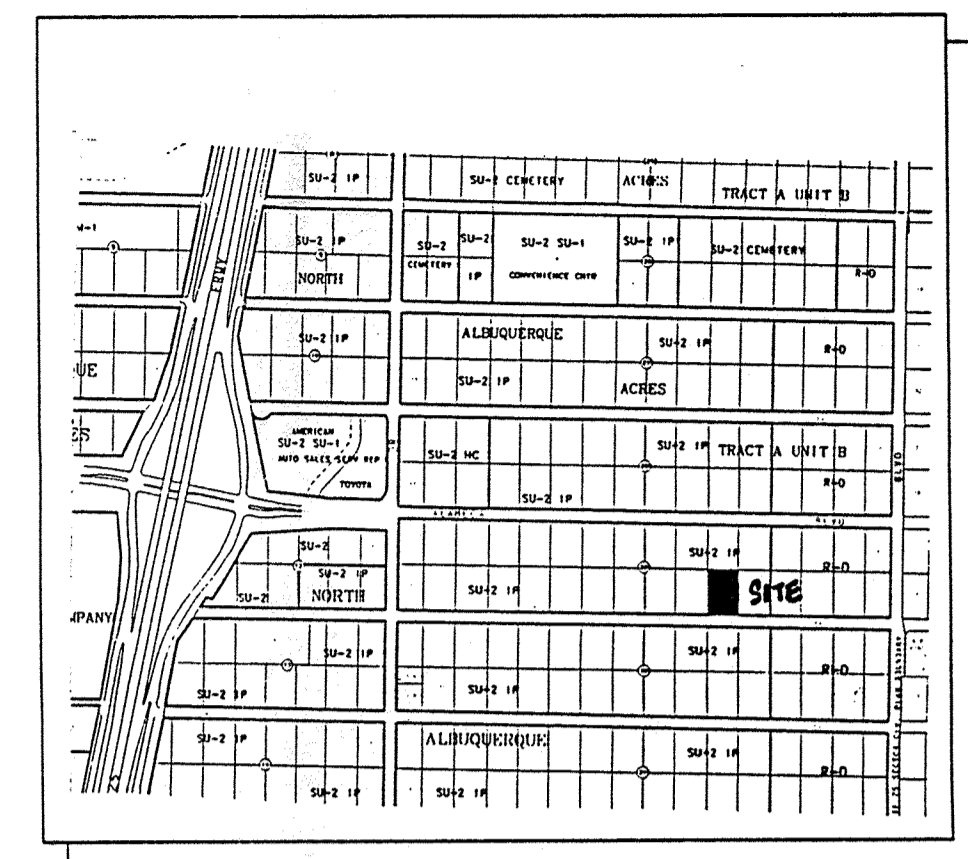


Offices & Warehouse Facility for  
 Royal Plumbing & Heating  
 6401 SIGNAL AVENUE NE, ALBUQUERQUE, NEW MEXICO

**KEN HOVEY, ARCHITECT**  
 5001 254-0083 • FAX 5001 254-8001 • 3008 51MS AVE SE • ALBUQUERQUE, NM • 87108

JOB NO:	9736
DATE:	26 JUNE 1997
REVISIONS:	
	26 AUGUST 1997

SHEET NO.  
**C-1**



VICINITY MAP  
 ZONE ATLAS C-18

Case Number: DRB-97-357

This plan is consistent with the specific site plan amendment approved by the Development Review Board (DRB) on Dec. 2, 1997 and that findings of the official notice have been complied with.

<i>Michael J. Kelly</i>	12-08-97
Traffic Engineer, Transportation Division	Date
<i>Edward J. Harty</i>	12/2/97
Development Department / CIP	Date
<i>Ronald R. Green</i>	12/2/97
Public Works / Water Utilities Division	Date
<i>Frank D. Lovelady</i>	1-29-98
City Engineer, Engineering Division / AMAFCA	Date
<i>Karen L. Dini</i>	4/3/98
City Planner, Albuquerque / Planning Division	Date

SECTOR DEVELOPMENT PLAN:  
 THIS SITE FALLS WITHIN THE BOUNDARY OF THE NORTH I-25 SECTOR DEVELOPMENT PLAN AND MUST ADHERE TO THE REQUIREMENTS OF THAT PLAN AS WELL AS THE REQUIREMENTS OF THE ZONING CODE.

BUILDING USE:  
 THIS FACILITY WILL PROVIDE OFFICES FOR ROYAL PLUMBING AND HEATING, AS WELL AS A PARTS WAREHOUSE, ASSEMBLAGE AREA AND INDOOR PARKING FOR SERVICE VEHICLES. THERE WILL BE NO OUTSIDE STORAGE.

**DESIGN CRITERIA:**

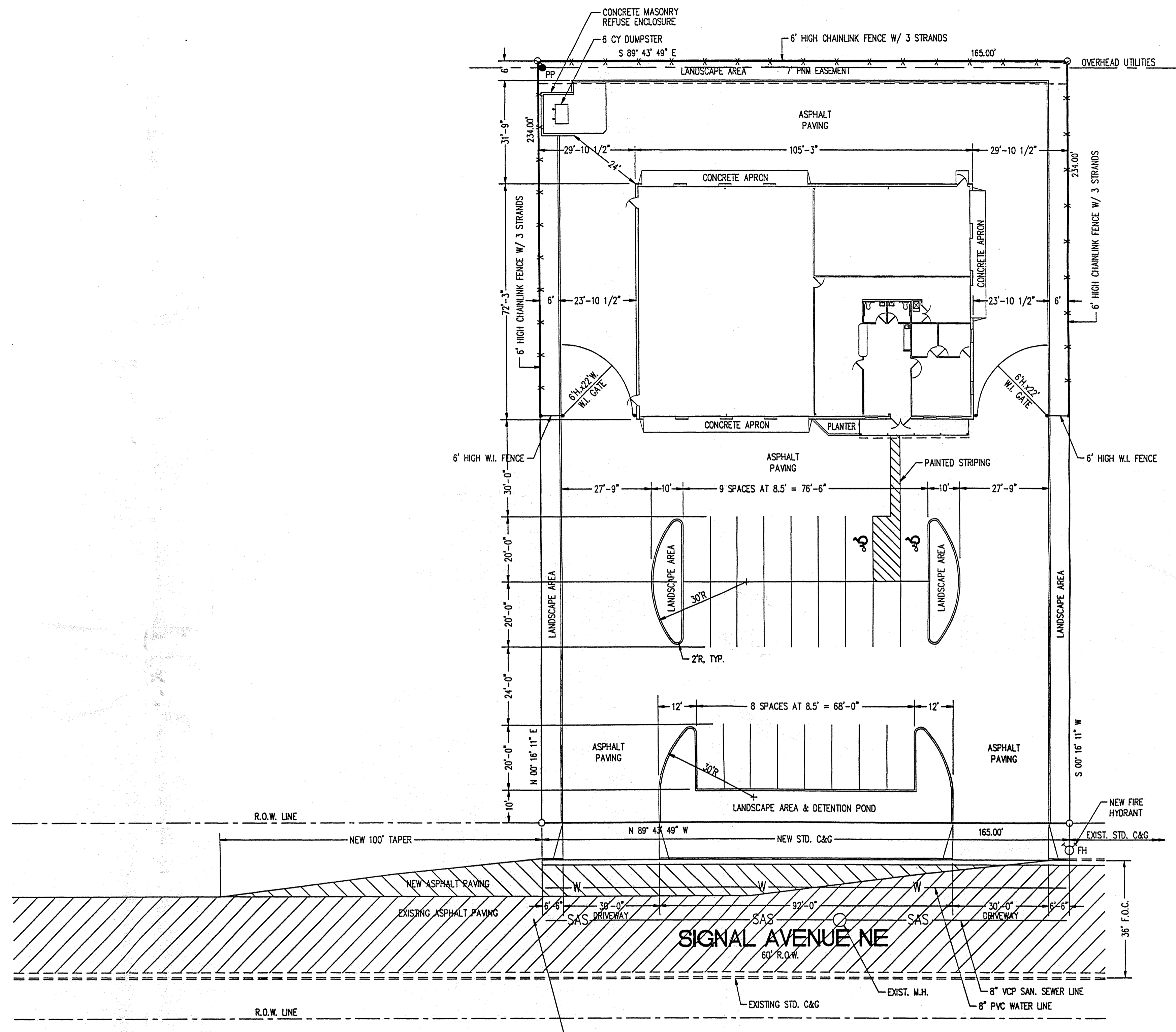
LEGAL DESCRIPTION:  
 LOT 22 IN BLOCK 29, TRACT "A", UNIT "B", NORTH ALBUQUERQUE ACRES, BERNALILLO COUNTY, ALBUQUERQUE, NEW MEXICO.

ZONE ATLAS MAP: C-18  
 ZONING: SU-2 FOR IP USE  
 OCCUPANCY CLASSIFICATION: B-2, B-1  
 TYPE OF CONSTRUCTION: II-N  
 GROSS FLOOR AREA: 7,560 SQUARE FEET  
 NET LEASABLE FLOOR AREA:  
 OFFICE AREA: 1,066 SQUARE FEET  
 ASSEMBLAGE AREA: 1,325 SQUARE FEET  
 SERVICE VEHICLE PARKING: 3,887 SQUARE FEET  
 PARTS WAREHOUSE: 996 SQUARE FEET

OFF-STREET PARKING REQUIRED:  
 1,066 + 1,325 + 3,887 + 996 = 9,096 — 10 SPACES  
 200 1,000 2,000

OFF-STREET PARKING PROVIDED:  
 PARKING ON-SITE: 25 SPACES  
 PARKING IN BUILDING: 8 SPACES  
 TOTAL PROVIDED: 33 SPACES

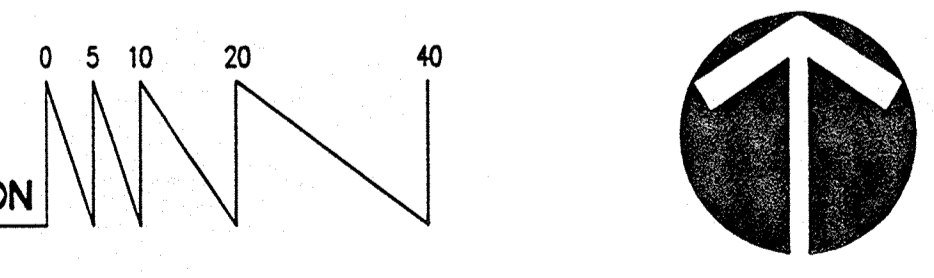
MAXIMUM HEIGHT PERMITTED (BY ZONING CODE):  
 BASED ON 45-DEGREE-ANGLE PLANES DRAWN FROM THE HORIZONTAL AT THE MEAN GRADE ALONG EACH BOUNDARY OF THE PREMISES, THE STRUCTURE HEIGHT WILL BE RESTRICTED TO 29'-10 1/2".  
 ACTUAL STRUCTURE HEIGHT: 19'-6"



FOR EXACT LINES AND LIMITS OF NEW STD. CURB & GUTTER AND ASPHALT PAVING, REFER TO PLAN & PROFILE DRAWING PREPARED BY FRANK D. LOVELADY, PE

**SITE PLAN** ULTIMATE CONDITION  
 SCALE: 1-20.0'

NOTE:  
 THIS SITE PLAN ILLUSTRATES THE "ULTIMATE CONDITION" WITH A DETENTION POND WITH RESTRICTED DISCHARGE.  
 AN "INTERIM CONDITION" INVOLVING A RETENTION POND IS REQUIRED BECAUSE SIGNAL DOES NOT HAVE CURB & GUTTER OR PAVING BETWEEN THIS SITE AND EXISTING STORM SEWER FACILITIES TO THE WEST.  
 AT SUCH TIME AS THE CURB & GUTTER AND PAVING IS INSTALLED, THE RETENTION POND WILL BE REPLACED WITH A DETENTION POND WITH RESTRICTED DISCHARGE AS SHOWN HEREON.



DRB-97-357

DRB-97-357

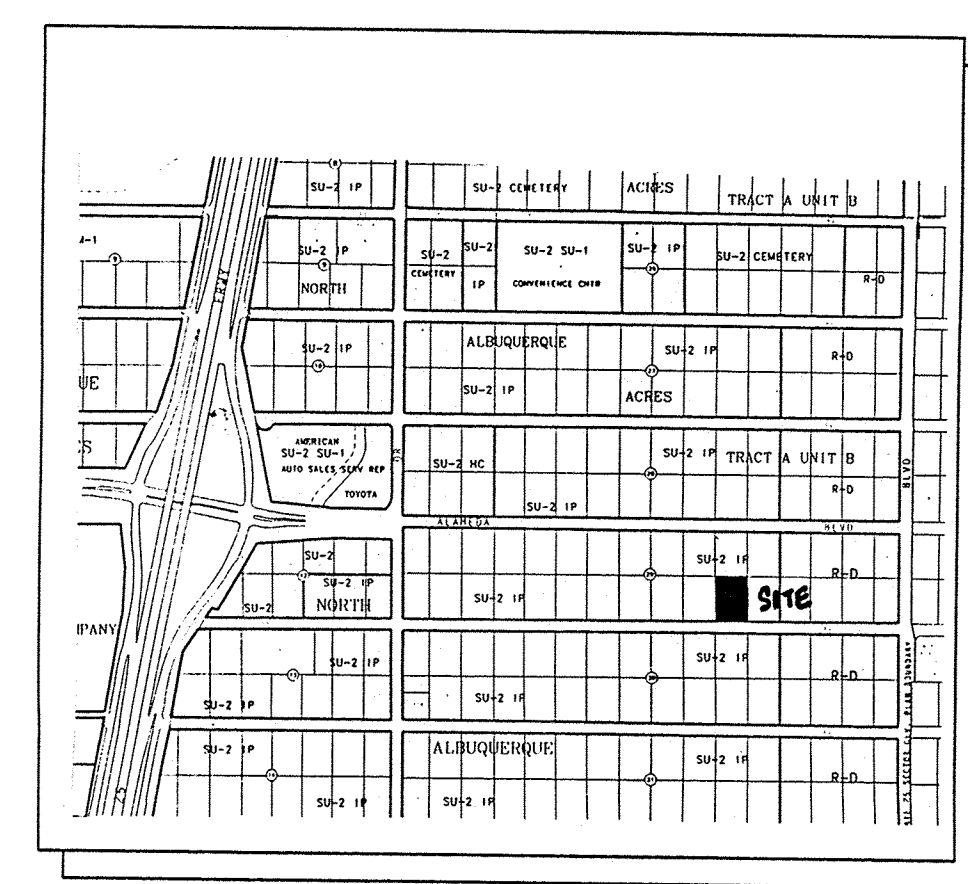


**Offices & Warehouse Facility for  
Royal Plumbing & Heating**  
6401 SIGNAL AVENUE NE, ALBUQUERQUE, NEW MEXICO

**KEN HOVEY, ARCHITECT**  
5001 254-0083 • FAX 505/241-2401 • 3008 5145 AVE. SE • ALBUQUERQUE, NM • 87108

JOB NO:	9736
DATE:	26 JUNE 1997
REVISIONS	
	26 AUGUST 1997

SHEET NO.  
**C-2**



**VICINITY MAP**  
ZONE ATLAS C-18

Case Number: DRB-97-357

This plan is consistent with the specific site plan amendment approved by the Development Review Board (DRB) on Dec. 2, 1997 and that findings of the official notice have been complied with.

Traffic Engineer, Transportation Division \_\_\_\_\_ Date \_\_\_\_\_

Design and Development Department / CIP \_\_\_\_\_ Date \_\_\_\_\_

Public Works, Water Utilities Division \_\_\_\_\_ Date \_\_\_\_\_

City Engineer, Engineering Division / AMAFCA \_\_\_\_\_ Date \_\_\_\_\_

City Planner, Albuquerque / Planning Division \_\_\_\_\_ Date \_\_\_\_\_

**SECTOR DEVELOPMENT PLAN:**  
THIS SITE FALLS WITHIN THE BOUNDARY OF THE NORTH I-25 SECTOR DEVELOPMENT PLAN AND MUST ADHERE TO THE REQUIREMENTS OF THAT PLAN AS WELL AS THE REQUIREMENTS OF THE ZONING CODE.

**BUILDING USE:**  
THIS FACILITY WILL PROVIDE OFFICES FOR ROYAL PLUMBING AND HEATING, AS WELL AS A PARTS WAREHOUSE, ASSEMBLAGE AREA AND INDOOR PARKING FOR SERVICE VEHICLES. THERE WILL BE NO OUTSIDE STORAGE.

**DESIGN CRITERIA:**

LEGAL DESCRIPTION:  
LOT 22 IN BLOCK 29, TRACT "A", UNIT "B", NORTH ALBUQUERQUE ACRES, BERNALILLO COUNTY, ALBUQUERQUE, NEW MEXICO.

ZONE ATLAS MAP: C-18

ZONING: SU-2 FOR IP USE

OCCUPANCY CLASSIFICATION: B-2, B-1

TYPE OF CONSTRUCTION: II-N

GROSS FLOOR AREA: 7,560 SQUARE FEET

NET LEASABLE FLOOR AREA:

- OFFICE AREA: 1,066 SQUARE FEET
- ASSEMBLAGE AREA: 1,325 SQUARE FEET
- SERVICE VEHICLE PARKING: 3,887 SQUARE FEET
- PARTS WAREHOUSE: 996 SQUARE FEET

OFF-STREET PARKING REQUIRED:

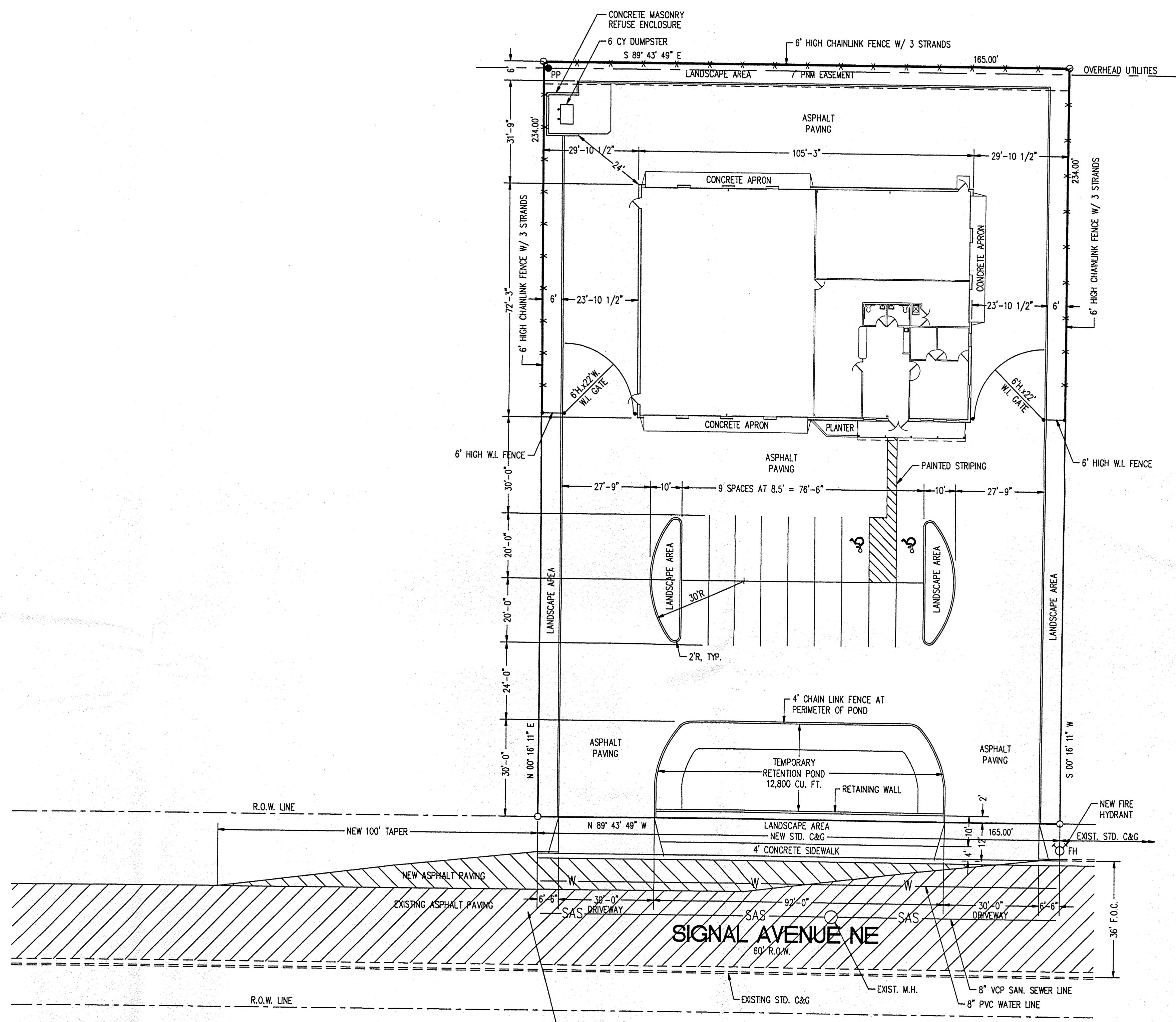
1,066	+	1,325	+	3,887+996	=	9.09	→	10 SPACES
200		1,000		2,000				

OFF-STREET PARKING PROVIDED:

PARKING ON-SITE:	17 SPACES
PARKING IN BUILDING:	8 SPACES
TOTAL PROVIDED:	25 SPACES

MAXIMUM HEIGHT PERMITTED (BY ZONING CODE):  
BASED ON 45-DEGREE-ANGLE PLANES DRAWN FROM THE HORIZONTAL AT THE MEAN GRADE ALONG EACH BOUNDARY OF THE PREMISES, THE STRUCTURE HEIGHT WILL BE RESTRICTED TO 29'-10 1/2".

ACTUAL STRUCTURE HEIGHT: 19'-6"



FOR EXACT LINES AND LIMITS OF NEW STD. CURB & GUTTER AND ASPHALT PAVING, REFER TO PLAN & PROFILE DRAWING PREPARED BY FRANK D. LOVELADY, PE

**SITE PLAN INTERIM CONDITION**  
SCALE: 1"=20.0'

NOTE:  
THE INTERIM CONDITION FOR THIS SITE PLAN INVOLVES A TEMPORARY RETENTION POND. THE POND IS REQUIRED BECAUSE SIGNAL DOES NOT HAVE CURB & GUTTER OR PAVING BETWEEN THIS SITE AND EXISTING STORM SEWER FACILITIES TO THE WEST.  
AT SUCH TIME AS THE CURB & GUTTER AND PAVING IS INSTALLED THE RETENTION POND WILL BE REPLACED WITH A DETENTION POND WITH RESTRICTED DISCHARGE. THIS IS DESCRIBED ON THE SITE PLAN LABELED "ULTIMATE CONDITION".

APR 22 1997  
APPROVED  
1-27-97  
SIGNATURE & DATE



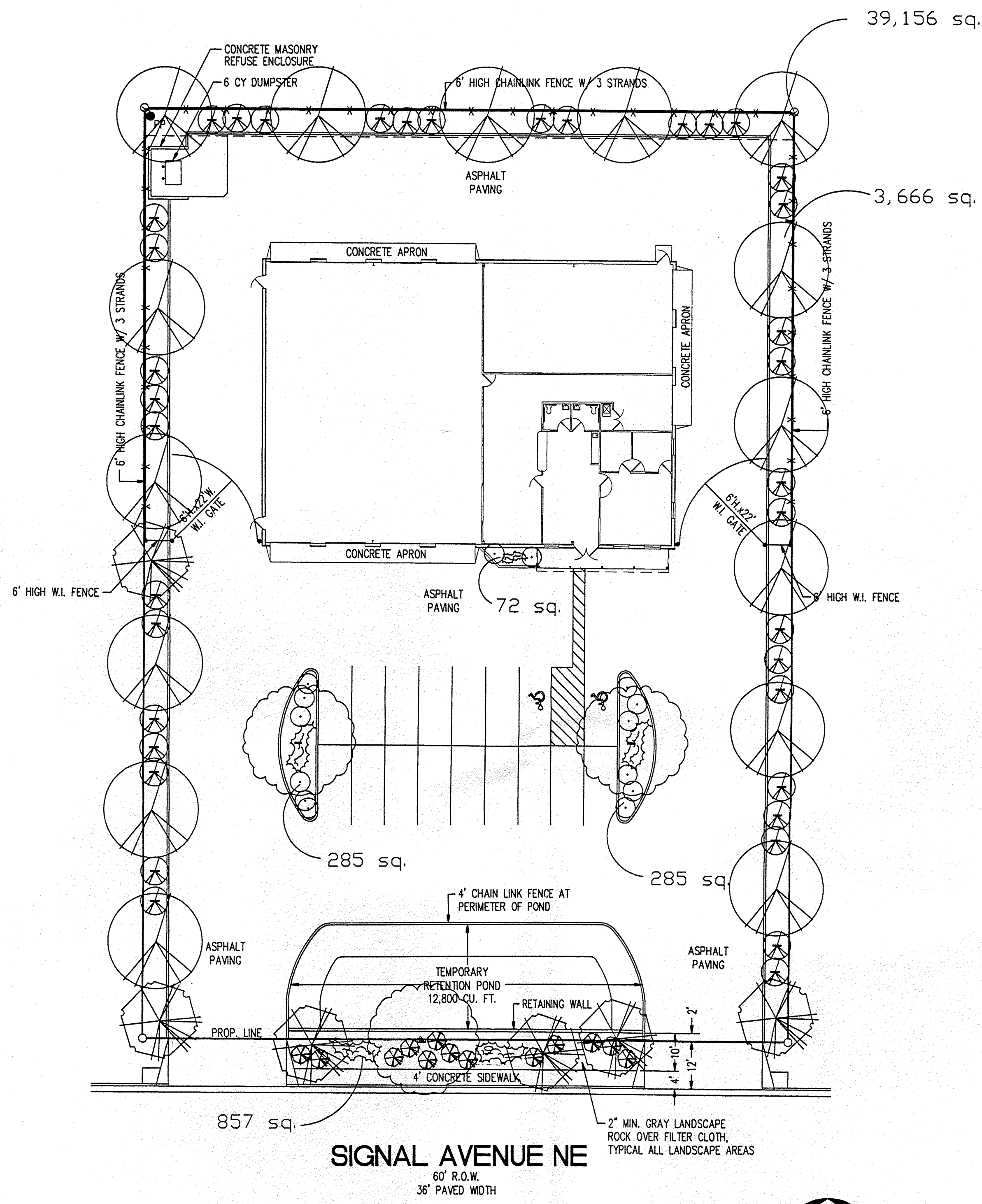
**Offices & Warehouse Facility for  
Royal Plumbing & Heating**  
6401 SIGNAL AVENUE NE, ALBUQUERQUE, NEW MEXICO

**KEN HOVEY, ARCHITECT**  
1505 254-0083 • FAX 1505 254-8071 • 3008 SIMP. AVE. SE • ALBUQUERQUE, NM • 87108

JOB NO:	9736
DATE:	26 JUNE 1997
REVISIONS	
	26 AUGUST 1997

SHEET NO.  
**C-3**

- 
- 2" CAL ASH(H)(3)  
Fraxinus pennsylvanica
- 
- 15 GAL HONEY LOCUST(H)(15)  
Gleditsia triacanthos
- 
- 15 GAL FLOWERING PEAR(H)(5)  
Pyrus calleryana
- 
- 5 GAL CHAMISA(L)(37)  
Chrysothamnus nauseosus
- 
- 5 GAL INDIAN HAWTHORN(M)(13)  
Raphiotepis indica
- 
- 5 GAL SILVERBERRY(M)(14)  
Elaeagnus pungens
- 
- 5 GAL TAM JUNIPER(M)(26)  
Juniperus squamata



**LANDSCAPE NOTES:**

All landscaping shall be watered by a complete underground irrigation system operated by automatic timer. Pop Up spray heads to sod lawn. Bubblers to trees and drip irrigation to shrub areas. Irrigation system maintenance shall be the responsibility of the Property Owner.

Landscape maintenance shall be the responsibility of the Property Owner.

It is the intent of this plan to comply with the City Of Albuquerque, water conservation landscaping and waste water ordinance, planting restriction approach.

Approval of this plan does not constitute or imply exemption from water waste provisions of the water conservation landscaping and water waste ordinance. Water management is the sole responsibility of the Property Owner.

**IRRIGATION NOTES:**

Pop Up heads to SOD lawn  
Trees to receive (5) 1.0 GPM Drip Emitters  
Shrubs to receive (1) 1.0 GPM Drip Emitters  
Drip and Bubbler systems to be tied to 1/2" poly pipe with flush caps at each end

Run time per each drip valve will be approximately 15 minutes per week, to be adjusted according

Point of connection for Irrigation system is unknown at current time and will be coordinated in the field.

Irrigation will be operated by automatic controller. Location of controller to be field determined and power source for controller to be provided by others.

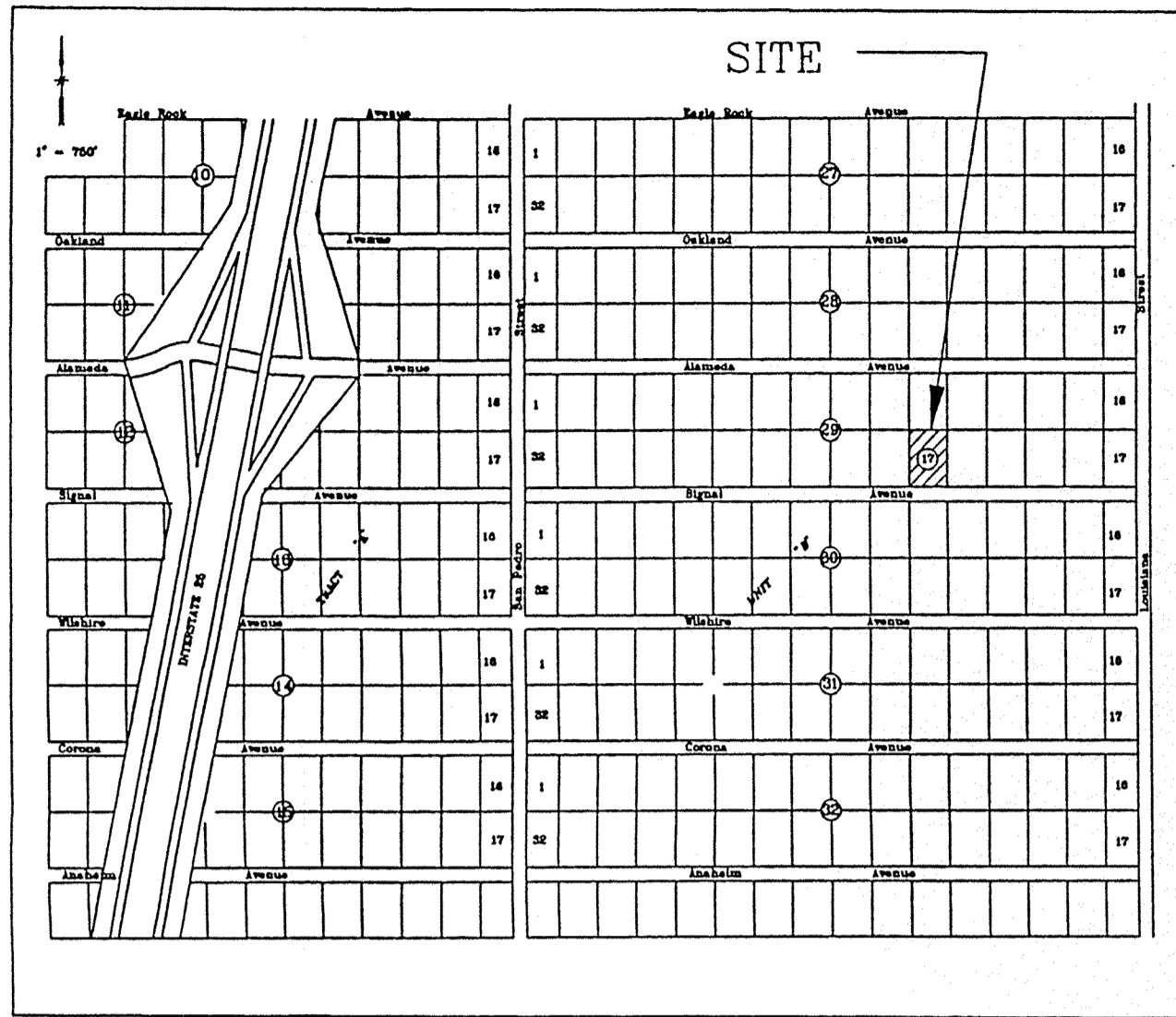
**LANDSCAPE PLAN**  
SCALE: 1"=20.0'

**LANDSCAPE CALCULATIONS**

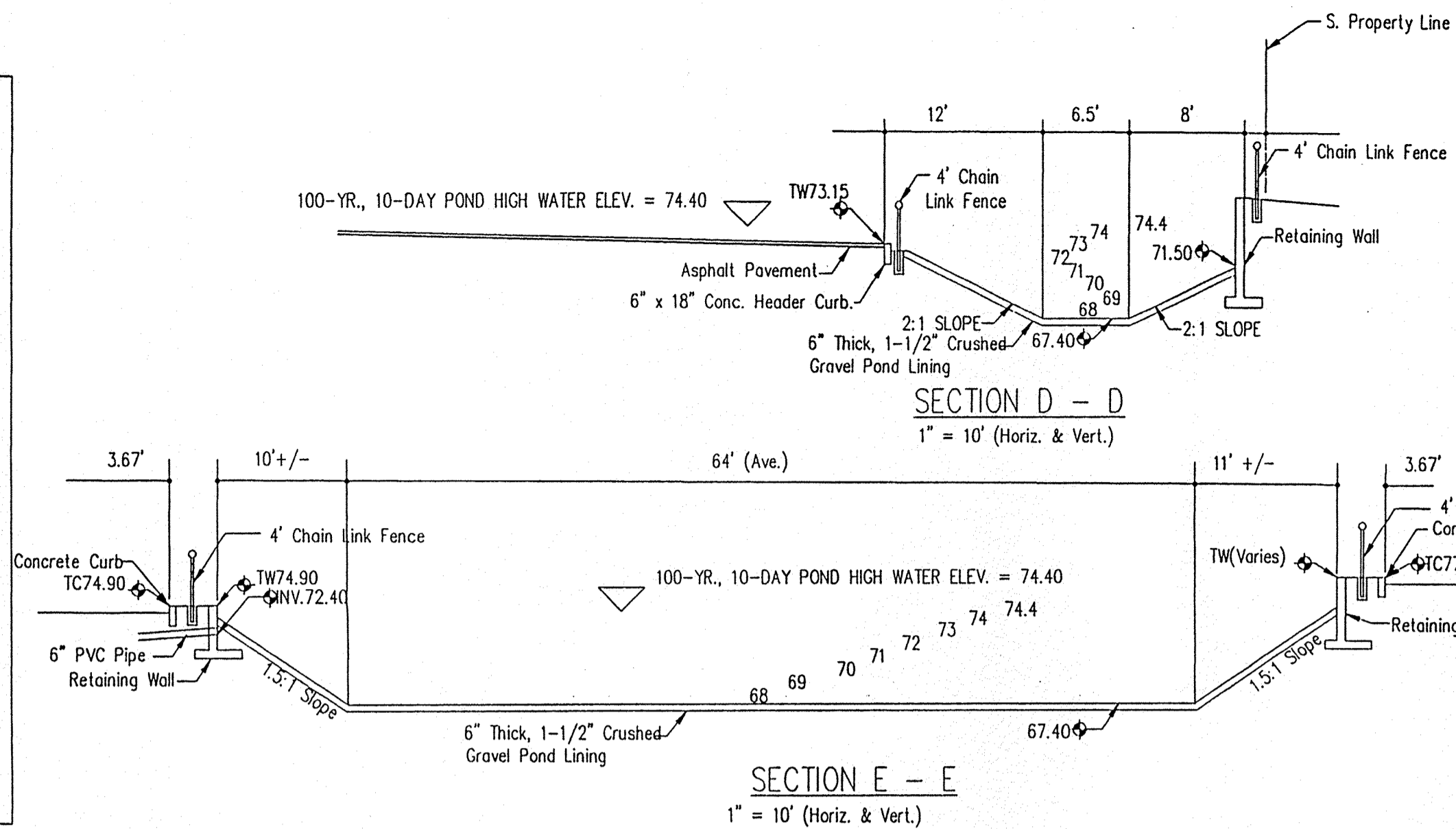
NET LANDSCAPE AREA	
TOTAL LOT AREA	39,156 square feet
TOTAL BUILDINGS AREA	8,420 square feet
TOTAL OFFSITE AREA	0 square feet
NET LOT AREA	30,736 square feet
LANDSCAPE REQUIREMENT	15 square feet
TOTAL LANDSCAPE REQUIREMENT	4,611 square feet
TOTAL LANDSCAPE PROVIDED	5,533 square feet
TOTAL BED PROVIDED	5,533 square feet

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*The Hilltop*



VICINITY MAP ZONE ATLAS NO. C-18



**ON-SITE DRAINAGE CALCULATIONS**

**EXISTING CONDITIONS:**  
 The site is located on the north side of Signal Avenue, N.E., the sixth lot west of Louisiana Blvd. The site is presently undeveloped. Lot 23 to the west is undeveloped. Lot 21 to the east is developed. Lot 11 to the north is also developed. The lot slopes from east to west at an average slope of approximately 3 percent. Signal Avenue is paved in front of the site but only the south half of the street is permanent pavement with curb and gutter. The north half is temporary pavement. The same situation is applicable to the next two lots to the west.

**PROPOSED CONDITIONS:**  
 It is proposed to construct an office and warehouse facility. All runoff will be directed to an interim retention pond in the front parking lot where it will be ponded to a depth of 1.25 feet maximum in the parking lot. The overflow spillway for the pond will be the westerly driveway. The positive discharge pipe will be extended through the face of the retaining wall but will be plugged and covered with fill until such time that downstream drainage improvements are constructed. New curb and gutter and permanent pavement will be provided for under the Subdivision Agreement Process.

**DRAINAGE CRITERIA:**  
 The calculations shown on this plan were prepared in accordance with Section 22.2, Hydrology, of the Development Process Manual, Volume 2, Design Criteria, for the City of Albuquerque, in cooperation with Bernalillo County, New Mexico and the Albuquerque Metropolitan Arroyo Flood Control Authority, January, 1993.

**PRECIPITATION ZONE:**  
 The site is east of San Mateo Boulevard and is, therefore, in Precipitation Zone 3.

**LAND TREATMENT AREAS, EXCESS PRECIPITATION AND UNIT PEAK DISCHARGE:**  
 The peak discharge per acre and excess precipitation are shown for the four land treatments in Zone 3 in the table below, and the values shown are from the City of Albuquerque D.P.M. Also shown are the existing and proposed land treatment areas.

TREATMENT	100-yr. 10-yr.	100-yr. 10-yr.	Existing Site Areas %	Existing Site Areas Sq.Ft.	Existing Site Areas Acres	Developed Site Areas %	Developed Site Areas Sq.Ft.	Developed Site Areas Acres
A	1.87	0.58	0.66	0.19	100.0	38,610	0.8864	0.0
B	2.60	1.19	0.92	0.36	0.0	0.0000	12.0	4,623
C	3.45	2.00	1.29	0.62	0.0	0.0000	6.8	2,610
D	5.02	3.39	2.36	1.50	0.0	0.0000	81.2	31,377
Totals			100.0	38,610	0.8864	100.0	38,610	0.8864

**PEAK DISCHARGE:**  
**EXISTING CONDITIONS:**  
 $Q_{100} = 0.8864 \cdot 1.87 = 1.66$  cfs  $Q_{10} = 0.8864 \cdot 0.58 = 0.51$  cfs

**DEVELOPED CONDITIONS:**  
 $Q_{100} = 2.60 \cdot 0.1061 + 3.45 \cdot 0.0600 + 5.02 \cdot 0.7203 = 4.10$  cfs  
 $Q_{10} = 1.19 \cdot 0.1061 + 2.00 \cdot 0.0600 + 2.39 \cdot 0.7203 = 2.69$  cfs

**VOLUME, 100-YEAR, 6-HOUR:**  
**EXISTING CONDITIONS:**  
 $V_{100} = (0.66 \cdot 38,610) / 12 = 2,124$  cf  $V_{10} = (0.19 \cdot 38,610) / 12 = 611$  cf

**DEVELOPED CONDITIONS:**  
 $V_{100} = (0.92 \cdot 4,623 + 1.29 \cdot 2,610 + 1.50 \cdot 31,377) / 12 = 6,805$  cf  
 $V_{10} = (0.36 \cdot 4,623 + 0.62 \cdot 2,610 + 1.50 \cdot 31,377) / 12 = 4,196$  cf

**SUMMARY OF ON-SITE VOLUMES AND PEAK DISCHARGE RATES:**

	V100(CF)	V10(CF)	Q100(CFS)	Q10(CFS)
EXISTING	2,140	611	1.66	0.51
DEVELOPED	6,805	4,196	4.10	2.69
DECREASE	4,665	3,585	2.44	2.18

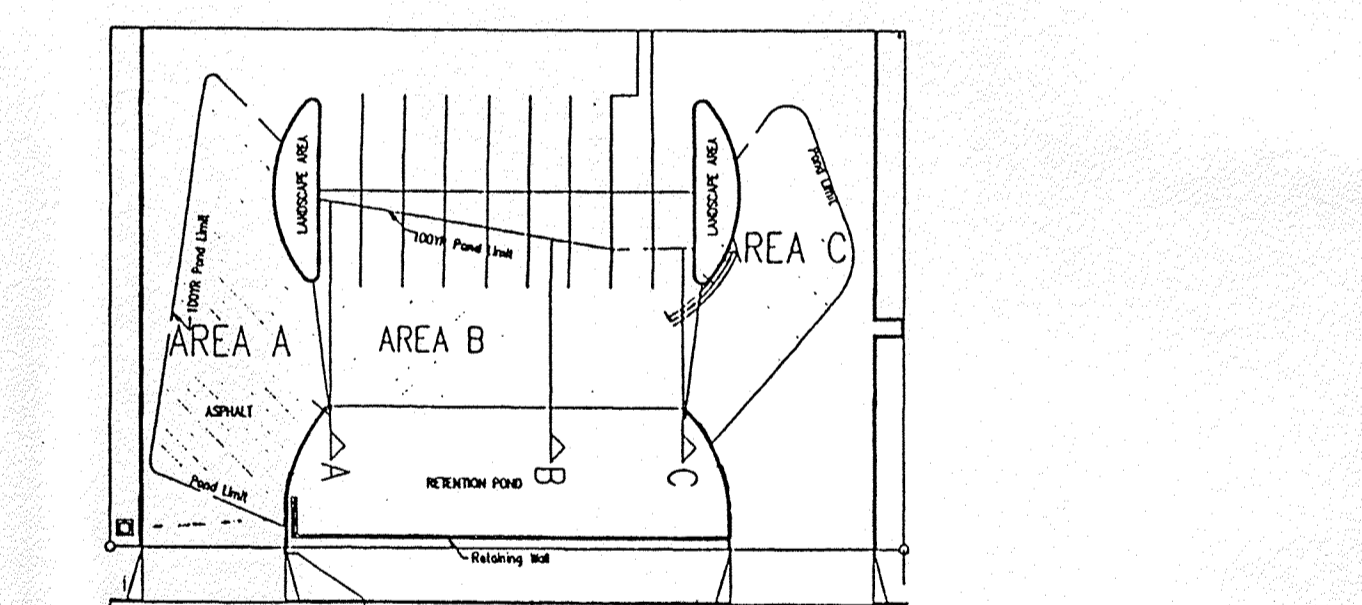
**OFF-SITE DRAINAGE CALCULATIONS**

**DESCRIPTION OF OFF-SITE BASIN:**  
 The off-site area is shown on the floodway map inset (Sht. C-3). The area is roughly triangular, extending 300 feet to the east and the base of the triangle being the east property line of the site. The off-site area is as follows:  $A = (300 \times 234) / 2 = 35,100$  sf or 0.8058 Ac.

**WEIGHTED VALUES FOR EXCESS PRECIPITATION AND PEAK DISCHARGE:**  
 From DPM, Table A-5, the percent Treatment D for Commercial is 90%. Assume the remainder is landscaping.

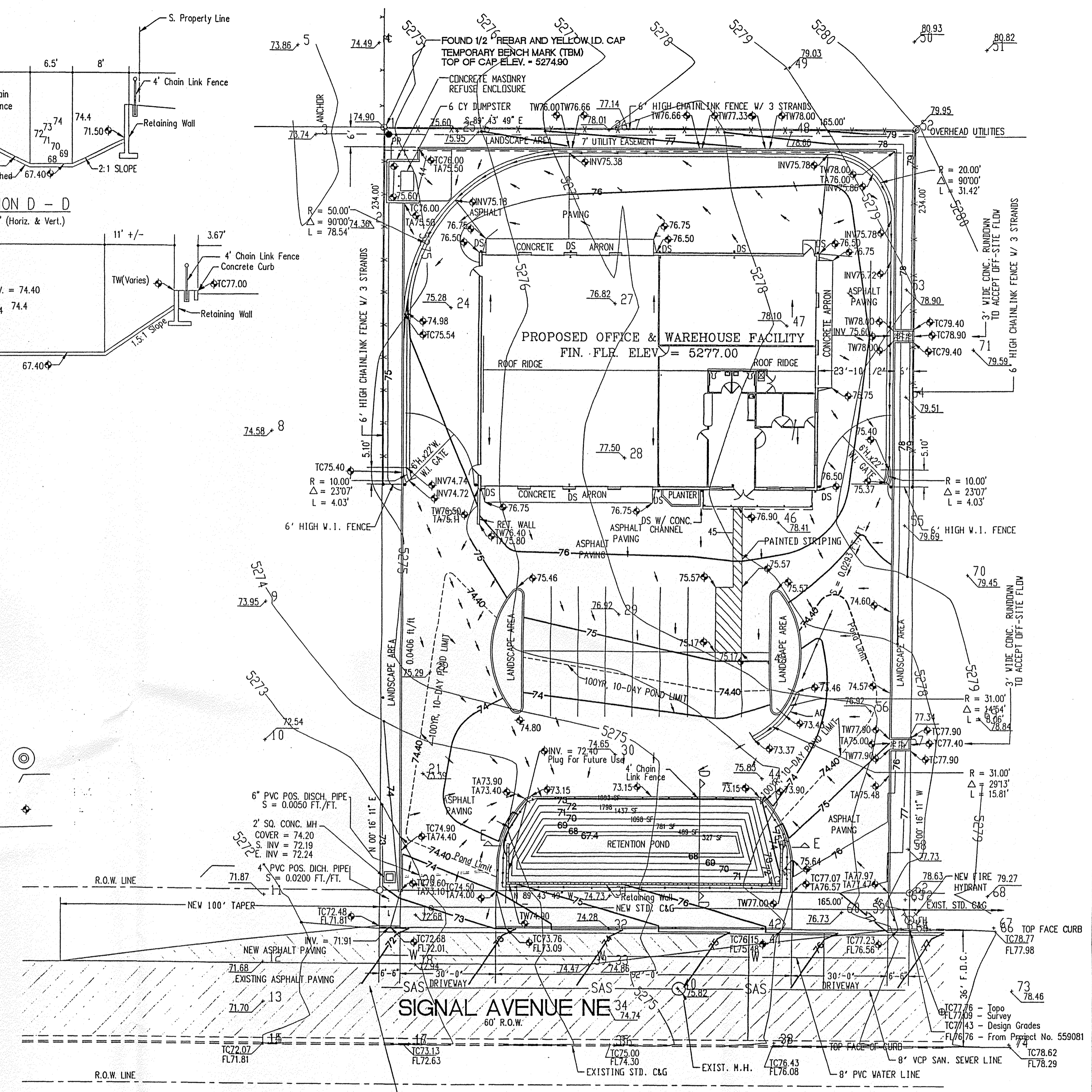
$E(w) = 0.1 \times 0.92 + 0.9 \times 2.36 = 2.21$  inches  
 $q(w) = 0.1 \times 2.60 + 0.90 \times 5.02 = 4.78$  cfs/acre  
 $Q_{100} = 0.8058 \times 4.78 = 3.85$  cfs  $V_{360} = (35,100 \times 2.21) / 12 = 6,464$  cf

**ACCEPTING OFF-SITE FLOW:**  
 According to the existing contours, off-site flow will enter the site at two locations, each taking approximately half of the flow. Three-foot-wide concrete roundovers are proposed, 6' deep at inlet. Use Weir Equation,  $Q = CLH^{3/2}$   $C = 3.0$   $L = 3.0$   $H = 0.5'$   
 $Q = 3.0 \times 3.0 \times 0.5^{3/2} = 3.18$  cfs  $> 3.85 / 2$  (3' wide roundover is adequate).  
 Off-site flows will flow out through the westerly driveway.



**ACTUAL RETENTION POND**

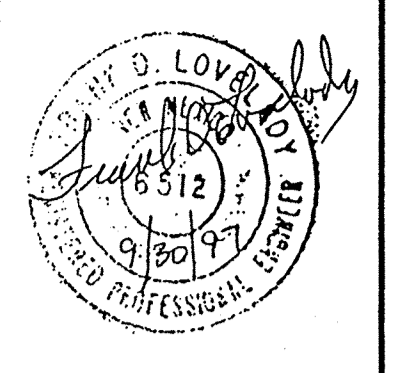
CONTOUR	AREA	AVE. AREA	DIST.	VOL.
Area A	2094 sf.	Use Pyramid Eq. $V = Bh/3$ $V = (2094 \times 1.25) / 3 = 873$ cf		
Area B	(See cross sections above)			
Area C	1238 sf.	Use Pyramid Eq. $V = Bh/3$ $V = (1238 \times 1.25) / 3 = 515$ cf		
TOTAL PARKING LOT PONDING	73	1,993	1.0	1,896 CF
TOTAL VOLUME	873 + 2,113 + 515 =			3,501 CF
TOTAL VOLUME RETAINED:	74.4	2,193	2,093	1.4
TOTAL VOLUME				2,930 CF
TOTAL RETENTION POND VOLUME				9,530 CF



**GRADING AND DRAINAGE PLAN - INTERIM CONDITIONS**  
 SCALE: 1"=20.0'

- DRAINAGE NOTES:**
- The Site is located in a partially developed area where some of the streets are still unpaved and underground infrastructure is incomplete. The lot is located on a relatively high portion of an area that is predominantly flat and ribboned with numerous braided arroyo channels. There are no historic arroyo channels in the vicinity of the site.
  - The site does not lie within or adjacent to a designated flood hazard area as shown on FEMA Floodway Map inset or as indicated by FEMA FIRM Map No. 137 D, effective September 20, 1996.
  - Runoff generated by the site will be retained until such time that there are downstream drainage facilities, and then detained as required by downstream capacity. (See Ultimate G&D Plan)
- LEGAL DESCRIPTION:**  
 LOT 22 IN BLOCK 29, TRACT "A", UNIT "B", NORTH ALBUQUERQUE ACRES, BERNALILLO COUNTY, ALBUQUERQUE, NEW MEXICO.
- BENCH MARK INFORMATION:**  
 BASIS OF ELEVATION: ACS 9-C18  
 TOPOGRAPHIC SURVEY BY E. MAXWELL DOAK-SURVEYORS

SIGNAL-BDWG (SEPTEMBER 30, 1997)



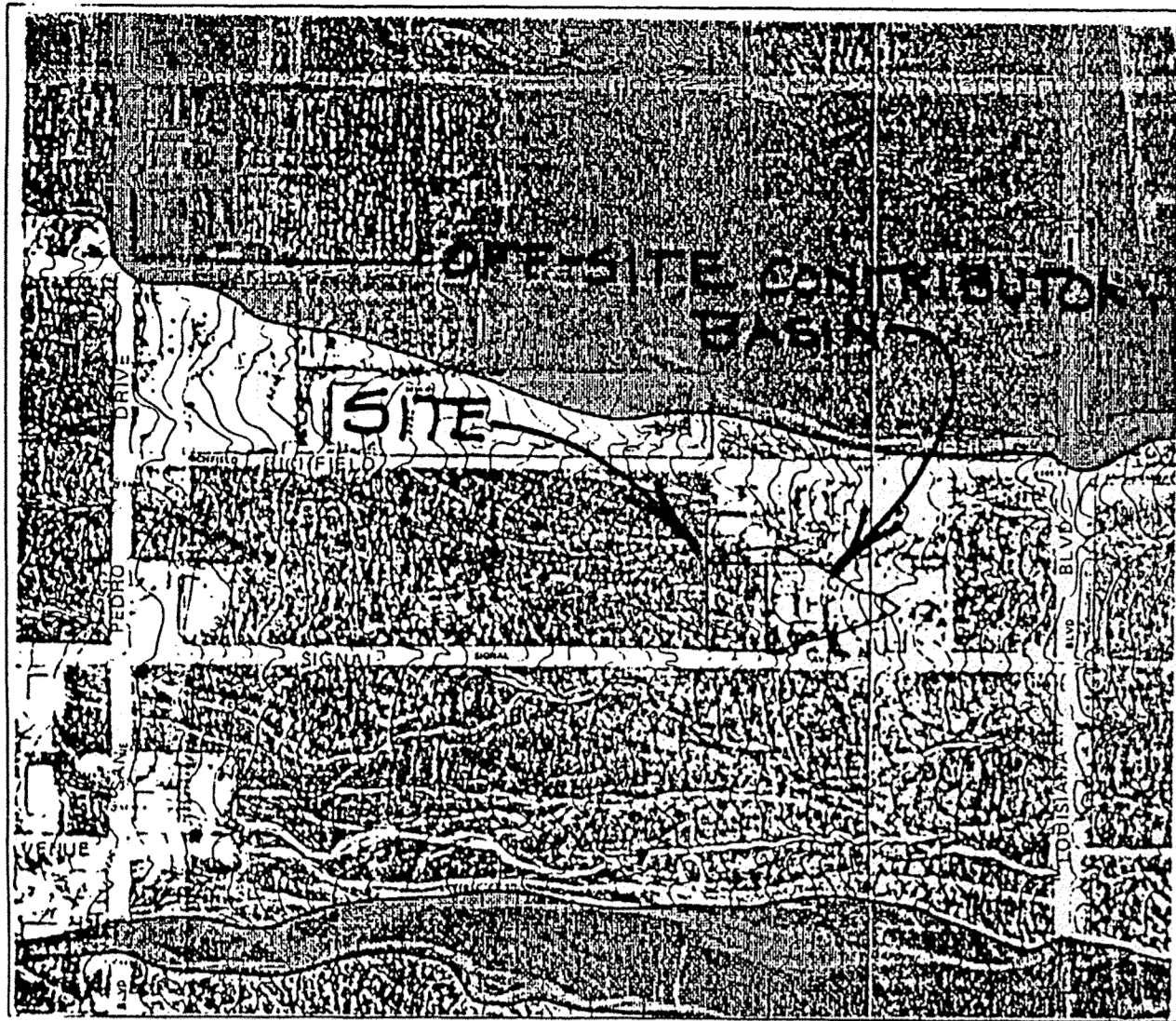
**Offices & Warehouse Facility for**  
**Royal Plumbing & Heating**  
 LOCATED ON SIGNAL AVENUE NE, ALBUQUERQUE, NEW MEXICO

**KEN HOVEY, ARCHITECT**  
 5501 254-0083 • FAX (505) 254-8091 • 3008 SANMATEO AVE. SE. ALBUQUERQUE, NM • 87108

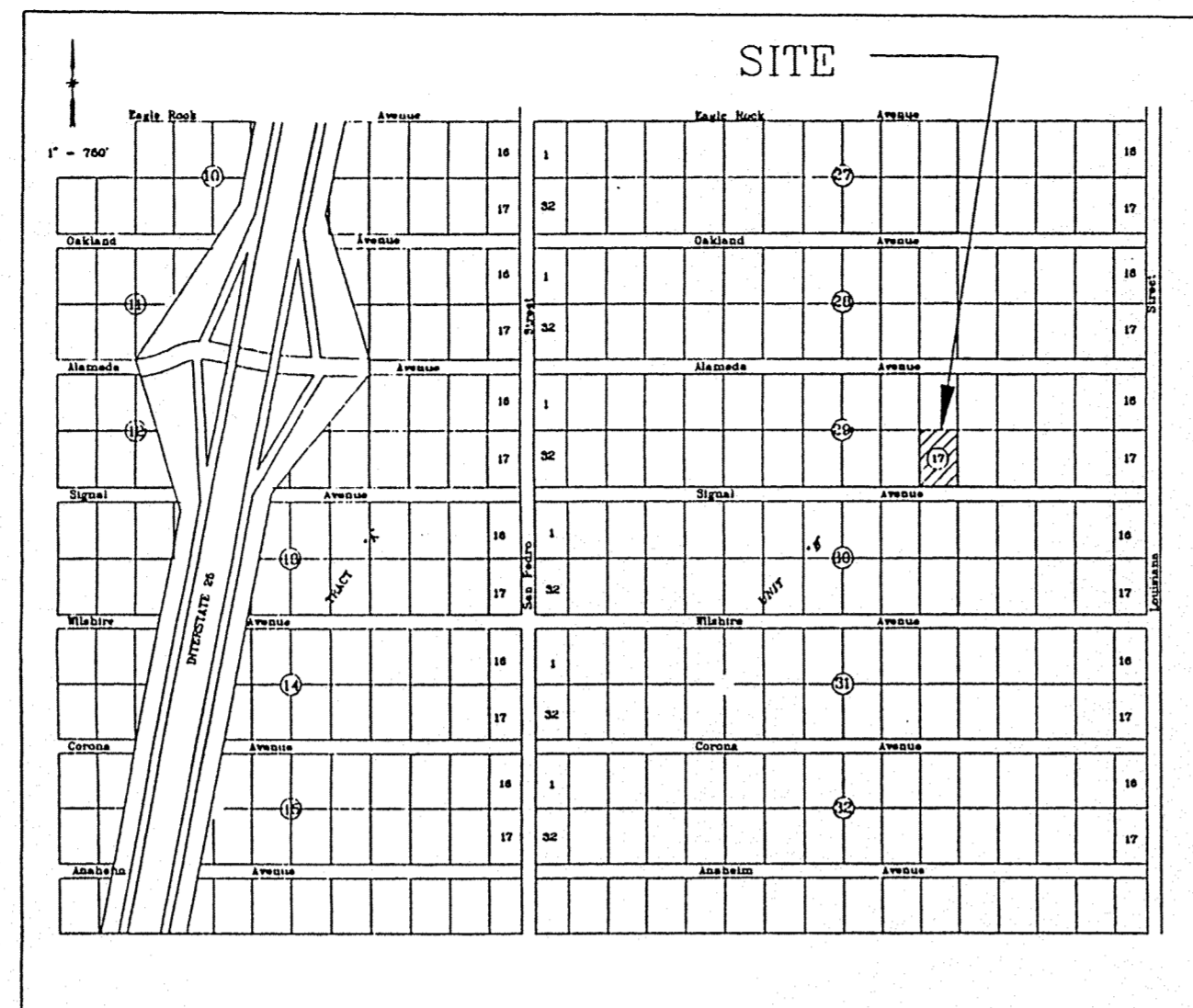
JOB NO: 9736  
 DATE: 21 JULY 1997

REVISIONS

SHEET NO.  
**C-2**



FLOODWAY MAP



VICINITY MAP

ZONE ATLAS NO. C-18

**ON-SITE DRAINAGE CALCULATIONS**

**EXISTING CONDITIONS:**

The site is located on the north side of Signal Avenue, N.E., the sixth lot west of Louisiana Blvd. The site is presently undeveloped. Lot 23 to the west is undeveloped. Lot 21 to the east is developed. Lot 11 to the north is also developed. The lot slopes from east to west at an average slope of approximately 3 percent. Signal Avenue is paved in front of the site but only the south half of the street is permanent pavement with curb and gutter. The north half is temporary pavement.

**PROPOSED CONDITIONS:**

It is proposed to construct an office and warehouse facility. All runoff will be directed to a detention pond in the front parking lot and landscaping area where it will be ponded to a depth of 18 inches. The overflow spillway for the pond will be the westerly driveway. The positive discharge pipe will be extended through the face of the new curb and gutter proposed to be constructed with this project. New curb and gutter and permanent pavement will be constructed as infrastructure improvements.

**DRAINAGE CRITERIA:**

The calculations shown on this plan were prepared in accordance with Section 22.2, Hydrology, of the Development Process Manual, Volume 2, Design Criteria, for the City of Albuquerque, in cooperation with Bernalillo County, New Mexico and the Albuquerque Metropolitan Arroyo Flood Control Authority, January, 1993.

**PRECIPITATION ZONE:**

The site is east of San Mateo Boulevard and is, therefore, in Precipitation Zone 3.

**LAND TREATMENT AREAS, EXCESS PRECIPITATION AND UNIT PEAK DISCHARGE:**

The peak discharge per acre and excess precipitation are shown for the four land treatments in Zone 3 in the table below, and the values shown are from the City of Albuquerque D.P.M. Also shown are the existing and proposed land treatment areas.

TREATMENT	100-yr. 10-yr.	100-yr. 10-yr.	100-yr. 10-yr.	Existing Site Areas %	Existing Site Areas Sa Ft.	Existing Site Areas Acres	Developed Site Areas %	Developed Site Areas Sa Ft.	Developed Site Areas Acres
A	1.87	0.58	0.65	0.19	100.0	38,610	0.8864	0.0	0.0000
B	2.60	1.19	0.92	0.36	0.0	0.0000	1.31	5,050	0.1160
C	3.45	2.00	1.29	0.62	0.0	0.0000	0.0	0.0000	0.0000
D	5.02	3.39	2.36	1.50	0.0	0.0000	86.9	33,560	0.7704
Totals				100.0	38,610	0.8864	100.0	38,610	0.8864

**PEAK DISCHARGE:**

**EXISTING CONDITIONS:**

$Q_{100} = 0.8864 \cdot 1.87 = 1.66$  cfs  $Q_{10} = 0.8864 \cdot 0.58 = 0.51$  cfs

**DEVELOPED CONDITIONS:**

$Q_{100} = 2.60 \cdot 0.1160 + 3.39 \cdot 0.7704 = 4.17$  cfs

$Q_{10} = 1.19 \cdot 0.1160 + 3.39 \cdot 0.7704 = 2.75$  cfs

**VOLUME, 100-YEAR, 6-HOUR:**

**EXISTING CONDITIONS:**

$V_{100} = (0.66 \cdot 38,610) / 12 = 2,124$  cf  $V_{10} = (0.19 \cdot 38,610) / 12 = 611$  cf

**DEVELOPED CONDITIONS:**

$V_{100} = (0.92 \cdot 5,050 + 2.36 \cdot 33,560) / 12 = 6,987$  cf

$V_{10} = (0.36 \cdot 5,050 + 1.50 \cdot 33,560) / 12 = 4,347$  cf

**SUMMARY OF ON-SITE VOLUMES AND PEAK DISCHARGE RATES:**

	V100(CF)	V10(CF)	Q100(CFS)	Q10(CFS)
EXISTING	2,124	611	1.66	0.51
DEVELOPED	6,987	4,347	4.17	2.75
DECREASE	4,863	3,736	2.51	2.24

**OFF-SITE DRAINAGE CALCULATIONS**

**DESCRIPTION OF OFF-SITE BASIN:**

The off-site area is shown on the floodway map inset. The area is roughly triangular, extending 300 feet to the east and the base of the triangle being the east property line of the site. The off-site area is as follows:  $A = (300 \times 234) / 2 = 35,100$  sq ft or 0.8058 Ac.

**WEIGHTED VALUES FOR EXCESS PRECIPITATION AND PEAK DISCHARGE:**

From DPM, Table A-5, the percent Treatment D for Commercial is 90%. Assume the remainder is landscaping.

$E(w) = 0.1 \times 0.92 + 0.9 \times 2.36 = 2.21$  inches

$q(w) = 0.1 \times 2.60 + 0.90 \times 5.02 = 4.78$  cfs/acre

$Q_{100} = 0.8058 \times 4.78 = 3.85$  cfs  $V_{360} = (35,100 \times 2.21) / 12 = 6,464$  cf

**ACCEPTING OFF-SITE FLOW:**

According to the existing contours, off-site flow will enter the site at two locations, each taking approximately half of the flow. Three-foot-wide concrete rundowns are proposed, 6" deep at inlet. Use Weir Equation,  $Q = C_L H^{3/2}$   $C = 3.0$   $L = 3.0$   $H = 0.5'$   $Q = 3.0 \times 3.0 \times 0.5^{3/2} = 3.18$  cfs  $> 3.85/2$  (3' wide rundown is adequate). Off-site flows will flow out through the westerly driveway.

**DETENTION POND CALCULATIONS:**

$T_p = (2.107 \cdot E \cdot A_p / Q_p) - (0.25 A_p / A_p)$   $A_p = 0.8864$   $A_b = 0.7704$   $Q_p = 4.17$  cfs

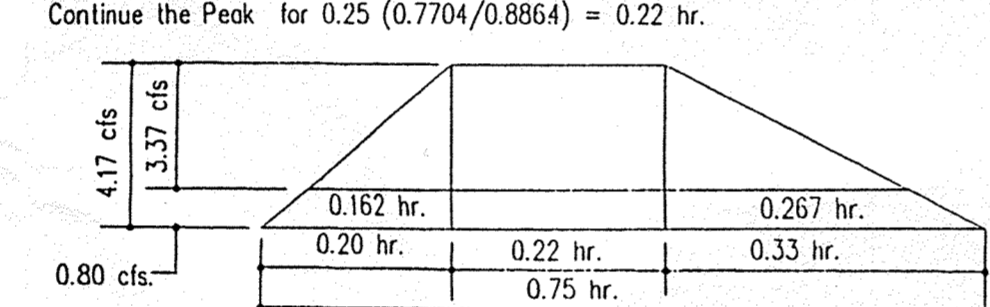
$E = (0.1160 \cdot 0.92 + 0.7704 \cdot 2.36) / 0.8864 = 2.17$  in.

$T_p = (2.107 \cdot 2.17 \cdot 0.8864 / 4.17) - (0.25(0.7704 / 0.8864)) = 0.75$  hr.

**DETENTION POND CALCULATIONS, CONTINUED:**

$T_p = (0.7 \cdot 0.2) + ((1.6 - (0.7704 / 0.8864)) / 12) = 0.20$  hr.

Continue the Peak for 0.25 (0.7704/0.8864) = 0.22 hr.



Ponded Volume =  $1/2(0.162 \cdot 3.37) + (0.22 \cdot 3.37) + 1/2(0.267 \cdot 3.37) = 3600 = 5271$  cf

**ACTUAL VOLUME:**

See Sheet C-3 for calculations of ponding volume in asphalt parking lot.

Volume ponded in parking lot = 3,501 cf.

Ponding in area where detention pond is located.  $A = 1/2(67 + 84)27 = 2038$  sf.

The depth is at least 1.25' over the entire area.

Volume =  $2,038 \cdot 1.25 = 2,547$  cf

Total Volume =  $3,501 + 2,547 = 6,048$  cf.  $> 5,271$  cf

**POSITIVE DISCHARGE PIPE W/ORIFICE PLATE:**

Use Orifice Equation. Water Surface = 42.30 Invert = 40.83 Diff. = 1.47'

$H = 1.47 - 1/2$  Dia. of Orifice Plate  $(1/2 \cdot 5 - 3/16" = 2.5938" = 0.22'$

$H = 1.47 - 0.22 = 1.25'$   $A = (2.5938 \cdot (\pi)) / 144 = 0.1468$  sf

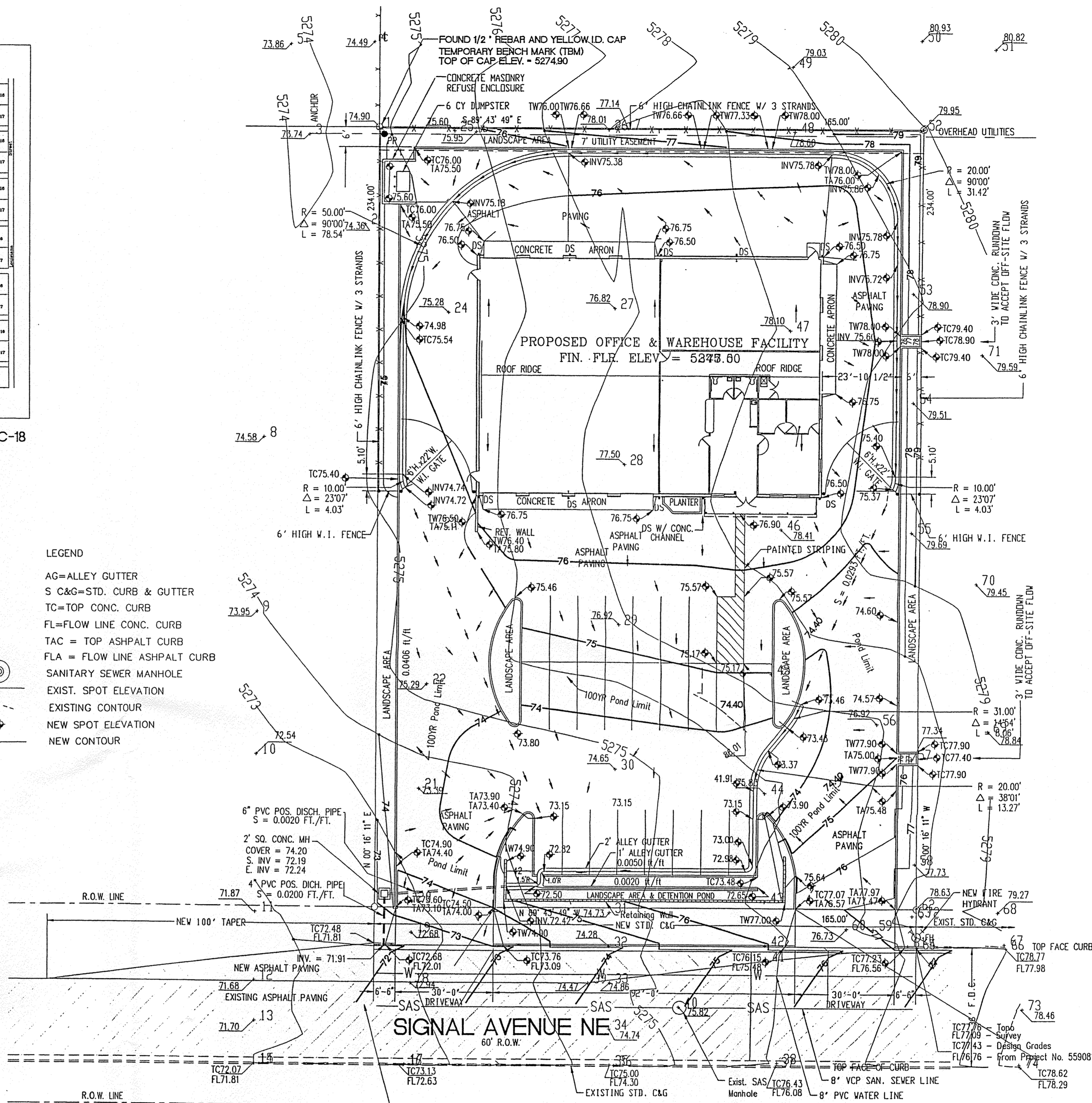
$Q = 0.6 \cdot 0.1468 (2 \cdot 32.2 \cdot 1.25)^{1/2} = 0.79$  cfs  $< 0.80$  cfs (OK)

**DRAINAGE NOTES:**

- The Site is located in a partially developed area where some of the streets are still unpaved and underground infrastructure is incomplete. The lot is located on a relatively high portion of an area that is predominantly flat and ribboned with numerous braided arroyo channels. There are no historic arroyo channels in the vicinity of the site.
- The site does not lie within or adjacent to a designated flood hazard area as shown on FEMA Floodway Map inset or as indicated by FEMA FIRM Map No. 137 D, effective September 20, 1996.
- Runoff generated by the site will be detained such that the 100-year developed flow will not exceed the capacity of the existing storm drain located in San Pedro. The allowable discharge rate for developing properties in the contributing basin has been established by Avid Engineering in the design of Sonora West and further refined with the Signal Hill Subdivision Drainage Report. The allowable discharge rate from the latter is 0.8 cfs/acre based on the capacity of the storm drain in San Pedro and the total acreage of drainage basins draining to that point. There is a 30' storm drain line in Signal Avenue from San Pedro as far as the west end of Lot 24, two lots west of the site, or approximately 350 feet. The storm drain in San Pedro is 48" diameter. Since the storm drain in Signal Avenue does not extend to the site, it will be necessary to discharge the detention pond positive discharge pipe through the curb into Signal Avenue. The overflow spillway will be through the westerly driveway. The above referenced study for Signal Hill Subdivision shows that for ultimate conditions, the storm sewer in Signal Street will extend no further than it presently does. It also shows a storm drain in Louisiana Blvd. and Corona Ave. intercepting all flows to the east. A total Q100 of 52.6 cfs enters the storm drain where it now ends, according to the drawing showing "Ultimate Conditions". However, the AHYMO INPUT summary shows 421 cfs from Sonora Subdivision, and 6.2 cfs from subbasin 07-C (Signal between the end of the storm drain and Louisiana Blvd.), or 48.3 cfs. There is no mention made in the report of the need to extend the storm drain further east on Signal Avenue. There are no inlets on Signal Ave. where the storm drain now ends, or rather, turns south into Sonora Subdivision. Water and sanitary sewer were extended east on Signal to Louisiana and then to a development on Oakland with a project designed by Terra West. C&G and street paving, Lots 17 thru 21, was done at the request of the Owners.
- The new street curb and gutter will be constructed under work order along with the positive discharge pipe so that no Special Order 19 is required.

**LEGEND**

- AG=ALLEY GUTTER
- S C&G=STD. CURB & GUTTER
- TC=TOP CONC. CURB
- FL=FLOW LINE CONC. CURB
- TAC = TOP ASPHALT CURB
- FLA = FLOW LINE ASPHALT CURB
- SANITARY SEWER MANHOLE
- EXIST. SPOT ELEVATION
- EXISTING CONTOUR
- NEW SPOT ELEVATION
- NEW CONTOUR



**GRADING AND DRAINAGE PLAN - ULTIMATE**

SCALE: 1"=20.0'

**LEGAL DESCRIPTION:**

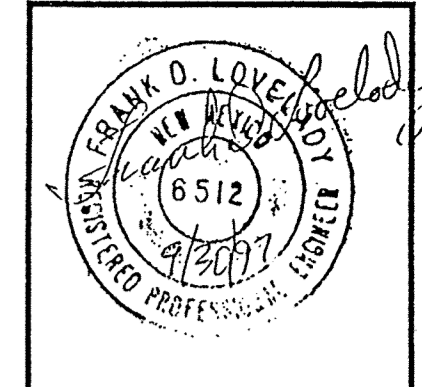
LOT 22 IN BLOCK 29, TRACT "A", UNIT "B", NORTH ALBUQUERQUE ACRES, BERNALILLO COUNTY, ALBUQUERQUE, NEW MEXICO.

**BENCH MARK INFORMATION:**

BASIS OF ELEVATION: ACS 9-C18  
TOPOGRAPHIC SURVEY BY E. MAXWELL DOAK-SURVEYORS

**ATTENTION:**

THIS PLAN, WHICH INCLUDES A DETENTION POND AND POSITIVE DISCHARGE PIPE, IS NOT TO BE IMPLEMENTED UNTIL AFTER STREET IMPROVEMENTS, INCLUDING CURB AND GUTTER, HAVE BEEN COMPLETED FROM THE SITE TO THE STORM DRAIN MANHOLE ADJACENT TO LOT 24 AND A STORM DRAINAGE INLET HAS BEEN CONSTRUCTED AND CONNECTED TO THAT MANHOLE TO INTERCEPT THE NORTH GUTTER FLOW. UNTIL THESE DOWNSTREAM INFRASTRUCTURE IMPROVEMENTS ARE IN PLACE, ALL STORM DRAINAGE RUNOFF WILL BE RETAINED ON SITE AND CONSTRUCTION OF ON-SITE DRAINAGE FACILITIES WILL BE IN ACCORDANCE WITH SHEET C-2, GRADING AND DRAINAGE PLAN - INTERIM CONDITIONS.



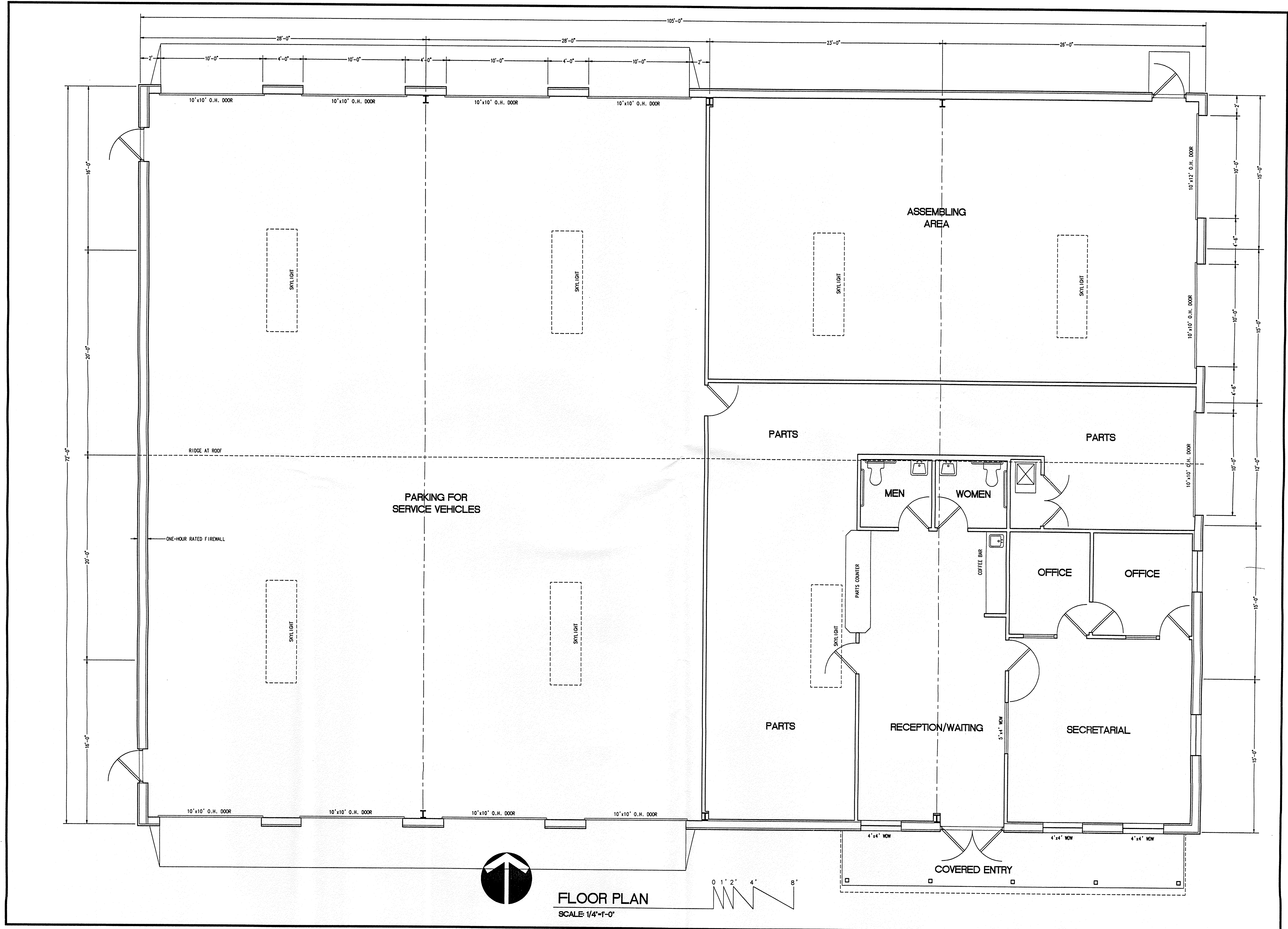
**Offices & Warehouse Facility for  
Royal Plumbing & Heating**  
LOCATED ON SIGNAL AVENUE NE, ALBUQUERQUE, NEW MEXICO

**KEL HOVEY, ARCHITECT**  
1509 254-0083 • FAX 1509 254-8091 • 3808 54MS AVE SE • ALBUQUERQUE, NM • 87108

JOB NO:	9736
DATE:	21 JULY 1997
REVISIONS:	

SHEET NO.

C-3



**FLOOR PLAN**  
SCALE: 1/4"=1'-0"



**Offices & Warehouse Facility for  
Royal Plumbing & Heating**  
6401 SIGNAL AVENUE NE, ALBUQUERQUE, NEW MEXICO

**KEN HOVEY, ARCHITECT**  
KEN HOVEY ARCHITECTS  
1509 24-0083 • FAX (505) 254-8091 • 3008 5185 AVE. SE • ALBUQUERQUE, NM • 87108

JOB NO:	9718
DATE:	26 JUNE 1997
REVISIONS	

SHEET NO.  
**A-1**



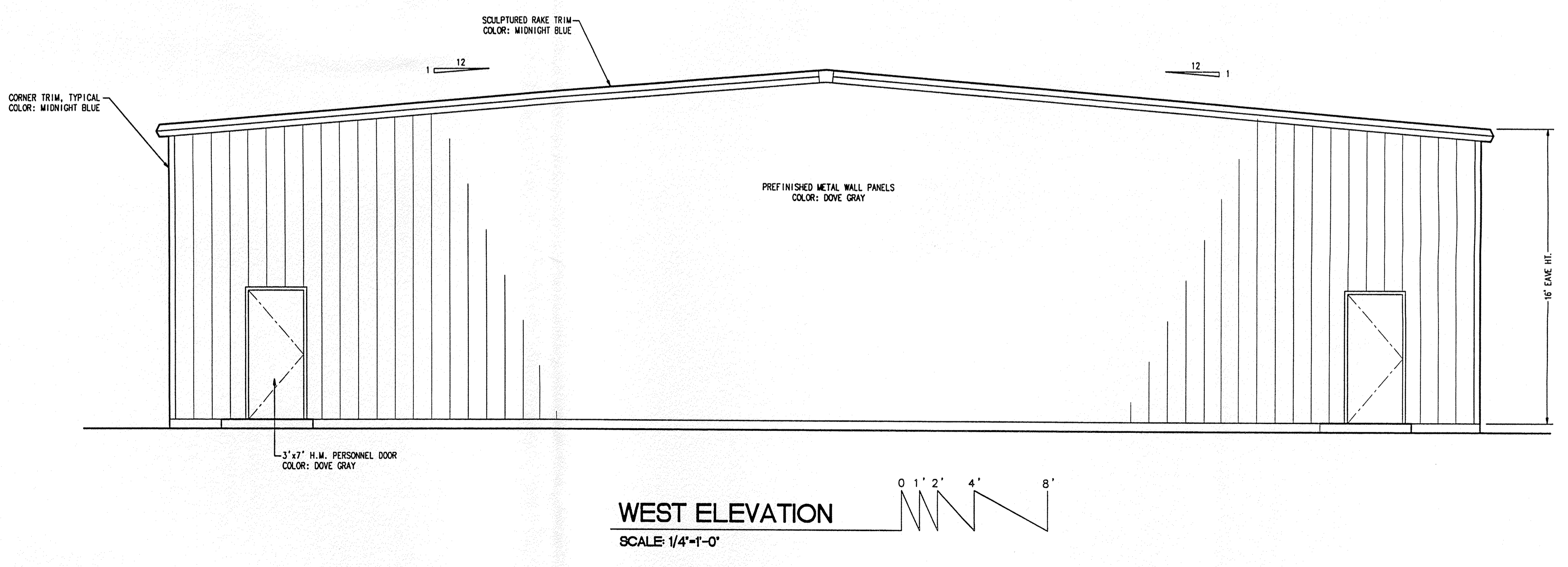
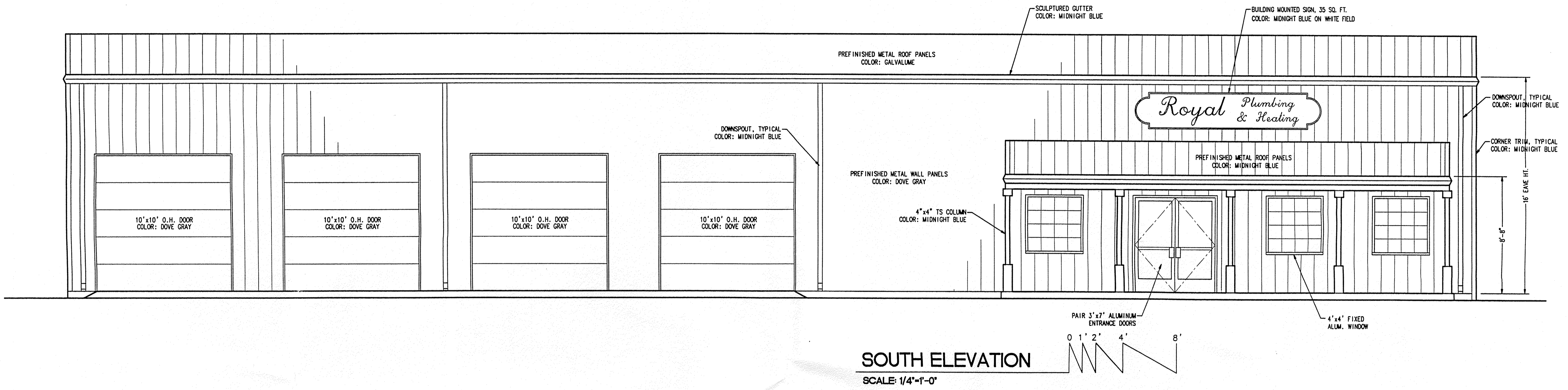
Offices & Warehouse Facility for  
**Royal Plumbing & Heating**  
 6401 SIGNAL AVENUE NE, ALBUQUERQUE, NEW MEXICO

**KEN HOVEY, ARCHITECT**  
 6501 24th - 0083 • FAX 505I 254-8071 • 3808 5146th AVE SE • ALBUQUERQUE, NM • 87106

JOB NO: 9716  
 DATE: 26 JUNE 1997

REVISIONS

SHEET NO.  
**A-2**





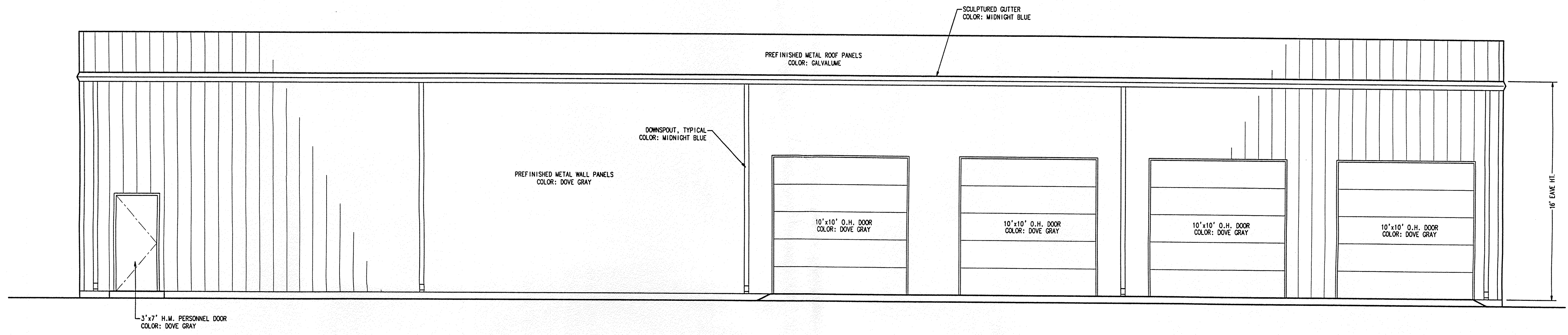
Offices & Warehouse Facility for  
Royal Plumbing & Heating  
6401 SIGNAL AVENUE NE, ALBUQUERQUE, NEW MEXICO

**KEN HOVEY, ARCHITECT**  
ALBUQUERQUE, NEW MEXICO  
1501 24<sup>th</sup> STREET NE • ALBUQUERQUE, NM • 87106  
505/241-0083 • FAX 505/241-8091 • 3008 SIMMS AVE. SE • ALBUQUERQUE, NM • 87105

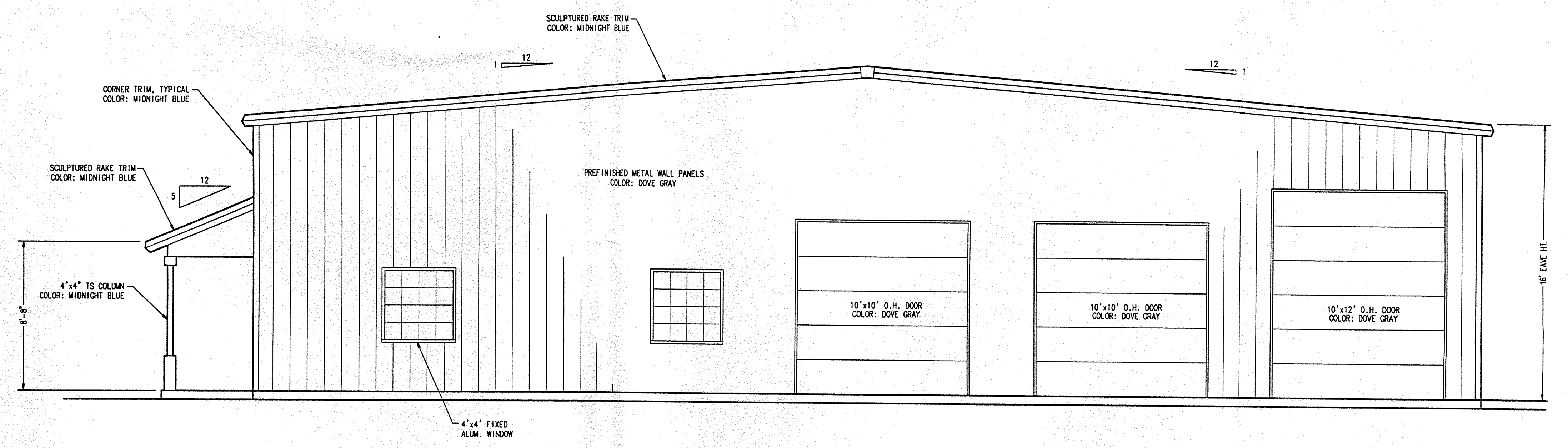
JOB NO: 9716  
DATE: 26 JUNE 1997

REVISIONS

SHEET NO.  
**A-3**

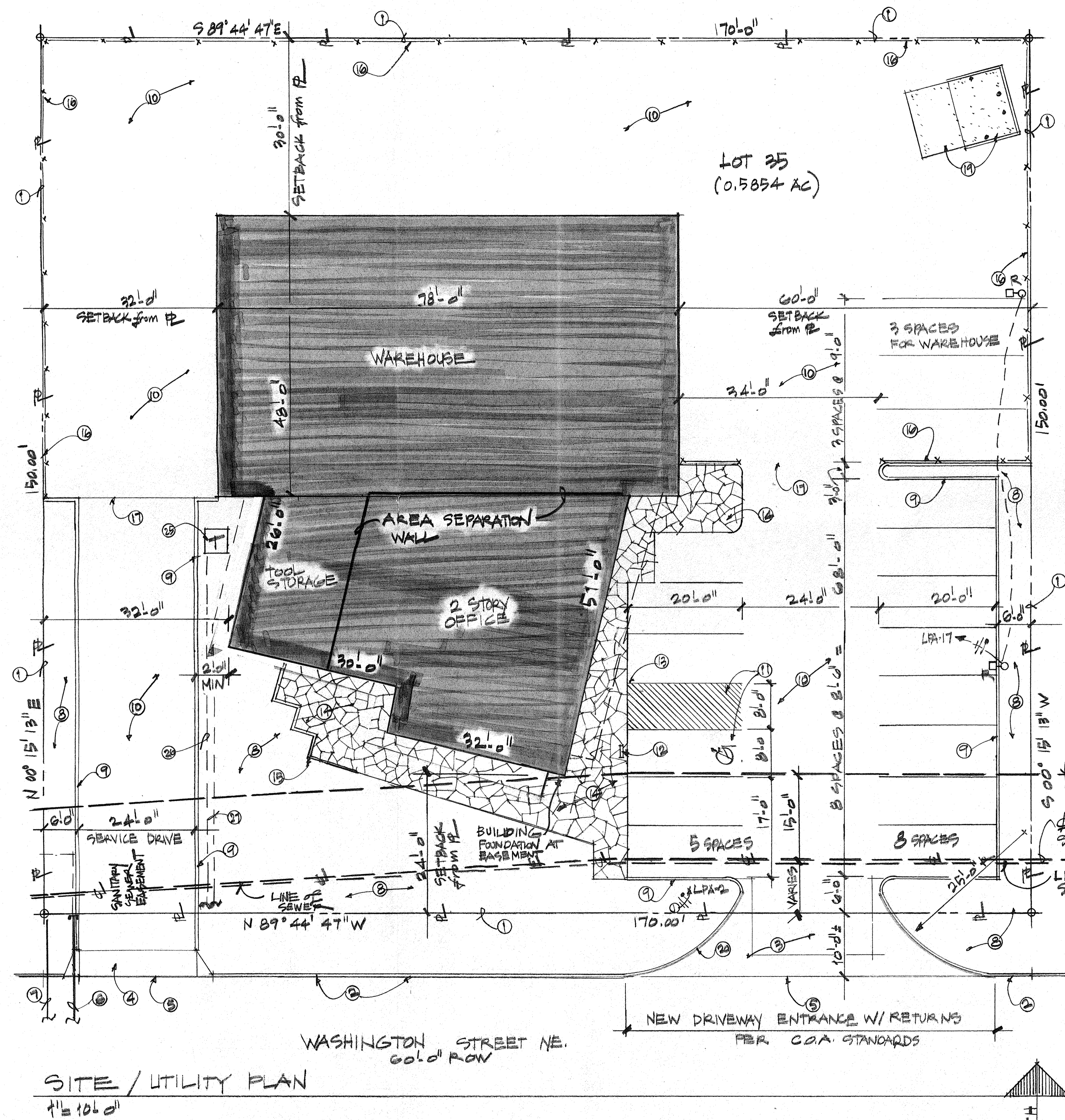


**NORTH ELEVATION**  
SCALE: 1/4"=1'-0"



**EAST ELEVATION**  
SCALE: 1/4"=1'-0"





**PROJECT DATA:**

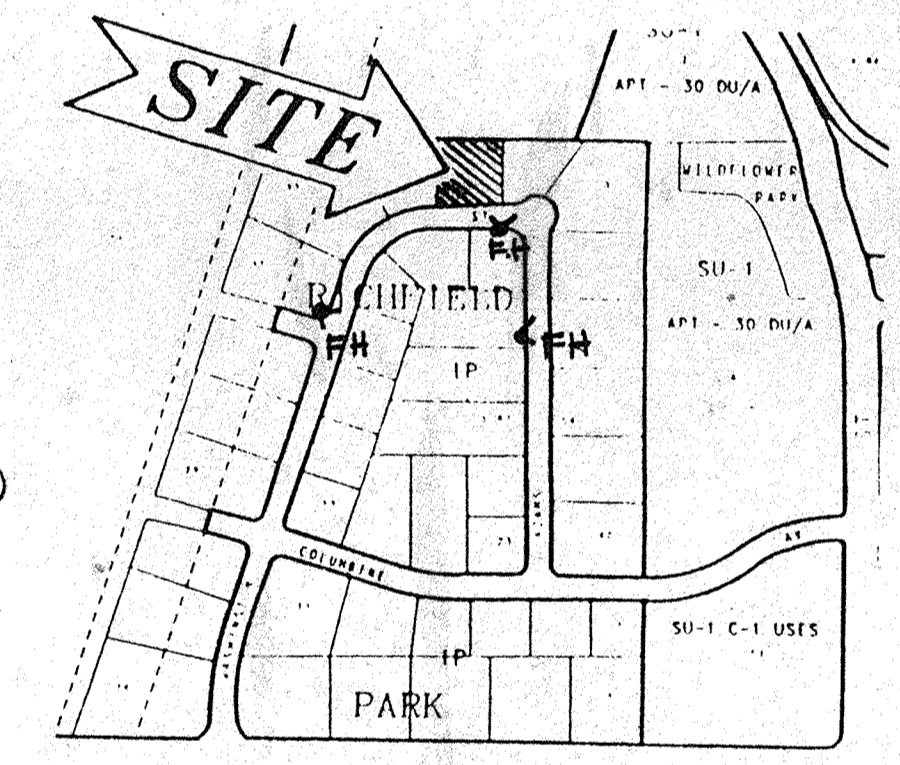
OWNER: G&H CONSTRUCTION & REALTY INC  
 ADDRESS: 9009 WASHINGTON ST NE  
 SITE ZONING: IP  
 ZONE MAP: C-17-Z  
 SITE AREA: 0.5854 AC = 22,500 SF ±  
 BUILDING AREA: OFFICE AREA  
 FIRST FLOOR: 1746 SF  
 SECOND FLOOR: 1070 SF  
 SUBTOTAL: 2816 SF  
 WAREHOUSE: 3744 SF  
 TOOL STORAGE: 627 SF  
 SUBTOTAL: 4371 SF  
 TOTAL: 7193 SF

NET SITE AREA: 16,195 SF  
 LANDSCAPING AREA REQUIRED: 2,697 SF  
 LANDSCAPING AREA PROVIDED: 4,787 SF  
 PARKING REQUIREMENTS:

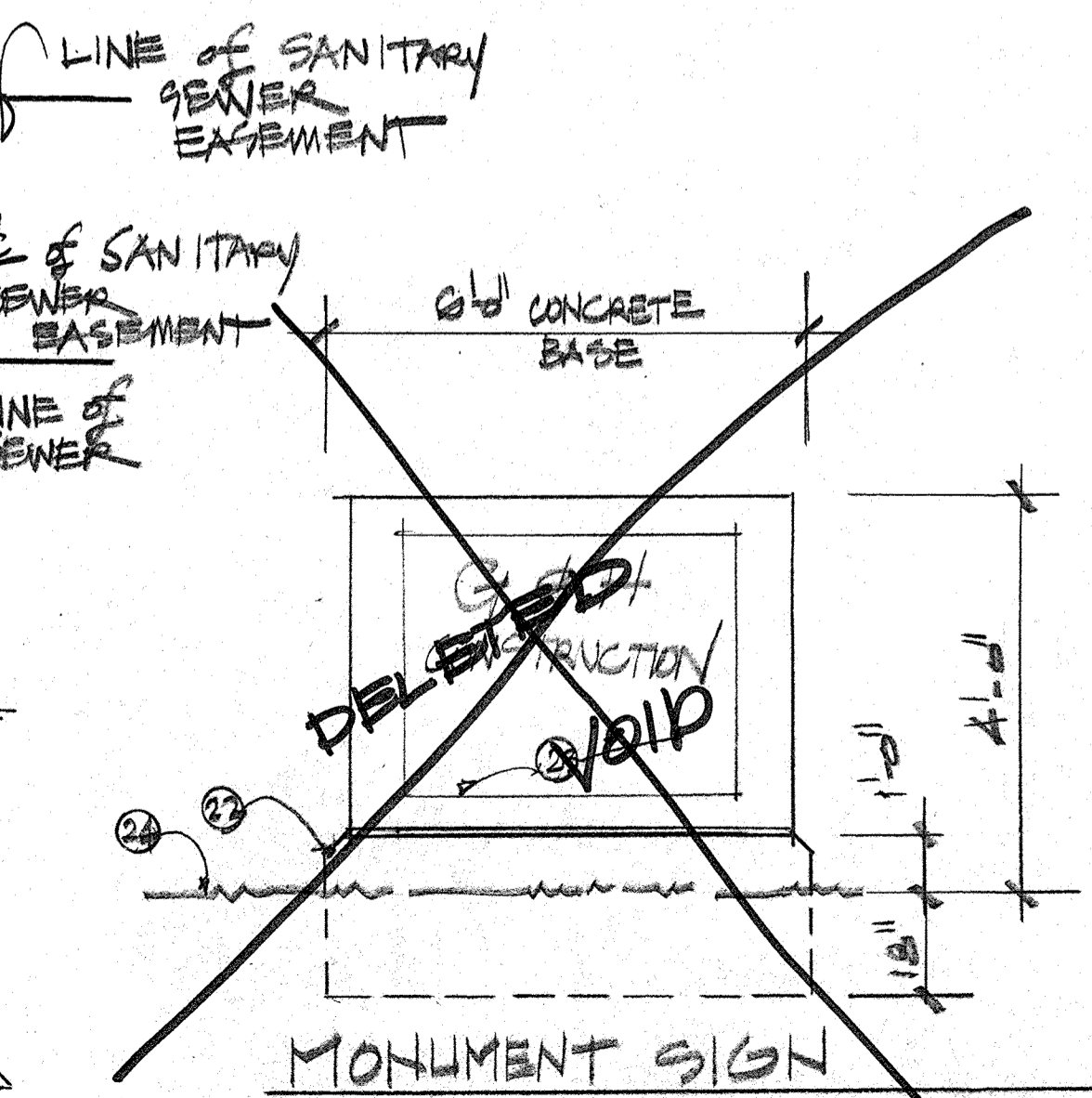
OFFICE FIRST FLOOR  
 1838/200 = 9  
 OFFICE SECOND FLOOR  
 1168/300 = 4  
 WAREHOUSE/TOOL STORAGE  
 4467/2000 = 3  
 TOTAL: 16 SPACES

PARKING PROVIDED: 16 SPACES  
 OCCUPANCY GROUP: BI & B2  
 TYPE OF CONSTRUCTION: VN

LEGAL DESCRIPTION: LOT 25  
 RICHFIELD PARK



**FIRE HYDRANT PLAN**  
 N.T.S.



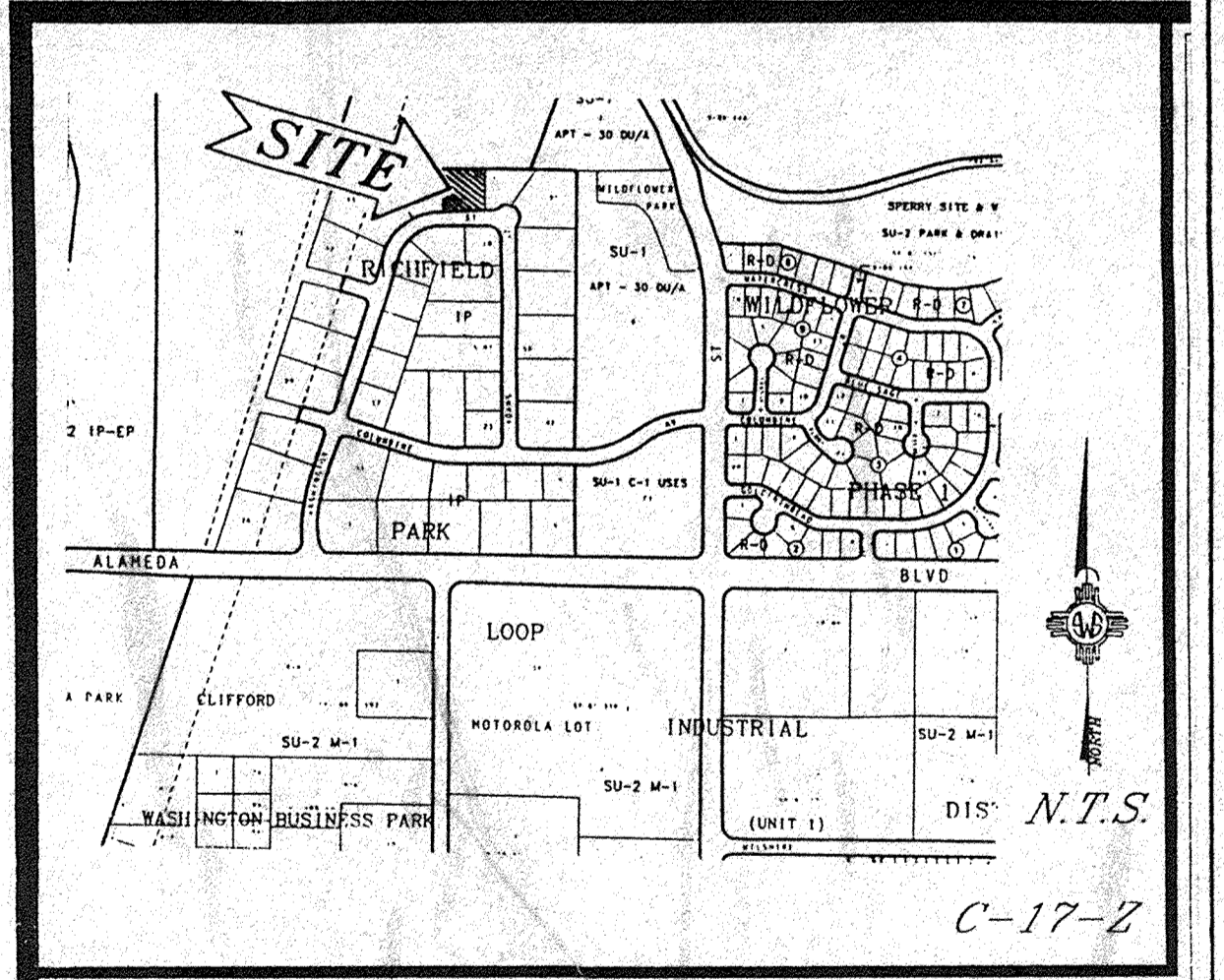
**MONUMENT SIGN**  
 1/2" = 14"

NOTE: MONUMENT SIGN NOT USED  
 - APPROVED TO THE REQUIREMENTS FOR IP ZONE, INCLUDING BUILDING SETBACKS, BUILDING HEIGHT AND COLORS -

**KEYED NOTES:**

- PROPERTY LINE
- EXISTING CONCRETE CURB AND GUTTER AT STREET EDGE
- NEW CONCRETE DRIVEWAY ENTRANCE WITH RETURNS PER CITY OF ALBUQUERQUE STANDARDS
- NEW CONCRETE DRIVE PAD FOR SERVICE USE
- REMOVE EXISTING CURB FOR NEW WORK
- SEWER LINE CONNECTION, INVERT AT PROPERTY LINE 5.093.22
- 1" WATER SERVICE
- LANDSCAPING AREA, SEE PLAN
- 6" CONCRETE CURB
- 2" ASPHALT PAVING OVER COMPACTED BASE
- HANDICAP PARKING AND STRIPING
- HANDICAP PARKING SIGN
- PAVING FLUSH WITH FLAGSTONE SURFACE
- FLAGSTONE WALKING SURFACE
- LOW WALL (4'-0" HIGH)
- CHAIN LINK FENCING
- GATE
- GRAVEL FILLS OVER COMPACTED BASE, DELETED AND CHANGED TO PAVING
- REFUSE ENCLOSURE PER CITY OF ALBUQUERQUE REFUSE DEPARTMENT
- HANDICAP ACCESSIBLE RAMPS AT DRIVEWAY
- FREE STANDING MONUMENT SIGN
- CONCRETE BASE
- RAISED LETTER STUCCO SIGN
- GRADE

LIGHTING ON SITE WILL BE BUILDING MOUNTED TYPE OF LIGHTING  
 25. PNM PAD MOUNTED TRANSFORMER  
 26. INSTALL UNDERGROUND CONDUIT PER PNM DESIGN STANDARDS  
 27. 3/4" CONDUIT, COORDINATE EXACT REQUIREMENTS AND "MPOD" WITH U.S. WEST PRIOR TO ROUGH-IN



Vicinity Map  
 10/20/97 DATE  
 APPROVED AS TO THE REQUIREMENTS OF IP  
 TRAFFIC ENGINEER  
 NOT REQUIRED  
 DATE  
 DATE  
 DATE  
 DATE

THIS SITE PLAN IS CONSISTANT WITH THE MASTER PLAN FOR RICHFIELD PARK DESIGN CRITERIA Z-85-70-1

GUADALUPE ARCHITECTS  
 DAVID WEATHERMAN, ARCHITECT  
 590 GUADALUPE TRAIL NW  
 ALBUQUERQUE, NM 87105  
 DRB-97-335  
 OFFICE BUILDING for G&H CONSTRUCTION & REALTY CO  
 ALBUQUERQUE, NEW MEXICO  
 DRB-97-335  
 1 of 4  
 DRB 1  
 7/11/97