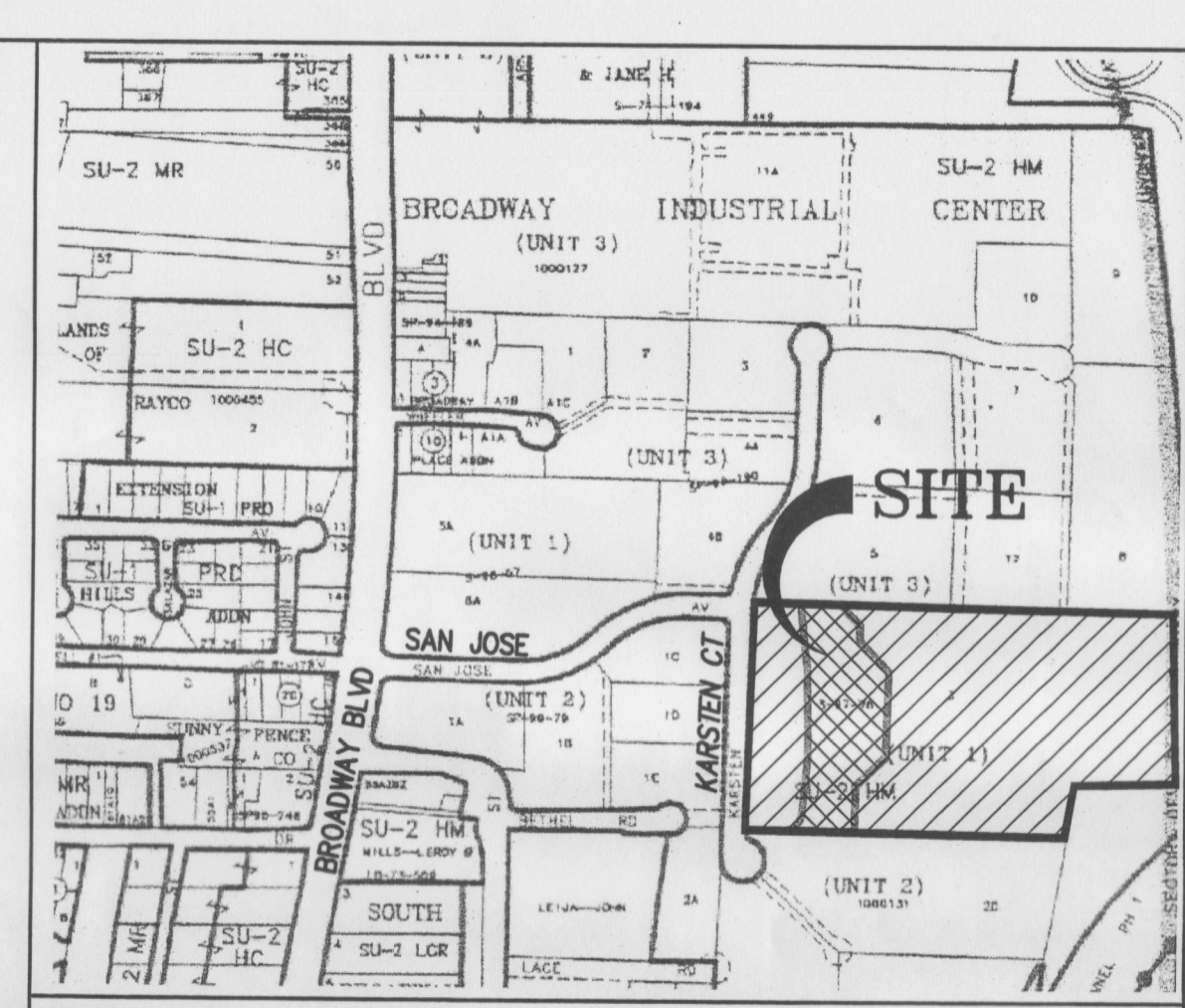




SEP 10 2002

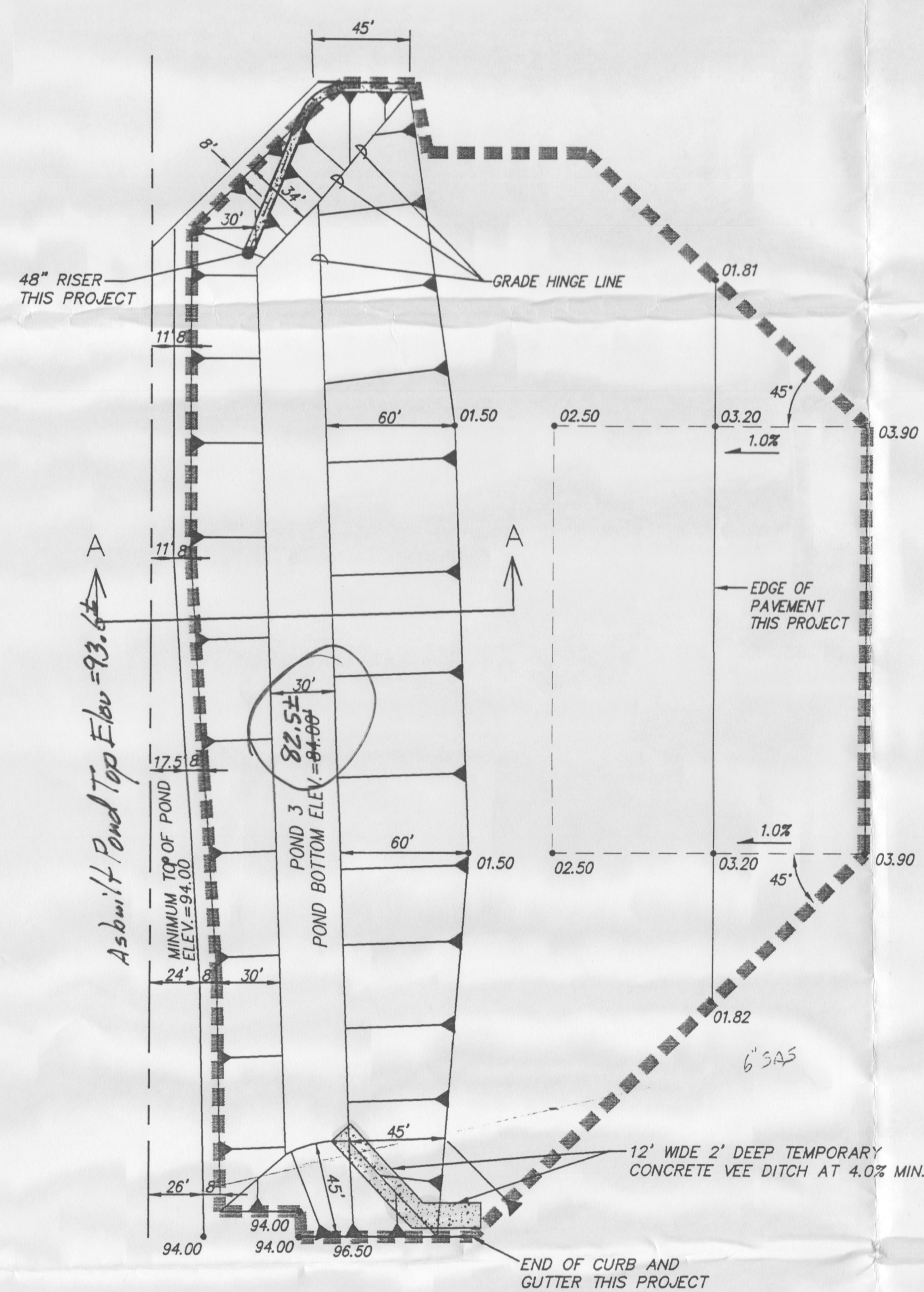
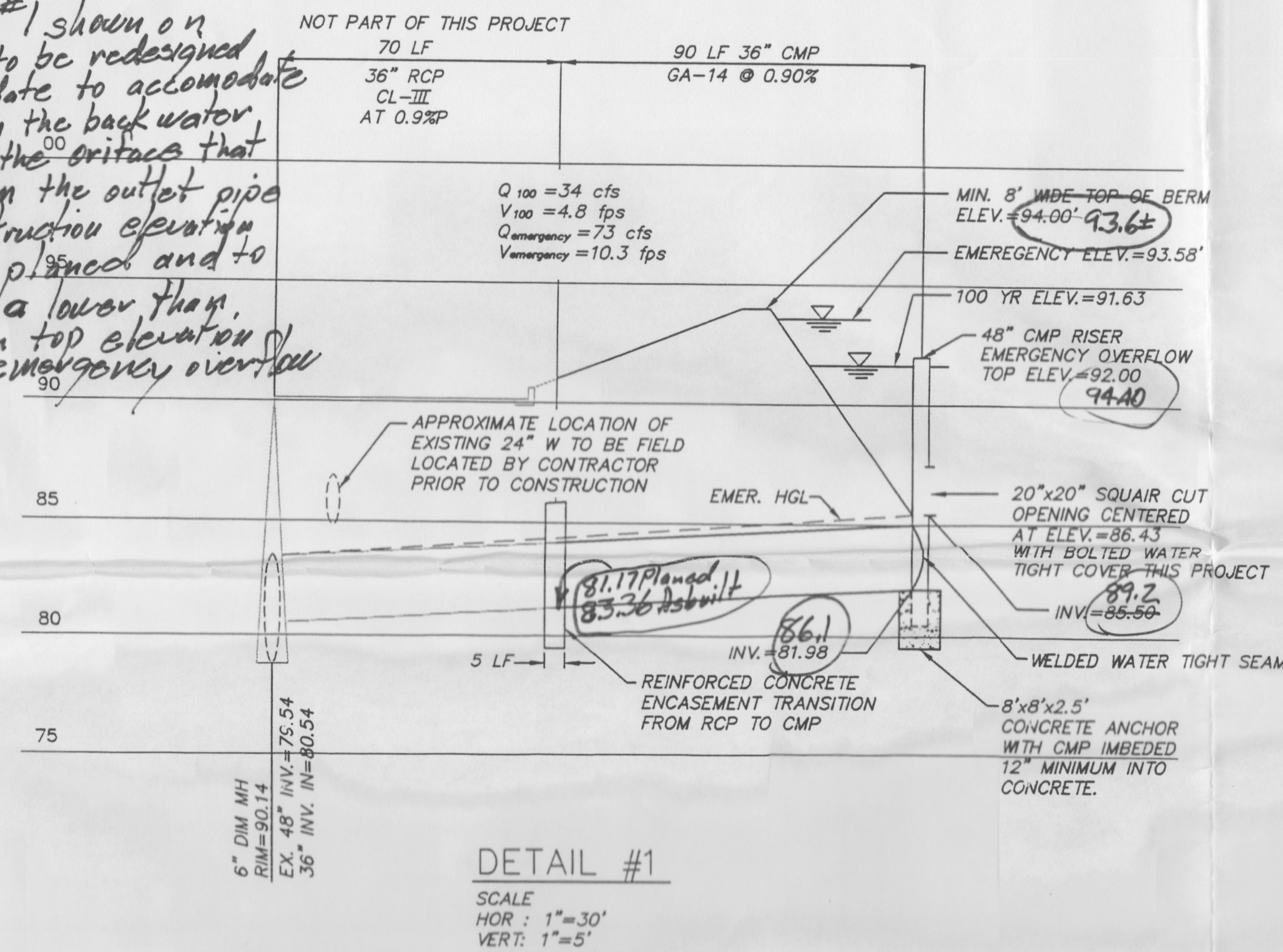
\\A02JOBS\A2040KAR\A02040G0-50.dwg Wed May 15 15:26:16 2002 by: der

Elevation		Area		Volume	
(ft)	(sq.in.)	(acres)	(acres)	(acre-ft)	(acre-ft)
92.0	34.00	0.10			
90.25	34.00	0.0676	1.82	0.23	0.23
91.60	34.00	0.0882	1.64	0.36	0.36
93.00	44.280.00	1.02	1.86	6.21	6.21

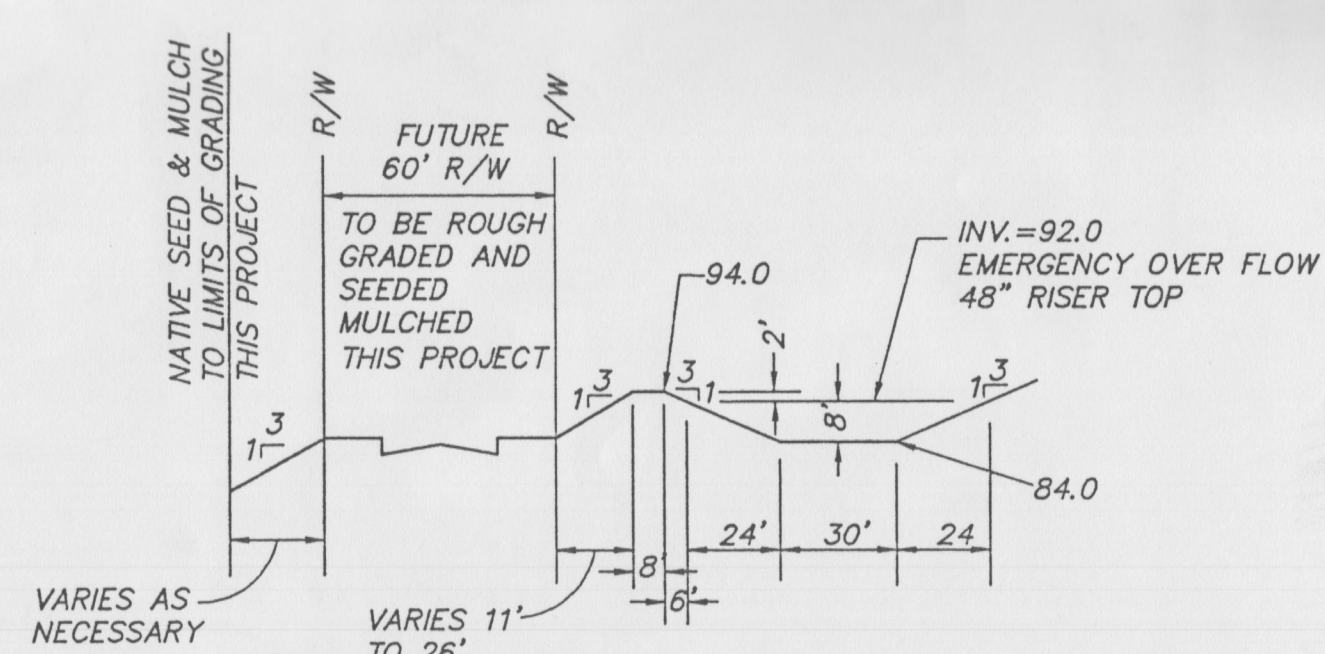
Elevation		Area		Volume	
(ft)	(sq.in.)	(acres)	(acres)	(acre-ft)	(acre-ft)
7.50	5,040.00	0.12	0.00	0.00	0.00
16.20		0.35	0.67	1.94	1.94
17.50	17,290.00	0.40	0.73	2.42	2.42

Elevation		Area		Volume	
(ft)	(sq.in.)	(acres)	(acres)	(acre-ft)	(acre-ft)
85.50	0.00	0.00	0.00	0.00	0.00
87.70	2,940.00	0.07	0.07	0.05	0.05
94.00	22,220.00	0.51	0.78	1.60	1.45

Asbuilt Note:
Future pond #1 shown on
Sheet #1 is to be redesigned
at a later date to accommodate
the change in the back water
pressure on the outlet that
resulted from the outlet pipe
As built Construction elevation
higher than planned and to
decommission a lower than
planned dam top elevation
and lower emergency overflow
Weir.



SCALE : 1" = 50'



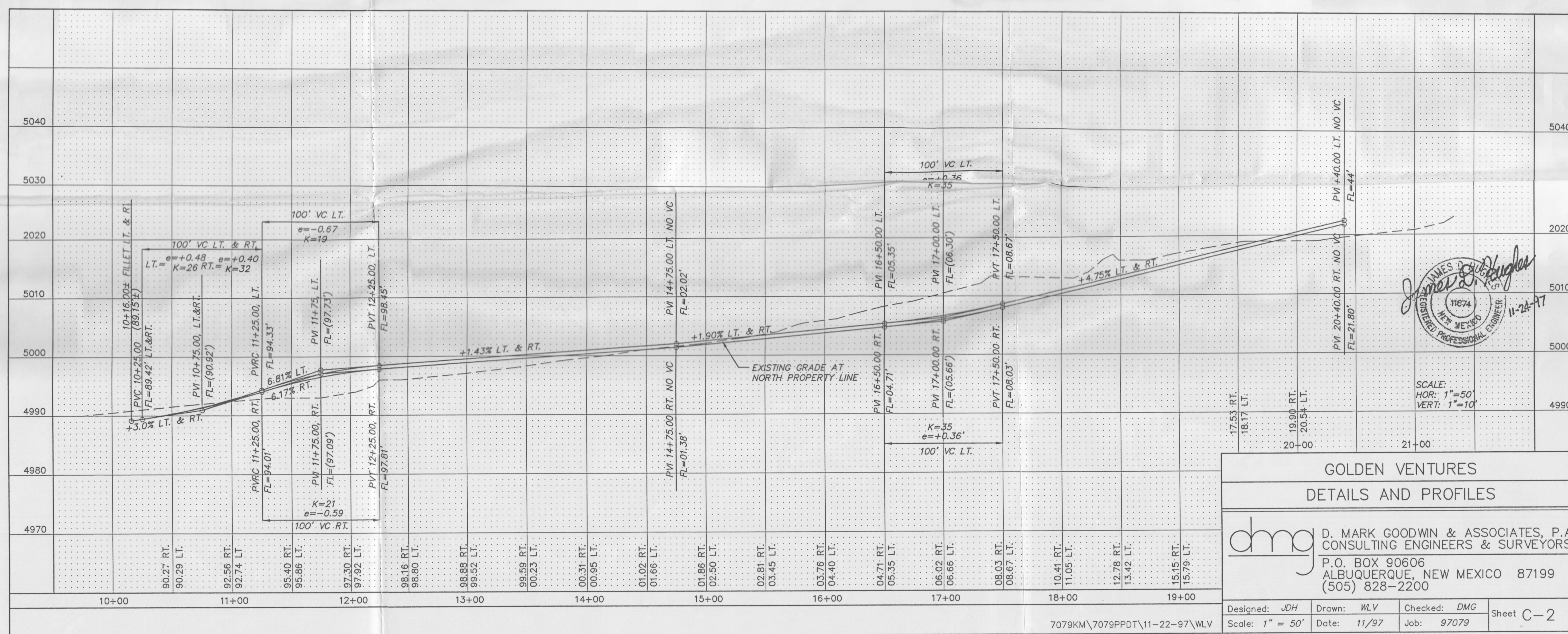
SECTION A-A
NOT TO SCALE

100 YEAR PRECIPITATION
(from Figures D, E and F and Eq. 28 of DPM Sec.2.2)

$P_{100} = 1.92^*$; $P_{100} = 2.29^*$; $P_{1000} = 2.65^*$; $P_{10000} = 10.0(2.94(2.65^*)^2)^* = 3.64^*$

SUMMARY OF HYDROLOGY
(from AHYMO and Equation 9 and Table 3 of DPM Sec. 2.2)

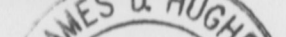
Basin No.	Area (Ac.)	Area (Sq.M.)	Land Treatments (%)				100 Year		
			A	B	C	D	Q (cfs)	V ₁₀₀ (Ac.ft.)	V ₁₀₀₀ (Ac.ft.)
101	1.81	0.00283	0	40	0	60	6.60	0.231	0.353
108	1.26	0.00197	0	0	70	30	4.45	0.145	0.188
115	13.95	0.02180	0	0	10	90	62.07	2.277	3.689
TOTAL ON-SITE POND#3							73.120	2.653	4.230
102	1.93	0.00302	0	40	0	60	7.04	0.246	0.376
103	3.79	0.00592	0	0	90	10	12.16	0.373	0.478
104	4.03	0.00630	0	0	90	10	12.94	0.397	0.442
107	2.53	0.00395	0	0	70	30	8.90	0.290	0.375
116	7.77	0.01120	90	0	10	0	11.51	0.324	0.324
TOTAL OFF-SITE POND#2							52.550	1.630	1.934



I, James D. Hughes, do hereby certify that the private grading and drainage has been constructed in substantial compliance with the approved plan, dated 11/24/97, except as noted below.

James D. Hughes 7-14-98

James D. Hughes, NMPE 11674



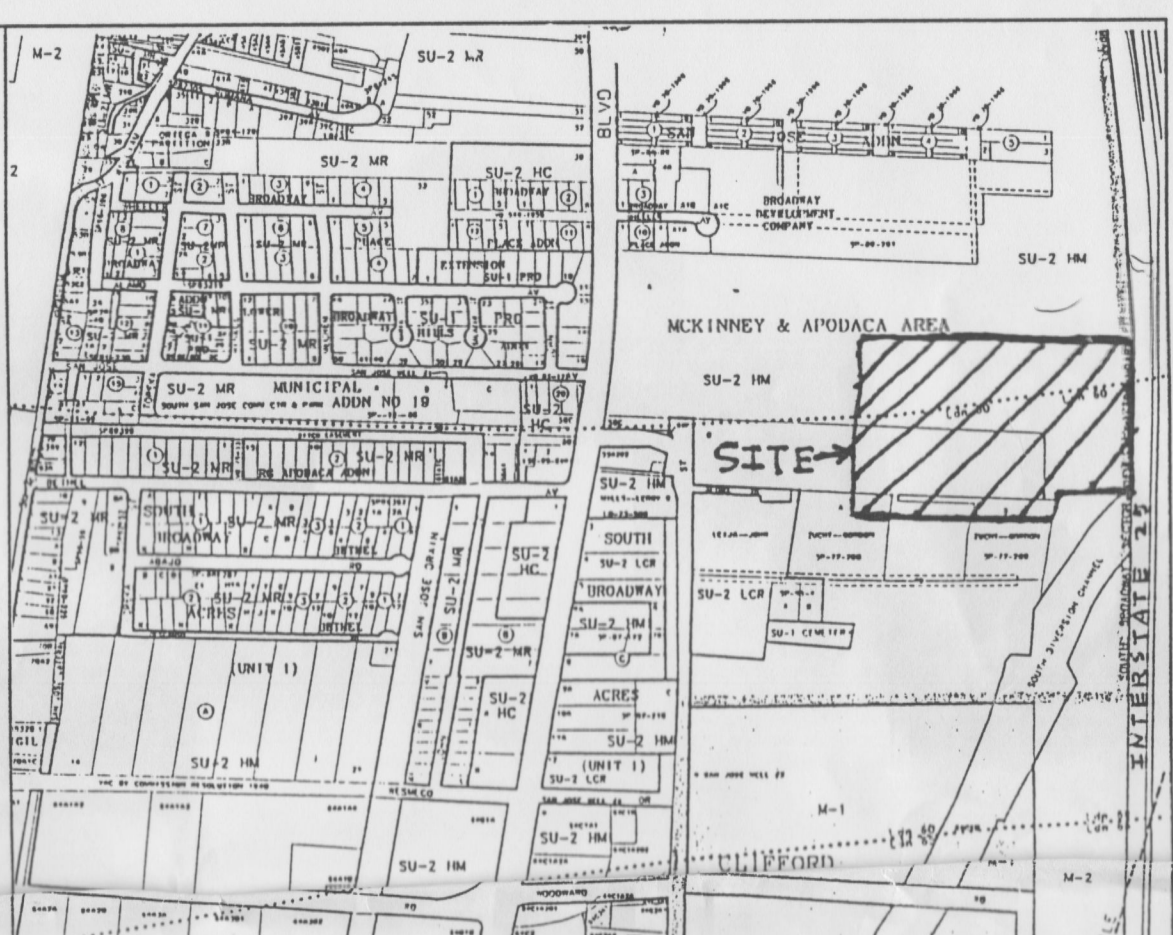
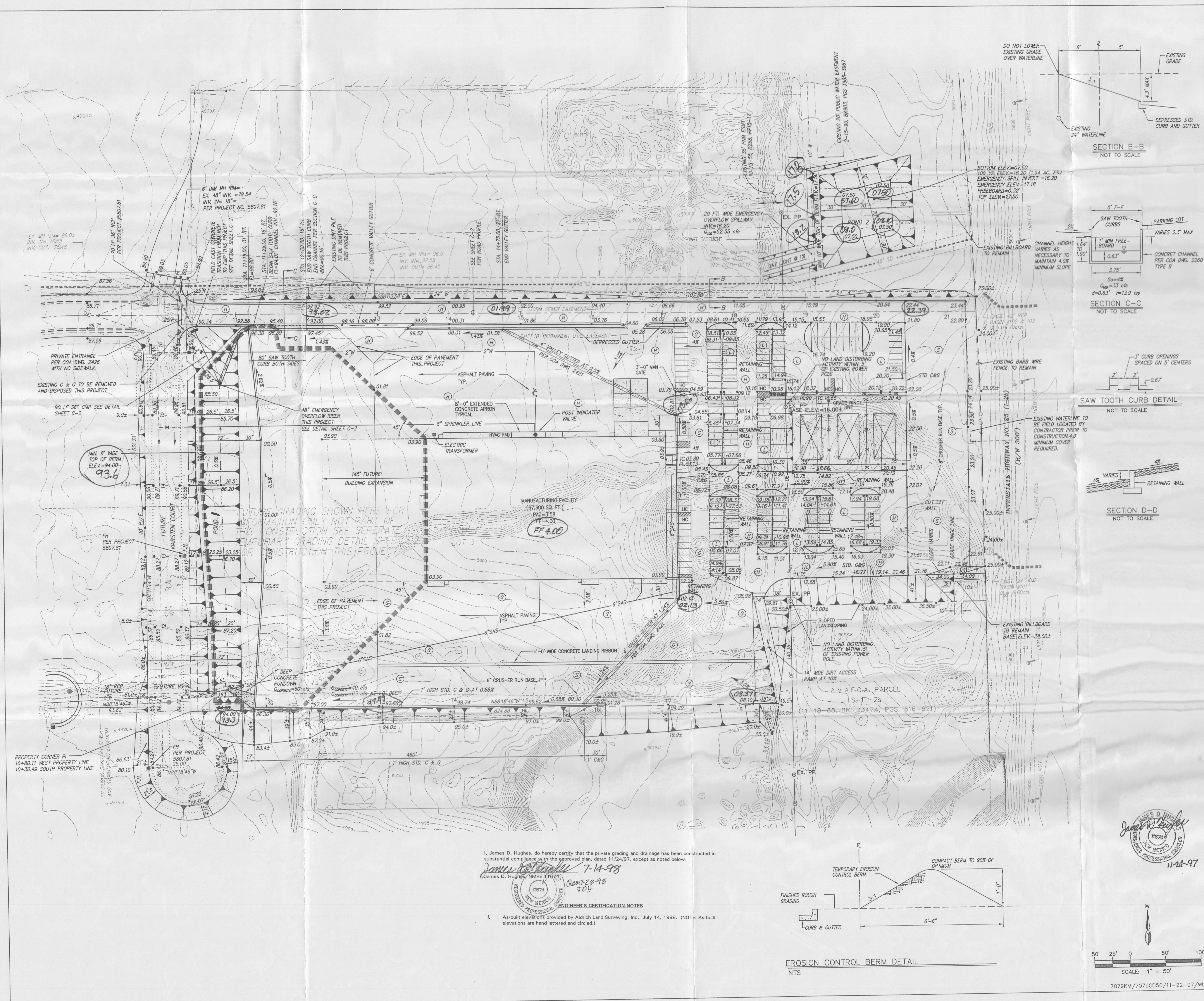
ENGINEER'S CERTIFICATION NOTES

1. As-built elevations provided by Aldrich Land Surveying, Inc., July 14, 1998. (NOTE: As-built elevations are hand lettered and circled.)

GOLDEN VENTURES
DETAILS AND PROFILES

dmg D. MARK GOODWIN & ASSOCIATES, P.A.
CONSULTING ENGINEERS & SURVEYORS
P.O. BOX 90606
ALBUQUERQUE, NEW MEXICO 87199
(505) 828-2200

Designed: JDH	Drawn: WLW	Checked: DMG	Sheet C-2
Scale: 1" = 50'	Date: 11/97	Job: 97079	



VICINITY MAP
ZONE MAP: M-14-Z

ACS BENCHMARK
SDC 11-24" Y=1474274.10, X=383571.93, G=0.99967527, =001324"
CENTRAL ZONE (NAD 1927 / SLD 1926) ELEVATION=5024.20

LEGAL DESCRIPTION
LOT 3 BROADWAY INDUSTRIAL CENTER.

NOTES
1. ALL ELEVATIONS ARE FLOWLINE UNLESS OTHERWISE SPECIFIED.
2. ALL 3:1 SLOPES AND OFFSITE DISTURBED AREAS ARE TO BE SEEDED AND (WITH NATIVE SEED) PER CITY STANDARDS AND SPECIFICATION UNLESS OTHERWISE SPECIFIED.
3. CONTRACTOR SHALL OBTAIN A TOPSOIL DISTURBANCE PERMIT FROM THE ENVIRONMENTAL HEALTH DIVISION PRIOR TO CONSTRUCTION.
4. CITY OF ALBUQUERQUE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, LATEST EDITION SHALL GOVERN ALL WORK.
5. THE CONTRACTOR SHALL CONFORM TO ALL CITY, COUNTY, STATE AND FEDERAL DUST CONTROL MEASURES AND REQUIREMENTS AND WILL BE RESPONSIBLE FOR PREPARING AND OBTAINING ALL NECESSARY APPLICATIONS AND APPROVALS.
6. THE CONTRACTOR SHALL EXCAVATE THAT ANY EXISTING EXPOSED FROM THE LOTS INTO PUBLIC RIGHT-OF-WAY. THIS CAN BE ACHIEVED BY CONSTRUCTION TEMPORARY BERM AS PER DET. THIS SHEET AND SETTING THE SOIL TO KEEP IT FROM BLOWING. CONTRACTOR IS RESPONSIBLE FOR CLEANING UP ANY SEDIMENT THAT GETS INTO EXISTING RIGHT OF WAY.
7. THE EARTHWORK CONTRACTOR SHALL STOCKPILE ENOUGH MATERIAL ADJACENT TO RETAINING WALL LOCATIONS TO BE UTILIZED FOR WALL BACKFILL. TO BE UTILIZED FOR WALL BACKFILL.

NOTICE TO CONTRACTORS
1. CITY OF ALBUQUERQUE SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, 1986 EDITION AS AMENDED THROUGH UPDATE 6, WILL BE REFERRED TO HEREIN AS THE "STANDARD SPECIFICATIONS".
2. TWO WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT NEW MEXICO ONE CALL SYSTEM (260-1990) AND DETERMINE LOCATION OF EXISTING UTILITIES.
3. PRIOR TO ANY 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 OR THE SURVEYOR SO THAT THE CONFLICT CAN BE RESOLVED WITHOUT DELAY.

LEGEND
— OE — EXISTING OVERHEAD ELECTRIC AND FIBER OPTIC
— FUTURE NOT PART OF THIS PROJECT
— PROPOSED RETAINING WALL
— PROPOSED STD. CURB AND GUTTER
— EXISTING CURB AND GUTTER
— 1" W — PROPOSED WATERLINE
— 6" SAS — PROPOSED SANITARY SEWER LINE
— 8" SAS — EXISTING SANITARY SEWER LINE
— 24" W — EXISTING STORM DRAIN LINE
— 24" W — EXISTING WATERLINE
— CHANGE IN PAVEMENT TYPE
— PROPOSED 3:1 SLOPE THIS PROJECT
— EXISTING BILL BOARD
— 4" CONCRETE SLOPE PAVING
— PROPOSED FLOW ARROW
— PROPOSED FLOWLINE SPOT ELEVATION
— EXISTING FIRE HYDRANT
— EXISTING TRANSMISSION POLE
— PROPOSED DISTRIBUTION POLE
— 2" ASPHALT WITH 4" AGGREGATE BASE
— 3" ASPHALT WITH 6" AGGREGATE BASE
— 4" ASPHALT WITH 6" AGGREGATE BASE
— 6" ASPHALT WITH 6" AGGREGATE BASE

GOLDEN VENTURES
GRADING AND DRAINAGE PLAN

D. MARK GOODWIN & ASSOCIATES, P.A.
CONSULTING ENGINEERS & SURVEYORS
P.O. BOX 90606
ALBUQUERQUE, NEW MEXICO 87199
(505) 828-2200

Designed: JWH Drawn: WLV Checked: DMG Sheet C-1
Scale: 1" = 50' Date: 11/97 Job: 97079

I, James D. Hughes, do hereby certify that the private grading and drainage has been constructed in substantial compliance with the approved plan, dated 11/24/97, except as noted below.

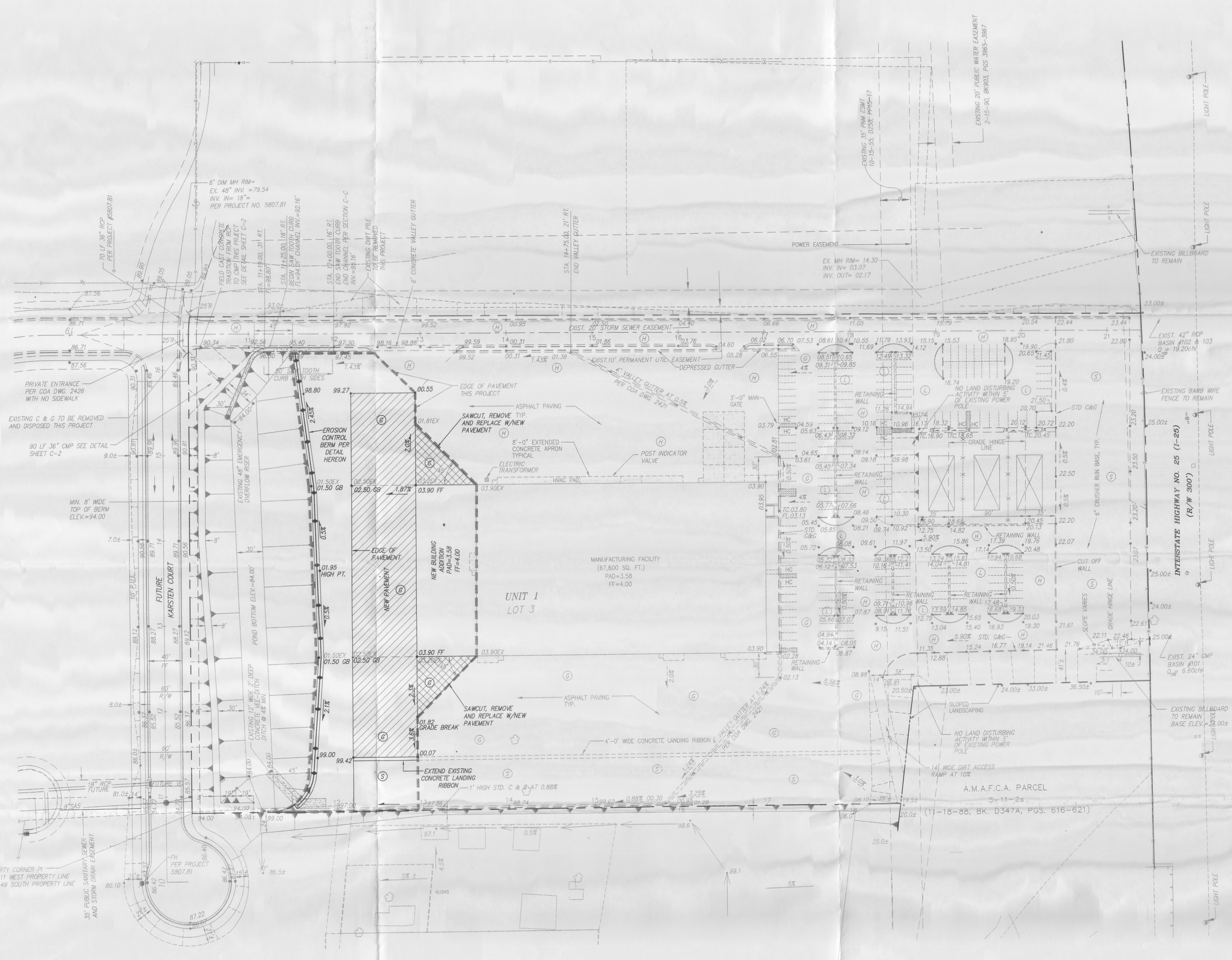
James D. Hughes 7-14-98
James D. Hughes, NIMPE 11624

ENGINEER'S CERTIFICATION NOTES
1. As-built elevations provided by Aldrich Land Surveying, Inc., July 14, 1998. (NOTE: As-built elevations are hand lettered and circled.)

EROSION CONTROL BERM DETAIL
NTS

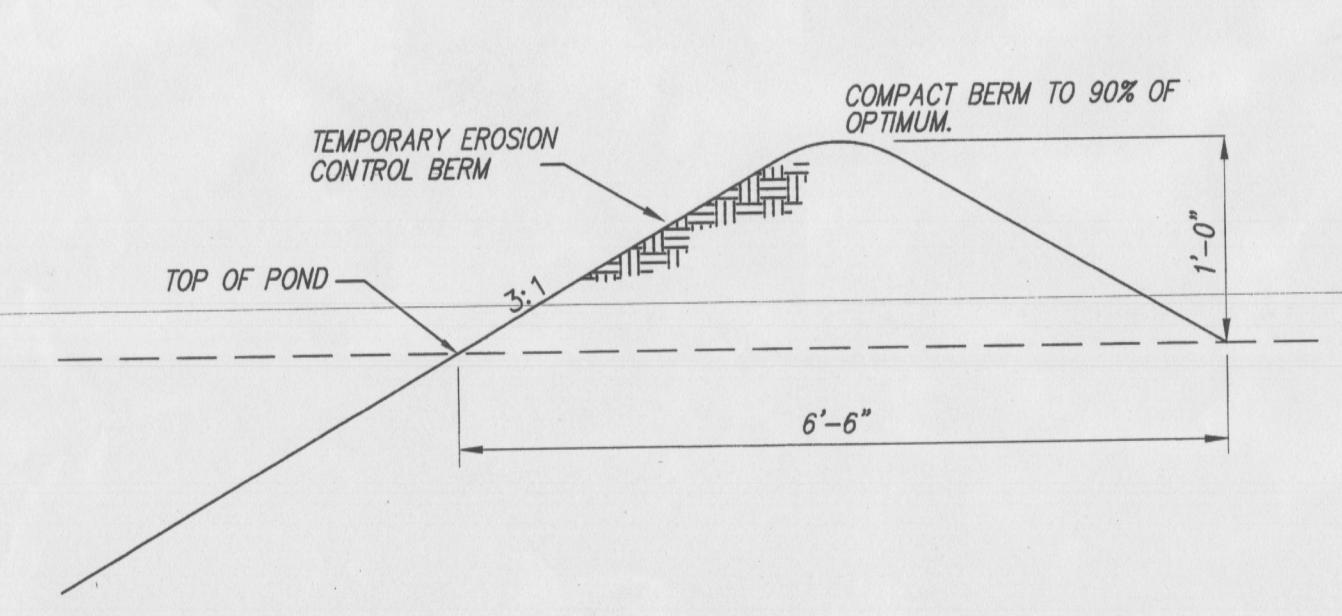
SCALE: 1" = 50'

7079KM/7079GD50/11-22-97/WLV



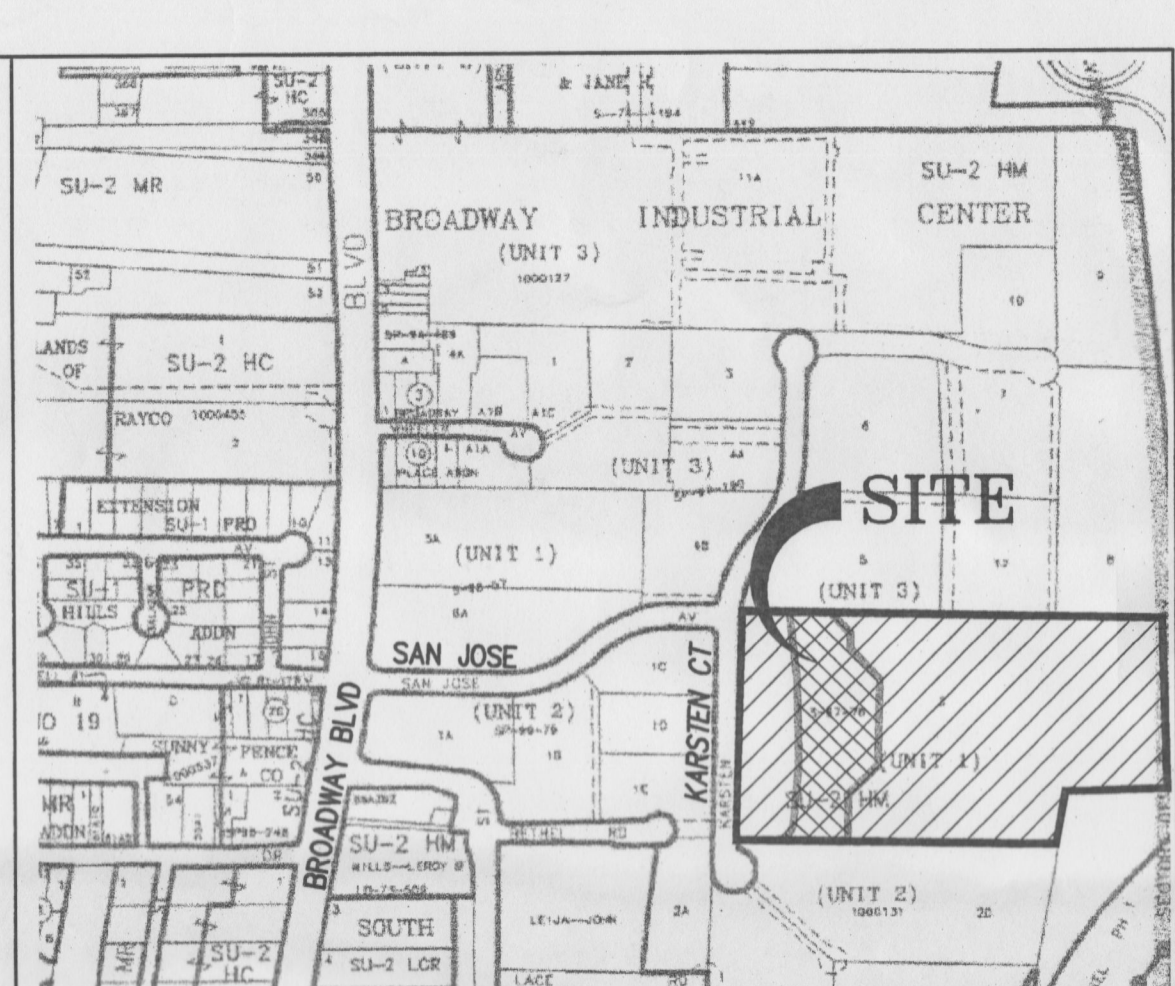
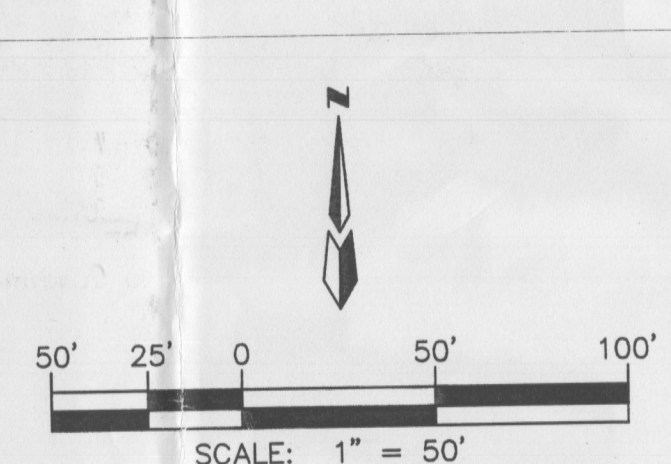
DRAINAGE MANAGEMENT PLAN

THIS ADDITION WAS ANTICIPATED ON THE PREVIOUSLY APPROVED PLAN FOR THIS SITE DATED NOVEMBER 24, 1997, SO THE EXISTING TEMPORARY RETENTION POND WILL RECEIVE ALL THE RUNOFF FROM THIS EXPANSION. THE 100-YR. FLOW 73.12 CFS INCLUDES BOTH ONSITE (Q 100 = 62.07 CFS) AND THE OFFSITE DRAINAGE FROM I-25 EAST OF THIS SITE (Q 100 = 11.05 CFS) AS FIRST DOCUMENTED ON THE NOVEMBER 1997 PLAN, AND AS MOST RECENTLY VERIFIED ON THE "BROADWAY INDUSTRIAL CENTER UNIT 3 REVISION TO THE GRADING AND DRAINAGE MASTER PLAN", REVISED FEBRUARY 4, 1999 WHICH IS IN ACCORDANCE WITH THE "SOUTH BROADWAY SECTOR DRAINAGE MANAGEMENT PLAN". THE RETENTION POND MAY BE CONVERTED TO A DETENTION POND AFTER THE 72\"/>



EROSION CONTROL BERM DETAIL
NTS

5-15-02



VICINITY MAP ZONE MAP: M-14-Z

ACS BENCHMARK

"SDC 11-24" Y=1474274.10, X=383571.93, G-G=0.99967527, Δ=001324" CENTRAL ZONE (NAD 1927 / SLD 1929) ELEVATION=5024.20

LEGAL DESCRIPTION

LOT 3 BROADWAY INDUSTRIAL CENTER.

NOTES

1. ALL ELEVATIONS ARE FLOWLINE UNLESS OTHERWISE SPECIFIED.
2. ALL 3:1 SLOPES AND OFFSITE DISTURBED AREAS ARE TO BE SEED AND (WITH NATIVE SEED) PER CITY STANDARDS AND SPECIFICATION UNLESS OTHERWISE SPECIFIED.
3. CONTRACTOR MUST OBTAIN A TOPSOIL DISTURBANCE PERMIT FROM THE ENVIRONMENTAL HEALTH DIVISION PRIOR TO CONSTRUCTION.
4. CITY OF ALBUQUERQUE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, LATEST EDITION SHALL GOVERN ALL WORK.
5. THE CONTRACTOR SHALL CONFORM TO ALL CITY, COUNTY, STATE AND FEDERAL DUST CONTROL MEASURES AND REQUIREMENTS AND WILL BE RESPONSIBLE FOR PREPARING AND OBTAINING ALL NECESSARY APPLICATIONS AND APPROVALS.
6. THE CONTRACTOR SHALL ENSURE THAT NO SOIL ERODES FROM THE LOTS INTO PUBLIC RIGHT-OF-WAY. THIS CAN BE ACHIEVED BY CONSTRUCTION TEMPORARY BERM AS PER DTL THIS SHT. AND METTING THE SOIL TO KEEP IT FROM BLOWING. CONTRACTOR IS RESPONSIBLE FOR CLEANING UP ANY SEDIMENT THAT GETS INTO EXISTING RIGHT OF WAY.

NOTICE TO CONTRACTORS

1. CITY OF ALBUQUERQUE SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, 1986 EDITION AS AMENDED THROUGH UPDATE 6, WILL BE REFERRED TO HEREIN AS THE "STANDARD SPECIFICATIONS".
2. PRIOR TO ANY 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 OR THE SURVEYOR SO THAT THE CONFLICT CAN BE RESOLVED WITHOUT DELAY.

LEGEND

— OE —	EXISTING OVERHEAD ELECTRIC AND FIBER OPTIC
=====	EXISTING STD. CURB AND GUTTER
=====	EXISTING ONSITE CURB AND GUTTER
— 8" SAS —	EXISTING SANITARY SEWER LINE
— 24" SD —	EXISTING STORM DRAIN LINE
— 24" W —	EXISTING WATERLINE
—	EXISTING BILL BOARD
— 3" CONCRETE SLOPE PAVING	
→	PROPOSED FLOW ARROW
• 23.10CX	EXISTING FINISHED SURFACE ELEVATIONS
• 23.10	PROPOSED SPOT ELEVATION
●	EXISTING FIRE HYDRANT
⊙	2" ASPHALT WITH 4" AGGREGATE BASE
⊙	3" ASPHALT WITH 6" AGGREGATE BASE
⊙	4" ASPHALT WITH 6" AGGREGATE BASE
⊙	6" ASPHALT WITH 6" AGGREGATE BASE

**KARSTEN EXPANSION
GRADING AND DRAINAGE PLAN**

dmg D. MARK GOODWIN & ASSOCIATES, P.A.
CONSULTING ENGINEERS & SURVEYORS
P.O. BOX 90606
ALBUQUERQUE, NEW MEXICO 87199
(505) 828-2200

Designed: DBS Drawn: MJR Checked: DMG Sheet C-1
Scale: 1" = 50' Date: 05/15/02 Job: A02040

RECEIVED
MAY 16 2002
HYDROLOGY SECTION

A02040KAR/A02040GD-50/05-15-02/NHE MJR DER May 15 15:25:16 2002 by: der

Pond #1					
Elevation (ft)	Planimeter (sq.in.)	Area (acres)	A1+A2+sqg(A1+A2) (acres)	Volume (acre-ft)	Volume Sum (acre-ft)
84.00	12,960.00	0.30	0.00	0.00	0.00
91.84	1*	0.82	1.62	4.23	4.23
92.00	1*	0.84	1.64	4.36	4.36
94.00	44,280.00	1.02	1.86	6.21	6.21

Pond #2					
Elevation (ft)	Planimeter (sq.in.)	Area (acres)	A1+A2+sqg(A1+A2) (acres)	Volume (acre-ft)	Volume Sum (acre-ft)
7.50	5,040.00	0.12	0.00	0.00	0.00
16.20	1*	0.35	0.70	1.94	1.94
17.50	17,290.00	0.40	0.73	2.42	2.42

Pond #3					
Elevation (ft)	Planimeter (sq.in.)	Area (acres)	A1+A2+sqg(A1+A2) (acres)	Volume (acre-ft)	Volume Sum (acre-ft)
85.50	0.00	0.00	0.00	0.00	0.00
87.70	2,910.00	0.07	0.07	0.05	0.05
94.00	22,220.00	0.51	0.76	1.60	1.65

$$IA = (sq.tr(Area1) + ((E1-E1)/(E2-E1)) * (sq.tr(Area2) - sq.tr(Area1)))^2$$

where: E1, E2 = Closest two elevations with planimeter data
 E1 = Elevation at which Interpolated Area is computed
 Area1, Area2 = Areas computed for E1, E2, respectively
 IA = Interpolated area for E1

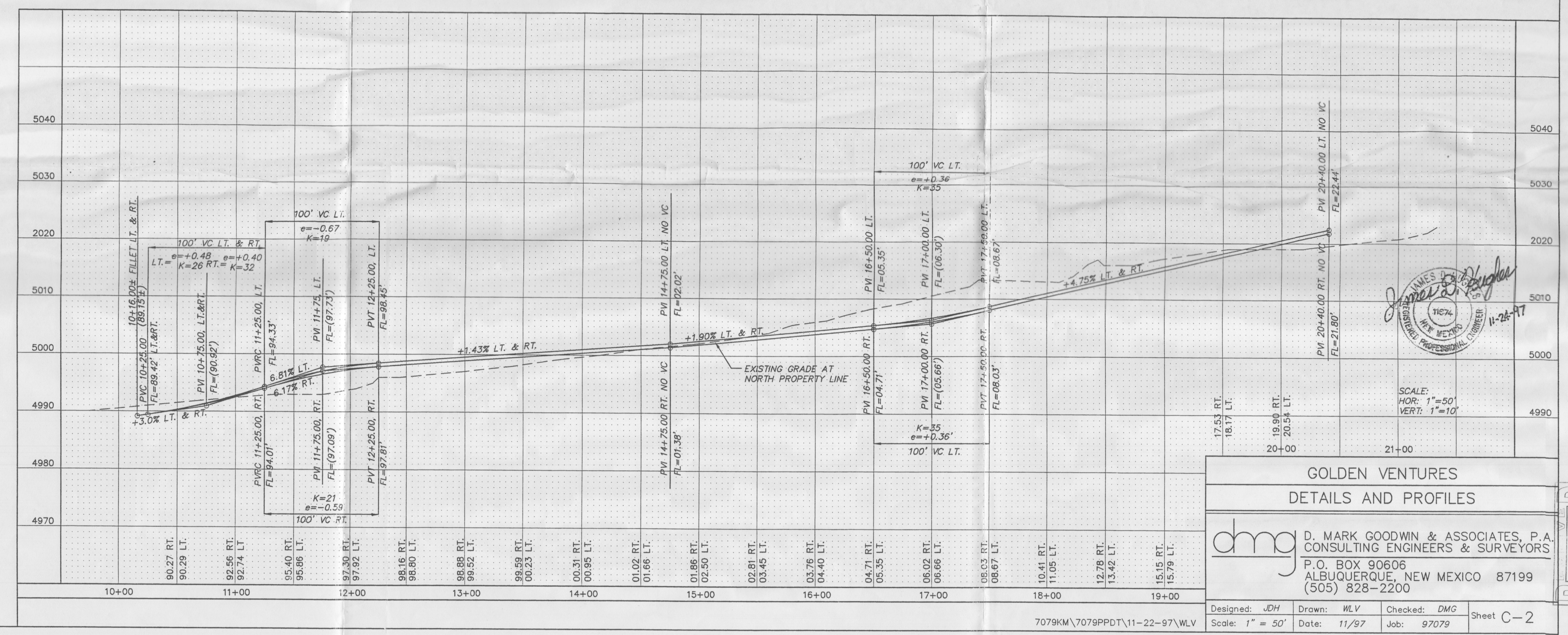
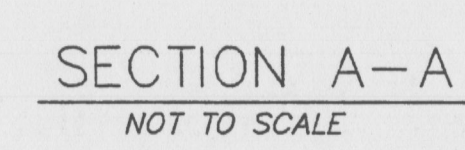
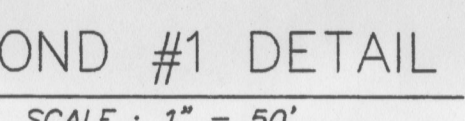
* Incremental volume computed by the Conic Method for Reservoir Volumes.

$$Volume = (1/3) * (E1-E2) * (Area1 + Area2 + sq.tr.(Area1+Area2))$$

where: E1, E2 = Lower and upper elevations of the increment
 Area1, Area2 = Areas computed for E1, E2, respectively
 Volume = Incremental volume between E1 and E2

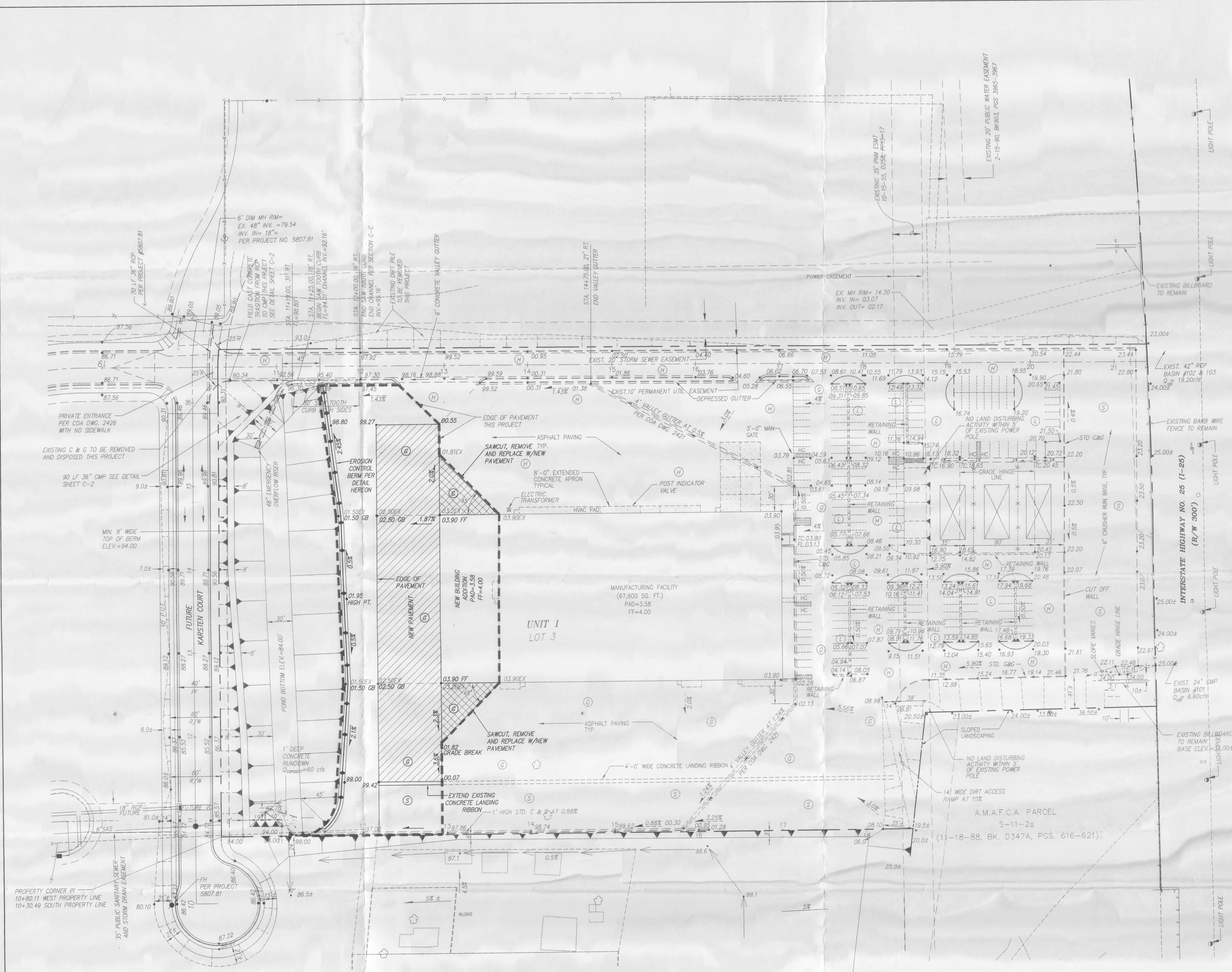


100 YEAR PRECIPITATION (from Figures D, E and F and Eq. 28 of DPM 22.2)									
$P_{90} = 1.92"$, $P_{95} = 2.29"$, $P_{99} = 2.65"$, $P_{99.9} = 10.0$ [24.9/(2.65) ⁴] = 3.64"									
SUMMARY OF HYDROLOGY (from AHYMO and Equation 9 and Table 3 of DPM Sec. 22.2)									
Basin No.	Area (Ac.)	Area (Sq.Mi.)	Land Treatments (%)				100 Year		
			A	B	C	D	Q (cfs)	V ₅₀₀ (Ac.ft.)	V _{99.9} (Ac.ft.)
101	1.81	0.00283	0	40	0	60	6.60	0.231	0.353
108	1.26	0.00197	0	0	70	30	4.45	0.145	0.188
115	13.95	0.02180	0	0	10	90	62.07	2.277	3.689
TOTAL ON-SITE POND #3							73.120	2.653	4.230
102	1.93	0.00302	0	40	0	60	7.04	0.246	0.376
103	3.79	0.00592	0	0	90	10	12.16	0.373	0.416
104	4.03	0.00630	0	0	90	10	12.94	0.397	0.442
107	2.53	0.00395	0	0	70	30	8.90	0.290	0.375
116	7.17	0.01120	80	0	10	0	11.51	0.324	0.324
TOTAL OFF-SITE POND #2							52.550	1.630	1.934

GOLDEN VENTURES
DETAILS AND PROFILES

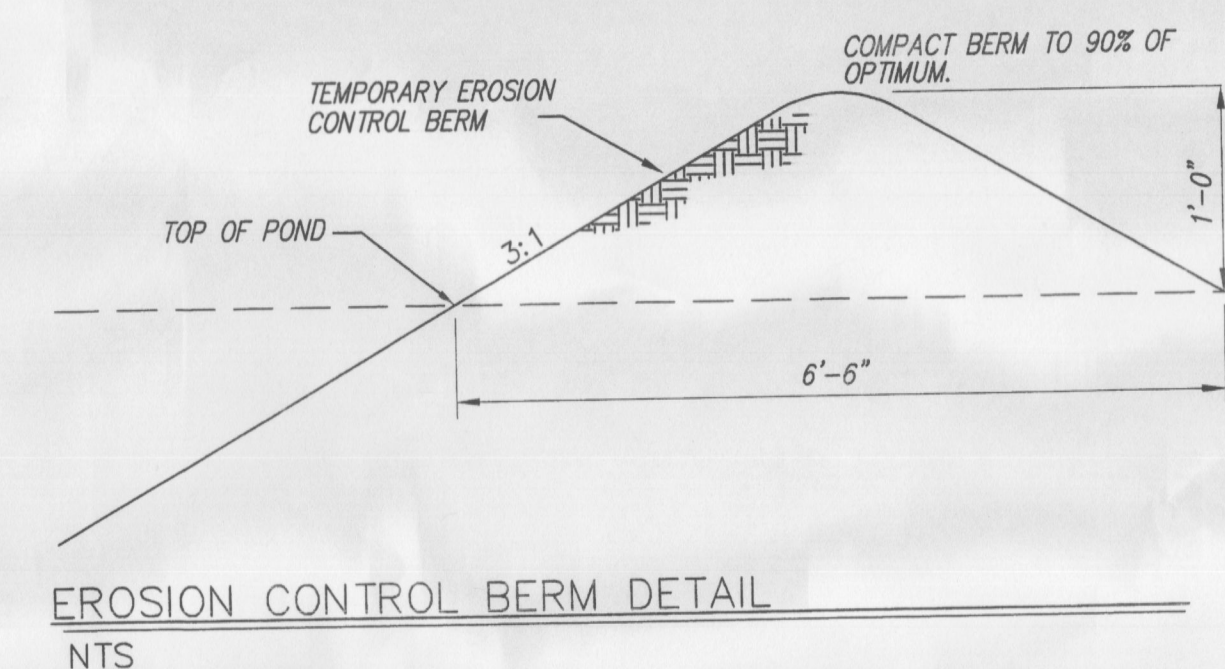
dmg D. MARK GOODWIN & ASSOCIATES, P.A.
CONSULTING ENGINEERS & SURVEYORS
P.O. BOX 90606
ALBUQUERQUE, NEW MEXICO 87199
(505) 828-2200

Designed: <i>JDH</i>	Drawn: <i>WLV</i>	Checked: <i>DMG</i>	Sheet C-2
Scale: <i>1" = 50'</i>	Date: <i>11/97</i>	Job: <i>97079</i>	

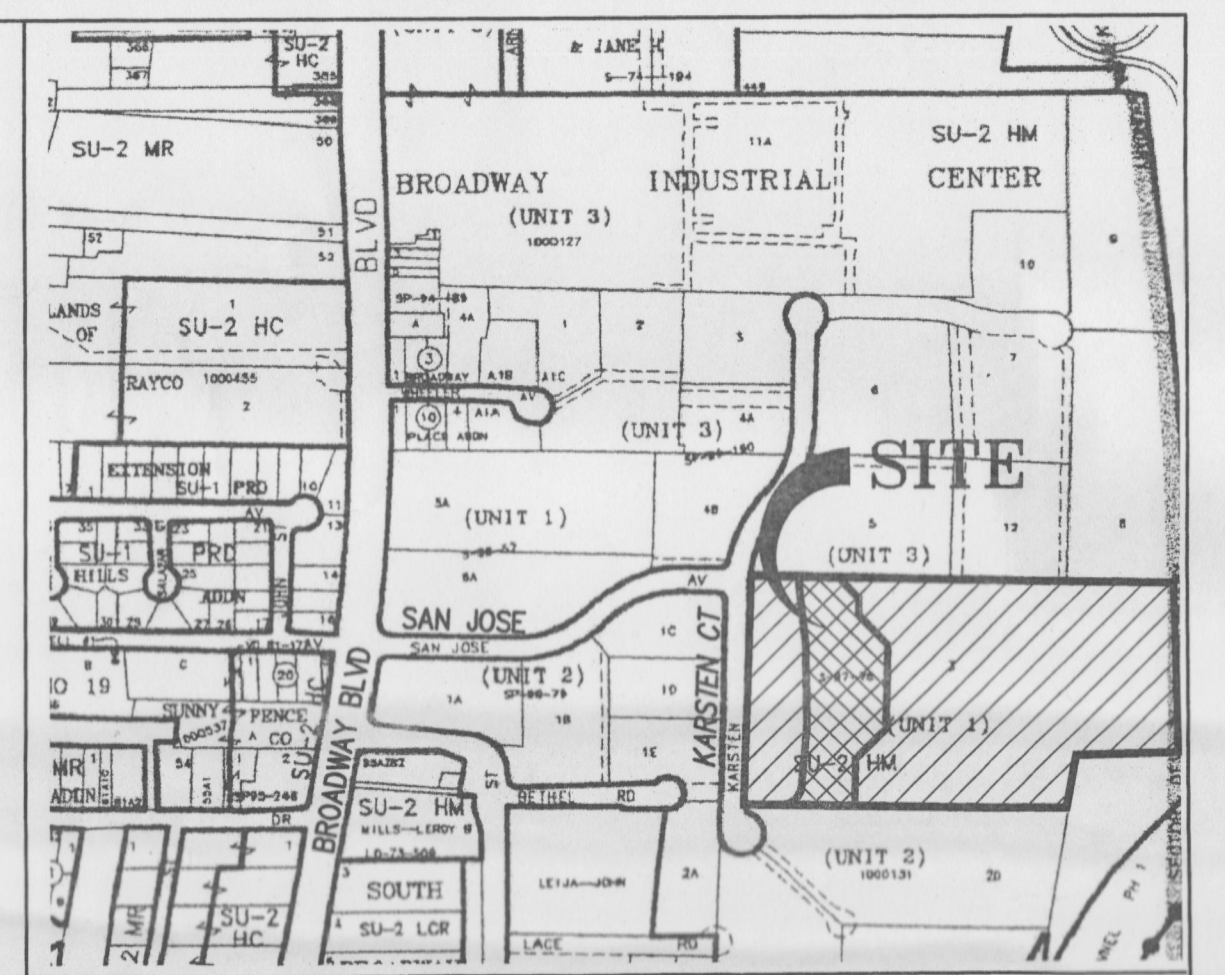
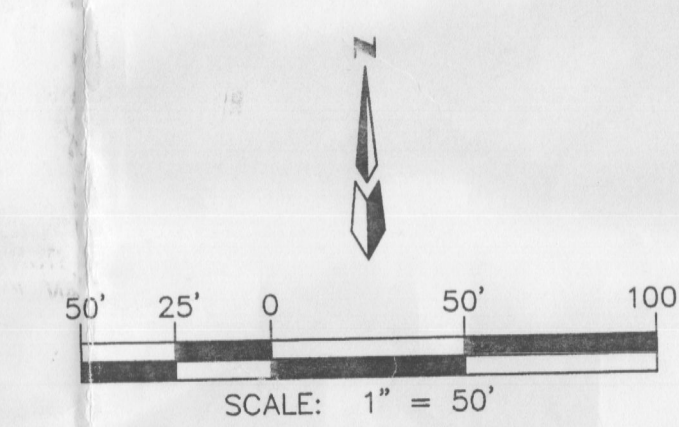
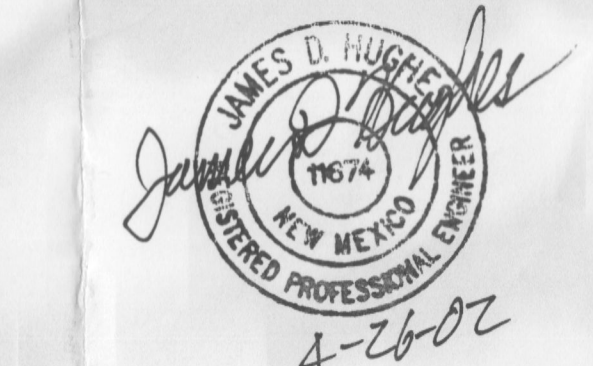


DRAINAGE MANAGEMENT PLAN

THIS ADDITION WAS ANTICIPATED ON THE PREVIOUSLY APPROVED PLAN FOR THIS SITE DATED NOVEMBER 24, 1997, SO THE EXISTING TEMPORARY RETENTION POND WILL RECEIVE ALL THE RUNOFF FROM THIS EXPANSION. THE 100 YR. FLOW 73.12 CFS INCLUDES BOTH ONSITE (0.100 = 62.07 cfs) AND THE OFFSITE DRAINAGE FROM I-25 EAST OF THIS SITE (0.100 = 11.05 cfs) AS FIRST DOCUMENTED ON THE NOVEMBER 1997 PLAN, AND AS MOST RECENTLY VERIFIED ON THE "BROADWAY INDUSTRIAL CENTER UNIT 3 REVISION TO THE GRADING AND DRAINAGE MASTER PLAN, REVISED FEBRUARY 4, 1999 WHICH IS IN ACCORDANCE WITH THE "SOUTH BROADWAY SECTOR DRAINAGE MANAGEMENT PLAN". THE RETENTION POND MAY BE CONVERTED TO A DETENTION POND AFTER THE 72" STORM SEWER IS CONSTRUCTED IN BROADWAY BOULEVARD TO THE SAN JOSE DRAIN.



EROSION CONTROL BERM DETAIL
NTS



VICINITY MAP

ACS BENCHMARK
SDC 11-24" Y=1474274.10, X=383571.93, G=0.99967527, Δ=0013'24" CENTRAL ZONE (NAD 1927 / SLD 1929) ELEVATION=5024.20

LEGAL DESCRIPTION

LOT 3 BROADWAY INDUSTRIAL CENTER.

NOTES

1. ALL ELEVATIONS ARE FLOWLINE UNLESS OTHERWISE SPECIFIED.
2. ALL 3:1 SLOPES AND OFFSITE DISTURBED AREAS ARE TO BE SEEDED AND (WITH NATIVE SEED) PER CITY STANDARDS AND SPECIFICATION UNLESS OTHERWISE SPECIFIED.
3. CONTRACTOR MUST OBTAIN A TOPSOIL DISTURBANCE PERMIT FROM THE ENVIRONMENTAL HEALTH DIVISION PRIOR TO CONSTRUCTION.
4. CITY OF ALBUQUERQUE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, LATEST EDITION SHALL GOVERN ALL WORK.
5. THE CONTRACTOR SHALL COMPLY TO ALL CITY, COUNTY, STATE AND FEDERAL DUST CONTROL MEASURES AND REQUIREMENTS AND WILL BE RESPONSIBLE FOR PREPARING AND OBTAINING ALL NECESSARY APPLICATIONS AND APPROVALS.
6. THE CONTRACTOR SHALL ENSURE THAT NO SOIL ERODES FROM THE LOTS INTO PUBLIC RIGHT-OF-WAY. THIS CAN BE ACHIEVED BY CONSTRUCTION TEMPORARY BERMS AS PER DTL THIS SHEET, AND NETTING THE SOIL TO KEEP IT FROM BLOWING. CONTRACTOR IS RESPONSIBLE FOR CLEANING UP ANY SEDIMENT THAT GETS INTO EXISTING RIGHT OF WAY.

NOTICE TO CONTRACTORS

1. CITY OF ALBUQUERQUE SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, 1986 EDITION AS AMENDED THROUGH UPDATE 6, WILL BE REFERRED TO HEREIN AS THE "STANDARD SPECIFICATIONS".
2. PRIOR TO ANY 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 OR THE SURVEYOR SO THAT THE CONFLICT CAN BE RESOLVED WITHOUT DELAY.

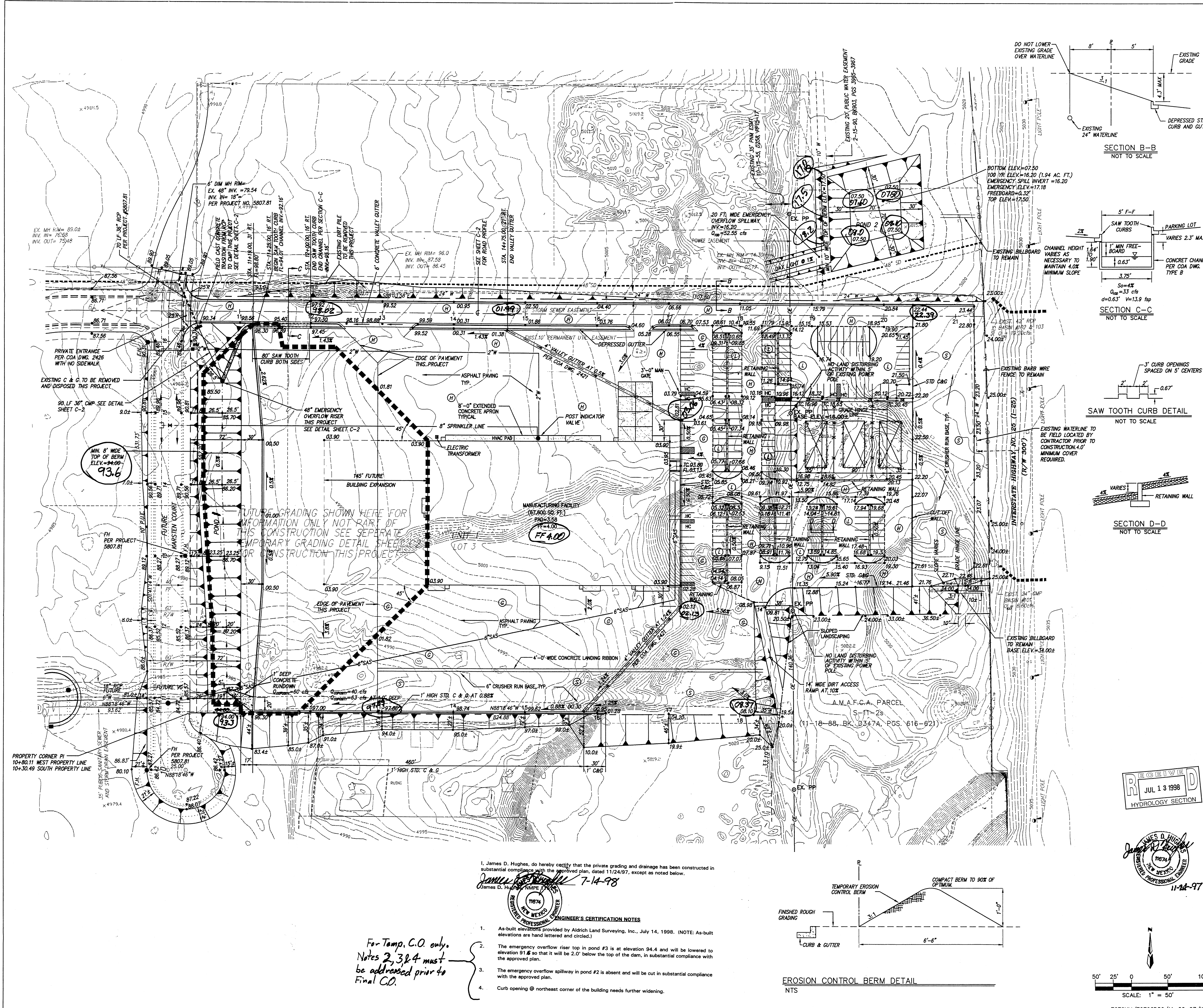
LEGEND

- OE — EXISTING OVERHEAD ELECTRIC AND FIBER OPTIC
- ===== EXISTING STD. CURB AND GUTTER
- ===== EXISTING ONSITE CURB AND GUTTER
- 8" SAS — EXISTING SANITARY SEWER LINE
- 24" SD — EXISTING STORM DRAIN LINE
- 24" W — EXISTING WATERLINE
- — EXISTING BILL BOARD
- — 3" CONCRETE SLOPE PAVING
- — PROPOSED FLOW ARROW
- 23.10EX EXISTING FINISHED SURFACE ELEVATIONS
- 23.10 PROPOSED SPOT ELEVATION
- — EXISTING FIRE HYDRANT
- ② 2" ASPHALT WITH 4" AGREGATE BASE
- ③ 3" ASPHALT WITH 6" AGREGATE BASE
- ④ 4" ASPHALT WITH 6" AGREGATE BASE
- ⑤ 0" ASPHALT WITH 6" AGREGATE BASE

KARSTEN EXPANSION GRADING AND DRAINAGE PLAN

dmg D. MARK GOODWIN & ASSOCIATES, P.A.
CONSULTING ENGINEERS & SURVEYORS
P.O. BOX 90606
ALBUQUERQUE, NEW MEXICO 87199
(505) 828-2200

Designed: DBS Drawn: MJR Checked: DMG Sheet C-1
Scale: 1" = 50' Date: 04/25/02 Job: A02040



VICINITY MAP

ZONE MAP: M-14-Z

ACS BENCHMARK

SDC 11-24" Y=1474274.10, X=383571.93, G=0.99967927, Δ=001324"

CENTRAL ZONE (NAD 1983 / SRS 1983) ELEVATION=5024.24

LEGAL DESCRIPTION

LOT 3 BROADWAY INDUSTRIAL CENTER.

NOTES

- ALL ELEVATIONS ARE FLOWLINE UNLESS OTHERWISE SPECIFIED.
- ALL 3:1 SLOPES AND OFFSITE DISTURBED AREAS ARE TO BE SEEDED AND (WITH NATIVE SEED) PER CITY STANDARDS AND SPECIFICATION UNLESS OTHERWISE SPECIFIED.
- CONTRACTOR MUST OBTAIN A TOPSOIL DISTURBANCE PERMIT FROM THE ENVIRONMENTAL HEALTH DIVISION PRIOR TO CONSTRUCTION.
- CITY OF ALBUQUERQUE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, LATEST EDITION SHALL GOVERN ALL WORK.
- THE CONTRACTOR SHALL CONFORM TO ALL CITY, COUNTY, STATE AND FEDERAL DUST CONTROL MEASURES AND REQUIREMENTS AND WILL BE RESPONSIBLE FOR PREPARING AND OBTAINING ALL NECESSARY APPLICATIONS AND APPROVALS.
- THE CONTRACTOR SHALL ENSURE THAT NO SOIL ERODES FROM THE LOTS INTO PUBLIC RIGHT-OF-WAY. THIS CAN BE ACHIEVED BY CONSTRUCTION TEMPORARY BERM AS PER DTL, THIS SHEET, AND WEEDING THE SOIL TO KEEP IT FROM BLOWING. CONTRACTOR IS RESPONSIBLE FOR CLEANING UP ANY SEDIMENT THAT GETS INTO EXISTING RIGHT OF WAY.
- THE EARTHWORK CONTRACTOR SHALL STOCKPILE ENOUGH MATERIAL ADJACENT TO RETAINING WALL LOCATIONS TO BE UTILIZED FOR WALL BACKFILL. TO BE UTILIZED FOR WALL BACKFILL.

NOTICE TO CONTRACTORS

- CITY OF ALBUQUERQUE SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, 1986 EDITION AS AMENDED THROUGH UPDATE 6, WILL BE REFERRED TO HEREIN AS THE "STANDARD SPECIFICATIONS".
- TWO WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT NEW MEXICO ONE CALL SYSTEM (280-6900) AND DETERMINE LOCATION OF EXISTING UTILITIES.
- PRIOR TO ANY 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 OR THE SURVEYOR SO THAT THE CONFLICT CAN BE RESOLVED WITHOUT DELAY.

LEGEND

—	EXISTING OVERHEAD ELECTRIC AND FIBER OPTIC
---	FUTURE NOT PART OF THIS PROJECT
---	PROPOSED RETAINING WALL
---	PROPOSED STD. CURB AND GUTTER
---	EXISTING CURB AND GUTTER
---	PROPOSED WATERLINE
---	PROPOSED SANITARY SEWER LINE
---	EXISTING SANITARY SEWER LINE
---	EXISTING STORM DRAIN LINE
---	EXISTING WATERLINE
---	CHANGE IN PAVEMENT TYPE
---	PROPOSED 3:1 SLOPE THIS PROJECT
---	EXISTING BILL BOARD
---	4" CONCRETE SLOPE PAVING
---	PROPOSED FLOW ARROW
---	PROPOSED FLOWLINE SPOT ELEVATION
---	EXISTING FIRE HYDRANT
---	EXISTING TRANSMISSION POLE
---	PROPOSED DISTRIBUTION POLE
---	2" ASPHALT WITH 4" AGGREGATE BASE
---	3" ASPHALT WITH 6" AGGREGATE BASE
---	4" ASPHALT WITH 6" AGGREGATE BASE
---	0" ASPHALT WITH 6" AGGREGATE BASE

GOLDEN VENTURES

GRADING AND DRAINAGE PLAN

dmg D. MARK GOODWIN & ASSOCIATES, P.A.
CONSULTING ENGINEERS & SURVEYORS
P.O. BOX 90606
ALBUQUERQUE, NEW MEXICO 87199
(505) 828-2200

Designed: JGH Drawn: WLW Checked: DMG Sheet C-1
Scale: 1" = 50' Date: 11/97 Job: 97079

For Temp. C.O. only.
Notes 2, 3 & 4 must
be addressed prior to
Final C.O.

1. James D. Hughes, do hereby certify that the private grading and drainage has been constructed in substantial compliance with the approved plan, dated 11/24/97, except as noted below.

James D. Hughes, NMPE 7-14-98

ENGINEER'S CERTIFICATION NOTES

- As-built elevations provided by Aldrich Land Surveying, Inc., July 14, 1998. (NOTE: As-built elevations are hand lettered and circled.)
- The emergency overflow riser top in pond #3 is at elevation 94.4 and will be lowered to elevation 91.6 so that it will be 2.0' below the top of the dam, in substantial compliance with the approved plan.
- The emergency overflow spillway in pond #2 is absent and will be cut in substantial compliance with the approved plan.
- Curb opening @ northeast corner of the building needs further widening.

EROSION CONTROL BERM DETAIL

NTS

TEMPORARY EROSION CONTROL BERM

FINISHED ROUGH GRADING

6'-6"

1'-0"

3:1

COMPACT BERM TO 90% OF OPTIMUM

D:\CS\7079M\7079G050.dwg, Sat May 22 10:02:40 1997, M.V.L. (PWA) 028-2200
Designt 600 Mark Goodwin & Associates, Inc. All 4, 3 for Aldrich L.S.I.P.

POND VOLUME CALCULATIONS

Pond #3 As-built OK 7-14-98

Elevation (ft.)	Planimeter (sq. in.)	Area (Acres)	Volume (acre-ft)	Volume Sum (acre-ft)
92.00	12,960.00	0.36	0.00	0.00
90.25	11,280.00	0.32	1.75	1.75
88.50	10,440.00	0.30	1.75	3.50
86.75	9,600.00	0.28	1.75	5.25
85.00	8,760.00	0.25	1.75	7.00
83.25	7,920.00	0.23	1.75	8.75
81.50	7,080.00	0.20	1.75	10.50
79.75	6,240.00	0.18	1.75	12.25
78.00	5,400.00	0.15	1.75	14.00
76.25	4,560.00	0.13	1.75	15.75
74.50	3,720.00	0.10	1.75	17.50
72.75	2,880.00	0.08	1.75	19.25
71.00	2,040.00	0.06	1.75	21.00
69.25	1,200.00	0.03	1.75	22.75
67.50	360.00	0.01	1.75	24.50

Pond #2

Elevation (ft.)	Planimeter (sq. in.)	Area (Acres)	Volume (acre-ft)	Volume Sum (acre-ft)
7.50	5,040.00	0.12	0.00	0.00
16.20	17,280.00	0.35	0.67	0.67
17.50	17,280.00	0.40	0.73	1.40

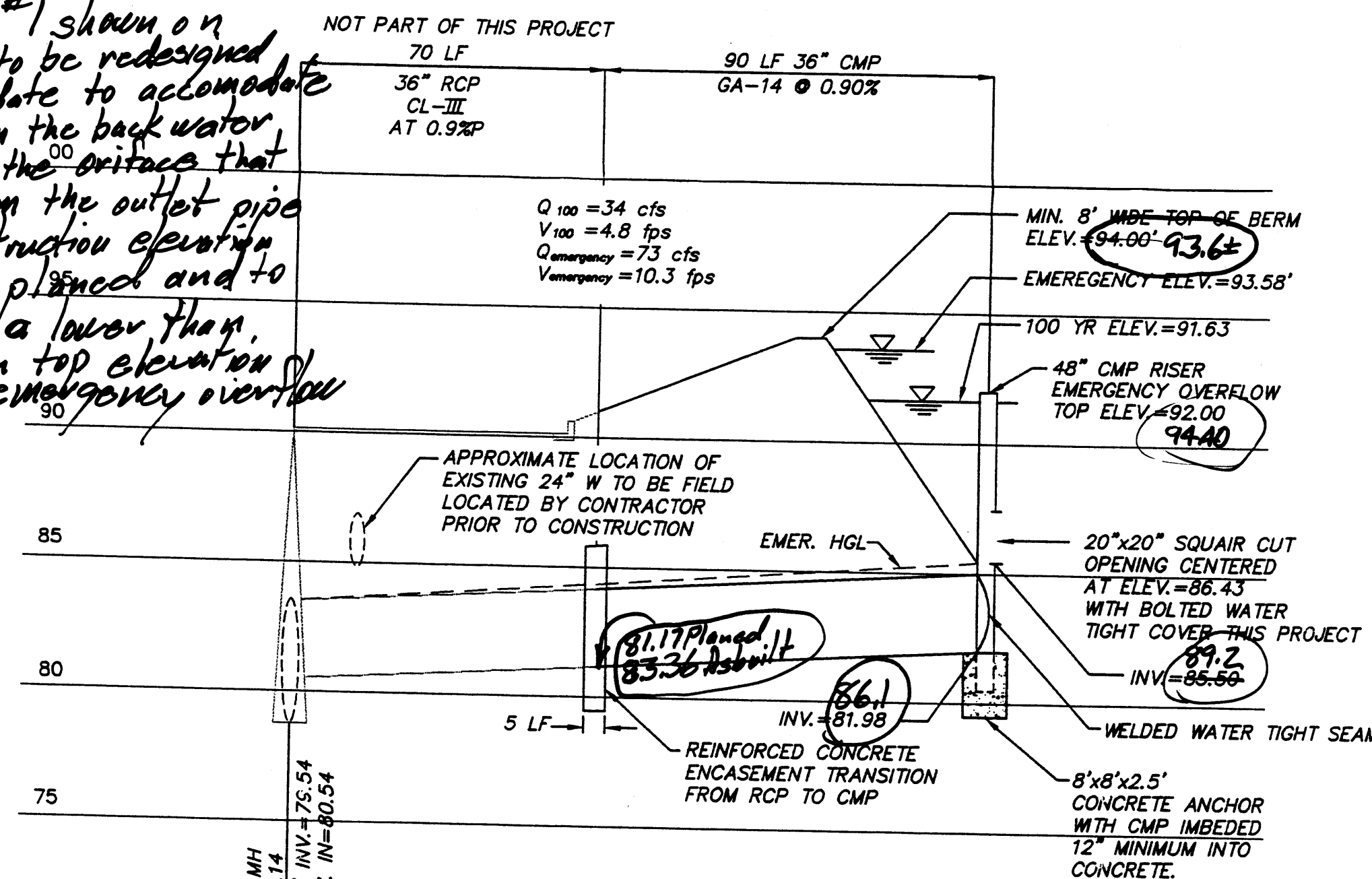
Pond #1 Future

Elevation (ft.)	Planimeter (sq. in.)	Area (Acres)	Volume (acre-ft)	Volume Sum (acre-ft)
85.50	0.00	0.00	0.00	0.00
87.70	1,440.00	0.07	0.07	0.07
89.00	22,220.00	0.51	0.76	1.60

IA = (sq. rt. (Area1) + ((E1-E2)/(E2-E1)) * (sq. rt. (Area2) - sq. rt. (Area1)))
 where: E1, E2 = Closest two elevations with planimeter data
 E1 = Elevation at which to interpolate area
 Area1, Area2 = Areas computed for E1, E2, respectively
 IA = Interpolated area for E1

Incremental volume computed by the Conic Method for Reservoir Volumes.
 Volume = (1/3) * (E2-E1) * (Area1 + Area2 + sq. rt. (Area1 * Area2))
 where: E1, E2 = Lower and upper elevations of the increment
 Area1, Area2 = Areas computed for E1, E2, respectively
 Volume = Incremental volume between E1 and E2

As-built Note:
 Future pond #1 shown on Sheet #1 is to be redesigned at a later date to accommodate the change in the backwater pressure on the outlet pipe. As-built construction slightly higher than planned and to decommodate a lower than planned dam top elevation and lower emergency overflow view.



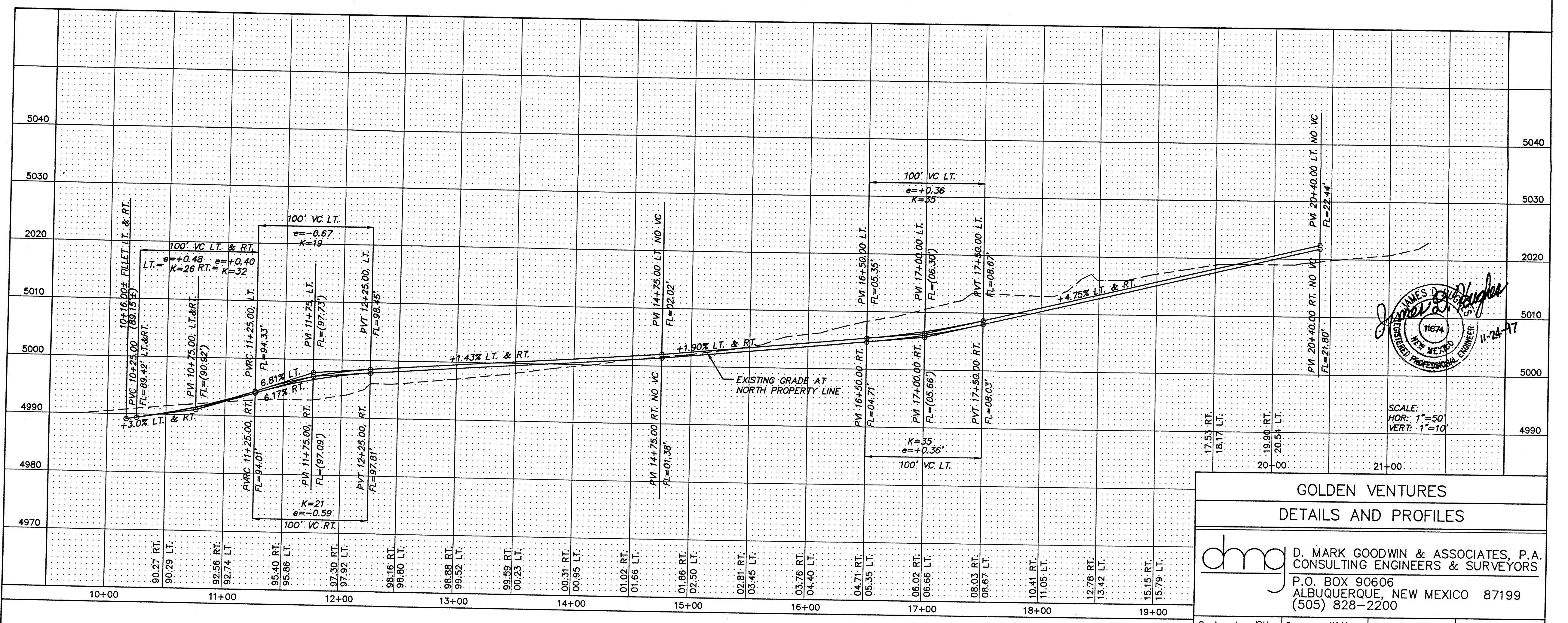
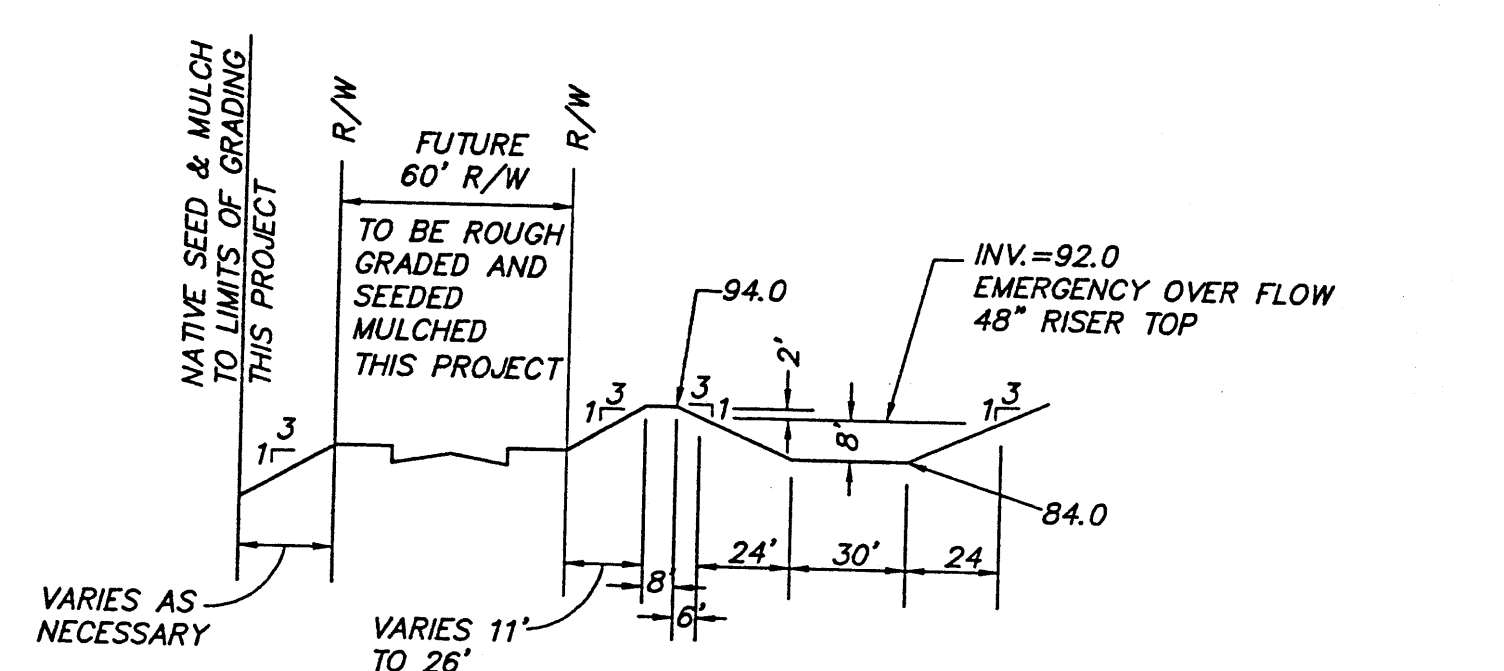
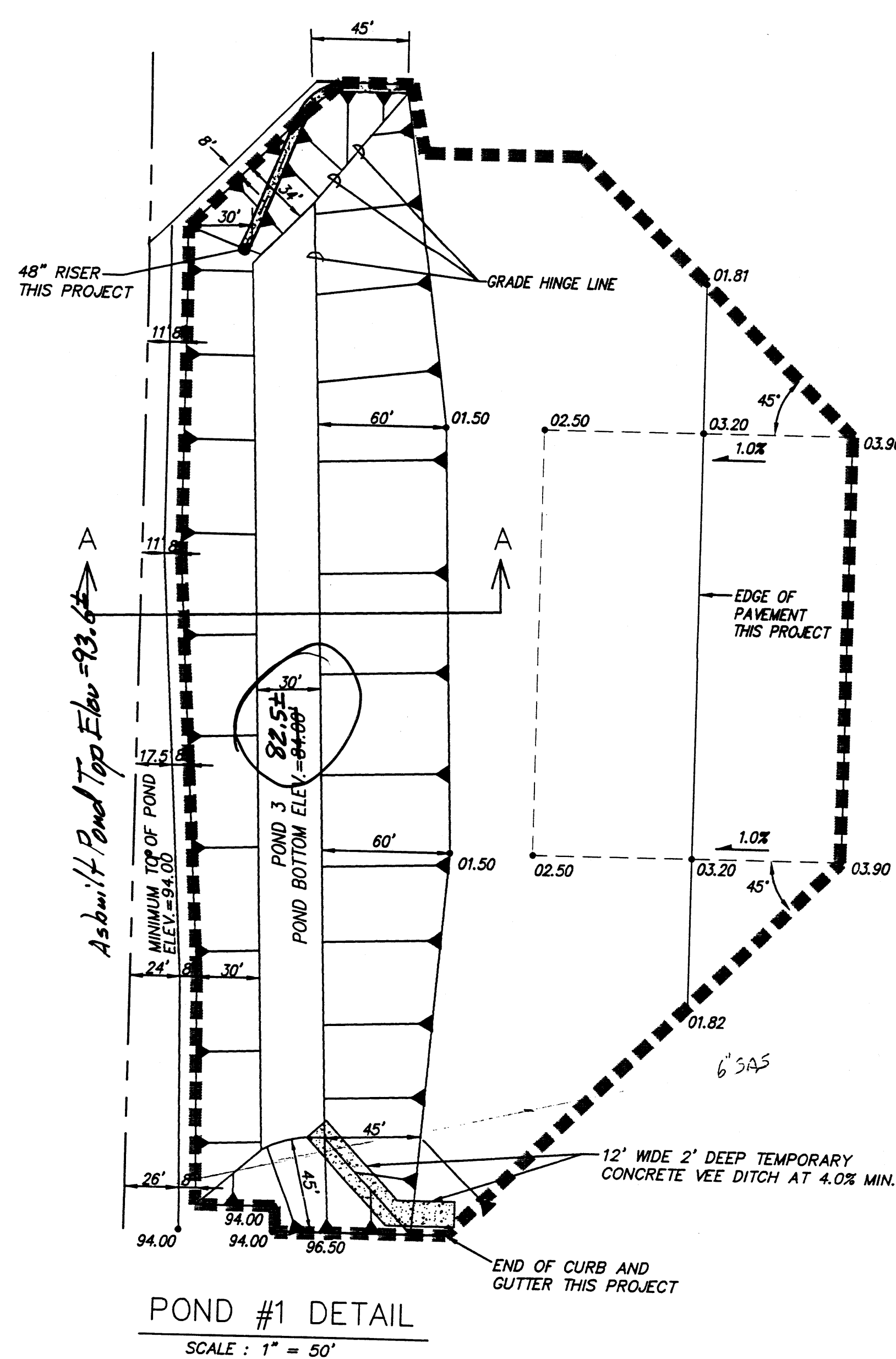
HYDROLOGY CALCULATIONS

100 YEAR PRECIPITATION
(from Figures D, E and F and Eq. 28 of DPM 22.2)

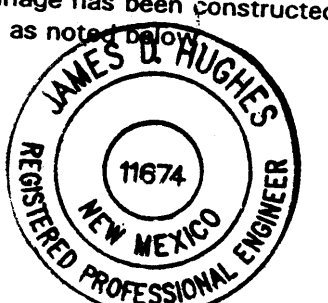
$$P_{100} = 1.92", P_{100} = 2.29", P_{100} = 2.65", P_{100} = 10.0(24.9(2.65)^{1/3})^{1/3} = 3.64"$$

SUMMARY OF HYDROLOGY
(from AHYMO and Equation 9 and Table 3 of DPM Sec. 22.2)

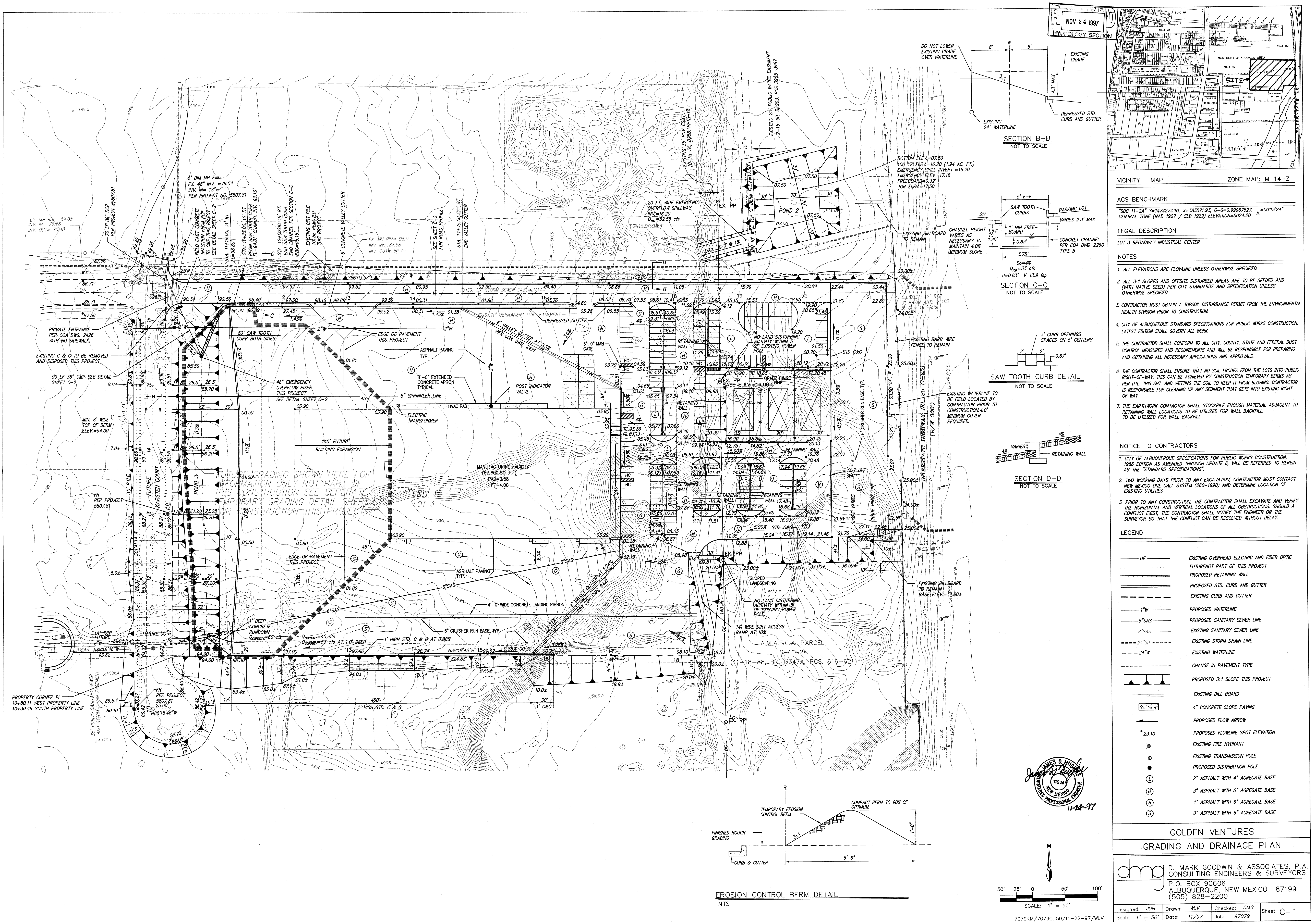
Basin No.	Area (Ac.)	Area (Sq. Mi.)	Land Treatments (%)				100 Year		
			A	B	C	D	Q (cfs)	V ₁₀₀ (Ac. Ft.)	V ₁₀₀ (Ac. Ft.)
101	1.81	0.00283	0	40	0	60	6.60	0.231	0.353
108	1.26	0.00197	0	0	70	30	4.45	0.145	0.188
115	13.95	0.02180	0	0	10	90	62.07	2.277	3.689
TOTAL ON-SITE POND #3							73.120	2.653	4.230
102	1.93	0.00302	0	40	0	60	7.04	0.246	0.376
103	3.79	0.00592	0	0	90	10	12.16	0.373	0.416
104	4.03	0.00630	0	0	90	10	12.94	0.397	0.442
107	2.53	0.00395	0	0	70	30	8.90	0.290	0.375
116	7.17	0.01120	90	0	10	0	11.51	0.324	0.324
TOTAL OFF-SITE POND #2							52.550	1.630	1.934



I, James D. Hughes, do hereby certify that the private grading and drainage has been constructed in substantial compliance with the approved plan, dated 11/24/97, except as noted.



- ENGINEER'S CERTIFICATION NOTES**
- As-built elevations provided by Aldrich Land Surveying, Inc., July 14, 1998. (NOTE: As-built elevations are hand lettered and circled.)
 - The emergency overflow riser top in pond #3 is at elevation 94.4 and will be lowered to elevation 91.5 so that it will be 2.0' below the top of the dam, in substantial compliance with the approved plan.
 - The emergency overflow spillway in pond #2 is absent and will be cut in substantial compliance with the approved plan.
 - Curb opening @ northeast corner of the building needs further widening.



Pond #1					
Elevation (ft)	Planimeter (sq. in.)	Area (acres)	Al+A2+sqg(Al*A2) (acres)	Volume (acre-ft)	Volume Sum (acre-ft)
84.00	12,960.00	0.30	0.00	0.00	0.00
91.84	12,960.00	0.30	0.82	4.23	4.23
94.00	44,280.00	1.02	0.84	4.36	4.36
94.00	44,280.00	1.02	1.86	6.21	6.21

Pond #2					
Elevation (ft)	Planimeter (sq. in.)	Area (acres)	Al+A2+sqg(Al*A2) (acres)	Volume (acre-ft)	Volume Sum (acre-ft)
7.50	5,040.00	0.12	0.00	0.00	0.00
16.20	9,000.00	0.35	0.57	1.94	1.94
17.50	17,290.00	0.40	0.73	2.42	2.42

Pond #3					
Elevation (ft)	Planimeter (sq. in.)	Area (acres)	Al+A2+sqg(Al*A2) (acres)	Volume (acre-ft)	Volume Sum (acre-ft)
85.50	0.00	0.00	0.00	0.00	0.00
87.70	2,910.00	0.07	0.07	0.08	0.08
94.00	22,220.00	0.51	0.76	1.60	1.65

2

$$IA = \{sq.r(Areal) * ((E1-EL1)/(E2-EL1)) + \{sq.r(Areal2) - sq.r(Areal)\}$$

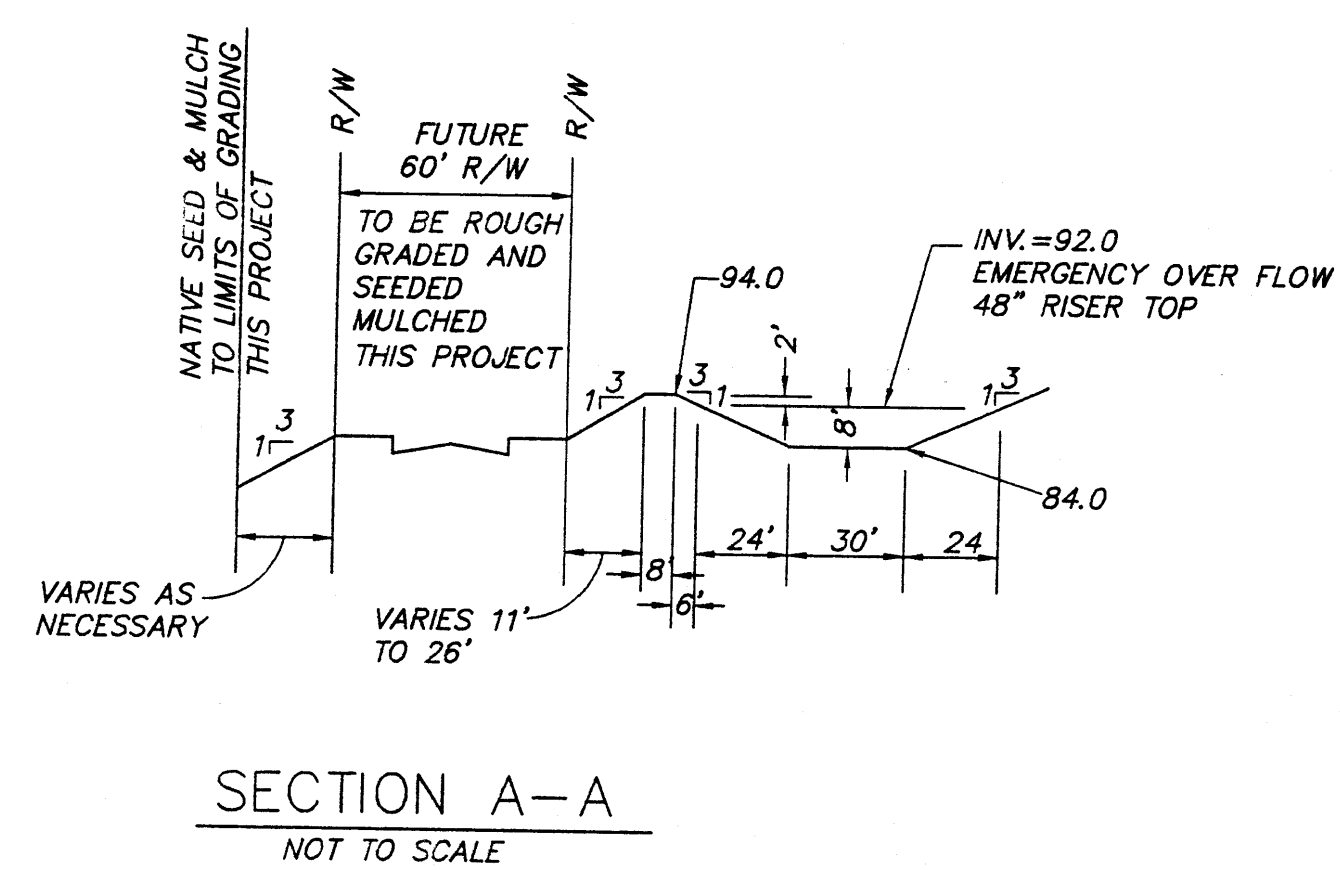
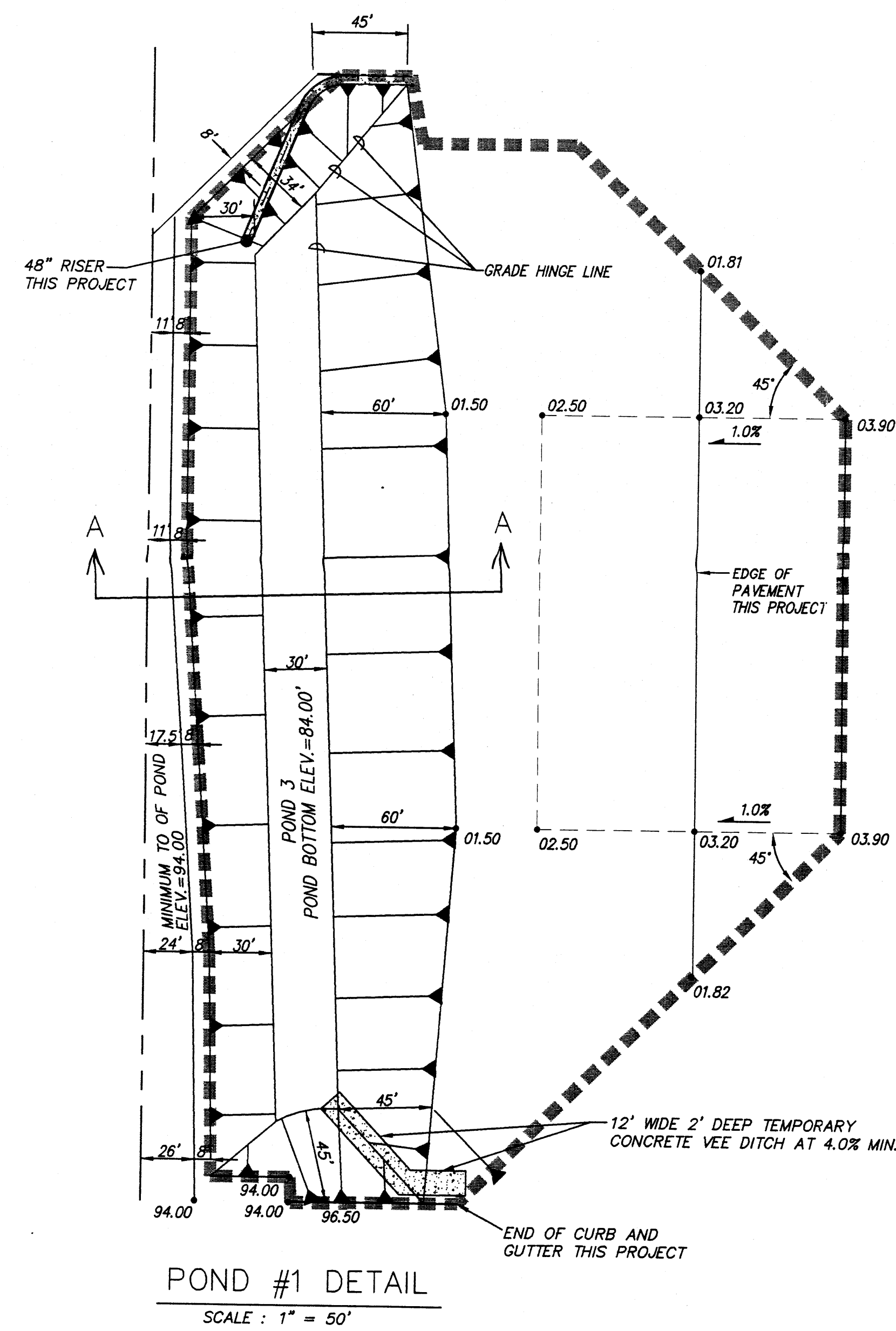
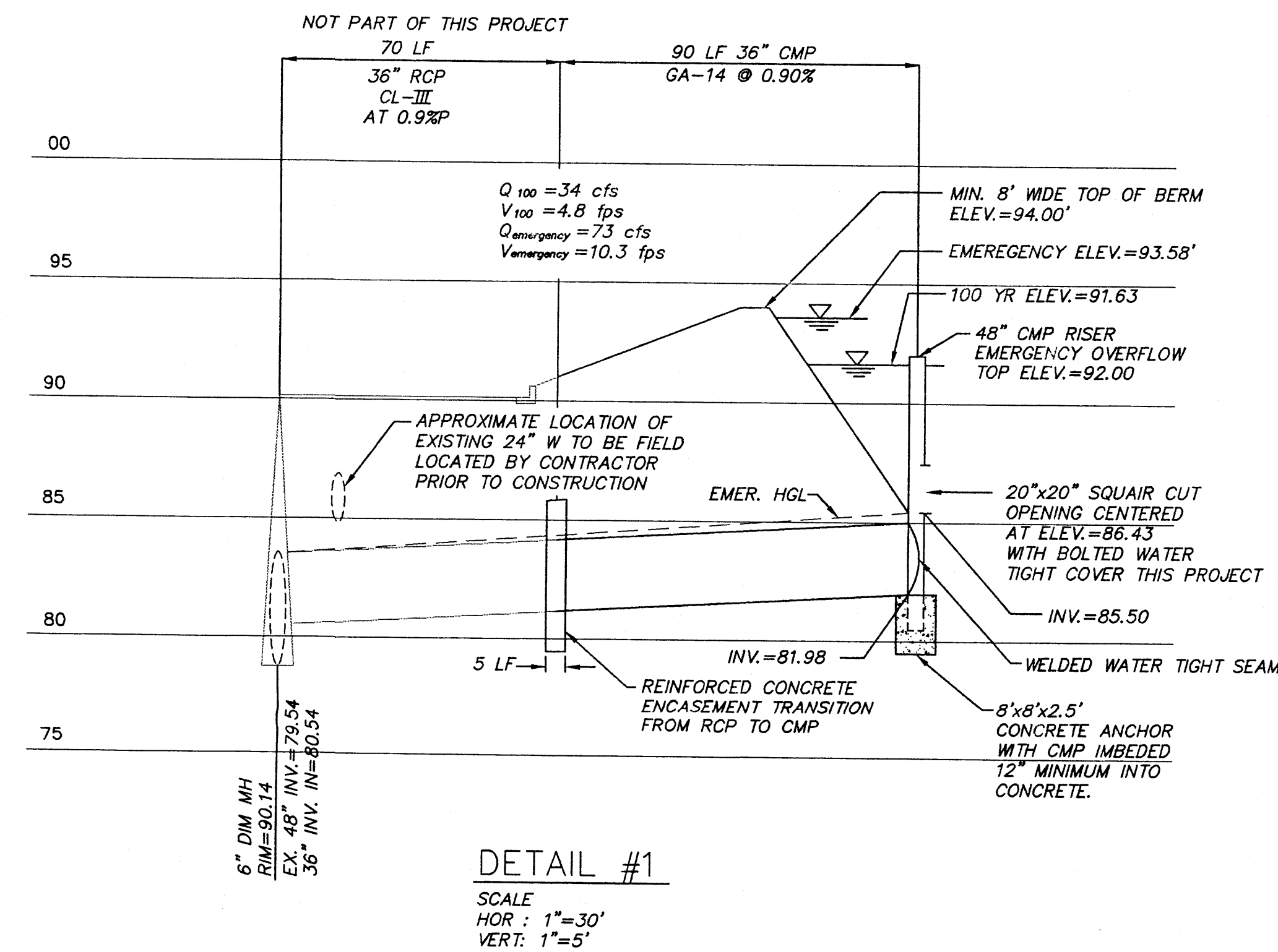
where: EL1, E2 = Closest two elevations with planimeter data
 E1 = Elevation at which to interpolate area
 Areal2 = Areas computed for EL1, E2, respectively
 IA = Interpolated area for EL

* Incremental volume computed by the Conic Method for Reservoir Volumes.

2

$$Volume = (1/3) * \{EL2 - EL1\} * \{Areal + Areal2 + sq.r.(Areal * Areal2)\}$$

where: EL1, EL2 = Lower and upper elevations of the increment
 Areal, Areal2 = Areas computed for EL1, EL2, respectively
 Volume = Incremental volume between EL1 and EL2



100 YEAR PRECIPITATION (from Figures D, E and F and Eq. 28 of DPM 22.2)										
$P_{100} = 1.92'; P_{100} = 2.29'; P_{100} = 2.65'; P_{100} = 10.0/[24.9/(2.65')^4] = 3.64"$										
SUMMARY OF HYDROLOGY (from AHYMO and Equation 9 and Table 3 of DPM Sec. 22.2)										
Basin No.	Area (Ac.)	Area (Sq.Mi.)	Land Treatments (%)				100 Year			
			A	B	C	D	Q (cfs)	V ₁₀₀ (Ac. ft.)	V ₁₀₀ (Ac. ft.)	
101	1.81	0.00283	0	40	0	60	6.68	0.231	0.353	
108	1.26	0.00197	0	0	70	30	4.45	0.145	0.188	
115	13.95	0.02180	0	0	10	90	62.07	2.277	3.069	
TOTAL ON-SITE POND^{#3}							73.120	2.653	4.230	
102	1.93	0.00302	0	40	0	60	7.04	0.246	0.376	
103	3.79	0.00592	0	0	90	10	12.16	0.373	0.416	
104	4.03	0.00630	0	0	90	10	12.94	0.397	0.442	
107	2.53	0.00395	0	0	70	30	8.90	0.290	0.375	
116	7.17	0.01120	90	0	10	0	11.51	0.324	0.324	
TOTAL OFF-SITE POND^{#2}							52.550	1.630	1.934	

