

**DRAINAGE COMMENTS:**

THE FOLLOWING ITEMS CONCERNING THE SUBJECT SITE ARE CONTAINED ON THE GRADING AND DRAINAGE PLAN AS SHOWN HEREON:

- 1.) SITE GRADING AND DRAINAGE PLAN, (EXISTING AND PROPOSED)
- 2.) VICINITY MAP
- 3.) LEGAL DESCRIPTION
- 4.) LIMITS AND CHARACTER OF THE EXISTING AND PROPOSED IMPROVEMENTS
- 5.) HYDRAULIC DRAINAGE CALCULATIONS

AS SHOWN ON THE VICINITY MAP HEREON THE SUBJECT SITE IS LOCATED AT THE NORTHEAST INTERSECTION OF EAST CENTRAL AVENUE AND ELIZABETH STREET N.E., ON THE NORTH SIDE OF CENTRAL AVENUE BETWEEN EUBANK BLVD. N.E. AND JUAN TABO BLVD. N.E., ALBUQUERQUE, NEW MEXICO.

THE PROJECT SITE, (1.) DOES NOT LIE WITHIN A FLOOD PLAIN, (2.) DOES NOT LIE ADJACENT TO A NATURAL OR ARTIFICIAL WATER COURSE, (3.) HAS NO DRAINAGE EASEMENTS ON THE PROPERTY.

BASED ON A SITE INVESTIGATION, IT HAS BEEN DETERMINED THAT THE FREE DISCHARGE OF SURFACE FLOWS OF THE EXISTING AND PROPOSED QUANTITIES HAVE NO ADVERSE AFFECT ON DOWNSTREAM PROPERTIES.

**DRAINAGE CALCULATIONS:**

I. REFERENCES:

- A. CITY OF ALBUQUERQUE DEVELOPMENT PROCESS MANUAL (DPM), VOL. 2, DESIGN CRITERIA, CHAPTER 22, DRAINAGE, FLOOD CONTROL AND EROSION CONTROL.
- B. SOIL SURVEY OF BERNALILLO COUNTY AND PARTS OF SANDOVAL AND VALENCIA COUNTIES, NEW MEXICO, UNITED STATES DEPARTMENT OF AGRICULTURE, SOIL CONSERVATION SERVICE, (SCS SHEET NO. 32).

II. GENERAL INFORMATION:

- A. SOIL TYPE: SOIL TYPE IS "TgB", (TIJERAS GRAVELLY FINE SANDY LOAM, 1 TO 5 PERCENT SLOPES).
- B. IMPERVIOUSNESS:  
SITE AREA = 2.804 ACRES, (122,136.3 SQ. FT.).  
PRESENT UNDEVELOPED "C" FACTOR = 0.40
- C. TYPE OF SURFACE (DEVELOPED, EXISTING CONDITIONS):  
HARD SURFACED (ASPHALT/CONC.) = 1.34 AC. = 48% X (C=0.95) = 0.46  
BUILDING ROOF AREA = 0.35 AC. = 13% X (C=0.90) = 0.12  
LANDSCAPED AREA = 0.21 AC. = 07% X (C=0.25) = 0.02  
UNDEVELOPED AREA = 0.91 AC. = 32% X (C=0.40) = 0.13  
AVERAGE "WEIGHTED" "C" = 0.73
- C-1. TYPE OF SURFACE, TOTAL DEVELOPED:  
HARD SURFACED (ASPHALT/CONC.) = 2.25 AC. = 80% X (C=0.95) = 0.76  
BUILDING ROOF AREA = 0.35 AC. = 13% X (C=0.90) = 0.12  
LANDSCAPED AREA = 0.21 AC. = 07% X (C=0.25) = 0.02  
UNDEVELOPED AREA = 0 AC. = 0% X (C=0.40) = 0  
AVERAGE "WEIGHTED" "C" = 0.90
- D. RAINFALL, 100-YR., 6-HR.,  $R_6$ : [SEE REF. A., PLATE 22.2 D-1]  
 $R_6 = 2.5$  INCHES.
- E. TIME OF CONCENTRATION,  $T_c$  = TEN (10) MINUTES FOR A SITE THIS SIZE
- F. RAINFALL INTENSITY, "I", (SEE REF. A., PLATE 22.2 D-2)  
 $I = R_6 \times 6.84 \times T_c^{-0.51} = 2.5 \times 6.84 \times (10)^{-0.51} = 5.28$  IN./HR.

III. PEAK DISCHARGE: ( $Q = CIA$ )

UNDEVELOPED:  $Q_{100} = 0.73 \times 5.28 \times 2.804 = 10.81$  cfs (EXISTING)  
 $Q_{10} = 0.657 \times 10.81 = 7.10$  cfs

DEVELOPED:  $Q_{100} = 0.90 \times 5.28 \times 2.804 = 13.3$  cfs (TOTALLY)  
 $Q_{10} = 0.657 \times 13.3 = 8.74$  cfs

IV. PEAK VOLUME:

- A. EXISTING CONDITIONS:  
 $V_{100} = 0.73 \times (2.5/12) \times 122,136.3 = 18,574.9$  CU. FT.  
 $V_{10} = 0.657 \times 18,574.9 = 12,203.7$  CU. FT.
- B. DEVELOPED CONDITIONS:  
 $V_{100} = 0.90 \times (2.5/12) \times 122,136.3 = 22,900.6$  CU. FT.  
 $V_{10} = 0.657 \times 22,900.6 = 15,045.7$  CU. FT.

**LEGEND:**

TC = 502.00 = TOP OF CURB ELEVATION  
R = 501.38 = CURB FINISH LINE ELEVATION  
--- 502 --- = EXISTING OR PROPOSED CONTOUR  
--- 502 --- = EXISTING CONTOUR  
--- 500 --- = PROPOSED CONTOUR  
--- 502.50 --- = EXISTING FENCE  
--- 502.50 --- = PROPOSED OVER ELEVATION  
--- 502.50 --- = PROPOSED LIMIT OF HIGHWAY

**LEGAL DESCRIPTION:**

LOTS NUMBERED "1-A" THROUGH "7-A", BLOCK TWO (2), OF THE REPLAT OF THE EAST CENTRAL BUSINESS ADDITION, AN ADDITION TO THE CITY OF ALBUQUERQUE, NEW MEXICO, (PLAT FILED: AUGUST 16, 1971).

**PROJECT BENCH MARK:**

CITY SURVEY STATION "N.M. BER. 3", M.S.L. DATUM ELEVATION = 5486.945; PROJECT BENCH MARK(S) AS SHOWN ON PLAN HEREON.

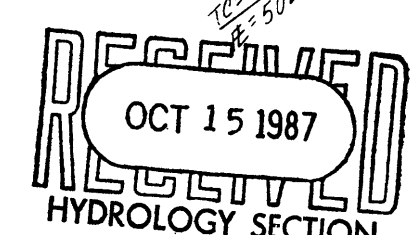
**CENTRAL AVENUE EAST**

**EROSION CONTROL MEASURES:**

- THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR MANAGING STORM RUN-OFF DURING CONSTRUCTION; HE SHALL INSURE THAT THE FOLLOWING MEASURES ARE TAKEN:
- 1.) ADJACENT PROPERTY SHALL BE PROTECTED AT ALL TIMES BY CONSTRUCTION OF BERMS, DIKES, SWALES, PONDS, AND OTHER TEMPORARY GRADING AS REQUIRED TO PREVENT STORM RUNOFF FROM LEAVING THE SITE AND ENTERING ADJACENT PROPERTIES.
  - 2.) ADJACENT PUBLIC RIGHT-OF-WAYS SHALL BE PROTECTED AT ALL TIMES FROM STORM WATER RUNOFF FROM THE SITE. NO SEDIMENT BEARING WATER SHALL BE PERMITTED TO ENTER PUBLIC STREETS.
  - 3.) THE CONTRACTOR SHALL IMMEDIATELY AND THOROUGHLY REMOVE ANY AND ALL SEDIMENT WITHIN PUBLIC STREETS THAT HAS BEEN RECORDED FROM THE SITE AND DEPOSITED THERE.

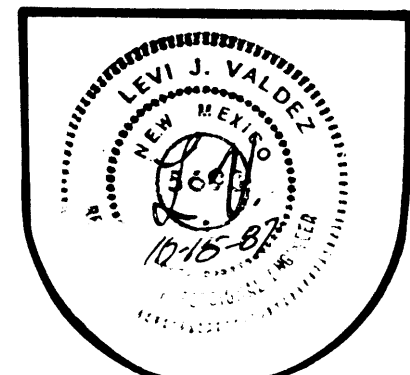
**CONSTRUCTION NOTES:**

- 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 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.

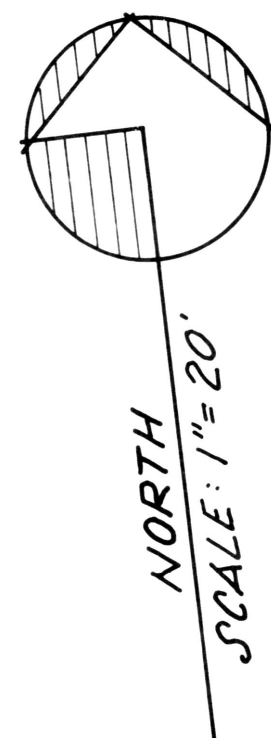


*Approved by:* Roger P. Bogen  
11005 Central  
Albuquerque, NM

**GRADING AND DRAINAGE PLAN**  
FOR  
**AMERICAN LEGION POST 49**  
11005 CENTRAL AVENUE N.E.  
ALBUQUERQUE, NEW MEXICO  
SEPTEMBER, 1987





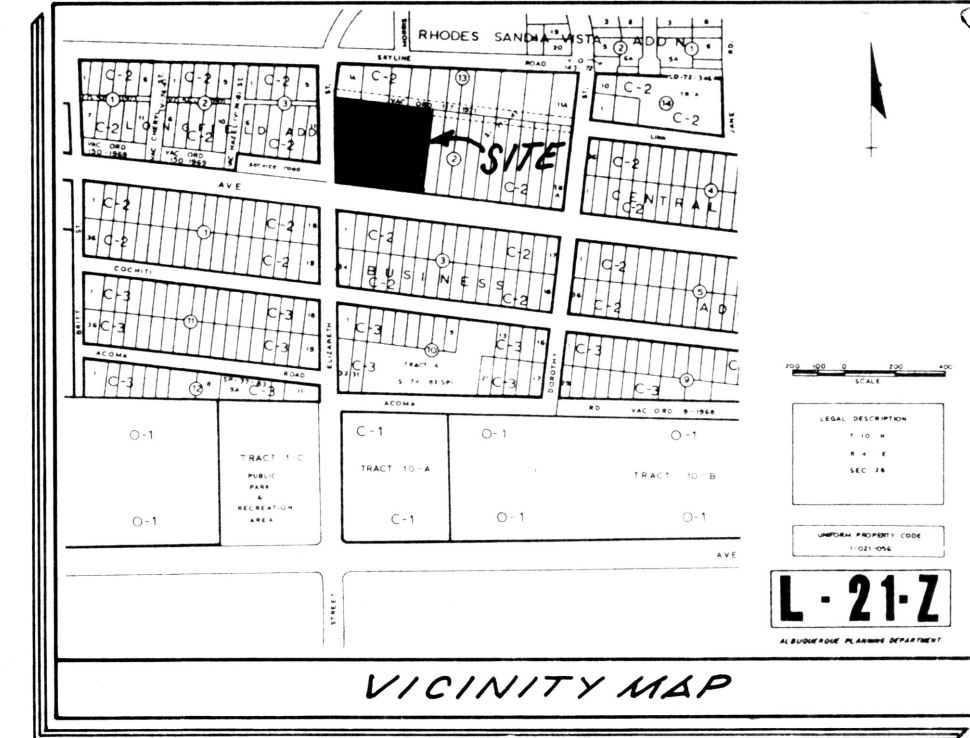


NOTE: EXISTING OPENING @ WALL FOR ALLOWING SURFACE DRAINAGE RUN-OFF TO FREE DISCHARGE INTO STREET (3 OPENINGS IN WALL, EACH BEING 16" X 8")

DEVELOPED MOBILE HOME PARK  
NOTE: DOES NOT CONTRIBUTE TO OFF-SITE SURFACE DRAINAGE FLOWS OF SUBJECT PROPERTY.

NOTE: VACATED PORTION OF LINN AVE. N.E. (V.O. # 117-1971)

NOTE: OFF-SITE FLOWS ARE TO BE ALLOWED TO BE ACCENTED AND TO CONTINUE THROUGH SUBJECT SITE THROUGH OPENING IN EXISTING BLOCK WALL.



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4.) LIMITS AND CHARACTER OF THE EXISTING AND PROPOSED IMPROVEMENTS  
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THE PROJECT SITE, (1.) DOES NOT LIE WITHIN A FLOOD PLAIN, (2.) DOES NOT LIE ADJACENT TO A NATURAL OR ARTIFICIAL WATER COURSE, (3.) HAS NO DRAINAGE EASEMENTS ON THE PROPERTY.

BASED ON A SITE INVESTIGATION, IT HAS BEEN DETERMINED THAT THE FREE DISCHARGE OF SURFACE FLOWS OF THE EXISTING AND PROPOSED QUANTITIES HAVE NO ADVERSE AFFECT ON DOWNSIDE PROPERTIES.

**DRAINAGE CALCULATIONS:**  
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B. SOIL SURVEY OF BERNALILLO COUNTY AND PARTS OF SANDOVAL AND VALENCIA COUNTIES, NEW MEXICO, UNITED STATES DEPARTMENT OF AGRICULTURE, SOIL CONSERVATION SERVICE, (SCS SHEET NO. 32).

II. GENERAL INFORMATION:  
A. SOIL TYPE: SOIL TYPE IS "T<sub>9</sub>b", (TIJERAS GRAVELLY FINE SANDY LOAM, 1 TO 5 PERCENT SLOPES).  
B. IMPERVIOUSNESS:  
SITE AREA = 2.804 ACRES, (122,136.3 SQ. FT.).  
PRESENT UNDEVELOPED "C" FACTOR = 0.40  
C. TYPE OF SURFACE (DEVELOPED, EXISTING CONDITIONS):  
HARD SURFACED (ASPHALT/CONC.) = 1.34 AC. = 48% X (C=0.95) = 0.46  
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LANDSCAPE/LAWN AREA = 0.21 AC. = 7% X (C=0.25) = 0.02  
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AVERAGE "WEIGHTED" "C" = 0.90

D. RAINFALL, 100-YR., 6-HR., R<sub>6</sub>: (SEE REF. A., PLATE 22.2 D-1)  
R<sub>6</sub> = 2.5 INCHES.  
E. TIME OF CONCENTRATION, T<sub>c</sub> = TEN (10) MINUTES FOR A SITE THIS SIZE  
F. RAINFALL INTENSITY, "I", (SEE REF. A., PLATE 22.2 D-2)  
I = R<sub>6</sub> X 6.84 X T<sub>c</sub><sup>-0.51</sup> = 2.5 X 6.84 X (10)<sup>-0.51</sup> = 5.28 IN./HR.

III. PEAK DISCHARGE: (Q = CIA)  
UNDEVELOPED: Q<sub>100</sub> = 0.73 X 5.28 X 2.804 = 10.81 cfs (EXISTING)  
Q<sub>10</sub> = 0.657 X 10.81 = 7.10 cfs  
DEVELOPED: Q<sub>100</sub> = 0.90 X 5.28 X 2.804 = 13.3 cfs (TOTALLY)  
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IV. PEAK VOLUME:  
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**LEGEND:**  
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E. = 501.38 = CURB FLOW LINE ELEVATION  
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--- 502 --- = EXISTING CONTOUR  
--- 500 --- = PROPOSED CONTOUR  
--- 502.50 --- = EXISTING FENCE  
--- 502.50 --- = PROPOSED FENCE  
--- 502.50 --- = PROPOSED LIMIT OF NEW BUILDING

**LEGAL DESCRIPTION:**

LOTS NUMBERED "1-A" THROUGH "7-A", BLOCK TWO (2), OF THE REPLAT OF THE EAST CENTRAL BUSINESS ADDITION, AN ADDITION TO THE CITY OF ALBUQUERQUE, NEW MEXICO, (PLAT FILED: AUGUST 16, 1971).

NOTE: NOW BEING IDENTIFIED AS PARCEL "A", BLOCK TWO (2), EAST CENTRAL BUSINESS ADDITION.

**PROJECT BENCH MARK:**

CITY SURVEY STATION "N.M. BER. 3", M.S.L. DATUM ELEVATION = 5486.945; PROJECT BENCH MARK(S) AS SHOWN ON PLAN HEREON.

**CENTRAL AVENUE EAST**

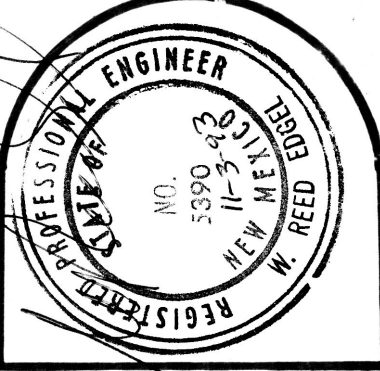
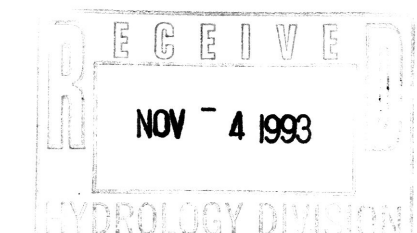
PARKING SPACES PROVIDED = 123 SPACES

**EROSION CONTROL MEASURES:**

THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR MANAGEMENT FOR STORM RUN-OFF DURING CONSTRUCTION; HE SHALL INSURE THAT THE FOLLOWING MEASURES ARE TAKEN:  
1.) ADJACENT PROPERTY SHALL BE PROTECTED AT ALL TIMES BY CONSTRUCTION OF BERMS, DICES, SWALES, PONDS, AND OTHER TEMPORARY GRADING AS REQUIRED TO PREVENT STORM RUNOFF FROM LEAVING THE SITE AND ENTERING ADJACENT PROPERTIES.  
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3.) THE CONTRACTOR SHALL IMMEDIATELY AND THOROUGHLY REMOVE ANY AND ALL SEDIMENT WITHIN PUBLIC STREETS THAT HAS BEEN ERODED FROM THE SITE AND DEPOSITED THERE.

**CONSTRUCTION NOTES:**

1.) TWO (2) WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTRACT LINE LOCATING SERVICE AT 765-1234 FOR LOCATION OF EXISTING UTILITIES.  
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4.) ALL CONSTRUCTION WITHIN CITY RIGHT-OF-WAY SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE CITY OF ALBUQUERQUE STANDARDS AND PROCEDURES.



ENGINEER'S CERTIFICATION: (11-23-93)  
I, L. W. REED, ENGINEER, DO HEREBY CERTIFY THAT AN ON-SITE FIELD INSPECTION OF THE AS-BUILT IMPROVEMENTS LOCATED ON THE SUBJECT SITE HAS BEEN MADE, AND HAVE FOUND THAT SAID DRAINAGE IMPROVEMENTS ARE IN SUBSTANTIAL COMPLIANCE WITH THE CITY OF ALBUQUERQUE - HYDROLOGY DEPARTMENT APPROVED DRAINAGE PLAN OF RECORD FOR SAID SITE.

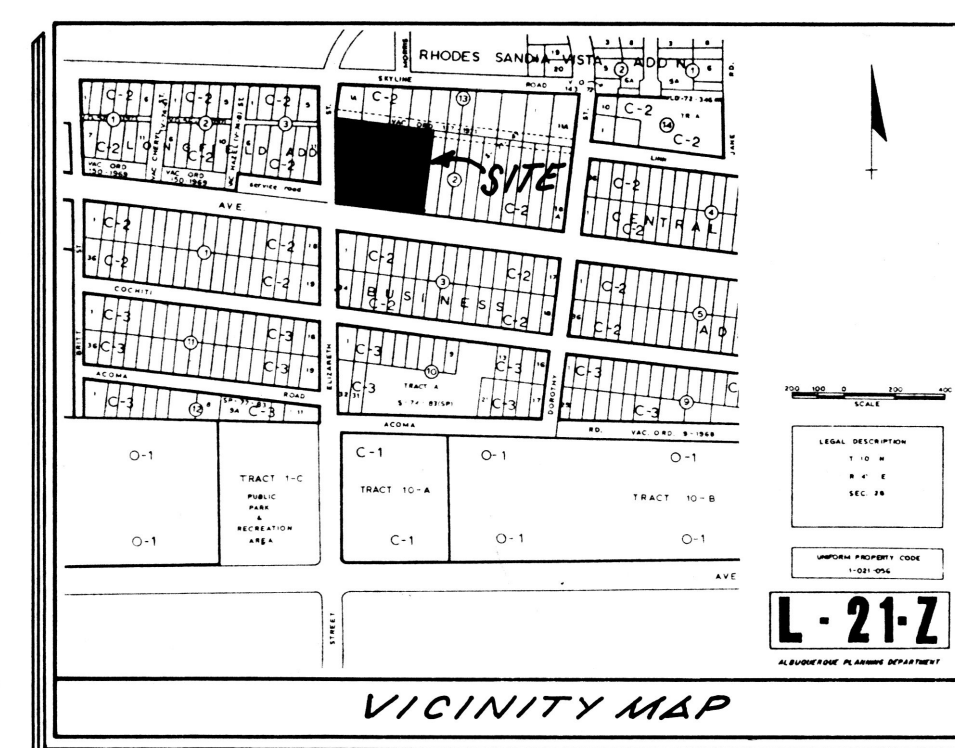
FOR  
**AMERICAN LEGION POST 49**  
11005 CENTRAL AVENUE N.E.  
ALBUQUERQUE, NEW MEXICO  
SEPTEMBER, 1987

REVISION: 03-10-92  
REVISION: 11-27-98  
PHASE III - IIR



(L-21/D28)






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REVISION: 11-07-88  
PHASE III & IV



LEVI J. VALDEZ  
NEW MEXICO  
12-15-87  
DEPARTMENT OF TRANSPORTATION

**GRADING AND DRAINAGE PLAN**  
FOR  
**AMERICAN LEGION POST 49**  
11005 CENTRAL AVENUE N.E.  
ALBUQUERQUE, NEW MEXICO  
SEPTEMBER, 1987

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