HYDROLOGY

L19/D40
ONE PLAN

L19/D40

1 PLAN

LEGEND:

EXISTING	NEW	DESCRIPTION
		CONTOUR
		SPOT ELEVATION
		PROPERTY LINE
OPP		POWER POLE
		FLOW DIRECTION
	TC	TOP OF CONCRETE
	FL	FLOW LINE
	TA	TOP OF ASPHALT

CONSTRUCTION NOTES:

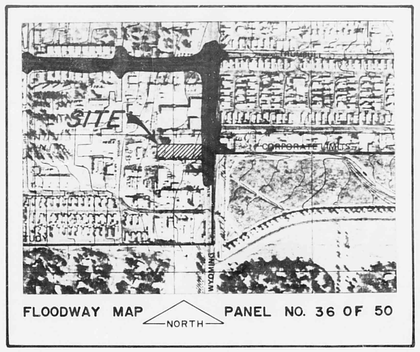
1. TWO (2) WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT LINE LOCATING SERVICE AT 765-1234 FOR LOCATION OF EXISTING UTILITIES.
2. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF ALL POTENTIAL OBSTRUCTIONS; SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY.
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 CITY RIGHT-OF-WAY SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE CITY OF ALBUQUERQUE STANDARDS AND PROCEDURES.

PRE-DESIGN CONFERENCE FINDINGS:

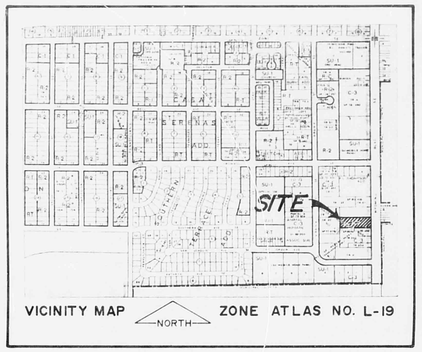
1. DRAINAGE PLAN PER DPM.
2. DOWNSTREAM CAPACITY MUST BE EVALUATED TO DETERMINE FREE DISCHARGE.
3. FLOOD PROOFING IF ADEQUATE SYSTEMS DO NOT EXIST.
4. CONTROLLED DISCHARGE MAY BE APPLICABLE IF DOWNSTREAM CAPACITY DOES NOT EXIST.

DRAINAGE COMMENTS:

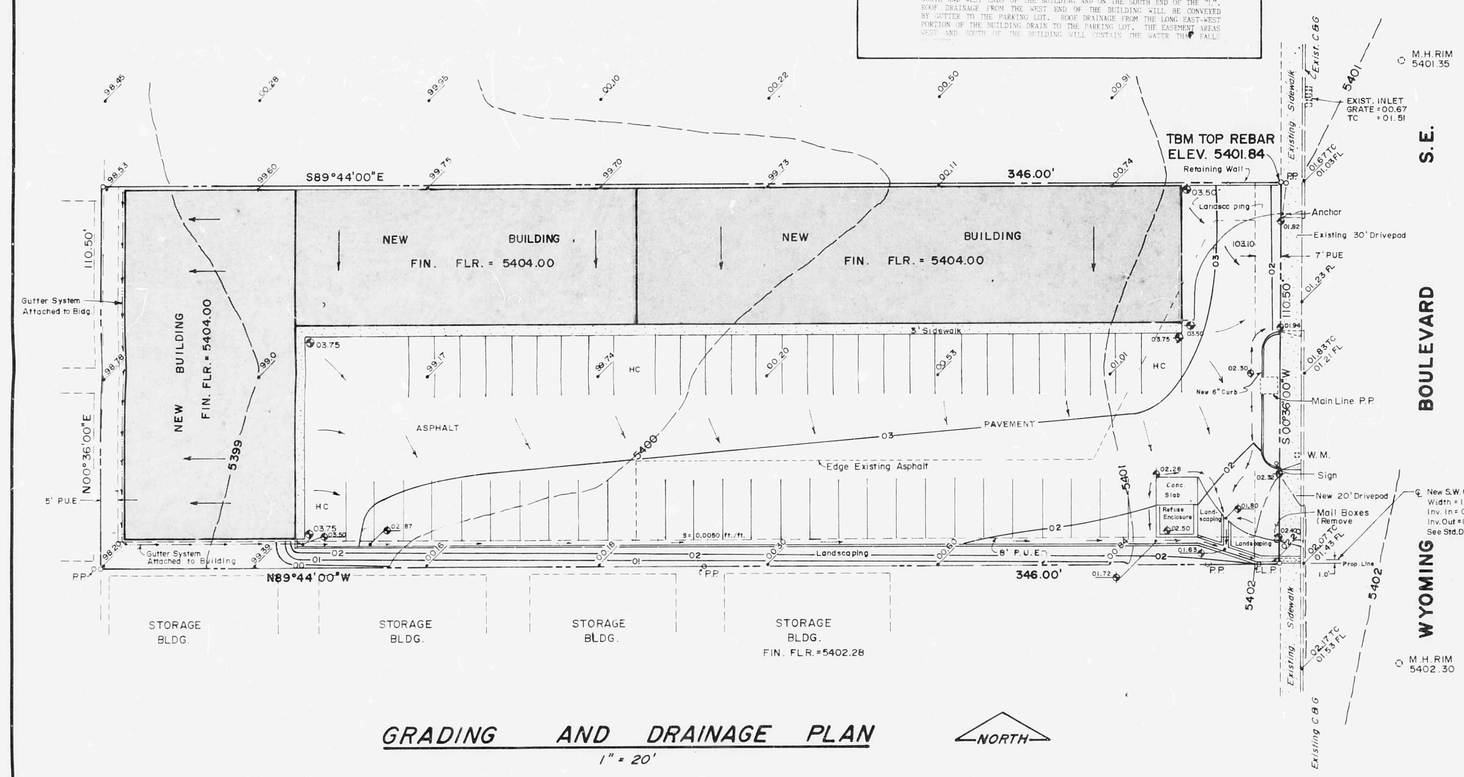
1. THE FLOOD HAZARD MAP SHOWS THAT THERE IS A FLOOD HAZARD AREA ADJACENT TO THE SITE IN WYOMING BLVD.
2. THE CITY OF ALBUQUERQUE STORM DRAINAGE MAPS SHOW NO STORM DRAINAGE FACILITIES IN WYOMING BLVD. HOWEVER, THERE IS A CATCH BASIN NEAR THE N.E. CORNER OF THE SITE. PLAN AND PROFILE SHEET 9 OF 10 FOR PROJECT NMP M-4002(17) BY WOLZEN-CORBIN AND ASSOCIATES SHOWS A 48-INCH DIAMETER STORM SEWER IN WYOMING BLVD.
3. IN ORDER TO ACHIEVE DRAINAGE TO WYOMING BLVD., IT WAS NECESSARY TO SET THE FINISHED FLOOR ELEVATION OF THE BUILDING AT 5404 FEET. THIS IS MORE THAN 2 FEET ABOVE THE FLOWLINE IN WYOMING BLVD. THEREFORE, FLOODPROOFING HAS BEEN PROVIDED. IN ORDER TO PREVENT FLOOD WATERS FROM FLOWING THROUGH THE LOT AND ONTO PROPERTY TO THE WEST, A WALL HAS BEEN PROVIDED ALONG THE SOUTH EDGE OF THE PARKING LOT. THE WALL IS SUFFICIENTLY HIGH TO BLOCK ALL FLOW.
4. DOWNSTREAM CAPACITY IS ADEQUATE BECAUSE OF RECENTLY CONSTRUCTED FACILITIES SUCH AS THE STATE FAIR GROUNDS DETENTION FACILITY. ALSO, THE SITE FLOW WILL BE DISCHARGED INTO THE CATCH BASIN JUST NORTH OF THE LONG BEFORE THE PEAK RUNOFF OCCURS IN WYOMING BLVD.
5. THE BUILDING WILL BE CONSTRUCTED WITH EXTENDED STEM WALLS ON THE NORTH AND WEST ENDS OF THE BUILDING AND ON THE SOUTH END OF THE "L". ROOF DRAINAGE FROM THE WEST END OF THE BUILDING WILL BE CONVEYED BY GUTTER TO THE PARKING LOT. ROOF DRAINAGE FROM THE LONG EAST-WEST PORTION OF THE BUILDING DRAINS TO THE PARKING LOT. THE EASEMENT AREAS EAST AND SOUTH OF THE BUILDING WILL CONTAIN THE WATER THAT FALLS



FLOODWAY MAP — NORTH — PANEL NO. 36 OF 50



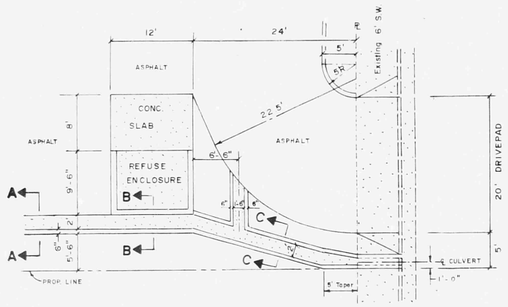
VICINITY MAP — NORTH — ZONE ATLAS NO. L-19



GRADING AND DRAINAGE PLAN

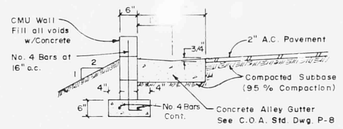
1" = 20'

NORTH



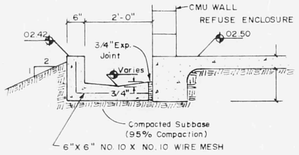
DRAINAGE OUTFALL DETAIL

SCALE 1" = 10'



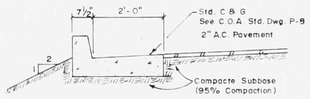
SECTION A-A

1/2" = 1'-0"



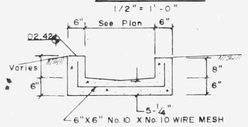
SECTION B-B

1/2" = 1'-0"



ALTERNATE SECTION A-A

1/2" = 1'-0"



SECTION C-C

1/2" = 1'-0"

DRAINAGE CALCULATIONS

I. REFERENCES:

A. CITY OF ALBUQUERQUE DEVELOPMENT PROCESS MANUAL (DPM) VOLUME 2, DESIGN CRITERIA, CHAPTER 22.
B. FLOODWAY MAP, PANEL 36 OF 50, (FEMA), OCTOBER 14, 1983.
C. SOIL SURVEY OF BERNALILLO COUNTY, NEW MEXICO, U.S. SOIL CONSERVATION SERVICE, JUNE, 1977.

II. ON-SITE RUNOFF CHARACTERISTICS:

A. UNDEVELOPED RUNOFF COEFFICIENT:

TYPE OF SURFACE	AREA	"C" VALUE	AREA("C")
STREETS, DRIVES, WALKS	8664	0.95	8231
ROOFS			
LAWNS & LANDSCAPING			
UNDEVELOPED	29568	0.40	11827
TOTAL AREA	38232 = 0.8777 AC.		20058

WEIGHTED "C" VALUE = 20,058 / 38,232 = 0.52
PERCENT IMPERVIOUS = 23%

B. DEVELOPED RUNOFF COEFFICIENT:

TYPE OF SURFACE	AREA	"C" VALUE	AREA("C")
STREETS, DRIVES, WALKS	19836	0.95	18844
ROOFS	15400	0.90	13860
LAWNS & LANDSCAPING	2996	0.25	749
UNDEVELOPED			
TOTAL AREA	38232		33453

WEIGHTED "C" VALUE = 33,453 / 38,232 = 33,453
PERCENT IMPERVIOUS = 92%

C. RAINFALL, 100-YR.,6-HR.:(REF. A., PLATE 22.2 D-1) P_6 = 2.4 INCHES
D. TIME OF CONCENTRATION: TEN (10) MINUTES.
E. RAINFALL INTENSITY,I (REF. A., PLATE 22.2 D-2)
$I = P_6(16.84 \times (T_c)^{-0.51}) = (2.4)(16.84 \times (10)^{-0.51}) = 5.07 IN/HR$
F. SOIL TYPE (REF. I.C., SHEET NO. 30) ECL GROUP "B".
G. RUNOFF CURVE NUMBER (CN):REF.I.A., PLATE 22.2 C-2)
UNDEVELOPED LAND USE IS - DIRT UNDEVELOPED CN = 82
DEVELOPED LAND USE IS COMMERCIAL CN = 95
H. DIRECT RUNOFF, Q_D, INCHES (REF. I.A., PL. 22.2 C-4)
UNDEVELOPED Q_D = 0.90" DEVELOPED Q_D = 2.0 IN.

III. ON-SITE PEAK DISCHARGE BY RATIONAL EQUATION:

A. EXISTING CONDITIONS:
Q_{100} = 0.52 X 5.07 X 0.88 = 2.32 CFS
Q_{10} = 0.657 X 2.32 = 1.52 CFS
B. DEVELOPED CONDITIONS:
Q_{100} = 0.88 X 5.07 X 0.88 = 3.93 CFS
Q_{10} = 0.657 X 3.93 = 2.58 CFS

IV. ON-SITE VOLUME BY S.C.S. METHOD:

A. EXISTING CONDITIONS:
V_{100} = AREA $(Q_D/12)$ = 38232 (0.9/12) = 2867 CF
V_{10} = 0.657 X 2867 = 1884 CF
B. DEVELOPED CONDITIONS:
V_{100} = AREA $(Q_D/12)$ = 38232 (2.0/12) = 6372
V_{10} = 0.657 X 6372 = 4186 CF

CITY OF ALBUQUERQUE

DRAINAGE FACILITIES WITHIN CITY RIGHT-OF-WAY

NOTICE TO CONTRACTOR

1. AN EXCAVATION/CONSTRUCTION PERMIT WILL BE REQUIRED BEFORE BEGINNING ANY WORK WITHIN CITY RIGHT-OF-WAY. AN APPROVED COPY OF THESE PLANS MUST BE SUBMITTED AT THE TIME OF APPLICATION FOR THIS PERMIT.
2. ALL WORK DETAILED ON THESE PLANS TO BE PERFORMED, EXCEPT AS OTHERWISE STATED OR PROVIDED HEREON, SHALL BE CONSTRUCTED IN ACCORDANCE WITH INTERIM SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, 1985.
3. TWO (2) 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 OBSTRUCTIONS. 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 _____ STREET USE.
6. MAINTENANCE OF THESE FACILITIES SHALL BE THE RESPONSIBILITY OF THE OWNER OF THE PROPERTY SERVED.
7. THE ADDRESS OF THE PROPERTY SERVED IS _____

APPROVALS:

HYDROLOGY	Barney J. Montoya (NAME)	9/17/86 (DATE)
INSPECTOR	(NAME)	(DATE)
CONSTRUCTION	(NAME)	(DATE)

EROSION CONTROL PLAN:

PRIOR TO BEGINNING CONSTRUCTION OR GRADING, CONSTRUCT A TEMPORARY POND IN THE AREA OF THE PARKING LOT. THE TEMPORARY POND IS TO HAVE SUFFICIENT CAPACITY TO CONTAIN THE 10-YEAR STORM VOLUME. THE TEMPORARY POND SHALL BE EMPTIED BY PUMPING TO WYOMING BLVD. ONLY SILT-FREE WATER SHALL BE PUMPED.

LEGAL DESCRIPTION:

TRACT NUMBERED TWO-B-ONE (2-B-1) OF THE REPLAT OF TRACT 2-B OF THE REPLAT OF TRACT 2 OF HAGER INDUSTRIAL PARK NO. 1, A SUBDIVISION IN THE CITY OF ALBUQUERQUE, NEW MEXICO, SAME AS IS SHOWN AND DESIGNATED ON THE SAID PLAT, FILED IN THE OFFICE OF THE COUNTY CLERK OF BERNALILLO COUNTY, NEW MEXICO, ON FEBRUARY 29, 1980.

BENCH MARK: .

A.C.S. STATION S-120 LOCATED NEAR THE INTERSECTION OF WYOMING BLVD. S.E. AND SUSAN AVE. S.E. A 40 PENNY NAIL IN CENTERLINE OF WYOMING BLVD. ABOUT 100 FEET SOUTH OF SUSAN AVE. MSL ELEVATION = 5412.20 FEET.

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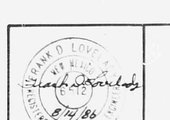
SEP 15 1986
HYDROLOGY SECTION



GRADING AND DRAINAGE PLAN

BUILDING FOR REALTY EXECUTIVES, INC.