HYDROLOGY

K21/D17
TWO PLANS

K21-D17

2 PLANS

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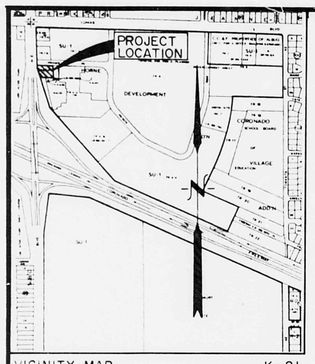
PLAN SHOT IN TWO SECTIONS.

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



VICINITY MAP K-21

SCALE 1" = 800'

SCALE 1" = 10'

DRAINAGE & GRADING PLAN

The Drainage & Grading Plan presented herein provides the necessary detail to construct the required improvements for the proposed Owl Cafe. The site is proposed for development of a restaurant and is presently zoned "SU-1".

The project site contains approximately 0.5 acres and is located at the southeast corner of Eubank Blvd. NE and Hotel Avenue NE. As shown by the Vicinity Map, the site is bounded by Hotel Avenue, Eubank Boulevard, and the existing Howard Johnson's site.

As shown by Plate 31 of 50 of the NFIP floodway maps, Eubank Boulevard is impacted by the 100-year flood hazard zone. It is required that this development not further impact the FHZ.

Presently, the site is developed as a full service gas station. Storm water generated by the existing site sheet flows into Eubank Boulevard. Existing drainage facilities within Eubank Boulevard include a 48-inch storm drain which outfalls into the I-40 channel, and a 24-inch storm drain (maintained by NMSHD) which outfalls into Los Altos Park and eventually the I-40 channel via a 54-inch culvert. The site presently utilizes these facilities. No off-site storm water impacts the site.

The drainage criteria proposed for this project is outlined in both the approved Conceptual Drainage and Grading Plan for the Owl Cafe, (K21-D17), prepared by Espey, Huston and Associates, Inc., dated 4/1/86, and the Conceptual Drainage and Grading Plan for Market Centre East, (K21/D16), prepared by Espey, Huston & Associates, Inc., dated March 24, 1986. As outlined in the referenced plans, the site shall free discharge storm water into the drainage facilities located in Eubank Boulevard. Due to the separation of time of concentrations between the 48-inch storm drain and the site, it was determined that free discharge of storm water from this site would impact the 100-year FHZ less than ponding. Also, as indicated by the calculations (see below), the new development will discharge less storm water than the existing development, primarily due to the addition of landscaping features.

The calculations shown below analyze the existing and developed conditions for 100-year and 10-year hour duration storms falling over the project site and contributing offsite areas. The design criteria for this analysis is outlined in the Development Process Manual, Volume II, Chapter 22.

GENERAL DESCRIPTION

"Station Site" of First Replat of Tract 4A, Horne Development Addition.

PROJECT BM

A square chiseled on top of concrete curb located at ENE curb return at the intersection of Lomas Blvd. NE and Morris Street NE. Elevation = 5579.817 feet (NGVD)

TOPOGRAPHY

The topography shown on this sheet is taken from a result of survey by Espey Huston & Associates, Inc., dated May , 1986.

CALCULATIONS

I. DESIGN CRITERIA

A. Rainfall:
P_{100} = 2.45 in. P_{10} = 1.61 in.

B. Soils
$D_{a}B$ - Theras - Soil Group "B"

C. Rational "C" Factor
Existing undeveloped soil C = 0.40
Drives, streets, walks C = 0.95
Roofs C = 0.90
Landscaping, Lawns C = 0.25

D. Time of Concentration
$t_c = 0.0078\,(L^{0.77}/S^{0.385})$

E. Rainfall Intensity
$i = P_{6.84}\,t_c^{-0.51}$

F. Runoff
Q = CIA

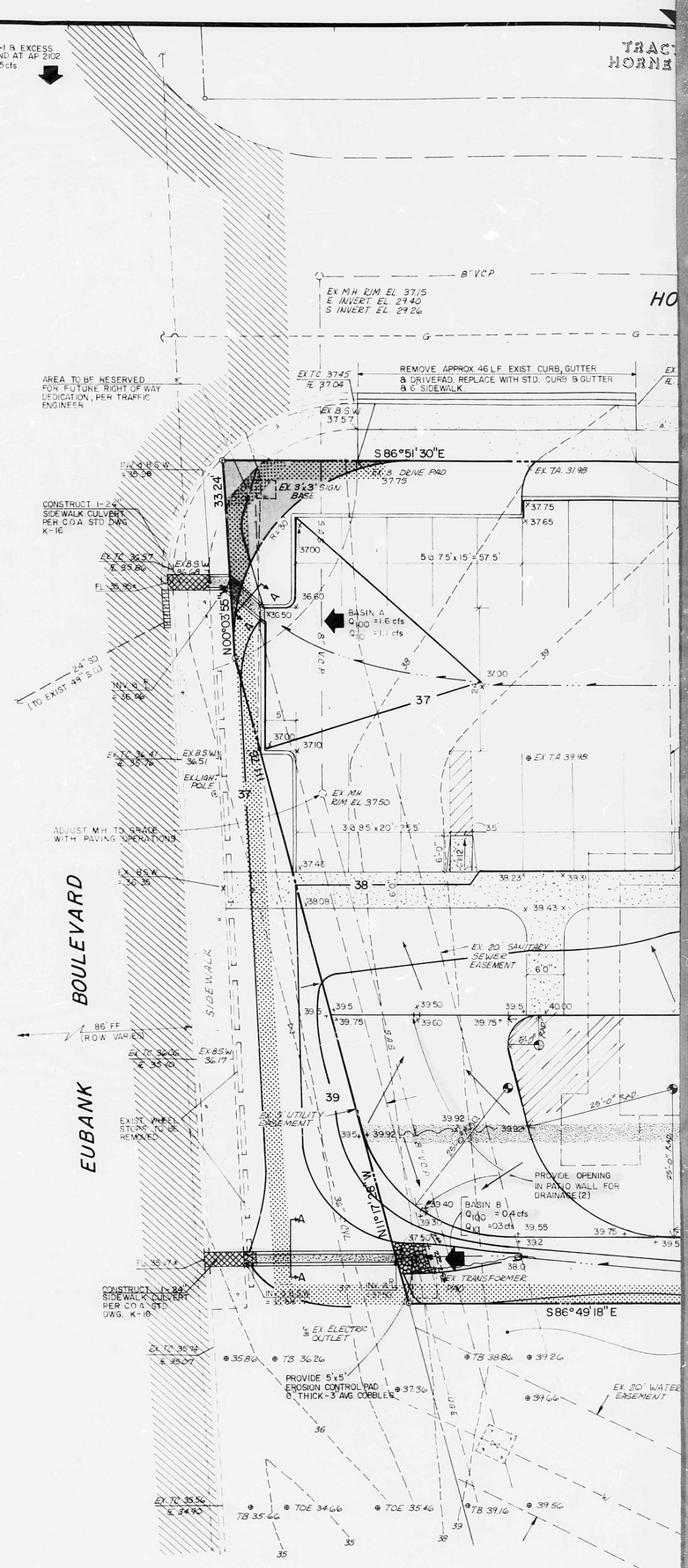
G. Volume
V = PCA

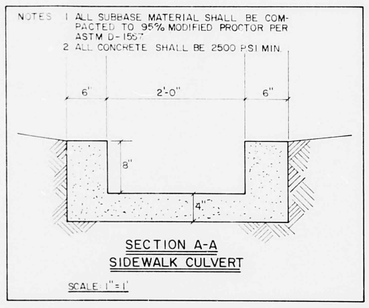
II. RUNOFF (RATIONAL METHOD IS UTILIZED TO BE CONSISTENT WITH THE APPROVED CONCEPTUAL PLAN)

Basin	Area (Ac)	t_c (min)	i_{100} (in/hr)	"C"	Q_{100} (cfs)	Q_{10} (cfs)	V_{100} (cf)	V_{10} (cf)
A	0.4	10	5.18	0.78	1.6	1.1	2,775	1,825
B	0.1	10	5.18	0.84	0.4	0.3	745	490
A & B	0.5	10	5.18	0.94	2.4	1.6	4,180	2,745
Existing								
Site	0.5	10	5.18	0.81	2.1	1.4	3,600	2,365
E-1*	7.36	10	5.18	0.42	35.1	23.0	60,220	39,565
E-2*	2.14	10	5.18	0.42	10.2	6.7	14,465	9,505
AP-2102**	—	—	—	—	70	—	—	—

* See Conceptual Drainage & Grading Plan for Market Centre East.

** See AMDS Hydrograph @ AP2102





SECTION A-A
SIDEWALK CULVERT

SCALE 1" = 1'

FINAL ART	
VERIFIED	

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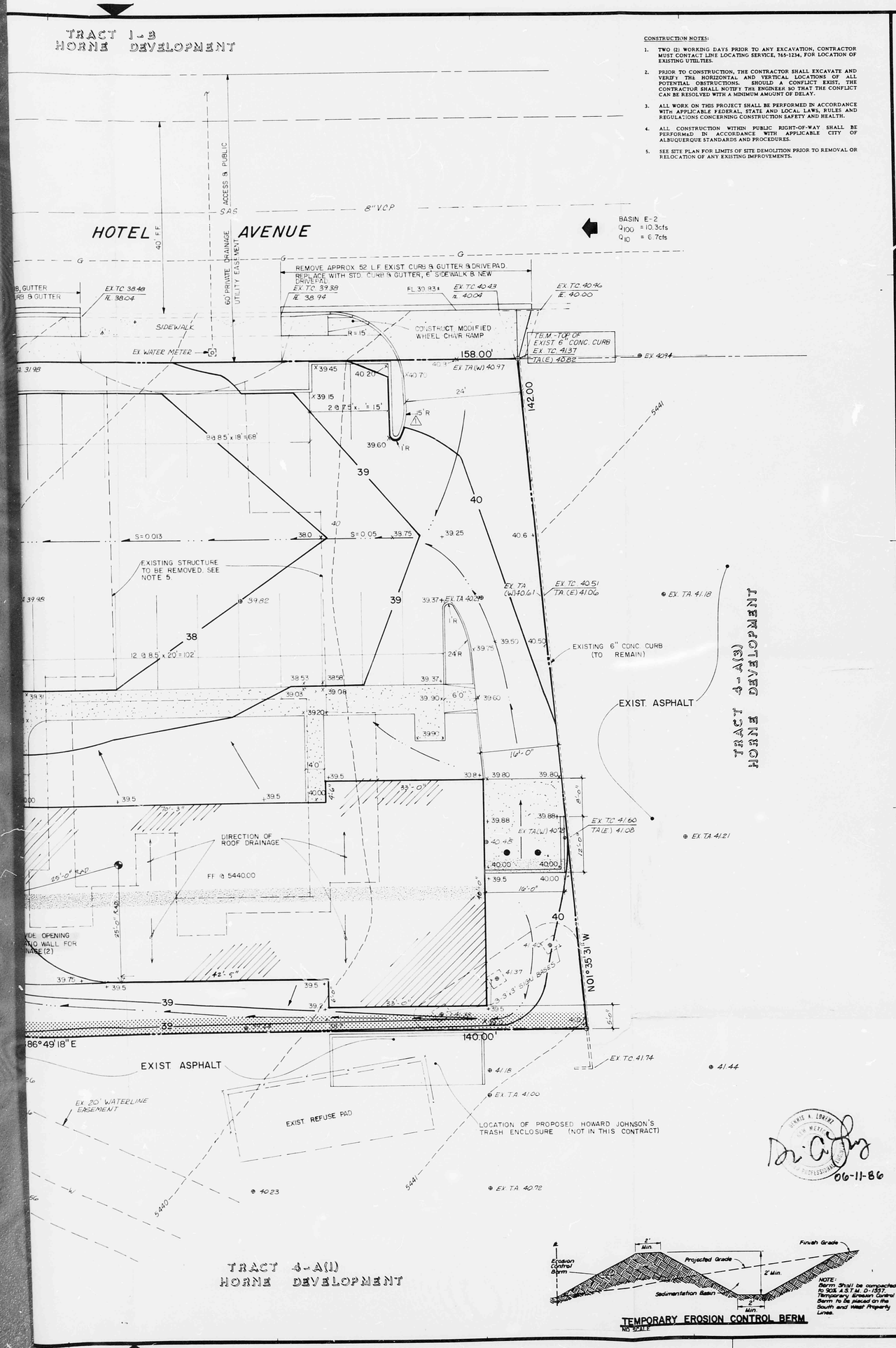
THIS MICROIMAGE IS THE BEST POSSIBLE REPRODUCTION DUE TO THE POOR QUALITY OF THE ORIGINAL DOCUMENT



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 LOCATIONS 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 PUBLIC RIGHT-OF-WAY SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE CITY OF ALBUQUERQUE STANDARDS AND PROCEDURES.
5. SEE SITE PLAN FOR LIMITS OF SITE DEMOLITION PRIOR TO REMOVAL OR RELOCATION OF ANY EXISTING IMPROVEMENTS.

TEMPORARY EROSION CONTROL BERM
NO SCALE

ARCHITECTS

JAMES A. "CHIP" KAUFMAN & ASSOC.
5493-A CARLSON DR. • SACRAMENTO, CA 95819 • 916-451-4200

LEGEND

- PROPOSED PROPERTY LINE
- EXISTING PROPERTY LINE
- 39 PROPOSED CONTOURS
- 5440 EXISTING CONTOURS
- PROPOSED CURB & GUTTER, SIDEWALK
- EXISTING CURB & GUTTER, SIDEWALK
- 39.5± PROPOSED ELEVATION
- EXISTING ELEVATION
- PROPOSED SWALE
- TEMPORARY EROSION CONTROL BERM
- DIRECTION OF FLOW ARROW
- EXISTING CHAIN LINK FENCE
- APPROX. LIMIT OF 100 YEAR FHZ
- DRAINAGE BASIN BOUNDARY

No.	Description	Date
1	CURBLINE REVISION PER TRAFFIC ENGINEER	7-17-86 D.A.L.

Revisions

APPROVED FOR DRAINAGE
3/6/86
DATE
Roger L. Green PE Hydrology
SIGNATURE TITLE

RECEIVED
JUL 23 1986
HYDROLOGY SECTION

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Engineering & Environmental Consultants
4801 INDIAN SCHOOL ROAD, N.E., SUITE 204
ALBUQUERQUE, NEW MEXICO, 87110
PHONE (505) 255-1625

OWL CAFE
800 EUBANK BLVD. N.E.

GRADING & DRAINAGE PLAN

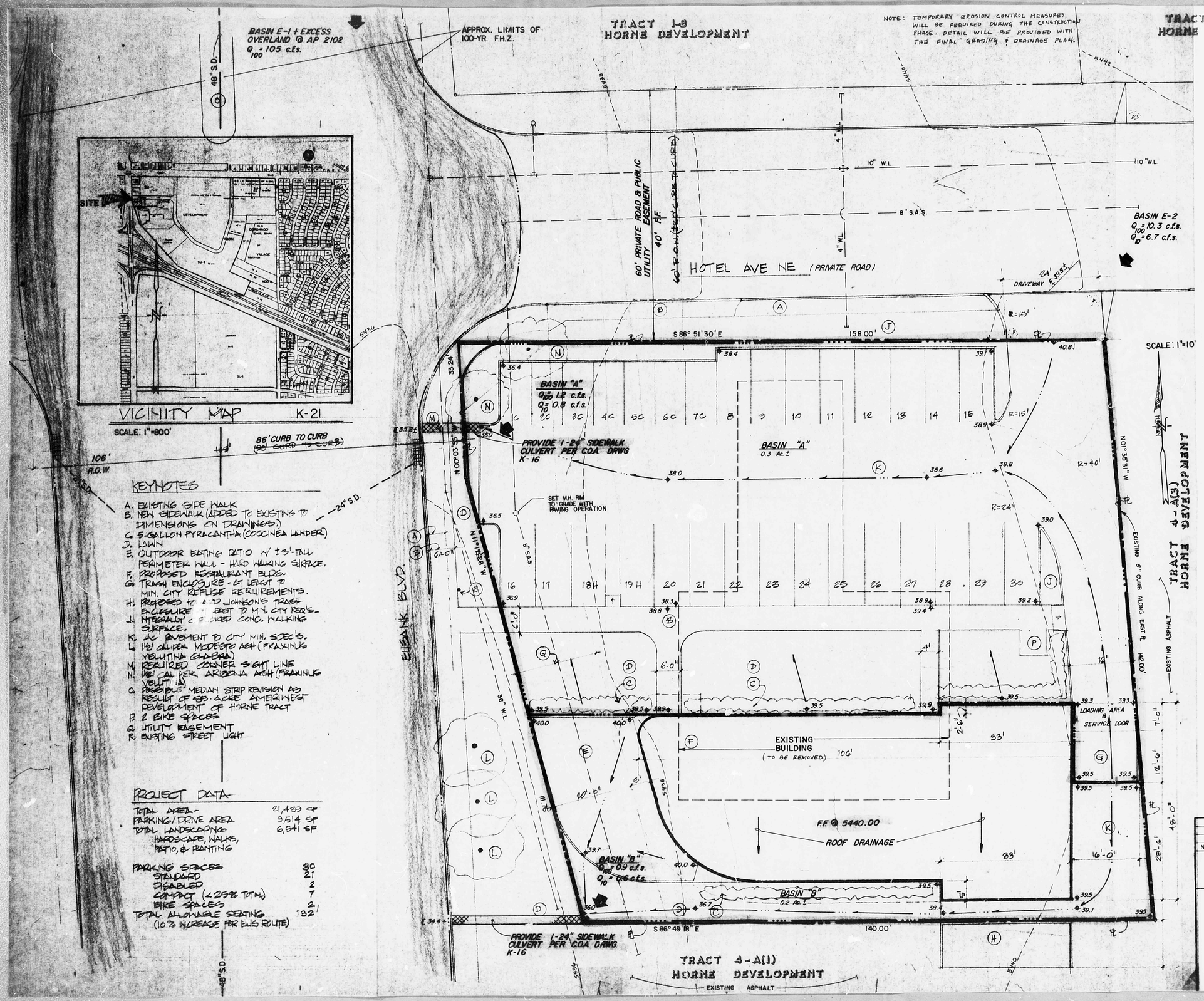
Scale: 1" = 10'

Project No. EH & A
JOB NO. 8046

Date 6-10-86

Drawing No. C 1.1

06-11-86



KEYNOTES

A. EXISTING SIDE WALK
B. NEW SIDEWALK (ADDED TO EXISTING TO DIMENSIONS ON DRAWINGS.)
C. 5-GALLON PYRACANTHA (COCCINEA LANDER)
D. LAWN
E. OUTDOOR EATING PATIO W/ ±3'-TALL PERIMETER WALL - HARD WALKING SURFACE.
F. PROPOSED RESTAURANT BLDG.
G. TRASH ENCLOSURE - AT LEAST TO MIN. CITY REFUSE REQUIREMENTS.
H. PROPOSED HOME JOHNSONS TRASH ENCLOSURE AT LEAST TO MIN. CITY REQ'S.
I. INTEGRALLY COLORED CONC. WALKING SURFACE.
K. AC PAVEMENT TO CITY MIN. SPEC'S.
L. 1½" CALIPER MODESTO ASH (FRAXINUS VELUTINA GLABRA)
M. REQUIRED CORNER SIGHT LINE
N. 1½" CAL PER. ARIZONA ASH (FRAXINUS VELUTINA)
O. POSSIBLE MEDIAN STRIP REVISION AS RESULT OF 39.4 ACRE AMERIWEST DEVELOPMENT OF HORNE TRACT
P. 2 BIKE SPACES
Q. UTILITY EASEMENT
R. EXISTING STREET LIGHT

PROJECT DATA

TOTAL AREA -	21,439 SF
PARKING/DRIVE AREA	9,514 SF
TOTAL LANDSCAPING (HARDSCAPE, WALKS, PATIO, & PLANTING	6,541 SF
PARKING SPACES	30
STANDARD	21
DISABLED	2
COMPACT (< 25% TOTAL)	7
BIKE SPACES	2
TOTAL ALLOWABLE SEATING (10% INCREASE PER EUS ROUTE)	132

CONCEPTUAL DRAINAGE & GRADING PLAN

The Conceptual Drainage & Grading Plan presented hereon defines the necessary on-site and off-site facilities and drainage criteria required to manage developed storm runoff for the proposed Owl Cafe. The site is proposed for development of a restaurant and is presently zoned "SU-1".

The project site contains approximately 0.5 acres and is located at the southeast corner of Eubank Blvd. NE and Hotel Avenue NE. As shown by the Vicinity Map, the site is bounded by Hotel Avenue, Eubank Boulevard, and the existing Howard Johnson's site.

As shown by Plate 31 of 50 of the NFIP floodway maps, Eubank Boulevard is impacted by the 100-year flood hazard zone. It is required that this development not further impact the FHZ.

Presently, the site is developed as a full service gas station. Storm water generated by the existing site sheet flows into Eubank Boulevard. Existing drainage facilities within Eubank Boulevard include a 48-inch storm drain which outfalls into the I-40 channel, and a 24-inch storm drain (maintained by NMSHD) which outfalls into Los Altos Park and eventually the I-40 channel via a 54-inch culvert. The site presently utilizes these facilities. No off-site storm water impacts the site.

The drainage criteria proposed for this project is outlined in the Conceptual Drainage and Grading Plan for Market Centre East, (KEI/Dibb), prepared by Espey, Huston & Associates, Inc., dated March 24, 1986. As outlined in the referenced plan, this site shall free discharge storm water into the drainage facilities located in Eubank Boulevard. Due to the separation of time of concentrations between the 48-inch storm drain and the site, it was determined that free discharge of storm water from this site would impact the 100-year FHZ less than ponding. Also, as demonstrated by the calculations (see below), the new development will discharge less stormwater than the existing development, primarily due to the addition of landscaping features.

The calculations shown below analyze the existing and developed conditions for 100 year and 10 year-6 hour duration storms falling over the project site and contributing offsite areas. The design criteria for this analysis is outlined in the Development Process Manual, Volume II, Chapter 22.

EPC SUBMITTAL

The Conceptual Drainage Management Plan presented in this package is expressly intended for the purpose of identifying onsite and offsite drainage criteria and facilities and to demonstrate the feasibility of the proposed drainage concepts. This plan shall be submitted to the EPC for it's use in granting approval of the proposed Site Development Plan and shall not be used for construction purposes without approval of the engineer.

LEGAL DESCRIPTION

"Station Site" of First Replat of Tract 4A, Horne Development Addition.

PROJECT BM

A square chiseled on top of concrete curb located at ENE curb return at the intersection of Lomas Blvd. NE and Morris Street NE. Elevation = 5579.817 feet (MSL.D).

TOPOGRAPHY

The topography shown on this sheet is taken from City of Albuquerque Topographic Orthophoto Map No. K-21, dated March 26, 1976. No field survey was performed.

ADDITIONAL SITE DEVELOPMENT PLAN NOTES

1. Building Area = 4300 SF
2. Total Signage: wall mounted = 130 SF
3. No free standing sign.
4. Owner will provide landscaping irrigation system and is responsible for landscaping maintenance within the property.
5. Existing gas station structure to be removed.

CALCULATIONS

I. DESIGN CRITERIA

A. Rainfall
P_{100} = 2.45 in. P_{10} = 1.61 in.

B. Soils
TgB - Tijeras - Soil Group "B"

C. Rational "C" Factor
Existing undeveloped soil C = 0.40
Drives, streets, walks C = 0.95
Roofs C = 0.90
Landscaping, Lawns C = 0.25

D. Time of Concentration
$tc = 0.0078\,(L^{0.77}/s^{0.385})$

E. Rainfall Intensity
$i = P_{6.84}\,tc^{-0.51}$

F. Runoff
Q = CIA

G. Volume
V = PCA

II. RUNOFF

Basin	Area (Ac)	tc (min)	i_{100} (in/hr)	"C"	Q_{100} (cfs)	Q_{10} (cfs)	V_{100} (cf)	V_{10} (cf)
A	0.3	10	5.18	0.78	1.2	0.8	2,080	1,365
B	0.2	10	5.18	0.84	0.9	0.6	1,495	980
A & B	0.5	10	5.18	0.94	~~2.1~~ 2.08	~~1.4~~ 1.4	~~3,580~~ 3,575	2,745
Existing Site	0.5	10	5.18	0.81	2.1	1.4	3,690	2,365
E-1*	7.36	10	5.18	0.92	35.1	23.0	60,220	39,565
E-2*	2.14	10	5.18	0.92	10.2	6.7	14,465	9,505
AP-2102**	—	—	—	—	70	—	—	—

* See Conceptual Drainage & Grading Plan for Market Centre East.
** See AMDS Hydrograph @ AP2102

LEGEND

—S.D.—	STORM DRAIN		EXIST. FIRE HYDRANT
	SWALE	—WL—	EXIST. WATER LINE
35.9	SPOT ELEVATIONS	—SAS—	EXIST. SANITARY SEWER
	PROPERTY BOUNDARY		EXIST SEWER MANHOLE
	BASIN BOUNDARY		EXIST. CONTOUR
	FLOOD HAZARD ZONE		
	ROOF DRAINAGE		

RECEIVED APR 02 1986 HYDROLOGY SECTION

NO.	REVISIONS	BY	DATE

OWL CAFE
CONCEPTUAL GRADING AND DRAINAGE PLAN

04-01-86

ESPEY, HUSTON & ASSOC., INC.
Engineering & Environmental Consultants
4801 INDIAN SCHOOL ROAD NE SUITE 204
ALBUQUERQUE, NEW MEXICO 87110
PHONE (505) 255-1625

DESIGNED BY D.L. DATE 4-1-86
DRAWN BY M.E.C. FB —
CHECKED BY D.L. JOB NO. 8246
APPROVED BY D.L.
SHEET NO. 1 OF 1 SHEET