



# City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

August 31, 1994

R.G. Lee, Jr., P.E.  
Lee Engineering  
8225 Connecticut NE  
Albuquerque, N.M. 87110

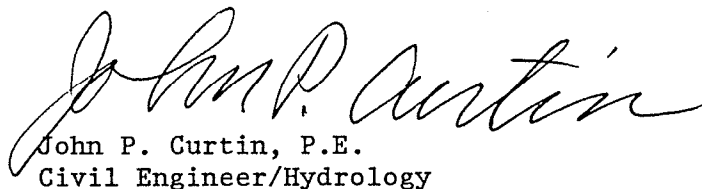
RE: ENGINEER'S CERTIFICATION FOR TAYLOR MARINE (E-17/D6)  
RECEIVED AUGUST 25, 1994 FOR CERTIFICATE OF OCCUPANCY APPROVAL  
ENGINEER'S STAMP DATED 8/23/94

Dear Mr. Lee:

Based on the information included in the submittal referenced above, City Hydrology accepts the Engineer's Certification and approves a Certificate of Occupancy for Taylor Marine at 6001 Pan American NE.

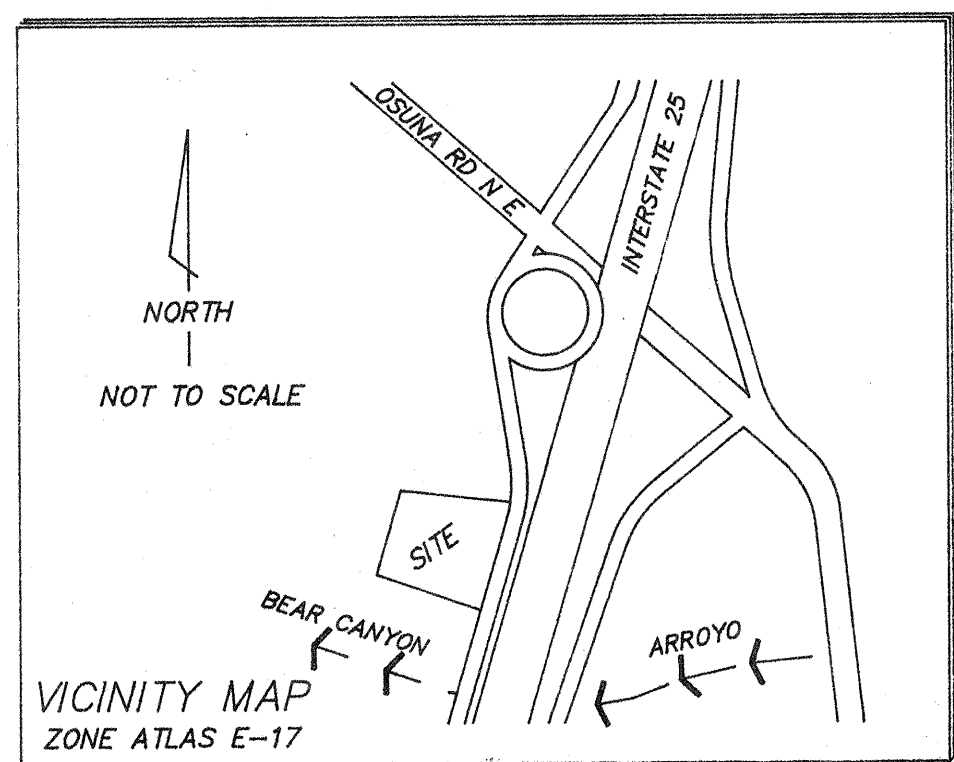
If I can be of further assistance, You may contact me at 768-2727.

Sincerely,

  
John P. Curtin, P.E.  
Civil Engineer/Hydrology

xc: Andrew Garcia

WPHYD/8097/JPC

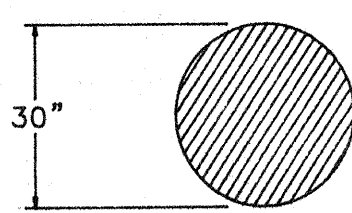


**PROJECT BRIEF:**

THIS PROPOSED DEVELOPMENT IS LOCATED IMMEDIATELY WEST OF THE SOUTH BOUND FRONTAGE ROAD OF I-25. THE SOUTH PROPERTY LINE IS APPROXIMATELY 250 FEET FROM THE BEAR CANYON ARROYO RIGHT-OF-WAY. FLOODING IS MAINTAINED WITHIN BEAR CANYON ARROYO RIGHT-OF-WAY. THIS SITE WAS PREPARED FOR DEVELOPMENT IN LATE 1985. ALL GROUND WORKS WERE DEVELOPED INCLUDING A 30 INCH STORM DRAINAGE INFRASTRUCTURE TO DRAIN THIS SITE IN THE BEAR CANYON ARROYO DRAIN SYSTEM. BUILDING PADS AND FINISHED GRADES COMPLETE WITH CONCRETE CURB AND GUTTER ON THE LOT PERIMETERS WERE COMPLETED BEFORE THE PROJECT WAS ABANDONED. THE ORIGINAL GRADING AND DRAINAGE PLAN WAS PREPARED BY VICTOR CHAVEZ. SINCE THE BEGINNING OF THE PREVIOUS DEVELOPMENT THIS SITE WAS THEN REPLATED INTO TWO PARCELS. THE NEW DEVELOPMENT CONSISTS OF THREE (3) NEW WAREHOUSES AND OFFICE COMPLEX. THE INTENT OF THE NEW DEVELOPMENT IS TO DUPLICATE THE DRAINAGE SCHEME OF THE ORIGINAL PLAN. ALL GENERATED AND OFF-SITE RUNOFF ACCEPTED WILL BE DRAINED TO THE REAR OF THE LOT AND DISCHARGED INTO THE BEAR CANYON ARROYO VIA THE EXISTING DRAINAGE SYSTEM. THE NEW DEVELOPMENT DOES LIE AT THE BOTTOM OF THIS WATERSHED WHICH DRAINS INTO THE BEAR CANYON ARROYO, THEREFORE FREE DISCHARGE FROM THIS SITE IS RECOMMENDED AND WILL HAVE NOMINAL ADVERSE IMPACT ON DOWNSTREAM CONDITIONS.

**STORM DRAIN CAPACITY**

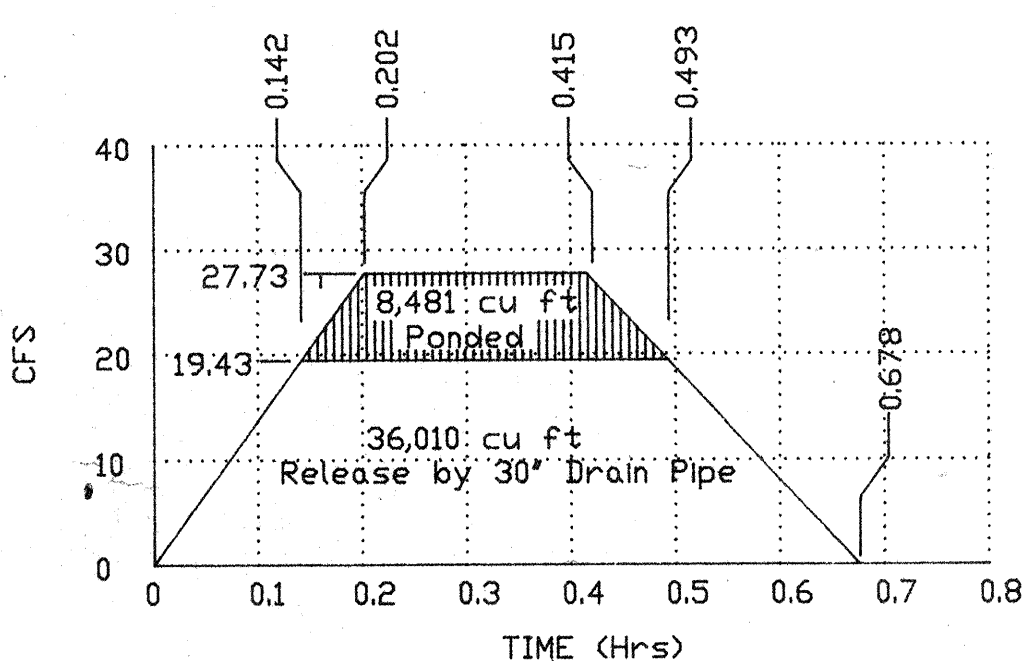
- A. STORM DRAIN INLET CAPACITY:  $Q = C_a/2gh$   
 $c = 0.75, a = 3.14, g = 32.2, h = 1.48$   
 $Q = 22.99 \text{ CFS}$
- B. 30" CMP STORM DRAIN CAPACITY: Using Manning's Equation  
 $n = 0.025, a = 4.91, s = 0.0083, W_p = 7.8540$   
 $r = 0.625, t = 0$



$Q = 19.43 \text{ CFS}$

30" CMP FLOWING FULL WILL CARRY 19.43.

**C. REQUIRED PONDING (Using Drain Pipe Capacity)**



**D. POND VOLUME CALCULATIONS (Average End Area Method)**

Contour	Surface Area	Average Area	Volume cu ft
5170.10	10,985		
5170	10,265	10,625	1,063
5169	4,444	7,354	7,354
5168.62	6.2	2,225	845
TOTAL POND VOLUME			9262

9262 > 8481 CFS  
 MAXIMUM WATER SURFACE ELEVATION (WSEL) = 5170.10 (MSL)

**CERTIFICATION**

I R.G Lee, Jr. Registered Professional Engineer hereby certify the improvements shown hereon are in substantial compliance with the approved drainage plan.

R.G LEE, JR. [Signature]  
 Date: 3/12/94

**EROSION CONTROL MEASURES:**

- THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR MANAGEMENT OF STORM RUNOFF DURING CONSTRUCTION; HE SHALL INSURE THAT THE FOLLOWING MEASURES ARE TAKEN:
  - 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 TO LEAVE THE SITE AND ENTERING ADJACENT PROPERTY.
  - 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 THE PUBLIC STREETS.
  - THE CONTRACTOR SHALL IMMEDIATELY AND THOROUGHLY REMOVE ANY OR ALL SEDIMENT WITHIN THE PUBLIC STREETS THAT HAVE BEEN ERODED FROM THE SITE AND DEPOSITED THERE.

**DRAINAGE CALCULATION**

- I REFERENCES:
  - A. SECTION 22.2, HYDROLOGY OF THE DEVELOPMENT PROCESS MANUAL, VOLUME 2, DESIGN CRITERIA FOR THE CITY OF ALBUQUERQUE, NEW MEXICO IN COOPERATION WITH BERNALILLO COUNTY, NEW MEXICO AND THE ALBUQUERQUE METROPOLITAN ARROYO FLOOD CONTROL AUTHORITY.
  - B. FLOODWAY, FLOOD BOUNDARY AND FLOODWAY MAP, CITY OF ALBUQUERQUE, NEW MEXICO, PANEL 16 OF 50.
  - C. ZONE ATLAS PAGE E-17-2.
- II GENERAL INFORMATION:
  - A. SITE LIES IN ZONE TWO(2) (SEE REF. A, PAGE A-1)
  - B. 100 YEAR, 6 HOUR RAINFALL CRITERIA
  - C. TIME OF CONCENTRATION,  $T_c = 0.2 \text{ hr}$  (12 MINUTES).

**ON-SITE FLOW CALCULATIONS**

III IMPERVIOUSNESS:

TREATMENT	TYPES OF SURFACES	EXISTING SQ.FT	ACRES	PROPOSED SQ.FT	ACRES
A	UNDEVELOPED	0	0.0000	0	0.0000
B	LANDSCAPING	0	0.0000	22200	0.5096
C	COMPACTED/VACANT	221743	5.0905	8450	0.1940
D	IMPERVIOUS	200	0.0046	191293	4.3915
TOTAL AREA (TA)		221943	5.0951	221943	5.0951

IV PEAK DISCHARGE 100 YEAR (REF. A, TABLE A-9):

TREATMENT	TYPES OF SURFACES	EXISTING CFS/Ac	Qp(100)	PROPOSED CFS/Ac	Qp(100)
A	UNDEVELOPED	1.59	0.00	1.59	0.00
B	LANDSCAPING	2.28	0.00	2.28	1.16
C	COMPACTED/VACANT	3.14	15.98	3.14	0.61
D	IMPERVIOUS	4.70	0.02	4.70	20.64
PEAK DISCHARGE FROM SITE		16.01 CFS		22.41 CFS	

V PEAK DISCHARGE 10 YEAR (REF. A, TABLE A-9):

TREATMENT	TYPES OF SURFACES	EXISTING CFS/Ac	Qp(10)	PROPOSED CFS/Ac	Qp(10)
A	UNDEVELOPED	0.38	0.00	0.38	0.00
B	LANDSCAPING	0.95	0.00	0.95	0.48
C	COMPACTED/VACANT	1.71	8.70	1.71	0.33
D	IMPERVIOUS	3.14	0.01	3.14	13.79
PEAK DISCHARGE FROM SITE		8.72 CFS		14.61 CFS	

VI WEIGHTED "E" 100 YEAR, 6 HR. (REF. A, TABLE A-8):

TREATMENT	TYPES OF SURFACES	EXISTING E	EXA/TA	PROPOSED E	EXA/TA
A	UNDEVELOPED	0.53	0.00	0.53	0.00
B	LANDSCAPING	0.78	0.00	0.78	0.08
C	COMPACTED/VACANT	1.13	1.13	1.13	0.04
D	IMPERVIOUS	2.12	0.00	2.12	1.83
WEIGHTED "E" FACTOR		1.13 IN		1.95 IN	

VII VOLUME 100 YEAR, V(360) (REF. A, TABLE A-8):

TREATMENT	TYPES OF SURFACES	EXISTING	PROPOSED
A	UNDEVELOPED	1.13 x 5.0951/12	0.48 AC. FT.
B	LANDSCAPING	20916.13 CU.FT.	
C	COMPACTED/VACANT	1.95 x 5.0951/12	0.83 AC. FT.
D	IMPERVIOUS	36033.81 CU.FT.	

**OFF-SITE FLOW CALCULATIONS**

VIII IMPERVIOUSNESS:

TREATMENT	TYPES OF SURFACES	EXISTING SQ.FT	ACRES	PROPOSED SQ.FT	ACRES
A	UNDEVELOPED	0	0.0000	0	0.0000
B	LANDSCAPING	0	0.0000	0	0.0000
C	COMPACTED/VACANT	10560	0.2424	10560	0.2424
D	IMPERVIOUS	42240	0.9697	42240	0.9697
TOTAL AREA (TA)		52800	1.2121	52800	1.2121

IX PEAK DISCHARGE 100 YEAR (REF. A, TABLE A-9):

TREATMENT	TYPES OF SURFACES	EXISTING CFS/Ac	Qp(100)	PROPOSED CFS/Ac	Qp(100)
A	UNDEVELOPED	1.59	0.00	1.59	0.00
B	LANDSCAPING	2.28	0.00	2.28	0.00
C	COMPACTED/VACANT	3.14	0.76	3.14	0.76
D	IMPERVIOUS	4.70	4.56	4.70	4.56
PEAK DISCHARGE FROM SITE		5.32 CFS		5.32 CFS	

X PEAK DISCHARGE 10 YEAR (REF. A, TABLE A-9):

TREATMENT	TYPES OF SURFACES	EXISTING CFS/Ac	Qp(10)	PROPOSED CFS/Ac	Qp(10)
A	UNDEVELOPED	0.38	0.00	0.38	0.00
B	LANDSCAPING	0.95	0.00	0.95	0.00
C	COMPACTED/VACANT	1.71	0.41	1.71	0.41
D	IMPERVIOUS	3.14	3.04	3.14	3.04
PEAK DISCHARGE FROM SITE		3.46 CFS		3.46 CFS	

XI WEIGHTED "E" 100 YEAR, 6 HR. (REF. A, TABLE A-8):

TREATMENT	TYPES OF SURFACES	EXISTING E	EXA/TA	PROPOSED E	EXA/TA
A	UNDEVELOPED	0.53	0.00	0.53	0.00
B	LANDSCAPING	0.78	0.00	0.78	0.00
C	COMPACTED/VACANT	1.13	0.23	1.13	0.23
D	IMPERVIOUS	2.12	1.70	2.12	1.70
WEIGHTED "E" FACTOR		1.92 IN		1.92 IN	

XII VOLUME 100 YEAR, V(360) (REF. A, TABLE A-8):

TREATMENT	TYPES OF SURFACES	EXISTING	PROPOSED
A	UNDEVELOPED	1.92 x 1.2121/12	0.19 AC. FT.
B	LANDSCAPING	8456.80 CU.FT.	
C	COMPACTED/VACANT	1.92 x 1.2121/12	0.19 AC. FT.
D	IMPERVIOUS	8456.80 CU.FT.	

XIII PEAK DISCHARGE SUMMARY 100 YR - 6 HR:

ON-SITE	OFF-SITE	TOTAL
22.41	5.32	27.73 CFS

XIV VOLUME SUMMARY 100 YR - 6 HR:

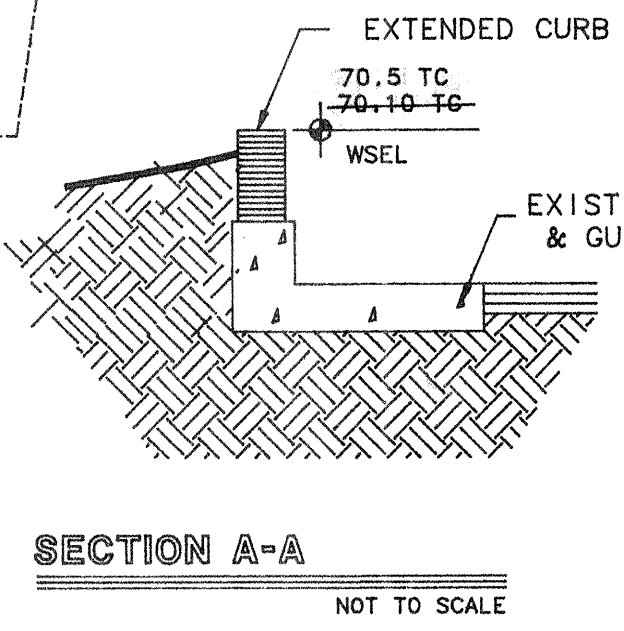
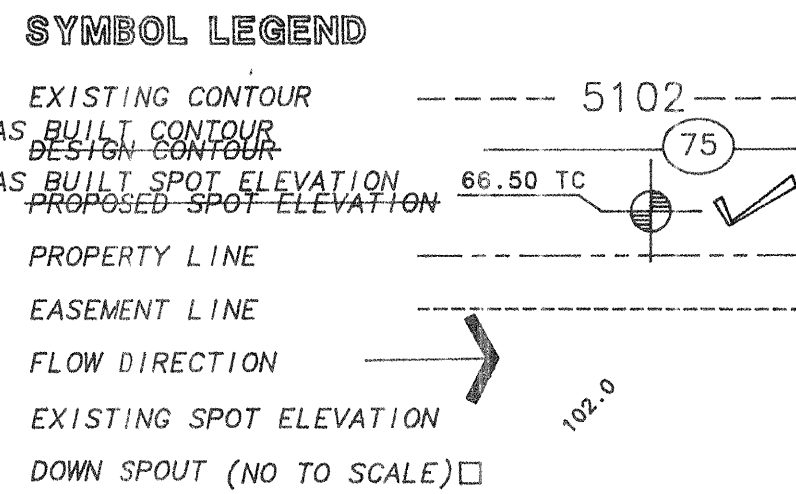
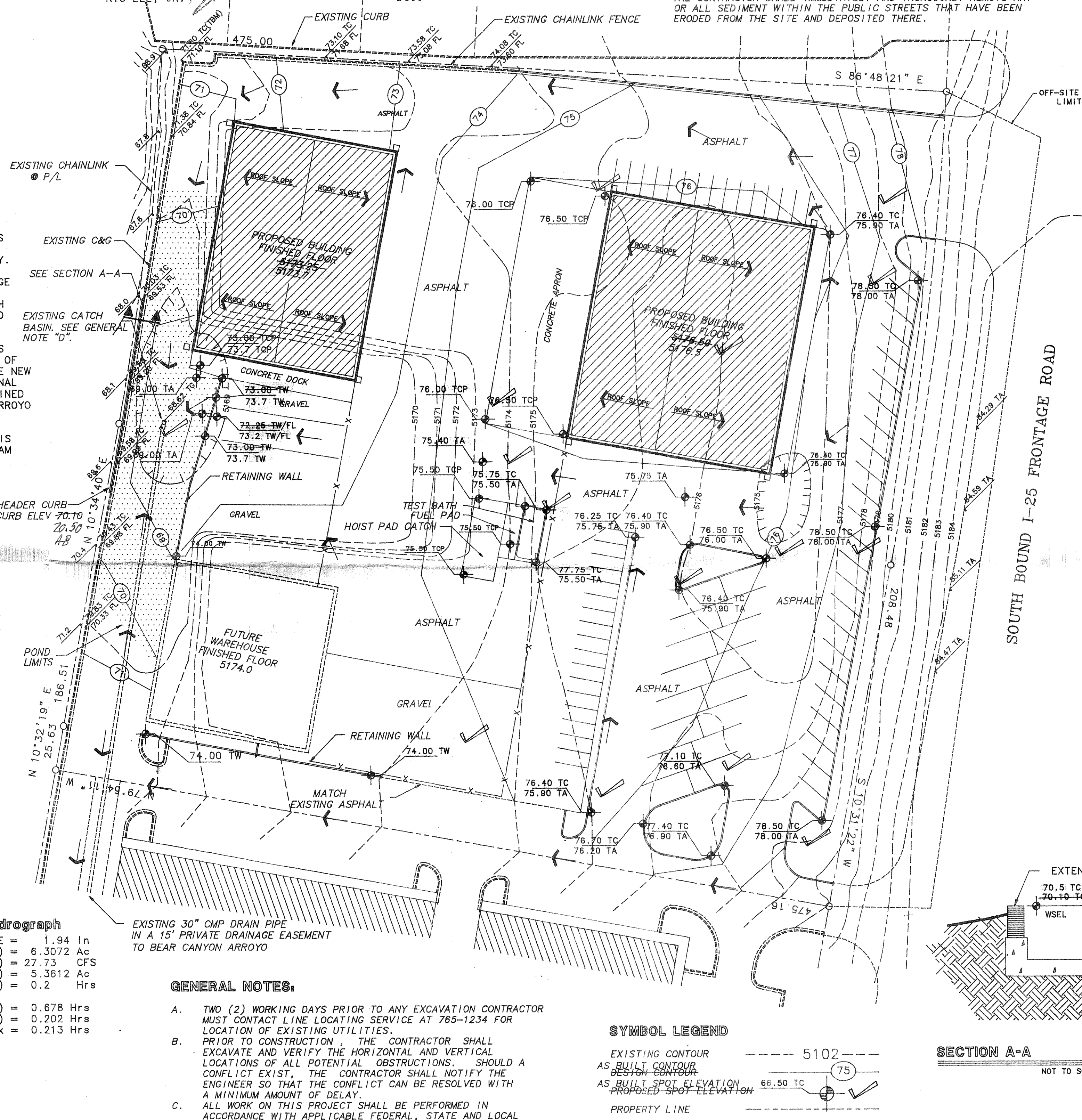
ON-SITE	OFF-SITE	TOTAL
360334	8457	44,491 CU FT

**BENCH-MARK INFORMATION**

TEMPORARY BENCH-MARK BEING THE TOP OF CURB SPRAY PAINTED ORANGE (TBM) BEARS ELEVATION 5171.80 MSL. REFERENCE TO CITY BENCH-MARK STA I-25-17. LOCATED SOUTH OF THIS PROPERTY ON THE WEST SIDE OF THE FRONTAGE ROAD BEARS ELEVATION 5171.1 (MSL).

**ABBREVIATION LEGEND**

- TOP OF CONC PAD (APRON) - TCA
- TOP OF CURB - TC
- TOP OF ASPHALT - TA
- FLOW LINE - FL
- TOP OF WALL - TA



**LEGAL DESCRIPTION**

PARCEL A-1  
 ALBUQUERQUE INDUSTRIAL PARK  
 ALBUQUERQUE, BERNALILLO COUNTY  
 NEW MEXICO.

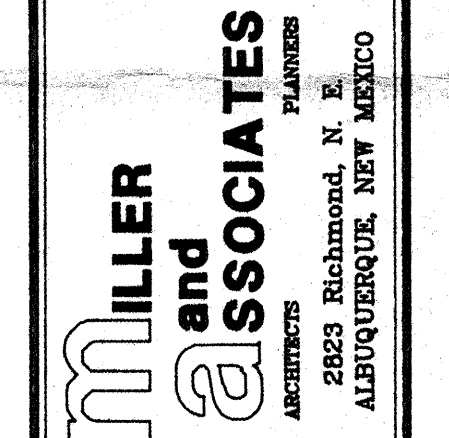
**GRADING & DRAINAGE PLAN** SCALE: 1" = 40.0'

AUG 25 1994



Job Number: 9314  
 Date: OCTOBER 15, 1993  
 Revised: JANUARY 28, 1994

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 Drawn by: [Blank]



Job Title: TAYLOR MARINE  
 ALBUQUERQUE, NEW MEXICO

