NOTICE

All drawings located at the end of the document.

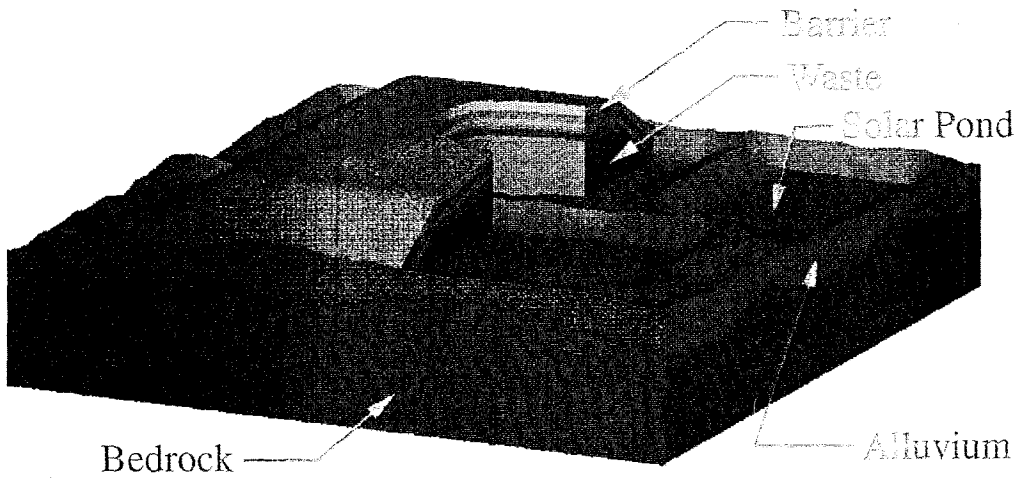
OU4 Solar Evaporation Ponds
Interim Measure/Interim Remedial Action
Environmental Assessment
Decision Document

U.S. Department of Energy
Rocky Flats Environmental Technology Site
Golden, Colorado

February 1995

Revision: Proposed

Parts IV and V Drawings



DEC 2001
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ADMIN RECORD

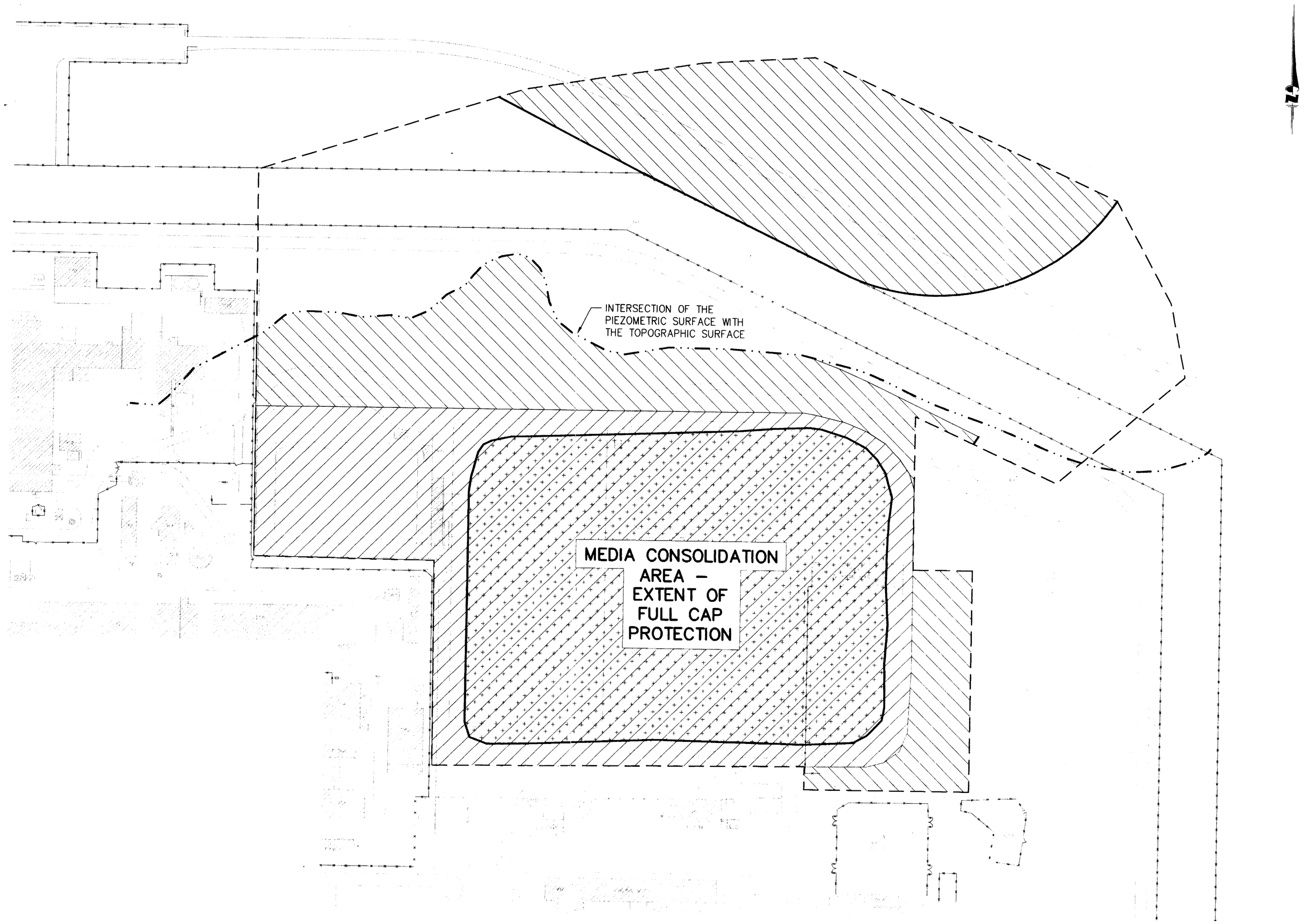
1/21

DOCUMENT ORGANIZATION

Operable Unit 4 Solar Evaporation Pond Interim Measure/Interim Remedial Action - Environmental Assessment Decision Document

Part I	-	Executive Summary and Introduction
Part II	-	Operable Unit 4 Phase I RCRA Facility Investigation/Remedial Investigation Report
		Volume 1 - Sections 1 through 8 (Figures for Section 3 are in Volume 2)
		Volume 2 - Section 3 Figures
		Volume 3 - Appendices A through G
		Volume 4 - Appendices H through L
		Volume 5 - Appendices M through O
		Volume 6 - Appendices P through Q
		Volume 7 - Appendices R through V
		Volume 8 - Appendices W through AA
Part III	-	Interim Measure/Interim Remedial Action Design Analysis
Part IV	-	Recommended Interim Measure/Interim Remedial Action Alternative
Part V	-	Post-Closure Monitoring and Assessment Plan

2



LEGEND:

- Excavated to Mean of the Seasonal High Water Table Elevation
- 6" Surficial Soil Excavation
- Media Consolidation Area Extent of Full Cap Protection
- Buildings
- Remediation Boundary
- Intersection of the Piezometric Surface With the Topographic Surface
- Solar Evaporation Ponds
- Roads
- Fences

PRELIMINARY
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I 101-A-000262 pg 7

ISSUE	DESCRIPTION	DATE	RFP	DOE	CLASS	JOB NO.
B	ORIGINAL ISSUE	SS SS SC DM				989618

KEYWORDS	TOLERANCES		BY	DATE
PLAN VIEW	FRACT. ±	DESIGNED	STENSENG	1/6/95
SOIL	ANGLE ±	DRAWN	STENSENG	1/6/95
AREA	DEC. ± UNLESS NOTED OTHERWISE	CHECKED	NIXON	1/6/95
	REMOVE BURRS AND SHARP EDGES	APPROVED	MYERS	1/6/95
	NEXT ASSEMBLY			
MASTER ☐ YES ☐ NO	SCALE: 1"=100'	SUBMITTED		
		APPROVED RFP		
		APPROVED DOE		

U.S. DEPARTMENT OF ENERGY
ROCKY FLATS OFFICE GOLDEN, COLORADO

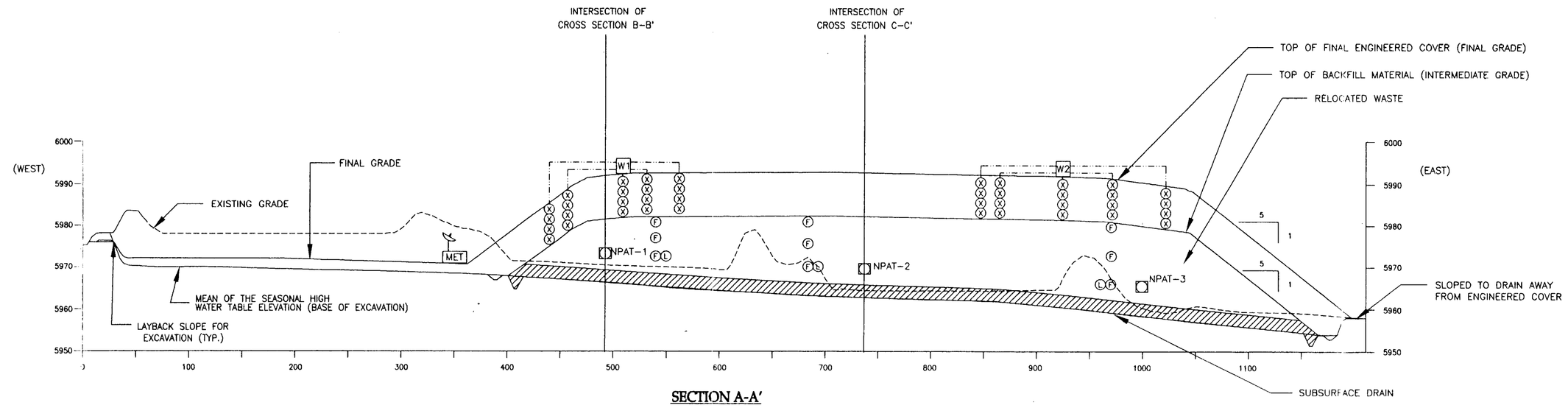
ROCKY FLATS PLANT
GOLDEN, COLORADO 80402

OU4 SOLAR EVAPORATION PONDS IM/IRA
LIMITS OF REMEDIATION

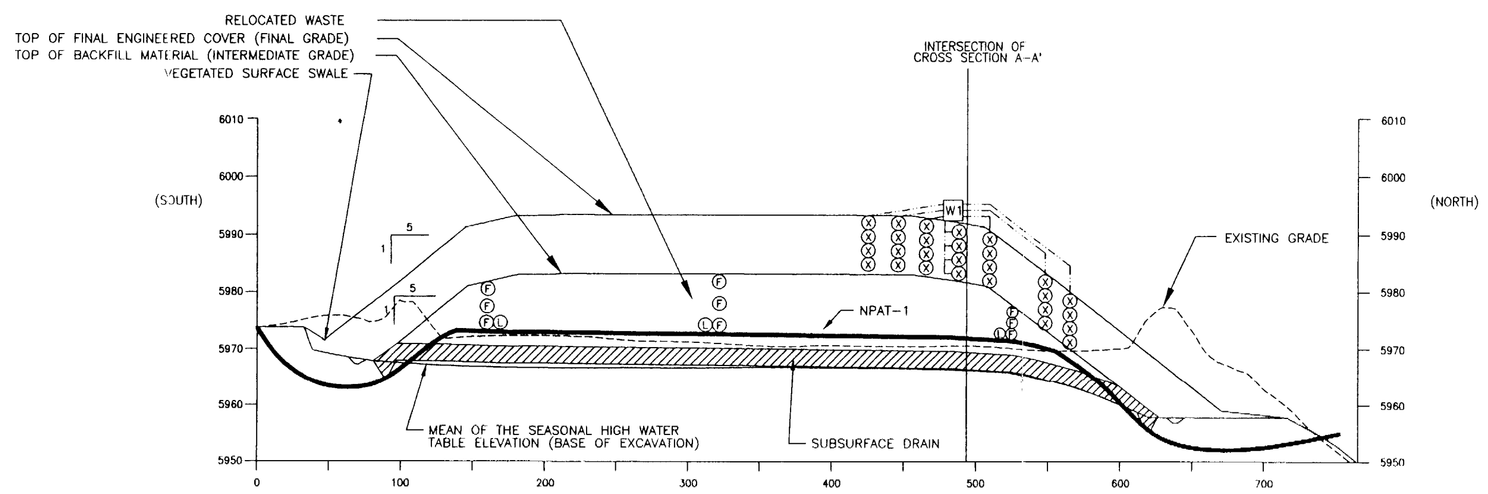
SIZE	DRAWING NUMBER	ISSUE	SHEET
D	51045-111	B	1 OF 1

COMPUTER GENERATED DRAWING NO MANUAL CHANGES ALLOWED

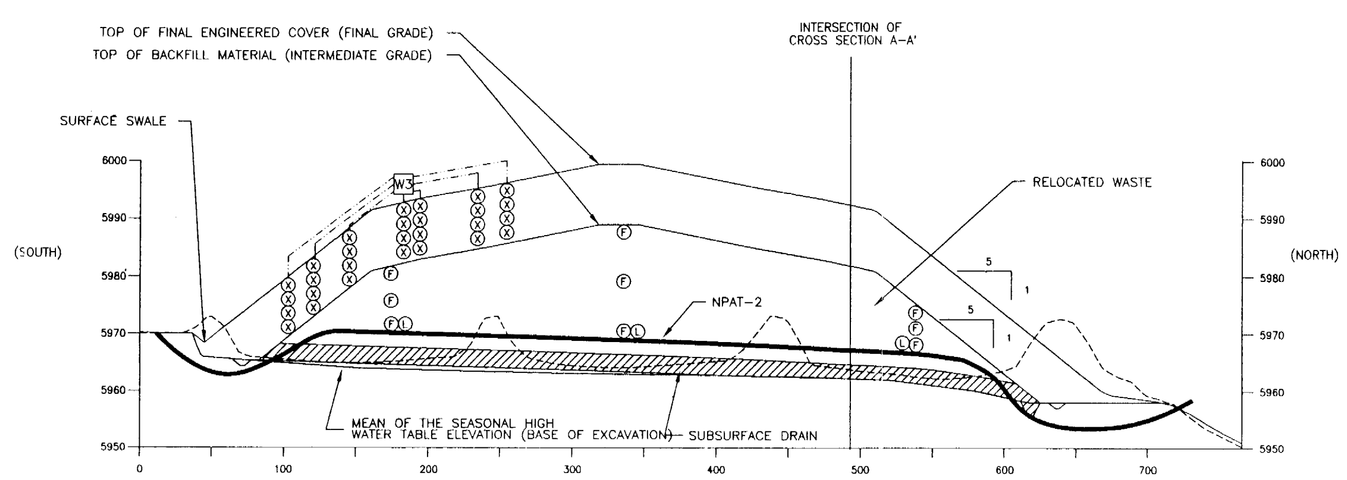
94DN0189, 1/24/95 at 9:30



SECTION A-A'
HORIZONTAL SCALE: 1"=80'
VERTICAL SCALE: 1"=20'



SECTION B-B'
HORIZONTAL SCALE: 1"=80'
VERTICAL SCALE: 1"=20'



SECTION C-C'
HORIZONTAL SCALE: 1"=80'
VERTICAL SCALE: 1"=20'

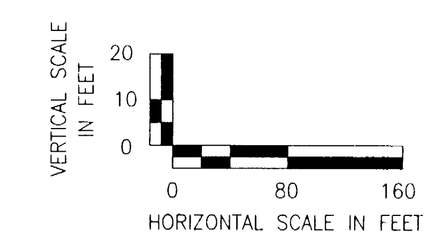
PART	QUAN.	DESCRIPTION	MATERIAL

LEGEND:

- ELECTRICAL LINE BETWEEN SENSORS AND DATA COLLECTOR
- NPAT = NEUTRON PROBE ACCESS TUBE
- W — WIM = WAVEFORM INTERPRETATION MODULE
- F — FREQUENCY DOMAIN CAPACITANCE PROBE
- L — PRESSURE VACUUM LYSIMETER
- X — TIME DOMAIN REFLECTOMETER PROBE
- MET — METEOROLOGICAL MONITORING STATION
- O — NPAT = NEUTRON PROBE ACCESS TUBE

NOTES:

1) NPATs PLACED 2.5' ABOVE TOP OF GRAVEL SUBDRAIN TO AVOID INFLUENCE OF CAPILLARY RISE DURING PERIODS OF HIGH WATER INTERSECTING THE SUBDRAIN.
2) NPATs INSTALLATION REQUIRES PENETRATION OF THE LOW PERMEABILITY LIQUID ASPHALT/ASPHALTIC CONCRETE LAYER. "BOOT" WILL BE USED TO PREVENT MIGRATION OF ANY INFILTRATED LIQUIDS.
3) INSTRUMENTS ARE SHOWN AT APPROXIMATE LOCATIONS. REFERENCE PLAN VIEW DRAWING FOR ACTUAL ELEVATIONS.
4) ONLY A PORTION OF THE TDR ARRAYS ARE PROJECTED ON THE CROSS SECTIONS FOR CLARITY. SEE PLAN VIEW FOR ACTUAL LOCATIONS.



I101-A-000262 pg 13

ISSUE	DESCRIPTION	DATE	RFTS	DOE	CLASS	JOB NO.
B	INSTR. LOCATIONS UPDATED	01/26/95	LJP SAU TEB			
A	ORIGINAL ISSUE		SC SRL TEB JH			R30503.0

KEYWORDS
1. COVER
2. DESIGN
3. PLAN VIEW
4.
5.
BLDG./FACILITY: OU-4 SOLAR PONDS
ROOM/AREA: 207A,207B N,C,S
GRID COOR./COL NO.

DESIGNED	CULLEN	01/26/95
DRAWN	USAGANI	01/26/95
CHECKED	BRODERICK	01/26/95
APPROVED		
SUBMITTED	HAASBEEK	01/26/95

MASTER: YES ☐ NO ☒
SCALE: AS NOTED
APPROVED RFTS
APPROVED DOE

U.S. DEPARTMENT OF ENERGY
ROCKY FLATS AREA OFFICE GOLDEN, COLORADO
EG&G ROCKY FLATS
ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE
GOLDEN, COLORADO 80402

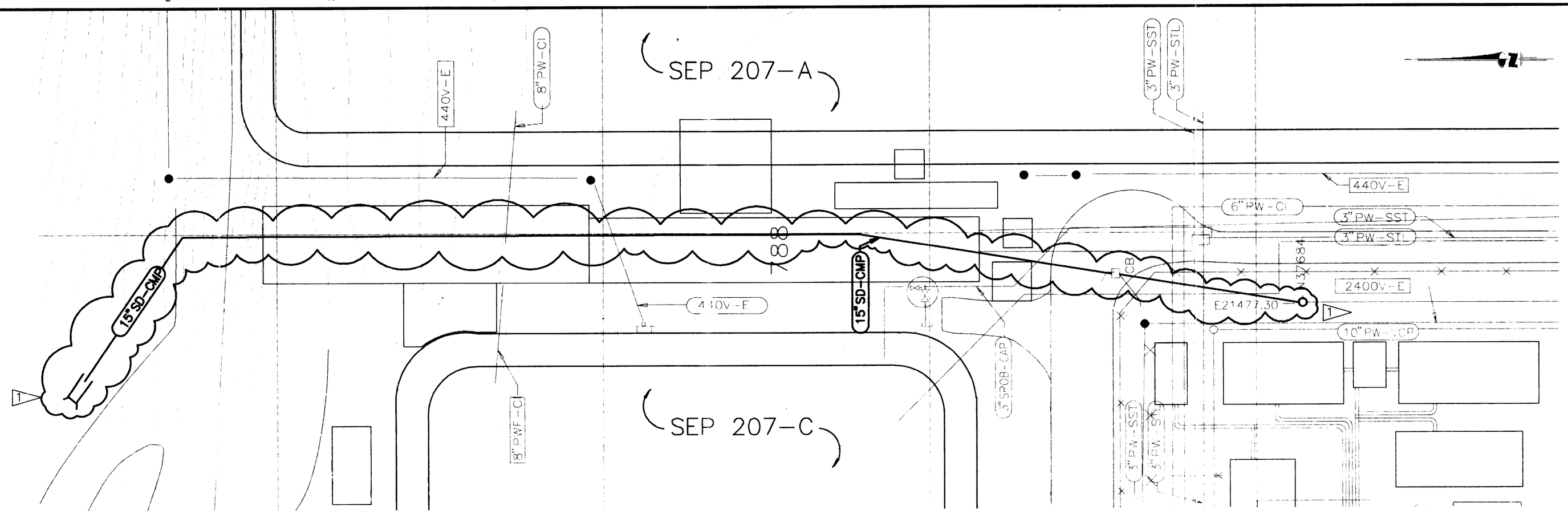
SOLAR EVAPORATION PONDS, OPERABLE UNIT NO. 4 IM/IRA-EA DD

PLAN VIEW OF PROPOSED ENGINEERED COVER AND VADOSE ZONE MONITORING SYSTEMS

SIZE	DRAWING NUMBER	ISSUE	SHEET
D	51045-151	B	1 OF 1

FILENAME = 5104515.DWG PLOT SCALE 1 = 1

"COMPUTER-GENERATED; NO MANUAL CHANGES ALLOWED"



STORM SEWER RELOCATION PLAN

NOTES:

1. THE SUBCONTRACTOR SHALL INSTALL A STORM WATER BYPASS SYSTEM DURING REMOVAL OF THE STORM SEWER PIPE AND SEP EXCAVATION. PROVIDE INTAKE AT MANHOLE N37,684 E21,477.30 WITH DISCHARGE AT EXISTING DISCHARGE LOCATION. INSTALL RELOCATED STORM SEWER PIPE ONCE FINAL GRADE IS ESTABLISHED.

SCALE: HORIZ 1"=20'
VERT 1"=5'

WAITING FOR SURVEY INFORMATION

STORM SEWER RELOCATION PROFILE

0 10 20 40
FEET

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I101-A-000262 pg 12

ISSUE	DESCRIPTION	DATE	RFP	DOE	CLASS	JOB NO.
A	ORIGINAL ISSUE		SC KP SS DM			989618

KEYWORDS	TOLERANCES		BY	DATE
STORM	FRACT. ±	DESIGNED	COLE	1/6/95
SEWER	ANGLE ±	DRAWN	PONTIUS	1/6/95
RELOCATION	DEC. ± UNLESS NOTED OTHERWISE	CHECKED	STENSENG	1/6/95
	REMOVE BURRS AND SHARP EDGES	APPROVED	MYERS	1/6/95
	NEXT ASSEMBLY			
		SUBMITTED		
MASTER ☐ YES ☐ NO	SCALE: 1"=20'	APPROVED RFP		
		APPROVED DOE		

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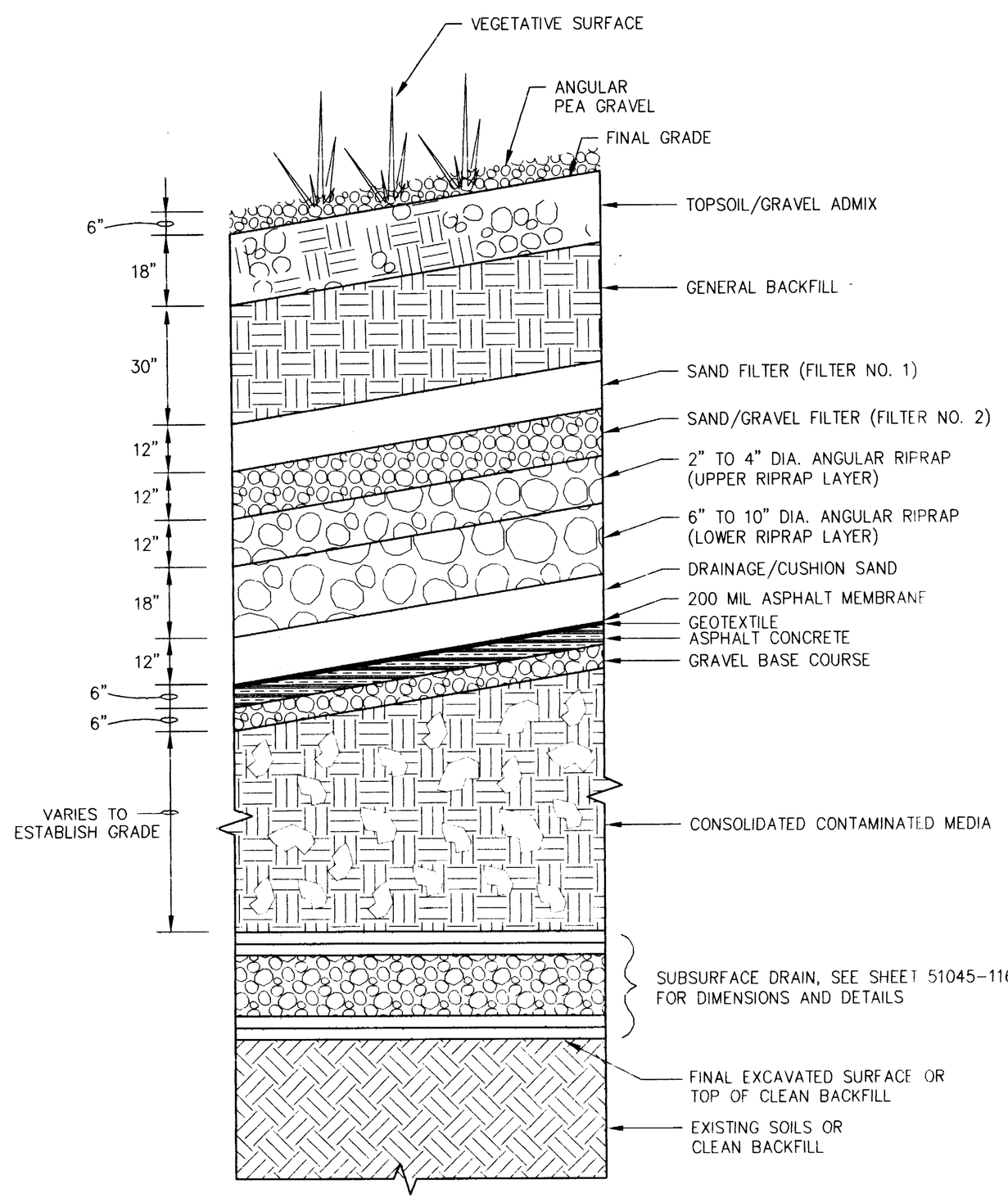
ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE
GOLDEN, COLORADO 80402

OU4 SOLAR EVAPORATION PONDS IM/IRA
SITE DRAINAGE DETAILS

SIZE	DRAWING NUMBER	ISSUE	SHEET
D	51045-131	A	1 OF 1

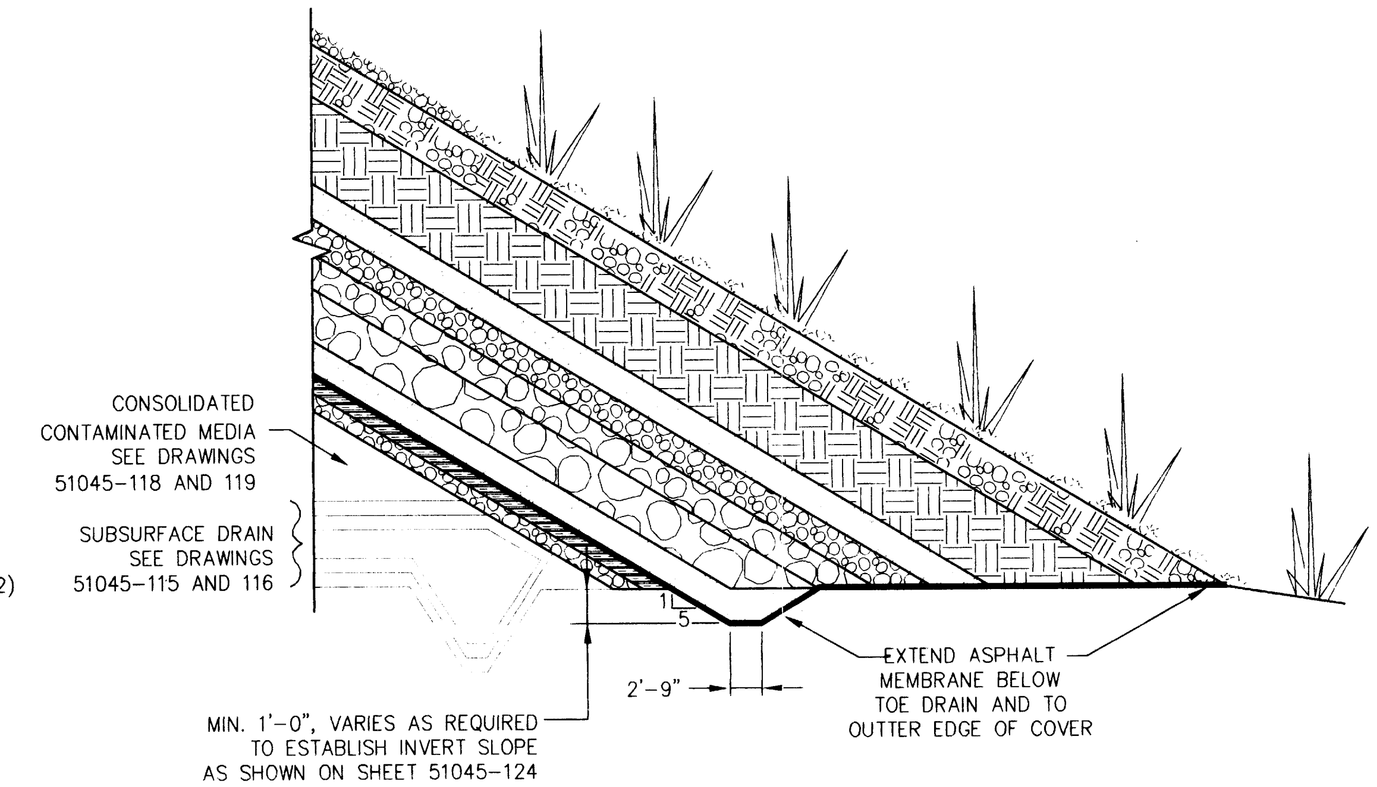
COMPUTER GENERATED DRAWING NO MANUAL CHANGES ALLOWED

94DN1480, 1/6/95 at 13:50



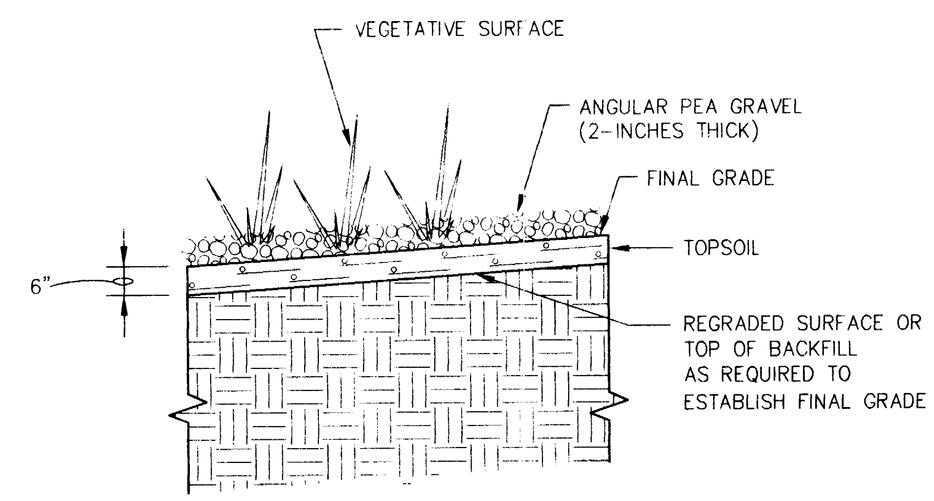
DETAIL 1
TYPICAL ENGINEERED COVER SECTION

51045-122 SCALE: NTS



DETAIL 2
ENGINEERED COVER TOE DRAIN

51045-122 SCALE: NTS



DETAIL 3
TYPICAL RECLAIMED AREAS

51045-122 SCALE: NTS

I 101-A-000262 pg 11

ISSUE	DESCRIPTION	DATE	RFP	DOE	CLASS	JOB NO.
B	ORIGINAL ISSUE		DC	DM		989618

KEYWORDS	TOLERANCES FRACT. ± ANGLE ± DEC. ± UNLESS NOTED OTHERWISE REMOVE BURRS AND SHARP EDGES NEXT ASSEMBLY		BY	DATE
		DESIGNED		
		DRAWN		
		CHECKED		1/6/95
		APPROVED	MYERS	1/6/95
		SUBMITTED		
MASTER	SCALE: NONE	APPROVED RFP		
		APPROVED DOE		

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OU4 SOLAR EVAPORATION PONDS IM/IRA
ENGINEERED COVER SECTIONS AND DETAILS

SIZE	DRAWING NUMBER	ISSUE	SHEET
D	51045-123	B	1 OF 1

PRELIMINARY
60% DESIGN REVIEW
NOT FOR CONSTRUCTION

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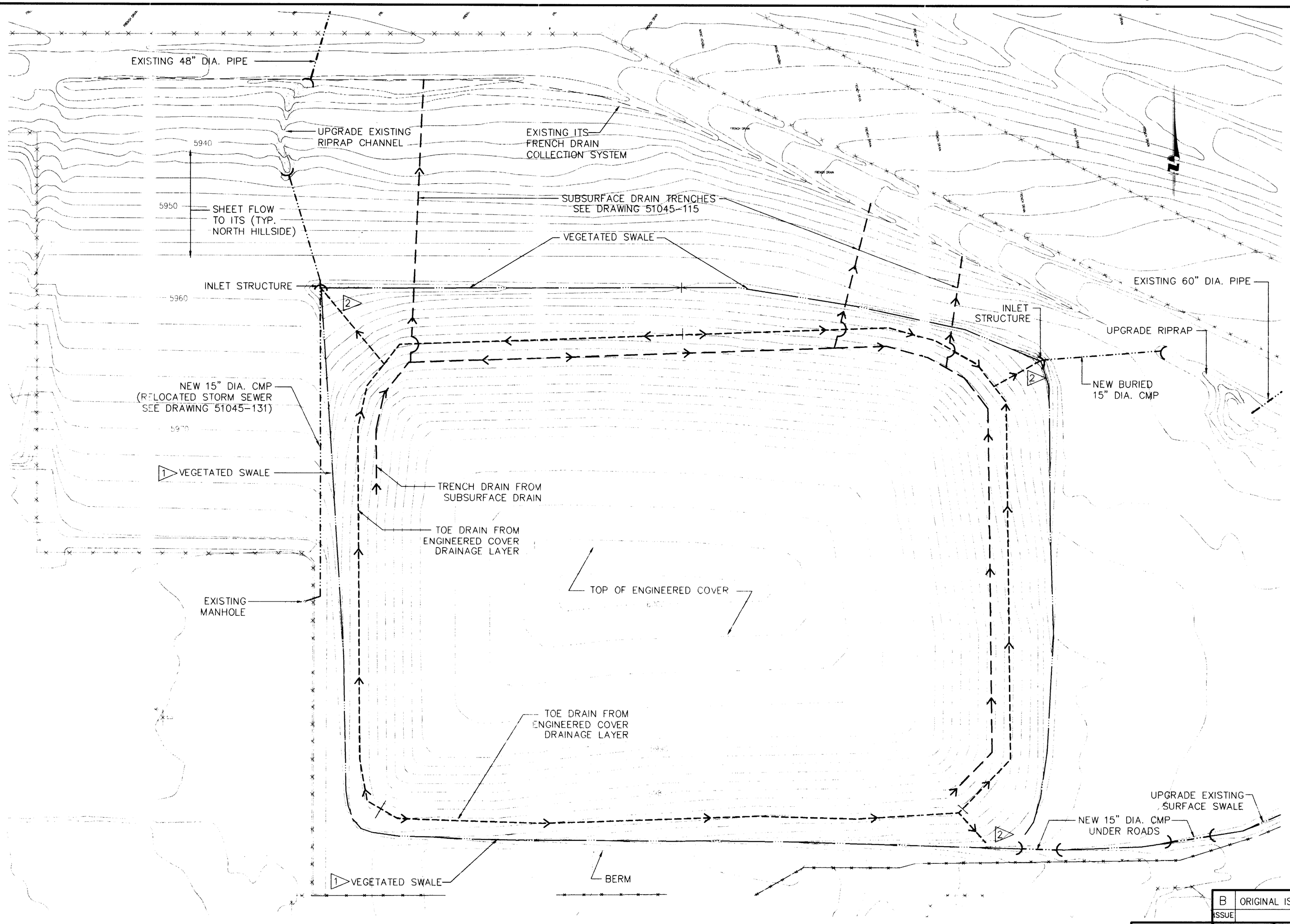
COMPUTER GENERATED DRAWING NO MANUAL CHANGES ALLOWED



NOTES:

1. ALL VEGETATED SWALES SHALL HAVE A MINIMUM SLOPE OF ONE PERCENT
2. AREAS AROUND ENGINEERED COVER TOE DRAIN OUTLETS SHALL BE GRAVEL ARMORED TO A MIN. DEPTH OF 6-INCHES WITH A MIN. WIDTH OF 2-FEET CENTERED ABOUT THE OUTLET AND SHALL EXTEND FROM THE OUTLET TO THE SWALE OR CULVERT INLET.

LEGEND

- BURIED CMP
- VEGETATED SWALES
- SUBSURFACE TRENCH DRAIN
- ENGINEERED COVER TOE DRAIN
- INLETS FROM SURFACE SWALES TO BURIED PIPES
- RIPRAP OR GRAVEL ARMORED AREAS

J101-19-000262 pg 10

ISSUE	DESCRIPTION	DATE	RFP	DOE	CLASS	JOB NO.
B	ORIGINAL ISSUE	SS SS SC DM				989618

KEYWORDS
PLAN VIEW
DRAINAGE
WATER FLOW

MASTER ☐ YES ☐ NO

TOLERANCES FRACT. ± ANGLE ± DEC. ± UNLESS NOTED OTHERWISE
REMOVE BURRS AND SHARP EDGES
NEXT ASSEMBLY
SCALE 1"=60'

	BY	DATE
DESIGNED	STENSENG	1/6/95
DRAWN	STENSENG	1/6/95
CHECKED	COLE	1/6/95
APPROVED	MYERS	1/6/95
SUBMITTED		
APPROVED RFP		
APPROVED DOE		

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OU4 SOLAR EVAPORATION PONDS IM/IRA
DRAINAGE PLAN

SIZE	DRAWING NUMBER	ISSUE	SHEET
D	51045-130	B	1 OF 1

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0 30 60 120
FEET

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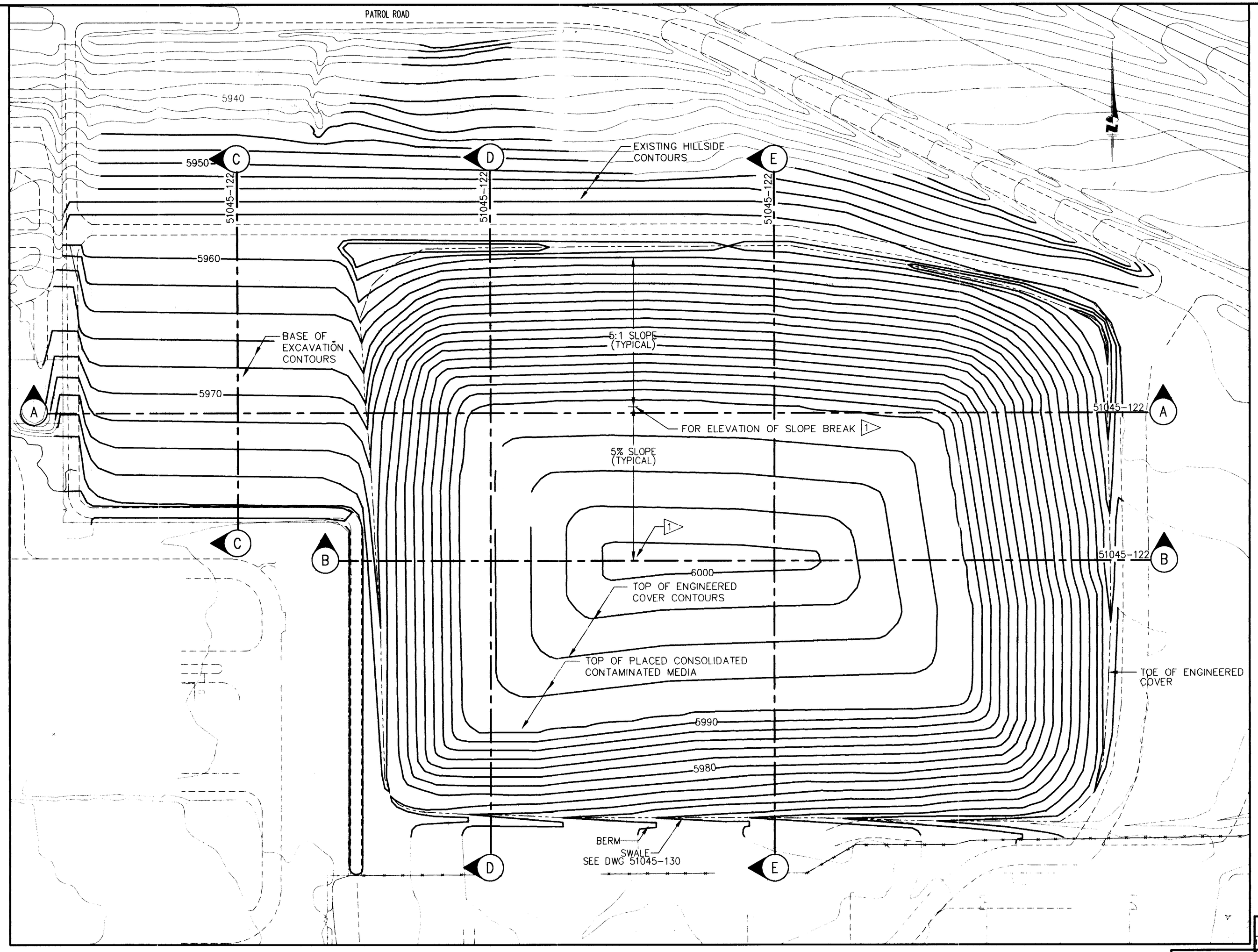
COMPUTER GENERATED DRAWING NO MANUAL CHANGES ALLOWED



LEGEND:

- ENGINEERED COVER CONTOUR LINE
- EXISTING CONTOUR LINE
- TOP OF PLACED WASTE CONTOURS OR BASE OF EXCAVATION BEFORE REGRADING
- ROADWAYS
- TOE OF ENGINEERED COVER

NOTES:

1. FINAL ELEVATIONS FOR SLOPE BREAK AND TOP CREST OF ENGINEERED COVER WILL BE DETERMINED BY FINAL CONFIGURATION OF PLACED WASTE, SEE DRAWINGS 51045-118 AND 119.

PRELIMINARY
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0 30 60 120
FEET

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I101-A-000262 pg 9

ISSUE	DESCRIPTION	DATE	RFP	DOE	CLASS	JOB NO.
B	ORIGINAL ISSUE		SS SS SC DM			989618

KEYWORDS
COVER
DESIGN
PLAN VIEW

TOLERANCES: FRACT. ± ; ANGLE ± ; DEC. ± ; UNLESS NOTED OTHERWISE ; REMOVE BURRS AND SHARP EDGES ; NEXT ASSEMBLY

MASTER ☐ YES ☐ NO

SCALE: 1"=60'

	BY	DATE
DESIGNED	STENSENG	1/6/95
DRAWN	STENSENG	1/6/95
CHECKED	COLE	1/6/95
APPROVED	MYERS	1/6/95
SUBMITTED		
APPROVED RFP		
APPROVED DOE		

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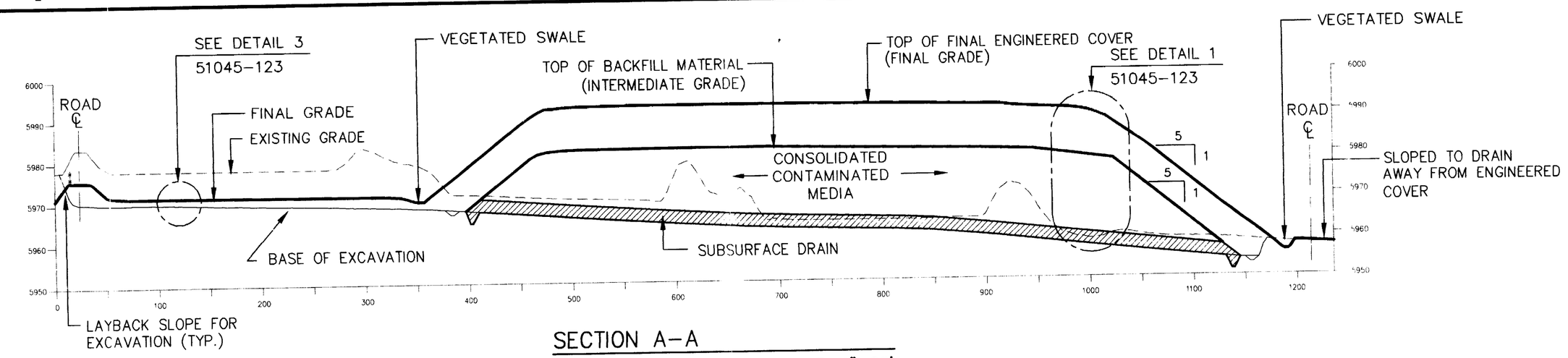
ROCKY FLATS PLANT
GOLDEN, COLORADO 80402

OU4 SOLAR EVAPORATION PONDS IM/IRA
ENGINEERED COVER PLAN

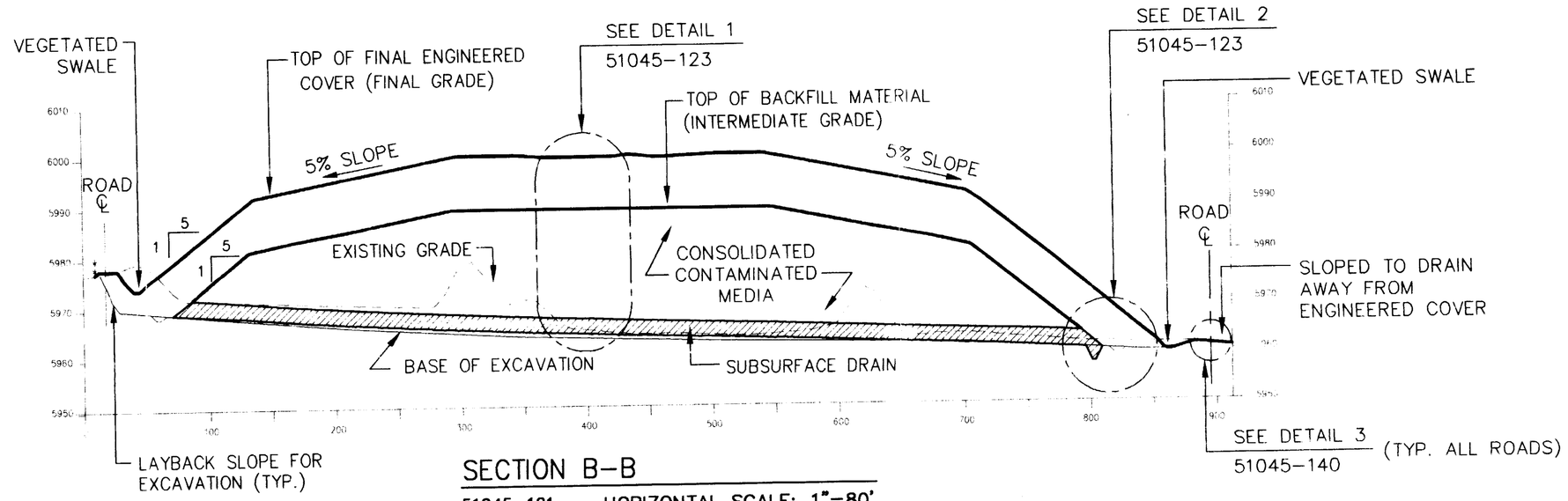
SIZE	DRAWING NUMBER	ISSUE	SHEET
D	51045-121	B	1 OF 1

COMPUTER GENERATED DRAWING NO MANUAL CHANGES ALLOWED



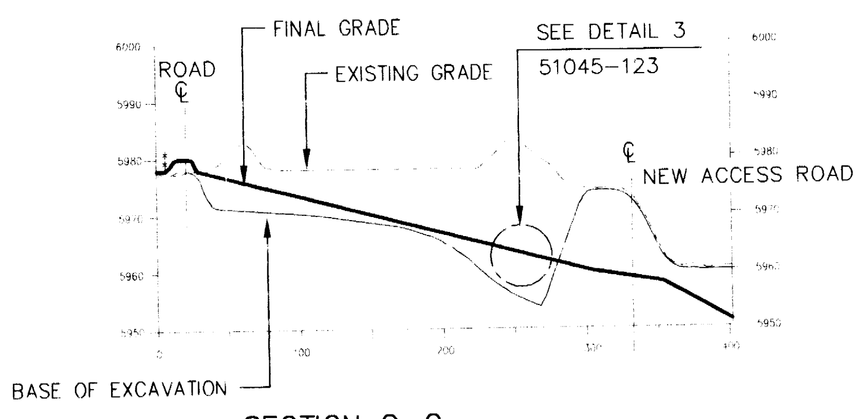
SECTION A-A

51045-121 HORIZONTAL SCALE: 1"=80'
VERTICAL SCALE: 1"=20'



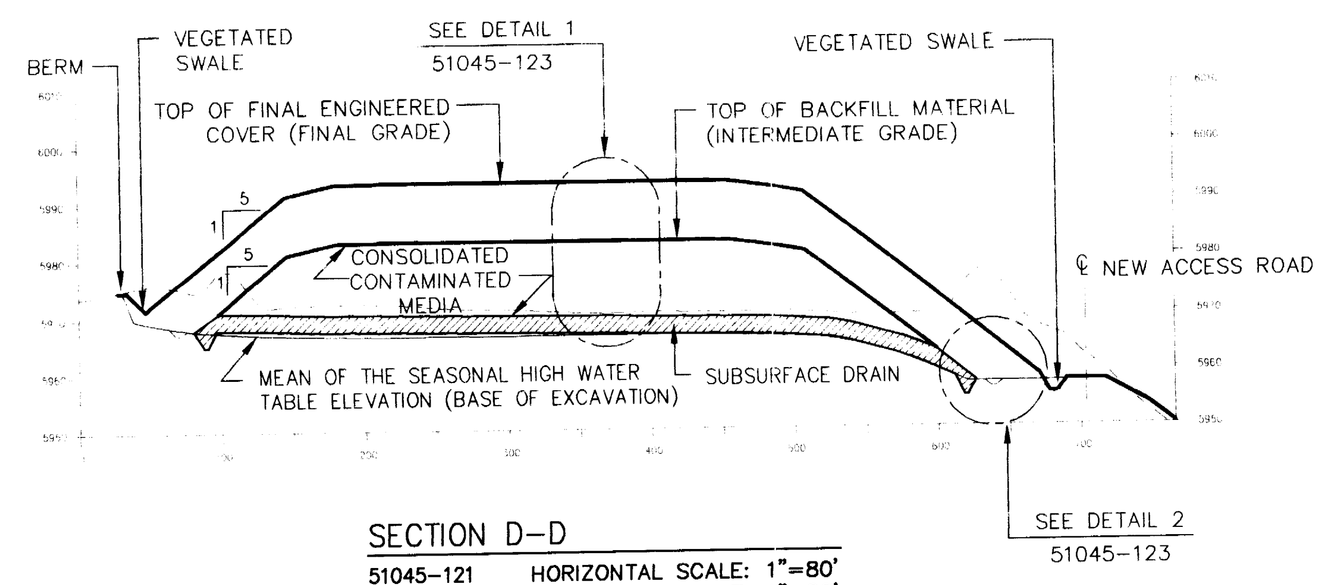
SECTION B-B

51045-121 HORIZONTAL SCALE: 1"=80'
VERTICAL SCALE: 1"=20'



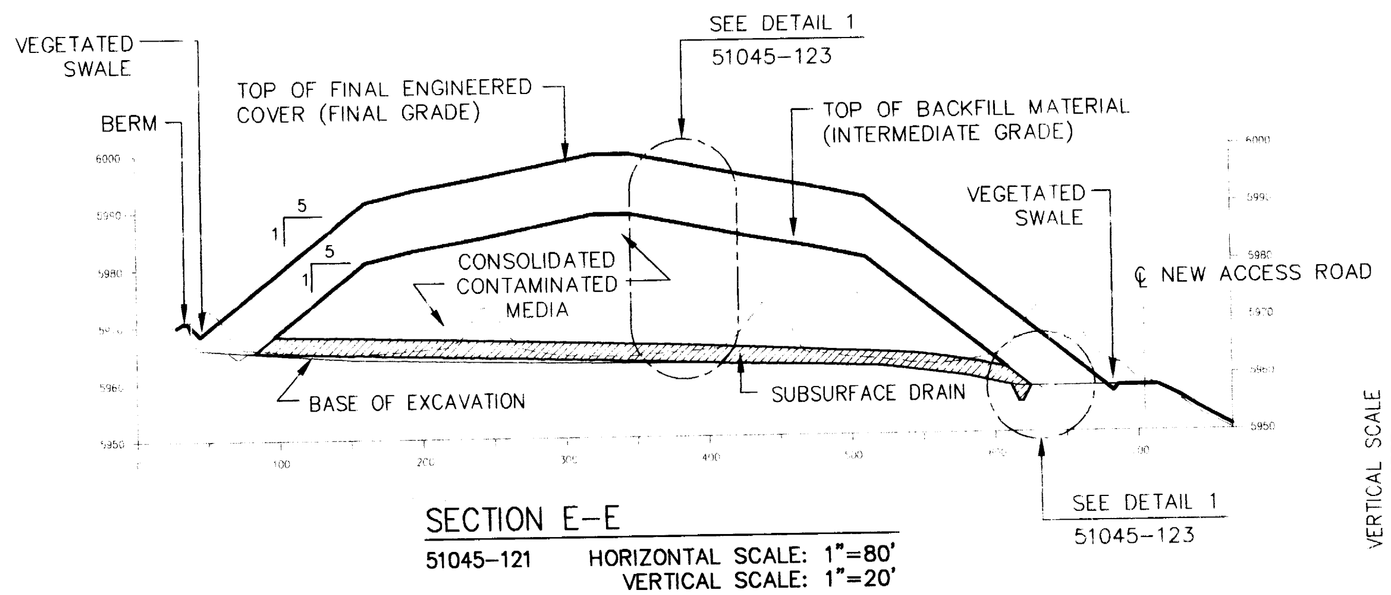
SECTION C-C

51045-121 HORIZONTAL SCALE: 1"=80'
VERTICAL SCALE: 1"=20'



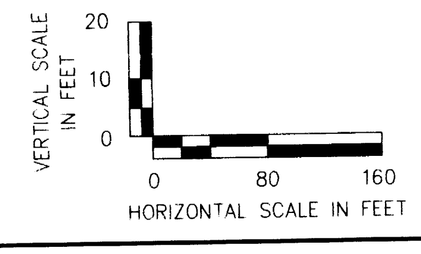
SECTION D-D

51045-121 HORIZONTAL SCALE: 1"=80'
VERTICAL SCALE: 1"=20'



SECTION E-E

51045-121 HORIZONTAL SCALE: 1"=80'
VERTICAL SCALE: 1"=20'



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I101-A-000262 pg 8

ISSUE	DESCRIPTION	DATE	RFP	DOE	CLASS	JOB NO.
B	ORIGINAL ISSUE		SS SS SC DM			989618

KEYWORDS	TOLERANCES		BY	DATE
COVER	FRACT. ±	DESIGNED	STENSENG	1/6/95
DESIGN	ANGLE ±	DRAWN	STENSENG	1/6/95
BARRIER	DEC. ±	CHECKED	COLE	1/6/95
	UNLESS NOTED OTHERWISE	APPROVED	MYERS	1/6/95
	REMOVE BURRS AND SHARP EDGES			
	NEXT ASSEMBLY	SUBMITTED		
MASTER ☐ YES ☐ NO	SCALE: AS NOTED	APPROVED RFP		
		APPROVED DOE		

U.S. DEPARTMENT OF ENERGY
ROCKY FLATS OFFICE GOLDEN, COLORADO

ROCKY FLATS PLANT
GOLDEN, COLORADO 80402

OU4 SOLAR EVAPORATION PONDS IM/IRA
ENGINEERED COVER CROSS-SECTIONS

SIZE	DRAWING NUMBER	ISSUE	SHEET
D	51045-122	B	1 OF 1

COMPUTER GENERATED DRAWING NO MANUAL CHANGES ALLOWED

EXISTING 48" DIA. PIPE
PATROL ROAD
UPGRADED EXISTING RIPRAP CHANNEL
EXISTING ITS FRENCH DRAIN COLLECTION SYSTEM
5940
5950
SUBSURFACE DRAIN TRENCHES SEE DRAWING 51045-115
VEGETATED SWALE
ACCESS ROAD SEE DRAWING 51045-140 (TYP.)
5960
INLET STRUCTURE
INLET STRUCTURE
EXISTING 60" DIA. PIPE
15" DIA. BURIED CMP
DOUBLE ACCESS GATE
RELOCATED STORM SEWER SEE DRAWING 51045-131
ACCESS ROAD
5970
DECON FACILITY
UPGRADED RIPRAP CHANNEL
ACCESS ROAD
TOP OF ENGINEERED COVER
5990
EXISTING MANHOLE
ACCESS ROAD
VEGETATED SWALE
ACCESS ROAD
ADMINISTRATIVE CONTROL FENCE SEE DRAWING 51045-140
5990
5980
UPGRADED SWALE
15" DIA. CMP UNDER ROADS
BERM
VEGETATED SWALE
DOUBLE ACCESS GATE (20' WIDE TYP.)
SINGLE ACCESS GATE (10' WIDE TYP.)

LEGEND

- BURIED CMP
- VEGETATED SWALES
- ITS SYSTEM
- INLETS FROM SURFACE SWALES TO BURIED PIPES
- EXISTING FENCE
- NEWLY CONSTRUCTED FENCE
- SUBSURFACE TRENCHES

NOTES:

0 30 60 120
FEET

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I101-A-000262 pg 6

ISSUE	DESCRIPTION	DATE	RFP	DOE	CLASS	JOB NO.
B	ORIGINAL ISSUE		SS SS SC DM			989618

	BY	DATE
DESIGNED	STENSENG	1/6/95
DRAWN	STENSENG	1/6/95
CHECKED	COLE	1/6/95
APPROVED	MYERS	1/6/95
SUBMITTED		
APPROVED RFP		
APPROVED DOE		

KEYWORDS
PLAN VIEW
COVER
TOPOGRAPHY

MASTER ☐ YES ☐ NO

TOLERANCES FRACT. ± ANGLE ± DEC. ± UNLESS NOTED OTHERWISE
REMOVE BURRS AND SHARP EDGES
NEXT ASSEMBLY
SCALE: 1"=60'

U.S. DEPARTMENT OF ENERGY
ROCKY FLATS OFFICE GOLDEN, COLORADO

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OU4 SOLAR EVAPORATION PONDS IM/IRA
FINAL SITE PLAN

SIZE	DRAWING NUMBER	ISSUE	SHEET
D	51045-112	B	1 OF 1

COMPUTER GENERATED DRAWING NO MANUAL CHANGES ALLOWED

INDEX OF DRAWINGS

SHEET NO.	DRAWING NO.	ISSUE	TITLE
1	51045-100	A	COVER SHEET
1	51045-101	B	INDEX OF DRAWINGS
1	51045-110	B	SITE PLAN
1	51045-111	A	LIMITS OF REMEDIATION
1	51045-112	B	FINAL SITE PLAN
1	51045-121	B	ENGINEERED COVER PLAN
1	51045-122	B	ENGINEERED COVER CROSS-SECTIONS
1	51045-123	B	ENGINEERED COVER SECTIONS AND DETAILS
1	51045-130	B	DRAINAGE PLAN
1	51045-131	B	SITE DRAIN DETAILS
1	51045-151	A	PLAN VIEW OF PROPOSED ENGINEERED COVER AND VADOSE ZONE MONITORING SYSTEMS
1	51045-152	A	PLAN VIEW OF PROPOSED ENGINEERED COVER AND VADOSE ZONE MONITORING SYSTEMS
1	51045-153	A	POTENTIOMETRIC SURFACE AND GROUNDWATER FLOW VECTORS FOR ALLUVIUM/COLLUVIUM
1	51045-154	A	POTENTIOMETRIC SURFACE AND GROUNDWATER FLOW VECTORS FOR WEATHERED BEDROCK
1	51045-155	A	PLAN VIEW OF PROPOSED ENGINEERED COVER AND VADOSE ZONE MONITORING SYSTEM
1	51045-430	B	UTILITIES REMOVAL SITE MAP
1	51045-434	B	UTILITIES REMOVAL DETAILS
1	51045-435	B	UTILITIES LIST SHEET 1
1	51045-436	B	UTILITIES LIST SHEET 2

I101-A-000262 pg 4

PRELIMINARY
NOT FOR CONSTRUCTION

PARSONS ENGINEERING SCIENCE, INC.
Denver, Colorado (303) 831-8100

ISSUE	DESCRIPTION
B	ORIGINAL ISSUE

DATE	RFP	DOE	CLASS	JOB NO.
	HH KP PN			989618

KEYWORDS: LIST, COVER, DESIGN

TOLERANCES UNLESS NOTED OTHERWISE: FRACT. ±, ANGLE ±, DEC. ±; REMOVE BURRS AND SHARP EDGES; NEXT ASSEMBLY

MASTER: ☐ YES ☐ NO

SCALE: NONE

	BY	DATE
DESIGNED	HEIDKAMP	5/12/94
DRAWN	PONTIUS	5/12/94
CHECKED	NIXON	5/12/94
APPROVED		
SUBMITTED		
APPROVED RFP		
APPROVED DOE		

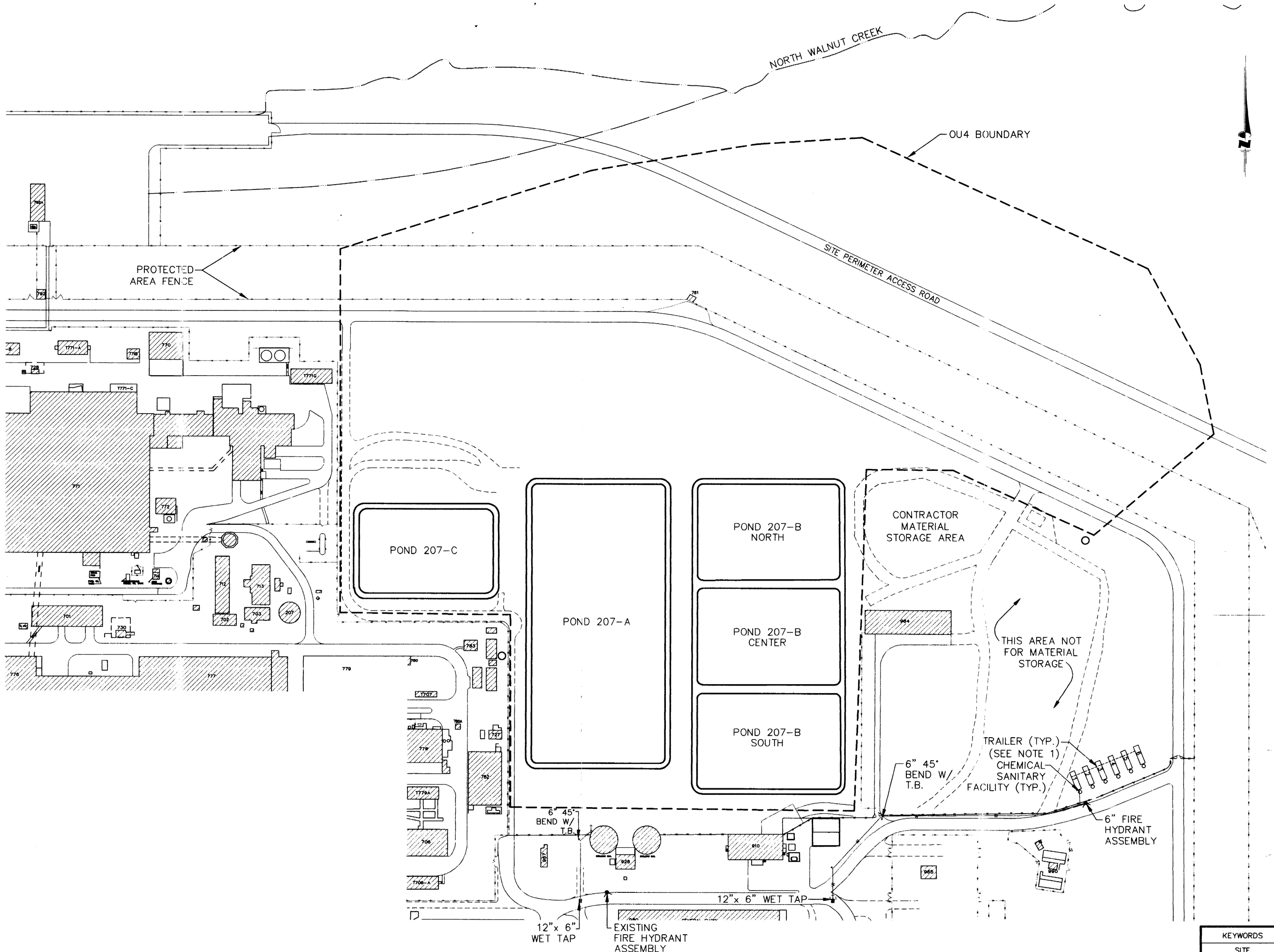
U.S. DEPARTMENT OF ENERGY
ROCKY FLATS OFFICE GOLDEN, COLORADO

ROCKY FLATS PLANT
GOLDEN, COLORADO 80402

OU4 SOLAR EVAPORATION PONDS IM/IRA
INDEX OF DRAWINGS

SIZE	DRAWING NUMBER	ISSUE	SHEET
D	51045-101	B	1 OF 1

COMPUTER GENERATED DRAWING NO MANUAL CHANGES ALLOWED



LEGEND:

- STREAMS
- ROADS
- BUILDINGS
- EXISTING FENCE
- NEW FENCE
- OU4 BOUNDARY
- ABOVE-GROUND ELECTRIC LINES

NOTES:

1. TRAILERS PROVIDED FOR INDICATED BY NUMBER
   1 – PROJECT FIELD OFFICE
   2 – CONTRACTOR FIELD OFFICE
   3 – BREAK TRAILER
   4 – MOBILE LABORATORY
   5 – CHANGE TRAILER
   6 – SHOWER TRAILER
2. SANITARY SEWER LINE FROM SHOWER TRAILER TIED INTO EXISTING BURIED 12" PVC SANITARY SEWER LINE.
3. DOMESTIC COLD WATER SUPPLY TO SHOWER TRAILER TIED INTO EXISTING BURIED 10" DOMESTIC COLD WATER LINE.
4. TELEPHONE AND ELECTRICAL LINES TO TRAILERS TIED INTO BUILDING 910 CONNECTIONS.

PRELIMINARY
NOT FOR CONSTRUCTION

PARSONS ENGINEERING SCIENCE, INC.
Denver Colorado (303) 831-8100

J101-A-000262 pg 5

ISSUE	DESCRIPTION	DATE	RFP	DOE CLASS	JOB NO.
A	ORIGINAL ISSUE	PN SH RL			989618

KEYWORDS	TOLERANCES		BY	DATE
SITE	FRACT. ±	DESIGNED	NIXON	8/29/94
COVER	ANGLE ±	DRAWN	HUGHES	8/29/94
PLAN VIEW	DEC. ± UNLESS NOTED OTHERWISE	CHECKED	LUX	8/29/94
	REMOVE BURRS AND SHARP EDGES	APPROVED		
	NEXT ASSEMBLY	SUBMITTED		
MASTER ☐ YES ☐ NO	SCALE: 1"=100'	APPROVED RFP		
		APPROVED DOE		

U.S. DEPARTMENT OF ENERGY
ROCKY FLATS OFFICE GOLDEN, COLORADO

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE
GOLDEN, COLORADO 80402

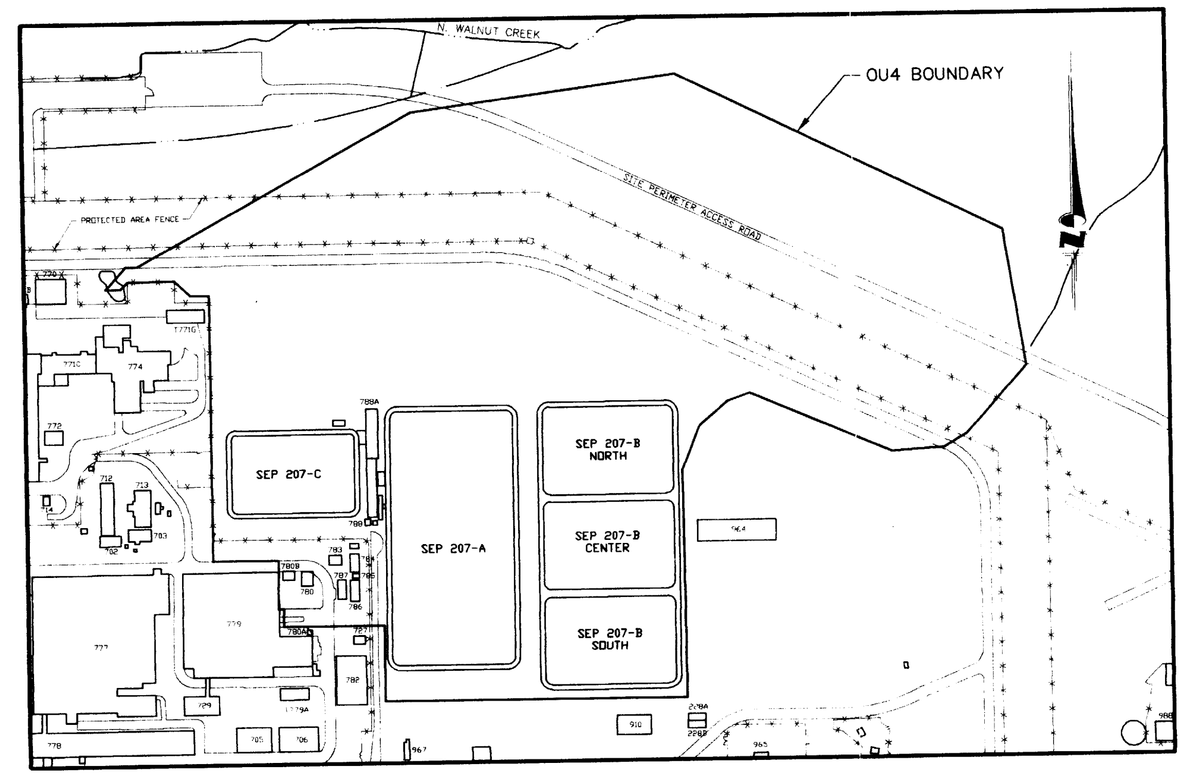
OUR SOLAR EVAPORATION PONDS IM/IRA
SITE PLAN-EXISTING CONDITIONS/DEMO PLAN

SIZE	DRAWING NUMBER	ISSUE	SHEET
D	51045-110	B	1 OF 1

COMPUTER GENERATED DRAWING NO MANUAL CHANGES ALLOWED

U.S. DEPARTMENT OF ENERGY

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE



FACILITIES ENGINEERING
GOLDEN, CO. 80402-0464

PRELIMINARY
NOT FOR CONSTRUCTION

PARSONS ENGINEERING SCIENCE, INC.
Denver, Colorado (303) 831-8100

I101-A-000262 pg 3

ISSUE	DESCRIPTION	DATE	RFP	DOE	CLASS	JOB NO.
A	ORIGINAL DESIGN		HH MW PN			989618

KEYWORDS			BY	DATE
	TOLERANCES FRACT. ± ANGLE ± DEC. ± UNLESS NOTED OTHERWISE	DESIGNED	HEIDKAMP	2/23/94
		DRAWN	MW	2/23/94
		CHECKED	NIXON	2/23/94
	REMOVE BURRS AND SHARP EDGES	APPROVED		
	NEXT ASSEMBLY			
		SUBMITTED		
MASTER	SCALE: NONE	APPROVED RFP		
		APPROVED DOE		

U.S. DEPARTMENT OF ENERGY
ROCKY FLATS OFFICE GOLDEN, COLORADO

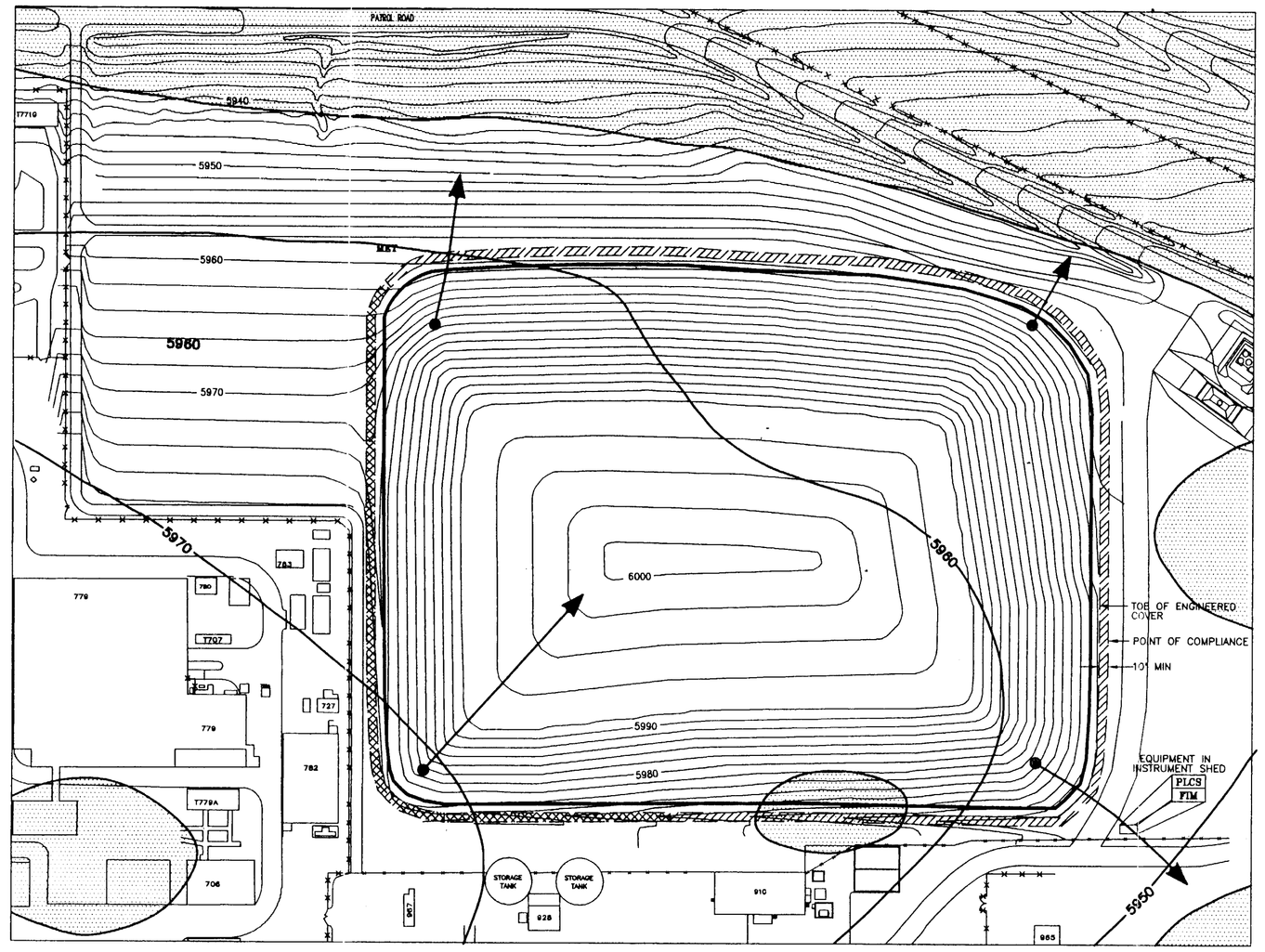
ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE
GOLDEN, COLORADO 80402

OU4 SOLAR EVAPORATION PONDS IM/IRA
COVER SHEET

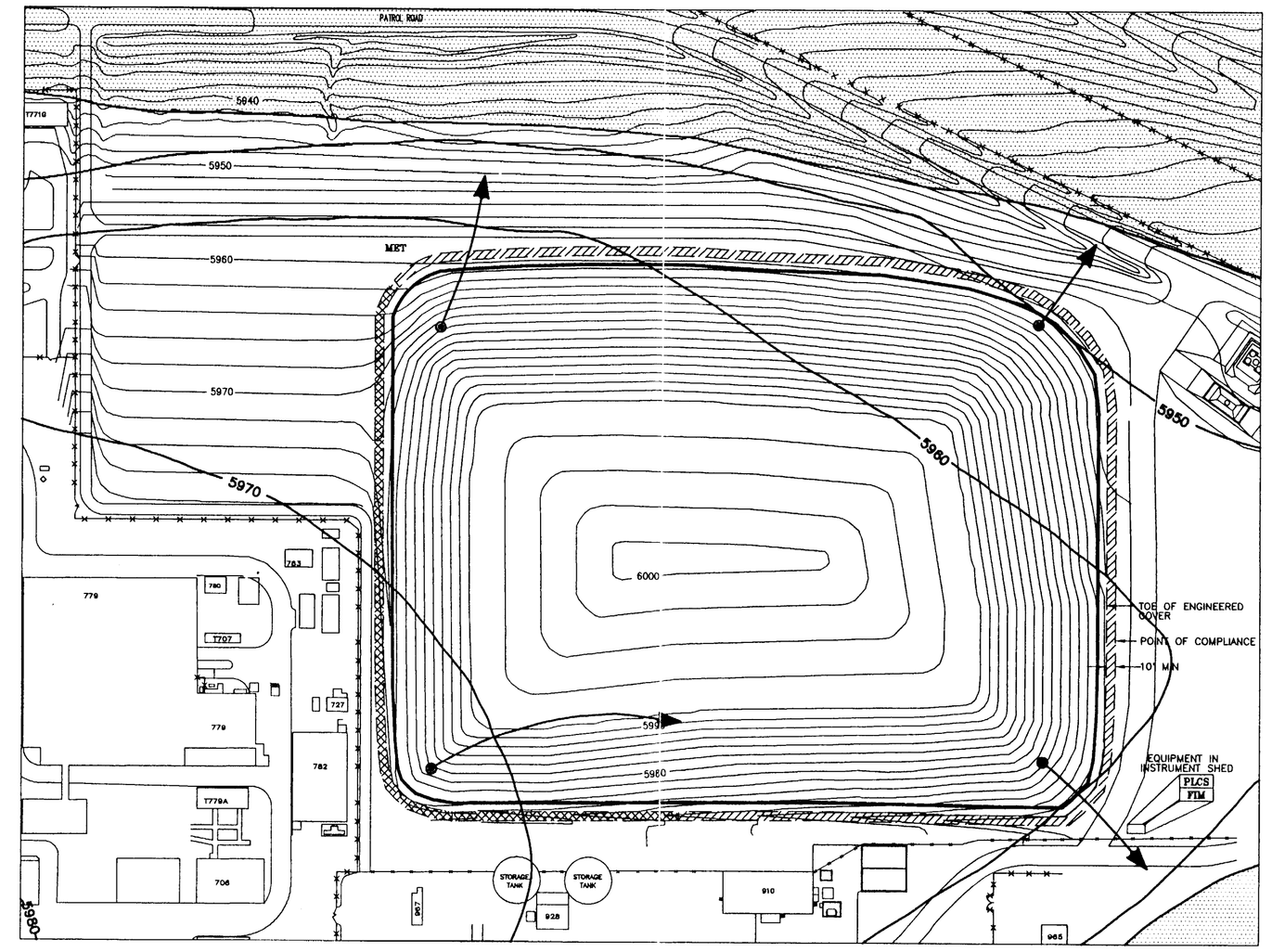
SIZE	DRAWING NUMBER	ISSUE	SHEET
D	51045-100	A	1 OF 1

COMPUTER GENERATED DRAWING NO MANUAL CHANGES ALLOWED

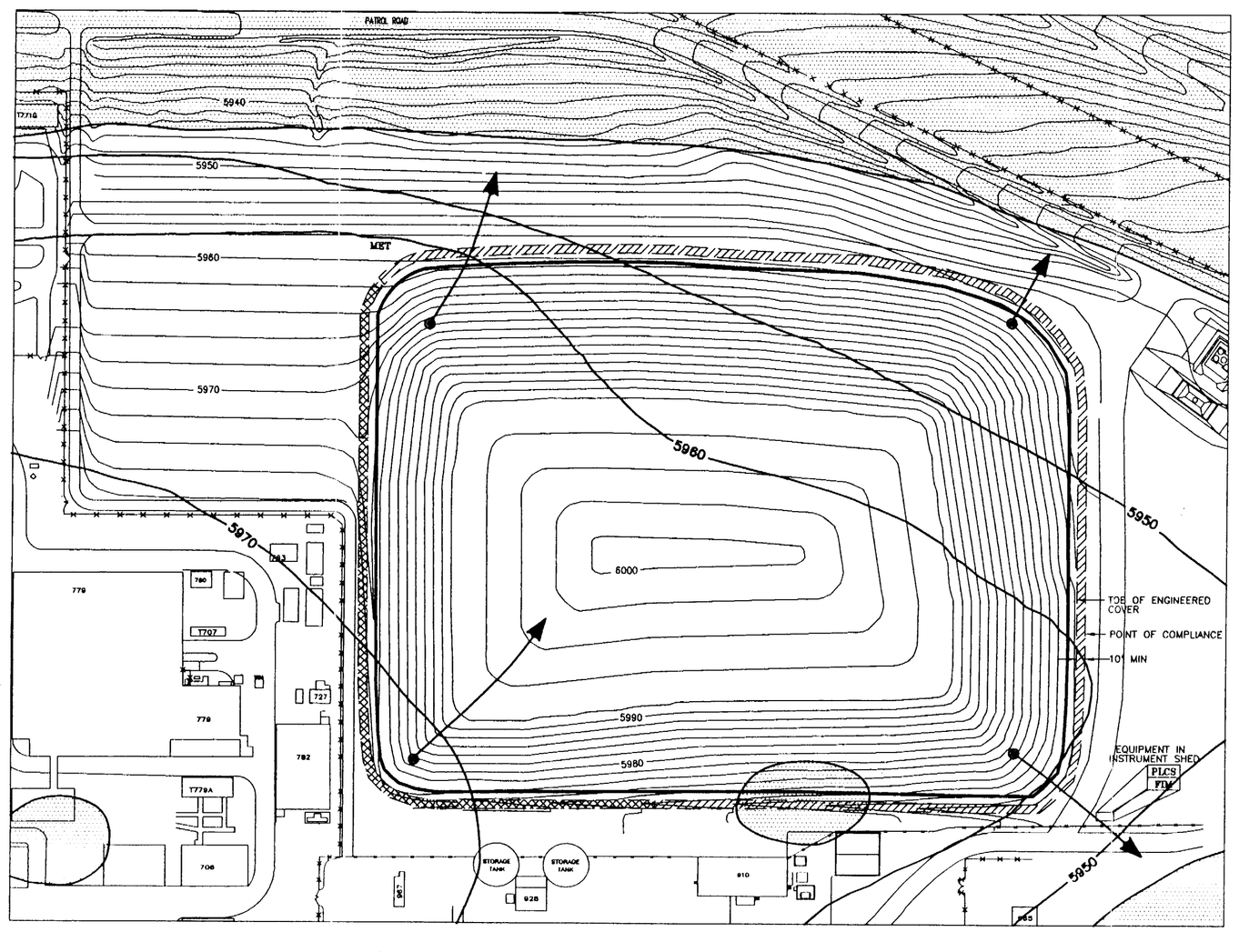
94DN0074, 1 18/95 at 10:00



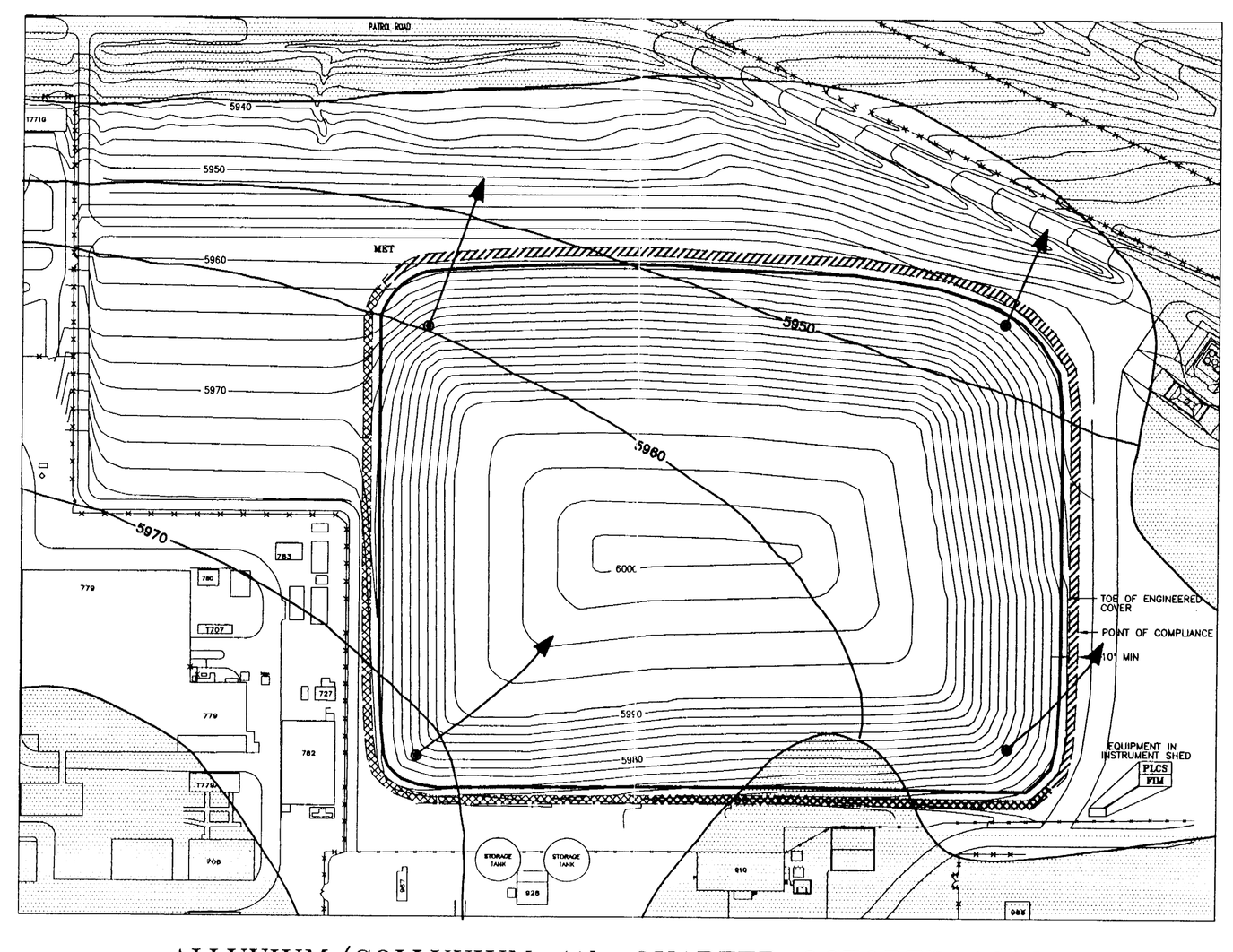
ALLUVIUM/COLLUVIUM 1st QUARTER JANUARY 1992 *



ALLUVIUM/COLLUVIUM 2nd QUARTER APRIL 1992 *



ALLUVIUM/COLLUVIUM 3rd QUARTER JULY 1992 *



ALLUVIUM/COLLUVIUM 4th QUARTER OCTOBER 1992 *

PART	QUAN.	DESCRIPTION	MATERIAL

LEGEND:

- UPGRADIENT PORTION OF POINT OF COMPLIANCE(POC)
- DOWNGRADIENT PORTION OF POINT OF COMPLIANCE(POC)
- 5960 — EQUIPOTENTIAL LINE (FEET ABOVE MEAN SEA LEVEL)
- GROUND WATER FLOW VECTOR
- ESTIMATED CORNER OF WASTE (ORIGIN OF GROUND WATER FLOW VECTOR)
- AREA OF UNSATURATED SURFICIAL MATERIALS

NOTES:

1) * MODIFIED FROM THE 1992 ANNUAL RCRA GROUNDWATER MONITORING REPORT.

N W E S

120' 60' 0 120' 240'

J 101-A-000262 pg 15

ISSUE	DESCRIPTION	DATE	RFP	DOE	CLASS	JOB NO.
B	CAP DESIGN UPDATES	01/26/95	LJP	SAU TEB SRL		
A	ORIGINAL ISSUE					

KEYWORDS
1.
2.
3.
4.
5.
BLDG./FACILITY
ROOM/AREA
GRID COOR./COL NO.

MASTER YES ☐ NO ☒

SCALE: AS NOTED

DESIGNED	PIVONKA
DRAWN	USAGANI
CHECKED	BRODERICK
APPROVED	
SUBMITTLD	
APPROVED RFP	
APPROVED DOE	

U.S. DEPARTMENT OF ENERGY
ROCKY FLATS AREA OFFICE GOLDEN,COLORADO

EG&G ROCKY FLATS
ROCKY FLATS PLANT
GOLDEN, CO

SOLAR EVAPORATIONS PONDS, OPERABLE UNIT NO. 4 IM/IRA-EA DD

POTENTIOMETRIC SURFACE AND GROUNDWATER FLOW VECTORS FOR ALLUVIUM/COLLUVIUM

SIZE	DRAWING NUMBER	ISSUE	SHEET
D	51045-153	B	OF

BLDG FAC.
ROOM AREA
H Htg-Vent
A Arch
G GL Box
E Elec
D Detection
M Mech
I Inst
B Building
T Title
C Civil
U Utilities
P Piping
Fire Prot.
L Layouts
F Flow Diag
S Side
X Alarms

FILENAME = ALUV1234.DWG PLOT SCALE 1 = 120

"COMPUTER-GENERATED; NO MANUAL CHANGES ALLOWED"

Item No.	Line Designation	Service	Origin	Destination	Location (N&E Coord) Measured	Status Active or Inactive	Action	Depth	Reference Number(s)	Drawing Number Reference	Remarks	Approximate Length (ft)
26	10"-FD-CAP	Foundation Drain	Bldg 779	Hillside North of Ponds	N38000, E21300	Inactive [2]	Leave	4' to 8'	82,116, 119,122, 126	N.A.		N/A
27	440V-E	Power	Pole @ NW Corner of Bldg 967	North/parallel to West berm 207A to poles SE of Bldg 788	N37452, E21519 North to N37768, E21517	Inactive [2]	Remove/ Relocate	Overhead	N.A.	15501-14-M 15501-22-M		316
28	T	Telephone	Plantwide	Bldg 788	N37443, E21522 NW to N37457, E21508 N NW to N37784, E21500	Inactive [2]	Remove/ Relocate	4' to 8'	N.A.	15501-14-M 15501-22-M		350
29	6"-PW-VCP	Process Waste	Plantwide N37335, E22652	Intercept 10"-PW-VCP @ N37400, E21492 (manhole)	N37400, E22205 East to N37400, E21492	Inactive [2]	Leave	4' to 8'	182	15501-22-M 15501-23-M	P-39 (OU9)	N/A
30	6"-ROPW-PVC	Reverse Osmosis Product Water	Valved Conn. @ 6"SE-CAP (N37396, E22075)	Storage Tank 215D	N37396, E22075 West to N37396, E21711 South to N37320, E20711 East to N37320, E21736	Inactive [2]	Leave	4' to 8'	N.A.	15501-22-M		N/A
31	6"-ROPW-PVC	Reverse Osmosis Product Water	Bldg 910	Ties into East-West 6" Item 30 ROPW-PVC @ N37396, E 21907	N37347, E21907 (North side Bldg 910) North to N37396, E21907	Inactive [2]	Remove	4' to 8'	N.A.	15501-22-M		49
32	8"-ROF-PVC	Reverse Osmosis Feed	Storage Tank 215D	Bldg 910 & continues east as 6"-SE-CAP	N37390, E21714 East to N37390, E21977 South to N37347, E21977	Inactive [2]	Leave	4' to 8'	N.A.	15501-22-M		N/A
33	6"-ROPW-PVC	Reverse Osmosis Product Water	Bldg 910	6"-PW-VCP	N37347, E21902 North to N37365, E21902 West to N37365, E21809 North to N37400, E21809	Inactive [2]	Leave	4' to 8'	N.A.	15501-22-M		N/A
34	3"-SROB-CAP	Secondary Reverse Osmosis Brine	Bldg 910	Pond 207B South	N37347, E21919 North to N37432, E21919 Pond 207B Daylights over south berm	Inactive [2]	Remove	8'	320	15501-22-M 28103-201		85
35	3/4" E-PVC	Liquid Level Sensor Cables	Bldg 910	Pond 207B South	N37347, E21917 North to N37432, E21917 Pond 207B	Inactive [2]	Remove	4' to 8'	N.A.	15501-22-M		85
36	8"-PW-CAP	Process Waste	Bldg 910	Pond 207A	N37347, E21905 North to N37389, E21905 West to N37389, E21818 North to N37952, E21818 West to N37952, E21768 Pond 207A (N.E. Corner)	Inactive [2]	Remove	8'	251,227, 273,280	15501-14-M 15501-22-M		742
37	8"-RW-CAP	Raw water	8"-ROF-PVC	Pond 207A	N37390, E21821 North to N37717, E21821 West to N37717, E21768 Pond 207A	Inactive [2]	Leave	4' to 8'	252,292, 285	15501-14-M 15501-22-M		N/A
38	12"-OS-CMP	Outfall Sewer	Pumphouse	Daylights on North Side of Ponds 207A and 207B	N37976, E21814 North to N38018, E21814	Inactive [2]	Remove	4' to 8'	273,274, 247	15501-14-M		42
39	1-1/2"-DCW-STL	Domestic Cold Water	3"-DCW-STL @ N37245, E21813 (Plantwide)	(2) valve boxes between pond 207A & 207B South	N37245, E21813 North to N37502, E21813 1st Valve Box North to N37560, E21813 2nd Valve Box	Inactive [2]	Remove to Toe at N 37245	4' to 8'	289,299	27452-209		315
40	3"-SROB-CAP 3"-ROPW-CAP 3"-SROP-CAP 6"-SE-CAP	Secondary Reverse Osmosis Brine Reverse Osmosis Product Water Secondary Reverse Osmosis Product Solar Evap ?	Bldg 910	S.E. Corner Pond 207A	N37347, E21900 North to N37364, E21900 West to N37364, E21805 North to N37486, E21805 West to Pond 207A N37486, E21785	Inactive [2]	Leave	4' to 8'	253,294, 290	27452-209 27452-210		254

Item No.	Line Designation	Service	Origin	Destination	Location (N&E Coord) Measured	Status Active or Inactive	Action	Depth	Reference Number(s)	Drawing Number Reference	Remarks	Approximate Length (ft)
41	8"-ROF-CAP	Reverse Osmosis Feed	Bldg 910	Pond 207B Center and Pond 207B South (Via valve boxes between Ponds)	N37347, E21967 North to N37400, E21967 West to N37400, E21810 North to N37616, E21810 East to N37616, E21880 North to Pond 207B Center N37646, E21880 & South to Pond 207B South N37584, E21880	Inactive [2]	Remove	4' to 8'	288,293	27452-209 15501-14-M 15501-22-M	27452-209 15501-14-M 15501-22-M	588
42	3"-PW-PVC	Process Waste	Riser (18" A.G.) at east side Pond 207B (North)	Daylights Towards Walnut Creek	N37900, E22136 North to N38099, E22137 N.W. to N38226, E21945 N.N.E. to N38644, E22140 North to N38740, E22140	Inactive [2]	Leave in Place & Reroute	4' to 8'	327,348, 355,371	27452-209 15501-14-M 15501-15-M 15501-6-M 15501-7-M	Runs parallel to Item 43	N/A
43	3"-PW-PVC	Process Waste	East of Pond 207B (North)	To sump, overflow to daylight towards Walnut Creek	N37830, E22137 North to N38099, E22137 N.W. to N38226, E21946 N.N.E. to N38646, E22146 (sump) North to N38714, E22144 (daylights)	Inactive [2]	Leave in Place & Reroute	4' to 8'	347,354, 365,377, 373	15501-14-M 15501-15-M 15501-6-M 15501-7-M 27452-209	Ties into Item 22 @N37880, E22137	N/A
44	6"-Tile Drain	Ground Water Runoff	Manway at S.E. Corner of Pond 207B South	Daylights N.E. of 207B North to Road Ditch	N37423, E22122 North to N38055, E22144	Inactive [2]	Remove	4' to 8'	N.A.	16887-1		650
45	8"-PW-CI	Process Waste	Pond 207B North	Pump House	N37971, E21834 West to N37971, E21816 (Pump House)	Inactive [2]	Remove	4' to 8'	275	15501-14-M	P-50 (OU9)	20
46	8"-PW-CI (8"-PCWF-CI)	Process Waste	Pump House	Pond 207A	N37961, E21806 (Pump House) South to N37956, E21806 W.S.W. to N37954, E21767 Pond 207A	Inactive [2]	Remove	4' to 8	276	15501-14-M	P-50 (OU9)	50
47	3" Above Ground Transfer Line	ITS Transfer Line	Valve Pit Between 207A & 207B South	Bldg 374		Active	Relocate	N/A	N/A	N/A		650
48	3" PVC	PUMP DISCHARGE LINE	UNDERGROUND PUMP @ BLDG 910	SROTM SEWER NORTH OF BLDG 910 TRUCK PAD	N37354, E 21909 EAST TO N37354, E21911 NORTH TO N37368, E21911 N.E. TO N37406, E22019 (FRENCH DRAIN)	Active	LEAVE IN PLACE	3' MIN		39365-499 C	BLDG 910 - FRENCH DRAIN U/G PUMP DISCHARGE LINE	130

NOTE:

1. INFORMATION IS ESTIMATED FROM INCOMPLETE HISTORICAL DRAWINGS AND/OR PROCESS KNOWLEDGE.
2. ASSUMED INACTIVE.
3. SEE DRAWING 51045-430 FOR ITEM LOCATIONS.

PRELIMINARY
60% DESIGN REVIEW
NOT FOR CONSTRUCTION

PARSONS ENGINEERING SCIENCE, INC.
Denver Colorado (303) 831-8100

I101-A-000262 pg 21/21

ISSUE	DESCRIPTION	DATE	SH	JH	PL	DM	DOE	CLASS	JOB NO.
B	CONCEPTUAL DESIGN	RFP							989618

KEYWORDS: UNDERGROUND UTILITIES REMOVAL LIST

TOLERANCES: FRACT. ± ANGLE ± DEC. ± UNLESS NOTED OTHERWISE. REMOVE BURRS AND SHARP EDGES. NEXT ASSEMBLY

	BY	DATE
DESIGNED	HUGHES	1/6/95
DRAWN	HEALY	1/6/95
CHECKED	LEMKE	1/6/95
APPROVED	MYERS	1/6/95
SUBMITTED		
APPROVED RFP		
APPROVED DOE		

MASTER ☐ YES ☐ NO

SCALE: NONE

U.S. DEPARTMENT OF ENERGY
ROCKY FLATS OFFICE GOLDEN, COLORADO

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE
GOLDEN, COLORADO 80402

OU4 SOLAR EVAPORATION PONDS IM/IRA
UTILITIES LIST

SIZE	DRAWING NUMBER	ISSUE	SHEET
D	51045-436	B	1 OF 1

COMPUTER GENERATED DRAWING NO MANUAL CHANGES ALLOWED

Item No.	Line Designation	Service	Origin	Destination	Location (N&E Coord) Measured	Status Active or Inactive	Action	Depth	Reference Number(s)	Drawing Number(s) Reference	Remarks	Approximate Length (ft)
1	1-1/2" PW-SST (PVC) 1-1/2" PWF-SST (PVC)	Process Waste	Bldg. 771	Pond 207A [1]	N38072, E21082 SE to N38032, E21146 E, SE to N38014, E21530 East to N38014, E21730 S, SE to N37950, E21734	Inactive [2]	Remove to Fence	4' to 8'	30,59,78, 115,196, 224,227	15501-14-M 15501-13-M	P-26 (OU9)	628
2	3"-LD-STL	Laundry Discharge	Tank 207 (N. Valve Pit)	Pond 207C	N37798, E21082 East to N37798, E21225	Inactive (AIP)	Remove to Fence	4' to 8'	35,60	15501-13-M	P-35 (OU9)	60
3	3"-LD-STL	Laundry Discharge	Tank 207 (N. Valve Pit)	Pond 207C	N37797, E21082 East to N37797, E21225	Inactive (AIP)	Remove to Fence	4' to 8'	36,61	15501-13-M	P-35 (OU9)	60
4	3"-PW-STL	Process Waste	Tank 207 (N. Valve Pit)	Pond 207C	N37796, E21082 East to N37796, E21225	Inactive (AIP)	Remove to Fence	4' to 8'	37,62	15501-13-M		60
5	10"-DCW-CI	Domestic Cold Water	Plantwide	Plantwide	N38200, E21172 South to N37699, E21172	Inactive [2]	Leave in Place	5' to 8'	29,31,32, 34,41	15501-13-M	Con't to Item 12	N/A
6	4"-PW-VCP	Process Waste	Tank 207	Valve Pit	N37786, E21081 East to N37785, E21134	Inactive [2]	Leave in Place	4' to 8'	38	15501-13-M		47
7	6"-RW-CI	Raw Water	Plantwide	Plantwide	N37722, E21100 East to N37722, E21507	Inactive [2]	Leave in Place	4' to 8'	42,43,81 127	15501-13-M 15501-14-M	Con't to Item 13	N/A
8	3"-PW-PVC (SST)	Process Waste	Tank 207	Pond 207A	N37716, E21100 East to N37716, E21537	Inactive [2]	Remove to Fence	4' to 8'	43,44,83, 128	15501-13-M 15501-14-M	P-37 (OU9)	52
9	3"-PW-PVC (STL)	Process Waste	Tank 207	Pond 207A	N37715, E21100 East to N37715, E21537	Inactive [2]	Remove to Fence	4' to 8'	44,45,84, 129	15501-13-M 15501-14-M	P-36 (OU9)	52
10	10"-PW-PVC (VCP)	Process Waste	Junction Box @ N37785, E21134	Bldg 995	N37785, E21134 SE to N37713, E21205 East to N37713, E21470 (Manhole) South to N37590, E21470 (Manhole) SE to N37573, E21492 South to N37400, E21492	Inactive [2]	Remove North from 6" Connection & West to Fence	4' to 8'	46,66,85, 130,131, 155,169	15501-13-M 15501-14-M 15501-22-M	P-38 (OU9)	180
11	2400V-E	Power	Plantwide	Plantwide	N38223, E21158 South to N37701, E21158 East to N37702, E21358 North to N37736, E21358 East to N37734, E21472 South to N37607, E21472 E, SE to N37598, E21517	Inactive [2]	Remove from N 37607, E 21472, E, SE to N 37598,	Overhead	N.A	15501-13-M 15501-14-M 15501-22-M		E 21517
12	10"-DCW-CI	Domestic Cold Water (and fire hydrant)	Plantwide	Plantwide	N37699, E21172 East to N37699, E21379 SE to N37651, E21416 South to N37566, E21416 East to N37566, E21481 South to N37349, E21481	Inactive [2]	Leave in Place	4' to 8'	132,152, 164	15501-13-M 15501-14-M 15501-22-M	Con't from Item 5	N/A
13	6"-RW-CI 8"-RW-CI	Raw Water	Plantwide	Plantwide	N37722, E21507 South to N37463, E21507	Inactive [2]	Partial Remove Verify With Bldg 910 Use - Reroute	4' to 8'	200,201, 202	15501-13-M 15501-14-M 15501-22-M	Con't from Item 7, Con't to Item 15 Item 15 Ties in @ N37463, E21507	N/A
14	3"-PW-SST 3"-PW-STL	Process Waste	Bldg 910	Pond 207A (Via Item No 16 and 22)	N37449, E21789 3" PW-STL N37449, E21808 3" PW-SST West to N37449, E21497 North to N37713, E21497 (tie into Items 16 and 22)	Inactive [2]	Remove	4' to 8'	153,207, 226,255, 296,154, 208,227, 256,297	15501-14-M 15501-22-M 27452-209	P-37 (OU9) 3"-PW-STL Ties into Item 22 (3"-PW-PVC) @ N37449, E21789 3"-PW-SST Ties into Item 16 @ N37449, E21808 Check exist valve pit @ N37698, E21497 abandoned?	570
15	6"-RW-CI	Raw Water	Plantwide (valve @ N37463, E21507)	Bldg 910	N37463, E21507 East to N37463, E21806 South to N37362, E21806 East to N37362, E21922 South to N37347. E21922	Inactive [2]	Partial Remove Verify With Bldg 910 Use - Reroute	4' to 8'	206,225, 254,295	15501-22-M 27452-209	Con't from Item 13	550

Item No.	Line Designation	Service	Origin	Destination	Location (N&E Coord) Measured	Status Active or Inactive	Action	Depth	Reference Number(s)	Drawing Number(s) Reference	Remarks	Approximate Length (ft)
16	3"-SROB-CAP	Secondary Reverse Osmosis Brine	Bldg 910	Pond 207C (Via item NO. 14 and Valve Pit @ N37800, E21480	N37347, E21929 North to N37364, E21929 West to N37364, E21808 North to N37449, E21808 (ties into 3"-PW-SST)continues @ N37713, E21497 East to N37713, E21503 North to N37755, E21503 N.W. to N37773, E21480 North to N37812, E21480 (thu pit) West to N37812, E21460 (Pond 207C)	Inactive [2]	Remove	4' to 8'	294	15501-14-M 27452-209 15501-22-M	P-47 (OU9) Ties into Item 14 (3"-PW-SST) @ N37449, E21808, then continues N37713, E21497 (Valve Pit) and ties back into 3"SROB-CAP to Pond 207C	310
17	8"-PWF-CI	Process Waste Flow	Bldg 788A	Pond 207C	N37930, E21483 West to N37932, E21453	Inactive [2]	Remove	Above Grade (Verify)	120	15501-14-M	P-49 (OU9)	30
18	8"-PW-CI	Process Waste	Pond 207A	Bldg 788A	N37926, E21537 West to N37928, E21508	Inactive [2]	Remove	4' to 8'	197	15501-14-M	P-49 (OU9)	30
19	440V-E	Power	N38033, E21517 (Power pole)	Pond 207C	N38033, E21515 South to N37903, E21515 S.W. to N37887, E21469 (Underground)	Inactive [2]	Remove	Overhead and Under ground		15501-14-M	Runs below Bldg 788. Need to Identify use	130 A/G 50 U/G
20	440V-E	Power	Plantwide	Plantwide	N38033, E21515 East to N38033, E22133	Inactive [2]	Remove	Overhead		15501-14-M 15501-15-M	P-48 (OU9)	620
21	15"-SD-CMP	Storm Drain	Bldg 782 2 lines (2" & 6") converge	Daylights North of Bldg 788A	N37560, E21458 NE to N37595, E21477 North to N37684, E21477 N. NE to N37820, E21498 North to N38029, E21498 NW to N38060, E21454	Inactive [2]	Remove	4' to 8'	117,118, 121	15501-14-M 15501-22-M	P-48 (OU9)	520
22	3"-PW-PVC	Process Waste	207B (N) East Side Item 43 ties in @ N37880, E22137	207C Southeast Corner (Via 3"-PW-STL Item 14)	N37860, E21097 Pond 207B East to N37880, E22137 South to N37392, E22137 West to N37392, E21789 North to N37449, E21789 (tie into Item 14) West to N37449, E21497 North to N37693, E21497 (Item 14 tie into 3" PVC) West to N37693, E21481 North to N37771, E21481 NW to N37810, E21442	Inactive [2]	Leave	4' to 8'	124,298	27452-209	Ties into Item 14 (3"-PW-STL) @ N37449, E21789, and ties back into 3"-PW-PVC @ N37693, E21498 then continues to Pond 207C. Check existing valve pit @ N37698, E21497 Abandoned?	N/A
23	3"-PW-(STL)	Process Waste	Bldg 788 (So Side)	207A (via 3"-PW-SST, Item 8)	N37784, E21492 South to N37716, E21492	Inactive [2]	Remove	4' to 8'		15501-14-M 27452-209	May run below Bldg 788	68
24	2 1/2"-E-SST	Power	Pole 8	Bldg 788	N38000, E21300	Inactive [2]	Leave	4' to 8'	79	N.A.		N/A
25	6"-PW-	Process Waste Underdrain	Pond 207C	North to Drum w/ Pump	N37800, E21333 North to N37966, E21333	Inactive [2]	Leave	8" below liner to top of pipe	80	19379-1		166

NOTE:

1. INFORMATION IS ESTIMATED FROM INCOMPLETE HISTORICAL DRAWINGS AND/OR PROCESS KNOWLEDGE.
2. ASSUMED INACTIVE.
3. SEE DRAWING 51045-430 FOR ITEM LOCATIONS.

PRELIMINARY
60% DESIGN REVIEW
NOT FOR CONSTRUCTION

PARSONS ENGINEERING SCIENCE, INC.
Denver, Colorado (303) 831-8100

I-101-A-000262 Pg 20

ISSUE	DESCRIPTION	DATE
B	CONCEPTUAL DESIGN	

DATE	RFP	DOE	CLASS	JOB NO.
	TE JH PL DM			989618

KEYWORDS
UNDERGROUND
UTILITIES
REMOVAL
LIST

TOLERANCES: FRACT. ± ANGLE ± DEC. ± UNLESS NOTED OTHERWISE. REMOVE BURRS AND SHARP EDGES. NEXT ASSEMBLY

	BY	DATE
DESIGNED	EVANS	1/6/95
DRAWN	HEALY	1/6/95
CHECKED	LEMKE	1/6/95
APPROVED	MYERS	1/6/95
SUBMITTED		
APPROVED RFP		
APPROVED DOE		

MASTER ☐ YES ☐ NO

SCALE: NONE

U.S. DEPARTMENT OF ENERGY
ROCKY FLATS OFFICE GOLDEN, COLORADO

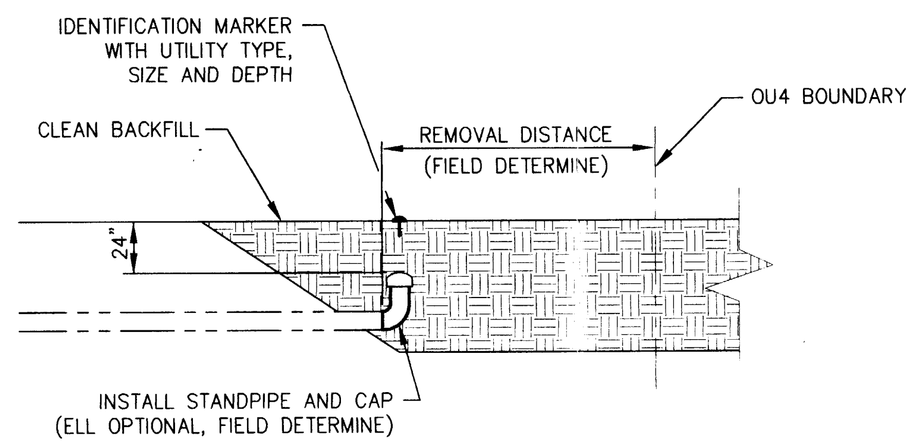
ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE
GOLDEN, COLORADO 80402

OU4 SOLAR EVAPORATION PONDS IM/IRA
UTILITIES LIST

SIZE	DRAWING NUMBER	ISSUE	SHEET
D	51045-435	B	1 OF 1

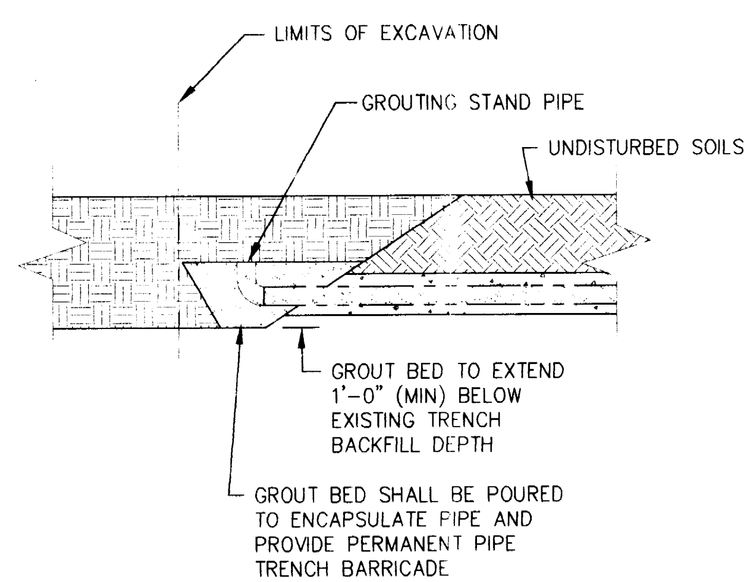
COMPUTER GENERATED DRAWING NO MANUAL CHANGES ALLOWED

9409.0822, 1:18:95 at 12:05



DETAIL 1
TYPICAL UTILITY PIPING CAPPING DETAIL

51045-430 SCALE: NTS



DETAIL 2
TYPICAL UTILITY PIPING GROUTING DETAIL

51045-430 SCALE: NTS

LEGEND:

- GROUTING AREA
- GENERAL BACKFILL AREA
- UNDISTURBED SOIL AREA

NOTES:

ALL EXCAVATIONS SHALL COMPLY WITH ALL APPLICABLE OSHA REGULATIONS

PRELIMINARY
60% DESIGN REVIEW
NOT FOR CONSTRUCTION

PARSONS ENGINEERING SCIENCE, INC.
Denver, Colorado (303) 831-8100

I 101-A-000262 09/19

ISSUE	DESCRIPTION	DATE	TE	KP	SC	DM	DOE	CLASS	JOB NO.
B	ORIGINAL ISSUE	RFP							989618

KEYWORDS	
UTILITIES	
REMOVAL	
DETAILS	

TOLERANCES: FRACT. ± ANGLE ± DEC. ± UNLESS NOTED OTHERWISE. REMOVE BURRS AND SHARP EDGES. NEXT ASSEMBLY

MASTER ☐ YES ☐ NO

SCALE: NONE

	BY	DATE
DESIGNED	EVANS	1/6/95
DRAWN	PONTIUS	1/6/95
CHECKED	COLE	1/6/95
APPROVED	MYERS	1/6/95
SUBMITTED		
APPROVED RFP		
APPROVED DOE		

U.S. DEPARTMENT OF ENERGY
ROCKY FLATS OFFICE GOLDEN, COLORADO

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE
GOLDEN, COLORADO 80402

OU4 SOLAR EVAPORATION PONDS IM/IRA
UTILITIES REMOVAL DETAILS

SIZE	DRAWING NUMBER	ISSUE	SHEET
D	51045-434	B	1 OF 1

COMPUTER GENERATED DRAWING NO MANUAL CHANGES ALLOWED

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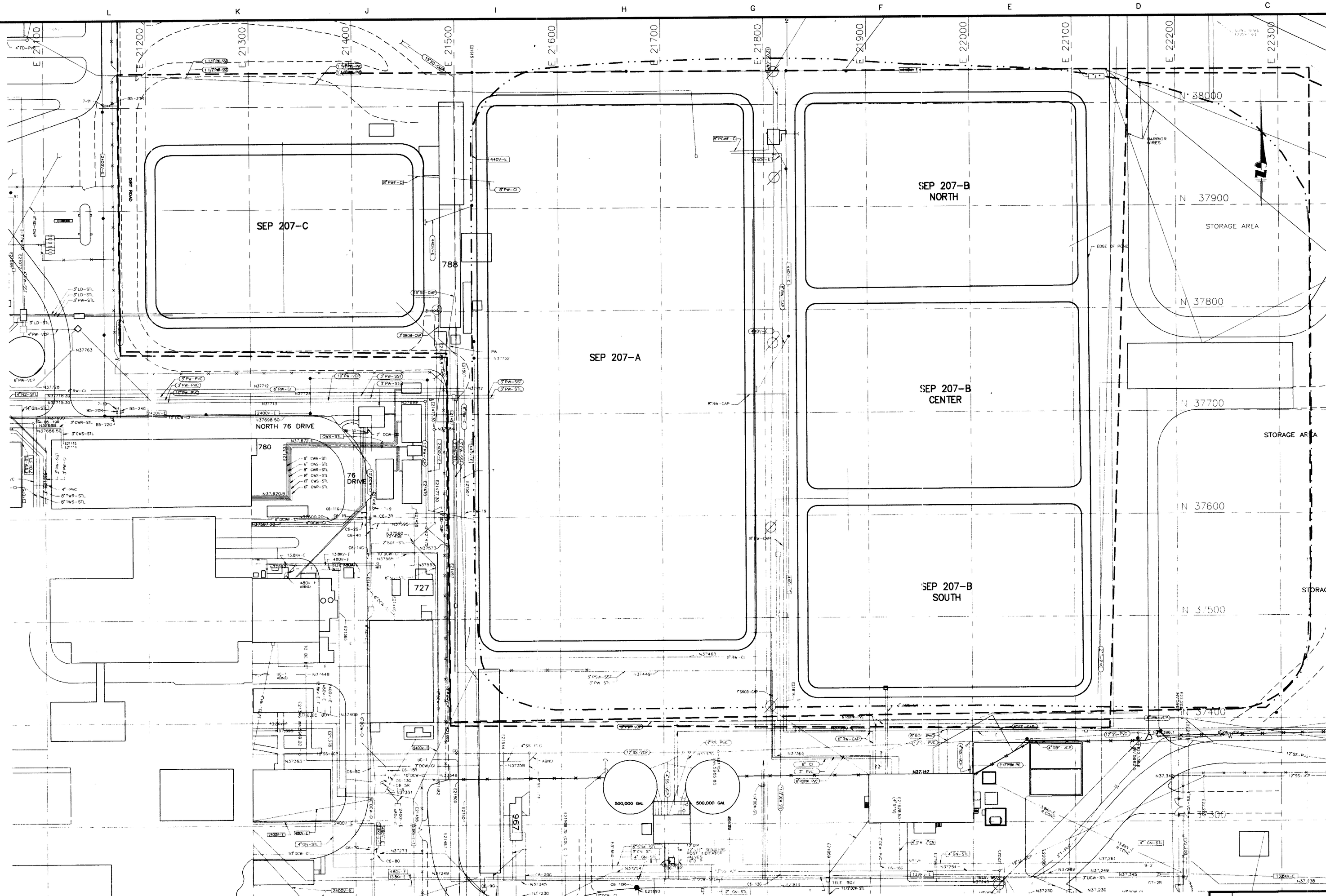


LEGEND:

- - - - LIMITS OF EXCAVATION

-·-·- TOE OF ENGINEERED COVER

I101-A-000262 pg 18

ISSUE	DESCRIPTION	DATE	RFP	DOE	CLASS	JOB NO.
B	ORIGINAL ISSUE		TE KP SC DM			989618

	BY	DATE
DESIGNED	EVANS	1/6/95
DRAWN	PONTIUS	1/6/95
CHECKED	COLE	1/6/95
APPROVED	MYERS	1/6/95
SUBMITTED		
APPROVED RFP		
APPROVED DOE		

KEYWORDS: UTILITIES, UNDERGROUND, REMOVAL

MASTER ☐ YES ☐ NO

TOLERANCES: FRACT. ± ANGLE ± DEC. ± UNLESS NOTED OTHERWISE

REMOVE BURRS AND SHARP EDGES

NEXT ASSEMBLY

SCALE: 1"=50'

U.S. DEPARTMENT OF ENERGY
ROCKY FLATS OFFICE GOLDEN, COLORADO

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE
GOLDEN, COLORADO 80402

OU4 SOLAR EVAPORATION PONDS IM/IRA

EXISTING UTILITIES SITE MAP

SIZE	DRAWING NUMBER	ISSUE	SHEET
D	51045-430	B	1 OF 1

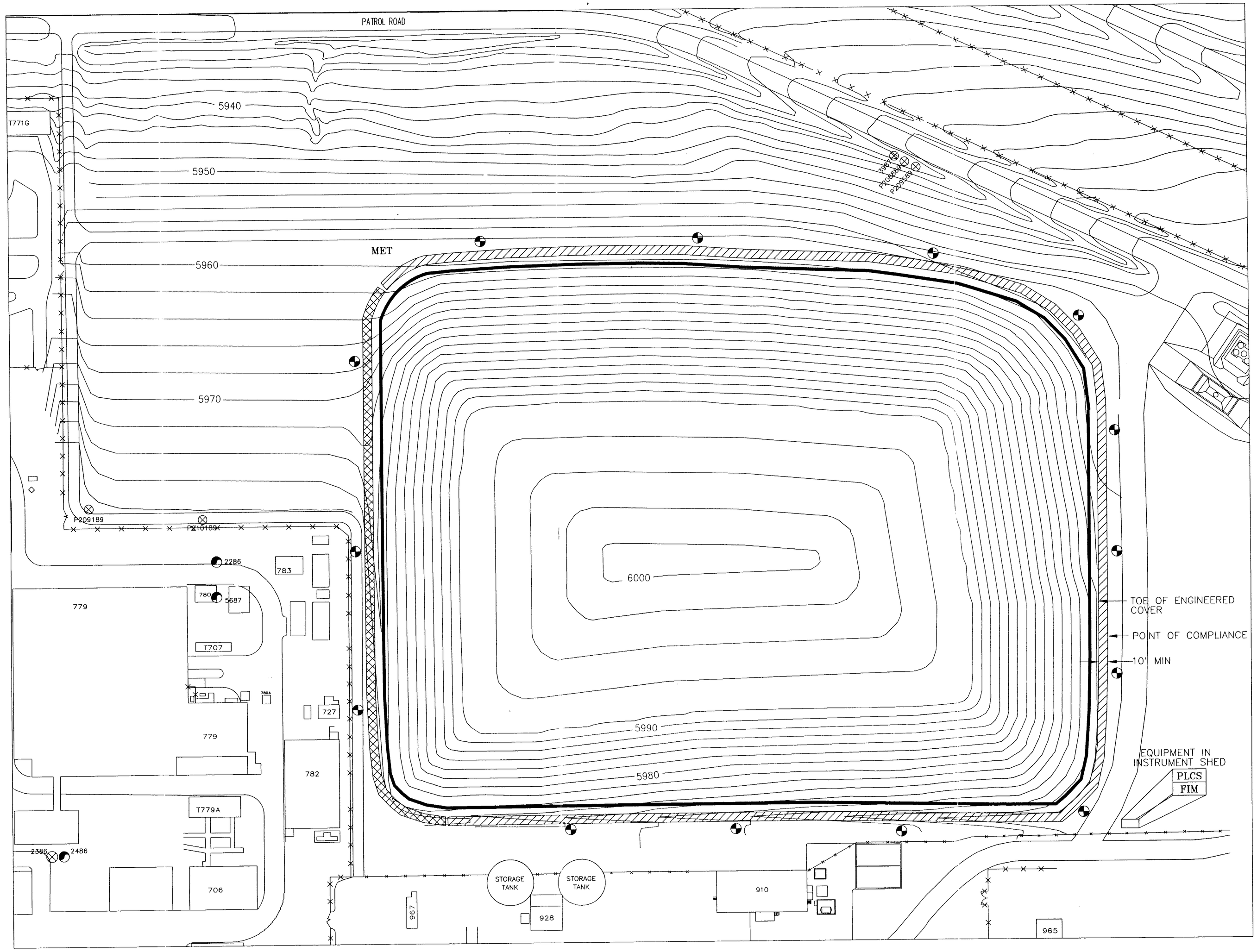
PRELIMINARY
60% DESIGN REVIEW
NOT FOR CONSTRUCTION

0 25 50 100
FEET

PARSONS ENGINEERING SCIENCE, INC.
Denver, Colorado (303) 831-8100

94DN1202, 1/9/95 at 10:50, XREF ℄\ROCKY AT\X94DN005

COMPUTER GENERATED DRAWING NO MANUAL CHANGES ALLOWED



PART	QUAN.	DESCRIPTION	MATERIAL

LEGEND:

- UPGRADIENT PORTION OF POINT OF COMPLIANCE(POC)
- DOWNGRADIENT PORTION OF POINT OF COMPLIANCE(POC)
- PROPOSED LOCATION FOR NEW MONITORING WELL SCREENED IN UPPER HYDROSTRATIGRAPHIC UNIT.
- LOCATION OF EXISTING WELL SCREENED IN UNCONSOLIDATED MATERIALS (ALLUVIUM, COLLUVIUM, FILL)
- LOCATION OF EXISTING WELL SCREENED IN THE WEATHERED BEDROCK

PROPOSED POST-CLOSURE MONITORING WELL LOCATIONS

NOTES:

1) EXISTING WELLS LOCATED ADJACENT TO THE FINAL ENGINEERED COVER FOOTPRINT ARE ASSUMED TO BE DESTROYED DURING CONSTRUCTION

N W E S

60' 30' 0 60' 120'

J101-A-000262 pg 17

ISSUE	DESCRIPTION	DATE	RETS	DOE	CLASS	JOB NO.
B	INSTR. LOCATIONS UPDATED	01/26/95	LJP SAU TEB			
A	ORIGINAL ISSUE		SC SRL TEB JH			R30503.0

KEYWORDS
1. COVER
2. DESIGN
3. PLAN VIEW
4.
5.

BLDG./FACILITY: OU-4 SOLAR PONDS
ROOM/AREA: 207A,207B N,C,S
GRID COOR./COL NO.

MASTER: YES ☐ NO ☒

SCALE: AS NOTED

DESIGNED	CULLEN	01/26/95
DRAWN	USAGANI	01/26/95
CHECKED	BRODERICK	01/26/95
APPROVED		
SUBMITTED	HAASBEEK	01/26/95
APPROVED RETS		
APPROVED DOE		

U.S. DEPARTMENT OF ENERGY
ROCKY FLATS AREA OFFICE GOLDEN, COLORADO

EG&G ROCKY FLATS
ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE
GOLDEN, COLORADO 80402

SOLAR EVAPORATION PONDS, OPERABLE UNIT NO. 4 IM/IRA-EA DD

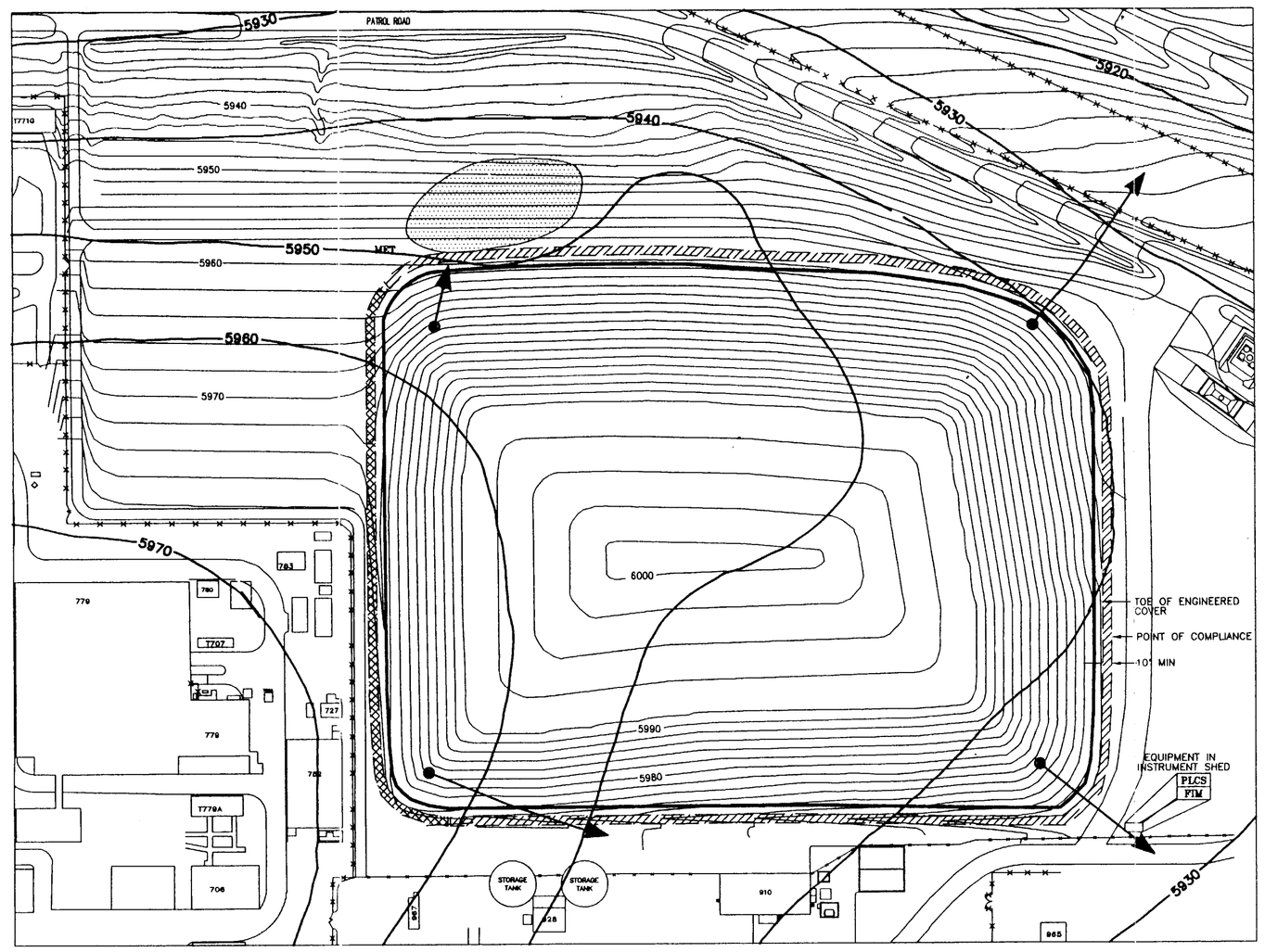
PLAN VIEW OF PROPOSED ENGINEERED COVER AND VADOSE ZONE MONITORING SYSTEMS

SIZE	DRAWING NUMBER	ISSUE	SHEET
D	51045-155	B	1 OF 1

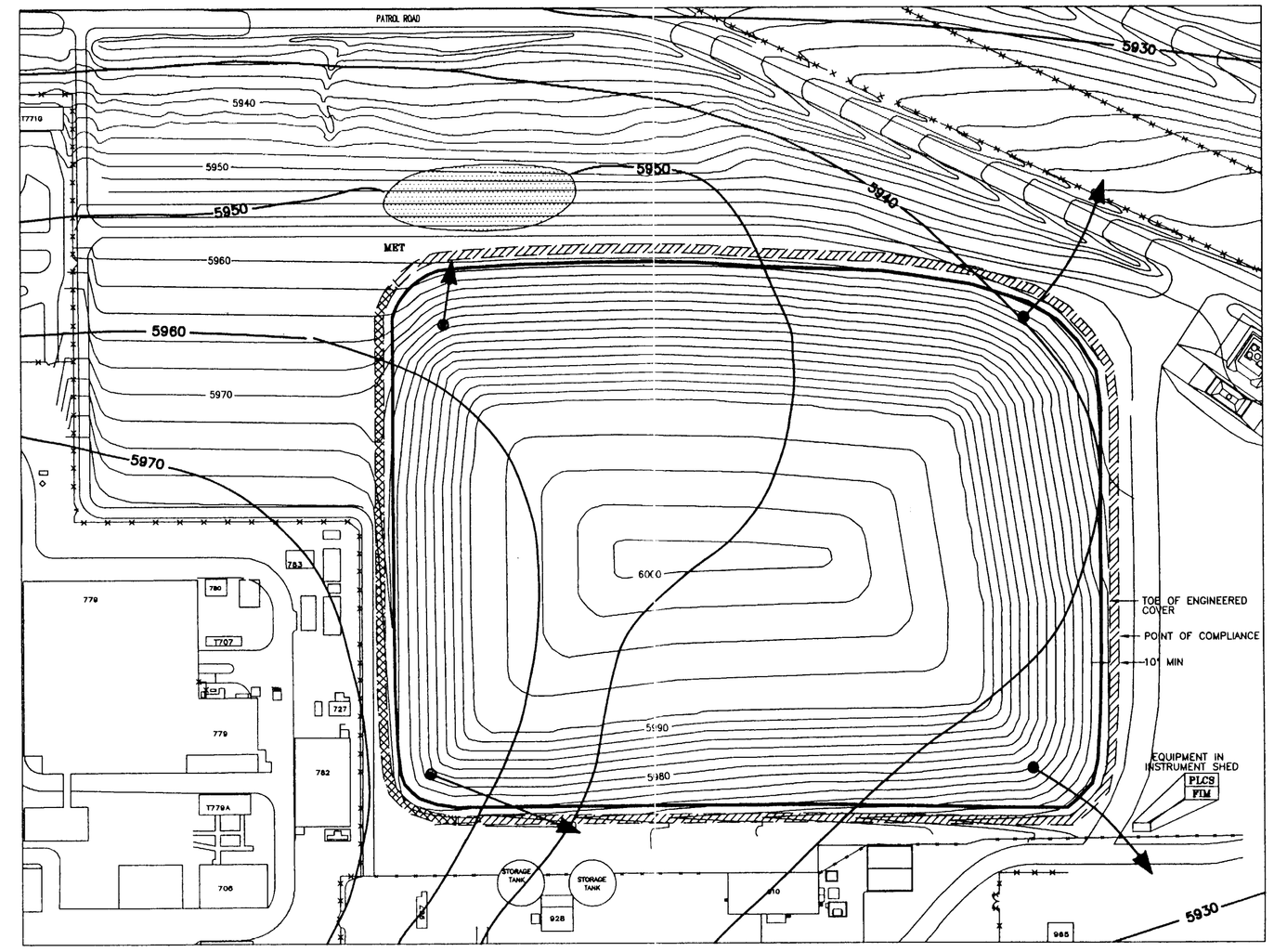
BLDG FAC.
ROOM AREA
H Htg-Vent
A Arch
G GL Box
E Elec
D Detection
M Mech
I Inst
B Building
T Title
C Civil
U Utilities
P Piping
N Fire Prot
L Layouts
F Flow Dia
S Side
A Alarms

FILENAME = MAP9.DWG PLOT SCALE 1 = 60

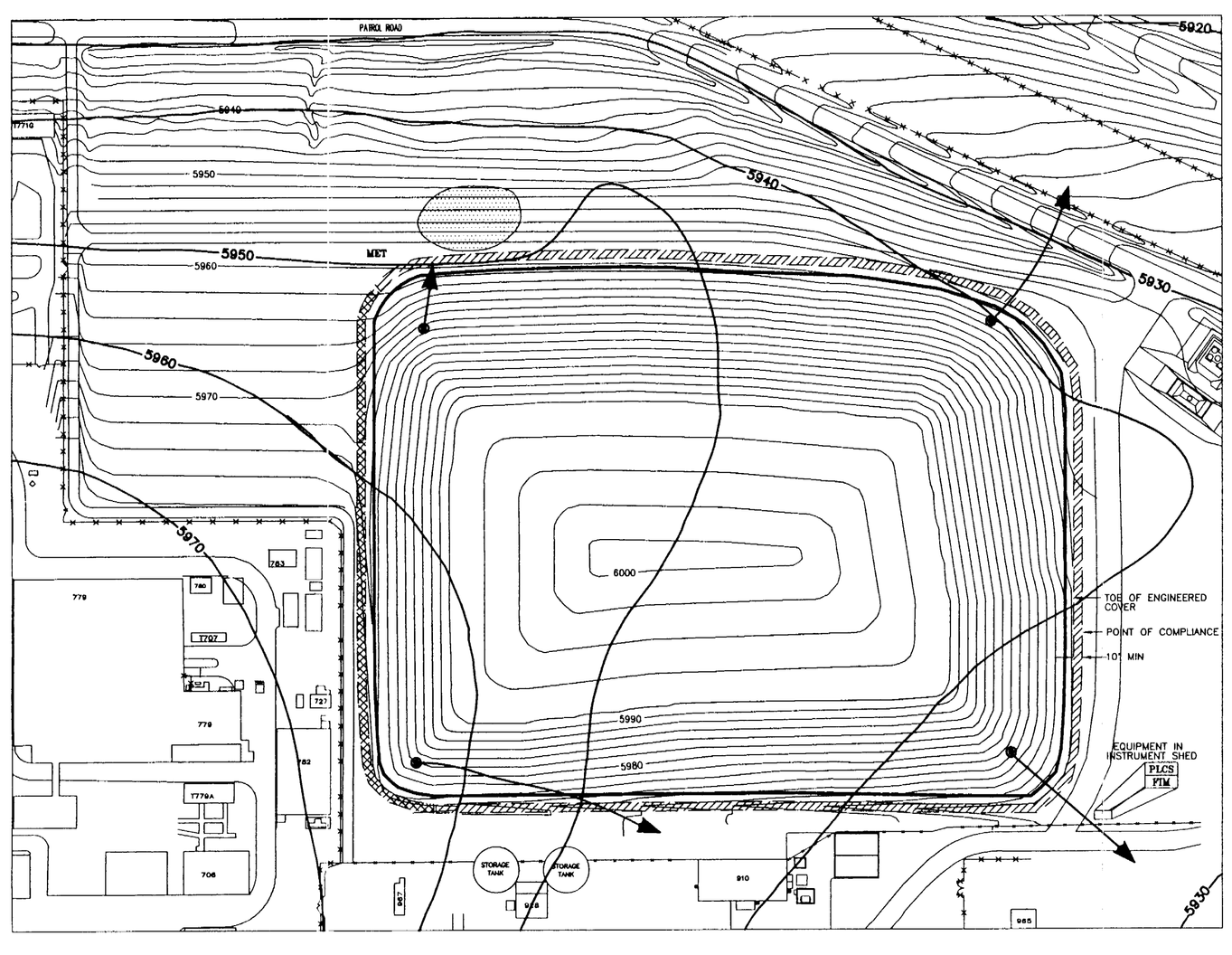
"COMPUTER-GENERATED; NO MANUAL CHANGES ALLOWED"



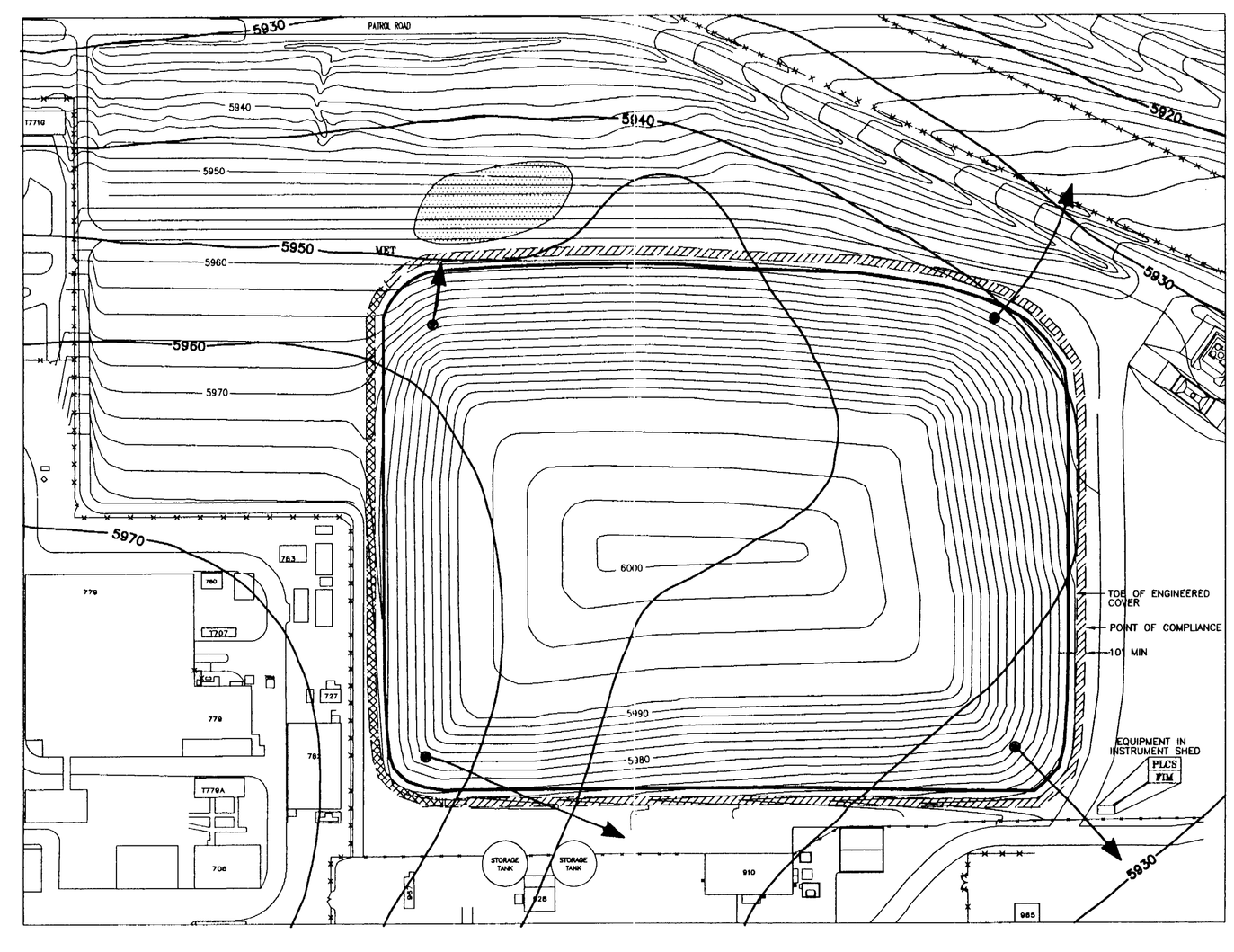
WEATHERED BEDROCK 1st QUARTER JANUARY 1992 *



WEATHERED BEDROCK 2nd QUARTER APRIL 1992 *



WEATHERED BEDROCK 3rd QUARTER JULY 1992 *



WEATHERED BEDROCK 4th QUARTER OCTOBER 1992 *

PART	QUAN.	DESCRIPTION	MATERIAL

LEGEND:

- UPGRADIENT PORTION OF POINT OF COMPLIANCE(POC)
- DOWNGRADIENT PORTION OF POINT OF COMPLIANCE(POC)
- 5960 — EQUIPOTENTIAL LINE (FEET ABOVE MEAN SEA LEVEL)
- GROUND WATER FLOW VECTOR
- ESTIMATED CORNER OF WASTE (ORIGIN OF GROUND WATER FLOW VECTOR)
- AREA OF UNSATURATED SURFICIAL MATERIALS

NOTES:

1) * MODIFIED FROM THE 1992 ANNUAL RCRA GROUNDWATER MONITORING REPORT.

N W E S

120' 60' 0 120' 240'

FILENAME = BED5678.DWG PLOT SCALE 1 = 120

I101-A-000262 pg 16

ISSUE	DESCRIPTION	DATE	RFP	DOE	CLASS	JOB NO.
B	UPDATES TO CAP DESIGN	01/26/95	LJP	SAU	TLM	
A	ORIGINAL ISSUE			SRL		

KEYWORDS
1.
2.
3.
4.
5.
BLDG./FACILITY
ROOM/AREA
GRID COOR./COL NO.

DESIGNED	PIVONKA
DRAWN	USAGANI
CHECKED	BRODERICK
APPROVED	
SUBMITTED	
APPROVED RFP	
APPROVED DOE	

MASTER YES ☐ NO ☒

SCALE: AS NOTED

U.S. DEPARTMENT OF ENERGY
ROCKY FLATS AREA OFFICE GOLDEN,COLORADO

EG&G ROCKY FLATS
ROCKY FLATS PLANT
GOLDEN, CO

SOLAR EVAPORATIONS PONDS, OPERABLE UNIT NO. 4 IM/IRA-EA DD

POTENTIOMETRIC SURFACE AND GROUNDWATER FLOW VECTORS FOR WEATHERED BEDROCK

SIZE	DRAWING NUMBER	ISSUE	SHEET
D	51045-154	B	OF

BLDG FAC.
ROOM AREA
H Hsg-Vent
A Arch
G GL Box
E Elec
D Detection
M Mech
I Inst
B Building
Title
C Civil
U Utilities
P Piping
F Fire Prot
L Layouts
F Flow Diag
S Stds
A Alarms

"COMPUTER-GENERATED; NO MANUAL CHANGES ALLOWED"

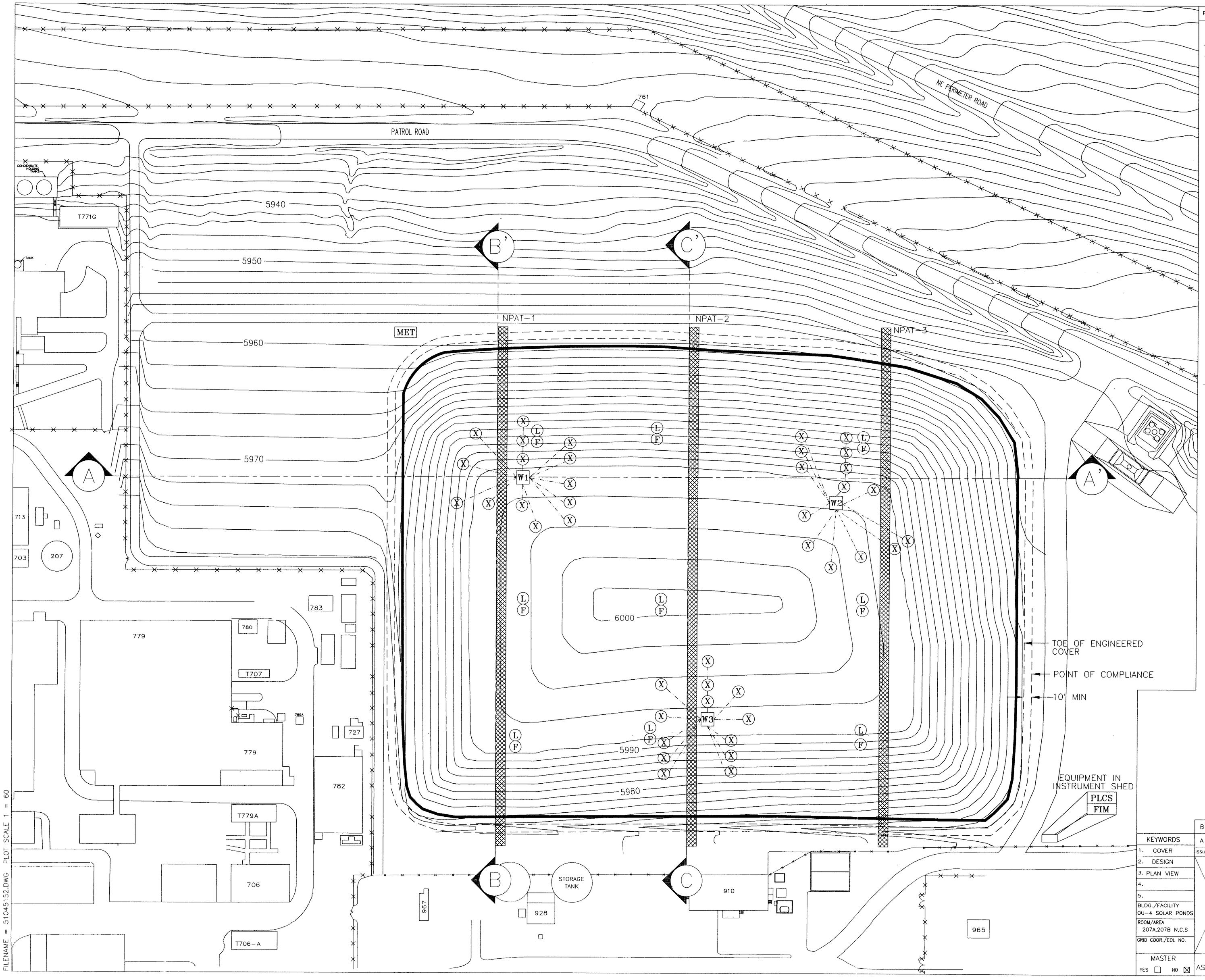
PART	QUAN.	DESCRIPTION	MATERIAL

LEGEND:

- ELECTRICAL LINE BETWEEN SENSORS AND DATA COLLECTOR
- NPAT = NEUTRON PROBE ACCESS TUBE
- W — WIM = WAVEFORM INTERPRETATION MODULE
- F — FDC SENSOR (ARRAY)
- L — PRESSURE VACUUM LYSIMETER
- X — TDR SENSOR ARRAY (X, X, X = RELATIVE POSITIONING)
- MET — METEOROLOGICAL MONITORING STATION
- PLCS — PORE LIQUID COLLECTION STATION
- FIM — FREQUENCY INTERPRETATION MODULE

NOTES:

1) SENSORS AND NPAT'S NOT SHOWN TO SCALE.



FILENAME = 51045152.DWG PLOT SCALE 1 = 60

ISSUE	DESCRIPTION	DATE	RFTS	DOE	CLASS	JOB NO.
B	INSTR. LOCATIONS UPDATED	01/26/95	LJP SAU TEB			
A	ORIGINAL ISSUE		SC SRL TEB JH			R30503.0

I101-A-000262 pg 14

KEYWORDS
1. COVER
2. DESIGN
3. PLAN VIEW
4.
5.
BLDG./FACILITY: OU-4 SOLAR PONDS
ROOM/AREA: 207A,207B N,C,S
GRID COOR./COL NO.

MASTER: YES ☐ NO ☒

SCALE: AS NOTED

DESIGNED	CULLEN	01/26/95
DRAWN	USAGANI	01/26/95
CHECKED	BRODERICK	01/26/95
APPROVED		
SUBMITTED	HAASBEEK	01/26/95
APPROVED RFTS		
APPROVED DOE		

U.S. DEPARTMENT OF ENERGY
ROCKY FLATS AREA OFFICE GOLDEN, COLORADO

EG&G ROCKY FLATS
ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE
GOLDEN, COLORADO 80402

SOLAR EVAPORATION PONDS, OPERABLE UNIT NO. 4 IM/IRA-EA DD

PLAN VIEW OF PROPOSED ENGINEERED COVER AND VADOSE ZONE MONITORING SYSTEMS

SIZE	DRAWING NUMBER	ISSUE	SHEET
D	51045-152	B	1 OF 1

BLDG FAC
ROOM AREA
H Htg-Vent
A Arch
G G. Box
E Elec
D Detection
M Mech
I Inst
B Building
T Title
C Civil
U Utilities
P Piping
F Fire Prot.
L Layouts
F Flow Diag
S Stds
A Alarms

"COMPUTER-GENERATED; NO MANUAL CHANGES ALLOWED"