLAN AND POLLUTION PREVENTION NOTES

1. CONTRACTOR IS RESPONSIBLE FOR OBTAINING A TOPSOIL DISTURBANCE PERMIT PRIOR TO BEGINNING WORK.
2. CONTRACTOR IS RESPONSIBLE FOR CLEANING ALL SEDIMENT OUT OF EXISTING RIGHT-OF-WAY.
3. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ALL STORM RUNOFF ON SITE.
4. REPAIR OF DAMAGED FACILITIES AND CLEAN-UP OF SEDIMENT ACCUMULATION ON ADJACENT PROPERTIES AND IN PUBLIC FACILITIES IS THE RESPONSIBILITY OF THE CONTRACTOR.
5. ALL EXPOSED EARTH SURFACES MUST BE PROTECTED FROM WIND AND WATER EROSION PRIOR TO FINAL ACCEPTANCE OF ANY PROJECT.
6. ALL THE DISTURBED AREAS MUST BE REVEGETATED.

GRAPHIC SCALE
20 10 0 20
SCALE: 1"=20'

ROUGH GRADING APPROVAL DATE



VICINITY MAP: C-17-Z

LEGAL DESCRIPTION:
LOT 32A, CLIFFORD INDUSTRIAL PARK
CONTAINING 29,782.63 SQUARE FEET (0.6837 ACRES)
MORE OR LESS.

ADDRESS
8401 WASHINGTON STREET

LEGEND

	EXISTING SAS MANHOLE
	EXISTING METER
	EXISTING VALVE W/BOX
	EXISTING FIRE HYDRANT
	EXISTING AIR RELEASE VALVE
	EXISTING REDUCER
EX. 8" SAS	EXISTING SANITARY SEWER LINE
EX. 16" WL	EXISTING WATER LINE
	EXISTING CURB & GUTTER
	EXISTING CURB & GUTTER
5100	EXISTING CONTOUR (MAJOR)
5102	EXISTING CONTOUR (MINOR)
	BOUNDARY LINE
	EASEMENT
	LIMITS OF TOP OF EXISTING SLOPE
	PROPOSED SIDEWALK
TC 70.90 / FL 70.40	PROPOSED GRADE
70.28	PROPOSED SPOT ELEVATION
5106.63	EXISTING GRADE
	EXISTING POWER LINES
	EXISTING FENCE
100YR-WSEL	100-YEAR WSEL (FROM HEC-RAS OUTPUT)
100YR-EGL	EXISTING FENCE
FEMA	FLOODPLAIN LIMITS FROM FEMA MAP
	EXISTING GARDEN WALL
	PROPOSED RETAINING WALL
	PROPOSED EXTENDED STEM WALL
TRW=38.00 / TF=32.00	TOP OF RETAINING WALL / TOP OF FOOTING
TSW=34.00 / TF=32.00	TOP OF EXTENDED STEM WALL / TOP OF FOOTING

SHAHAB BIAZAR
P.E. #13479

ADVANCED ENGINEERING and CONSULTING, LLC
4416 ANAHEIM AVE., NE
ALBUQUERQUE, NEW MEXICO 87113
(505)899-5570

LOADING DOCK ADDITION
LOT 32A, CLIFFORD INDUSTRIAL PARK
GRADING AND DRAINAGE PLAN

DRAWING:	DRAWN BY:	DATE:	SHEET #
200550-GR.DWG	SBB	08-29-2005	1 OF 1

LAST REVISION: 09-29-2005

HYDROLOGY SECTION