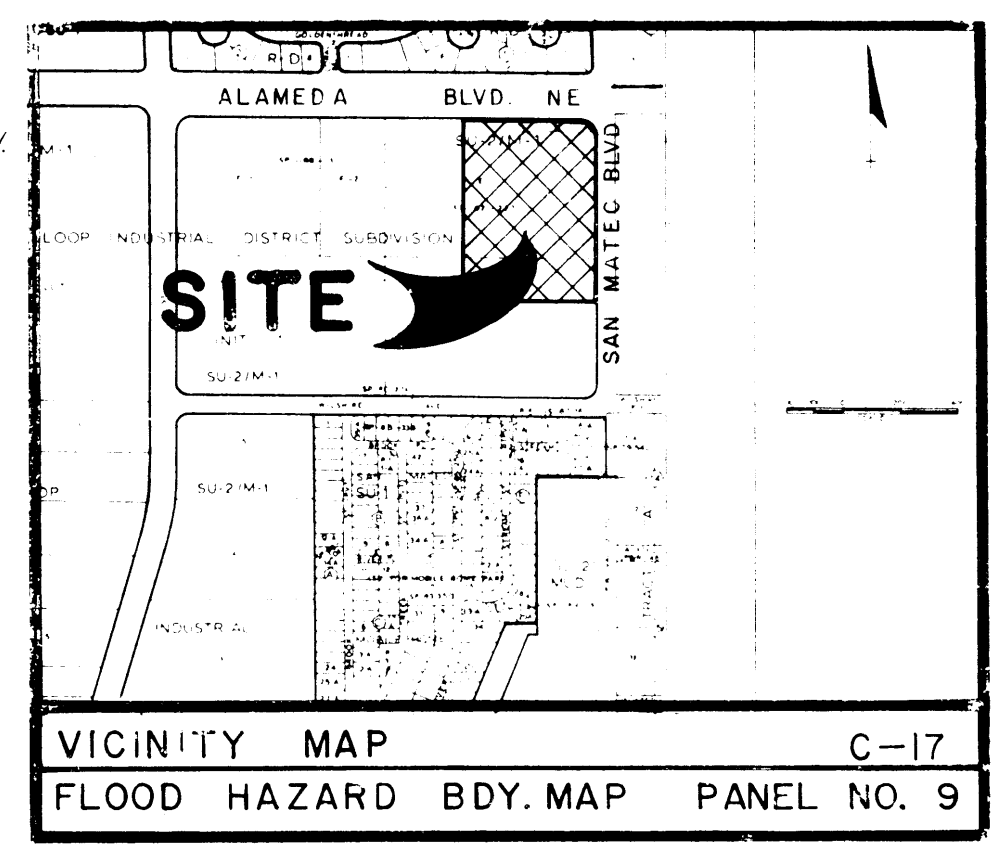
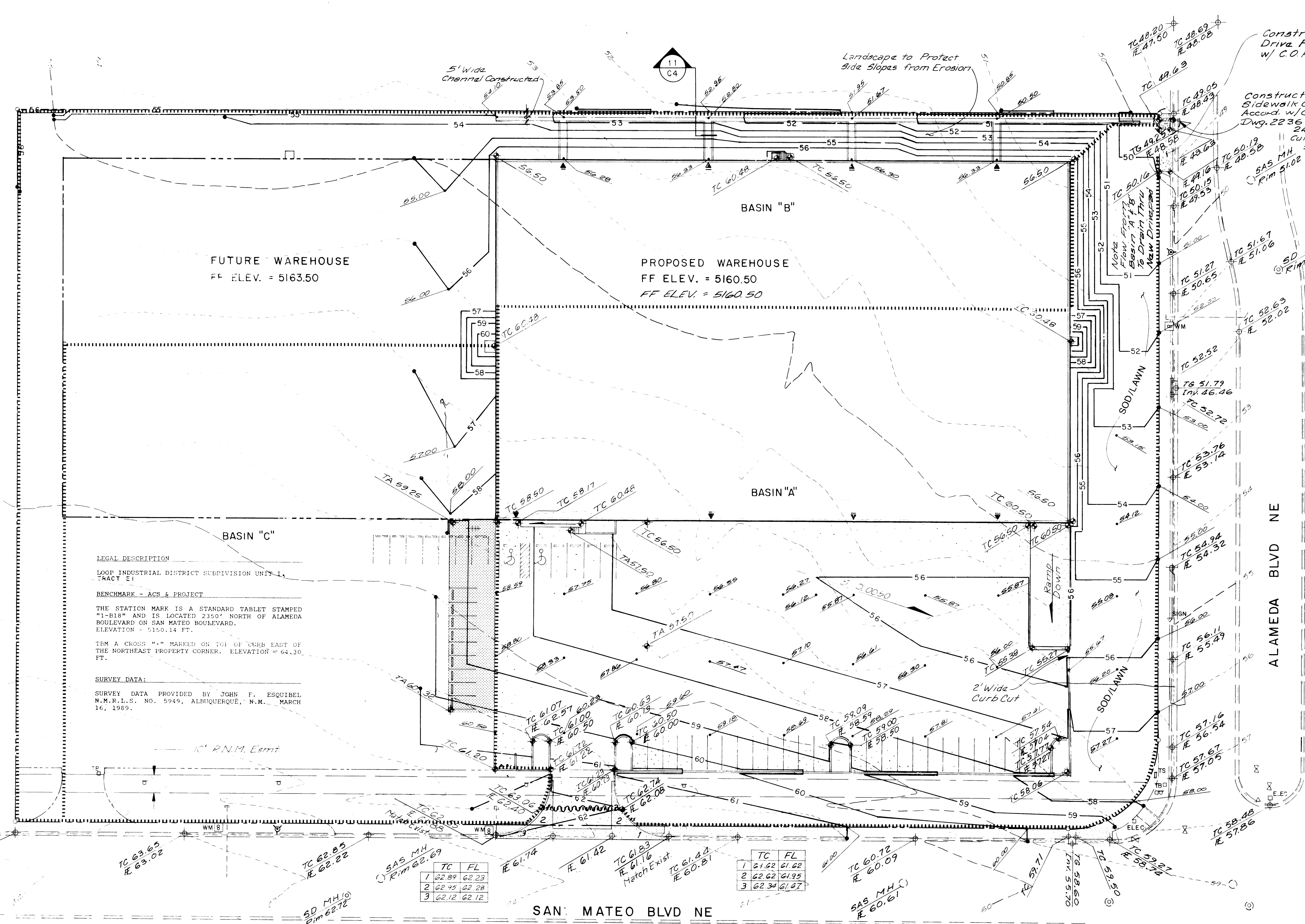




LOCATION AND DESCRIPTION:
THE SITE IS LOCATED ON THE SW CORNER OF SAN MATEO BOULEVARD AND ALAMEDA BOULEVARD NE WITHIN THE LOOP INDUSTRIAL DISTRICT SUBDIVISION UNIT 1 IN ALBUQUERQUE, NEW MEXICO. THE SITE, CONTAINING APPROXIMATELY 5.81 ACRES, IS PRESENTLY UNDEVELOPED. EXISTING SLOPES ARE FROM THE EAST TO THE WEST AVERAGING 3.33 PERCENT. THE SITE IS NOT LOCATED WITHIN A FLOOD PLAIN.

EXISTING CONDITIONS:
PRESENTLY, RUNOFF FROM THE SITE DISCHARGES ACROSS PROPERTY LINES TO ALAMEDA BOULEVARD WHERE IT IS INTERCEPTED BY EXISTING CATCH BASINS. NO OFF-SITE FLOWS ENTERS THE SITE DUE TO EXISTING ELEVATIONS.

PROPOSED CONDITIONS:
PROPOSED DEVELOPMENT OF THE SITE INCLUDES A BUILDING WITH RELATED PARKING AND LANDSCAPING. S.A.D. 201 CRITERIA INDICATES RUNOFF FROM THIS SITE TO BE HELD AT 13.3 CFS. HOWEVER, ANALYSIS OF RUNOFF IN ALAMEDA BOULEVARD INDICATES FLOW ARE LESS THAN SHOWN IN S.A.D. 201.

CALCULATIONS: (BASED ON CITY OF ALBUQUERQUE DEVELOPMENT PROCESS MANUAL, VOLUME II)

Area = 5.81 acres
I = 2.2 in./hr. Plate 22.2 D-2
6-hour, 100-year rainfall = 2.2 in. Plate 22.2 D-1
I = (2.2)(2.2) = 4.84 in./hr.

EXISTING ON-SITE CONDITIONS:

SURFACE TYPE	"C" VALUE	A (ACRES)	"C"X A	COMPOSITE "C"X A/A
Streets, Drives, Walks	0.95			
Roofs	0.90			
Lawns & Landscaping	0.25			
Undeveloped	0.40			
TOTAL		5.81	2.32	0.4

Q(100) = (0.4)(4.84)(5.81) = 11.248 cfs
Q(10) = (0.657)(11.248) = 7.390 cfs
CN = 68 Plate 22.2 C-2
Direct Runoff = 0.2 in. Plate 22.2 C-4
V(100) = (0.2)(5.81)(43560)/12 = 4218 cu. ft.
V(10) = (0.657)(4218) = 2771 cu. ft.

PROPOSED ON-SITE CONDITIONS (NOT INCLUDING FUTURE DEVELOPMENT):

SURFACE TYPE	"C" VALUE	A (ACRES)	"C"X A	COMPOSITE "C"X A/A
Streets, Drives, Walks	0.95	1.1497	1.0922	
Roofs	0.90	1.4858	1.3372	
Lawns & Landscaping	0.25	0.7277	0.1819	
Undeveloped	0.40	2.4468	0.9787	
TOTAL		5.81	3.5900	0.6179

Q(100) = (0.62)(5.81)(4.84) = 17.43 cfs
Q(10) = (0.657)(17.43) = 11.45 cfs
CN = 75 Plate 22.2 C-3
Direct Runoff = .75 in. Plate 22.2 C-4
V(100) = (.75)(5.81)(43560)/12 = 15,818 cu. ft.
V(10) = (0.657)(15,818) = 10,392 cu. ft.

PROPOSED ON-SITE CONDITIONS (INCLUDING FUTURE DEVELOPMENT):

SURFACE TYPE	"C" VALUE	A (ACRES)	"C"X A	COMPOSITE "C"X A/A
Streets, Drives, Walks	0.95	2.03	1.9285	
Roofs	0.90	2.57	2.3130	
Lawns & Landscaping	0.25	1.21	0.3025	
Undeveloped	0.40			
TOTAL		5.81	4.5440	0.7821

Q(100) = (0.78)(5.81)(4.84) = 21.93 cfs
Q(10) = (0.657)(21.93) = 14.41 cfs
CN = 85 Plate 22.2 C-3
Direct Runoff = 1.0 in. Plate 22.2 C-4
V(100) = (1.0)(5.81)(43560)/12 = 21,090 cu. ft.
V(10) = (0.657)(21,090) = 13,856 cu. ft.

GRADING AND DRAINAGE PLAN

I HEREBY CERTIFY THE GRADING AND DRAINAGE PLAN HAS BEEN CONSTRUCTED AND IS IN SUBSTANTIAL COMPLIANCE WITH THE APPROVED GRADING AND DRAINAGE PLAN.

8/30/89

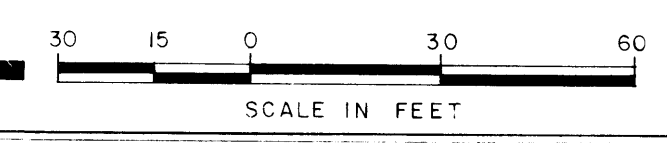
LEGEND
EXISTING SPOT ELEVATION
NEW SPOT ELEVATION
AS-BUILT ELEVATION

TC	FL
1 61.82	61.82
2 62.02	61.95
3 62.34	61.47

Basin "A" (Area to Drive Pad):
Roof: (320' x 120') = 0.88 AC
Q(100) = (0.88)(0.90)(4.84) = 3.83 CFS
Parking Lot: 1.03 AC
Q = (1.03)(0.95)(4.84) = 4.74 CFS
Landscaped Area:
50'x350' = 0.45
30'x250' = 0.17
0.62
Q(100) = (0.62)(.25)(4.84) = 0.75 CFS
3.83 + 4.74 + .75 = 9.32 CFS
Basin "B" (Area to Culvert):
Accounting for Future Development
Future Roof: 100'x 240' = 0.55 AC
Q(100) = (0.90)(0.55)(4.84) = 2.40 CFS

Basin "C" (Area to Drive Pad):
Future Roof: 100'x 240' = 0.55 AC
Q(100) = (0.90)(0.55)(4.84) = 2.40 CFS
Future Parking Lot: 1.00 AC
Q(100) = (0.95)(1.00)(4.84) = 4.60 CFS
Future Landscaping:
25'x240' = 0.14
25'x400' = 0.23
30'x245' = 0.12
0.54
Q(100) = (0.25)(0.54)(4.84) = 0.63 CFS
2.40 + 4.60 + 0.63 = 7.63 CFS

Discharge thru sidewalk culvert:
Flow thru sidewalk culvert:
Q(100) = 5.68 CFS
Q(10) = (0.657)(5.68) = 3.73 CFS
Capacity of 24" wide sidewalk culvert:
Q = 2/3 L (2g)^(1/2) h^(3/2)
= 2/3 (2) (2(32.2))^(1/2) (.58)^(3/2)
= 4.73 CFS
Capacity of channel west of building:
A = 5x5 = 2.5
R = A/P = 2.516 = 0.4167
Q = 1.49 (0.4167)^(2/3) (0.02)^(1/2) (2.5)
= 0.013
= 22.61 CFS
Capacity of south side of Alameda Boulevard:
Water elevation = 0.5' High at curb flow line
S = 0.022
A = 1/2(0.5')(24') = 6.0 SF
N = 0.017
Q = 1.49
0.017 (.2468)^(2/3) (0.022)^(1/2) (6.0) = 30.82 CFS



DRAINAGE FACILITIES WITHIN CITY RIGHT OF WAY	
TITLE SAN MATEO & ALAMEDA BLVD. NE	
LOOP INDUSTRIAL DISTRICT SUBDIVISION	
DRAIN LINE TO EXIST. INLET & S/W CULVERT	
PERMIT NO.	MAP NO. C-17-Z
DESIGN APPROVAL: Hydrology Section Date	
INSPECTION APPROVAL: Construction Section Date	
ACCEPTANCE: Construction Section Permits Date	

NIMS, CALVANI & ASSOCIATES, P.A.
ARCHITECTS, PLANNERS, AIA

ALBUQUERQUE
LAS CRUCES
CARLSBAD

2407 W. PICACHO AVENUE
SUITE 1150
ALBUQUERQUE, NEW MEXICO 87102

201 CRUEL AVENUE
SUITE 100
LAS CRUCES, NEW MEXICO 88001

505-253-2000

PMI WAREHOUSE FACILITY
ALBUQUERQUE, NEW MEXICO

GRADING & DRAINAGE PLAN

JOB NO.:

DATE:

SHEET NO.:

C 3