HYDROLOGY C13/D8 2 PLANS

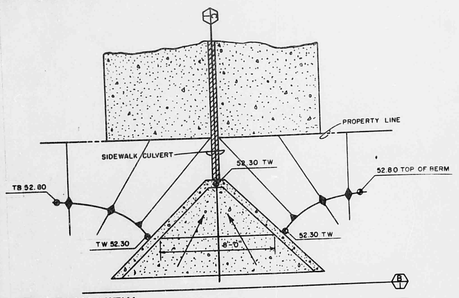
C13/D8

2 PLANS

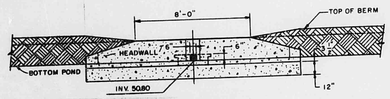
A B C D

CITY OF ALBUQUERQUE

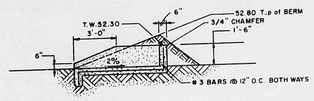
C D



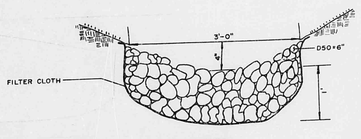
A/1 PLAN VIEW
SCALE: 1"=4'



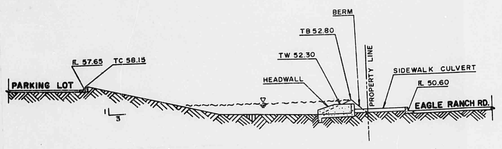
B/1 HEADWALL PROFILE
SCALE 1" = 4'



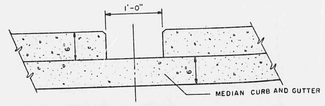
G/1 HEADWALL SECTION
SCALE 1" =4'



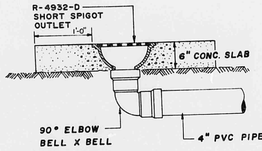
D/1 DRAIN FIELD SECTION
SCALE 1" = 1'



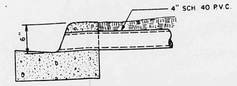
E/1 POND SECTION
SCALE: 1" = 10'



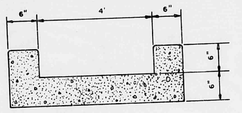
F/1 CURB CUT DETAIL
SCALE: 1"=10'



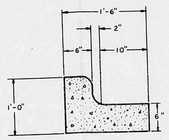
K/1 DRAINLINE DETAIL
SCALE 1"=1'



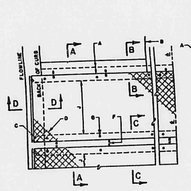
G/1 DRAINLINE THRU CURB
SCALE 1"=1'



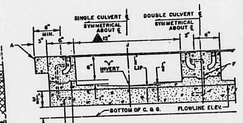
H/1 CONCRETE RUNDOWN
SCALE= 1'-0"



I/1 MEDIAN CURB AND GUTTER
SCALE: 1"=1'-0"

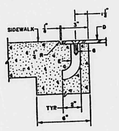


PLAN
SINGLE AND OR MULTIPLE CULVERT

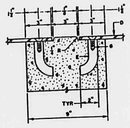


SECTION A-A

SECTION D-D



SECTION B-B



SECTION C-C

DOWEL DETAIL

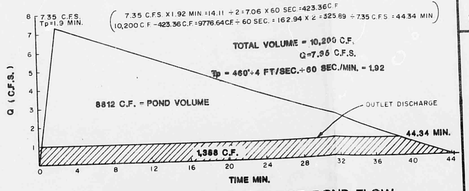
J/1 SIDEWALK CULVERT DETAILS

GENERAL NOTES:

1. PLACING OF DRAIN THRU FLUST, SIDEWALK, C. & G. REQUIRE THAT EXISTING SIDEWALK, C. & G. SHALL BE REMOVED TO THE PLACED AS DETAILED HEREIN.
2. UNITIL THE PLAN OF CULVERT SHALL BE POURED MONOLITHICALLY WITH NEW GUTTER.
3. THE INVERT SHALL BE TROWELED & METIONED TO PRODUCE A HARD POLISHED SURFACE WITH SMOOTH SUBGRADE. THE TRANSITION FROM INVERT & SIDEWALLS OF OUTLET, WARPED FROM SHAPED TO RECTANGULAR OUTLET AT OUTLET IT SHALL PARALLEL FLOWLINE UNLESS OTHERWISE SHOWN.
4. ALL EXPOSED CONC. SURFACE SHALL MATCH GRADE, COLOR, FINISH & SCORING OF ADJACENT CURB & SIDEWALK.
5. SIDEWALK REPLACED DURING CONSTRUCTION TO BE POURED MONOLITHICALLY WITH CULVERT WALLS.
6. WALL & TOP SLAB ANCHORS FOR E.W. HACK SCREW, SPACE AT 24" O.C. MAX., A MIN. OF 4 EYEBE PIPE, STE. 1 1/2" DIA. SHALL BE WITHIN 6" OF EA. END. ANCHORS SHALL BE ATTACHED TO PLATE & PLATE SECURED IN PLACE PRIOR TO POURING OF WALL.
7. LENGTH OF EA. PLATE SHALL BE SUCH THAT THE WEIGHT WILL NOT EXCEED 100 LBS. & SHALL BE STRAIGHTENED AFTER FABRICATION. AFTER STRESS RELIEVED, & FREE OF RUST, SCALE ETC. PLATE & FRAMING MEMBERS WILL BE PAINTED ONE SHOP COAT RED OXIDE & TWO FINISH COATS ALUMINUM PAINT (AASHTO M 69).
8. THE CITY WILL NOT ASSUME RESPONSIBILITY FOR MAINTENANCE OF NOT INSTALLED CULVERT INSTALLED BY OR FOR PRIVATE PROPERTY OWNERS.

CONSTRUCTION NOTES:

A. JOIN TO NEAREST SCORE LINE OR WEAKENED PLANE JOINT, INSTALL ½" EXPANSION JOINT.
B. SIDEWALK ON SETBACK (VARIAP.-E).
C. 5" RADIUS (TYPICAL).
D. ¼" CHECKERED STEEL PLATE.
E. ROD ANCHOR 7" X 8" STAINLESS STEEL.
F. CONSTR. JT. & DOWEL (DPE), IF DOWELS ARE USED SPACE AT 24" O.C. MAX., 1½" MIN. FROM FACE OF CONC., DOWELS MAY BE INCLINED IF NECESSARY.
G. ¼" X 7 in. C'SUNK STAINLESS STEEL HACK SCREW.
H. SLOPE ½" PER FT. MIN.
J. DRAIN WIDTH, 12" MIN. 24" MAX.



TRIANGLE HYDROGRAPH OF POND FLOW

PRIVATE DRAINAGE FACILITIES WITHIN CITY RIGHT-OF-WAY

DESIGN APPROVAL Hydrology Section — Date
INSPECTION APPROVAL Trans. Dept. Maint. — Dwg. Date
ACCEPTANCE Construction Mgt. Div. — Date
ROUTE AS-BUILT DWG. TO MAPS & RECORDS
ROUTE 1-COPY OF AS-BUILT TO HYDROLOGY SECTION

TEXT

EXISTING:

THERE ARE NO OFFSITE FLOWS ENTERING THIS PROPERTY.

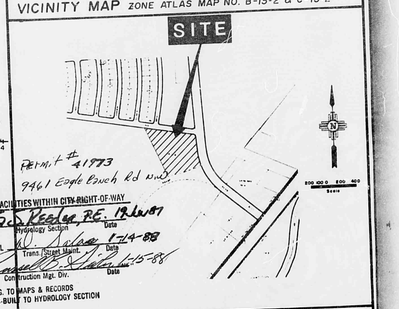
DEVELOPED:

THE SITE DRAINAGE CONFORMS TO THE EAGLE RANCH DRAINAGE MANAGEMENT PLAN BY EASTERLING & ASSOCIATES, INC. THE SITE IS DIVIDED INTO THREE AREAS: 1A DRAINS DIRECTLY INTO THE POND ON EAGLE RANCH ROAD; 1B INCLUDES THE ROOF AND MOST OF THE BACK PARKING LOT WHICH ALSO DRAINS INTO THE POND ON EAGLE RANCH ROAD; AND 1C DRAINS TO A CURB CUT AND EVENTUALLY DRAINS INTO THE SAME POND.

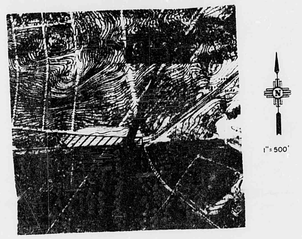
NOTES

1. AN EXCAVATION/CONSTRUCTION PERMIT WILL BE REQUIRED BEFORE BEGINNING ANY WORK WITHIN CITY RIGHT-OF-WAY. AN APPROVED COPY OF THESE PLANS MUST BE SUBMITTED AT THE TIME OF APPLICATION FOR THIS PERMIT.
2. ALL WORK DETAILED ON THESE PLANS TO BE PERFORMED, EXCEPT AS OTHERWISE STATED OR PROVIDED HEREON, SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE "CITY OF ALBUQUERQUE ~~INTERIM~~ STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION - 1985~~86~~ EDITION," EXCEPT FOR GENERAL CONDITIONS.
3. TWO WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT LINE LOCATING SERVILE, 765-1234, FOR LOCATION OF EXISTING UTILITIES.
4. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATIONS OF ALL OBSTRUCTIONS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY.
5. BACKFILL COMPACTION SHALL BE ACCORDING TO ARTERIAL STREET USE.
6. MAINTENANCE OF THE FACILITIES SHALL BE THE RESPONSIBILITY OF THE OWNER OF THE PROPERTY SERVED.
7. ALL UTILITIES AND UTILITY SERVICE LINES SHALL BE INSTALLED PRIOR TO PAVING.
8. DISPOSAL OF ALL WASTE MATERIAL SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AS SPECIFIED IN SECTION 6.14 OF THE GENERAL CONDITIONS IN THE CITY OF ALBUQUERQUE INTERIM STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION - 1985 EDITION.
9. ALL CONCRETE DUMPSTER PADS SHALL BE SIX INCH REINFORCED CONCRETE (6" X 6", 10 GA. W.W.M.).
10. **OWNERSHIP OF DOCUMENTS:** THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF **EASTERLING & ASSOCIATES, INC.** AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WIRTTEN AUTHORIZATION OF **EASTERLING & ASSOCIATES, INC.**
11. **CONSTRUCTION SAFETY:** THESE DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY WHICH SHALL REMAIN THE CONTRACTOR'S RESPONSIBILITY.
12. **EROSION CONTROL:** THE SITE IS PLANNED FOR PHASED DEVELOPMENT. GRADING OUTSIDE THE BOUNDARIES OF THE CURRENT PHASE SHALL BE LIMITED TO THE EXTENT POSSIBLE. ALL AREAS DISTURBED SHALL BE REVEGETATED.
13. **CONSTRUCTION PHASE:** THE CONTRACTOR SHALL EXERCISE REASONABLE CARE DURING CONSTRUCTION TO PREVENT THE MOVEMENT OF SEDIMENT FROM THE SITE INTO THE STREET. LOOSE SOIL STOCKPILES IN THE STREET DURING UTILITY CONNECTION ACTIVITIES SHALL BE PROTECTED FROM BEING CARRIED DOWNSTREAM BY FLOWING WATER IN THE STREET.

VICINITY MAP ZONE ATLAS MAP NO. B-13-2 & C-13-2



FLOOD HAZARD MAP & OFFSITE FLOWS FROM F.E.M.A. MAP NO. 02 & 08



SOILS MAP FROM SOIL SURVEY, BERN. CO. U.S.D.A., S.C.S.

RECEIVED JUN 16 1987

C13/D8

NO.	REVISIONS	BY	DATE
▲	SIDEWALK CULVERT DIMENSION & ROUTING REVISIONS	D.L.S.	6-15-87

STATE FARM INSURANCE
SERVICE CENTER
GRADING & DRAINAGE PLAN

EASTERLING & ASSOCIATES, INC.
CONSULTING ENGINEERS
5643 Paradise Blvd. N.W.
Albuquerque, New Mexico 87114

DONALD W. SCHLINE — NEW MEXICO — 6411 — REGISTERED PROFESSIONAL ENGINEER — 2-25-87

Designed	Drawn	Checked	Sheet
D.L.S.	J.E.L.	C.M.E.	1 of 2
Job No. 705401	Date: FEB. 12 1987		

HYDROLOGY

	AREA #	D A AC	H FT	S FT/FT	L FT	T_c MIN	SOIL TYPE	% IMP	C N	C	P_2 IN	P_{10} IN	P_{100} IN	I_2 IN/HR	I_{10} IN/HR	I_{100} IN/HR	VOL 2 C.F.	VOL 10 C.F.	VOL 100 C.F.	Q_2 C.F.S.	Q_{10} C.F.S.	Q_{100} C.F.S.	
EXISTING	1	2.15	15	.0326	460	3.3	A	Ø	54	.40	.98	1.45	2.20	2.14	3.16	4.80	Ø	Ø	234	1.8	2.7	4.1	
DEVELOPED	1A	.82	18	.0434	410	2.7	A	61	89	.68							832	1,754	3,538	1.2	1.8	2.7	
DEVELOPED	1B1	.96	10.5	.0404	260'	1.94	A	86	95	.84							1,944	3,333	5,902	1.7	2.5	3.9	▲
DEVELOPED	1B2	.17	6.25	.0391	160'	1.35	A	Ø	39	.25							Ø	Ø	Ø	.09	.14	.20	▲
DEVELOPED	1C	.158	5	.0667	120	.88	A	83	95	.83							261	481	837	.25	.36	.55	

SOILS INFORMATION FROM SOIL SURVEY, BERNALILLO CO. U.S.D.A., S.C.S.

SOIL SERIES AND MAP SYMBOLS	DEGREE AND KIND OF LIMITATIONS FOR: SEPTIC TANK ABSORPTION FIELDS	SEWAGE LAGOONS	SHALLOW EXCAVATIONS	DWELLINGS WITHOUT BASEMENTS	SANITARY LANDFILL (TRENCH TYPE)	LOCAL ROAD AND STREETS	SUITABILITY AS SOURCE OF: ROAD FILL	SAND	GRAVEL	TOPSOIL	SOIL FEATURES AFFECTING: POND RESERVOIR AREAS	DIKES, LEVEES, AND OTHER EMBANKMENTS	HYDROLOGIC SOIL GROUP
*Bluepoint: Bk, BrA, BCC, Bt1, BKD. For Wink part of Bt1, see Wink series; for Kokan part of BKD, see Kokan series.	Slight if slope is 1 to 8 percent, moderate if 8 to 15.	Severe: seepage.	Severe: cut banks cave.	Slight if slope is 1 to 8 percent, moderate if 8 to 15.	Moderate: too sandy.	Slight if slope is 1 to 8 percent, moderate if 8 to 15.	Good.	Fair: excess fines.	Unsuited.	Poor: too sandy.	Seepage	Piping; seepage	A

BKD—Bluepoint-Kokan association, hilly. This mapping unit is about 50 percent a Bluepoint loamy fine sand that has 3 to 15 percent slopes and 40 percent a Kokan gravelly sand that has 15 to 40 percent slopes. The gently rolling to rolling Bluepoint soil is on fans between gravelly ridges of the hilly to steep Kokan soil.

The Kokan soil has the profile described as representative of the Kokan series. On about 10 percent of the acreage, however, it has a high lime layer in the substratum.

On both soils, runoff is slow and the hazard of water erosion is moderate or severe.

This mapping unit is used for range, watershed, wildlife habitat, recreation, and community development. In Bernalillo County it is also a major source of sand and gravel. Dryland capability subclass VIIe; native plant community 2 for Bluepoint soil and 3 for Kokan soil.

CITY OF ALBUQUERQUE
THIS MICROIMAGE IS THE BEST POSSIBLE REPRODUCTION DUE TO THE POOR QUALITY OF THE ORIGINAL DOCUMENT

PROPOSED GRADES ON CONGRESS AVE. WERE FROM PRELIMINARY DRAWINGS FURNISHED BY TIERRA ENGINEERING

POWER POLES E-1 & E-2 TO BE RELOCATED BY PNM AT OWNER'S EXPENCE

EXISTING POWERLINE LOCATION BY OTHERS

PROPOSED POWERLINE LOCATION

STREET & CURB AND GUTTER BY OTHERS

CONGRESS AVENUE

15' UTILITY EASEMENT

IRVING BOULEVARD

EAGLE RANCH ROAD

PHASE B BOUNDARY

AREA 1B.1

AREA 1A

AREA 1B.2

AREA 1C

AREA 1C1

F.F.E. 5061.00

F.F.E. 61.00

POND VOLUME REQUIRED = 8812 C.F.
POND VOLUME PROVIDED = 9576 C.F.

MEDIAN CURB & GUTTER SEE DETAIL SHEET 1

LIMITS OF GRADING

100YR W.S.E.L. 5056.50

BE-FILL END TO MATCH SLOPE

10' X 12" SIDEWALK CULVERT

TEMPORARY POWERLINE FOR TEMPORARY TRAFFIC SIGNALS TO BE RELOCATED

SCALE: 1" = 20'

POWER POLES E-3 & E-4 TO BE RELOCATED BY N.M.S.H.D. WHEN CONSTRUCTION COMMENCE'S ON SERVICE CENTER

NOTE
- MEDIAN CURB & GUTTER THROUGHOUT
- 3/4" CHAMFER ON ALL EXPOSED EDGES OF CONCRETE WORK

LEGEND

EXISTING CONTOURS	--88--
PROPOSED CONTOURS	—88—
PROPOSED SPOT ELEV.	88.2
DIRECTION OF FLOW	
PROPERTY LINE	
PROPOSED ELEVATIONS	TC 5089.38 FL 5087.78
CONCRETE	
DRAINAGE AREA BOUNDARY	
LANDSCAPING	

LEGAL DESCRIPTION
TRACT 2D OF EAGLE RANCH SUBDIVISION, TOWN OF ALAMEDA GRANT, BERNALILLO COUNTY, NEW MEXICO

BENCHMARK INFORMATION:
N.M.S.H.C. MONUMENT "NM448-N10" EL. 5045.51

T.B.M. INFORMATION
NORTHWEST CORNER OF TRACT 2D 60d NAIL IN POLE, NORTH FACE EL. 5069.56

1 SEE ARCHITECTURAL SITE PLAN FOR PAVING THIS AREA

AS BUILT ELEVATIONS WERE FURNISHED BY KLINGER CONSTRUCTION COMPANY

I, CHARLES M. EASTERLING, P.E. DO HEREBY CERTIFY THAT THE ABOVE PLANS HAVE BEEN REVISED IN ACCORDANCE WITH INFORMATION PROVIDED BY KLINGER CONSTRUCTION COMPANY TO REFLECT THE CONSTRUCTION AS ACCOMPLISHED.

AREA 1C = .0973 AC. .09 CFS
AREA 1C1 = .0407 AC. .16 CFS

PLAN

SECTION A-A

SECTION B-B

SINGLE 'D' CATCHBASIN
SCALE: 1"=2'

SLOTTED DRAIN DETAIL
SCALE: 1"=1'

SINGLE 'D' CATCHBASIN
SCALE: 1"=1'

NO.	REVISIONS	BY	DATE
1	ADDITION OF AREAS 1B.1 & 1B.2, DRAINAGE & LANDSCAPING	DLS	5-15-87

STATE FARM INSURANCE
SERVICE CENTER
GRADING & DRAINGE PLAN

CHARLES M. EASTERLING 6411 NEW MEXICO REGISTERED PROFESSIONAL ENGINEER

EASTERLING & ASSOCIATES, INC.
CONSULTING ENGINEERS
5643 Paradise Blvd. N.W.
Albuquerque, New Mexico 87114

Designed	Drawn	Checked	Sheet
DLB	JEL	CME	2 of 2
Job No. 708401	Date FEB. 1987		

CITY OF ALBUQUERQUE
THIS MICROIMAGE IS THE BEST POSSIBLE REPRODUCTION DUE TO THE POOR QUALITY OF THE ORIGINAL DOCUMENT

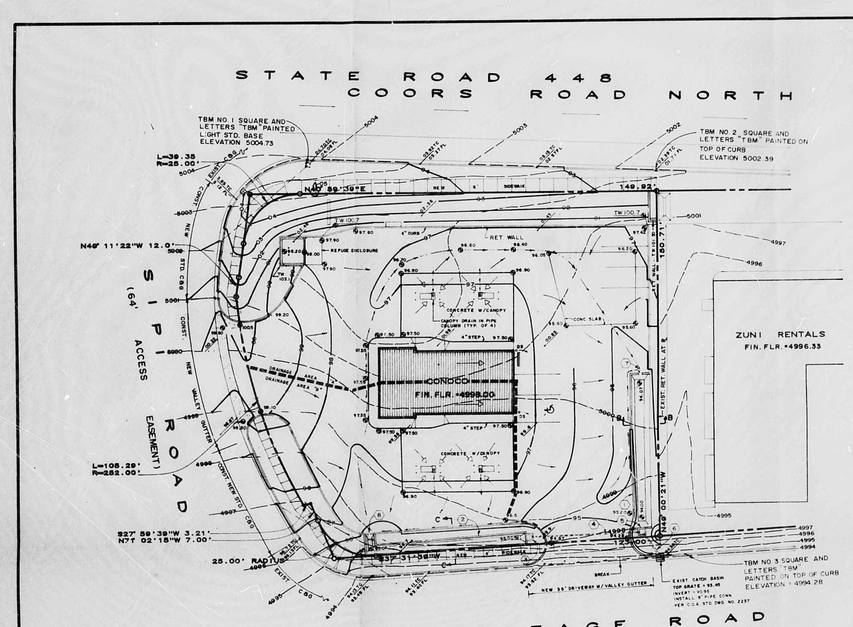
D 24 C 20 B 16 A 12

CITY OF ALBUQUERQUE

C D

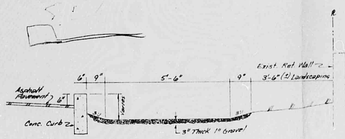
PUBLIC WORKS/HYDROLOGY

C13/D8



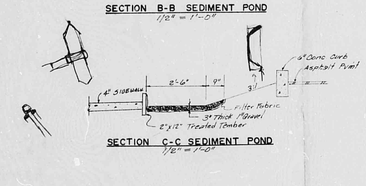
DRAINAGE PLAN

1"=20'-0"



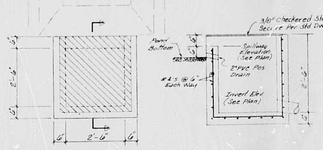
SECTION B-B SEDIMENT POND

1/2" = 1'-0"



SECTION C-C SEDIMENT POND

1/2" = 1'-0"

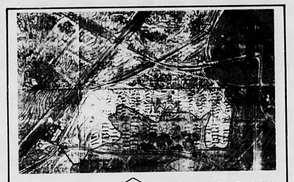


PLAN

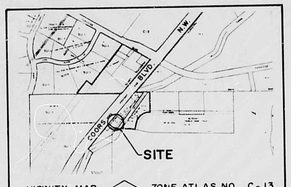
SECTION A-A

CATCH BASIN DETAILS

1/2" = 1'-0"



FLOODWAY MAP — NORTH 1" = 500' — PANEL NO. 8 of 50



VICINITY MAP — NORTH 1" = 750' — ZONE ATLAS NO. C-13

PRE-DESIGN CONFERENCE FINDINGS:

1. DRAINAGE PLAN PER D.P.M.
2. NEED TO FOLLOW NORTH COORS DRAINAGE MANAGEMENT PLAN.
3. SUGGEST A MEETING WITH A.M.A.F.C.A. ENGINEER.
4. NEED TO ADDRESS WHERE SITE FLOWS WILL BE DIRECTED.
5. NEED TO COORDINATE WITH TRAFFIC ENGINEERING FOR CURB AND GUTTER REQUIREMENT ON SIPI ROAD.

DRAINAGE COMMENTS:

1. THERE IS NO OFF-SITE FLOW.
2. THE SITE DOES NOT LIE WITHIN OR ADJACENT TO A DESIGNATED FLOOD HAZARD AREA.
3. THE EXISTING STREET SOUTH OF THE SITE KNOWN AS SIPI ROAD IS THE PAVED ENTRANCE ROAD TO THE SOUTHWEST INDIAN POLYTECHNIC INSTITUTE. ACCORDING TO CITY PROPERTY RECORDS, THE ROAD HAS BEEN DEDICATED VARIOUS WAYS AND WIDTHS. ALONG THE STREET AS BEING A 64' ACCESS EASEMENT. IT IS PROPOSED TO CONSTRUCT NEW CURB AND GUTTER WITH VALLEY GUTTER AT THE ENTRANCE ALONG THE NORTH SIDE OF THE STREET.
4. THIS PLAN IS IN CONFORMANCE WITH THE NORTH COORS DRAINAGE MANAGEMENT PLAN WITH REGARD TO THE MAXIMUM ALLOWABLE DISCHARGE.
5. IT IS PROPOSED TO DISCHARGE ALL RUNOFF FROM THE SITE THROUGH THE LOWER DRIVEWAY WHICH WOULD BE GRADED TO FORCE FLOW AGAINST THE NORTH CURB SO THAT IT WILL ENTER THE EXISTING CATCH BASIN.

KEYED NOTES:

1. SEDIMENT POND - BOTTOM 5.5' X 65' W/ 3:1 SIDE SLOPES. SEE SECTION B.
2. SEDIMENT POND - BOTTOM 2.5' X 75' W/ 3:1 SIDE SLOPES. SEE SECTION C.
3. SEDIMENT POND OVERFLOW CATCH BASIN (SEE DETAIL). SPILLWAY ELEV. = 95.50; OUTLET PIPE INVERT = 93.00.
4. 6" PVC PIPE, SCHEDULE 40; 45 LF, SLOPE 0.0200 FT./FT.
5. SEDIMENT POND OVERFLOW CATCH BASIN (SEE DETAIL). SPILLWAY ELEV. = 94.00; 6" INLET PIPE INVERT = 92.00; 6" OUTLET PIPE INVERT = 92.00.
6. 6" DIA. SCHEDULE 40 PVC PIPE CONNECTION TO EXISTING CATCH BASIN. INLET INVERT ELEVATION = 92.50; OUTLET ELEVATION = 92.24. SLOPE = 0.0200 FT./FT.
7. POND INLET. 17'-0" CURB OPENING. INVERT = 94.50.
8. POND INLET. 17'-0" CURB OPENING. INVERT = 95.85.

ENGINEER'S CERTIFICATION:

THE SPOT ELEVATIONS, CONTOURS, FINISH FLOOR ELEVATIONS AND DETAILS SHOWN ON THIS PLAN ARE AS-CONSTRUCTED AND ARE IN SUBSTANTIAL COMPLIANCE WITH THE APPROVED GRADING AND DRAINAGE PLAN.

Frank D. Sanchez

Frank D. Sanchez, P.E.

EROSION CONTROL PLAN:

DURING CONSTRUCTION OF THE BUILDING ALL RUNOFF FROM THE SITE SHALL BE CONTAINED ON THE SITE IN A POND. BARS OR OTHER SUITABLE CONTAINMENT FACILITIES FROM THE SEDIMENT FREE WATER SHALL BE RELEASED AT A CONTROLLED RATE. ALL SEDIMENT SHALL BE SETTLED OR FILTERED OUT BEFORE RELEASING THE WATER TO THE STREET.

BENCH MARK:

STATION 6-C11, LOCATED APPROXIMATELY 300 FT. SW OF THE INTERSECTION OF STATE ROAD 448, AND THE BIA TRIBAL ROAD TO SOUTHWESTERN INDIAN POLYTECHNIC INSTITUTE. ON THE EAST SIDE OF THE RECONSTRUCTED LINE OF STATE ROAD 448. TOP OF STEEL RAIL RIGHT-OF-WAY MARKER. STATION 6TH C-14, STAMPED "MCS SW 6-C11".
ELEVATION 5000.4484 FEET.

LEGEND:

EXISTING	NEW	DESCRIPTION
4095	95	CONTOURS
	+	SPOT ELEVATION
		PROPERTY LINE
		SWALE
		SURFACE FLOW
	98	DOWN SPOUT
		ROOF DRAINAGE
	TA	TOP OF ASPHALT
	TC	TOP OF CURB/CONCRETE
	FL	FLOW LINE

DRAINAGE CALCULATIONS

SOIL INFORMATION: (REFER TO SCS SOIL SURVEY OF BERNALILLO COUNTY.)
SOIL IS BCV, BLUEPOINT LOAMY FINE SAND, HYDROLOGIC SOIL GROUP "A".

RAINFALL, 100-YEAR, 6-HOUR: (REFER TO D.P.M., PLATE 22.2 D-1)
P_6 = 2.2 INCHES.

TIME OF CONCENTRATION: (REFER TO D.P.M. SECTION 22.2, PAGE 3)
USE TEN (10) MINUTES, MINIMUM TIME OF CONCENTRATION.

RAINFALL INTENSITY: (REFER TO PLATE 22.2 D-2)
$i = a + b P_6 \log t = 2.23 + 0.96 \times 1 (10) = 0.53$ = 6.53 INCHES PER HOUR.

CURVE NUMBERS: (REFER TO D.P.M. PLATE 22.2 C-2)

	CN	EXISTING AREA	NEW AREA
EXISTING PERVIOUS	49	10496	10642
BUILDINGS AND PAVEMENT	98	13500	1854
LANDSCAPING	49	-	-
UNPAVED GRAVEL	76	-	-
UNPAVED DIRT	86	-	-
TOTAL AREAS		25496 SF = 0.5849 AC	25496

WEIGHTED CURVE NUMBER (CN_w)
EXISTING CN_w = 72 DEVELOPED CN_w = 99

RUNOFF VOLUMES: (REFER TO D.P.M. PLATE 22.2 C-4)
EXISTING Q_p = 0.40 DEVELOPED Q_p = 1.20

RUNOFF COEFFICIENTS: (REFER TO "NOTICE OF EMERGENCY RULE", CITY OF ALBUQUERQUE, JANUARY 16, 1986)

	"C"	EXISTING AREA	NEW AREA
UNDEVELOPED	0.20	10496	1854
LAWNS AND LANDSCAPING	0.40	-	-
ROOFS	0.90	2500	4850
STREETS, DRIVES, AND/OR	0.95	2500	17942
TOTAL AREAS		25496	25496

WEIGHTED "C" FACTORS: EXISTING "C" = 0.42 DEVELOPED "C" = 0.81

EXISTING CONDITIONS:
RUNOFF BY RATIONAL FORMULA, $Q = CIA$
$Q = 0.42 \times 6.45 \times 0.5849 = 1.57$ CFS

VOLUME BY SCS METHOD, $V = 43.2 (Q/12)$; WHERE A = AREA IN SQUARE FEET.
$V = 1.6666 (0.42/12) = 856$ CF

DEVELOPED CONDITIONS:
$Q = C.81 \times 6.45 \times 0.5849 = 2.24$ CFS
$V = 1.5666 (1.20/12) = 2570$ CF

MAXIMUM ALLOWABLE DISCHARGE:
ALLOWABLE DISCHARGE PER ACRE IS 2.94 CFS/ACRE. (PER NORTH COORS DRAINAGE MANAGEMENT PLAN, VOLUME 1, SCANLON & ASSOCIATES, OCT. 14, 1981).
ALLOWABLE SITE DISCHARGE = 5.94 X 0.5849 = 2.24 CFS = 2.24 CFS. THEREFORE, NO PONDING IS REQUIRED.

SEDIMENT CONTROL CALCULATIONS:

IN ACCORDANCE WITH THE REQUIREMENTS OF M.R.G.C.D. AND A.M.A.F.C.A., SEDIMENT PONDS ARE REQUIRED TO REMOVE SEDIMENT, TRASH, FILL, RUBBLE, ETC., FROM STORM RUNOFF BEFORE IT LEAVES THE SITE SINCE ALL FLOW WILL EVENTUALLY ENTER THE M.R.G.C.D. CONVEYANCE SYSTEM. THE CRITERIA FOR SEDIMENT CONTROL IS AS FOLLOWS:

1. MINIMUM POND STORAGE FOR SEDIMENT IS 0.00014 ACRE-FEET/ACRE OF UPSTREAM DRAINAGE BASIN.
2. VELOCITY OF SEDIMENT FALL IS 0.002 FT./SEC. AT NOE OR Q_{50yr}. POND AREA IS $50Q_{50yr}$ SQ. FT.
3. THE MAXIMUM HORIZONTAL VELOCITY IN SEDIMENT POND IS 0.5 FT./SEC. AT Q_{5-yr}.

AREA "A", NORTH AND WEST SIDES OF SITE:
AREA = 17945 SF = 0.40 ACRES. $Q_{50yr} = 2.24(0.40)(0.94)$ = 1.51 CFS

1. POND STORAGE = (0.40)(A X 43560 X 0.00) = 42.28
2. POND AREA = (1.5 X 1.51)/0.002 = 4.79 SF
3. MAXIMUM HORIZONTAL VELOCITY AT $50Q_{50yr}$ = (0.5)(1.51) = 0.38 CFS. TRY 5.5' WIDE BOTTOM, 3:1 SIDE SLOPES. DEPTH OF FLOW, $d = (0.38/5.5 \times 0.02)^{1/2} = 0.2$
$A = (5.5 + 3 \times 0.2) \times 0.2 = 1.18$ SF $R = A/P = 1.18/5.8 = 0.20$
USE MANNING EQUATION $Q = (1.486/N)A^{5/3}/P^{2/3}$
$Q = (1.486/.040)(1.18)^{5/3}/(5.8)^{2/3}$ = 0.38CFS
$V = Q/A = 0.38/1.18 = 0.32$ (ADEQUATE)

POND DIMENSIONS:
AREA = 4.79 SF $W = 5.5 + 3 \times 0.2 = 6.1$
POND STORAGE = 42.28/0.00 = 2110 FT. SEDIMENT BUILD-UP IN BOTTOM OF POND.
POND DEPTH (FULL) = 2.0 X 0.00 = 0.04
AREA "B", NORTH AND EAST SIDES OF SITE: AREA = 25496 - 17945 = 8151 SF
$Q_{50yr} = 2.24(0.40)(0.94)$ = 0.75 CFS

1. POND STORAGE = (0.40)(A X 43560) X 0.00 = 20.18
2. POND AREA = (0.75)(0.75)/0.002 = 281.25
3. MAXIMUM HORIZONTAL VELOCITY AT $50Q_{50yr}$ = (0.5)(0.75) = 0.37 CFS. USE MANNING EQUATION. TRY 4'W BOTTOM, 3:1 SIDE SLOPES. $A = (4 + 3 \times 0.2) \times 0.2 = 0.88$ SF
$R = A/P = 0.88/(4 + 2(3)^{1/2}) = 0.20$
$Q = (1.486/.040)(0.88)(0.20)^{2/3}/(0.00)^{1/2}$ = 0.37 CFS (OK)
$V = Q/A = 0.37/0.88 = 0.42$ (ADEQUATE)
POND DIMENSIONS: AREA = 281.25 SF $W = 4 + 3 \times 0.2 = 4.6$ $L = 281/4.6 = 61$
STORAGE = 20.18/0.00 = 0.017 DEPTH OF SEDIMENT BUILD-UP IN BOTTOM OF POND.
DESIGN DEPTH = 2.0 X 0.00 = 0.04 USE MIN DEPTH = 0.04 FT.
$Q = (1.486/.040)(.04)^{5/3}/(0.00)^{1/2}$ = 0.73 (ADEQUATE)
CATCH BASIN OUTLET: USE ORIFICE EQUATION - TRY 6" DIA. ACROSS DIVIDER.
$Q = (.6)(.049)^{1/2} = (.6)(.0.7)(64.3)(.2)$ & $h(2)$ $h = 1.25^{1/2}$ =1.06 CFS = 0.73 CFS
CONNECTION FROM ON-SITE CATCH BASIN TO BACK OF CATCH BASIN IN FRONTAGE ROAD.
USE 6" PIPE. ... THAT THE EXISTING CATCH BASIN APPEARS TO BE AT A HIGH POINT, IT IS INFLEXIBLE THAT WHEN WATER WILL BE FLOWING INTO IT FROM THE STREET. USE ORIFICE EQUATION $Q = CA(2gh)^{1/2} = (0.6 \times 0.196)(2(32.2)h)^{1/2} = 2.37$ CFS
2.37 CFS = 2.24 CFS (6" DIA. IS ADEQUATE)

LEGAL DESCRIPTION:

LOT A-2 OF TRACT "A" OF THE THUNDERBIRD PARTNERSHIP, CITY OF ALBUQUERQUE, BERNALILLO COUNTY, NEW MEXICO.

DURA BILT PRODUCTS, INC.
4808 JEFFERSON N.E.
ALBUQUERQUE N.M. 87109
(505) 883-9100
DESIGN/BUILDERS
LICENSE NO. 3044

JOB NO.: 89-107
DATE:
CONTRACT DATE:
DRAWN BY:
REVISIONS:

COSHT2

PARADISE HILLS
9160 COORS ROAD N.W.
ALBUQUERQUE, NEW MEXICO 87114

RECEIVED JAN 2 - 1990 HYDROLOGY SECTION

REVISED JAN. 23, 1990
APRIL 6, 1989
REVISED JULY 14, 1989

DRAINAGE PLAN

SHEET NO. 2

JOB NO: 89-107 OF 8

R# 24 DATE 3/14/02 OP

CITY OF ALBUQUERQUE

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DIRECTOR

NOTARY PUBLIC
OFFICIAL SEAL
Roberta Duran
NOTARY PUBLIC
STATE OF NEW MEXICO

PLAN SHOT TWICE ONCE ON LIGHT ONCE ON DARK

CITY OF ALBUQUERQUE
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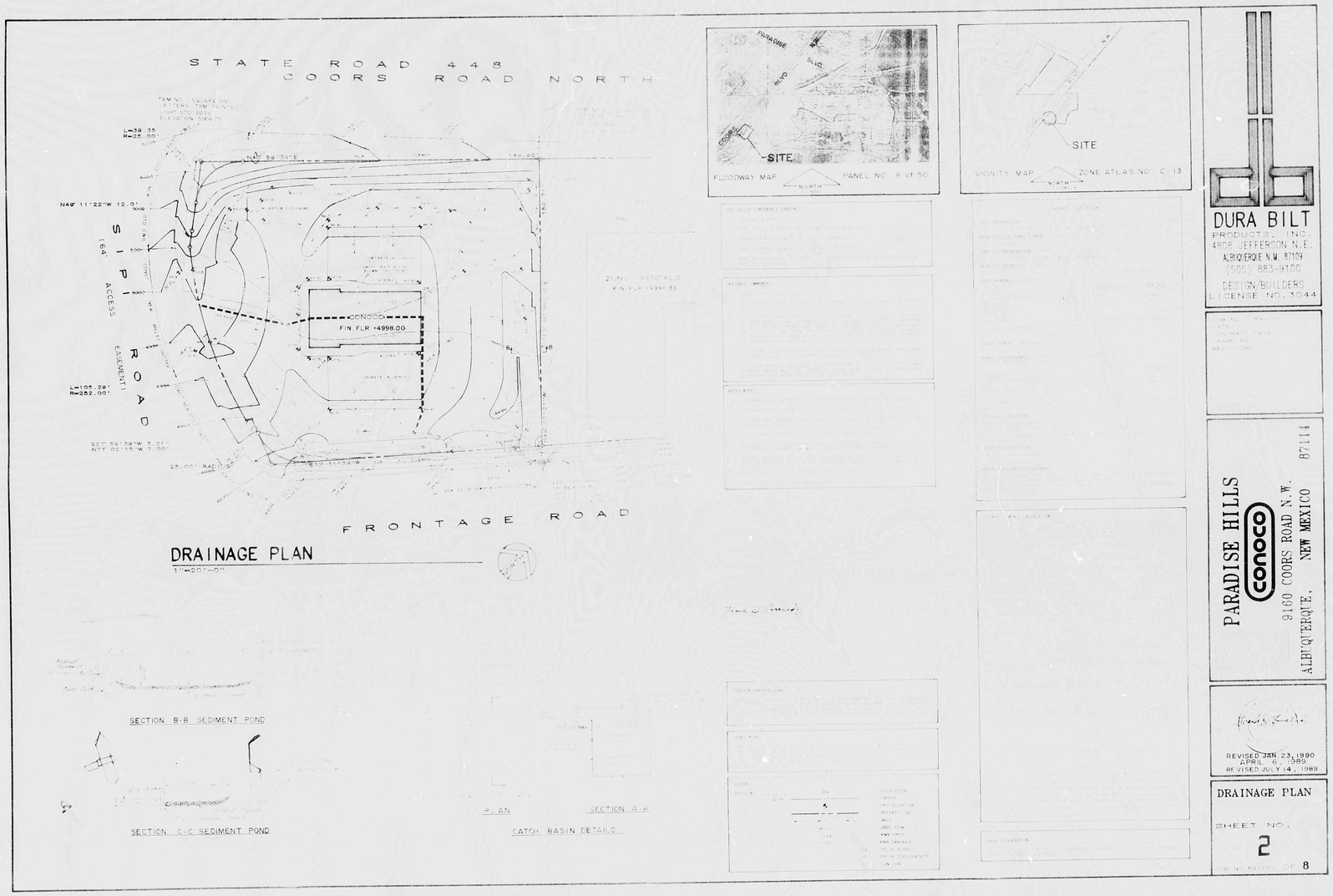
PLANS/PLATS ON FILE

FILE DESC: C13/D8

PLANS/PLATS 1

E 30 D 24 C 20 B 16 A 12 CITY OF ALBUQERQUE C D F



PLAN SHEET INTACT
ONCE ON LIGHT
ONCE ON DARK

CITY OF ALBUQUERQUE
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CITY OF ALBUQUERQUE

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CITY OF ALBUQERQUE

C D F