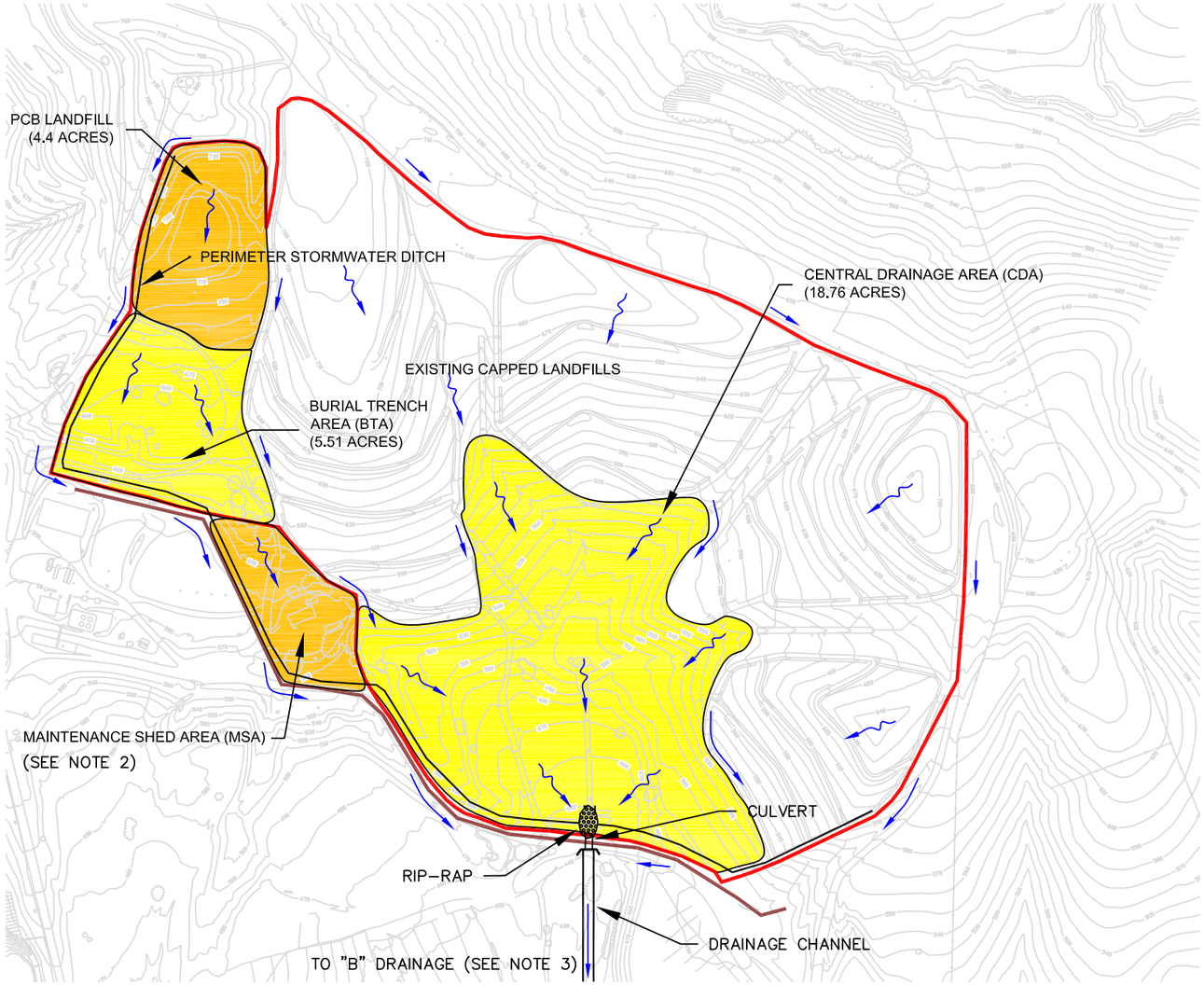
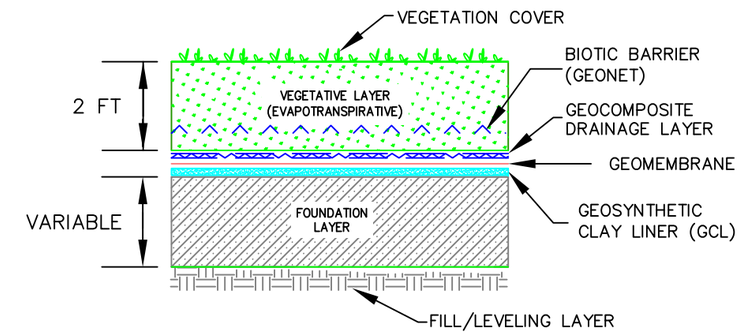
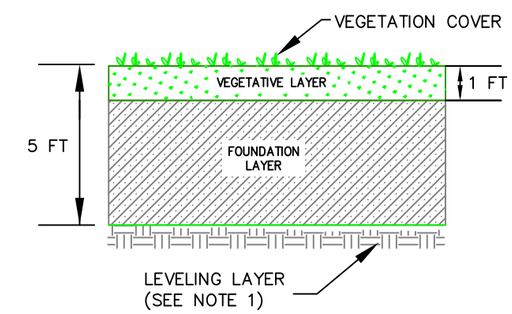




DETAIL A - TYPICAL RCRA CAP SECTION

NOT TO SCALE



DETAIL B - TYPICAL 5' RCRA-EQUIVALENT
MONO SOIL CAP SECTION

NOT TO SCALE

LEGEND:

- LIMITS OF STUDY AREA (AREA 1)
- PERIMETER SOURCE CONTROL TRENCH (PSCT)
- RCRA CAP (SEE DETAIL A)
- RCRA – EQUIVALENT MONO SOIL CAP 5' (SEE DETAIL B)
- NATURAL STORMWATER RUNOFF
- CHANNELED STORMWATER RUNOFF

NOTES:

1. LEVELING LAYER TO BE CONSTRUCTED BY CUT AND FILL OF EXISTING SURFACE SOIL COVER AND RECOMPACTION TO PROVIDE SUITABLE IN–PLACE DENSITY.
2. MSA CAP IS BEING ADDRESSED UNDER AREA 3.
3. STORMWATER RUNOFF FROM CAP AREAS WILL BE CHANNELED AND DIRECTED TO POND 13 AND THEN OFFSITE TO B DRAINAGE.

N

0 400'

GRAPHIC SCALE

REV	DATE	REVISION DESCRIPTION	BY	CHK	APP

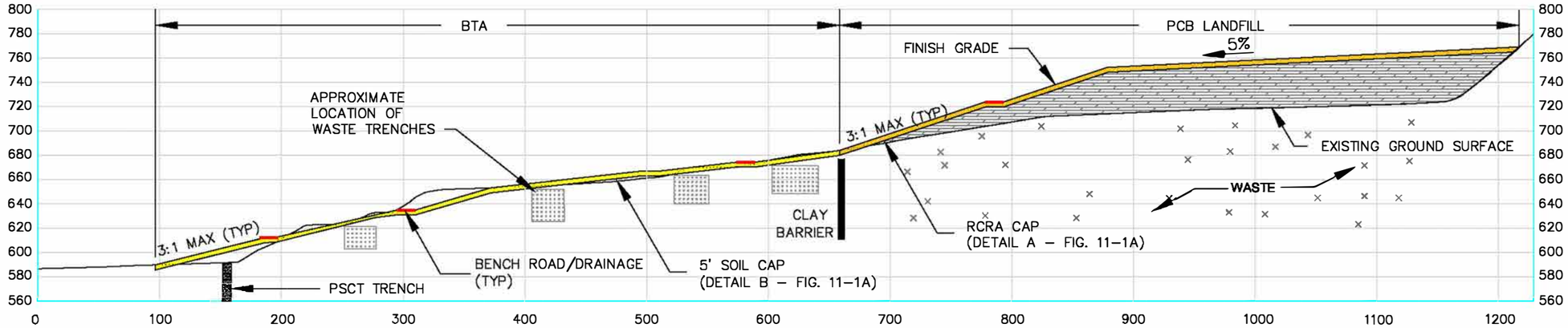
URS CORPORATION

130 ROBIN HILL ROAD, SUITE 100
SANTA BARBARA, CA 93117
PHONE: (805) 964-6010
FAX: (805) 964-0259

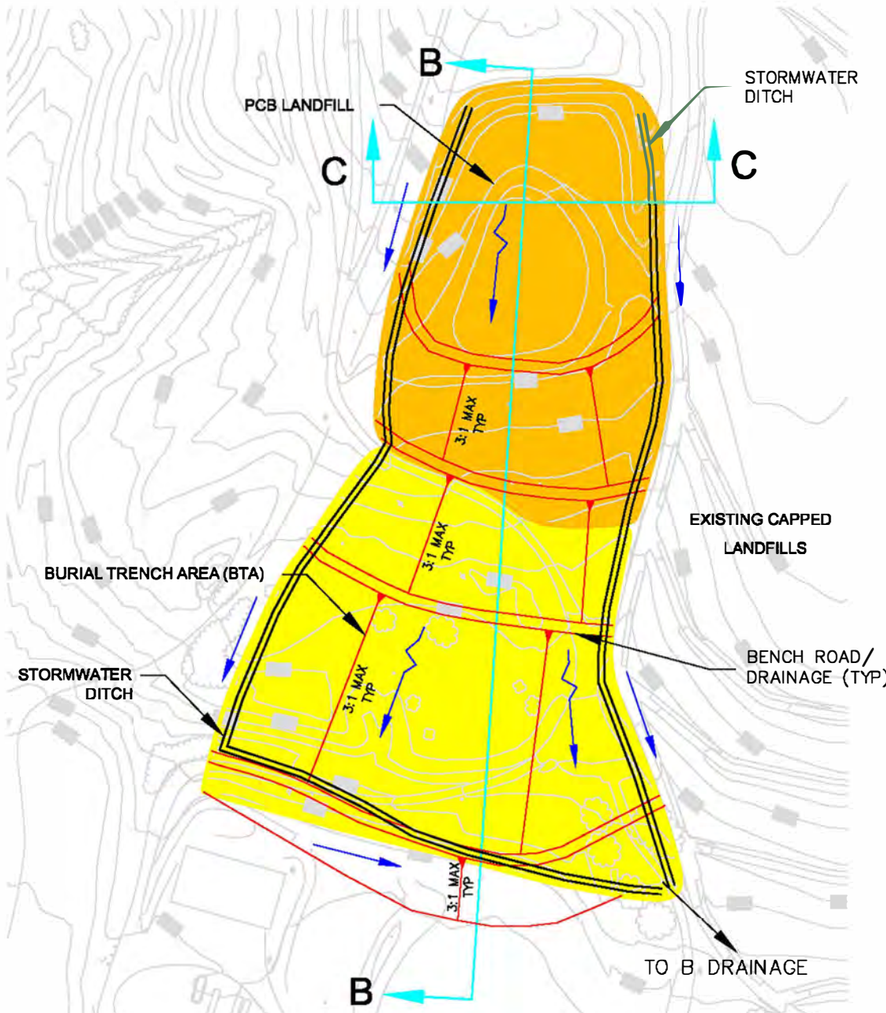
PROJECT: CASMALIA RESOURCES SUPERFUND SITE
FEASIBILITY STUDY

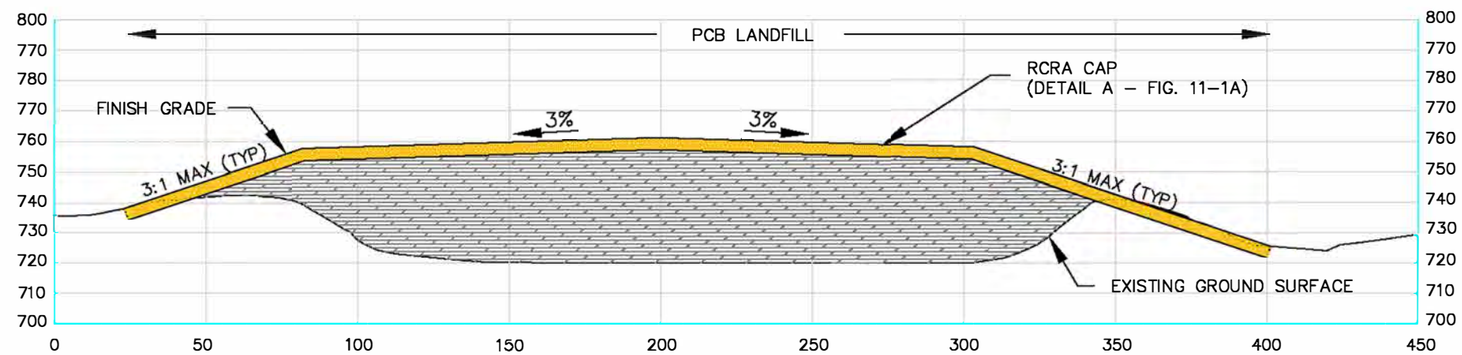
FS AREA 1 - ALTERNATIVE 2
RCRA - EQUIVALENT MONO SOIL CAP 5' (BTA, CDA)
+ RCRA PRESCRIPTIVE CAP (PCB LANDFILL)

FIGURE 11-1A



SECTION B-B
1"=100'





SECTION C-C
1"=50'

PRELIMINARY EARTHWORK SUMMARY

PCB LANDFILL AREA = 185,100 SQ FT (4.25 ACRES)

GRADING	VOLUMES (CY)
CUT TO LEVELING LAYER =	20,000
CAP SECTION VOLUMES	
2 FT LOW PERMEABILITY SOIL =	13,700
2 FT VEGETATIVE LAYER =	13,700

BTA AREA = 240,000 SQ FT (5.51 ACRES)

GRADING	VOLUMES (CY)
CUT TO LEVELING LAYER =	61,000
FILL TO LEVELING LAYER =	41,000
NET CUT/FILL (61,000 – 41,000)	20,000 (EXPORT)
CAP SECTION VOLUMES	
4 FT FOUNDATION LAYER =	35,600
1 FT VEGETATIVE LAYER =	8,900

NOTE:

1. EXISTING ROADS AND STORMWATER COLLECTION DRAINS TO BE RECONFIGURED DURING CAP DESIGN

LEGEND:

- RCRA CAP
- RCRA – EQUIVALENT MONO SOIL CAP 5'
- NATURAL STORMWATER RUNOFF
- CHANNELED STORMWATER RUNOFF

N

0 200'
GRAPHIC SCALE

REV	DATE	REVISION DESCRIPTION	BY	CHK	APP

URS
URS CORPORATION
130 ROBIN HILL ROAD, SUITE 100
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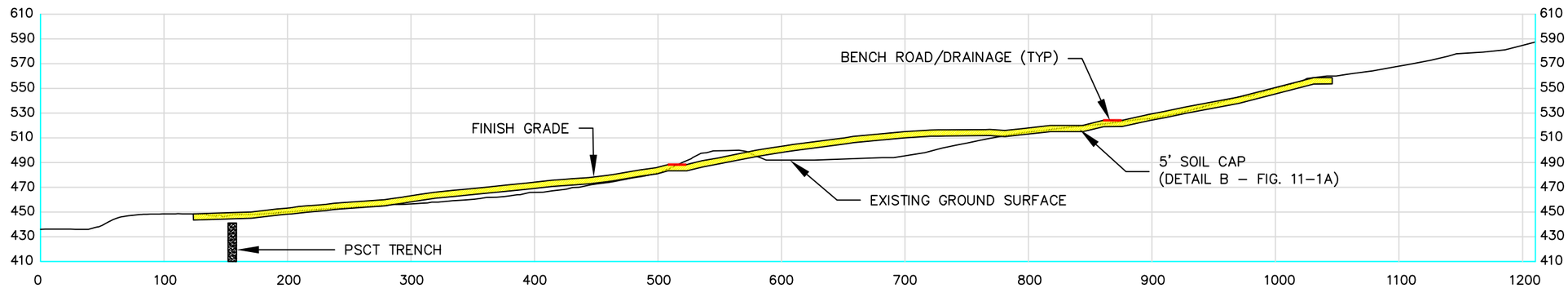
FAX: (805) 964-0259

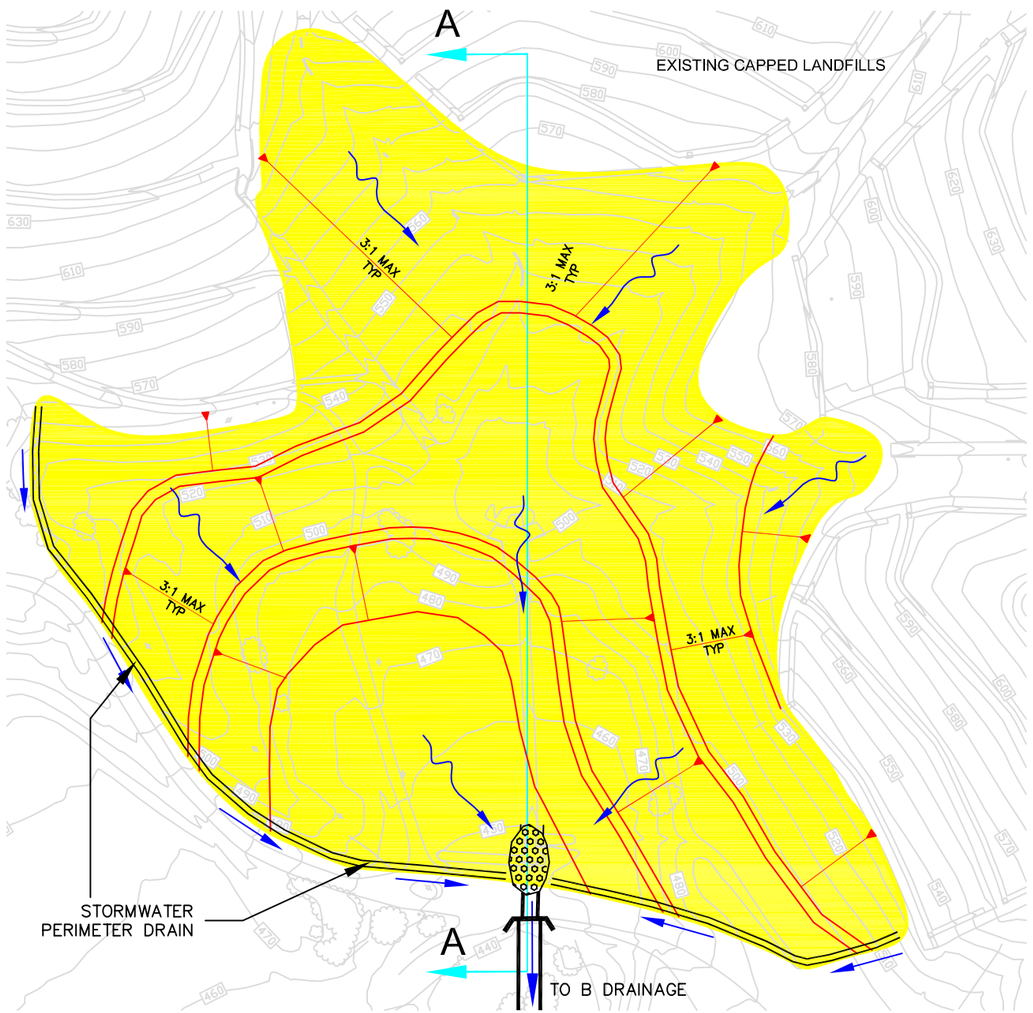
PROJECT: CASMALIA RESOURCES SUPERFUND SITE
FEASIBILITY STUDY

FS AREA 1 - ALTERNATIVE 2
RCRA CAP (PCB LANDFILL), SOIL CAP (BTA) + GRADING PLAN

FIGURE 11-1B



SECTION A-A
1"=100'



PRELIMINARY EARTHWORK SUMMARY

CDA AREA = 817,200 SQ FT (18.76 ACRES)

GRADING	VOLUMES (CY)
CUT TO LEVELING LAYER =	180,000
FILL TO LEVELING LAYER =	180,000
NET CUT/FILL (180,000 – 180,000)	0
CAP SECTION VOLUMES	
4 FT FOUNDATION LAYER =	121,200
1 FT VEGETATIVE LAYER =	30,300

LEGEND:

- RCRA – EQUIVALENT MONO SOIL CAP 5'
- NATURAL STORMWATER RUNOFF
- CHANNELED STORMWATER RUNOFF

NOTES:

1. EXISTING ROADS AND STORMWATER COLLECTION DRAINS TO BE RECONFIGURED DURING CAP DESIGN
2. THE LOCATIONS OF THE BENCH ROADS ARE TYPICAL. ACTUAL LOCATIONS WILL BE DETERMINED DURING DESIGN.

N

0 200'
GRAPHIC SCALE

REV	DATE	REVISION DESCRIPTION	BY	CHK	APP

URS
URS CORPORATION
130 ROBIN HILL ROAD, SUITE 100
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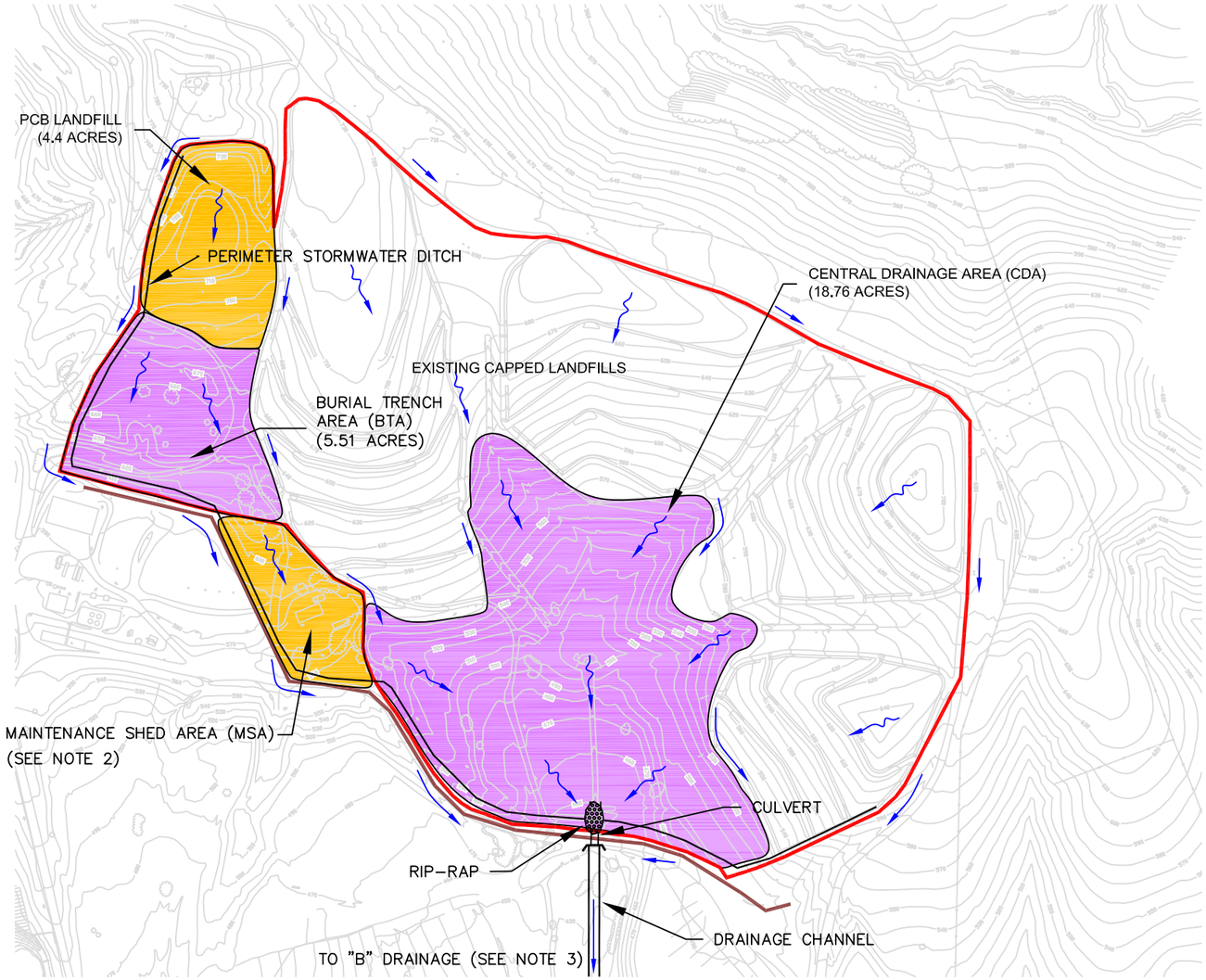
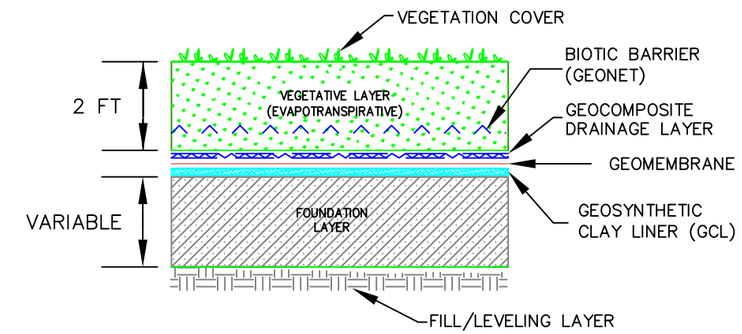
PROJECT: CASMALIA RESOURCES SUPERFUND SITE
FEASIBILITY STUDY

FS AREA 1 - ALTERNATIVE 2
SOIL CAP (CDA) + GRADING PLAN

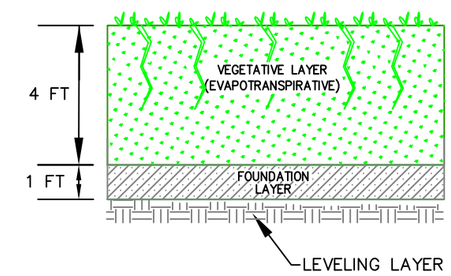
FIGURE 11-1C





DETAIL A - TYPICAL RCRA CAP SECTION

NOT TO SCALE



DETAIL B - TYPICAL 5' EVAPOTRANSPIRATIVE (ET) CAP SECTION

NOT TO SCALE

LEGEND:

- LIMITS OF STUDY AREA (AREA 1)
- PERIMETER SOURCE CONTROL TRENCH (PSCT)
- RCRA CAP (SEE DETAIL A)
- EVAPOTRANSPIRATIVE (ET) CAP (SEE DETAIL B)
- NATURAL STORMWATER RUNOFF
- CHANNELED STORMWATER RUNOFF

NOTES:

1. LEVELING LAYER TO BE CONSTRUCTED BY CUT AND FILL OF EXISTING SURFACE SOIL COVER AND RECOMPACTION TO PROVIDE SUITABLE IN-PLACE DENSITY.
2. MSA CAP IS BEING ADDRESSED UNDER AREA 3.
3. STORMWATER RUNOFF FROM CAP AREAS WILL BE CHANNELED AND DIRECTED TO POND 13 AND THEN OFFSITE TO B DRAINAGE.

N

0 400'

GRAPHIC SCALE

REV	DATE	REVISION DESCRIPTION	BY	CHK	APP

URS CORPORATION
130 ROBIN HILL ROAD, SUITE 100
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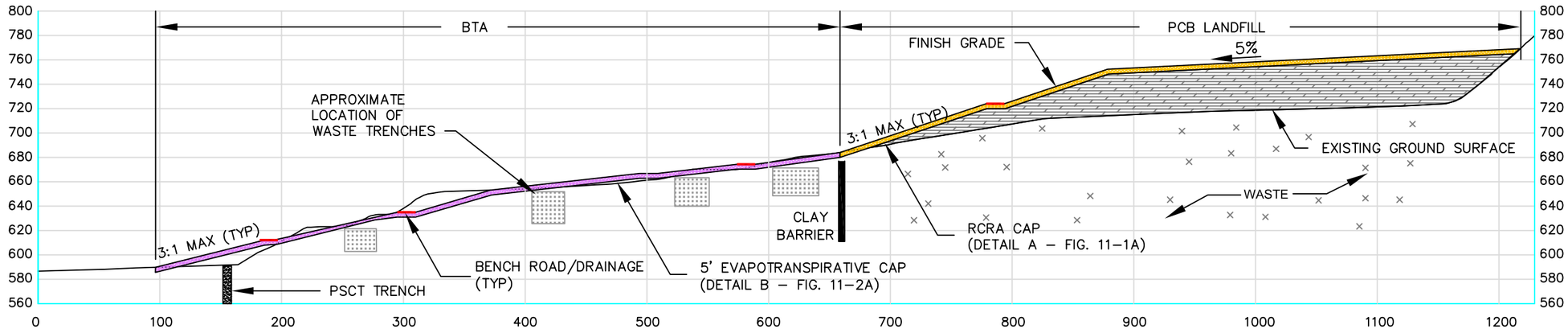
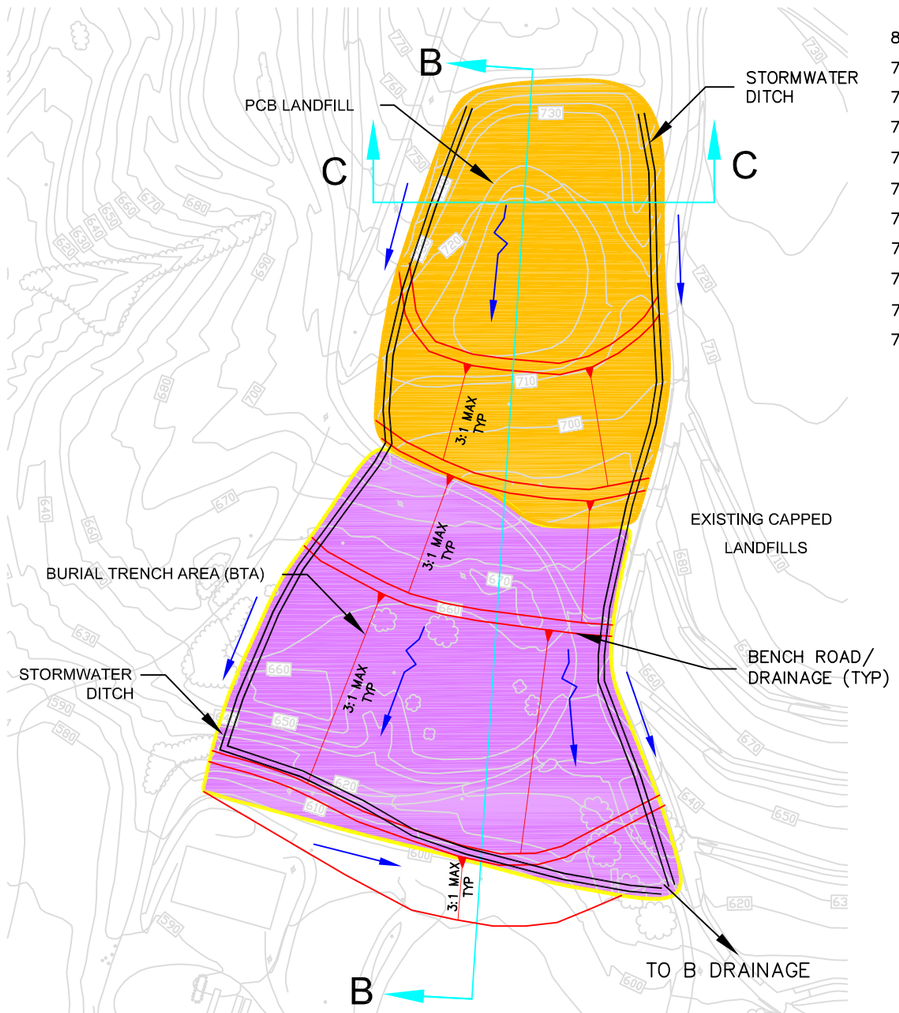
PROJECT: CASMALIA RESOURCES SUPERFUND SITE
FEASIBILITY STUDY

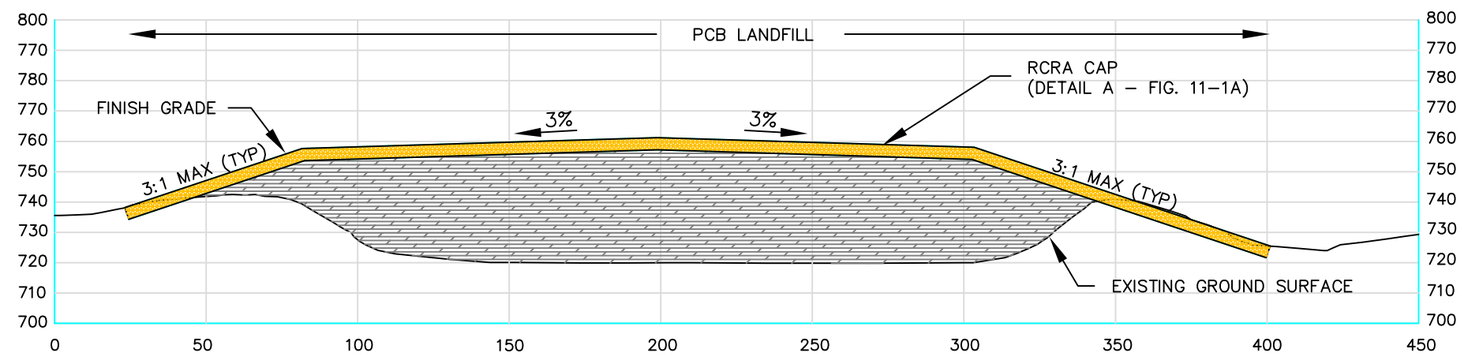
FS AREA 1 - ALTERNATIVE 3
EVAPOTRANSPIRATIVE SOIL CAP 5' (BTA, CDA) +
RCRA PRESCRIPTIVE CAP (PCB LANDFILL)

FIGURE 11-2A



SECTION B-B
1"=100'





SECTION C-C
1"=50'

PRELIMINARY EARTHWORK SUMMARY

PCB LANDFILL AREA = 185,100 SQ FT (4.25 ACRES)

GRADING	VOLUMES (CY)
CUT TO LEVELING LAYER =	20,000
CAP SECTION VOLUMES	
2 FT LOW PERMEABILITY SOIL =	13,700
2 FT VEGETATIVE LAYER =	13,700

BTA AREA = 240,000 SQ FT (5.51 ACRES)

GRADING	VOLUMES (CY)
CUT TO LEVELING LAYER =	61,000
FILL TO LEVELING LAYER =	41,000
NET CUT/FILL (61,000 – 41,000)	20,000 (EXPORT)
CAP SECTION VOLUMES	
1 FT FOUNDATION LAYER =	8,900
4 FT VEGETATIVE LAYER =	35,600

NOTE:

1. EXISTING ROADS AND STORMWATER COLLECTION DRAINS TO BE RECONFIGURED DURING CAP DESIGN

LEGEND:

- RCRA CAP
- EVAPOTRANSPIRATIVE (ET) CAP
- NATURAL STORMWATER RUNOFF
- CHANNELED STORMWATER RUNOFF

N

0 200'
GRAPHIC SCALE

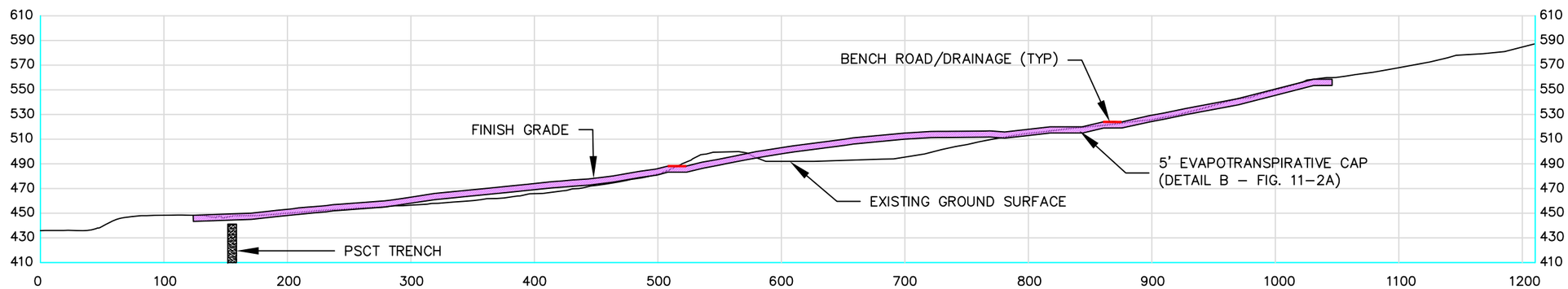
REV	DATE	REVISION DESCRIPTION	BY	CHK	APP

URS
URS CORPORATION
130 ROBIN HILL ROAD, SUITE 100
SANTA BARBARA, CA 93117
PHONE: (805) 964-6010
FAX: (805) 964-0259

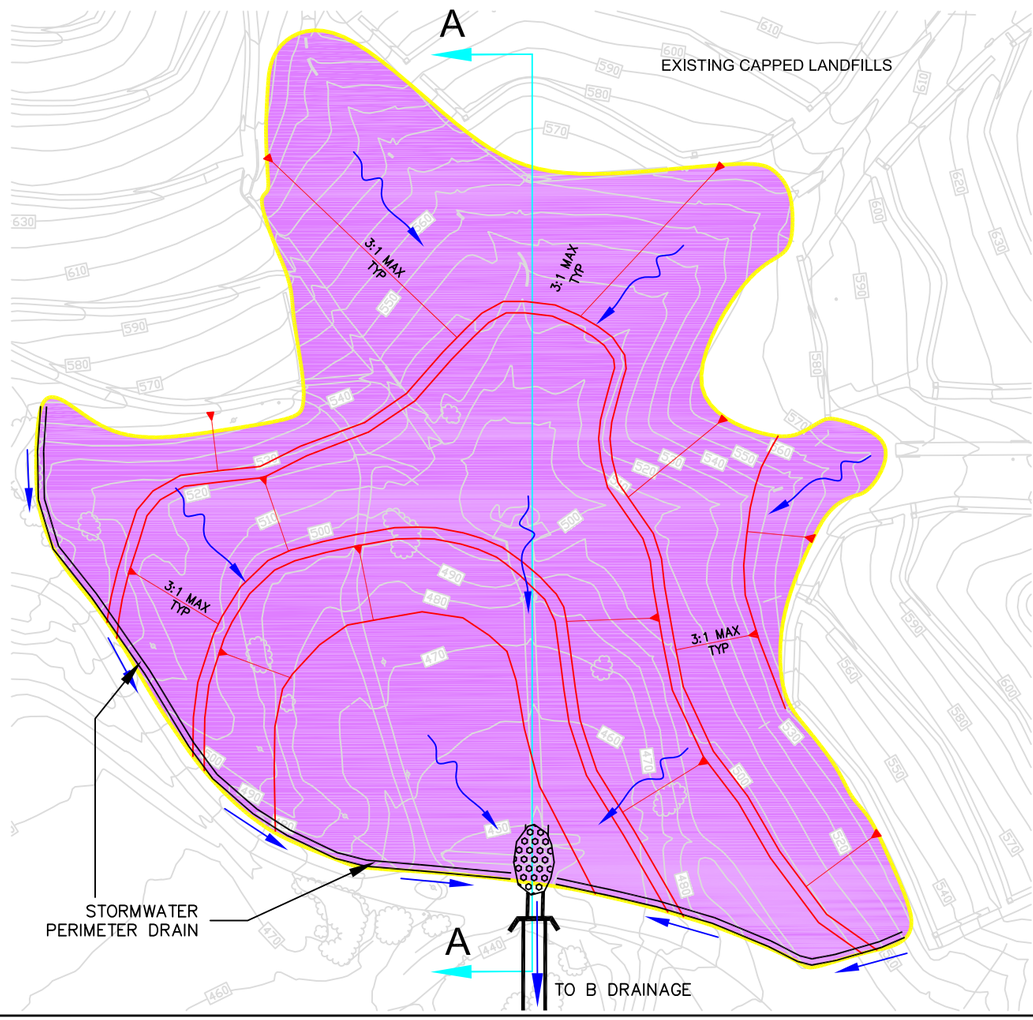
PROJECT: CASMALIA RESOURCES SUPERFUND SITE
FEASIBILITY STUDY

FS AREA 1 - ALTERNATIVE 3
EVAPOTRANSPIRATIVE CAP 5' (BTA) +
RCRA CAP (PCB LANDFILL)
GRADING PLAN

FIGURE 11-2B



SECTION A-A
1"=100'



PRELIMINARY EARTHWORK SUMMARY

CDA AREA = 817,200 SQ FT (18.76 ACRES)

GRADING	VOLUMES (CY)
CUT TO LEVELING LAYER =	180,000
FILL TO LEVELING LAYER =	180,000
NET CUT/FILL (180,000 – 180,000)	0
CAP SECTION VOLUMES	
5 FT LOW PERMEABILITY MONO SOIL =	151,300

LEGEND:

- EVAPOTRANSPIRATIVE (ET) CAP 5'
- NATURAL STORMWATER RUNOFF
- CHANNELED STORMWATER RUNOFF

NOTES:

1. EXISTING ROADS AND STORMWATER COLLECTION DRAINS TO BE RECONFIGURED DURING CAP DESIGN
2. THE LOCATIONS OF THE BENCH ROADS ARE TYPICAL. ACTUAL LOCATIONS WILL BE DETERMINED DURING DESIGN.

N

0 200'
GRAPHIC SCALE

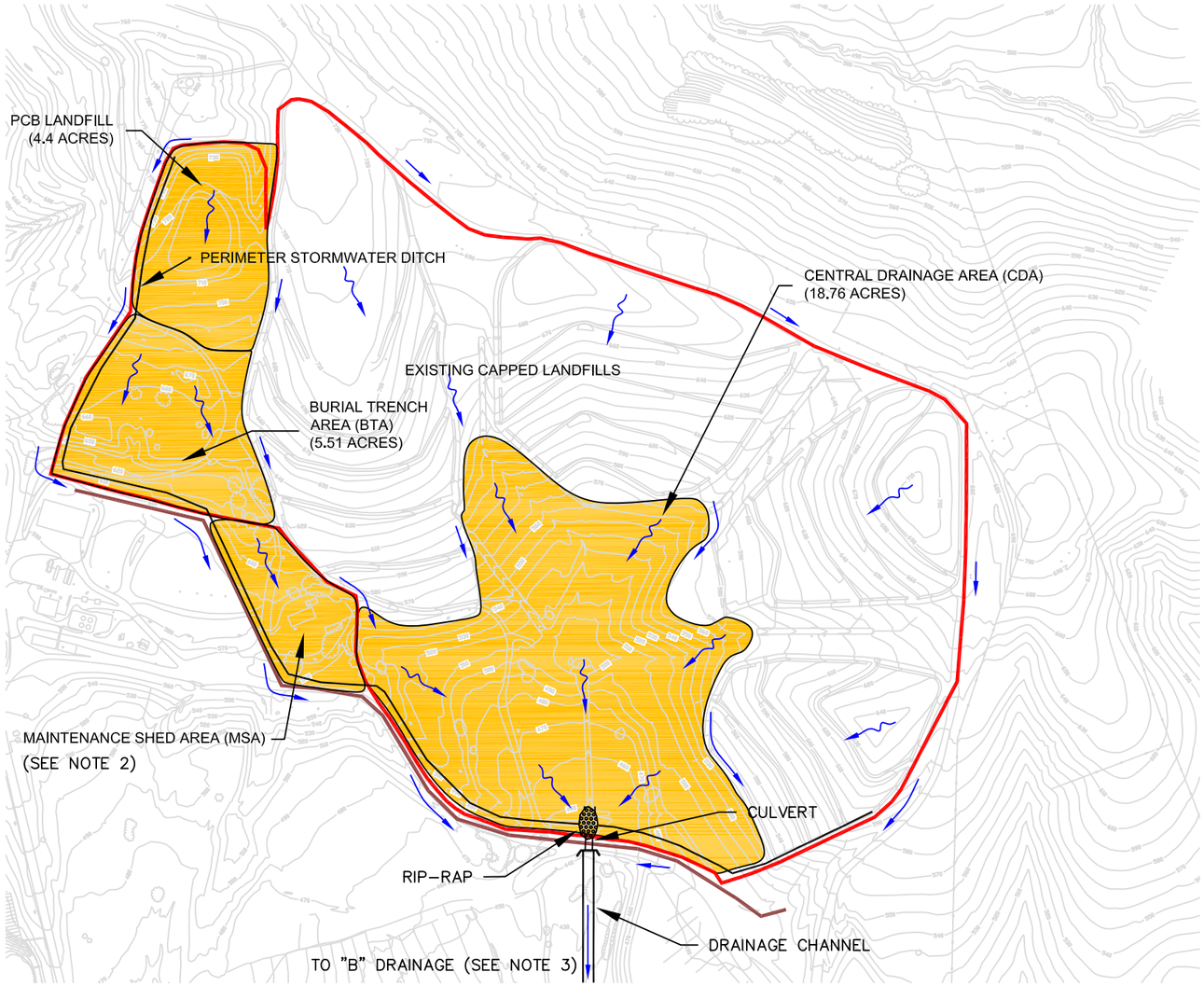
REV	DATE	REVISION DESCRIPTION	BY	CHK	APP

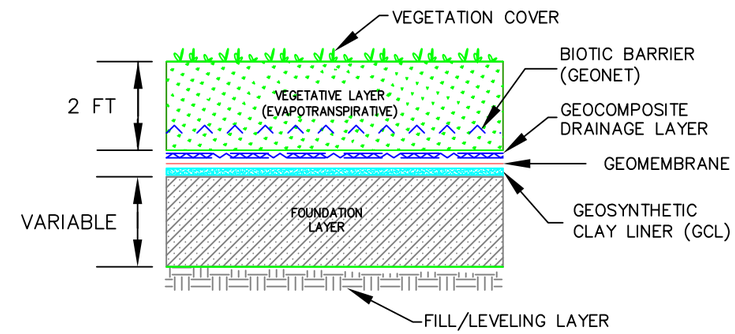
URS CORPORATION
130 ROBIN HILL ROAD, SUITE 100
SANTA BARBARA, CA 93117
PHONE: (805) 964-6010
FAX: (805) 964-0259

PROJECT: CASMALIA RESOURCES SUPERFUND SITE
FEASIBILITY STUDY

FS AREA 1 - ALTERNATIVE 3
EVAPOTRANSPIRATIVE CAP (CDA) +
GRADING PLAN

FIGURE 11-2C





DETAIL A - TYPICAL RCRA
CAP SECTION
NOT TO SCALE

LEGEND:

- LIMITS OF STUDY AREA (AREA 1)
- PERIMETER SOURCE CONTROL TRENCH (PSCT)
- RCRA CAP (SEE DETAIL A)
- NATURAL STORMWATER RUNOFF
- CHANNELED STORMWATER RUNOFF

NOTES:

1. LEVELING LAYER IS REQUIRED CUT AND FILL OF EXISTING SURFACE SOIL COVER TO PROVIDE SUITABLE BASE.
2. MSA CAP IS BEING ADDRESSED UNDER AREA 3.
3. STORMWATER RUNOFF FROM CAP AREAS WILL BE CHANNELED AND DIRECTED TO POND 13 AND THEN OFFSITE TO B DRAINAGE.

N

0 400'

GRAPHIC SCALE

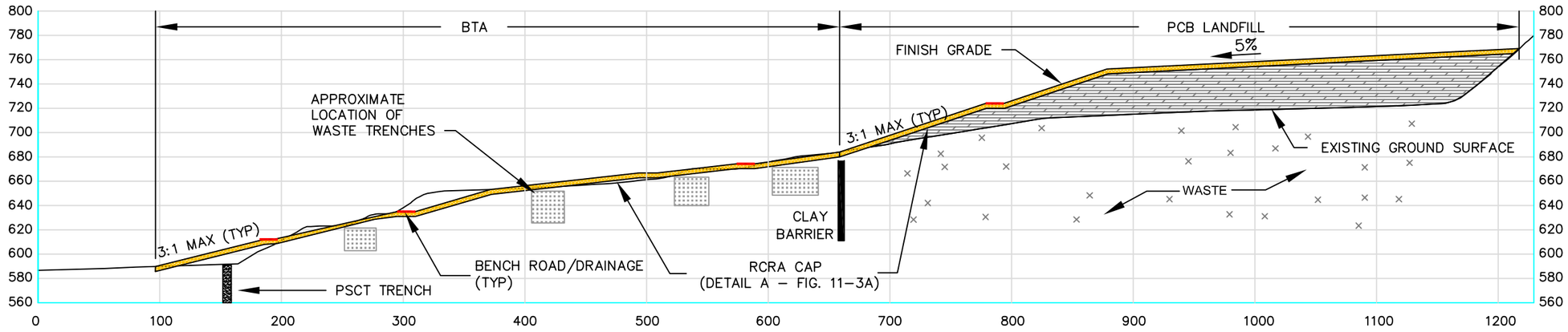
REV	DATE	REVISION DESCRIPTION	BY	CHK	APP

URS
URS CORPORATION
130 ROBIN HILL ROAD, SUITE 100
SANTA BARBARA, CA 93117
PHONE: (805) 964-6010
FAX: (805) 964-0259

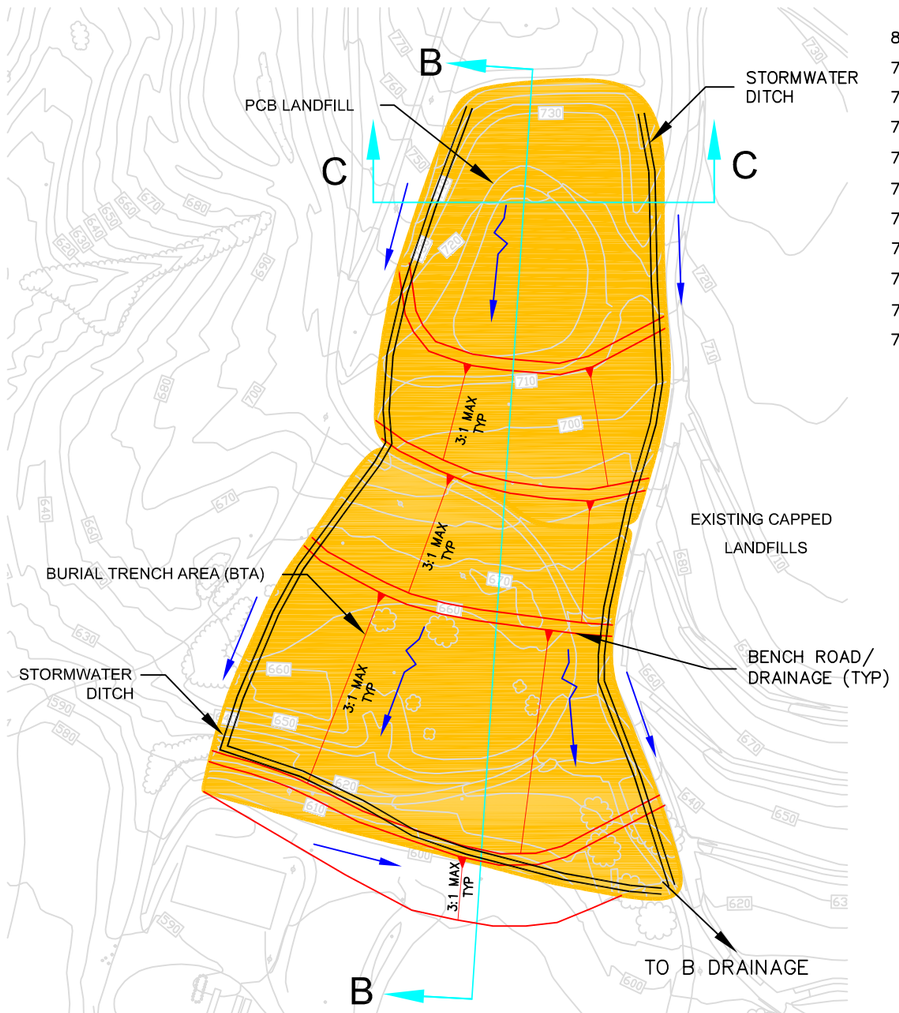
PROJECT: CASMALIA RESOURCES SUPERFUND SITE
FEASIBILITY STUDY

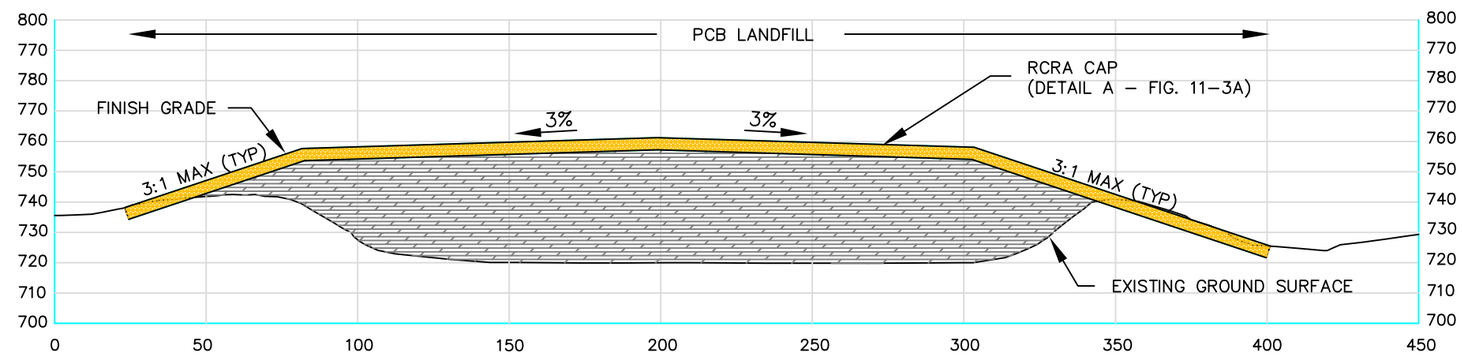
FS AREA 1 - ALTERNATIVE 4
RCRA CAP (BTA, CDA, PCB LANDFILL)

FIGURE 11-3A



SECTION B-B
1"=100'





SECTION C-C
1"=50'

PRELIMINARY EARTHWORK SUMMARY

PCB LANDFILL AREA = 185,100 SQ FT (4.25 ACRES)

GRADING	VOLUMES (CY)
CUT TO LEVELING LAYER =	20,000
CAP SECTION VOLUMES	
2 FT SOIL =	13,700
2 FT VEGETATIVE LAYER =	13,700

BTA AREA = 240,000 SQ FT (5.51 ACRES)

GRADING	VOLUMES (CY)
CUT TO LEVELING LAYER =	60,000
FILL TO LEVELING LAYER =	43,000
NET CUT/FILL (60,000 – 43,000)	17,000 (EXPORT)
CAP SECTION VOLUMES	
2 FT FOUNDATION LAYER =	17,800
2 FT VEGETATIVE LAYER =	17,800

NOTE:

1. EXISTING ROADS AND STORMWATER COLLECTION DRAINS TO BE RECONFIGURED DURING CAP DESIGN.

LEGEND:

- RCRA CAP
- NATURAL STORMWATER RUNOFF
- CHANNELED STORMWATER RUNOFF

N

0 200'
GRAPHIC SCALE

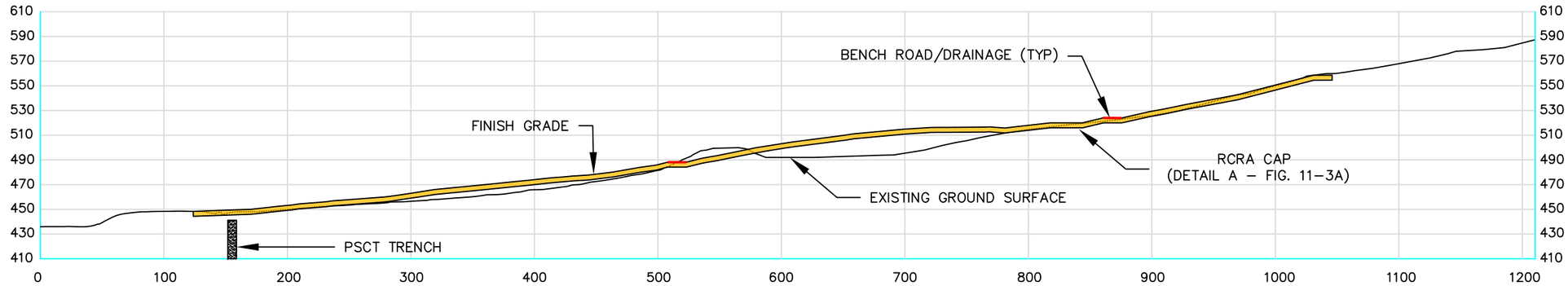
REV	DATE	REVISION DESCRIPTION	BY	CHK	APP

URS CORPORATION
130 ROBIN HILL ROAD, SUITE 100
SANTA BARBARA, CA 93117
PHONE: (805) 964-6010
FAX: (805) 964-0259

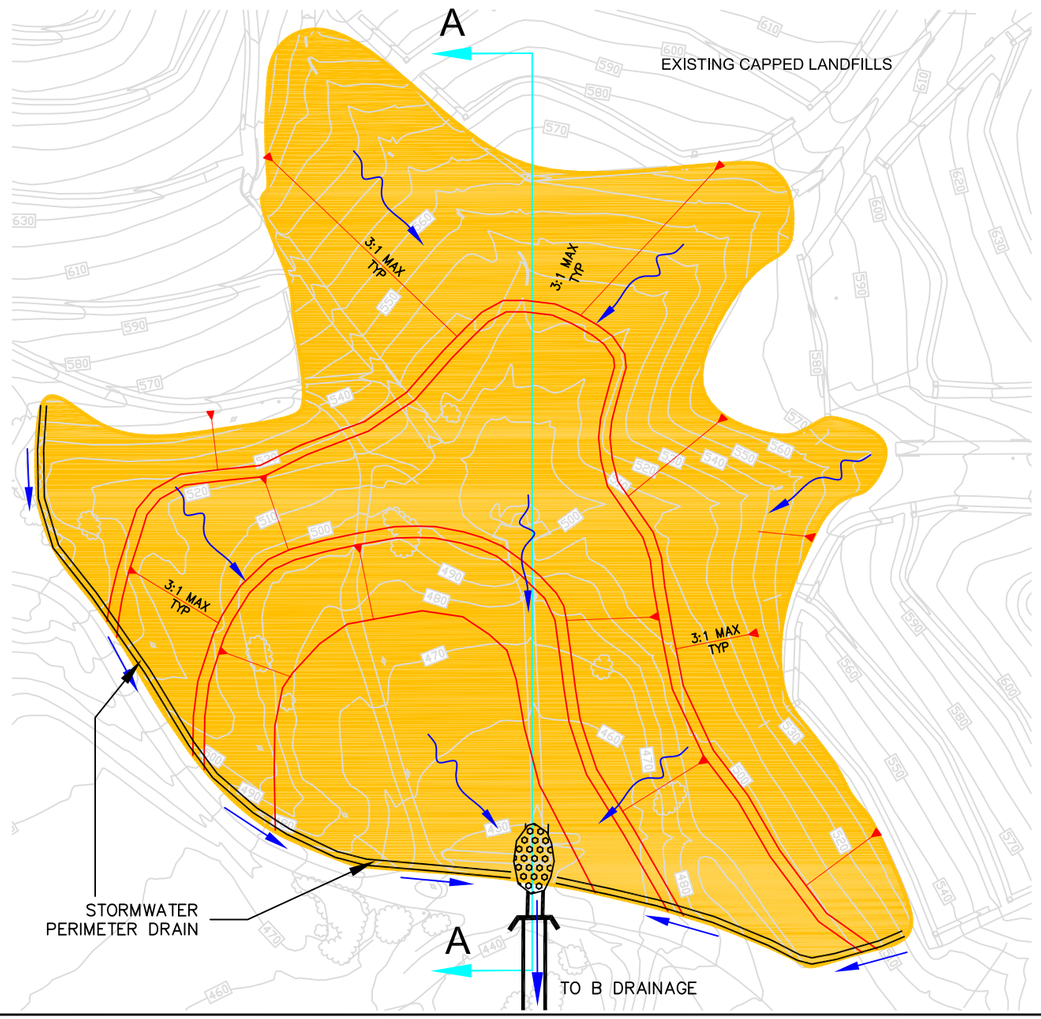
PROJECT: CASMALIA RESOURCES SUPERFUND SITE
FEASIBILITY STUDY

FS AREA 1 - ALTERNATIVE 4
RCRA CAP (PCB LANDFILL, BTA) + GRADING PLAN

FIGURE 11-3B



SECTION A-A
1"=100'



PRELIMINARY EARTHWORK SUMMARY

CDA AREA = 817,200 SQ FT (18.76 ACRES)

GRADING	VOLUME (CY)
CUT TO LEVELING LAYER =	150,000
FILL TO LEVELING LAYER =	150,000
NET CUT/FILL (150,000 – 150,000)	0
CAP SECTION VOLUMES	
2 FT FOUNDATION LAYER =	60,500
2 FT VEGETATIVE LAYER =	60,500

LEGEND:

- RCRA CAP
- NATURAL STORMWATER RUNOFF
- CHANNELED STORMWATER RUNOFF

NOTES:

1. EXISTING ROADS AND STORMWATER COLLECTION DRAINS TO BE RECONFIGURED DURING CAP DESIGN
2. THE LOCATIONS OF THE BENCH ROADS ARE TYPICAL. ACTUAL LOCATIONS WILL BE DETERMINED DURING DESIGN.

N

0 200'
GRAPHIC SCALE

REV	DATE	REVISION DESCRIPTION	BY	CHK	APP

URS
URS CORPORATION
130 ROBIN HILL ROAD, SUITE 100
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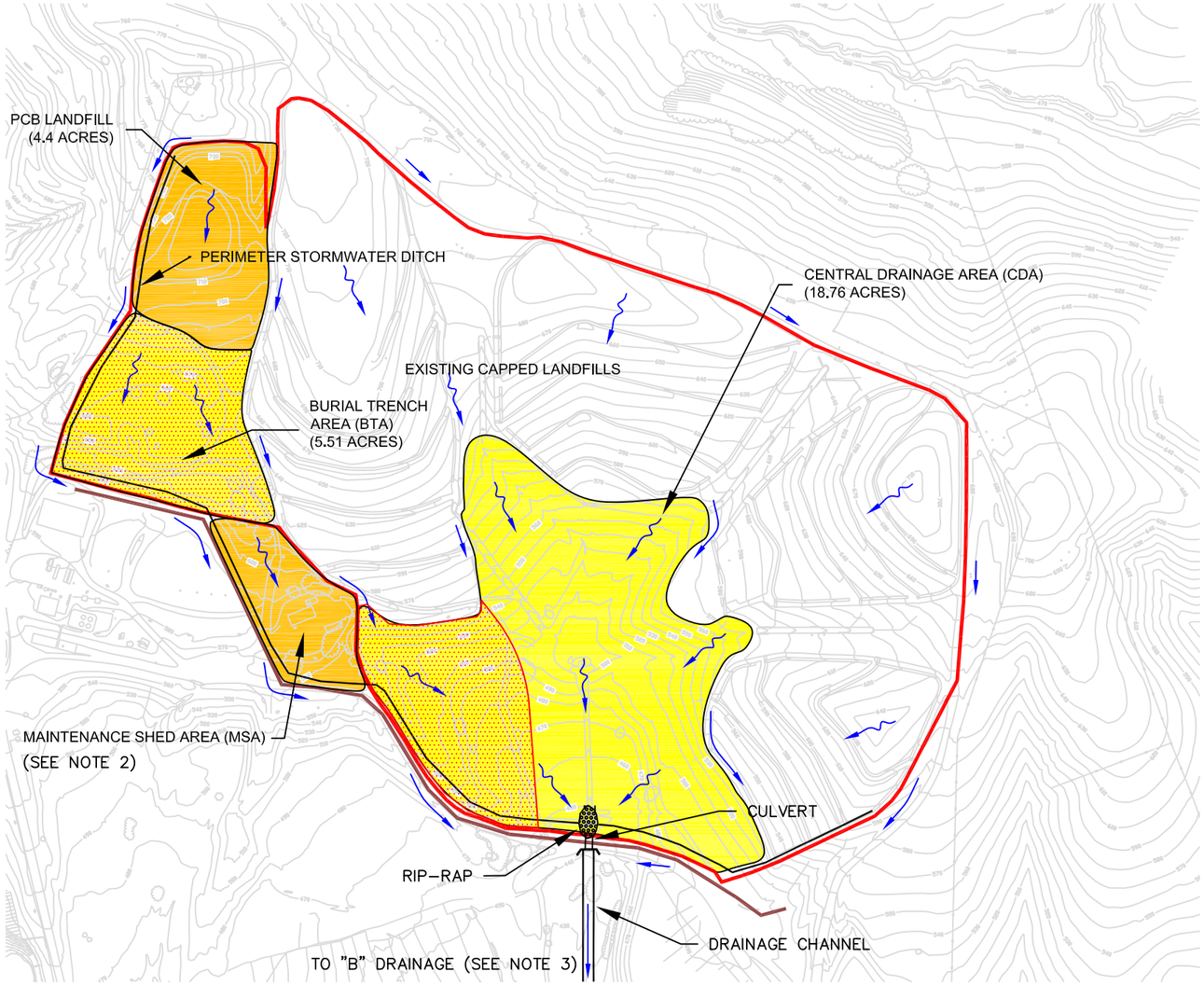
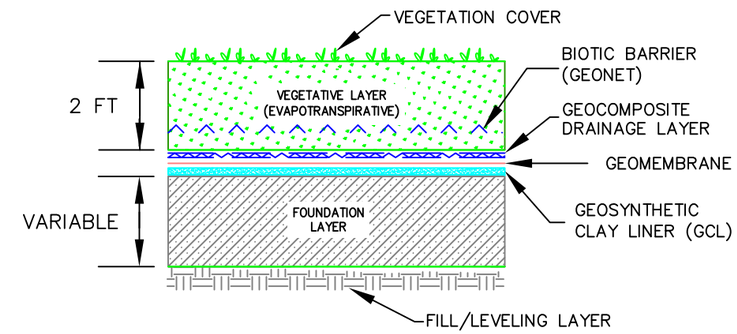
PROJECT: CASMALIA RESOURCES SUPERFUND SITE
FEASIBILITY STUDY

FS AREA 1 - ALTERNATIVE 4
RCRA CAP (CDA) + GRADING PLAN

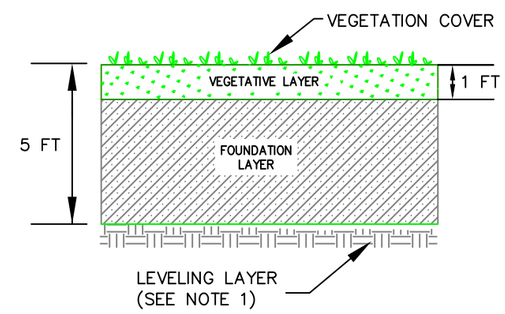
FIGURE 11-3C





DETAIL A - TYPICAL RCRA CAP SECTION

NOT TO SCALE



DETAIL B - TYPICAL 5' RCRA-EQUIVALENT
MONO SOIL CAP SECTION

NOT TO SCALE

LEGEND:

- LIMITS OF STUDY AREA (AREA 1)
- PERIMETER SOURCE CONTROL TRENCH (PSCT)
- RCRA CAP (SEE DETAIL A)
- RCRA – EQUIVALENT MONO SOIL CAP 5' (SEE DETAIL B)
- EXCAVATION AREAS
- NATURAL STORMWATER RUNOFF
- CHANNELED STORMWATER RUNOFF

NOTES:

1. LEVELING LAYER TO BE CONSTRUCTED BY CUT AND FILL OF EXISTING SURFACE SOIL COVER AND RECOMPACTION TO PROVIDE SUITABLE IN-PLACE DENSITY.
2. MSA CAP IS BEING ADDRESSED UNDER AREA 3.
3. STORMWATER RUNOFF FROM CAP AREAS WILL BE CHANNELED AND DIRECTED TO POND 13 AND THEN OFFSITE TO B DRAINAGE.

N

0 400'

GRAPHIC SCALE

REV	DATE	REVISION DESCRIPTION	BY	CHK	APP

URS CORPORATION

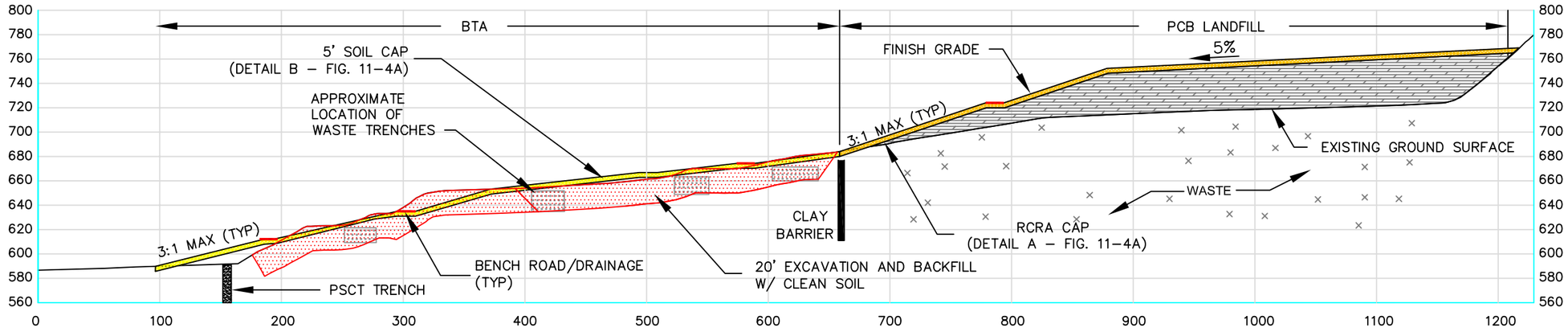
130 ROBIN HILL ROAD, SUITE 100
SANTA BARBARA, CA 93117
PHONE: (805) 964-6010
FAX: (805) 964-0259

PROJECT: CASMALIA RESOURCES SUPERFUND SITE
FEASIBILITY STUDY

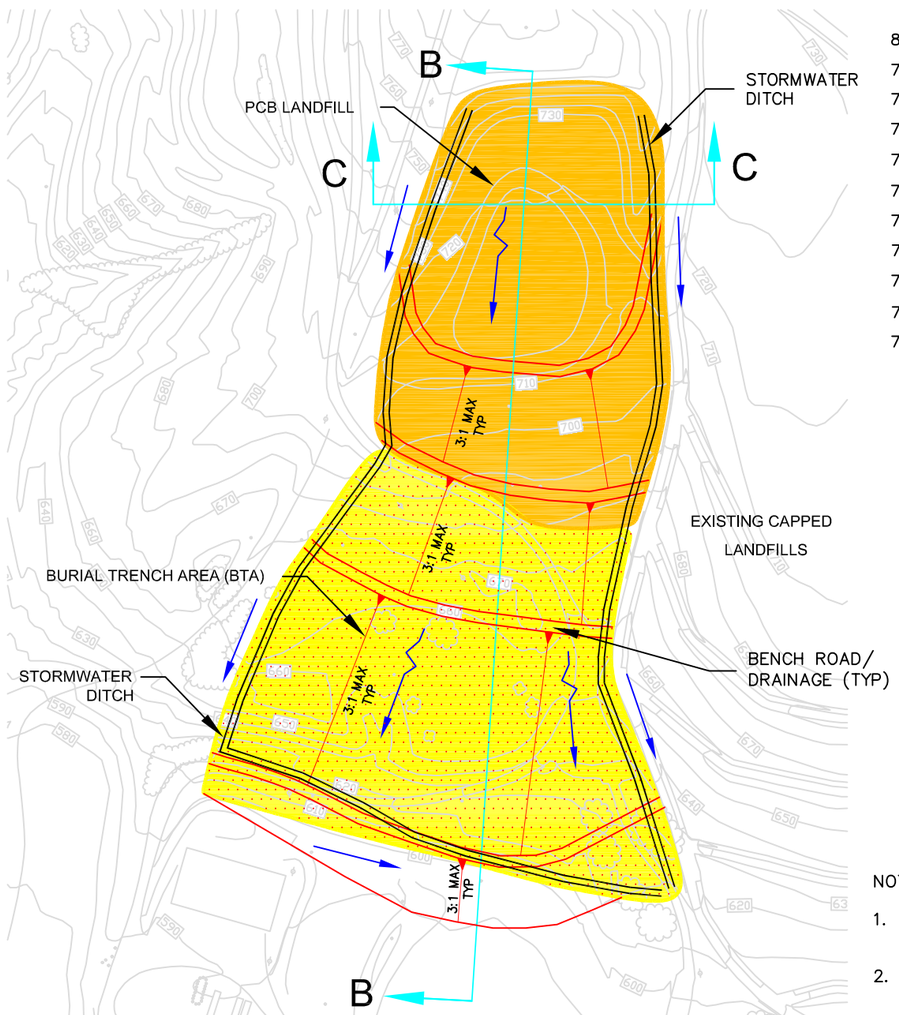
FS AREA 1 - ALTERNATIVE 5
EXCAVATE (METALS, ORGANICS) (BTA, 20') (CDA, 5')
+ RCRA - EQUIVALENT MONO SOIL CAP 5' (BTA, CDA)
+ RCRA CAP (PCB LANDFILL)

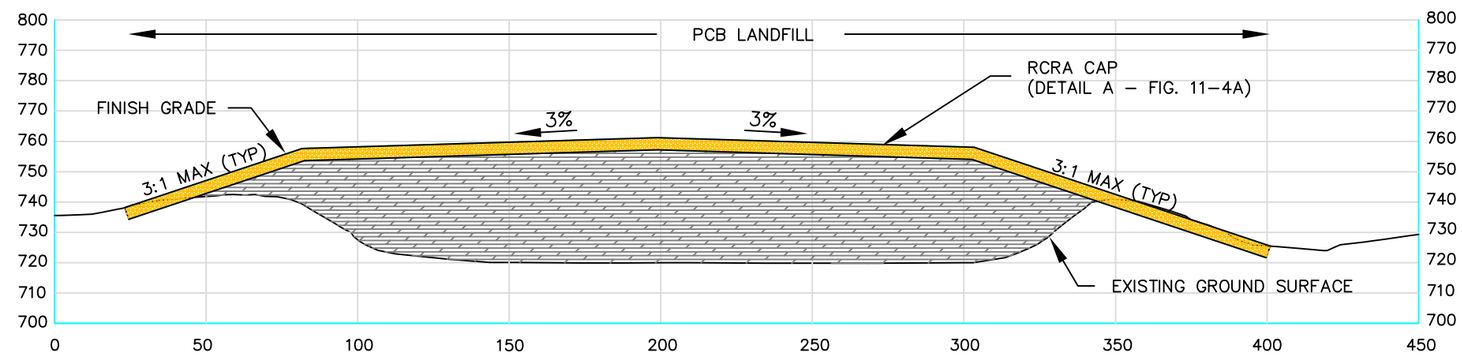
FIGURE 11-4A

M:\Blanco\Casmalia\Figures\EPA Revised\FS AREA 1\Figure 11-4A.dwg , File date: 3/14/2013 1:36 PM, Print date: 3/14/2013 1:36 PM by: Munson, Chris



SECTION B-B
1"=100'





SECTION C-C
1"=50'

PRELIMINARY EARTHWORK SUMMARY

PCB LANDFILL AREA = 185,100 SQ FT (4.25 ACRES)	
GRADING	VOLUMES (CY)
CUT TO LEVELING LAYER =	20,000
CAP SECTION VOLUMES	
2 FT LOW PERMEABILITY SOIL =	13,700
2 FT VEGETATIVE LAYER =	13,700
BTA AREA = 240,000 SQ FT (5.51 ACRES)	
GRADING	VOLUMES (CY)
20' EXCAVATION (CUT)	178,000
CAP SECTION VOLUMES	
4 FT FOUNDATION LAYER =	26,700
1 FT VEGETATIVE LAYER =	8,900

NOTES:

1. EXISTING ROADS AND STORMWATER COLLECTION DRAINS TO BE RECONFIGURED DURING CAP DESIGN.
2. BTA EXCAVATION COULD BE DEEPER THAN 20 FT IF WASTE TRENCH BOTTOM IS DEEPER.

LEGEND:

- RCRA CAP
- RCRA – EQUIVALENT MONO SOIL CAP 5'
- EXCAVATION AREAS
- NATURAL STORMWATER RUNOFF
- CHANNELED STORMWATER RUNOFF

N

0 200'
GRAPHIC SCALE

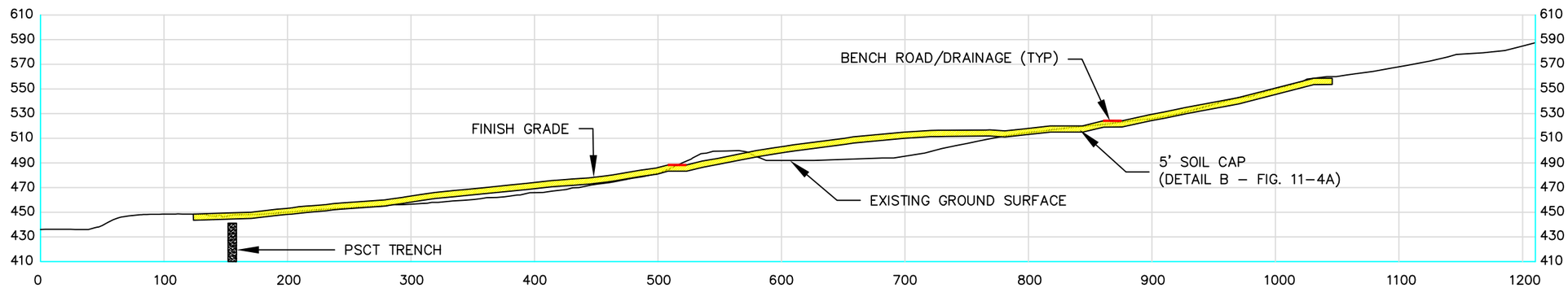
REV	DATE	REVISION DESCRIPTION	BY	CHK	APP

URS
URS CORPORATION
130 ROBIN HILL ROAD, SUITE 100
SANTA BARBARA, CA 93117
PHONE: (805) 964-6010
FAX: (805) 964-0259

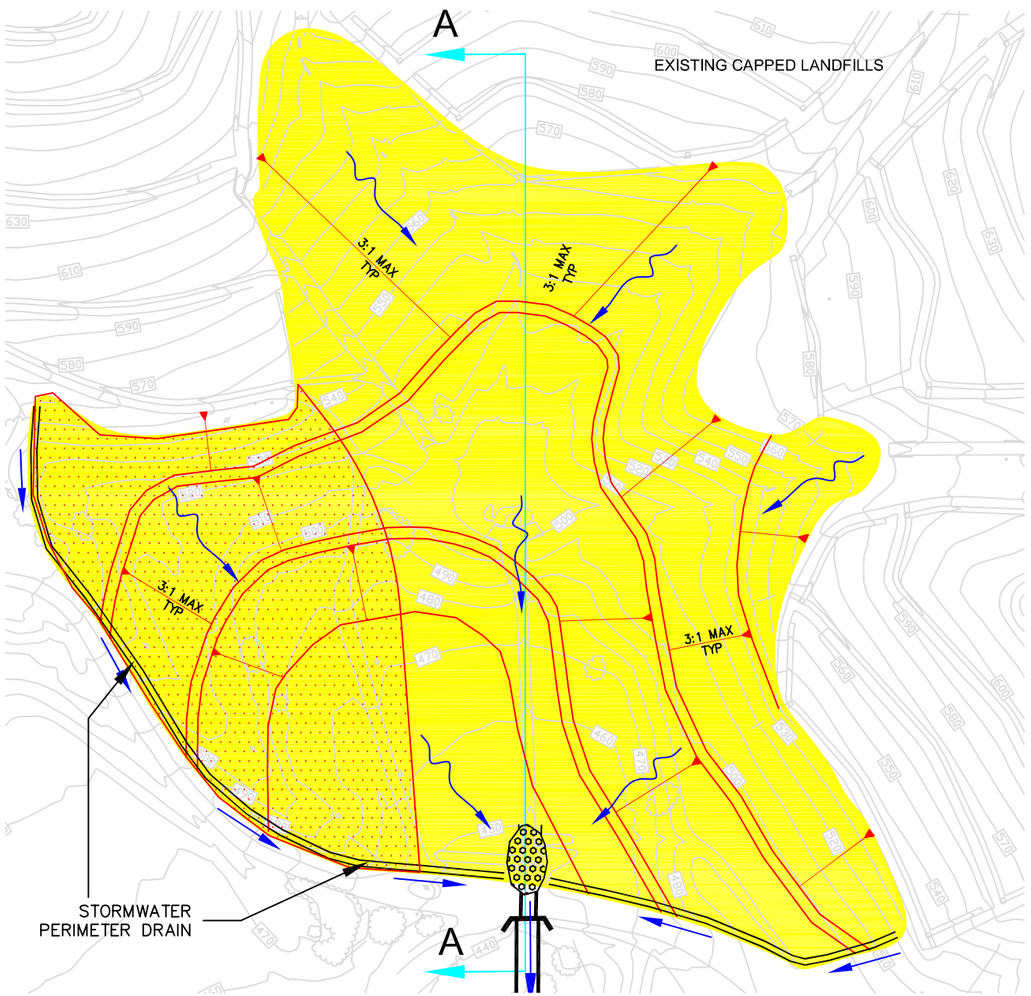
PROJECT: CASMALIA RESOURCES SUPERFUND SITE
FEASIBILITY STUDY

FS AREA 1 - ALTERNATIVE 5
RCRA CAP (PCB LANDFILL), SOIL CAP (BTA) +
GRADING PLAN

FIGURE 11-4B



SECTION A-A
1"=100'



PRELIMINARY EARTHWORK SUMMARY

CDA RCRA EQUIVALENT CAP AREA = 609,700 SQ FT (14.00 ACRES)

GRADING	VOLUMES (CY)
CUT TO LEVELING LAYER =	150,000
FILL TO LEVELING LAYER =	150,000
NET CUT/FILL (180,000 – 180,000)	0
CAP SECTION VOLUMES	
4 FT FOUNDATION LAYER =	90,400
1 FT VEGETATIVE LAYER =	22,600

CDA EXCAVATION AREA = 207,500 SQ FT (4.76 ACRES)

GRADING	VOLUMES (CY)
5' EXCAVATION (CUT)	38,500
CAP SECTION VOLUMES	
4 FT FOUNDATION LAYER =	30,800
1 FT VEGETATIVE LAYER =	7,700

LEGEND:

- RCRA – EQUIVALENT MONO SOIL CAP 5'
- EXCAVATION AREAS
- NATURAL STORMWATER RUNOFF
- CHANNELED STORMWATER RUNOFF

NOTES:

1. EXISTING ROADS AND STORMWATER COLLECTION DRAINS TO BE RECONFIGURED DURING CAP DESIGN.
2. THE LOCATIONS OF THE BENCH ROADS ARE TYPICAL. ACTUAL LOCATIONS WILL BE DETERMINED DURING DESIGN.

N

0 200'
GRAPHIC SCALE

REV	DATE	REVISION DESCRIPTION	BY	CHK	APP

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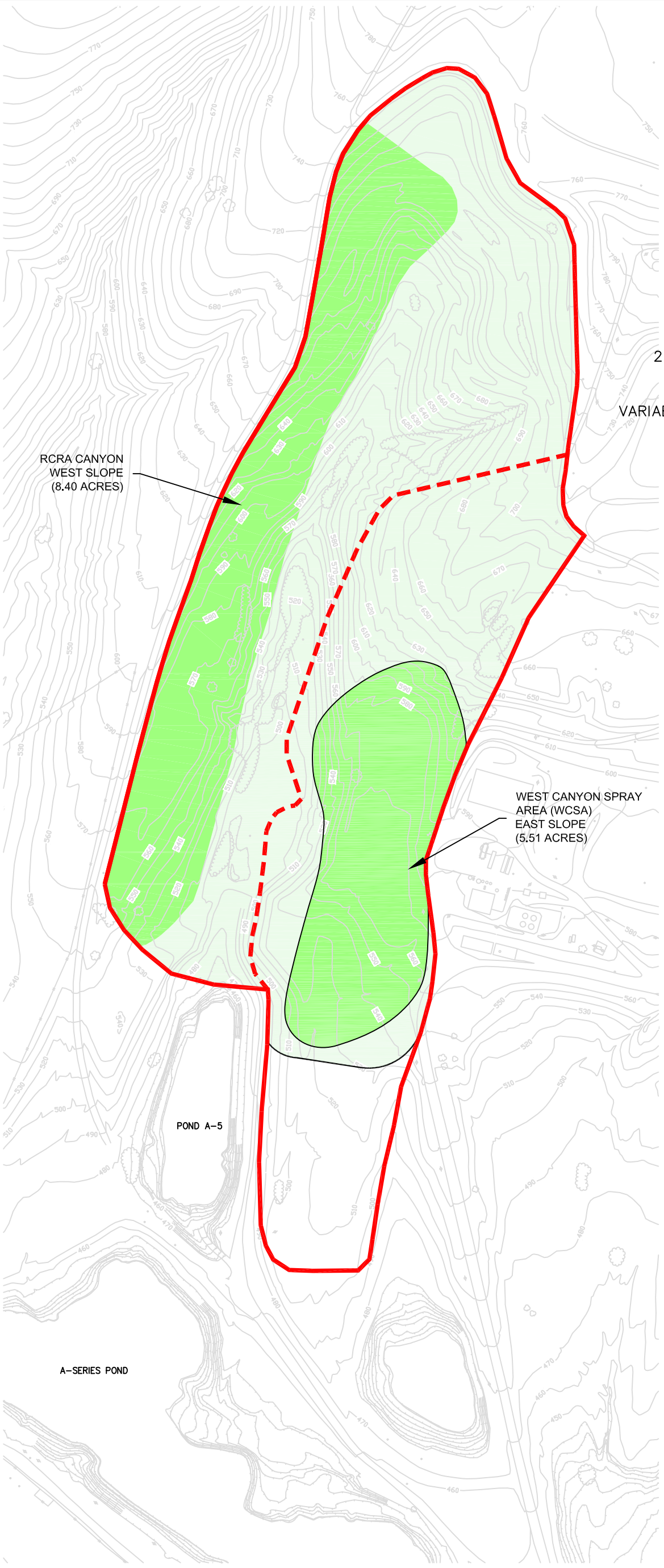
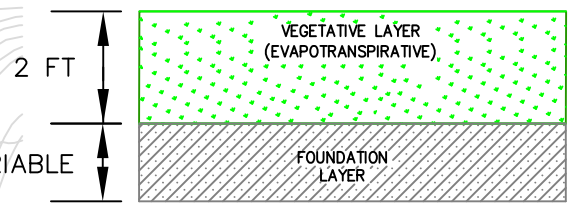
PROJECT: CASMALIA RESOURCES SUPERFUND SITE
FEASIBILITY STUDY

FS AREA 1 - ALTERNATIVE 5
SOIL CAP (CDA) + GRADING PLAN

FIGURE 11-4C



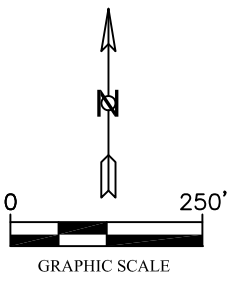


DETAIL A - TYPICAL ECO-CAP - SOIL CAP

NOT TO SCALE

LEGEND:

- ECO-CAP- SOIL CAP (SEE DETAIL A)
- UNCAPPED AREA (GRADING WITH BMPs)
- LIMITS OF STUDY AREA 2
- LIMITS OF RCRA CANYON AND WCSA AREAS



GRAPHIC SCALE

REV	DATE	REVISION DESCRIPTION	BY	CHK	APP

URS CORPORATION

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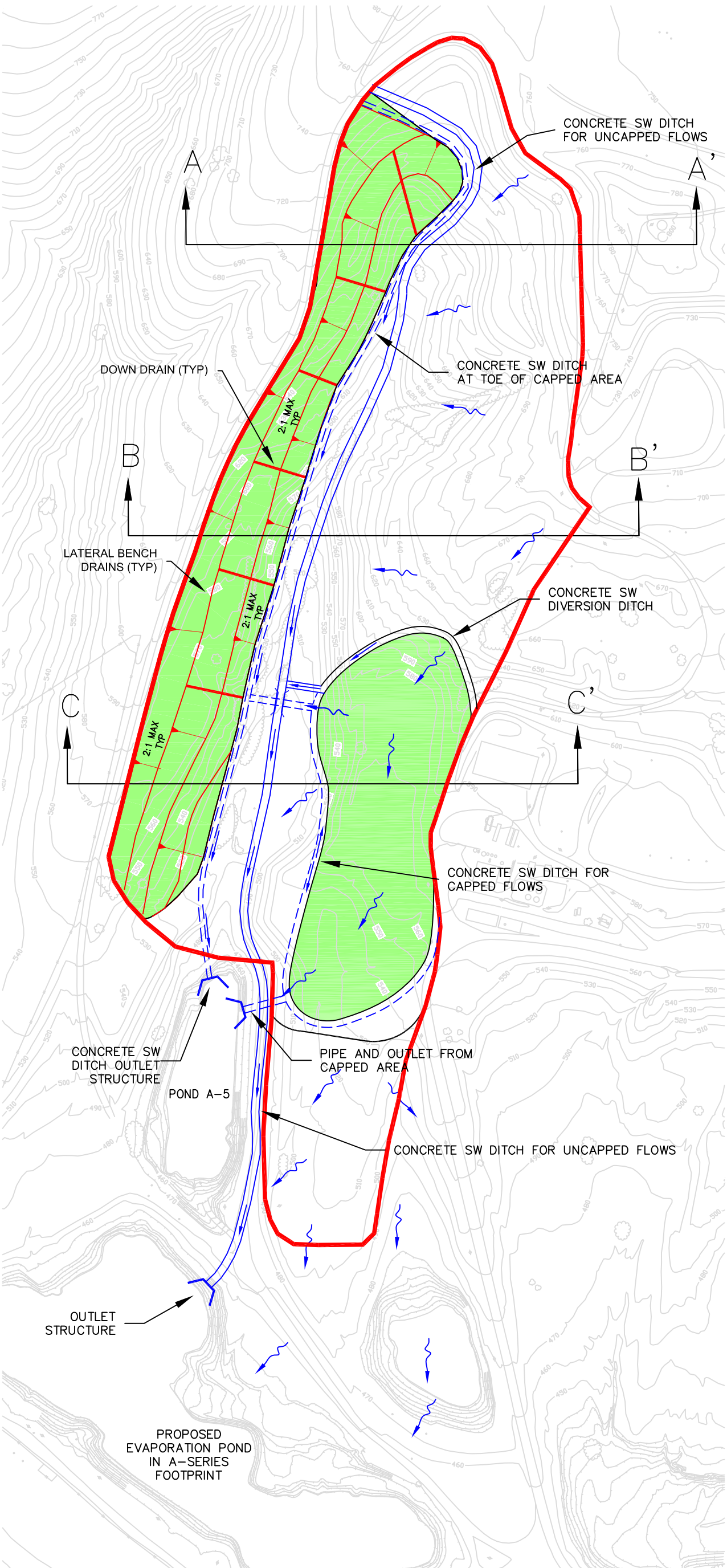
PROJECT: CASMALIA RESOURCES SUPERFUND SITE
FEASIBILITY STUDY

FS AREA 2 - ALTERNATIVE 2
ECO-CAP (WEST SLOPE RCRA CANYON, WCSA)
+ GRADING/BMPs (UNCAPPED AREAS)

FIGURE 11-5A

M:\Blanco\Casmalia\Figures\EPA Revised\FS AREA 2\Figure 11-5A.dwg , File date: 3/15/2013 12:05 PM, Print date: 3/15/2013 12:08 PM by: Munson, Chris



LEGEND:

- ECO-CAP – SOIL CAP
- STORMWATER FLOW DIRECTION
- LIMITS OF STUDY AREA (AREA 2)
- CONCRETE-LINED CHANNEL FOR CAPPED AREA RUNOFF
- CONCRETE-LINED CHANNEL FOR UNCAPPED AREA RUNOFF

NOTES:

1. CAPPED AREA STORMWATER DRAINS TO LINED POND A-5 WHICH WOULD EVENTUALLY BE DISCHARGED OFFSITE TO THE B-DRAINAGE VIA POND 13 THROUGH OR AROUND WETLANDS.
2. UNCAPPED AREA STORMWATER DRAINS TO PROPOSED LINED EVAPORATION POND IN FOOTPRINT OF A-SERIES POND.

N

0 250'

GRAPHIC SCALE

REV	DATE	REVISION DESCRIPTION	BY	CHK	APP

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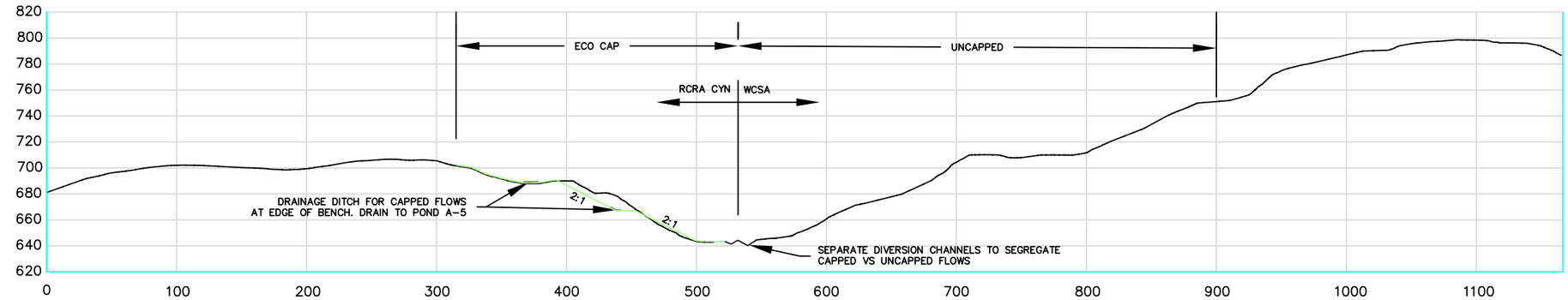
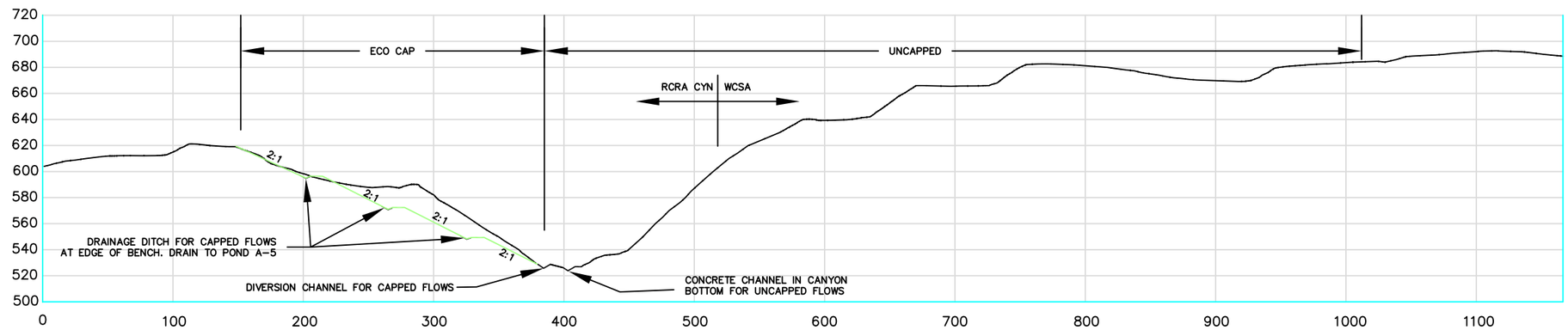
PROJECT: CASMALIA RESOURCES SUPERFUND SITE
FEASIBILITY STUDY

FS AREA 2 - ALTERNATIVE 2
STORMWATER PLAN

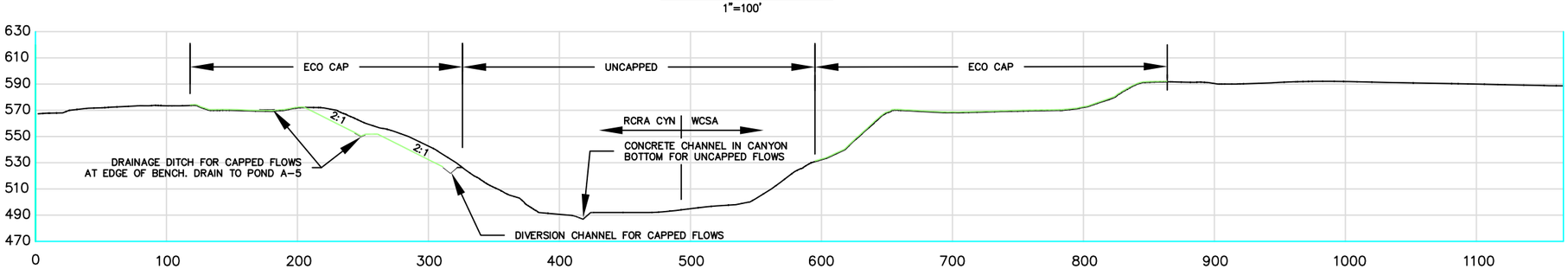
FIGURE 11-5B



SECTION A-A'
1"=100'



SECTION B-B'
1"=100'



SECTION C-C'
1"=100'

PRELIMINARY EARTHWORK SUMMARY

RCRA CANYON CAP AREA = 365,900 SQ FT (8.40 ACRES)

GRADING	VOLUMES (CY)
CUT TO LEVELING LAYER =	120,000
FILL TO LEVELING LAYER =	120,000
NET CUT/FILL (120,000 – 120,000)	0

CAP SECTION VOLUMES
2 FT VEGETATIVE LAYER = 27,000 CY

WCSA CAP AREA = 240,000 SQ FT (5.51 ACRES)

CAP SECTION VOLUMES
2 FT VEGETATIVE LAYER = 18,000 CY

0 100'
GRAPHIC SCALE

REV	DATE	REVISION DESCRIPTION	BY	CHK	APP

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URS CORPORATION
130 ROBIN HILL ROAD, SUITE 100
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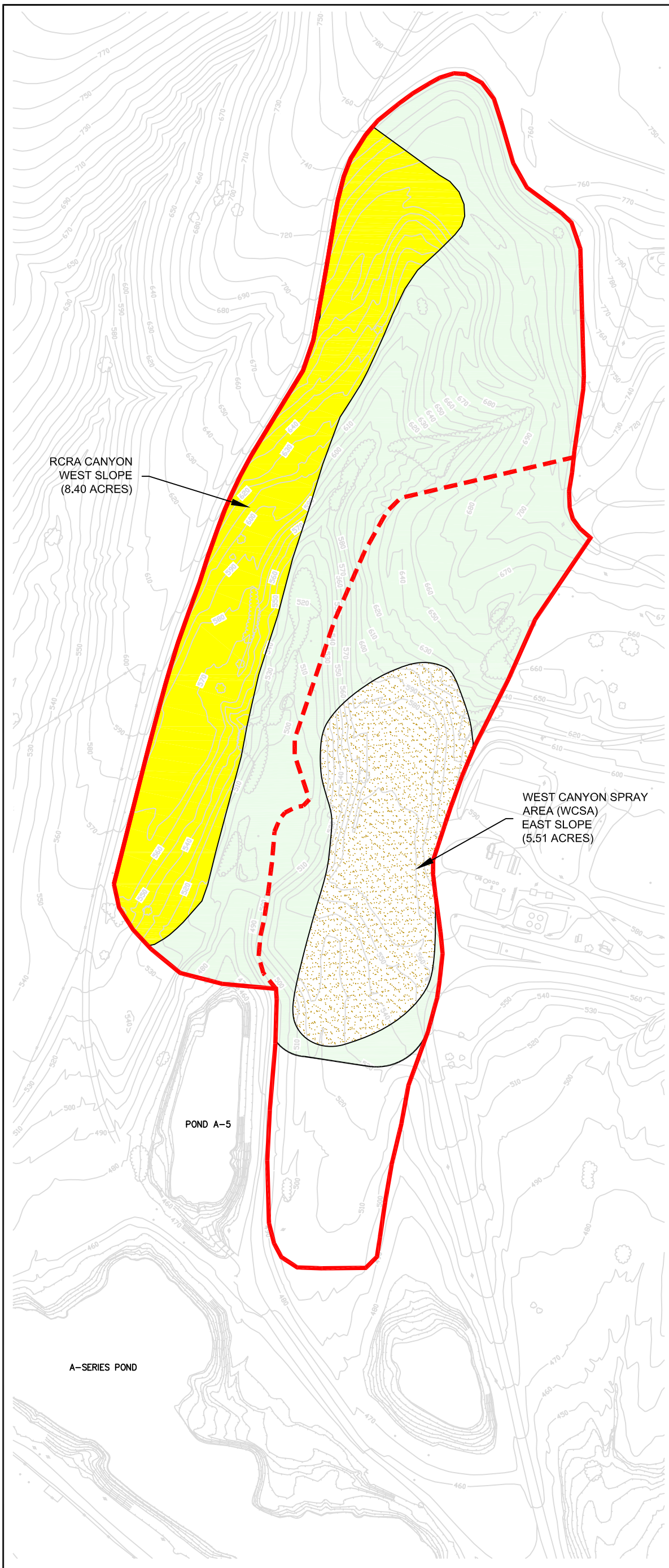
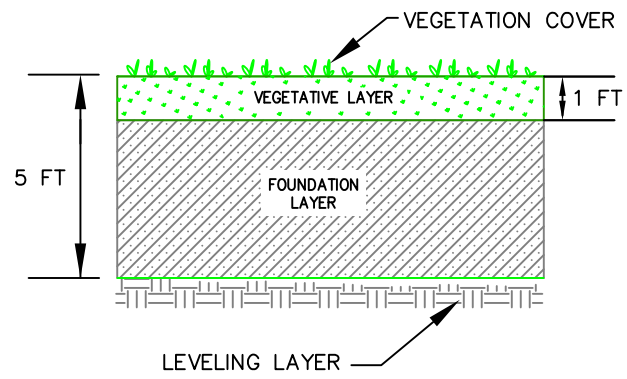
FAX: (805) 964-0259

PROJECT: CASMALIA RESOURCES SUPERFUND SITE
FEASIBILITY STUDY

FS AREA 2 - ALTERNATIVE 2
ECO CAP, AND GRADING PLAN

FIGURE 11-5C

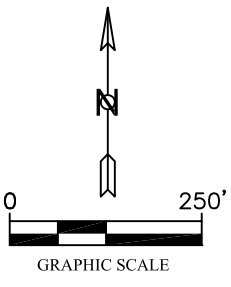




DETAIL A - TYPICAL 5' RCRA-EQUIVALENT
MONO SOIL CAP SECTION
NOT TO SCALE

LEGEND:

- RCRA–EQUIVALENT MONO SOIL CAP 5' (SEE DETAIL A)
- 5' EXCAVATION WITH BACKFILL TO MATCH EXISTING GRADE
- UNCAPPED AREA (GRADING WITH BMPs)
- LIMITS OF STUDY AREA 2
- LIMITS OF RCRA CANYON AND WCSA AREAS



REV	DATE	REVISION DESCRIPTION	BY	CHK	APP

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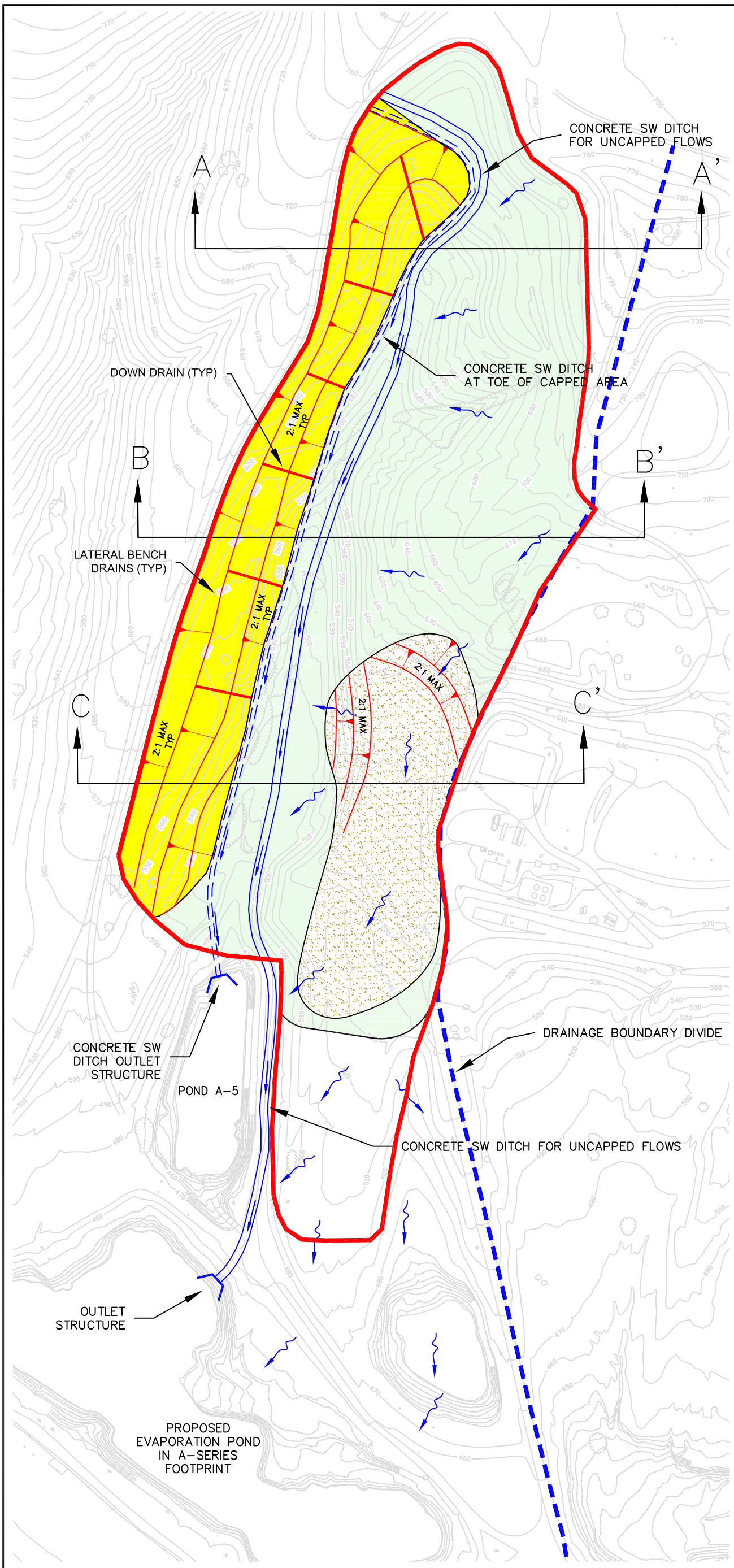
PROJECT: CASMALIA RESOURCES SUPERFUND SITE
FEASIBILITY STUDY

FS AREA 2 - ALTERNATIVE 3
RCRA-EQUIVALENT MONO SOIL CAP (WEST SLOPE
RCRA CANYON) (5') + EXCAVATE (PORTION OF
WCSA) (5') + GRADING/BMPs (UNCAPPED AREAS)

FIGURE 11-6A



LEGEND:

- RCRA-EQUIVALENT MONO SOIL CAP
- 5' EXCAVATION WITH BACKFILL TO MATCH EXISTING GRADE
- UNCAPPED AREA INCLUDING GRADING AND BMPs
- STORMWATER FLOW DIRECTION
- LIMITS OF STUDY AREA (AREA 2)
- CONCRETE-LINED CHANNEL FOR CAPPED AREA RUNOFF
- CONCRETE-LINED CHANNEL FOR UNCAPPED AREA RUNOFF

NOTES:

1. CAPPED AREA STORMWATER DRAINS TO LINED RETENTION BASIN CONSTRUCTED IN THE FOOTPRINT OF POND A-5 AND EVENTUALLY DISCHARGED OFFSITE TO THE B-DRAINAGE VIA POND 13 THROUGH OR AROUND WETLANDS.
2. UNCAPPED AREA STORMWATER DRAINS TO PROPOSED LINED EVAPORATION POND IN FOOTPRINT OF A-SERIES POND.

N

0 250'

GRAPHIC SCALE

REV	DATE	REVISION DESCRIPTION	BY	CHK	APP

URS CORPORATION
130 ROBIN HILL ROAD, SUITE 100
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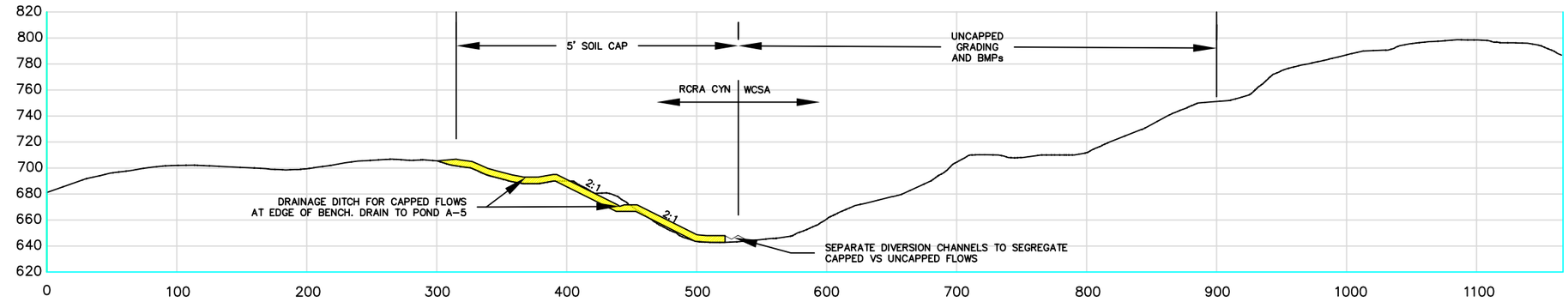
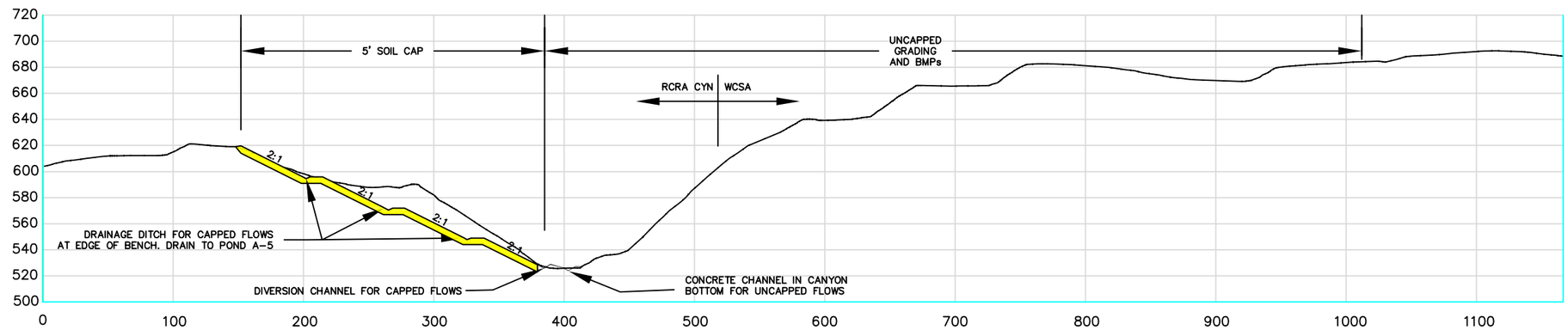
PROJECT: CASMALIA RESOURCES SUPERFUND SITE
FEASIBILITY STUDY

FS AREA 2 - ALTERNATIVE 3
STORMWATER PLAN

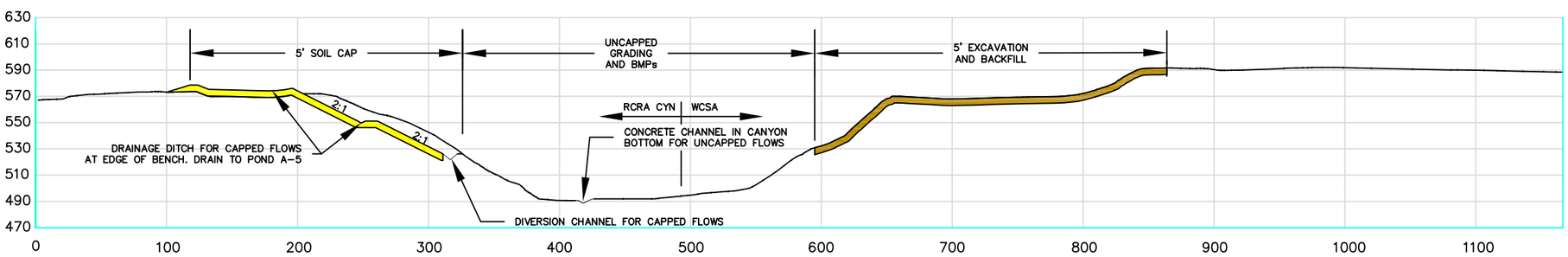
FIGURE 11-6B



SECTION A-A'
1"=100'



SECTION B-B'
1"=100'



SECTION C-C'
1"=100'

PRELIMINARY EARTHWORK SUMMARY

RCRA CANYON CAP AREA = 365,900 SQ FT (8.40 ACRES)

GRADING	VOLUMES (CY)
CUT TO LEVELING LAYER =	120,000
FILL TO LEVELING LAYER =	120,000
NET CUT/FILL (50,000 – 50,000)	0
CAP SECTION VOLUMES	
4 FT FOUNDATION LAYER =	54,000
1 FT VEGETATIVE LAYER =	13,500

5' EXCAVATION AND BACKFILL

44,700 CY (CUT AND EXPORT TO USE AS FILL FOR POND A5)
5' FILL = 44,700 CY (FILL)

0 100'
GRAPHIC SCALE

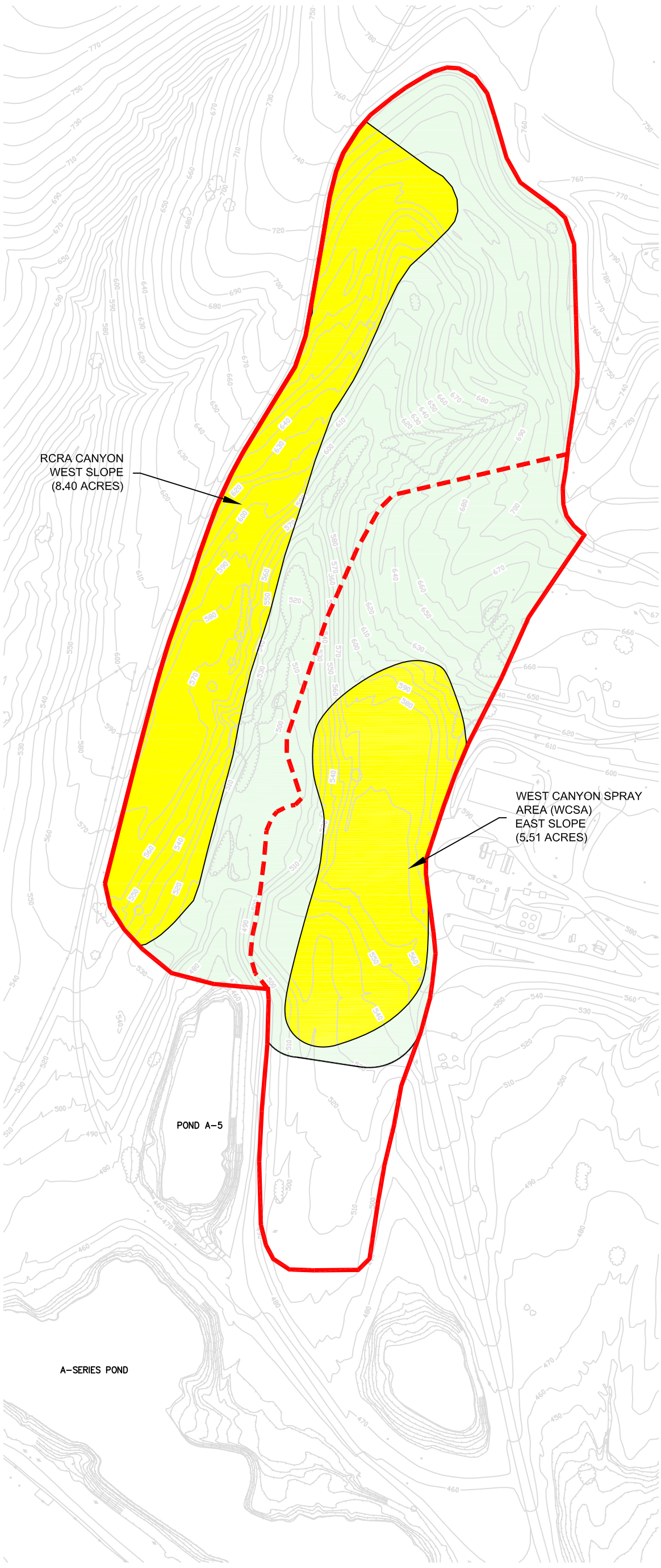
REV	DATE	REVISION DESCRIPTION	BY	CHK	APP

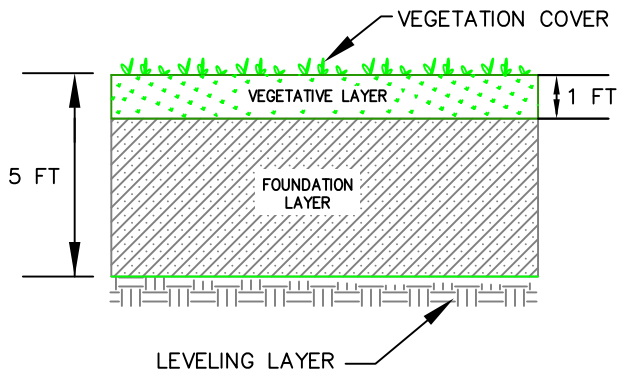
URS CORPORATION
130 ROBIN HILL ROAD, SUITE 100
SANTA BARBARA, CA 93117
PHONE: (805) 964-6010
FAX: (805) 964-0259

PROJECT: CASMALIA RESOURCES SUPERFUND SITE
FEASIBILITY STUDY

FS AREA 2 - ALTERNATIVE 3
RCRA-EQUIVALENT MONO SOIL CAP,
EXCAVATION, AND GRADING PLAN

FIGURE 11-6C



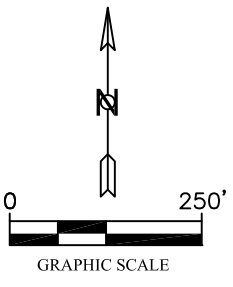


DETAIL A - TYPICAL 5' RCRA-EQUIVALENT
MONO SOIL CAP SECTION

NOT TO SCALE

LEGEND:

- RCRA – EQUIVALENT MONO SOIL CAP 5' (SEE DETAIL A)
- UNCAPPED AREA (GRADING WITH BMPs)
- LIMITS OF STUDY AREA 2
- LIMITS OF RCRA CANYON AND WCSA AREAS



REV	DATE	REVISION DESCRIPTION	BY	CHK	APP

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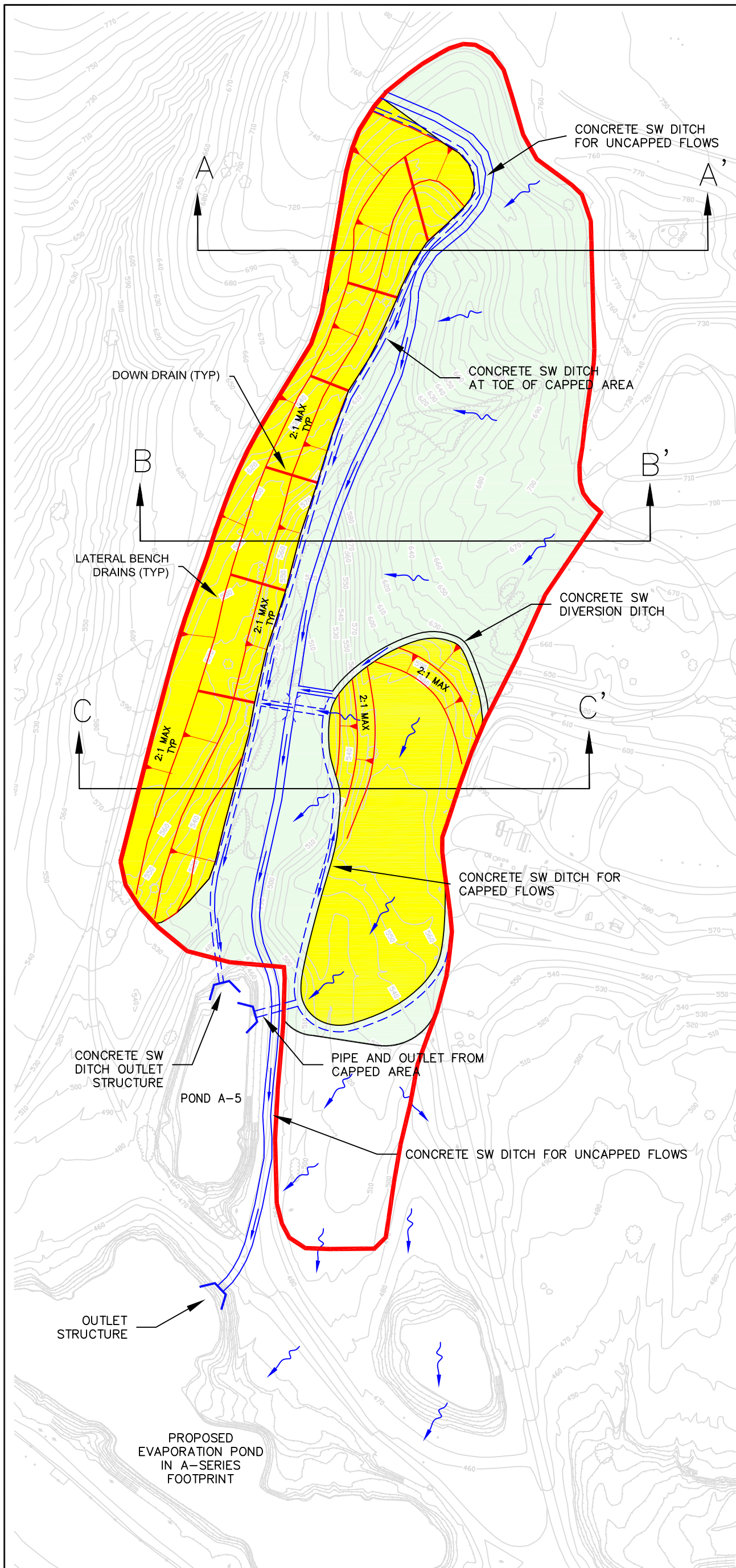
PROJECT: CASMALIA RESOURCES SUPERFUND SITE
FEASIBILITY STUDY

FS AREA 2 - ALTERNATIVE 4
RCRA-EQUIVALENT MONO SOIL CAP (WEST SLOPE
RCRA CANYON, PORTION OF WCSA) (5') +
GRADING/BMPs (UNCAPPED AREAS)

FIGURE 11-7A



LEGEND:

- RCRA-EQUIVALENT MONO SOIL CAP
- UNCAPPED AREA INCLUDING GRADING AND BMPs
- STORMWATER FLOW DIRECTION
- LIMITS OF STUDY AREA (AREA 2)
- CONCRETE-LINED CHANNEL FOR CAPPED AREA RUNOFF
- CONCRETE-LINED CHANNEL FOR UNCAPPED AREA RUNOFF

NOTES:

1. CAPPED AREA STORMWATER DRAINS TO LINED POND A-5 WHICH WOULD EVENTUALLY BE DISCHARGED OFFSITE TO THE B-DRAINAGE VIA POND 13 THROUGH OR AROUND THE WETLANDS.
2. UNCAPPED AREA STORMWATER DRAINS TO PROPOSED LINED EVAPORATION POND IN FOOTPRINT OF A-SERIES POND.

N

0 250'

GRAPHIC SCALE

REV	DATE	REVISION DESCRIPTION	BY	CHK	APP

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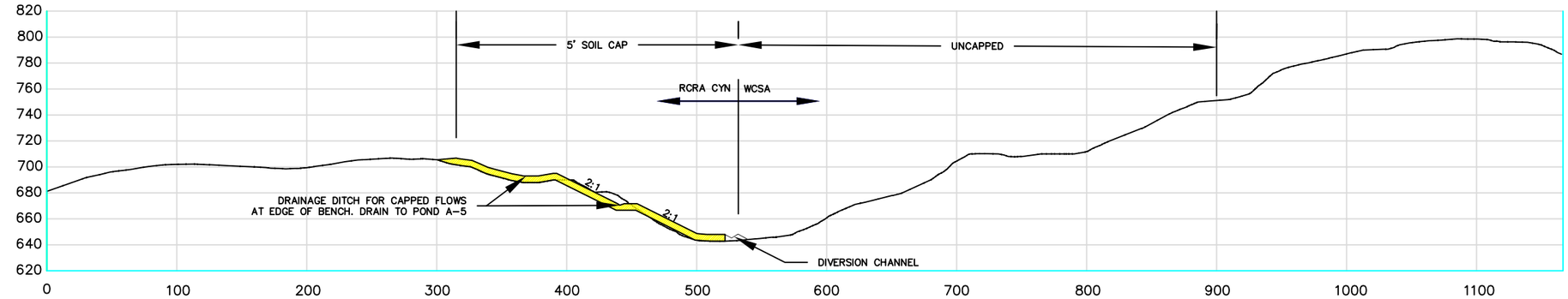
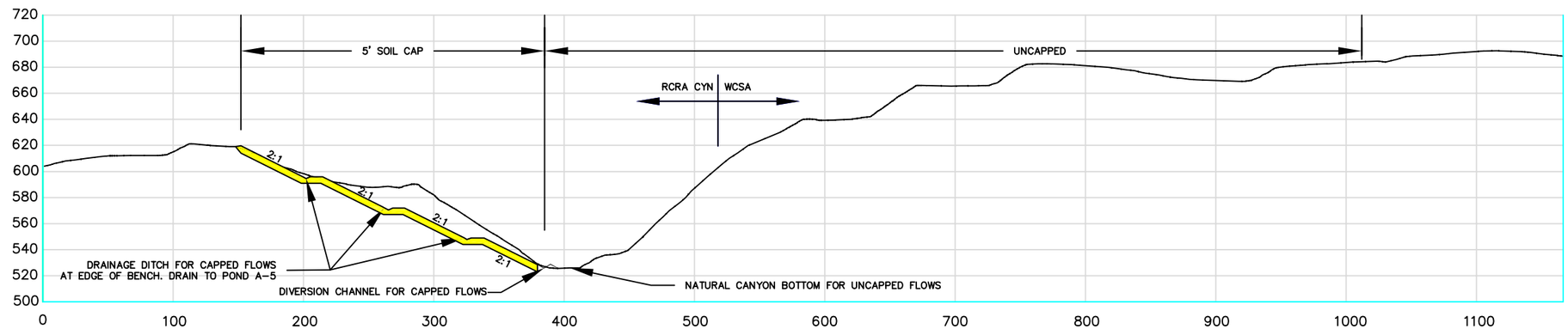
PROJECT: CASMALIA RESOURCES SUPERFUND SITE
FEASIBILITY STUDY

FS AREA 2 - ALTERNATIVE 4
STORMWATER PLAN

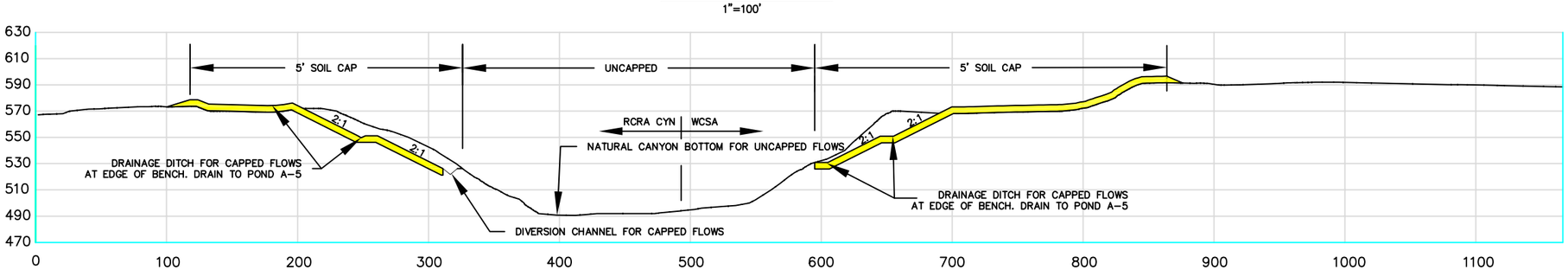
FIGURE 11-7B



SECTION A-A
1"=100'



SECTION B-B
1"=100'



SECTION C-C
1"=100'

PRELIMINARY EARTHWORK SUMMARY

RCRA CANYON CAP AREA = 365,900 SQ FT (8.40 ACRES)

GRADING	VOLUMES (CY)
CUT TO LEVELING LAYER =	120,000
FILL TO LEVELING LAYER =	120,000
NET CUT/FILL (120,000 – 120,000)	0
CAP SECTION VOLUMES	
4 FT FOUNDATION LAYER =	54,200
1 FT VEGETATIVE LAYER =	13,600

WCSA CAP AREA = 240,000 SQ FT (5.51 ACRES)

GRADING	VOLUMES (CY)
CUT TO LEVELING LAYER =	30,000
FILL TO LEVELING LAYER =	30,000
NET CUT/FILL (30,000 – 30,000)	0
CAP SECTION VOLUMES	
4 FT FOUNDATION =	35,600
1 FT VEGETATIVE LAYER =	8,900

0 100'
GRAPHIC SCALE

REV	DATE	REVISION DESCRIPTION	BY	CHK	APP

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130 ROBIN HILL ROAD, SUITE 100
SANTA BARBARA, CA 93117
PHONE: (805) 964-6010
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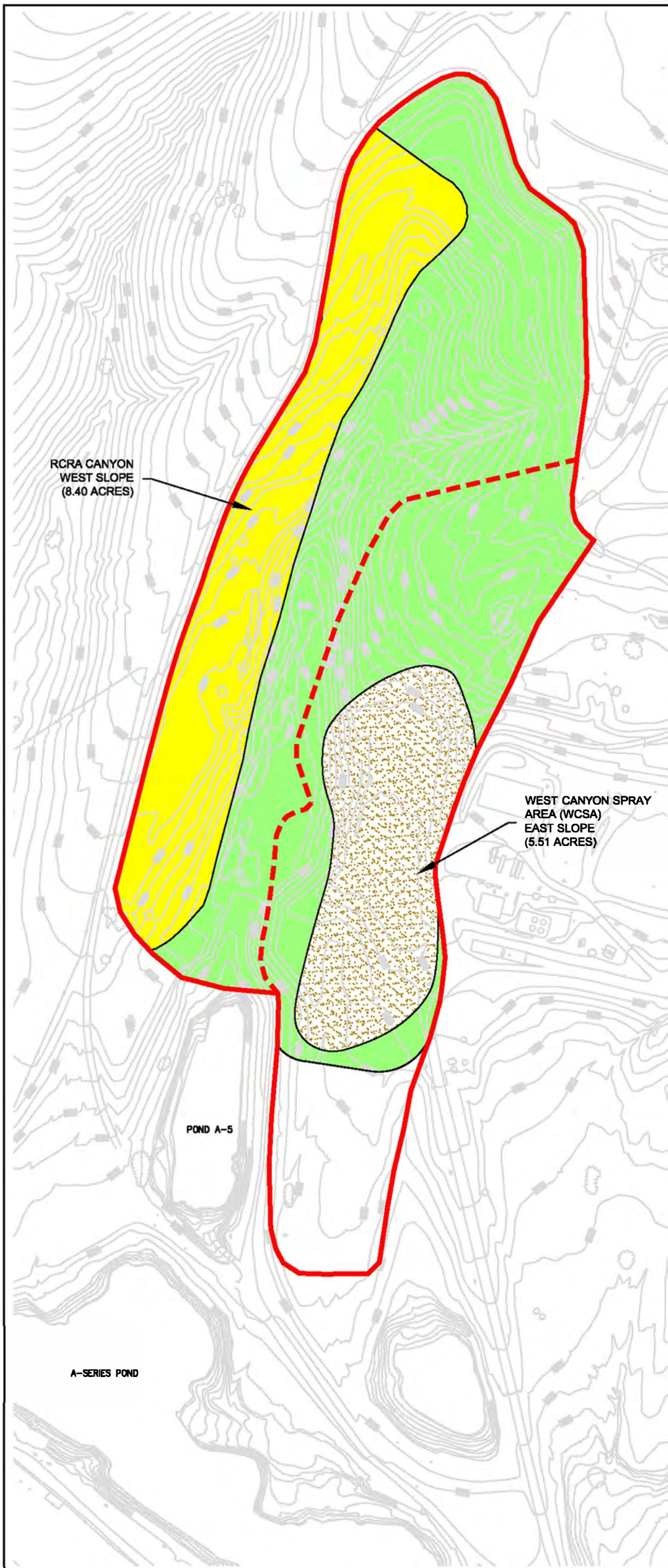
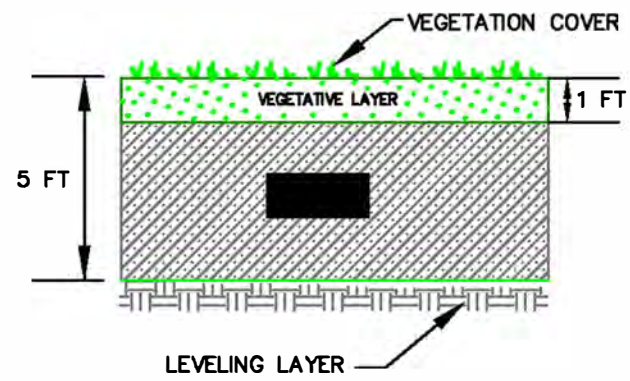
PROJECT: CASMALIA RESOURCES SUPERFUND SITE
FEASIBILITY STUDY

FS AREA 2 - ALTERNATIVE 4
RCRA-EQUIVALENT MONO SOIL CAP AND
GRADING PLAN

FIGURE 11-7C

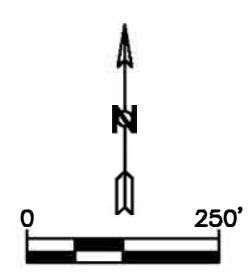




DETAIL A - TYPICAL 5' RCRA-EQUIVALENT
MONO SOIL CAP SECTION
NOT TO SCALE

LEGEND:

- RCRA – EQUIVALENT MONO SOIL CAP 5' (SEE DETAIL A)
- 5' EXCAVATION WITH BACKFILL TO GRADE
- 2' SOIL COVER
- LIMITS OF STUDY AREA 2
- LIMITS OF RCRA CANYON AND WCSA AREAS



GRAPHIC SCALE

REV	DATE	REVISION DESCRIPTION	BY	CHK	APP

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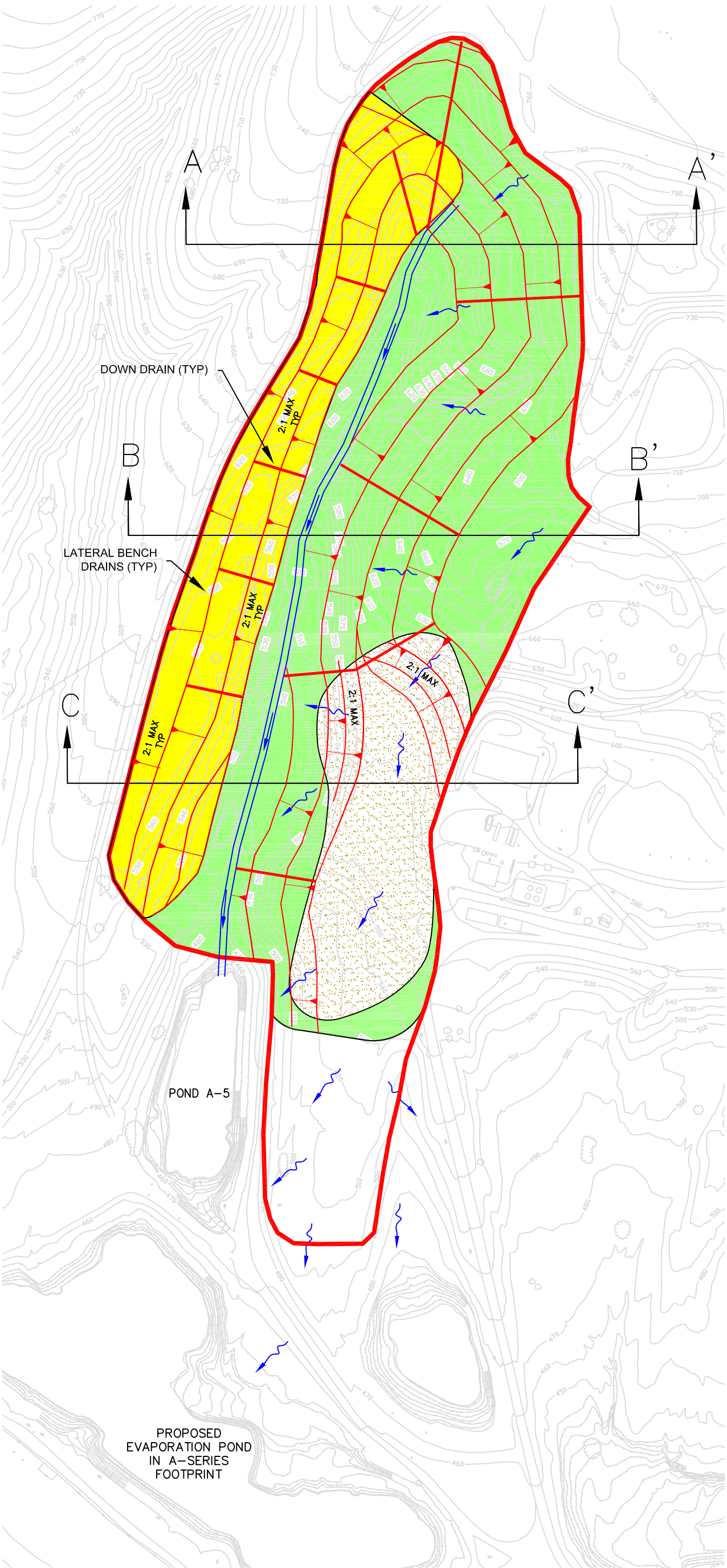
130 ROBIN HILL ROAD, SUITE 100
SANTA BARBARA, CA 93117
PHONE: (805) 984-6010
FAX: (805) 984-0259

PROJECT: CASMALIA RESOURCES SUPERFUND SITE
FEASIBILITY STUDY

FS AREA 2 - ALTERNATIVE 5
RCRA-EQUIVALENT MONO SOIL CAP (WEST SLOPE
RCRA CANYON) (5') + EXCAVATION (PORTION OF WCSA)
(5') + CLEAN SOIL COVER (EAST SLOPE, WCSA) (2')

FIGURE 11-8A



LEGEND:

- RCRA-EQUIVALENT MONO SOIL CAP
- 5' EXCAVATION WITH BACKFILL TO GRADE
- 2' SOIL COVER
- STORMWATER FLOW DIRECTION
- LIMITS OF STUDY AREA (AREA 2)
- SW CONCRETE CHANNEL

NOTES:

1. CAPPED AREA STORMWATER DRAINS TO LINED POND A-5 WHICH WOULD EVENTUALLY BE DISCHARGED OFFSITE TO THE B-DRAINAGE VIA POND 13 THROUGH OR AROUND THE WETLANDS.

N

0 250'

GRAPHIC SCALE

REV	DATE	REVISION DESCRIPTION	BY	CHK	APP

URS CORPORATION
130 ROBIN HILL ROAD, SUITE 100
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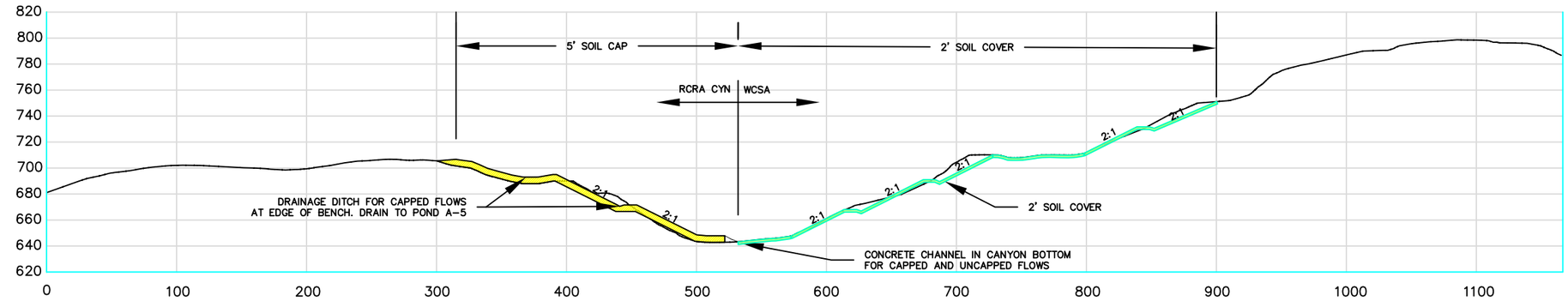
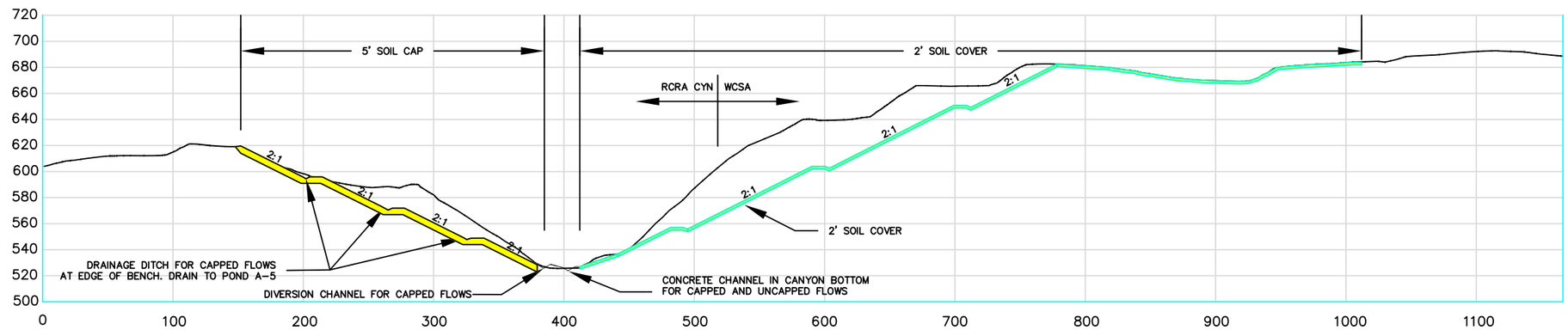
PROJECT: CASMALIA RESOURCES SUPERFUND SITE
FEASIBILITY STUDY

FS AREA 2 - ALTERNATIVE 5
STORMWATER PLAN

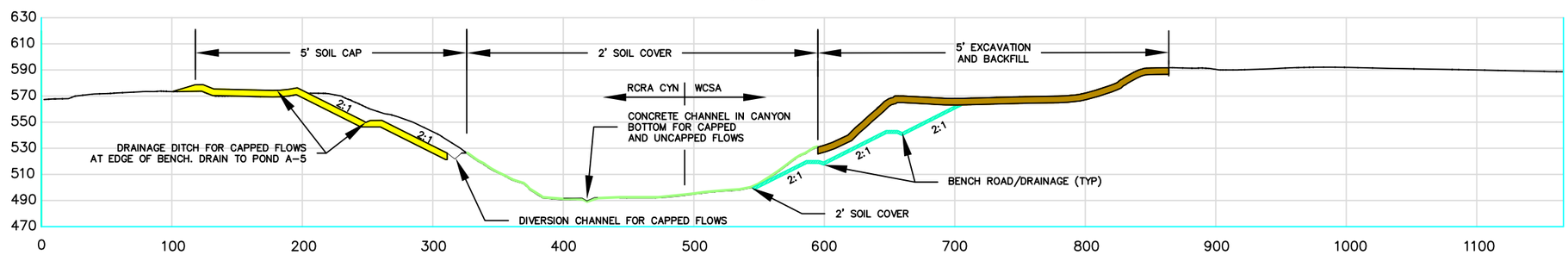
FIGURE 11-8B



SECTION A-A'
1"=100'



SECTION B-B'
1"=100'



SECTION C-C'
1"=100'

PRELIMINARY EARTHWORK SUMMARY

RCRA CANYON CAP AREA = 365,900 SQ FT (8.40 ACRES)

GRADING	VOLUMES (CY)
CUT TO LEVELING LAYER =	400,000
FILL TO LEVELING LAYER =	200,000
NET CUT/FILL (400,000 – 200,000)	200,000 (EXPORT)
CAP SECTION VOLUMES	
4 FT FOUNDATION LAYER =	54,000
1 FT VEGETATIVE LAYER =	13,500

5' EXCAVATION AND BACKFILL

44,700 CY (CUT AND EXPORT TO USE AS FILL FOR PONDS)
5' FILL = 44,700 CY (FILL)

2' SOIL COVER

62,000 CY

0 100'
GRAPHIC SCALE

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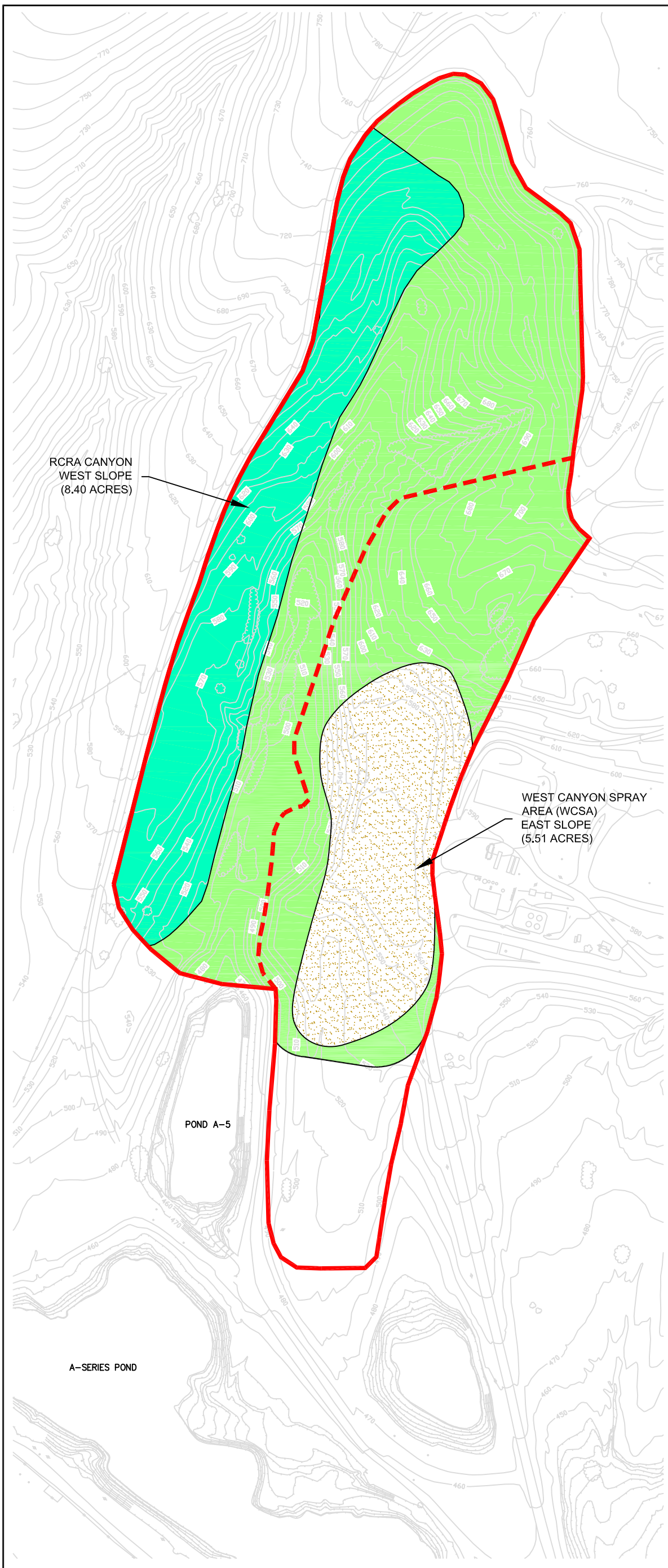
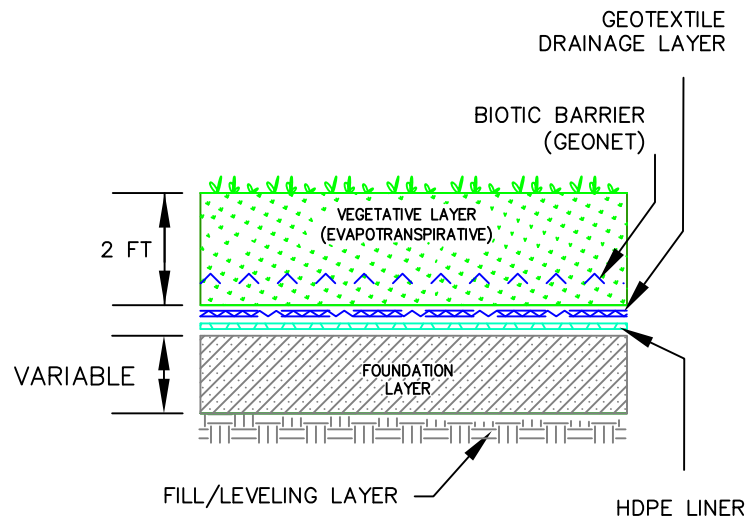
FEASIBILITY STUDY

FS AREA 2 - ALTERNATIVE 5
RCRA-EQUIVALENT MONO SOIL CAP,
5' EXCAVATION, 2' SOIL COVER, AND GRADING
PLAN

FIGURE 11-8C

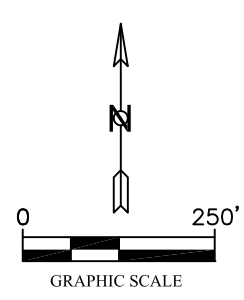




DETAIL A - TYPICAL RCRA-EQUIVALENT
HYBRID CAP SECTION
NOT TO SCALE

LEGEND:

- RCRA – EQUIVALENT HYBRID CAP 5' (SEE DETAIL A)
- 5' EXCAVATION WITH BACKFILL TO GRADE
- 2' SOIL COVER
- LIMITS OF STUDY AREA 2
- LIMITS OF RCRA CANYON AND WCSA AREAS



REV	DATE	REVISION DESCRIPTION	BY	CHK	APP

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PROJECT: CASMALIA RESOURCES SUPERFUND SITE
FEASIBILITY STUDY

FS AREA 2 - ALTERNATIVE 6
RCRA-EQUIVALENT HYBRID CAP (WEST SLOPE RCRA CANYON) (5') + EXCAVATION (PORTION OF WCSA) (5') + CLEAN SOIL COVER (EAST SLOPE, WCSA) (2')

FIGURE 11-9A