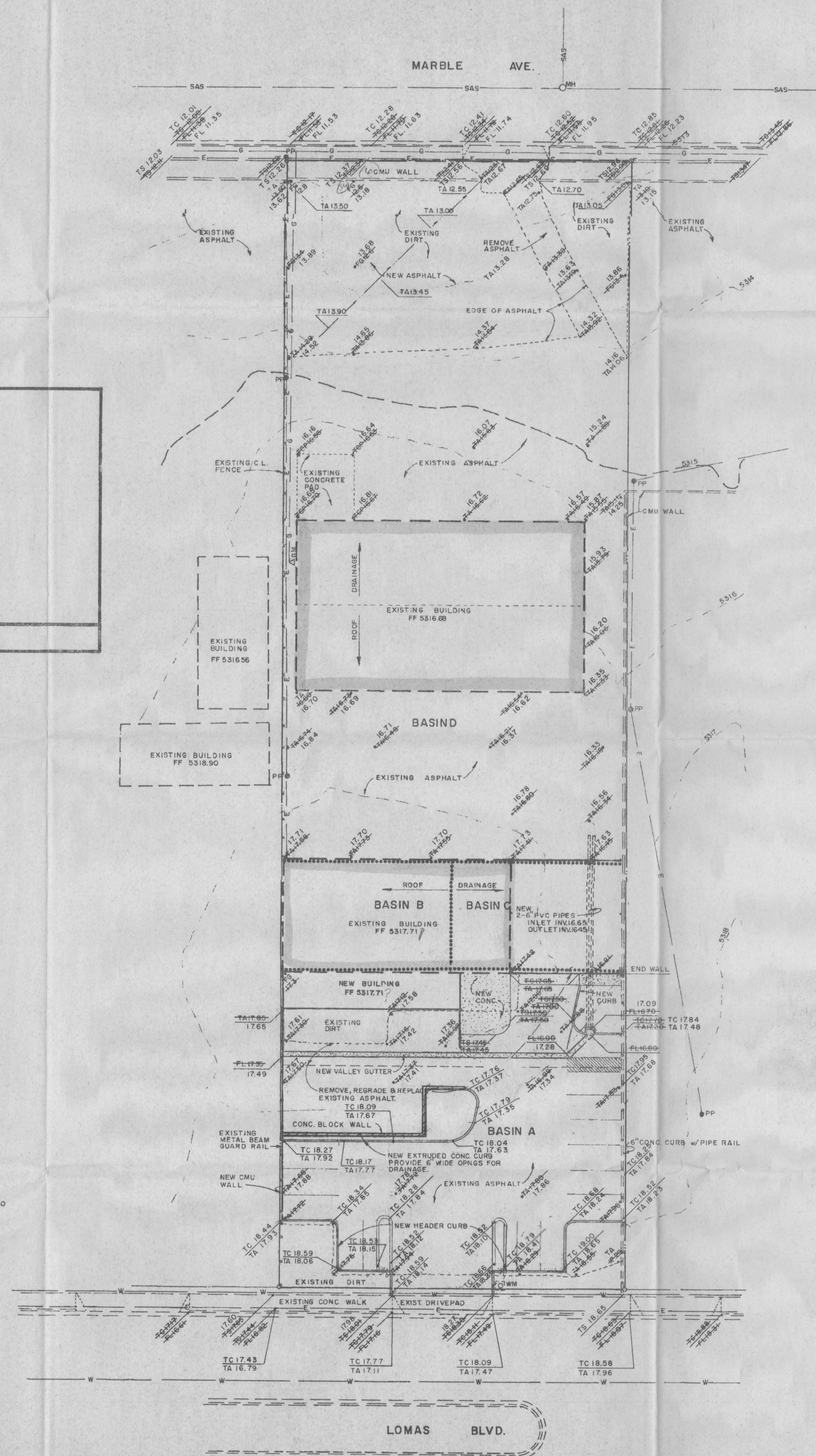
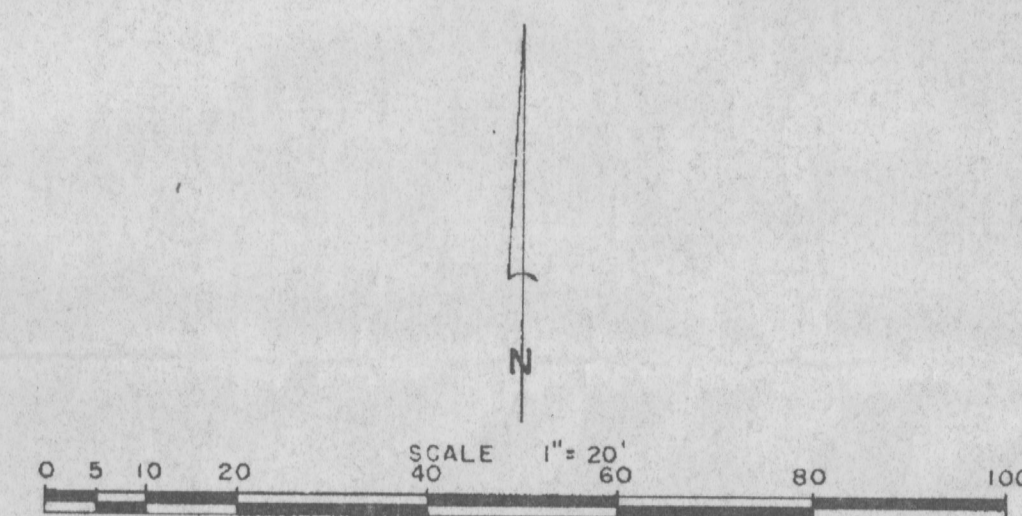
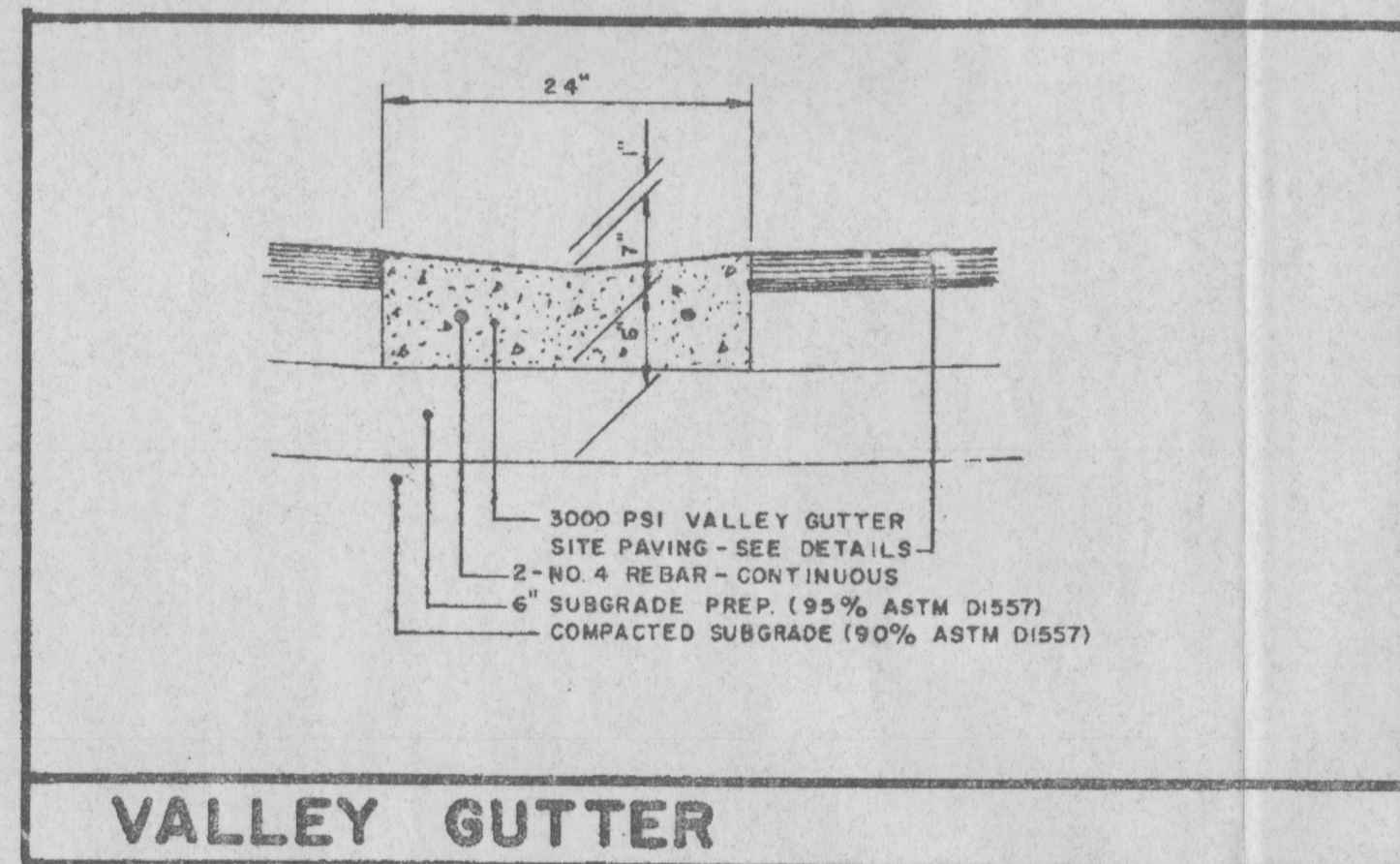




I, JEAN J. BORDENAVE, HEREBY CERTIFY THAT ON MARCH 1, 1996, THE AS-BUILT INFORMATION SHOWN ON THIS SHEET WAS OBTAINED UNDER MY SUPERVISION AND THAT THE AS-BUILT DRAINAGE CONDITIONS ARE IN SUBSTANTIAL COMPLIANCE WITH THE APPROVED GRADING AND DRAINAGE PLAN.

JEAN J. BORDENAVE, PE & PS # 5110

CONDITION	STORM RETURN PERIOD	TREATMENT TYPE	TREATMENT AREA	EXCESS PRECIPITATION	PEAK RUNOFF	RUNOFF VOLUME	RUNOFF RATE
	year	(TABLE 4)	Sq. ft.	(TABLE 8)	(TABLE 9)	cu. ft.	cfs
EXISTING	10	C	8575	0.62	2.50	413	0.99
		D	34632	1.50	3.39	4329	2.70
		TOTAL	43207			4872	3.09
PROPOSED	10	C	8575	1.29	3.45	922	0.68
		D	34632	2.36	5.02	6811	3.99
		TOTAL	43207			7733	4.67
B C U	10	D	2400	1.50	3.39	300	0.19
	100	D	2400	2.36	5.02	472	0.28
A	10	B	1800	0.36	1.19	54	0.05
		D	11640	1.50	3.39	1455	0.91
		TOTAL	13440			1499	0.96
B C U	10	D	29767	1.50	3.39	3721	2.32
	100	D	29767	2.36	5.02	5974	3.42
	10	D	2400	1.50	3.39	300	0.19
	100	D	2400	2.36	5.02	472	0.28

PIPE DRAIN

Inlet Control
 $Q = CA(2gh)^{0.5}$
 where $Q = 1.45$ cfs, $C = 0.6$, $g = 32.3$ ft/sec/sec
 using 2 - 8" pvc pipes
 therefore $H = 0.19$ ft minimum, 0.47 available
 since H is less than $\frac{1}{4}$ diameter the pipe is less than full at the entry

Outlet Control
 $Q = 1.488A_n0.67S^{0.5}$
 where $Q = 1.45$ cfs, $n = 0.015$, using 2 - 8" pvc pipes
 therefore $S = 0.0048$ ft/ft or $H = 0.29$ ft
 H available 1.05 ft.

DRAINAGE DATA

DRAINAGE NOTES

- There is a flow increase of 0.19 and 0.21 cfs for the 10 year and 100 year storms respectively. The 6 hour runoff volumes for the two storms increase by 348 and 548 cubic feet.
- The site is presently developed. The proposed work will pave areas that are presently bare earth and will construct a small building addition. In addition an area that presently has a canopy will be enclosed. Landscape areas will be added and enhanced.
- Upland drainage is presently diverted to Marble Ave. by curbs or CMU walls. Onsite drainage is routed to Marble Ave. via concrete or asphalt swales.
- The site is not located in a designated flood hazard area per FEMA FIRM No. 30, dated Oct. 14, 1983.
- Site topography survey was prepared by Surv-Tek, dated July 15, 1994.

LEGEND

TBM	TEMPORARY BENCHMARK
FF	FINISH FLOOR
FG	FINISH GRADE
FL	FLOW LINE
TA	TOP OF ASPHALT
TC	TOP OF CONCRETE
TP	TOP OF PAD
TS	TOP OF SIDEWALK
TW	TOP OF WALL
PH	FIRE HYDRANT
WM	WATER METER
WV	WATER VALVE
MR	MANHOLE
GM	GAS METER
GV	GAS VALVE
LP	LIGHT POLE
PP	POWER POLE
GW	GUY WIRE
RD	ROOF DRAINAGE
PED	ELEC. OR TEL. PEDESTAL
*****	FEMA FIRM BOUNDARY
*****	DRAINAGE BASIN BOUNDARY
XXXX	EXISTING CONTOUR
XXXX	PROPOSED CONTOUR
XX.XX	EXISTING ELEVATION
XX.XX	PROPOSED ELEVATION
XX.XX	AS-BUILT ELEVATION

LEGAL DESCRIPTION

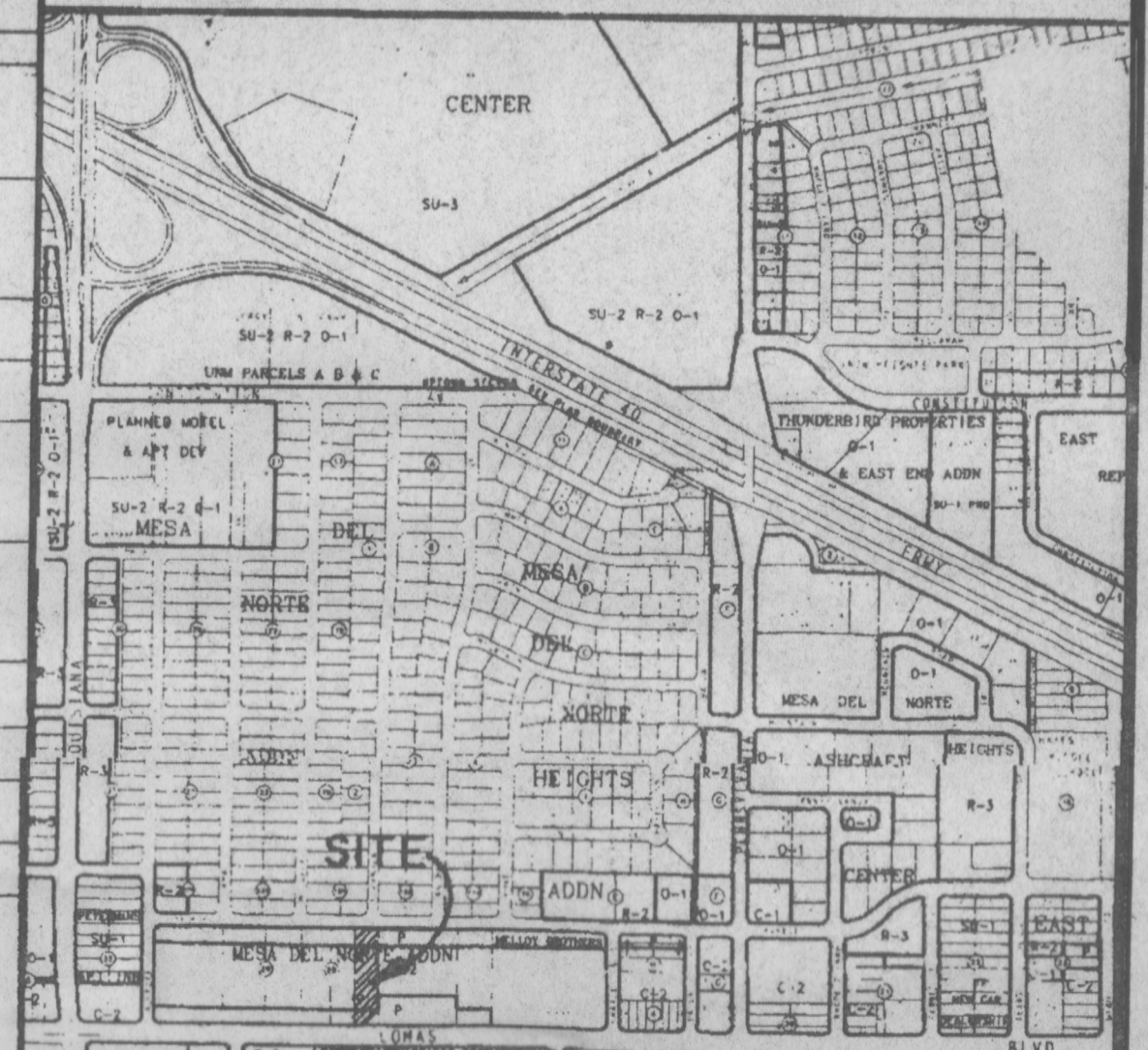
LOT 3, BLOCK 20, MESA DEL NORTE ADDITION

PERMANENT BM

ACS 12-K19

ELEVATION 5315.33

VICINITY MAP NO. J-19



FEMA FIRM NO. 30



CONSTRUCTION NOTES

- TWO (2) WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT NEW MEXICO ONE CALL SYSTEM 260-1990 FOR LOCATION OF EXISTING UTILITIES.
- 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 AMOUNT OF DELAY.
- 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.
- ALL CONSTRUCTION WITHIN PUBLIC RIGHT-OF-WAY SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE CITY OF ALBUQUERQUE STANDARDS AND PROCEDURES.

EROSION CONTROL NOTES

- 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 BERM AT THE PROPERTY LINES AND WETTING THE SOIL TO KEEP IT FROM BLOWING.
- THE CONTRACTOR SHALL PROMPTLY 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.
- THE CONTRACTOR SHALL SECURE "TOPSOIL DISTURBANCE PERMIT" PRIOR TO BEGINNING CONSTRUCTION.

REVISIONS

NO.	DATE	REMARKS	BY
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BORDENAVE DESIGNS
 P.O. BOX 91194
 ALBUQUERQUE, NM 87199-1194
 (505) 923-1344

JOB NO. 9422 FILE NO. 9422

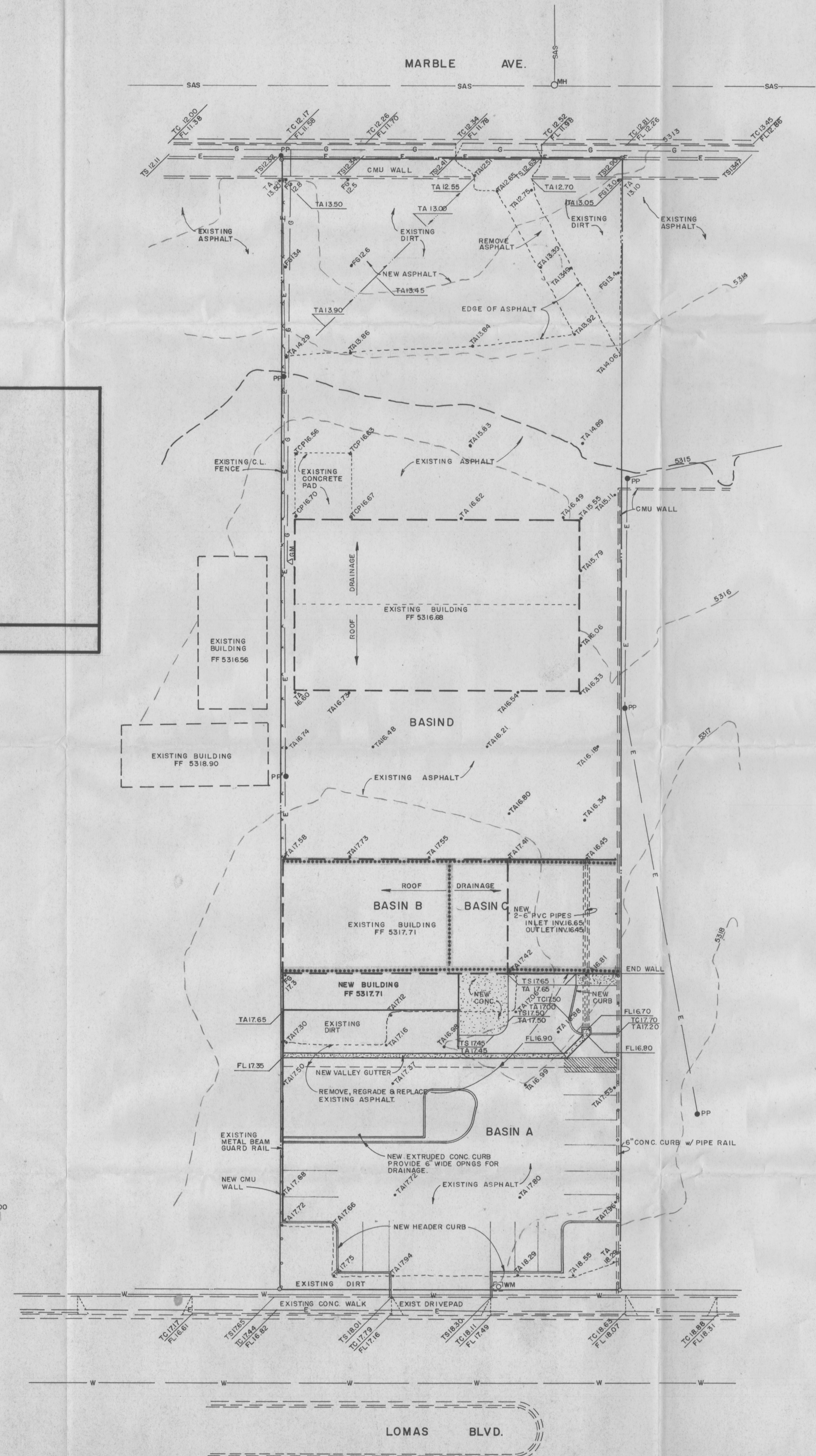
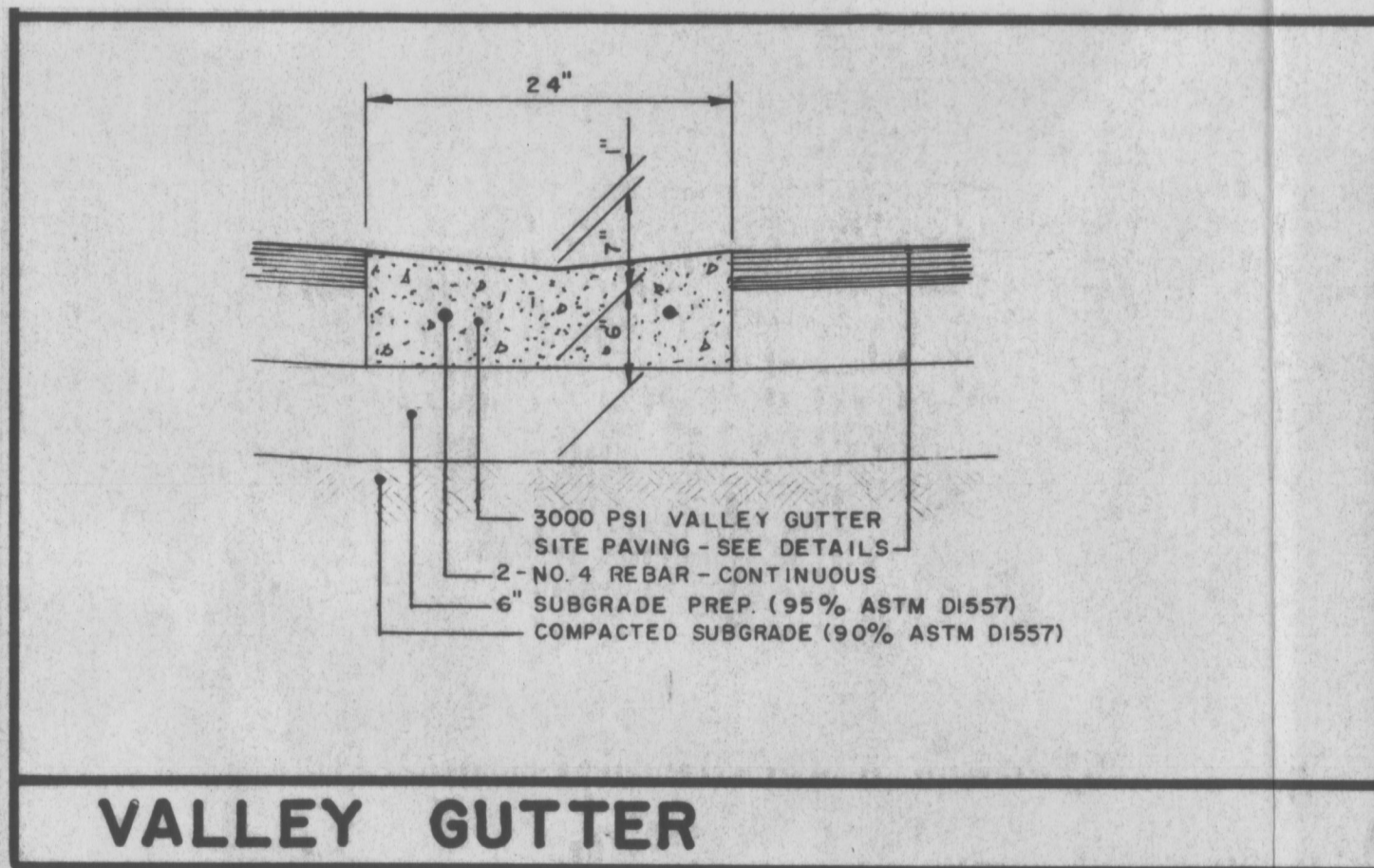
COLLISION ONE

7501 LOMAS BLVD. NE
 ALBUQUERQUE, NEW MEXICO 87110

GRADING & DRAINAGE PLAN

C-2

Eng. Cert



CONDITION	STORM RETURN PERIOD	TREATMENT TYPE (TABLE 4)	TREATMENT AREA (TABLE 8)	EXCESS PRECIPITATION (TABLE 8)	PEAK RUNOFF (TABLE 9)	RUNOFF VOLUME	RUNOFF RATE
EXISTING	10	C	8575	0.62	2.00	443	0.49
		D	34632	1.50	3.39	4329	2.70
		TOTAL	43207			4872	3.09
PROPOSED	10	C	8575	1.29	3.45	922	0.68
		D	34632	2.36	5.02	6811	3.99
		TOTAL	43207			7733	4.67
PROPOSED	100	D	2400	1.50	3.39	390	0.19
		D	2400	2.36	5.02	472	0.28
		TOTAL	13440			1499	0.96
PROPOSED	10	B	1800	0.36	1.19	54	0.05
		D	11640	1.50	3.39	1455	0.91
		TOTAL	13440			1499	0.96
PROPOSED	100	B	1800	0.92	2.60	138	0.11
		D	11640	2.36	5.02	2289	1.34
		TOTAL	13440			2427	1.45
PROPOSED	10	D	29767	1.50	3.39	3721	2.32
		D	29767	2.36	5.02	5854	3.43
		TOTAL	2400	1.50	3.39	300	0.19
PROPOSED	100	D	2400	2.36	5.02	472	0.28

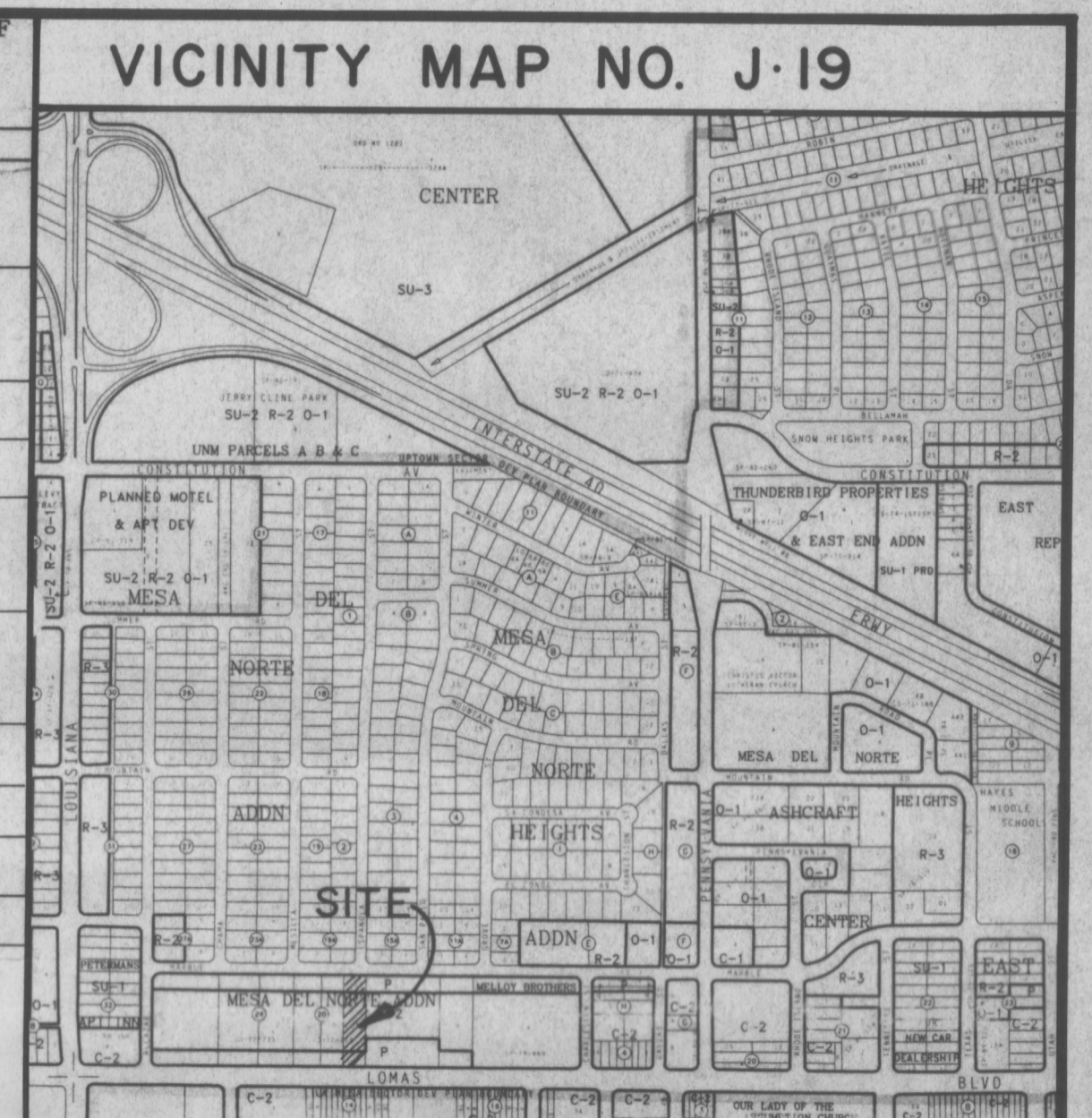
PIPE DRAIN

Inlet Control
 $Q = CA(2gH)^{0.5}$
 where $Q = 1.45$ cfs, $C = 0.6$, $g = 32.3$ ft/sec/sec
 using 2 - 8" pvc pipes
 therefore $H = 0.19$ ft minimum, 0.47 available
 since H is less than $\frac{1}{2}$ diameter the pipe is less than full at the entry

Outlet Control
 $Q = \frac{1.486}{S^{0.585}} AR^{0.67} S^{0.5}$
 where $Q = 1.45$ cfs, $n = 0.015$, using 2 - 8" pvc pipes
 therefore $S = 0.0048$ ft/ft or $H = 0.29$ ft
 H available 1.05 ft.

- DRAINAGE DATA**
- DRAINAGE NOTES**
- There is a flow increase of 0.19 and 0.21 cfs for the 10 year and 100 year storms respectively. The 6 hour runoff volumes for the two storms increase by 348 and 548 cubic feet.
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 - Site topography survey was prepared by Surv-Tek, dated July 15, 1994.

- LEGEND**
- TBM TEMPORARY BENCHMARK
 - FF FINISH FLOOR
 - FG FINISH GRADE
 - FL FLOW LINE
 - TA TOP OF ASPHALT
 - TC TOP OF CONCRETE
 - TC TOP OF CURB
 - TP TOP OF PAD
 - TS TOP OF SIDEWALK
 - TW TOP OF WALL
 - FH FIRE HYDRANT
 - WM WATER METER
 - WV WATER VALVE
 - MH MANHOLE
 - GM GAS METER
 - GV GAS VALVE
 - LP LIGHT POLE
 - PP POWER POLE
 - GW GUY WIRE
 - RD ROOF DRAINAGE
 - PED ELEC. OR TEL. PEDESTAL
 - FEMA-FIRM BOUNDARY
 - DRAINAGE BASIN BOUNDARY
 - EXISTING CONTOUR
 - - - - - PROPOSED CONTOUR
 - EXISTING ELEVATION
 - - - - - PROPOSED ELEVATION
 - AS-BUILT ELEVATION



- CONSTRUCTION NOTES**
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- EROSION CONTROL NOTES**
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 - THE CONTRACTOR SHALL SECURE "TOPSOIL DISTURBANCE PERMIT" PRIOR TO BEGINNING CONSTRUCTION.

LEGAL DESCRIPTION

LOT 3, BLOCK 20, MESA DEL NORTE ADDITION

PERMANENT BM

ACS 12-K19 ELEVATION 5313.33

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GRADING & DRAINAGE PLAN C-2

Bldg Pmt