FILE COPY

# City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

March 20, 1990

Jeff Mortensen, P.E.
Jeff Mortensen & Associates, Inc.
811 Dallas, NE
Albuquerque, New Mexico 87110

RE: DRAINAGE PLAN FOR AN ADDITION TO C.E.C. BUILDING TRADES
(J-15/D1A) ENGINEER'S STAMP DATED MARCH 9, 1990

Dear Mr. Mortensen:

Based on the information provided on your submittal of March 12, 1990, the above referenced plan is approved for Building Permit.

Please attach a copy of this plan to the construction sets prior to sign-off by Hydrology.

If I can be of further assistance, please feel free to call me at 768-2650.

Cordially,

for Bernie J. Montoya
Fred J. Aguirre, P.E.
Hydrologist

BJM:FJA/bsj
(WP+1730)

T16D3

# DRAINAGE INFORMATION SHEET

PROJECT TITLE: C.E.C. BUILDING TRADES ZONE ATLAS/DRNG. FILE #: J-15/D1a

LEGAL DESCRIPTION: A PORTION OF ALBUQUERQUE HIGH SCHOOL SITE

CITY ADDRESS: 800 ODELIA RD. N.E.

ENGINEERING FIRM: JEFF MORTENSEN & ASSOC. CONTACT: LEONARD P. UTTER

ADDRESS: 811 DALLAS N.E. PHONE: 265-5611

OWNER: ALBUQUERQUE PUBLIC SCHOOLS CONTACT: MYRON JOHNSON

ADDRESS: 915 OAK ST. S.E. PHONE: 242-5865

ARCHITECT: MARK HARBERTS ARCHITECT CONTACT: MARK HARBERTS

ADDRESS: 2001 CARLISLE N.E. PHONE: 268-1234

SURVEYOR: JEFF MORTENSEN & ASSOC. CONTACT: LEONARD P. UTTER

ADDRESS: 811 DALLAS N.E. PHONE: 265-5611

CONTRACTOR: NOT KNOWN CONTACT: OWNER

ADDRESS: _____ PHONE: _____

PRE-DESIGN MEETING:

___ YES
✓ NO
___ COPY OF CONFERENCE RECAP SHEET PROVIDED

DRB NO. _____
EPC NO. _____
PROJ. NO. _____

TYPE OF SUBMITTAL:

___ DRAINAGE REPORT
✓ DRAINAGE PLAN
___ CONCEPTUAL GRADING & DRAINAGE PLAN
✓ GRADING PLAN
___ EROSION CONTROL PLAN
___ ENGINEER'S CERTIFICATION

CHECK TYPE OF APPROVAL SOUGHT:

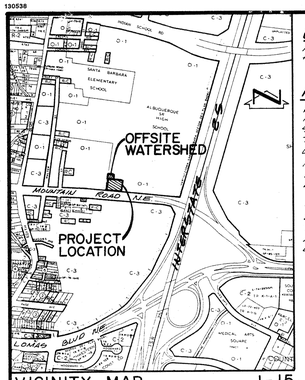
___ SKETCH PLAT APPROVAL
___ PRELIMINARY PLAT APPROVAL
___ SITE DEVELOPMENT PLAN APPROVAL
___ FINAL PLAT APPROVAL
✓ BUILDING PERMIT APPROVAL
___ FOUNDATION PERMIT APPROVAL
___ CERTIFICATE OF OCCUPANCY APPROVAL
___ ROUGH GRADING PERMIT APPROVAL
___ GRADING/PAVING PERMIT APPROVAL
___ OTHER _____ (SPECIFY)

RECEIVED
MAR 12 1990
HYDROLOGY DIVISION

DATE SUBMITTED: 03-09-90

BY: Leonard P. Utter

130538




VICINITY MAP J-15

SCALE : 1" = 800'

## LEGAL DESCRIPTION

A PORTION OF ALBUQUERQUE HIGH SCHOOL SITE.

## PROJECT BENCHMARK

N.M.S.H.C. STATION I-25-28, A STANDARD N.M.S.H.C. BRASS TABLET STAMPED "STA. I-25-28," SET IN TOP OF A CONC. POST FLUSH WITH THE GROUND. STATION IS LOCATED NORTH OF LOMAS BLVD. @ THE I-25 OVERPASS, APPROX. 100' UP THE OVERPASS EMBANKMENT, AT THE NORTHEAST CORNER OF THE BRIDGE. ELEVATION = 5068.41 FEET. (M.S.L.D.)

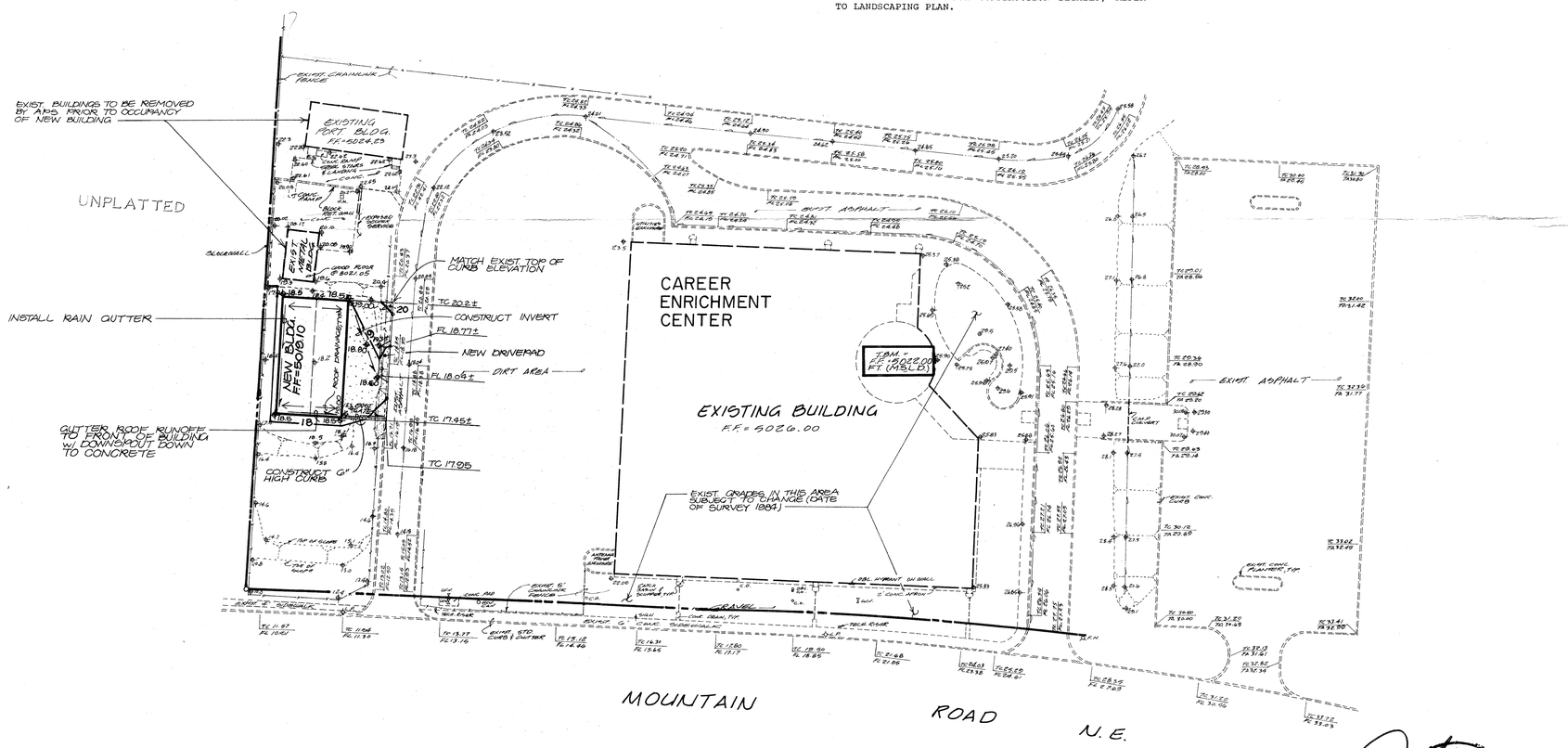
## TEMPORARY BENCHMARK

T.B.M. = FINISHED FLOOR OF EXISTING BLDG. AS SHOWN BELOW. ELEVATION = 5022.00 FEET (M.S.L.D.)

## LEGEND

- 5233 — EXISTING SPOT ELEVATION
- ——— EXIST. SWALE / FLOWLINE
- TC/FL — TOP OF CURB / FLOWLINE
- TC/TA — TOP OF CURB / TOP OF ASPHALT
- TOP OF SLOPE
- TOE OF SLOPE
- PROPOSED CONCRETE
- 10.00 — PROPOSED SPOT ELEVATION
- 18 — PROPOSED CONTOUR

SCALE : 1"=40'




### CONSTRUCTION NOTES:

1. TWO (2) WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT LINE LOCATING SERVICE 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 IN WRITING 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 PUBLIC RIGHT-OF-WAY SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE CITY OF ALBUQUERQUE STANDARDS AND PROCEDURES.
5. IF ANY UTILITY LINES, PIPELINES, OR UNDERGROUND UTILITY LINES ARE SHOWN ON THESE DRAWINGS, THEY ARE SHOWN IN AN APPROXIMATE MANNER ONLY, AND SUCH LINES MAY EXIST WHERE NONE ARE SHOWN. IF ANY SUCH EXISTING LINES ARE SHOWN, THE LOCATION IS BASED UPON INFORMATION PROVIDED BY THE OWNER OF SAID UTILITY, AND THE INFORMATION MAY BE INCOMPLETE, OR MAY BE OBSOLETE BY THE TIME CONSTRUCTION COMMENCES. THE ENGINEER HAS CONDUCTED ONLY PRELIMINARY INVESTIGATION OF THE LOCATION, DEPTH, SIZE, OR TYPE OF EXISTING UTILITY LINES, PIPELINES, OR UNDERGROUND UTILITY LINES. THIS INVESTIGATION IS NOT CONCLUSIVE, AND MAY NOT BE COMPLETE, THEREFORE, MAKES NO REPRESENTATION PERTAINING THERETO, AND ASSUMES NO RESPONSIBILITY OR LIABILITY THEREFOR. 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 IS 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.
6. THE DESIGN OF PLANTERS AND LANDSCAPED AREAS IS NOT PART OF THIS PLAN. ALL PLANTERS AND LANDSCAPED AREAS ADJACENT TO THE BUILDING(S) SHALL BE PROVIDED WITH POSITIVE DRAINAGE TO AVOID ANY PONDING ADJACENT TO THE STRUCTURE. FOR CONSTRUCTION DETAILS, REFER TO LANDSCAPING PLAN.

### EROSION CONTROL MEASURES

1. THE CONTRACTOR SHALL ENSURE THAT NO SOIL ERODES FROM THE SITE INTO PUBLIC RIGHT-OF-WAY OR ONTO PRIVATE PROPERTY. THIS CAN BE ACHIEVED BY CONSTRUCTING TEMPORARY BERMS AT THE PROPERTY LINES AND WETTING THE SOIL TO KEEP IT FROM BLOWING.
2. THE CONTRACTOR SHALL PROMPTLY CLEAN UP ANY MATERIAL EXCAVATED WITHIN THE PUBLIC RIGHT-OF-WAY SO THAT THE EXCAVATED MATERIAL IS NOT SUSCEPTIBLE TO BEING WASHED DOWN THE STREET.
3. THE CONTRACTOR SHALL SECURE "TOPSOIL DISTURBANCE PERMIT" PRIOR TO BEGINNING CONSTRUCTION.

### DRAINAGE PLAN

The following items concerning the C.E.C. Building Trades Grading and Drainage Plan are contained hereon:

1. Vicinity Map
2. Grading Plan
3. Calculations

As shown by the Vicinity Map, the site is located on the north side of Mountain Road N.E. between Stone Street N.E. and Interstate 25. At present, the site is developed. Much of the surrounding area is currently developed, making this a modification to an existing site within an infill area. As shown by Panel 29 of the National Flood Insurance Program Flood Boundary and Floodway Maps for the City of Albuquerque, New Mexico, this site does not lie within a designated flood hazard zone. Downstream flooding is not shown and therefore does not appear to be a problem. At present, the majority of runoff generated by the site flows from northwest to southeast onto the paved private drive. From that point, runoff flows south to Mountain Road N.E. Mountain Road N.E. drains to the west and contains a public storm drain facility which discharges to the Broadway Pump Station. This represents the outfall for this site. No offsite flows affect this project because it is located at the extreme west side of the already developed school site. The land to the west and south are topographically lower, hence do not contribute any runoff to this project.

The Grading Plan shows 1) existing grades indicated by spot elevations, 2) proposed grades indicated by spot elevations and contours at 1'0" intervals, 3) the limit and character of the existing improvements, 4) the limit and character of the proposed improvements, and 5) continuity between existing and proposed grades. As shown by this plan, the proposed improvements consist of the removal of two existing buildings and paving and the construction of a new building along with adjacent paving. Runoff generated by the proposed improvements will be routed from west to east onto the private drive. From that point, runoff will flow south to Mountain Road N.E. From that point, runoff will flow west to Broadway Boulevard N.E. as discussed above. Based upon the fact that this site is currently developed, the project is relatively small in size, and a decrease in runoff generated by the proposed improvements, the free discharge of runoff from this site is appropriate.

The Calculations which appear hereon analyze both the existing and developed conditions for the 100-year, 6-hour rainfall event. The Rational Method has been used to quantify the peak rate of discharge and the SCS Method has been used to quantify the volume of runoff. Both Methods have been used in accordance with the City of Albuquerque Development Process Manual, Volume II, and the Mayor's Emergency Rule adopted January 14, 1986. As shown by these calculations, the proposed improvements will decrease the peak discharge by approximately 0.1 cfs.

### CALCULATIONS

Ground Cover Information

From SCS Bernalillo County Soil Survey,
Plate 31: BkD - Bluepoint - Kokan association,
Cu - Cut and fill land
Hydrologic Soil Group: A
Existing Pervious CN = 72 (DPM Plate 22.2 C-2 Dirt area)
Developed Pervious CN = 72 (DPM Plate 22.2 C-2 Dirt area)

Time of Concentration/Time to Peak

$T_c = 0.0078\ L^{0.77}/S^{0.385}$ (Kirpich Equation)

$T_p = T_c$ = 10 min.

Point Rainfall

$P_6$ = 2.22 in. (DPM Plate 22.2 D-1)

Rational Method

Discharge: Q = CiA

where C varies
$i = P_6\ (6.84)\ T_c^{-0.51} = 4.69$ in/hr
$P_6$ = 2.22 in (DPM Plate 22.2D-1)
$T_c$ = 10 min (minimum)
A = area, acres

SCS Method

Volume: V = 3630(DRO) A

Where DRO = Direct runoff in inches
A = area, acres

Existing Condition

$A_{total}$ = 17,100 sf = 0.39 Ac
Roof area = 2,160 sf (0.13)
Paved area = 3,480 sf (0.20)
Dirt area = 11,460 sf (0.67)
C = 0.58 (Weighted average per Emergency Rule, 1/14/86)
$Q_{100}$ = CiA = 0.58(4.69)(0.39) = 1.1 cfs
Aimp = 5,640 sf; % impervious = 33 %
Composite CN = 81 (DPM Plate 22.2 C-2)
DRO = 0.8 in (DPM Plate 22.2 C-4)
$V_{100}$ = 3630 (DRO)A = 1,133 cf

Developed Condition

$A_{total}$ = 17,100 sf = 0.39 Ac
Roof area = 2,800 sf (0.16)
Paved area = 1,750 sf (0.10)
Dirt area = 12,550 sf (0.73)
C = 0.54 (Weighted average per Emergency Rule, 1/14/86)
$Q_{100}$ = CiA = 0.54(4.69)(0.39) = 1.0 cfs
Aimp = 4,550 sf; % impervious = 26 %
Composite CN = 79 (DPM Plate 22.2 C-2)
DRO = 0.65 in (DPM Plate 22.2 C-4)
$V_{100}$ = 3630 (DRO)A = 920 cf

Comparison

$\Delta Q_{100}$ = 1.1 - 1.0 = 0.1 cfs (decrease)
$\Delta V_{100}$ = 1,133 - 920 = 213 cf (decrease)

LESLIE C. MORTENSEN, NEW MEXICO, 8547, 09-90, REGISTERED PROFESSIONAL ENGINEER

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JEFF MORTENSEN & ASSOCIATES, INC.
811 DALLAS, N.E. ALBUQUERQUE, NM 87110
ENGINEERS TELEPHONE (505) 265-5611

GRADING AND DRAINAGE PLAN

C. E. C. BUILDING TRADES

DESIGNED BY L.P.U.
DRAWN BY J.M.A.
APPROVED BY J.C.M.

| NO. | DATE | BY | REVISIONS |
|---|---|---|---|

JOB NO. 41663
DATE 2 - 1990
SHEET 1 OF 1