

2205 COLUMBIA ROAD S.E..

BUILDING
FF = 5279.50

ROOF
SLOPE

ROOF
SLOPE

ROOF
SLOPE

ROOF
SLOPE

BUILDING

PORCH

SHED

SHED

SHED

EXISTING TOP OF RETAINING WALL
SPILLWAY ELEV. = 5271.41

DRAINAGE AND GRADING PLAN

SCALE: 1" = 20'

- ① CUT 4' WIDE CHANNEL ALONG EXISTING WALL EDGE PER NEW GRADES SHOWN.
- ② CUT 4' WIDE CHANNEL PER NEW GRADES SHOWN.
- ③ EXPAND EXISTING RETENTION POND TO NEW GRADES SHOWN.
- ④ REMOVE EXISTING 4'HIGH CHAIN LINK FENCE.
- ⑤ INSTALL APPROXIMATELY 200LF OF 4' HIGH CHAIN LINK FENCE AT APPROXIMATE ELEVATION GRADE OF 5271.5.
- ⑥ REMOVE AND REPLACE EXISTING ASPHALT PAVING.
- ⑦ REMOVE APPROXIMATELY 30LF OF EXISTING 6' HIGH CHAINLINK FENCE AND REPLACE TO NEW GRADES SHOWN.
- ⑧ SEED ALL DISTURBED AREAS WITH NATIVE GRASS SEEDING PER CITY OF ALBUQUERQUE SPECIFICATIONS.

5278 NEW CONTOUR GRADE

5362 EXISTING CONTOUR GRADE

DRAINAGE FLOW DIRECTION

GR56.0 NEW GRADE ELEVATION

FL55.3 FLOWLINE GRADE ELEVATION

TW62.50 NEW TOP OF WALL ELEVATION

TA60.11 NEW TOP OF ASPHALT ELEVATION

FF=56.30 NEW FINISH FLOOR ELEVATION

TSW61.87 NEW TOP OF SIDEWALK ELEVATION

DRAINAGE SWALE

NEW GRADE BREAK

EXISTING GRADE ELEVATION

NEW GRADE ELEVATION

FLOWLINE GRADE ELEVATION

NEW TOP OF WALL ELEVATION

NEW FINISH FLOOR ELEVATION

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HYDROLOGY SECTION

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 SHALL BE 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.

FILE:

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SHEET NUMBER:

1

DRAINAGE PLAN

THE FOLLOWING ITEMS CONCERNING THE REMOVAL AND REPLACEMENT OF THE EXISTING ASPHALT PAVING AT 2205 COLUMBIA ROAD SE, ALBUQUERQUE, NEW MEXICO, GRADING AND DRAINAGE PLAN ARE CONTAINED HEREON:

- 1. DRAINAGE CALCULATIONS
- 2. VICINITY MAP (M-16)
- 3. FLOOD INSURANCE RATE MAP 35001C0361D

EXISTING CONDITIONS

AS SHOWN BY THE VICINITY MAP, THE SITE IS LOCATED AT THE NORTHWEST CORNER OF ALAMO STREET SE AND COLUMBIA ROAD SE AT 2205 COLUMBIA ROAD SE, (SEE ATTACHED VICINITY MAP (M-16). THE PARCEL'S LEGAL DESCRIPTION IS LOTS 13, AIRPORT INDUSTRIAL PARK. THIS SITE CONTAINS APPROXIMATELY 1.9 ACRES. THE SITE IS CURRENTLY DEVELOPED WITH AN EXISTING BUILDING, ASPHALT PAVING PARKING LOT, SIDEWALKS, LANDSCAPING AND HUMAN DISTURBED AREAS.

THE SITE IS NOT IN A DESIGNATED 100-YEAR FLOODPLAIN PER THE FLOOD INSURANCE RATE MAP.

THERE IS AN EXISTING RETENTION POND AND THE WESTEND AND DOWNSTREAM SIDE OF THIS PROPERTY THAT ACCEPTS THE EXISTING FLOWS FROM THIS DEVELOPED LOT ONLY. THIS RETENTION POND WAS APPROVED IN A DRAINAGE PLAN PREPARED IN 1979.

PROPOSED CONDITIONS

AS SHOWN BY THE GRADING PLAN PREPARED FOR THIS SITE, THE INTENT IS TO REMOVE THE EXISTING ASPHALT PAVING AND REPLACE WITH NEW ASPHALT PAVING AND THE SAME GRADES.

THE INTENT OF THIS PLAN IS TO VERIFY THAT THE EXISTING RETENTION POND HAS THE VOLUME REQUIREMENTS TO MEET THE CURRENT CITY HYDROLOGY CRITERIA AND TO VERIFY THAT ALL THE FLOWS FROM THE SITE HAVE A WAY TO DRAIN INTO THE POND AND NOT LEAVE THE SITE AS WAS REQUIRED PER THE ORIGINAL PLAN PREPARED IN 1979.

THE CALCULATIONS THAT APPEAR HEREON, ANALYZE BOTH THE EXISTING AND DEVELOPED CONDITIONS FOR THE 100-YEAR, 6-HOUR RAINFALL RUNOFF FOR PEAK FLOWS AND STORM DURATION FOR VOLUME REQUIREMENTS. THE PROCEDURE FOR 40 ACRE AND SMALLER BASINS AS SET FORTH IN THE REVISION OF SECTION 22.7 HYDROLOGY OF THE DEVELOPMENT PROCESS MANUAL, VOLUME 2, DESIGN CRITERIA, DATED JANUARY 1993. THIS D.P.M. PROCEDURE IS USED FOR ANALYZING ONSITE FLOWS.

DOWNSTREAM CAPACITY

DOWNSTREAM CAPACITY IS NOT AN ISSUE SINCE IT IS PROPOSED TO MAINTAIN ALL ONSITE FLOWS WITHIN THE ONSITE RETENTION POND.

EROSION CONTROL

THE CONTRACTOR WILL BE REQUIRED TO INSURE THAT NO SEDIMENT IS CARRIED INTO THE PUBLIC STREETS DURING THE REPLACEMENT OF THE ASPHALT PAVING. ANY SEDIMENT CARRIED INTO THE STREET DURING CONSTRUCTION SHALL IMMEDIATELY BE CLEANED. CONTRACTOR WILL NEED TO VERIFY IF THE CITY WILL REQUIRE A SWPPP PLAN PRIOR TO START OF CONSTRUCTION.

OFFSITE FLOWS

BASED ON A FIELD VISIT OF THE SITE AND REVIEW OF THE TOPOGRAPHIC SURVEY IT APPEARS THAT NO OFFSITE FLOWS ENTER THIS PROPERTY.

DRAINAGE CALCULATIONS

- 1. PRECIPITATION ZONE = 2 ✓
- 2. DESIGN STORM = DEPTH (INCHES) AT 100-YEAR STORM ✓
6-HOUR = 2.35 INCHES
24-HOUR = 2.75 INCHES
10 DAY = 3.95 INCHES
- 3. PEAK DISCHARGE (CFS/ACRE) FIR 100-YEAR, ZONE 2, TABLE A-9: ✓
Q = 1.56 CFS/ACRE SOIL UNCOMPACTED "A"
Q = 2.28 CFS/ACRE LANDSCAPED "B"
Q = 3.14 CFS/AC COMPACTED SOIL "C"
Q = 4.70 CFS/ACRE IMPERVIOUS AREA "D"
FOR WATERSHEDS LESS THAN OR EQUAL TO 40 ACRES

- 4. EXCESS PRECIPITATION, E (INCHES), 6 HOUR STORM, ZONE 2, TABLE A-8: ✓
E = 0.53 INCHES SOIL UNCOMPACTED "A"
E = 0.78 INCHES LANDSCAPED "B"
E = 1.13 INCHES COMPACTED SOIL "C"
E = 2.12 INCHES IMPERVIOUS AREA "D"

- 5. EXISTING CONDITIONS ONSITE:
EXISTING TOTAL AREA OF SITE = 81,800SF = 1.9ACRES
EXISTING ROOF AREA = 17,286SF = 0.40ACRES
EXISTING SIDEWALKS, DRIVEWAYS AND DUMPSTER AREA = 3,003SF = 0.07ACRES
EXISTING ASPHALT AREA = 25,985SF = 0.60AC
EXISTING TREATMENT "D" AREA = 0.40 + 0.07 + 0.60AC = 1.07AC

EXISTING GRAVEL AREA = 2,239SF = 0.05AC
SOIL COMPACTED BY HUMAN ACTIVITY GREATER THAN 30% SLOPE = 8,687SF = 0.20AC
EXISTING TREATMENT "C" AREA = 0.05 + 0.20AC = 0.25AC

EXISTING LAWN AREA = 4,514SF = 0.10AC
EXISTING TREATMENT "B" AREA = 0.10AC

SOIL UNCOMPACTED BY HUMAN ACTIVITY SLOPE LESS THAN 2% = 20,909SF = 0.48ACRES
EXISTING TREATMENT "A" AREA = 0.48AC

TREATMENT	AREA(ACRES)
A	0.48
B	0.10
C	0.25
D	1.07

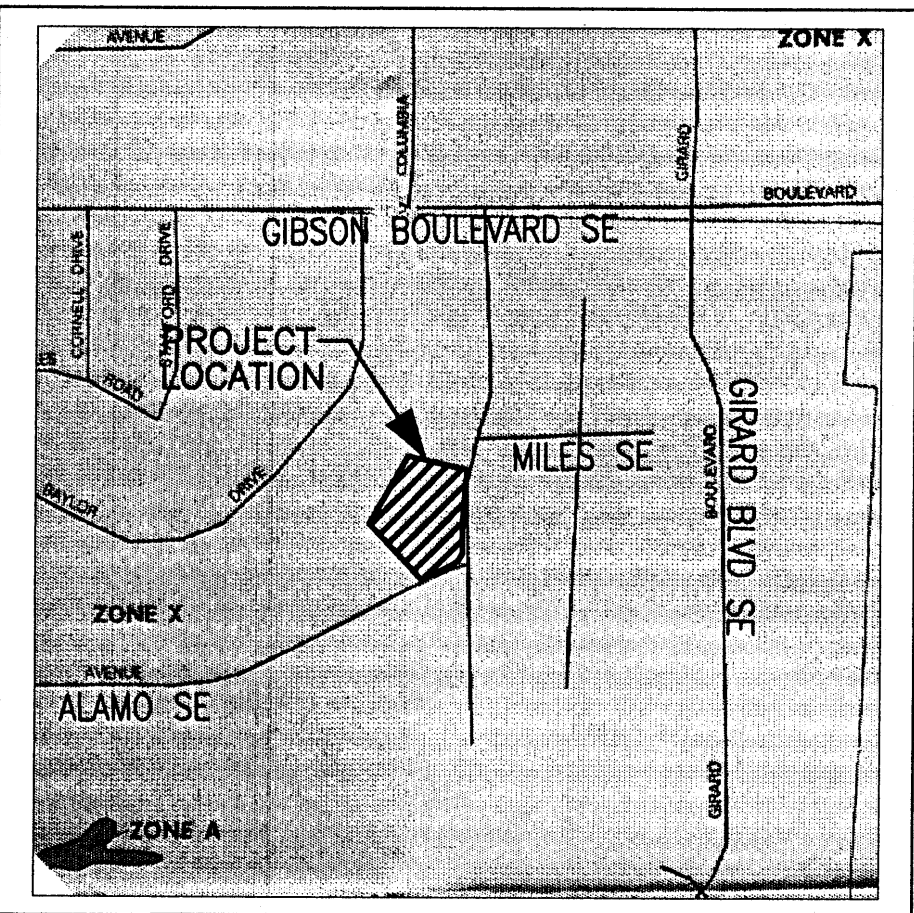
Q(EXISTING-6HR) = (1.56 X 0.48) + (2.28 X 0.10) + (3.14 X 0.25) + (4.70 X 1.07) = 6.79CFS (6HR) EXISTING ONSITE FLOW
V(EXISTING-6HR) = ((0.53 X 0.48) + (0.78 X 0.10) + (1.13 X 0.25) + (2.12 X 1.07)) / 12 = 0.24AC-FT
= 10,466CF EXISTING ONSITE VOLUME
V(EXISTING-10DAY) = 0.24 + 1.07 X (3.95-2.35)/12 = 0.38AC-FT
= 16,669CF EXISTING ONSITE VOLUME
V(EXISTING-10DAY) = V(PROPOSED-10DAY) SINCE NO INCREASE IN IMPERVIOUS AREA

CONTOUR(ft)	AREA(sf)	AVG AREA(sf)	DEPTH(ft)	VOLUME(CF)
5267.76	0			
5268	1,156	578	0.24	139
5269	2,139	1,648	1	1,648
5270	3,433	2,786	1	2,786
5271	4,829	4,131	1	4,131
5271.41)	5,413	5,121	0.41	2,099
(SPILLWAY)				

TOTAL VOL = 10,803CF
VOL(PROVIDED) = 10,803CF < 16,669CF = VOL(REQUIRED) **RESIZE POND**

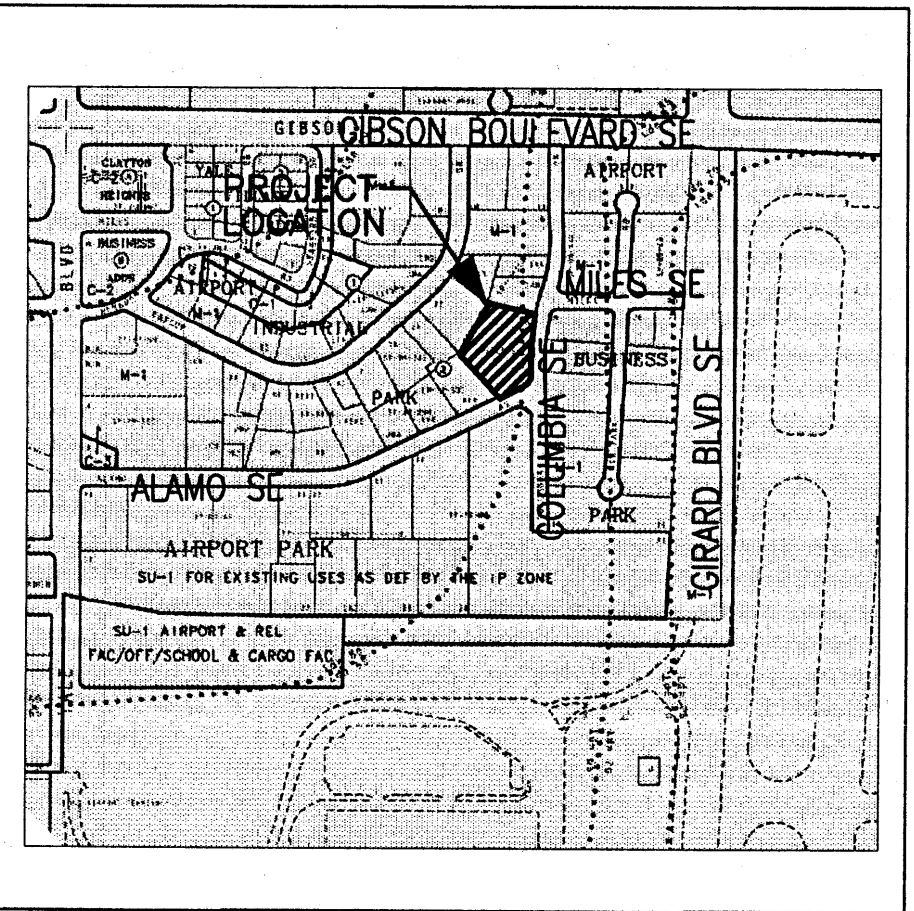
CONTOUR(ft)	AREA(sf)	AVG AREA(sf)	DEPTH(ft)	VOLUME(CF)
5267.76	0			
5268	3,683	1,841	0.24	442
5269	4,327	4,005	1	4,005
5270	5,081	4,704	1	4,704
5271	6,029	5,555	1	5,555
5271.41)	6,573	6,301	0.41	2,583
(SPILLWAY)				

TOTAL VOL = 17,289CF
VOL(PROVIDED) = 17,289CF > 16,669CF VOL(REQD) **OK NEW POND SIZE**



FIRM MAP 35001C0361D

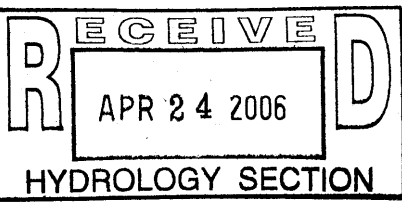
SCALE: N.T.S.



VICINITY MAP M-16

SCALE: N.T.S.

UTILITY PRECAUTIONS
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FILE:	DRAINAGE CALCULATIONS FOR PROPOSED ASPHALT AND GRADING IMPROVEMENTS FOR THE AVIATION FIRE MANAGEMENT	DATE/REVISIONS:
	Applied Engineering & Surveying, Inc. 1805 BLAIR DRIVE NE ALBUQUERQUE, NEW MEXICO 87112 PH: (505)237-1456	SHEET NUMBER: 2