PUBLIC WORKS/HYDROLOGY
E17/D41R

VICINITY MAP E-17

PROJECT BENCHMARK

STATION IS A STANDARD BLM BRASS CAP SET IN CONC. MONUMENT STAMPED B.C. 8185. TO REACH THE STATION FROM THE INTERCHANGE A I-25 & OSUNA RD N.E., GO WEST ON OSUNA 1.0 MILES TO A DIRT ROAD TURN RIGHT GO SOUTH 0.6 MILES TO ANOTHER DIRT ROAD. THE STATION IS LOCATED LEFT OF THIS POINT. ELEVATION = 5110.406 FEET (M.S.L.D)

T.B.M.

SQUARE CHISELED IN R. OF CONC. DITCH AT N.W. PROPERTY CORNER ELEVATION: 5114.55 Ft. (M.S.L.D)

LEGAL DESCRIPTION

LOT 3-A-1, MIDWAY BUSINESS PARK

LEGEND

+	EXISTING GRDT ELEVATION
+	PROPOSED GRDT ELEVATION
5116	EXISTING CONTOUR
10	PROPOSED CONTOUR
	EXISTING SWALE
	PROPOSED SWALE
TC	TOP OF CURB
TA	TOP OF ASPHALT
	PROPOSED CONCRETE
	PROPOSED ASPHALT
	PROPOSED RETAINING WALL

CONSTRUCTION NOTES:

1. TWO (1) WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT LINE LOCATING SERVICES 765-1234, FOR LOCATION OF EXISTING UTILITIES.
2. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL ENGAGE AN INDEPENDENT SAFETY CONSULTANT TO IDENTIFY ALL POTENTIAL VIOLATIONS, HAZARDS & COMPLIANCE ISSUES. THE CONTRACTOR SHALL NOTIFY THE OWNER IN WRITING ON THEIR PRO CONFLICT CAN BE RESOLVED WITH A REASONABLE AMOUNT OF EFFORT.
3. ALL WORK ON THIS PROJECT SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST EDITION OF OSHA, FEDERAL, STATE, LOCAL LAWS, RULES AND REGULATIONS CONCERNING CONSTRUCTION SAFETY AND HEALTH.
4. ALL CONSTRUCTION WITHIN PUBLIC RIGHT-OF-WAY SHALL BE TEMPORARILY 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, THE LOCATION OF SUCH UTILITIES MAY BE APPROXIMATE, BUT ANY SUCH LINES MAY EXIST WHERE SHOWN AND BELOW. IT MAY SOON EXISTING LINES ARE SHOWN, THE LOCATION IS BASED ON THE INFORMATION PROVIDED BY THE OWNER. THE OWNER MAY BE UNAWARE OF THE EXISTENCE OF, OR MAY BE UNCERTAIN OF THE LOCATION OF, OR MAY BE UNCERTAIN BY THE TIME CONSTRUCTION COMMENCES, THE ENGINEER HAS NEVER SEEN, OR DOES NOT KNOW OF, THE EXACT LOCATION, DEPTH, SIZE, OR TYPE OF EXISTING UTILITY LINES, PIPELINES, OR UNDERGROUND UTILITY LINES. THE ENGINEER HAS NEVER SEEN, OR DOES NOT KNOW OF, ANY PROBLEMS OR PROBABILITIES OF LIABILITY THEREFOR. THE OWNER SHALL INFORM ITSELF OF THE LOCATION OF ANY UTILITY LINES, PIPELINES, OR UNDERGROUND UTILITY LINES, AND SHALL NOTIFY THE WORK IF ADVICE IS NEEDED FROM ENGINEER, AND WORK. THE CONTRACTOR IS FULLY RESPONSIBLE FOR ANY DAMAGE TO ANY UTILITY LINES, PIPELINES, OR UNDERGROUND UTILITY LINES, AND PRESERVE THE PRESENCE OF ALL EXISTING UTILITIES, PIPELINES, AND UNDERGROUND UTILITY LINES. IN PLANNING AND CONDUCTING EXCAVATION, THE CONTRACTOR SHALL COMPLY WITH THE RULES AND REGULATIONS OF STATE AND LOCAL ORDINANCES, STATE AND REGULATIONS, IF ANY, PERTAINING TO THE LOCATION OF THESE LINES AND FACILITIES.

EROSION CONTROL MEASURES

1. THE CONTRACTOR SHALL ENSURE THAT NO SOIL, MATERIAL, WASTE, OR WATER PASSES OVER, THROUGH, OR UNDER PRIVATE PROPERTY. THIS CAN BE ACHIEVED BY CONSTRUCTING TEMPORARY BERMS AT THE PROPERTY LINES AND VERTING THE SOIL TO KEEP IT FROM MOVING.
2. THE CONTRACTOR SHALL PROMPTLY CLEAN UP ANY MATERIAL EXCAVATED WITHIN THE PUBLIC RIGHT-OF-WAY OR ON PRIVATE PROPERTY THAT MAY BE DEEMED HAZARDOUS TO BEING WASHED DOWN THE STREET.
3. THE CONTRACTOR SHALL SECURE "STORMWATER DISCHARGE PERMIT" PRIOR TO BEGINNING CONSTRUCTION.

DRAINAGE PLAN

The following items concerning the Lot 3A-1 Midway Business Park Drainage Plan are contained hereon:

1. Vicinity Map
2. Grading Plan
3. Calculations

The proposed improvements, as shown by the Vicinity Map, are located on the west side of Office Boulevard N.E., between Midway Park Boulevard and Singer Boulevard N.E. At present, the site is undeveloped with the surrounding area partially developed. According to the Hydrologic Study, this site does not lie within a designated flood hazard zone. Also, downstream flooding is not apparent and therefore does not appear to be a problem. At present, runoff generated by the site flows from east to west to an existing concrete channel which discharges onto Midway Park Boulevard N.E. From that point, runoff flows north along the east edge of Midway Pk. Boulevard N.E. to an existing concrete lined channel located on the west side of Midway Park Boulevard N.E. and. etc. The channel discharges into the A.M.A.F.C.D. North Diversion Channel which is the outfall for this site. No offsite flows enter the site from adjacent properties. Offsite flows enter the site along lots are graded in a manner which will route runoff away from the project site. Offsite flows are shown on the calculations and enter the project site along the south property line which will be accepted and conveyed through the site.

The grading plan shows 1) existing and proposed grades indicated by spot elevations and contours at 1'0" intervals, 2) continuity between existing and proposed grades, and 3) the limit and character of the proposed improvements. As shown by the plan, the proposed improvements consist of the construction of a new office/warehouse building along with asphalt paving and landscaping. Flow generated by the proposed improvements will be routed from east to west and then north to the aforementioned concrete lined channel which follows the same path discussed above. Based upon the fact that this site is located adjacent to the A.M.A.F.C.D. North Diversion Channel, the free discharge for 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 Drainage Design Process Manual, Volume II, and the Mayor's Emergency Rule adopted January 14, 1986. As shown by these calculations, the proposed improvements will increase the total discharge from this site by approximately 2.3 cfs.

CALCULATIONS

Ground Cover Information

From SCS Bernalillo County Soil Survey,
Soil ID: 8280 - Embudo gravelly fine sandy loam
Hydrologic Soil Group: B
Existing Pervious CN = 70 (DPM Plate 22.2 C-2
Pasture or Range (and; fair condition)
Developed Pervious CN = 61 (DPM Plate 22.2 C-2)

Time of Concentration/Time to Peak

$T_p = 0.0019 L^{0.77}/S^{0.385}$ (Kirpich Equation)

$T_p = T_c = 10$ min.

Point Rainfall

$P_6 = 2.2$ in. (DPM Plate 22.2 D-1)

Rational Method

Discharge: $Q = CIA$

where C varies
$I = P_6 (6.84) \quad T_c = 0.91 = 4.65$ in/hr
$P_6 =$ in (DPM Plate 22.2D-1)
$T_c = 10$ min. (minimum)
A = acre, acres

SCS Method

Volume: $V = 3630(DRO)\ A$

where DRO = Direct runoff in inches
A = acre, acres

Existing Condition

Atotal = 43,605 sf = 1.0 Ac
C = 0.65 (Weighted average per Emergency Rule, 1/14/86)
Qi00 = CIA = (0.65)(4.65)(1.0) = 1.9 cfs
Ziwq = -0- sf/ % impervious = -0-%
Composite CN = 70 (DPM Plate 22.2 C-3)
DRO = 0.38 in (DPM Plate 22.2 C-4)
V100 = 3630 (DRO)A = 1,380 cf

Developed Condition

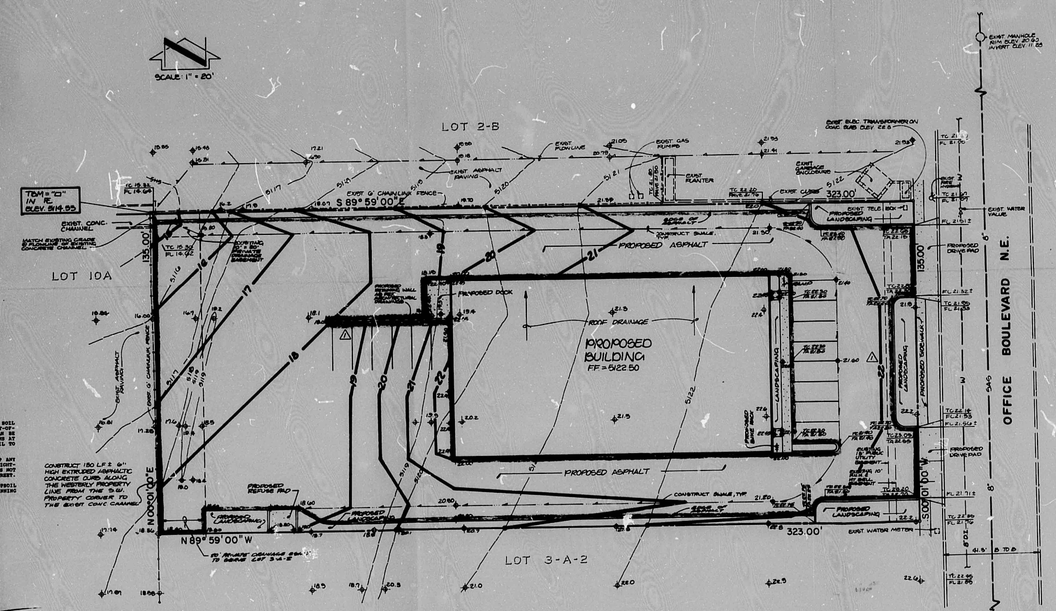
Atotal = 43,605 sf = 1.0 Ac
Roof area = 10,240 sf (0.24)
Paved area = 32,365 sf (0.75)
Landscaped area = 2,349 sf (0.05)
C = 0.90 (Weighted average per Emergency Rule, 1/14/86)
Qi00 = CIA = (0.90)(4.65)(1.0) = 4.2 cfs
Ziwq = 41,245 sf/ % impervious = 95 %
Composite CN = 96 (DPM Plate 22.2 C-3)
DRO = 1.8 in (DPM Plate 22.2 C-4)
V100 = 3630(DRO) A = 6534 cf

Offsite Flows

Atotal = 22,600 sf = 0.52 Ac
C = 0.65 (Weighted average per Emergency Rule, 1/14/86)
Qi00 = CIA = (0.65)(4.65)(0.52) = 1.0 cfs
Ziwq = -0- sf/ % impervious = -0-%
Composite CN = 70 (DPM Plate 22.2 C-3)
DRO = 0.38 in (DPM Plate 22.2 C-4)
V100 = 3630(DRO)A = 720 cf

Comparison

$\Delta Q_{100} = 4.2 - 1.9 = 2.3$ cfs (increase)
$\Delta V_{100} = 6,934 - 1,380 = 5,154$ cf (increase)



JOHN G. MONTOYA NEW MEXICO 6847 REGISTERED PROFESSIONAL ENGINEER
05-13-88

RECEIVED JUN 20 1988

jma JEFF MORTENSEN & ASSOCIATES, INC.
911 DALLAS N.E. ALBUQUERQUE, NM 87108
ENGINEERS ☐ TELEPHONE (505) 265-1911 ☐

GRADING & DRAINAGE PLAN
LOT 3-A-1, MIDWAY BUSINESS PARK

DESIGN BY	L.P.U.
DRAWN BY	R.A.R.
APPROVED BY	J.G.M.

No.	Date	By	Revision
1	6/88	C.P.U.	REVISE PARKING LOT LAYOUT & ELEVATIONS

JOB NO. 880533
DATE 05/88
SHEET 1 OF 1

B.S. 25 DATE 3-15-12 OR ESD.

CITY OF ALBUQUERQUE

This microimage is certified to be a complete and accurate copy of the original as it appears in the files of the Public Works Department and was created in the normal course of business.

The photographic process used meets the Basic Microfilm Standards of the National Micrographics Association (M215-1337)

DIRECTOR 11/15/82

NOTARY PUBLIC
OFFICIAL SEAL
Roberta Duran
NOTARY PUBLIC
STATE OF NEW MEXICO
MY COMMISSION EXPIRES

PLAN SHOT TWICE ONCE ON LASER ONCE ON FILM

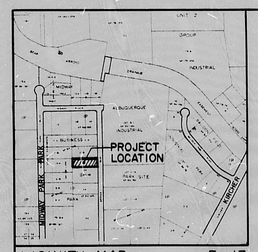
CITY OF ALBUQUERQUE
THIS MICROIMAGE IS THE BEST POSSIBLE REPRODUCTION DUE TO THE POOR QUALITY OF THE ORIGINAL DOCUMENT.

PLANS/PLATS ON FILE

FILE DESC: E17/D41R

PLANS/PLATS 1

E20 D24 C20 B16 A12 CITY OF ALBUQUERQUE C D F



VICINITY MAP E-17

PROJECT BENCHMARK

STATION IS A STANDARD BLM BRASS CAP SET IN CONC MONUMENT STAMPED S.C. 5146 TO REACH THE STATION FROM THE INTERCHANGE A I-25 + OSUNA RD N.E., GO WEST ON OSUNA 1.0 MILES TO A DIRT ROAD TURN RIGHT GO SOUTH 0.5 MILES TO ANOTHER DIRT ROAD THIS STATION IS LOCATED LEFT OF THIS POINT ELEVATION = 5110.406 FEET (M.S.L.D)

T.B.M.

SQUARE CHISELED IN PL OF CONC DITCH AT N.W. PROPERTY CORNER ELEVATION: 5114.53 ft. (M.S.L.D)

LEGAL DESCRIPTION

LOT 3-A-1, MIDWAY BUSINESS PARK

LEGEND

- EXISTING SPOT ELEVATION
- PROPOSED SPOT ELEVATION
- 5116 — EXISTING CONTOUR
- 10 — PROPOSED CONTOUR
- EXISTING SWALE
- PROPOSED SWALE
- TC — TOP OF CURB
- TA — TOP OF ASPHALT
- PROPOSED CONCRETE
- PROPOSED ASPHALT
- PROPOSED RETAINING WALL

DRAINAGE PLAN

The following items concerning the Lot 3A-1 Midway Business Park Drainage Plan are contained hereon:

1. Vicinity Map
2. Grading Plan
3. Calculations

The proposed improvements, as shown by the Vicinity Map, are located on the west side of Office Boulevard N.E., between Midway Place N.E. and Singer Boulevard N.E. At present, the site is undeveloped with the surrounding area partially developed commercially. As shown by Plate E-17 of the Albuquerque Master Drainage Study, this site does not lie within a designated flood hazard zone. Also, downstream flooding is not apparent and therefore does not appear to be a problem. At present, runoff generated by the site flows from east to west to an existing concrete lined channel which discharges onto Midway Park Boulevard N.E. From that point, runoff flows north along the east edge of Midway Park Boulevard N.E. to an existing concrete lined channel located at the north end of Midway Park Boulevard N.E. Cul-de-sac. The channel discharges into the A.M.A.F.C.A. North Diversion Channel which is the outfall for this site. No offsite flows enter the site along the north and west property lines since the existing lots are graded in a manner which will route runoff away from the project site. No offsite flows enter the site along the east property line since existing streets route runoff away from the project site. Offsite flows are shown on the calculations and enter the project site along the south property line which will be accepted and conveyed through the site.

The Grading Plan shows 1) existing and proposed grades indicated by spot elevations and contours at 1'0" intervals, 2) continuity between existing and proposed grades, and 3) the limit and character of the proposed improvements. As shown by this plan, the proposed improvements consist of the construction of a new office/warehouse building along with adjacent paving and landscaping. Flows generated by the proposed improvements will be routed from east to west, then north to the aforementioned concrete lined channel which follows the same path discussed above. Based upon the fact that this site is located adjacent to the A.M.A.F.C.A. North Diversion Channel, the improved concrete channel, the free discharge for 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 increase the total discharge from this site by approximately 2.3 cfs.

CALCULATIONS

Ground Cover Information

From SCS Bernalillo County Soil Survey,
Plate 21: BmB - Embudo gravelly fine sandy loam
Hydrologic Soil Group: B
Existing Pervious CN = 70 (DPM Plate 22.2 C-2)
Pasture or Range Land: fair condition)
Developed Pervious CN = 61 (DPM Plate 22.2 C-2)

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

$P_6 = 2.2$ in. (DPM Plate 22.2 D-1)

Rational Method

Discharge: Q = CIA

where C varies
$I = P_6\ (6.84)\ T_C^{-0.51} = 4.65$ in/hr
$P_6 =$ 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

Atotal = 43,605 sf = 1.0 Ac
C = 0.40 (Weighted average per Emergency Rule, 1/14/86)
Q_{100} = CIA = (0.40)(4.65)(1.0) = 1.9 cfs
Aimp = -0- sf; % impervious = -0-%
Composite CN = 70 (DPM Plate 22.2 C-3)
DRO = 0.38 in (DPM Plate 22.2 C-4)
V_{100} = 3630 (DRO) A = 1,380 cf

Developed Condition

Atotal = 43,605 sf = 1.0 Ac
Roof area = 10,260 sf (0.24)
Paved area = 30,985 sf (0.71)
Landscaped area = 2,360 sf (0.05)
C = 0.90 (Weighted average per Emergency Rule, 1/14/86)
Q_{100} = CIA = (0.90)(4.65)(1.0) = 4.2 cfs
Aimp = 41,245 sf; % impervious = 95 %
Composite CN = 96 (DPM Plate 22.2 C-3)
DRO = 1.8 in (DPM Plate 22.2 C-4)
V_{100} = 3630(DRO) A = 6,534 cf

Offsite Flows

Atotal = 22,600 sf = 0.52 Ac
C = 0.40 (Weighted average per Emergency Rule, 1/14/86)
Q_{100} = CIA = (0.40)(4.65)(0.52) = 1.0 cfs
Aimp = -0- sf; % impervious = 0 %
Composite CN = 70 (DPM Plate 22.2 C-3)
DRO 0.38 in (DPM Plate 22.2 C-4)
V_{100} = 3630(DRO)A = 7,0 cf

Comparison

ΔQ_{100} = 4.2 - 1.9 = 2.3 cfs (increase)
ΔV_{100} = 6,534 - 1,380 = 5,154 cf (increase)

CONSTRUCTION NOTES:

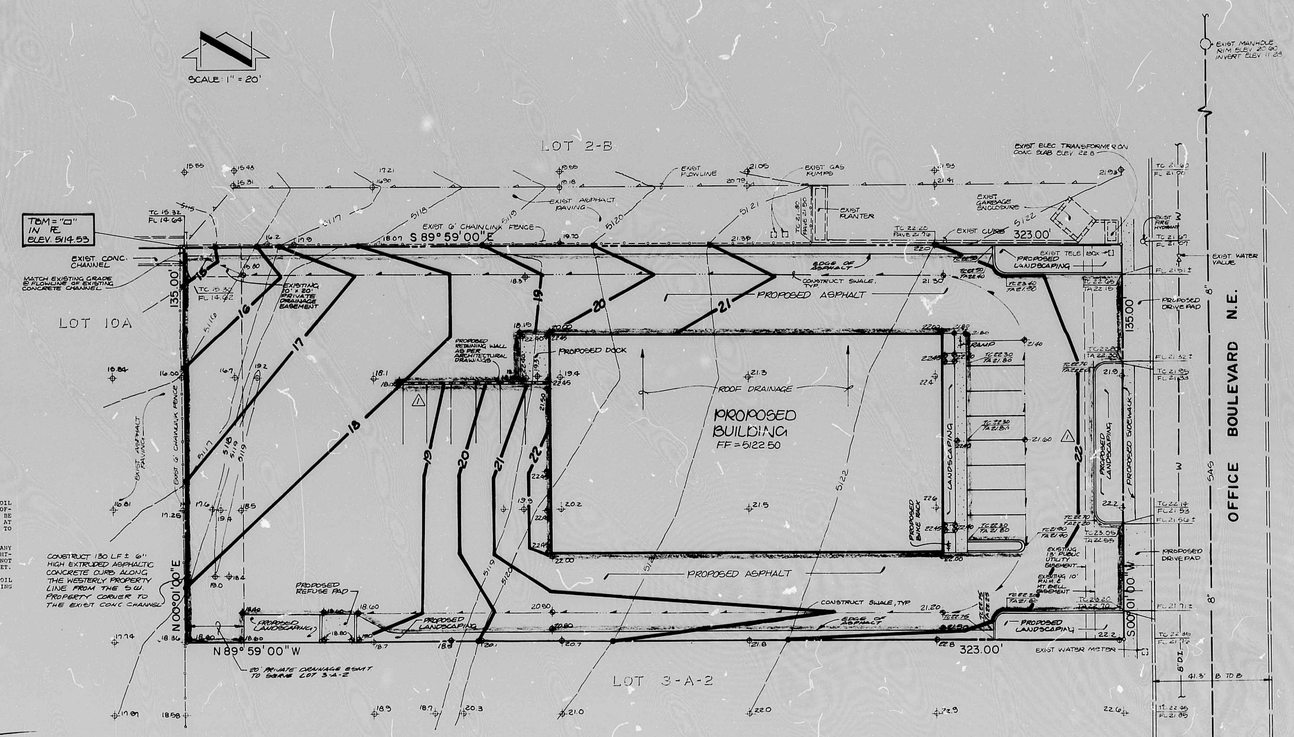
1. TWO (2) WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT LINE LOCATING SERVICE 265-1234, FOR LOCATION OF EXISTING UTILITIES.
2. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF ALL POTENTIAL OBSTRUCTIONS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IN WRITING SO THAT ANY REVISION 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 CONTRACTOR UNDERTAKES NO FIELD VERIFICATION OF THE LOCATION, DEPTH, SIZE, OR TYPE OF EXISTING UTILITY LINES, PIPELINES, OR UNDERGROUND UTILITY LINES, MAKES NO REPRESENTATION PERTAINING THEREIT, 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 OR OTHER CONSTRUCTION, AND IS ENTIRELY 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.

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 PERIODICALLY 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.

JEFFREY C. MORTENSEN NEW MEXICO 8547 REGISTERED PROFESSIONAL ENGINEER

05
06-15-88



PLAN SHOT TWICE
ONCE ON LIGHT
ONCE ON DARK

CITY OF ALBUQUERQUE
THIS MICROIMAGE IS THE BEST POSSIBLE REPRODUCTION DUE TO THE POOR QUALITY OF THE ORIGINAL DOCUMENT.

R# 25 DATE 3-15-92 OF E.P.

CITY OF ALBUQUERQUE

This microimage is certified to be a complete and accurate copy of the original as it appears in the files of the **Public Works Department** and was created in the normal course of business.

The photographic process used meets the Basic Microfilm Standards of the National Micrographics Association (MS115-1977)

DIRECTOR 11/5/92

NOTARY PUBLIC
OFFICIAL SEAL
Roberta Duran
NOTARY PUBLIC
STATE OF NEW MEXICO
My Commission Expires 10/07/92

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

GRADING & DRAINAGE PLAN
LOT 3-A-1, MIDWAY BUSINESS PARK

DESIGN BY	L.P.U.
DRAWN BY	R.A.R.
APPROVED BY	J.G.M.

No.	Date	By	Revision
1	6/88	L.P.U.	REVISE PARKING LOT LAYOUT & SIDEWALKS

JOB NO.	880533
DATE	05/88
SHEET	1 OF 1

D 24 C 20 B 16 A 12 CITY OF ALBUQUERQUE C D