HYDROLOGY K15/D39 1 PLAN

K15/D39

1 PLAN

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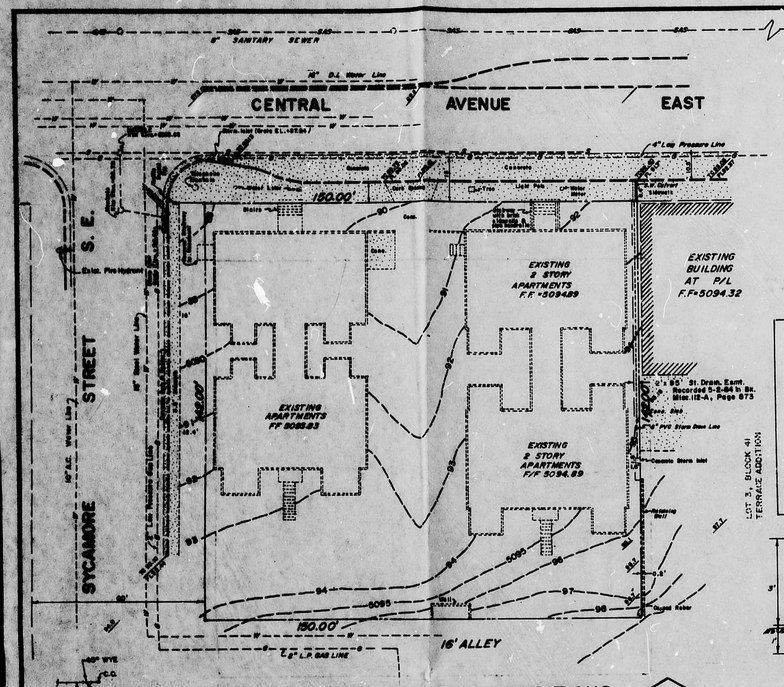


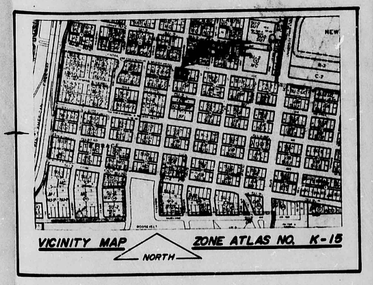
PLAN SHOWING EXISTING CONDITIONS

1" = 20'

DETAIL "A" N.T.S.

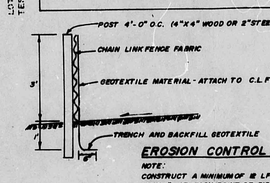
LEGEND

EXISTING	NEW	DESCRIPTION
		CONTOUR
		SPOT ELEVATION
		PROP. LINE
		FLOW DIRECTION
		TC TOP CURB
		FL FLOWLINE
W		WATERLINE
SAS		SANITARY SEWER LINE
G		GAS LINE
S		STORM SEWER LINE



DRAINAGE COMMENTS:

1. THE SITE DOES NOT LIE WITHIN OR ADJACENT TO A DESIGNATED FLOOD HAZARD AREA.
2. PRESENTLY THERE IS OFF-SITE FLOW ENTERING THE SITE FROM THE ALLEY. ALLEY GRADES HAVE BEEN PREPARED. THE NEW ALLEY CROSS SECTION WILL HAVE AN INVERTED CROWN THAT WILL CARRY THE FLOW INTO SYCAMORE STREET.
3. THERE IS AN EXISTING 6" PVC PIPE THAT CARRIES FLOW FROM THE REAR OF LOT 3 TO CENTRAL AVENUE. THIS PIPE IS ON THE PROPERTY JUST INSIDE THE EAST PROPERTY LINE AND WILL REMAIN.
4. THERE IS NO OTHER OFF-SITE FLOW.
5. DOWNSTREAM CAPACITY: THERE IS A 48" DIAMETER STORM SEWER IN CENTRAL AVENUE WITH 2 INLETS AT THE CORNER OF CENTRAL AVENUE AND SYCAMORE STREET. THERE IS ADEQUATE CAPACITY TO PERMIT UNCONTROLLED DISCHARGE.
6. BUILDING RUNOFF WILL DISCHARGE AS SHOWN ON THE SECOND LEVEL PARKING DECK AND ROOF PLAN. A PORTION OF THE ROOF DRAINAGE WILL DRAIN ONTO THE SECOND LEVEL PARKING DECK. THE REMAINDER WILL DRAIN TO THE CATCH BASIN AT THE CORNER OF CENTRAL AND SYCAMORE.



EROSION CONTROL PLAN

NOTE:
CONSTRUCT A MINIMUM OF 16 LF OF "SILT FENCE" AT EACH POINT OF DISCHARGE FROM THE SITE ONTO PUBLIC OR PRIVATE STREET OR OTHER PAVED AREA. CONSTRUCT AT EACH END OF FENCE AS REQUIRED TO CHANNEL ALL FLOW THROUGH FENCE.

DRAINAGE CALCULATIONS

I. REFERENCES:

A. CITY OF ALBUQUERQUE DEVELOPMENT PROCESS MANUAL (DPM) VOLUME 2, DESIGN CRITERIA, CHAPTER 22, DRAINAGE, FLOOD CONTROL AND EROSION CONTROL.

B. FLOODWAY MAP, PANEL 29 OF 50, FEDERAL EMERGENCY MANAGEMENT AGENCY, OCTOBER 14, 1983.

II. ON-SITE RUNOFF CHARACTERISTICS:

A. UNDEVELOPED RUNOFF COEFFICIENT:

TYPE OF SURFACE	AREA	"C"VALUE	AREA("C")
STREETS, DRIVES, WALKS	961	0.90	865
ROOFS	8780	0.90	7902
LAWNS & LANDSCAPING	800	0.20	160
UNDEVELOPED	11 779	0.00	0
TOTAL AREA	21 320 SF = 0.49 AC		15 928

WEIGHTED "C" VALUE = 15928/21320 = 0.62

B. DEVELOPED RUNOFF COEFFICIENT:

TYPE OF SURFACE	AREA	"C"VALUE	AREA("C")
STREETS, DRIVES, WALKS	961	0.90	865
ROOFS	19011	0.90	17 109
LAWNS & LANDSCAPING	240	0.20	48
UNDEVELOPED	299	0.00	0
TOTAL AREA	21 320		

WEIGHTED "C" VALUE = 18062 / 21320 = 0.85

C. RAINFALL, 100-YR.,6-HR.:(REF. A., PLATE 22.2 D-1)
R_6 = 2.25 INCHES

D. TIME OF CONCENTRATION: 10 MINUTES

E. RAINFALL INTENSITY,I: (For use with rational equation.) (REF. A., PLATE 22.2 D-2)
$I = R_6 \times 6.84 \times (T_c)^{-0.51} =$
$I = (2.25)6.84(10)^{-0.51} = 4.76$ in./hr.

III. ON-SITE PEAK DISCHARGE:

A. EXISTING CONDITIONS:(BY RATIONAL EQUATION)
$Q_{100} = 0.62 \times 4.76 \times 0.49 = 1.45$ cfs
$Q_{10} = 0.657 \times 1.45 = 0.95$ cfs

B. DEVELOPED CONDITIONS:
$Q_{100} = 0.88 \times 4.76 \times 0.49 = 2.05$ cfs
$Q_{10} = 0.657 \times 2.05 = 1.35$ cfs

IV. ON-SITE VOLUME:

A. EXISTING CONDITIONS:
$V_{100} = 0.62\ (2.25/12)21,300 = 2,476$ CF
$V_{10} = 0.657 \times 2,476 = 1,627$ CF

B. DEVELOPED CONDITIONS:
$V_{100} = 0.88\ (2.25/12)21,300 = 3,515$ CF
$V_{10} = 0.657 \times 3,515 = 2,310$ CF

VI INTERIOR PLANTER:

PLANTED AREA = 399 SF CONCRETE AREA = 390 SF TOTAL = 789 SF
WEIGHTED "C" FACTOR = (399 X 0.25 + 390 X 0.95) / 789 = 0.60
Q_{100} = CIA = 0.6 X 4.76 X 0.018 = 0.05 CFS THIS MINIMAL FLOW IS DISCHARGED THROUGH A 4" PVC PIPE TO SYCAMORE STREET GUTTER.

BENCH MARK:

A.C.S. STATION 3-K15 LOCATED 1 MILE EAST OF DOWNTOWN ALBUQUERQUE. THE STATION MAY BE REACHED FROM THE INTERSECTION OF BROADWAY BLVD. AND CENTRAL BY GOING EAST ON CENTRAL 0.8 MILES TO SPRUCE STREET AND THE STATION IS ON THE LEFT. THE STATION MARK IS A STANDARD ACS ALUMINUM CAP STAMPED "3-K15 1983 SET FLUSH WITH THE CURB. ELEVATION 5077.94 FEET.

TEMPORARY BENCH MARK IS LOCATED AT THE INTERSECTION OF THE ALLEY AND SYCAMORE STREET AT THE SSE RETURN. TBM MARK IS A SQUARE AND THE LETTERS "TBM" STENCILED WITH BLACK PAINT ON THE TOP OF CURB.

PRE-DESIGN CONFERENCE FINDINGS:

1. A DRAINAGE PLAN IS REQUIRED PER THE D.P.M.
2. USING ALLEY FOR ACCESS AND DRAINAGE. NEED CITY APPROVED ALLEY GRADES AT BUILDING PERMIT. ALSO, NEED TO IMPROVE ALLEY DUE TO LARGE VOLUME OF TRAFFIC AND DRAINAGE.
3. FREE DISCHARGE ALLOWED. HOWEVER, ENGINEER MUST ADDRESS:
   A. BUILDING OVER A DEVELOPED LOT.
   B. REMODELING OF EXISTING BUILDING AND ADDITION OF PARKING STRUCTURE.
   C. NO FLOODING IN CENTRAL AVENUE.
   D. 48" STORM DRAIN IN CENTRAL AVENUE.
   E. ALLEY WILL ACCEPT THE OFF-SITE FLOWS:

CITY OF ALBUQUERQUE

DRAINAGE FACILITIES WITHIN CITY RIGHT-OF-WAY

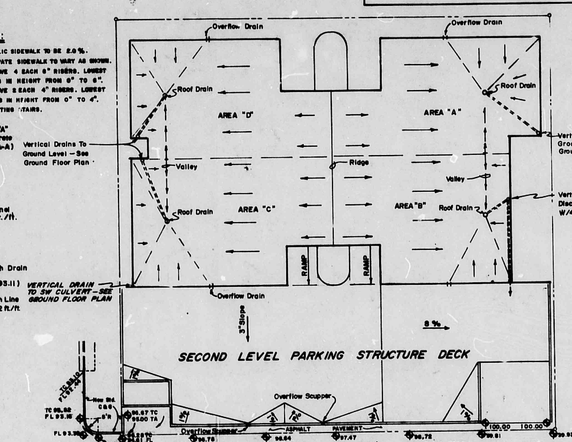
NOTICE TO CONTRACTOR

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 RESIDENTIAL 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 1400 CENTRAL AVE. S.E.

APPROVALS:
HYDROLOGY Roger A. Schaen PE (NAME) 9/30/86 (DATE)
INSPECTOR (NAME) (DATE)
CONSTRUCTION (NAME) (DATE)

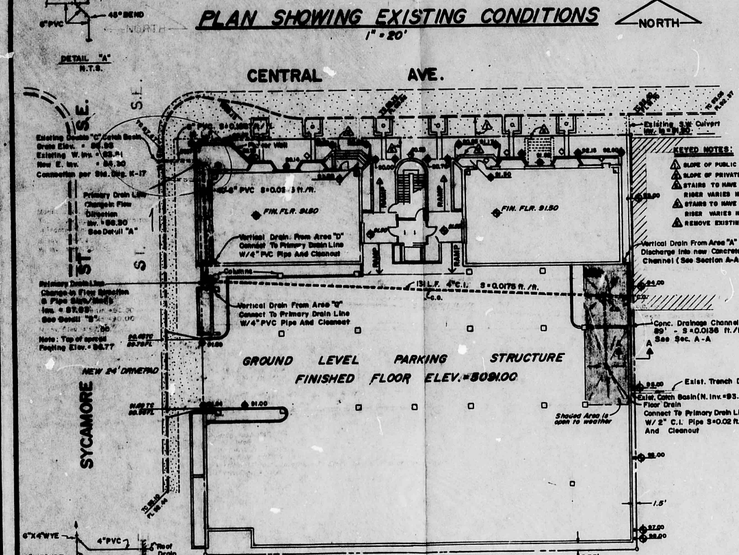
LEGAL DESCRIPTION:

A CERTAIN TRACT OR PARCEL OF LAND SITUATED WITHIN THE CITY LIMITS OF THE CITY OF ALBUQUERQUE, BERNALILLO COUNTY, NEW MEXICO, BEING AND COMPRISING LOTS 4 THROUGH 6, BLOCK 41, TERRACE ADDITION, WITHIN SECTION 21, T10N, R3E, N.M.P.M.



SECOND LEVEL PARKING DECK & ROOF PLAN

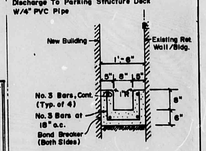
1" = 20'



GROUND FLOOR PLAN

1"=20'

DETAIL "B" NTS



NOTE: GRADE AND INVERT TO MATCH GRADE AND INVERT OF EXISTING 8" PIPE WHICH IS TO BE REMOVED.

SECTION A-A - CONCRETE CHANNEL

1/2" = 1'-0"

FRANK O. LOVELADY NEW MEXICO 6812 REGISTERED PROFESSIONAL ENGINEER

AUGUST 1, 1986
REVISED SEPT. 25, 1986

SYCAMORE SQUARE OFFICE COMPLEX

SYCAMORE PARTNERSHIP

ALBUQUERQUE NEW MEXICO

PROJECT

REVISIONS

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DATE 8/4/86

SHEET TITLE

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CITY OF ALBUQUERQUE