WATAUGA COUNTY SOLID WASTE FACILITY

* * *

LAND CLEARING AND INERT DEBRIS LANDFILL PERMIT APPLICATION

WATAUGA COUNTY, NORTH CAROLINA

SITE SUMMARY

OWNER:	WATAUGA COUNTY, NC
ADDRESS:	842 WEST KING STREET, SUITE 1 BOONE, NC 28607-3525
CONTACT:	SOLID WASTE OPERATIONS MANAGER
TELEPHONE NO:	(828)-264-5305
FAX NO:	(828)-264-1702
LOCATION:	336 LANDFILL RD. BOONE, NC 28607

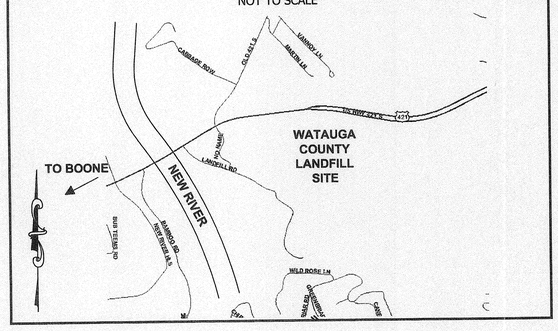
DRAPER ADEN ASSOCIATES REVIEW

THESE PLANS HAVE BEEN SUBJECTED TO TECHNICAL AND QUALITY REVIEWS BY:

NAME: PRINTED	SIGNATURE	DATE
MICHAEL A. CAVELL PROJECT DESIGNER	Michael A. Cavell	10/20/09
LYNN P. KLAPPICH PROJECT MANAGER	Lynn P. Klappich	10/20/09
LYNN P. KLAPPICH QUALITY REVIEWER	Lynn P. Klappich	10/20/09

VICINITY MAP

NOT TO SCALE



GENERAL NOTES

OWNER: WATAUGA COUNTY, NORTH CAROLINA
142 WEST KING STREET
BOONE, NC
PHONE: (828) 264-5305,
FAX (828) 264-1702

CONSULTING ENGINEER: DRAPER ADEN ASSOCIATES
2206 SOUTH MAIN STREET,
BLACKSBURG, VIRGINIA 24060
PHONE (540) 552-0444,
FAX (540) 552-0291

PROPOSED USE: SOLID WASTE MANAGEMENT FACILITY, LAND CLEARING AND INERT DEBRIS (LCID) LANDFILL TO SERVICE THE WATAUGA COUNTY AREA.

AREA: 4.23 ACRES

TOPOGRAPHIC MAPPING IS BASED ON MAPPING BY LOUISA AERIAL SURVEYS, INC.
P.O. BOX 430, MINERAL, VA 23117
(540) 967-1499.

DATE OF AERIAL PHOTOGRAPHY: 10/20/2008.

POTENTIOMETRIC CONTOURS ARE BASED ON DRAPER ADEN ASSOCIATES SAMPLING EVENTS ON 01/07/2008 AND 09/04/2008.

BOUNDARY INFORMATION TAKEN FROM DEEDS AND PLATS OF RECORD. A FIELD SURVEY WAS NOT PREPARED BY DRAPER ADEN ASSOCIATES.

THE LCID LANDFILL IS CURRENTLY ACTIVE. THE PROJECTED GRADES SHOWN MAY BE IMPACTED BY LANDFILL OPERATIONS. GRADES AT TIME OF CLOSURE MAY DIFFER SLIGHTLY FROM THE PROJECTED GRADES.

THESE DRAWINGS ARE FOR REVIEW AND PERMITTING PURPOSES ONLY.

* * * *

North Carolina One-Call Center

Guide to Calling in Notifications

Call Two Working Days Before You Dig!

811

1-800-632-4949

NOTE: CONTRACTOR TO CONTACT NORTH CAROLINA ONE-CALL AT LEAST 2 WORKING DAYS IN ADVANCE OF PLANNED WORK.

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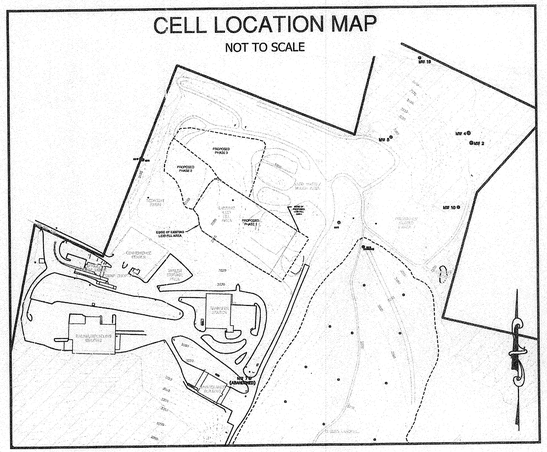
DRAWING LIST

NO.	DESCRIPTION
1	COVER SHEET
2	EXISTING CONDITIONS
3	OVERALL BASE GRADES
4	BASE GRADE - PHASE 1
5	INTERMEDIATE COVER GRADE - PHASE 1/ BASE GRADE - PHASE 2
6	INTERMEDIATE COVER GRADE - PHASE 1 AND 2/ BASE GRADE - PHASE 3
7	FINAL GRADE
8	CROSS SECTIONS
9	DETAILS

CELL LOCATION MAP

NOT TO SCALE



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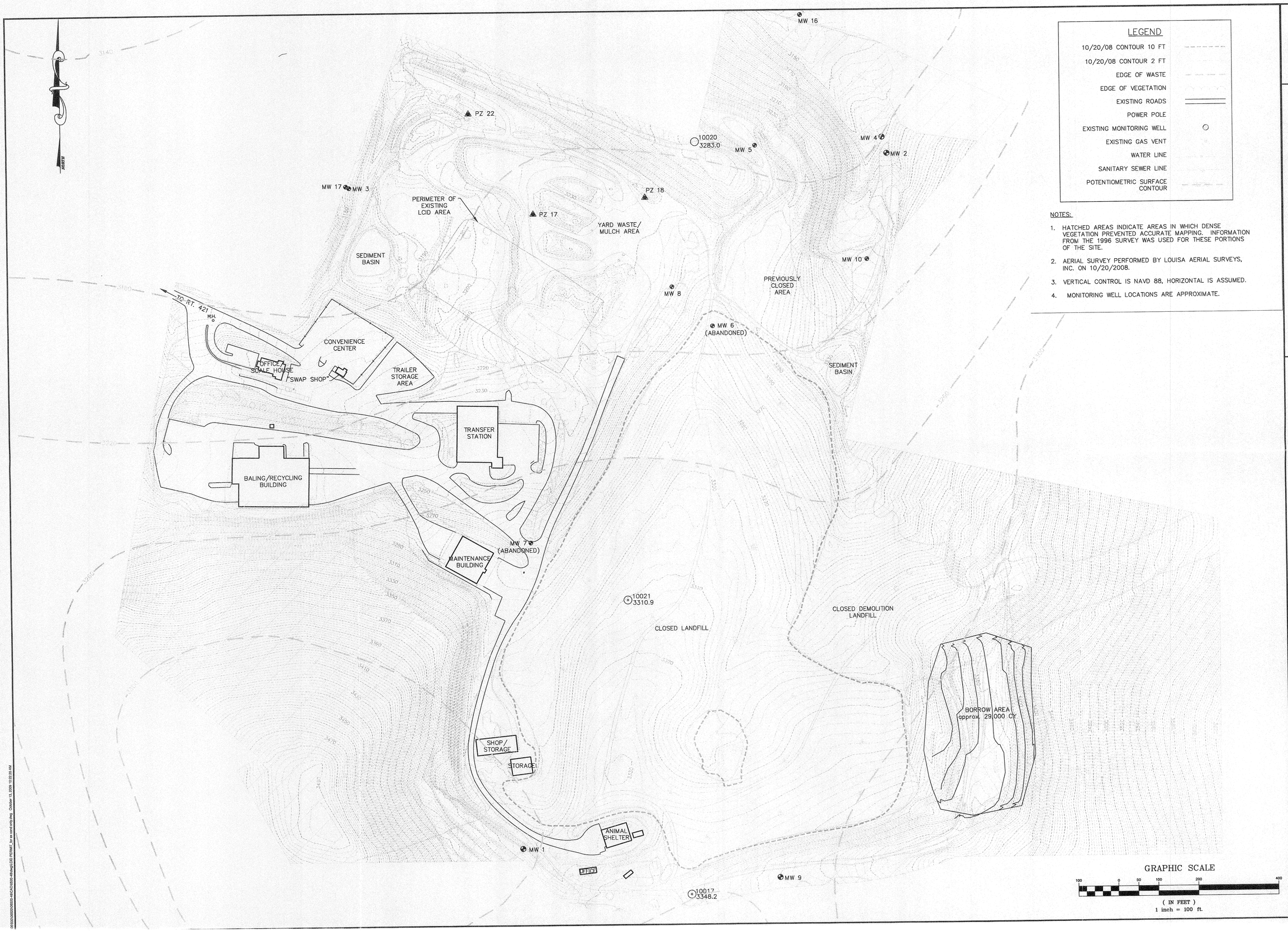
COVER SHEET
LCID LANDFILL PERMIT APPLICATION
WATAUGA COUNTY LANDFILL
WATAUGA COUNTY, NORTH CAROLINA

REVISION HISTORY

DATE: OCTOBER 8, 2009

PROJECT NUMBER: 06520-48



LEGEND

10/20/08 CONTOUR 10 FT	
10/20/08 CONTOUR 2 FT	
EDGE OF WASTE	
EDGE OF VEGETATION	
EXISTING ROADS	
POWER POLE	
EXISTING MONITORING WELL	
EXISTING GAS VENT	
WATER LINE	
SANITARY SEWER LINE	
POTENTIOMETRIC SURFACE CONTOUR	

NOTES:

1. HATCHED AREAS INDICATE AREAS IN WHICH DENSE VEGETATION PREVENTED ACCURATE MAPPING. INFORMATION FROM THE 1996 SURVEY WAS USED FOR THESE PORTIONS OF THE SITE.
2. AERIAL SURVEY PERFORMED BY LOUISA AERIAL SURVEYS, INC. ON 10/20/2008.
3. VERTICAL CONTROL IS NAVD 88, HORIZONTAL IS ASSUMED.
4. MONITORING WELL LOCATIONS ARE APPROXIMATE.

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL WILLIAM A. ADEN

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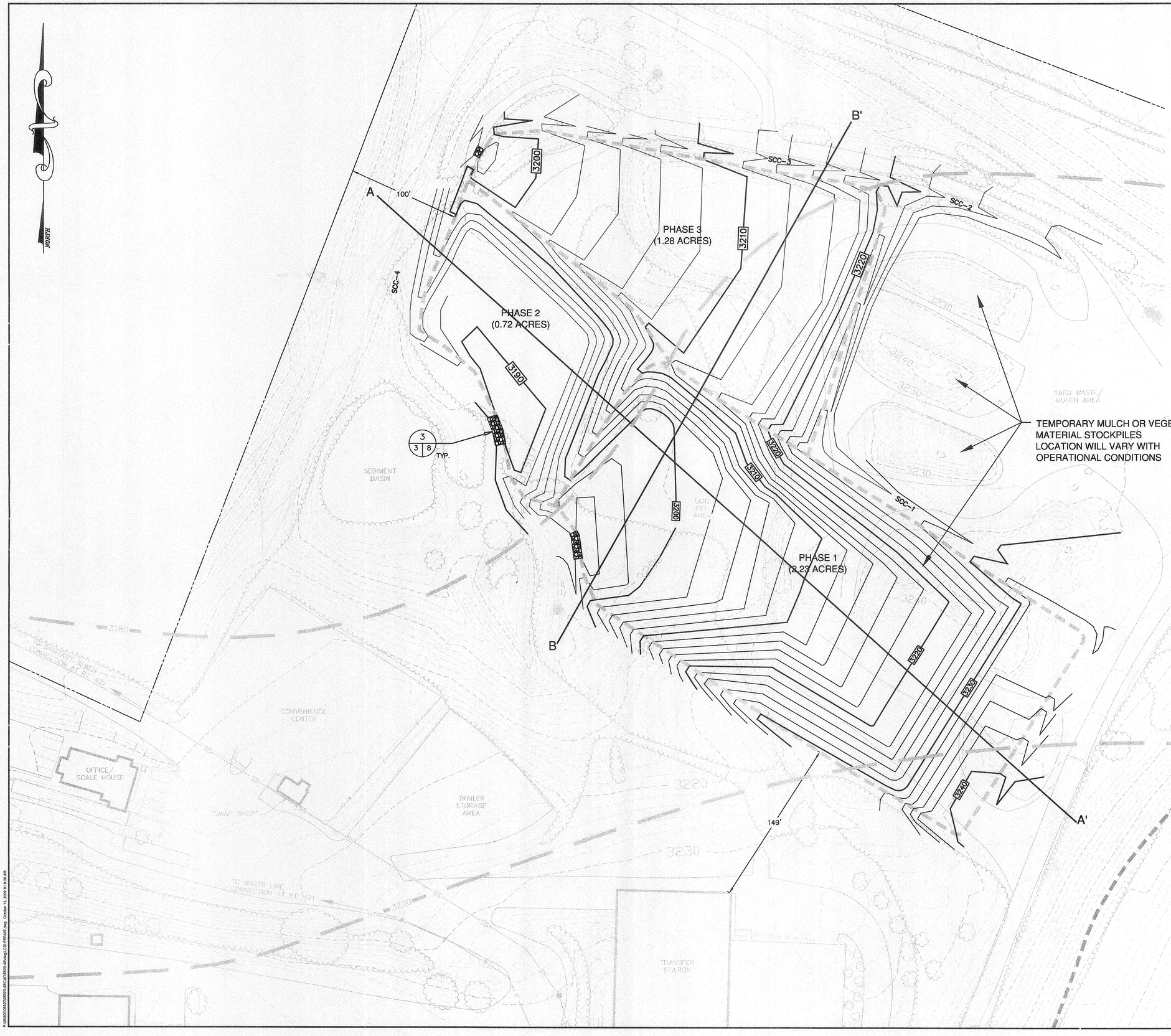
EXISTING CONDITIONS
LCID LANDFILL PERMIT APPLICATION
WATAUGA COUNTY SOLID WASTE FACILITY
WATAUGA COUNTY, NC

REVISIONS

DESIGNED BY:	N/A
DRAWN BY:	KJS
CHECKED BY:	MAC
SCALE:	1" = 100'
DATE:	OCTOBER 8, 2009
PROJECT NUMBER:	6520-48

NORTH



LEGEND

10/20/08 CONTOUR 10 FT	
10/20/08 CONTOUR 2 FT	
BASE GRADE CONTOUR 10 FT	3190
BASE GRADE CONTOUR 2 FT	
EDGE OF WASTE	
EDGE OF VEGETATION	
EXISTING ROADS	
POWER POLE	
EXISTING MONITORING WELL	
EXISTING GAS VENT	
EXISTING WATER LINE	
EXISTING SANITARY SEWER LINE	
STONE BERM	
POTENTIOMETRIC SURFACE CONTOUR	3220

NOTES:

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4. MONITORING WELL LOCATIONS ARE APPROXIMATE.

GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)
1 inch = 40 ft.

NORTH CAROLINA
WILLIAM A. DRAPER
SEAL
NUMBER 5606
PROFESSIONAL ENGINEER

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OVERALL PROPOSED BASE GRADES
LCID LANDFILL PERMIT APPLICATION
WATAUGA COUNTY SOLID WASTE FACILITY
WATAUGA COUNTY, NC

REVISIONS

DESIGNED BY:	N/A
DRAWN BY:	KJS
CHECKED BY:	MAC
SCALE:	1" = 40'
DATE:	OCTOBER 8, 2009
PROJECT NUMBER:	6520-48

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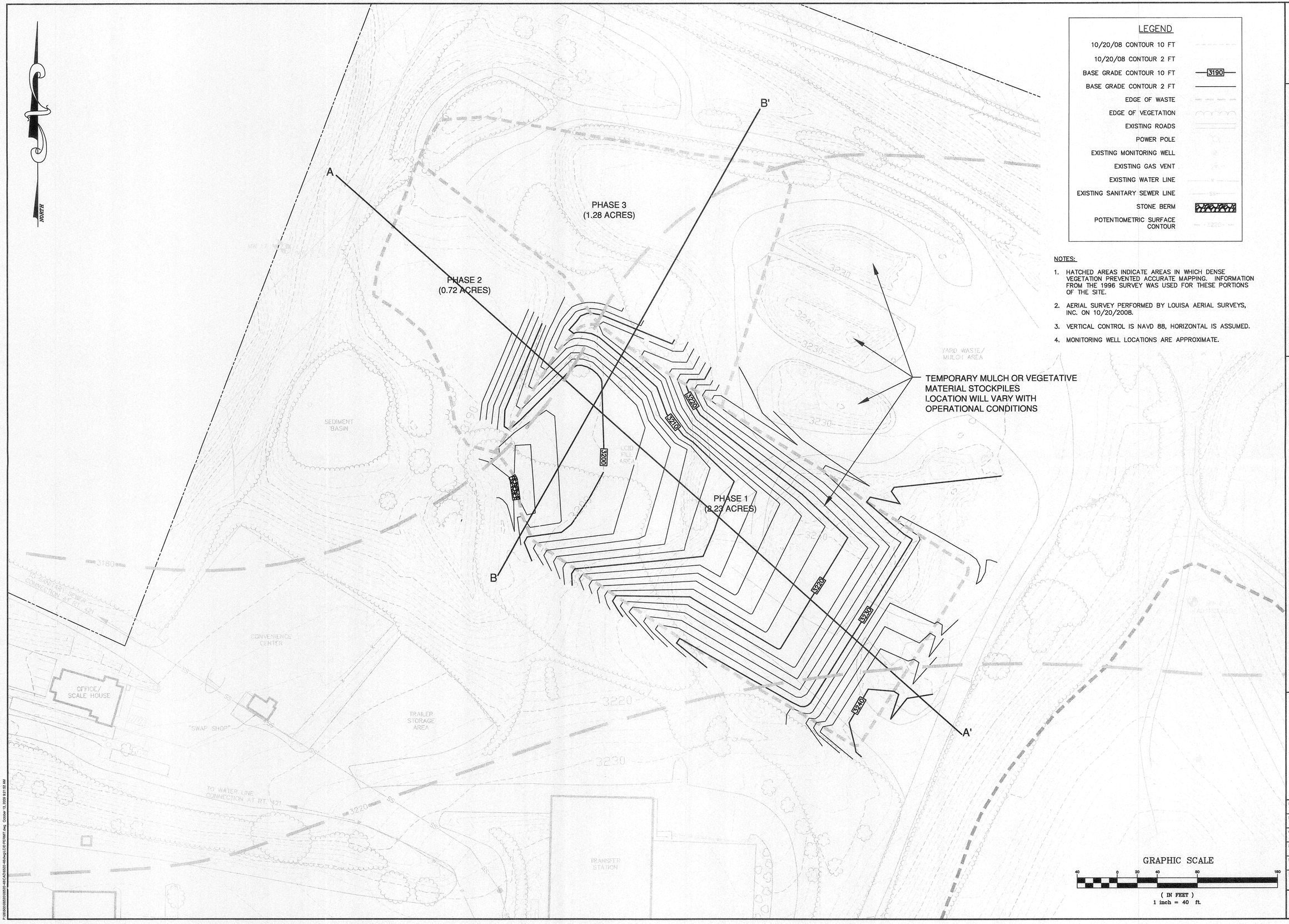

NORTH

LEGEND

- 10/20/08 CONTOUR 10 FT
- 10/20/08 CONTOUR 2 FT
- BASE GRADE CONTOUR 10 FT (3190)
- BASE GRADE CONTOUR 2 FT
- EDGE OF WASTE
- EDGE OF VEGETATION
- EXISTING ROADS
- POWER POLE
- EXISTING MONITORING WELL
- EXISTING GAS VENT
- EXISTING WATER LINE
- EXISTING SANITARY SEWER LINE
- STONE BERM
- POTENTIOMETRIC SURFACE CONTOUR

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GRAPHIC SCALE

40 0 20 40 80 180

(IN FEET)
1 inch = 40 ft.

CAROLINA HEARN LEAK 030 ENGINEER WILLIAM, JR.

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BASE GRADE - PHASE 1
LCID LANDFILL PERMIT APPLICATION
WATAUGA COUNTY SOLID WASTE FACILITY
WATAUGA COUNTY, NC

REVISIONS

DESIGNED BY:	N/A
DRAWN BY:	KJS
CHECKED BY:	MAC
SCALE:	1" = 40'
DATE:	OCTOBER 8, 2009
PROJECT NUMBER:	6520-48

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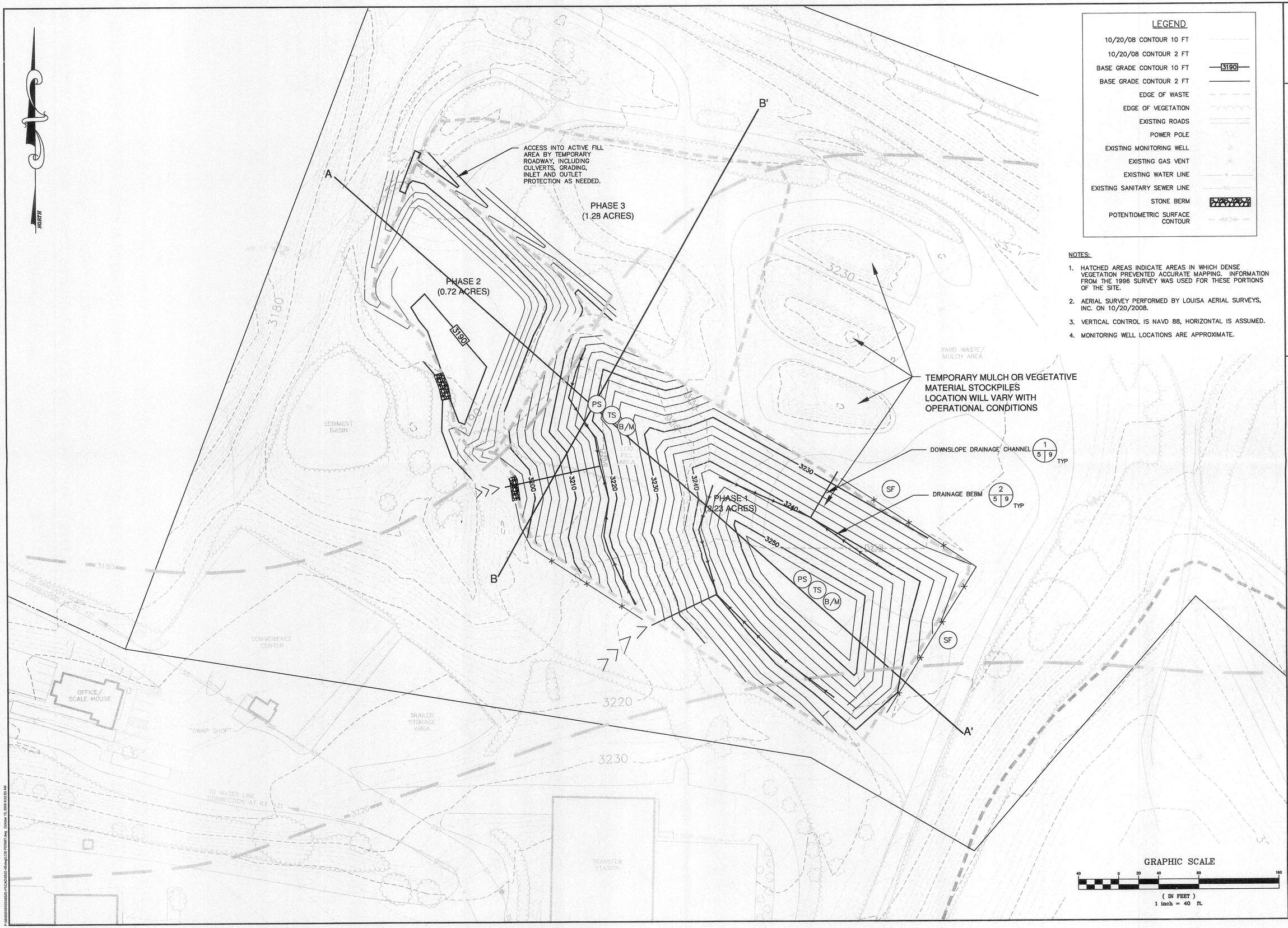

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BASE GRADE - PHASE 2 - INTERMEDIATE COVER GRADE - PHASE 1
LCID LANDFILL PERMIT APPLICATION

WATAUGA COUNTY SOLID WASTE FACILITY

WATAUGA COUNTY, NC

REVISIONS

DESIGNED BY:	N/A
DRAWN BY:	KJS
CHECKED BY:	MAC
SCALE:	1" = 40'
DATE:	OCTOBER 8, 2009
PROJECT NUMBER:	6520-48

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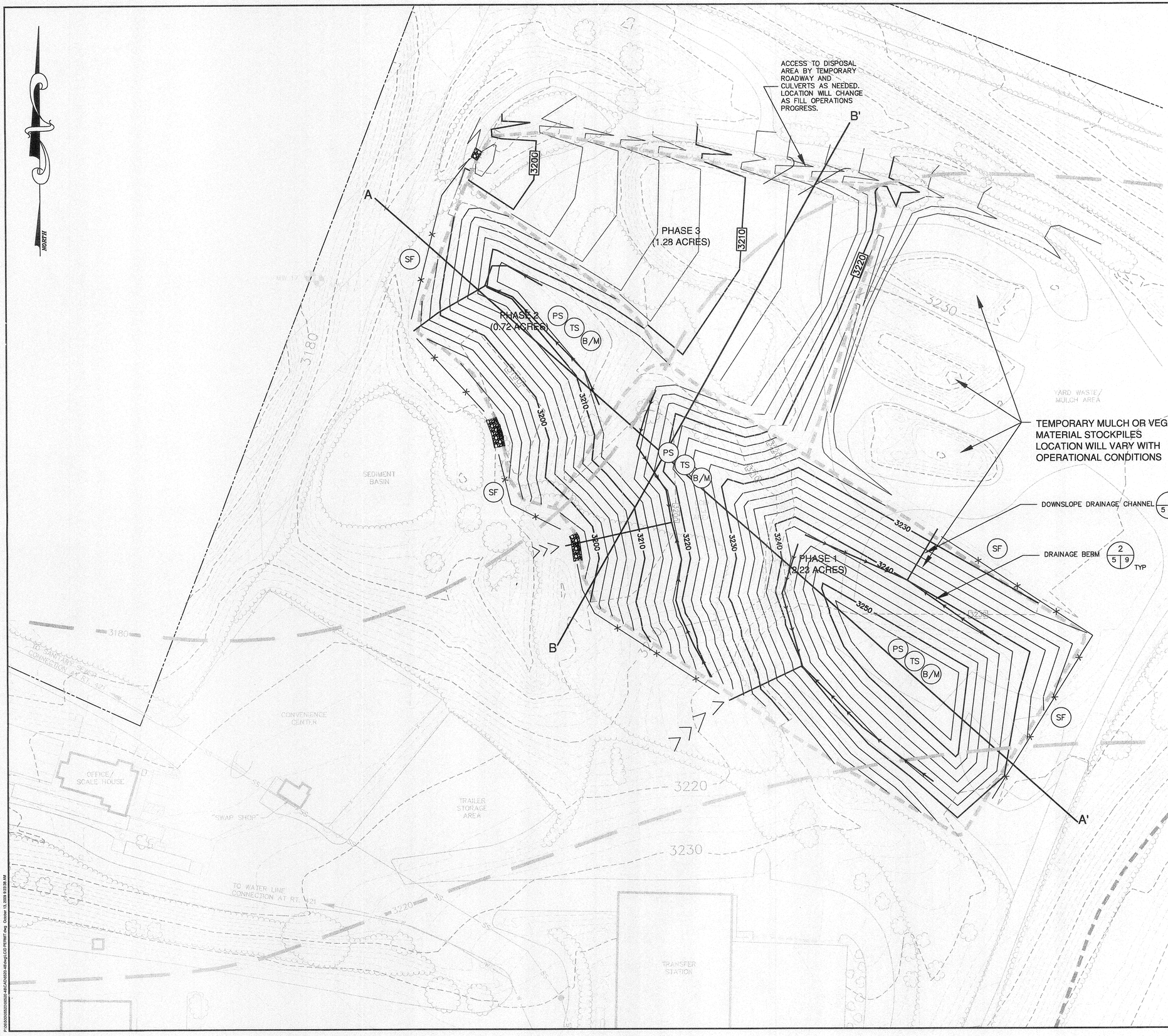

NORTH

LEGEND

- 10/20/08 CONTOUR 10 FT
- 10/20/08 CONTOUR 2 FT
- BASE GRADE CONTOUR 10 FT (3190)
- BASE GRADE CONTOUR 2 FT
- EDGE OF WASTE
- EDGE OF VEGETATION
- EXISTING ROADS
- POWER POLE
- EXISTING MONITORING WELL
- EXISTING GAS VENT
- EXISTING WATER LINE
- EXISTING SANITARY SEWER LINE
- STONE BERM
- POTENTIOMETRIC SURFACE CONTOUR (3220)

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GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)
1 inch = 40 ft.

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 032844 WILLIAM R. BRANCH

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BASE GRADE - PHASE 3 - INTERMEDIATE COVER GRADE - PHASE 1 & 2
LCID LANDFILL PERMIT APPLICATION

WATAUGA COUNTY SOLID WASTE FACILITY

WATAUGA COUNTY, NC

REVISIONS

DESIGNED BY:	N/A
DRAWN BY:	KJS
CHECKED BY:	MAC
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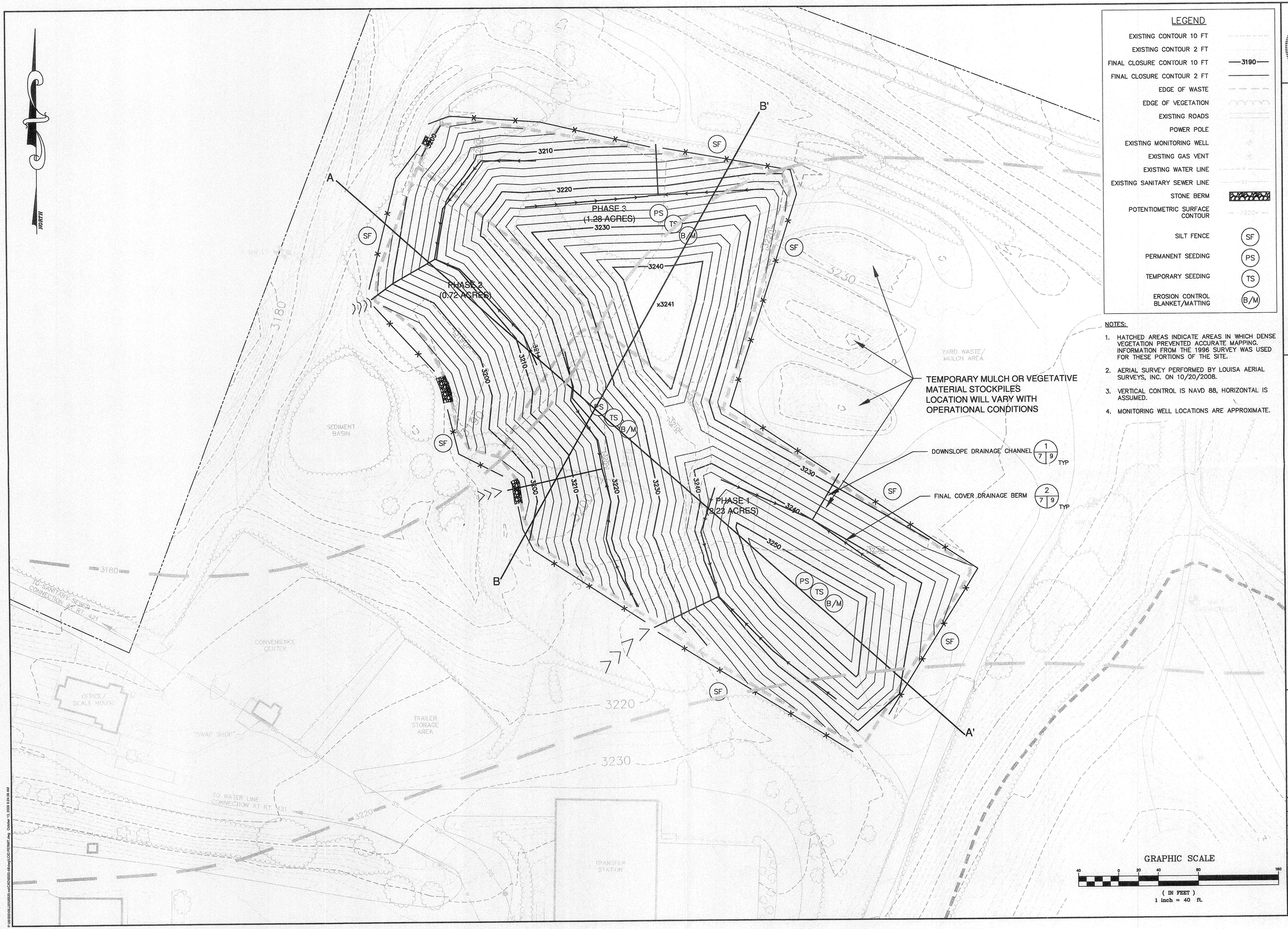

LEGEND

- EXISTING CONTOUR 10 FT
- EXISTING CONTOUR 2 FT
- FINAL CLOSURE CONTOUR 10 FT — 3190
- FINAL CLOSURE CONTOUR 2 FT
- EDGE OF WASTE
- EDGE OF VEGETATION
- EXISTING ROADS
- POWER POLE
- EXISTING MONITORING WELL
- EXISTING GAS VENT
- EXISTING WATER LINE
- EXISTING SANITARY SEWER LINE
- STONE BERM
- POTENTIOMETRIC SURFACE CONTOUR — 3220
- SILT FENCE (SF)
- PERMANENT SEEDING (PS)
- TEMPORARY SEEDING (TS)
- EROSION CONTROL BLANKET/MATTING (B/M)

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GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)
1 inch = 40 ft.

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 032437 WILLIAM M. DRAPER

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FINAL GRADE
LCID LANDFILL PERMIT APPLICATION
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WATAUGA COUNTY, NC

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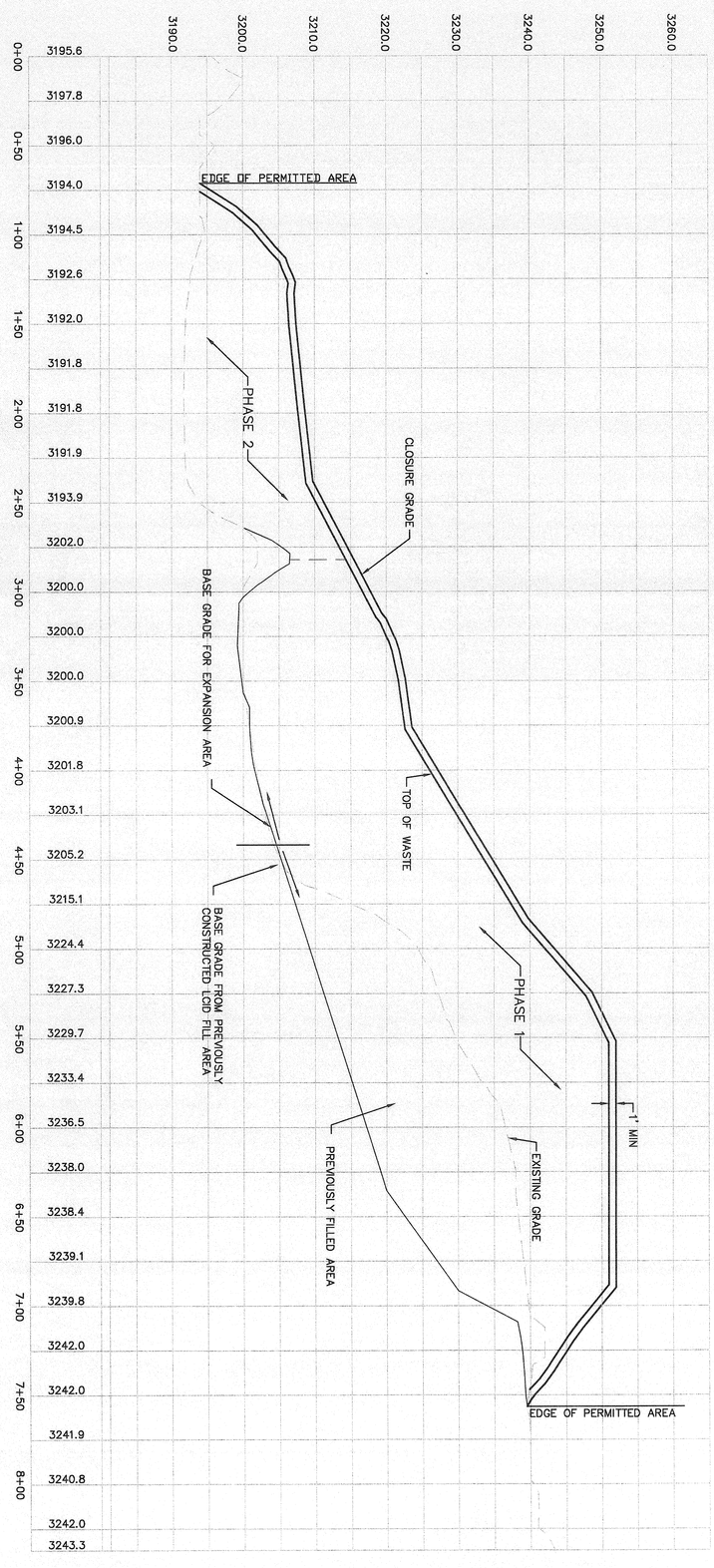
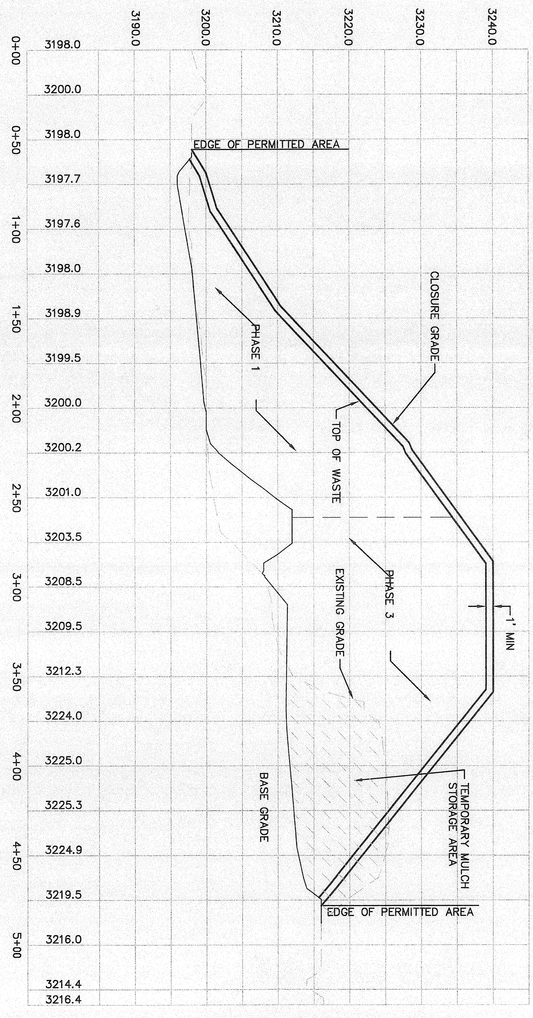


CROSS SECTION A-A'

HORIZONTAL SCALE 1"=40'
VERTICAL SCALE 1"=10'



CROSS SECTION B-B'

HORIZONTAL SCALE 1"=40'
VERTICAL SCALE 1"=10'

REVISIONS

CROSS SECTIONS
LCID LANDFILL PERMIT APPLICATION

WATAUGA COUNTY SOLID WASTE FACILITY

WATAUGA COUNTY, NC

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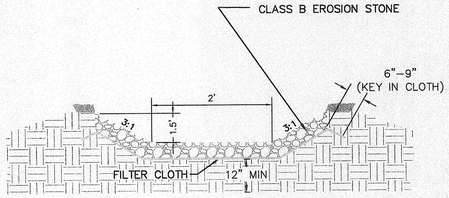
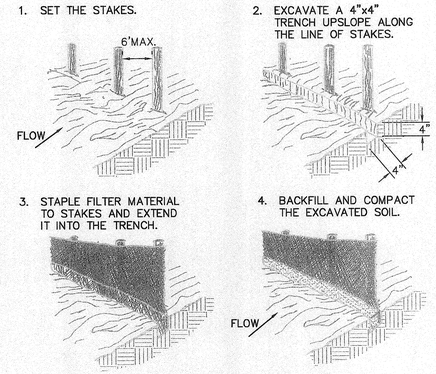


MAINTAIN 12" MINIMUM FINAL COVER DEPTH BELOW BOTTOM OF CHANNEL.
PLACE ADDITIONAL SOIL AS NEEDED TO FORM CHANNEL.

1 / 7 | 9

DOWNSLOPE DRAINAGE CHANNEL
(NOT TO SCALE)

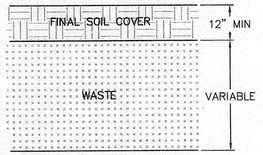


SF

SILT FENCE
(WITHOUT WIRE SUPPORT)

CHANNEL	SHAPE	DEPTH	LENGTH	SLOPE	SIDE SLOPE	25-YR FLOW	LINING
SCC-1	VEE	1.5 FT	708 FT.	2.9%	2(H):1(V)	9.8 CFS	GRASS
SCC-2	VEE	1.5 FT	168 FT.	4.1%	2(H):1(V)	1.7 CFS	GRASS
SCC-3	VEE	2.0 FT	415 FT.	5.3%	2(H):1(V)	15.8 CFS	RIPRAP, d50=12"
SCC-4	VEE	2.0 FT	548 FT.	5.6%	2(H):1(V)	34.9 CFS	RIPRAP, d50=16"

CHANNEL SCHEDULE



FINAL LANDFILL COVER
CROSS SECTION

GENERAL SLOPE (3:1 OR LESS)	TOTAL LBS PER ACRE
KENTUCKY 31 FESCUE	200 LBS.
RED TOP GRASS	10 LBS.
SEASONAL NURSE CROP	30 LBS.
WHITE CLOVER	2 LBS.
	TOTAL..... 242 LBS.

SEASONAL NURSE CROP	
MARCH, APRIL THROUGH MAY 15	ANNUAL RYE
MAY 16 THROUGH AUGUST 15	FOXTAIL MILLET
AUGUST 16 THROUGH SEPTEMBER, OCTOBER	ANNUAL RYE
NOVEMBER THROUGH FEBRUARY	WINTER RYE

LIME AND FERTILIZER NEEDS SHALL BE DETERMINED BY SOIL TESTS.

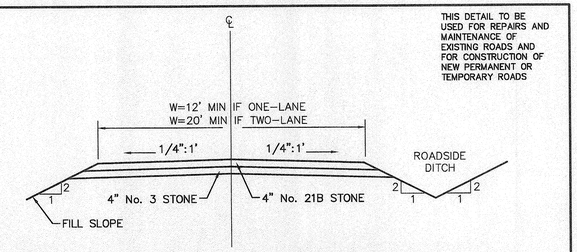
UNLESS OTHERWISE SPECIFIED, SEEDINGS TO BE MULCHED AT THE RATE OF 2 TONS PER ACRE WITH TACKIFIED STRAW, IMMEDIATELY UPON COMPLETION OF SEED APPLICATION.

PS PERMANENT SEEDING SCHEDULE

ACCEPTABLE TEMPORARY SEEDING PLANT MATERIALS		
PLANTING DATES	SPECIES	RATE (LBS PER ACRE)
SEPT 1 – FEB 15	50/50 MIX OF ANNUAL RYEGRASS (LOLIUM MULTI–FLORUM) AND CEREAL (WINTER) RYE (SECALE CEREALE)	50–100
FEB 16 – APR 20	ANNUAL RYEGRASS (LOLIUM MULTI–FLORUM)	80–100
MAY 1 – AUG 31	GERMAN MILLET (SETARA ITALICA)	50

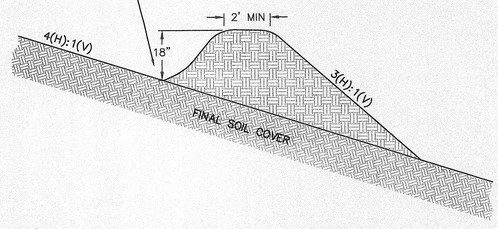
SEEDINGS MADE IN FALL FOR WINTER COVER AND DURING HOT AND DRY SUMMER MONTHS SHALL BE MULCHED IMMEDIATELY UPON COMPLETION OF SEED APPLICATION WITH TACKIFIED STRAW.

TS TEMPORARY SEEDING SCHEDULE



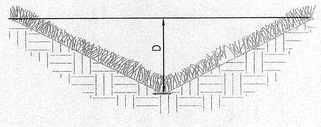
4 / 5,6 | 9

TYPICAL ACCESS ROAD

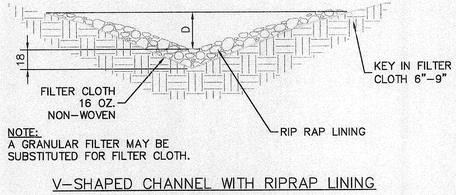


2 / 5,7 | 9

LANDFILL FINAL COVER DRAINAGE BERM



TYPICAL GRASS LINED CHANNEL

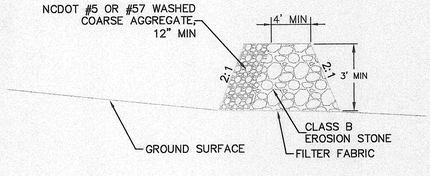


NOTE:
A GRANULAR FILTER MAY BE SUBSTITUTED FOR FILTER CLOTH.

V–SHAPED CHANNEL WITH RIPRAP LINING

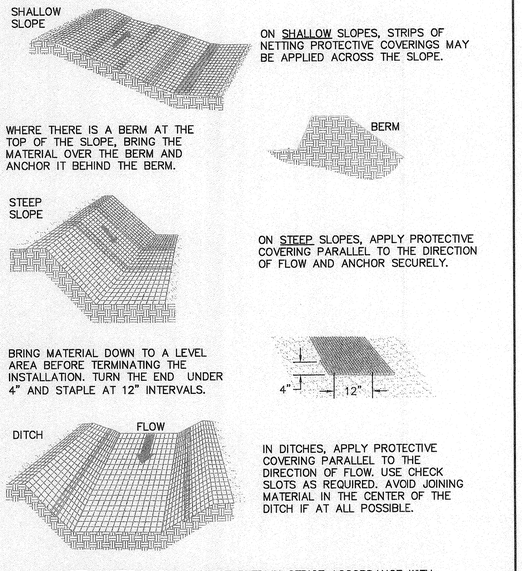
STORM WATER CONVEYANCE CHANNELS

SCC



3 / 3 | 9

CROSS SECTION
STONE FILTER



NOTE: MATERIAL SHALL BE STAPLED IN STRICT ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS.

B/M

EROSION CONTROL
BLANKET/MATTING

Draper Aden Associates
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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 036386 ENGINEER NOEL J. OSTER

RECEIVED NOV 12 2009 SOLID WASTE

DETAILS
LCID LANDFILL PERMIT APPLICATION
WATAUGA COUNTY SOLID WASTE FACILITY
WATAUGA COUNTY, NC

REVISIONS

DESIGNED BY:	N/A
DRAWN BY:	KJS
CHECKED BY:	MAC
SCALE:	1" = 40'
DATE:	OCTOBER 8, 2009
PROJECT NUMBER:	6520-48

9 OF 9

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