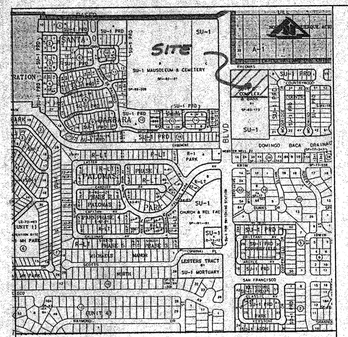
GRADING AND DRAINAGE PLAN
FOR
TRACT X-1-A



VICINITY MAP D-19

SCALE 1" = 700'

ADDRESS

XXXX PALOMAS AVENUE NE

LEGAL DESCRIPTION

LOT X-1-A OF LOTS 1 THRU 5 BLOCK 22, TRACT A,
UNIT A, NORTH ALBUQUERQUE ACRES

BENCHMARK

ACS BRASSCAP "HEAVEN", LOCATED ON THE SOUTH SIDE OF
PASEO DEL NORTE, 800' WEST OF WYOMING BLVD.
ELEVATION = 5378.79

LEGEND

35.8 EXISTING SPOT ELEVATION

•36.20 NEW SPOT ELEVATION

36 EXISTING CONTOUR

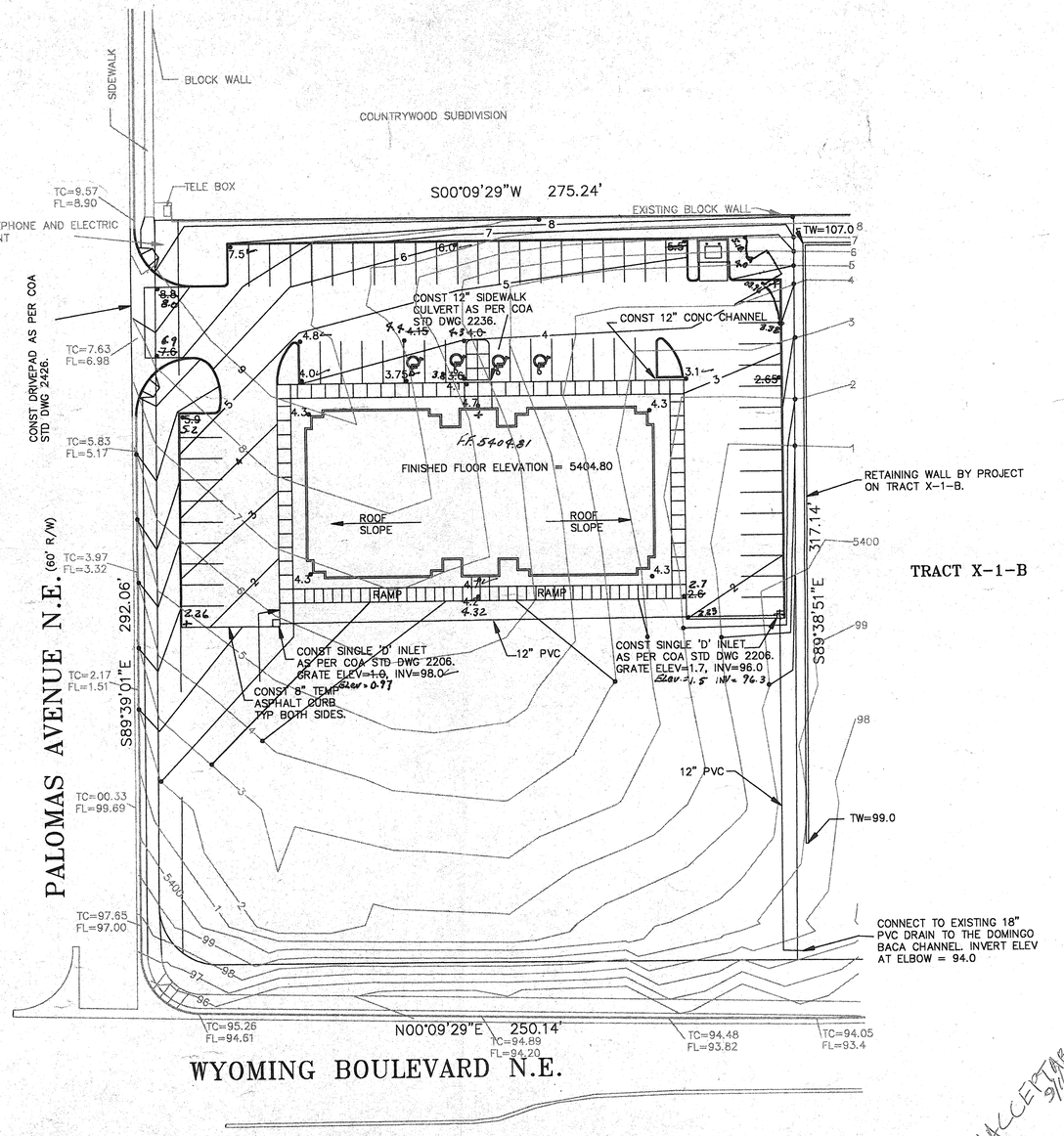
35 NEW CONTOUR

SWALE

✓ VERIFIED ELEVATION

~~36.2~~ AS-BUILT ELEVATION

BASIN BOUNDARY



TRACT X-1-B

DRAINAGE PLAN

THE FOLLOWING ITEMS CONCERNING THE TRACT X-1-A GRADING AND DRAINAGE PLAN ARE CONTAINED HEREON:

1. VICINITY MAP
2. GRADING PLAN
3. CALCULATIONS

THE PROPOSED IMPROVEMENTS, AS SHOWN BY THE VICINITY MAP, ARE LOCATED AT THE SOUTHEAST CORNER OF THE INTERSECTION OF PALOMAS AVENUE NE AND WYOMING BLVD. NE. THE SITE IS UNDEVELOPED AND SLOPES FROM EAST TO WEST. THE SITE DOES NOT LIE WITHIN A FLOOD HAZARD ZONE. THE SITE IS HIGHER THAN THE LAND TO THE SOUTH AND THE STREETS TO THE NORTH AND WEST. THE SITE IS LOWER THAN THE LAND TO THE EAST, BUT A BLOCK WALL RUNOFF FROM ENTERING THE SITE. THEREFORE, OFFSITE FLOWS ARE NEGLIGIBLE.

THE SITE IS THE NORTHERN 2 ACRES OF A 5 ACRE PARCEL ZONED SU-1. THE GRADING PLAN FOR THE SOUTHERN 3 ACRES IS BEING SUBMITTED CONCURRENTLY WITH THIS PLAN BY CHAVES & GRIEVES. A DRAINAGE PLAN WAS APPROVED FOR THIS SITE IN 1998. THE APPROVED PLAN REQUIRED THAT ALL RUNOFF BE CONVEYED TO THE DOMINGO BACA CHANNEL WITHOUT DETAINING ANY OF THE FLOW. TRACTS X-1-A AND X-1-B WILL UTILIZE THE SAME CONCEPT AS OUTLINED IN THE APPROVED PLAN.

THE GRADING PLAN SHOWS 1) EXISTING AND PROPOSED GRADES, INDICATED BY SPOT ELEVATIONS AND CONTOURS AT 1'-0" INTERVALS, 2) CONTINUITY BETWEEN EXISTING AND PROPOSED ELEVATIONS, 3) THE LIMIT AND CHARACTER OF THE EXISTING IMPROVEMENTS AND 4) THE LIMIT AND CHARACTER OF THE PROPOSED IMPROVEMENTS. THE PROPOSED IMPROVEMENTS CONSIST OF AN OFFICE BUILDING WITH ASSOCIATED PARKING AND LANDSCAPING. THE SITE WILL BE GRADED TO CONVEY THE RUNOFF TO INLETS AT THE WEST EDGE OF THE PARKING AREAS. THE FLOW FROM THE INLETS WILL BE CONVEYED TO AN EXISTING 18" STORM DRAIN AT THE SOUTHWEST CORNER OF THE SITE. THE 18" WILL CONVEY THE FLOW TO THE DOMINGO BACA CHANNEL.

THE CALCULATIONS, WHICH APPEAR BELOW, ANALYZE THE EXISTING AND PROPOSED CONDITIONS FOR THE 6-HOUR, 100-YEAR RAINFALL EVENT. THE ANALYSIS IS IN ACCORDANCE WITH THE CITY OF ALBUQUERQUE DEVELOPMENT PROCESS MANUAL, VOLUME II. AS SHOWN BY THESE CALCULATIONS, THE RATE OF RUNOFF AND THE VOLUME OF RUNOFF WILL INCREASE. THIS PLAN IS IN ACCORDANCE WITH THE PREVIOUSLY APPROVED DRAINAGE PLAN.

CALCULATIONS

PRECIPITATION ZONE = 3
AREA = 2.00 ACRES
EXISTING CONDITIONS
LAND TREATMENT B=100%
E = 0.92*1.00 = 0.92 INCHES
V = 0.92*2.00/12 = 0.15 ACRE FEET
Q = 2.60*1.00*2.00 = 5.20 CFS
DEVELOPED CONDITIONS
LAND TREATMENT B=57% D=43%
E = 0.92*0.57+2.36*0.43 = 1.54 INCHES
V =1.54*2.00/12 = 0.26 ACRE FEET
Q = (2.60*0.57+5.02*0.43)2.00 = 7.28 CFS
INCREASE IN RATE OF RUNOFF = 7.28-5.20 = 2.08 CFS
INCREASE IN VOLUME OF RUNOFF = 0.26-0.15 = 0.11 ACRE FEET

UNACCEPTABLE 9/1/99

THIS PROJECT WAS CONSTRUCTED IN SUBSTANTIAL COMPLIANCE WITH THE APPROVED DRAINAGE PLAN. 8-23-99

RECEIVED
SEP 01 1999
HYDROLOGY SECTION

DRAWING SCALE: 1" = 30'
0 6 12 18 24 30 60 90 120

REGISTERED PROFESSIONAL ENGINEER STATE OF NEW MEXICO THOMAS T. MANN, JR. 3792 AND LAND SURVEYOR

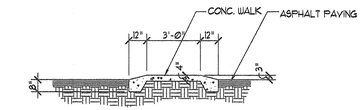
8/23/99

11/11/99

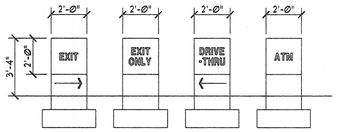
Engineering & Surveying Associates, Inc.
5312 Noreen Drive NE • Albuquerque, NM 87111
(505) 298-4651

1
SHEET NO.

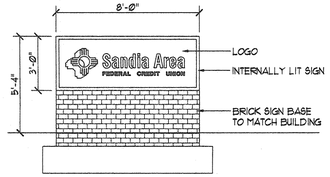
7018G02.DWG 1/11/99



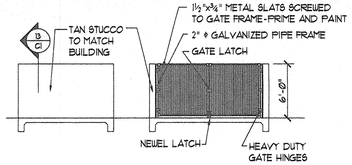
9/C1 SECTION @ CONCRETE WALK
1/4" = 1'-0"



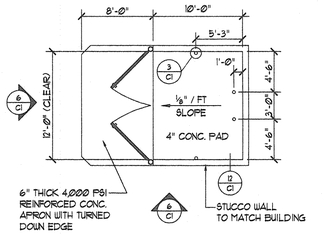
8/C1 DIRECTIONAL SIGNS
3/8" = 1'-0" 50 SQ. FT.



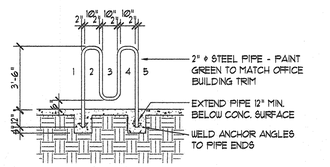
7/C1 MONUMENT SIGN ELEVATION
3/8" = 1'-0" 50 SQ. FT.



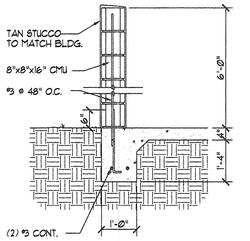
6/C1 TRASH ENCLOSURE ELEVATION
1/8" = 1'-0"



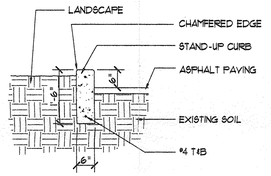
5/C1 TRASH ENCLOSURE PLAN
1/8" = 1'-0"



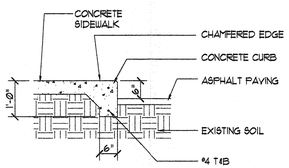
4/C1 BIKE RACK DETAIL
½" = 1'-0"



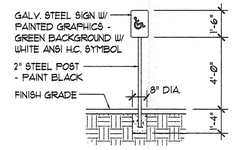
12/C1 WALL SECTION
1/2" = 1'-0"



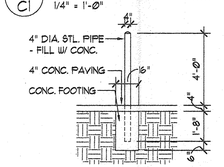
11/C1 TYPICAL CURB DETAIL
1/2" = 1'-0"



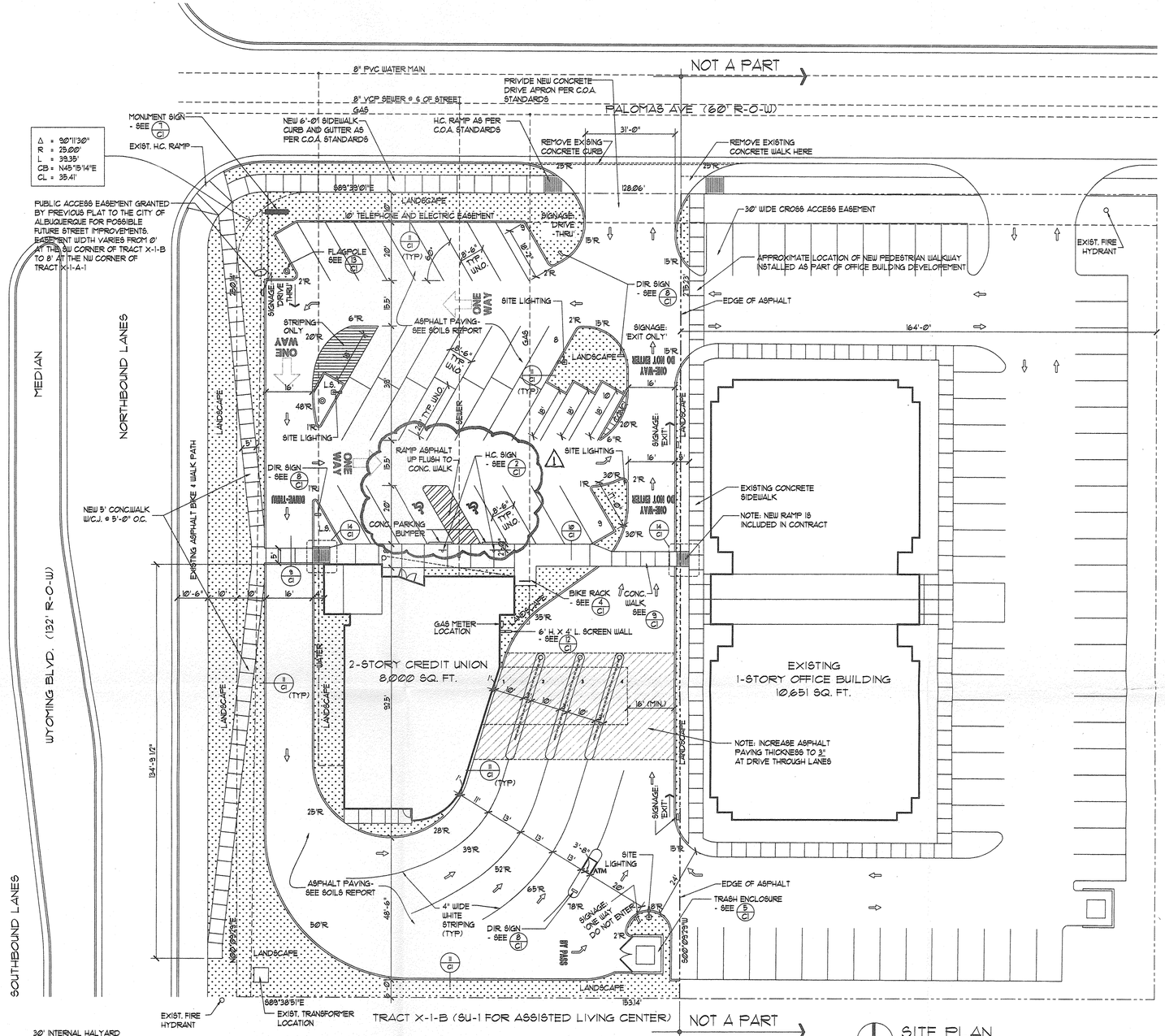
10/C1 TURNDOWN WALK DETAIL
1/2" = 1'-0"



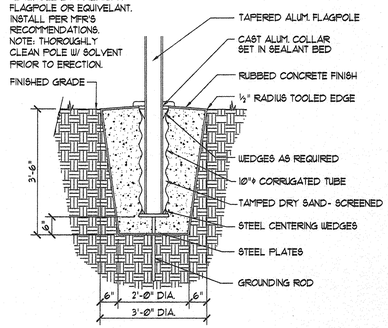
2/C1 H.C. PARKING SIGN
1/4" = 1'-0"



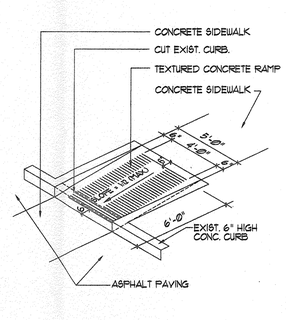
3/C1 BOLLARD DETAIL
1/4" = 1'-0"



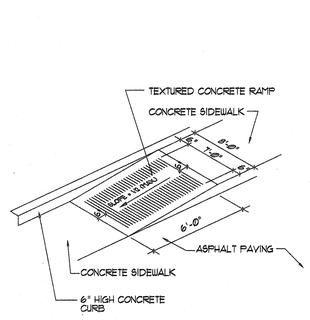
SITE PLAN
1" = 20'-0"



13/C-1 FLAGPOLE BASE
1" = 1'-0"



14/C-1 SIDEWALK RAMP
N.T.S.



15/C-1 SIDEWALK RAMP
N.T.S.

LOCATION MAP D-19-Z

JLS
ARCHITECTS
1600 Rio Grande NW
Albuquerque, NM 87104
505-246-0870
fax: 505-246-0437

Sandia Area FEDERAL CREDIT UNION
Wyoming & Palomas

Site Plan

⚠1 REVISED FOR BUILDING PERMIT 9.20.99

ARCHITECT:

STATE OF NEW MEXICO — JOHN L. SCHOLZ — No. 12284 — REGISTERED ARCHITECT — 9/20/99

DATE:
SEPTEMBER 20, 1999

SHEET:
C1 of 2

CALCULATIONS

THE FOLLOWING CALCULATIONS WERE DEVELOPED USING THE CITY OF ALBUQUERQUE DPM SECTION 22.2

SITE CHARACTERISTICS:
SITE LOCATION: ZONE 3
PRECIPITATION: P = 2.60 inches

LAND TREATMENT:
UNCOMPACTED SOIL – TREATMENT A
LANDSCAPE – TREATMENT B
COMPACTED SOIL – TREATMENT C
BUILDINGS & PAVING – TREATMENT D

EXCESS PRECIPITATION:
TREATMENT A E = 0.66 inches
TREATMENT B E = 0.92 inches
TREATMENT C E = 1.29 inches
TREATMENT D E = 2.36 inches

PEAK DISCHARGE:
TREATMENT A = 1.87 cfs/acre
TREATMENT B = 2.60 cfs/acre
TREATMENT C = 3.45 cfs/acre
TREATMENT D = 5.02 cfs/acre

TOTAL SITE TRACT X–1–A

	EXISTING	PROPOSED
TOTAL AREA = 2.00 AC.		
TREATMENT A =	0.00 AC.	0.00 AC.
TREATMENT B =	0.16 AC.	0.35 AC.
TREATMENT C =	0.96 AC.	0.00 AC.
TREATMENT D =	0.88 AC.	1.67 AC.

ONSITE – EXCESS PRECIPITATION & VOLUMETRIC RUNOFF:
EXISTING RUNOFF:
WEIGHTED E=[(0.66)(0.00)+(0.92)(0.16)+(1.29)(0.96)+(2.36)(0.88)]/2.00
= 1.73 inches
V100–6hr = (1.73)(2.00)/12 = 0.2885 acre ft = 12,570 cf
DEVELOPED RUNOFF:
WEIGHTED E=[(0.66)(0.00)+(0.92)(0.35)+(1.29)(0.00)+(2.36)(1.67)]/2.00
= 2.13 inches
V100–6hr = (2.13)(2.00)/12 = 0.3553 acre ft = 15,470 cf

ONSITE – PEAK DISCHARGE:
EXISTING DISCHARGE:
Q100 = (1.87)(0.00)+(2.60)(0.16)+(3.45)(0.96)+(5.02)(0.88) = 8.15 cfs
DEVELOPED DISCHARGE:
Q100 = (1.87)(0.00)+(2.60)(0.35)+(3.45)(0.00)+(5.02)(1.67) = 9.29 cfs

RESULTS:

DEVELOPED VOLUMETRIC RUNOFF:
15,470 – 12,570 = 2,900 cf INCREASE IN RUNOFF VOLUME
DEVELOPED PEAK DISCHARGE:
9.29 – 8.15 = 1.14 cfs INCREASE IN PEAK DISCHARGE

PROPOSED BUILDING ON TRACT X–1–A–1

	EXISTING	PROPOSED
TOTAL AREA = 0.96 AC.		
TREATMENT A =	0.00 AC.	0.00 AC.
TREATMENT B =	0.00 AC.	0.19 AC.
TREATMENT C =	0.96 AC.	0.00 AC.
TREATMENT D =	0.00 AC.	0.77 AC.

ONSITE – EXCESS PRECIPITATION & VOLUMETRIC RUNOFF:
EXISTING RUNOFF:
WEIGHTED E=[(0.66)(0.00)+(0.92)(0.00)+(1.29)(0.96)+(2.36)(0.00)]/0.96
= 1.29 inches
V100–6hr = (1.29)(0.96)/12 = 0.1032 acre ft = 4,495 cf
DEVELOPED RUNOFF:
WEIGHTED E=[(0.66)(0.00)+(0.92)(0.19)+(1.29)(0.00)+(2.36)(0.77)]/0.96
= 2.08 inches
V100–6hr = (2.08)(096)/12 = 0.1660 acre ft = 7,230 cf

ONSITE – PEAK DISCHARGE:
EXISTING DISCHARGE:
Q100 = (1.87)(0.00)+(2.60)(0.00)+(3.45)(0.96)+(5.02)(0.00) = 3.31 cfs
DEVELOPED DISCHARGE:
Q100 = (1.87)(0.00)+(2.60)(0.19)+(3.45)(0.00)+(5.02)(0.77) = 4.36 cfs

RESULTS:

DEVELOPED VOLUMETRIC RUNOFF:
7,230 – 4,495 = 2,735 cf INCREASE IN RUNOFF VOLUME
DEVELOPED PEAK DISCHARGE:
4.36 – 3.31 = 1.05 cfs INCREASE IN PEAK DISCHARGE

TOTAL DISCHARGE FROM TRACT X–1–A–1 & X–1–A–2 = 9.29cfs
CAPACITY OF EXISTING 18" SD = 10.67cfs
TOTAL DISCHARGE FROM TRACT X–1–B = 13.4cfs
THEREFORE THE TOTAL FLOW TO THE DOMINGO BACA CHANNEL = 22.69cfs
CAPACITY OF EXISTING 24" SD = 22.67cfs

BENCH MARK

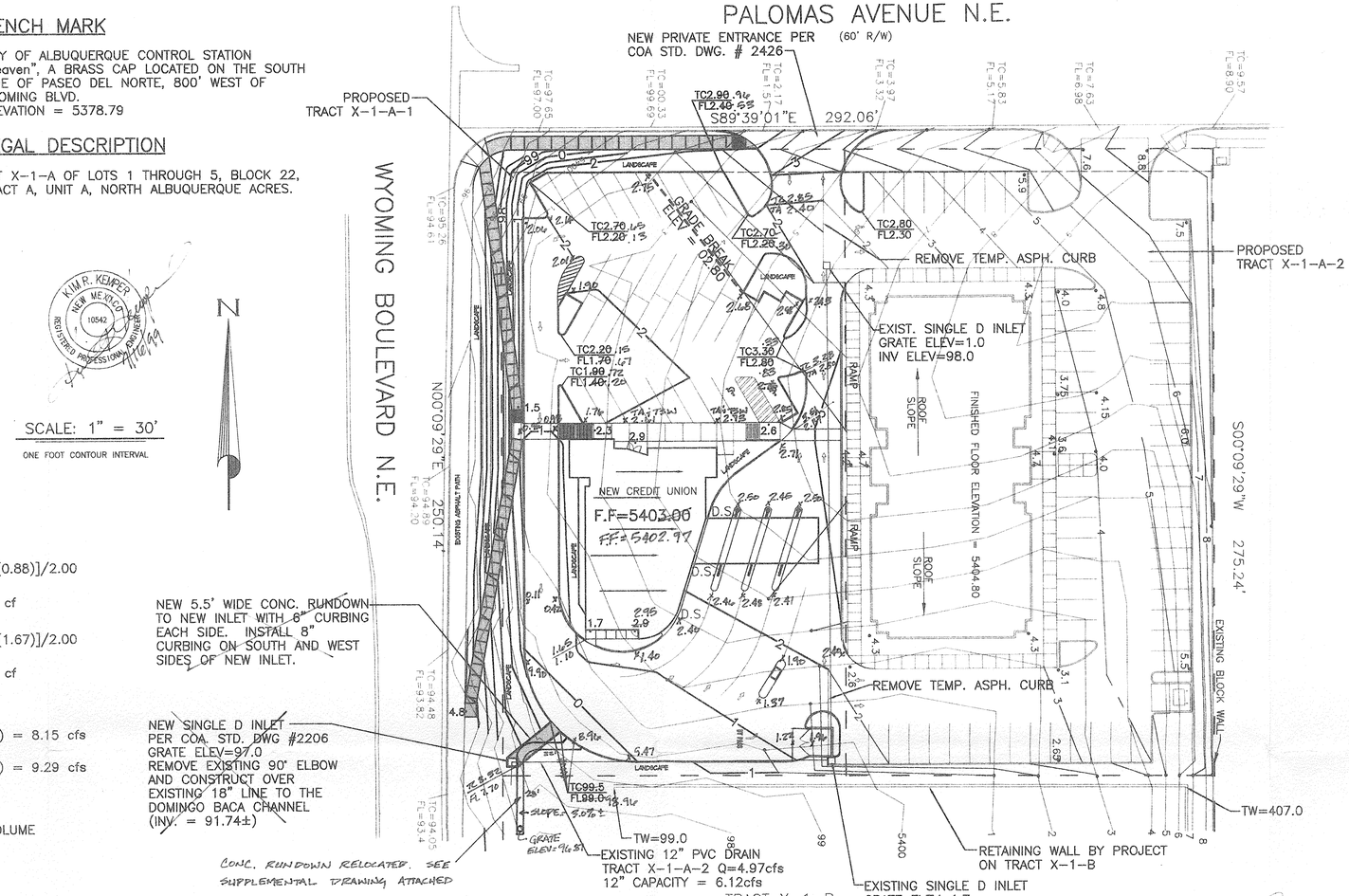
CITY OF ALBUQUERQUE CONTROL STATION "heaven", A BRASS CAP LOCATED ON THE SOUTH SIDE OF PASEO DEL NORTE, 800' WEST OF WYOMING BLVD.
ELEVATION = 5378.79

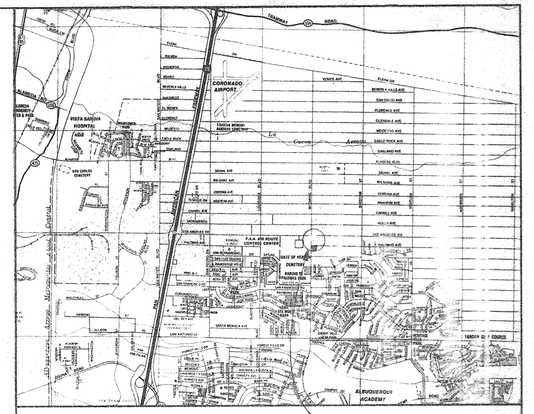
LEGAL DESCRIPTION

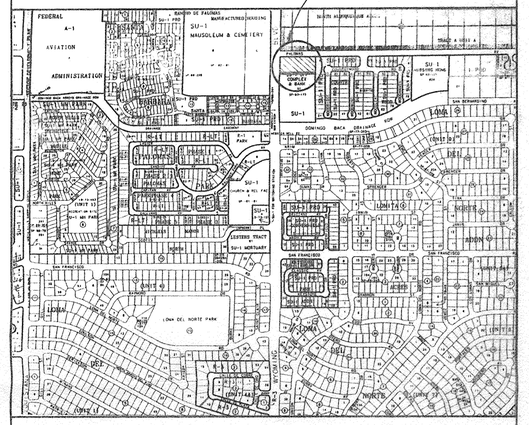
LOT X–1–A OF LOTS 1 THROUGH 5, BLOCK 22, TRACT A, UNIT A, NORTH ALBUQUERQUE ACRES.

KIM R. KEMPER NEW MEXICO 10542 REGISTERED PROFESSIONAL ENGINEER 7/16/99

SCALE: 1" = 30'
ONE FOOT CONTOUR INTERVAL







GENERAL NOTES

1. PRIOR TO ANY CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE LOCATION OF ALL POTENTIAL OBSTRUCTIONS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER AS SOON AS POSSIBLE TO RESOLVE THE CONFLICT WITH A MINIMUM AMOUNT OF DELAY.
2. ALL WORK ON THIS PLAN SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE AND LOCAL LAWS, RULES AND REGULATIONS CONCERNING CONSTRUCTION SAFETY AND HEALTH.
3. IF ANY UTILITY LINES, PIPELINES, OR UNDERGROUND UTILITY LINES ARE SHOWN ON THESE DRAWINGS, THEY ARE SHOWN IN AN APPROXIMATE LOCATION ONLY, AND LINES MAY EXIST WHERE NONE ARE SHOWN, THE LOCATION IS BASED UPON INFORMATION PROVIDED BY THE UTILITY OWNER OR FROM EXISTING PLANS, AND THIS INFORMATION MAY BE INCOMPLETE, OR OBSOLETE AT THE TIME OF CONSTRUCTION. THE ENGINEER HAS NOT UNDERTAKEN ANY FIELD VERIFICATION OF THESE LOCATIONS, LINE SIZES OR MATERIAL TYPE, MAKES NO REPRESENTATION THERETO, AND ASSUMES NO RESPONSIBILITY OR LIABILITY THEREFOR. THE CONTRACTOR SHALL INFORM ITSELF OF THE LOCATION OF ANY UTILITY LINE, PIPELINE OR UNDERGROUND INSTALLATION IN OR NEAR THE AREA IN ADVANCE OF AND DURING ANY EXCAVATION WORK. THE CONTRACTOR IS FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES CAUSED BY ITS FAILURE TO LOCATE, IDENTIFY AND PRESERVE ANY AND ALL EXISTING UTILITIES, PIPELINES AND UNDERGROUND FACILITIES. IN PLANNING AND CONDUCTING EXCAVATIONS, THE CONTRACTOR SHALL COMPLY WITH ALL STATE STATUTES, MUNICIPAL AND LOCAL ORDINANCES, RULES AND REGULATIONS, IF ANY, PERTAINING TO THE LOCATION OF THESE LINES AND FACILITIES.
4. THE CONTRACTOR SHALL INSURE THAT NO SOIL ERODES FROM THE SITE INTO PUBLIC RIGHTS–OF–WAY OR ONTO PRIVATE PROPERTY. THIS CAN BE ACHIEVED BY CONSTRUCTING TEMPORARY BERMS AND BY WETTING THE SOIL TO KEEP IT FROM BLOWING.
5. THE CONTRACTOR SHALL OBTAIN ANY AND ALL PERMITS REQUIRED BY THE CITY OF ALB. FOR THE COMPLETION OF THE WORK PRIOR TO BEGINNING CONSTRUCTION.

PROPOSED SITE IMPROVEMENTS

1-3-00

This site is in substantial compliance with the approved grading and drainage plan with engineer's seal dated 7-16-99 (with the revisions as reflected in the record drawing elevations shown hereon). The site drainage will function as originally proposed.

DRAINAGE PLAN

THIS SITE IS LOCATED ON THE NORTHWEST CORNER OF PALOMAS AND WYOMING BLVD IN NORTHEAST ALBUQUERQUE. AS SHOWN ON PANEL 141 OF THE FEDERAL EMERGENCY MANAGEMENT AGENCY "FIRM" MAP, THIS SITE DOES NOT LIE WITHIN A DESIGNATED FLOOD HAZARD AREA. IN TOTAL THE SITE, TRACT X–1–A CONSISTS OF 2.0 ACRES. IT IS PROPOSED TO SUBDIVIDE THIS PARCEL INTO TO LOTS. THESE LOTS ARE IDENTIFIED AS X–1–A–1 AND X–1–A–2. THIS PLAN WILL SERVE AS BOTH A GRADING AND DRAINAGE PLAN FOR SUBDIVISION AND A GRADING AND DRAINAGE PLAN FOR BUILDING PERMIT FOR THE PLANNED IMPROVEMENTS ON X–1–A–1 AS SHOWN ABOVE.

AN APPROVED GRADING AND DRAINAGE PLAN IS ON FILE AT THE CITY, FILE D19/D24, FOR THE IMPROVEMENTS SHOWN ABOVE ON X–1–A–2. THESE IMPROVEMENTS ARE CURRENTLY UNDER CONSTRUCTION. THAT PLAN INCLUDED THE INSTALLATION OF TWO NEW SINGLE D INLETS AND A STORM DRAIN CONNECTION TO THE DOMINGO BACA CHANNEL. "CROSS LOT" DRAINAGE EASEMENTS ARE TO BE PROVIDED ON THE PLAT IN ORDER FOR BOTH PARCELS TO UTILIZE THESE IMPROVEMENTS. IN ACCORDANCE WITH PREVIOUSLY APPROVED PLANS FOR THIS SITE, ALL STORM WATERS WILL BE CONVEYED TO THE DOMINGO BACA CHANNEL. ALL THE IMPROVEMENTS CURRENTLY UNDERWAY ON THE PROPOSED X–1–A–2 ARE IDENTIFIED AS "EXISTING" ON THIS PLAN. FURTHER, THE TOPOGRAPHY SHOWN INCLUDES THE EXISTING CONTOURS PRIOR TO AND CONSTRUCTION ACTIVITIES, THE PROPOSED CONTOURS AS SHOWN ON THE APPROVED PLAN FOR X–1–A–2, (FILE D19/D24) AND THE PROPOSED CONTOURS FOR THE PLANNED IMPROVEMENTS ON X–1–A–1.

TWO SETS OF CALCULATIONS ARE PROVIDED HEREON, ALL IN ACCORDANCE WITH THE CITY'S DPM SECTION 22.2. THE FIRST SET OF CALCULATIONS INCLUDE THE ENTIRE TRACT X–1–A. (INCLUSIVE OF BOTH PROPOSED LOTS). THE SECOND SET OF CALCULATIONS REFLECT BOTH EXISTING AND PROPOSED CONDITIONS ON X–1–A–1 WHERE THE SUBJECT IMPROVEMENTS ARE PROPOSED.

ALL THE SURVEY INFORMATION SHOWN WAS PROVIDED BY ENGINEERING AND SURVEYING ASSOCIATES, AND AS STATED ABOVE GRADING ON THIS SITE IS CURRENTLY UNDERWAY.

GENERAL LEGEND

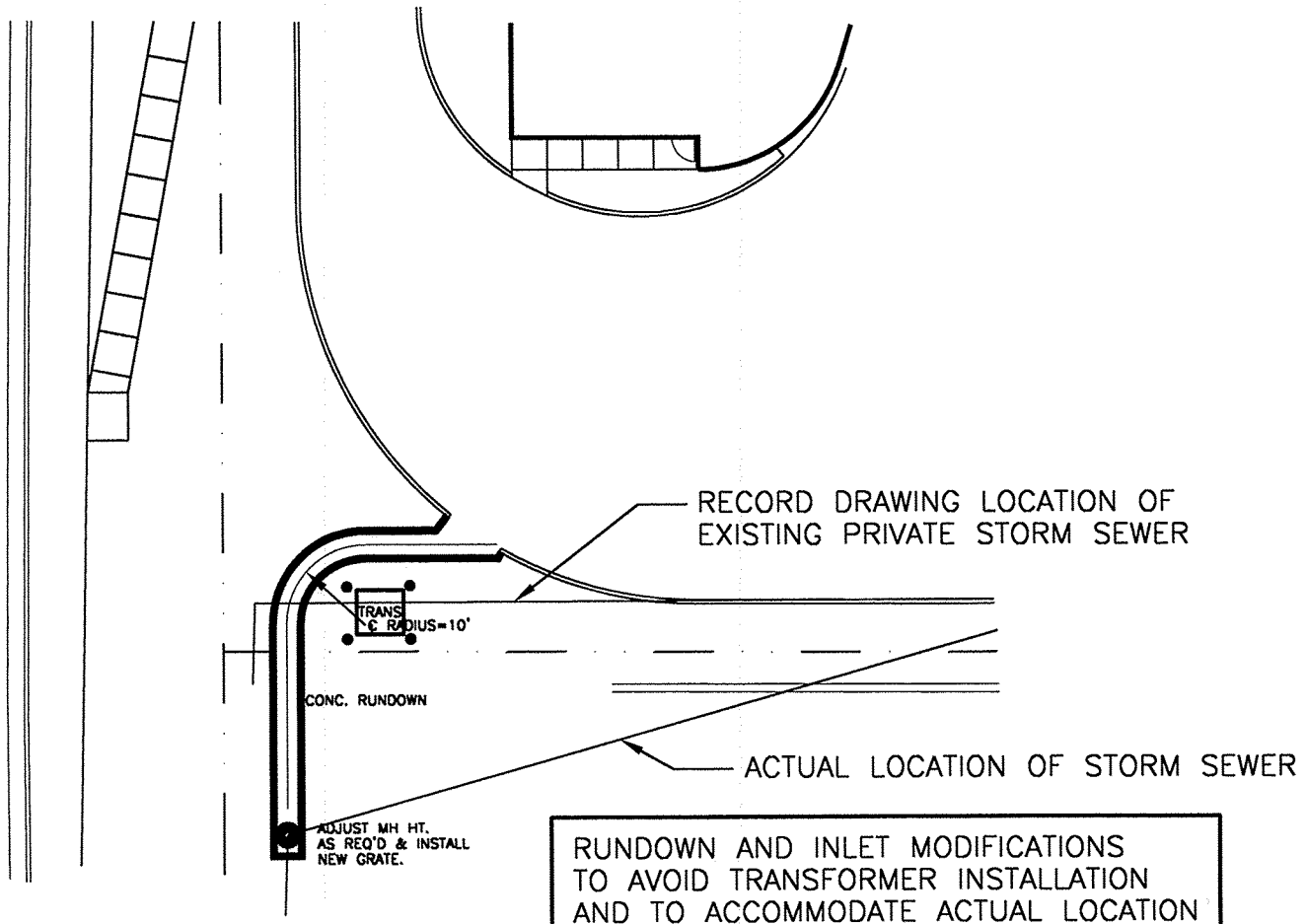
EXISTING CONTOUR	96
PROPOSED CONTOUR (X–1–A–1)	3
PROPOSED CONTOUR (X––1–A–2)	4
PROPOSED SPOT ELEVATION	56.4
FLOWLINE	
FLOW DIRECTION ARROW	
PROPOSED CONCRETE	
TOP OF CURB ELEVATION	TC
TOP OF WALL ELEVATION	TW
FLOWLINE ELEVATION	FL
TOP OF ASPHALT	TA
POWER POLE	PP
ROOF DRAIN/DOWN SPOUT	D.S.
RECORD DRAWING ELEV.	×98.9L

SANDIA CREDIT UNION
GRADING AND DRAINAGE PLAN

KEMPER–VAUGHAN
CONSULTING ENGINEERS
3700 COORS RD. N.W. • ALBUQUERQUE, NEW MEXICO 87120 • (505) 831–4520

Designed	Drawn	Checked	Sheet of
KRK		KRK	C2
File PALOMAS G&D	Date JULY 1999		

SANDIA CREDIT UNION SUPPLEMENTAL DRAWING
ORIGINAL PLAN ENGINEER'S SEAL DATED 7-16-99

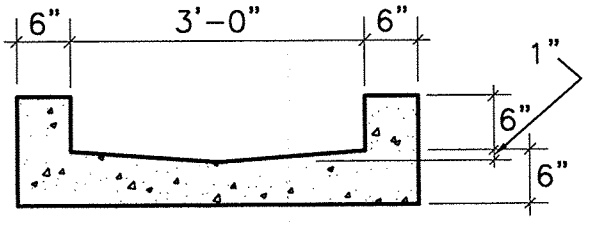


RUNDOWN AND INLET MODIFICATIONS TO AVOID TRANSFORMER INSTALLATION AND TO ACCOMMODATE ACTUAL LOCATION OF THE EXISTING PRIVATE STORM SEWER

RUNDOWN CAPACITIES:

FLOW DEPTH	Q
0.1'	0.6 cfs
0.2'	1.9 cfs
0.3'	3.5 cfs
0.4'	5.5 cfs
0.5'	7.7 cfs

(n=0.015, SLOPE=1.0% min)



CONCRETE RUNDOWN

NOT TO SCALE